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REPORT NUMBER: 214D-MGA-2001-003

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

**Toyota Motor Corporation
2001 Lexus IS 300 4 door
NHTSA NUMBER: C15100**

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



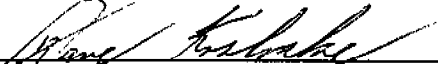
December 20, 2000

FINAL REPORT

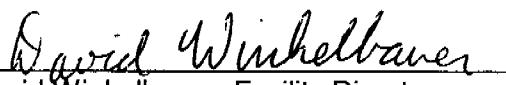
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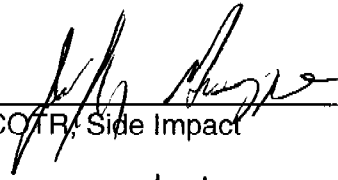
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16. Abstract A 55/28 km/h 90° Moving Deformable Barrier INDICANT Compliance Test was conducted on the subject 2001 Lexus IS 300 in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-05 Side Impact Protection (except the test was conducted 8kph (5 mph) faster than the standard specifies) for determination of FMVSS No. 214 Side Impact Protection. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on December 20, 2000. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 kph, and the ambient temperature at the struck side (driver's) of the vehicle was 20°C. The target vehicle's maximum post test static crush was 343 mm at level 3. The test vehicle's occupant performance is as follows: <table border="1" data-bbox="282 1339 1307 1575"> <thead> <tr> <th></th> <th><u>DRIVER</u></th> <th><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td>41</td> <td>48</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td>45</td> <td>59</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td>53</td> <td>49</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td>49</td> <td>54</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td>90</td> <td>63</td> </tr> <tr> <td>HIC</td> <td>226</td> <td>856</td> </tr> </tbody> </table>							<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	41	48	Left Lower Rib (LLR) Accel., g	45	59	Lower Spine (T ₁₂) Accel., g	53	49	Thoracic Trauma Index (TTI)	49	54	Pelvis (PEV) Accel., g	90	63	HIC	226	856
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HIC	226	856																								
The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.																										
17. Key Words Compliance Testing FMVSS 214D Side Impact Protection Side Impact Dummy (SID) New Car Assessment Program (NCAP)				18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590																						
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SECTION 1

PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

This side impact test is conducted as part of the FY' 2001 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-97-C-11033. The purpose of this test was to evaluate side impact protection in a 2001 Lexus IS 300 4 door manufactured by Toyota Motor Corporation.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC), laboratory test procedure TP-214D-05, dated August 2, 1999 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA2 with the exception of the test speed, which was at the NCAP High Speed Lateral Impact level (61.2 kph, approximately 8 kph faster than compliance speed). The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

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

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT TEST

A model year 2001 Lexus IS 300 4 door was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.0 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 1716.9 kg and the test weight of the MDB was 1362 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on December 20, 2000.

One (1) real-time motion picture camera and nine (9) high-speed motion picture cameras were used to document the impact event. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID's) can be found in Appendix A. Two 50th percentile adult male SID's were placed in the driver and left rear passenger designated seating positions according to instructions specified in the OVSC Side Impact Laboratory Test Procedure dated August 2, 1999. Each SID was instrumented with eleven accelerometers in the following locations:

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

The test vehicle was instrumented with twenty (20) structural accelerometers and the MDB was instrumented with five (5) accelerometers and two (2) contact switches on the bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board EME Data Acquisition System. The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 343 mm at level 3, 900 mm rearward of the left vertical impact point. The driver and passenger SID's, Serial Nos. 037 and 036 respectively, were calibrated just prior to this test. The SID's injury criteria is summarized as follows:

Measurements	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	49	54
Peak Pelvic G's (PEV)	G's	90	63
Head Injury Criteria (HIC)	none	226	856

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

TEST NOTES

The following accelerometers were not used for this test:

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

SECTION 3
SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Old Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressure	lb/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	$=(t_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

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

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

TEST VEHICLE INFORMATION

Make	Lexus
Model	IS 300
Body Style	4 door
NHTSA No.	C15100
VIN	JTHBD182910018571
Color	Silver
Delivery Date	12/6/00
Odometer Reading (mile)	8
Dealer	McGrath Lexus Chicago
Transmission	Automatic
Final Drive	Rear Wheel
Number of Cylinders	6
Engine Displacement (L)	3.0
Engine Placement	Longitudinal

TEST VEHICLE OPTIONS

Front Airbags	yes
Side Airbags	front occupants
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	Toyota Motor Corporation	GVWR (kg)	1950
Date of Manufacture	10/00	GAWR Front (kg)	1059
		GAWR Rear (kg)	1030

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	230	230
Cold Pressure (kPa)	230	230
Recommend Tire Size	P215/45ZR17	P215/45ZR17
Tire Size on Vehicle	P215/45ZR17	P215/45ZR17
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)				390.1
Cargo Weight (RCW) (kg)				49.9

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

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	410.5	349.7		456.8	435.5	
Right	kg	408.2	346.1		418.2	406.4	
Ratio	%	54.1	45.9		51.0	49.0	
Totals	kg	818.7	695.8	1514.5	875.0	841.9	1716.9

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1514.5
Weight of 2 P572F Side Impact Dummies	kg	161.4
Rated Cargo/Luggage Weight (RCLW)	kg	49.9
Calculated Vehicle Target Weight (TVTW)	kg	1725.8

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

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	668	668	667	670	1225
As Tested	mm	652	658	646	652	1307
Fully Loaded	mm	652	665	629	646	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2666
Total Vehicle Length at Left Side	mm	3753
Total Vehicle Length at Centerline	mm	4466
Total Vehicle Length at Right Side	mm	3753
Weight of Ballast in Cargo Area	kg	18.6
Amount of Stoddard Solvent in Fuel Tank	liters	62.0

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2666
Target Impact Point Aft of Front Axle	mm	393
Actual Impact Point Aft of Front Axle	mm	404

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

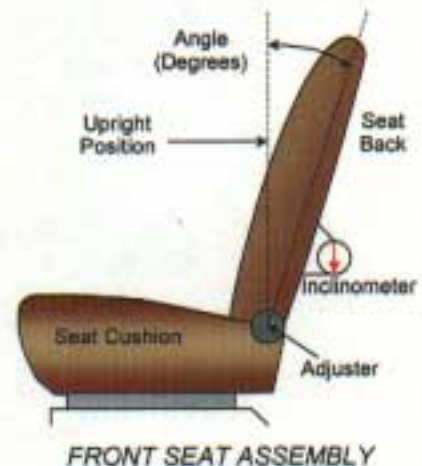
Test Vehicle: 2001/Lexus/IS 300/4 door
Test Program: FMVSS 214

NHTSA No.: C15100
Test Date: December 20, 2000

NORMAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturer's designated angle. The procedure for the seat is as follows: the seat is adjusted to the 5th notch rearward of full upright with first adjustment being #1 and at 85.1 degrees from horizontal when measured on the headrest post. The rear passenger seat is fixed; no adjustments can be made.

Driver seat back angle: 5th notch, 1st as one; 84.7 degrees
Passenger seat back angle: non adjustable



SEAT FORE/AFT POSITIONS

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

Driver seat fore/aft total travel: 240 mm
Rear passenger seat fore/aft total travel: non adjustable
Driver seat fore/aft position: 9th adjustment position, 1st as one
Rear passenger seat fore/aft position: non adjustable

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable "D" ring anchorage for the driver's seat position. There are 5 positions or detents, with the uppermost position numbered "1". The driver's "D" ring anchorage is placed in position 2.

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

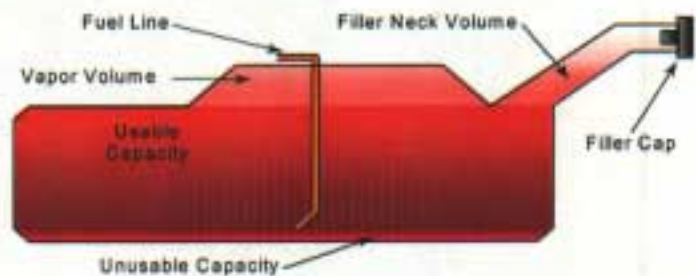
Test Vehicle: 2001/Lexus/IS 300/4 door
Test Program: FMVSS 214

NHTSA No.: C15100
Test Date: December 20, 2000

FUEL TANK CAPACITY DATA

The "Usable Capacity" of the standard equipment fuel tank is:	<u>66</u> liters
The "Usable Capacity" of any optional equipment fuel tank is:	<u>n/a</u> liters
92-94% of "Usable Capacity" for certification to FMVSS 301 requirement:	<u>60.7 - 62.0</u> liters
Actual amount of Stoddard solvent added to vehicle for certification test:	<u>62.0</u> liters

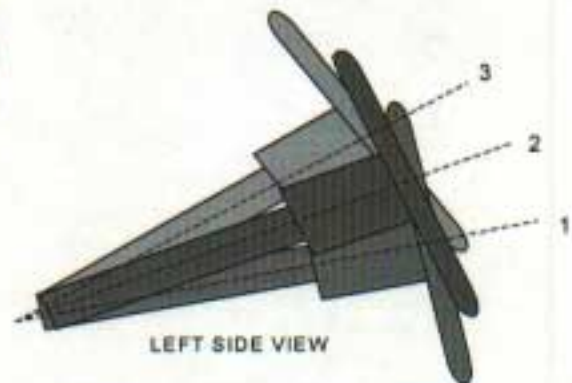
The test vehicle is equipped with an electric fuel pump. The fuel filler door is located on the left rear fender.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when it is moved through its full range of motion. The steering column was placed in the fourth notch from bottom with the first as one out of eight notches total.



STEERING COLUMN ASSEMBLY

DATA SHEET NO. 2**TEST VEHICLE SUMMARY OF RESULTS**Test Vehicle: 2001/Lexus/IS 300/4 doorNHTSA No.: C15100Test Program: FMVSS 214Test Date: December 20, 2000**TEST VEHICLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	410.5	349.7		456.8	435.5	
Right	kg	408.2	346.1		418.2	406.4	
Weight Ratio	%	54.1	45.9		51.0	49.0	
Totals	kg	818.7	695.8	1514.5	875.0	841.9	1716.9

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	160	253
Level 2	Occupant H-Point	mm	339	465
Level 3	Mid Door	mm	343	584
Level 4	Window Sill	mm	283	856
Level 5	Window Top	mm	111	1307
N/A	Maximum Penetration	mm	343	584

INSTRUMENTATION

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

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

MDB SPECIFICATIONS (mm)

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

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	395.1	293.8	
Right	kg	385.7	287.4	
Ratio	%	57.3	42.7	
Totals	kg	780.8	581.2	1362.0

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.0
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.0
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.2

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max. Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	164
B	Top of Bumper	533	800	Left	97
C	Mid Level	686	800	Left	174
D	Top of Stack	813	800	Left	213

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

DATA SHEET NO. 4
POST TEST OBSERVATIONS

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID	Rear Seat SID
Dummy Type / Serial No.	SID/037	SID/036
Head Contact	Headrest	C post, roof
Upper Torso Contact	Side airbag	Door trim panel
Lower Torso Contact	Door trim panel	Door trim panel
Left Knee Contact	Door trim panel	Door trim panel
Right Knee Contact	Left knee	Left knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No failures noted
Sill Separation	None noted
Windshield Damage	No damage
Window Damage	Both left side windows broke
Other Notable Effects	None noted

AIRBAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	no	no	
Side	yes	no	

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	11 rearward
Vertical Offset	mm	+/-20	3 up

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5

SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

THORAX AND PELVIS PEAK ACCELERATIONS (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	41.1	37	8.5	78	47.6	47	5.9	134
Upper Rib (LUR) (R)	Y	G's	42.8	37	8.9	78	47.5	47	5.9	134
Lower Rib (LLR)	Y	G's	44.6	24	13.0	89	58.7	46	4.9	152
Lower Rib (LLR) (R)	Y	G's	43.7	24	13.5	88	58.5	46	5.0	152
Lower Spine (T ₁₂)	Y	G's	53.2	39	11.0	90	48.5	44	10.9	68
Lower Spine (T ₁₂) (R)	Y	G's	52.8	38	10.7	94	48.0	44	11.3	76
Pelvis (PEV)	Y	G's	90.1	27	12.4	48	63.5	41	10.5	63
Pelvis (PEV) (R)	Y	G's	90.3	27	11.6	48	64.4	41	10.3	63

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

Location	Driver				Passenger			
	LLR	T ₁₂	TTI(g)	PEV(g)	LLR	T ₁₂	TTI(g)	PEV(g)
Rib, Spine, and Pelvis	44.6	53.2	49	90	58.7	48.5	54	63
Rib, Spine, and Pelvis (R)	43.7	52.8	48	90	58.5	48.0	53	64

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	13.4	62	21.2	79	10.3	65	22.2	59
Head CG	Y	G's	24.5	49	8.2	172	98.2	60	13.4	46
Head CG	Z	G's	44.6	54	3.0	25	20.6	48	52.3	61
Head CG Resultant		G's	49.8	52			108.9	62		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G's	HIC	T ¹	T ²	Avg G's
Head CG	226	43.3	79.3	33.0	856	54.9	65.5	91.8

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

= Forward
 = Right
 = Down

DATA SHEET NO. 6

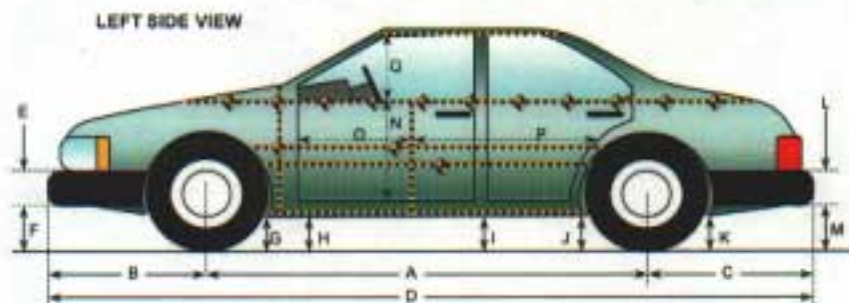
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



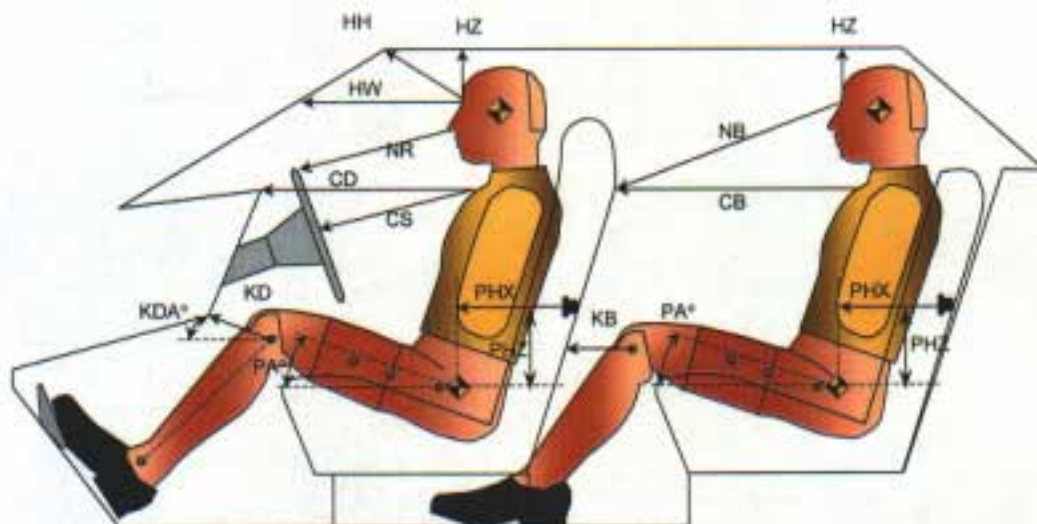
All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2666	2632	34
B	Front Axle to FSOV	772	782	10
C	Rear Axle to RSOV	1028	1034	6
D	Total Length at Centerline	4466	4448	18
E	Front Bumper Thickness	65	65	0
F	Front Bumper Bottom to Ground	374	399	25
G	Sill Height at Front Wheel Well	170	179	9
H	Sill Height at Front Door Leading Edge	168	186	18
I	Sill Height at "B" Pillar	169	196	27
J1	Sill Height at Rear Wheel Well	158	153	5
J2	Pinch Weld Height at Rear Wheel Well	160	155	5
K	Sill Height Aft of Rear Wheel Well	183	183	0
L	Rear Bumper Thickness	105	105	0
M	Rear Bumper Bottom to Ground	465	470	5
N	Sill Height to Window Bottom Sill	662	613	49
O	Front Door Leading Edge to Impact CL	672	663	9
P	Rear Door Trailing Edge to Impact CL	1184	1080	104
Q	Front Window Opening	426	395	31
R	Right Side Length	3753	3745	8
S	Left Side Length	3753	3677	76
T	Vehicle Width at "B" Post	1720	1414	306

DATA SHEET NO. 7
SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Lexus/IS 300/4 door
 Test Program: FMVSS 214

NHTSA No.: C15100
 Test Date: December 20, 2000



Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	383			
HW		Head to Windshield	584			
HZ	HZ	Head to Roof	176		161	
NR	NB	Nose to Rim/Nose to Seatback	479		582	
CD	CB	Chest to Dash or Seatback	520		511	
CS		Chest to Steering Wheel	339			
KDL	KBL	Left Knee to Dash or Seatback	222	0.0	196	0.0
KDR	KBR	Right Knee to Dash or Seatback	215	0.0	194	0.0
PA	PA	Pelvic Angle		23.7		24.7
PHX	PHX	H-Point to Striker (X-Axis)	173		274	
PHZ	PHZ	H-Point to Striker (Z-Axis)	174		345	

DATA SHEET NO. 8
SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	182	205
HS	Head to Side Window	mm	284	348
AD	Arm to Door	mm	74	123
HD	H-Point to Door	mm	135	198

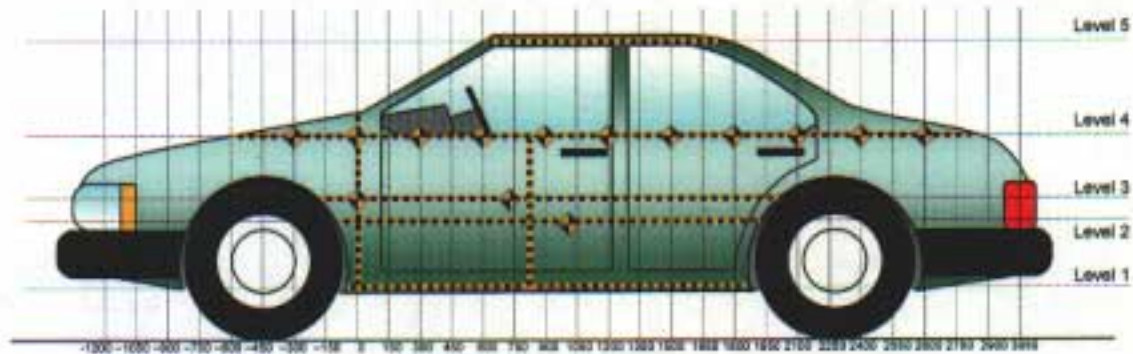
DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements along the vertical 800 mm.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window	1307
4	Window Sill	856
3	Mid Door	584
2	Occupant H-Point	465
1	Sill Top	253

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750				821					826					5	
-600				802					816					14	
-450				787					805					18	
-300				776					802					26	
-150				772					804					32	
0	736	707	702	770		772	788	814	814		36	81	112	44	
150	741	712	705	768		804	898	885	835		63	186	180	67	
300	746	711	704	767		871	979	970	874		125	268	266	107	
450	746	711	702	766		877	999	993	928		131	288	291	162	
600	745	710	702	755		882	1010	1024	968		137	300	322	213	
750	745	709	701	754	980	887	1013	1034	983	1009	142	304	333	229	29
900	745	708	701	766	981	898	1028	1044	994	1027	153	320	343	228	46
1050	744	708	700	767	983	900	1035	1022	998	1047	156	327	322	231	64
1200	745	708	700	767	982	893	1038	1010	100	1066	148	330	310	242	84
1350	745	707	701	771	982	905	1041	1012	105	1086	160	334	311	281	104
1500	745	707	701	773	980	874	1046	1027	105	1091	129	339	326	283	111
1650	745	708	702	774	980	853	1046	1044	104	1079	108	338	342	273	99
1800	747	706	702	777	979	802	1012	1026	100	1061	155	306	324	229	82
1950			698	780	974			892	922	1029			194	142	55
2100				785	977				855	1012				70	35
2250				789					802					13	
2400				801					836					35	
2550			711	812				733	844				22	32	
2700			741	827				758	857				17	30	
2850			766	845				777	860				11	15	
3000				874					879					5	

Reference plane is parallel to test vehicle longitudinal centerline

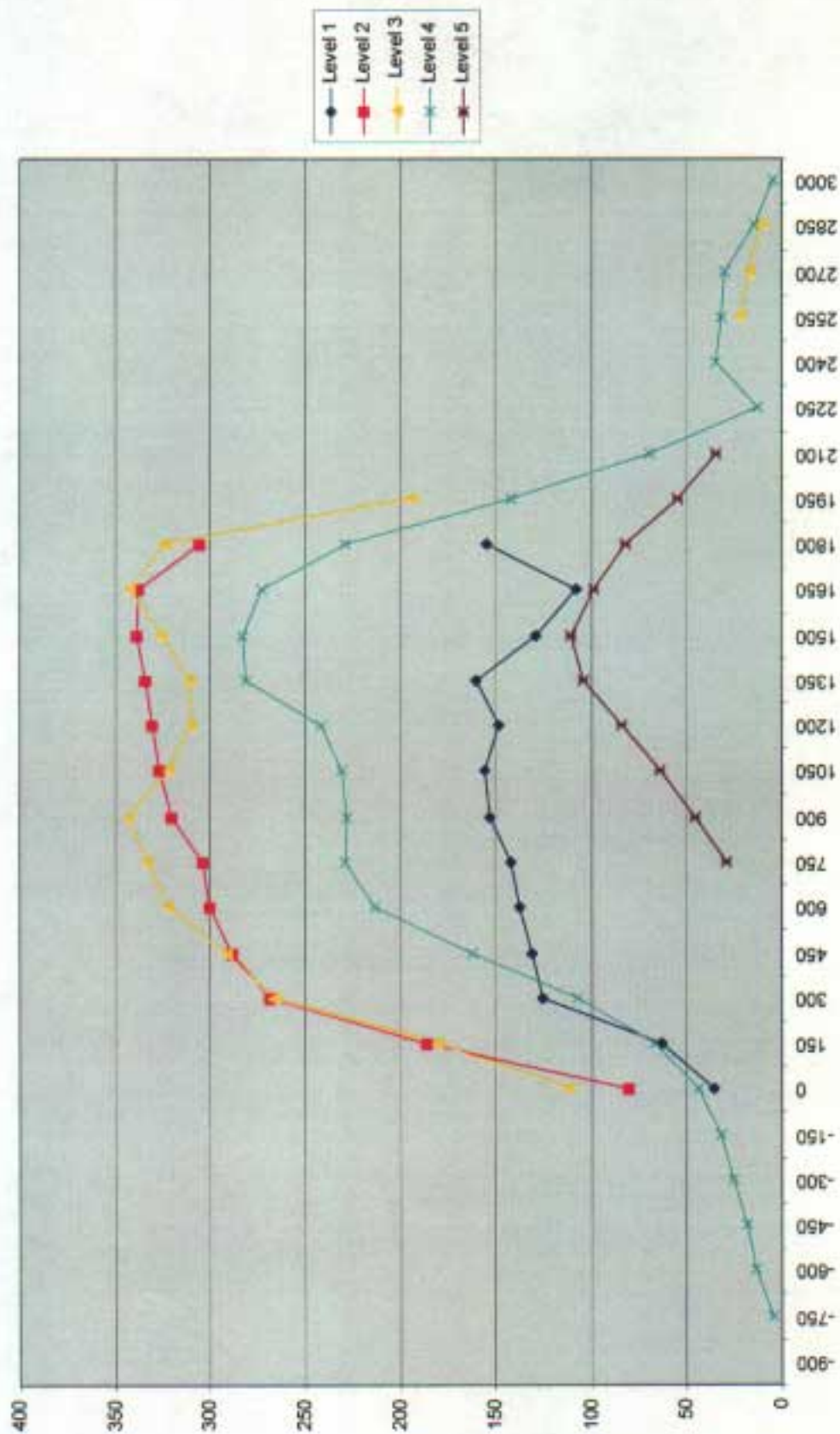
Given dimensions = Reference plane to car body

DATA SHEET NO. 10...(continued)

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Lexus/IS 300/4 door NHTSA No.: C15100

Test Program: FMVSS 214 Test Date: December 20, 2000



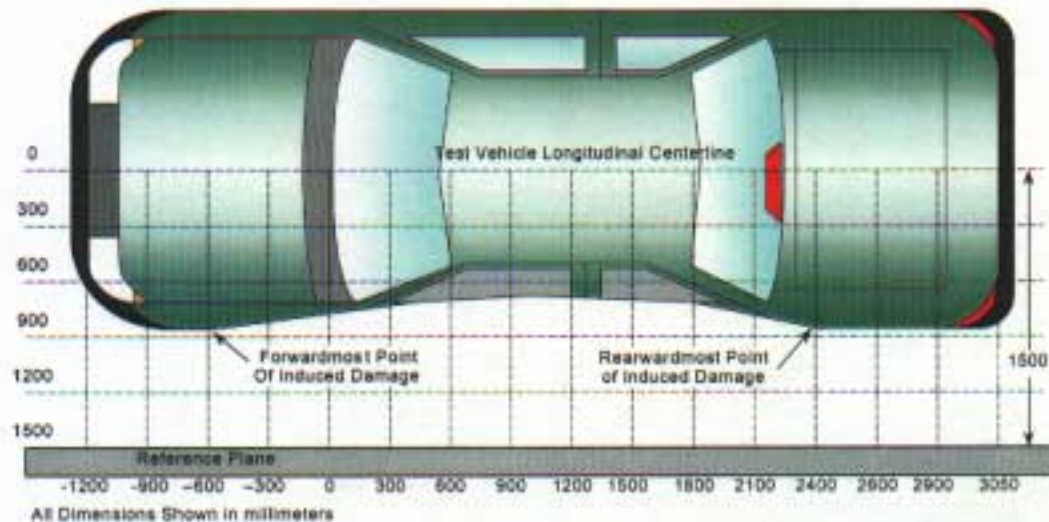
DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



TOP VIEW

Damage

e Profile Distances

DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	3000 mm	4	874	879	5
2	2265 mm	4	790	833	43
3	1443 mm	2	707	1045	338
4	732 mm	3	701	1041	340
5	22 mm	3	702	727	25
6	-750 mm	4	821	826	5

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

DATA SHEET NO. 12

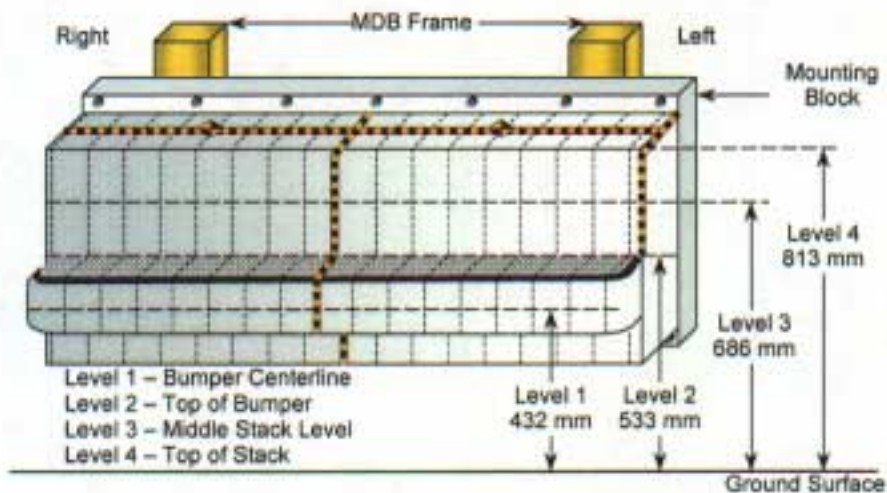
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C _L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	158	141	135	138	143	144	143	141	133	133	134	136	139	141	148	164	163
2	68	62	59	60	61	63	64	61	59	59	58	62	66	67	69	76	97
3	28	6	8	11	23	50	41	25	20	22	22	21	24	33	59	112	174
4	50	11	0	2	11	26	44	32	25	32	37	37	39	72	117	168	213

All Dimensions in mm

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

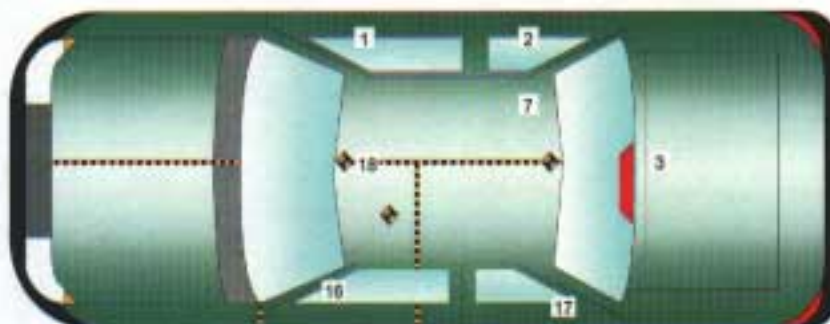
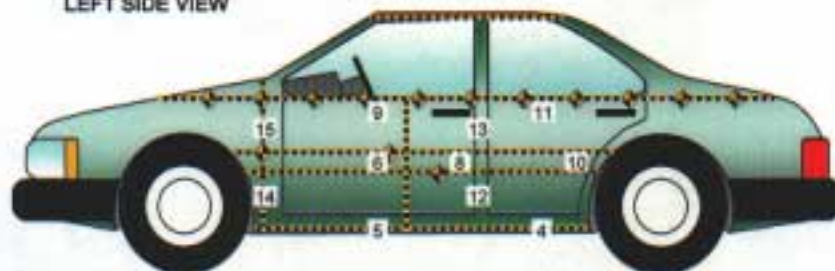
Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

LEFT SIDE VIEW



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

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

DATA SHEET NO. 13...(continued)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	Right Sill at Front Seat	2609	738	205	X	2.0	62	9.6	15
					Y	25.6	11	2.8	88
					Z	5.8	40	8.6	13
					RES	26.7	11	--	--
2	Right Sill at Rear Seat	1678	726	210	X	3.6	62	7.4	15
					Y	26.0	10	2.1	119
					Z	4.8	46	3.6	14
					RES	26.3	10	--	--
3	Rear Floorpan Above Axle	838	0	524	X	2.9	98	9.1	29
					Y	20.2	30	2.4	109
					Z	10.8	13	7.4	18
					RES	23.2	29	--	--
4	Left Sill at Rear Seat	1687	-726	211	Y	55.0	8	10.3	13
5	Left Sill at Front Seat	2516	-738	208	Y	31.5	17	11.9	28
7	Rear Occupant Compartment	1797	413	324	Y	24.7	9	1.8	158
12	Left B-Post Lower	2052	-698	432	Y	221.2	6	46.5	20
13	Left B-Post Middle*	2024	-679	869	Y	148.7	7	4.8	0.2
14	Left A-Post Lower	3041	-692	304	Y	90.8	7	18.6	20
15	Left A-Post Middle**	3036	-699	844	Y	47.5	13	63.7	20
16	Left Front Seat Track	2154	-558	238	Y	89.6	14	41.4	21
18	Vehicle CG	2434	0	262	X	4.3	58	8.9	26
					Y	49.6	18	5.7	28
					Z	16.9	25	9.5	9
					RES	49.7	18	--	--

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

* No valid data collected after 11 msec.

** No valid data collected after 21 msec.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

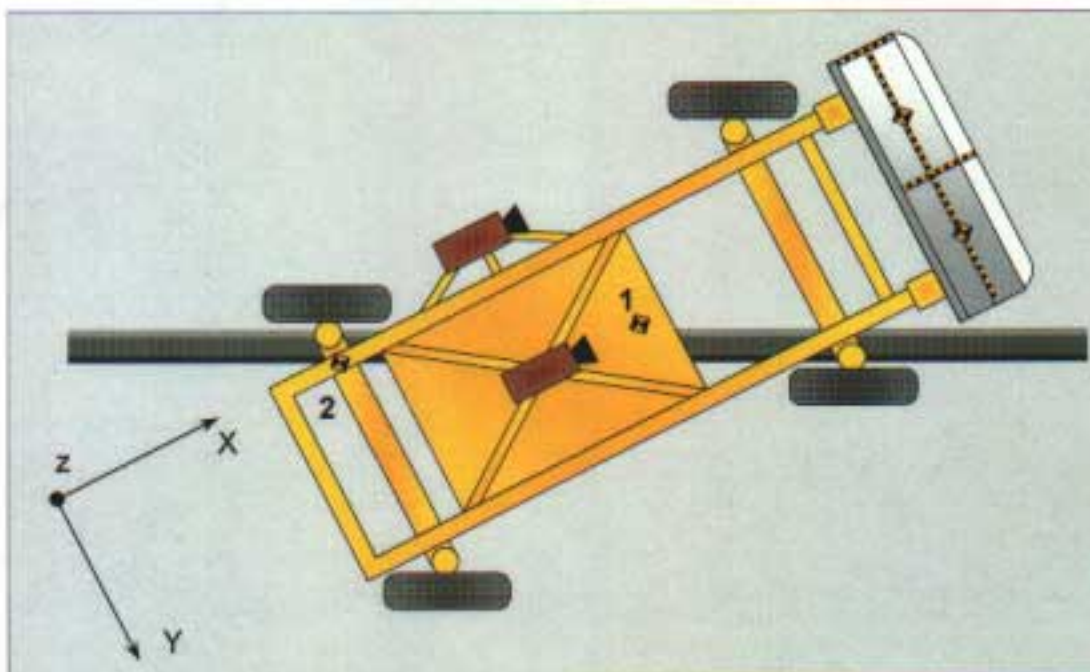
Test Program: FMVSS 214

Test Date: December 20, 2000

MDB ACCELEROMETER PEAK DATA AND LOCATIONS

Loc. No.	Accelerometer Location	Measurement (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1092	0	483	X	1.3	158	17.6	45
					Y	1.2	66	9.1	35
					Z	16.4	50	17.6	44
					RES	25.0	44	--	--
2	MDB Rear	-2591	-625	622	X	1.8	155	22.3	35
					Y	5.3	29	1.0	184

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



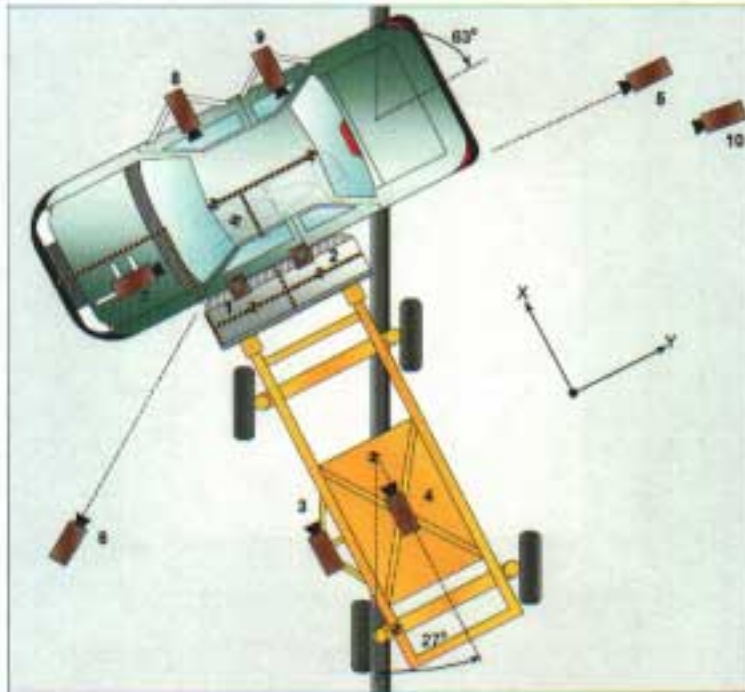
DATA SHEET NO. 15
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



No.	Camera View	Location (mm)			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Overhead Overall	-160	1230	5000	8	917
2	Overhead Close-up	-570	-240	5000	13	1010
3	MDB Onboard, Impact Point Close-up				35	1005
4	MDB Onboard, Centerline of Impact				13	1036
5	Right Side, Ground Level, Overall	-880	10500	1850	25	1053
6	Left Side, Ground Level, Overall	-880	-2260	1720	13	1010
7	Vehicle Onboard Front SID, Front				13	1015
8	Vehicle Onboard Front SID, Side				8	1005
9	Vehicle Onboard Rear SID, Side				13	1015
10	Real Time Coverage				10	24

Reference (from impact point):

+X = Forward

+Y = To Right

+Z = Upward From Floor Level

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001/Lexus/IS 300/4 door

NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000

Test Time: 12:27 PM

Temperature at Time of Impact: 20 °C

Stoddard Solvent Spillage Measurements

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

DATA SHEET NO. 17
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001/Lexus/IS 300/4 door

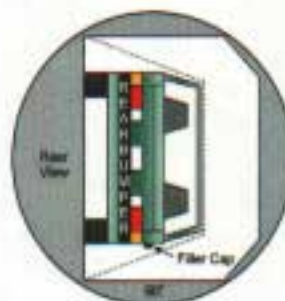
NHTSA No.: C15100

Test Program: FMVSS 214

Test Date: December 20, 2000



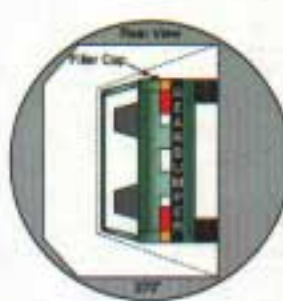
0° TO 90°



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°	158	300	0
90° TO 180°	146	300	0
180° TO 270°	137	300	0
270° TO 360°	161	300	0

APPENDIX A

PHOTOGRAPHS

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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

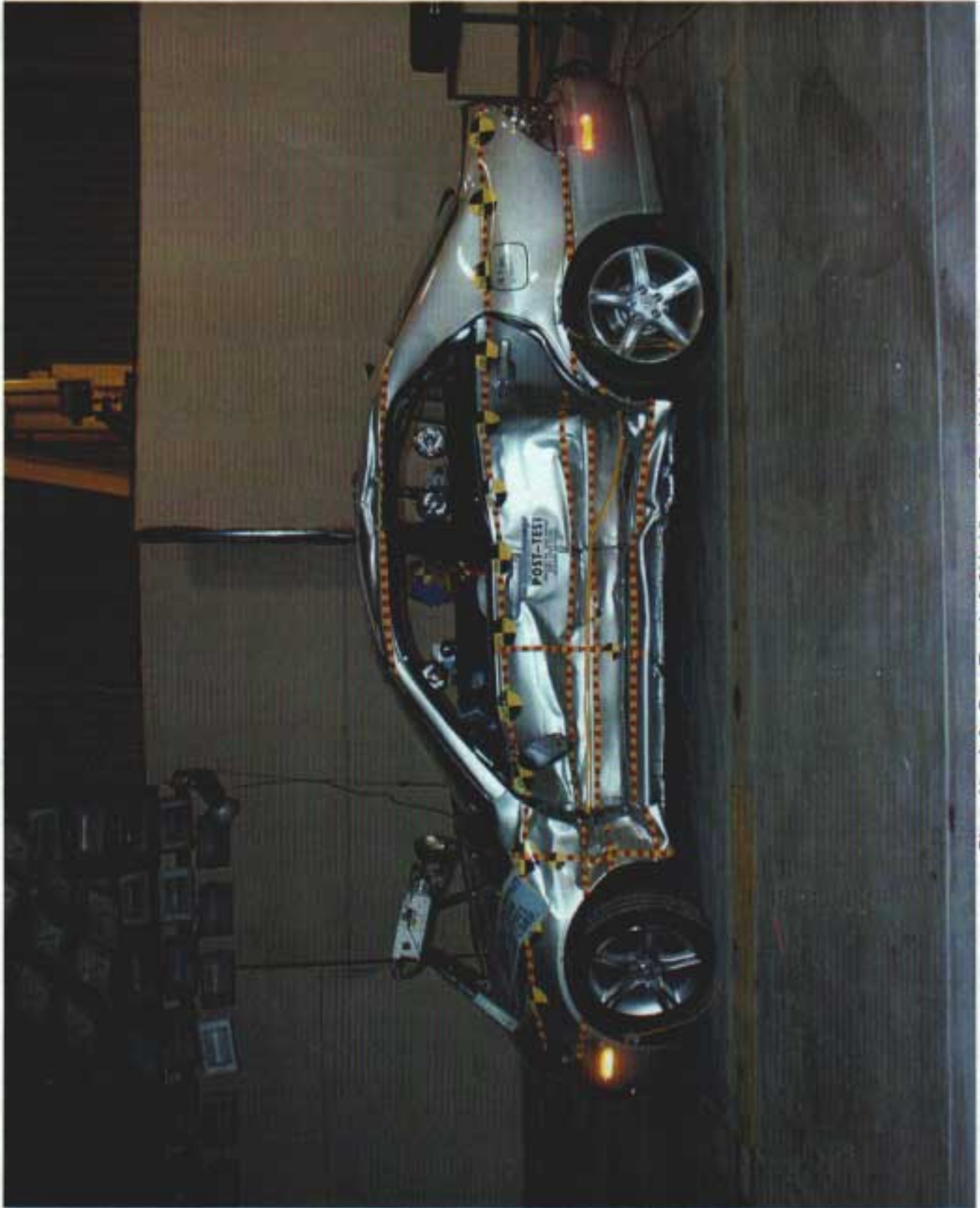


Photo No. A-6 - Post-Test Left Side View of Test Vehicle

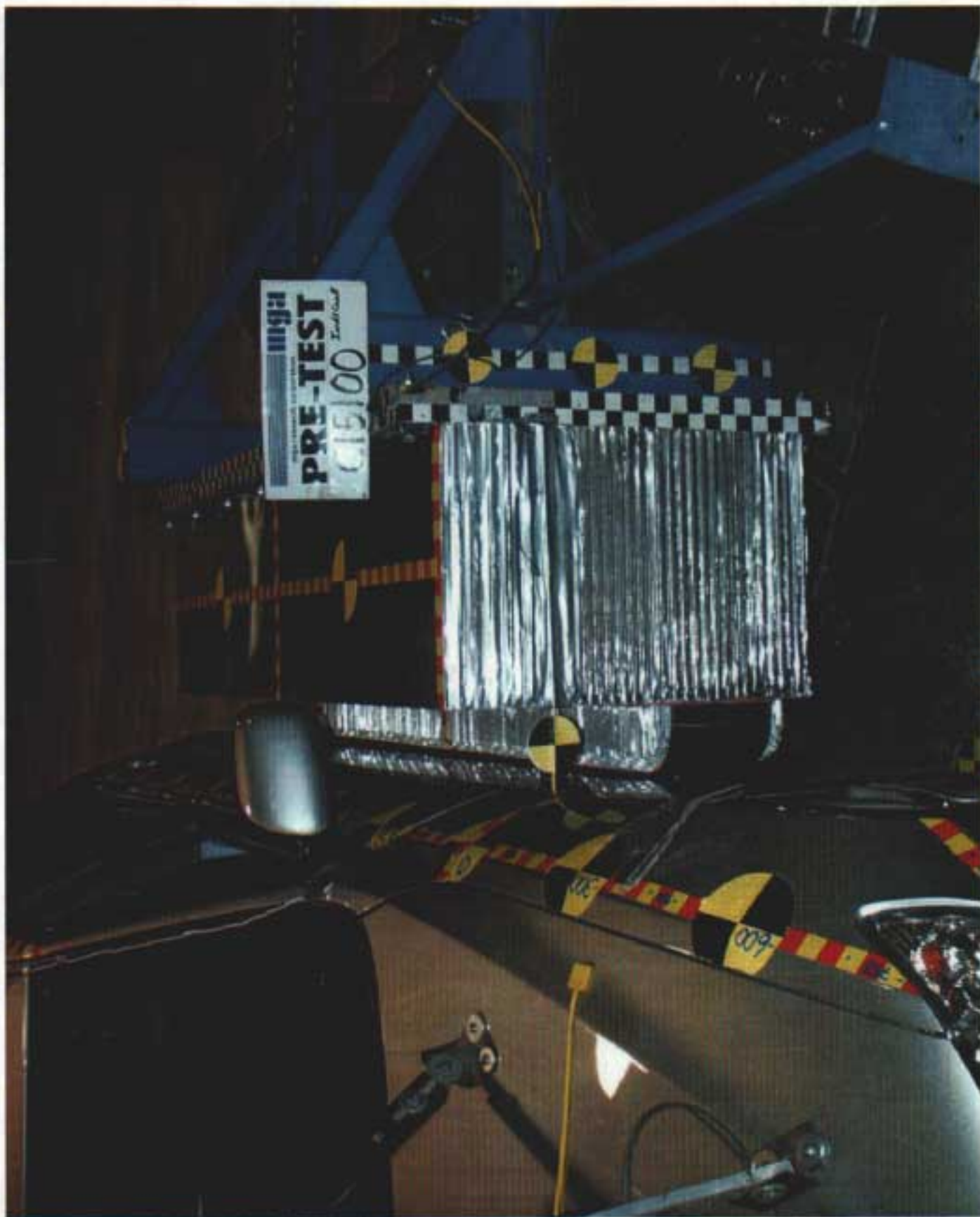


Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)



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

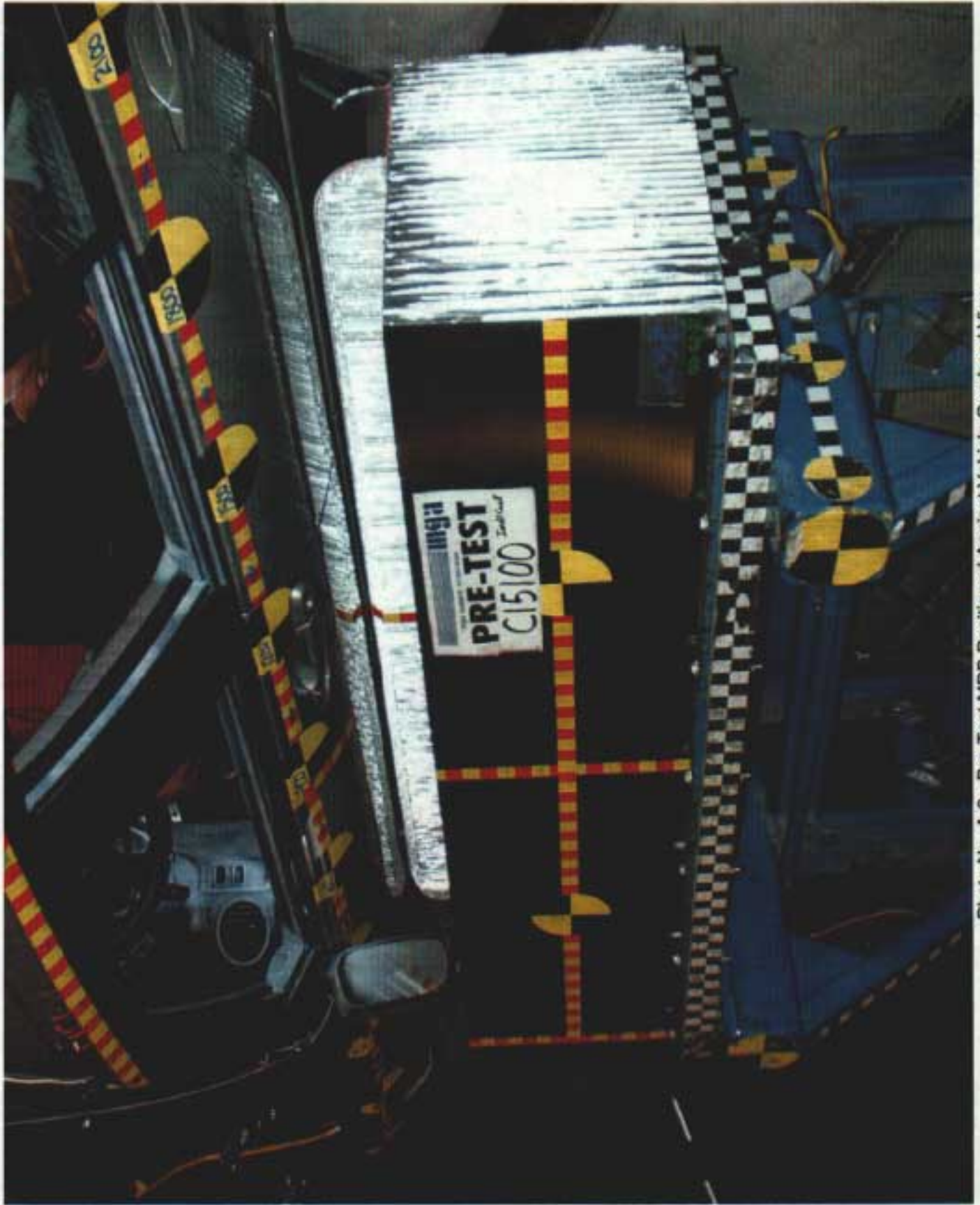


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View



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



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

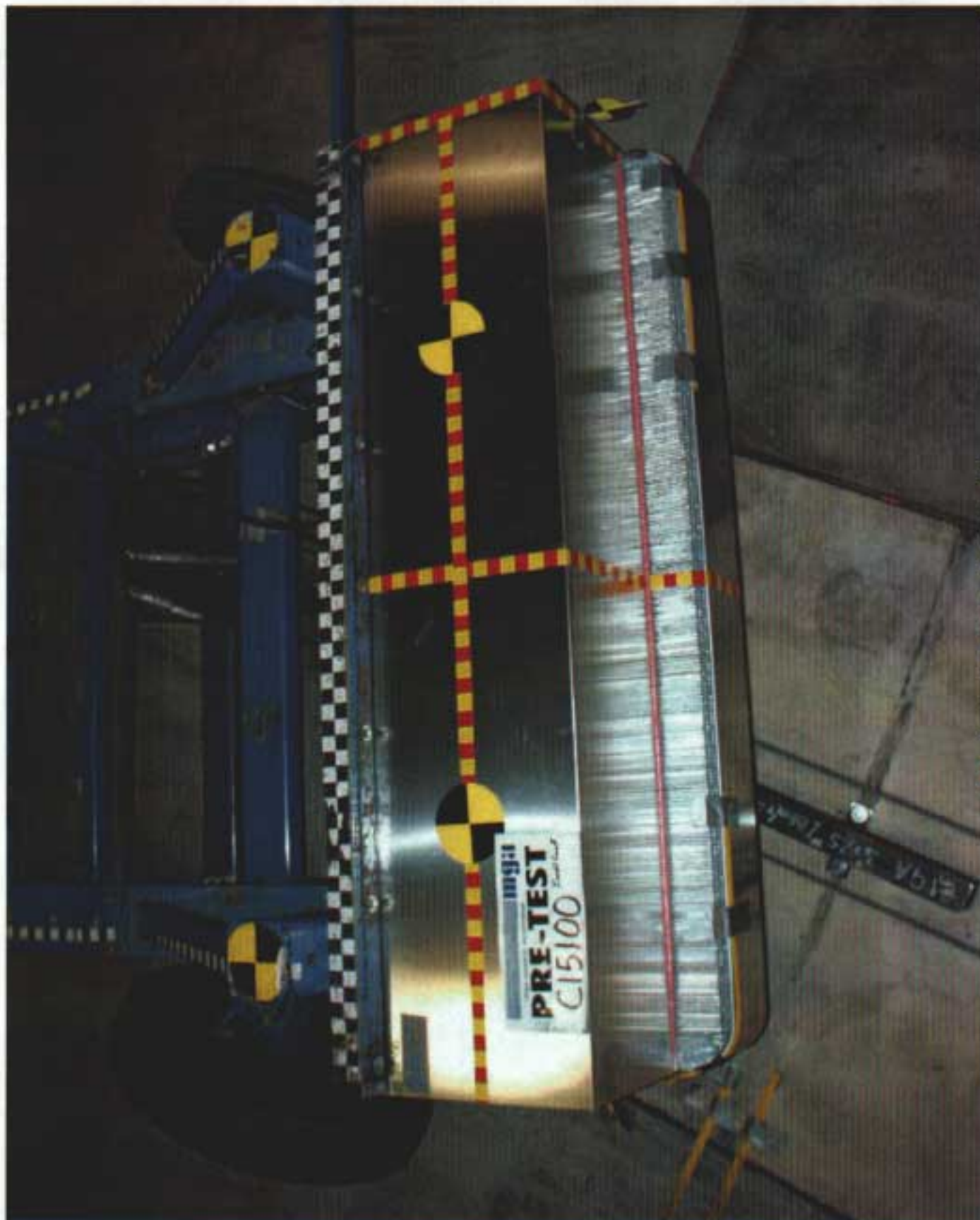


Photo No. A-12 - Pre-Test MDB Top View

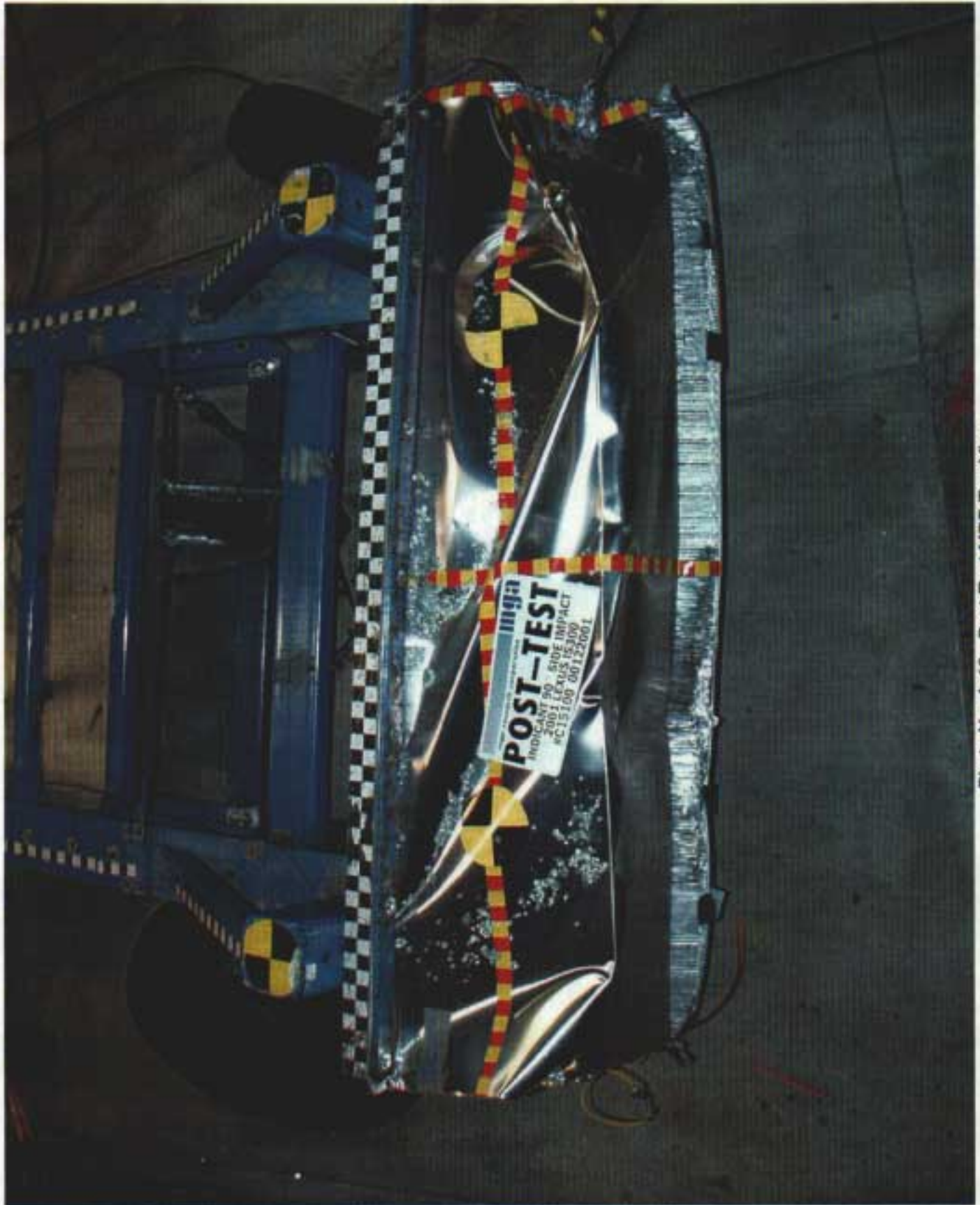


Photo No. A-13 - Post-Test MDB Top View

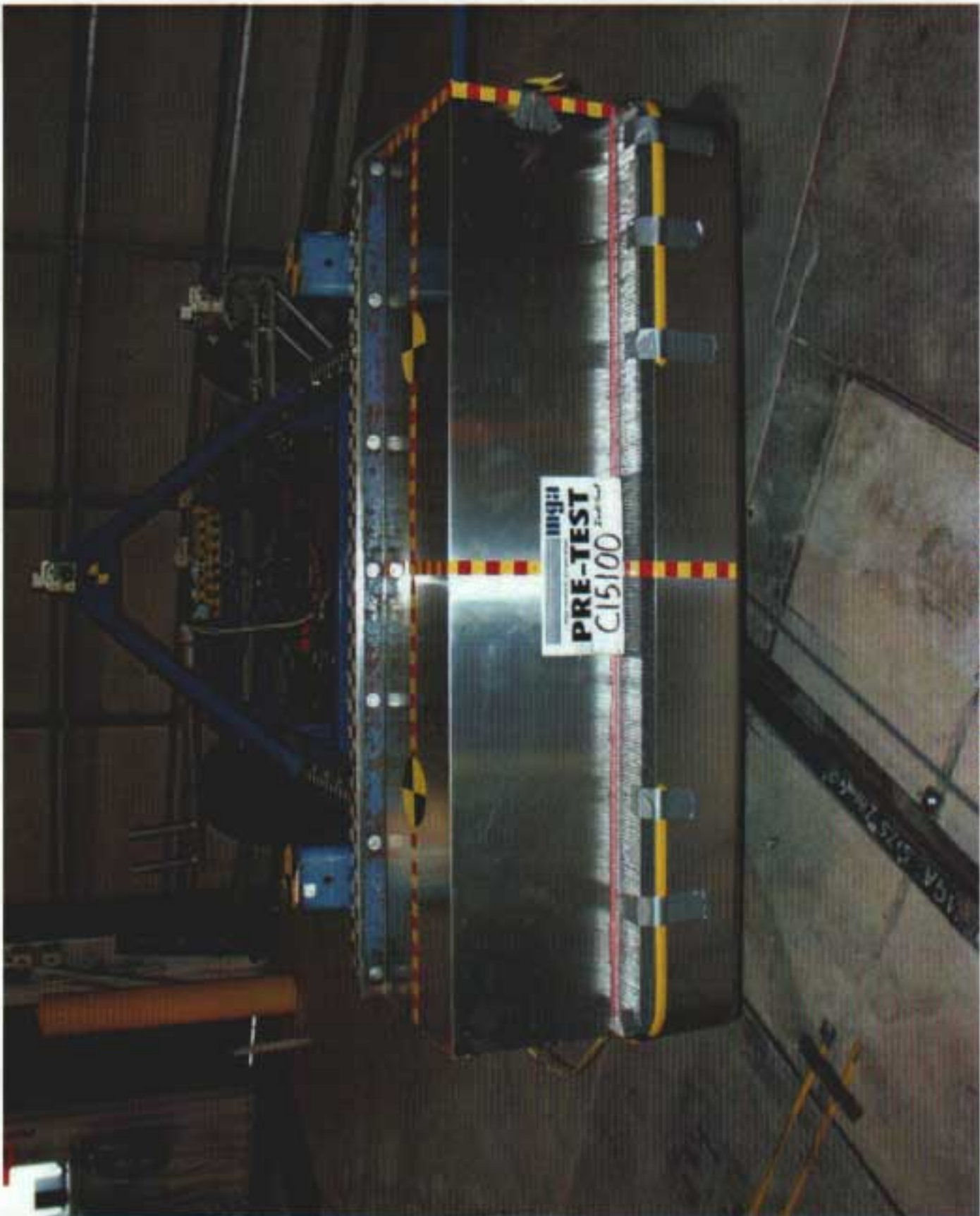


Photo No. A-14 - Pre-Test MDB Front View

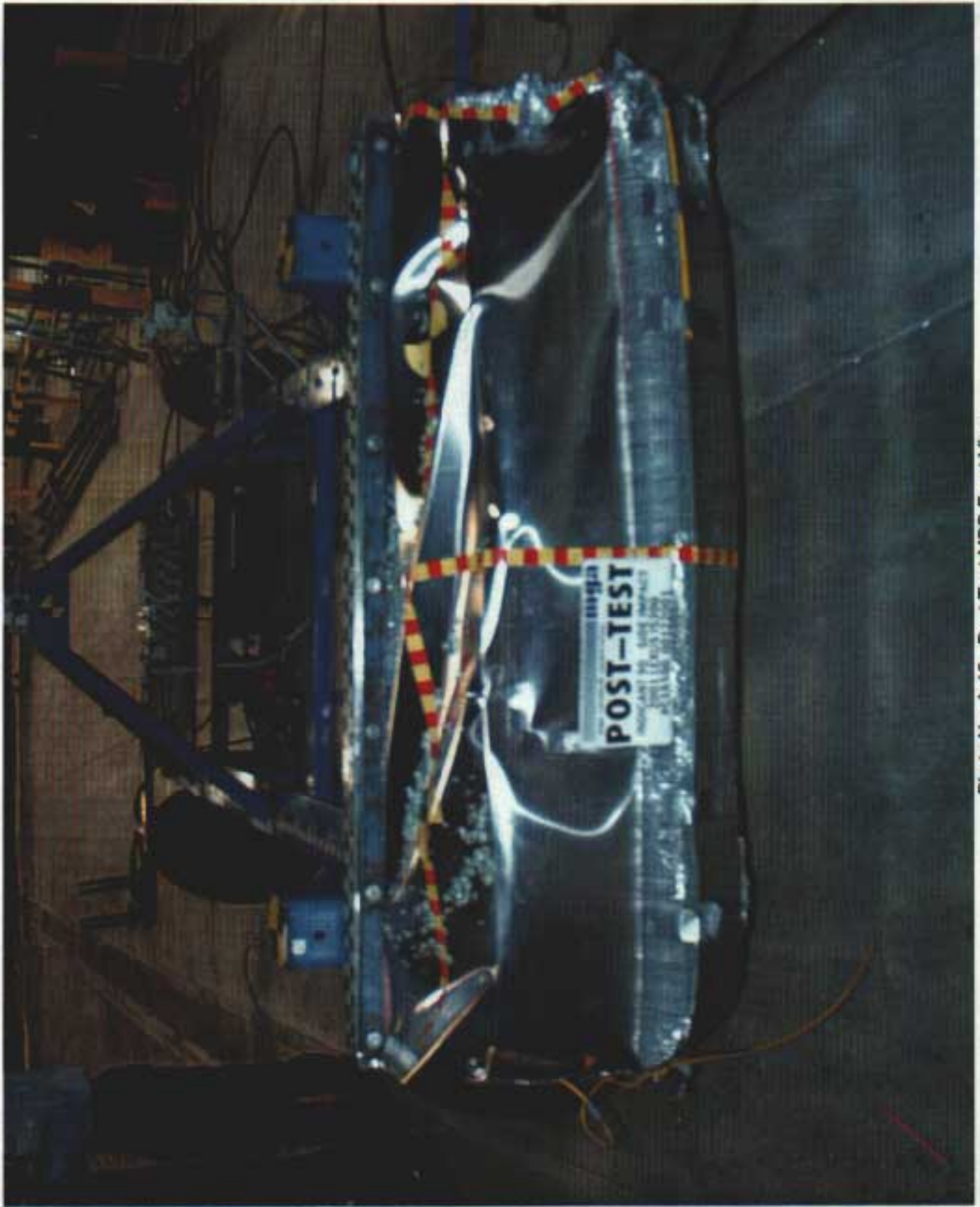


Photo No. A-15 - Post-Test MDB Front View



Photo No. A-16 - Pre-Test MDB Right Side View



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



Photo No. A-18 - Pre-Test MDB Left Side View



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



Photo No. A-20 - Pre-Test Driver Dummy Right Side View



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



Photo No. A-22 - Pre-Test Driver Dummy Left Side View



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



Photo No. A-24 - Pre-Test Driver Dummy Left Side View (Door Open)

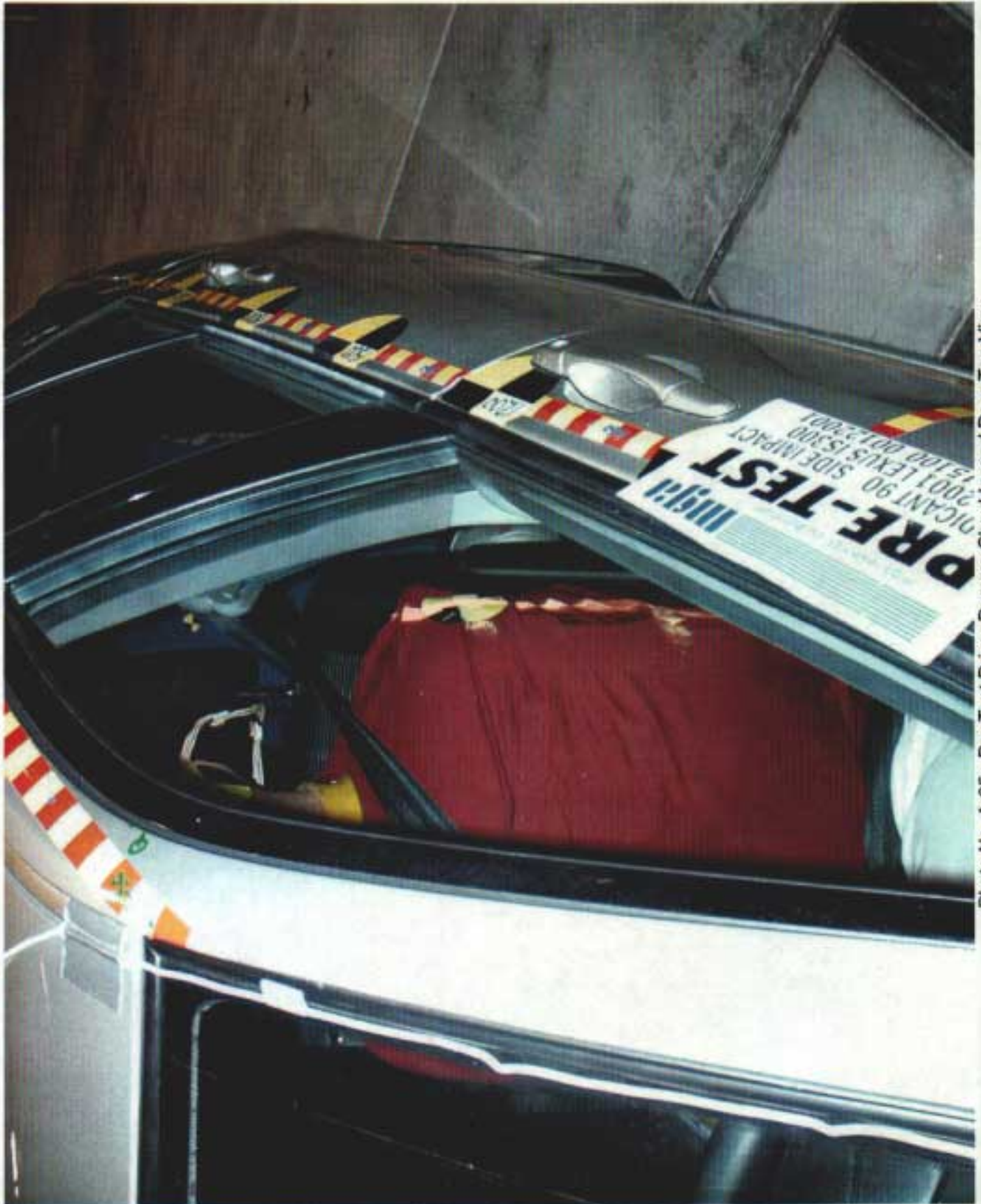


Photo No. A-25 - Pre-Test Driver Dummy Shoulder and Door Top View



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



Photo No. A-27 - Post-Test Driver Dummy Contact



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



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



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



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



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



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

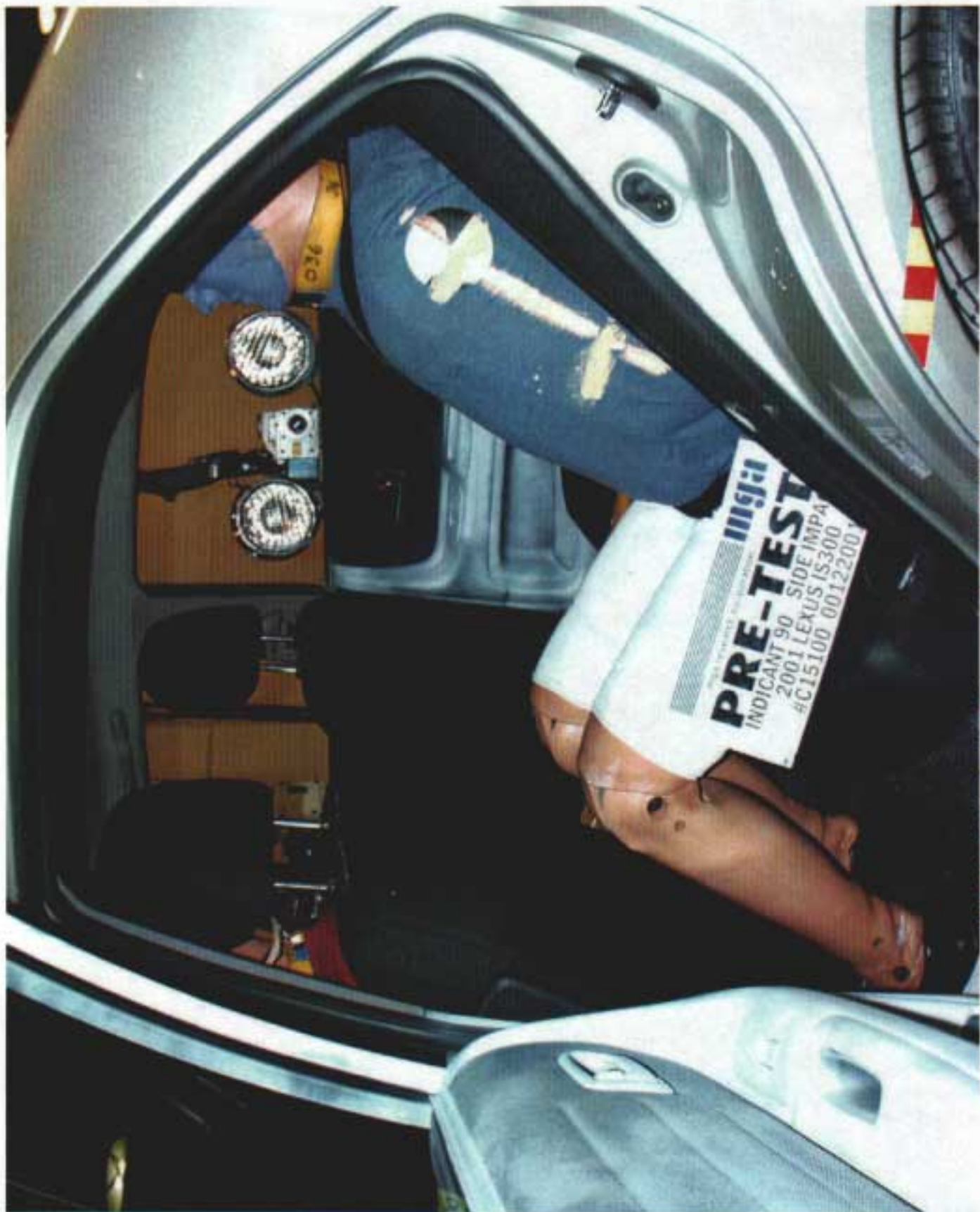


Photo No. A-34 - Pre-Test Passenger Dummy Left Side View (Door Open)



