REPORT NUMBER: 214D-MGA-2001-005

SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT

Mazda Motor Company
2001 Mazda Millenia 4 Door Sedan
NHTSA NUMBER: C15401

PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

January 4, 2001

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF VEHICLE SAFETY COMPLIANCE
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Prepared by:_____ Date: _____
Chris Havens, Project Engineer

Reviewed by:_____ Date: _____
Dave Winkelbauer, Facility Director

FINAL REPORT ACCEPTED BY:

_____
COTR, Side Impact

_____
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16. Abstract

A 55/28 km/h 90° Moving Deformable Barrier INDICANT Compliance Test was conducted on the subject 2001 Mazda Millenia in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-05 Side Impact Protection (except the test was conducted 8kph (5 mph) faster than the standard specifies) for determination of FMVSS No. 214 Side Impact Protection. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on January 4, 2001.

The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 kph, and the ambient temperature at the struck side (driver's) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 367 mm at level 2. The test vehicle's occupant performance is as follows:

	DRIVER	PASS.
Left Upper Rib (LUR) Accel., g	67	87
Left Lower Rib (LLR) Accel., g	60	87
Lower Spine (T_{12}) Accel., g	75	70
Thoracic Trauma Index (TTI)	71	79
Pelvis (PEV) Accel., g	79	113
HIC	161	779

The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.

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TABLE OF CONTENTS

Section		Page No.
1	Purpose and Test Procedure	1
2	Summary of Side Impact Test	2
3	Side Impact Dummy (SID) and Vehicle Test Data	4
4	Occupant and Vehicle Information	12

Data Sheet No.		Page No.
1	General Test and Vehicle Parameter Data	5
2	Test Vehicle Summary of Results	9
3	Moving Deformable Barrier (MDB) Summary of Results	10
4	Post Test Observations	11
5	SID Injury Criteria and Sensor Data	13
6	Vehicle Pre-Test and Post-Test Measurements	14
7	SID Longitudinal Clearance Dimensions	15
8	SID Lateral Clearance Dimensions	16
9	Vehicle Side Measurements	17
10	Vehicle Exterior Crush Profiles	18
11	Vehicle Damage Profile Distances	20
12	Deformable Barrier Honeycomb Face Static Crush	21
13	Vehicle Accelerometer Locations and Data Summary	22
14	MDB Accelerometer Locations and Data Summary	24
15	High Speed Camera Locations and Data	25
16	FMVSS 301 Fuel System Integrity Post Impact Data	26
17	FMVSS 301 Static Rollover Data Sheet	27

Appendix		
A	Photographs	A
B	SID, Vehicle, and MDB Response Data	B
C	SID Configuration and Performance Verification Data	C
D	Test Equipment List and Calibration Information	D

SECTION 1
PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

This side impact test is conducted as part of the FY' 2001 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-97-C-11033. The purpose of this test was to evaluate side impact protection in a 2001 Mazda Millenia 4 Door Sedan manufactured by Mazda Motor Company.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC), laboratory test procedure TP-214D-05, dated August 2, 1999 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA2 with the exception of the test speed, which was at the NCAP High Speed Lateral Impact level (62.1 kph, approximately 8 kph faster than compliance speed). The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT TEST

A model year 2001 Mazda Millenia 4 Door Sedan 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 62.1km/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 1728 kg and the test weight of the MDB was 1362 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on January 4, 2001.

One (1) real-time motion picture camera and nine (9) high-speed motion picture cameras were used to document the impact event. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID's) can be found in Appendix A. Two 50th percentile adult male SID's were placed in the driver and left rear passenger designated seating positions according to instructions specified in the OVSC Side Impact Laboratory Test Procedure dated August 2, 1999. Each SID was instrumented with 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 twenty (20) structural accelerometers and the MDB was instrumented with five (5) accelerometers and two (2) contact switches on the bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board EME Data Acquisition System. 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 367 mm at level 2, 1350 mm rearward of the left vertical impact point. The driver and passenger SID's, Serial Nos. 036 and 037 respectively, were calibrated just prior to this test. The SID's injury criteria is summarized as follows:

Measurements	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	71	79
Peak Pelvic G's (PEV)	G's	79	113
Head Injury Criteria (HIC)	none	161	779

Test 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 and passenger SID's, vehicle, and MDB response data traces. Appendix C contains the SID's configuration and performance verification data. Appendix D contains the test equipment information.

TEST NOTES

The following accelerometers were not used for this test:

Left Front Door on Centerline
Midrear of Left Front Door
Left Front Door Upper Centerline
Midrear of Left Rear door
Left Rear Door Upper Centerline
Rear Seat Track

Rear Floorpan Above Axle Y and Z have an anomaly at 60 to 80 msec. It appears that an object struck the accelerometers at that time during the event.

SECTION 3

SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Old 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 Pressure	lbf/in^2	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

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

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

TEST VEHICLE INFORMATION

Make	Mazda
Model	Millenia
Body Style	4 Door Sedan
NHTSA No.	C15401
VIN	JM1TA221511702936
Color	White/Tan
Delivery Date	12/19/00
Odometer Reading (mile)	146
Dealer	Terry's Mazda
Transmission	Automatic
Final Drive	Front
Number of Cylinders	6
Engine Displacement (L)	2.5
Engine Placement	Lateral

TEST VEHICLE OPTIONS

Front Airbags	Yes
Side Airbags	Yes (Front Seat)
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	No
Anti-lock Brakes	Yes
AM/FM/Cassette/CD	Yes
Anti-theft System	Yes
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Mazda Motor Corp.
Date of Manufacture	8/00

GVWR (kg)	1985
GAWR Front (kg)	1116
GAWR Rear (kg)	880

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	220	200
Cold Pressure (kPa)	220	200
Recommend Tire Size	P215/55R16	P215/55R16
Tire Size on Vehicle	P215/55R16	P215/55R16
Tire Manufacturer	Michelin	Michelin

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				385.0
Cargo Weight (RCLW) (kg)				45.0

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

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	456.3	311.6		516.7	384.2	
Right	kg	466.8	294.8		483.5	343.4	
Ratio	%	60.4%	39.6%		57.9%	42.1%	
Totals	kg	923.1	606.4	1529.5	1000.2	727.6	1727.8

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1529.5
Weight of 2 P572F Side Impact Dummies	kg	161.5
Rated Cargo/Luggage Weight (RCLW)	kg	45.0
Calculated Vehicle Target Weight (TVTW)	kg	1736.0

*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	711	715	721	717	1157
As Tested	mm	695	710	688	697	1208
Fully Loaded	mm	695	710	681	694	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2747
Total Vehicle Length at Left Side	mm	4130
Total Vehicle Length at Centerline	mm	4859
Total Vehicle Length at Right Side	mm	4130
Weight of Ballast in Cargo Area	kg	9.0
Amount of Stoddard Solvent in Fuel Tank	liters	64.0

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2747
Target Impact Point Aft of Front Axle	mm	433
Actual Impact Point Aft of Front Axle	mm	436

DATA SHEET NO. 1...(continued)

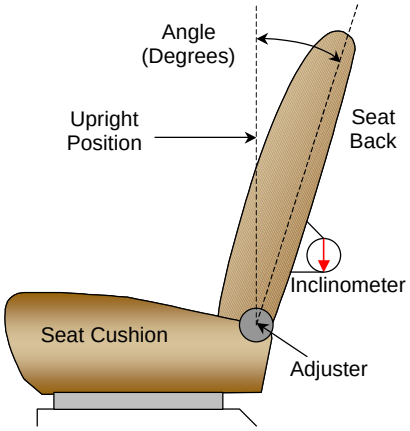
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

NORMAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturer's designated angle. The procedure for the seat is as follows: An inclinometer is firmly placed against the flat portion of the headrest post surface and the seat back is adjusted to the manufacturers designated angle. The rear passenger seat is fixed; no adjustments can be made.



FRONT SEAT ASSEMBLY

Driver seat back angle: 15 deg. at headrest post

Passenger seat back angle: non-adjustable

SEAT FORE/AFT POSITIONS

The driver's seat is electronically operated and the rear passenger seat has no adjustments. The fore/aft is set to the middle position for the driver's seat.

Driver seat fore/aft total travel: 230 mm

Rear passenger seat fore/aft total travel: non-adjustable

Driver seat fore/aft position: 115 mm

Rear passenger seat fore/aft position: non-adjustable

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable "D" ring anchorage for the driver's seat position. There are 5 positions or detents, with the uppermost position numbered "1". The driver's "D" ring anchorage is placed in position 1 or uppermost position, at the request of the manufacturer.

GENERAL TEST AND VEHICLE PARAMETER DATA

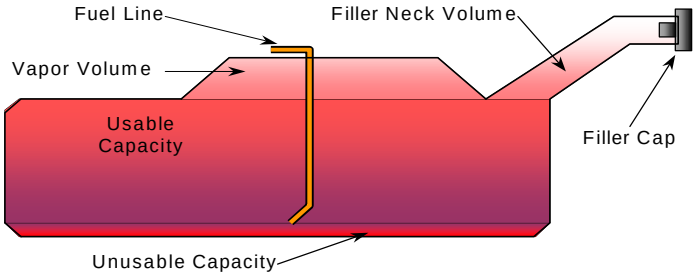
Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

FUEL TANK CAPACITY DATA

The "Usable Capacity" of the standard equipment fuel tank is:	68.1	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:	62.7-64.1	liters
Actual amount of Stoddard solvent added to vehicle for certification test:	64.0	liters

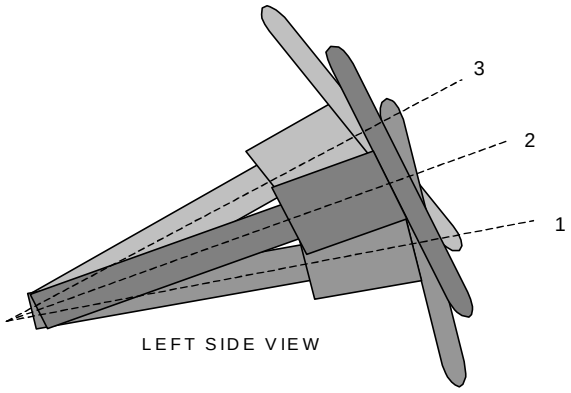
The test vehicle is equipped with an electric fuel pump. The fuel pump will operate with the ignition in the "ON" position. The fuel filler door is located on the left rear fender.



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. A square is placed across the rim of the steering wheel, and inclinometer is placed onto the square and the angle is measured.



STEERING COLUMN ASSEMBLY

Lowermost, position 1:	0
Geometric center, position 2:	9.8°
Uppermost, position 3:	19.6

DATA SHEET NO. 2

TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	456.3	311.6		516.7	384.2	
Right	kg	466.8	294.8		483.5	343.4	
Weight Ratio	%	60.4%	39.6%		57.9%	42.1%	
Totals	kg	923.1	606.4	1529.5	1000.2	727.6	1727.8

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	253	293
Level 2	Occupant H-Point	mm	367	455
Level 3	Mid Door	mm	322	598
Level 4	Window Sill	mm	267	884
Level 5	Window Top	mm	67	1310
N/A	Maximum Penetration	mm	367	455

INSTRUMENTATION

Driver SID Accelerometers	11
Passenger SID Accelerometers	11
Vehicle Structure Accelerometers	20
MDB Accelerometers	5
Total	47

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

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	395.1	293.8	
Right	kg	385.7	287.4	
Ratio	%	57.3	42.7	
Totals	kg	780.8	581.2	1362.0

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.1
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.6
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.2

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max. Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	203
B	Top of Bumper	533	800	Left	137
C	Mid Level	686	800	Left	91
D	Top of Stack	813	800	Left	154

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

DATA SHEET NO. 4

POST TEST OBSERVATIONS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID	Rear Seat SID
Dummy Type / Serial No.	SID/036	SID/037
Head Contact	Side Airbag	Ceiling /Side Header
Upper Torso Contact	Air Bag	Door Panel
Lower Torso Contact	Air Bag	Door Panel
Left Knee Contact	Door Panel	Door Panel
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Left Side Door Opening	remained closed	remained closed
Right Side Door Opening	remained closed	remained closed
Seat Movement	none	none
Seat Back Failure	none	none

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No failure noted
Sill Separation	No separation
Windshield Damage	Driver side windshield
Window Damage	Driver and passenger door windows broken
Other Notable Effects	None noted

AIRBAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	No	No	
Side	Yes	No	

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	3 Rearward
Vertical Offset	mm	+/-20	4 Down

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5

SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

THORAX AND PELVIS PEAK ACCELERATIONS (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	66.5	36	13.4	79	87.0	41	6.8	113
Upper Rib (LUR) (R)	Y	G's	66.4	36	13.1	79	87.2	41	6.9	113
Lower Rib (LLR)	Y	G's	60.2	38	18.9	90	87.3	40	17.5	68
Lower Rib (LLR) (R)	Y	G's	62.1	38	18.8	90	88.0	40	16.5	68
Lower Spine (T_{12})	Y	G's	74.7	39	21.7	74	69.9	42	17.0	65
Lower Spine (T_{12}) (R)	Y	G's	74.1	39	21.9	74	69.1	41	17.0	65
Pelvis (PEV)	Y	G's	79.0	33	19.3	76	112.8	36	16.0	69
Pelvis (PEV) (R)	Y	G's	79.1	33	18.9	76	112.4	36	15.6	69

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

Location	Driver				Passenger			
	LUR	T_{12}	TTI(g)	PEV(g)	LLR	T_{12}	TTI(g)	PEV(g)
Rib, Spine, and Pelvis	67	75	71	79	87	70	79	113
Rib, Spine, and Pelvis (R)	66	74	70	79	88	69	79	112

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	8.4	173	16.8	72	11.4	42	19.9	50
Head CG	Y	G's	33.0	48	11.7	169	127.2	51	13.3	40
Head CG	Z	G's	36.8	52	8.8	21	15.4	43	51.5	59
Head CG Resultant		G's	44.3	51			128.5	51		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver				Passenger			
	HIC	T^1	T^2	Avg G's	HIC	T^1	T^2	Avg G's
Head CG	161	42.6	78.6	28.8	779	48.6	59.0	89.1

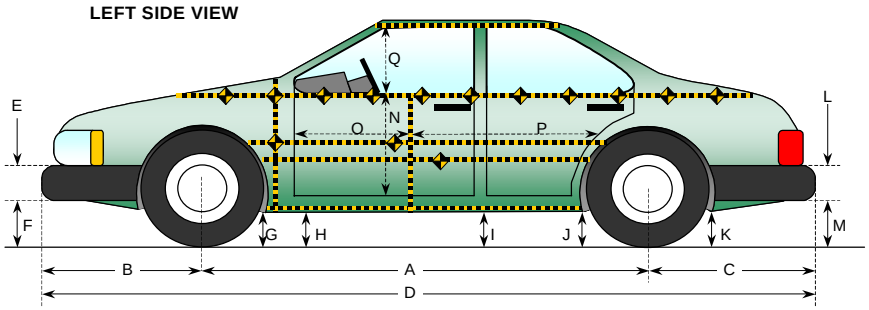
Positive Acceleration Polarities: Longitudinal (X) = Forward
(Conforms to SAE J211) Lateral (Y) = Right
Vertical (Z) = Down

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



All Measurements in mm

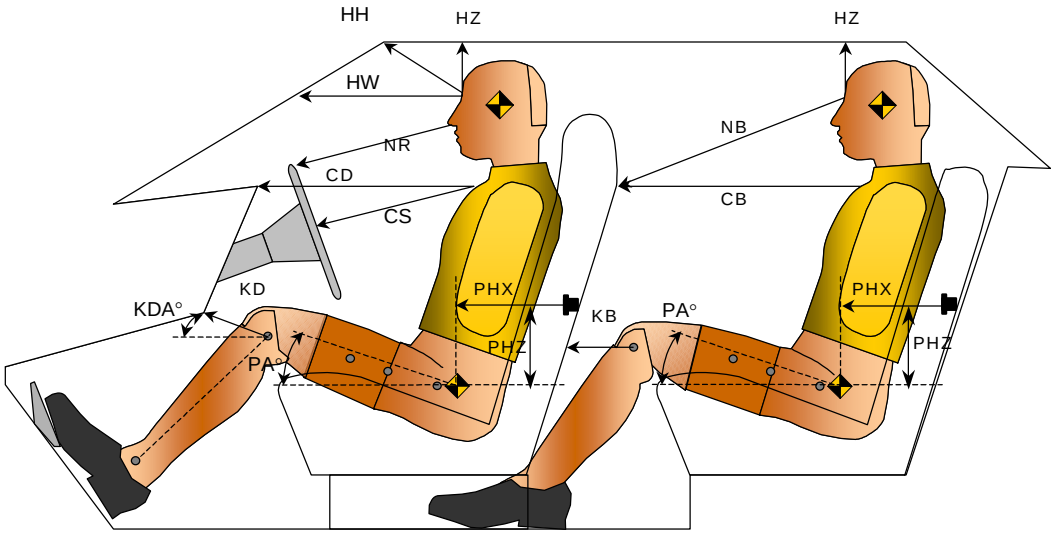
Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2747	2706	41
B	Front Axle to FSOV	998	936	62
C	Rear Axle to RSOV	1114	1122	-8
D	Total Length at Centerline	4859	4764	95
E	Front Bumper Thickness	109	109	0
F	Front Bumper Bottom to Ground	393	413	-20
G	Sill Height at Front Wheel Well	183	162	21
H	Sill Height at Front Door Leading Edge	169	168	1
I	Sill Height at "B" Pillar	164	153	11
J1	Sill Height at Rear Wheel Well	168	171	-3
J2	Pinch Weld Height at Rear Wheel Well	165	163	2
K	Sill Height Aft of Rear Wheel Well	199	210	-11
L	Rear Bumper Thickness	233	233	0
M	Rear Bumper Bottom to Ground	324	329	-5
N	Sill Height to Window Bottom Sill	660	580	80
O	Front Door Leading Edge to Impact CL	725	714	11
P	Rear Door Trailing Edge to Impact CL	1200	1059	141
Q	Front Window Opening	439	409	30
R	Right Side Length	4130	4143	-13
S	Left Side Length	4130	4075	55
T	Vehicle Width at "B" Post	1754	1461	293

DATA SHEET NO. 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



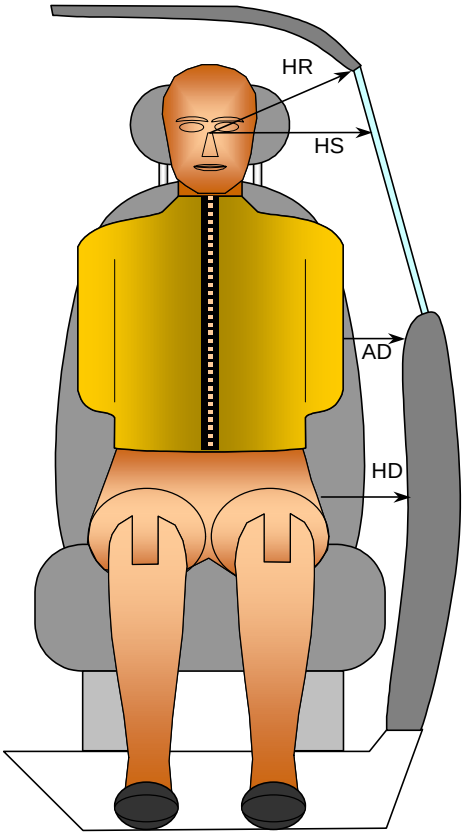
Driver Code	Pass. Code	Measurement Description	Driver 036		Passenger 037	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	342			
HW		Head to Windshield	604			
HZ	HZ	Head to Roof	179		120	
NR	NB	Nose to Rim/Nose to Seatback	447		622	
CD	CB	Chest to Dash or Seatback	556		539	
CS		Chest to Steering Wheel	313			
KDL	KBL	Left Knee to Dash or Seatback	163	0.0	252	0.0
KDR	KBR	Right Knee to Dash or Seatback	198	0.0	242	0.0
PA	PA	Pelvic Angle		24.8		23.8
PHX	PHX	H-Point to Striker (X-Axis)	236		292	
PHZ	PHZ	H-Point to Striker (Z-Axis)	160		320	

DATA SHEET NO. 8

SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



FRONT VIEW OF DUMMY

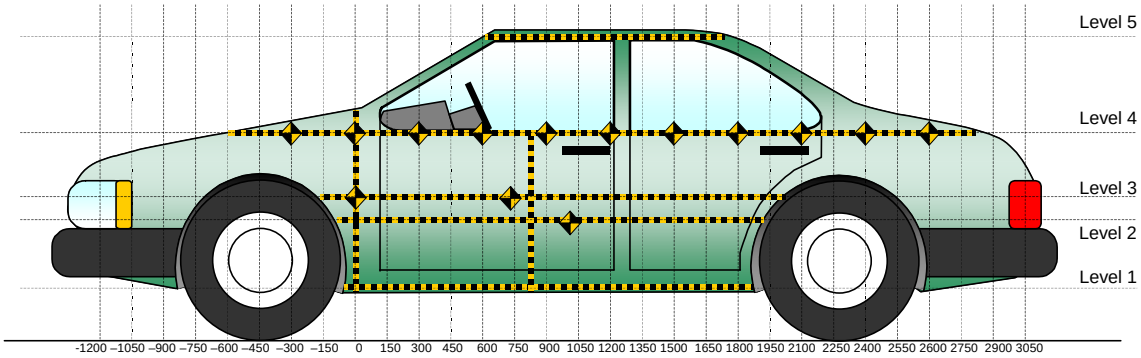
Code	Measurement Description	Units	Driver 036	Passenger 037
HR	Head to Side Header	mm	210	193
HS	Head to Side Window	mm	284	326
AD	Arm to Door	mm	92	84
HD	H-Point to Door	mm	134	167

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements along the vertical 800 mm.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window	1310
4	Window Sill	884
3	Mid Door	598
2	Occupant H-Point	455
1	Sill Top	293

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900			510	590				524	595				14	5	
-750			480	580				502	592				22	12	
-600				572					594					22	
-450				570					595					25	
-300				563					598					35	
-150				561					604					43	
0	515	484	467	560		582	616	588	611		67	132	121	51	
150	517	484	468	552		675	754	788	635		158	270	320	83	
300	516	483	468	551		683	783	760	682		167	300	292	131	
450	515	483	469	551		693	802	763	718		178	319	294	167	
600	513	482	468	553		704	813	767	754		191	331	299	201	
750	511	482	467	550	780	716	823	779	772	830	205	341	312	222	50
900	510	481	467	550	790	726	828	775	773	847	216	347	308	223	57
1050	510	478	466	550	799	738	834	782	784	863	228	356	316	234	64
1200	507	478	466	550	802	760	838	788	810	885	253	360	322	260	83
1350	503	477	466	551	801	753	844	782	811	868	250	367	316	260	67
1500	500	475	466	551	800	740	832	787	818	858	240	357	321	267	58
1650	498	474	465	554	798	731	814	765	807	846	233	340	300	253	48
1800	495	473	463	552	796	658	737	723	731	839	163	264	260	179	43
1950		472	460	552	794		526	622	648	834		54	162	96	40
2100				553	798				583	835				30	37
2250				556					593					37	
2400				561					595					34	
2550				569					597					28	
2700				582					604					22	
2850				599					618					19	
3000				626					640					14	
3150				655					665					10	

Reference plane is parallel to test vehicle longitudinal centerline

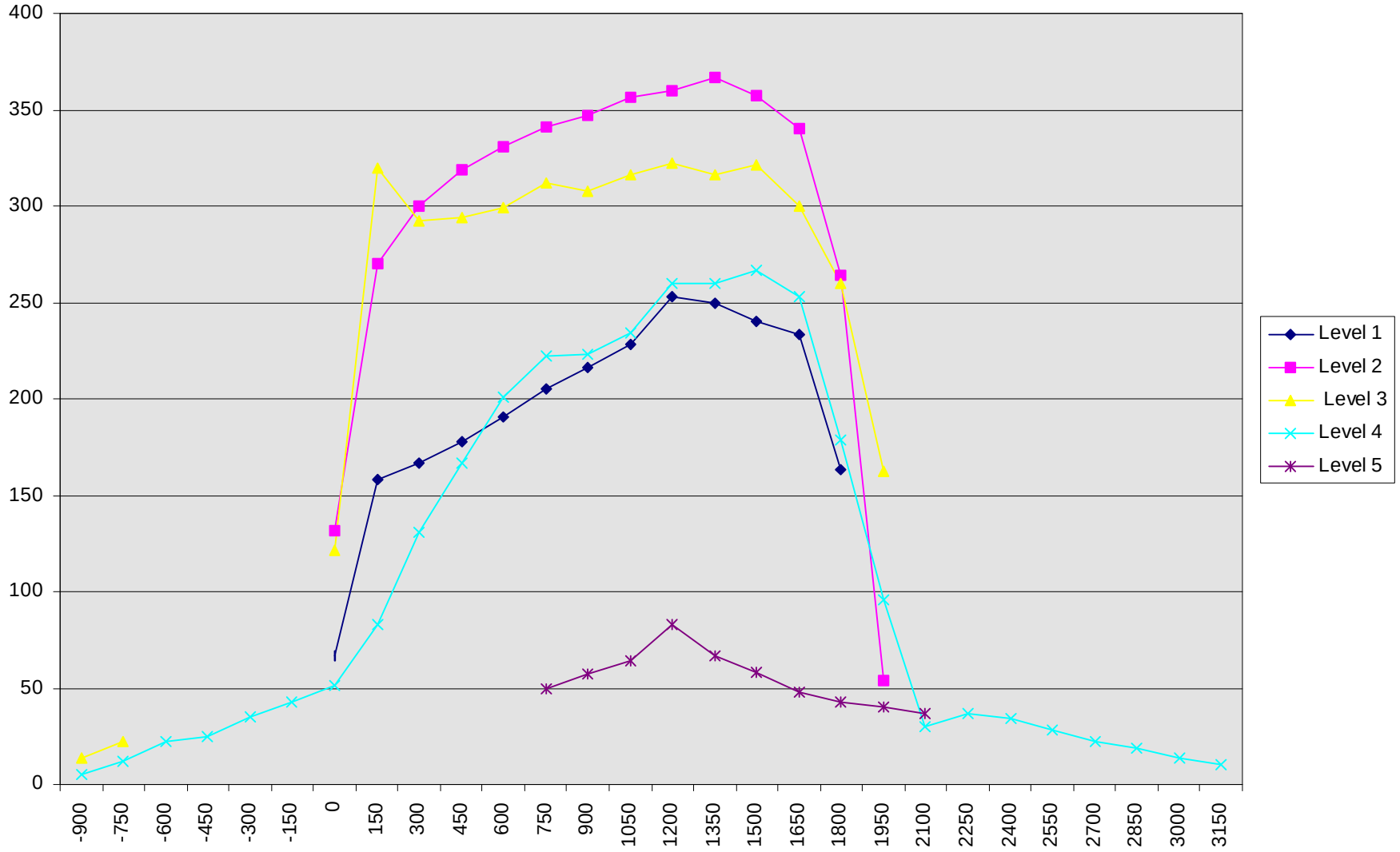
Given dimensions = Reference plane to car body

DATA SHEET NO. 10...(continued)

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

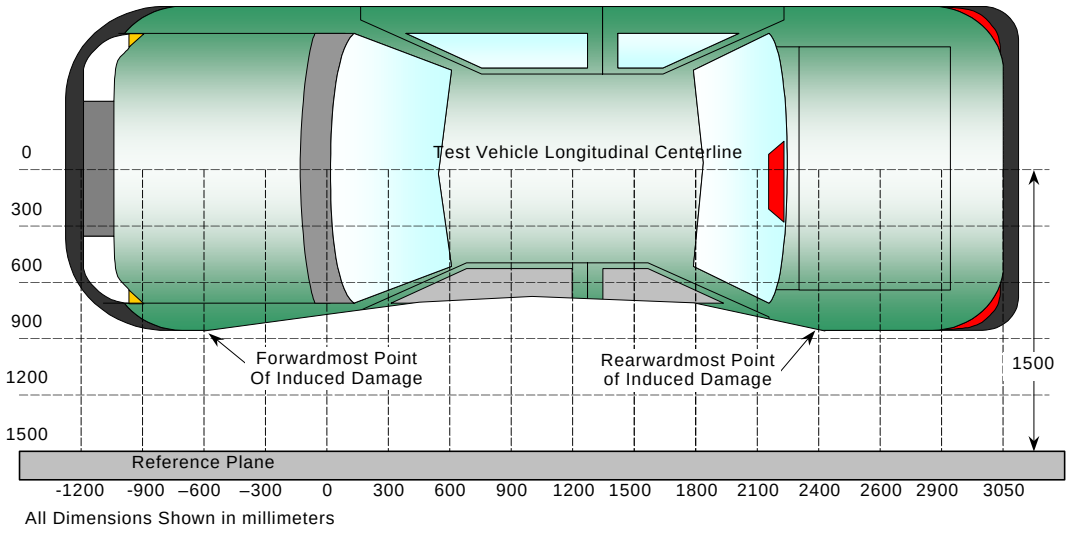


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



TOP VIEW

Damage Profile Distances

DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	3150 mm	4	665	665	0
2	2355 mm	4	594	558	36
3	1565 mm	2	831	475	356
4	728 mm	2.5	830	482	348
5	-95 mm	3	578	467	111
6	-900	4	595	595	0

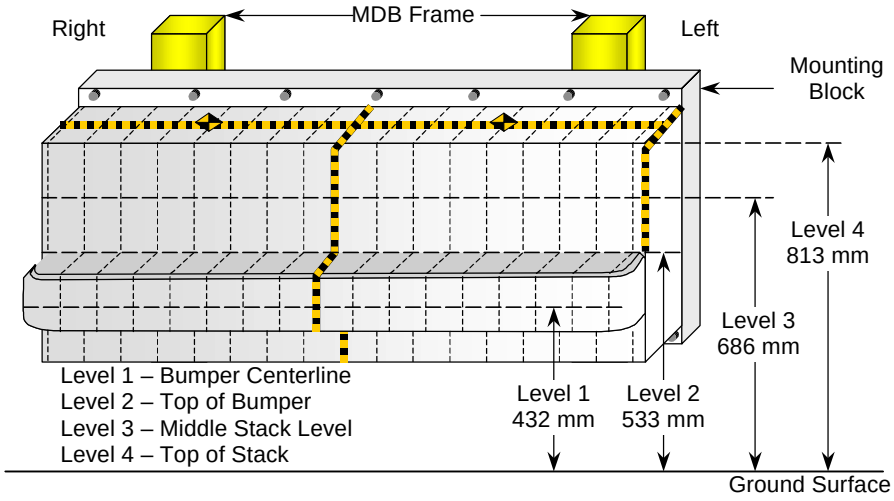
Reference plane is parallel to test vehicle longitudinal centerline
Given dimensions = Reference plane to car body

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C_L	Distance Left of Center							
	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	38	1	9	5	2	19	24	23	24	23	23	30	41	65	106	159	203
2	41	7	2	0	7	25	26	17	14	14	17	20	25	31	47	101	137
3	52	39	33	32	32	33	33	34	38	40	42	45	46	51	57	66	91
4	94	80	75	75	79	83	82	85	85	91	95	99	104	109	120	146	154

All Dimensions in mm

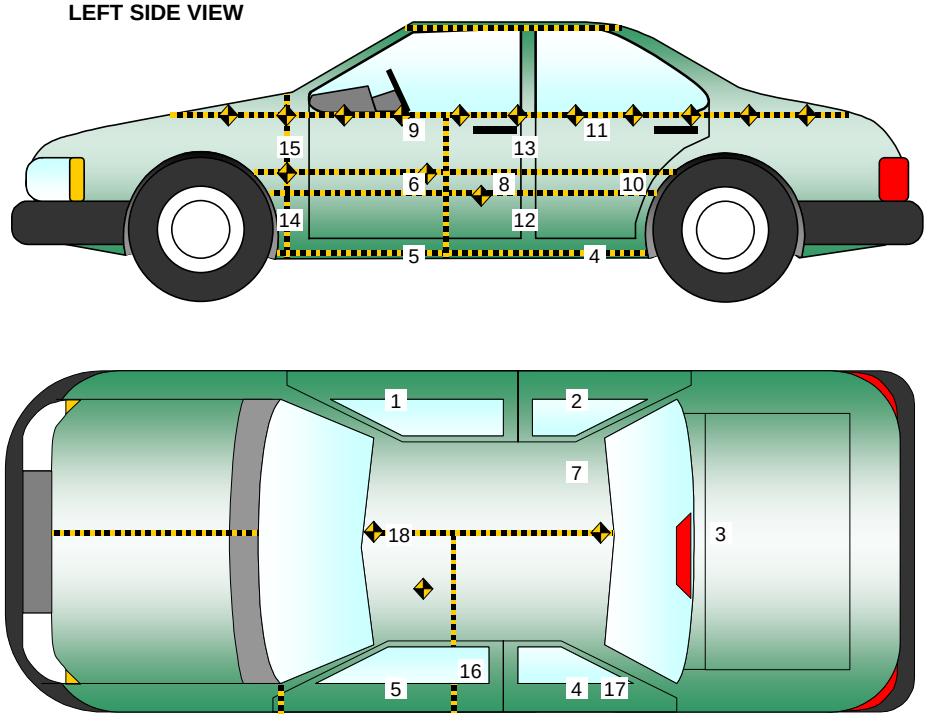
DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

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 Seat
5	Left Sill at Front Seat
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	Left Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 13...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

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	2587	688	207	X	3.2	46	5.4	10
					Y	18.1	12	2.4	163
					Z	2.5	30	5.4	20
					RES	18.9	12		
2	Right Sill at Rear Seat	1675	688	215	X	1.7	46	7.4	10
					Y	18.5	10	2.6	193
					Z	4.1	23	8.1	13
					RES	20.5	11		
3	Rear Floorpan Above Axle	1170	0	573	X	2.6	79	8.9	19
					Y	17.1	30	18.4	66
					Z	7.9	100	17.3	65
					RES	25.3	66		
4	Left Sill at Rear Seat	1667	-688	207	Y	40.5	8	6.4	52
5	Left Sill at Front Seat	2568	-688	201	Y	29.8	5	3.4	121
7	Rear Occupant Compartment	1972	360	300	Y	16.5	10	2.0	169
12	Left B-Post Lower	2160	-684	370	Y	98.5	7	77.9	40
13	Left B-Post Middle	2170	-676	798	Y	143.6	5	95.8	28
14	Left A-Post Lower	3205	-704	460	Y	88.0	8	40.6	21
15	Left A-Post Middle	3233	-755	877	Y	36.7	11	1.7	151
16	Left Front Seat Track	2281	-588	254	Y	110.2	13	39.0	23
17	Vehicle CG	2630	0	382	X	4.6	4	10.6	15
					Y	27.8	21	3.0	68
					Z	6.7	12	7.3	26
					RES	27.8	21		

Reference Points

X - Rear of Vehicle (+ forward)
Y - Vehicle Centerline (+ to right)
Z - Ground Plane (+ up)

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

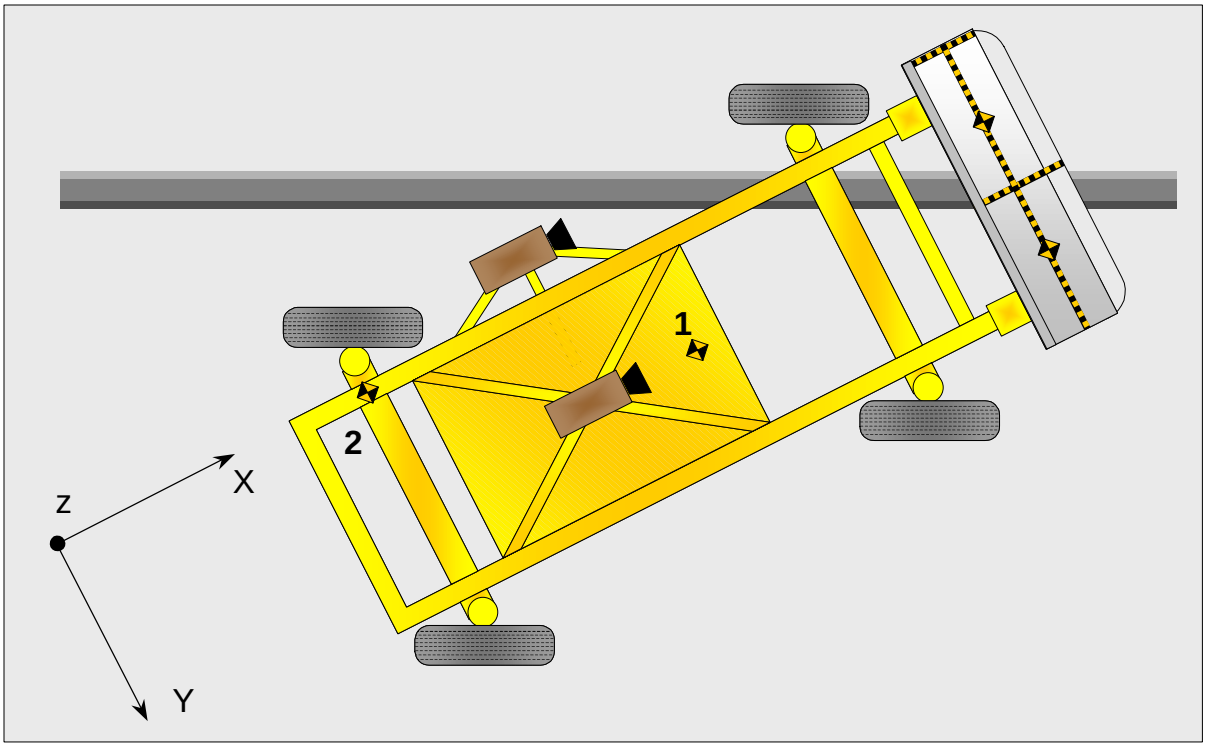
Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

MDB ACCELEROMETER PEAK DATA AND LOCATIONS

Loc. No.	Accelerometer Location	Measurement (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1092	0	483	X	1.6	137	17.8	40
					Y	3.0	55	9.6	25
					Z	25.8	31	28.0	36
					RES	32.8	36		
2	MDB Rear	-2591	-625	622	X	2.1	128	21.1	33
					Y	5.5	24	1.4	132

Reference Points X - MDB Front Axle (+ forward)
Y - MDB Centerline (+ to right)
Z - Ground Plane (+ up)

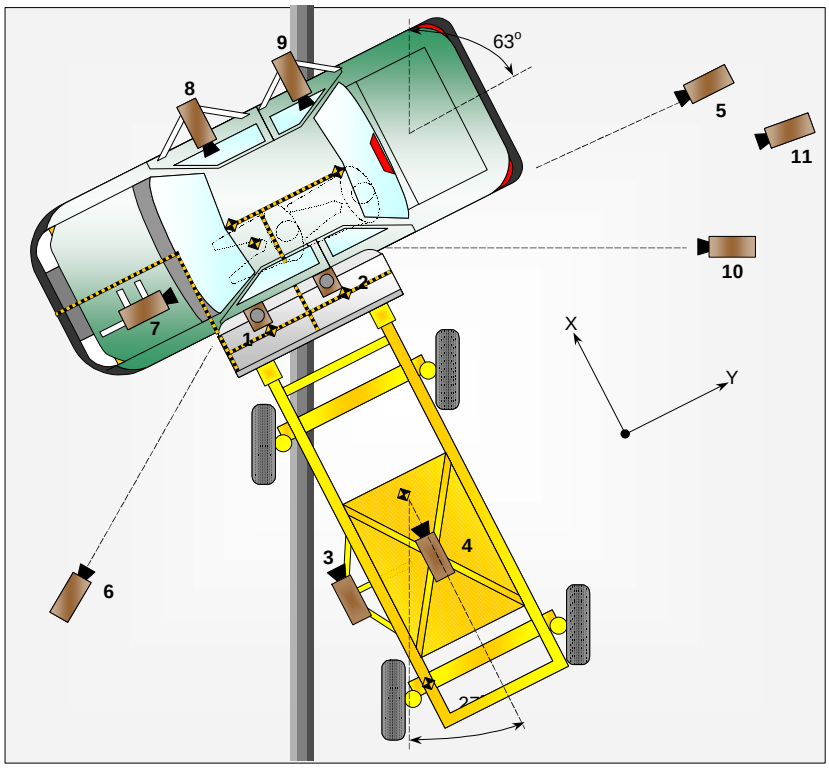


DATA SHEET NO. 15

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Overall	-140	1210	5000	8	909
2	Overhead Close-up	-500	-260	5000	13	909
3	MDB Onboard, Impact Point Close-up				35	1010
4	MDB Onboard, Centerline of Impact				13	1047
5	Right Side, Ground Level, Overall	-820	10200	1850	25	1000
6	Left Side, Ground Level, Overall	-440	-1740	1720	13	1015
7	Vehicle Onboard Front SID, Front				13	1020
8	Vehicle Onboard Front SID, Side				8	1005
9	Vehicle Onboard Rear SID, Side				13	1015
10	Real Time Coverage				10	24

Reference (from impact point): +X = Forward
+Y = To Right
+Z = Upward From Floor Level

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

Test Program: FMVSS 214 Test Date: January 4, 2001

Test Time: 2:07 p.m. Temperature at Time of Impact: 21 °C

Stoddard Solvent Spillage Measurements

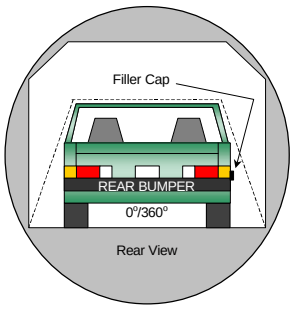
A.	From impact until vehicle motion ceases: (Maximum Allowable = 1 ounce)	0 oz.
B.	For the 5 minute period after motion ceases: (Maximum Allowable = 5 ounces)	0 oz.
C.	For the following 25 minutes: (Maximum Allowable = 1 oz./minute)	0 oz.
D.	Spillage Details: NONE	

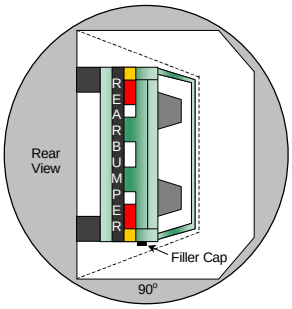
DATA SHEET NO. 17

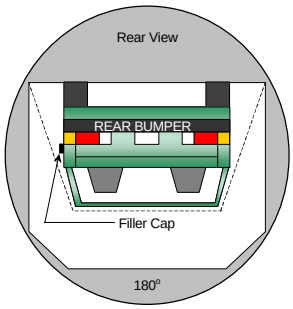
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001/Mazda/Millenia/4 Door/Sedan NHTSA No.: C15401

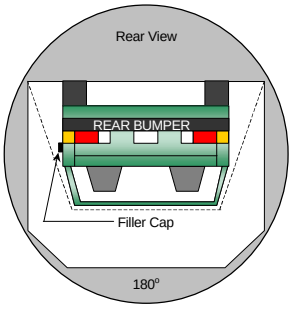
Test Program: FMVSS 214 Test Date: January 4, 2001

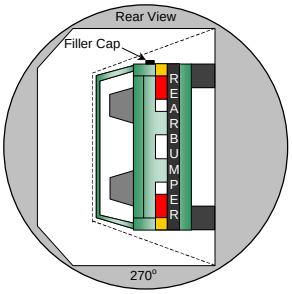


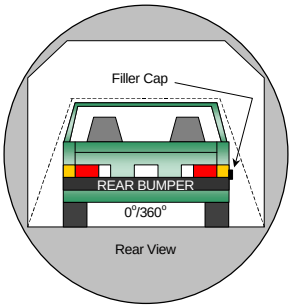




0° TO 90° 90° TO 180°







180° TO 270° 270° TO 360°

1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.

2. The position hold time at each position is 300 seconds (minimum)

3. Details of Stoddard Solvent spillage locations:

Rollover Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	172	300	0
90° TO 180°	151	300	0
180° TO 270°	134	300	0
270° TO 360°	161	300	0

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

	Page No.
Photo No. A-1 - Pre-Test Front View of Test Vehicle	A-1
Photo No. A-2 - Post-Test Front View of Test Vehicle	A-2
Photo No. A-3 - Pre-Test Rear View of Test Vehicle	A-3
Photo No. A-4 - Post-Test Rear View of Test Vehicle	A-4
Photo No. A-5 - Pre-Test Left Side View of Test Vehicle	A-5
Photo No. A-6 - Post-Test Left Side View of Test Vehicle	A-6
Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)	A-7
Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)	A-8
Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View	A-9
Photo No. A-10 - Post-Test MDB and Vehicle (left side)	A-10
Photo No. A-11 - Post-Test MDB and Vehicle (right side)	A-11
Photo No. A-12 - Post-Test MDB and Vehicle Overhead View	A-12
Photo No. A-13 - Pre-Test MDB Top View	A-13
Photo No. A-14 - Post-Test MDB Top View	A-14
Photo No. A-15 - Pre-Test MDB Front View	A-15
Photo No. A-16 - Post-Test MDB Front View	A-16
Photo No. A-17 - Pre-Test MDB Right Side View	A-17
Photo No. A-18 - Post-Test MDB Right Side View	A-18
Photo No. A-19 - Pre-Test MDB Left Side View	A-19
Photo No. A-20 - Post-Test MDB Left Side View	A-20
Photo No. A-21 - Pre-Test Driver Dummy Right Side View	A-21
Photo No. A-22 - Post-Test Driver Dummy Right Side View	A-22
Photo No. A-23 - Pre-Test Driver Dummy Left Side View	A-23
Photo No. A-24 - Post-Test Driver Dummy Left Side View	A-24
Photo No. A-25 - Pre-Test Driver Dummy Left Side View (Door Open)	A-25
Photo No. A-26 - Pre-Test Driver Dummy Shoulder and Door Top View	A-26
Photo No. A-27 - Post-Test Driver Dummy Shoulder and Door Top View	A-27
Photo No. A-28 - Post-Test Driver Dummy Contact	A-28
Photo No. A-29 - Post-Test Driver Dummy Head Contact	A-29
Photo No. A-30 - Post-Test Driver Dummy Head Contact	A-30

TABLE OF PHOTOGRAPHS

	Page No.
Photo No. A-31 - Pre-Test Passenger Dummy Right Side View	A-31
Photo No. A-32 - Post-Test Passenger Dummy Right Side View	A-32
Photo No. A-33 - Pre-Test Passenger Dummy Left Side View	A-33
Photo No. A-34 - Post-Test Passenger Dummy Left Side View	A-34
Photo No. A-35 - Pre-Test Passenger Dummy Left Side View (Door Open)	A-35
Photo No. A-36 - Pre-Test Passenger Dummy Shoulder and Door Top View	A-36
Photo No. A-37 - Post-Test Passenger Dummy Shoulder and Door Top View	A-37
Photo No. A-38 - Post-Test Passenger Dummy Contact	A-38
Photo No. A-39 - Post-Test Passenger Dummy Head Contact	A-39
Photo No. A-40 - Post-Test Passenger Dummy Head Contact	A-40
Photo No. A-41 - Pre-Test Left Front Impact Point on Vehicle	A-41
Photo No. A-42 - Post-Test Left Front Impact Point on Vehicle	A-42
Photo No. A-43 - Impact	A-43
Photo No. A-44 - Vehicle Certification Label	A-44
Photo No. A-45 - Tire Placard	A-45
Photo No. A-46 - Rollover 90°	A-46
Photo No. A-47 - Rollover 180°	A-47
Photo No. A-48 - Rollover 270°	A-48
Photo No. A-49 - Rollover 360°	A-49
Photo No. A-50 - Left Front Attitude Point	A-50
Photo No. A-51 - Right Front Attitude Point	A-51
Photo No. A-52 - Left Rear Attitude Point	A-52
Photo No. A-53 - Right Rear Attitude Point	A-53



Photo No. A-1 - Pre-Test Front View of Test Vehicle

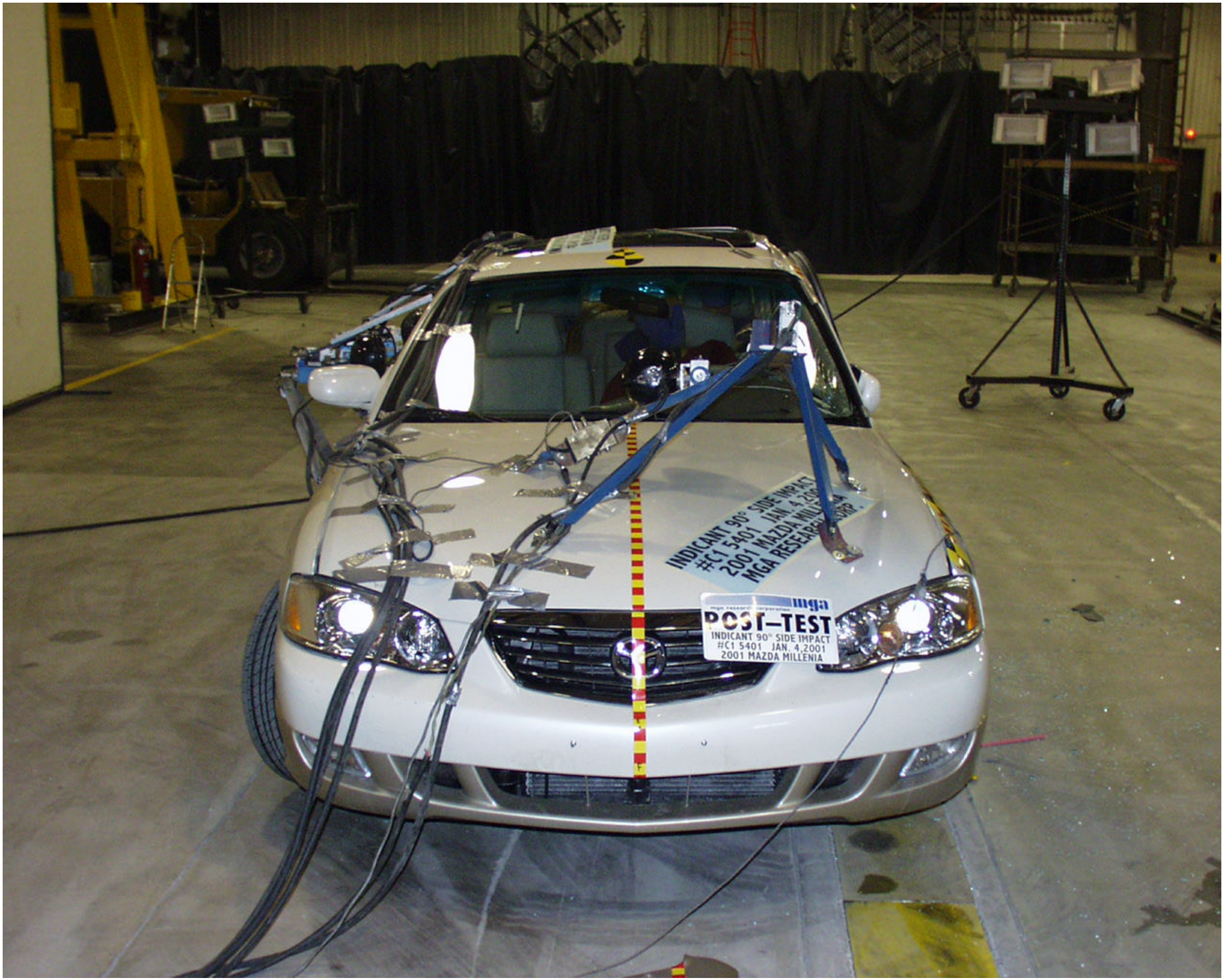


Photo No. A-2 - Post-Test Front View of Test Vehicle



Photo No. A-3 - Pre-Test Rear View of Test Vehicle



Photo No. A-4 - Post-Test Rear View of Test Vehicle



A-5

Photo No. A-5 - Pre-Test Left Side View of Test Vehicle



Photo No. A-6 - Post-Test Left Side View of Test Vehicle



Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)



Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)



Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View



Photo No. A-10 - Post-Test MDB and Vehicle (left side)



Photo No. A-11 - Post-Test MDB and Vehicle (right side)

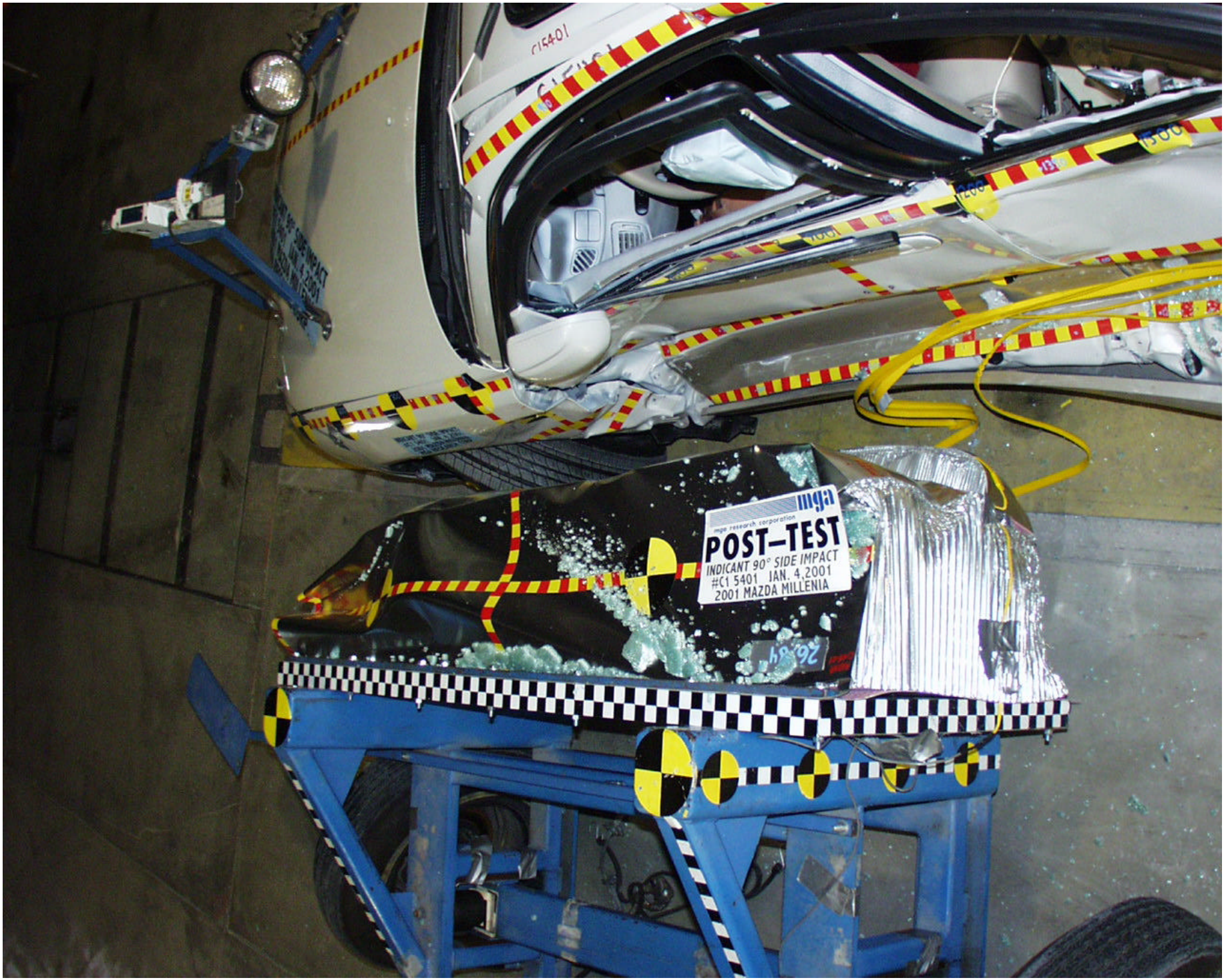


Photo No. A-12 - Post-Test MDB and Vehicle Overhead View

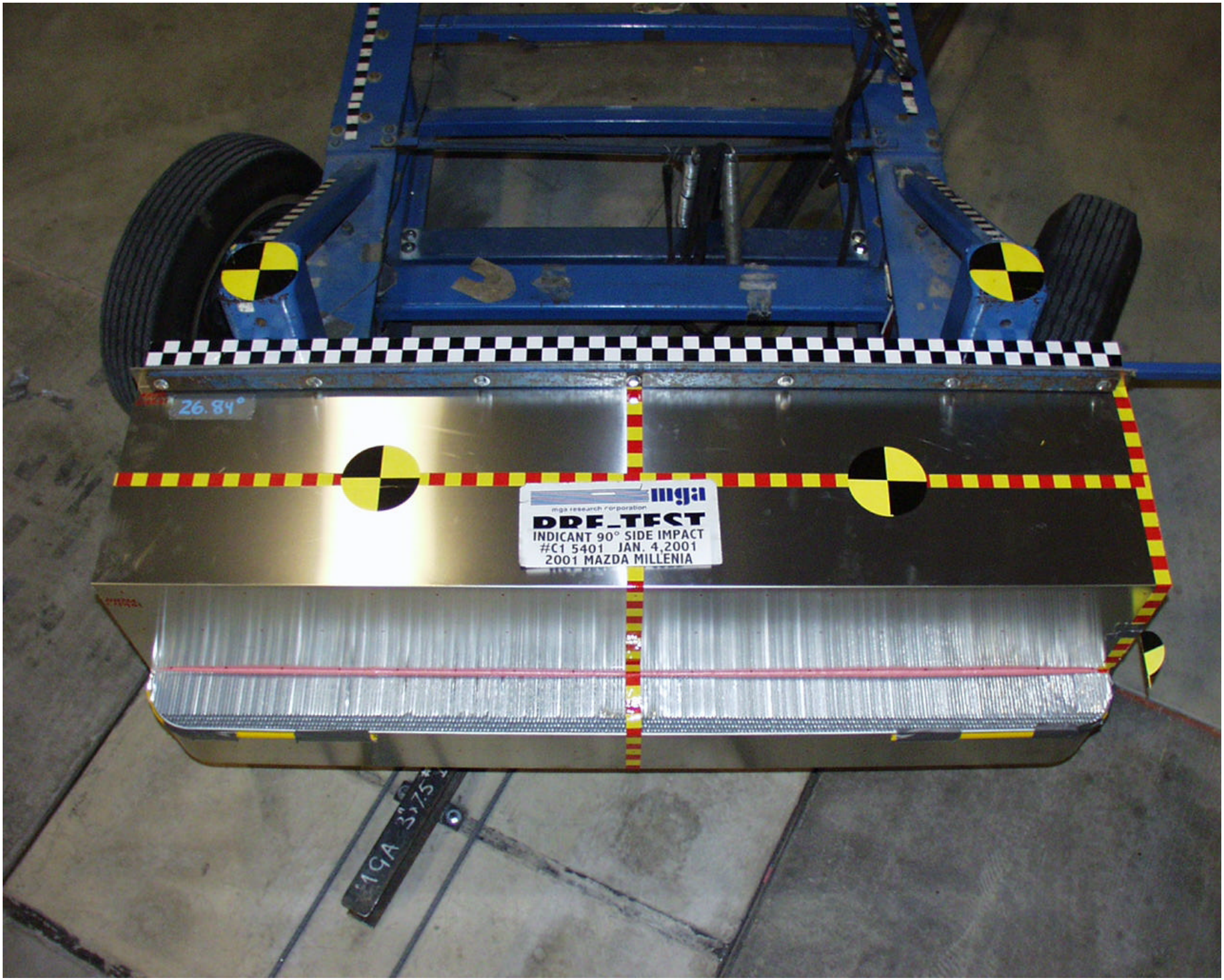
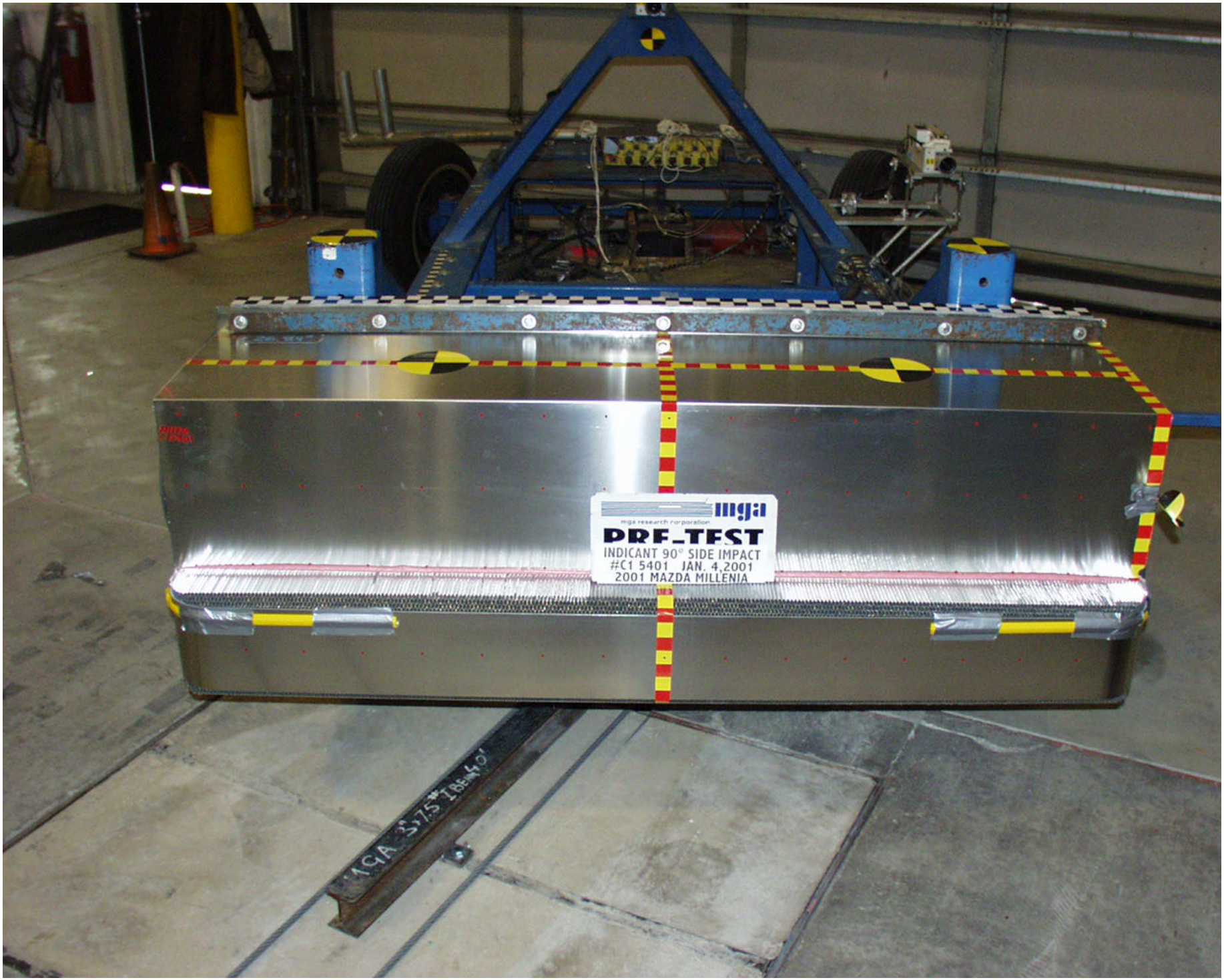


Photo No. A-13 - Pre-Test MDB Top View



Photo No. A-14 - Post-Test MDB Top View



A-15

Photo No. A-15 - Pre-Test MDB Front View

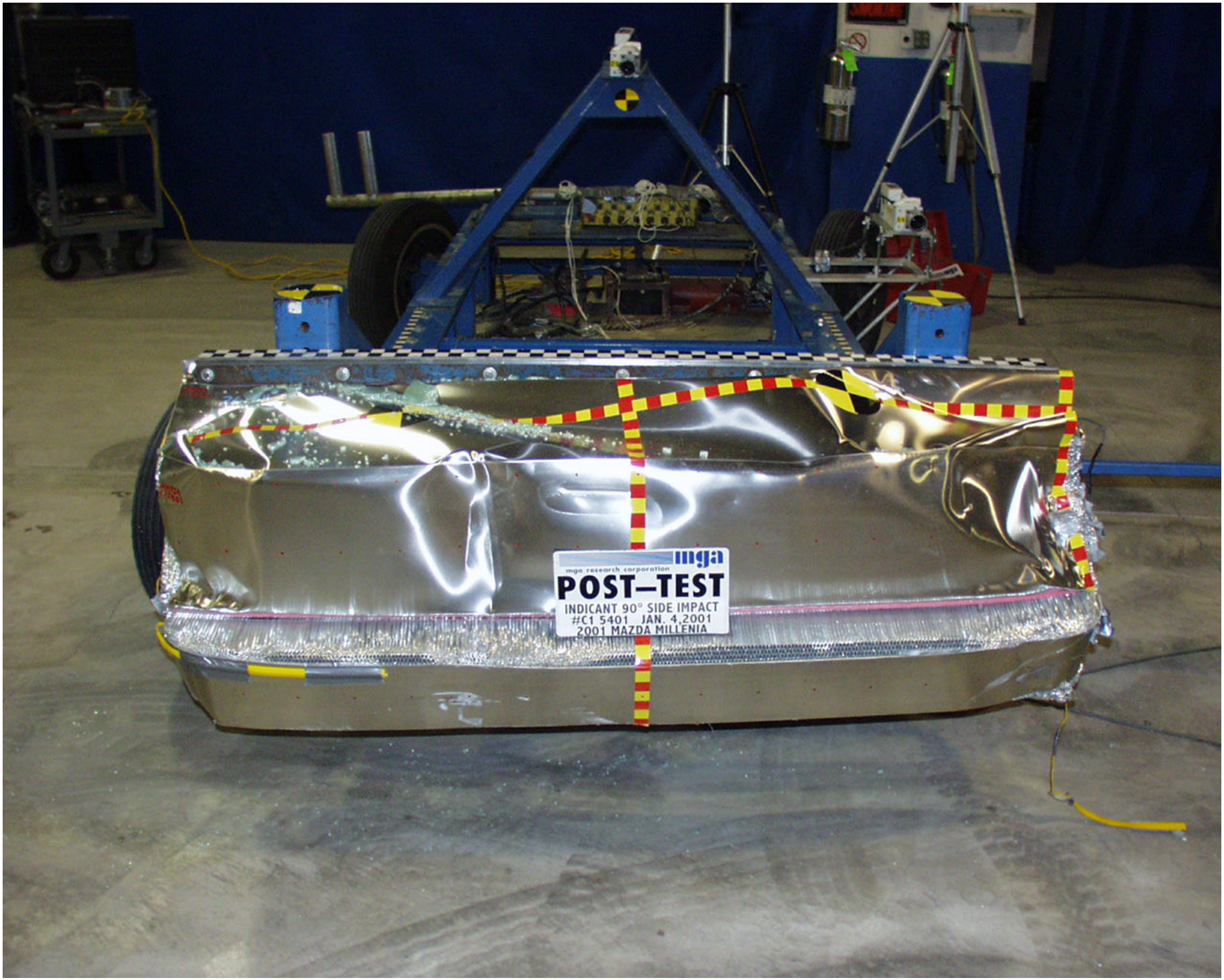


Photo No. A-16 - Post-Test MDB Front View



Photo No. A-17 - Pre-Test MDB Right Side View



Photo No. A-18 - Post-Test MDB Right Side View

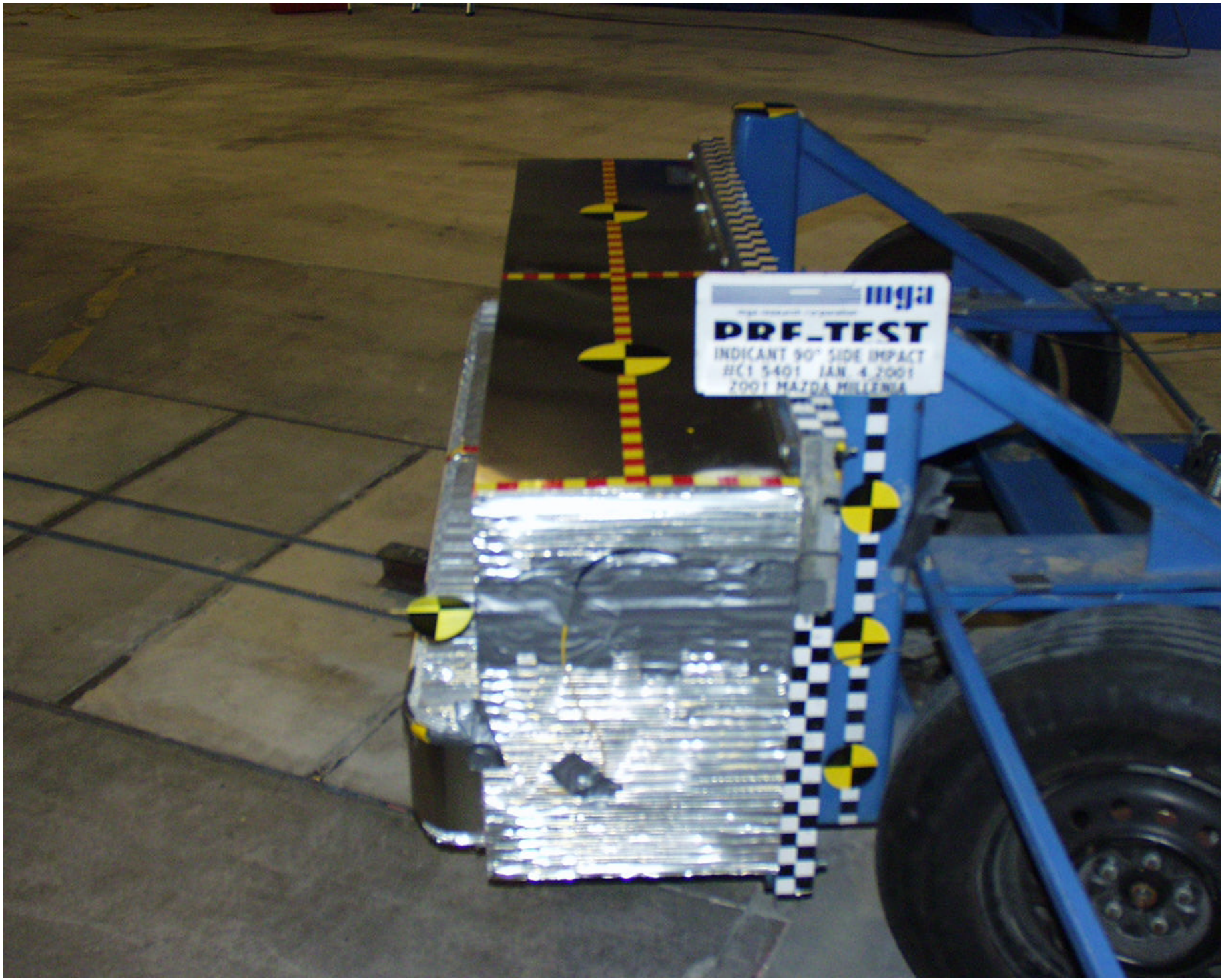


Photo No. A-19 - Pre-Test MDB Left Side View

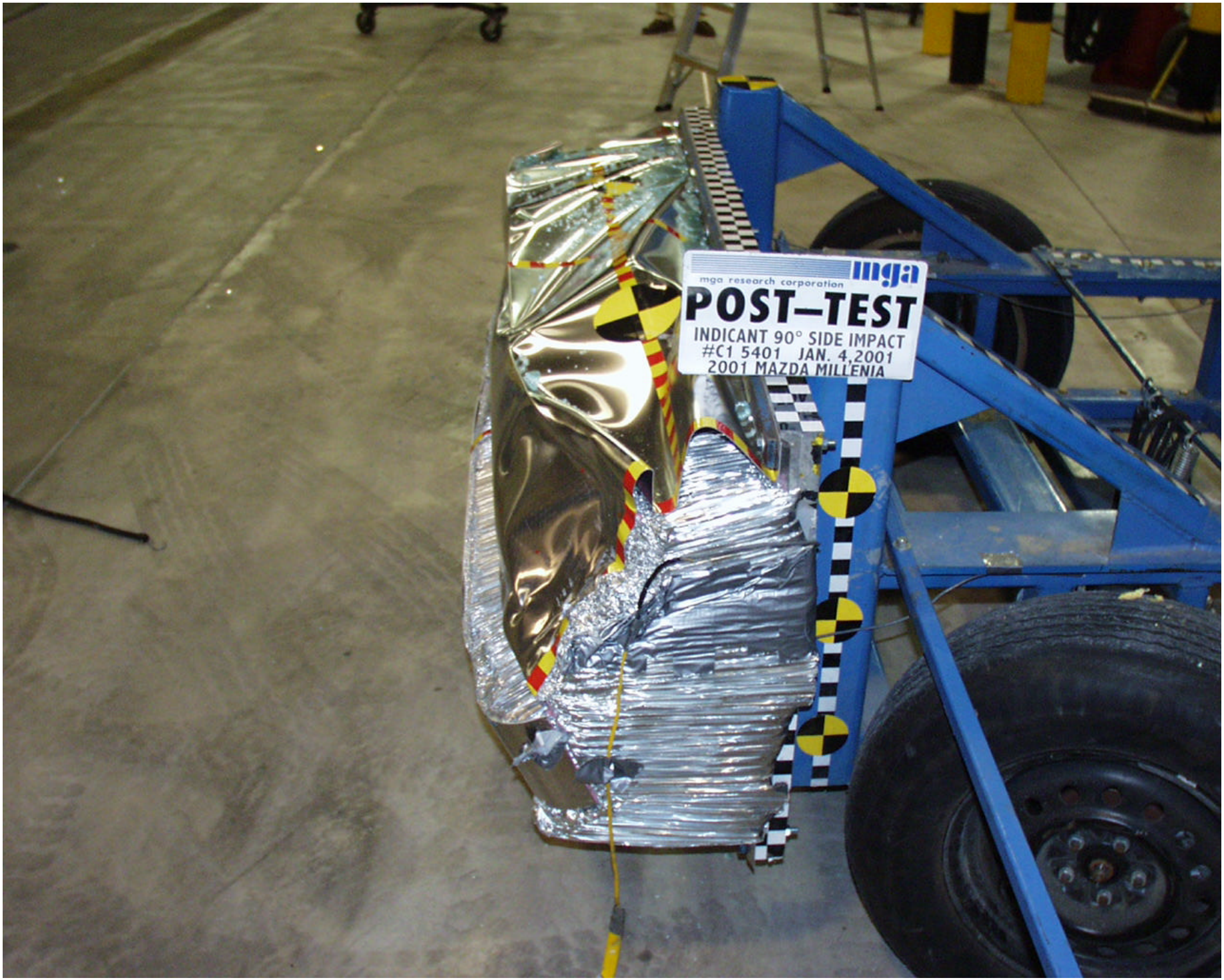


Photo No. A-20 - Post-Test MDB Left Side View



Photo No. A-21 - Pre-Test Driver Dummy Right Side View



Photo No. A-22 - Post-Test Driver Dummy Right Side View



Photo No. A-23 - Pre-Test Driver Dummy Left Side View



Photo No. A-24 - Post-Test Driver Dummy Left Side View



Photo No. A-25 - Pre-Test Driver Dummy Left Side View (Door Open)



Photo No. A-26 - Pre-Test Driver Dummy Shoulder and Door Top View



Photo No. A-27 - Post-Test Driver Dummy Shoulder and Door Top View



Photo No. A-28 - Post-Test Driver Dummy Contact



Photo No. A-29 - Post-Test Driver Dummy Head Contact



Photo No. A-30 - Post-Test Driver Dummy Head Contact



Photo No. A-31 - Pre-Test Passenger Dummy Right Side View



Photo No. A-32 - Post-Test Passenger Dummy Right Side View



Photo No. A-33 - Pre-Test Passenger Dummy Left Side View



Photo No. A-34 - Post-Test Passenger Dummy Left Side View



Photo No. A-35 - Pre-Test Passenger Dummy Left Side View (Door Open)



Photo No. A-36 - Pre-Test Passenger Dummy Shoulder and Door Top View



Photo No. A-37 - Post-Test Passenger Dummy Shoulder and Door Top View



Photo No. A-38 - Post-Test Passenger Dummy Contact



Photo No. A-39 - Post-Test Passenger Dummy Head Contact



Photo No. A-40 - Post-Test Passenger Dummy Head Contact



A-41

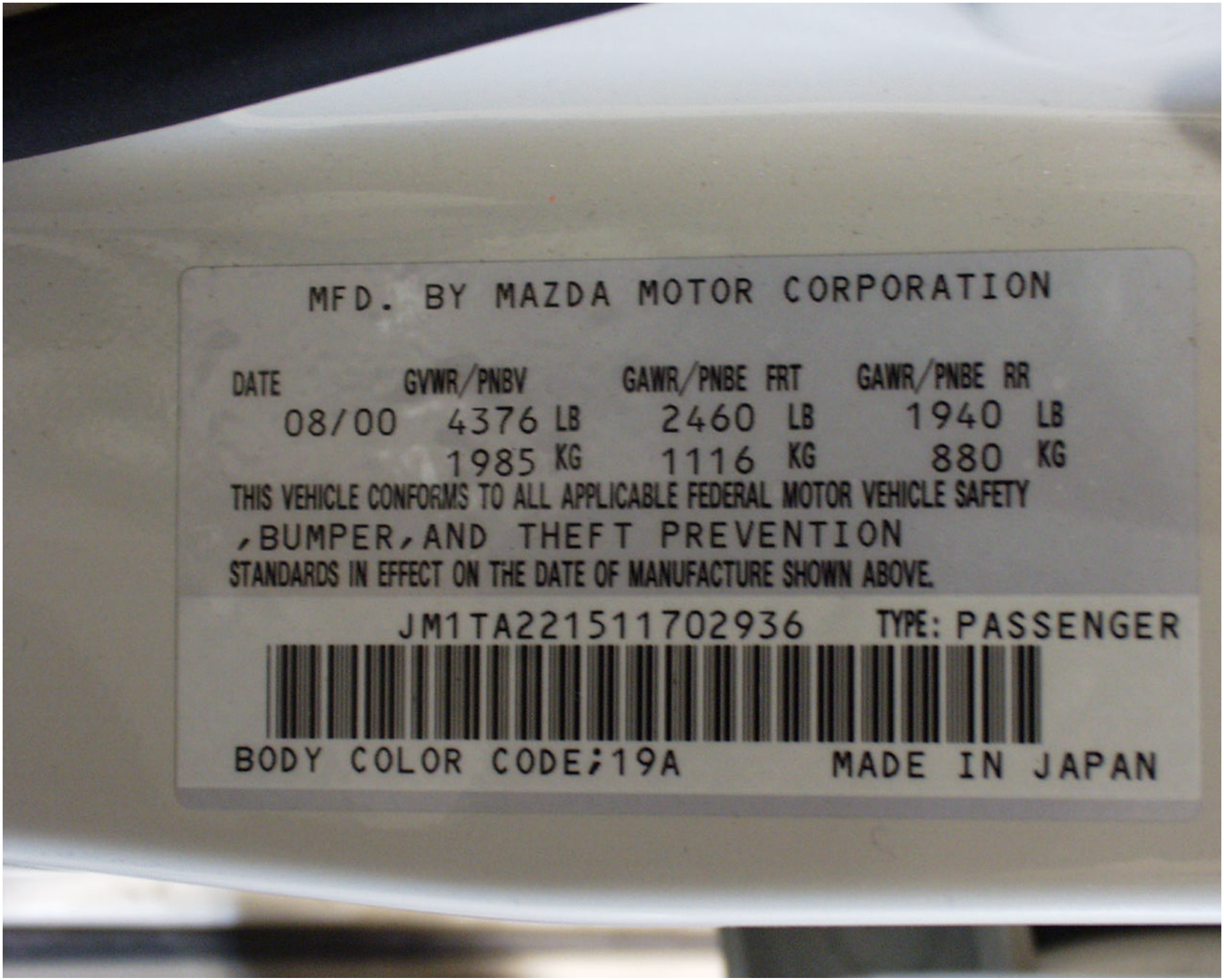
Photo No. A-41 - Pre-Test Left Front Impact Point on Vehicle



Photo No. A-42 - Post-Test Left Front Impact Point on Vehicle



Photo No. A-43 – Impact



A-44

Photo No. A-44 - Vehicle Certification Label



A-45

Photo No. A-45 - Tire Placard

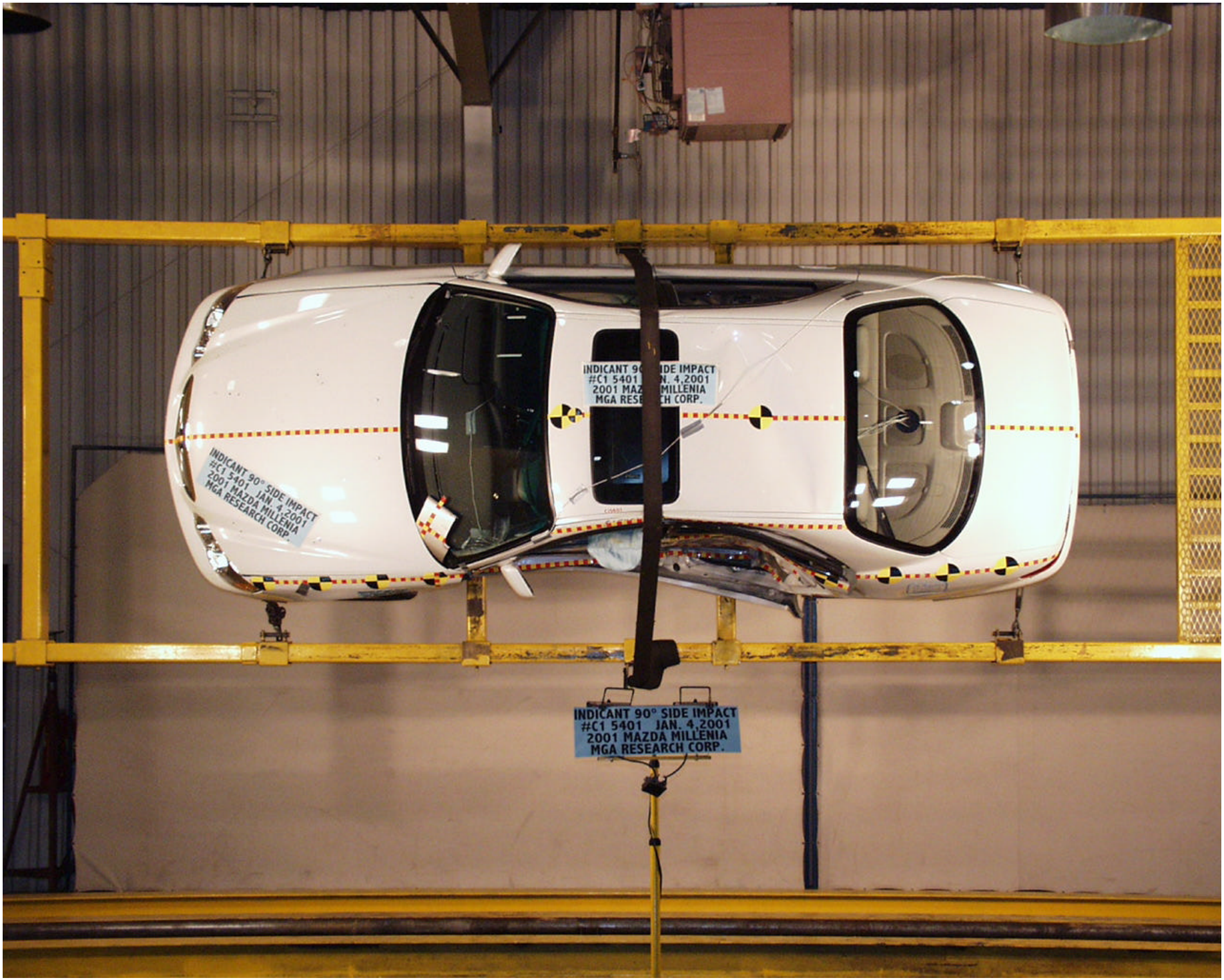


Photo No. A-46 - Rollover 90°



Photo No. A-47 - Rollover 180°

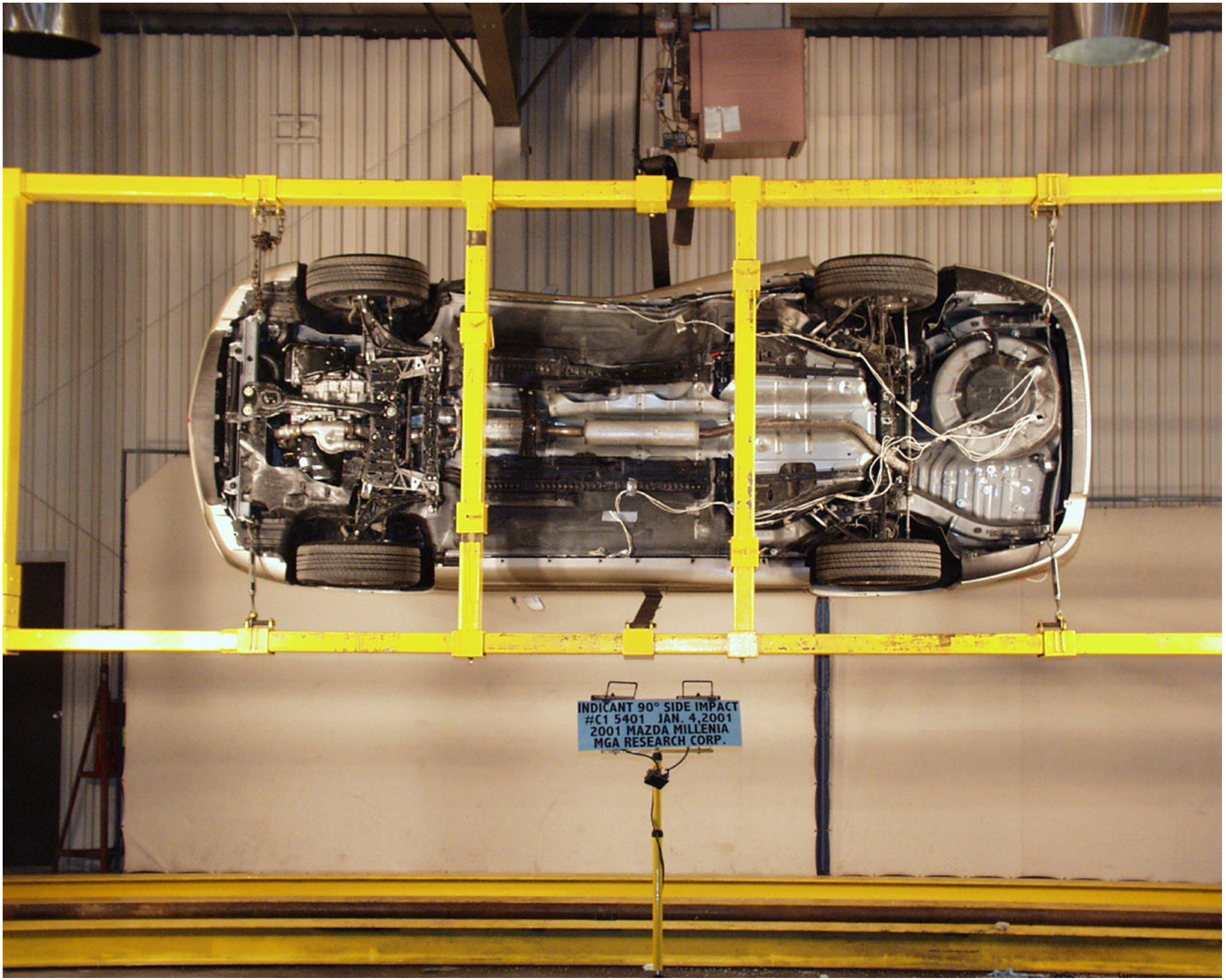


Photo No. A-48 - Rollover 270°



Photo No. A-49 - Rollover 360°



A-50

Photo No. A-50 - Left Front Attitude Point



Photo No. A-51 - Right Front Attitude Point



Photo No. A-52 - Left Rear Attitude Point



Photo No. A-53 - Right Rear Attitude Point

APPENDIX B

SID, VEHICLE, AND MDB RESPONSE DATA

Table of Data Plots

Occupant:	Page No.
Figure B-1 - Driver Head X Acceleration vs. Time	B-1
Figure B-2 - Driver Head X Velocity vs. Time	B-2
Figure B-3 - Driver Head Y Acceleration vs. Time	B-3
Figure B-4 - Driver Head Y Velocity vs. Time	B-4
Figure B-5 - Driver Head Z Acceleration vs. Time	B-5
Figure B-6 - Driver Head Z Velocity vs. Time	B-6
Figure B-7 - Driver Head Resultant vs. Time	B-7
Figure B-8 - Driver Upper Rib Y Acceleration vs. Time	B-8
Figure B-9 - Driver Upper Rib Y Velocity vs. Time	B-9
Figure B-10 - Driver Lower Rib Y Acceleration vs. Time	B-10
Figure B-11 - Driver Lower Rib Y Velocity vs. Time	B-11
Figure B-12 - Driver Lower Spine Y Acceleration vs. Time	B-12
Figure B-13 - Driver Lower Spine Y Velocity vs. Time	B-13
Figure B-14 - Driver Pelvis Y Acceleration vs. Time	B-14
Figure B-15 - Driver Pelvis Y Velocity vs. Time	B-15
Figure B-16 - Rear Passenger Head X Acceleration vs. Time	B-16
Figure B-17 - Rear Passenger Head X Velocity vs. Time	B-17
Figure B-18 - Rear Passenger Head Y Acceleration vs. Time	B-18
Figure B-19 - Rear Passenger Head Y Velocity vs. Time	B-19
Figure B-20 - Rear Passenger Head Z Acceleration vs. Time	B-20
Figure B-21 - Rear Passenger Head Z Velocity vs. Time	B-21
Figure B-22 - Rear Passenger Head Resultant vs. Time	B-22
Figure B-23 - Rear Passenger Upper Rib Y Acceleration vs. Time	B-23
Figure B-24 - Rear Passenger Upper Rib Y Velocity vs. Time	B-24
Figure B-25 - Rear Passenger Lower Rib Y Acceleration vs. Time	B-25
Figure B-26 - Rear Passenger Lower Rib Y Velocity vs. Time	B-26
Figure B-27 - Rear Passenger Lower Spine Y Acceleration vs. Time	B-27
Figure B-28 - Rear Passenger Lower Spine Y Velocity vs. Time	B-28
Figure B-29 - Rear Passenger Pelvis Y Acceleration vs. Time	B-29
Figure B-30 - Rear Passenger Pelvis Y Velocity vs. Time	B-30

Table of Data Plots

Vehicle:	Page No.
Figure B-31 - Right Side Sill at Front Seat X Acceleration vs. Time	B-31
Figure B-32 - Right Side Sill at Front Seat X Velocity vs. Time	B-32
Figure B-33 - Right Side Sill at Front Seat Y Acceleration vs. Time	B-33
Figure B-34 - Right Side Sill at Front Seat Y Velocity vs. Time	B-34
Figure B-35 - Right Side Sill at Front Seat Z Acceleration vs. Time	B-35
Figure B-36 - Right Side Sill at Front Seat Z Velocity vs. Time	B-36
Figure B-37 - Right Side Sill at Front Seat Resultant Acceleration vs. Time	B-37
Figure B-38 - Right Side Sill at Rear Seat X Acceleration vs. Time	B-38
Figure B-39 - Right Side Sill at Rear Seat X Velocity vs. Time	B-39
Figure B-40 - Right Side Sill at Rear Seat Y Acceleration vs. Time	B-40
Figure B-41 - Right Side Sill at Rear Seat Y Velocity vs. Time	B-41
Figure B-42 - Right Side Sill at Rear Seat Z Acceleration vs. Time	B-42
Figure B-43 - Right Side Sill at Rear Seat Z Velocity vs. Time	B-43
Figure B-44 - Right Side Sill at Rear Seat Resultant Acceleration vs. Time	B-44
Figure B-45 - Rear Floorpan above Axle X Acceleration vs. Time	B-45
Figure B-46 - Rear Floorpan above Axle X Velocity vs. Time	B-46
Figure B-47 - Rear Floorpan above Axle Y Acceleration vs. Time	B-47
Figure B-48 - Rear Floorpan above Axle Y Velocity vs. Time	B-48
Figure B-49 - Rear Floorpan above Axle Z Acceleration vs. Time	B-49
Figure B-50 - Rear Floorpan above Axle Z Velocity vs. Time	B-50
Figure B-51 - Rear Floorpan above Axle Resultant Acceleration vs. Time	B-51
Figure B-52 - Left Side Sill at Front Seat Y Acceleration vs. Time	B-52
Figure B-53 - Left Side Sill at Front Seat Y Velocity vs. Time	B-53
Figure B-54 - Left Side Sill at Rear Seat Y Acceleration vs. Time	B-54
Figure B-55 - Left Side Sill at Rear Seat Y Velocity vs. Time	B-55
Figure B-56 - Right Rear Occupant Compartment Y Acceleration vs. Time	B-56
Figure B-57 - Right Rear Occupant Compartment Y Velocity vs. Time	B-57
Figure B-58 - Left Lower A-Post Y Acceleration vs. Time	B-58
Figure B-59 - Left Lower A-Post Y Velocity vs. Time	B-59
Figure B-60 - Left Mid A-Post Y Acceleration vs. Time	B-60
Figure B-61 - Left Mid A-Post Y Velocity vs. Time	B-61
Figure B-62 - Left Lower B-Post Y Acceleration vs. Time	B-62
Figure B-63 - Left Lower B-Post Y Velocity vs. Time	B-63

Table of Data Plots

Vehicle (Cont'd): Page No

Figure B-64 - Left Mid B-Post Y Acceleration vs. Time B-64
Figure B-65 - Left Mid B-Post Y Velocity vs. Time B-65
Figure B-66 - Left Driver Seat Track Y Acceleration vs. Time B-66
Figure B-67 - Left Driver Seat Track Y Velocity vs. Time B-67
Figure B-68 - Vehicle Center of Gravity X Acceleration vs. Time B-68
Figure B-69 - Vehicle Center of Gravity X Velocity vs. Time B-69
Figure B-70 - Vehicle Center of Gravity Y Acceleration vs. Time B-70
Figure B-71 - Vehicle Center of Gravity Y Velocity vs. Time B-71
Figure B-72 - Vehicle Center of Gravity Z Acceleration vs. Time B-72
Figure B-73 - Vehicle Center of Gravity Z Velocity vs. Time B-73
Figure B-74 - Vehicle Center of Gravity Resultant Acceleration vs. Time B-74

Barrier:

Figure B-75 - Moving Barrier Center of Gravity X Acceleration vs. Time B-75
Figure B-76 - Moving Barrier Center of Gravity X Velocity vs. Time B-76
Figure B-77 - Moving Barrier Center of Gravity Y Acceleration vs. Time B-77
Figure B-78 - Moving Barrier Center of Gravity Y Velocity vs. Time B-78
Figure B-79 - Moving Barrier Center of Gravity Z Acceleration vs. Time B-79
Figure B-80 - Moving Barrier Center of Gravity Z Velocity vs. Time B-80
Figure B-81 - Moving Barrier Center of Gravity Resultant Acceleration vs. Time B-81
Figure B-82 - Moving Barrier Rear Axle X Acceleration vs. Time B-82
Figure B-83 - Moving Barrier Rear Axle X Velocity vs. Time B-83
Figure B-84 - Moving Barrier Rear Axle Y Acceleration vs. Time B-84
Figure B-85 - Moving Barrier Rear Axle Y Velocity vs. Time B-85
Figure B-86 - Left Barrier Contact B-86
Figure B-87 - Right Barrier Contact B-87

Redundant:

Figure B-88 - Driver Upper Rib Y Redundant Acceleration vs. Time B-88
Figure B-89 - Driver Upper Rib Y Redundant Velocity vs. Time B-89
Figure B-90 - Driver Lower Rib Y Redundant Acceleration vs. Time B-90
Figure B-91 - Driver Lower Rib Y Redundant Velocity vs. Time B-91
Figure B-92 - Driver Lower Spine Y Redundant Acceleration vs. Time B-92
Figure B-93 - Driver Lower Spine Y Redundant Velocity vs. Time B-93

Table of Data Plots

Redundant (Cont'd): Page No

Figure B-94 - Driver Pelvis Y Redundant Acceleration vs. Time B-94
Figure B-95 - Driver Pelvis Y Redundant Velocity vs. Time B-95
Figure B-96 - Rear Passenger Upper Rib Y Redundant Acceleration vs. Time B-96
Figure B-97 - Rear Passenger Upper Rib Y Redundant Velocity vs. Time B-97
Figure B-98 - Rear Passenger Lower Rib Y Redundant Accel. vs. Time B-98
Figure B-99 - Rear Passenger Lower Rib Y Redundant Velocity vs. Time B-99
Figure B-100 - Rear Passenger Lower Spine Y Redundant Accel. vs. Time B-100
Figure B-101 - Rear Passenger Lower Spine Y Redundant Velocity vs. Time B-101
Figure B-102 - Rear Passenger Pelvis Y Redundant Acceleration vs. Time B-102
Figure B-103 - Rear Passenger Pelvis Y Redundant Velocity vs. Time B-103

FIR Filtered:

