

REPORT NUMBER: 201-MGA-2001-004

**SAFETY COMPLIANCE TESTING FOR FMVSS 201
RIGID POLE SIDE IMPACT TEST**

**DaimlerChrysler AG
2001 Mercedes C240 4 Door
NHTSA NUMBER: C10518**

**PREPARED BY:
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June 14, 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 rigid pole side impact test was conducted on the subject 2001 Mercedes C240 4 Door in accordance with FMVSS 201, "Occupant Protection in Interior Impact", S6(b)(3) and the Office of Vehicle Safety Compliance Test Procedure No. TP-201P-02 "Rigid Pole Side Impact Test". The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on June 14, 2001. The impact velocity of the vehicle was 28.3 kph, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 21°C. The post-test maximum crush was 382 mm at level 3. The test vehicle's occupant performance is as follows: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;"><u>REQUIREMENTS</u></td> <td style="width: 33%; text-align: center;"><u>DRIVER</u></td> </tr> <tr> <td style="text-align: center;">HIC</td> <td style="text-align: center;">≤ 1000</td> <td style="text-align: center;">457</td> </tr> </table> 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.							<u>REQUIREMENTS</u>	<u>DRIVER</u>	HIC	≤ 1000	457
	<u>REQUIREMENTS</u>	<u>DRIVER</u>									
HIC	≤ 1000	457									
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SECTION 1
PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

This rigid pole 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 occupant protection in interior impact in a 2001 Mercedes C240 4 Door manufactured by DaimlerChrysler AG.

1.2 TEST PROCEDURE

The rigid pole side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC), laboratory test procedure TP-201P-02, dated April 21, 2000 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA8. 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 RIGID POLE SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT TEST

A rigid pole side impact test was performed on a model year 2001 Mercedes C240 4 Door. The subject vehicle was towed into a rigid pole at a velocity of 28.3 km/h. The specified impact velocity range is from 27.2 to 28.8 km/h. The test vehicle was positioned 90° to the line of forward motion. The weight of the vehicle as tested was 1679 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on June 14, 2001.

One (1) real-time motion picture camera and twelve (12) high-speed motion picture cameras were used to document the impact event. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and SID/HIII can be found in Appendix A. One SID/HIII was placed in the left front outboard designated seating position according to instructions specified in TP-201P-02 dated April 21, 2000. The SID/HIII was instrumented in the following locations:

- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axis)
- Upper Neck 6 channel load cell (X, Y, and Z force and moment)
- 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. 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 382 mm at level 3, at the vertical impact line. The driver SID/HIII, Serial No. 037, was calibrated just prior to this test. The SID/HIII's injury criteria is summarized as follows:

Measurements	Units	Driver
HIC		457
TTI*	G	79
Pelvis*	G	60.2
Neck Force X*	N	-452
Neck Force Y*	N	964
Neck Force Z*	N	1161**
Neck Moment X*	Nm	-48.4
Neck Moment Y*	Nm	-35.6
Neck Moment Z*	Nm	21.2

* Information Purposes Only.

** There is a spike in the data

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 SID/HIII and vehicle data traces. Appendix C contains the SID/HIII's configuration and performance verification data. Appendix D contains the test equipment information.

TEST NOTES

The following accelerometers were not used for this test:

- A Pillar Upper
- B Pillar Upper
- Left Roof
- Right Roof
- Left Upper Door
- Left Mid Door
- Left Lower Door

SECTION 3

SIDE IMPACT DUMMY (SID/HIII) AND VEHICLE TEST DATA

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 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	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	$=(\text{tf} - 32)/1.8$
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/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

TEST VEHICLE INFORMATION

Make	Mercedes-Benz
Model	C240
Body Style	4 door
NHTSA No.	C10518
VIN	WDBRF61J91F085241
Color	tan
Delivery Date	4/6/2001
Odometer Reading (mile)	197
Dealer	Mark Motors
Transmission	automatic
Final Drive	rear
Number of Cylinders	6
Engine Displacement (L)	2.6
Engine Placement	longitudinal

TEST VEHICLE OPTIONS

Front Airbags	yes
Side Airbags	yes
Power Windows	yes
Power Steering	yes
Power Door Locks	yes
Tilt Wheel	yes
Air Conditioning	yes
Power Brakes	yes
Disc Brakes, Front	yes
Disc Brakes, Rear	yes
Anti-lock Brakes	yes
AM/FM/Cassette	yes
Anti-theft System	yes
Cruise Control	yes

DATA FROM CERTIFICATION LABEL

Manufactured By	DaimlerChrysler AG
Date of Manufacture	02/01

GVWR (kg)	1975
GAWR Front (kg)	965
GAWR Rear (kg)	1010

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	196	224
Cold Pressure (kPa)	196	224
Recommend Tire Size	P205/55R16	P205/55R16
Tire Size on Vehicle	P205/55R16	P205/55R16
Tire Manufacturer	Goodyear	Goodyear

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				392
Cargo Weight (RCLW) (kg)				52

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

Test Vehicle: 2001/Mercedes/C240/4 Door
 Test Program: FMVSS 201P

NHTSA No.: C10518
 Test Date: June 14, 2001

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	418.2	355.2		442.7	403.3	
Right	kg	409.1	368.3		431.8	401.0	
Ratio	%	53.3	46.7		52.1	47.9	
Totals	kg	827.3	723.5	1550.8	874.5	804.3	1678.8

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1550.8
Weight of SID/HIII Side Impact Dummy	kg	80.7
Rated Cargo/Luggage Weight (RCLW)	kg	52.2
Calculated Vehicle Target Weight (TVTW)	kg	1683.7

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

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	Fully Loaded	Ready for Test
Right Front	mm	689	684	761
Left Front	mm	692	678	763
Right Rear	mm	664	648	730
Left Rear	mm	663	641	716
Right Door Sill Angle	deg	0.1 BD	0.3 BD	0.1 BD
Left Door Sill Angle	deg	0.1 BD	0.1 BD	0.1 BD
Front Bumper Angle	deg	0.1 LD	0.2 LD	0.2 LD
Rear Bumper Angle	deg	0.7 LD	0.6 LD	0.7 LD

ND = Nose Down, BD = Back Down, LD = Left Down, RD= Right Down

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2708
Total Vehicle Length at Left Side	mm	3720
Total Vehicle Length at Centerline	mm	4444
Total Vehicle Length at Right Side	mm	3720
Total Vehicle Width at B-Post	mm	1741
Weight of Ballast in Cargo Area	kg	0
Amount of Stoddard Solvent in Fuel Tank	liters	58.3

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

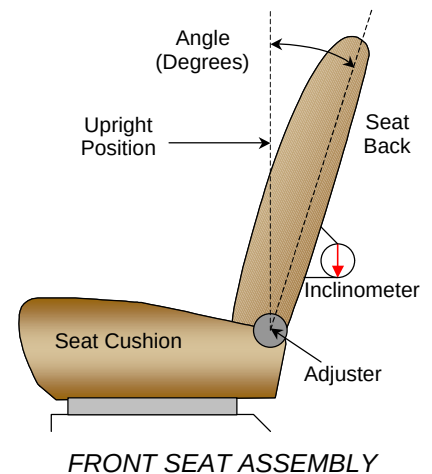
TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Target Impact Point Aft of Front Axle	mm	1511
Actual Impact Point Aft of Front Axle	mm	1506

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: Initially, the seat is set in the mid position and the seat back is positioned to get a torso angle of 25 degrees on the H-Point machine. The seat back was then moved forward 5 degrees to obtain the required head clearance.

Driver seat back angle: 18.5°



SEAT FORE/AFT POSITIONS

The fore/aft is initially set to the middle position for the driver's seat. It was then moved forward 56 mm to obtain the required head clearance.

Driver seat fore/aft total travel: 230 mm

Driver seat fore/aft position: 59 mm rearward of full forward

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable "D" ring anchorage for the driver's seat position. The driver's "D" ring anchorage is placed in the full up position.

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

FUEL TANK CAPACITY DATA

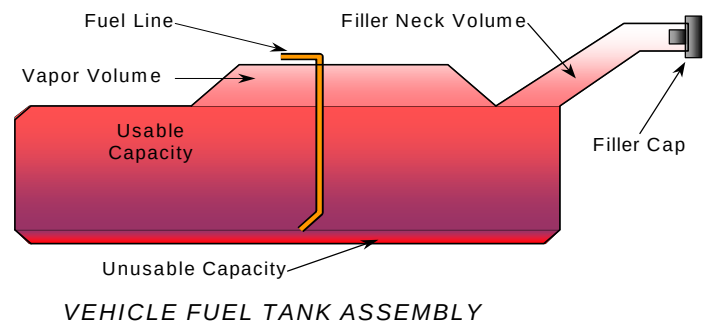
The "Usable Capacity" of the standard equipment fuel tank is: 62.1 liters

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

92-94% of "Usable Capacity" for certification to FMVSS 301 requirement: 57.1 - 58.3 liters

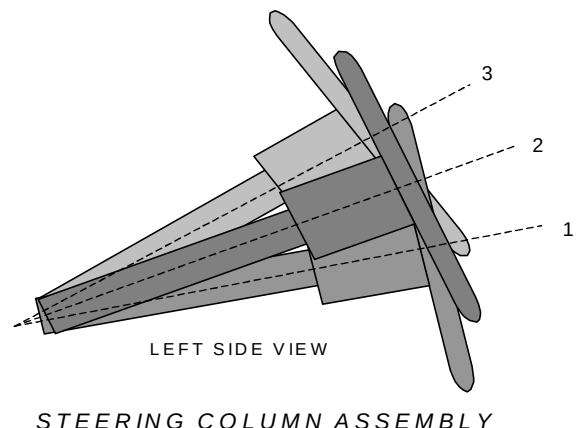
Actual amount of Stoddard solvent added to vehicle for certification test: 58.3 liters

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



Lowermost, position 1: 17.1°

Geometric center, position 2: 19.9°

Uppermost, position 3: 22.8°

The steering column has 50 mm of fore-aft adjustment. It was set back 25 mm (at the midpoint of its range) for the test.

DATA SHEET NO. 2**TEST VEHICLE SUMMARY OF RESULTS**Test Vehicle: 2001/Mercedes/C240/4 DoorNHTSA No.: C10518Test Program: FMVSS 201PTest Date: June 14, 2001**TEST VEHICLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	418.2	355.2		442.7	403.3	
Right	kg	409.1	368.3		431.8	401.0	
Weight Ratio	%	53.3	46.7		52.1	47.9	
Totals	kg	827.3	723.5	1550.8	874.5	804.3	1678.8

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	338	294
Level 2	Occupant H-Point	mm	368	523
Level 3	Mid Door	mm	382	624
Level 4	Window Sill	mm	356	876
Level 5	Window Top	mm	135	1381
N/A	Maximum Penetration	mm	382	624

INSTRUMENTATION

SID/HIII Instrumentation	20
Vehicle Structure Accelerometers	17
Total	37

CAMERAS

Onboard Vehicle	3
Offboard Vehicle	10
Total	13

IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	5 forward

DATA SHEET NO. 3

POST TEST OBSERVATIONS

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Driver
Dummy Type / Serial No.	SID/HIII / 037
Head Contact	side curtain airbag
Upper Torso Contact	side airbag and door panel
Lower Torso Contact	side airbag
Left Knee Contact	door panel
Right Knee Contact	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	non adjustable
Seat Back Failure	none	non adjustable

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	no failure
Sill Separation	none
Windshield Damage	broke
Window Damage	left side windows and sunroof broke
Other Notable Effects	none noted

AIRBAG DEPLOYMENT

	Driver
Front	no
Side	yes
Curtain	yes

ARM REST LOCATION AND SEAT CRUSH

	Driver
Front Armrest (from bottom of window)	230
Front Seat Back Crush	145
Front Seat Cushion Crush	62

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 4

SID/HIII INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

THORAX AND PELVIS PEAK ACCELERATIONS (FIR 100 Filtered)

Location	Axis	Units	Driver			
			Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	80.7	33	16.9	75
Upper Rib (LUR) (R)	Y	G's	79.2	33	18.5	75
Lower Rib (LLR)	Y	G's	60.6	32	13.3	75
Lower Rib (LLR) (R)	Y	G's	60.6	32	15.1	75
Lower Spine (T ₁₂)	Y	G's	77.0	38	20.3	69
Lower Spine (T ₁₂) (R)	Y	G's	75.9	37	20.6	69
Pelvis (PEV)	Y	G's	60.2	40	13.7	77
Pelvis (PEV) (R)	Y	G's	59.4	39	13.5	78

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

Location	Driver			
	LLR	T ₁₂	TTI(g)	PEV(g)
Rib, Spine, and Pelvis	80.7	77.0	78.9	60.2
Rib, Spine, and Pelvis (R)	79.2	75.9	77.6	59.4

UPPER NECK FORCES AND MOMENTS (SAE CLASS 1000/600 Filtered)

Location	Axis	Units	Driver			
			Max	Time	Min	Time
Neck Force	X	N	177.1	193	451.5	75
Neck Force	Y	N	964.3	65	241.6	155
Neck Force *	Z	N	1161.2	65	1065.4	66
Neck Moment	X	Nm	17.3	77	48.4	66
Neck Moment	Y	Nm	22.4	48	35.6	89
Neck Moment	Z	Nm	21.2	72	6.5	103

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver			
			Max	Time	Min	Time
Head CG	X	G's	5.0	193	22.8	64
Head CG	Y	G's	122.6	64	5.7	157
Head CG	Z	G's	34.5	68	12.0	65
Head CG Resultant		G's	126.5	64		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver			
	HIC	T ¹	T ²	Avg G's
Head CG	457	48.2	71.7	51.9

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

= + Forward
= + Right
= + Down

* There is a spike in the data. The maximum value of the spike not reported.

DATA SHEET NO. 5

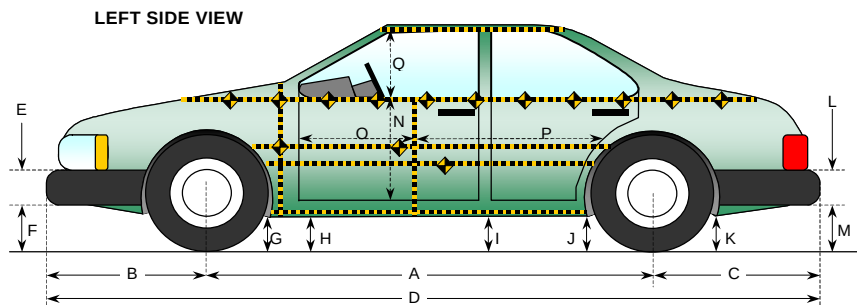
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001



All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2708	2615	-93
B	Front Axle to FSOV	713	760	47
C	Rear Axle to RSOV	1023	1074	51
D	Total Length at Centerline	4444	4449	5
E	Front Bumper Thickness	114	114	0
F	Front Bumper Bottom to Ground	260	305	45
G	Sill Height at Front Wheel Well	188	207	19
H	Sill Height at Front Door Leading Edge	180	208	28
I	Sill Height at "B" Pillar	204	214	10
J1	Sill Height at Rear Wheel Well	200	251	51
J2	Pinch Weld Height at Rear Wheel Well	182	230	48
K	Sill Height Aft of Rear Wheel Well	240	280	40
L	Rear Bumper Thickness	136	136	0
M	Rear Bumper Bottom to Ground	448	480	32
N	Sill Height to Window Bottom Sill	670	640	-30
O	Front Door Leading Edge to Impact CL	896	826	-70
P	Rear Door Trailing Edge to Impact CL	932	842	-90
Q	Front Window Opening	408	387	-21
R	Right Side Length	3720	3726	6
S	Left Side Length	3720	3626	-94
T	Vehicle Width at "B" Post	1741	1484	-257

DATA SHEET NO. 6

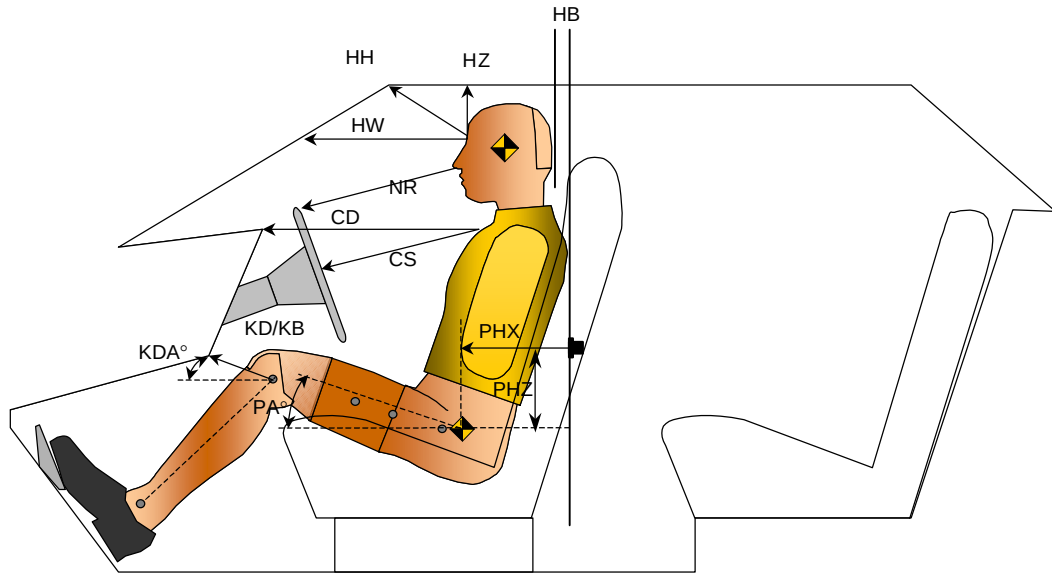
SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001



Driver Code	Measurement Description	Driver 037	
		Length(mm)	Angle(°)
HB	Back of Head to Back of Window @ Head CG	50	
HH	Head to Header	273	
HW	Head to Windshield	533	
HZ	Head to Roof	160	
NR	Nose to Rim	338	
CD	Chest to Dash	454	
CS	Chest to Steering Wheel	274	
KDL	Left Knee to Dash	101	0.0
KDR	Right Knee to Dash	104	0.0
PA	Pelvic Angle		24.6
PHX	H-Point to Striker (X-Axis)	179	
PHZ	H-Point to Striker (Z-Axis)	272	

DATA SHEET NO. 7

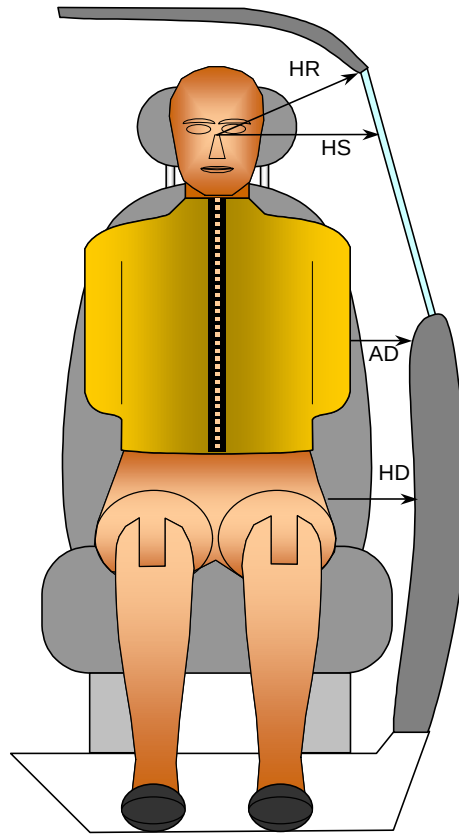
SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001



FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver 037
HR	Head to Side Header	mm	252
HS	Head to Side Window	mm	303
AD	Arm to Door	mm	68
HD	H-Point to Door	mm	127

DATA SHEET NO. 8

VEHICLE SIDE MEASUREMENTS

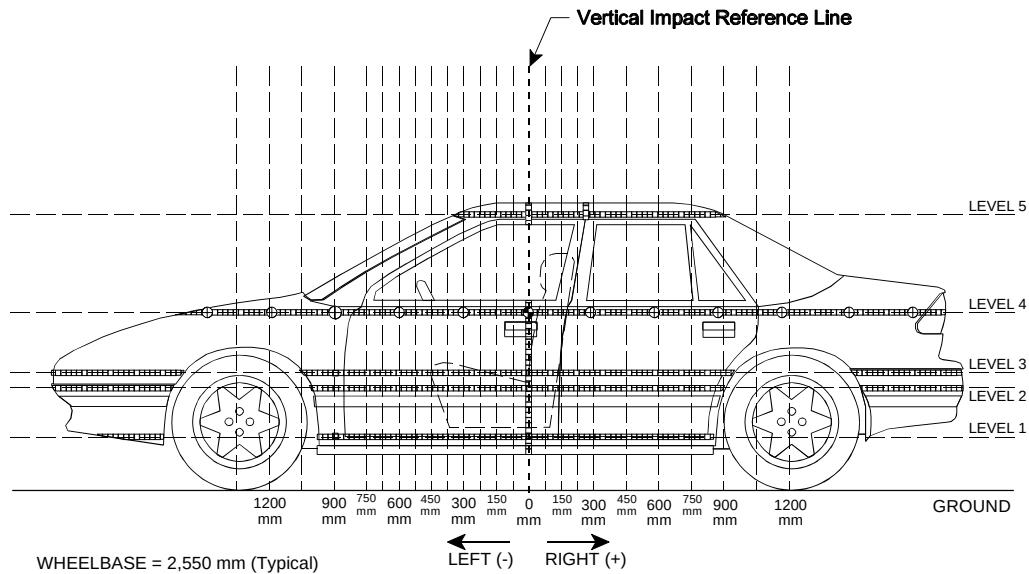
Test Vehicle: 2001/Mercedes/C240/4 Door

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Test Date: June 14, 2001

PRETEST AND POST TEST EXTERIOR PROFILE MEASUREMENTS



LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements along the vertical 800 mm.

Level	Measurement Description	Units	Height Above Ground
5	Window	mm	1338
4	Window Sill	mm	876
3	Mid Door	mm	624
2	Occupant H-Point	mm	523
1	Sill Top	mm	294

DATA SHEET NO. 9

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1800			395	508				407	508				12		
-1650				483					488					5	
-1500				465					482					17	
-1350				455					477					22	
-1200			387	448				431	476				44	28	
-1050	418	397	400	445		468	443	445	476		50	46	45	31	
-900	421	397	442	444		490	450	449	476		69	53	7	32	
-825	425	397	400			503	461	457			78	64	57		
-750	425	395	400	435		514	473	465	483		89	78	65	48	
-675	425	395	400	435		527	482	488	493		102	87	88	58	
-600	426	395	400	433		540	494	525	502		114	99	125	69	
-525	426	394	399	430		554	516	560	523		128	122	161	93	
-450	426	395	399	430		568	552	594	556		142	157	195	126	
-375	426	395	399	429		584	594	628	622		158	199	229	193	
-300	426	395	398	429		607	634	663	655		181	239	265	226	
-225	427	394	399	427		653	674	697	687		226	280	298	260	
-150	427	394	399	425	680	713	711	728	724	768	286	317	329	299	88
-75	428	394	399	425	681	760	746	759	767	795	332	352	360	342	114
0	430	395	400	424	680	768	763	782	780	815	338	368	382	356	135
75	430	394	400	423	681	742	741	747	761	800	312	347	347	338	119
150	430	395	400	423	683	692	690	701	706	796	262	295	301	283	113
300	428	396	401	426	687	615	596	617	653	778	187	200	216	227	91
450	425	398	405	427	691	552	553	568	612	763	127	155	163	185	72
600	424	400	408	430	691	496	508	528	525	751	72	108	120	95	60
750	420	400	409	435	706	444	462	487	538	743	24	62	78	103	37
900		390	405	442	712		442	440	502	741		52	35	60	29
1050			390	445				434	465				44	20	
1200				453					493					40	
1350			395	462				422	491				27	29	
1500		395	423	474			426	445	496			31	22	22	
1650		421	445	490			445	463	504			24	18	14	
1800		446	467	510			468	479	515			22	12	5	

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

DATA SHEET NO. 9...(continued)

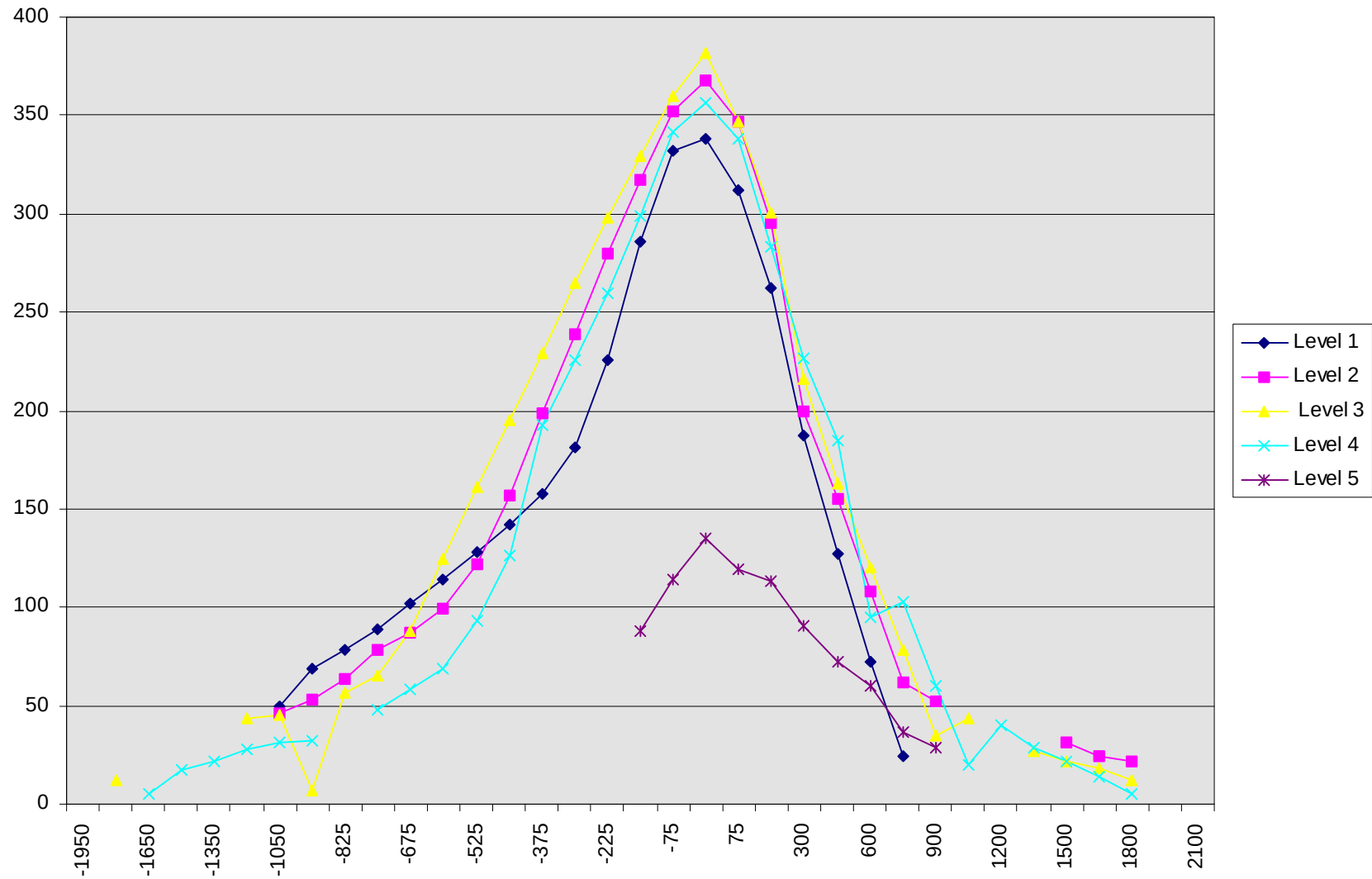
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001



DATA SHEET NO. 10

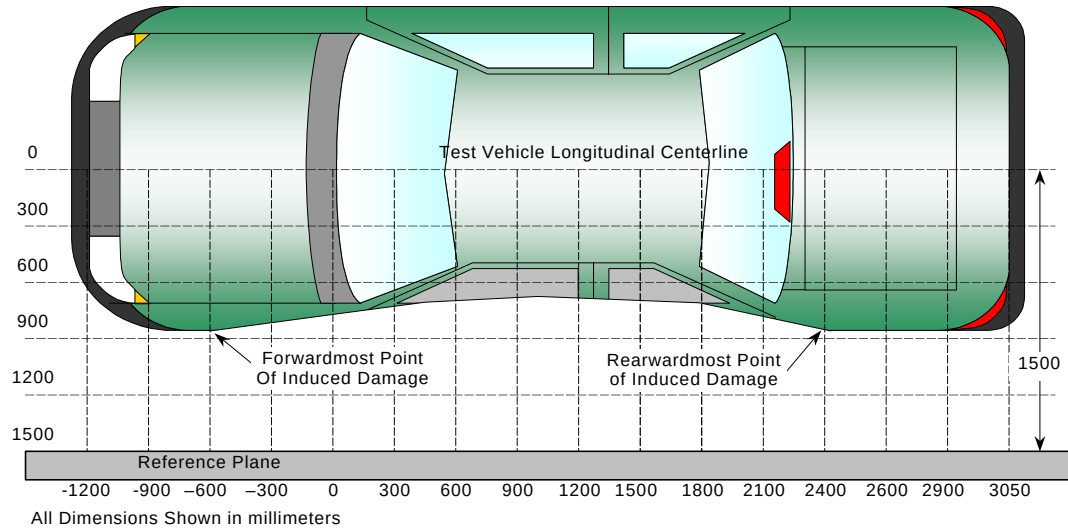
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 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	1800 mm	4	510	515	5
2	1098 mm	3	392	429	37
3	413 mm	3	404	578	174
4	-385 mm	3	399	624	225
5	-1106 mm	3	395	443	48
6	-1800 mm	4	508	508	0

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

DATA SHEET NO. 11

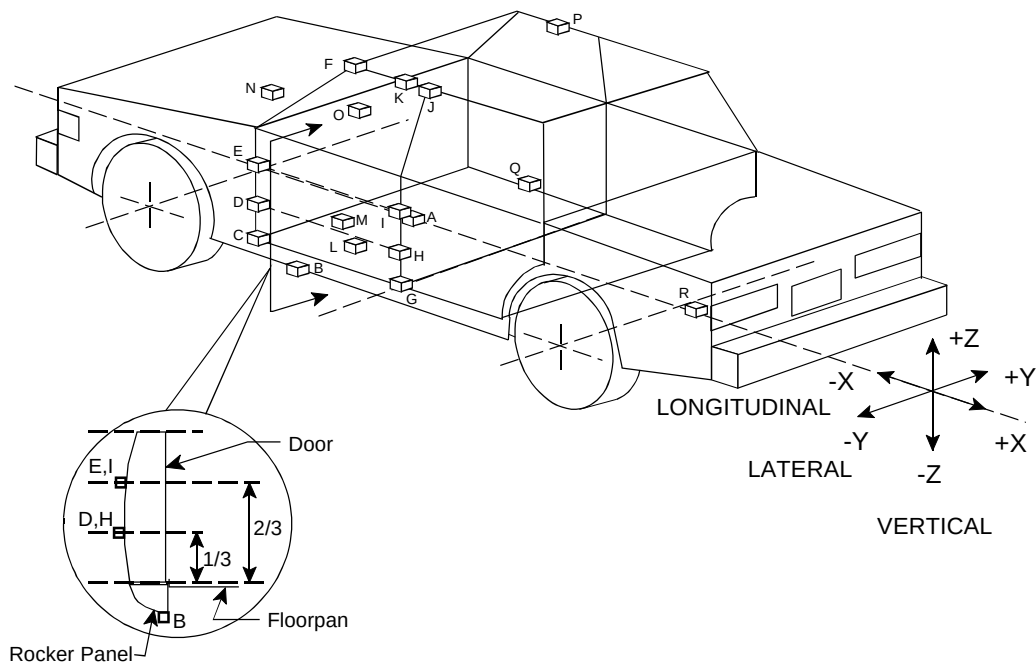
VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001



No.	Location
A	Vehicle CG
B	Left Floor Sill
C	A Pillar Sill
D	A Pillar Low
E	A Pillar Mid
G	B Pillar Sill
H	B Pillar Low
I	B Pillar Low

No.	Location
L	Driver Seat
M1	Driver Door Upper
M2	Driver Door Mid
M3	Driver Door Lower
N	Engine
O	Firewall
Q	Right Floor Sill
R	Rear Deck

DATA SHEET NO. 11...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

VEHICLE ACCELEROMETER PEAK DATA

Loc. No.	Accelerometer Location	Peak Values (G's)				
		Axis	Max	Time	Min	Time
A	Vehicle CG	X	5.1	28	-2.6	33
		Y	25.2	28	-.5	194
		Z	9.0	34	-12.4	28
		RES	28.4	28		
B	Left Floor Sill	Y	28.5	21	-2.6	33
C	A Pillar Sill	Y	24.6	9	-11.3	15
D	A Pillar Low	Y	19.8	9	-4.5	16
E	A Pillar Mid	Y	24.0	44	-2.3	4
G	B Pillar Sill	Y	67.6	29	-23.3	34
H	B Pillar Low	Y	73.6	14	-13.8	20
I	B Pillar Mid	Y	78.2	15	-21.5	32
L	Driver Seat	Y	63.7	29	-17.3	34
N	Engine	X	3.5	78	-5.0	55
		Y	25.7	63	-5.3	199
O	Firewall	Y	13.0	56	-.42	6
Q	Right Floor Sill	Y	13.6	34	-.9	185
R	Rear Deck	X	3.1	20	-2.0	35
		Y	13.2	62	-1.1	186

DATA SHEET NO. 11...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

VEHICLE ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			
		Axis	Pre-Test	Post-Test	Difference
A	Vehicle CG	X	2419	2310	-109
		Y	0	0	0
		Z	458	520	62
B	Left Floor Sill	X	2801	2659	-142
		Y	-657	-638	19
		Z	177	255	78
C	A Pillar Sill	X	2982	2880	-102
		Y	-698	-713	-15
		Z	395	394	-1
D	A Pillar Low	X	2979	2882	-97
		Y	-698	-720	-22
		Z	590	574	-16
E	A Pillar Mid	X	2991	2955	-36
		Y	-744	-718	26
		Z	865	940	75
G	B Pillar Sill	X	2035	2002	-33
		Y	-595	-566	29
		Z	218	200	-18
H	B Pillar Low	X	2042	1981	-61
		Y	-691	-584	107
		Z	610	674	64
I	B Pillar Mid	X	2035	1985	-50
		Y	-675	-567	108
		Z	885	898	13
L	Driver Seat	X	2210	2045	-165
		Y	-562	-528	34
		Z	229	210	-19

DATA SHEET NO. 11...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

VEHICLE ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			
		Axis	Pre-Test	Post-Test	Difference
N	Engine	X	3719	3631	-88
		Y	0	0	0
		Z	838	868	30
O	Firewall	X	3304	3238	-66
		Y	294	321	27
		Z	827	719	-108
Q	Right Floor Sill	X	2201	2249	48
		Y	657	580	-77
		Z	183	231	48
R	Rear Deck	X	1054	1108	54
		Y	0	0	0
		Z	545	648	103

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

DATA SHEET NO. 12

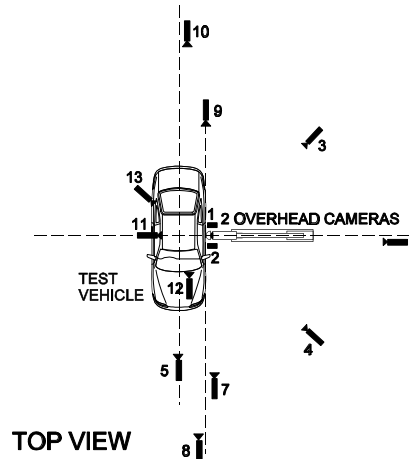
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Overall	580	0	5140	7.5	1005
2	Overhead Close-up	0	0	5140	13	1000
3	Left Side 45° Rearward Pole View	4500	-7500	1490	50	1005
4	Right Side 45° Forward Pole View	4440	6850	1460	50	1005
5	Real Time				13	32
6	Left Side Rear Pole View	2800	0	2600	8	1015
7	Front Ground Level Vehicle/Pole Impact	320	8600	1670	25	1031
8	Front Ground Level Vehicle Roof Targets and Vehicle/Pole Impact	-740	8540	1700	25	1005
9	Rear Ground Level Vehicle/Pole Impact	590	-7800	1550	25	1020
10	Rear Ground Level	-770	-850	1520	25	1015
11	Test Vehicle Onboard Driver Side View				8	1026
12	Test Vehicle Onboard Driver Front View				13	1000
13	Test Vehicle Onboard Driver 3/4 Rear View				13	858

Reference Points X - + Forward of Impact
Y - + Right of Impact
Z - + Up from Ground

DATA SHEET NO. 13

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

Test Program: FMVSS 201P

Test Date: June 14, 2001

Test Time: 5:31 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. 14

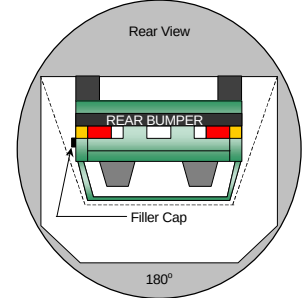
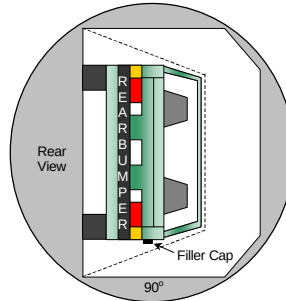
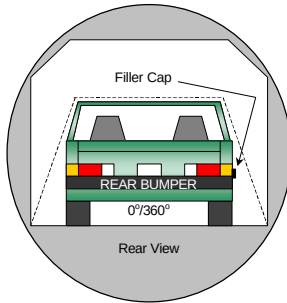
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001/Mercedes/C240/4 Door

NHTSA No.: C10518

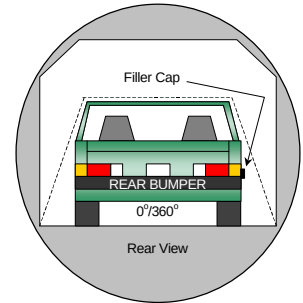
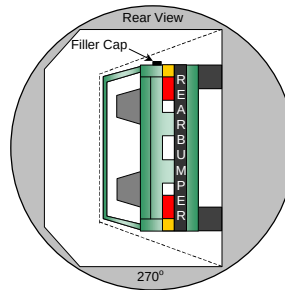
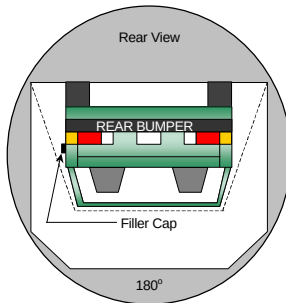
Test Program: FMVSS 201P

Test Date: June 14, 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°	176	300	0
90° TO 180°	153	300	0
180° TO 270°	137	300	0
270° TO 360°	161	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

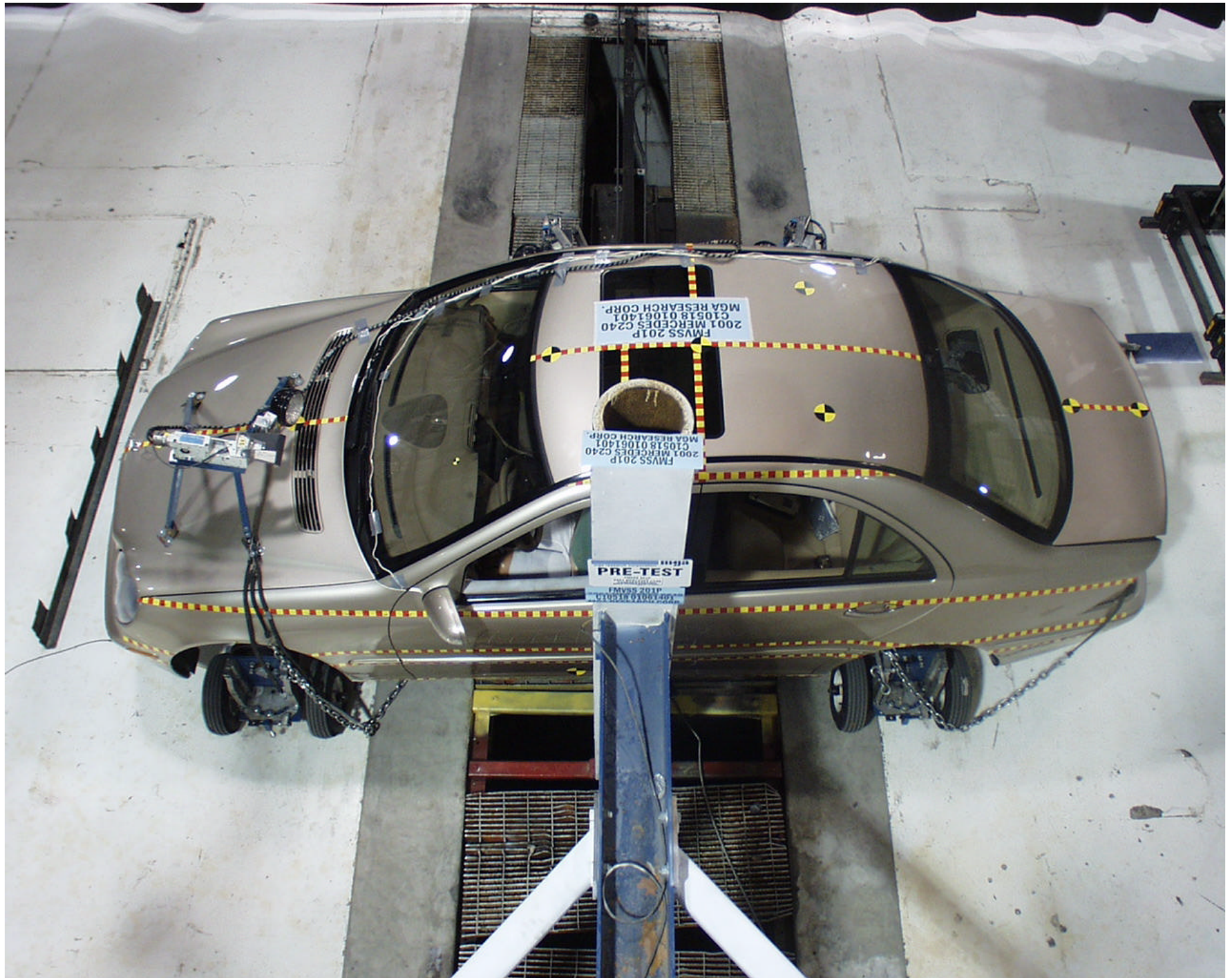


Photo No. A-5 – Pre-Test Left Side View of Test Vehicle

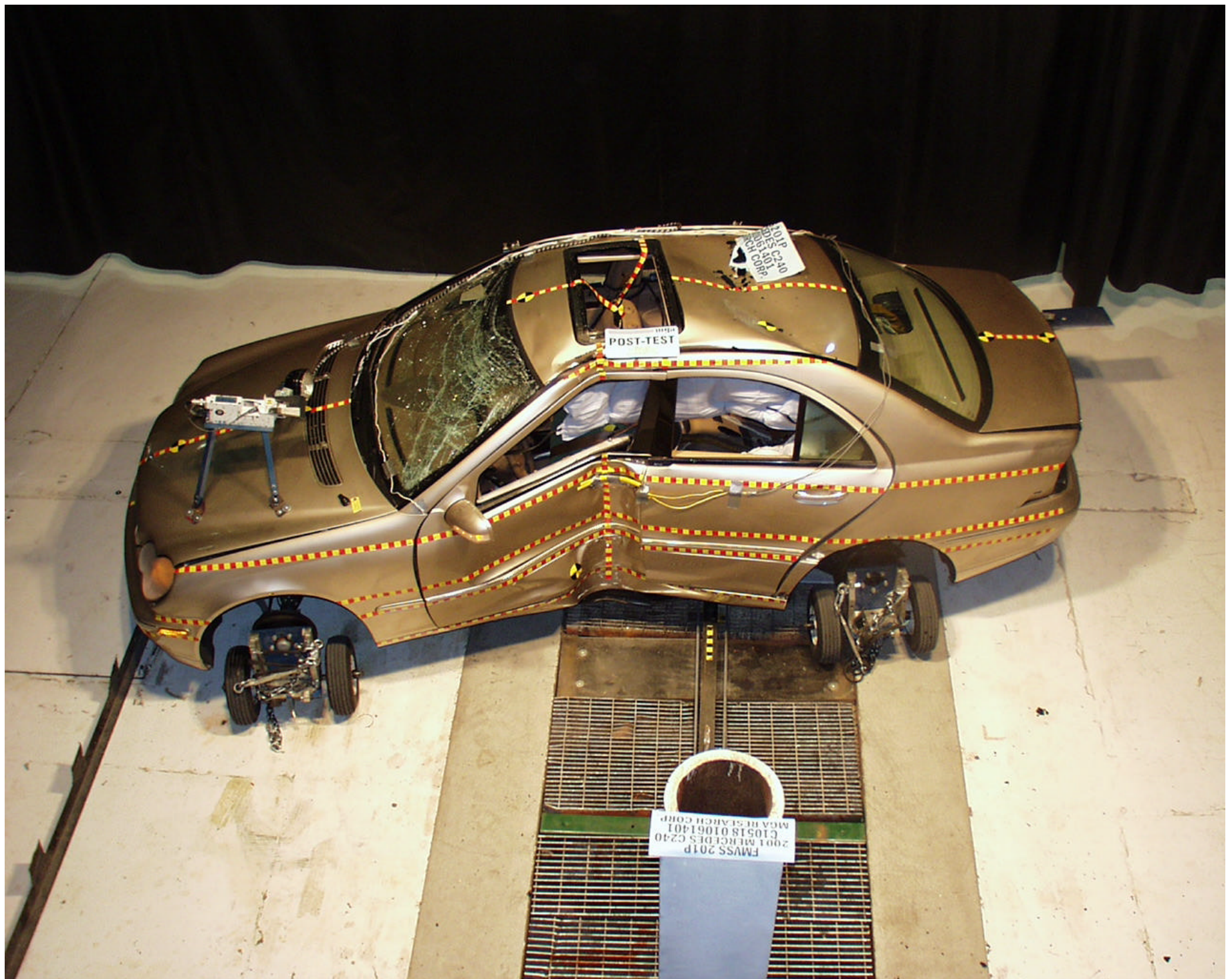


Photo No. A-6 - Post-Test Left Side View of Test Vehicle



Photo No. A-7 - Pre-Test Left Front View of Test Vehicle



Photo No. A-8 - Post-Test Left Front View of Test Vehicle

A-9



Photo No. A-9 - Pre-Test Left Rear View of Test Vehicle

A-10



Photo No. A-10 - Post-Test Left Rear View of Test Vehicle

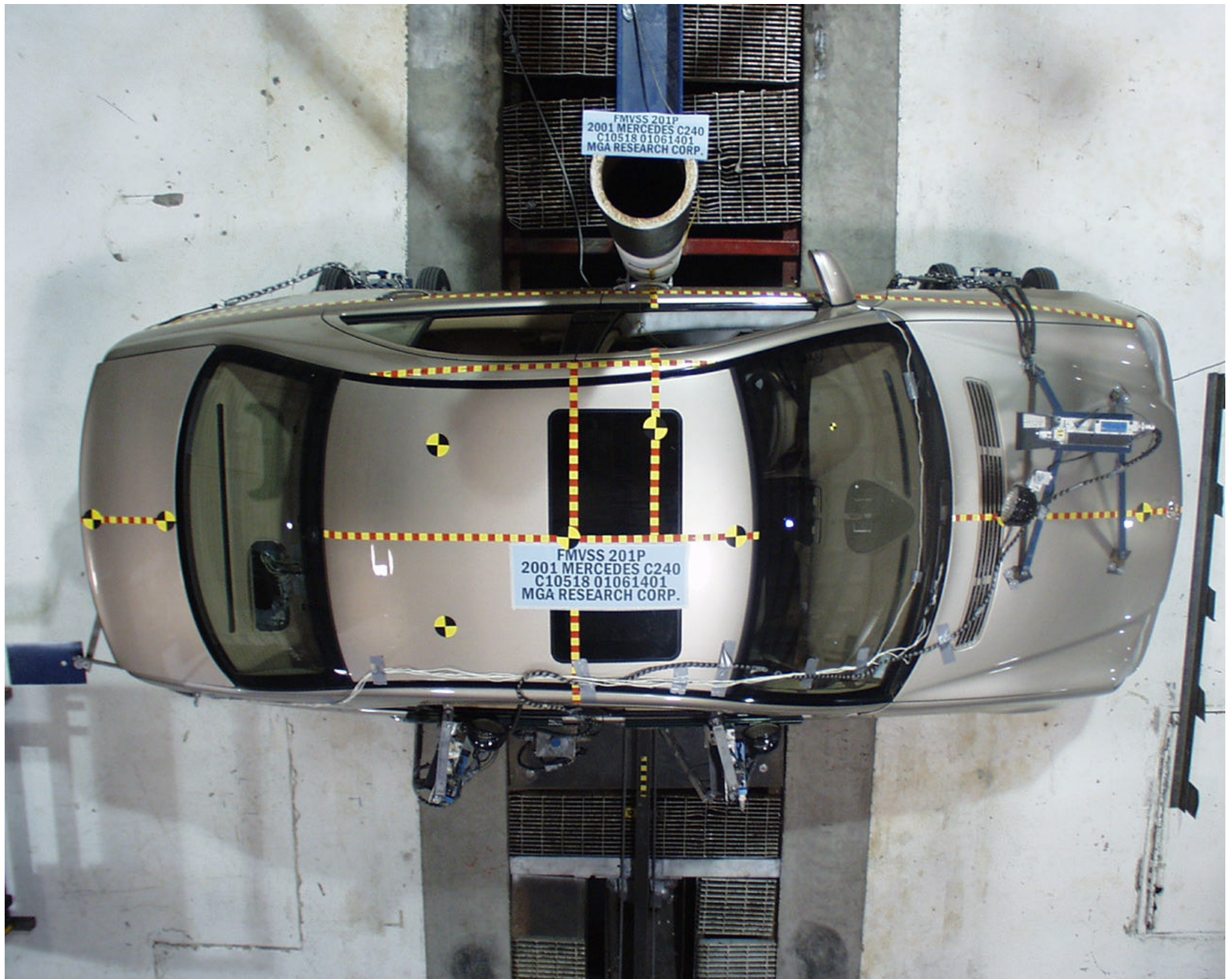


Photo No. A-11 - Pre-Test Overhead View of Test Vehicle

A-12

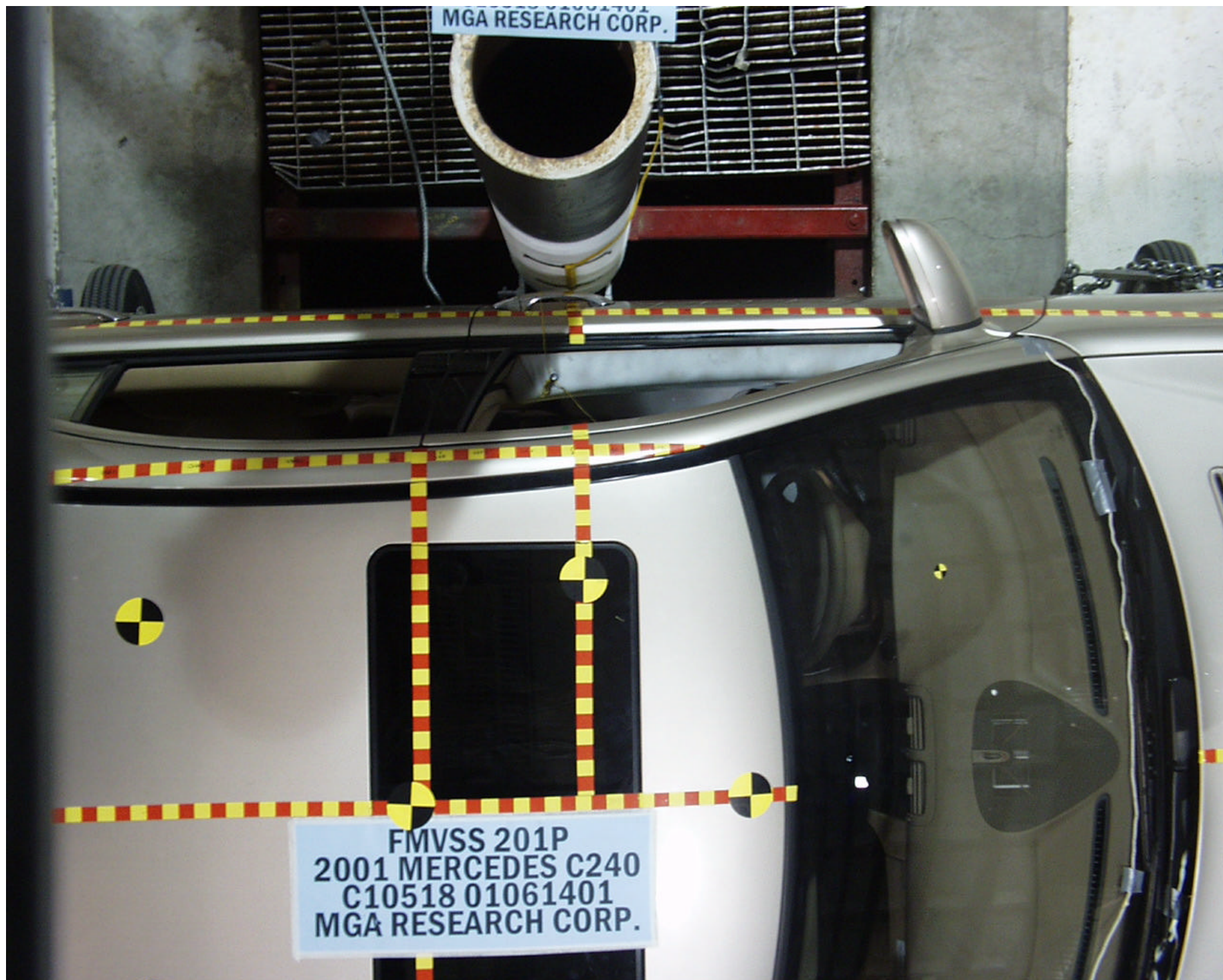


Photo No. A-12 - Pre-Test Overhead View of Test Vehicle (Close-up)

A-13

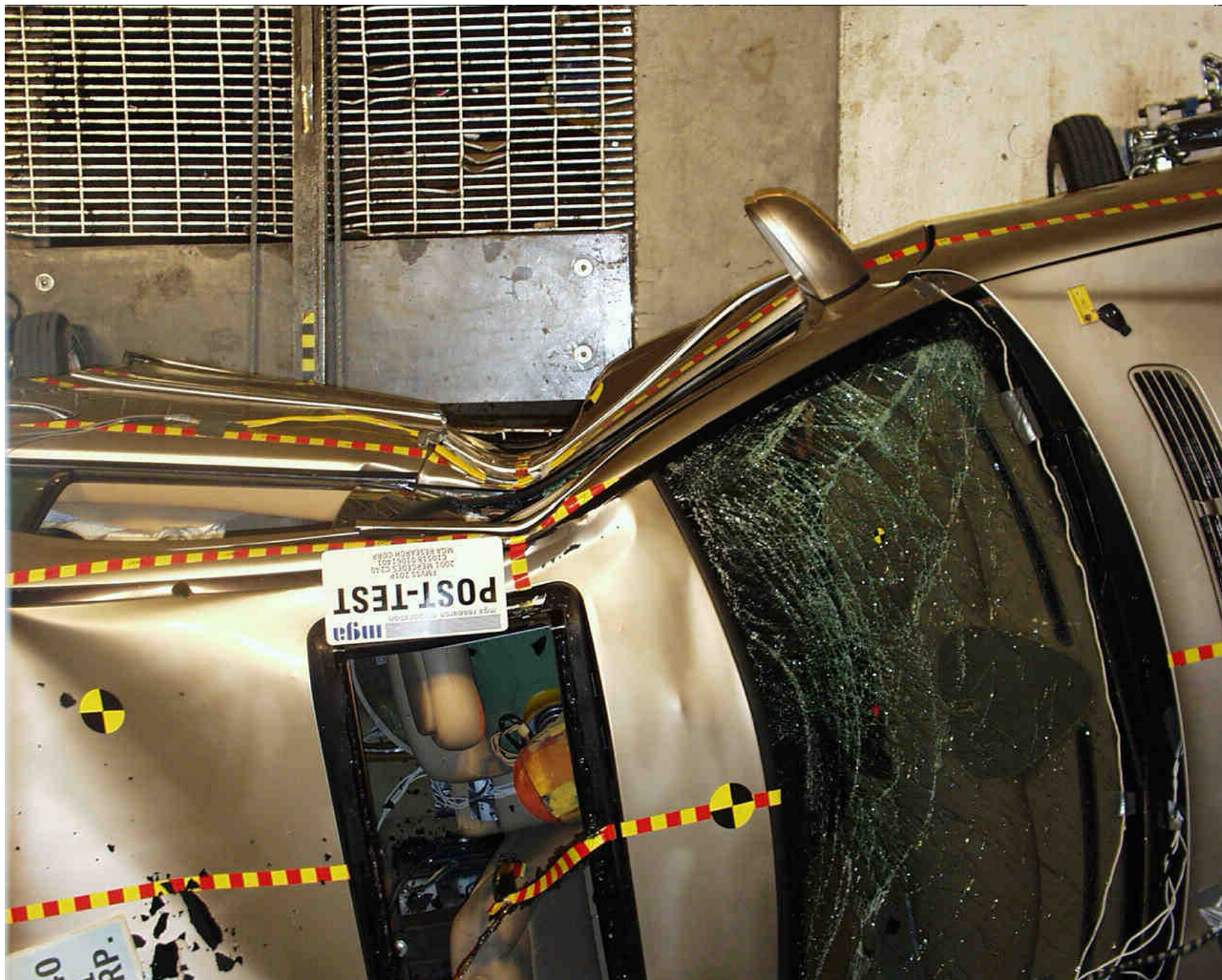


Photo No. A-13 - Post-Test Overhead View of Test Vehicle (Close-up)



Photo No. A-14 - Pre-Test Driver Dummy Right Side

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Photo No. A-15 - Post-Test Driver Dummy Right Side



Photo No. A-16 - Pre-Test Driver Dummy Left Side



Photo No. A-17 - Post-Test Driver Dummy Left Side

Photo No. A-18 - Pre-Test Driver Dummy Left Side (Door Open)

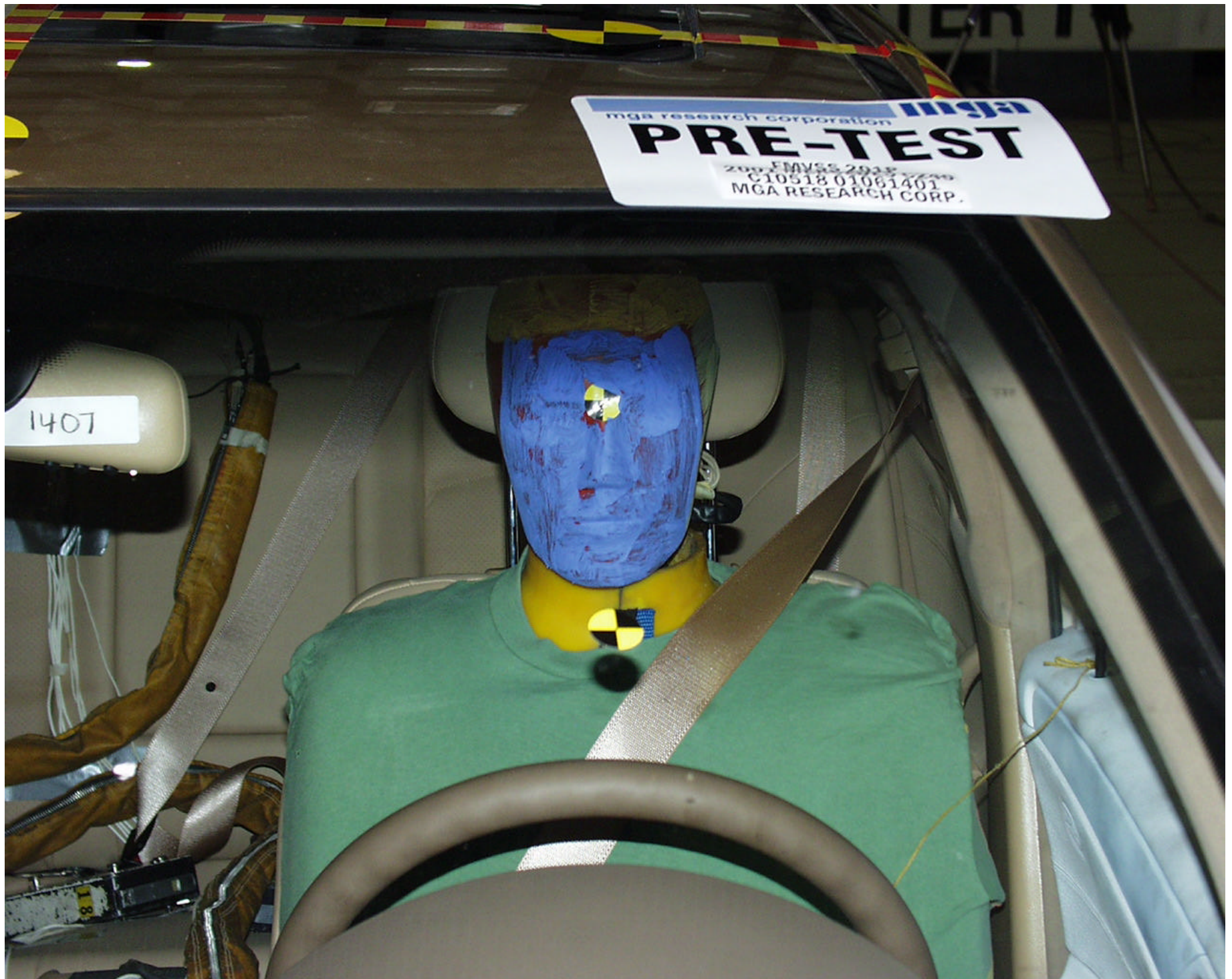


Photo No. A-19 - Pre-Test Driver Dummy Windshield View

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Photo No. A-20 - Post-Test Driver Dummy Windshield View



Photo No. A-21 – Impact



Photo No. A-22 - Pre-Test Driver Shoulder and Door Top View



Photo No. A-23 - Post-Test Driver Shoulder and Door Top View

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Photo No. A-24 - Post-Test Driver Dummy Head Contact

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Photo No. A-25 - Post-Test Driver Dummy Thorax Contact

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Photo No. A-26 - Post-Test Impact Zone Side Close-up View

MFD BY DAIMLERCHRYSLER AG STUTTGART

	KG	LBS	
GVWR	1975	4350	PASSENGER CAR MADE IN GERMANY 02/01
GAWR FRONT	965	2125	THIS VEHICLE CONFORMS TO ALL APPLICABLE
GAWR REAR	1010	2225	U.S. FEDERAL MOTOR VEHICLE SAFETY, BUMPER
			AND THEFT PREVENTION STANDARDS IN EFFECT
			ON THE DATE OF MANUFACTURE SHOWN ABOVE
WDBRF61J91F085241			693



VEHICLE TIRE INFORMATION

VEHICLE CAPACITY WEIGHT
SEATING CAPACITY 5
COLD TIRE PRESSURE
RECOMMENDED TIRE SIZE
SUMMER TIRE

392 KG (865 LBS)
FRONT 2
FRONT 28 PSI

REAR 3
REAR 32 PSI

WINTER TIRE

205/55 R16 91H
225/50 R16 92V
205/55 R16 91H M&S

SUMMER TIRE: **USE ONLY BRIDGESTONE, CONTINENTAL, DUNLOP,
GOOD-YEAR, MICHELIN OR PIRELLI TIRES**

FOR ADDITIONAL INFORMATION SEE INSIDE FILLER PIPE COVER AND OWNER'S
MANUAL.