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

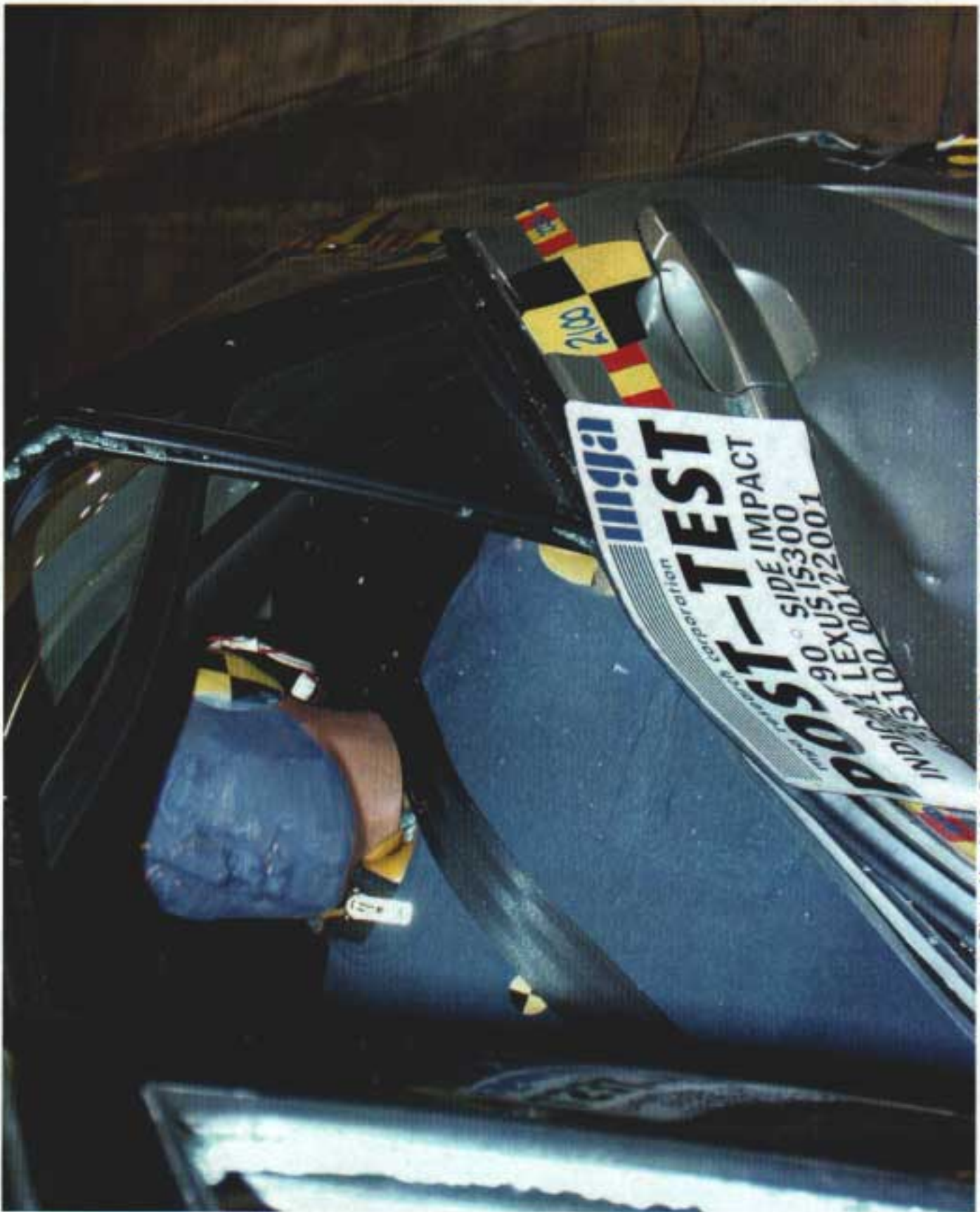


Photo No. A-36 - Post-Test Passenger Dummy Shoulder and Door Top View

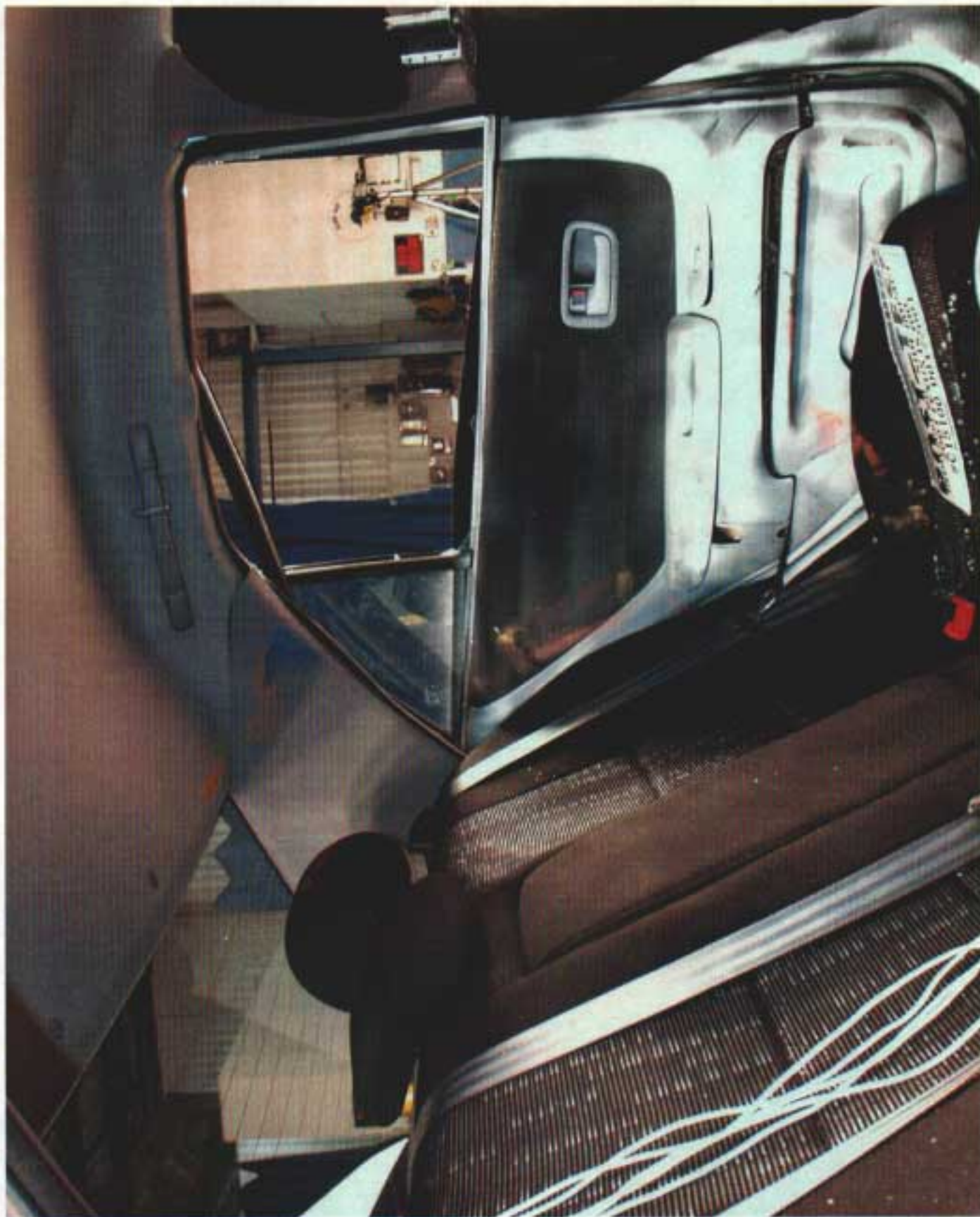


Photo No. A-37 - Post-Test Passenger Dummy Contact



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

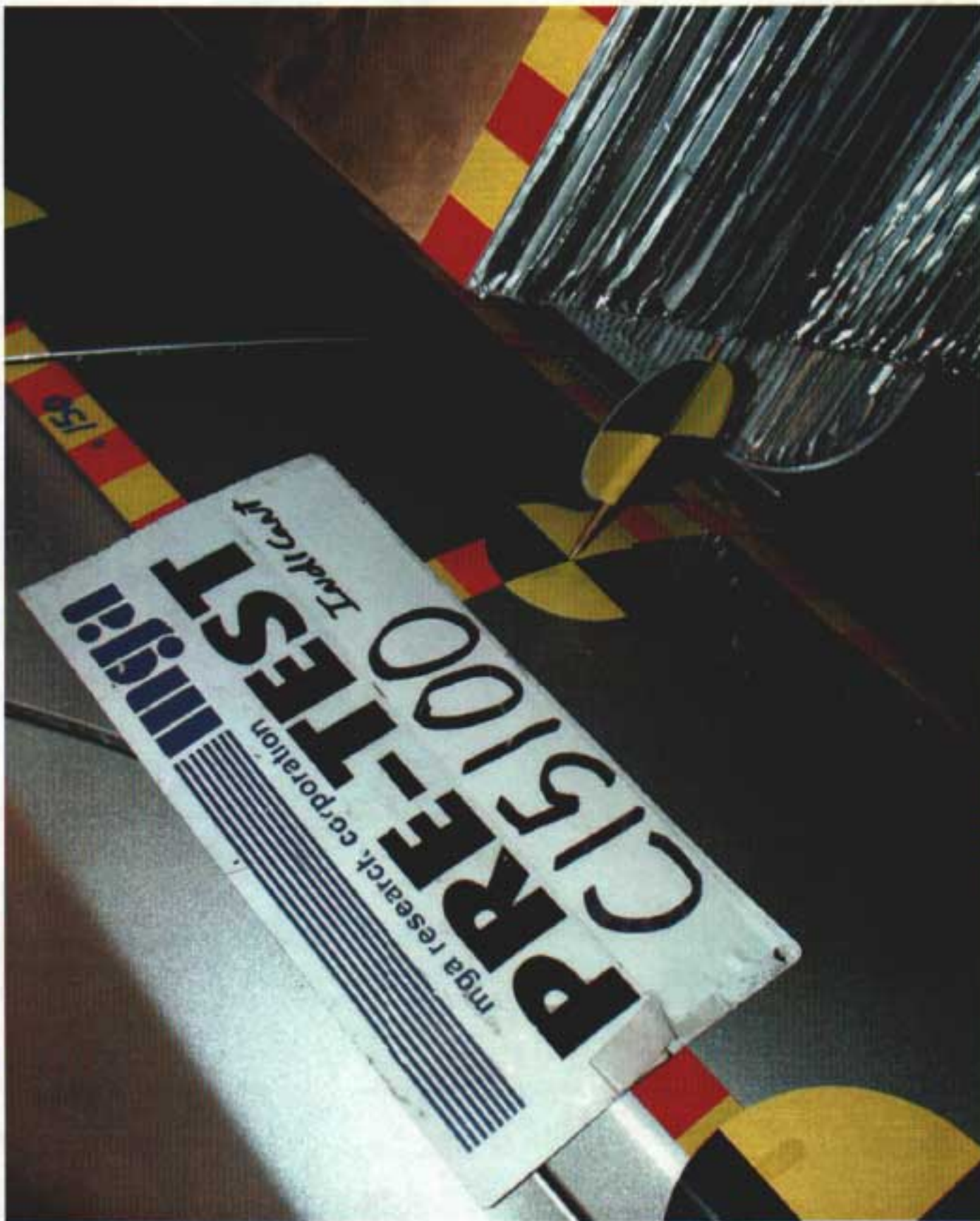


Photo No. A-39 - Pre-Test Left Front Impact Point on Vehicle



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



Photo No. A-41 - Impact

A-41

TOYOTA

MFD BY TOYOTA MOTOR CORPORATION 10/00
QVAP 4300LB CAR FR 2335LB RR 2270LB
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY BUMPER AND
THEFT PREVENTION STANDARDS IN EFFECT ON
THE DATE OF MANUFACTURE SHOWN ABOVE
JTHB0182910018571 PASS CAR



QVTR: 100/FB20 MODEL: ICE10L-AEAVFA
A/TM: B02A/A650E MADE IN JAPAN
NO. 622

BA4748932

Photo No. A-42 - Vehicle Certification Label

7

GRAVE

A

TAIRE

EX

A-43

TIRE-LOADING INFORMATION

LEXUS IS300

VEHICLE CAPACITY WEIGHT 390kg (860 lbs)
DESIGNATED SEATING CAPACITY FRT. 2 RR. 3 TOTAL 5
RECOMMENDED TIRE SIZE 215/45ZR17 • P205/55R16 89V
RECOMMENDED COLD TIRE INFLATION PRESSURE
UP TO VEHICLE CAPACITY WEIGHT 215/45ZR17 FRONT 230kPa (33psi) REAR 230kPa (33psi)
UP TO VEHICLE CAPACITY WEIGHT P205/55R16 89V FRONT 230kPa (33psi) REAR 230kPa (33psi)
SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION

CHARGE MAXIMALE DU VEHICULE 390kg (860 livres)
NOMBRE DESIGNÉ DE PLACES ASSISES AVANT 2 ARRIERE 3 TOTAL 5
DIMENSION RECOMMANDÉE DES PNEUS 215/45ZR17 • P205/55R16 89V
PRESSION RECOMMANDÉE DE GONFLAGE À FROID DES PNEUS
JUSQU'À LA CAPACITÉ DU VEHICULE 215/45ZR17 AVANT 230kPa (33psi) ARRIERE 230kPa (33psi)
JUSQU'À LA CAPACITÉ DU VEHICULE P205/55R16 89V AVANT 230kPa (33psi) ARRIERE 230kPa (33psi)
POUR DE PLUS AMPLES DETAILS VOIR LE MANUEL DU PROPRIÉTAIRE

3 8

5 3 0 6 0

Photo No. A-43 - Tire Placard

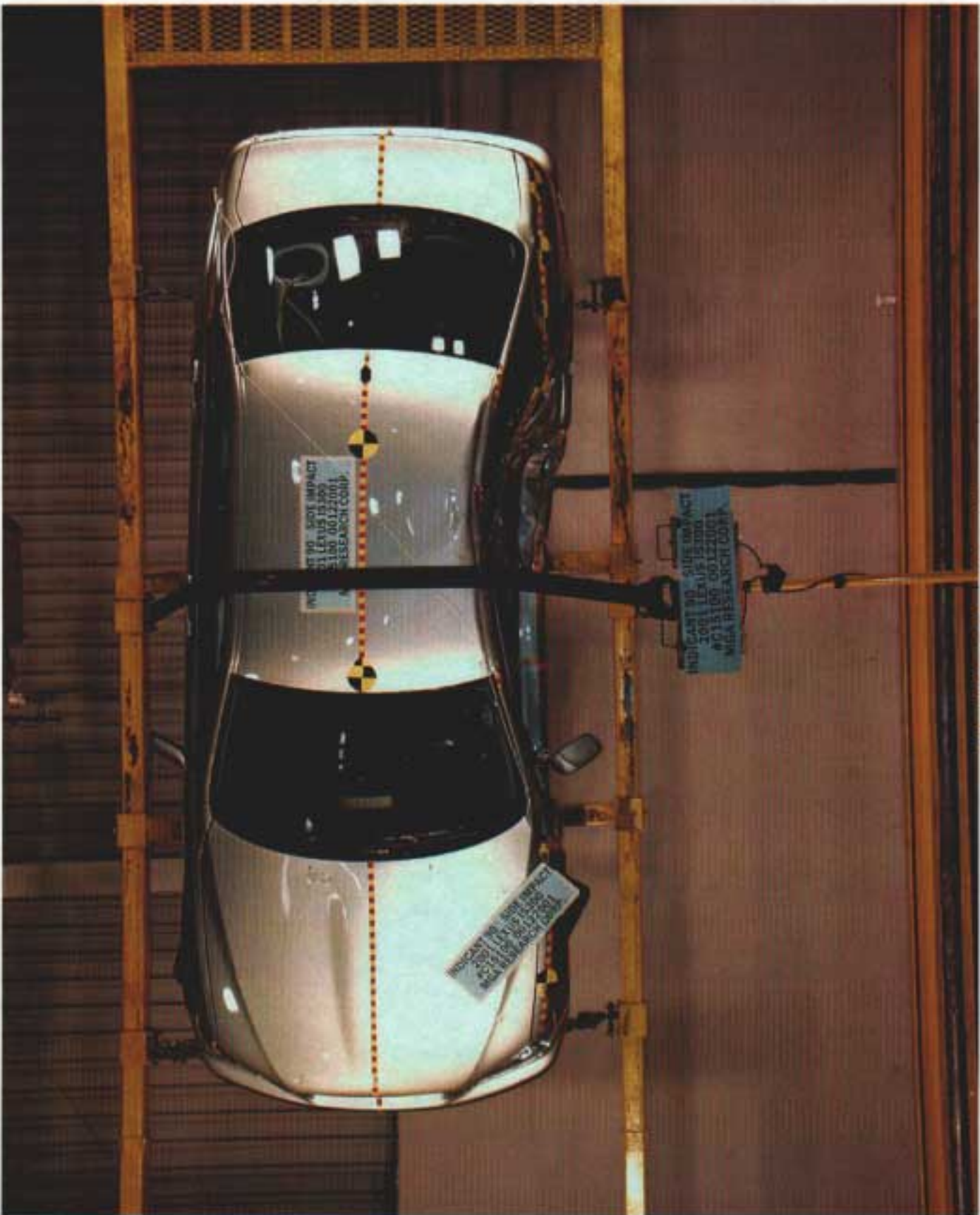


Photo No. A-44 - Rollover 90°



Photo No. A-45 - Rollover 180°

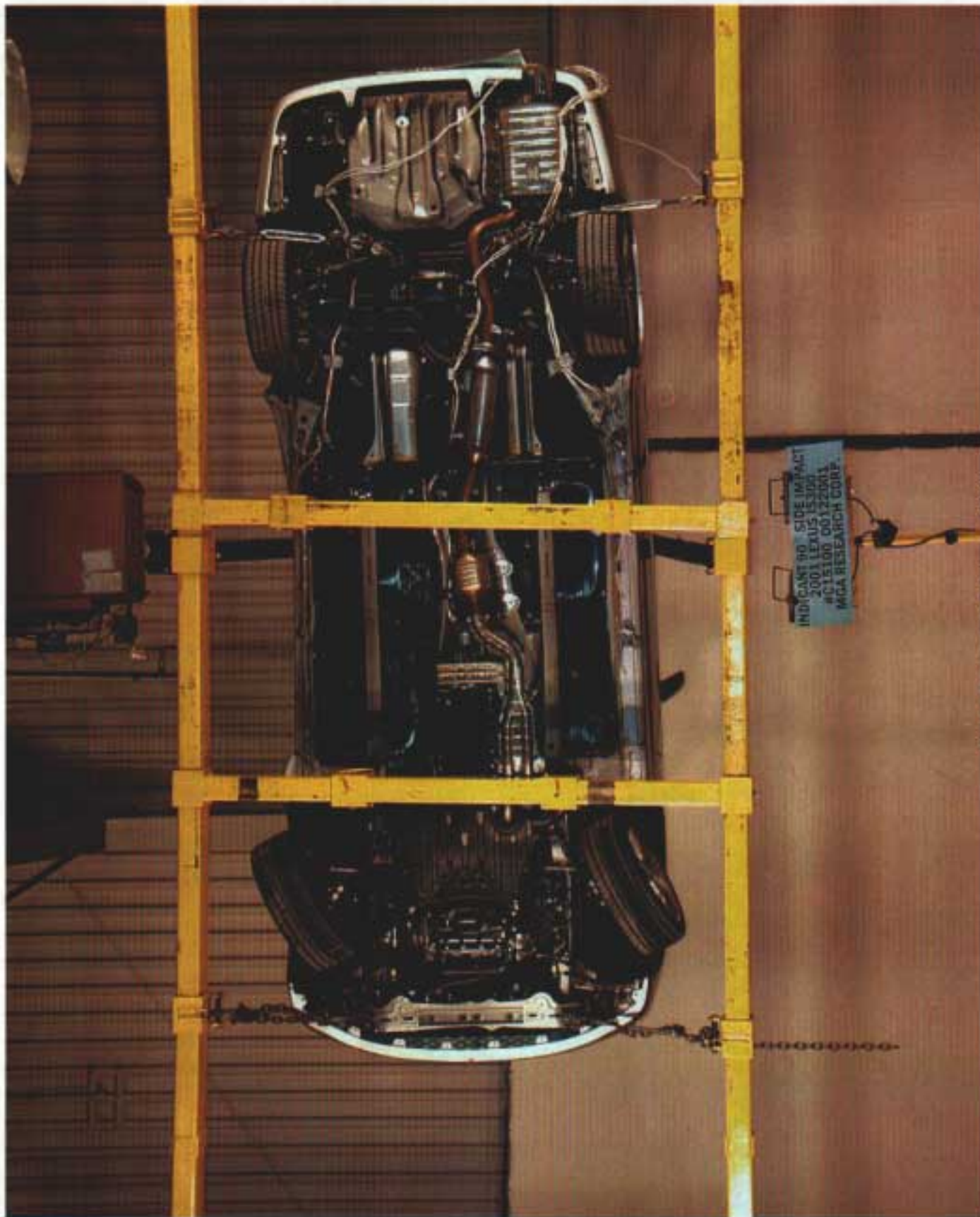
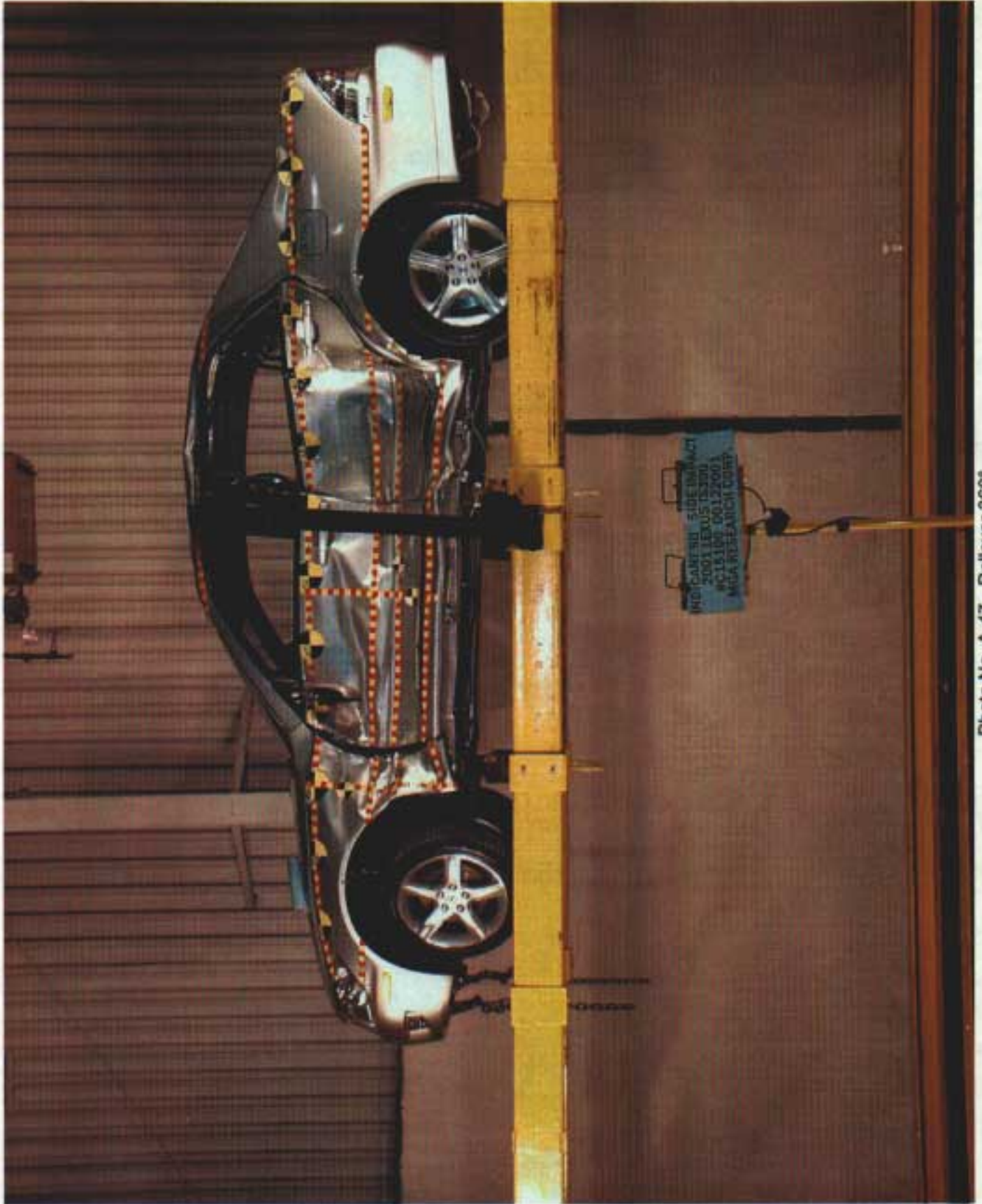


Photo No. A-46 - Rollover 270°

A-46



A-47

Photo No. A-47 - Rollover 360°



Photo No. A-48 - Left Front Attitude Point



Photo No. A-49 - Right Front Attitude Point



Photo No. A-50 - Left Rear Attitude Point



Photo No. A-51 - Right Rear Attitude Point

APPENDIX B

SID, VEHICLE, AND MDB RESPONSE DATA

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* No valid data collected after 21 msec.

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* No valid data collected after 11 msec.

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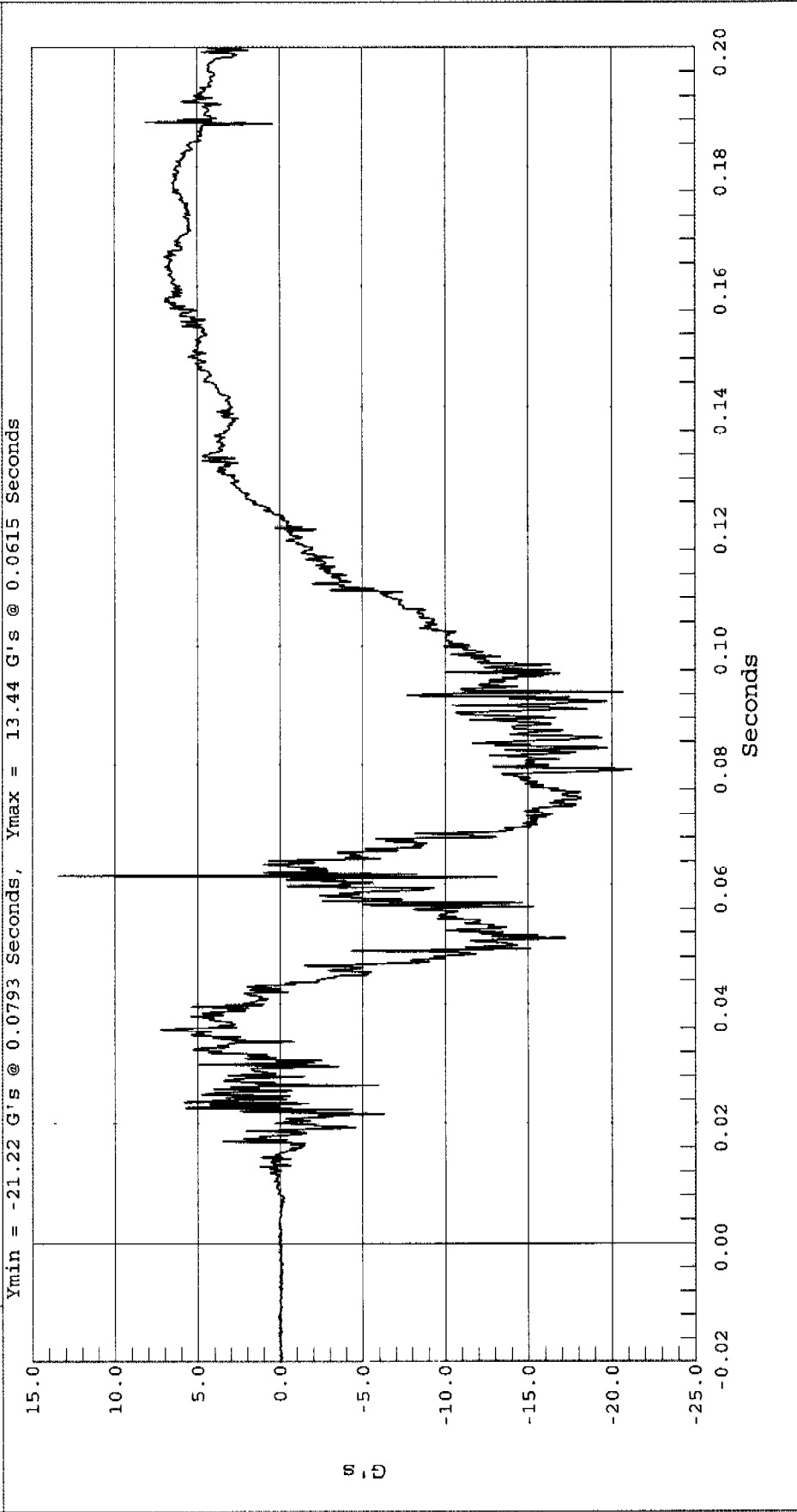
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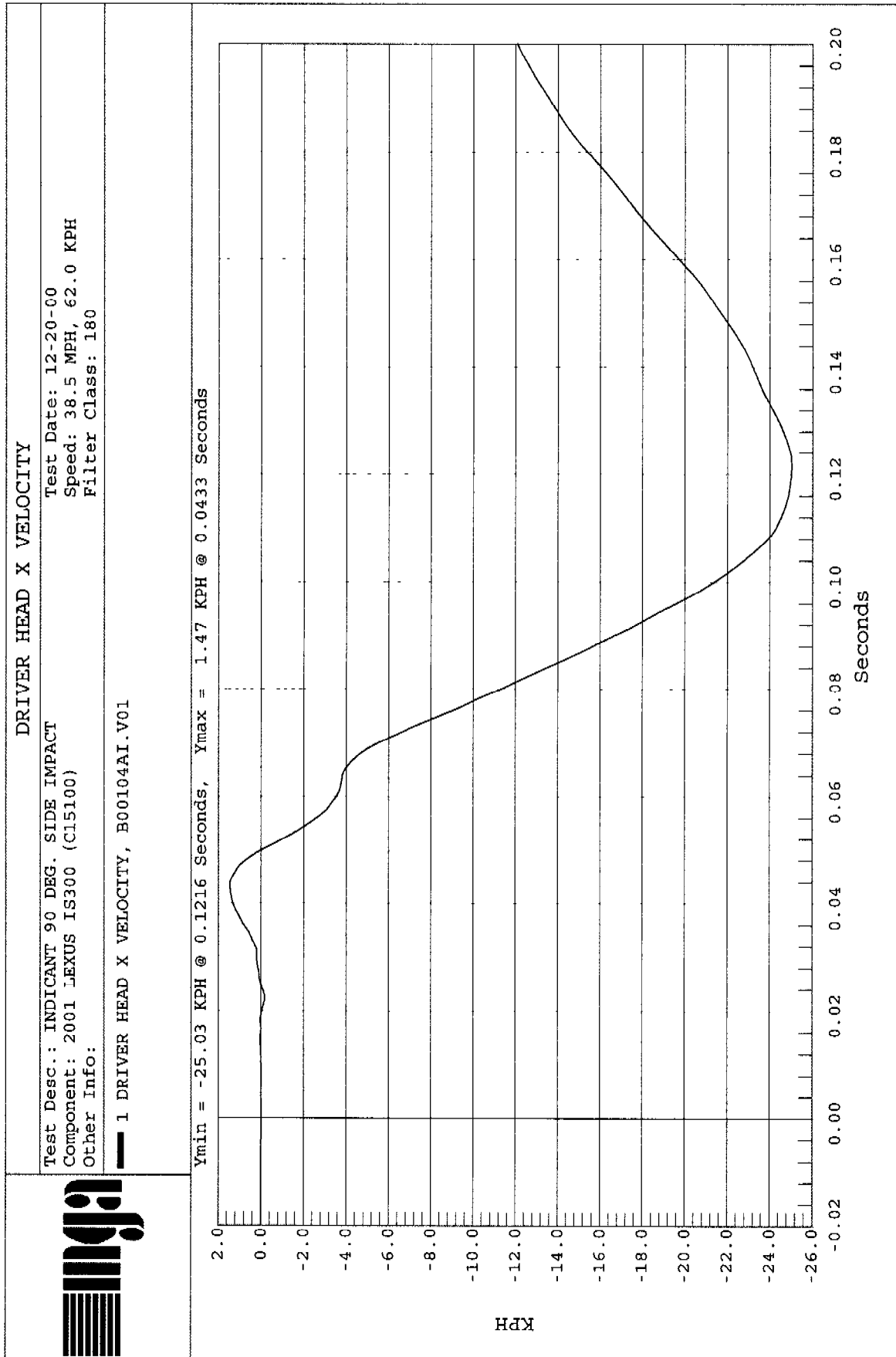
FIR Filtered (Cont'd):

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	DRIVER HEAD X ACCELERATION	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT	Test Date: 12-20-00
	Component: 2001 LEXUS IS300 (C15100)	Speed: 38.5 MPH, 62.0 KPH
Other Info:		Filter Class: 1000
 1 DRIVER HEAD X, B00104AT.A01		





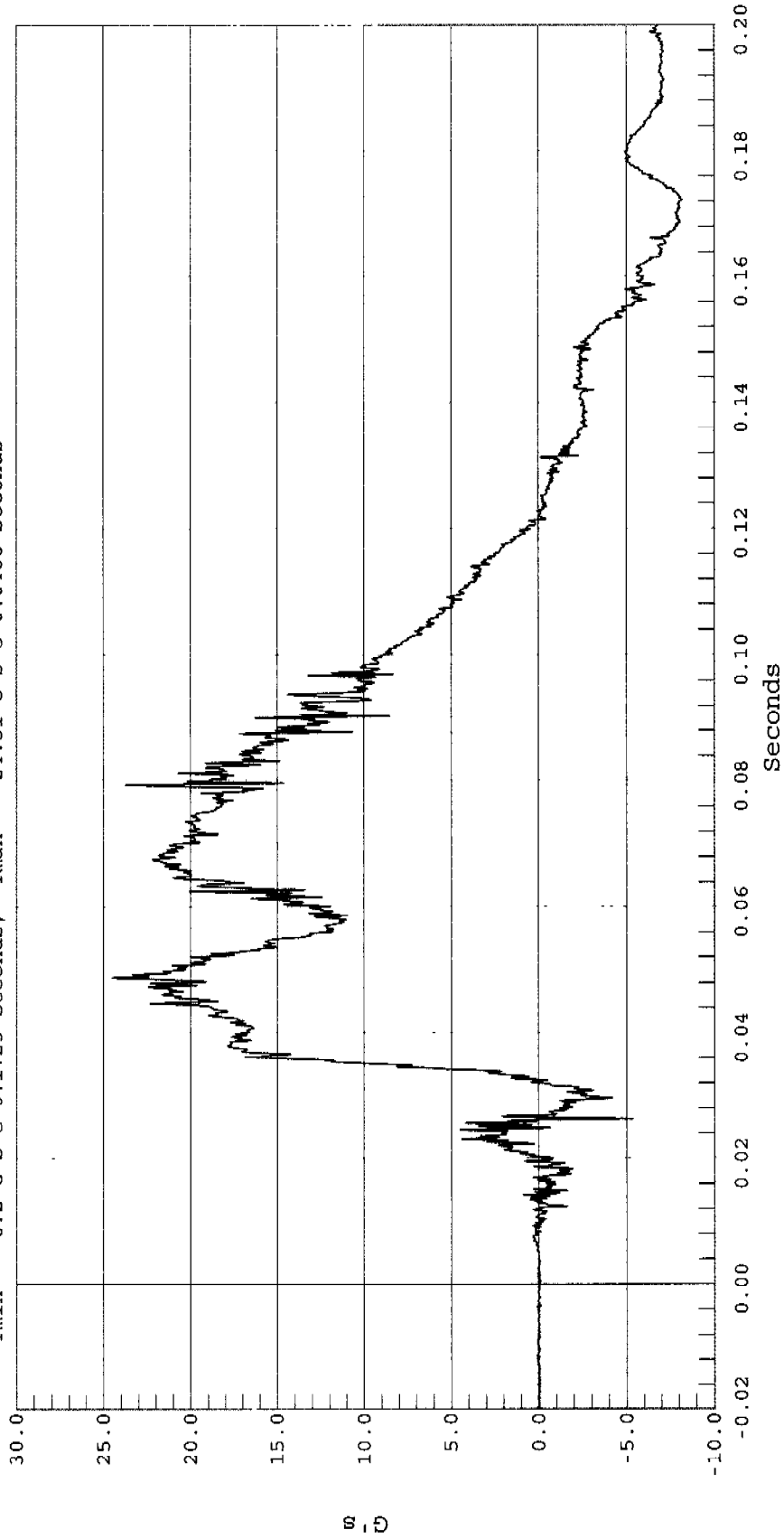


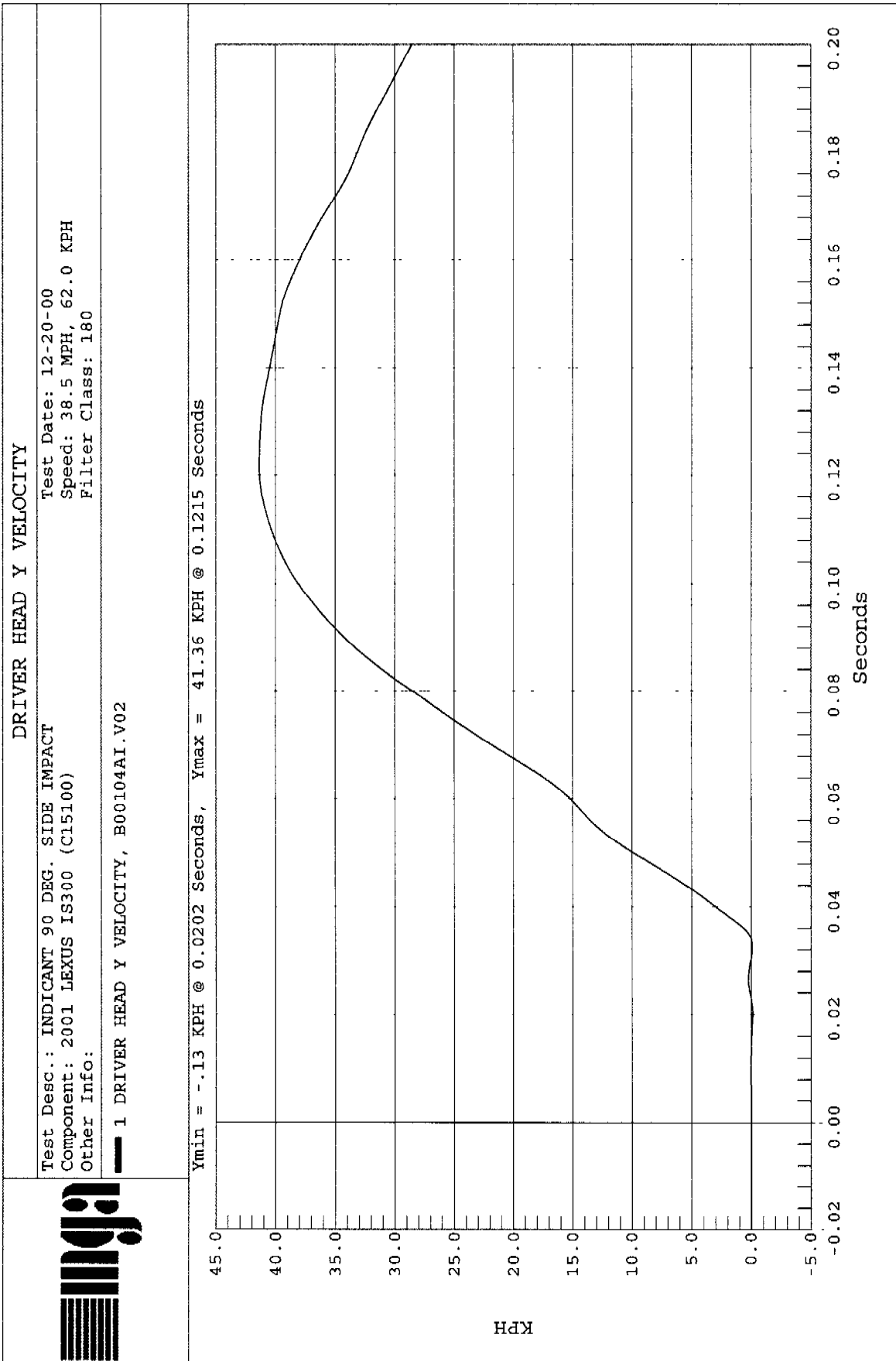
DRIVER HEAD Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 1000

1 DRIVER HEAD Y, B00104AT.A02

Ymin = -8.2 G's @ 0.1723 Seconds, Ymax = 24.51 G's @ 0.0488 Seconds

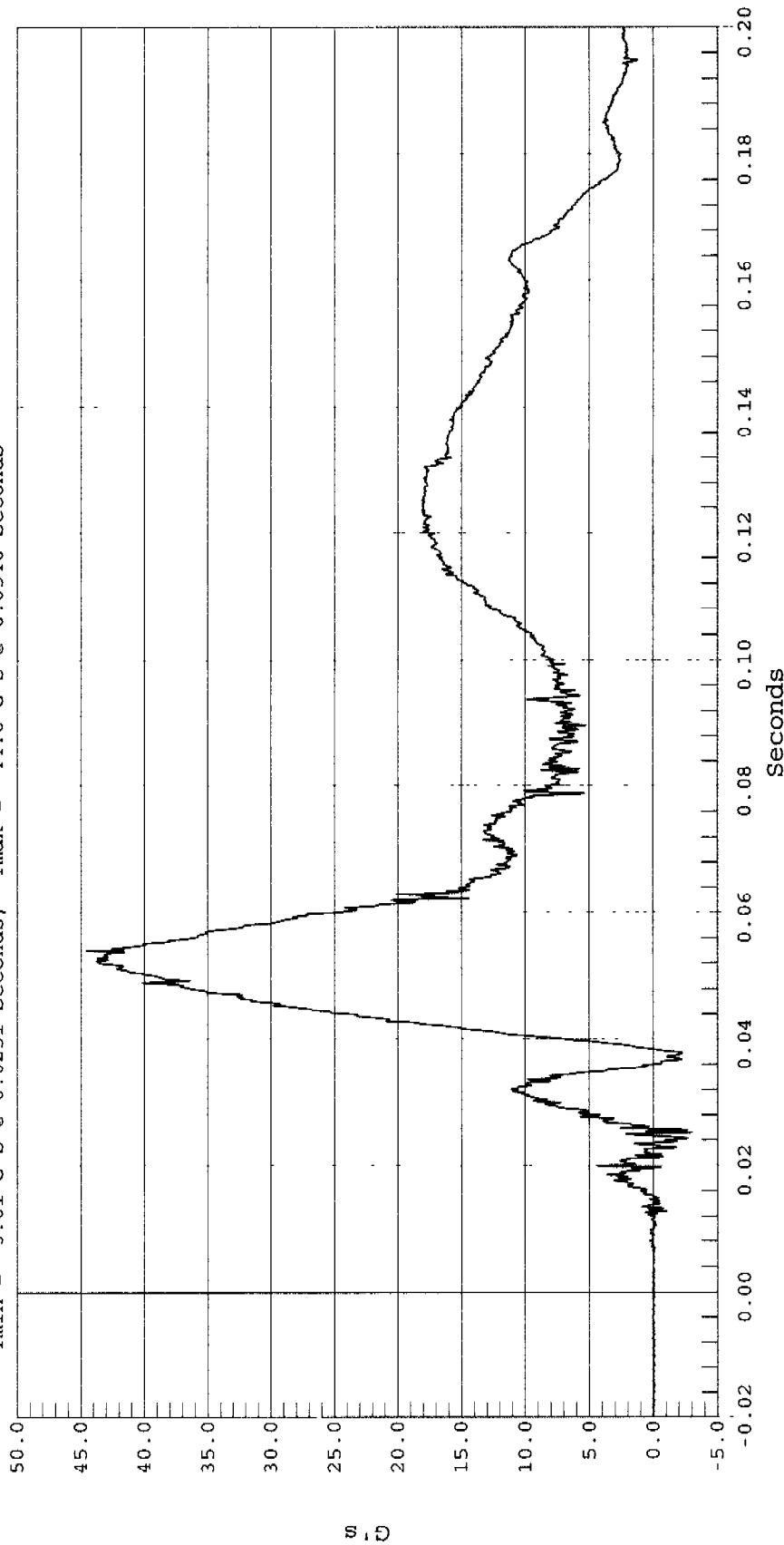


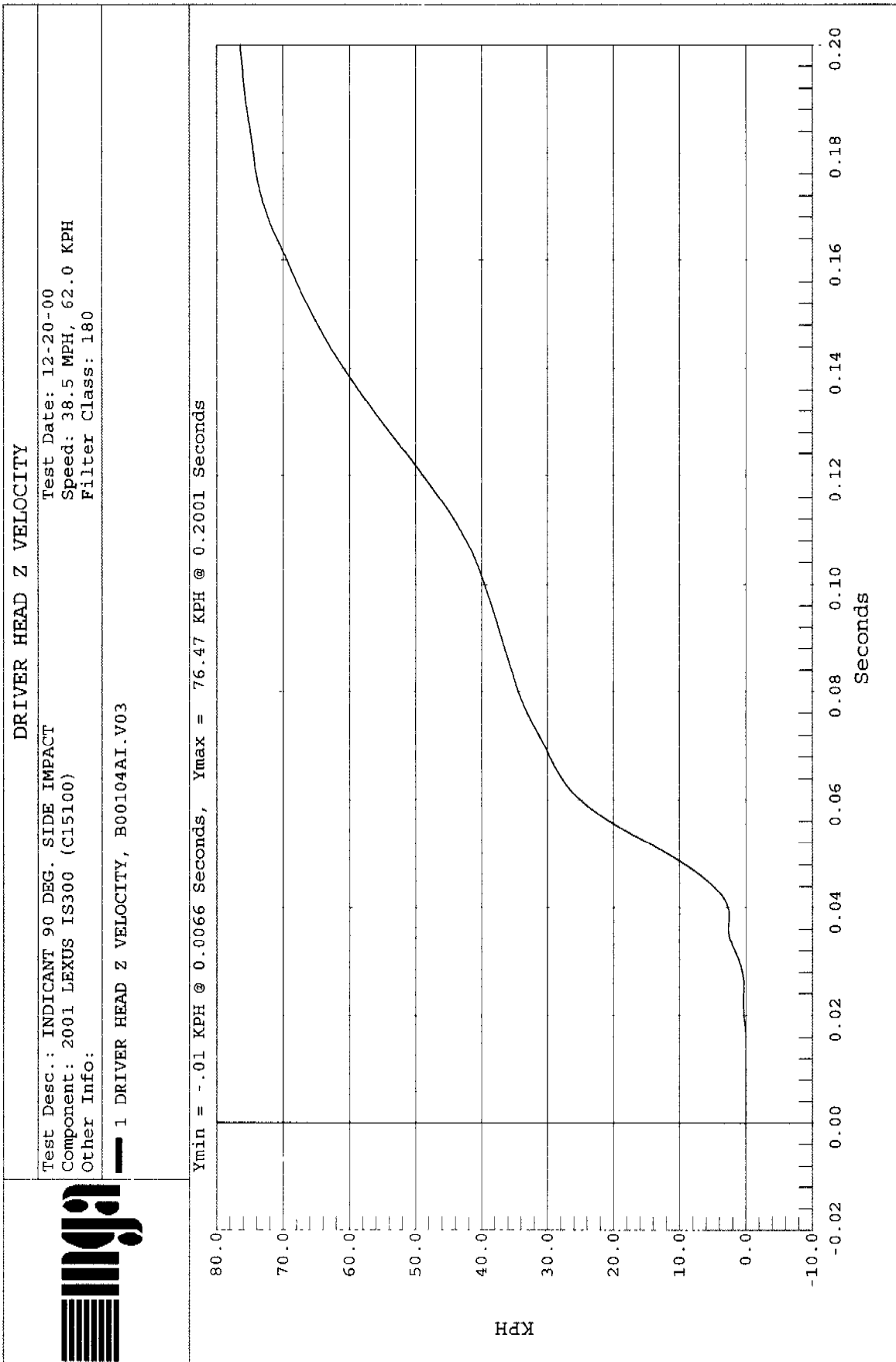


	DRIVER HEAD Z ACCELERATION	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT Component: 2001 LEXUS IS300 (C15100) Other Info:	
	Test Date: 12-20-00 Speed: 38.5 MPH, 62.0 KPH Filter Class: 1000	

— 1 DRIVER HEAD Z, B00104AT.A03

Ymin = -3.01 G's @ 0.0251 Seconds, Ymax = 44.6 G's @ 0.0540 Seconds





DRIVER HEAD RESULTANT ACCELERATION

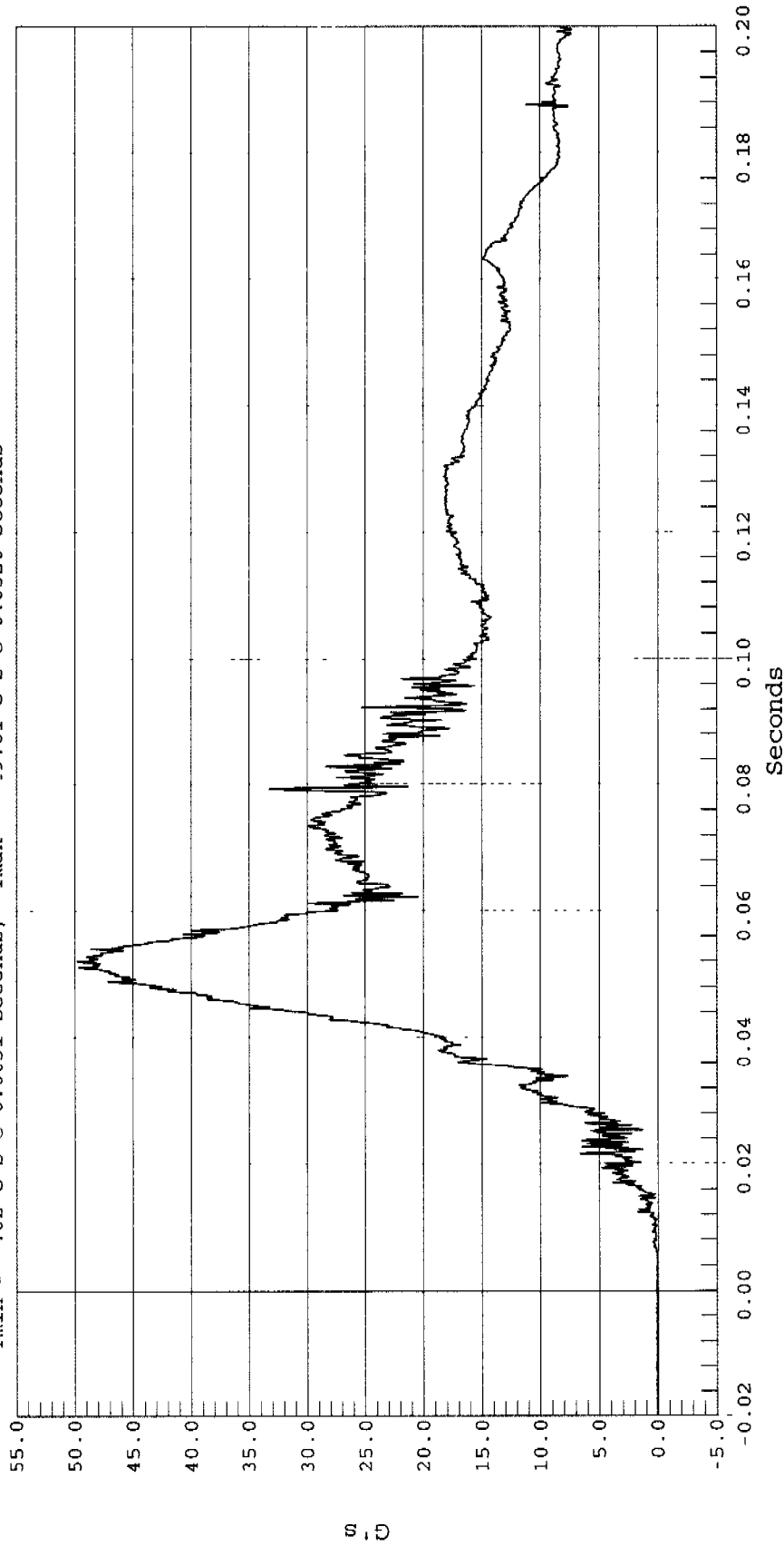
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 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 1000



1 DRIVER HEAD RESULTANT, B00104AV.A01

Ymin = .02 G's @ 0.0031 Seconds, Ymax = 49.81 G's @ 0.0520 Seconds

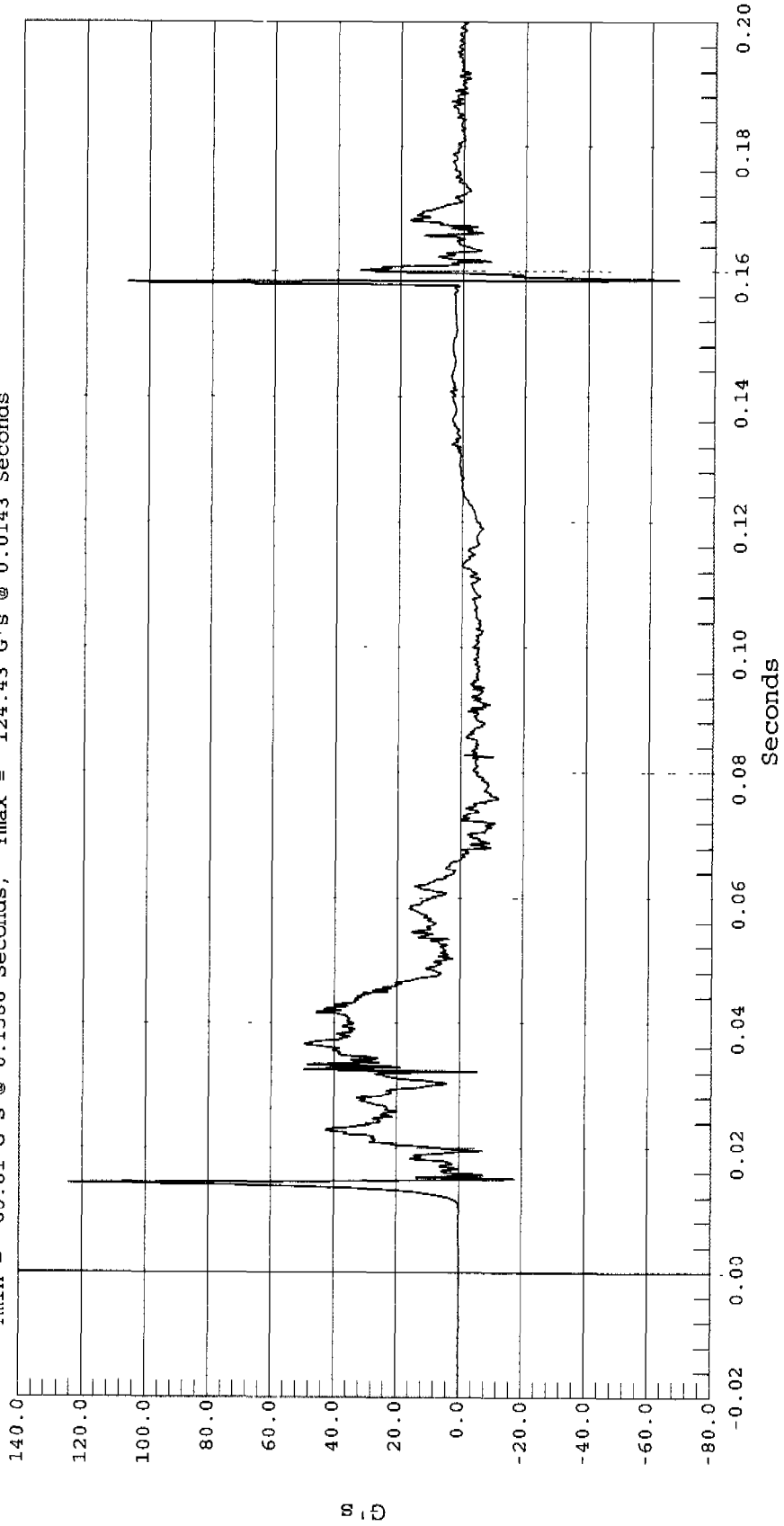


DRIVER UPPER RIB Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:
 Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 1000

1 DRIVER UPPER RIB Y, B00104AT.A04

Ymin = -68.81 G's @ 0.1586 Seconds, Ymax = 124.43 G's @ 0.0143 Seconds



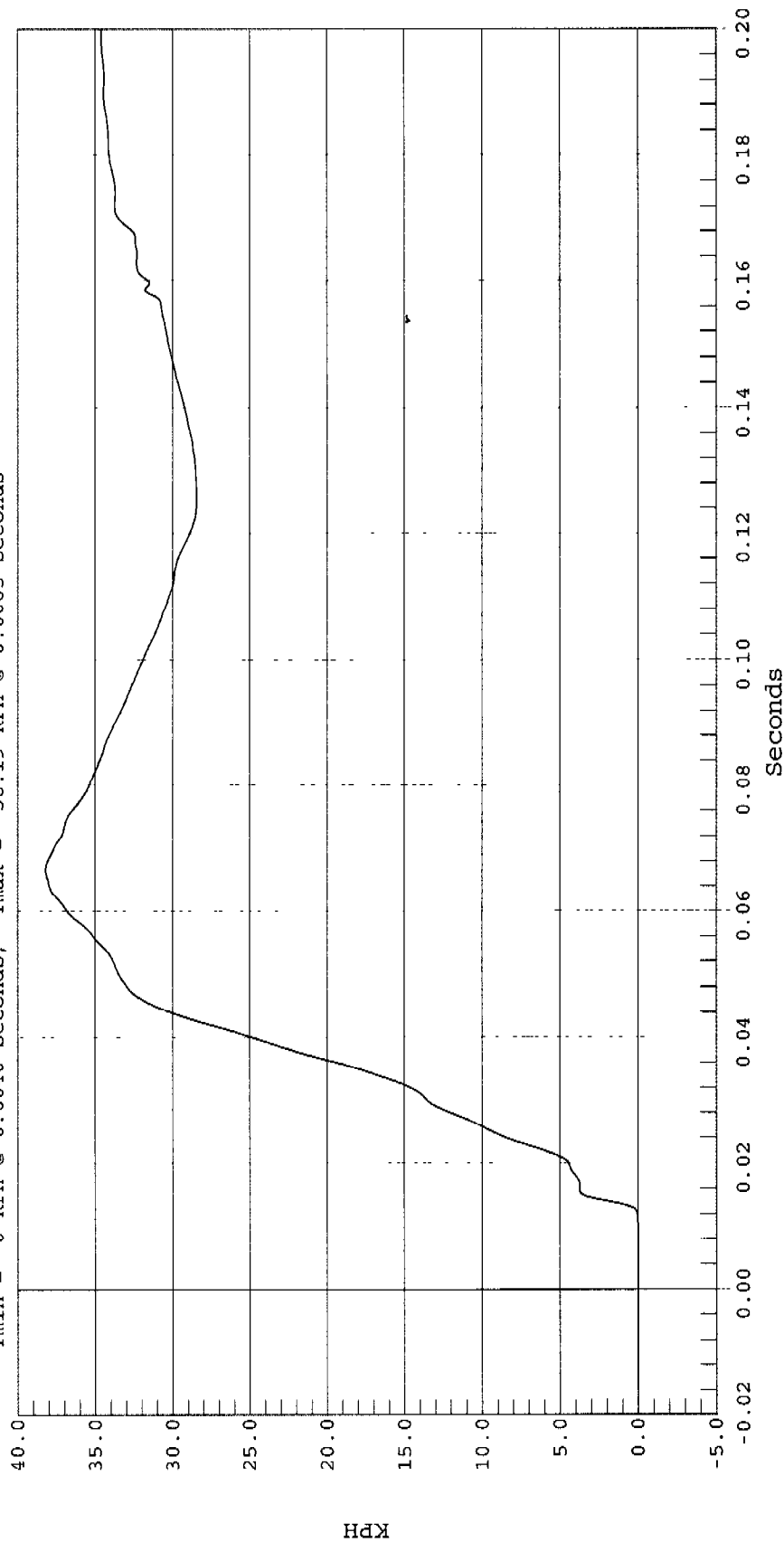


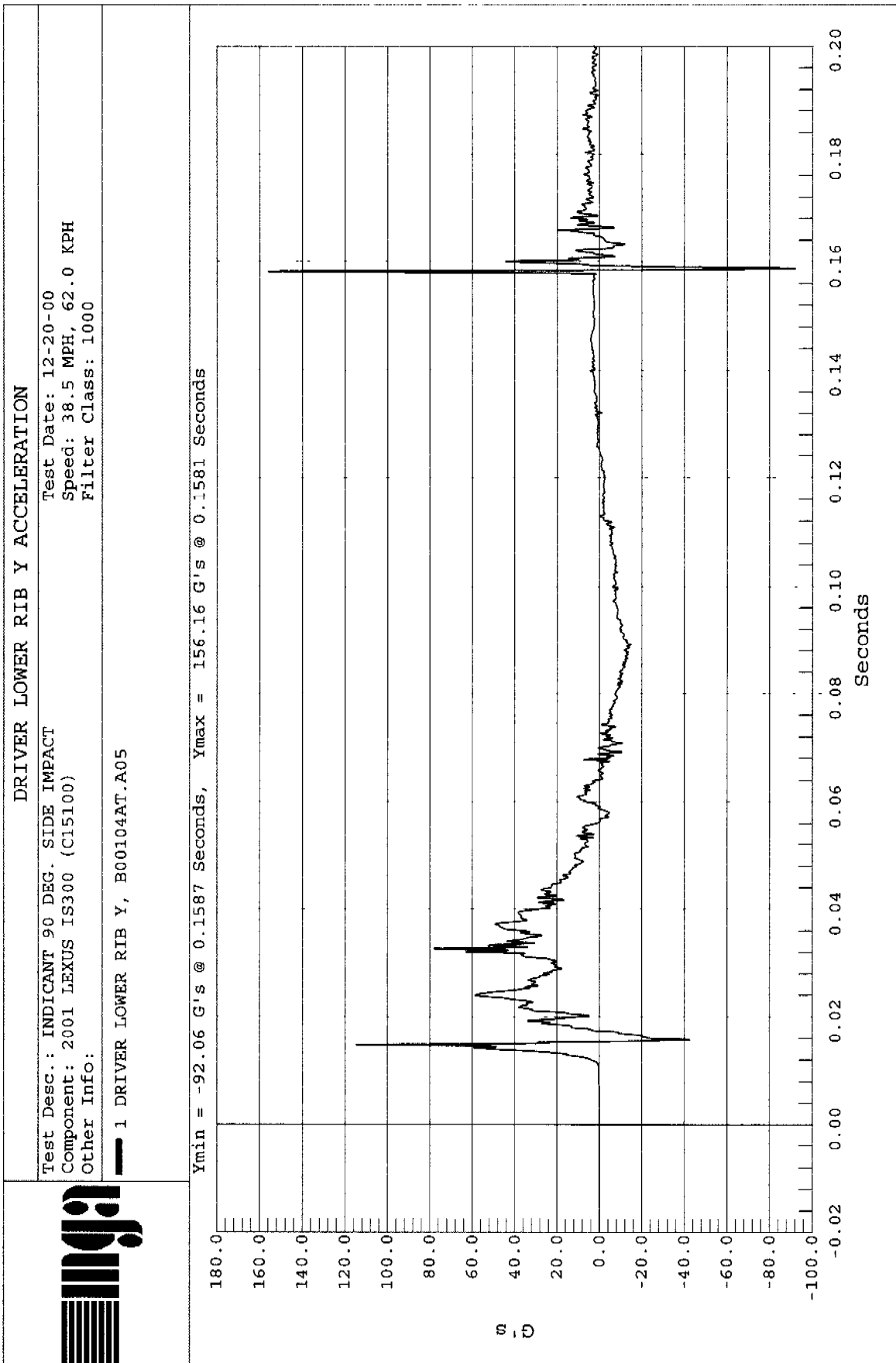
DRIVER UPPER RIB Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

— 1 DRIVER UPPER RIB Y VELOCITY, B00104AI.V04

Ymin = 0 KPH @ 0.0040 Seconds, Ymax = 38.19 KPH @ 0.0665 Seconds







DRIVER LOWER RIB Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Component: 2001 LEXUS IS300 (C15100)

Other Info:

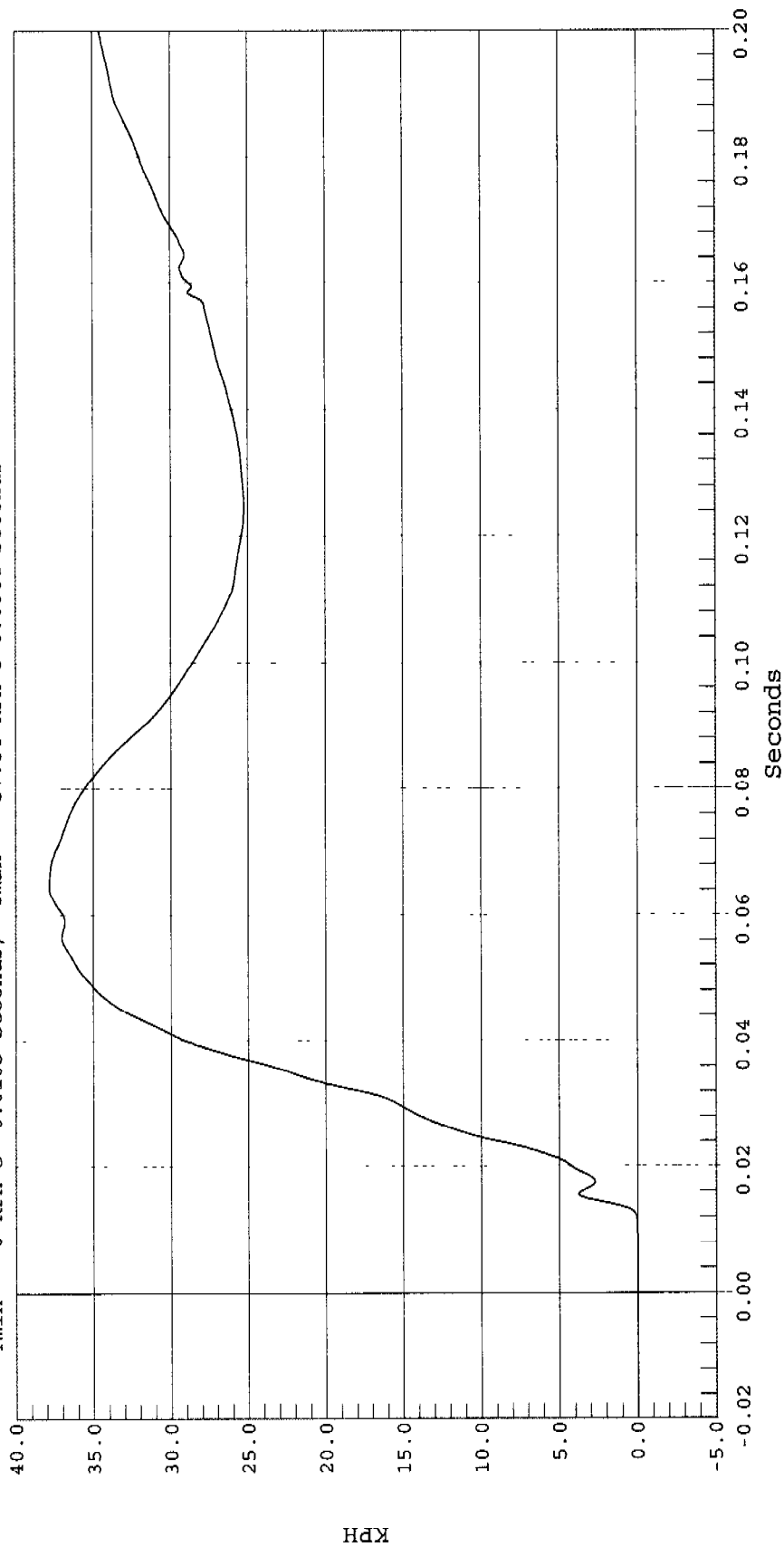
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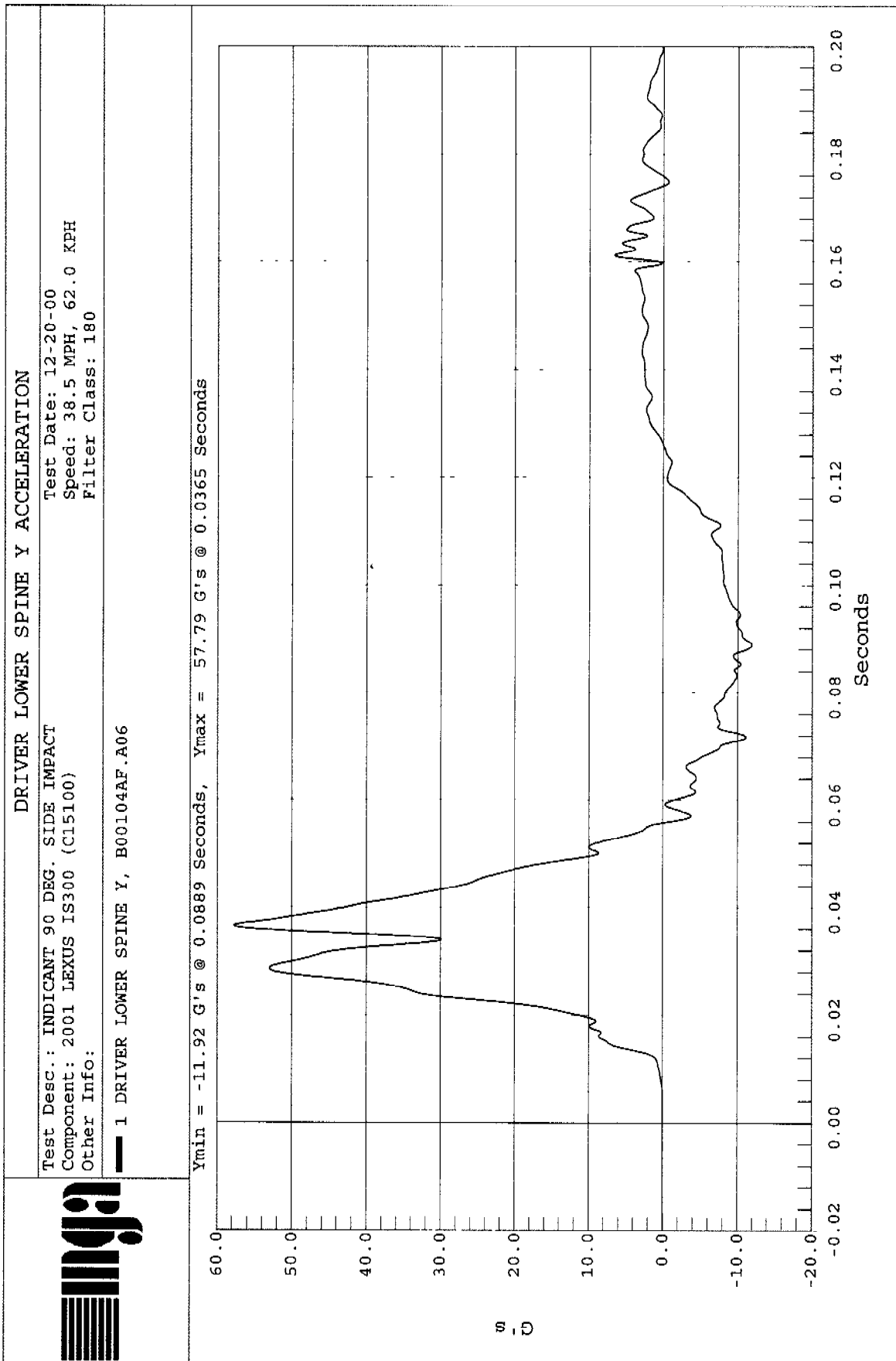
Speed: 38.5 MPH, 62.0 KPH

