

REPORT NUMBER: 214D-MGA-2001-018

**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION**

**Hyundai Motor Company
2001 Hyundai Accent GL 4 Door
NHTSA NUMBER: C10525**

**PREPARED BY:
MGA RESEARCH CORPORATION
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BURLINGTON, WI 53105**



July 17, 2001

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW, ROOM 6111 (NSA-30)
WASHINGTON, D.C. 20590**

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16. Abstract A 48/24 km/h 90° Moving Deformable Barrier side impact was conducted on the subject 2001 Hyundai Accent GL 4 door in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure No. TP-214D-05 Side Impact Protection for determination of FMVSS 214 compliance. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on July 17, 2001. The impact velocity of the Moving Deformable Barrier (MDB) was 52.9 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 291 mm at level 2. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">65.6</td> <td style="text-align: center;">69.9</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">58.0</td> <td style="text-align: center;">82.9</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">72.5</td> <td style="text-align: center;">57.4</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">69.1</td> <td style="text-align: center;">70.2</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">75.0</td> <td style="text-align: center;">64.2</td> </tr> </tbody> </table>					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	65.6	69.9	Left Lower Rib (LLR) Accel., g	58.0	82.9	Lower Spine (T ₁₂) Accel., g	72.5	57.4	Thoracic Trauma Index (TTI)	69.1	70.2	Pelvis (PEV) Accel., g	75.0	64.2
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Pelvis (PEV) Accel., g	75.0	64.2																			
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.																					
17. Key Words Compliance Testing FMVSS 214D Side Impact Dummy (SID) Occupant Side Impact Protection		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590																			
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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 Hyundai Accent GL 4 Door manufactured by Hyundai Motor Co..

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 Side Impact Testing TP-214D-05, dated August 2, 1999 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA2. 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 Hyundai Accent GL 4 Door 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 52.9 km/h. The specified impact velocity range is from 52.1 to 53.7 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 1291 kg and the test weight of the MDB was 1362 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on July 17, 2001.

One (1) real-time motion picture camera and ten (10) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information 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 Laboratory Test Procedure dated August 2, 1999. Each SID was instrumented with eight (8) 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)

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 291 mm at level 2, 1050 mm rearward of the left vertical impact point. The driver and passenger SID's, Serial Nos. 271 and 272 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	69.1	70.2
Peak Pelvic G's (PEV)	G's	75.0	64.2

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

SECTION 3

SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	English 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	6.9
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/Hyundai/Accent GL/4 DoorNHTSA No.: C10525Test Program: FMVSS 214Test Date: July 17, 2001**TEST VEHICLE INFORMATION**

Make	Hyundai
Model	Accent GL
Body Style	4-door
NHTSA No.	C10525
VIN	KMHCG45C91U218463
Color	Black
Delivery Date	7/12/2001
Odometer Reading (mile)	99
Dealer	Arrow Hyundai
Transmission	5 Speed Manual
Final Drive	Front
Number of Cylinders	4
Engine Displacement (L)	1.6
Engine Placement	Transverse

TEST VEHICLE OPTIONS

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Hyundai Motor Co.
Date of Manufacture	1/9/2001

GVWR (kg)	1501.4
GAWR Front (kg)	821.0
GAWR Rear (kg)	850.5

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	228	228
Cold Pressure (kPa)	228	228
Recommend Tire Size	P175/70R13	P175/70R13
Tire Size on Vehicle	P175/70R13	P175/70R13
Tire Manufacturer	Kumho	Kumho

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Spit Bench	NA	
Number of Occupants x 68.04 kg	2	3	-	340.2
Capacity Wt. (VCW) (kg)				385.6
Cargo Weight (RCW) (kg)				45.4

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

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	336.1	212.3		390.1	294.8	
Right	kg	330.7	214.1		345.6	260.4	
Ratio	%	61.0	39.0		57.0	43.0	
Totals	kg	666.8	426.4	1093.2	735.7	555.2	1290.9

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1093.2
Weight of 2 P572F Side Impact Dummies	kg	161.4
Rated Cargo/Luggage Weight (RCLW)	kg	45.4
Calculated Vehicle Target Weight (TVTW)	kg	1300.0

*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	615	617	620	619	953
As Tested	mm	596	612	581	590	1051
Fully Loaded	mm	594	613	577	590	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2443
Total Vehicle Length at Left Side	mm	3688
Total Vehicle Length at Centerline	mm	4182
Total Vehicle Length at Right Side	mm	3688
Total Vehicle Width	mm	1672
Weight of Ballast in Cargo Area	kg	0
Amount of Stoddard Solvent in Fuel Tank	liters	41.6

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2443
Target Impact Point Aft of Front Axle	mm	282
Actual Impact Point Aft of Front Axle	mm	280

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

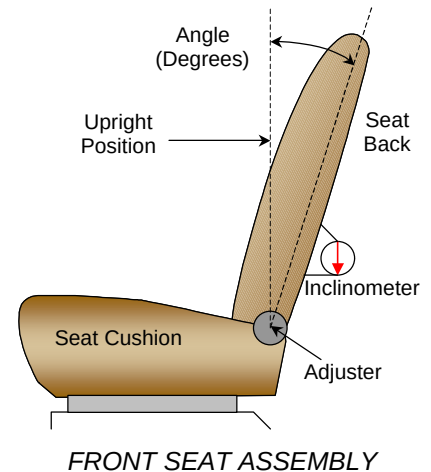
NORMAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturer's designated angle. The procedure for the seat is as follows: The seat back is set in the 5th latching position back from full forward. The rear passenger seat is fixed; no adjustments can be made.

Driver seat back angle: 28 degrees *

Passenger seat back angle: 22 degrees *

* Back angle measured on the H-Point machine.



SEAT FORE/AFT POSITIONS

The driver's seat is manually operated and the rear passenger seat has no adjustments. The fore/aft is set to the middle position for the driver's seat. The first detent is numbered "1".

Driver seat fore/aft total travel: 220 mm. 19 latching positions

Rear passenger seat fore/aft total travel: NA

Driver seat fore/aft position: 10th position rearward from full forward

Rear passenger seat fore/aft position: NA

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable "D" ring anchorage for the driver's seat position. There are 4 positions or detents, with the uppermost position numbered "1". The driver's "D" ring anchorage is placed in position 2.

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

FUEL TANK CAPACITY DATA

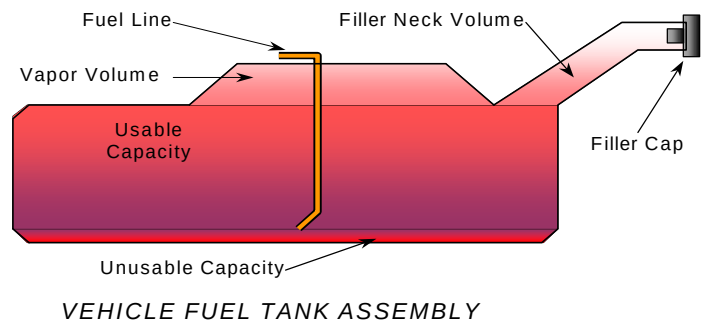
The "Usable Capacity" of the standard equipment fuel tank is: 45.0 liters

The "Usable Capacity" of any optional equipment fuel tank is: NA liters

92-94% of "Usable Capacity" for certification to FMVSS 301 requirement: 41.4 - 42.3 liters

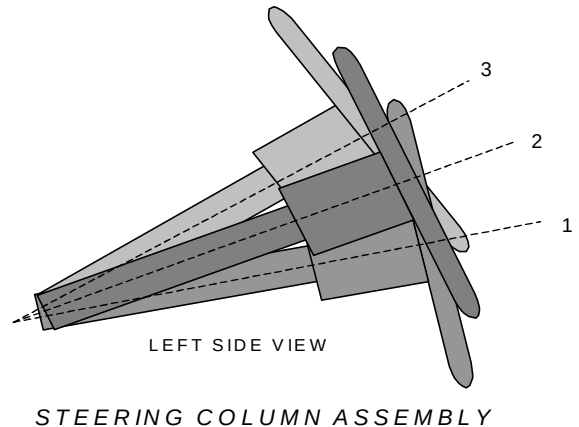
Actual amount of Stoddard solvent added to vehicle for certification test: 41.6 liters

The test vehicle is equipped with an electric fuel pump. The fuel filler door is located on the left rear fender.



STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when it is moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, and inclinometer is placed onto the plate and the angle is measured. The tested vehicle has a fixed steering column, no adjustment can be made.



DATA SHEET NO. 2**TEST VEHICLE SUMMARY OF RESULTS**Test Vehicle: 2001/Hyundai/Accent GL/4 DoorNHTSA No.: C10525Test Program: FMVSS 214Test Date: July 17, 2001**TEST VEHICLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	336.1	212.3		390.1	294.8	
Right	kg	330.7	214.1		345.6	260.4	
Weight Ratio	%	61.0	39.0		57.0	43.0	
Totals	kg	666.8	426.4	1093.2	735.7	555.2	1290.9

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	131	225
Level 2	Occupant H-Point	mm	291	456
Level 3	Mid Door	mm	275	528
Level 4	Window Sill	mm	180	834
Level 5	Window Top	mm	30	1278
N/A	Maximum Penetration	mm	291	456

INSTRUMENTATION

Driver SID Accelerometers	8
Passenger SID Accelerometers	8
Vehicle Structure Accelerometers	20
MDB Accelerometers	5
Total	41

DATA SHEET NO. 3**MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS**Test Vehicle: 2001/Hyundai/Accent GL/4 DoorNHTSA No.: C10525Test Program: FMVSS 214Test Date: July 17, 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	52.1 to 53.7	52.9
Trap No. 2 Velocity (Redundant)	km/h	52.1 to 53.7	52.8
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max. Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	813	800	Left	108
B	Top of Bumper	686	800	Left	72
C	Mid Level	533	800	Left	120
D	Top of Stack	432	800	Left	115

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

DATA SHEET NO. 4**POST TEST OBSERVATIONS**Test Vehicle: 2001/Hyundai/Accent GL/4 DoorNHTSA No.: C10525Test Program: FMVSS 214Test Date: July 17, 2001**TEST DUMMY INFORMATION AND CONTACT POINTS**

Description	Front Seat SID	Rear Seat SID
Dummy Type / Serial No.	SID/271	SID/272
Head Contact	B-Post	C-Post
Upper Torso Contact	B-Post	Door Panel
Lower Torso Contact	Door Panel	Arm Rest
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 Separation
Sill Separation	None
Windshield Damage	Windshield cracked
Window Damage	Left side windows broke
Other Notable Effects	None noted

AIRBAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	No	No	NA
Side	NA	NA	NA

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	2mm forward
Vertical Offset	mm	+/-20	8 mm down

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5

SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 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	65.6	39	-14.4	54	69.9	47	-8.6	117
Upper Rib (LUR) (R)	Y	G's	66.4	39	-15.0	54	67.9	47	-9.1	117
Lower Rib (LLR)	Y	G's	58.0	39	-6.5	99	82.9	47	-18.5	74
Lower Rib (LLR) (R)	Y	G's	58.1	39	-7.0	99	81.7	47	-19.2	74
Lower Spine (T ₁₂)	Y	G's	72.5	43	-16.6	74	57.4	49	-17.2	79
Lower Spine (T ₁₂) (R)	Y	G's	70.9	44	-17.1	74	56.2	49	-17.1	78
Pelvis (PEV)	Y	G's	75.0	41	-5.5	64	64.2	36	-6.5	56
Pelvis (PEV) (R)	Y	G's	76.6	41	-5.4	64	64.6	36	-6.4	56

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

Location	Driver				Passenger			
	LLR	T ₁₂	TTI(g)	PEV(g)	LLR	T ₁₂	TTI(g)	PEV(g)
Rib, Spine, and Pelvis	65.6	72.5	69.1	75.0	82.9	57.4	70.2	64.2
Rib, Spine, and Pelvis (R)	66.4	70.9	68.7	76.6	81.7	56.2	69.0	64.6

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

DATA SHEET NO. 6

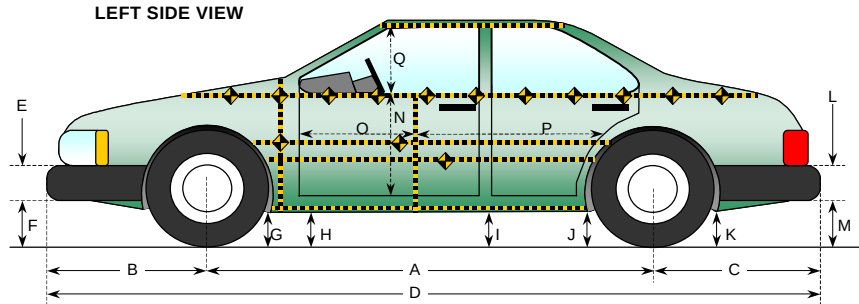
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001



All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2443	2404	39
B	Front Axle to FSOV	801	812	-11
C	Rear Axle to RSOV	938	964	-26
D	Total Length at Centerline	4182	4180	2
E	Front Bumper Thickness	136	136	0
F	Front Bumper Bottom to Ground	362	375	-13
G	Sill Height at Front Wheel Well	150	158	-8
H	Sill Height at Front Door Leading Edge	144	151	-7
I	Sill Height at "B" Pillar	143	134	9
J1	Sill Height at Rear Wheel Well	140	141	-1
J2	Pinch Weld Height at Rear Wheel Well	138	134	4
K	Sill Height Aft of Rear Wheel Well	208	197	11
L	Rear Bumper Thickness	171	171	0
M	Rear Bumper Bottom to Ground	336	334	2
N	Sill Height to Window Bottom Sill	658	573	-85
O	Front Door Leading Edge to Impact CL	651	651	0
P	Rear Door Trailing Edge to Impact CL	1083	1012	71
Q	Front Window Opening	444	431	13
R	Right Side Length	3688	3693	-5
S	Left Side Length	3688	3629	59
T	Vehicle Width at "B" Post	1672	1416	256

DATA SHEET NO. 7

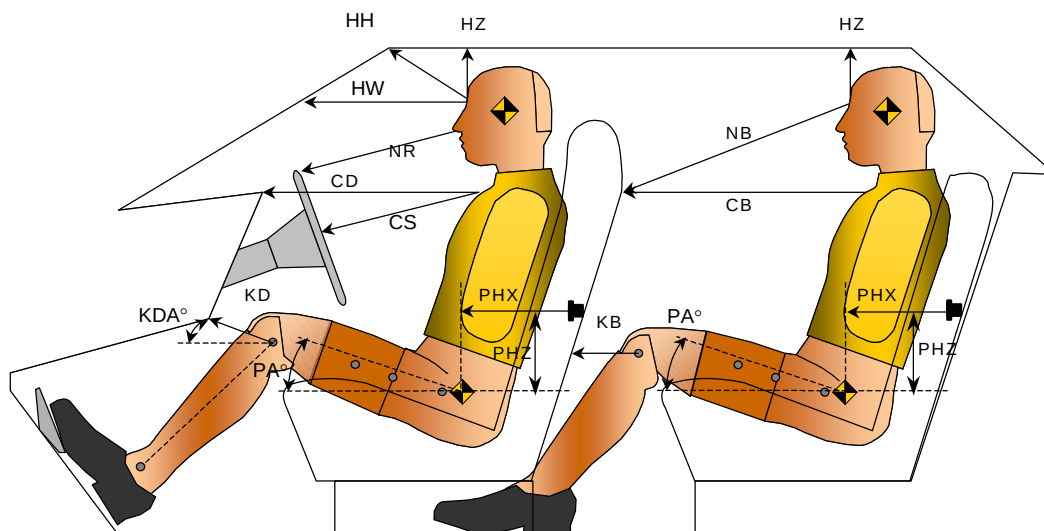
SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001



Driver Code	Pass. Code	Measurement Description	Driver S/N 271		Passenger S/N 272	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	430			
HW		Head to Windshield	641			
HZ	HZ	Head to Roof	183		170	
NR	NB	Nose to Rim/Nose to Seatback	487		489	
CD	CB	Chest to Dash or Seatback	546		422	
CS		Chest to Steering Wheel	371			
KDL	KBL	Left Knee to Dash or Seatback	196	0.0	141	0.0
KDR	KBR	Right Knee to Dash or Seatback	210	0.0	132	0.0
PA	PA	Pelvic Angle		24.9		24.9
PHX	PHX	H-Point to Striker (X-Axis)	163		241	
PHZ	PHZ	H-Point to Striker (Z-Axis)	120		272	

DATA SHEET NO. 8

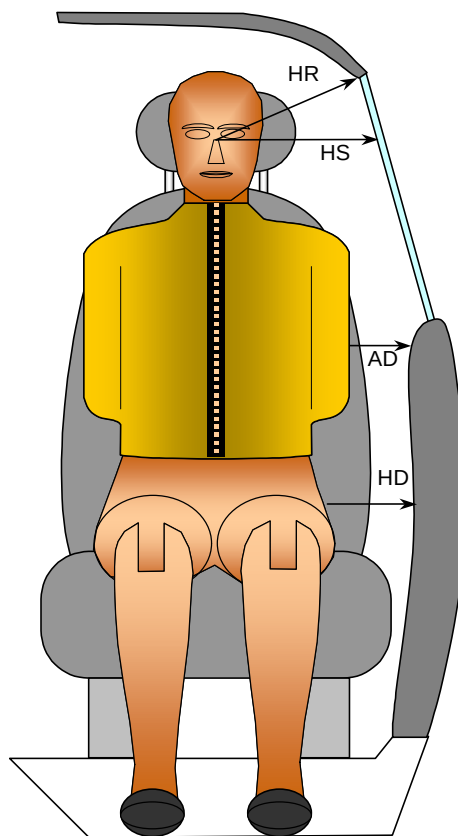
SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001



FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 271	Passenger S/N 272
HR	Head to Side Header	mm	205	228
HS	Head to Side Window	mm	322	331
AD	Arm to Door	mm	118	115
HD	H-Point to Door	mm	153	172

DATA SHEET NO. 9

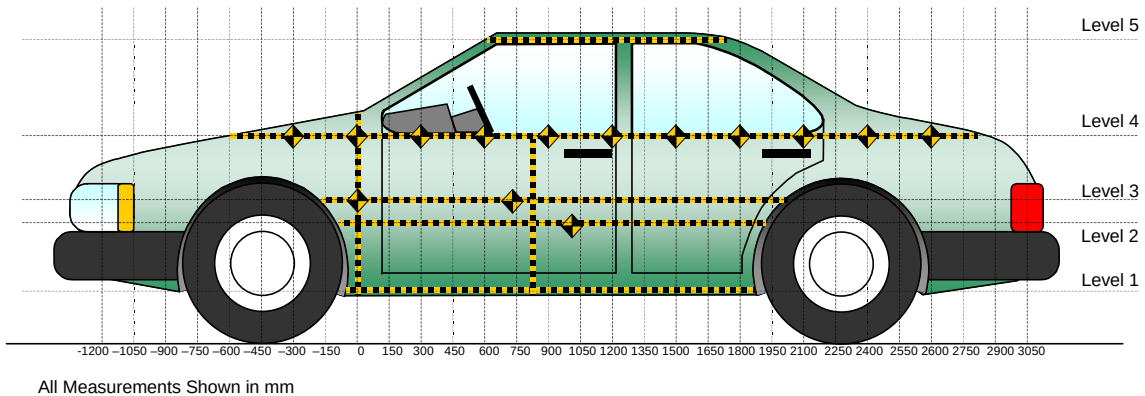
VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001



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	1278
4	Window Sill	834
3	Mid Door	528
2	Occupant H-Point	456
1	Sill Top	225

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750			478	551				484	552				6	1	
-600			440	531				460	540				20	9	
-450				515					532					17	
-300				502					527					25	
-150				493					523					30	
0			412	485				535	528				123	43	
150	462	412	415	480		523	610	579	540		61	198	164	60	
300	462	412	415	477		559	675	650	582		97	263	235	105	
450	462	412	415	477		564	681	662	610		102	269	247	133	
600	462	412	415	477		577	687	668	623		115	275	253	146	
750	462	411	415	477	704	585	693	673	626	727	123	282	258	149	23
900	462	410	415	476	685	590	698	679	627	715	128	288	264	151	30
1050	461	410	414	476	687	590	701	677	629	663	129	291	263	153	-24
1200	461	418	414	477	683	592	703	689	632	675	131	285	275	155	-8
1350	461	410	414	479	681	584	699	679	659	694	123	289	265	180	13
1500	461	410	414	480	681	575	684	673	650	669	114	274	259	170	-12
1650	461	410	414	481	677	569	659	644	624	642	108	249	230	143	-35
1800	461	416	415	483	673	570	578	605	603	693	109	162	190	120	20
1950			407	483	674			504	533	690			97	50	16
2100				486	692				505	703				19	11
2250				492					525					33	
2400			429	501				449	525				20	24	
2550			446	520				457	532				11	12	
2700			472	544				478	548				6	4	
2850															
3000															

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

DATA SHEET NO. 10...(continued)

VEHICLE EXTERIOR CRUSH PROFILES

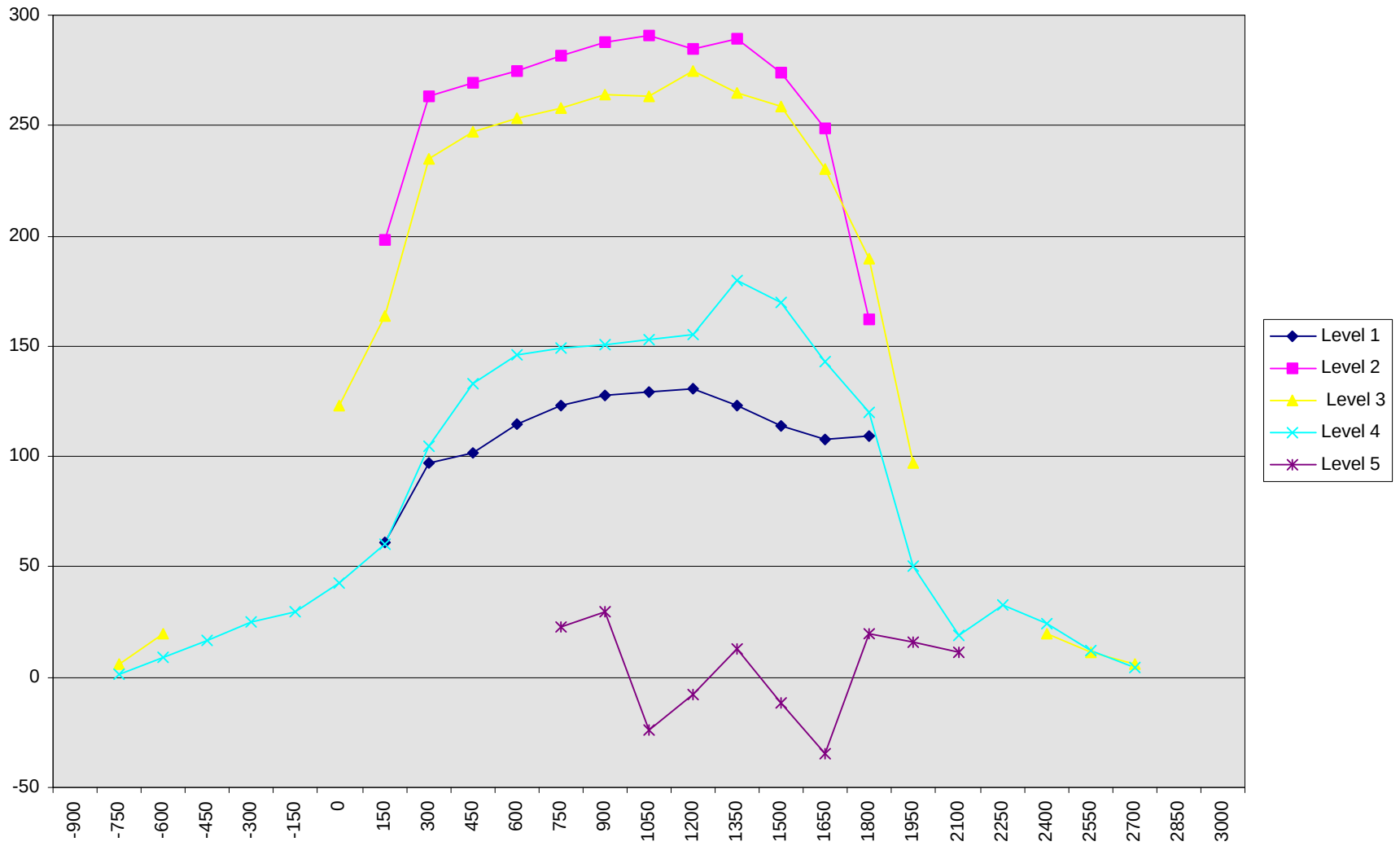
Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.:C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

6T



DATA SHEET NO. 11

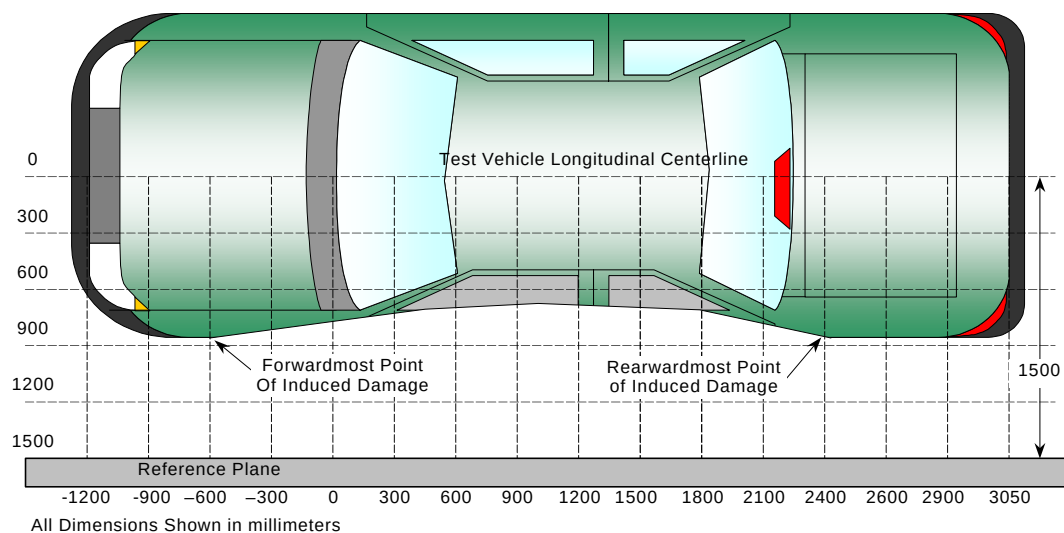
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 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	2700 mm	4	544	548	4
2	2020 mm	4	484	520	36
3	1286 mm	2	413	710	297
4	600 mm	2	412	687	275
5	-72 mm	4	489	524	35
6	-750 mm	4	551	552	1

Pre-Test and Post-Test measurements are distance from a reference plane

DATA SHEET NO. 12

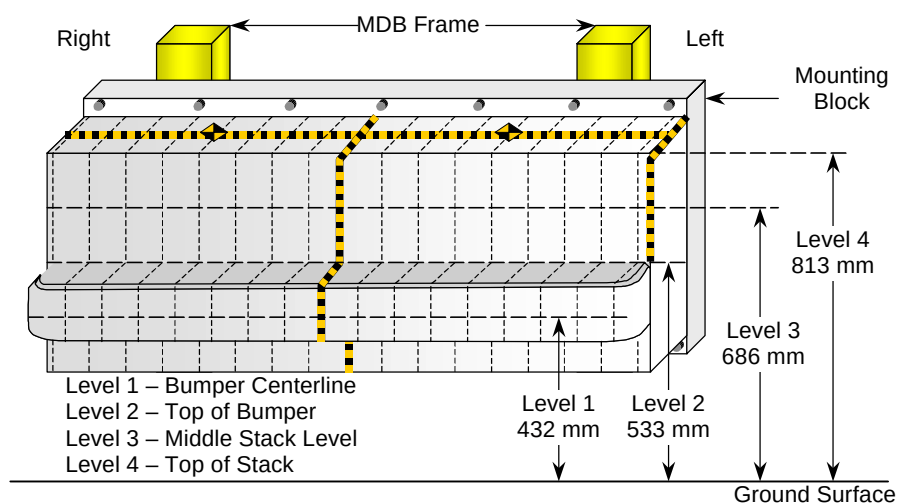
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 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		100	200	300	400	500	600	700	800
1	91	80	64	55	51	52	50	56	56	58	63	68	73	80	90	103	108
2	57	46	36	28	26	18	19	20	21	27	30	35	37	43	49	60	72
3	21	8	0	-1	1	9	10	8	6	7	7	9	12	15	36	92	120
4	9	-7	-7	-6	-6	-5	-4	-1	0	1	4	7	17	39	68	99	115

All Dimensions in mm

DATA SHEET NO. 13

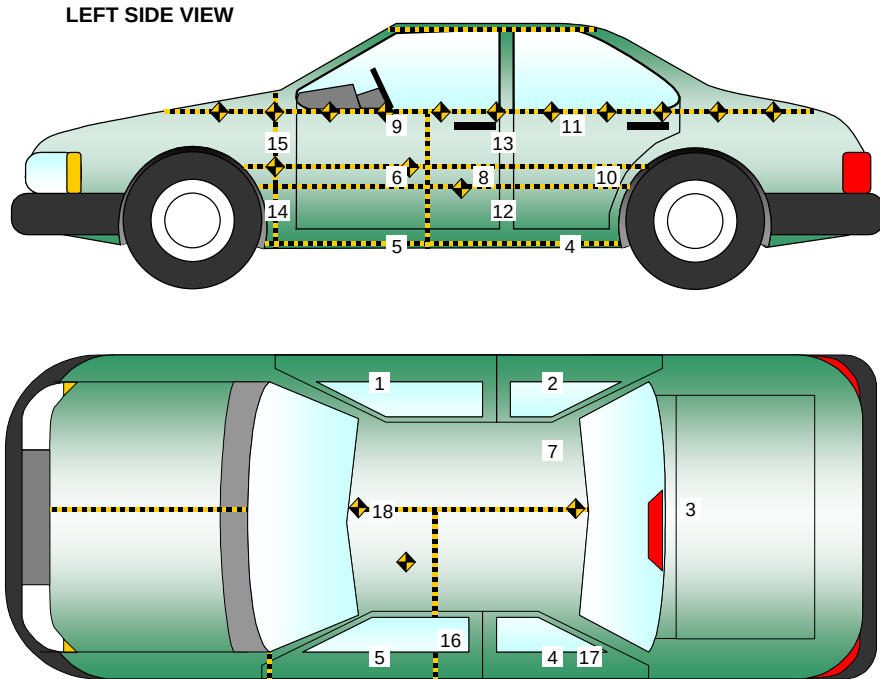
VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001



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

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

DATA SHEET NO. 13...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 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 (ms)	Min	Time (ms)
1	Right Sill at Front Seat	2359	654	190	X	3.5	60	-5.7	11
					Y	27.2	9	-2.8	70
					Z	4.8	40	-6.9	11
					RES	27.6	9		
2	Right Sill at Rear Seat	1638	650	188	X	3.5	60	-5.9	11
					Y	29.0	9	-4.1	76
					Z	5.9	41	-6.6	20
					RES	29.4	9		
3	Rear Floorpan Above Axle	975	0	308	X	2.8	97	-7.8	47
					Y	23.3	36	-4.6	80
					Z	8.2	22	-11.1	8
					RES	24.4	36		
4	Left Sill at Rear Door	1660	-650	193	Y	49.3	23	-5.1	56
5	Left Sill at Front Door	2400	-654	190	Y	26.4	22	-4.5	56
7	Rear Occupant Compartment	1618	300	287	Y	28.4	9	-2.7	80
12	Left B-Post Lower	1839	-648	322	Y	91.2	7	-7.0	51
13	Left B-Post Middle	1880	-679	877	Y	162.7	7	-20.2	16
14	Left A-Post Lower	2757	-681	288	Y	82.7	6	-40.8	22
15	Left A-Post Middle	2853	-746	808	Y	39.6	15	-7.8	19
16	Left Front Seat Track	1985	-533	313	Y	88.9	16	-72.6	28
18	Vehicle CG	2271	0	290	X	4.5	6	-5.1	43
					Y	24.5	8	-2.4	60
					Z	9.5	56	-15.9	21
					RES	27.0	22		

Reference Points X - Test Vehicle Rear Bumper
 Y - Test Vehicle Centerline
 Z - Ground Plane

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

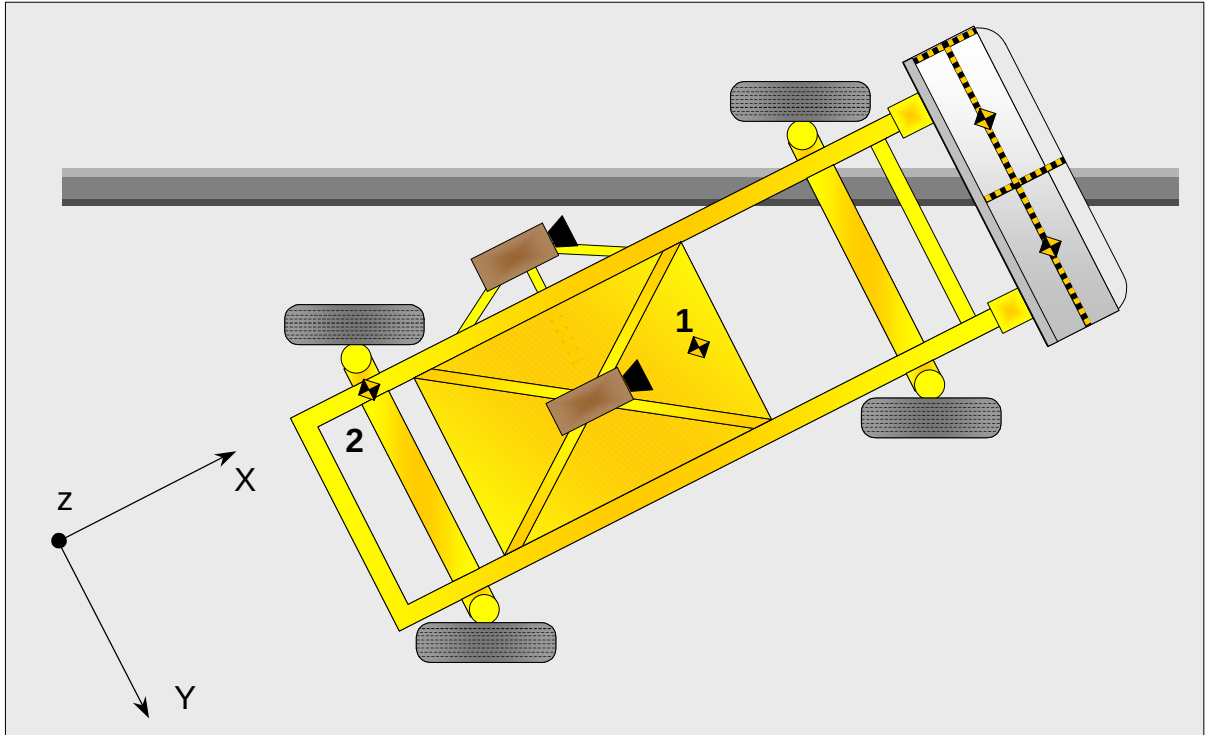
Test Program: FMVSS 214

Test Date: July 17, 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	-7	-17.3	42
					Y	2.9	60	-4.7	30
					Z	21.9	57	-25.3	53
					RES	27.5	53		
2	MDB Rear	-2591	-625	622	X	1.8	86	-20.2	33
					Y	4.3	29	-1.2	149

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



DATA SHEET NO. 15

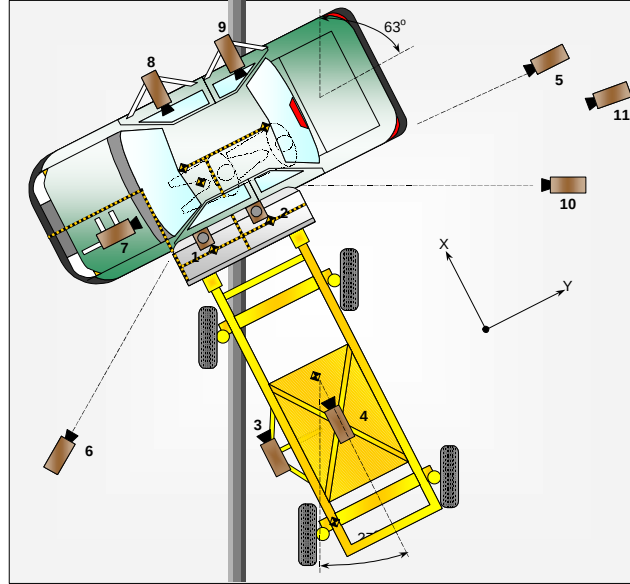
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Overall	0	1470	5000	8	847
2	Overhead Close-up	-140	-90	5000	50	1000
3	MDB Onboard, Impact Point Close-up				13	722
4	MDB Onboard, Centerline of Impact				13	677
5	Right Side, Ground Level, Overall	-200	10770	1620	15	877
6	Left Side, Ground Level, Overall	-1260	-2350	1770	25	1015
7	Vehicle Onboard Front SID, Front				13	512
8	Vehicle Onboard Front SID, Side				8	503
9	Vehicle Onboard Rear SID, Side				8	517
10	Real Time Coverage				17	24

Reference Points
X - Impact Line
Y - MDB Left Vertical Impact Line
Z - Ground Plane

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

NHTSA No.: C10525

Test Program: FMVSS 214

Test Date: July 17, 2001

Test Time: 4:10 p.m.

Temperature at Time of Impact: 21 °C

Stoddard Solvent Spillage Measurements

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

DATA SHEET NO. 17

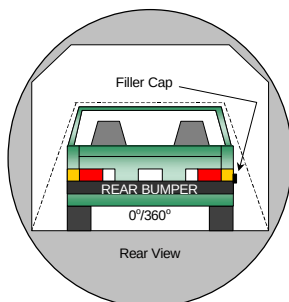
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001/Hyundai/Accent GL/4 Door

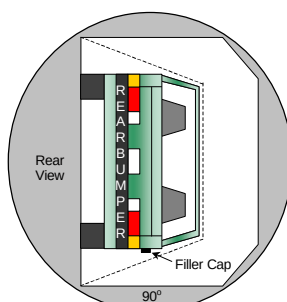
NHTSA No.: C10525

Test Program: FMVSS 214

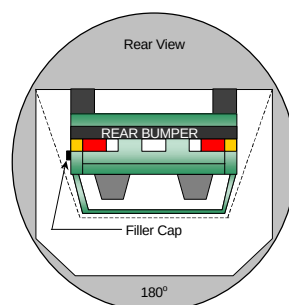
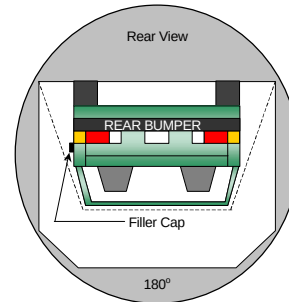
Test Date: July 17, 2001



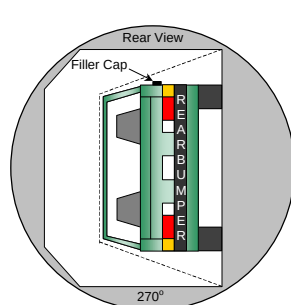
0° TO 90°



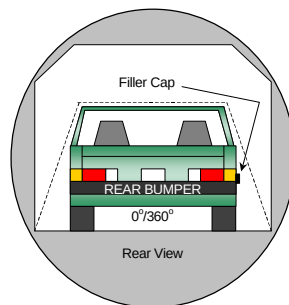
90° TO 180°



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°	173	300	0
90° TO 180°	151	300	0
180° TO 270°	139	300	0
270° TO 360°	152	300	0

APPENDIX A

PHOTOGRAPHS

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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

A-6



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



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

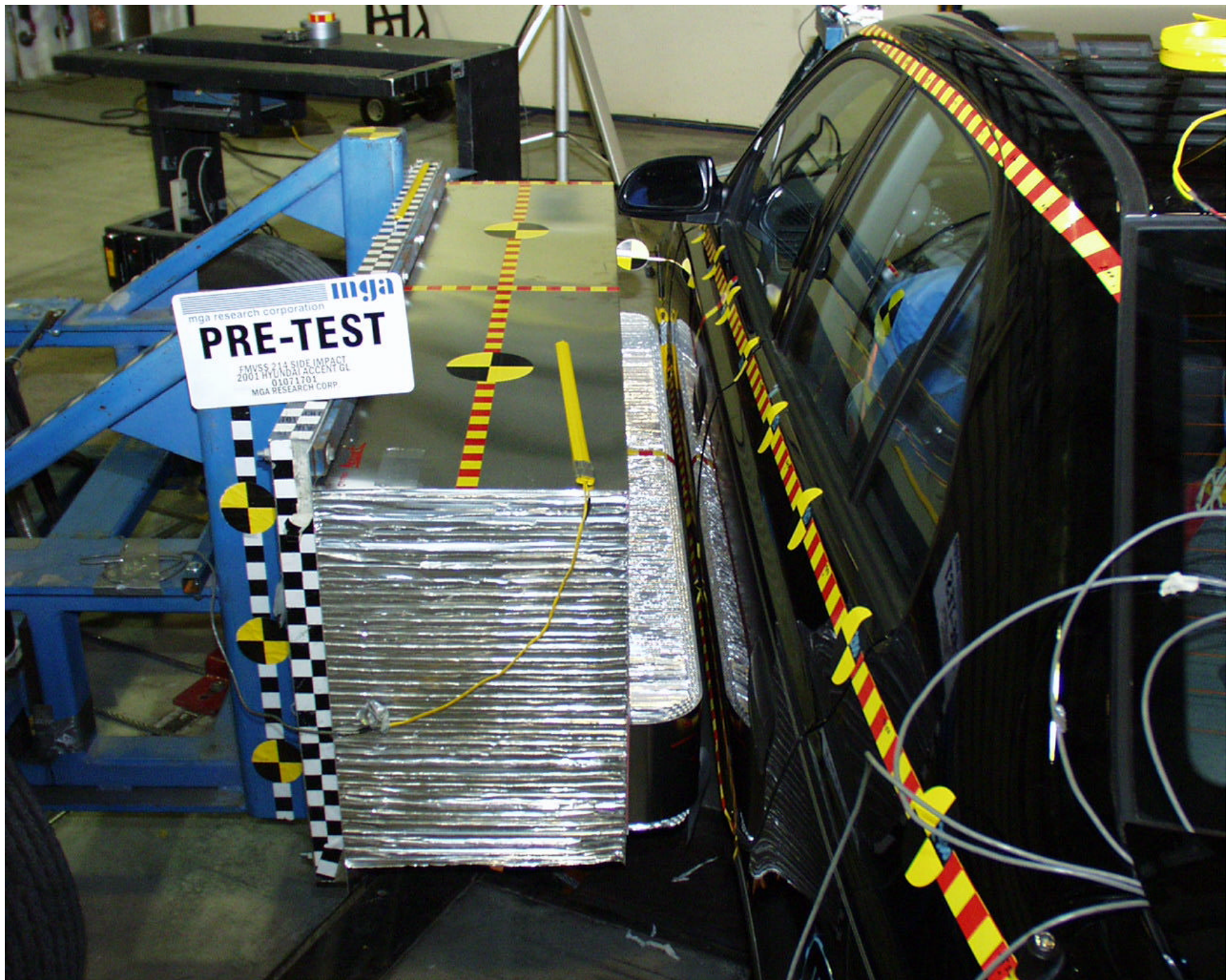


Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)



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)

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

A-13

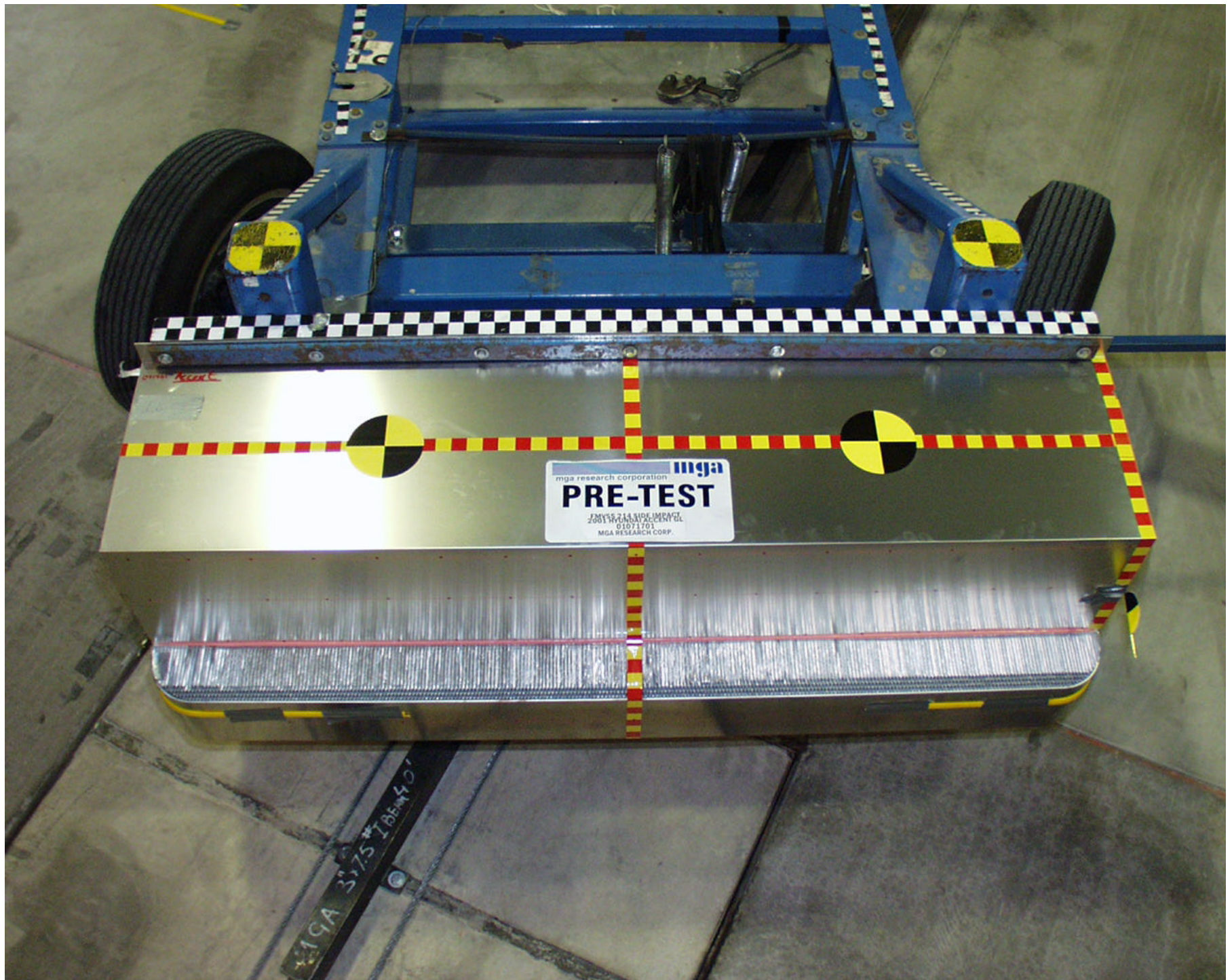


Photo No. A-13 - Pre-Test MDB Top View



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

A-15

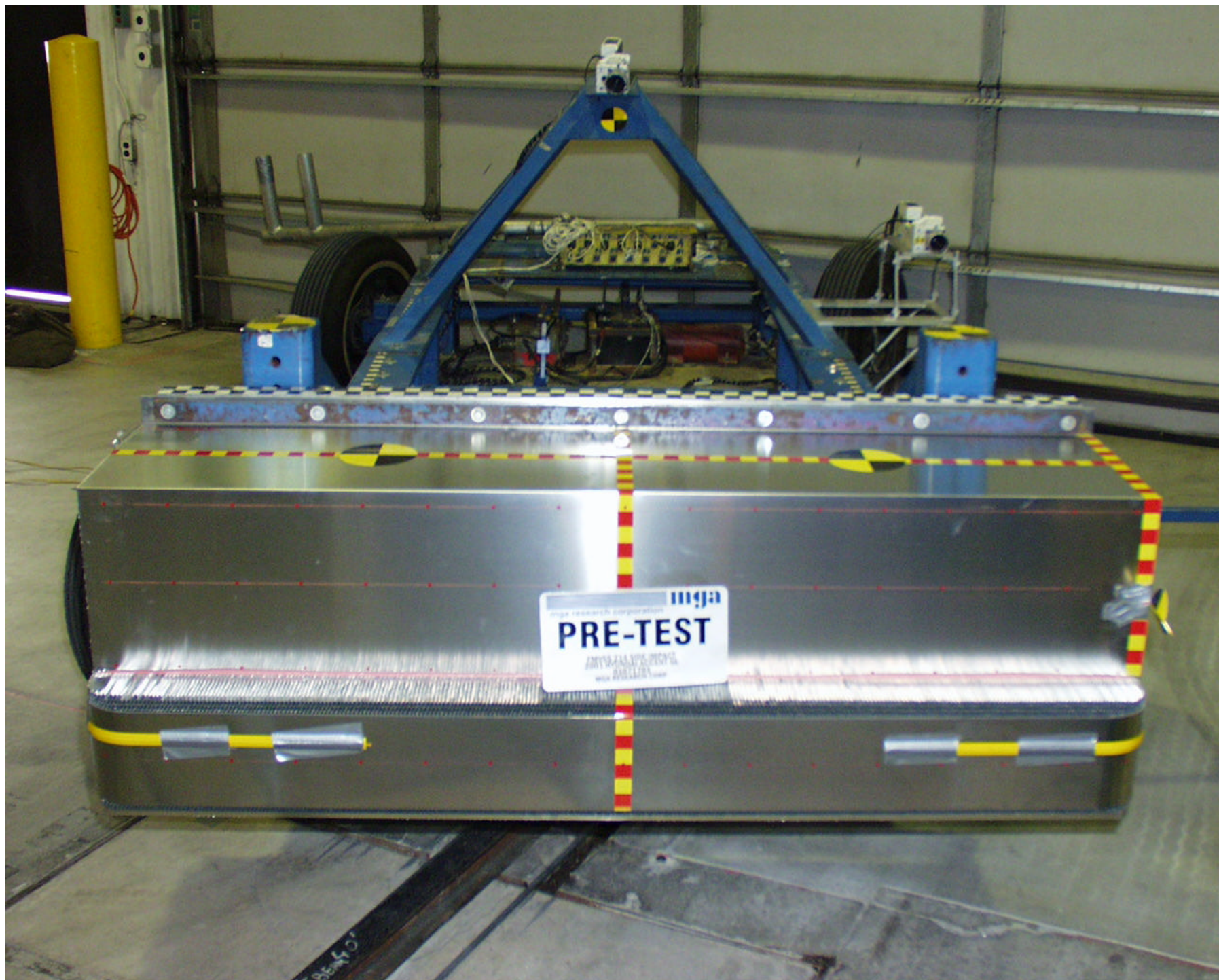


Photo No. A-15 - Pre-Test MDB Front View

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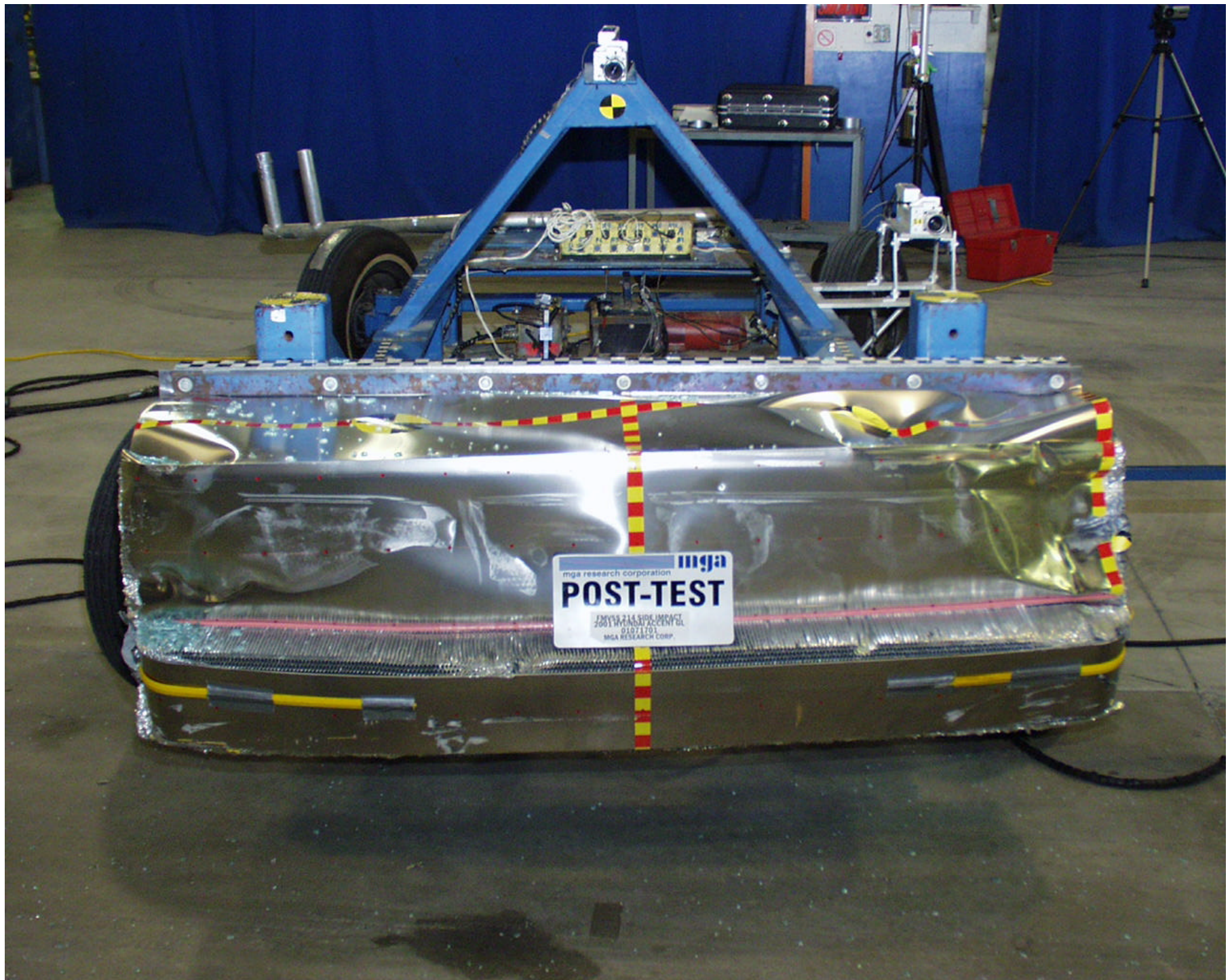


Photo No. A-16 - Post-Test MDB Front View

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

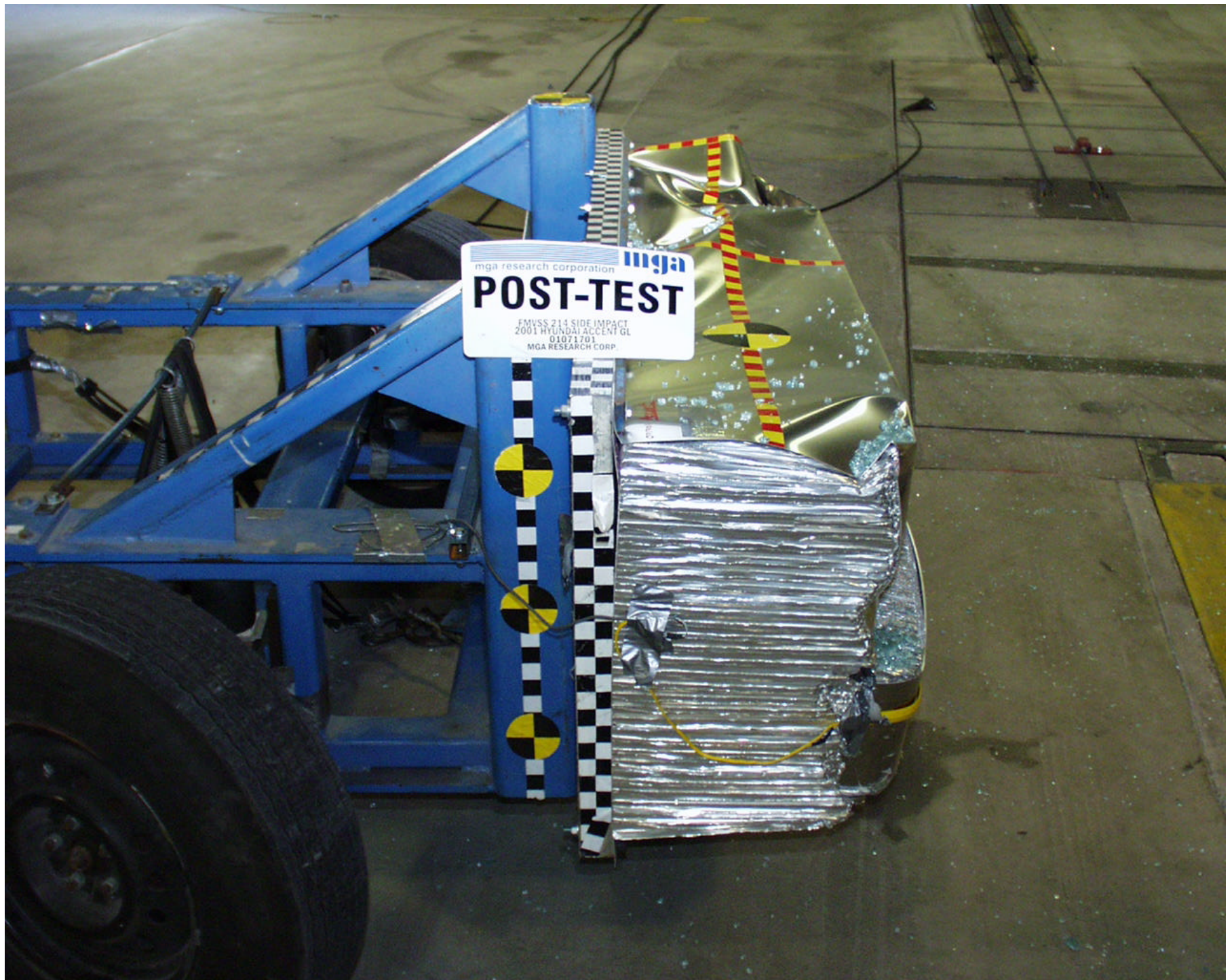


Photo No. A-18 - Post-Test MDB Right Side View



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



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

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

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



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

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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

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



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

A-30



Photo No. A-30 - Pre-Test Passenger Dummy Right Side View



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



Photo No. A-32 - Pre-Test Passenger Dummy Left Side View

A-33



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



Photo No. A-34 - Pre-Test Passenger Dummy Left Side View (Door Open)

A-35



Photo No. A-35 - Pre-Test Passenger Dummy Shoulder and Door Top View



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

A-37



Photo No. A-37 - Post-Test Passenger Dummy Contact



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



Photo No. A-39 - Pre-Test Left Front Impact Point on Vehicle



Photo No. A-40 - Post-Test Left Front Impact Point on Vehicle

A-41



Photo No. A-41 - Vehicle Certification Label

TIRE INFLATION PRESSURE				
La Pression De Gonflage Des Pneus				
VEHICLE CAPACITY WEIGHT, LBS: 850				
Poids en lb de la capacité du véhicule: 850				
SEATING CAPACITY: TOTAL 5 FRONT 2 REAR 3				
Capacité de transport: total 5: 2 à l'avant 3 à l'arrière				
TIRE PRESSURES - COLD, KPA(PSI):				
Pression de gonflage à froid kPa(lb/po2)				
TIRE SIZE Dimension du pneu	UP TO 2 PERSONS Jusqu' à 2 Personnes		UP TO MAX. LOAD Pour charge maximum	
	FRONT Avant	REAR Arrière	FRONT Avant	REAR Arrière
P155/80 R13	207(30)	207(30)	230(33)	230(33)
P175/70 R13	207(30)	207(30)	230(33)	230(33)
P185/60 R14	207(30)	207(30)	230(33)	230(33)
T105/70 R14	414(60)	414(60)	414(60)	414(60)
T105/70 D14	414(60)	414(60)	414(60)	414(60)

Photo No. A-42 - Tire Placard

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Photo No. A-43 - Rollover 90°

A-44



Photo No. A-44 - Rollover 180°

A-45

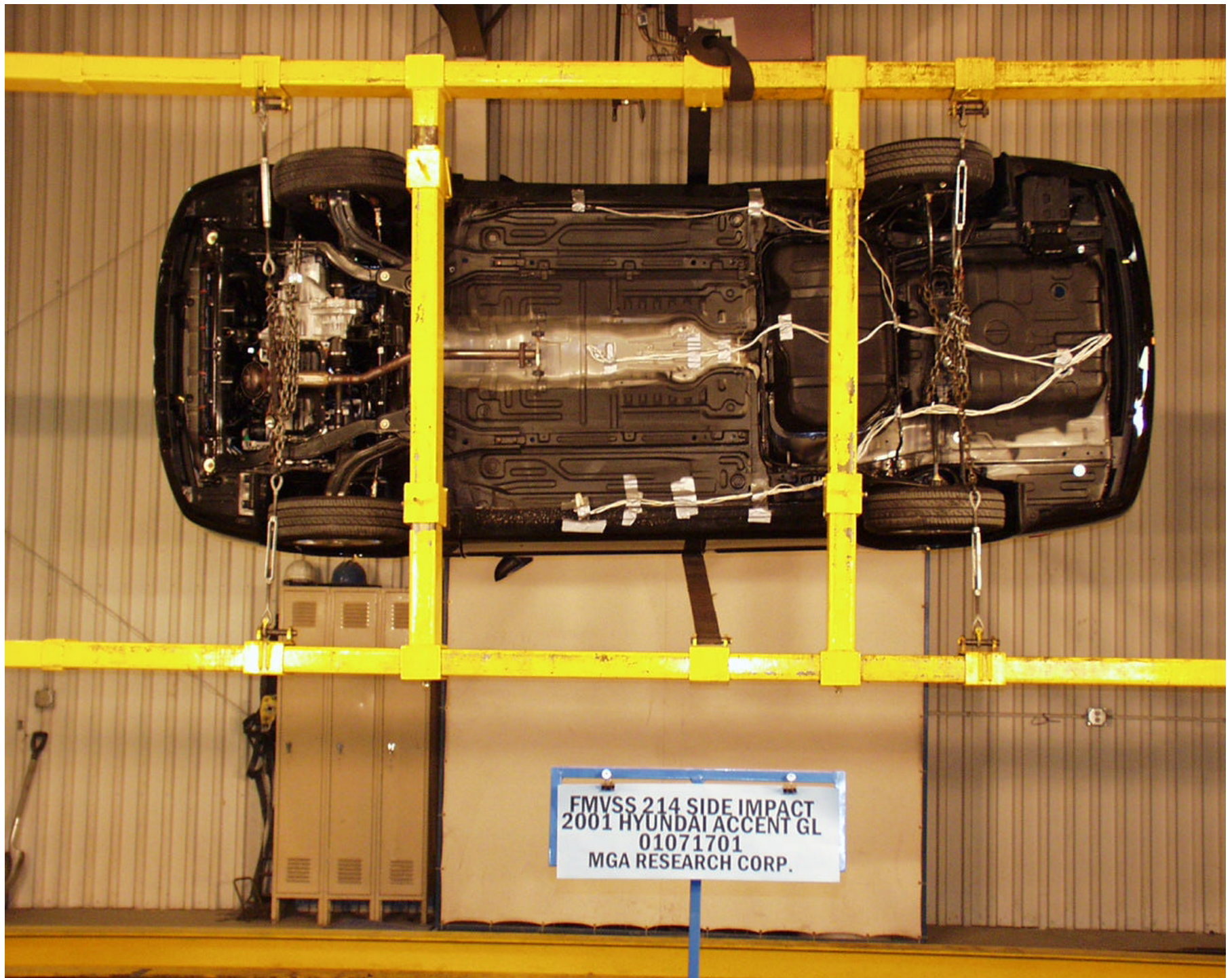


Photo No. A-45 - Rollover 270°



Photo No. A-46 - Rollover 360°



Photo No. A-47 - Left Front Attitude Point



Photo No. A-48 - Right Front Attitude Point



Photo No. A-49 - Left Rear Attitude Point



Photo No. A-50 - Right Rear Attitude Point

APPENDIX B

SID, VEHICLE, AND MDB RESPONSE DATA

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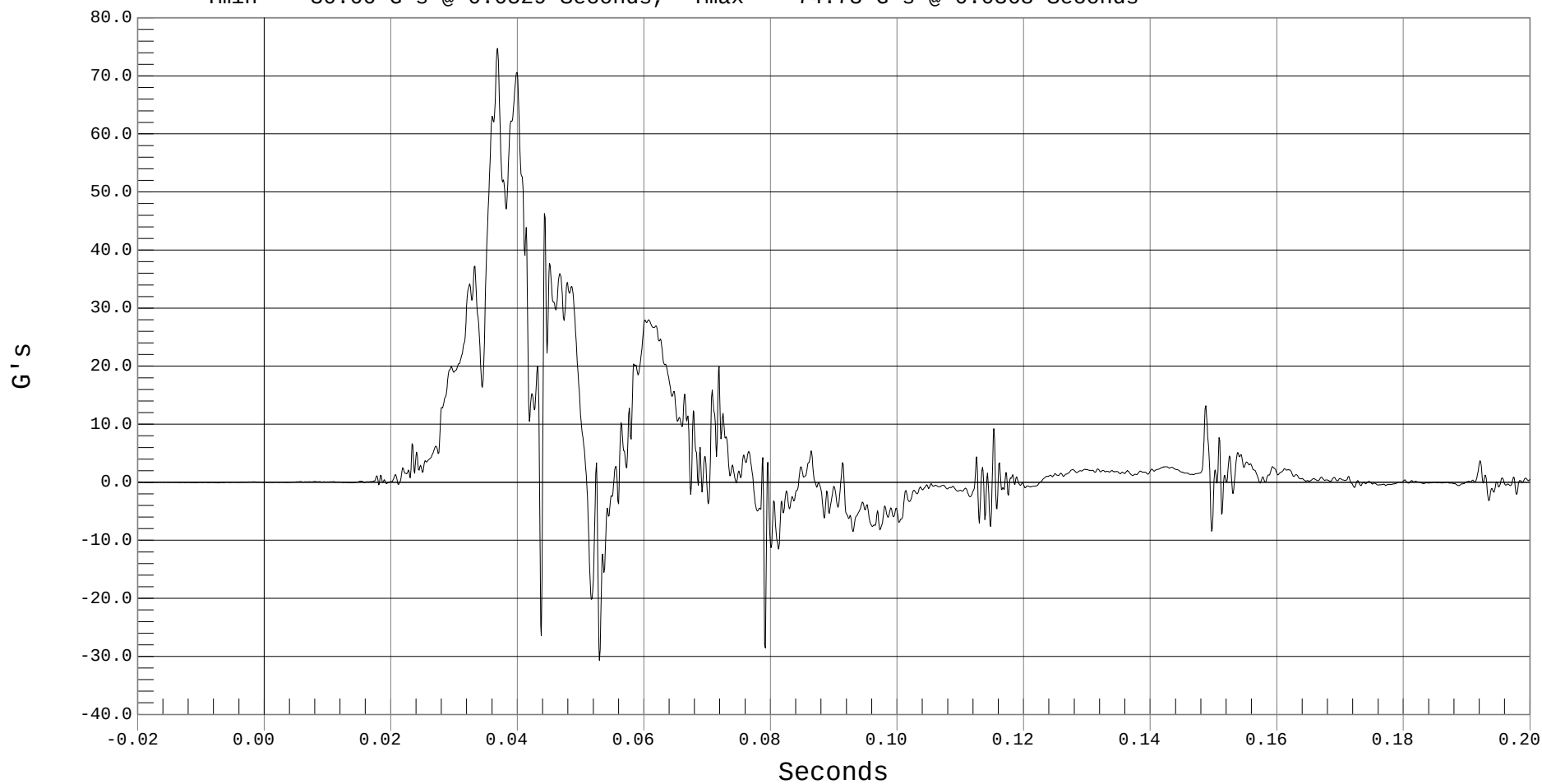
DRIVER UPPER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 DRIVER UPPER RIB Y, b01077AT.A04

Ymin = -30.66 G's @ 0.0529 Seconds, Ymax = 74.73 G's @ 0.0368 Seconds





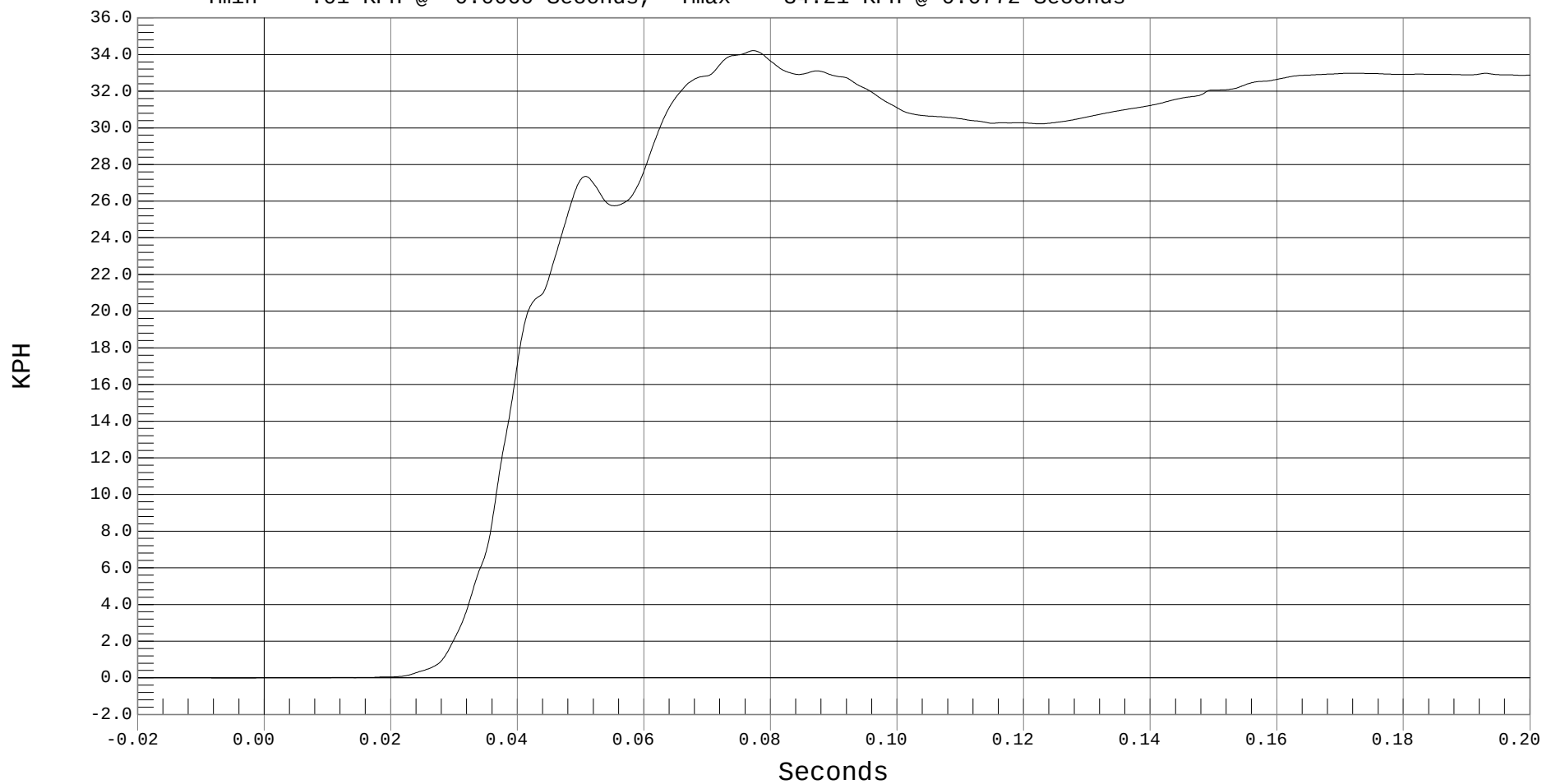
DRIVER UPPER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER UPPER RIB Y VELOCITY, b01077AI.V04

Ymin = -.01 KPH @ -0.0060 Seconds, Ymax = 34.21 KPH @ 0.0772 Seconds





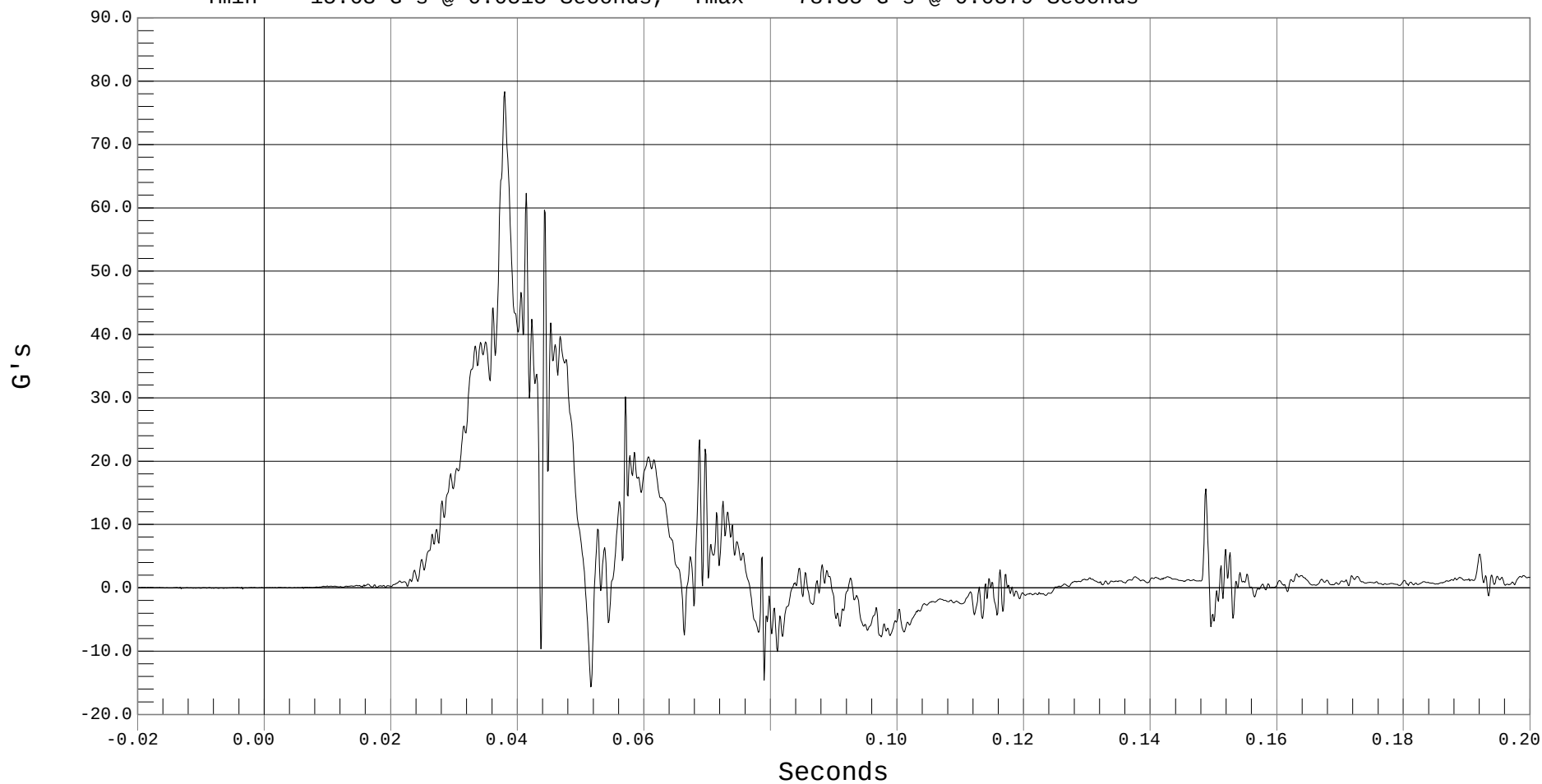
DRIVER LOWER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 DRIVER LOWER RIB Y, b01077AT.A05

Ymin = -15.63 G's @ 0.0515 Seconds, Ymax = 78.35 G's @ 0.0379 Seconds





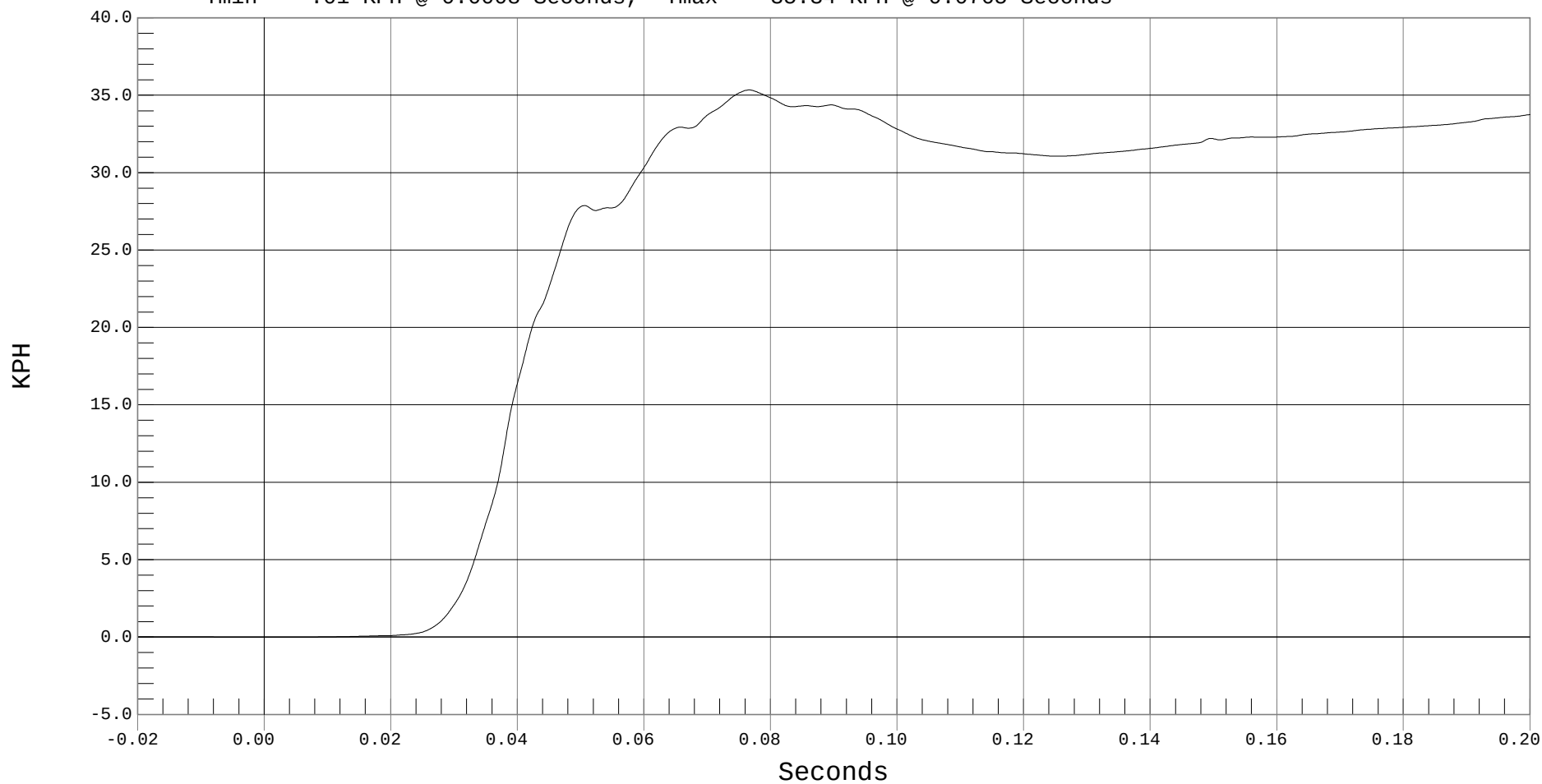
DRIVER LOWER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 DRIVER LOWER RIB Y VELOCITY, b01077AI.V05

Ymin = -.01 KPH @ 0.0008 Seconds, Ymax = 35.34 KPH @ 0.0765 Seconds





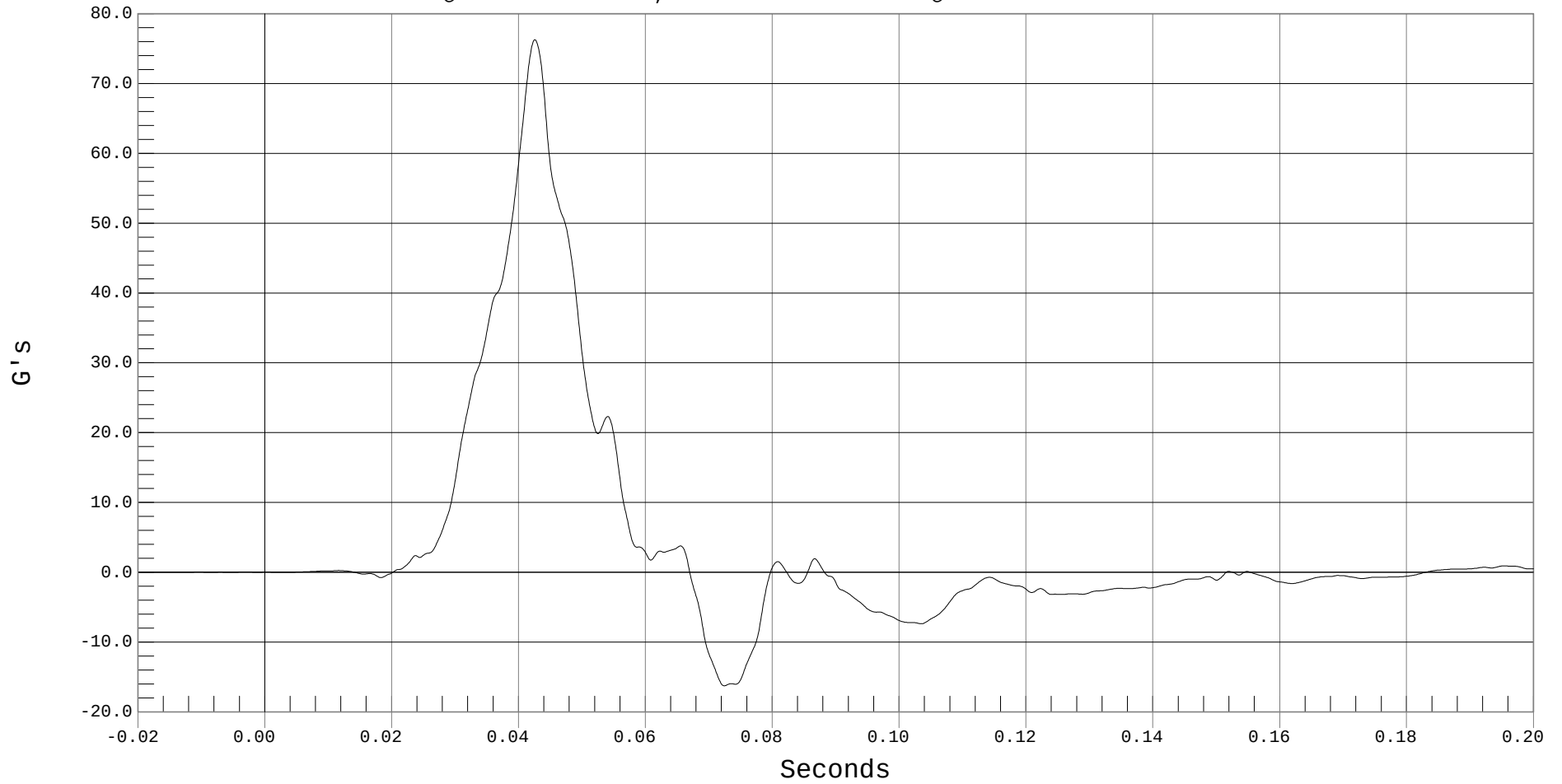
DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 DRIVER LOWER SPINE Y, b01077AF.A06

Ymin = -16.28 G's @ 0.0724 Seconds, Ymax = 76.29 G's @ 0.0425 Seconds





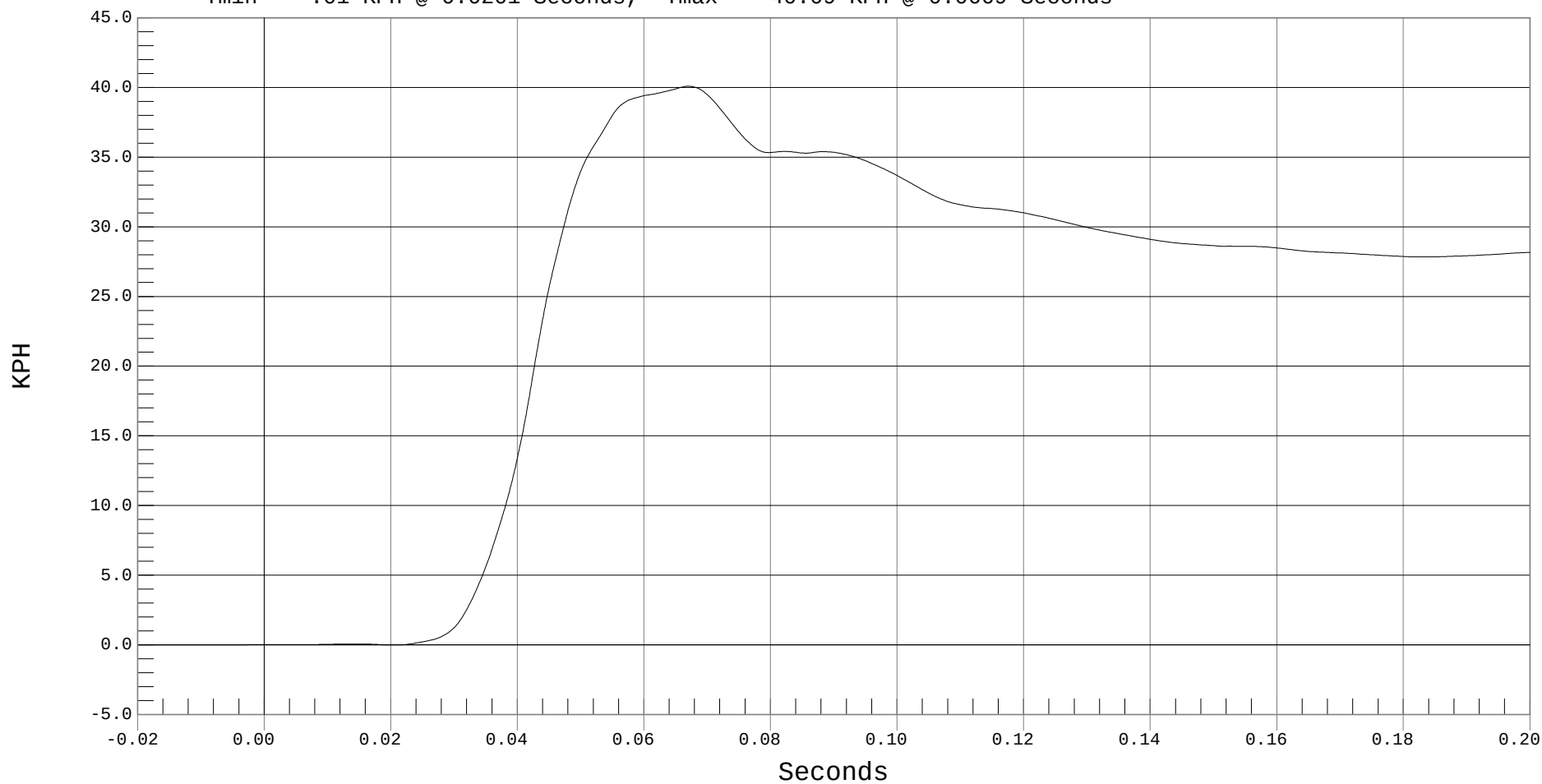
DRIVER LOWER SPINE Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER LOWER SPINE Y VELOCITY, b01077AI.V06