 A 203 584 00 79

1082915



Photo No. A-29 - Pre-Test Left Front Wheel Dolly



Photo No. A-30 - Pre-Test Right Front Wheel Dolly



Photo No. A-31 - Pre-Test Left Rear Wheel Dolly



Photo No. A-32 - Pre-Test Right Rear Wheel Dolly

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Photo No. A-33 - Rollover 90°

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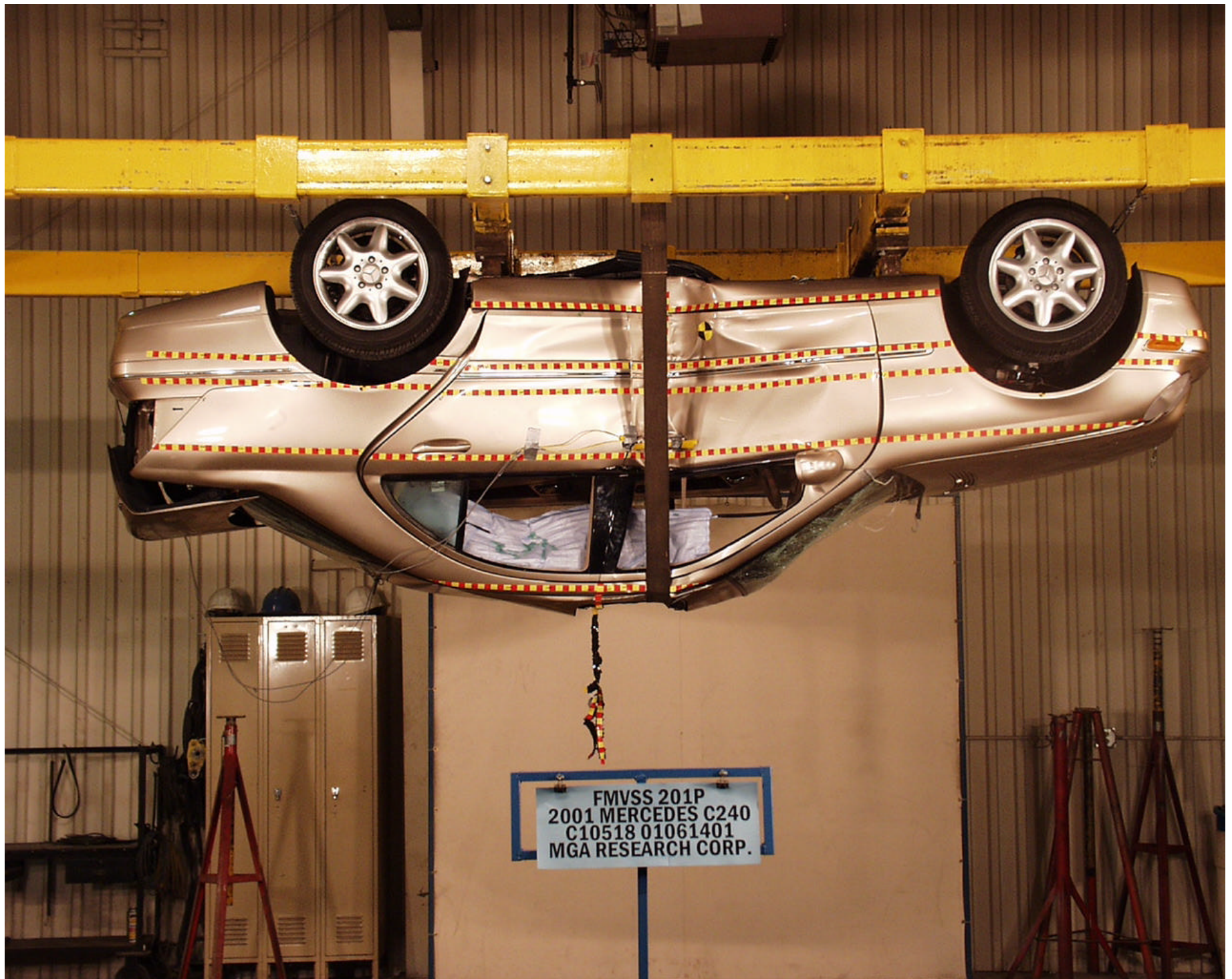
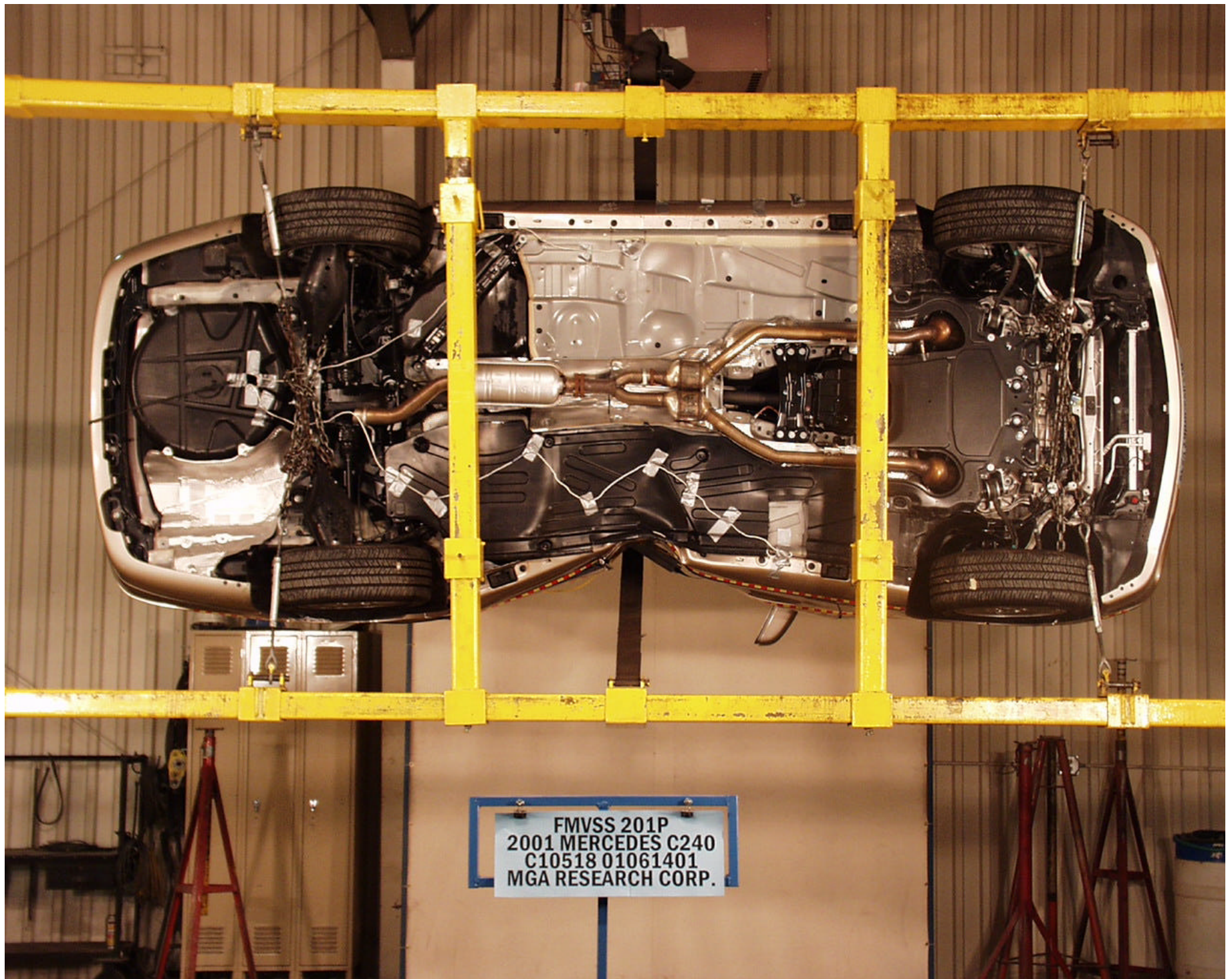


Photo No. A-34 - Rollover 180°

A-35



FMVSS 201P
2001 MERCEDES C240
C10518 01061401
MGA RESEARCH CORP.

Photo No. A-35 - Rollover 270°

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Photo No. A-36 - Rollover 360°

APPENDIX B

SID/HIII AND VEHICLE DATA

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DRIVER HEAD X ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

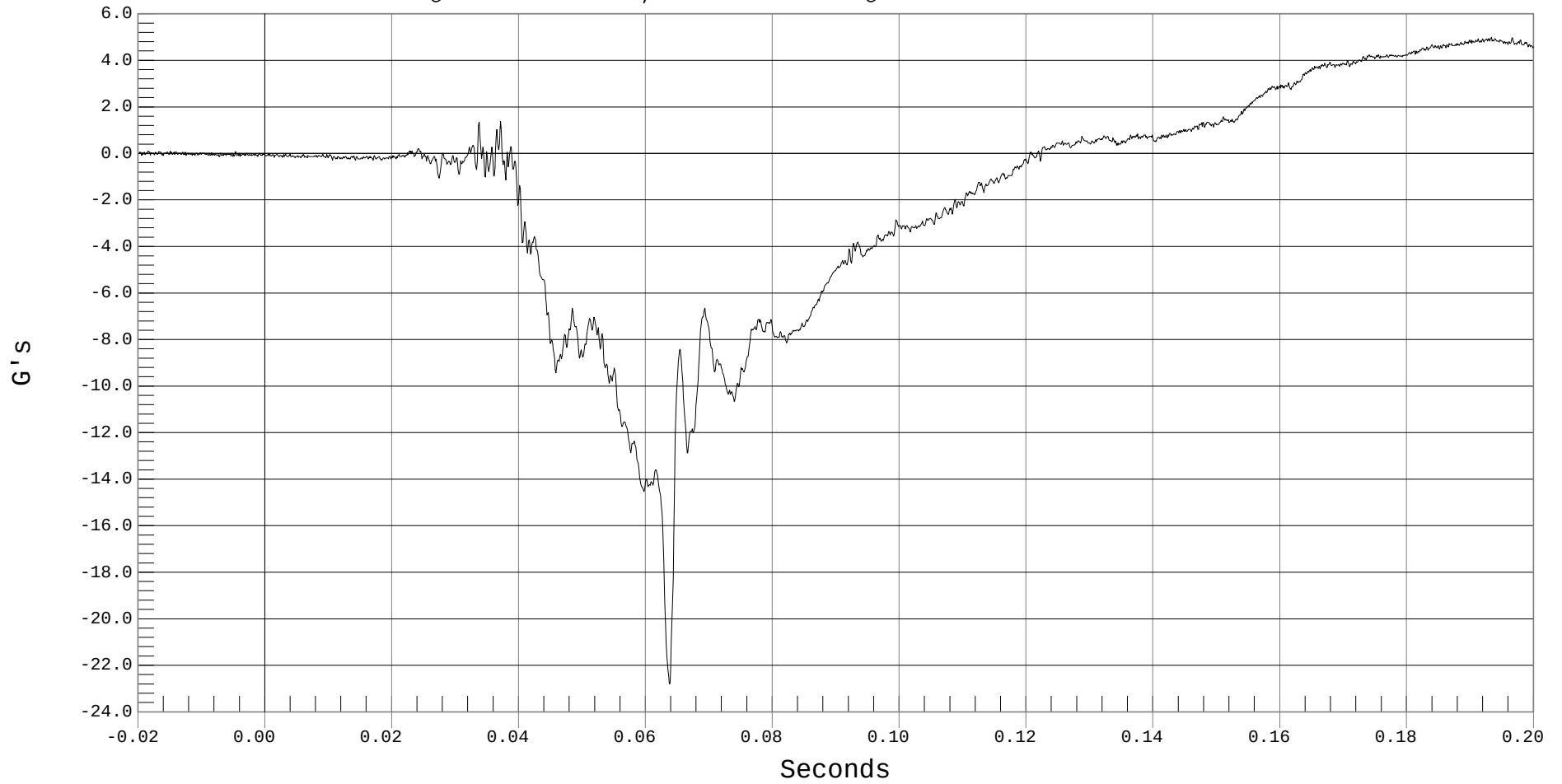
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 1000

— 1 DRIVER HEAD X, b01065AT.A01

Ymin = -22.8 G's @ 0.0637 Seconds, Ymax = 5 G's @ 0.1933 Seconds





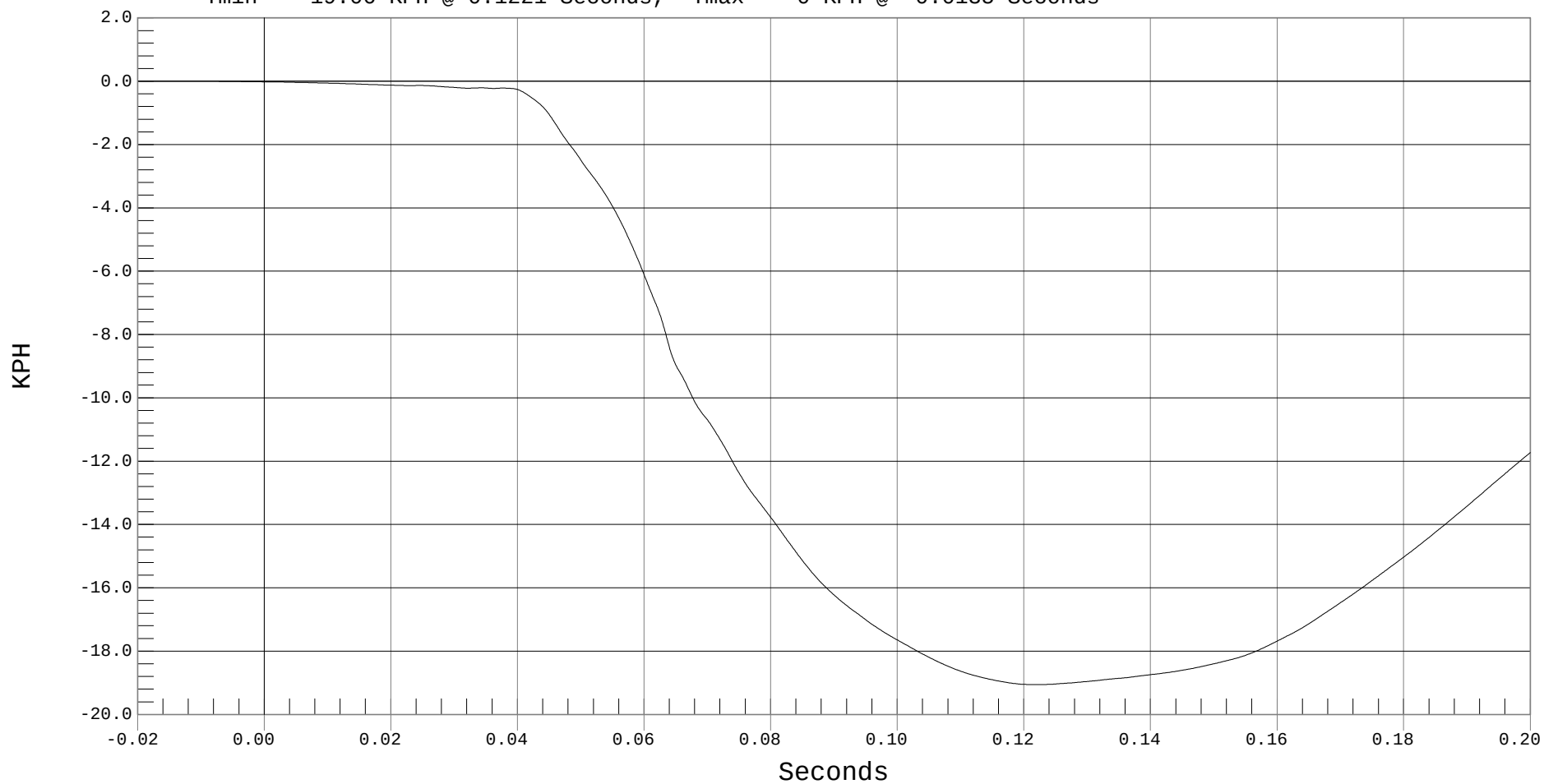
DRIVER HEAD X VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER HEAD X VELOCITY, b01065AI.V01

Ymin = -19.06 KPH @ 0.1221 Seconds, Ymax = 0 KPH @ -0.0135 Seconds





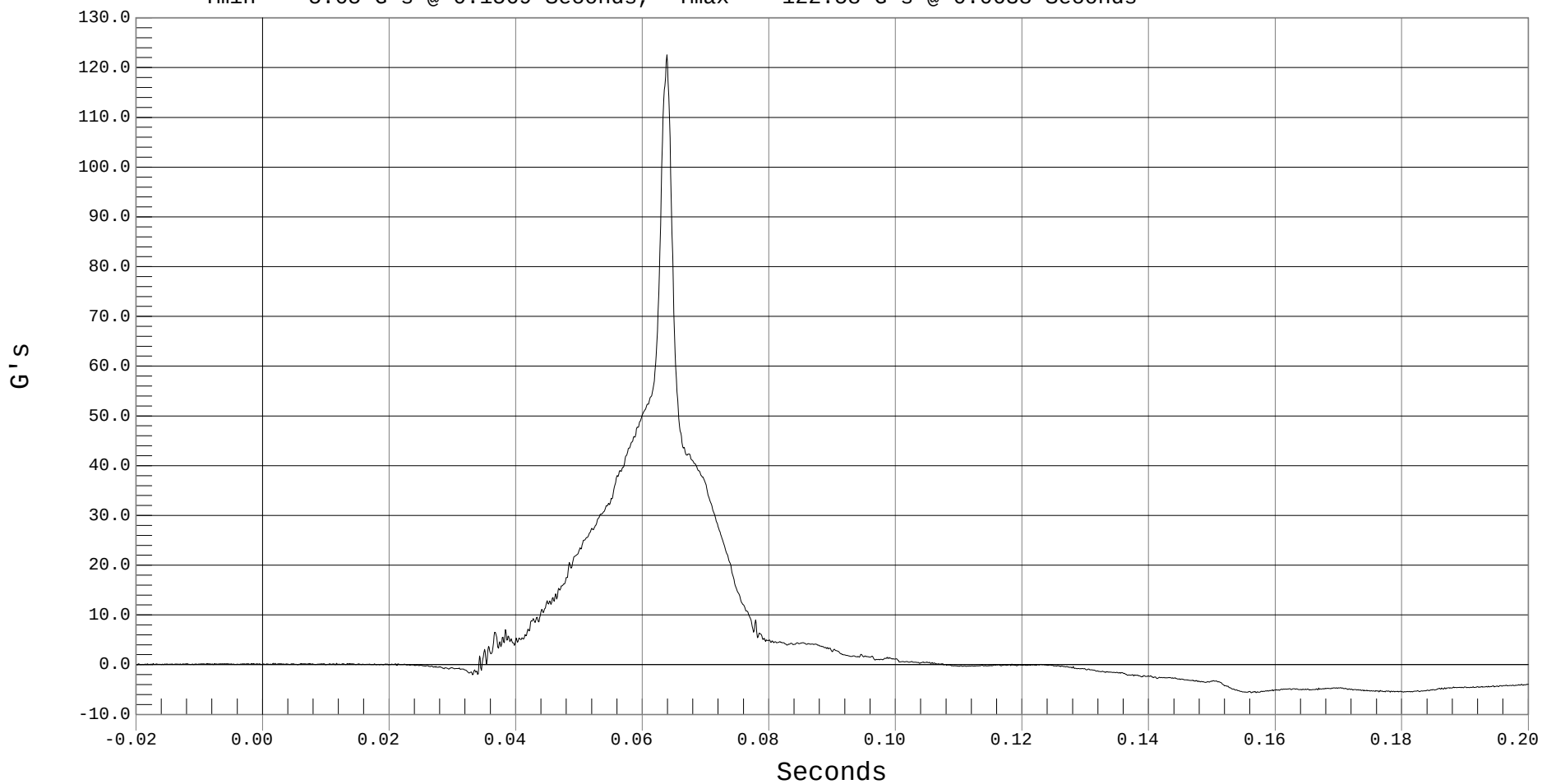
DRIVER HEAD Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

1 DRIVER HEAD Y, b01065AT.A02

Ymin = -5.65 G's @ 0.1569 Seconds, Ymax = 122.58 G's @ 0.0638 Seconds





DRIVER HEAD Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

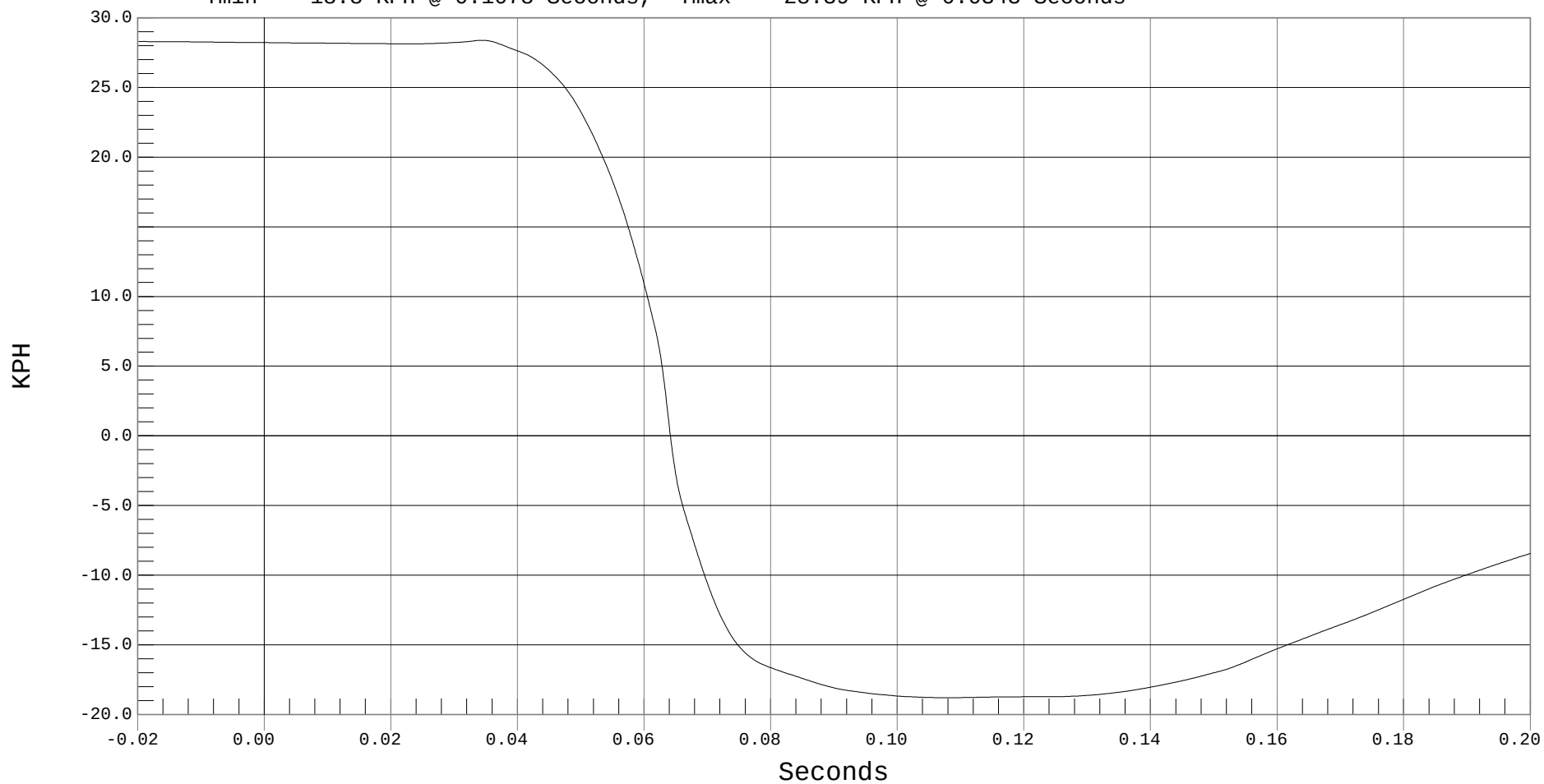
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 DRIVER HEAD Y VELOCITY, b01065AI.V02

Ymin = -18.8 KPH @ 0.1078 Seconds, Ymax = 28.39 KPH @ 0.0343 Seconds





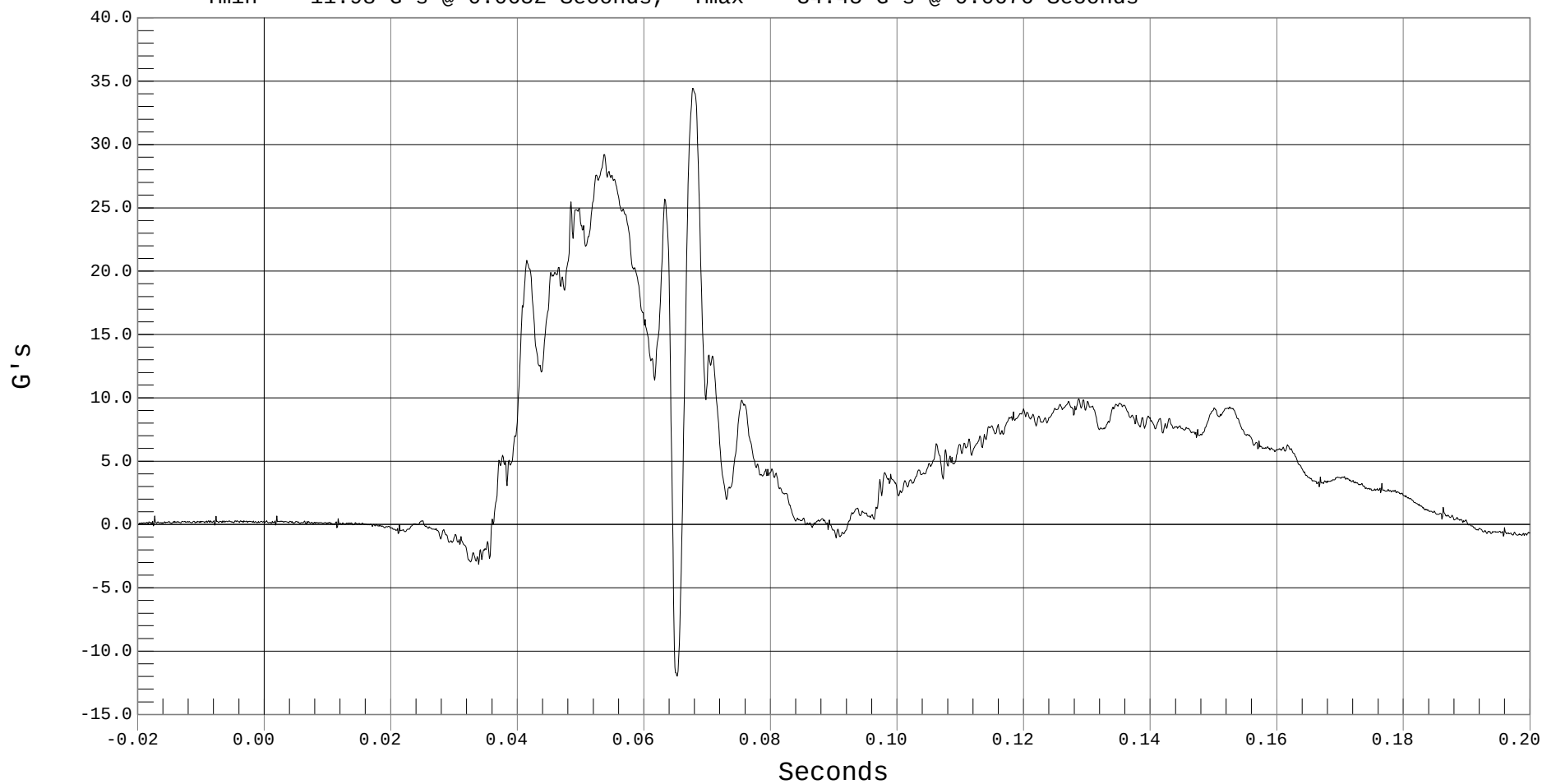
DRIVER HEAD Z ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

1 DRIVER HEAD Z, b01065AT.A03

Ymin = -11.98 G's @ 0.0652 Seconds, Ymax = 34.45 G's @ 0.0676 Seconds





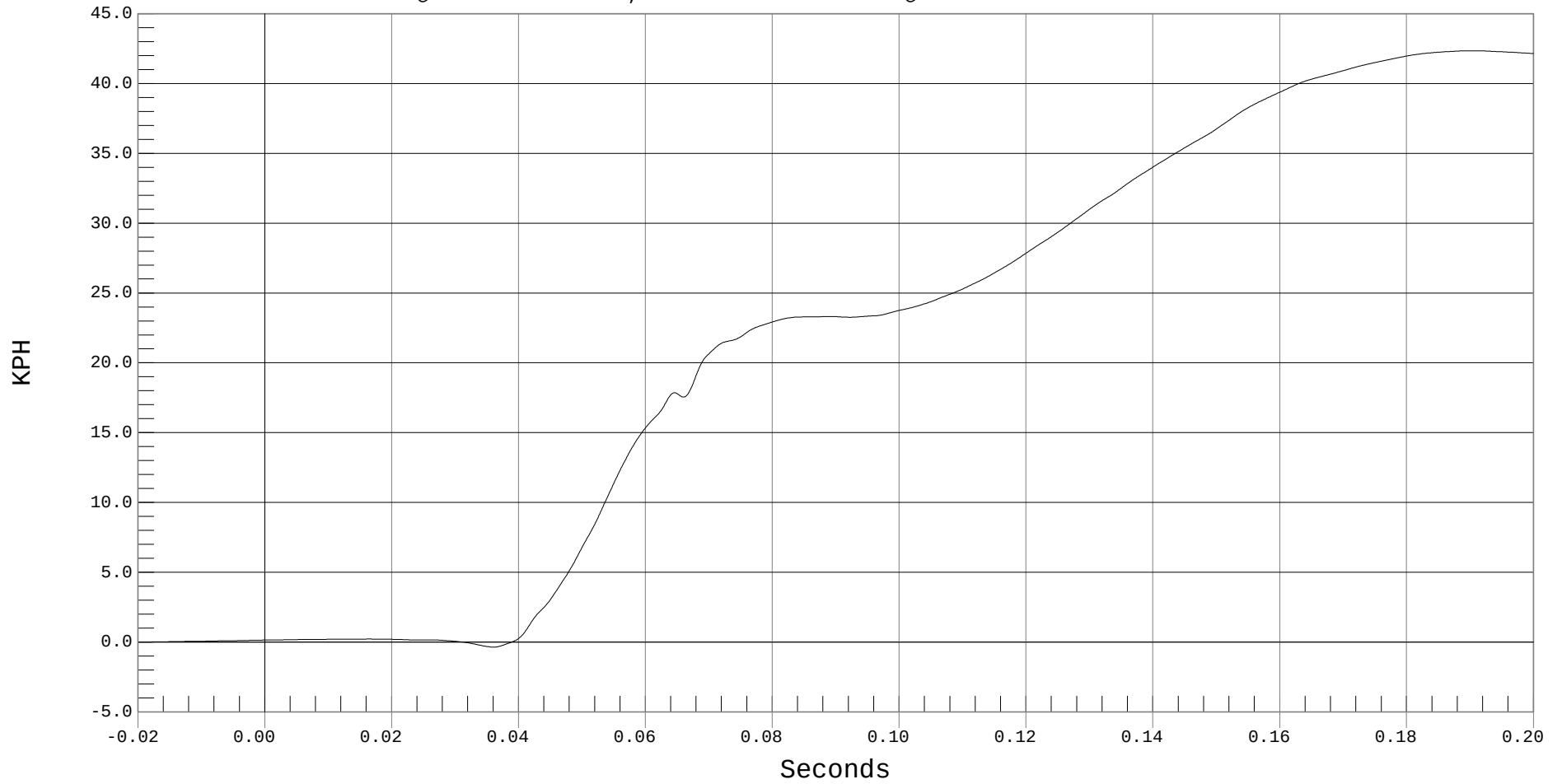
DRIVER HEAD Z VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER HEAD Z VELOCITY, b01065AI.V03

Ymin = -.37 KPH @ 0.0360 Seconds, Ymax = 42.35 KPH @ 0.1904 Seconds





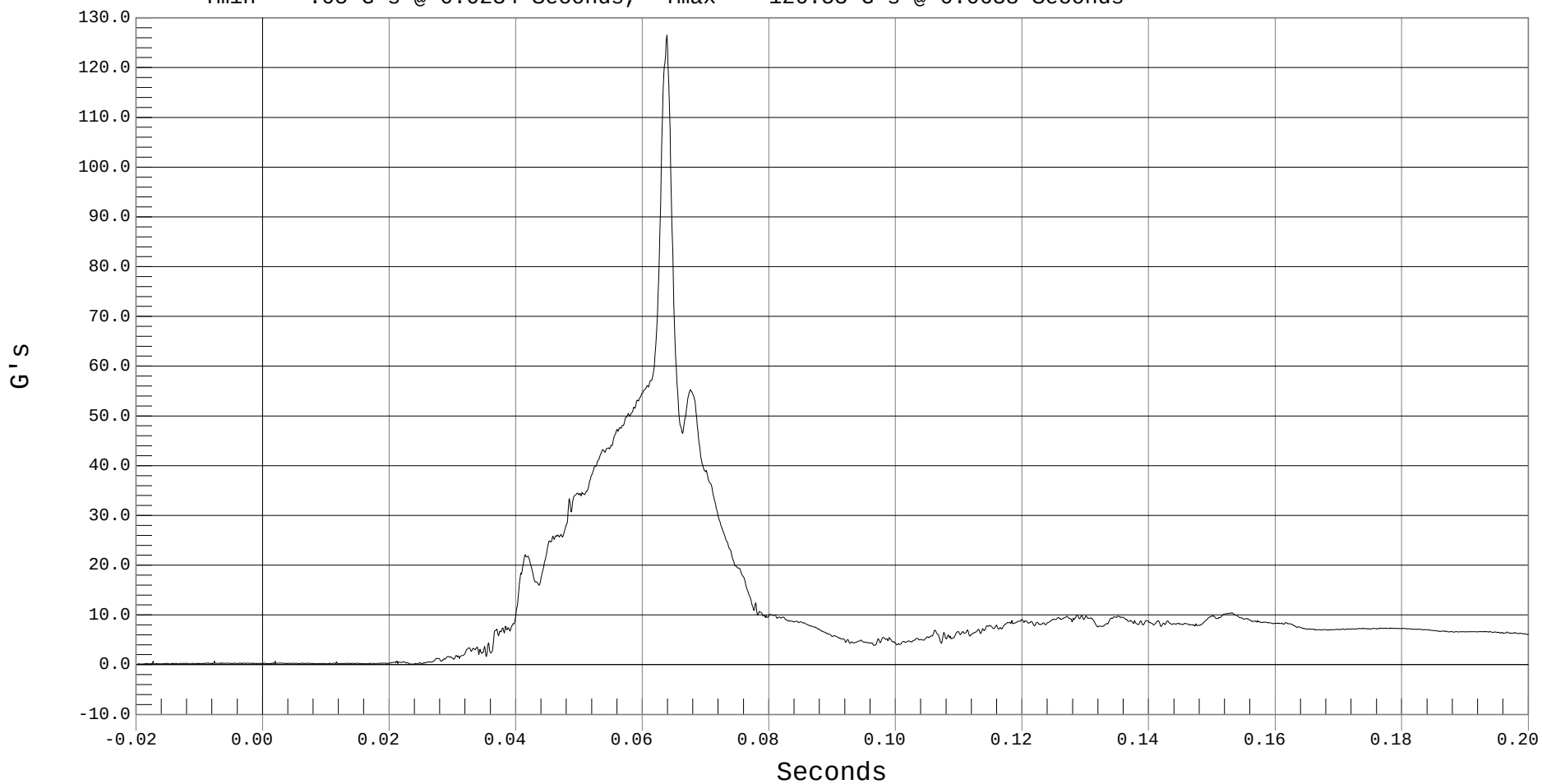
DRIVER HEAD RESULTANT ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER HEAD RESULTANT, b01065AV.A01

Ymin = .05 G's @ 0.0234 Seconds, Ymax = 126.53 G's @ 0.0638 Seconds





DRIVER NECK FORCE X

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

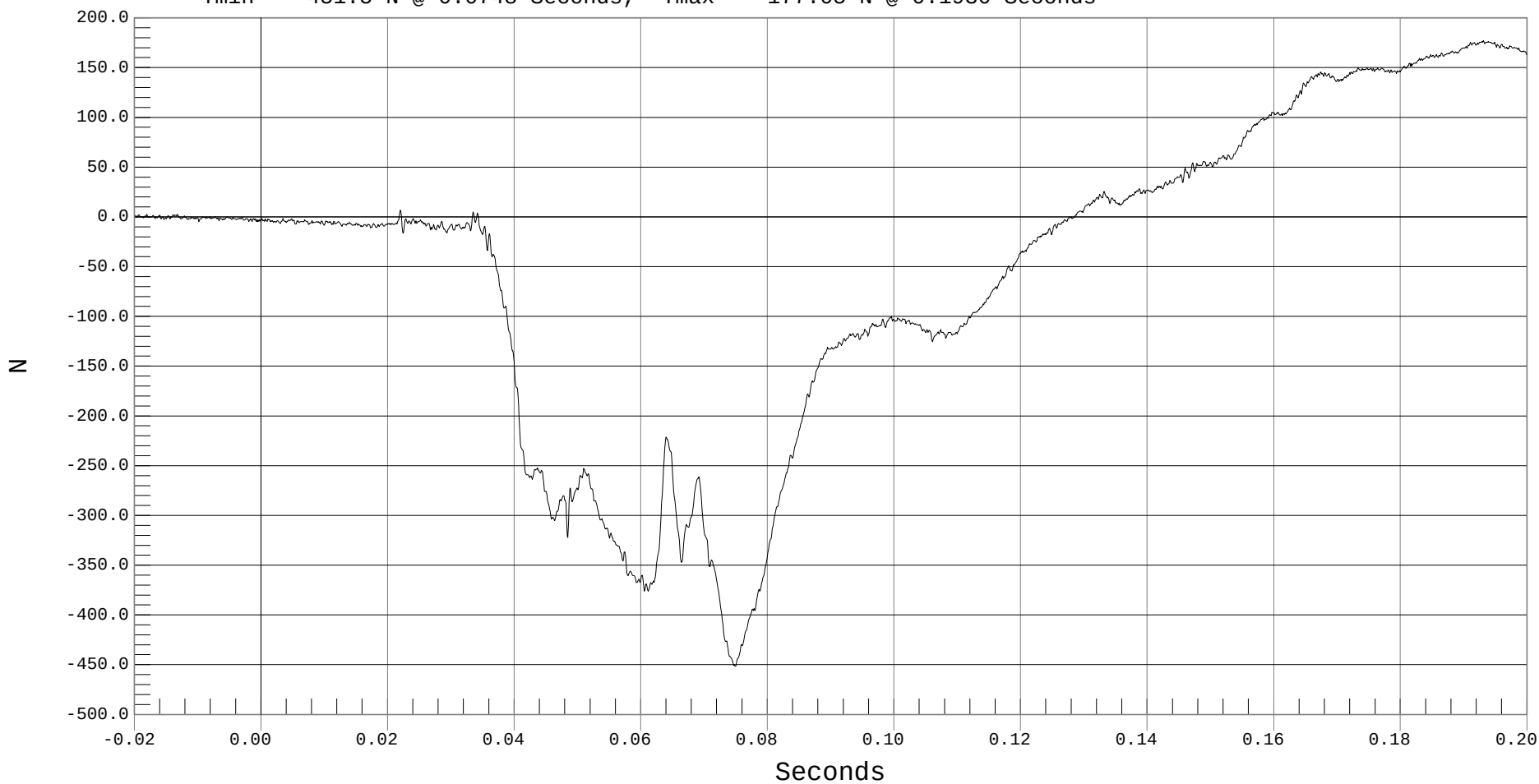
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 1000

1 DRIVER NECK FORCE X, b01065FT.F04

Ymin = -451.5 N @ 0.0748 Seconds, Ymax = 177.05 N @ 0.1930 Seconds





DRIVER NECK FORCE Y

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

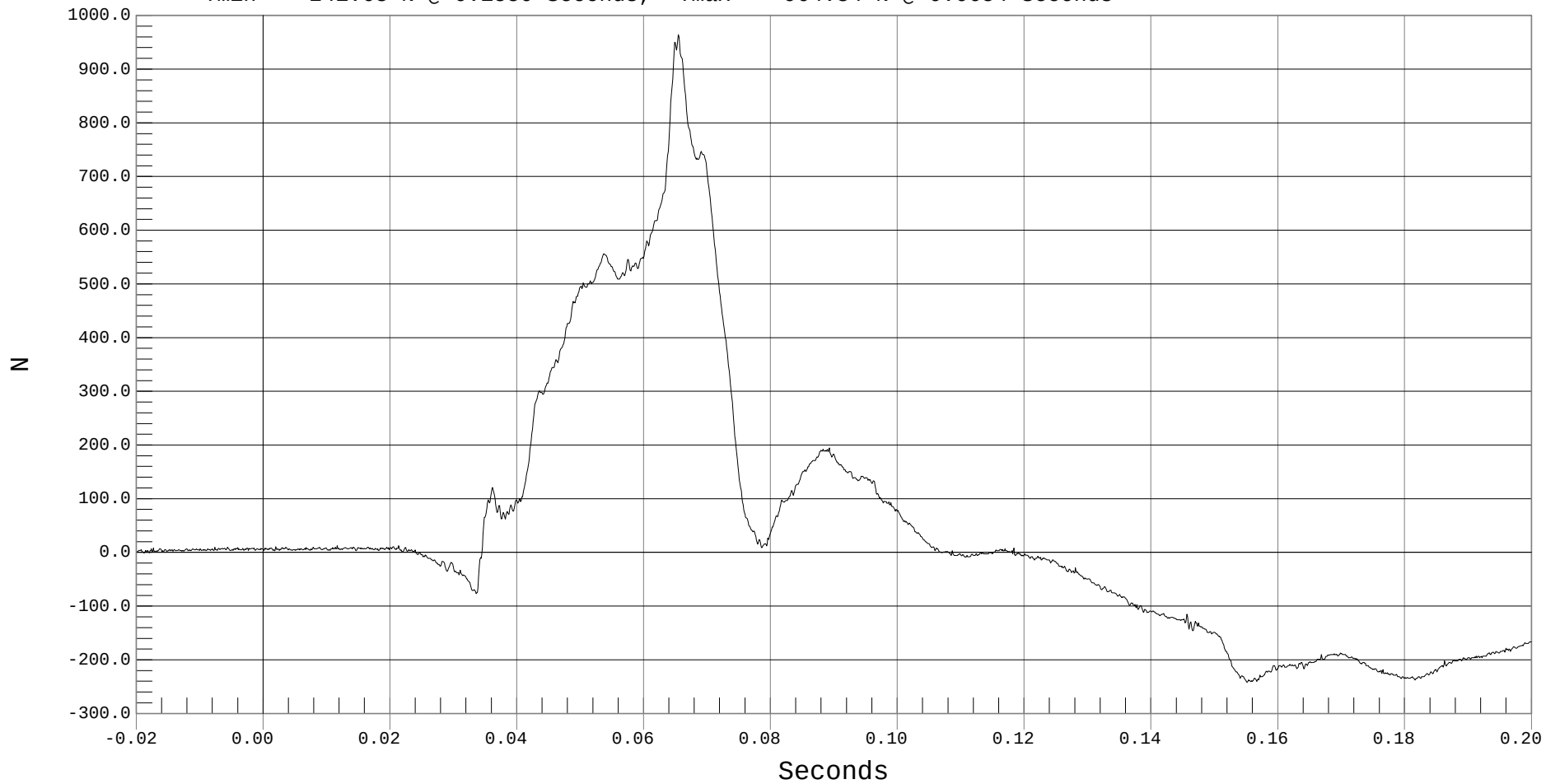
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 1000

— 1 DRIVER NECK FORCE Y, b01065FT.F05

Ymin = -241.63 N @ 0.1550 Seconds, Ymax = 964.34 N @ 0.0654 Seconds





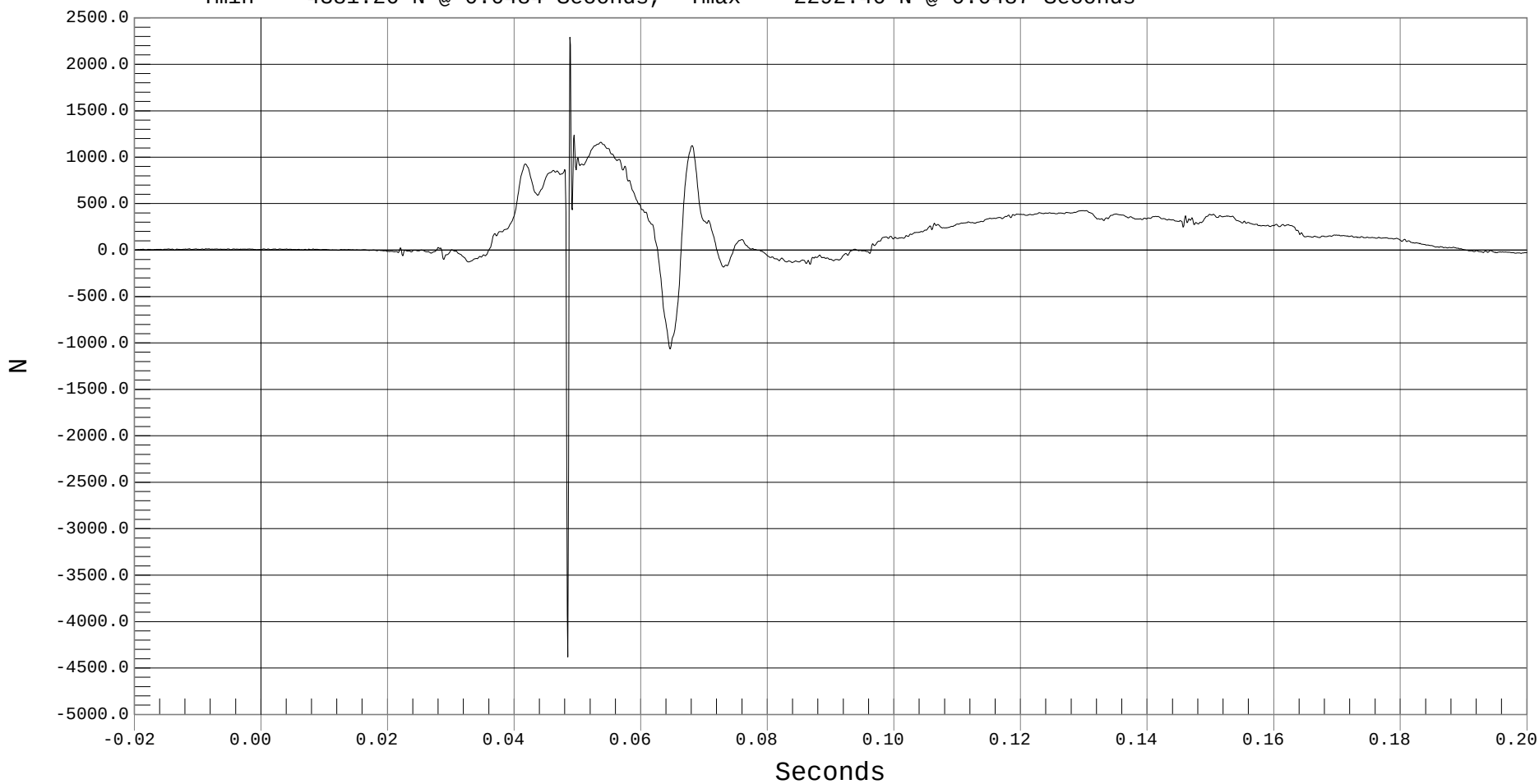
DRIVER NECK FORCE Z

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

1 DRIVER NECK FORCE Z, b01065FT.F06

Ymin = -4381.26 N @ 0.0484 Seconds, Ymax = 2292.46 N @ 0.0487 Seconds





DRIVER NECK FORCE RESULTANT

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

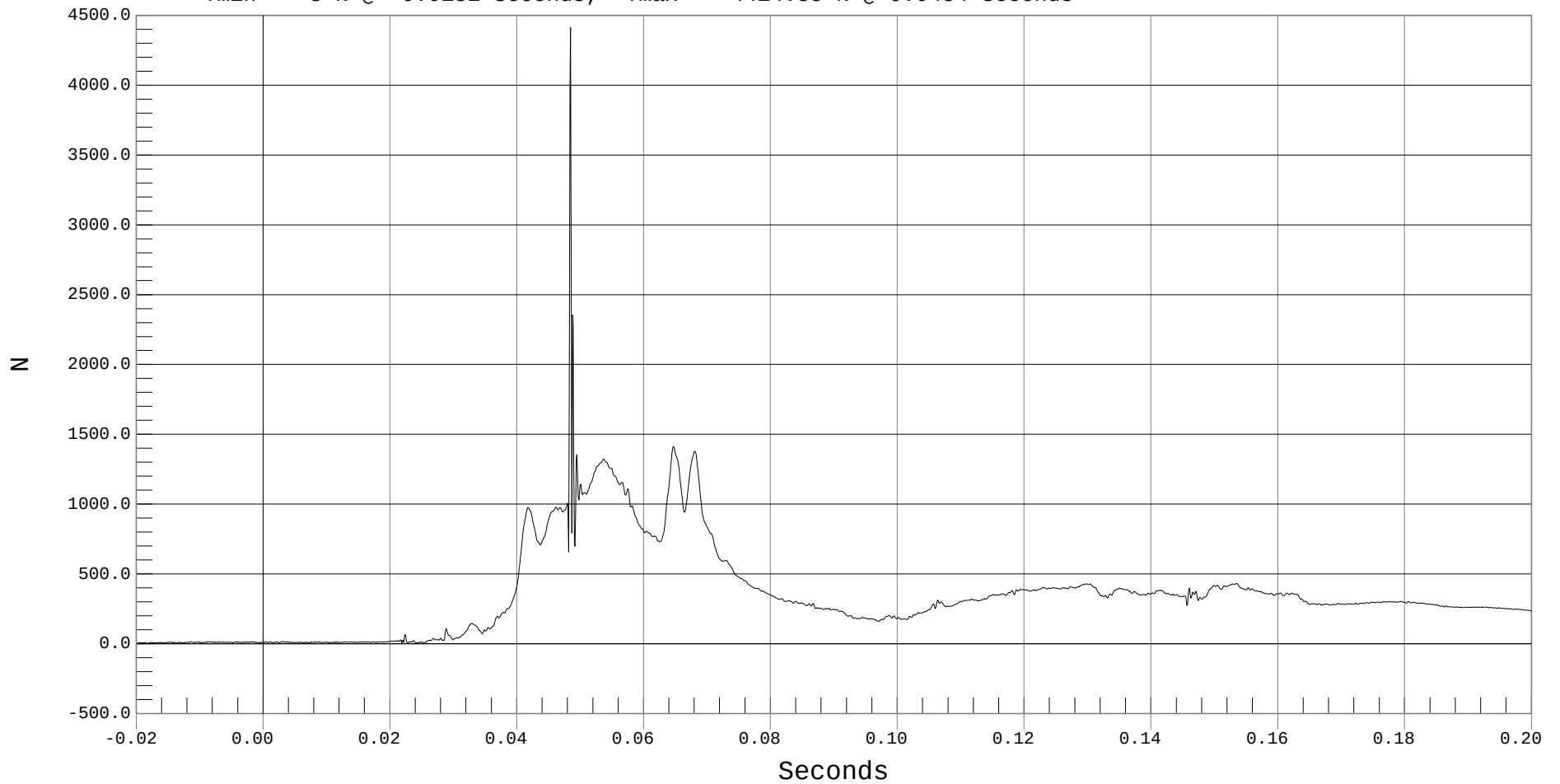
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Filter Class: 1000

— 1 DRIVER NECK FORCE RESULTANT, b01065FV.F04

Ymin = 3 N @ -0.0181 Seconds, Ymax = 4414.35 N @ 0.0484 Seconds





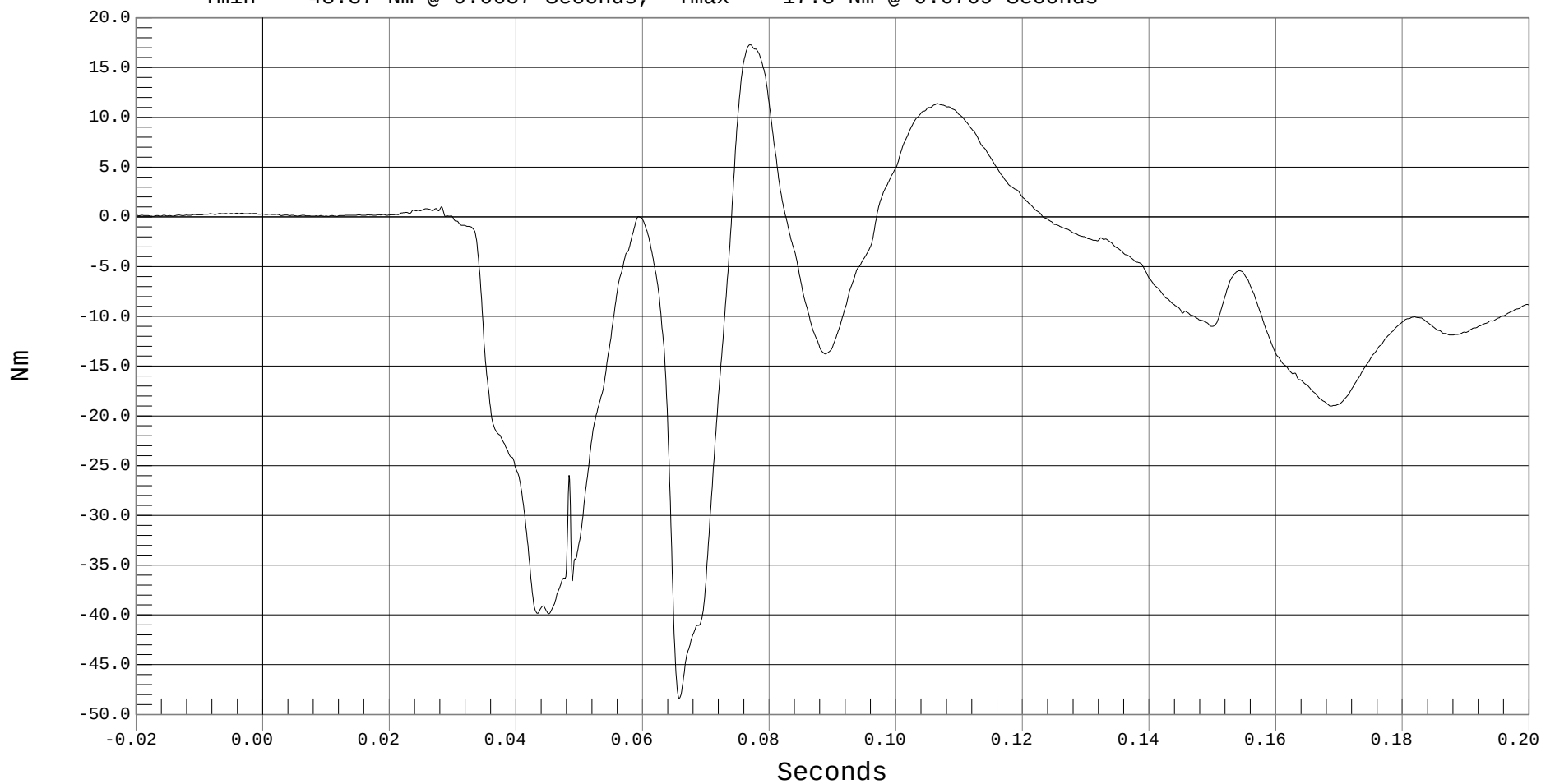
DRIVER NECK MOMENT X

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 600

— 1 DRIVER NECK MOMENT X, b01065MF.M07

Ymin = -48.37 Nm @ 0.0657 Seconds, Ymax = 17.3 Nm @ 0.0769 Seconds





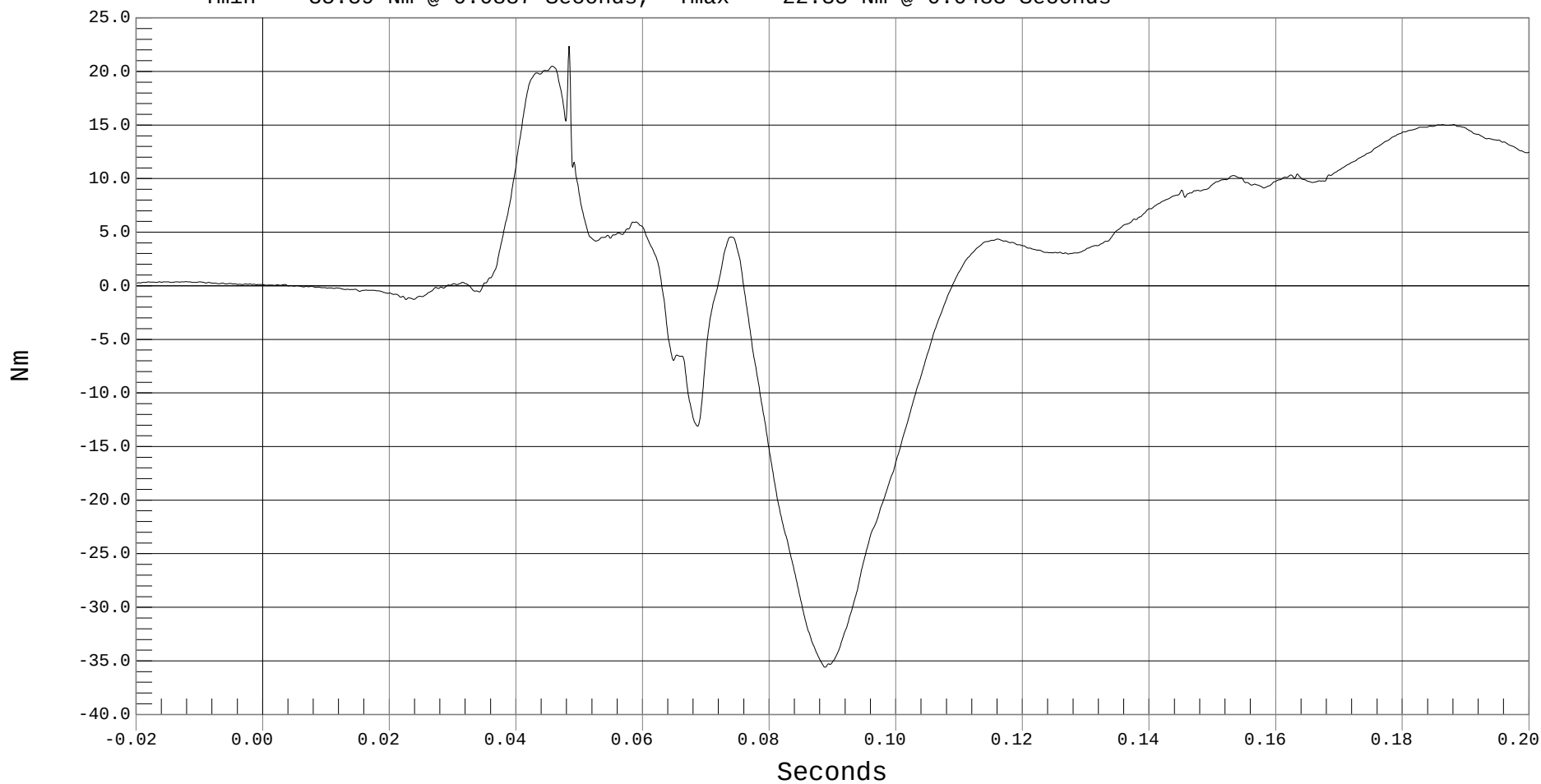
DRIVER NECK MOMENT Y

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 600

— 1 DRIVER NECK MOMENT Y, b01065MF.M08

Ymin = -35.59 Nm @ 0.0887 Seconds, Ymax = 22.35 Nm @ 0.0483 Seconds





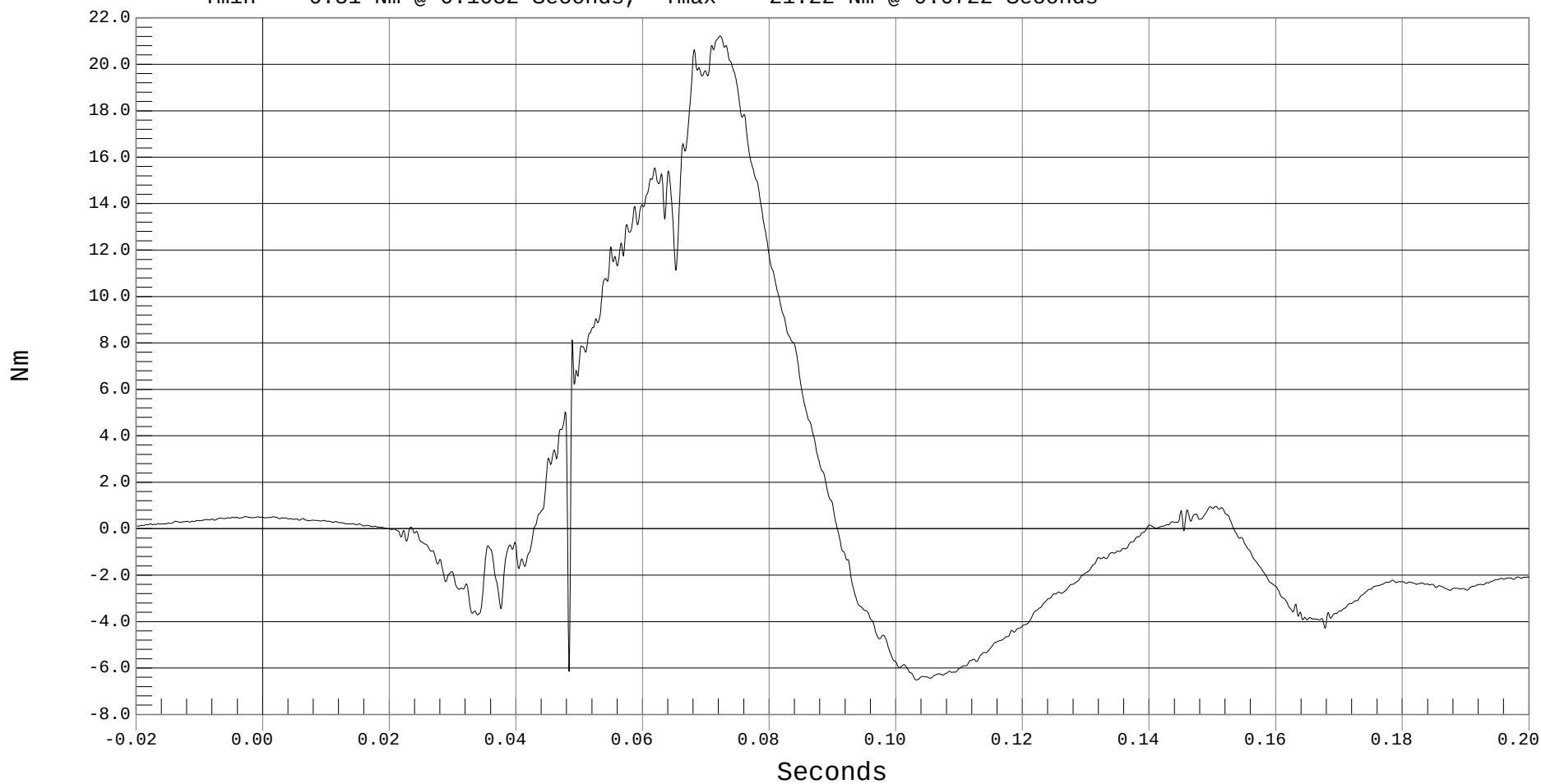
DRIVER NECK MOMENT Z

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 600

— 1 DRIVER NECK MOMENT Z, b01065MF.M09

Ymin = -6.51 Nm @ 0.1032 Seconds, Ymax = 21.22 Nm @ 0.0722 Seconds





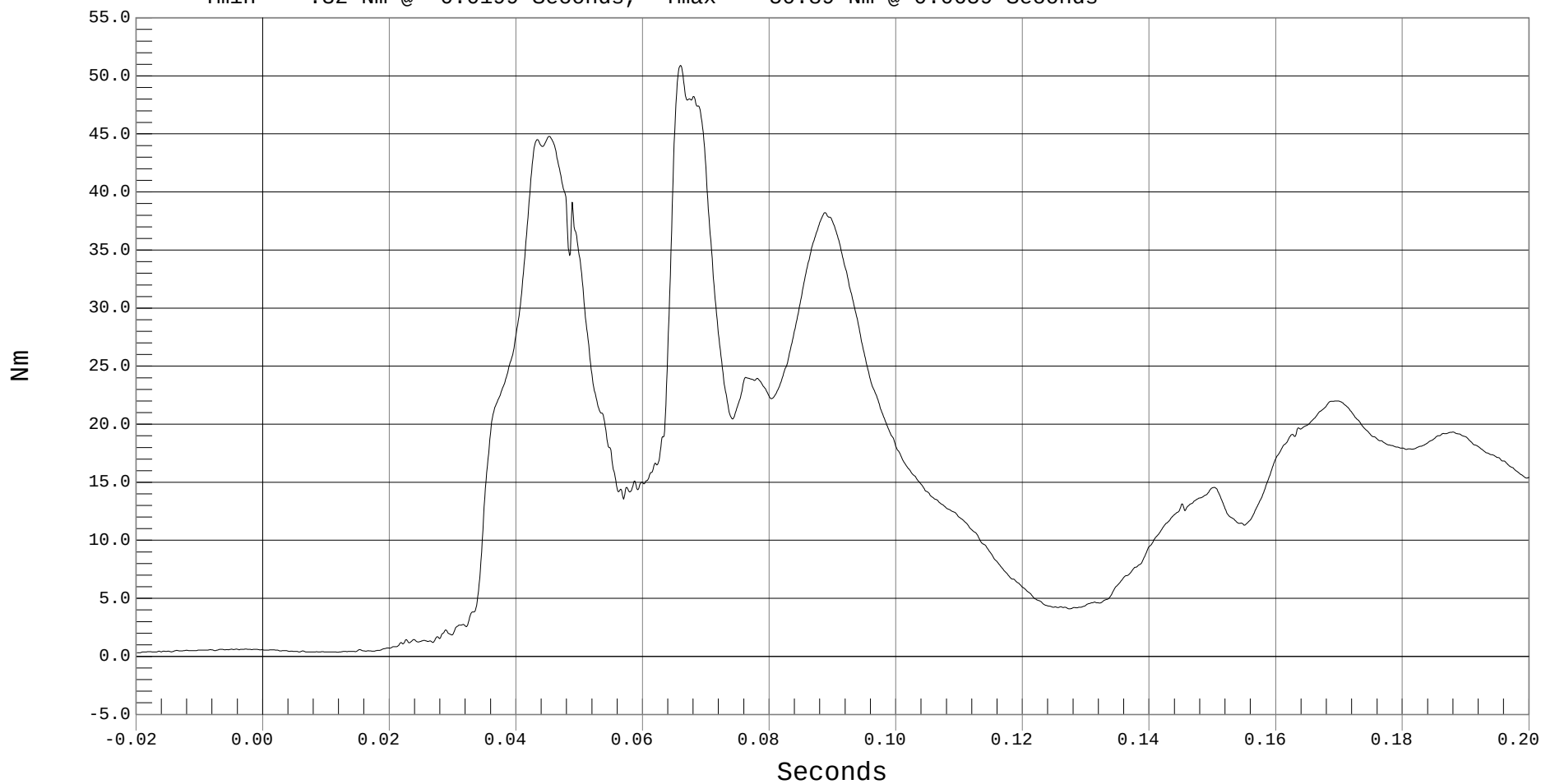
DRIVER NECK MOMENT RESULTANT

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 600

— 1 DRIVER NECK MOMENT RESULTANT, b01065MV.M07

Ymin = .32 Nm @ -0.0199 Seconds, Ymax = 50.89 Nm @ 0.0659 Seconds





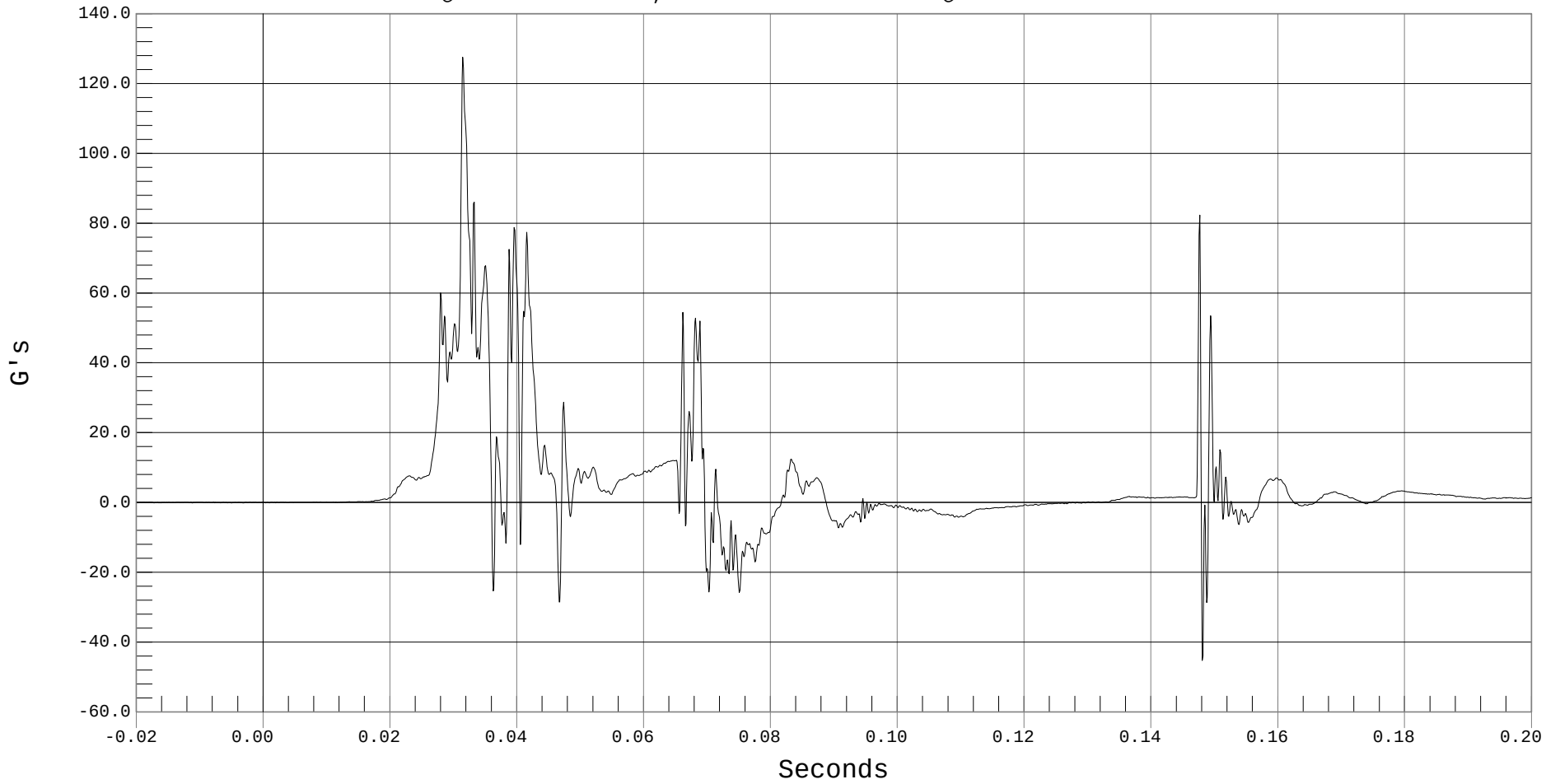
DRIVER UPPER RIB Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER UPPER RIB Y, b01065AT.A10