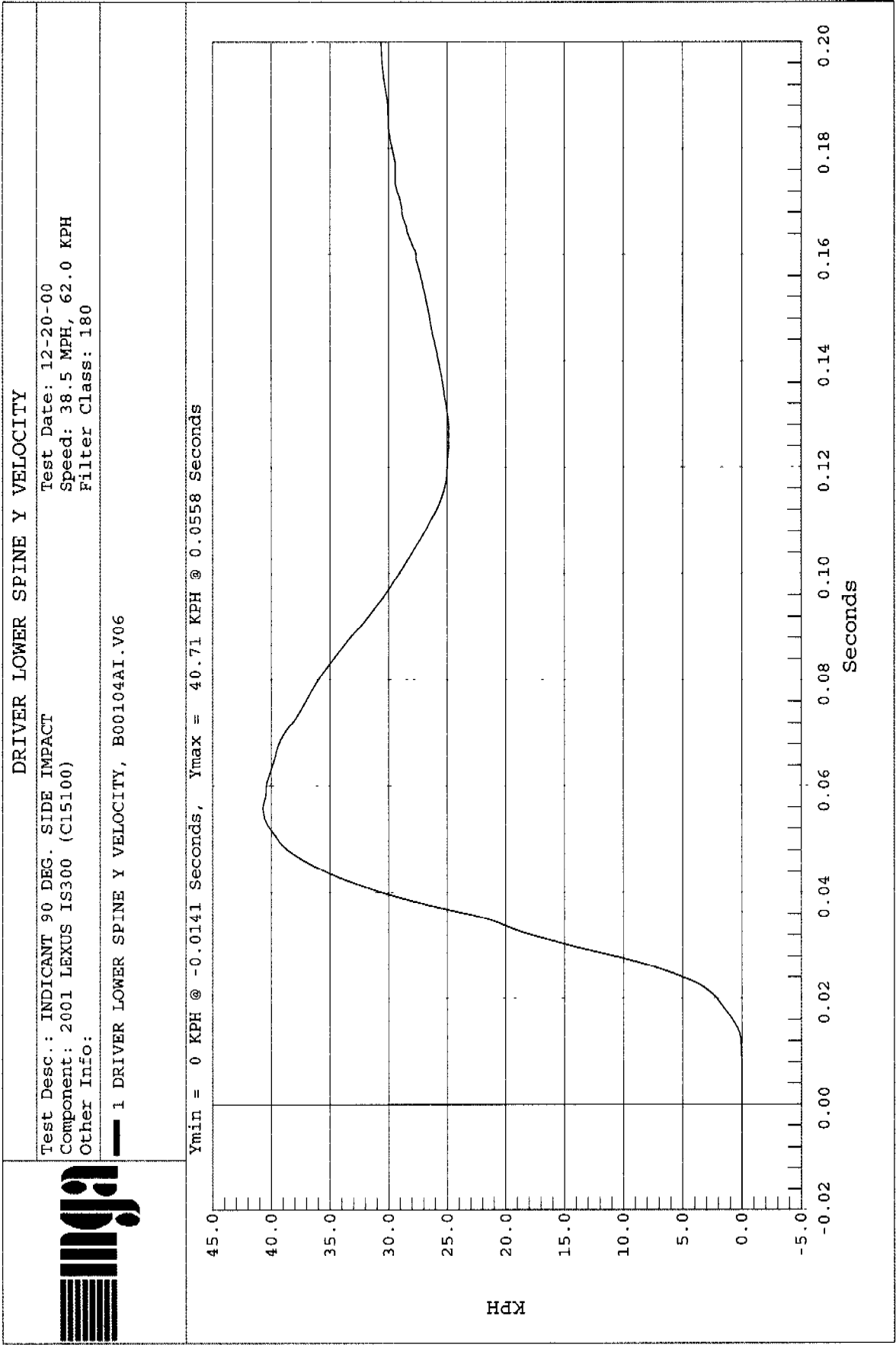
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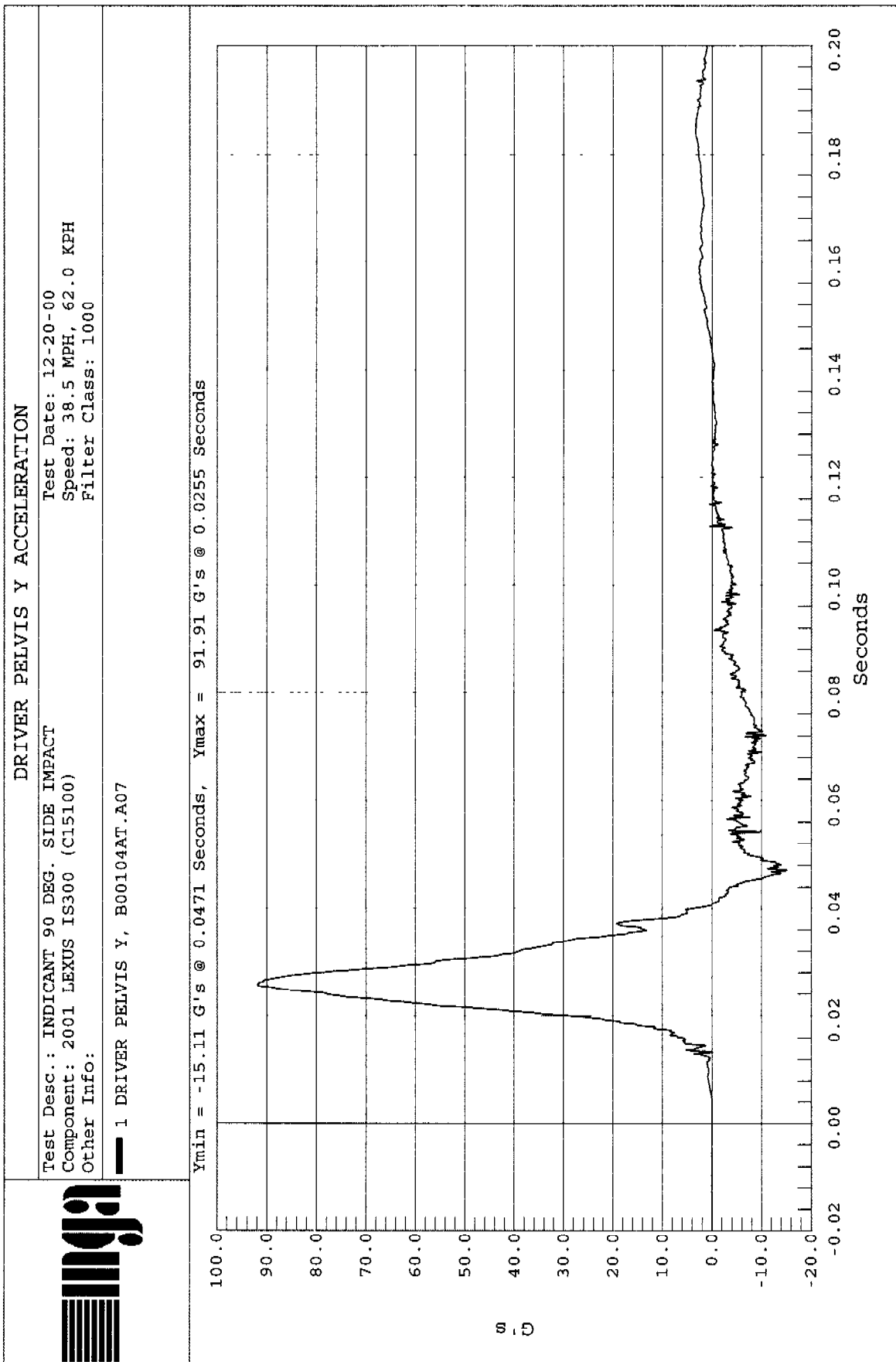
— 1 DRIVER LOWER RIB Y VELOCITY, B00104A1.V05

Ymin = 0 KPH @ -0.0105 Seconds, Ymax = 37.84 KPH @ 0.0644 Seconds







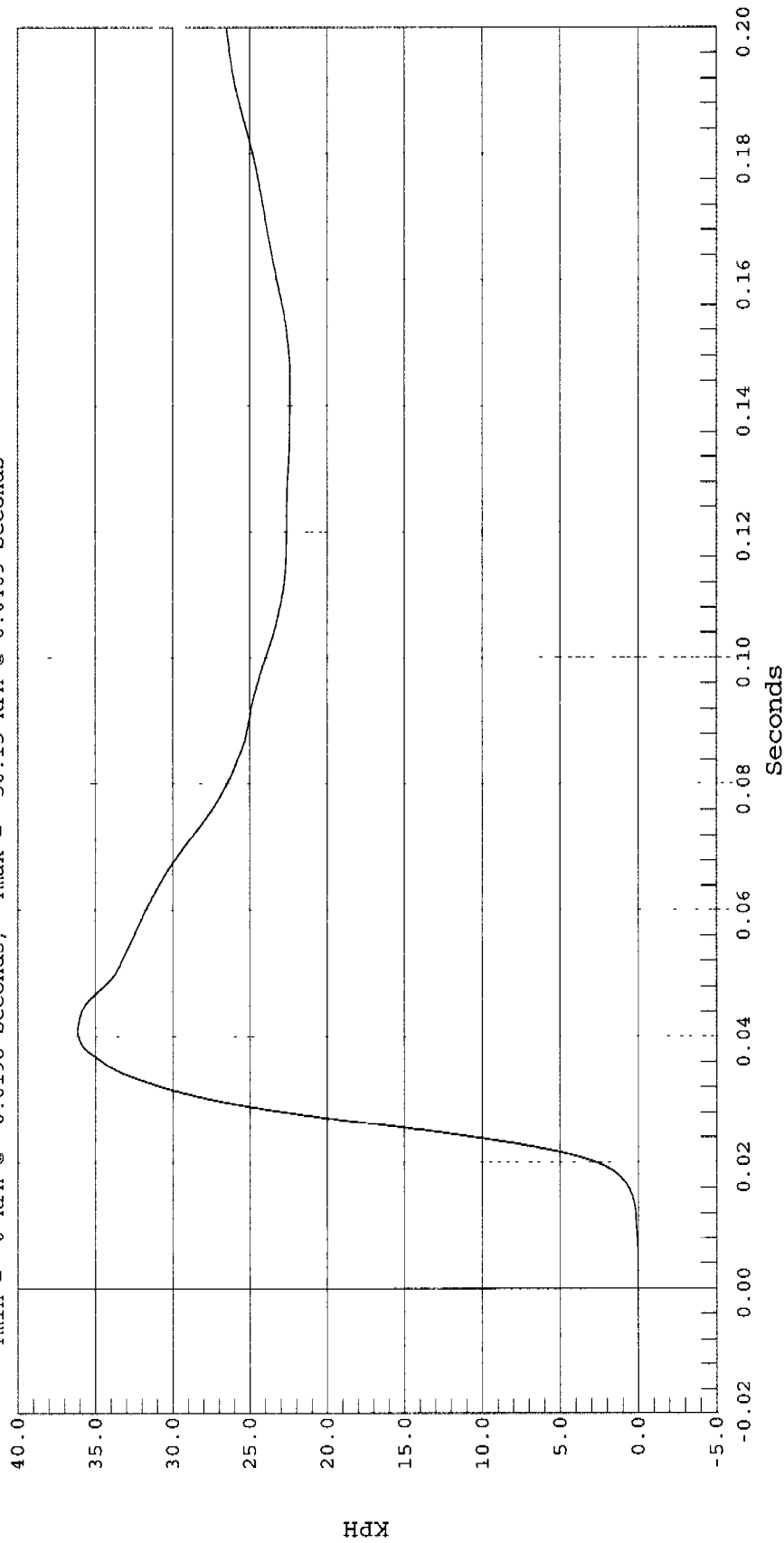


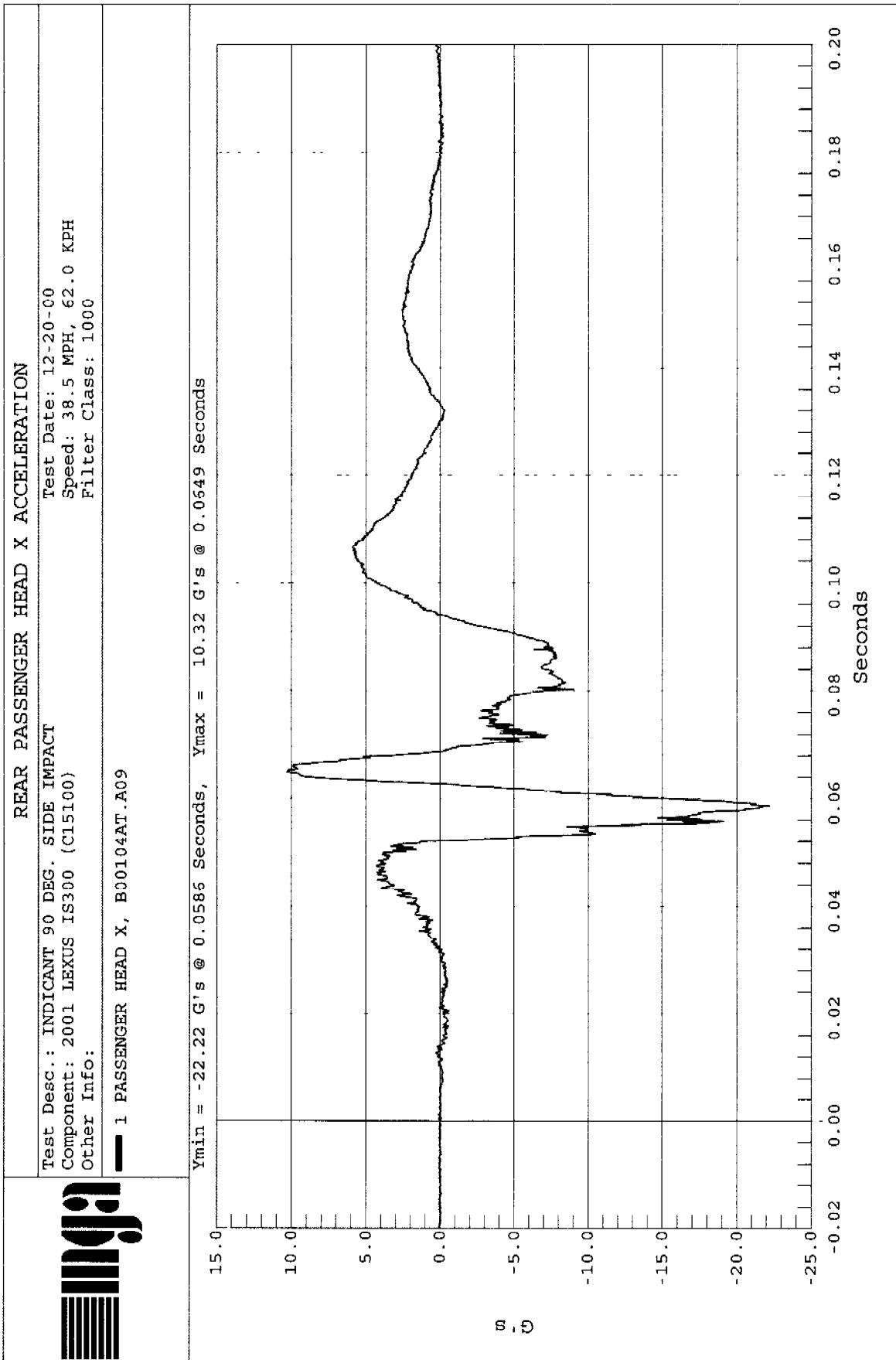
DRIVER PELVIS Y VELOCITY

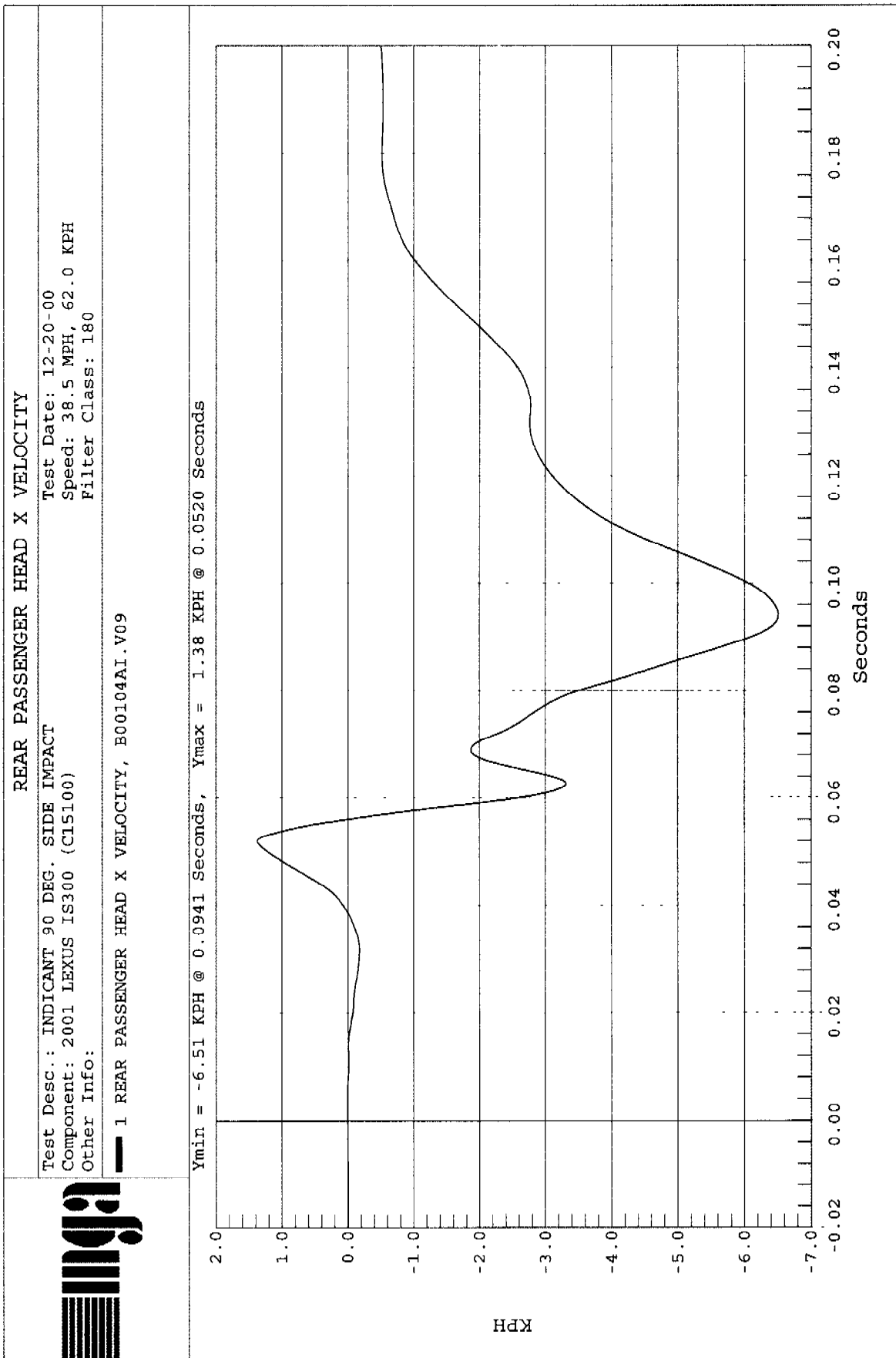
Test Desc.: INDICANT 90 DRG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info: Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 180

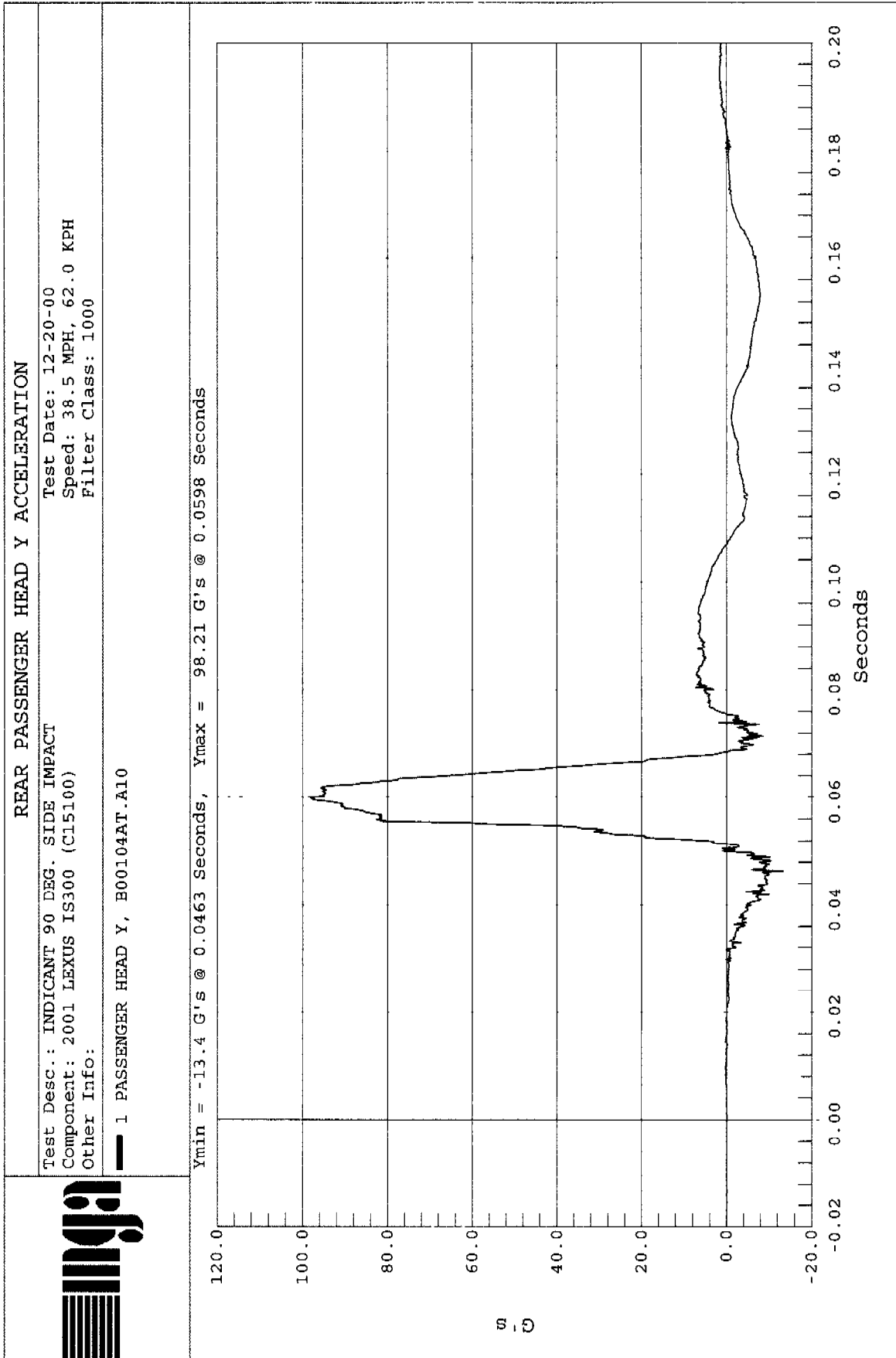
1 DRIVER PELVIS Y VELOCITY, B00104AI.V07

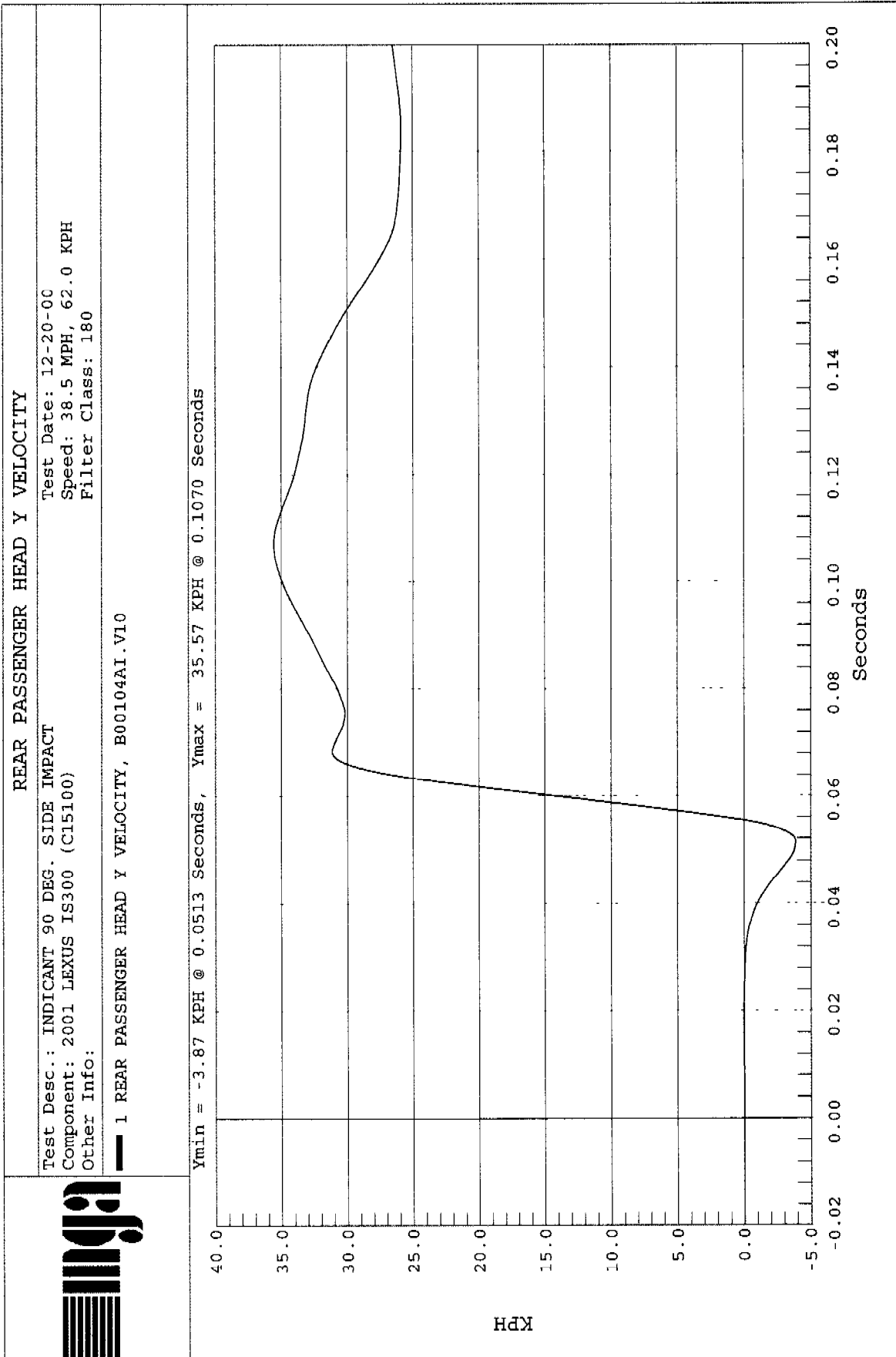
Ymin = 0 KPH @ -0.0198 Seconds, Ymax = 36.15 KPH @ 0.0409 Seconds

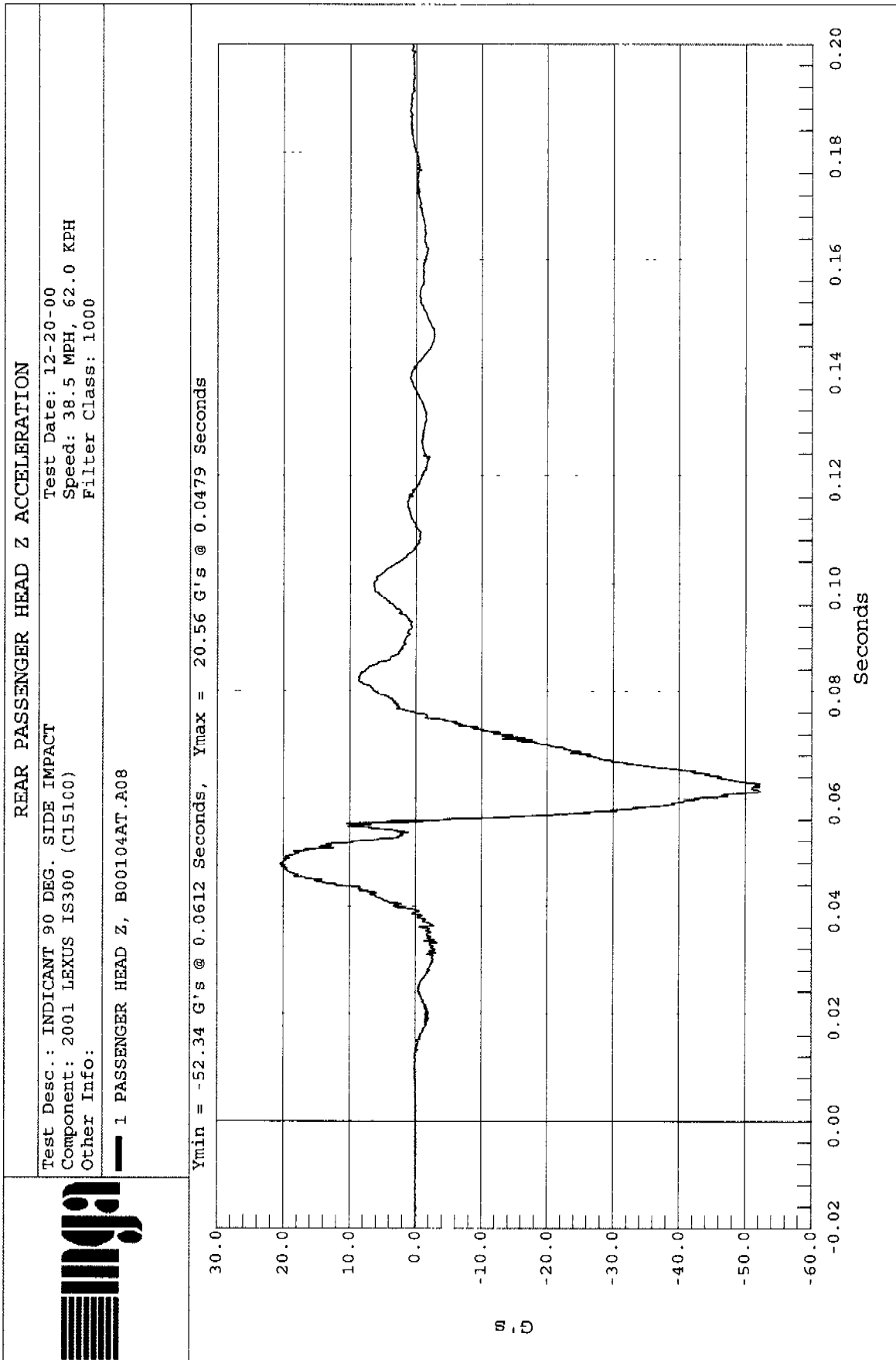


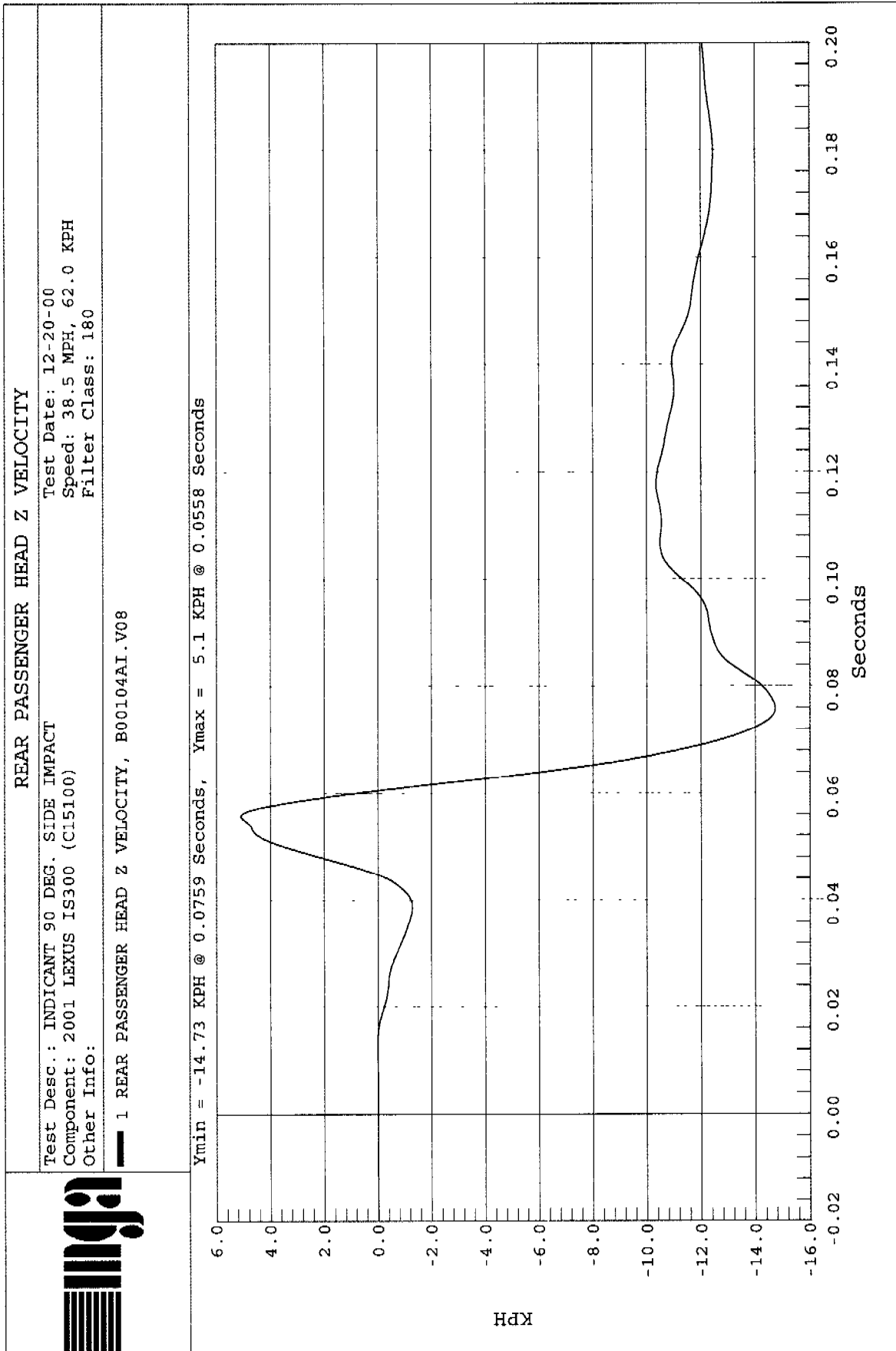


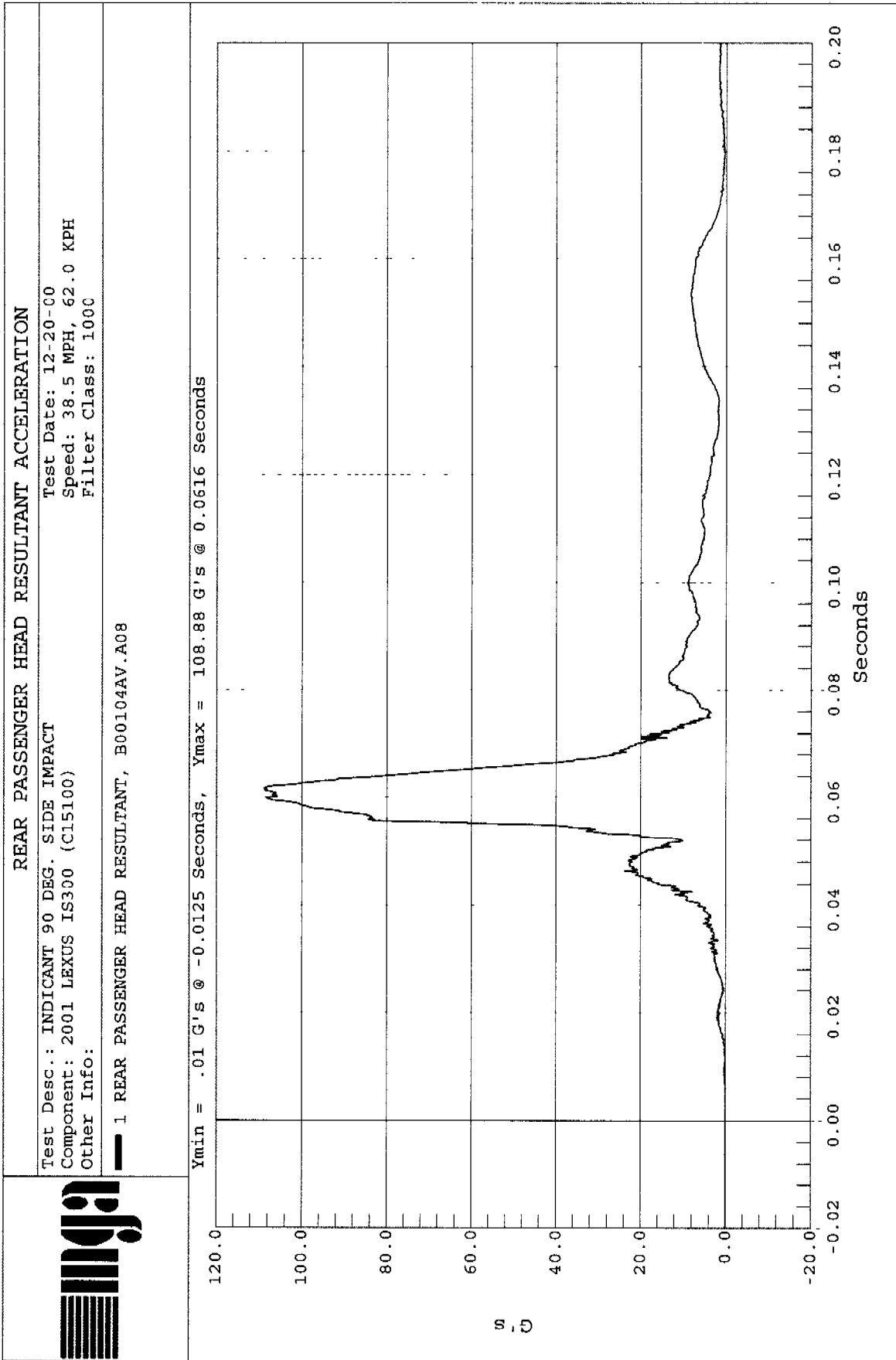












REAR PASSENGER UPPER RIB Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

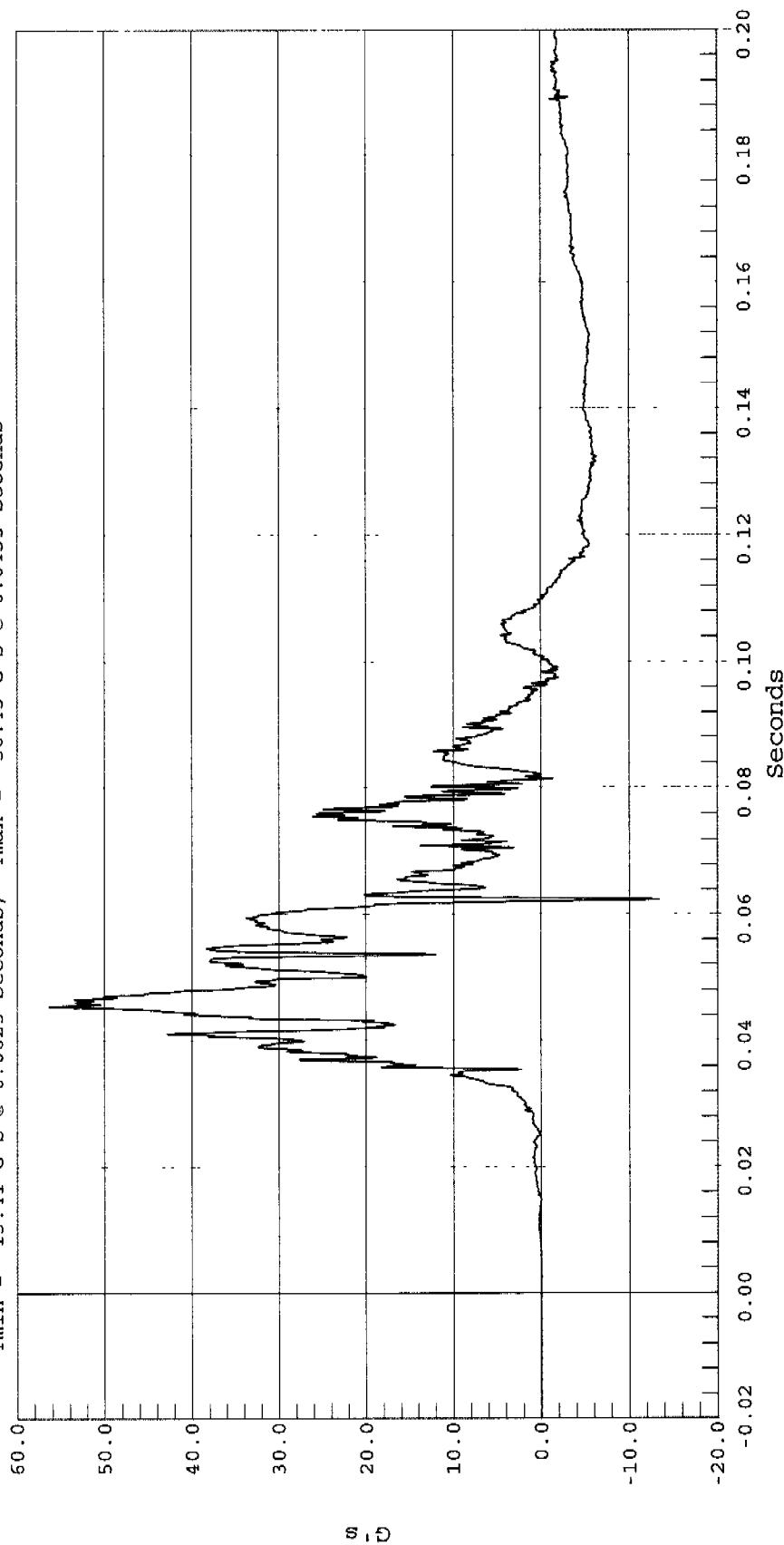
Test Date: 12-20-00

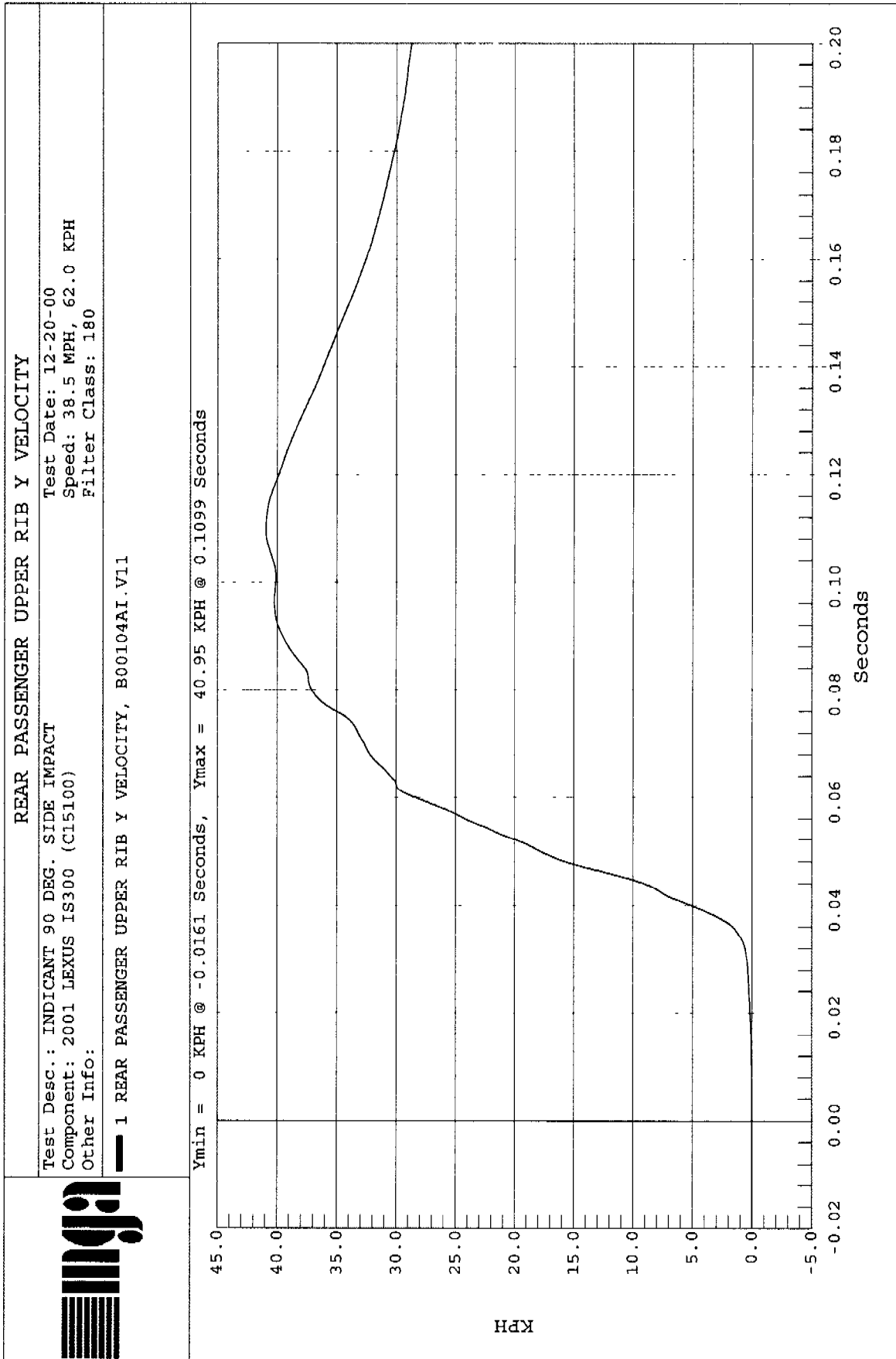
Speed: 38.5 MPH, 62.0 KPH

Filter Class: 1000

1 PASSENGER UPPER RIB Y, B00104AT.A11

Ymin = -13.41 G's @ 0.0623 Seconds, Ymax = 56.43 G's @ 0.0455 Seconds





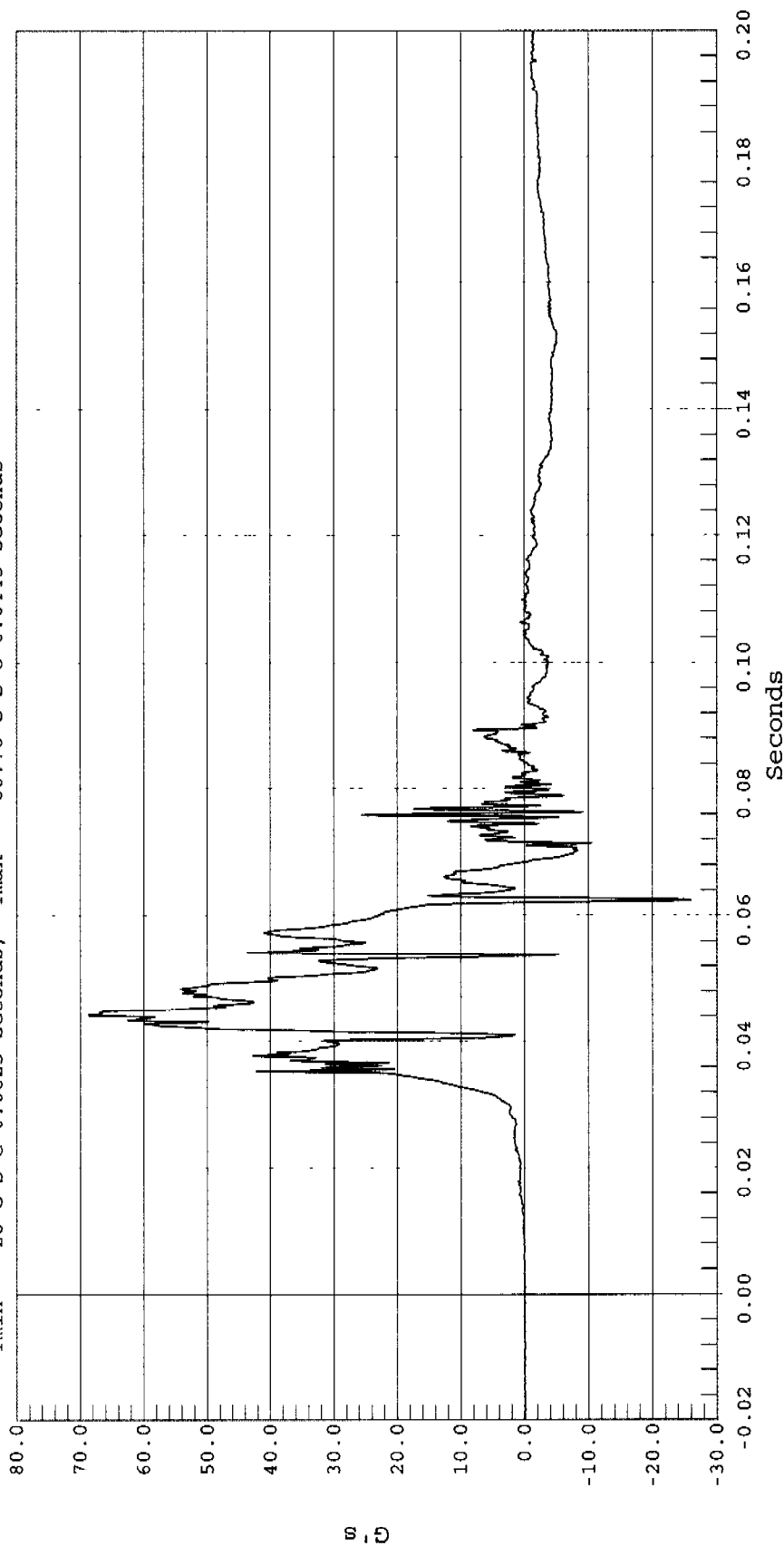
REAR PASSENGER LOWER RIB Y ACCELERATION

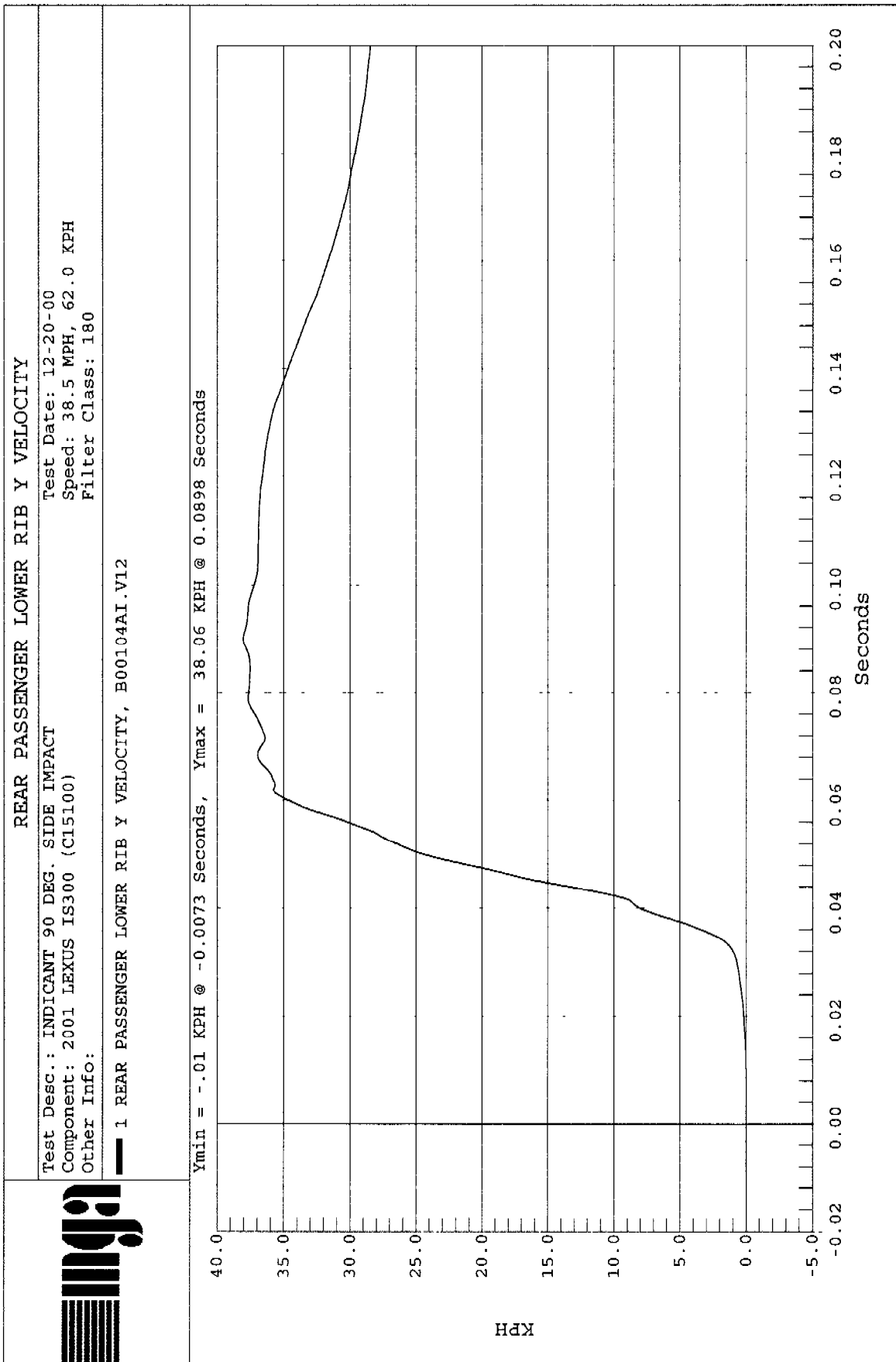
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 1000

1 PASSENGER LOWER RIB Y, B00104AT.A12

Ymin = -26 G's @ 0.0623 Seconds, Ymax = 68.76 G's @ 0.0443 Seconds





REAR PASSENGER LOWER SPINE Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

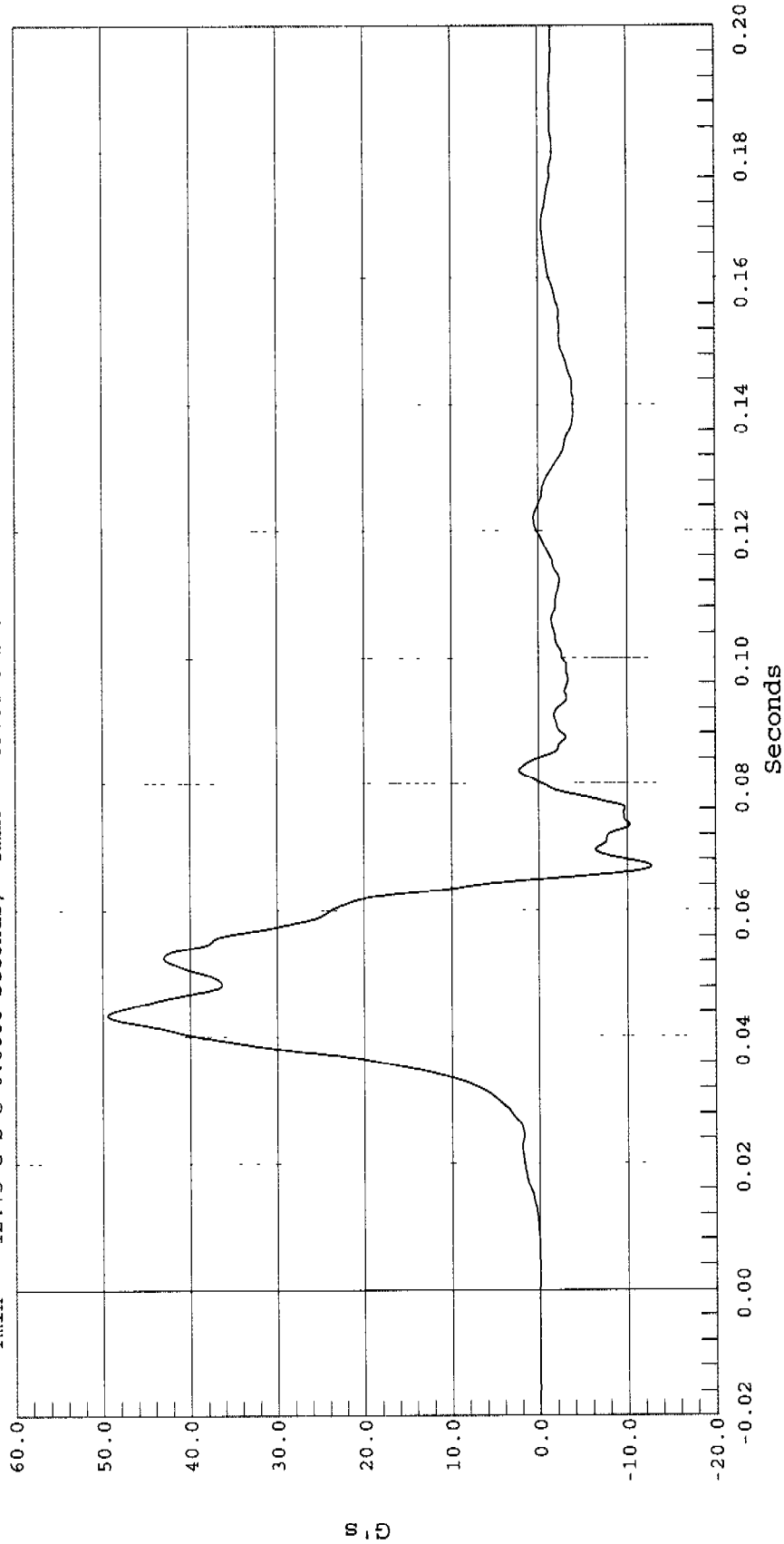
Component: 2001 LEXUS IS300 (C15100)

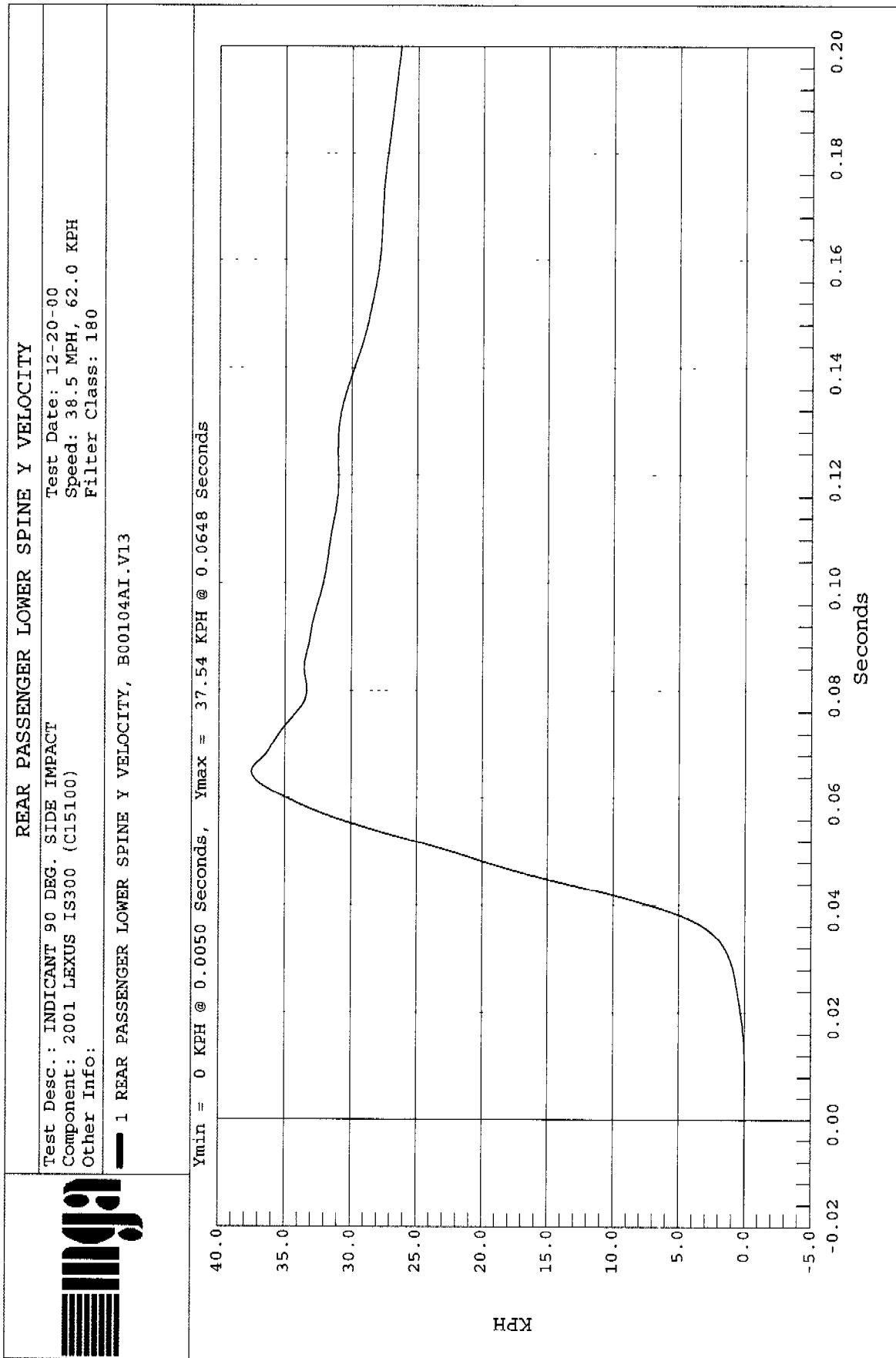
Other Info:

— 1 PASSENGER LOWER SPINE Y, B00104AF.A13



Ymin = -12.73 G's @ 0.0668 Seconds, Ymax = 49.44 G's @ 0.0434 Seconds





REAR PASSENGER PELVIS Y ACCELERATION

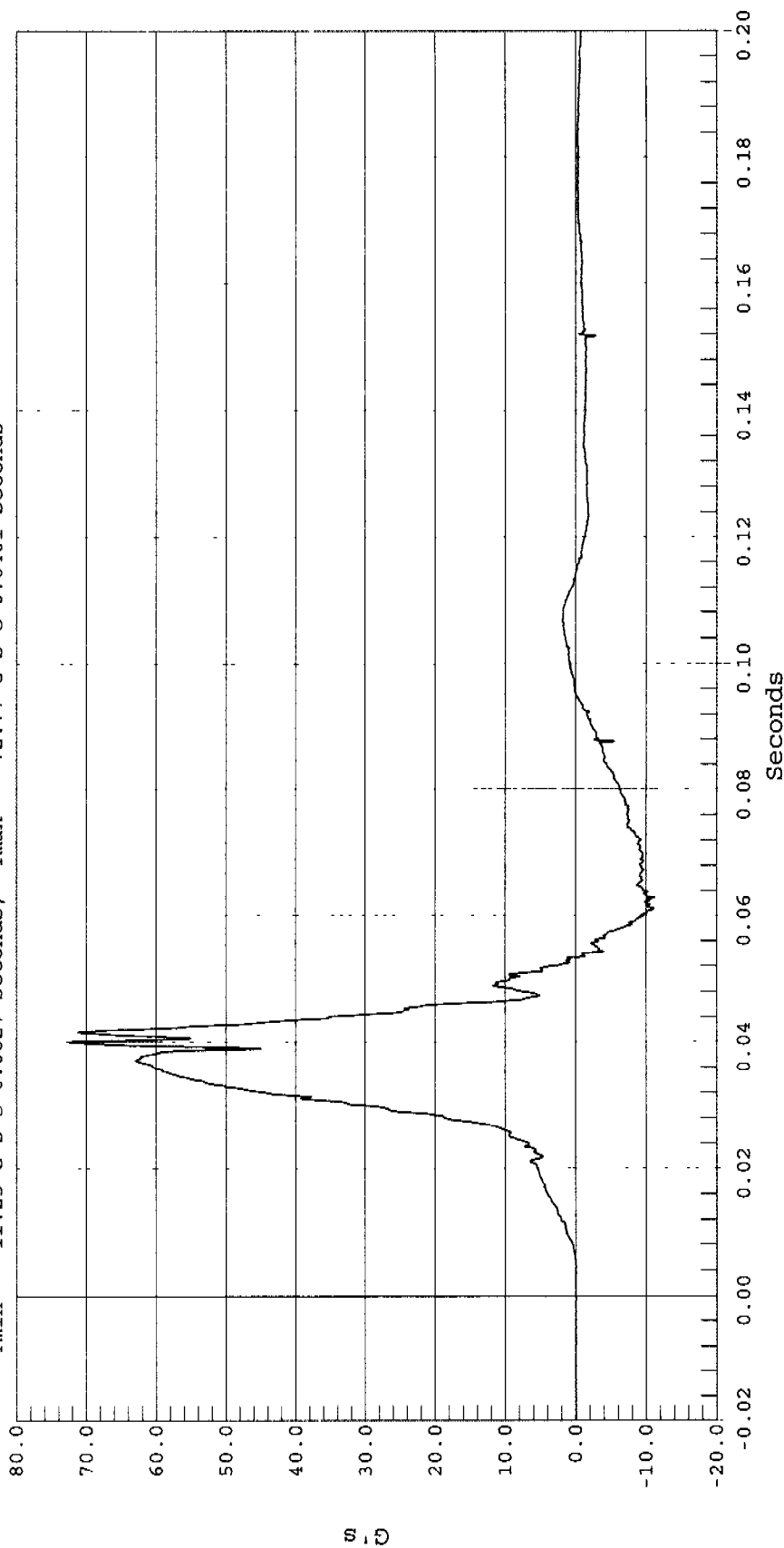
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

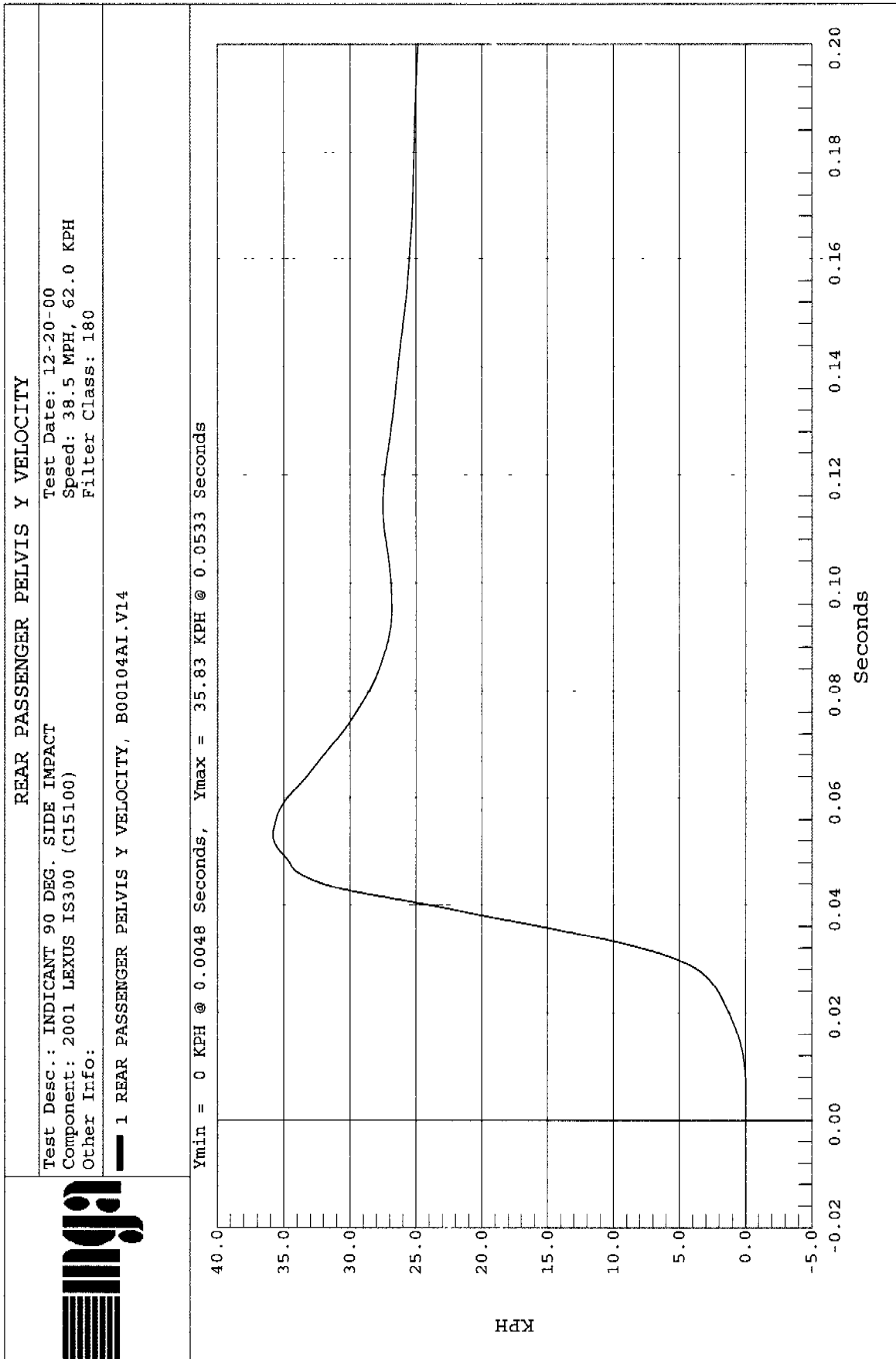
Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 1000



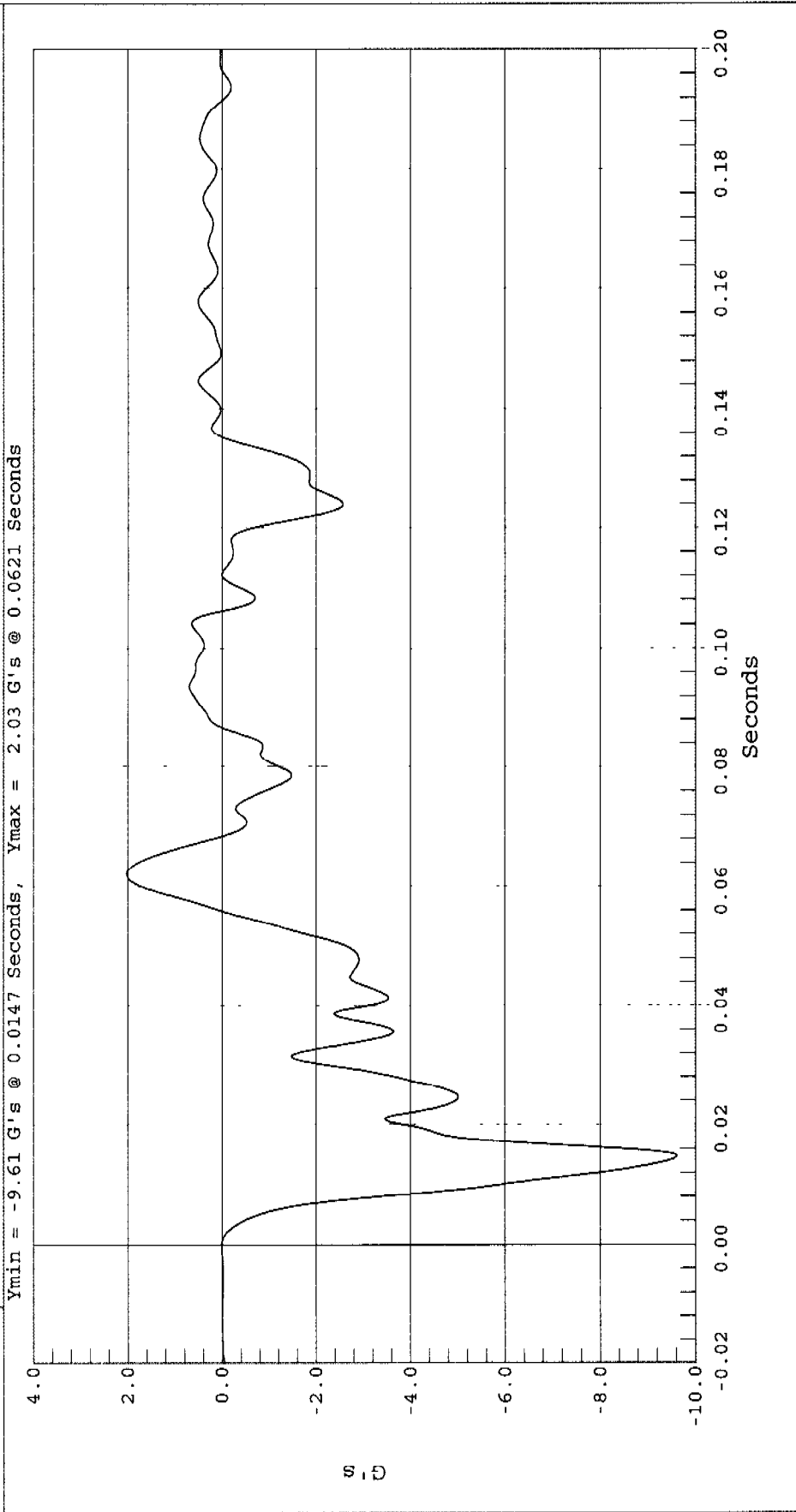
1 PASSENGER PELVIS Y, B00104AT.A14

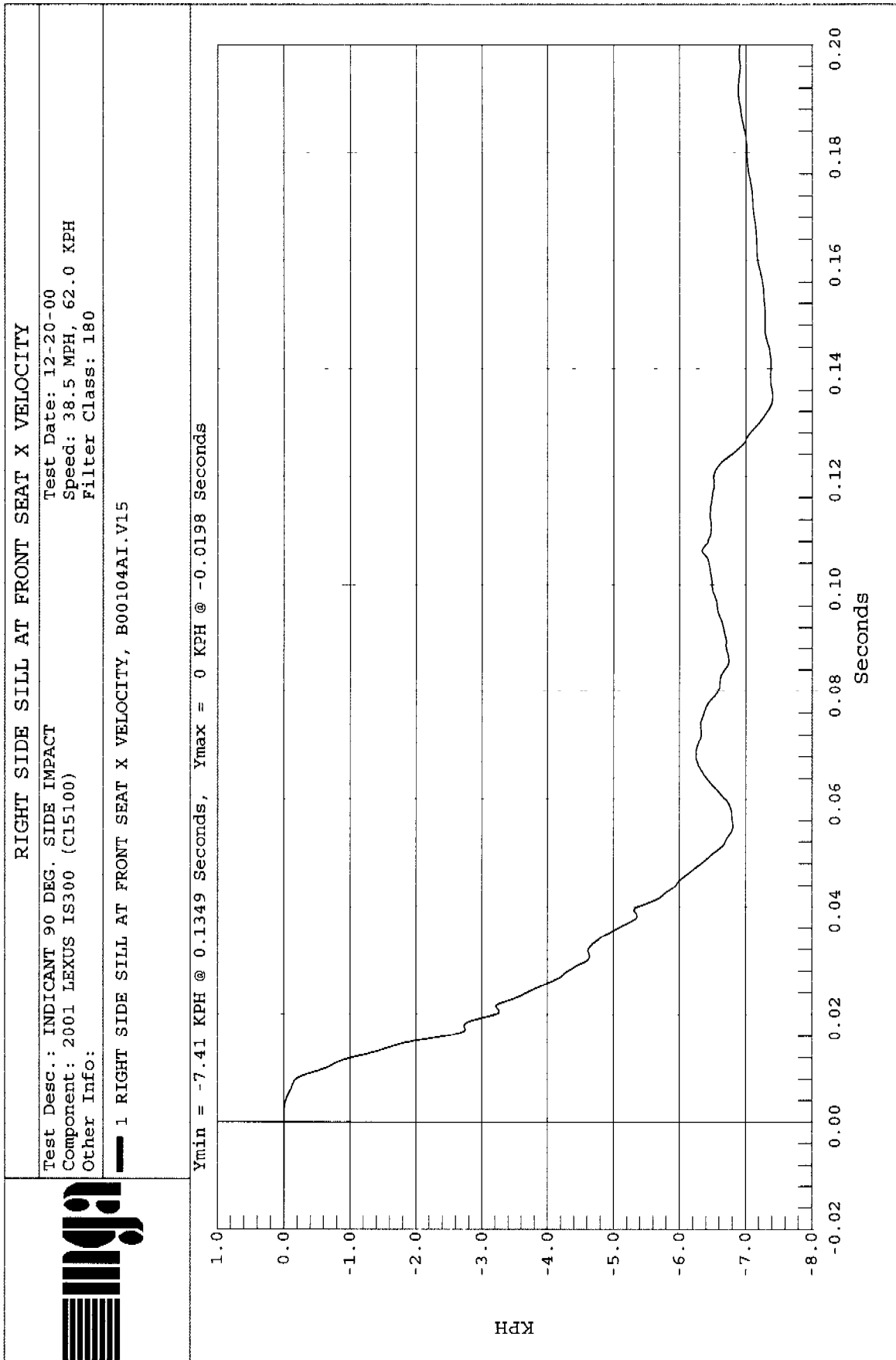
Ymin = -11.23 G's @ 0.0627 Seconds, Ymax = 72.77 G's @ 0.0401 Seconds





	RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT	Test Date: 12-20-00
	Component: 2001 LEXUS IS300 (C15100)	Speed: 38.5 MPH, 62.0 KPH
	Other Info:	Filter Class: 60
— 1 RIGHT FRONT SILL X, B00104AF.A15		





RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Test Date: 12-20-00

Component: 2001 LEXUS IS300 (C15100)

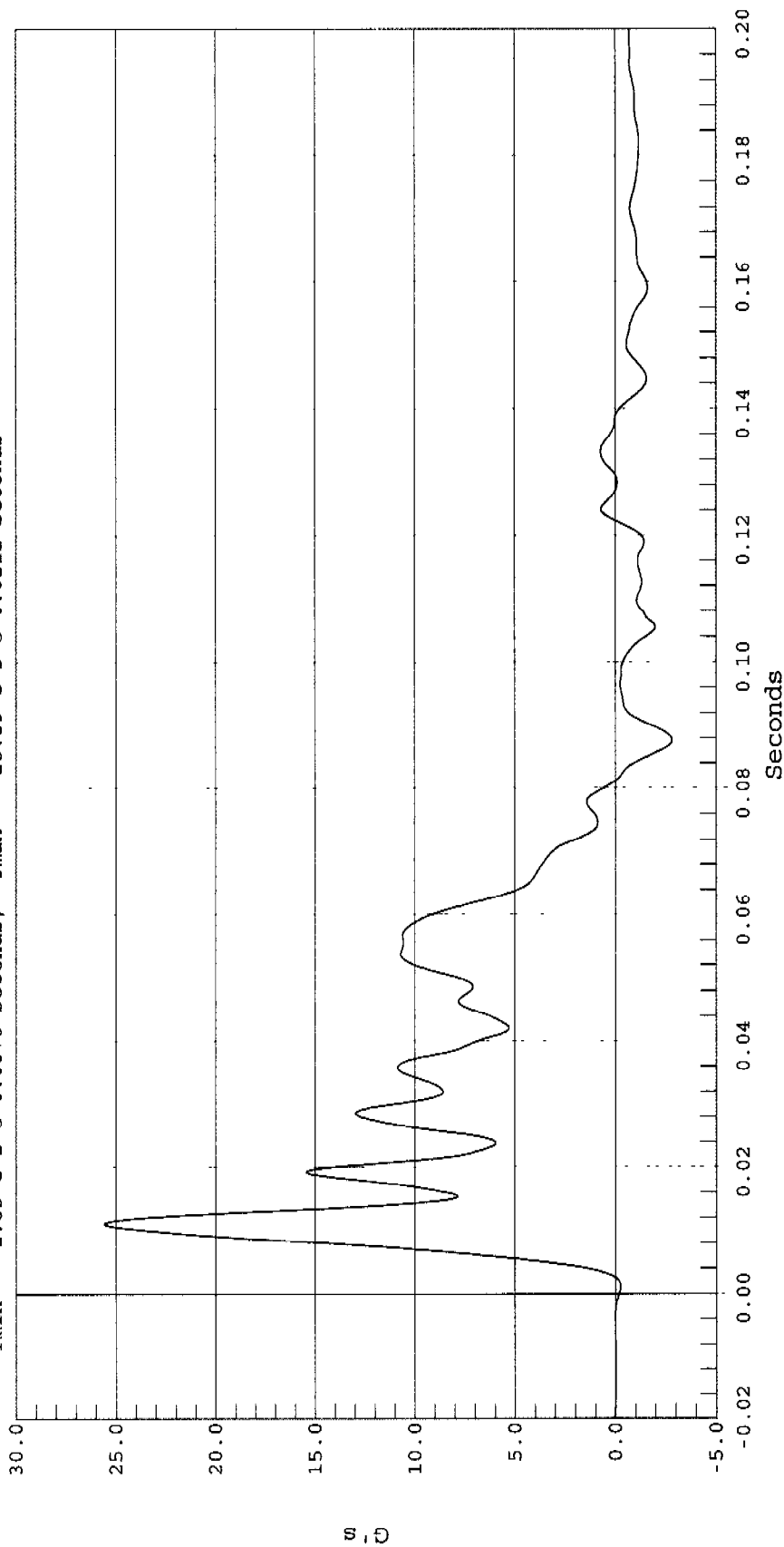
Speed: 38.5 MPH, 62.0 KPH

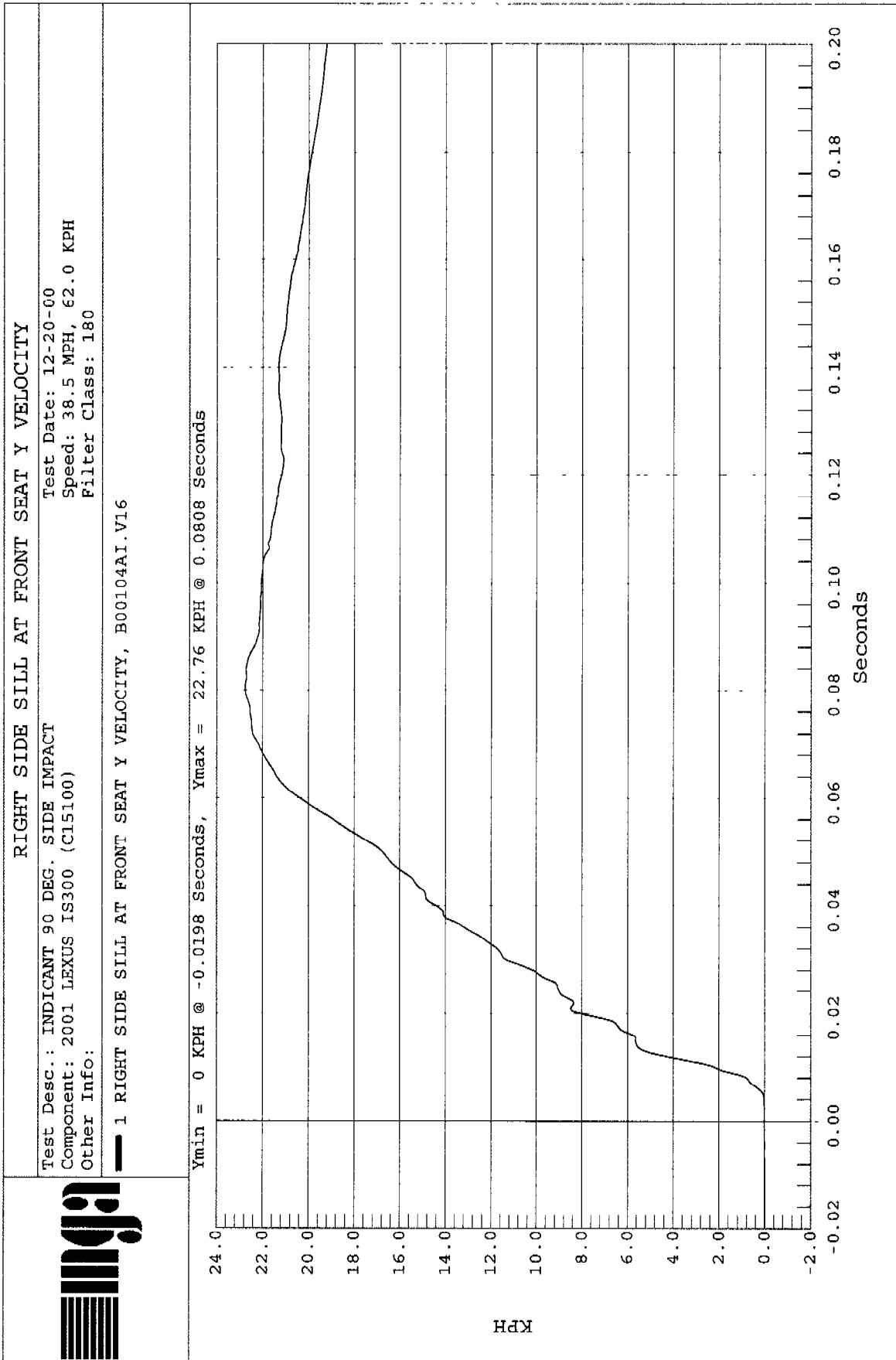
Other Info:

Filter Class: 60

1 RIGHT FRONT SILL Y, B00104AF.A16

Ymin = -2.83 G's @ 0.0876 Seconds, Ymax = 25.59 G's @ 0.0111 Seconds





RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION

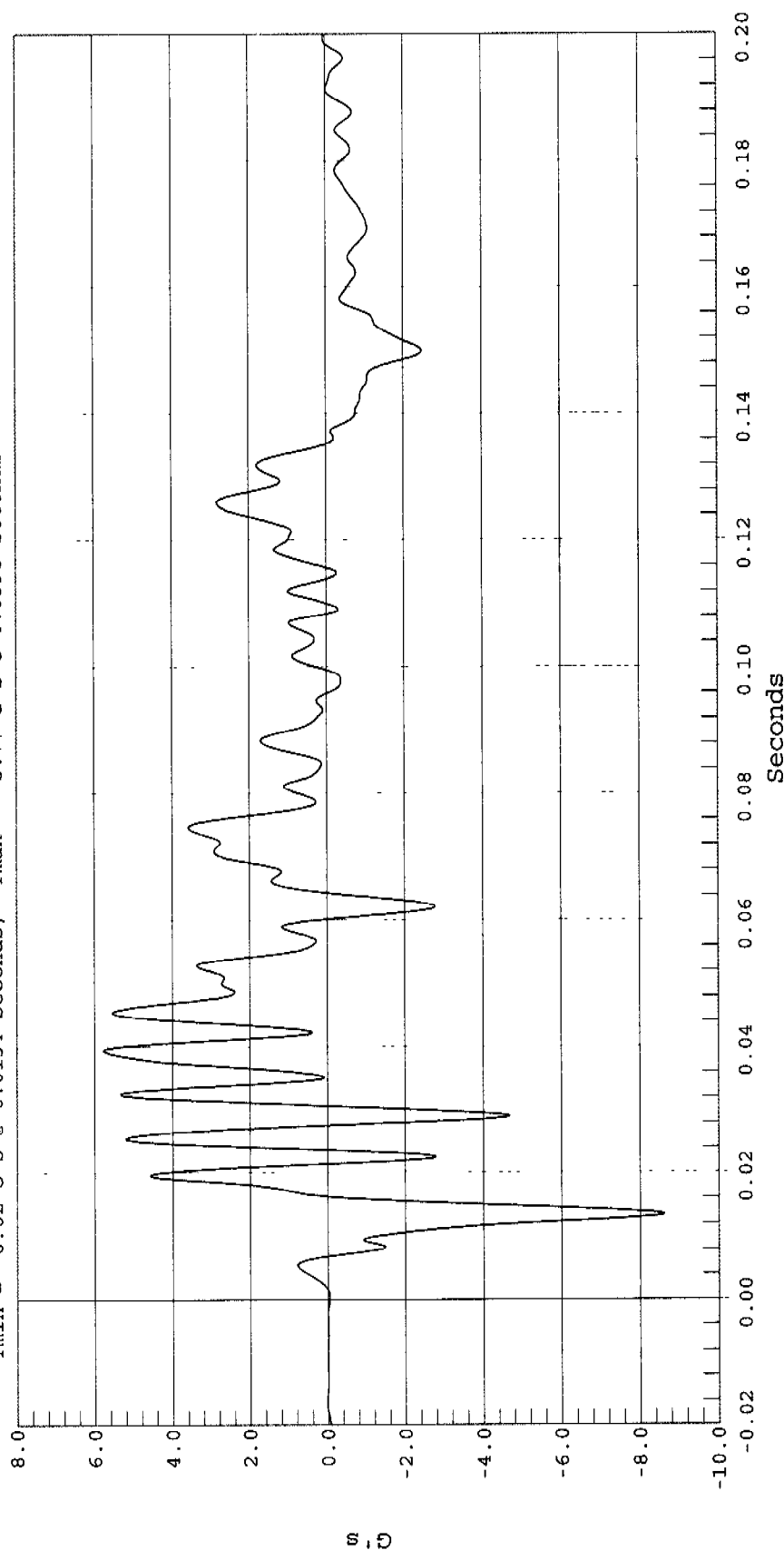
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

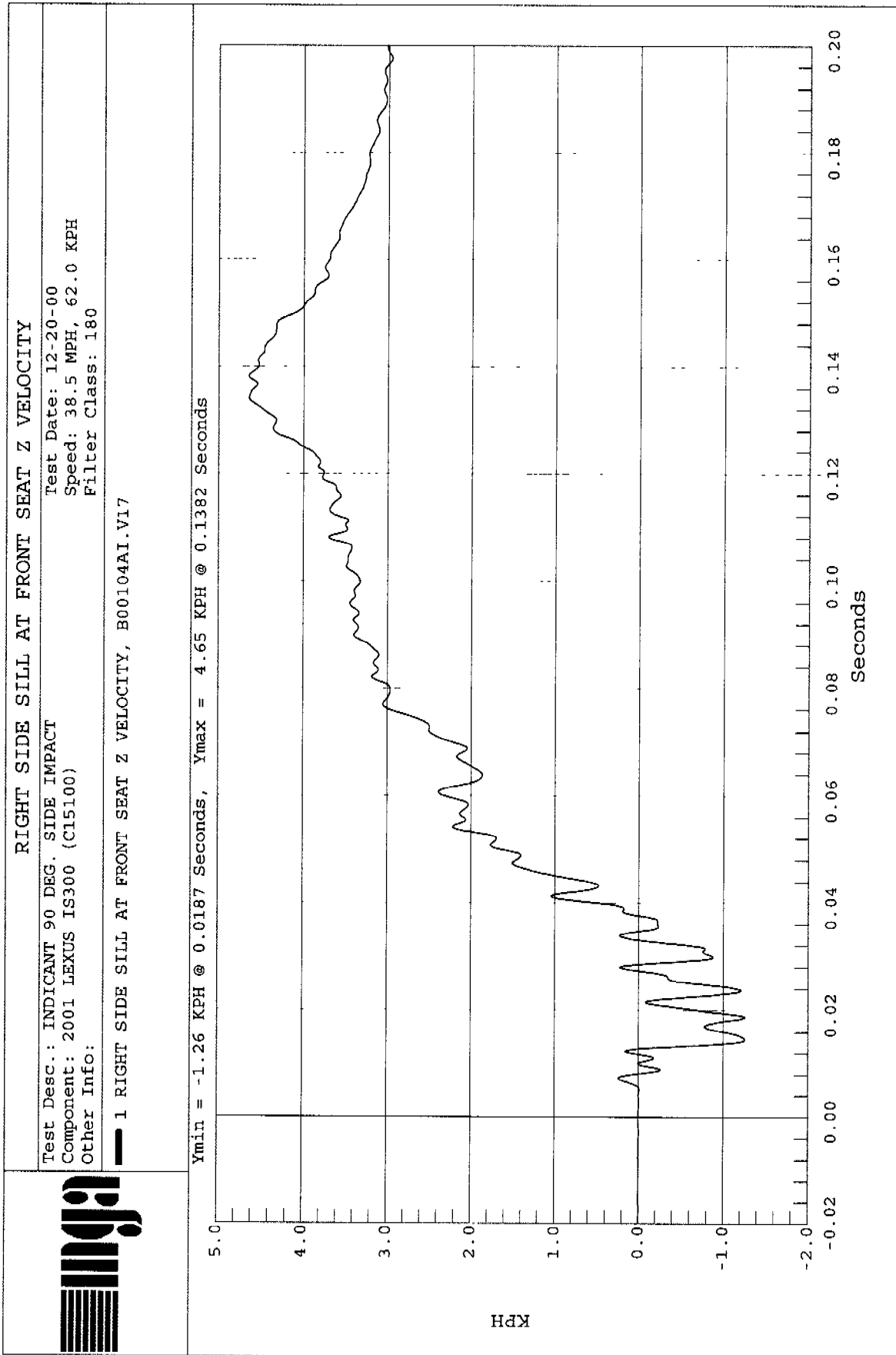
Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 60



1 RIGHT FRONT SILL Z, B00104AF.A17

Ymin = -8.62 G's @ 0.0134 Seconds, Ymax = 5.77 G's @ 0.0395 Seconds





RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

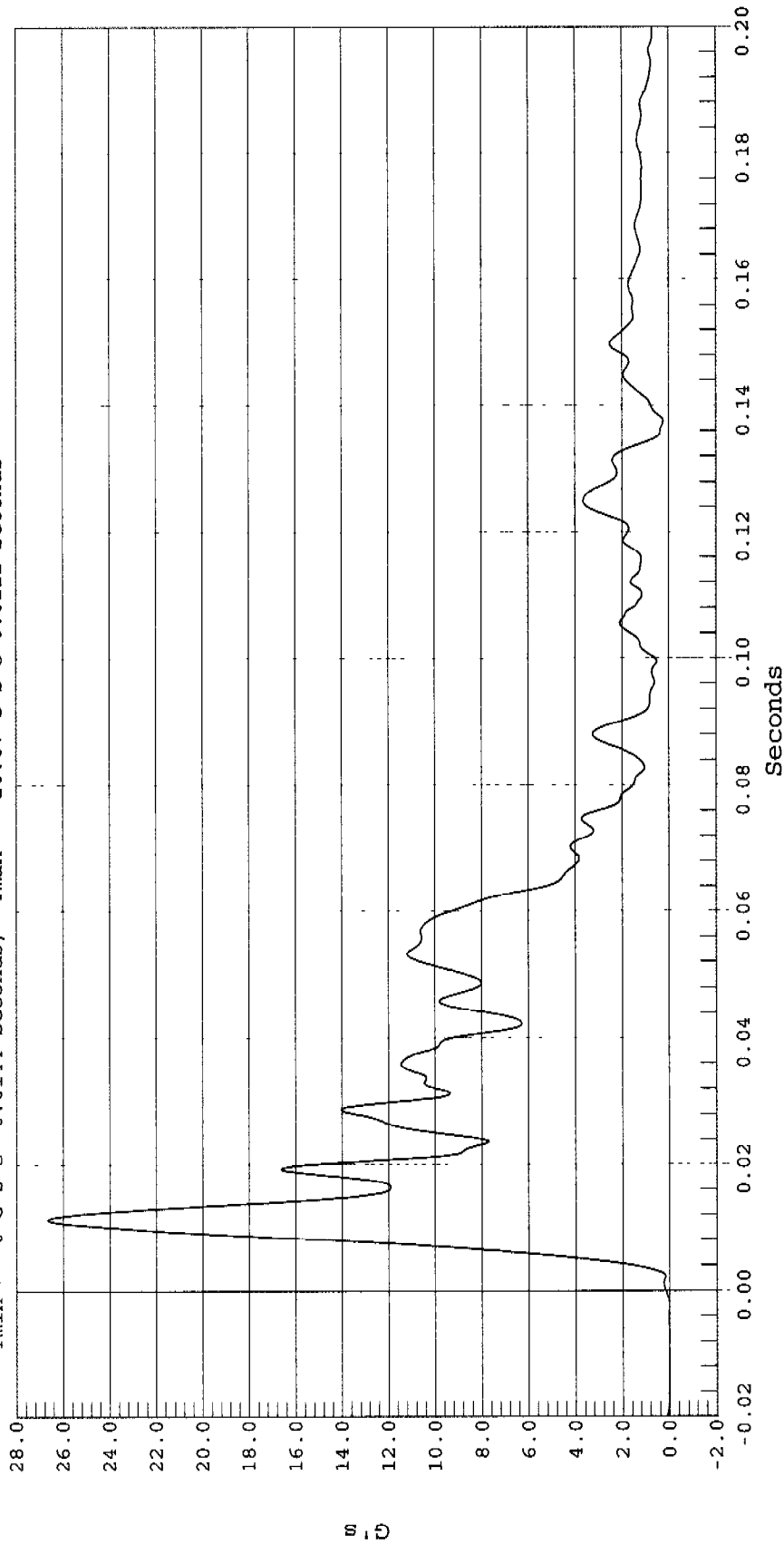
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

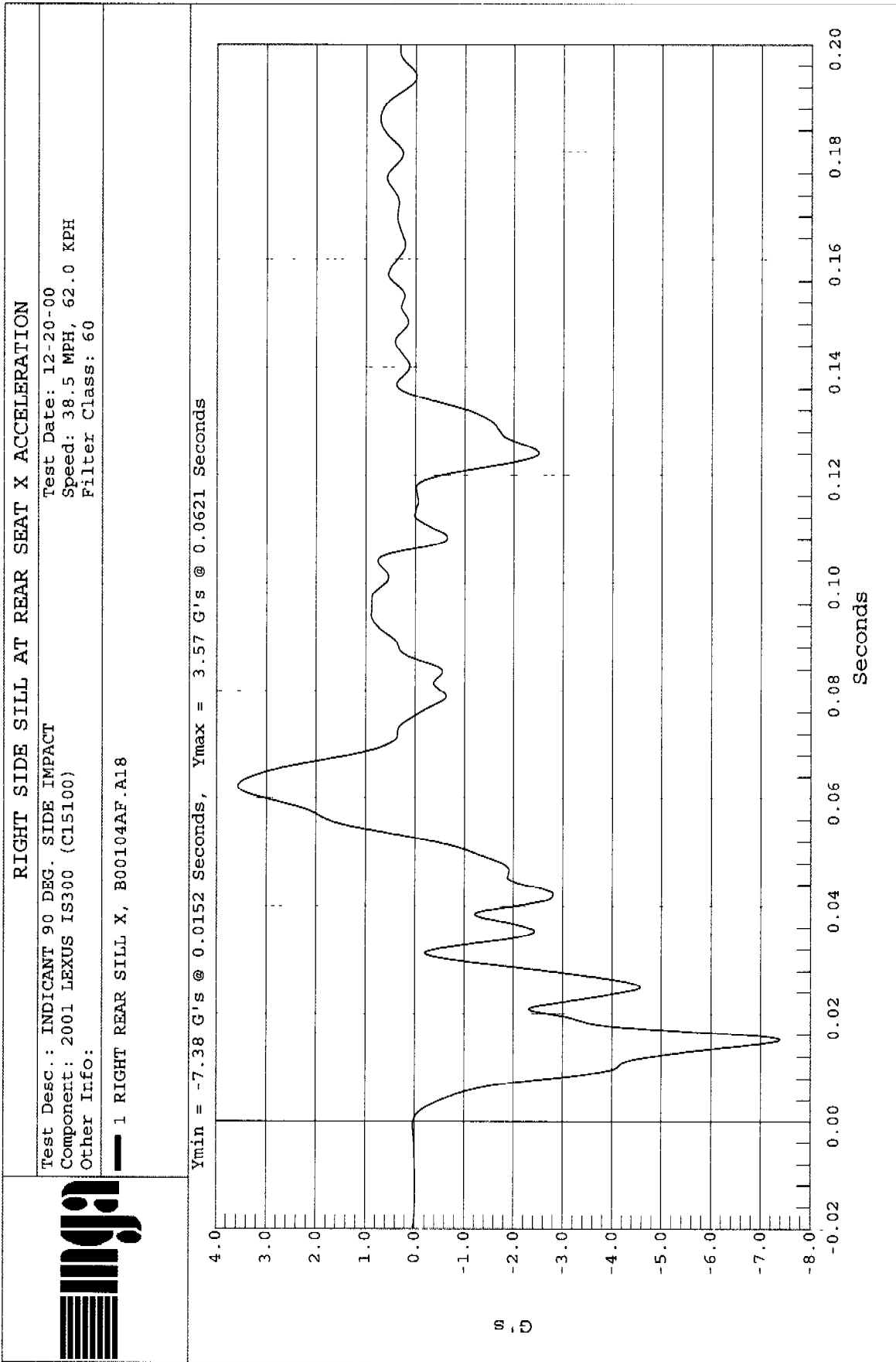
Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 60

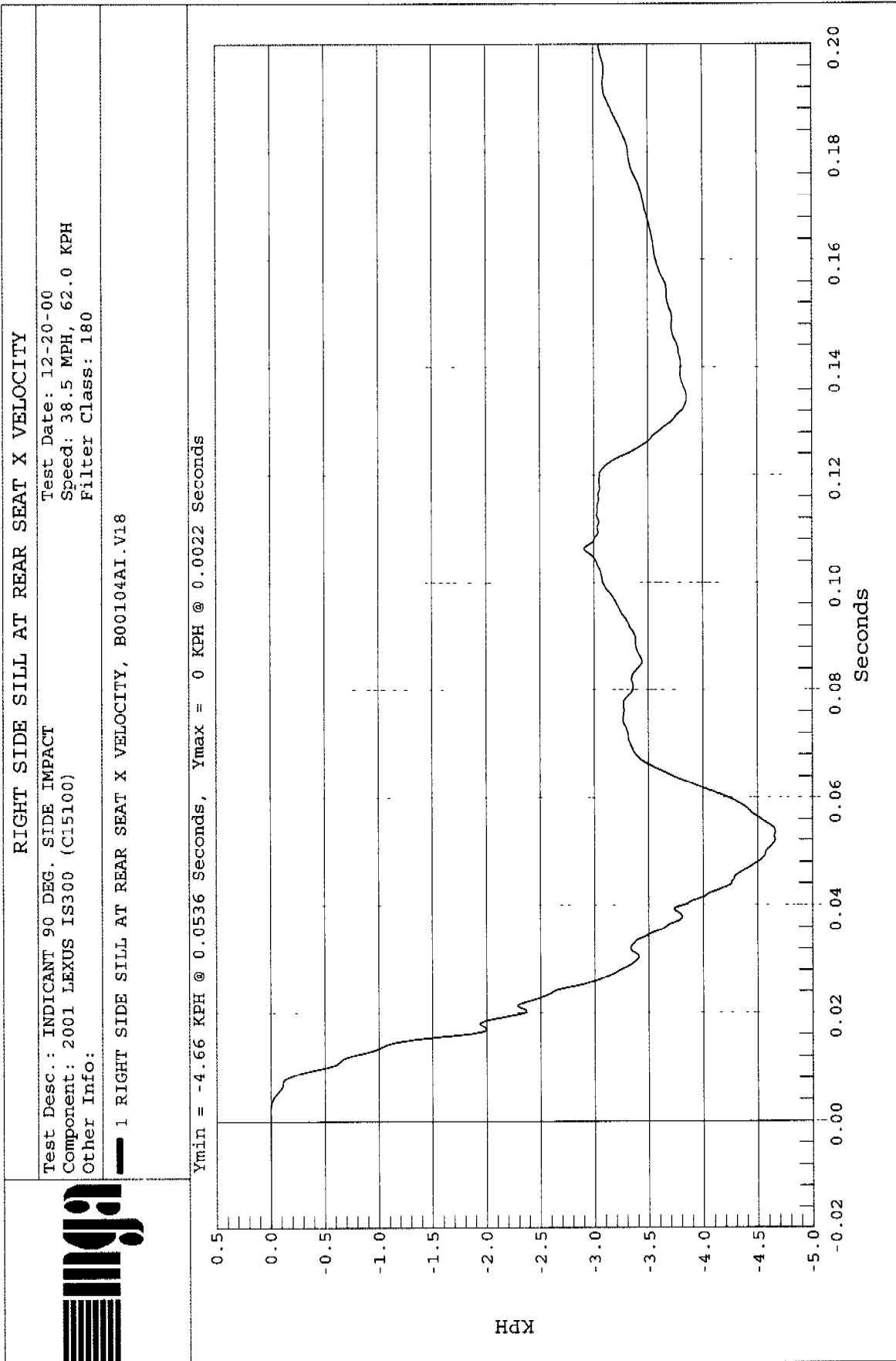


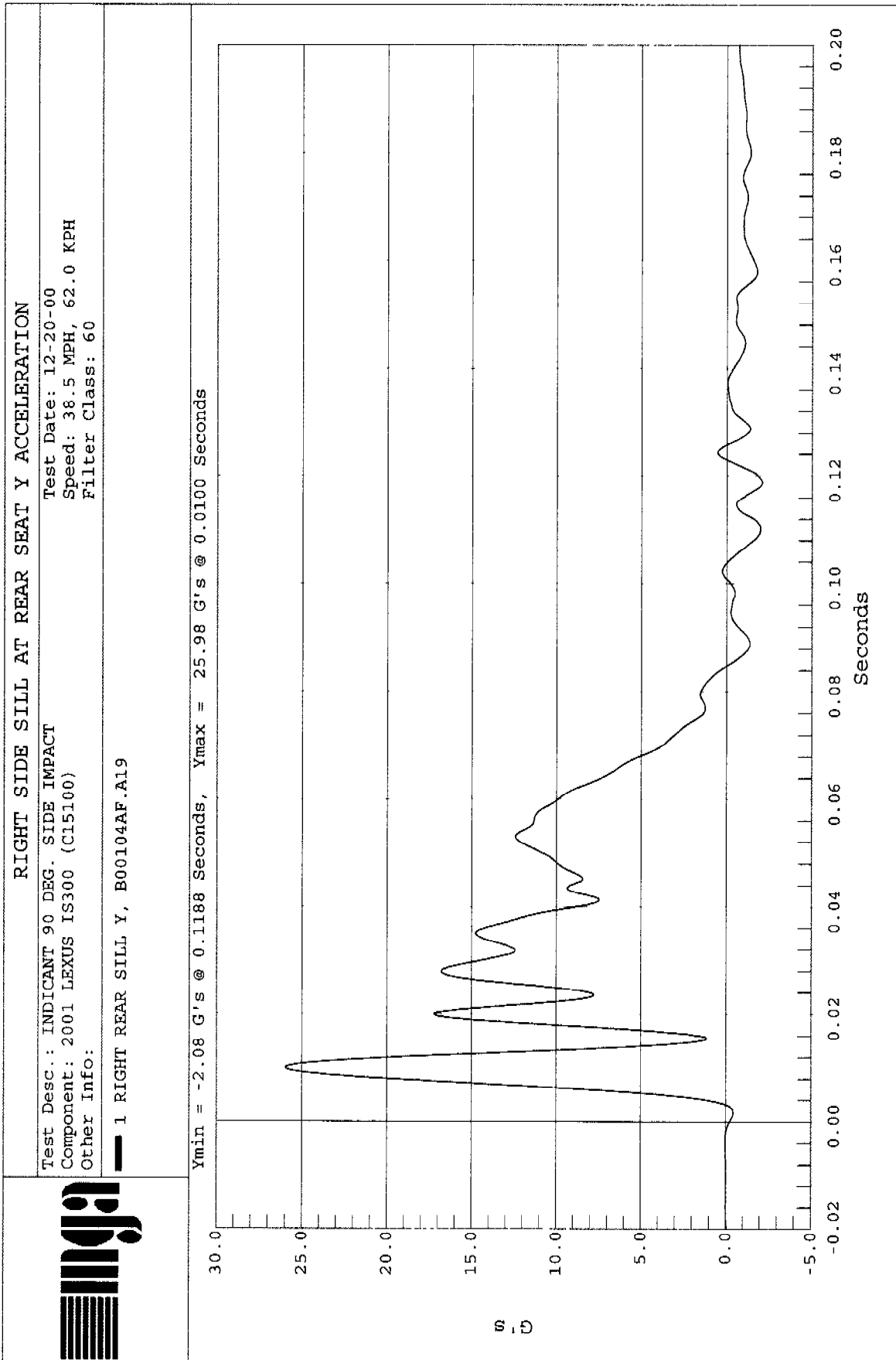
— 1 RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION, B00104AV.A15

Ymin = 0 G's @ -0.0144 Seconds, Ymax = 26.67 G's @ 0.0112 Seconds









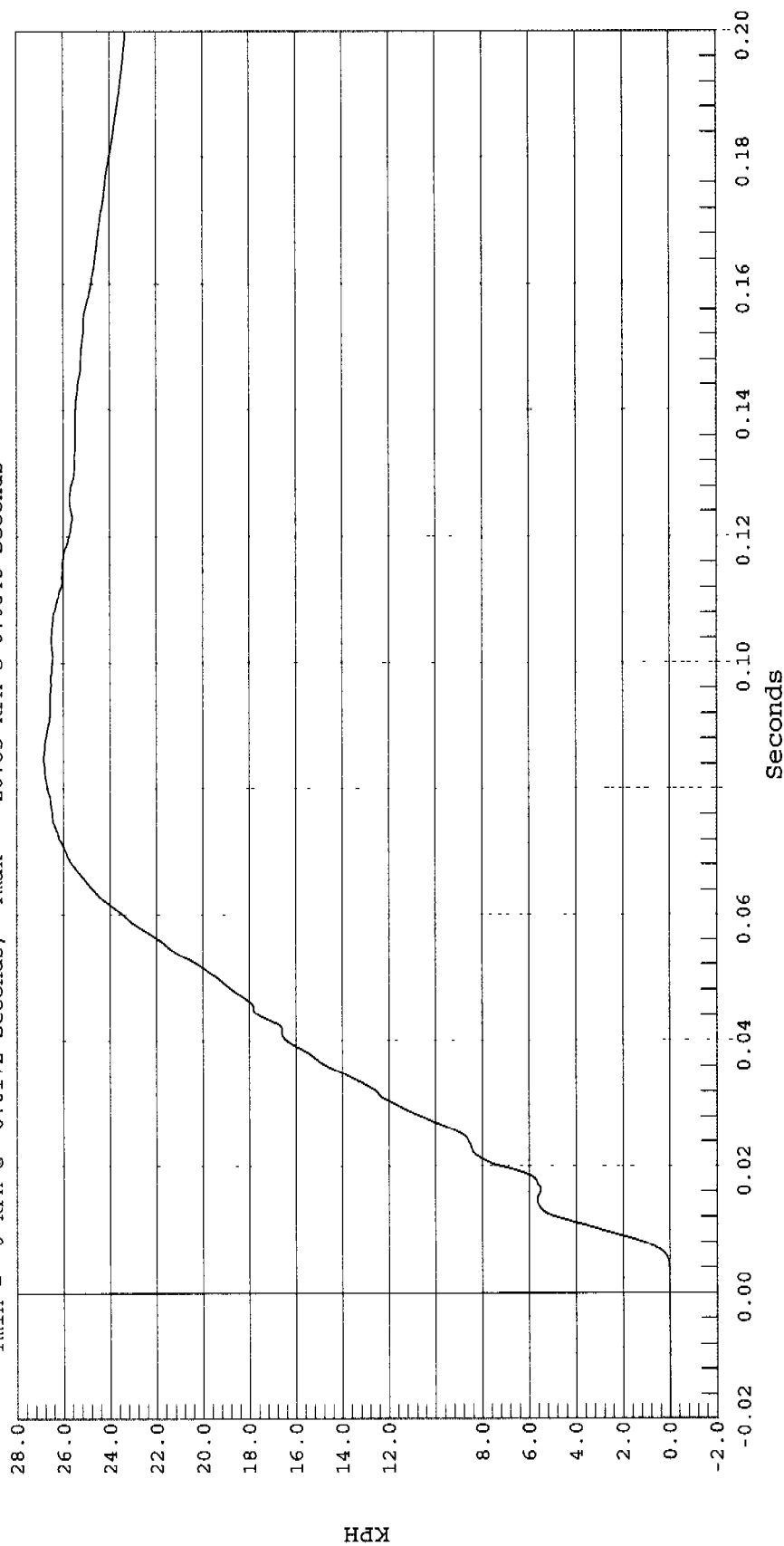
RIGHT SIDE SILL AT REAR SEAT Y VELOCITY

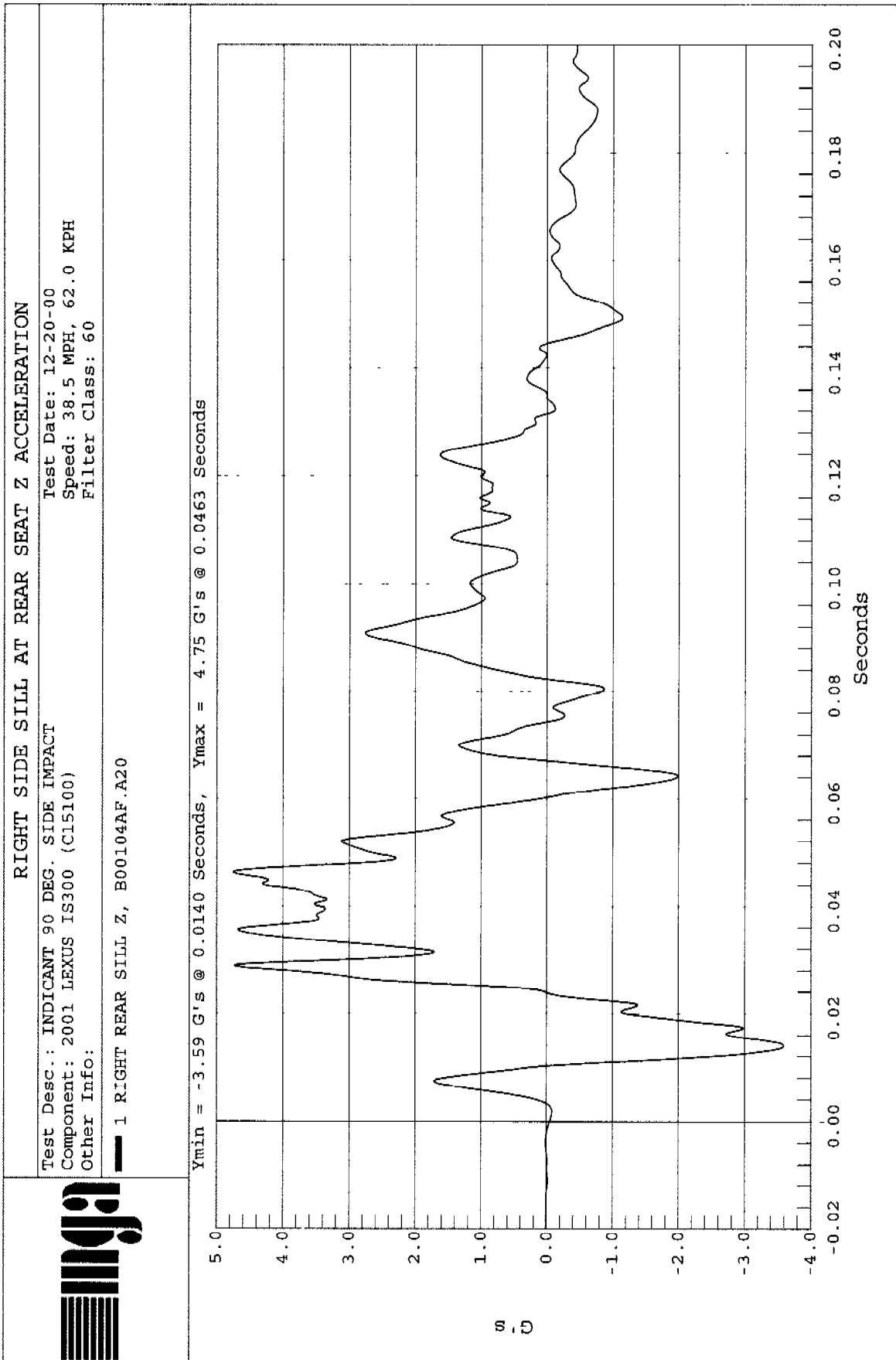
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info: Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 180

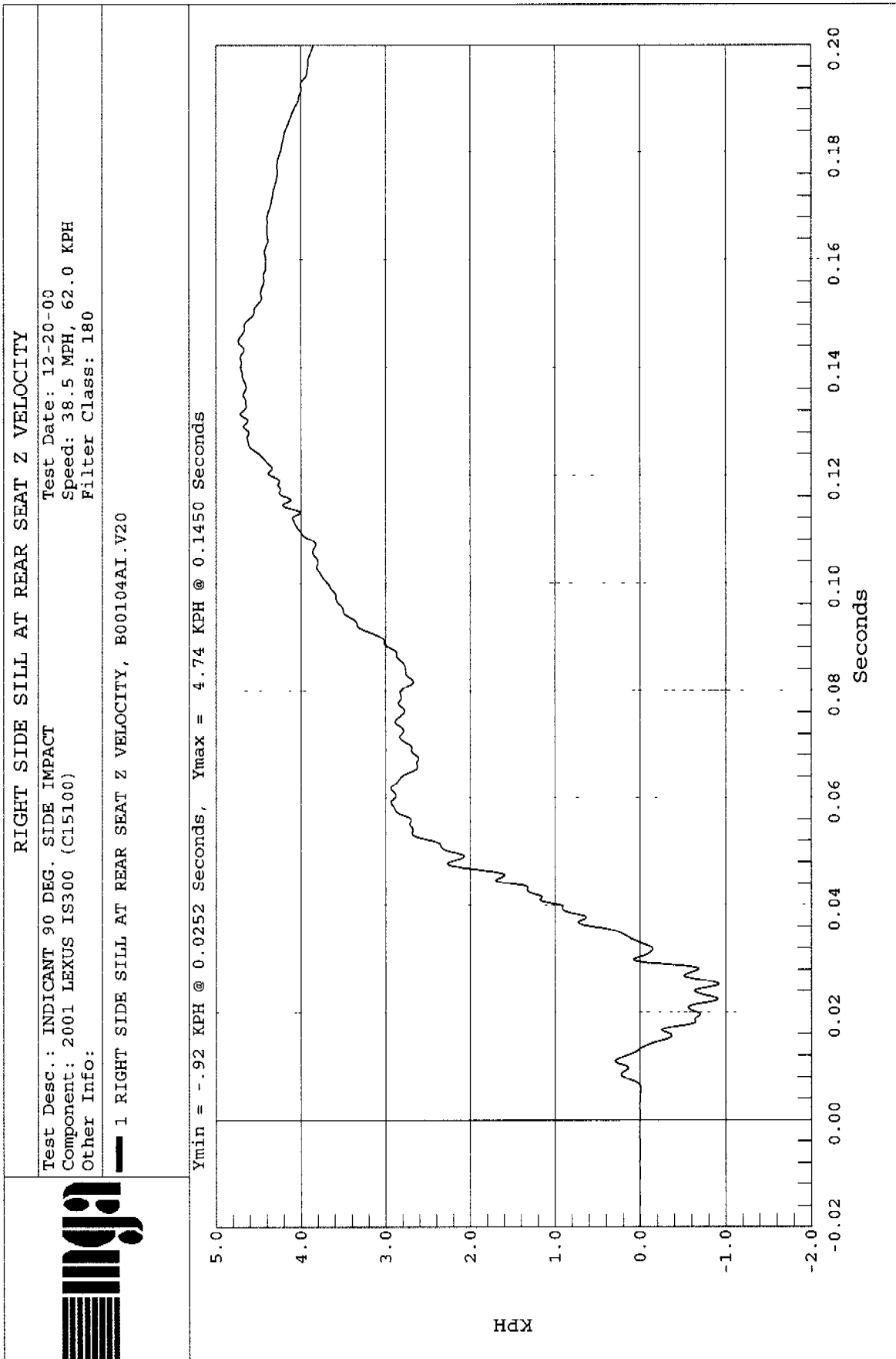


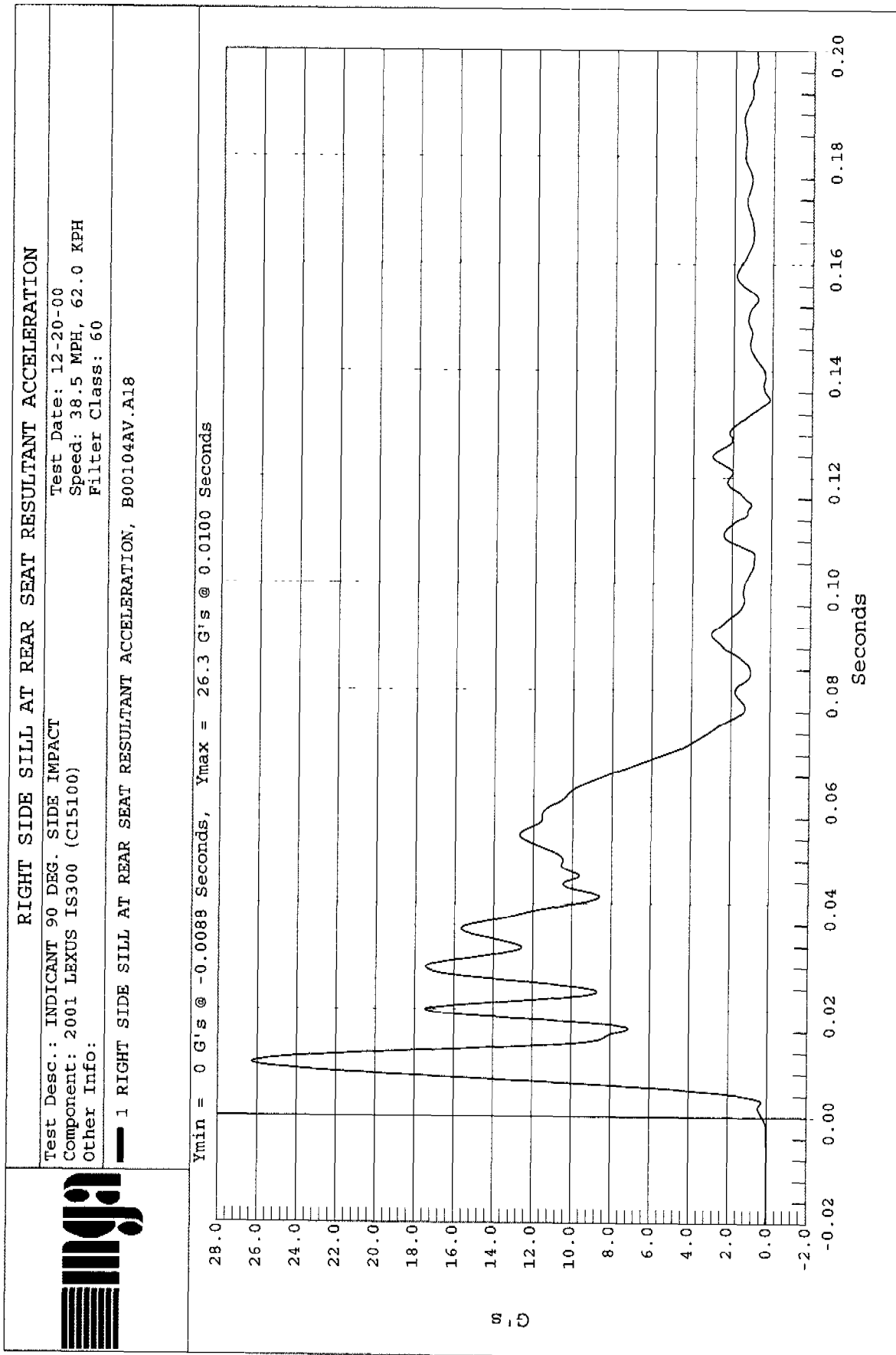
1 RIGHT SIDE SILL AT REAR SEAT Y VELOCITY, B00104AI.V19

Ymin = 0 KPH @ -0.0172 Seconds, Ymax = 26.85 KPH @ 0.0848 Seconds









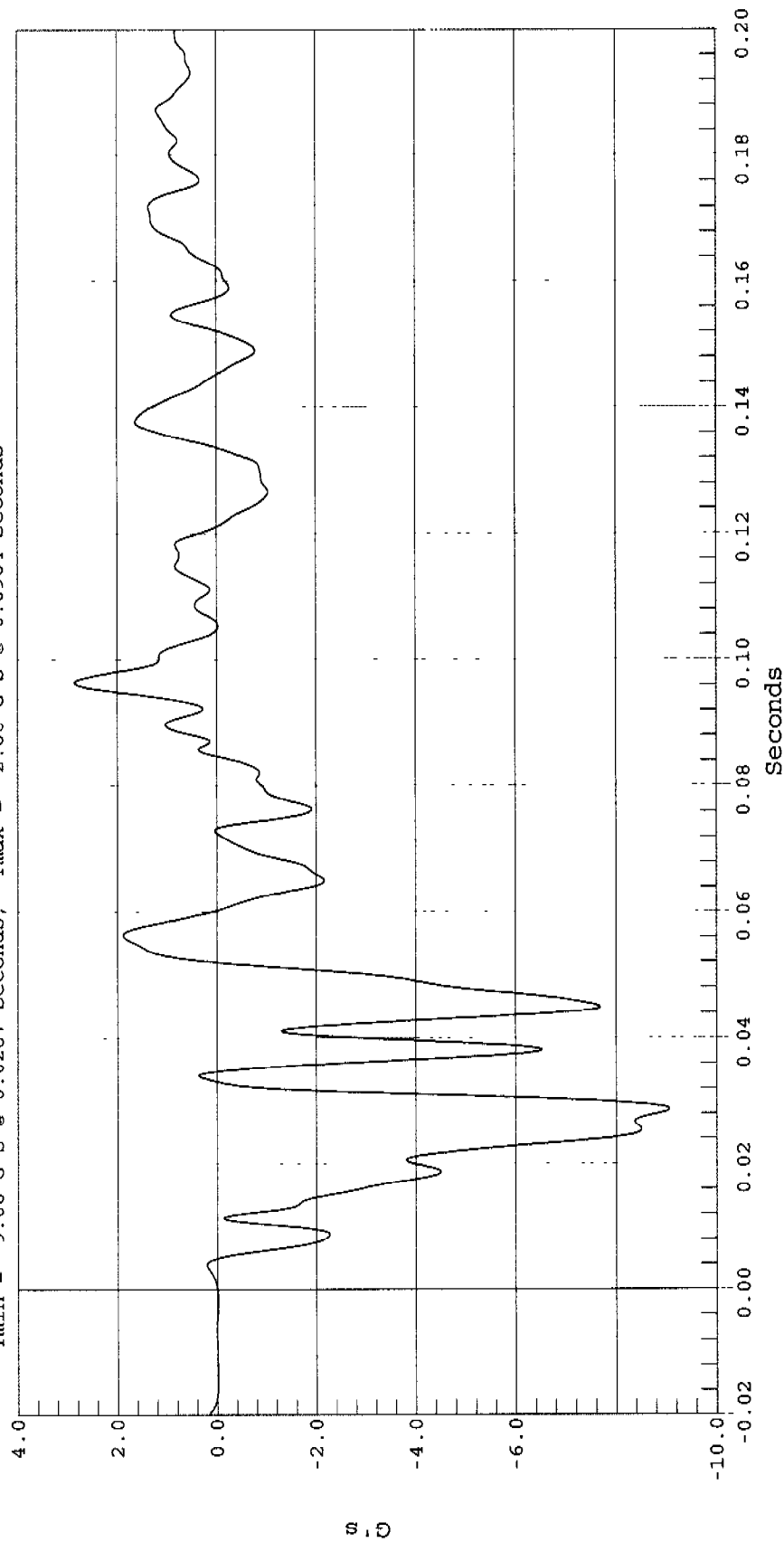


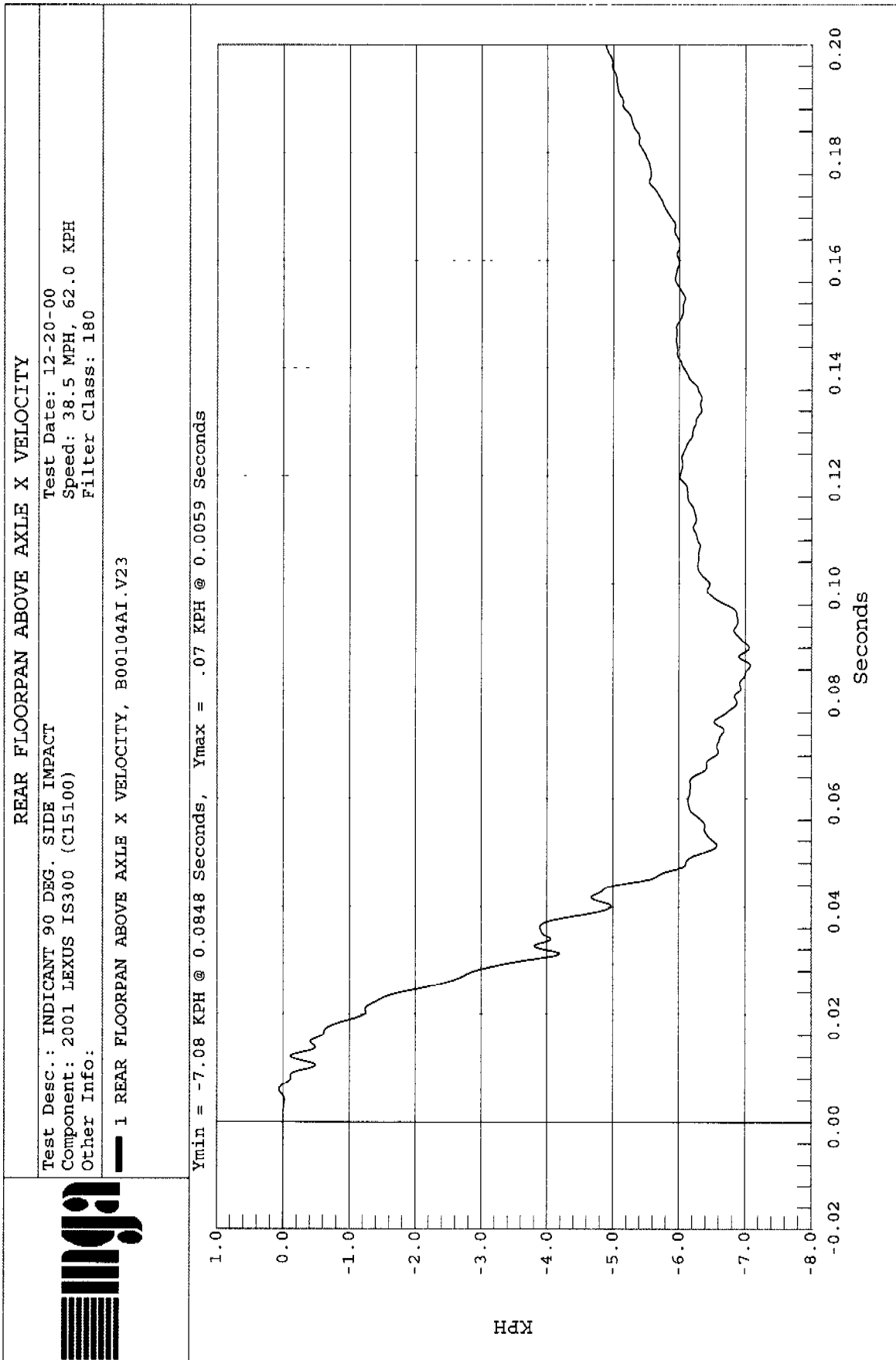
REAR FLOORPAN ABOVE AXLE X ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 60

1 FLOORPAN @ REAR AXLE X, B00104AF.A23

Ymin = -9.06 G's @ 0.0287 Seconds, Ymax = 2.86 G's @ 0.0964 Seconds



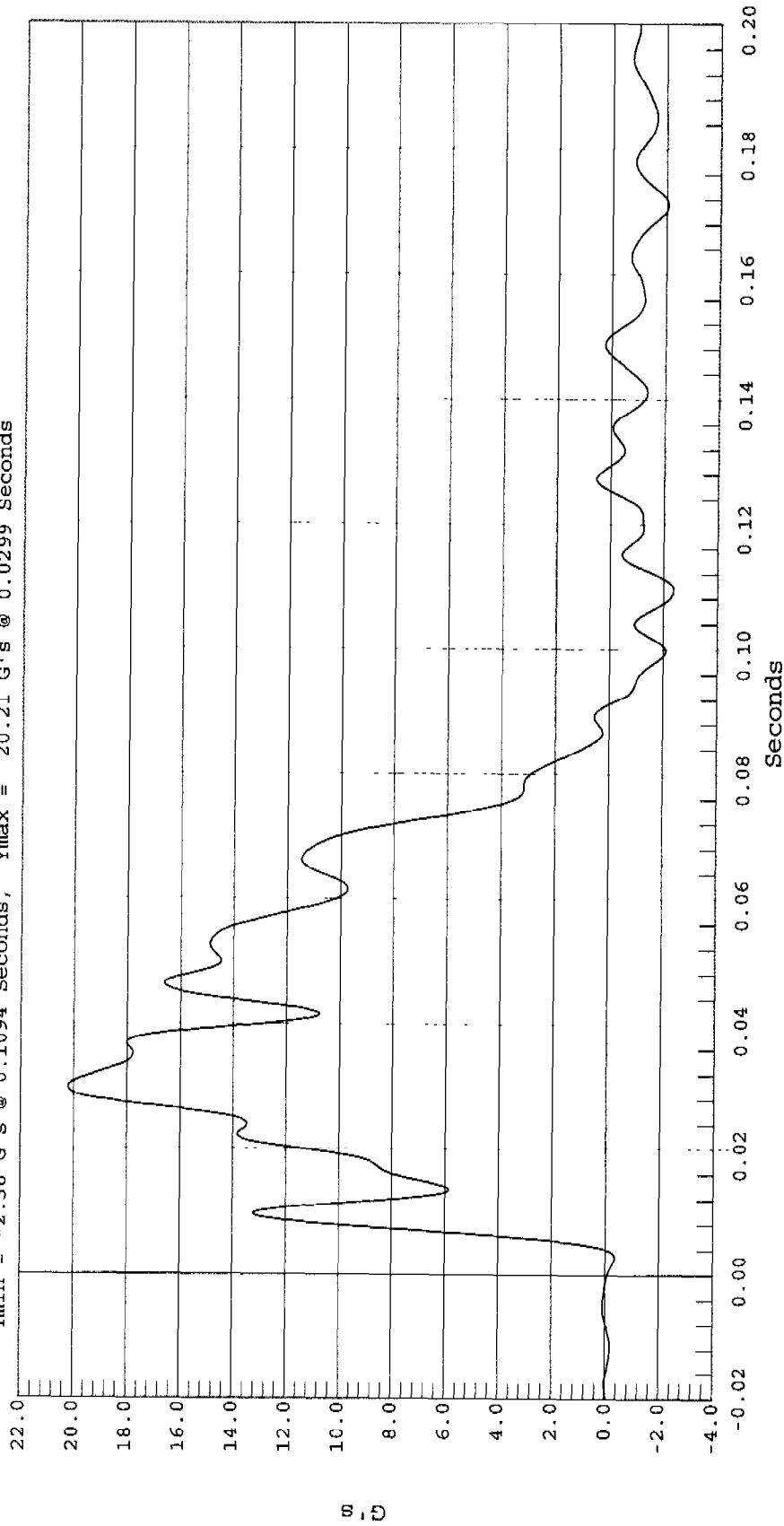


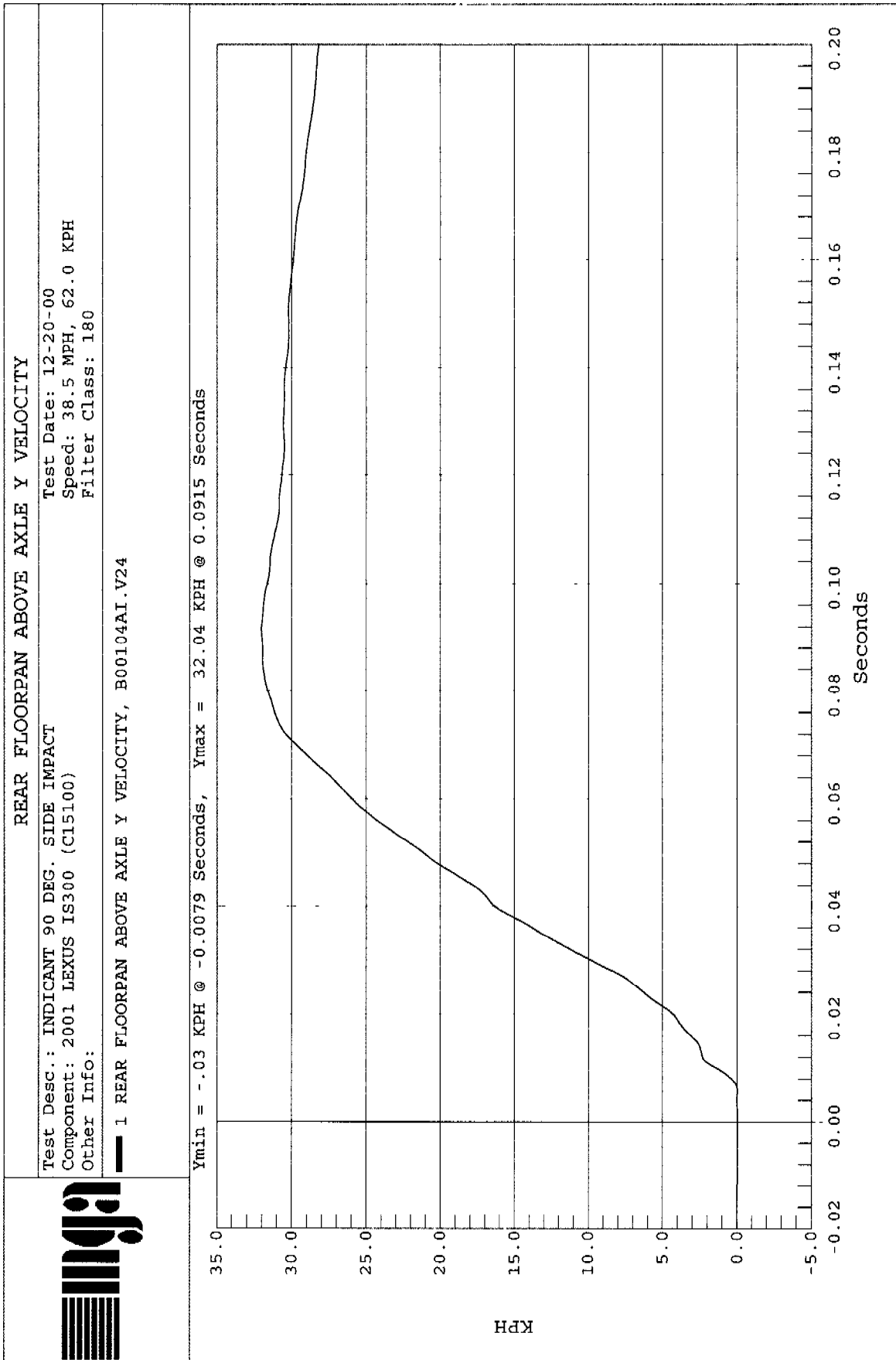
REAR FLOORPAN ABOVE AXLE Y ACCELERATION

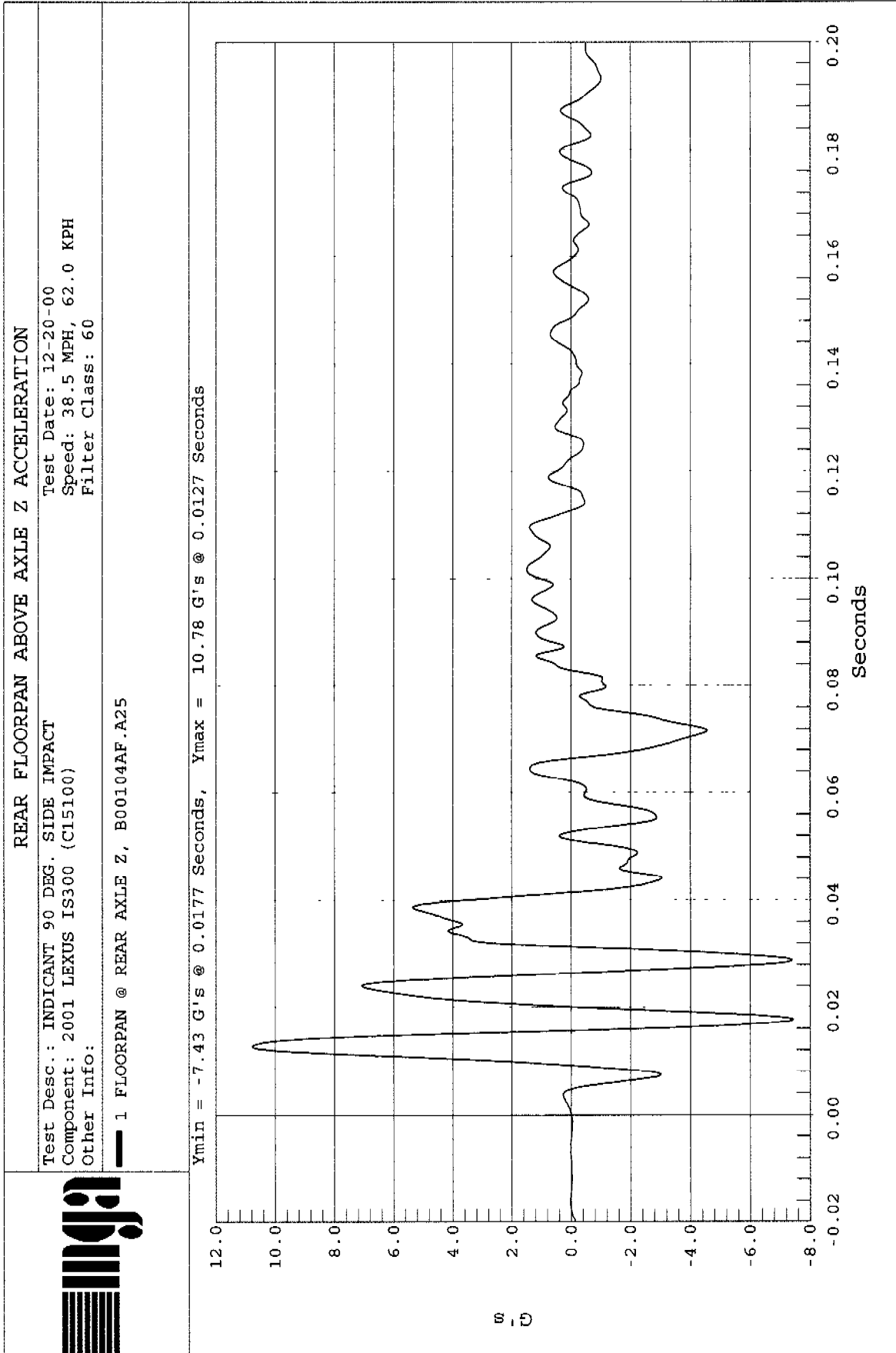
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:
 Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 60