Ymin = -.01 KPH @ 0.0201 Seconds, Ymax = 40.09 KPH @ 0.0669 Seconds





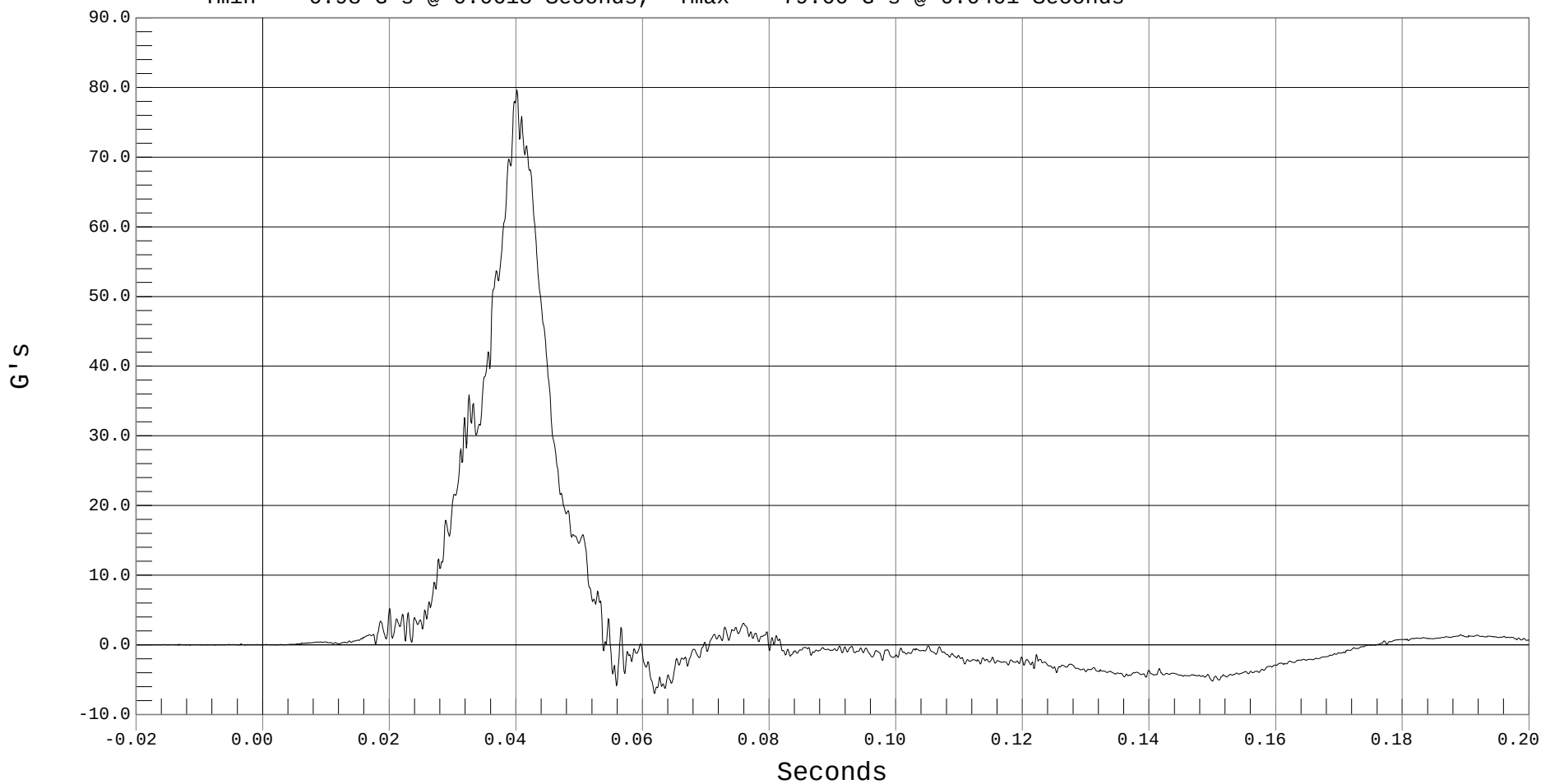
DRIVER PELVIS Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 DRIVER PELVIS Y, b01077AT.A07

Ymin = -6.98 G's @ 0.0618 Seconds, Ymax = 79.66 G's @ 0.0401 Seconds





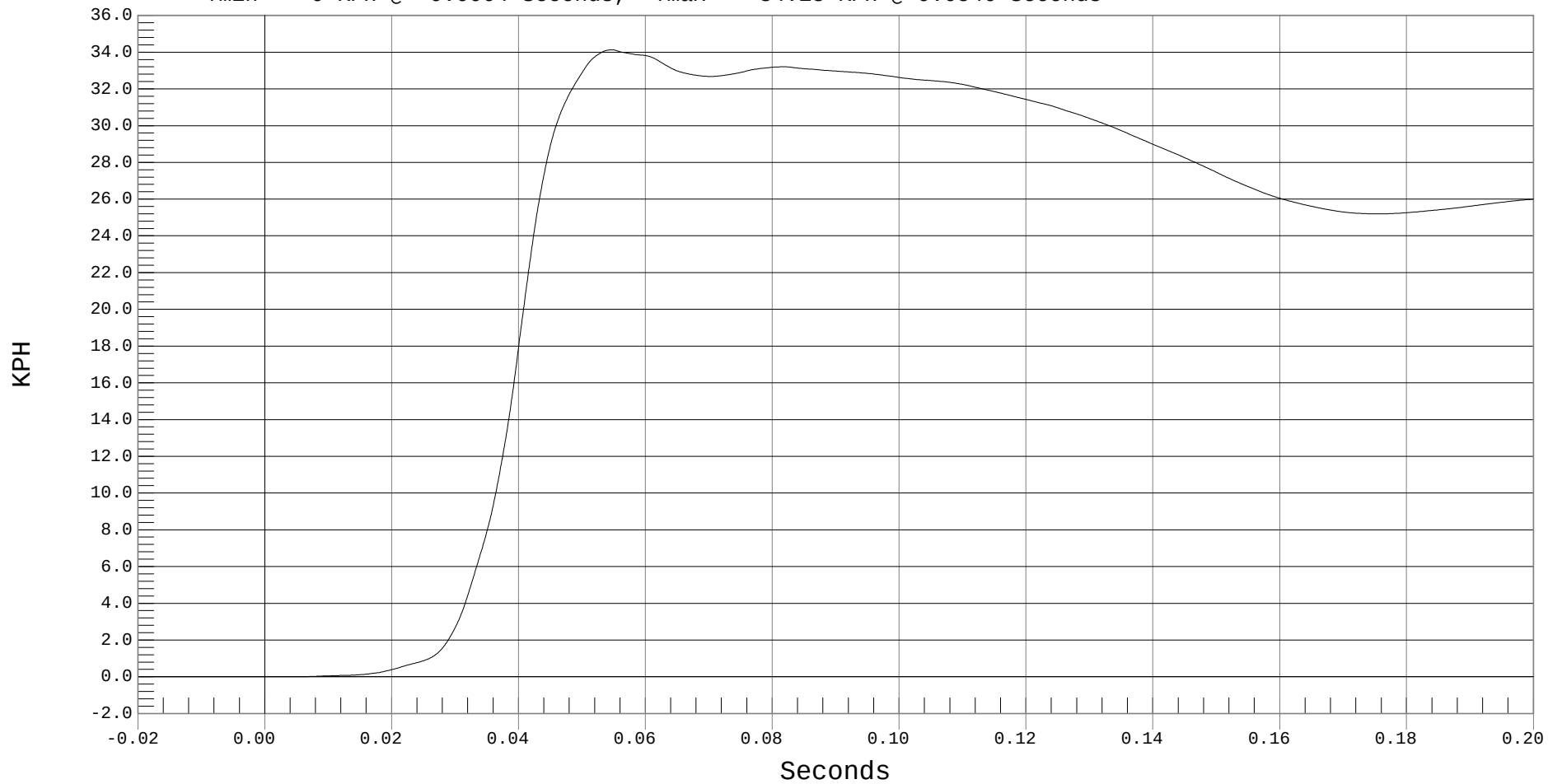
DRIVER PELVIS Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER PELVIS Y VELOCITY, b01077AI.V07

Ymin = 0 KPH @ -0.0064 Seconds, Ymax = 34.13 KPH @ 0.0546 Seconds





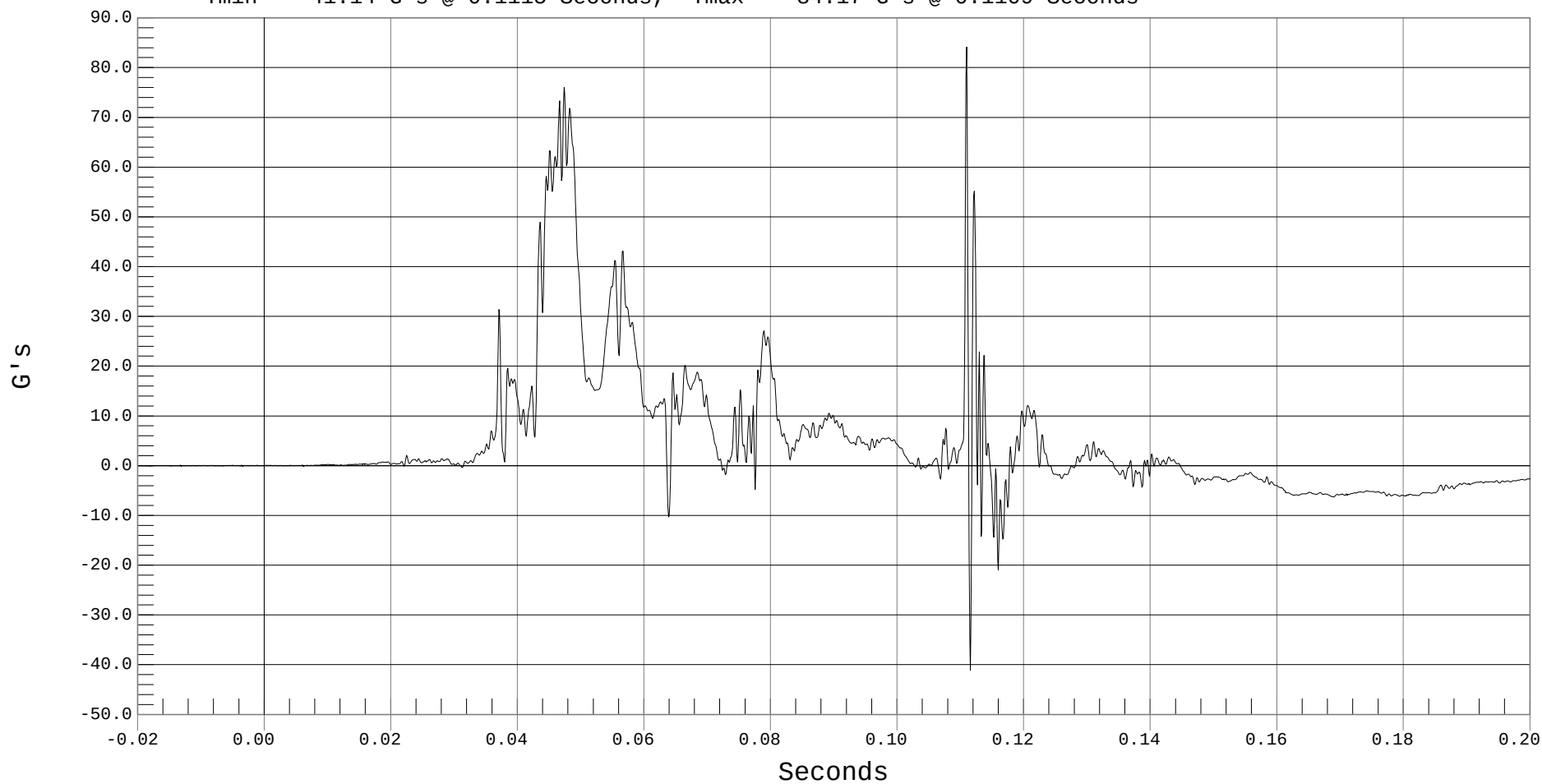
REAR PASSENGER UPPER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 PASSENGER UPPER RIB Y, b01077AT.A11

Ymin = -41.14 G's @ 0.1115 Seconds, Ymax = 84.17 G's @ 0.1109 Seconds





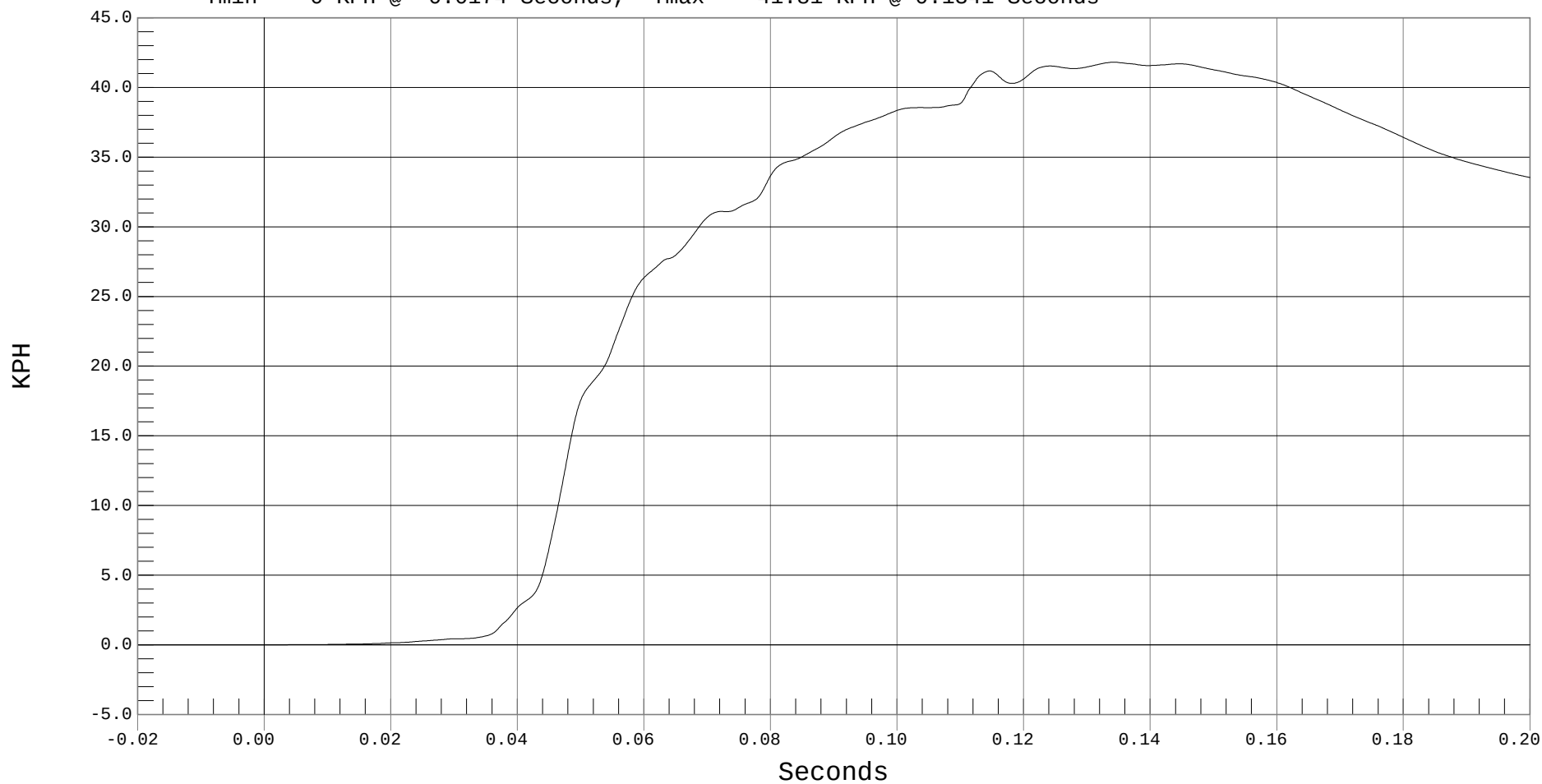
REAR PASSENGER UPPER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR PASSENGER UPPER RIB Y VELOCITY, b01077AI.V11

Ymin = 0 KPH @ -0.0174 Seconds, Ymax = 41.81 KPH @ 0.1341 Seconds





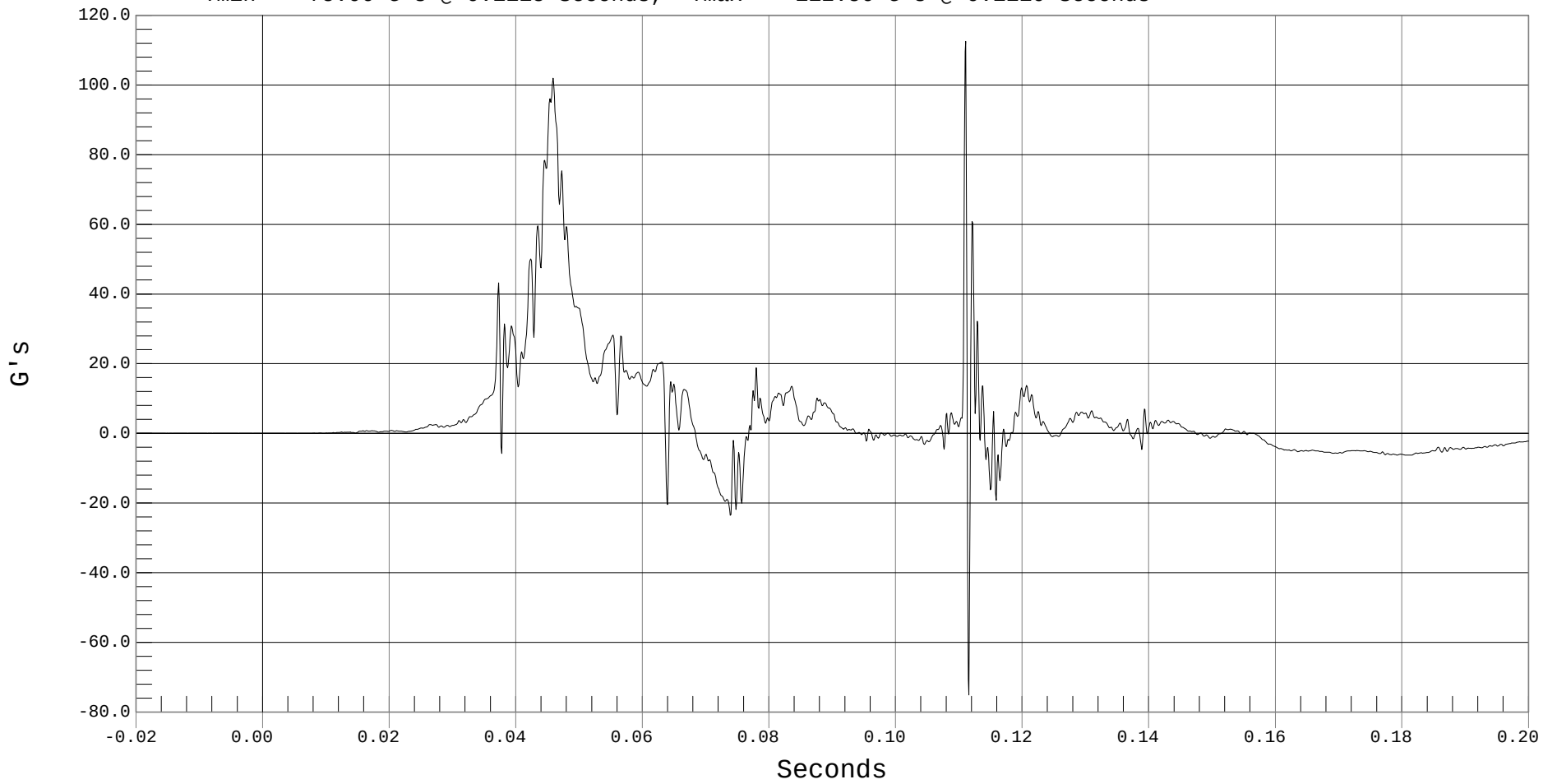
REAR PASSENGER LOWER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 PASSENGER LOWER RIB Y, b01077AT.A12

Ymin = -75.06 G's @ 0.1115 Seconds, Ymax = 112.56 G's @ 0.1110 Seconds





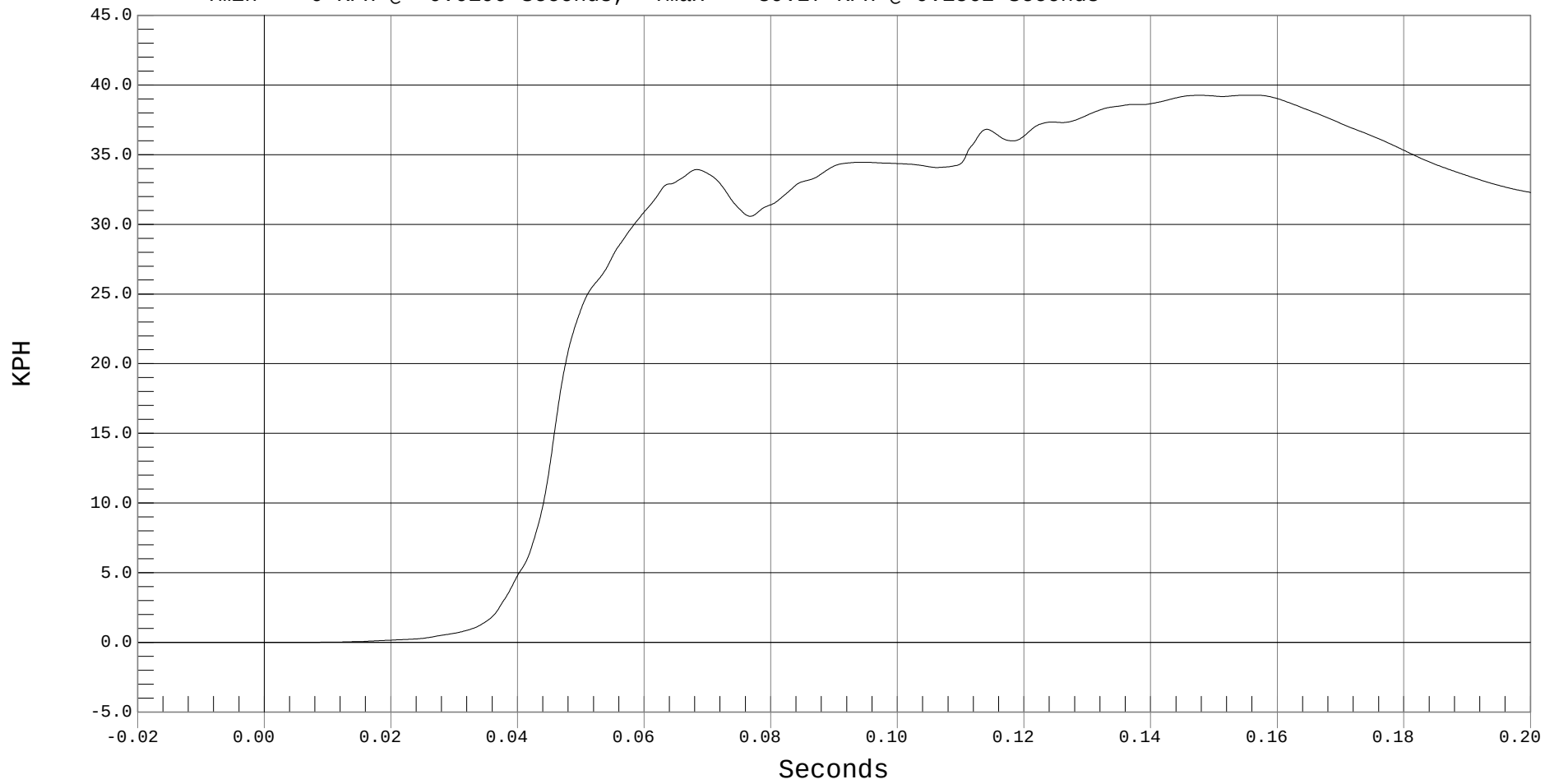
REAR PASSENGER LOWER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 REAR PASSENGER LOWER RIB Y VELOCITY, b01077AI.V12

Ymin = 0 KPH @ -0.0199 Seconds, Ymax = 39.27 KPH @ 0.1562 Seconds





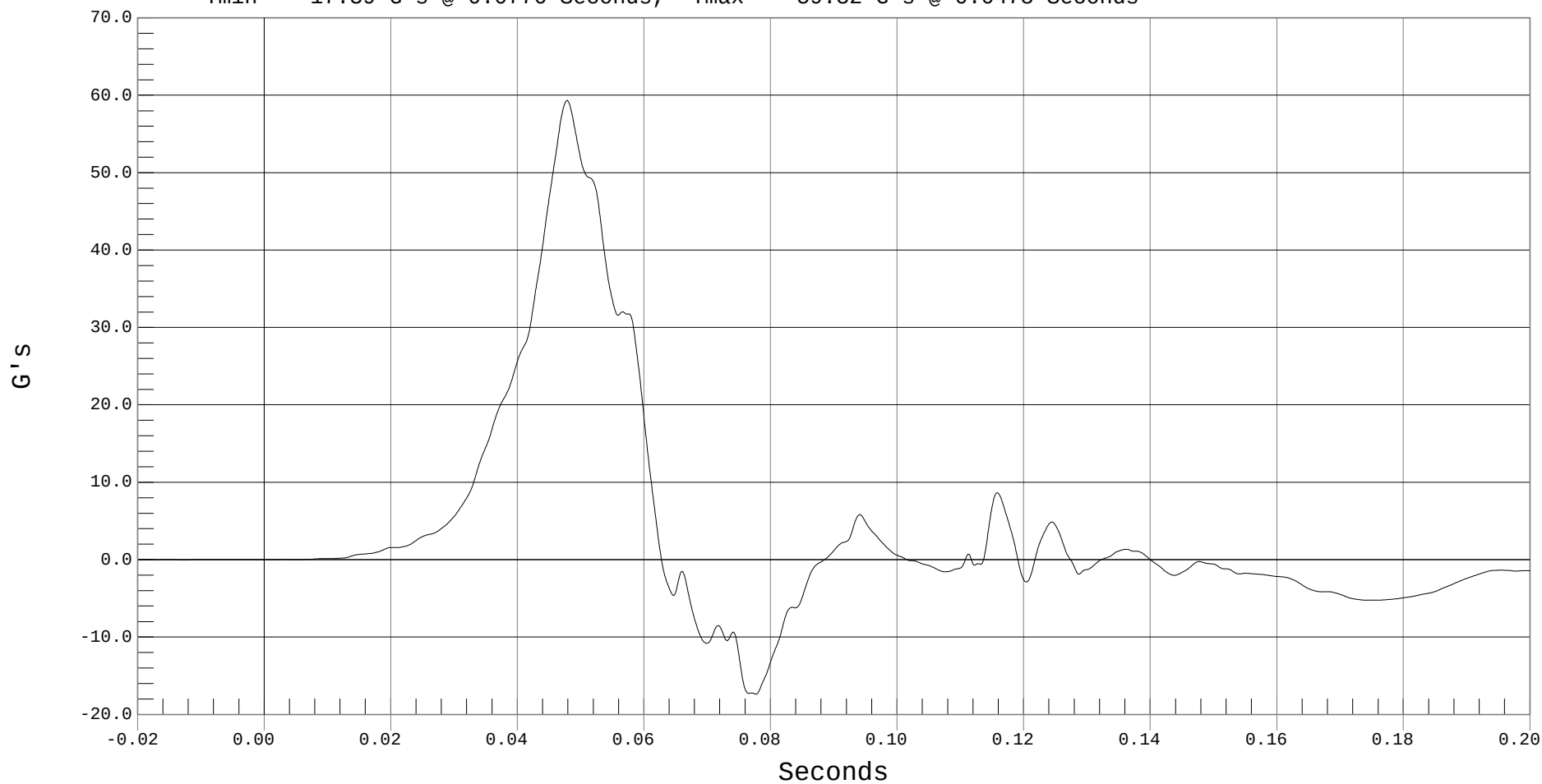
REAR PASSENGER LOWER SPINE Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 PASSENGER LOWER SPINE Y, b01077AF.A13

Ymin = -17.39 G's @ 0.0776 Seconds, Ymax = 59.32 G's @ 0.0478 Seconds





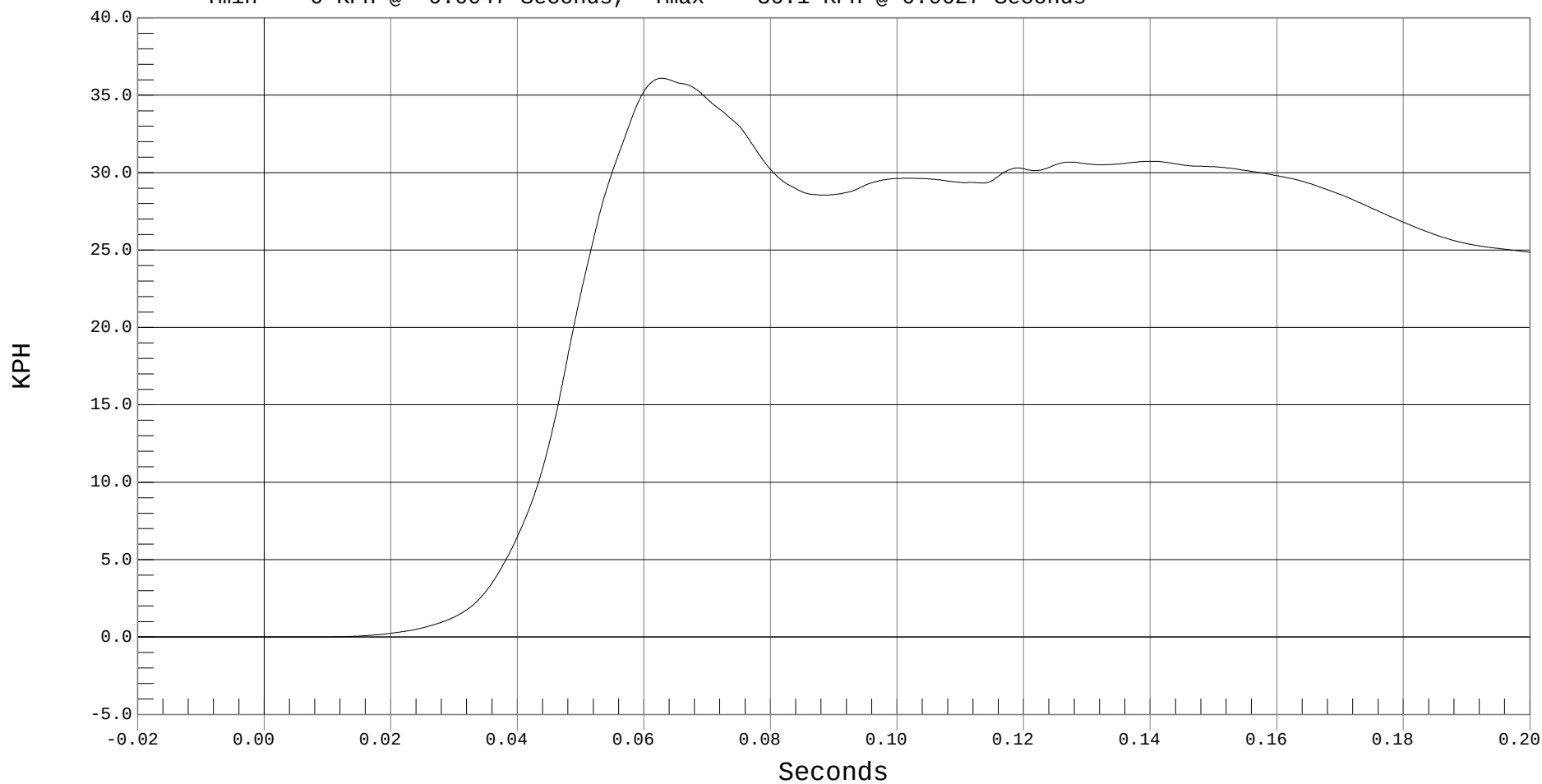
REAR PASSENGER LOWER SPINE Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR PASSENGER LOWER SPINE Y VELOCITY, b01077AI.V13

Ymin = 0 KPH @ -0.0047 Seconds, Ymax = 36.1 KPH @ 0.0627 Seconds





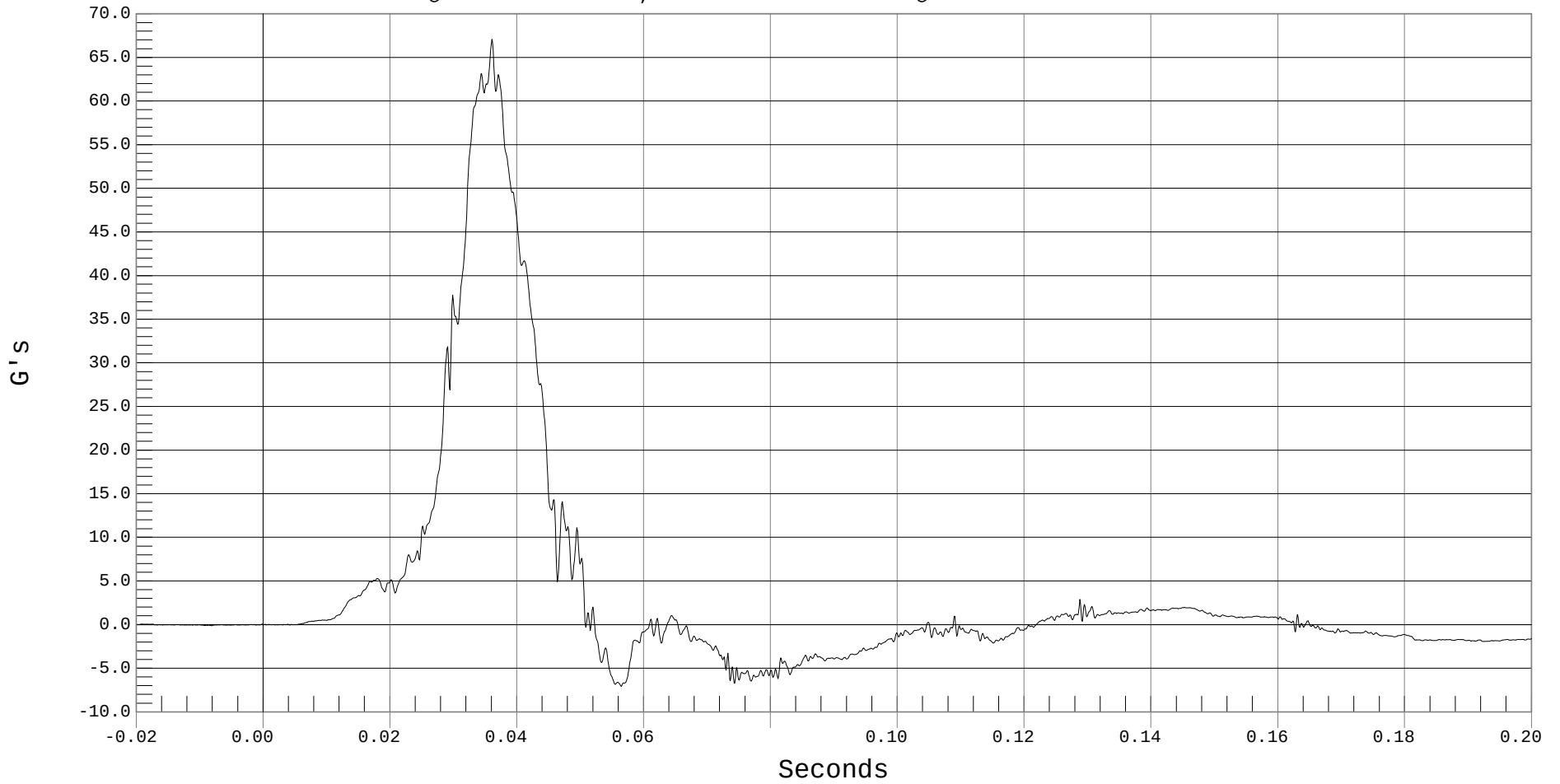
REAR PASSENGER PELVIS Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 PASSENGER PELVIS Y, b01077AT.A14

Ymin = -7.08 G's @ 0.0564 Seconds, Ymax = 67.09 G's @ 0.0360 Seconds





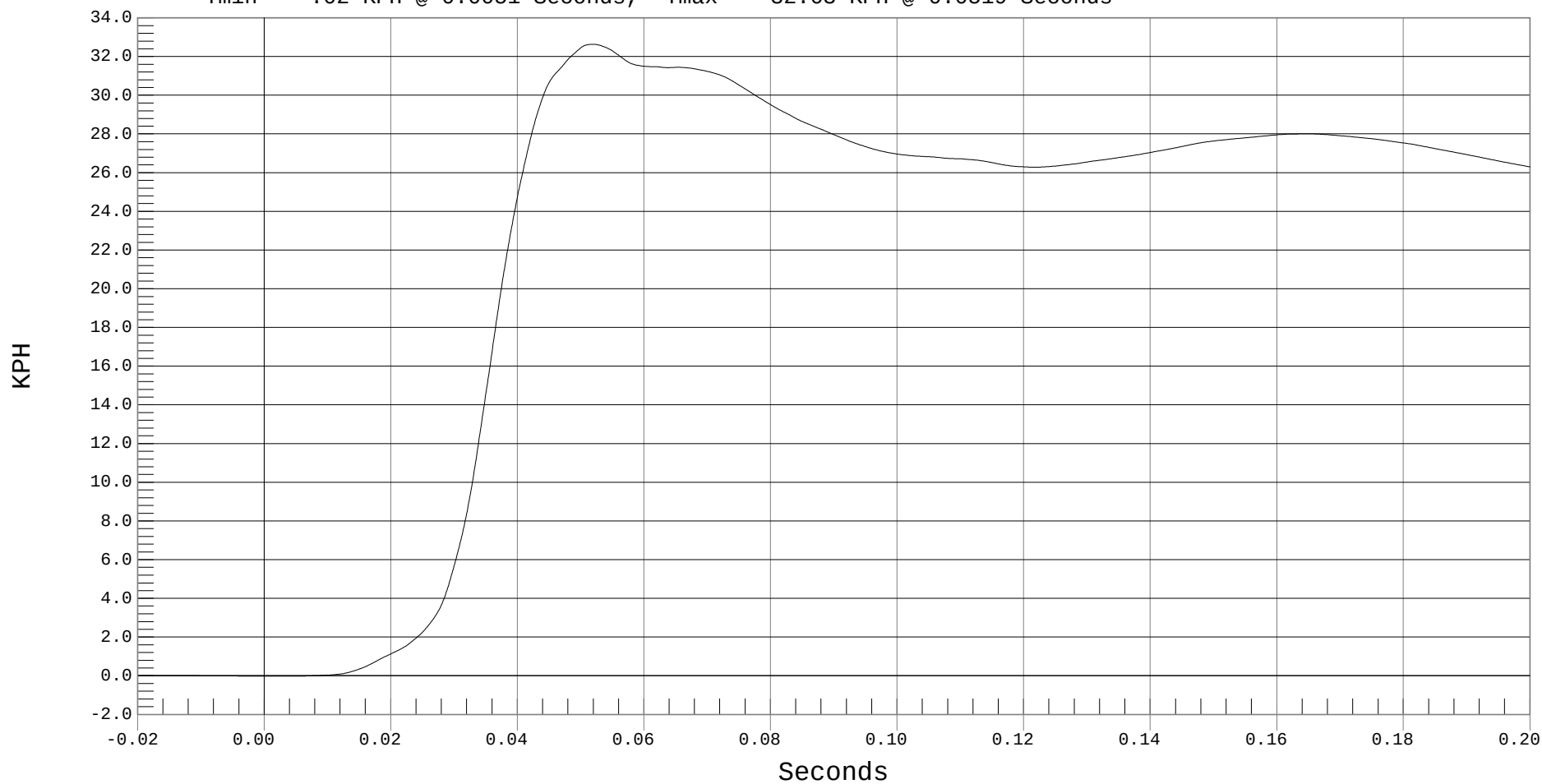
REAR PASSENGER PELVIS Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR PASSENGER PELVIS Y VELOCITY, b01077AI.V14

Ymin = -.02 KPH @ 0.0051 Seconds, Ymax = 32.63 KPH @ 0.0519 Seconds





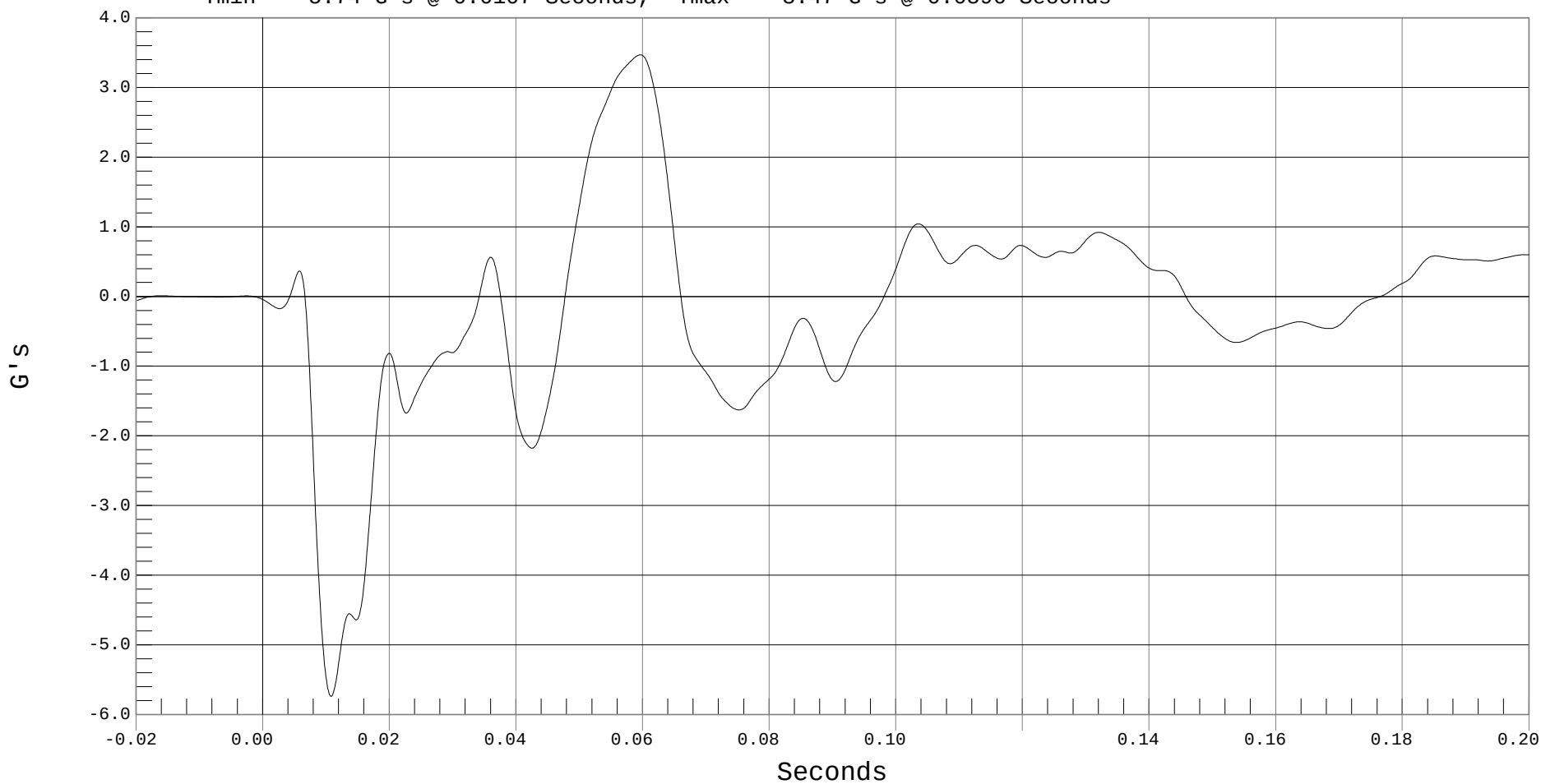
RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT FRONT SILL X, b01077AF.A15

Ymin = -5.74 G's @ 0.0107 Seconds, Ymax = 3.47 G's @ 0.0596 Seconds





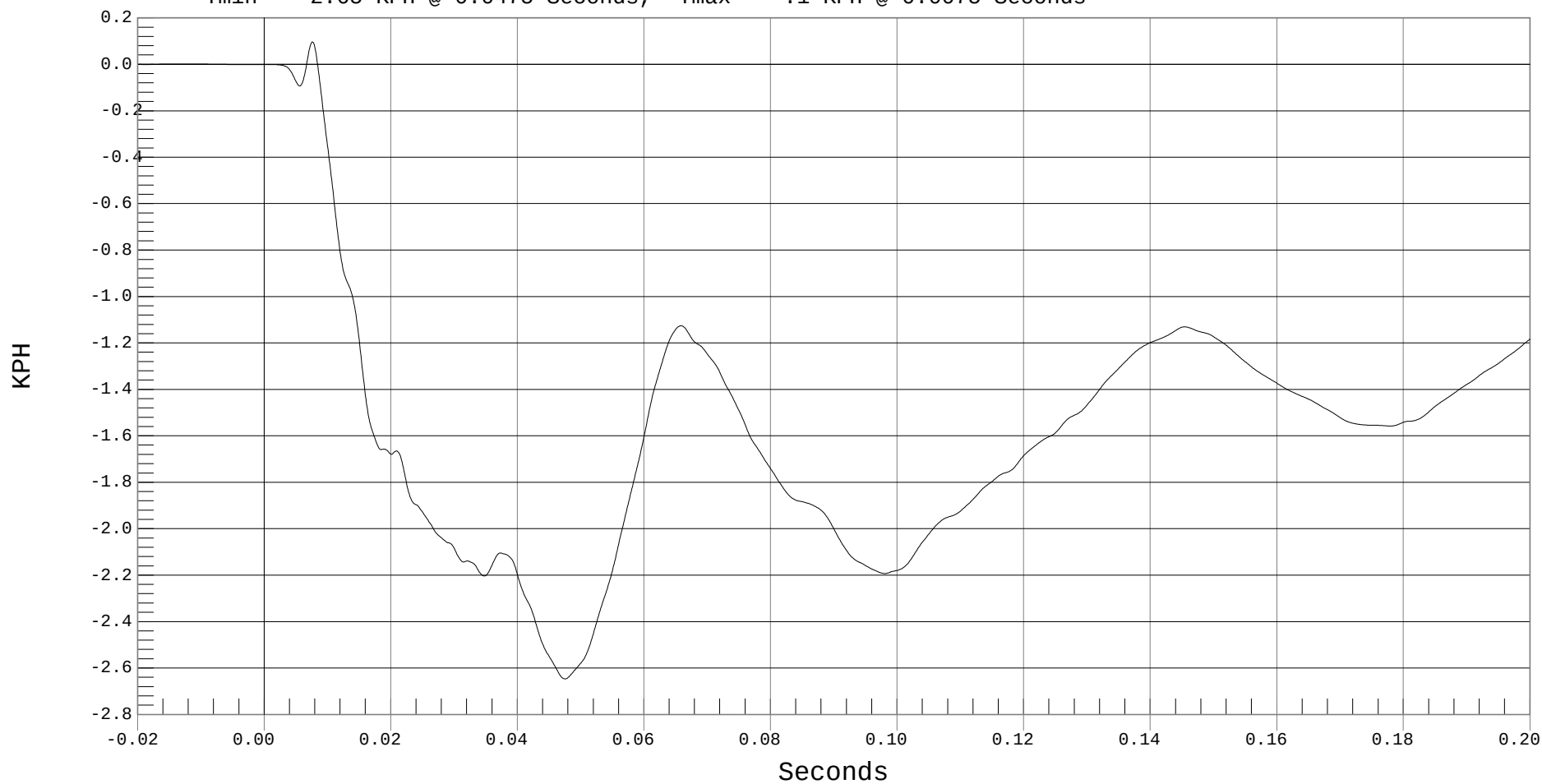
RIGHT SIDE SILL AT FRONT SEAT X VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT SIDE SILL AT FRONT SEAT X VELOCITY, b01077AI.V15

Ymin = -2.65 KPH @ 0.0475 Seconds, Ymax = .1 KPH @ 0.0075 Seconds





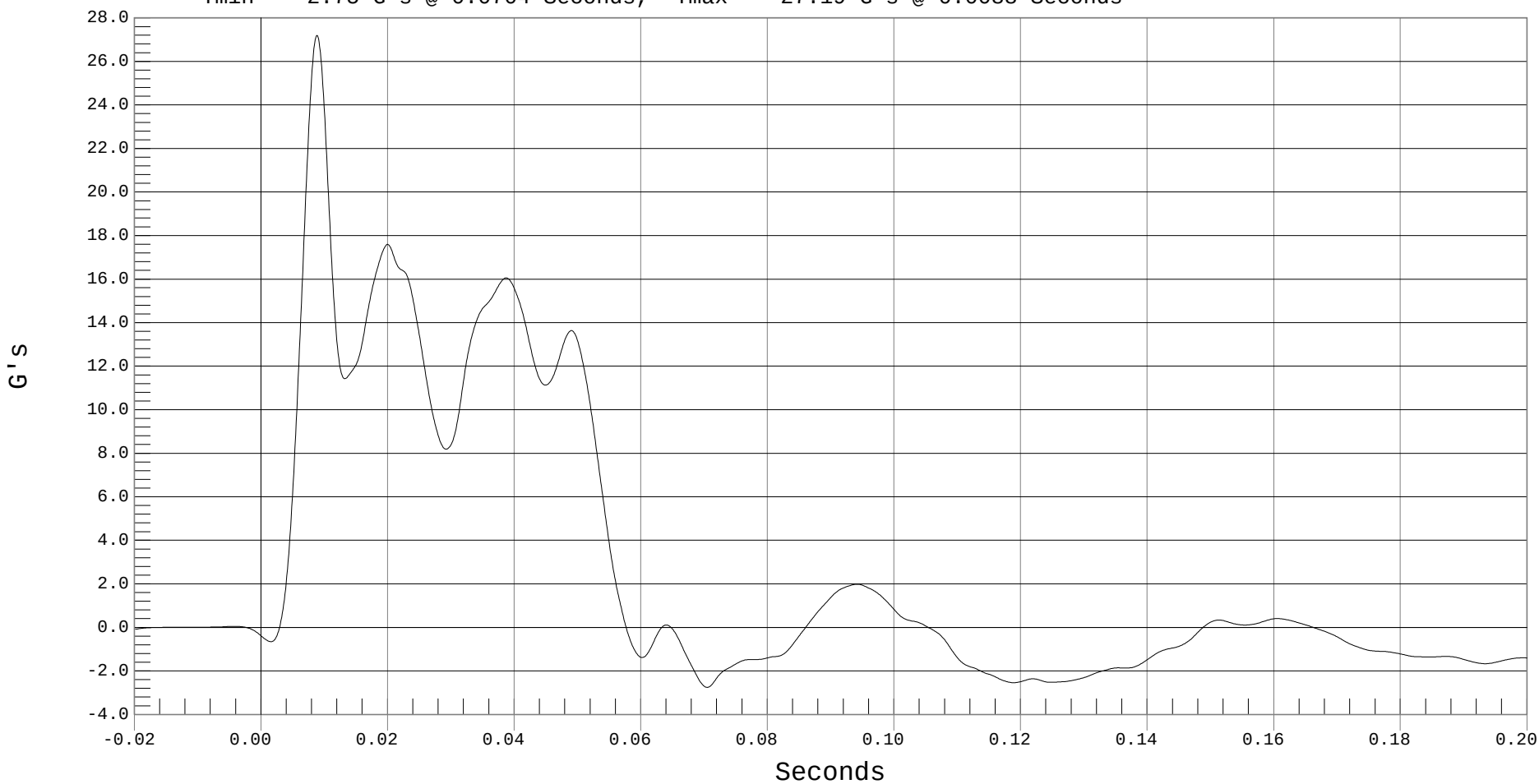
RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT FRONT SILL Y, b01077AF.A16

Ymin = -2.75 G's @ 0.0704 Seconds, Ymax = 27.19 G's @ 0.0088 Seconds





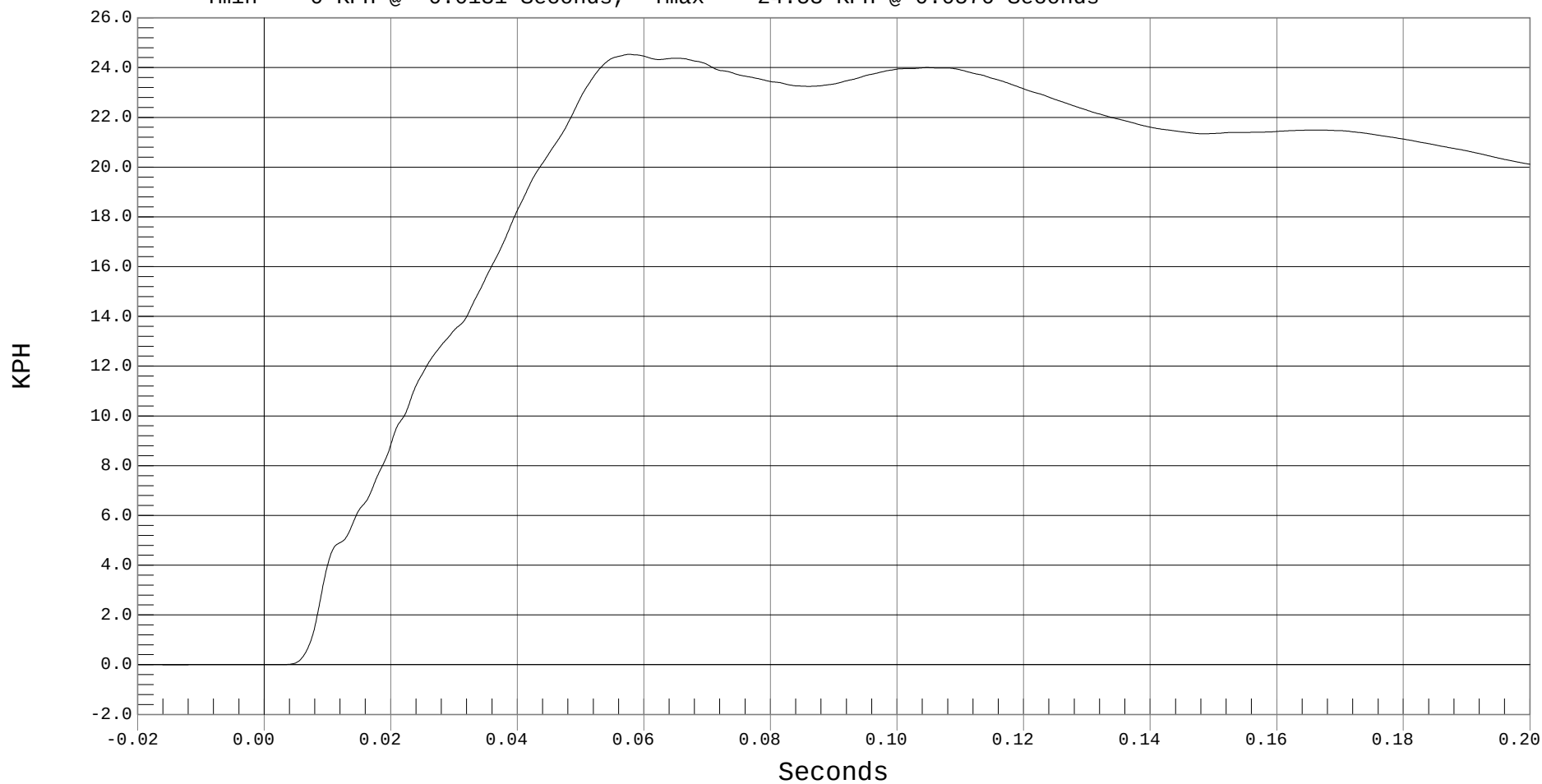
RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY, b01077AI.V16

Ymin = 0 KPH @ -0.0131 Seconds, Ymax = 24.53 KPH @ 0.0576 Seconds





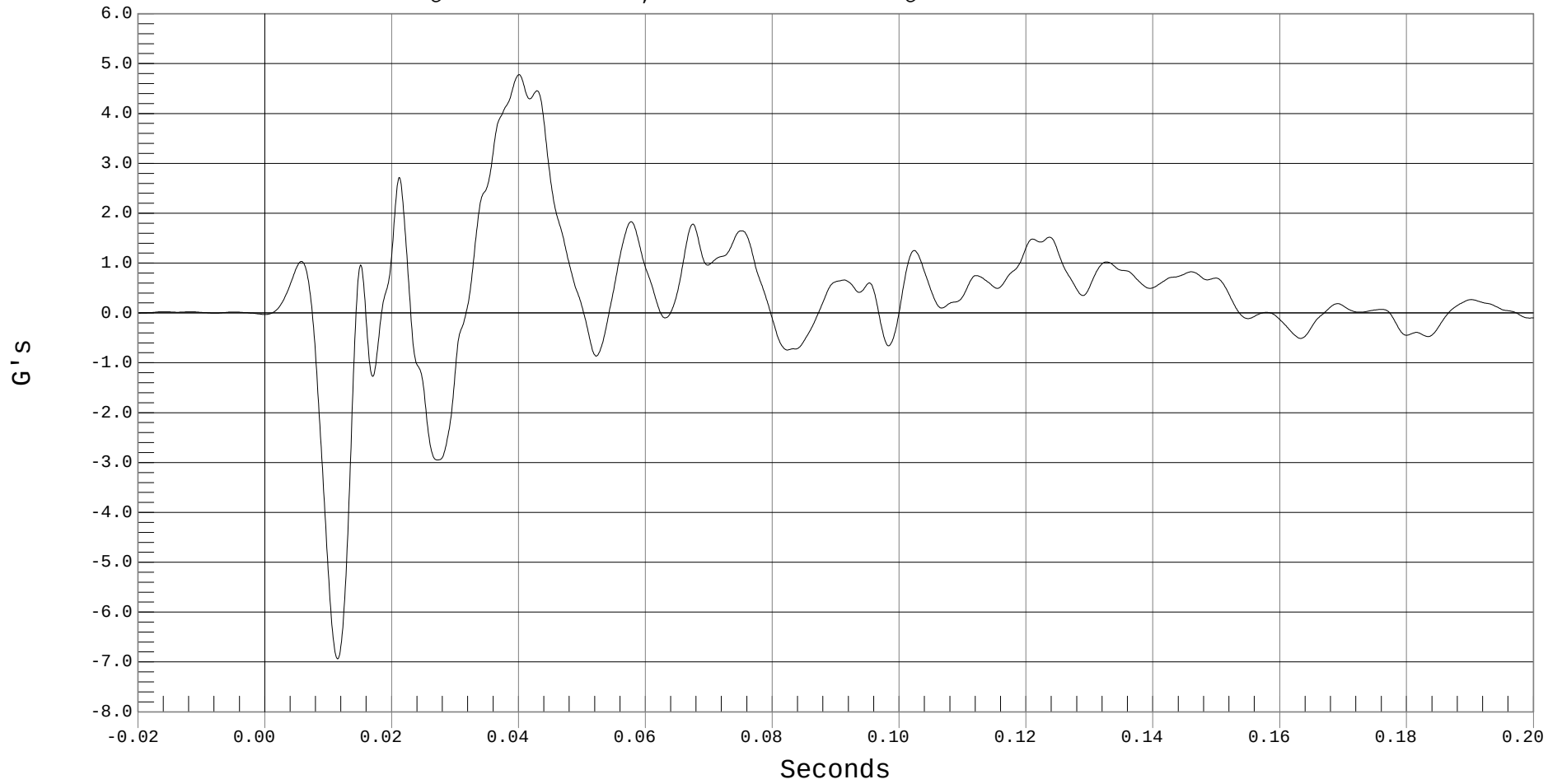
RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT FRONT SILL Z, b01077AF.A17

Ymin = -6.94 G's @ 0.0114 Seconds, Ymax = 4.78 G's @ 0.0400 Seconds





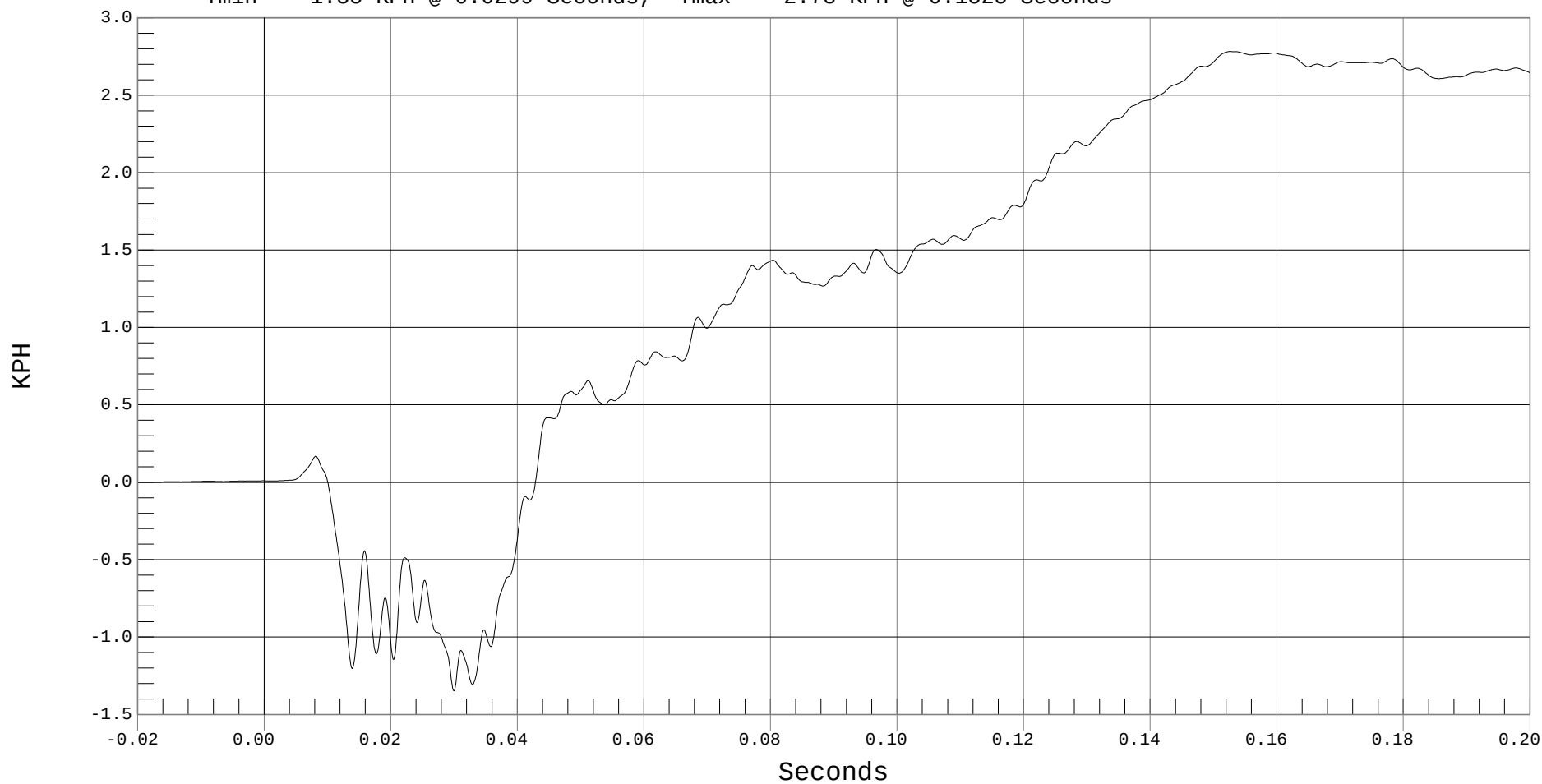
RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY, b01077AI.V17

Ymin = -1.35 KPH @ 0.0299 Seconds, Ymax = 2.78 KPH @ 0.1525 Seconds





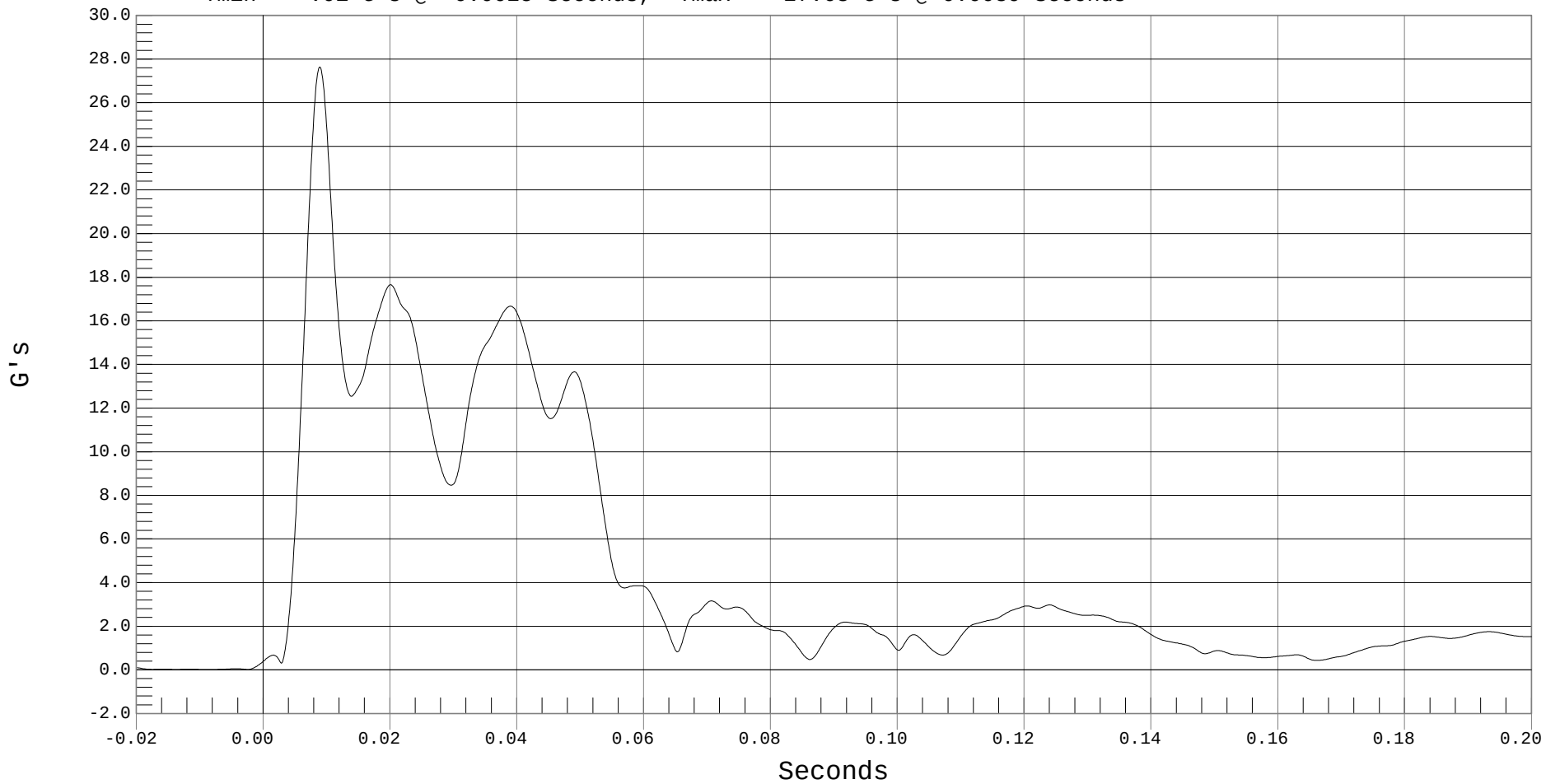
RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION, b01077AV.A15

Ymin = .01 G's @ -0.0025 Seconds, Ymax = 27.63 G's @ 0.0089 Seconds





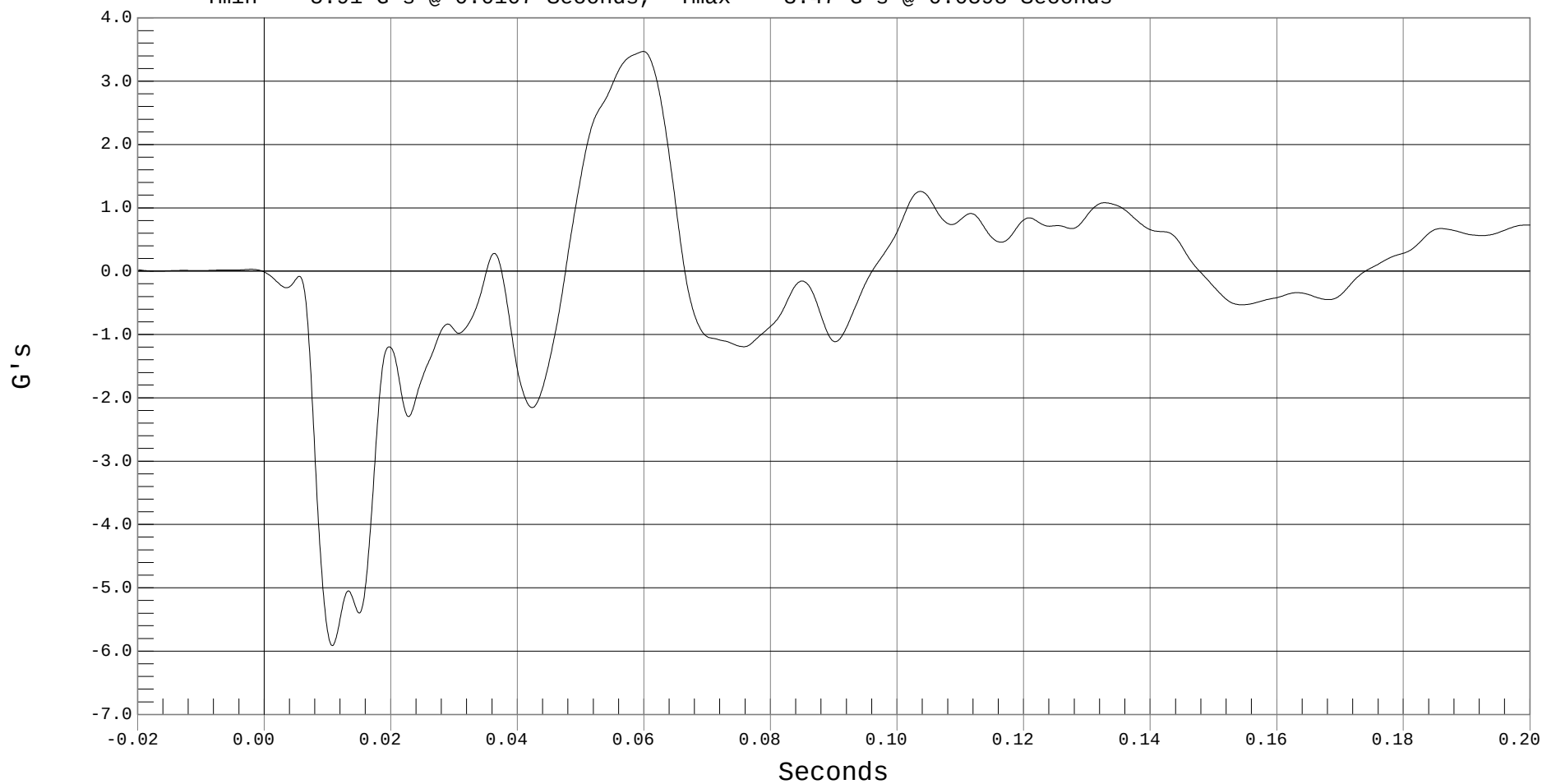
RIGHT SIDE SILL AT REAR SEAT X ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT REAR SILL X, b01077AF.A18

Ymin = -5.91 G's @ 0.0107 Seconds, Ymax = 3.47 G's @ 0.0598 Seconds





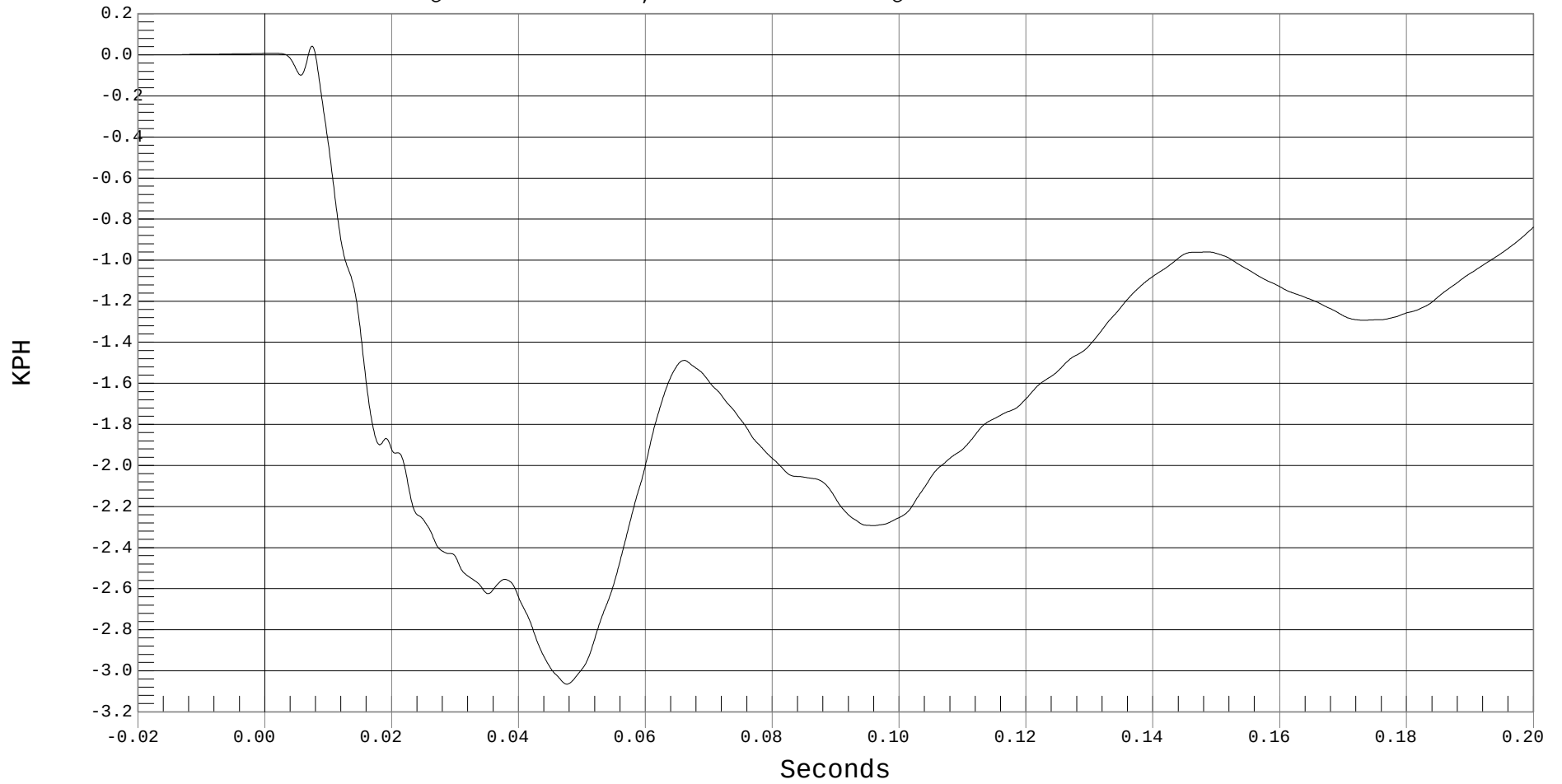
RIGHT SIDE SILL AT REAR SEAT X VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT SIDE SILL AT REAR SEAT X VELOCITY, b01077AI.V18

Ymin = -3.07 KPH @ 0.0475 Seconds, Ymax = .04 KPH @ 0.0074 Seconds





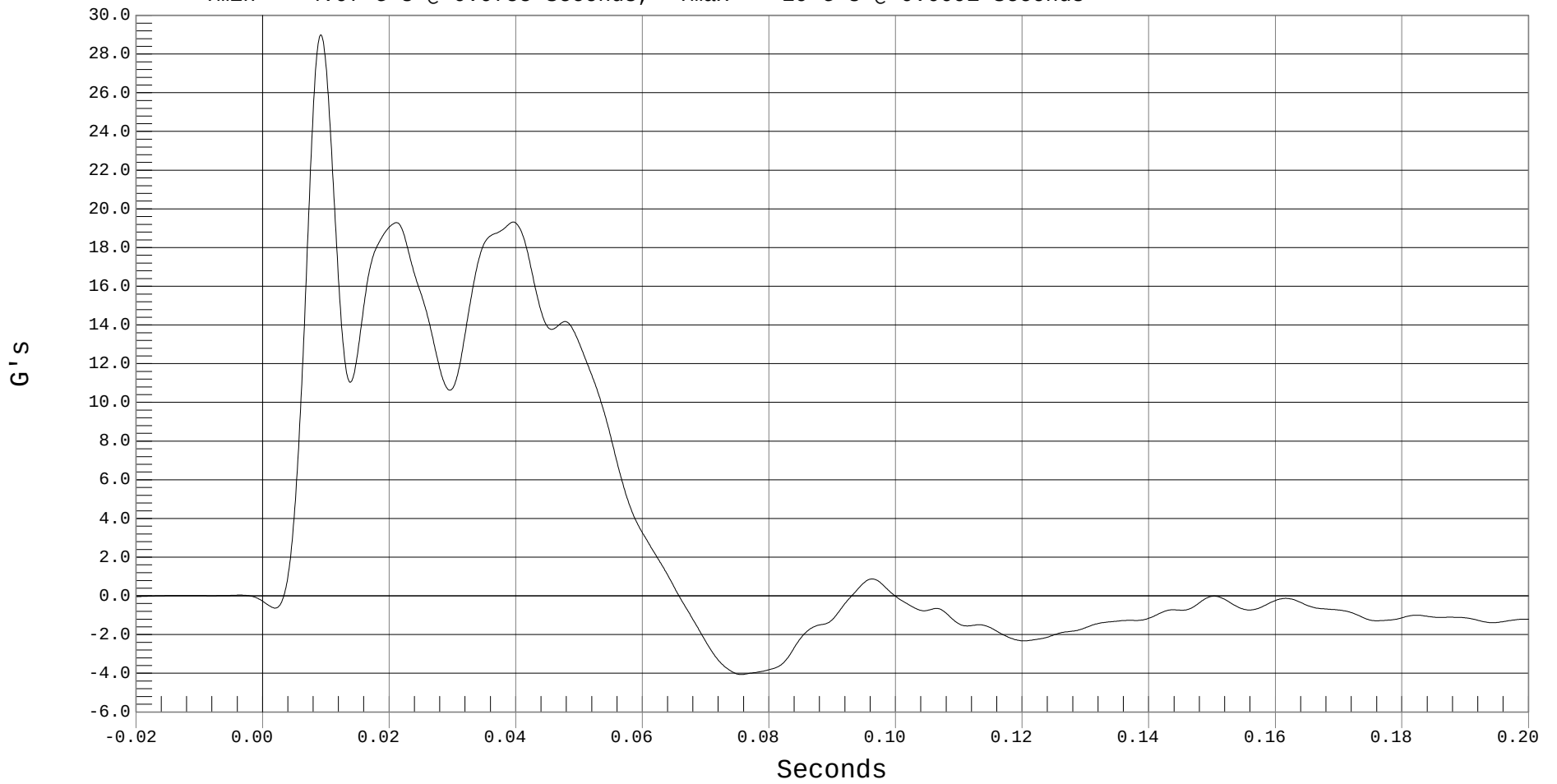
RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT REAR SILL Y, b01077AF.A19

Ymin = -4.07 G's @ 0.0755 Seconds, Ymax = 29 G's @ 0.0091 Seconds





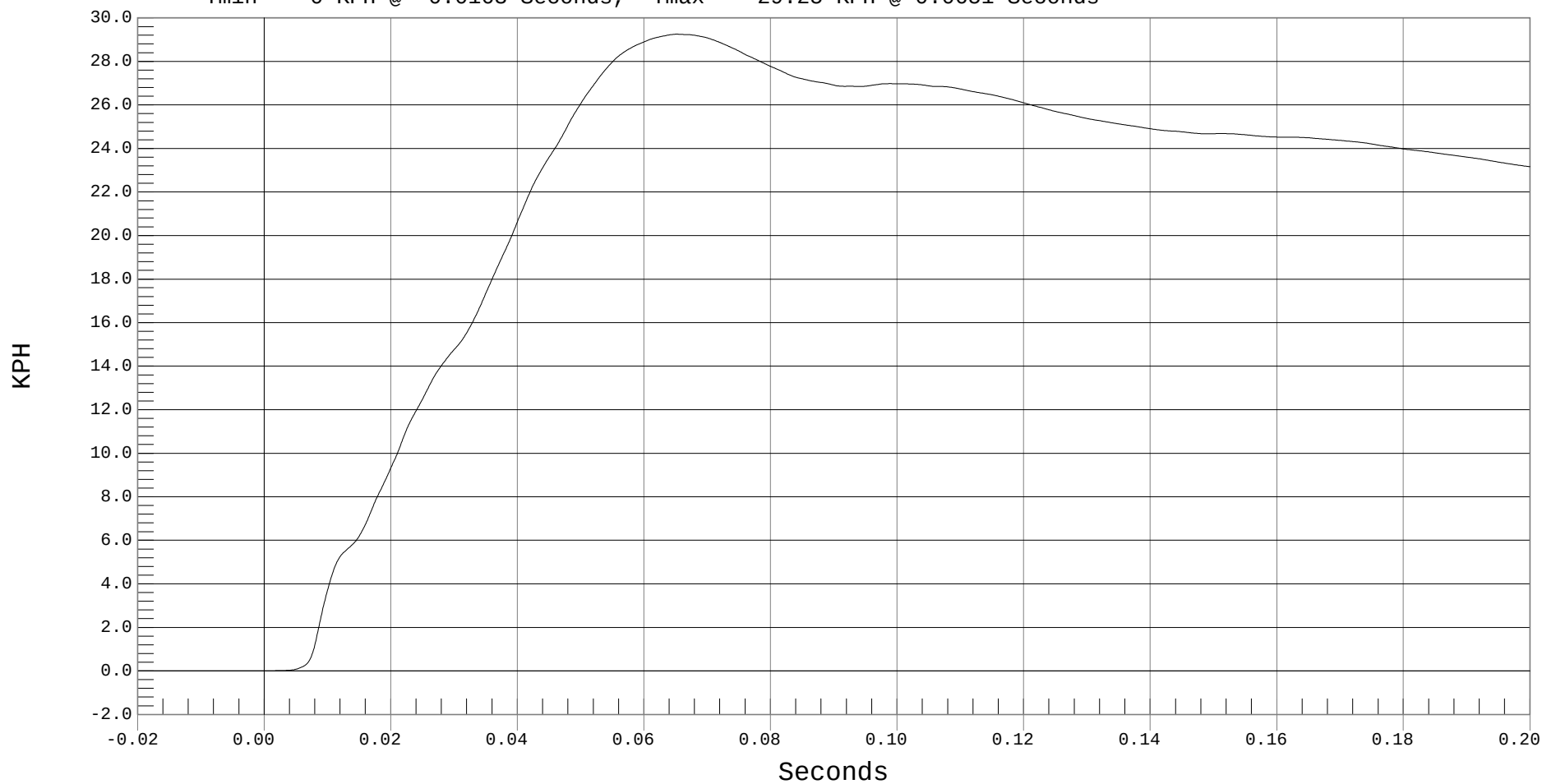
RIGHT SIDE SILL AT REAR SEAT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT SIDE SILL AT REAR SEAT Y VELOCITY, b01077AI.V19

Ymin = 0 KPH @ -0.0163 Seconds, Ymax = 29.25 KPH @ 0.0651 Seconds





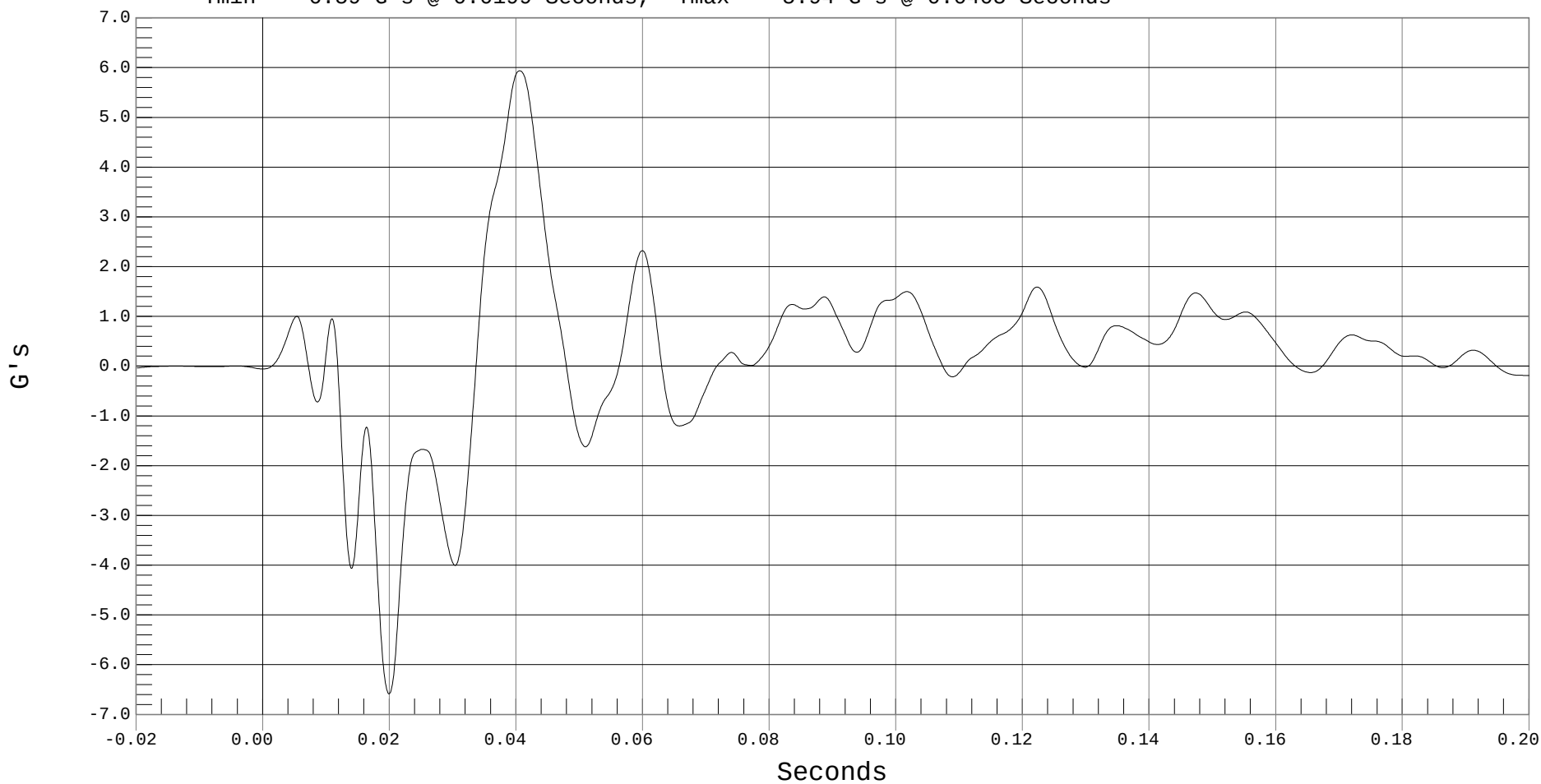
RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT REAR SILL Z, b01077AF.A20