Ymin = -45.25 G's @ 0.1480 Seconds, Ymax = 127.54 G's @ 0.0314 Seconds





DRIVER UPPER RIB Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

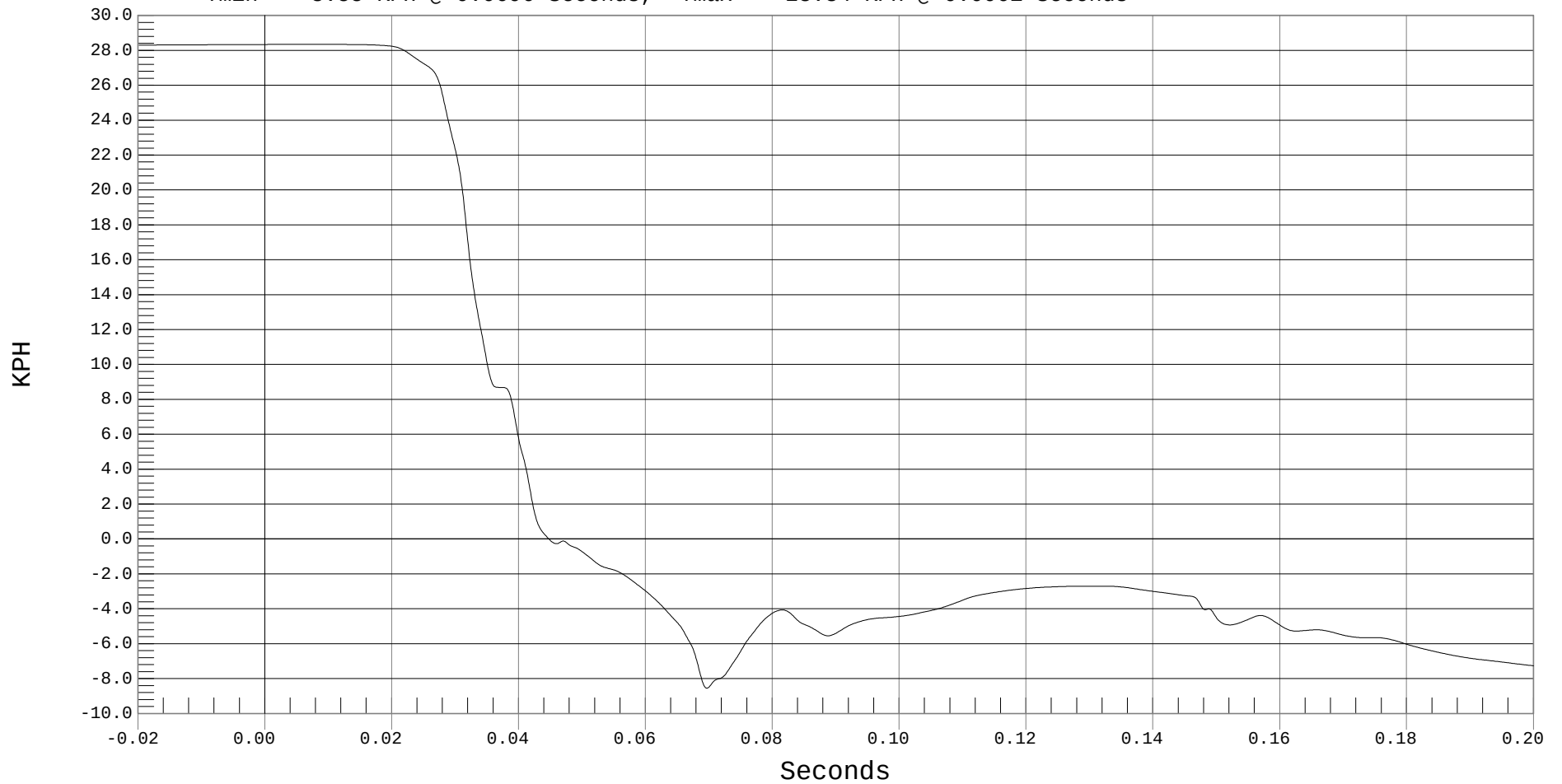
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 DRIVER UPPER RIB Y VELOCITY, b01065AI.V10

Ymin = -8.55 KPH @ 0.0696 Seconds, Ymax = 28.34 KPH @ 0.0061 Seconds





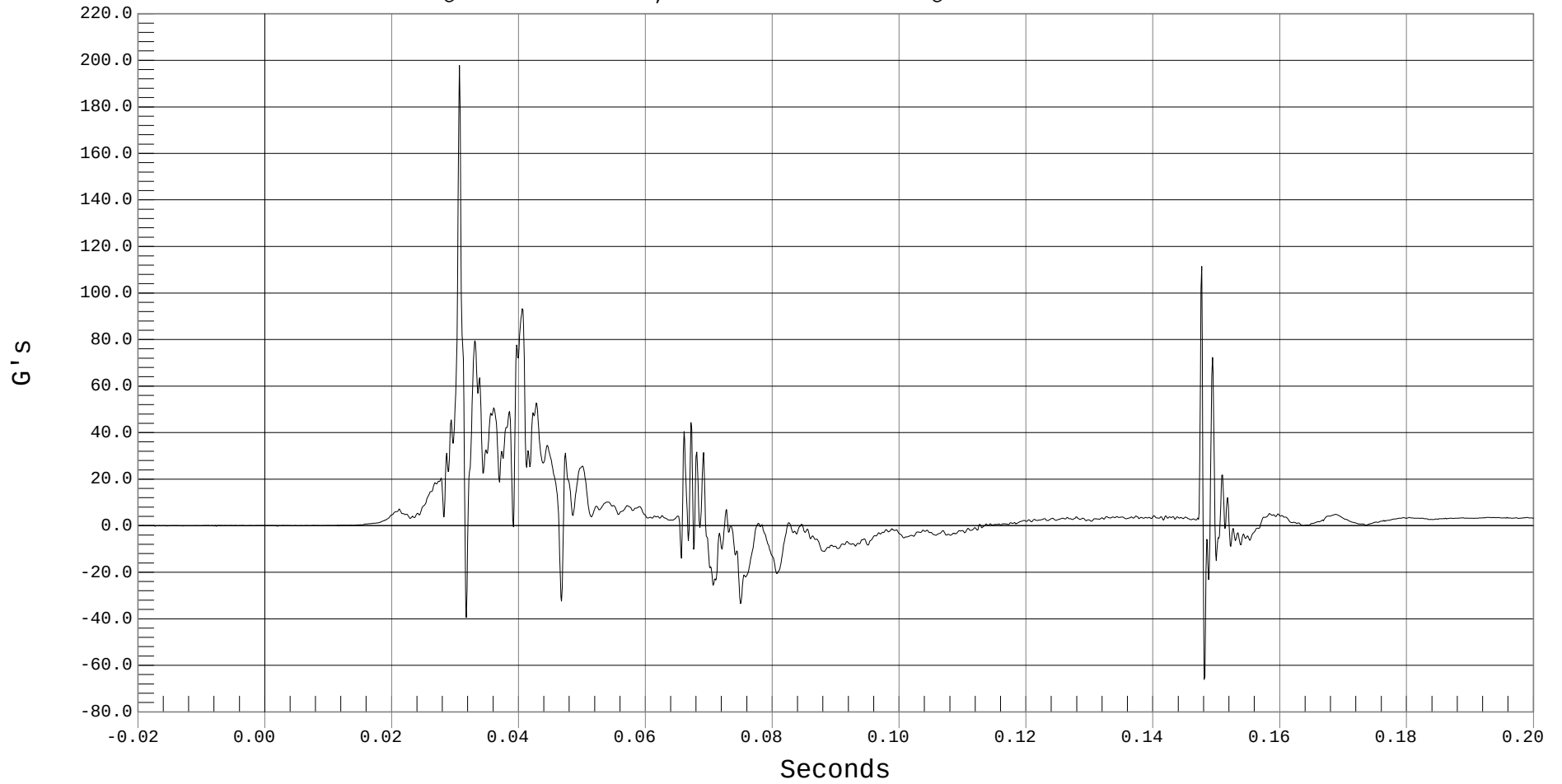
DRIVER LOWER RIB Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER LOWER RIB Y, b01065AT.A11

Ymin = -66.15 G's @ 0.1480 Seconds, Ymax = 197.8 G's @ 0.0306 Seconds





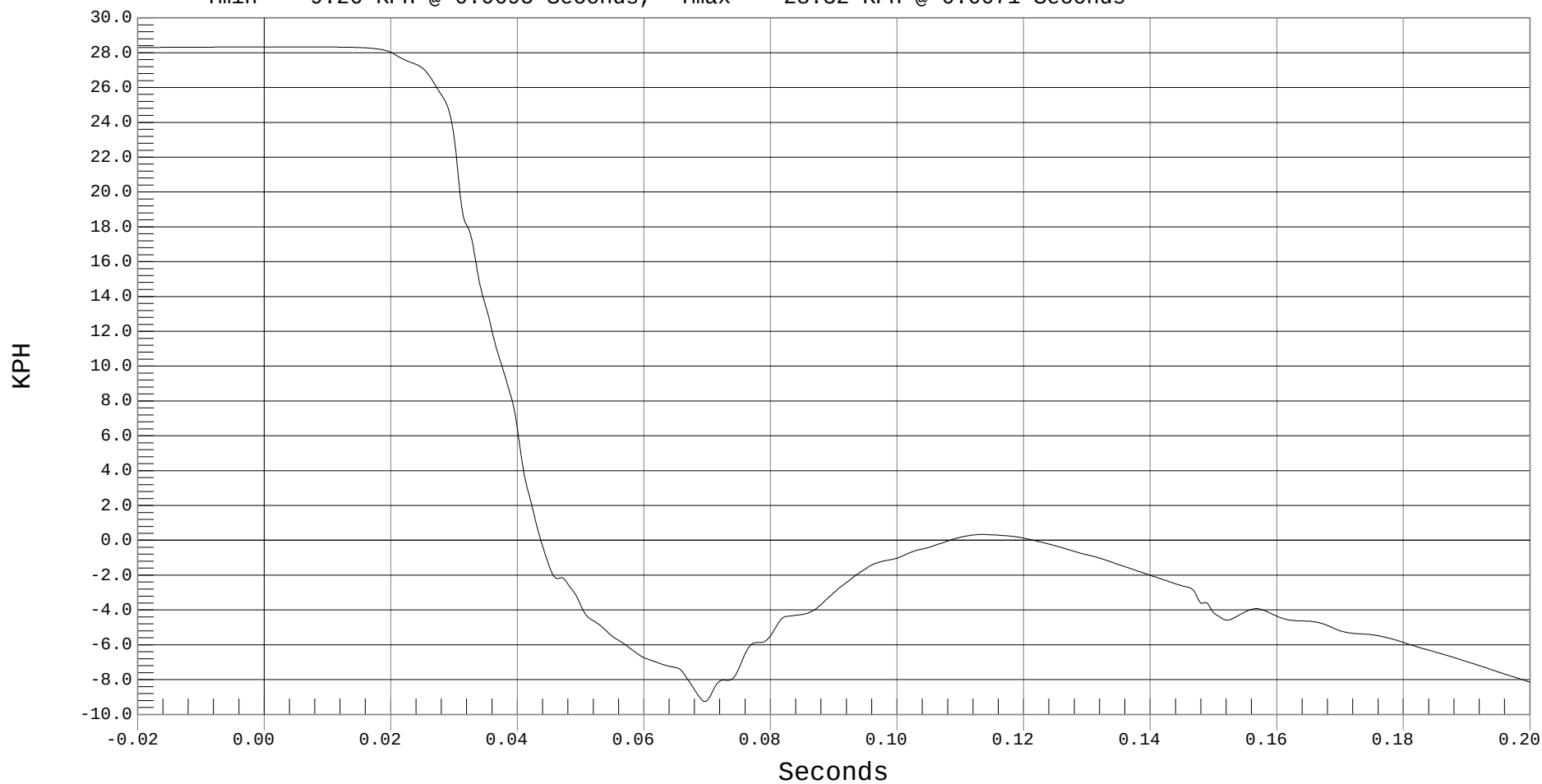
DRIVER LOWER RIB Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER LOWER RIB Y VELOCITY, b01065AI.V11

Ymin = -9.26 KPH @ 0.0695 Seconds, Ymax = 28.32 KPH @ 0.0071 Seconds





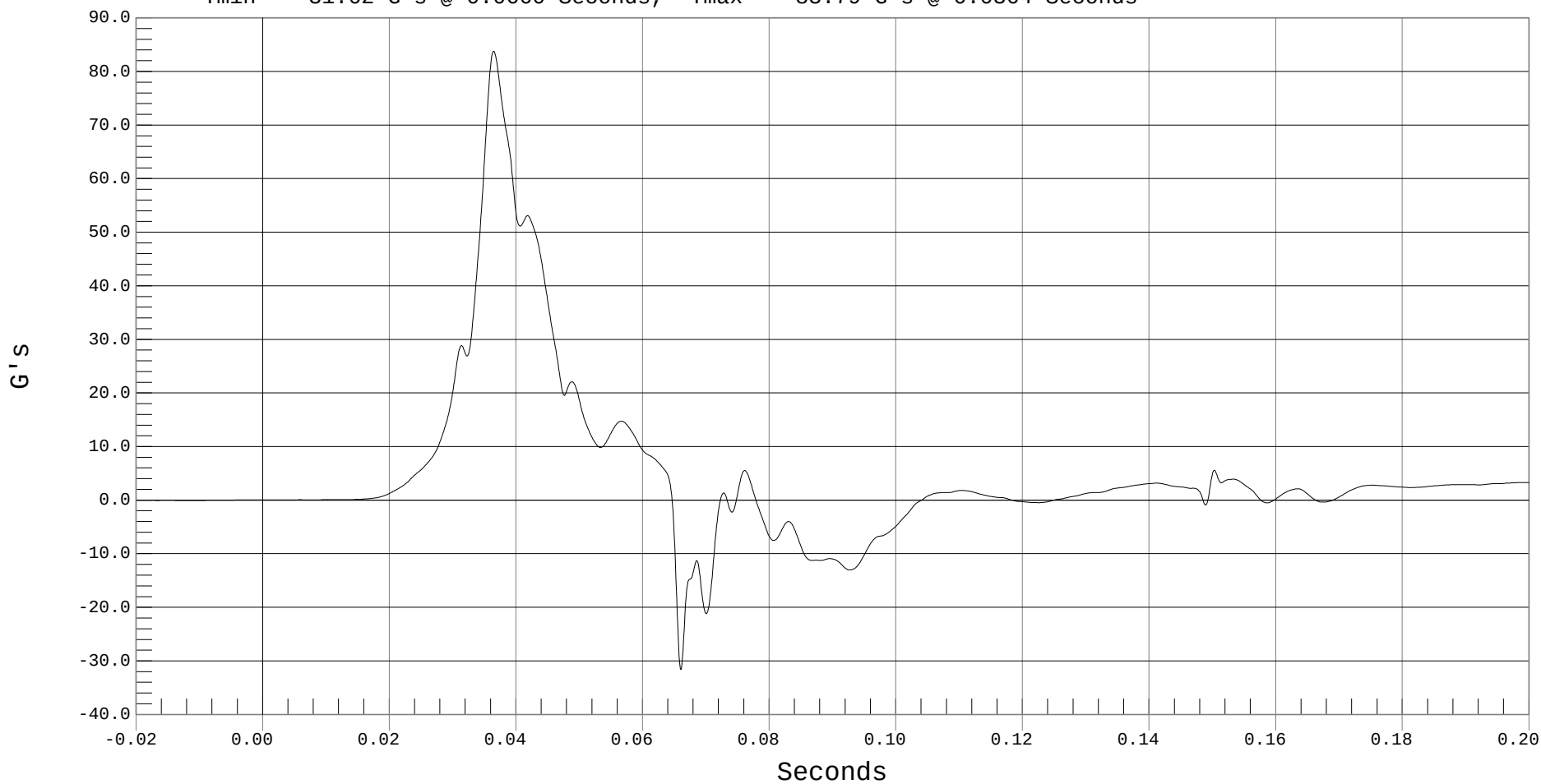
DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER LOWER SPINE Y, b01065AF.A12

Ymin = -31.62 G's @ 0.0660 Seconds, Ymax = 83.79 G's @ 0.0364 Seconds





DRIVER LOWER SPINE Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

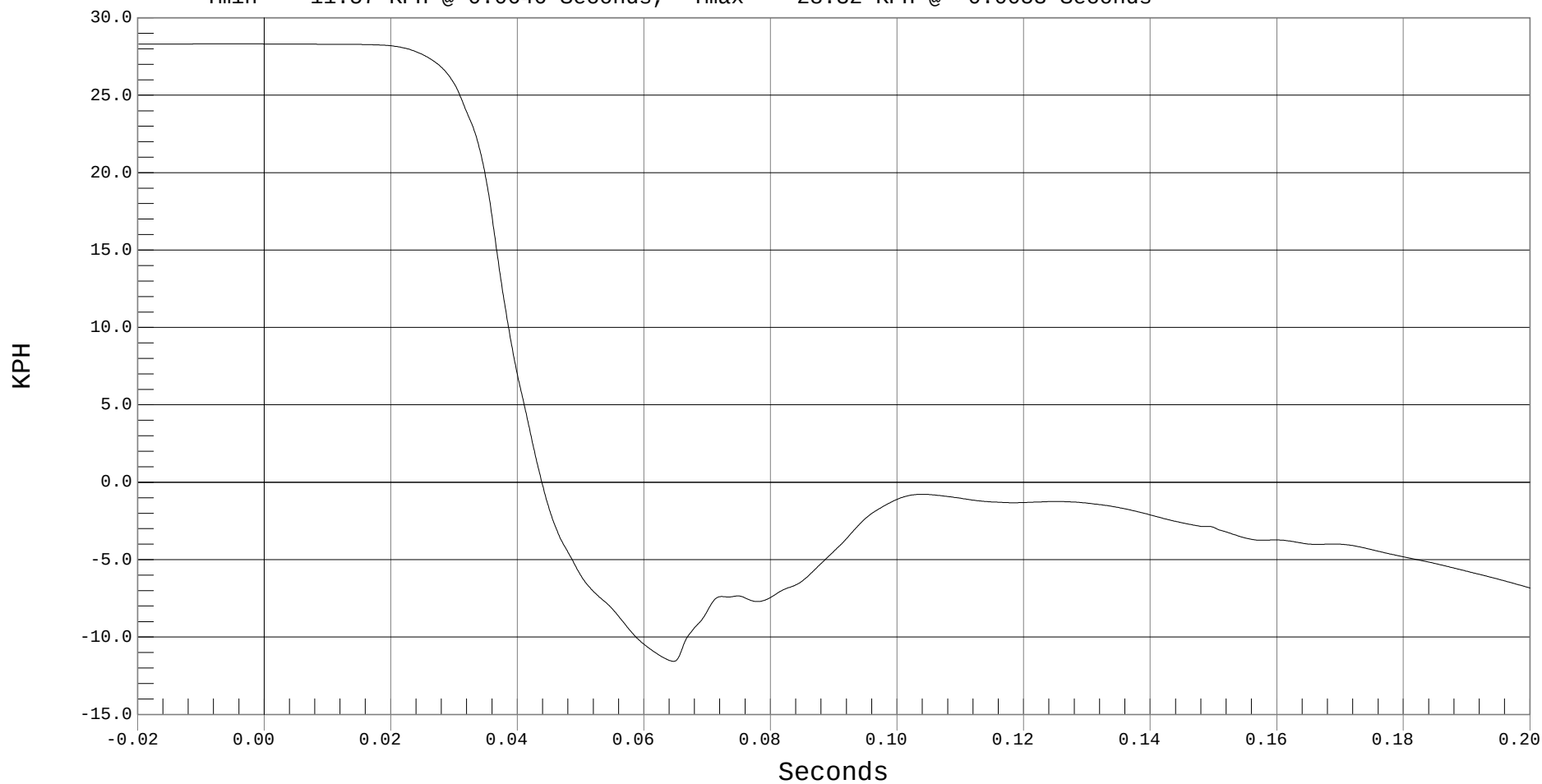
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

1 DRIVER LOWER SPINE Y VELOCITY, b01065AI.V12

Ymin = -11.57 KPH @ 0.0646 Seconds, Ymax = 28.32 KPH @ -0.0053 Seconds





DRIVER PELVIS Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

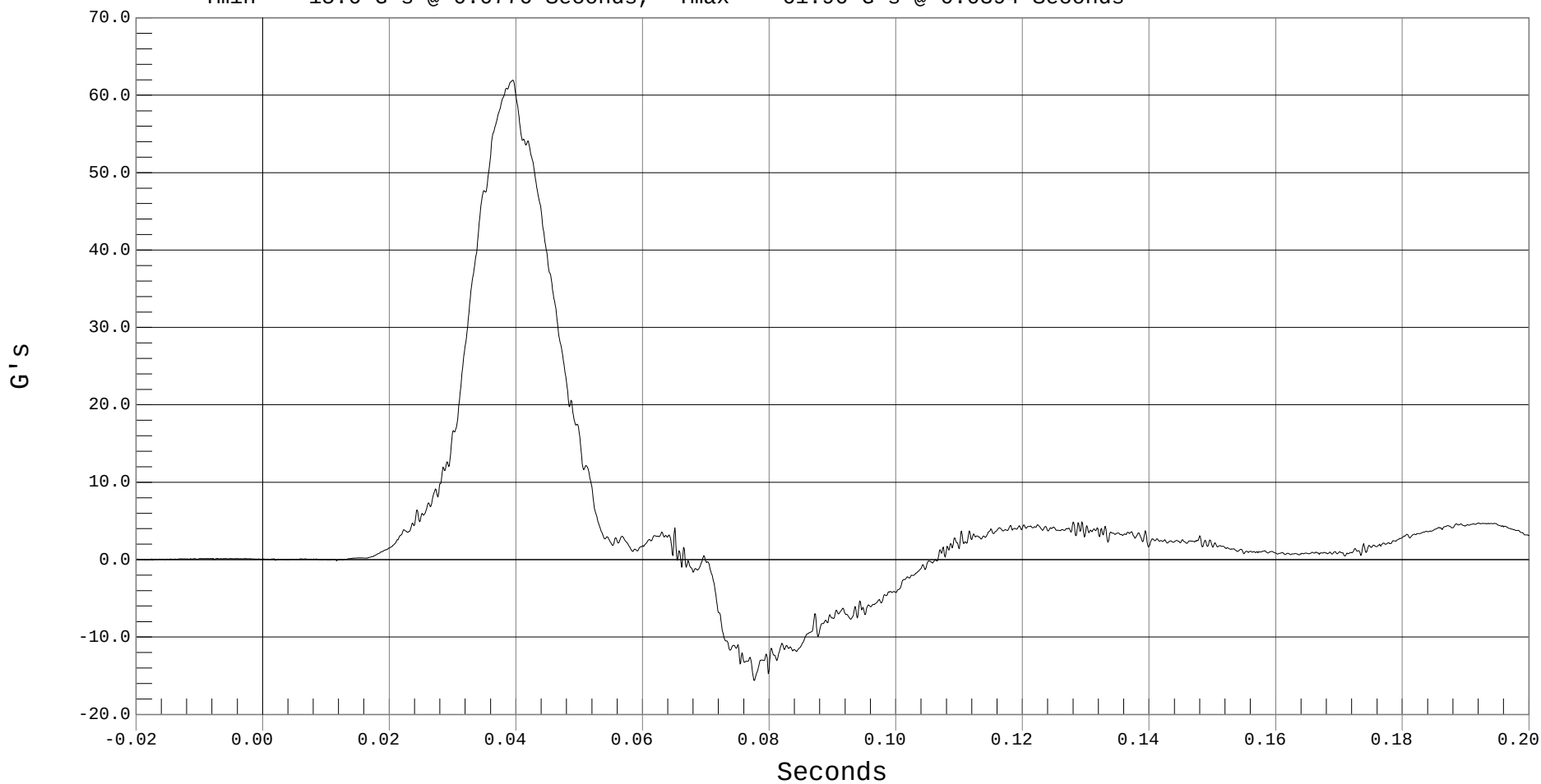
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 1000

— 1 DRIVER PELVIS Y, b01065AT.A13

Ymin = -15.6 G's @ 0.0776 Seconds, Ymax = 61.96 G's @ 0.0394 Seconds





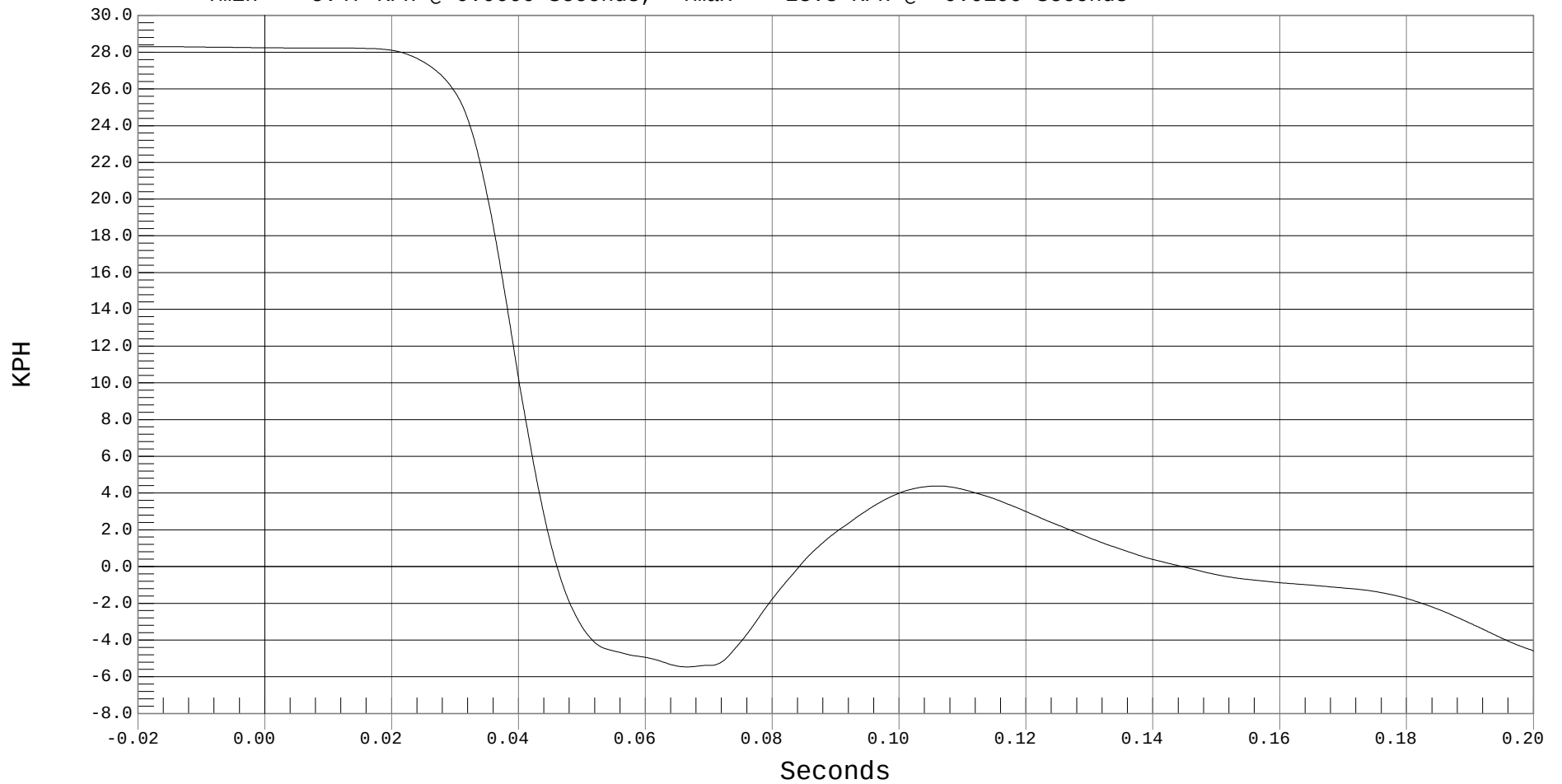
DRIVER PELVIS Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER PELVIS Y VELOCITY, b01065AI.V13

Ymin = -5.47 KPH @ 0.0666 Seconds, Ymax = 28.3 KPH @ -0.0199 Seconds





VEHICLE CG X ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

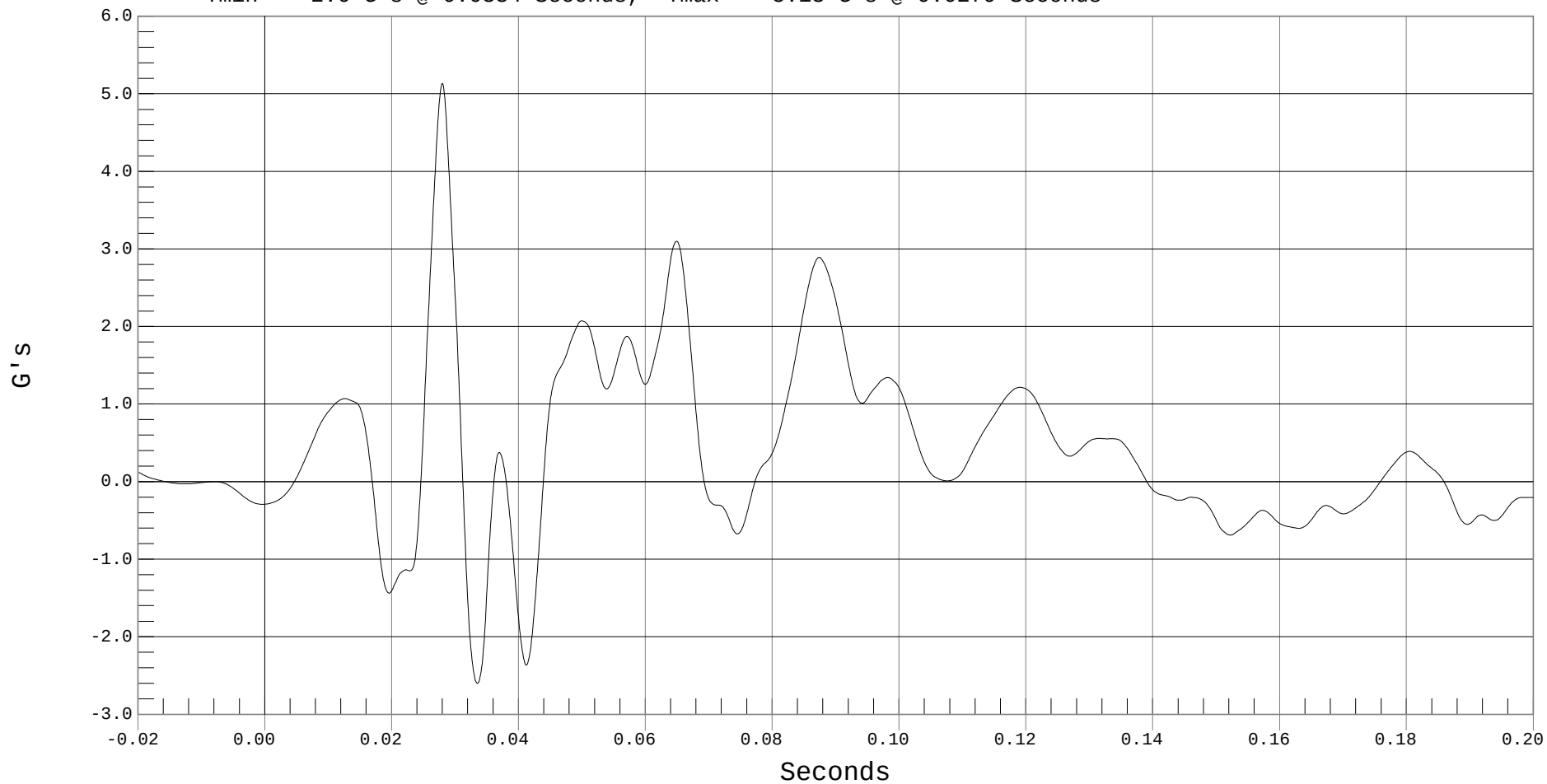
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 VEHICLE CG X, b01065AF.A14

Ymin = -2.6 G's @ 0.0334 Seconds, Ymax = 5.13 G's @ 0.0279 Seconds





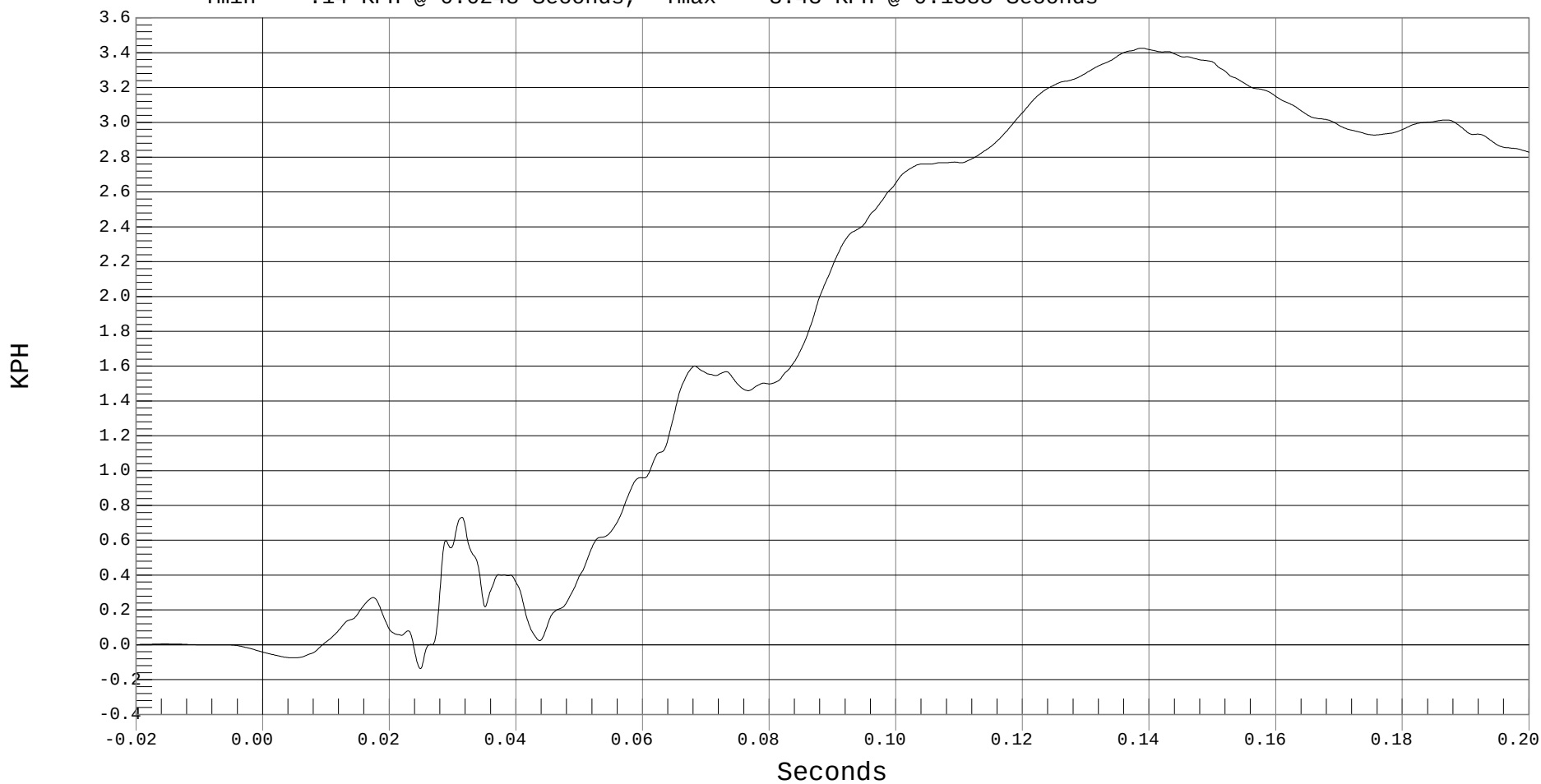
VEHICLE CG X VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 VEHICLE CG X VELOCITY, b01065AI.V14

Ymin = -.14 KPH @ 0.0248 Seconds, Ymax = 3.43 KPH @ 0.1388 Seconds





VEHICLE CG Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

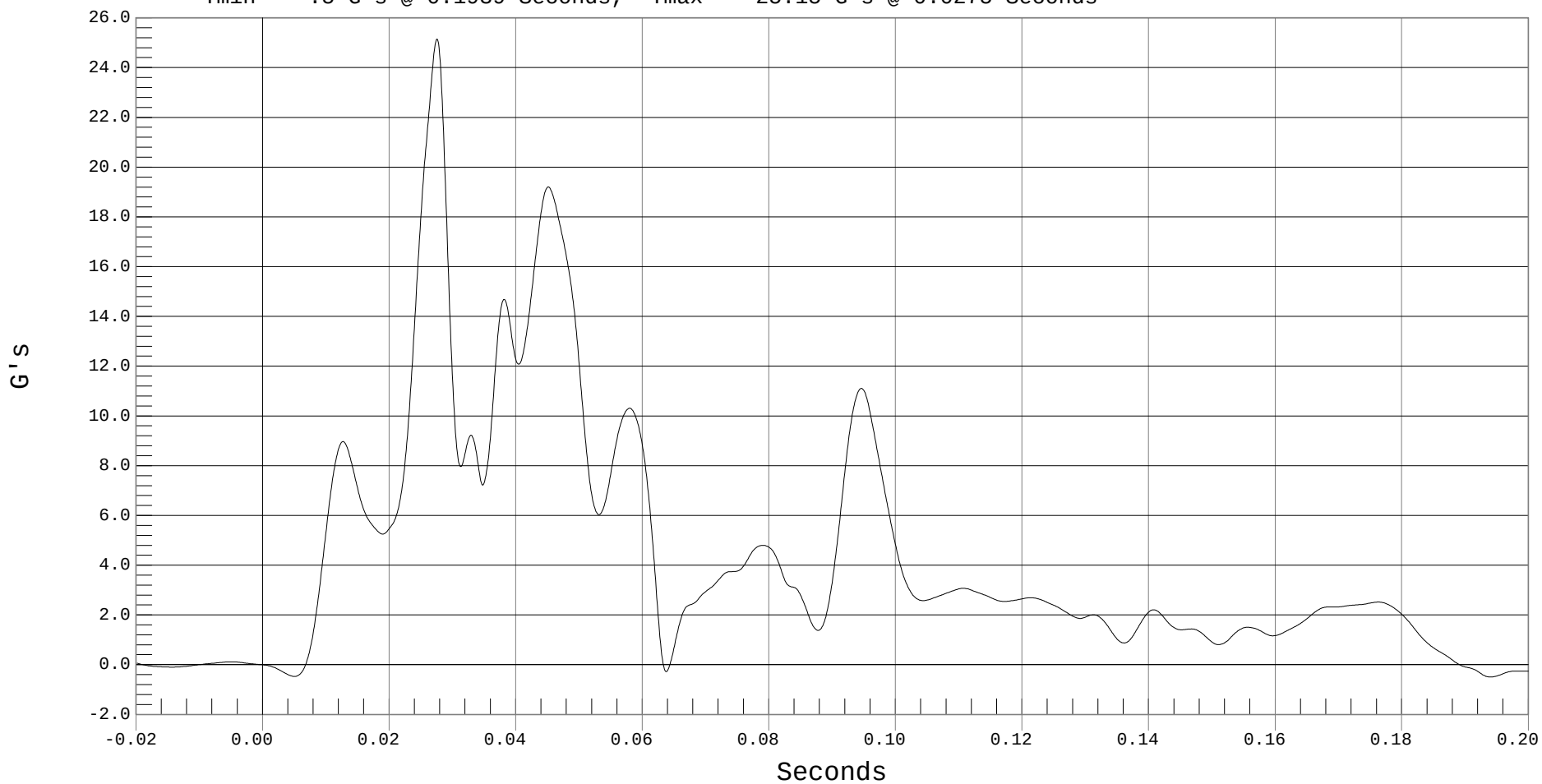
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 VEHICLE CG Y, b01065AF.A15

Ymin = -0.5 G's @ 0.1939 Seconds, Ymax = 25.15 G's @ 0.0275 Seconds





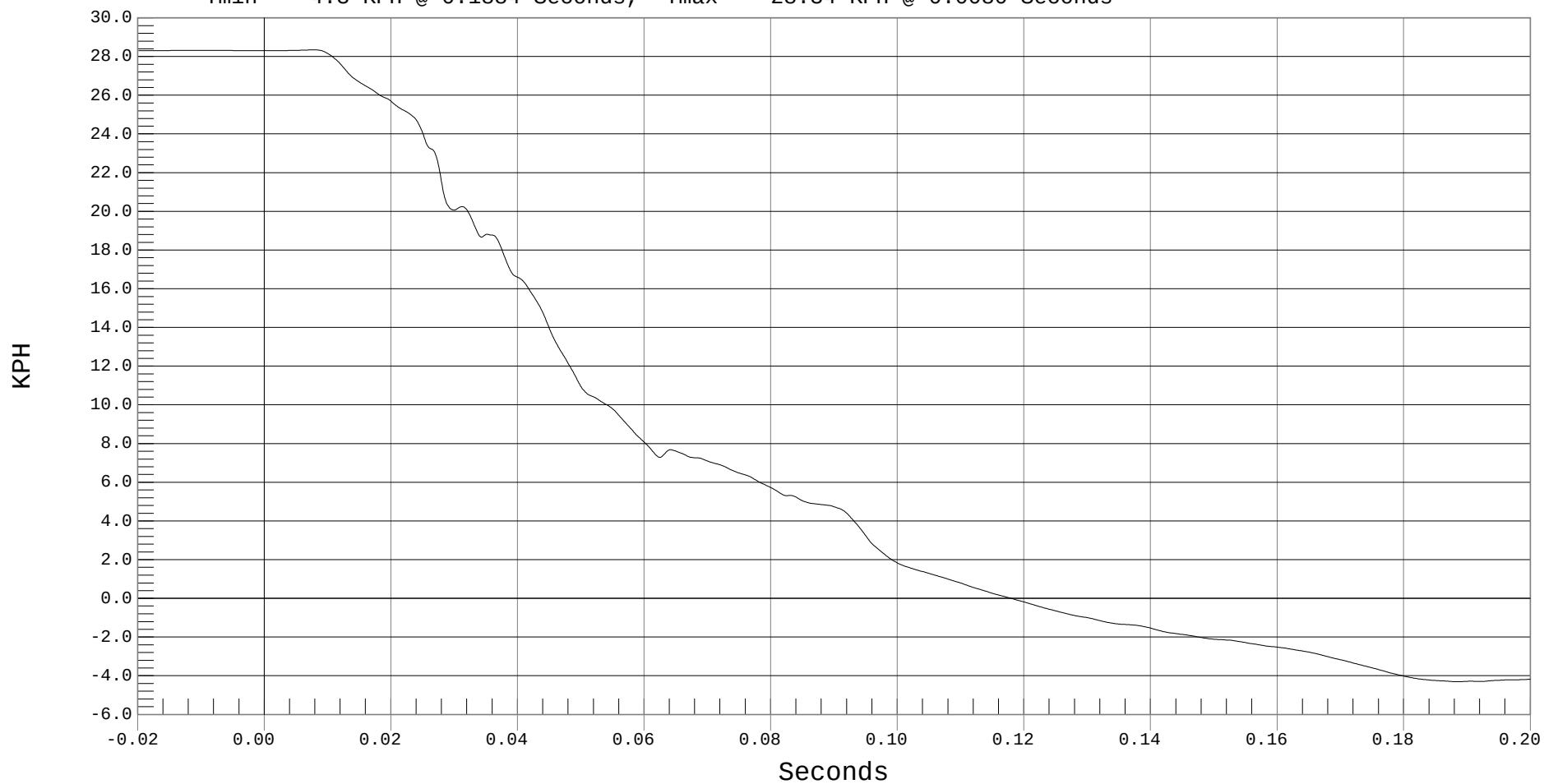
VEHICLE CG Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 VEHICLE CG Y VELOCITY, b01065AI.V15

Ymin = -4.3 KPH @ 0.1884 Seconds, Ymax = 28.34 KPH @ 0.0080 Seconds





VEHICLE CG Z ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

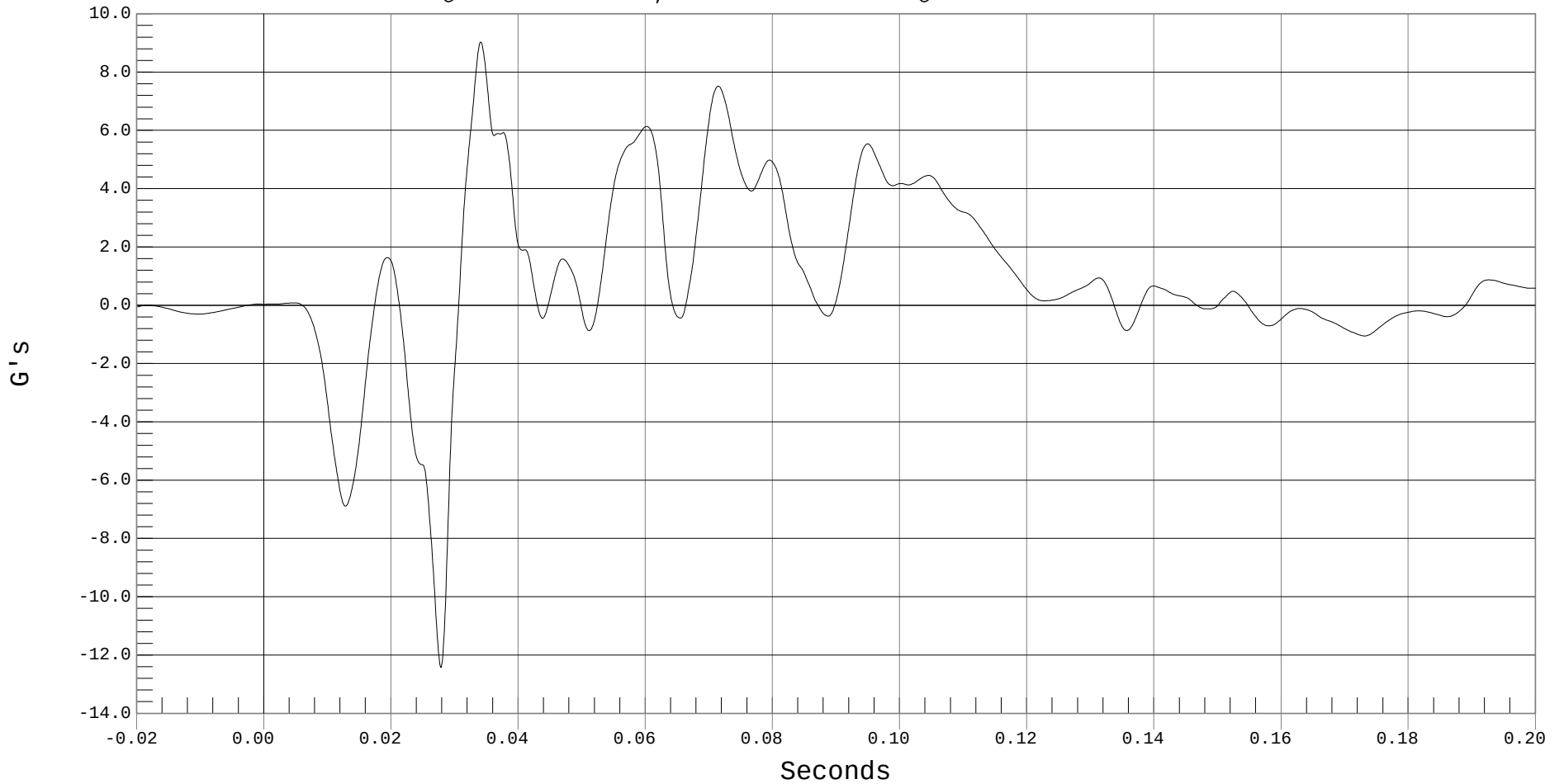
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 VEHICLE CG Z, b01065AF.A16

Ymin = -12.42 G's @ 0.0278 Seconds, Ymax = 9.03 G's @ 0.0340 Seconds





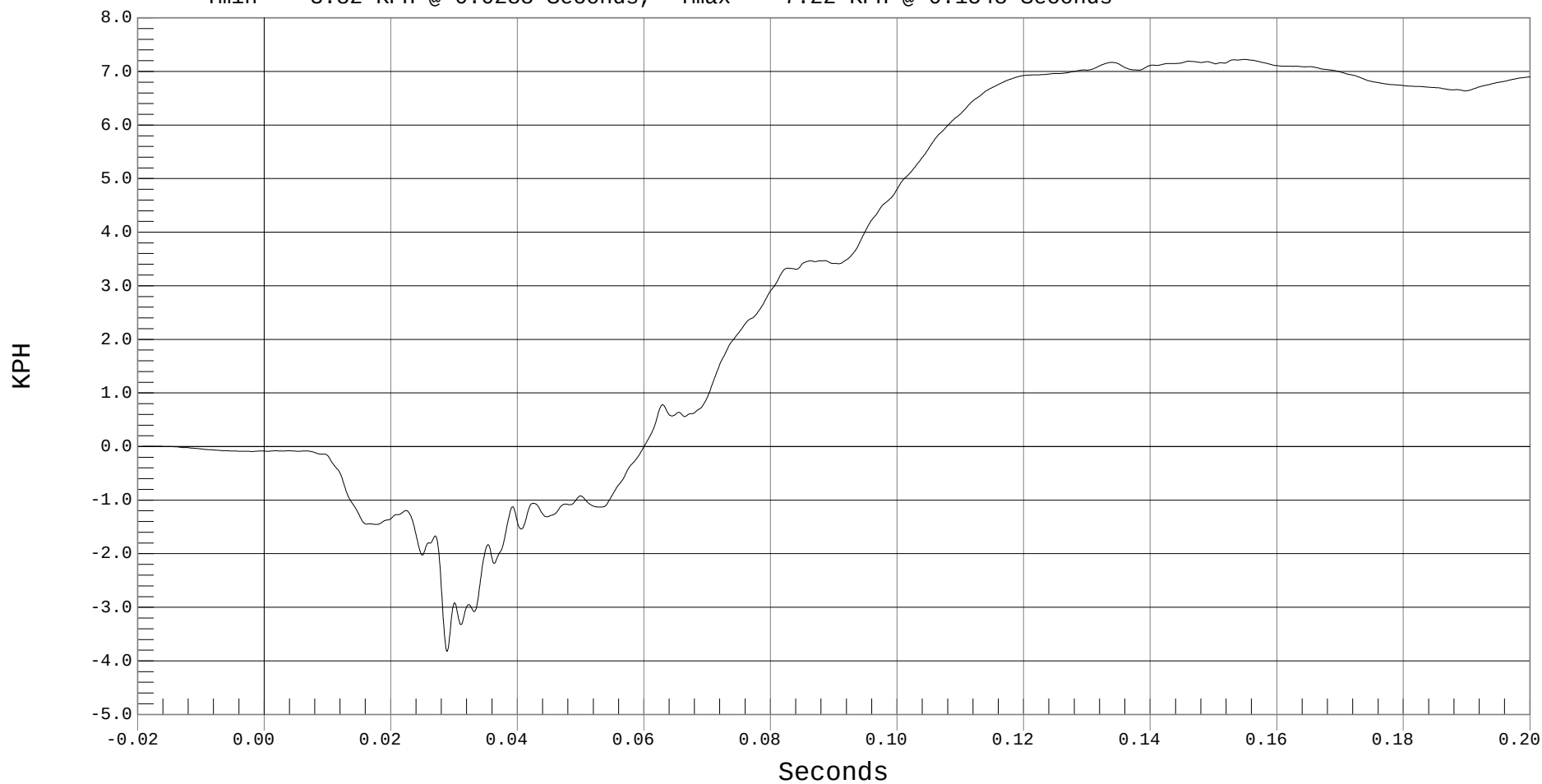
VEHICLE CG Z VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 VEHICLE CG Z VELOCITY, b01065AI.V16

Ymin = -3.82 KPH @ 0.0288 Seconds, Ymax = 7.22 KPH @ 0.1548 Seconds





VEHICLE CG RESULTANT ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

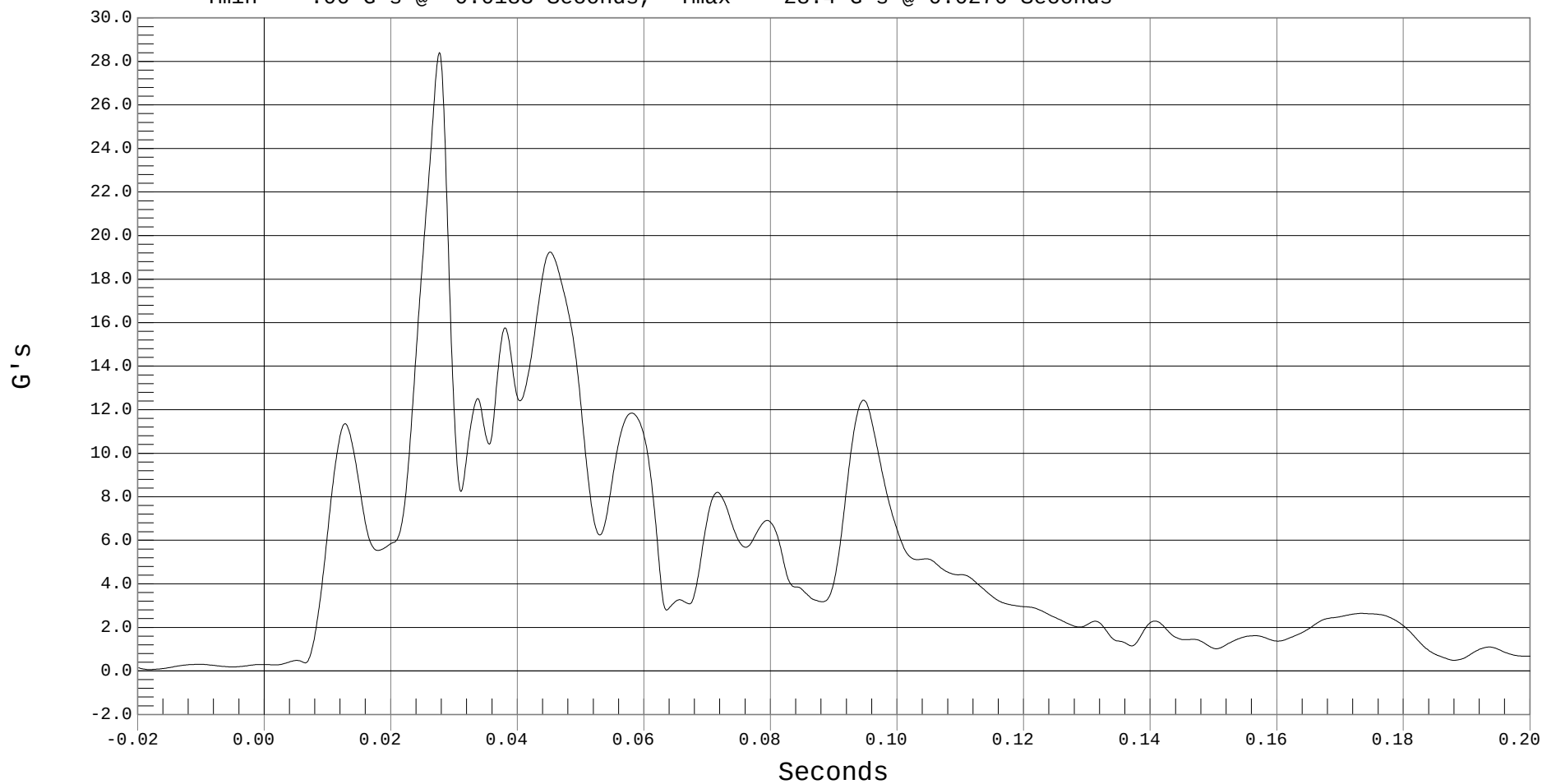
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 VEHICLE CG RESULTANT ACCELERATION, b01065AV.A14

Ymin = .06 G's @ -0.0183 Seconds, Ymax = 28.4 G's @ 0.0276 Seconds





LEFT FLOOR @ SILL Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

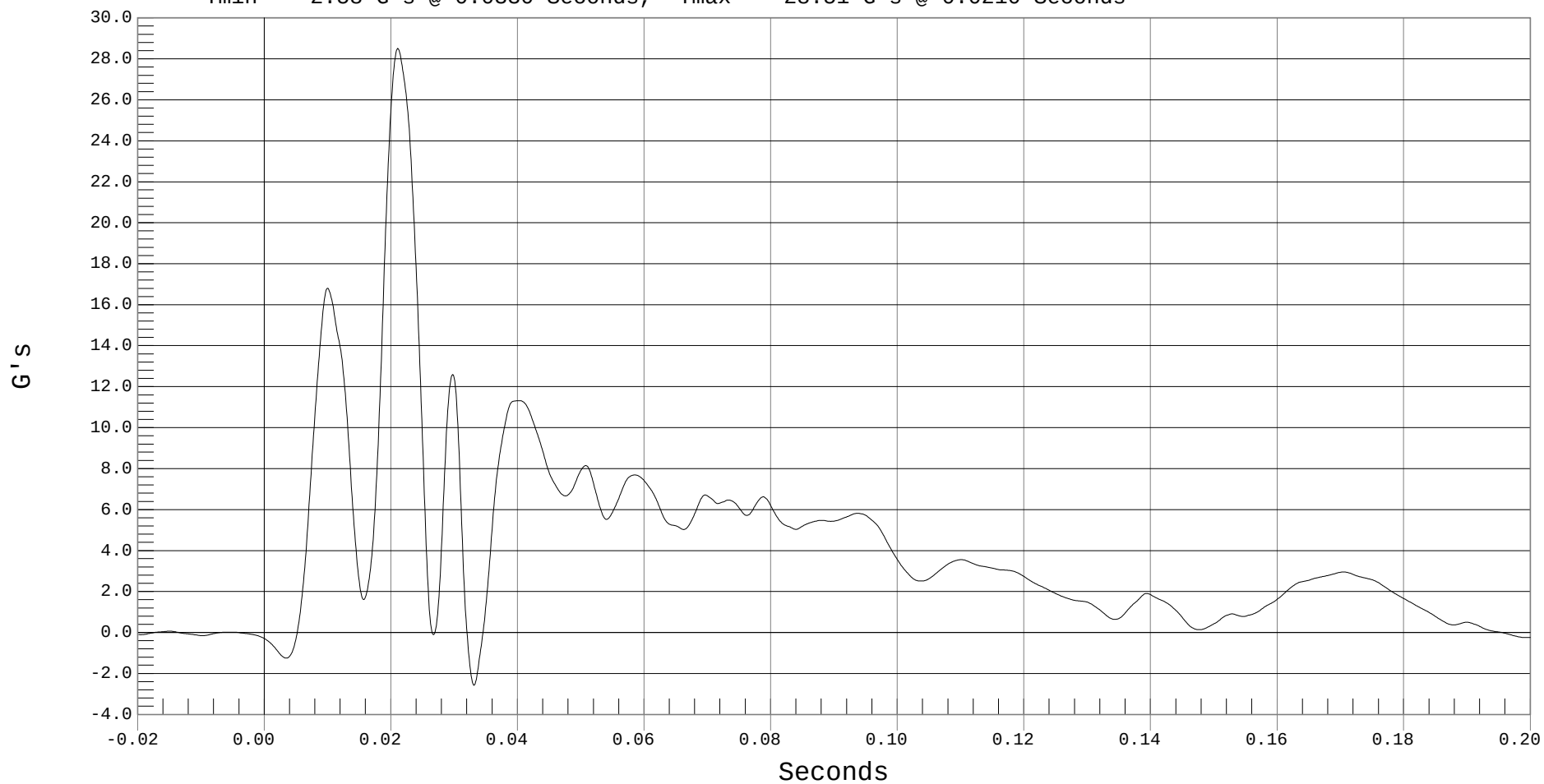
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 LEFT FLOOR SILL Y, b01065AF.A17

Ymin = -2.58 G's @ 0.0330 Seconds, Ymax = 28.51 G's @ 0.0210 Seconds





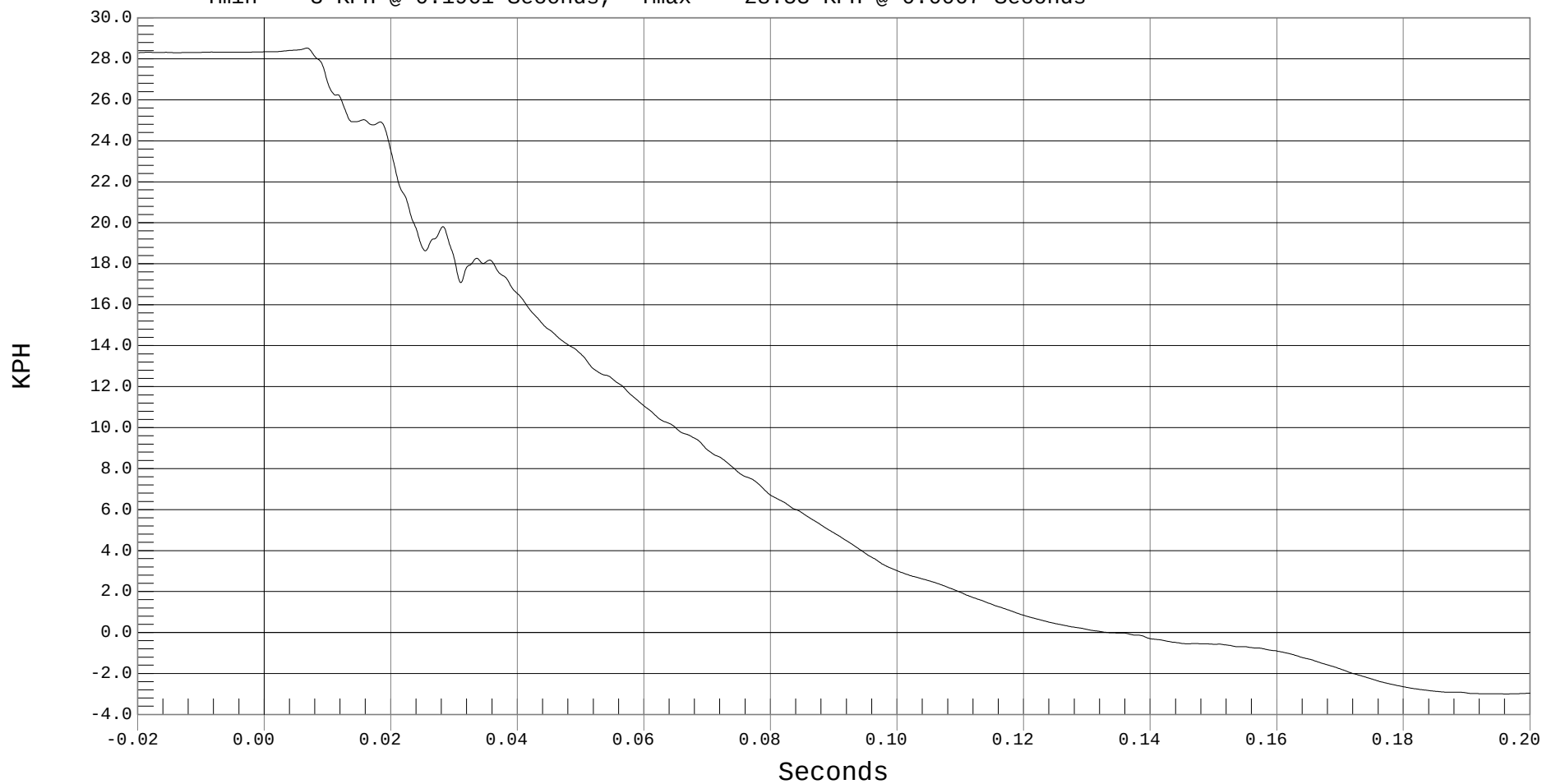
LEFT FLOOR @ SILL Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 LEFT FLOOR SILL Y VELOCITY, b01065AI.V17