Figure B-104 - Driver Upper Rib Y Acceleration vs. Time B-104
Figure B-105 - Driver Upper Rib Y Velocity vs. Time B-105
Figure B-106 - Driver Lower Rib Y Acceleration vs. Time B-106
Figure B-107 - Driver Lower Rib Y Velocity vs. Time B-107
Figure B-108 - Driver Lower Spine Y Acceleration vs. Time B-108
Figure B-109 - Driver Lower Spine Y Velocity vs. Time B-109
Figure B-110 - Driver Pelvis Y Acceleration vs. Time B-110
Figure B-111 - Driver Pelvis Y Velocity vs. Time B-111
Figure B-112 - Rear Passenger Upper Rib Y Acceleration vs. Time B-112
Figure B-113 - Rear Passenger Upper Rib Y Velocity vs. Time B-113
Figure B-114 - Rear Passenger Lower Rib Y Acceleration vs. Time B-114
Figure B-115 - Rear Passenger Lower Rib Y Velocity vs. Time B-115
Figure B-116 - Rear Passenger Lower Spine Y Acceleration vs. Time B-116
Figure B-117 - Rear Passenger Lower Spine Y Velocity vs. Time B-117
Figure B-118 - Rear Passenger Pelvis Y Acceleration vs. Time B-118
Figure B-119 - Rear Passenger Pelvis Y Velocity vs. Time B-119
Figure B-120 - Driver Upper Rib Redundant Y Acceleration vs. Time B-120
Figure B-121 - Driver Upper Rib Redundant Y Velocity vs. Time B-121
Figure B-122 - Driver Lower Rib Redundant Y Acceleration vs. Time B-122
Figure B-123 - Driver Lower Rib Redundant Y Velocity vs. Time B-123

Table of Data Plots

FIR Filtered (Cont'd):	Page No
Figure B-124 - Driver Lower Spine Redundant Y Acceleration vs. Time	B-124
Figure B-125 - Driver Lower Spine Redundant Y Velocity vs. Time	B-125
Figure B-126 - Driver Pelvis Y Redundant Acceleration vs. Time	B-126
Figure B-127 - Driver Pelvis Y Redundant Velocity vs. Time	B-127
Figure B-128 - Rear Passenger Upper Rib Redundant Y Acceleration vs. Time	B-128
Figure B-129 - Rear Passenger Upper Rib Redundant Y Velocity vs. Time	B-129
Figure B-130 - Rear Passenger Lower Rib Redundant Y Acceleration vs. Time	B-130
Figure B-131 - Rear Passenger Lower Rib Redundant Y Velocity vs. Time	B-131
Figure B-132 - Rear Passenger Lower Spine Redundant Y Acceleration vs. Time	B-132
Figure B-133 - Rear Passenger Lower Spine Redundant Y Velocity vs. Time	B-133
Figure B-134 - Rear Passenger Pelvis Y Redundant Acceleration vs. Time	B-134
Figure B-135 - Rear Passenger Pelvis Y Redundant Velocity vs. Time	B-135

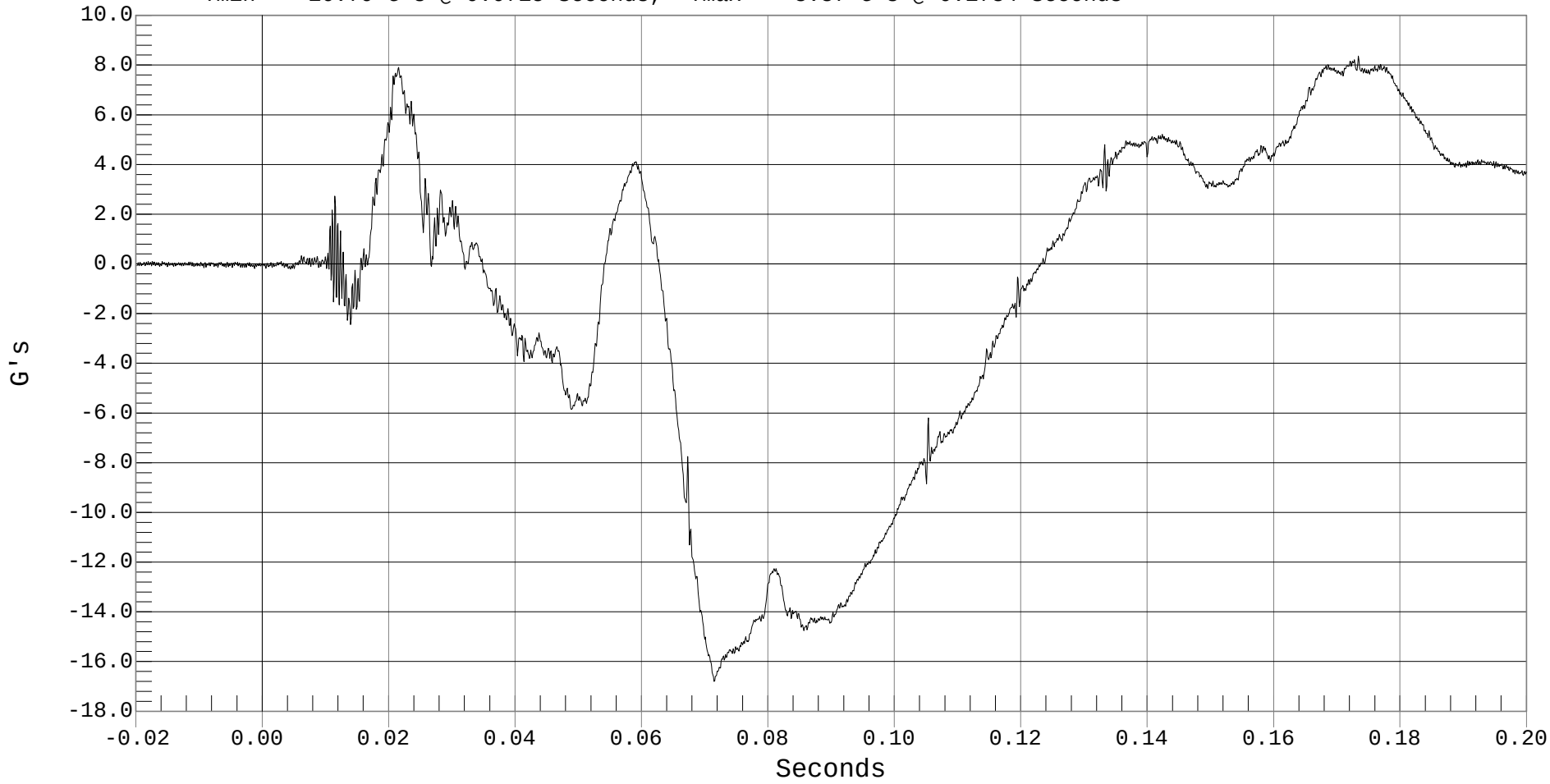
DRIVER HEAD X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER HEAD X, b01002AT.A01

Ymin = -16.79 G's @ 0.0715 Seconds, Ymax = 8.37 G's @ 0.1734 Seconds



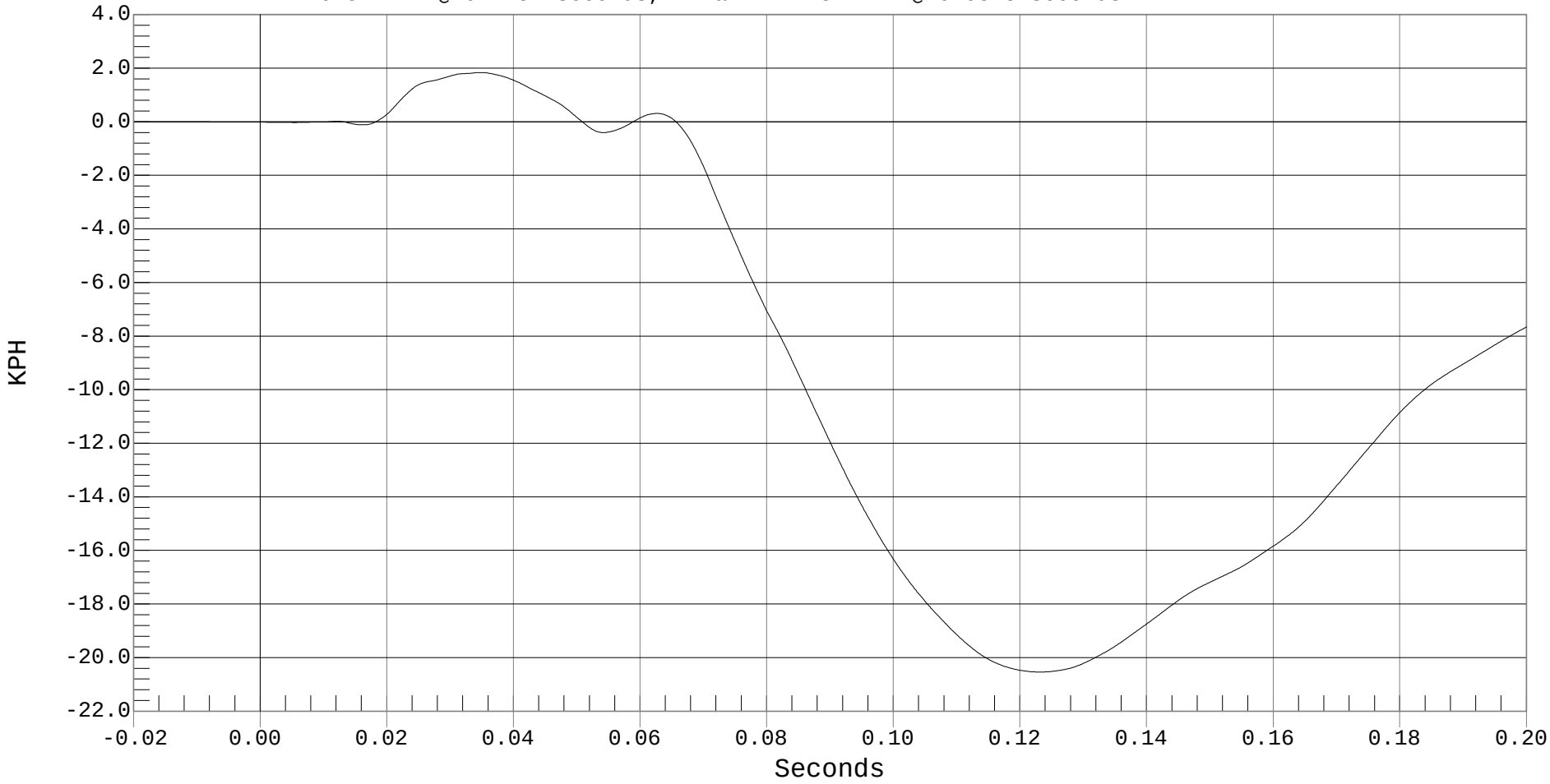
DRIVER HEAD X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER HEAD X VELOCITY, b01002AI.V01

Ymin = -20.54 KPH @ 0.1232 Seconds, Ymax = 1.84 KPH @ 0.0348 Seconds



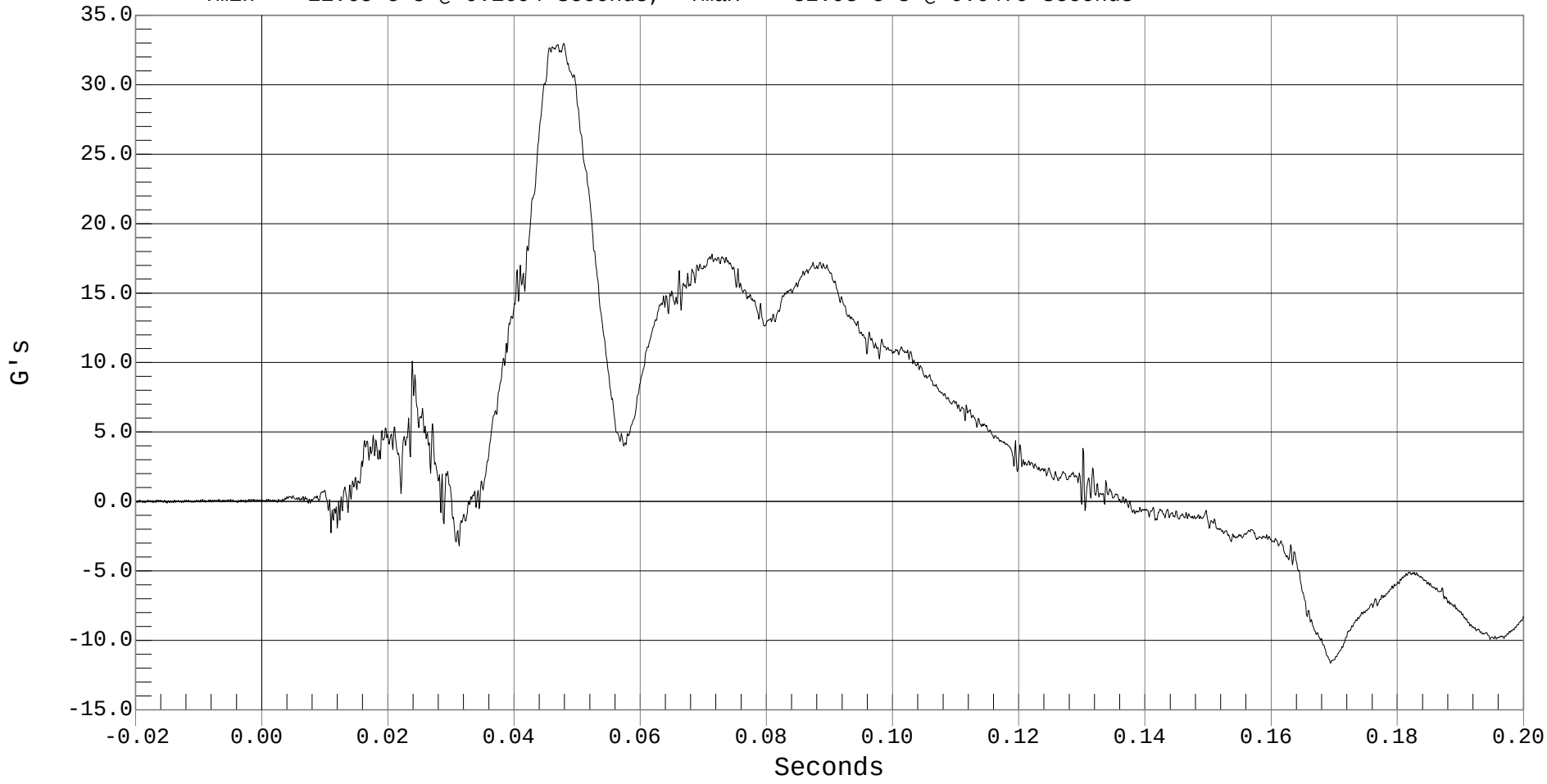
DRIVER HEAD Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER HEAD Y, b01002AT.A02

Ymin = -11.65 G's @ 0.1694 Seconds, Ymax = 32.98 G's @ 0.0479 Seconds



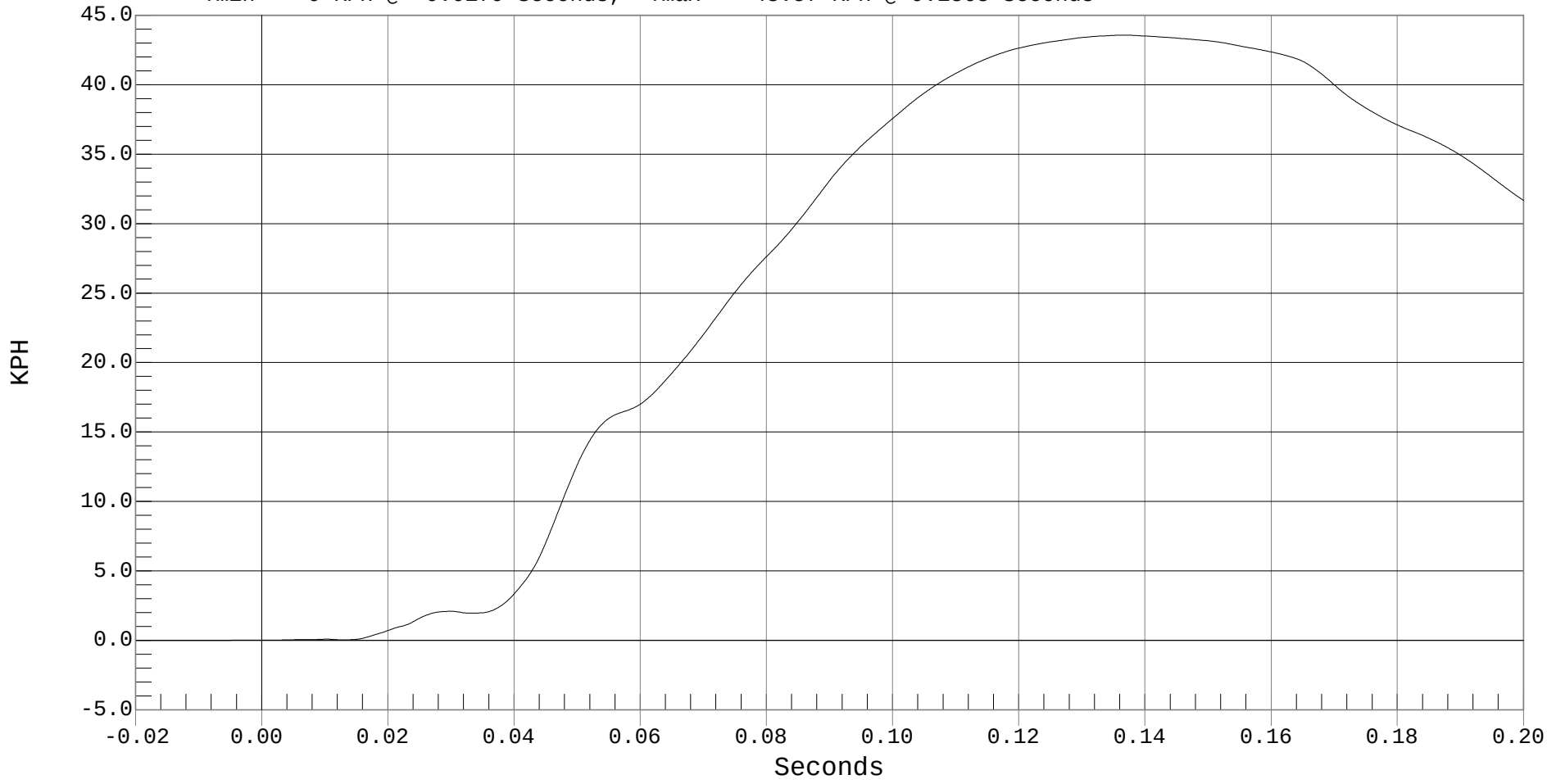
DRIVER HEAD Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER HEAD Y VELOCITY, b01002AI.V02

Ymin = 0 KPH @ -0.0179 Seconds, Ymax = 43.57 KPH @ 0.1368 Seconds



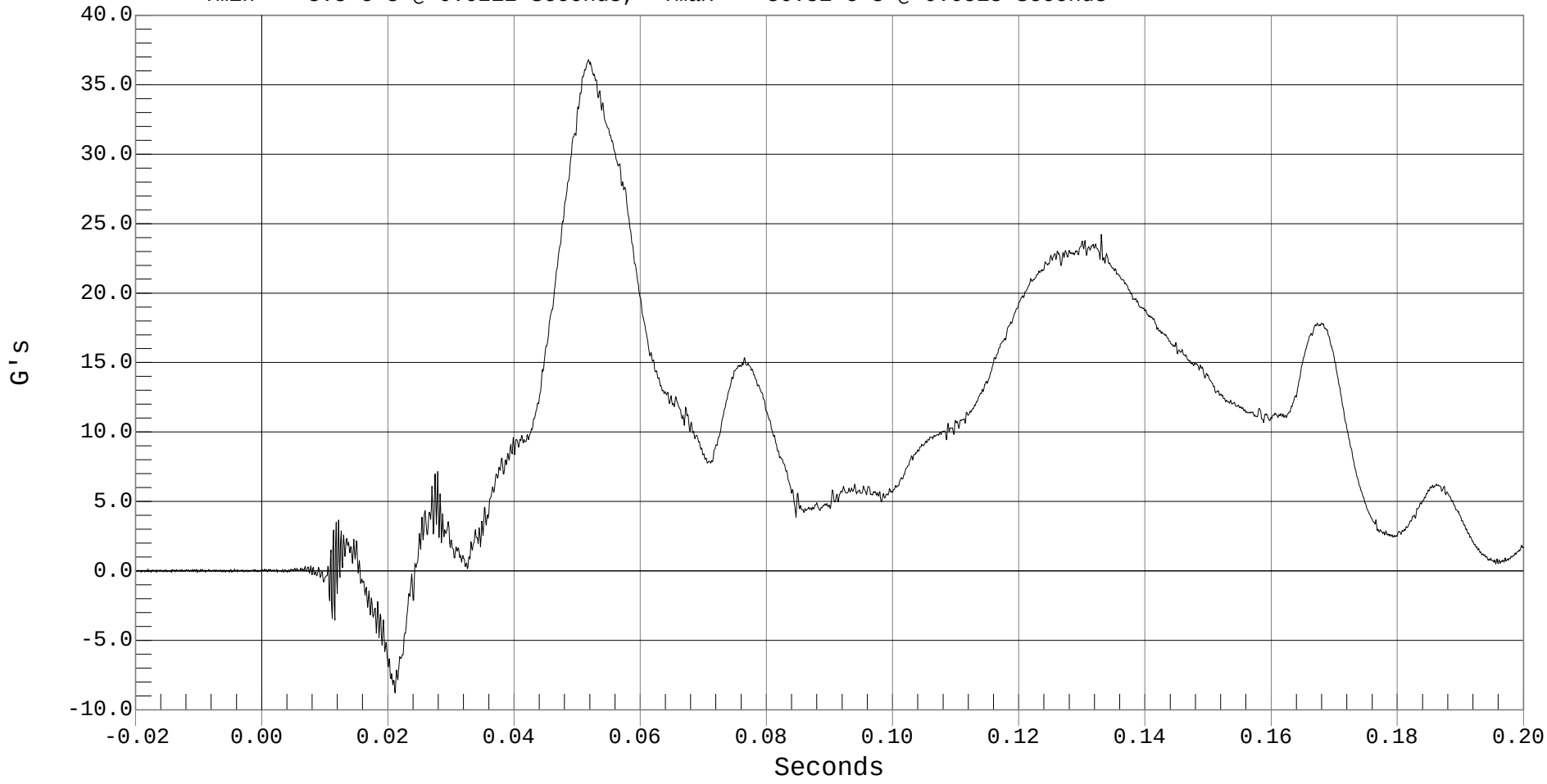
DRIVER HEAD Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER HEAD Z, b01002AT.A03

Ymin = -8.8 G's @ 0.0212 Seconds, Ymax = 36.81 G's @ 0.0518 Seconds



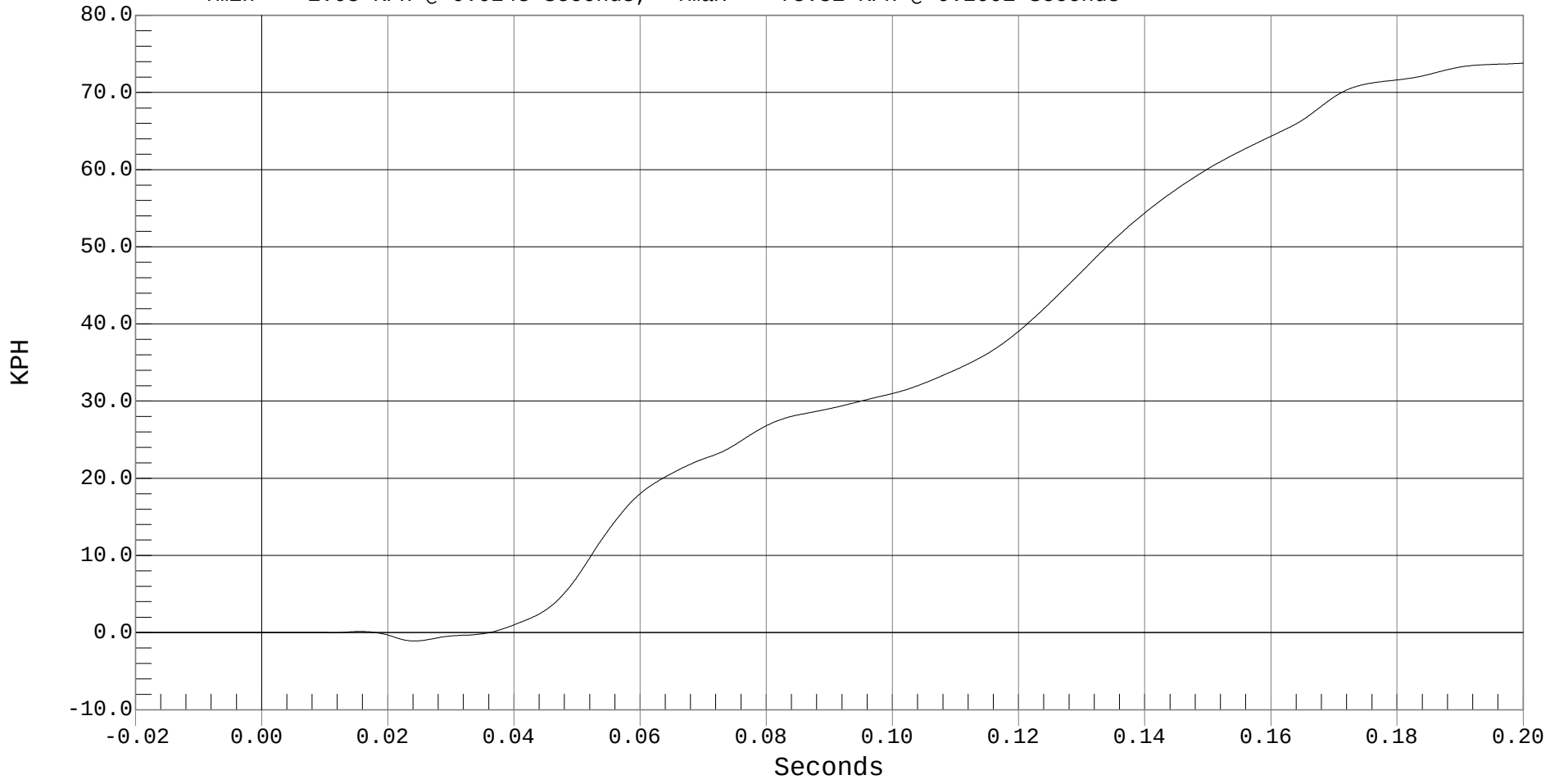
DRIVER HEAD Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER HEAD Z VELOCITY, b01002AI.V03

Ymin = -1.08 KPH @ 0.0243 Seconds, Ymax = 73.81 KPH @ 0.2001 Seconds



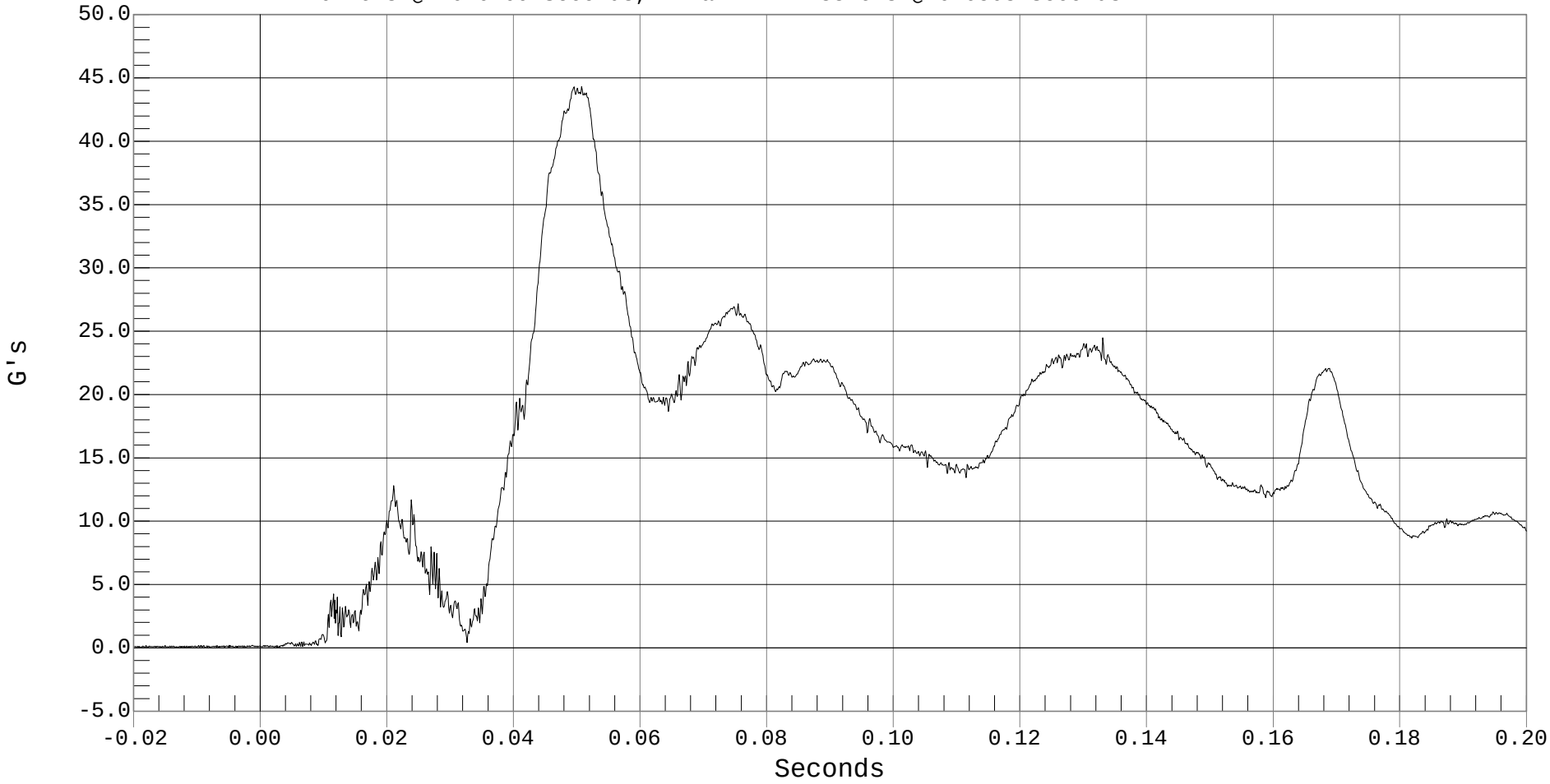
DRIVER HEAD RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER HEAD RESULTANT, b01002AV.A01

Ymin = .01 G's @ -0.0109 Seconds, Ymax = 44.33 G's @ 0.0508 Seconds



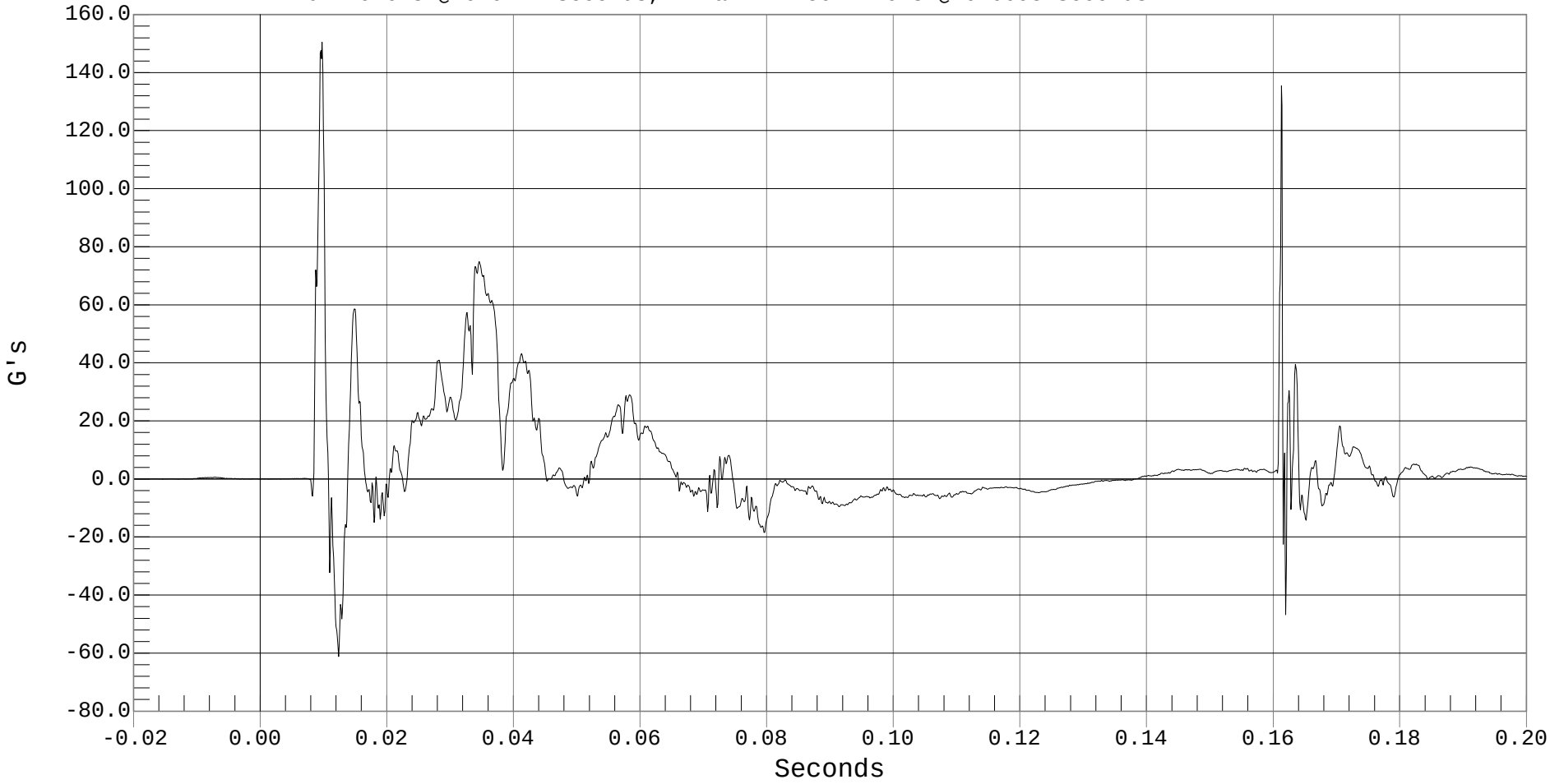
DRIVER UPPER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER UPPER RIB Y, b01002AT.A04

Ymin = -61.19 G's @ 0.0124 Seconds, Ymax = 150.47 G's @ 0.0098 Seconds



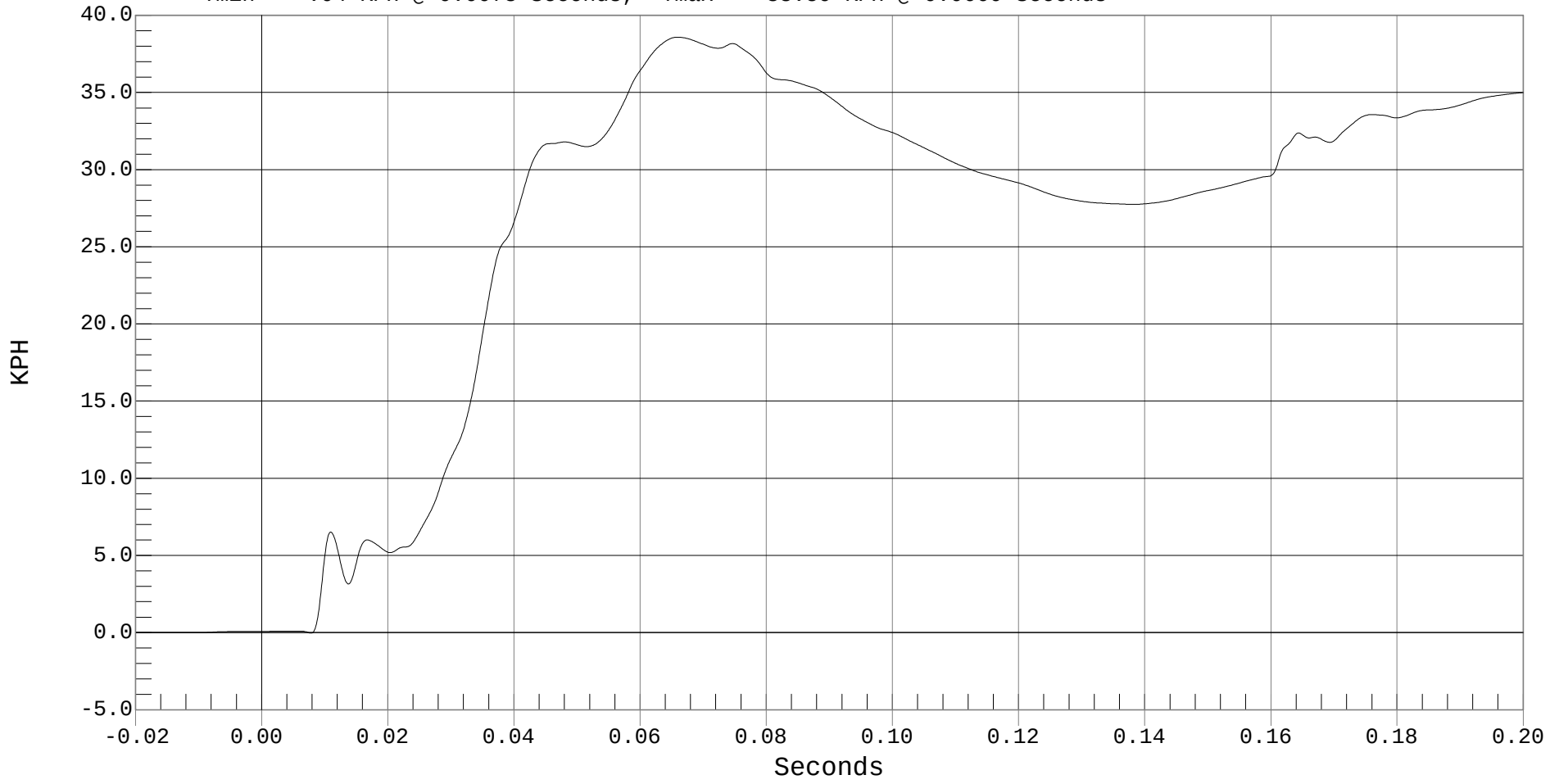
DRIVER UPPER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER UPPER RIB Y VELOCITY, b01002AI.V04

Ymin = -.04 KPH @ 0.0078 Seconds, Ymax = 38.59 KPH @ 0.0660 Seconds



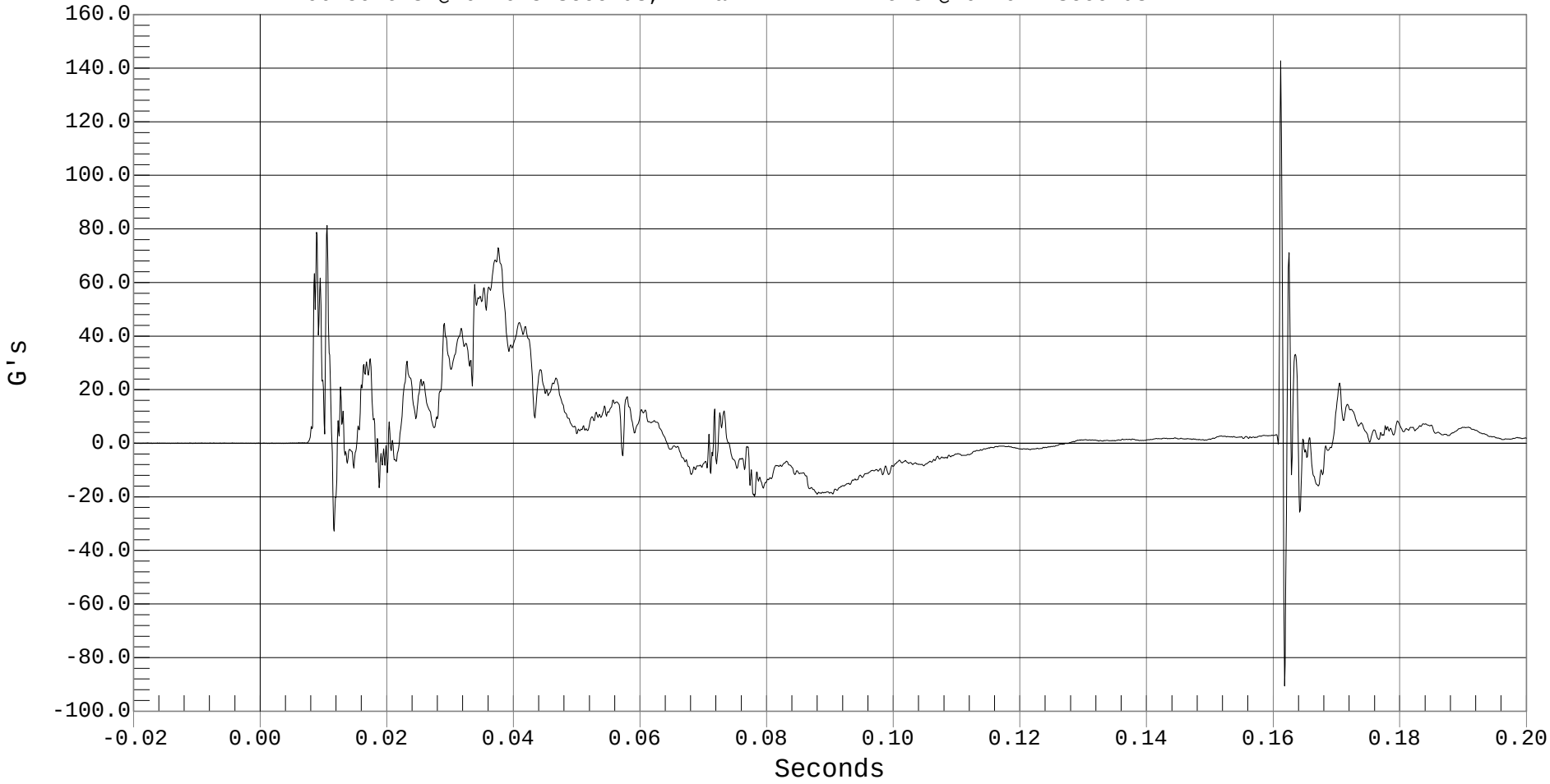
DRIVER LOWER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER LOWER RIB Y, b01002AT.A05

Ymin = -90.59 G's @ 0.1618 Seconds, Ymax = 142.71 G's @ 0.1612 Seconds



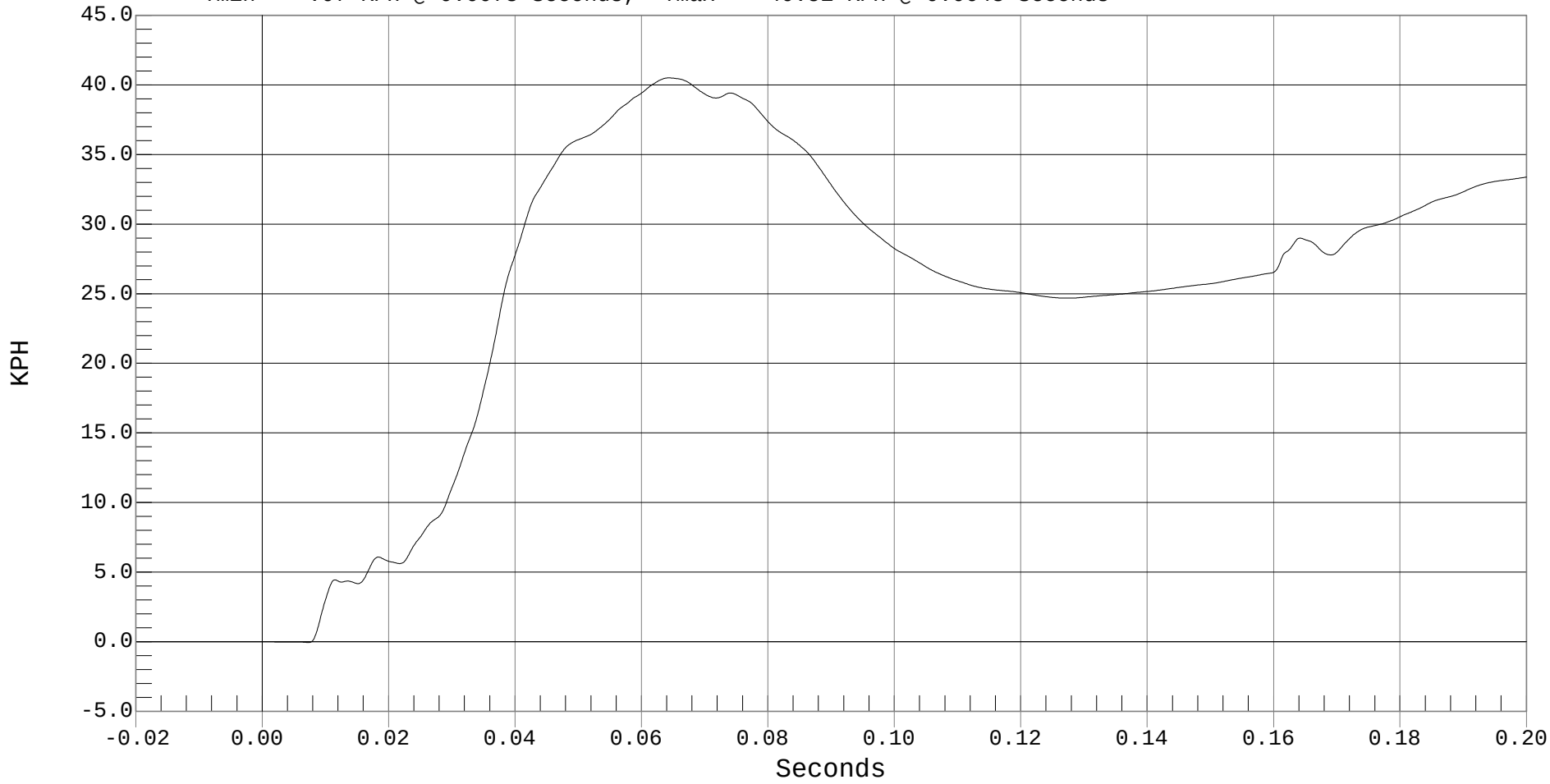
DRIVER LOWER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER LOWER RIB Y VELOCITY, b01002AI.V05

Ymin = -.07 KPH @ 0.0073 Seconds, Ymax = 40.51 KPH @ 0.0643 Seconds



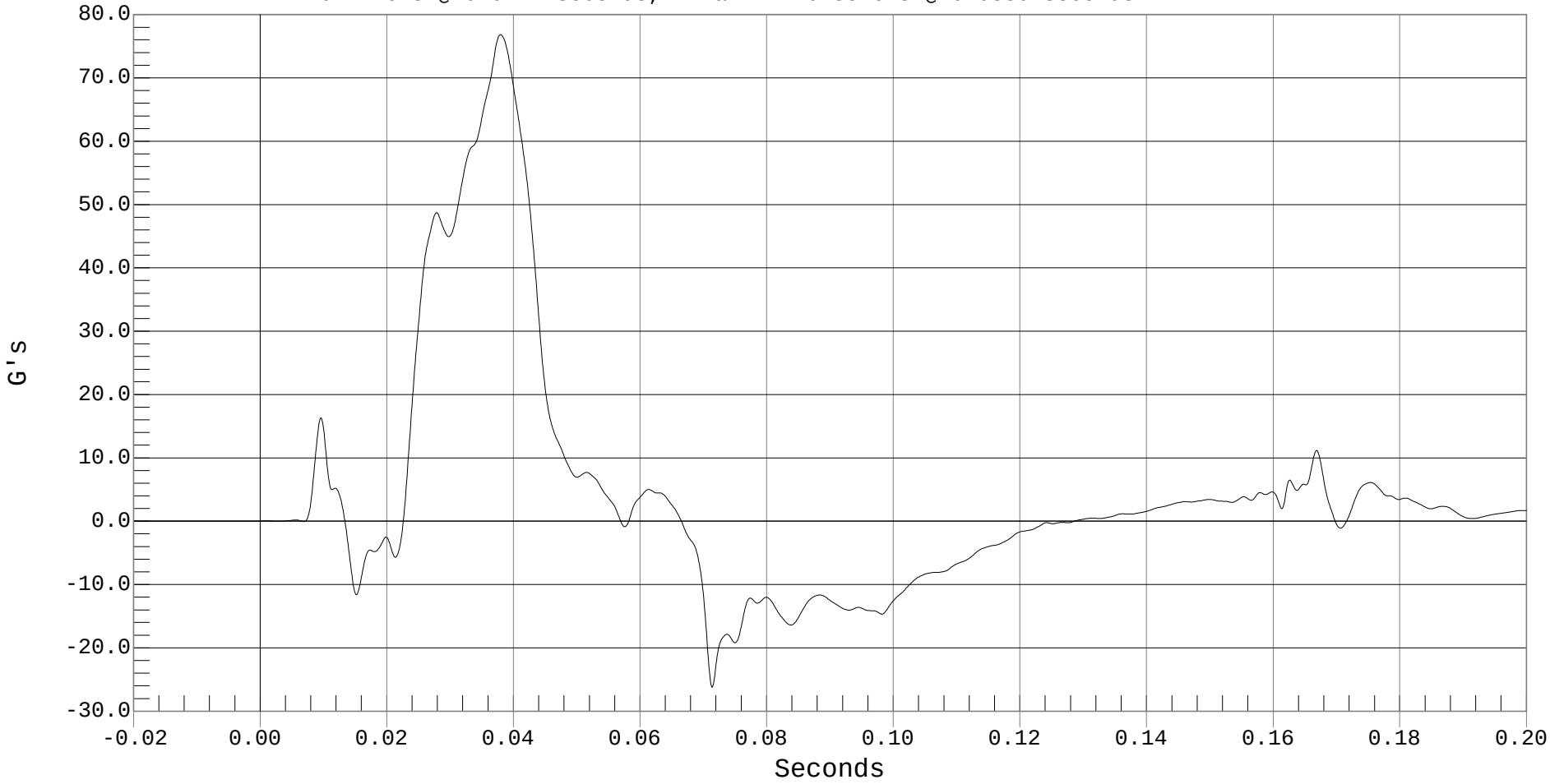
DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER LOWER SPINE Y, b01002AF.A06

Ymin = -26.24 G's @ 0.0714 Seconds, Ymax = 76.83 G's @ 0.0380 Seconds



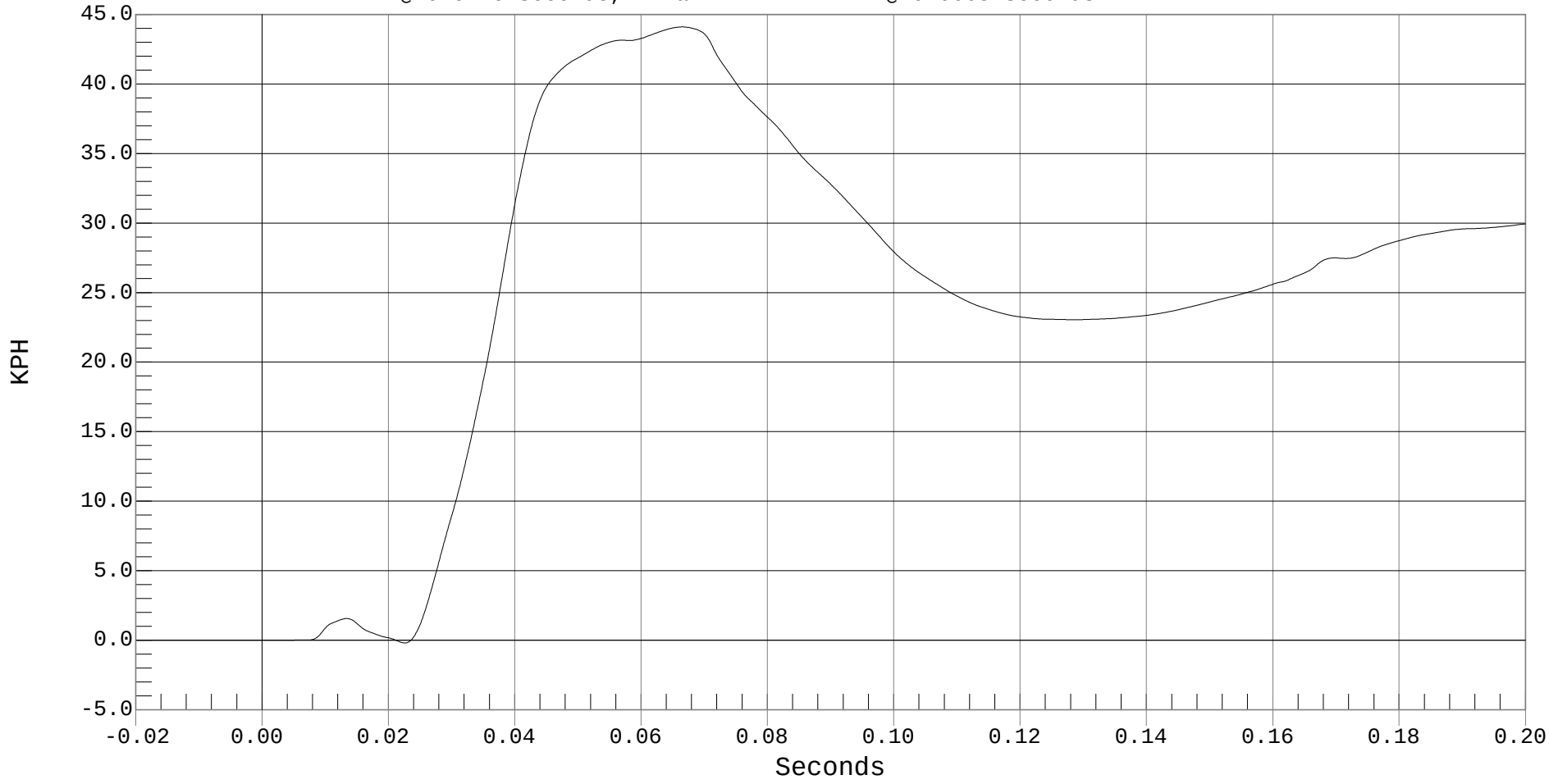
DRIVER LOWER SPINE Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER LOWER SPINE Y VELOCITY, b01002AI.V06

Ymin = -.2 KPH @ 0.0226 Seconds, Ymax = 44.11 KPH @ 0.0665 Seconds



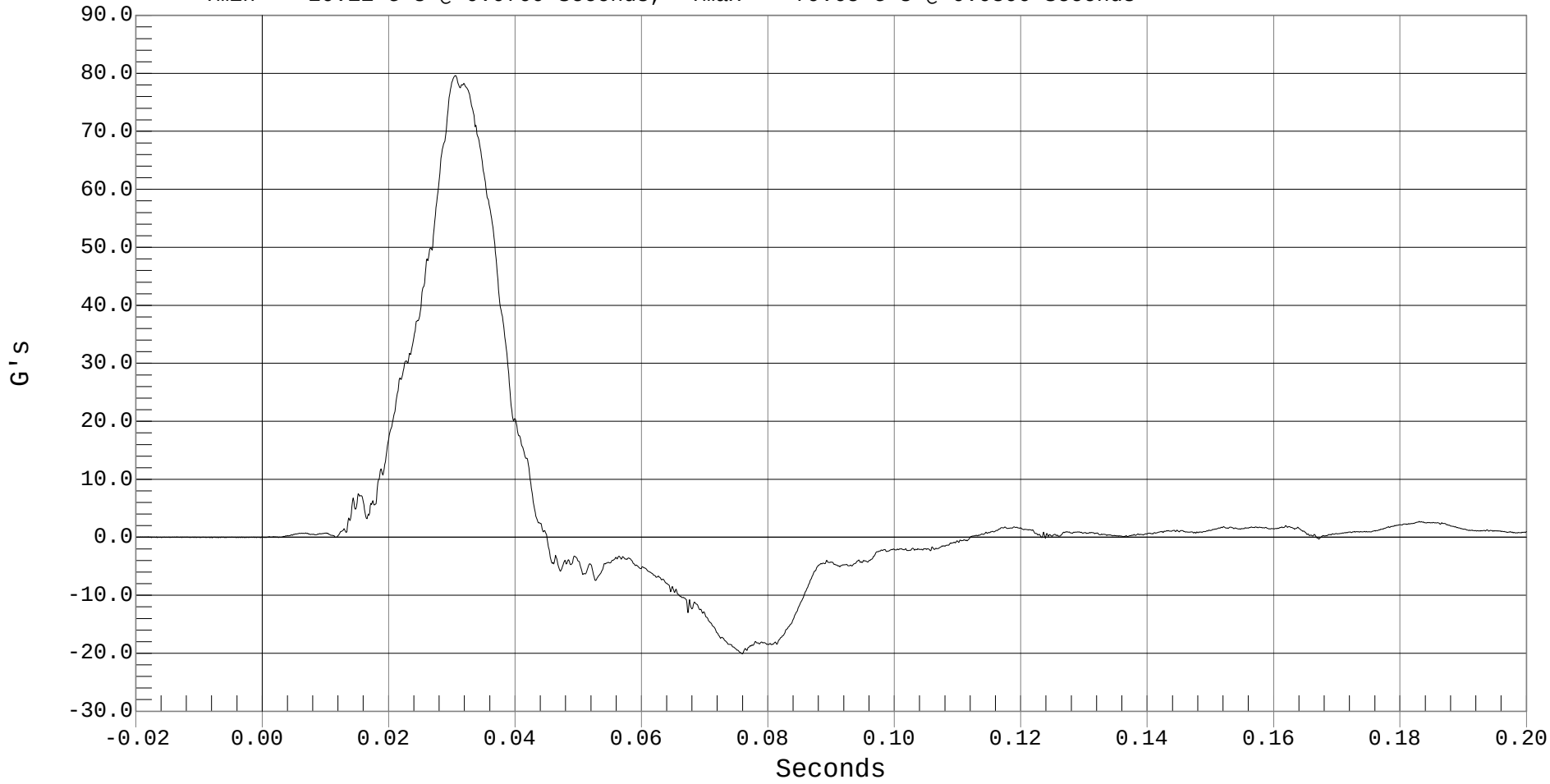
DRIVER PELVIS Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER PELVIS Y, b01002AT.A07

Ymin = -20.11 G's @ 0.0760 Seconds, Ymax = 79.65 G's @ 0.0306 Seconds



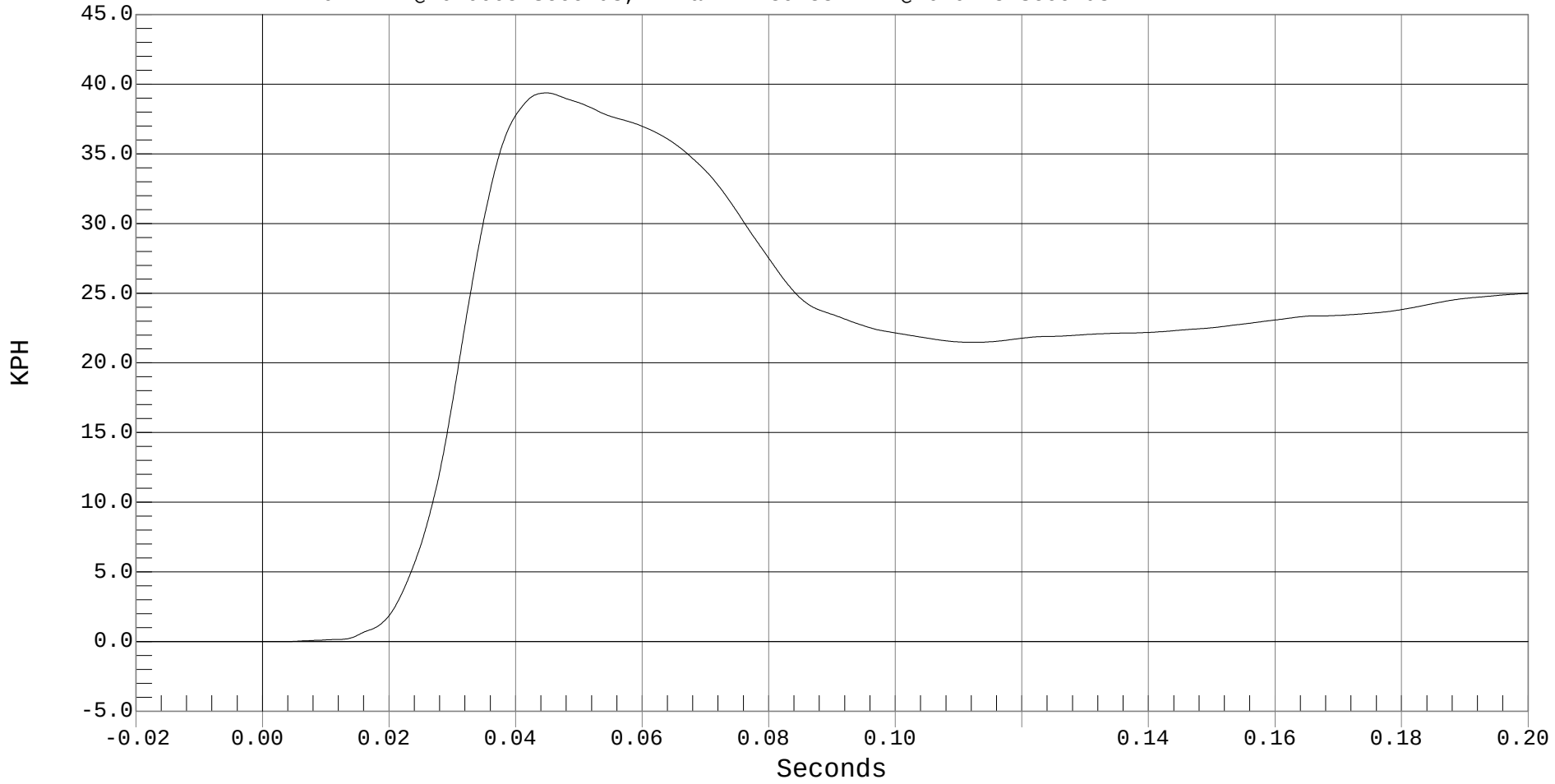
DRIVER PELVIS Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER PELVIS Y VELOCITY, b01002AI.V07

Ymin = -.01 KPH @ 0.0005 Seconds, Ymax = 39.38 KPH @ 0.0448 Seconds



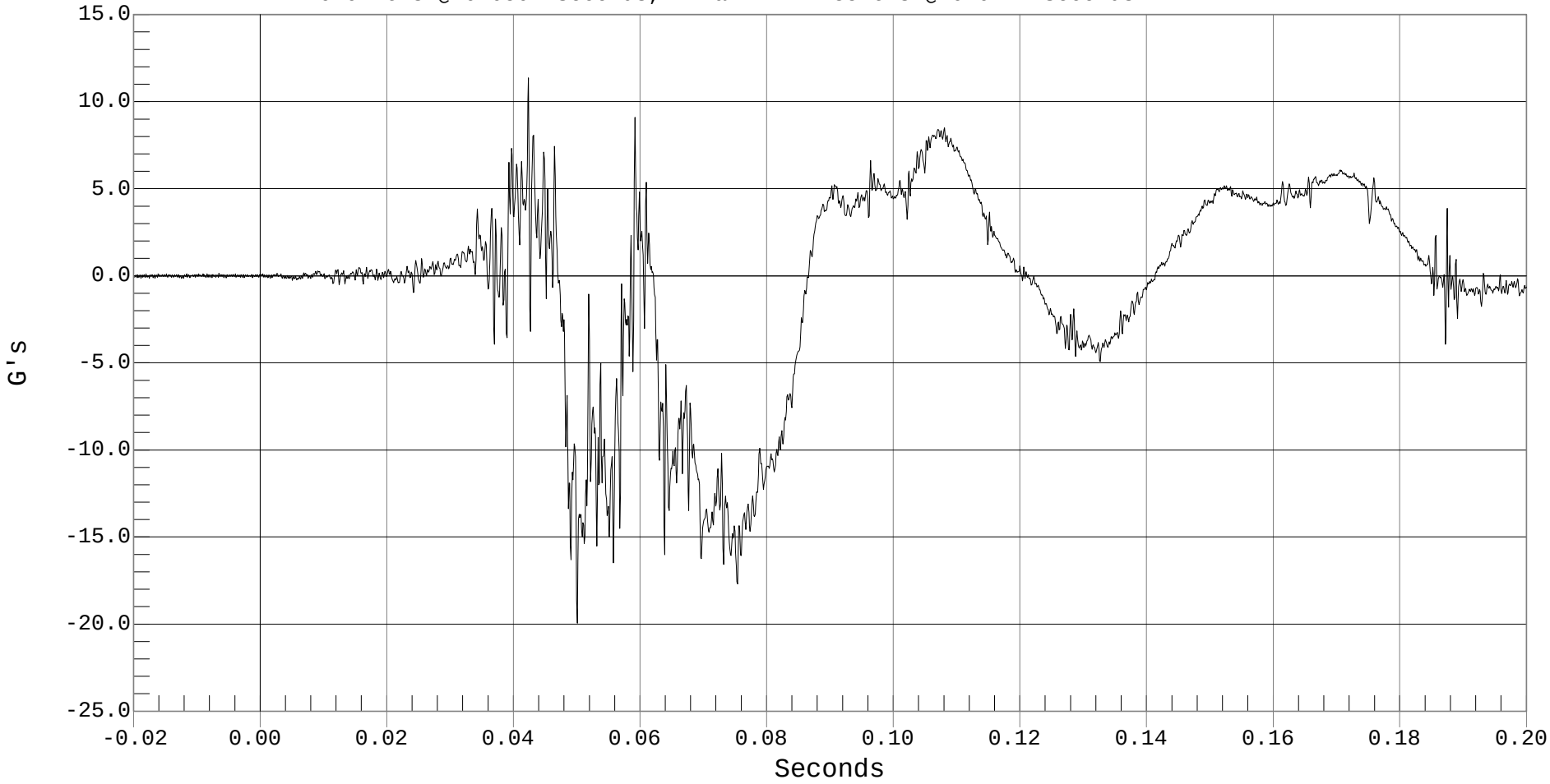
REAR PASSENGER HEAD X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER HEAD X, b01002AT.A08

Ymin = -19.94 G's @ 0.0501 Seconds, Ymax = 11.35 G's @ 0.0424 Seconds



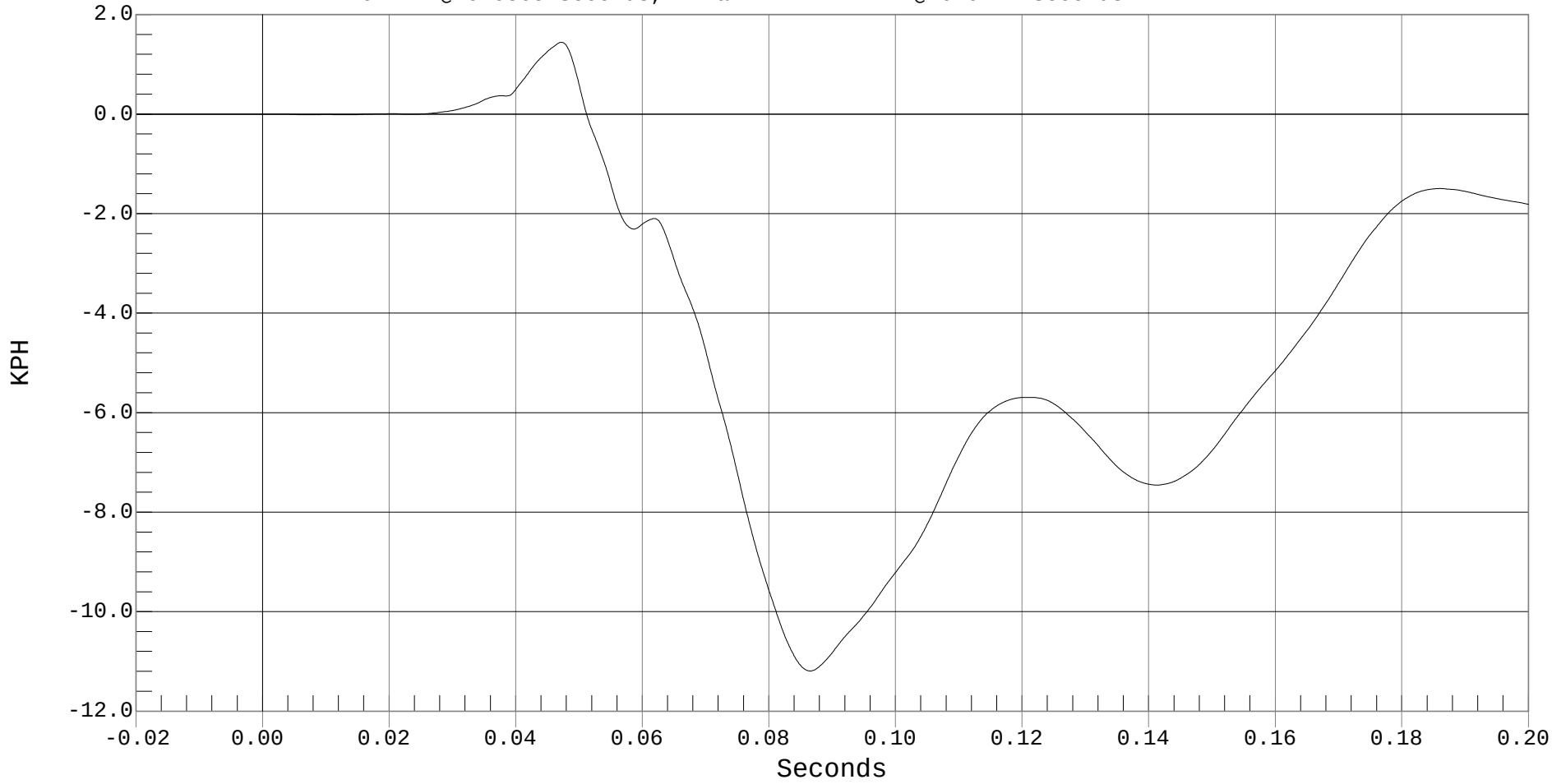
REAR PASSENGER HEAD X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER HEAD X VELOCITY, b01002AI.V08

Ymin = -11.19 KPH @ 0.0865 Seconds, Ymax = 1.44 KPH @ 0.0472 Seconds



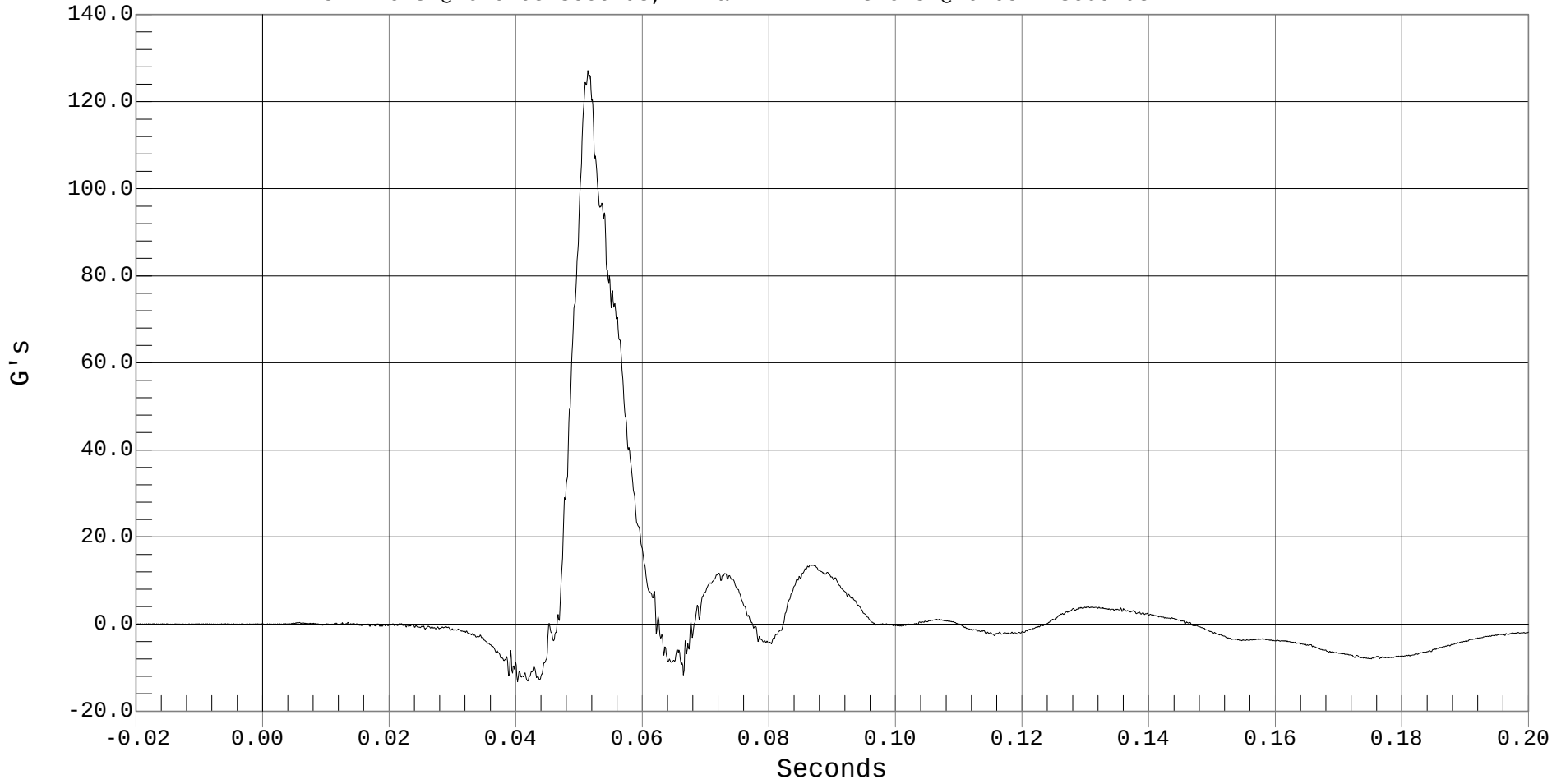
REAR PASSENGER HEAD Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER HEAD Y, b01002AT.A09

Ymin = -13.27 G's @ 0.0403 Seconds, Ymax = 127.18 G's @ 0.0514 Seconds



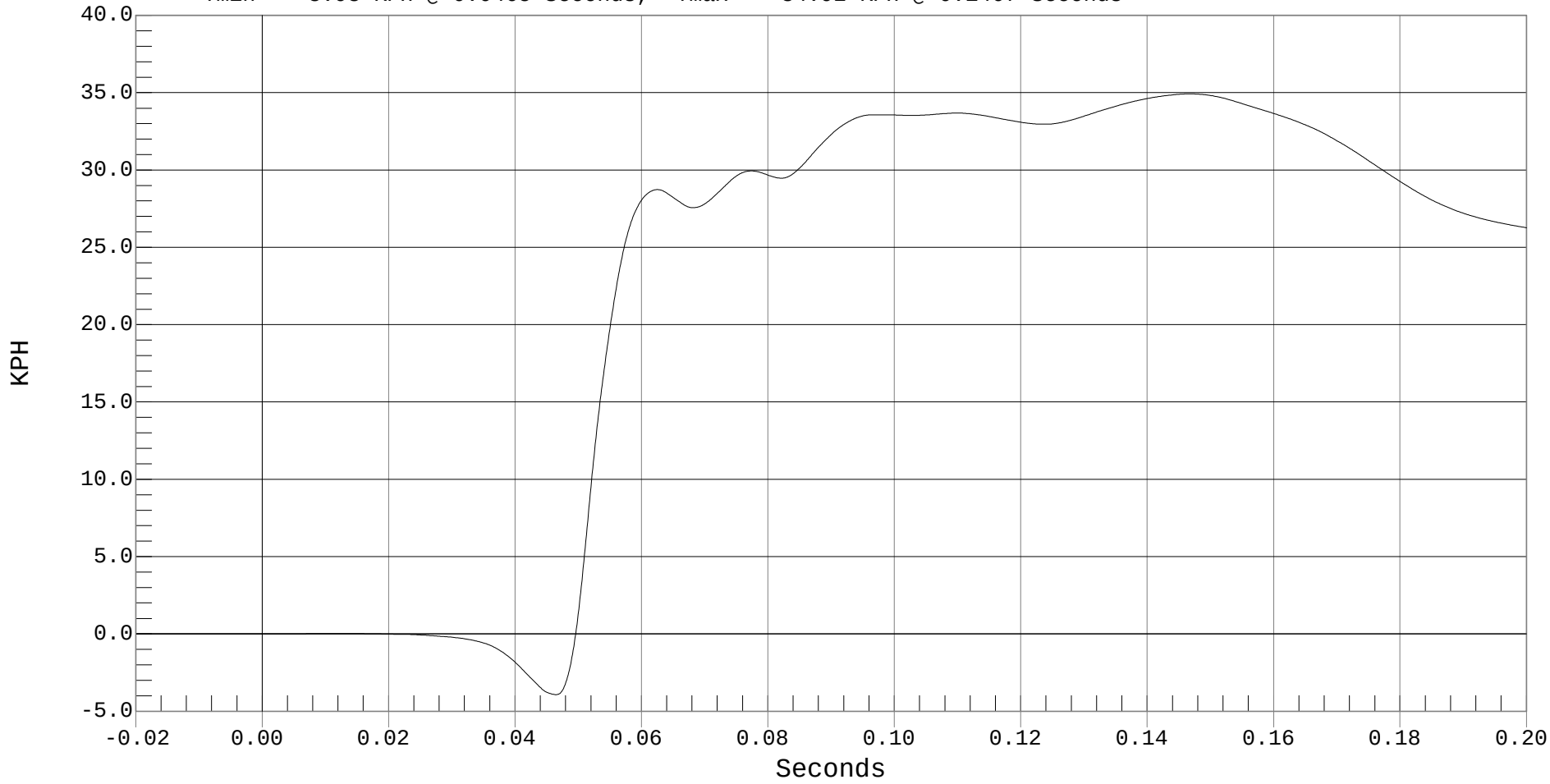
REAR PASSENGER HEAD Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER HEAD Y VELOCITY, b01002AI.V09

Ymin = -3.93 KPH @ 0.0465 Seconds, Ymax = 34.92 KPH @ 0.1467 Seconds



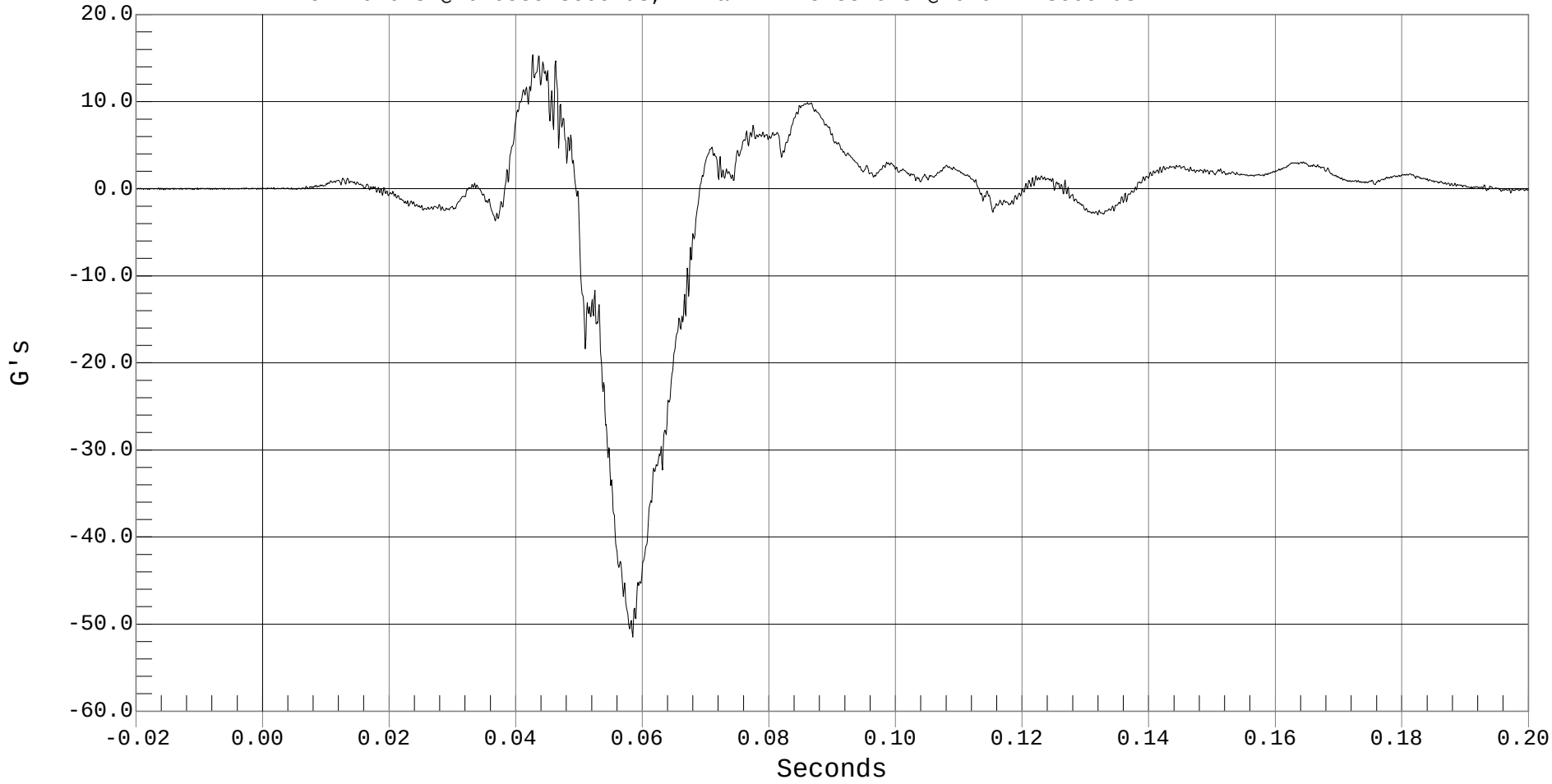
REAR PASSENGER HEAD Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER HEAD Z, b01002AT.A10

Ymin = -51.49 G's @ 0.0585 Seconds, Ymax = 15.38 G's @ 0.0427 Seconds



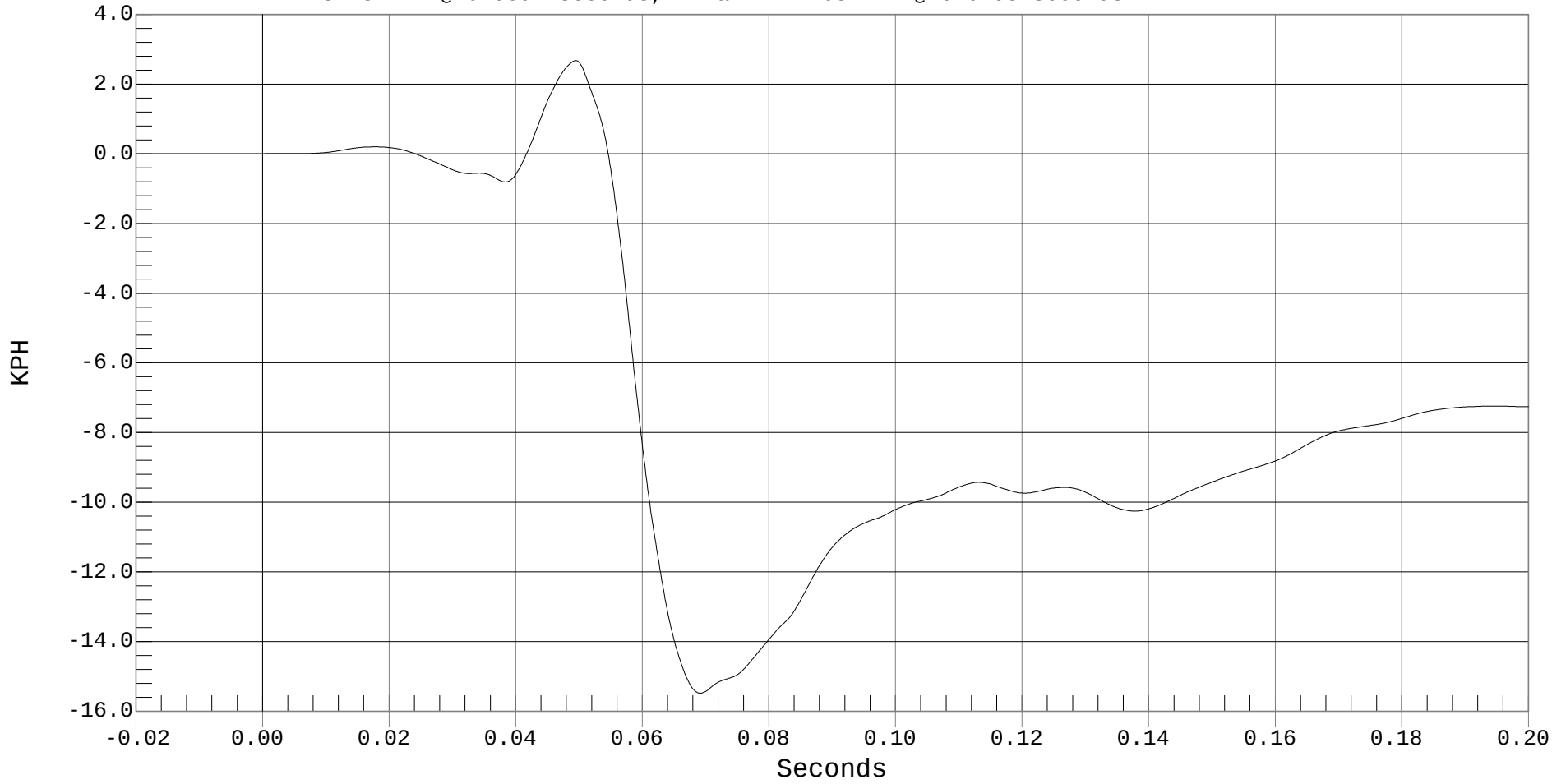
REAR PASSENGER HEAD Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER HEAD Z VELOCITY, b01002AI.V10

Ymin = -15.48 KPH @ 0.0692 Seconds, Ymax = 2.68 KPH @ 0.0495 Seconds



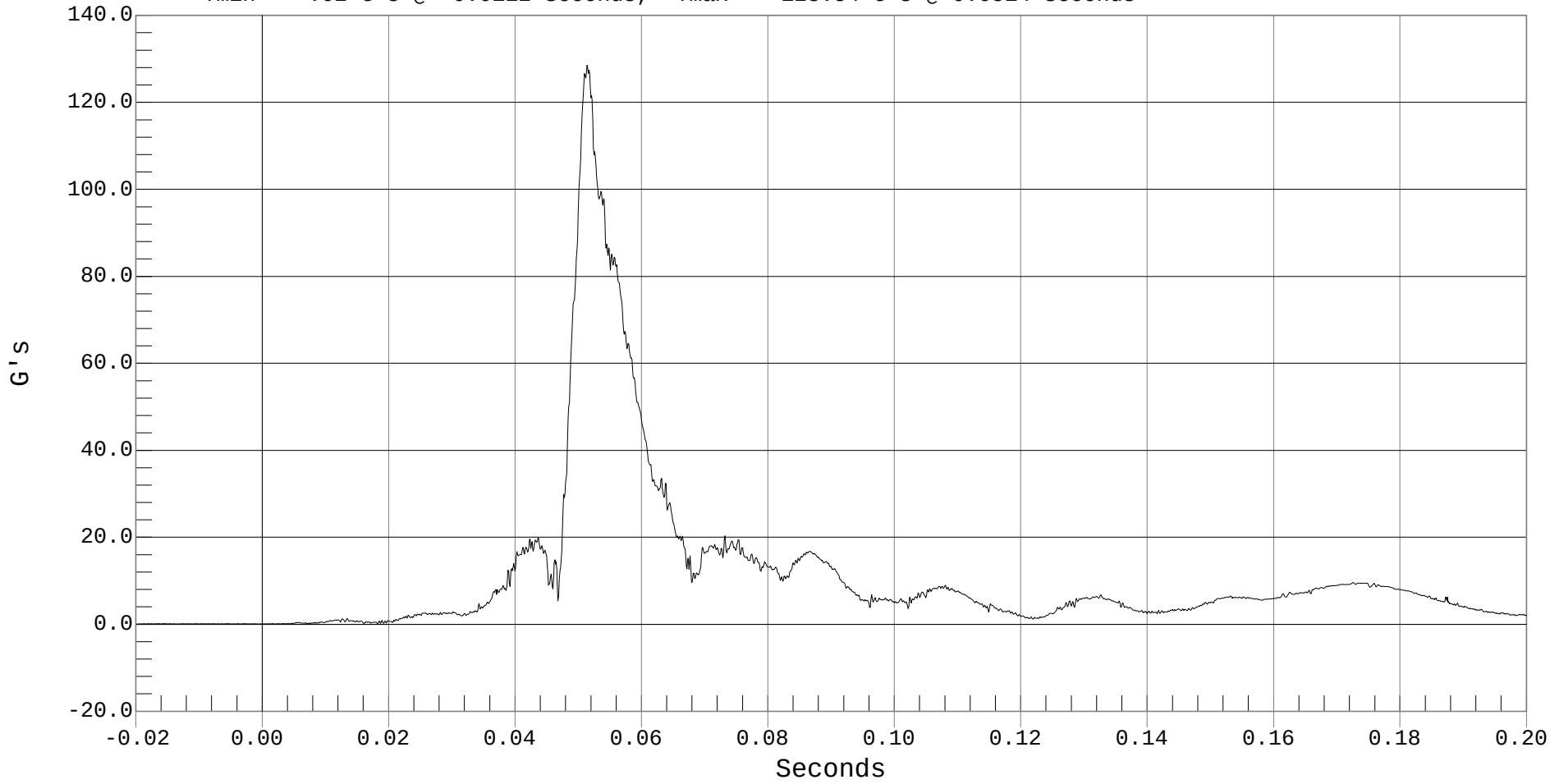
REAR PASSENGER HEAD RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 REAR PASSENGER HEAD RESULTANT, b01002AV.A08

Ymin = .02 G's @ -0.0112 Seconds, Ymax = 128.54 G's @ 0.0514 Seconds



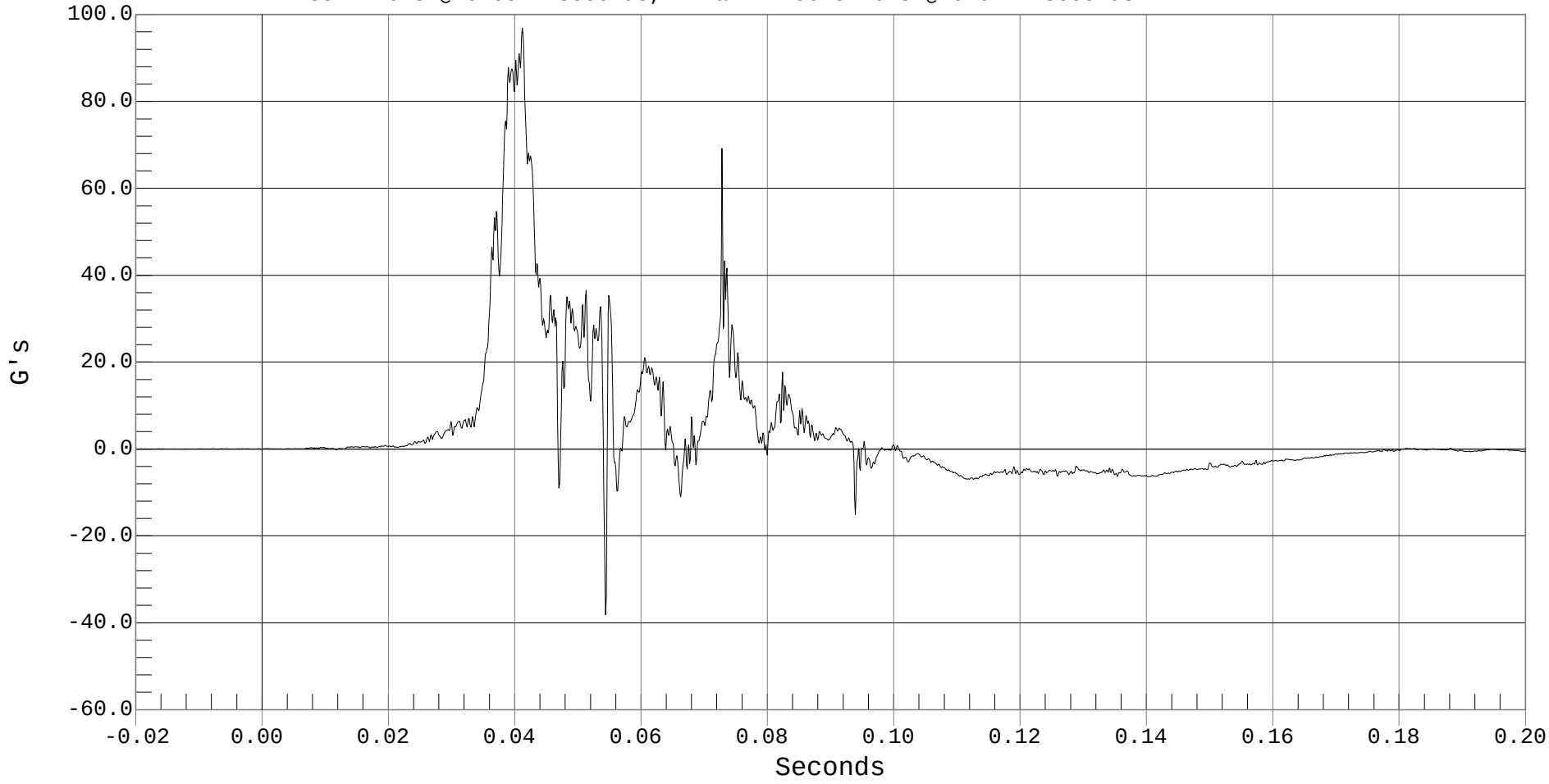
REAR PASSENGER UPPER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER UPPER RIB Y, b01002AT.A11

Ymin = -38.17 G's @ 0.0544 Seconds, Ymax = 96.87 G's @ 0.0412 Seconds



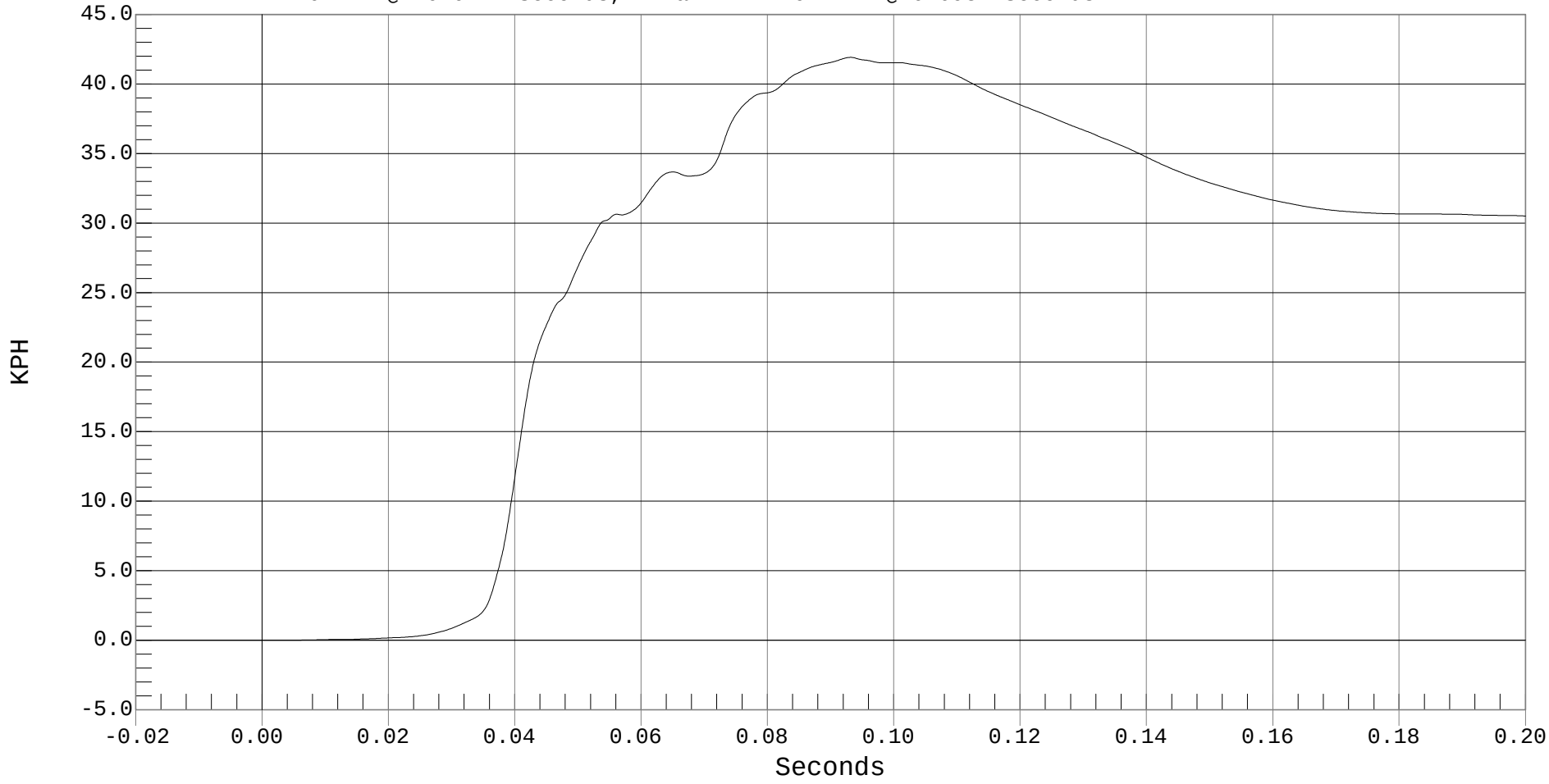
REAR PASSENGER UPPER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER UPPER RIB Y VELOCITY, b01002AI.V11