Ymin = -6.59 G's @ 0.0199 Seconds, Ymax = 5.94 G's @ 0.0405 Seconds





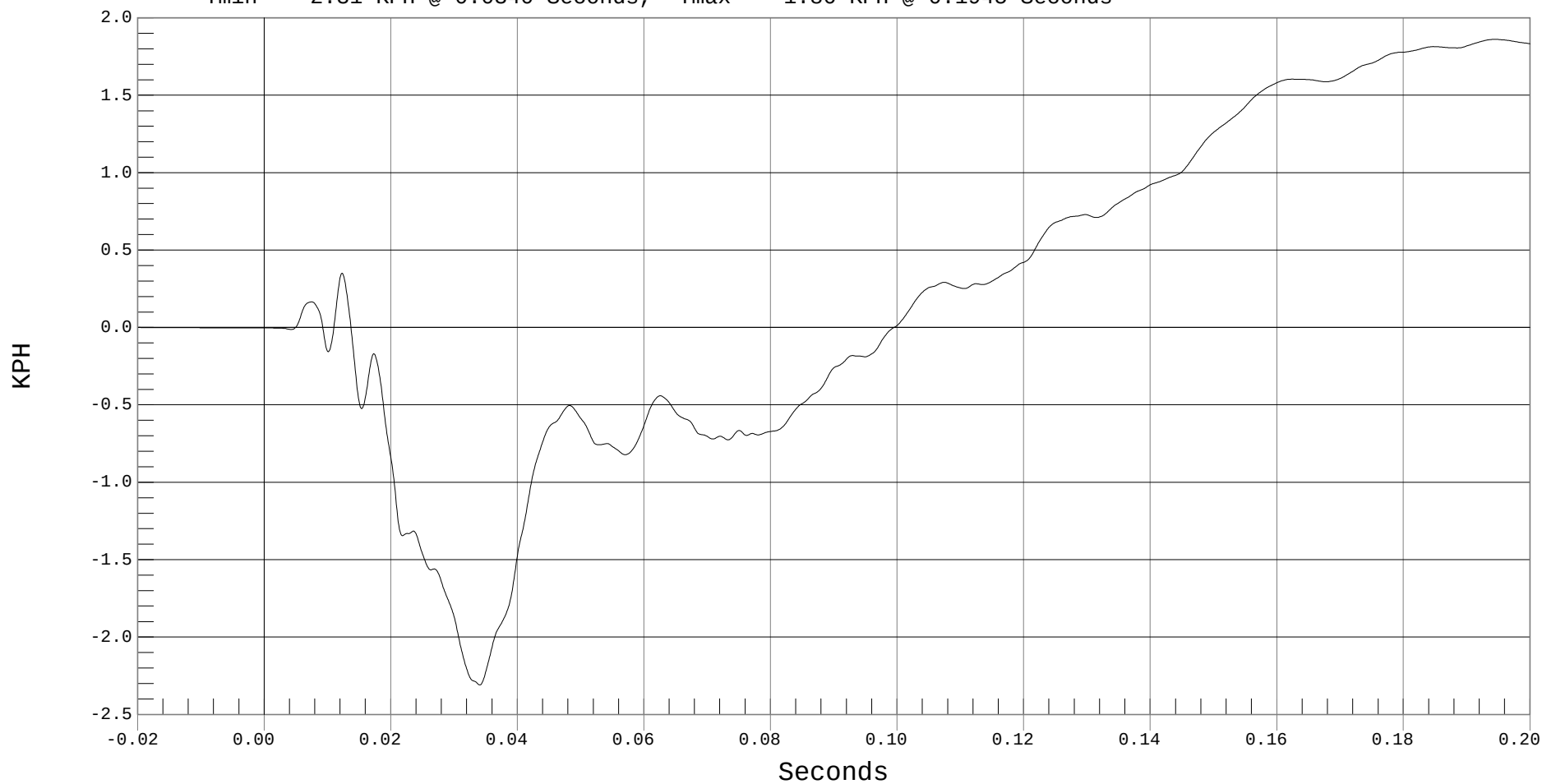
RIGHT SIDE SILL AT REAR SEAT Z VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT SIDE SILL AT REAR SEAT Z VELOCITY, b01077AI.V20

Ymin = -2.31 KPH @ 0.0340 Seconds, Ymax = 1.86 KPH @ 0.1945 Seconds





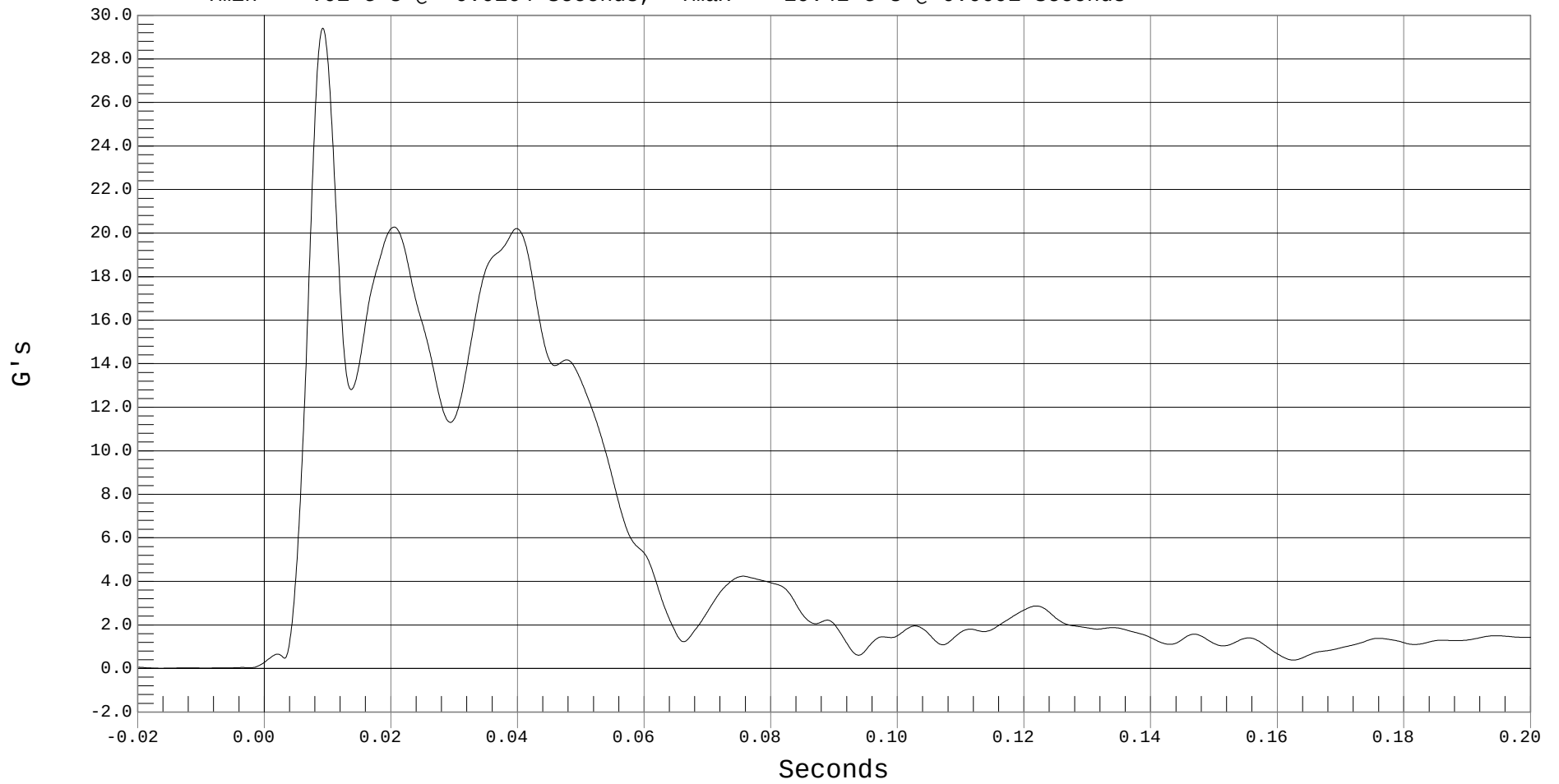
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION, b01077AV.A18

Ymin = .01 G's @ -0.0164 Seconds, Ymax = 29.42 G's @ 0.0091 Seconds





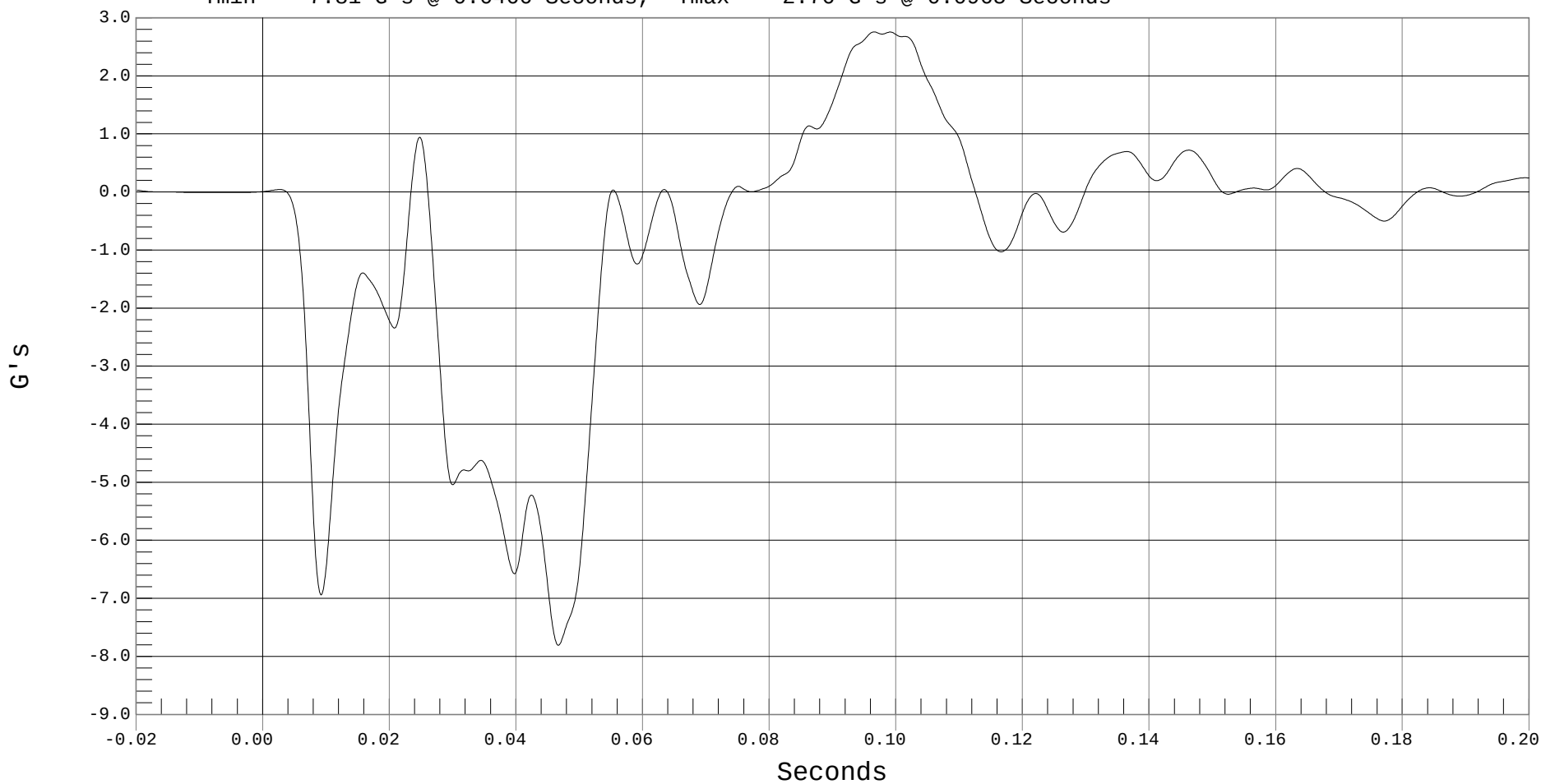
REAR FLOORPAN ABOVE AXLE X ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 FLOORPAN @ REAR AXLE X, b01077AF.A23

Ymin = -7.81 G's @ 0.0466 Seconds, Ymax = 2.76 G's @ 0.0965 Seconds





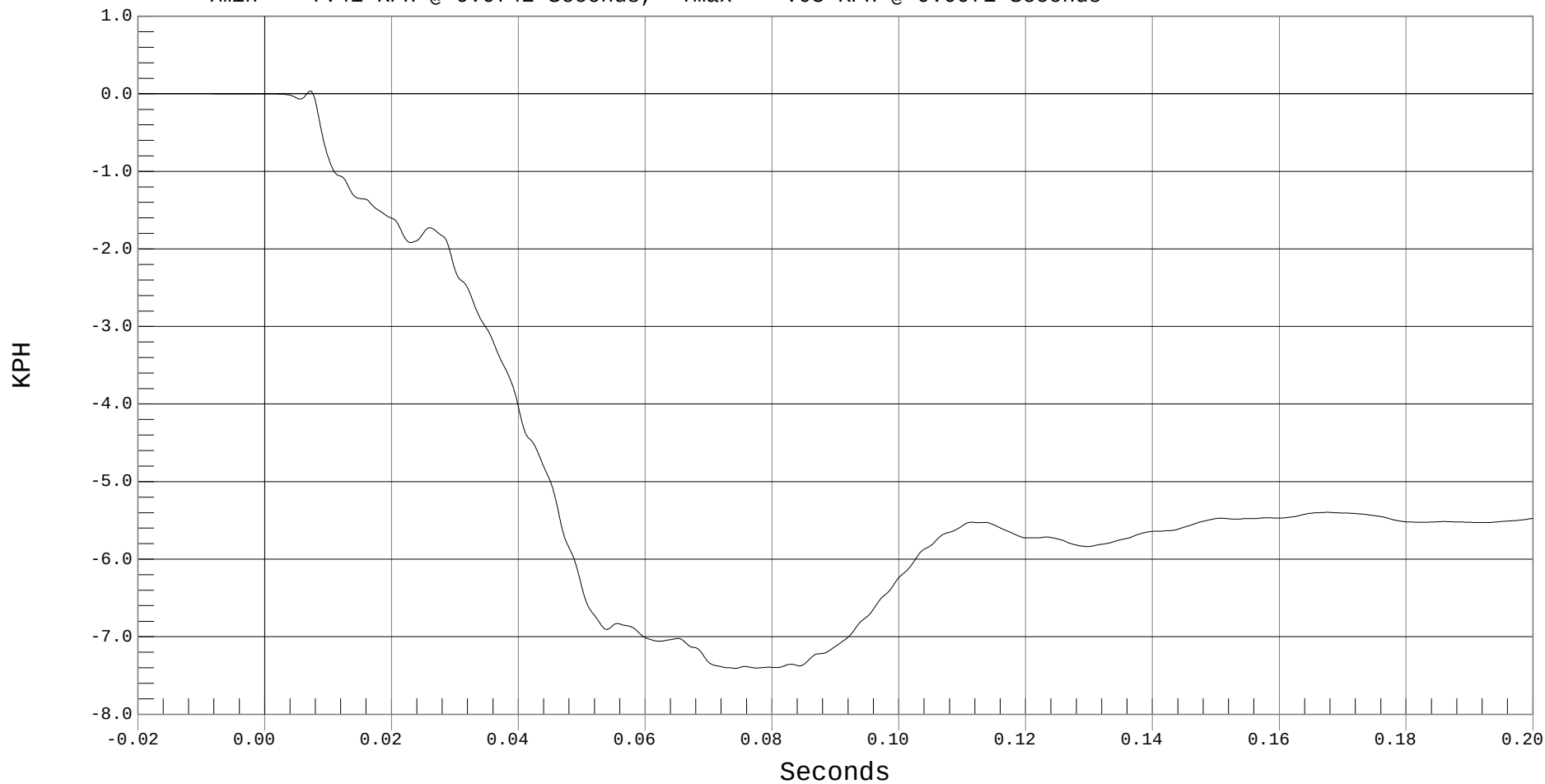
REAR FLOORPAN ABOVE AXLE X VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR FLOORPAN ABOVE AXLE X VELOCITY, b01077AI.V23

Ymin = -7.41 KPH @ 0.0742 Seconds, Ymax = .03 KPH @ 0.0071 Seconds





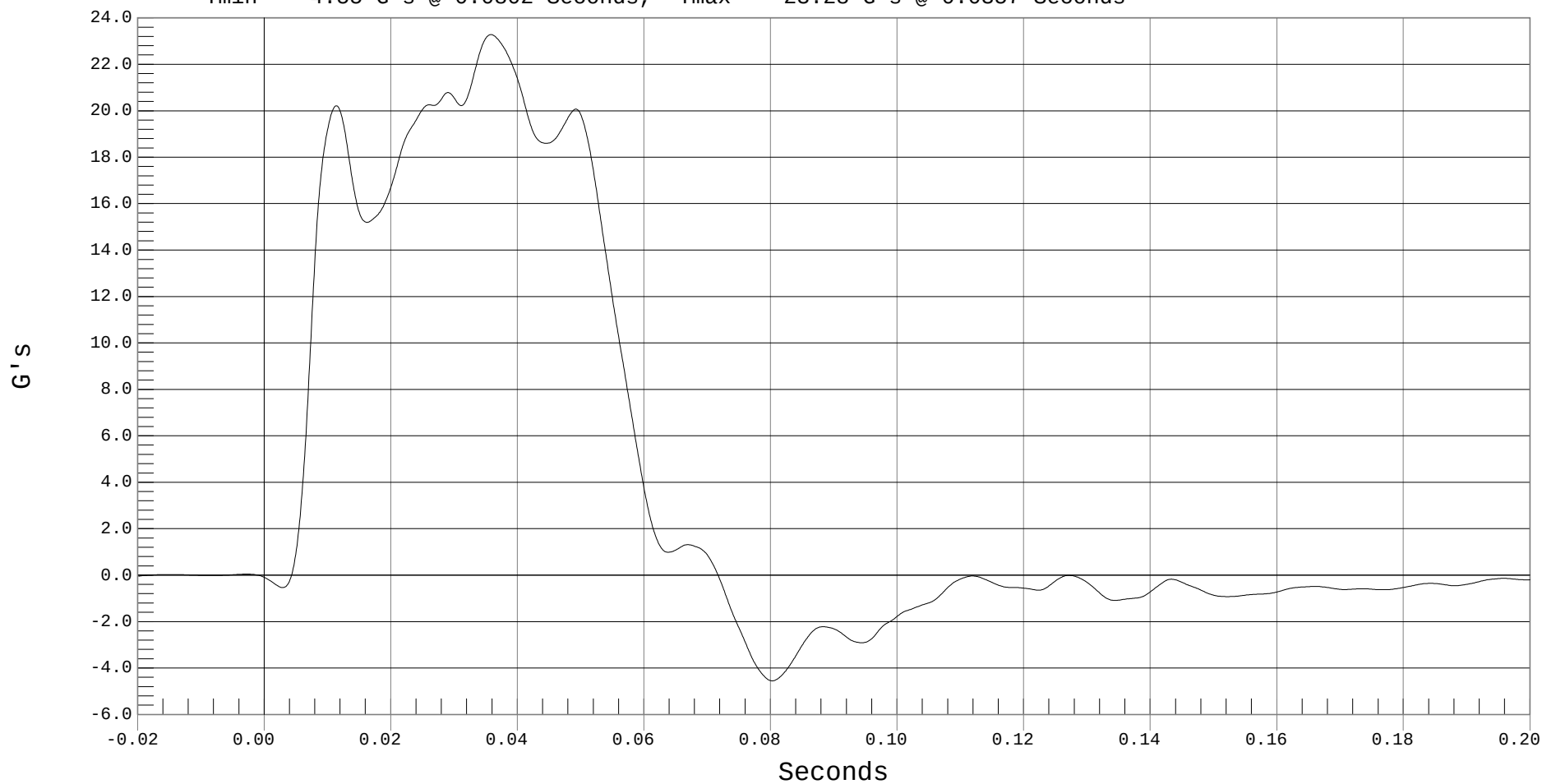
REAR FLOORPAN ABOVE AXLE Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 FLOORPAN @ REAR AXLE Y, b01077AF.A24

Ymin = -4.55 G's @ 0.0802 Seconds, Ymax = 23.28 G's @ 0.0357 Seconds





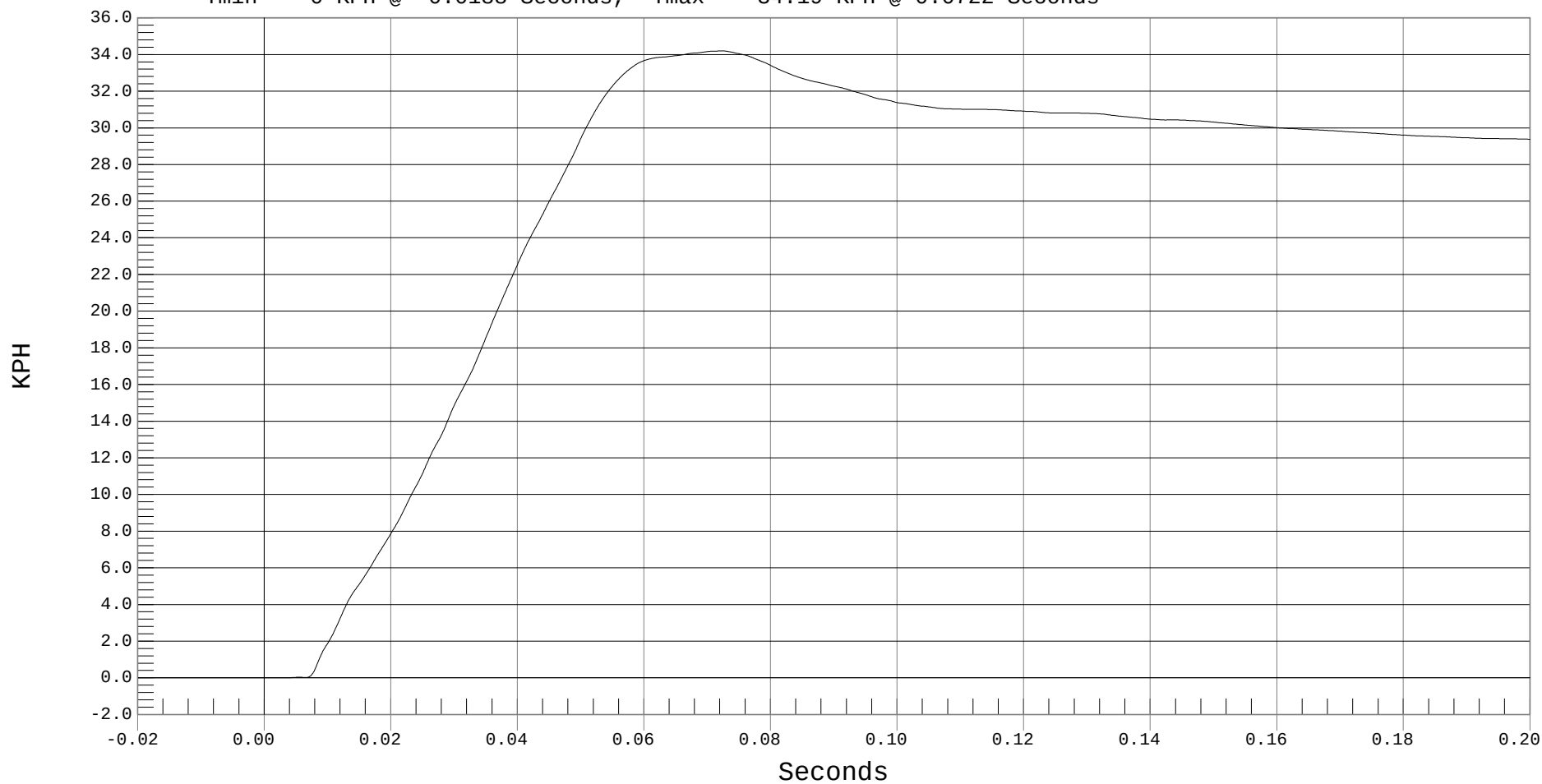
REAR FLOORPAN ABOVE AXLE Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR FLOORPAN ABOVE AXLE Y VELOCITY, b01077AI.V24

Ymin = 0 KPH @ -0.0188 Seconds, Ymax = 34.19 KPH @ 0.0722 Seconds





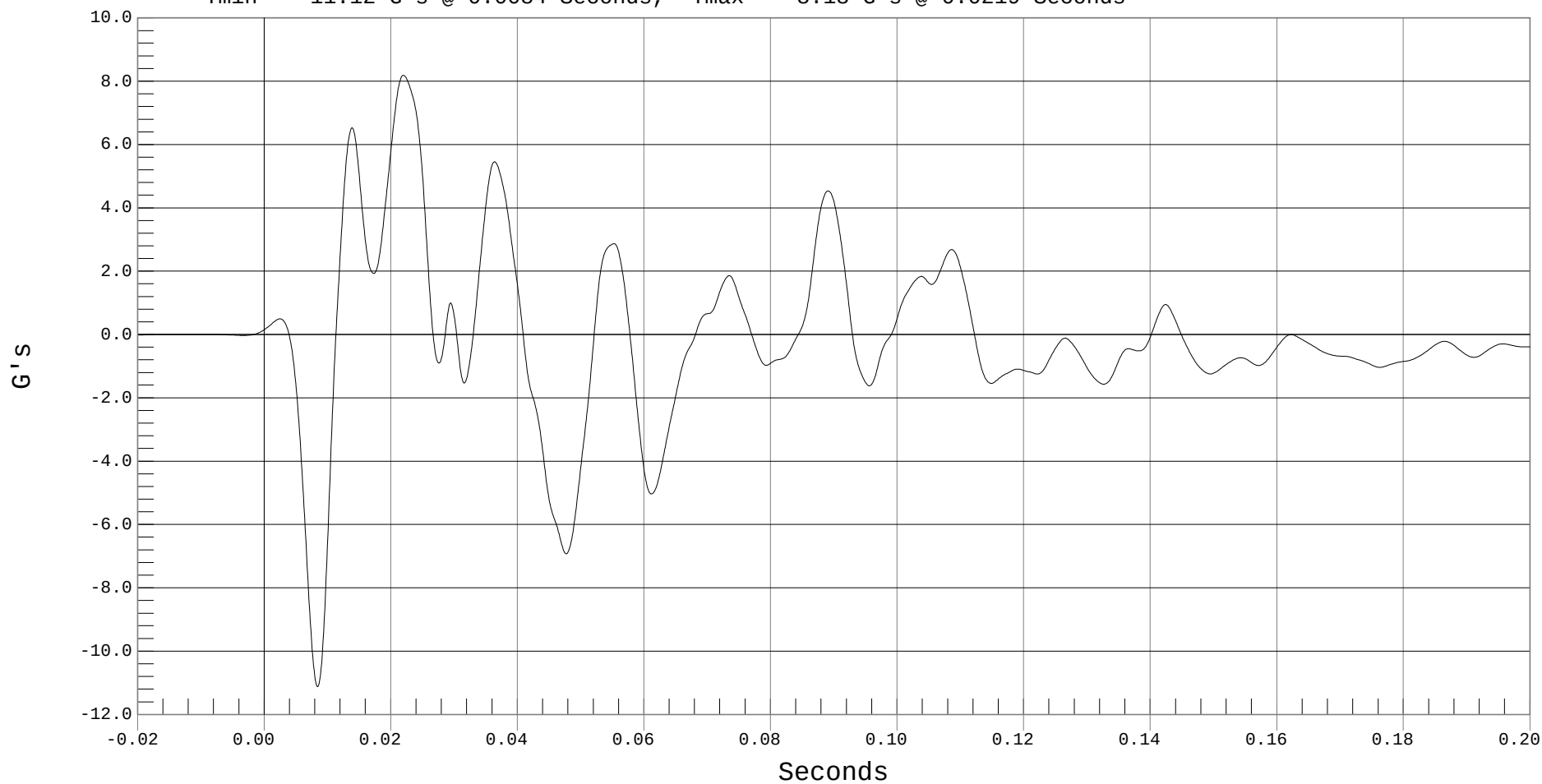
REAR FLOORPAN ABOVE AXLE Z ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

1 FLOORPAN @ REAR AXLE Z, b01077AF.A25

Ymin = -11.12 G's @ 0.0084 Seconds, Ymax = 8.18 G's @ 0.0219 Seconds





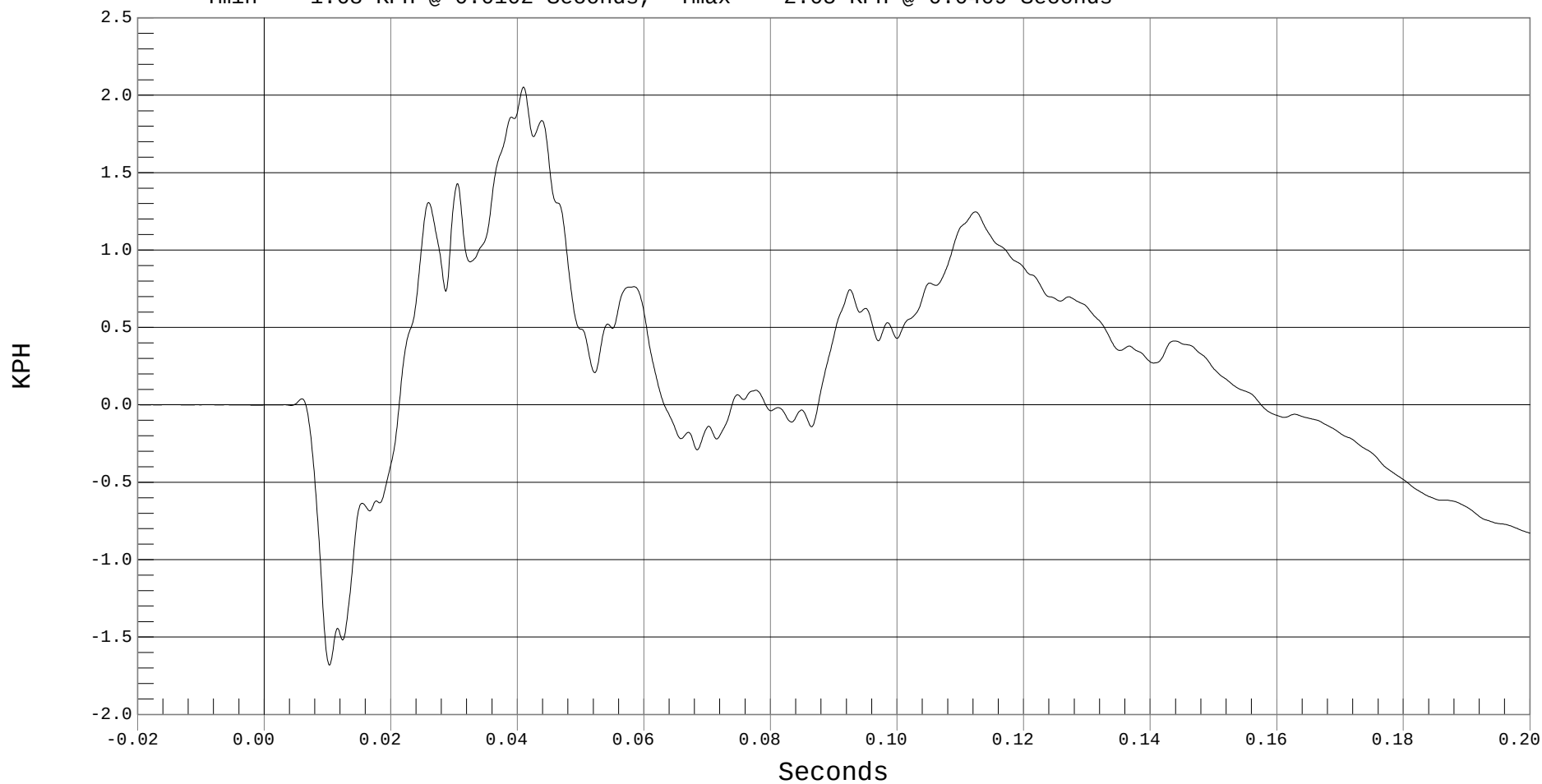
REAR FLOORPAN ABOVE AXLE Z VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR FLOORPAN ABOVE AXLE Z VELOCITY, b01077AI.V25

Ymin = -1.68 KPH @ 0.0102 Seconds, Ymax = 2.05 KPH @ 0.0409 Seconds





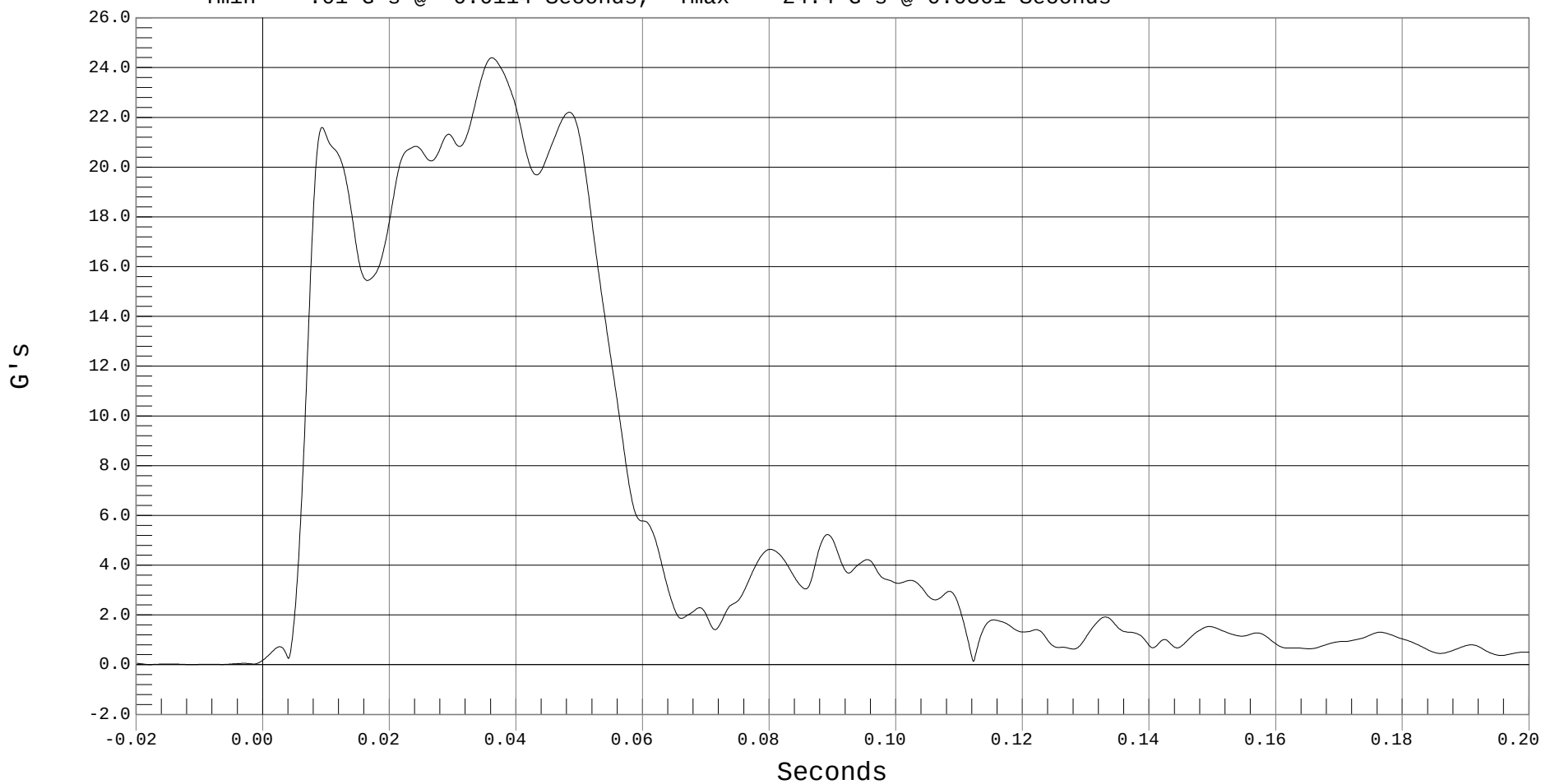
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

1 REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION, b01077AV.A23

Ymin = .01 G's @ -0.0114 Seconds, Ymax = 24.4 G's @ 0.0361 Seconds





LEFT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT

Component: 2001 HYUNDAI ACCENT GL

Other Info:

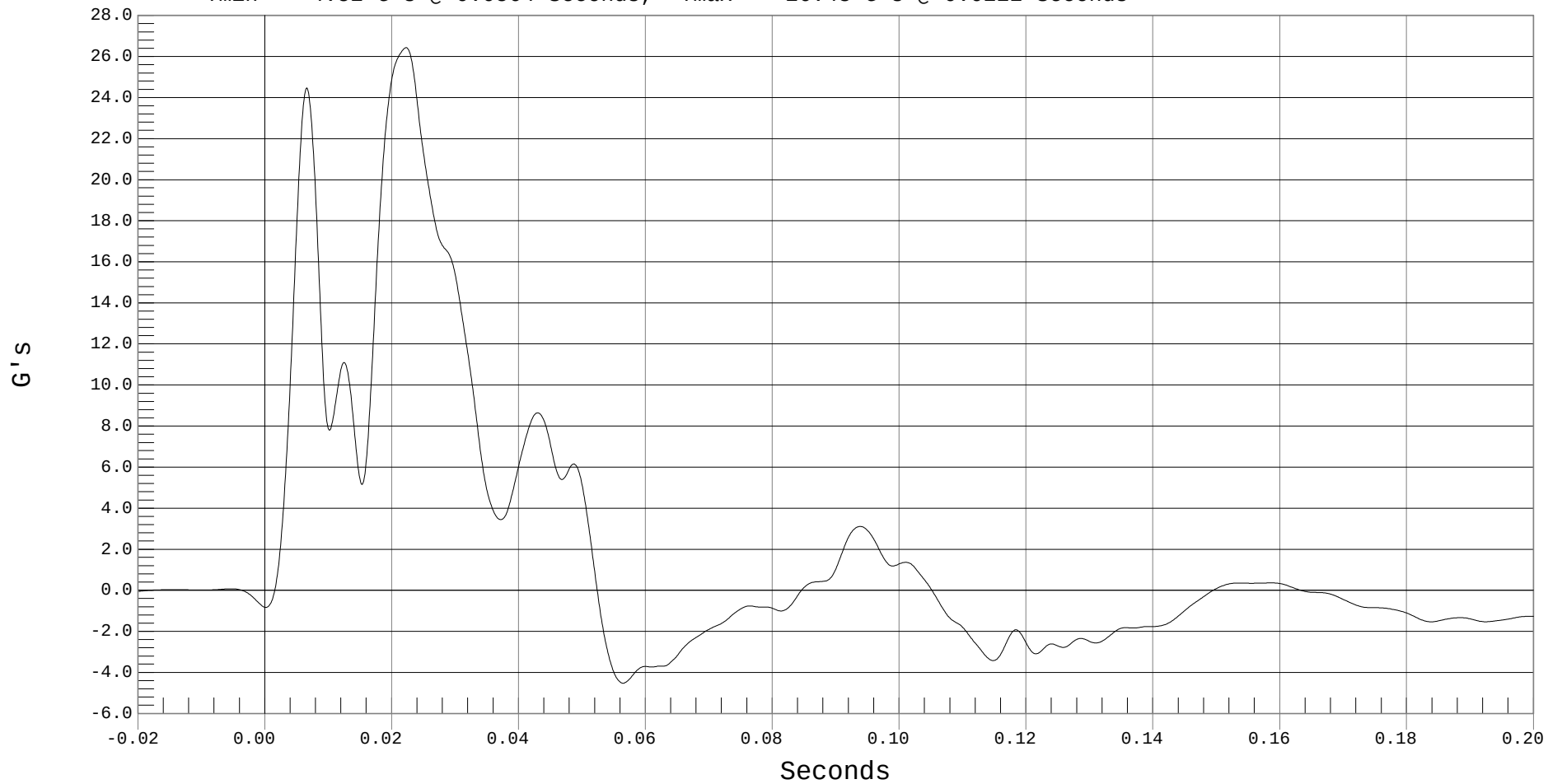
Test Date: 07-17-01

Speed: 32.9 MPH, 52.9 KPH

Filter Class: 60

— 1 LEFT FRONT SILL Y, b01077AF.A21

Ymin = -4.52 G's @ 0.0564 Seconds, Ymax = 26.43 G's @ 0.0222 Seconds





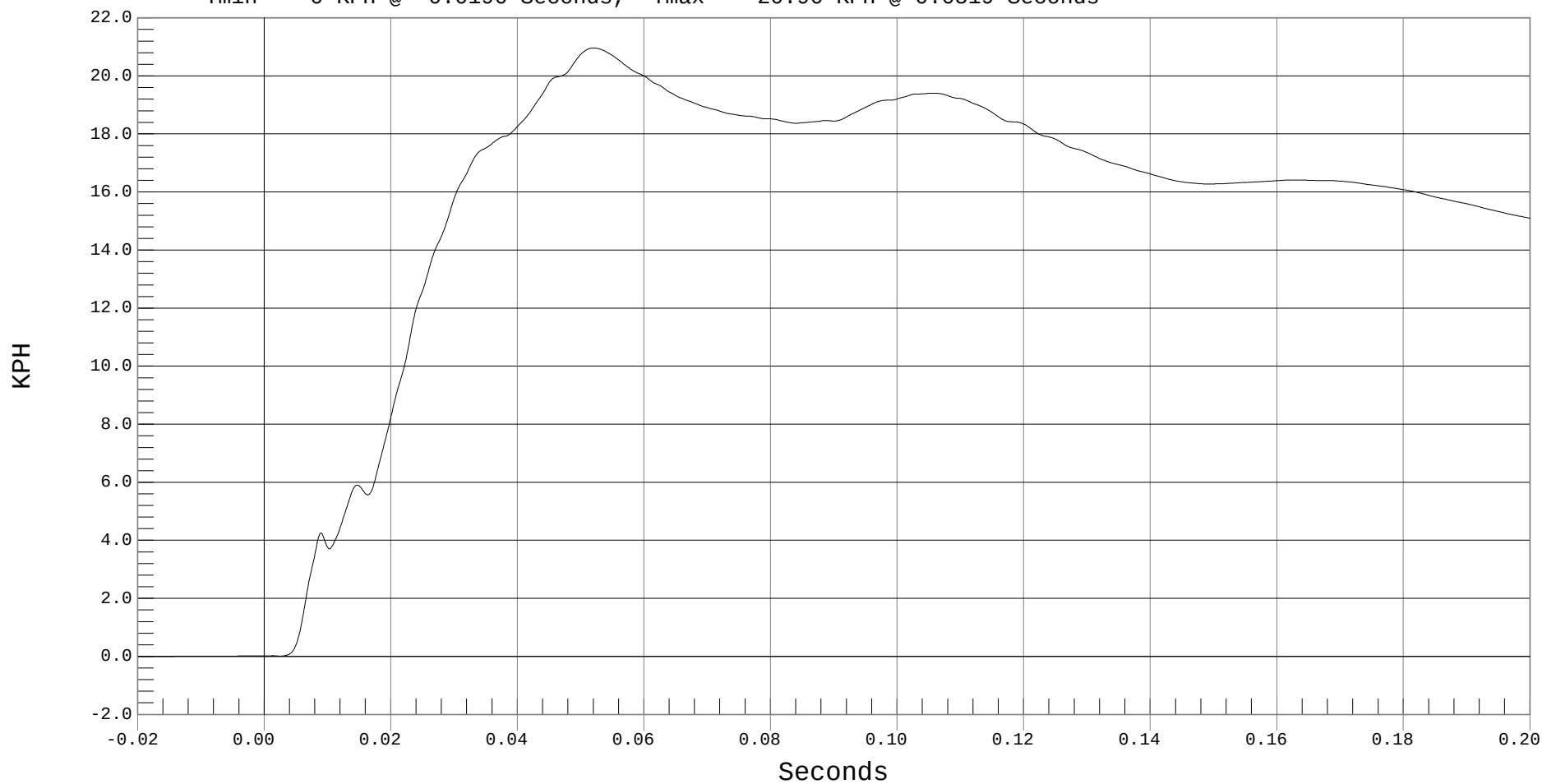
LEFT SIDE SILL AT FRONT SEAT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 LEFT SIDE SILL AT FRONT SEAT Y VELOCITY, b01077AI.V21

Ymin = 0 KPH @ -0.0196 Seconds, Ymax = 20.96 KPH @ 0.0519 Seconds





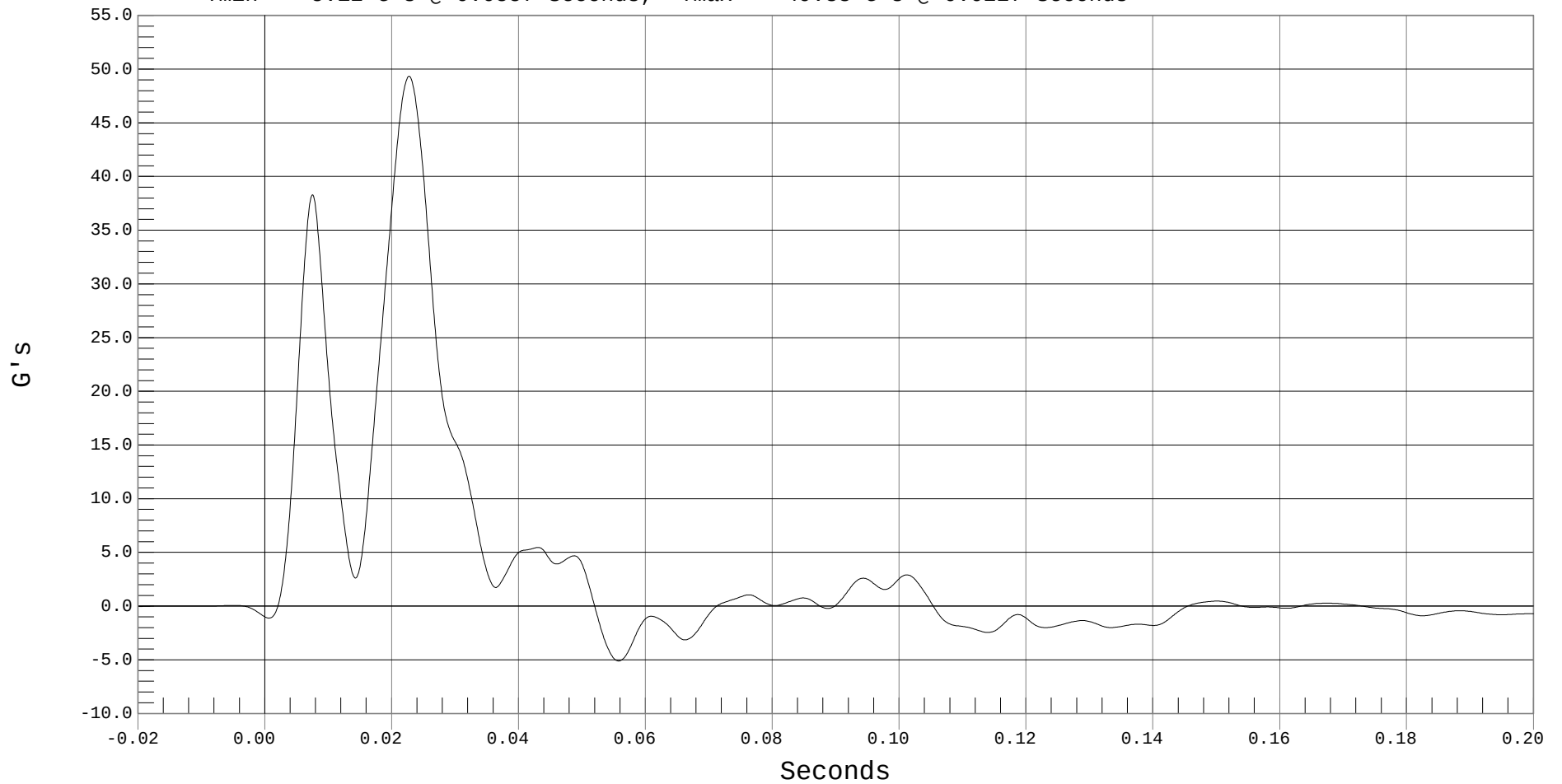
LEFT SIDE SILL AT REAR SEAT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 LEFT REAR SILL Y, b01077AF.A22

Ymin = -5.12 G's @ 0.0557 Seconds, Ymax = 49.33 G's @ 0.0227 Seconds





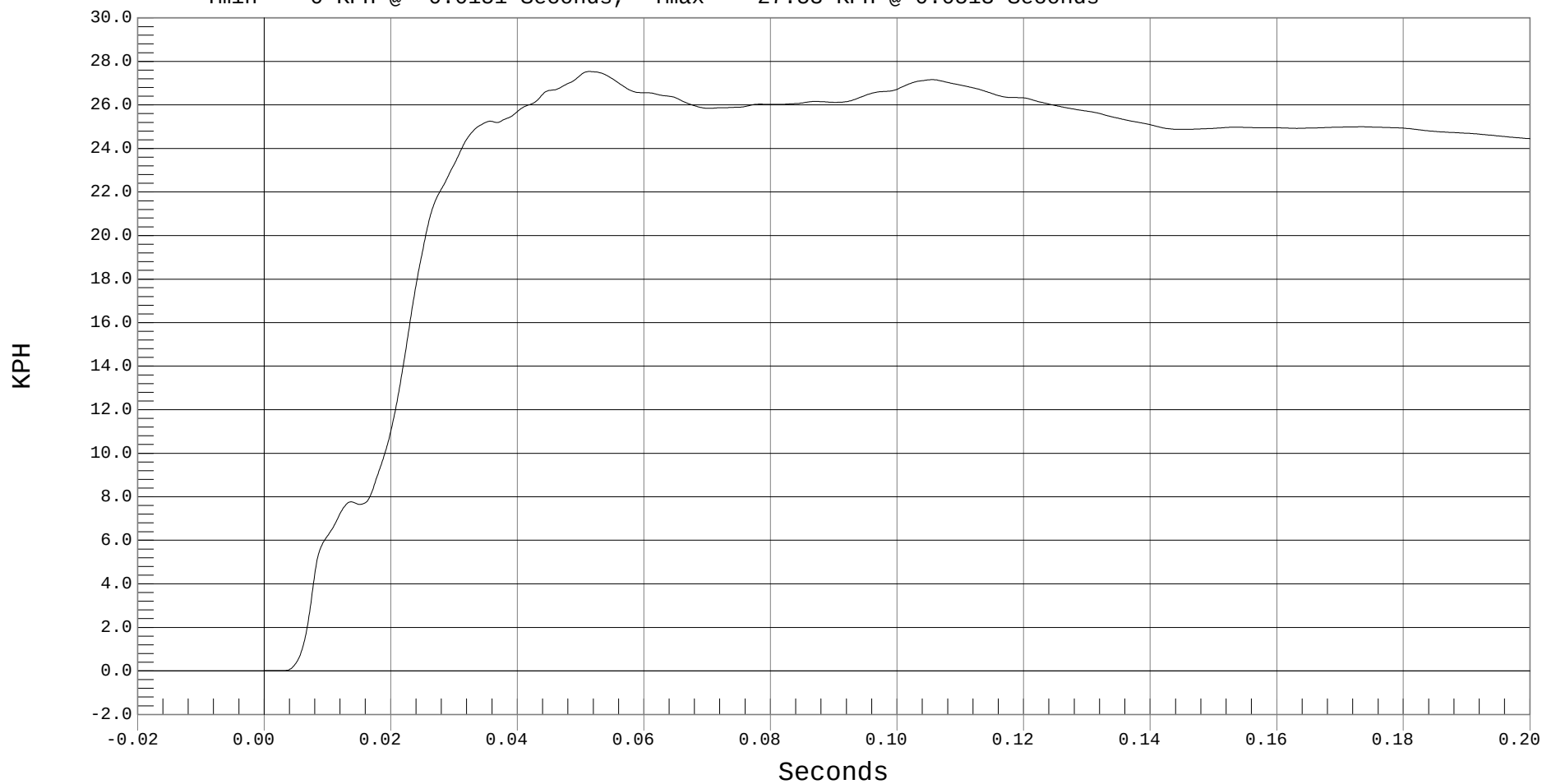
LEFT SIDE SILL AT REAR SEAT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 LEFT SIDE SILL AT REAR SEAT Y VELOCITY, b01077AI.V22

Ymin = 0 KPH @ -0.0151 Seconds, Ymax = 27.53 KPH @ 0.0513 Seconds





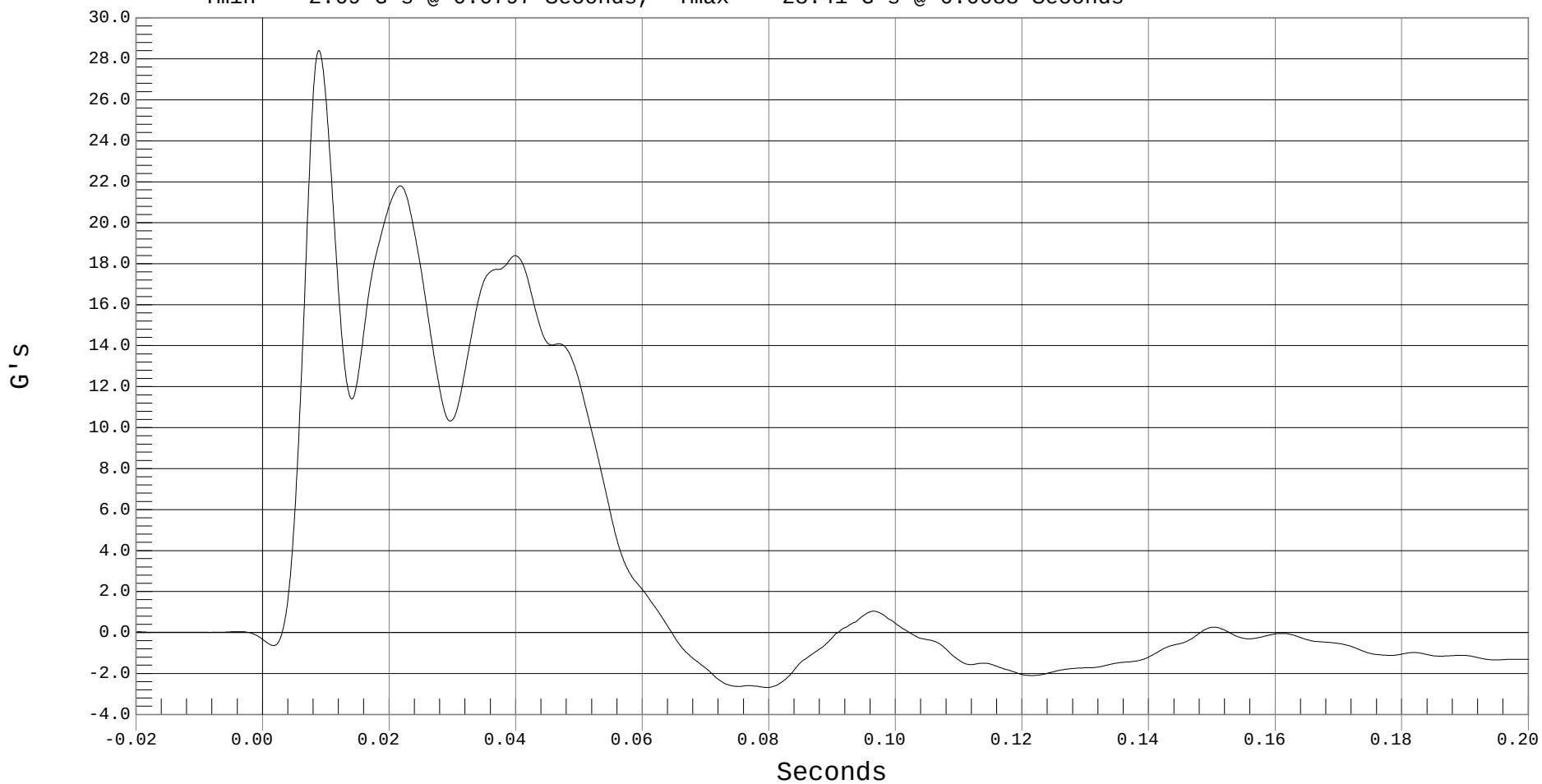
RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 RIGHT REAR OCCUPANT COMPARTMENT Y, b01077AF.A31

Ymin = -2.69 G's @ 0.0797 Seconds, Ymax = 28.41 G's @ 0.0088 Seconds





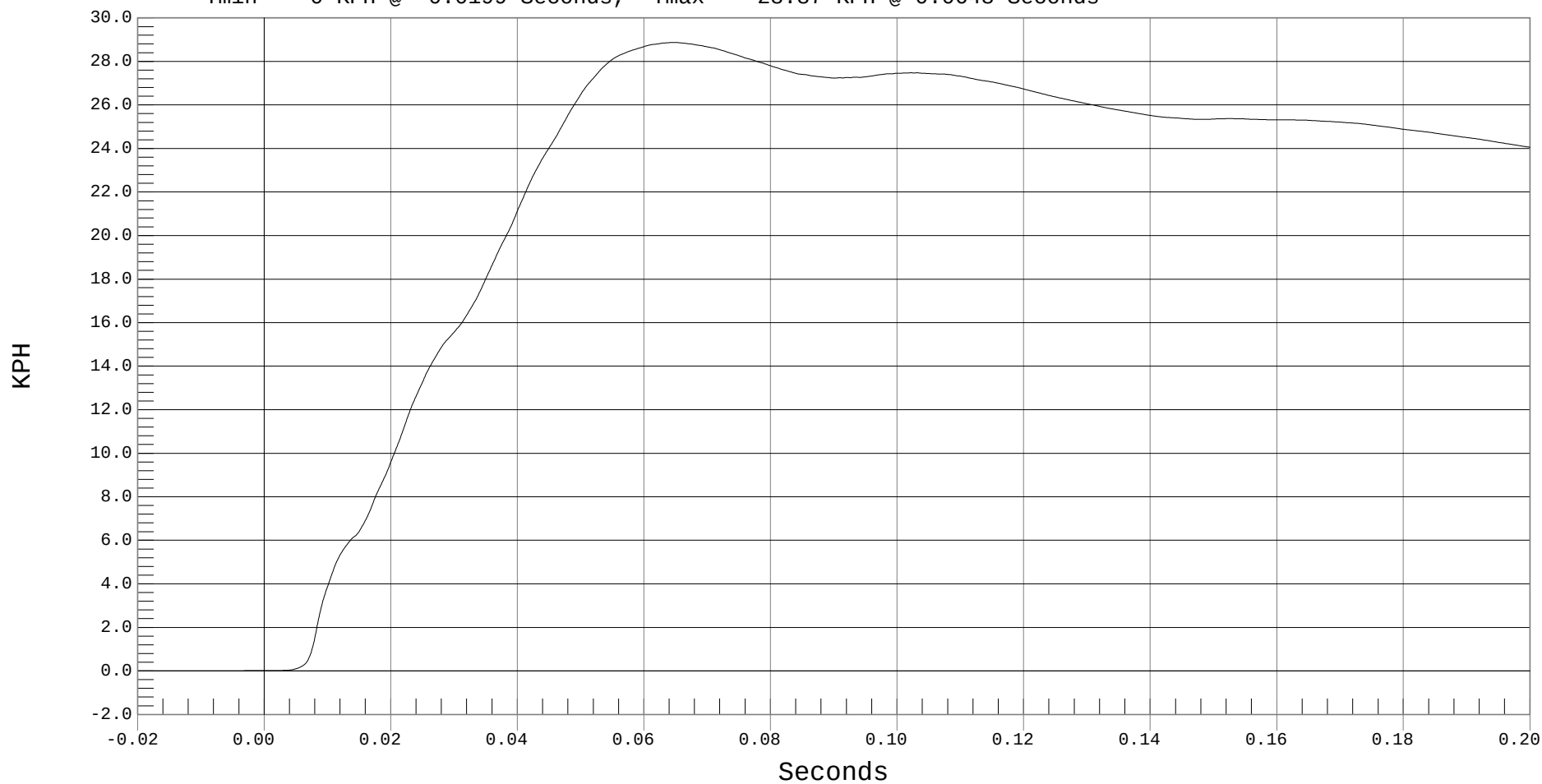
RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY, b01077AI.V31

Ymin = 0 KPH @ -0.0199 Seconds, Ymax = 28.87 KPH @ 0.0648 Seconds





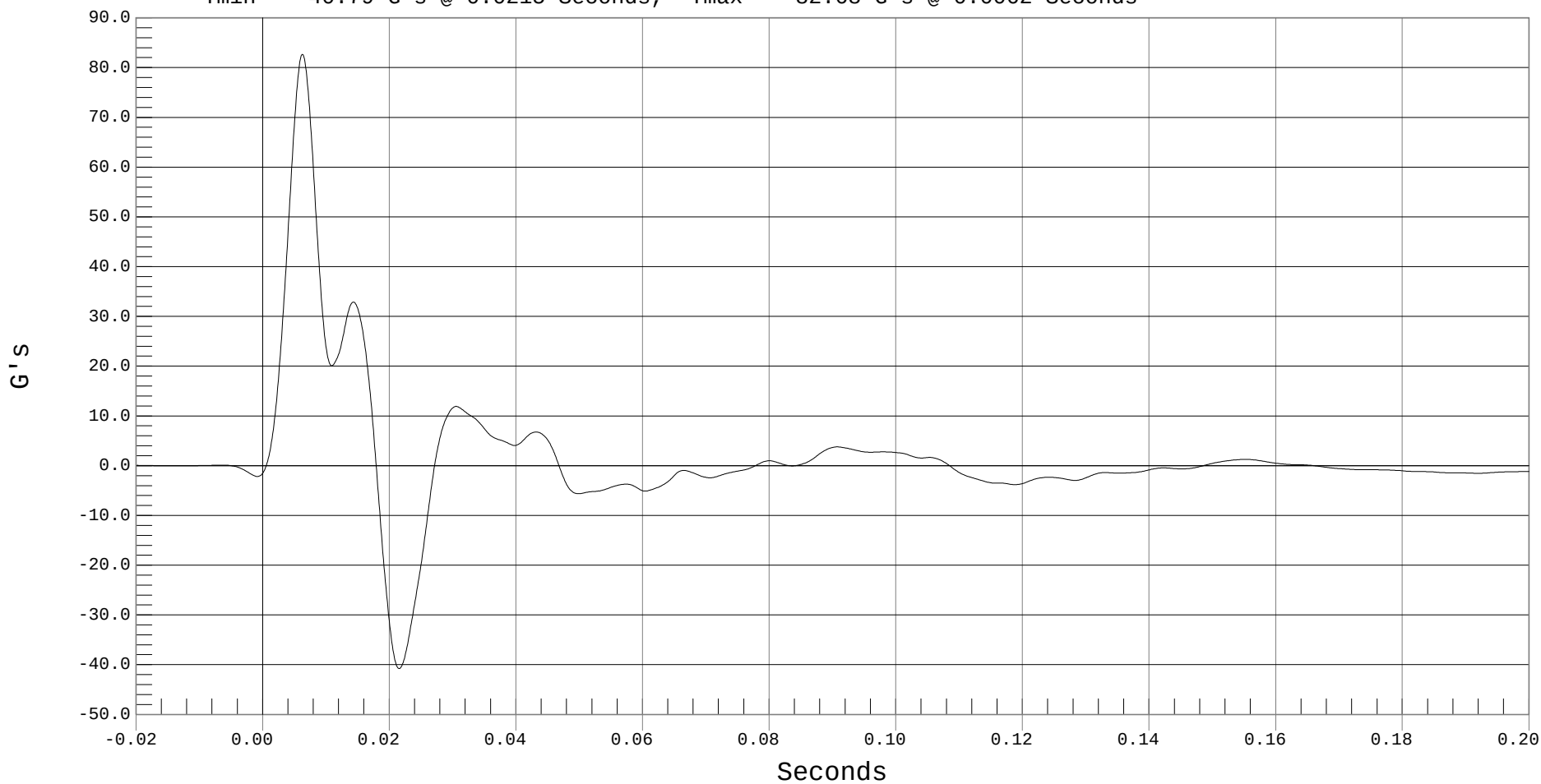
LEFT LOWER A-POST Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

1 LEFT LOWER A-POST Y, b01077AF.A27

Ymin = -40.79 G's @ 0.0215 Seconds, Ymax = 82.68 G's @ 0.0062 Seconds





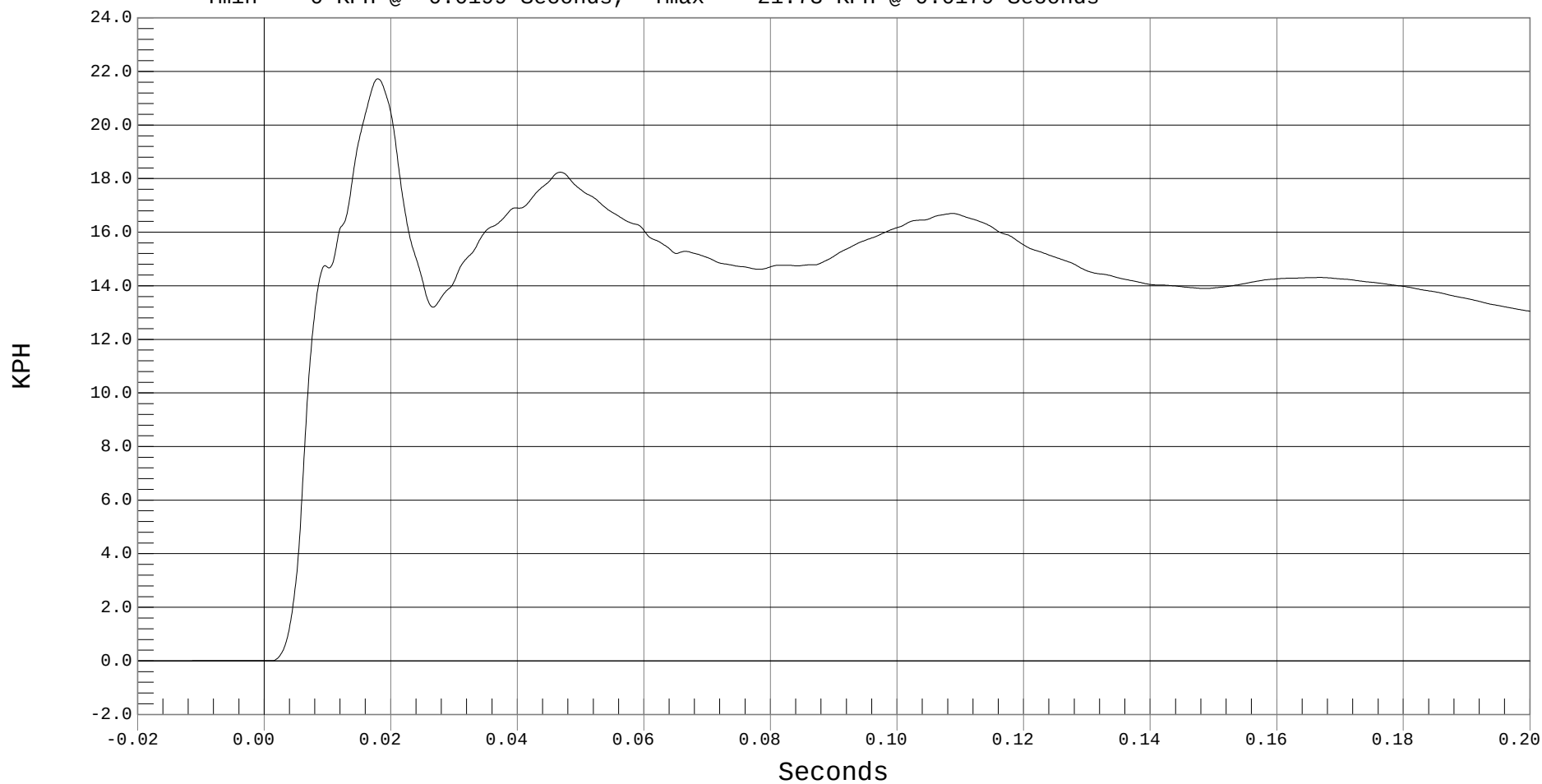
LEFT LOWER A-POST Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 LEFT LOWER A-POST Y VELOCITY, b01077AI.V27

Ymin = 0 KPH @ -0.0199 Seconds, Ymax = 21.73 KPH @ 0.0179 Seconds





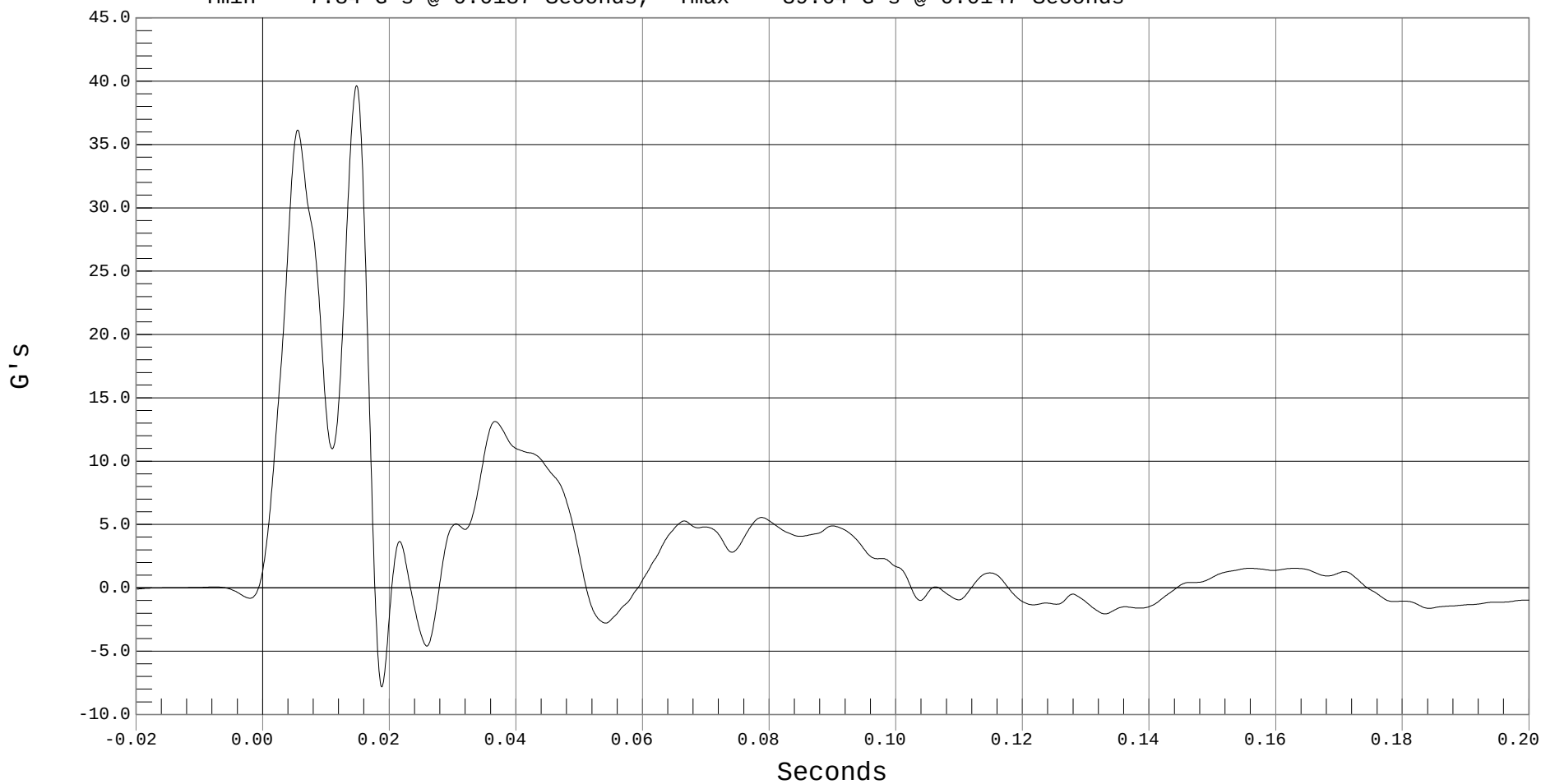
LEFT MID A-POST Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 LEFT MID A-POST Y, b01077AF.A26

Ymin = -7.84 G's @ 0.0187 Seconds, Ymax = 39.64 G's @ 0.0147 Seconds





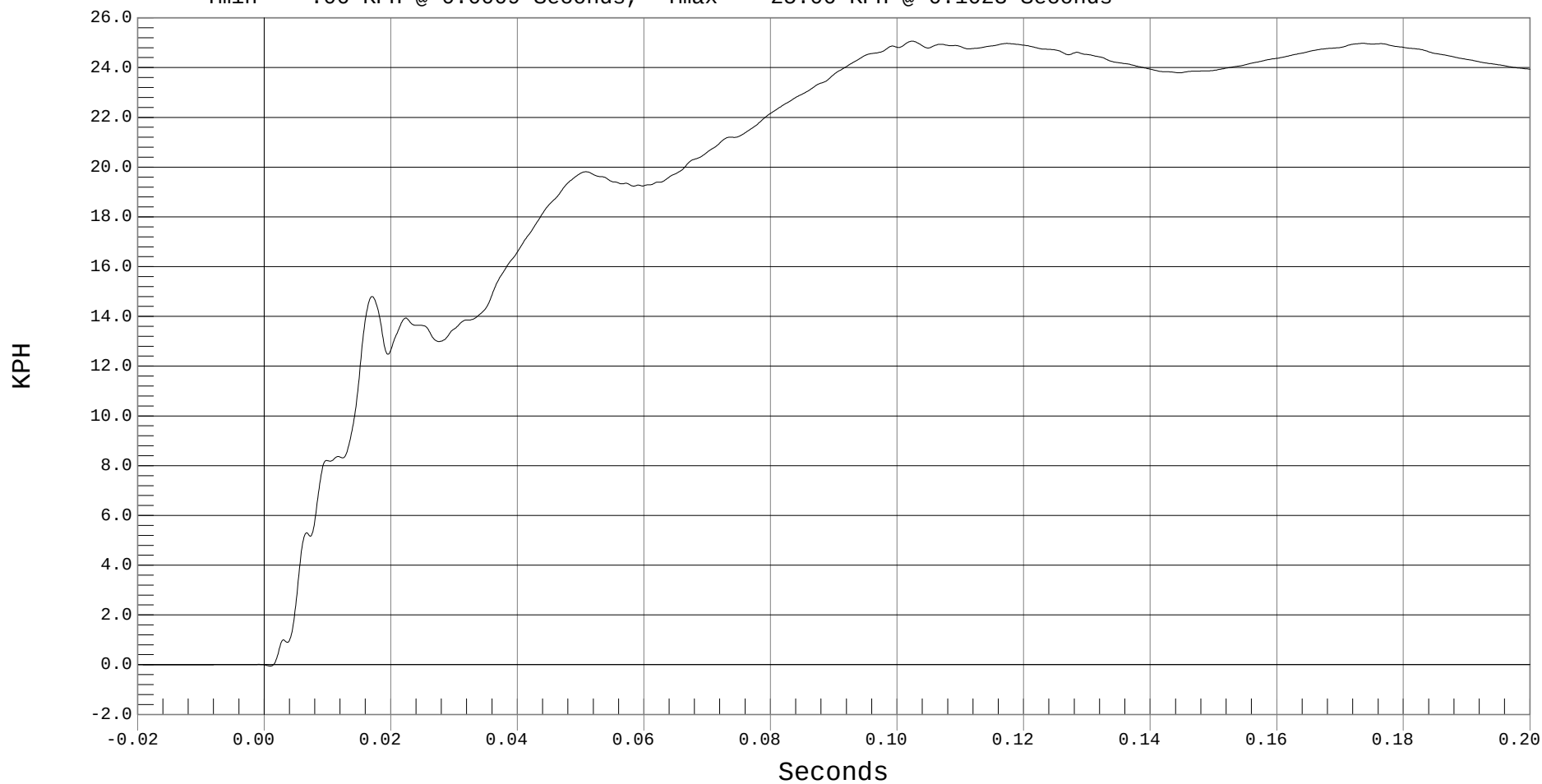
LEFT MID A-POST Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 LEFT MID A-POST Y VELOCITY, b01077AI.V26

Ymin = -.06 KPH @ 0.0009 Seconds, Ymax = 25.06 KPH @ 0.1023 Seconds





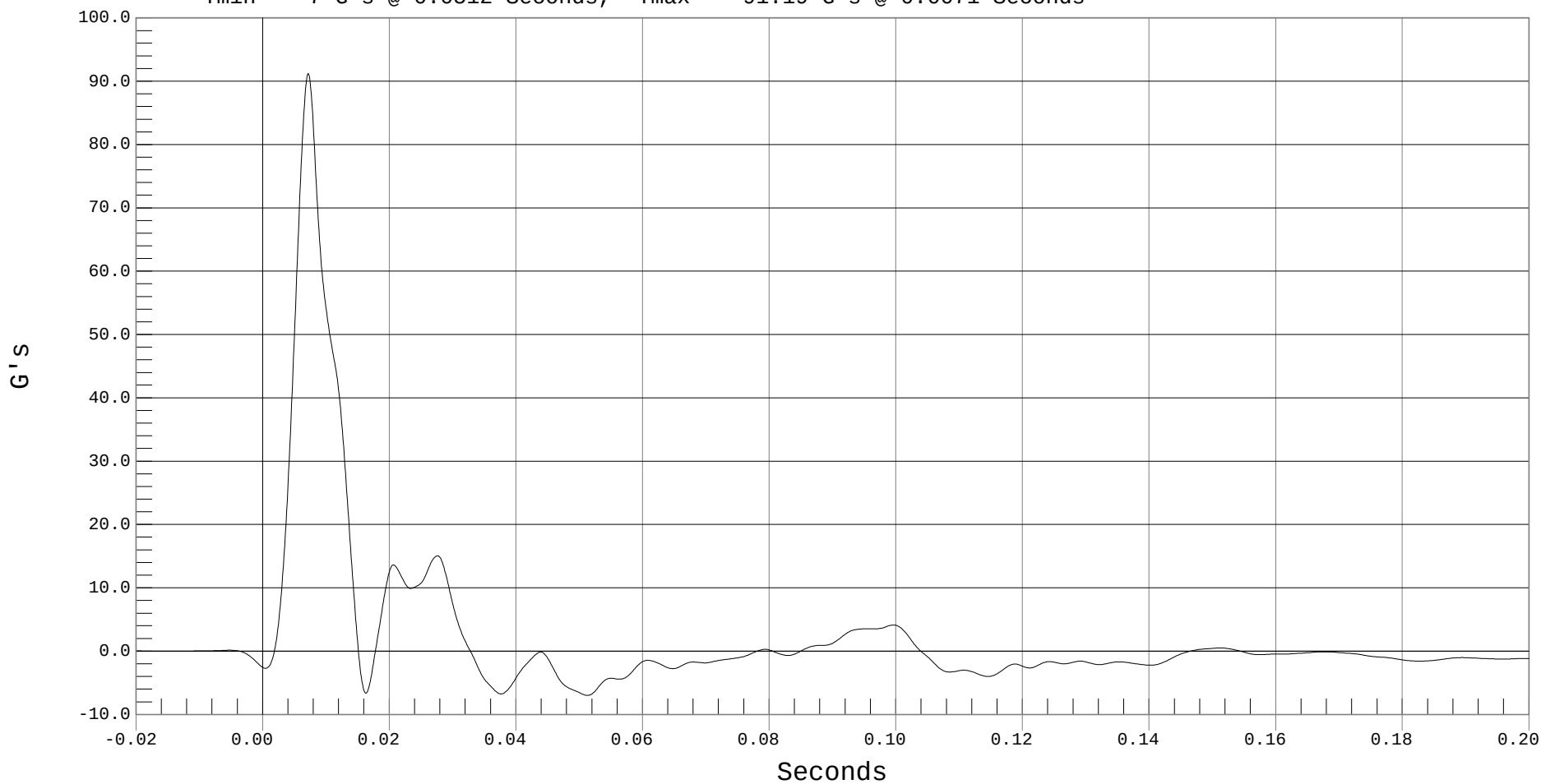
LEFT LOWER B-POST Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 LEFT LOWER B-POST, b01077AF.A29

Ymin = -7 G's @ 0.0512 Seconds, Ymax = 91.19 G's @ 0.0071 Seconds





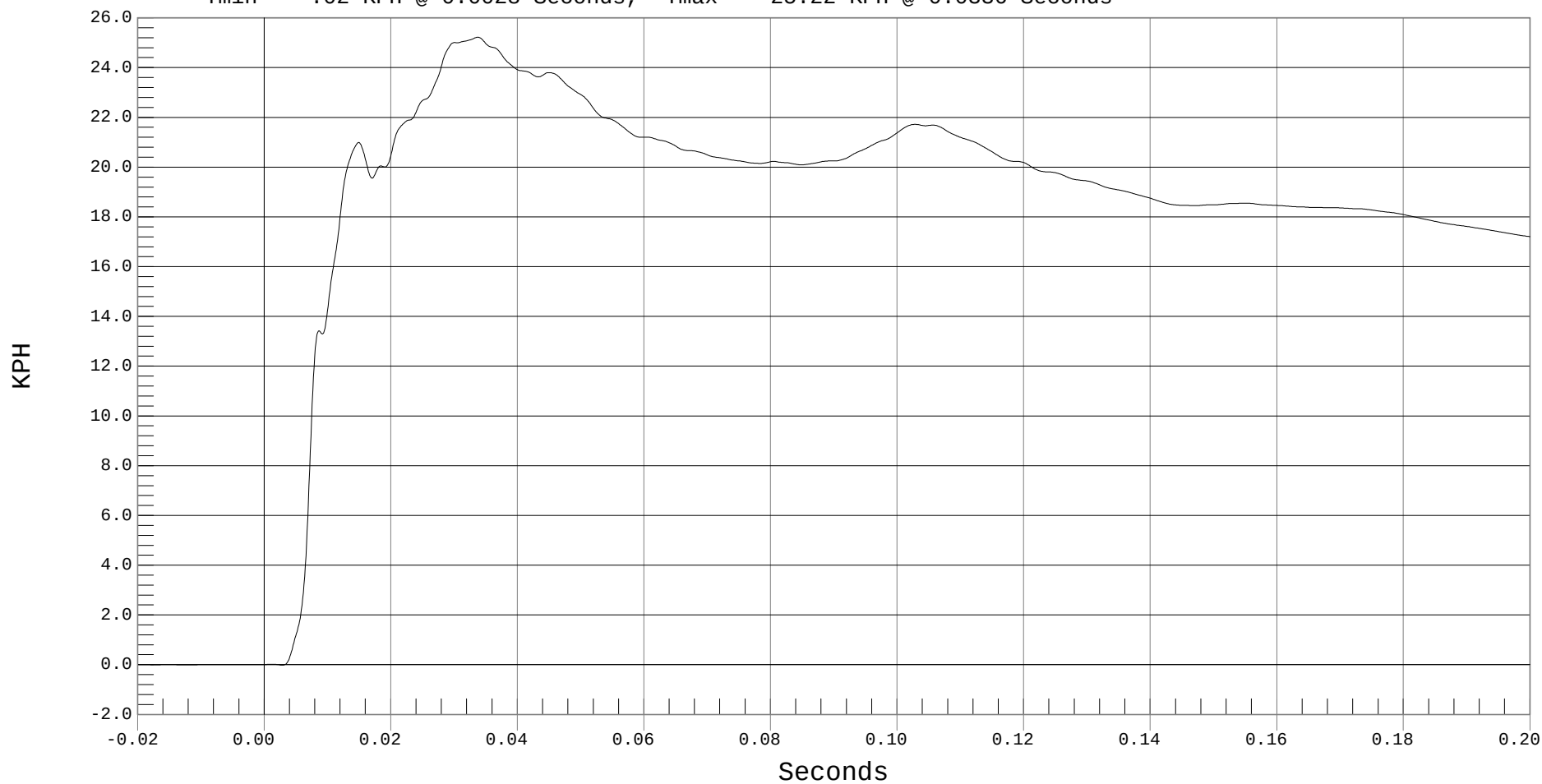
LEFT LOWER B-POST Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 LEFT LOWER B-POST Y VELOCITY, b01077AI.V29

Ymin = -.02 KPH @ 0.0028 Seconds, Ymax = 25.22 KPH @ 0.0336 Seconds





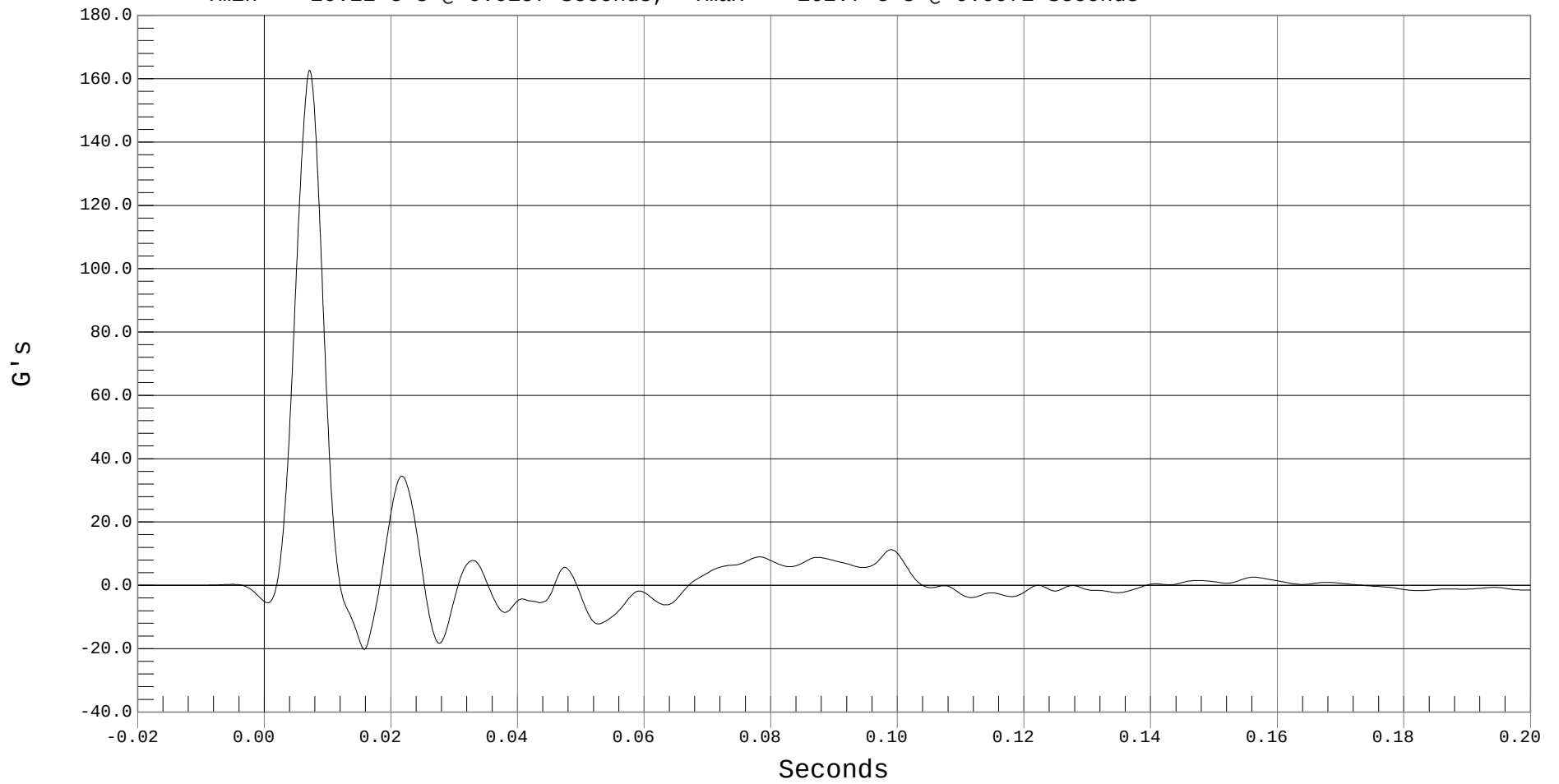
LEFT MID B-POST Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