Ymin = -3 KPH @ 0.1961 Seconds, Ymax = 28.53 KPH @ 0.0067 Seconds





LEFT A-PILLAR @ SILL Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

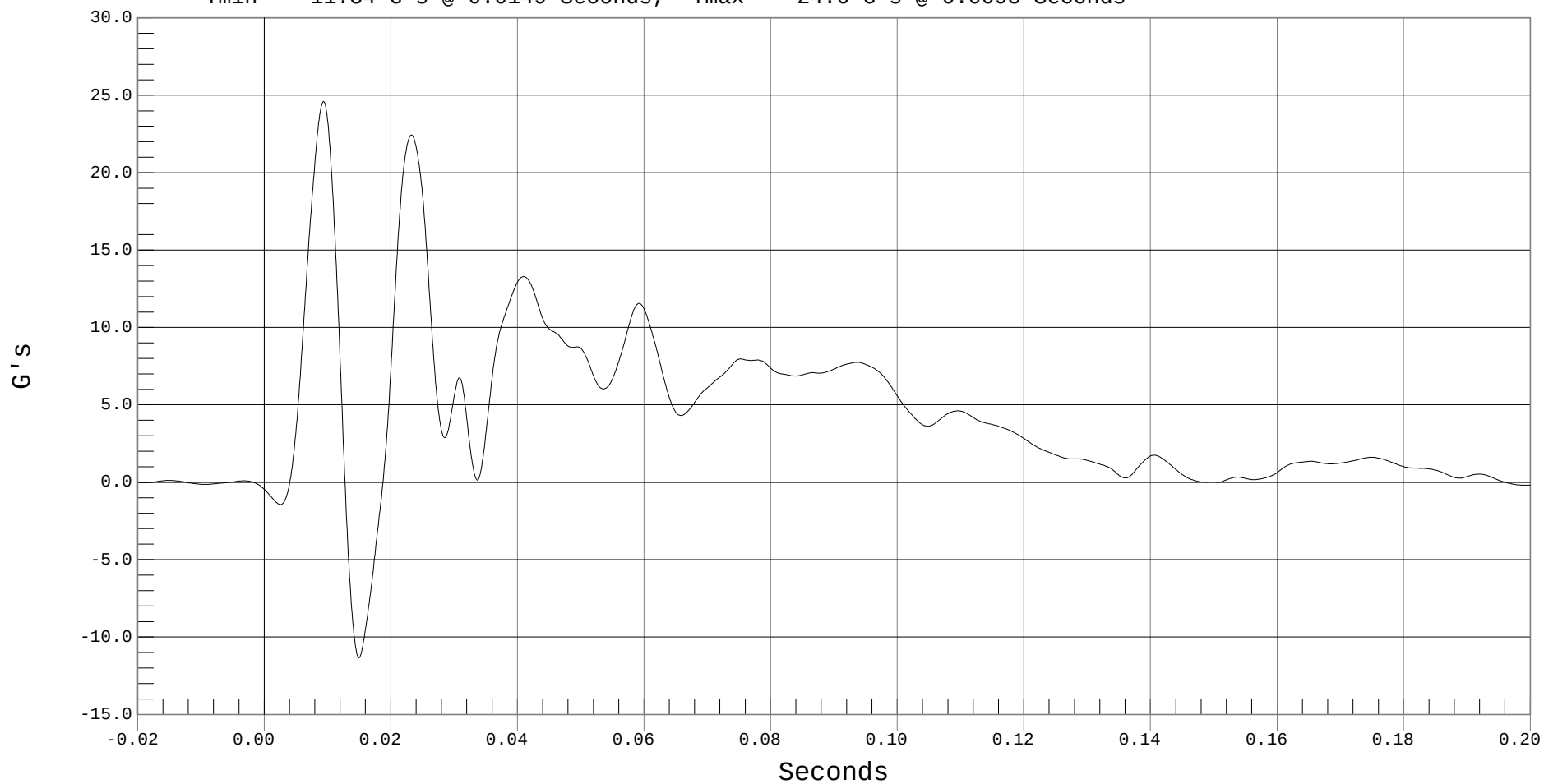
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 LEFT A-PILLAR @ SILL Y, b01065AF.A18

Ymin = -11.34 G's @ 0.0149 Seconds, Ymax = 24.6 G's @ 0.0093 Seconds





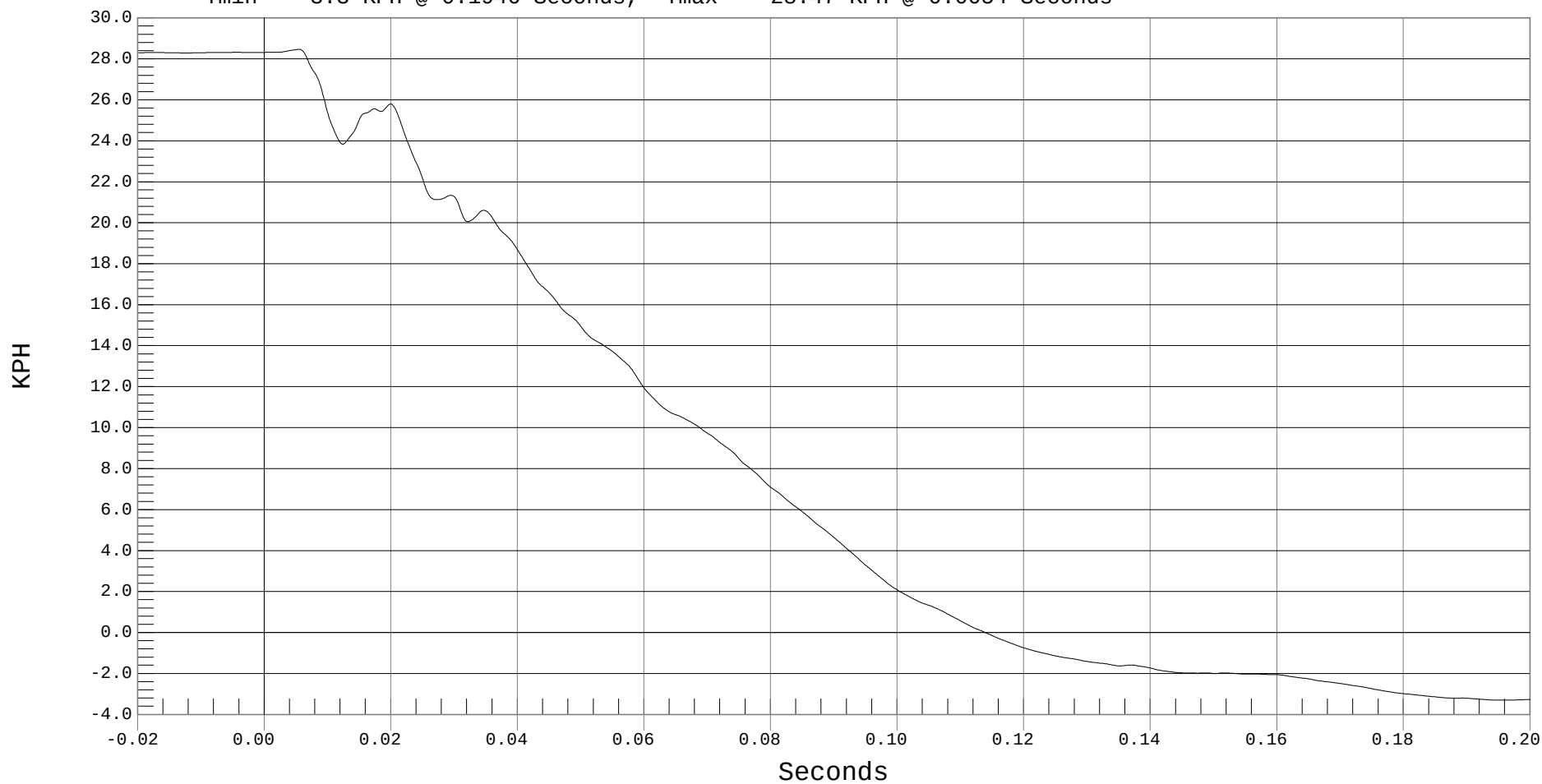
LEFT A-PILLAR @ SILL Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 A PILLAR SILL Y VELOCITY, b01065AI.V18

Ymin = -3.3 KPH @ 0.1946 Seconds, Ymax = 28.47 KPH @ 0.0054 Seconds





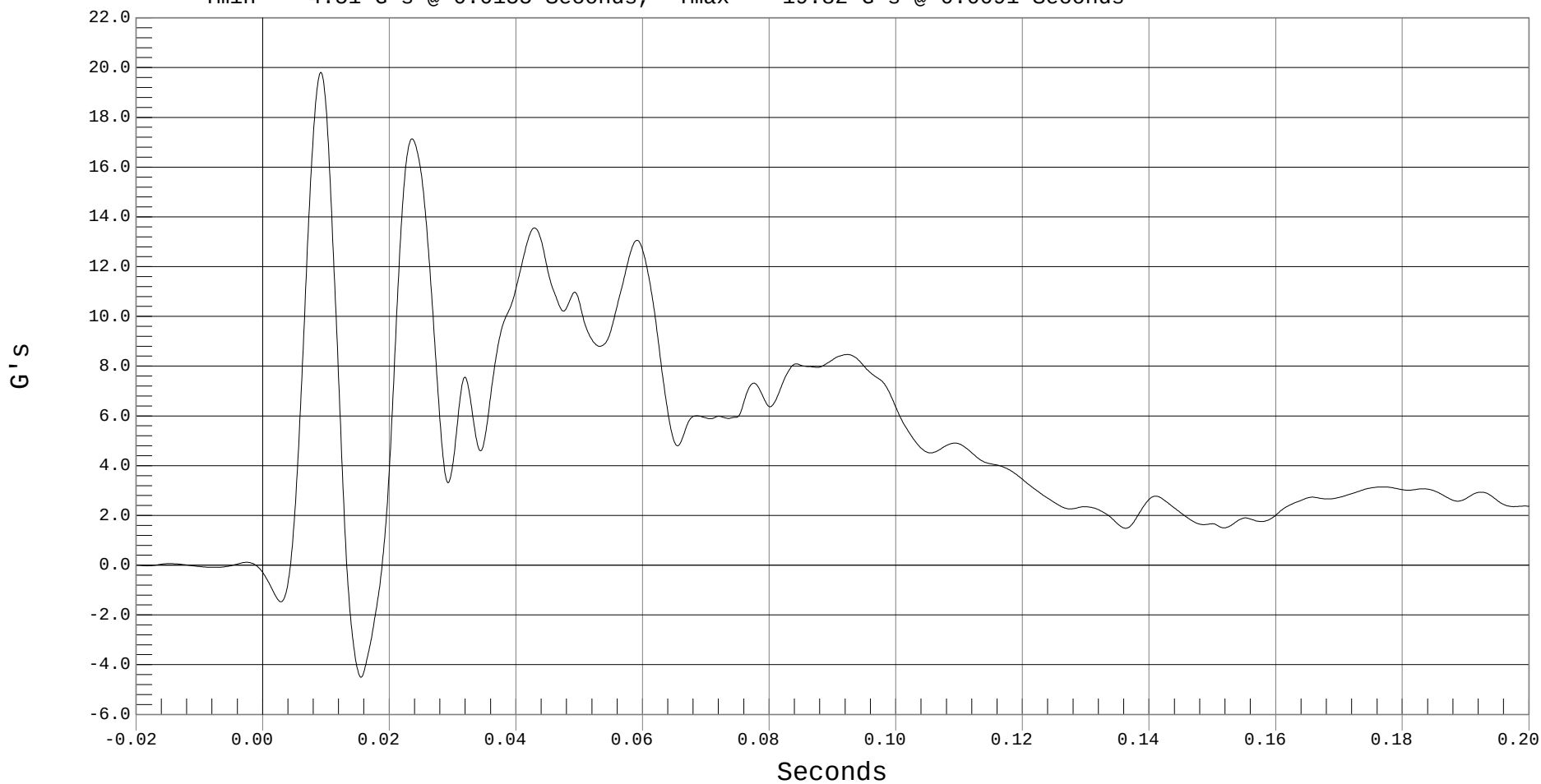
LEFT A-PILLAR LOWER Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 60

1 LEFT A-PILLAR LOWER Y, b01065AF.A19

Ymin = -4.51 G's @ 0.0155 Seconds, Ymax = 19.82 G's @ 0.0091 Seconds





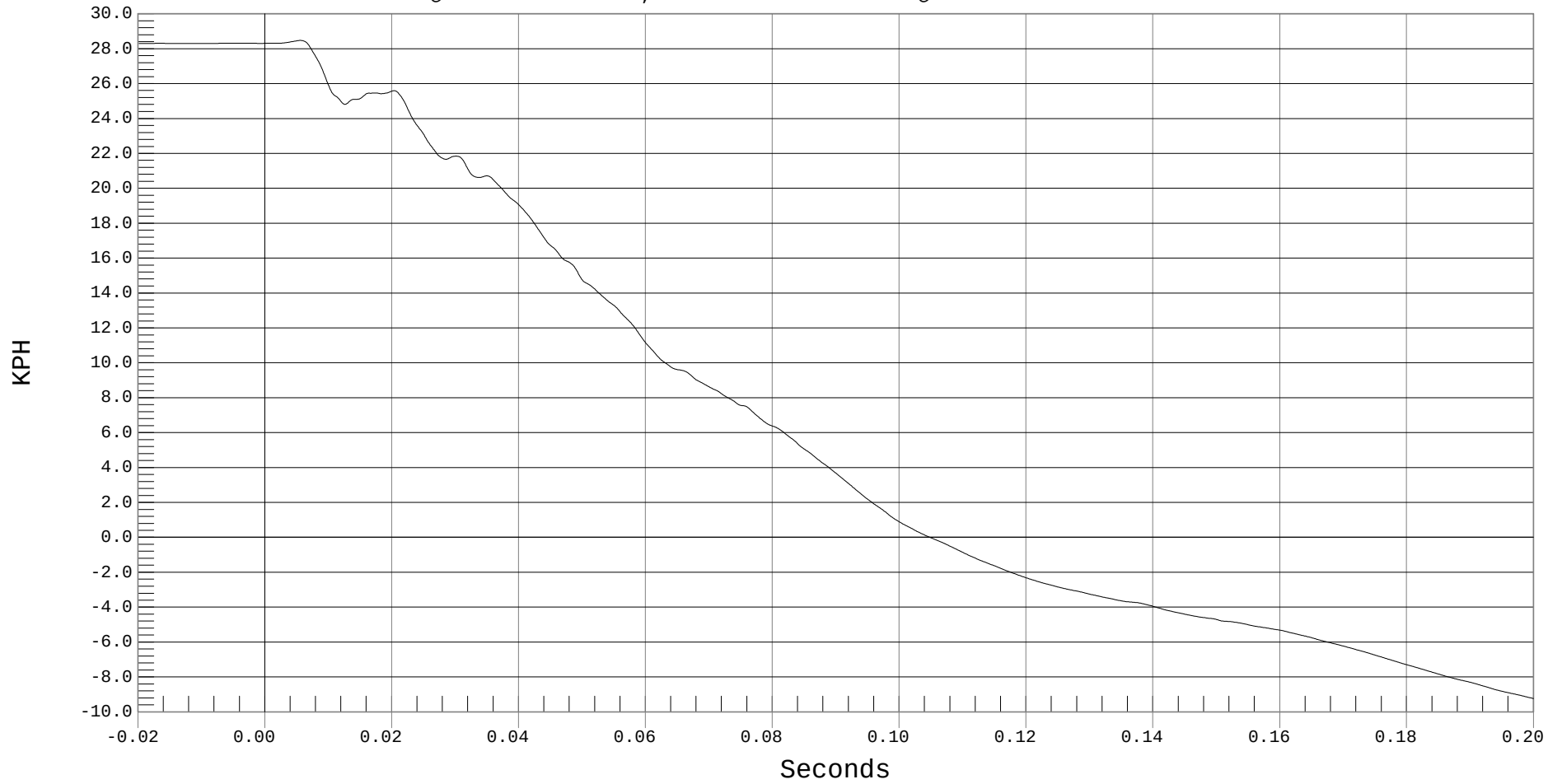
LEFT A-PILLAR LOWER Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 A PILLAR LOW Y VELOCITY, b01065AI.V19

Ymin = -9.25 KPH @ 0.2000 Seconds, Ymax = 28.47 KPH @ 0.0055 Seconds





LEFT A-PILLAR MID Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

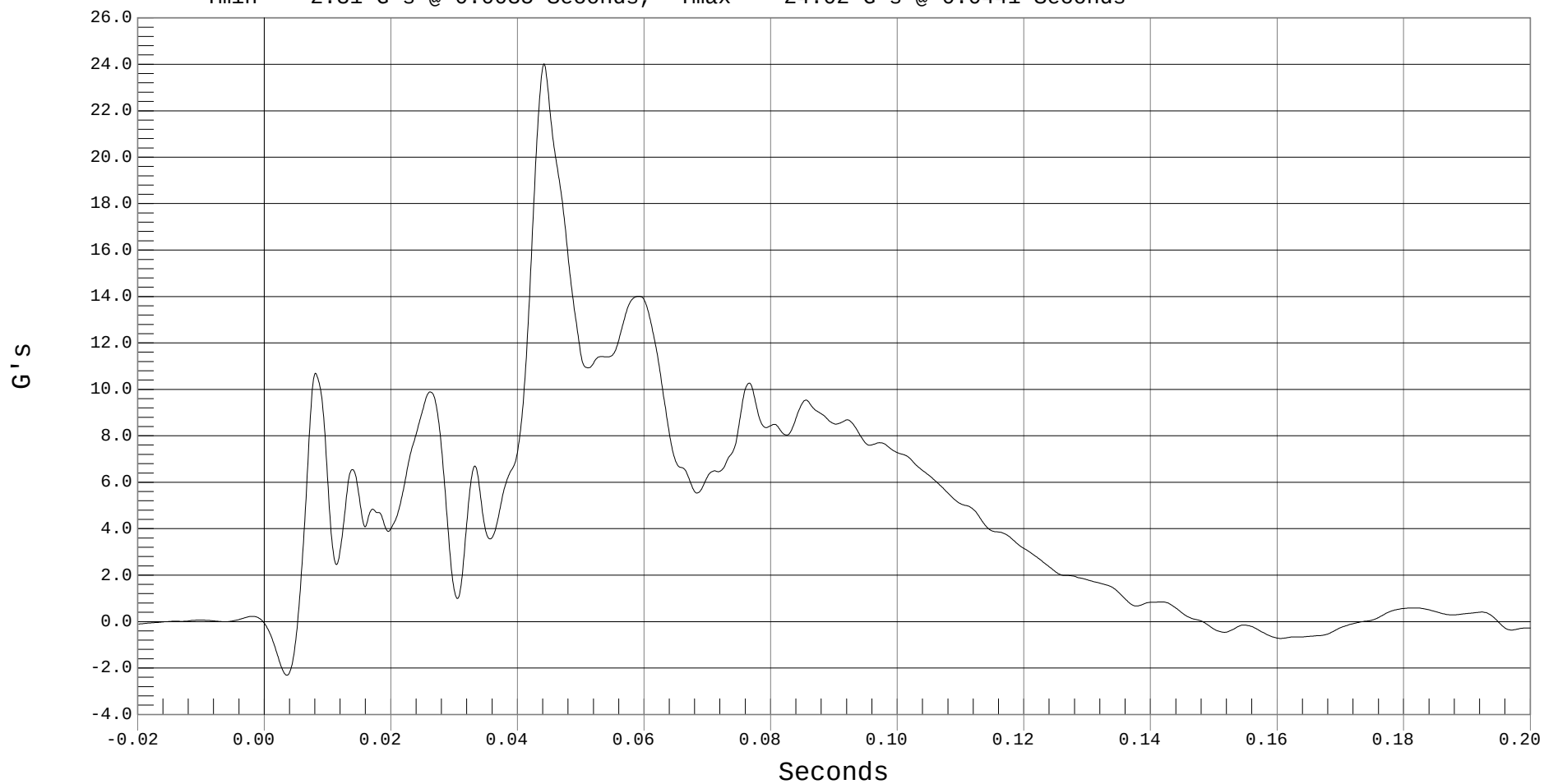
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 LEFT A-PILLAR MID Y, b01065AF.A20

Ymin = -2.31 G's @ 0.0035 Seconds, Ymax = 24.02 G's @ 0.0441 Seconds





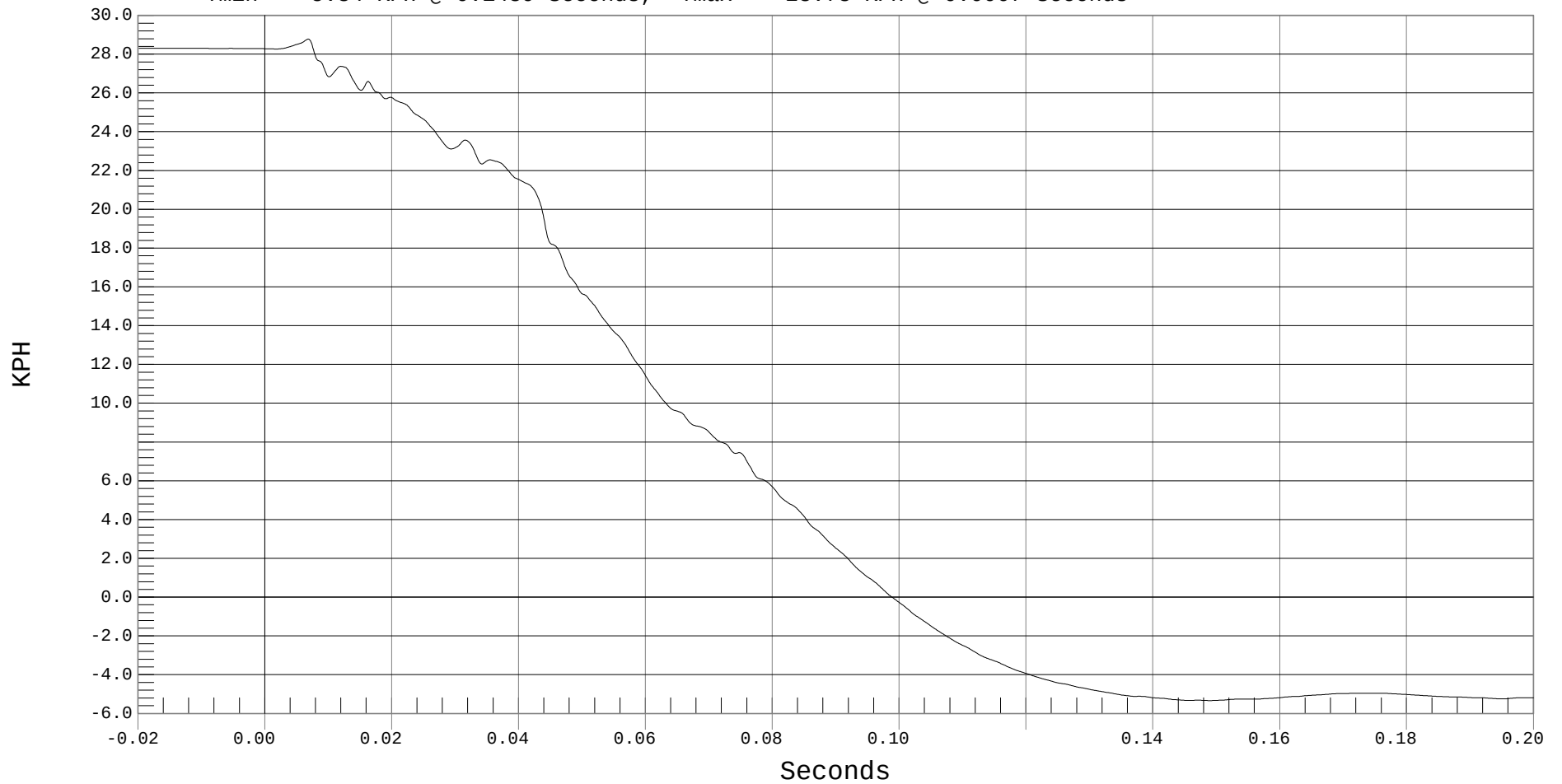
LEFT A-PILLAR MID Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 A PILLAR MID Y VELOCITY, b01065AI.V20

Ymin = -5.34 KPH @ 0.1489 Seconds, Ymax = 28.78 KPH @ 0.0067 Seconds





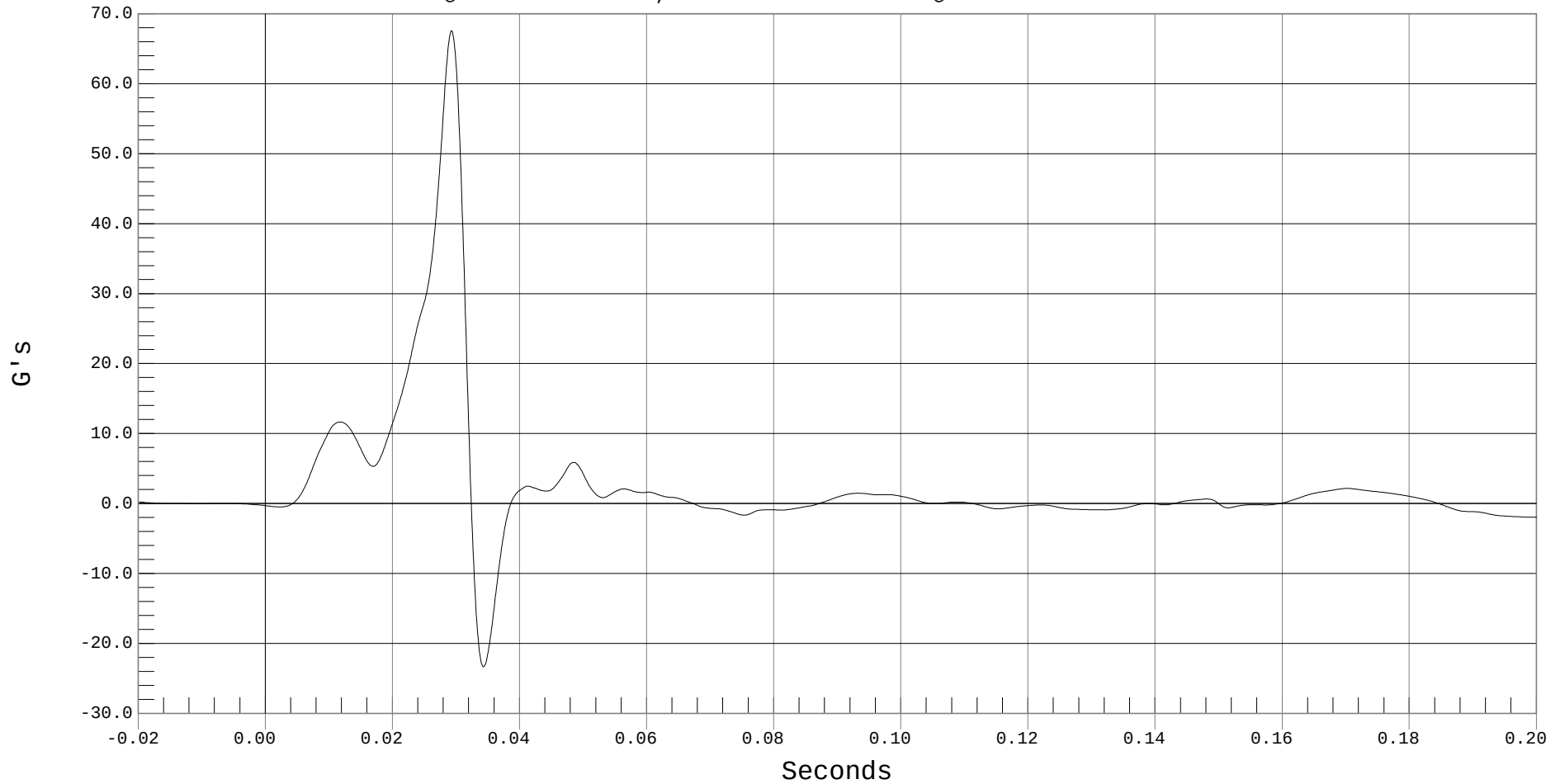
LEFT B-PILLAR @ SILL Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 60

— 1 LEFT B-PILLAR @ SILL Y, b01065AF.A22

Ymin = -23.34 G's @ 0.0343 Seconds, Ymax = 67.58 G's @ 0.0292 Seconds





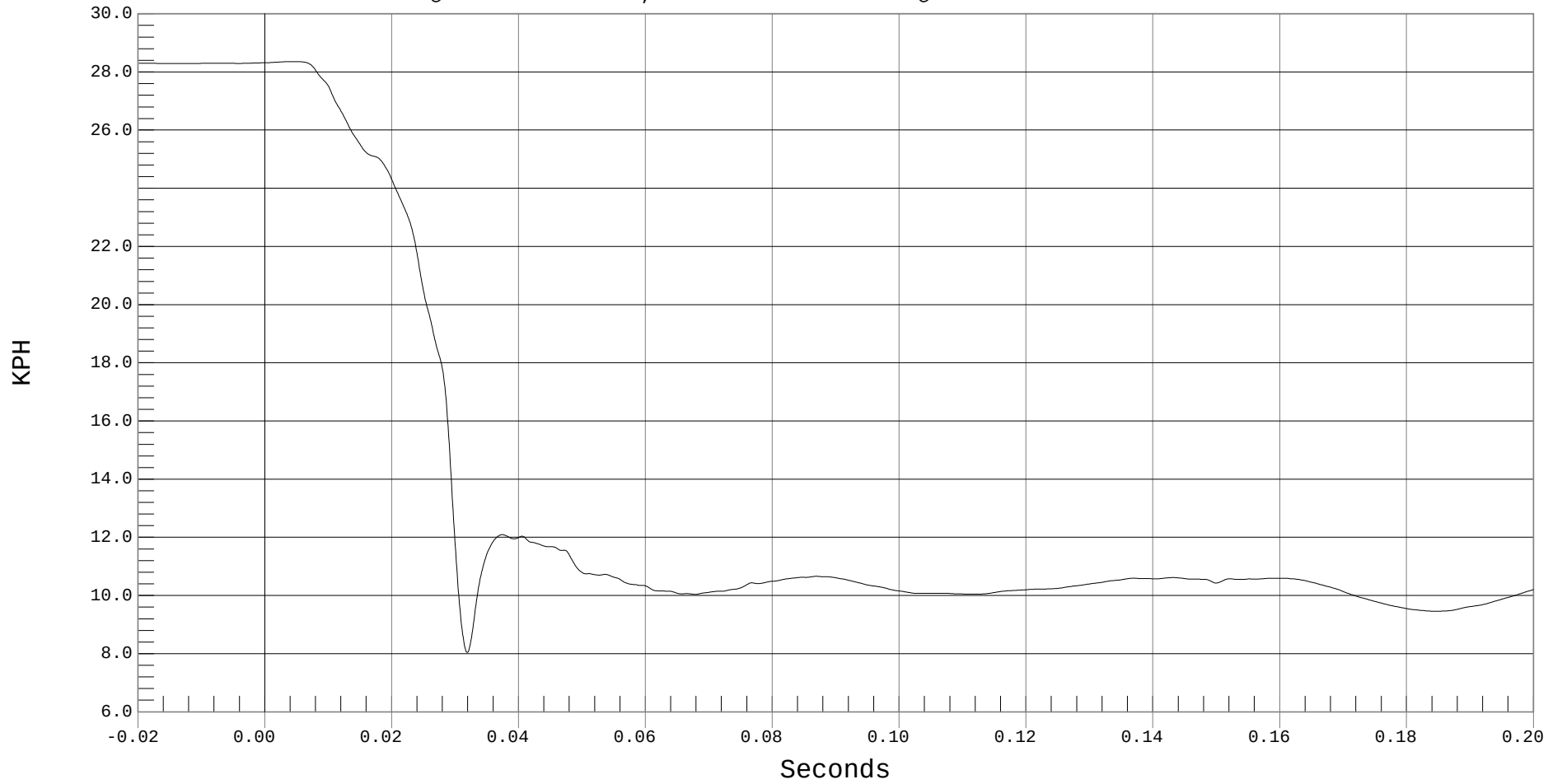
LEFT B-PILLAR @ SILL Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 B PILLAR SILL Y VELOCITY, b01065AI.V22

Ymin = 8.04 KPH @ 0.0318 Seconds, Ymax = 28.35 KPH @ 0.0050 Seconds





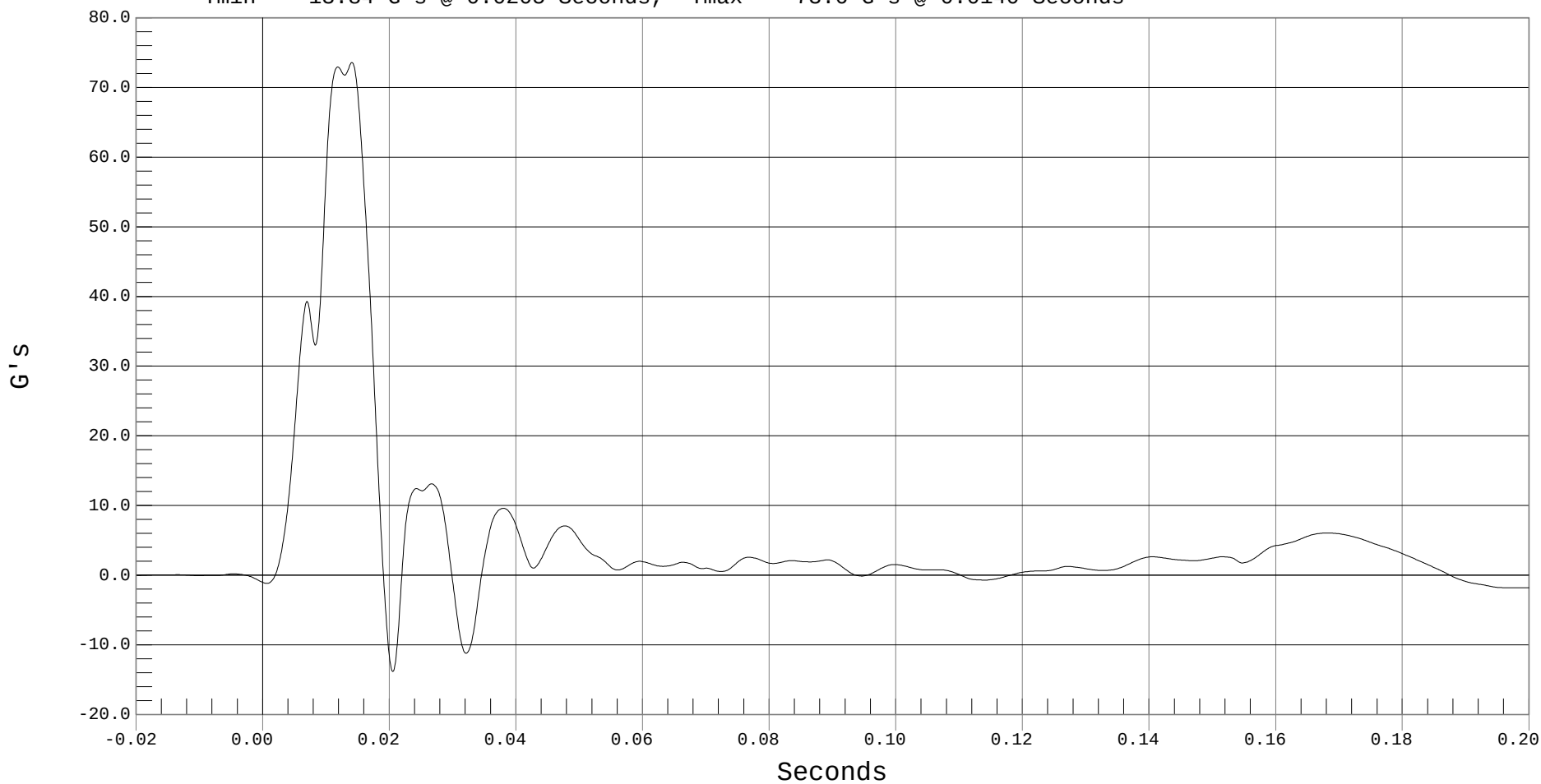
LEFT B-PILLAR LOWER Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 60

— 1 LEFT B-PILLAR LOWER Y, b01065AF.A23

Ymin = -13.84 G's @ 0.0205 Seconds, Ymax = 73.6 G's @ 0.0140 Seconds





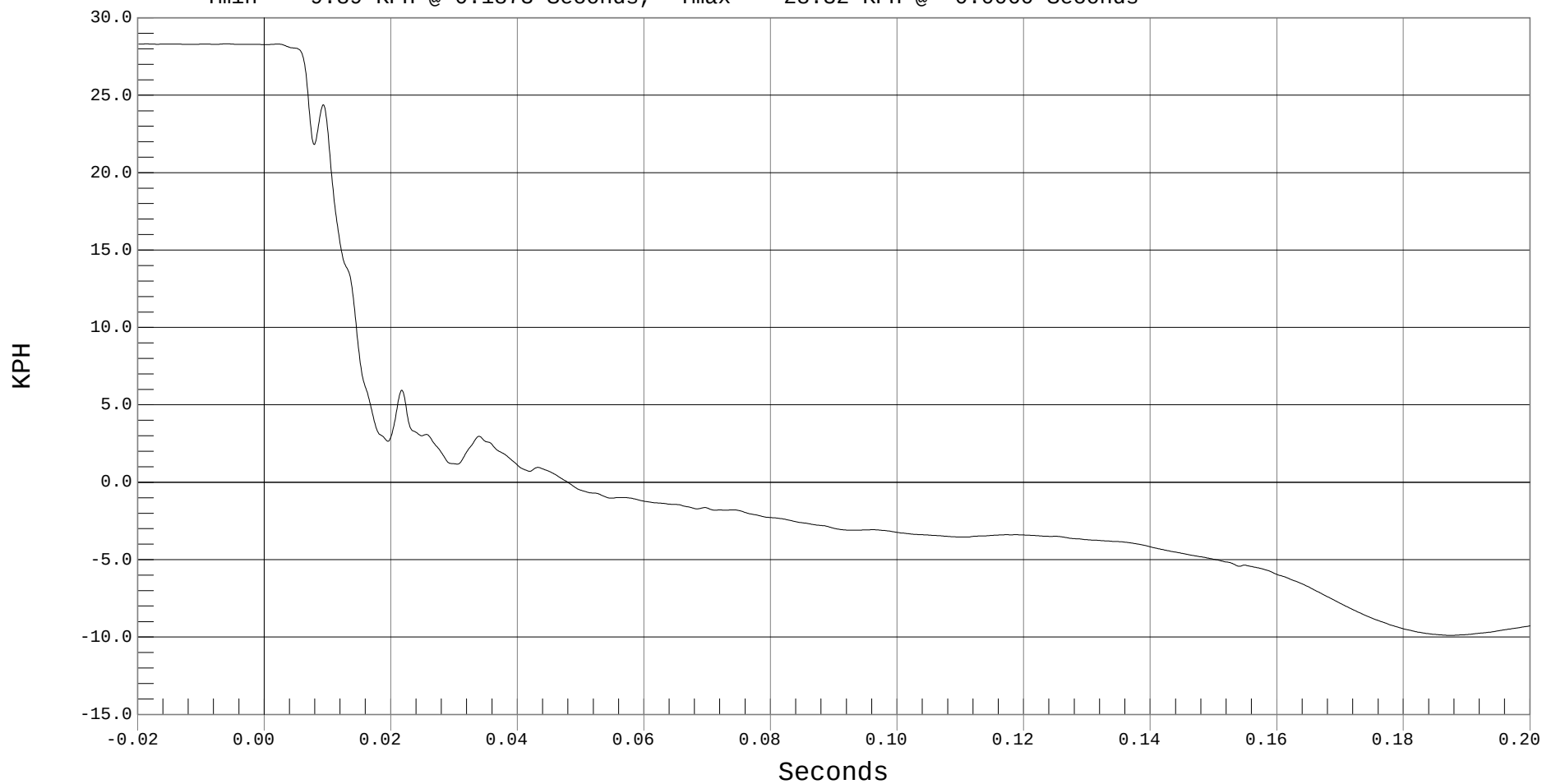
LEFT B-PILLAR LOWER Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 B PILLAR LOW Y VELOCITY, b01065AI.V23

Ymin = -9.89 KPH @ 0.1873 Seconds, Ymax = 28.32 KPH @ -0.0060 Seconds





LEFT B-PILLAR MID Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

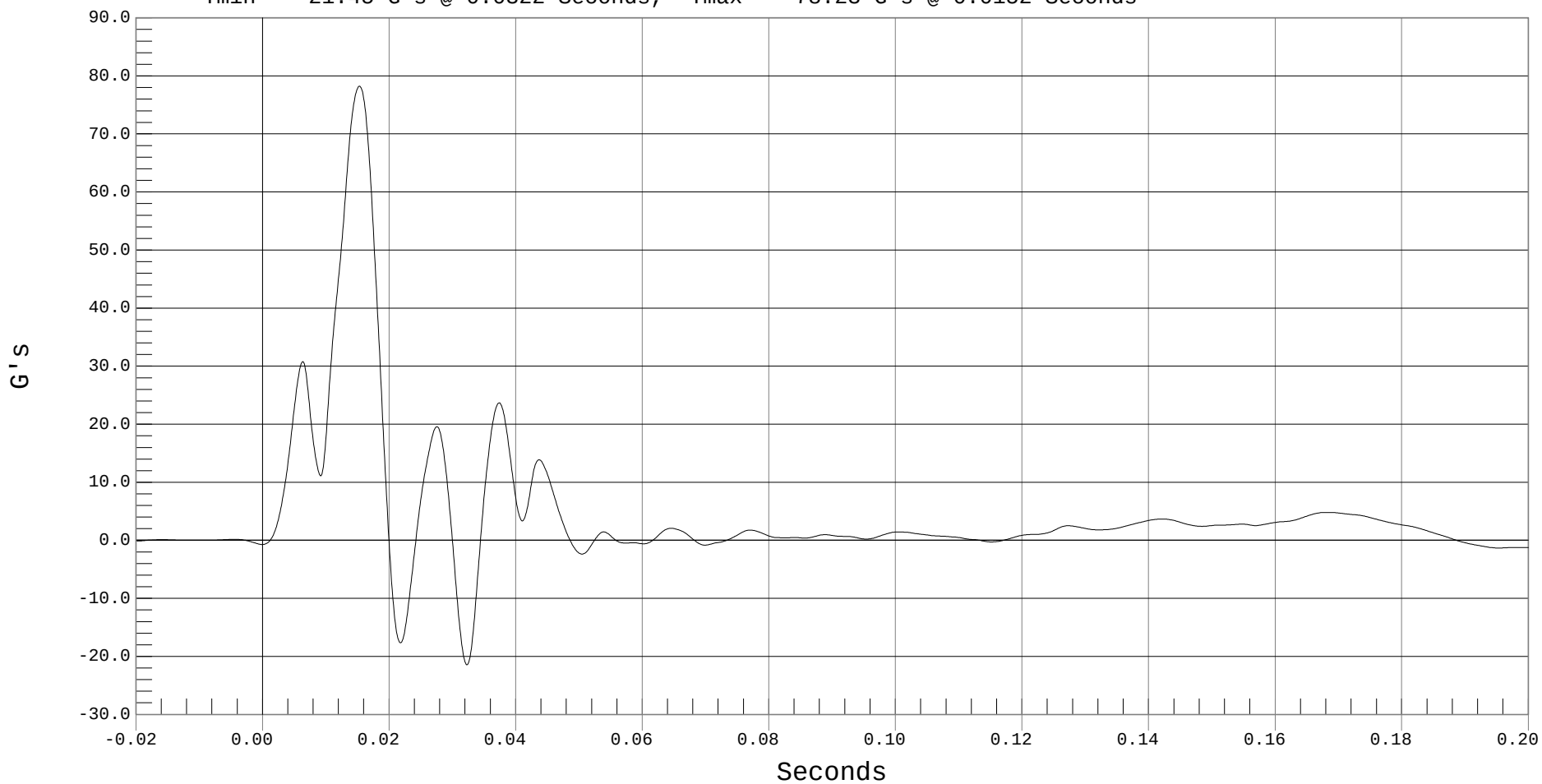
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

1 LEFT B-PILLAR MID Y, b01065AF.A24

Ymin = -21.45 G's @ 0.0322 Seconds, Ymax = 78.23 G's @ 0.0152 Seconds





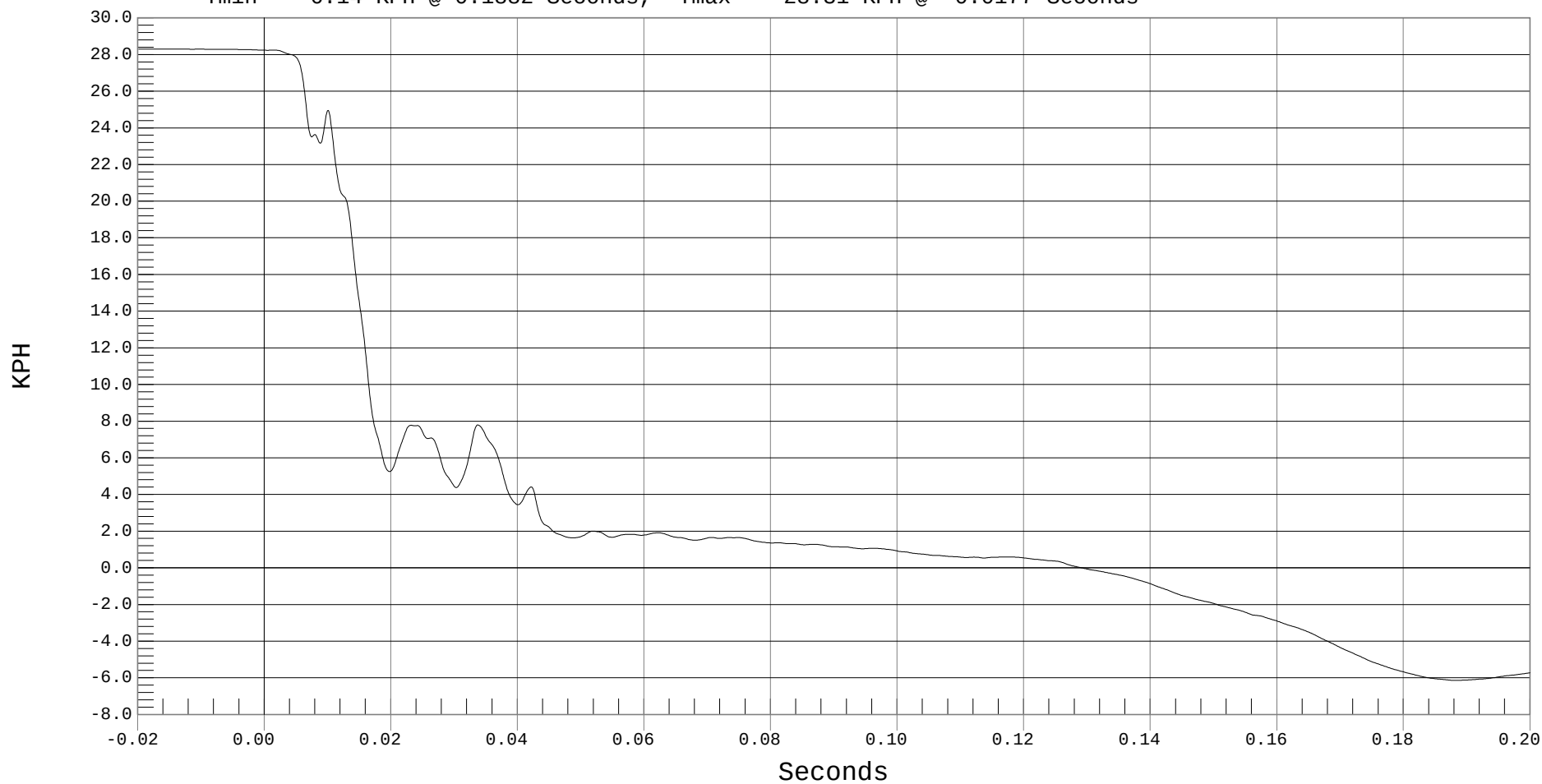
LEFT B-PILLAR MID Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 B PILLAR MID Y VELOCITY, b01065AI.V24

Ymin = -6.14 KPH @ 0.1882 Seconds, Ymax = 28.31 KPH @ -0.0177 Seconds





LEFT DRIVER SEAT TRACK Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

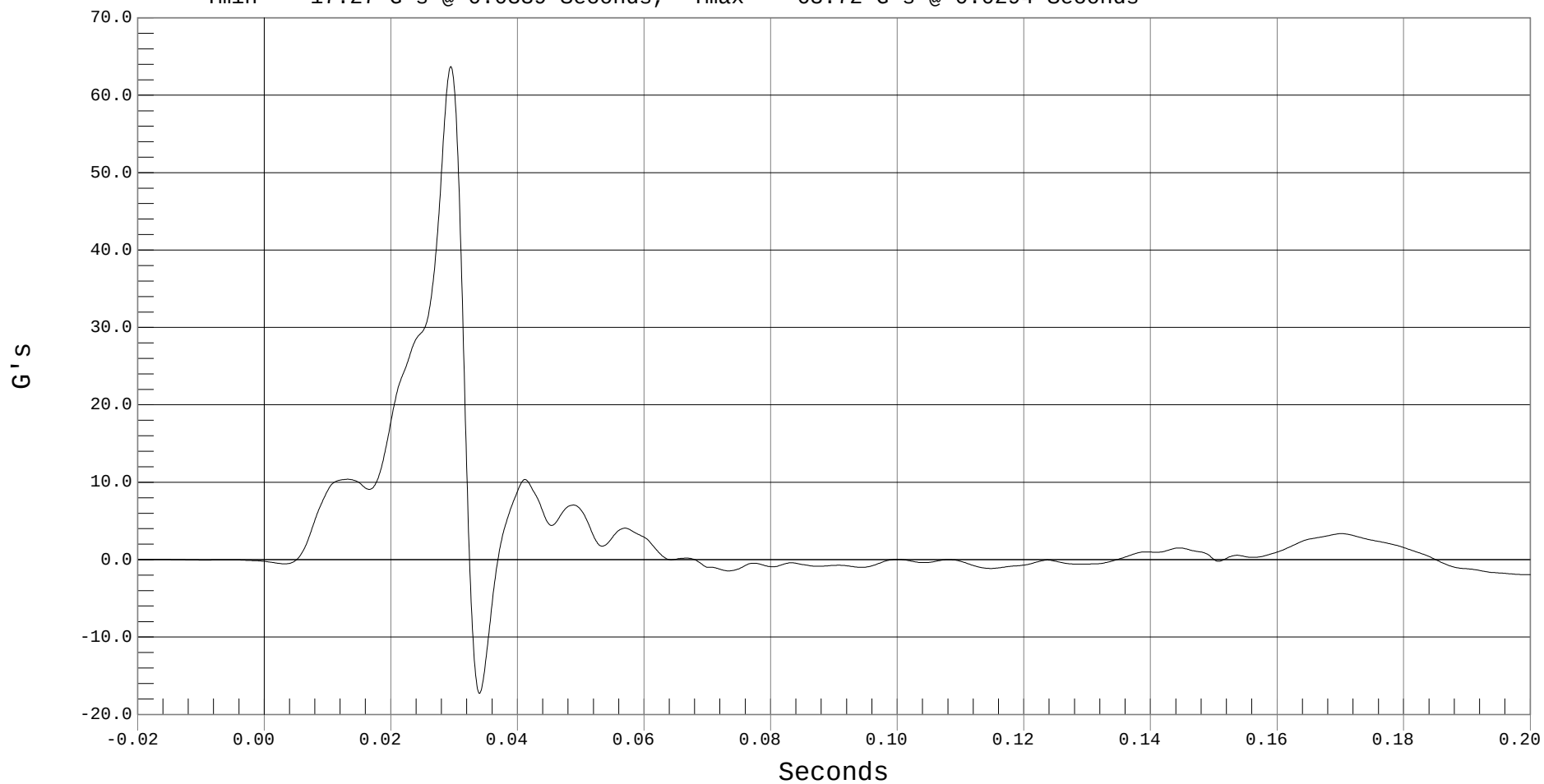
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 DRIVER SEAT Y, b01065AF.A27

Ymin = -17.27 G's @ 0.0339 Seconds, Ymax = 63.72 G's @ 0.0294 Seconds





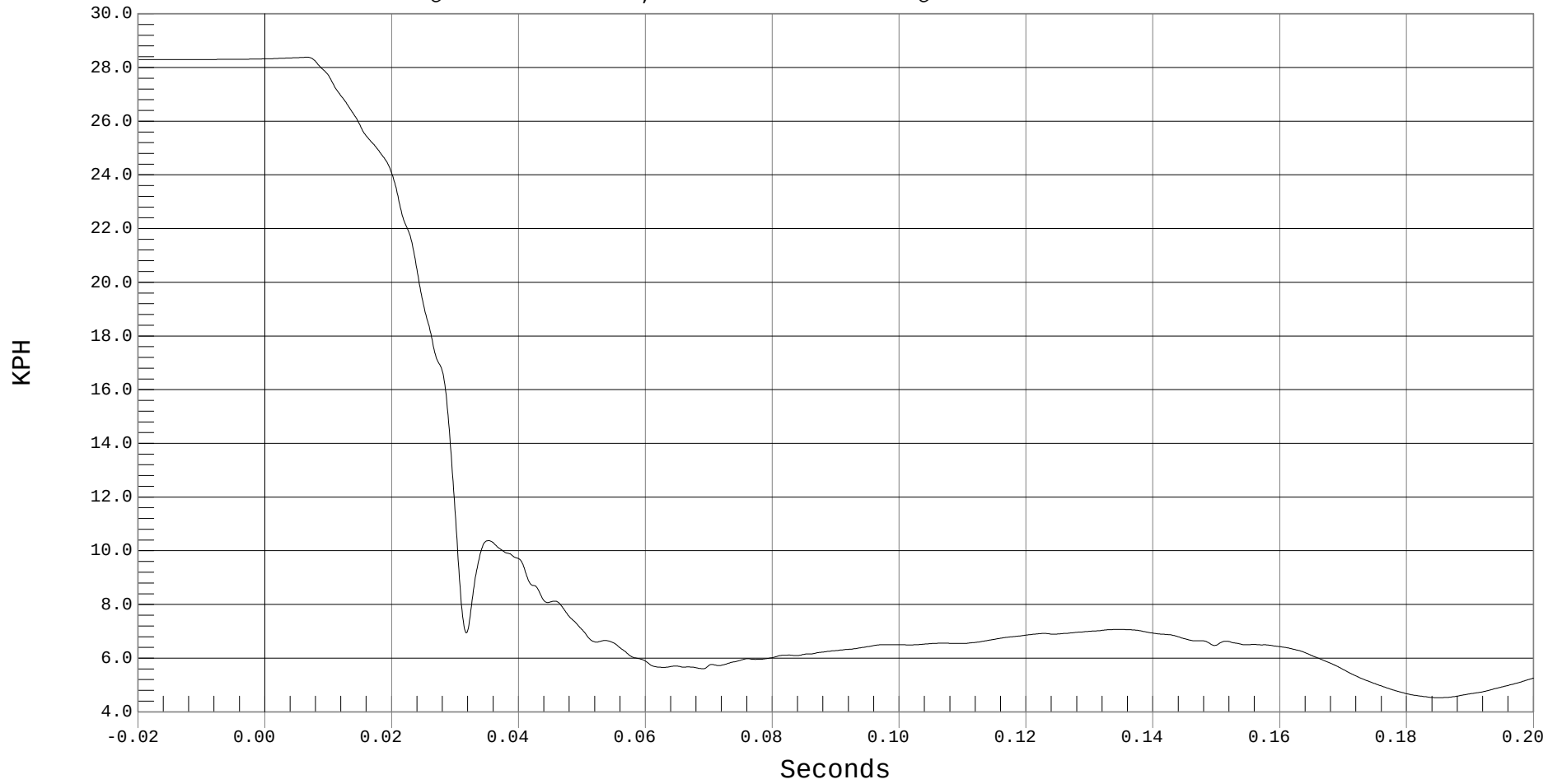
LEFT DRIVER SEAT TRACK Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER SEAT Y VELOCITY, b01065AI.V27

Ymin = 4.53 KPH @ 0.1849 Seconds, Ymax = 28.38 KPH @ 0.0066 Seconds





ENGINE X ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

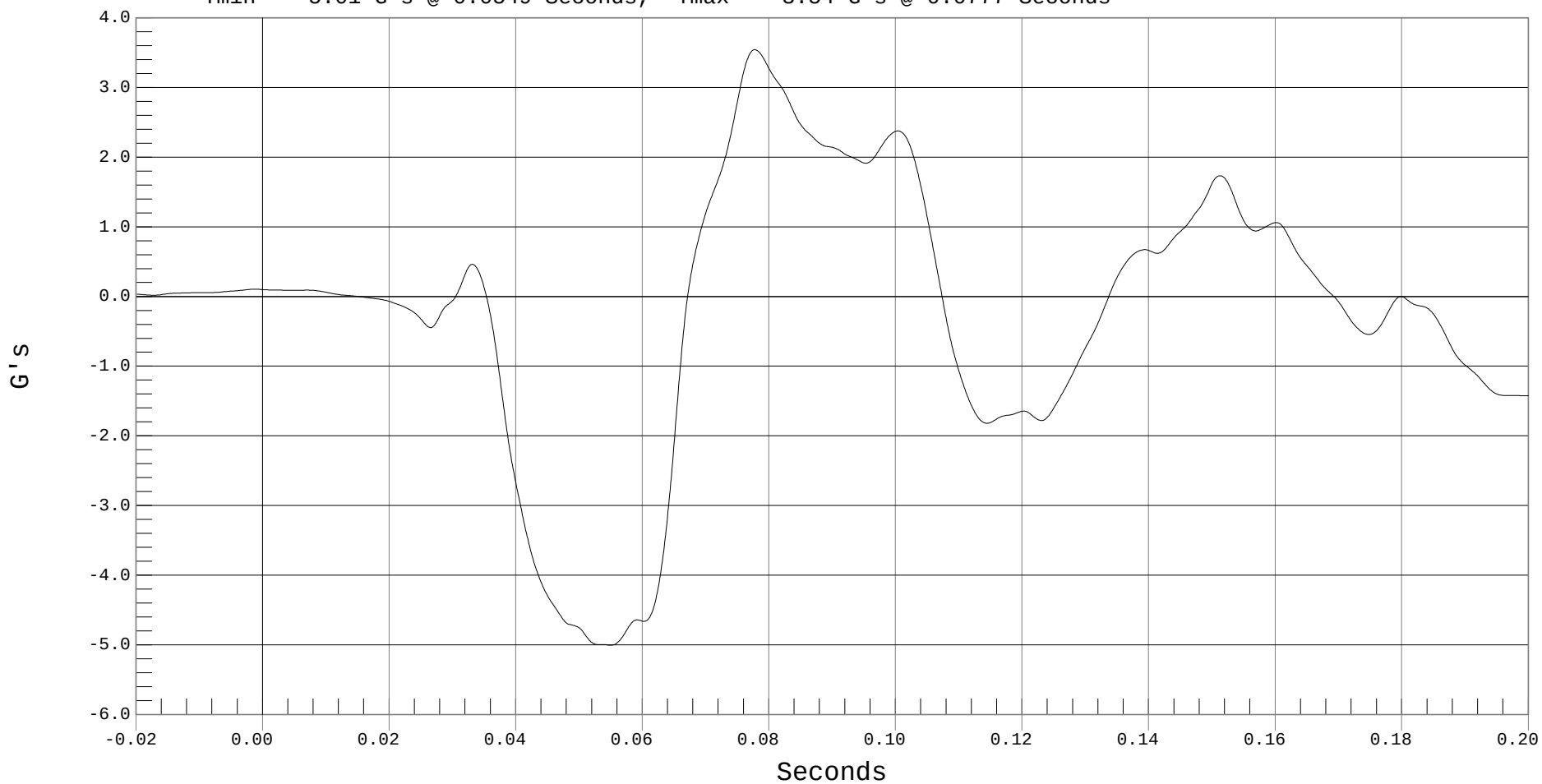
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 ENGINE X, b01065AF.A31

Ymin = -5.01 G's @ 0.0549 Seconds, Ymax = 3.54 G's @ 0.0777 Seconds





ENGINE X VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

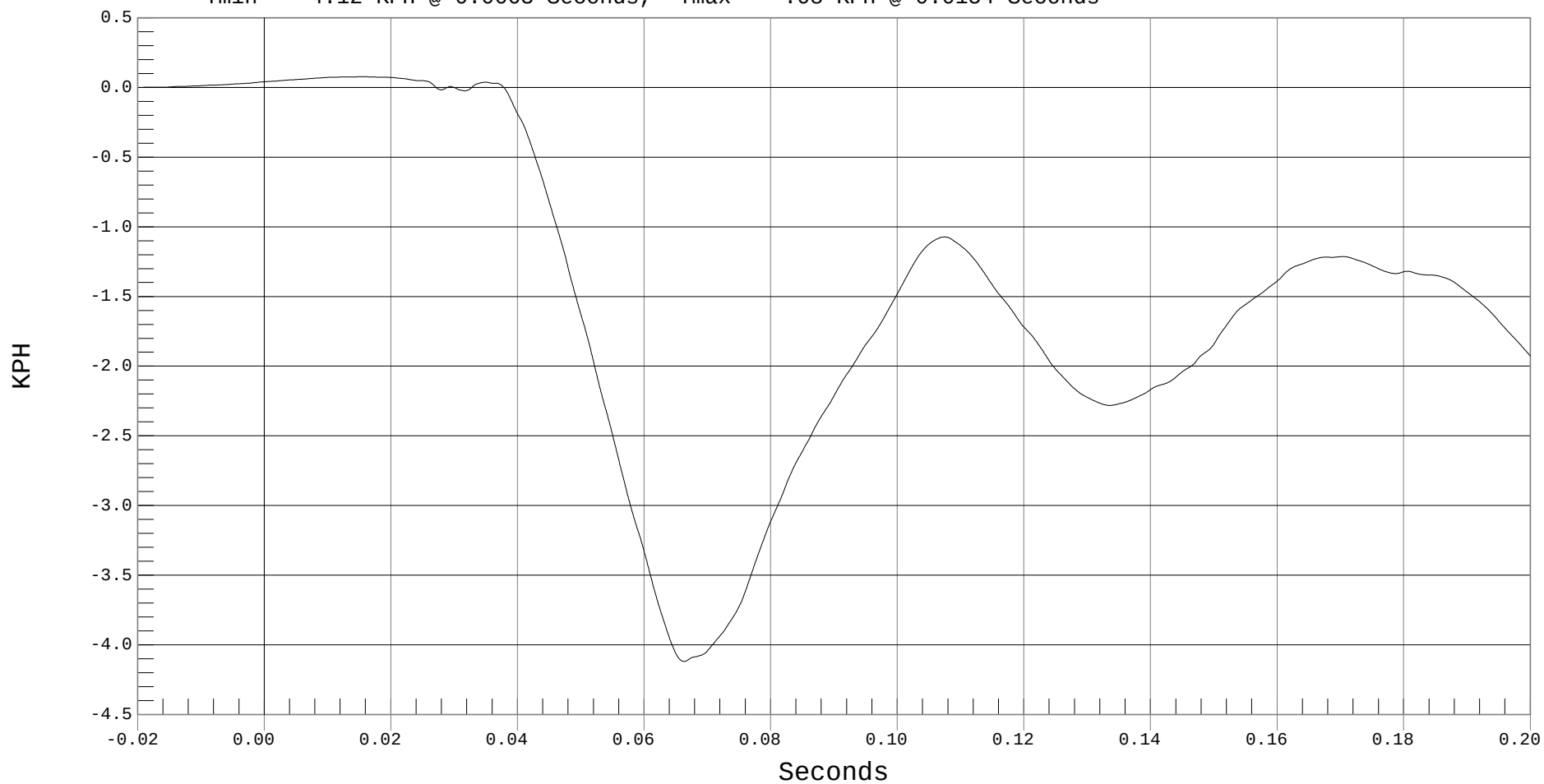
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 ENGINE X VELOCITY, b01065AI.V31

Ymin = -4.12 KPH @ 0.0663 Seconds, Ymax = .08 KPH @ 0.0154 Seconds





ENGINE Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

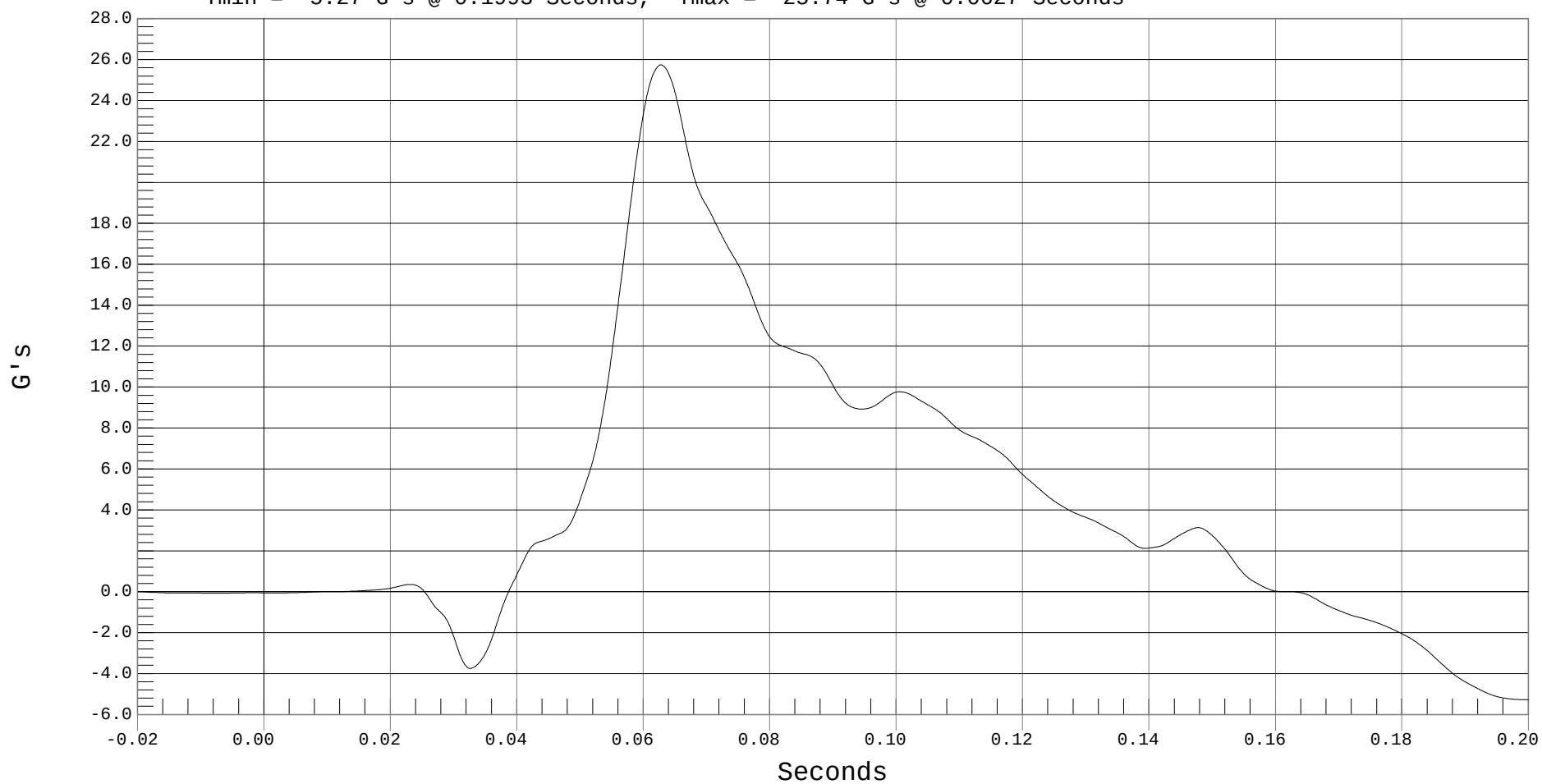
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 ENGINE Y, b01065AF.A33