Ymin = 0 KPH @ -0.0112 Seconds, Ymax = 41.92 KPH @ 0.0932 Seconds



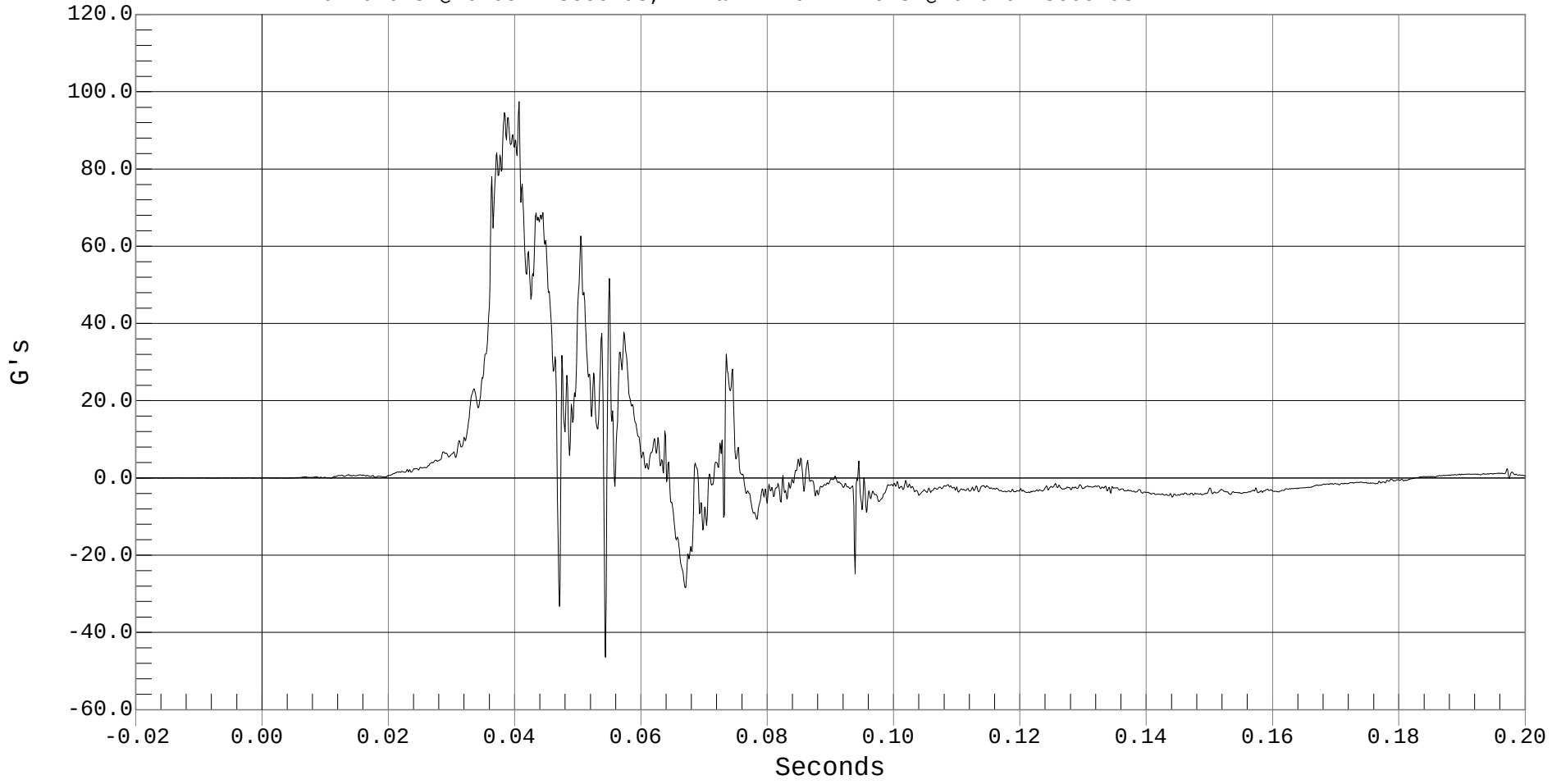
REAR PASSENGER LOWER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER LOWER RIB Y, b01002AT.A12

Ymin = -46.46 G's @ 0.0544 Seconds, Ymax = 97.47 G's @ 0.0407 Seconds



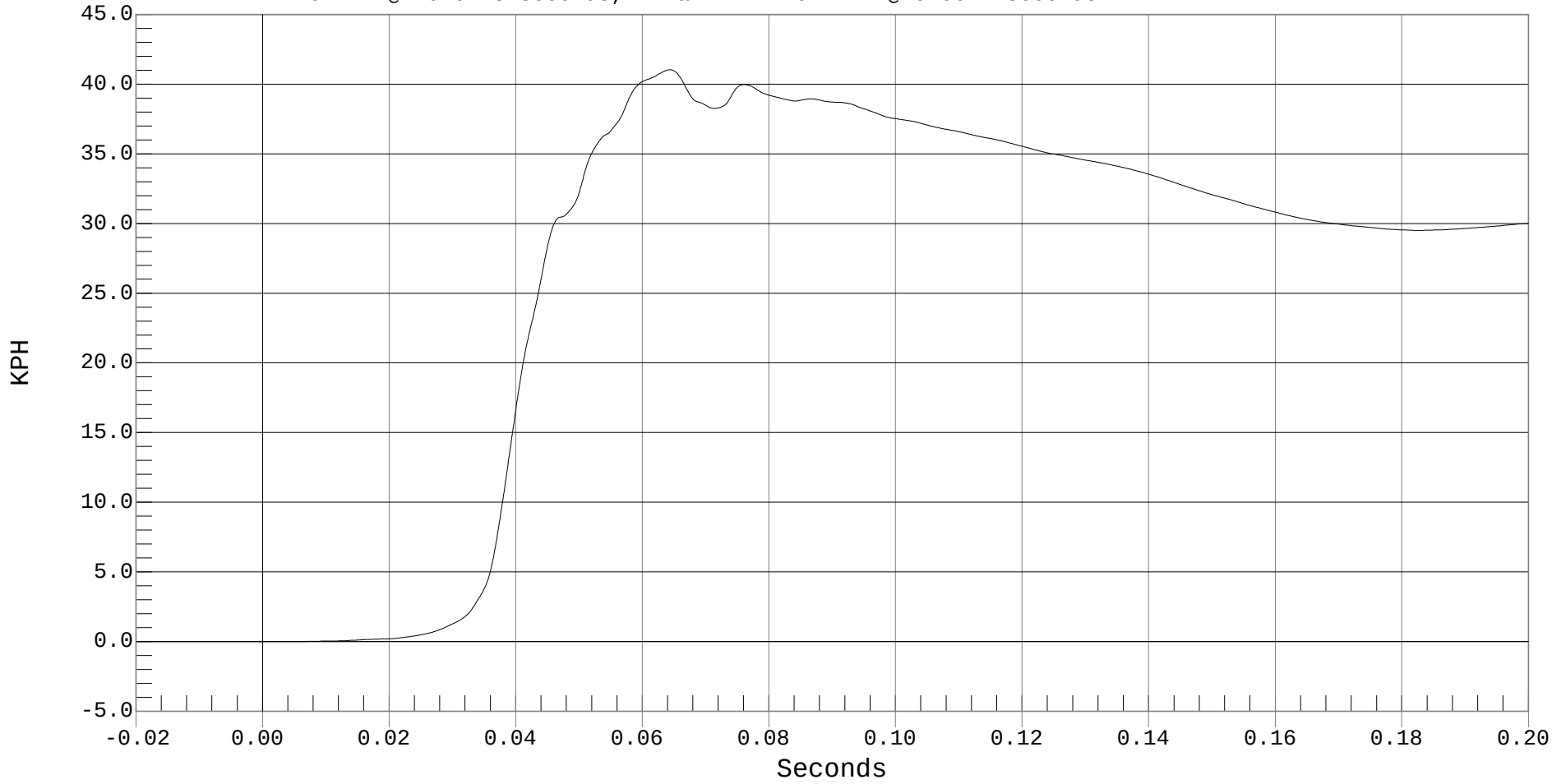
REAR PASSENGER LOWER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER LOWER RIB Y VELOCITY, b01002AI.V12

Ymin = 0 KPH @ -0.0178 Seconds, Ymax = 41.04 KPH @ 0.0644 Seconds



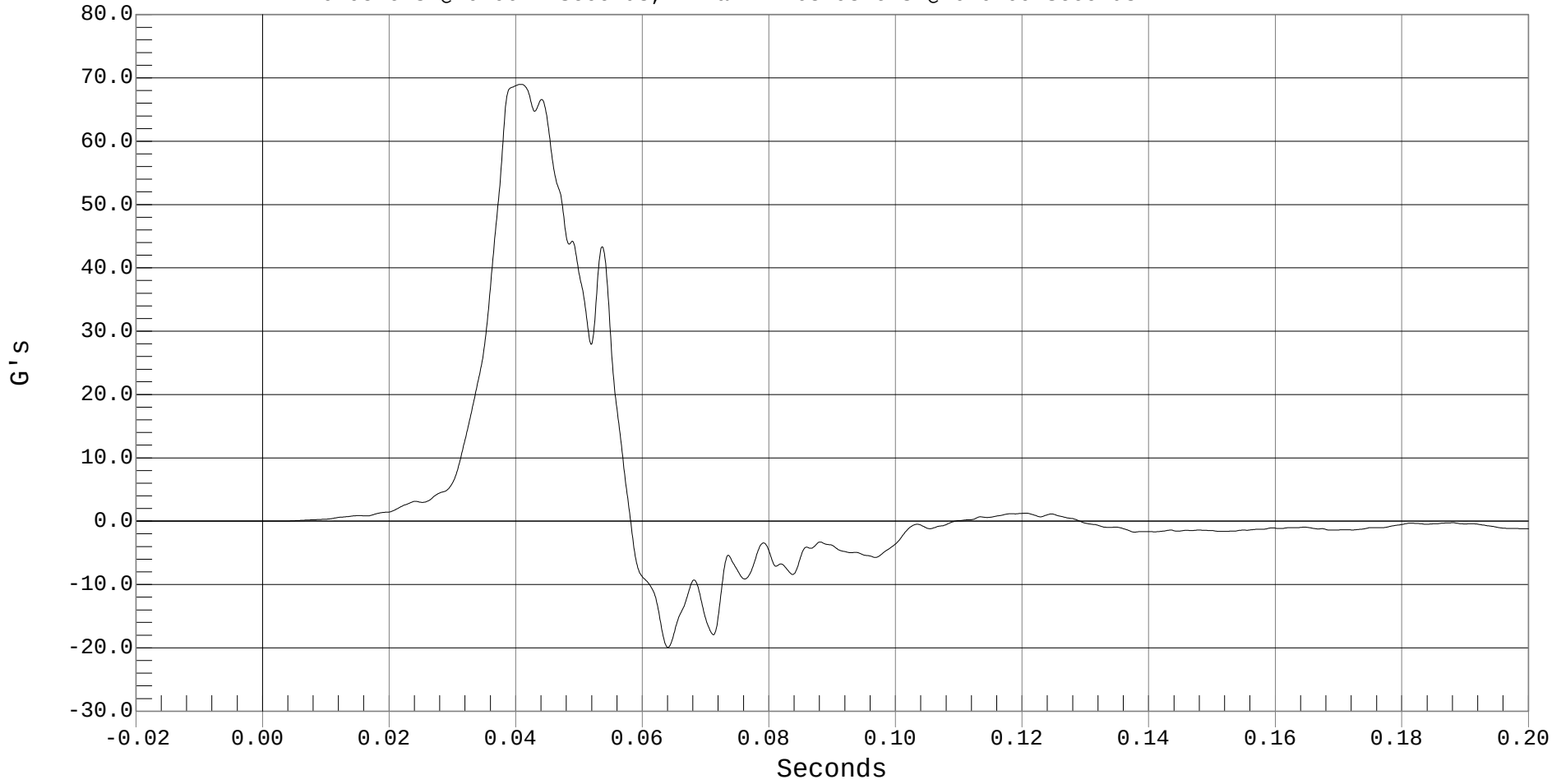
REAR PASSENGER LOWER SPINE Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 PASSENGER LOWER SPINE Y, b01002AF.A13

Ymin = -19.95 G's @ 0.0641 Seconds, Ymax = 68.98 G's @ 0.0409 Seconds



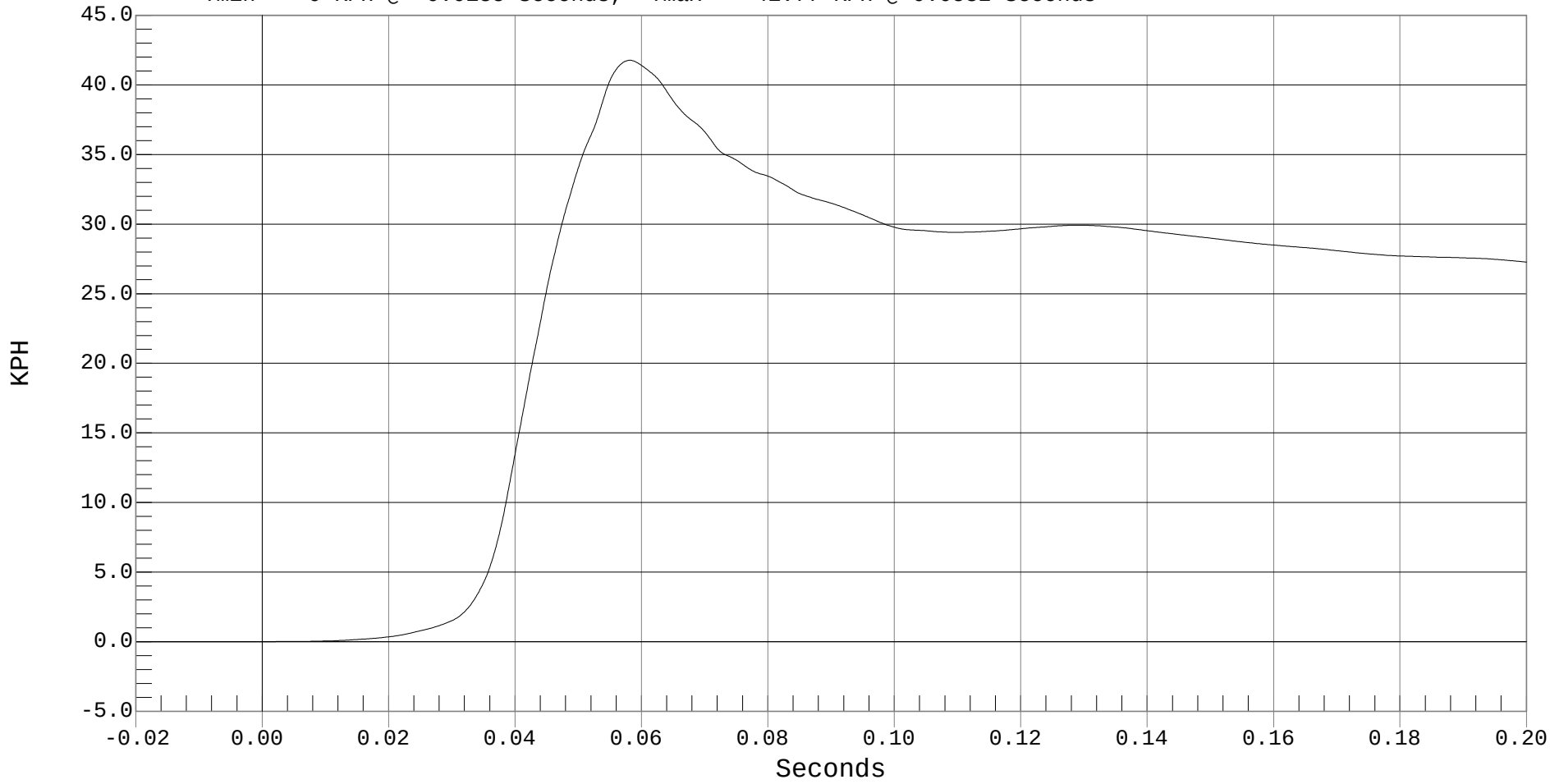
REAR PASSENGER LOWER SPINE Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER LOWER SPINE Y VELOCITY, b01002AI.V13

Ymin = 0 KPH @ -0.0185 Seconds, Ymax = 41.77 KPH @ 0.0582 Seconds



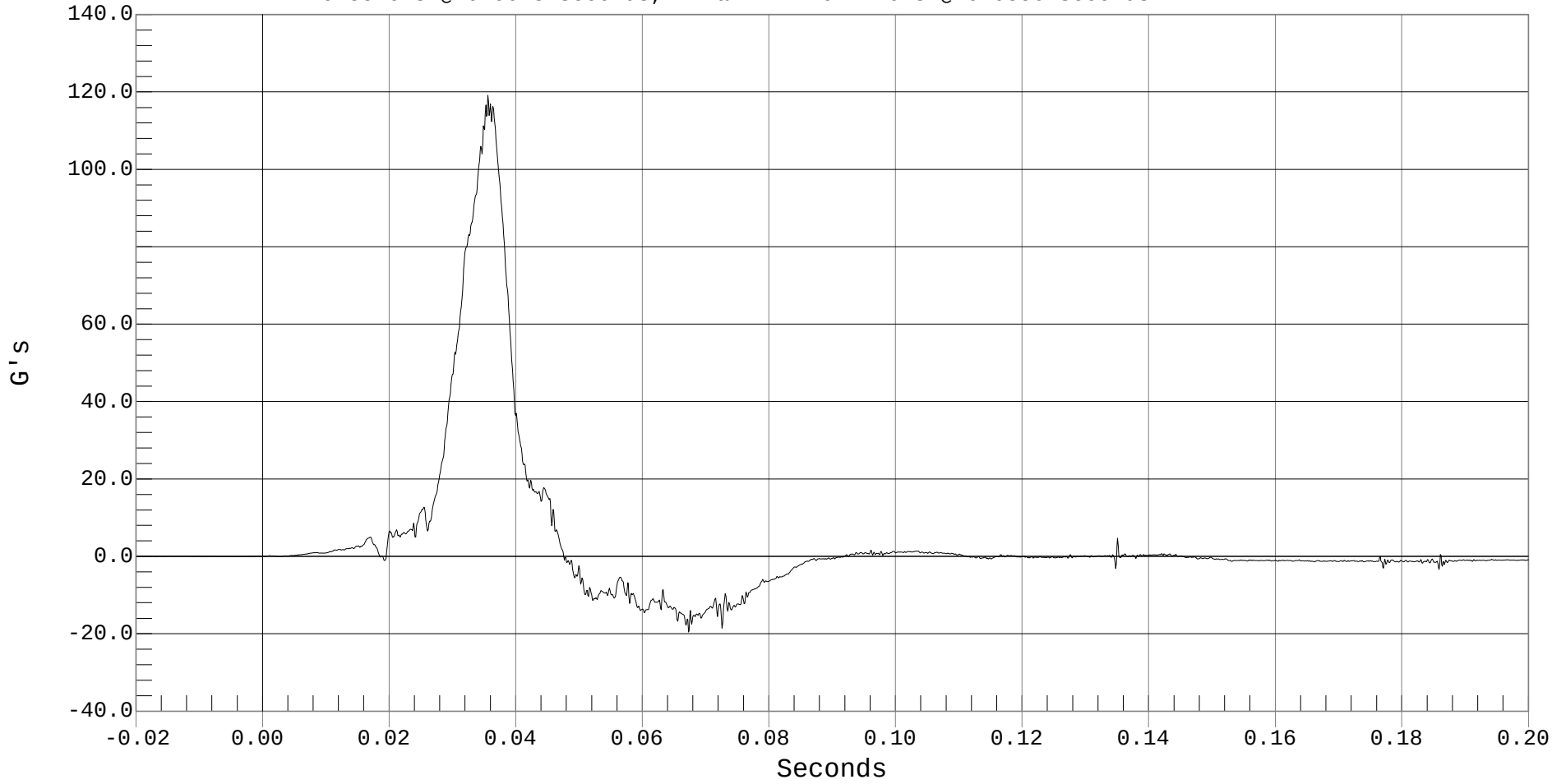
REAR PASSENGER PELVIS Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER PELVIS Y, b01002AT.A14

Ymin = -19.55 G's @ 0.0673 Seconds, Ymax = 119.14 G's @ 0.0356 Seconds



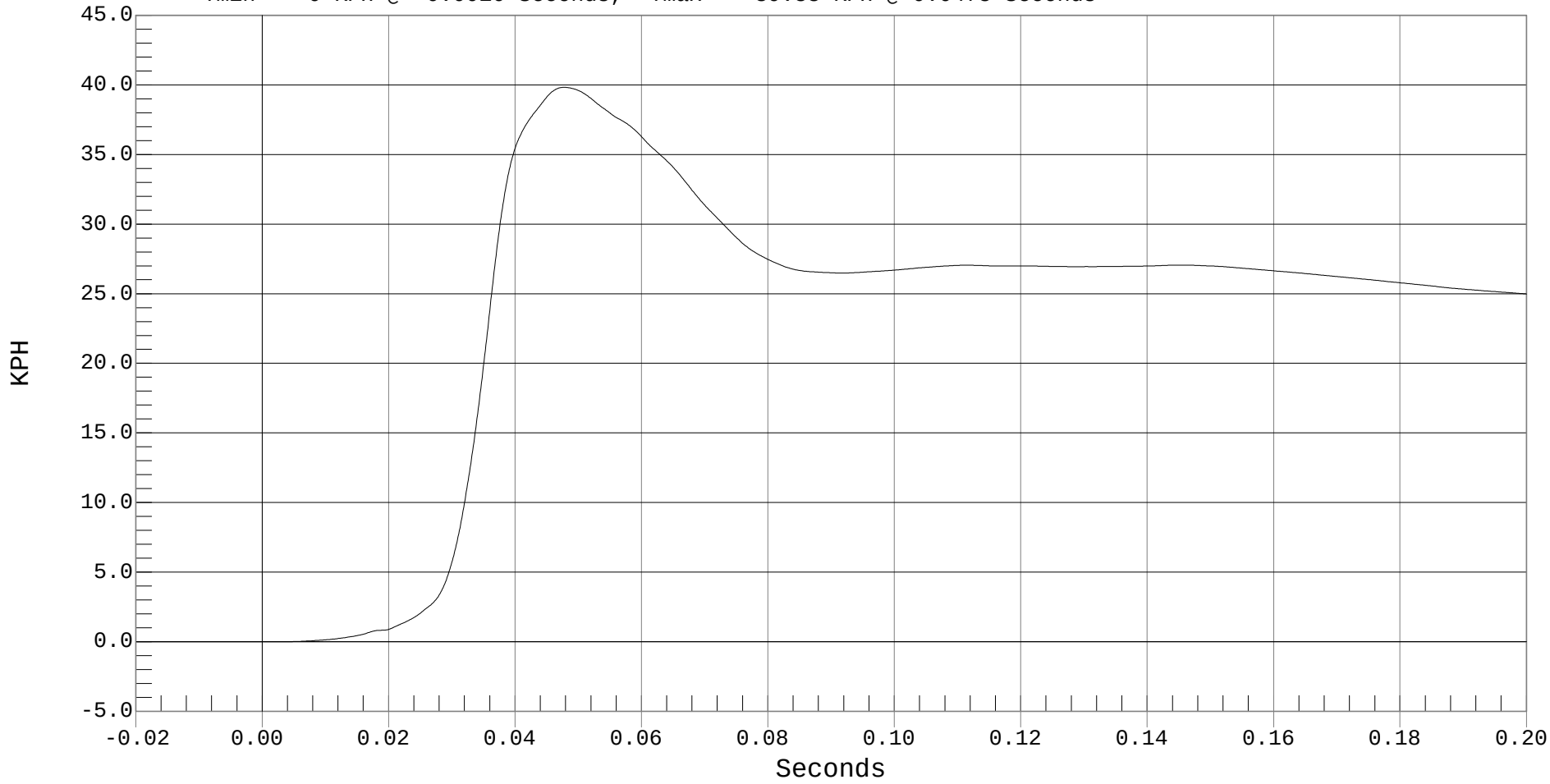
REAR PASSENGER PELVIS Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER PELVIS Y VELOCITY, b01002AI.V14

Ymin = 0 KPH @ -0.0016 Seconds, Ymax = 39.83 KPH @ 0.0478 Seconds



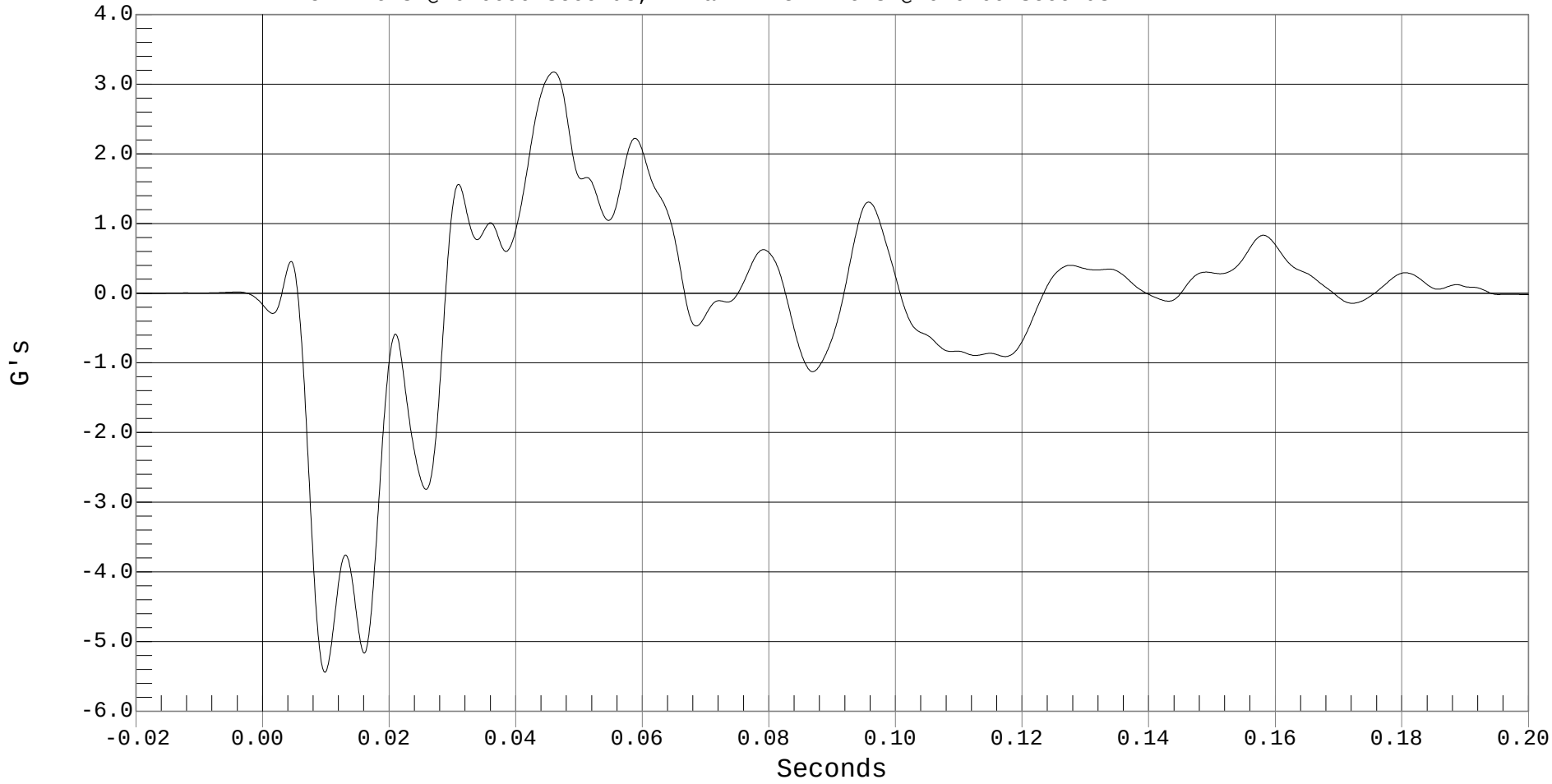
RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT FRONT SILL X, b01002AF.A15

Ymin = -5.44 G's @ 0.0099 Seconds, Ymax = 3.17 G's @ 0.0460 Seconds



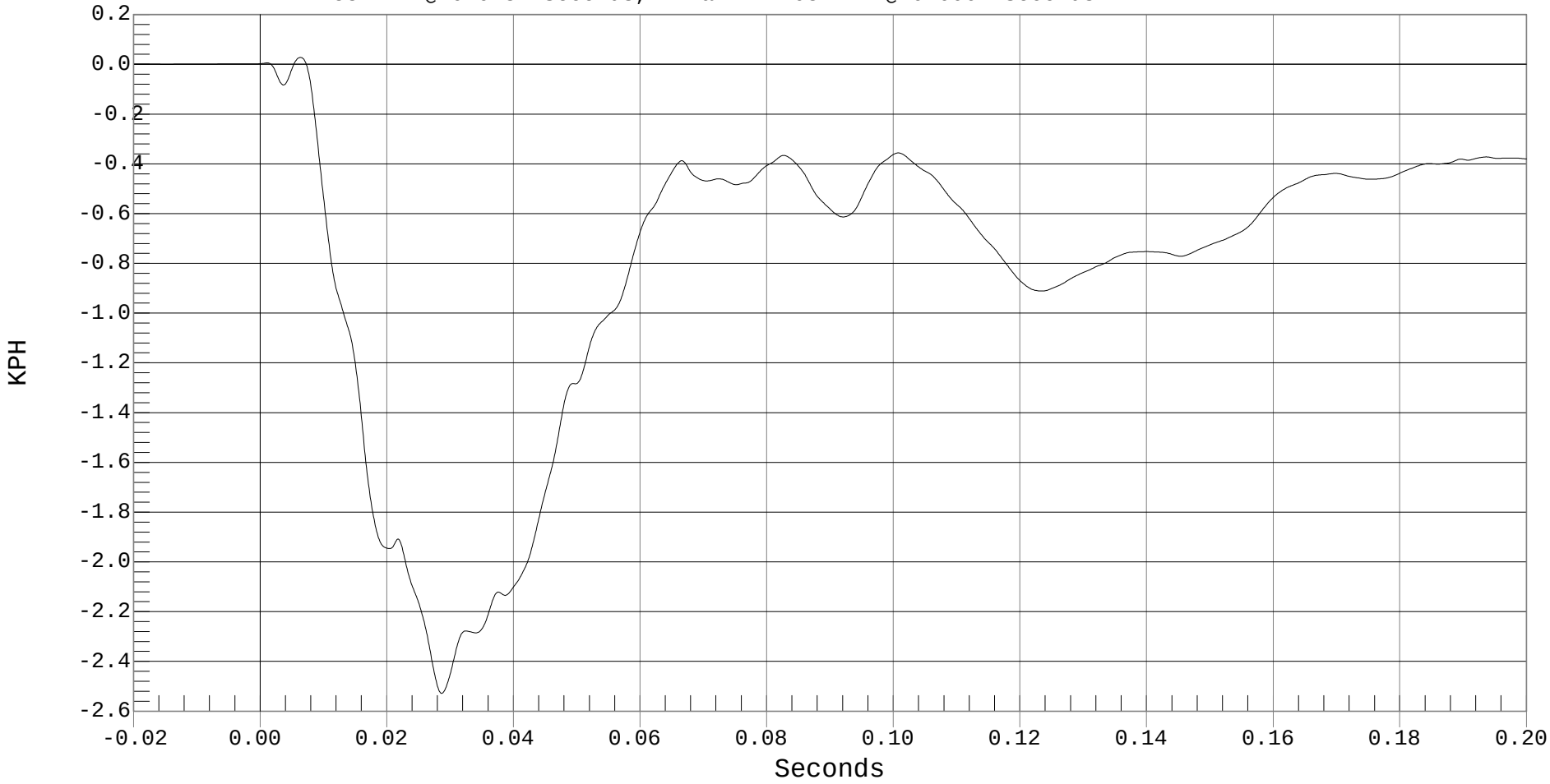
RIGHT SIDE SILL AT FRONT SEAT X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT SIDE SILL AT FRONT SEAT X VELOCITY, b01002AI.V15

Ymin = -2.53 KPH @ 0.0287 Seconds, Ymax = .03 KPH @ 0.0064 Seconds



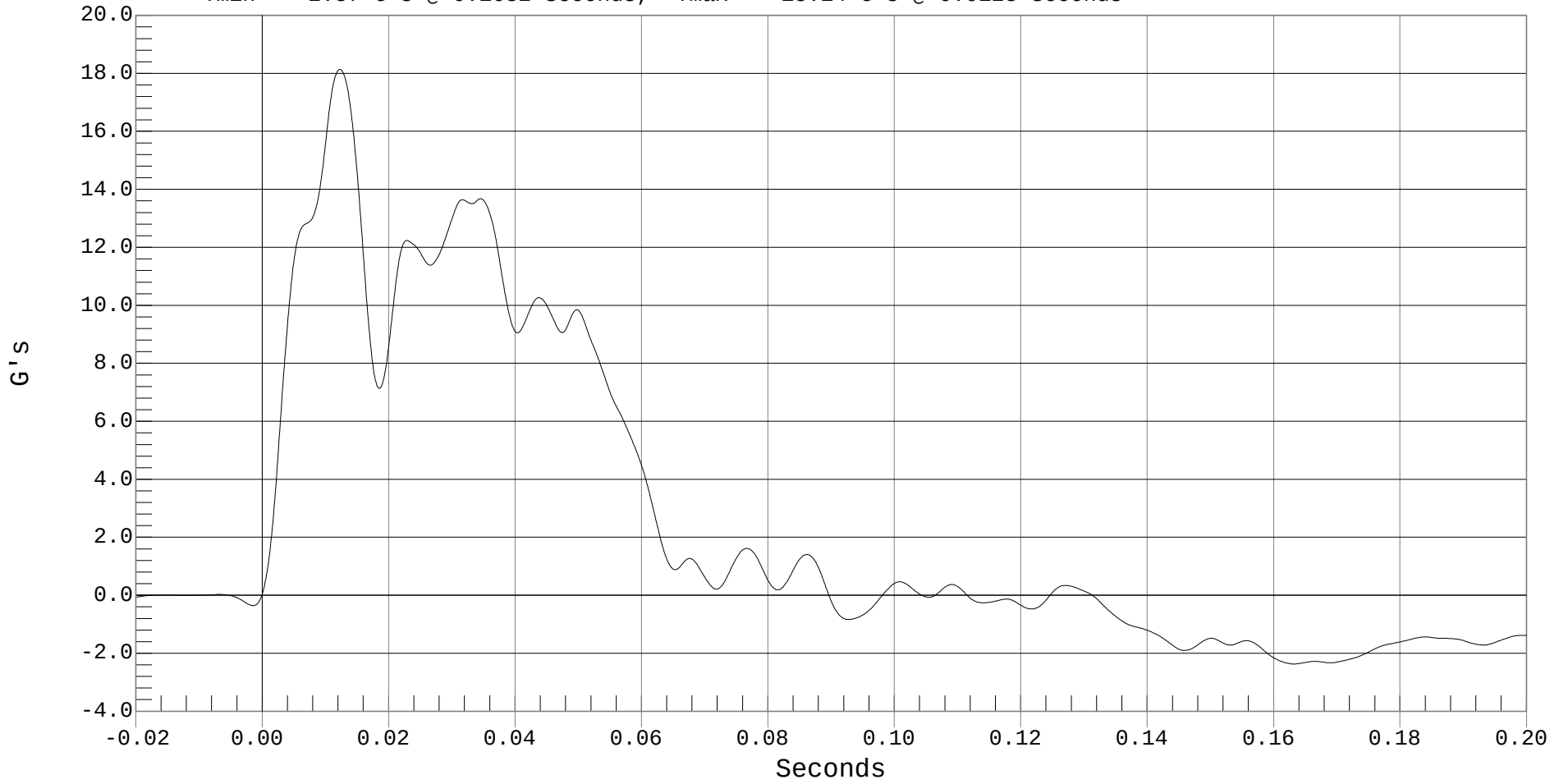
RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT FRONT SILL Y, b01002AF.A16

Ymin = -2.37 G's @ 0.1632 Seconds, Ymax = 18.14 G's @ 0.0123 Seconds



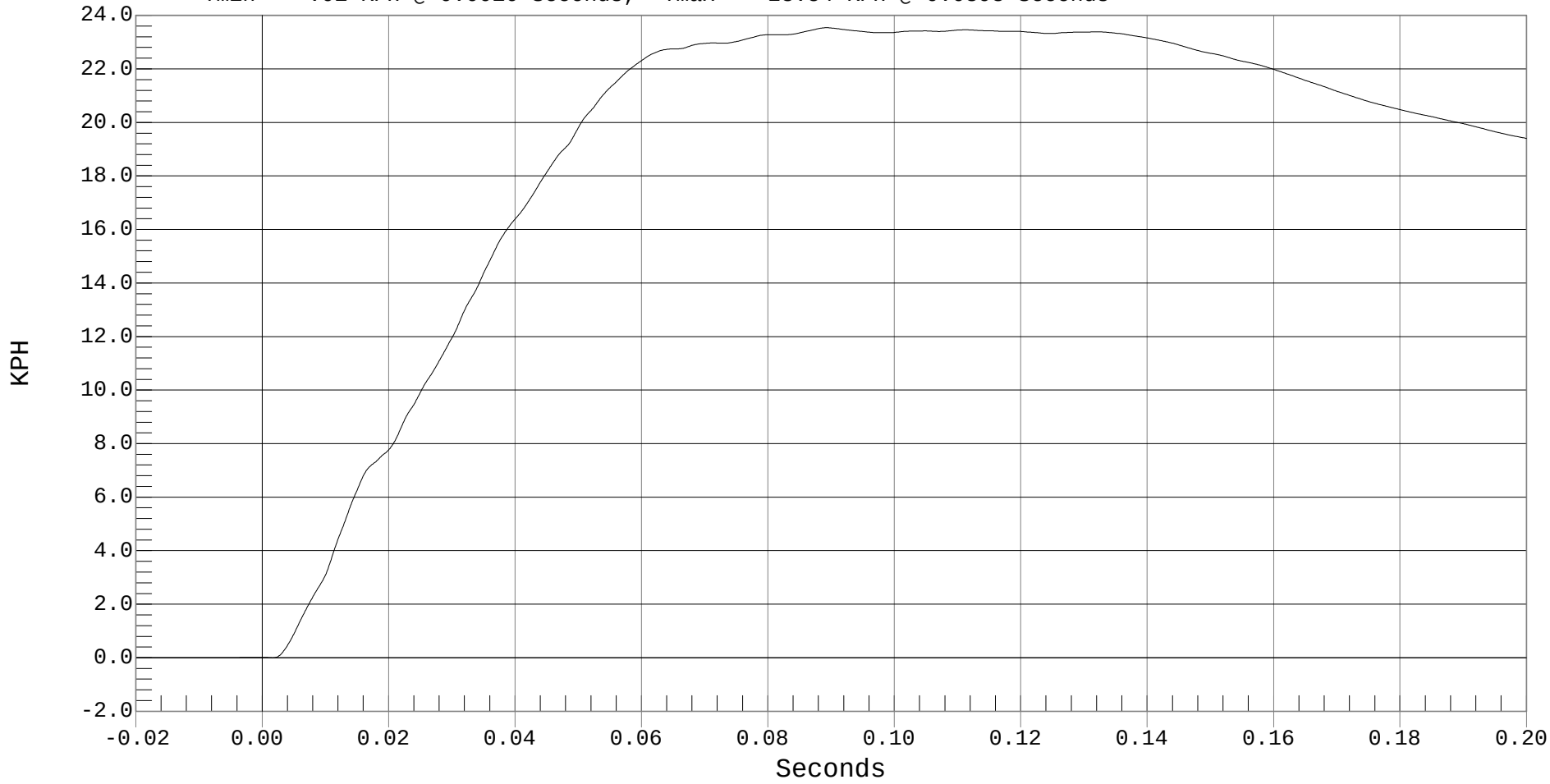
RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY, b01002AI.V16

Ymin = -.01 KPH @ 0.0016 Seconds, Ymax = 23.54 KPH @ 0.0893 Seconds



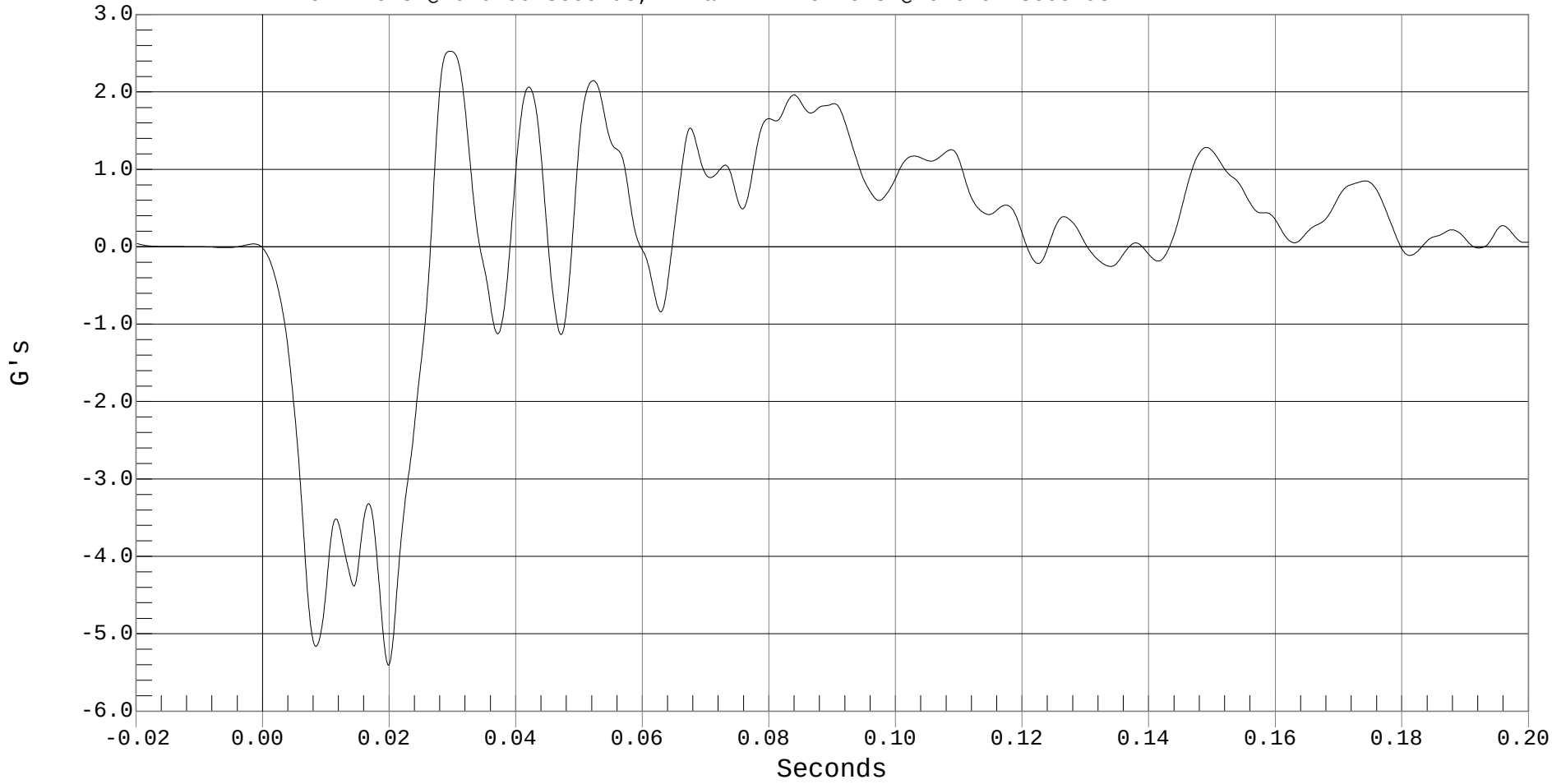
RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT FRONT SILL Z, b01002AF.A17

Ymin = -5.41 G's @ 0.0199 Seconds, Ymax = 2.52 G's @ 0.0297 Seconds



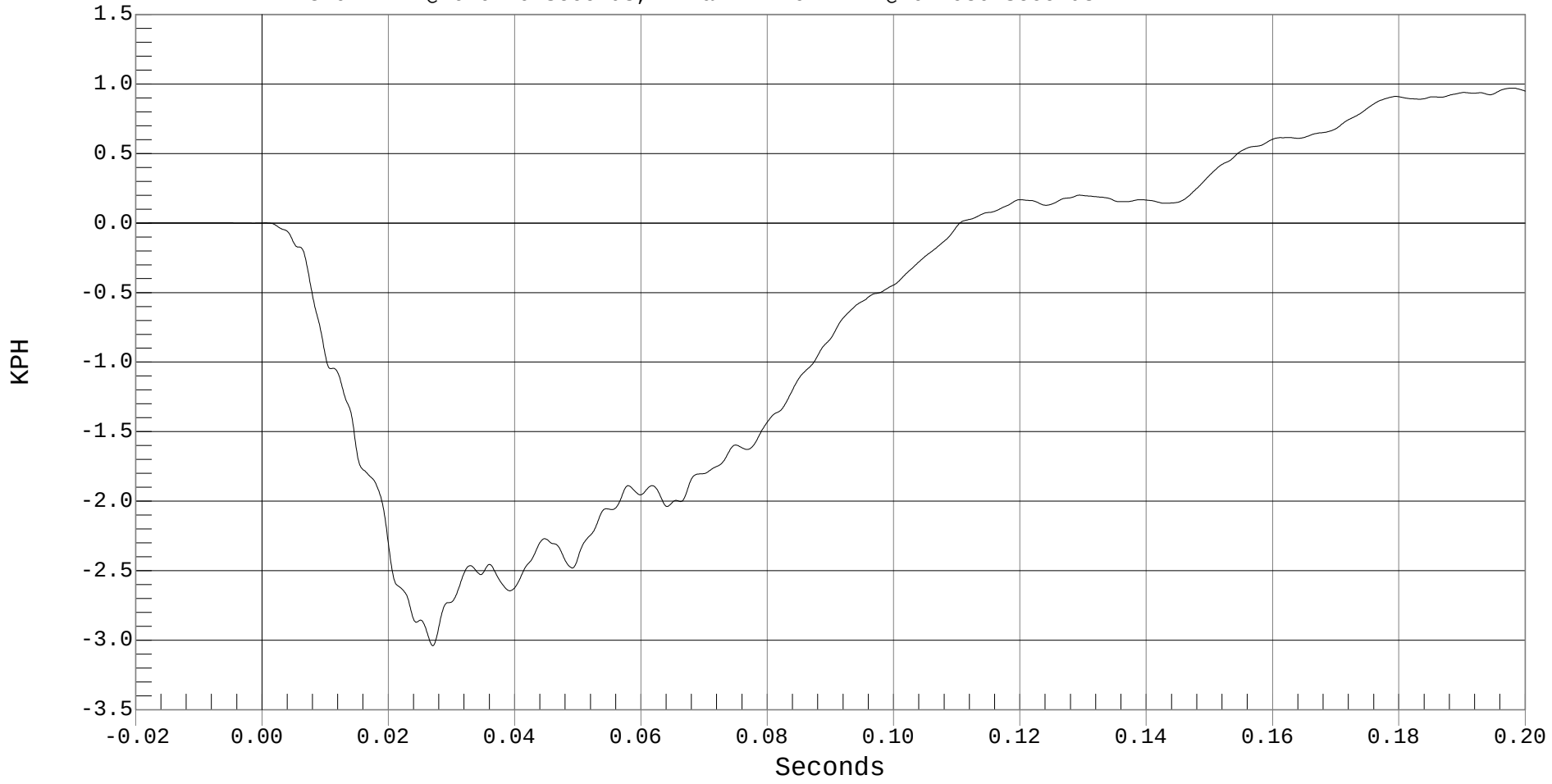
RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY, b01002AI.V17

Ymin = -3.04 KPH @ 0.0270 Seconds, Ymax = .97 KPH @ 0.1980 Seconds



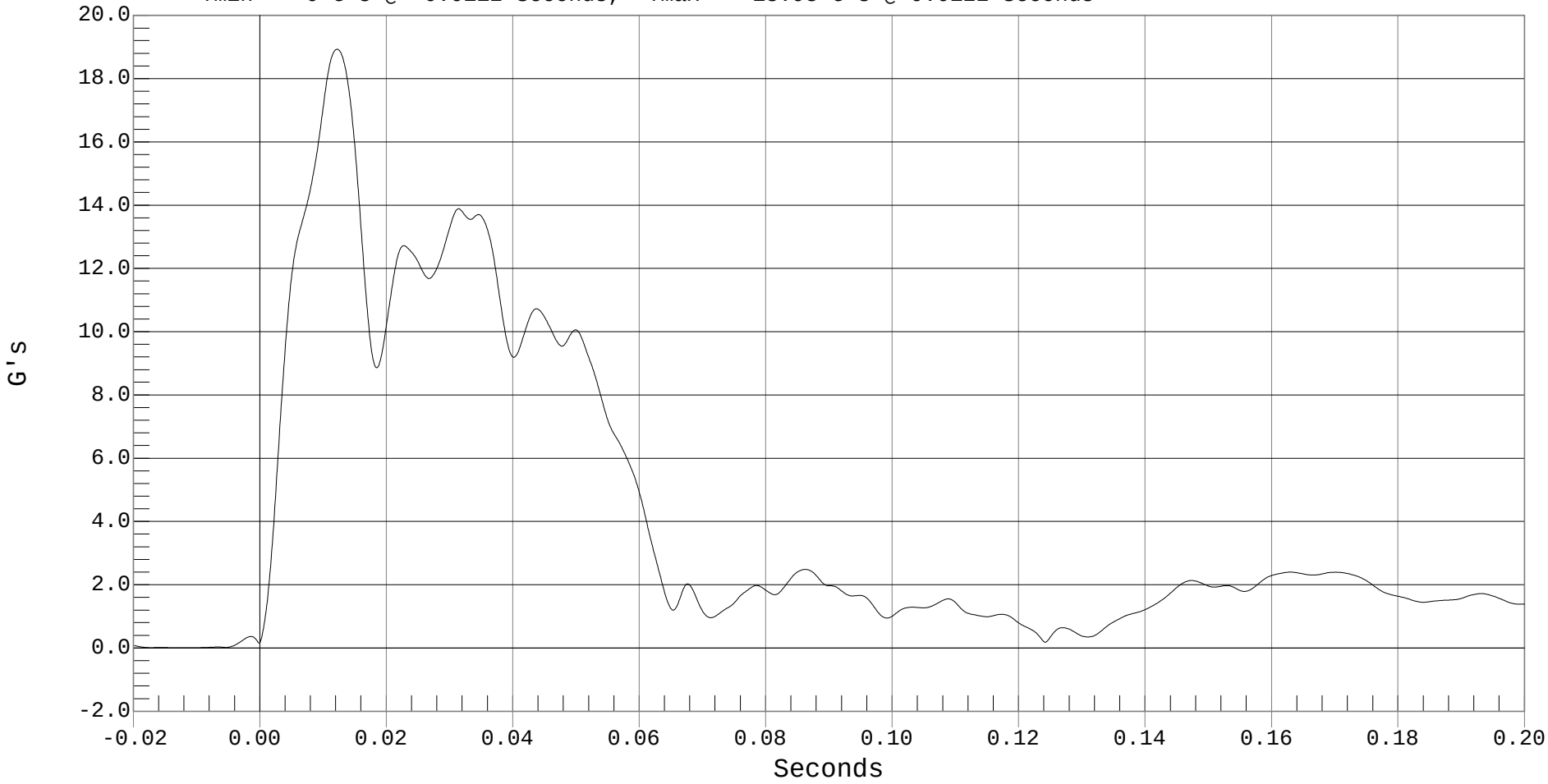
RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION, b01002AV.A15

Ymin = 0 G's @ -0.0112 Seconds, Ymax = 18.93 G's @ 0.0122 Seconds



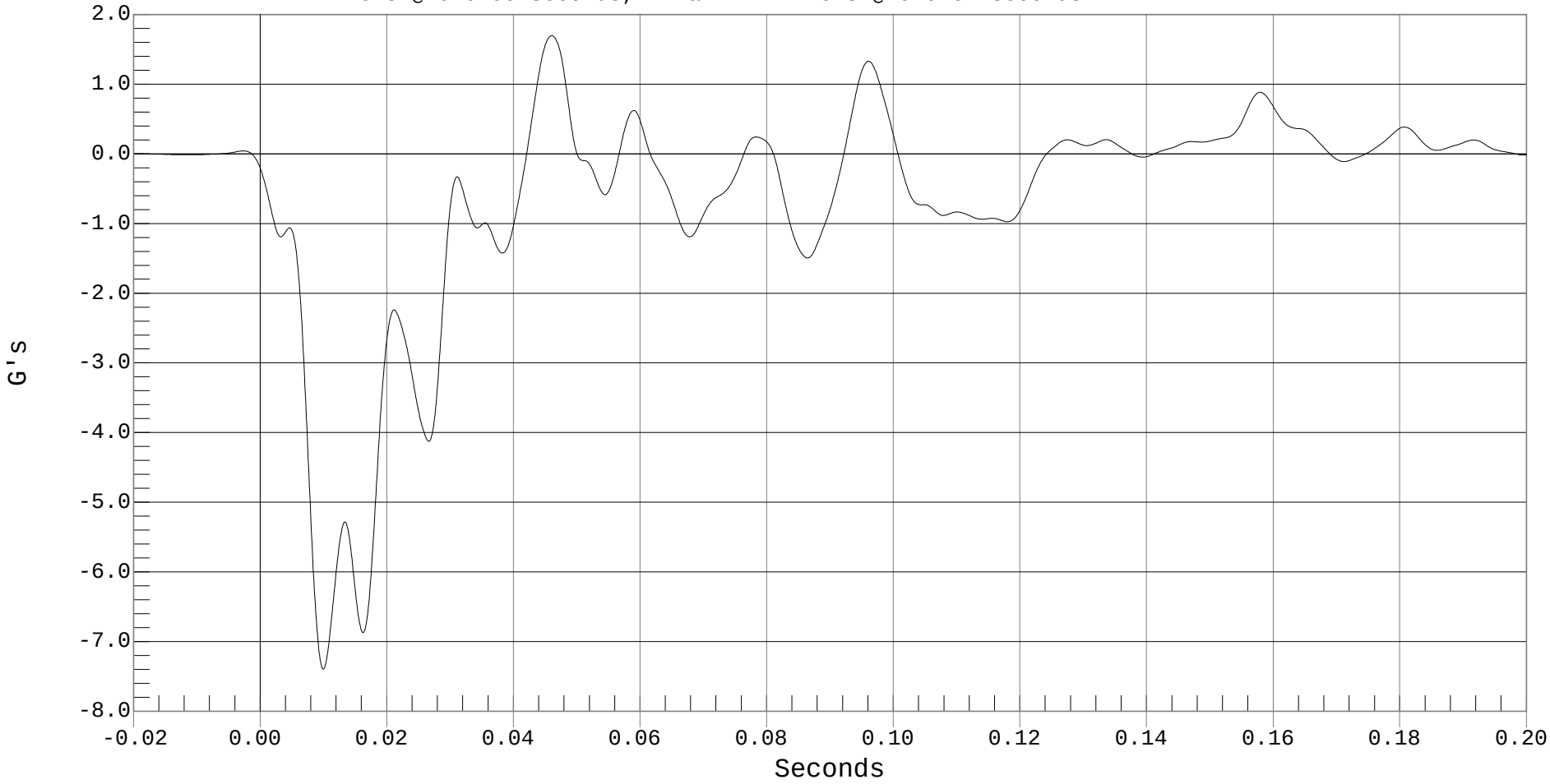
RIGHT SIDE SILL AT REAR SEAT X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT REAR SILL X, b01002AF.A18

Ymin = -7.4 G's @ 0.0100 Seconds, Ymax = 1.7 G's @ 0.0461 Seconds



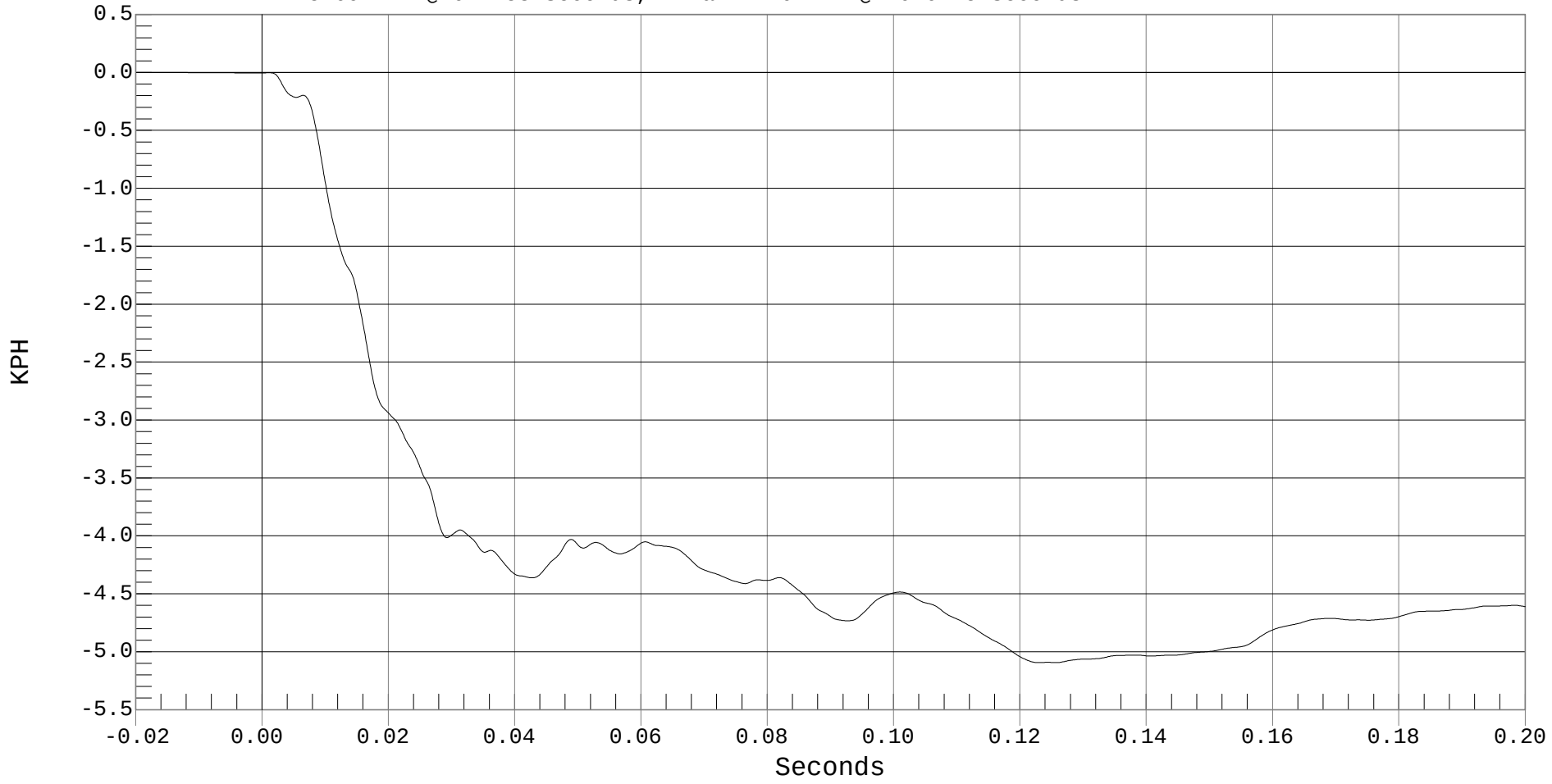
RIGHT SIDE SILL AT REAR SEAT X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT SIDE SILL AT REAR SEAT X VELOCITY, b01002AI.V18

Ymin = -5.09 KPH @ 0.1258 Seconds, Ymax = 0 KPH @ -0.0175 Seconds



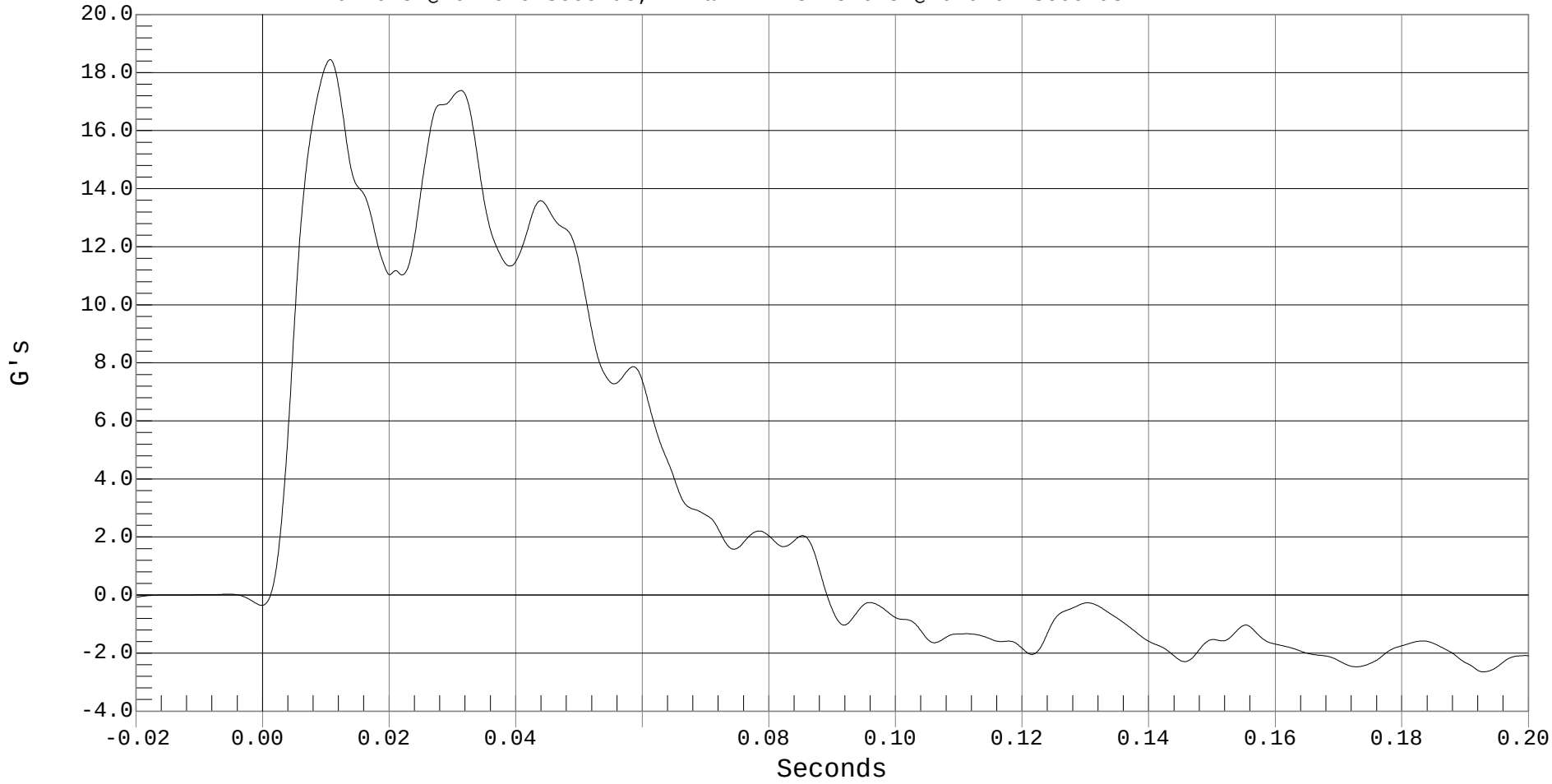
RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT REAR SILL Y, b01002AF.A19

Ymin = -2.64 G's @ 0.1929 Seconds, Ymax = 18.45 G's @ 0.0107 Seconds



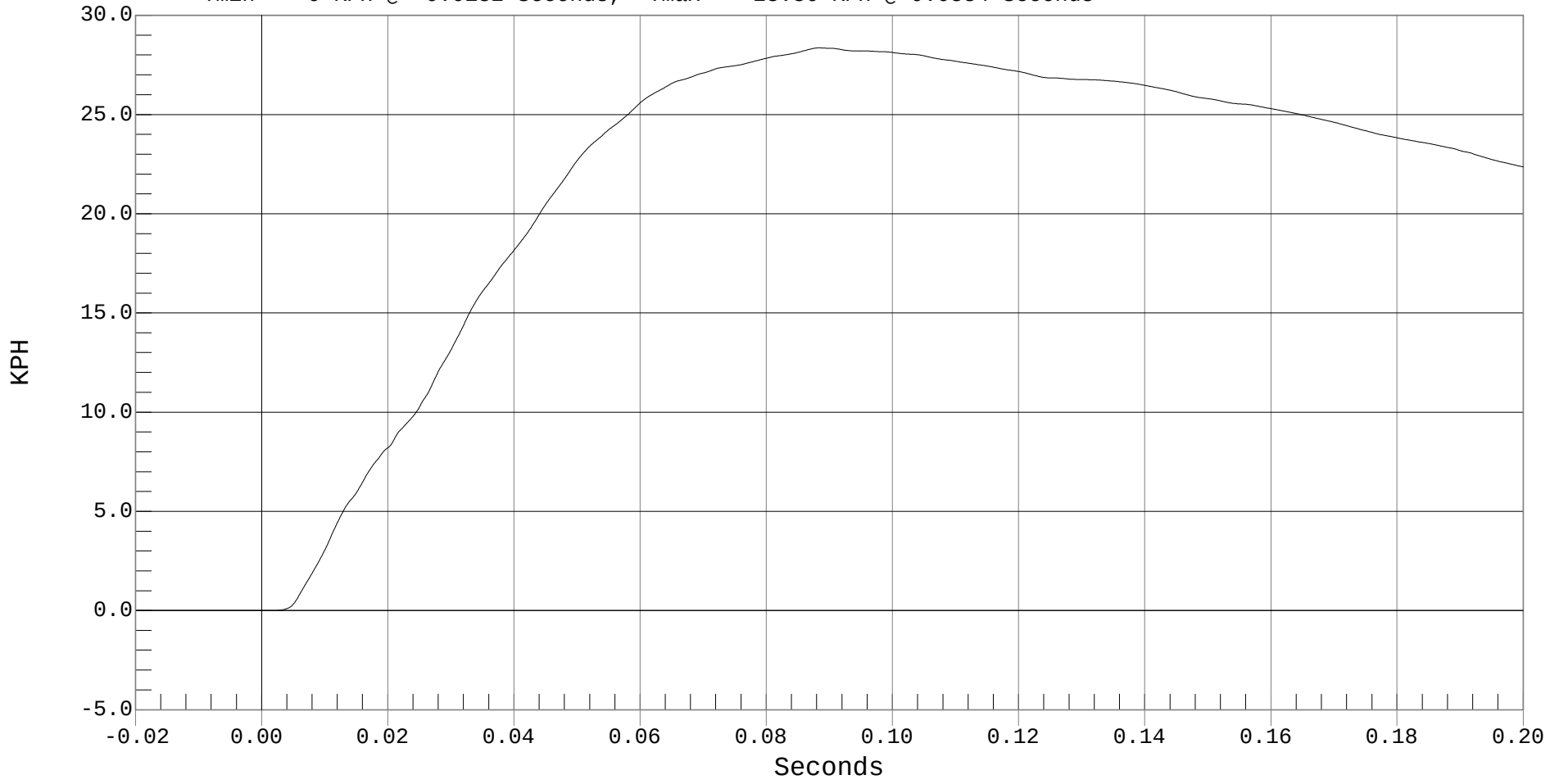
RIGHT SIDE SILL AT REAR SEAT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT SIDE SILL AT REAR SEAT Z VELOCITY, b01002AI.V19

Ymin = 0 KPH @ -0.0132 Seconds, Ymax = 28.36 KPH @ 0.0884 Seconds



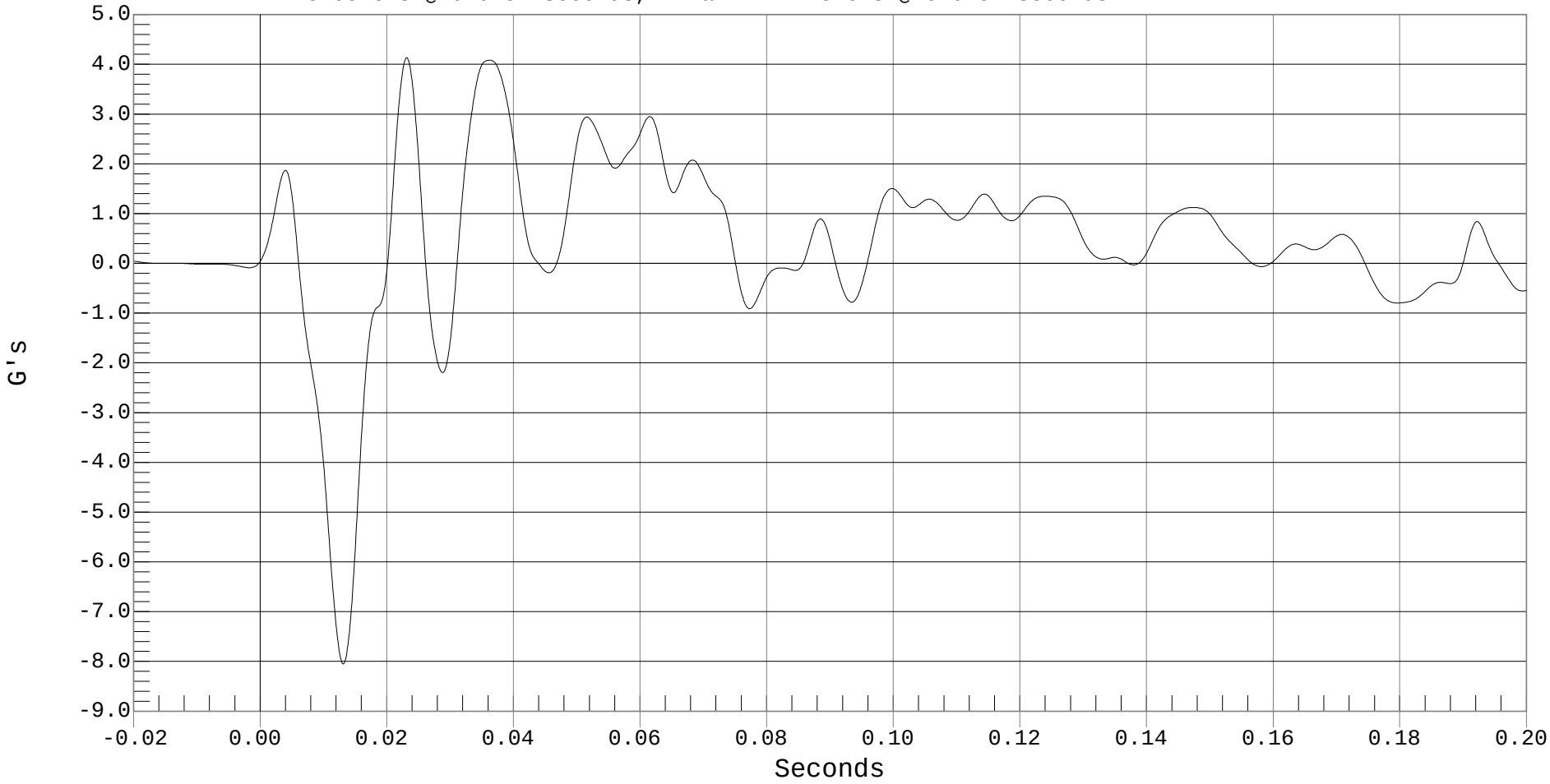
RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT REAR SILL Z, b01002AF.A20

Ymin = -8.05 G's @ 0.0131 Seconds, Ymax = 4.13 G's @ 0.0231 Seconds



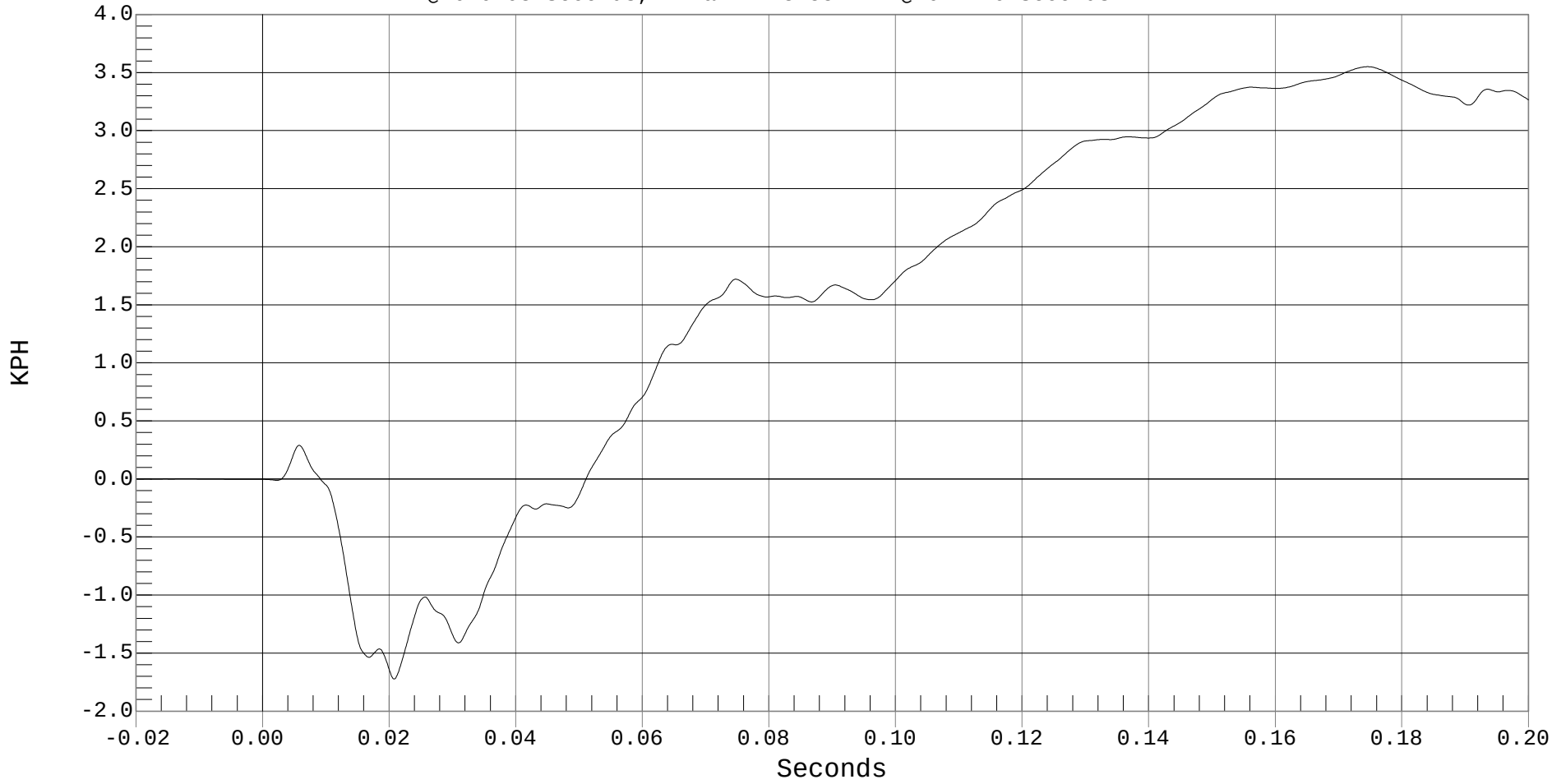
RIGHT SIDE SILL AT REAR SEAT Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT SIDE SILL AT REAR SEAT Y VELOCITY, b01002AI.V20

Ymin = -1.72 KPH @ 0.0208 Seconds, Ymax = 3.55 KPH @ 0.1746 Seconds



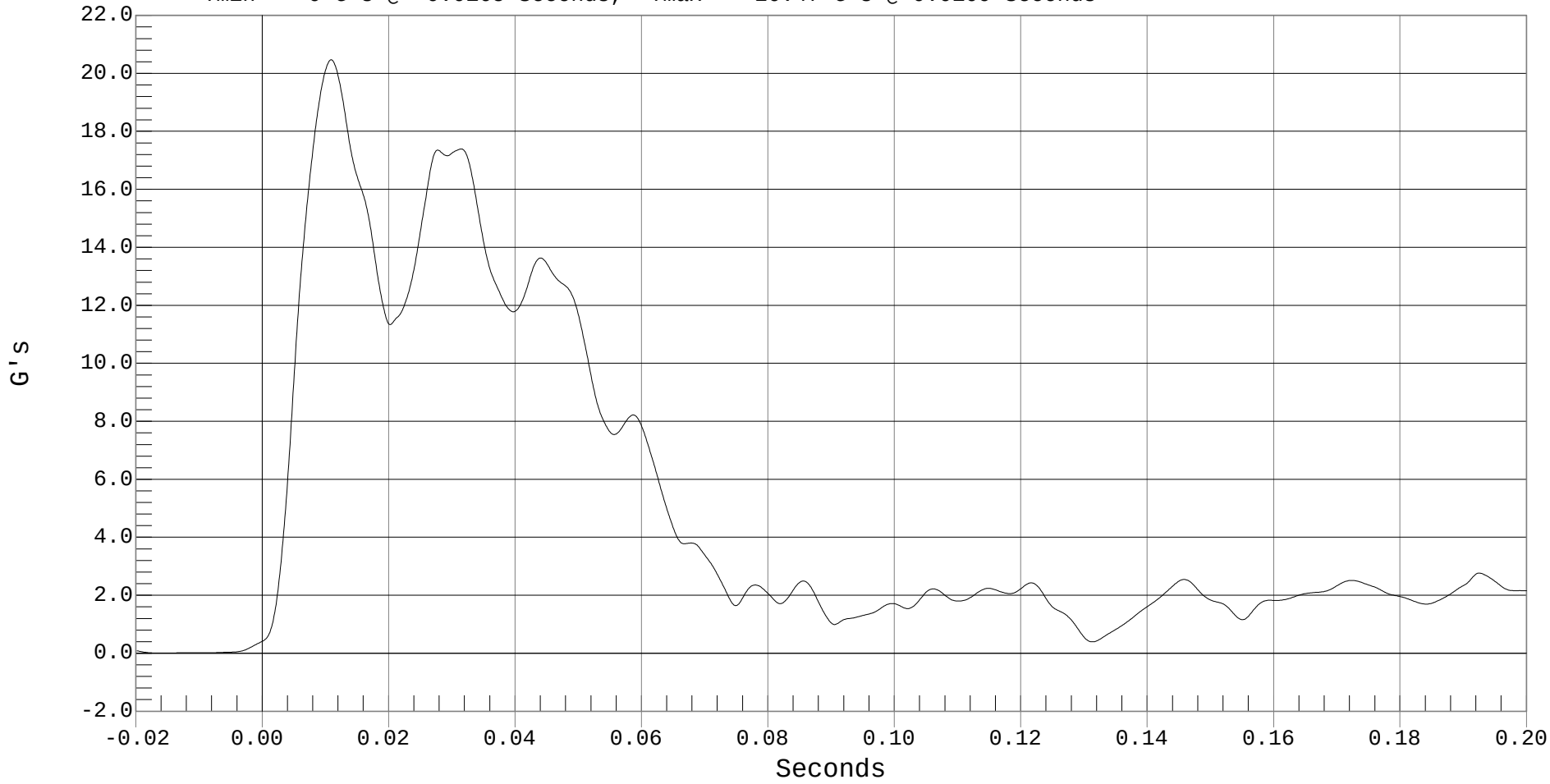
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION, b01002AV.A18

Ymin = 0 G's @ -0.0165 Seconds, Ymax = 20.47 G's @ 0.0109 Seconds



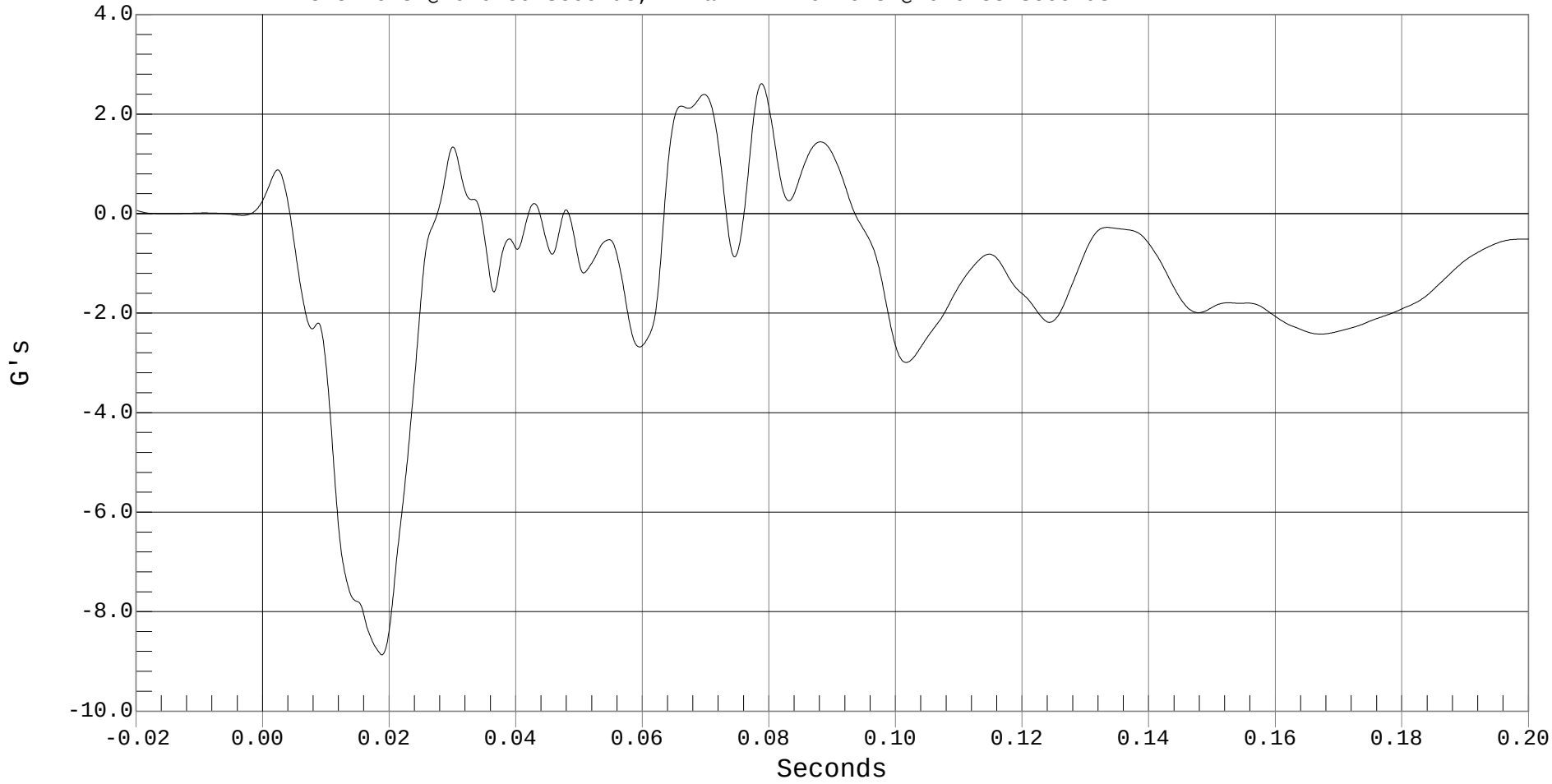
REAR FLOORPAN ABOVE AXLE X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 FLOORPAN @ REAR AXLE X, b01002AF.A23

Ymin = -8.87 G's @ 0.0189 Seconds, Ymax = 2.61 G's @ 0.0788 Seconds



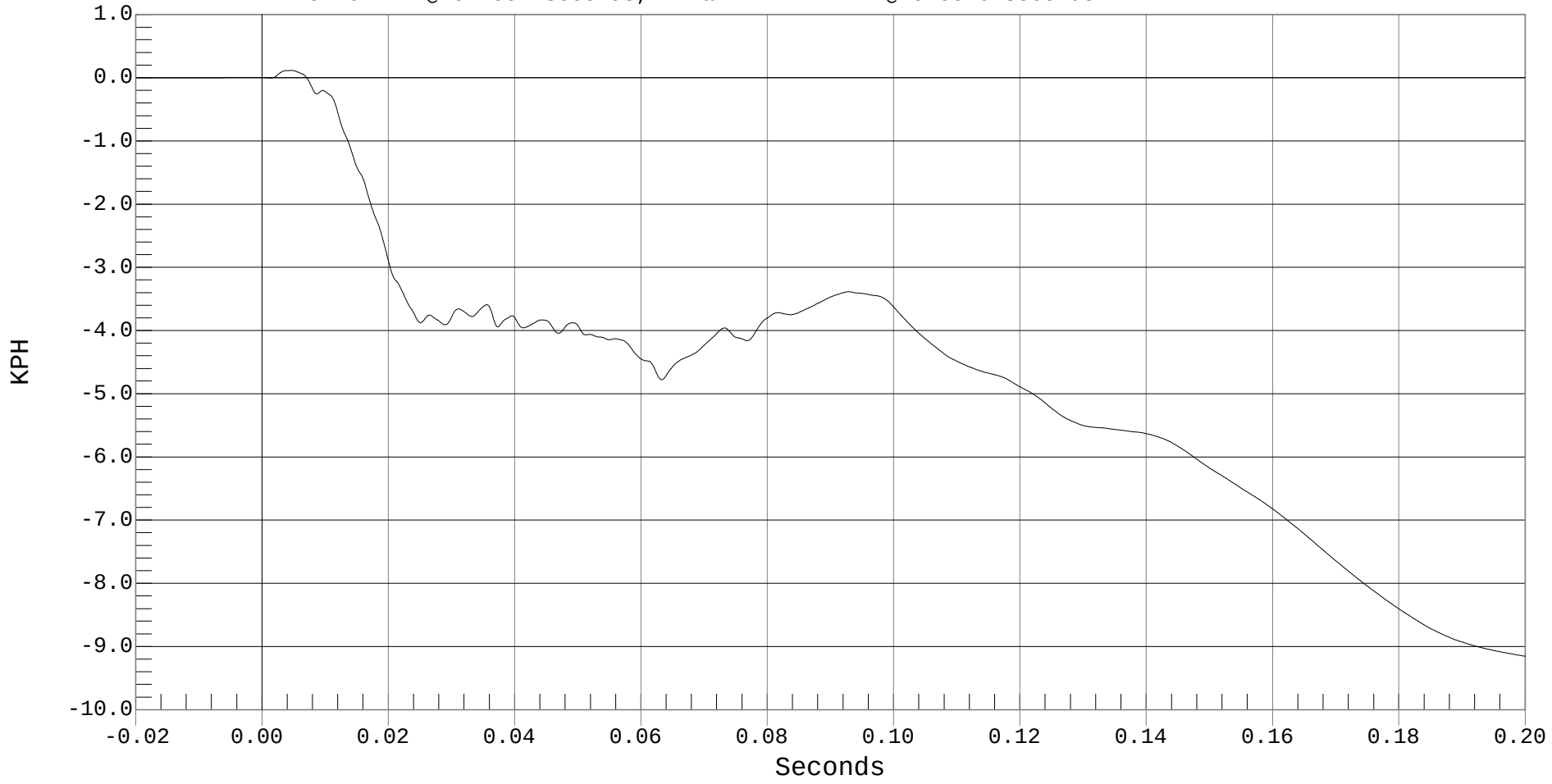
REAR FLOORPAN ABOVE AXLE X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR FLOORPAN ABOVE AXLE X VELOCITY, b01002AI.V23

Ymin = -9.16 KPH @ 0.2001 Seconds, Ymax = .12 KPH @ 0.0046 Seconds



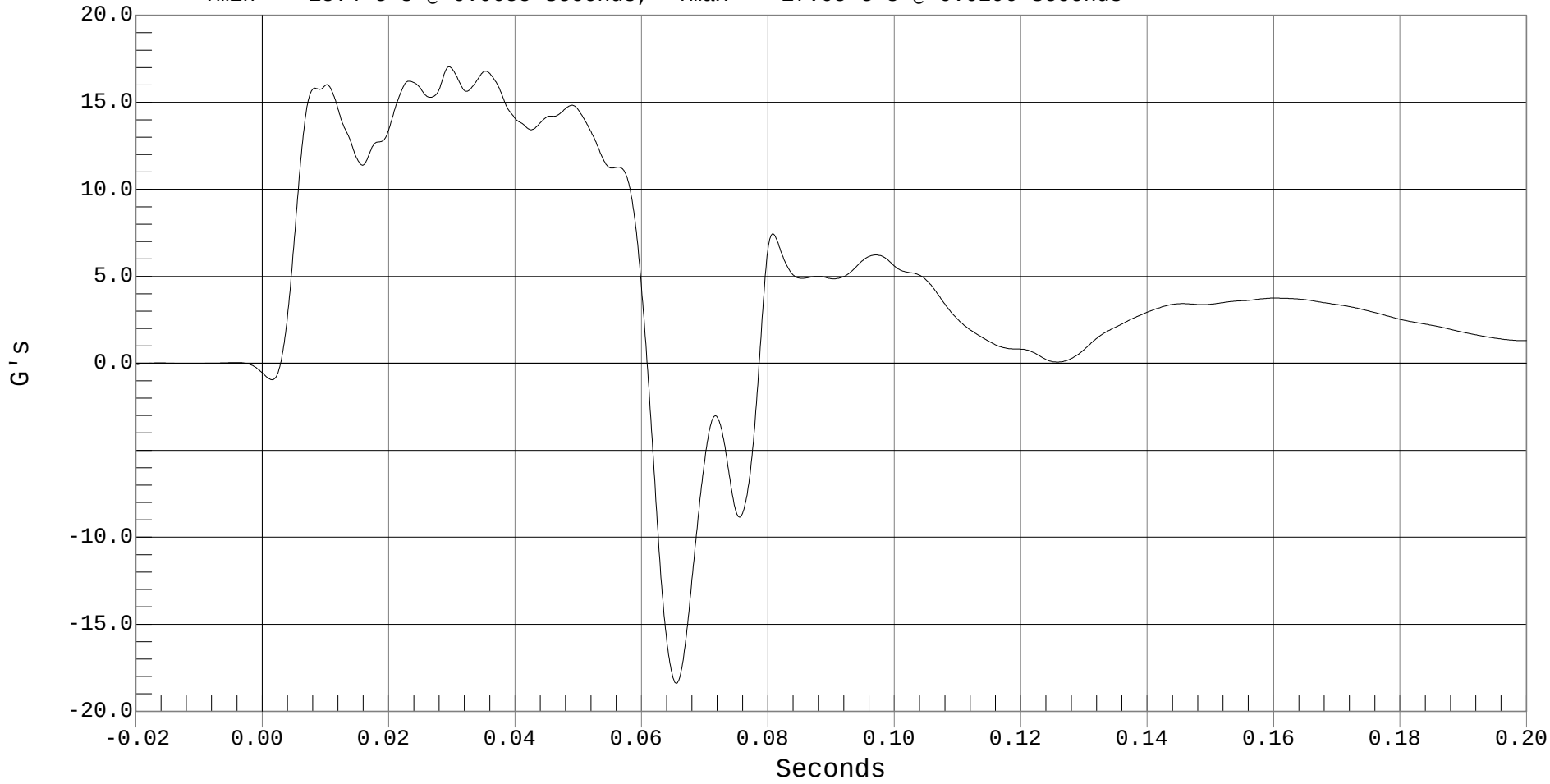
REAR FLOORPAN ABOVE AXLE Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 FLOORPAN @ REAR AXLE Y, b01002AF.A24

Ymin = -18.4 G's @ 0.0655 Seconds, Ymax = 17.05 G's @ 0.0296 Seconds



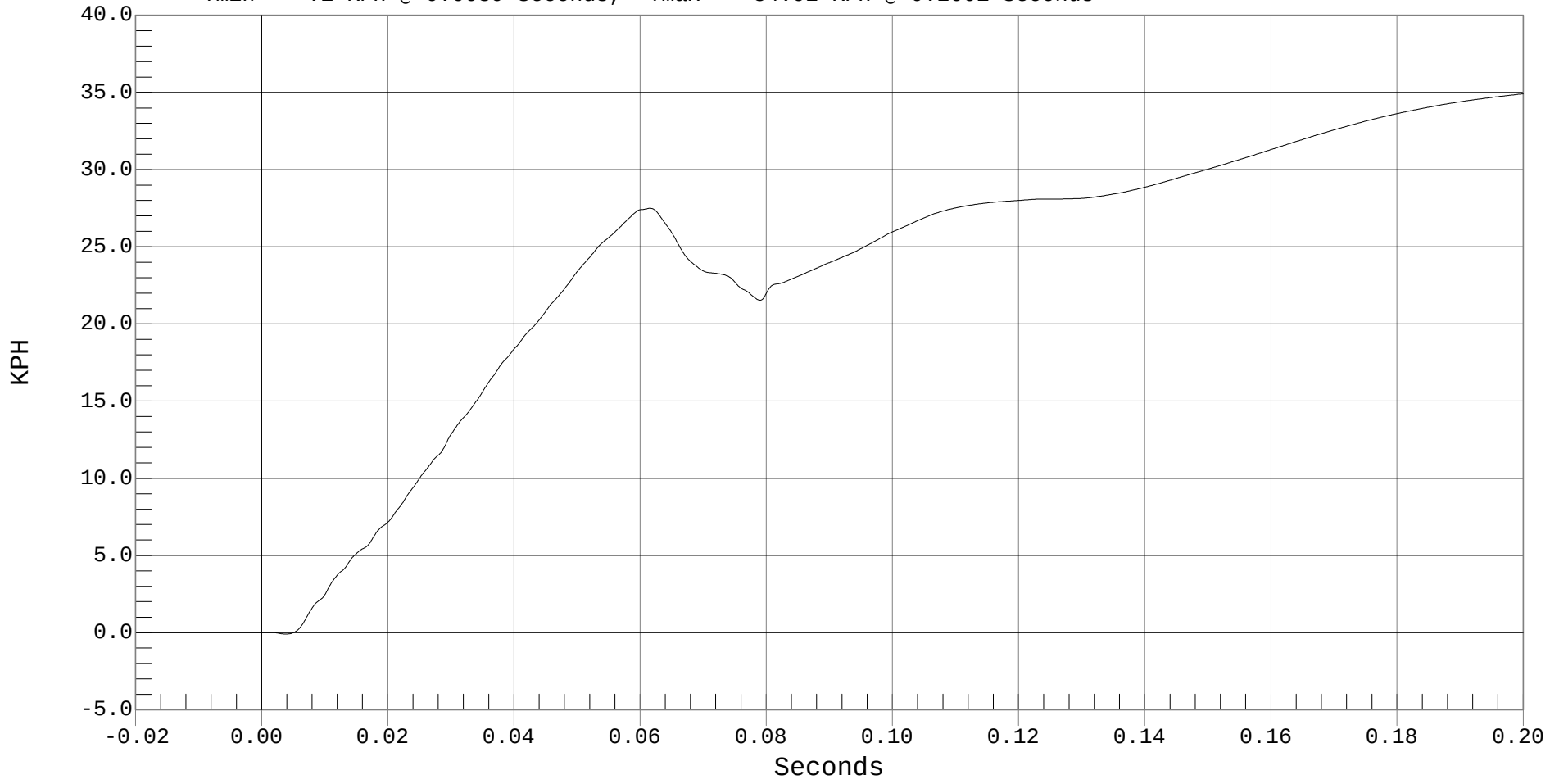
REAR FLOORPAN ABOVE AXLE Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR FLOORPAN ABOVE AXLE Y VELOCITY, b01002AI.V24

Ymin = -.1 KPH @ 0.0039 Seconds, Ymax = 34.92 KPH @ 0.2001 Seconds



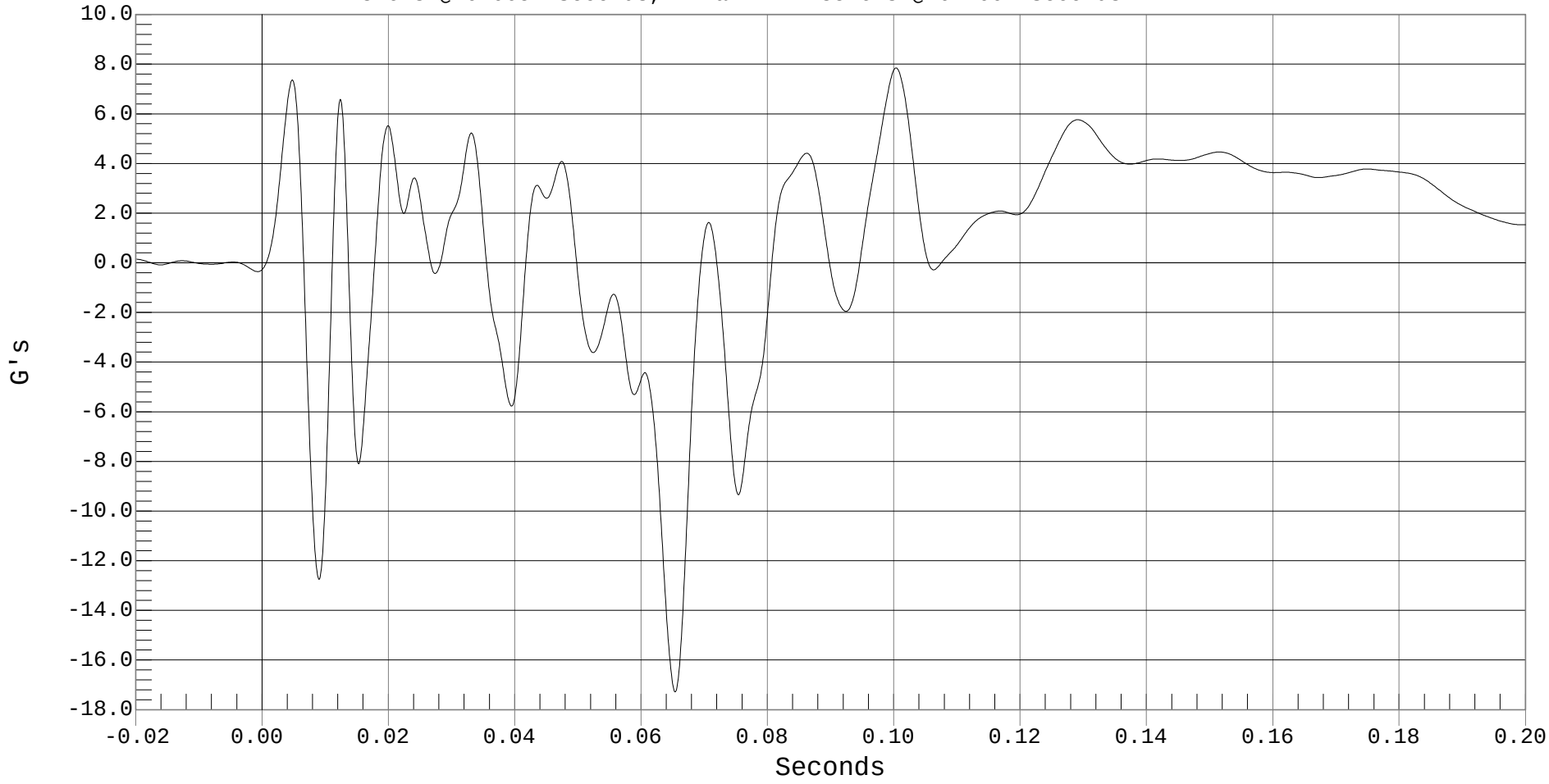
REAR FLOORPAN ABOVE AXLE Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 FLOORPAN @ REAR AXLE Z, b01002AF.A25