1 LEFT MID B-POST, b01077AF.A28

Ymin = -20.22 G's @ 0.0157 Seconds, Ymax = 162.7 G's @ 0.0071 Seconds





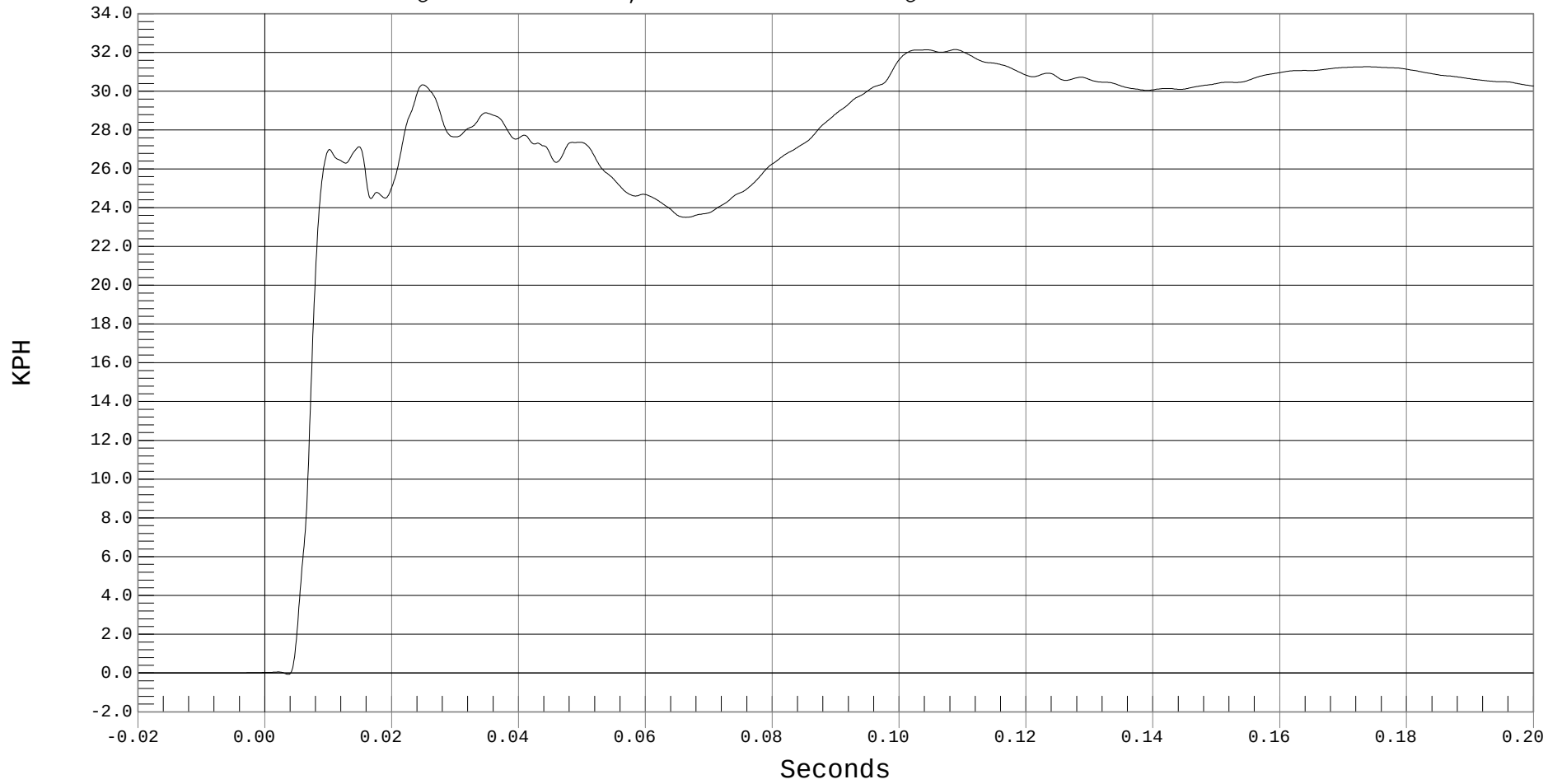
LEFT MID B-POST Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 LEFT MID B-POST Y VELOCITY, b01077AI.V28

Ymin = -.07 KPH @ 0.0036 Seconds, Ymax = 32.15 KPH @ 0.1087 Seconds





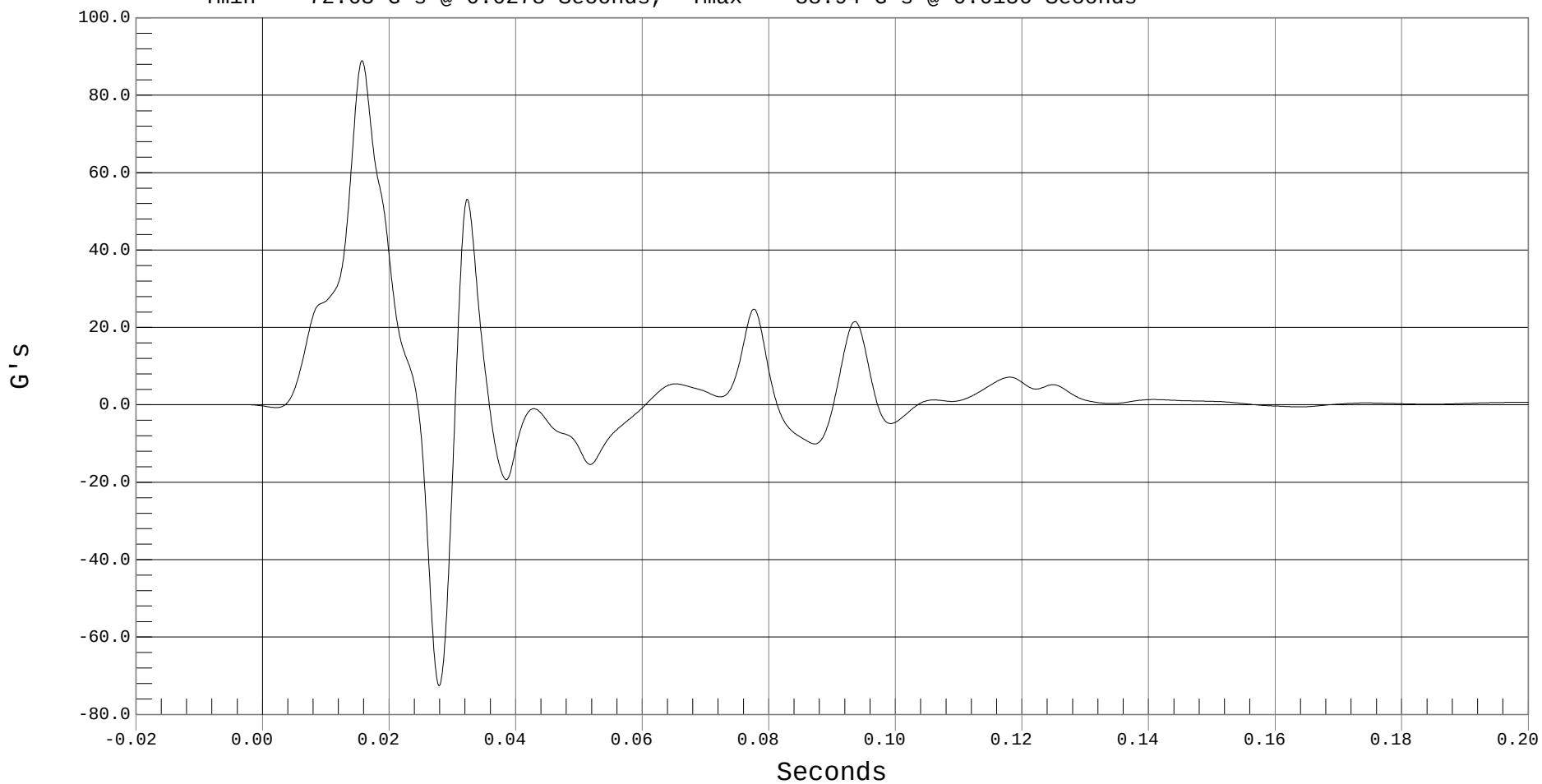
LEFT DRIVER SEAT TRACK Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 DRIVER SEAT TRACK Y, b01077AF.A30

Ymin = -72.63 G's @ 0.0278 Seconds, Ymax = 88.94 G's @ 0.0156 Seconds





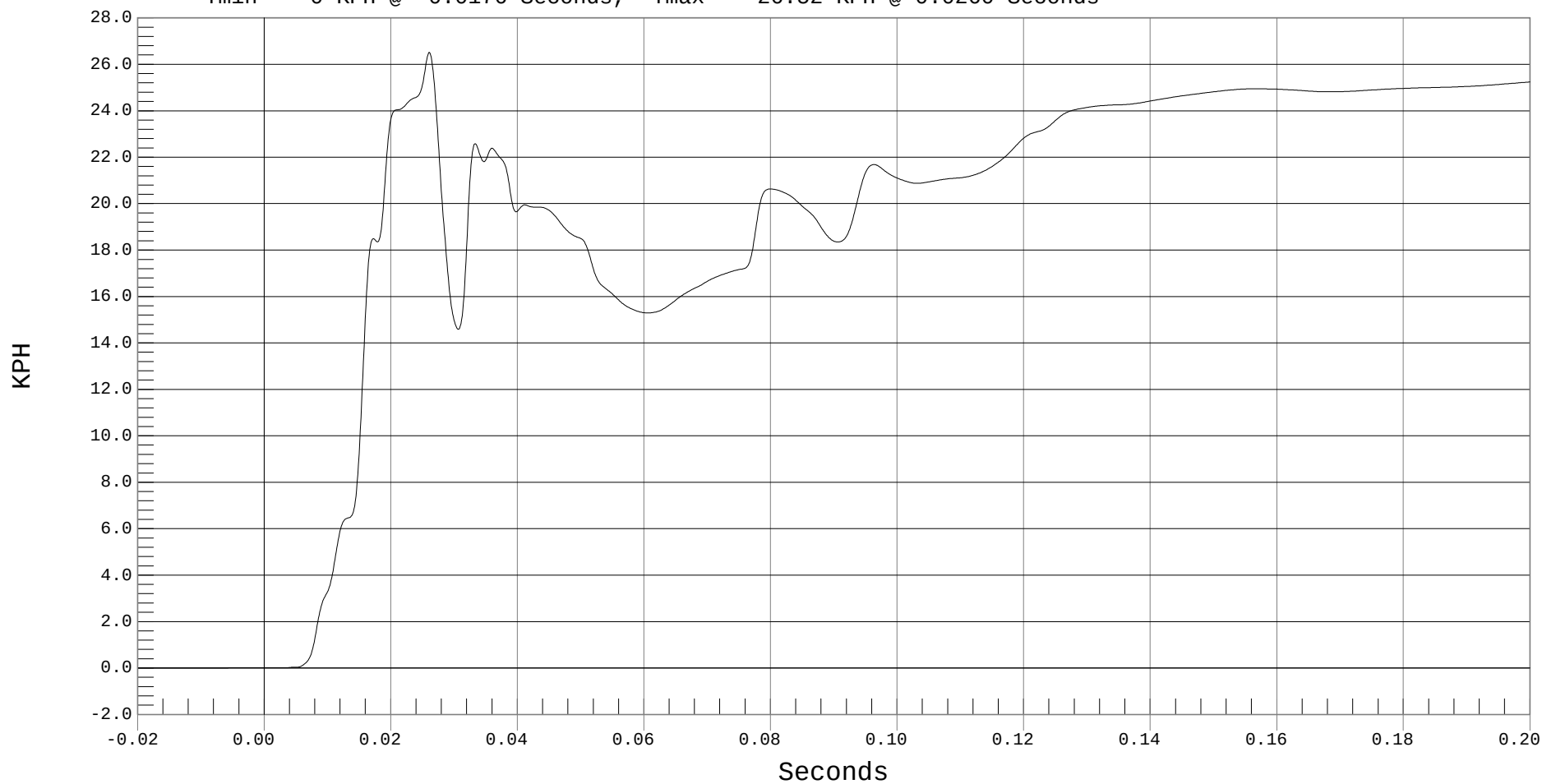
LEFT DRIVER SEAT TRACK Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER SEAT TRACK Y VELOCITY, b01077AI.V30

Ymin = 0 KPH @ -0.0176 Seconds, Ymax = 26.52 KPH @ 0.0260 Seconds





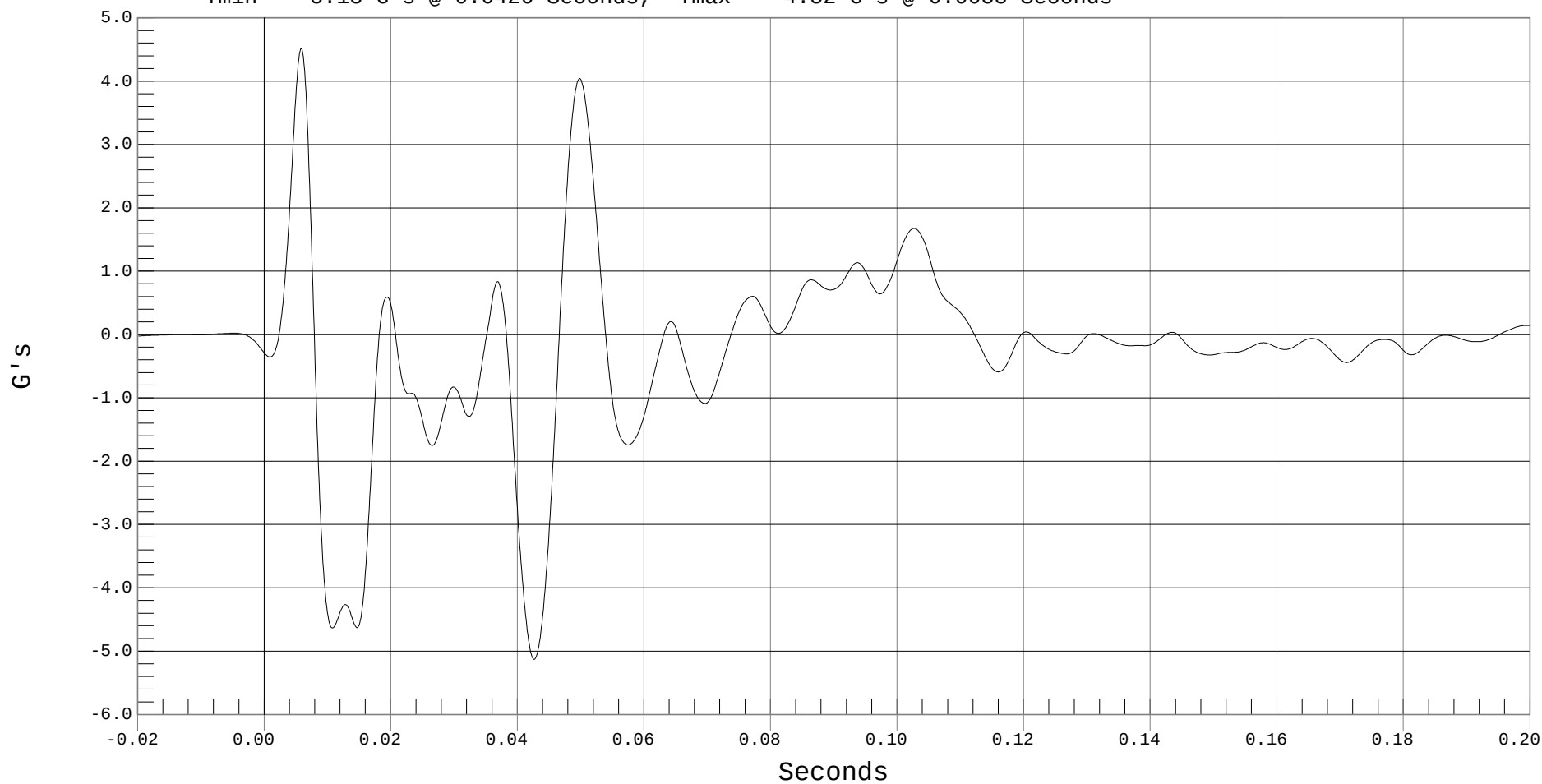
VEHICLE CG X ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 VEHICLE CG X, b01077AF.A33

Ymin = -5.13 G's @ 0.0426 Seconds, Ymax = 4.52 G's @ 0.0058 Seconds





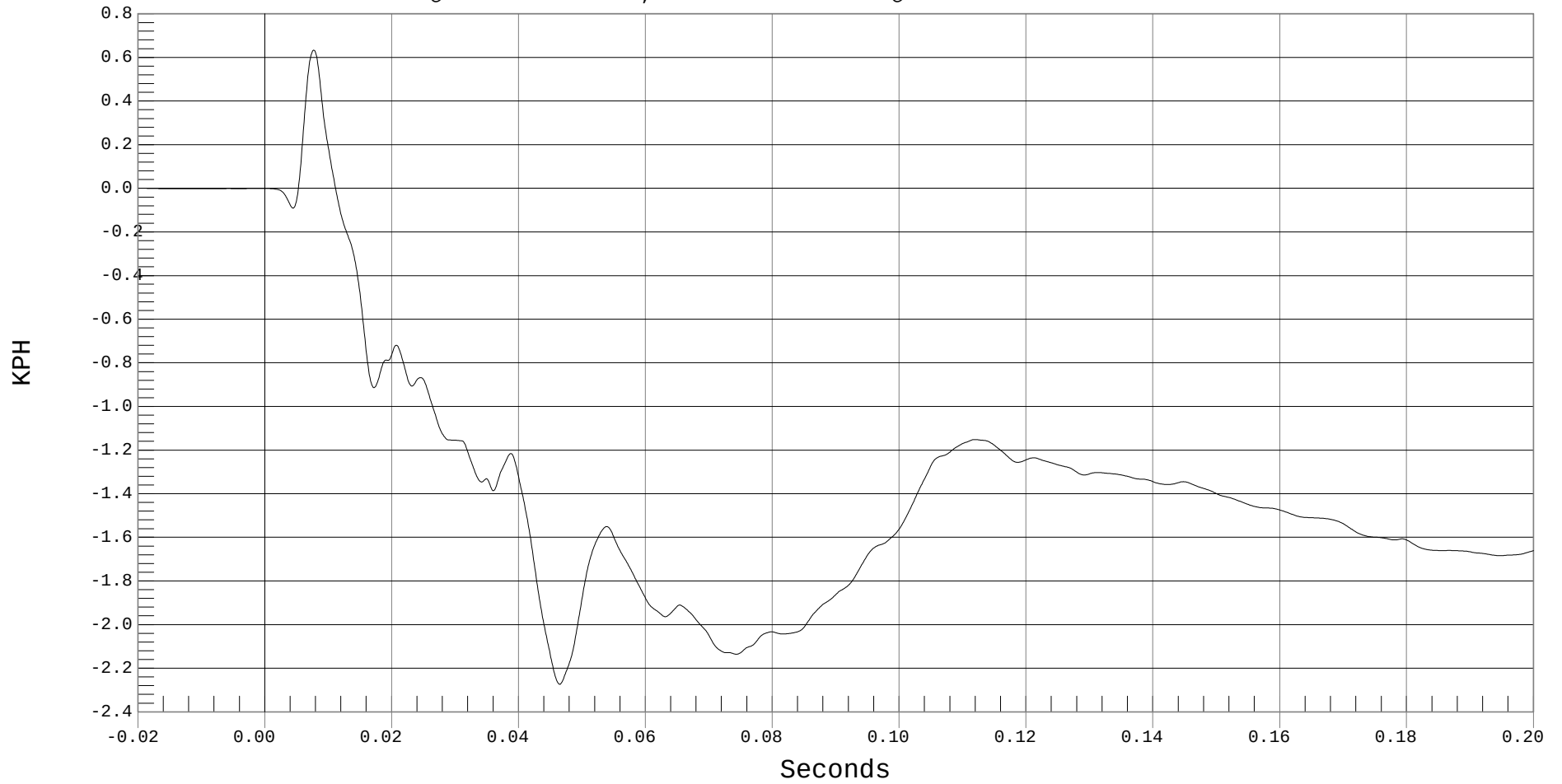
VEHICLE CG X VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 VEHICLE CG X VELOCITY, b01077AI.V33

Ymin = -2.27 KPH @ 0.0464 Seconds, Ymax = .63 KPH @ 0.0076 Seconds





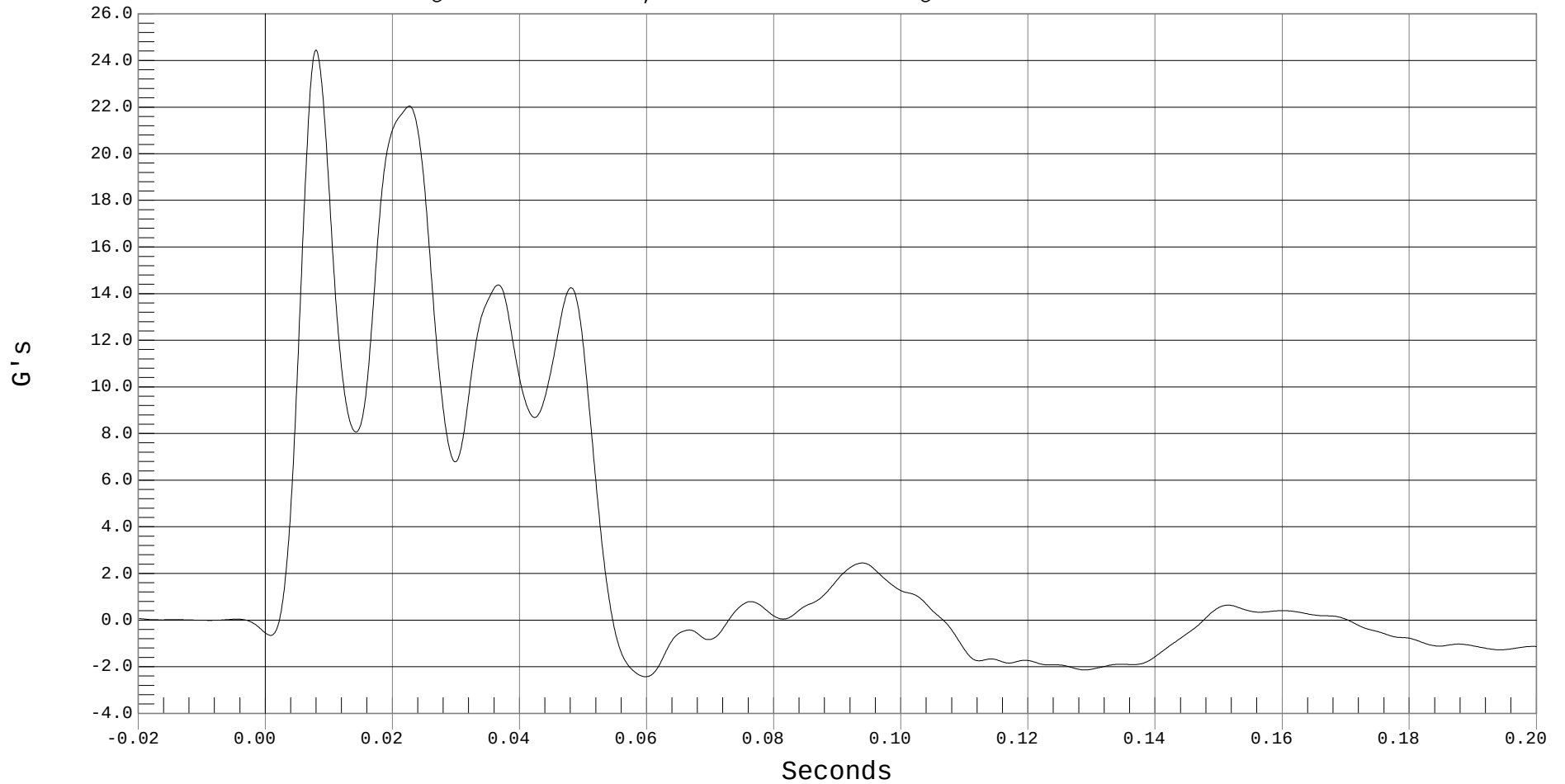
VEHICLE CG Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 VEHICLE CG Y, b01077AF.A34

Ymin = -2.43 G's @ 0.0597 Seconds, Ymax = 24.45 G's @ 0.0079 Seconds





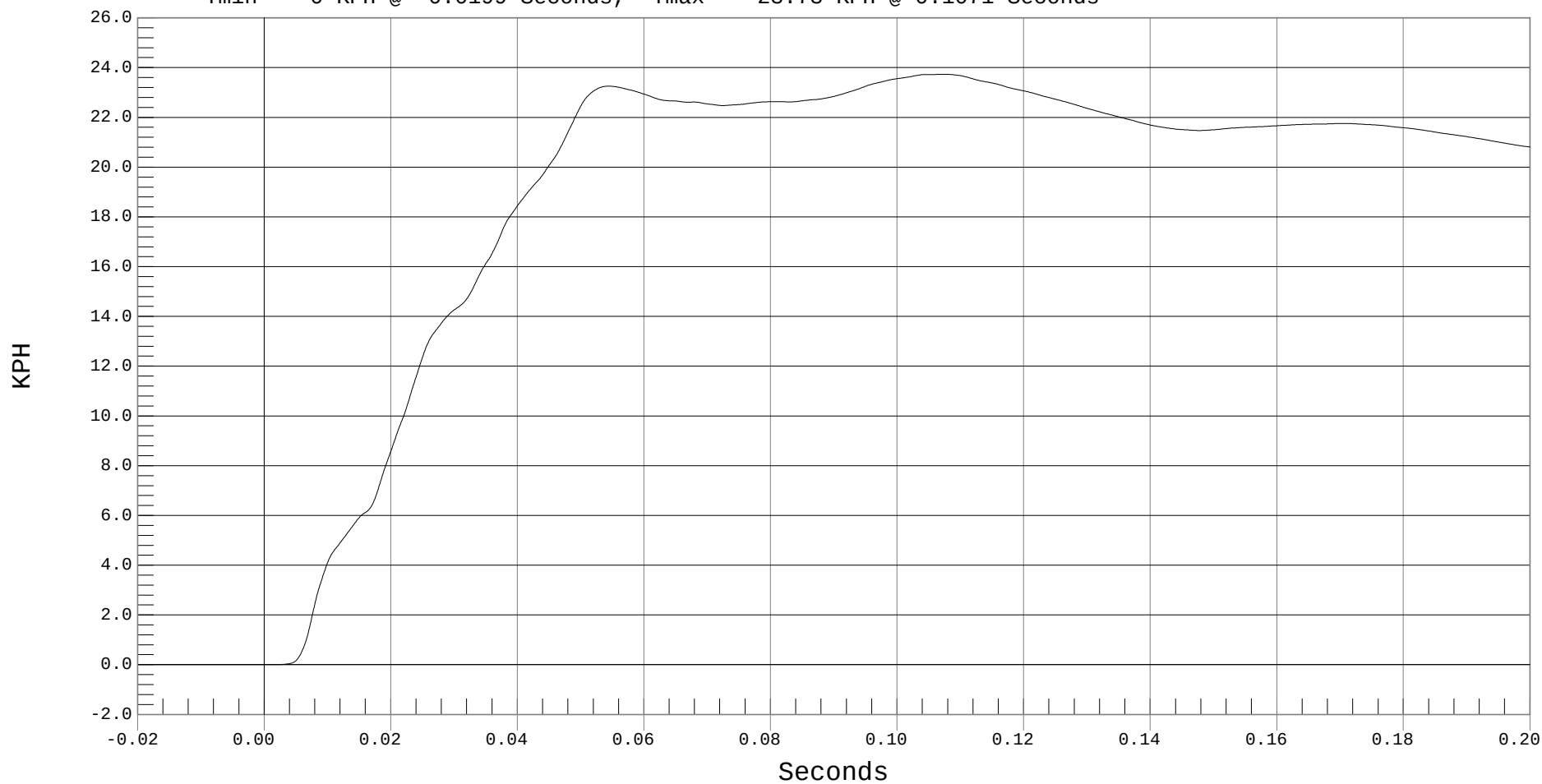
VEHICLE CG Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 VEHICLE CG Y VELOCITY, b01077AI.V34

Ymin = 0 KPH @ -0.0199 Seconds, Ymax = 23.73 KPH @ 0.1071 Seconds





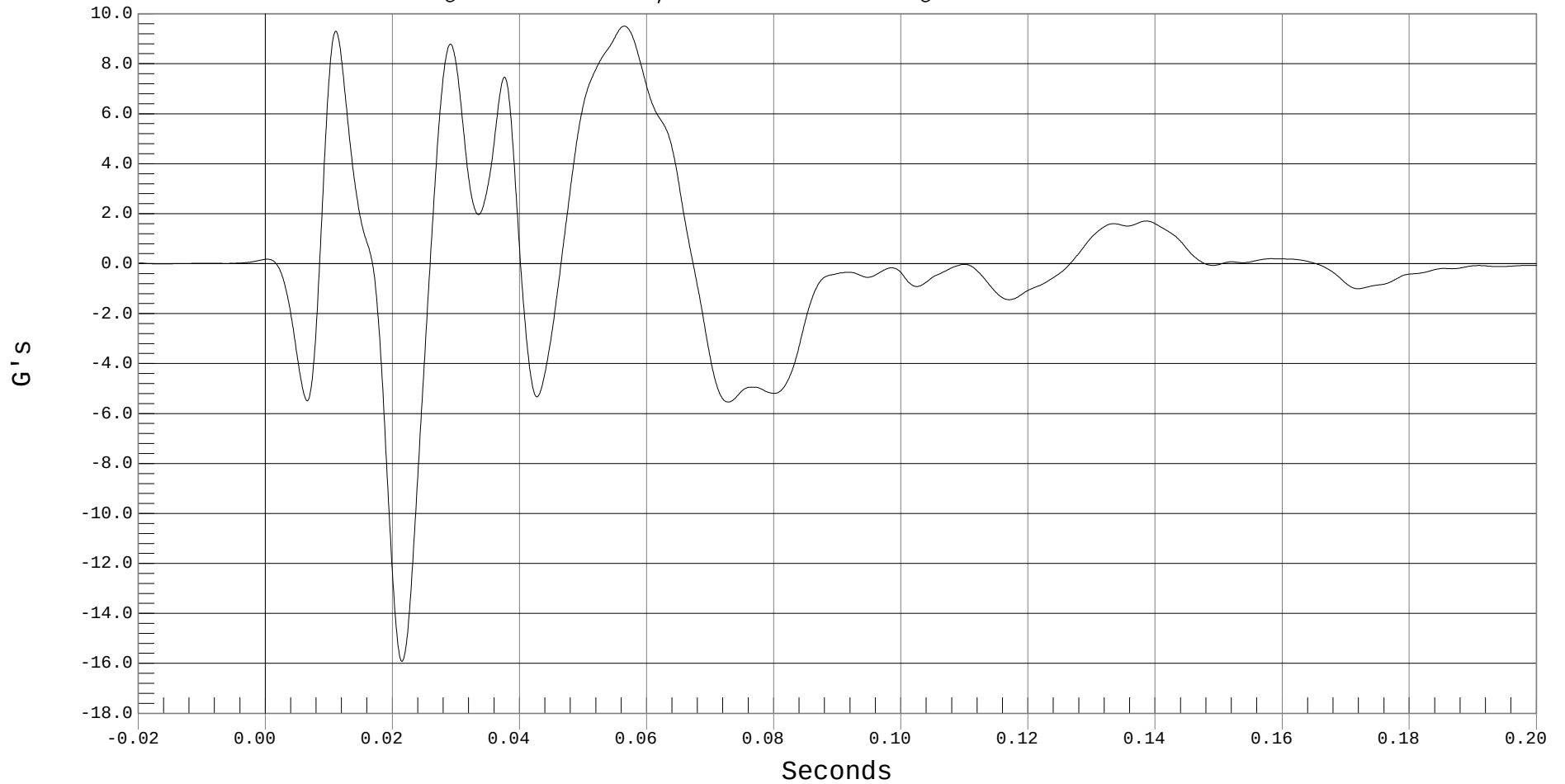
VEHICLE CG Z ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

1 VEHICLE CG Z, b01077AF.A35

Ymin = -15.92 G's @ 0.0214 Seconds, Ymax = 9.51 G's @ 0.0564 Seconds





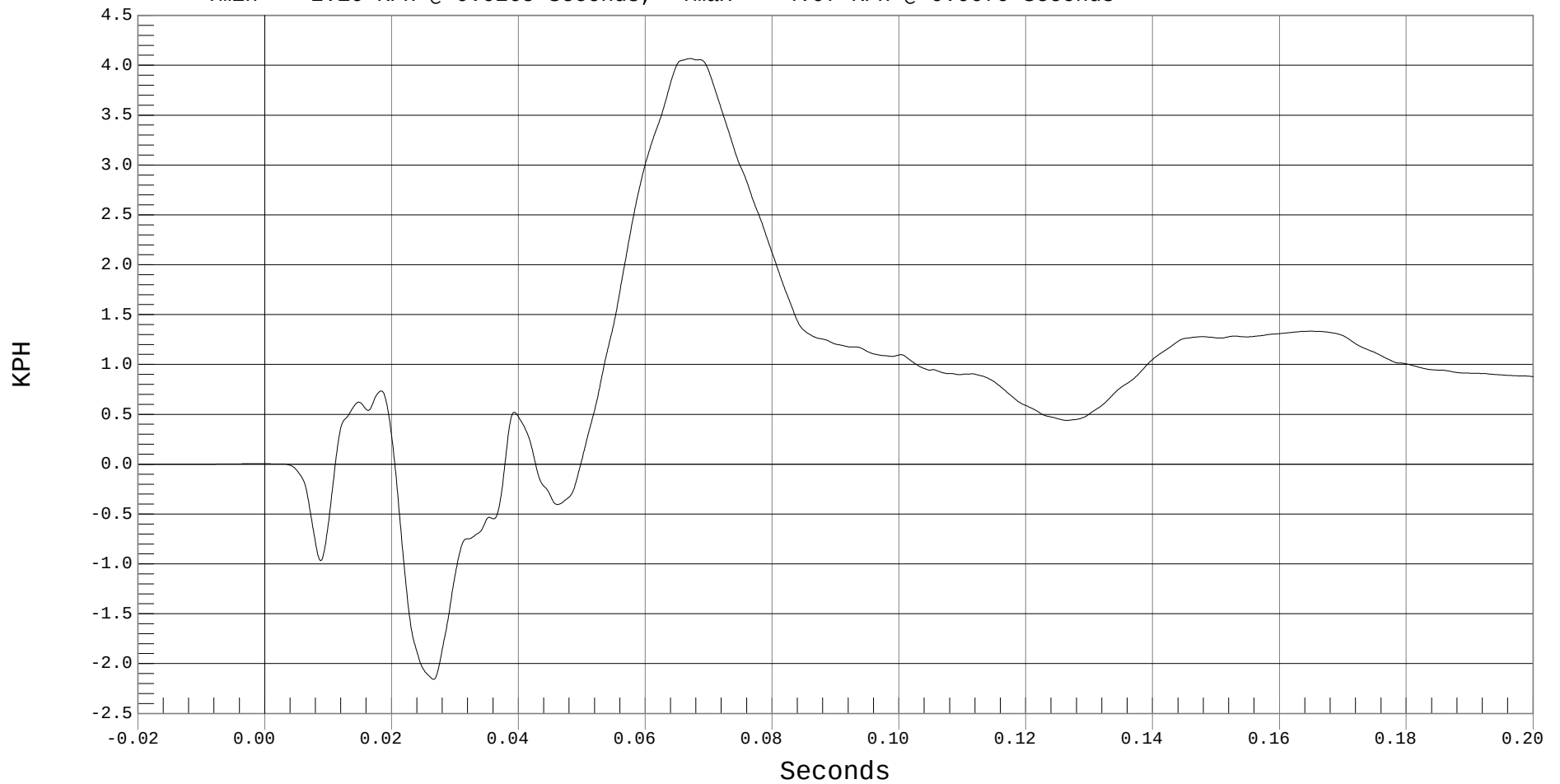
VEHICLE CG Z VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 VEHICLE CG Z VELOCITY, b01077AI.V35

Ymin = -2.16 KPH @ 0.0265 Seconds, Ymax = 4.07 KPH @ 0.0670 Seconds





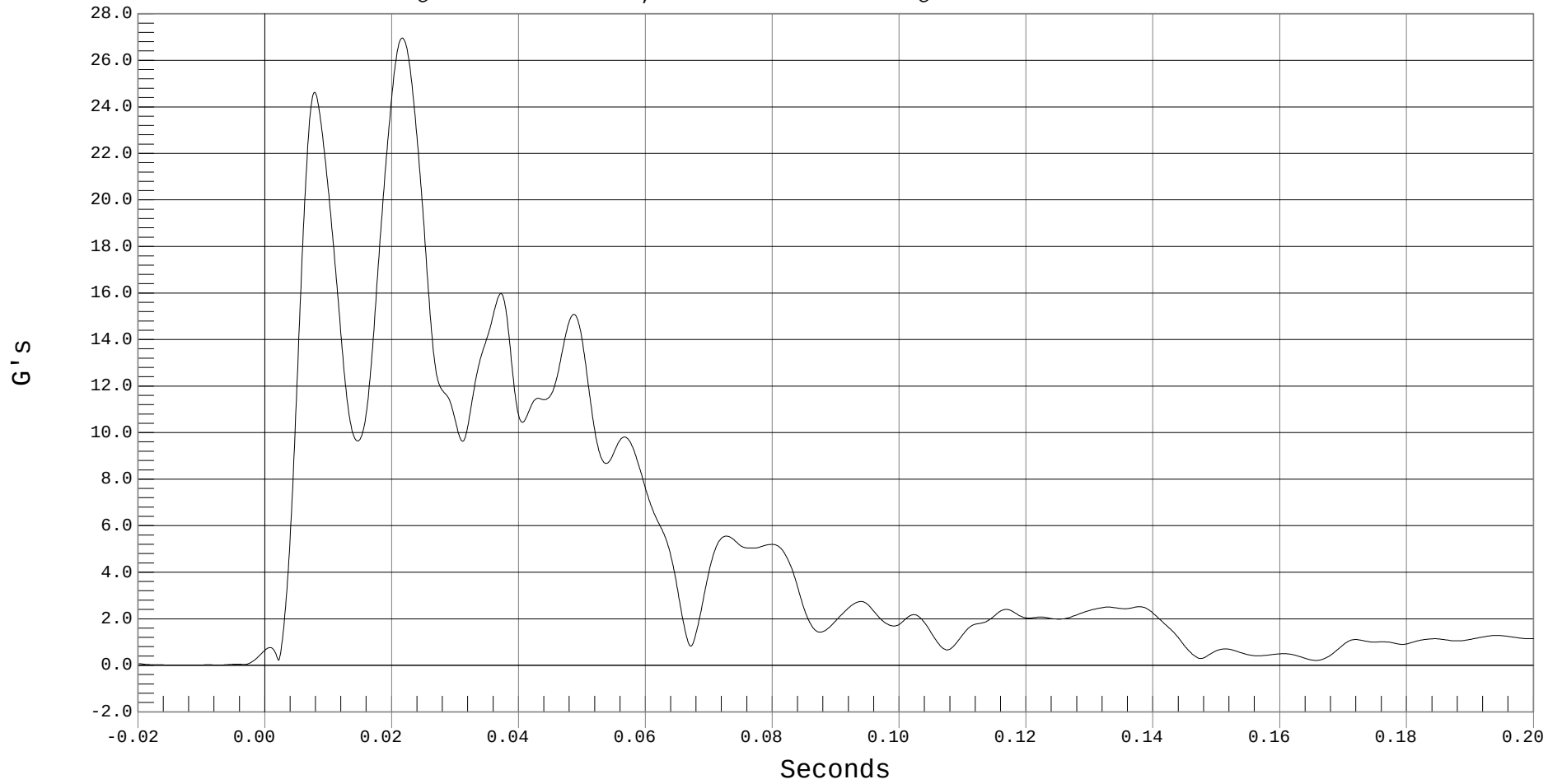
VEHICLE CG RESULTANT ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 VEHICLE CG RESULTANT ACCELERATION, b01077AV.A33

Ymin = .01 G's @ -0.0118 Seconds, Ymax = 26.96 G's @ 0.0216 Seconds





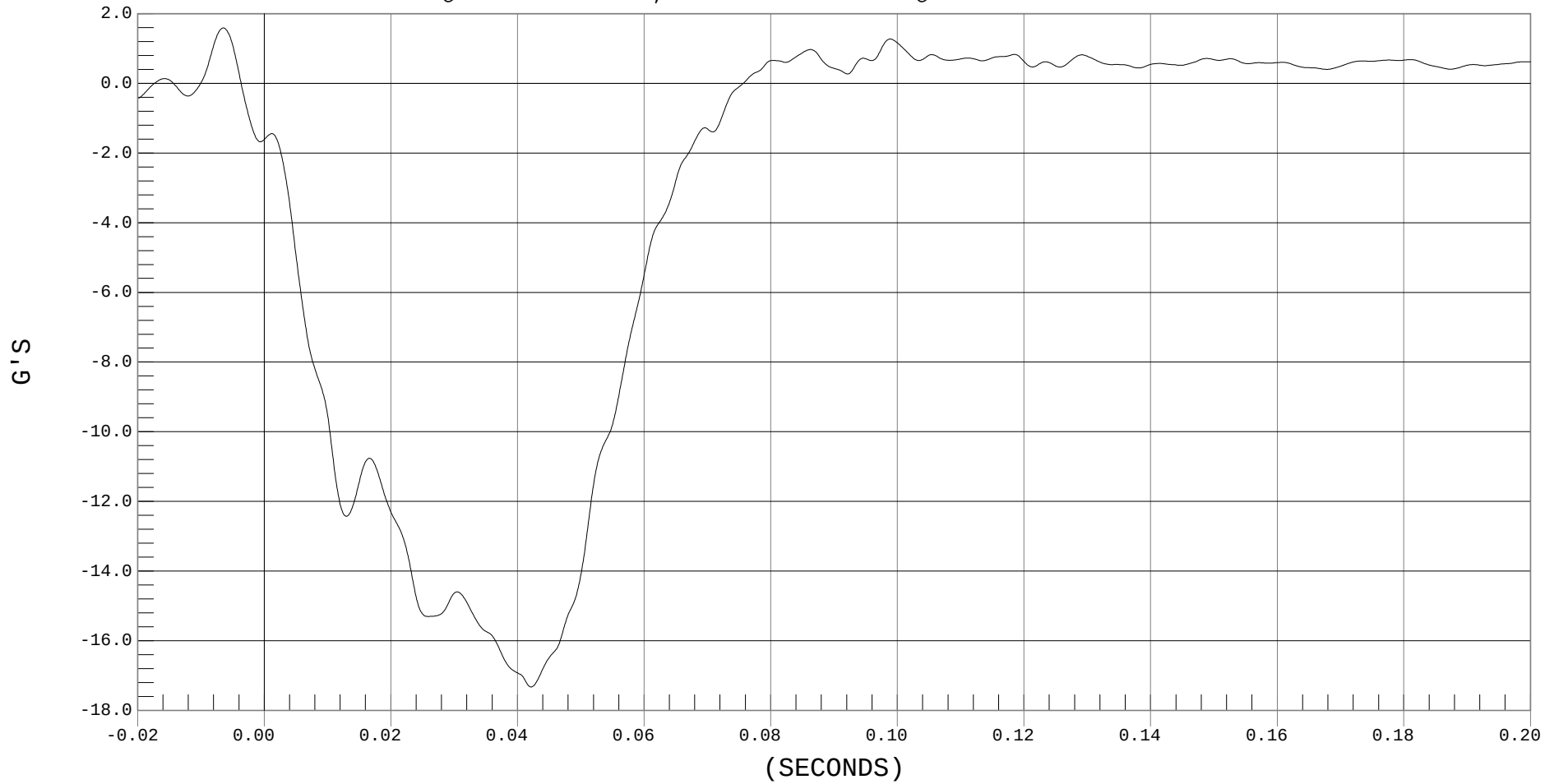
MOVING BARRIER CG X ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 CART CG X, b01077AF.A07

Ymin = -17.33 G'S @ 0.0421 SECONDS, Ymax = 1.59 G'S @ -0.0066 SECONDS





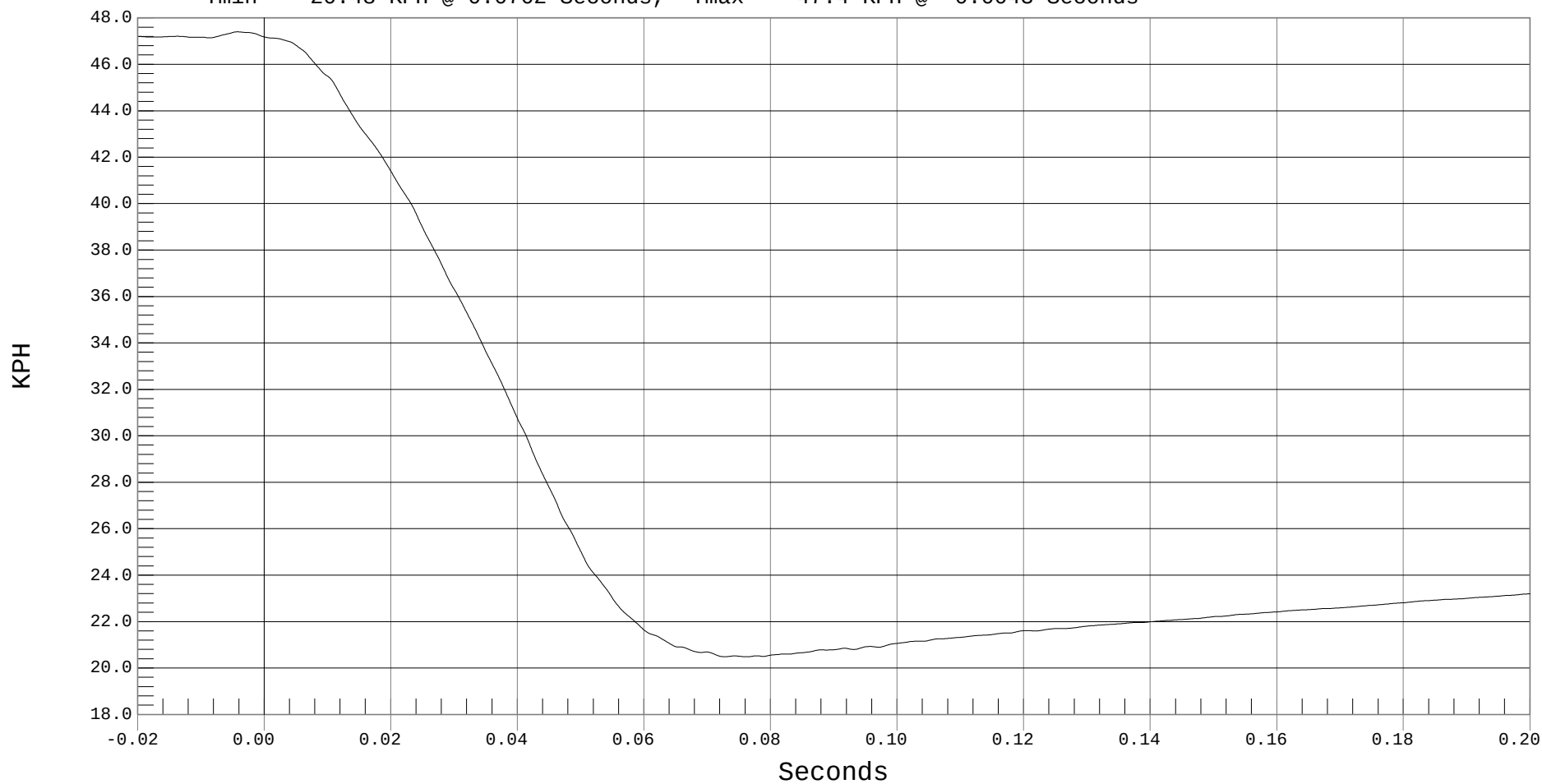
MOVING BARRIER CG X VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 MOVING BARRIER CG X VELOCITY, b01077AI.V07

Ymin = 20.48 KPH @ 0.0762 Seconds, Ymax = 47.4 KPH @ -0.0043 Seconds





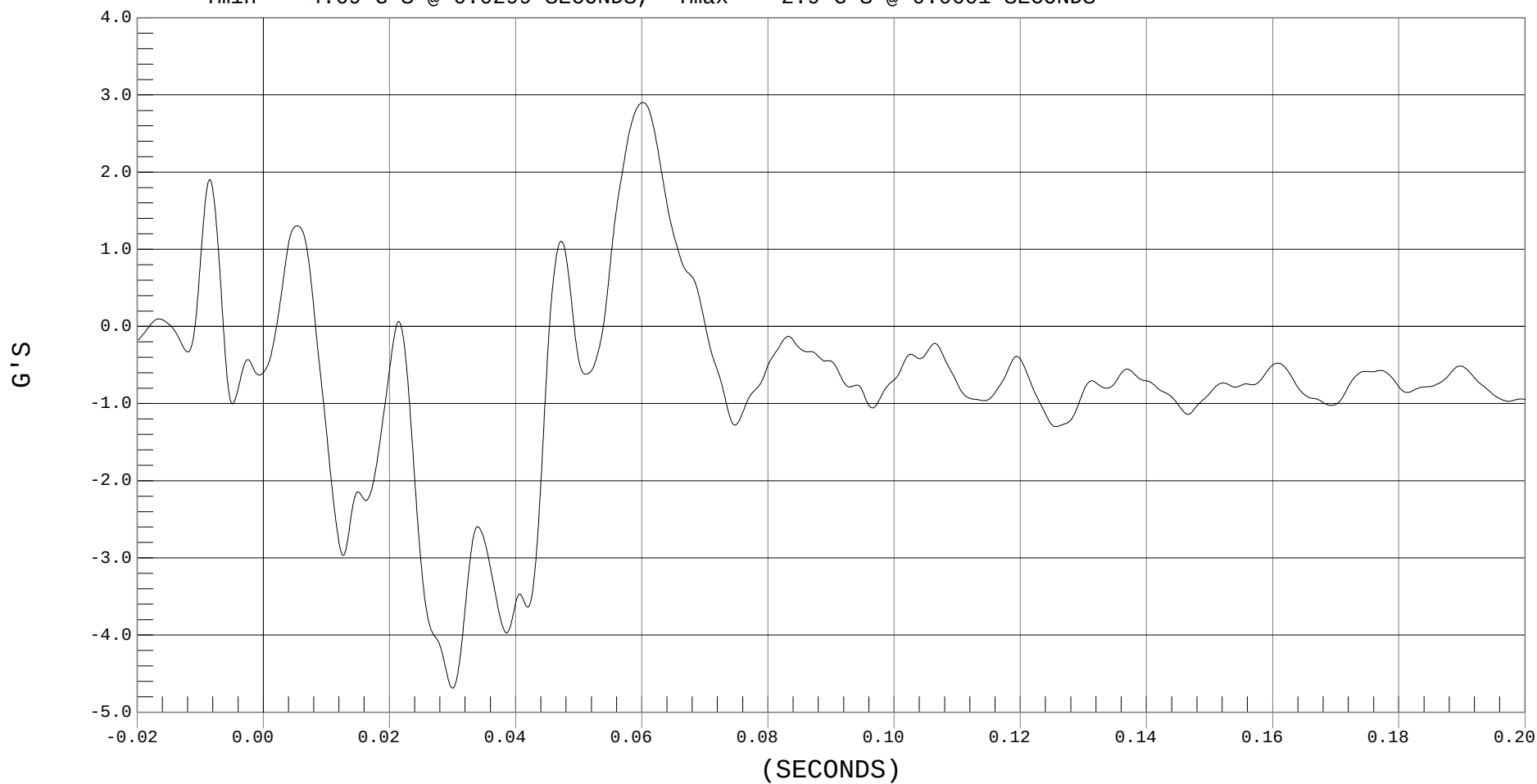
MOVING BARRIER CG Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 CART CG Y, b01077AF.A03

Ymin = -4.69 G'S @ 0.0299 SECONDS, Ymax = 2.9 G'S @ 0.0601 SECONDS





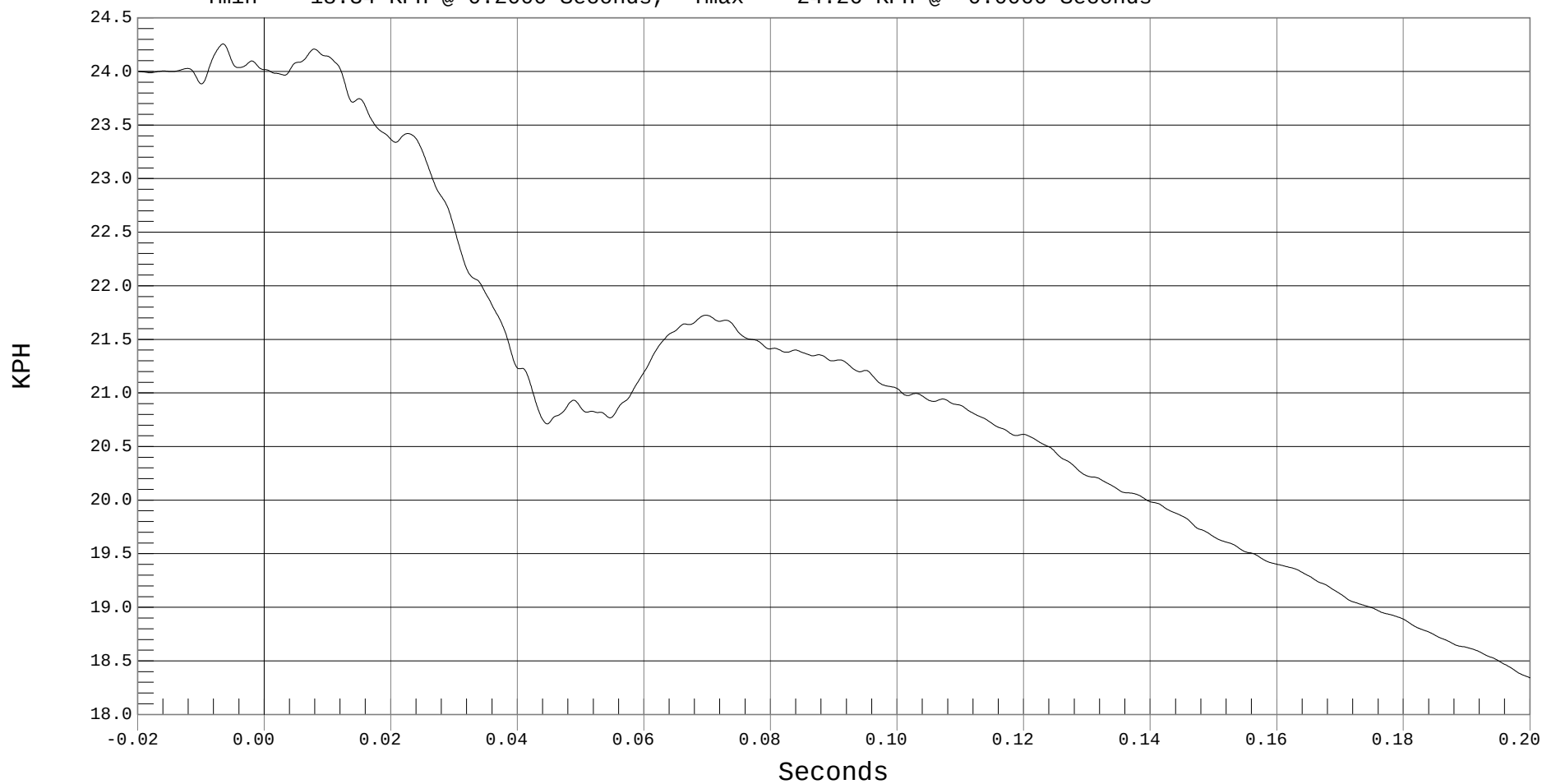
MOVING BARRIER CG Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 MOVING BARRIER CG Y VELOCITY, b01077AI.V03

Ymin = 18.34 KPH @ 0.2000 Seconds, Ymax = 24.26 KPH @ -0.0066 Seconds





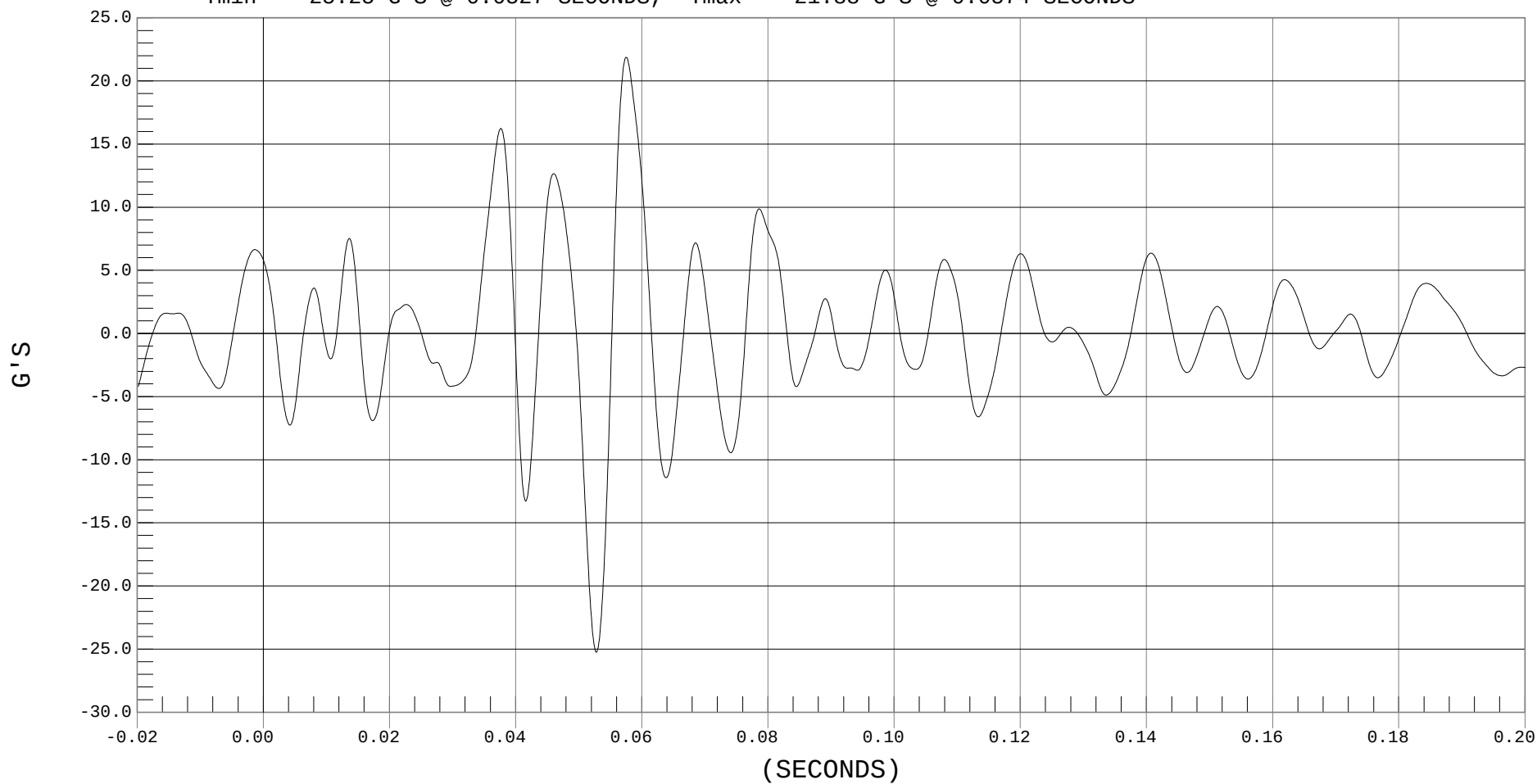
MOVING BARRIER CG Z ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 CART CG Z, b01077AF.A04

Ymin = -25.25 G'S @ 0.0527 SECONDS, Ymax = 21.88 G'S @ 0.0574 SECONDS





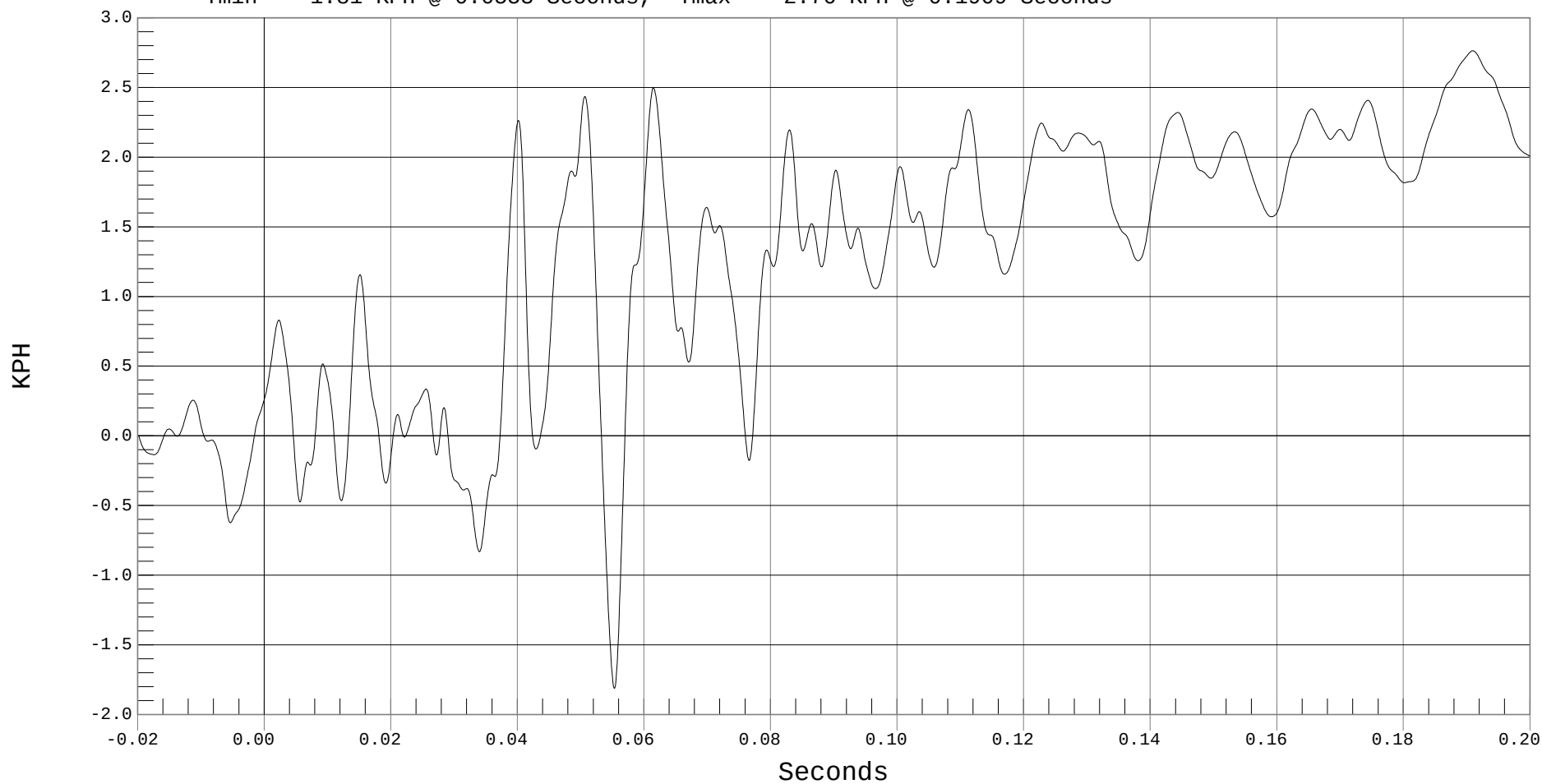
MOVING BARRIER CG Z VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 MOVING BARRIER CG Z VELOCITY, b01077AI.V04

Ymin = -1.81 KPH @ 0.0553 Seconds, Ymax = 2.76 KPH @ 0.1909 Seconds





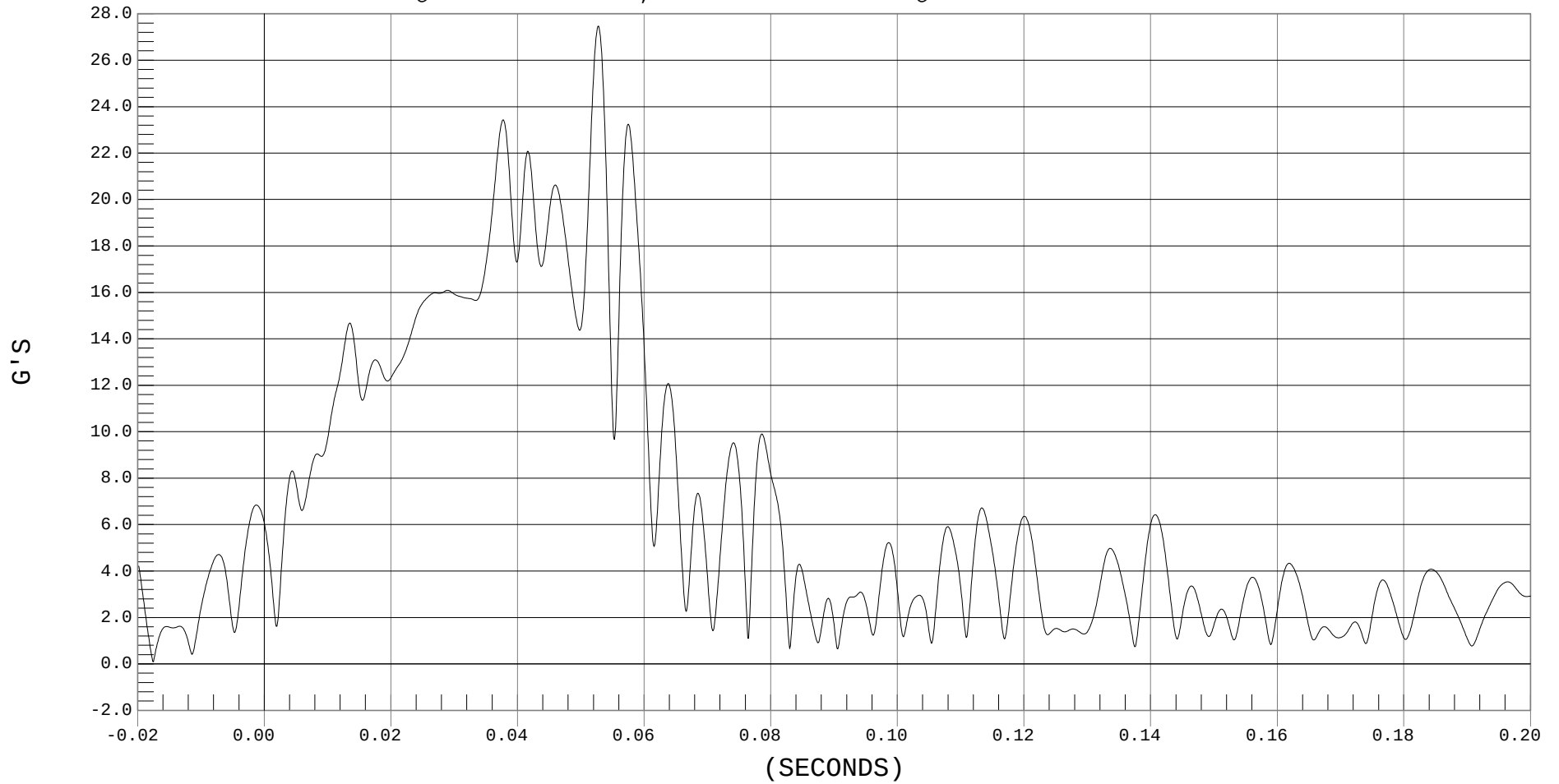
MOVING BARRIER CG RESULTANT ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 MOVING BARRIER CG RESULTANT ACCELERATION, b01077AV.A03

Ymin = .09 G'S @ -0.0176 SECONDS, Ymax = 27.47 G'S @ 0.0527 SECONDS





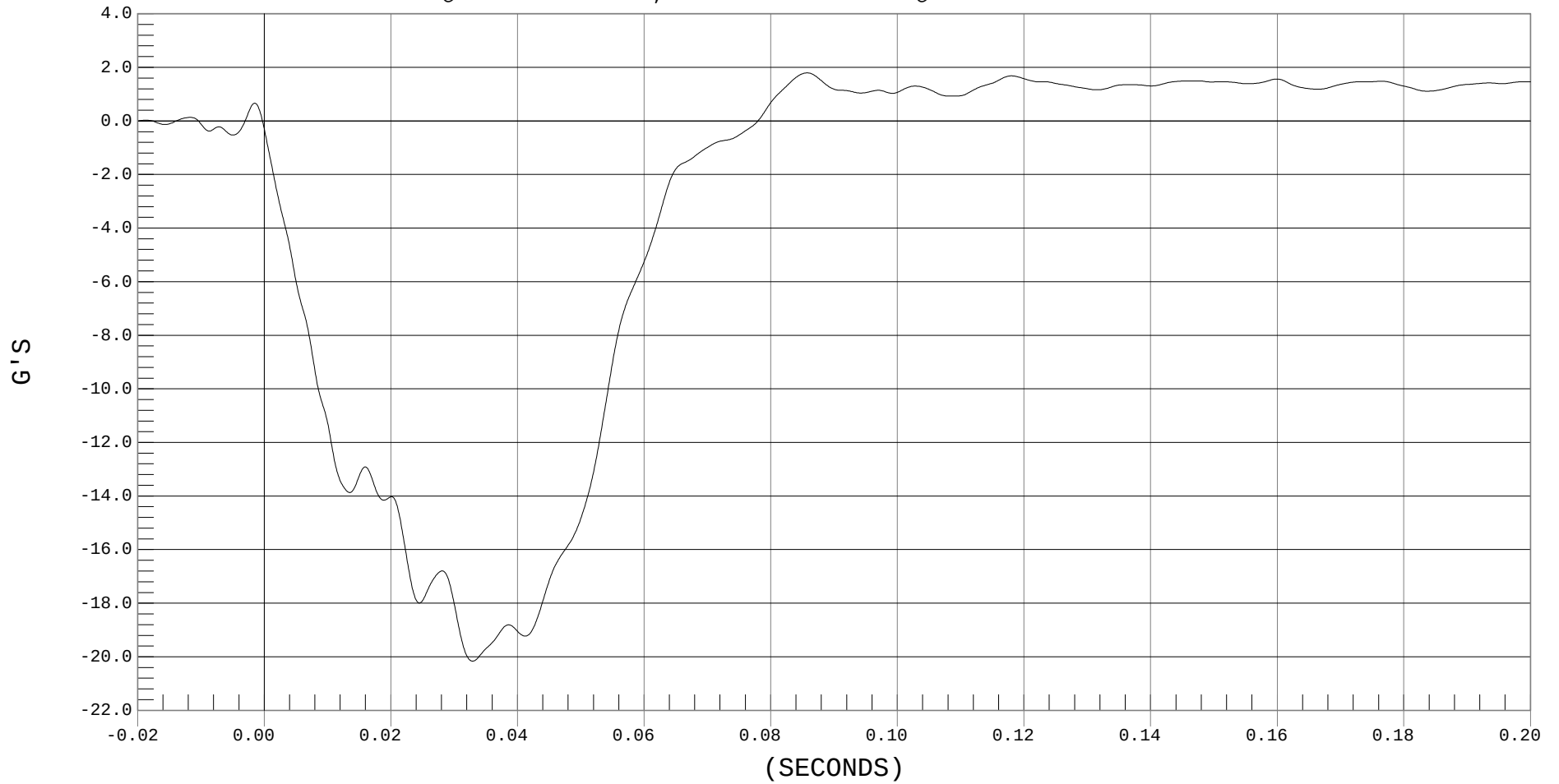
MOVING BARRIER REAR AXLE X ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 CART REAR X, b01077AF.A05

Ymin = -20.17 G'S @ 0.0328 SECONDS, Ymax = 1.79 G'S @ 0.0856 SECONDS





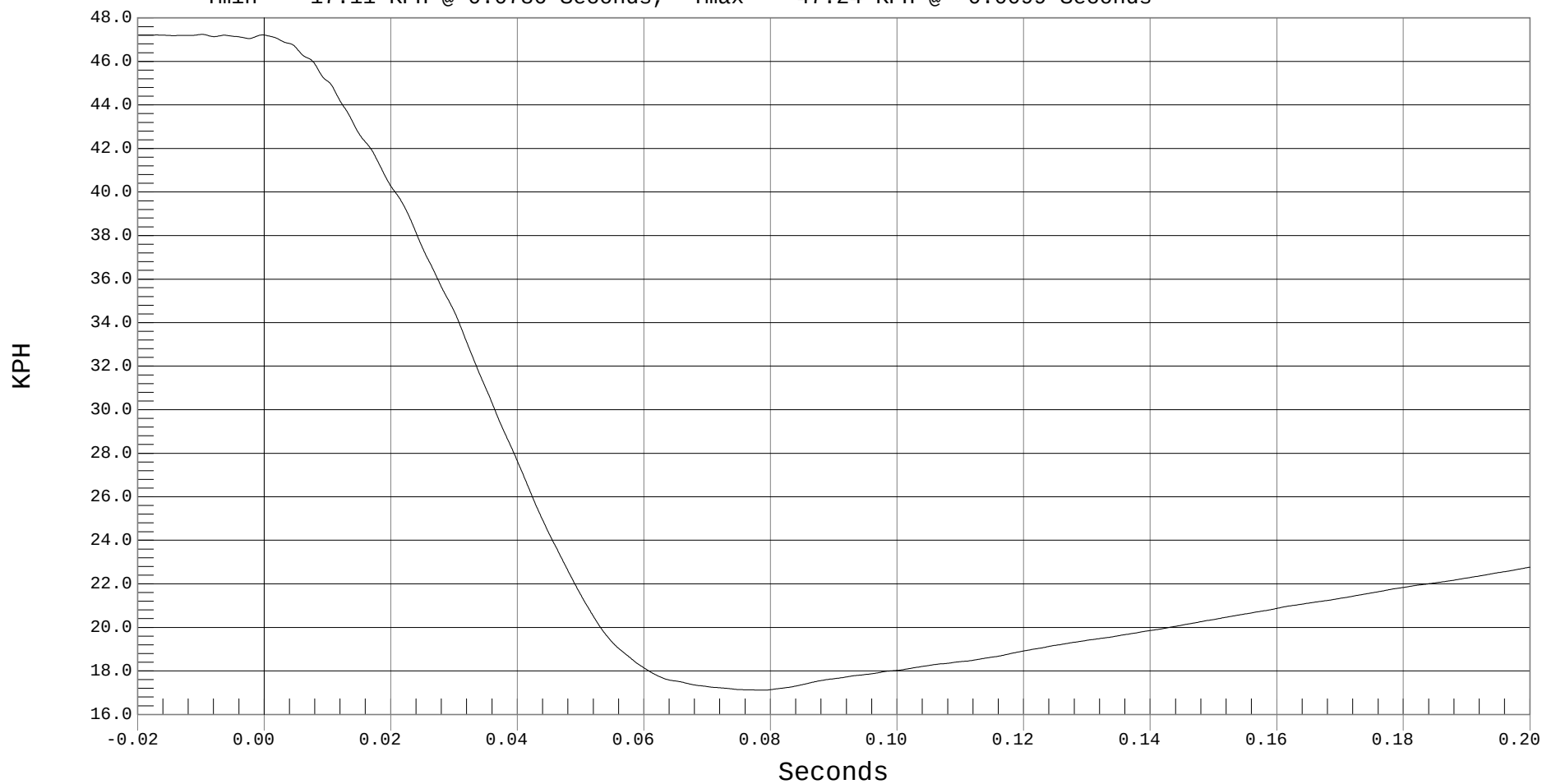
MOVING BARRIER REAR AXLE X VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 MOVING BARRIER REAR AXLE X VELOCITY, b01077AI.V05

Ymin = 17.11 KPH @ 0.0786 Seconds, Ymax = 47.24 KPH @ -0.0099 Seconds





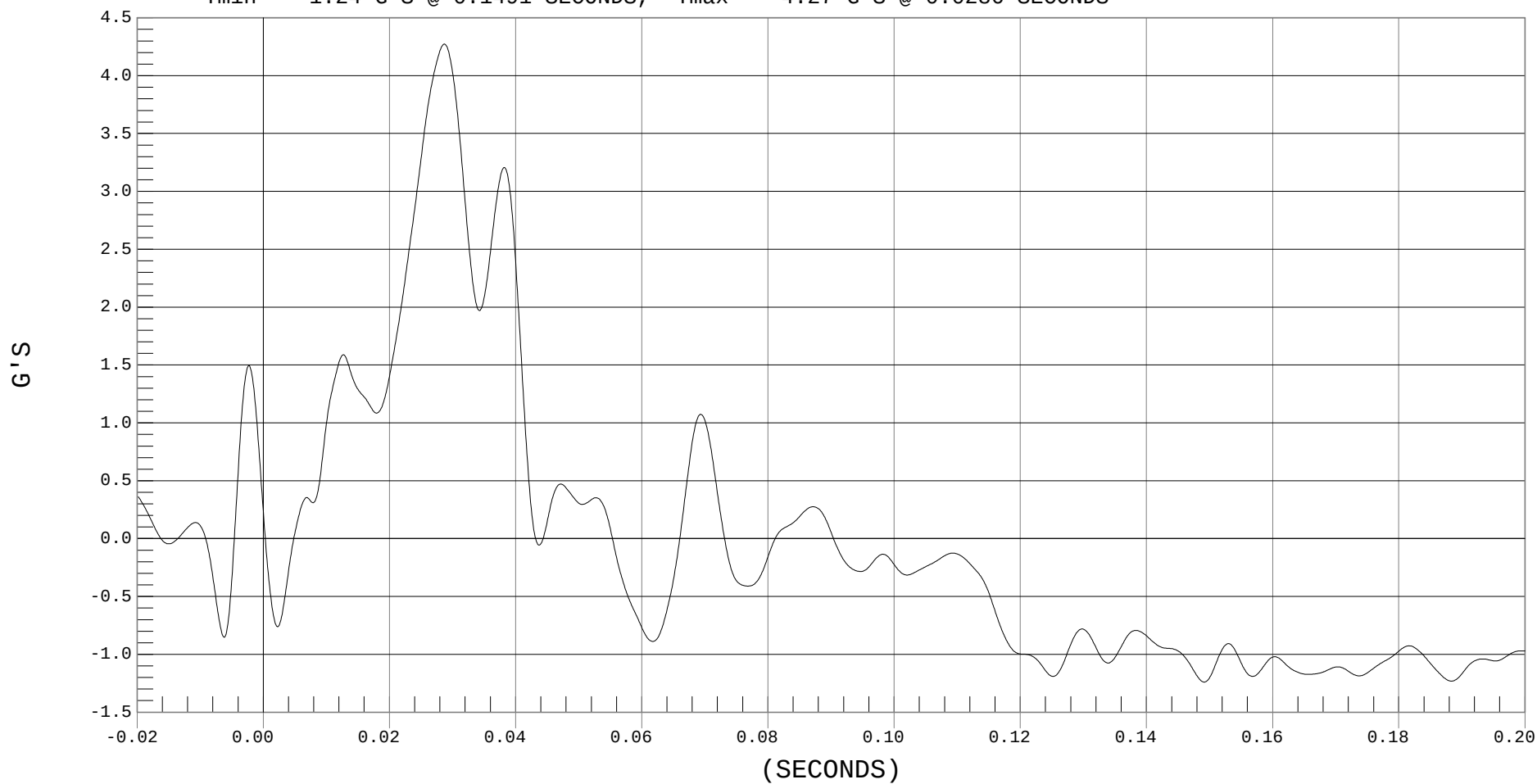
MOVING BARRIER REAR AXLE Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 60

— 1 CART REAR Y, b01077AF.A06

Ymin = -1.24 G'S @ 0.1491 SECONDS, Ymax = 4.27 G'S @ 0.0286 SECONDS





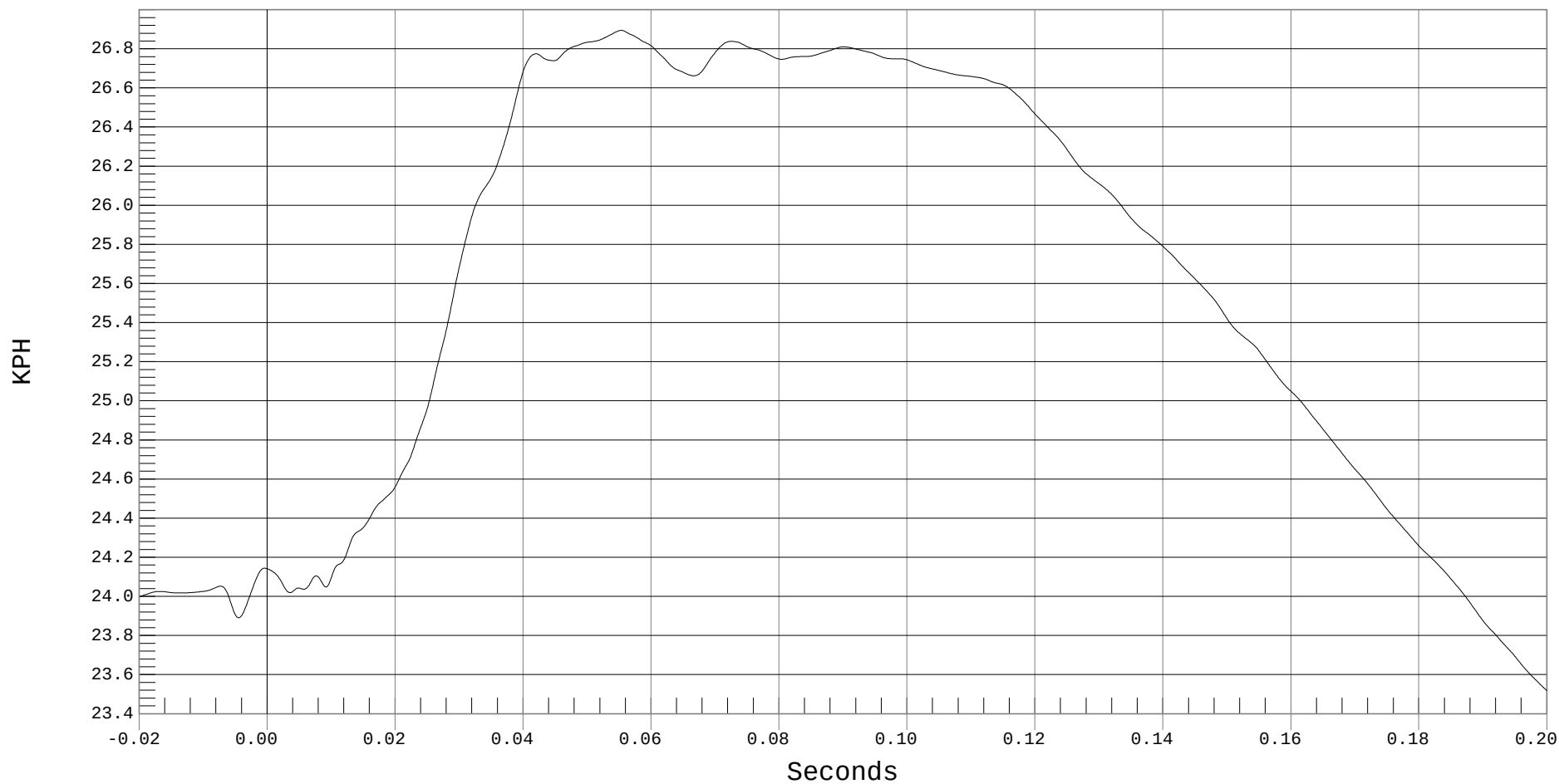
MOVING BARRIER REAR AXLE Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 MOVING BARRIER REAR AXLE Y VELOCITY, b01077AI.V06

Ymin = 23.51 KPH @ 0.2000 Seconds, Ymax = 26.89 KPH @ 0.0552 Seconds





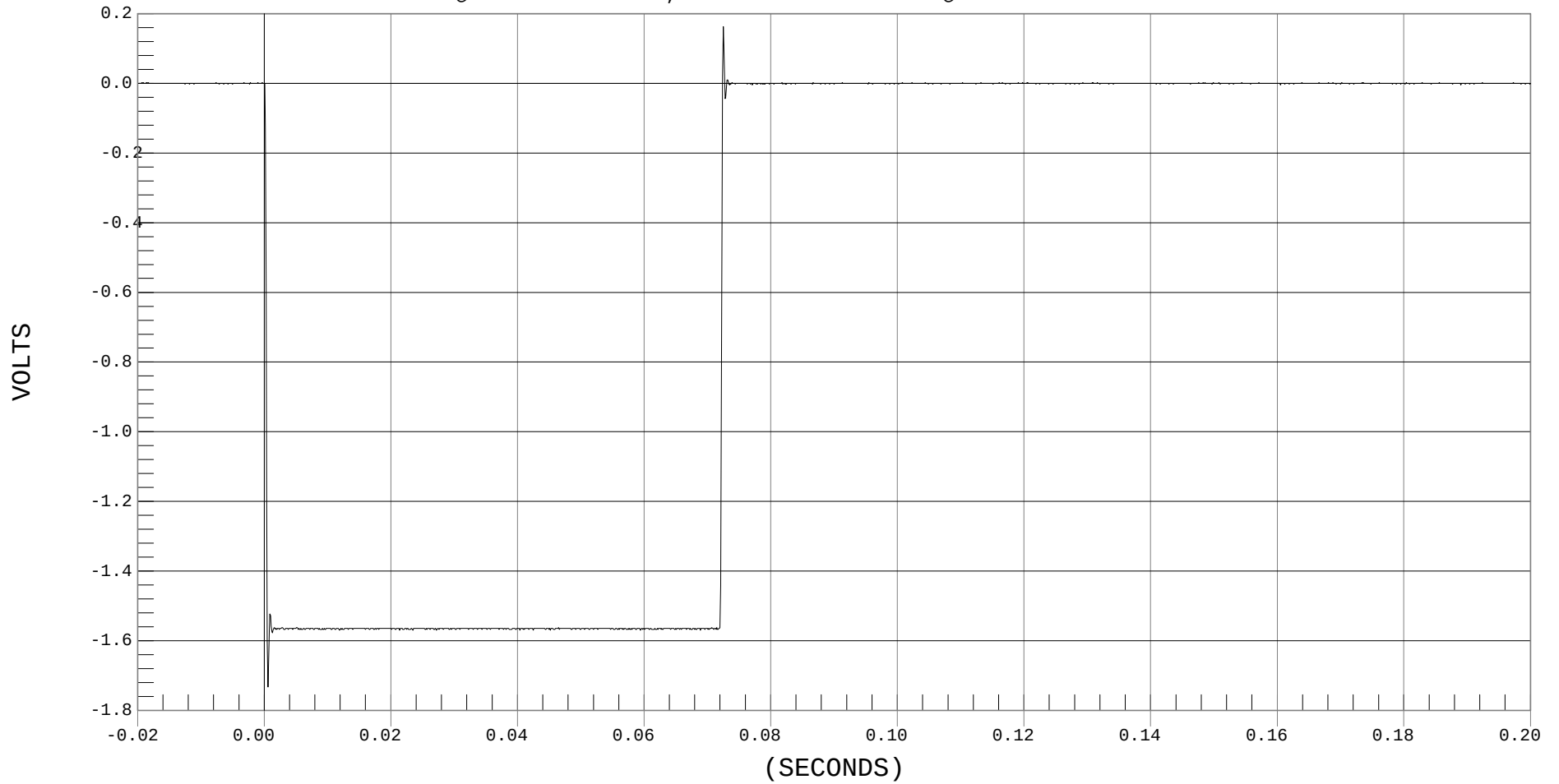
LEFT BARRIER CONTACT

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 LEFT BARRIER CONTACT, b010770T.009

Ymin = -1.73 VOLTS @ 0.0005 SECONDS, Ymax = .16 VOLTS @ 0.0724 SECONDS





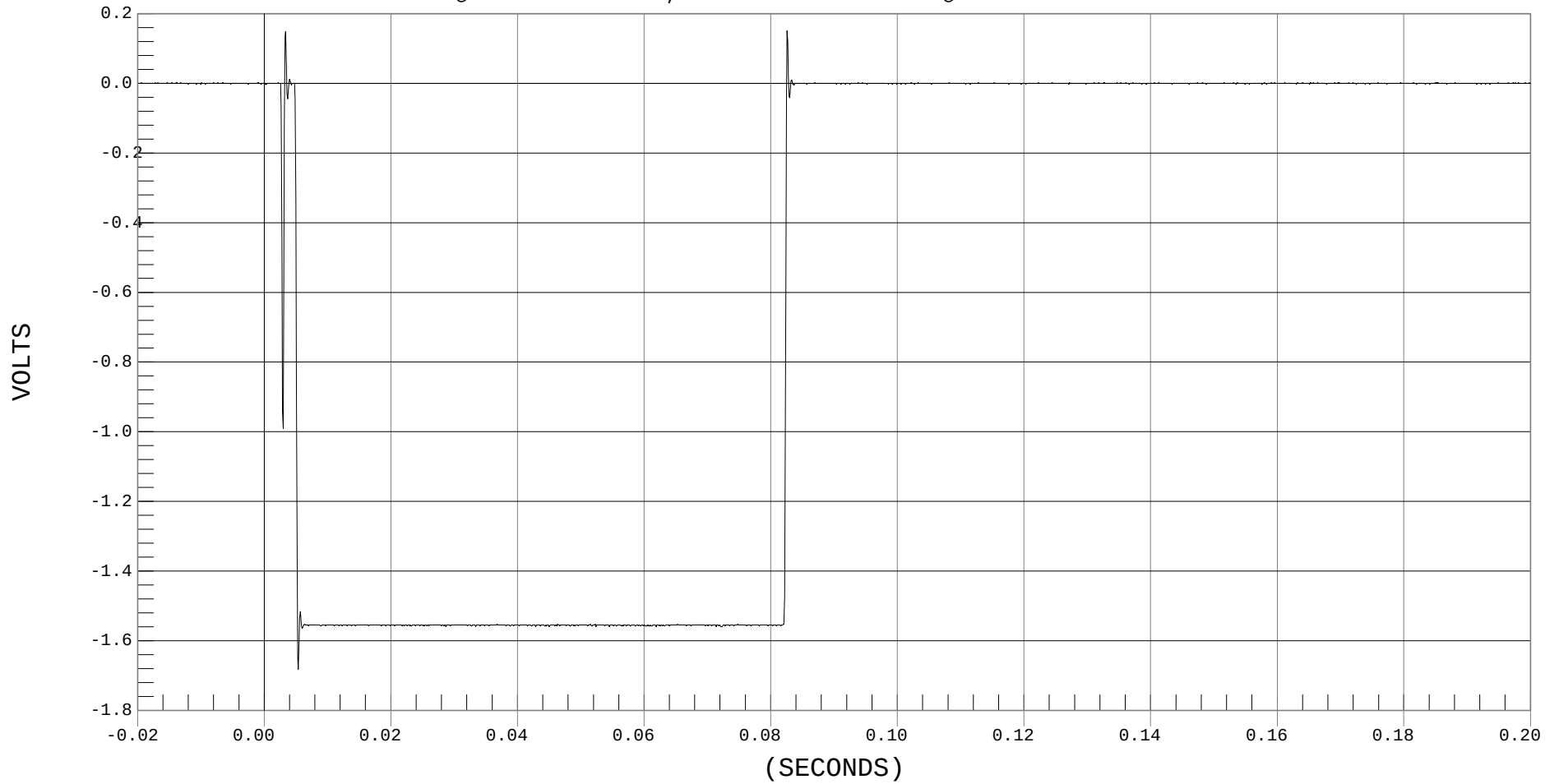
RIGHT BARRIER CONTACT

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 RIGHT BARRIER CONTACT, b010770T.010