Ymin = -5.27 G's @ 0.1993 Seconds, Ymax = 25.74 G's @ 0.0627 Seconds





ENGINE Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

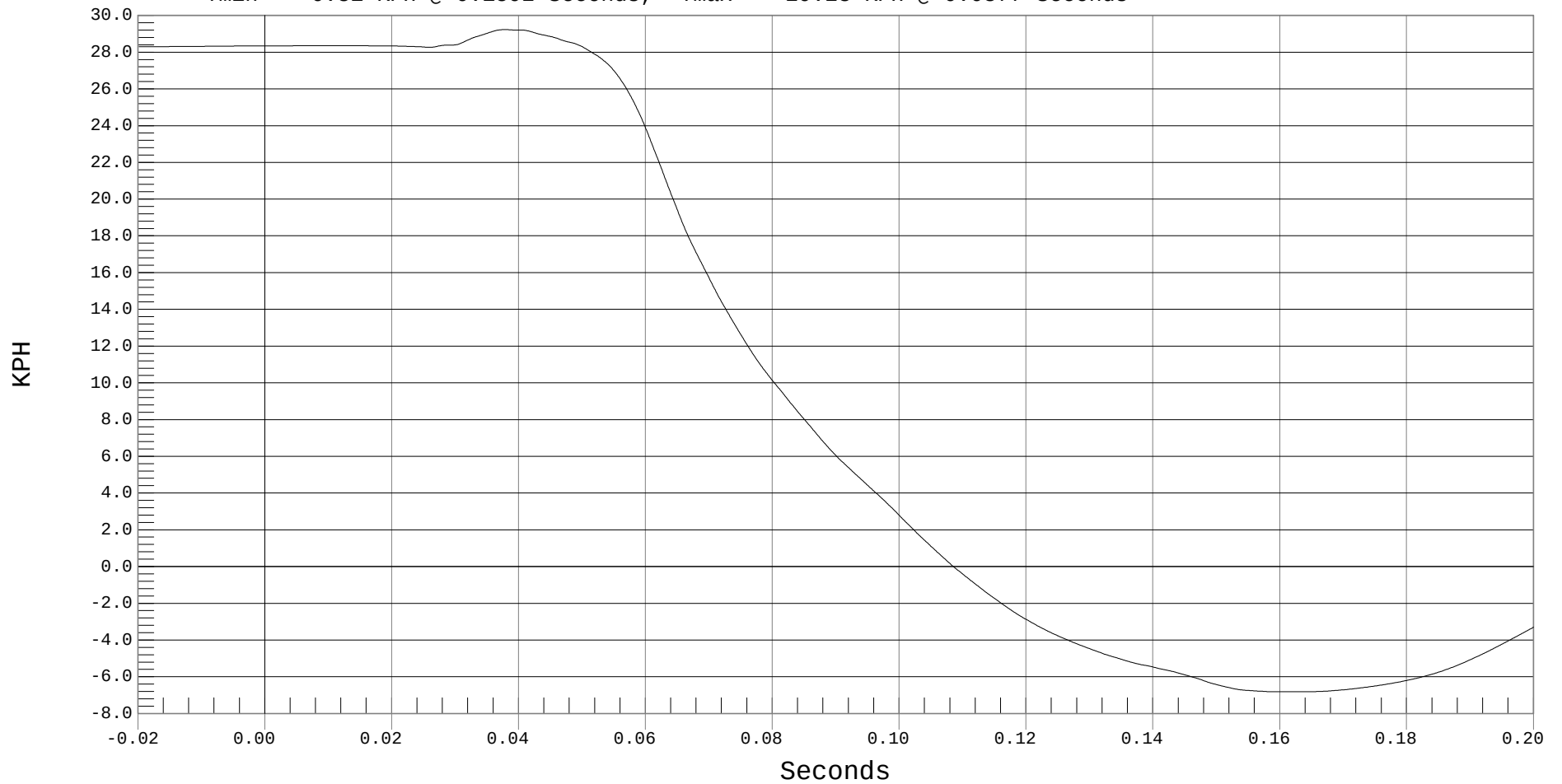
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 ENGINE Y VELOCITY, b01065AI.V33

Ymin = -6.81 KPH @ 0.1592 Seconds, Ymax = 29.23 KPH @ 0.0377 Seconds





FIREWALL Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

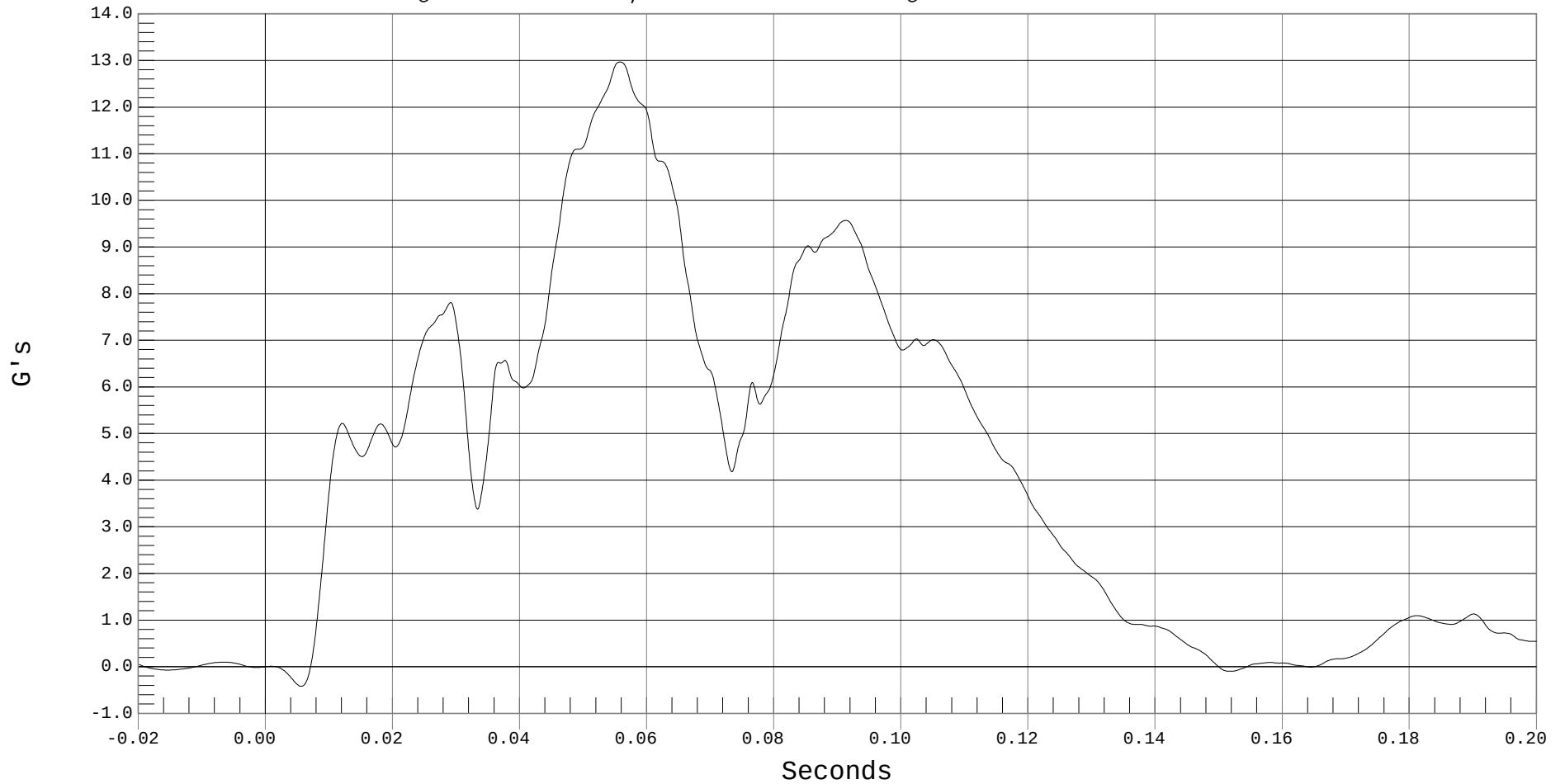
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 FIREWALL Y, b01065AF.A34

Ymin = -.42 G's @ 0.0056 Seconds, Ymax = 12.97 G's @ 0.0557 Seconds





FIREWALL Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

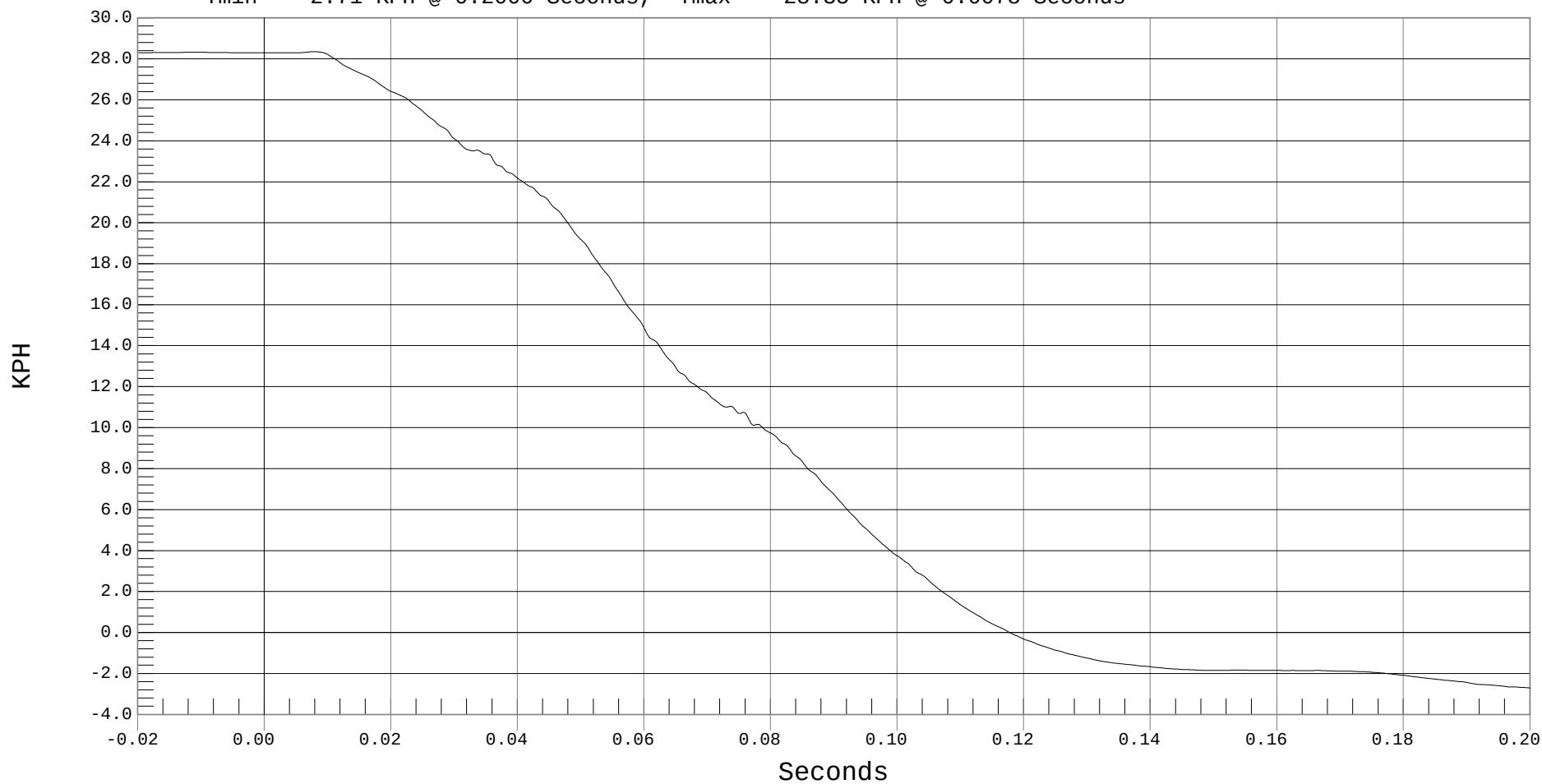
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 FIREWALL Y VELOCITY, b01065AI.V34

Ymin = -2.71 KPH @ 0.2000 Seconds, Ymax = 28.35 KPH @ 0.0078 Seconds





RIGHT FLOOR @ SILL Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

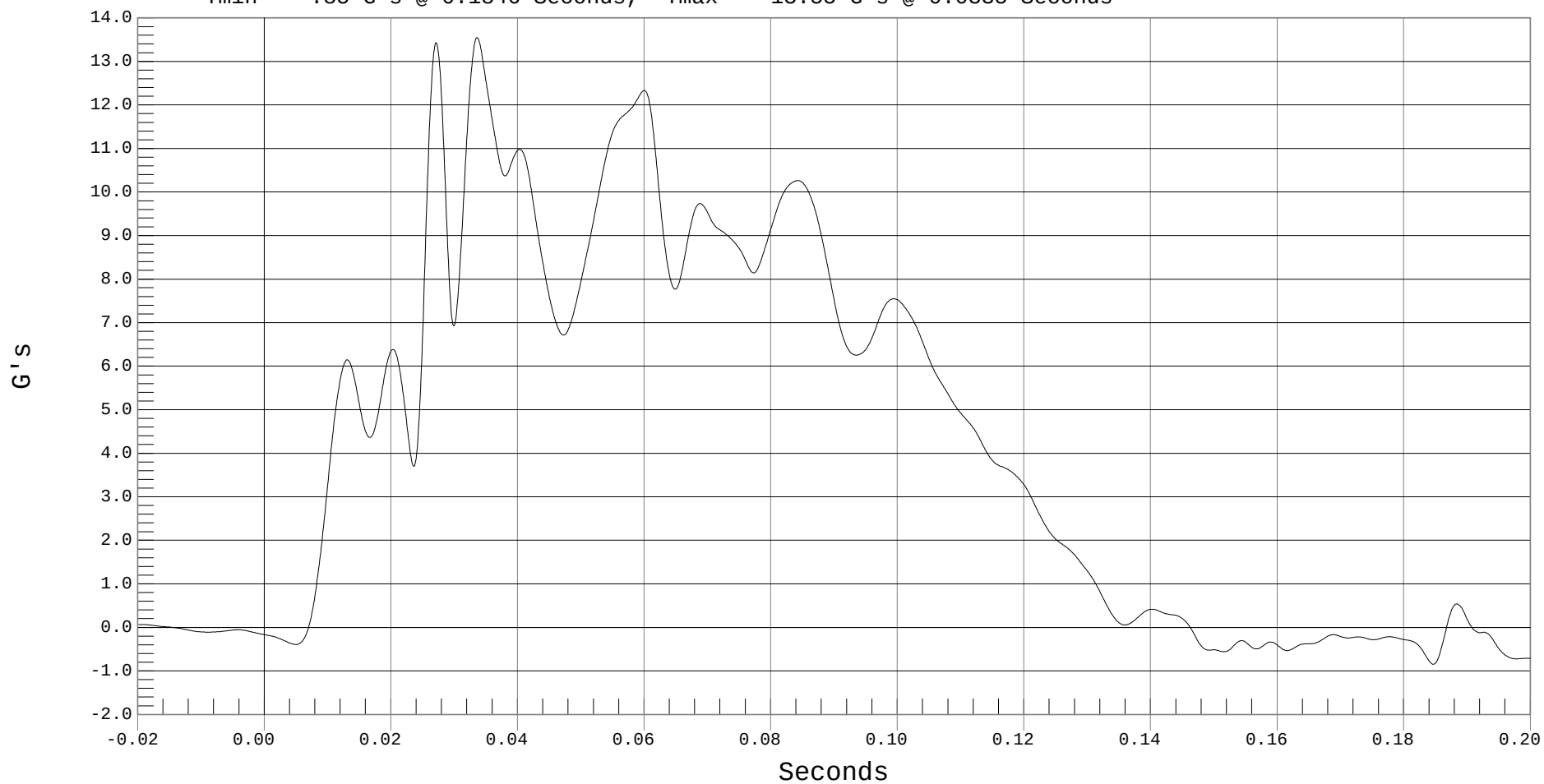
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

1 RIGHT FLOOR @ SILL Y, b01065AF.A36

Ymin = -.85 G's @ 0.1846 Seconds, Ymax = 13.55 G's @ 0.0335 Seconds





RIGHT FLOOR @ SILL Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

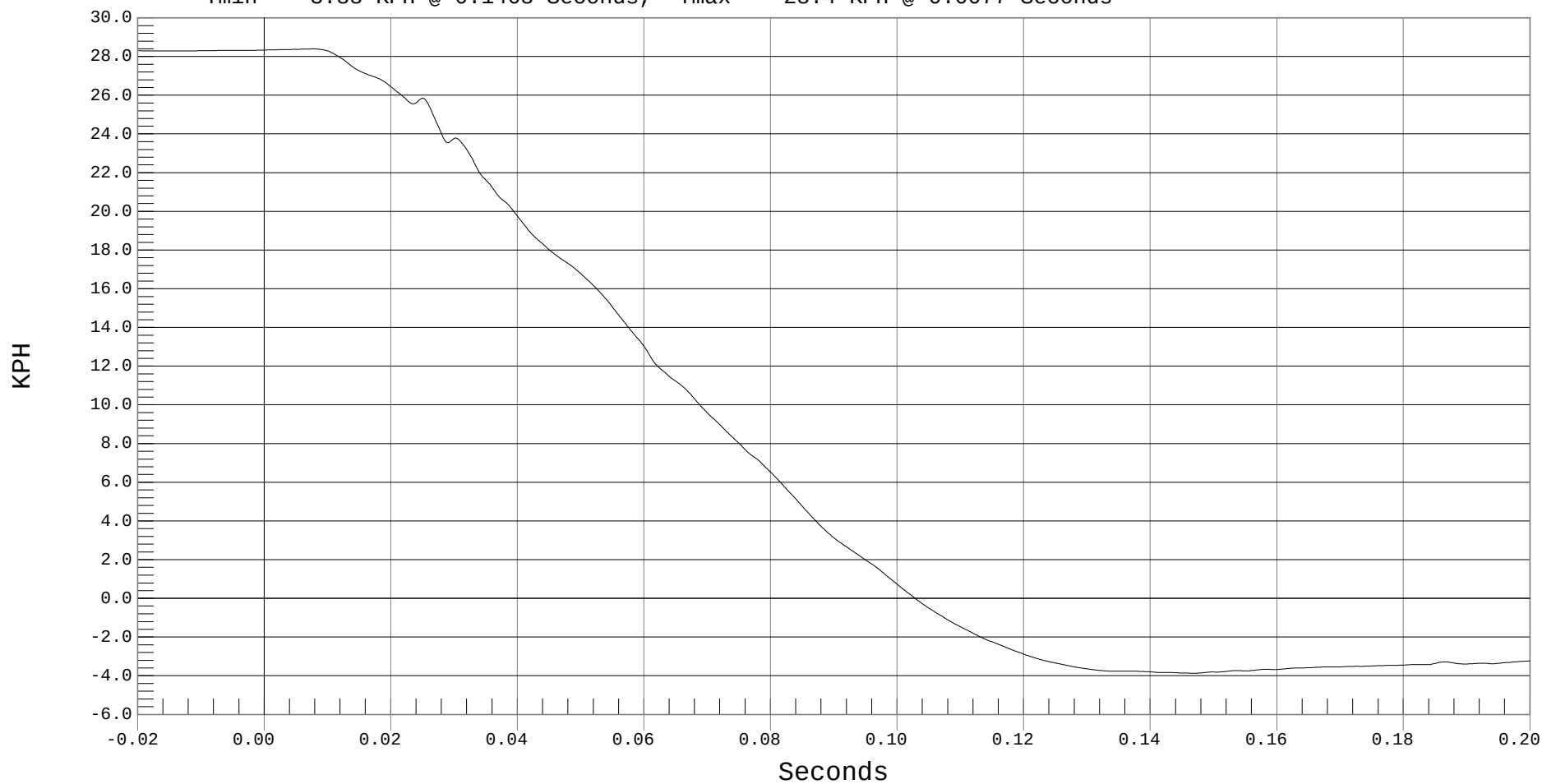
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 RIGHT FLOOR SILL Y VELOCITY, b01065AI.V36

Ymin = -3.88 KPH @ 0.1468 Seconds, Ymax = 28.4 KPH @ 0.0077 Seconds





REAR DECK X ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

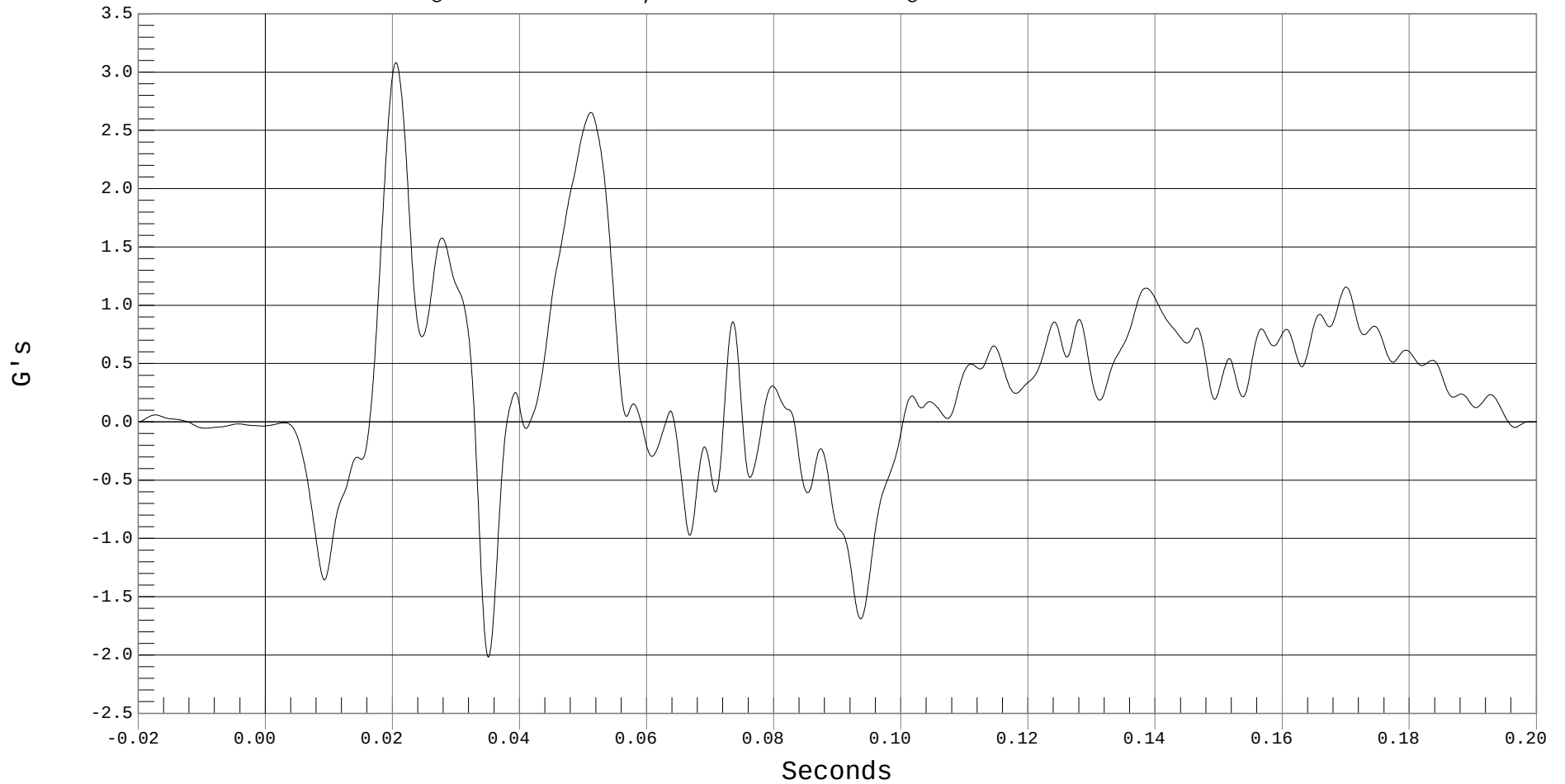
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 REAR DECK X, b01065AF.A37

Ymin = -2.02 G's @ 0.0350 Seconds, Ymax = 3.08 G's @ 0.0205 Seconds





REAR DECK X VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

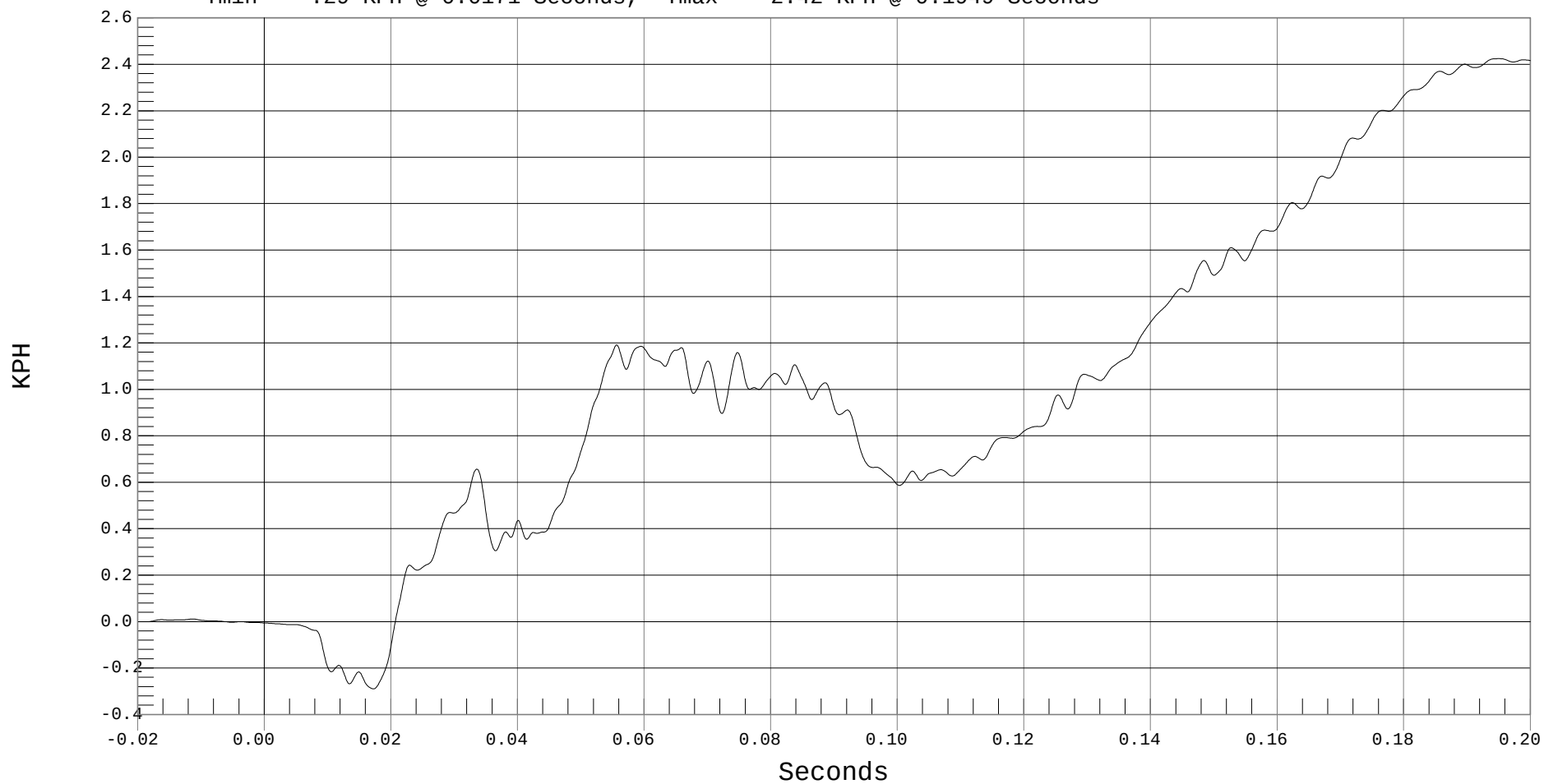
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 REAR DECK X VELOCITY, b01065AI.V37

Ymin = -.29 KPH @ 0.0171 Seconds, Ymax = 2.42 KPH @ 0.1949 Seconds





REAR DECK Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

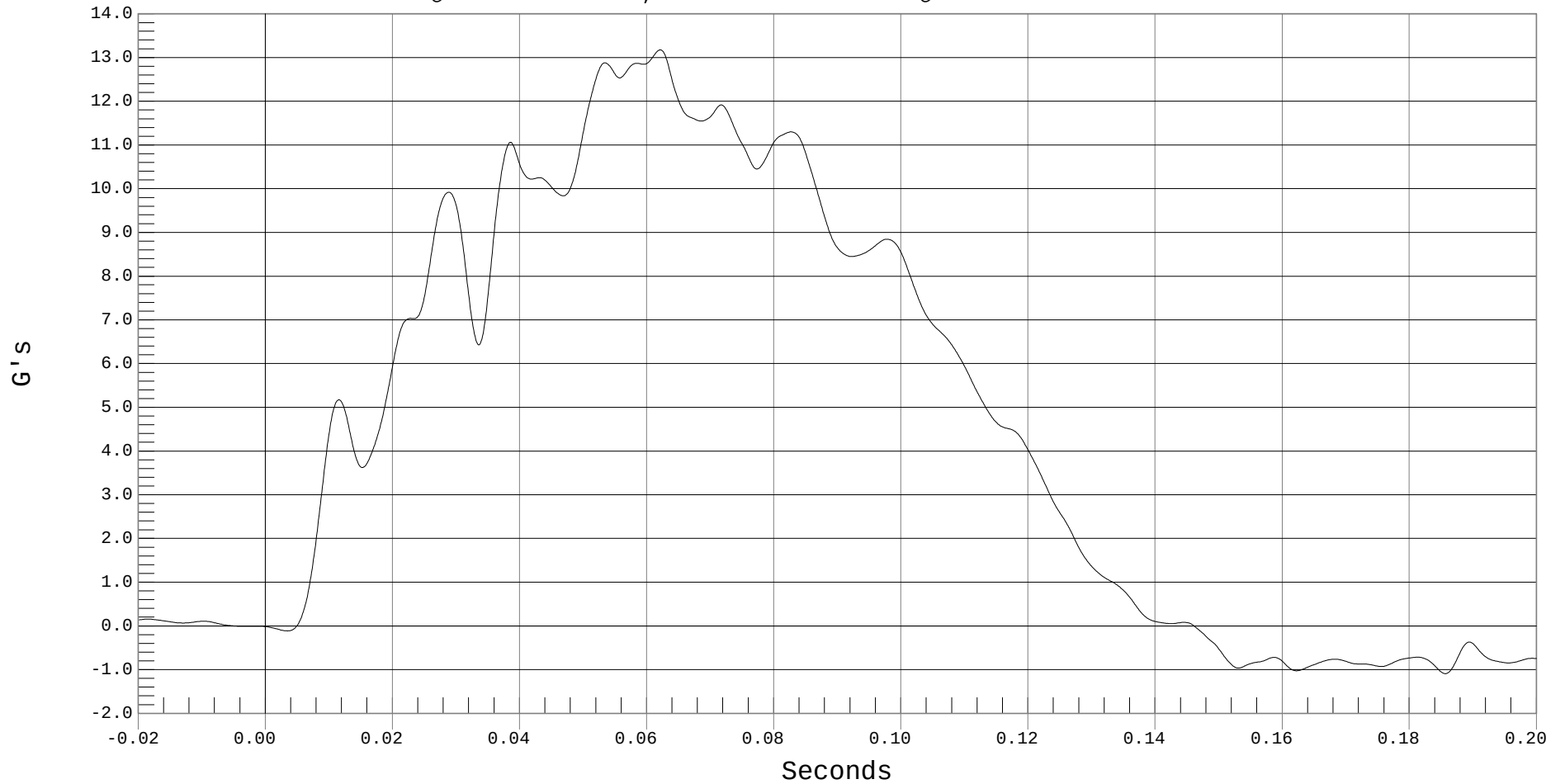
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 60

— 1 REAR DECK Y, b01065AF.A38

Ymin = -1.09 G's @ 0.1856 Seconds, Ymax = 13.18 G's @ 0.0621 Seconds





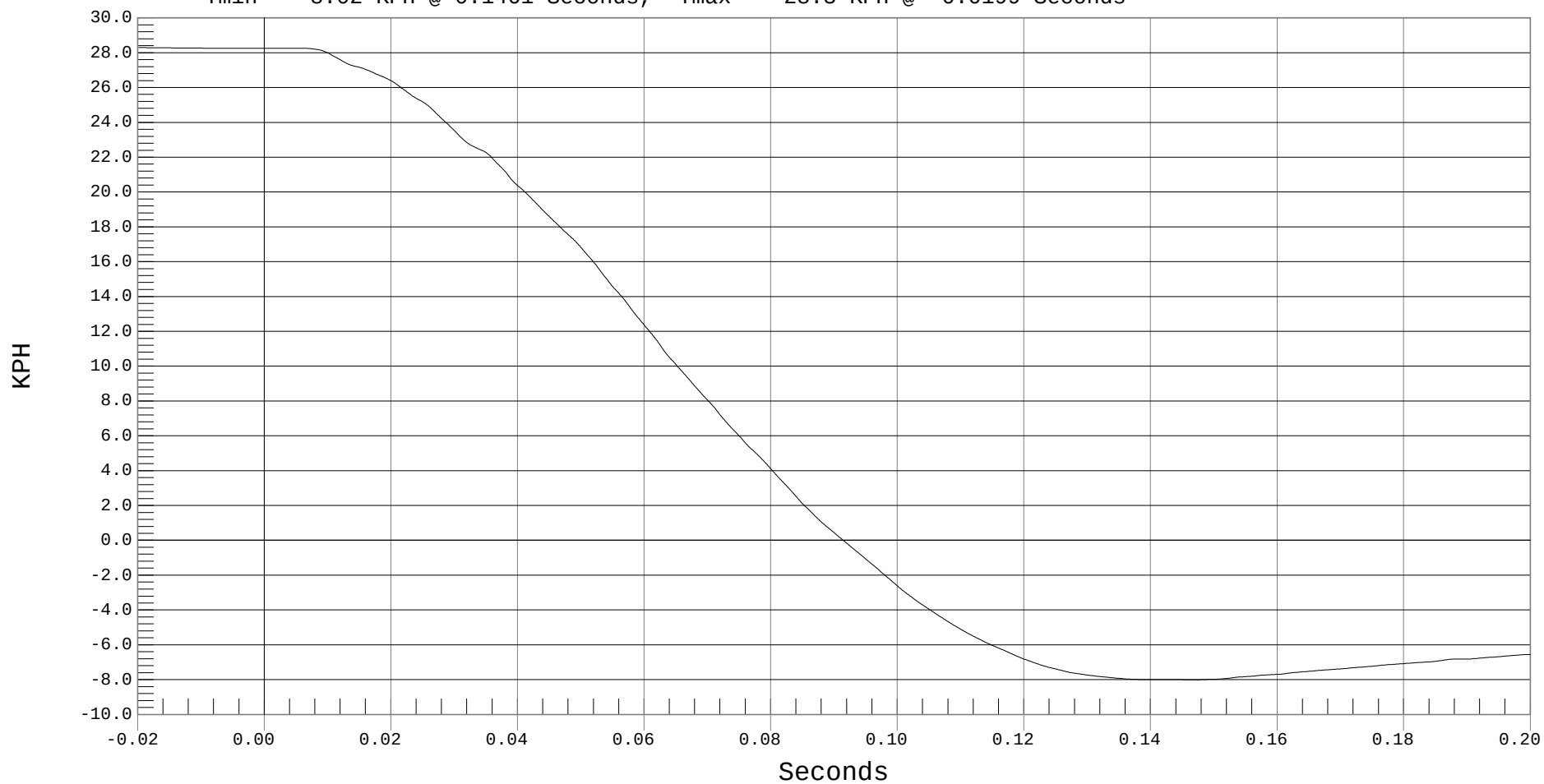
REAR DECK Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 REAR DECK Y VELOCITY, b01065AI.V38

Ymin = -8.02 KPH @ 0.1461 Seconds, Ymax = 28.3 KPH @ -0.0199 Seconds





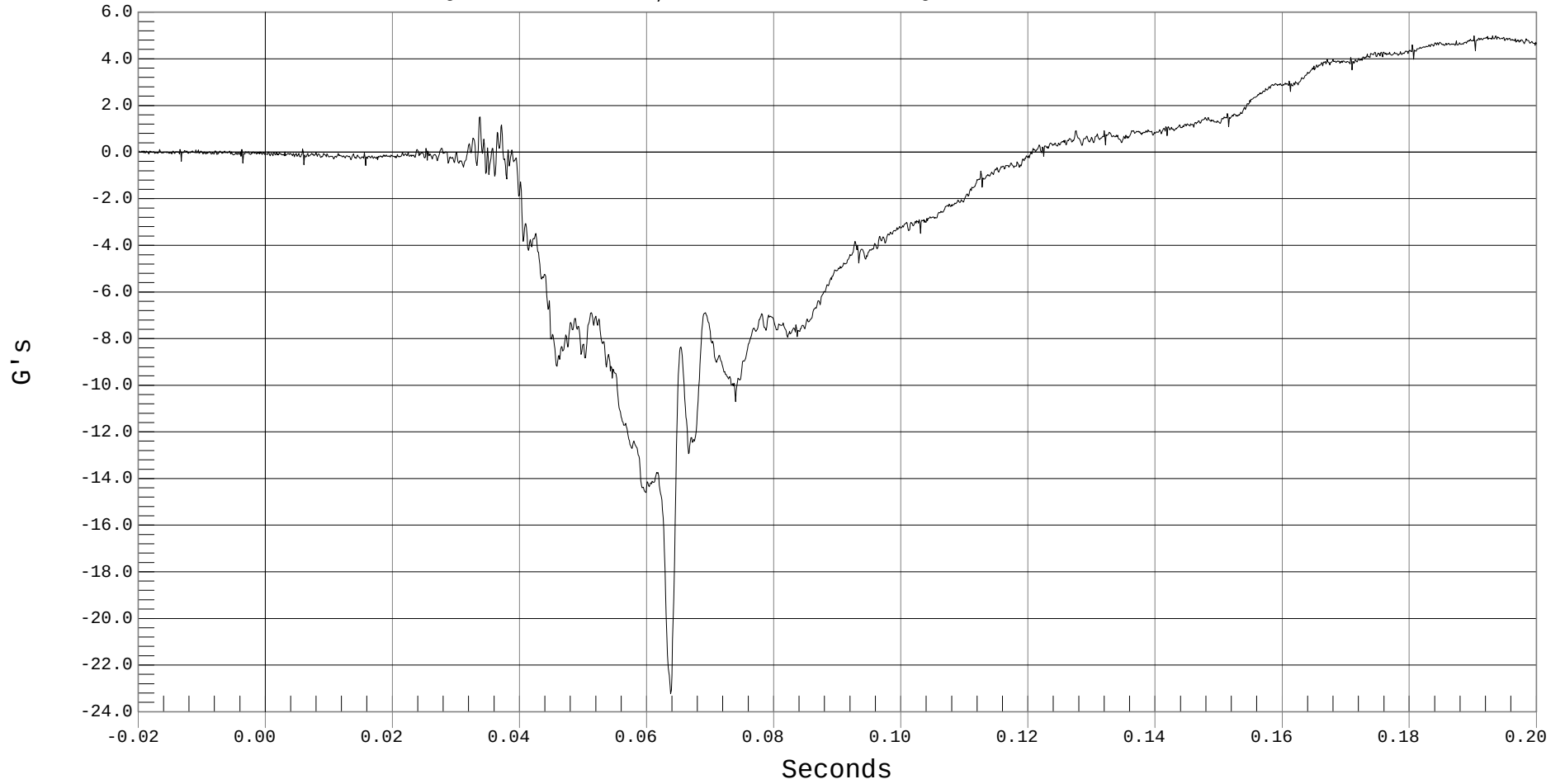
DRIVER HEAD REDUNDANT X ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER HEAD Xr, b01065AT.A39

Ymin = -23.22 G's @ 0.0637 Seconds, Ymax = 4.99 G's @ 0.1901 Seconds





DRIVER HEAD REDUNDANT X VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

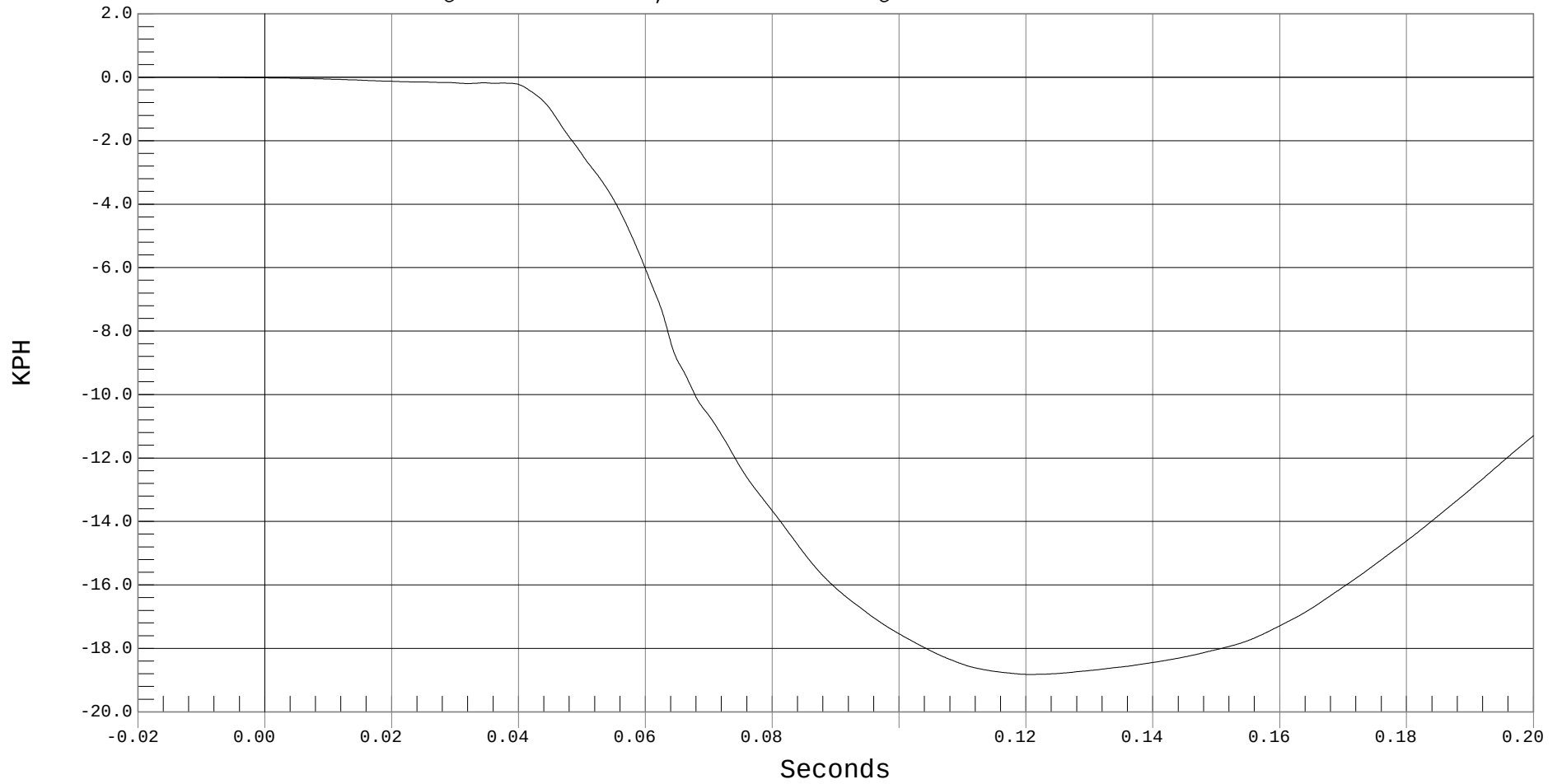
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 DRIVER HEAD X REDUNDANT VELOCITY, b01065AI.V39

Ymin = -18.82 KPH @ 0.1206 Seconds, Ymax = 0 KPH @ -0.0189 Seconds





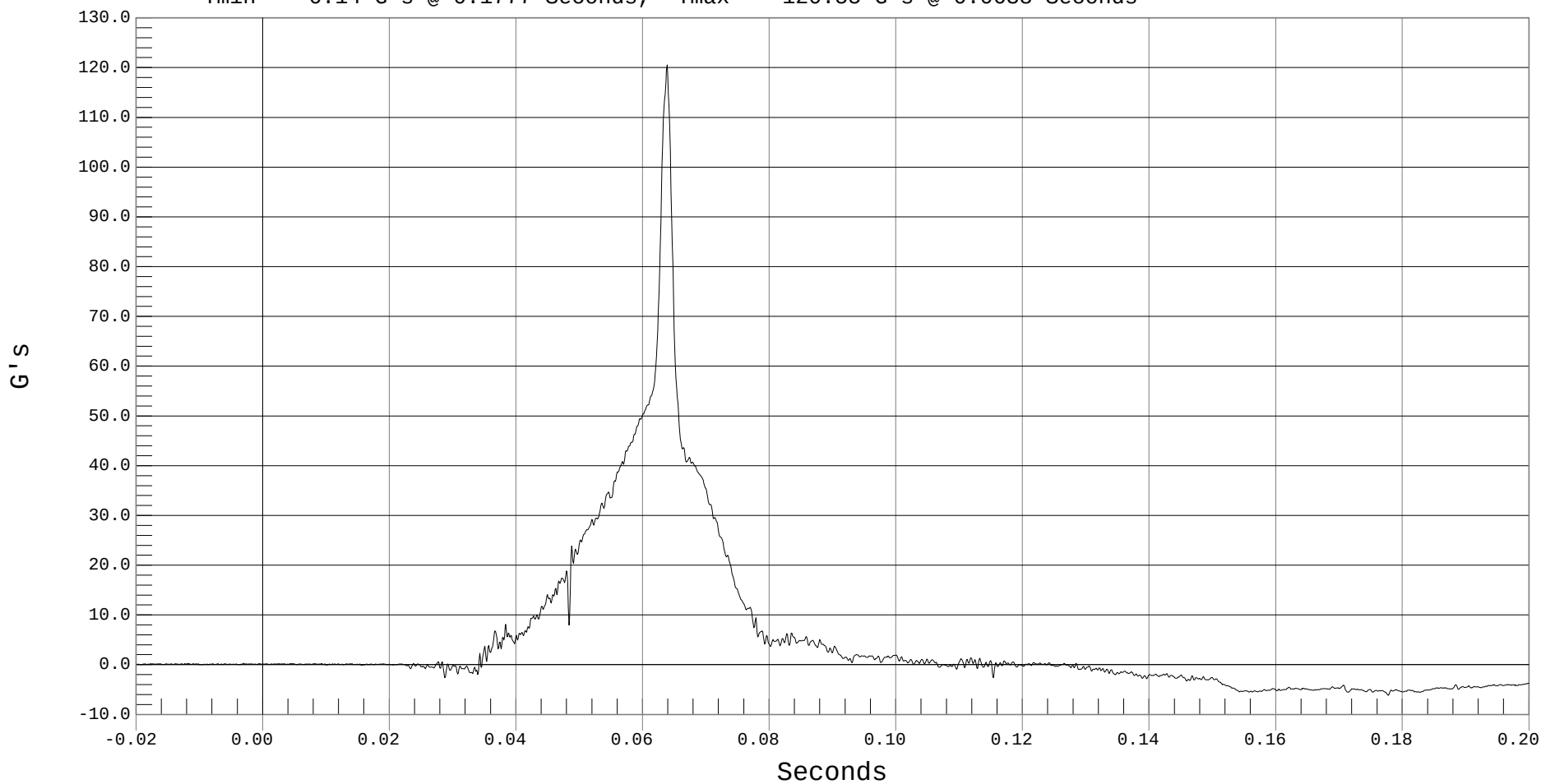
DRIVER HEAD REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH

1 DRIVER HEAD Yr, b01065AT.A40

Ymin = -6.14 G's @ 0.1777 Seconds, Ymax = 120.55 G's @ 0.0638 Seconds





DRIVER HEAD REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

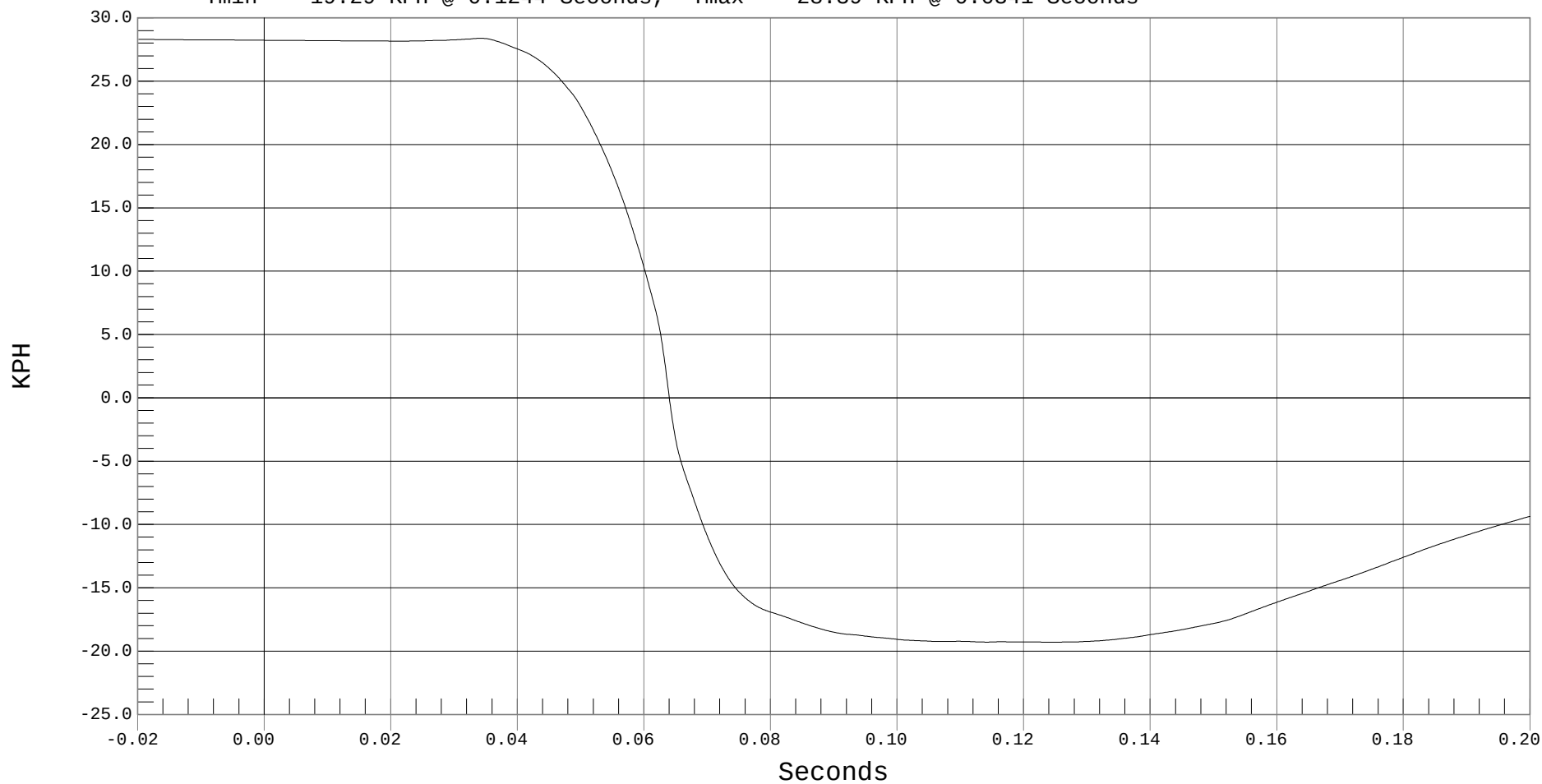
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

— 1 DRIVER HEAD Y REDUNDANT VELOCITY, b01065AI.V40

Ymin = -19.29 KPH @ 0.1244 Seconds, Ymax = 28.39 KPH @ 0.0341 Seconds





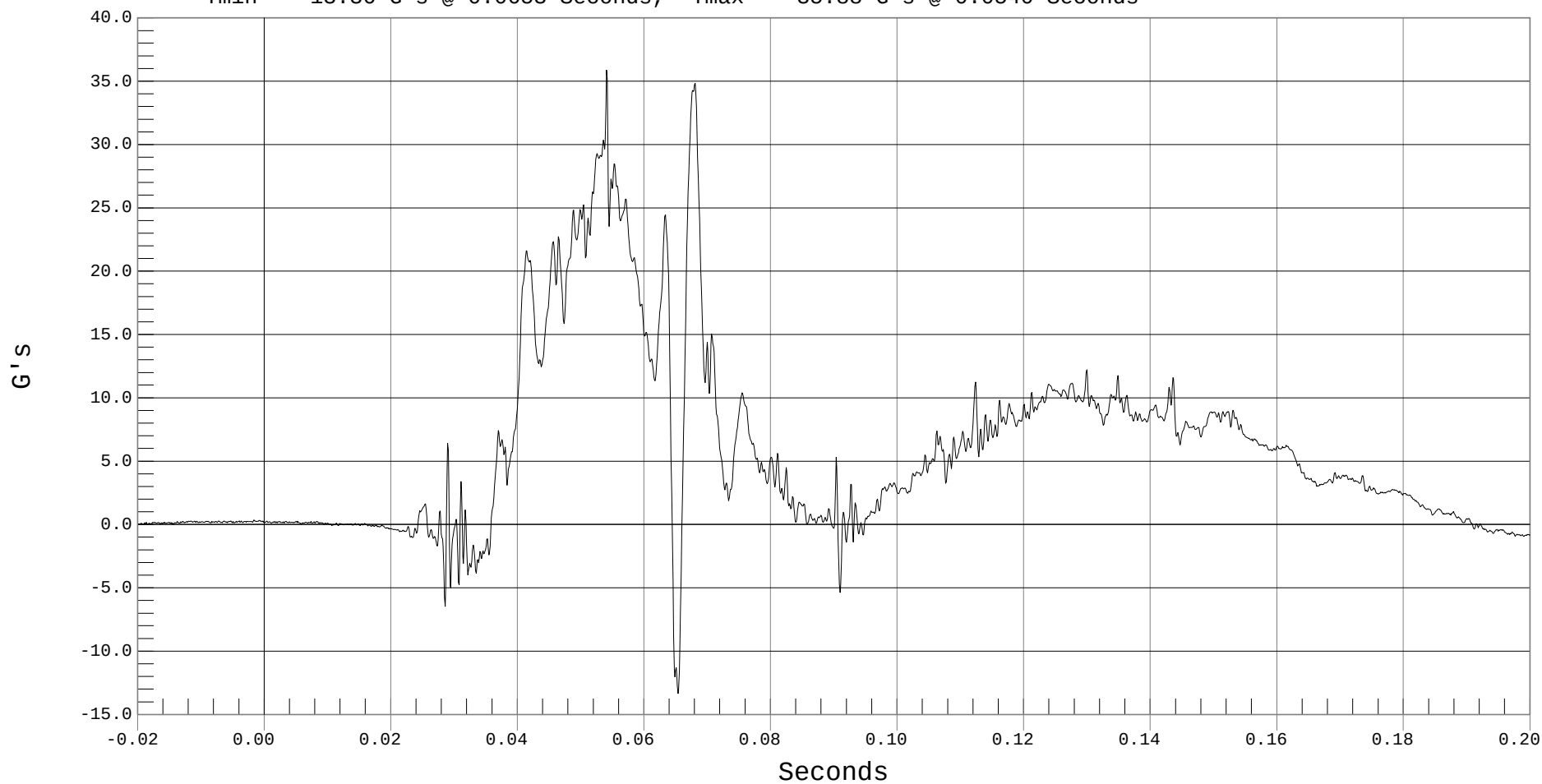
DRIVER HEAD REDUNDANT Z ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER HEAD Zr, b01065AT.A41

Ymin = -13.36 G's @ 0.0653 Seconds, Ymax = 35.88 G's @ 0.0540 Seconds





DRIVER HEAD REDUNDANT Z VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

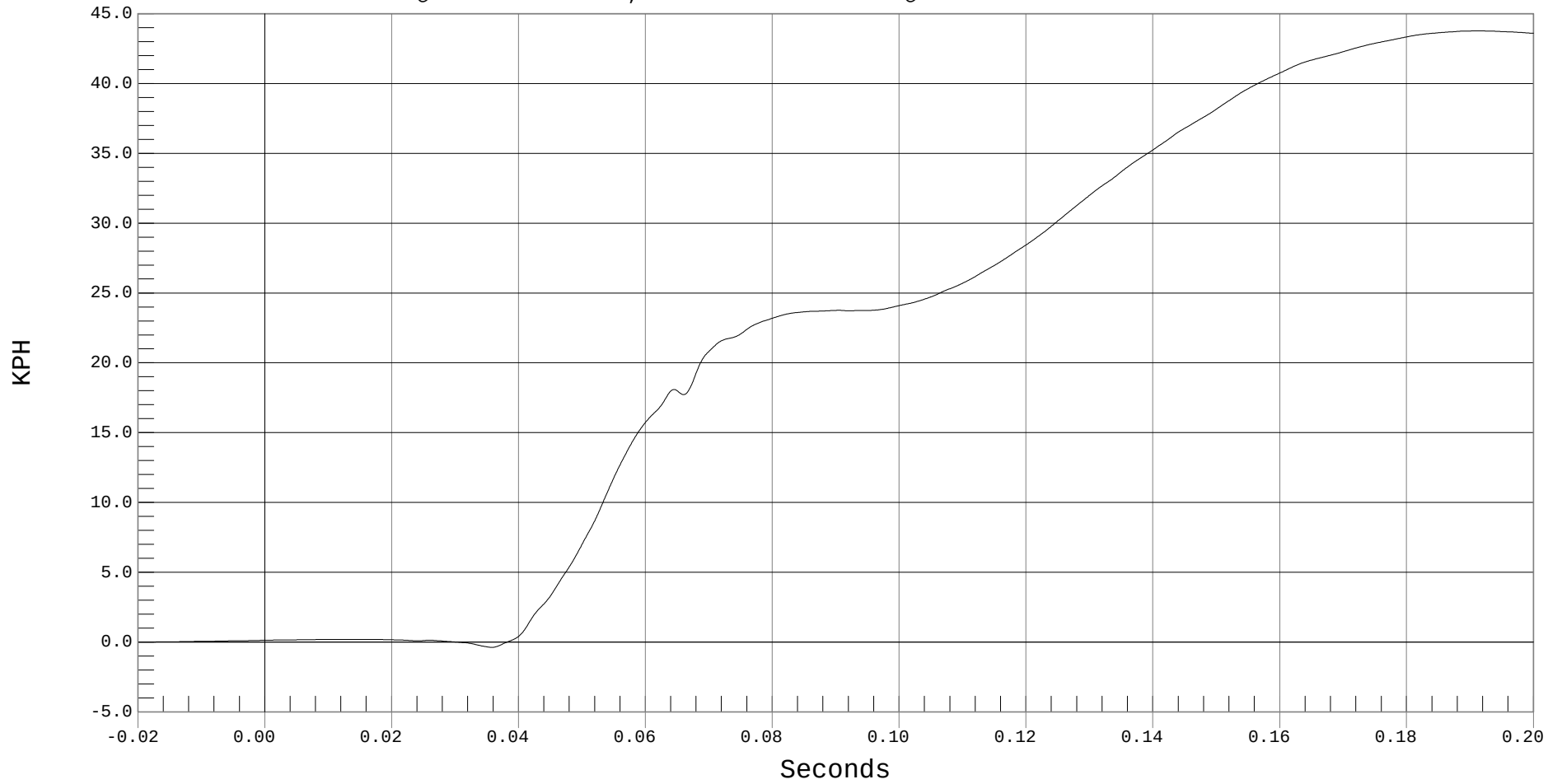
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Filter Class: 180

— 1 DRIVER HEAD Z REDUNDANT VELOCITY, b01065AI.V41

Ymin = -.38 KPH @ 0.0357 Seconds, Ymax = 43.77 KPH @ 0.1910 Seconds





DRIVER HEAD REDUNDANT RESULTANT ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

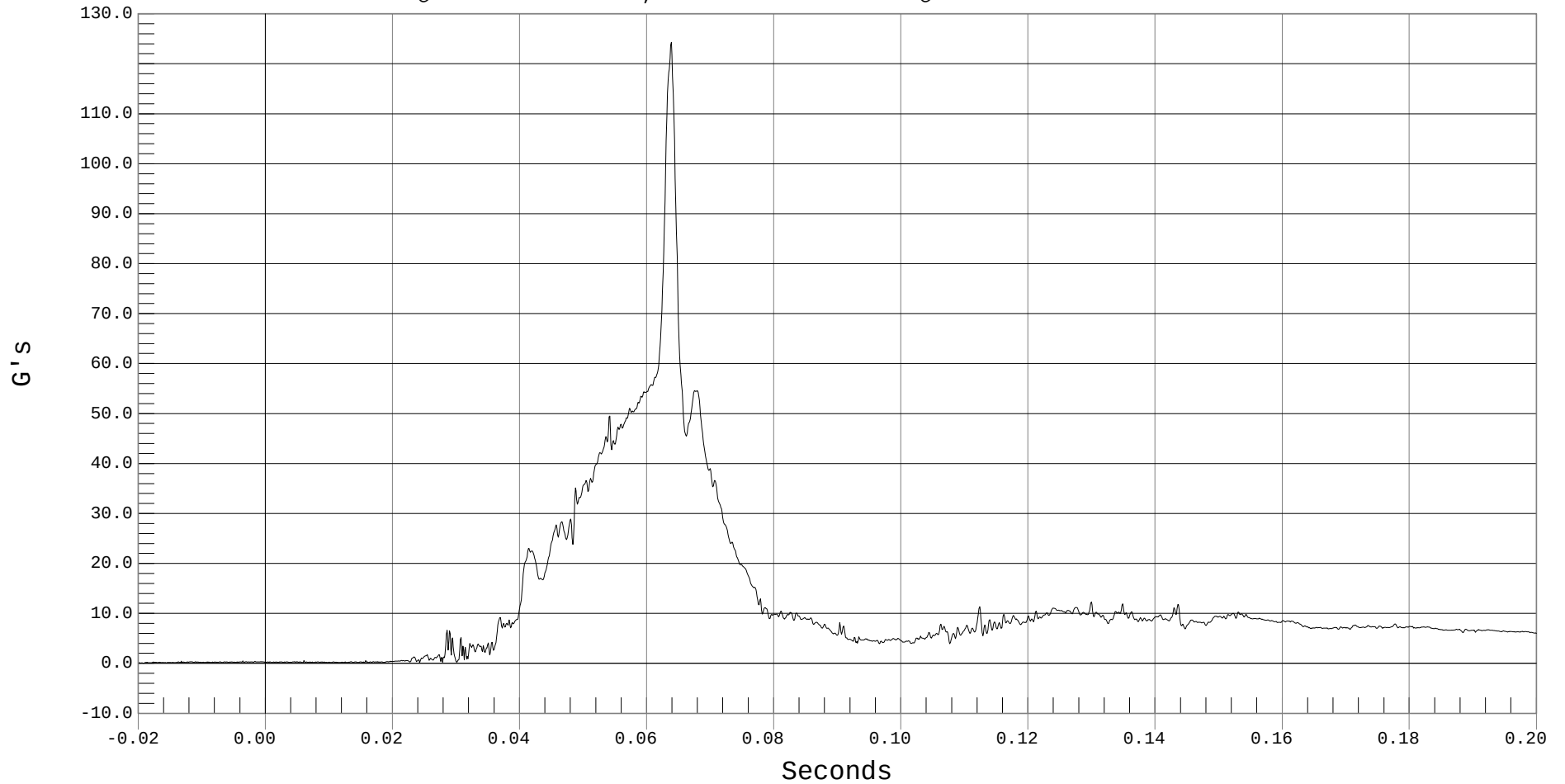
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 1000