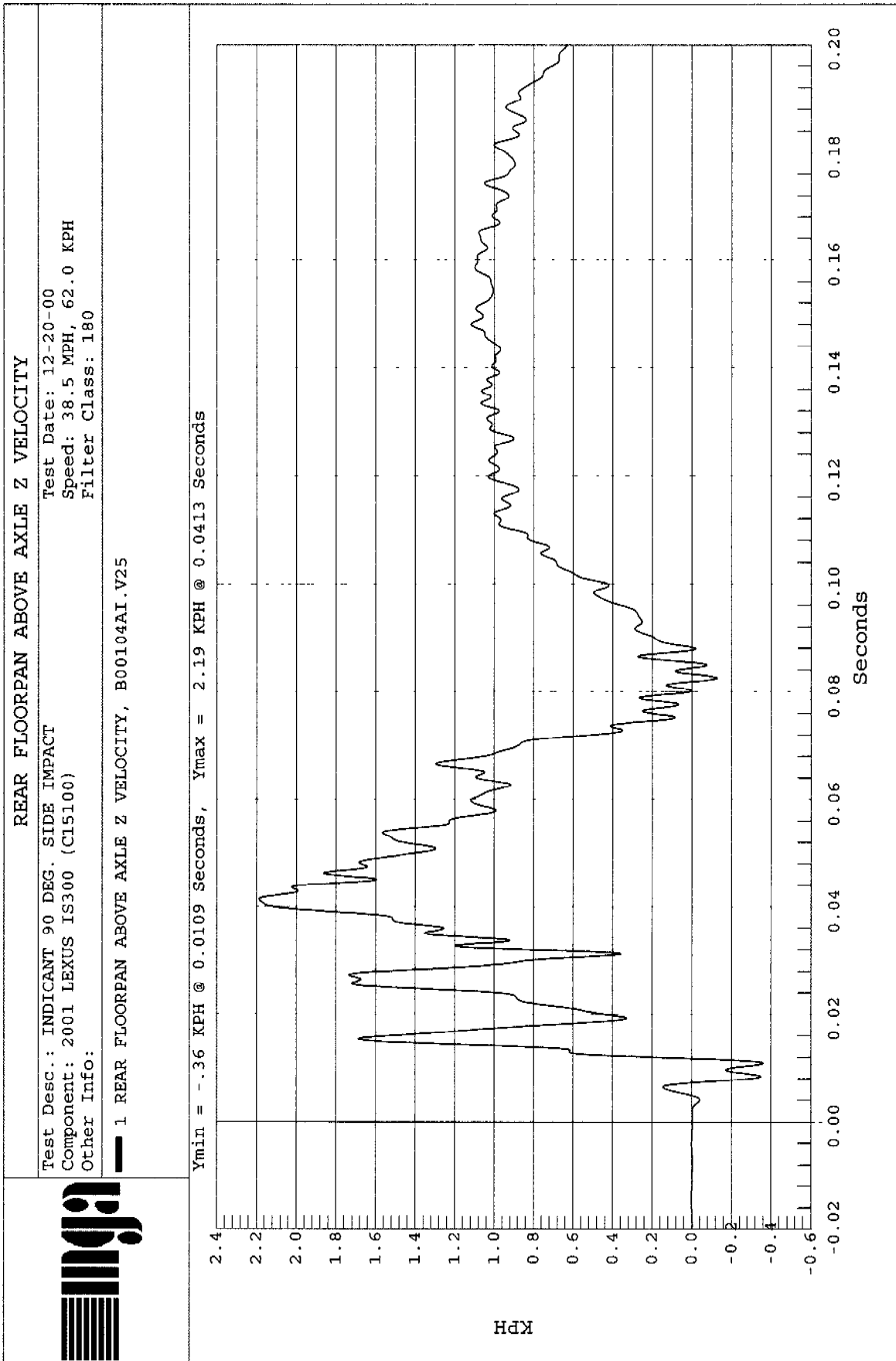
1 FLOORPAN @ REAR AXLE Y, B00104AF.A24

Ymin = -2.36 G's @ 0.1094 Seconds, Ymax = 20.21 G's @ 0.0299 Seconds



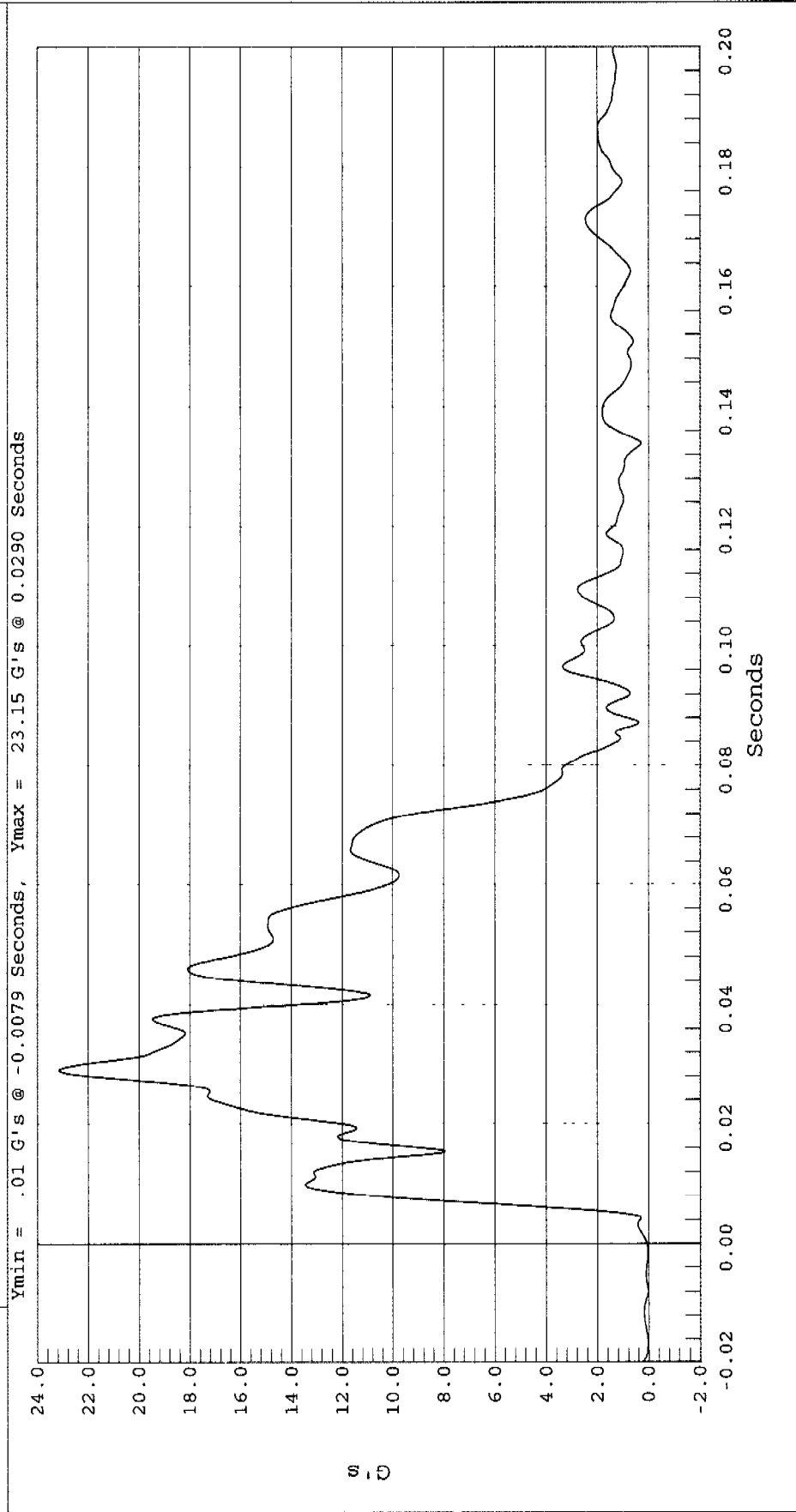


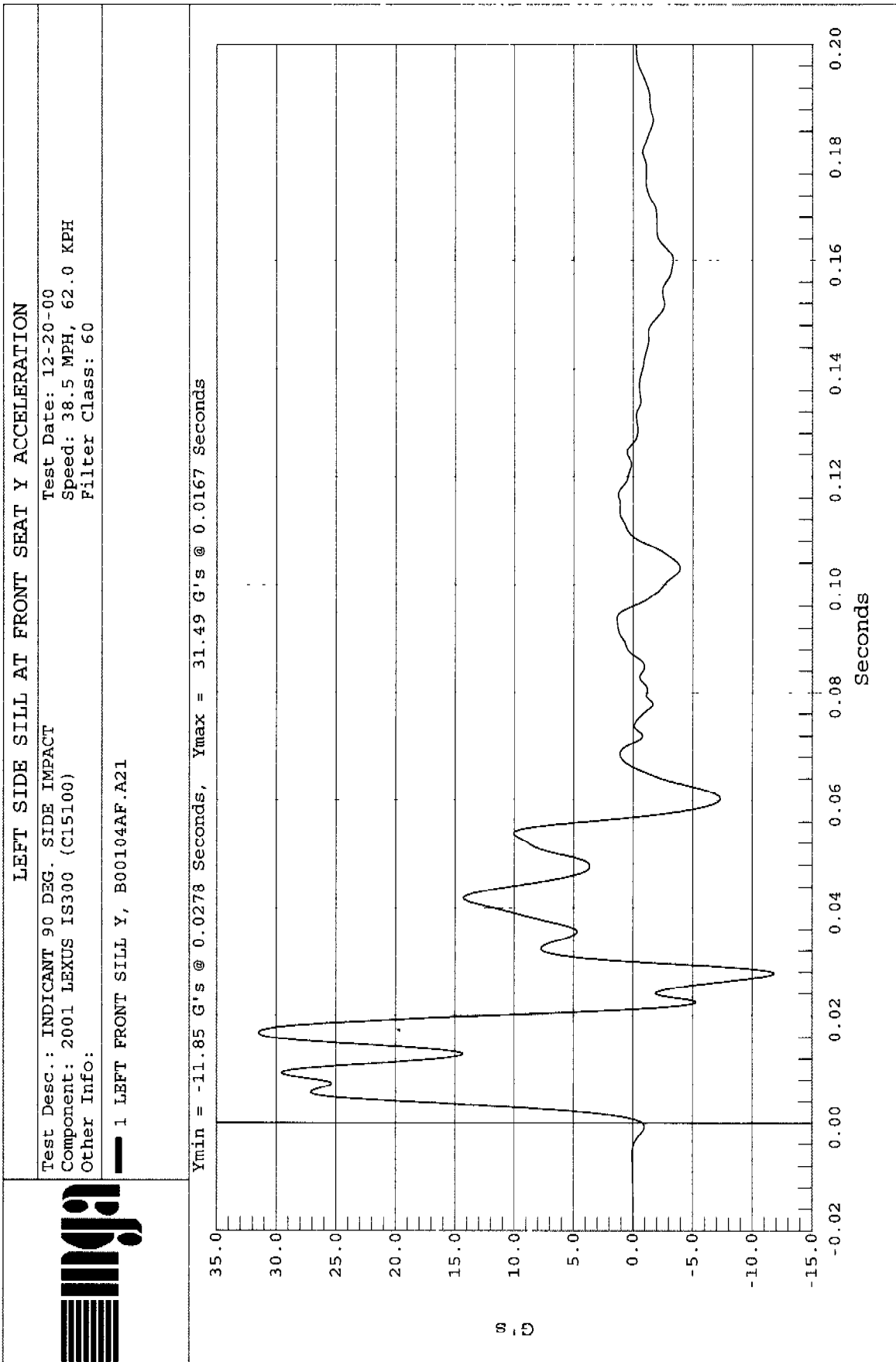


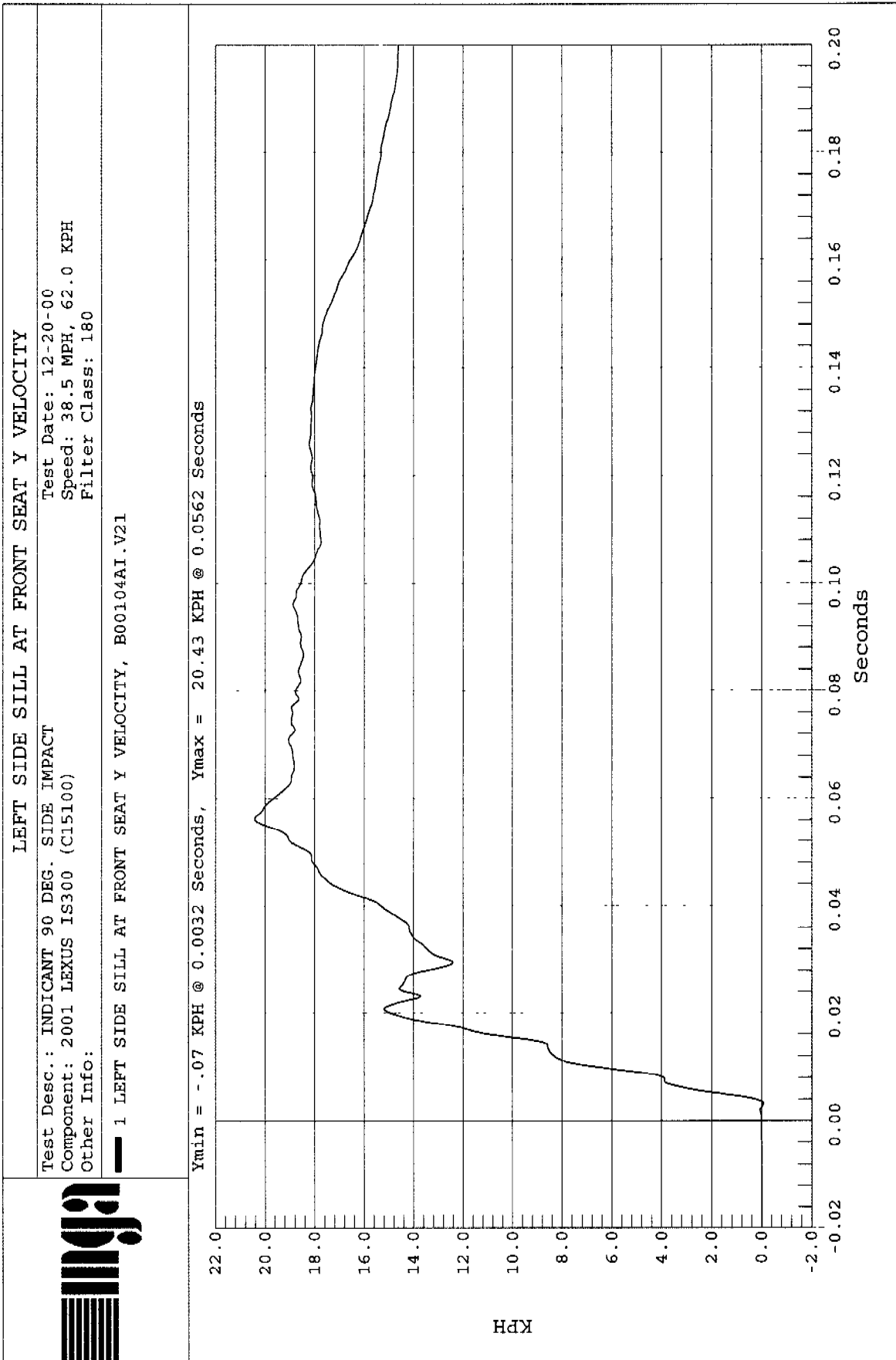


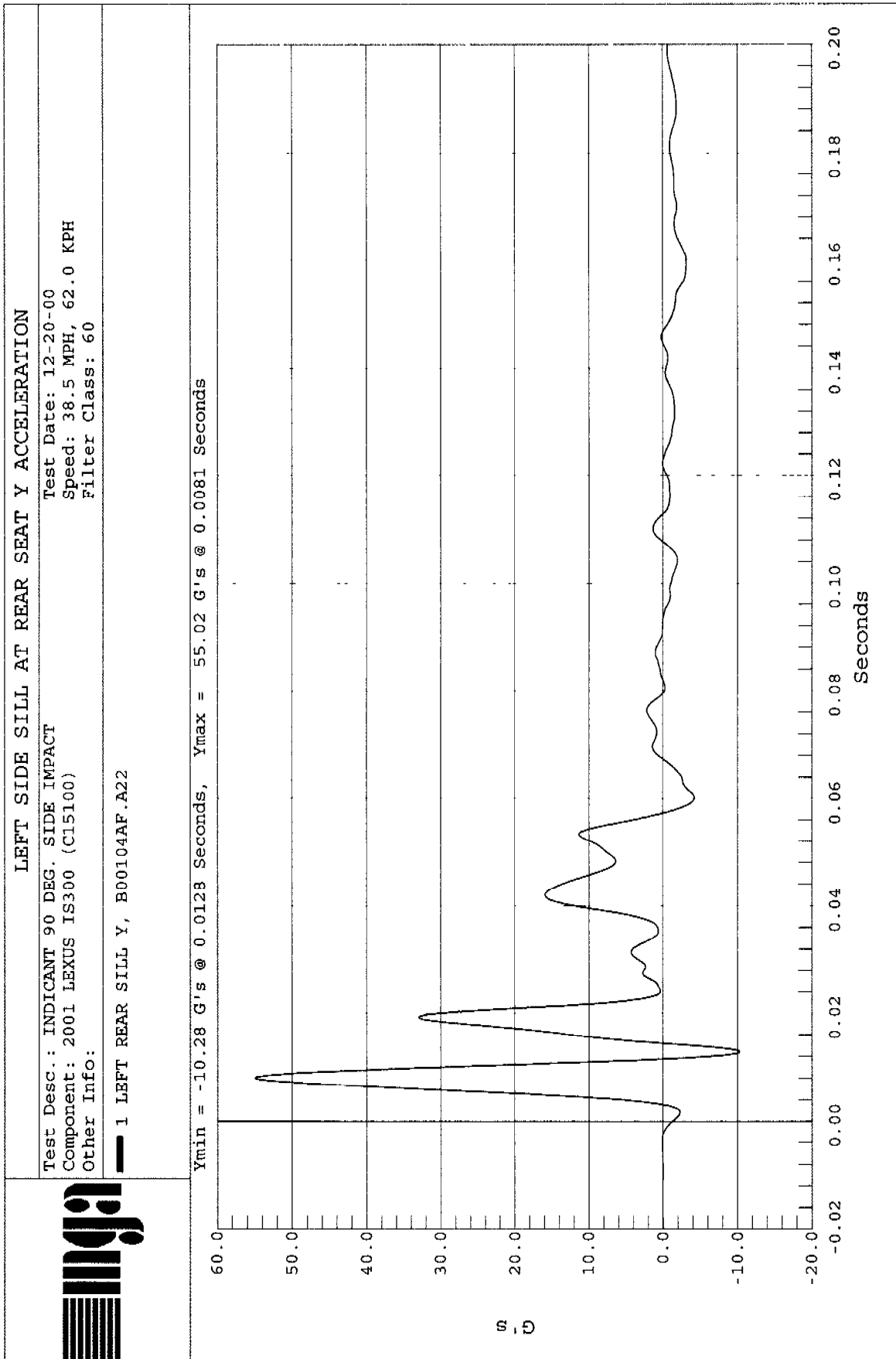
	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION	
	Test Desc.: INDICANT 90 DEG. SIDE IMEACT Component: 2001 LEXUS IS300 (C15100) Other Info:	
	Test Date: 12-20-00 Speed: 38.5 MPH, 62.0 KPH Filter Class: 60	

— 1 REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION, B00104AV.A23







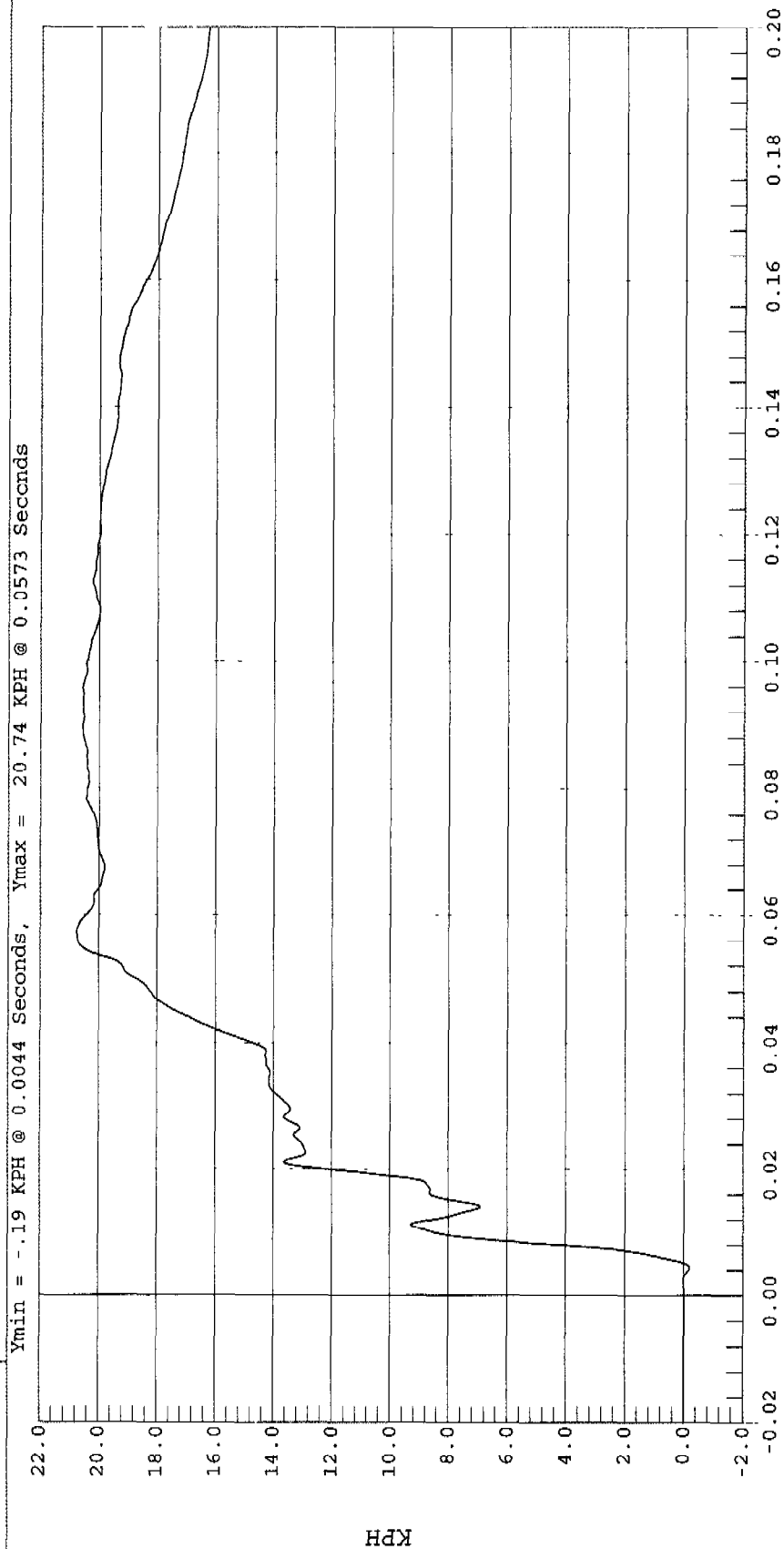


LEFT SIDE SILL AT REAR SEAT Y VELOCITY

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:

1 LEFT SIDE SILL AT REAR SEAT Y VELOCITY, B00104AI.V22



RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 60

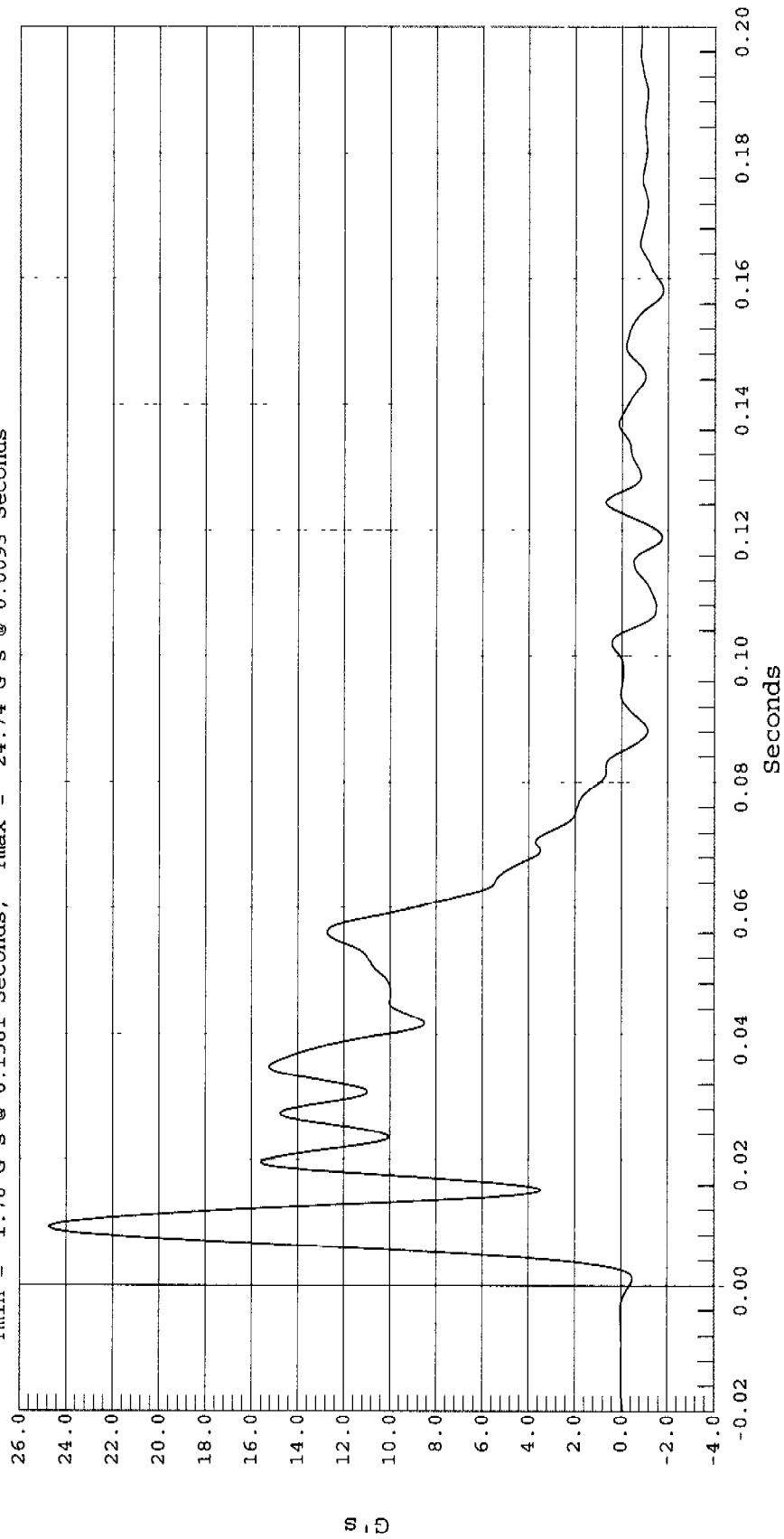
Component: 2001 LEXUS IS300 (C15100)

Other Info:

1 RIGHT REAR OCCUPANT COMPARTMENT Y, B00104AF.A31



Ymin = -1.78 G's @ 0.1581 Seconds, Ymax = 24.74 G's @ 0.0093 Seconds



RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

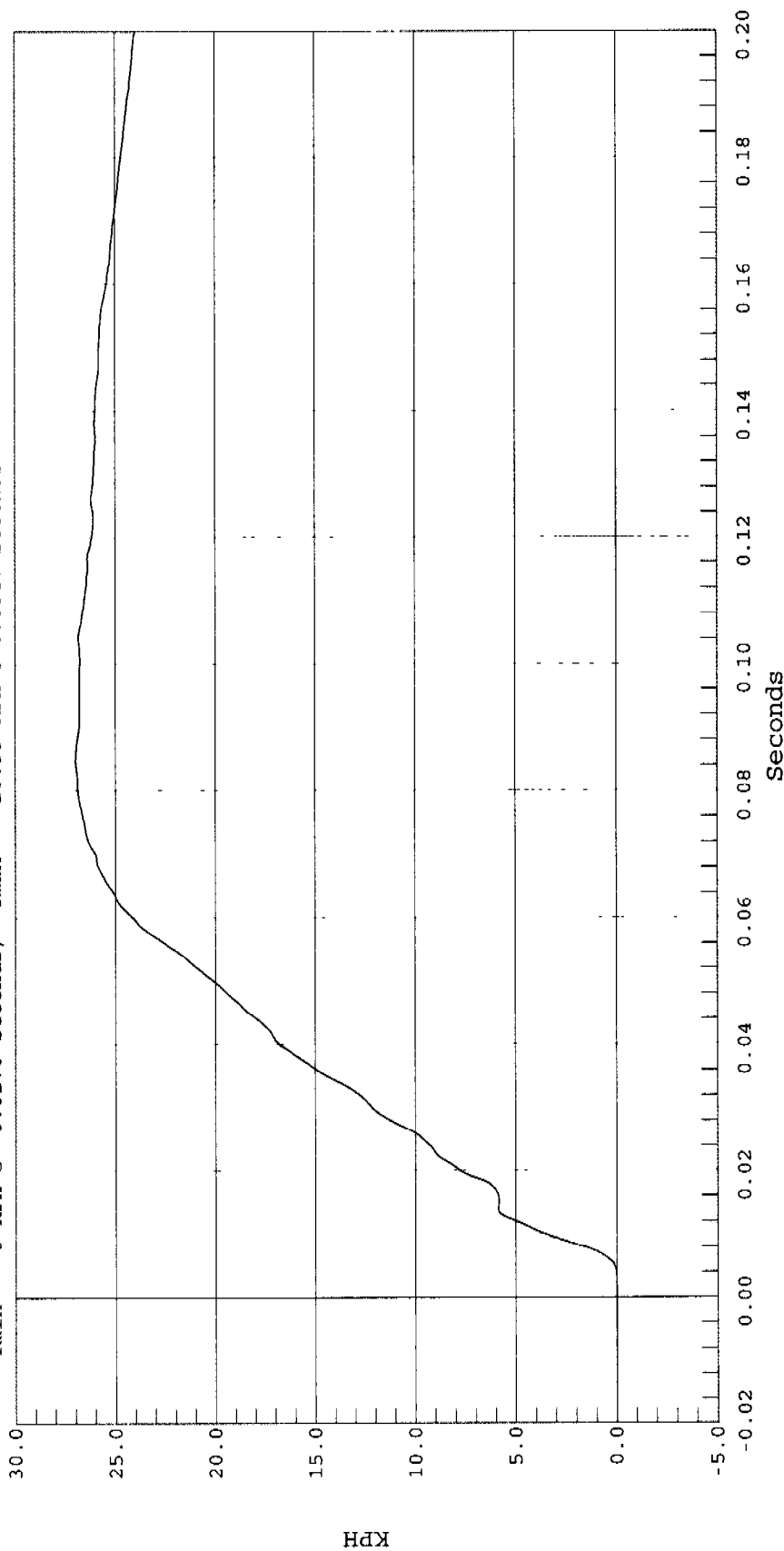
Component: 2001 LEXUS IS300 (C15100)

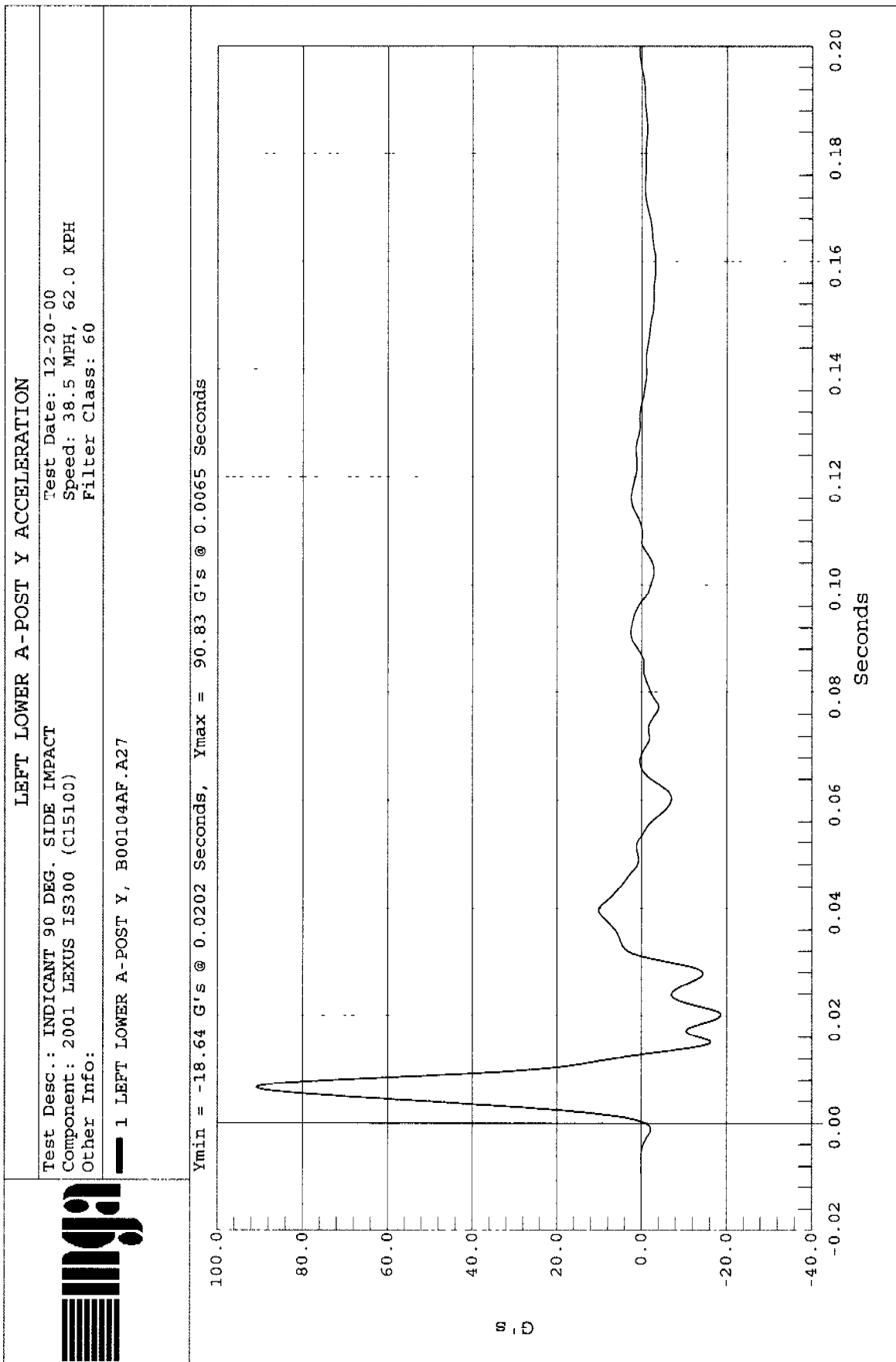
Other Info:

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

1 RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY, B00104AI.V31

Ymin = 0 KPH @ -0.0170 Seconds, Ymax = 26.99 KPH @ 0.0847 Seconds





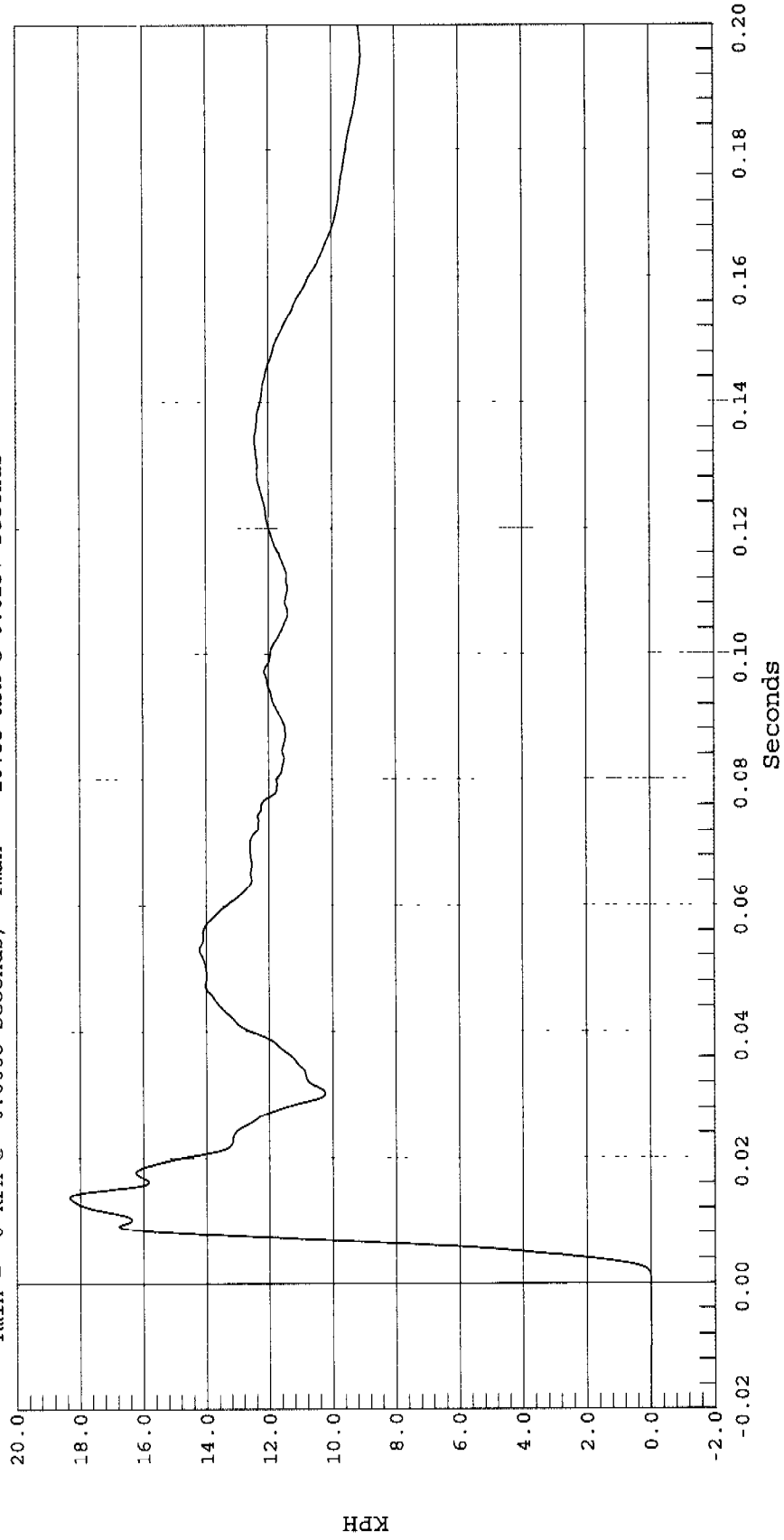
LEFT LOWER A-POST Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 180

1 LEFT LOWER A-POST Y VELOCITY, B00104AI.V27

Ymin = 0 KPH @ -0.0088 Seconds, Ymax = 18.33 KPH @ 0.0137 Seconds



LEFT MID A-POST Y ACCELERATION (QD AFTER 21 MSEC)

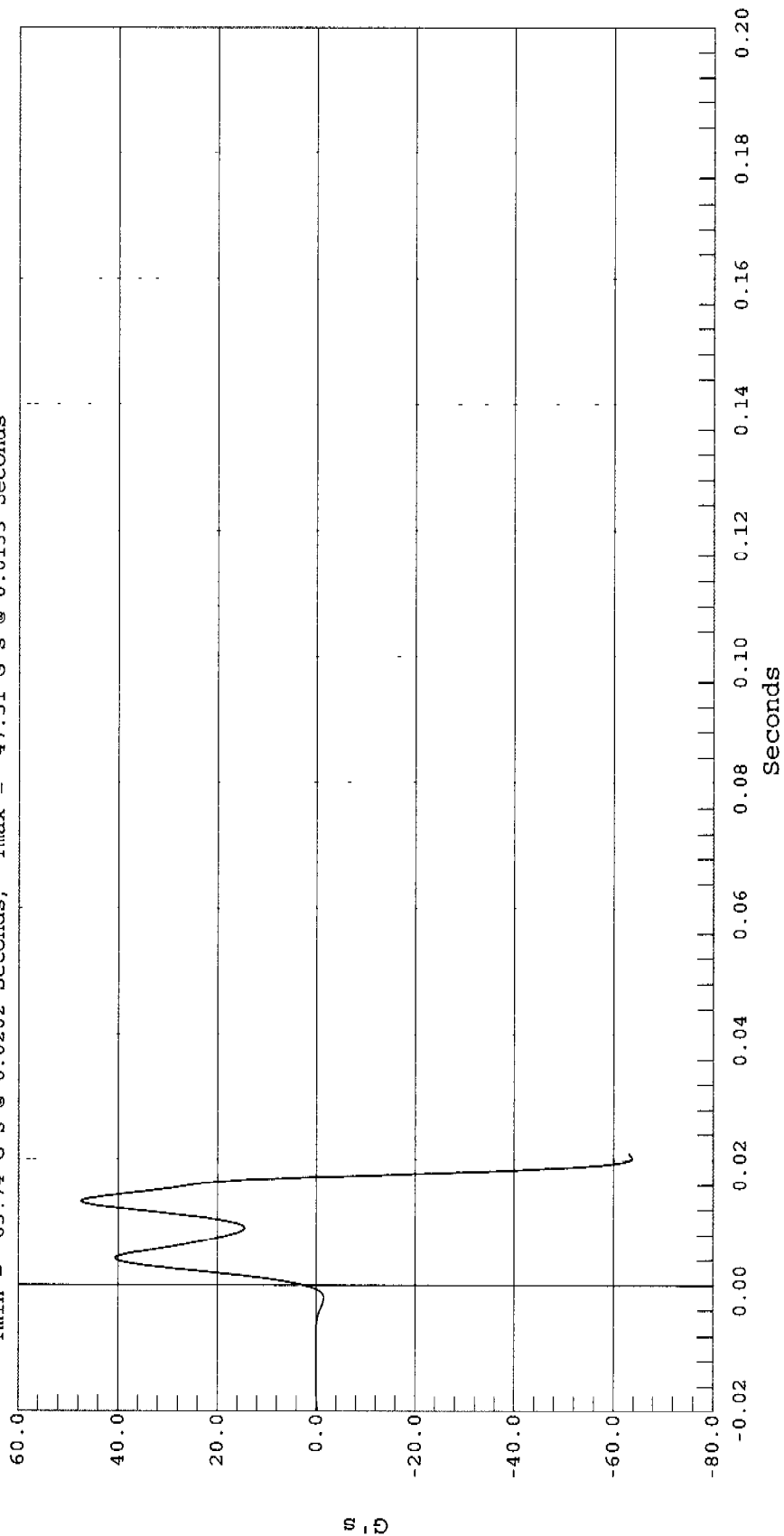
Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Component: 2001 LEXUS IS300 (C15100)

Other Info: Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 60

1 LEFT MID A-POST Y, B00104AF.A26

Ymin = -63.74 G's @ 0.0202 Seconds, Ymax = 47.51 G's @ 0.0133 Seconds



LEFT MID A-POST Y VELOCITY (QD AFTER 21 MSEC)

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Component: 2001 LEXUS IS300 (C15100)

Other Info:

Test Date: 12-20-00

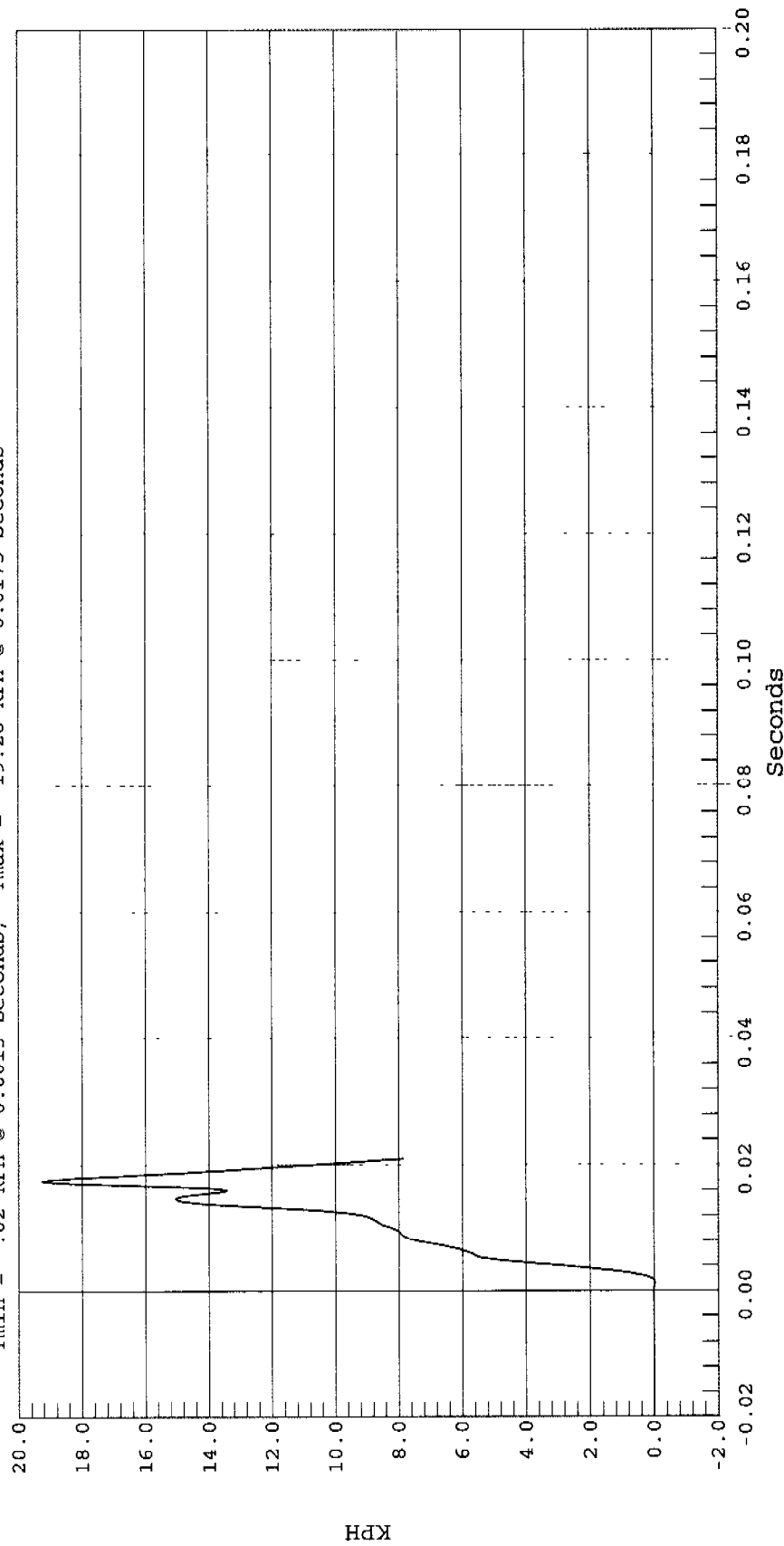
Speed: 38.5 MPH, 62.0 KPH

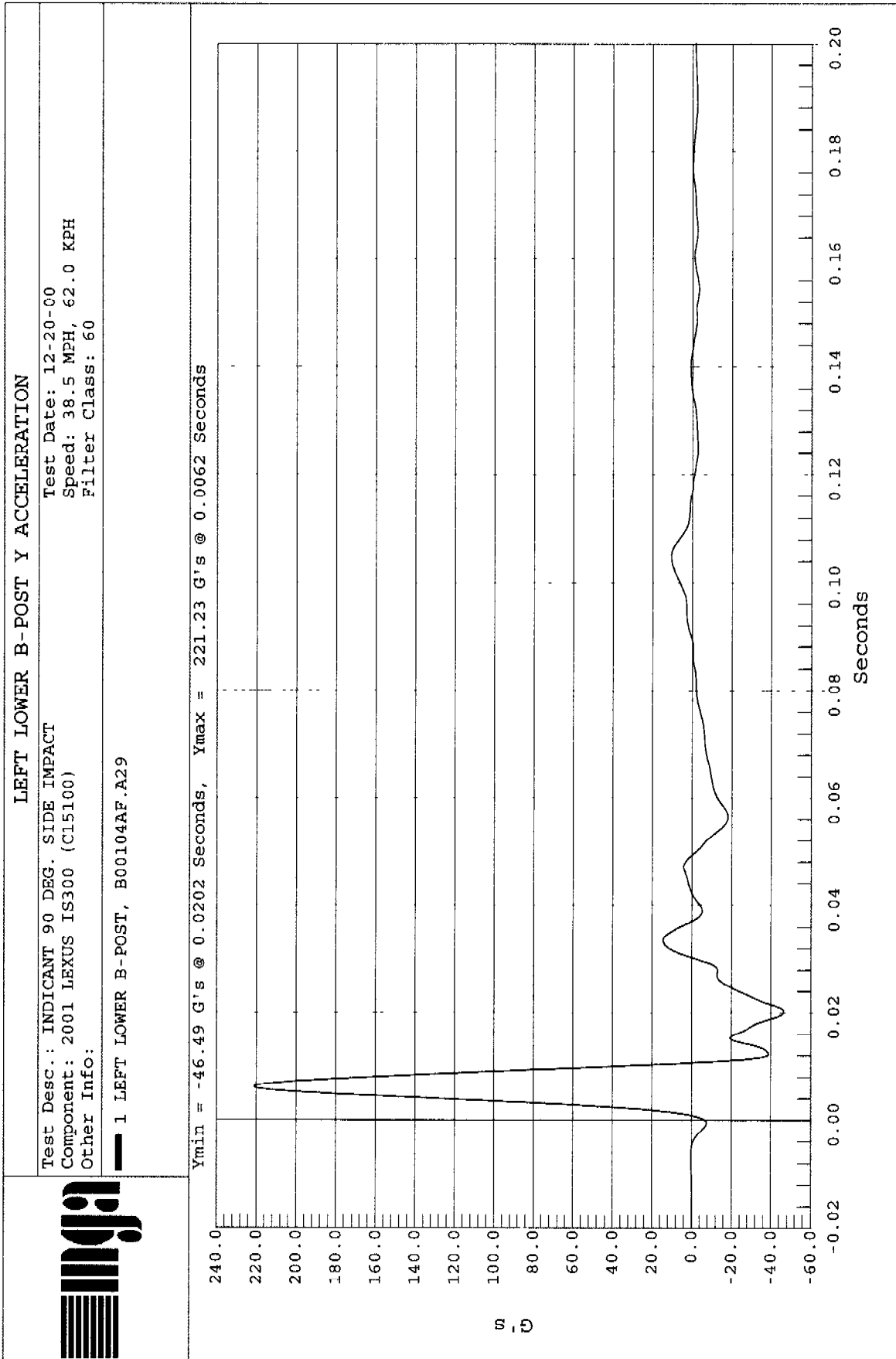
Filter Class: 180

— 1 LEFT MID A-POST Y VELOCITY, B00104AI.V26



Ymin = -.02 KPH @ 0.0013 Seconds, Ymax = 19.28 KPH @ 0.0175 Seconds





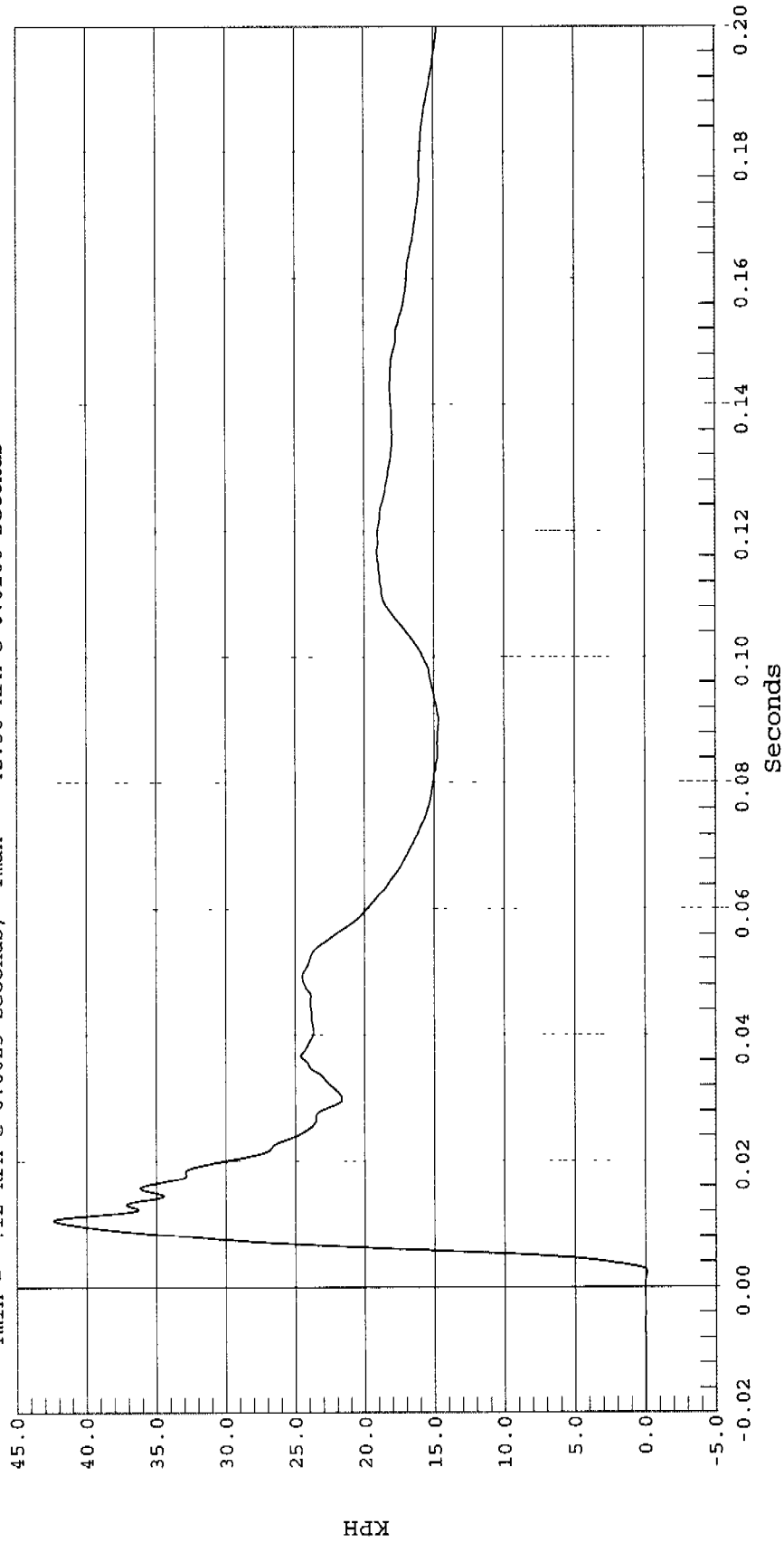
LEFT LOWER B-POST Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C1510C)
 Other Info:
 Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 180



1 LEFT LOWER B-POST Y VELOCITY, B00104A1.V29

Ymin = -.12 KPH @ 0.0023 Seconds, Ymax = 42.38 KPH @ 0.0106 Seconds



LEFT MID B-POST Y ACCELERATION (QD AFTER 11 MSEC)

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

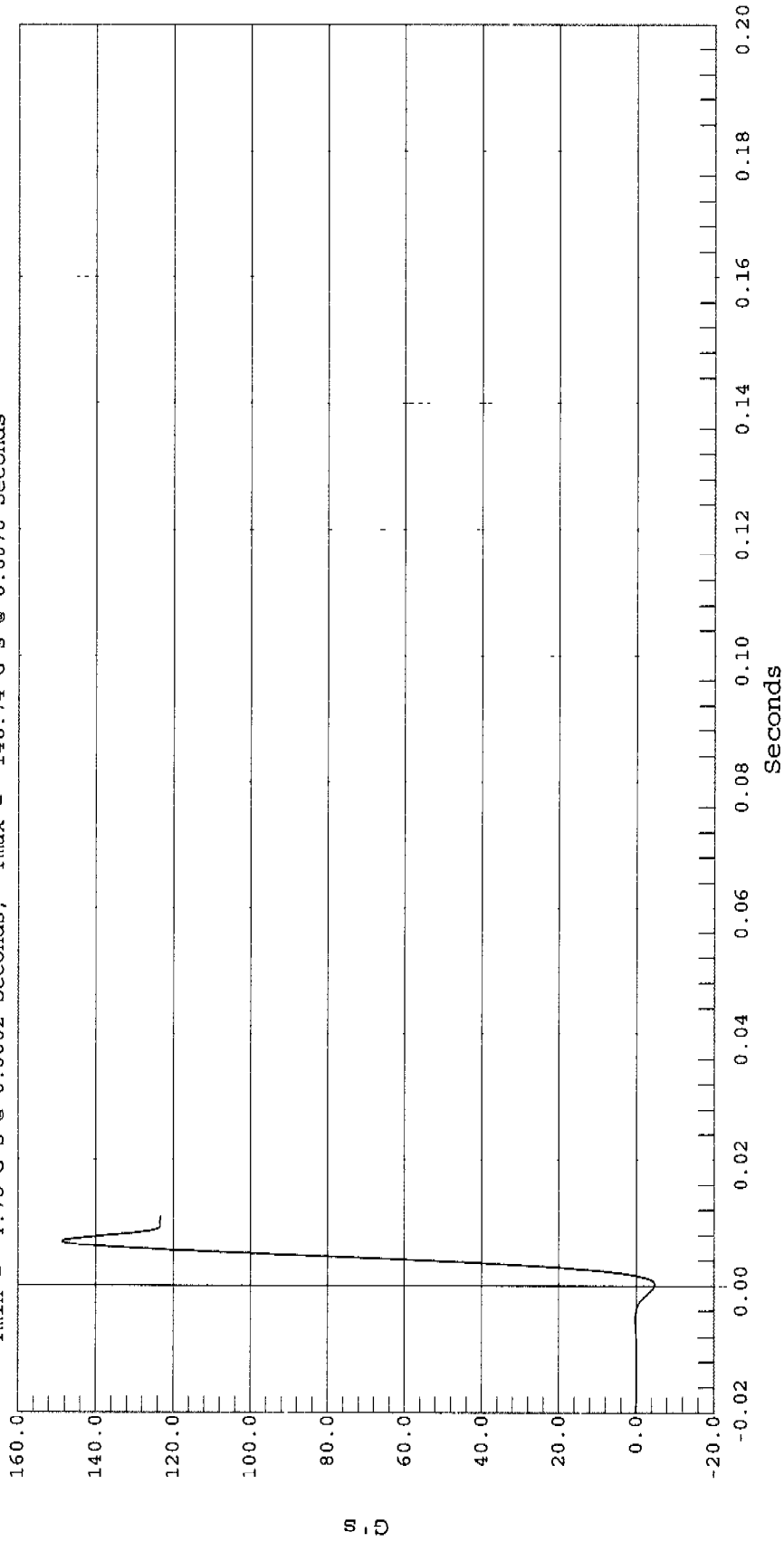
Component: 2001 LEXUS IS300 (C15100)

Other Info:

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 60

1 LEFT MID B-POST, B00104AF.A28

Ymin = -4.78 G's @ 0.0002 Seconds, Ymax = 148.74 G's @ 0.0070 Seconds



LEFT MID B-POST Y VELOCITY (QD AFTER 11 MSEC)

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

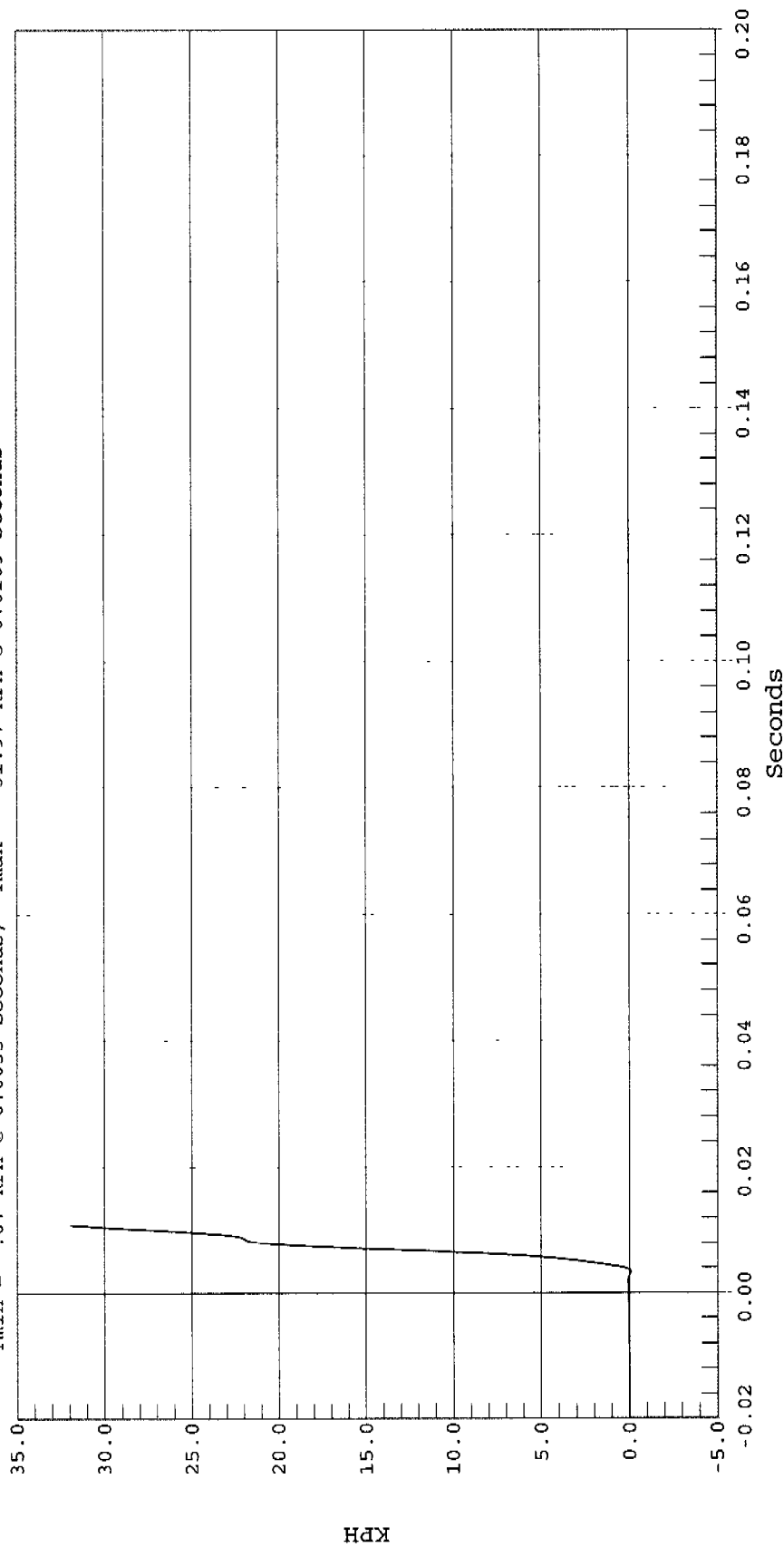
Component: 2001 LEXUS IS300 (C15100)

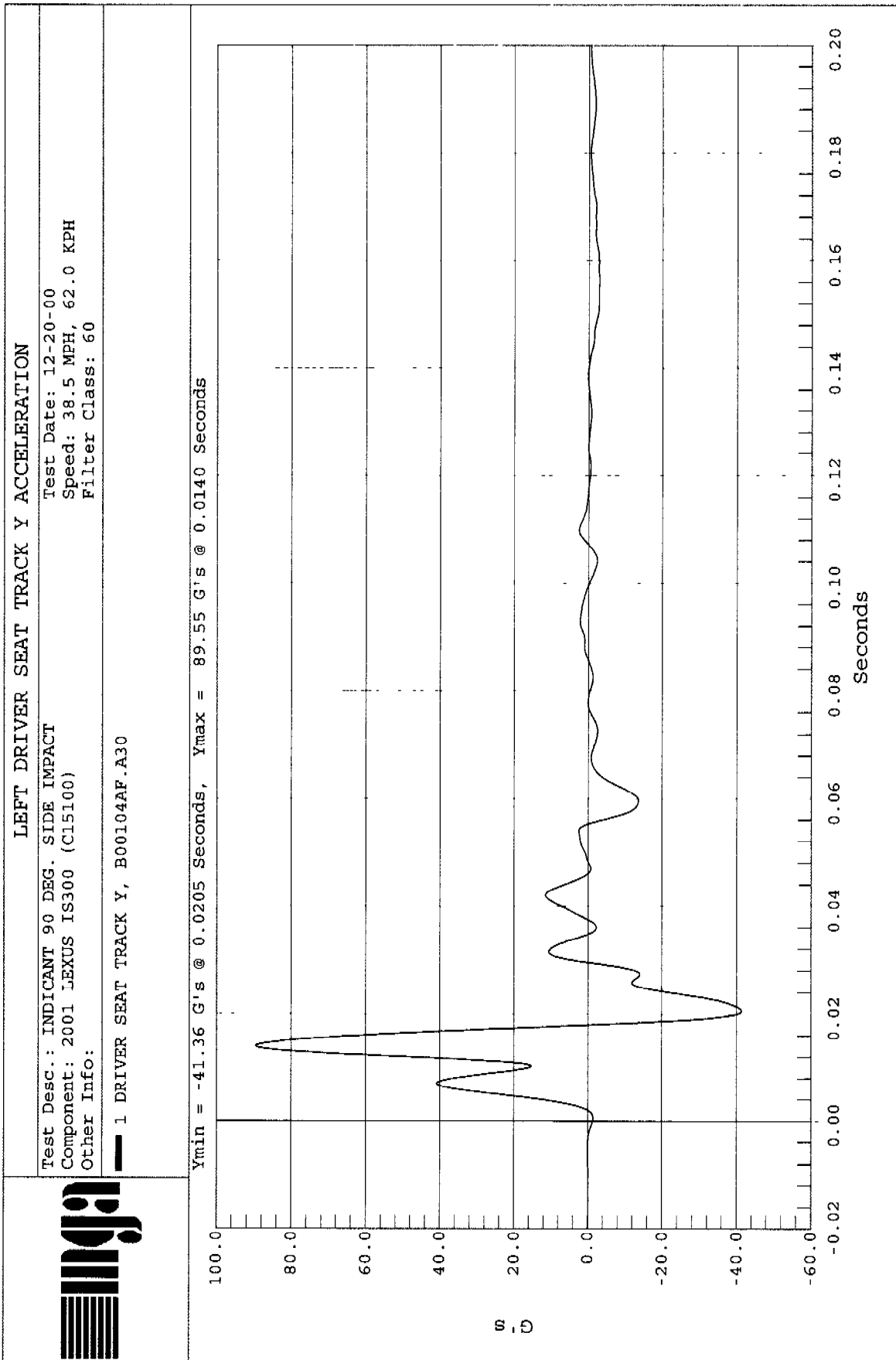
Other Info:

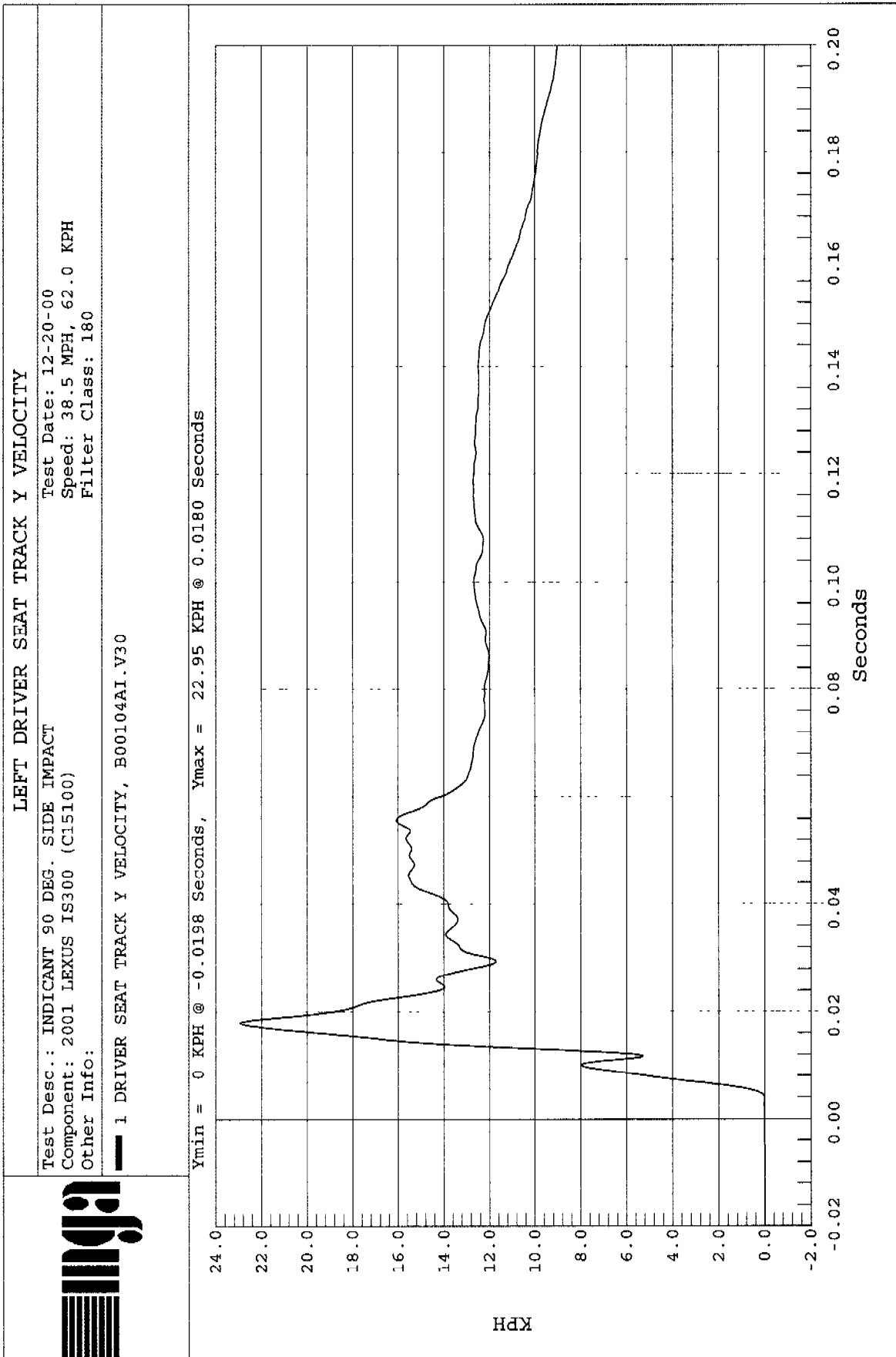
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

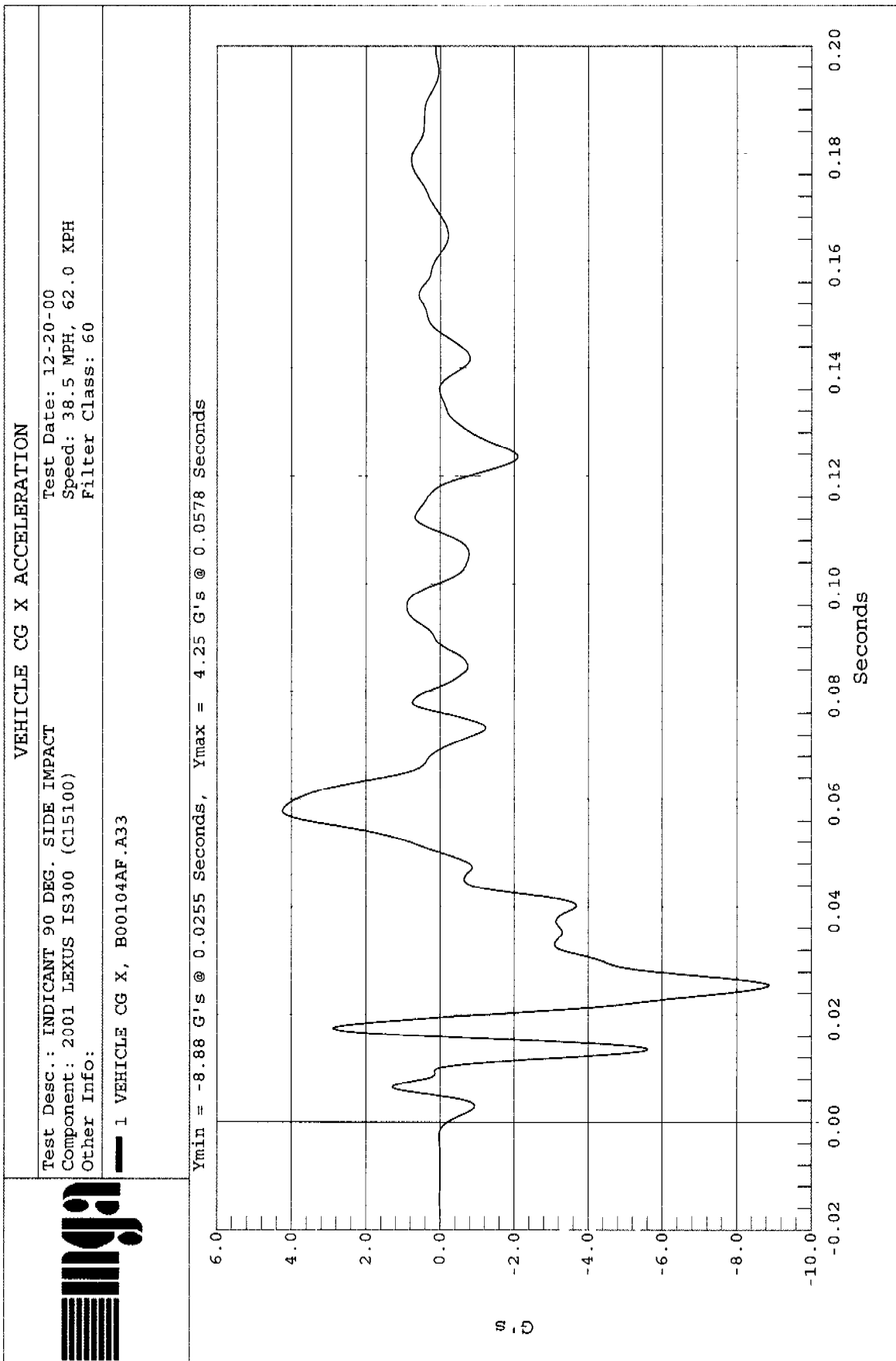
1 LEFT MID B-POST Y VELOCITY, B00104A1.V28

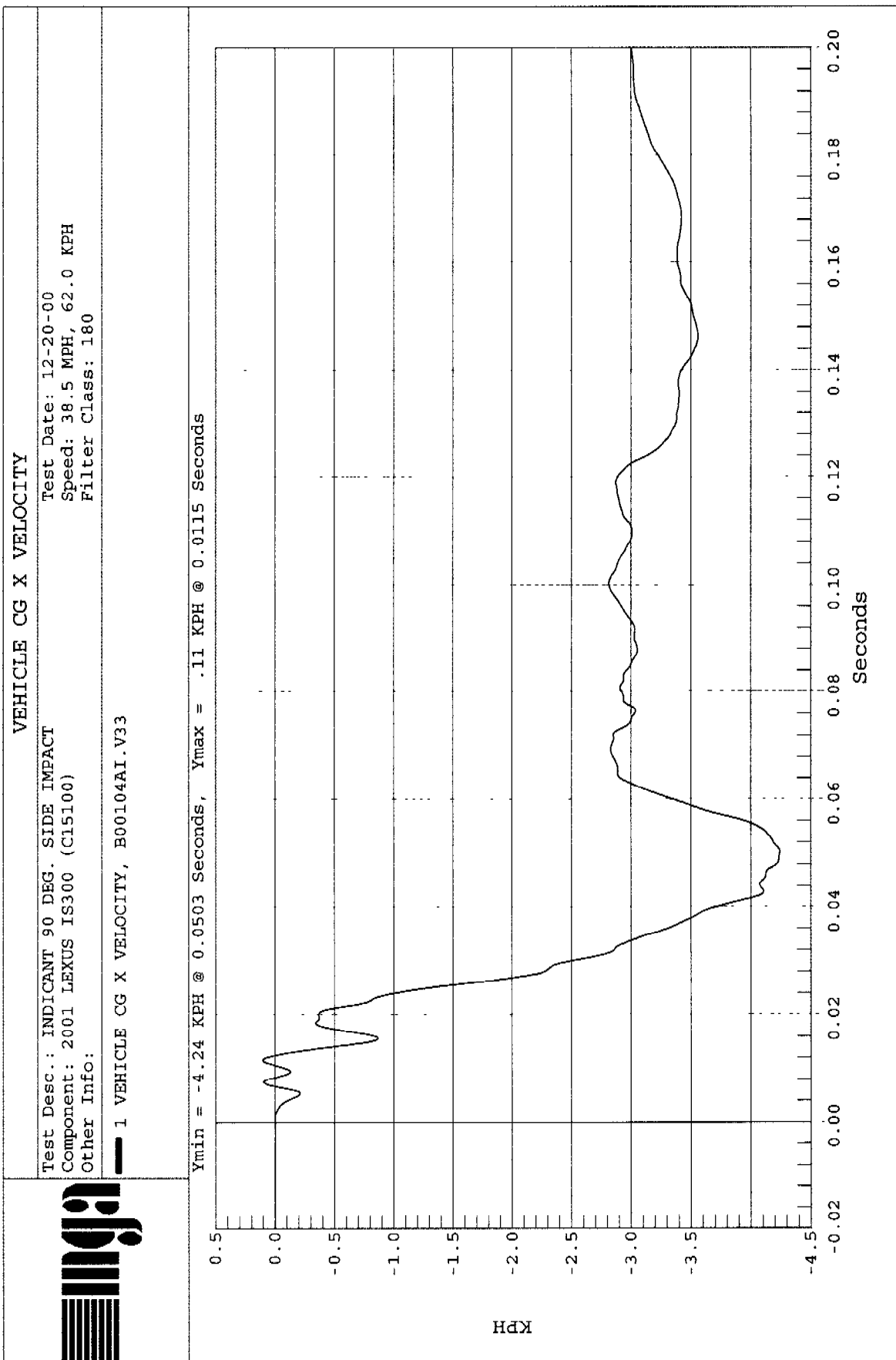
Ymin = -.07 KPH @ 0.0033 Seconds, Ymax = 31.97 KPH @ 0.0109 Seconds