Ymin = -1.68 VOLTS @ 0.0053 SECONDS, Ymax = .15 VOLTS @ 0.0825 SECONDS





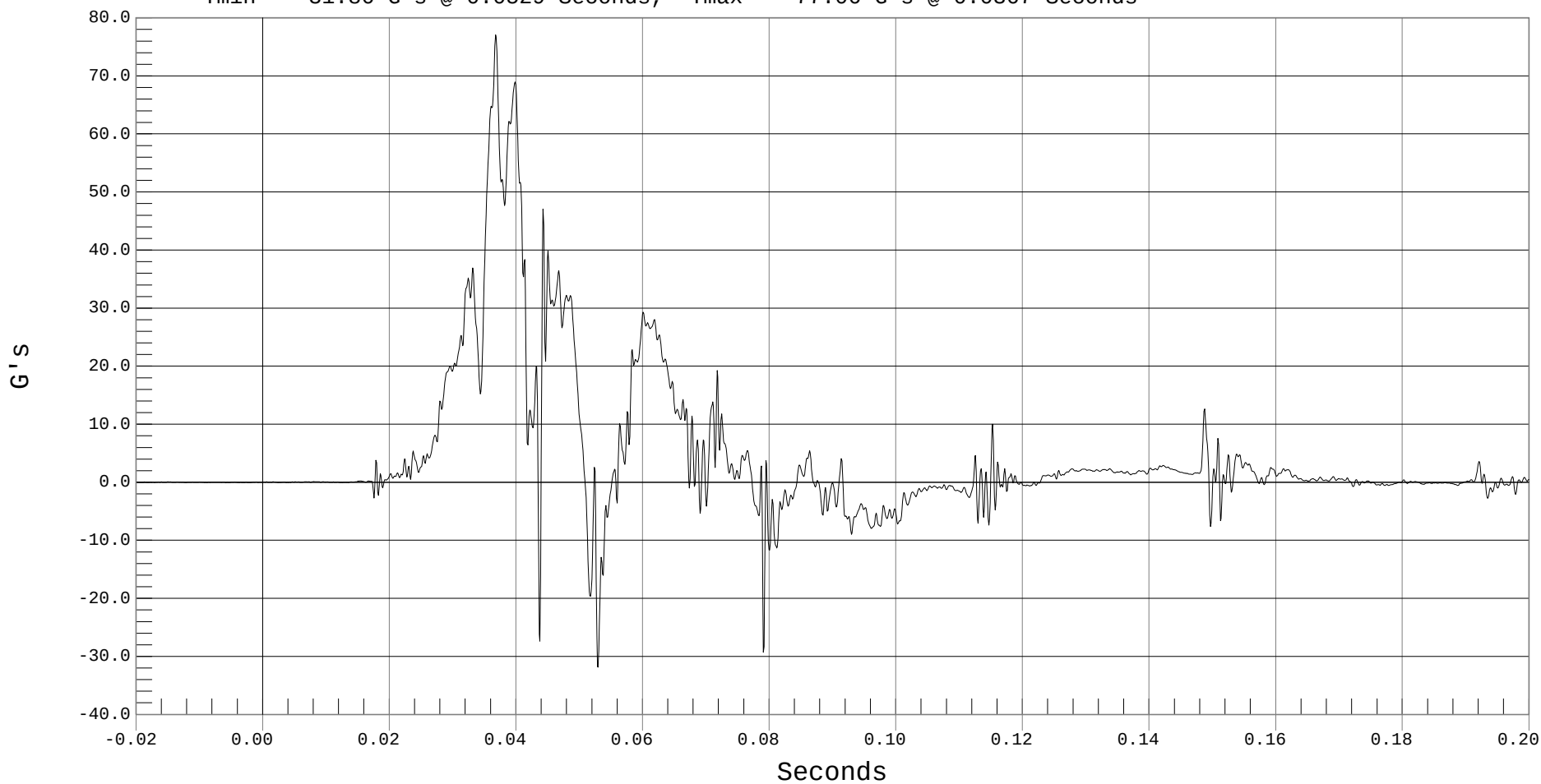
DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 DRIVER UPPER RIB Yr, b01077AT.A41

Ymin = -31.86 G's @ 0.0529 Seconds, Ymax = 77.06 G's @ 0.0367 Seconds





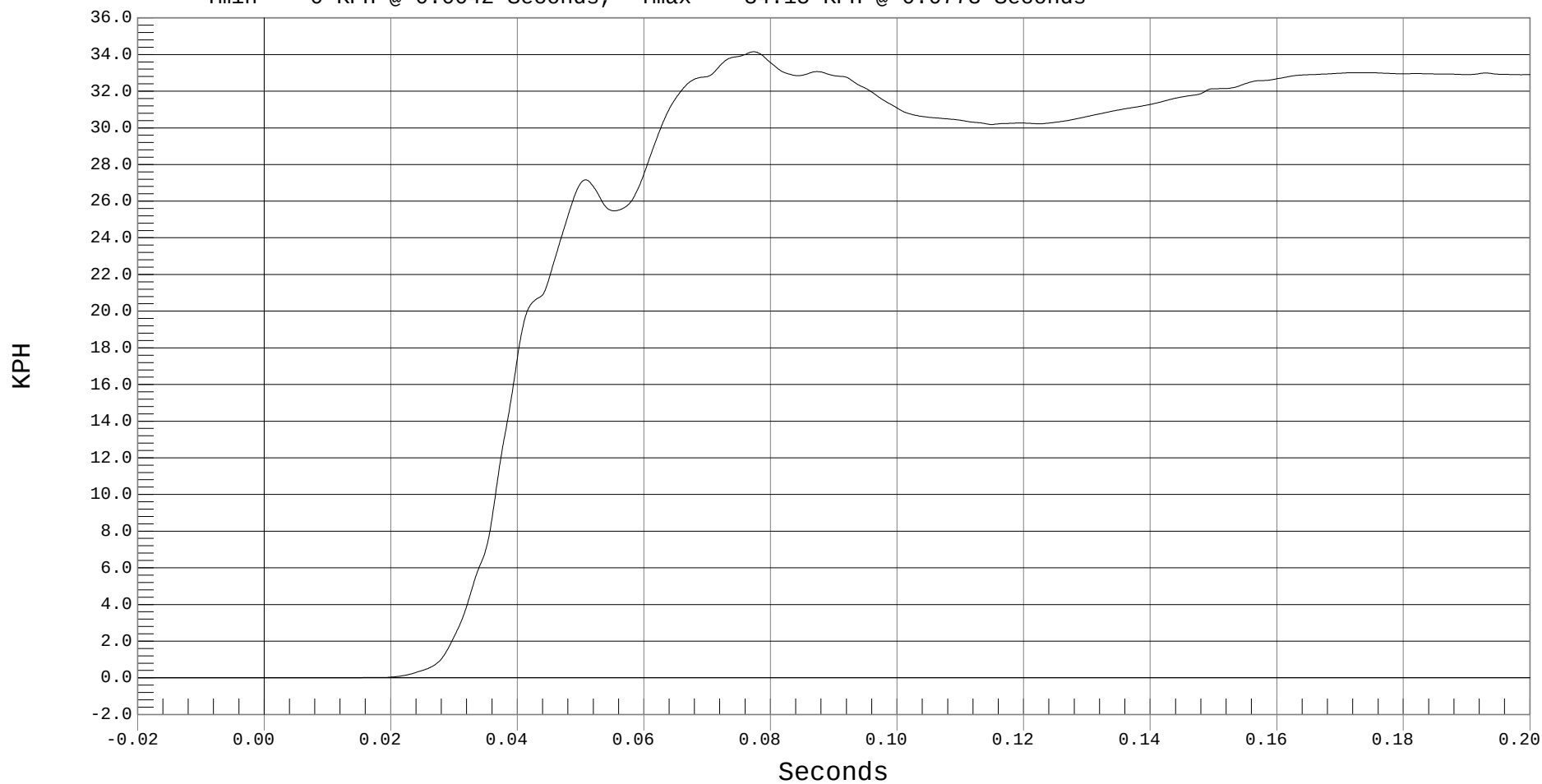
DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, b01077AI.V41

Ymin = 0 KPH @ 0.0042 Seconds, Ymax = 34.15 KPH @ 0.0773 Seconds





DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT

Component: 2001 HYUNDAI ACCENT GL

Other Info:

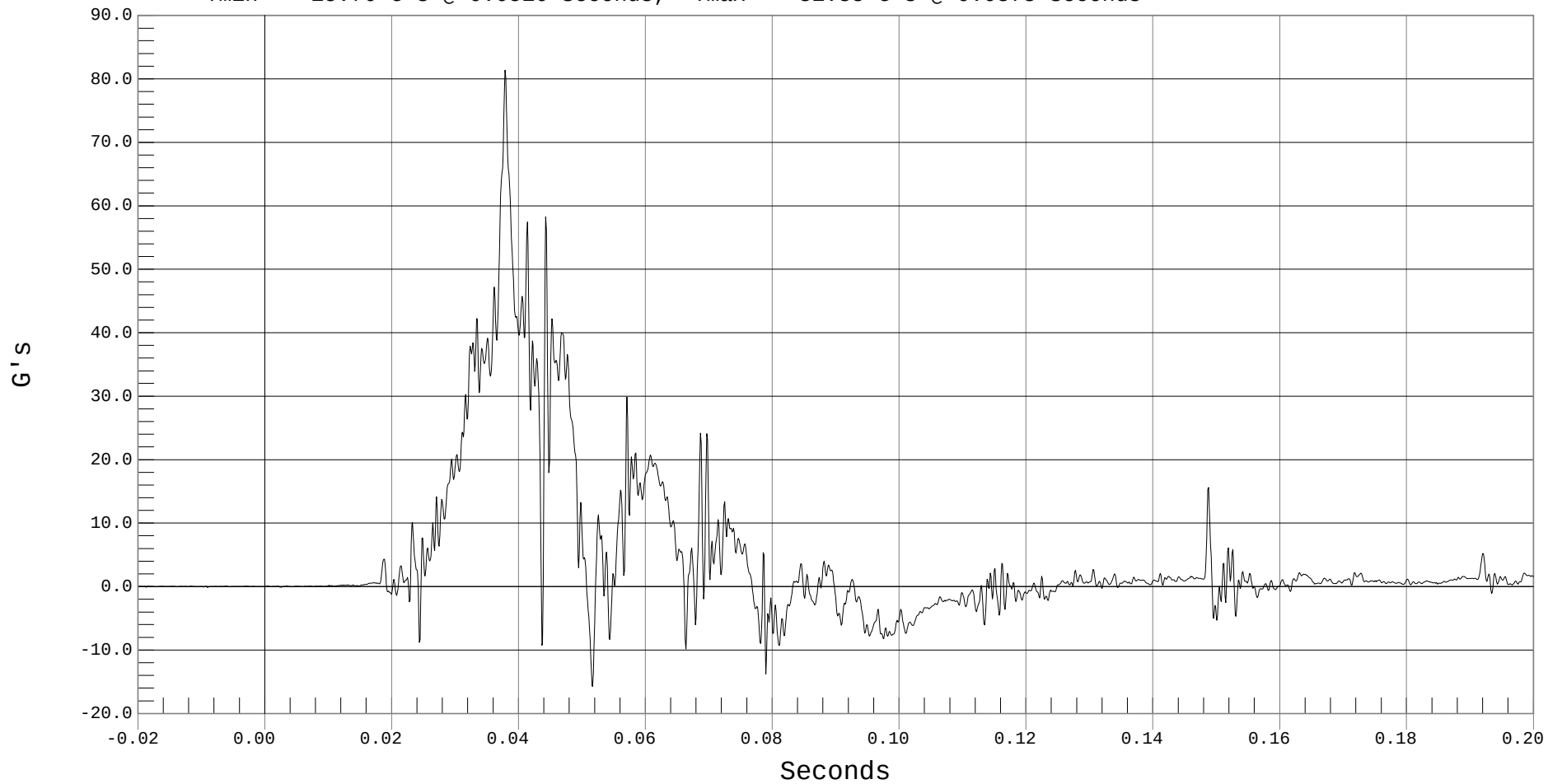
Test Date: 07-17-01

Speed: 32.9 MPH, 52.9 KPH

Filter Class: 1000

— 1 DRIVER LOWER RIB Yr, b01077AT.A42

Ymin = -15.76 G's @ 0.0516 Seconds, Ymax = 81.38 G's @ 0.0378 Seconds





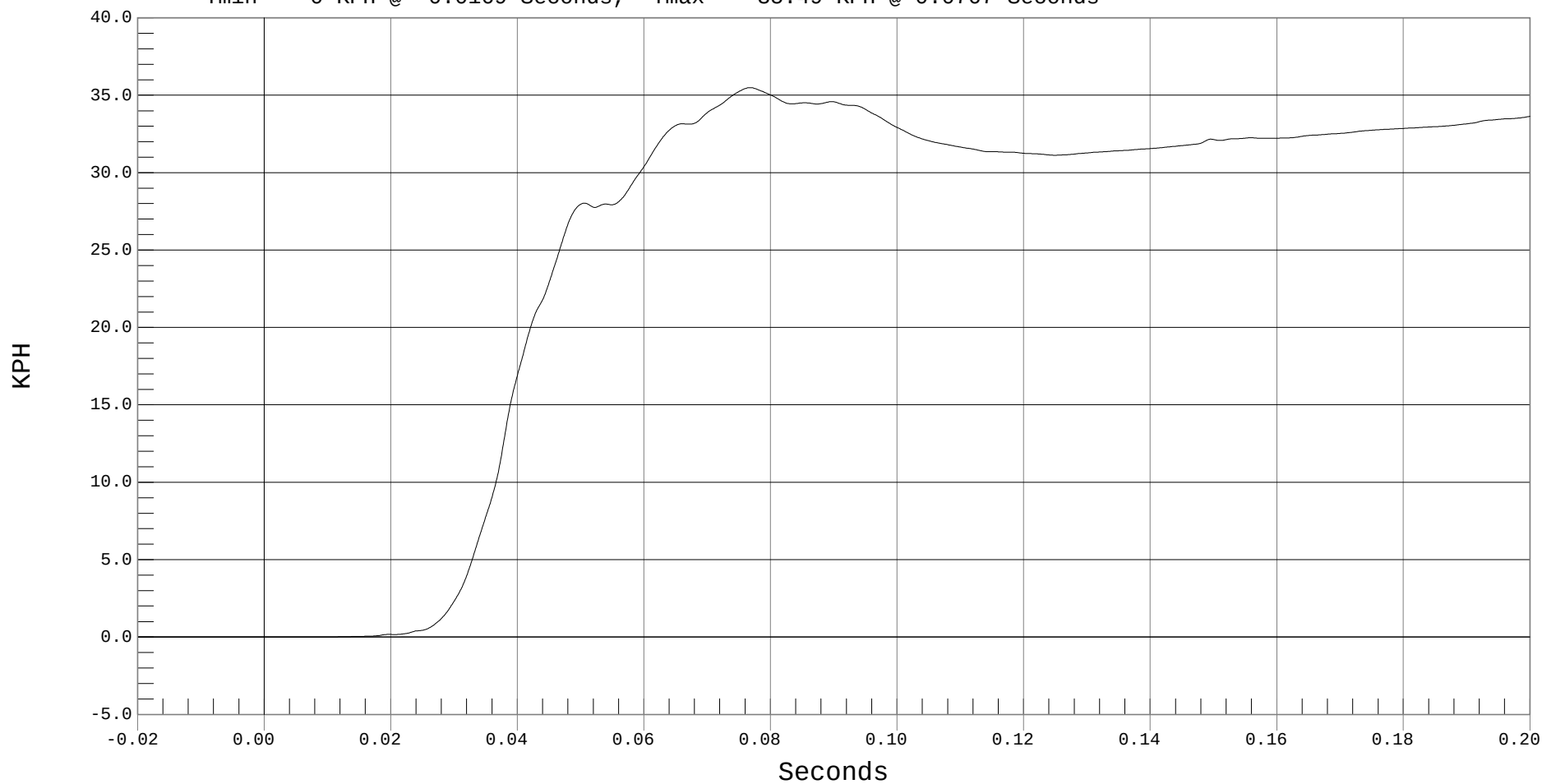
DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, b01077AI.V42

Ymin = 0 KPH @ -0.0169 Seconds, Ymax = 35.49 KPH @ 0.0767 Seconds





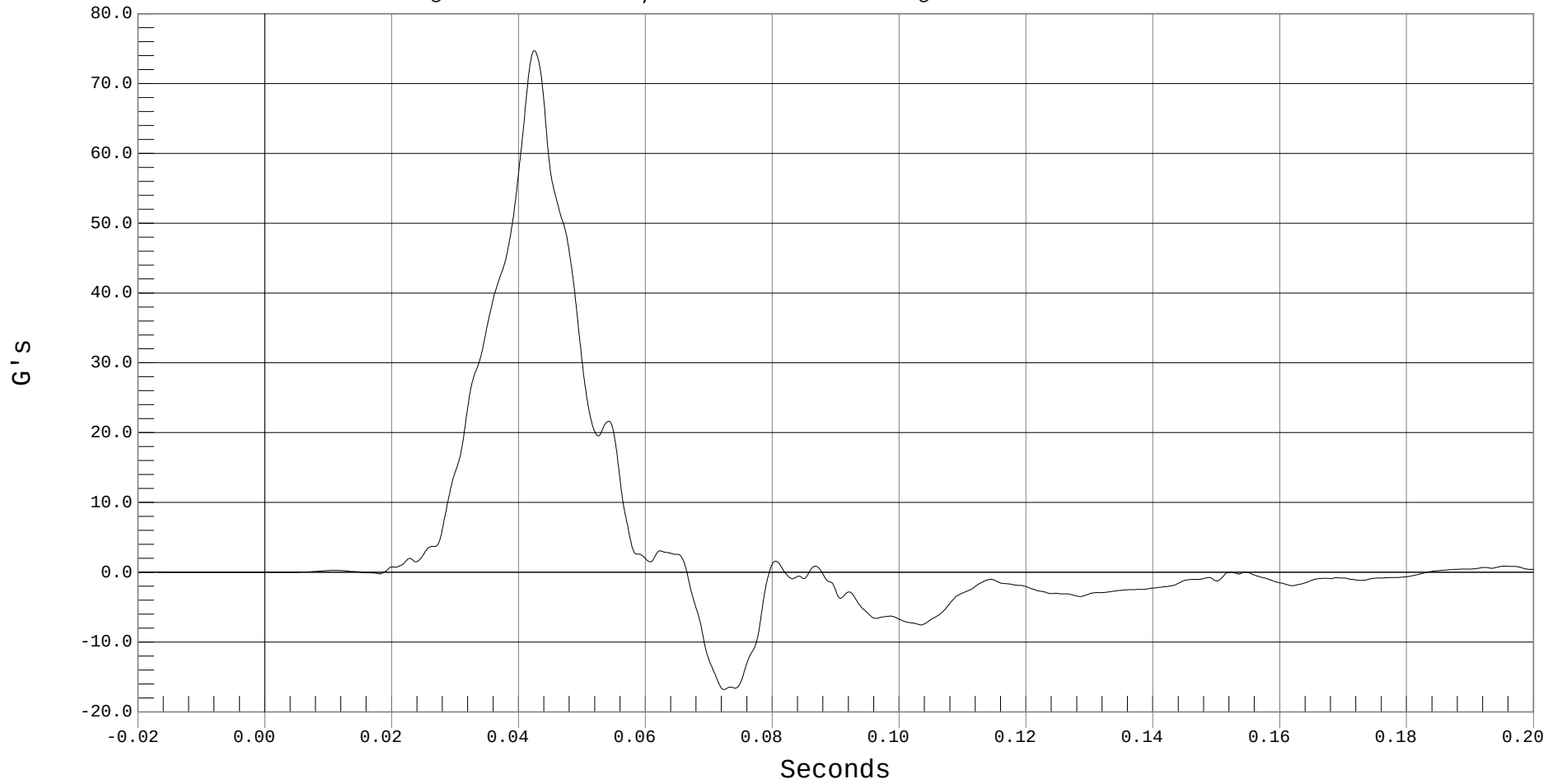
DRIVER LOVER SPINE REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER LOWER SPINE Yr, b01077AF.A43

Ymin = -16.8 G's @ 0.0723 Seconds, Ymax = 74.73 G's @ 0.0424 Seconds





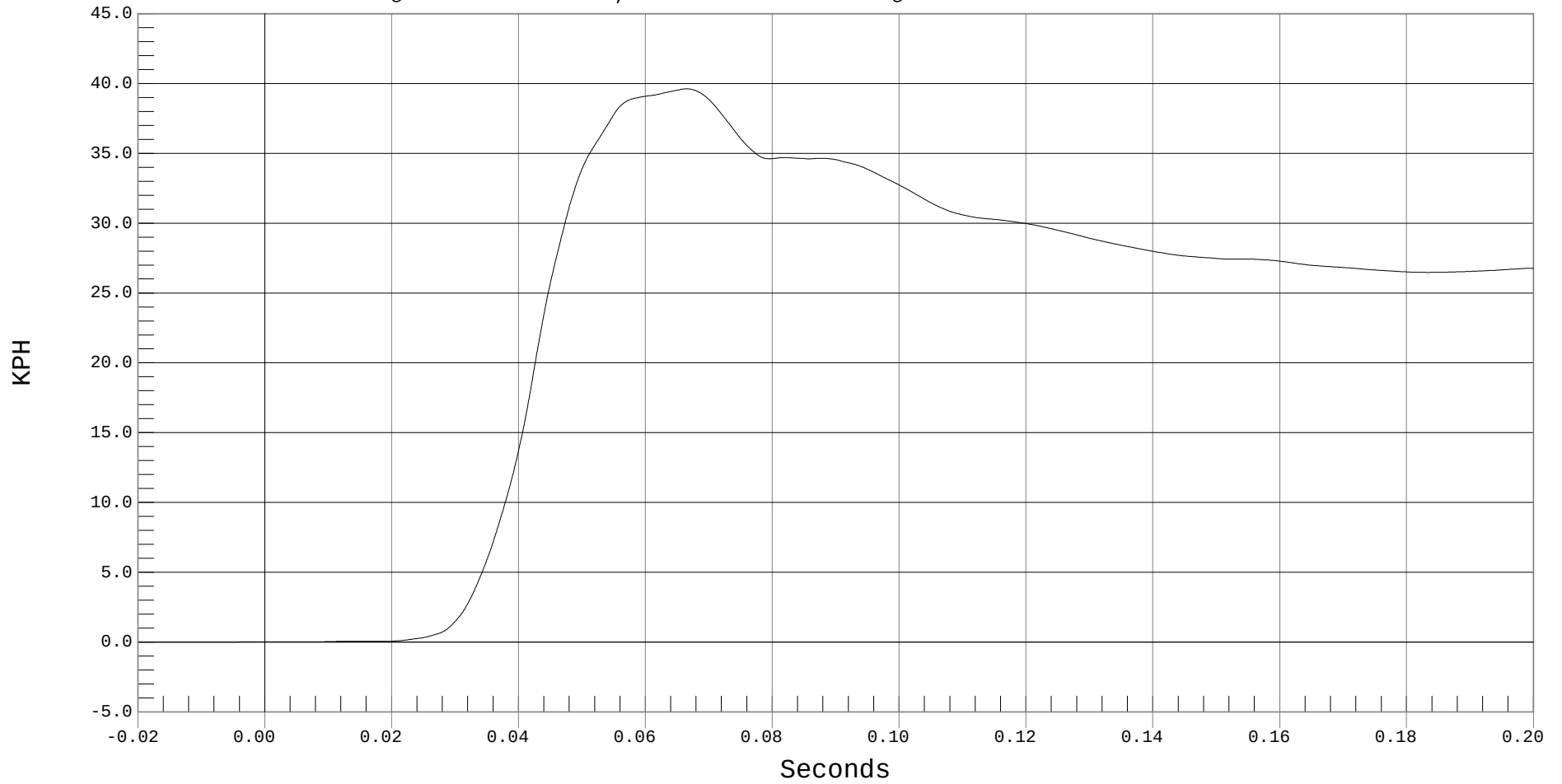
DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, b01077AI.V43

Ymin = 0 KPH @ -0.0199 Seconds, Ymax = 39.62 KPH @ 0.0665 Seconds





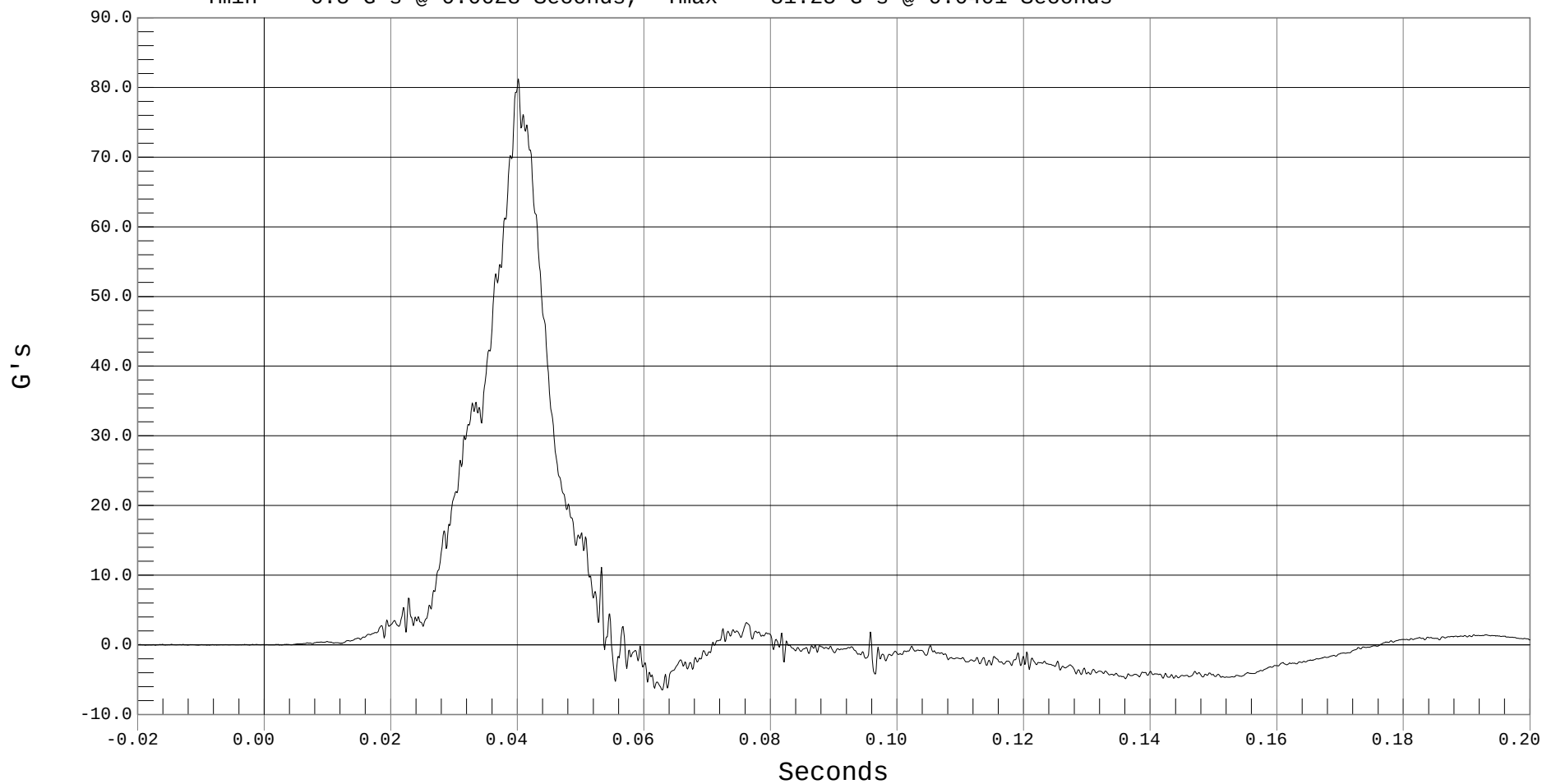
DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 DRIVER PELVIS Yr, b01077AT.A44

Ymin = -6.5 G's @ 0.0628 Seconds, Ymax = 81.25 G's @ 0.0401 Seconds





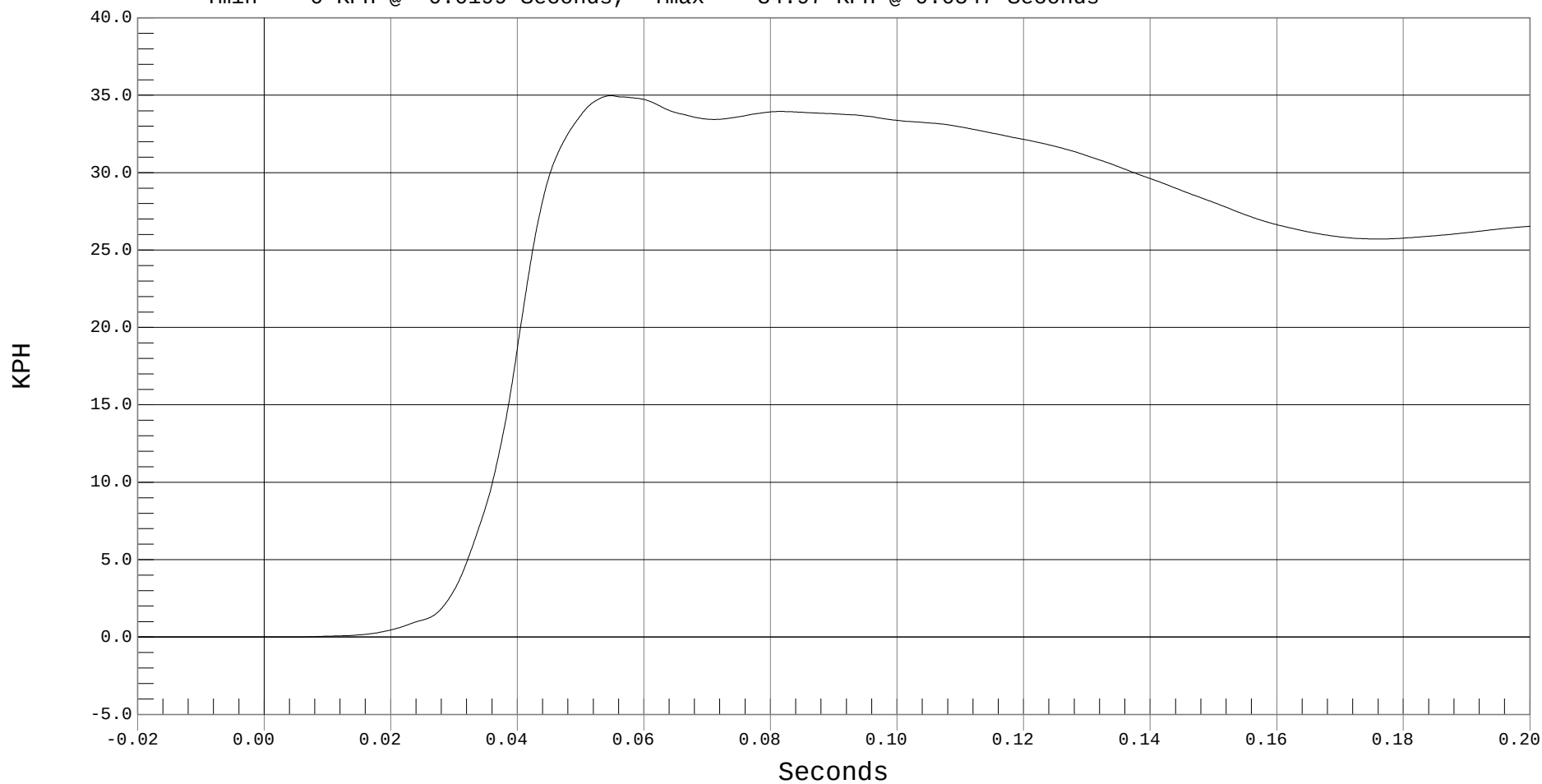
DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 DRIVER PELVIS Y REDUNDANT VELOCITY, b01077AI.V44

Ymin = 0 KPH @ -0.0199 Seconds, Ymax = 34.97 KPH @ 0.0547 Seconds





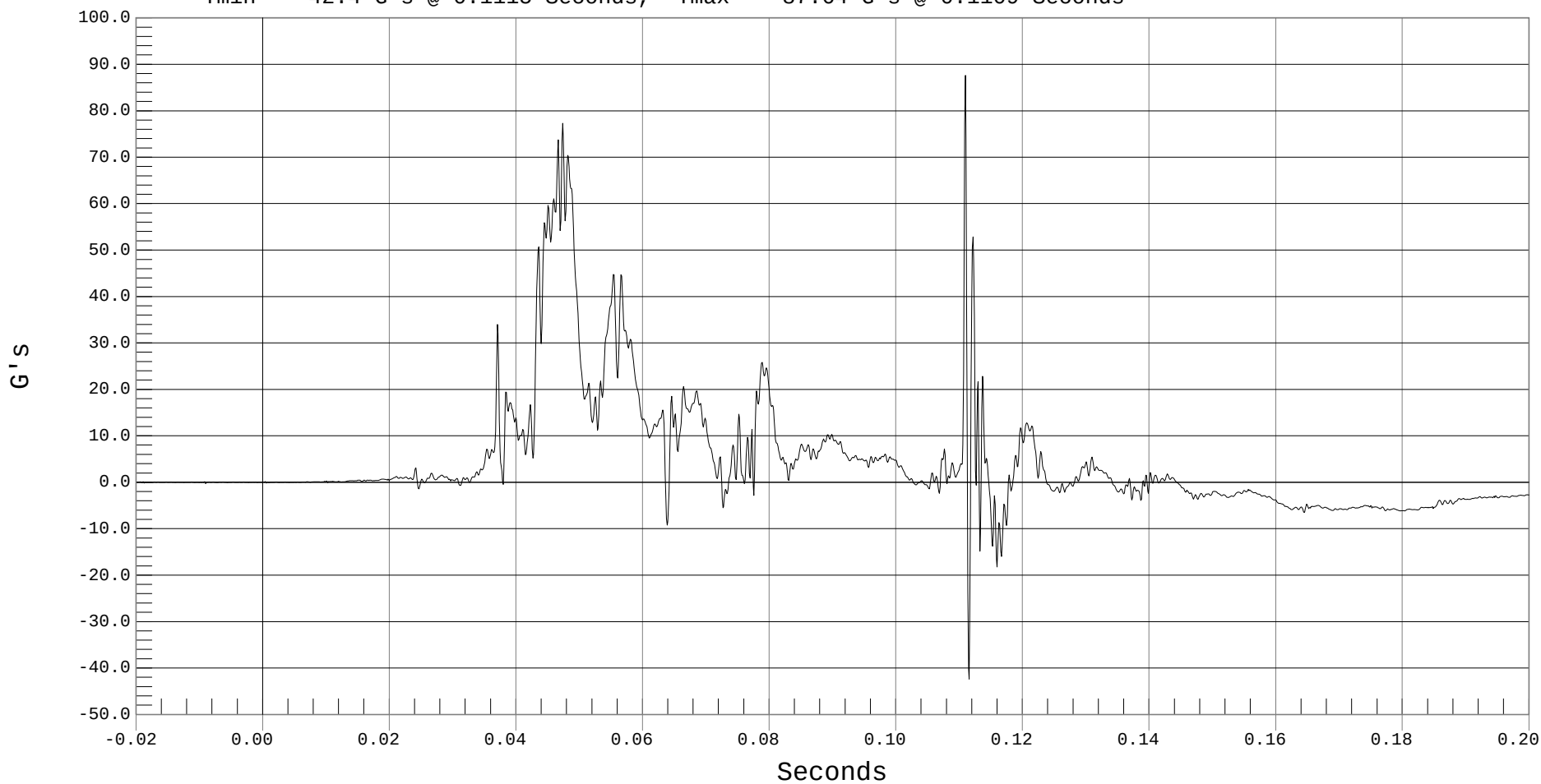
REAR PASSENGER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 PASSENGER UPPER RIB Yr, b01077AT.A45

Ymin = -42.4 G's @ 0.1115 Seconds, Ymax = 87.64 G's @ 0.1109 Seconds





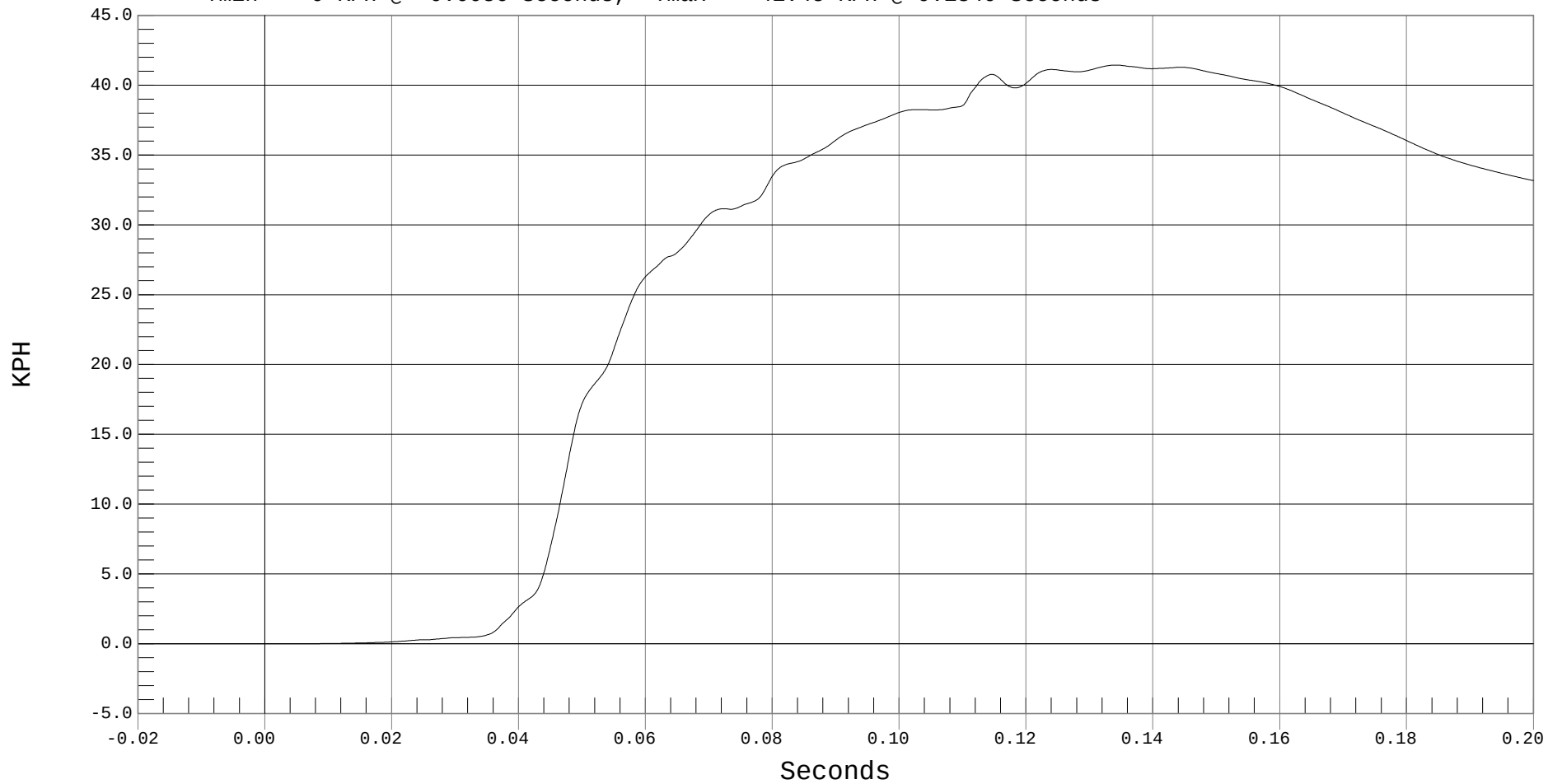
REAR PASSENGER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY, b01077AI.V45

Ymin = 0 KPH @ -0.0086 Seconds, Ymax = 41.45 KPH @ 0.1340 Seconds





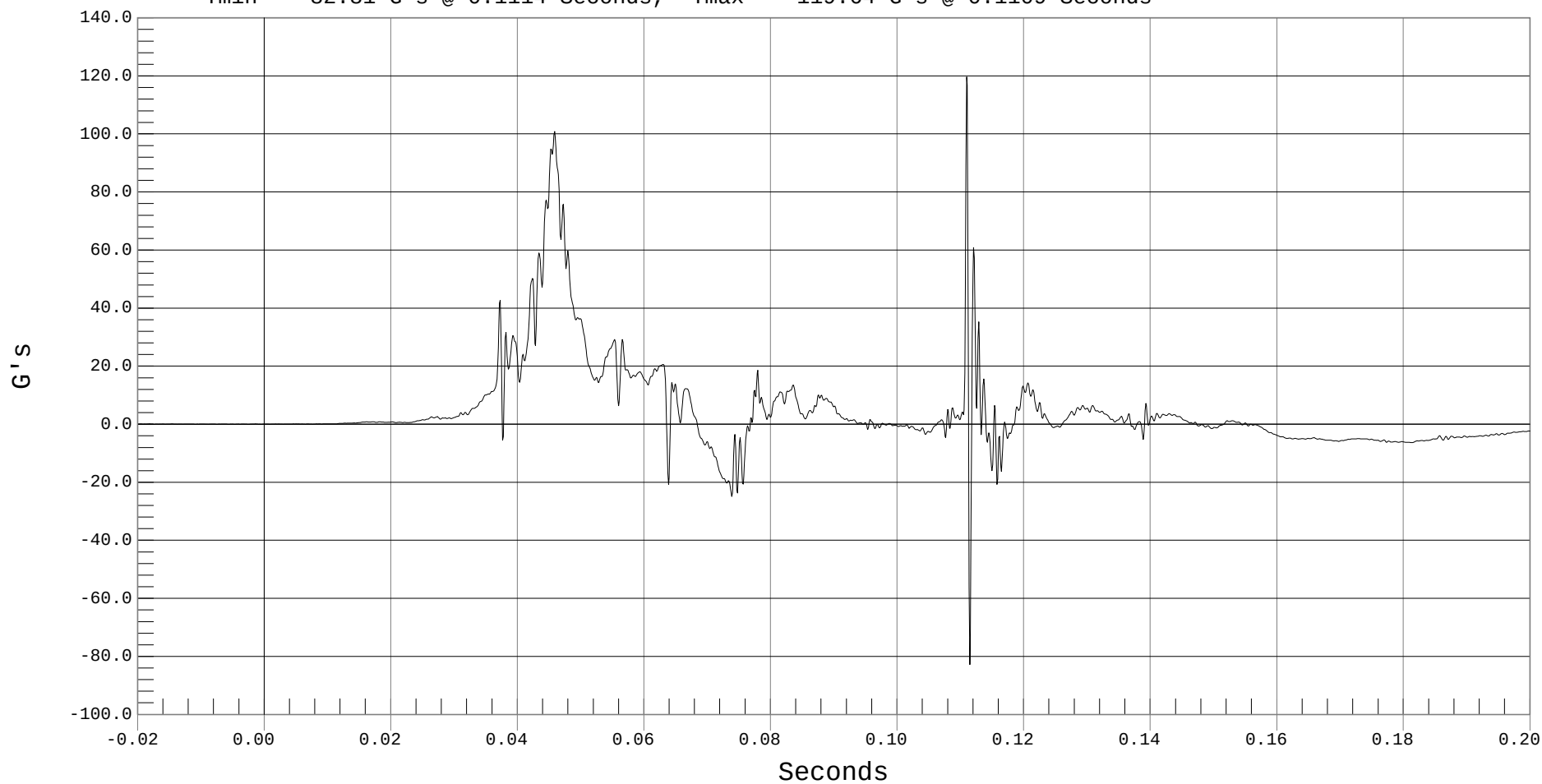
REAR PASSENGER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 PASSENGER LOWER RIB Yr, b01077AT.A46

Ymin = -82.81 G's @ 0.1114 Seconds, Ymax = 119.64 G's @ 0.1109 Seconds





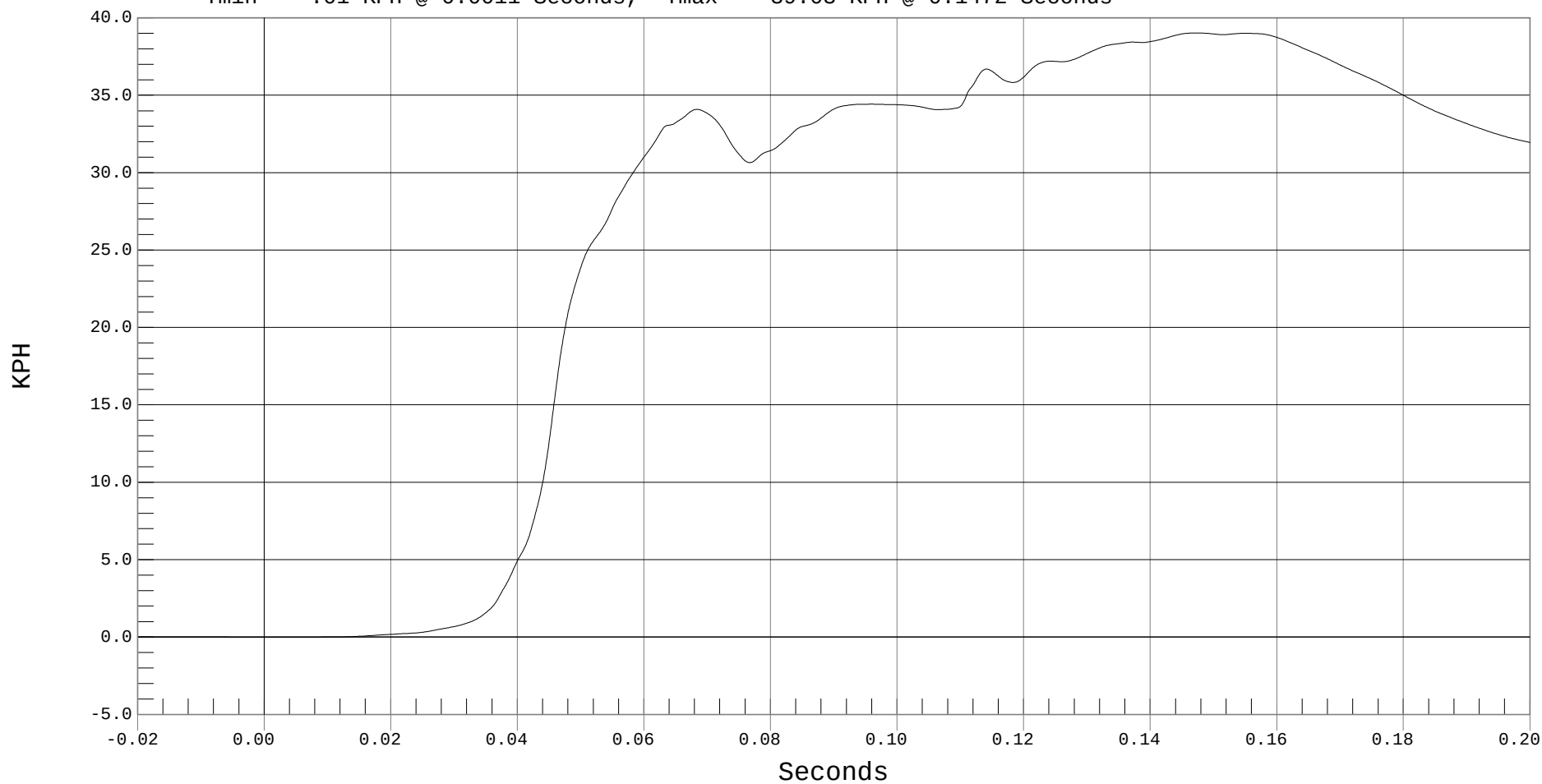
REAR PASSENGER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY, b01077AI.V46

Ymin = -.01 KPH @ 0.0011 Seconds, Ymax = 39.03 KPH @ 0.1472 Seconds





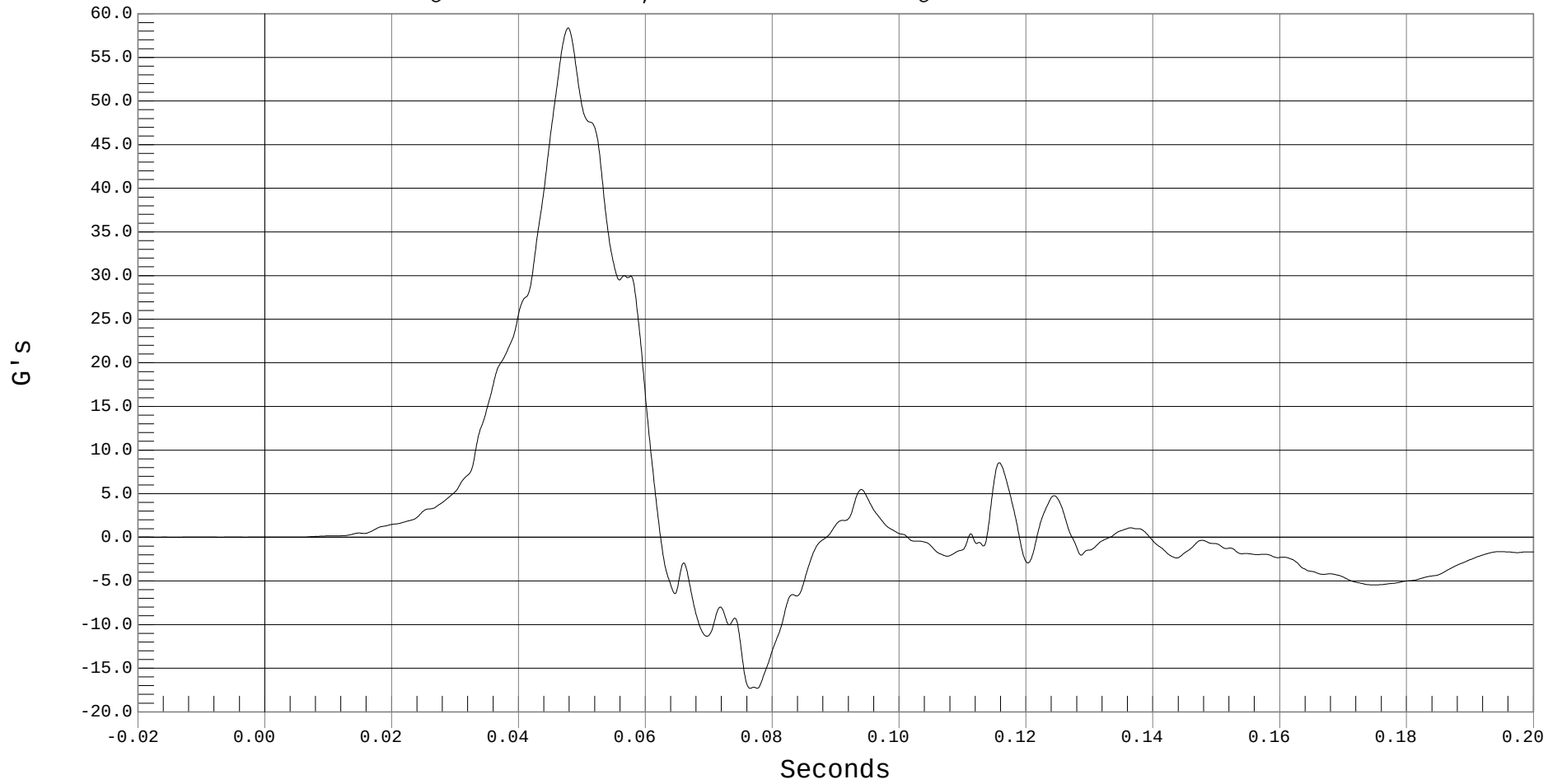
REAR PASSENGER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

— 1 PASSENGER LOWER SPINE Yr, b01077AF.A47

Ymin = -17.3 G's @ 0.0764 Seconds, Ymax = 58.38 G's @ 0.0477 Seconds





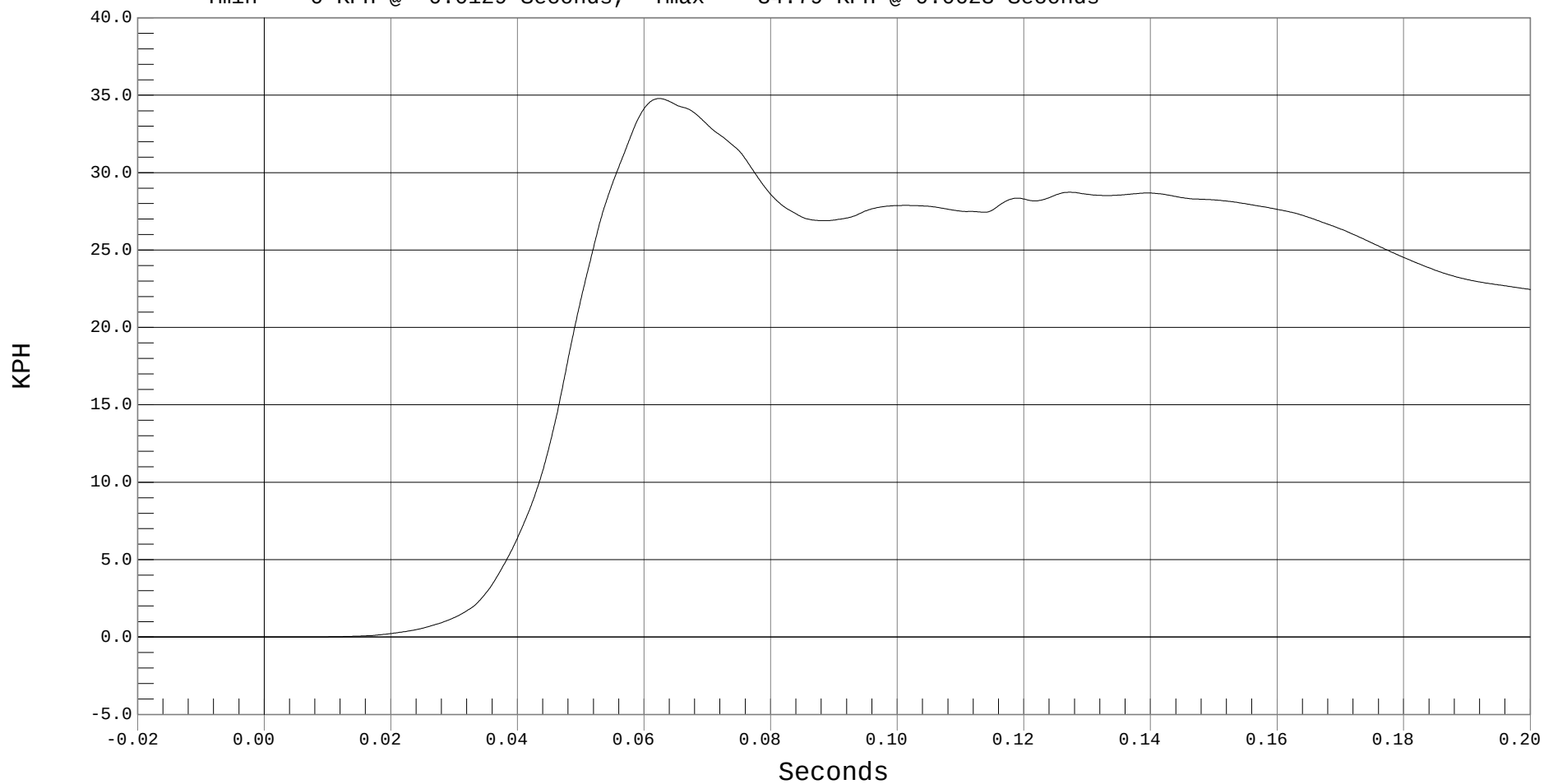
REAR PASSENGER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY, b01077AI.V47

Ymin = 0 KPH @ -0.0129 Seconds, Ymax = 34.79 KPH @ 0.0623 Seconds





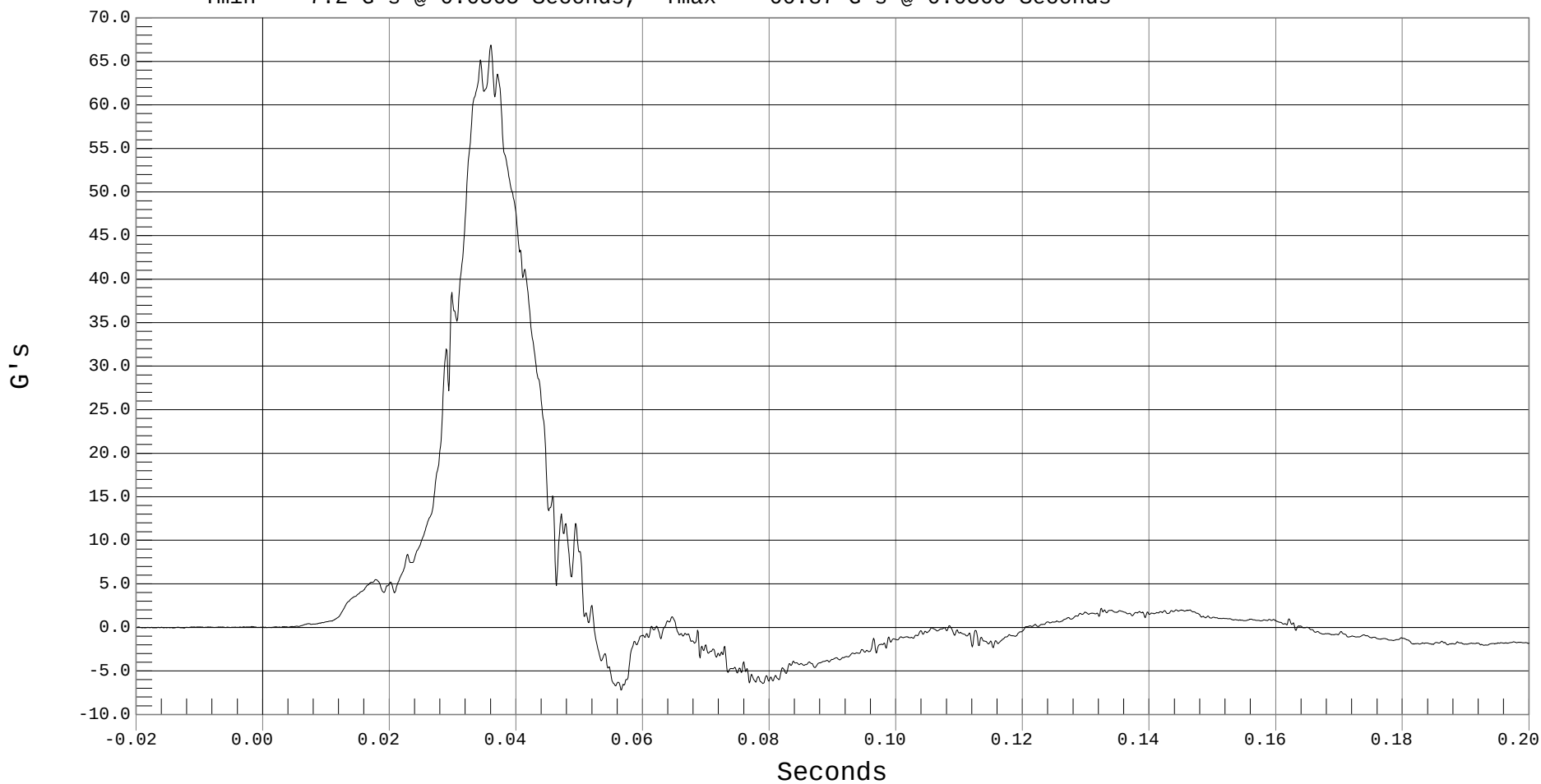
REAR PASSENGER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 1000

— 1 PASSENGER PELVIS Yr, b01077AT.A48

Ymin = -7.2 G's @ 0.0565 Seconds, Ymax = 66.87 G's @ 0.0360 Seconds





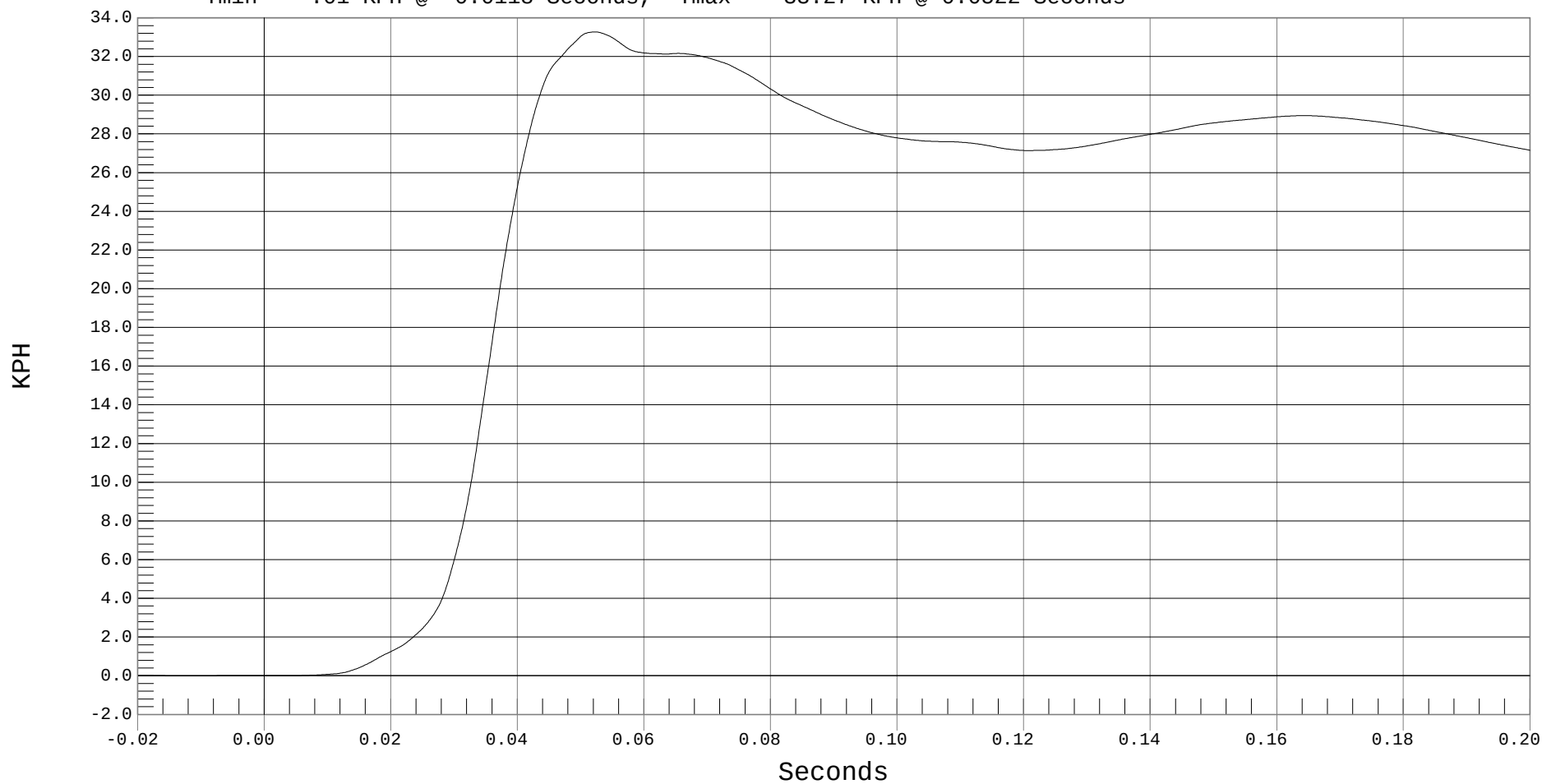
REAR PASSENGER PELVIS REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Filter Class: 180

1 REAR PASSENGER PELVIS Y REDUNDANT VELOCITY, b01077AI.V48

Ymin = -.01 KPH @ -0.0118 Seconds, Ymax = 33.27 KPH @ 0.0522 Seconds





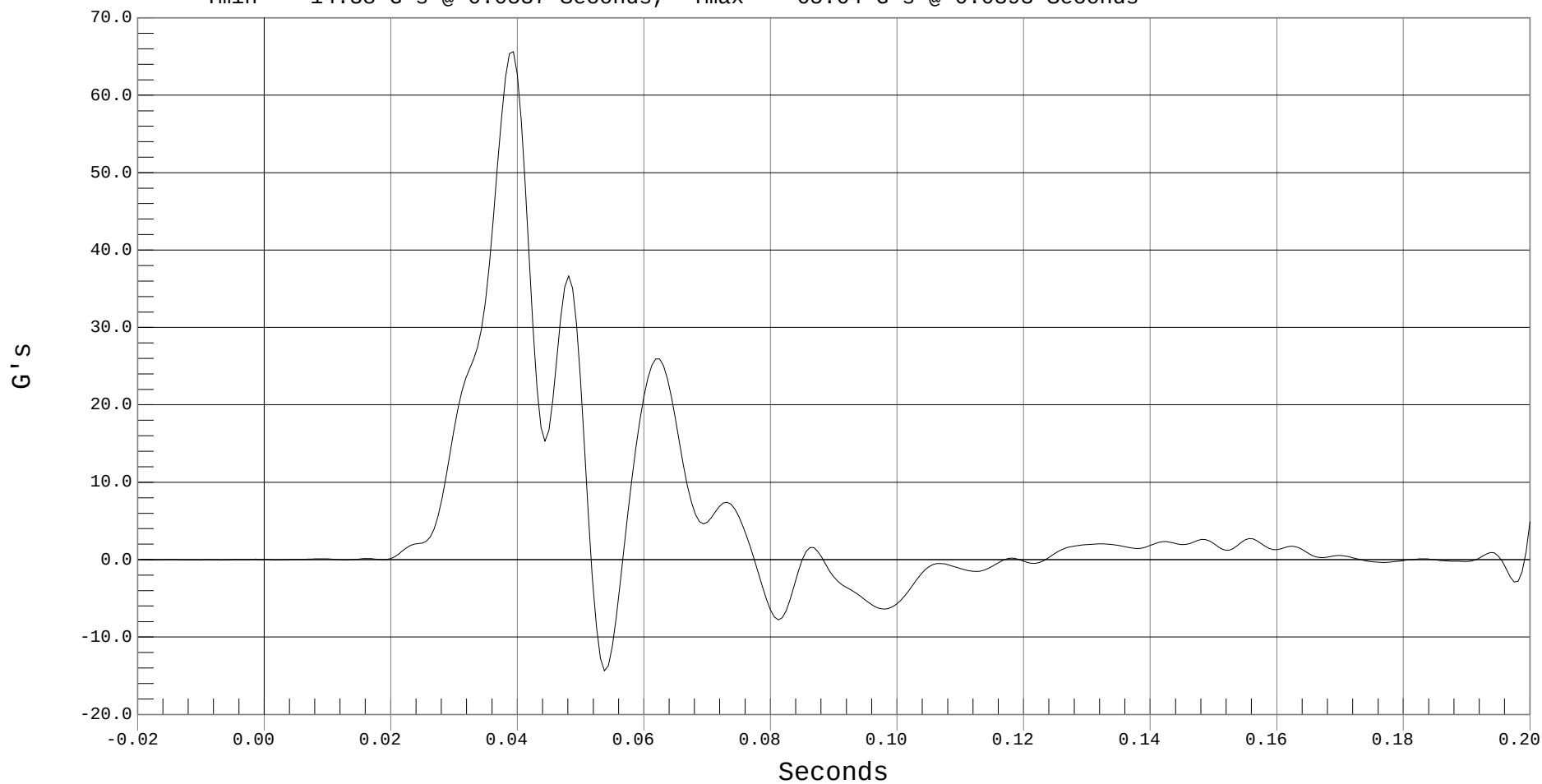
DRIVER UPPER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

1 DRIVER UPPER RIB Y, b01077FI.R04

Ymin = -14.38 G's @ 0.0537 Seconds, Ymax = 65.64 G's @ 0.0393 Seconds





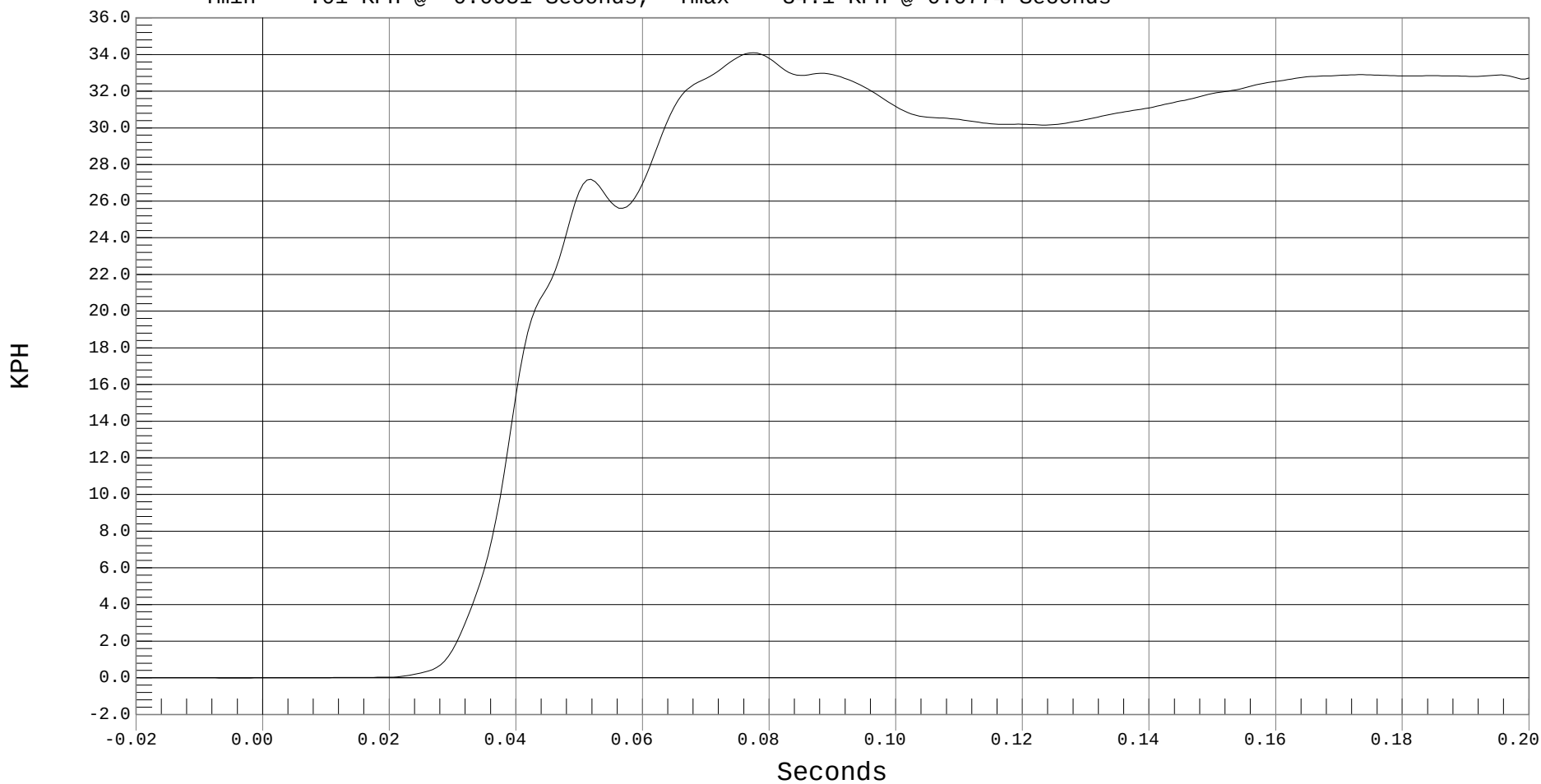
DRIVER UPPER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER UPPER RIB Y VELOCITY, b01077FI.V04

Ymin = -.01 KPH @ -0.0051 Seconds, Ymax = 34.1 KPH @ 0.0774 Seconds





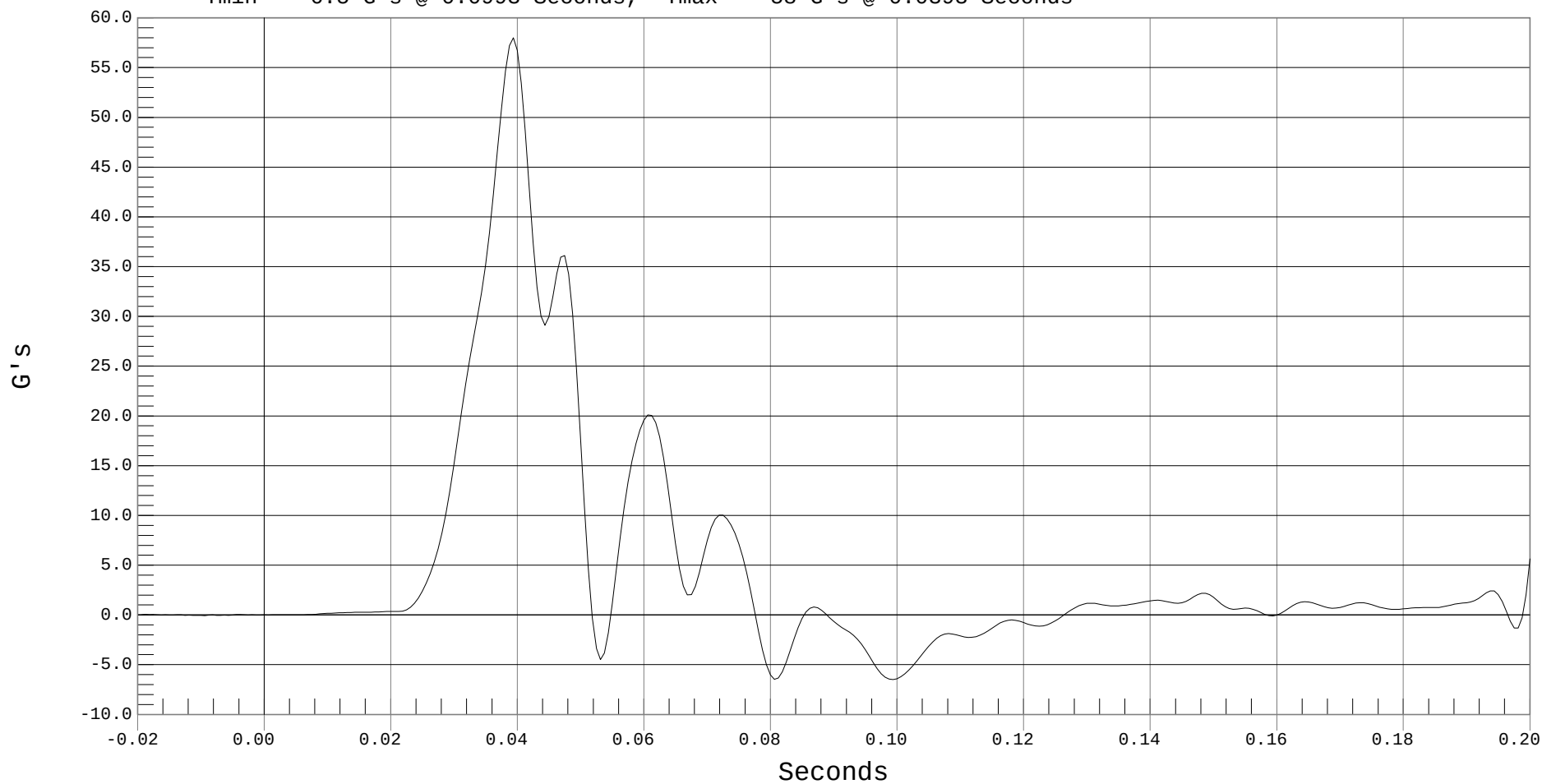
DRIVER LOWER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER LOWER RIB Y, b01077FI.R05

Ymin = -6.5 G's @ 0.0993 Seconds, Ymax = 58 G's @ 0.0393 Seconds





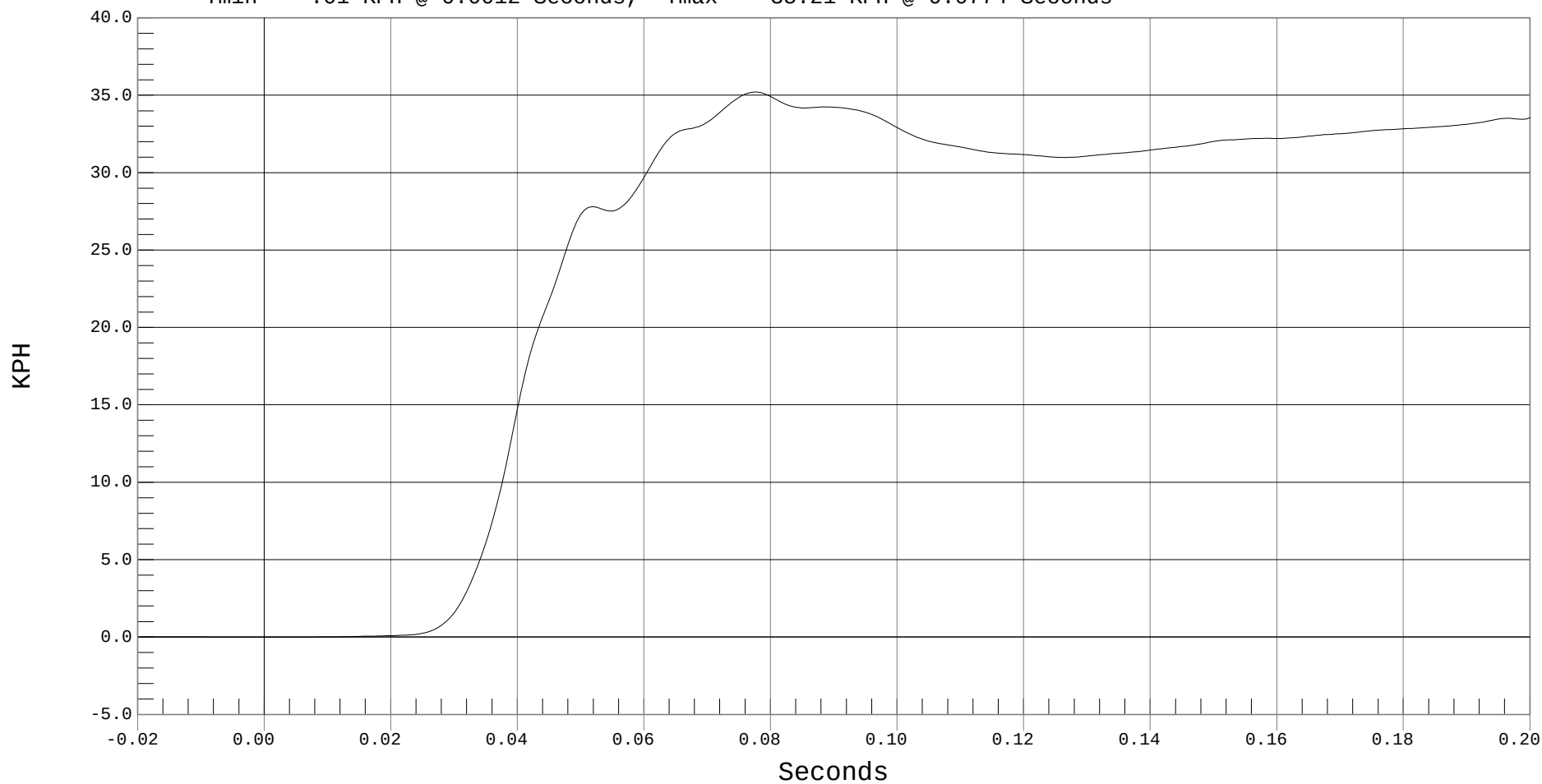
DRIVER LOWER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

1 DRIVER LOWER RIB Y VELOCITY, b01077FI.V05

Ymin = -.01 KPH @ 0.0012 Seconds, Ymax = 35.21 KPH @ 0.0774 Seconds





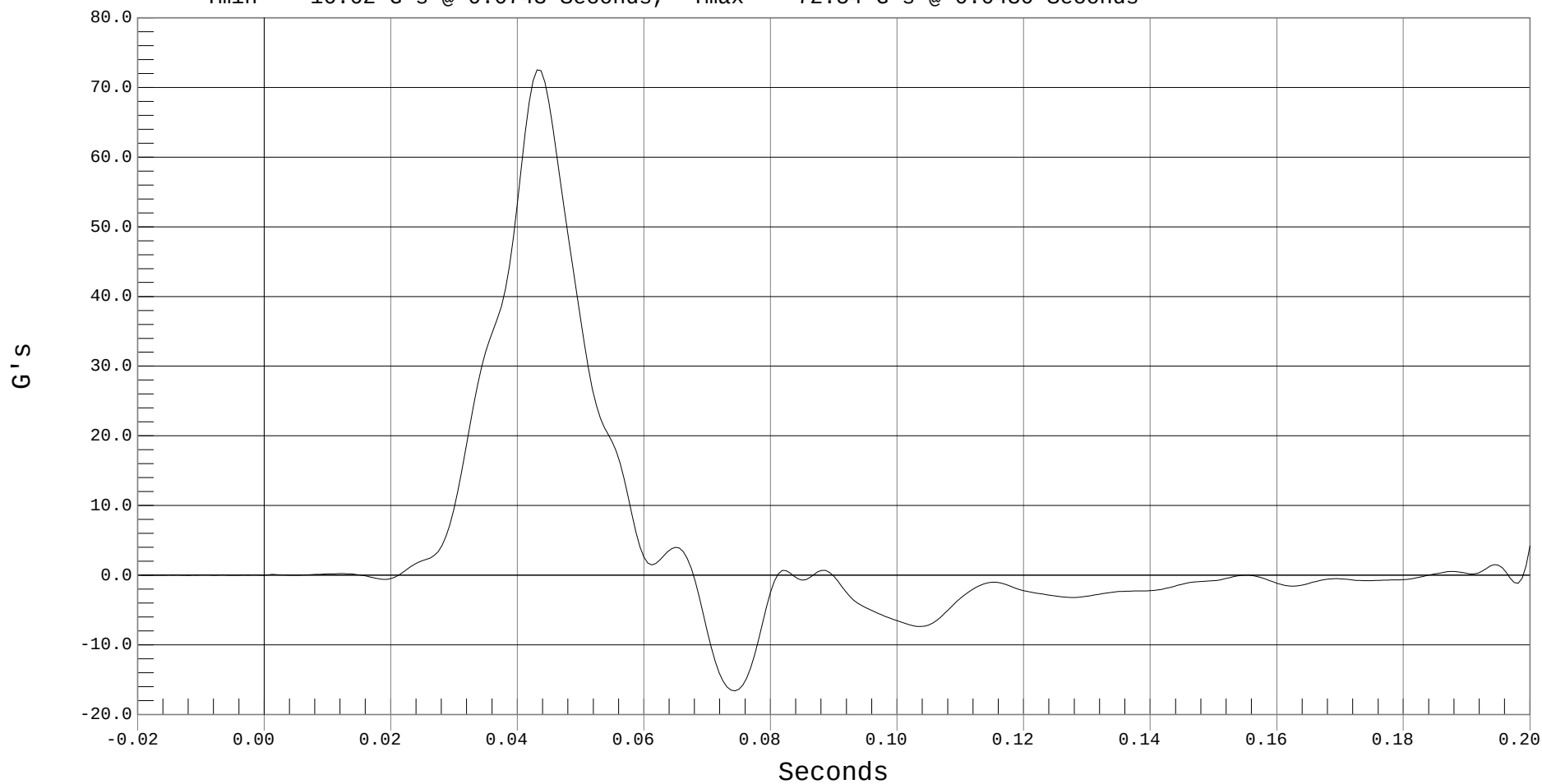
DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER LOWER SPINE Y, b01077FI.R06

Ymin = -16.62 G's @ 0.0743 Seconds, Ymax = 72.54 G's @ 0.0430 Seconds





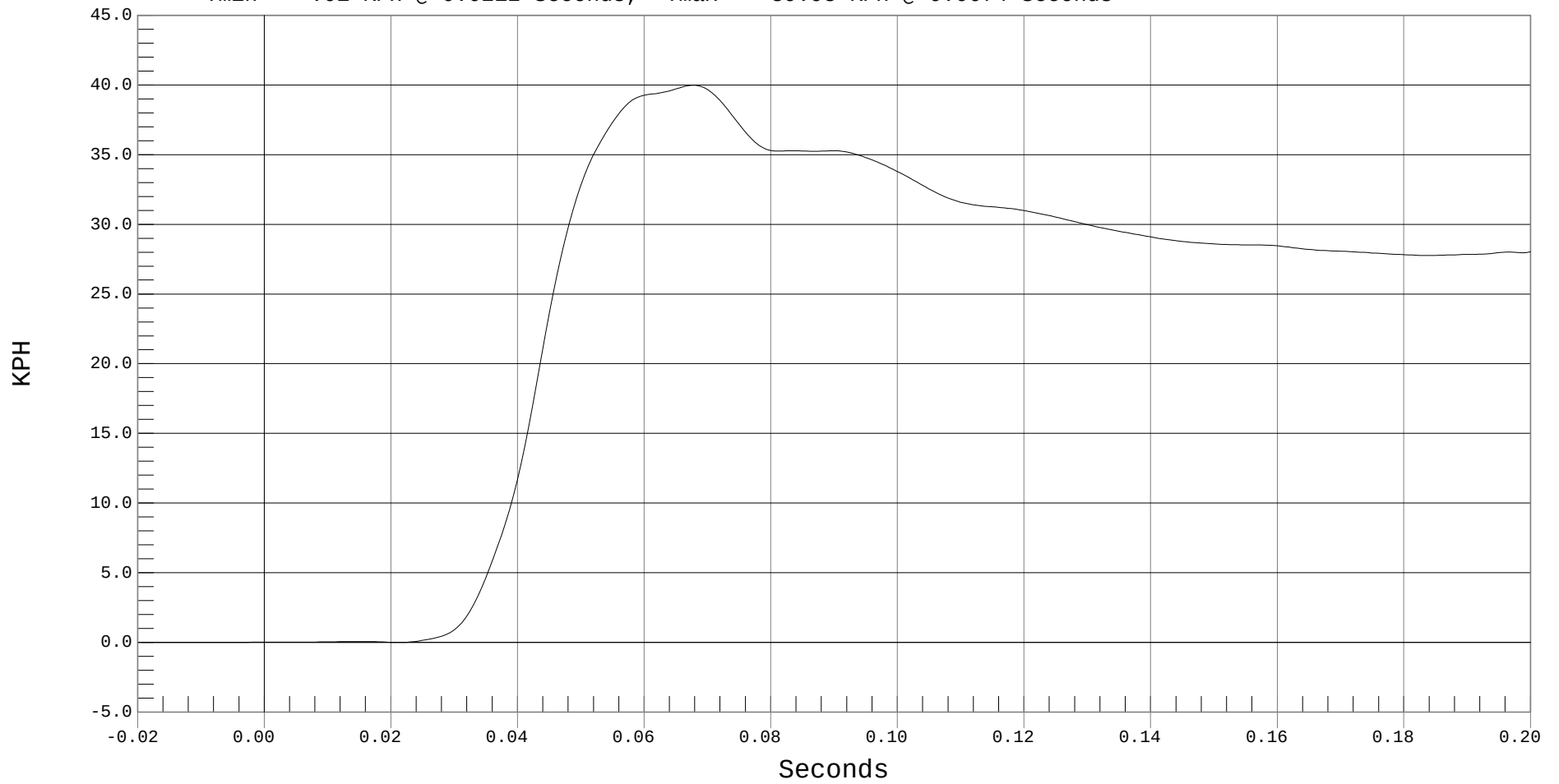
DRIVER LOWER SPINE Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