— 1 DRIVER HEAD REDUNDANT RESULTANT, b01065AV.A39

Ymin = .04 G's @ -0.0192 Seconds, Ymax = 124.3 G's @ 0.0638 Seconds





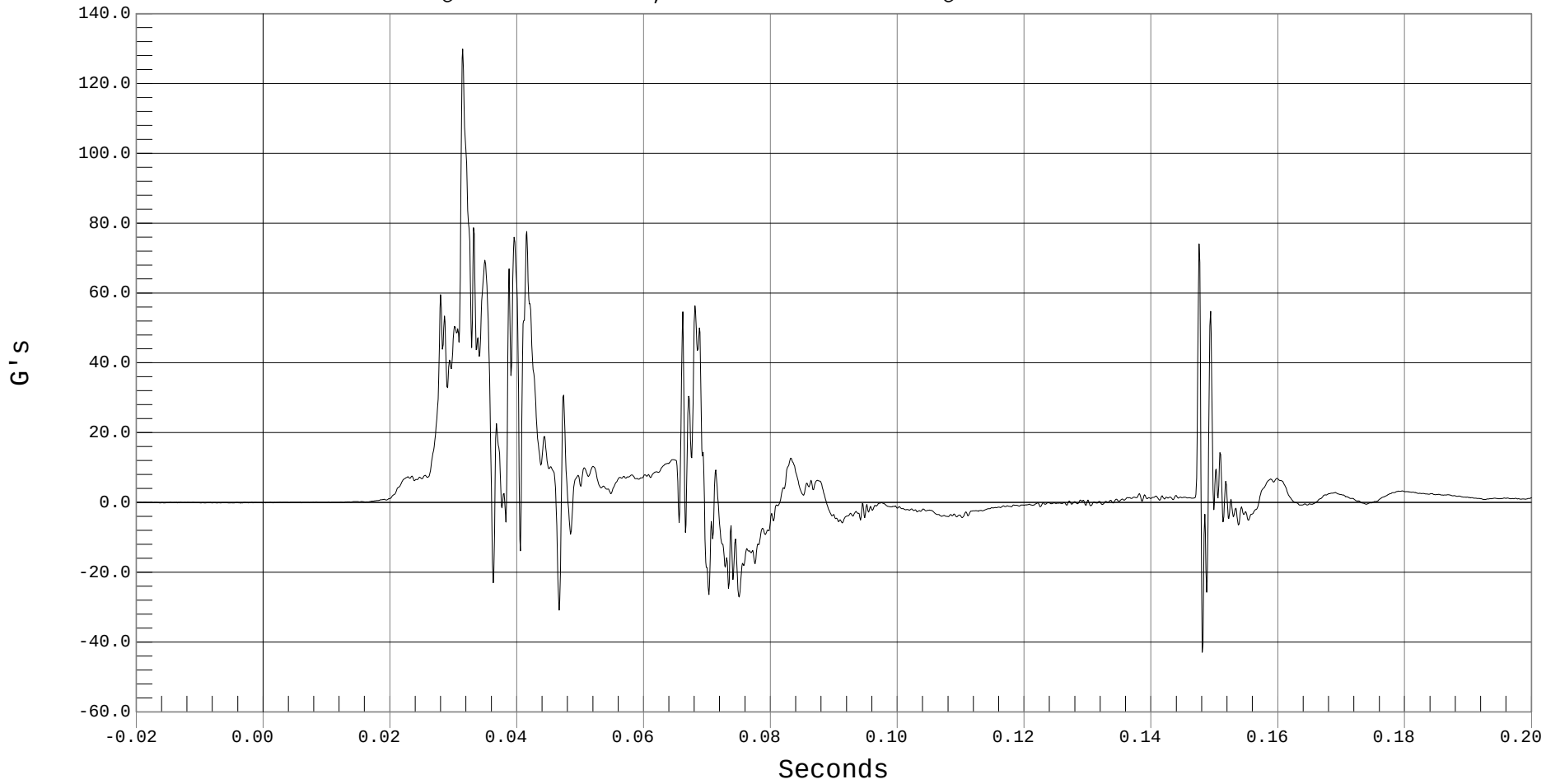
DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER UPPER RIB Yr, b01065AT.A42

Ymin = -42.98 G's @ 0.1480 Seconds, Ymax = 129.87 G's @ 0.0314 Seconds





DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

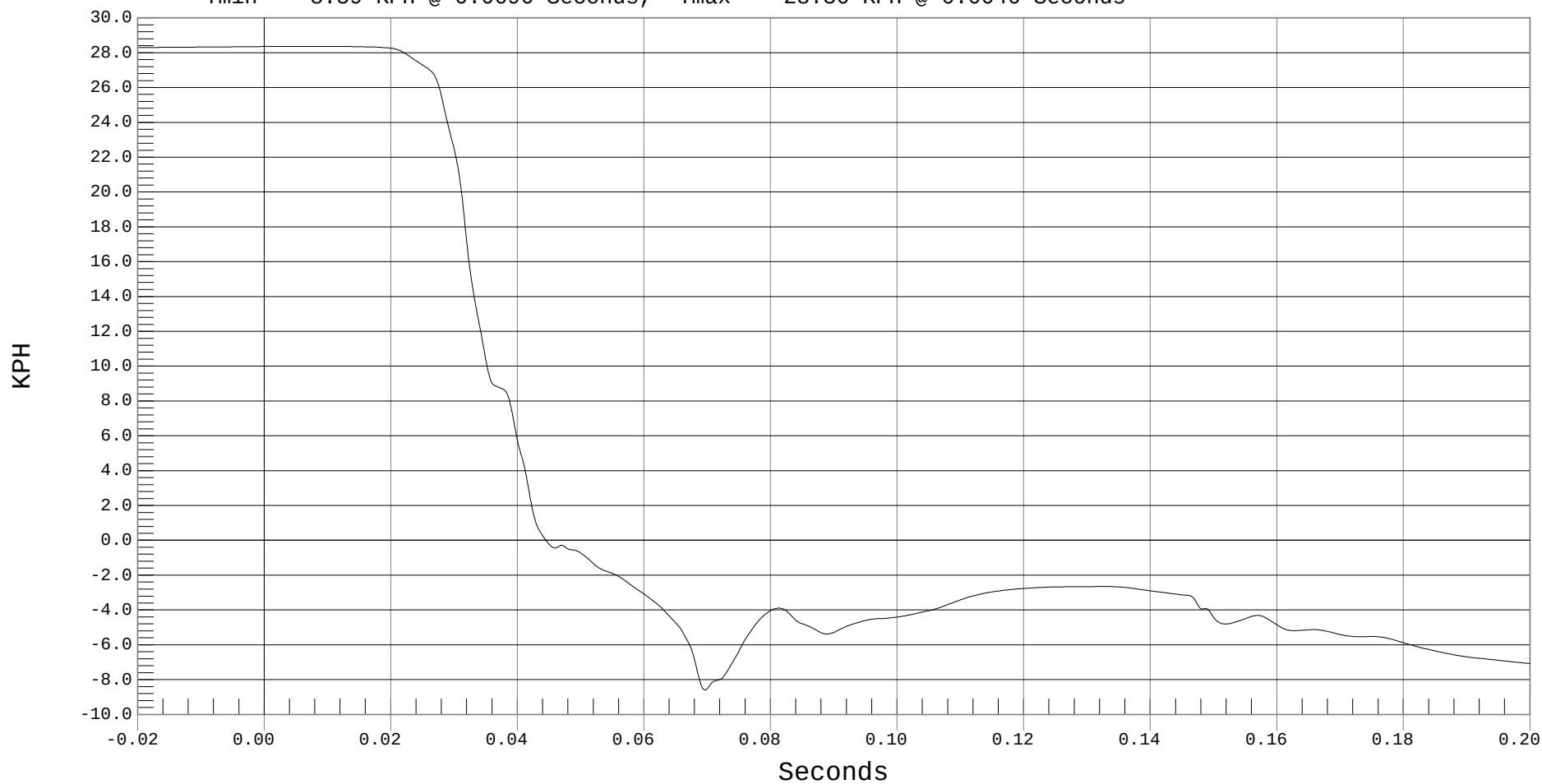
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Filter Class: 180

1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, b01065AI.V42

Ymin = -8.59 KPH @ 0.0696 Seconds, Ymax = 28.36 KPH @ 0.0046 Seconds





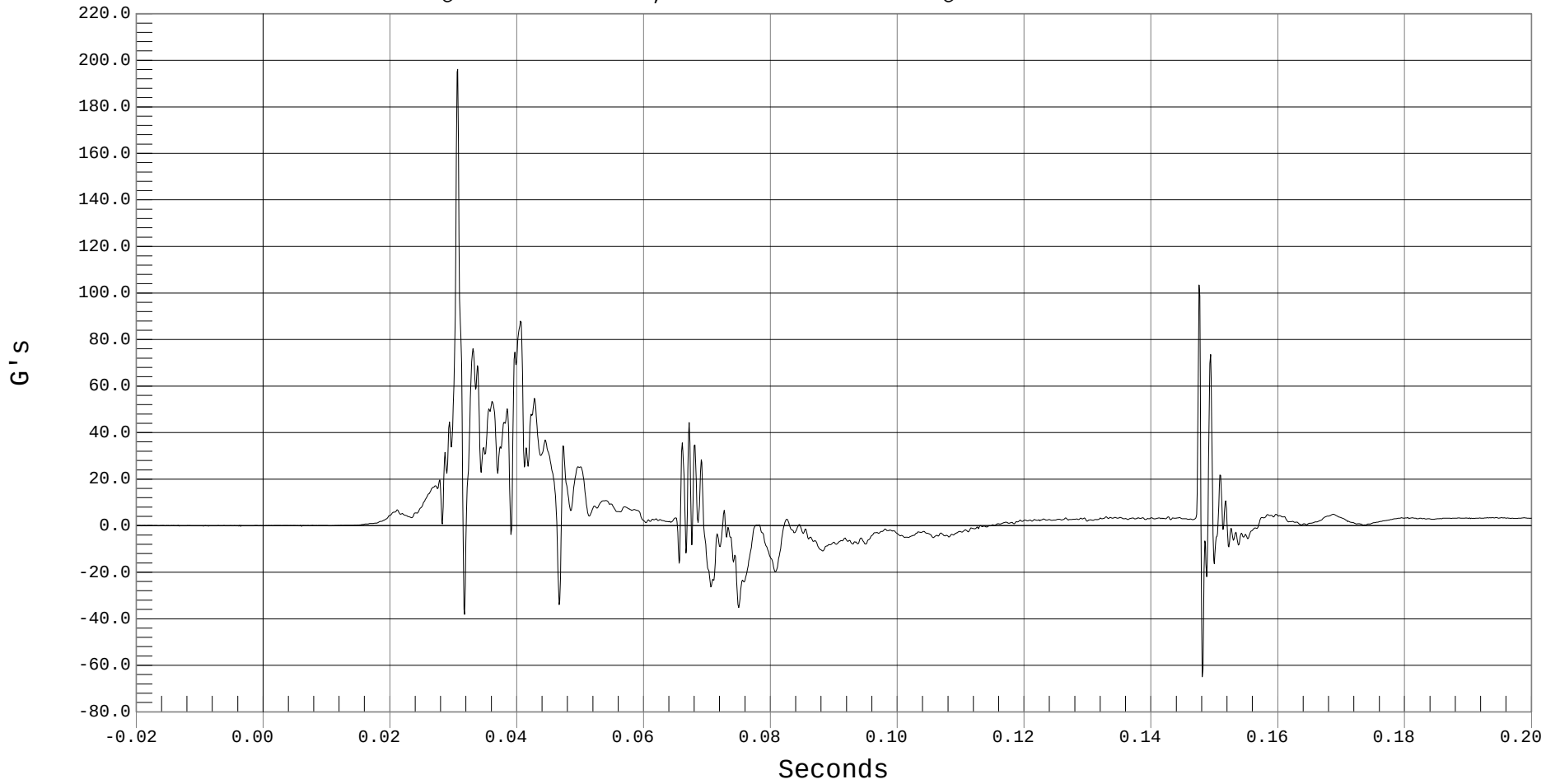
DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 1000

— 1 DRIVER LOWER RIB Yr, b01065AT.A43

Ymin = -64.92 G's @ 0.1480 Seconds, Ymax = 196.12 G's @ 0.0306 Seconds





DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

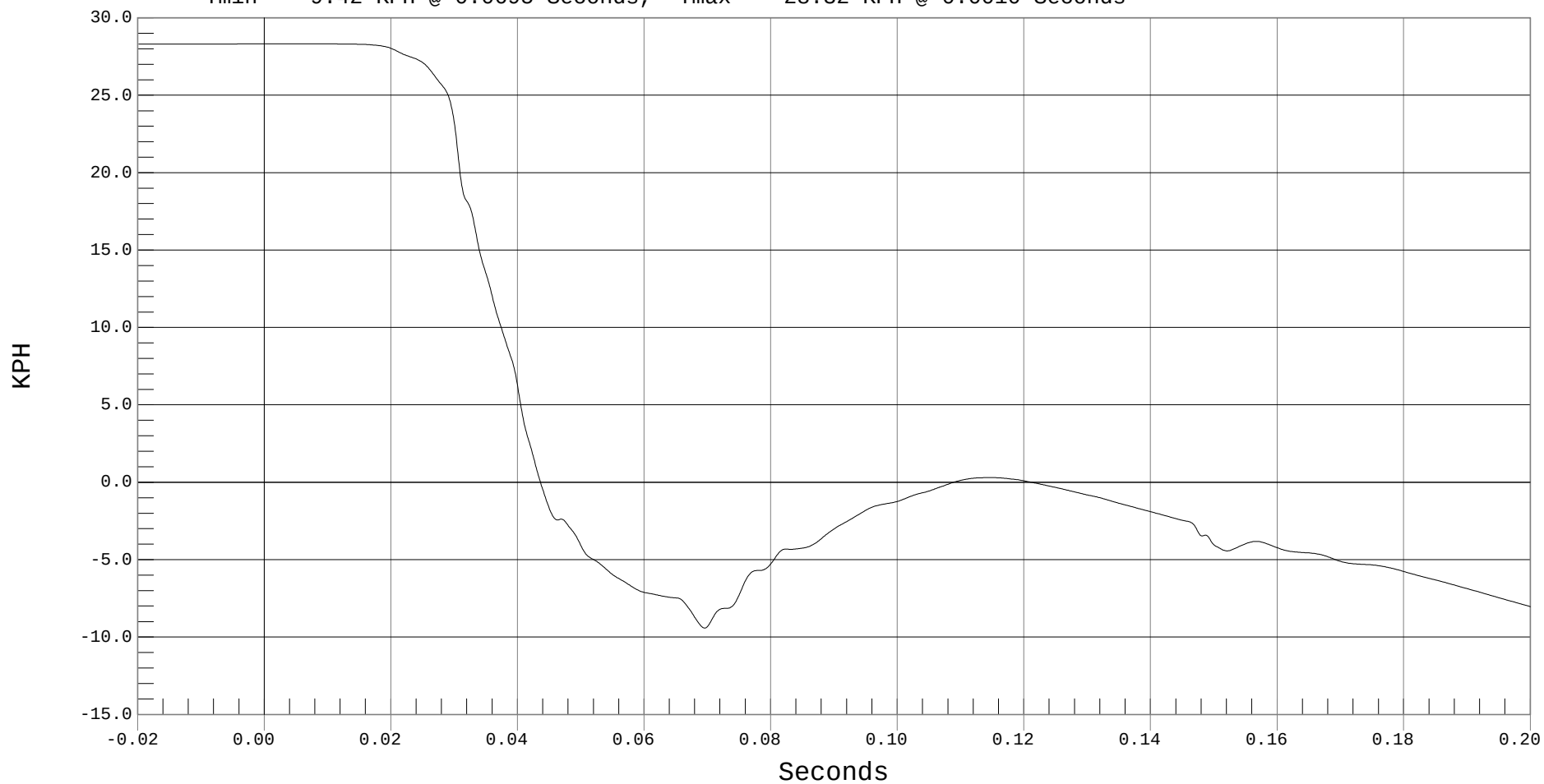
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Filter Class: 180

— 1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, b01065AI.V43

Ymin = -9.42 KPH @ 0.0695 Seconds, Ymax = 28.32 KPH @ 0.0010 Seconds





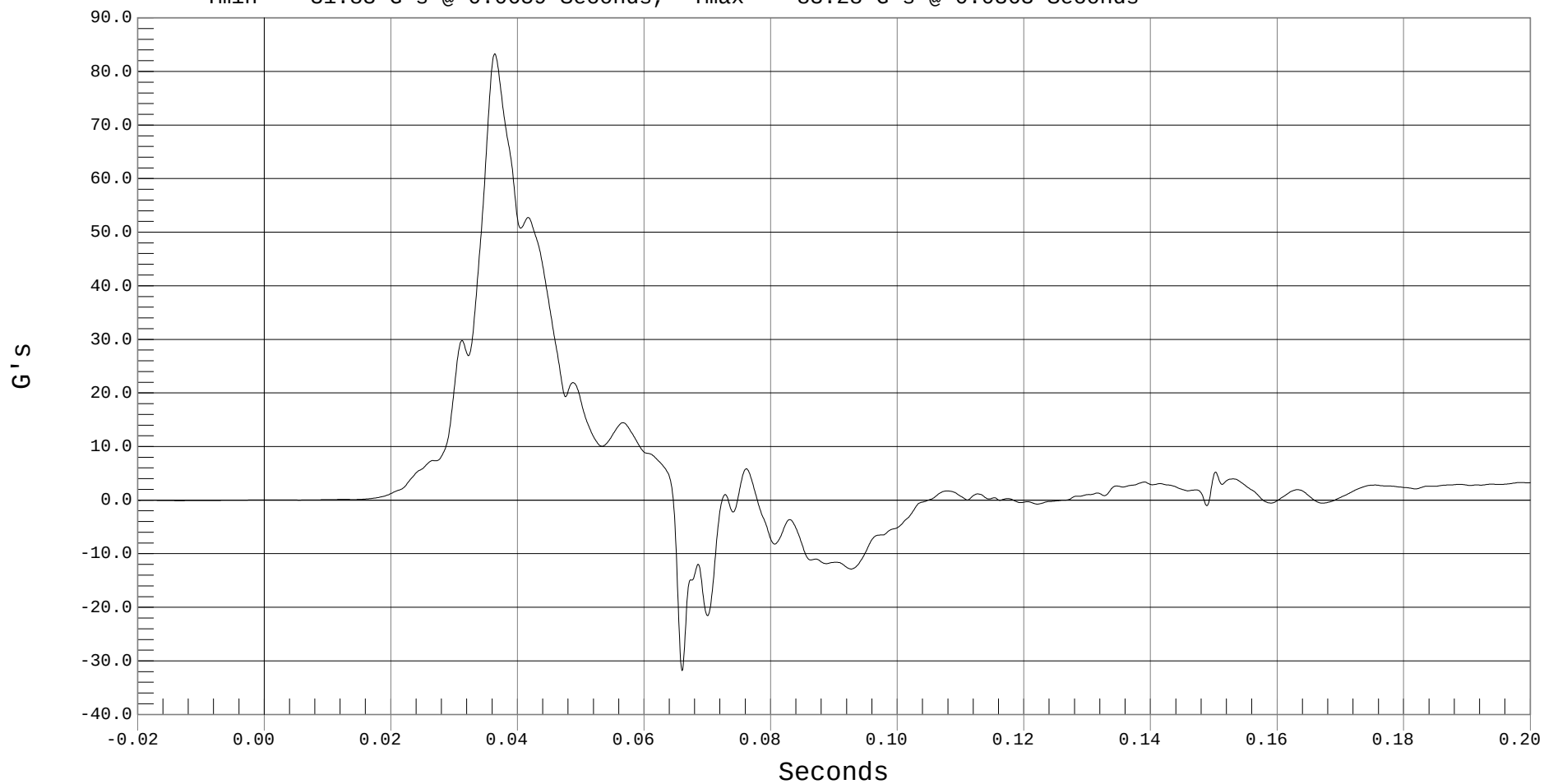
DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Filter Class: 180

— 1 DRIVER LOWER SPINE Yr, b01065AF.A44

Ymin = -31.83 G's @ 0.0659 Seconds, Ymax = 83.28 G's @ 0.0363 Seconds





DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

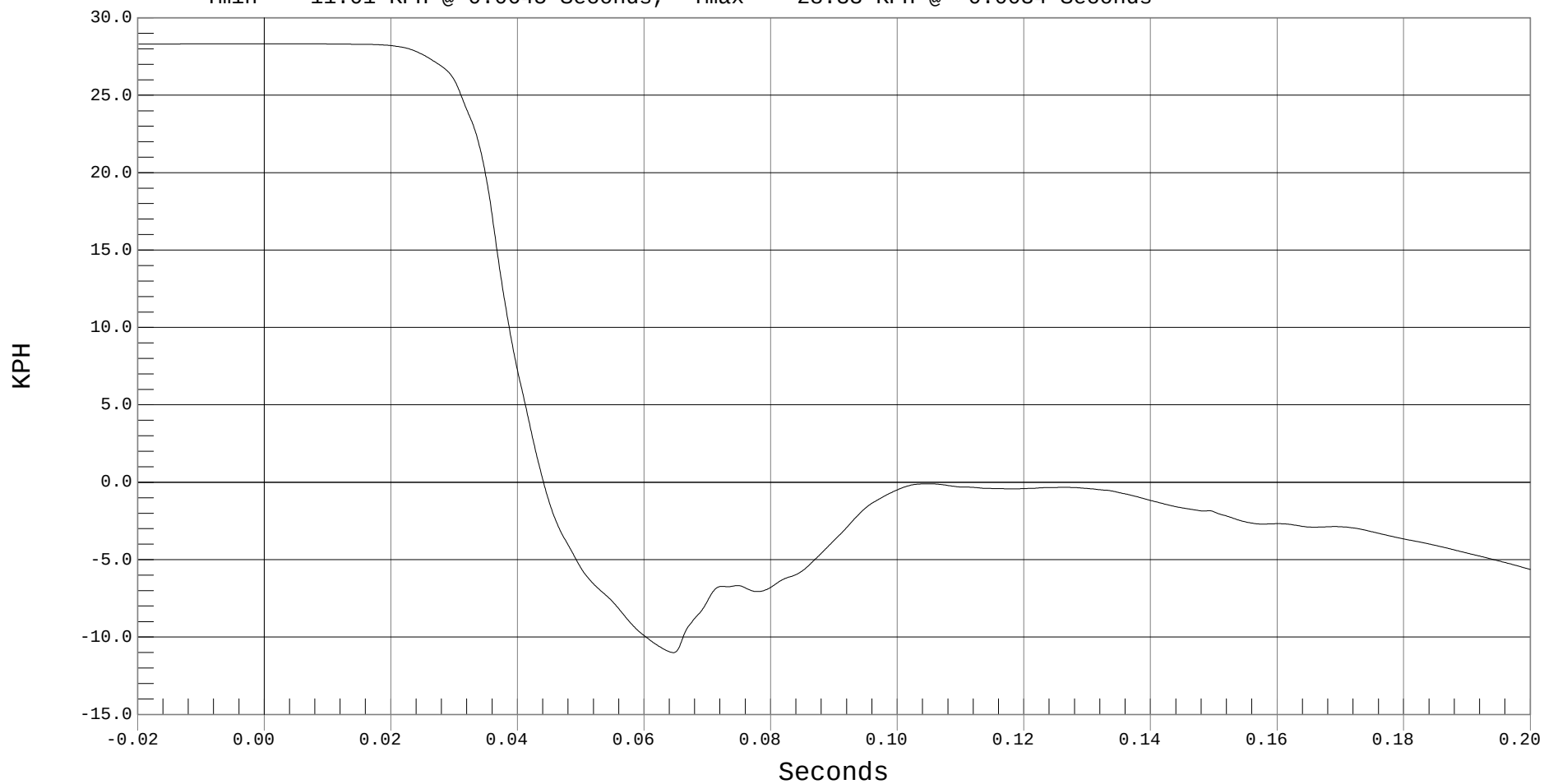
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Filter Class: 180

1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, b01065AI.V44

Ymin = -11.01 KPH @ 0.0645 Seconds, Ymax = 28.33 KPH @ -0.0034 Seconds





DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

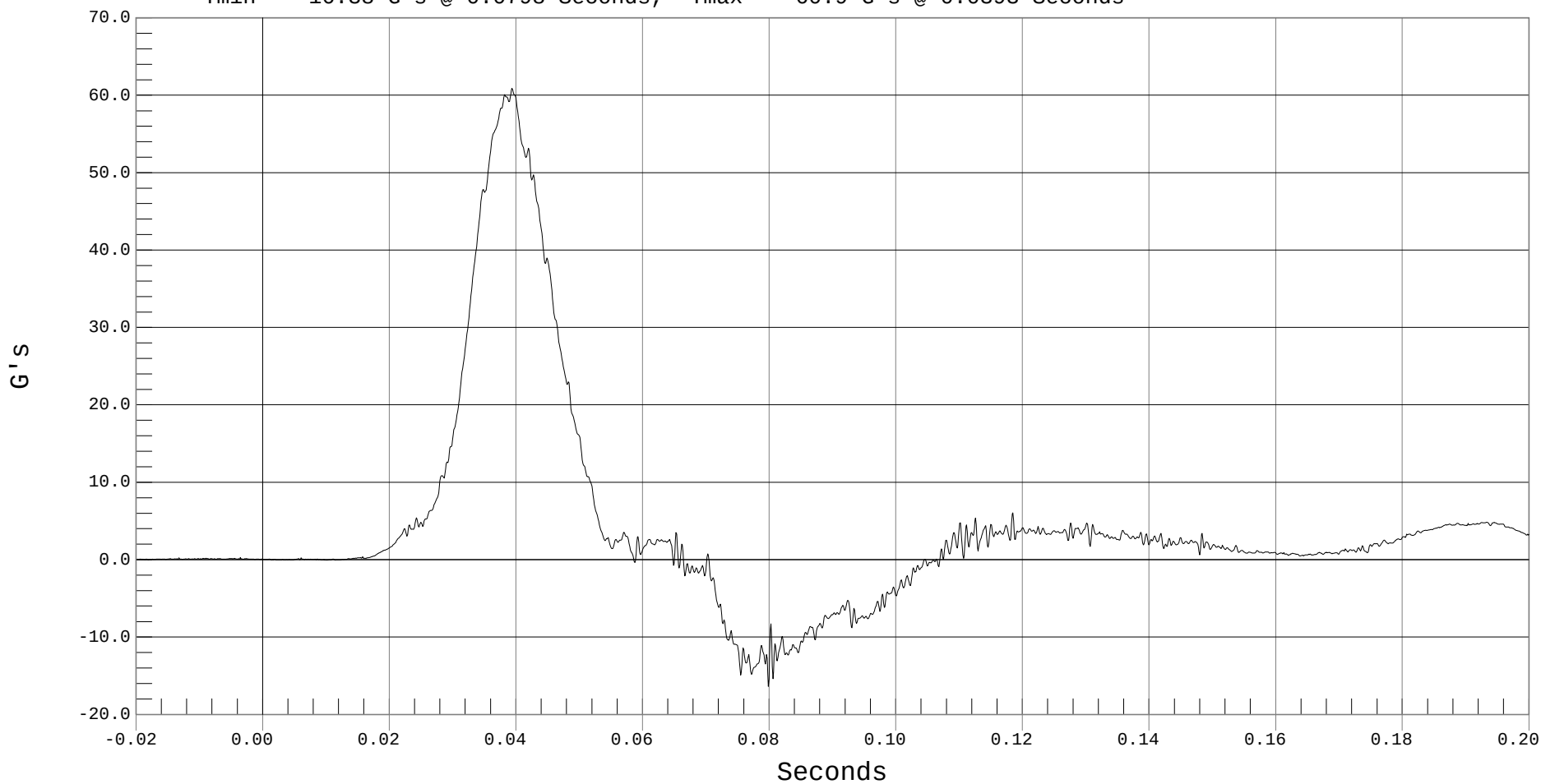
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 1000

— 1 DRIVER PELVIS Yr, b01065AT.A45

Ymin = -16.38 G's @ 0.0798 Seconds, Ymax = 60.9 G's @ 0.0393 Seconds





DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

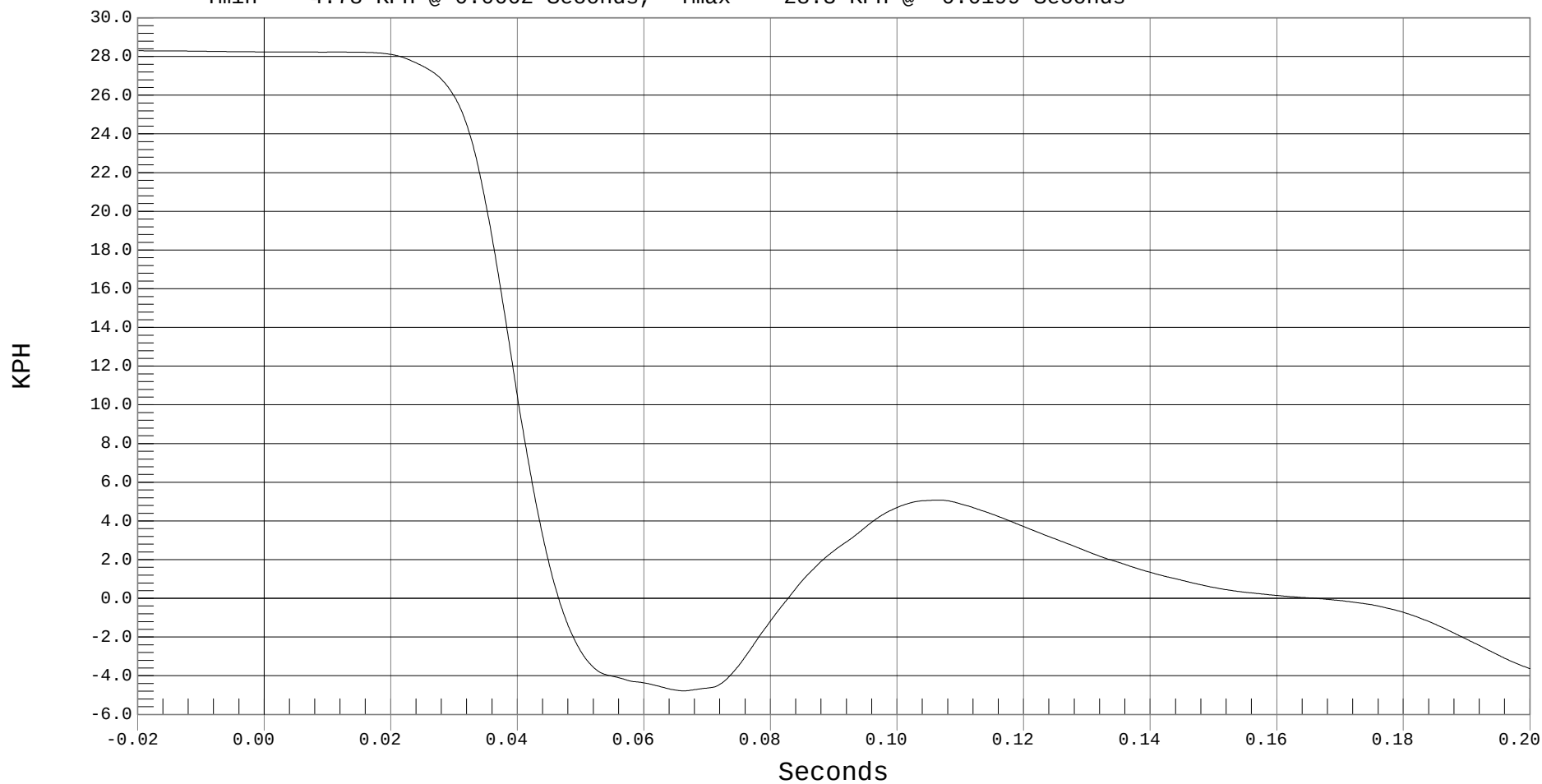
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Filter Class: 180

1 DRIVER PELVIS Y REDUNDANT VELOCITY, b01065AI.V45

Ymin = -4.78 KPH @ 0.0662 Seconds, Ymax = 28.3 KPH @ -0.0199 Seconds





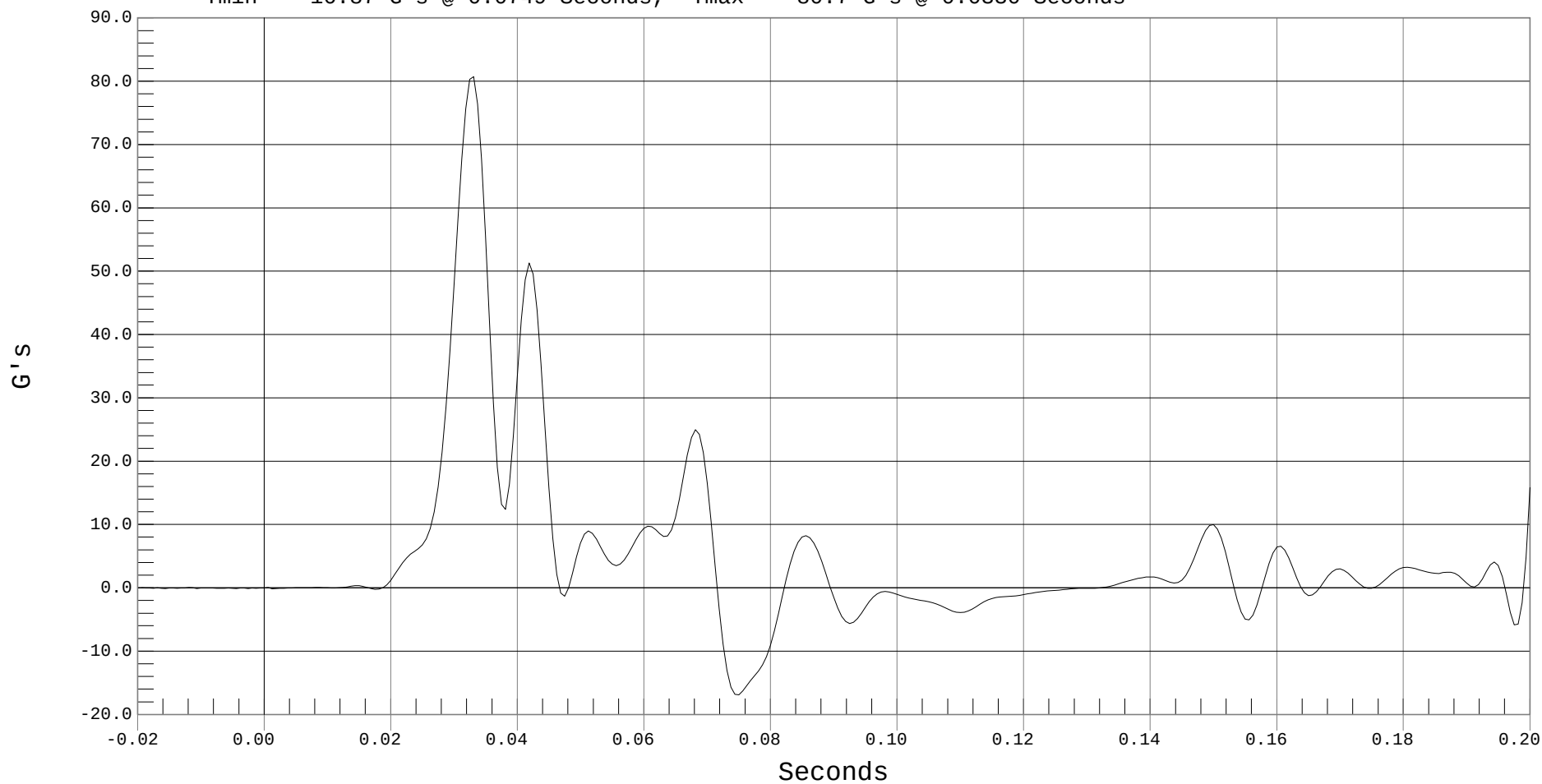
DRIVER UPPER RIB Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Fir Filtered

— 1 DRIVER UPPER RIB Y, b01065FI.R10

Ymin = -16.87 G's @ 0.0749 Seconds, Ymax = 80.7 G's @ 0.0330 Seconds





DRIVER UPPER RIB Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

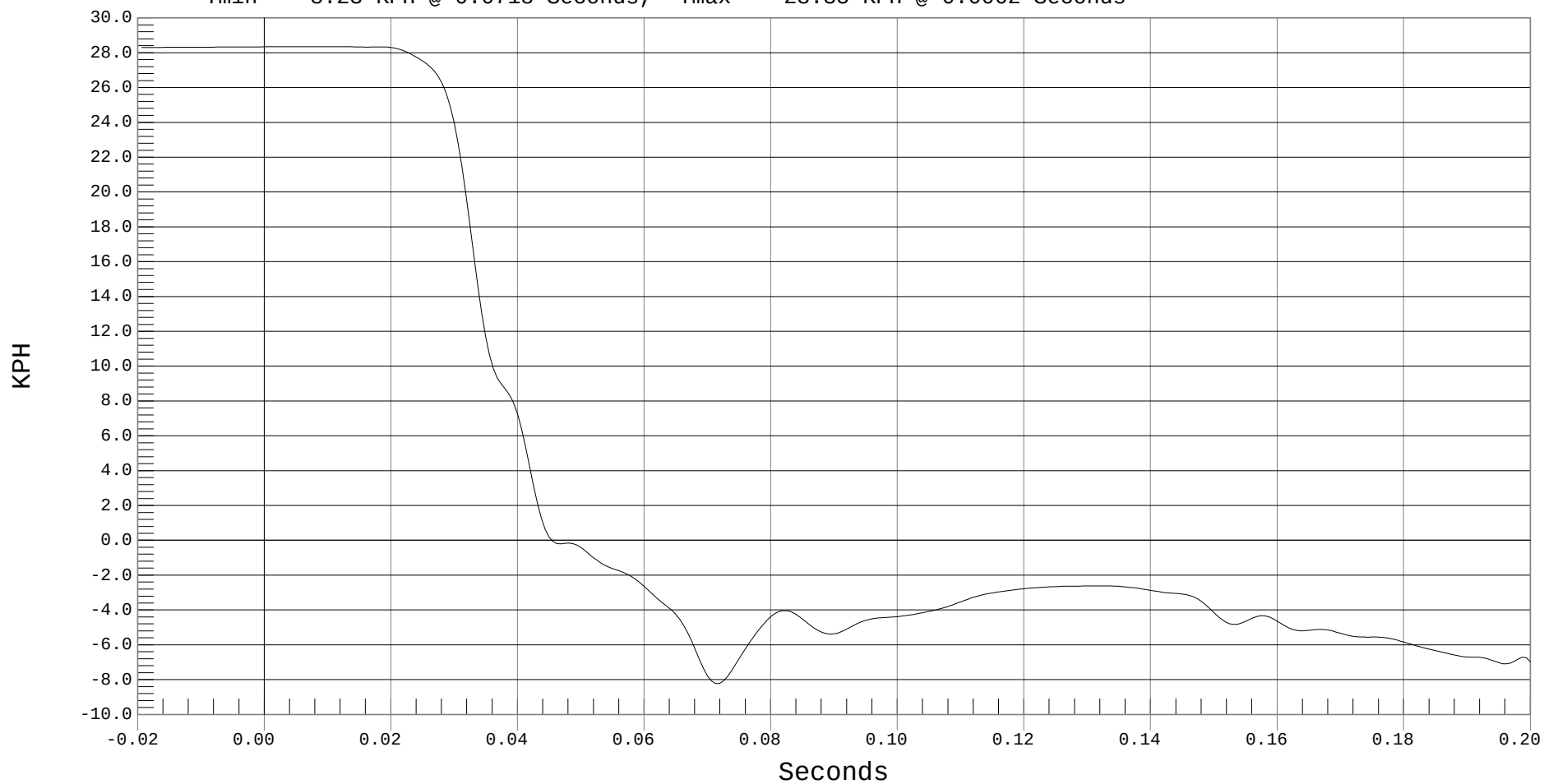
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

1 DRIVER UPPER RIB Y VELOCITY, b01065FI.V10

Ymin = -8.23 KPH @ 0.0718 Seconds, Ymax = 28.35 KPH @ 0.0062 Seconds





DRIVER LOWER RIB Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

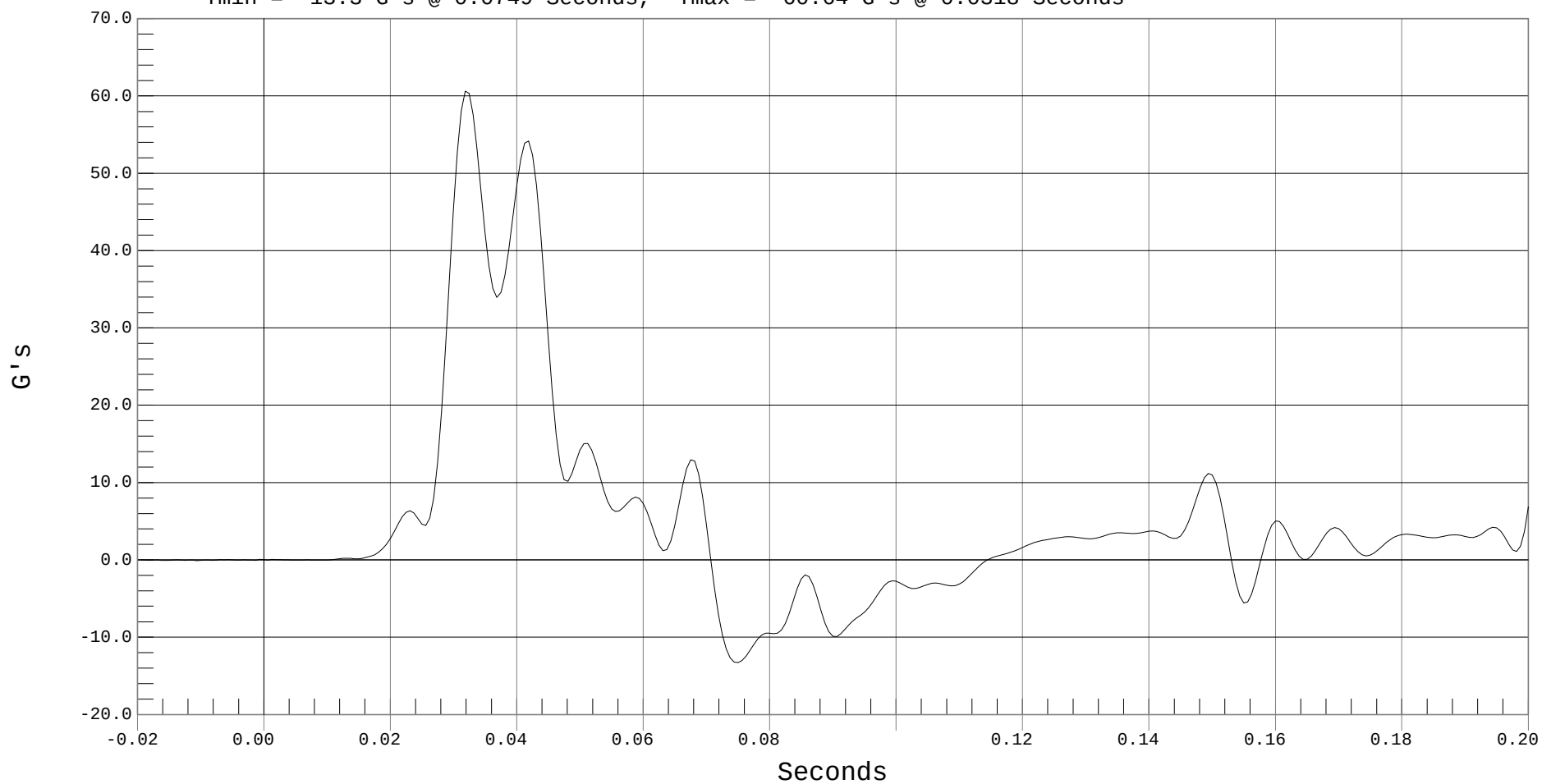
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

— 1 DRIVER LOWER RIB Y, b01065FI.R11

Ymin = -13.3 G's @ 0.0749 Seconds, Ymax = 60.64 G's @ 0.0318 Seconds





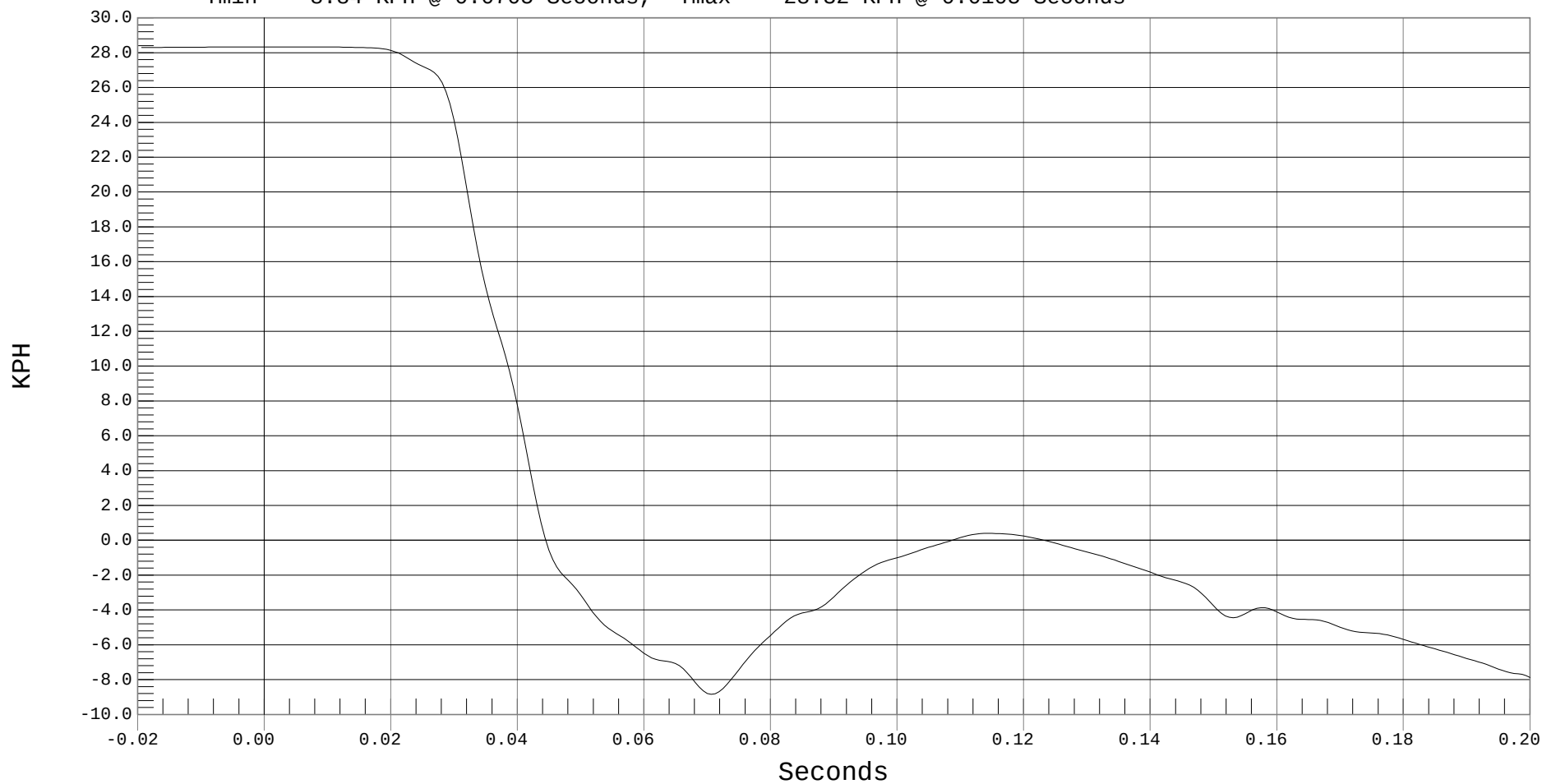
DRIVER LOWER RIB Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Fir Filtered

— 1 DRIVER LOWER RIB Y VELOCITY, b01065FI.V11

Ymin = -8.84 KPH @ 0.0705 Seconds, Ymax = 28.32 KPH @ 0.0105 Seconds





DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

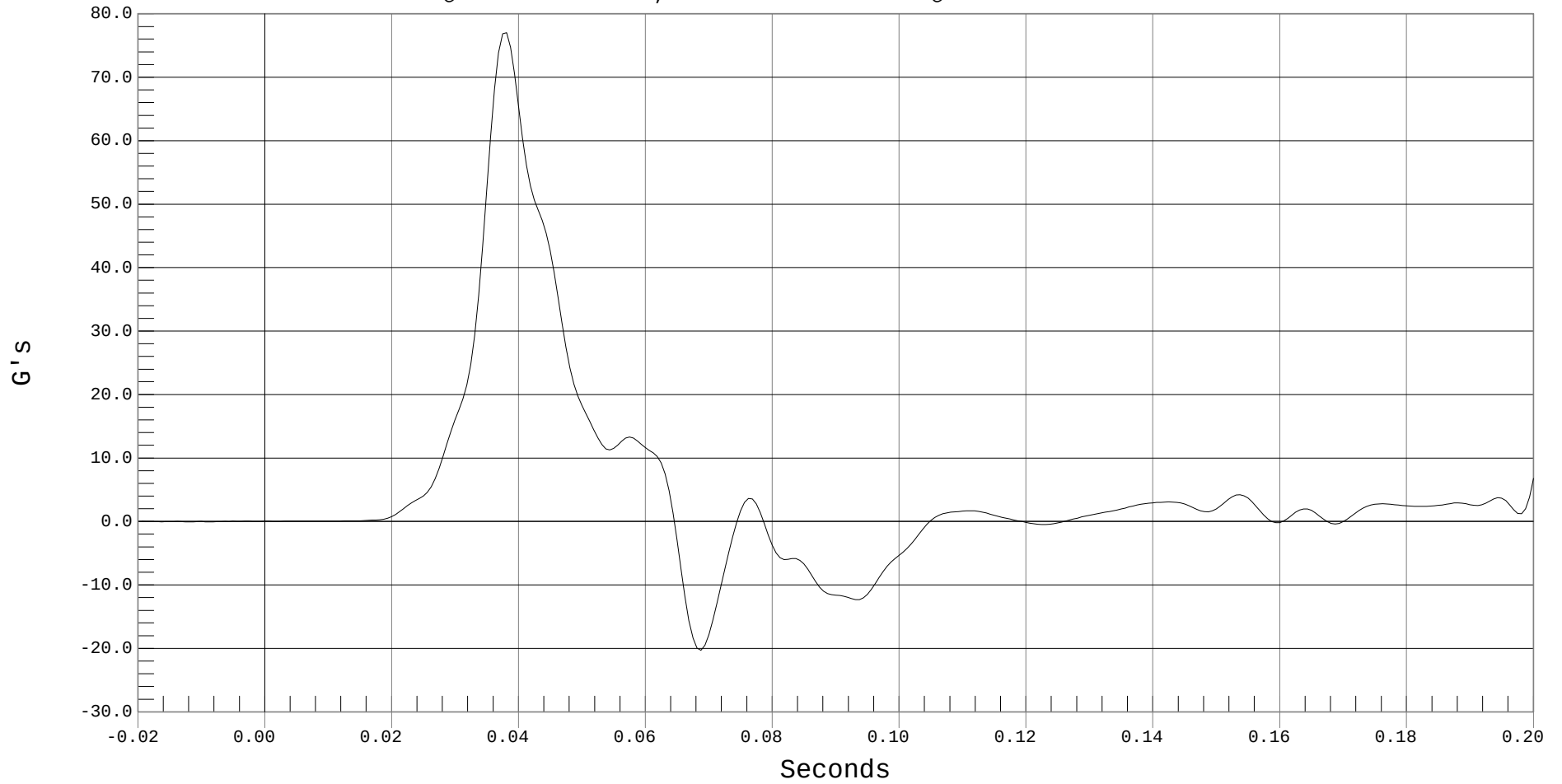
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

1 DRIVER LOWER SPINE Y, b01065FI.R12

Ymin = -20.28 G's @ 0.0687 Seconds, Ymax = 77.03 G's @ 0.0380 Seconds





DRIVER LOWER SPINE Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

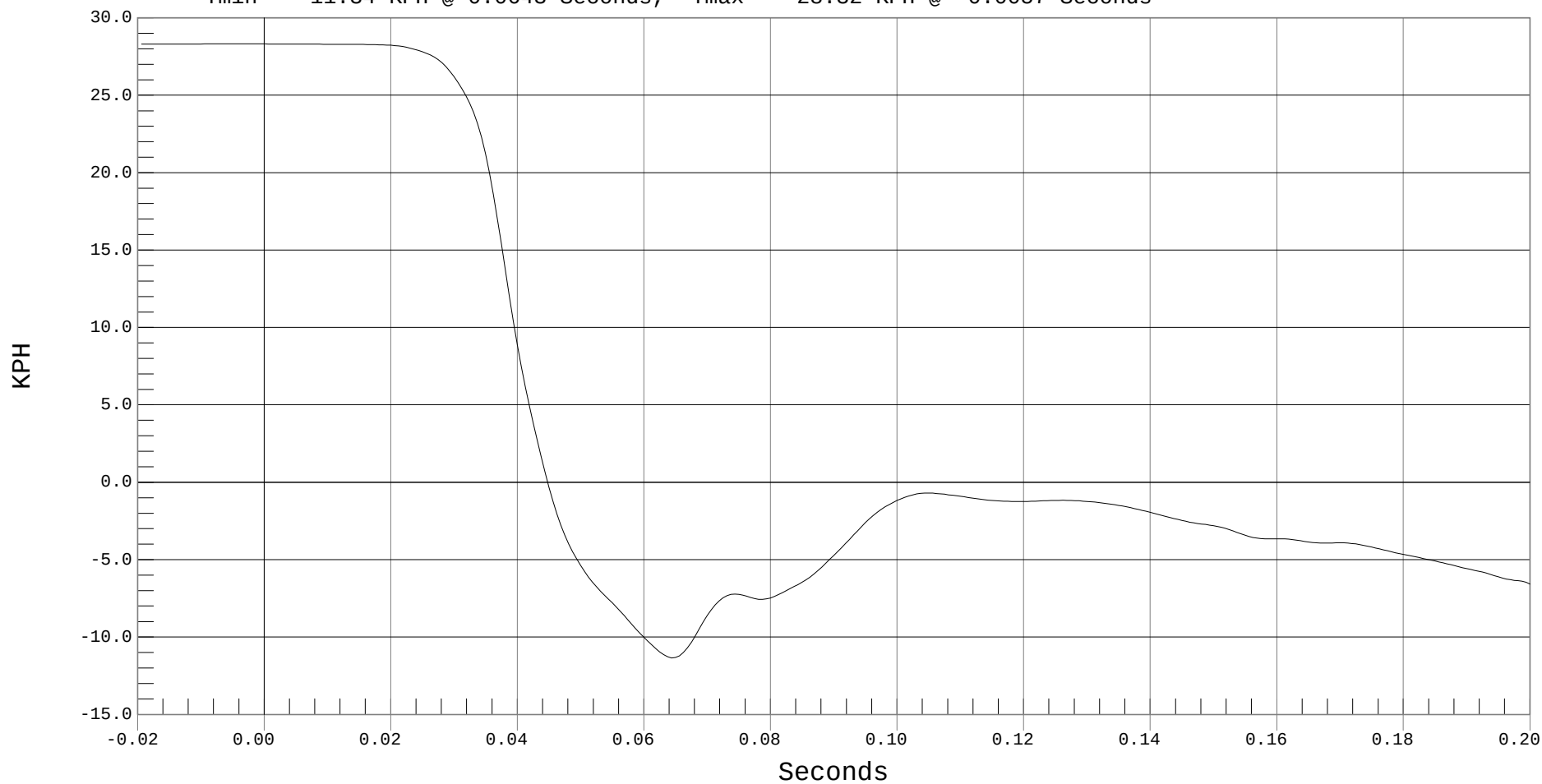
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

1 DRIVER LOWER SPINE Y VELOCITY, b01065FI.V12

Ymin = -11.34 KPH @ 0.0643 Seconds, Ymax = 28.32 KPH @ -0.0057 Seconds





DRIVER PELVIS Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

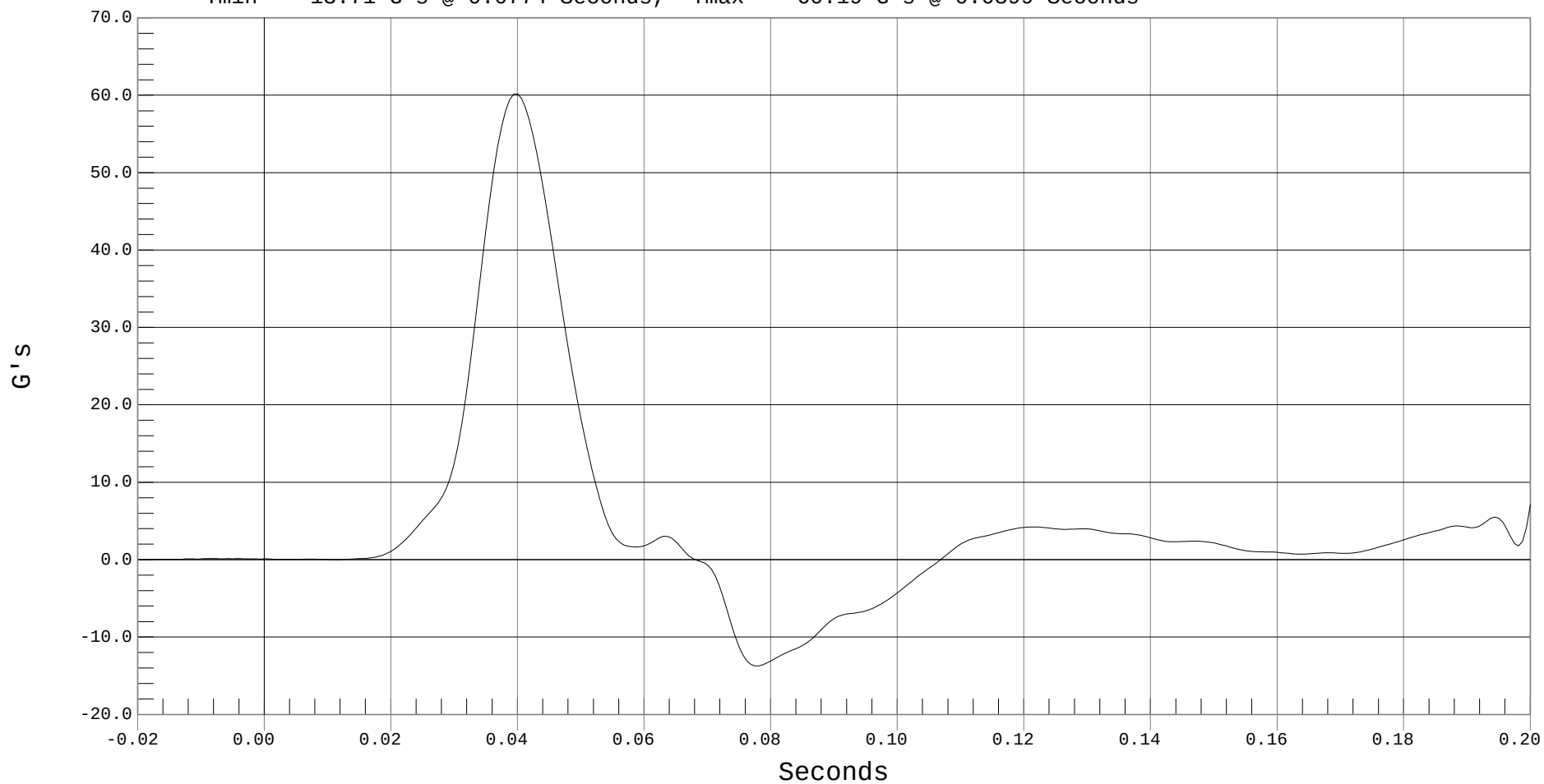
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

— 1 DRIVER PELVIS Y, b01065FI.R13

Ymin = -13.71 G's @ 0.0774 Seconds, Ymax = 60.19 G's @ 0.0399 Seconds





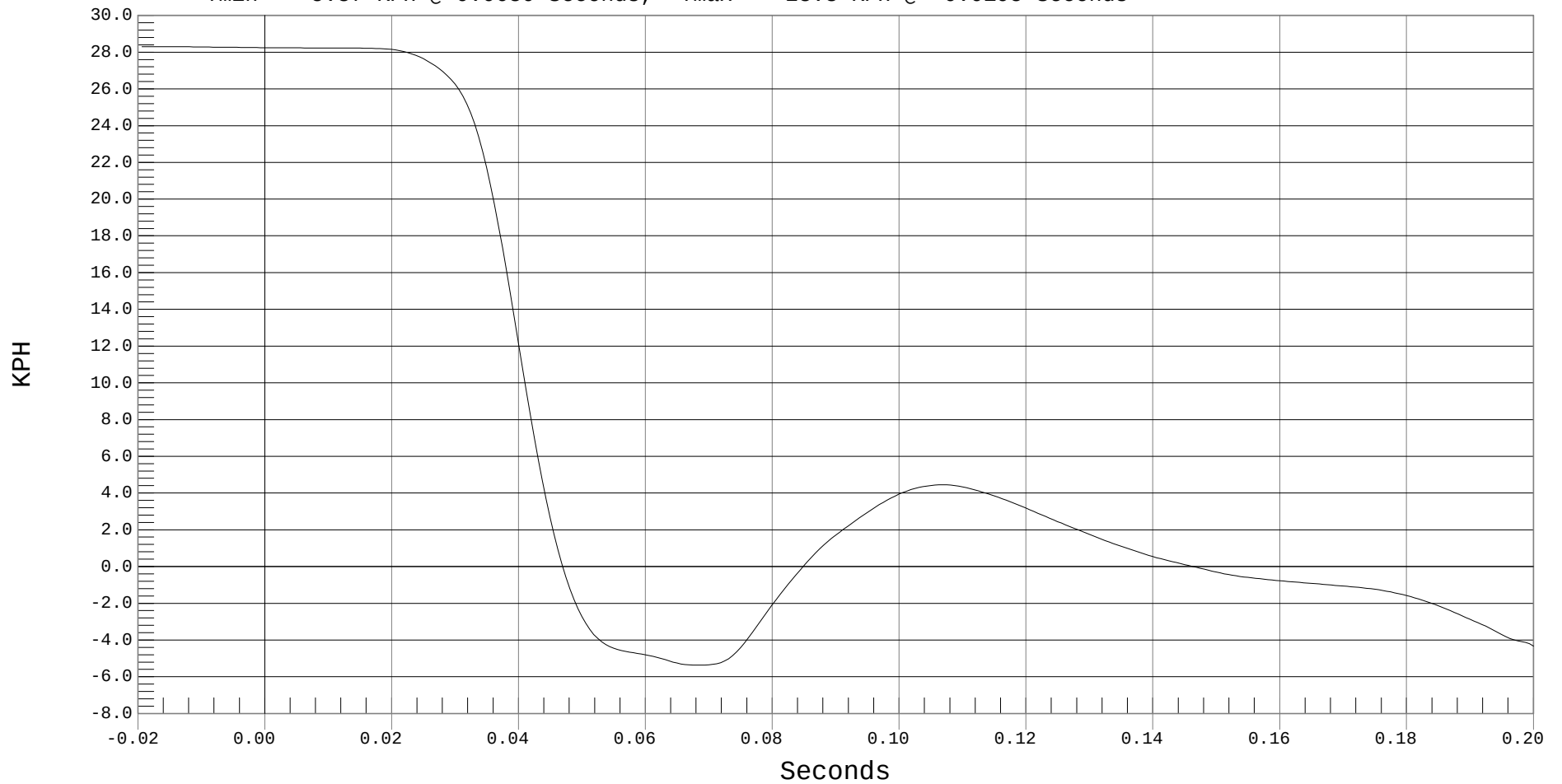
DRIVER PELVIS Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Fir Filtered

— 1 DRIVER PELVIS Y VELOCITY, b01065FI.V13

Ymin = -5.37 KPH @ 0.0680 Seconds, Ymax = 28.3 KPH @ -0.0195 Seconds





DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

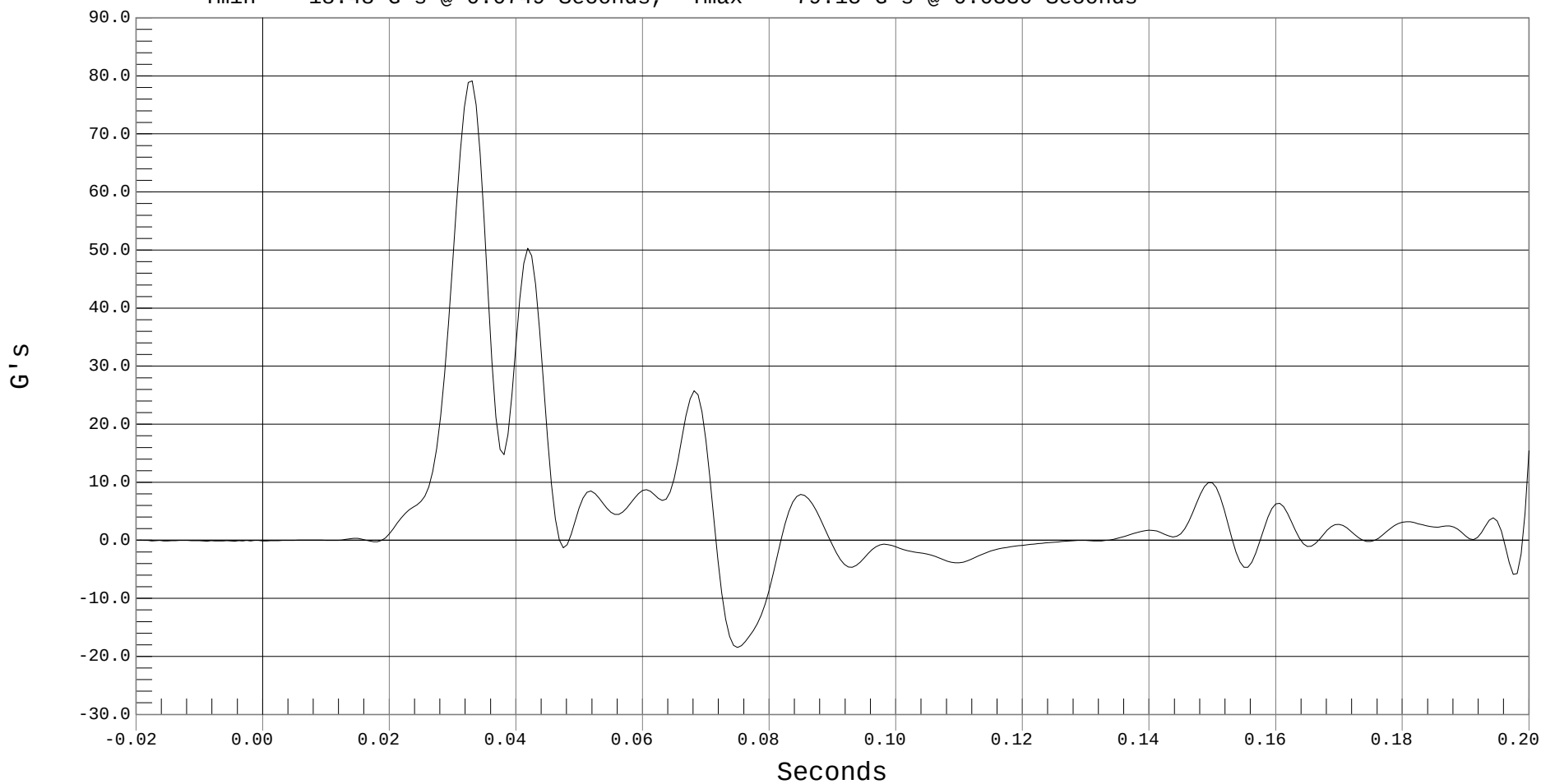
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