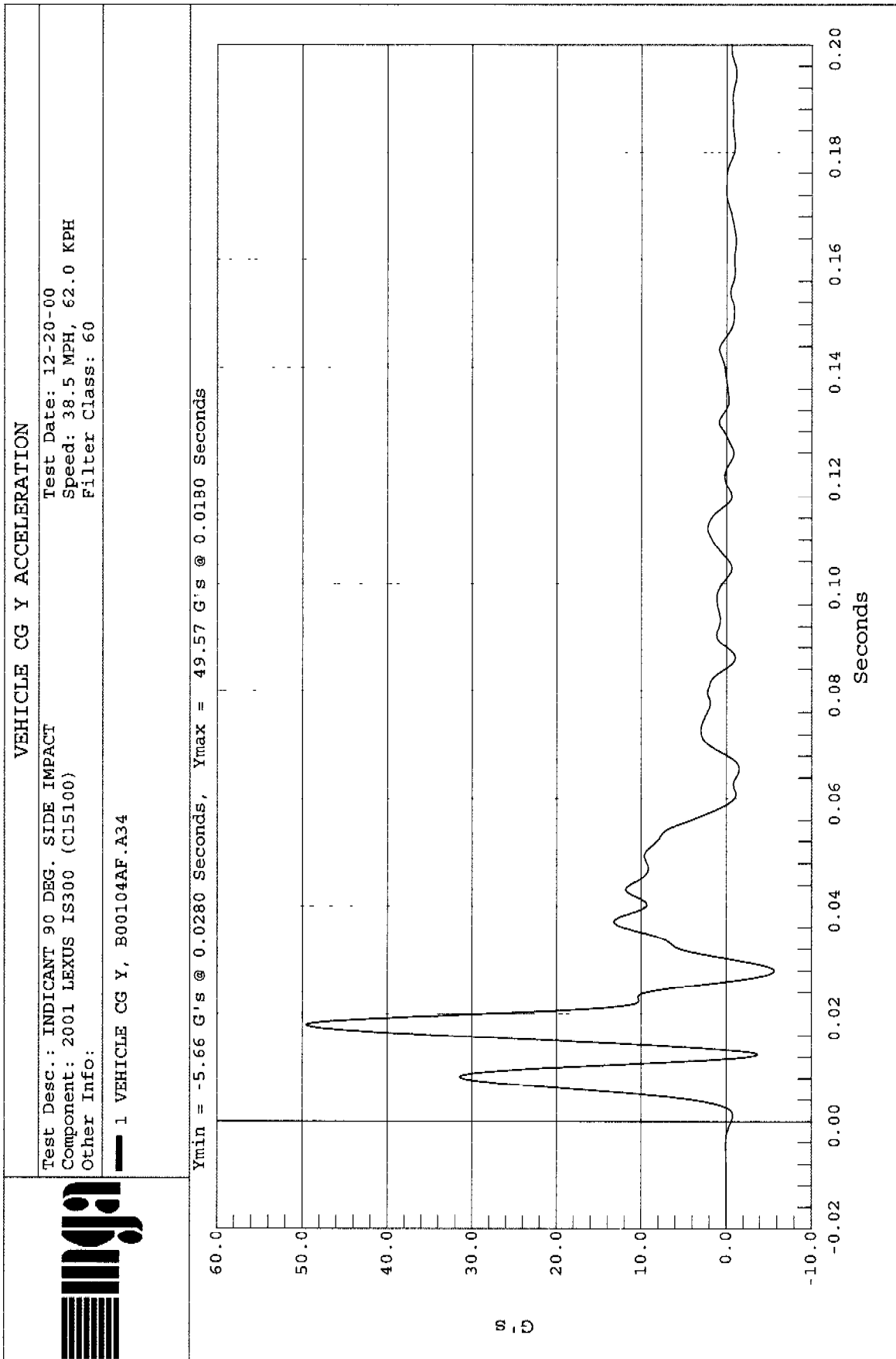


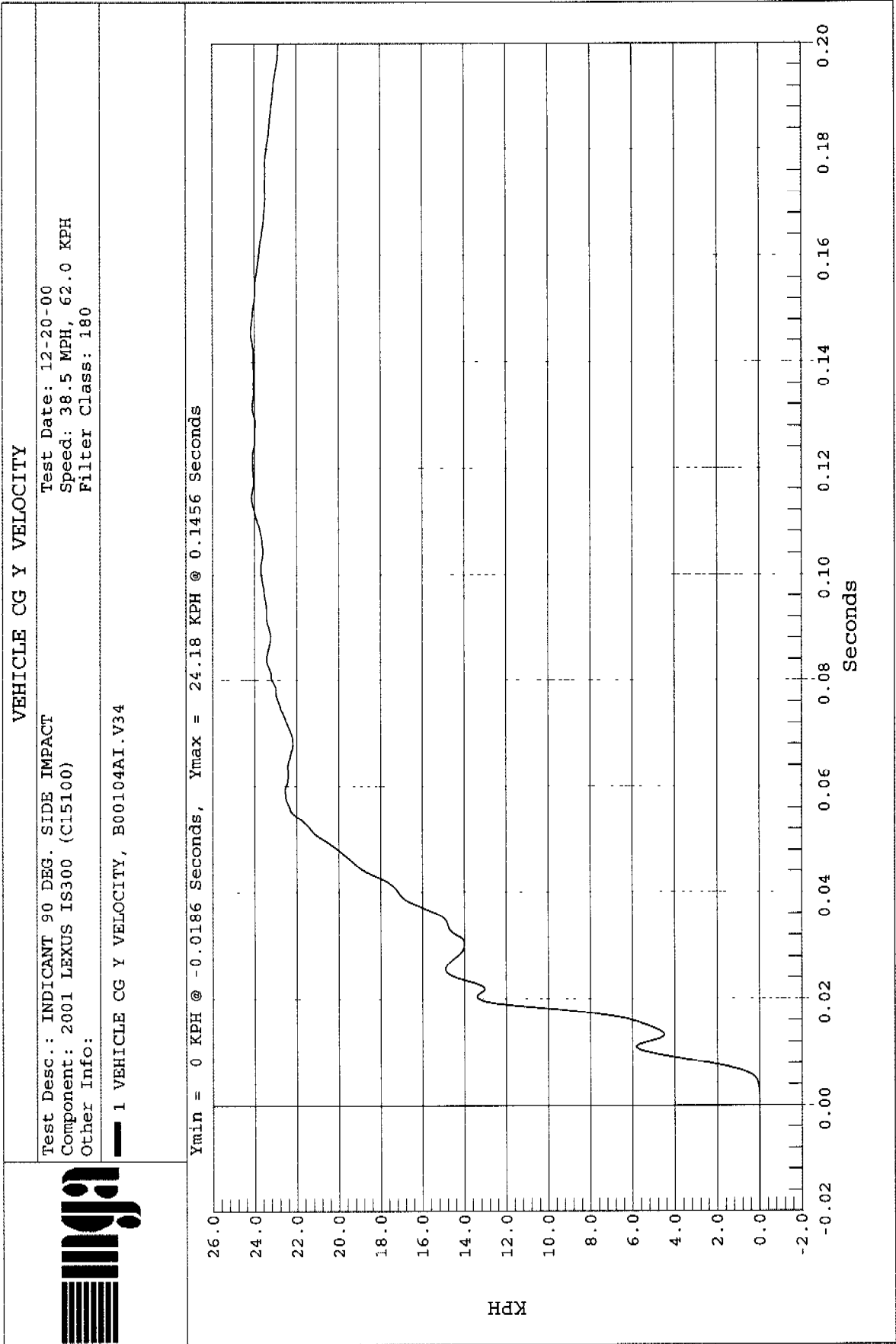


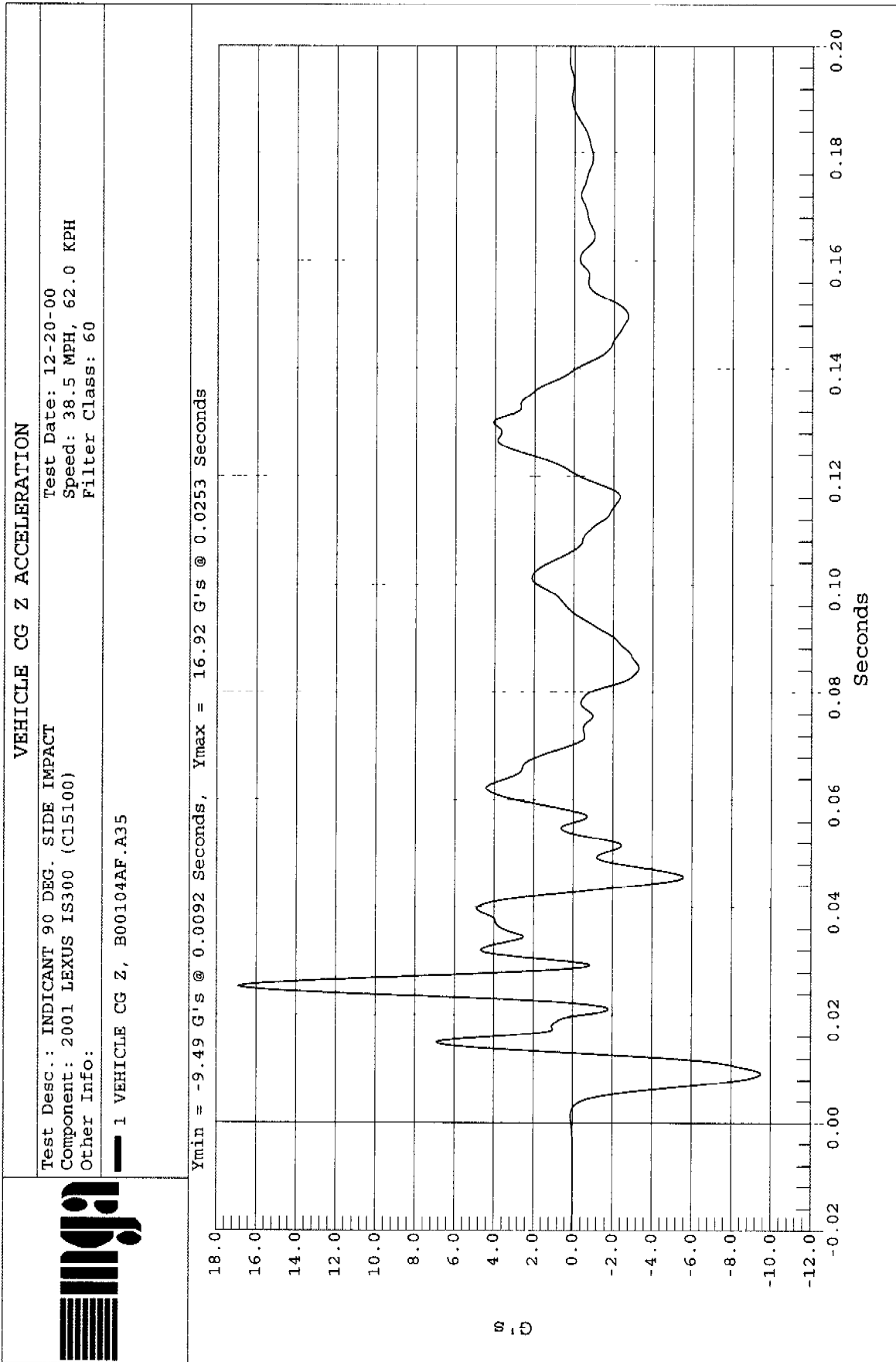


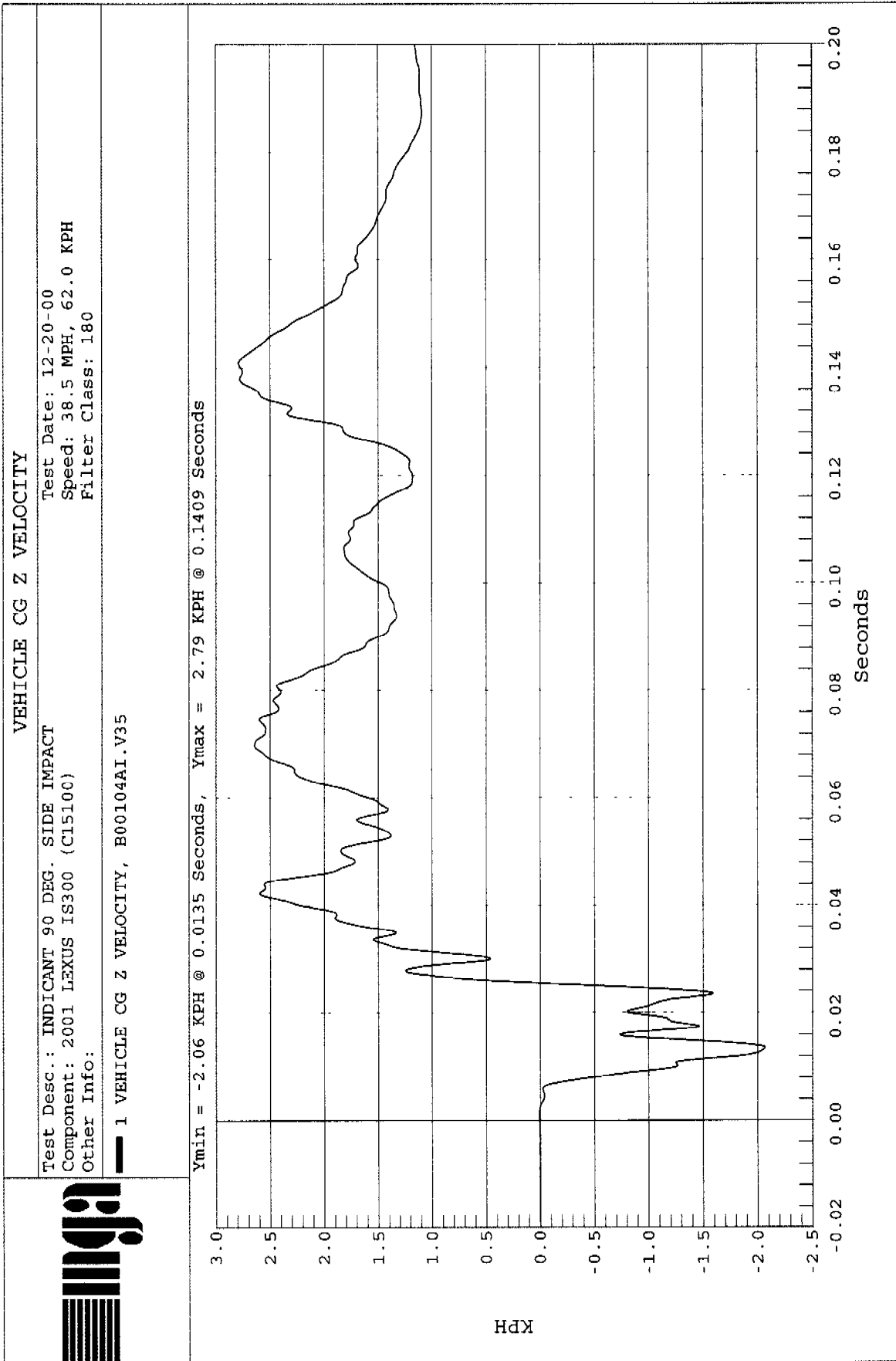


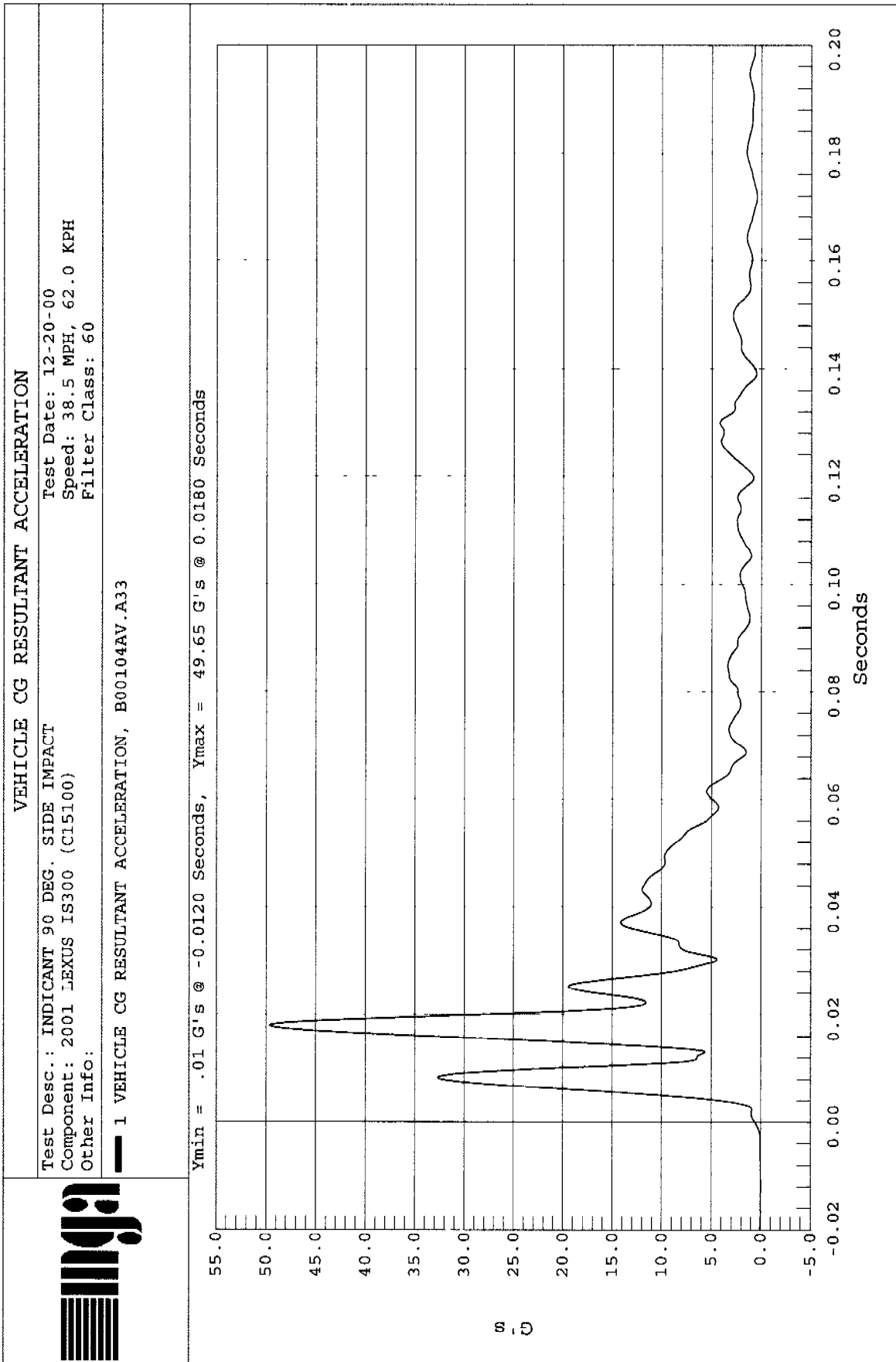












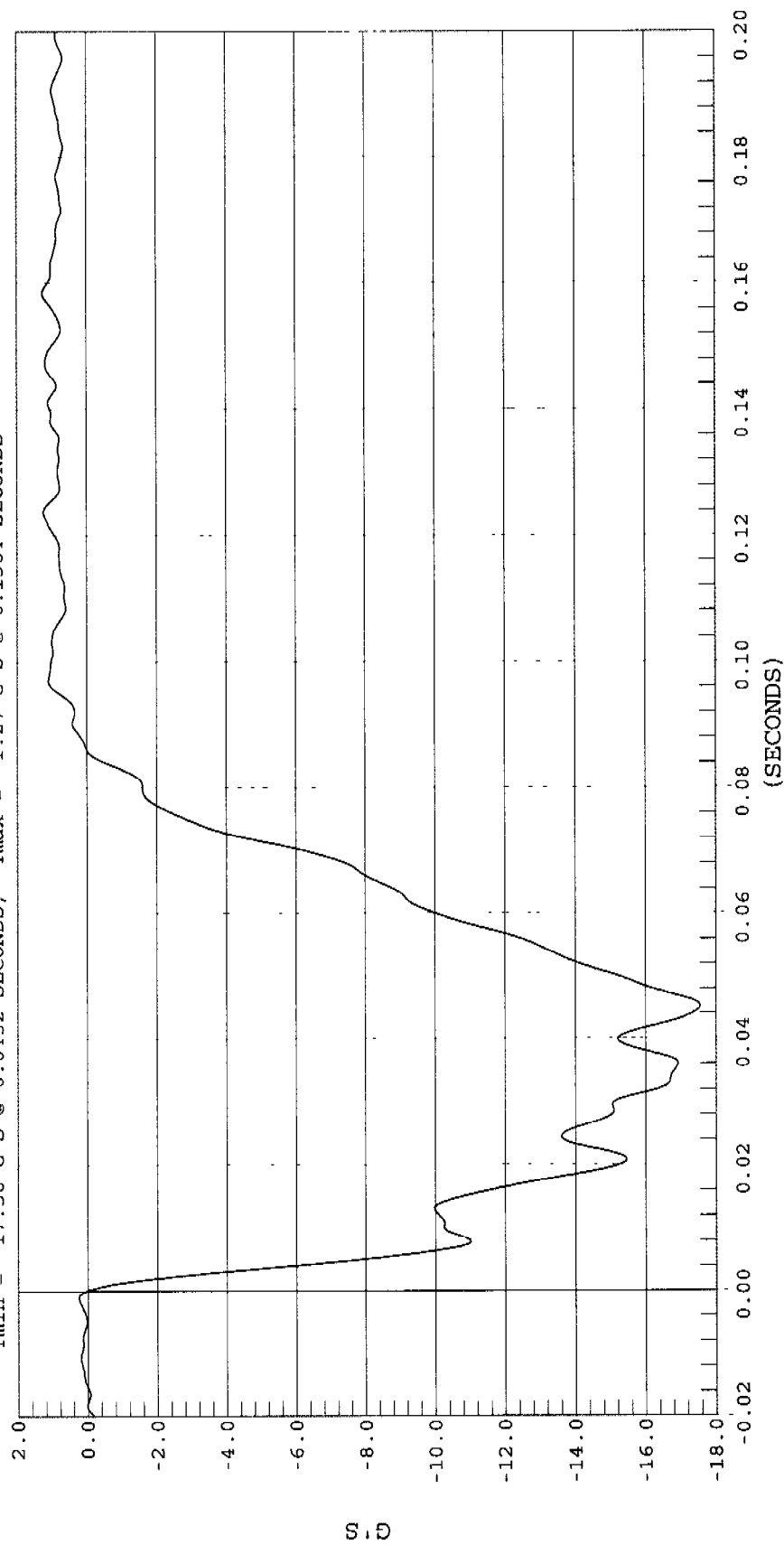
MOVING BARRIER CG X ACCELERATION

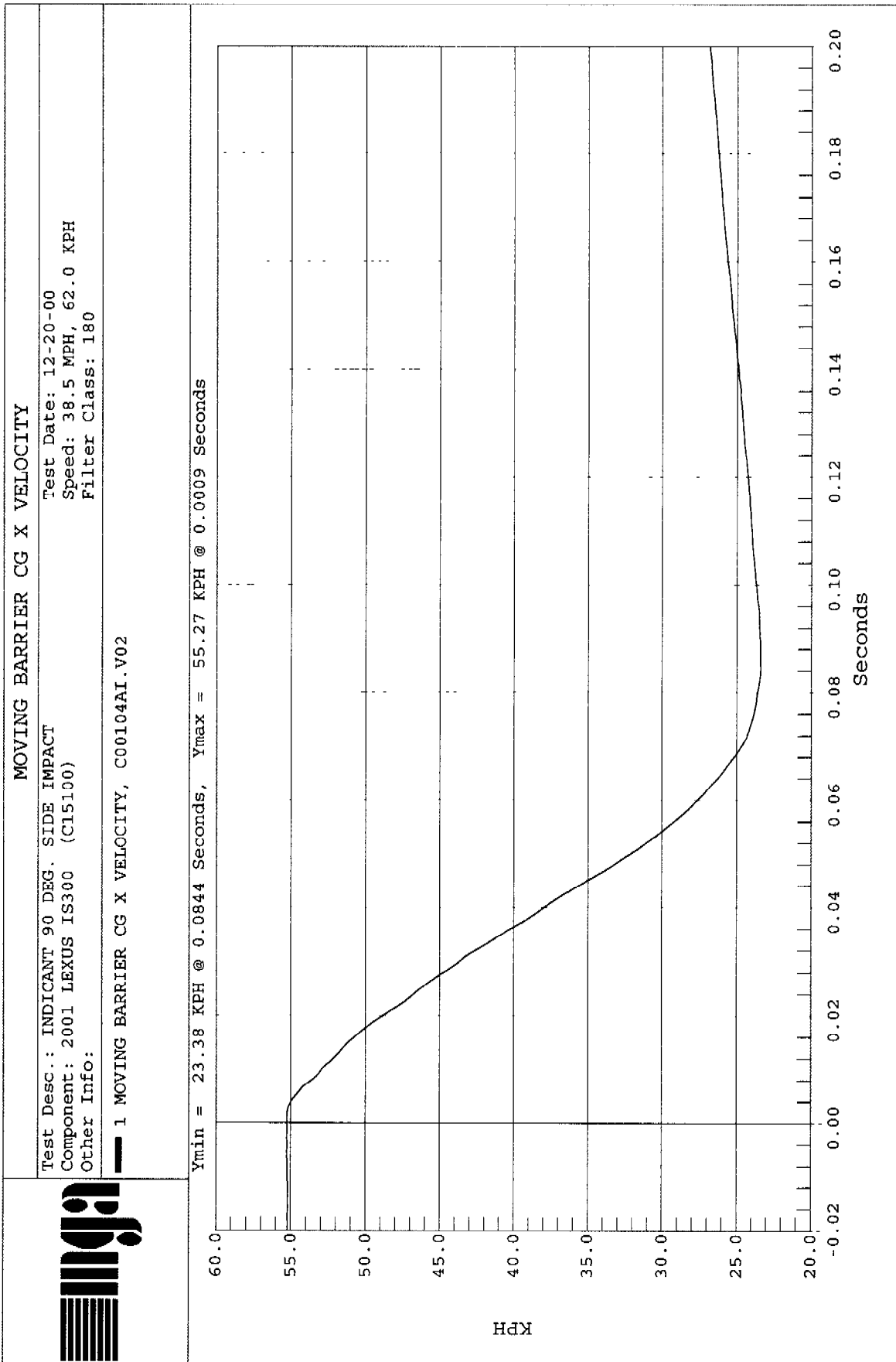
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 60

— 1 CART CG X, C00104AF.A02

Ymin = -17.56 G'S @ 0.0452 SECONDS, Ymax = 1.27 G'S @ 0.1584 SECONDS







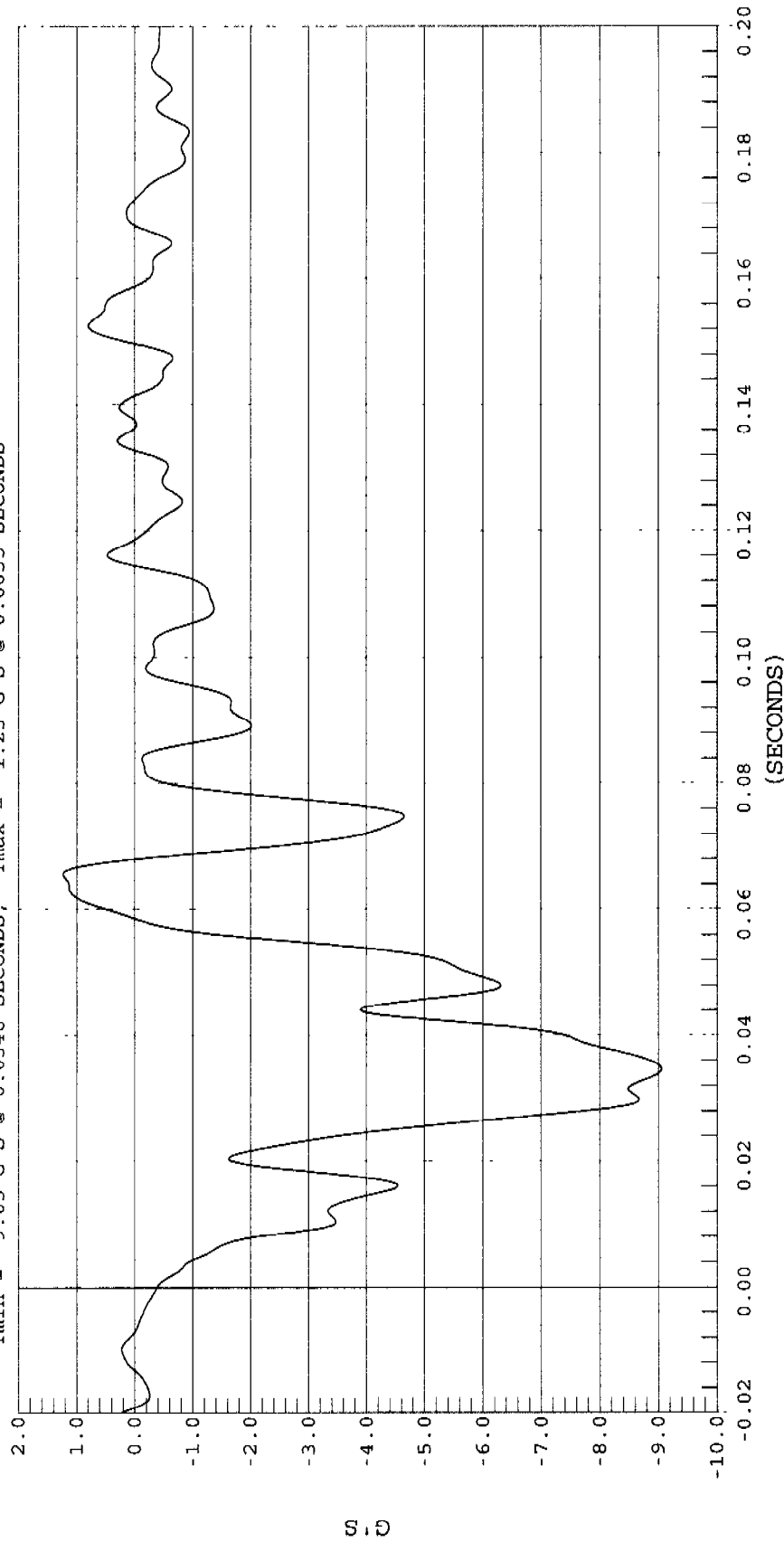
MOVING BARRIER CG Y ACCELERATION

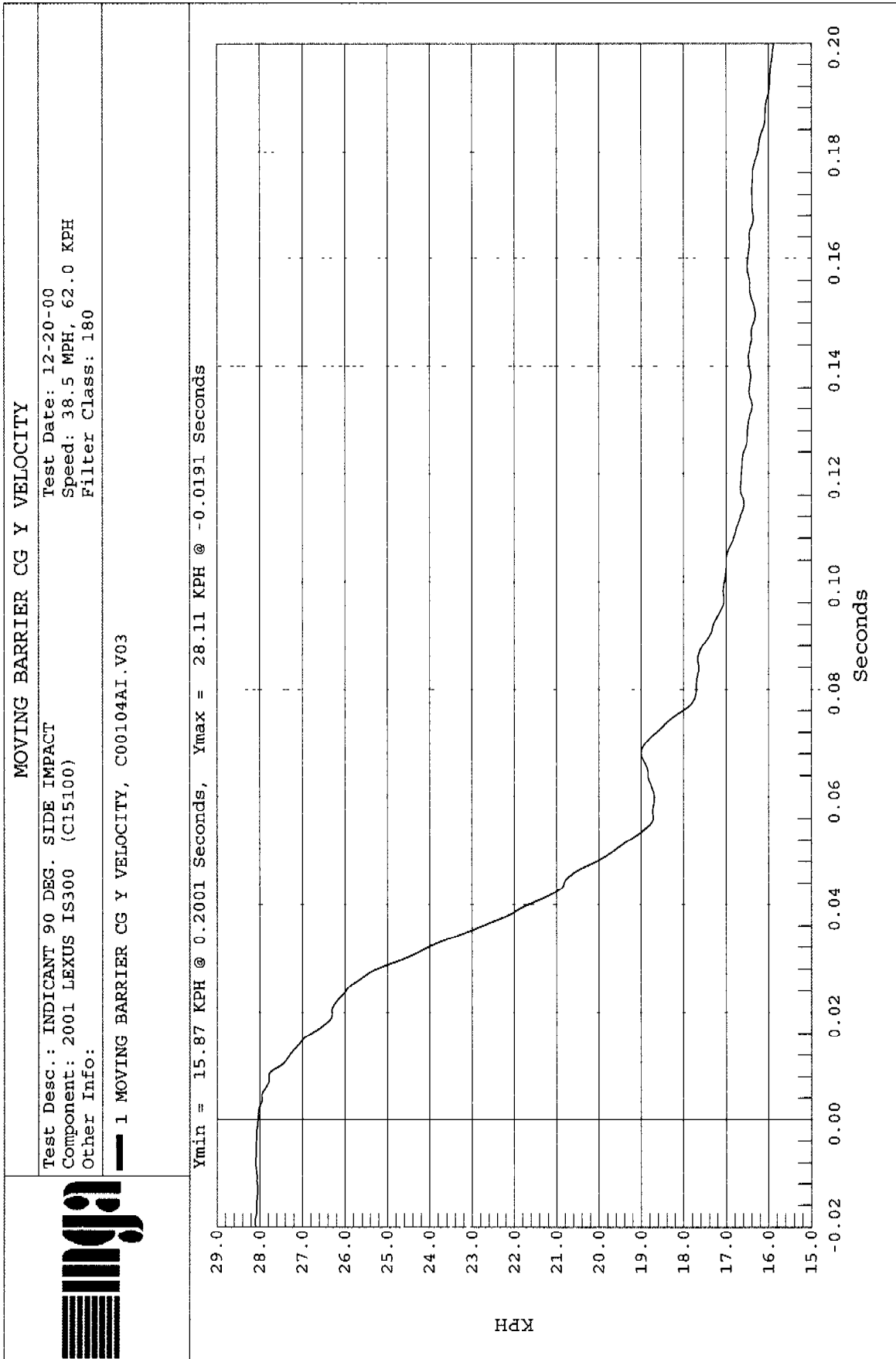
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 60

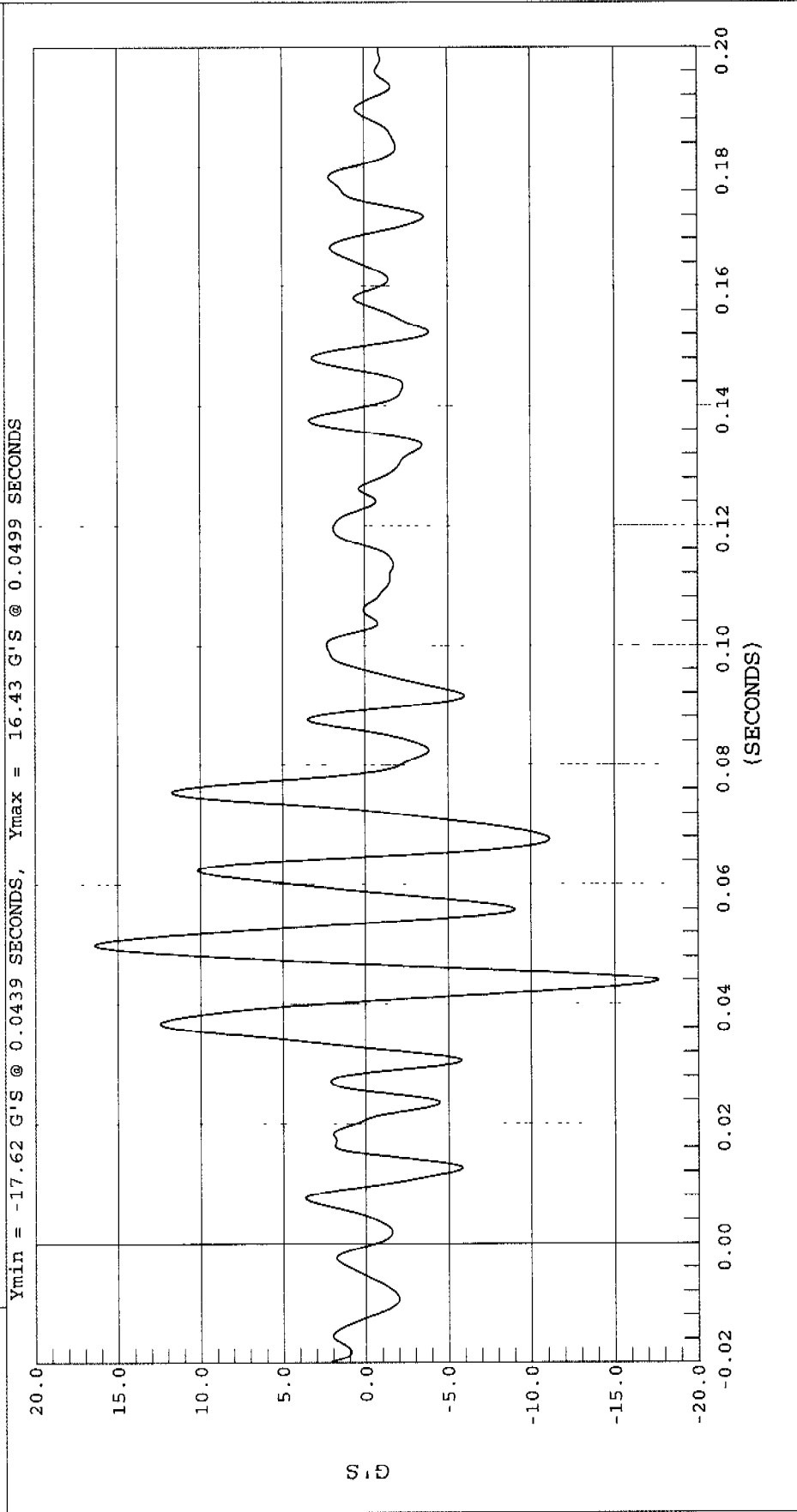
— 1 CART CG Y, C00104AF.A03

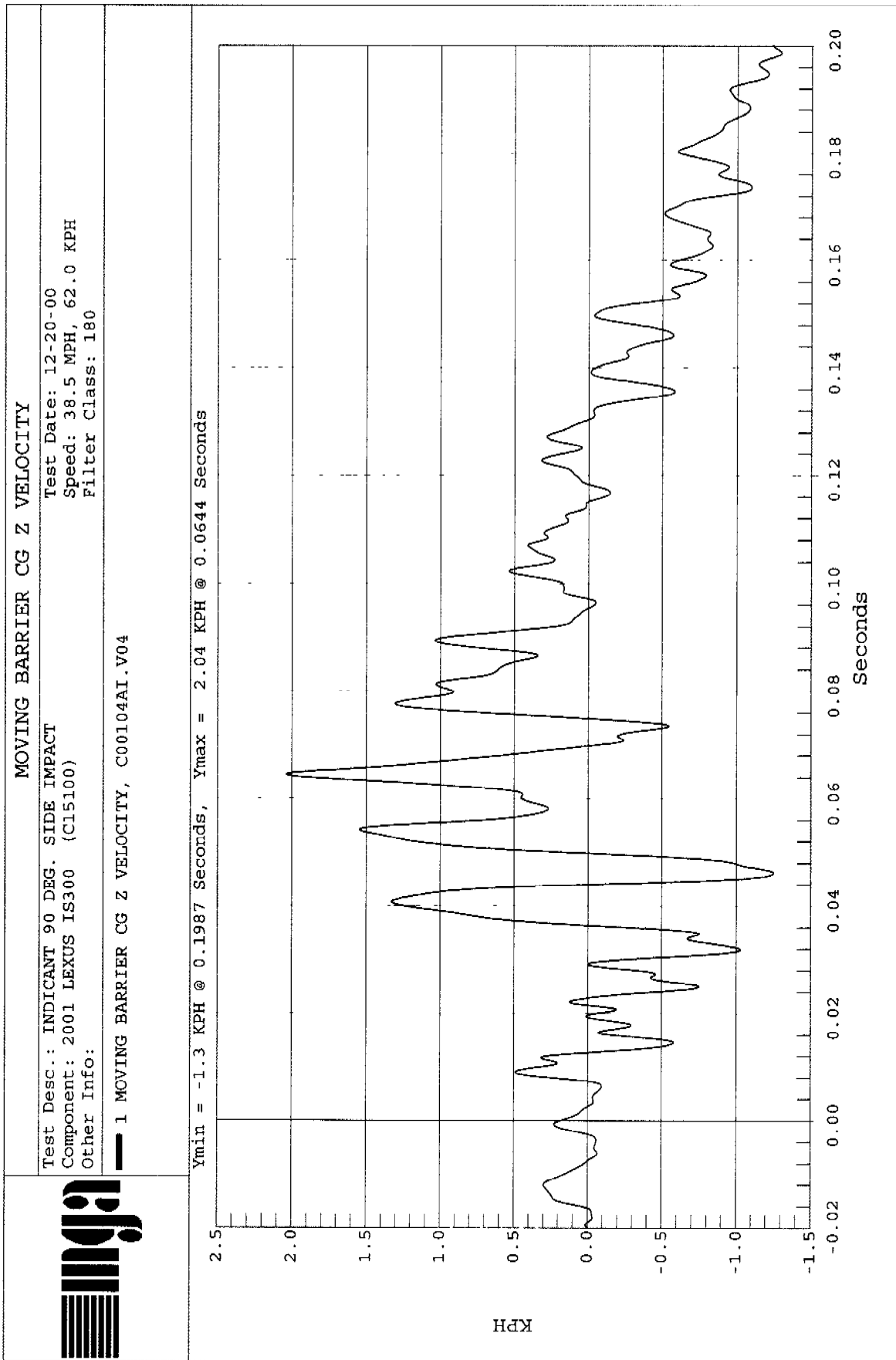
Ymin = -9.05 G'S @ 0.0346 SECONDS, Ymax = 1.23 G'S @ 0.0655 SECONDS

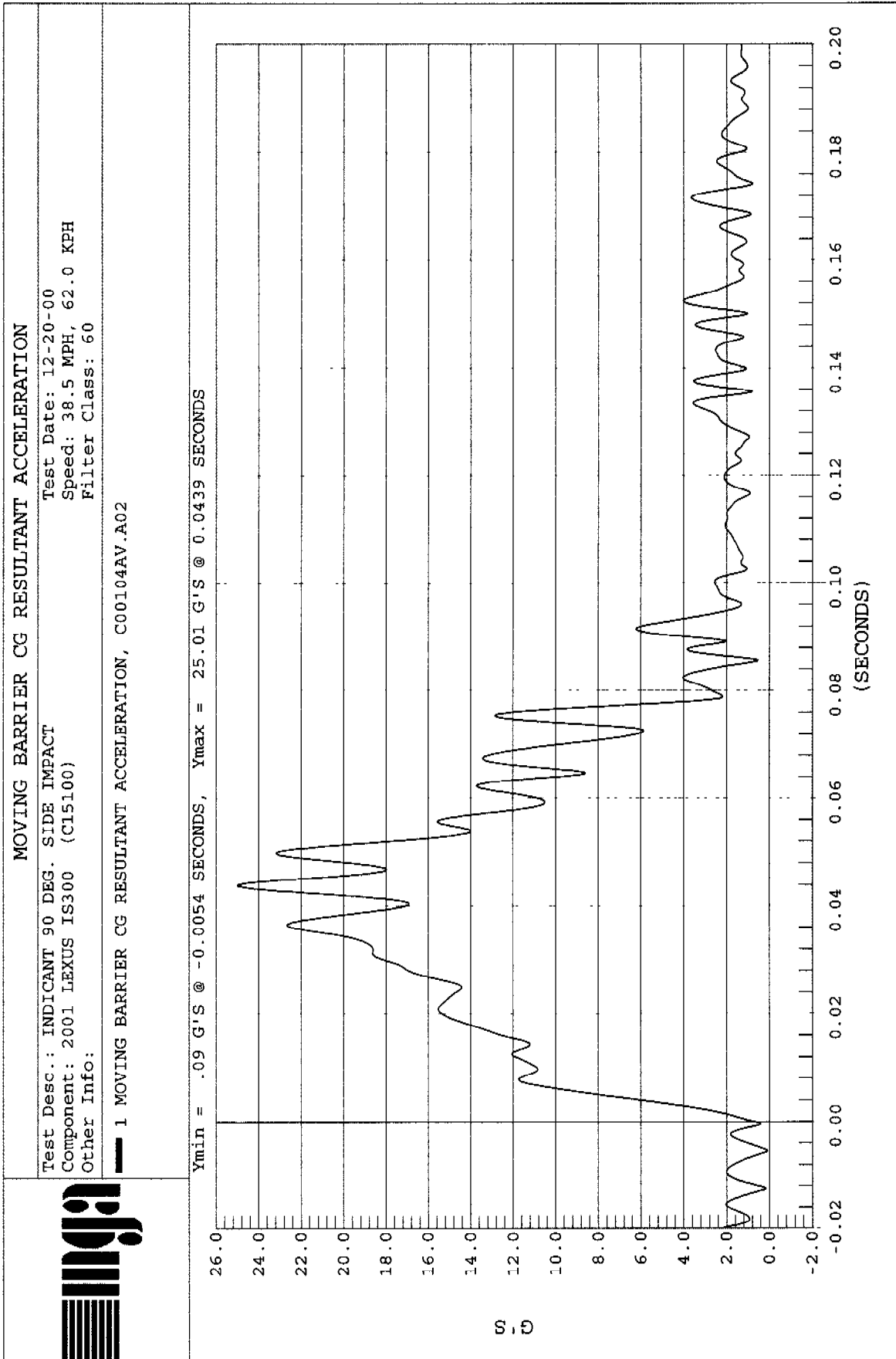


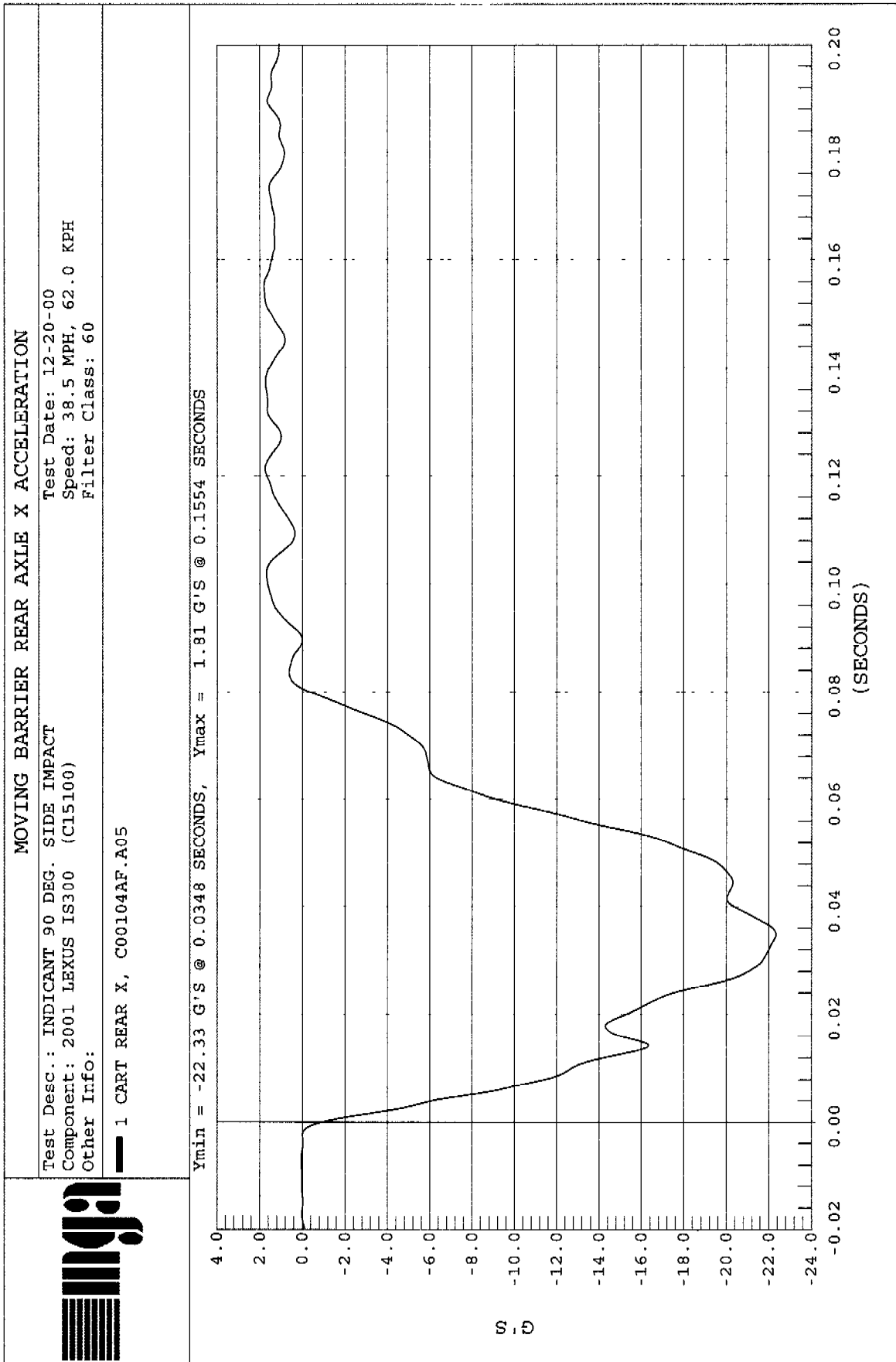


MOVING BARRIER CG Z ACCELERATION	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT Component: 2001 LEXUS IS300 (C15100) Other Info:
	Test Date: 12-20-00 Speed: 38.5 MPH, 62.0 KPH Filter Class: 60
	--- 1 CART CG Z, C00104AF.A04

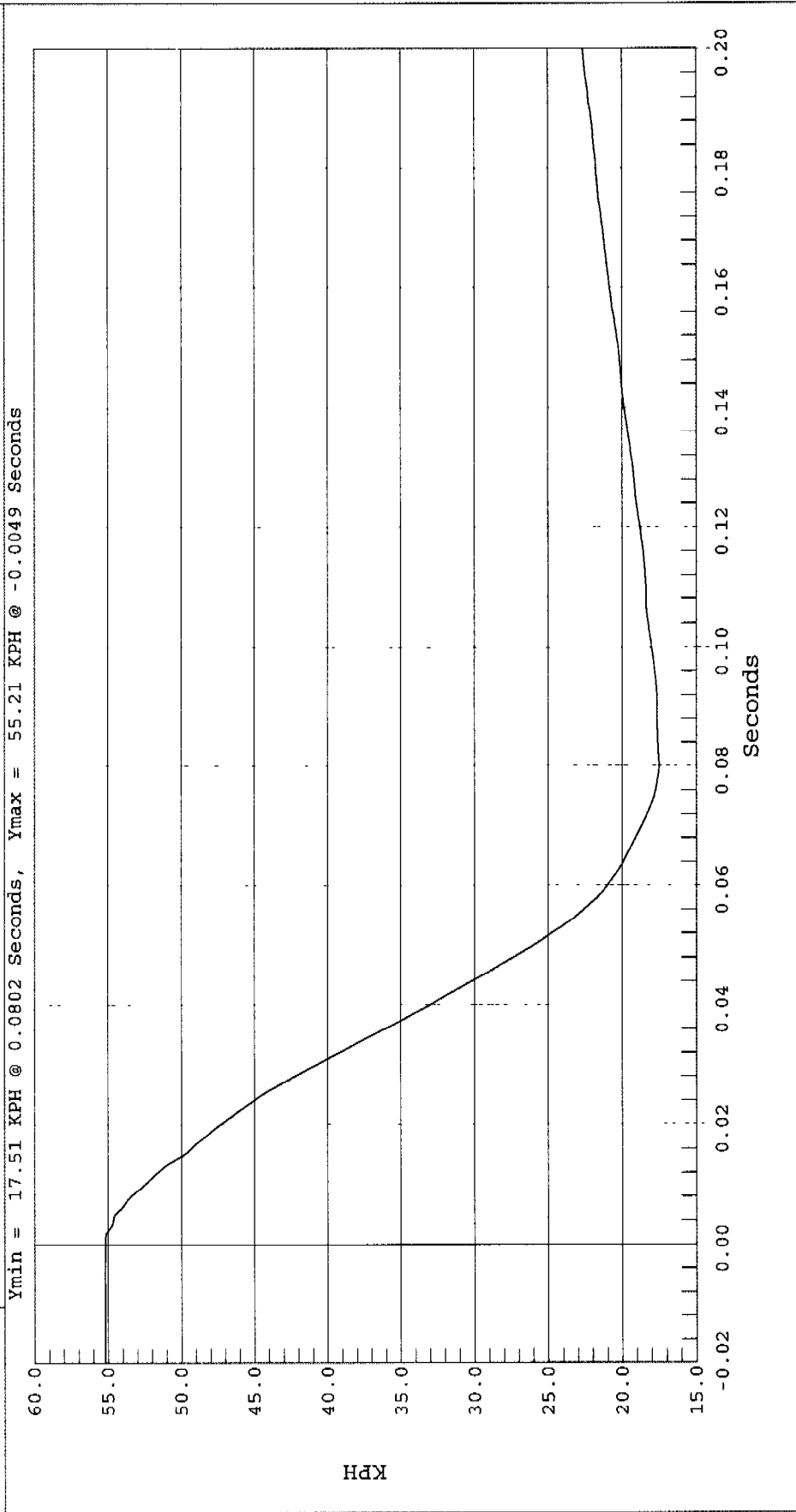


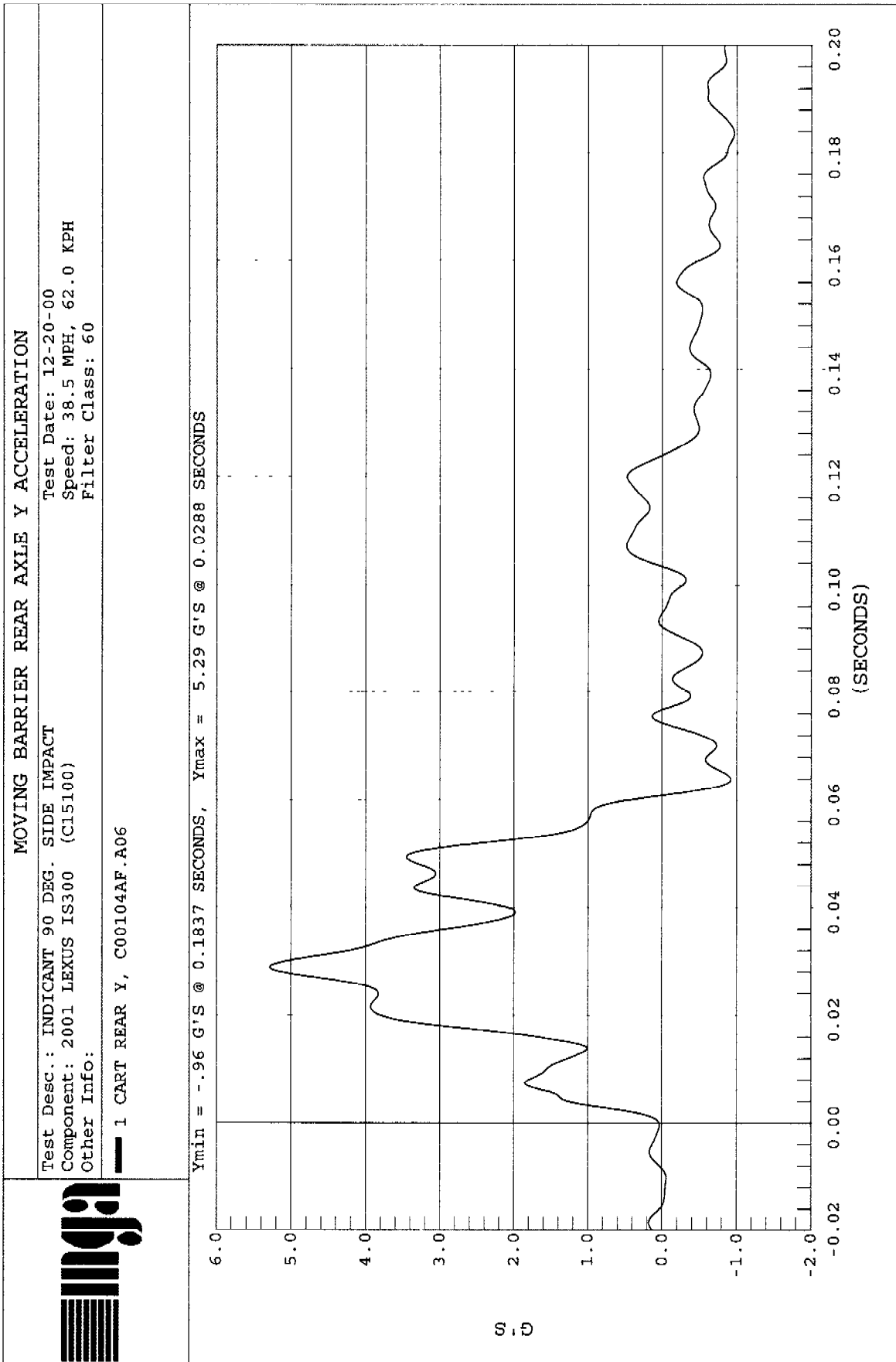


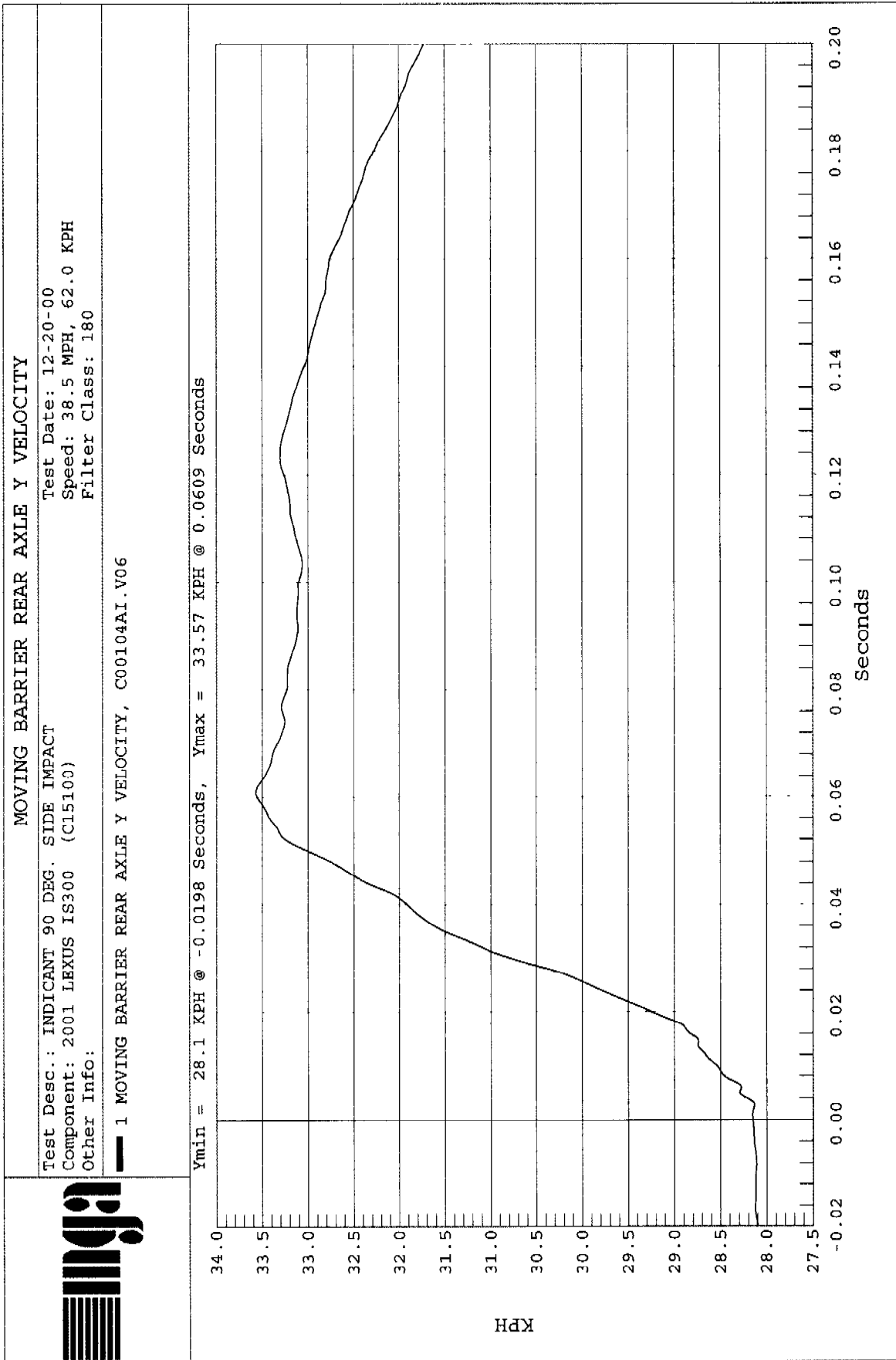


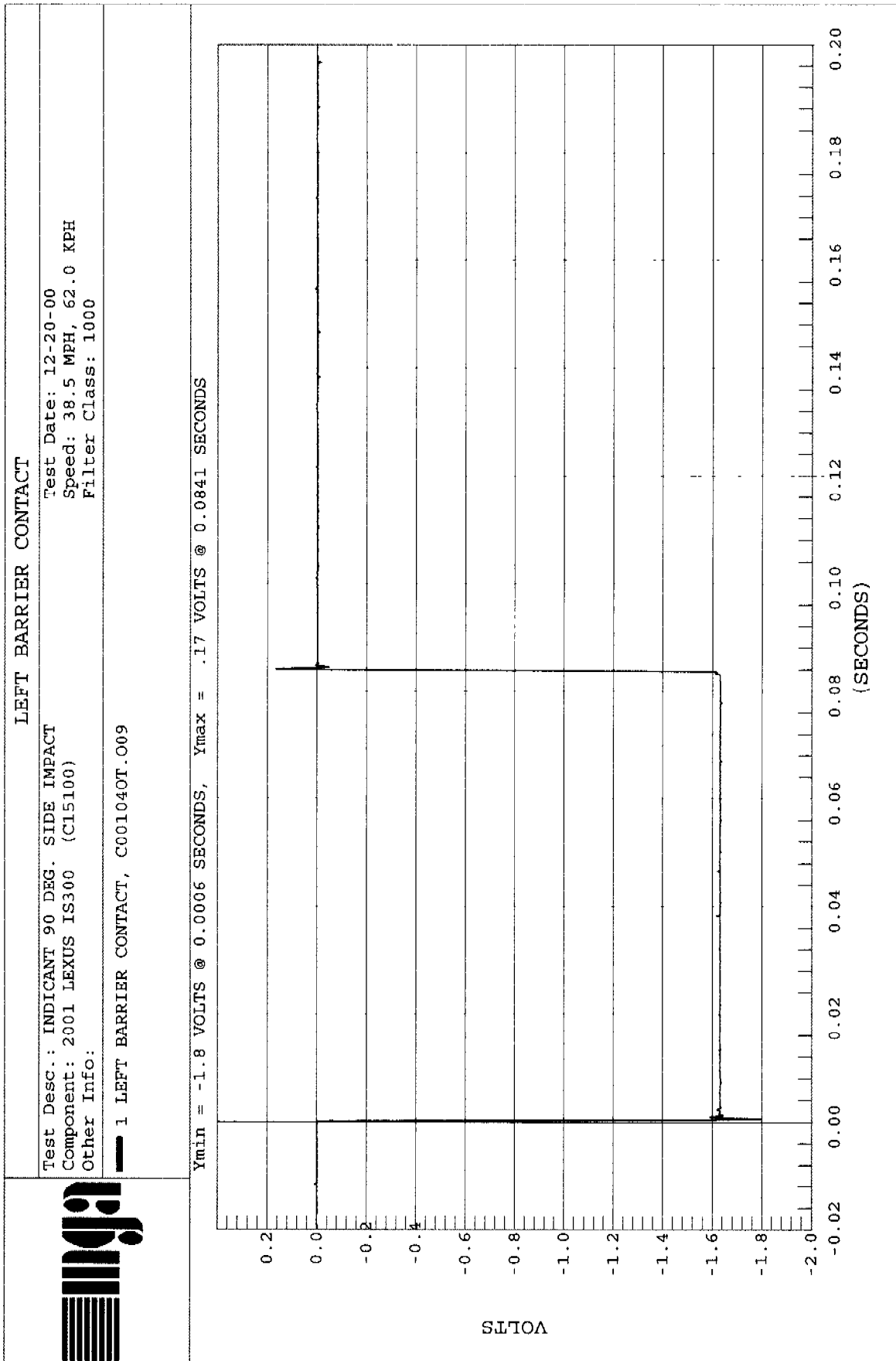


		MOVING BARRIER REAR AXLE X VELOCITY	
Test Desc.: INDICANT 90 DEG. SIDE IMPACT Component: 2001 LEXUS IS300 (C15100) Other Info:		Test Date: 12-20-00 Speed: 38.5 MPH, 62.0 KPH Filter Class: 180	
— 1 MOVING BARRIER REAR AXLE X VELOCITY, C00104AI.V05			









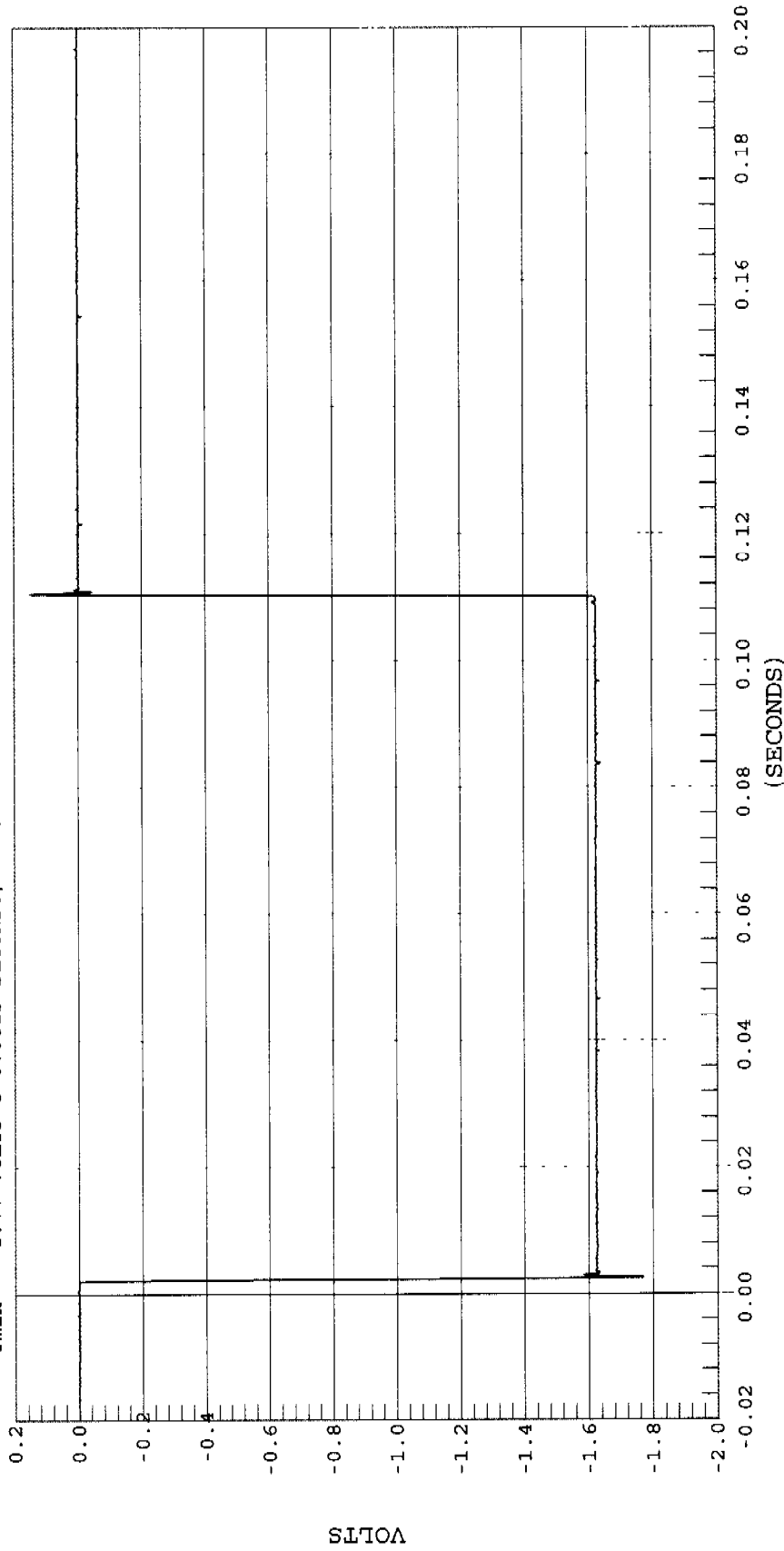
RIGHT BARRIER CONTACT

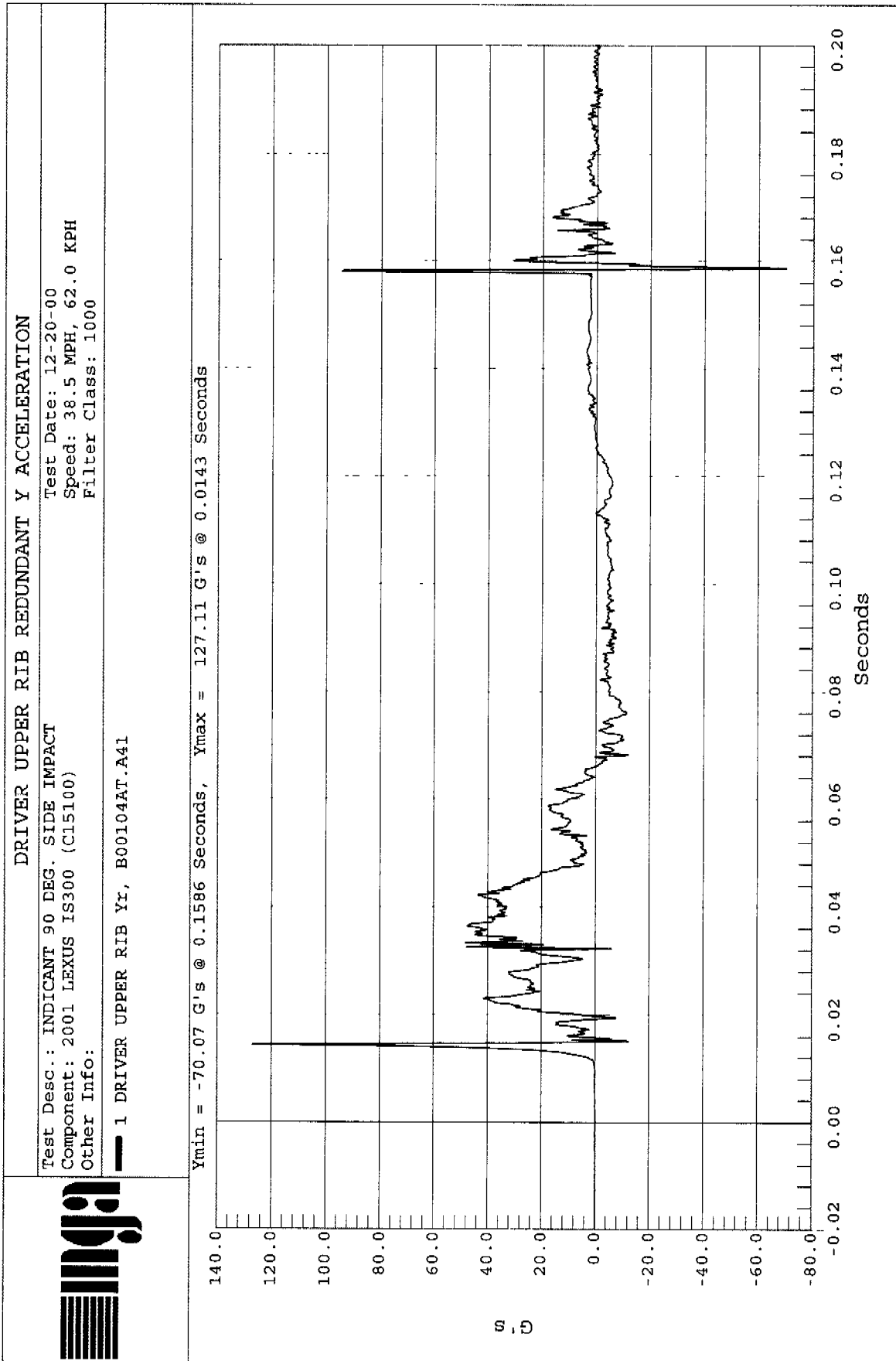
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