1 DRIVER LOWER SPINE Y VELOCITY, b01077FI.V06

Ymin = -.01 KPH @ 0.0212 Seconds, Ymax = 39.98 KPH @ 0.0674 Seconds





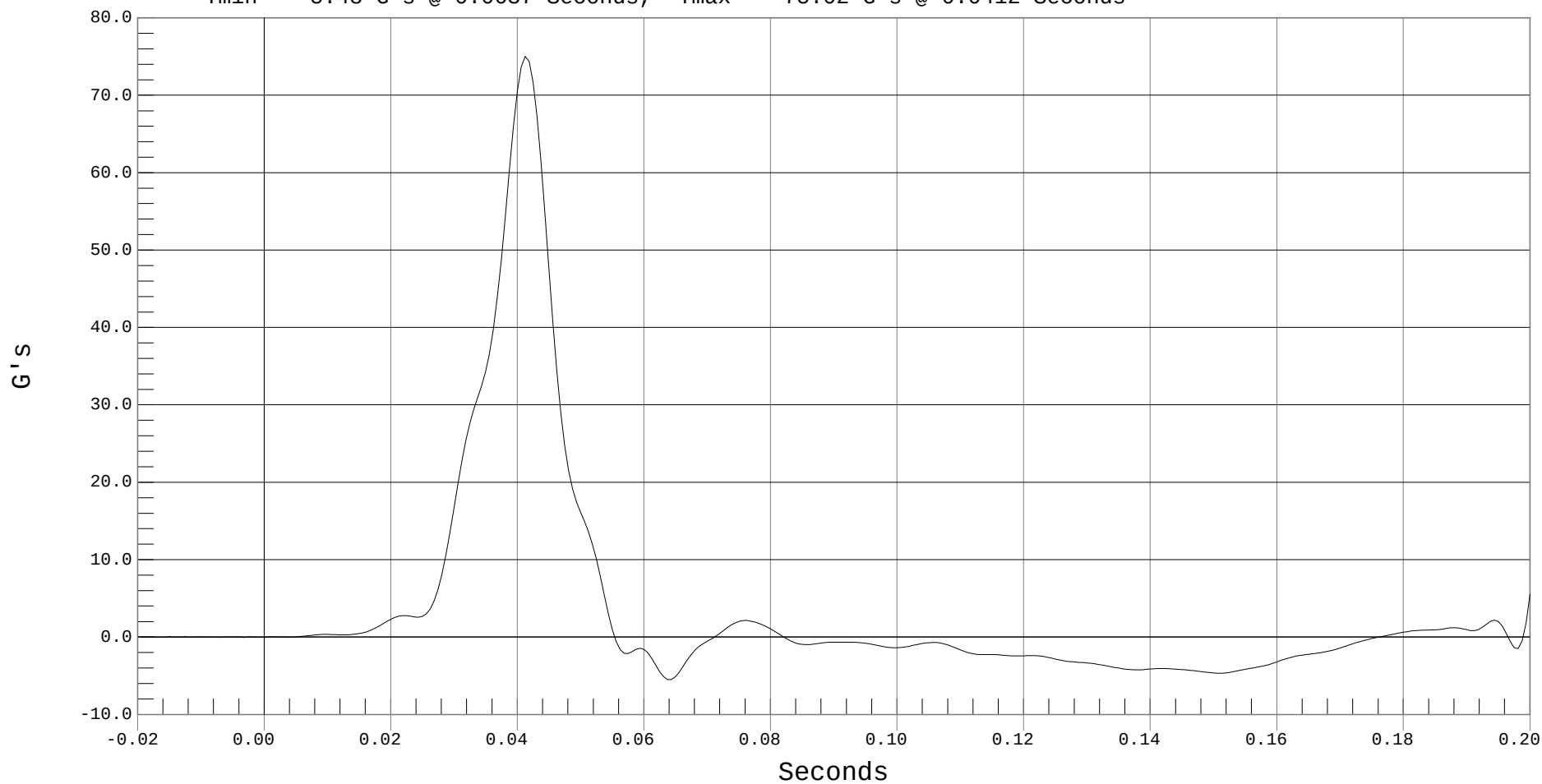
DRIVER PELVIS Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER PELVIS Y, b01077FI.R07

Ymin = -5.48 G's @ 0.0637 Seconds, Ymax = 75.02 G's @ 0.0412 Seconds





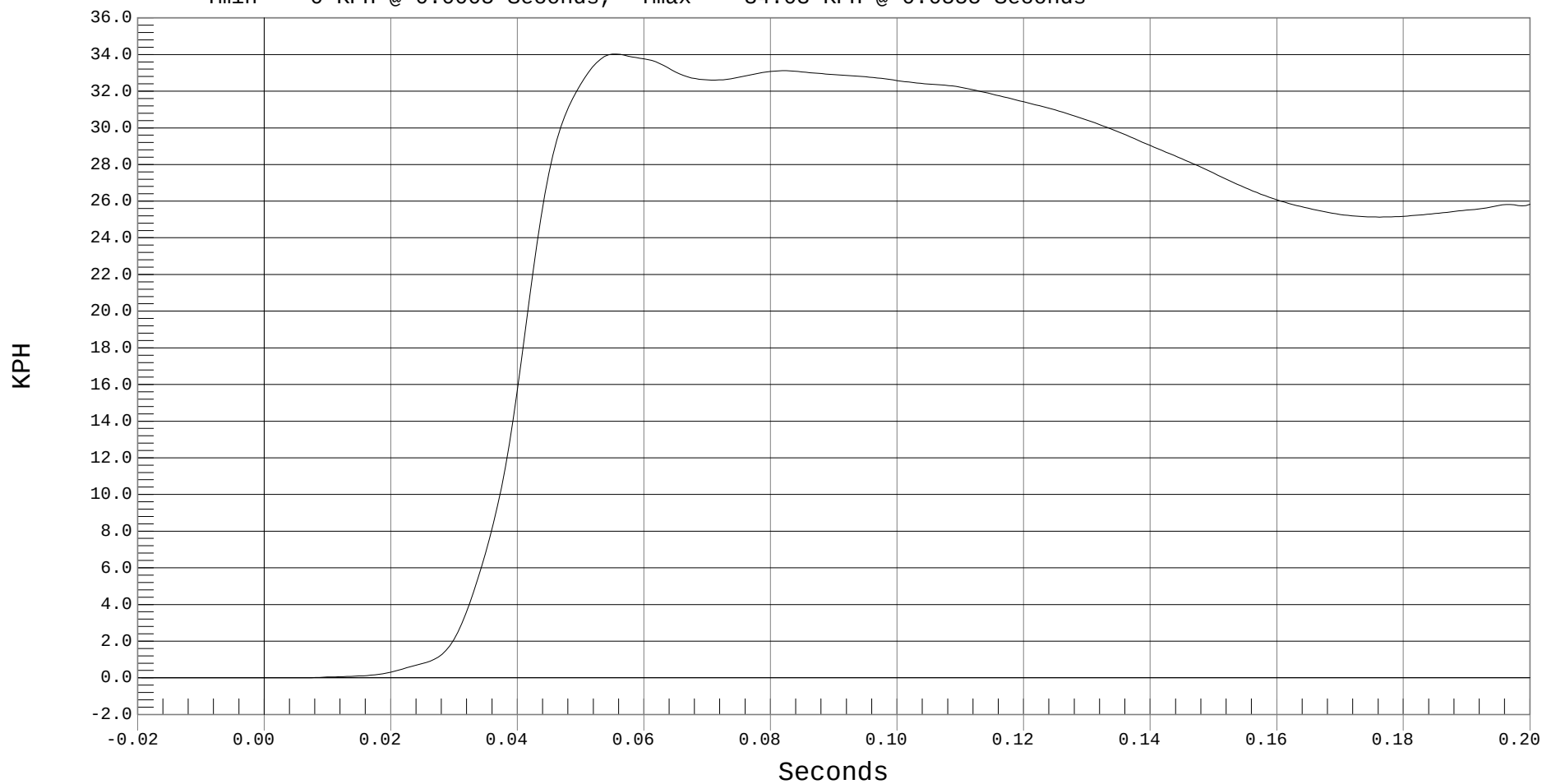
DRIVER PELVIS Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER PELVIS Y VELOCITY, b01077FI.V07

Ymin = 0 KPH @ 0.0005 Seconds, Ymax = 34.03 KPH @ 0.0555 Seconds





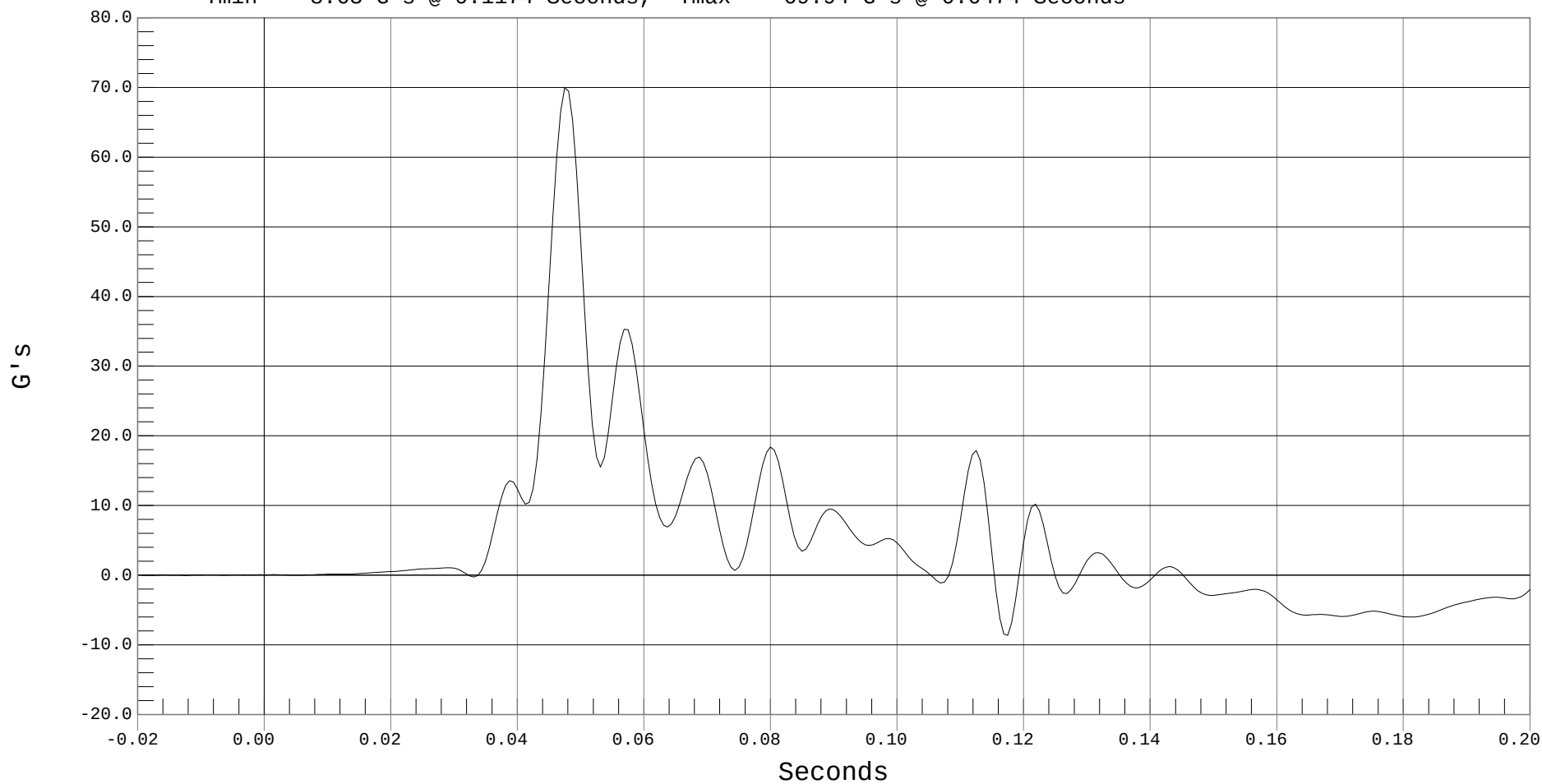
REAR PASSENGER UPPER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER UPPER RIB Y, b01077FI.R11

Ymin = -8.63 G's @ 0.1174 Seconds, Ymax = 69.94 G's @ 0.0474 Seconds





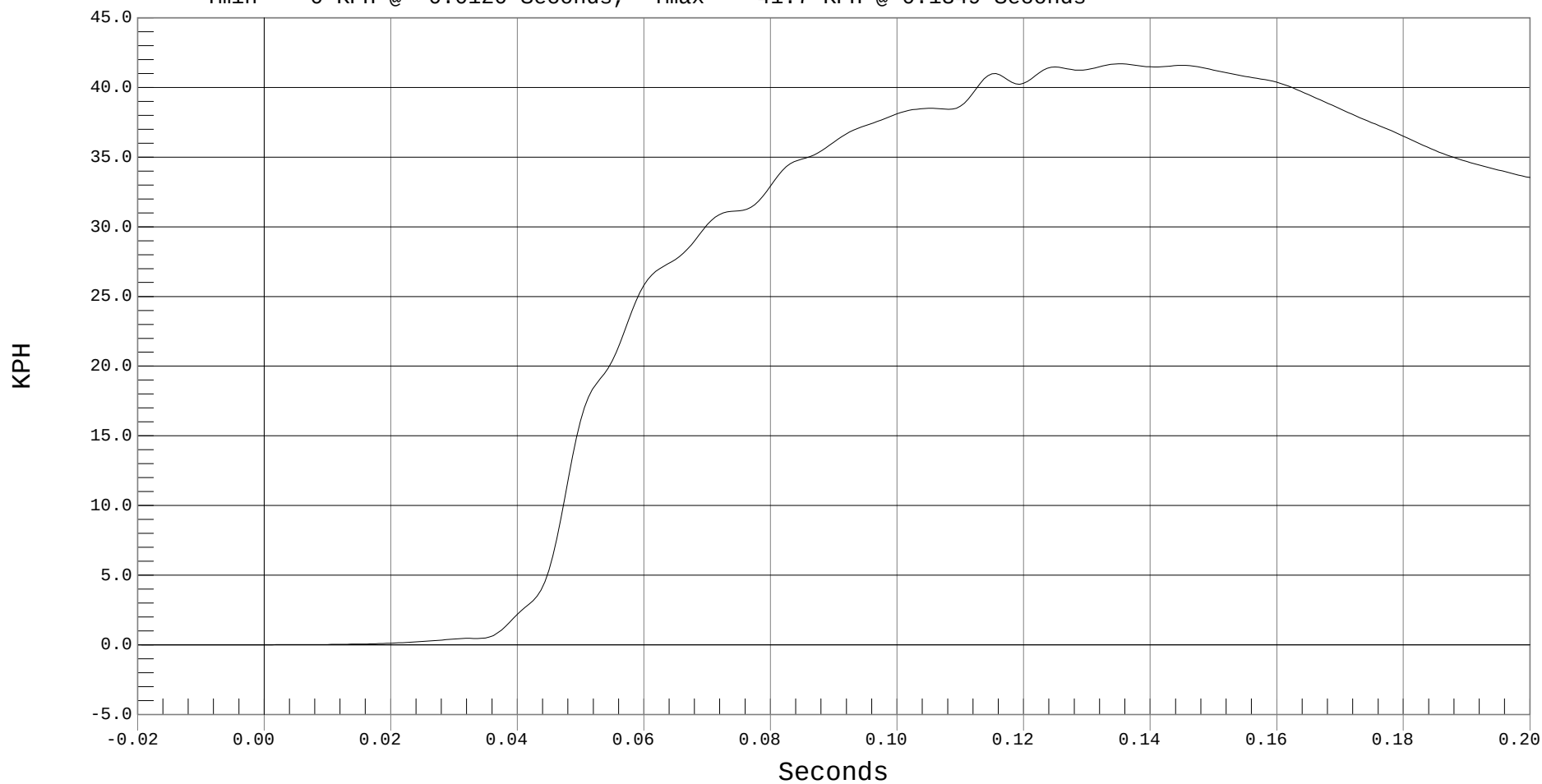
REAR PASSENGER UPPER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER UPPER RIB Y VELOCITY, b01077FI.V11

Ymin = 0 KPH @ -0.0120 Seconds, Ymax = 41.7 KPH @ 0.1349 Seconds





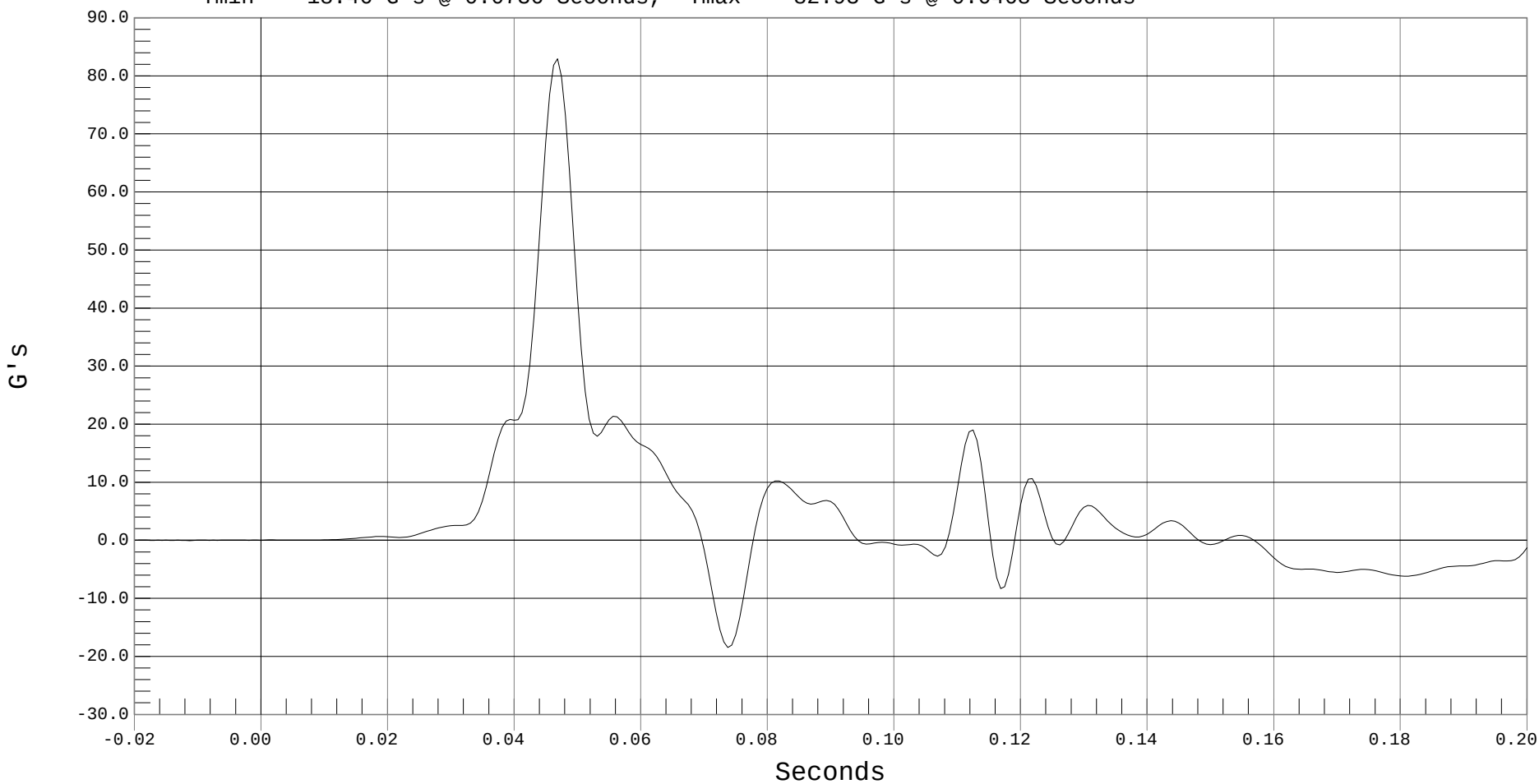
REAR PASSENGER LOWER RIB Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER LOWER RIB Y, b01077FI.R12

Ymin = -18.46 G's @ 0.0736 Seconds, Ymax = 82.93 G's @ 0.0468 Seconds





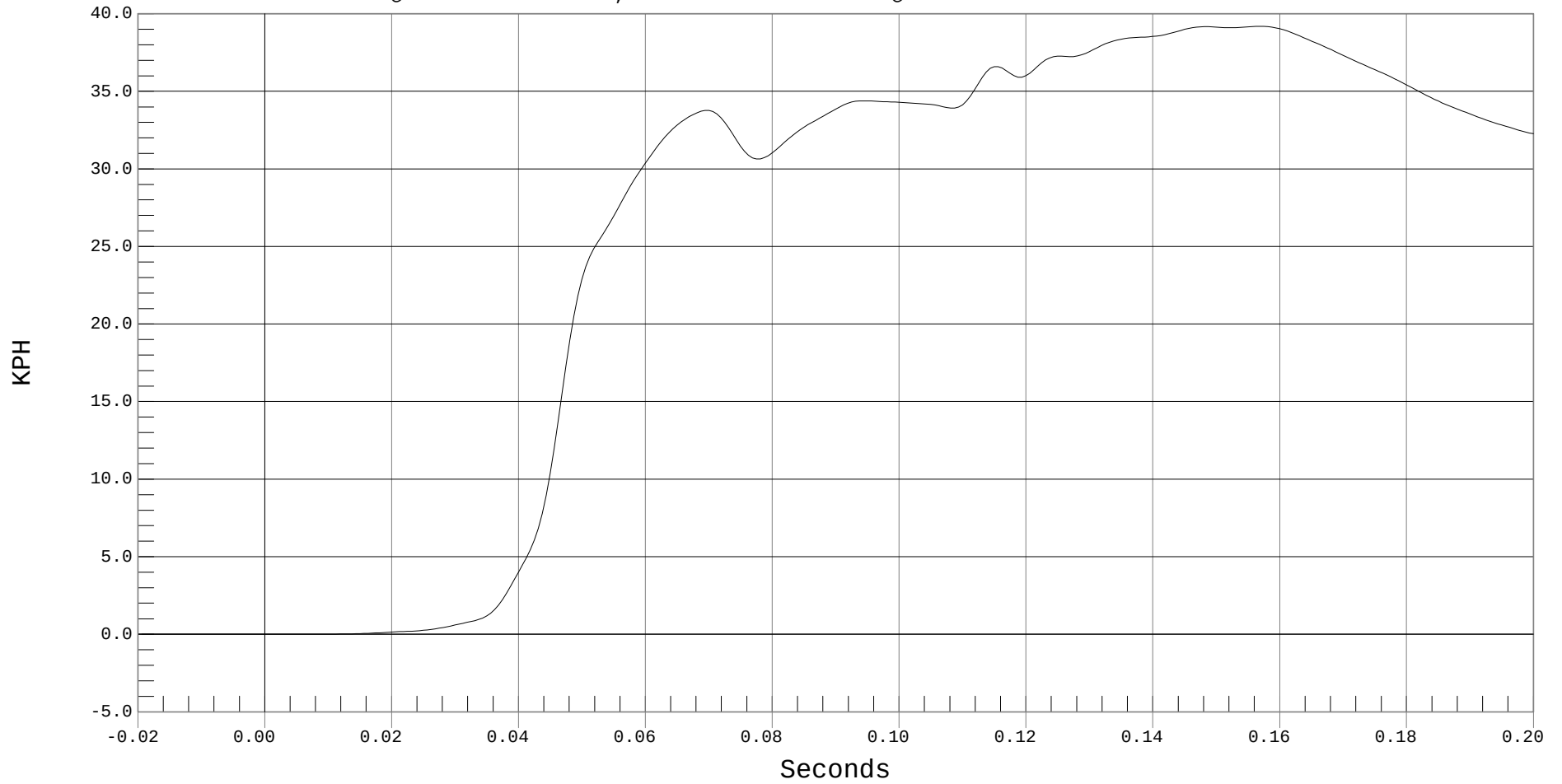
REAR PASSENGER LOWER RIB Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER LOWER RIB Y VELOCITY, b01077FI.V12

Ymin = 0 KPH @ -0.0107 Seconds, Ymax = 39.19 KPH @ 0.1568 Seconds





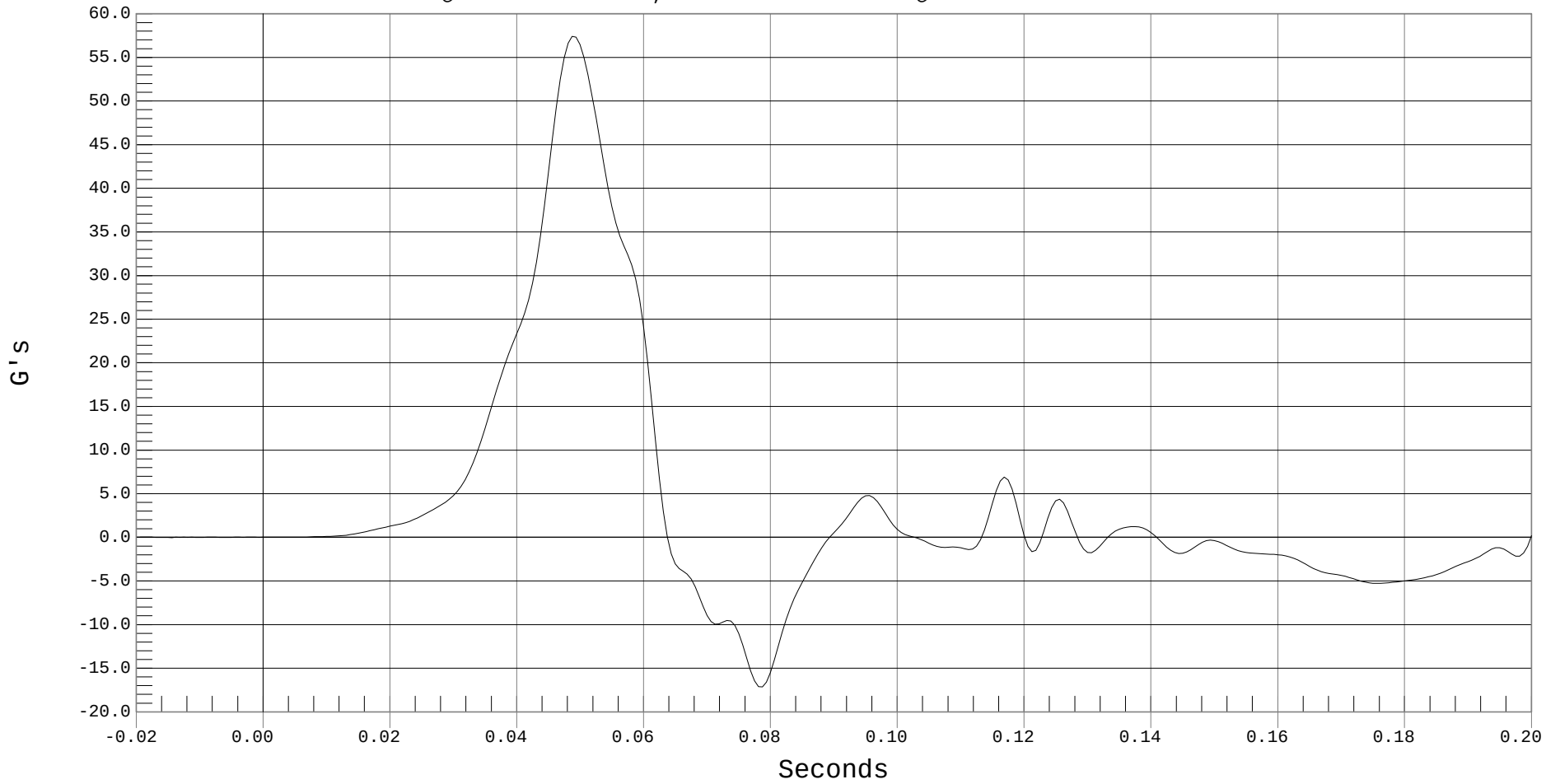
REAR PASSENGER LOWER SPINE Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER LOWER SPINE Y, b01077FI.R13

Ymin = -17.16 G's @ 0.0787 Seconds, Ymax = 57.4 G's @ 0.0487 Seconds





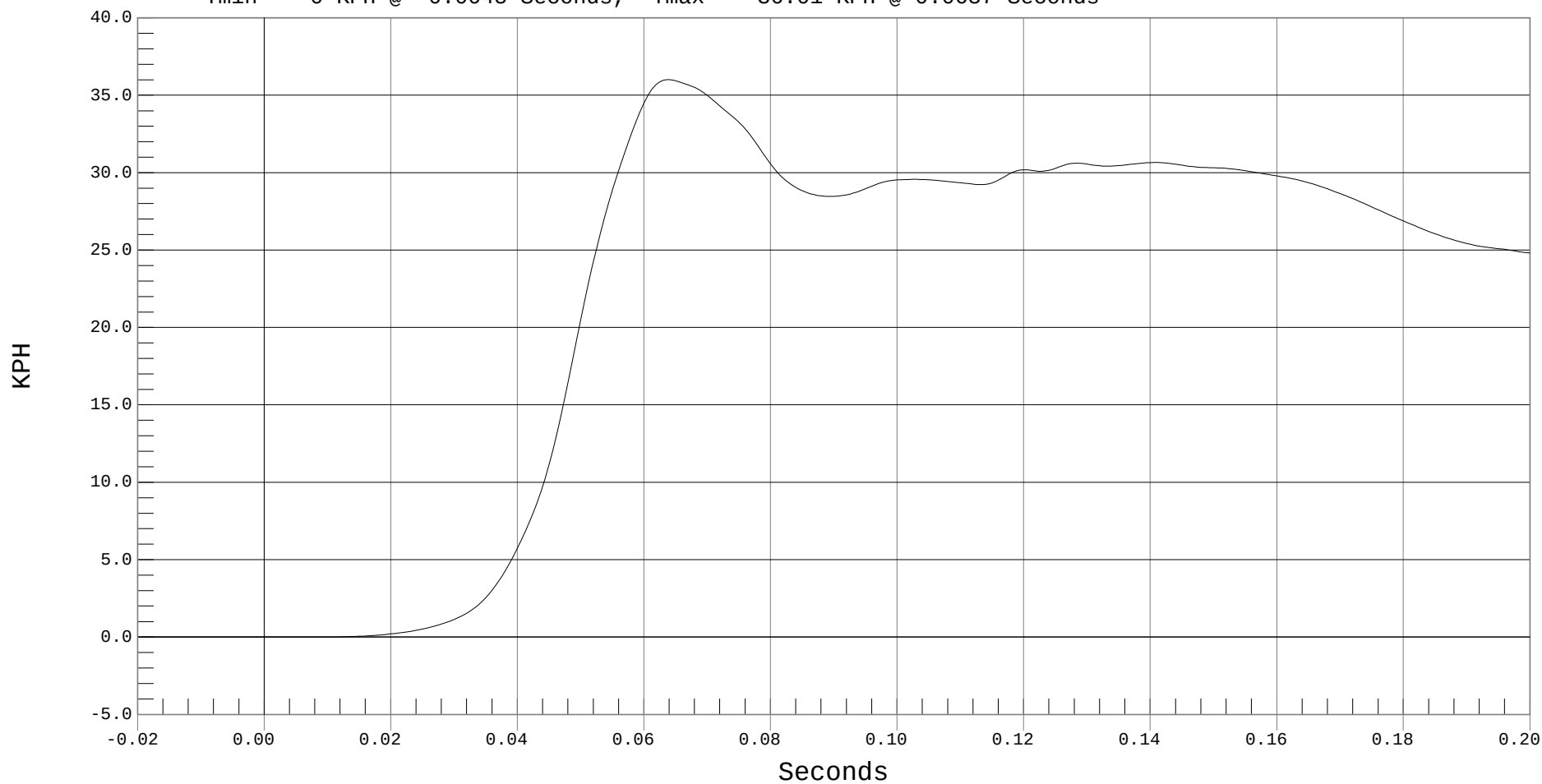
REAR PASSENGER LOWER SPINE Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER LOWER SPINE Y VELOCITY, b01077FI.V13

Ymin = 0 KPH @ -0.0045 Seconds, Ymax = 36.01 KPH @ 0.0637 Seconds





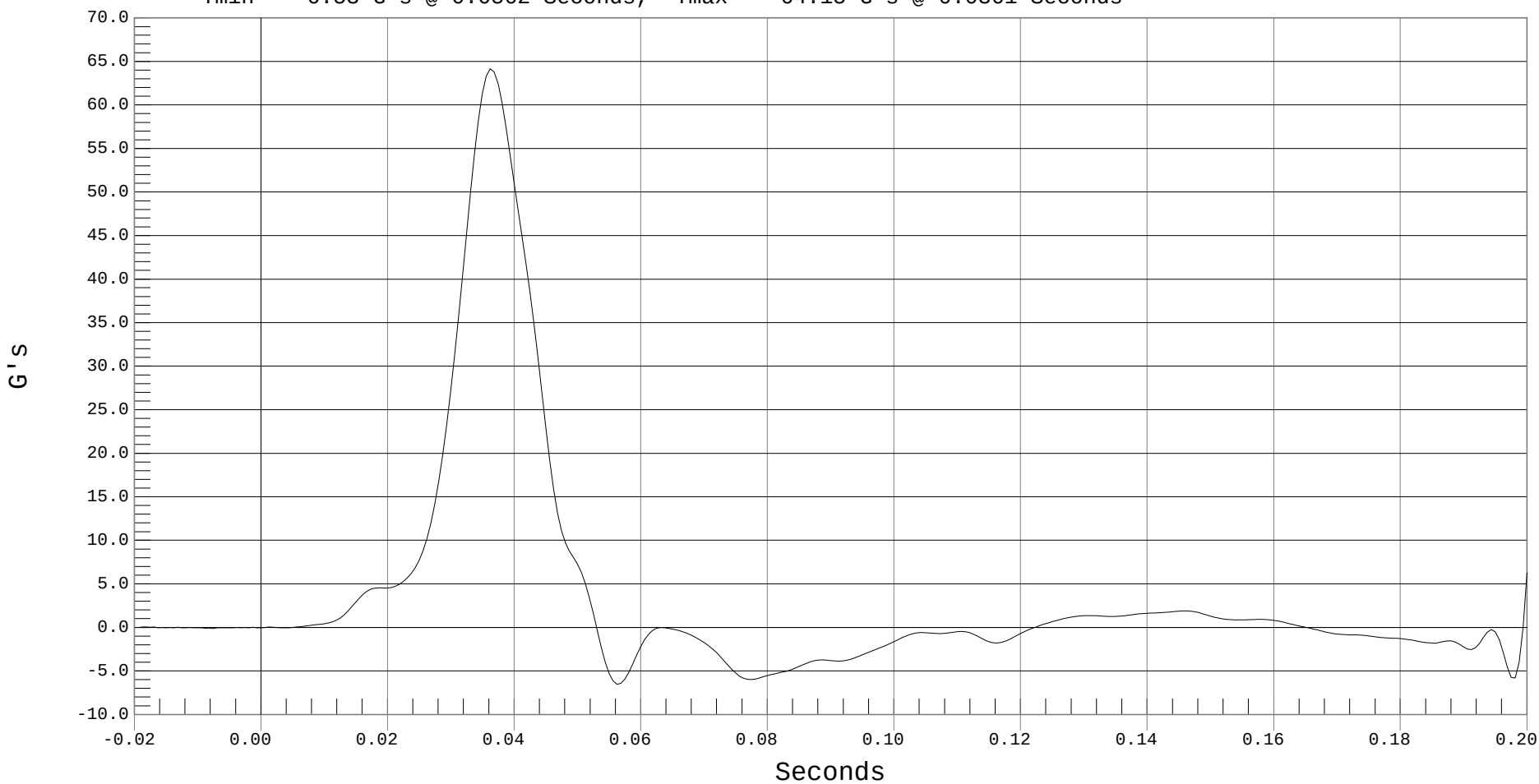
REAR PASSENGER PELVIS Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER PELVIS Y, b01077FI.R14

Ymin = -6.53 G's @ 0.0562 Seconds, Ymax = 64.15 G's @ 0.0361 Seconds





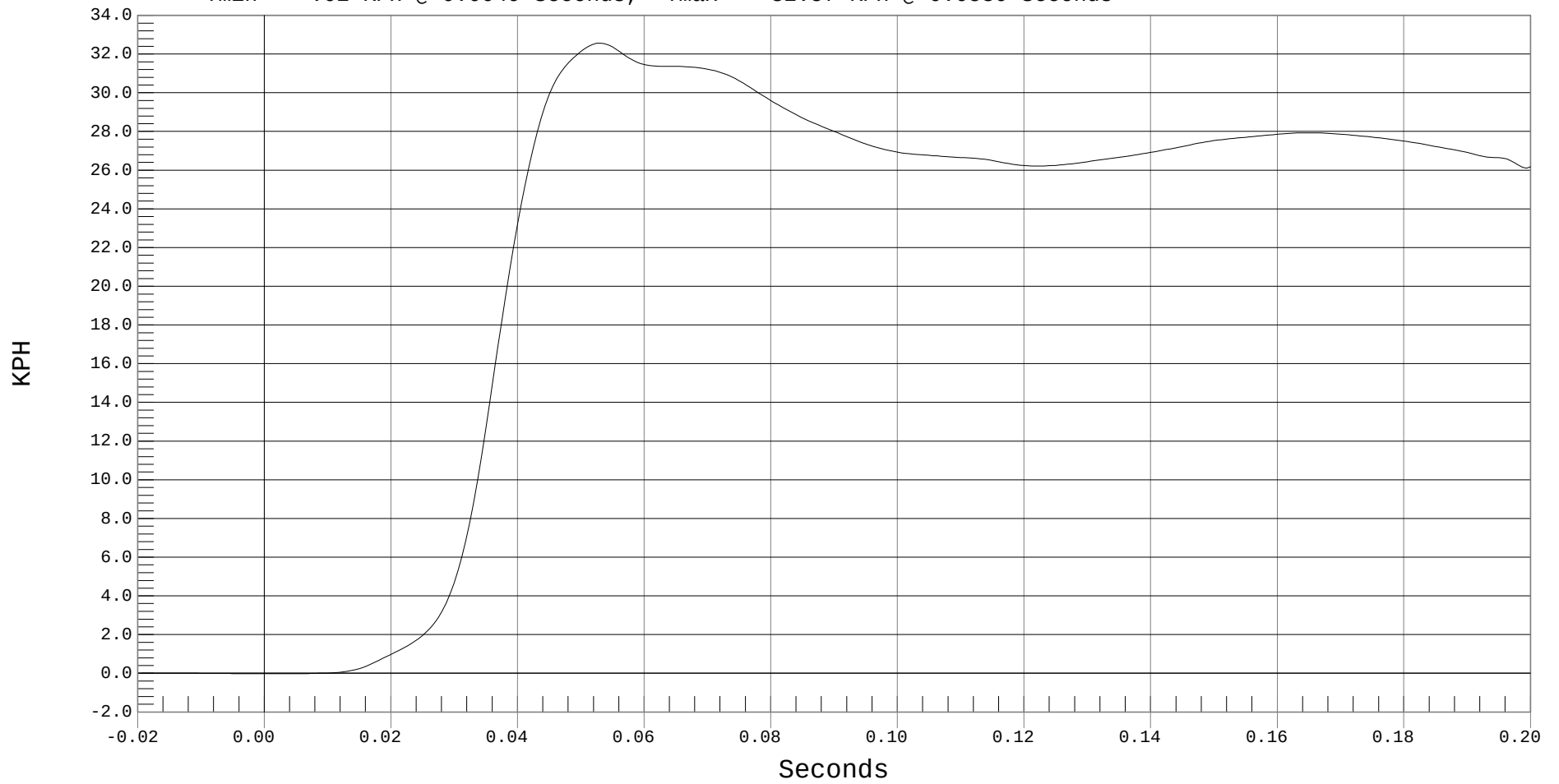
REAR PASSENGER PELVIS Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER PELVIS Y VELOCITY, b01077FI.V14

Ymin = -.02 KPH @ 0.0049 Seconds, Ymax = 32.57 KPH @ 0.0530 Seconds





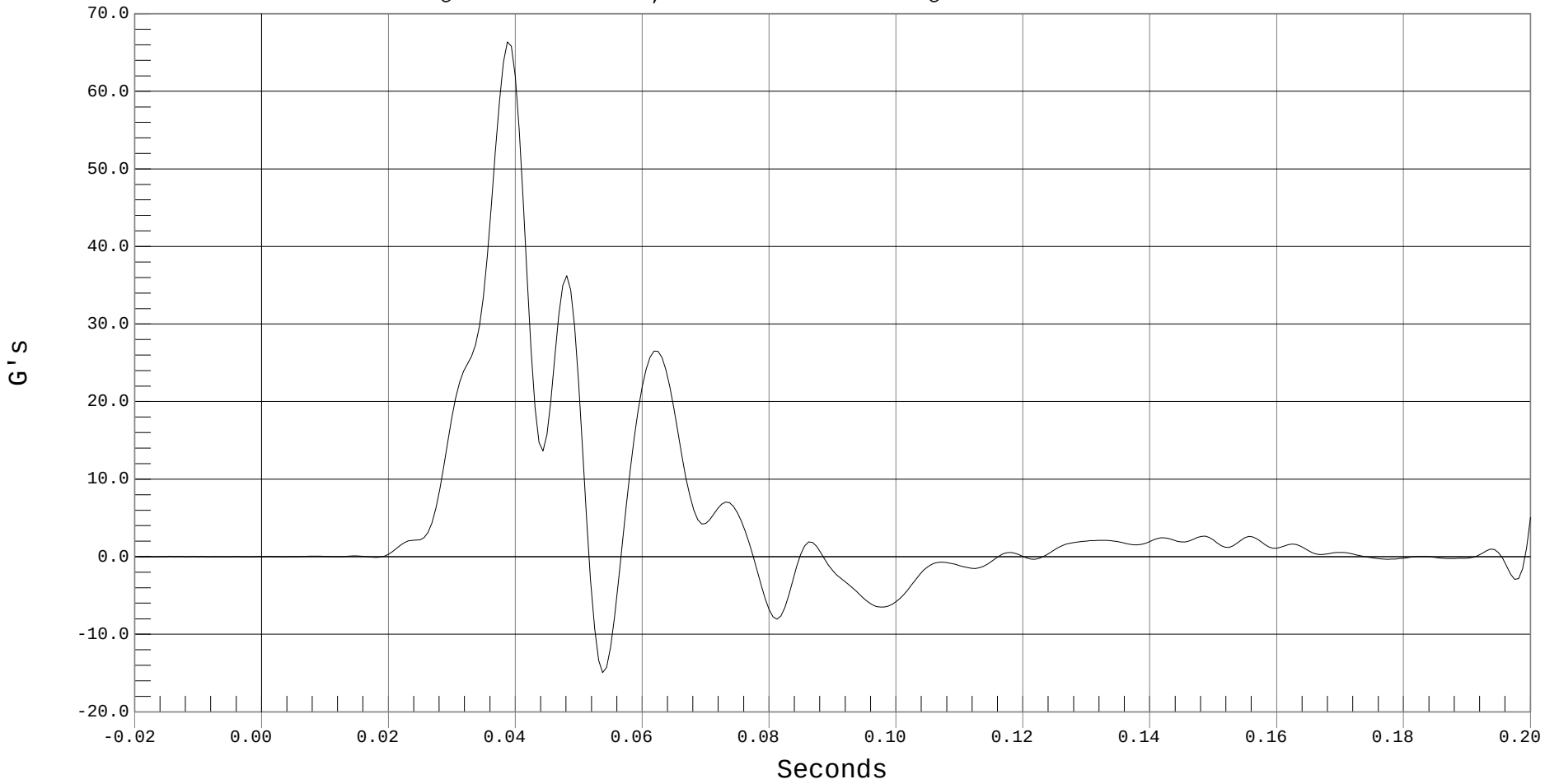
DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER UPPER RIB Yr, b01077FI.R41

Ymin = -14.95 G's @ 0.0537 Seconds, Ymax = 66.38 G's @ 0.0387 Seconds





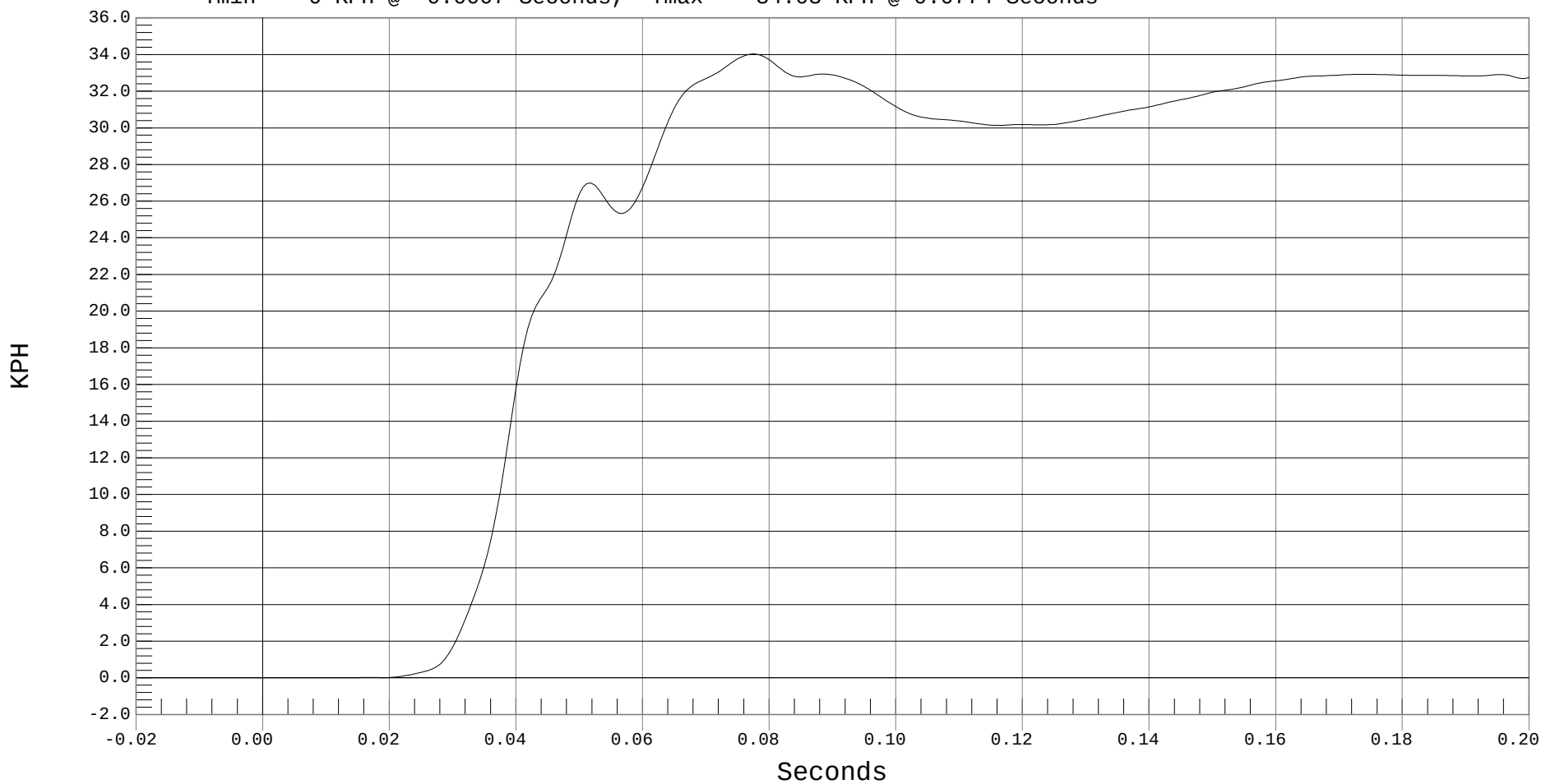
DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, b01077FI.V41

Ymin = 0 KPH @ -0.0007 Seconds, Ymax = 34.03 KPH @ 0.0774 Seconds





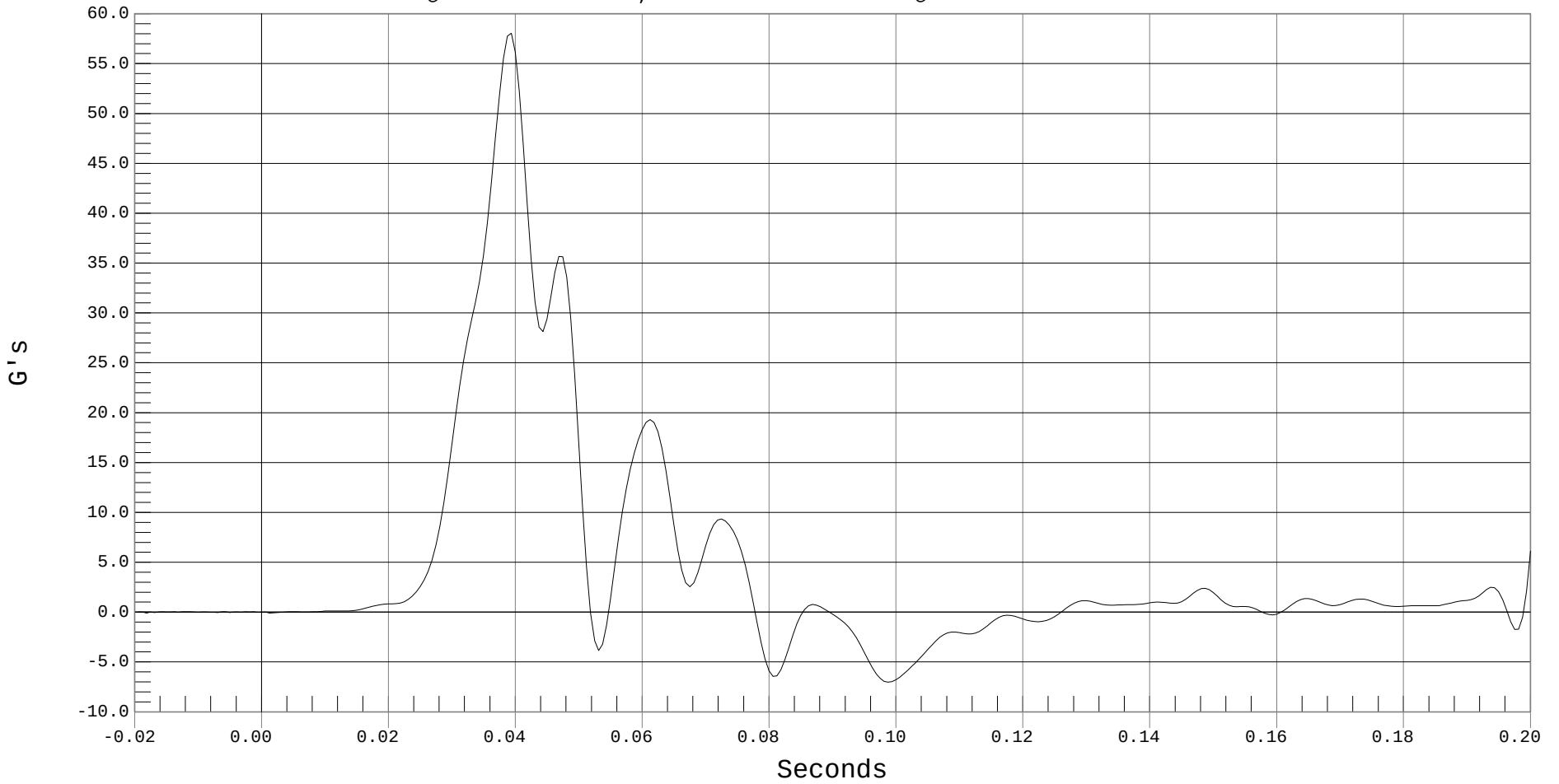
DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER LOWER RIB Yr, b01077FI.R42

Ymin = -7.04 G's @ 0.0987 Seconds, Ymax = 58.05 G's @ 0.0393 Seconds





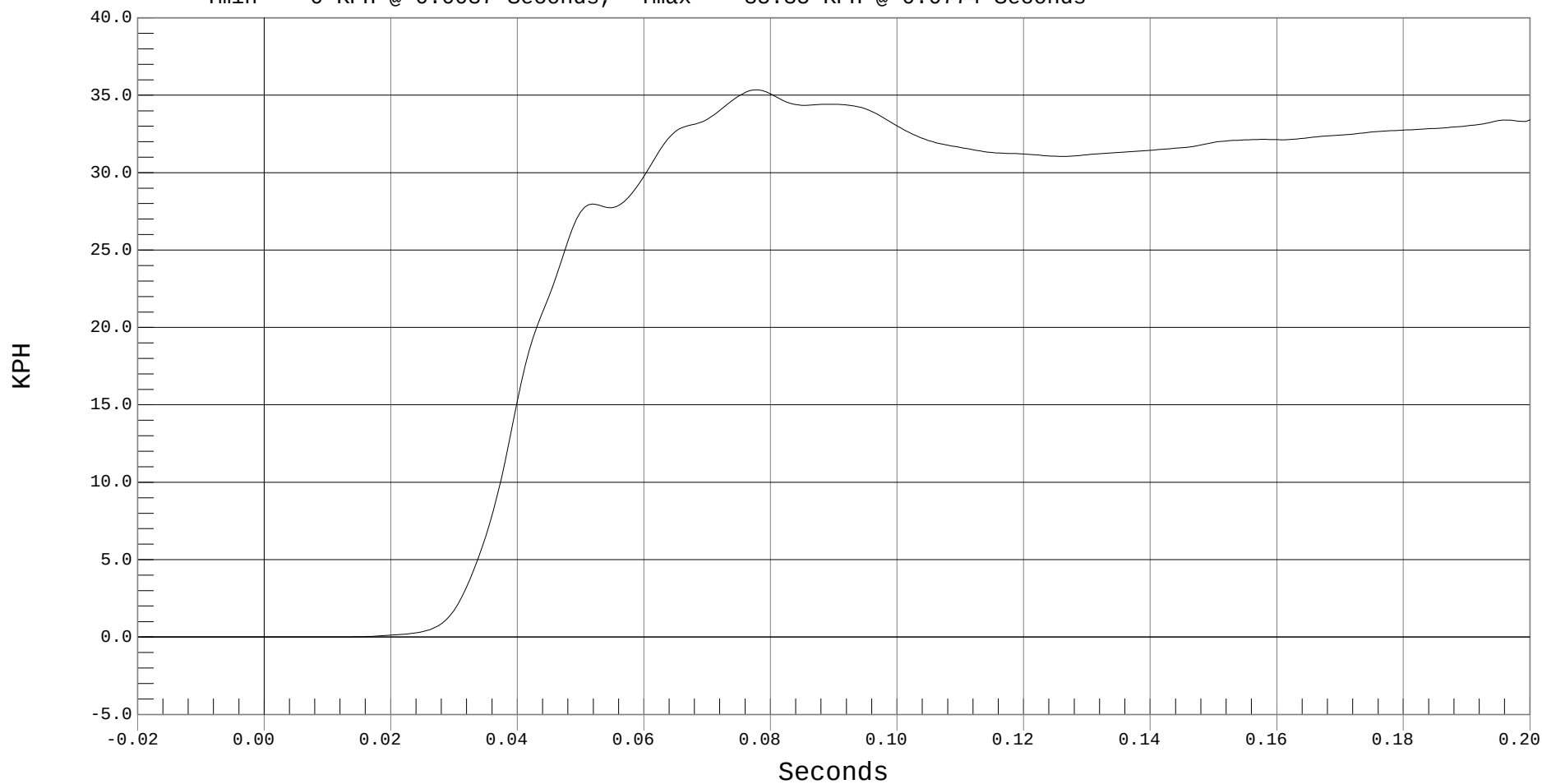
DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, b01077FI.V42

Ymin = 0 KPH @ 0.0037 Seconds, Ymax = 35.35 KPH @ 0.0774 Seconds





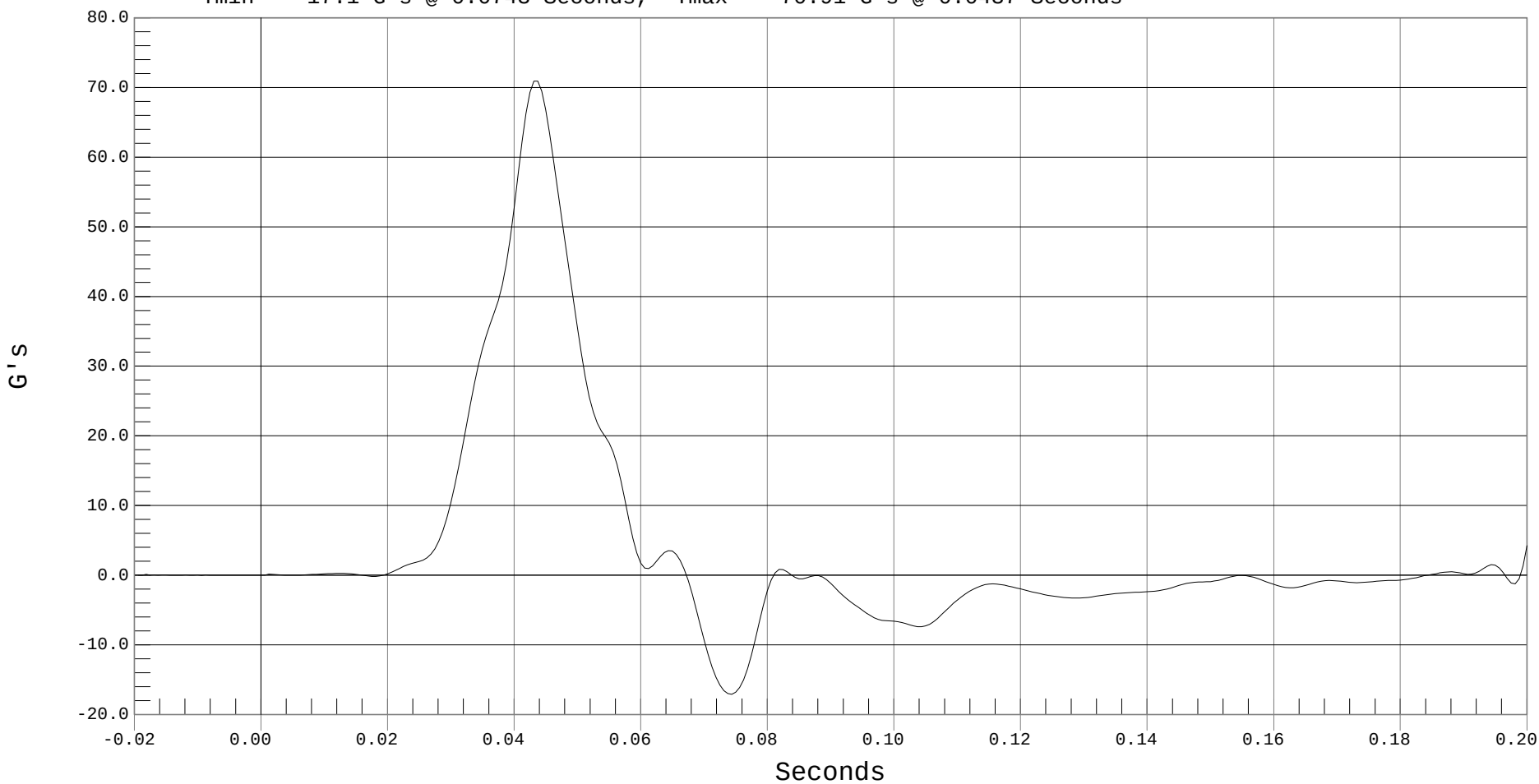
DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER LOWER SPINE Yr, b01077FI.R43

Ymin = -17.1 G's @ 0.0743 Seconds, Ymax = 70.91 G's @ 0.0437 Seconds





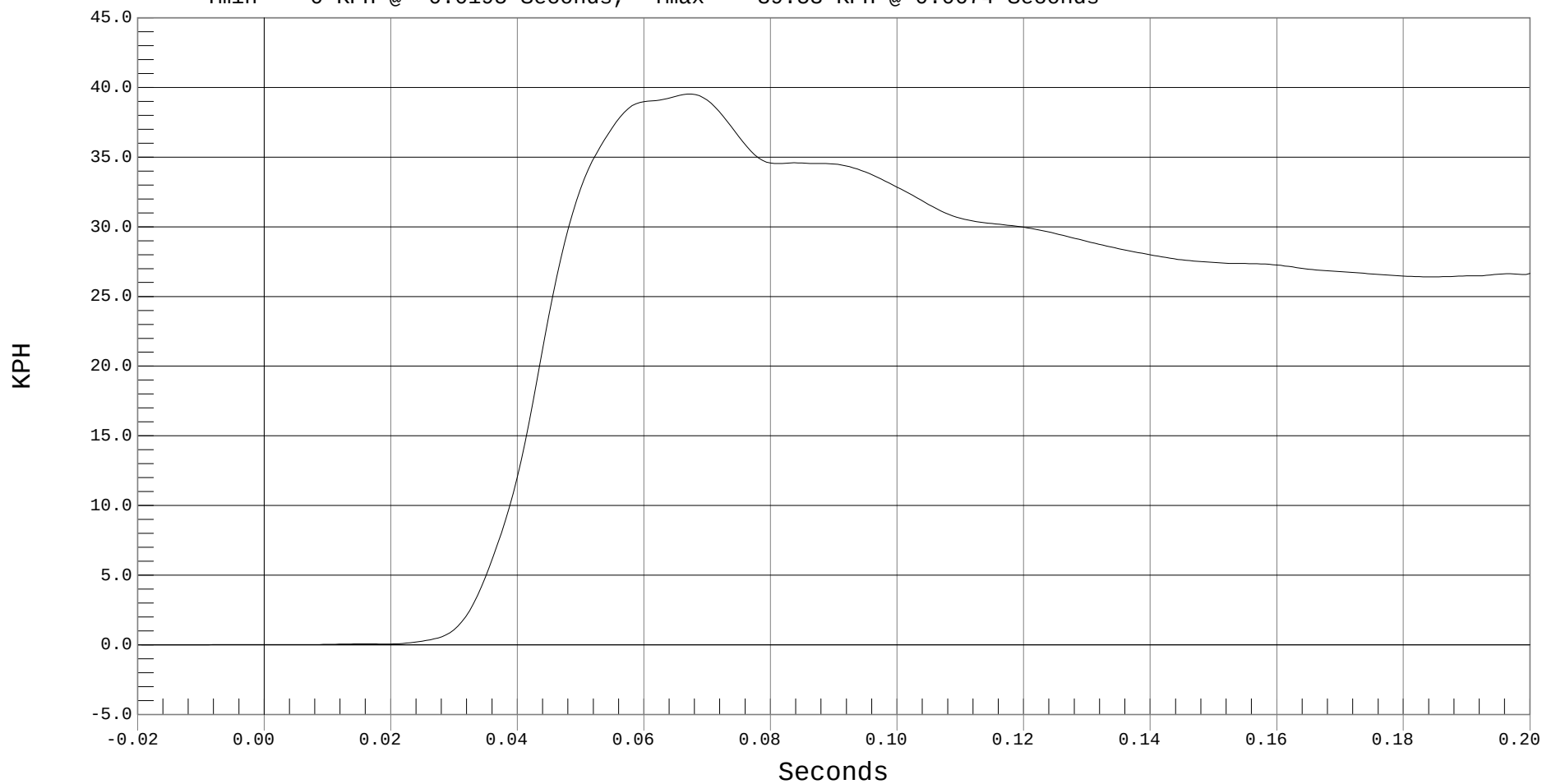
DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, b01077FI.V43

Ymin = 0 KPH @ -0.0195 Seconds, Ymax = 39.53 KPH @ 0.0674 Seconds





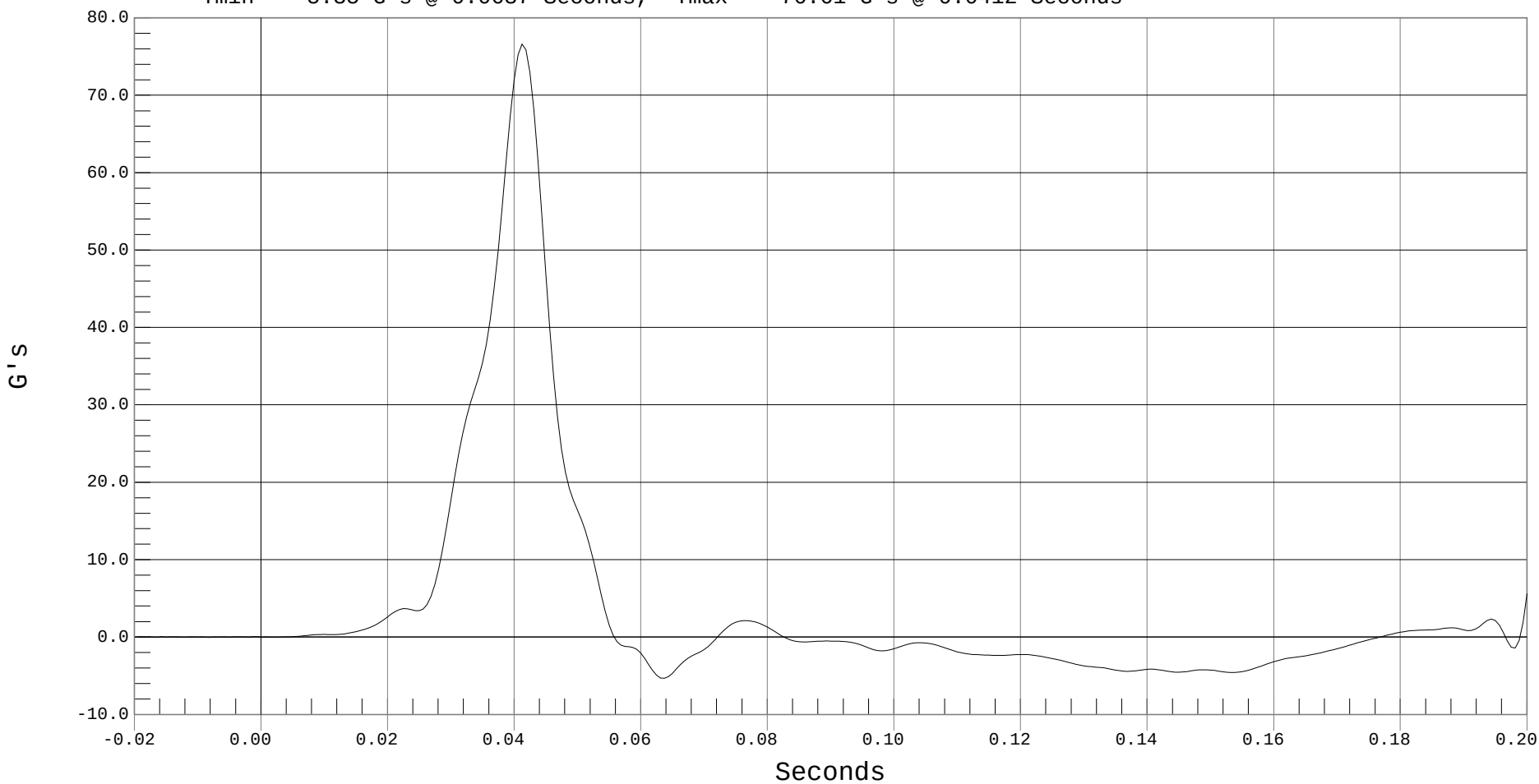
DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER PELVIS Yr, b01077FI.R44

Ymin = -5.35 G's @ 0.0637 Seconds, Ymax = 76.61 G's @ 0.0412 Seconds





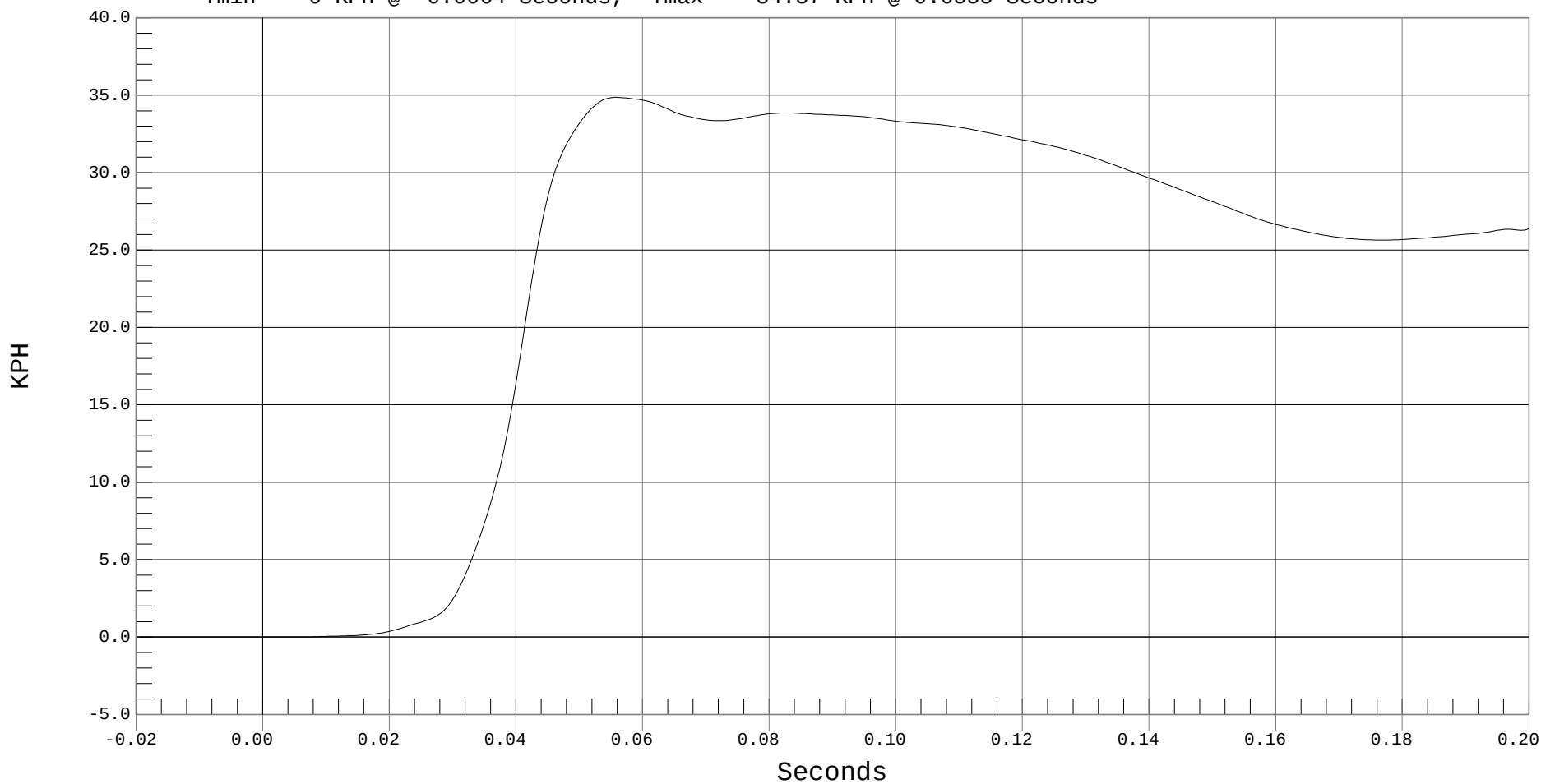
DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 DRIVER PELVIS Y REDUNDANT VELOCITY, b01077FI.V44

Ymin = 0 KPH @ -0.0064 Seconds, Ymax = 34.87 KPH @ 0.0555 Seconds





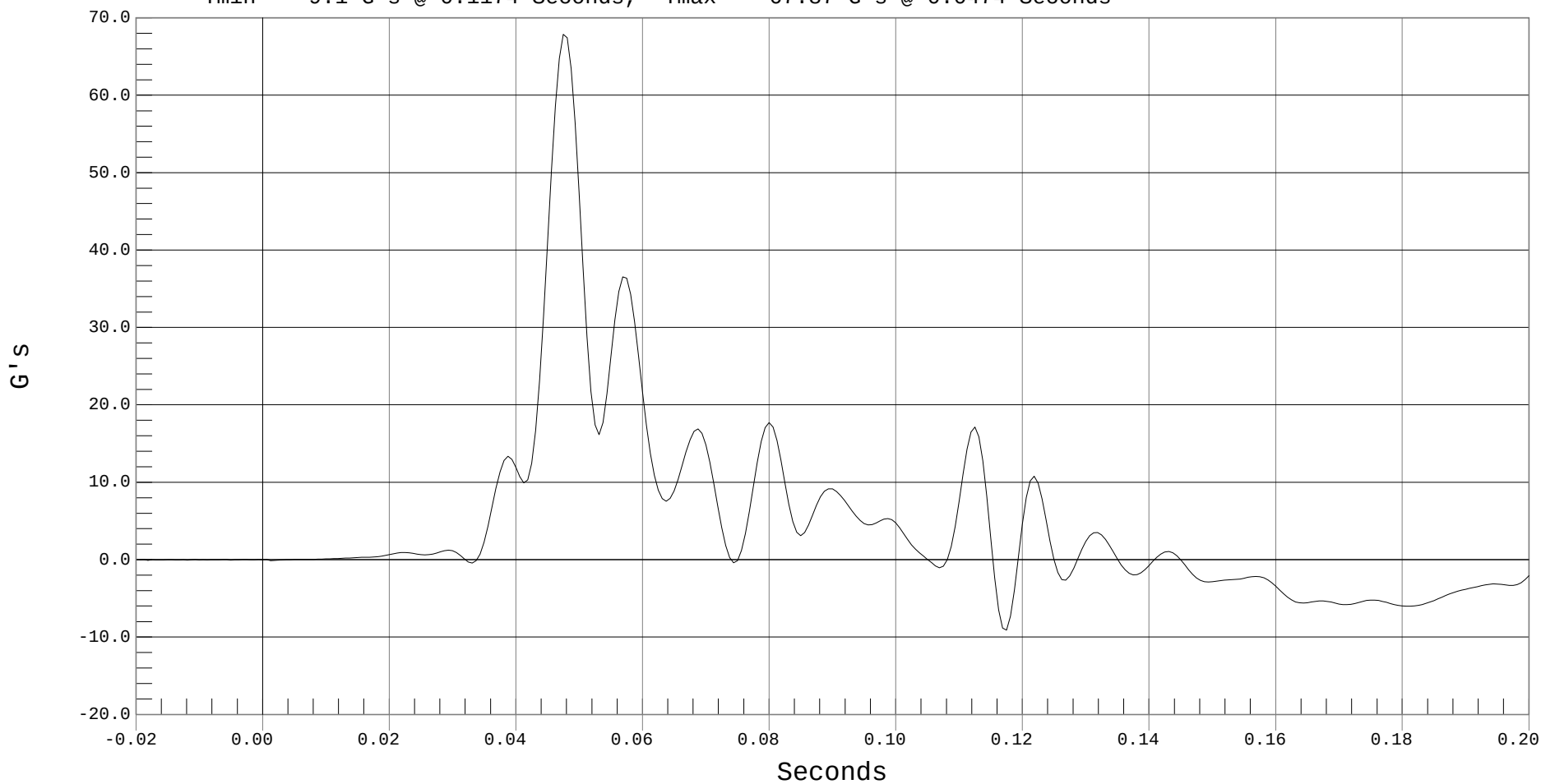
REAR PASSENGER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER UPPER RIB Yr, b01077FI.R45

Ymin = -9.1 G's @ 0.1174 Seconds, Ymax = 67.87 G's @ 0.0474 Seconds





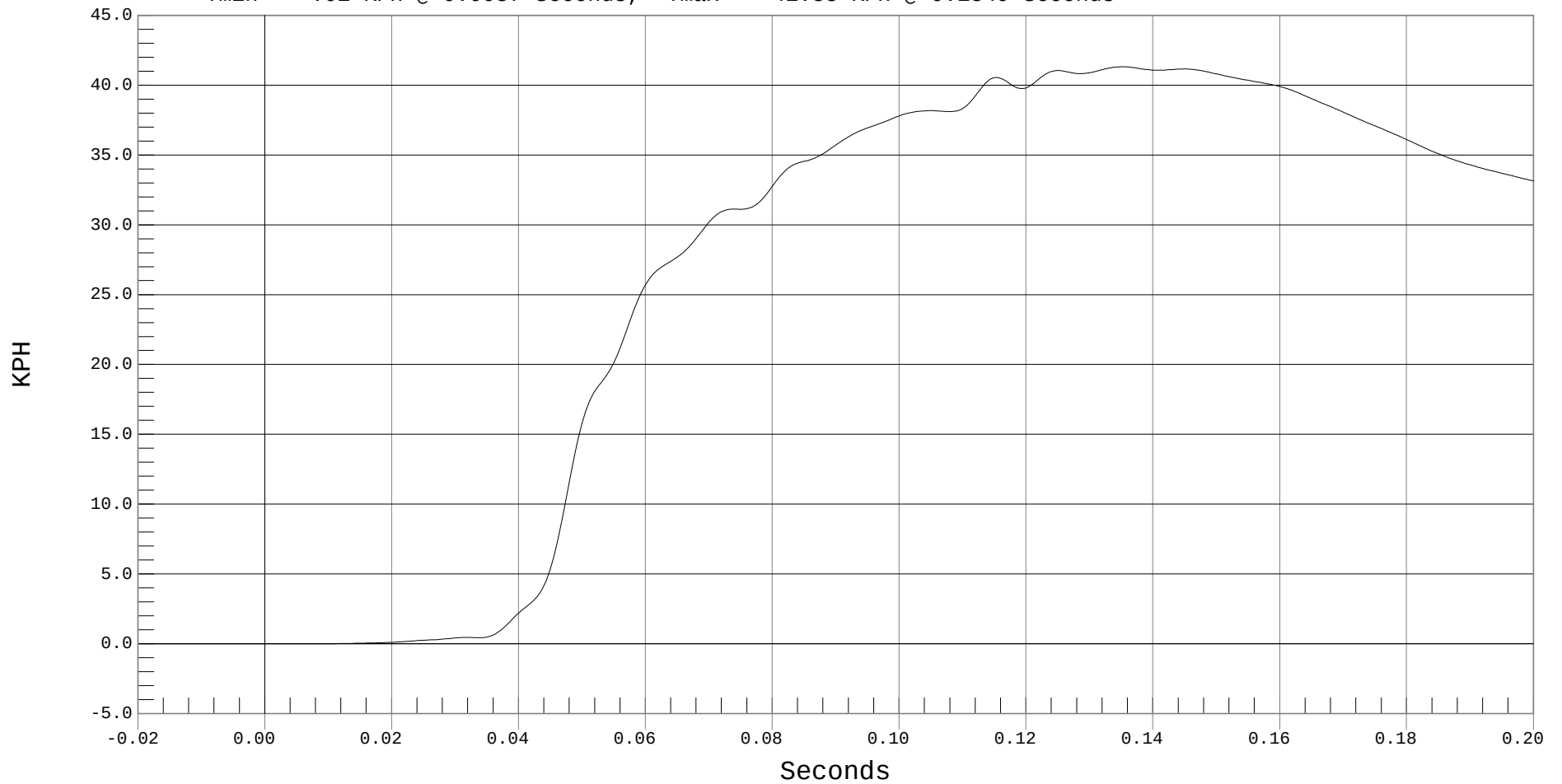
REAR PASSENGER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY, b01077FI.V45

Ymin = -.01 KPH @ 0.0037 Seconds, Ymax = 41.33 KPH @ 0.1349 Seconds





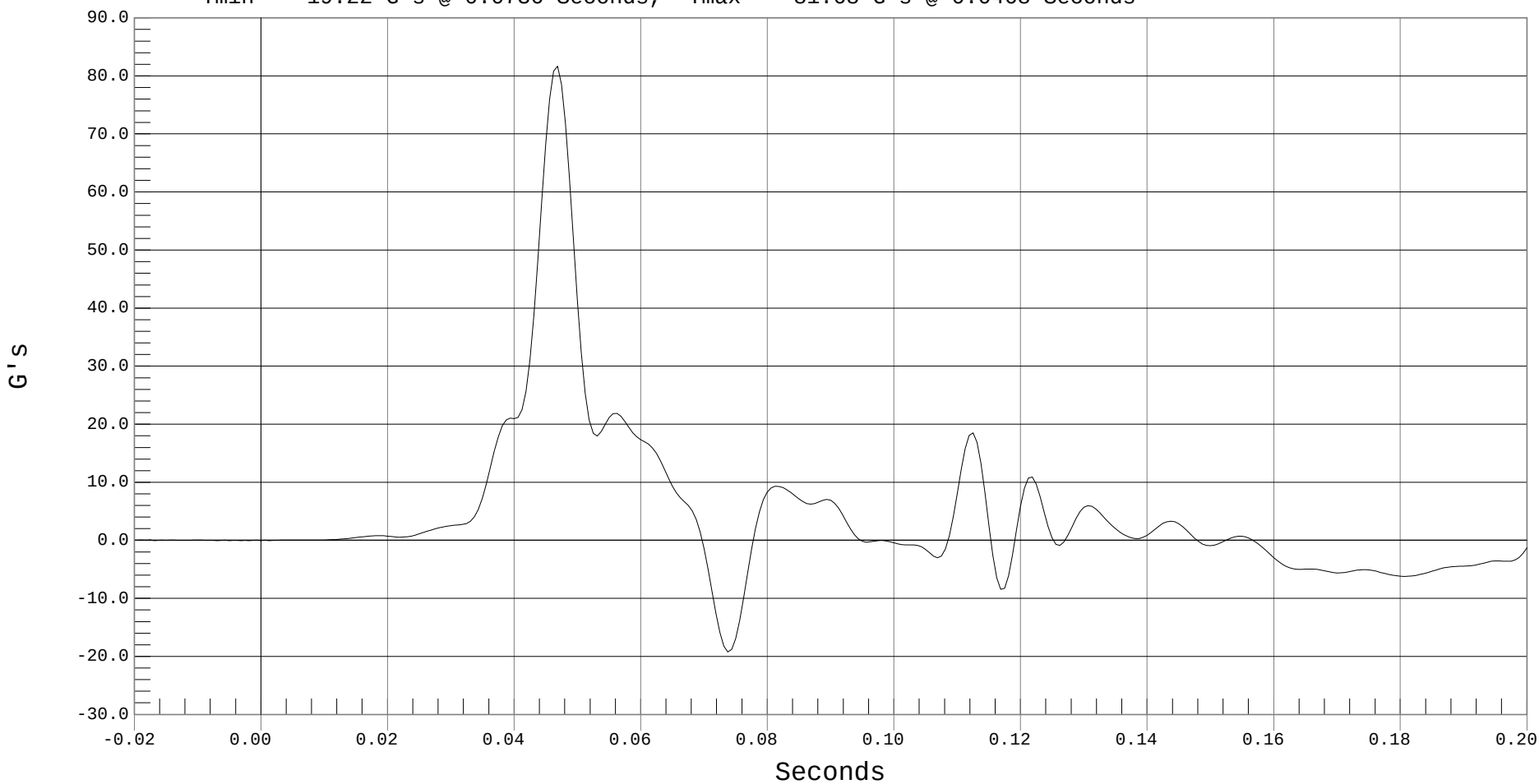
REAR PASSENGER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER LOWER RIB Yr, b01077FI.R46

Ymin = -19.22 G's @ 0.0736 Seconds, Ymax = 81.68 G's @ 0.0468 Seconds





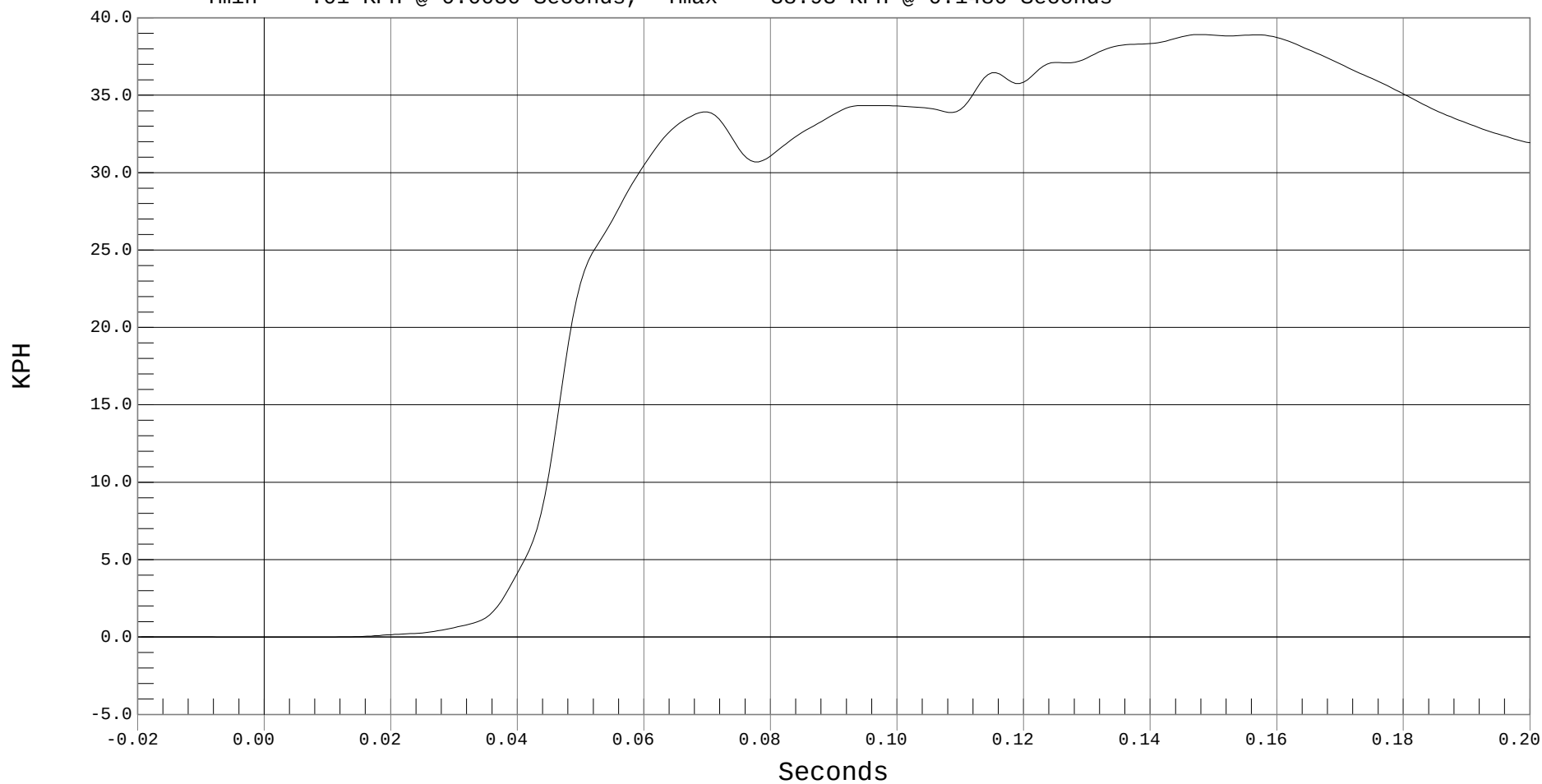
REAR PASSENGER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY, b01077FI.V46