Ymin = -17.28 G's @ 0.0654 Seconds, Ymax = 7.85 G's @ 0.1004 Seconds



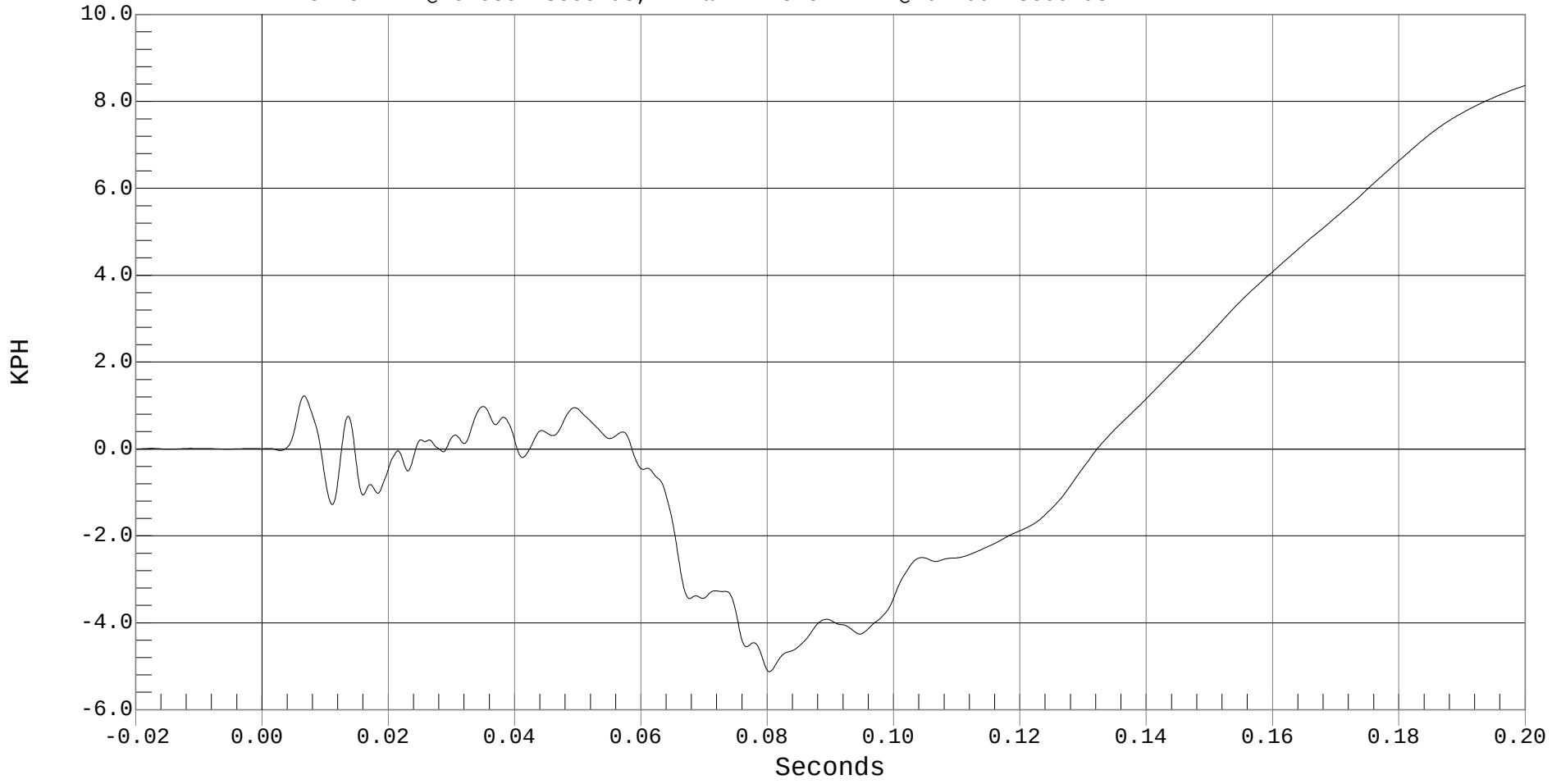
REAR FLOORPAN ABOVE AXLE Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR FLOORPAN ABOVE AXLE Z VELOCITY, b01002AI.V25

Ymin = -5.13 KPH @ 0.0804 Seconds, Ymax = 8.37 KPH @ 0.2001 Seconds



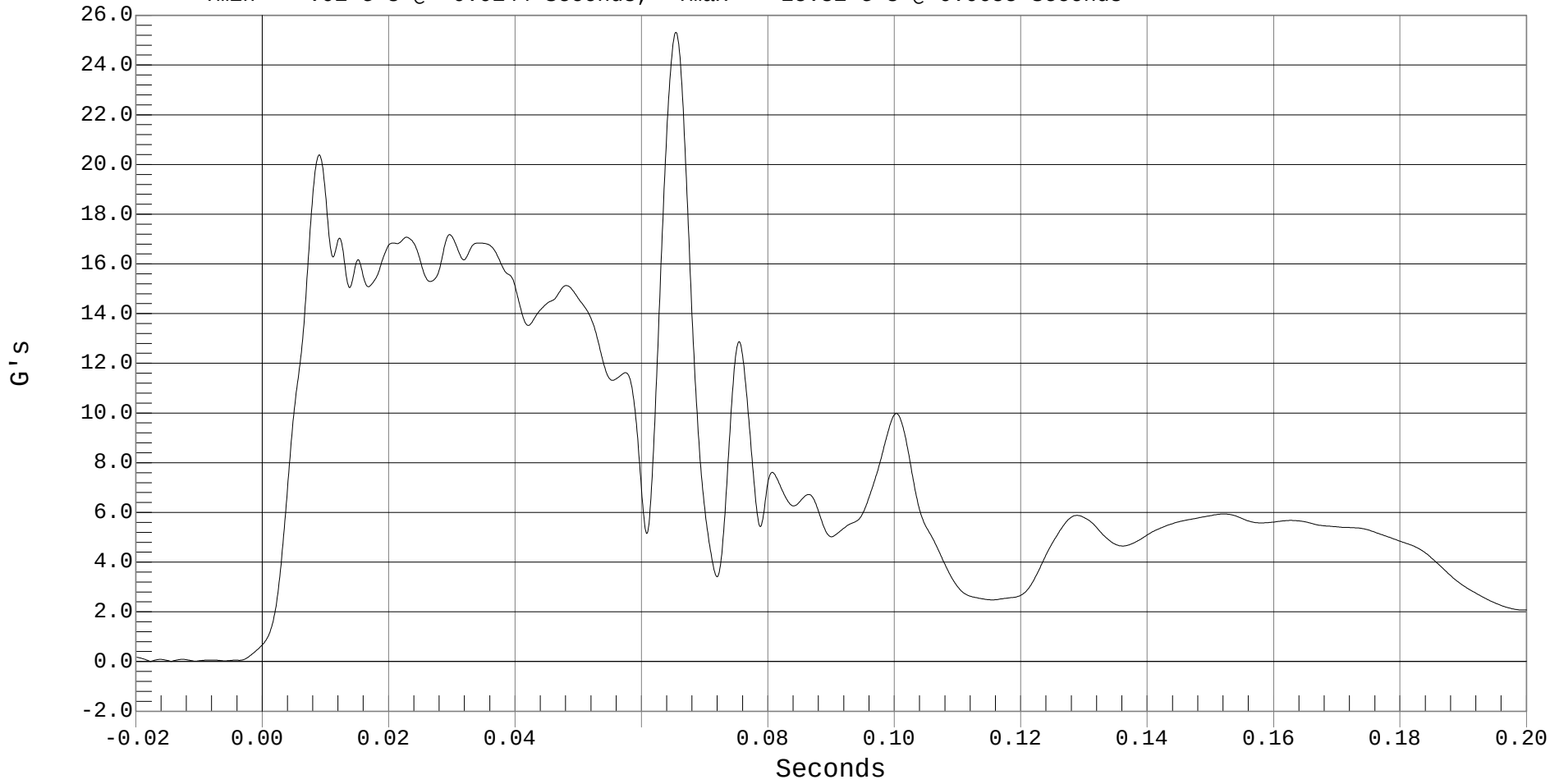
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION, b01002AV.A23

Ymin = .01 G's @ -0.0144 Seconds, Ymax = 25.31 G's @ 0.0655 Seconds



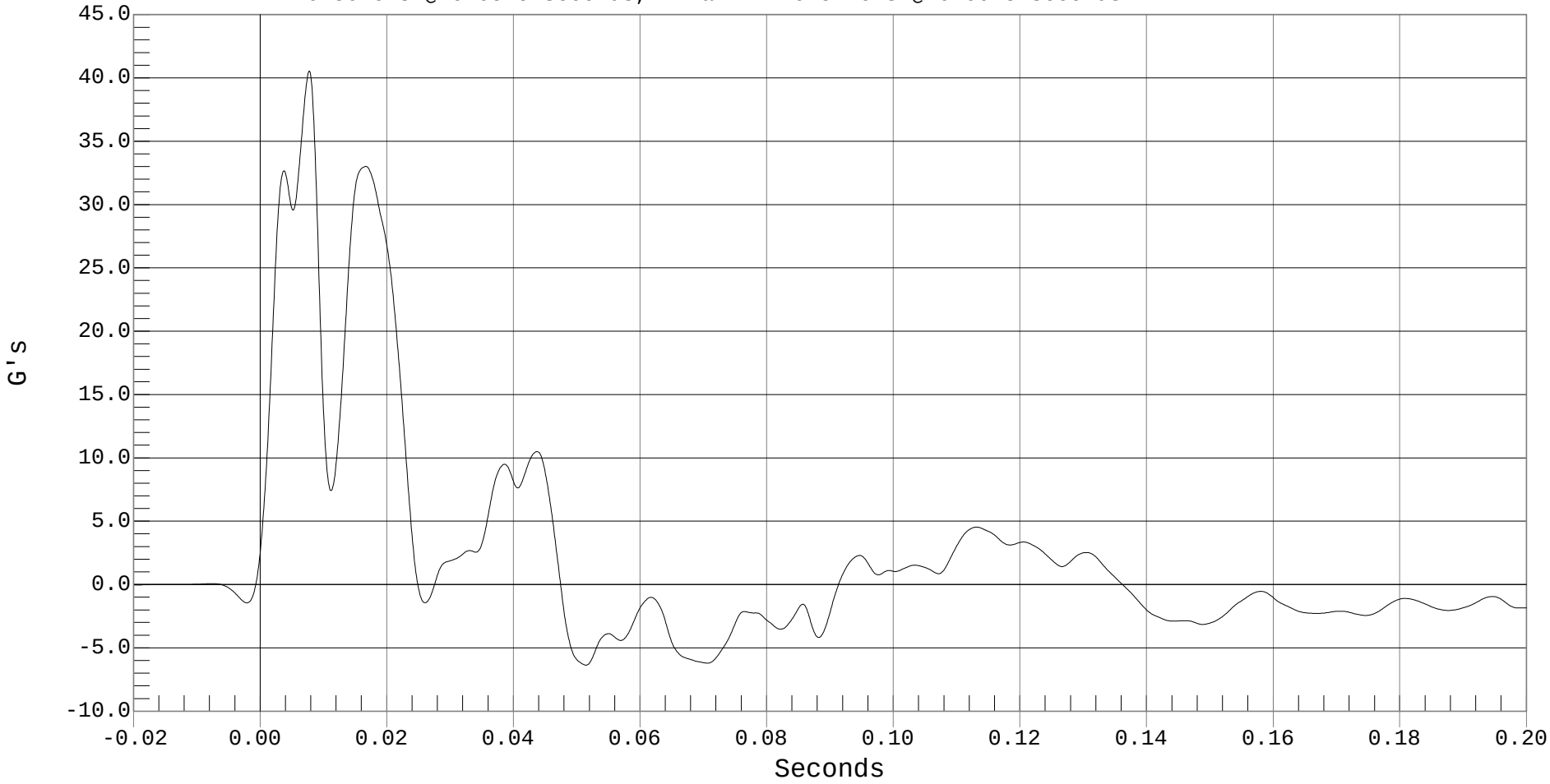
LEFT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 LEFT FRONT SILL Y, b01002AF.A21

Ymin = -6.36 G's @ 0.0515 Seconds, Ymax = 40.54 G's @ 0.0078 Seconds



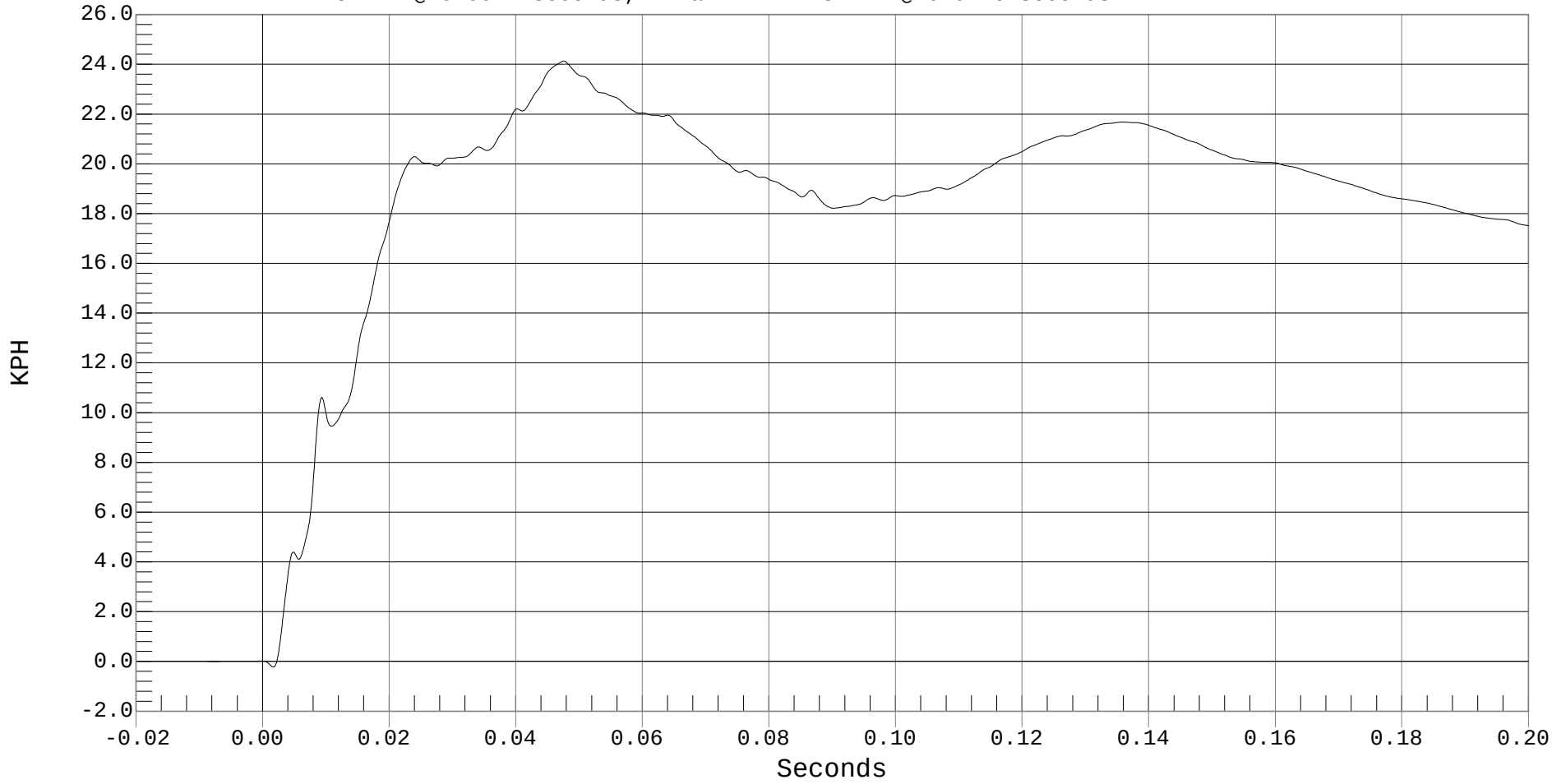
LEFT SIDE SILL AT FRONT SEAT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 LEFT SIDE SILL AT FRONT SEAT Y VELOCITY, b01002AI.V21

Ymin = -.23 KPH @ 0.0017 Seconds, Ymax = 24.13 KPH @ 0.0476 Seconds



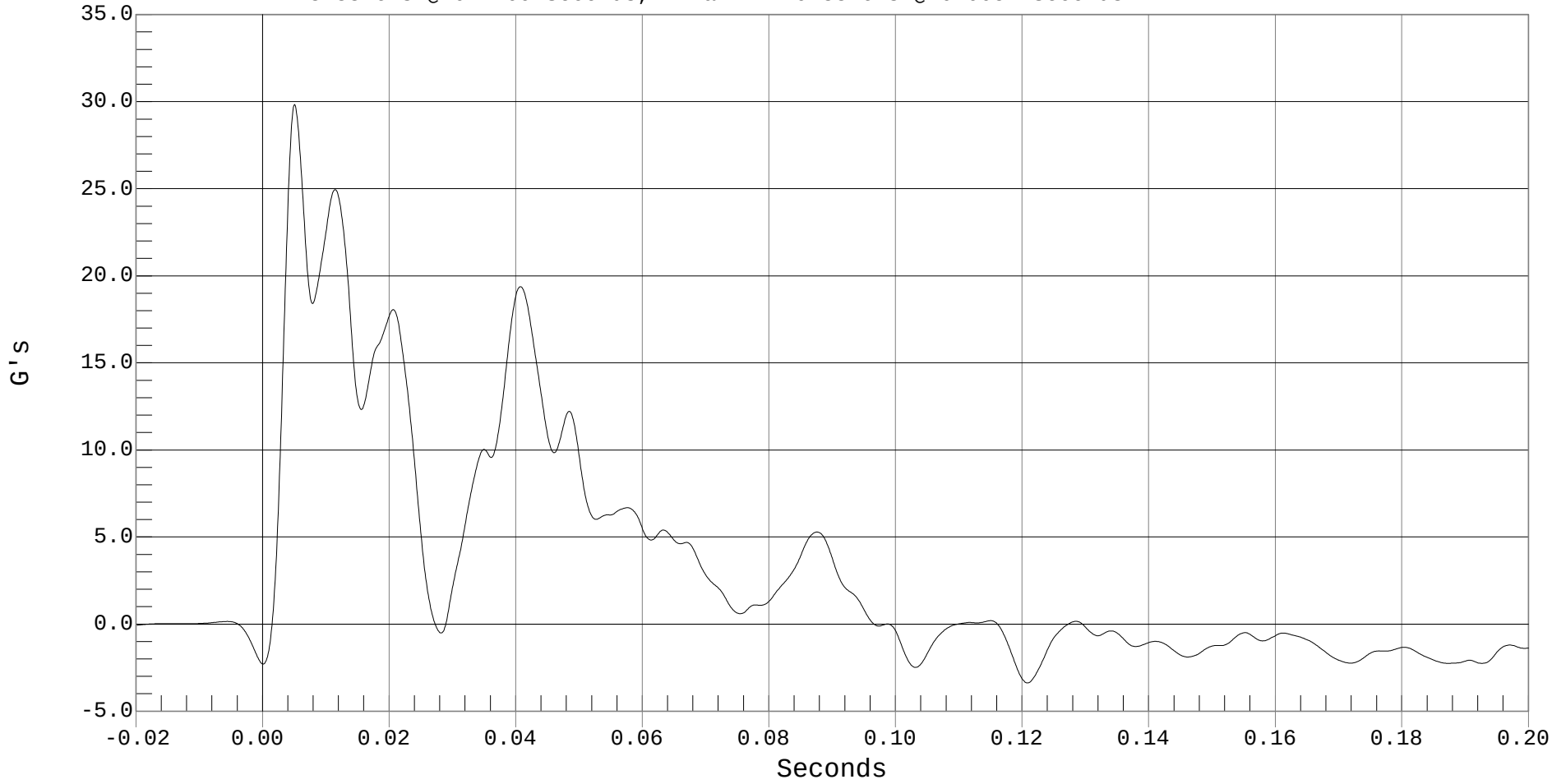
LEFT SIDE SILL AT REAR SEAT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 LEFT REAR SILL Y, b01002AF.A22

Ymin = -3.38 G's @ 0.1209 Seconds, Ymax = 29.83 G's @ 0.0051 Seconds



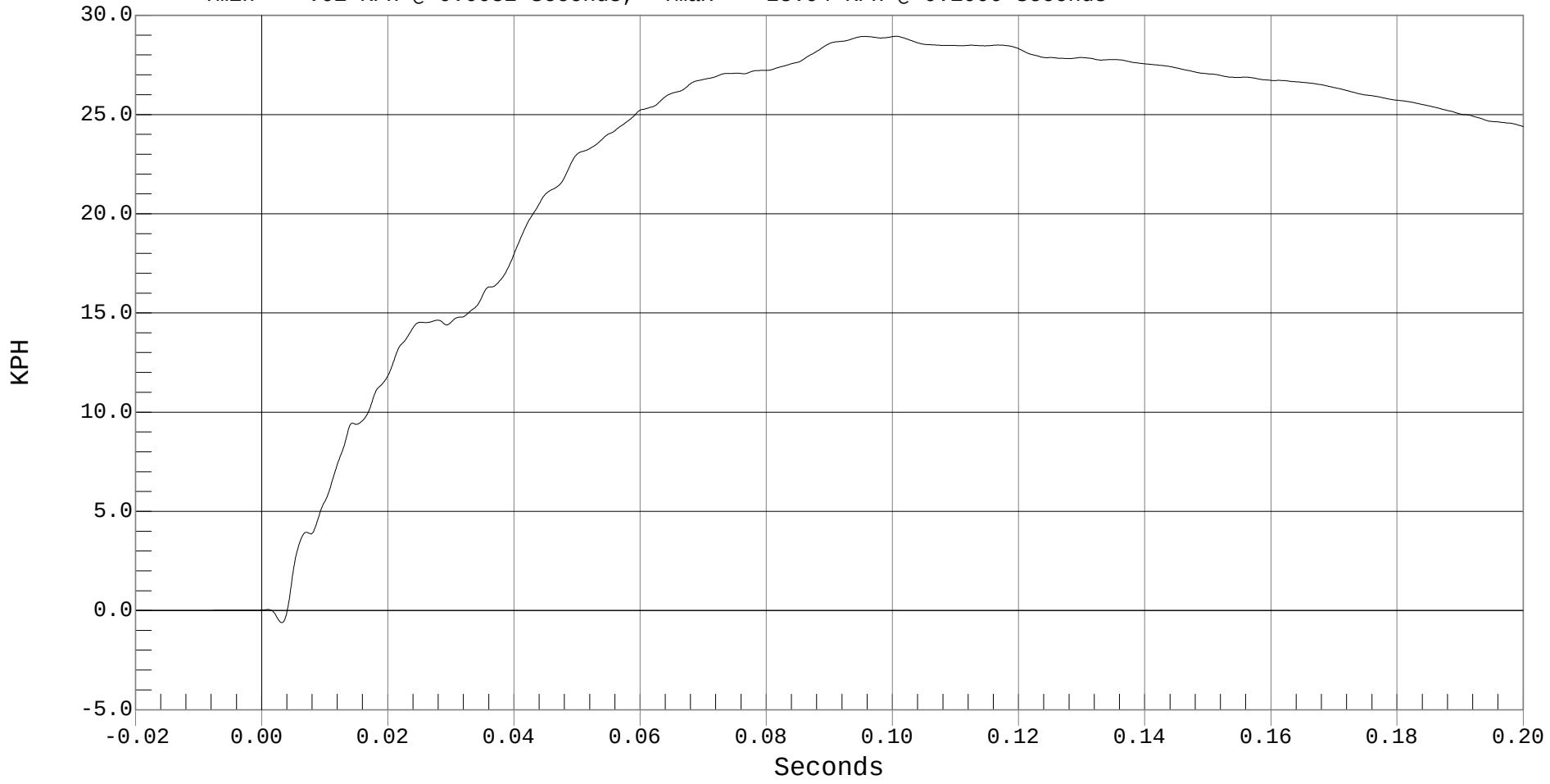
LEFT SIDE SILL AT REAR SEAT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 LEFT SIDE SILL AT REAR SEAT Y VELOCITY, b01002AI.V22

Ymin = -.61 KPH @ 0.0032 Seconds, Ymax = 28.94 KPH @ 0.1006 Seconds



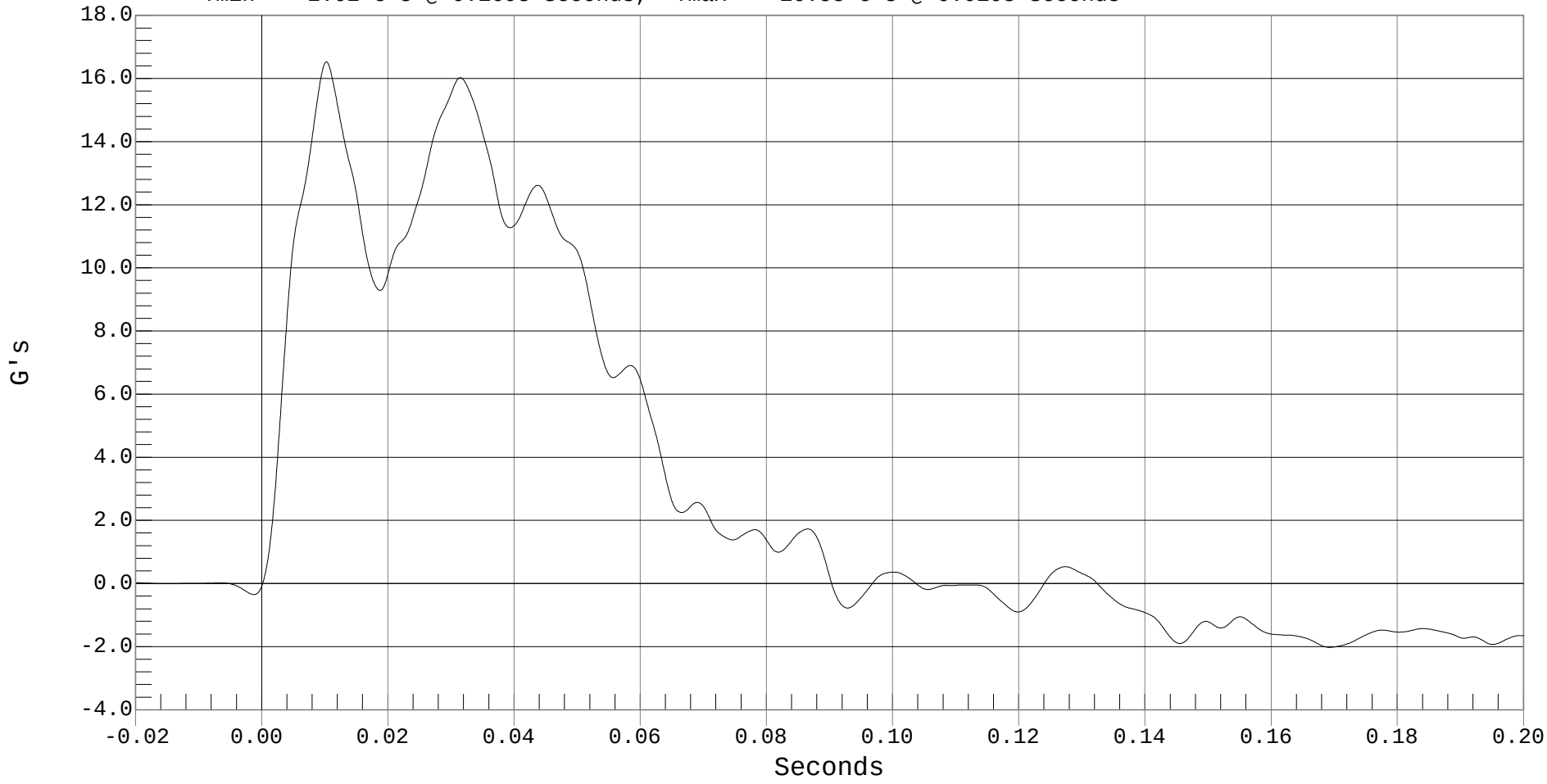
RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 RIGHT REAR OCCUPANT COMPARTMENT Y, b01002AF.A31

Ymin = -2.02 G's @ 0.1693 Seconds, Ymax = 16.53 G's @ 0.0103 Seconds



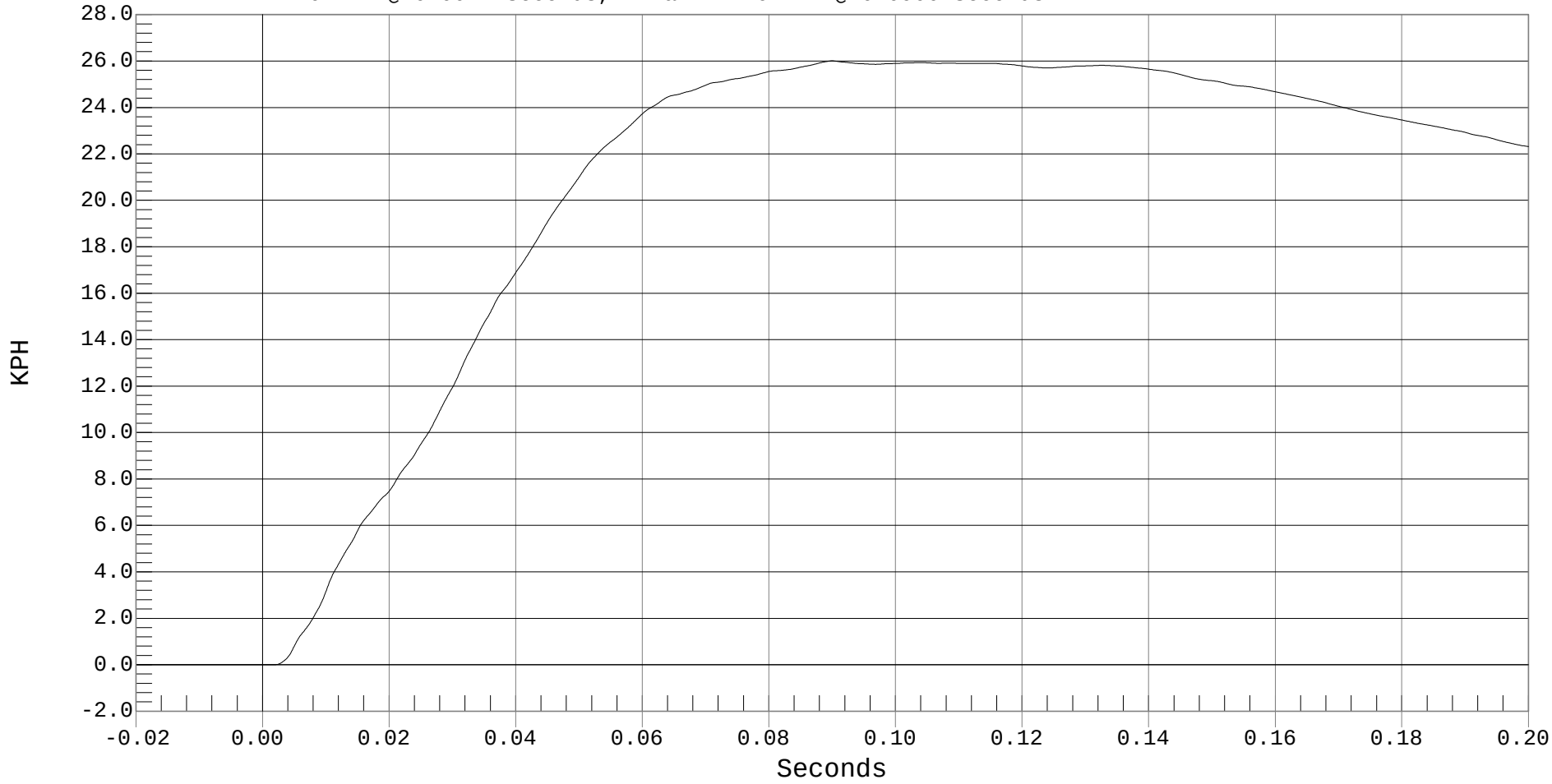
RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY, b01002AI.V31

Ymin = 0 KPH @ 0.0017 Seconds, Ymax = 26 KPH @ 0.0900 Seconds



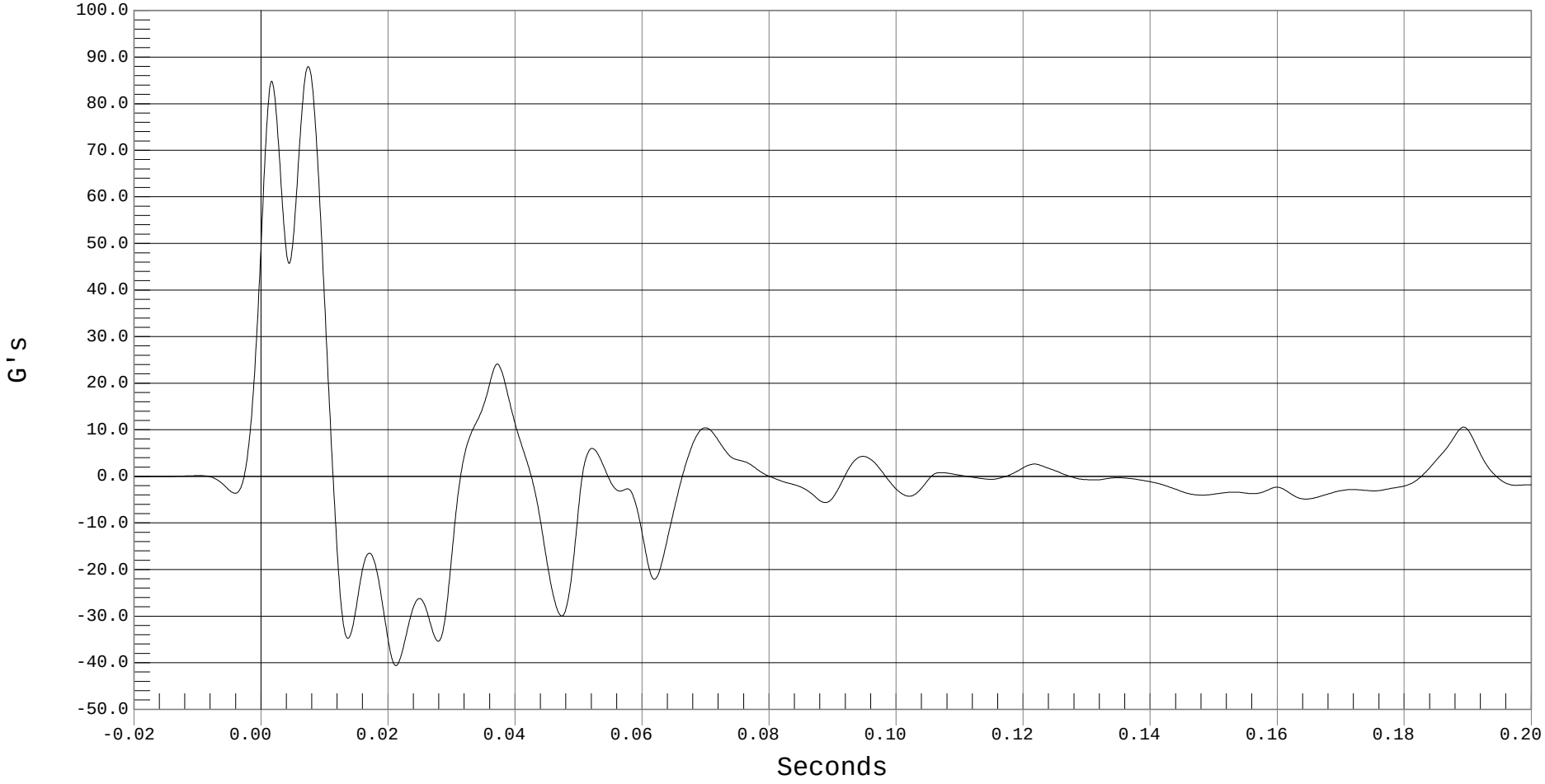
LEFT LOWER A-POST Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 LEFT LOWER A-POST Y, b01002AF.A27

Ymin = -40.62 G's @ 0.0213 Seconds, Ymax = 87.97 G's @ 0.0075 Seconds



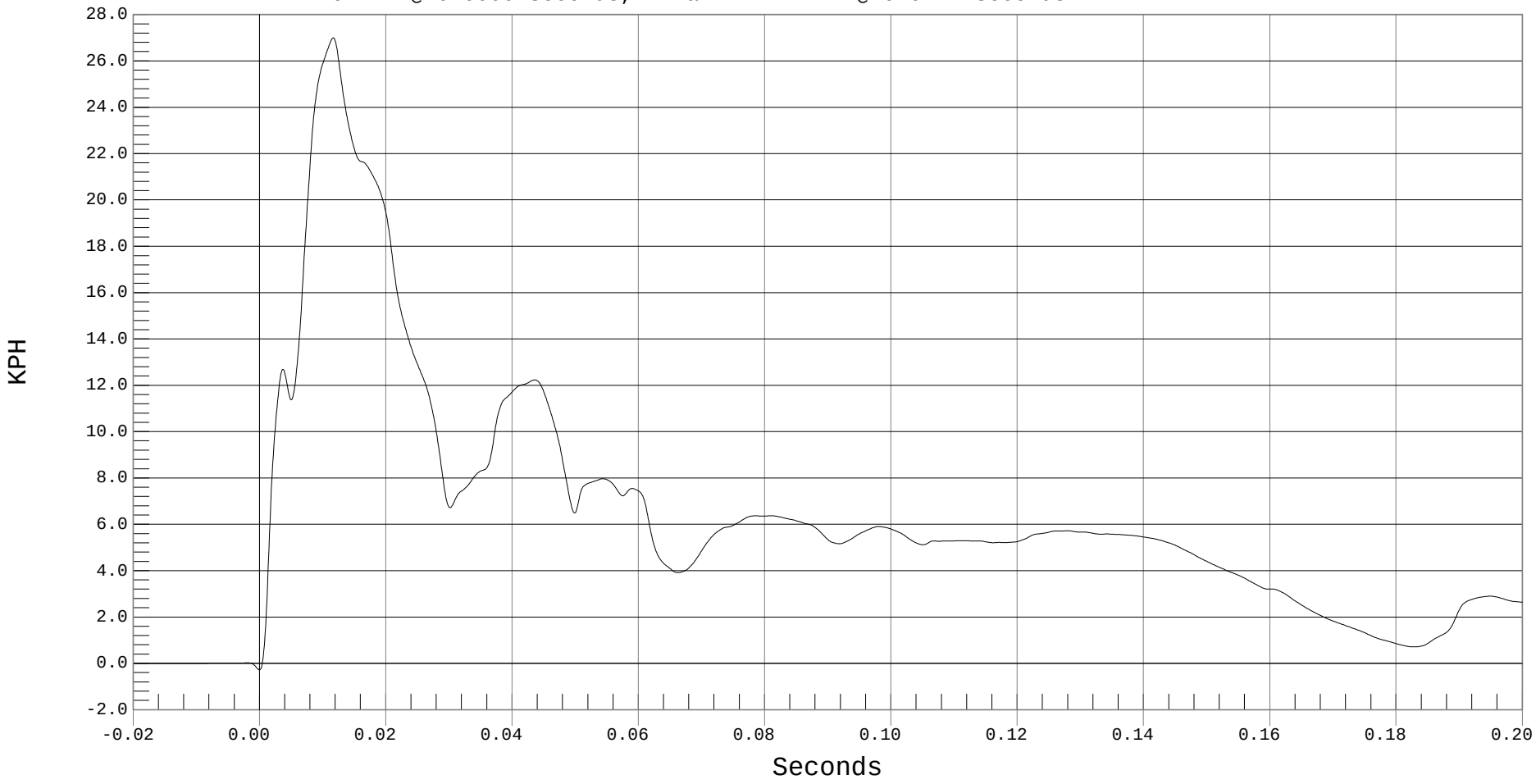
LEFT LOWER A-POST Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 LEFT LOWER A-POST Y VELOCITY, b01002AI.V27

Ymin = -.29 KPH @ 0.0000 Seconds, Ymax = 27 KPH @ 0.0117 Seconds



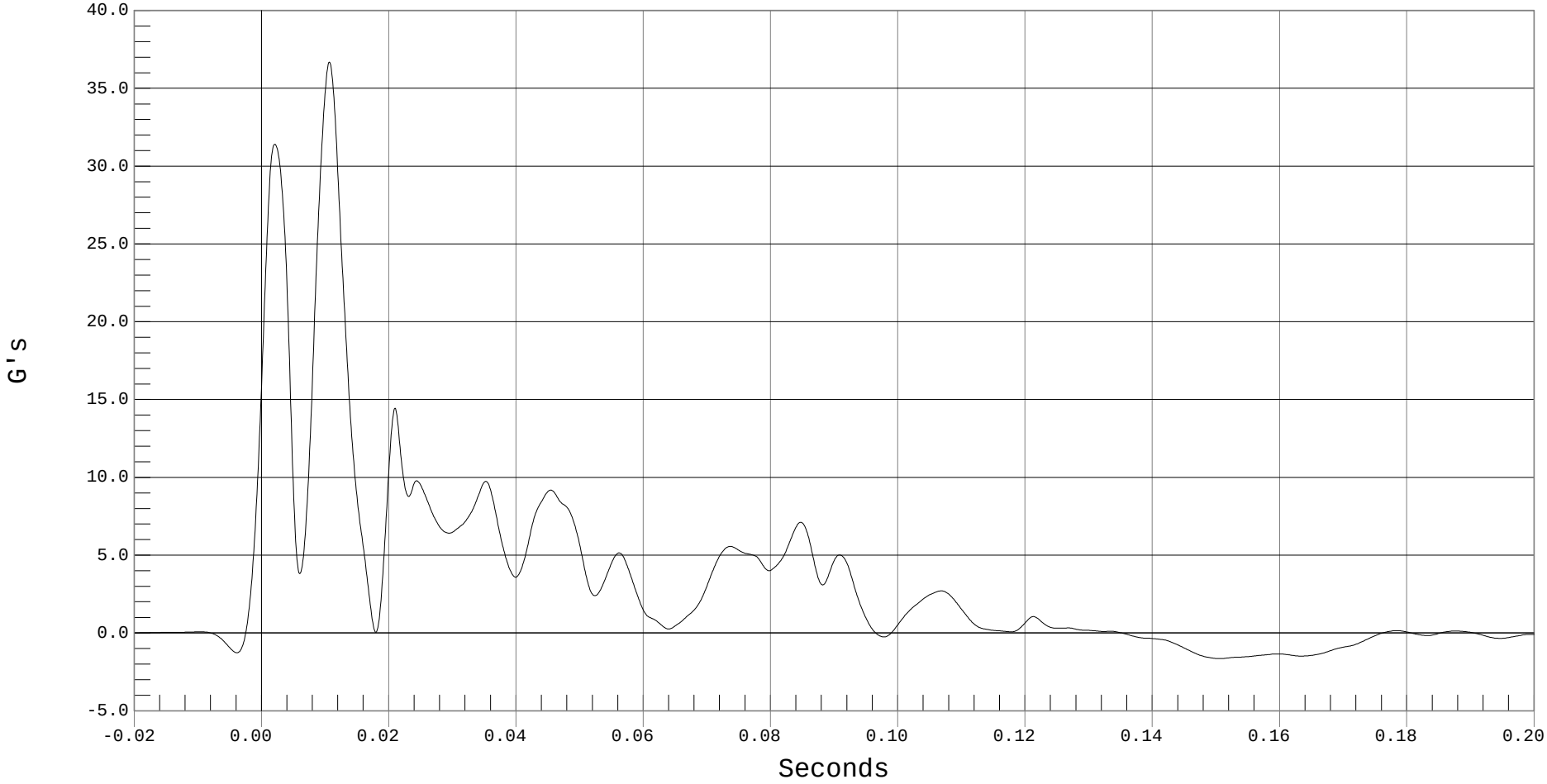
LEFT MID A-POST Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 LEFT MID A-POST Y, b01002AF.A26

Ymin = -1.65 G's @ 0.1506 Seconds, Ymax = 36.7 G's @ 0.0107 Seconds



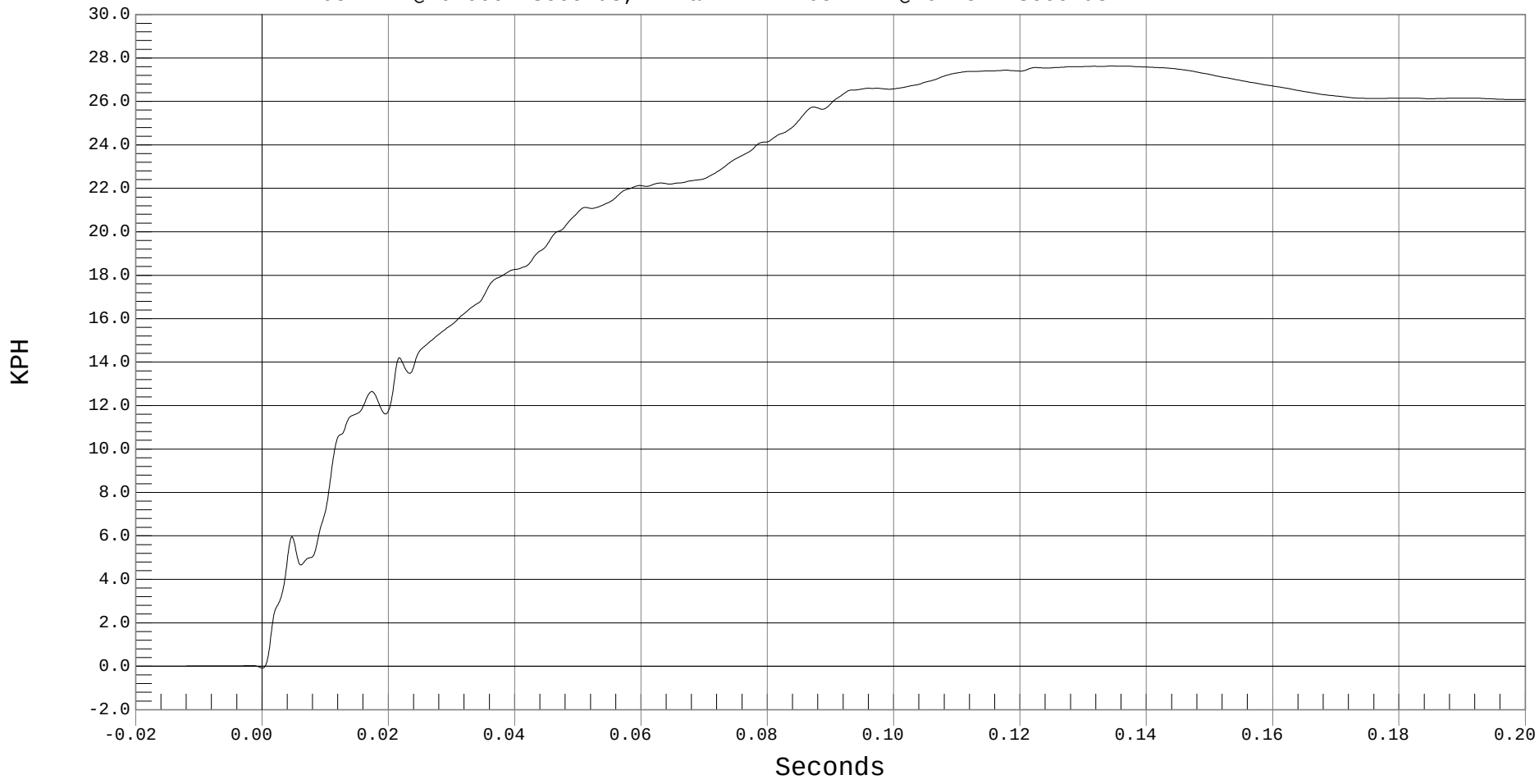
LEFT MID A-POST Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 LEFT MID A-POST Y VELOCITY, b01002AI.V26

Ymin = -.08 KPH @ 0.0001 Seconds, Ymax = 27.63 KPH @ 0.1344 Seconds



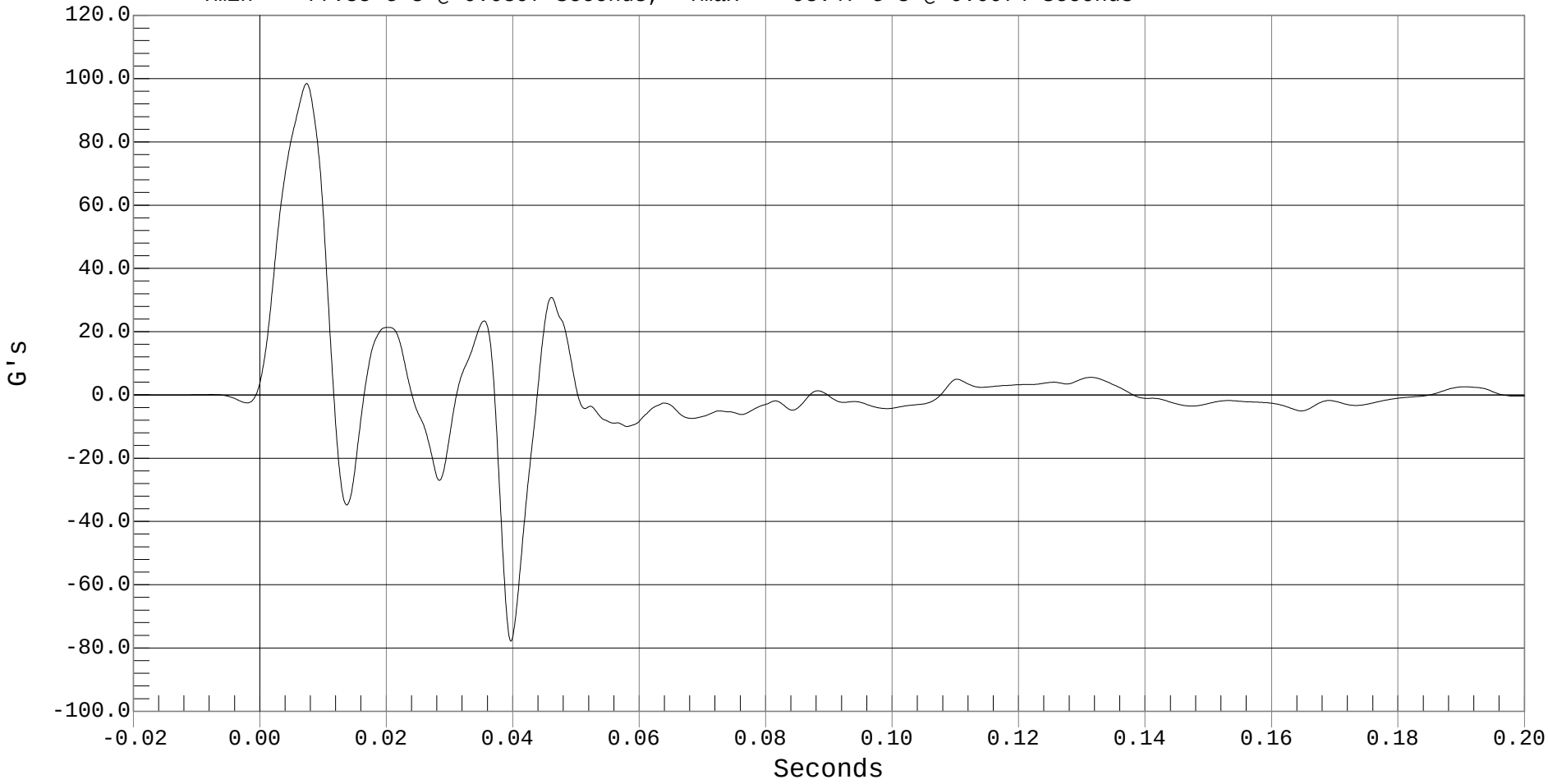
LEFT LOWER B-POST Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 LEFT LOWER B-POST, b01002AF.A29

Ymin = -77.85 G's @ 0.0397 Seconds, Ymax = 98.47 G's @ 0.0074 Seconds



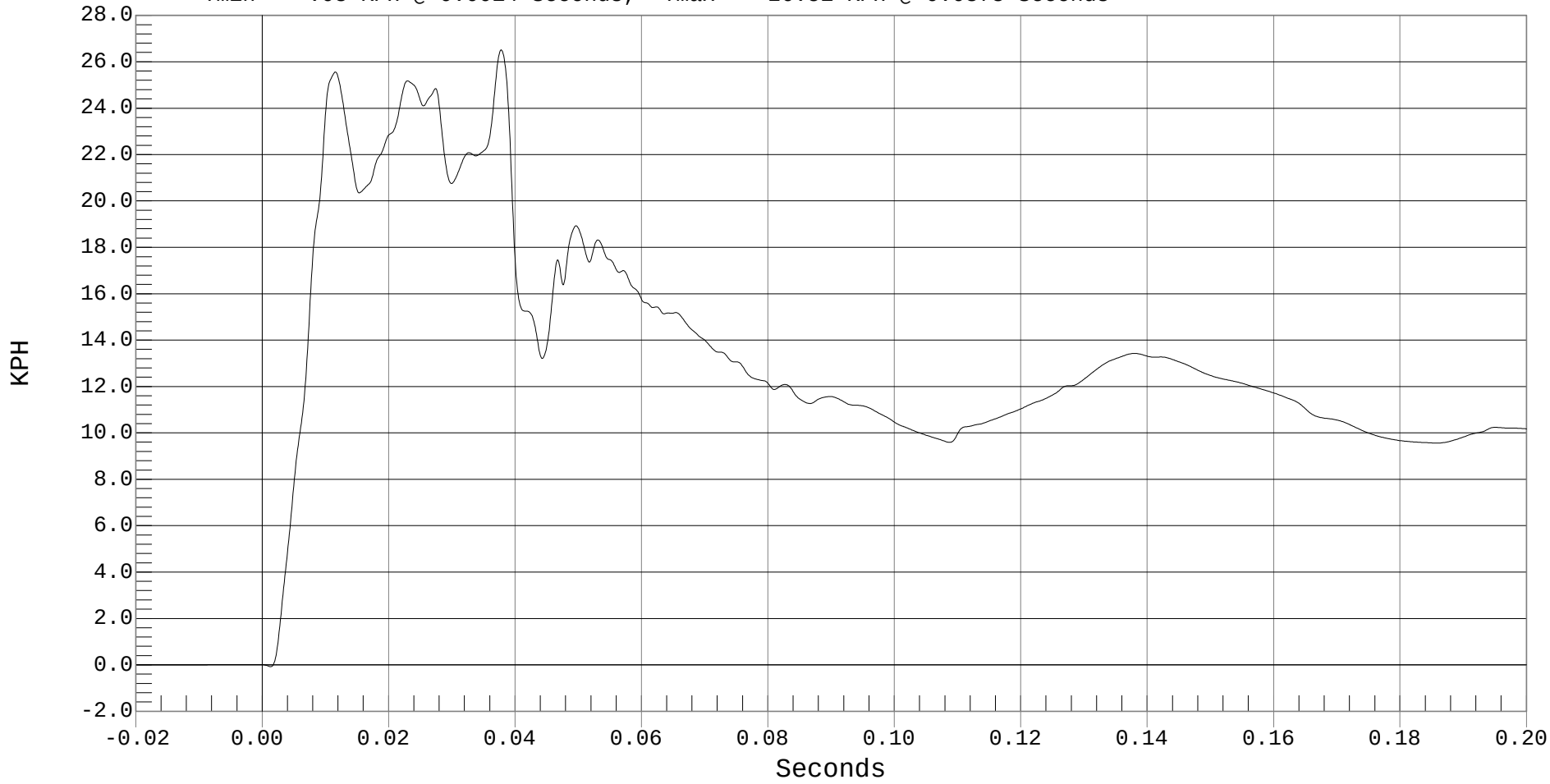
LEFT LOWER B-POST Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 LEFT LOWER B-POST Y VELOCITY, b01002AI.V29

Ymin = -.08 KPH @ 0.0014 Seconds, Ymax = 26.51 KPH @ 0.0378 Seconds



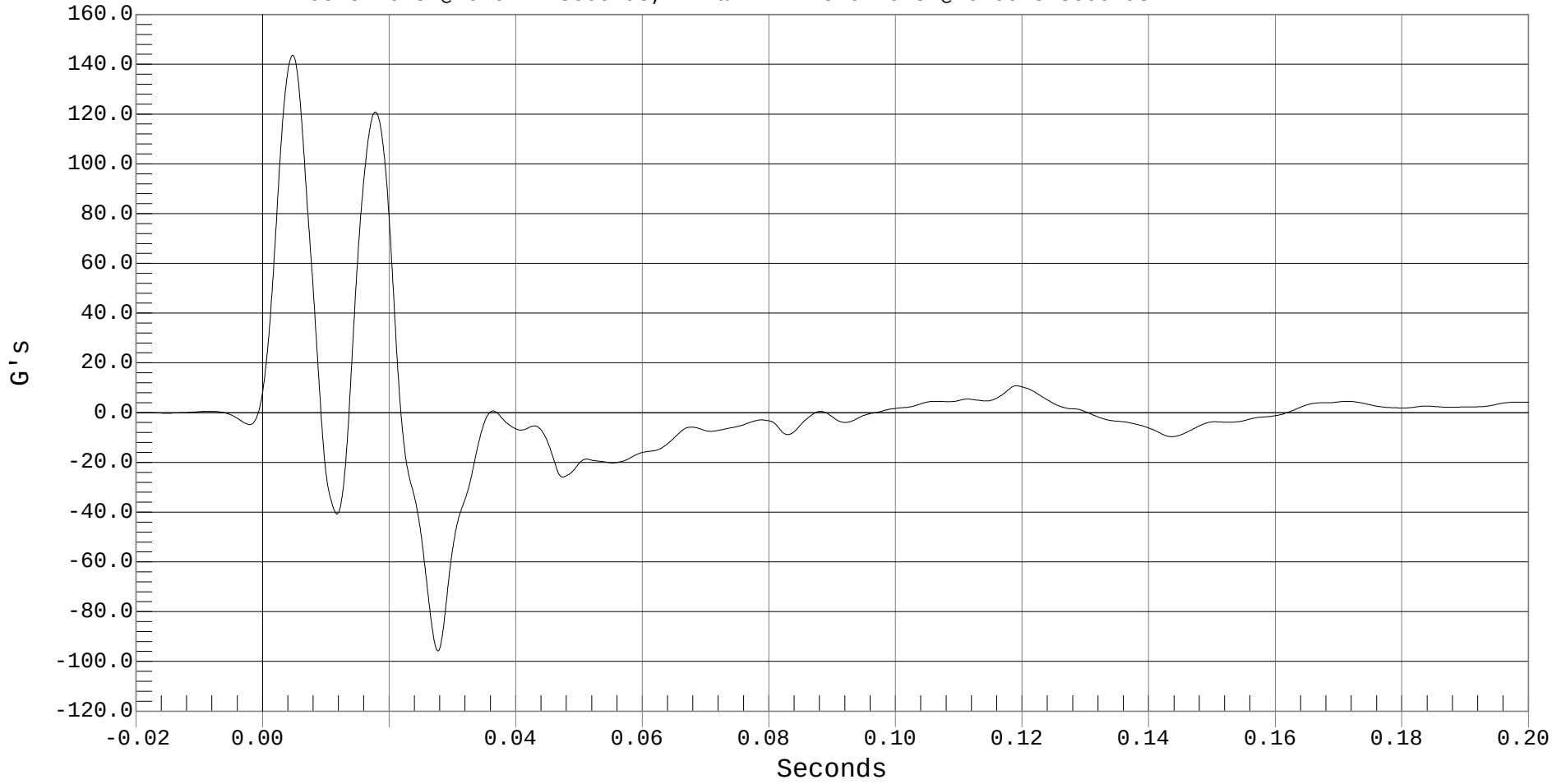
LEFT MID B-POST Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 LEFT MID B-POST, b01002AF.A28

Ymin = -95.81 G's @ 0.0277 Seconds, Ymax = 143.62 G's @ 0.0048 Seconds



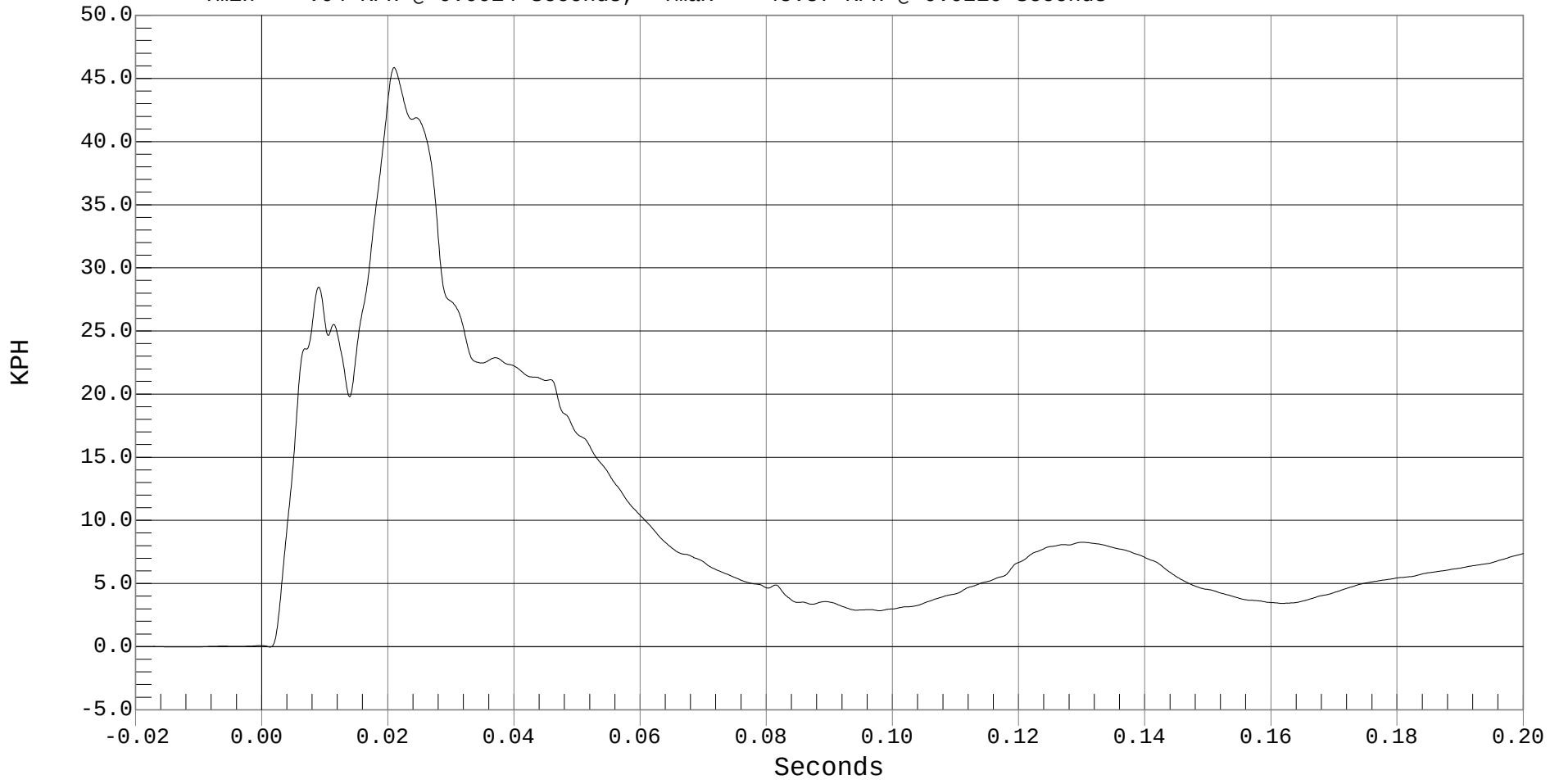
LEFT MID B-POST Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 LEFT MID B-POST Y VELOCITY, b01002AI.V28

Ymin = -.04 KPH @ 0.0014 Seconds, Ymax = 45.87 KPH @ 0.0210 Seconds



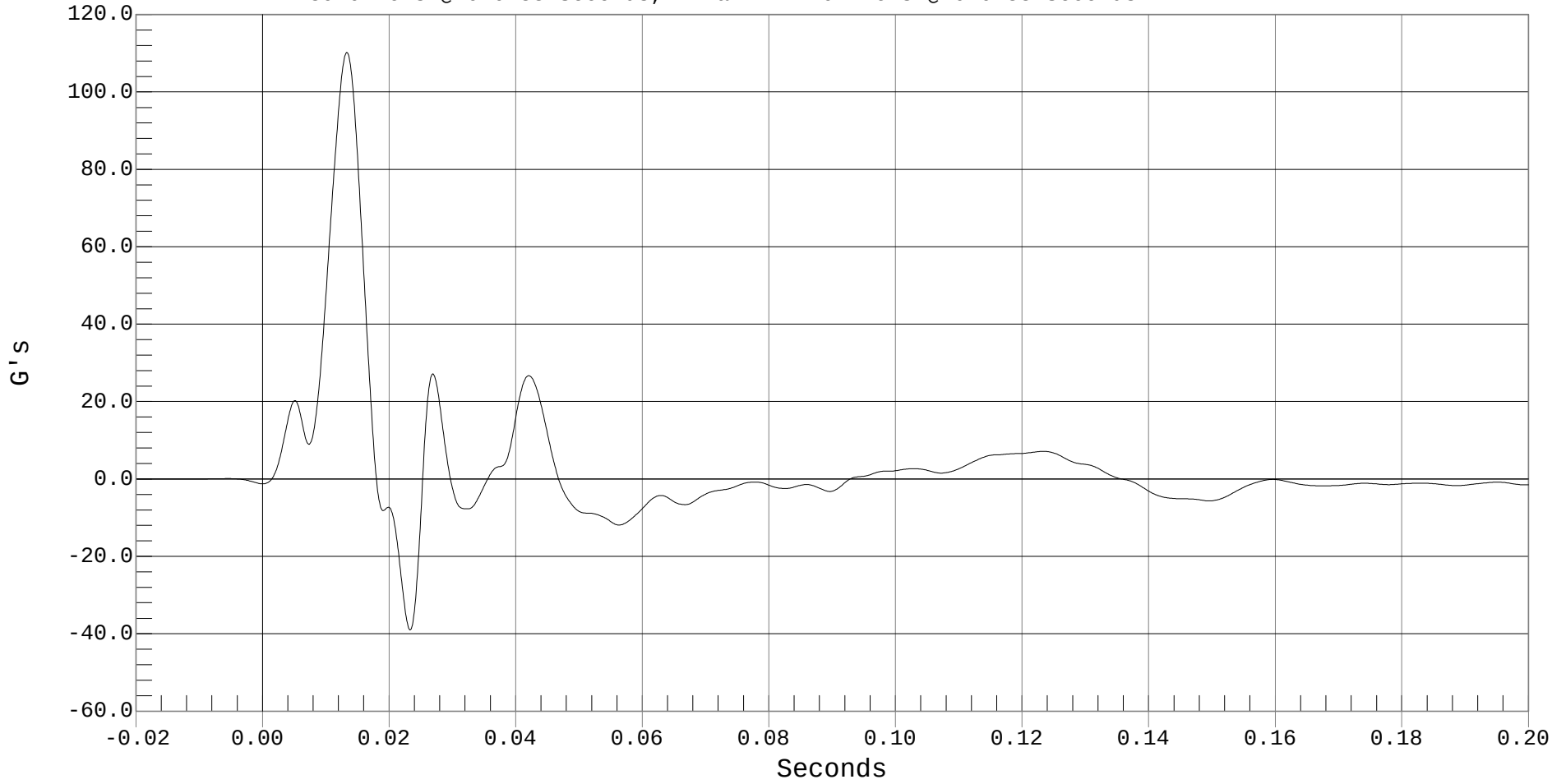
LEFT DRIVER SEAT TRACK Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 DRIVER SEAT TRACK Y, b01002AF.A30

Ymin = -39.04 G's @ 0.0233 Seconds, Ymax = 110.2 G's @ 0.0133 Seconds



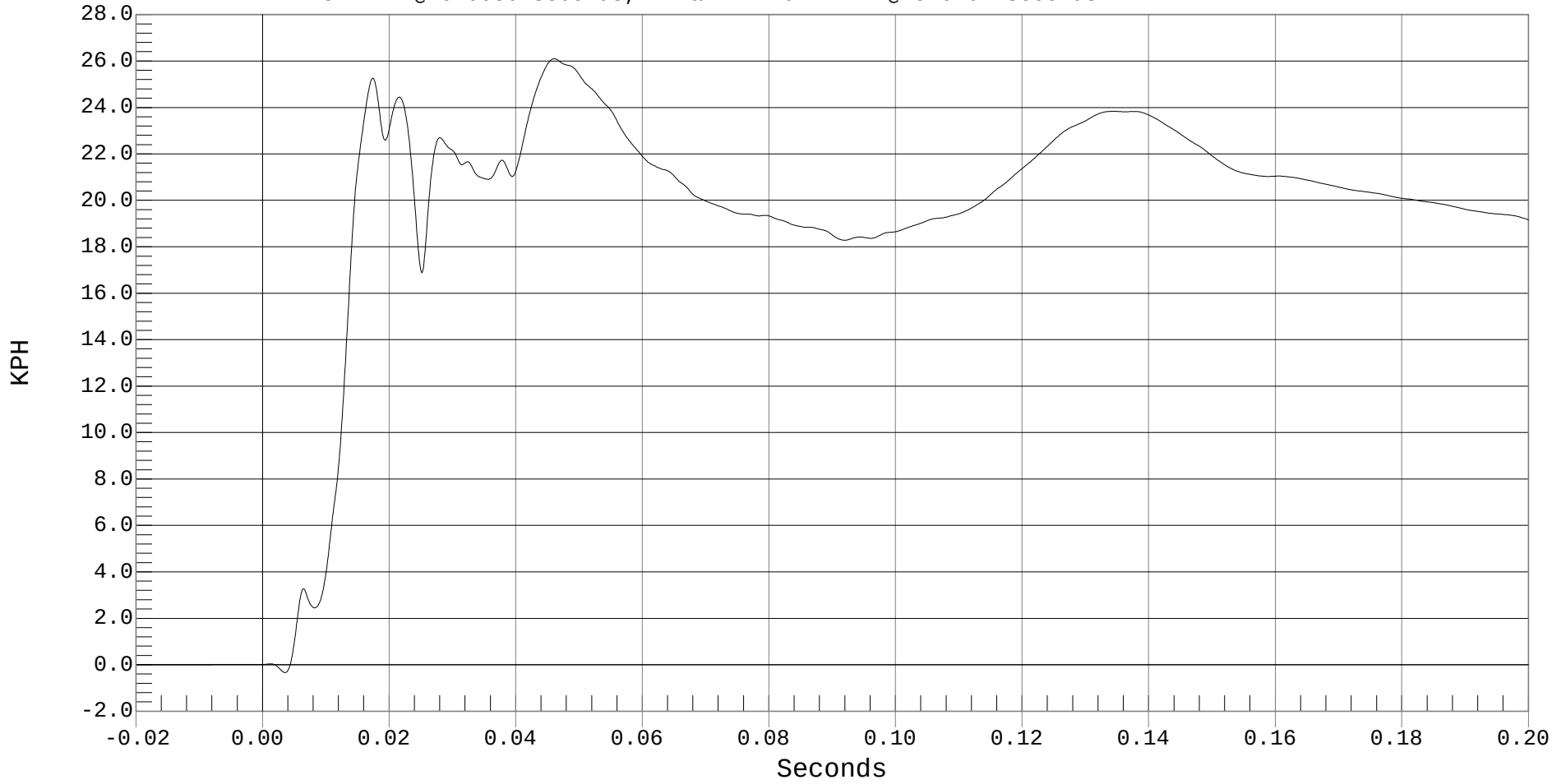
LEFT DRIVER SEAT TRACK Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER SEAT TRACK Y VELOCITY, b01002AI.V30

Ymin = -.34 KPH @ 0.0036 Seconds, Ymax = 26.1 KPH @ 0.0461 Seconds



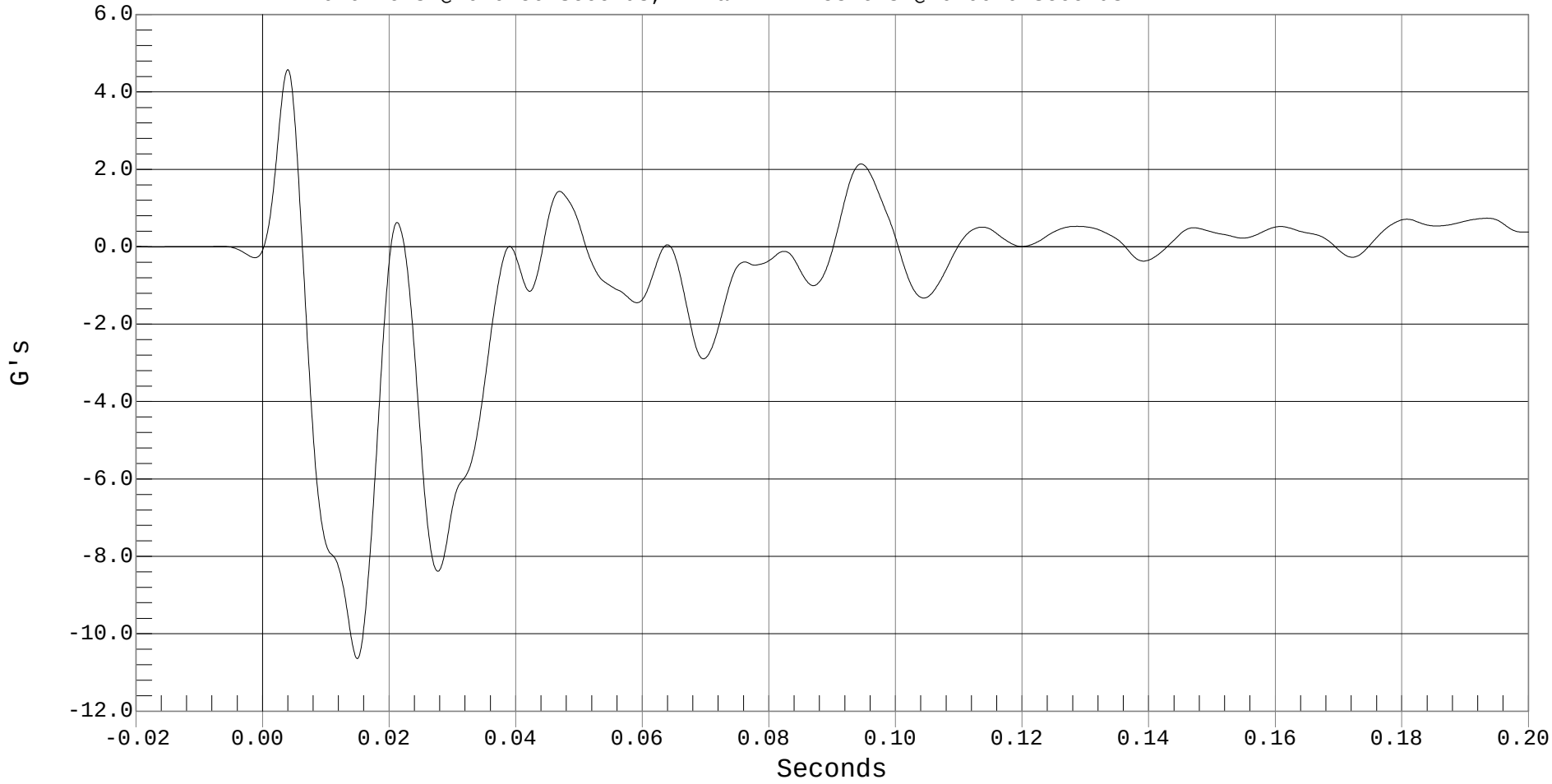
VEHICLE CG X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 VEHICLE CG X, b01002AF.A33

Ymin = -10.64 G's @ 0.0150 Seconds, Ymax = 4.58 G's @ 0.0040 Seconds



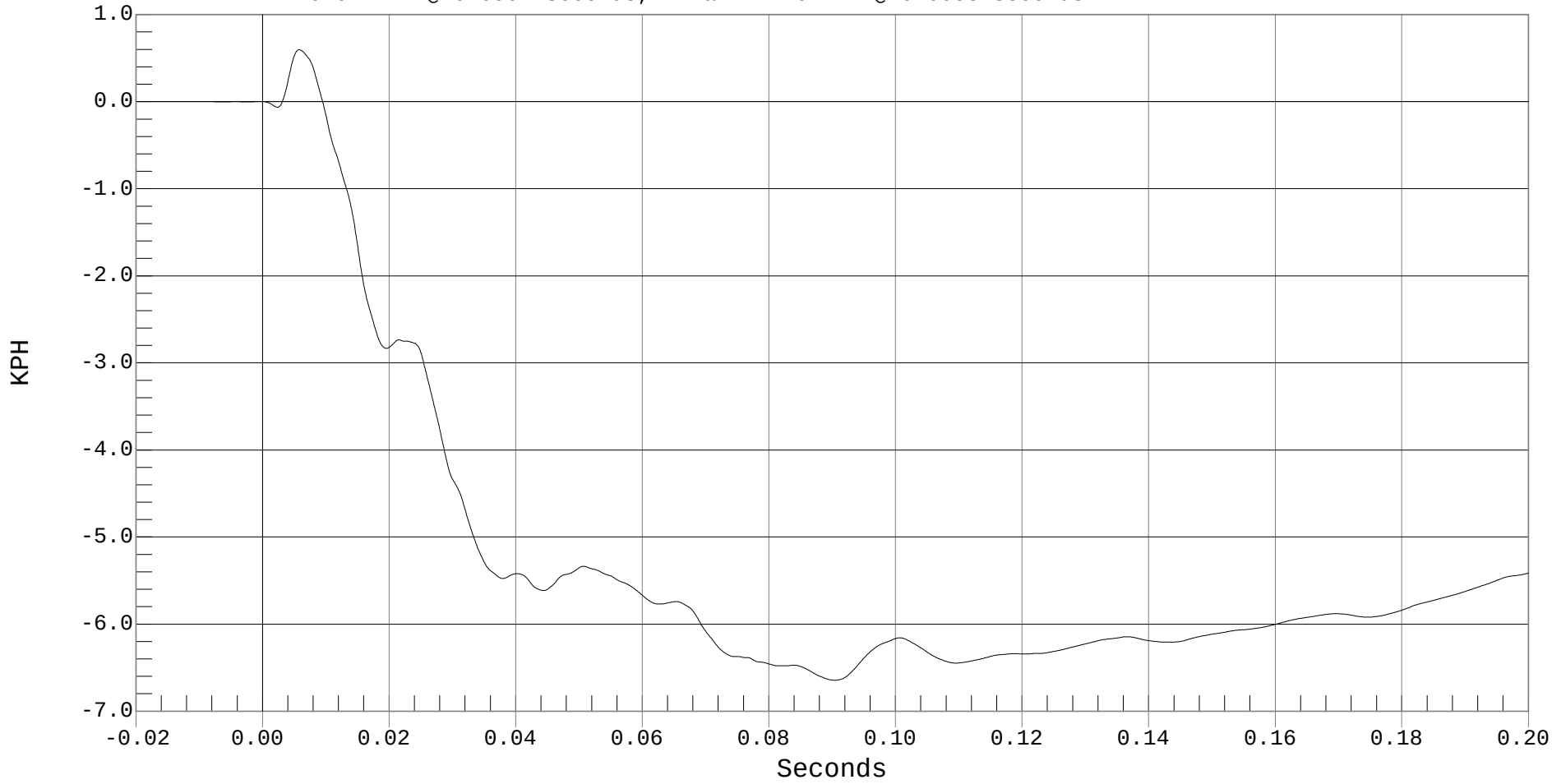
VEHICLE CG X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 VEHICLE CG X VELOCITY, b01002AI.V33

Ymin = -6.64 KPH @ 0.0904 Seconds, Ymax = .6 KPH @ 0.0058 Seconds



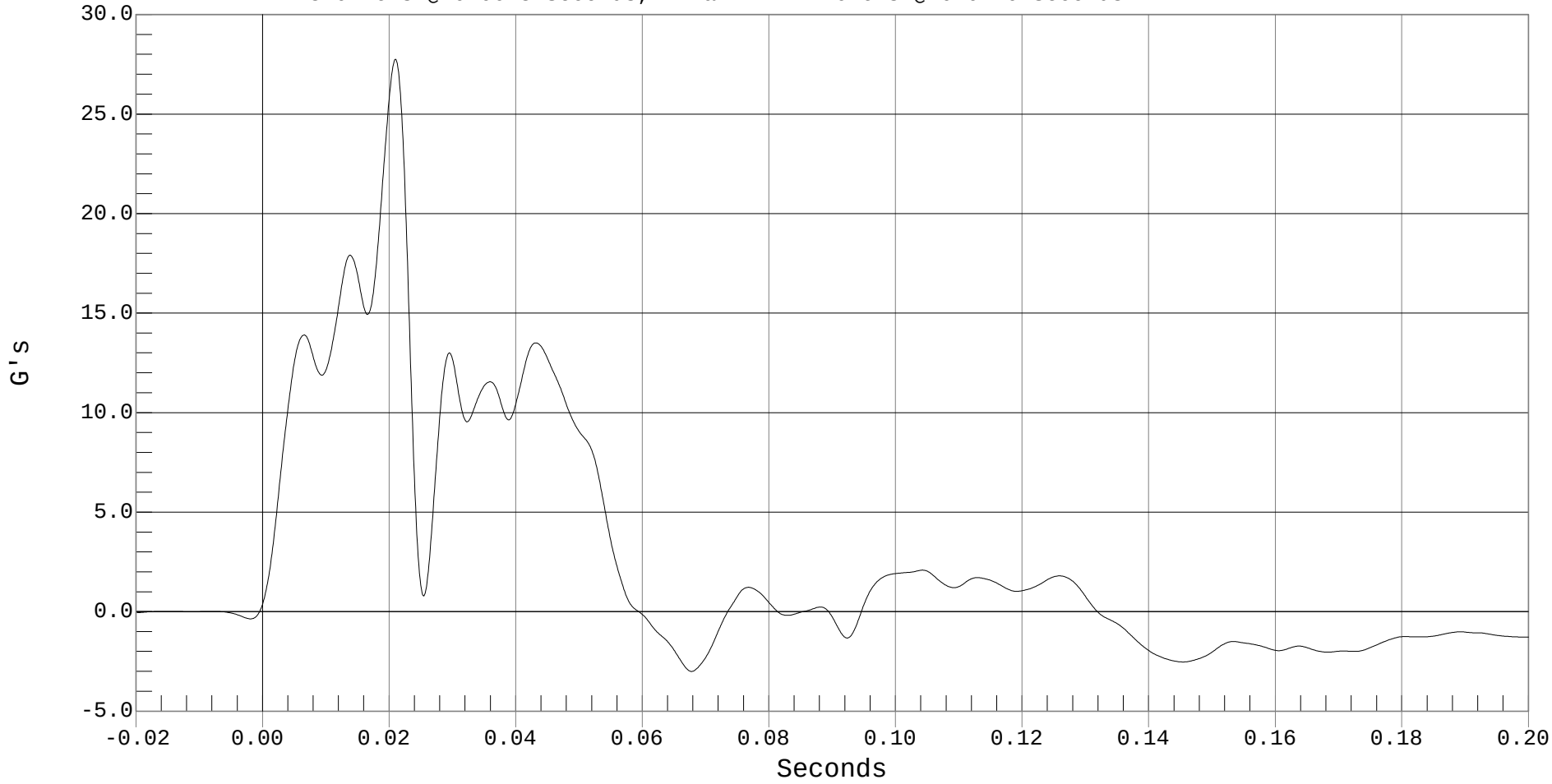
VEHICLE CG Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 VEHICLE CG Y, b01002AF.A34

Ymin = -3.01 G's @ 0.0678 Seconds, Ymax = 27.76 G's @ 0.0210 Seconds



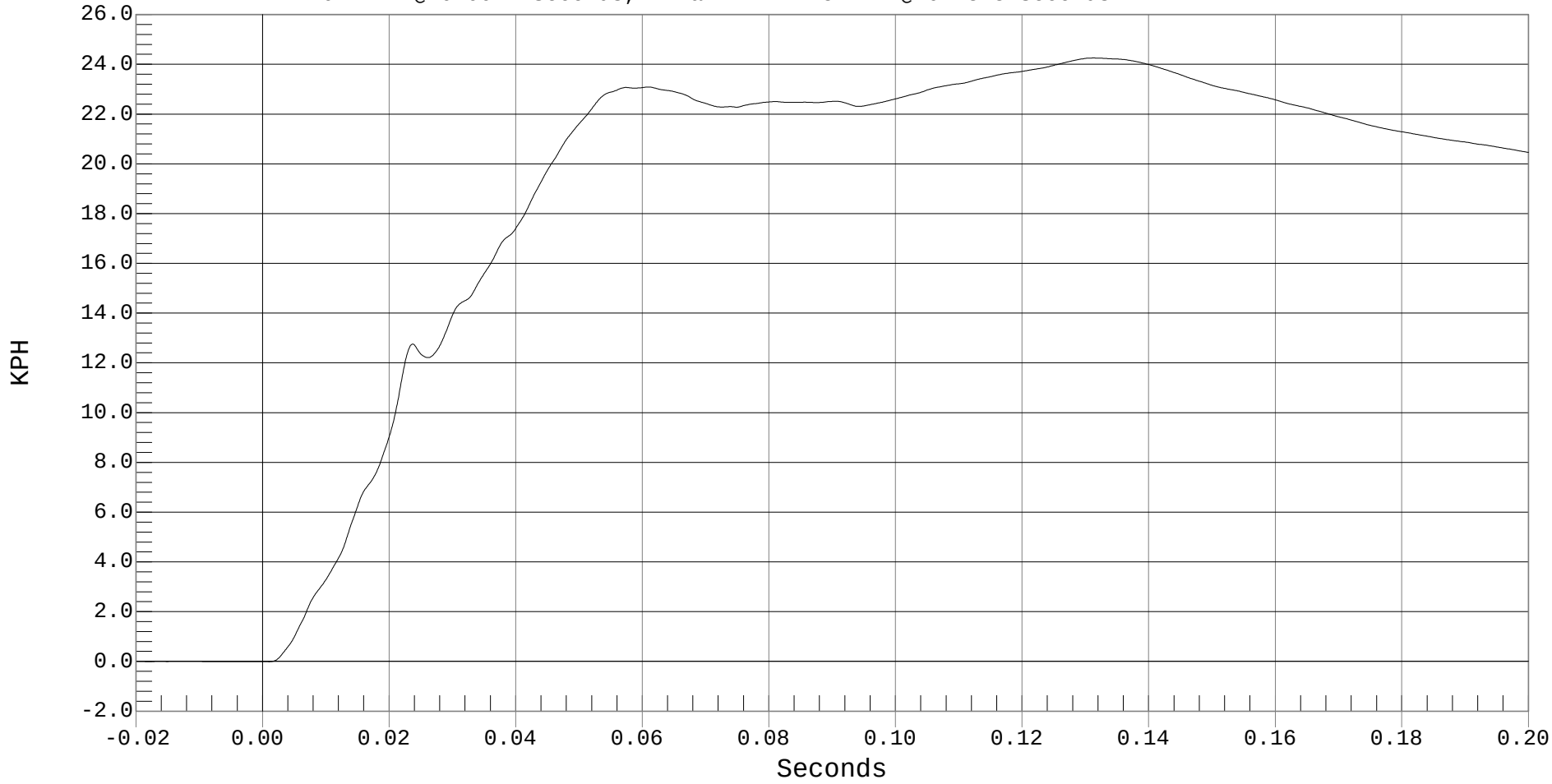
VEHICLE CG Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 VEHICLE CG Y VELOCITY, b01002AI.V34

Ymin = -.01 KPH @ 0.0011 Seconds, Ymax = 24.25 KPH @ 0.1313 Seconds



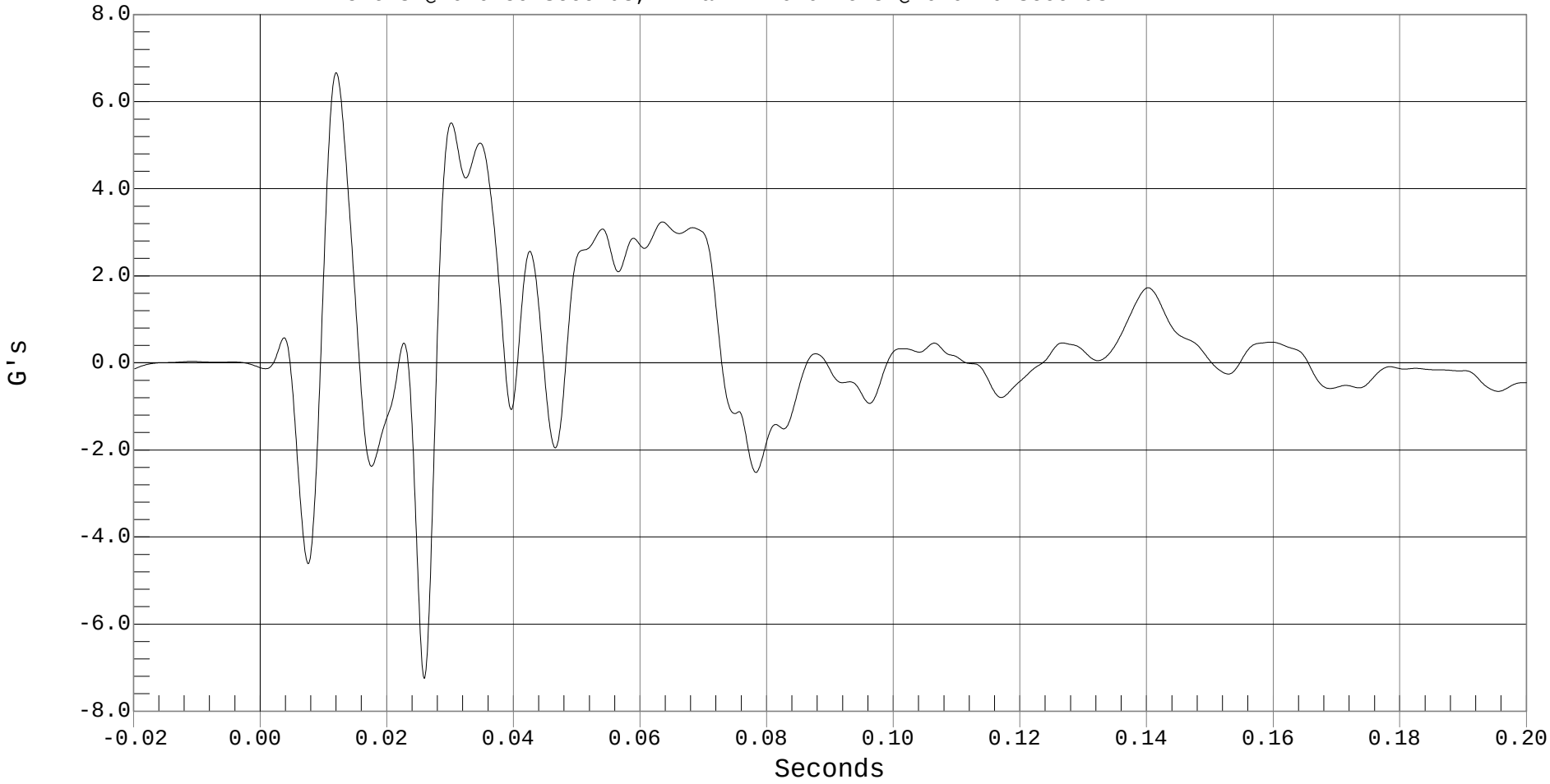
VEHICLE CG Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 VEHICLE CG Z, b01002AF.A35

Ymin = -7.25 G's @ 0.0259 Seconds, Ymax = 6.67 G's @ 0.0120 Seconds



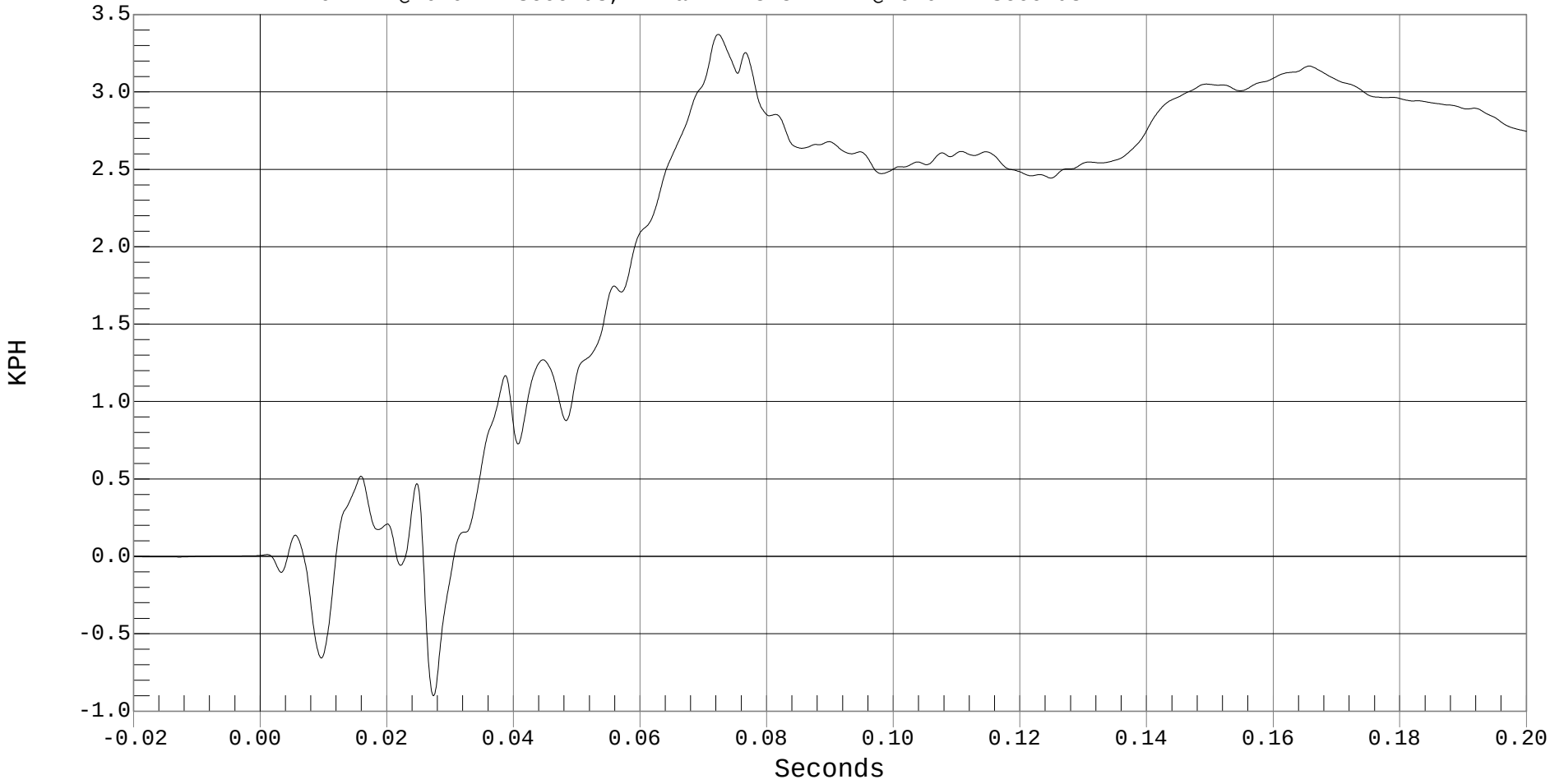
VEHICLE CG Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 VEHICLE CG Z VELOCITY, b01002AI.V35