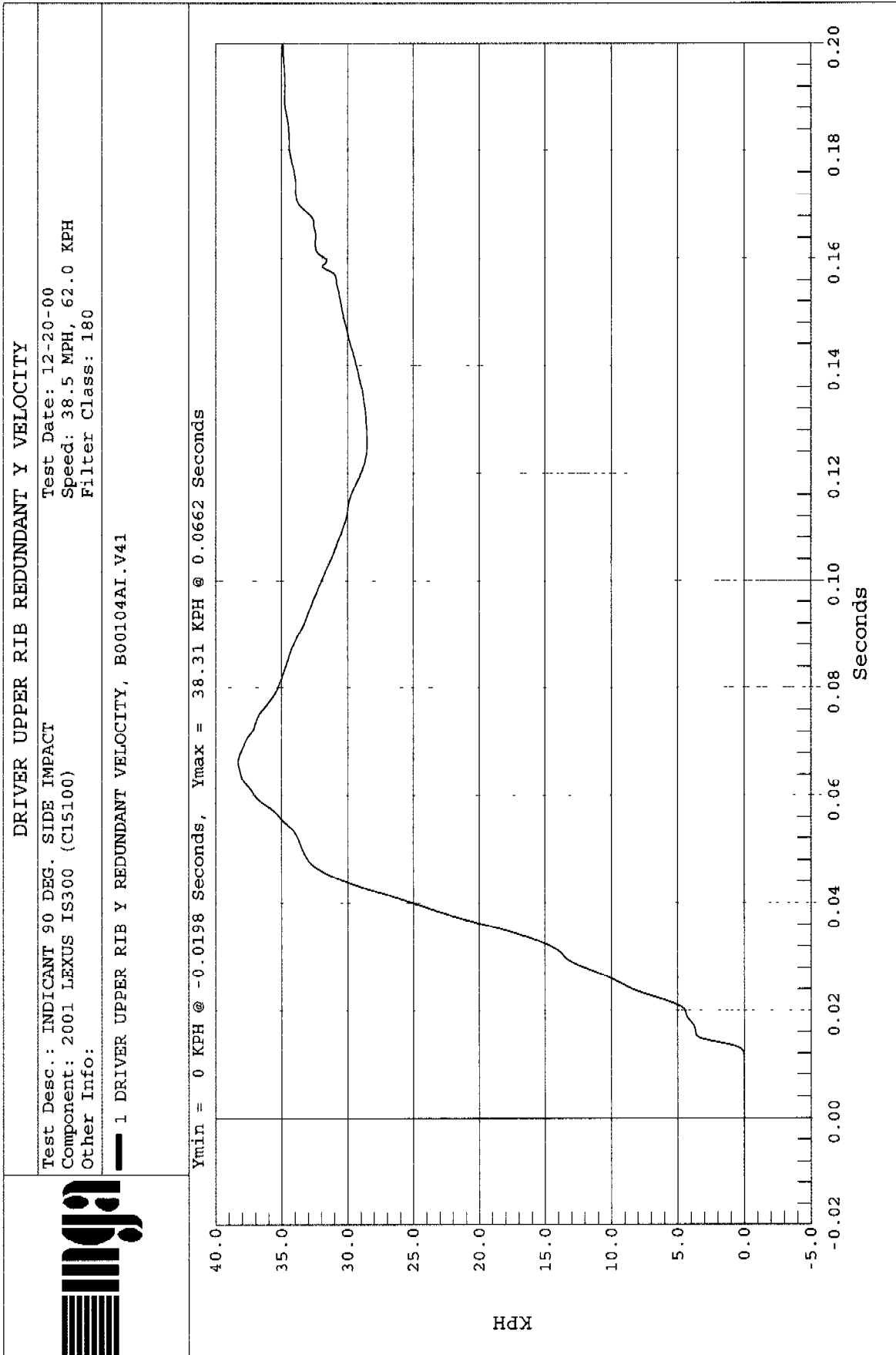
Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 1000

1 RIGHT BARRIER CONTACT, C001040T.O10

Ymin = -1.77 VOLTS @ 0.0025 SECONDS, Ymax = .15 VOLTS @ 0.1105 SECONDS







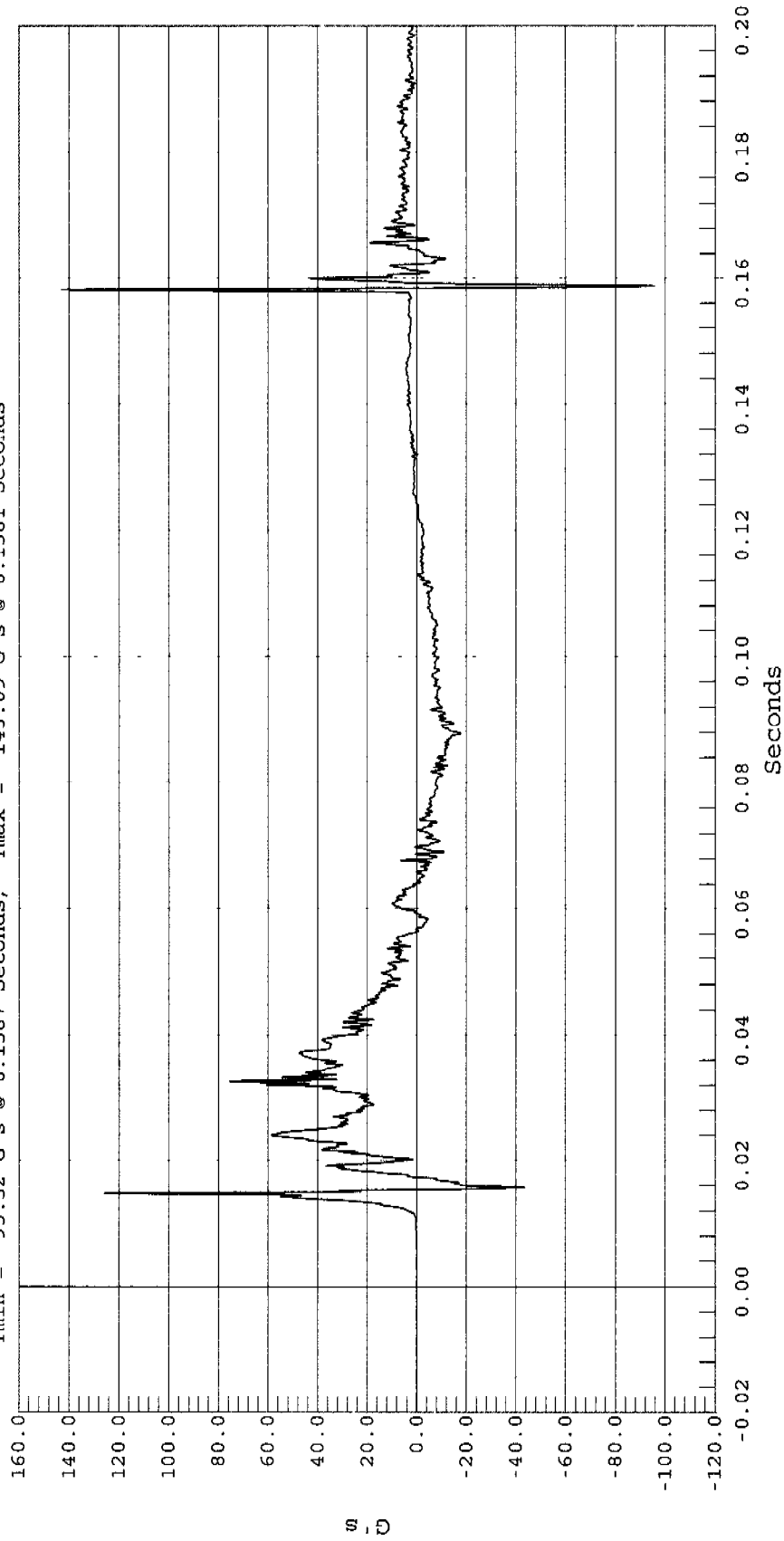
DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 1000

1 DRIVER LOWER RIB Yr, B00104AT.A42

Ymin = -95.52 G's @ 0.1587 Seconds, Ymax = 143.09 G's @ 0.1581 Seconds



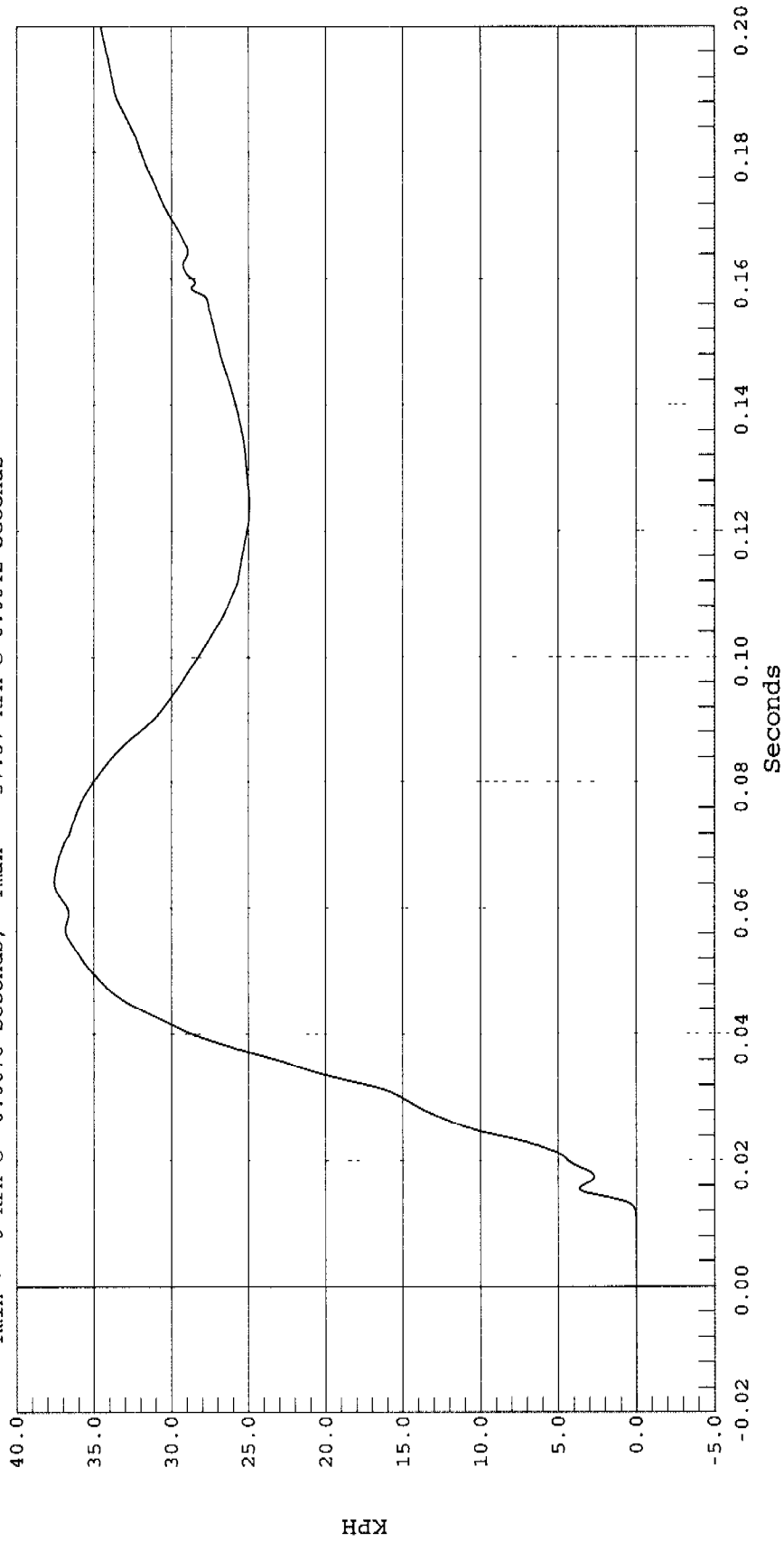


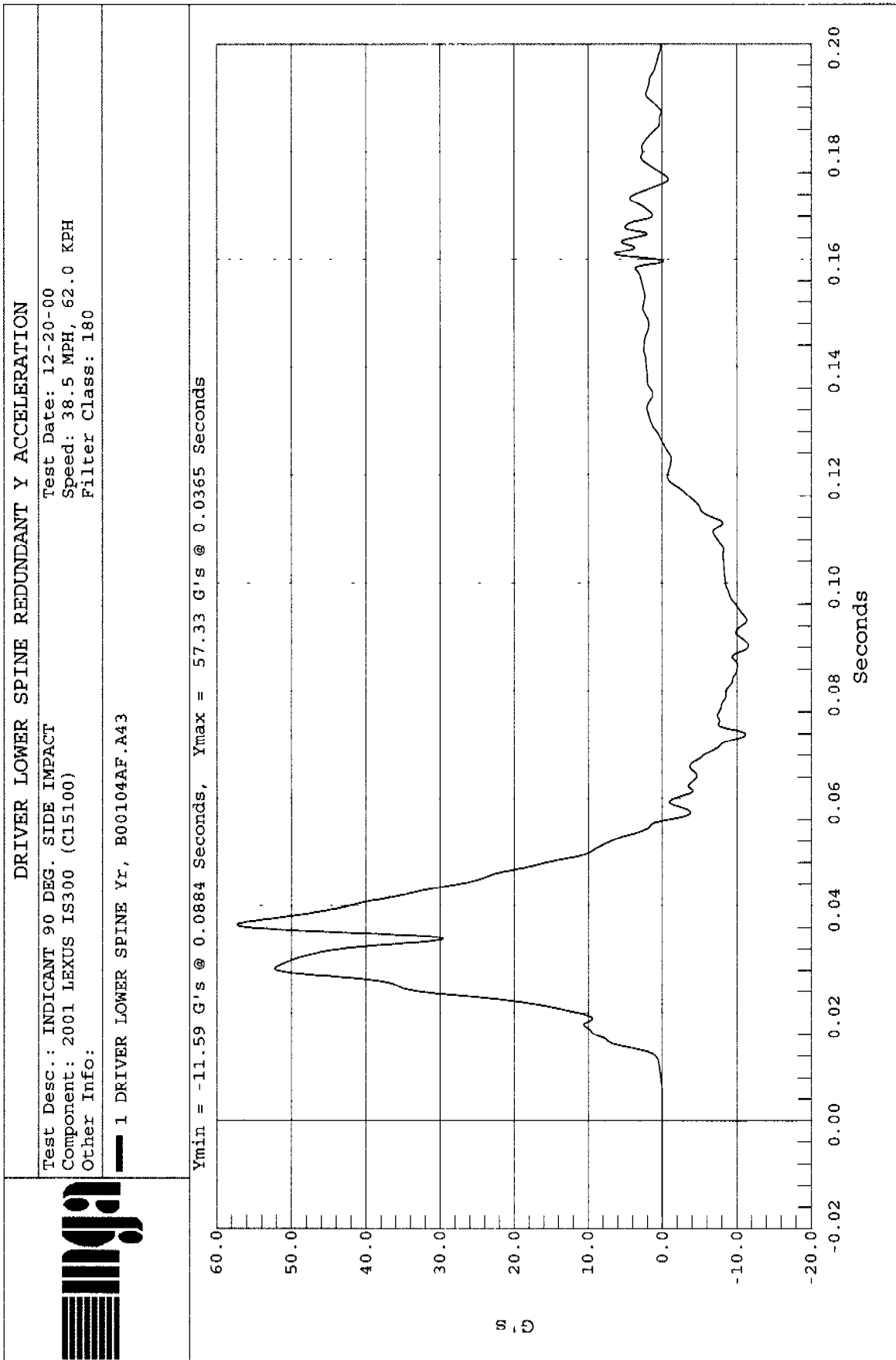
DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, B00104A1.V42

Ymin = 0 KPH @ -0.0076 Seconds, Ymax = 37.57 KPH @ 0.0642 Seconds



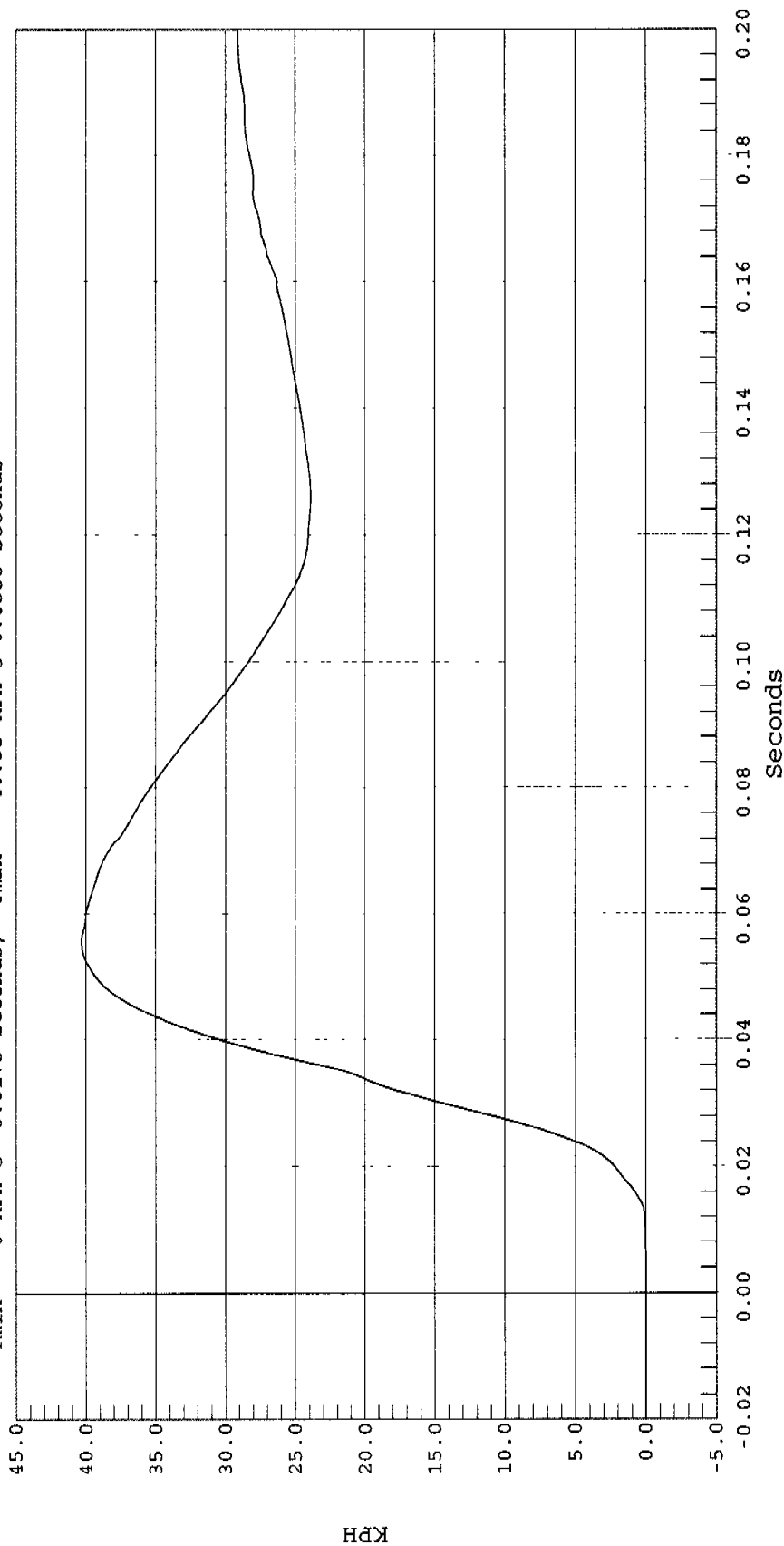


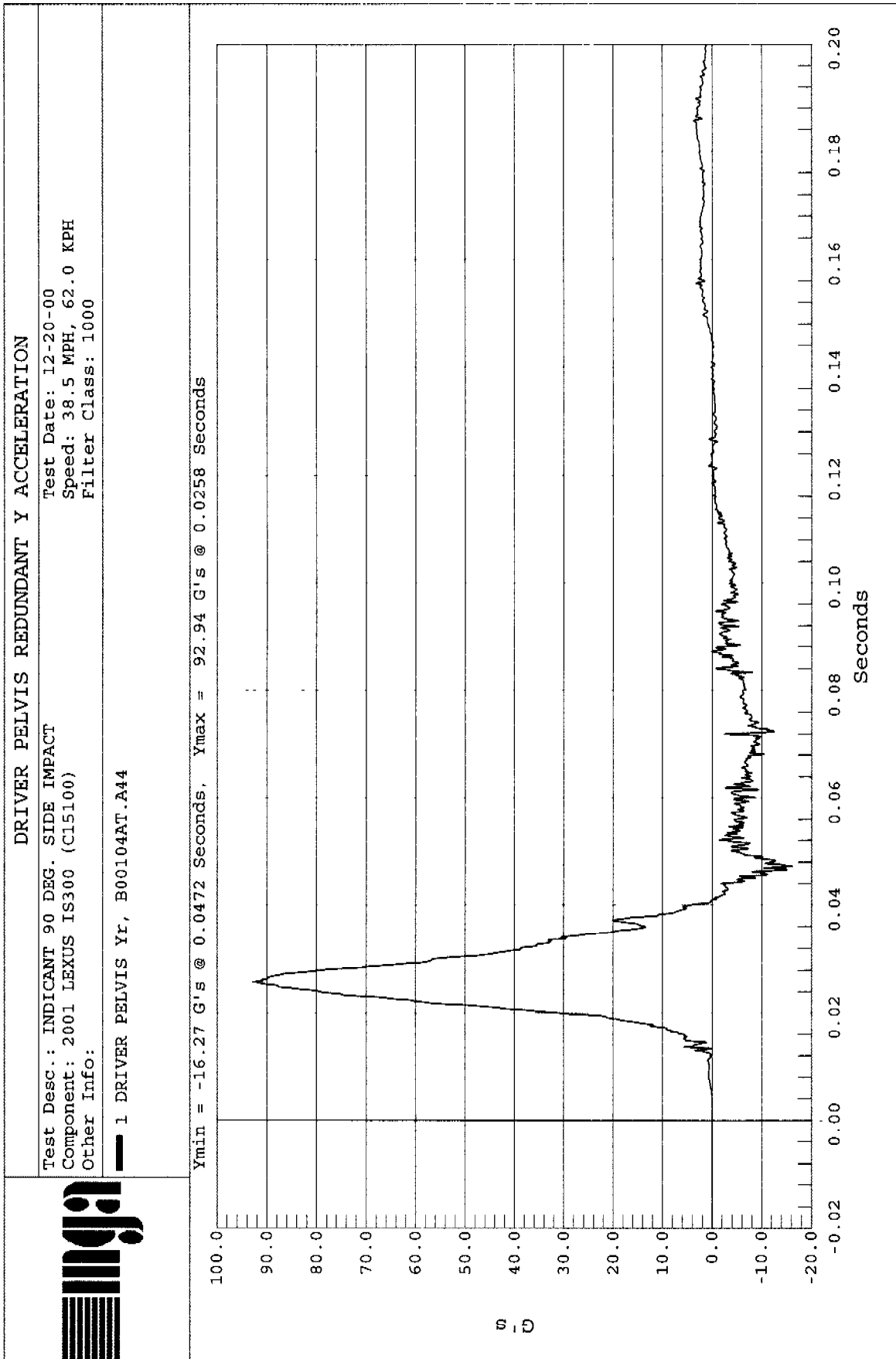
DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info: Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Filter Class: 180

1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, B00104AI.V43

Ymin = 0 KPH @ -0.0173 Seconds, Ymax = 40.33 KPH @ 0.0558 Seconds

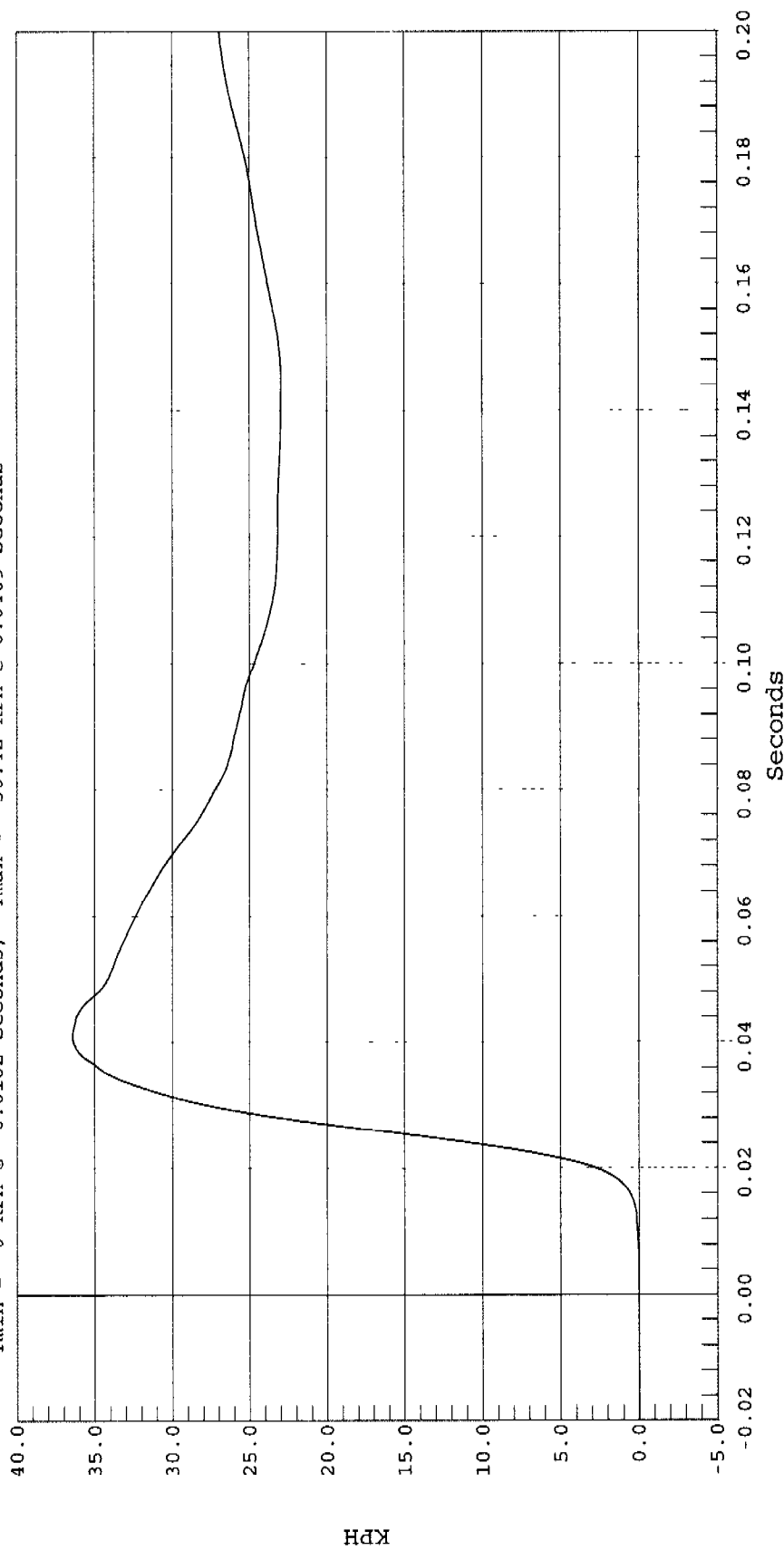


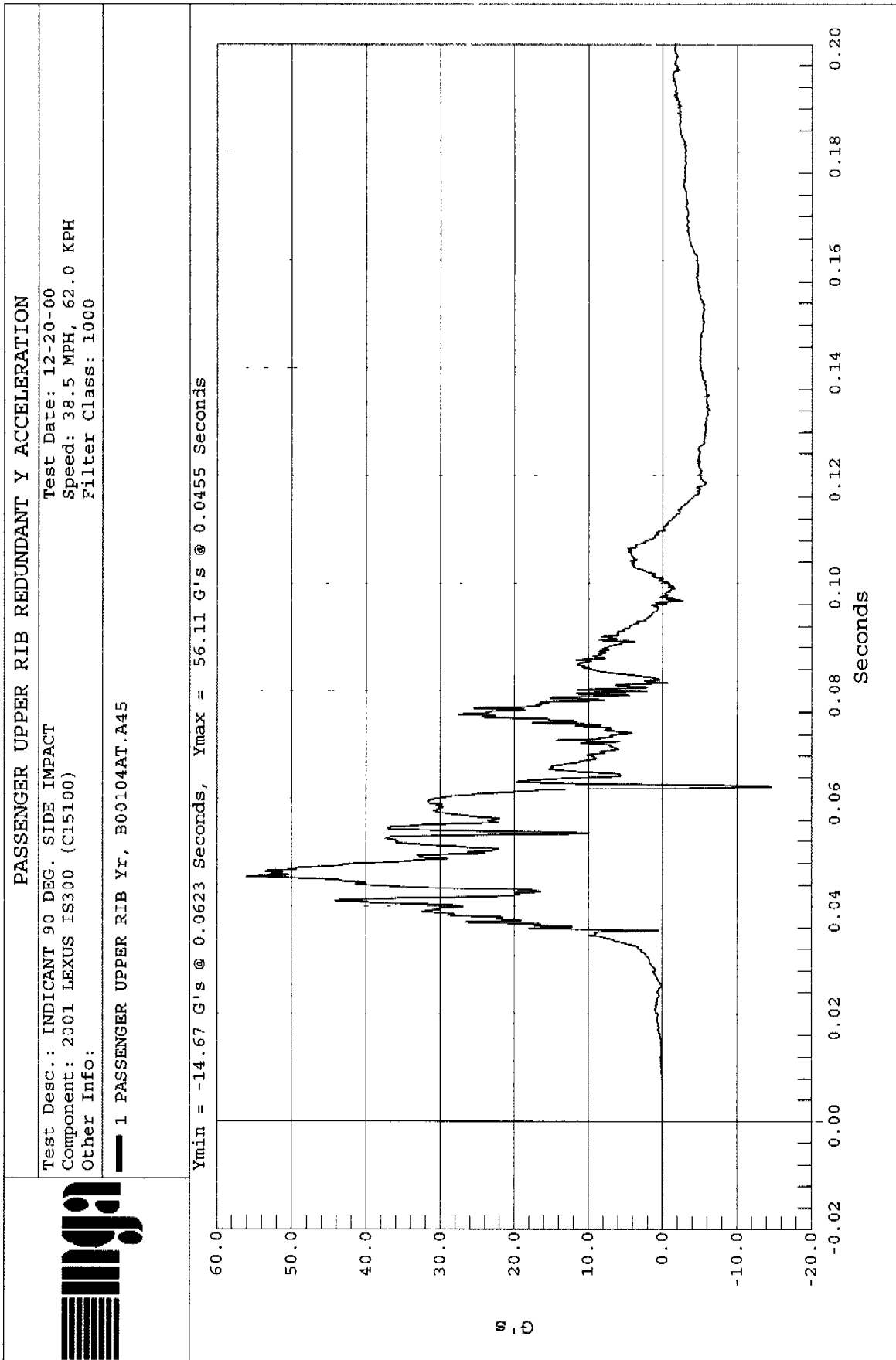


	DRIVER PELVIS REDUNDANT Y VELOCITY	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT Component: 2001 LEXUS IS300 (C15100) Other Info:	
	Test Date: 12-20-00 Speed: 38.5 MPH, 62.0 KPH Filter Class: 180	

— 1 DRIVER PELVIS Y REDUNDANT VELOCITY, B00104AI.V44

Ymin = 0 KPH @ -0.0182 Seconds, Ymax = 36.42 KPH @ 0.0409 Seconds





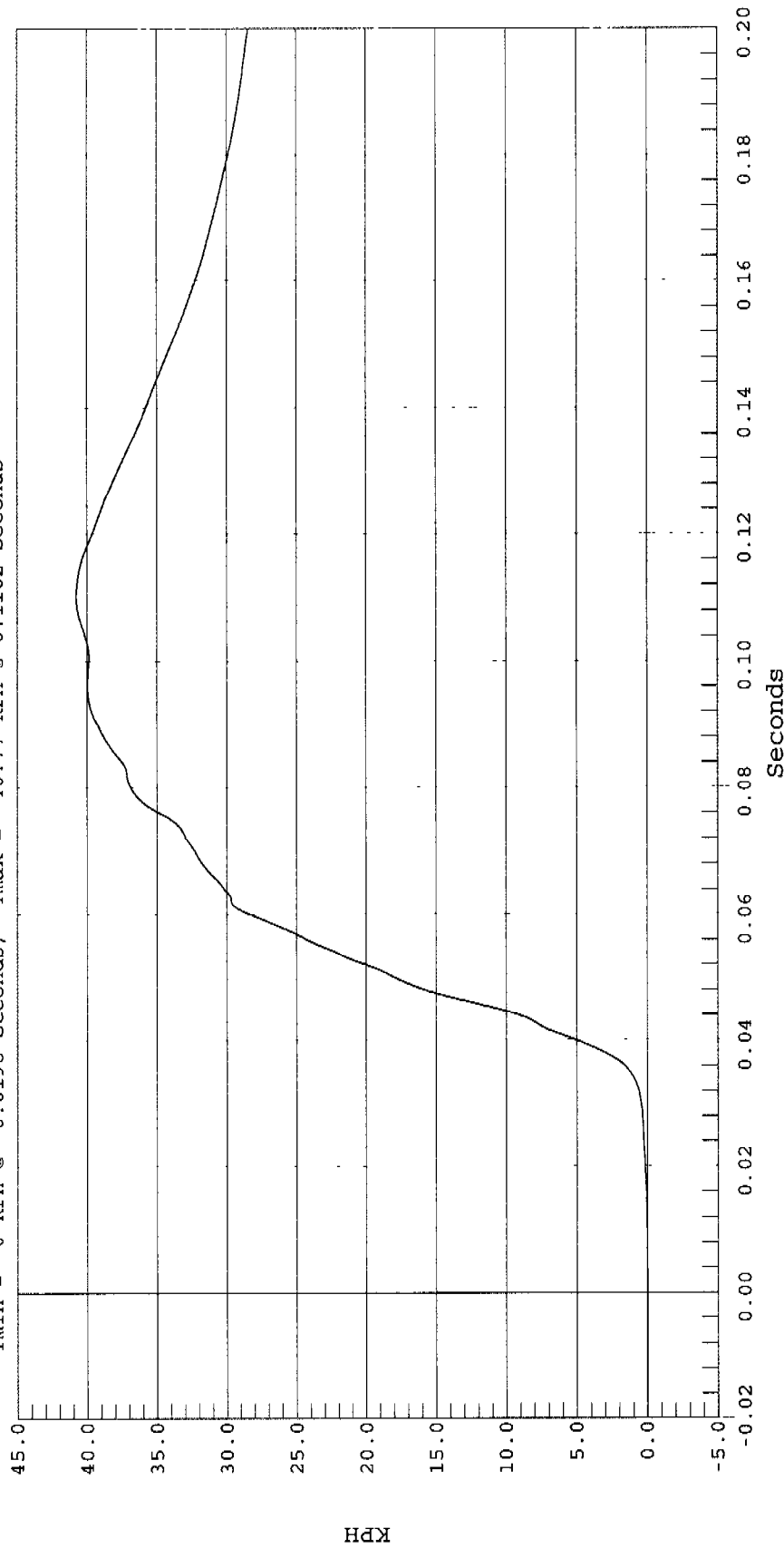
PASSENGER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 180

— 1 REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY, B00104AI.V45

Ymin = 0 KPH @ -0.0198 Seconds, Ymax = 40.77 KPH @ 0.1102 Seconds



PASSENGER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Filter Class: 1000

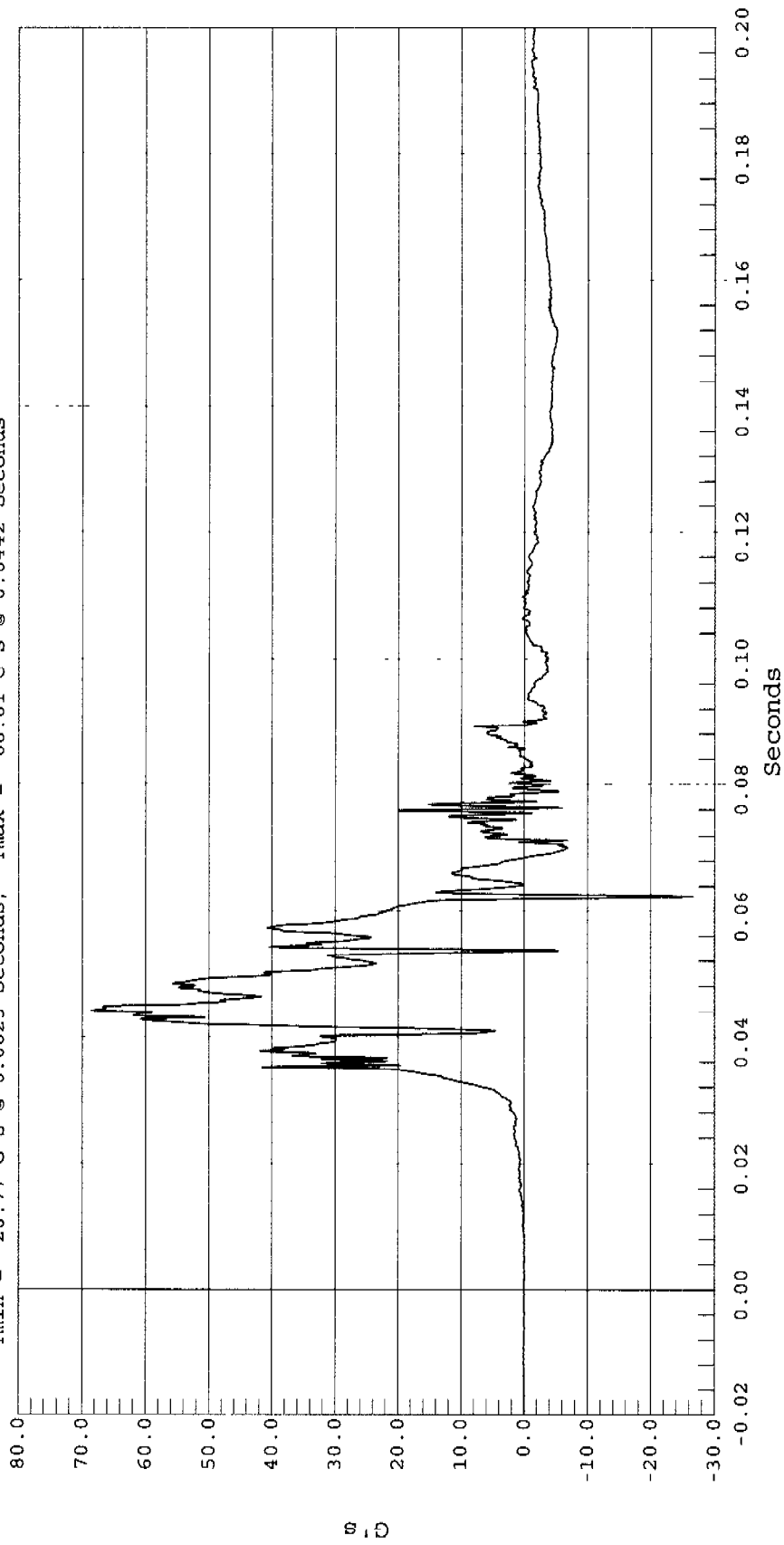
Component: 2001 LEXUS IS300 (C15100)

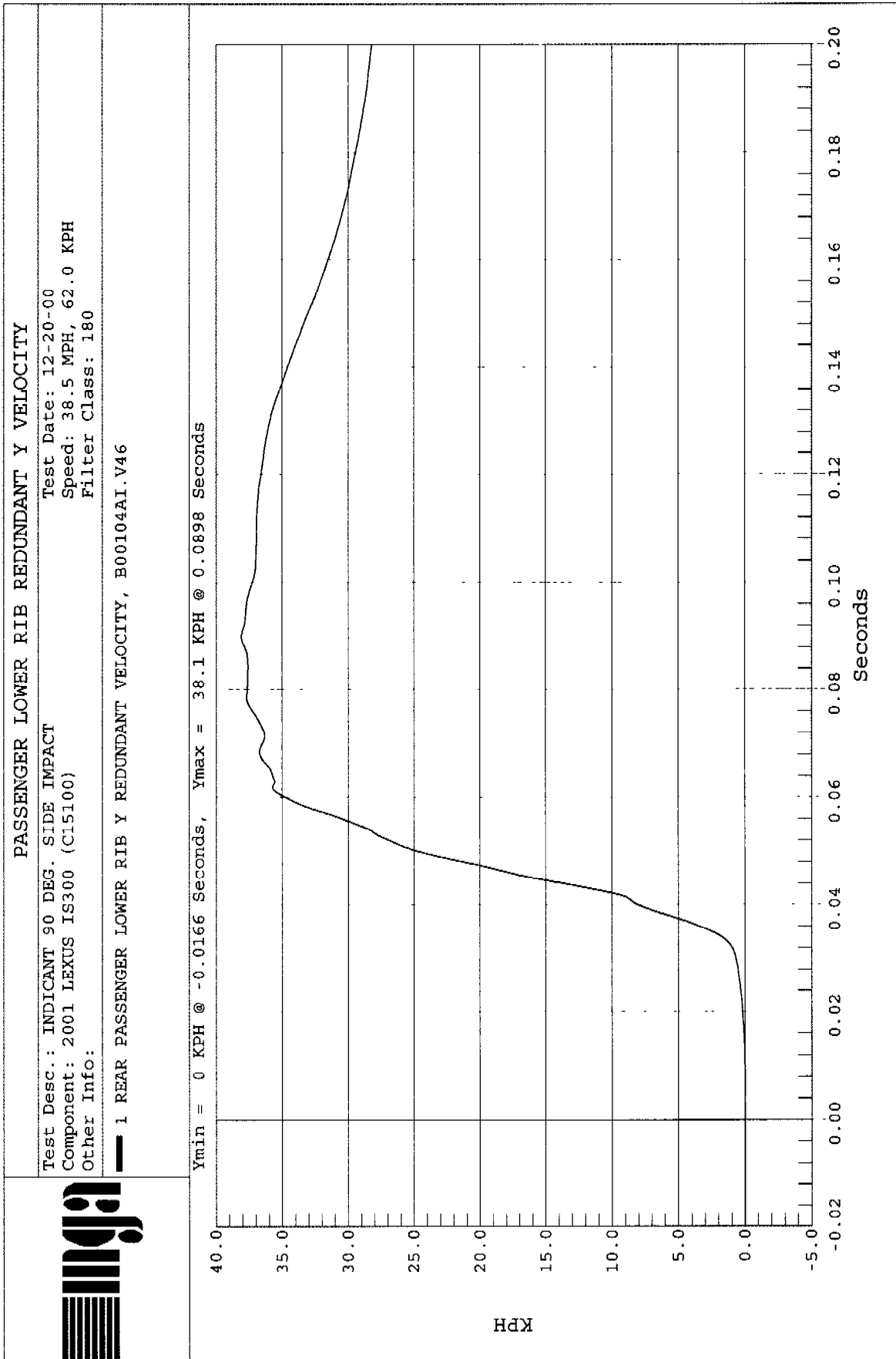
Other Info:

1 PASSENGER LOWER RIB Yr, B00104AT.A46



Ymin = -26.77 G's @ 0.0623 Seconds, Ymax = 68.61 G's @ 0.0442 Seconds





PASSENGER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

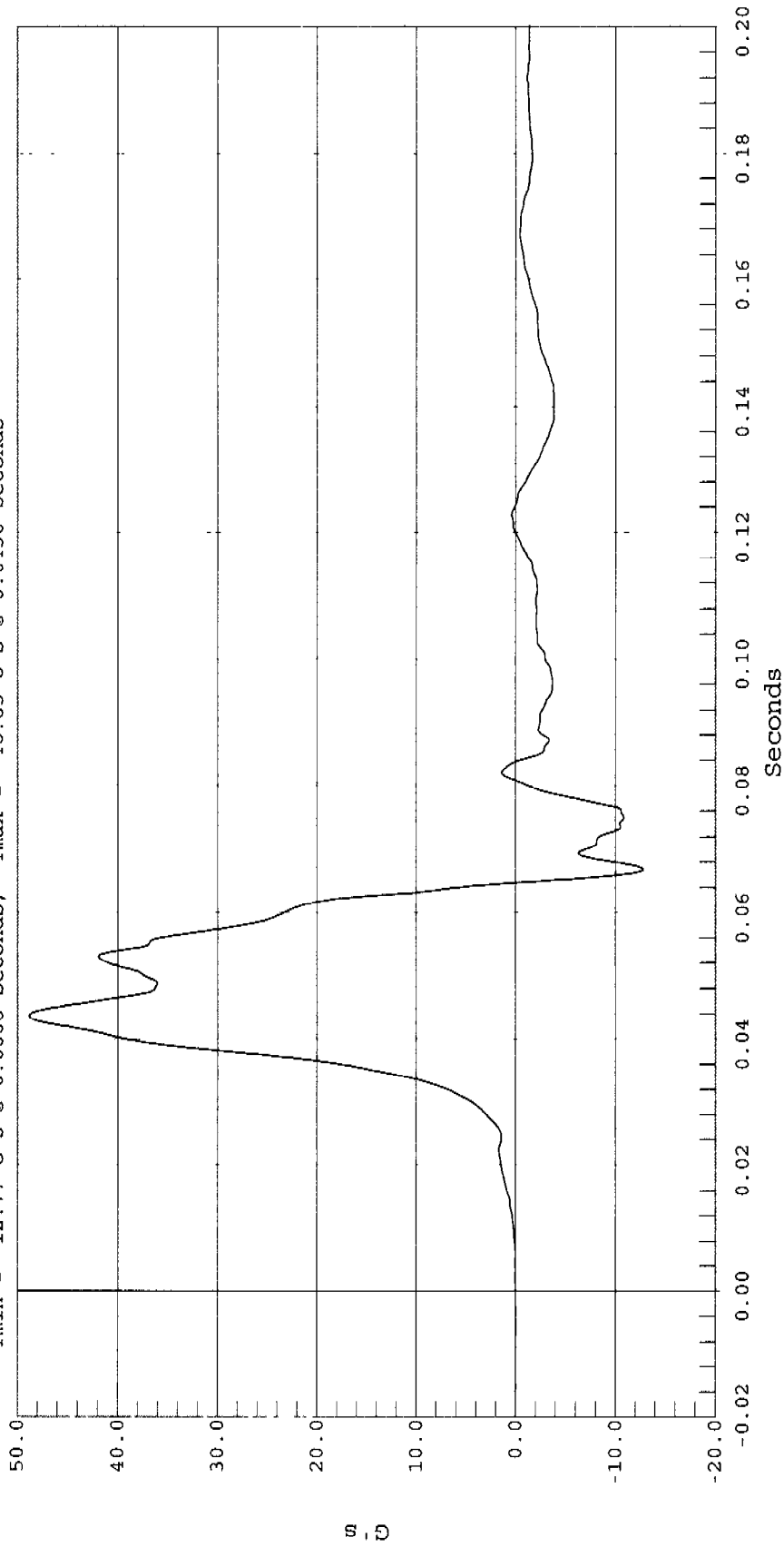
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH

Filter Class: 180



1 PASSENGER LOWER SPINE Yr, B00104AF.A47

Ymin = -12.77 G's @ 0.0668 Seconds, Ymax = 48.83 G's @ 0.0436 Seconds



PASSENGER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

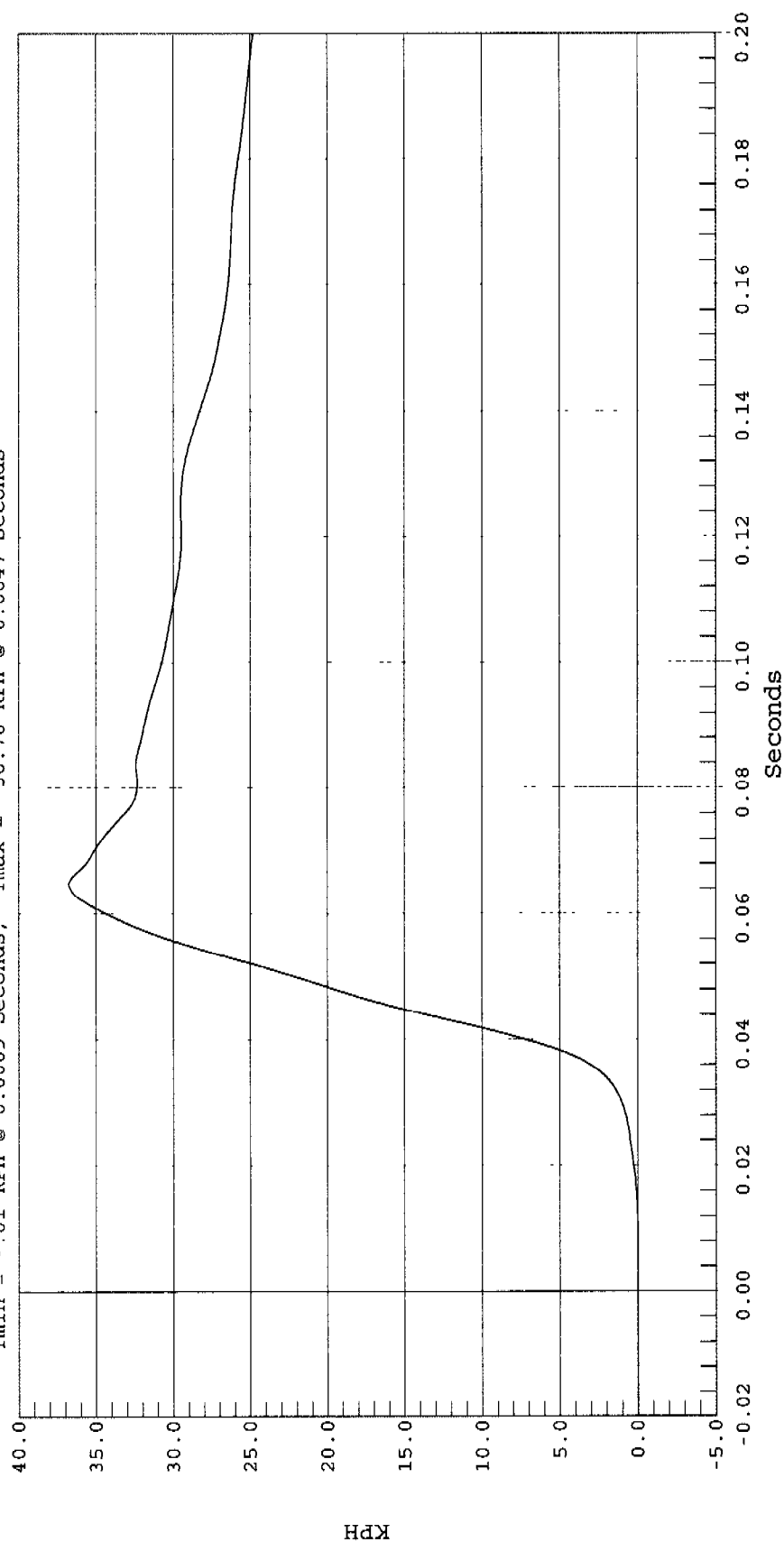
Test Date: 12-20-00

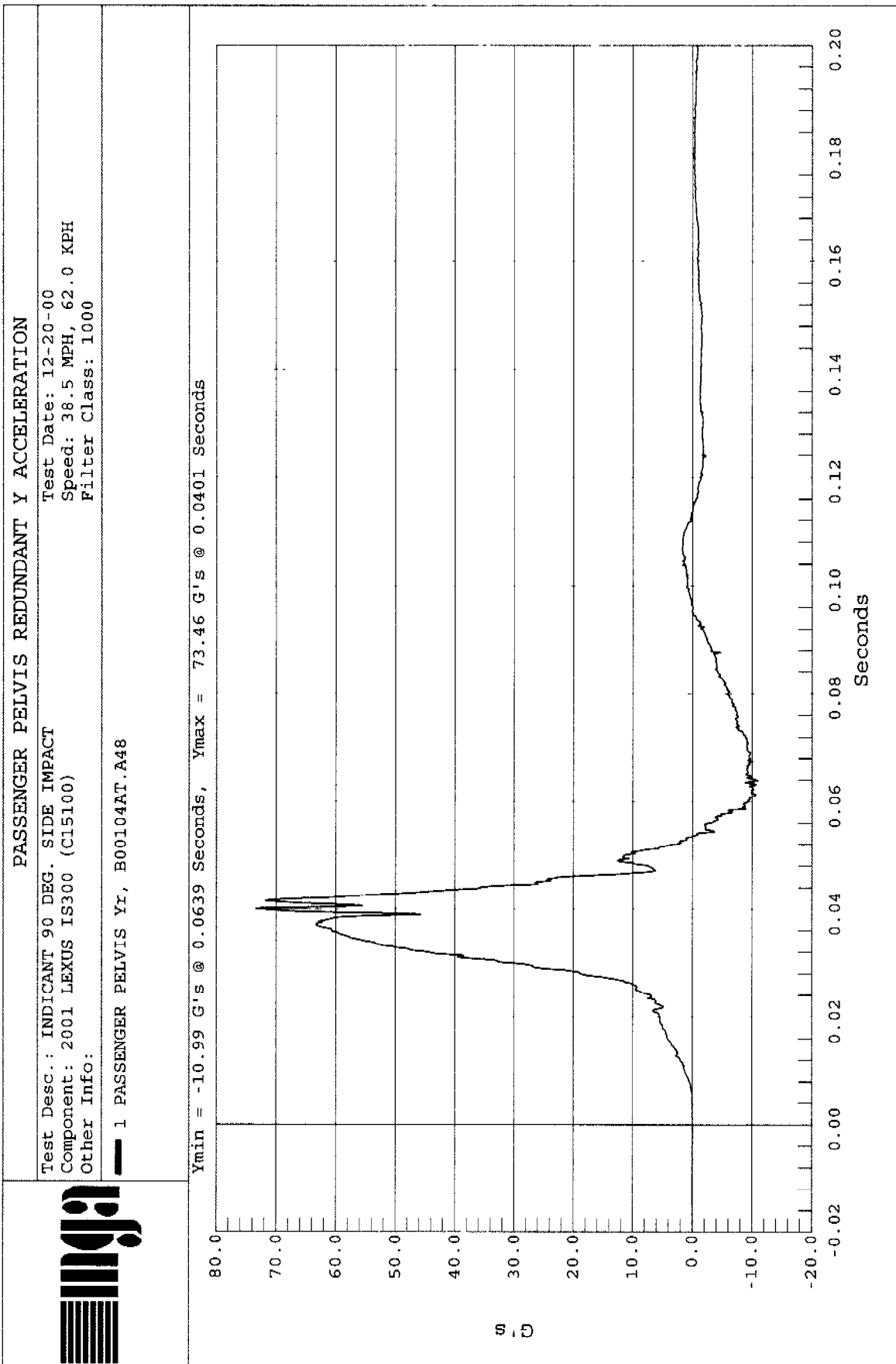
Speed: 38.5 MPH, 62.0 KPH

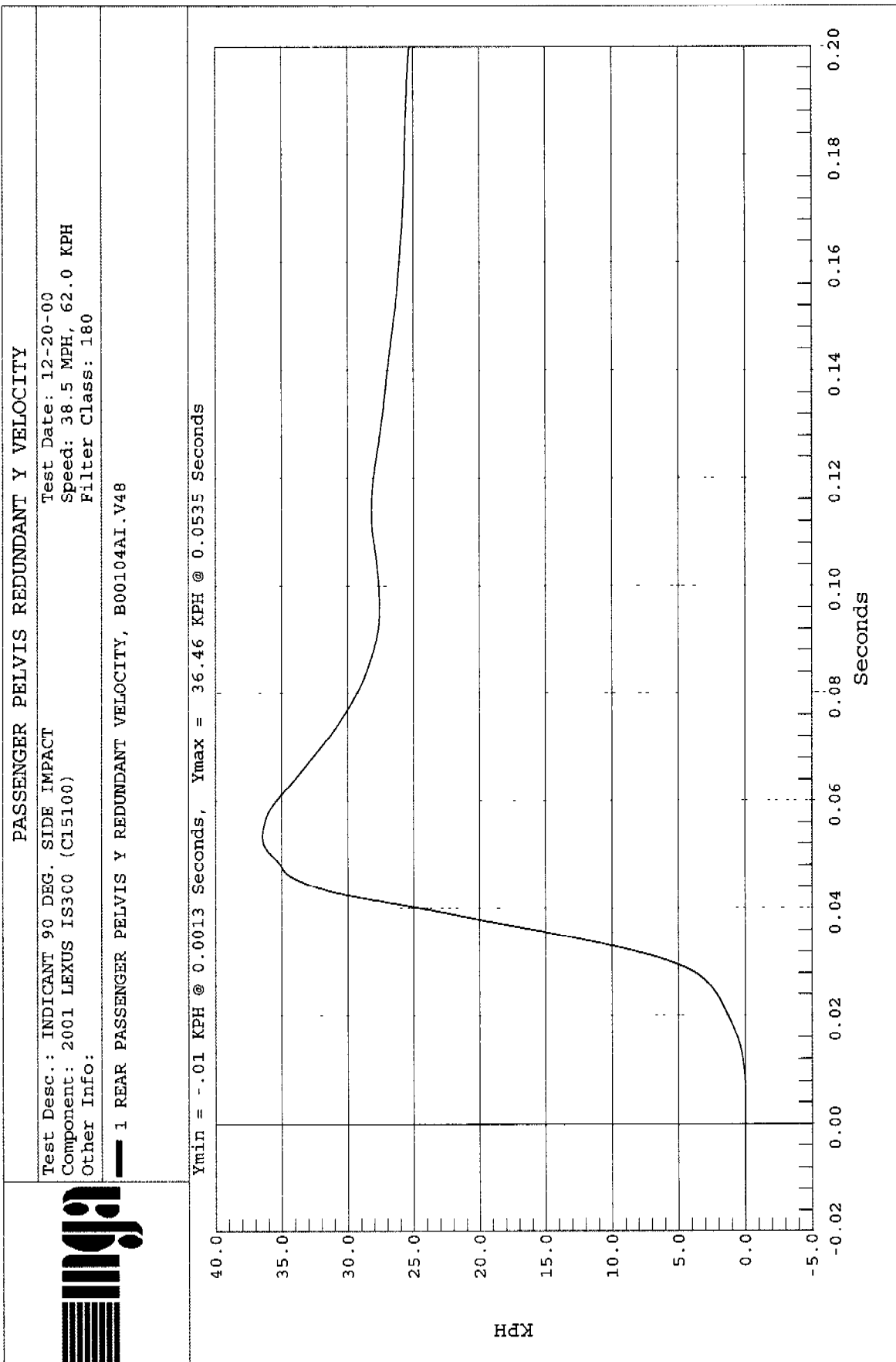
Filter Class: 180

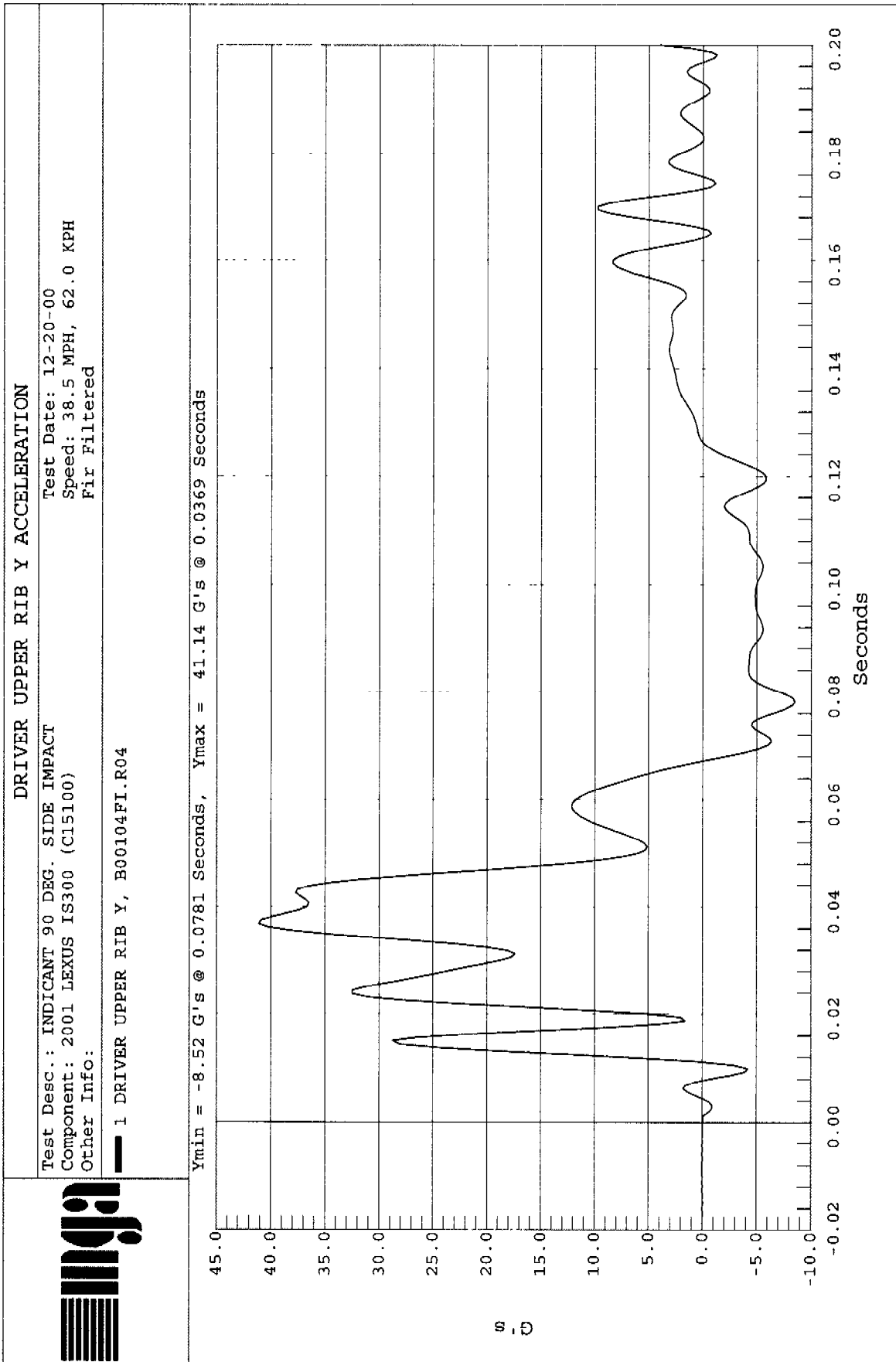
1 REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY, B00104AI.V47

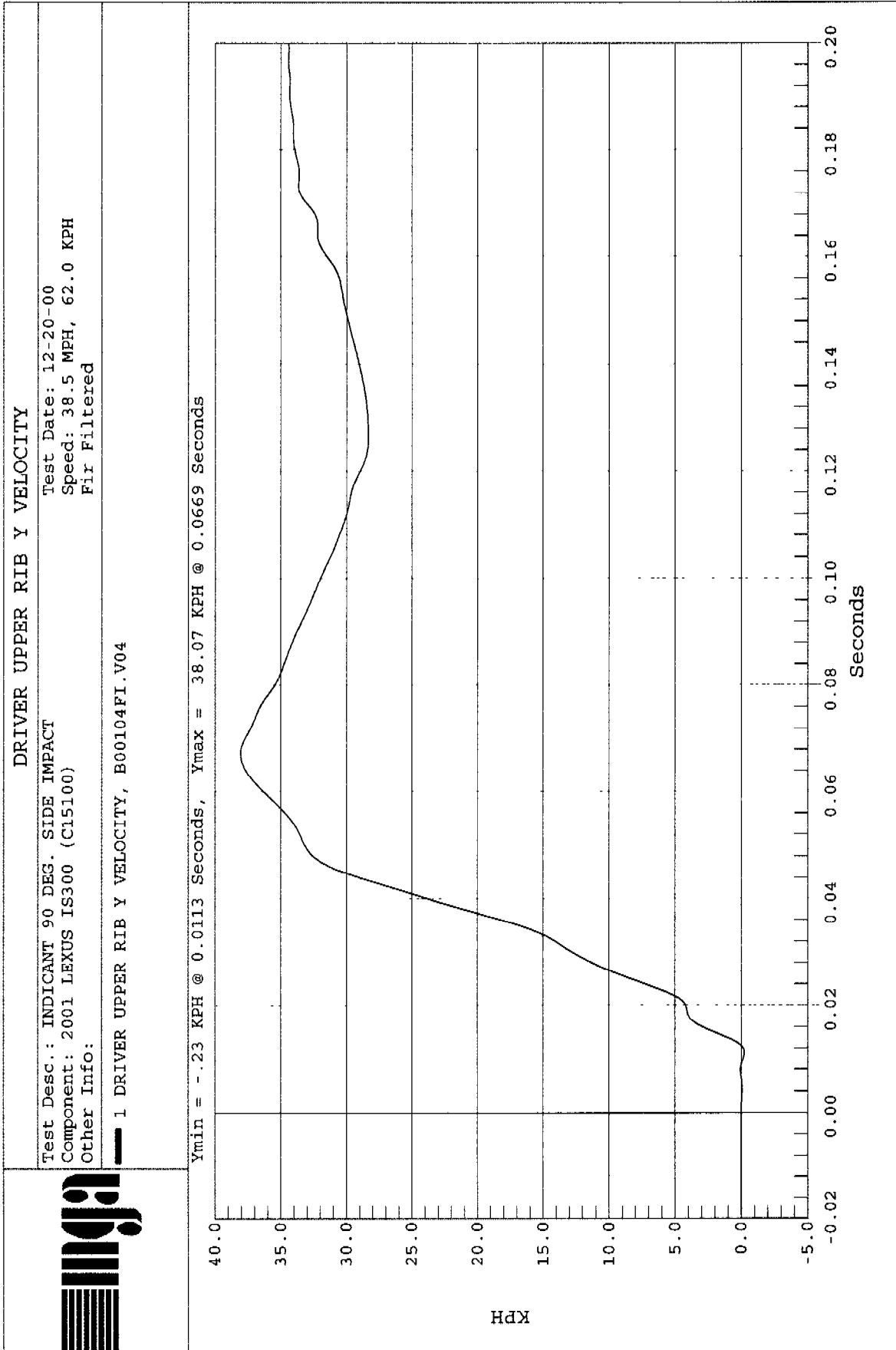
Ymin = -.01 KPH @ 0.0009 Seconds, Ymax = 36.76 KPH @ 0.0647 Seconds