Ymin = -.01 KPH @ 0.0030 Seconds, Ymax = 38.93 KPH @ 0.1480 Seconds





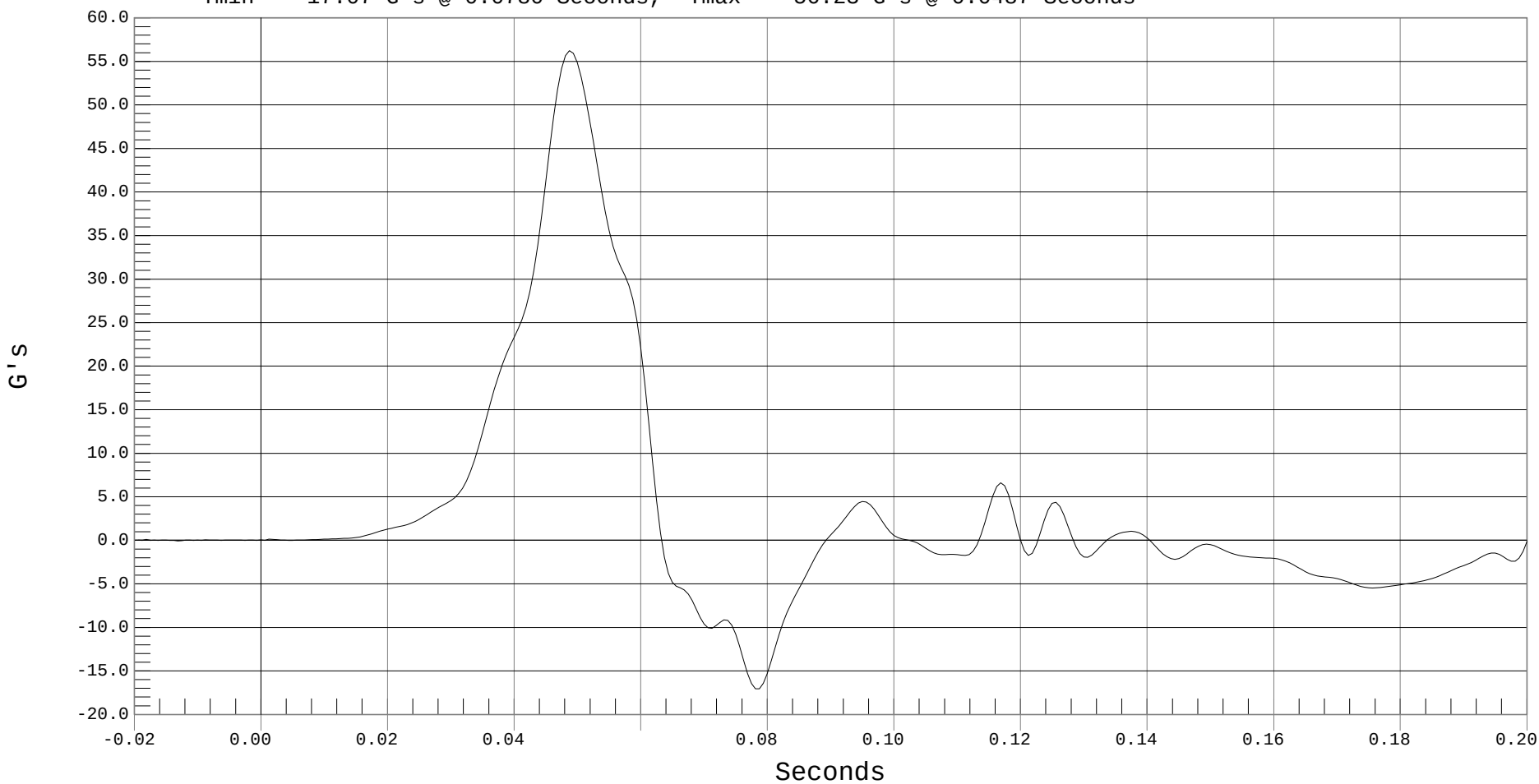
REAR PASSENGER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER LOWER SPINE Yr, b01077FI.R47

Ymin = -17.07 G's @ 0.0780 Seconds, Ymax = 56.23 G's @ 0.0487 Seconds





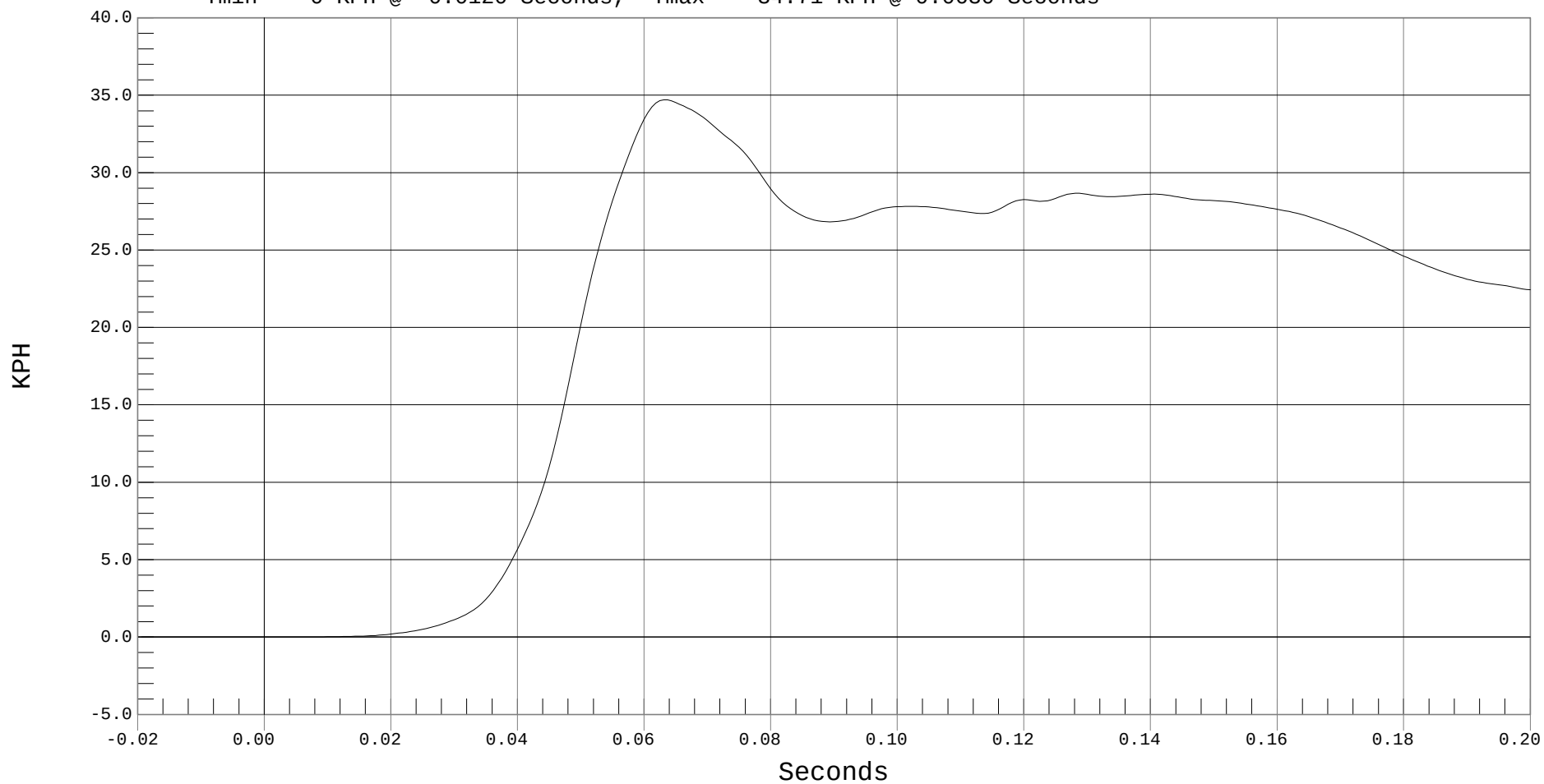
REAR PASSENGER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

1 REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY, b01077F1.V47

Ymin = 0 KPH @ -0.0120 Seconds, Ymax = 34.71 KPH @ 0.0630 Seconds





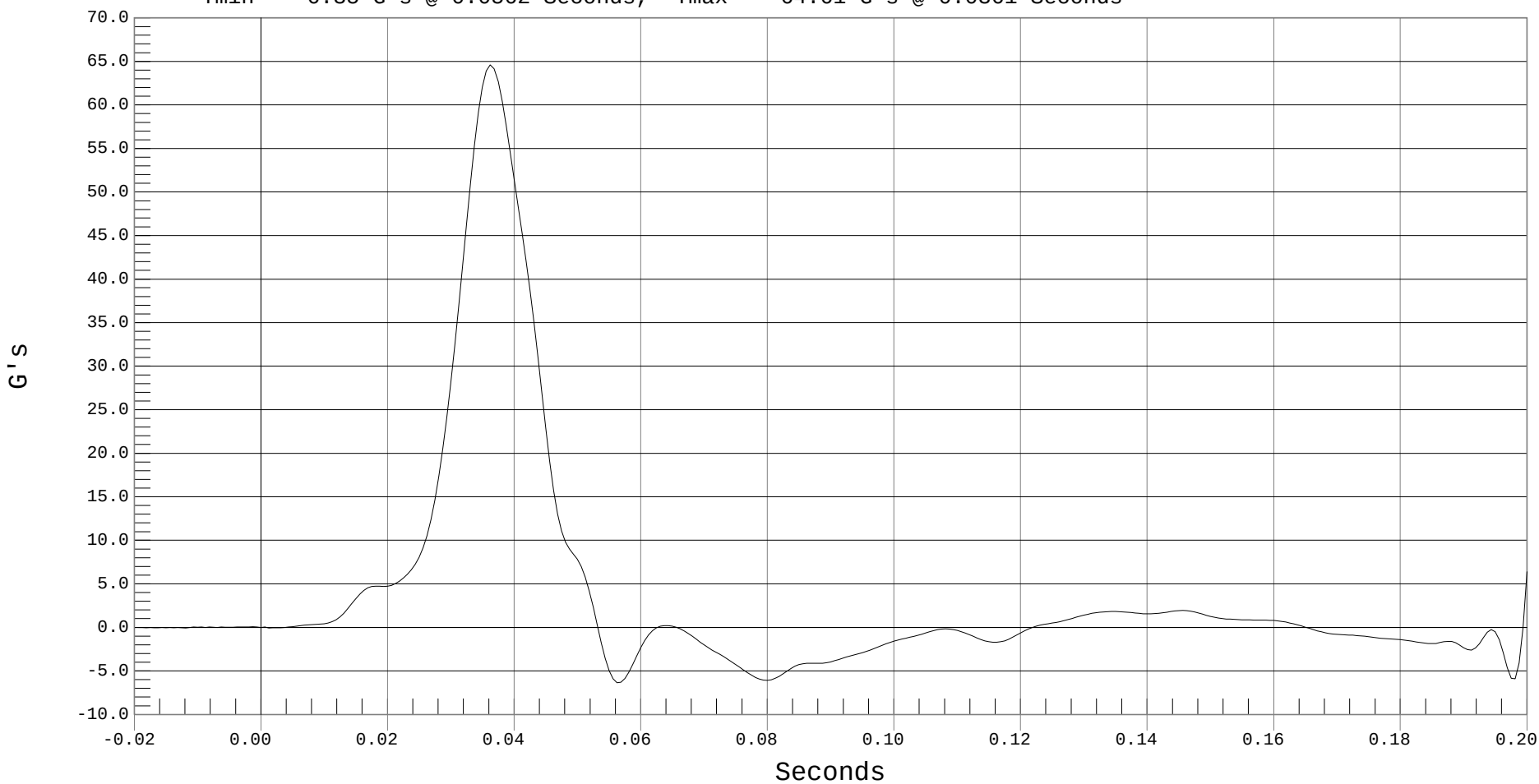
REAR PASSENGER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 PASSENGER PELVIS Yr, b01077FI.R48

Ymin = -6.35 G's @ 0.0562 Seconds, Ymax = 64.61 G's @ 0.0361 Seconds





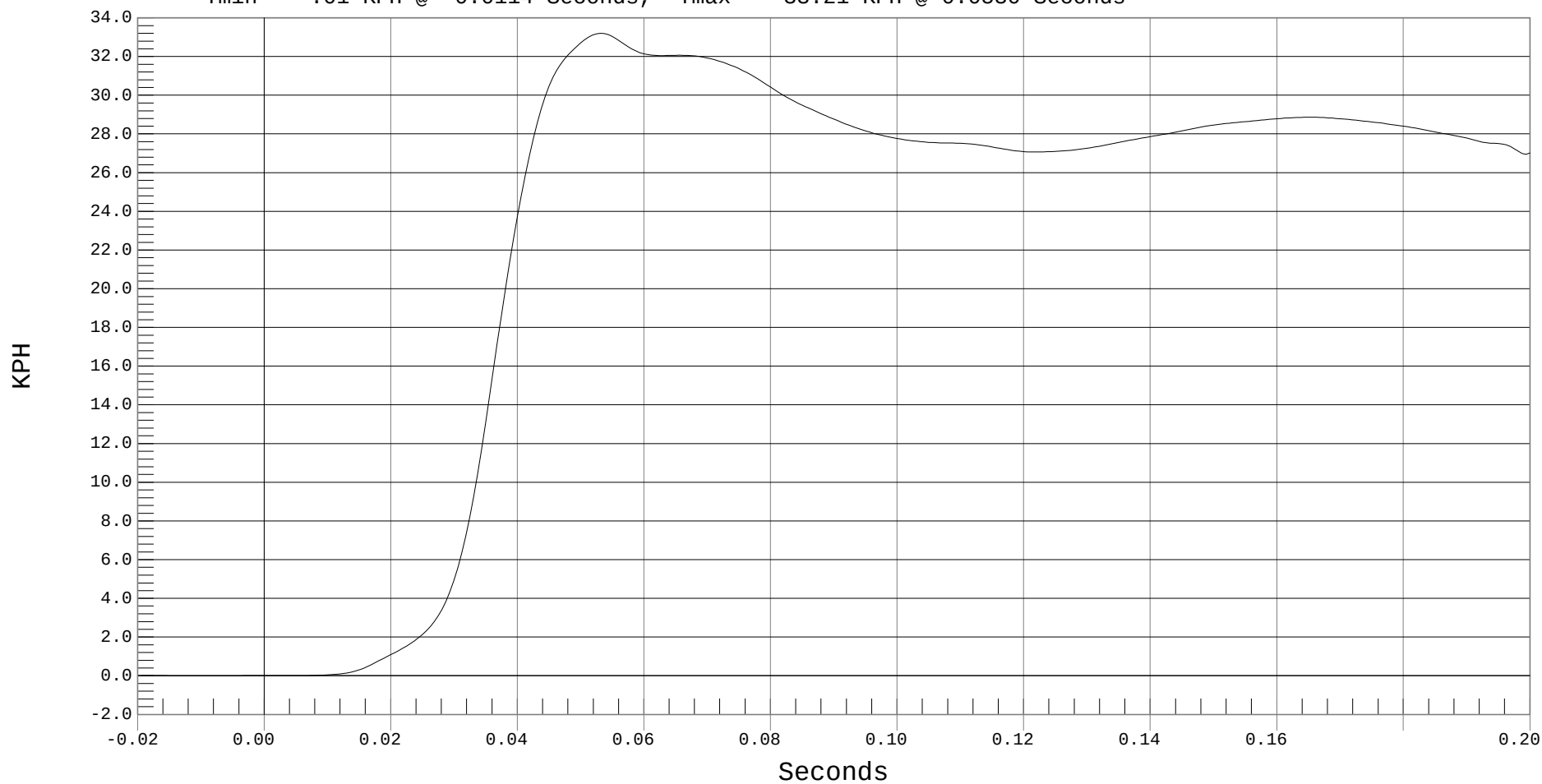
REAR PASSENGER PELVIS REDUNDANT Y VELOCITY

Test Desc.: FMVSS 214 SIDE IMPACT
Component: 2001 HYUNDAI ACCENT GL
Other Info:

Test Date: 07-17-01
Speed: 32.9 MPH, 52.9 KPH
Fir Filtered

— 1 REAR PASSENGER PELVIS Y REDUNDANT VELOCITY, b01077FI.V48

Ymin = -.01 KPH @ -0.0114 Seconds, Ymax = 33.21 KPH @ 0.0530 Seconds



APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SID Calibration Data Sheet
Side Impact Dummy
Configured to Left/Right Side Impact

Report Date:: 7/17/01

Technician: Tim Michnay

Tested Parameter	Units	Specification	Dummy Serial Number:271		Dummy Serial Number:272	
			Pre-Test	Post-Test	Pre-Test	Post-Test
SH – Seated Height	mm	889 - 909	902	902	900	900
RH – Rib Height	mm	501 – 521	517	517	514	514
HP – Hip Pivot Height	mm	99 ref.	99	99	99	99
RD-Rib from Back Line	mm	229 – 241	232	232	235	235
KV – Knee Pivot from Back Line	mm	511 – 526	517	517	522	522
SW – Knee Pivot to Floor	mm	490 – 505	496	496	491	491
HW – Hip Width	mm	356 – 391	379	379	373	373
Thorax Impact						
Laboratory Temperature	°C	18.9 to 25.5	20.8	21.1	20.8	21.2
Laboratory Relative Humidity	%	10 to 70	45	56	45	56
Probe Velocity	m/s	4.27 – 4.33	4.29	4.28	4.28	4.28
Upper Rib	G's	37 – 46	42	42	39	40
Lower Rib	G's	37 – 46	43	41	39	38
Lower Spine	G's	15 – 22	20	17	21	20
Pelvis Impact						
Laboratory Temperature	°C	18.9 to 25.5	20.8	21.2	20.8	21.2
Laboratory Relative Humidity	%	10 to 70	45	56	45	56
Probe Velocity	m/s	4.27 – 4.33	4.29	4.30	4.29	4.29
Pelvis	G's	40 - 60	41	43	45	42

SID Calibration Data Sheet
Side Impact Dummy
External Measurements

ATD Serial No.: 271

Test Number: D01105

Tested Parameter	Units	Specification	Result	Pass/Fail
SH – Seated Height	mm	889 - 909	902	Pass
RH – Rib Height	mm	501 – 521	517	Pass
HP – Hip Pivot Height	mm	99 ref.	99	Pass
RD-Rib from Back Line	mm	229 – 241	232	Pass
KV – Knee Pivot from Back Line	mm	511 – 526	517	Pass
SW – Knee Pivot to Floor	mm	490 – 505	496	Pass
HW – Hip Width	mm	356 – 391	379	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01
Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
Thoracic Shock Absorber Calibration

ATD Serial No.: 271

Test I.D.: D011056/7/8

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	20.8	Pass
Laboratory Relative Humidity		%	10 to 70	45	Pass
Velocity 3.05 m/s	Force	N	836 – 1125	978	Pass
	Displacement	mm	30 – 35	32	Pass
Velocity 4.27 m/s	Force	N	1730 – 2099	1736	Pass
	Displacement	mm	32 – 37	35	Pass
Velocity 6.1 m/s	Force	N	3741 – 4448	3760	Pass
	Displacement	mm	33 - 40	37	Pass
Overall Test Results				Pass	

Laboratory Technician

7/16/01

Test Date

Approved By



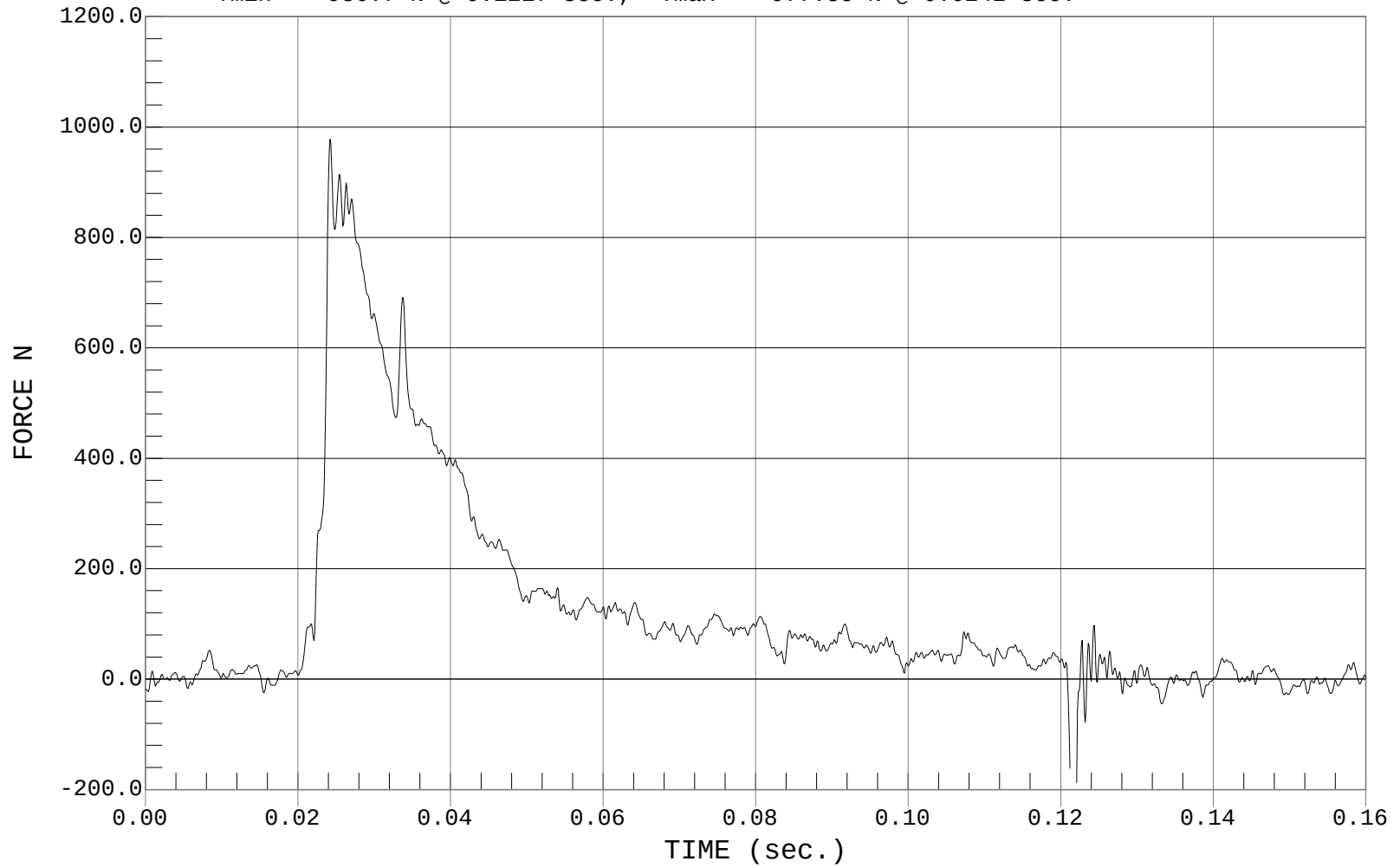
PEAK FORCE

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 10.00 FT/SEC, 3.05 M/SEC

1 FORCE, D01056ff.f04

Ymin = -986.7 N @ 0.1217 sec., Ymax = 977.85 N @ 0.0242 sec.





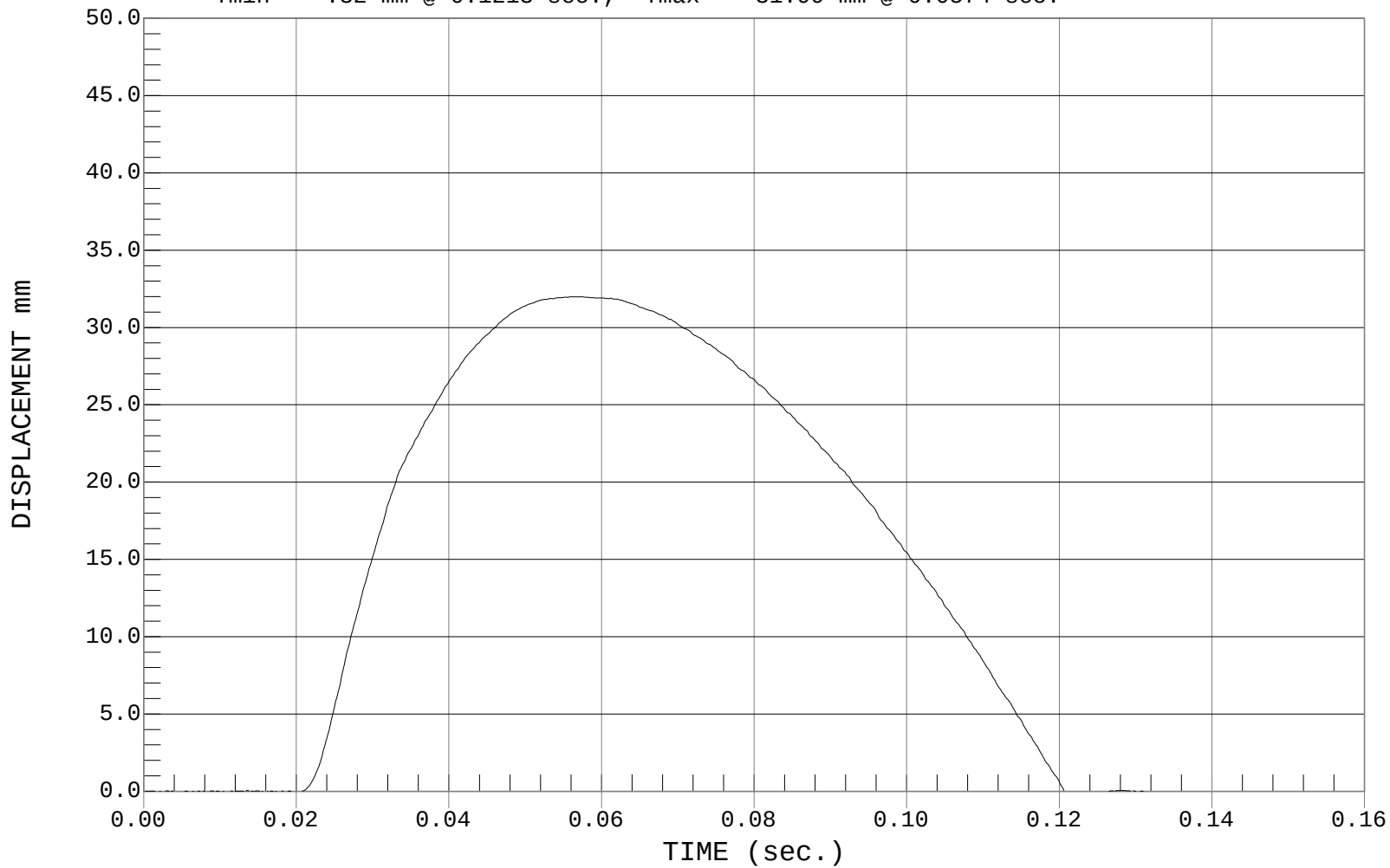
PEAK DISPLACEMENT

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 10.00 FT/SEC, 3.05 M/SEC

— 1 DISPLACEMENT, D01056DF.D05

Ymin = -.32 mm @ 0.1213 sec., Ymax = 31.99 mm @ 0.0574 sec.





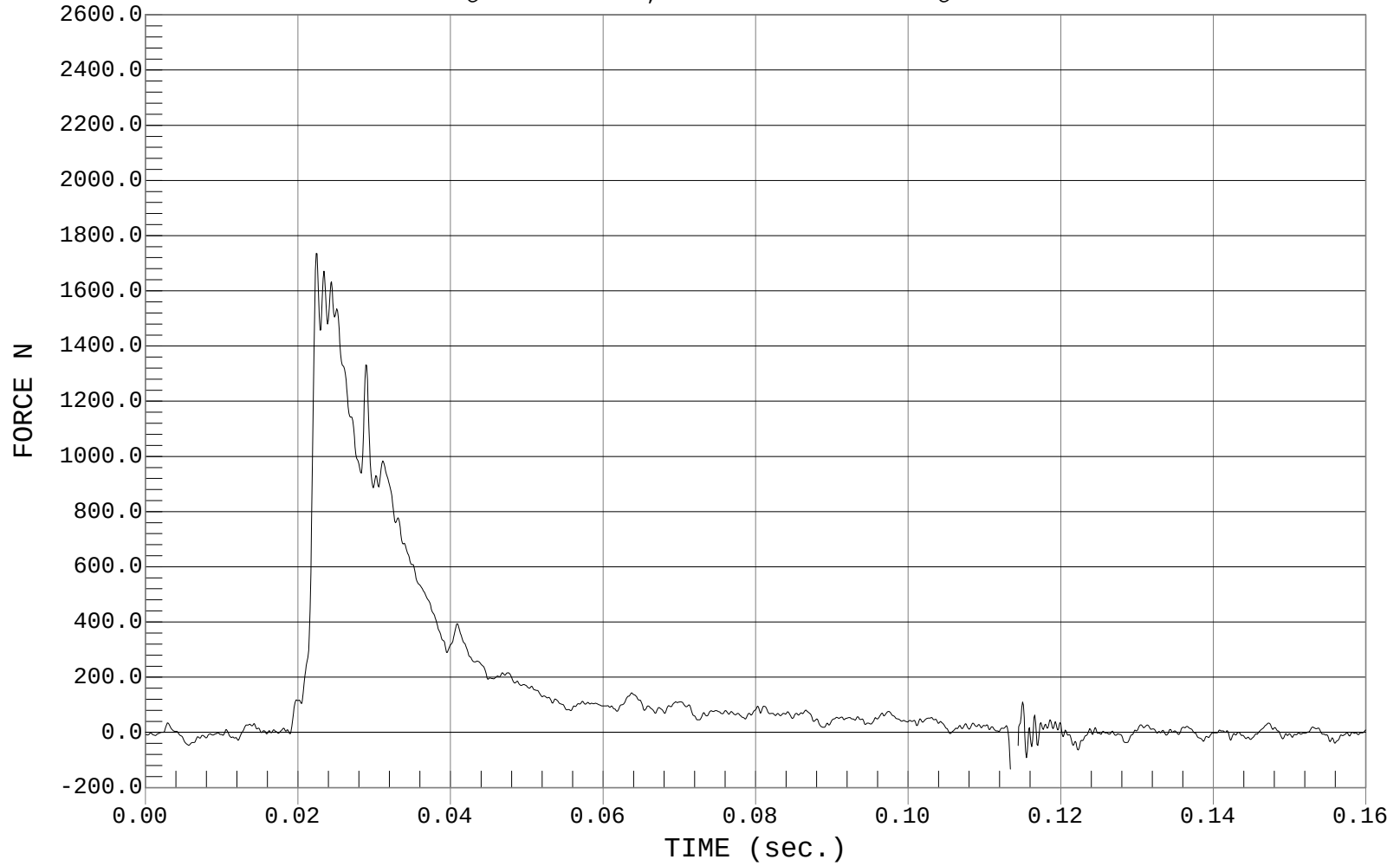
PEAK FORCE

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 14.00 FT/SEC, 4.27 M/SEC

1 FORCE, D01057ff.f04

Ymin = -1005.01 N @ 0.1139 sec., Ymax = 1735.82 N @ 0.0224 sec.





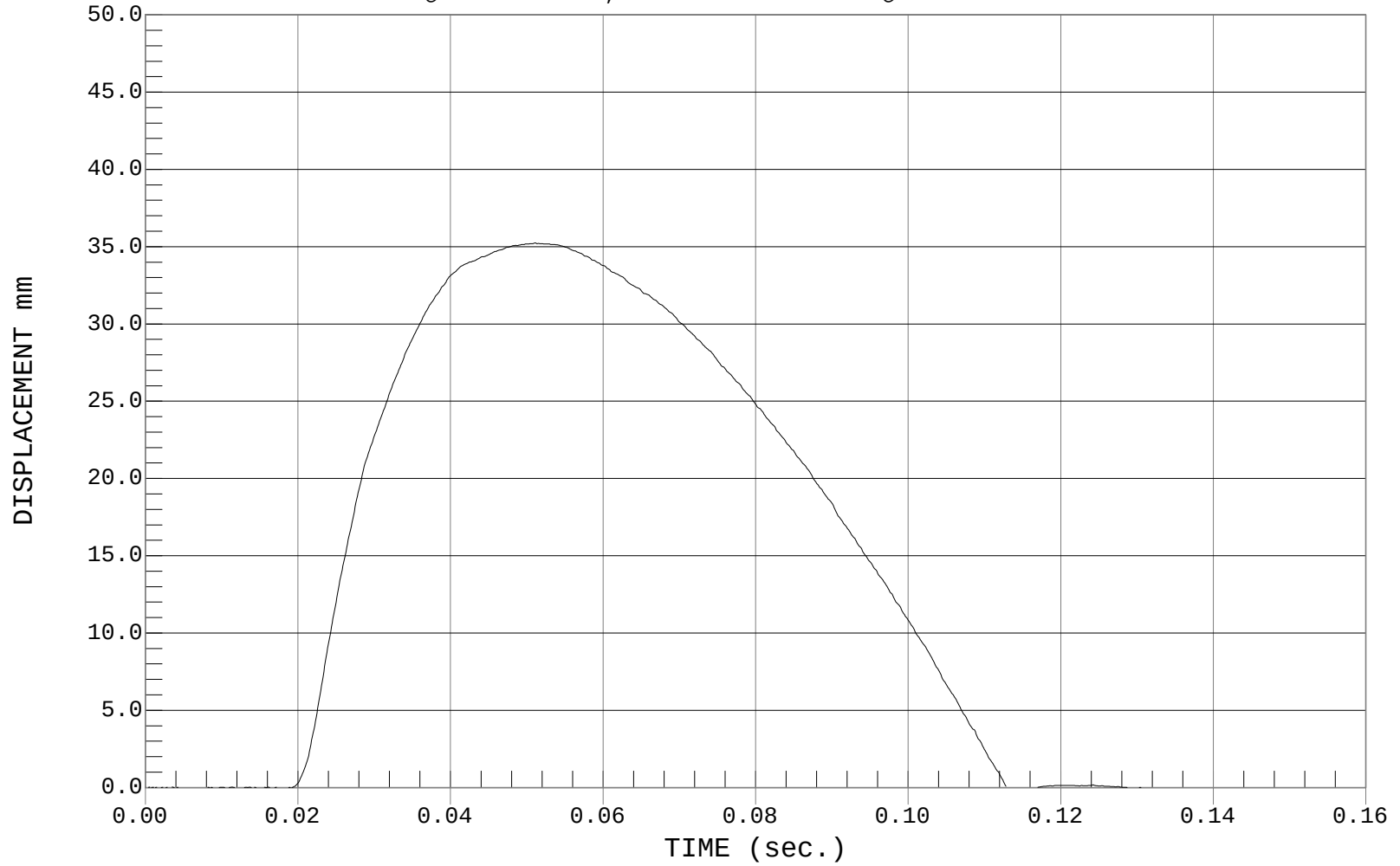
PEAK DISPLACEMENT

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 14.00 FT/SEC, 4.27 M/SEC

— 1 DISPLACEMENT, D01057DF.D05

Ymin = -.31 mm @ 0.1134 sec., Ymax = 35.24 mm @ 0.0511 sec.



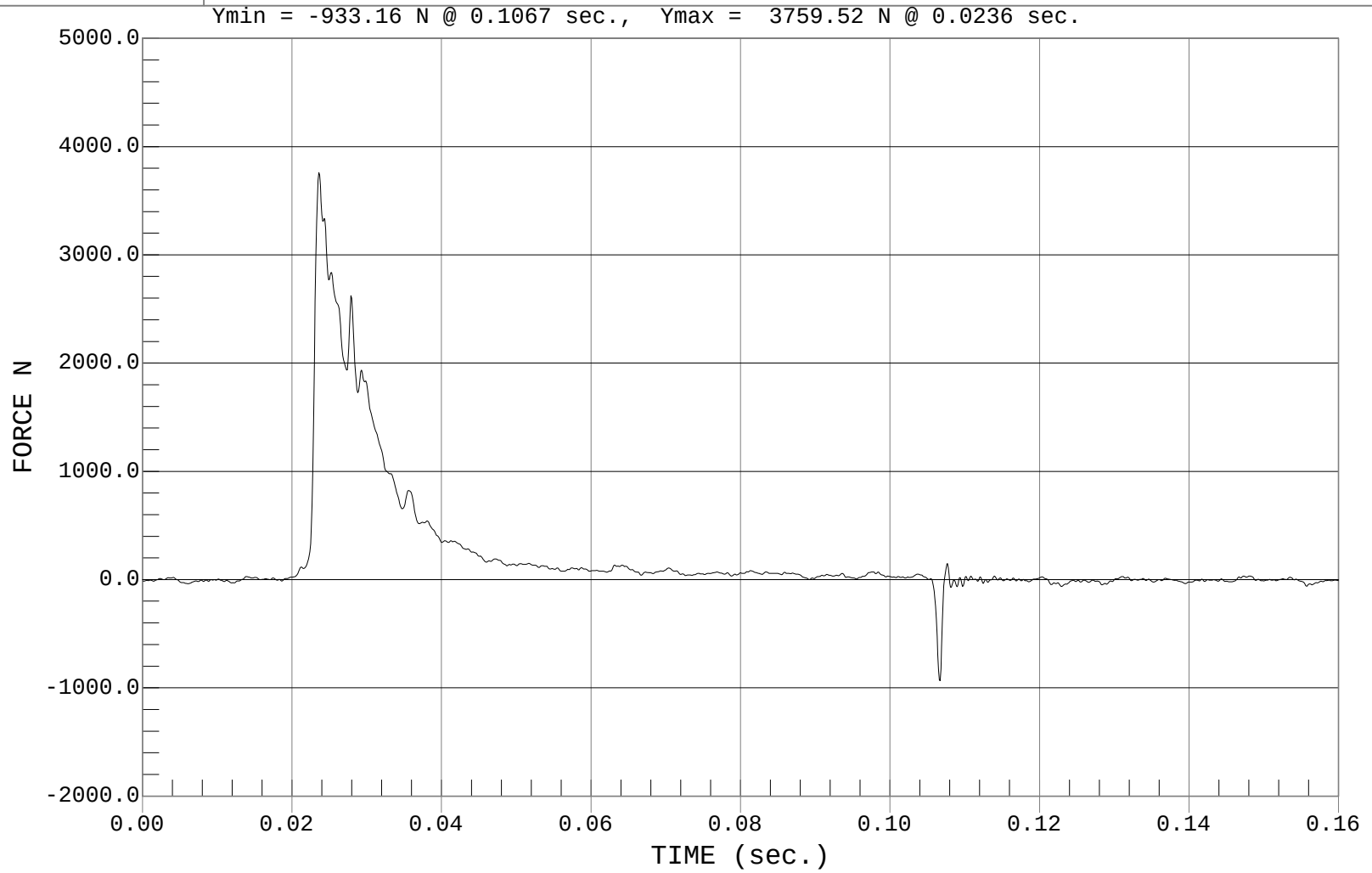


PEAK FORCE

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 20.00 FT/SEC, 6.10 M/SEC

— 1 FORCE, D01058ff.f04





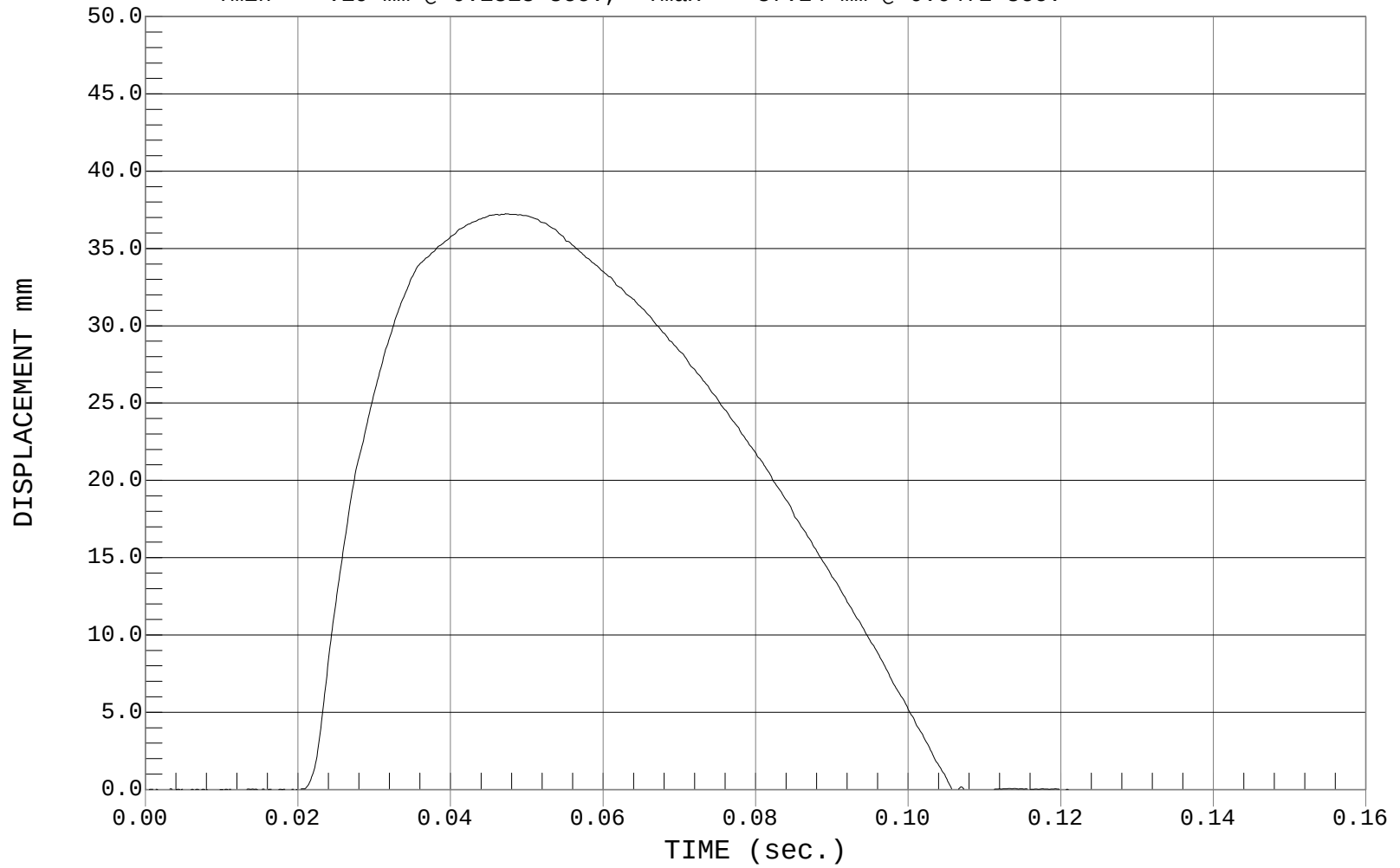
PEAK DISPLACEMENT

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 20.00 FT/SEC, 6.10 M/SEC

— 1 DISPLACEMENT, D01058DF.D05

Ymin = -.19 mm @ 0.1318 sec., Ymax = 37.24 mm @ 0.0472 sec.



SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Calibration

ATD Serial No.: 271

Test I.D.: D011052

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Probe Velocity	m/s	4.27 – 4.33	4.29	Pass
Upper Rib	G's	37 – 46	42	Pass
Lower Rib	G's	37 – 46	43	Pass
Lower Spine	G's	15 - 22	20	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



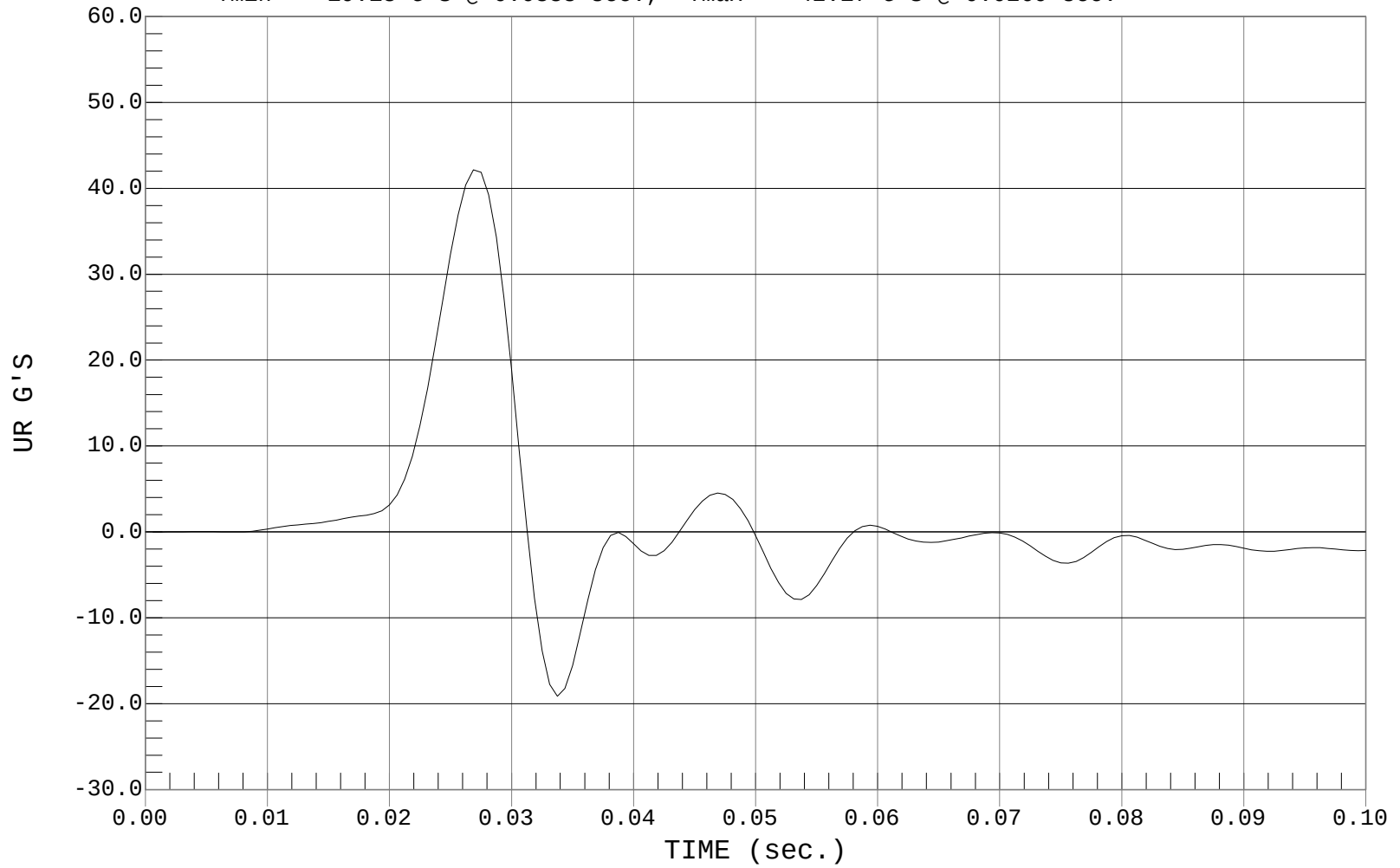
UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 14.06 FT/SEC, 4.29 M/SEC

— 1 UR, D01052FI.R08

Ymin = -19.13 G'S @ 0.0338 sec., Ymax = 42.17 G'S @ 0.0269 sec.





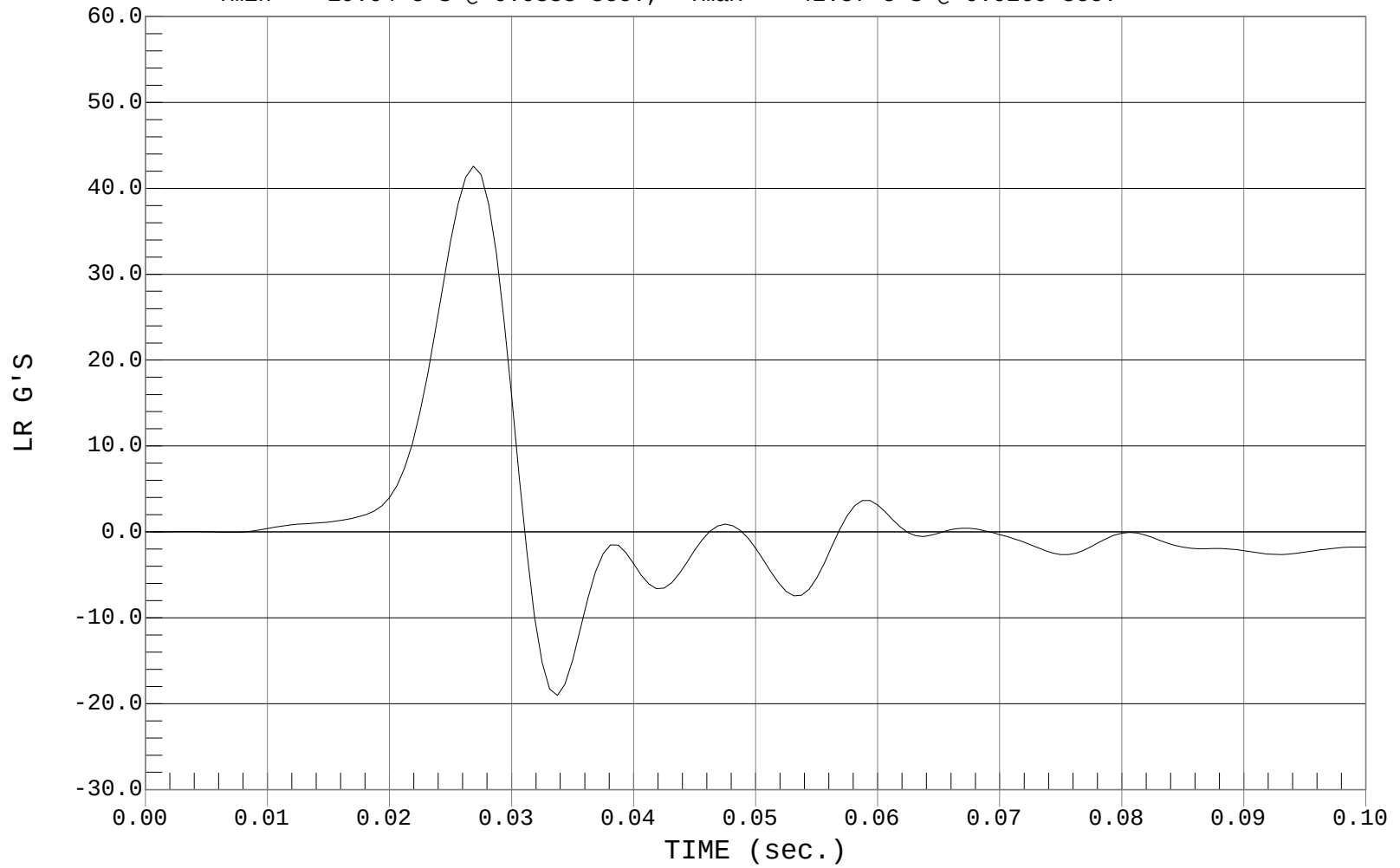
LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 14.06 FT/SEC, 4.29 M/SEC

— 1 LR, D01052FI.R09

Ymin = -19.04 G'S @ 0.0338 sec., Ymax = 42.57 G'S @ 0.0269 sec.





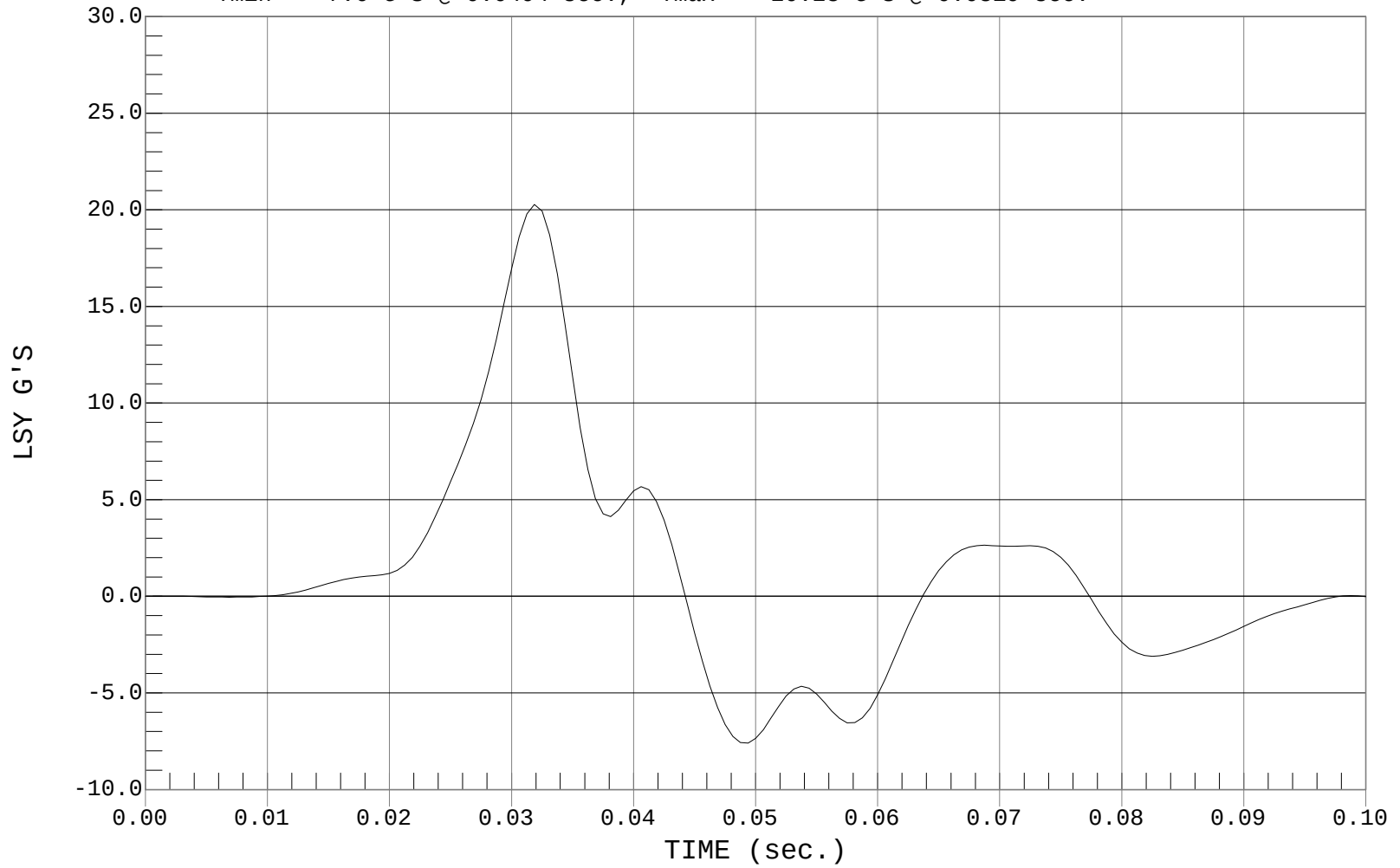
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 14.06 FT/SEC, 4.29 M/SEC

— 1 LSY, D01052FI.R10

Ymin = -7.6 G'S @ 0.0494 sec., Ymax = 20.28 G'S @ 0.0319 sec.



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Calibration

ATD Serial No.: 271

Test I.D.: D011053

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Probe Speed	m/s	4.27 – 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	41	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



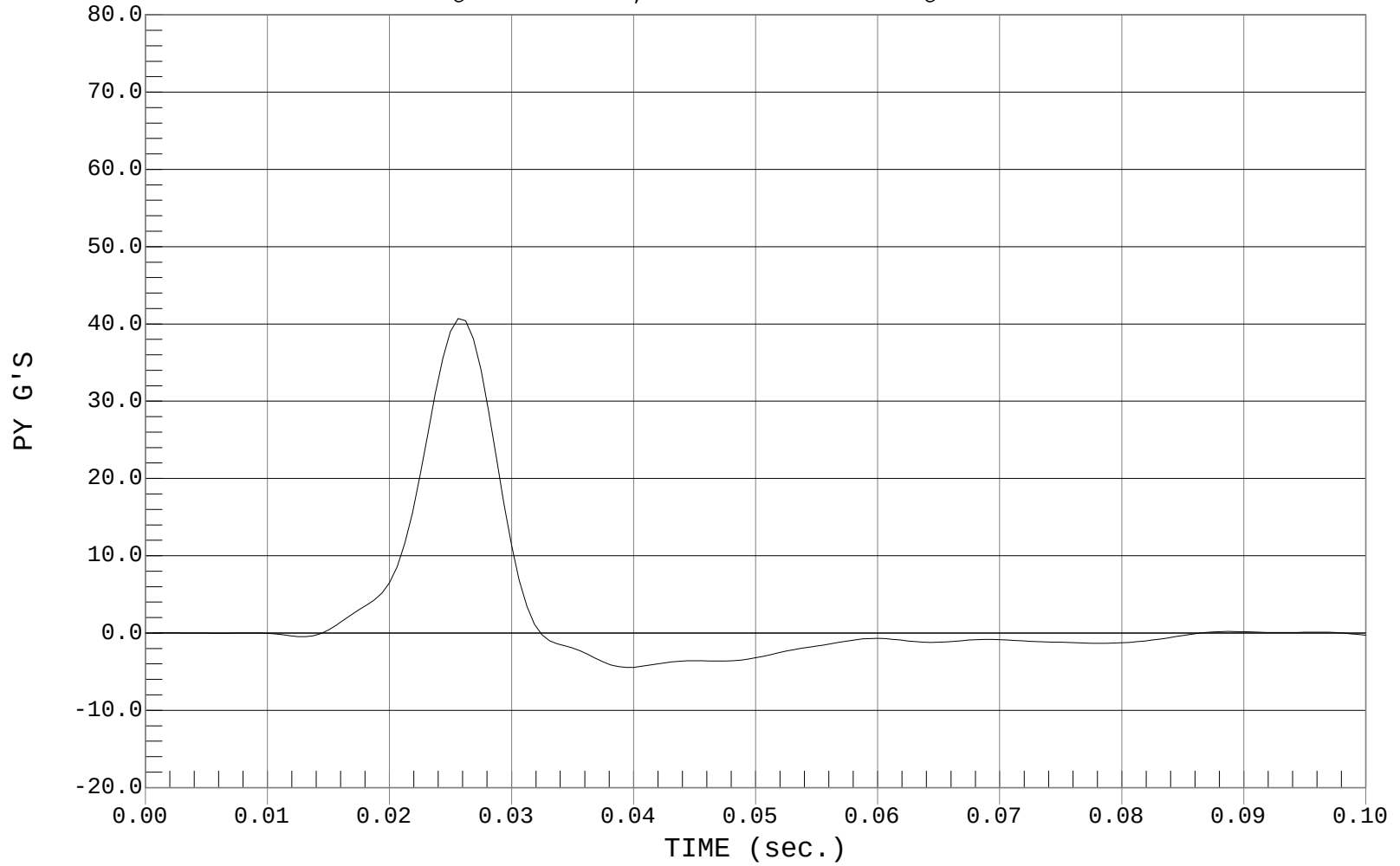
PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #271

Test Date: 07-16-01
Speed: 14.08 FT/SEC, 4.29 M/SEC

— 1 PY, D01053FI.R11

Ymin = -4.46 G'S @ 0.0394 sec., Ymax = 40.71 G'S @ 0.0256 sec.



SID Calibration Data Sheet
Side Impact Dummy
Abdominal Compression Calibration (Preload = 10 lbs)

ATD Serial No.: 271

Test I.D.: D011054

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Force @ 12.7	mm	104 – 162	133	Pass
Force @ 19	mm	163 – 222	185	Pass
Force @ 25.4	mm	222 – 280	248	Pass
Force @ 33	mm	325 - 391	339	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



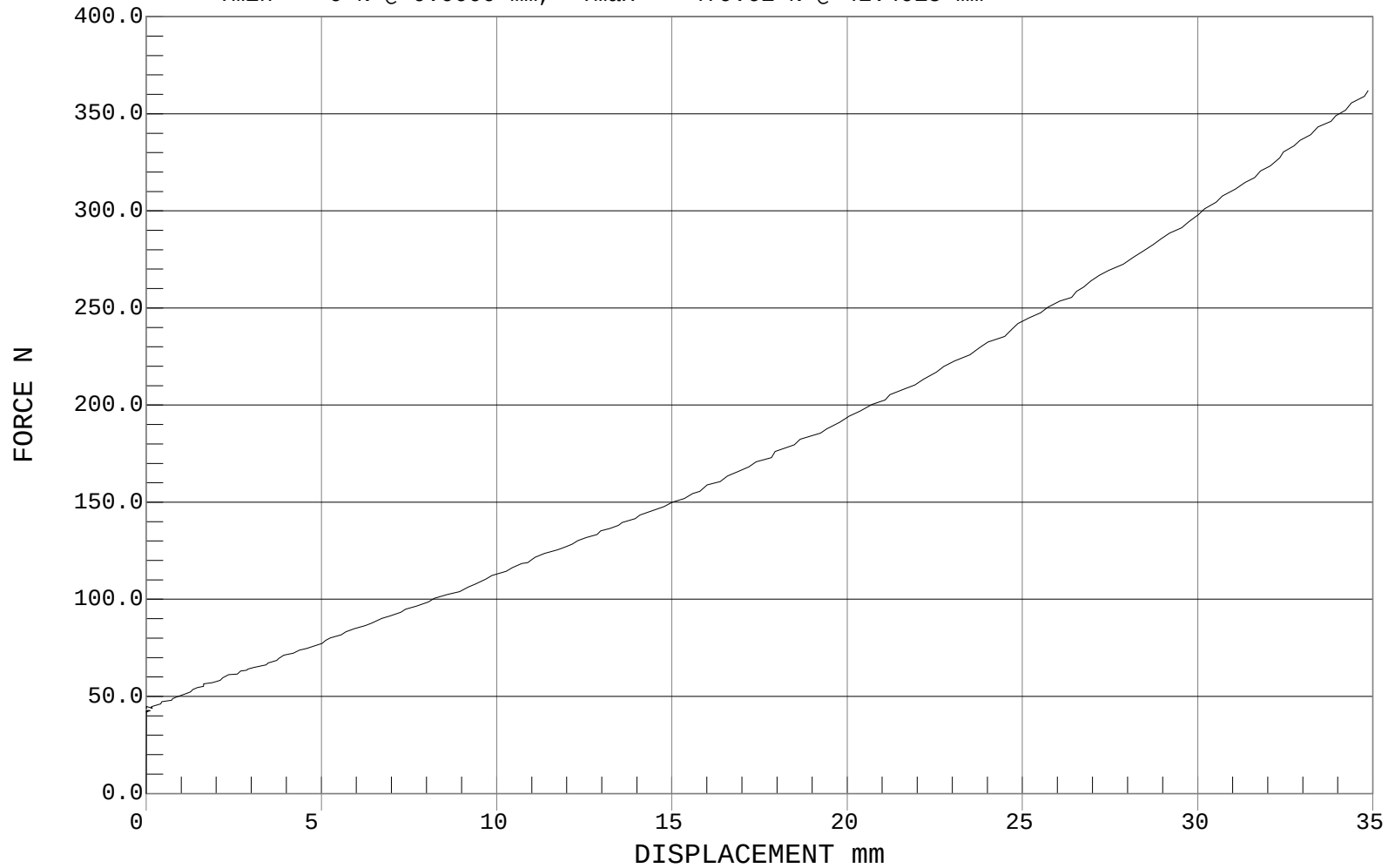
ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION
Component: DUMMY # 271

Test Date: 07-16-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01054FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 479.61 N @ 42.4015 mm



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No.: 271

Test I.D.: D011055

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Force @ 0	mm	0 – 26.7	0	Pass
Force @ 20	mm	97.9 – 151.2	119.5	Pass
Force @ 30	mm	151.2 – 204.6	204.3	Pass
Force @ 40	mm	204.6 – 258.0	244.7	Pass
Return Angle	Degrees	12 Maximum	2	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



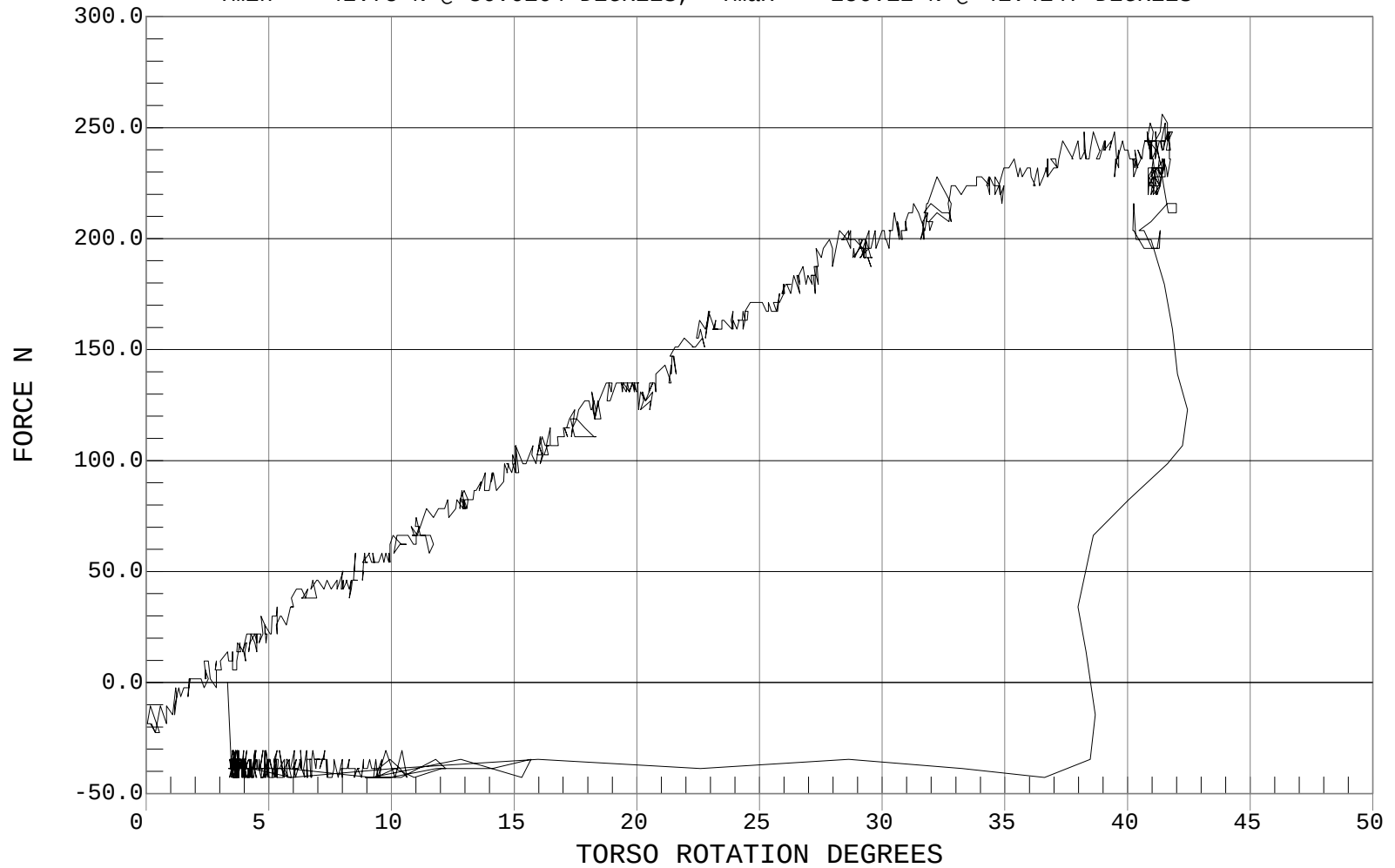
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 272

Test Date: 07-16-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01055FC.F14

Ymin = -42.75 N @ 36.6164 DEGREES, Ymax = 256.12 N @ 41.4147 DEGREES



SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No.: 271

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, weldment, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

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

Laboratory Technician

7/16/01
Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
External Measurements

ATD Serial No.: 272

Test Number: D01106

Tested Parameter	Units	Specification	Result	Pass/Fail
SH – Seated Height	mm	889 - 909	900	Pass
RH – Rib Height	mm	501 – 521	514	Pass
HP – Hip Pivot Height	mm	99 ref.	99	Pass
RD-Rib from Back Line	mm	229 – 241	235	Pass
KV – Knee Pivot from Back Line	mm	511 – 526	522	Pass
SW – Knee Pivot to Floor	mm	490 – 505	491	Pass
HW – Hip Width	mm	356 – 391	373	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
Thoracic Shock Absorber Calibration

ATD Serial No.: 272

Test I.D.: D011066/7/8

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	20.8	Pass
Laboratory Relative Humidity		%	10 to 70	45	Pass
Velocity 3.05 m/s	Force	N	836 – 1125	960	Pass
	Displacement	mm	30 – 35	30	Pass
Velocity 4.27 m/s	Force	N	1730 – 2099	1752	Pass
	Displacement	mm	32 – 37	35	Pass
Velocity 6.1 m/s	Force	N	3741 – 4448	3787	Pass
	Displacement	mm	33 - 40	37	Pass
Overall Test Results					Pass

Laboratory Technician

7/16/01

Test Date

Approved By



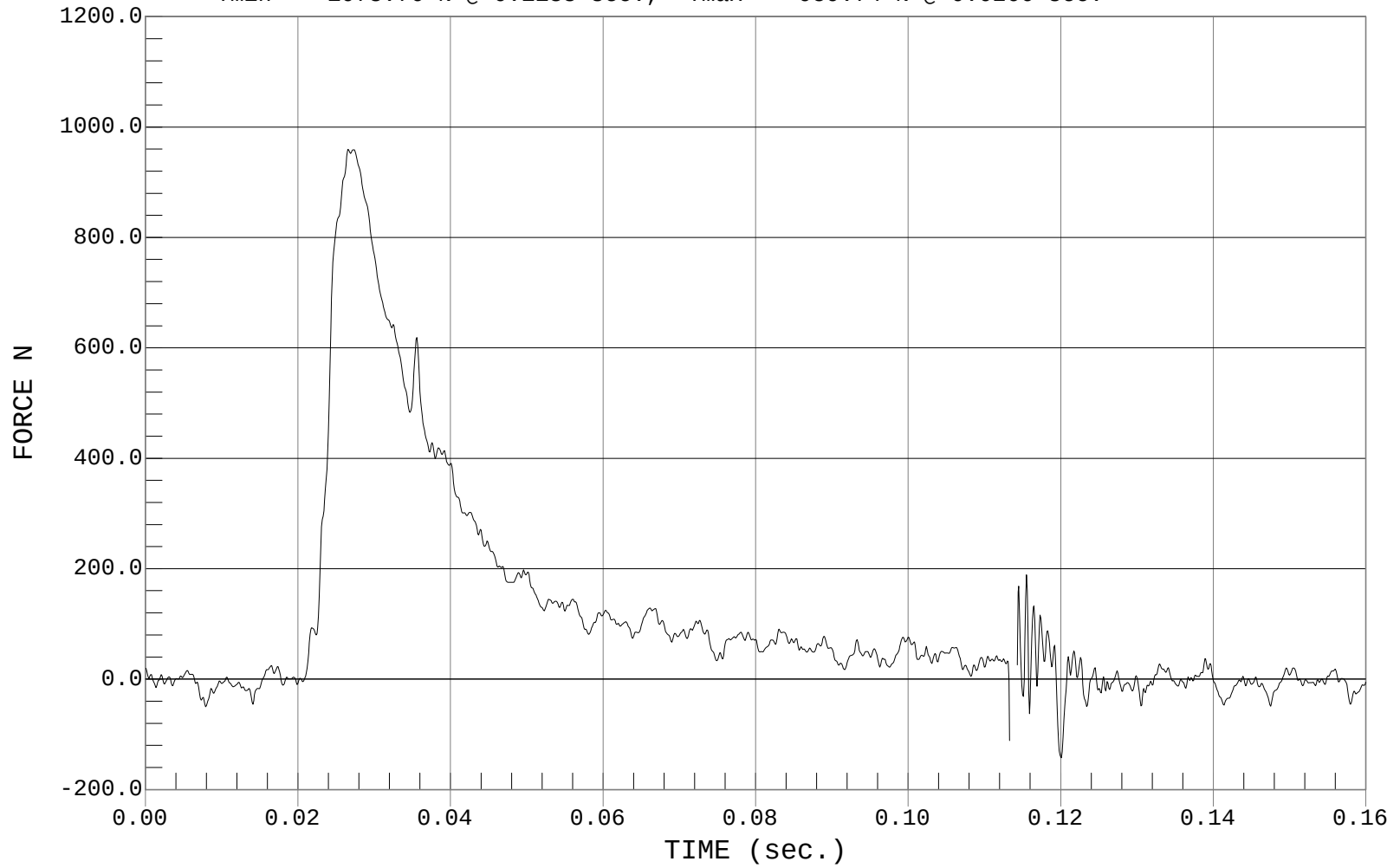
PEAK FORCE

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 10.00 FT/SEC, 3.05 M/SEC

1 FORCE, D01066ff.f04

Ymin = -1073.76 N @ 0.1138 sec., Ymax = 959.74 N @ 0.0266 sec.





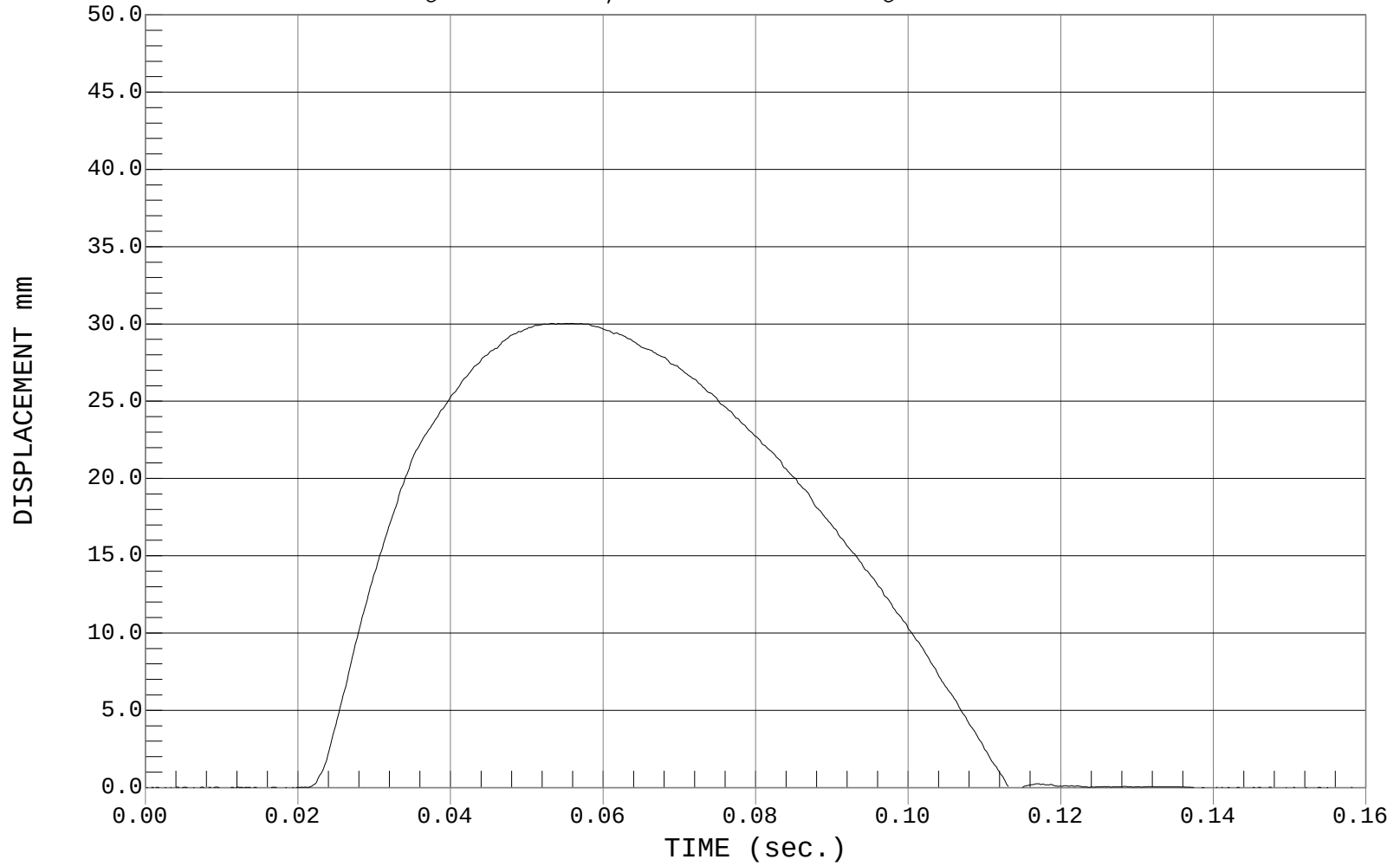
PEAK DISPLACEMENT

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 10.00 FT/SEC, 3.05 M/SEC

— 1 DISPLACEMENT, D01066DF.D05

Ymin = -.22 mm @ 0.1137 sec., Ymax = 30.03 mm @ 0.0533 sec.





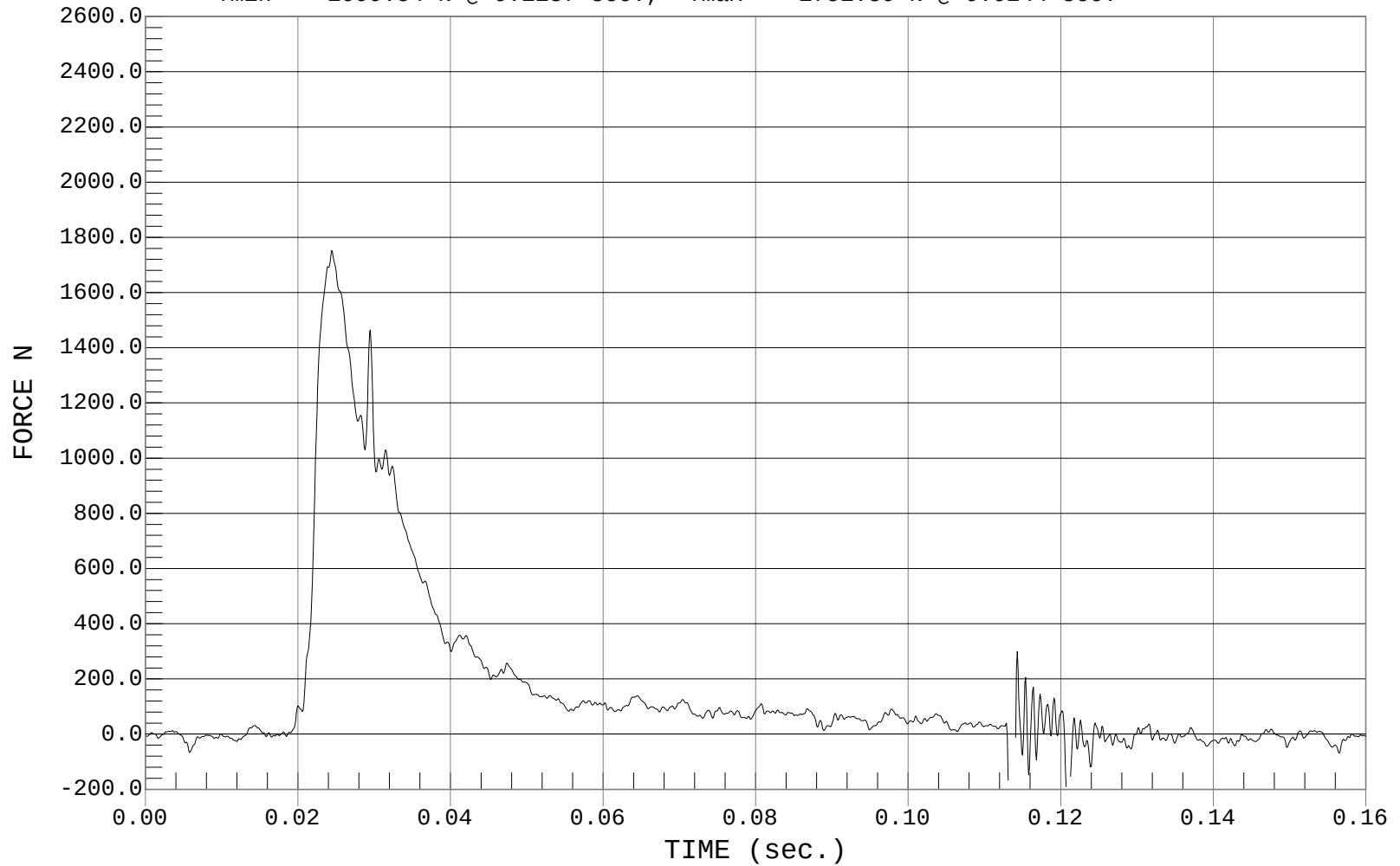
PEAK FORCE

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 14.00 FT/SEC, 4.27 M/SEC

— 1 FORCE, D01067ff.f04

Ymin = -1099.54 N @ 0.1137 sec., Ymax = 1751.89 N @ 0.0244 sec.





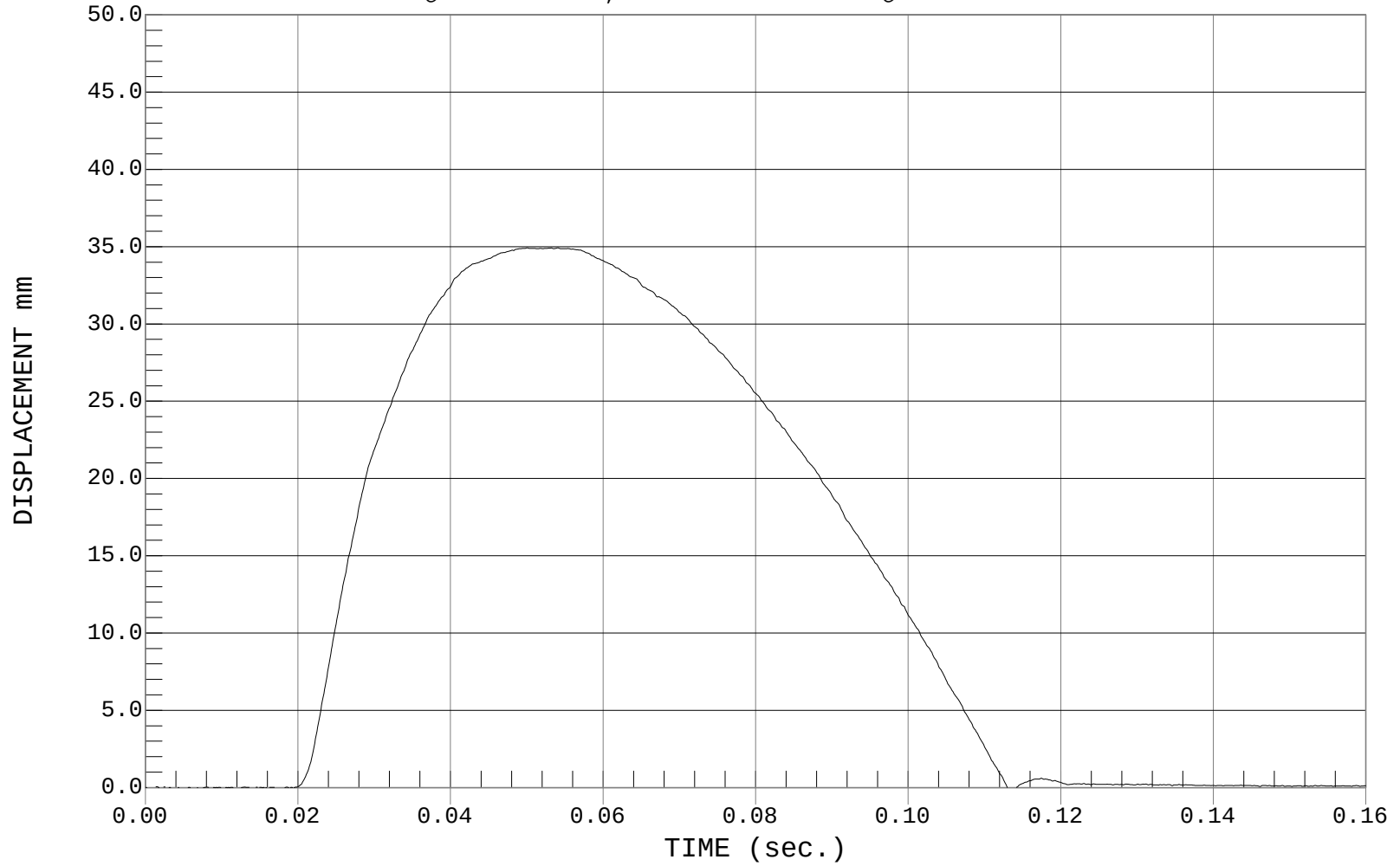
PEAK DISPLACEMENT

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 14.00 FT/SEC, 4.27 M/SEC

1 DISPLACEMENT, D01067DF.D05

Ymin = -.18 mm @ 0.1134 sec., Ymax = 34.92 mm @ 0.0541 sec.





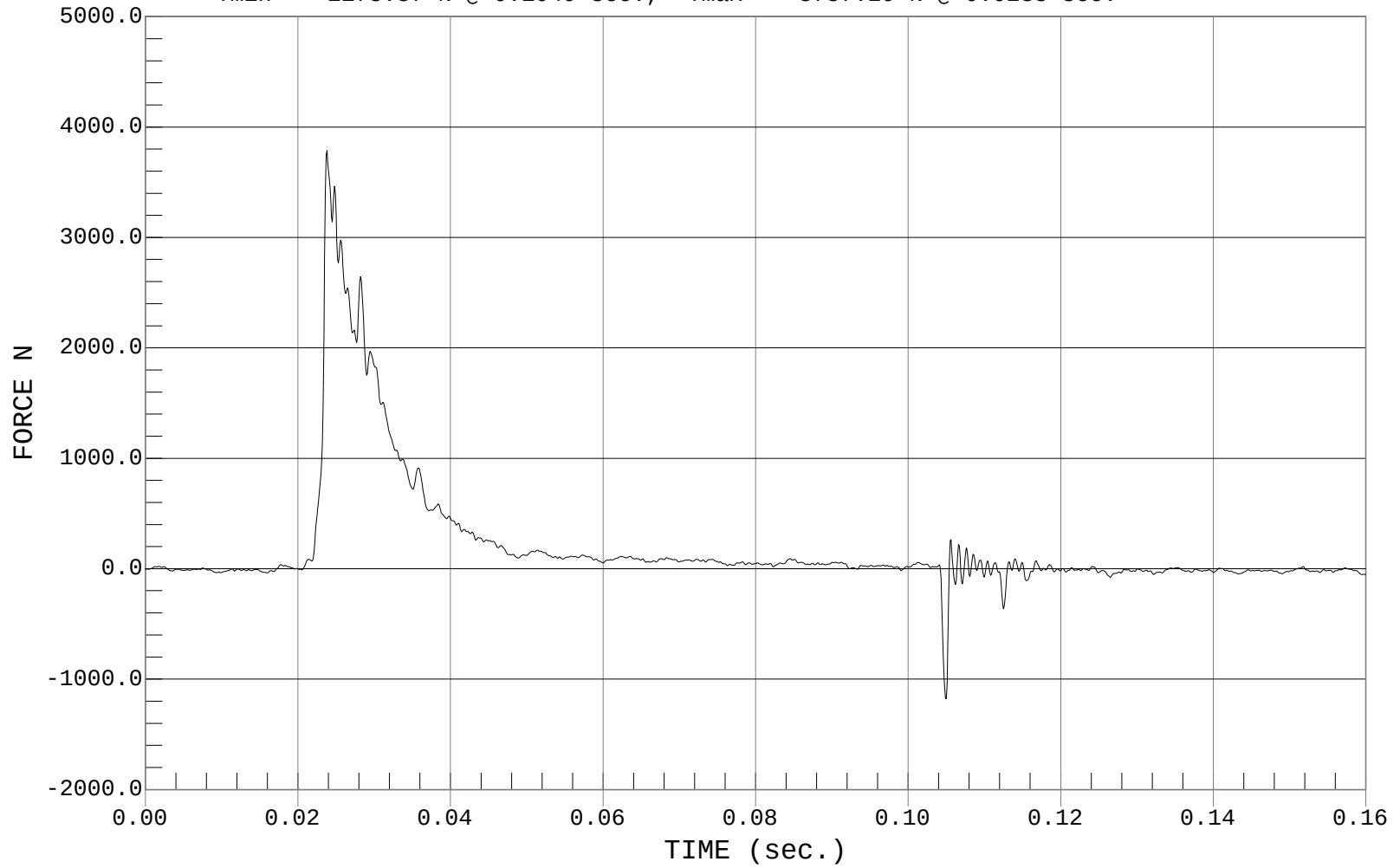
PEAK FORCE

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 20.00 FT/SEC, 6.10 M/SEC

1 FORCE, D01068ff.f04

Ymin = -1178.37 N @ 0.1049 sec., Ymax = 3787.29 N @ 0.0238 sec.