Ymin = -.9 KPH @ 0.0274 Seconds, Ymax = 3.37 KPH @ 0.0724 Seconds



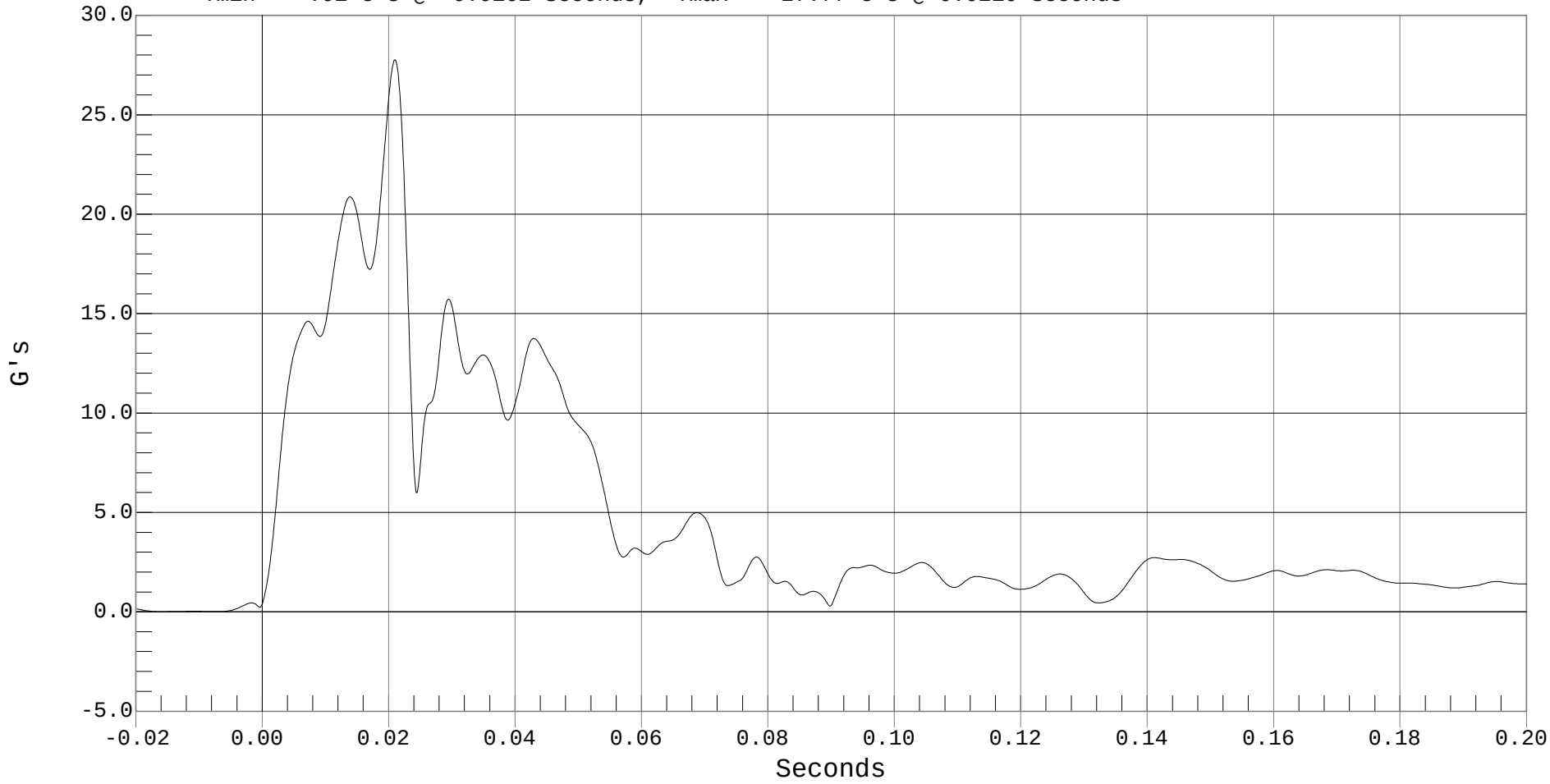
VEHICLE CG RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 VEHICLE CG RESULTANT ACCELERATION, b01002AV.A33

Ymin = .01 G's @ -0.0162 Seconds, Ymax = 27.77 G's @ 0.0210 Seconds



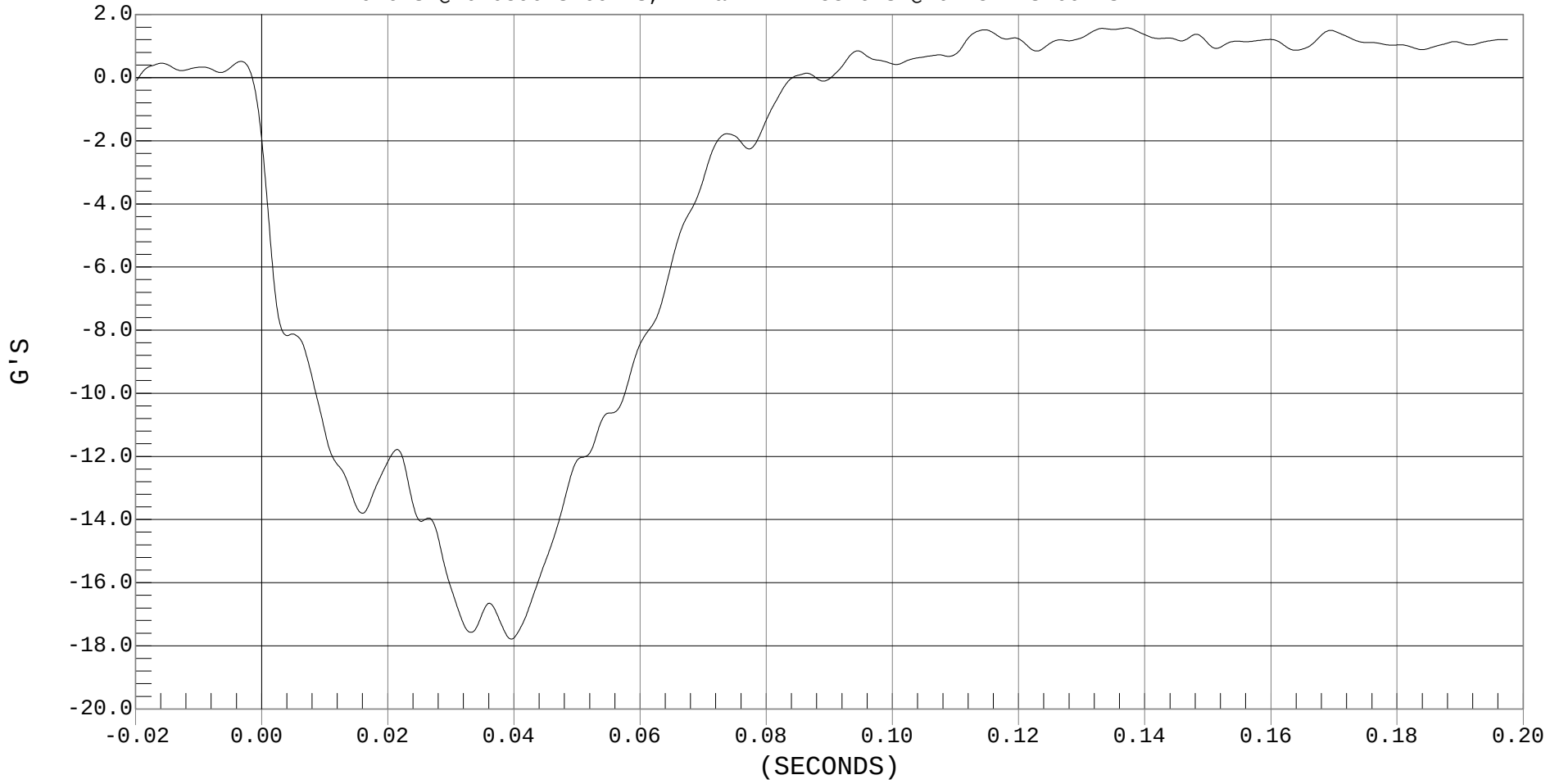
MOVING BARRIER CG X ACCELERATION

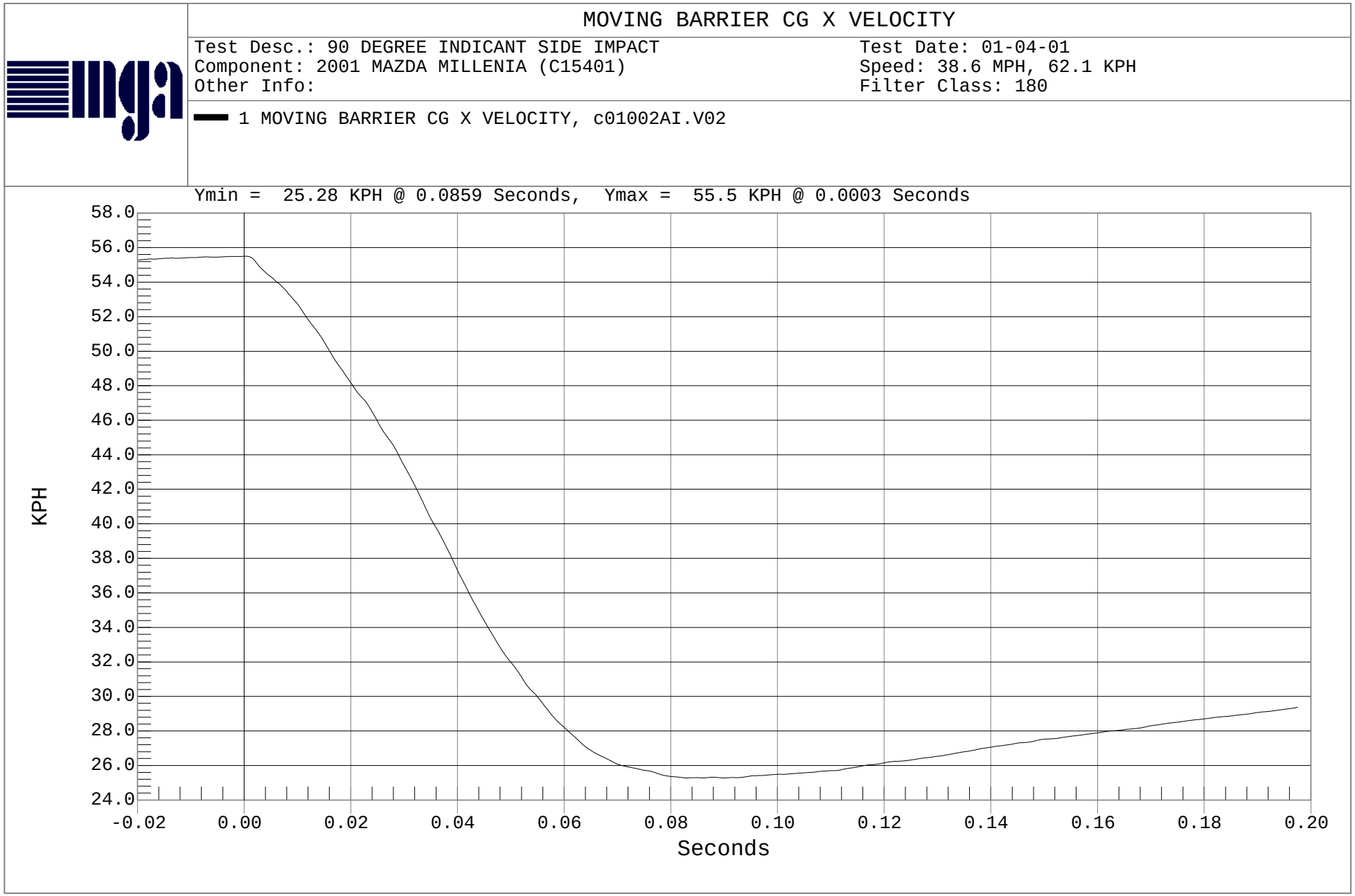
Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 CART CG X, c01002AF.A02

Ymin = -17.79 G'S @ 0.0396 SECONDS, Ymax = 1.58 G'S @ 0.1372 SECONDS




MOVING BARRIER CG X VELOCITY
Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:
Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180
1 MOVING BARRIER CG X VELOCITY, c01002AI.V02
Ymin = 25.28 KPH @ 0.0859 Seconds, Ymax = 55.5 KPH @ 0.0003 Seconds
KPH
58.0
56.0
54.0
52.0
50.0
48.0
46.0
44.0
42.0
40.0
38.0
36.0
34.0
32.0
30.0
28.0
26.0
24.0
-0.02
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
Seconds

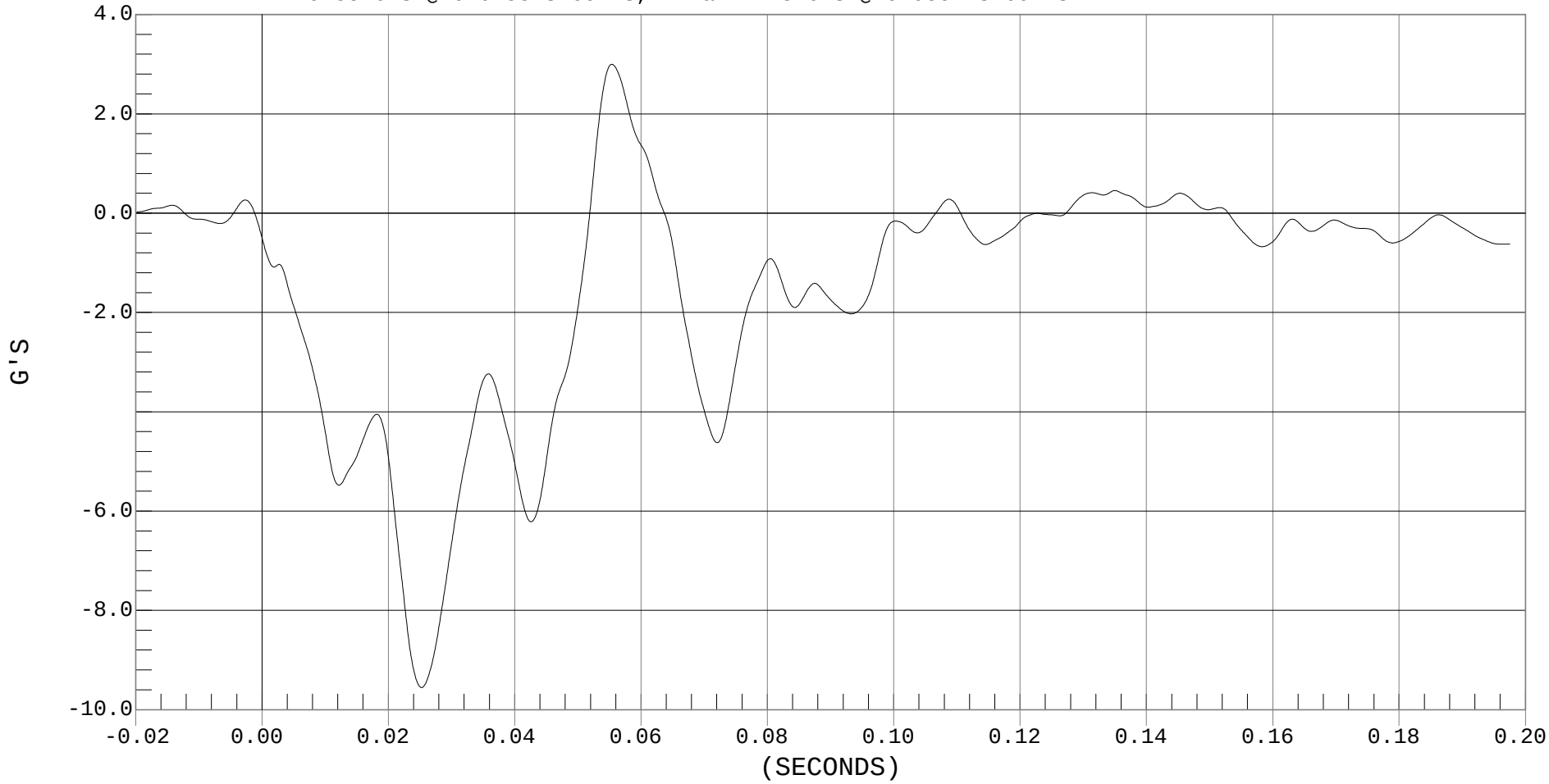
MOVING BARRIER CG Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 CART CG Y, c01002AF.A03

Ymin = -9.55 G'S @ 0.0253 SECONDS, Ymax = 3 G'S @ 0.0554 SECONDS



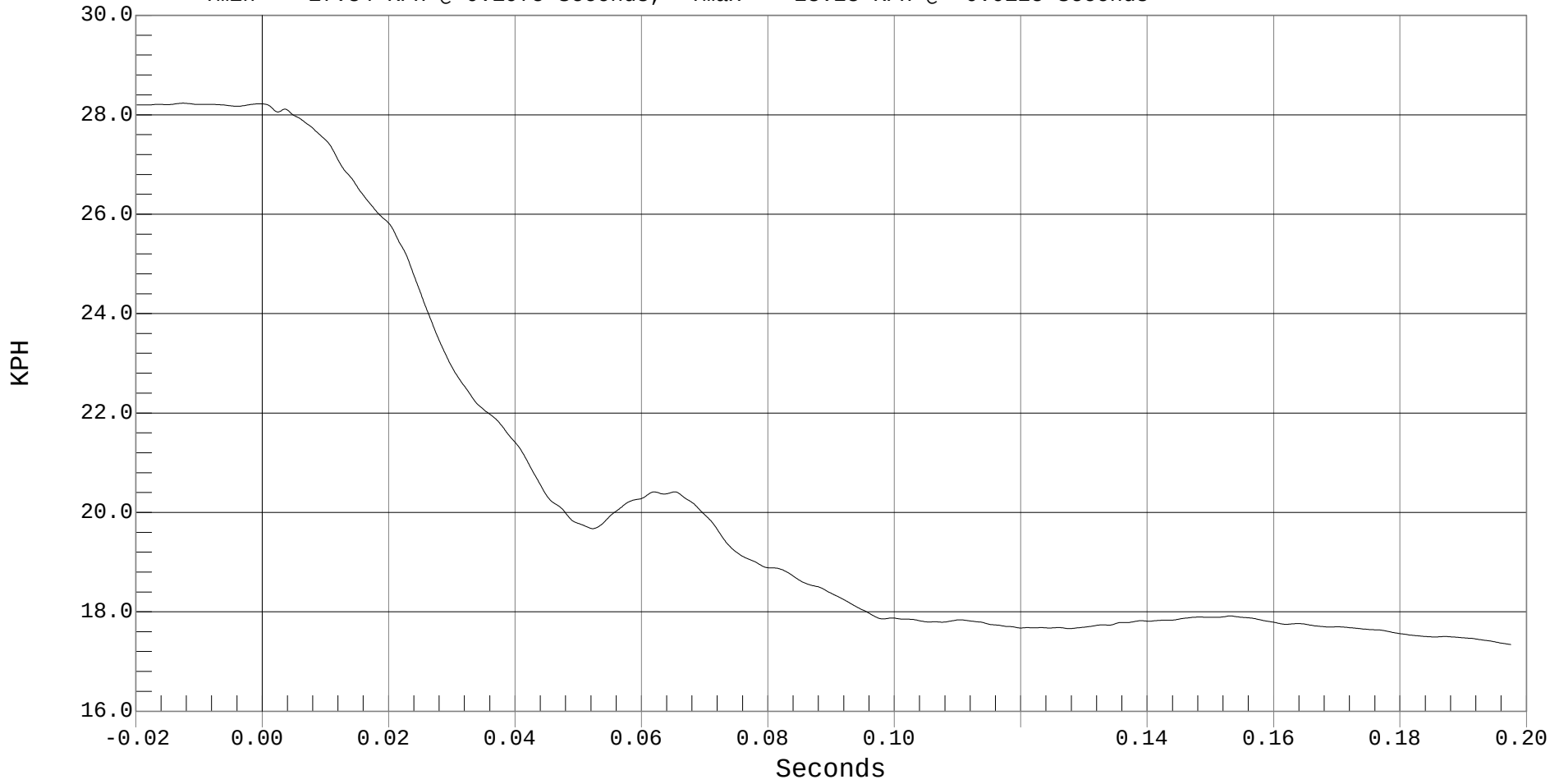
MOVING BARRIER CG Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 MOVING BARRIER CG Y VELOCITY, c01002AI.V03

Ymin = 17.34 KPH @ 0.1975 Seconds, Ymax = 28.23 KPH @ -0.0125 Seconds



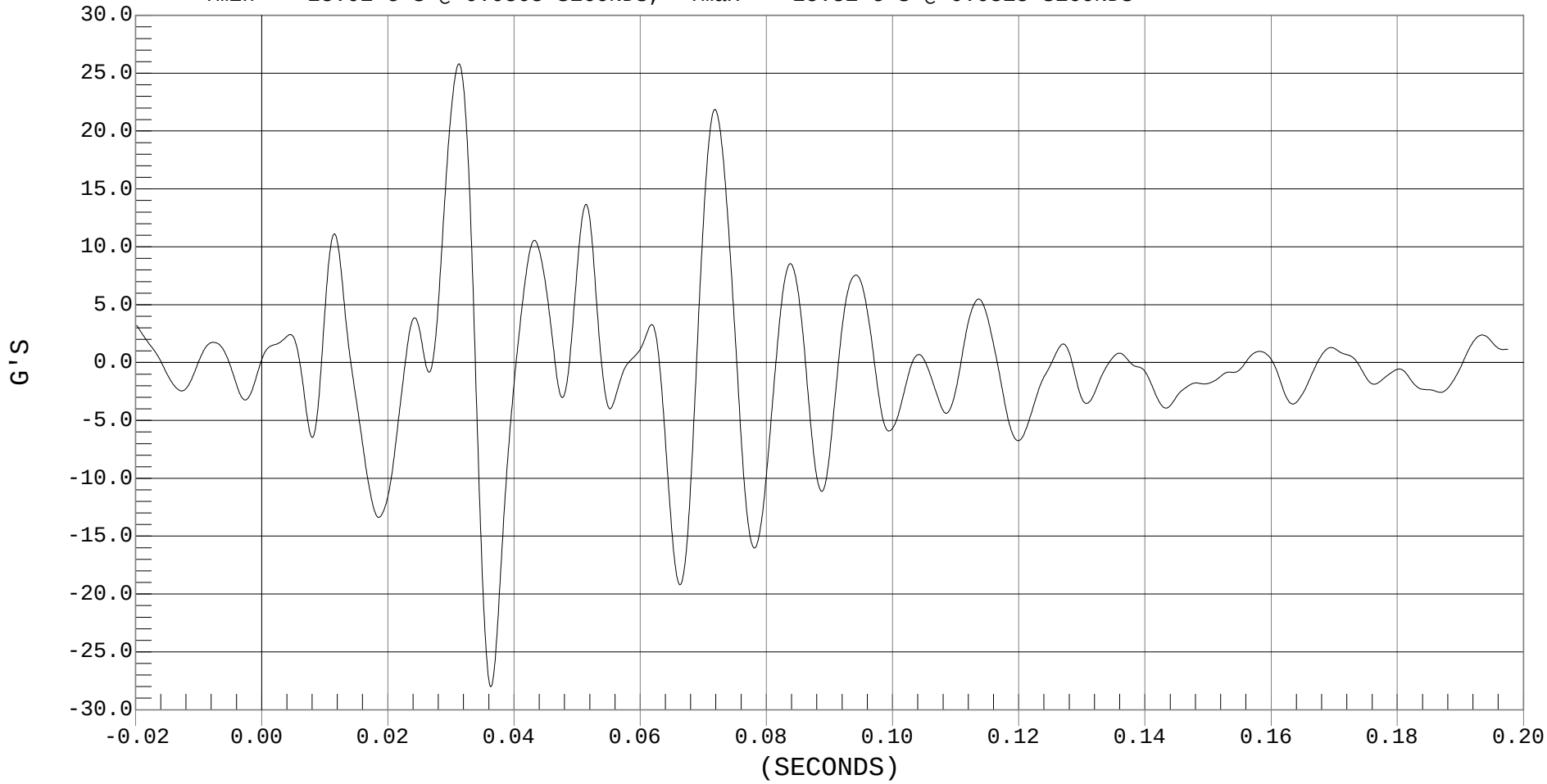
MOVING BARRIER CG Z ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 CART CG Z, c01002AF.A04

Ymin = -28.01 G'S @ 0.0363 SECONDS, Ymax = 25.81 G'S @ 0.0313 SECONDS



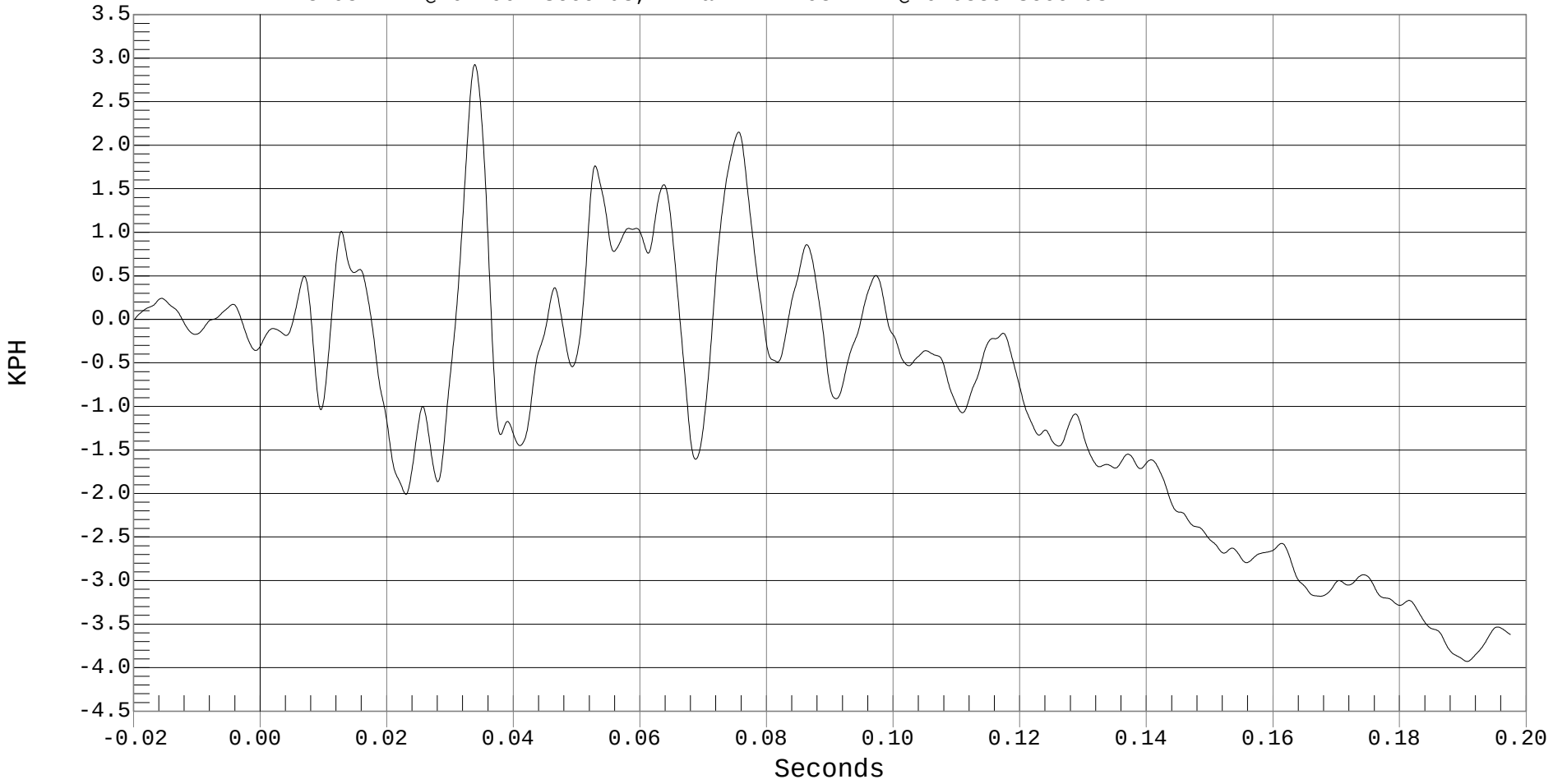
MOVING BARRIER CG Z VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 MOVING BARRIER CG Z VELOCITY, c01002AI.V04

Ymin = -3.93 KPH @ 0.1907 Seconds, Ymax = 2.93 KPH @ 0.0339 Seconds



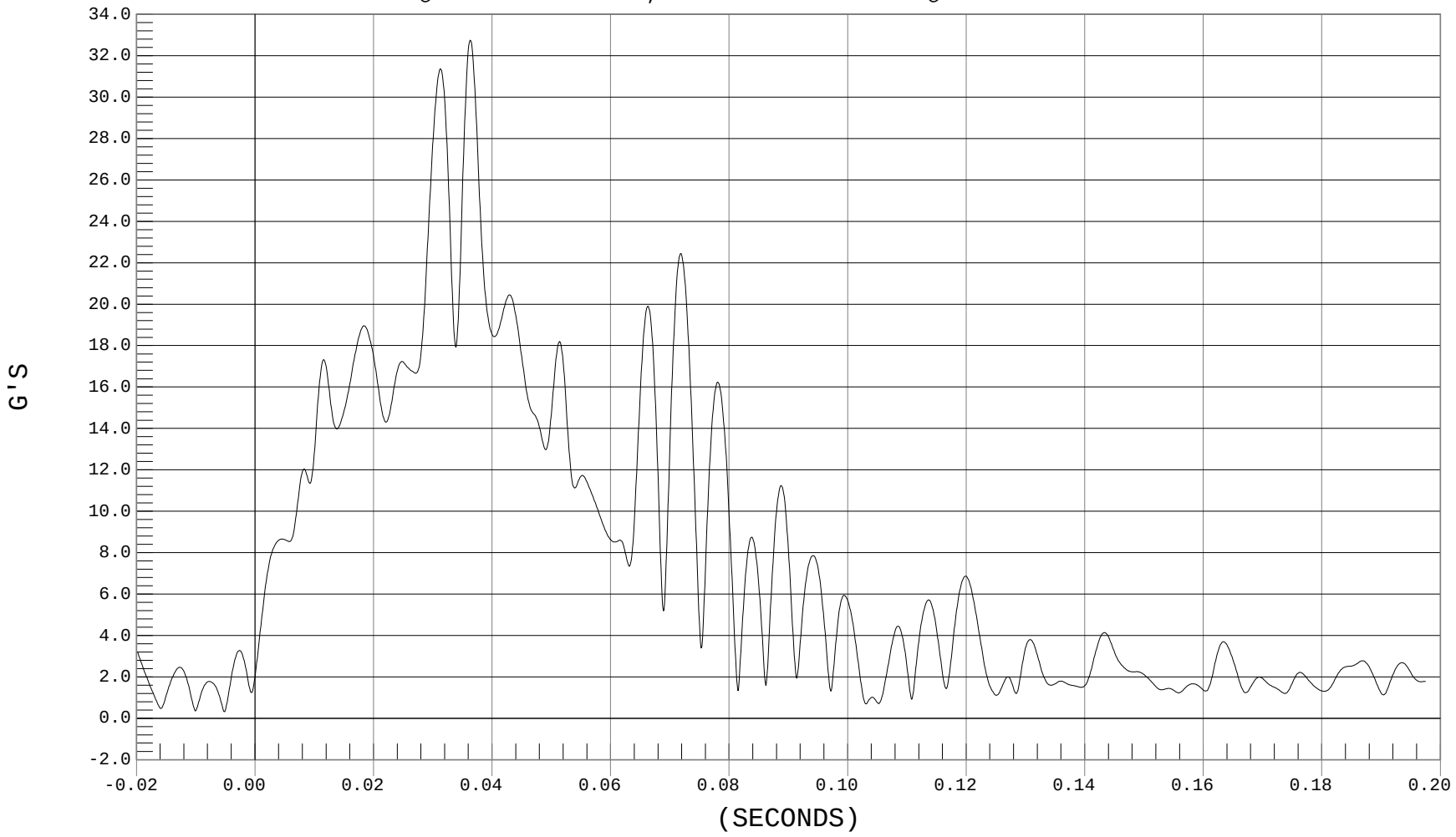
MOVING BARRIER CG RESULTANT ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 MOVING BARRIER CG RESULTANT ACCELERATION, b01002AV.A02

Ymin = .31 G'S @ -0.0052 SECONDS, Ymax = 32.75 G'S @ 0.0363 SECONDS



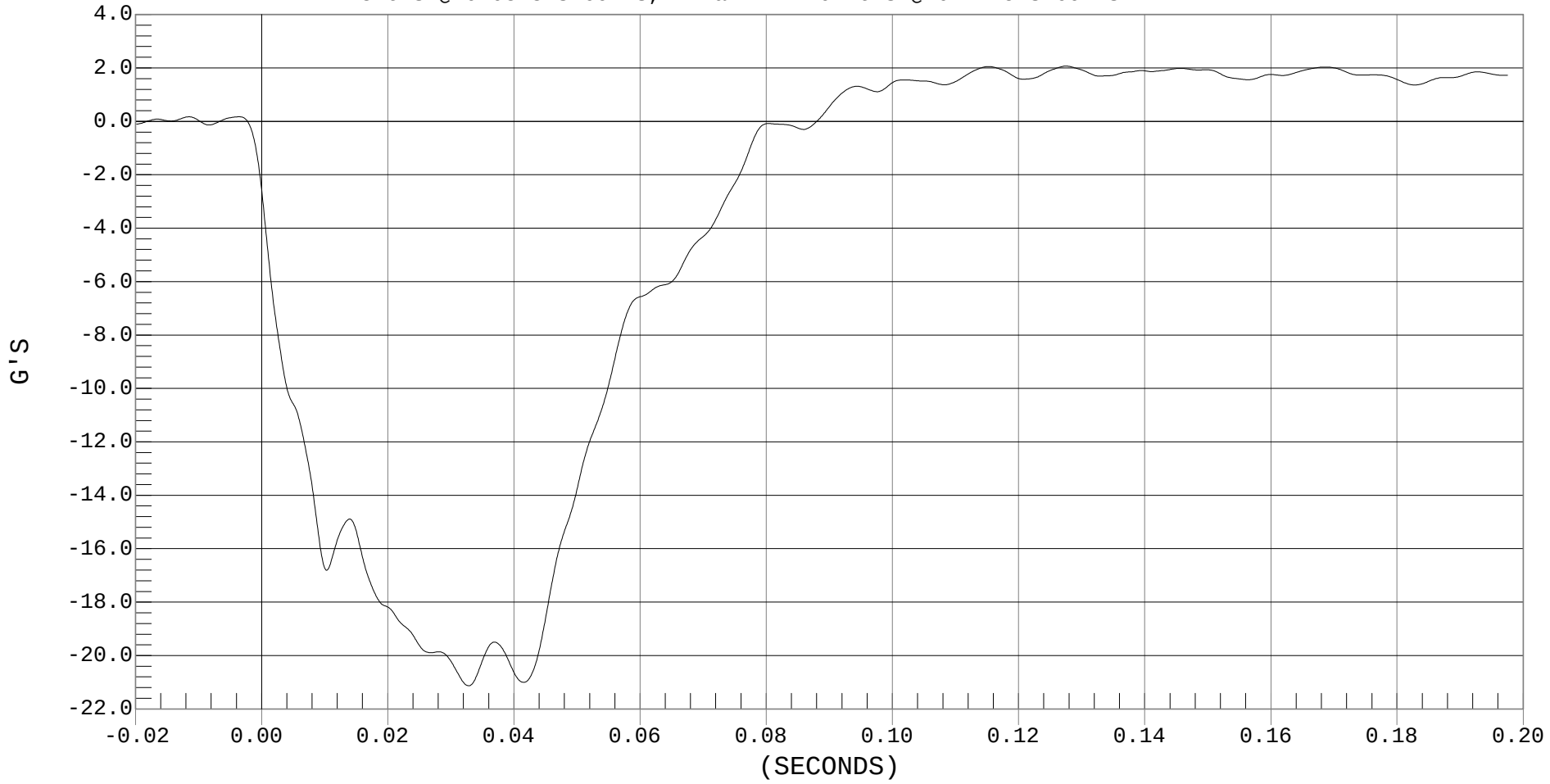
MOVING BARRIER REAR AXLE X ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 CART REAR X, c01002AF.A05

Ymin = -21.13 G'S @ 0.0328 SECONDS, Ymax = 2.07 G'S @ 0.1275 SECONDS



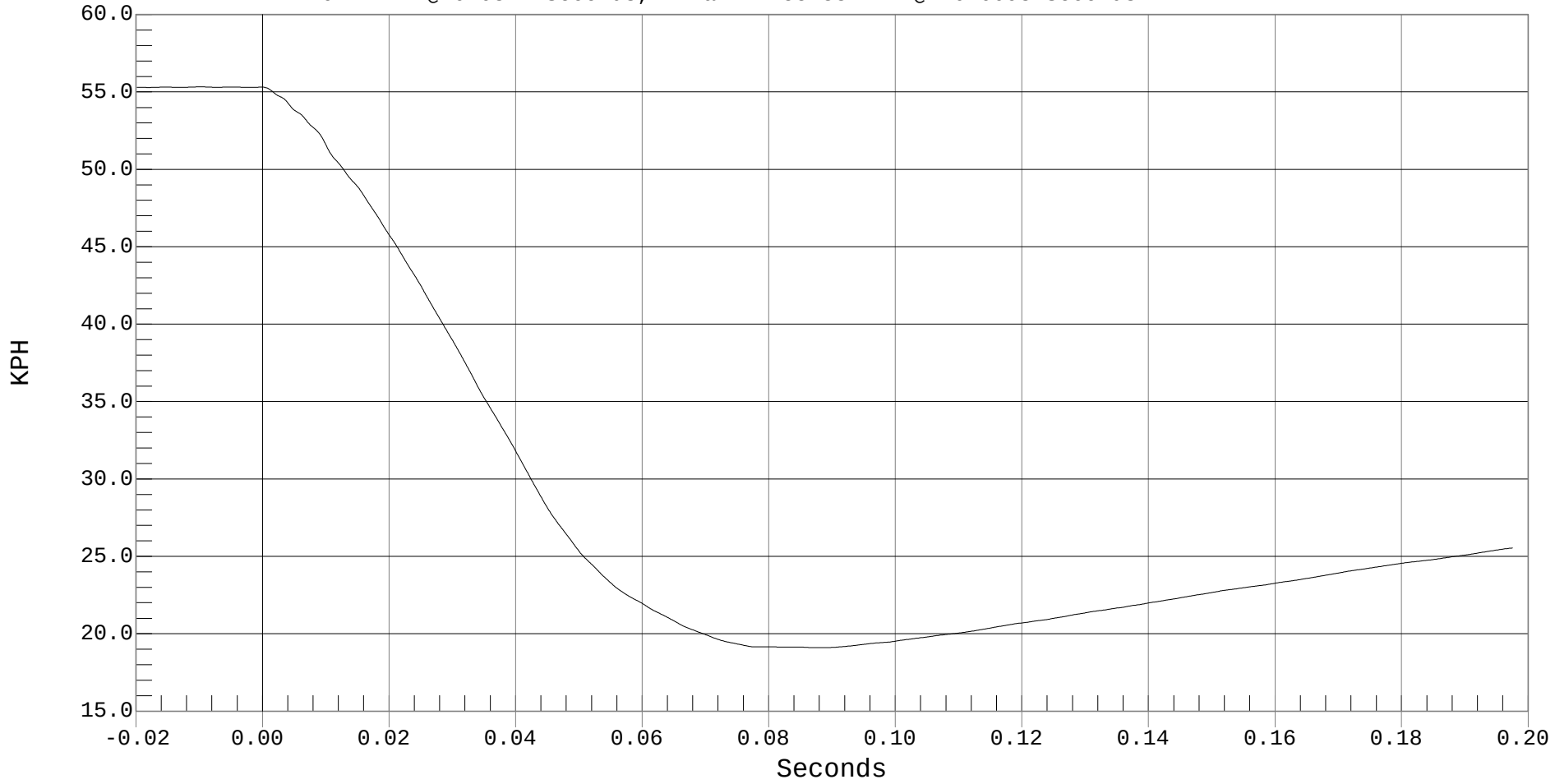
MOVING BARRIER REAR AXLE X VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 MOVING BARRIER REAR AXLE X VELOCITY, c01002AI.V05

Ymin = 19.1 KPH @ 0.0872 Seconds, Ymax = 55.33 KPH @ -0.0098 Seconds



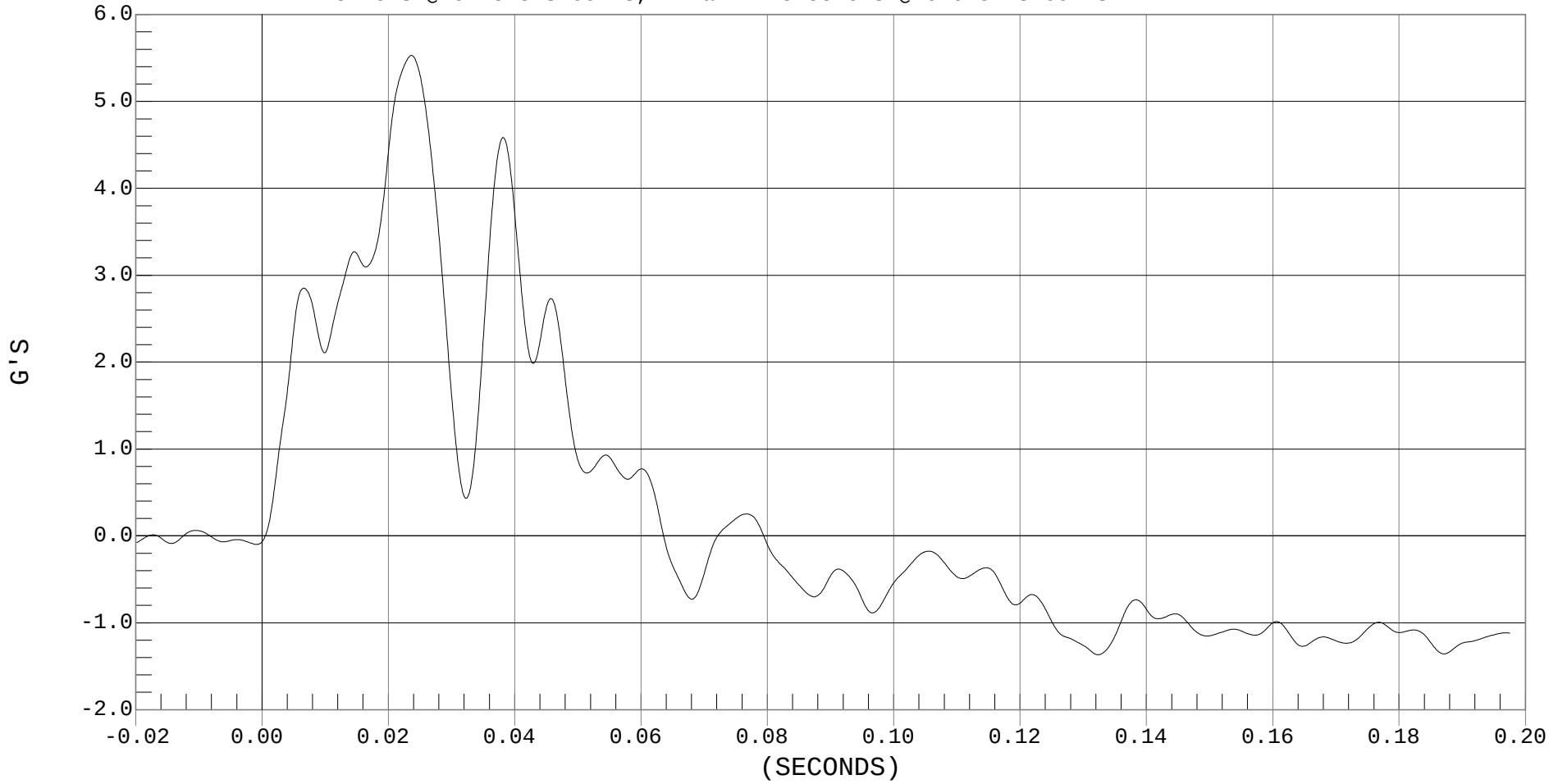
MOVING BARRIER REAR AXLE Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 60

1 CART REAR Y, c01002AF.A06

Ymin = -1.37 G'S @ 0.1323 SECONDS, Ymax = 5.53 G'S @ 0.0237 SECONDS



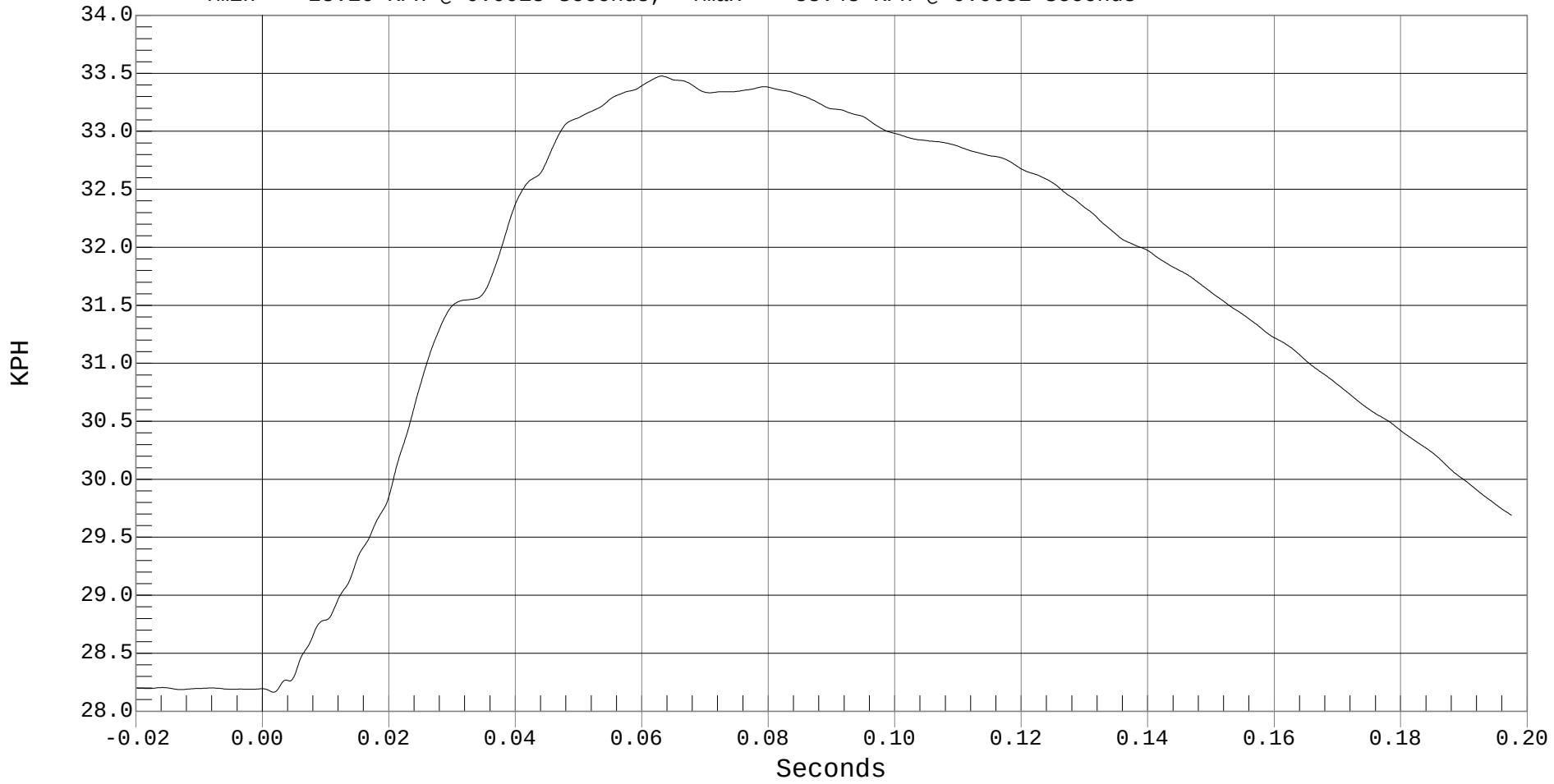
MOVING BARRIER REAR AXLE Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 MOVING BARRIER REAR AXLE Y VELOCITY, c01002AI.V06

Ymin = 28.16 KPH @ 0.0018 Seconds, Ymax = 33.48 KPH @ 0.0631 Seconds



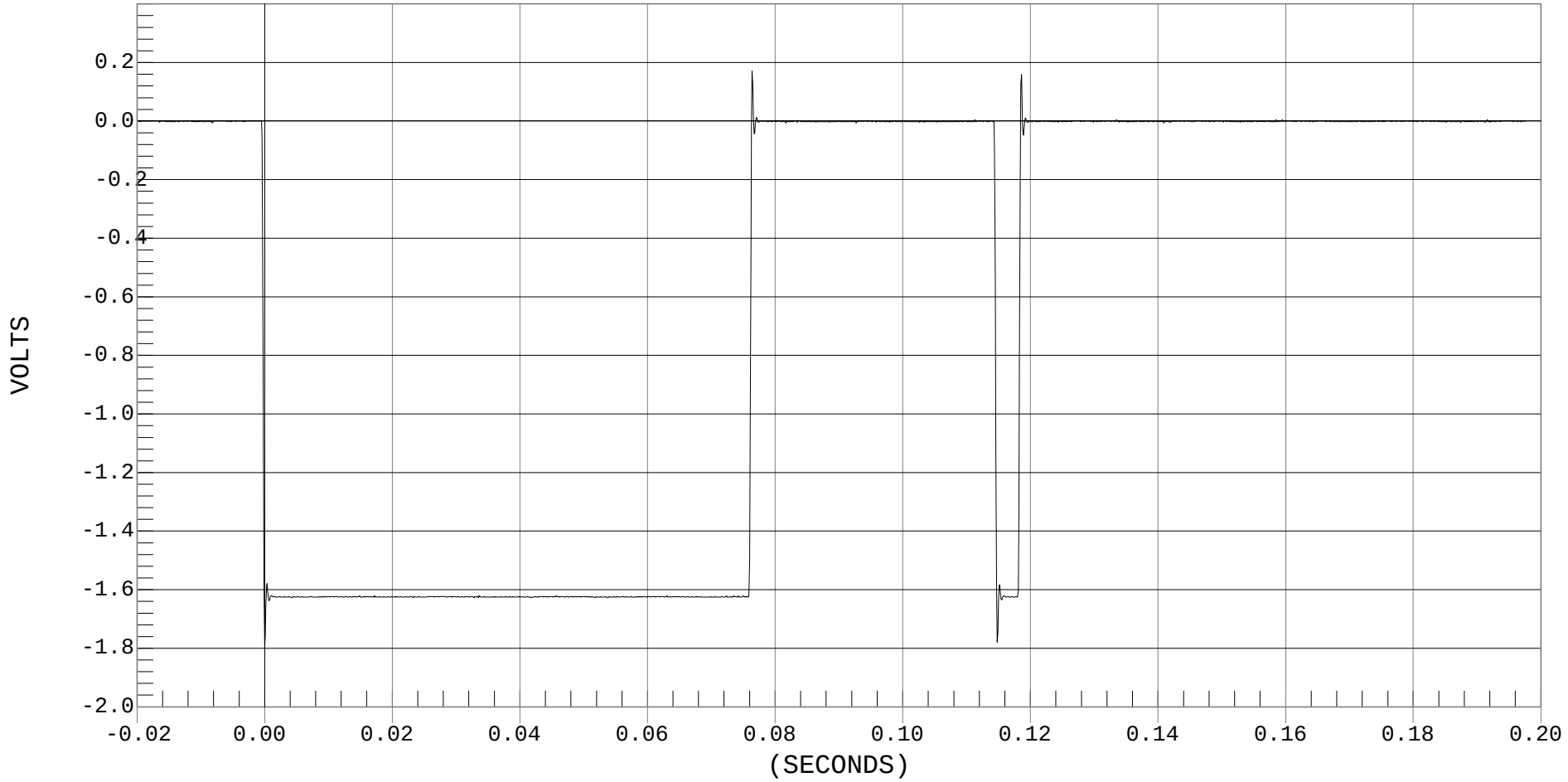
LEFT BARRIER CONTACT

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 LEFT BARRIER CONTACT, c01002OT.O09

Ymin = -1.79 VOLTS @ 0.0000 SECONDS, Ymax = .17 VOLTS @ 0.0764 SECONDS



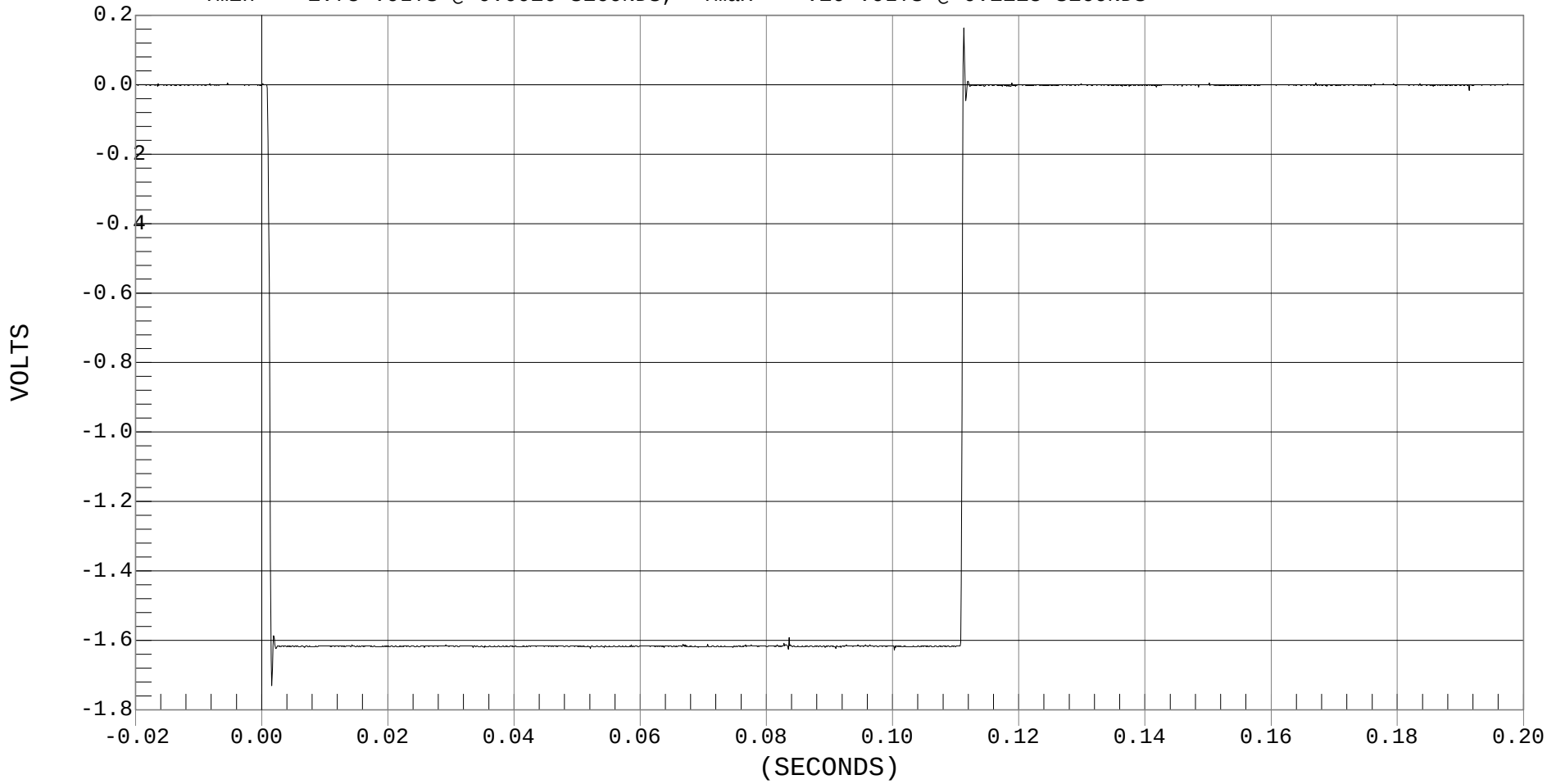
RIGHT BARRIER CONTACT

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 RIGHT BARRIER CONTACT, c01002OT.O10

Ymin = -1.73 VOLTS @ 0.0016 SECONDS, Ymax = .16 VOLTS @ 0.1113 SECONDS



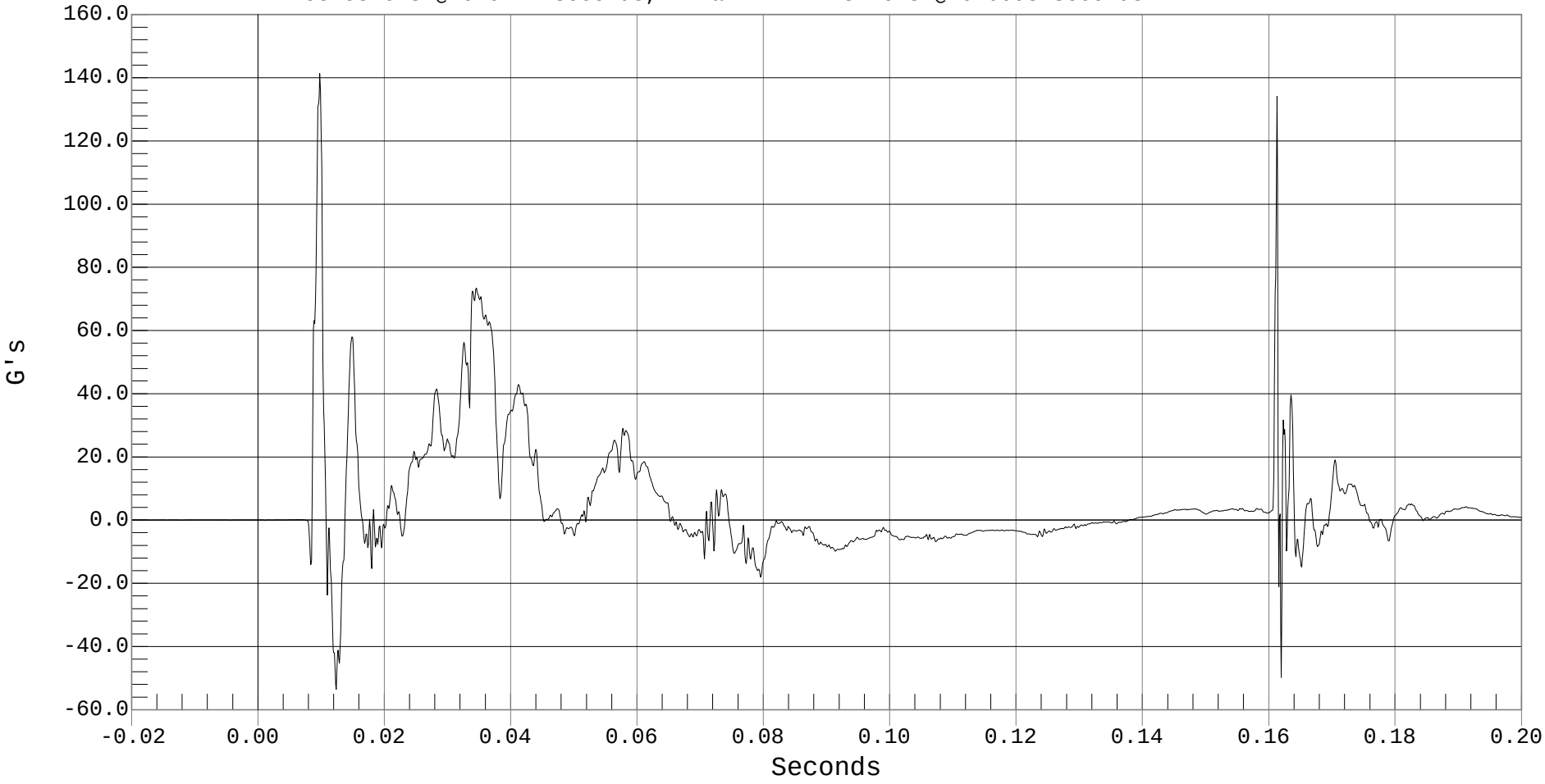
DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER UPPER RIB Yr, b01002AT.A41

Ymin = -53.58 G's @ 0.0124 Seconds, Ymax = 141.31 G's @ 0.0098 Seconds

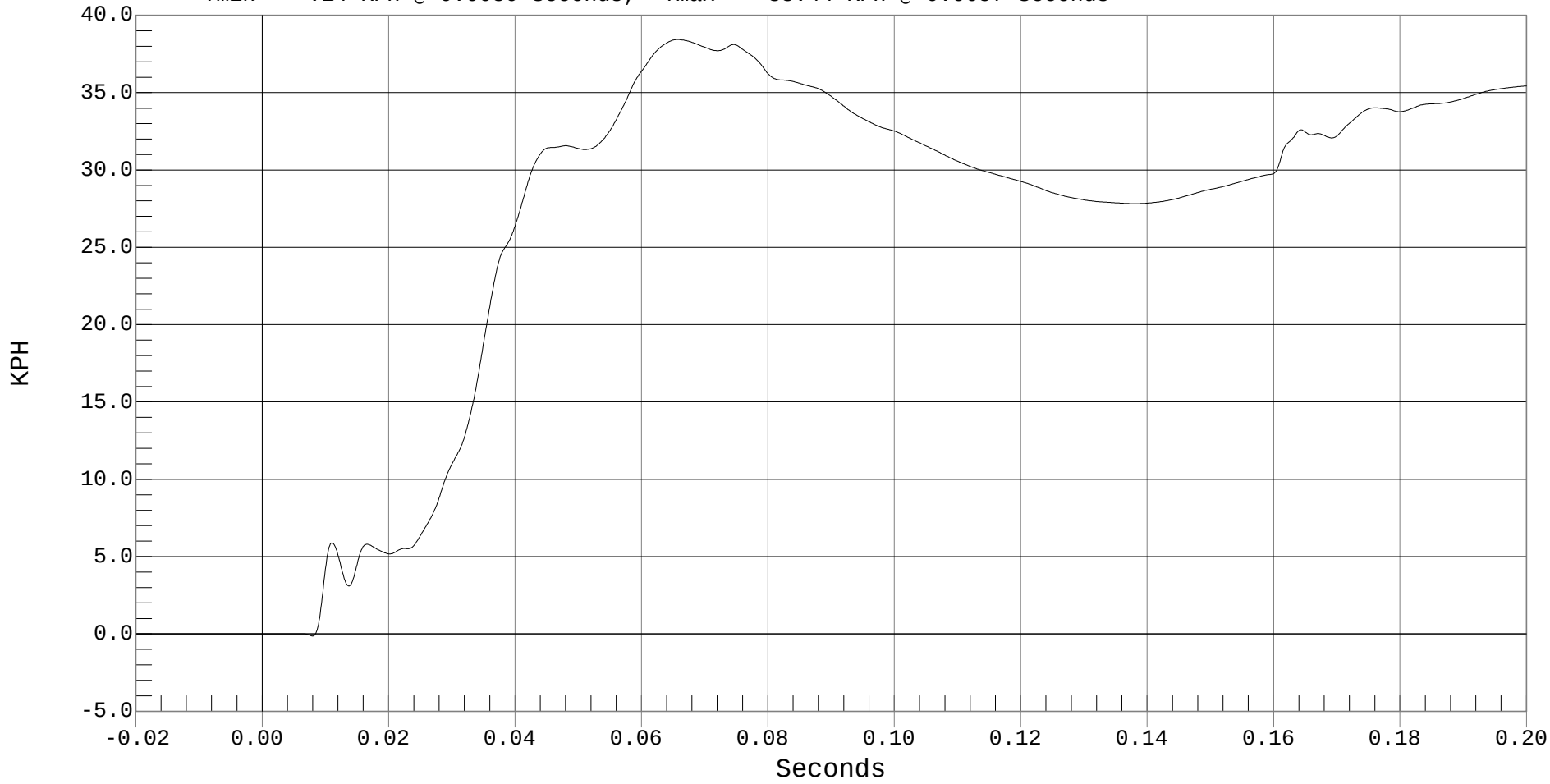


DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

Ymin = -.14 KPH @ 0.0080 Seconds, Ymax = 38.44 KPH @ 0.0657 Seconds



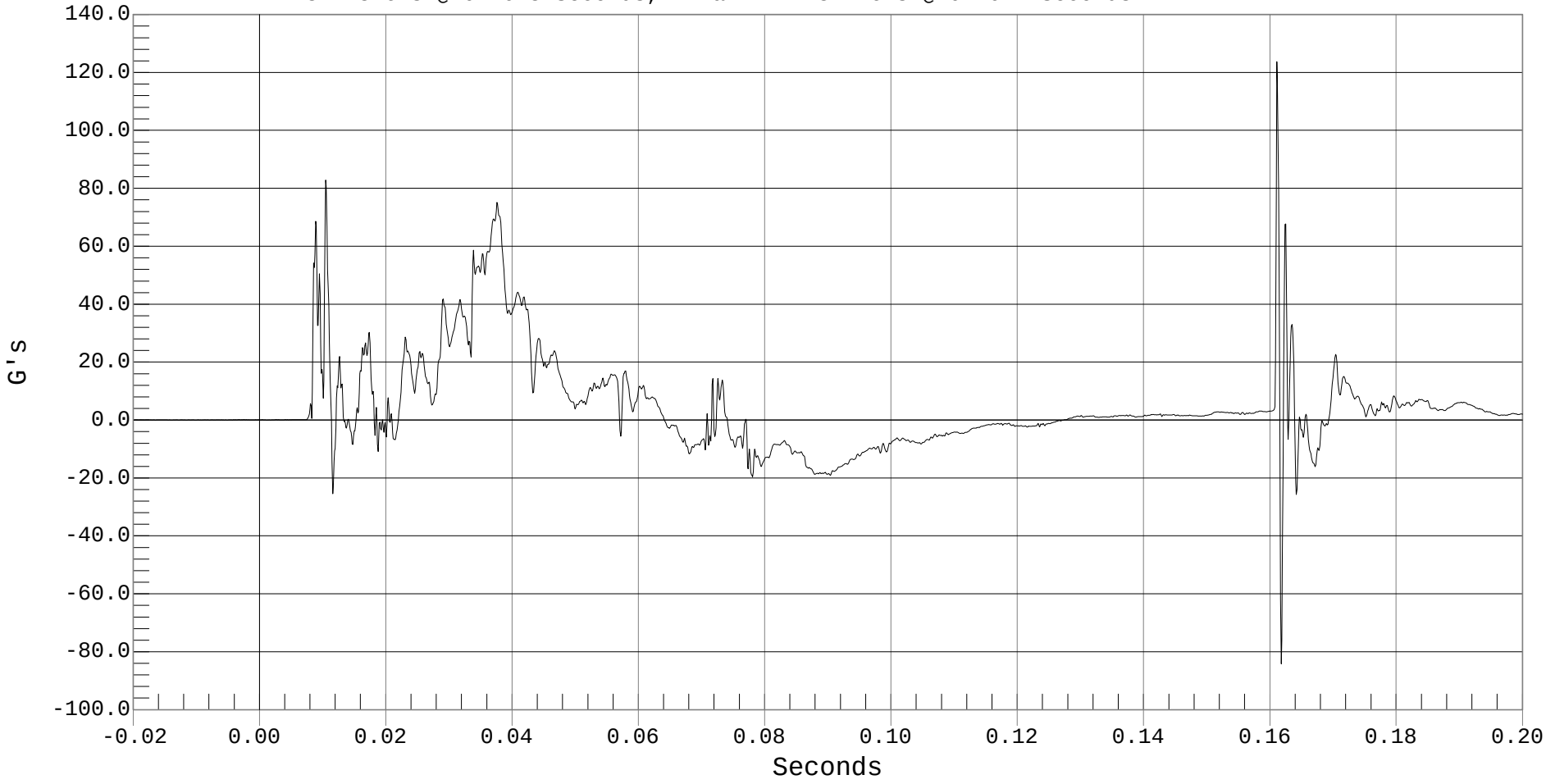
DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER LOWER RIB Yr, b01002AT.A42

Ymin = -84.18 G's @ 0.1618 Seconds, Ymax = 123.7 G's @ 0.1611 Seconds



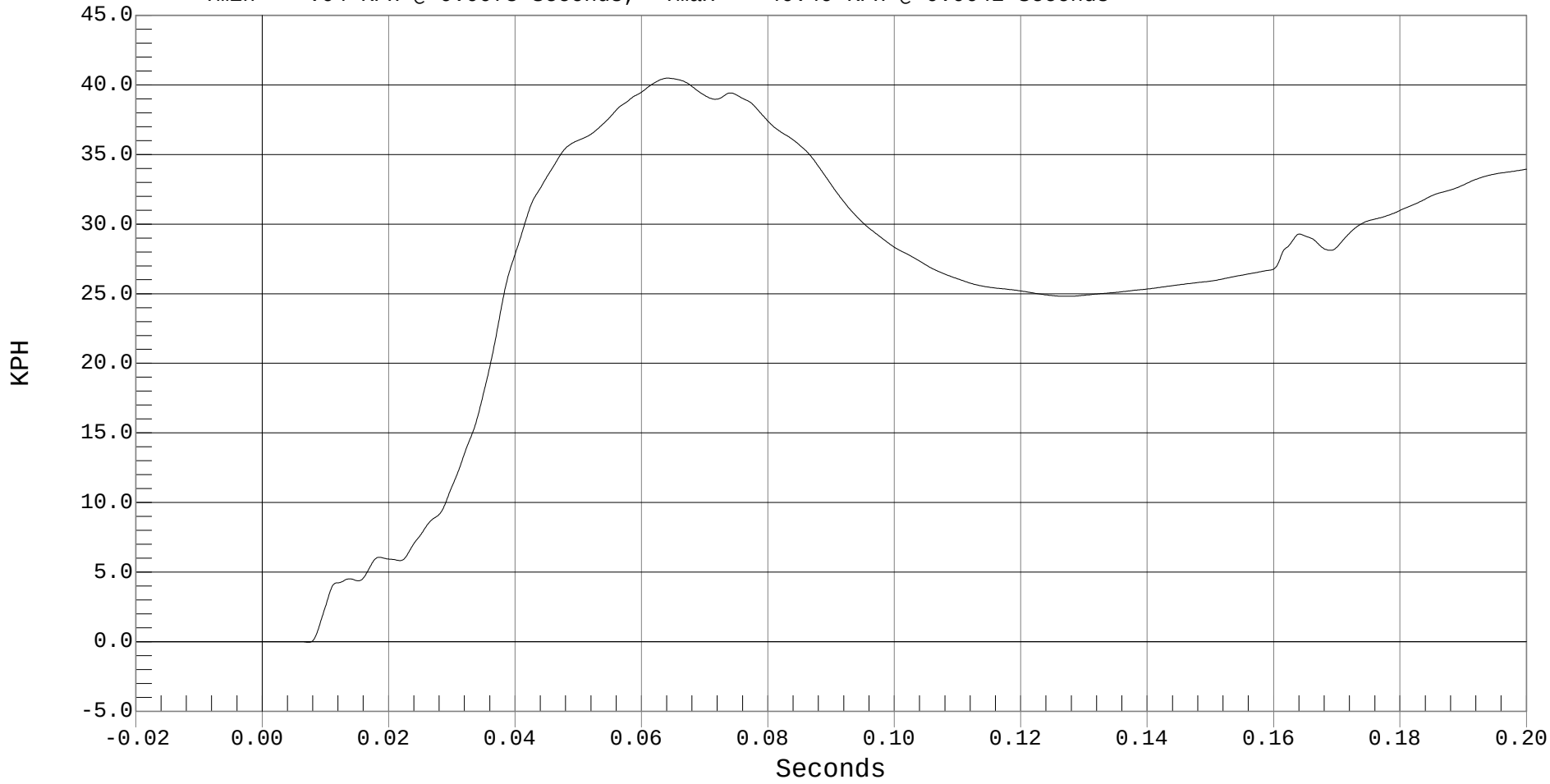
DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, b01002AI.V42

Ymin = -.04 KPH @ 0.0073 Seconds, Ymax = 40.49 KPH @ 0.0642 Seconds



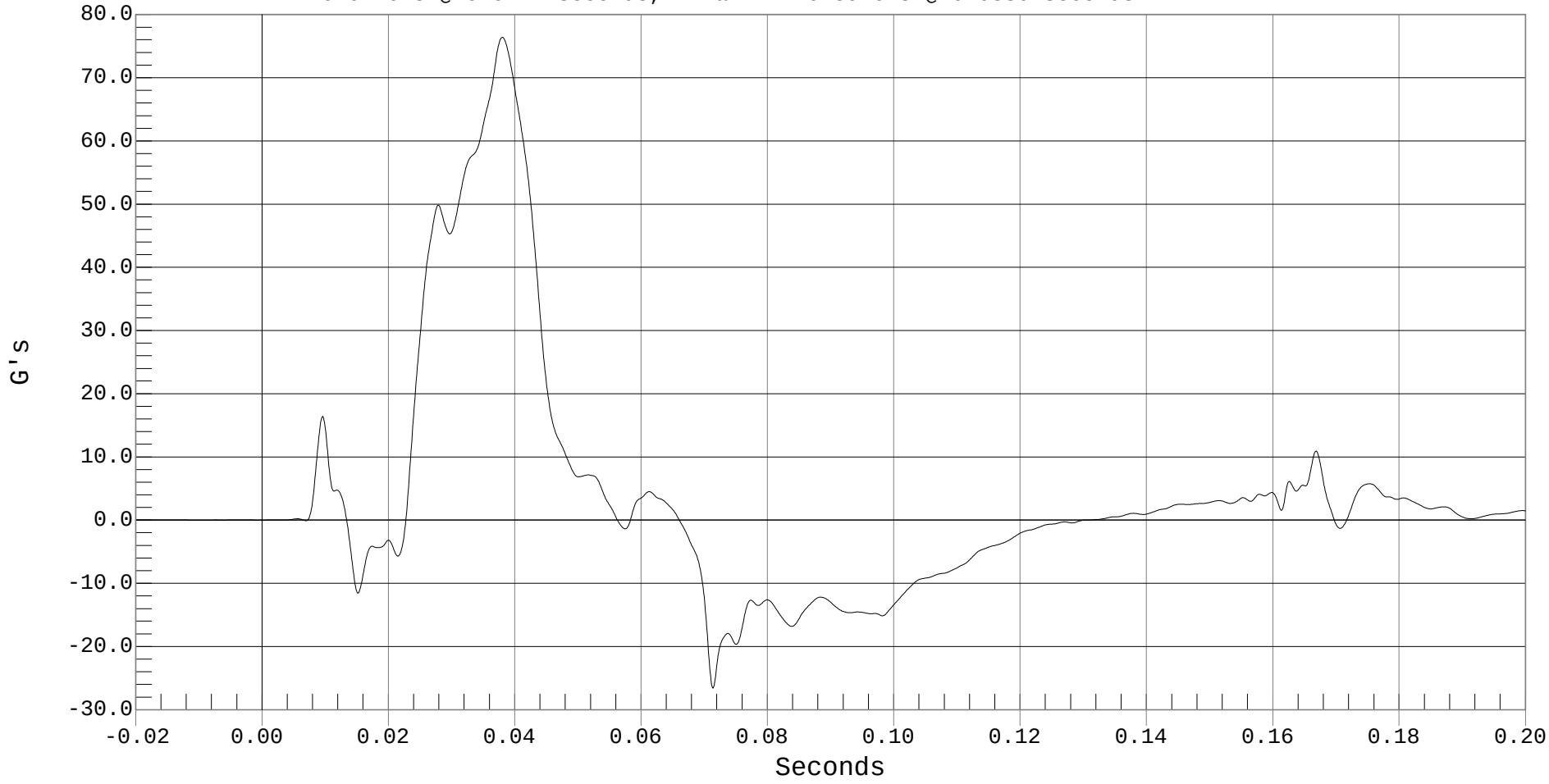
DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER LOWER SPINE Yr, b01002AF.A43

Ymin = -26.61 G's @ 0.0714 Seconds, Ymax = 76.39 G's @ 0.0380 Seconds



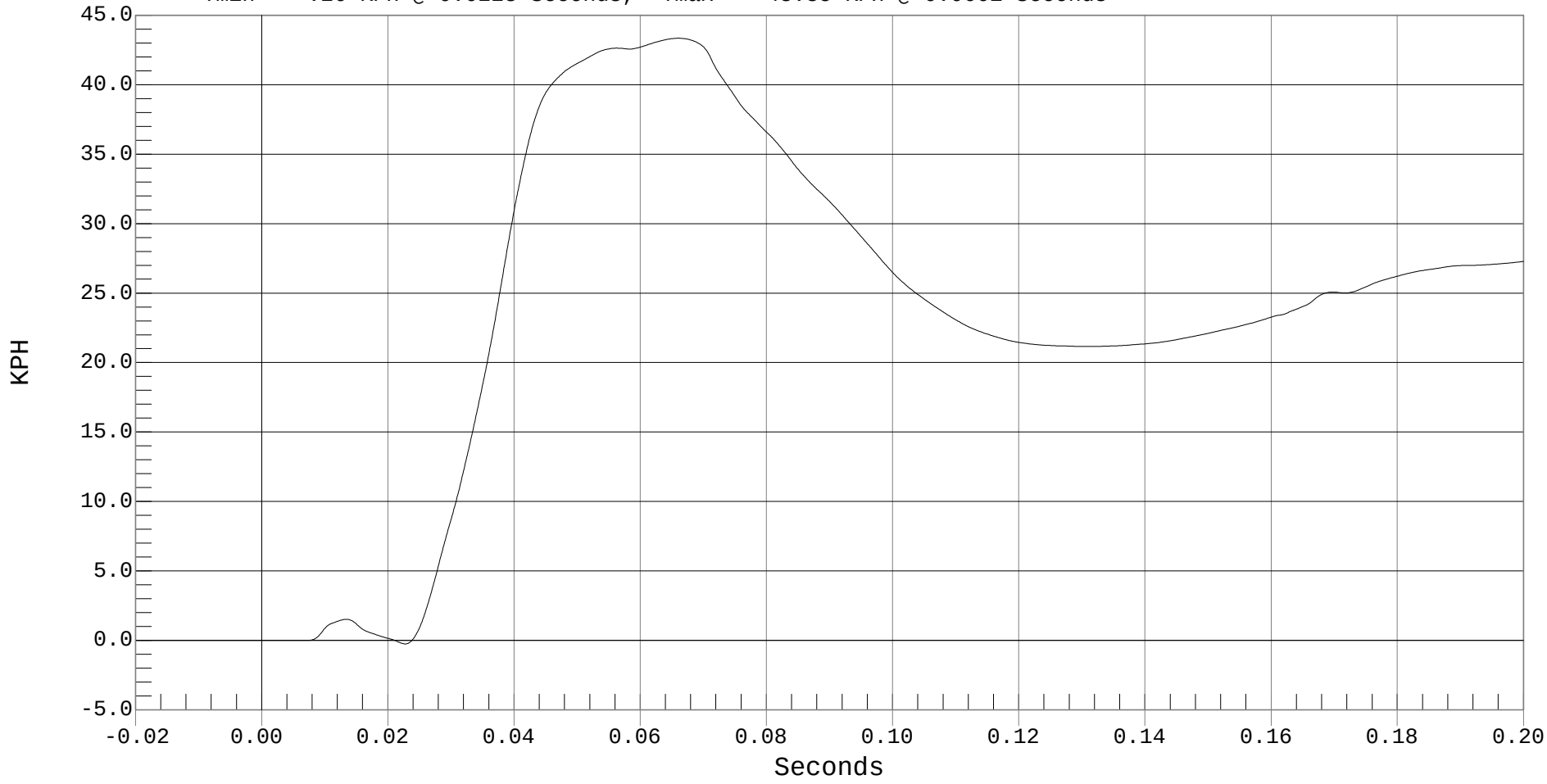
DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, b01002AI.V43

Ymin = -.26 KPH @ 0.0228 Seconds, Ymax = 43.35 KPH @ 0.0661 Seconds



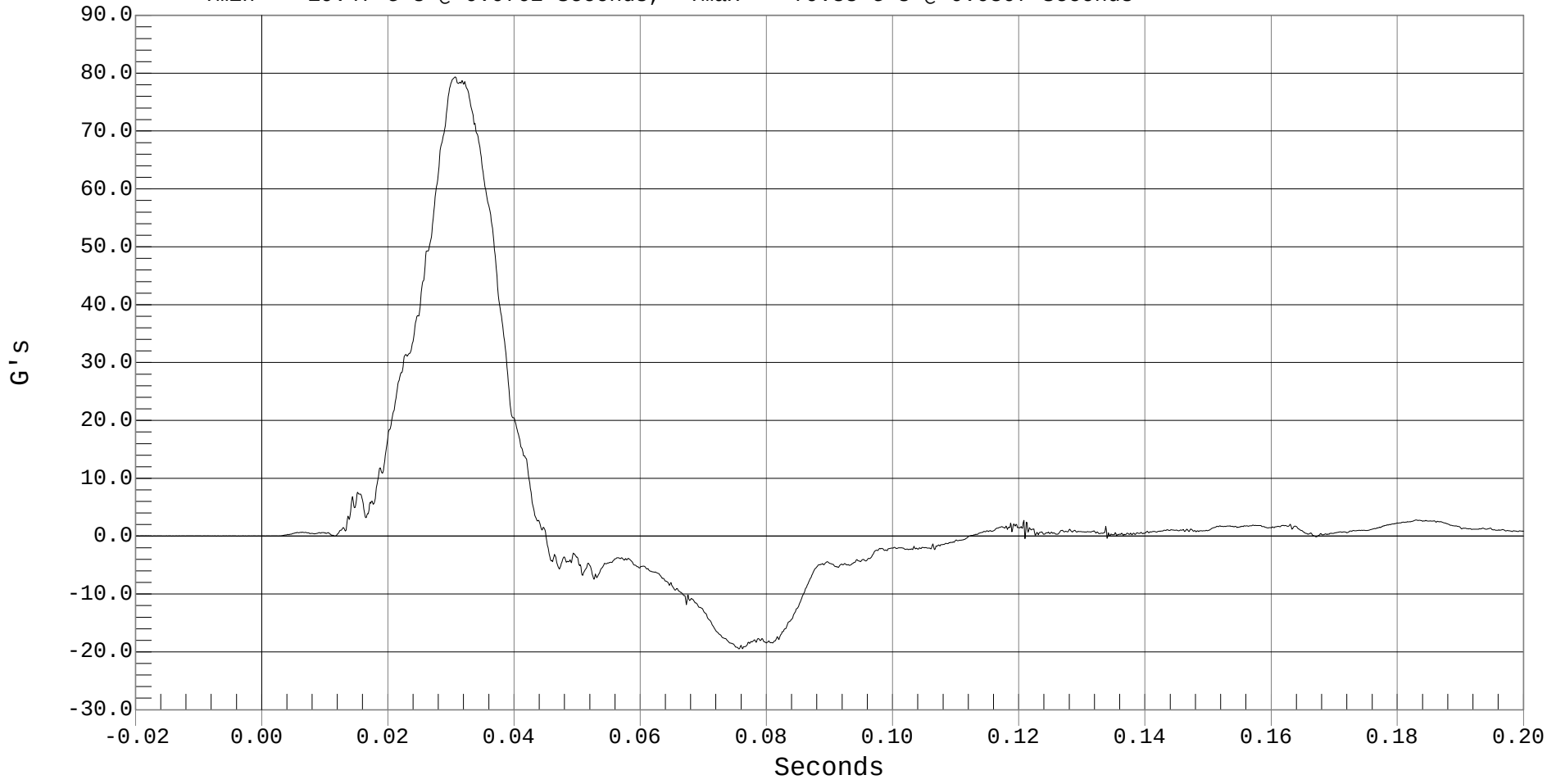
DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 DRIVER PELVIS Yr, b01002AT.A44

Ymin = -19.47 G's @ 0.0762 Seconds, Ymax = 79.38 G's @ 0.0307 Seconds



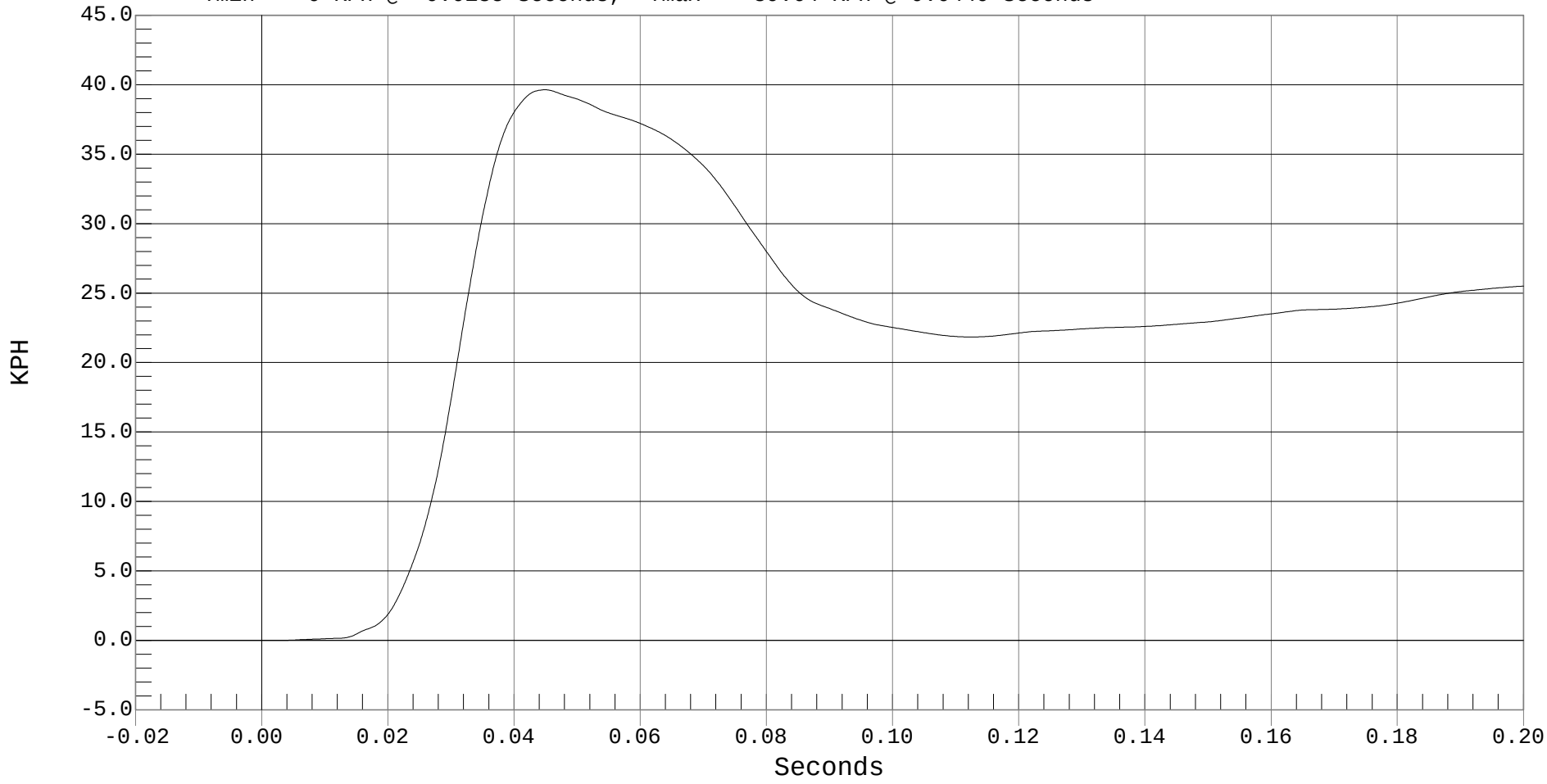
DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 DRIVER PELVIS Y REDUNDANT VELOCITY, b01002AI.V44

Ymin = 0 KPH @ -0.0135 Seconds, Ymax = 39.64 KPH @ 0.0449 Seconds



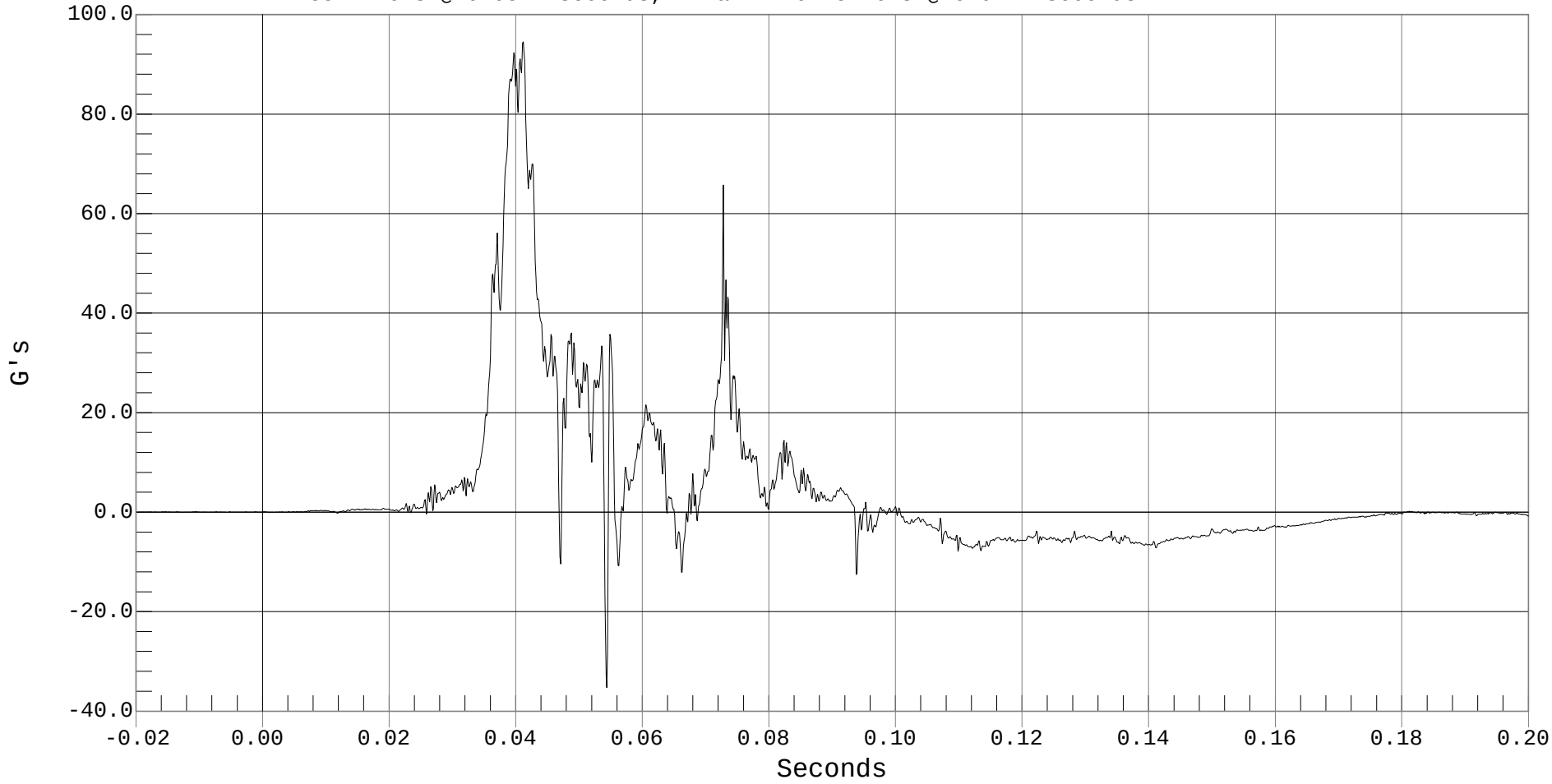
PASSENGER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER UPPER RIB Yr, b01002AT.A45

Ymin = -35.27 G's @ 0.0544 Seconds, Ymax = 94.54 G's @ 0.0412 Seconds



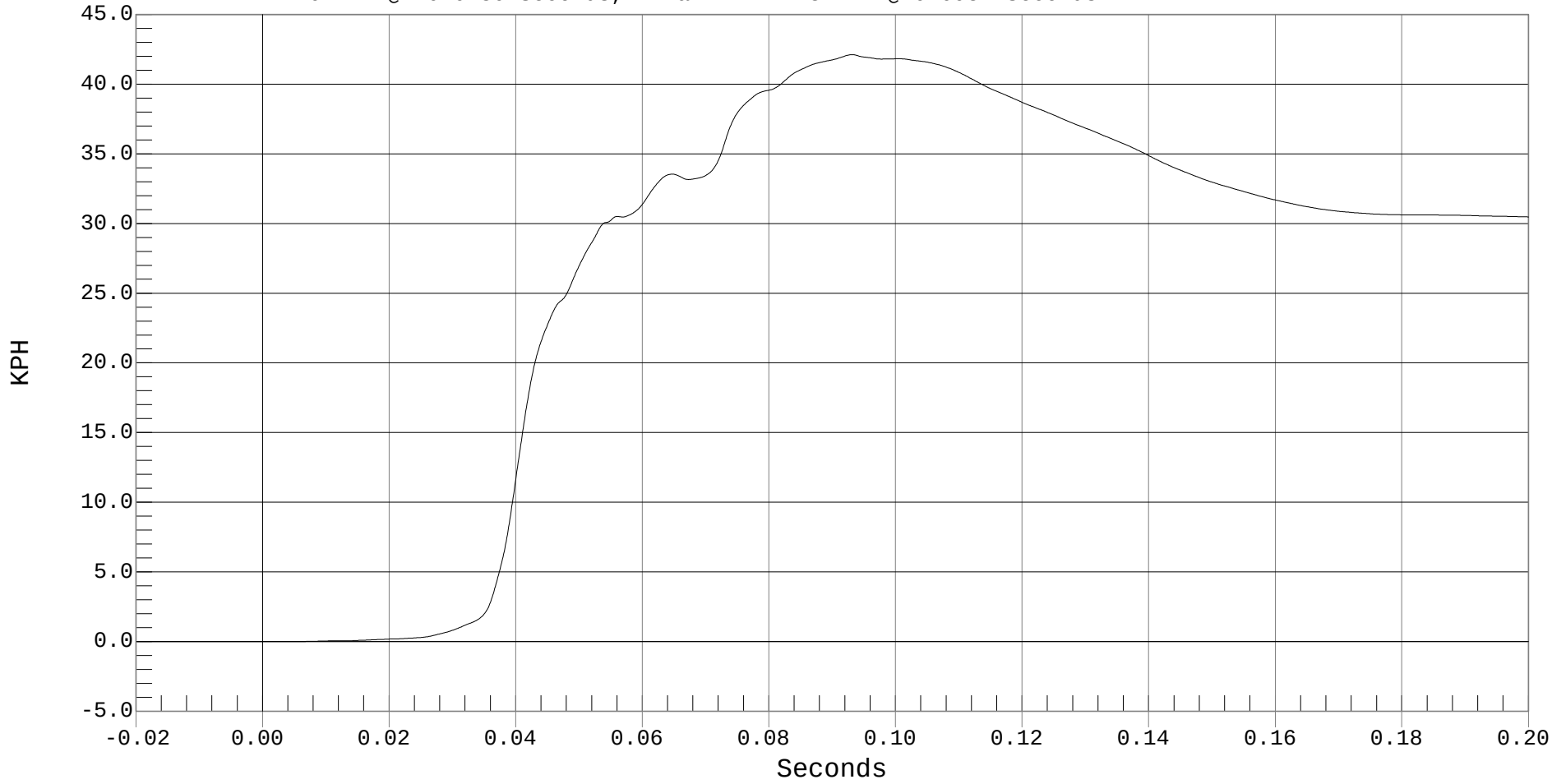
PASSENGER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY, b01002AI.V45

Ymin = 0 KPH @ -0.0180 Seconds, Ymax = 42.13 KPH @ 0.0932 Seconds



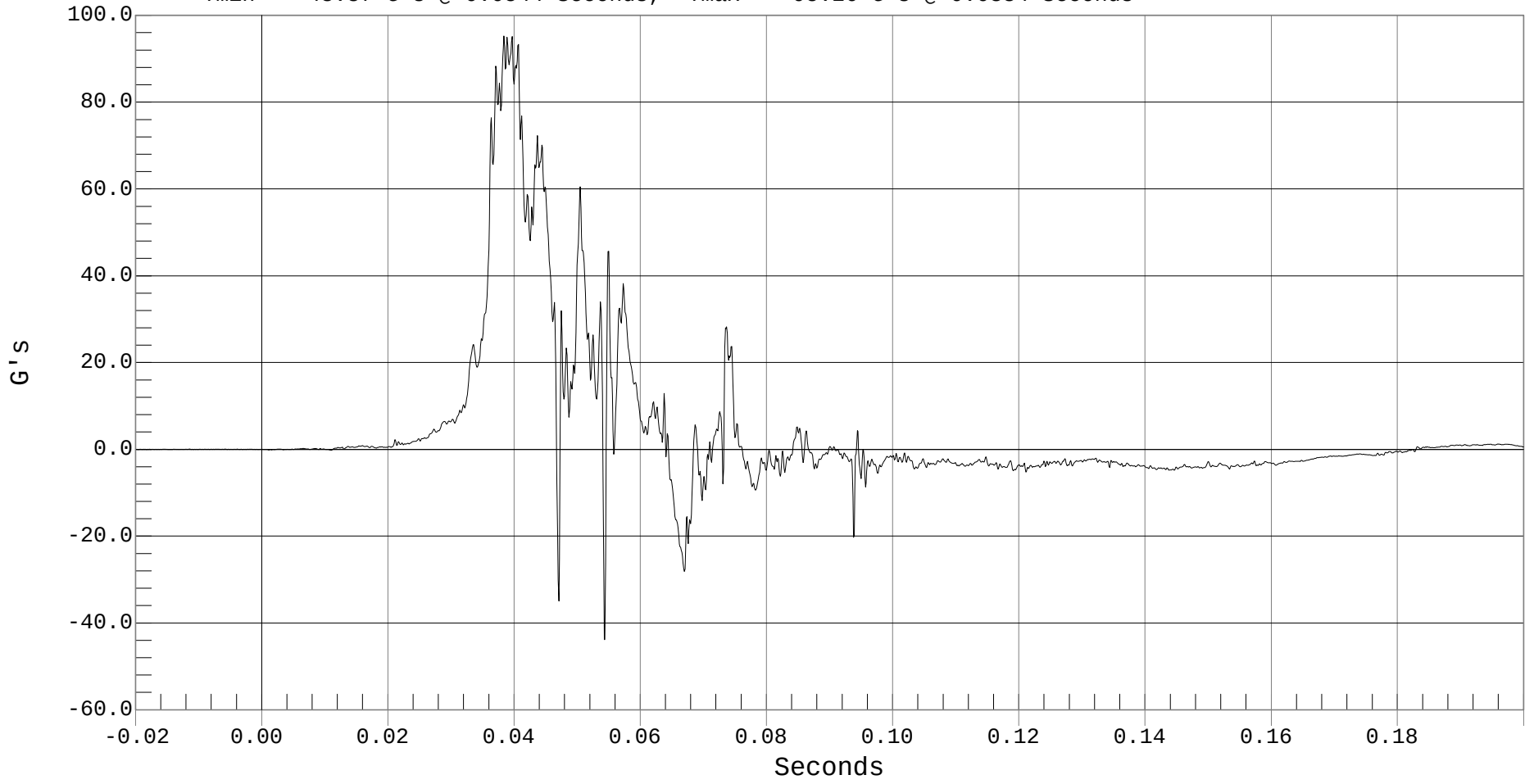
PASSENGER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER LOWER RIB Yr, b01002AT.A46