— 1 DRIVER UPPER RIB Yr, b01065FI.R42

Ymin = -18.48 G's @ 0.0749 Seconds, Ymax = 79.15 G's @ 0.0330 Seconds





DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

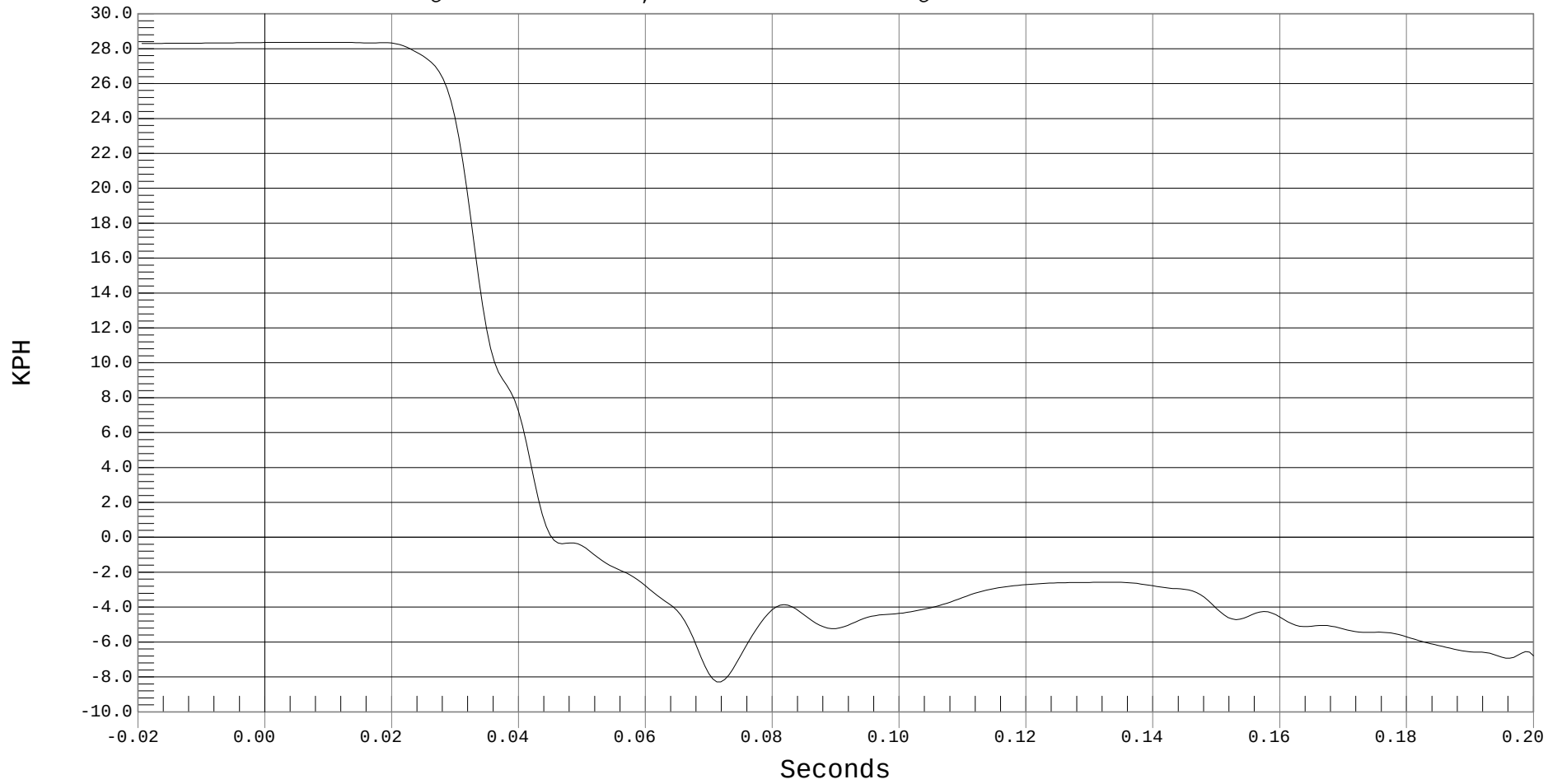
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Fir Filtered

— 1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, b01065FI.V42

Ymin = -8.29 KPH @ 0.0718 Seconds, Ymax = 28.36 KPH @ 0.0118 Seconds





DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

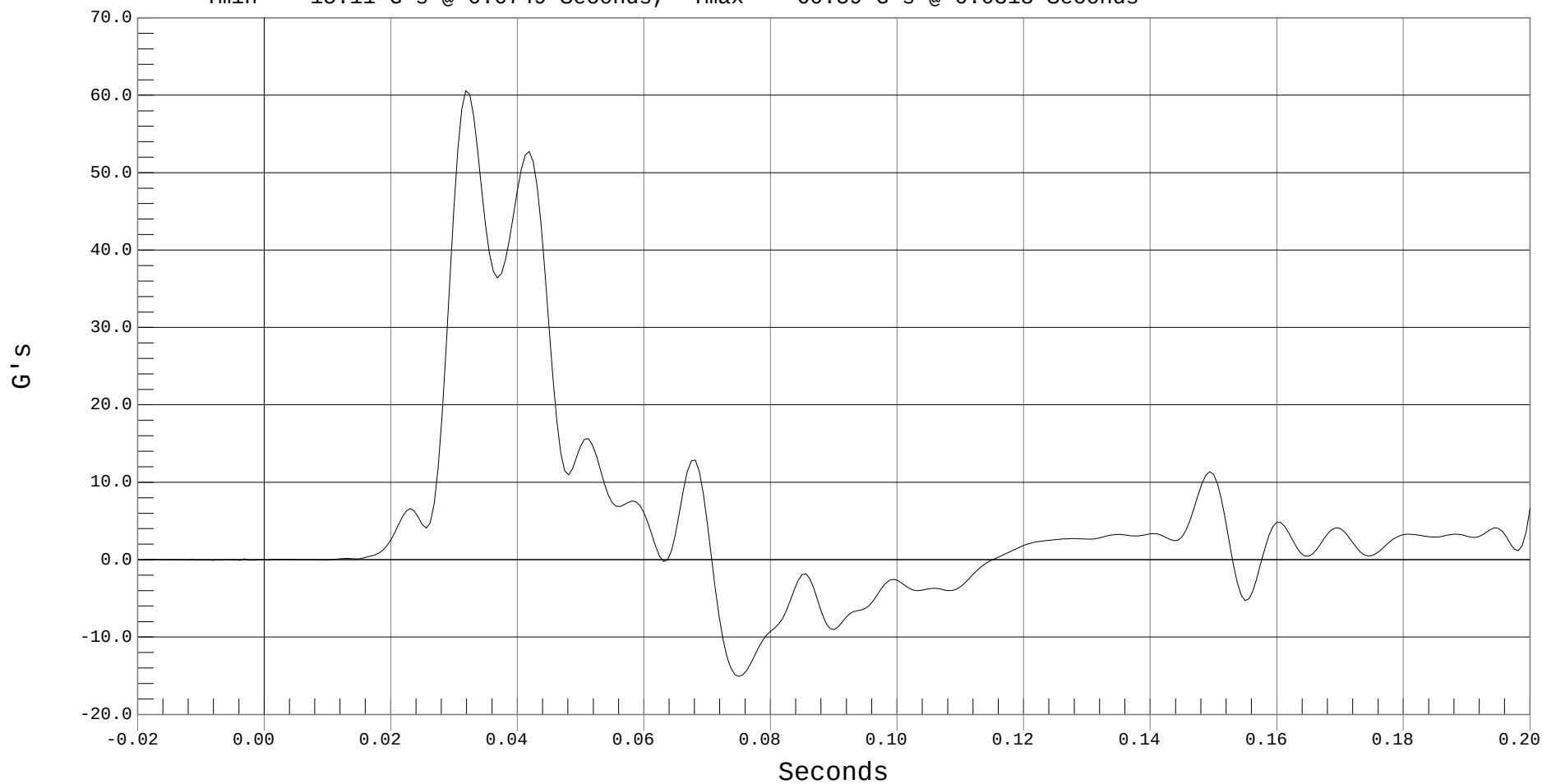
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

— 1 DRIVER LOWER RIB Yr, b01065FI.R43

Ymin = -15.11 G's @ 0.0749 Seconds, Ymax = 60.59 G's @ 0.0318 Seconds





DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

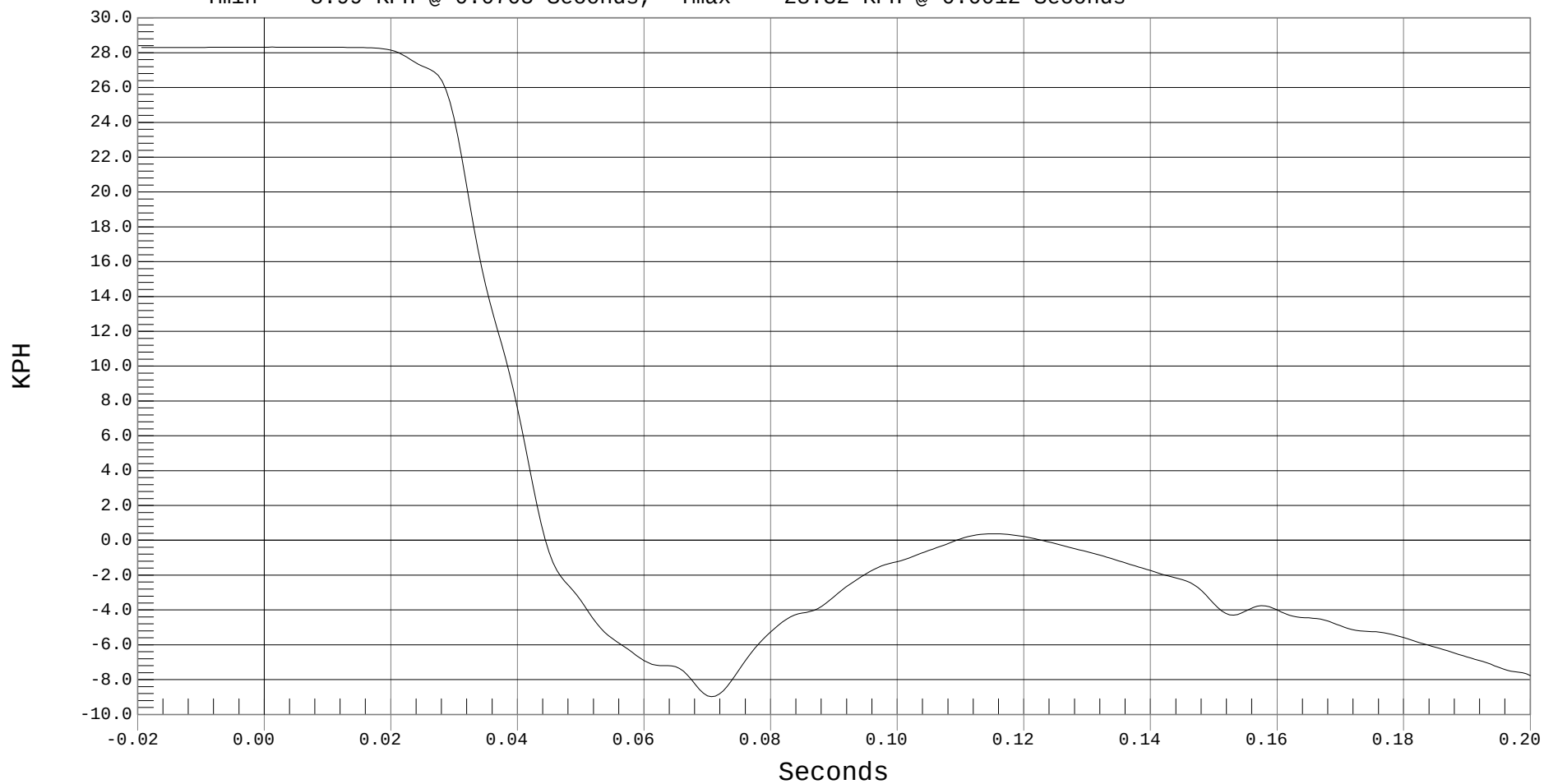
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Fir Filtered

— 1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, b01065FI.V43

Ymin = -8.99 KPH @ 0.0705 Seconds, Ymax = 28.32 KPH @ 0.0012 Seconds





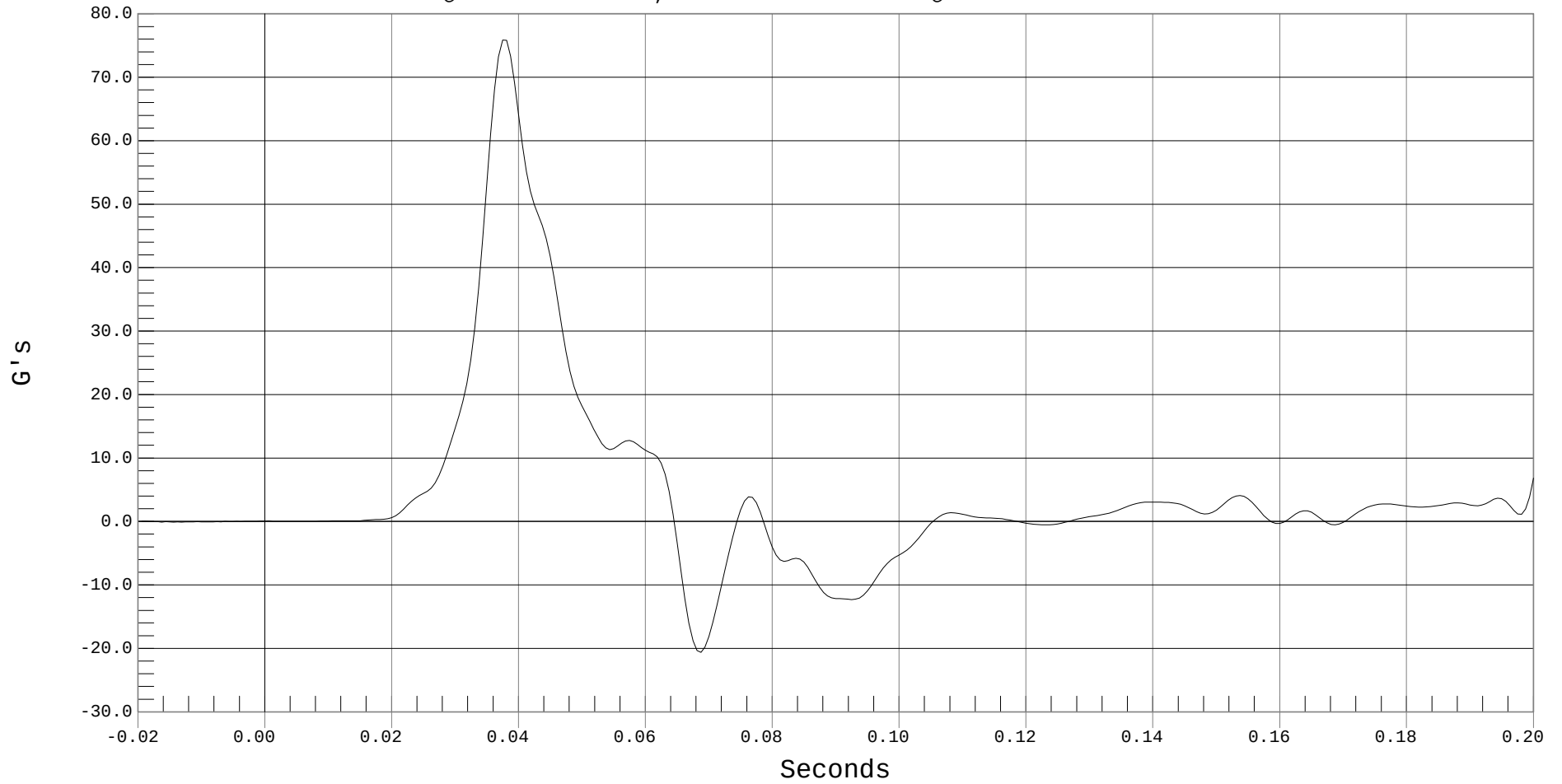
DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Fir Filtered

1 DRIVER LOWER SPINE Yr, b01065FI.R44

Ymin = -20.62 G's @ 0.0687 Seconds, Ymax = 75.87 G's @ 0.0374 Seconds





DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Test Date: 06-14-01

Component: 2001 MERCEDES C240 (C10518)

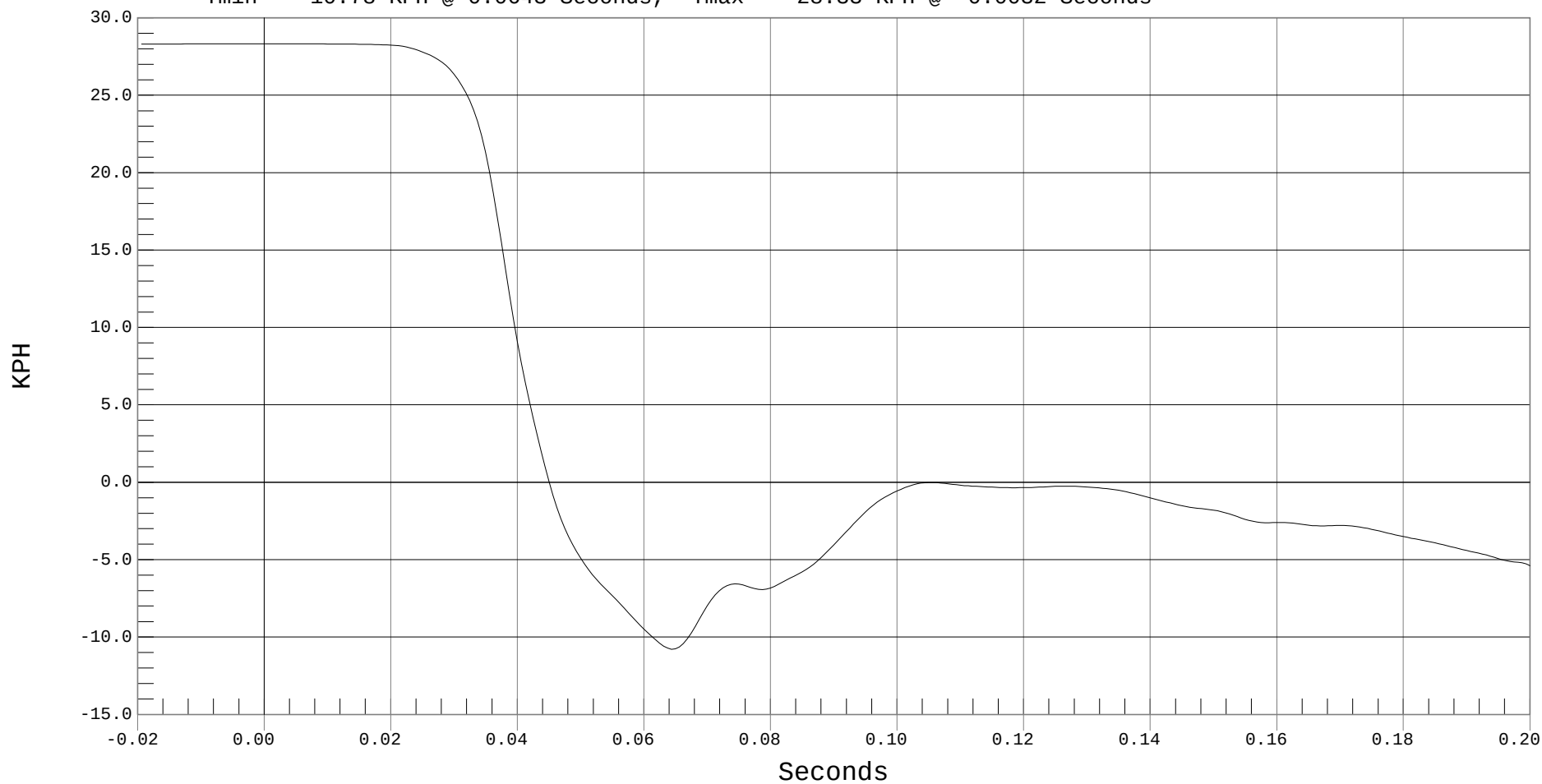
Speed: 17.6 MPH, 28.3 KPH

Other Info:

Fir Filtered

1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, b01065FI.V44

Ymin = -10.78 KPH @ 0.0643 Seconds, Ymax = 28.33 KPH @ -0.0032 Seconds





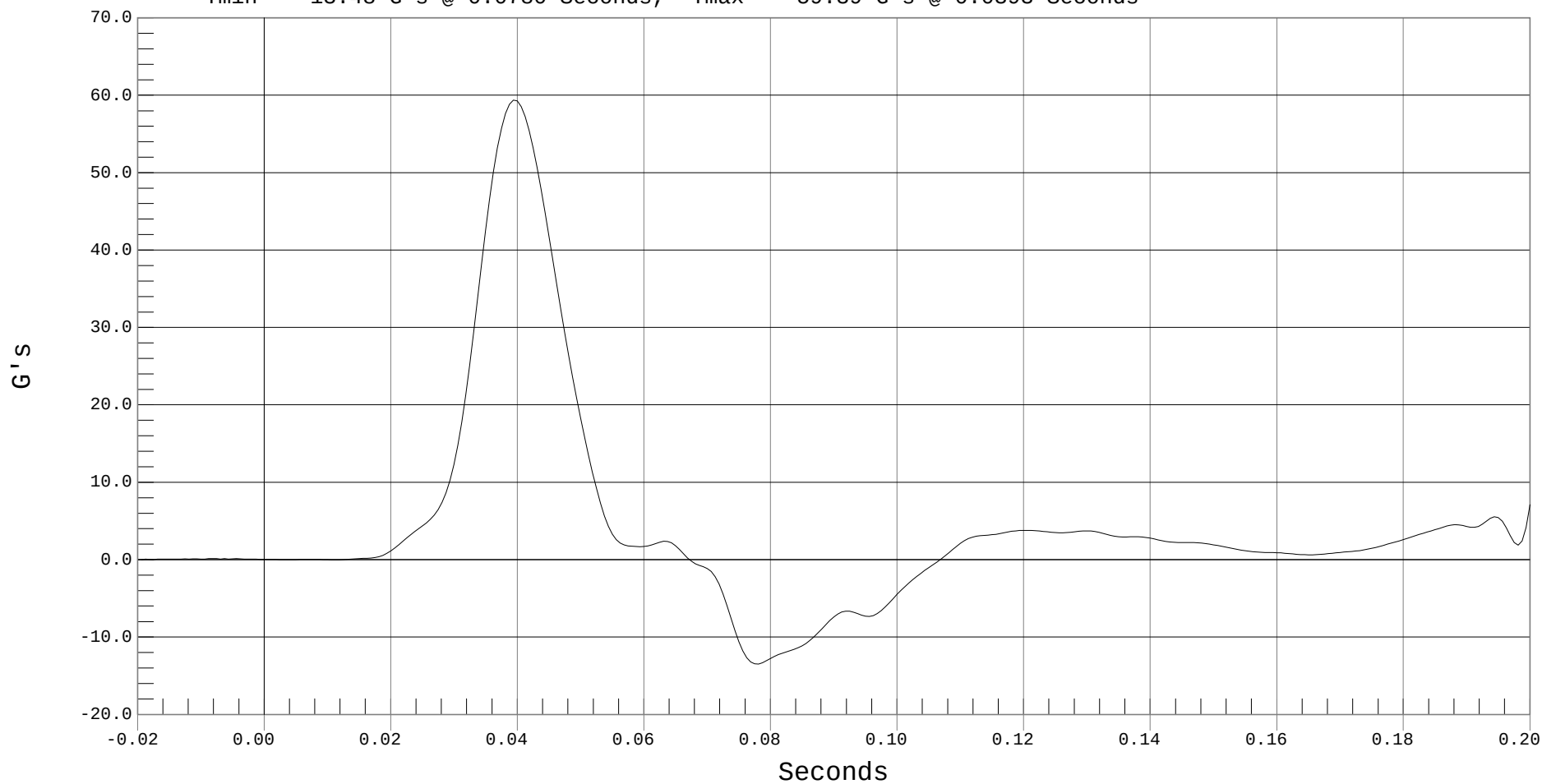
DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT
Component: 2001 MERCEDES C240 (C10518)
Other Info:

Test Date: 06-14-01
Speed: 17.6 MPH, 28.3 KPH
Fir Filtered

1 DRIVER PELVIS Yr, b01065FI.R45

Ymin = -13.48 G's @ 0.0780 Seconds, Ymax = 59.39 G's @ 0.0393 Seconds





DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: FMVSS 201P RIGID POLE SIDE IMPACT

Component: 2001 MERCEDES C240 (C10518)

Other Info:

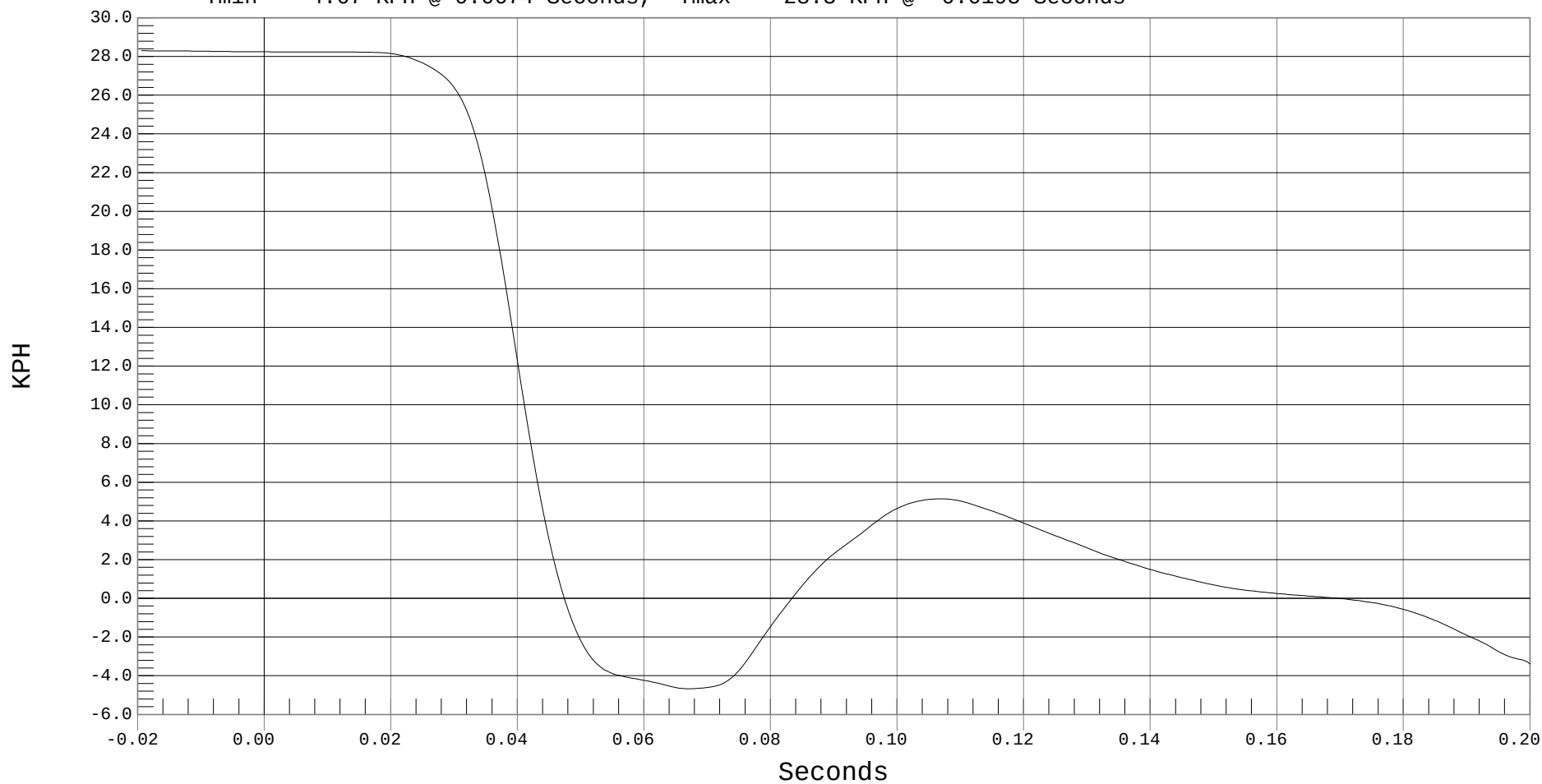
Test Date: 06-14-01

Speed: 17.6 MPH, 28.3 KPH

Fir Filtered

1 DRIVER PELVIS Y REDUNDANT VELOCITY, b01065FI.V45

Ymin = -4.67 KPH @ 0.0674 Seconds, Ymax = 28.3 KPH @ -0.0195 Seconds



APPENDIX C

SID/HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

Calibration Date: 6/12/01

Technician: Tim Michnay

Tested Parameter	Units	Specification	Dummy Serial Number:037	
			Pre-Test	Post-Test
SH – Seated Height	mm	889 - 909	900	900
RH – Rib Height	mm	501 – 521	511	511
HP – Hip Pivot Height	mm	99 ref.	99	99
RD-Rib from Back Line	mm	229 – 241	236	236
KV – Knee Pivot from Back Line	mm	511 – 526	520	520
SW – Knee Pivot to Floor	mm	490 – 505	494	494
HW – Hip Width	mm	356 – 391	380	380
Laboratory Temperature	°C	18.9 to 25.5	21.2	21.1
Laboratory Relative Humidity	%	10 to 70	57	42
Probe Velocity	m/s	4.27 – 4.33	4.29	4.28
Upper Rib	G's	37 – 46	41	41
Lower Rib	G's	37 – 46	43	43
Lower Spine	G's	15 – 22	22	21
Laboratory Temperature	°C	18.9 to 25.5	21.2	21.1
Laboratory Relative Humidity	%	10 to 70	54	42
Probe Velocity	m/s	4.27 – 4.33	4.29	4.29
Pelvis	G's	40 - 60	43	47

SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test External Measurements

ATD Serial No.: 037

Test Number: D0185

Tested Parameter	Units	Specification	Result	Pass/Fail
SH – Seated Height	mm	889 - 909	900	Pass
RH – Rib Height	mm	501 – 521	511	Pass
HP – Hip Pivot Height	mm	99 ref.	99	Pass
RD-Rib from Back Line	mm	229 – 241	236	Pass
KV – Knee Pivot from Back Line	mm	511 – 526	520	Pass
SW – Knee Pivot to Floor	mm	490 – 505	494	Pass
HW – Hip Width	mm	356 – 391	380	Pass
Overall Test Results				Pass

Laboratory Technician

6/12/01

Test Date

Approved By

SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Head Drop (Lateral) Calibration

ATD Serial No.: 037

Test I.D.: D01851

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	20.7	Pass
Laboratory Relative Humidity	%	10 to 70	52	Pass
Peak Resultant Acceleration	G's	120 to 150	140	Pass
Peak Longitudinal Acceleration	G's	±15.0	Yes	Pass
Is Resultant Curve Unimodal?	Yes/No	within 15% of Peak	-9	Pass
Overall Test Results				Pass

Laboratory Technician

6/12/01

Test Date

Approved By



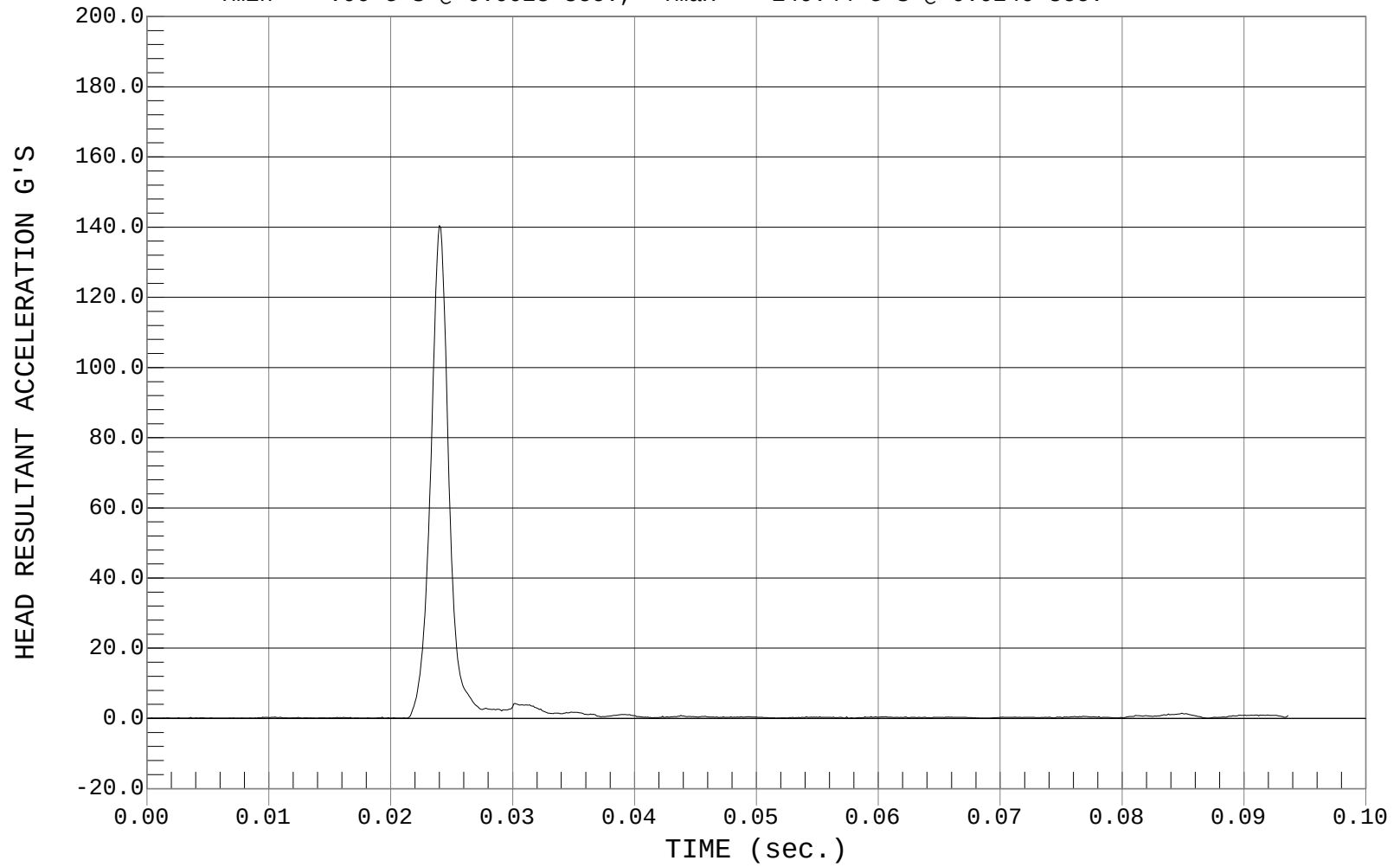
PEAK RESULTANT ACCELERATION

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

Test Date: 06-12-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT ACCELERATION, D01851AV.A01

Ymin = .06 G'S @ 0.0028 sec., Ymax = 140.44 G'S @ 0.0240 sec.





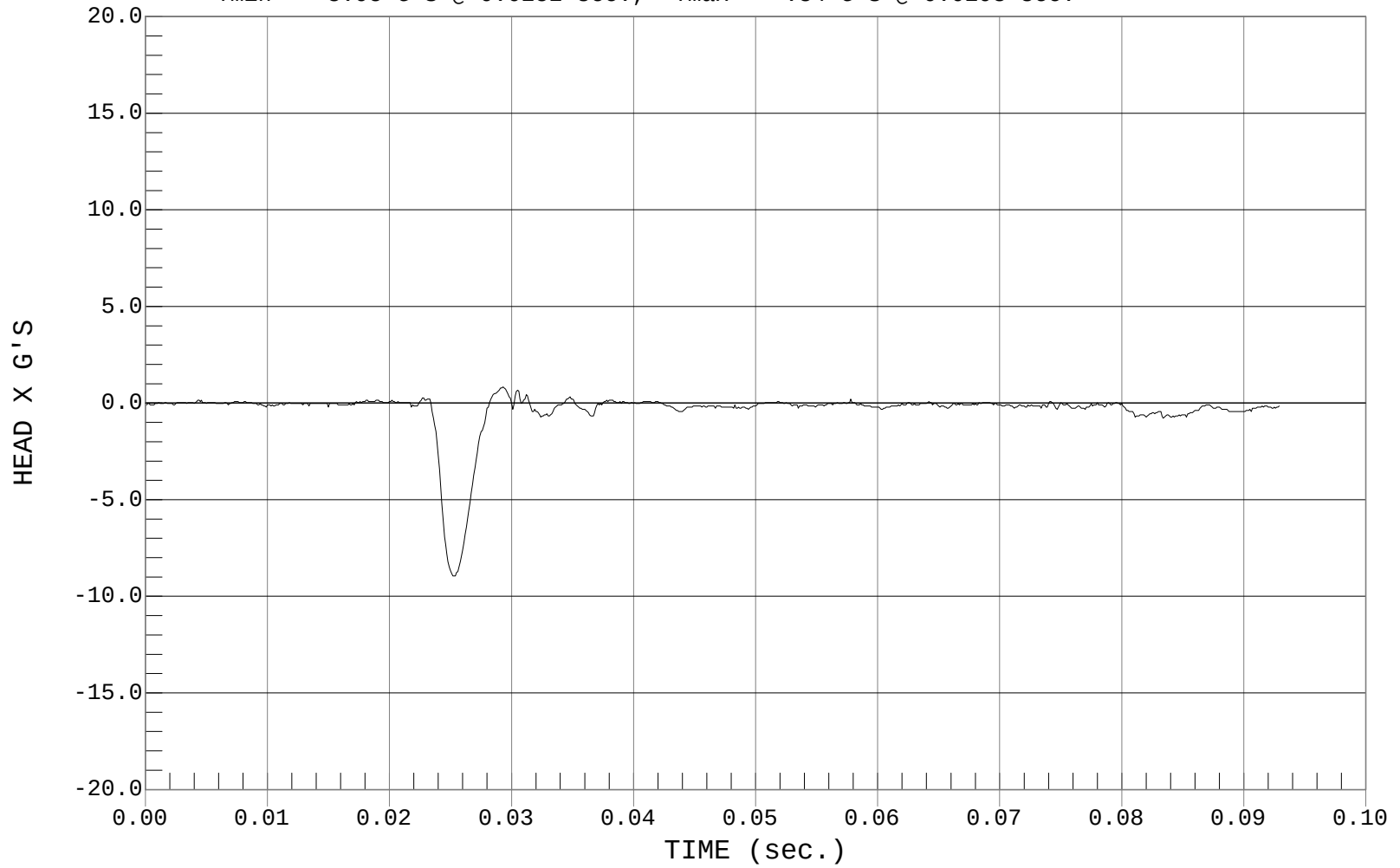
PEAK LATERAL ACCELARATION

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

Test Date: 06-12-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD X, D01851AT.A01

Ymin = -8.95 G'S @ 0.0252 sec., Ymax = .84 G'S @ 0.0293 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Neck Pendulum Calibration

ATD Serial No.: 037

Test I.D.: D01859

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 – 22.2	20.7	Pass
Laboratory Relative Humidity		%	10 to 70	51	Pass
Impact Velocity		m/s	6.89 to 7.13	7.04	Pass
Pendulum Deceleration	10 ms	ms	1.96 – 2.55	2.25	Pass
	20 ms	ms	4.12 – 5.10	4.72	Pass
	30 ms	ms	5.73 – 7.01	6.62	Pass
	40 - 70 ms	ms	6.27 – 7.64	6.70	Pass
Midsaggital Plane Max Rotation		Degrees	66 - 82	78	Pass
Head Rotation Peak to Zero – Decay Time		ms	58 – 67	62	Pass
Max. M _x at Occipital Condyles		Nm	73 – 88	77	Pass
M _x Peak to Zero – Decay Time		ms	49 – 64	58	Pass
M _x Peak to Max. Head Rotation		ms	2 - 16	14	Pass
Overall Test Results				Pass	

Laboratory Technician

6/12/01

Test Date

Approved By



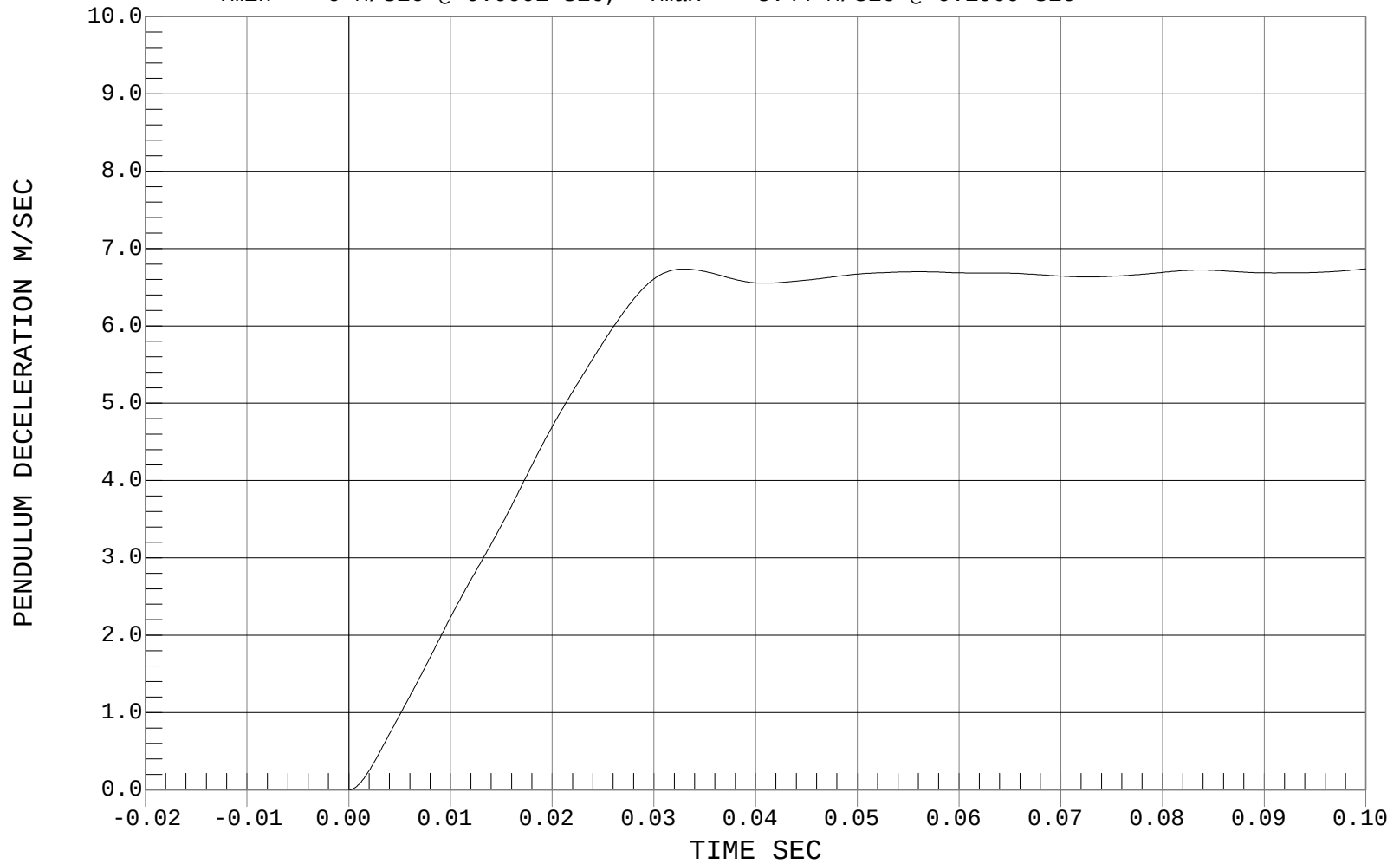
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Bending
Component: Dummy #037

Test Date: 06-12-01
Speed: 23.10 FT/SEC, 7.04 M/SEC

— 1 PENDULUM DECELERATION, D01859AI.V04

Ymin = 0 M/SEC @ 0.0001 SEC, Ymax = 8.44 M/SEC @ 0.1909 SEC





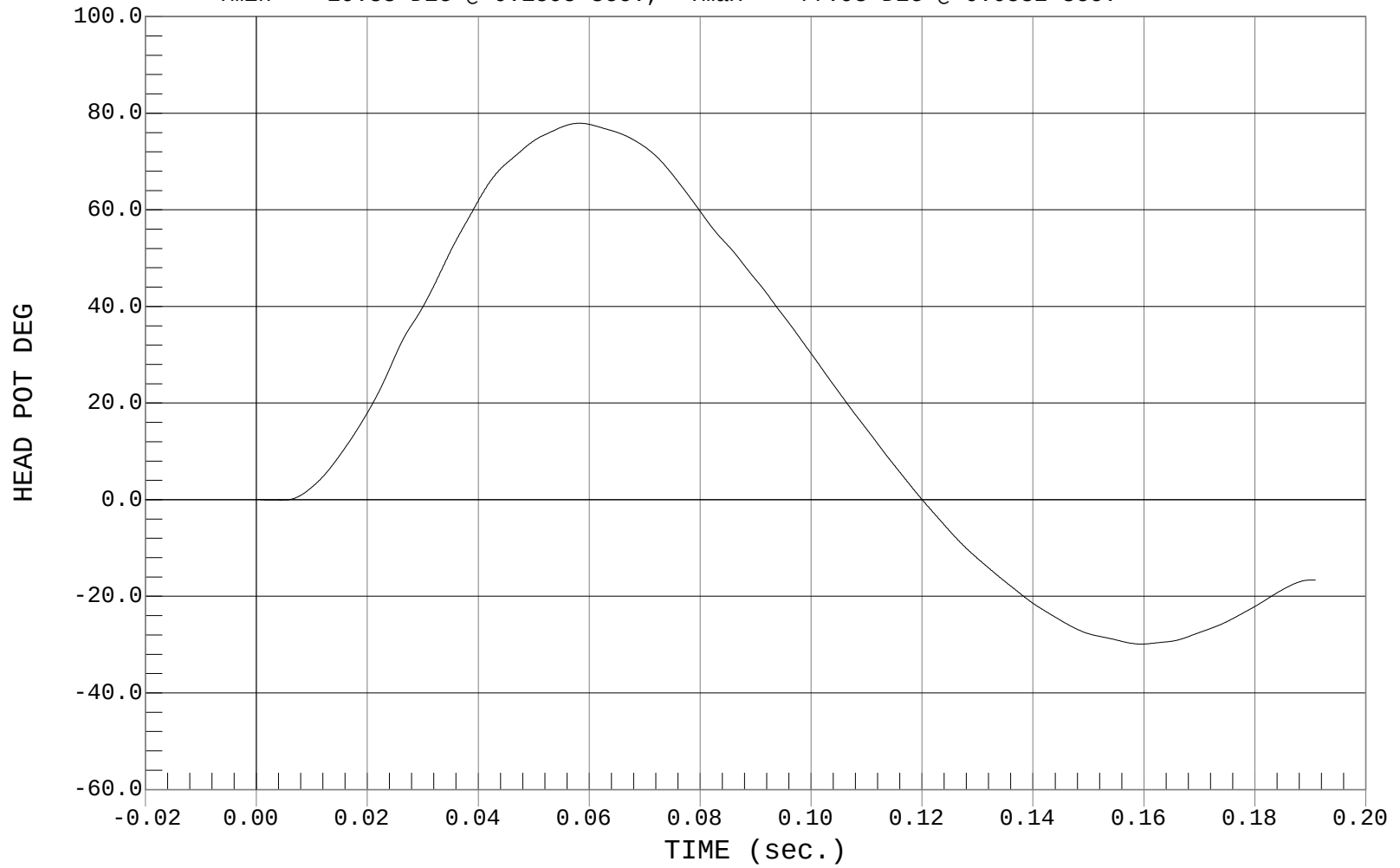
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Bending
Component: Dummy #037

Test Date: 06-12-01
Speed: 23.10 FT/SEC, 7.04 M/SEC

— 1 HEAD POT, D01859DU.D05

Ymin = -29.88 DEG @ 0.1595 sec., Ymax = 77.93 DEG @ 0.0582 sec.





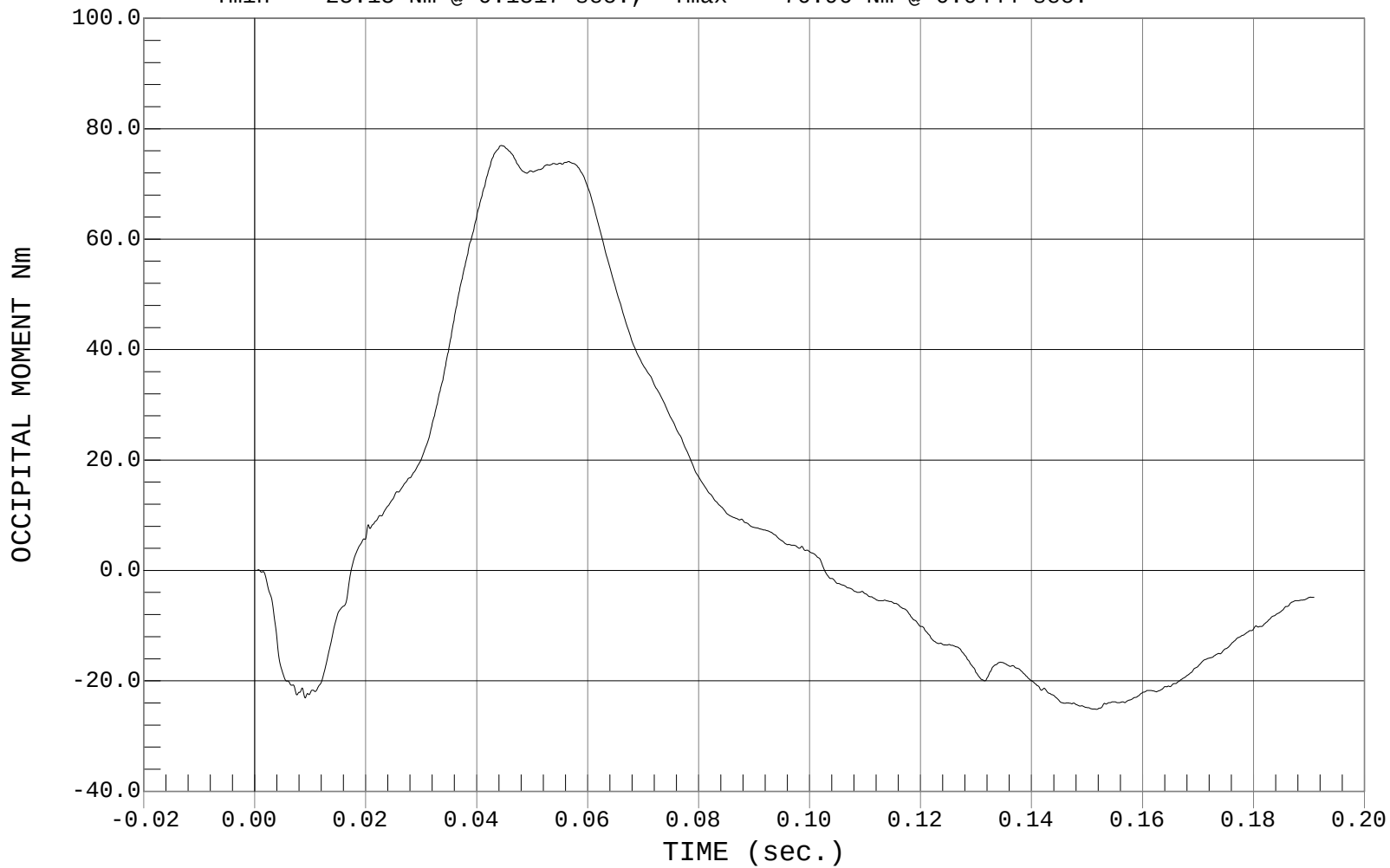
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Bending
Component: Dummy #037

Test Date: 06-12-01
Speed: 23.10 FT/SEC, 7.04 M/SEC

— 1 OCCIPITAL MOMENT, D01859NK.MNT

Ymin = -25.15 Nm @ 0.1517 sec., Ymax = 76.96 Nm @ 0.0444 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Thorax Impact Calibration

ATD Serial No.: 037

Test I.D.: D01852

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	57	Pass
Probe Velocity	m/s	4.27 – 4.33	4.29	Pass
Upper Rib	G's	37 – 46	41	Pass
Lower Rib	G's	37 – 46	43	Pass
Lower Spine	G's	15 - 22	22	Pass
Overall Test Results				Pass

Laboratory Technician

6/10/01

Test Date

Approved By



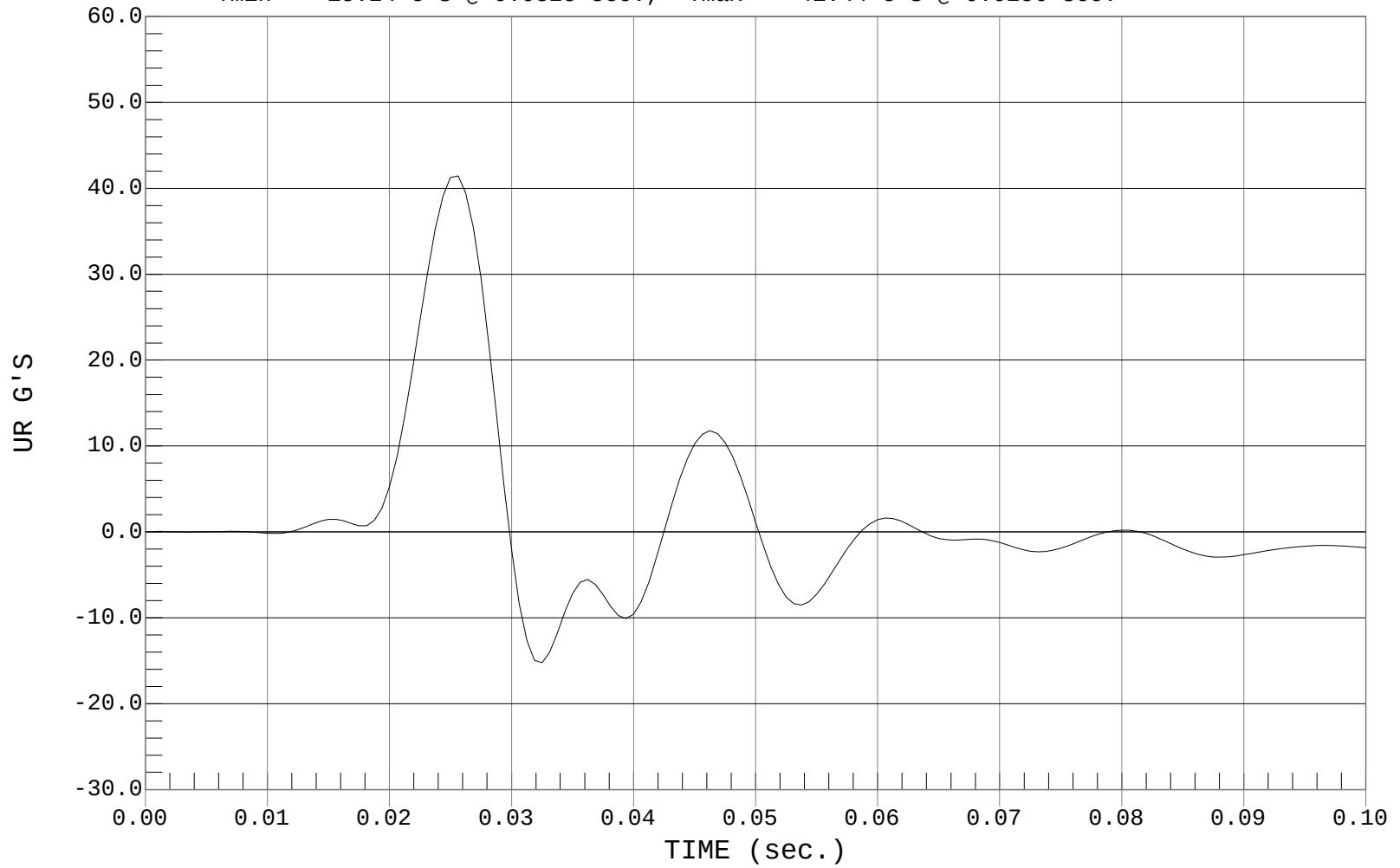
UPPER RIB ACCELERATION

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

Test Date: 06-10-01
Speed: 14.07 FT/SEC, 4.29 M/SEC

— 1 UR, D01852FI.R08

Ymin = -15.24 G'S @ 0.0325 sec., Ymax = 41.44 G'S @ 0.0256 sec.





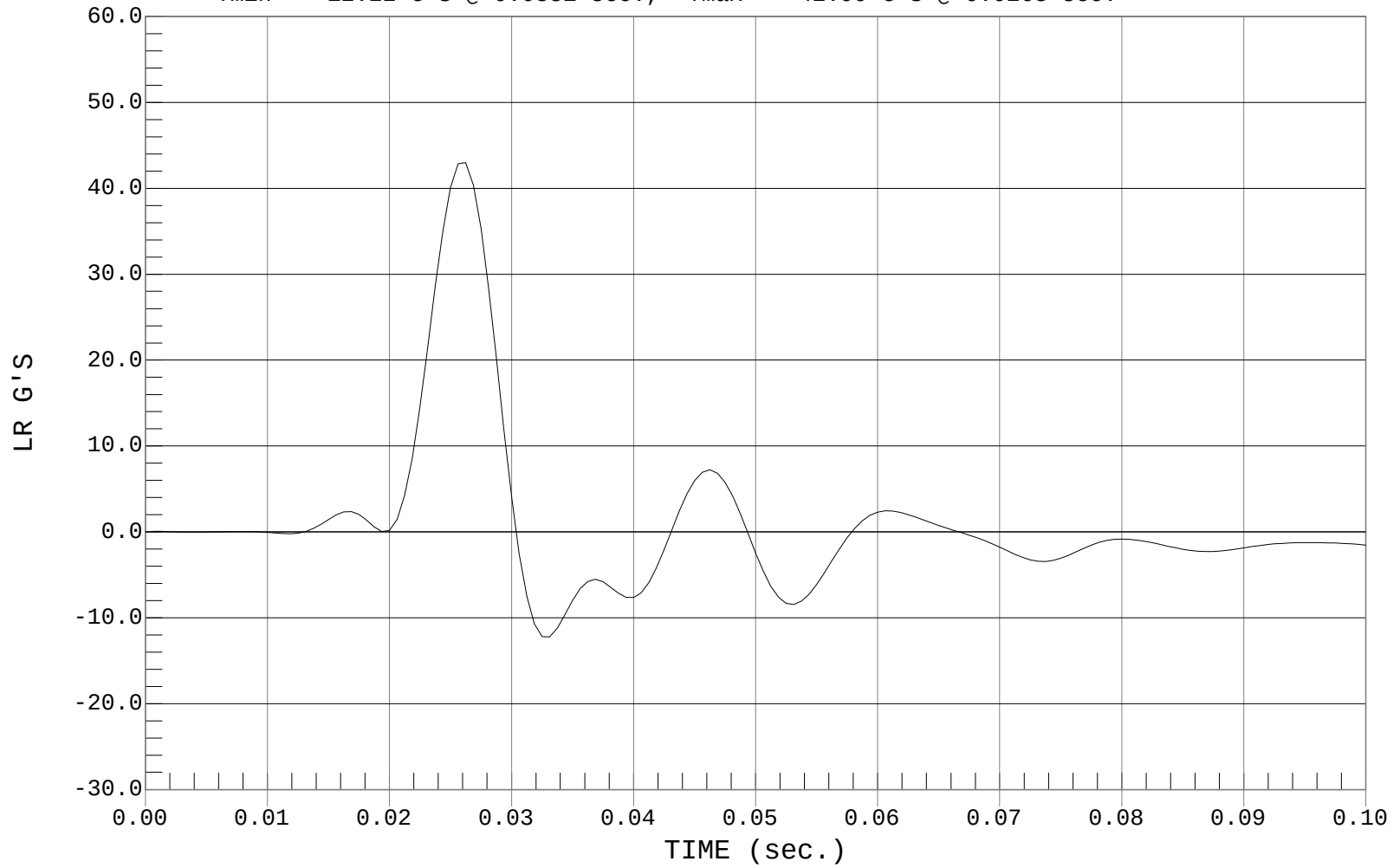
LOWER RIB ACCELERATION

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

Test Date: 06-10-01
Speed: 14.07 FT/SEC, 4.29 M/SEC

— 1 LR, D01852FI.R09

Ymin = -12.22 G'S @ 0.0331 sec., Ymax = 42.99 G'S @ 0.0263 sec.