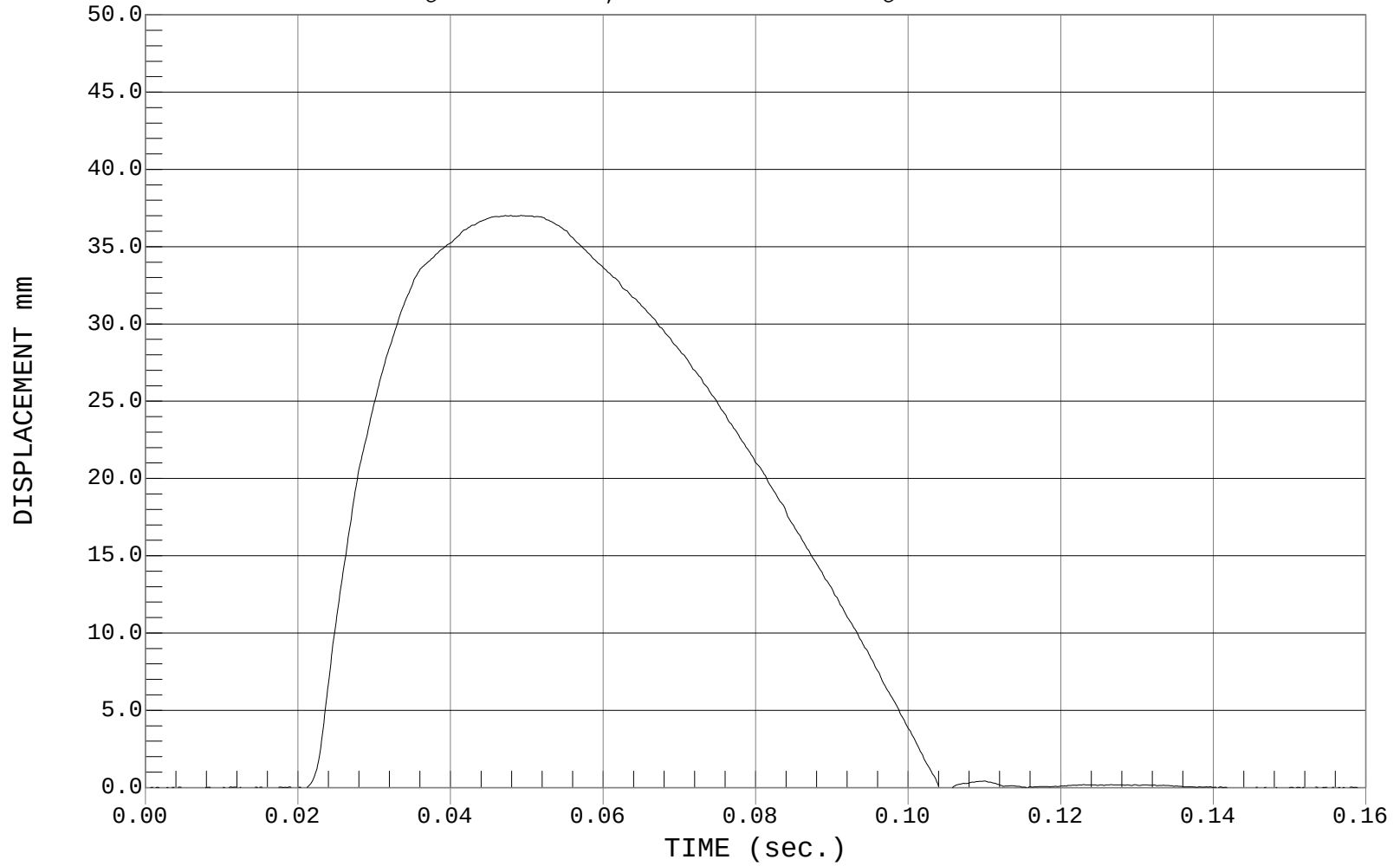
PEAK DISPLACEMENT

Test Desc.: Dummy Calibration - Dampener Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 20.00 FT/SEC, 6.10 M/SEC

— 1 DISPLACEMENT, D01068DF.D05

Ymin = -.36 mm @ 0.1046 sec., Ymax = 37.01 mm @ 0.0479 sec.



SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Calibration

ATD Serial No.: 272

Test I.D.: D011062

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Probe Velocity	m/s	4.27 – 4.33	4.28	Pass
Upper Rib	G's	37 – 46	39	Pass
Lower Rib	G's	37 – 46	39	Pass
Lower Spine	G's	15 - 22	21	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



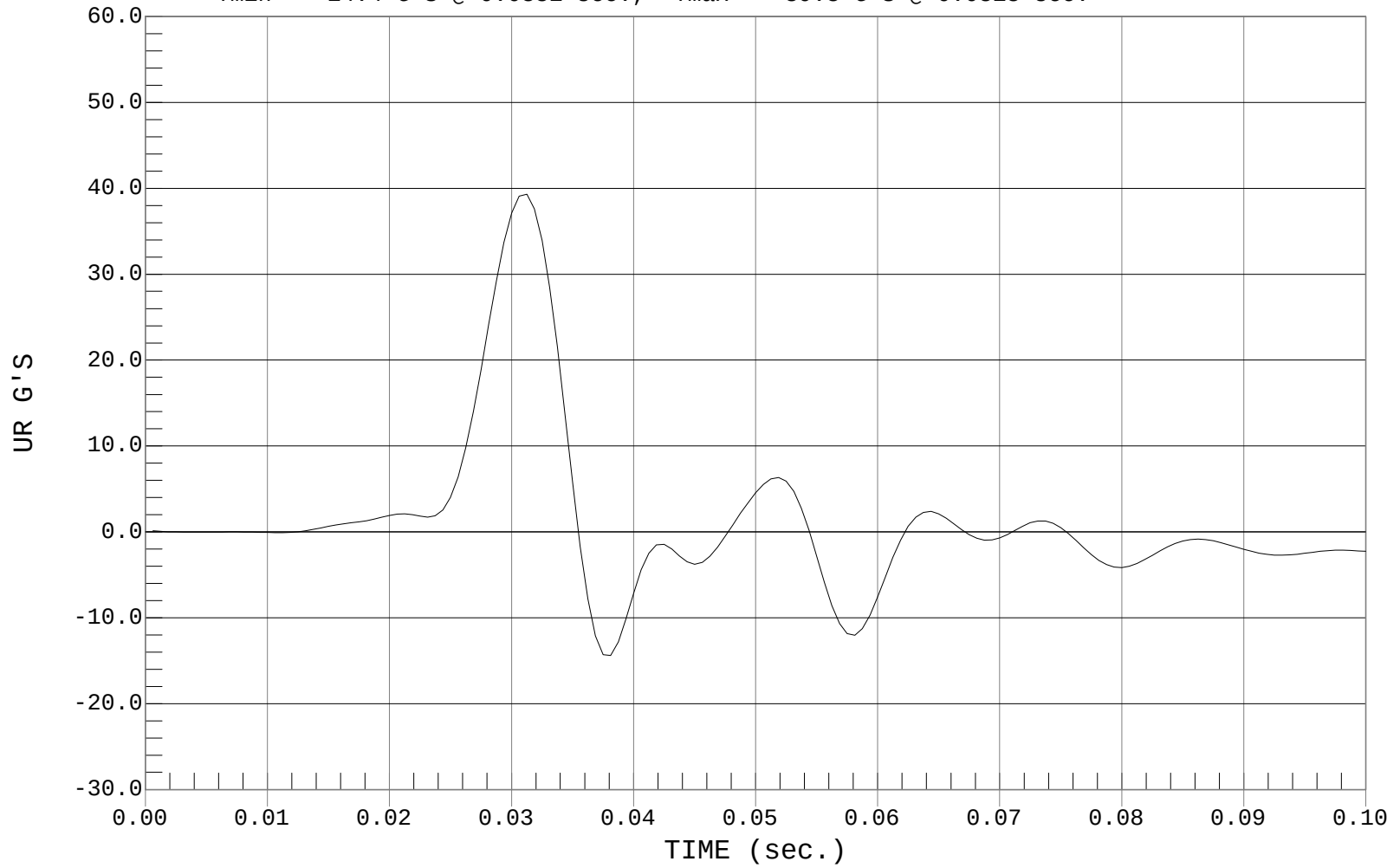
UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 14.05 FT/SEC, 4.28 M/SEC

— 1 UR, D01062FI.R08

Ymin = -14.4 G'S @ 0.0381 sec., Ymax = 39.3 G'S @ 0.0313 sec.





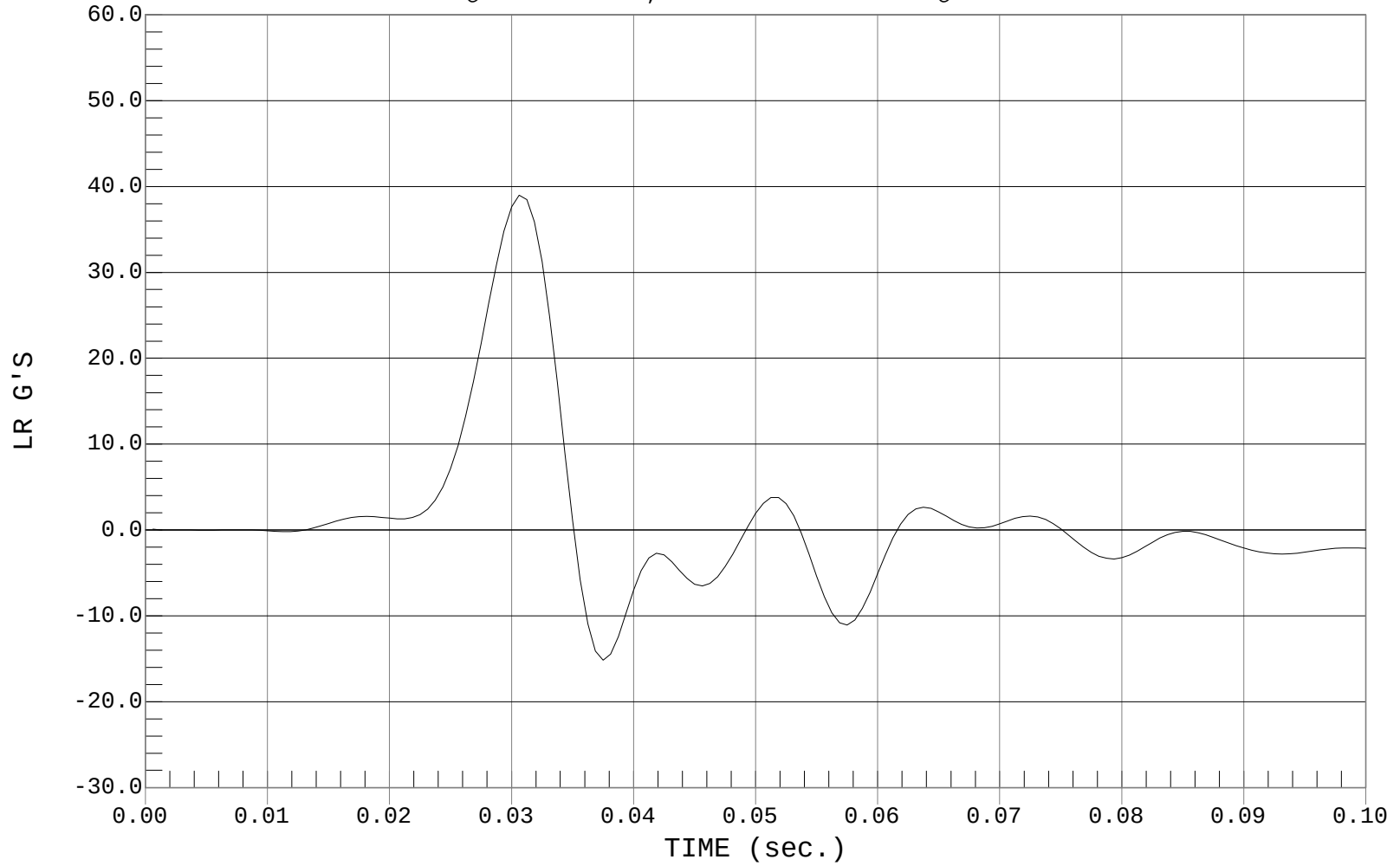
LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 14.05 FT/SEC, 4.28 M/SEC

— 1 LR, D01062FI.R09

Ymin = -15.18 G'S @ 0.0375 sec., Ymax = 38.99 G'S @ 0.0306 sec.





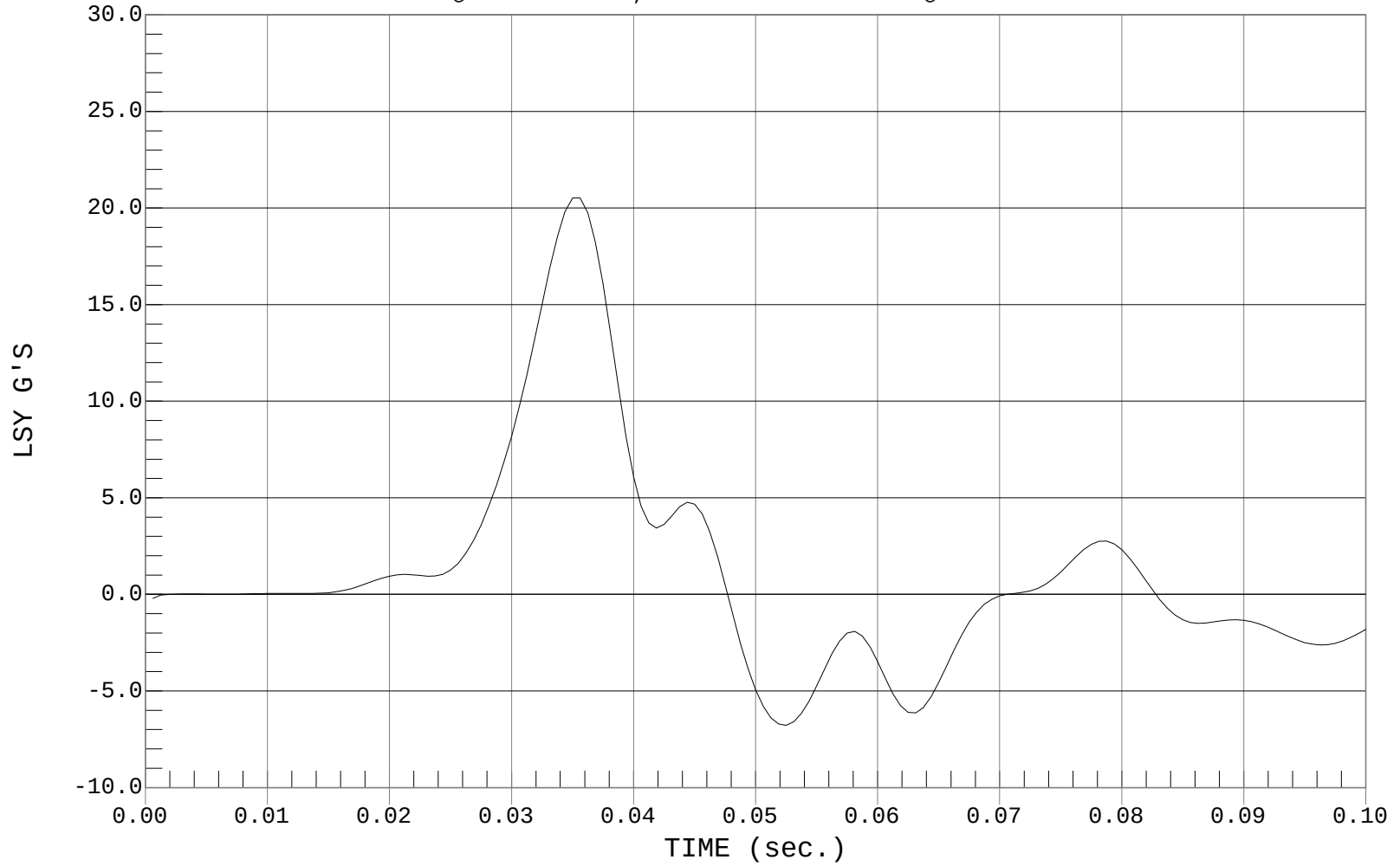
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 14.05 FT/SEC, 4.28 M/SEC

— 1 LSY, D01062FI.R10

Ymin = -6.77 G'S @ 0.0525 sec., Ymax = 20.53 G'S @ 0.0356 sec.



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Calibration

ATD Serial No.: 272

Test I.D.: D011063

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Probe Speed	m/s	4.27 – 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	45	Pass
			Overall Test Results	Pass

Laboratory Technician

7/16/01

Test Date

Approved By



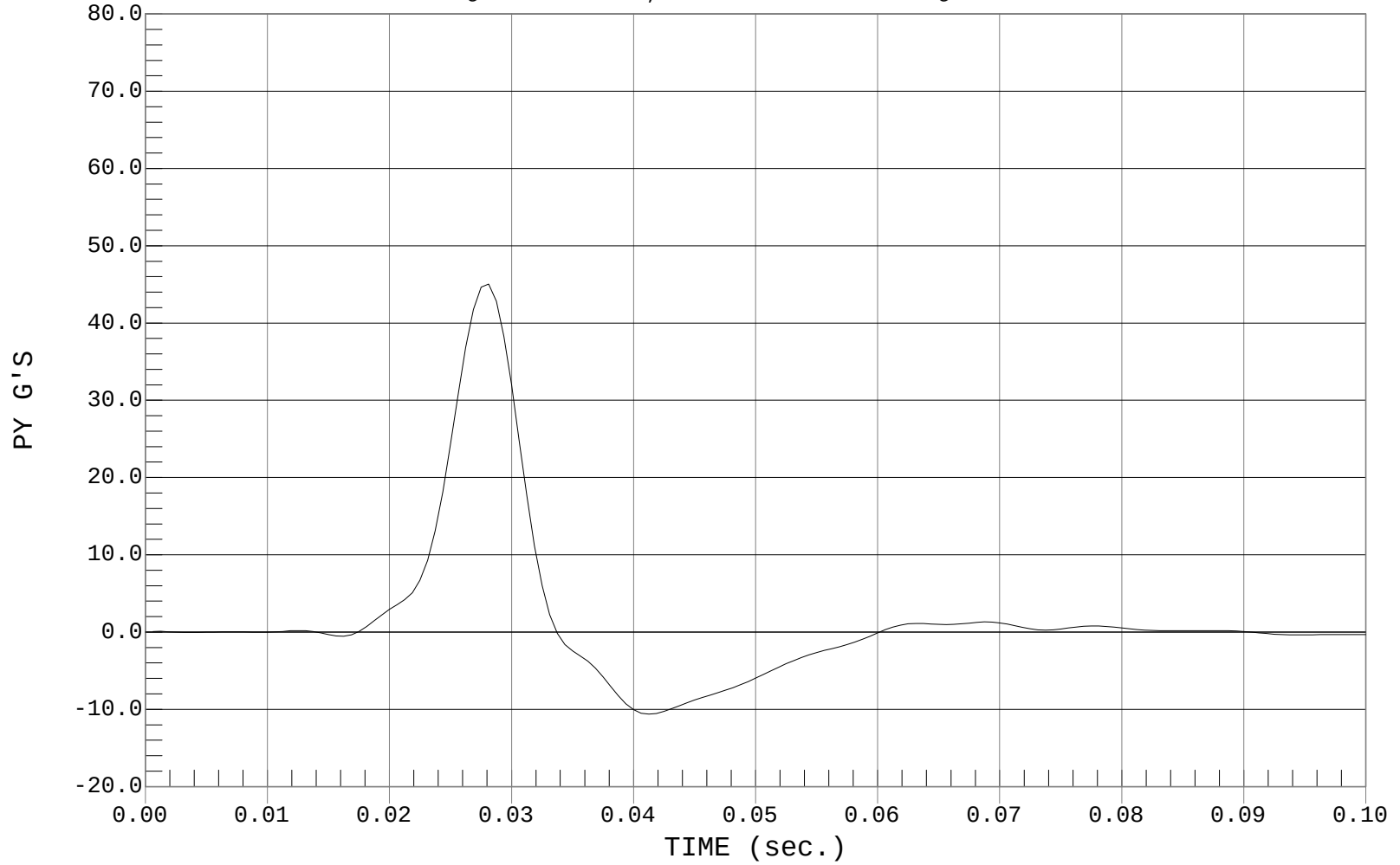
PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #272

Test Date: 07-16-01
Speed: 14.06 FT/SEC, 4.29 M/SEC

— 1 PY, D01063FI.R11

Ymin = -10.64 G'S @ 0.0413 sec., Ymax = 45.05 G'S @ 0.0281 sec.



SID Calibration Data Sheet
Side Impact Dummy
Abdominal Compression Calibration (Preload = 10 lbs)

ATD Serial No.: 272

Test I.D.: D011064

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Force @ 12.7	mm	104 – 162	155	Pass
Force @ 19	mm	163 – 222	208	Pass
Force @ 25.4	mm	222 – 280	264	Pass
Force @ 33	mm	325 - 391	347	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



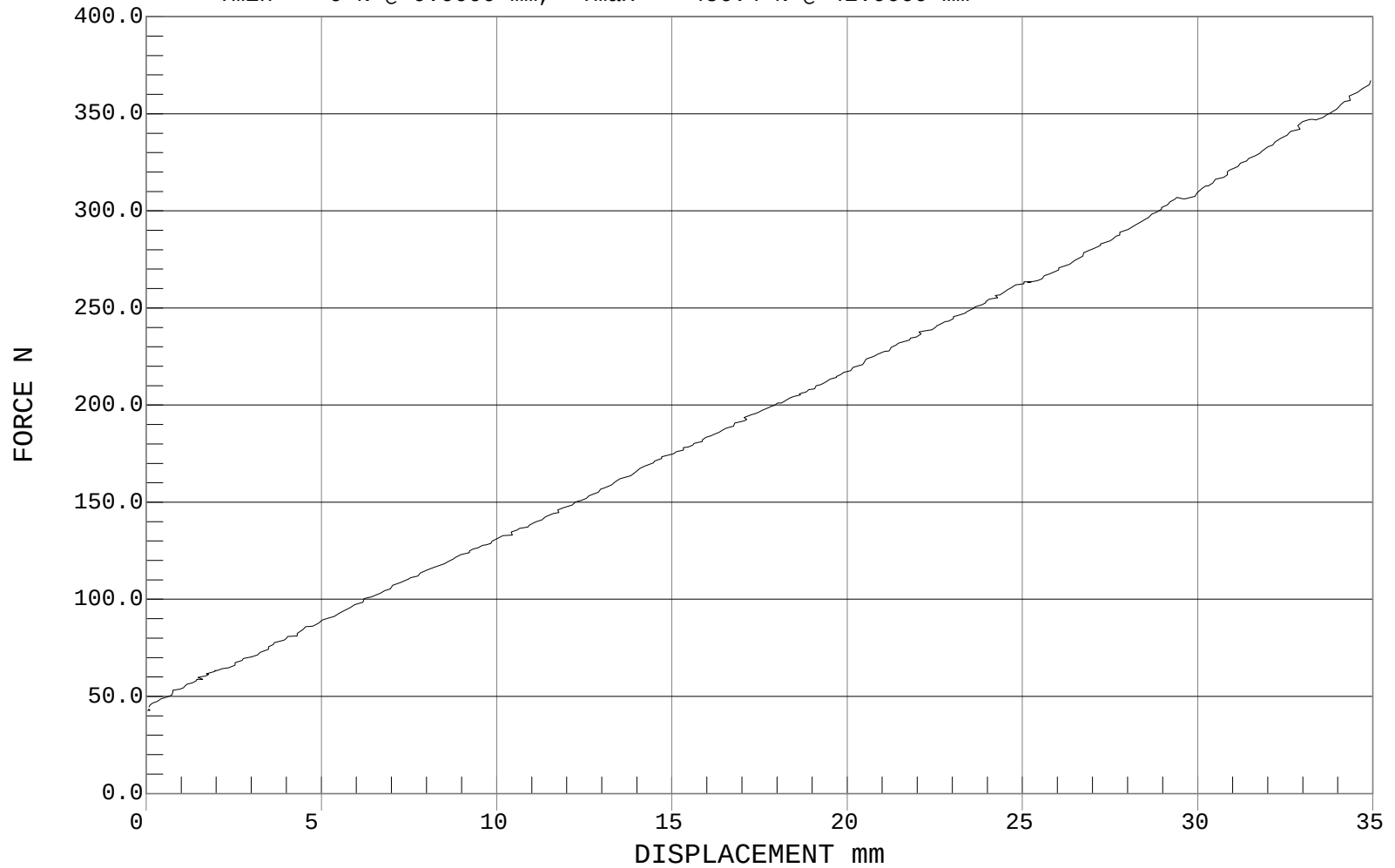
ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION
Component: DUMMY # 272

Test Date: 07-16-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01064FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 456.4 N @ 42.0660 mm



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No.: 272

Test I.D.: D011065

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Force @ 0	mm	0 – 26.7	0	Pass
Force @ 20	mm	97.9 – 151.2	135.0	Pass
Force @ 30	mm	151.2 – 204.6	203.6	Pass
Force @ 40	mm	204.6 – 258.0	240.0	Pass
Return Angle	Degrees	12 Maximum	3	Pass
Overall Test Results				Pass

Laboratory Technician

7/16/01

Test Date

Approved By



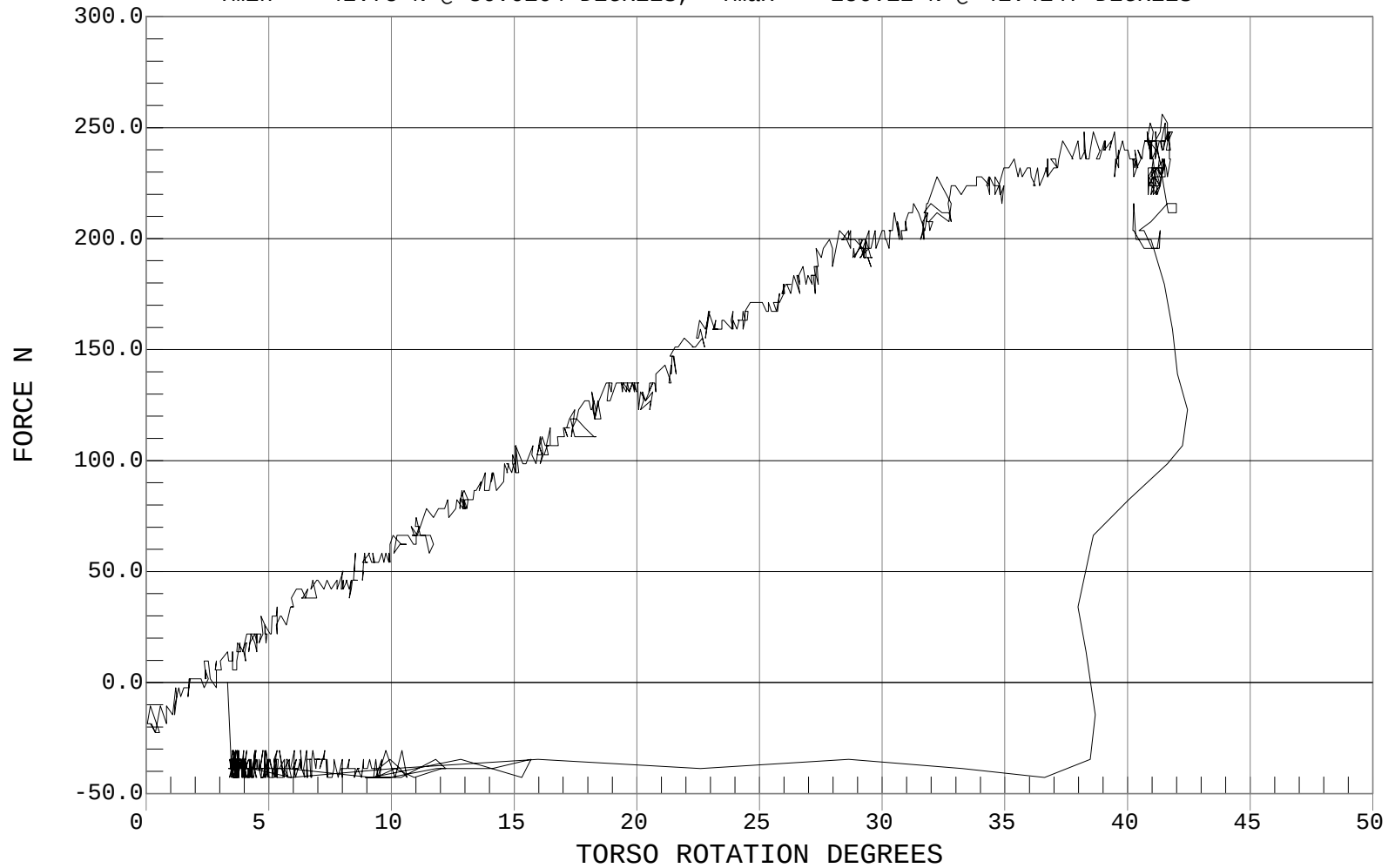
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 272

Test Date: 07-16-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01065FC.F14

Ymin = -42.75 N @ 36.6164 DEGREES, Ymax = 256.12 N @ 41.4147 DEGREES



SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No.: 272

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, weldment, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

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

Laboratory Technician

7/16/01
Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
External Measurements

ATD Serial No.: 271

Test Number: D01111

Tested Parameter	Units	Specification	Result	Pass/Fail
SH – Seated Height	mm	889 - 909	902	Pass
RH – Rib Height	mm	501 – 521	517	Pass
HP – Hip Pivot Height	mm	99 ref.	99	Pass
RD-Rib from Back Line	mm	229 – 241	232	Pass
KV – Knee Pivot from Back Line	mm	511 – 526	517	Pass
SW – Knee Pivot to Floor	mm	490 – 505	496	Pass
HW – Hip Width	mm	356 – 391	379	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01
Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Calibration

ATD Serial No.: 271

Test I.D.: D011112

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	56	Pass
Probe Velocity	m/s	4.27 – 4.33	4.28	Pass
Upper Rib	G's	37 – 46	42	Pass
Lower Rib	G's	37 – 46	41	Pass
Lower Spine	G's	15 - 22	17	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01
Test Date

Approved By



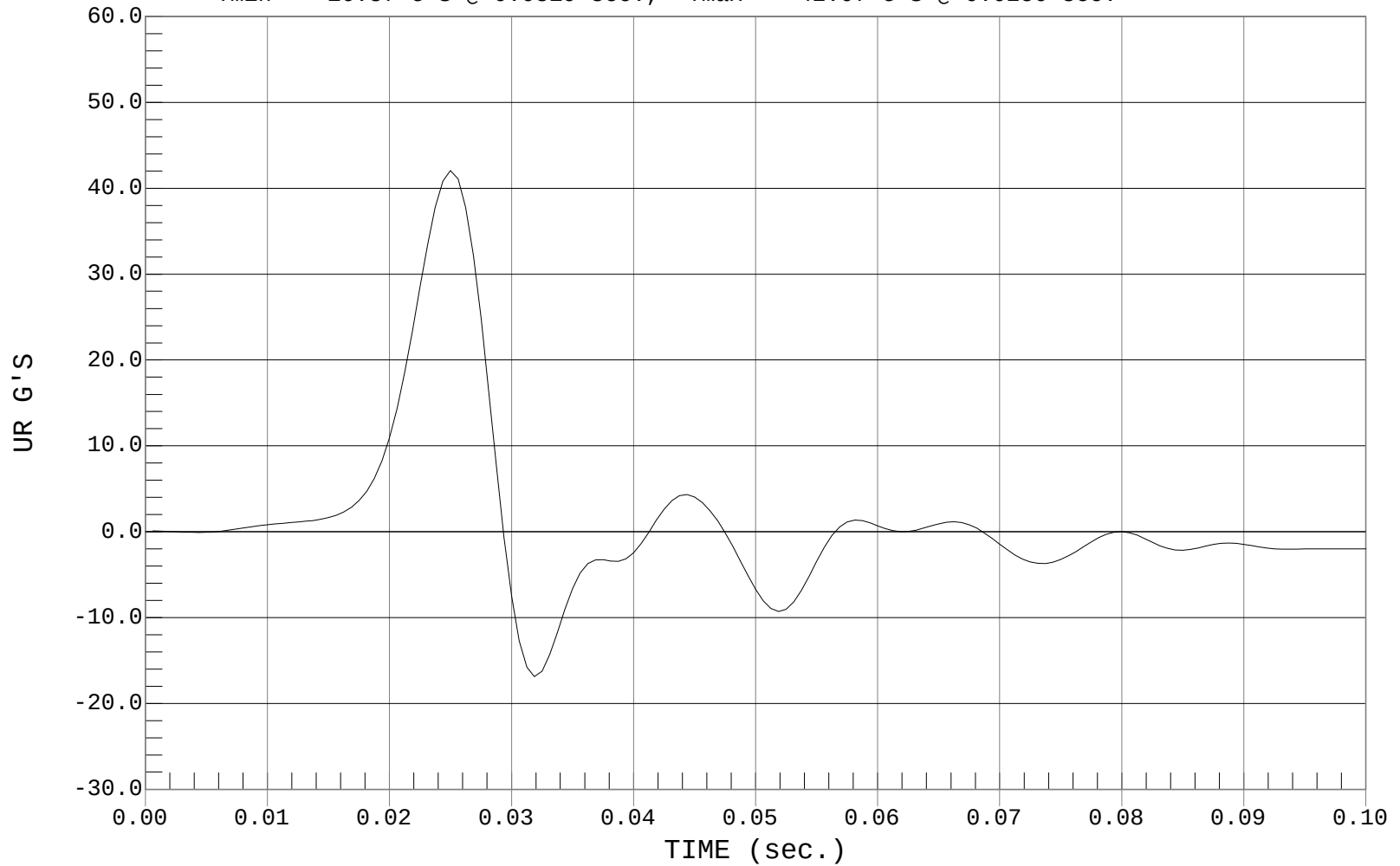
UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #271

Test Date: 07-26-01
Speed: 14.06 FT/SEC, 4.28 M/SEC

— 1 UR, D01112FI.R08

Ymin = -16.87 G'S @ 0.0319 sec., Ymax = 42.07 G'S @ 0.0250 sec.





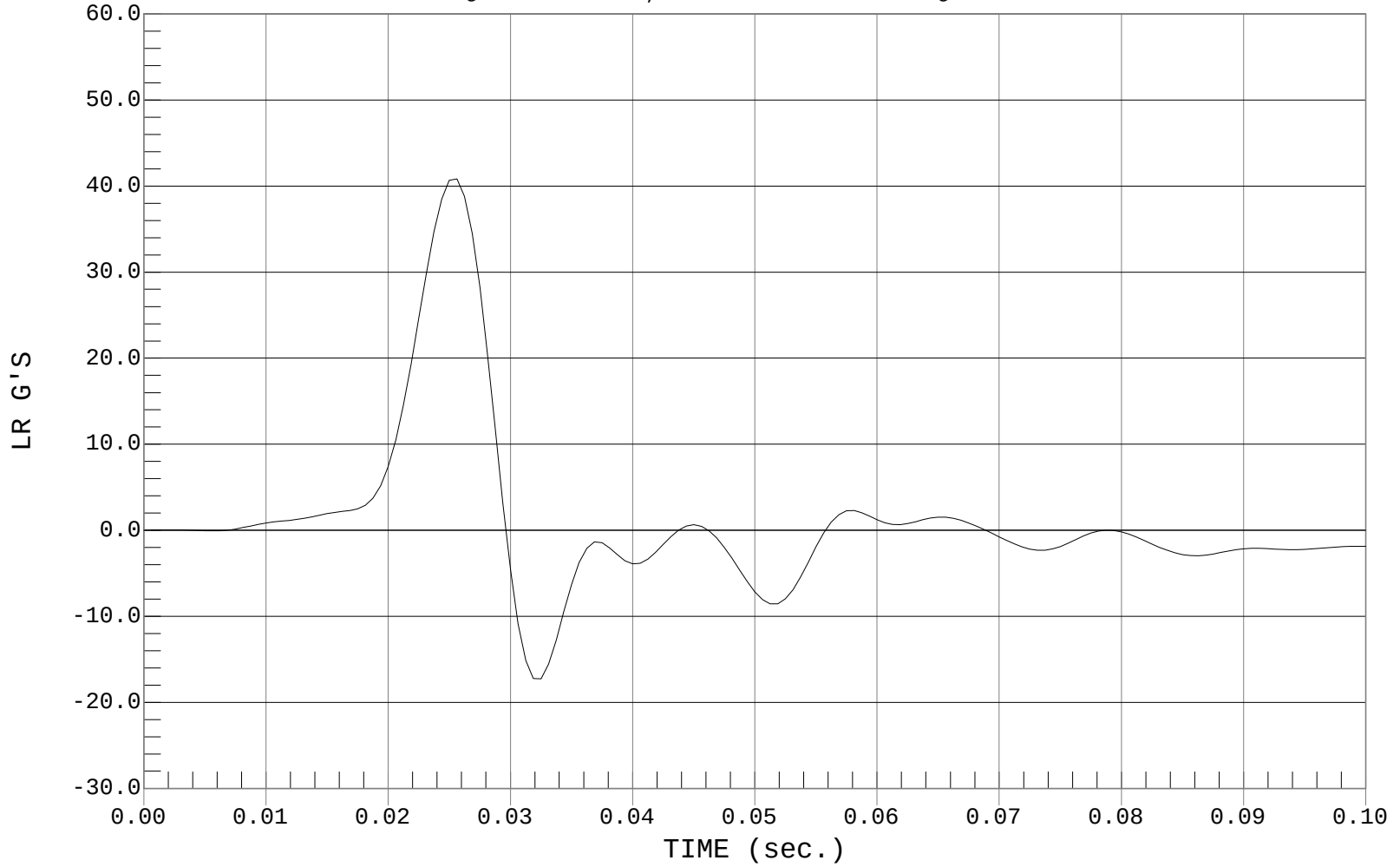
LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #271

Test Date: 07-26-01
Speed: 14.06 FT/SEC, 4.28 M/SEC

— 1 LR, D01112FI.R09

Ymin = -17.25 G'S @ 0.0325 sec., Ymax = 40.85 G'S @ 0.0256 sec.





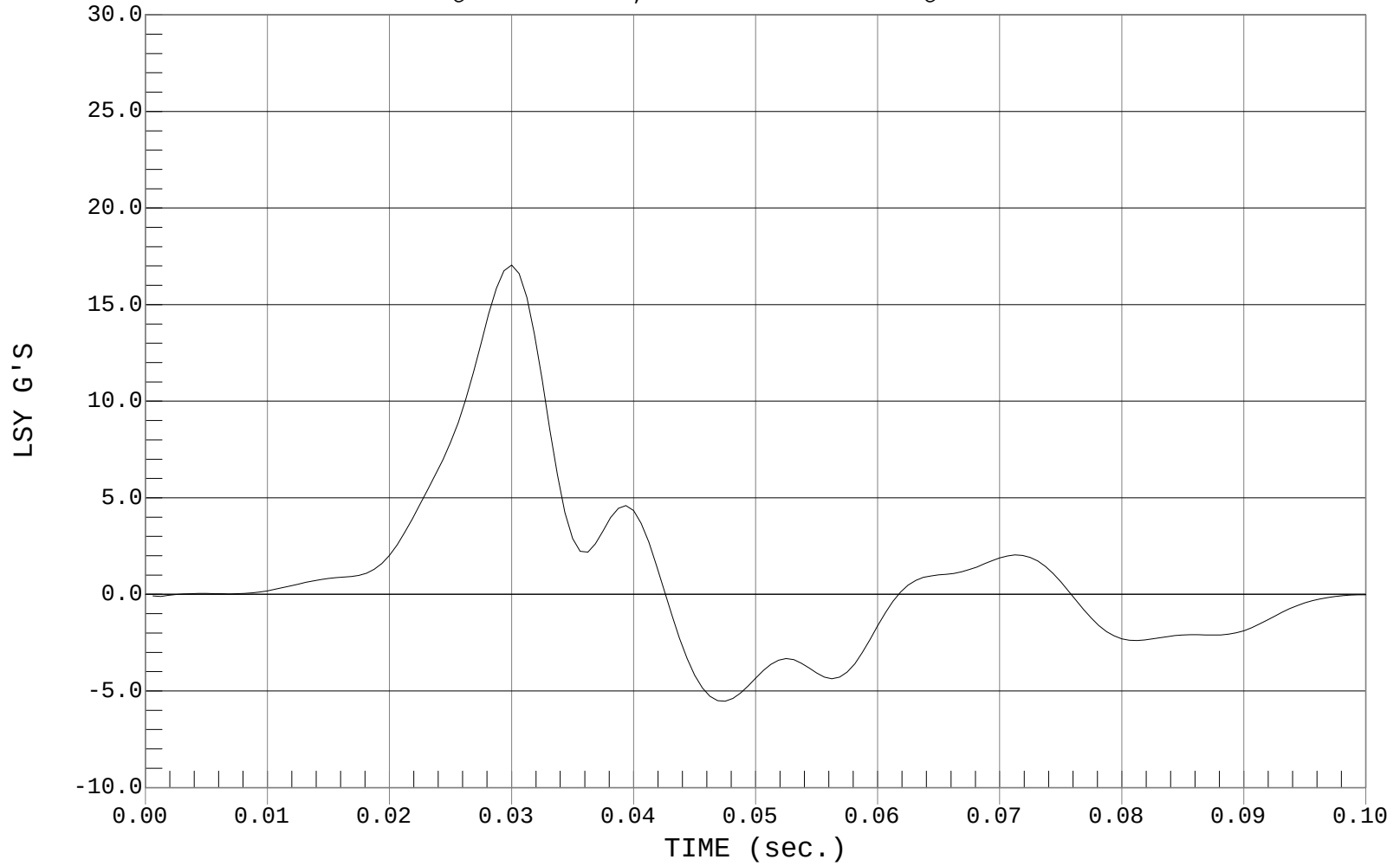
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
Component: Dummy #271

Test Date: 07-26-01
Speed: 14.06 FT/SEC, 4.28 M/SEC

— 1 LSY, D01112FI.R10

Ymin = -5.53 G'S @ 0.0475 sec., Ymax = 17.05 G'S @ 0.0300 sec.



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Calibration

ATD Serial No.: 271

Test I.D.: D011113

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	56	Pass
Probe Speed	m/s	4.27 – 4.33	4.30	Pass
Pelvis Acceleration	G's	40 - 60	43	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01

Test Date

Approved By



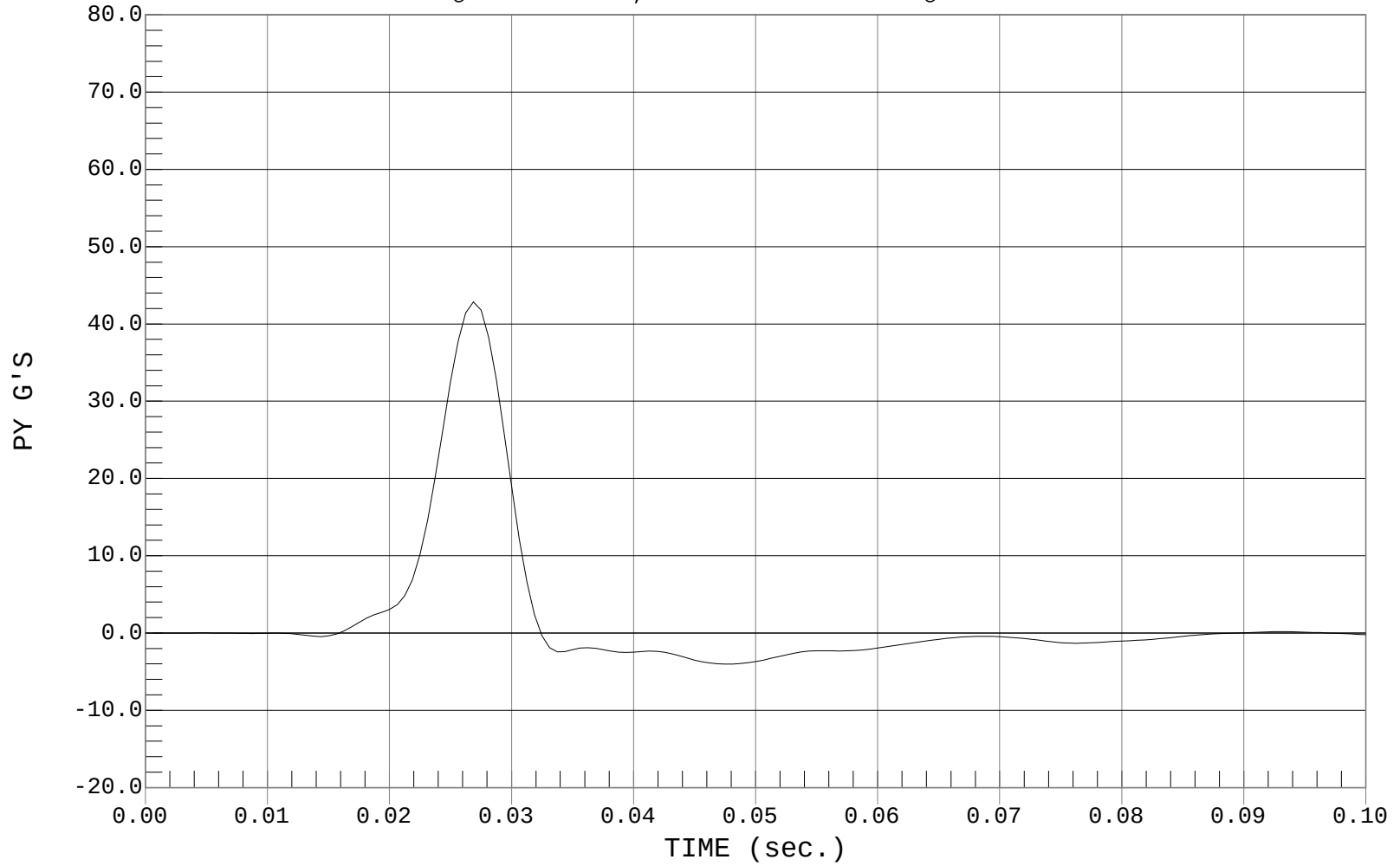
PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #271

Test Date: 07-26-01
Speed: 14.10 FT/SEC, 4.30 M/SEC

— 1 PY, D01113FI.R11

Ymin = -4.03 G'S @ 0.0475 sec., Ymax = 42.84 G'S @ 0.0269 sec.



SID Calibration Data Sheet
Side Impact Dummy
Abdominal Compression Calibration (Preload = 10 lbs)

ATD Serial No.: 271

Test I.D.: D011114

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	57	Pass
Force @ 12.7	mm	104 – 162	158	Pass
Force @ 19	mm	163 – 222	220	Pass
Force @ 25.4	mm	222 – 280	279	Pass
Force @ 33	mm	325 - 391	383	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01

Test Date

Approved By



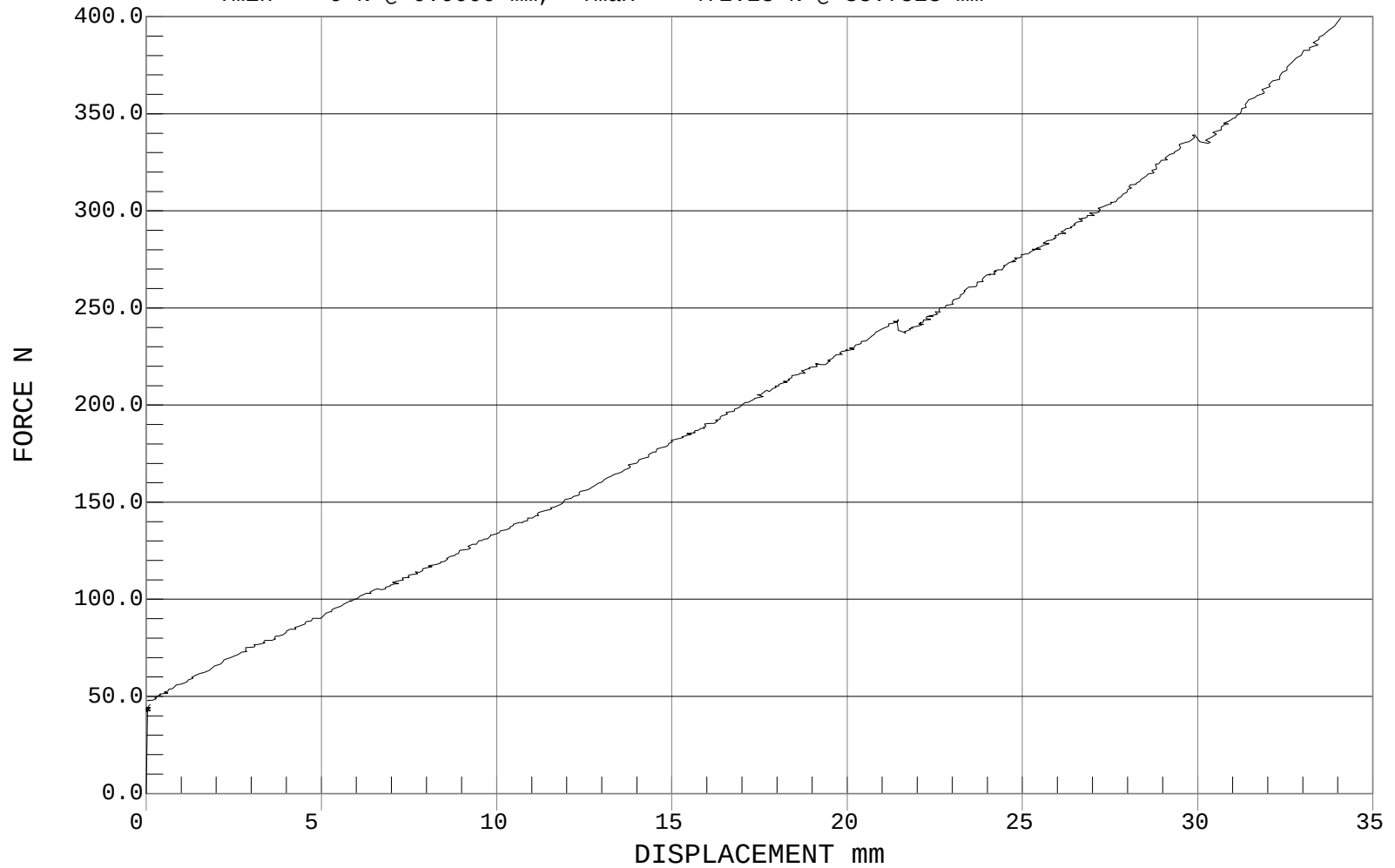
ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION
Component: DUMMY # 271

Test Date: 07-26-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01114FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 472.28 N @ 38.7528 mm



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No.: 271

Test I.D.: D011115

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	57	Pass
Force @ 0	mm	0 – 26.7	0	Pass
Force @ 20	mm	97.9 – 151.2	99.9	Pass
Force @ 30	mm	151.2 – 204.6	160.5	Pass
Force @ 40	mm	204.6 – 258.0	205.0	Pass
Return Angle	Degrees	12 Maximum	5	Pass
Overall Test Results				Pass

Laboratory Technician

7/25/01
Test Date

Approved By



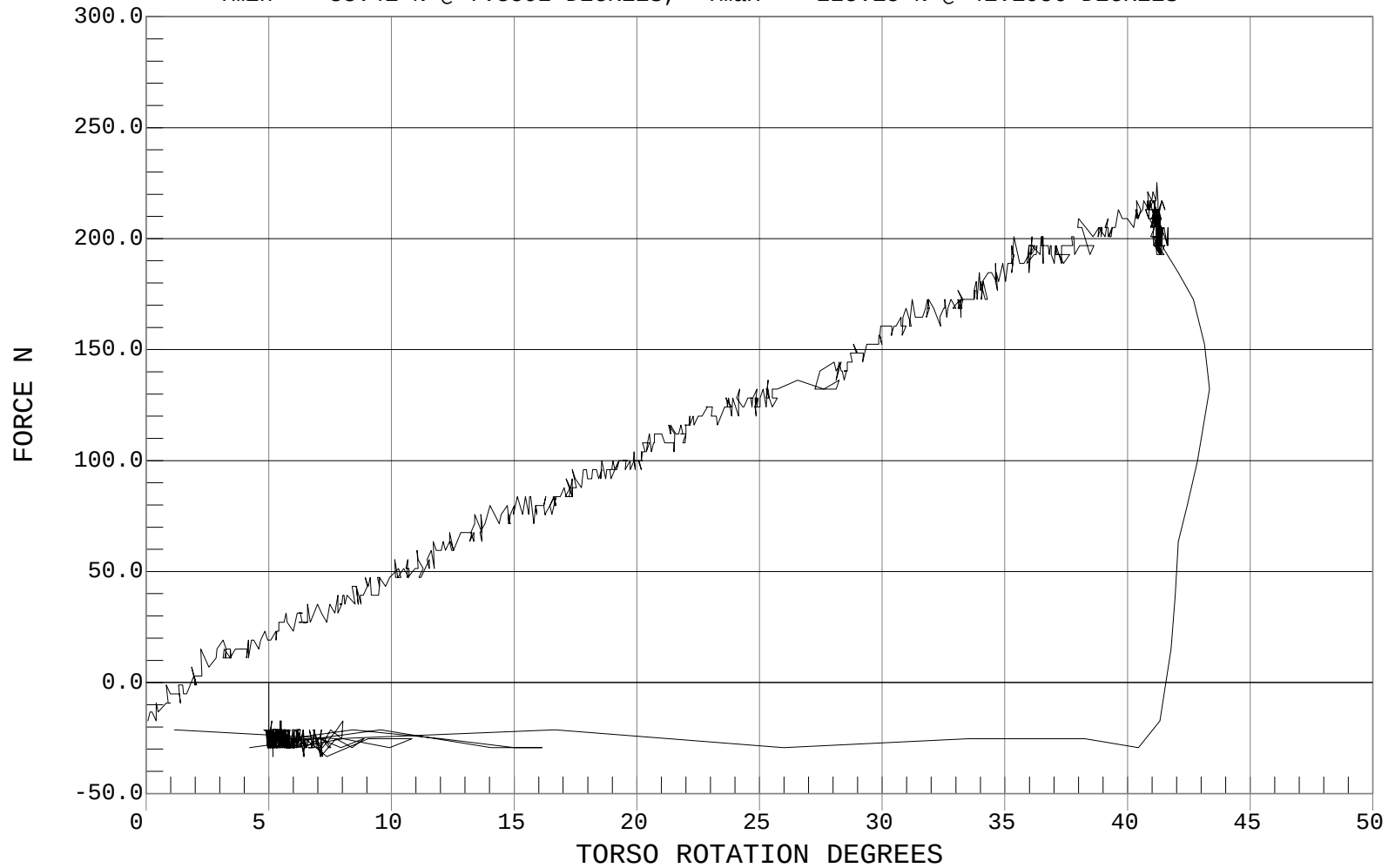
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 271

Test Date: 07-25-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01115FC.F14

Ymin = -33.41 N @ 7.3592 DEGREES, Ymax = 225.15 N @ 41.1956 DEGREES



SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No.: 271

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, weldment, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

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

Laboratory Technician

7/26/01
Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
External Measurements

ATD Serial No.: 272

Test Number: D01112

Tested Parameter	Units	Specification	Result	Pass/Fail
SH – Seated Height	mm	889 - 909	900	Pass
RH – Rib Height	mm	501 – 521	514	Pass
HP – Hip Pivot Height	mm	99 ref.	99	Pass
RD-Rib from Back Line	mm	229 – 241	235	Pass
KV – Knee Pivot from Back Line	mm	511 – 526	522	Pass
SW – Knee Pivot to Floor	mm	490 – 505	491	Pass
HW – Hip Width	mm	356 – 391	373	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01
Test Date

Approved By

SID Calibration Data Sheet
Side Impact Dummy
Thorax Impact Calibration

ATD Serial No.: 272

Test I.D.: D011122

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	56	Pass
Probe Velocity	m/s	4.27 – 4.33	4.28	Pass
Upper Rib	G's	37 – 46	40	Pass
Lower Rib	G's	37 – 46	38	Pass
Lower Spine	G's	15 - 22	20	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01

Test Date

Approved By



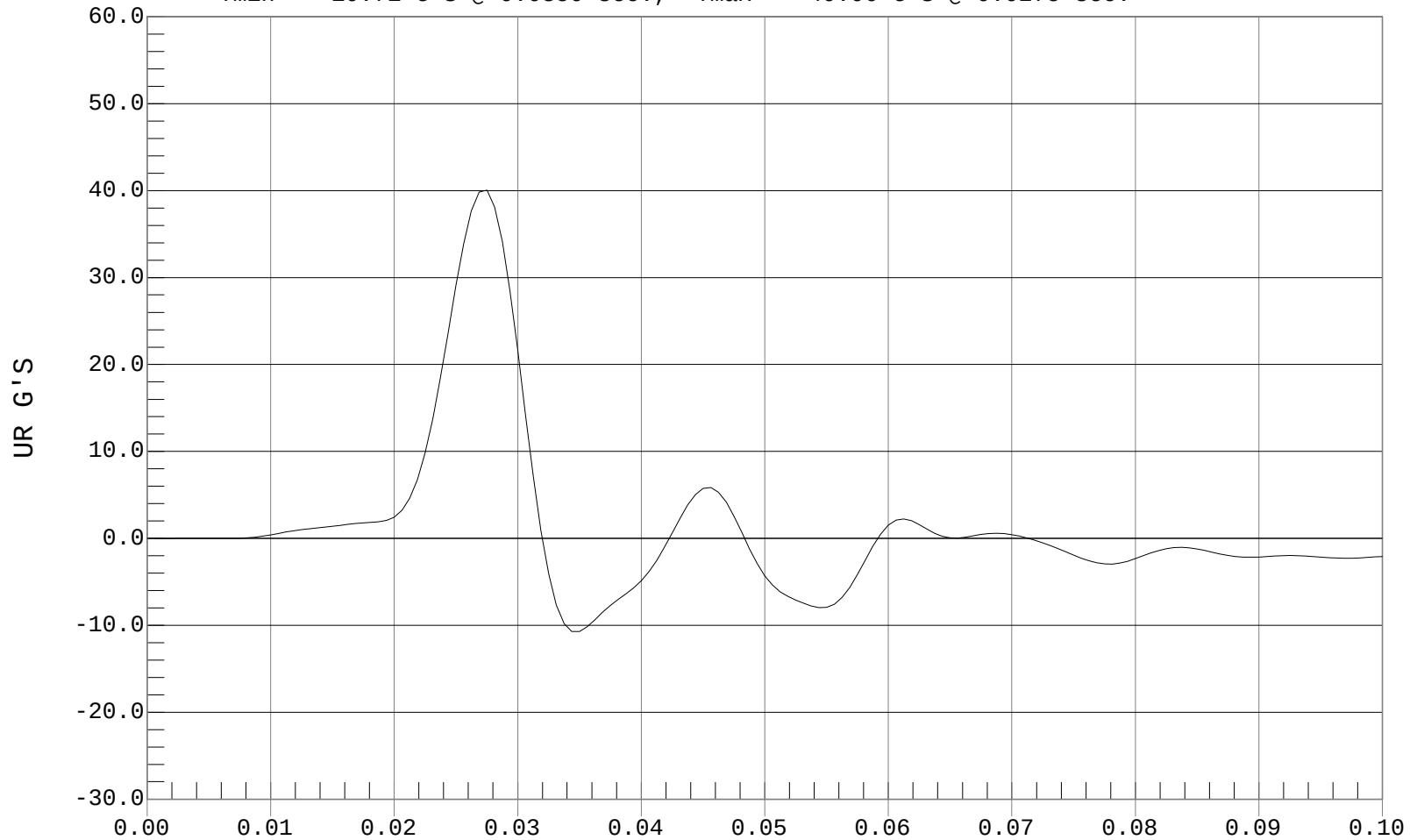
UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #272

Test Date: 07-26-01
Speed: 14.04 FT/SEC, 4.28 M/SEC

— 1 UR, D01122FI.R08

Ymin = -10.71 G'S @ 0.0350 sec., Ymax = 40.06 G'S @ 0.0275 sec.





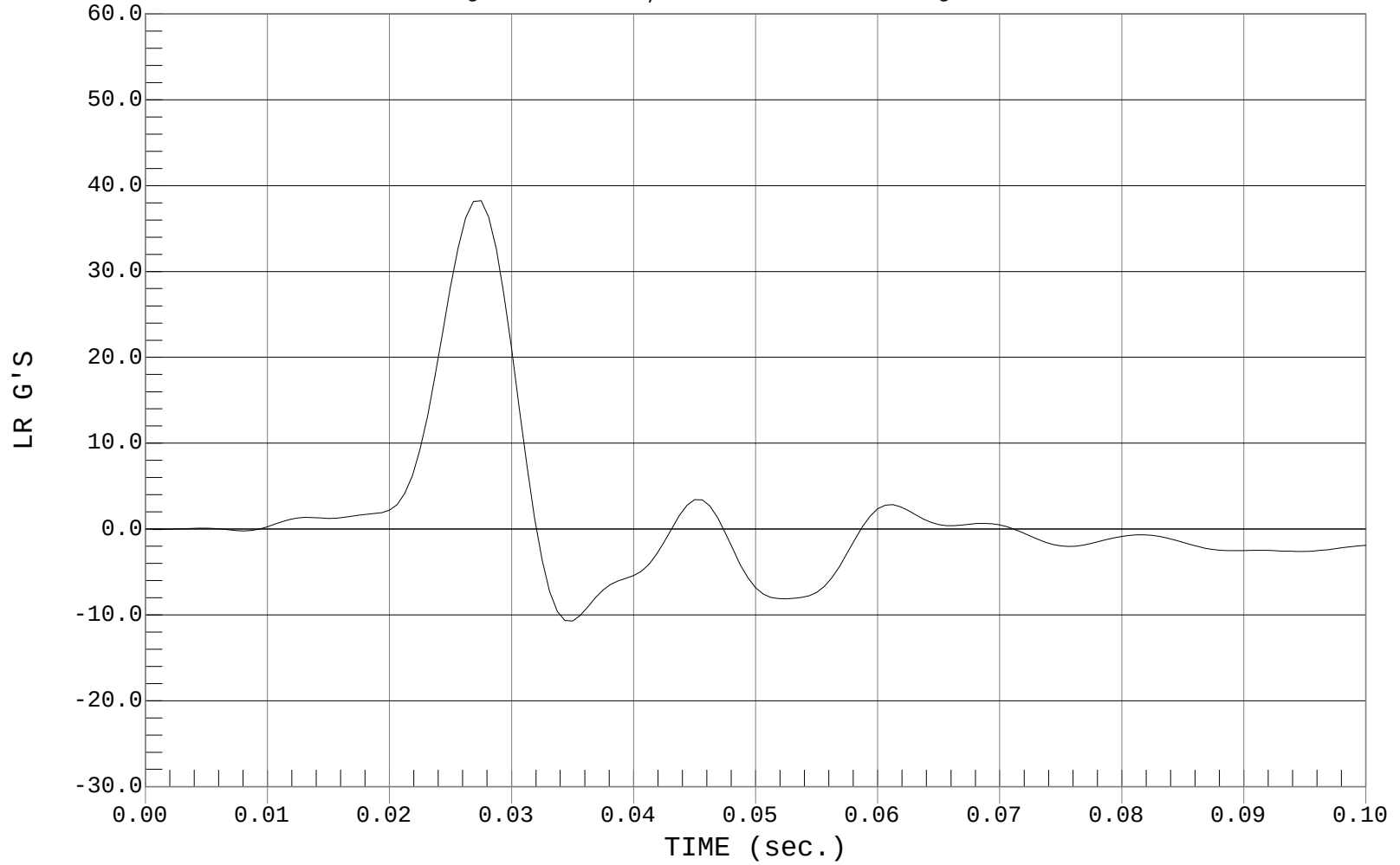
LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #272

Test Date: 07-26-01
Speed: 14.04 FT/SEC, 4.28 M/SEC

1 LR, D01122FI.R09

Ymin = -10.71 G'S @ 0.0350 sec., Ymax = 38.24 G'S @ 0.0275 sec.





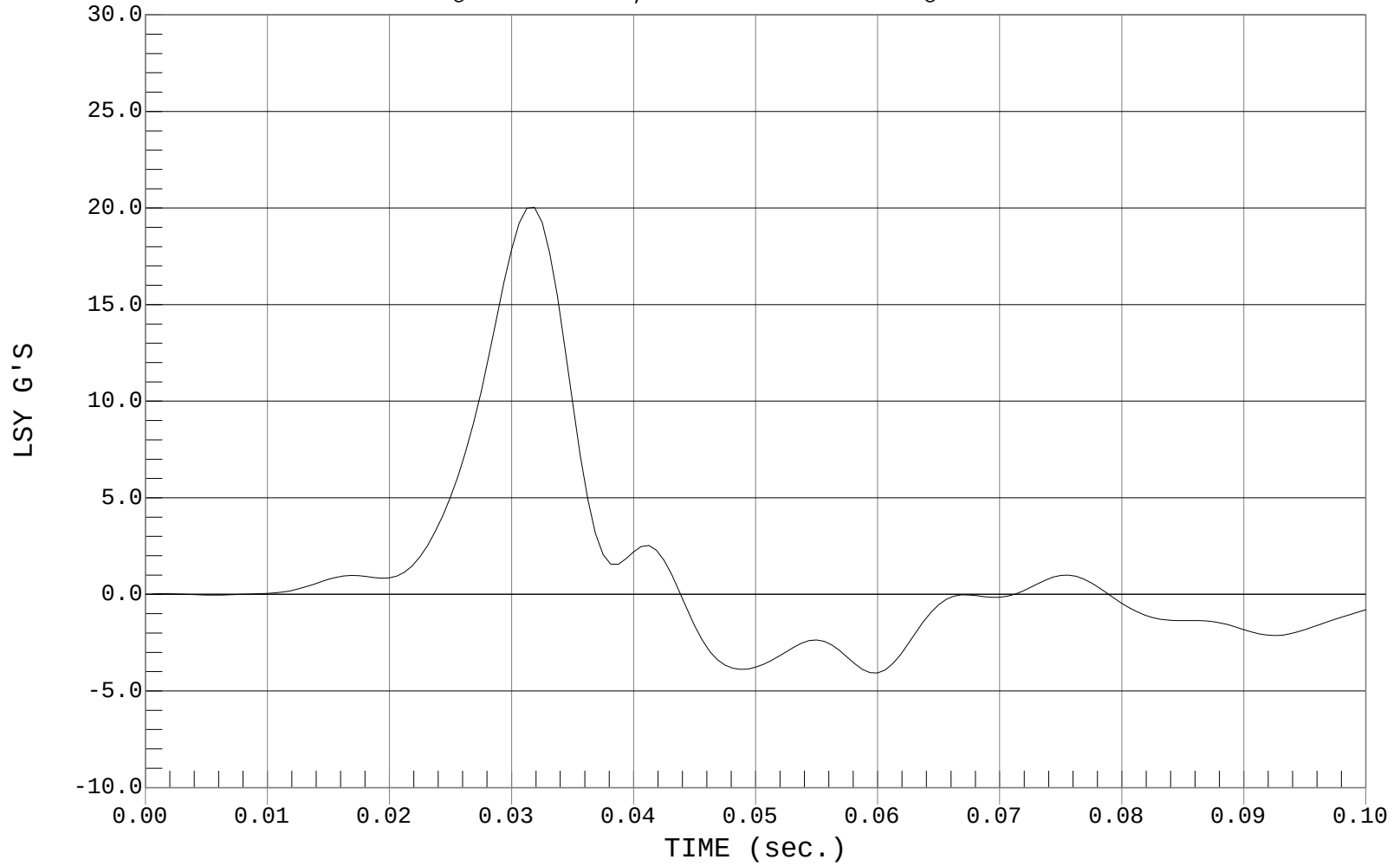
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #272

Test Date: 07-26-01
Speed: 14.04 FT/SEC, 4.28 M/SEC

— 1 LSY, D01122FI.R10

Ymin = -4.07 G'S @ 0.0600 sec., Ymax = 20.03 G'S @ 0.0319 sec.



SID Calibration Data Sheet
Side Impact Dummy
Pelvis Impact Calibration

ATD Serial No.: 272

Test I.D.: D011123

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	56	Pass
Probe Speed	m/s	4.27 – 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	42	Pass
			Overall Test Results	Pass

Laboratory Technician

7/26/01

Test Date

Approved By



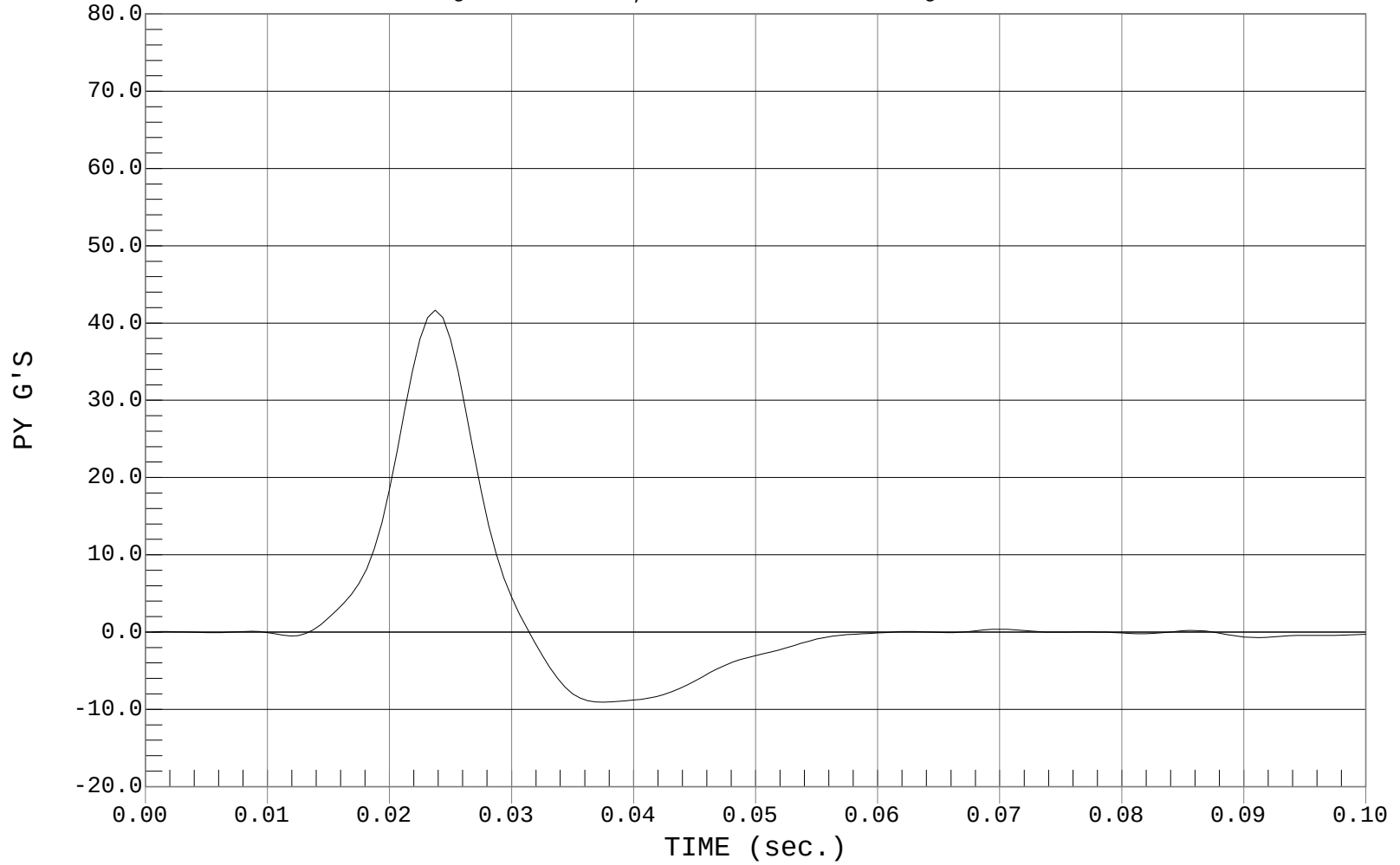
PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact
Component: Dummy #272

Test Date: 07-26-01
Speed: 14.08 FT/SEC, 4.29 M/SEC

— 1 PY, D01123FI.R11

Ymin = -9.06 G'S @ 0.0375 sec., Ymax = 41.68 G'S @ 0.0238 sec.



SID Calibration Data Sheet
Side Impact Dummy
Abdominal Compression Calibration (Preload = 10 lbs)

ATD Serial No.: 272

Test I.D.: D011124

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	57	Pass
Force @ 12.7	mm	104 – 162	136	Pass
Force @ 19	mm	163 – 222	189	Pass
Force @ 25.4	mm	222 – 280	252	Pass
Force @ 33	mm	325 - 391	351	Pass
Overall Test Results				Pass

Laboratory Technician

7/26/01

Test Date

Approved By



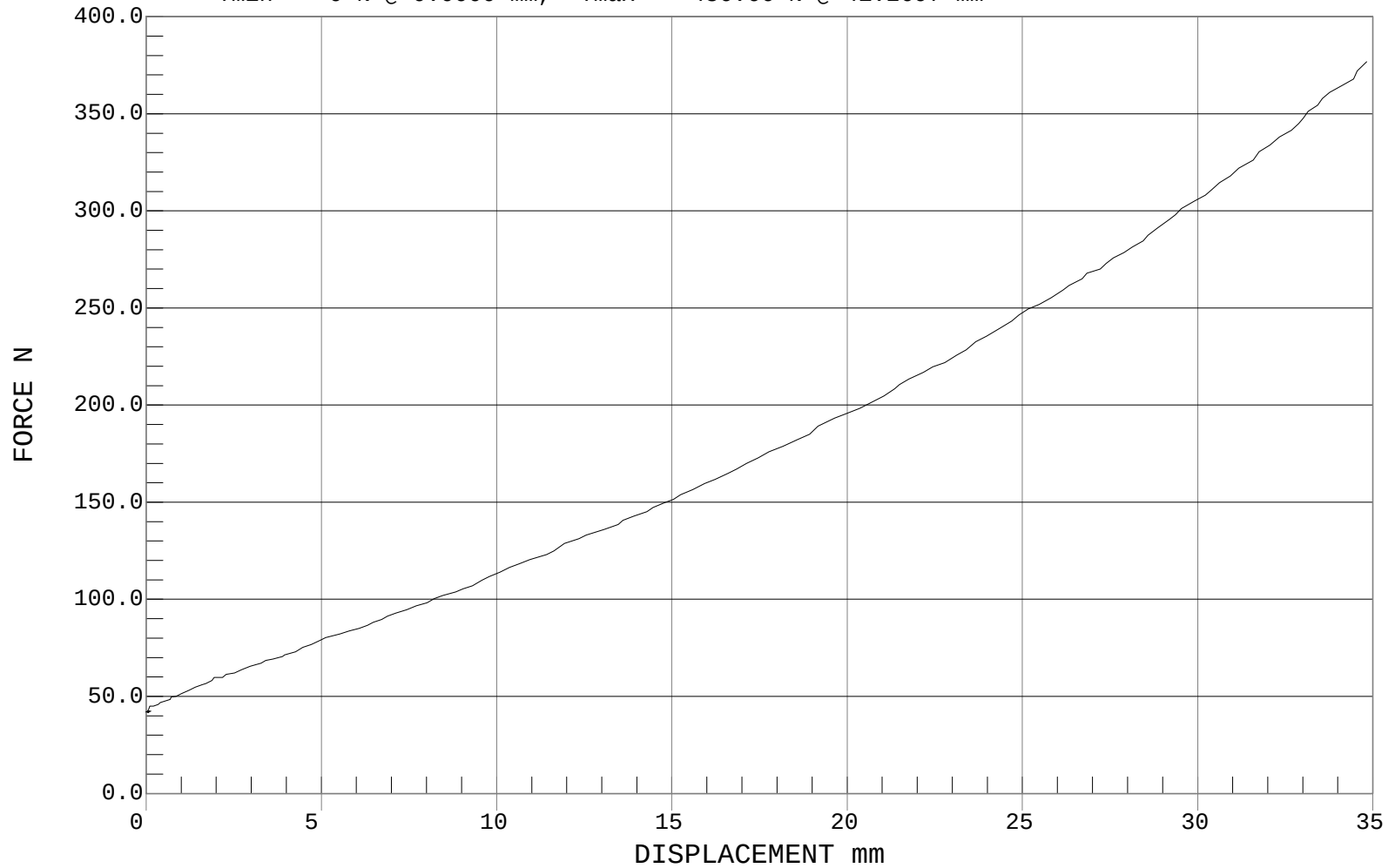
ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION
Component: DUMMY # 272

Test Date: 07-26-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01124FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 486.66 N @ 41.2697 mm



SID Calibration Data Sheet
Side Impact Dummy
Lumbar Flexion Calibration

ATD Serial No.: 272

Test I.D.: D011125

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	56	Pass
Force @ 0	mm	0 – 26.7	0	Pass
Force @ 20	mm	97.9 – 151.2	105.1	Pass
Force @ 30	mm	151.2 – 204.6	173.7	Pass
Force @ 40	mm	204.6 – 258.0	234.3	Pass
Return Angle	Degrees	12 Maximum	4	Pass
Overall Test Results				Pass

Laboratory Technician

7/25/01

Test Date

Approved By



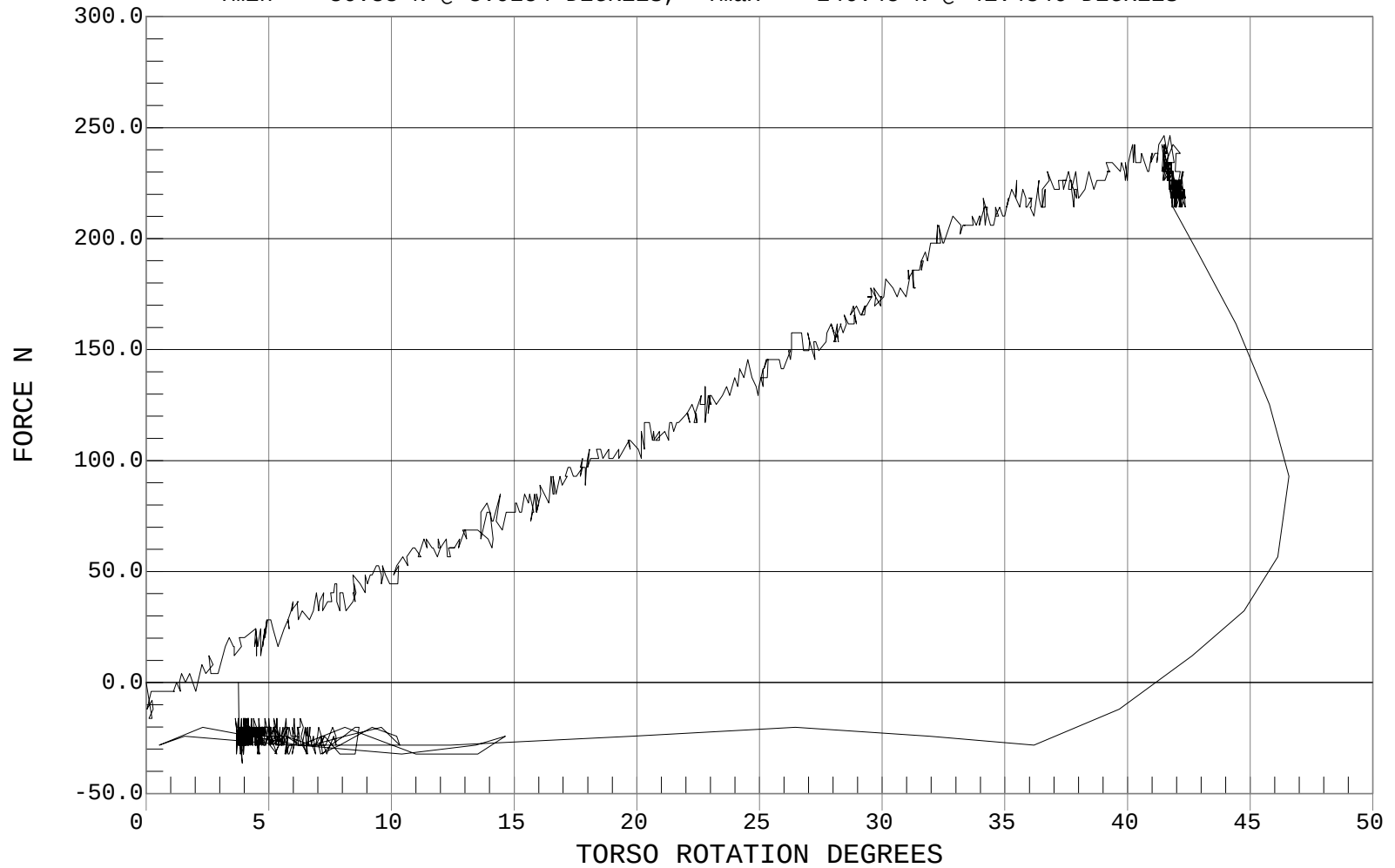
LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 272

Test Date: 07-25-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01125FC.F14

Ymin = -36.33 N @ 3.9254 DEGREES, Ymax = 246.45 N @ 41.4846 DEGREES



SID Calibration Data Sheet
Side Impact Dummy
Inspection Checklist

ATD Serial No.: 272

Test Part	Items Checked	Result
Skin	Visual inspection	Pass
Head	Visual, ballast, accelerometer mount	Pass
Neck	Visual	Pass
Spine Box	Visual, ballast, weldment, accelerometer mount	Pass
Rib Cage	Visual, measure	Pass
Sternum	Visual	Pass
Lumbar Spine	Visual	Pass
Abdomen	Visual	Pass
Pelvis	Visual, palpate, accelerometer mount	Pass
Upper Legs	Visual	Pass
Knees	Visual	Pass
Lower Legs	Visual, range of motion	Pass
Ankles	Visual, range of motion	Pass
Feet	Visual, range of motion	Pass
Joints	1 to 2 g range	Pass
Other		Pass

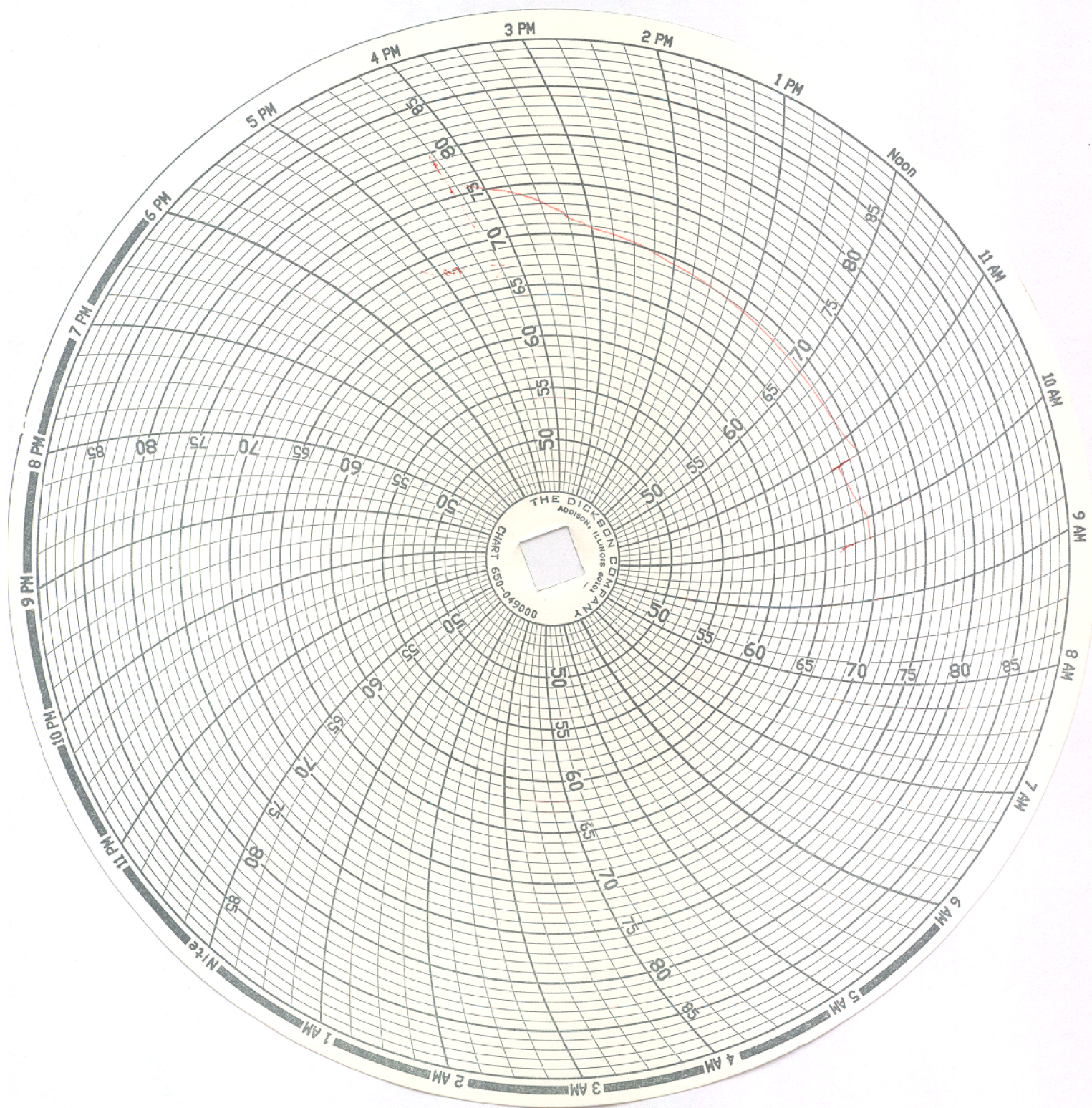
Notes (include component/problem/section/reason):

Laboratory Technician

7/26/01
Test Date

Approved By

VEHICLE AND DUMMY TEMPERATURE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

DUMMY AND VEHICLE CALIBRATION DATA

	INSTRUMENTS FOR DRIVER DUMMY NO. 271		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AP1T8	Endevco	7/9/01
Lower Rib Y	J10420	Endevco	3/13/01
Lower Spine Y	AGTP7	Endevco	6/12/01
Pelvis Y	AGM32	Endevco	5/31/01
Upper Rib Redundant Y	AP2D7	Endevco	7/9/01
Lower Rib Redundant Y	AKAF2	Endevco	3/13/01
Lower Spine Redundant Y	AGTO4	Endevco	6/12/01
Pelvis Redundant Y	AKAH3	Endevco	5/31/01

	INSTRUMENTS FOR PASSENGER DUMMY NO. 272		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	ALEJ1	Endevco	6/12/01
Lower Rib Y	AJ816	Endevco	5/31/01
Lower Spine Y	AJ9P7	Endevco	6/1/01
Pelvis Y	AJ417	Endevco	7/9/01
Upper Rib Redundant Y	ALDP3	Endevco	6/12/01
Lower Rib Redundant Y	AM749	Endevco	5/31/01
Lower Spine Redundant Y	AJ462	Endevco	6/1/01
Pelvis Redundant Y	AGP20	Endevco	7/9/01

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	E03-H14	Entran	6/7/01
Moving Barrier CG Y	D11-F03	Entran	5/30/01
Moving Barrier CG Z	D11-F05	Entran	5/30/01
Moving Barrier Rear Axle X	F04-N15	Entran	6/25/01
Moving Barrier Rear Axle Y	F04-N09	Entran	6/22/01
Left Mid A-Post Y	D05-R11	Entran	6/25/01
Left Lower A-Post Y	I25-J02	Entran	3/21/01
Left Mid B-Post Y	I25-F05	Entran	3/21/01
Left Lower B-Post Y	F04-N05	Entran	6/22/01
Rear Floorpan Above Axle X	G13-F18	Entran	4/4/01
Rear Floorpan Above Axle Y	G13-F16	Entran	4/4/01
Rear Floorpan Above Axle Z	G13-F03	Entran	4/4/01
Driver Seat Track Y	E03-H08	Entran	6/6/01
Right Side Sill at Front Seat X	I25-F07	Entran	6/11/01
Right Side Sill at Front Seat Y	I25-F08	Entran	6/11/01
Right Side Sill at Front Seat Z	I25-F09	Entran	6/11/01
Right Side Sill at Rear Seat X	G13-B07	Entran	6/11/01
Right Side Sill at Rear Seat Y	D11-F08	Entran	5/31/01
Right Side Sill at Rear Seat Z	E03-H04	Entran	6/6/01
Left Side Sill at Front Seat Y	D06-A03	Entran	2/7/01
Left Side Sill at Rear Seat Y	I25-F02	Entran	6/19/01
Right Rear Occupant Compartment Y	I25-F11	Entran	6/19/01
Vehicle CG X	F04-N14	Entran	6/22/01
Vehicle CG Y	F04-N08	Entran	6/22/01
Vehicle CG Z	F04-N06	Entran	6/22/01

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

All Entran accelerometers are Model No. EGE-72