Ymin = -43.87 G's @ 0.0544 Seconds, Ymax = 95.26 G's @ 0.0384 Seconds



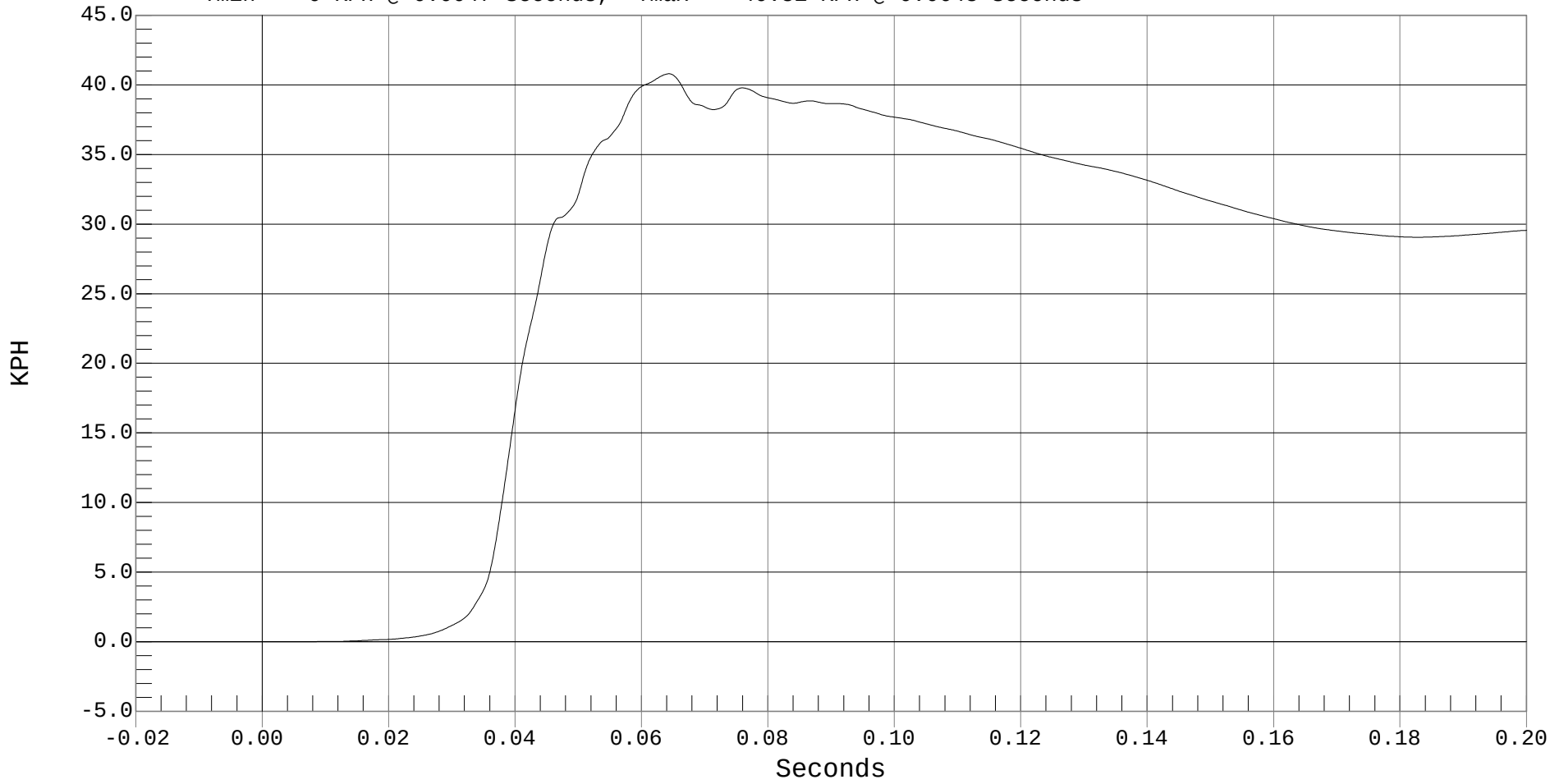
PASSENGER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY, b01002AI.V46

Ymin = 0 KPH @ 0.0047 Seconds, Ymax = 40.81 KPH @ 0.0643 Seconds



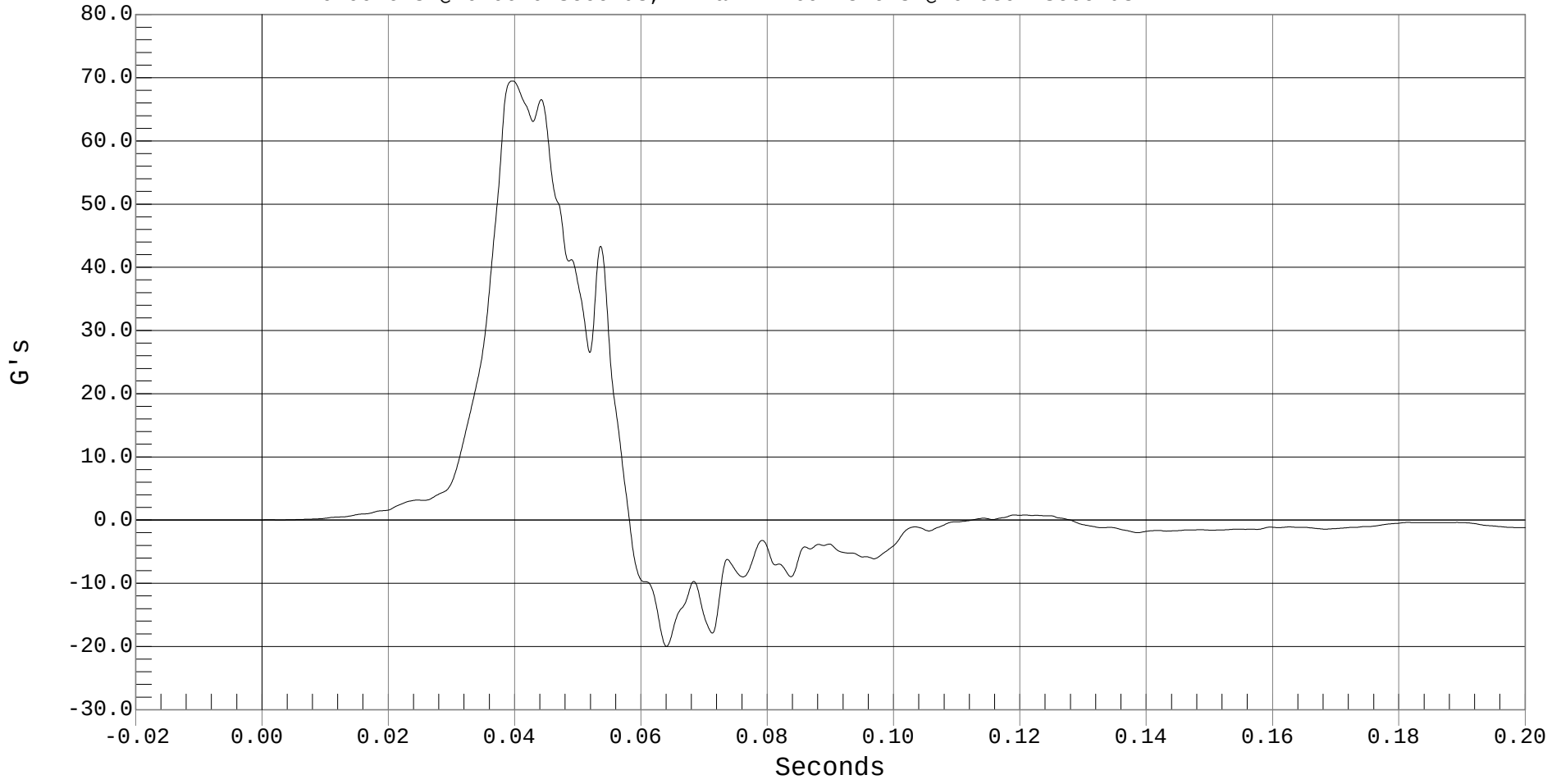
PASSENGER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 PASSENGER LOWER SPINE Yr, b01002AF.A47

Ymin = -19.99 G's @ 0.0640 Seconds, Ymax = 69.48 G's @ 0.0397 Seconds



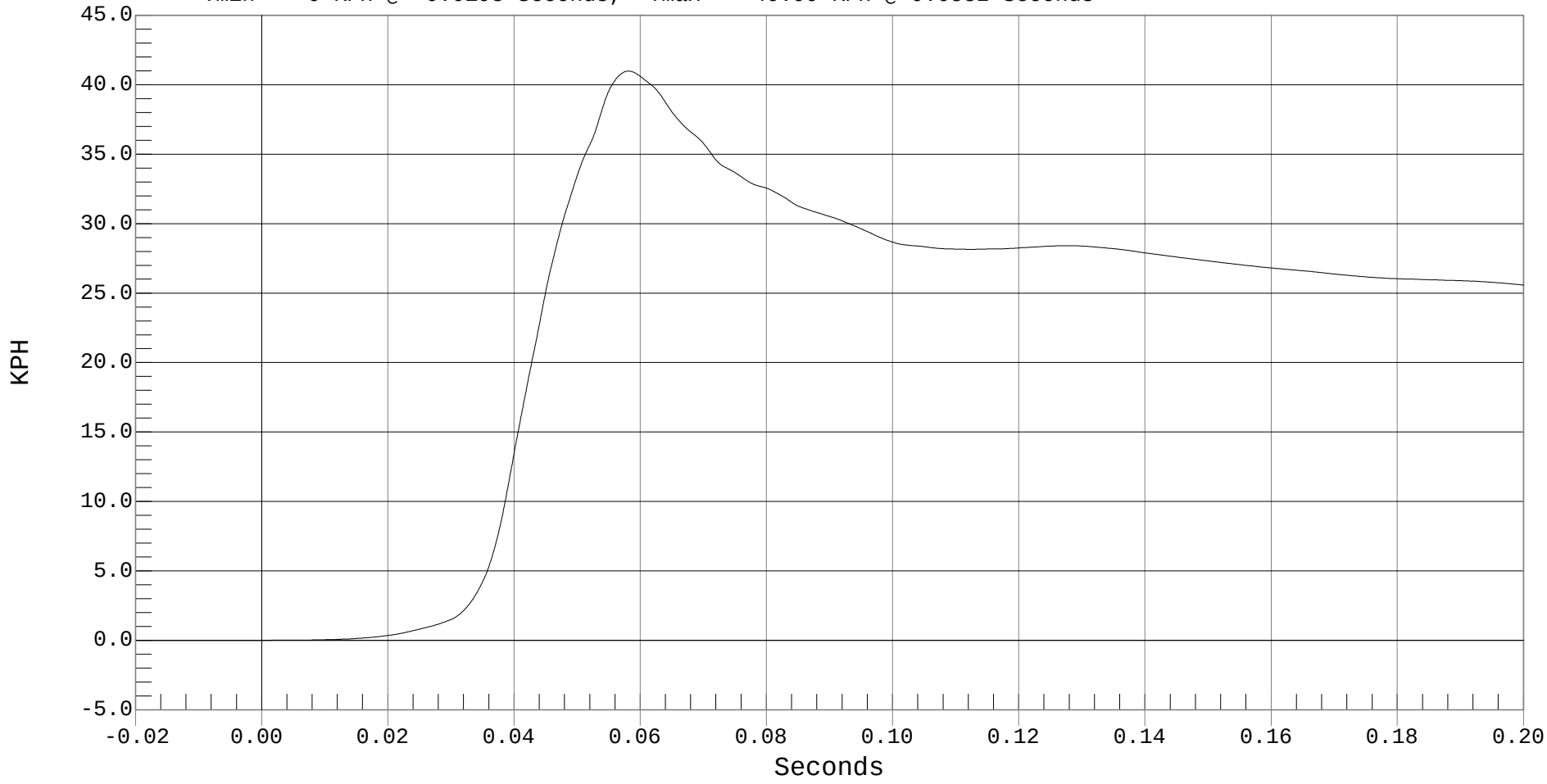
PASSENGER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY, b01002AI.V47

Ymin = 0 KPH @ -0.0198 Seconds, Ymax = 40.99 KPH @ 0.0582 Seconds



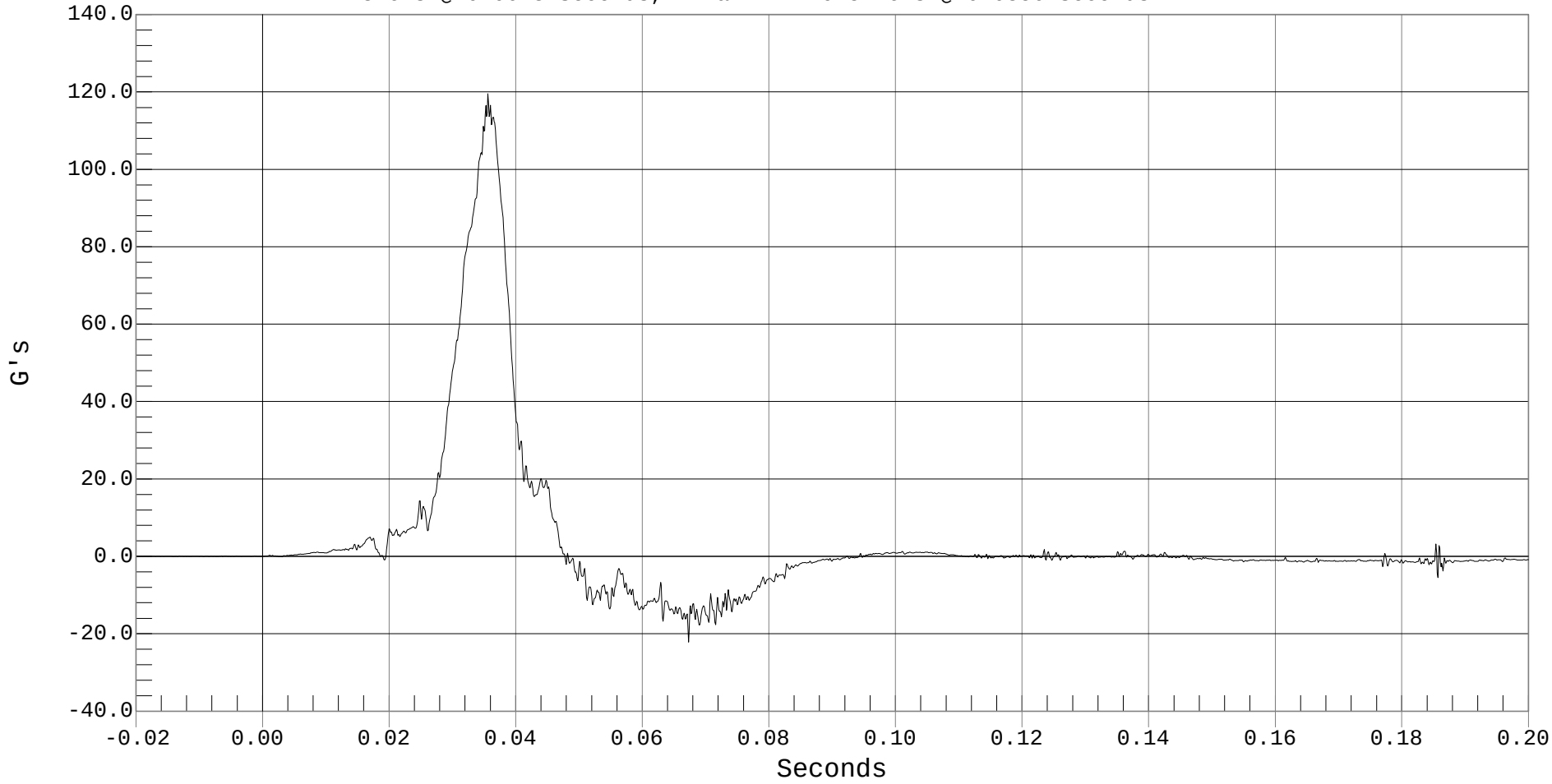
PASSENGER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 1000

1 PASSENGER PELVIS Yr, b01002AT.A48

Ymin = -22.18 G's @ 0.0673 Seconds, Ymax = 119.51 G's @ 0.0356 Seconds



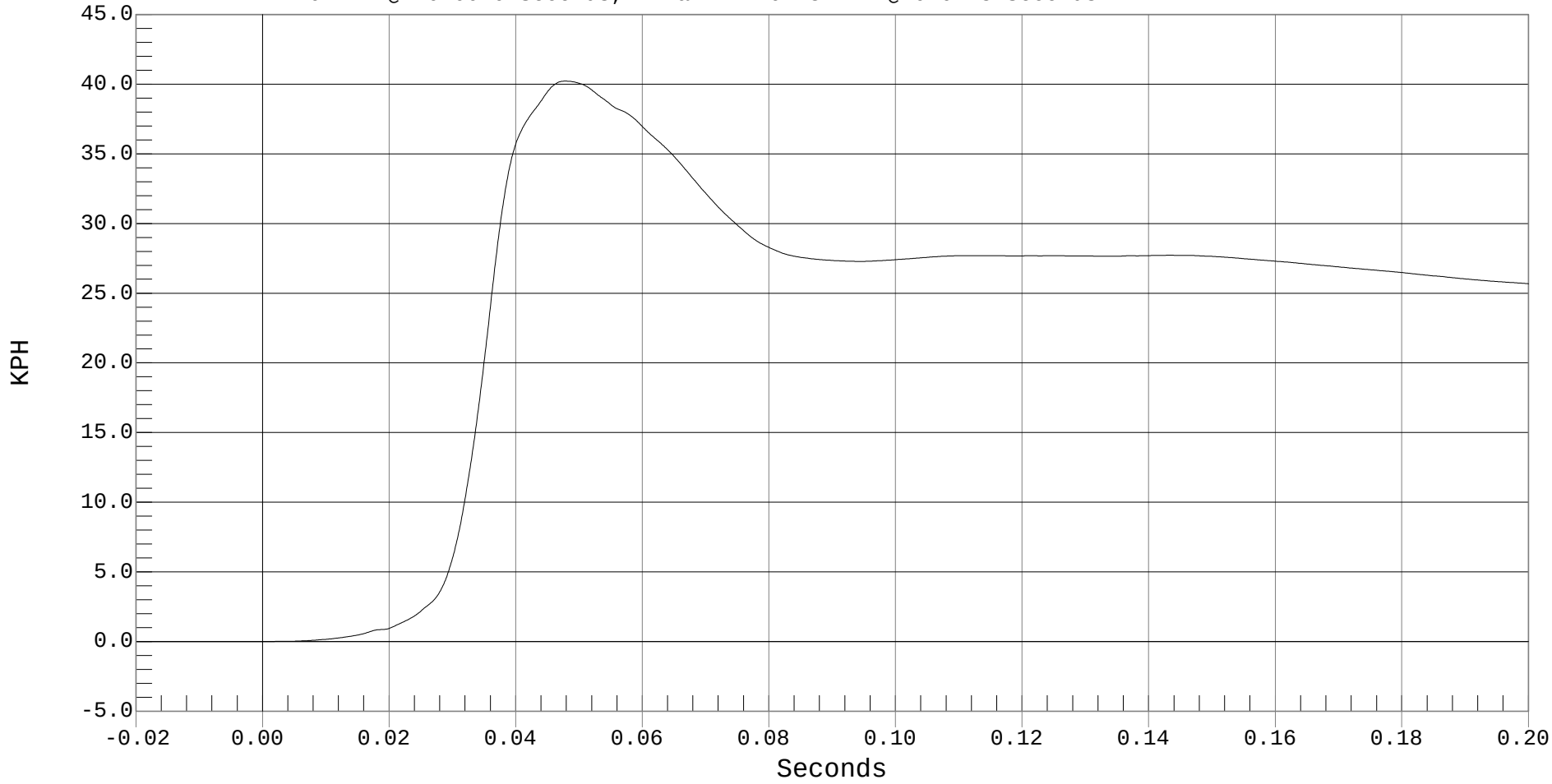
PASSENGER PELVIS REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Filter Class: 180

1 REAR PASSENGER PELVIS Y REDUNDANT VELOCITY, b01002AI.V48

Ymin = 0 KPH @ -0.0070 Seconds, Ymax = 40.23 KPH @ 0.0478 Seconds



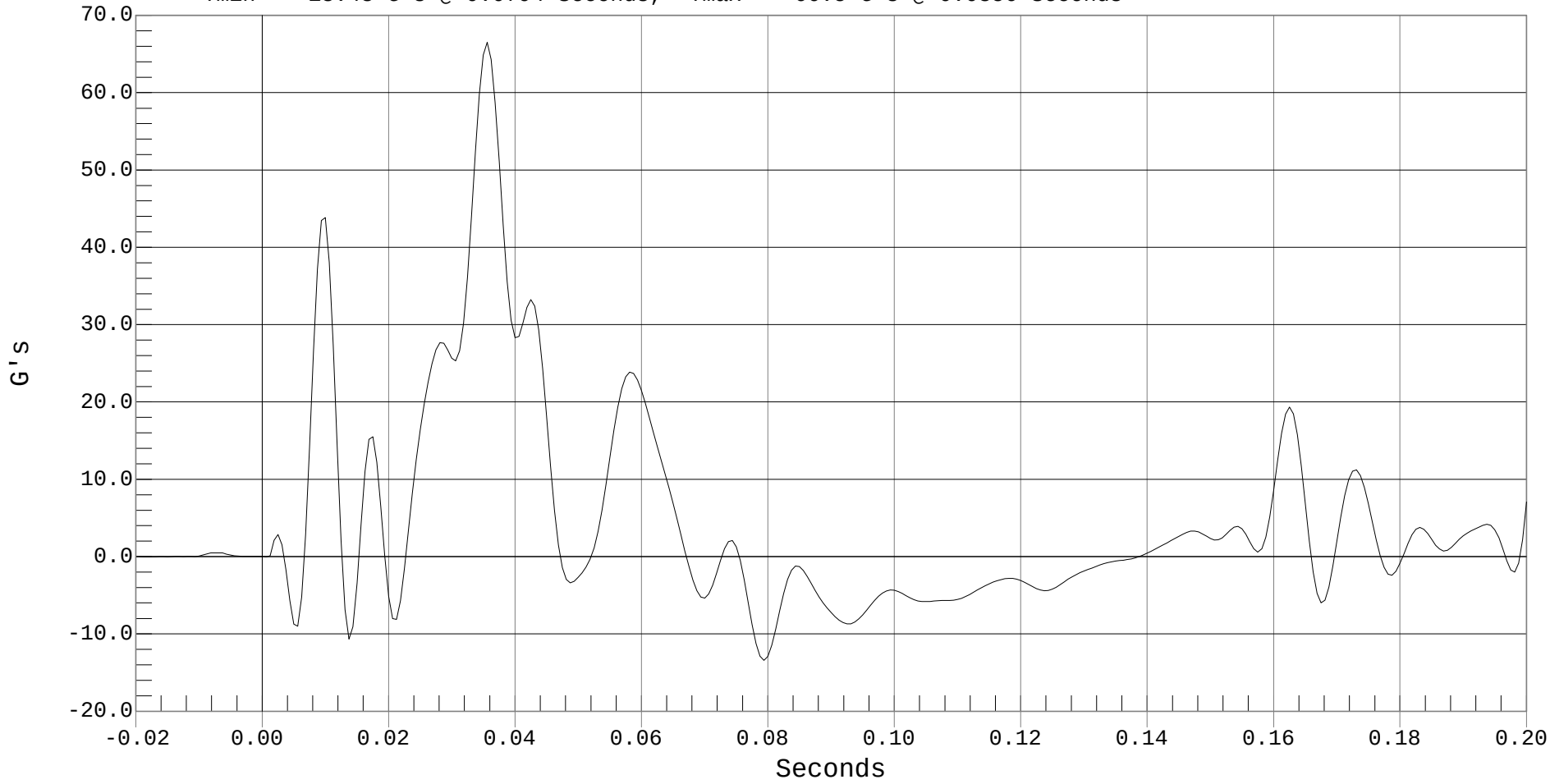
DRIVER UPPER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER UPPER RIB Y, b01002FI.R04

Ymin = -13.43 G's @ 0.0794 Seconds, Ymax = 66.5 G's @ 0.0356 Seconds



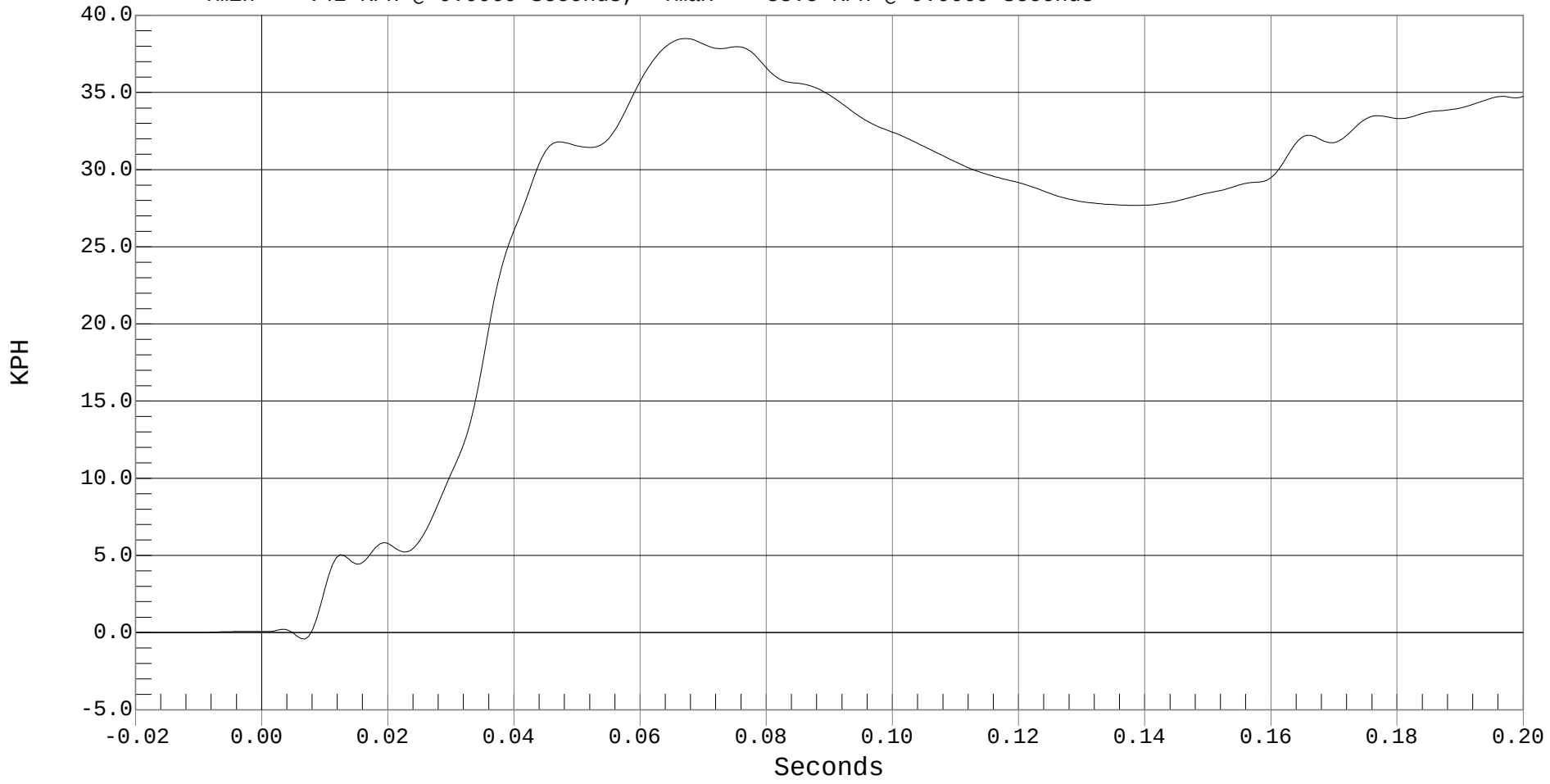
DRIVER UPPER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER UPPER RIB Y VELOCITY, b01002FI.V04

Ymin = -.42 KPH @ 0.0069 Seconds, Ymax = 38.5 KPH @ 0.0669 Seconds



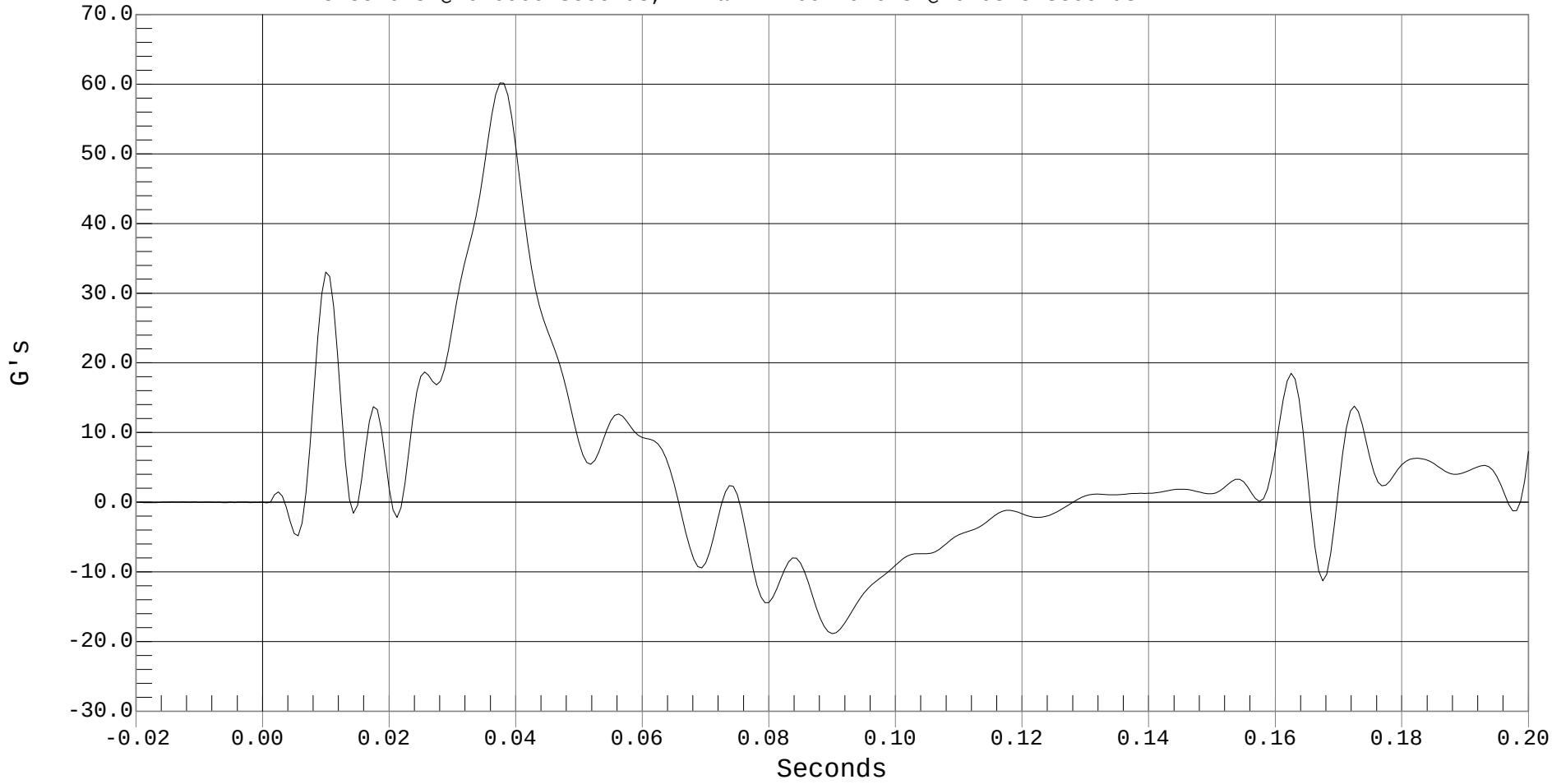
DRIVER LOWER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER RIB Y, b01002FI.R05

Ymin = -18.85 G's @ 0.0900 Seconds, Ymax = 60.19 G's @ 0.0375 Seconds



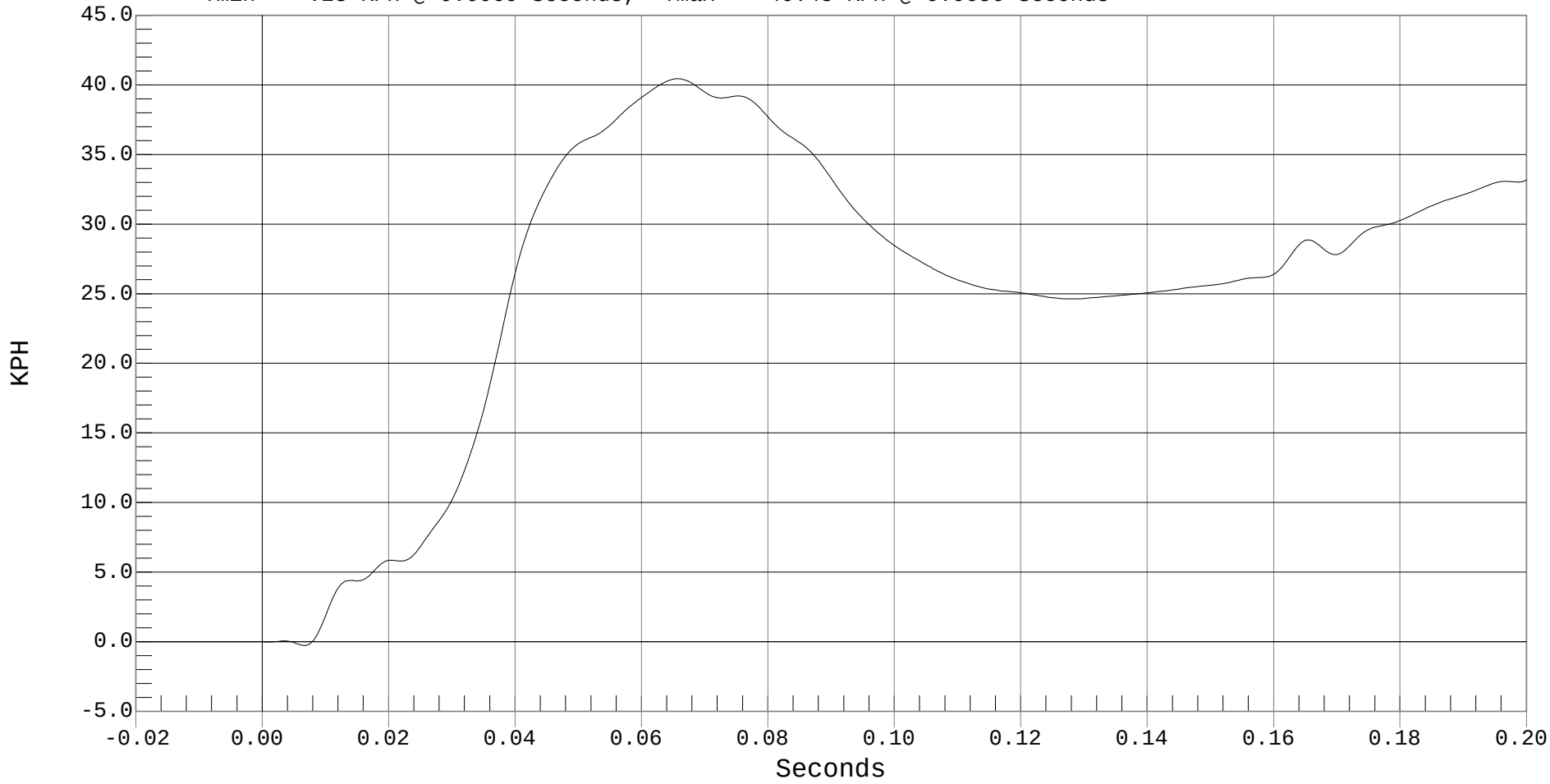
DRIVER LOWER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER RIB Y VELOCITY, b01002FI.V05

Ymin = -.28 KPH @ 0.0069 Seconds, Ymax = 40.45 KPH @ 0.0656 Seconds



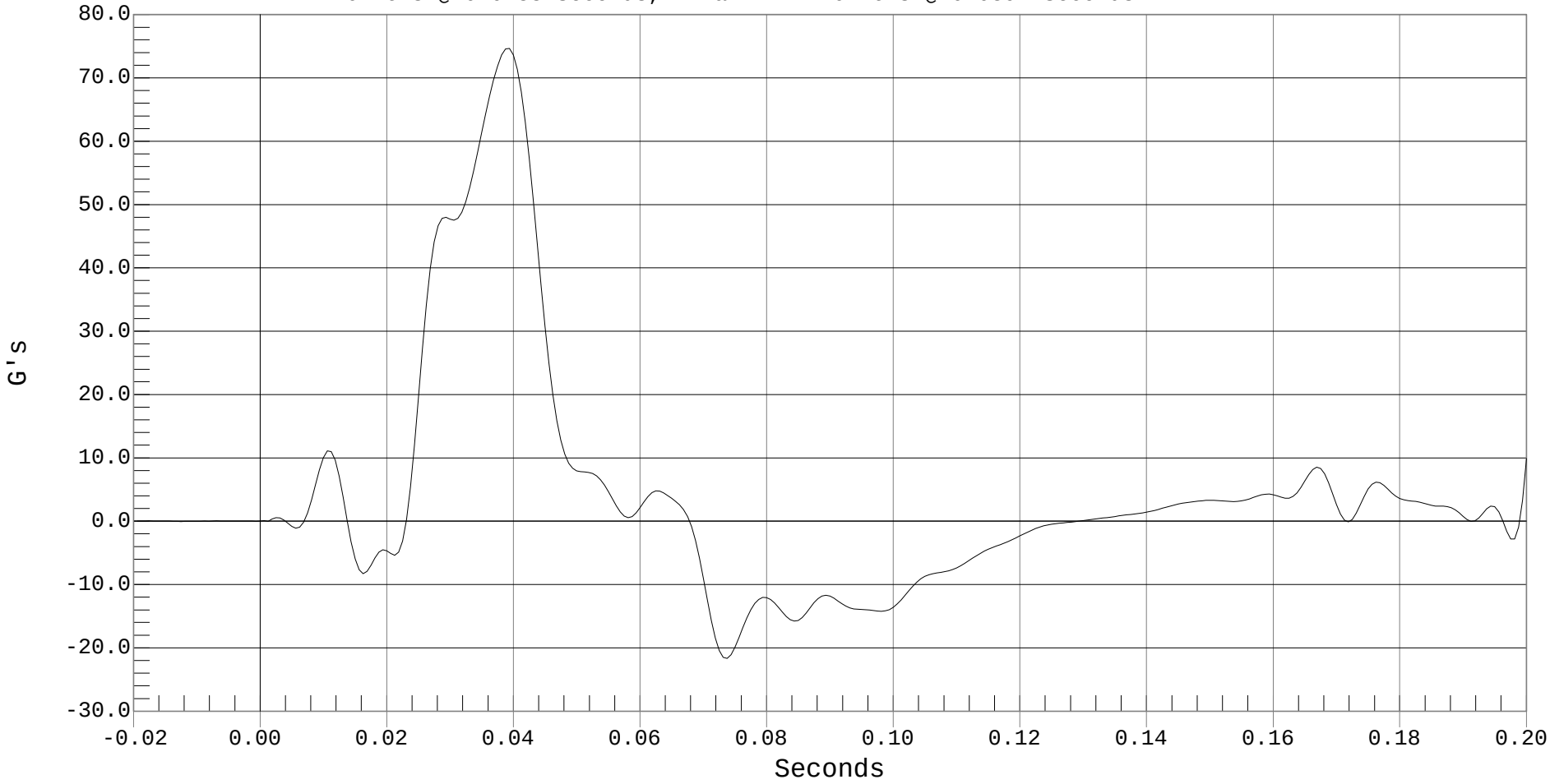
DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER SPINE Y, b01002FI.R06

Ymin = -21.67 G's @ 0.0738 Seconds, Ymax = 74.67 G's @ 0.0394 Seconds



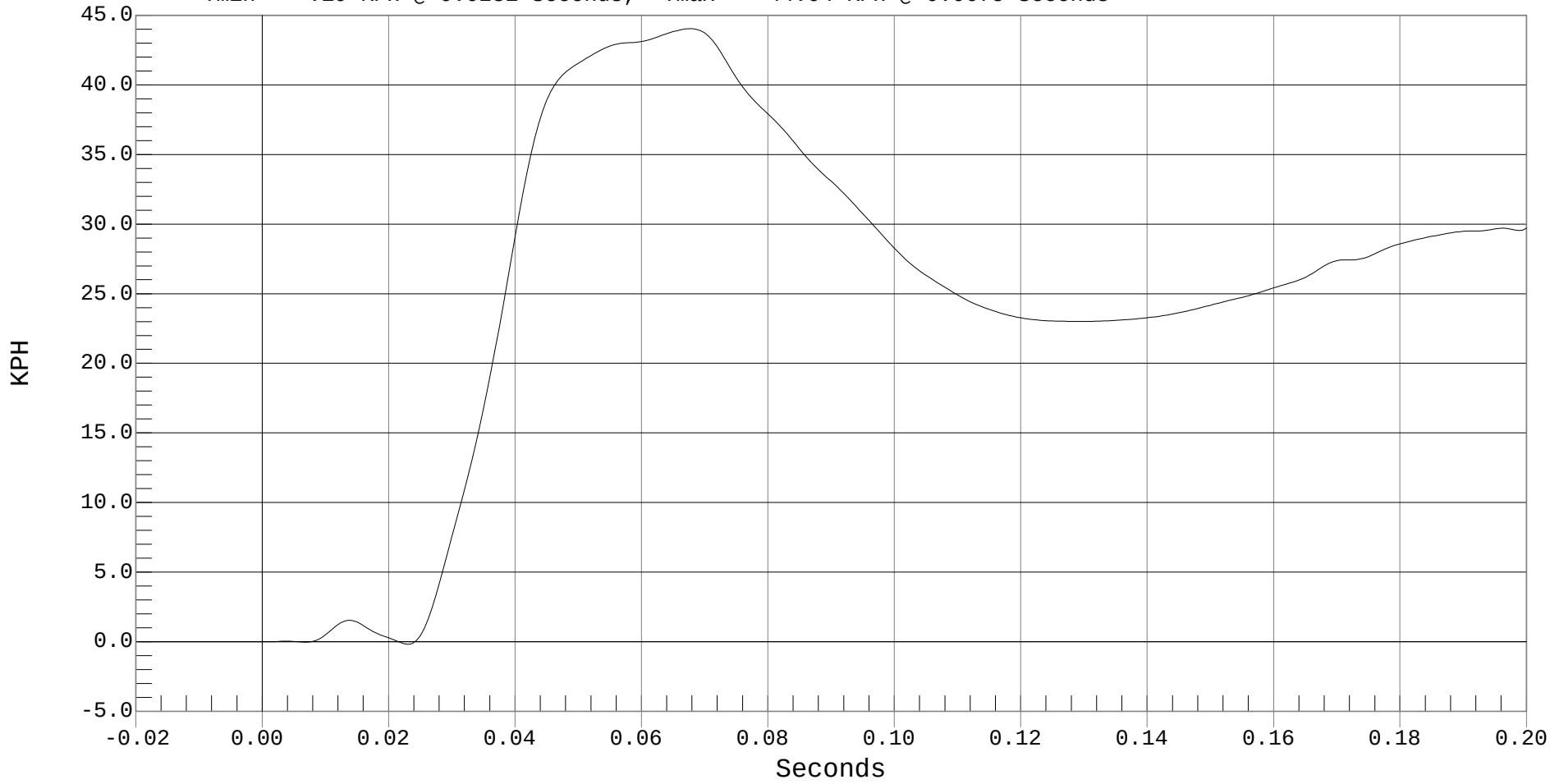
DRIVER LOWER SPINE Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER SPINE Y VELOCITY, b01002FI.V06

Ymin = -.19 KPH @ 0.0231 Seconds, Ymax = 44.04 KPH @ 0.0675 Seconds



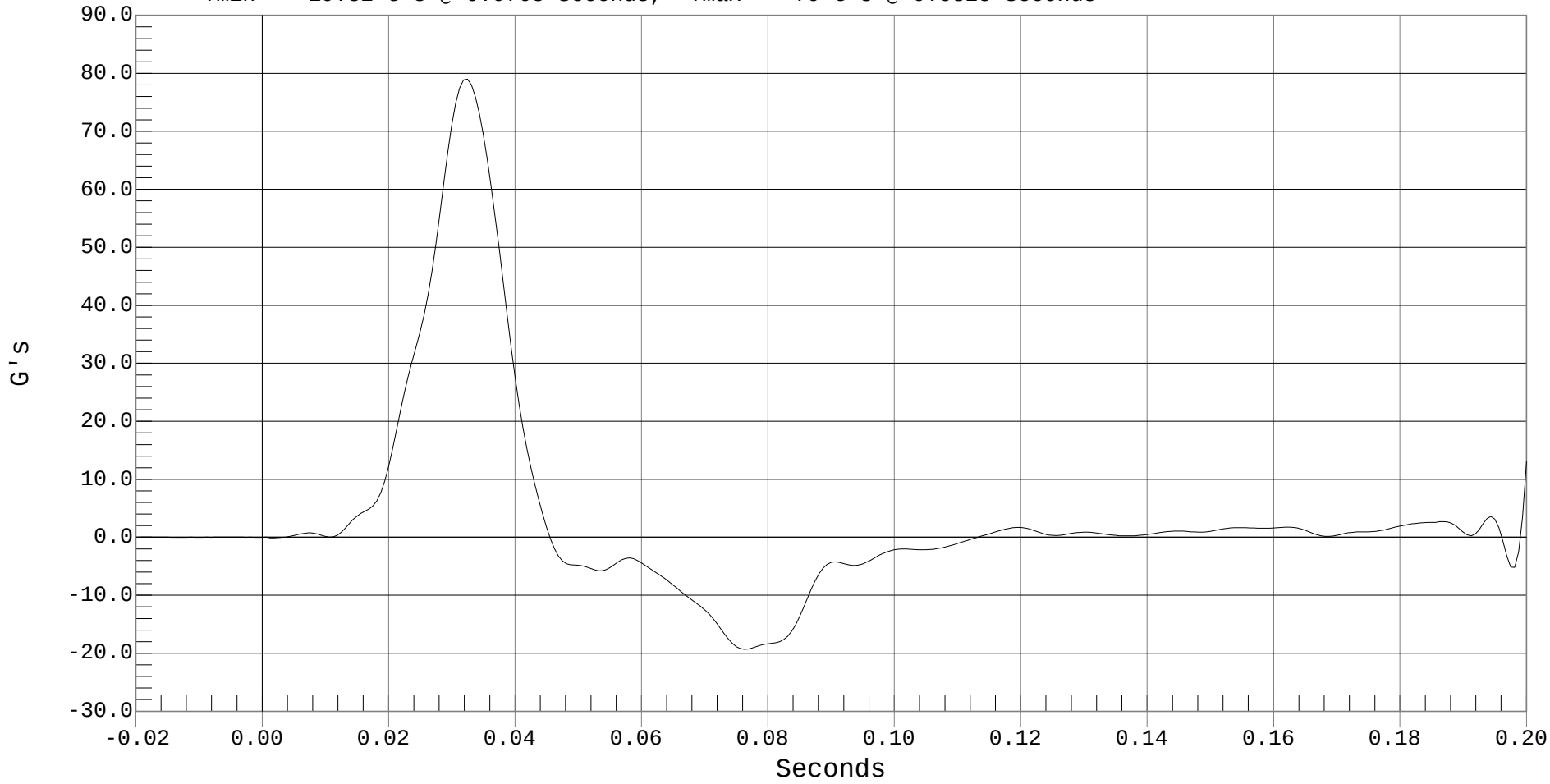
DRIVER PELVIS Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER PELVIS Y, b01002FI.R07

Ymin = -19.32 G's @ 0.0763 Seconds, Ymax = 79 G's @ 0.0325 Seconds



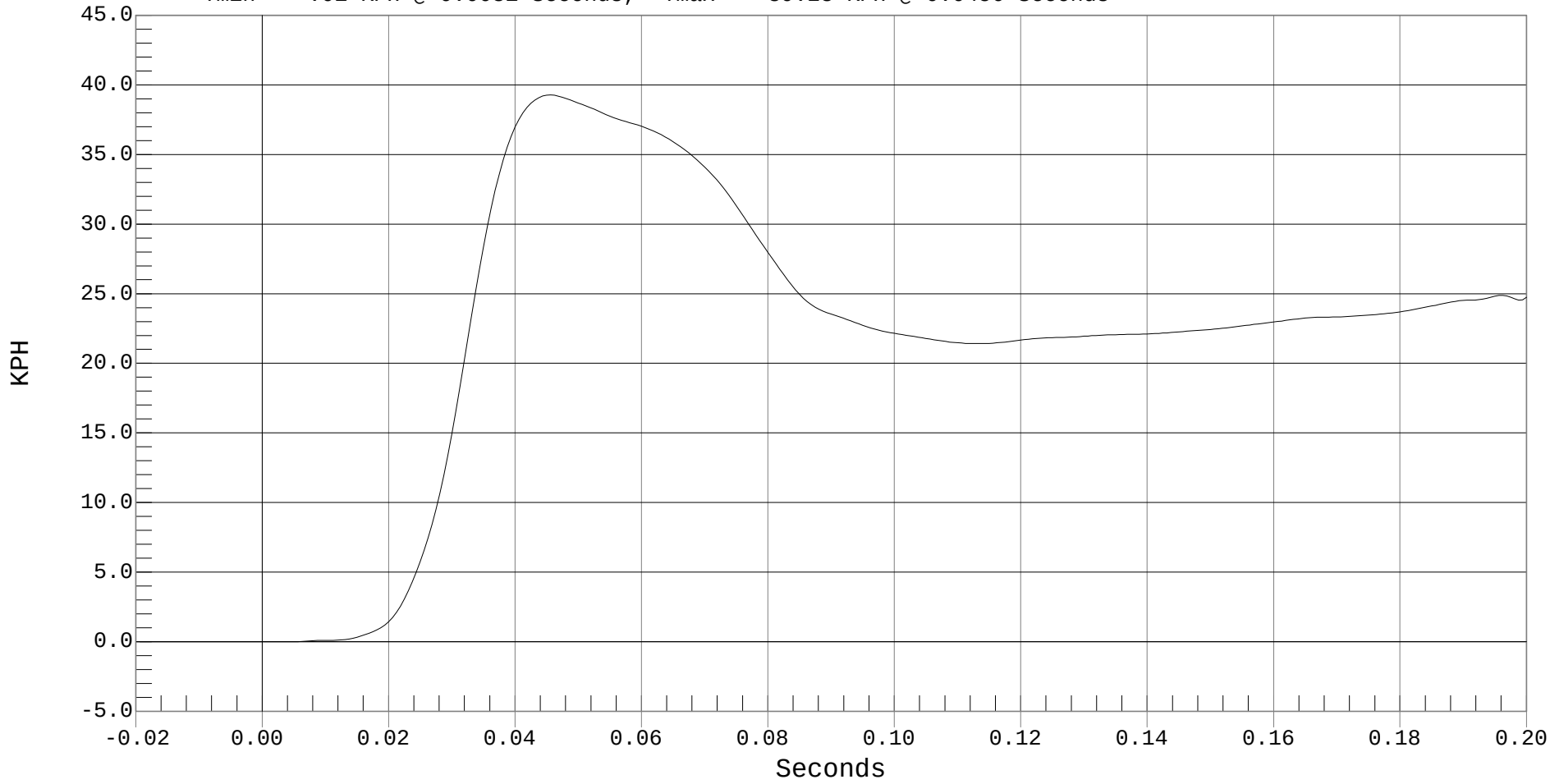
DRIVER PELVIS Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER PELVIS Y VELOCITY, b01002FI.V07

Ymin = -.01 KPH @ 0.0031 Seconds, Ymax = 39.28 KPH @ 0.0456 Seconds



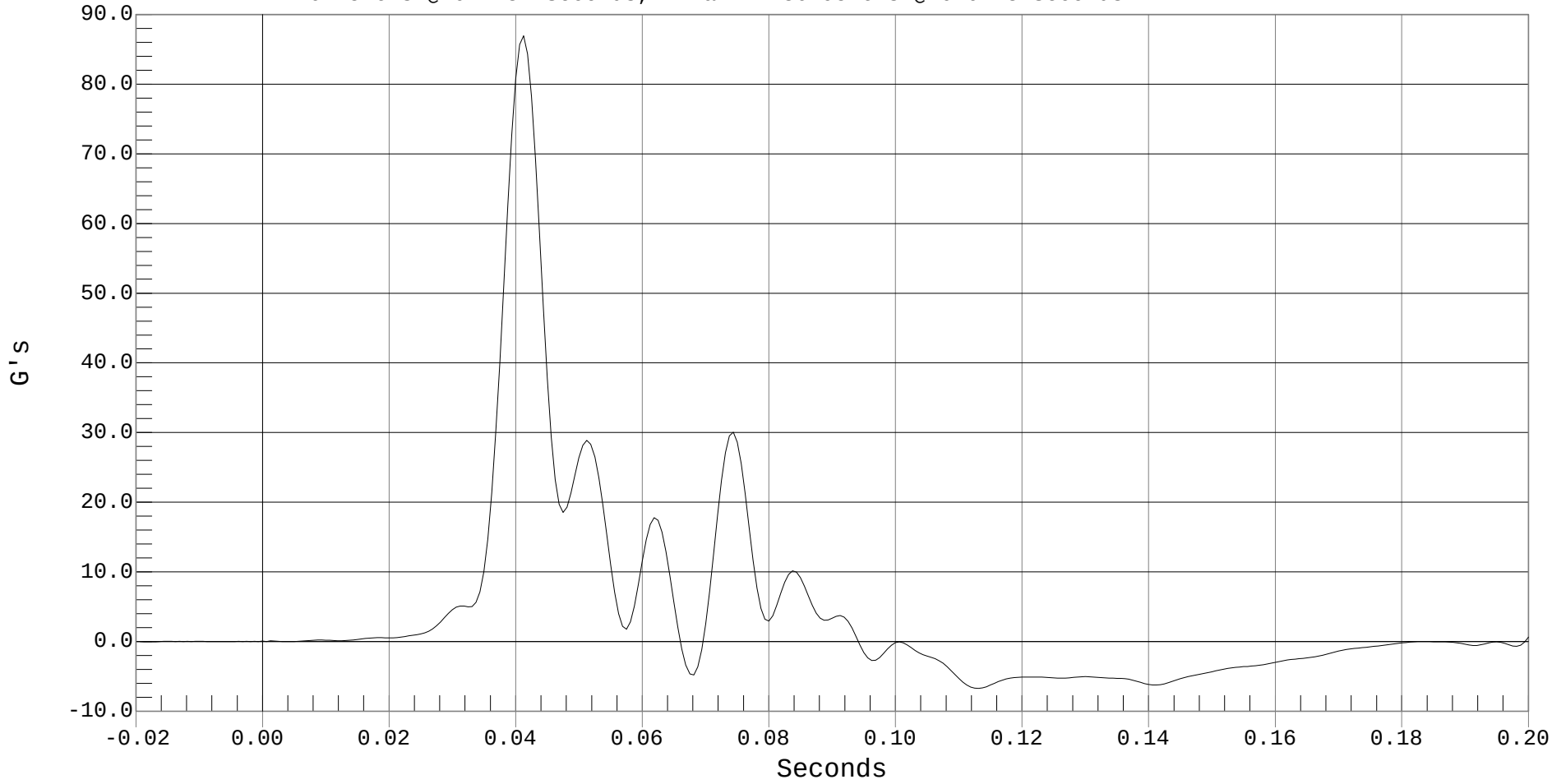
REAR PASSENGER UPPER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER UPPER RIB Y, b01002FI.R11

Ymin = -6.75 G's @ 0.1131 Seconds, Ymax = 86.95 G's @ 0.0413 Seconds



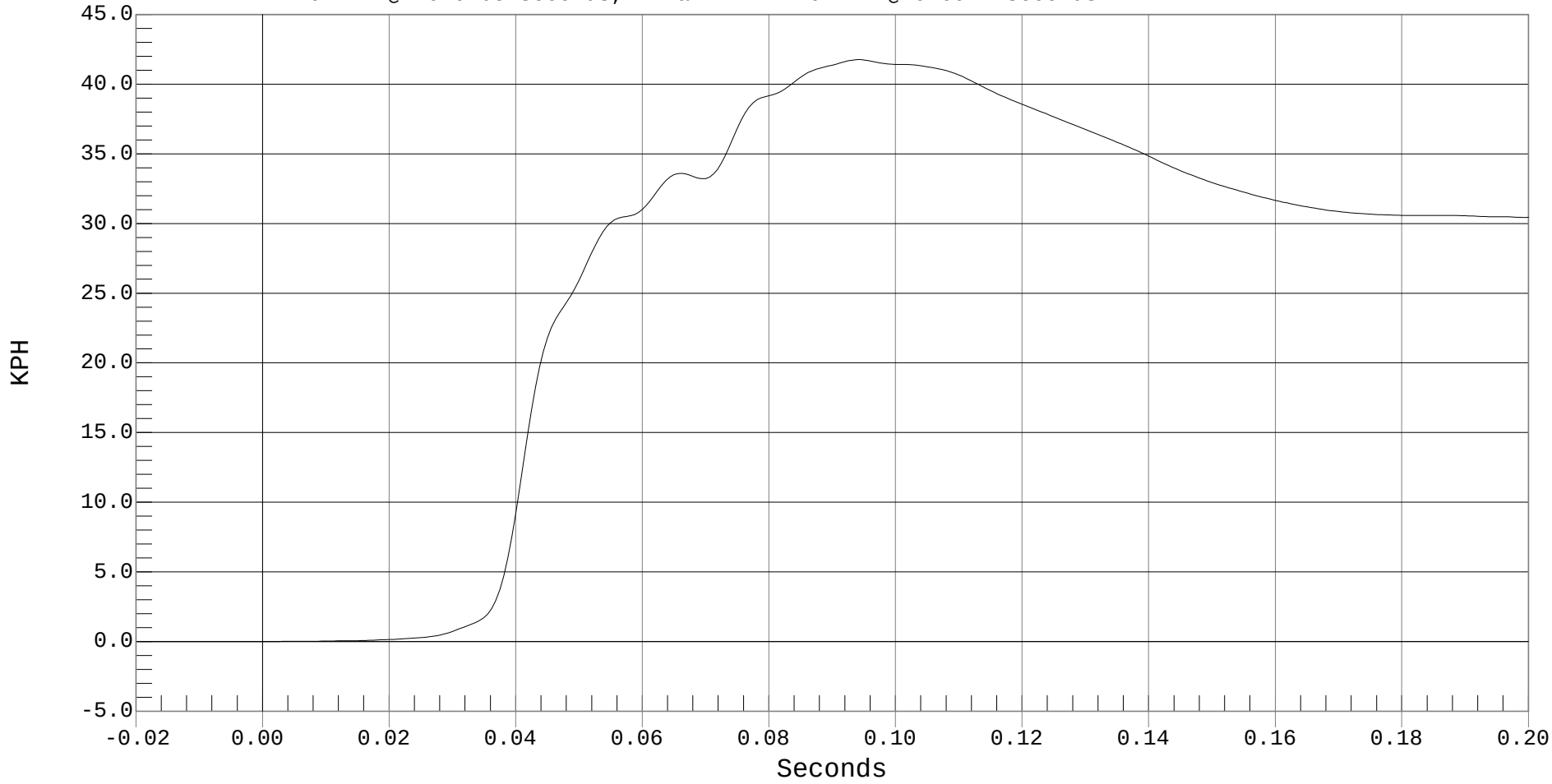
REAR PASSENGER UPPER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER UPPER RIB Y VELOCITY, b01002FI.V11

Ymin = 0 KPH @ -0.0163 Seconds, Ymax = 41.76 KPH @ 0.0944 Seconds



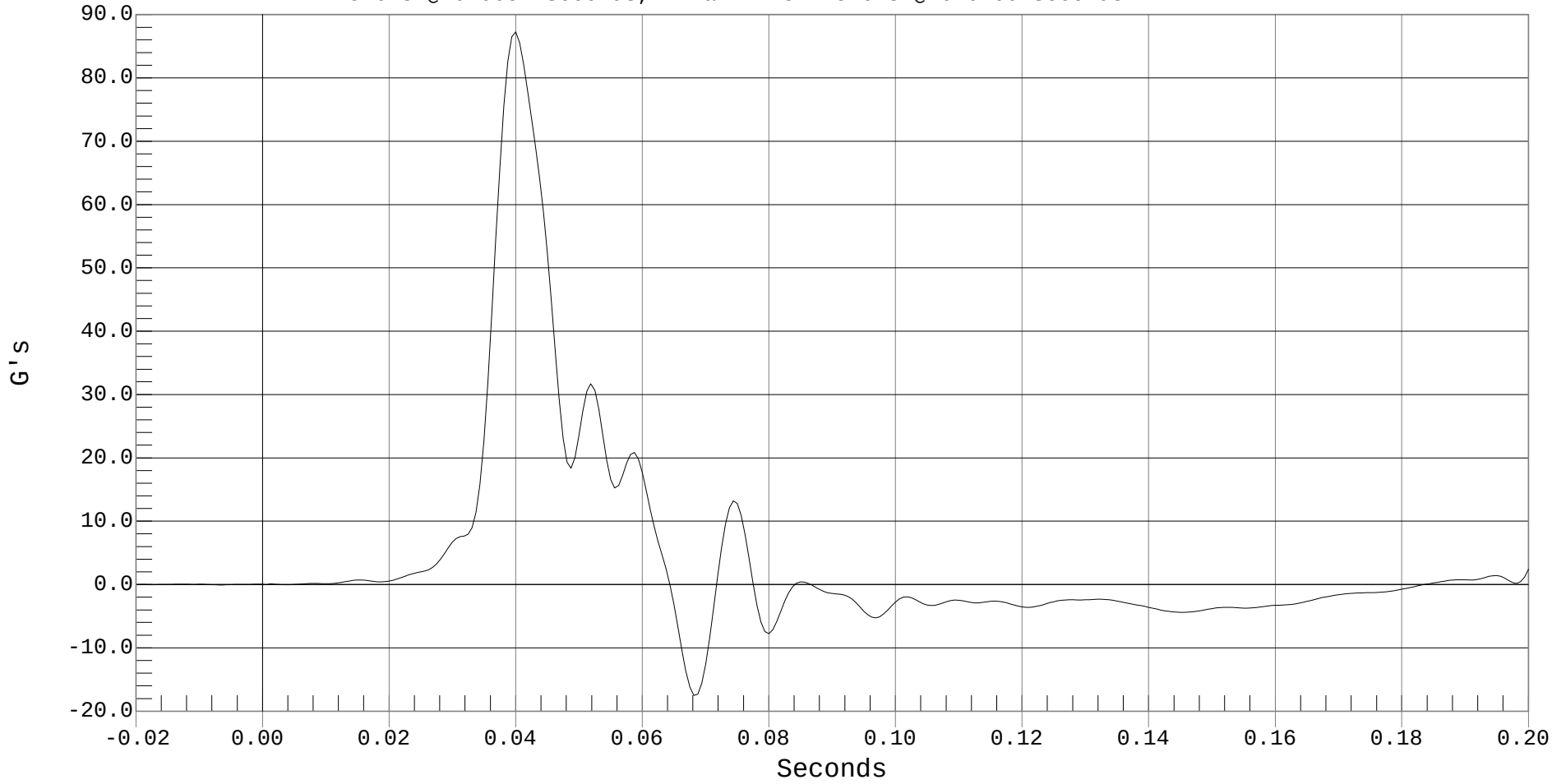
REAR PASSENGER LOWER RIB Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER LOWER RIB Y, b01002FI.R12

Ymin = -17.5 G's @ 0.0681 Seconds, Ymax = 87.25 G's @ 0.0400 Seconds



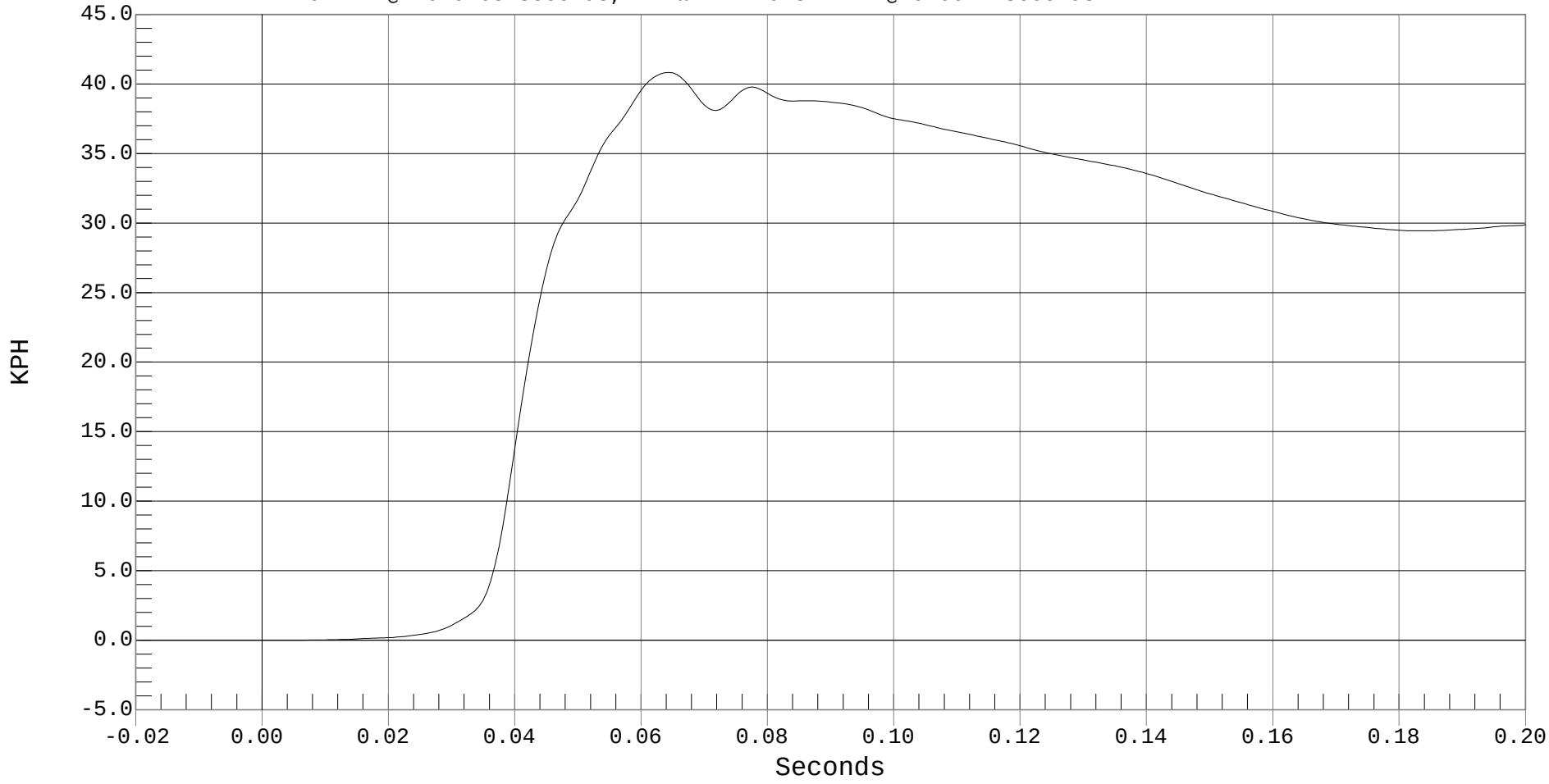
REAR PASSENGER LOWER RIB Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER LOWER RIB Y VELOCITY, b01002FI.V12

Ymin = 0 KPH @ -0.0163 Seconds, Ymax = 40.84 KPH @ 0.0644 Seconds



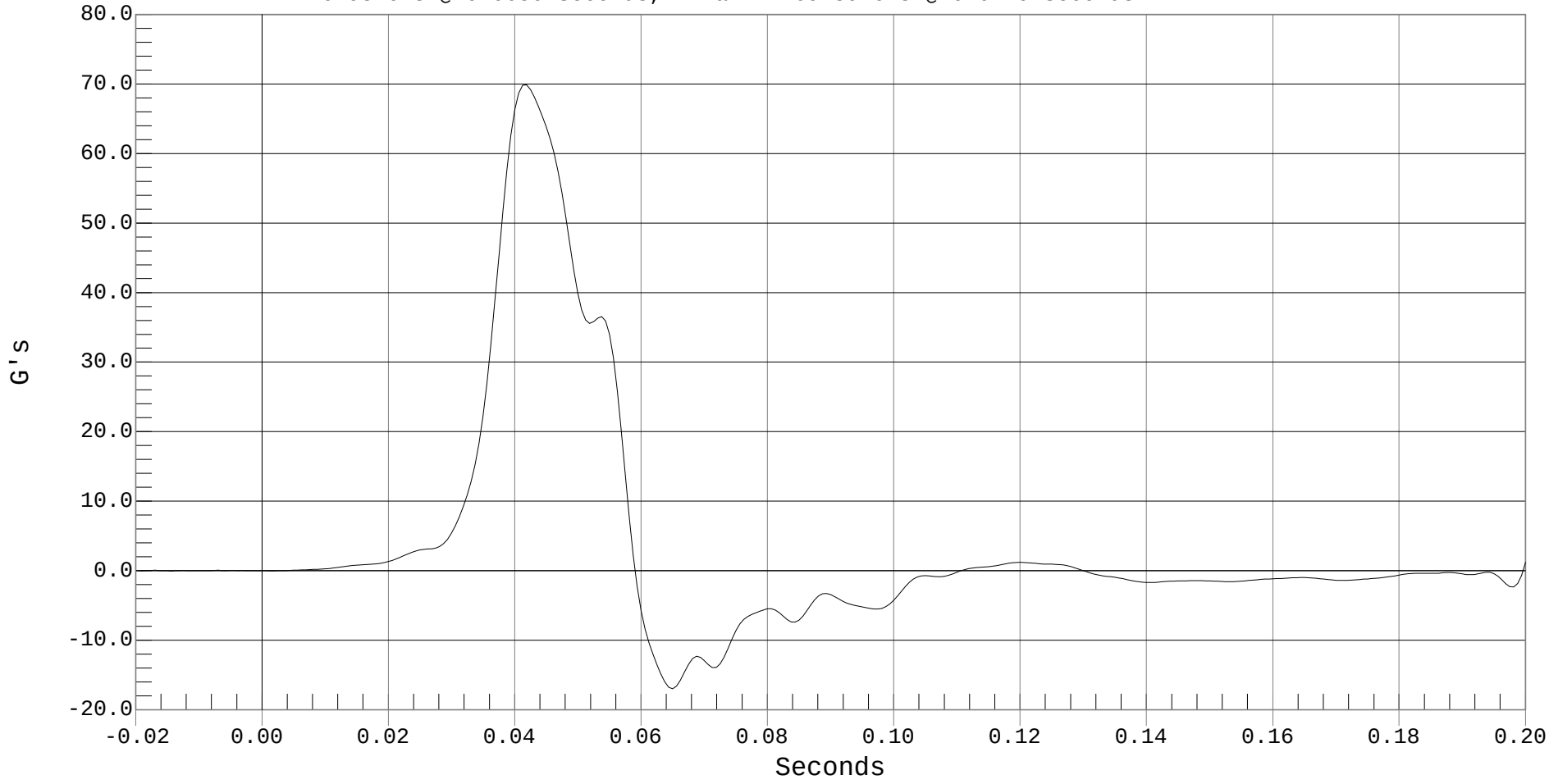
REAR PASSENGER LOWER SPINE Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER LOWER SPINE Y, b01002FI.R13

Ymin = -16.98 G's @ 0.0650 Seconds, Ymax = 69.89 G's @ 0.0419 Seconds



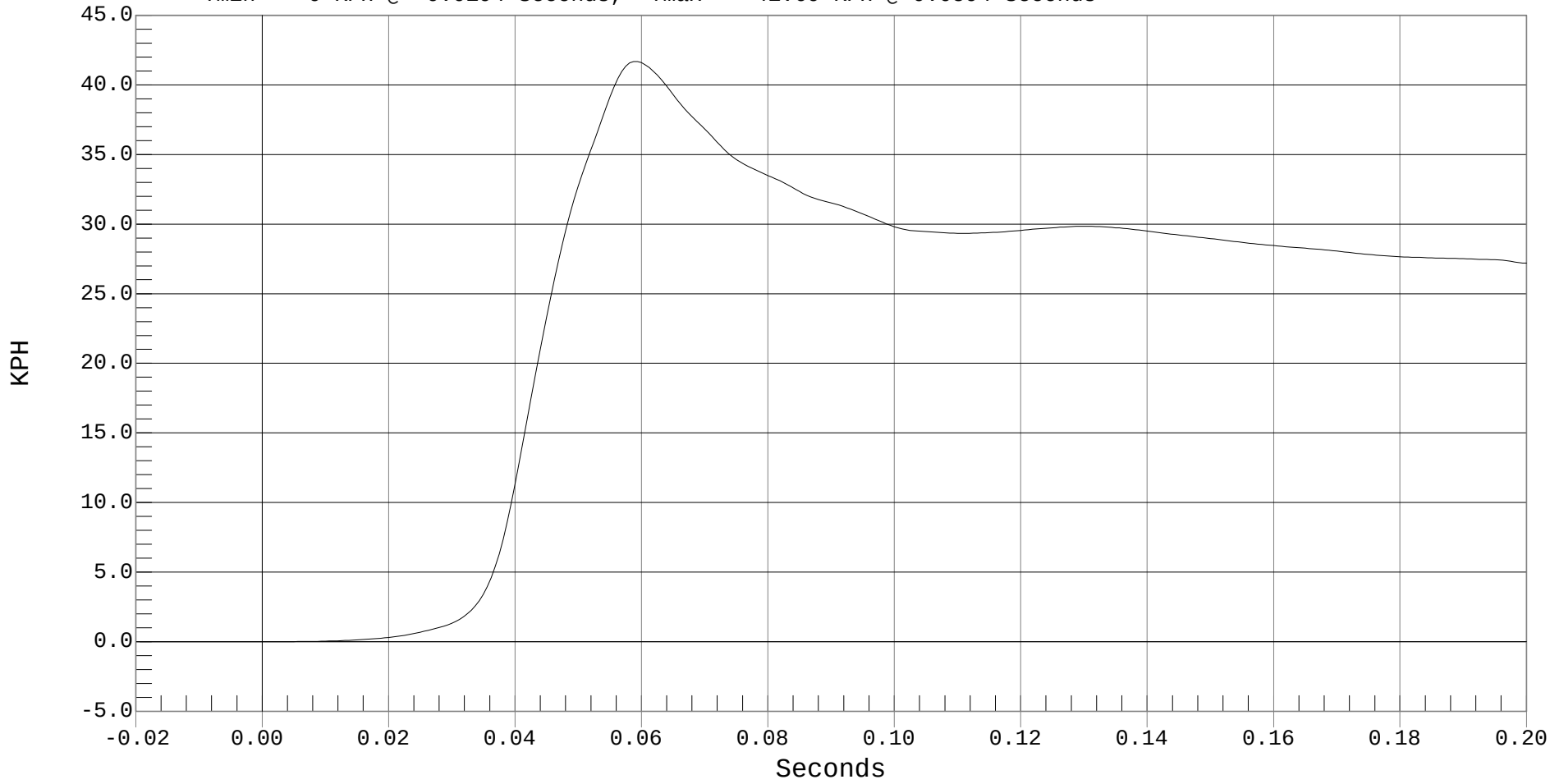
REAR PASSENGER LOWER SPINE Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER LOWER SPINE Y VELOCITY, b01002FI.V13

Ymin = 0 KPH @ -0.0194 Seconds, Ymax = 41.69 KPH @ 0.0594 Seconds



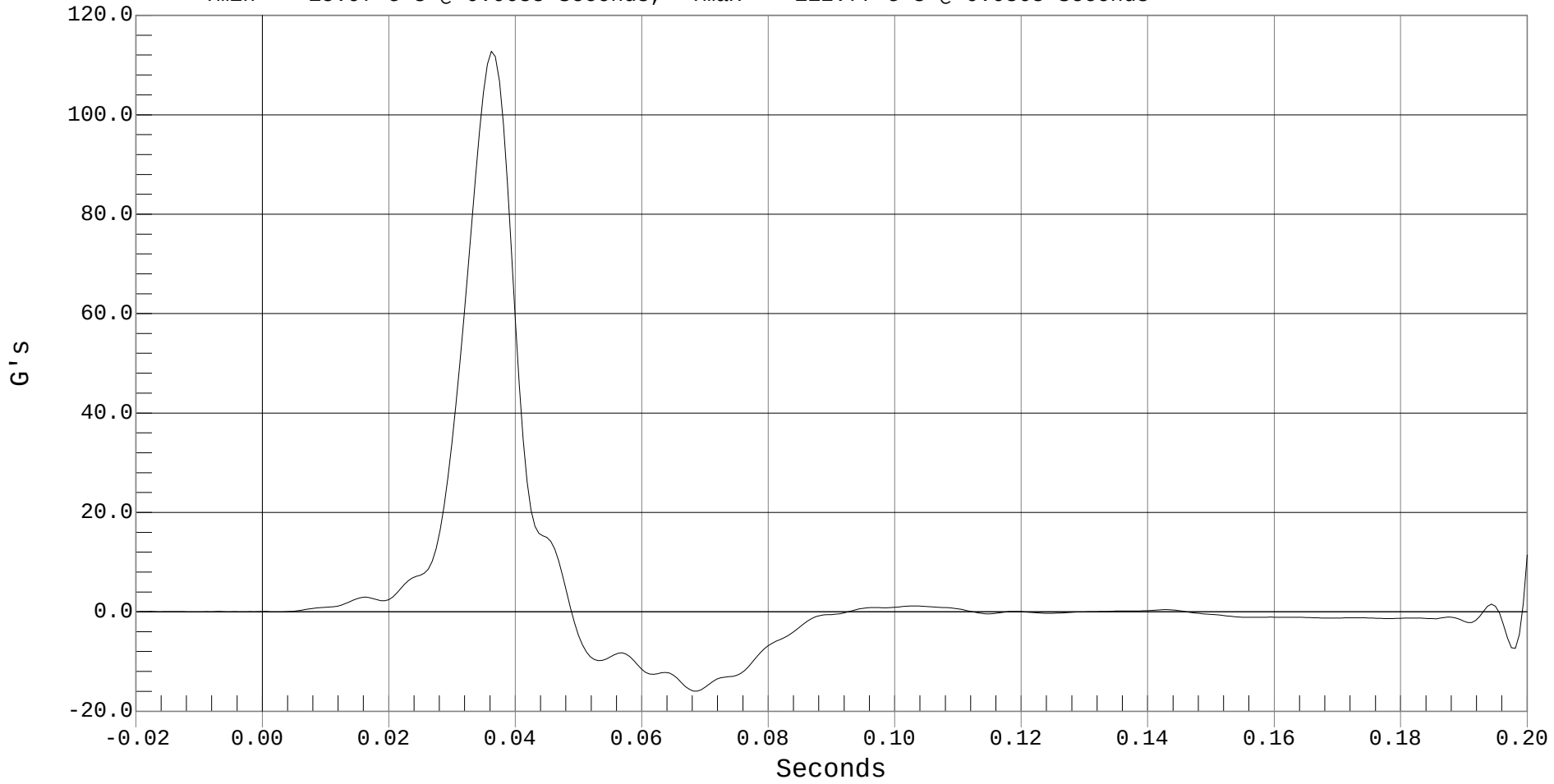
REAR PASSENGER PELVIS Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER PELVIS Y, b01002FI.R14

Ymin = -15.97 G's @ 0.0688 Seconds, Ymax = 112.77 G's @ 0.0363 Seconds



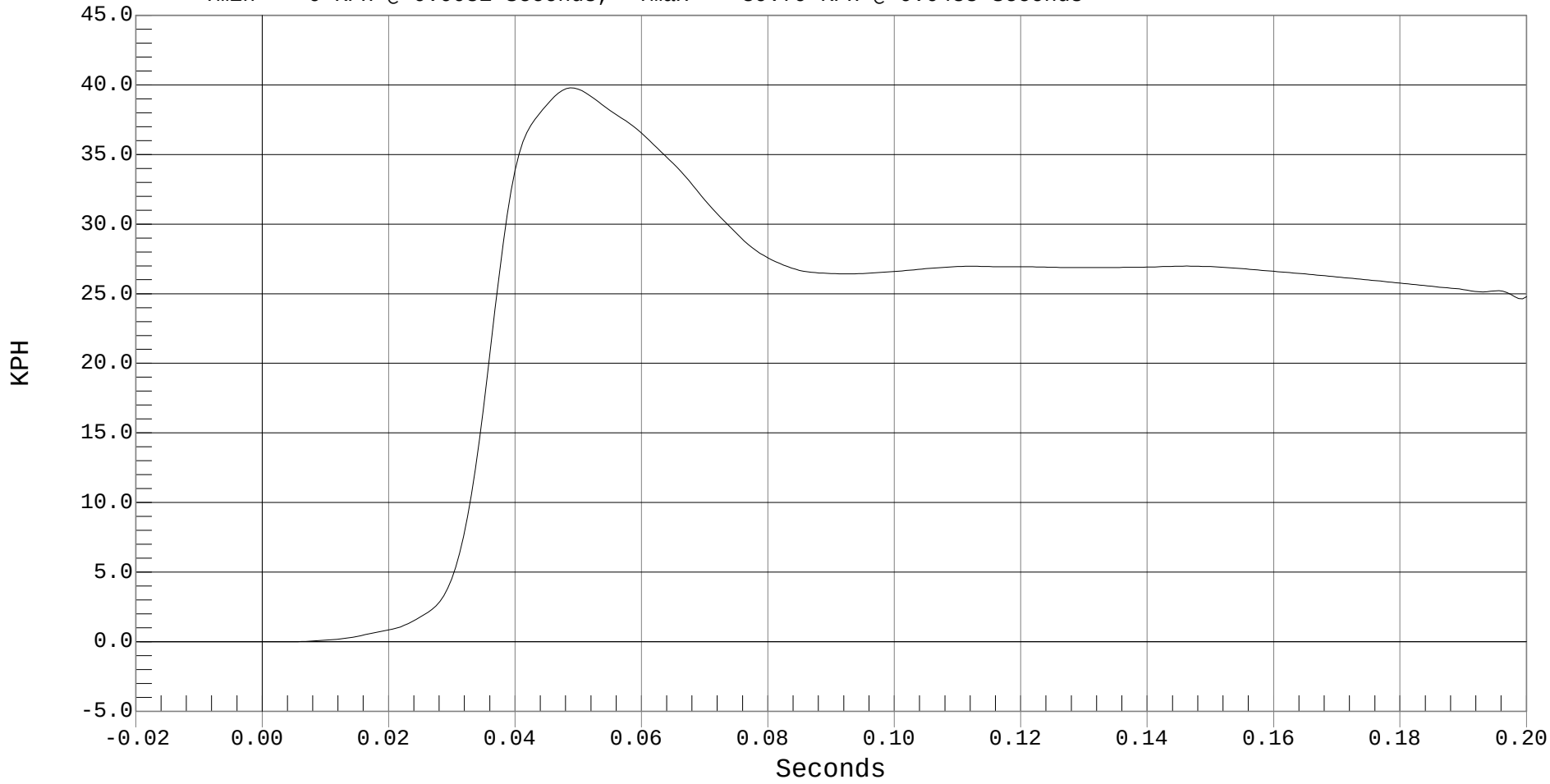
REAR PASSENGER PELVIS Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER PELVIS Y VELOCITY, b01002FI.V14

Ymin = 0 KPH @ 0.0031 Seconds, Ymax = 39.79 KPH @ 0.0488 Seconds



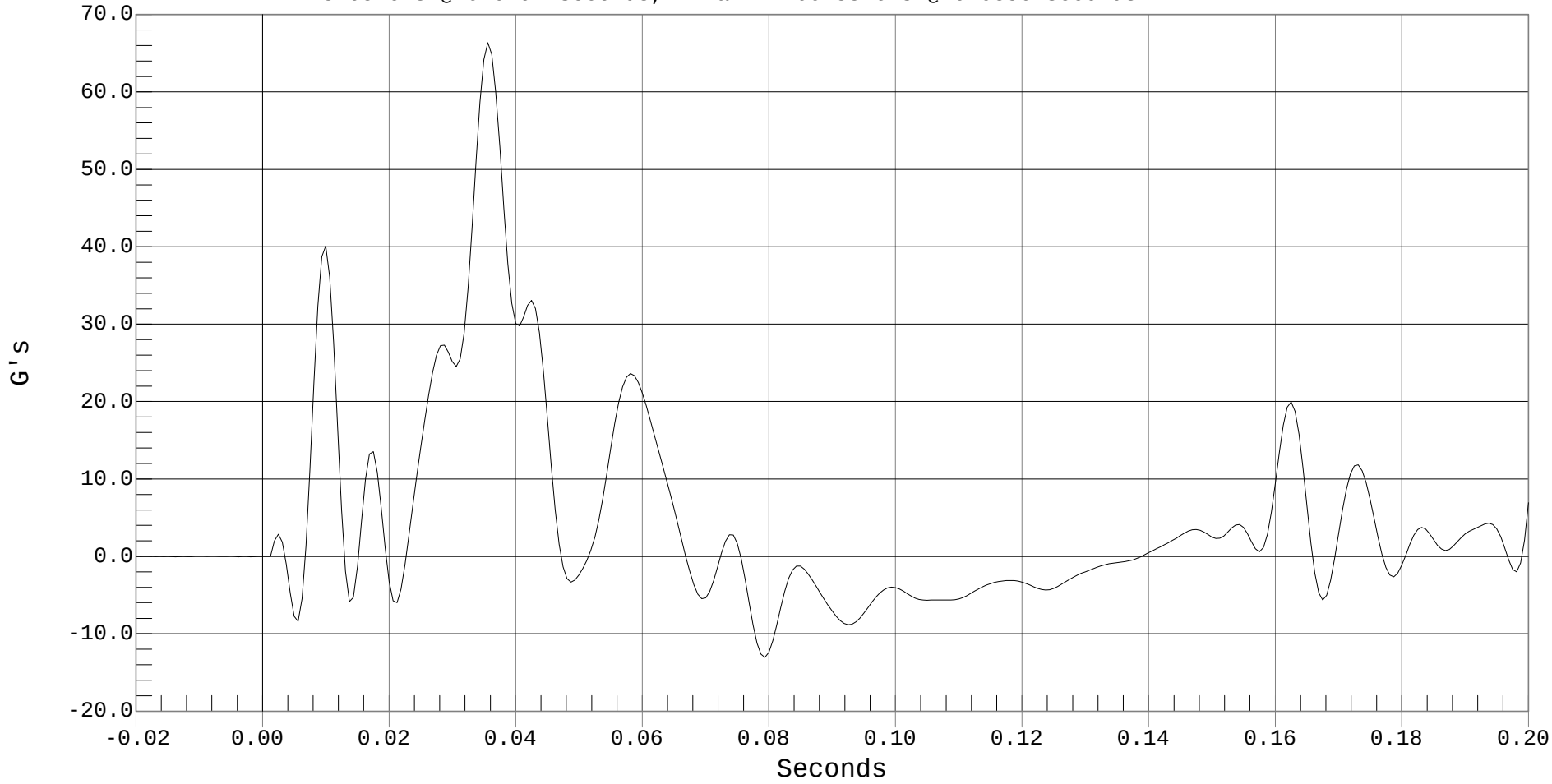
DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER UPPER RIB Yr, b01002FI.R41

Ymin = -13.05 G's @ 0.0794 Seconds, Ymax = 66.38 G's @ 0.0356 Seconds



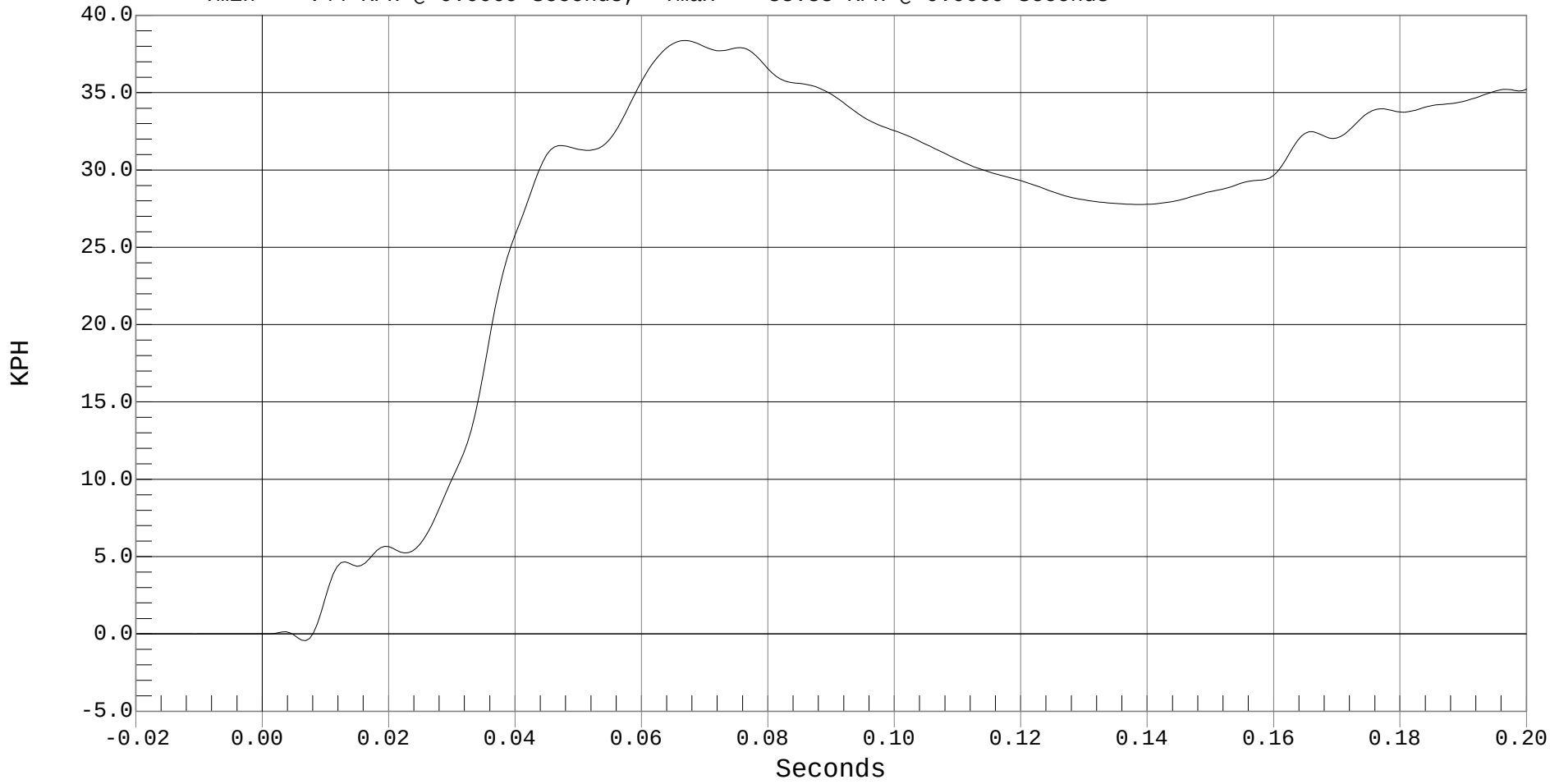
DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, b01002FI.V41

Ymin = -.44 KPH @ 0.0069 Seconds, Ymax = 38.38 KPH @ 0.0669 Seconds



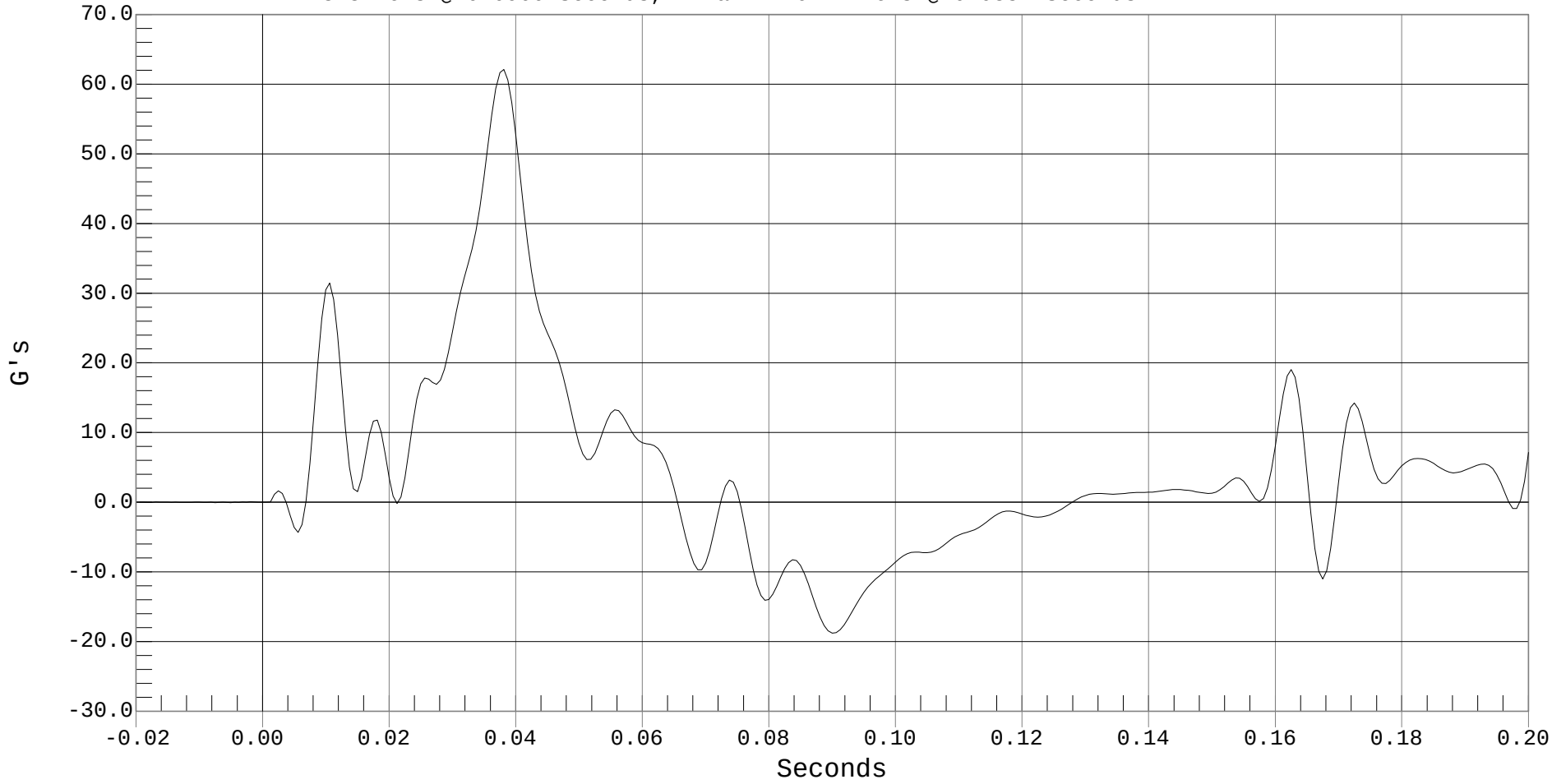
DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER RIB Yr, b01002FI.R42