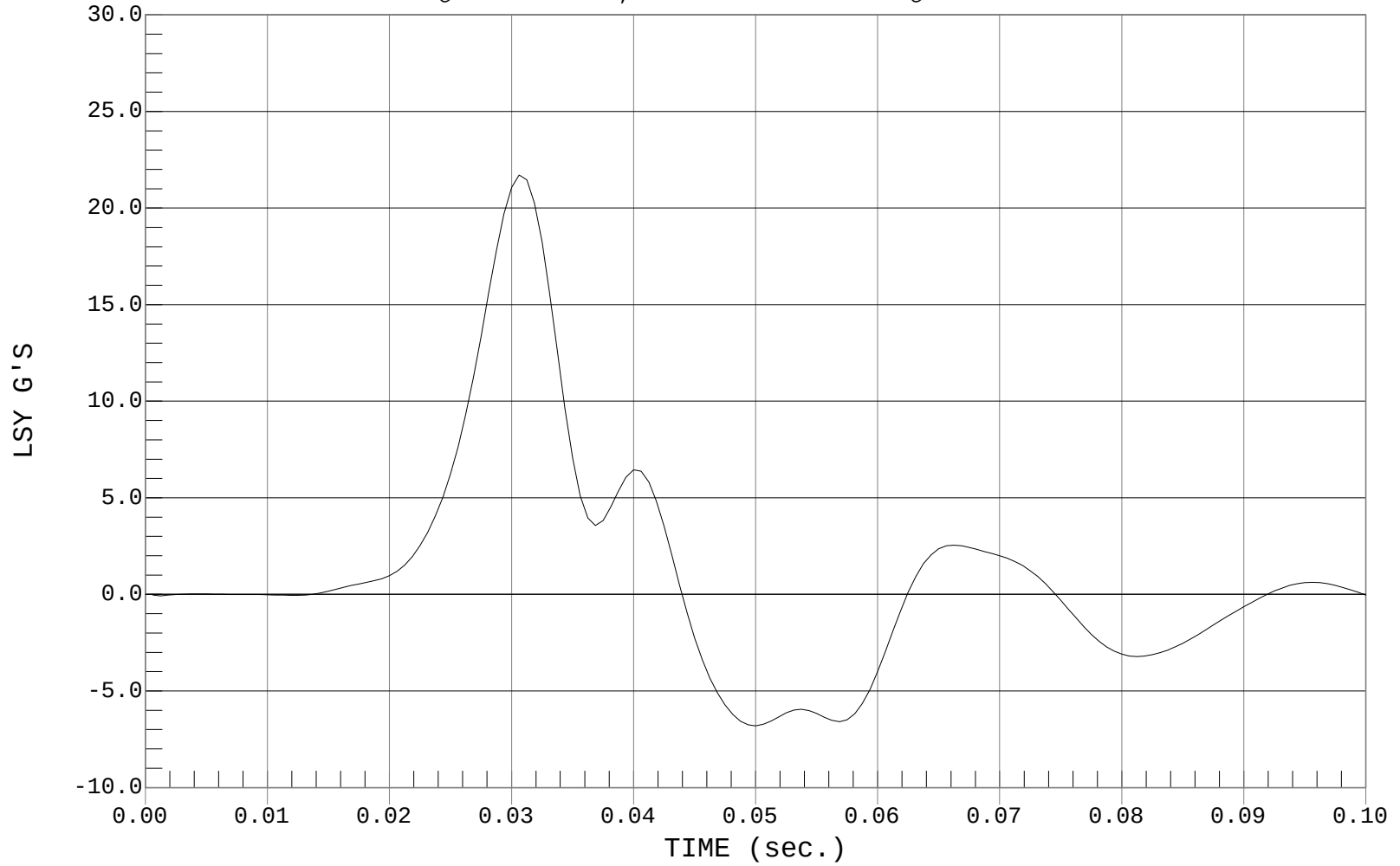
LOWER SPINE ACCELERATION

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

Test Date: 06-10-01
Speed: 14.07 FT/SEC, 4.29 M/SEC

— 1 LSY, D01852FI.R10

Ymin = -6.8 G'S @ 0.0500 sec., Ymax = 21.71 G'S @ 0.0306 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Pelvis Impact Calibration

ATD Serial No.: 037

Test I.D.: D01853

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	54	Pass
Probe Speed	m/s	4.27 – 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	43	Pass
Overall Test Results				Pass

Laboratory Technician

6/10/01

Test Date

Approved By



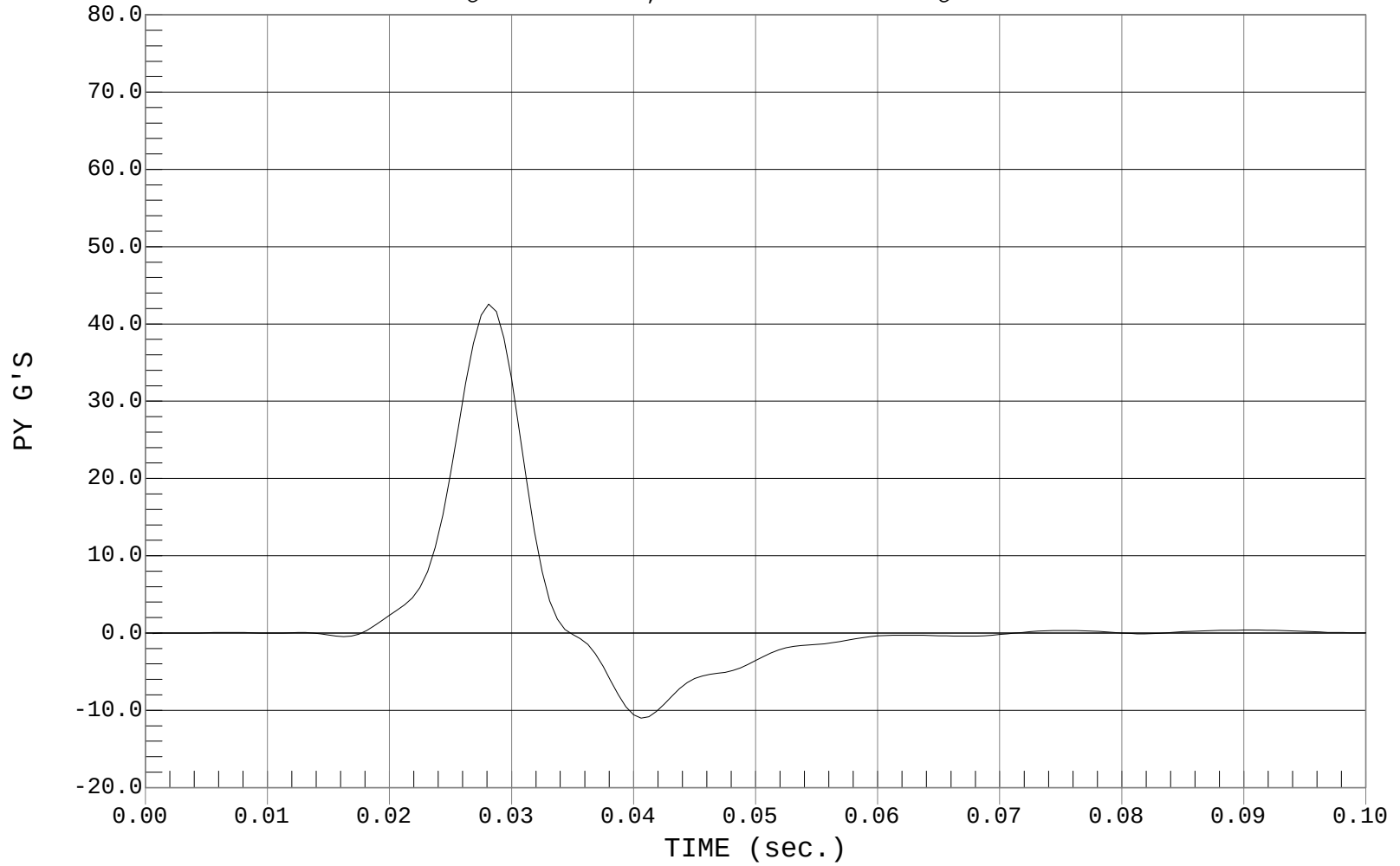
PELVIS ACCELERATION

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

Test Date: 06-10-01
Speed: 14.09 FT/SEC, 4.29 M/SEC

— 1 PY, D01853FI.R11

Ymin = -11.01 G'S @ 0.0406 sec., Ymax = 42.58 G'S @ 0.0281 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Abdominal Compression Calibration (Preload = 10 lbs)

ATD Serial No.: 037

Test I.D.: D01844

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	52	Pass
Force @ 12.7 mm	N	104 – 162	134	Pass
Force @ 19 mm	N	163 – 222	184	Pass
Force @ 25.4 mm	N	222 – 280	248	Pass
Force @ 33 mm	N	325 - 391	347	Pass
Overall Test Results				Pass

Laboratory Technician

6/11/01

Test Date

Approved By



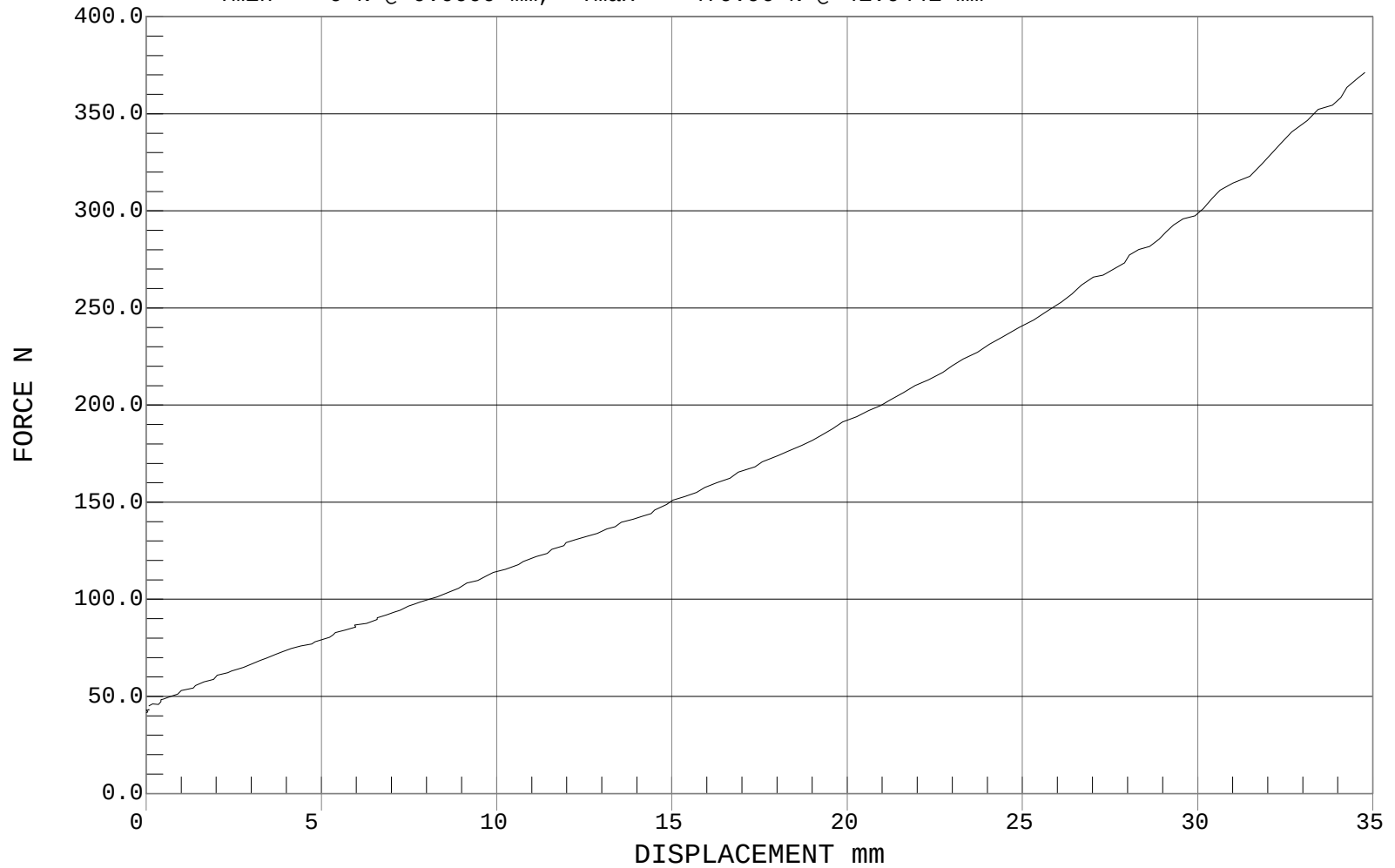
ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION
Component: DUMMY # 037

Test Date: 06-11-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01854FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 470.96 N @ 41.0441 mm



SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Lumbar Flexion Calibration

ATD Serial No.: 037

Test I.D.: D01845

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	52	Pass
Force @ 0°	N	0 – 26.7	0	Pass
Force @ 20°	N	97.9 – 151.2	101.4	Pass
Force @ 30°	N	151.2 – 204.6	178.1	Pass
Force @ 40°	N	204.6 – 258.0	242.8	Pass
Return Angle	Degrees	12° Maximum	3	Pass
Overall Test Results				Pass

Laboratory Technician

6/11/01

Test Date

Approved By



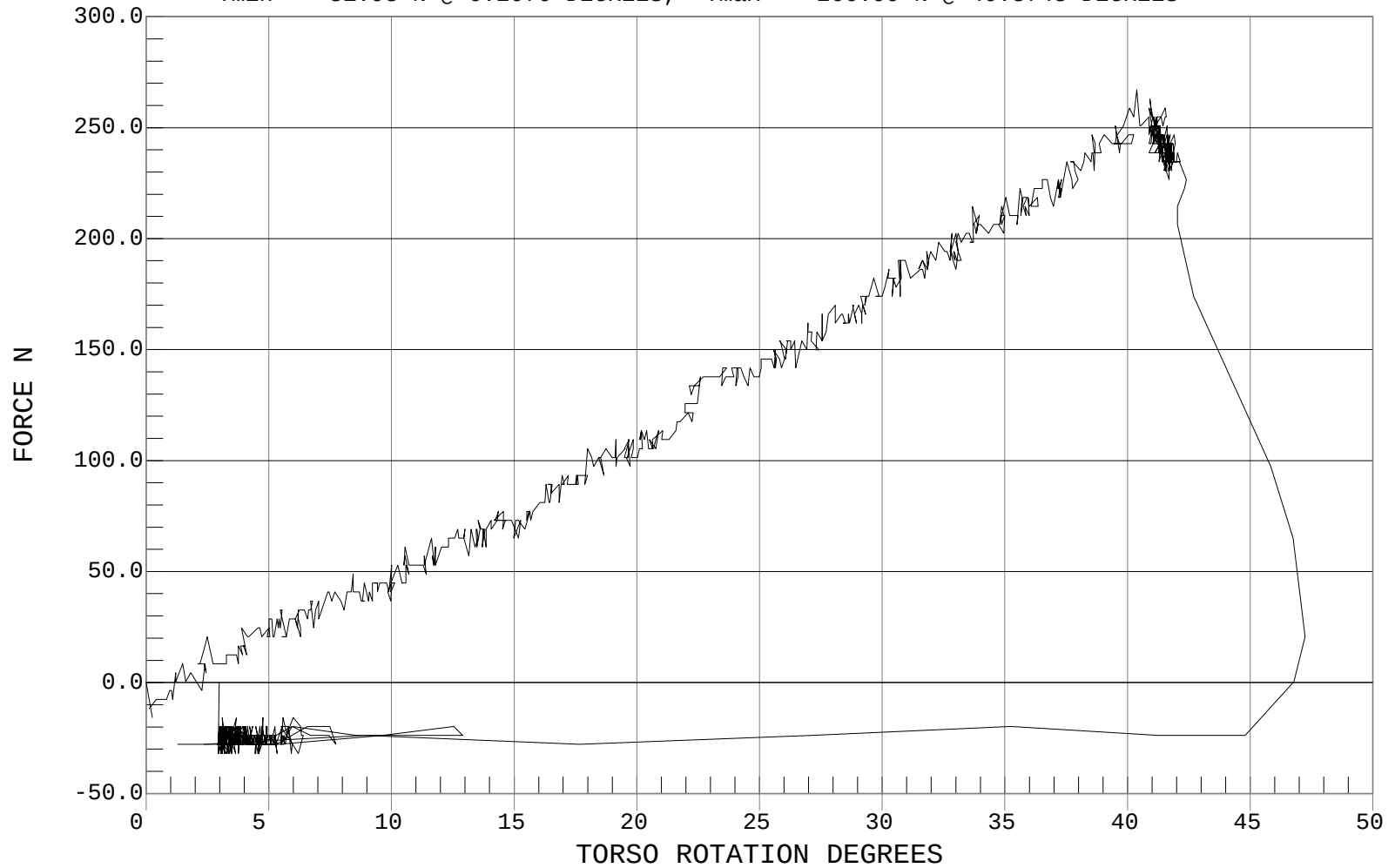
LUMBAR FLEXION

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

Test Date: 06-11-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01855FC.F14

Ymin = -31.93 N @ 6.2070 DEGREES, Ymax = 266.99 N @ 40.3743 DEGREES



SID/HIII Calibration Data Sheet
Side Impact Dummy
Pre-Test Inspection Checklist

ATD Serial No.: 037

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

6/12/01
Test Date

Approved By SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test External Measurements

ATD Serial No.: 037

Test Number: D0190

Tested Parameter	Units	Specification	Result	Pass/Fail
SH – Seated Height	mm	889 - 909	900	Pass
RH – Rib Height	mm	501 – 521	511	Pass
HP – Hip Pivot Height	mm	99 ref.	99	Pass
RD-Rib from Back Line	mm	229 – 241	236	Pass
KV – Knee Pivot from Back Line	mm	511 – 526	520	Pass
SW – Knee Pivot to Floor	mm	490 – 505	494	Pass
HW – Hip Width	mm	356 – 391	380	Pass
Overall Test Results				Pass

Laboratory Technician

6/19/01

Test Date

Approved By

SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Head Drop (Lateral) Calibration

ATD Serial No.: 037

Test I.D.: D01901

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	20.4	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Peak Resultant Acceleration	G's	120 to 150	138	Pass
Peak Longitudinal Acceleration	G's	±15.0	-11	Pass
Is Resultant Curve Unimodal?	Yes/No	within 15% of Peak	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

6/19/01

Test Date

Approved By

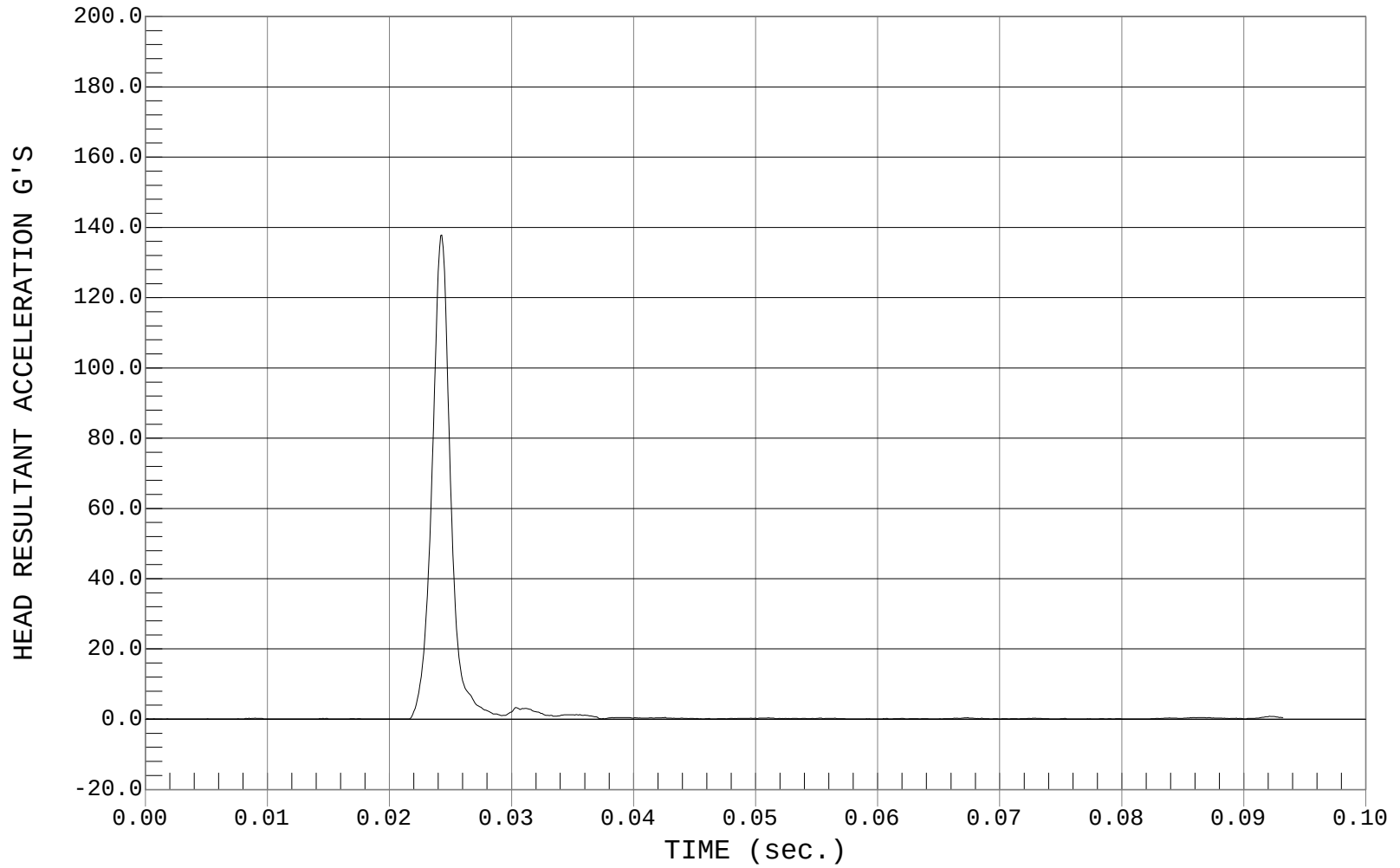


PEAK RESULTANT ACCELERATION

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

Test Date: 06-19-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT ACCELERATION, D01901AV.A01





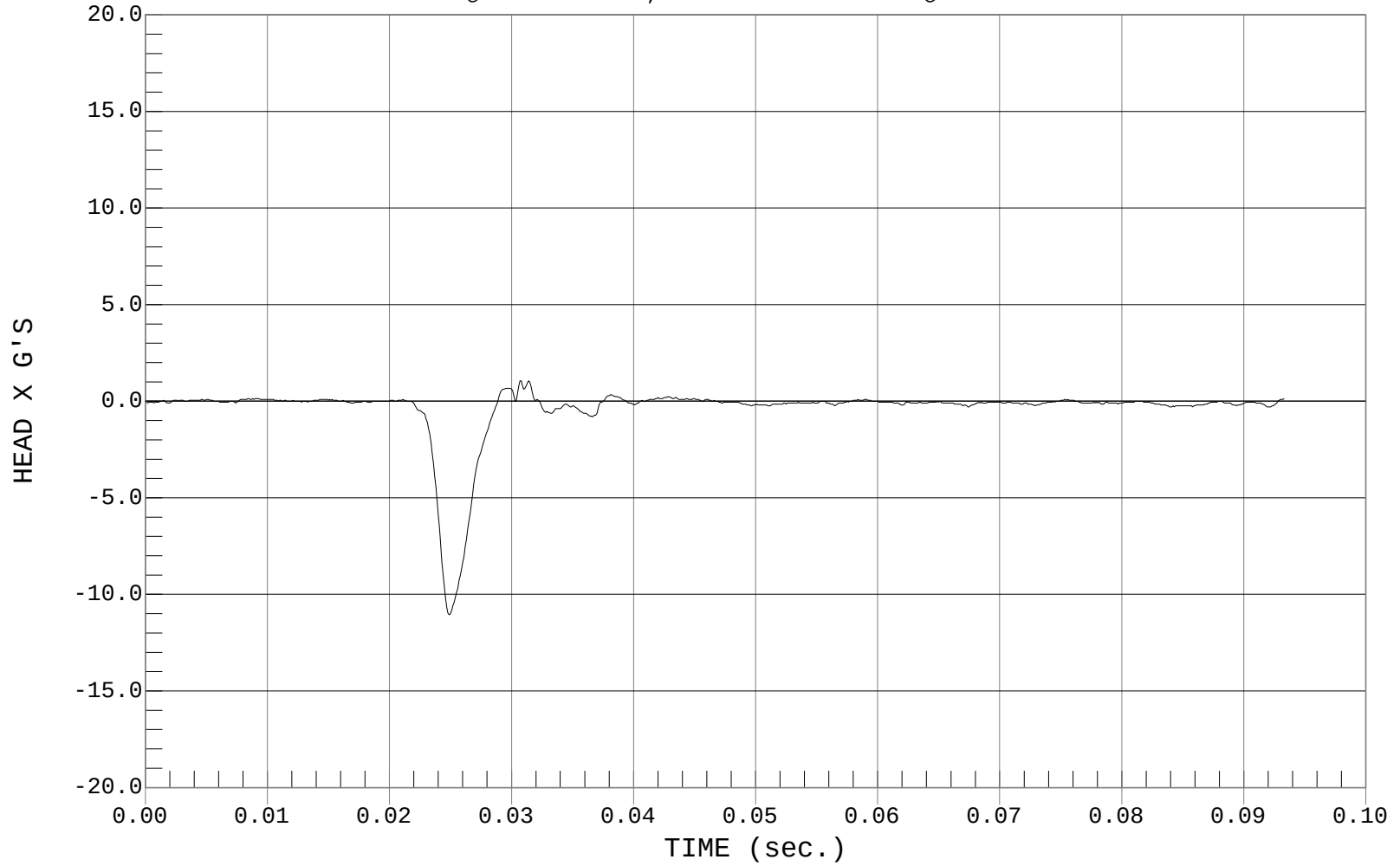
PEAK LATERAL ACCELARATION

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

Test Date: 06-19-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD X, D01901AT.A01

Ymin = -11.06 G'S @ 0.0249 sec., Ymax = 1.05 G'S @ 0.0307 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Neck Pendulum Calibration

ATD Serial No.: 037

Test I.D.: D01909

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 – 22.2	20.5	Pass
Laboratory Relative Humidity		%	10 to 70	53	Pass
Impact Velocity		m/s	6.89 to 7.13	7.06	Pass
Pendulum Deceleration	10 ms	ms	1.96 – 2.55	2.07	Pass
	20 ms	ms	4.12 – 5.10	4.33	Pass
	30 ms	ms	5.73 – 7.01	6.23	Pass
	40 - 70 ms	ms	6.27 – 7.64	6.68	Pass
Midsaggital Plane Max Rotation		Degrees	66 - 82	74	Pass
Head Rotation Peak to Zero – Decay Time		ms	58 – 67	61	Pass
Max. M _x at Occipital Condyles		Nm	73 – 88	75	Pass
M _x Peak to Zero – Decay Time		ms	49 – 64	55	Pass
M _x Peak to Max. Head Rotation		ms	2 - 16	10	Pass
Overall Test Results				Pass	

Laboratory Technician

6/19/01

Test Date

Approved By



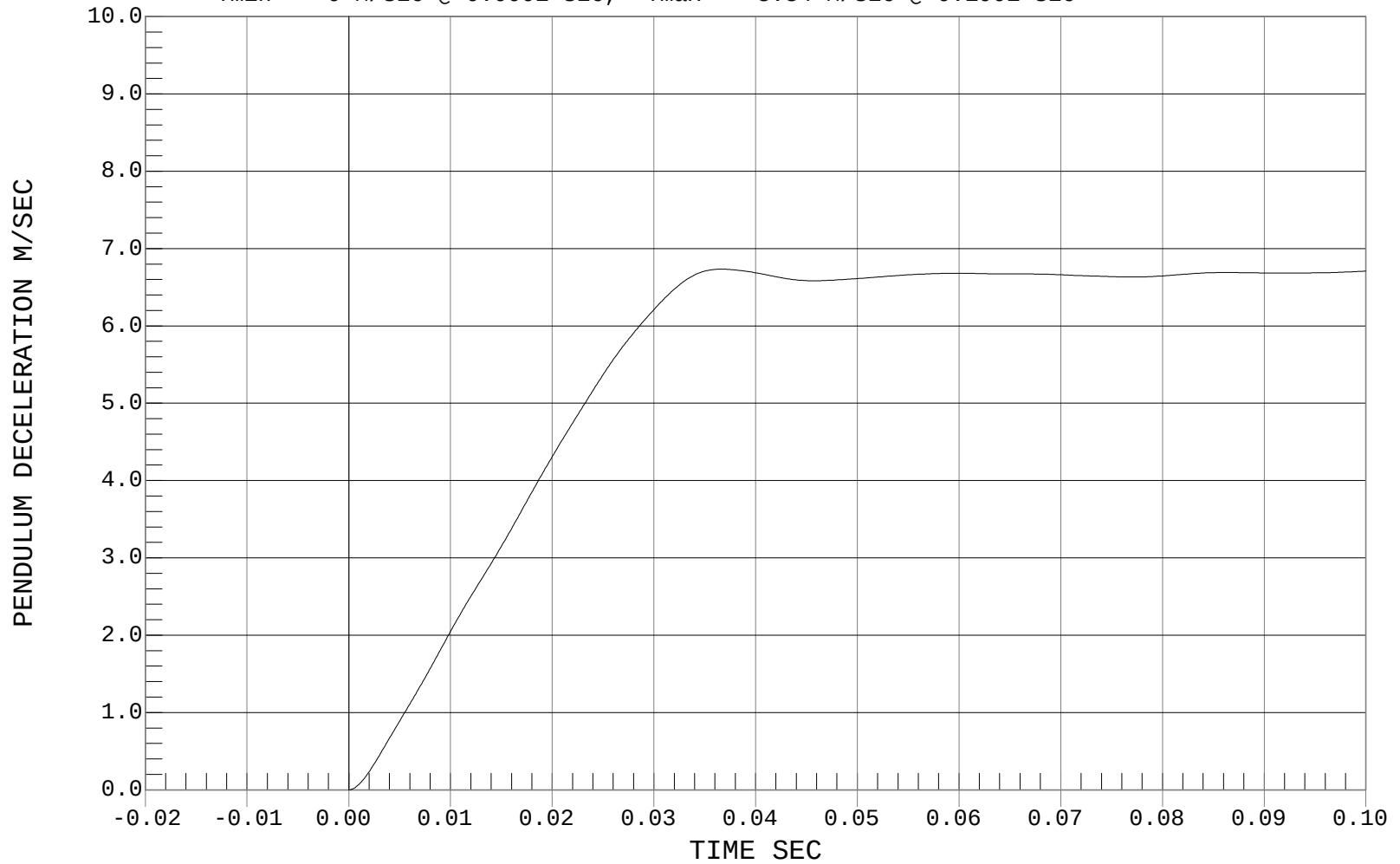
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Bending
Component: Dummy #037

Test Date: 06-19-01
Speed: 23.16 FT/SEC, 7.06 M/SEC

— 1 PENDULUM DECELERATION, D01909AI.V04

Ymin = 0 M/SEC @ 0.0001 SEC, Ymax = 8.34 M/SEC @ 0.1901 SEC





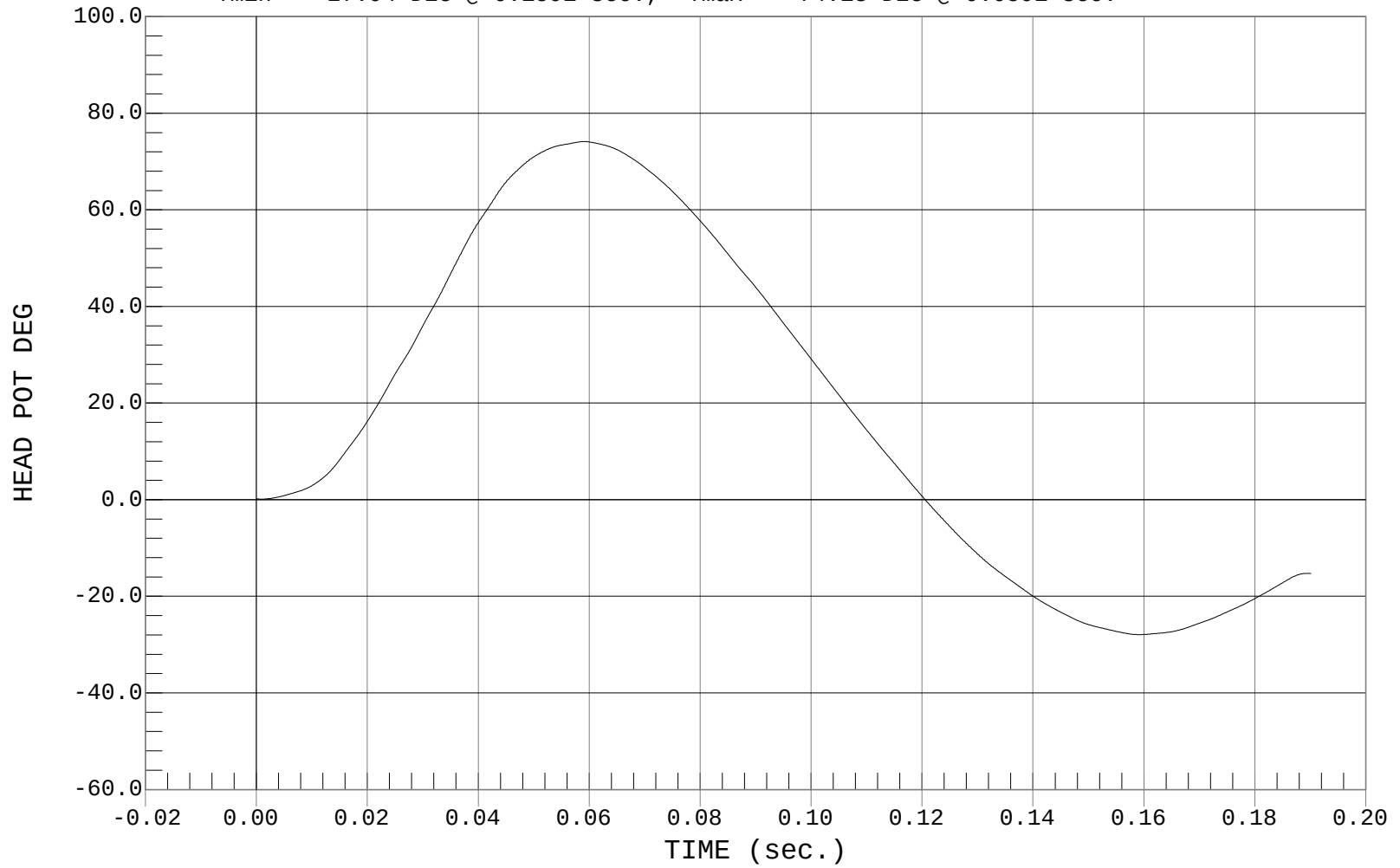
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Bending
Component: Dummy #037

Test Date: 06-19-01
Speed: 23.16 FT/SEC, 7.06 M/SEC

— 1 HEAD POT, D01909DU.D05

Ymin = -27.94 DEG @ 0.1591 sec., Ymax = 74.13 DEG @ 0.0591 sec.





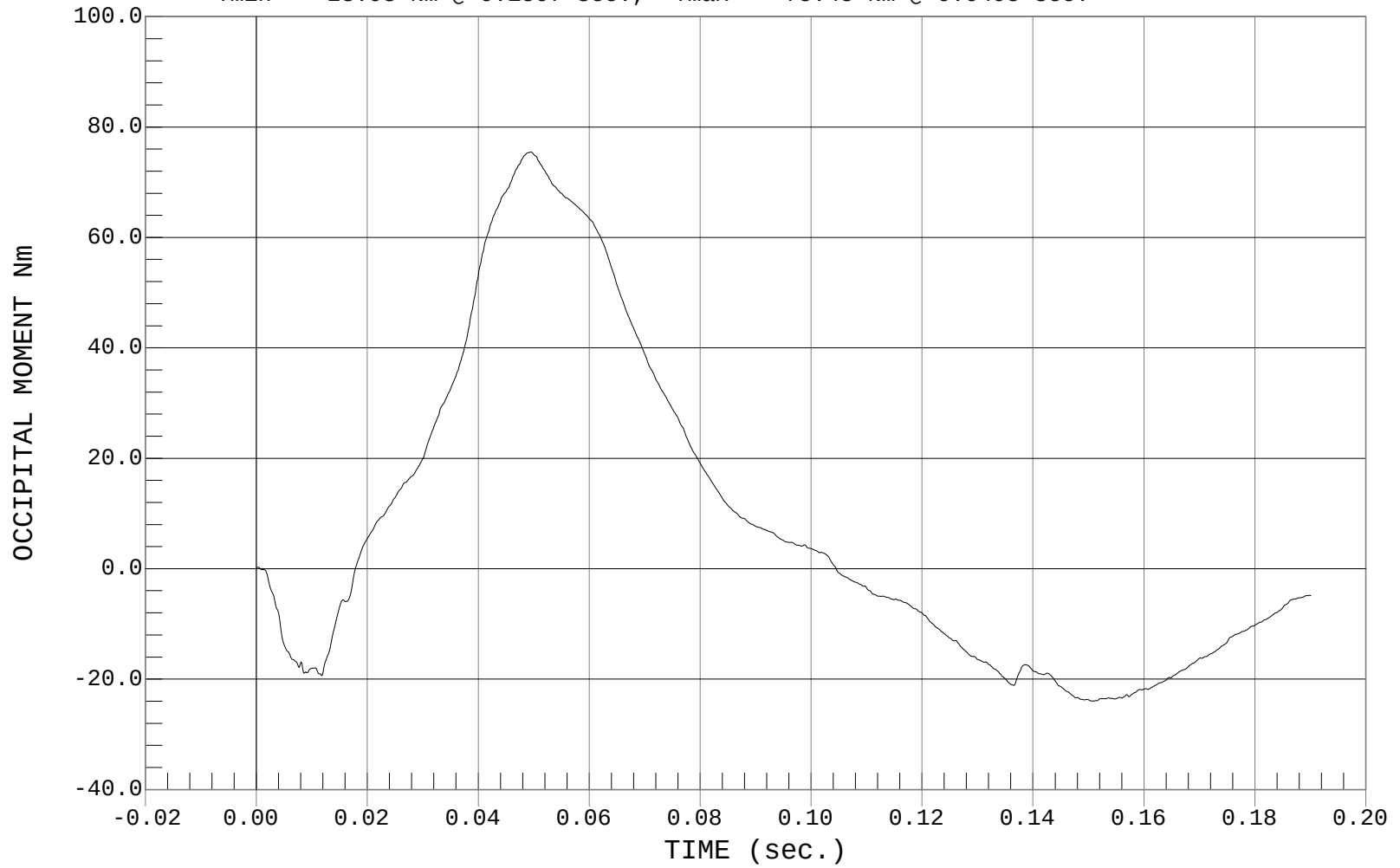
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Bending
Component: Dummy #037

Test Date: 06-19-01
Speed: 23.16 FT/SEC, 7.06 M/SEC

— 1 OCCIPITAL MOMENT, D01909NK.MNT

Ymin = -23.98 Nm @ 0.1507 sec., Ymax = 75.45 Nm @ 0.0495 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Thorax Impact Calibration

ATD Serial No.: 037

Test I.D.: D01902

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Probe Velocity	m/s	4.27 – 4.33	4.28	Pass
Upper Rib	G's	37 – 46	41	Pass
Lower Rib	G's	37 – 46	43	Pass
Lower Spine	G's	15 - 22	21	Pass
Overall Test Results				Pass

Laboratory Technician

6/20/01

Test Date

Approved By



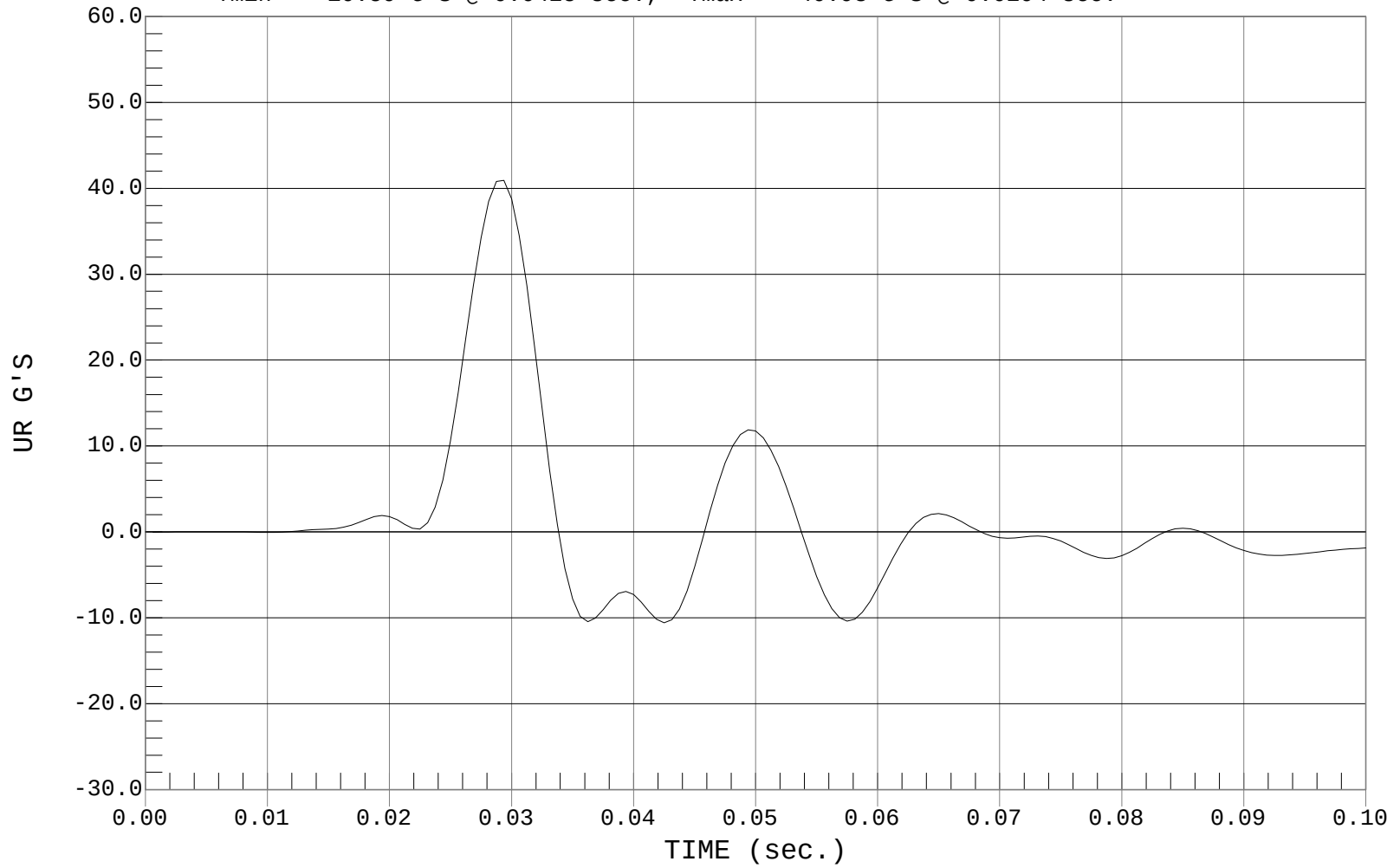
UPPER RIB ACCELERATION

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

Test Date: 06-20-01
Speed: 14.04 FT/SEC, 4.28 M/SEC

— 1 UR, D01902FI.R08

Ymin = -10.59 G'S @ 0.0425 sec., Ymax = 40.93 G'S @ 0.0294 sec.





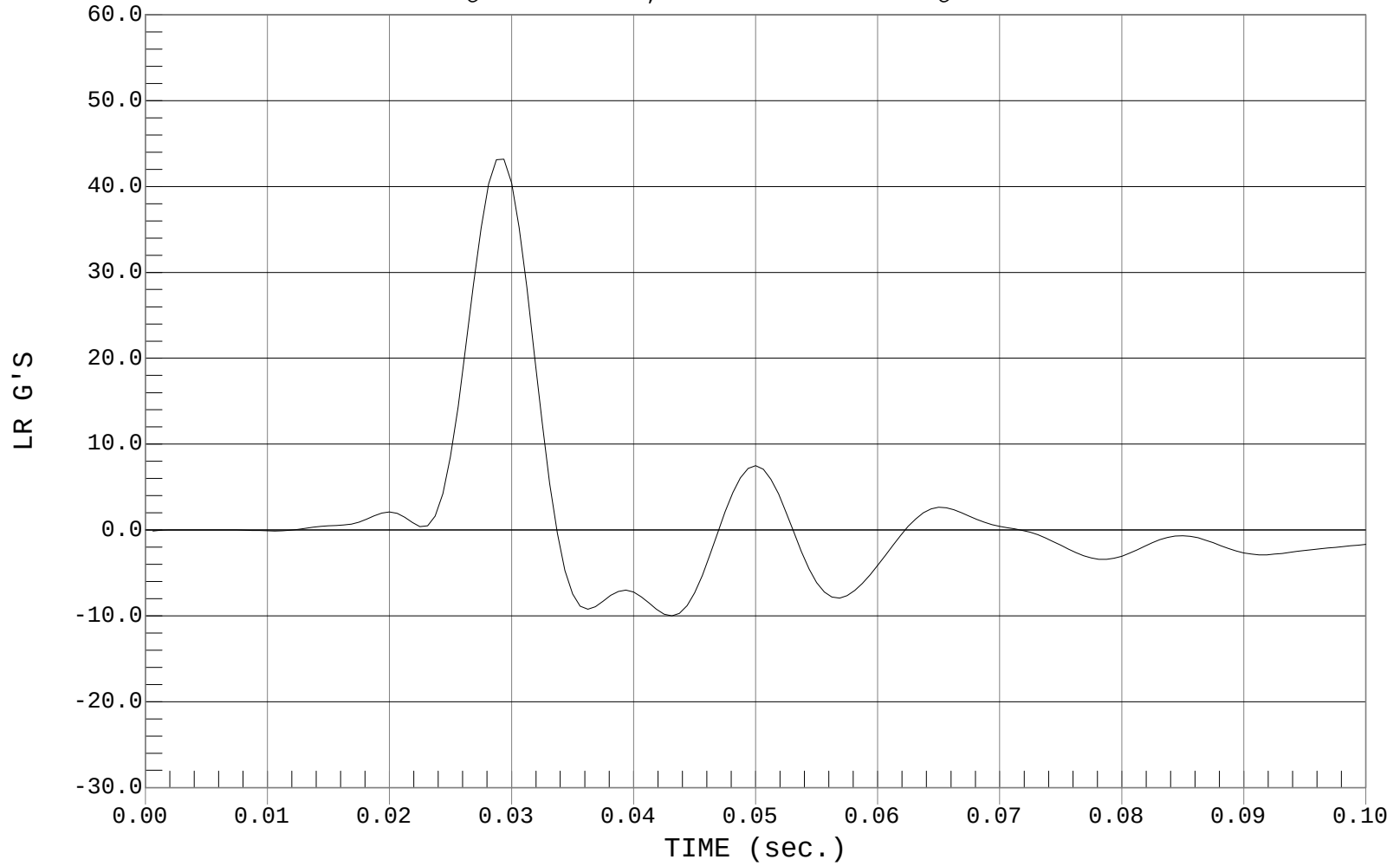
LOWER RIB ACCELERATION

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

Test Date: 06-20-01
Speed: 14.04 FT/SEC, 4.28 M/SEC

— 1 LR, D01902FI.R09

Ymin = -10.01 G'S @ 0.0431 sec., Ymax = 43.18 G'S @ 0.0294 sec.





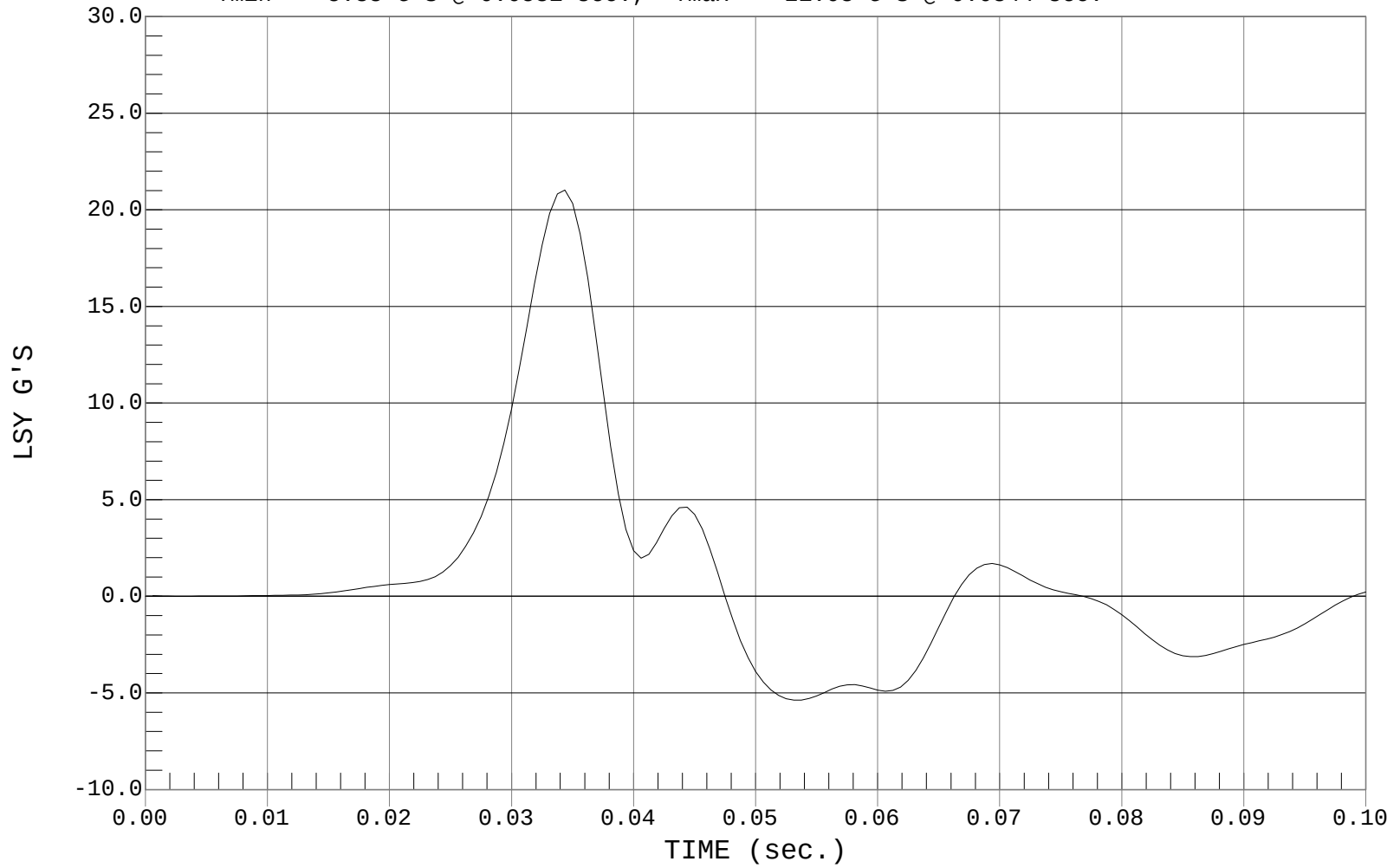
LOWER SPINE ACCELERATION

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

Test Date: 06-20-01
Speed: 14.04 FT/SEC, 4.28 M/SEC

— 1 LSY, D01902FI.R10

Ymin = -5.38 G'S @ 0.0531 sec., Ymax = 21.03 G'S @ 0.0344 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Pelvis Impact Calibration

ATD Serial No.: 037

Test I.D.: D01903

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Probe Speed	m/s	4.27 – 4.33	4.29	Pass
Pelvis Acceleration	G's	40 - 60	47	Pass
Overall Test Results				Pass

Laboratory Technician

6/20/01

Test Date

Approved By



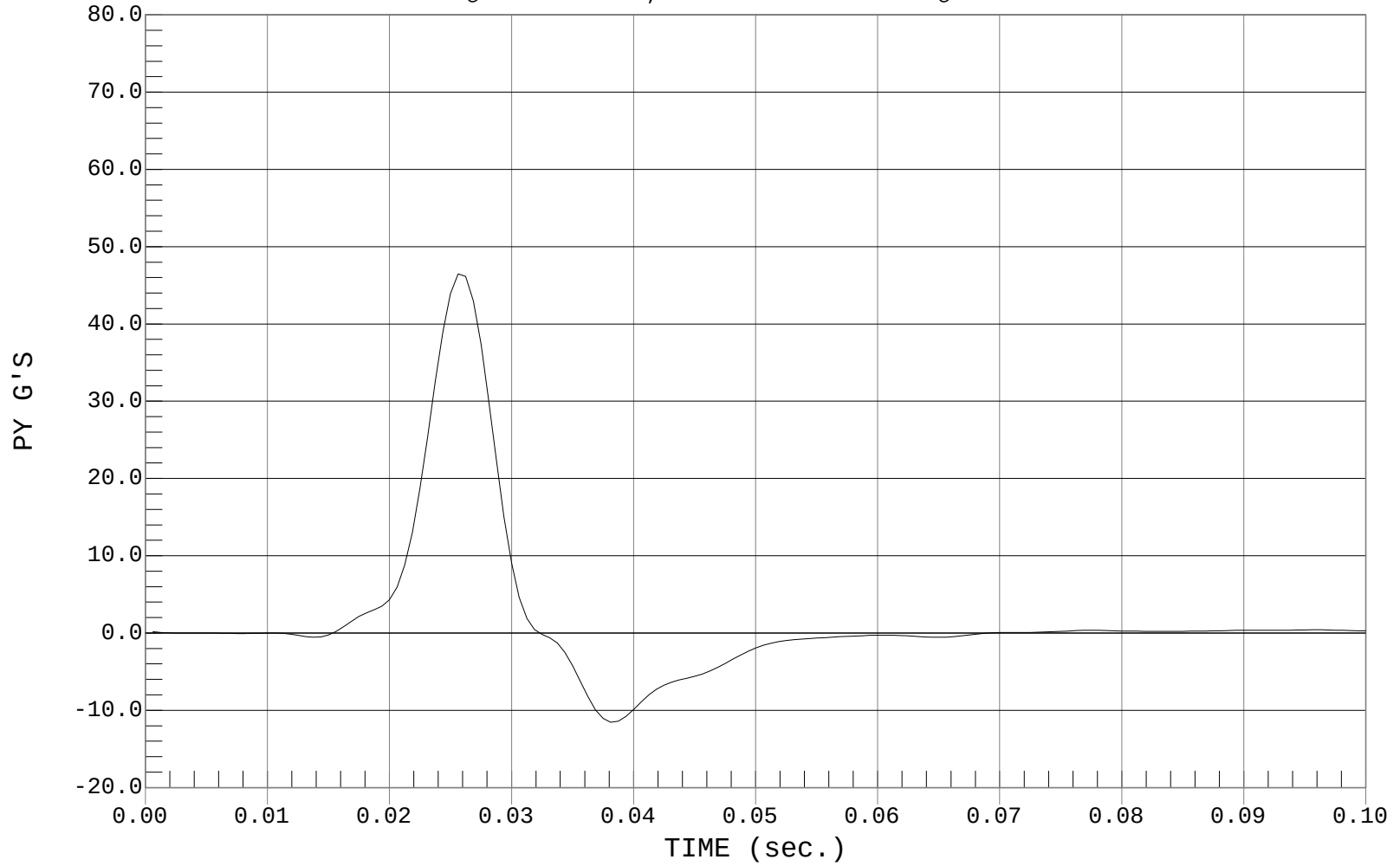
PELVIS ACCELERATION

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

Test Date: 06-20-01
Speed: 14.07 FT/SEC, 4.29 M/SEC

— 1 PY, D01903FI.R11

Ymin = -11.55 G'S @ 0.0381 sec., Ymax = 46.47 G'S @ 0.0256 sec.



SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Abdominal Compression Calibration (Preload = 10 lbs)

ATD Serial No.: 037

Test I.D.: D01904

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.5	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Force @ 12.7 mm	N	104 – 162	134	Pass
Force @ 19 mm	N	163 – 222	181	Pass
Force @ 25.4 mm	N	222 – 280	248	Pass
Force @ 33 mm	N	325 - 391	343	Pass
Overall Test Results				Pass

Laboratory Technician

6/19/01

Test Date

Approved By

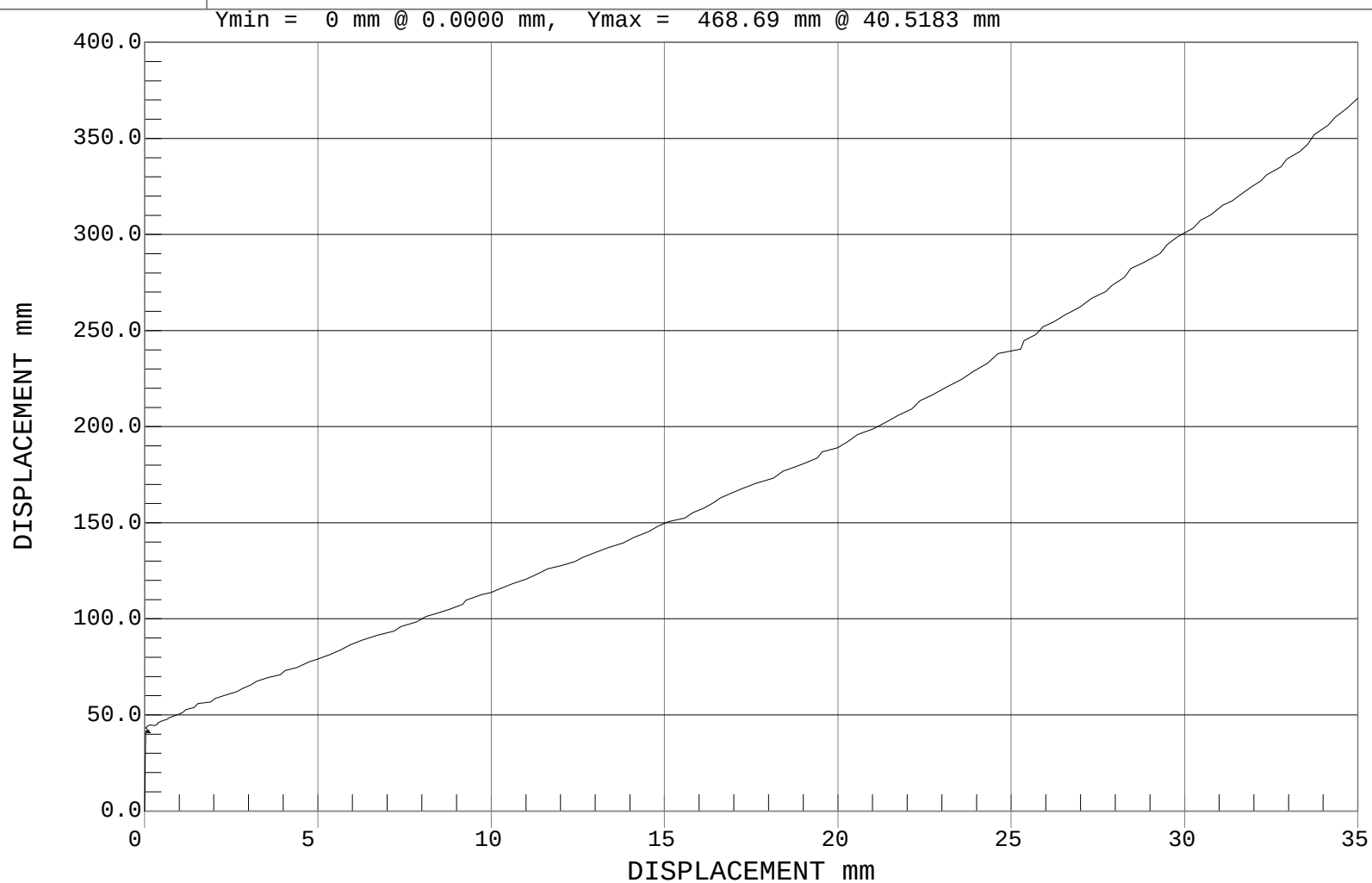


ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION
Component: DUMMY # 037

Test Date: 06-19-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 DISPLACEMENT, D01904FC.F16



SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Lumbar Flexion Calibration

ATD Serial No.: 037

Test I.D.: D01905

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 – 25.5	20.5	Pass
Laboratory Relative Humidity	%	10 to 70	47	Pass
Force @ 0°	N	0 – 26.7	0	Pass
Force @ 20°	N	97.9 – 151.2	106.4	Pass
Force @ 30°	N	151.2 – 204.6	167.0	Pass
Force @ 40°	N	204.6 – 258.0	235.6	Pass
Return Angle	Degrees	12° Maximum	3	Pass
Overall Test Results				Pass

Laboratory Technician

6/19/01

Test Date

Approved By



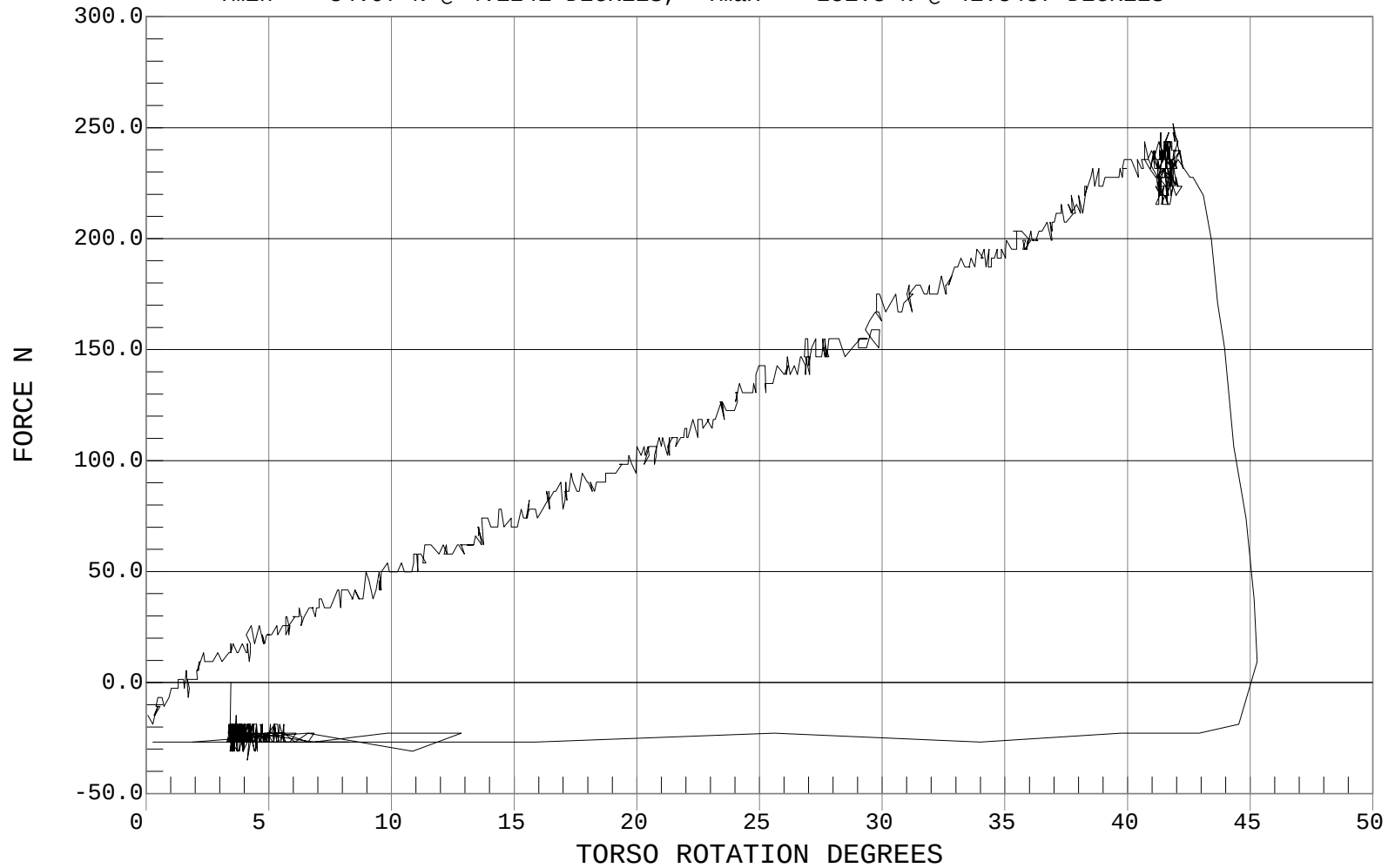
LUMBAR FLEXION

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

Test Date: 06-19-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01905FC.F14

Ymin = -34.97 N @ 4.1241 DEGREES, Ymax = 251.8 N @ 41.8487 DEGREES



SID/HIII Calibration Data Sheet
Side Impact Dummy
Post-Test Inspection Checklist

ATD Serial No.: 037

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

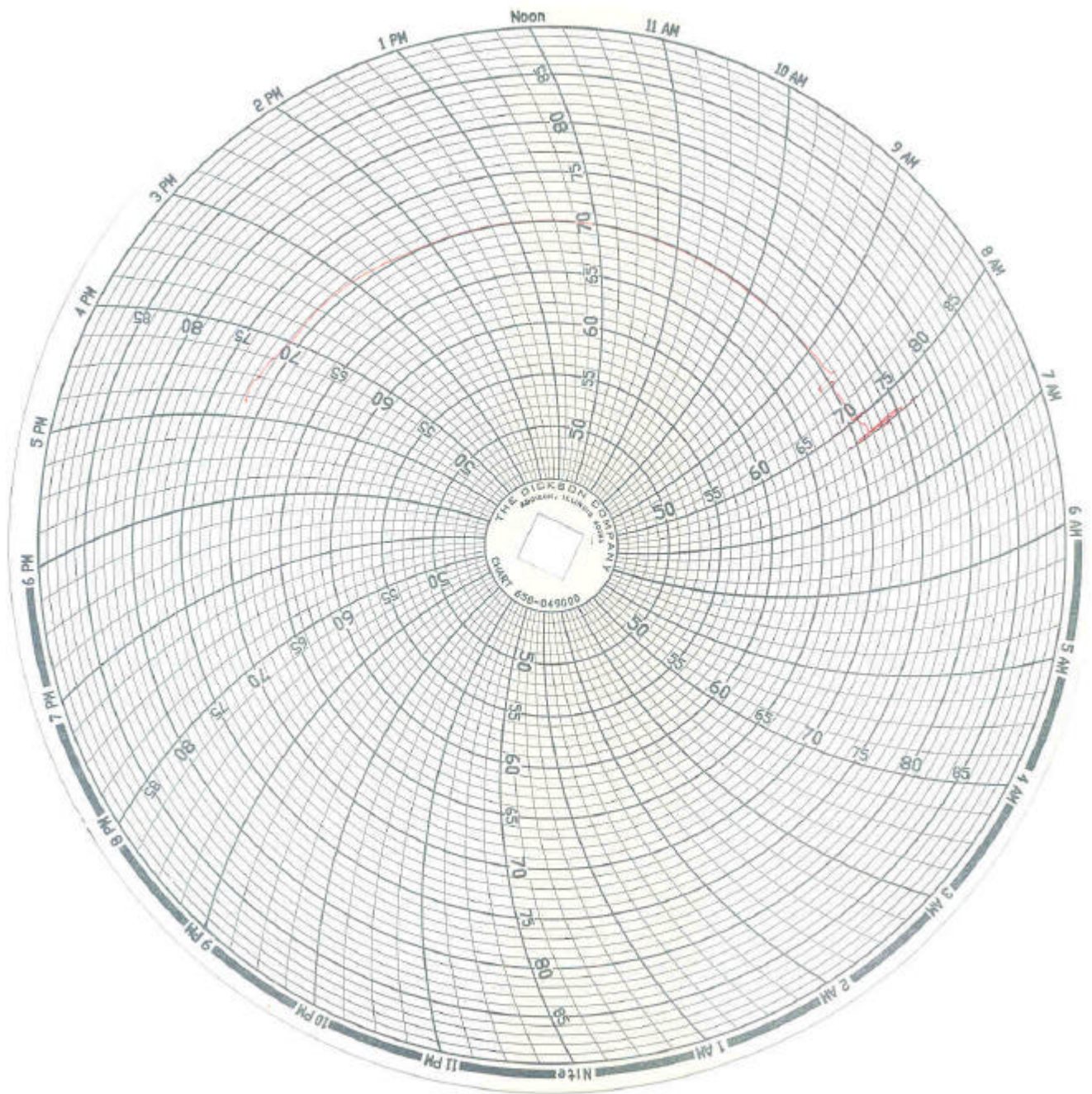
Notes (include component/problem/section/reason):

Laboratory Technician

6/20/01
Test Date

Approved By

VEHICLE AND DUMMY TEMPERATURE



Dummy installed at 10:30 a.m.

Test conducted at 5:30 p.m.

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

DUMMY AND VEHICLE CALIBRATION DATA
INSTRUMENTS FOR DRIVER DUMMY

	INSTRUMENTS FOR DRIVER DUMMY NO. 037		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head CG X	J14006	Endevco	3/20/01
Head CG Y	J13628	Endevco	3/20/01
Head CG Z	J13652	Endevco	3/20/01
Neck Force X	376	Denton	4/28/01
Neck Force Y	376	Denton	4/28/01
Neck Force Z	376	Denton	4/28/01
Neck Moment X	376	Denton	4/28/01
Neck Moment Y	376	Denton	4/28/01
Neck Moment Z	376	Denton	4/28/01
Head CG Redundant X	J20392	Endevco	5/31/01
Head CG Redundant Y	AGT18	Endevco	5/31/01
Head CG Redundant Z	ALDD6	Endevco	5/31/01
Upper Rib Y	AHR15	Endevco	6/1/01
Lower Rib Y	AP170	Endevco	1/8/01
Lower Spine Y	J10420	Endevco	3/13/01
Pelvis Y	AGM32	Endevco	5/31/01
Upper Rib Redundant Y	AHW95	Endevco	6/1/01
Lower Rib Redundant Y	AP2G9	Endevco	1/8/01
Lower Spine Redundant Y	AKAF2	Endevco	3/13/01
Pelvis Redundant Y	AKAH3	Endevco	5/31/01

DUMMY AND VEHICLE CALIBRATION DATA
VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Vehicle CG X	I25-F07	Entran	6/11/01
Vehicle CG Y	I25-F08	Entran	6/11/01
Vehicle CG Z	I25-F09	Entran	6/11/01
Left Floor Sill Y	D11-F17	Entran	6/6/01
A Pillar Sill Y	D11-F08	Entran	5/31/01
A Pillar Low Y	D11-F01	Entran	5/30/01
A Pillar Mid Y	A08-A09	Entran	2/7/01
B Pillar Sill Y	I25-F03	Entran	6/11/01
B Pillar Low Y	G13-F07	Entran	2/15/01
B Pillar Mid Y	A08-A11	Entran	2/8/01
Driver Seat Y	G13-B07	Entran	6/11/01
Engine X	E03-H02	Entran	6/6/01
Engine Y	D11-F11	Entran	5/31/01
Firewall Y	E03-H04	Entran	6/6/01
Right Floor Sill Y	F11-G09	Entran	3/21/01
Rear Deck X	E03-H05	Entran	6/6/01
Rear Deck Y	E03-H23	Entran	6/7/01

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

All Entran accelerometers are Model No. EGE-72.