Ymin = -18.81 G's @ 0.0900 Seconds, Ymax = 62.11 G's @ 0.0381 Seconds



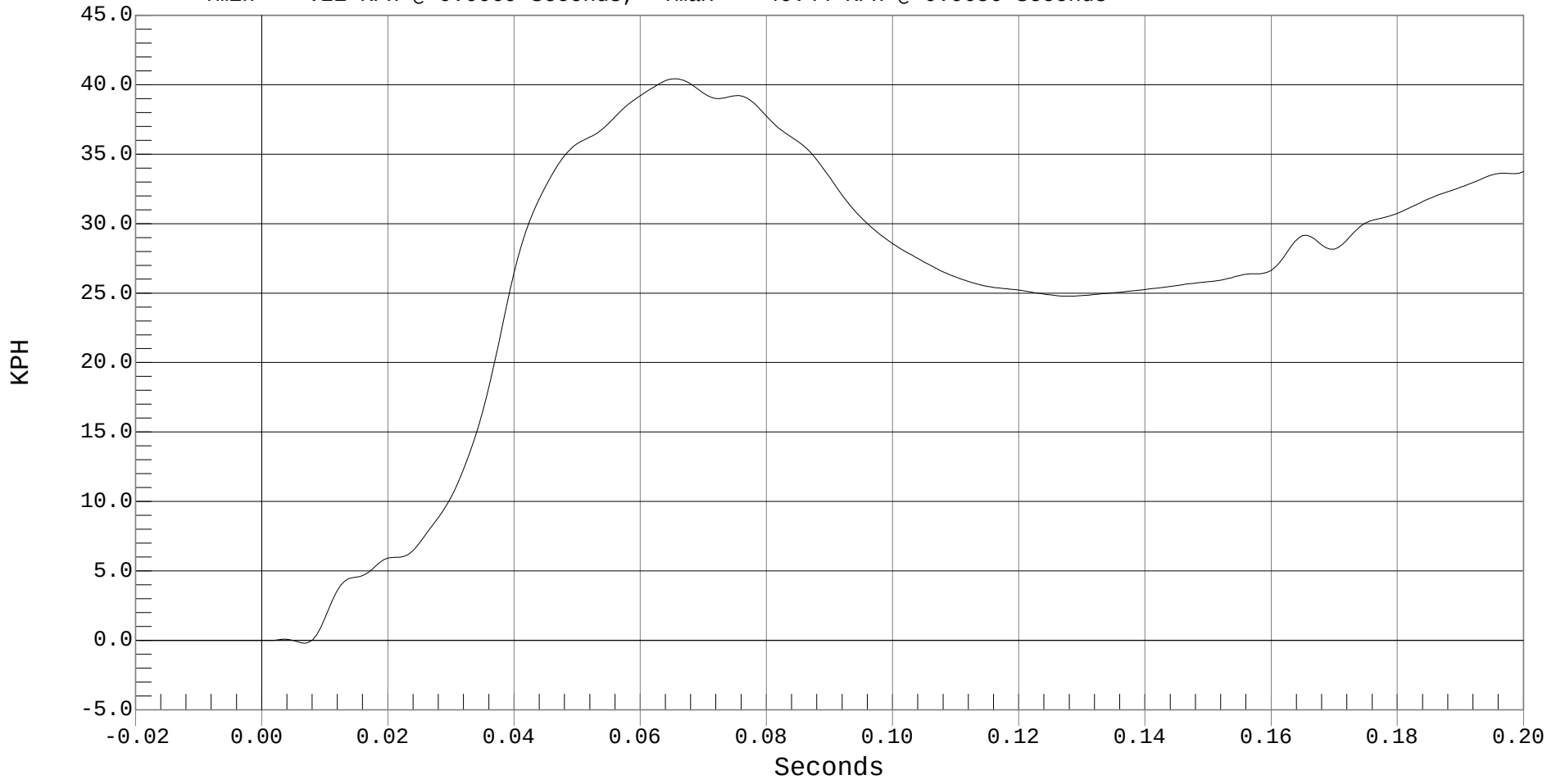
DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, b01002FI.V42

Ymin = -.21 KPH @ 0.0069 Seconds, Ymax = 40.44 KPH @ 0.0656 Seconds



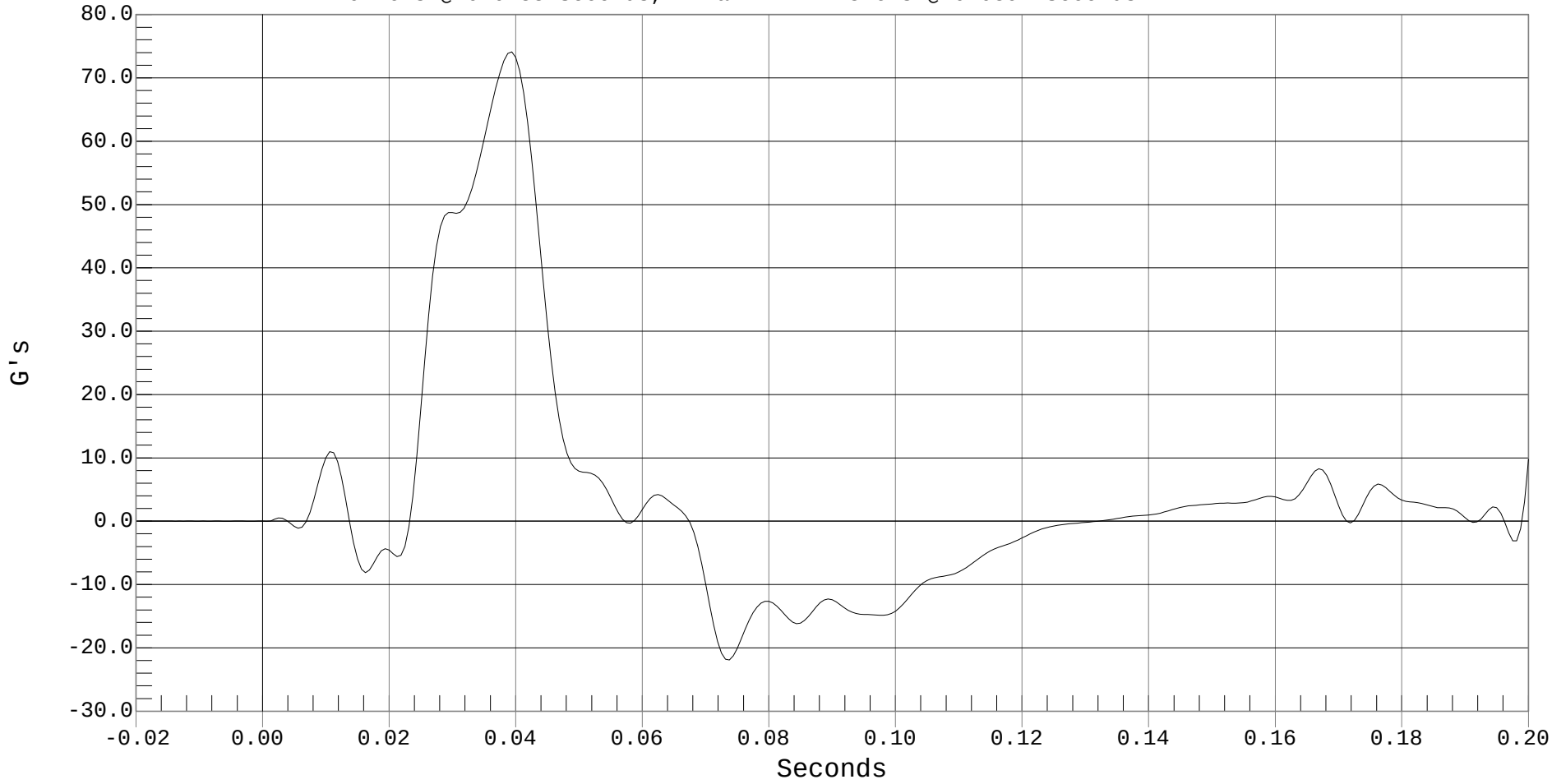
DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER SPINE Yr, b01002FI.R43

Ymin = -21.91 G's @ 0.0738 Seconds, Ymax = 74.13 G's @ 0.0394 Seconds



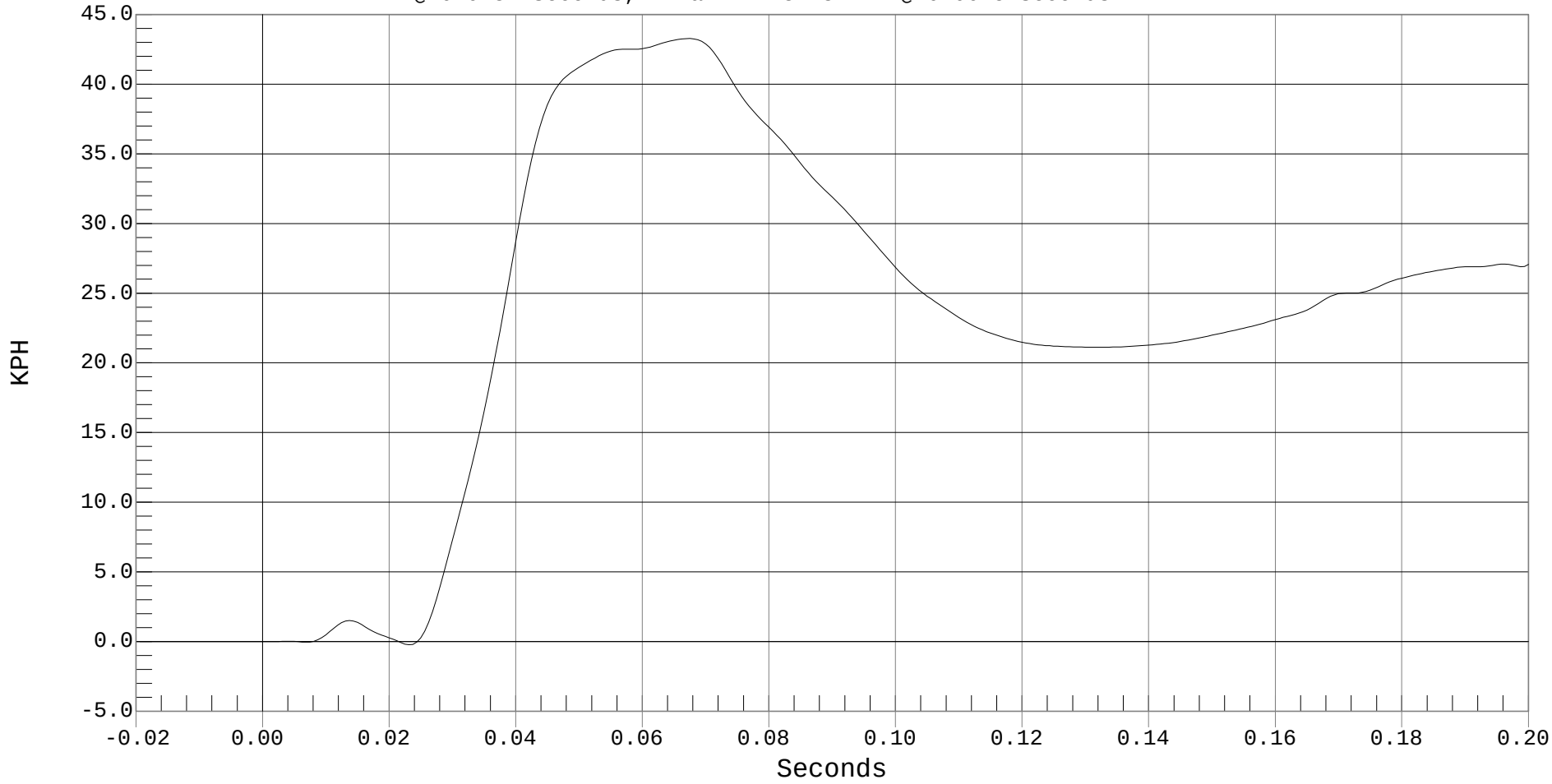
DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, b01002FI.V43

Ymin = -.24 KPH @ 0.0231 Seconds, Ymax = 43.28 KPH @ 0.0675 Seconds



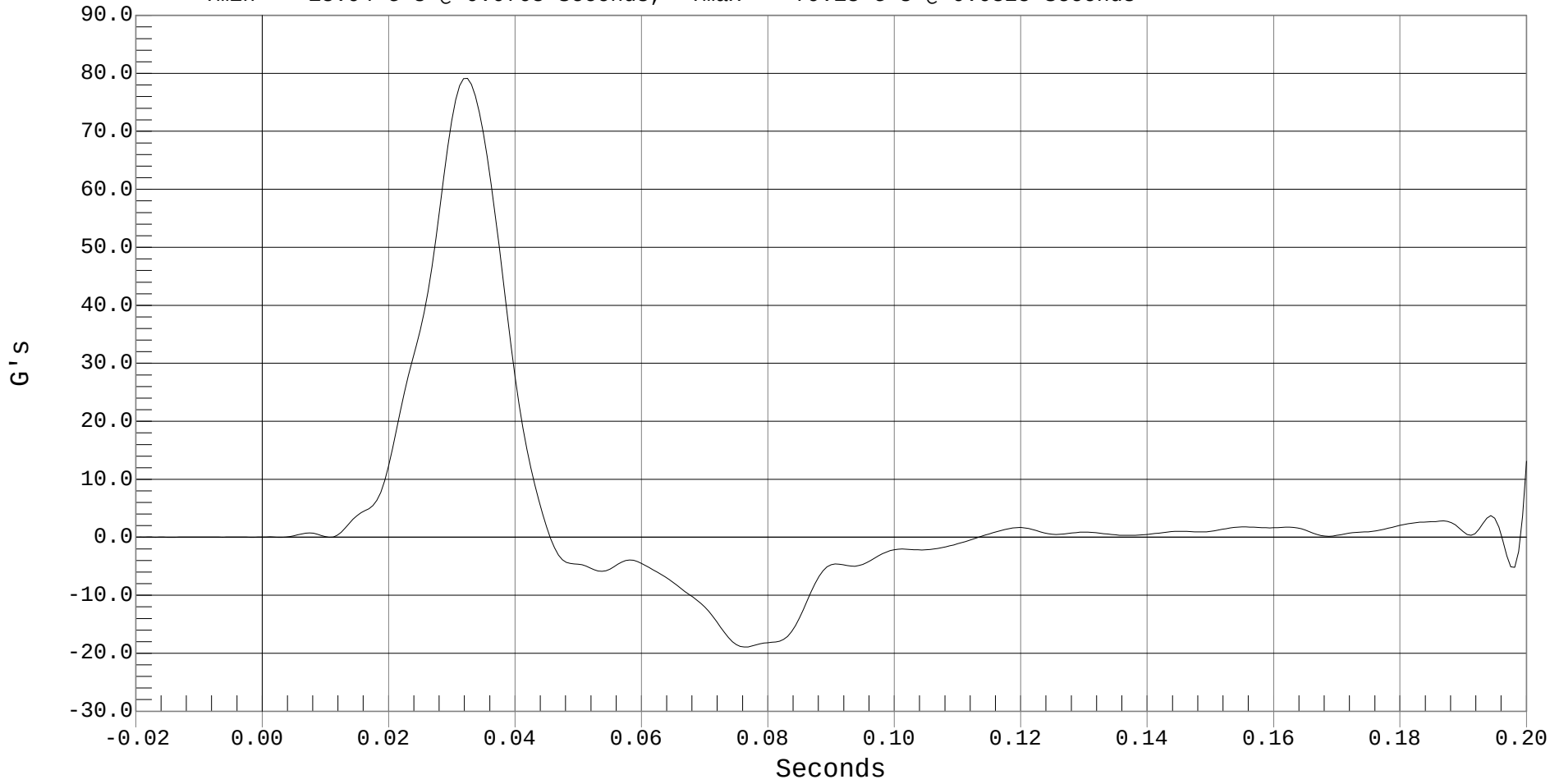
DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER PELVIS Yr, b01002FI.R44

Ymin = -18.94 G's @ 0.0763 Seconds, Ymax = 79.13 G's @ 0.0325 Seconds



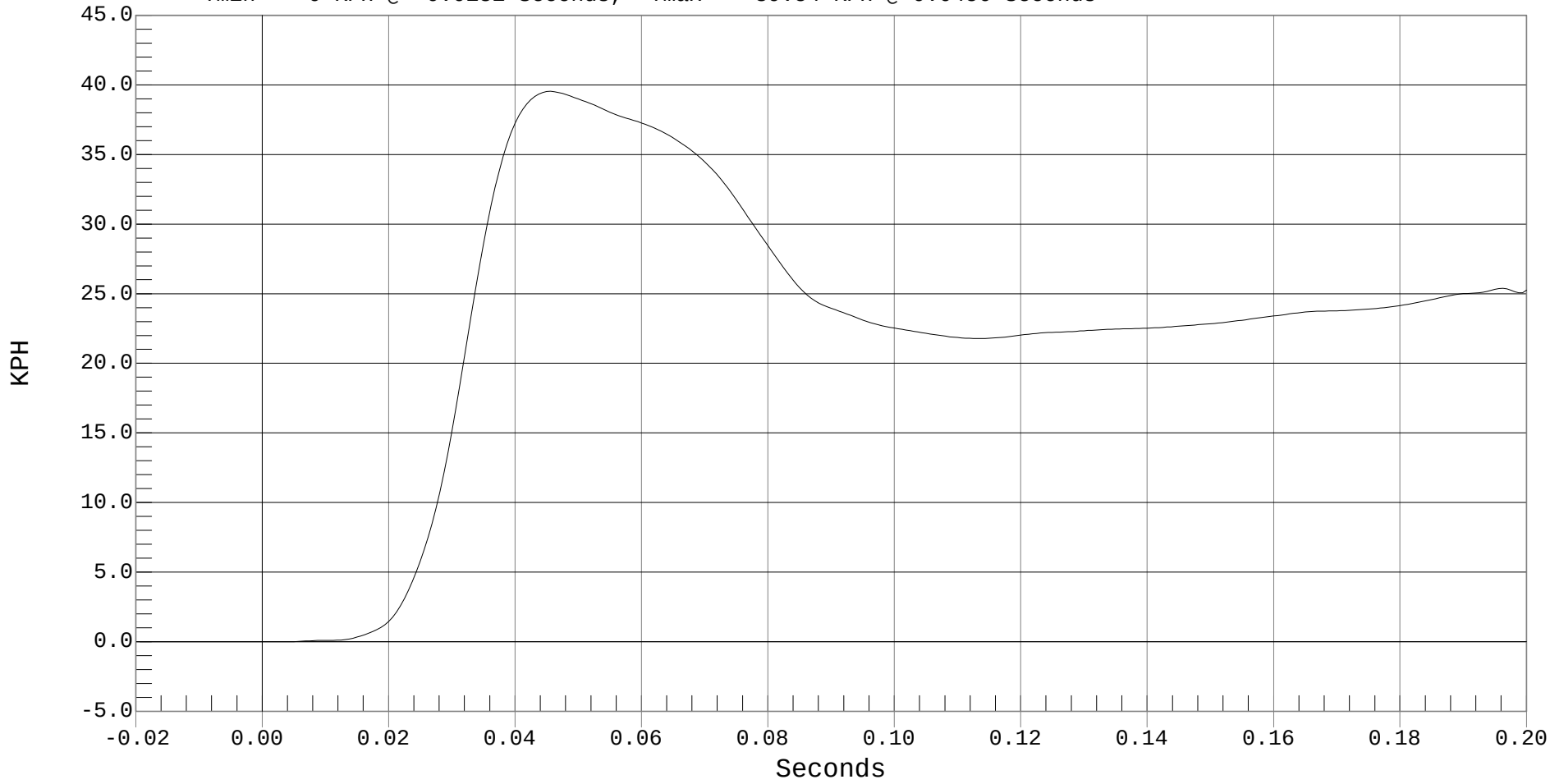
DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 DRIVER PELVIS Y REDUNDANT VELOCITY, b01002FI.V44

Ymin = 0 KPH @ -0.0131 Seconds, Ymax = 39.54 KPH @ 0.0456 Seconds



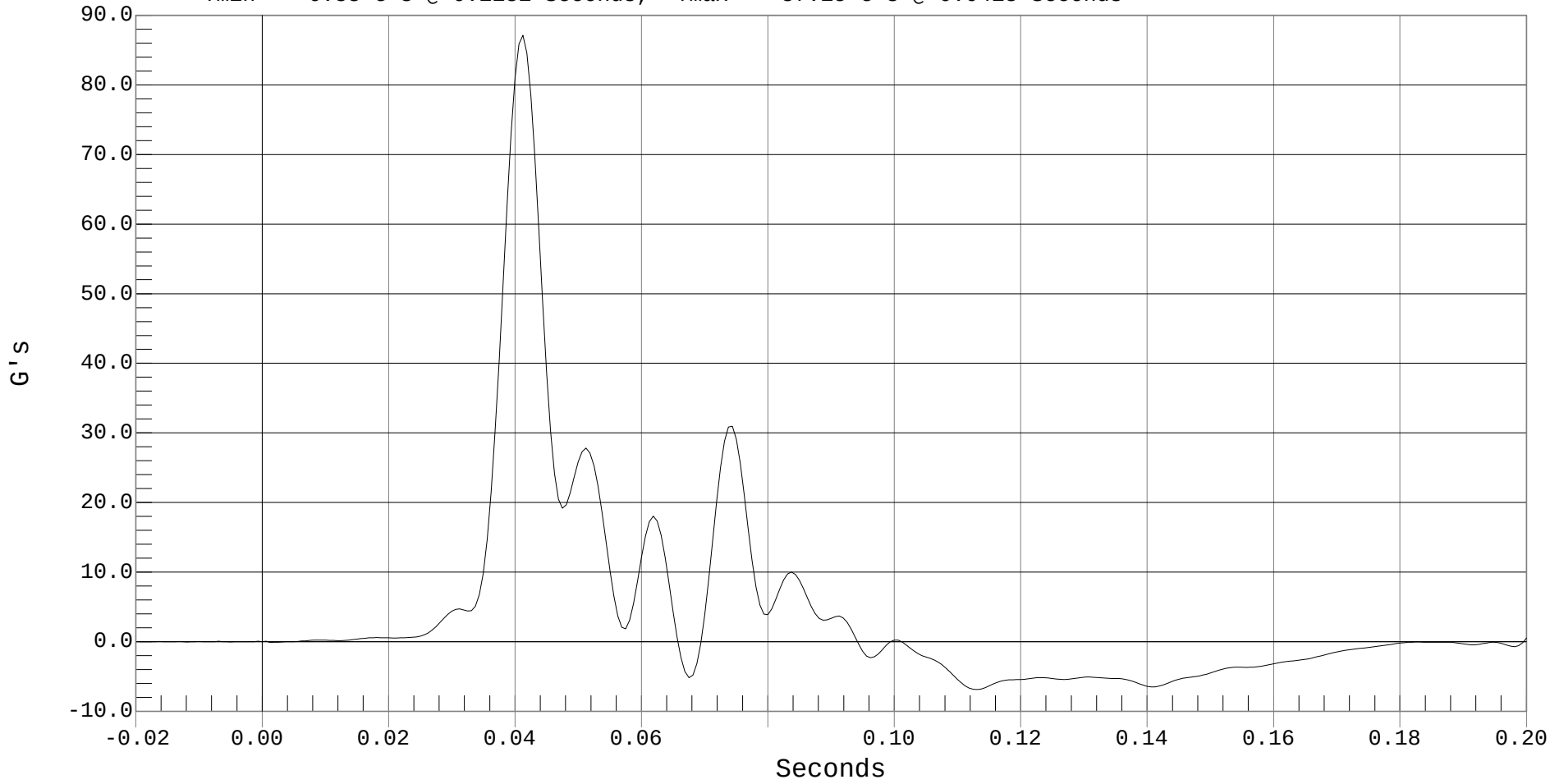
REAR PASSENGER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER UPPER RIB Yr, b01002FI.R45

Ymin = -6.88 G's @ 0.1131 Seconds, Ymax = 87.15 G's @ 0.0413 Seconds



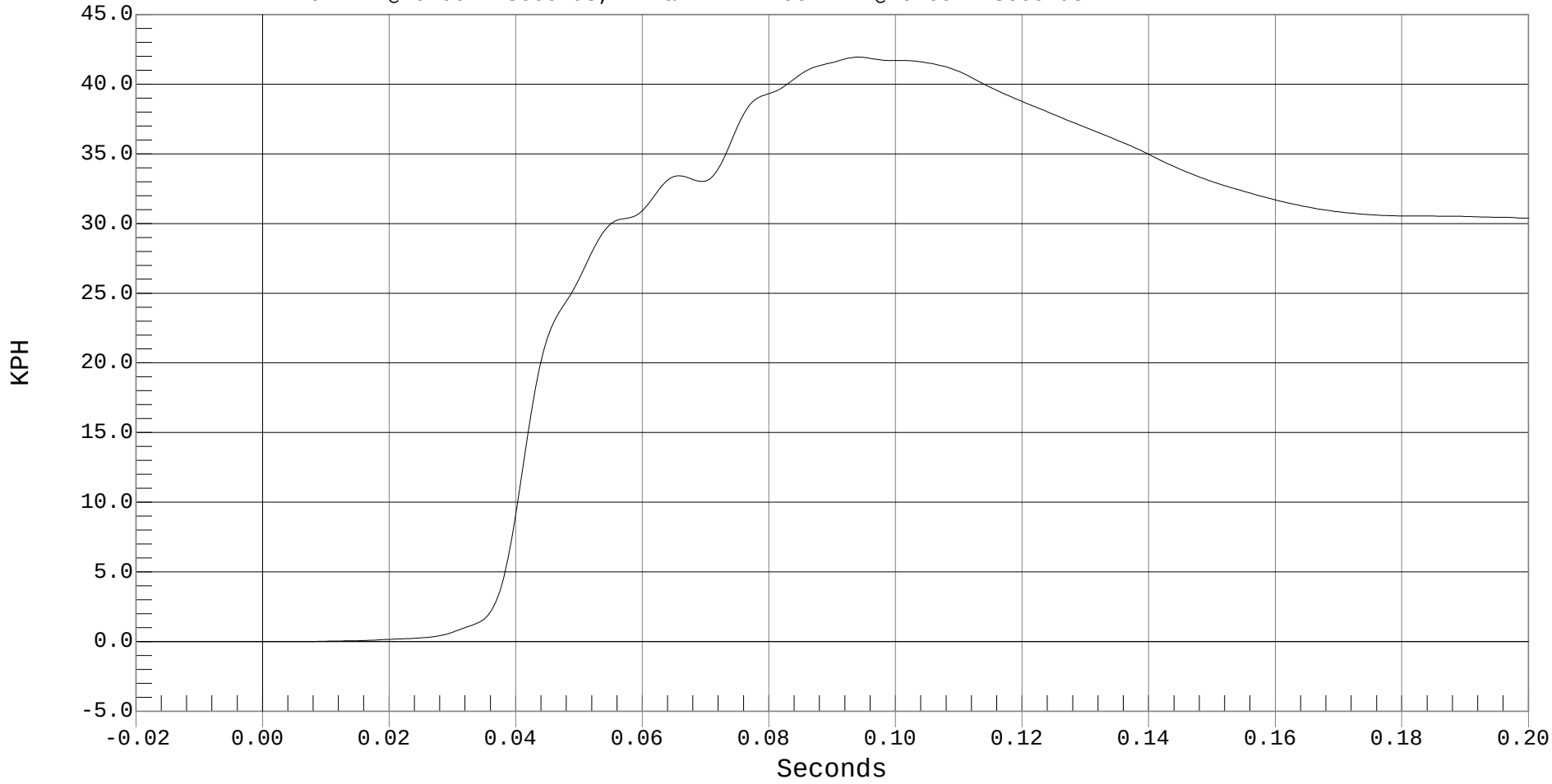
REAR PASSENGER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY, b01002FI.V45

Ymin = 0 KPH @ 0.0044 Seconds, Ymax = 41.95 KPH @ 0.0944 Seconds



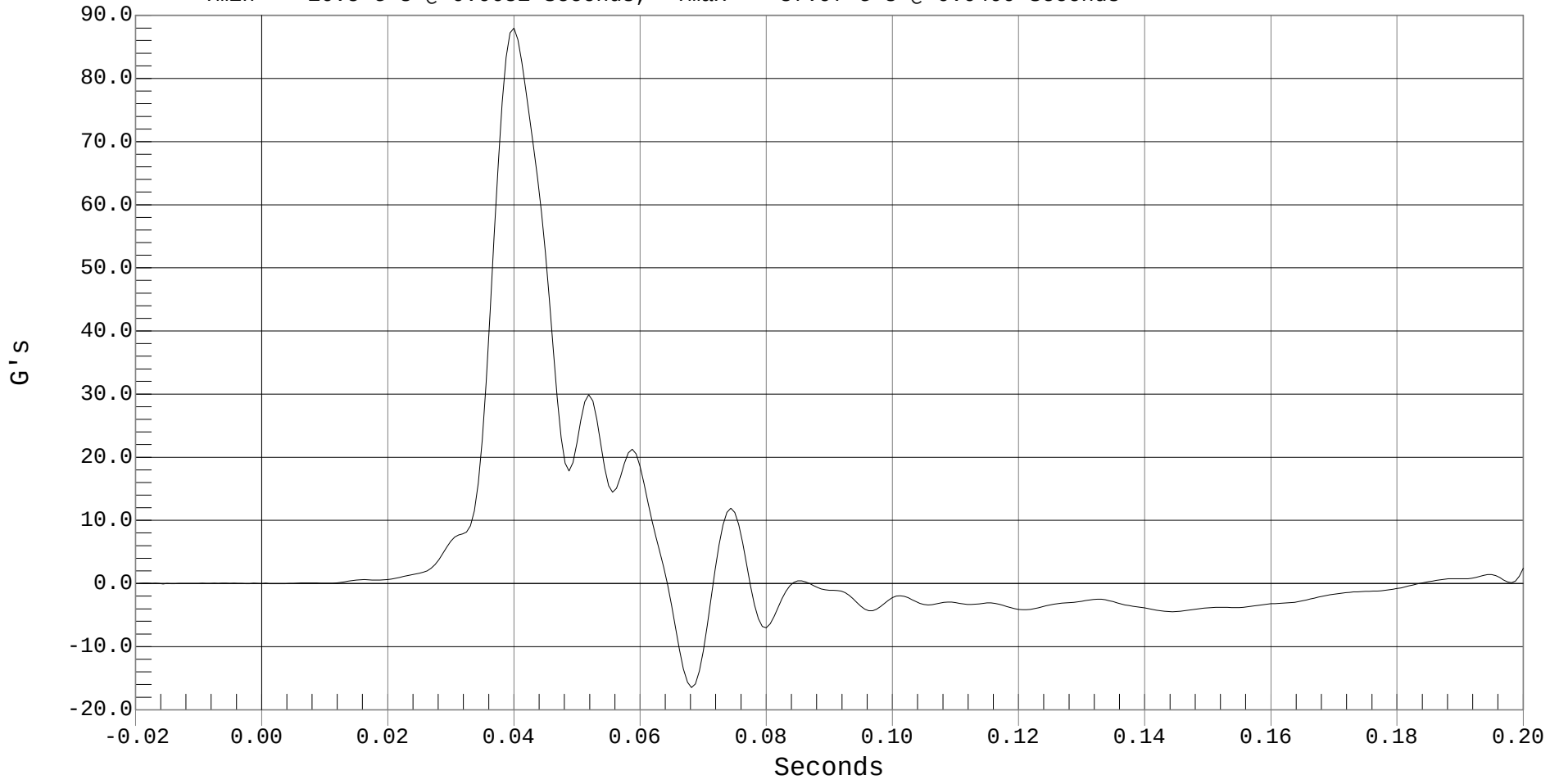
REAR PASSENGER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER LOWER RIB Yr, b01002FI.R46

Ymin = -16.5 G's @ 0.0681 Seconds, Ymax = 87.97 G's @ 0.0400 Seconds



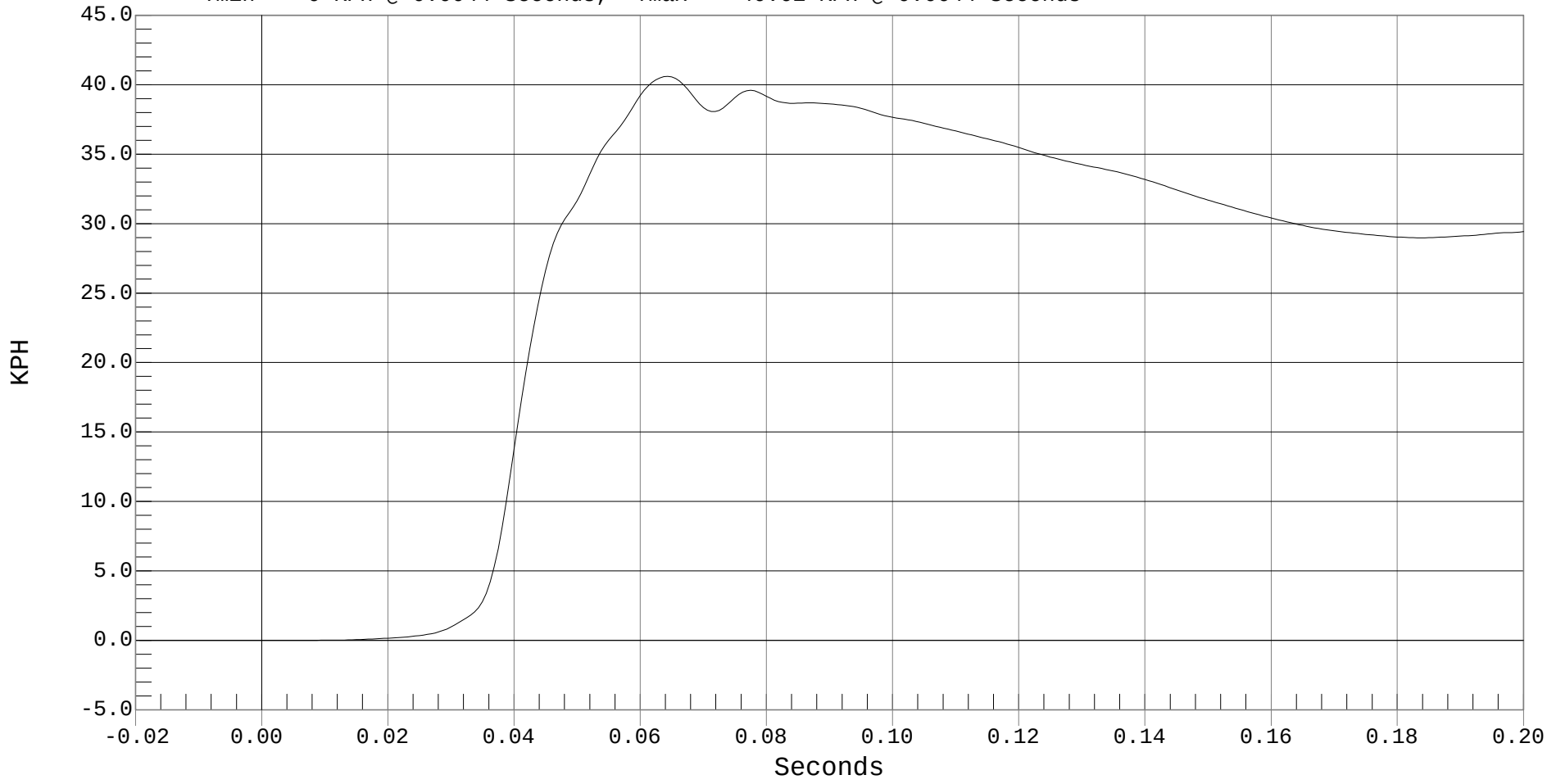
REAR PASSENGER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY, b01002FI.V46

Ymin = 0 KPH @ 0.0044 Seconds, Ymax = 40.61 KPH @ 0.0644 Seconds



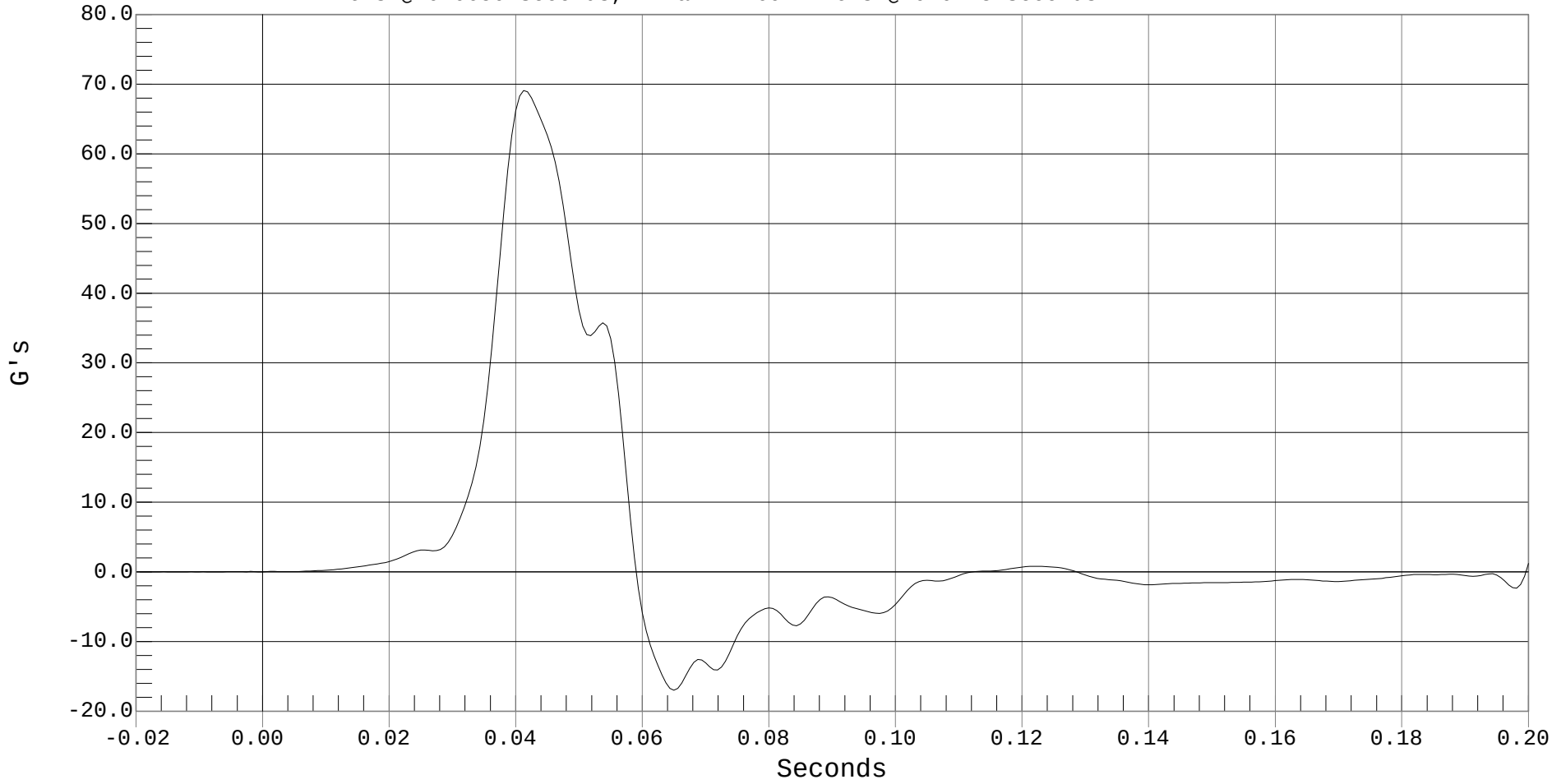
REAR PASSENGER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER LOWER SPINE Yr, b01002FI.R47

Ymin = -17 G's @ 0.0650 Seconds, Ymax = 69.12 G's @ 0.0413 Seconds



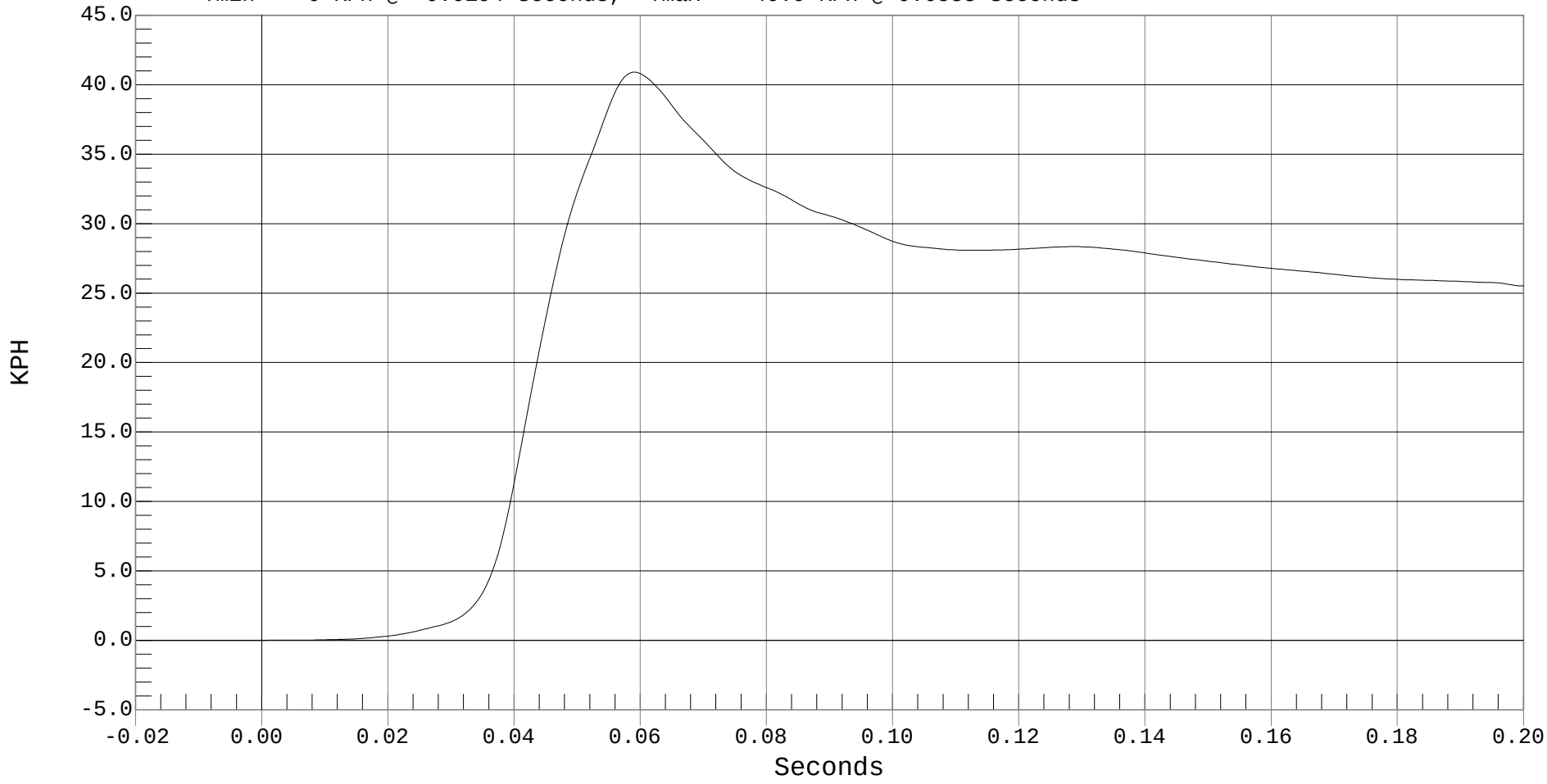
REAR PASSENGER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY, b01002FI.V47

Ymin = 0 KPH @ -0.0194 Seconds, Ymax = 40.9 KPH @ 0.0588 Seconds



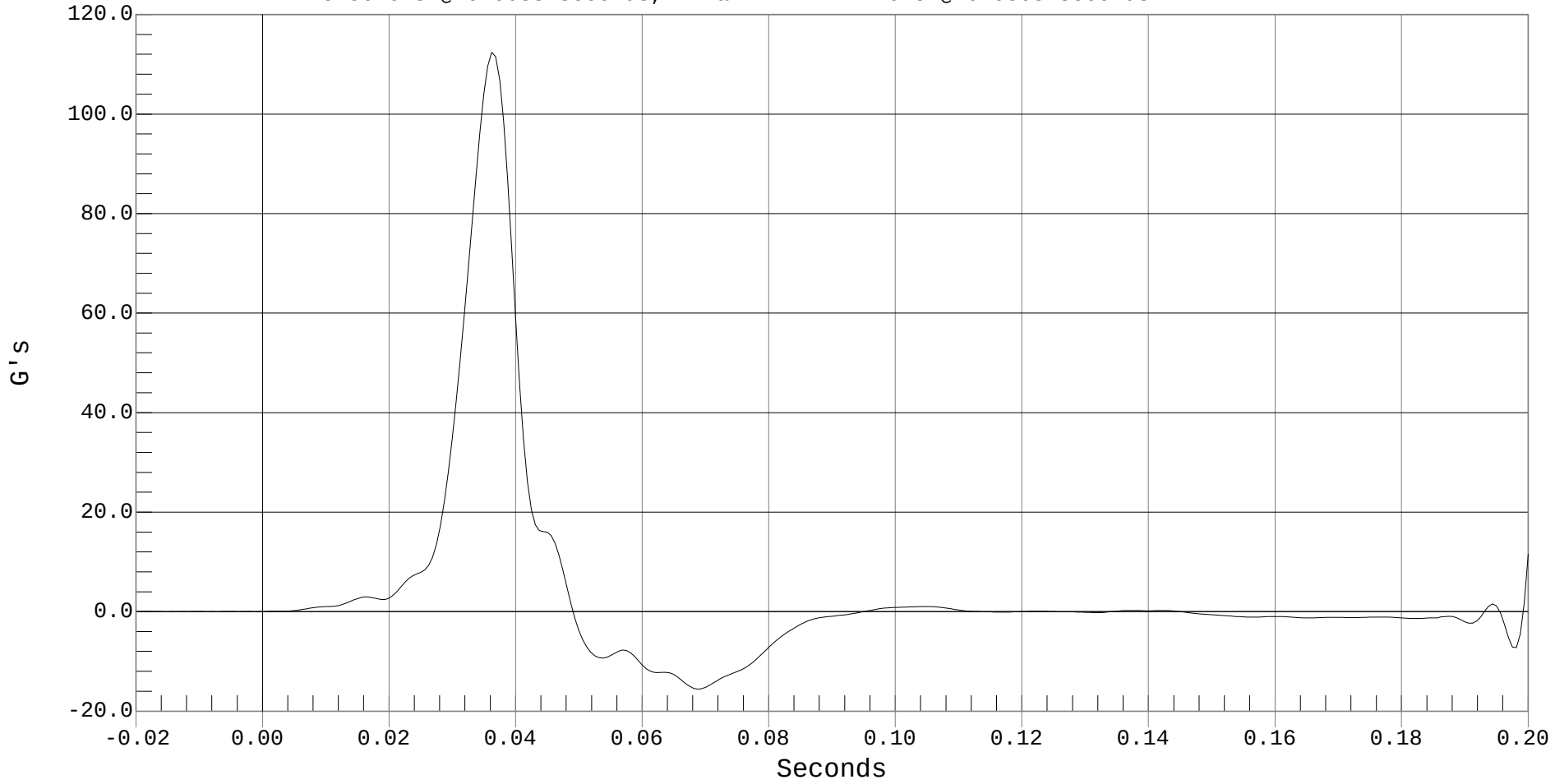
REAR PASSENGER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 PASSENGER PELVIS Yr, b01002FI.R48

Ymin = -15.56 G's @ 0.0688 Seconds, Ymax = 112.42 G's @ 0.0363 Seconds



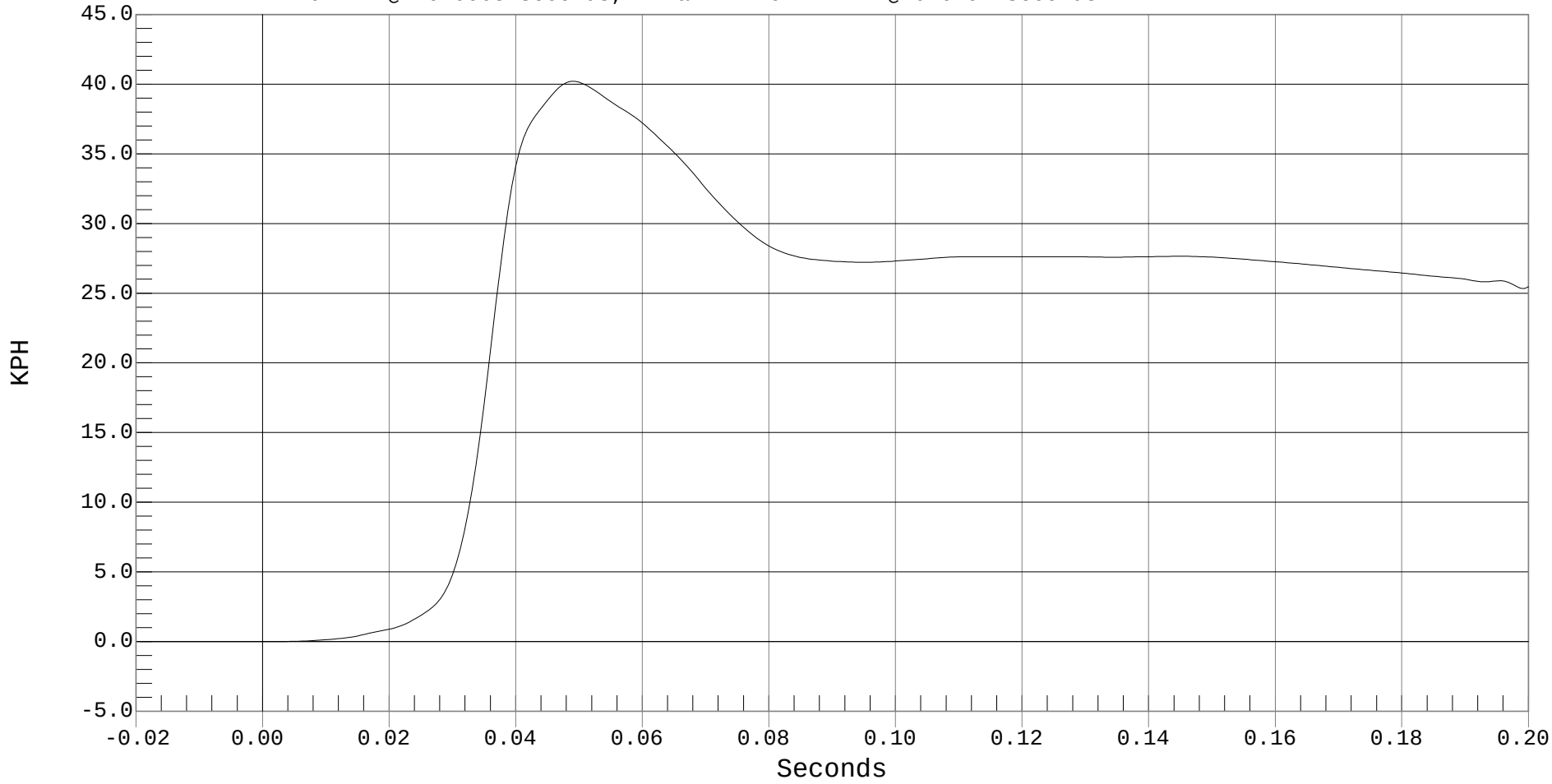
REAR PASSENGER PELVIS REDUNDANT Y VELOCITY

Test Desc.: 90 DEGREE INDICANT SIDE IMPACT
Component: 2001 MAZDA MILLENIA (C15401)
Other Info:

Test Date: 01-04-01
Speed: 38.6 MPH, 62.1 KPH
Fir Filtered

1 REAR PASSENGER PELVIS Y REDUNDANT VELOCITY, b01002FI.V48

Ymin = 0 KPH @ -0.0063 Seconds, Ymax = 40.21 KPH @ 0.0494 Seconds



APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

CALIBRATION DATA SUMMARY

SIDE IMPACT DUMMY (SID)

CONFIGURED TO LEFT/RIGHT SIDE IMPACT

Report Date: 1/22/01 Technician: Tim Michnay

Calibration Date: 1/18/01 Test# D0105

Test Parameter	Specification	Dummy Serial Number: 036		Dummy Serial Number: 037	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH-Seated Height (mm)	889 – 909	901	901	901	901
RH-Rib Height (mm)	501 – 521	505	505	511	511
HP-Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD-Rib from Back Line (mm)	229 – 241	234	234	236	236
KV-Knee Pivot from Back Line (mm)	511 – 526	520	520	520	520
SW-Knee Pivot to Floor (mm)	490 – 505	496	496	494	494
HW-Hip Width (mm)	356 - 391	372	372	380	380
Thorax Impact					
Temperature (°C)	18.9 – 25.5	21.4	21.4	21.2	21.4
Relative Humidity (%)	10 – 70	18	25	19	25
Probe Speed (m/s)	4.27 – 4.33	4.28	4.30	4.29	4.29
Upper Rib (g's)	37 – 46	45	46	46	43
Lower Rib (g's)	37 – 46	45	42	45	44
Lower Spine (g's)	15 – 22	19	19	20	19
Pelvis Impact					
Temperature (°C)	18.9 – 25.5	21.4	21.4	21.2	21.4
Relative Humidity (%)	10 – 70	18	25	19	25
Probe Speed (m/s)	4.27 – 4.33	4.28	4.30	4.29	4.29
Pelvis (g's)	40 - 60	42	47	45	48

REMARKS:

CERTIFICATION DATA

Dummy Serial Number: 036

Calibration Test Results Summary

Dummy Serial Number: 036

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 036

Date of Verification: 12/22/00

Test Number: D00160

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH-Seated Height (mm)	889 – 909	901
RH-Rib Height (mm)	501 – 521	505
HP-Hip Pivot Height (mm)	99 ref.	99
RD-Rib From Back Line (mm)	229 - 241	234
KV-Knee Pivot From Back Line (mm)	511 – 526	520
SW-Knee Pivot to Floor (mm)	490 – 505	496
HW – Hip Width (mm)	356 – 391	372

Technician: _____

Approved By: _____

MGA RESEARCH CORPORATION

HEAD DROP TEST

SIDE IMPACT DUMMY (SID)

Date: 12/22/00

Dummy Serial Number: 036

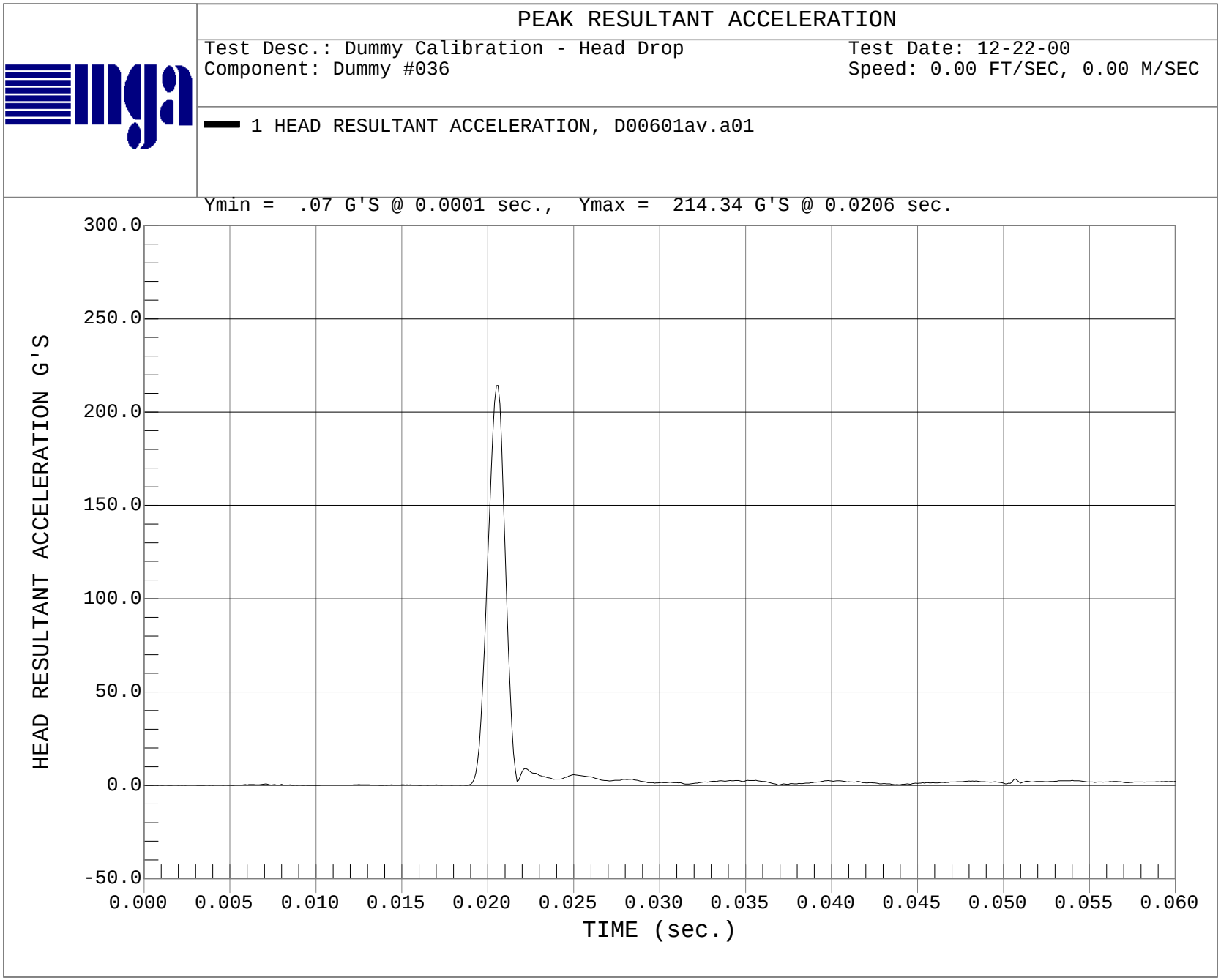
Test Number: D001601

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	21.0
Relative Humidity (%)	10 - 70	17
Peak Resultant Acceleration	210 - 260 g's	214
Peak Lateral Acceleration	< 10 g's	-5
Time Above 100 g.	0.9 - 1.5 msec.	1.2

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____


PEAK RESULTANT ACCELERATION
Test Desc.: Dummy Calibration - Head Drop
Test Date: 12-22-00
Component: Dummy #036
Speed: 0.00 FT/SEC, 0.00 M/SEC
1 HEAD RESULTANT ACCELERATION, D00601av.a01
Ymin = .07 G'S @ 0.0001 sec., Ymax = 214.34 G'S @ 0.0206 sec.
HEAD RESULTANT ACCELERATION G'S
300.0
250.0
200.0
150.0
100.0
50.0
0.0
-50.0
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
0.045
0.050
0.055
0.060
TIME (sec.)


PEAK LATERAL ACCELRATION
Test Desc.: Dummy Calibration - Head Drop
Test Date: 12-22-00
Component: Dummy #036
Speed: 0.00 FT/SEC, 0.00 M/SEC
1 HEAD Y, D00601AR.A02
Ymin = -5.21 G'S @ 0.0204 sec., Ymax = 1.67 G'S @ 0.0249 sec.
HEAD Y G'S
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
0.045
0.050
0.055
0.060
TIME (sec.)

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 036

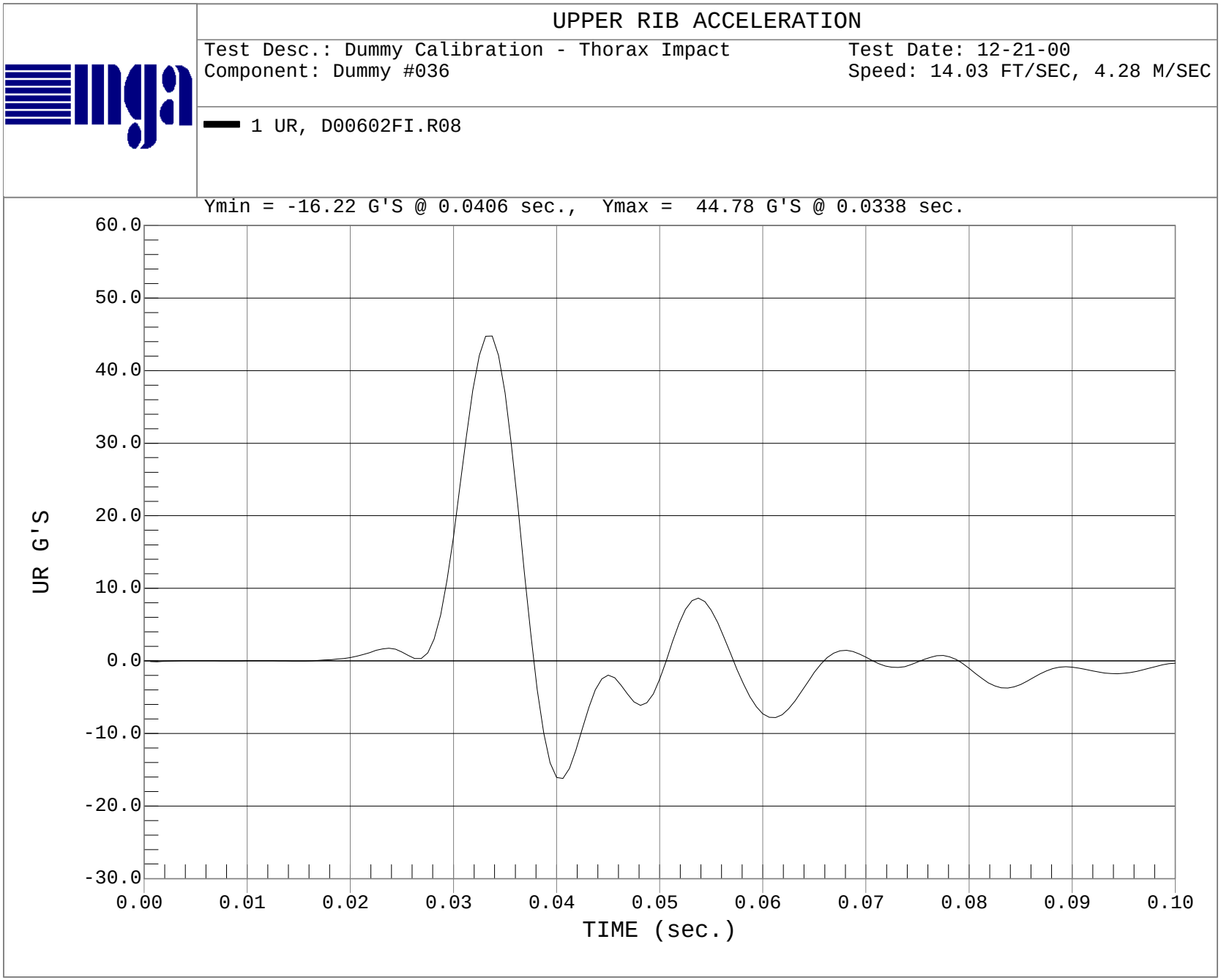
Test Number: D001602

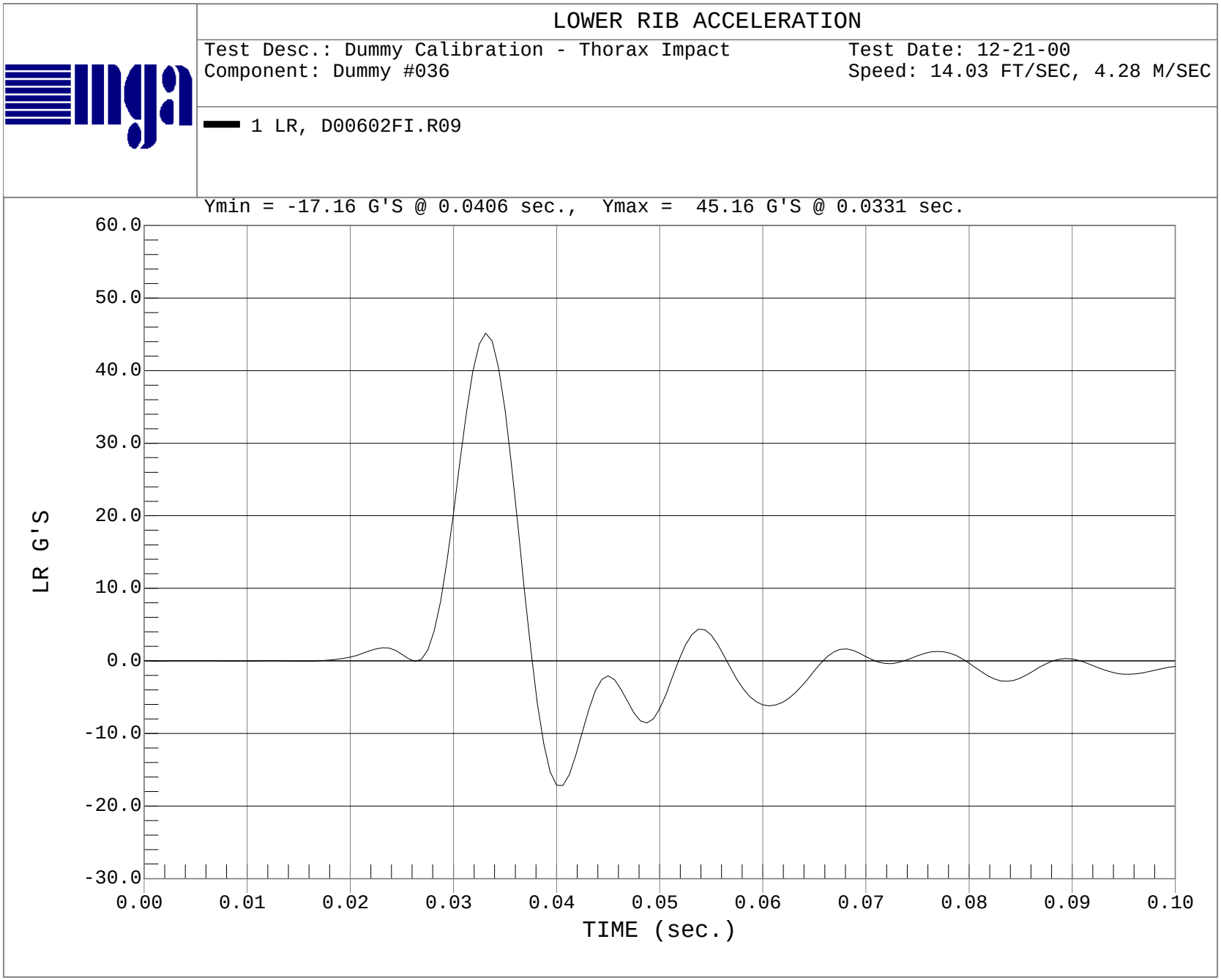
TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	18
Probe Speed (m/s)	4.27 – 4.33	4.28
Upper Rib (g's)	37 – 46	45
Lower Rib (g's)	37 – 46	45
Lower Spine (g's)	15 - 22	19

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____


UPPER RIB ACCELERATION
Test Desc.: Dummy Calibration - Thorax Impact
Test Date: 12-21-00
Component: Dummy #036
Speed: 14.03 FT/SEC, 4.28 M/SEC
1 UR, D00602FI.R08
Ymin = -16.22 G'S @ 0.0406 sec., Ymax = 44.78 G'S @ 0.0338 sec.
UR G'S
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)


LOWER RIB ACCELERATION
Test Desc.: Dummy Calibration - Thorax Impact
Test Date: 12-21-00
Component: Dummy #036
Speed: 14.03 FT/SEC, 4.28 M/SEC
1 LR, D00602FI.R09
Ymin = -17.16 G'S @ 0.0406 sec., Ymax = 45.16 G'S @ 0.0331 sec.
LR G'S
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

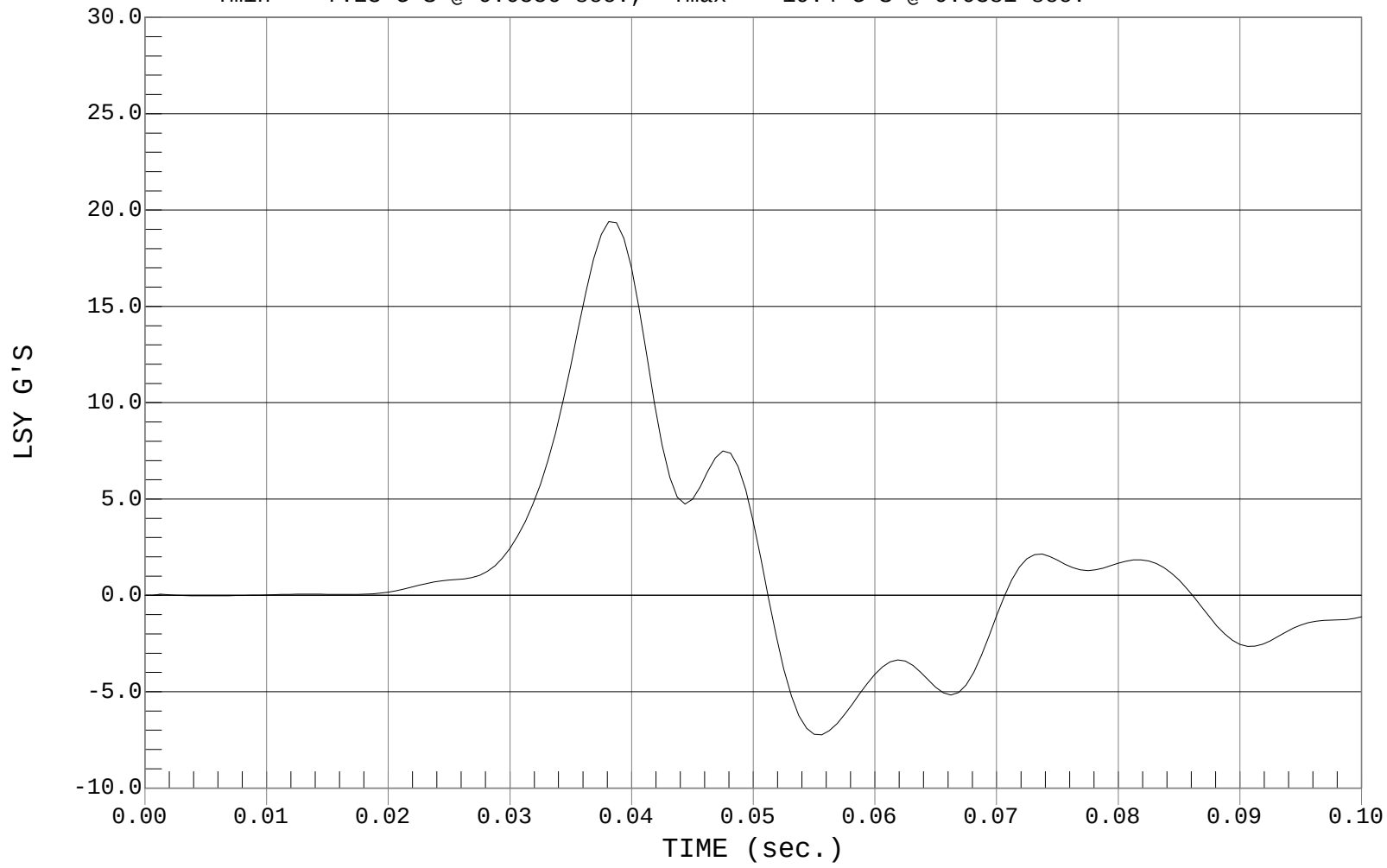
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #036

Test Date: 12-21-00
Speed: 14.03 FT/SEC, 4.28 M/SEC

1 LSY, D00602FI.R10

Ymin = -7.23 G'S @ 0.0556 sec., Ymax = 19.4 G'S @ 0.0381 sec.



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 036

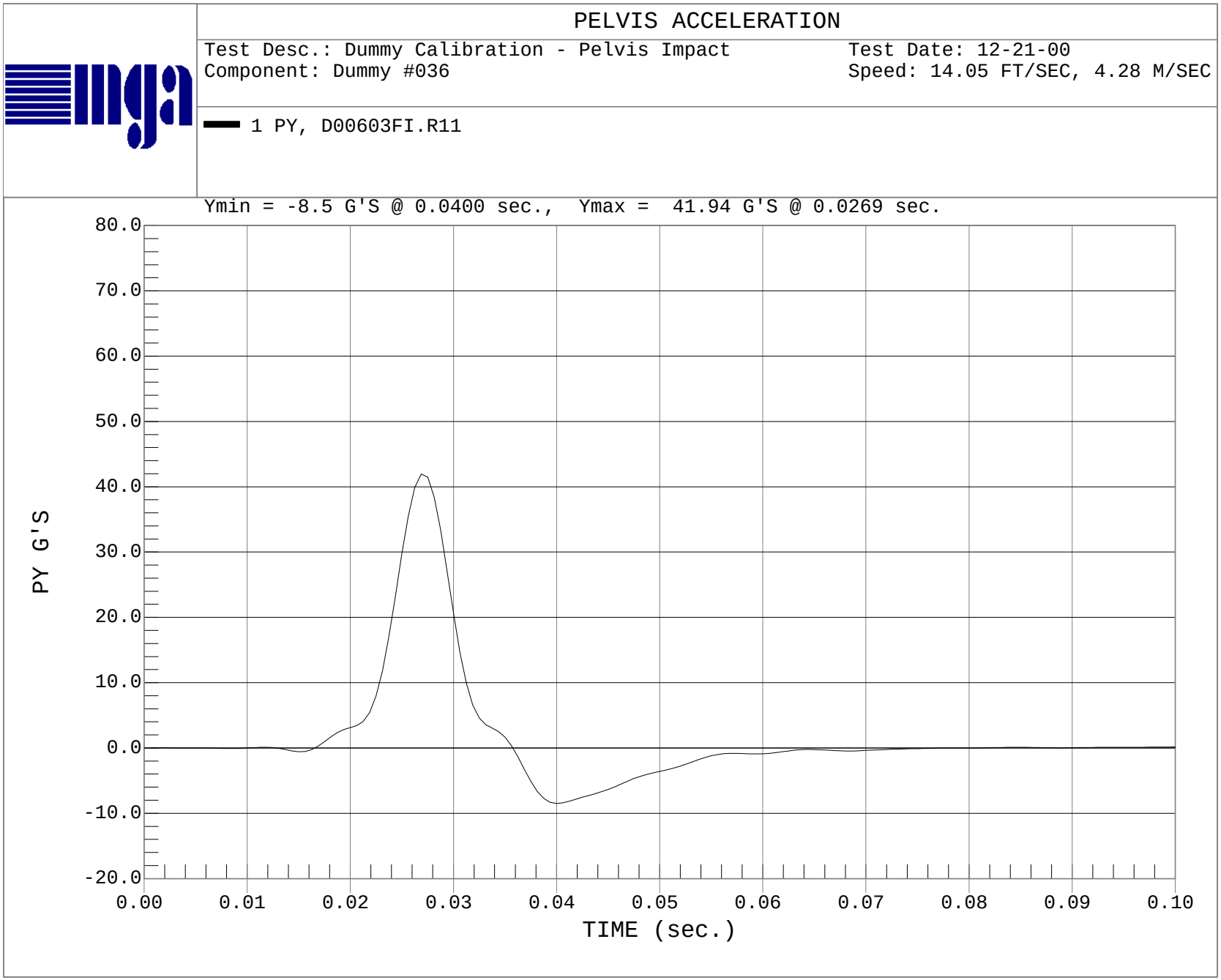
Test Number: D001603

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	18
Probe Speed (m/s)	4.27 – 4.33	4.28
Pelvis Acceleration (g's)	40 – 60	42

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____


PELVIS ACCELERATION
Test Desc.: Dummy Calibration - Pelvis Impact
Test Date: 12-21-00
Component: Dummy #036
Speed: 14.05 FT/SEC, 4.28 M/SEC
1 PY, D00603FI.R11
Ymin = -8.5 G'S @ 0.0400 sec., Ymax = 41.94 G'S @ 0.0269 sec.
PY G'S
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 036

Test Number: D001604

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	18
Force @ 12.7 mm	104 – 162	145
Force @ 19 mm	163 – 222	203
Force @ 25.4 mm	222 – 280	261
Force @ 33 mm	325 - 391	356

TEST MEETS SPECIFICATIONS

Technician: _____

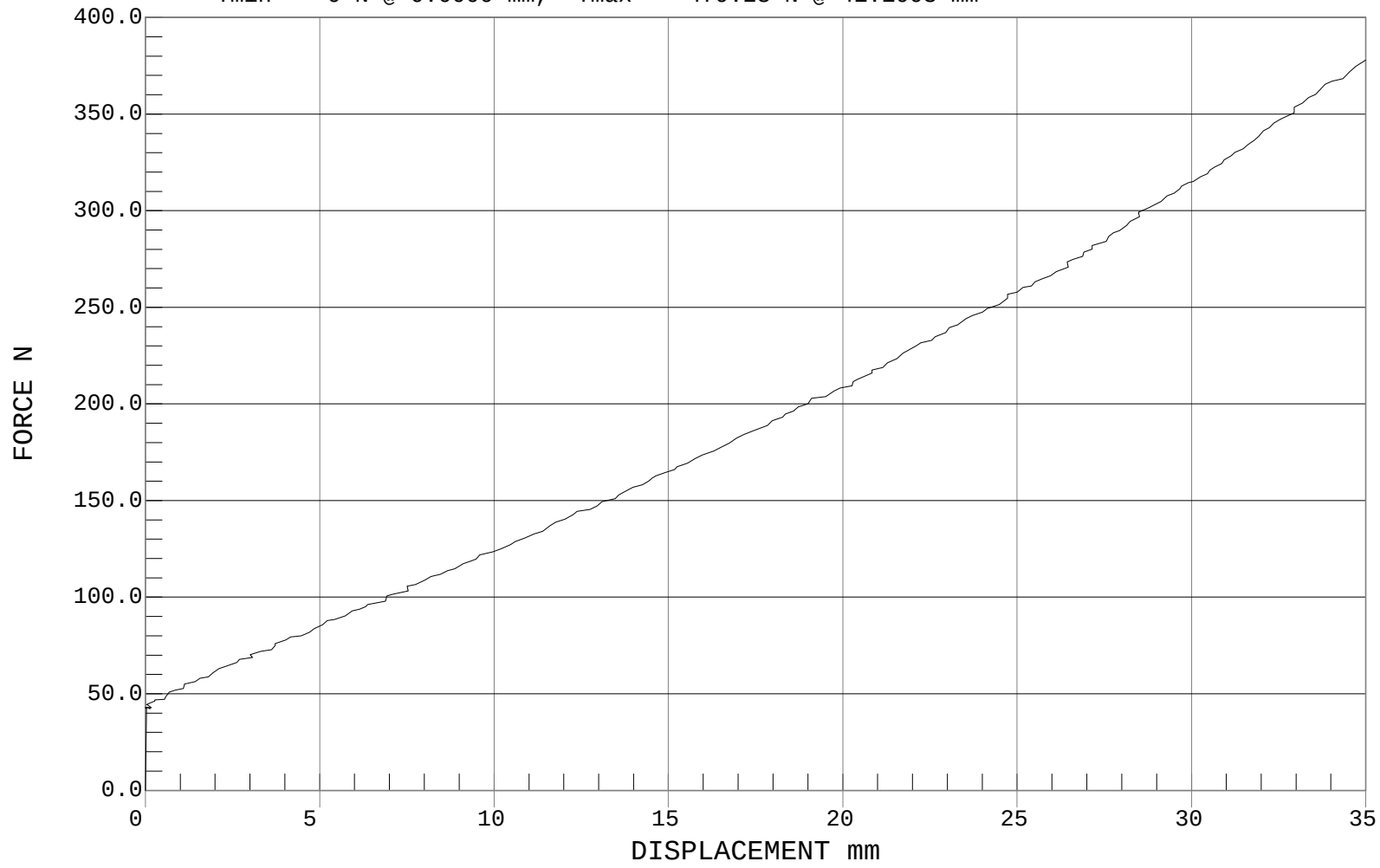
Approved By: _____

ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION Test Date: 12-21-00
Component: DUMMY # 036 Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D00604FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 479.23 N @ 41.1003 mm



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 036

Test Number: D001605

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	18
Force @ 0°	0 – 26.7	0
Force @ 20°	97.9 – 151.2	100.9
Force @ 30°	151.2 – 204.6	161.1
Force @ 40°	204.6 – 258.0	217.3
Return Angle	12° maximum	2

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

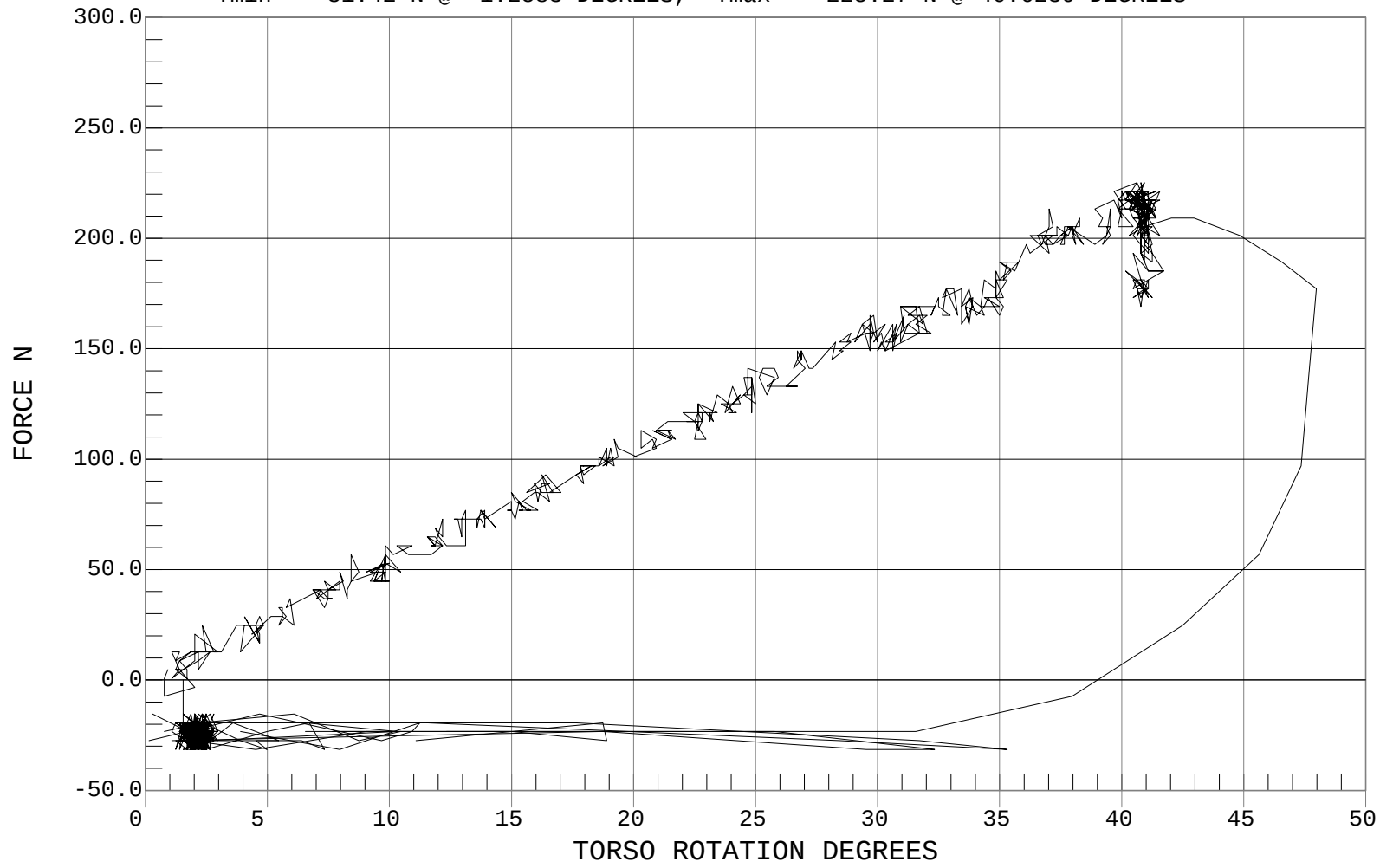
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 036

Test Date: 12-21-00
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D00605FC.F14

Ymin = -31.42 N @ -1.2583 DEGREES, Ymax = 225.27 N @ 40.6239 DEGREES



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 036

Inspected By: Tim Michnay

Date: 12/22/00

Part	Items Checked	Comments
Skin	visual inspection	OK
Head	visual, ballast, accelerometer mount	OK
Neck	visual	OK
Spine box	visual, ballast, weldment, accelerometer mount	OK
Rib cage	visual, measure	OK
Sternum	visual	OK
Lumbar spine	visual	OK
Abdomen	visual	OK
Pelvis	visual, palpate, accelerometer mount	OK
Upper legs	visual	OK
Knees	visual	OK
Lower legs	visual, range of motion	OK
Ankles	visual, range of motion	OK
Feet	visual, range of motion	OK
Joints	1 to 2 g range	OK
Other		

Notes (include component/problem/action/reason):

CERTIFICATION DATA

Dummy Serial Number: 037

Calibration Test Results Summary

Dummy Serial Number: 037

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 037

Date of Verification: 12/22/00

Test Number: D00161

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH-Seated Height (mm)	889 – 909	901
RH-Rib Height (mm)	501 – 521	511
HP-Hip Pivot Height (mm)	99 ref.	99
RD-Rib From Back Line (mm)	229 - 241	236
KV-Knee Pivot From Back Line (mm)	511 – 526	520
SW-Knee Pivot to Floor (mm)	490 – 505	494
HW – Hip Width (mm)	356 – 391	380

Technician: _____

Approved By: _____

MGA RESEARCH CORPORATION

HEAD DROP TEST

SIDE IMPACT DUMMY (SID)

Date: 12/22/00

Dummy Serial Number: 037

Test Number: D001611

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	20.9
Relative Humidity (%)	10 - 70	16
Peak Resultant Acceleration	210 - 260 g's	227
Peak Lateral Acceleration	< 10 g's	-2
Time Above 100 g.	0.9 - 1.5 msec.	1.1

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

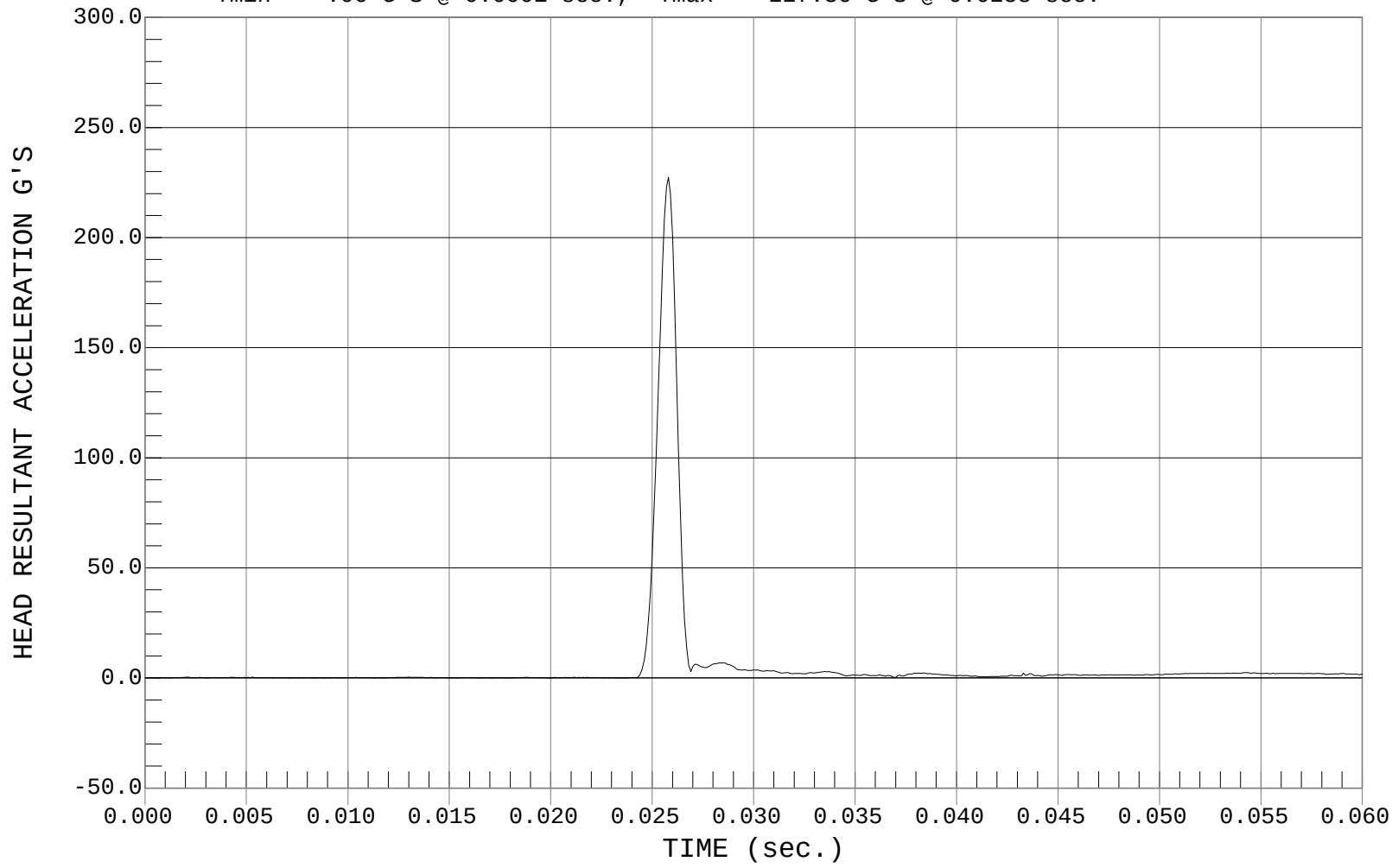
PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #037

Test Date: 12-22-00
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD RESULTANT ACCELERATION, D00611av.a01

Ymin = .06 G'S @ 0.0001 sec., Ymax = 227.36 G'S @ 0.0258 sec.



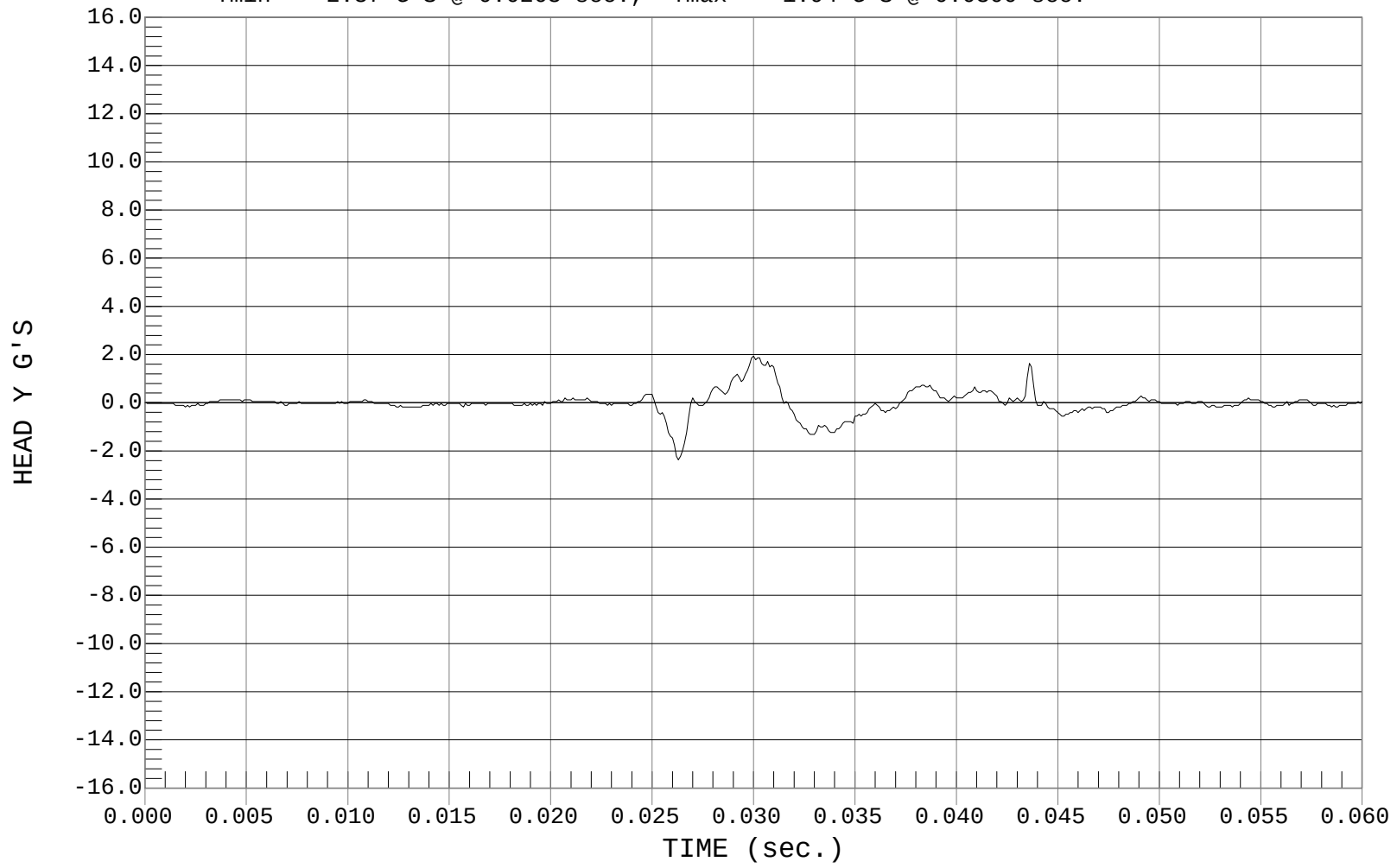
PEAK LATERAL ACCELRATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #037

Test Date: 12-22-00
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D00611AR.A02

Ymin = -2.37 G'S @ 0.0263 sec., Ymax = 1.94 G'S @ 0.0300 sec.



MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 037

Test Number: D001612

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.2
Relative Humidity (%)	10 – 70	19
Probe Speed (m/s)	4.27 – 4.33	4.29
Upper Rib (g's)	37 – 46	46
Lower Rib (g's)	37 – 46	45
Lower Spine (g's)	15 - 22	20

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

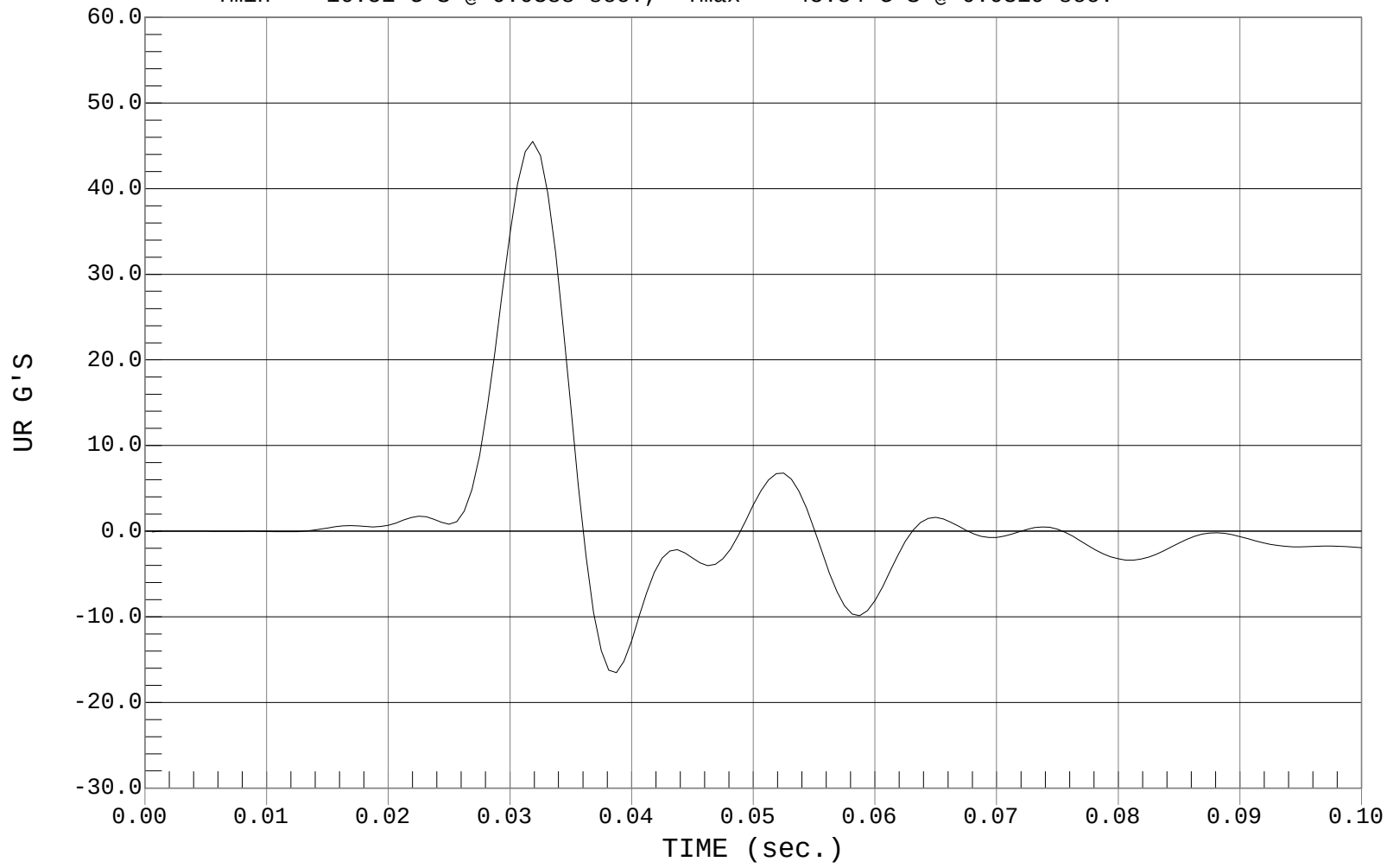
UPPER RIB ACCELERATION

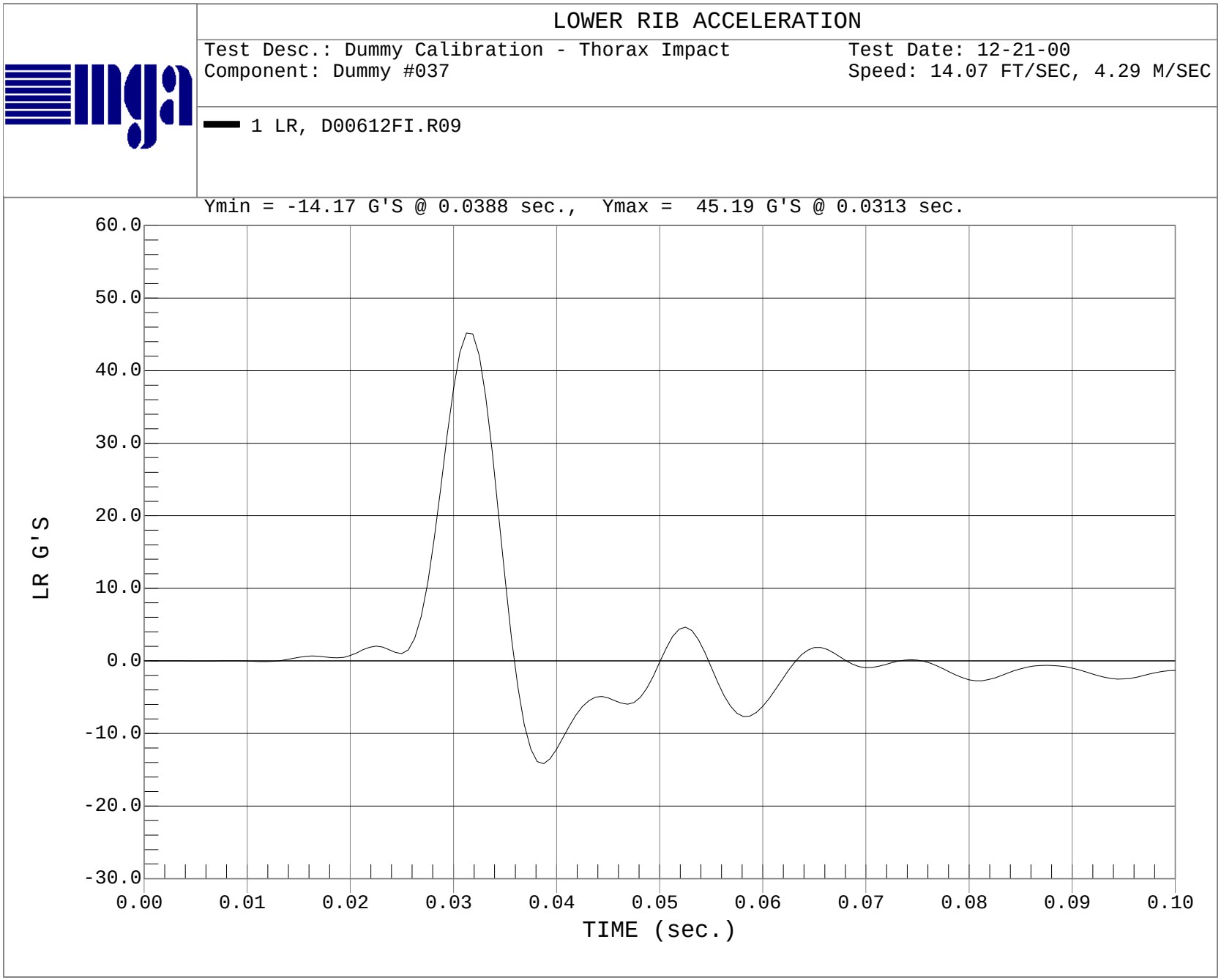
Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #037

Test Date: 12-21-00
Speed: 14.07 FT/SEC, 4.29 M/SEC

1 UR, D00612FI.R08

Ymin = -16.51 G'S @ 0.0388 sec., Ymax = 45.54 G'S @ 0.0319 sec.




LOWER RIB ACCELERATION
Test Desc.: Dummy Calibration - Thorax Impact
Test Date: 12-21-00
Component: Dummy #037
Speed: 14.07 FT/SEC, 4.29 M/SEC
1 LR, D00612FI.R09
Ymin = -14.17 G'S @ 0.0388 sec., Ymax = 45.19 G'S @ 0.0313 sec.
LR G'S
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

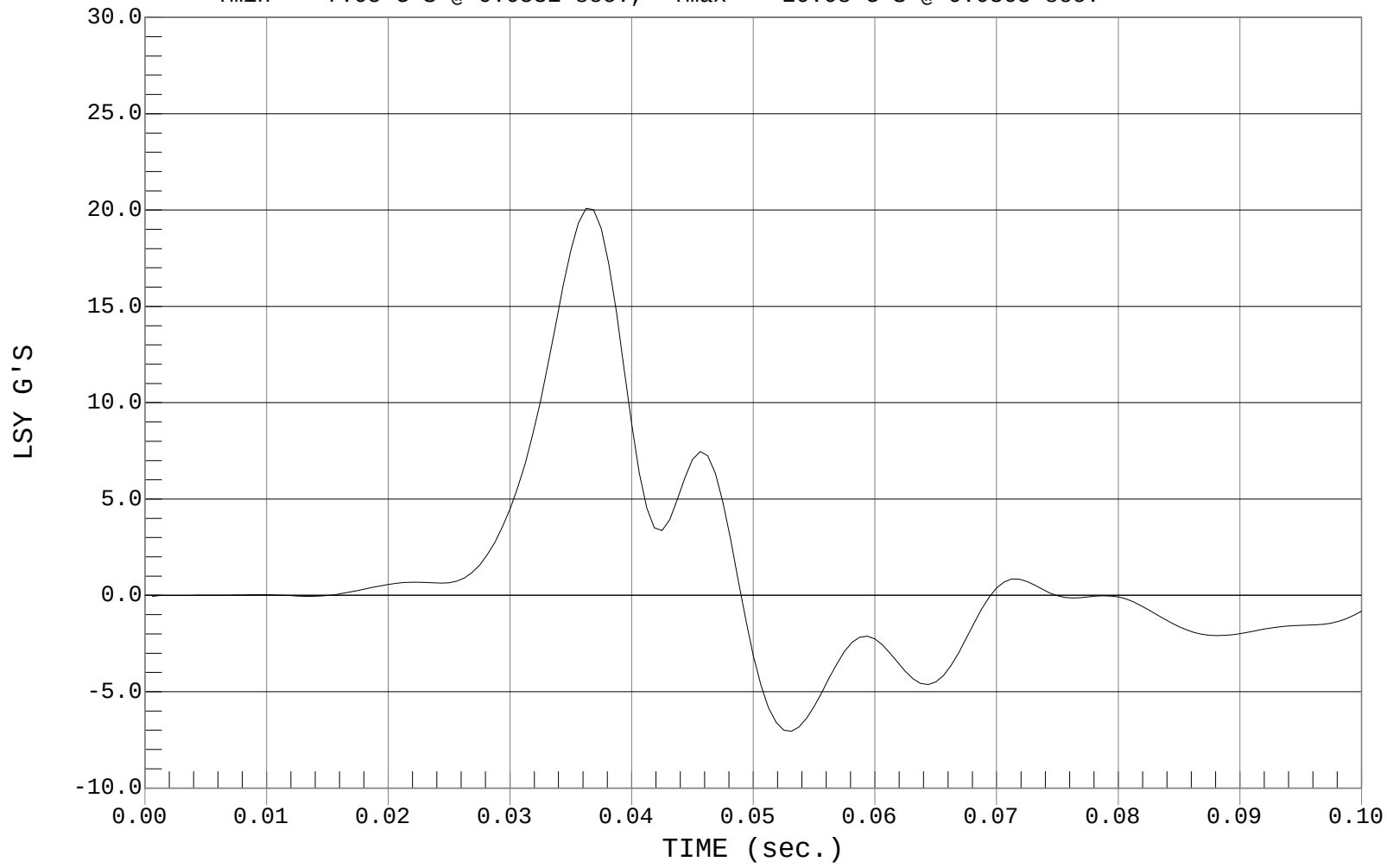
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #037

Test Date: 12-21-00
Speed: 14.07 FT/SEC, 4.29 M/SEC

1 LSY, D00612FI.R10

Ymin = -7.05 G'S @ 0.0531 sec., Ymax = 20.08 G'S @ 0.0363 sec.



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 037

Test Number: D001613

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.2
Relative Humidity (%)	10 – 70	19
Probe Speed (m/s)	4.27 – 4.33	4.29
Pelvis Acceleration (g's)	40 – 60	45

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

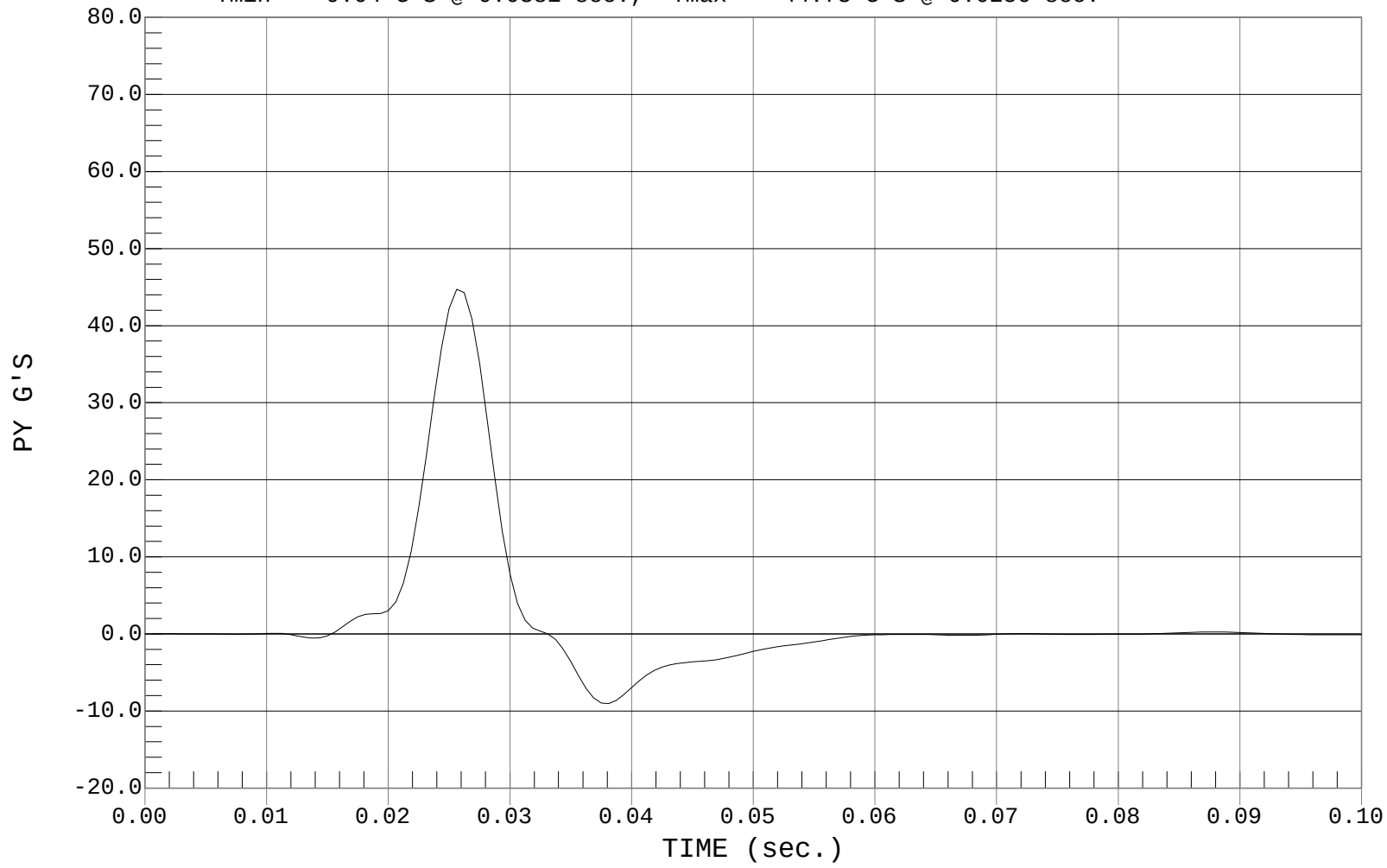
PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #037

Test Date: 12-21-00
Speed: 14.08 FT/SEC, 4.29 M/SEC

1 PY, D00613FI.R11

Ymin = -9.04 G'S @ 0.0381 sec., Ymax = 44.73 G'S @ 0.0256 sec.



MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 037

Test Number: D001614

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	18
Force @ 12.7 mm	104 – 162	130
Force @ 19 mm	163 – 222	179
Force @ 25.4 mm	222 – 280	240
Force @ 33 mm	325 - 391	334

TEST MEETS SPECIFICATIONS

Technician: _____

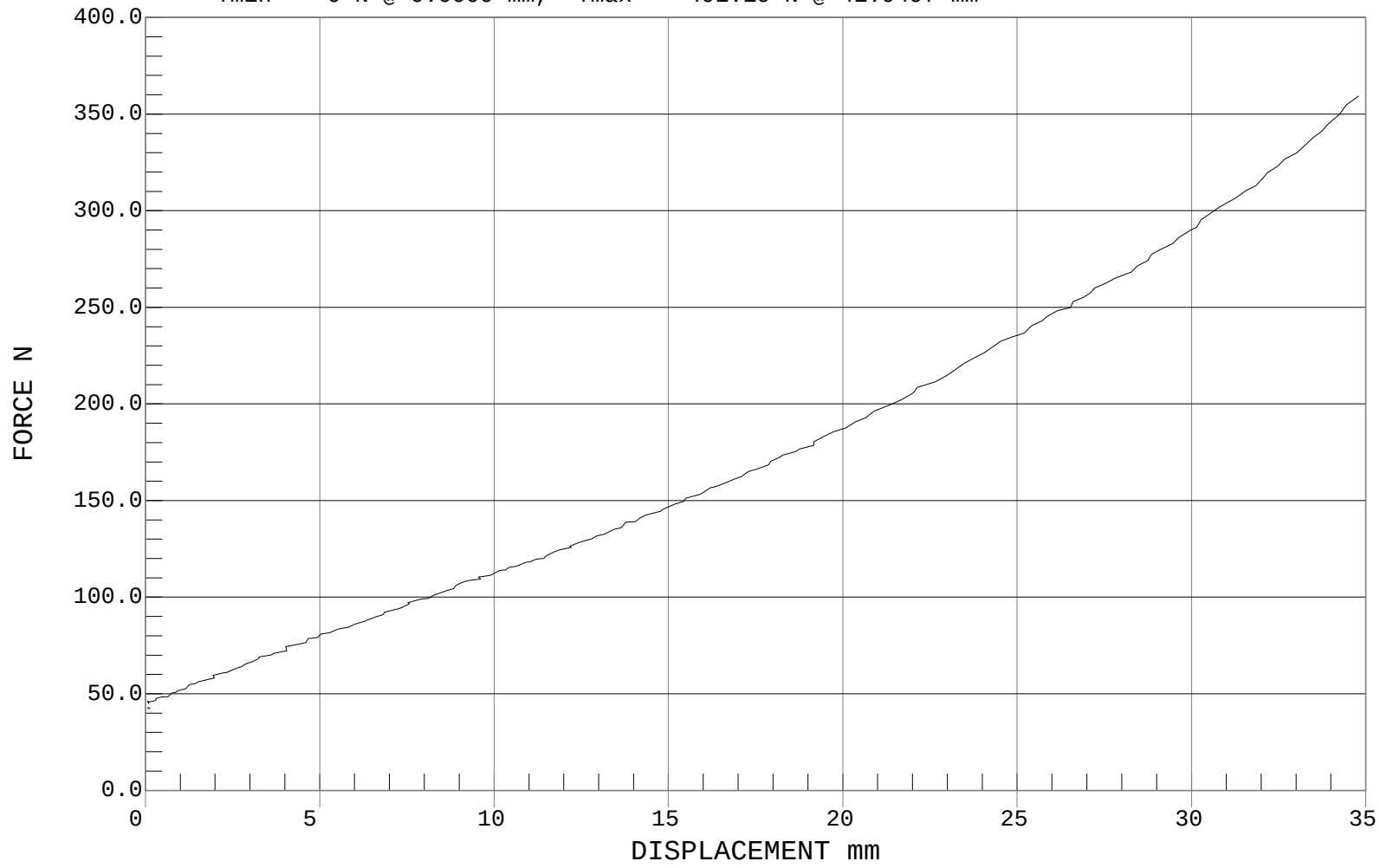
Approved By: _____

ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION Test Date: 12-21-00
Component: DUMMY # 037 Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D00614FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 491.19 N @ 41.9497 mm



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 037

Test Number: D001615

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.5
Relative Humidity (%)	10 – 70	18
Force @ 0°	0 – 26.7	0
Force @ 20°	97.9 – 151.2	106.2
Force @ 30°	151.2 – 204.6	162.4
Force @ 40°	204.6 – 258.0	234.6
Return Angle	12° maximum	6

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

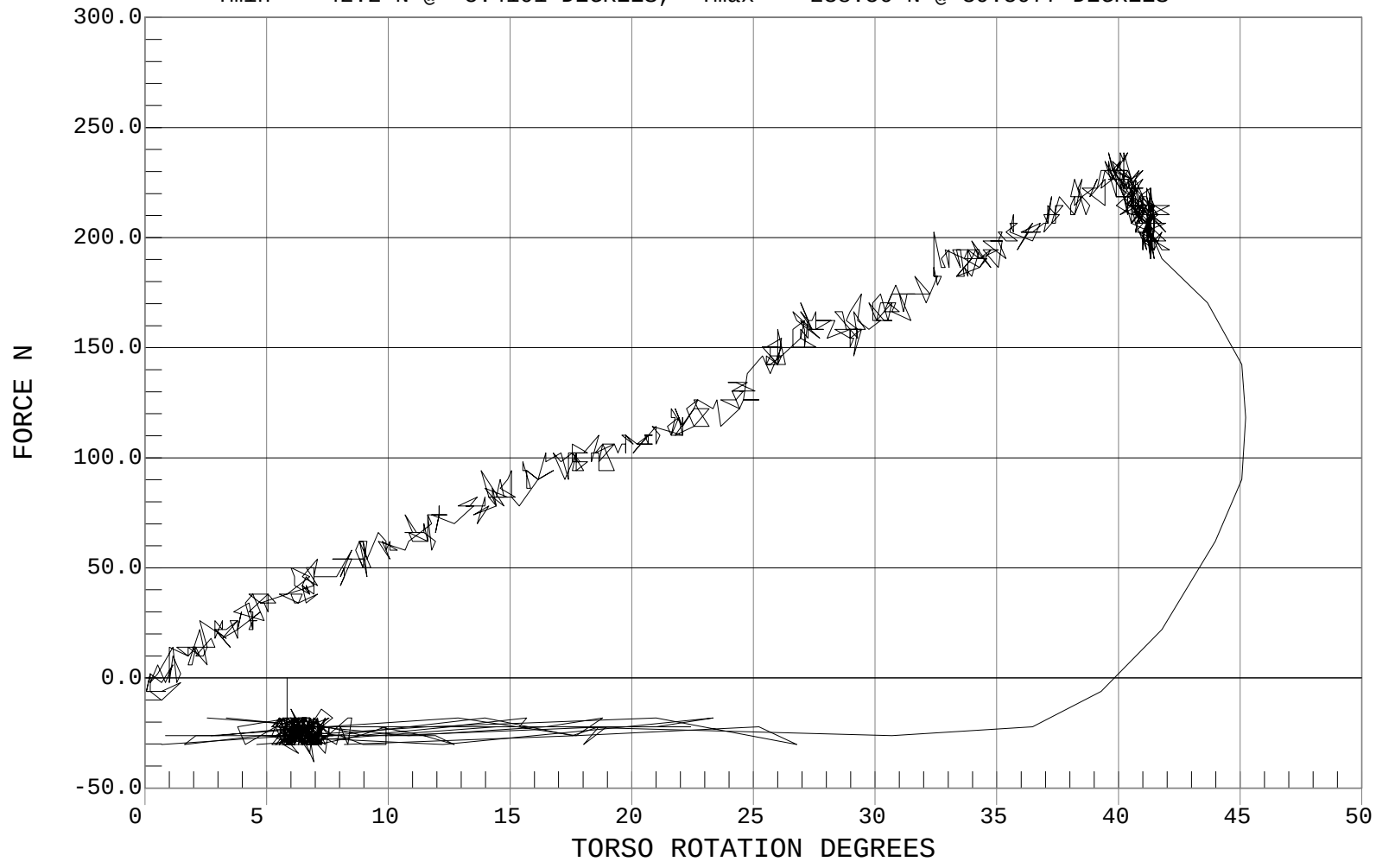
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 037

Test Date: 12-21-00
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D00615FC.F14

Ymin = -42.2 N @ -5.4101 DEGREES, Ymax = 238.56 N @ 39.5977 DEGREES



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 037

Inspected By: Tim Michnay

Date: 12/22/00

Part	Items Checked	Comments
Skin	visual inspection	OK
Head	visual, ballast, accelerometer mount	OK
Neck	visual	OK
Spine box	visual, ballast, weldment, accelerometer mount	OK
Rib cage	visual, measure	OK
Sternum	visual	OK
Lumbar spine	visual	OK
Abdomen	visual	OK
Pelvis	visual, palpate, accelerometer mount	OK
Upper legs	visual	OK
Knees	visual	OK
Lower legs	visual, range of motion	OK
Ankles	visual, range of motion	OK
Feet	visual, range of motion	OK
Joints	1 to 2 g range	OK
Other		

Notes (include component/problem/action/reason):

CERTIFICATION DATA

Dummy Serial Number: 036

Calibration Test Results Summary

Dummy Serial Number: 036

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 036

Date of Verification: 1/18/01

Test Number: D0104

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH-Seated Height (mm)	889 – 909	901
RH-Rib Height (mm)	501 – 521	505
HP-Hip Pivot Height (mm)	99 ref.	99
RD-Rib From Back Line (mm)	229 - 241	234
KV-Knee Pivot From Back Line (mm)	511 – 526	520
SW-Knee Pivot to Floor (mm)	490 – 505	496
HW – Hip Width (mm)	356 – 391	372

Technician: _____

Approved By: _____

MGA RESEARCH CORPORATION

HEAD DROP TEST

SIDE IMPACT DUMMY (SID)

Date: 1/18/01

Dummy Serial Number: 036

Test Number: D01041

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	21.3
Relative Humidity (%)	10 - 70	18
Peak Resultant Acceleration	210 - 260 g's	211
Peak Lateral Acceleration	< 10 g's	-2
Time Above 100 g.	0.9 - 1.5 msec.	1.2

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

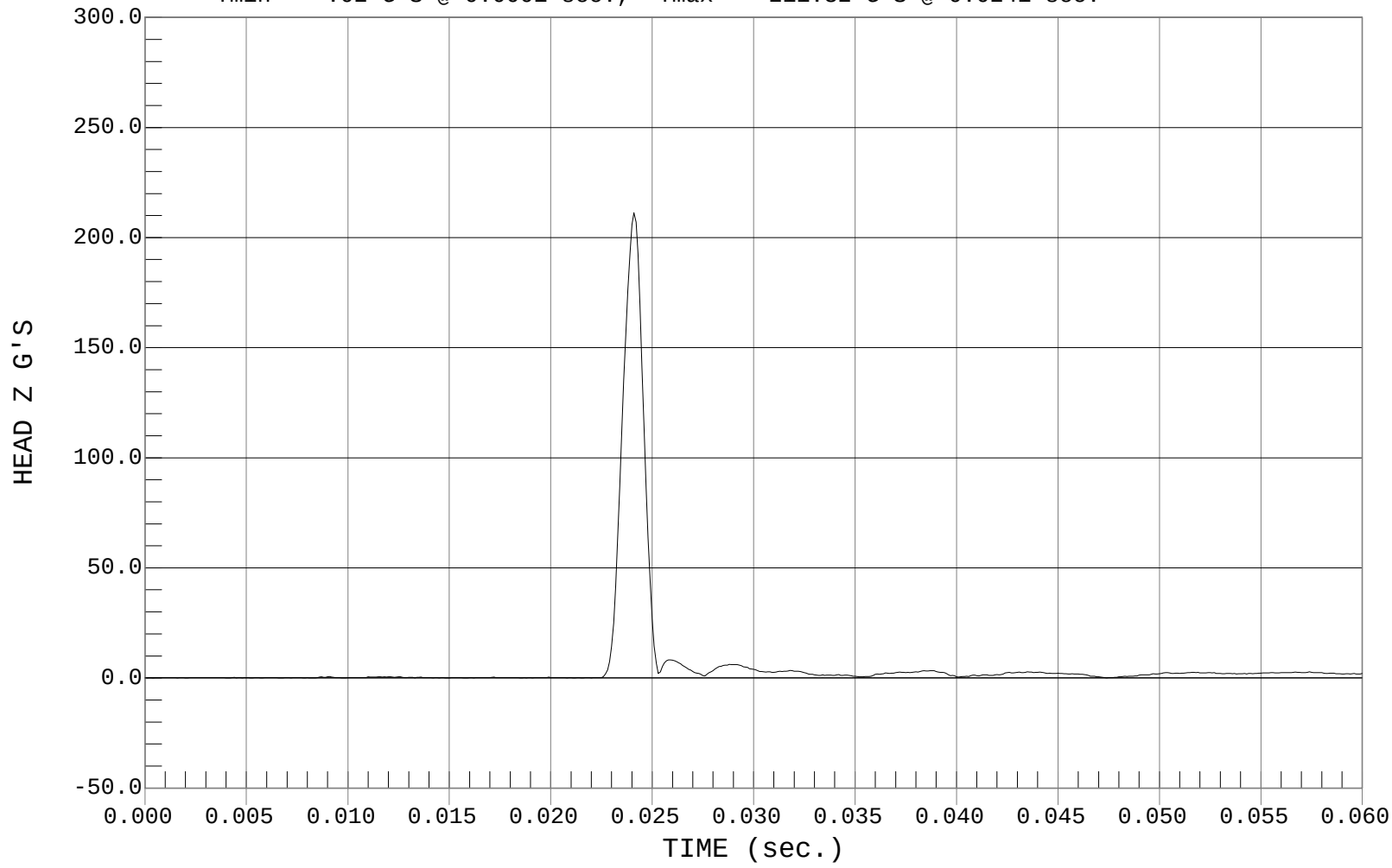
PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #036

Test Date: 01-18-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Z, D01041av.a01

Ymin = .02 G'S @ 0.0001 sec., Ymax = 211.32 G'S @ 0.0241 sec.



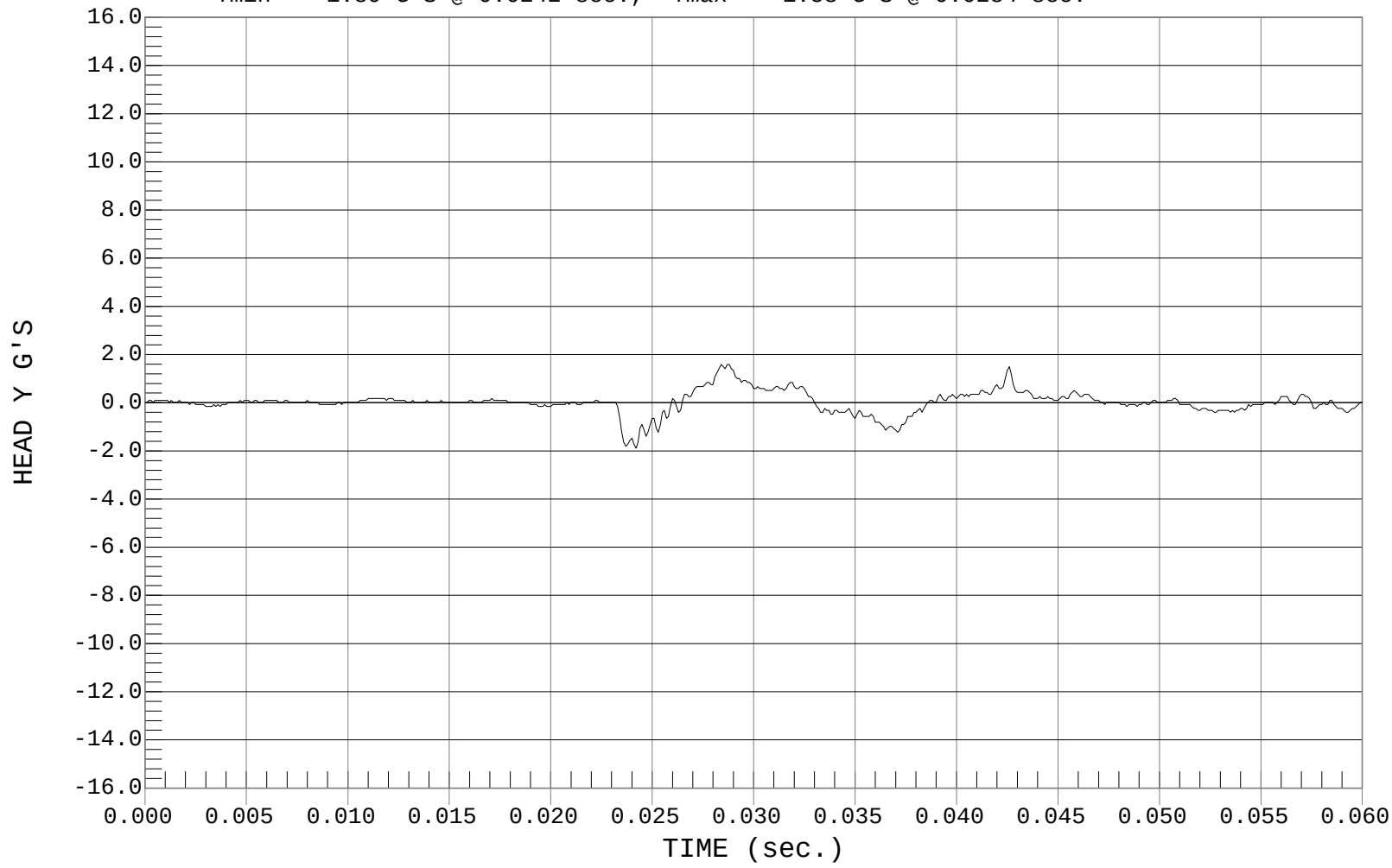
PEAK LATERAL ACCELRATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #036

Test Date: 01-18-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D01041AR.A02

Ymin = -1.89 G'S @ 0.0242 sec., Ymax = 1.58 G'S @ 0.0284 sec.



MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 1/5/01

Dummy Serial Number: 036

Test Number: D01042

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	25
Probe Speed (m/s)	4.27 – 4.33	4.30
Upper Rib (g's)	37 – 46	46
Lower Rib (g's)	37 – 46	42
Lower Spine (g's)	15 - 22	19

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

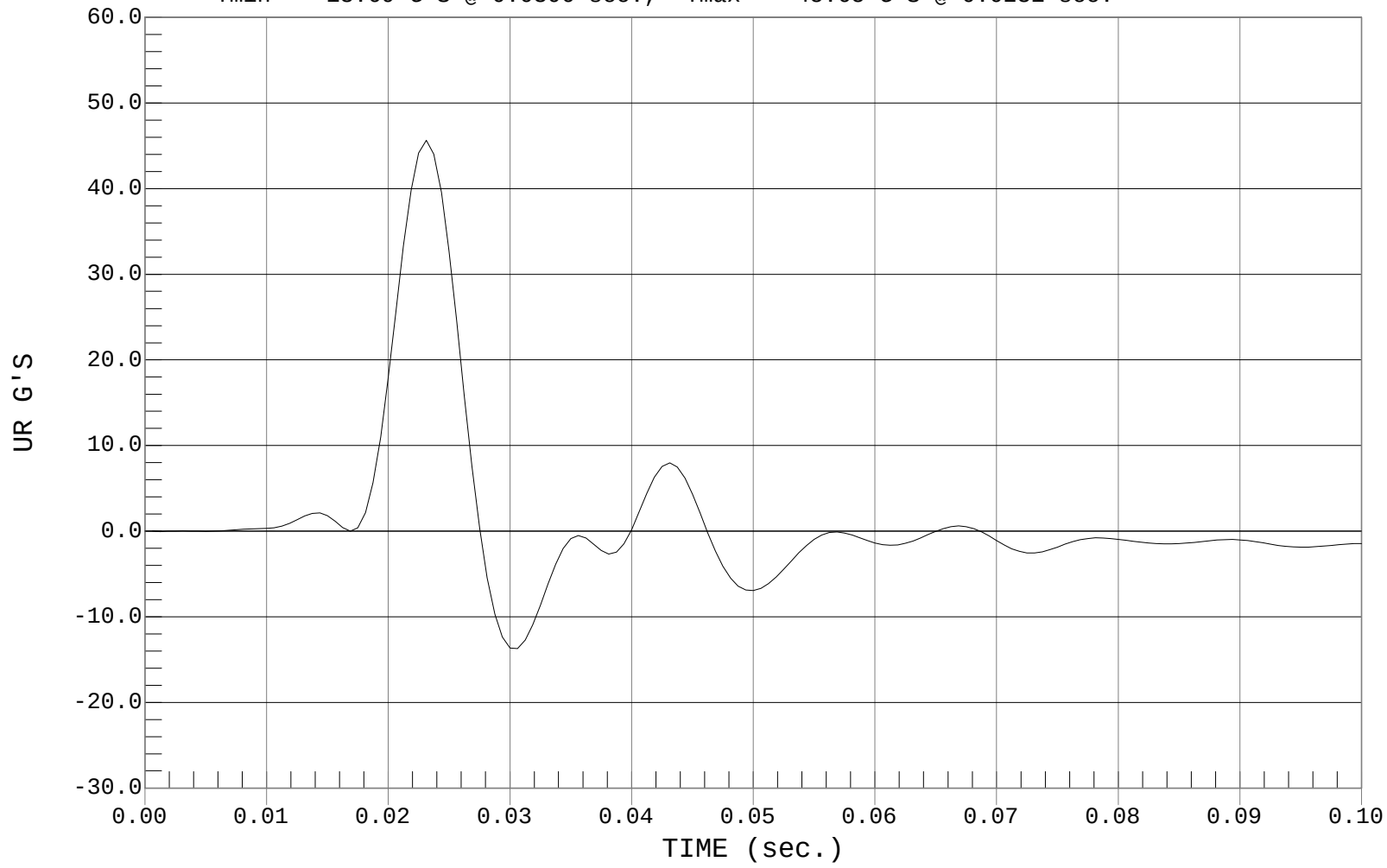
UPPER RIB ACCELERATION

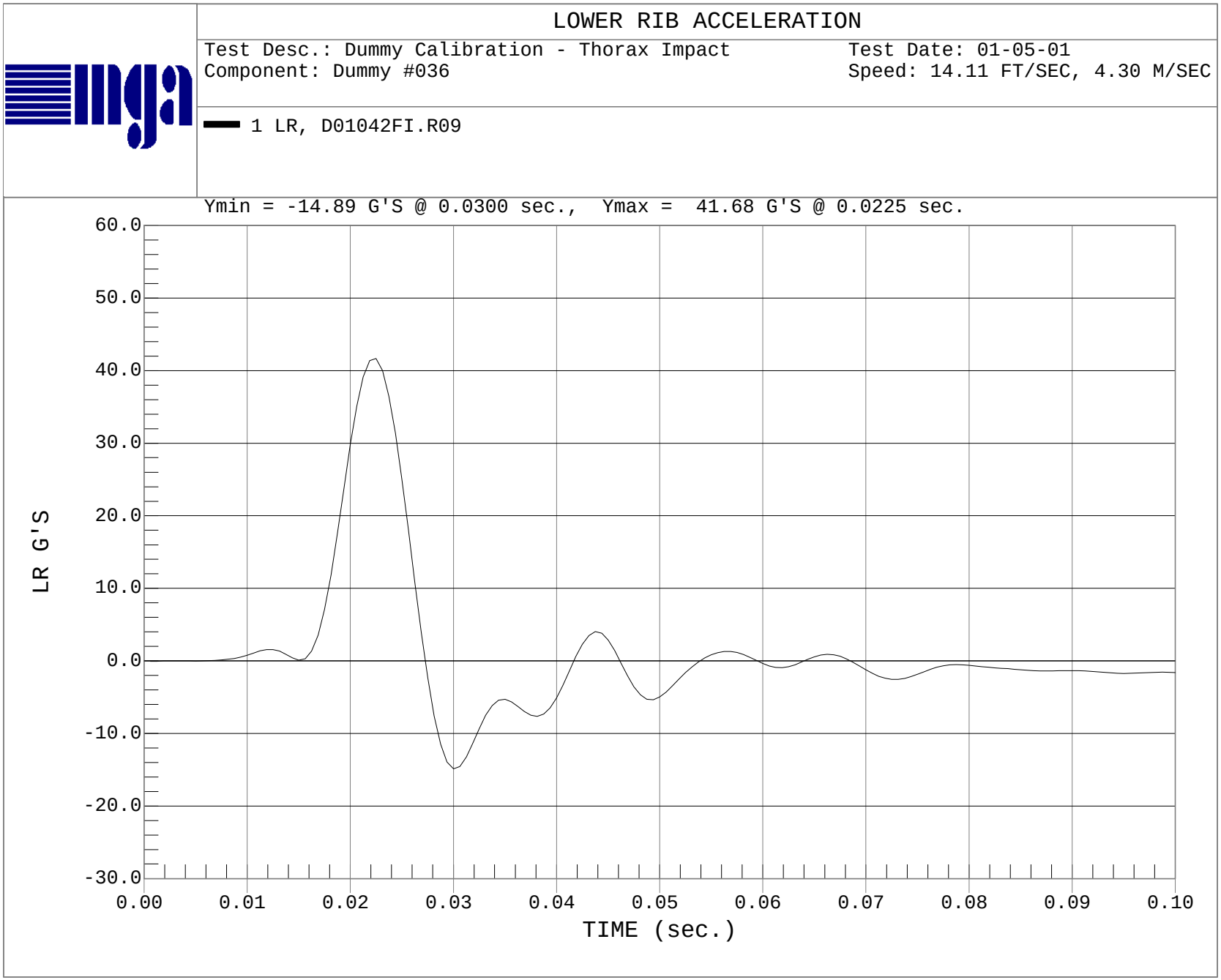
Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #036

Test Date: 01-05-01
Speed: 14.11 FT/SEC, 4.30 M/SEC

1 UR, D01042FI.R08

Ymin = -13.69 G'S @ 0.0306 sec., Ymax = 45.65 G'S @ 0.0231 sec.




LOWER RIB ACCELERATION
Test Desc.: Dummy Calibration - Thorax Impact
Test Date: 01-05-01
Component: Dummy #036
Speed: 14.11 FT/SEC, 4.30 M/SEC
1 LR, D01042FI.R09
Ymin = -14.89 G'S @ 0.0300 sec., Ymax = 41.68 G'S @ 0.0225 sec.
LR G'S
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

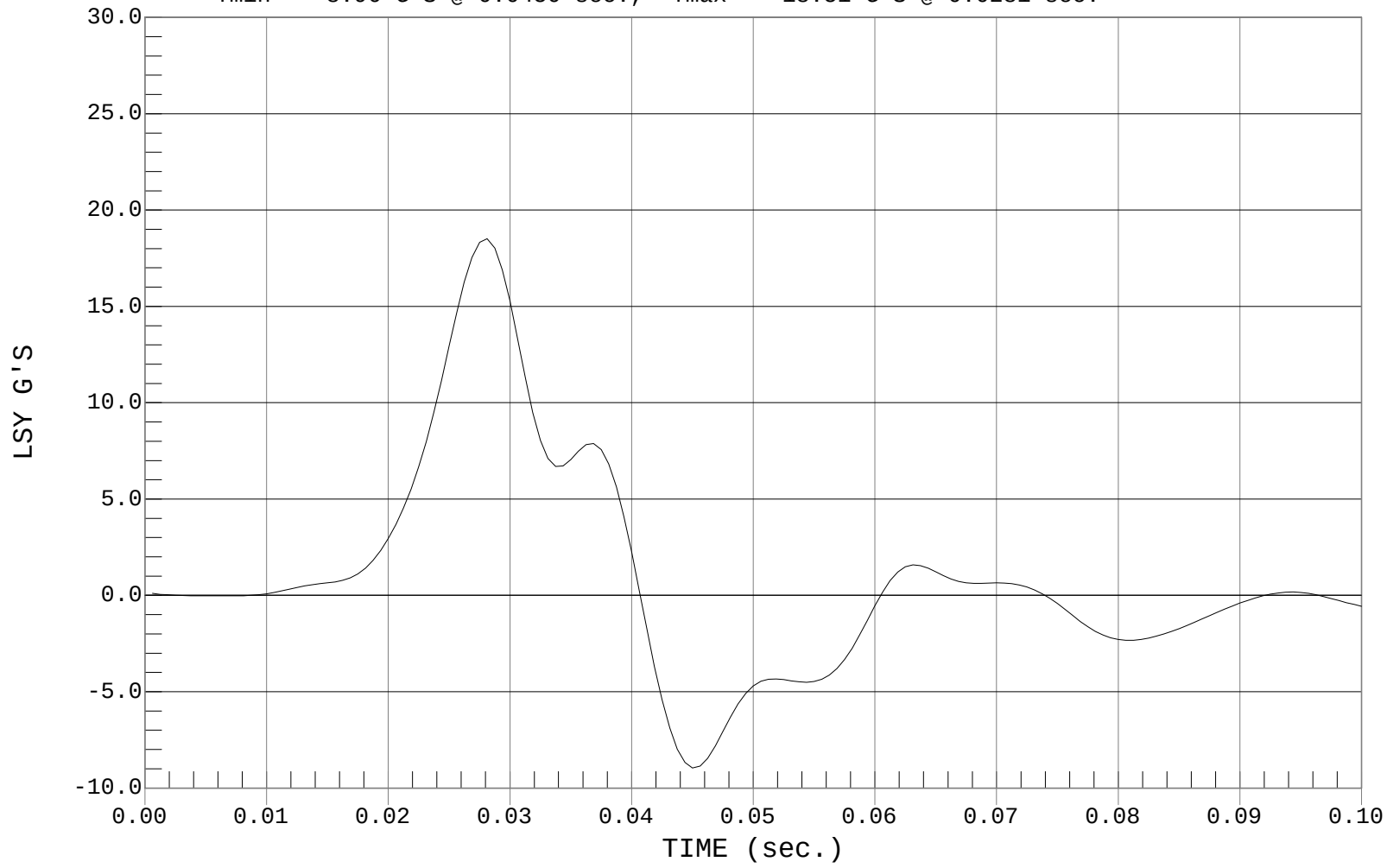
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #036

Test Date: 01-05-01
Speed: 14.11 FT/SEC, 4.30 M/SEC

1 LSY, D01042FI.R10

Ymin = -8.96 G'S @ 0.0450 sec., Ymax = 18.51 G'S @ 0.0281 sec.



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 1/5/01

Dummy Serial Number: 036

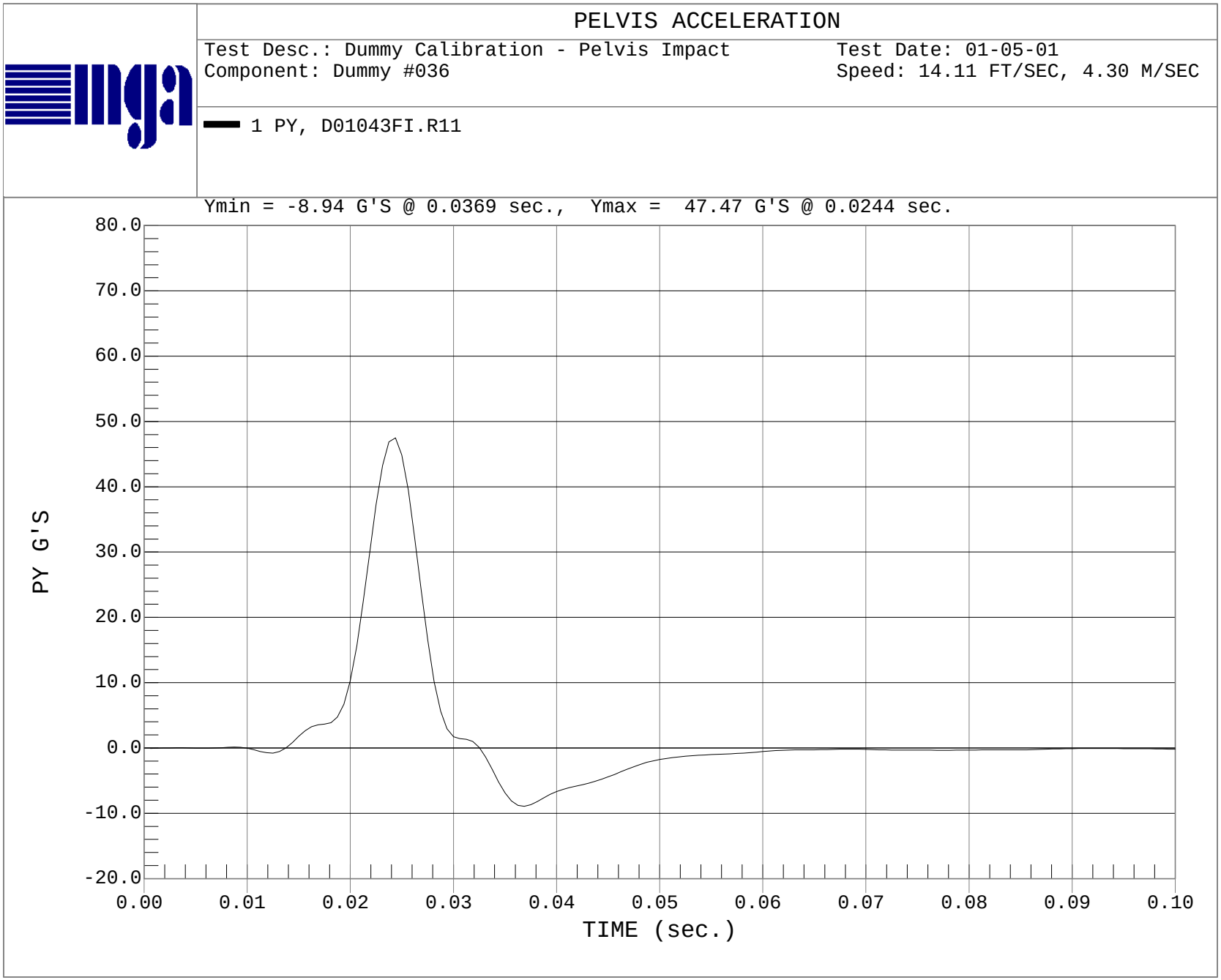
Test Number: D01042

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	25
Probe Speed (m/s)	4.27 – 4.33	4.30
Pelvis Acceleration (g's)	40 – 60	47

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____


PELVIS ACCELERATION
Test Desc.: Dummy Calibration - Pelvis Impact
Test Date: 01-05-01
Component: Dummy #036
Speed: 14.11 FT/SEC, 4.30 M/SEC
1 PY, D01043FI.R11
Ymin = -8.94 G'S @ 0.0369 sec., Ymax = 47.47 G'S @ 0.0244 sec.
PY G'S
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

Date: 1/17/01

Dummy Serial Number: 036

Test Number: D01044

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	20
Force @ 12.7 mm	104 – 162	146
Force @ 19 mm	163 – 222	204
Force @ 25.4 mm	222 – 280	267
Force @ 33 mm	325 - 391	367

TEST MEETS SPECIFICATIONS

Technician: _____

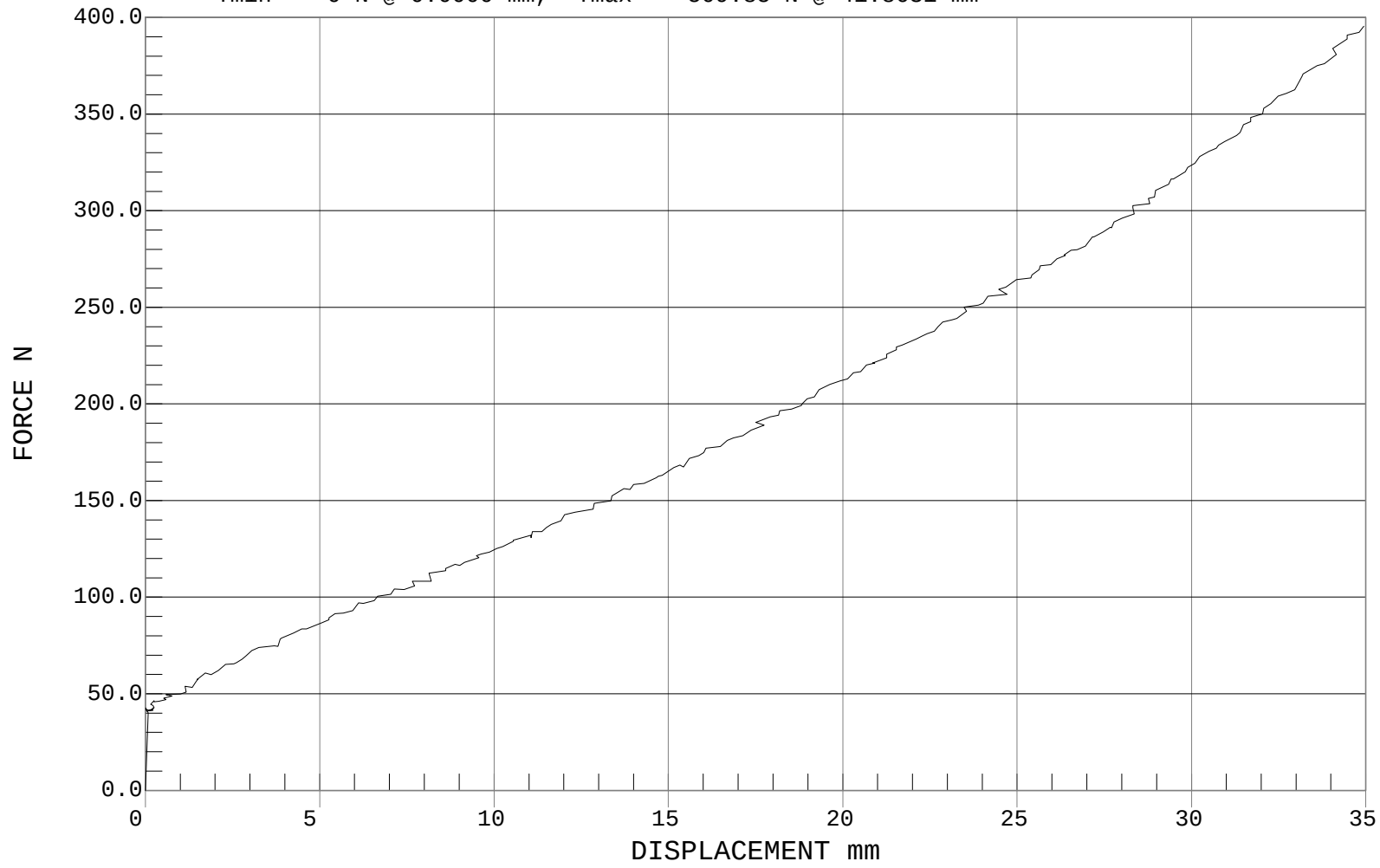
Approved By: _____

ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION Test Date: 01-17-01
Component: DUMMY # 036 Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01044FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 509.85 N @ 41.8631 mm



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

Date: 1/17/01

Dummy Serial Number: 036

Test Number: D01045

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	20
Force @ 0°	0 – 26.7	0
Force @ 20°	97.9 – 151.2	101.1
Force @ 30°	151.2 – 204.6	160.1
Force @ 40°	204.6 – 258.0	219.2
Return Angle	12° maximum	1

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

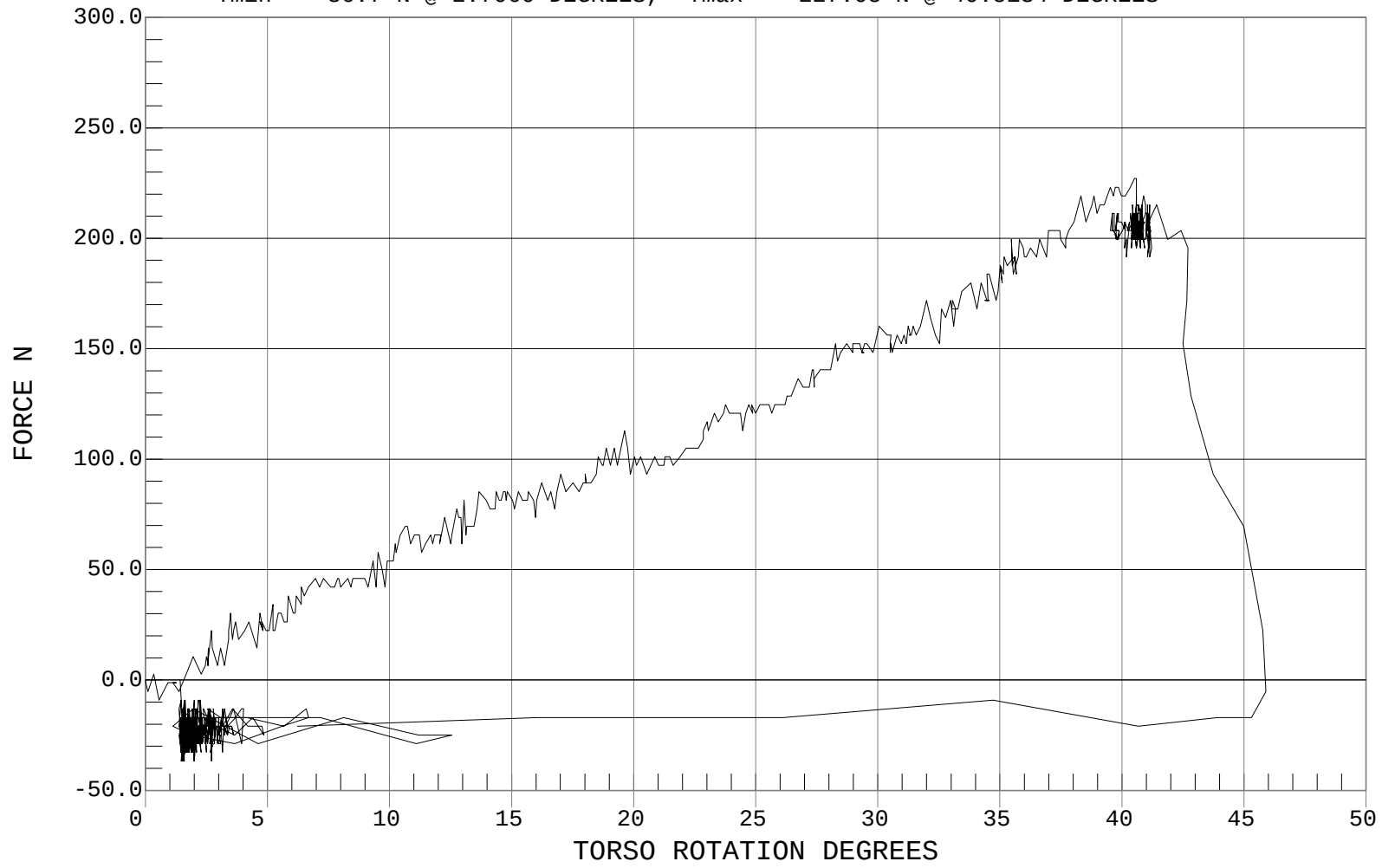
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 036

Test Date: 01-17-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01045FC.F14

Ymin = -36.7 N @ 2.7060 DEGREES, Ymax = 227.05 N @ 40.5134 DEGREES



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 036

Inspected By: Tim Michnay

Date: 1/18/01

Part	Items Checked	Comments
Skin	visual inspection	OK
Head	visual, ballast, accelerometer mount	OK
Neck	visual	OK
Spine box	visual, ballast, weldment, accelerometer mount	OK
Rib cage	visual, measure	OK
Sternum	visual	OK
Lumbar spine	visual	OK
Abdomen	visual	OK
Pelvis	visual, palpate, accelerometer mount	OK
Upper legs	visual	OK
Knees	visual	OK
Lower legs	visual, range of motion	OK
Ankles	visual, range of motion	OK
Feet	visual, range of motion	OK
Joints	1 to 2 g range	OK
Other		

Notes (include component/problem/action/reason):

CERTIFICATION DATA

Dummy Serial Number: 037

Calibration Test Results Summary

Dummy Serial Number: 037

Post Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 037

Date of Verification: 1/18/01

Test Number: D0105

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH-Seated Height (mm)	889 – 909	901
RH-Rib Height (mm)	501 – 521	511
HP-Hip Pivot Height (mm)	99 ref.	99
RD-Rib From Back Line (mm)	229 - 241	236
KV-Knee Pivot From Back Line (mm)	511 – 526	520
SW-Knee Pivot to Floor (mm)	490 – 505	494
HW – Hip Width (mm)	356 – 391	380

Technician: _____

Approved By: _____

MGA RESEARCH CORPORATION

HEAD DROP TEST

SIDE IMPACT DUMMY (SID)

Date: 1/18/01

Dummy Serial Number: 037

Test Number: D01051

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	21.3
Relative Humidity (%)	10 - 70	18
Peak Resultant Acceleration	210 - 260 g's	212
Peak Lateral Acceleration	< 10 g's	3
Time Above 100 g.	0.9 - 1.5 msec.	1.1

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

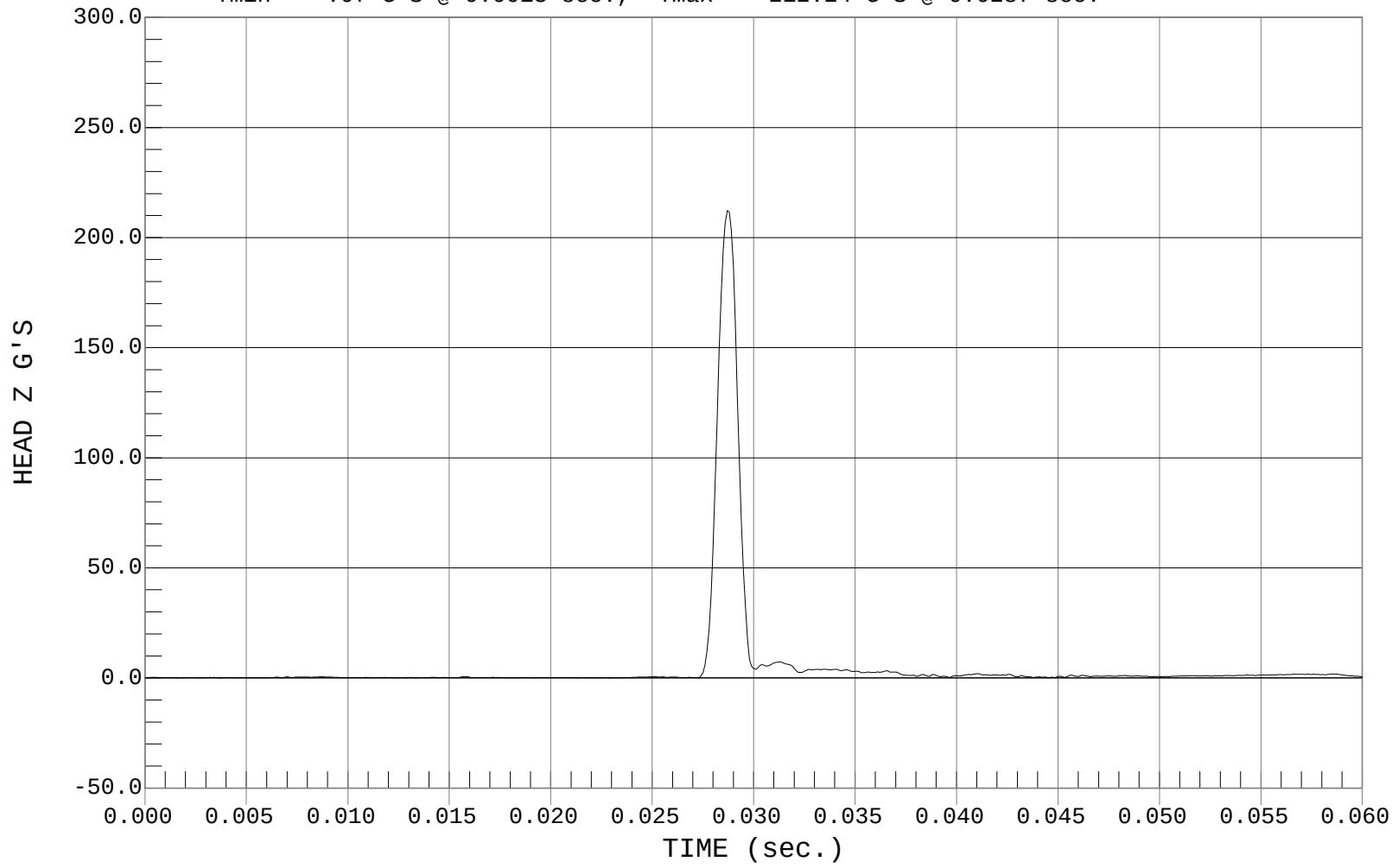
PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #037

Test Date: 01-18-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Z, D01051av.a01

Ymin = .07 G'S @ 0.0013 sec., Ymax = 212.24 G'S @ 0.0287 sec.



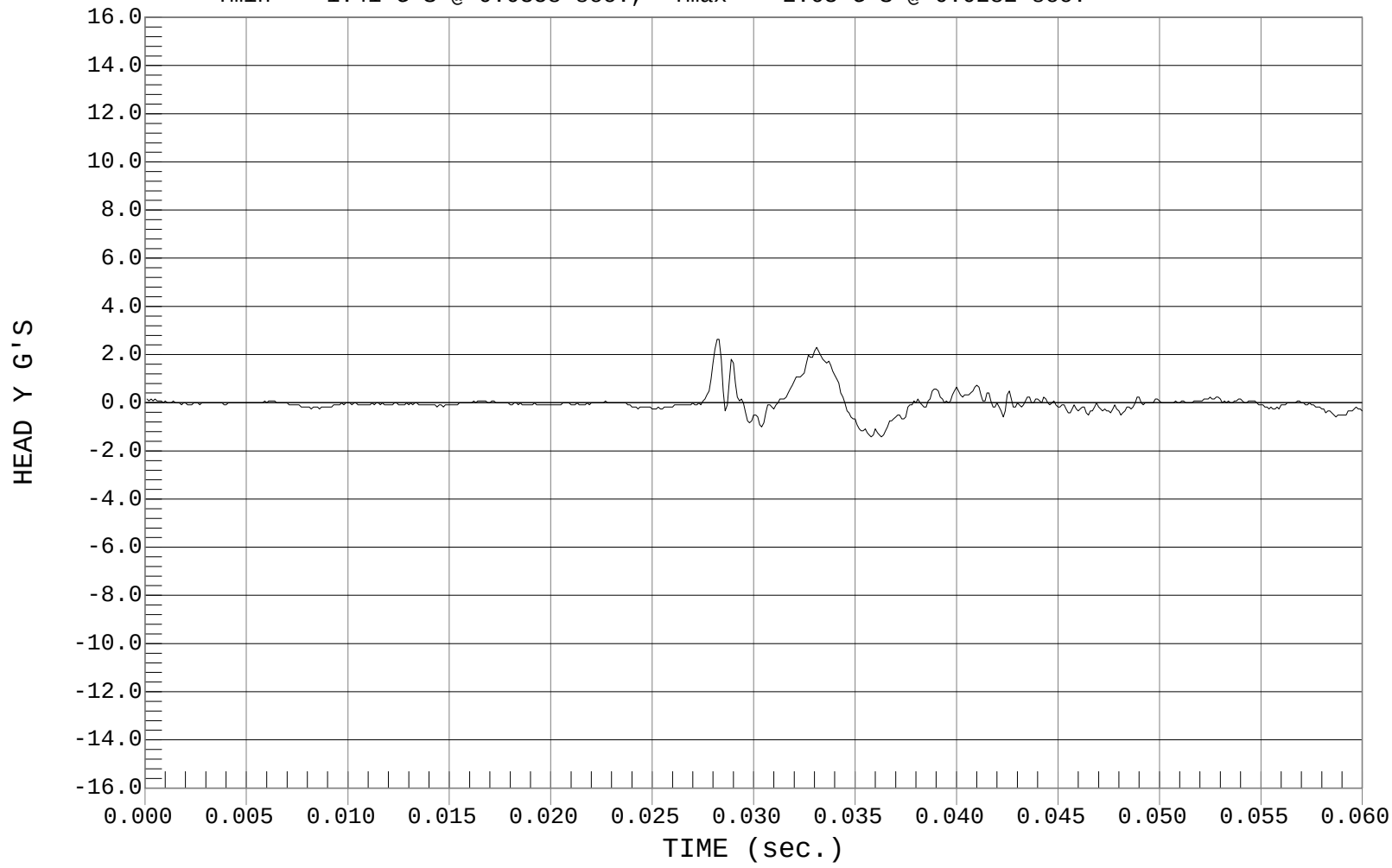
PEAK LATERAL ACCELRATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #037

Test Date: 01-18-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D01051AR.A02

Ymin = -1.41 G'S @ 0.0358 sec., Ymax = 2.63 G'S @ 0.0282 sec.



MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 1/5/01

Dummy Serial Number: 037

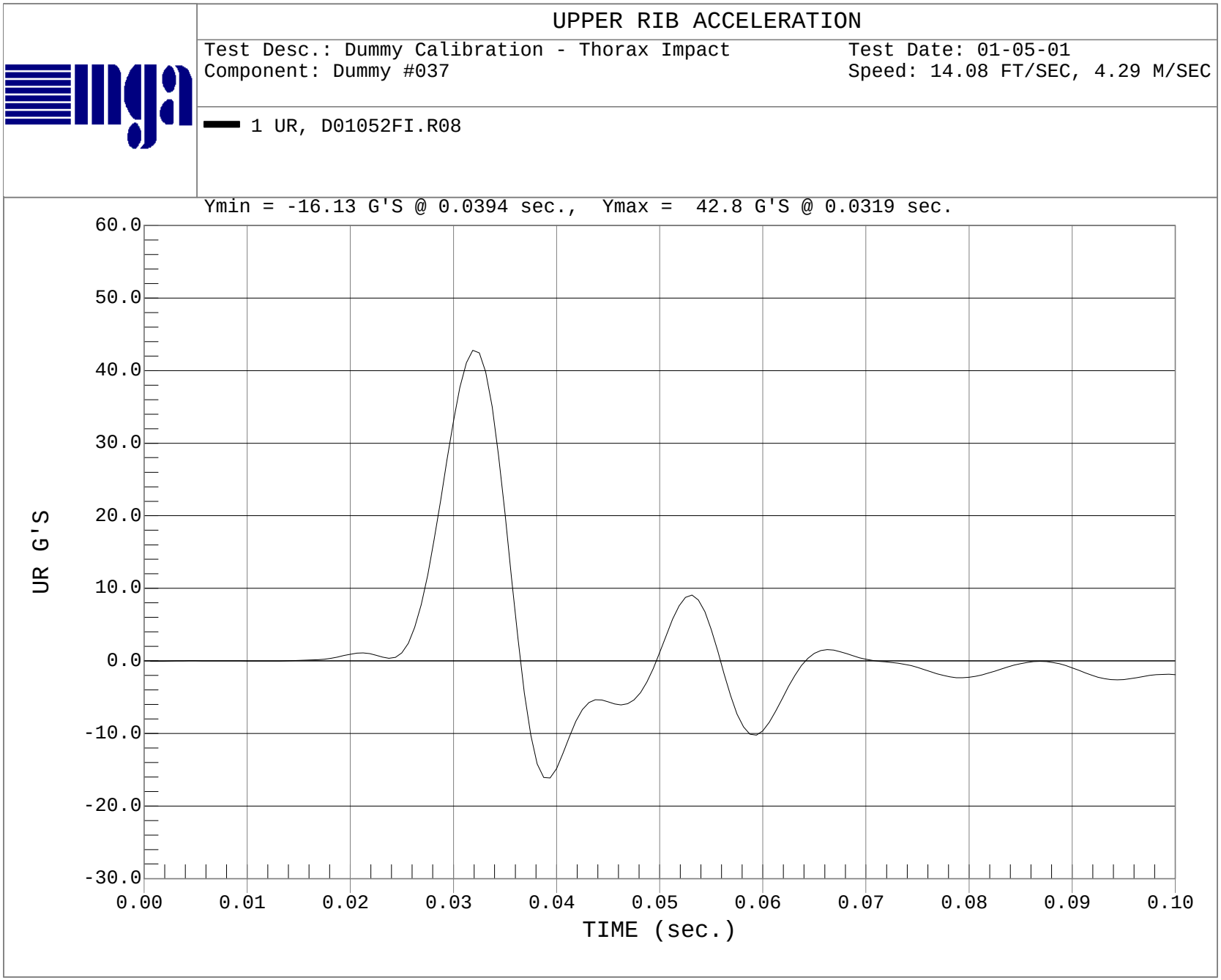
Test Number: D01052

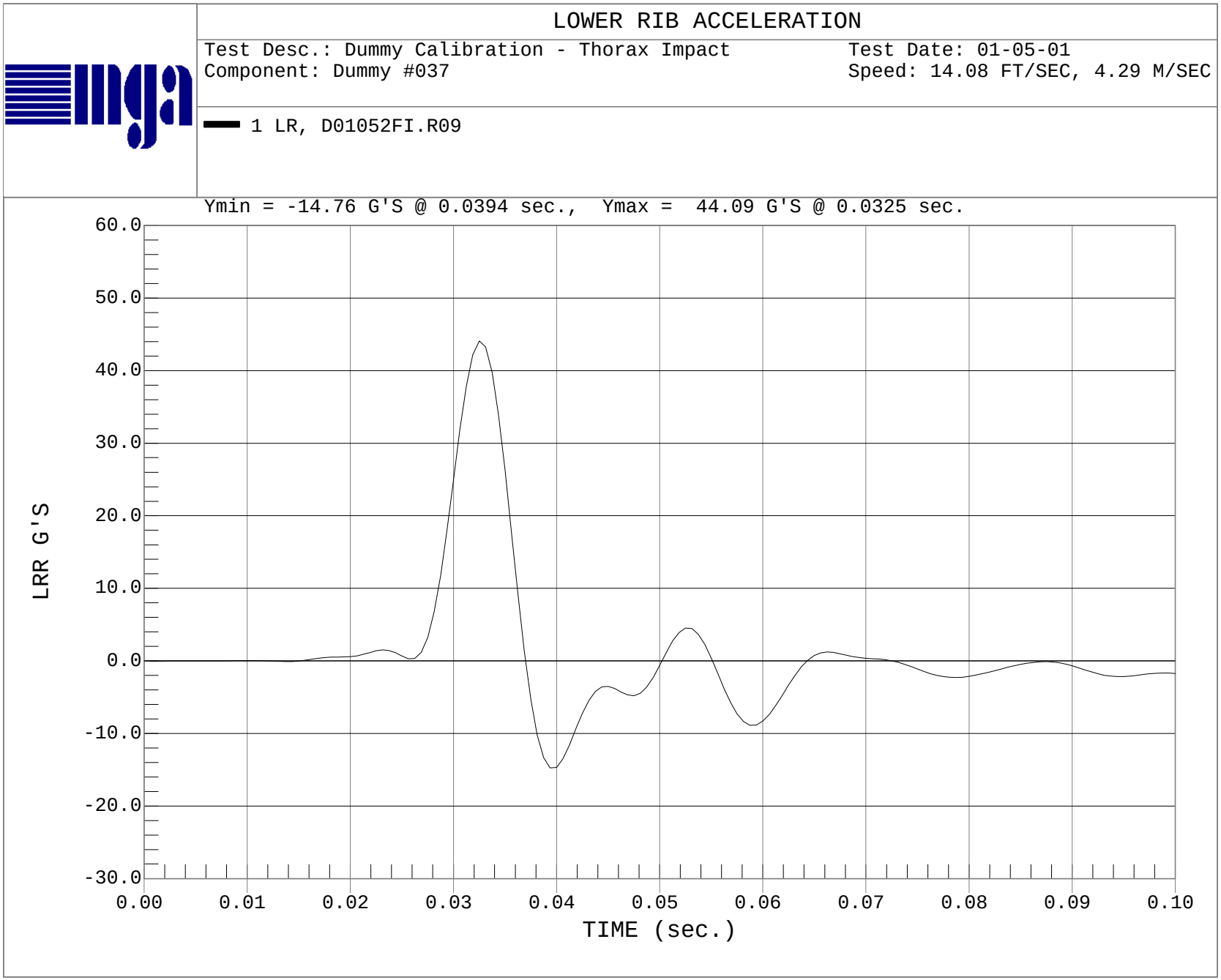
TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	25
Probe Speed (m/s)	4.27 – 4.33	4.29
Upper Rib (g's)	37 – 46	43
Lower Rib (g's)	37 – 46	44
Lower Spine (g's)	15 - 22	19

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____


UPPER RIB ACCELERATION
Test Desc.: Dummy Calibration - Thorax Impact
Test Date: 01-05-01
Component: Dummy #037
Speed: 14.08 FT/SEC, 4.29 M/SEC
1 UR, D01052FI.R08
Ymin = -16.13 G'S @ 0.0394 sec., Ymax = 42.8 G'S @ 0.0319 sec.
UR G'S
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)


LOWER RIB ACCELERATION
Test Desc.: Dummy Calibration - Thorax Impact
Test Date: 01-05-01
Component: Dummy #037
Speed: 14.08 FT/SEC, 4.29 M/SEC
1 LR, D01052FI.R09
Ymin = -14.76 G'S @ 0.0394 sec., Ymax = 44.09 G'S @ 0.0325 sec.
LRR G'S
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

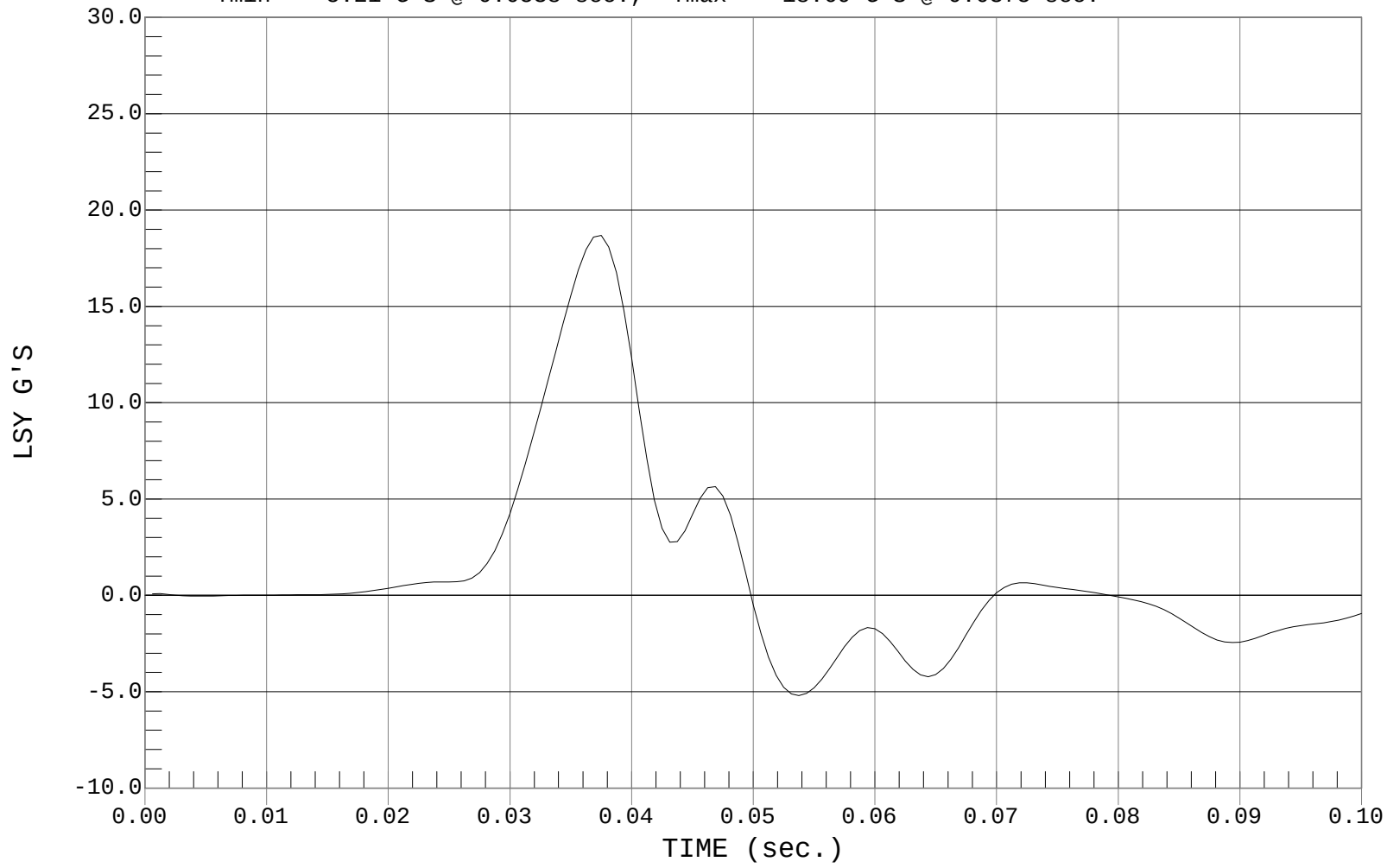
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #037

Test Date: 01-05-01
Speed: 14.08 FT/SEC, 4.29 M/SEC

1 LSY, D01052FI.R10

Ymin = -5.21 G'S @ 0.0538 sec., Ymax = 18.69 G'S @ 0.0375 sec.



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 1/5/01

Dummy Serial Number: 037

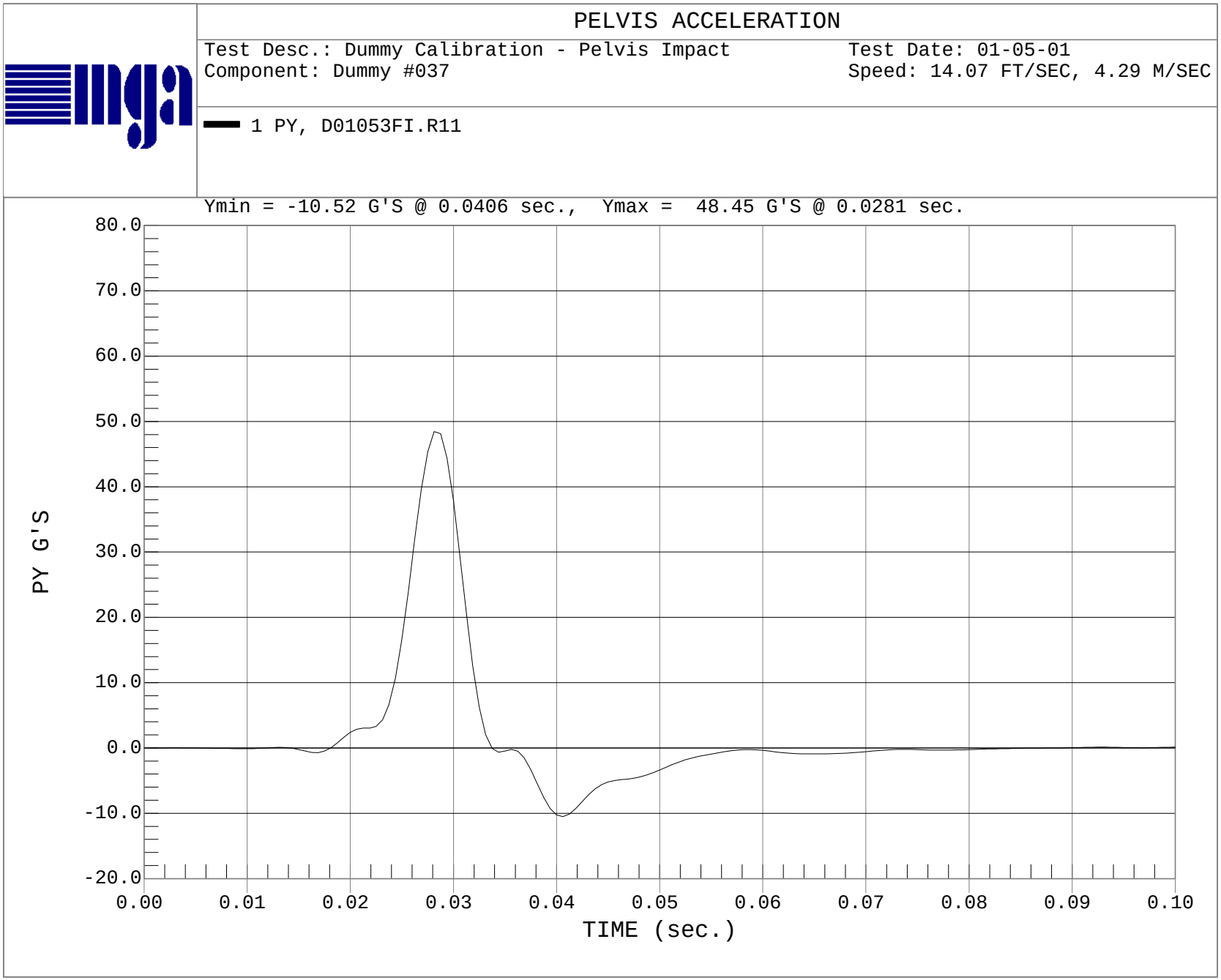
Test Number: D01053

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	25
Probe Speed (m/s)	4.27 – 4.33	4.29
Pelvis Acceleration (g's)	40 – 60	48

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____


PELVIS ACCELERATION
Test Desc.: Dummy Calibration - Pelvis Impact
Test Date: 01-05-01
Component: Dummy #037
Speed: 14.07 FT/SEC, 4.29 M/SEC
1 PY, D01053FI.R11
Ymin = -10.52 G'S @ 0.0406 sec., Ymax = 48.45 G'S @ 0.0281 sec.
PY G'S
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

Date: 1/17/01

Dummy Serial Number: 037

Test Number: D01054

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	20
Force @ 12.7 mm	104 – 162	146
Force @ 19 mm	163 – 222	199
Force @ 25.4 mm	222 – 280	260
Force @ 33 mm	325 - 391	363

TEST MEETS SPECIFICATIONS

Technician: _____

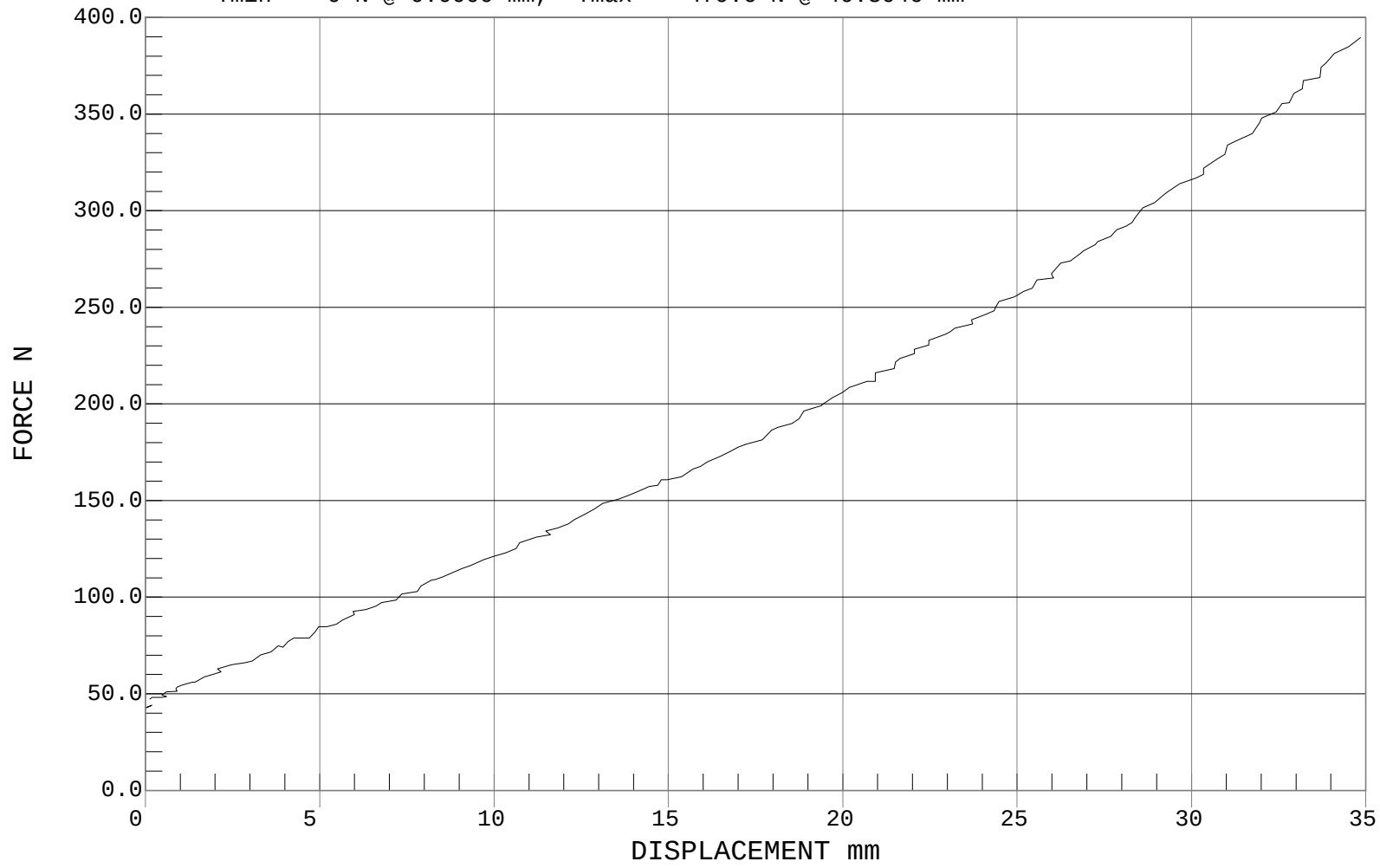
Approved By: _____

ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION Test Date: 01-17-01
Component: DUMMY # 037 Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01054FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 479.6 N @ 40.3046 mm



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

Date: 1/17/01

Dummy Serial Number: 037

Test Number: D01055

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4
Relative Humidity (%)	10 – 70	20
Force @ 0°	0 – 26.7	0
Force @ 20°	97.9 – 151.2	101.7
Force @ 30°	151.2 – 204.6	160.8
Force @ 40°	204.6 – 258.0	235.5
Return Angle	12° maximum	2

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

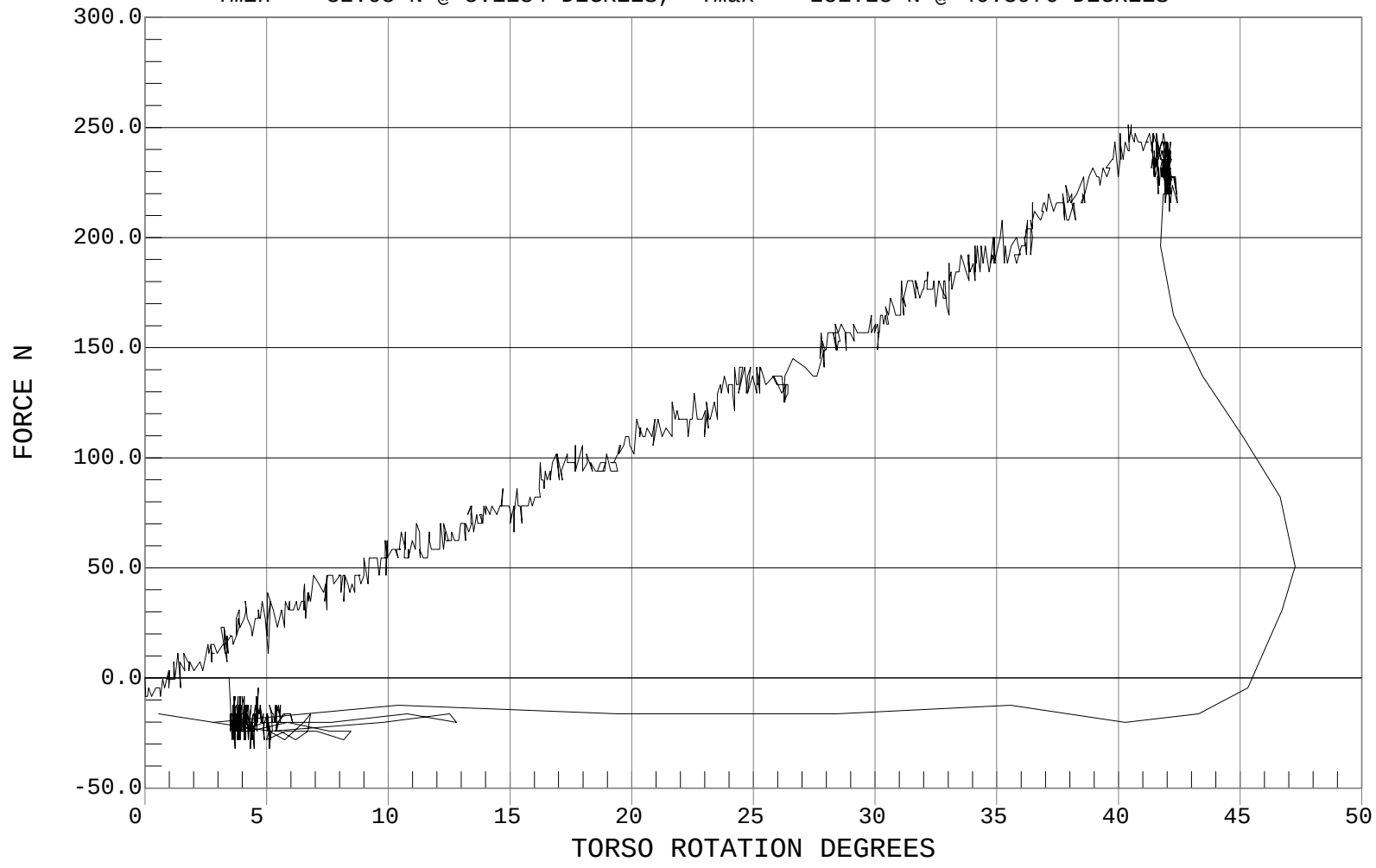
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 037

Test Date: 01-17-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01055FC.F14

Ymin = -32.05 N @ 5.1134 DEGREES, Ymax = 251.25 N @ 40.3976 DEGREES



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 037

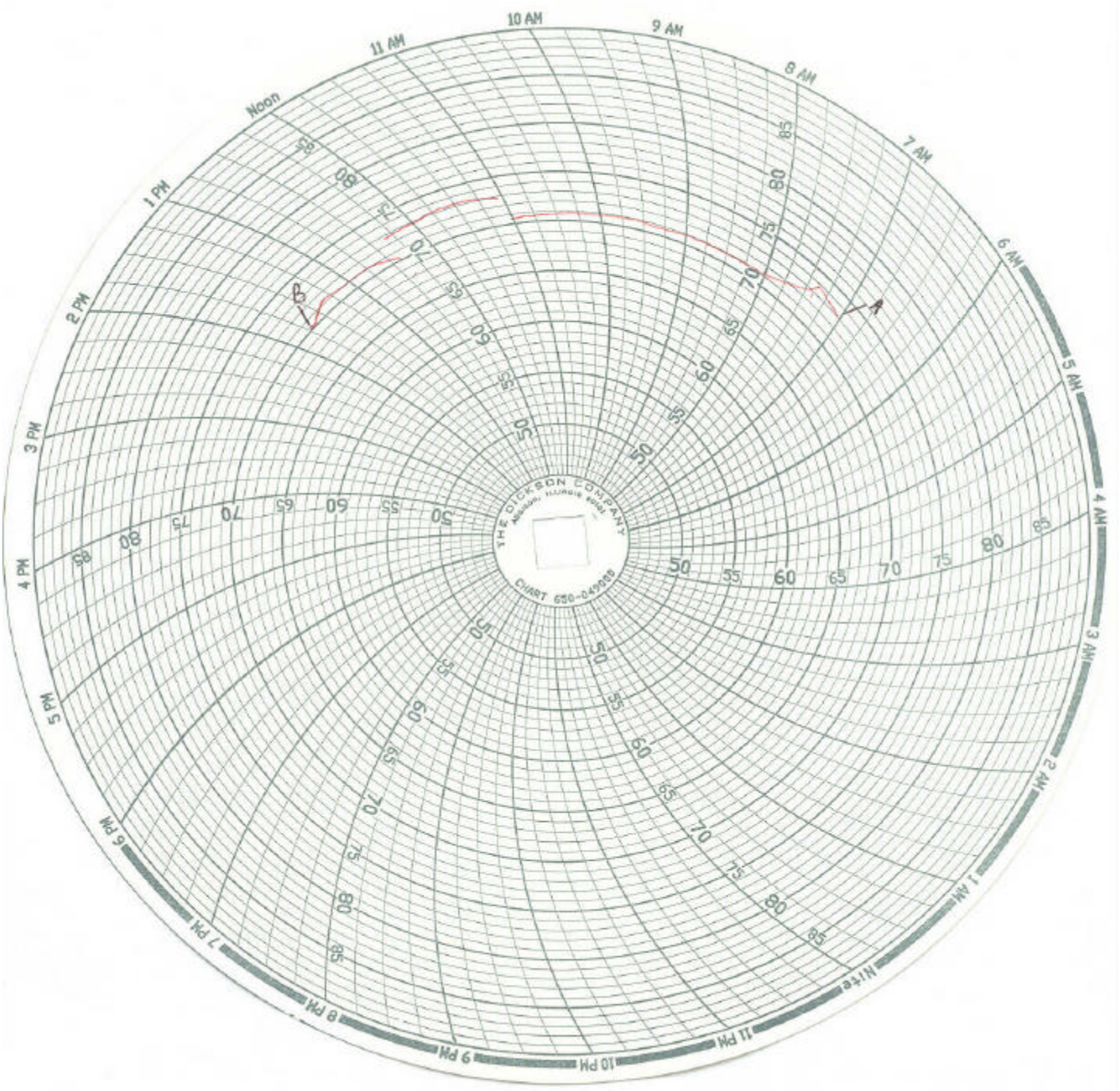
Inspected By: Tim Michnay

Date: 1/18/01

Part	Items Checked	Comments
Skin	visual inspection	OK
Head	visual, ballast, accelerometer mount	OK
Neck	visual	OK
Spine box	visual, ballast, weldment, accelerometer mount	OK
Rib cage	visual, measure	OK
Sternum	visual	OK
Lumbar spine	visual	OK
Abdomen	visual	OK
Pelvis	visual, palpate, accelerometer mount	OK
Upper legs	visual	OK
Knees	visual	OK
Lower legs	visual, range of motion	OK
Ankles	visual, range of motion	OK
Feet	visual, range of motion	OK
Joints	1 to 2 g range	OK
Other		

Notes (include component/problem/action/reason):

VEHICLE AND DUMMY TEMPERATURE



A = Dummies installed in vehicle at 7:00 a.m.

B = Test conducted at 2:07 p.m.

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

	INSTRUMENTS FOR DRIVER DUMMY NO. 036		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AP138	Endevco	12/19/00
Lower Rib Y	J11361	Endevco	10/3/00
Lower Spine Y	AMP12	Endevco	11/17/00
Pelvis Y	J10411	Endevco	10/2/00
Upper Rib Redundant Y	AP0G2	Endevco	12/19/00
Lower Rib Redundant Y	J12465	Endevco	10/3/00
Lower Spine Redundant Y	AGWA4	Endevco	11/17/00
Pelvis Redundant Y	ALEC1	Endevco	10/2/00
Head Center of Gravity X	AMTB8	Endevco	10/3/00
Head Center of Gravity Y	AP1Y1	Endevco	10/3/00
Head Center of Gravity Z	ACC81	Endevco	10/3/00

	INSTRUMENTS FOR PASSENGER DUMMY NO. 037		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AN8M6	Endevco	11/17/00
Lower Rib Y	ALEJ1	Endevco	10/2/00
Lower Spine Y	ALDY8	Endevco	11/17/00
Pelvis Y	AGP28	Endevco	8/31/00
Upper Rib Redundant Y	AN8P9	Endevco	11/17/00
Lower Rib Redundant Y	ALDP3	Endevco	10/2/00
Lower Spine Redundant Y	AP0E1	Endevco	11/17/00
Pelvis Redundant Y	AJ8T5	Endevco	8/31/00
Head Center of Gravity X	ALFP1	Endevco	9/19/00
Head Center of Gravity Y	AP179	Endevco	9/19/00
Head Center of Gravity Z	AHTY4	Endevco	9/19/00

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	I25-F09	Entran	12/13/00
Moving Barrier CG Y	I25-F07	Entran	12/13/00
Moving Barrier CG Z	I25-F08	Entran	12/13/00
Moving Barrier Rear Axle X	K19-A15	Entran	7/11/00
Moving Barrier Rear Axle Y	G13-F10	Entran	8/14/00
Left Mid A-Post Y	L11-G07	Entran	8/8/00
Left Lower A-Post Y	F12-G09	Entran	8/18/00
Left Mid B-Post Y	J07-X16	Entran	9/12/00
Left Lower B-Post Y	F07-A12	Entran	9/14/00
Rear Floorpan Above Axle X	I25-J08	Entran	11/17/00
Rear Floorpan Above Axle Y	I14-D18	Entran	11/17/00
Rear Floorpan Above Axle Z	C25-A17	Entran	11/17/00
Driver Seat Track Y	G01-J12	Entran	9/12/00
Right Side Sill at Front Seat X	G13-F02	Entran	8/14/00
Right Side Sill at Front Seat Y	G13-F15	Entran	8/14/00
Right Side Sill at Front Seat Z	G13-F12	Entran	8/14/00
Right Side Sill at Rear Seat X	F10-D04	Entran	10/2/00
Right Side Sill at Rear Seat Y	C25-A22	Entran	9/14/00
Right Side Sill at Rear Seat Z	L15-G21	Entran	9/14/00
Left Side Sill at Front Seat Y	I25-F14	Entran	11/15/00
Left Side Sill at Rear Seat Y	J10-E18	Entran	9/14/00
Right Rear Occupant Compartment Y	D05-R16	Entran	8/10/00
Vehicle CG X	F12-G01	Entran	7/11/00
Vehicle CG Y	K11-J18	Entran	7/11/00
Vehicle CG Z	B13-Z02	Entran	6/2/00

Note: All Endevco accelerometers are Model No. 7264-2000

All Entran accelerometers are Model No. EGE-72