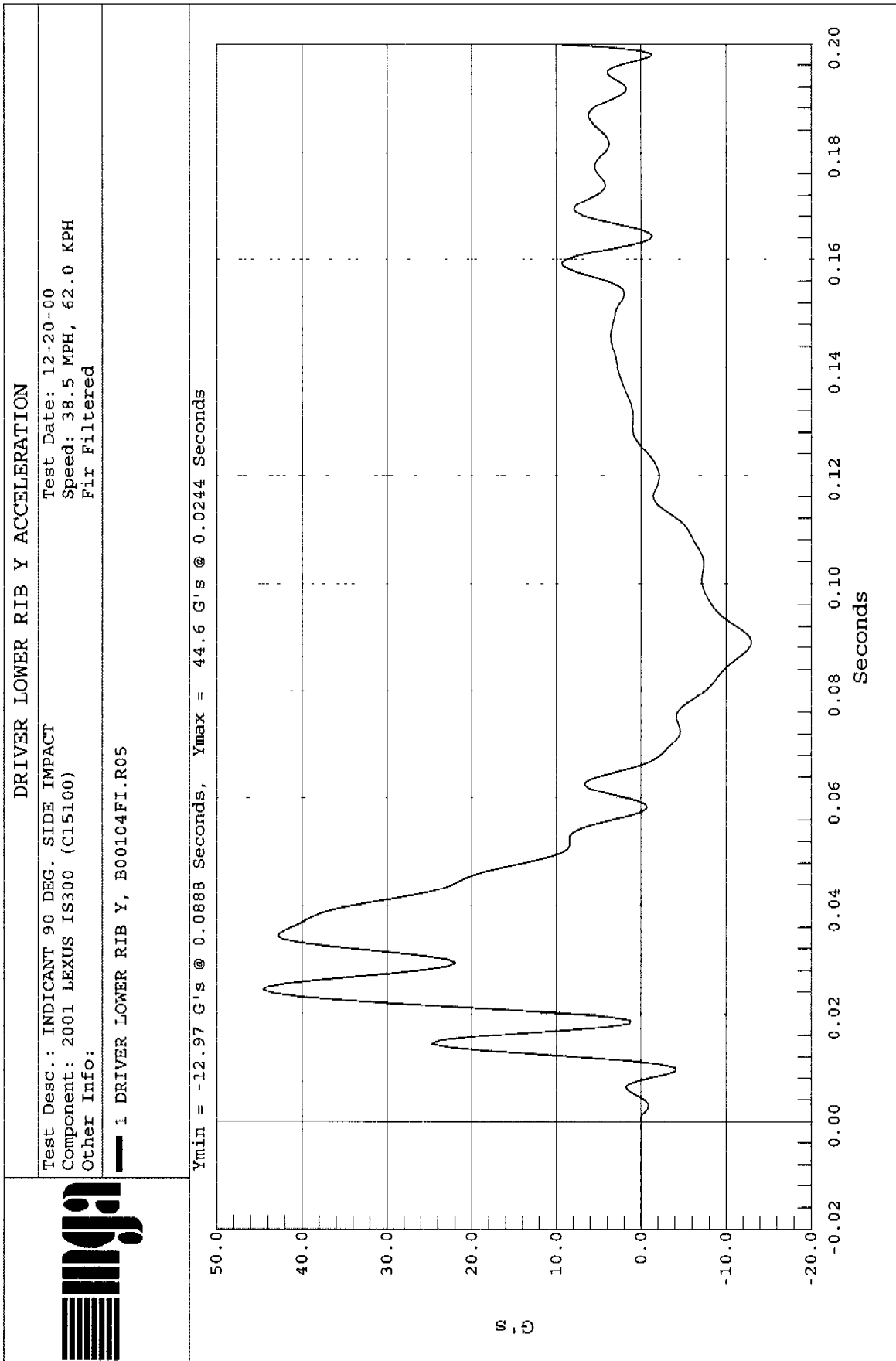


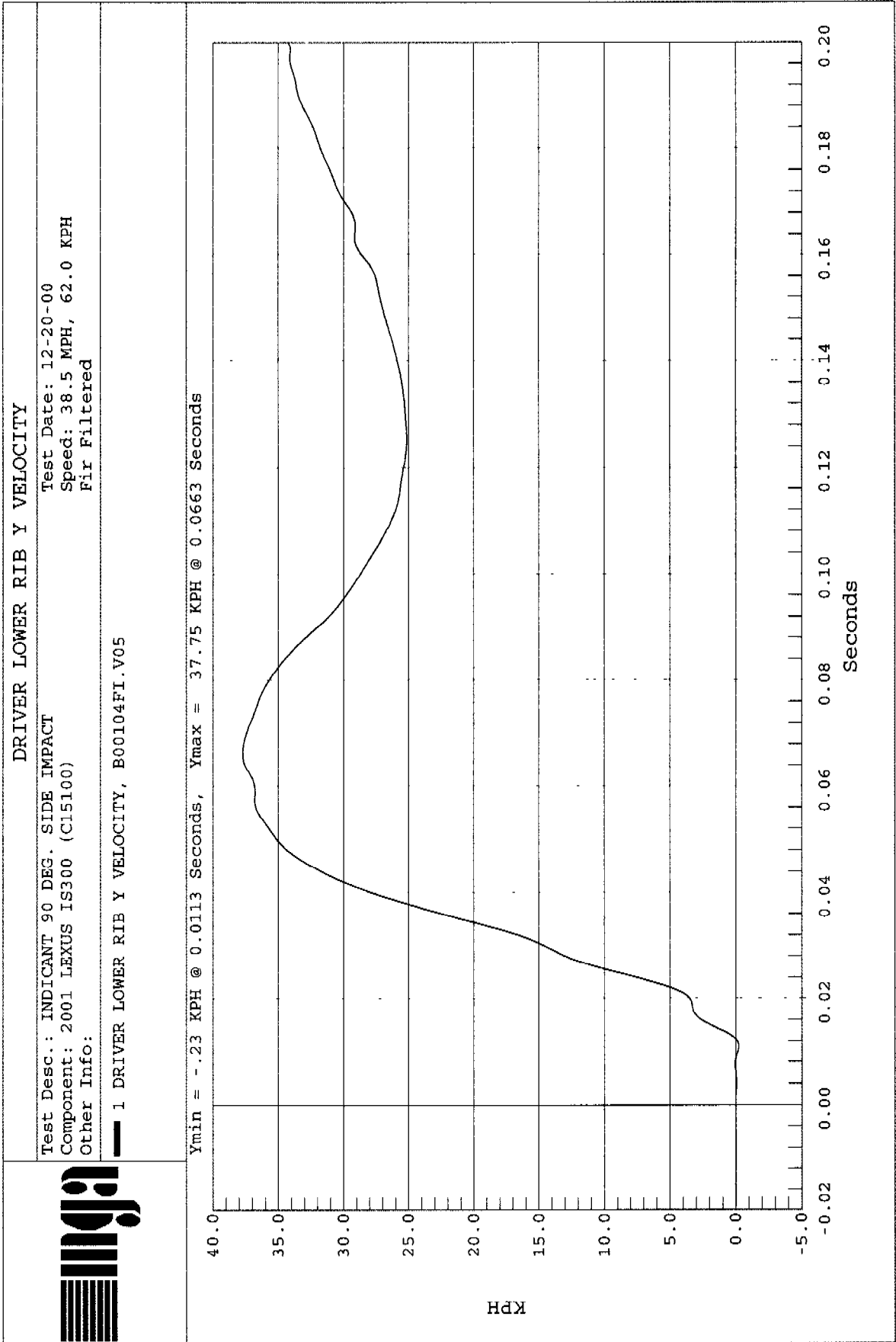


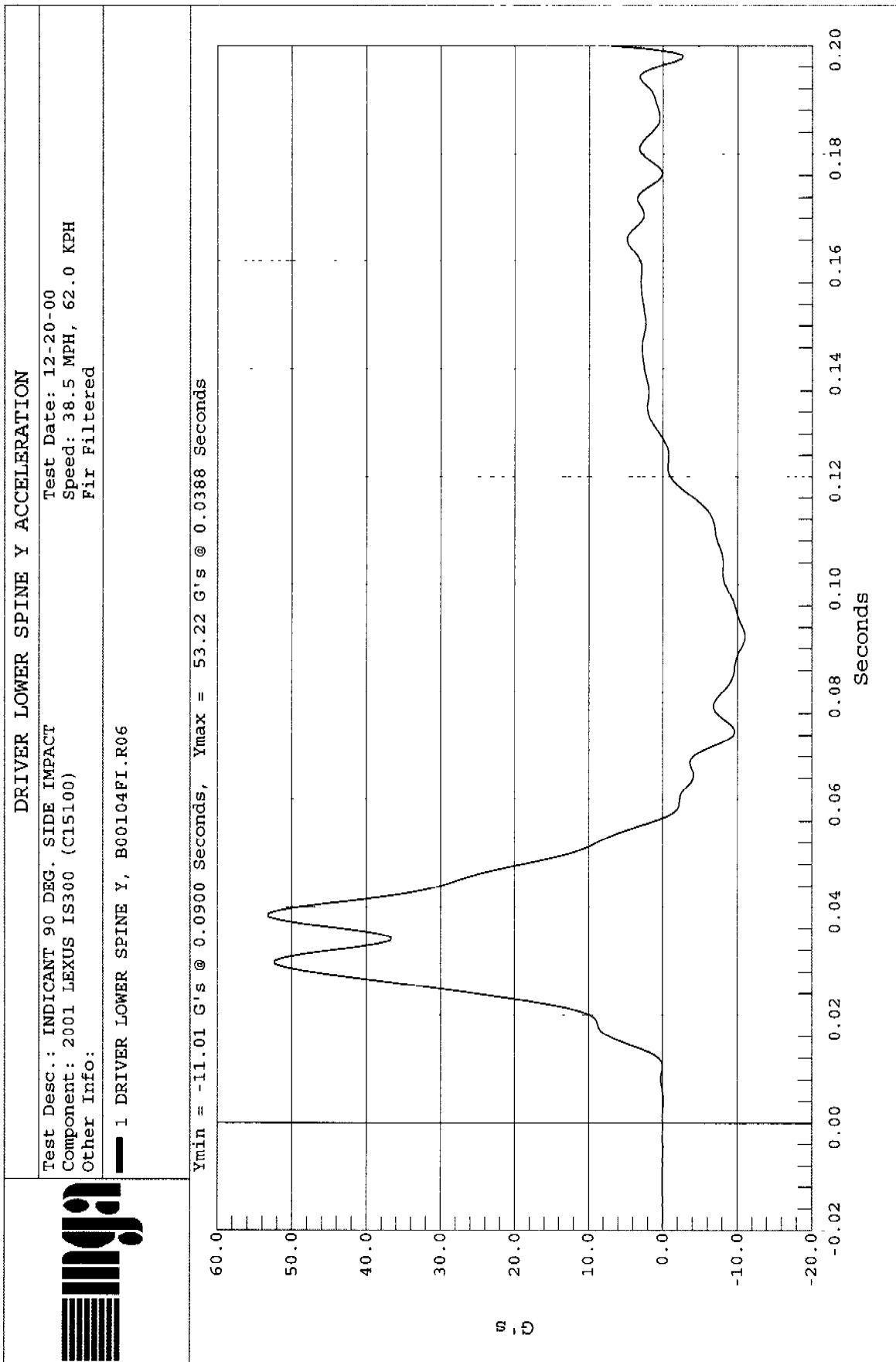


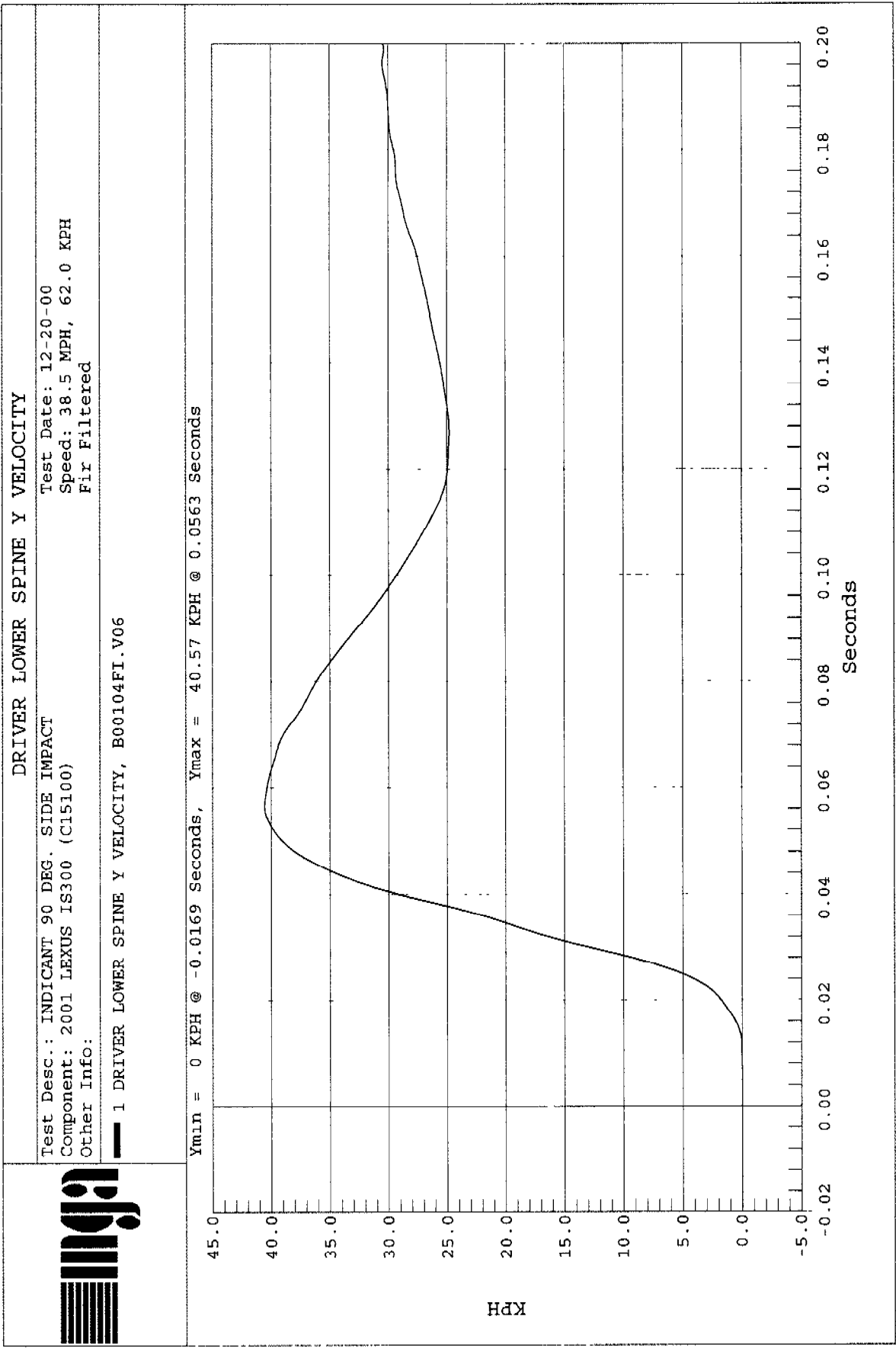


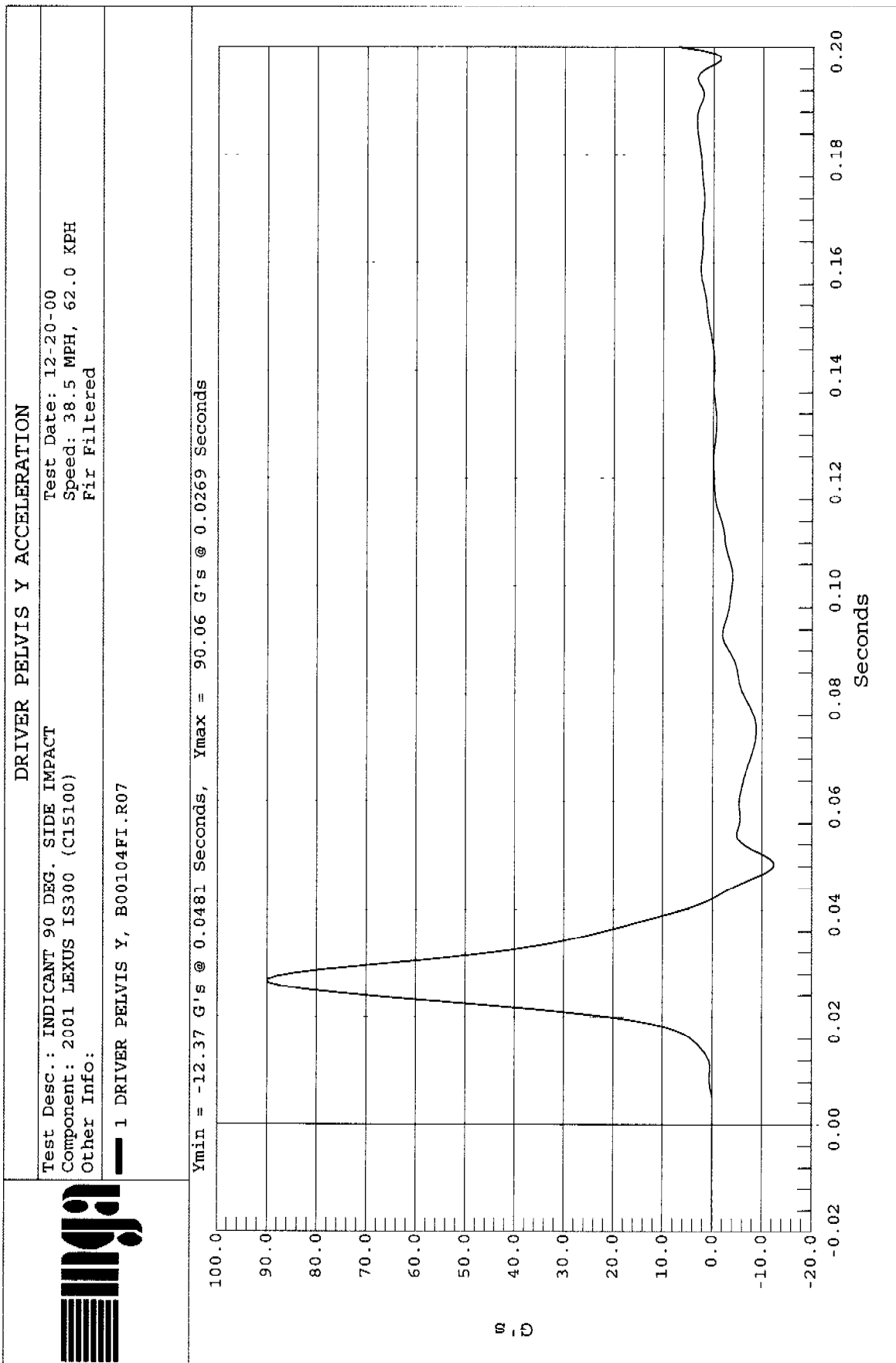




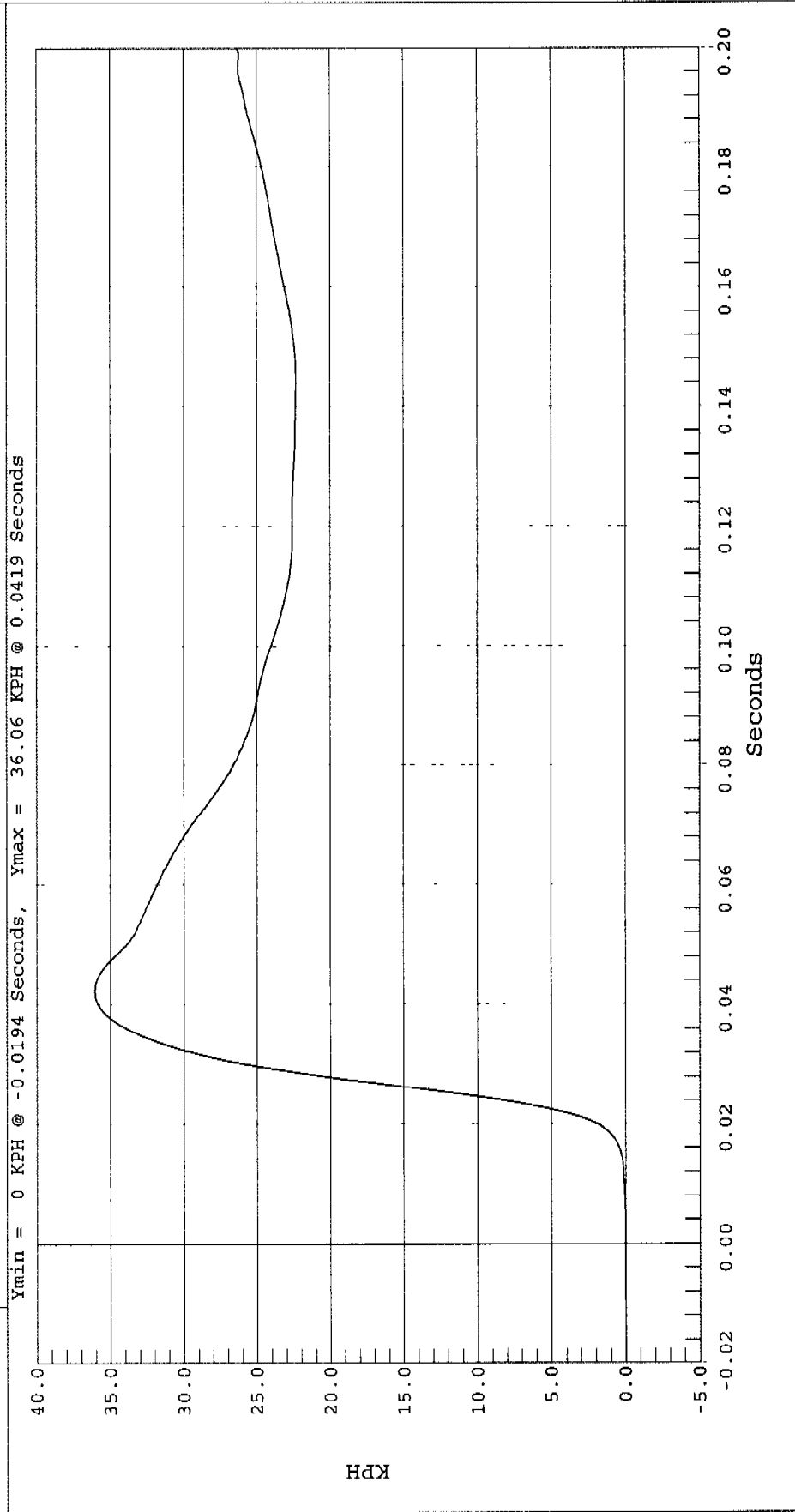


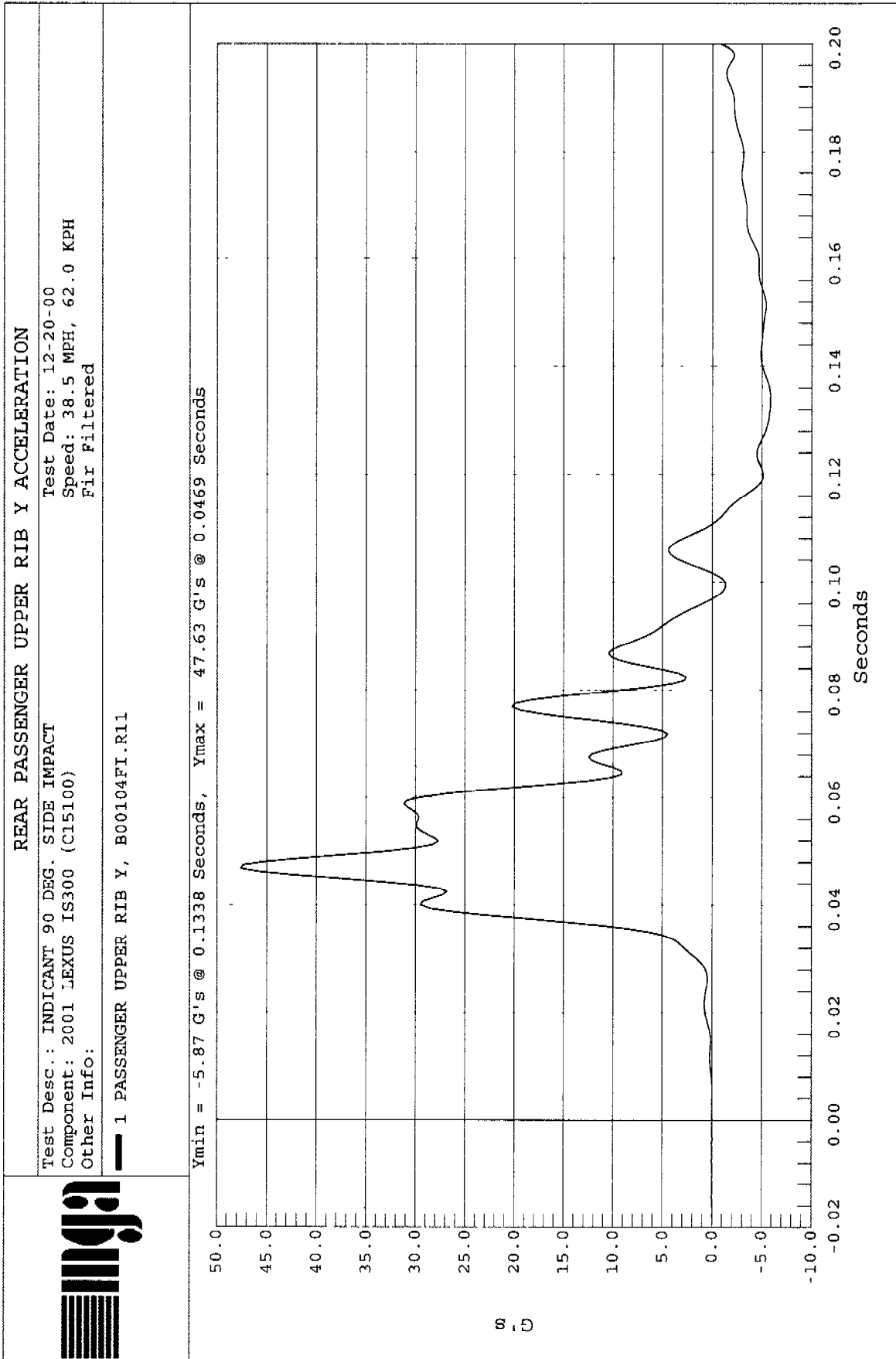






	DRIVER PELVIS Y VELOCITY	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT	Test Date: 12-20-00
	Component: 2001 LEXUS IS300 (C15100)	Speed: 38.5 MPH, 62.0 KPH
Other Info:		Fir Filtered
— 1 DRIVER PELVIS Y VELOCITY, B00104FI.V07		





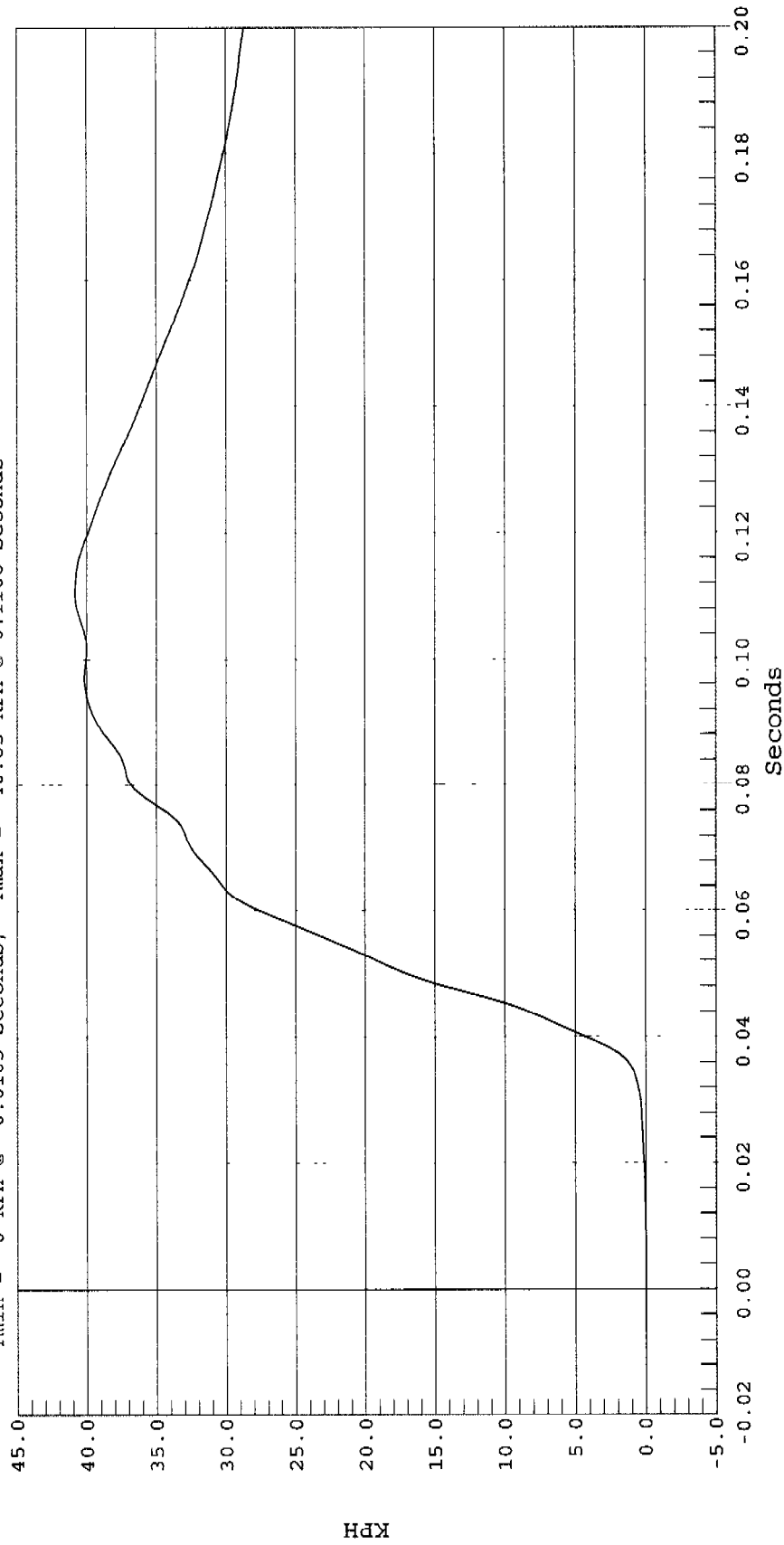
REAR PASSENGER UPPER RIB Y VELOCITY

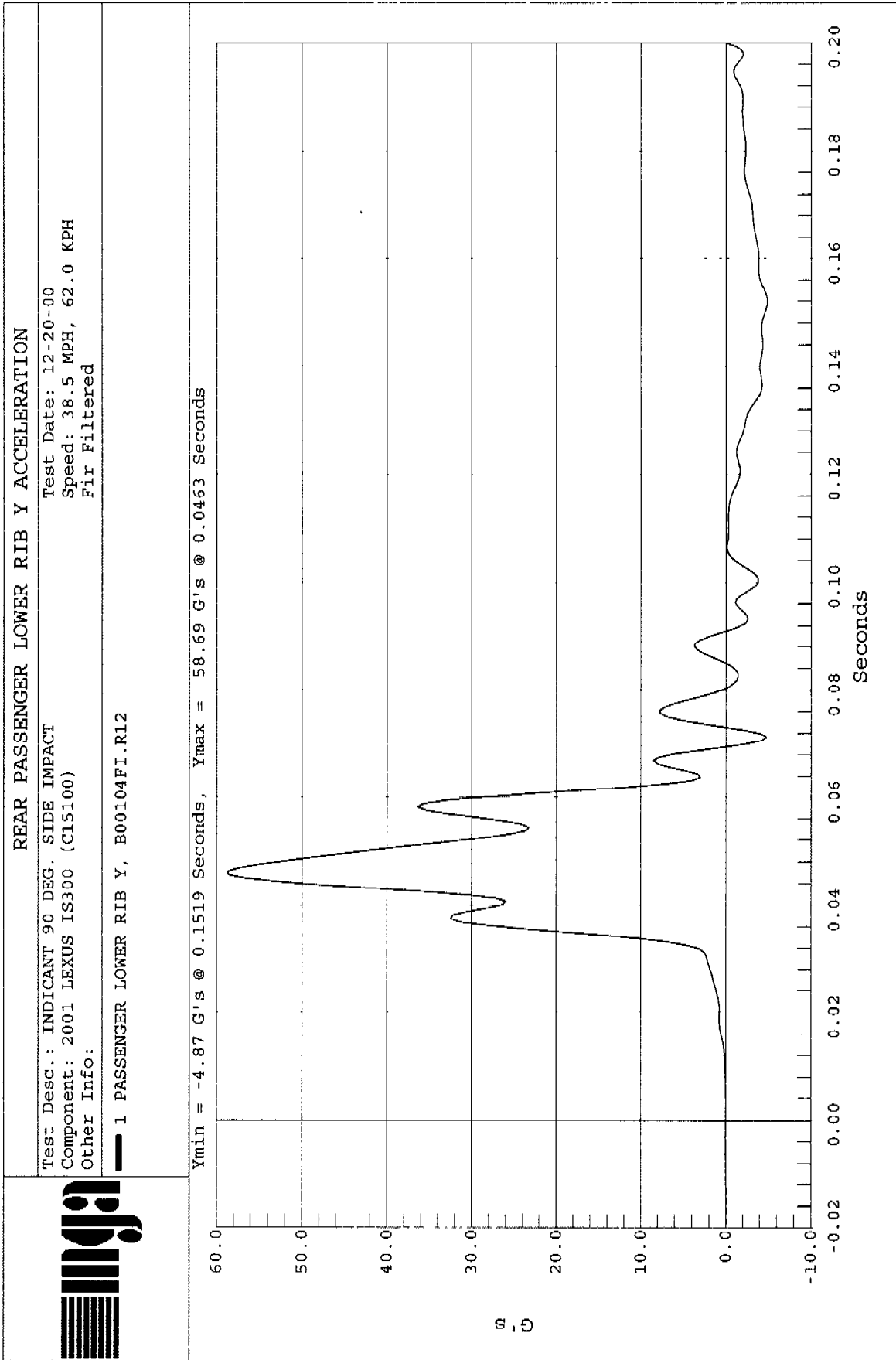
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

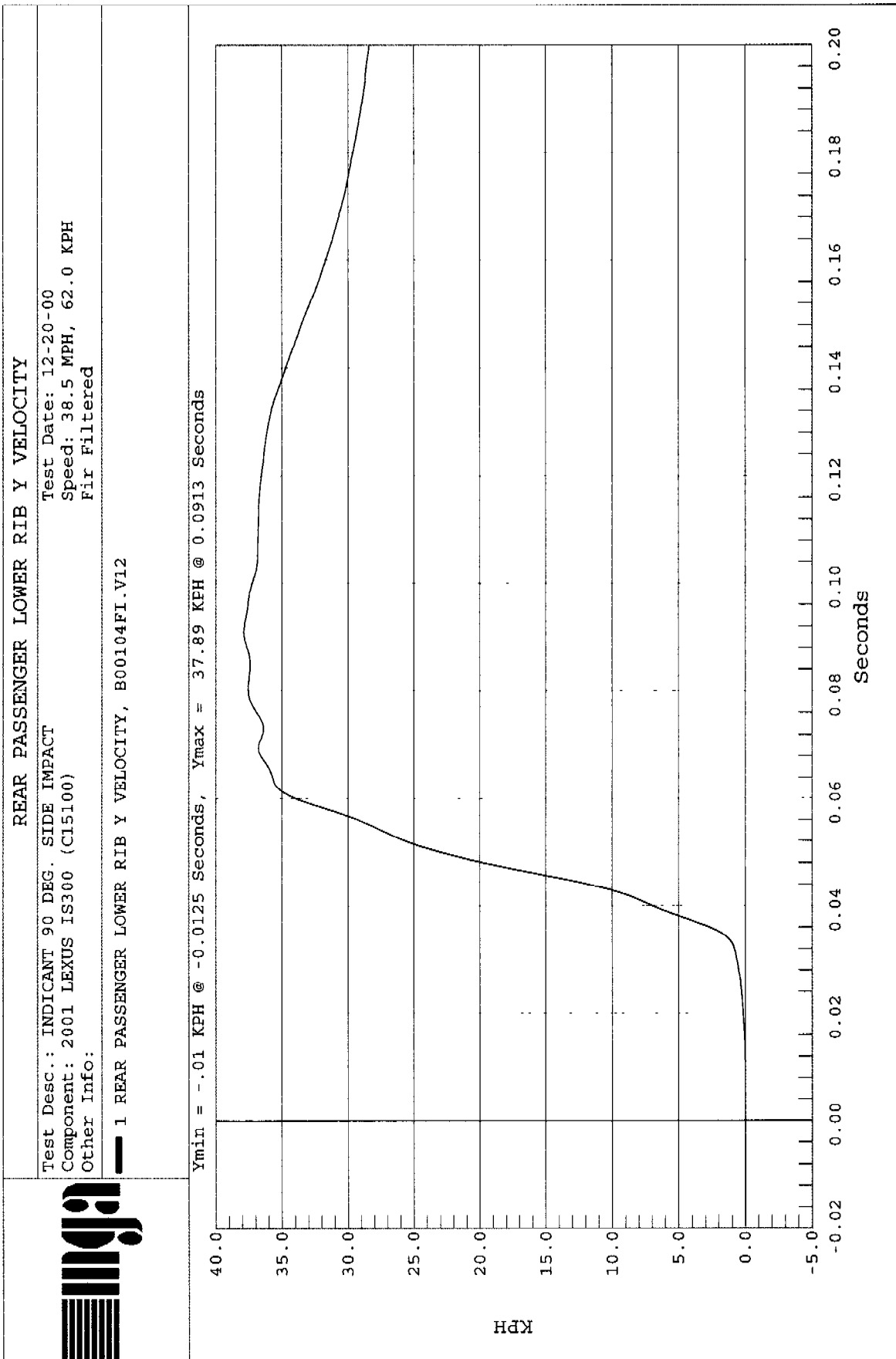
Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Fir Filtered

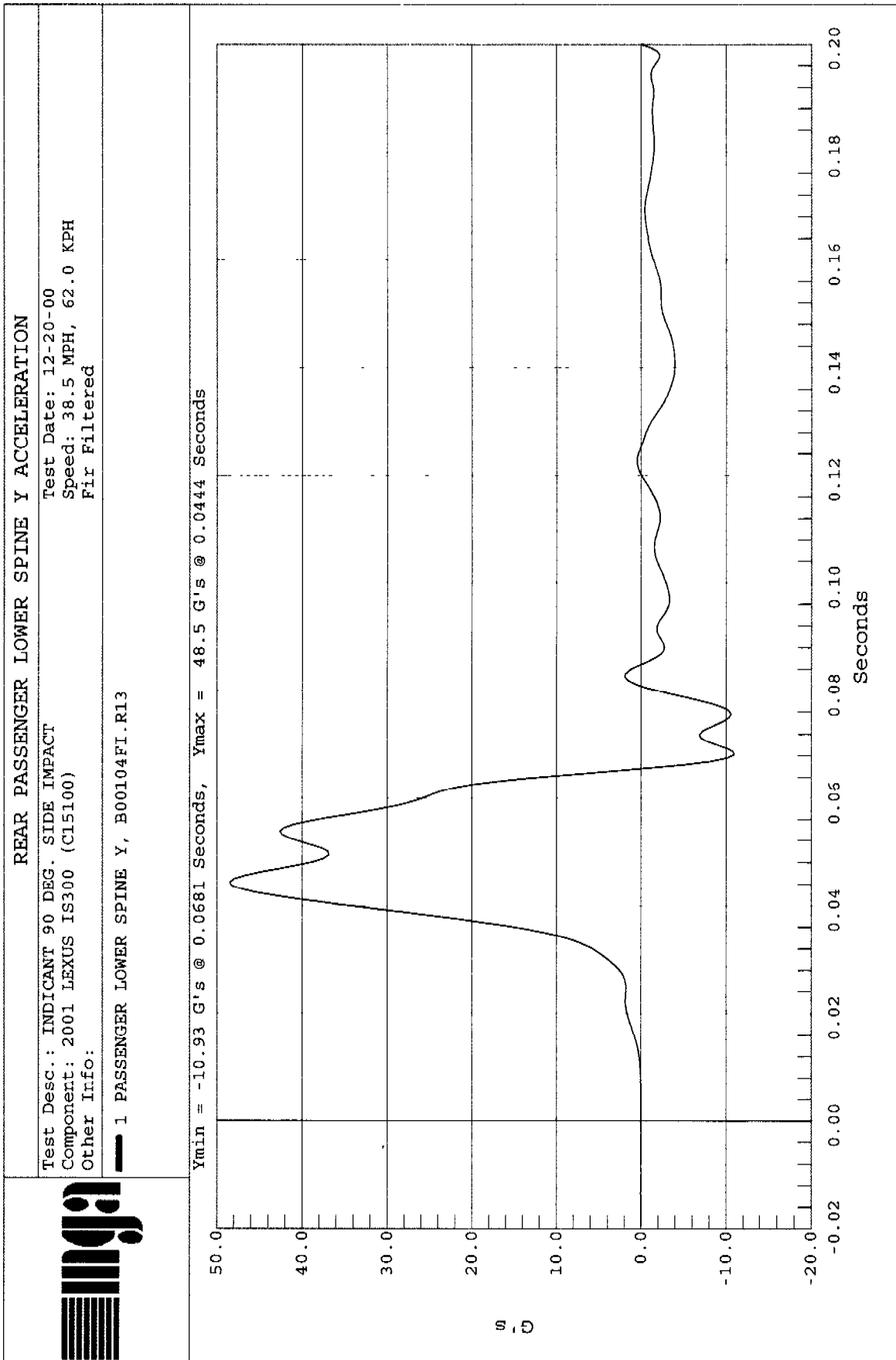
— 1 REAR PASSENGER UPPER RIB Y VELOCITY, B00104FI.V11

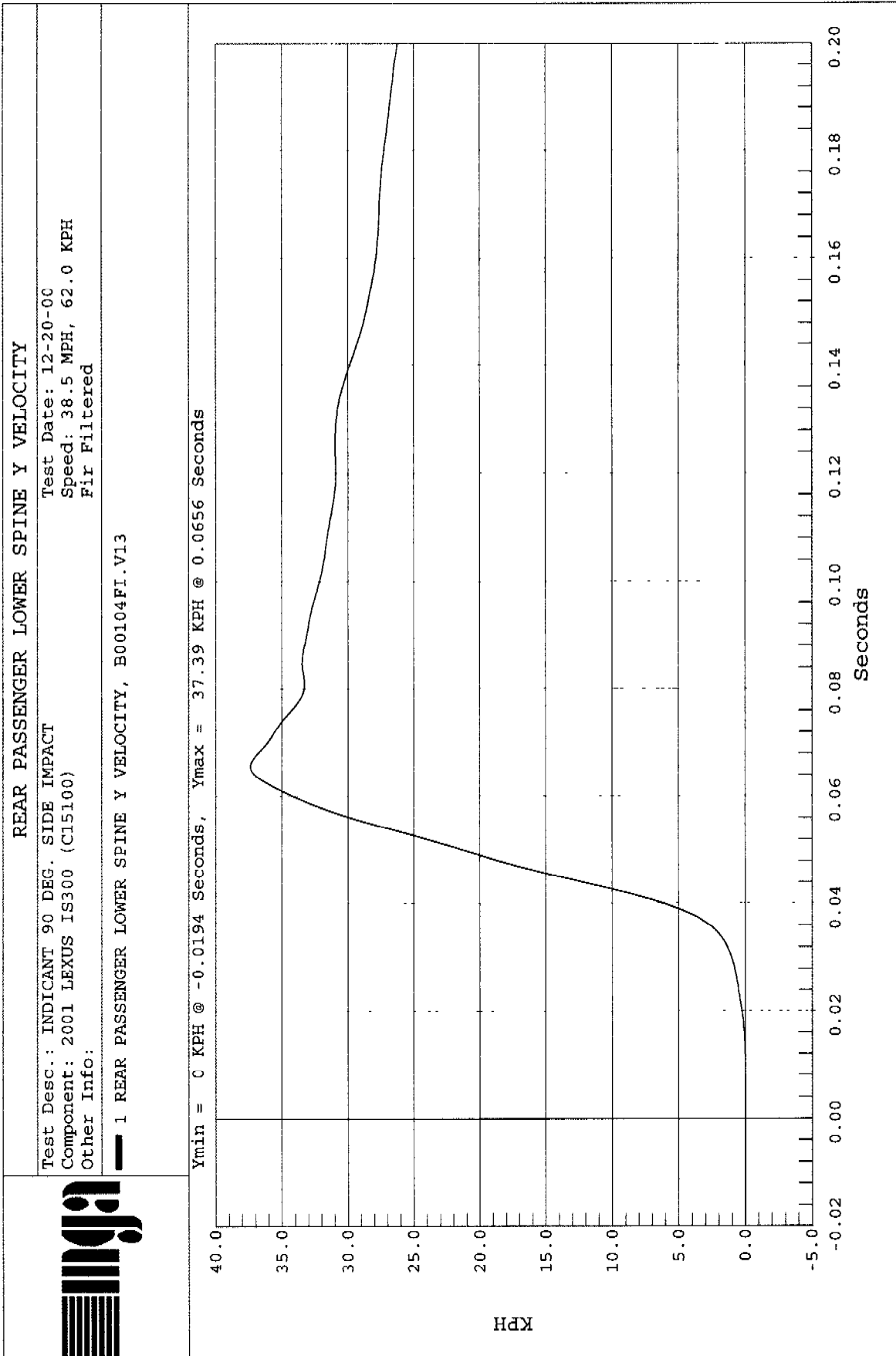
Ymin = 0 KPH @ -0.0163 Seconds, Ymax = 40.85 KPH @ 0.1106 Seconds











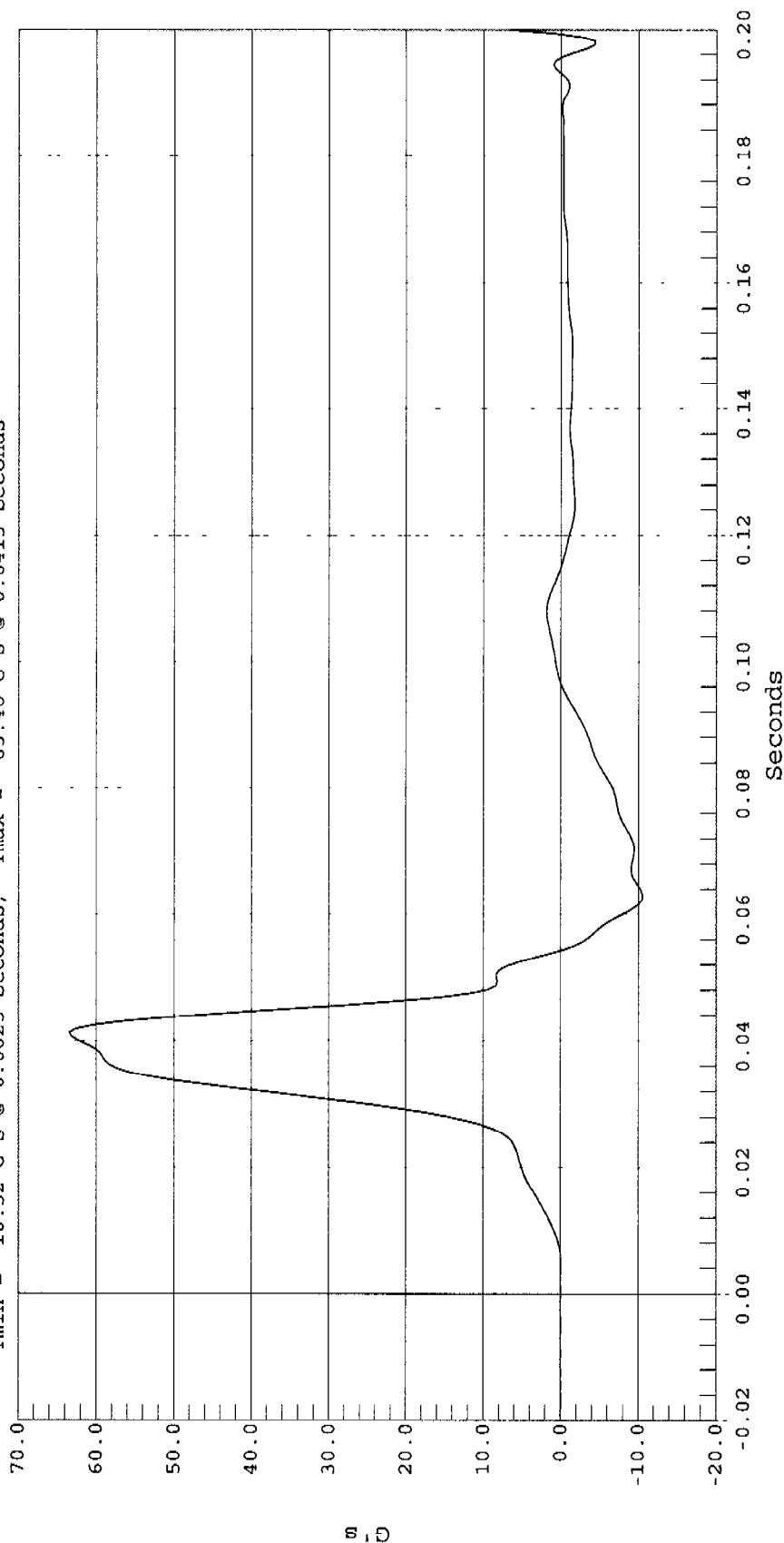
REAR PASSENGER PELVIS Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15103)
 Other Info: Fir Filtered



1 PASSENGER PELVIS Y, B00104FI.R14

Ymin = -10.52 G's @ 0.0625 Seconds, Ymax = 63.48 G's @ 0.0413 Seconds



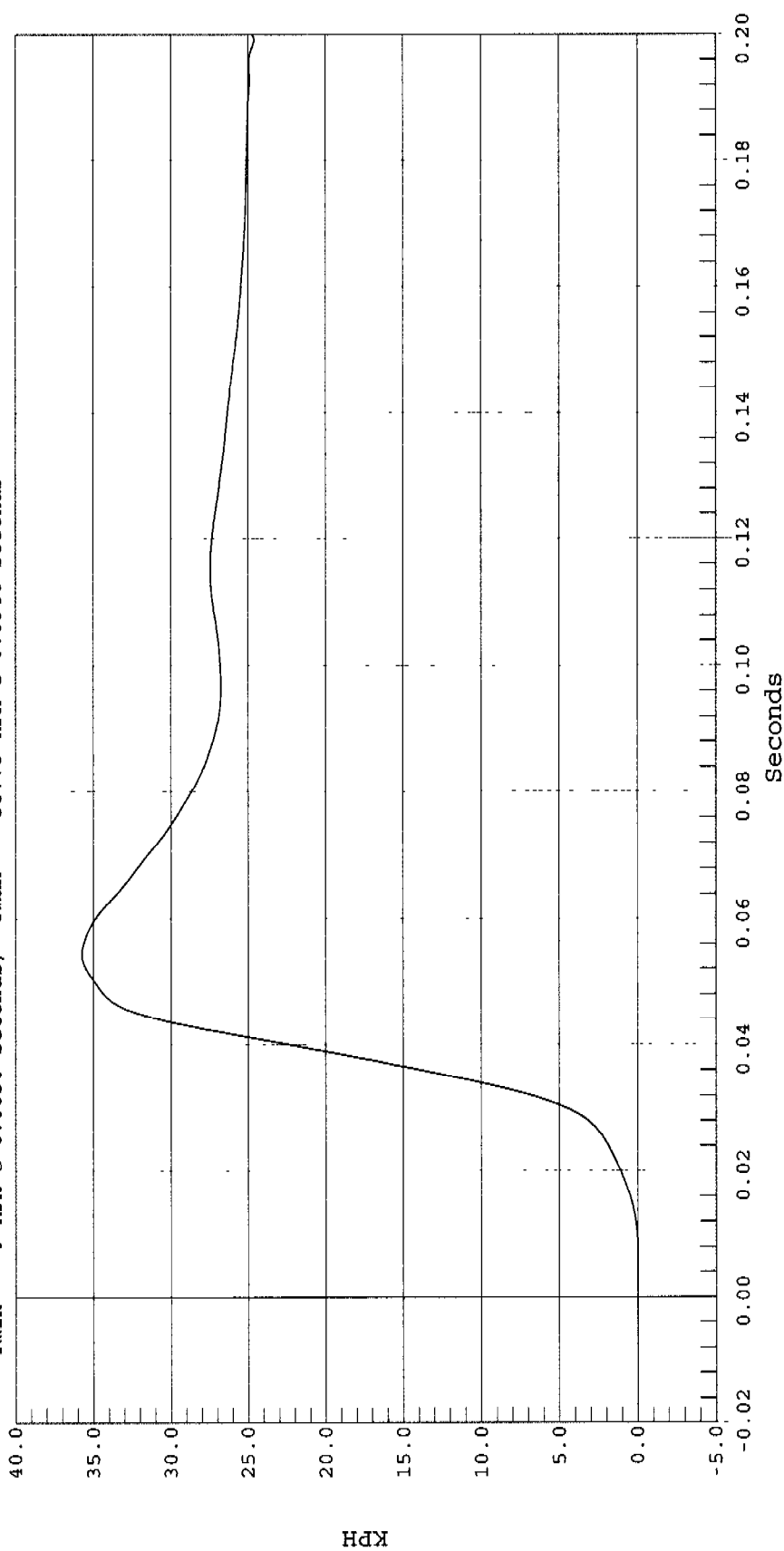
REAR PASSENGER PELVIS Y VELOCITY

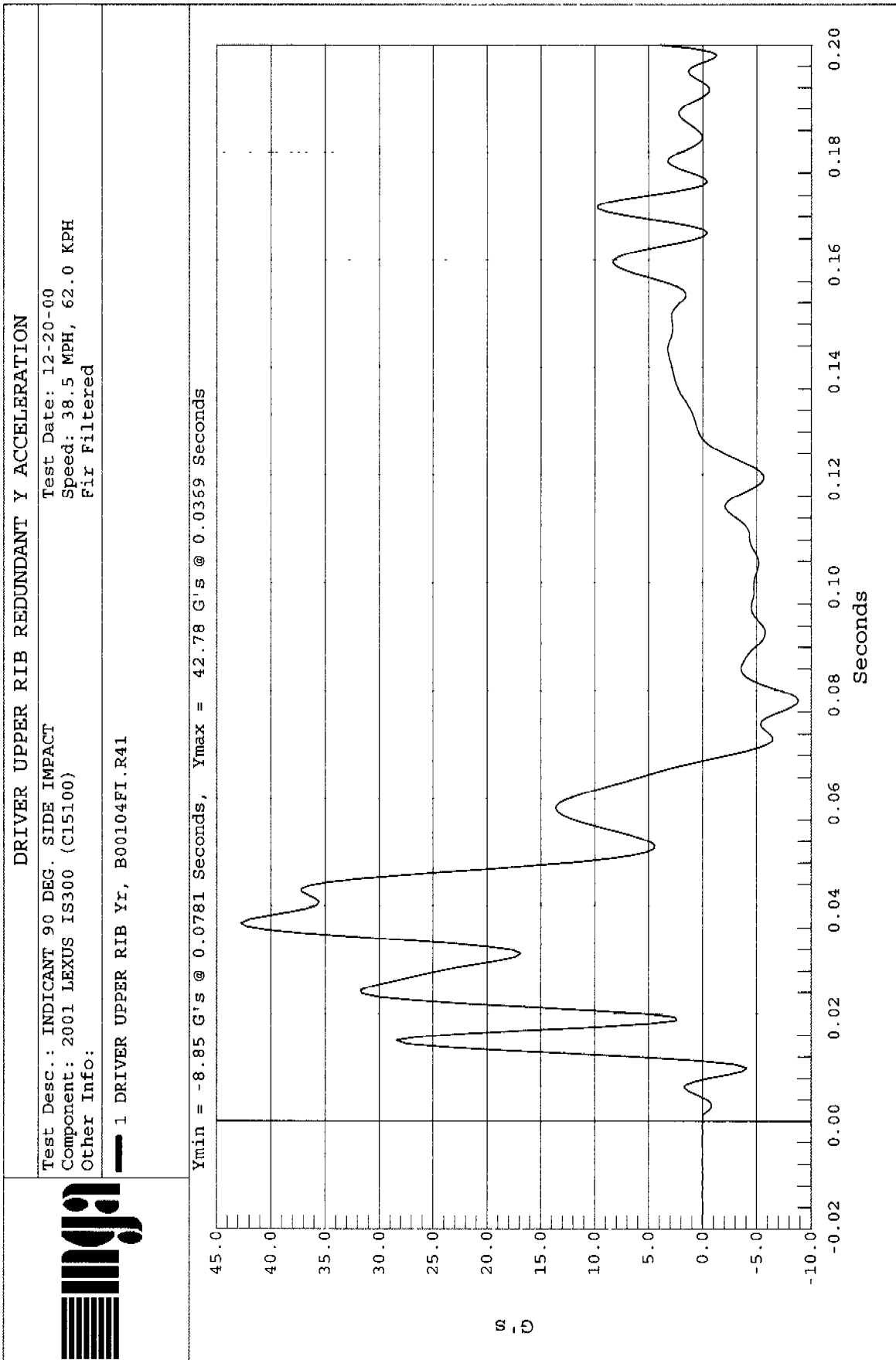
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info: Fir Filtered



1 REAR PASSENGER PELVIS Y VELOCITY, B00104FI.V14

Ymin = 0 KPH @ 0.0056 Seconds, Ymax = 35.75 KPH @ 0.0544 Seconds





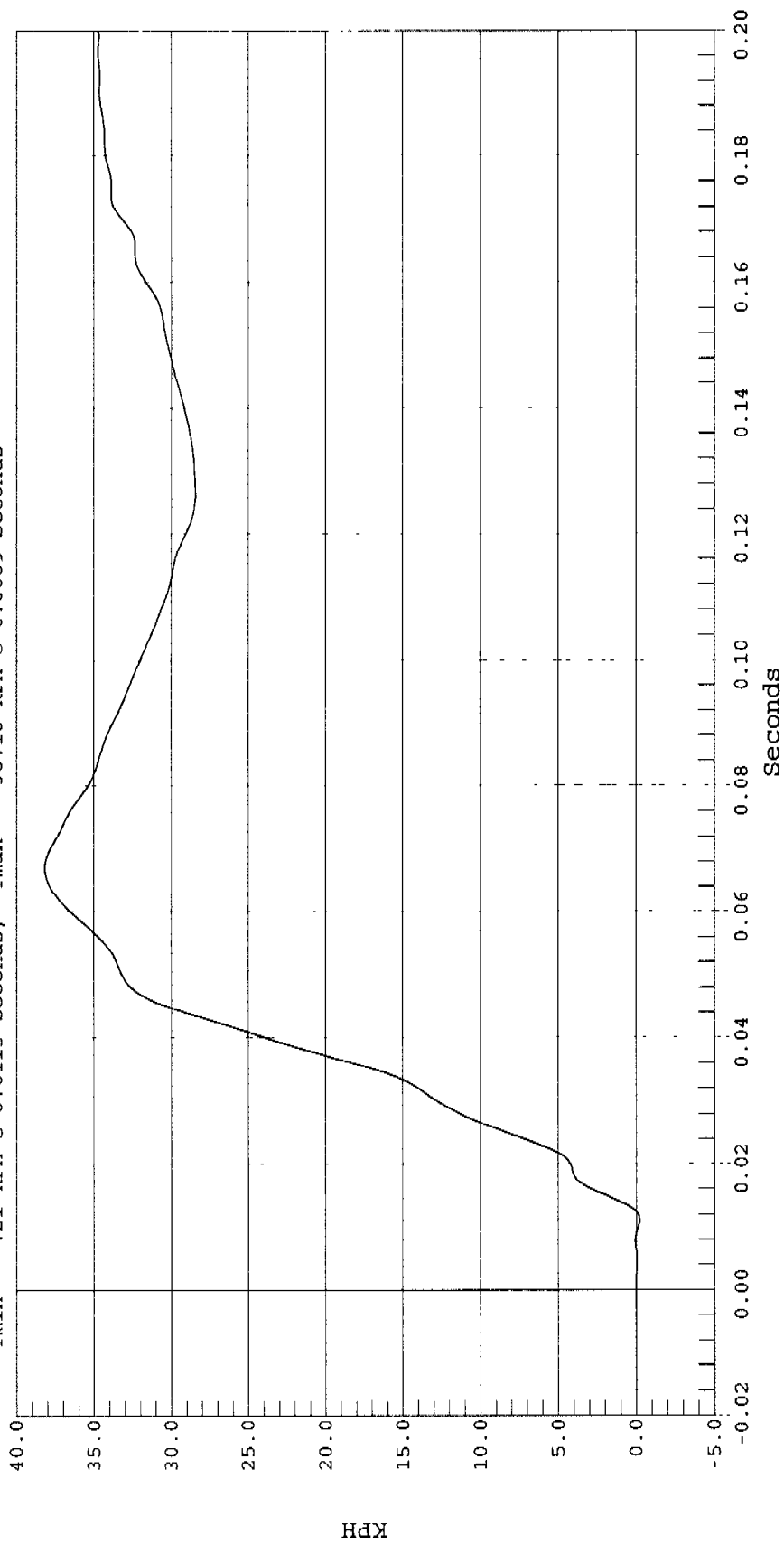


DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
Component: 2001 LEXUS IS300 (C15100)
Other Info:
Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH
Fir Filtered

1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, B00104FI.V41

Ymin = -.21 KPH @ 0.0113 Seconds, Ymax = 38.18 KPH @ 0.0669 Seconds



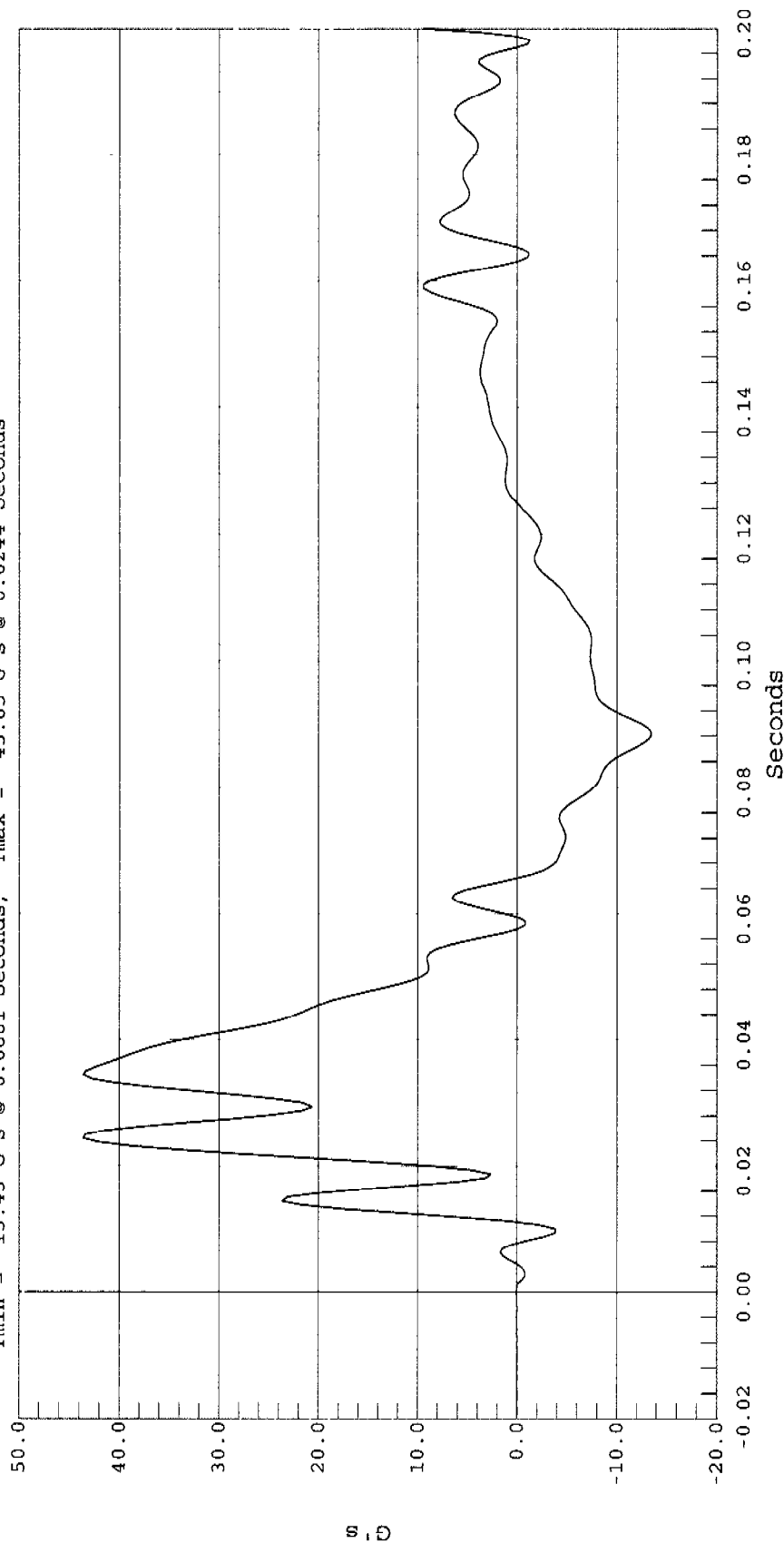
DRIVER LOWER RIB REDUNDANT Y ACCELERATION

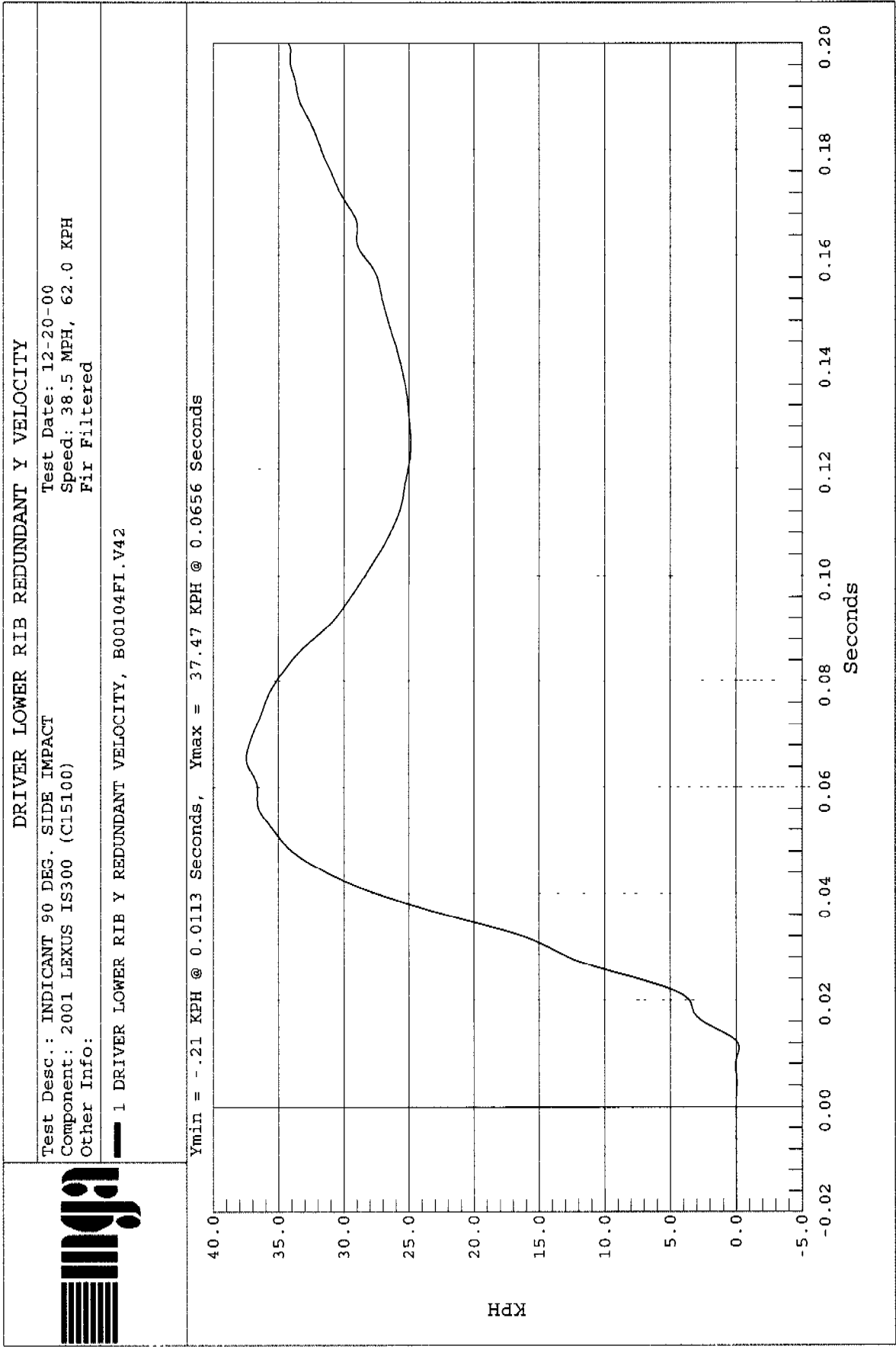
Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info: Fir Filtered

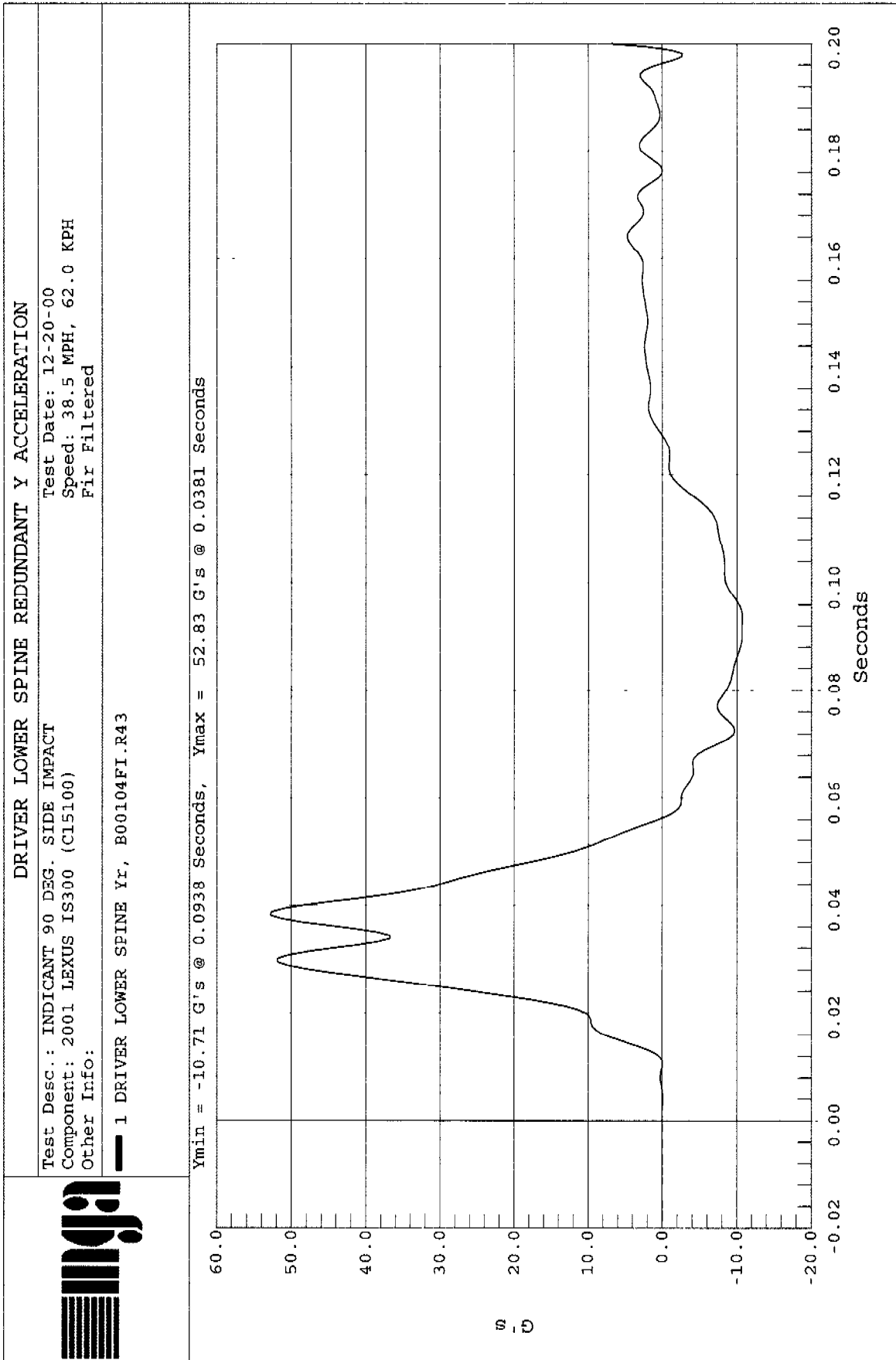


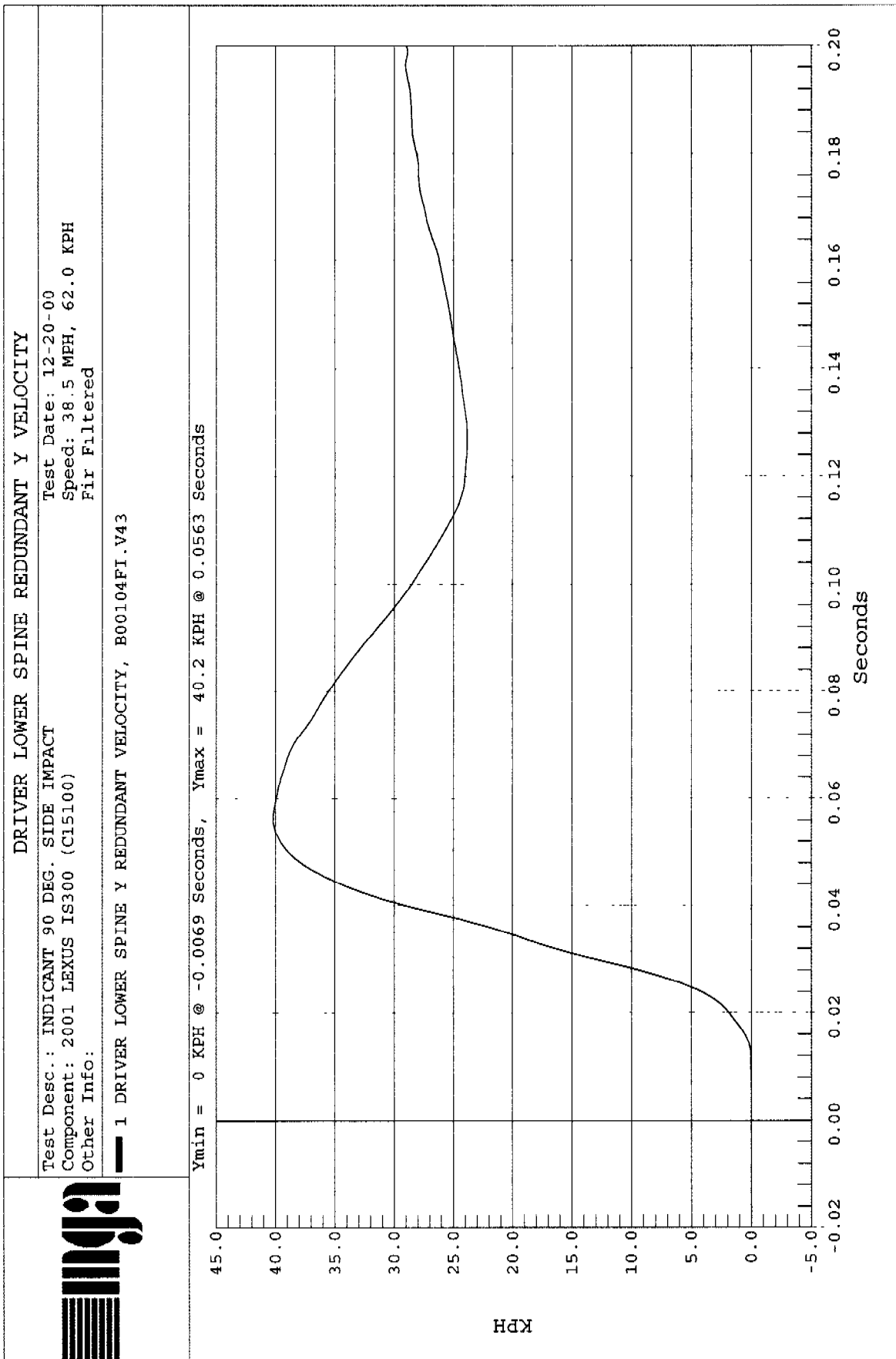
1 DRIVER LOWER RIB Yr, B00104FI.R42

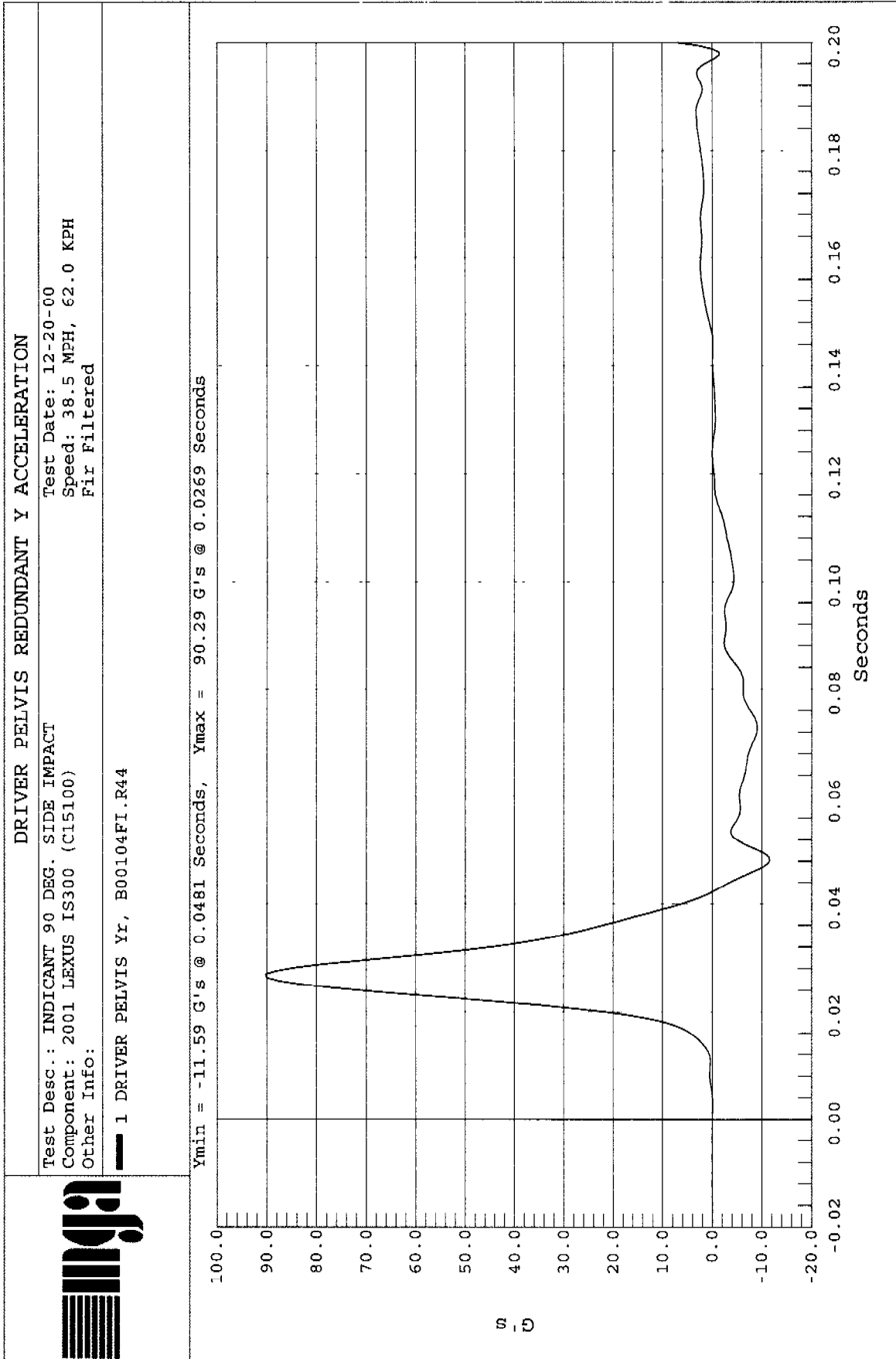
Ymin = -13.45 G's @ 0.0881 Seconds, Ymax = 43.65 G's @ 0.0244 Seconds











DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS IS300 (C15100)
 Other Info:

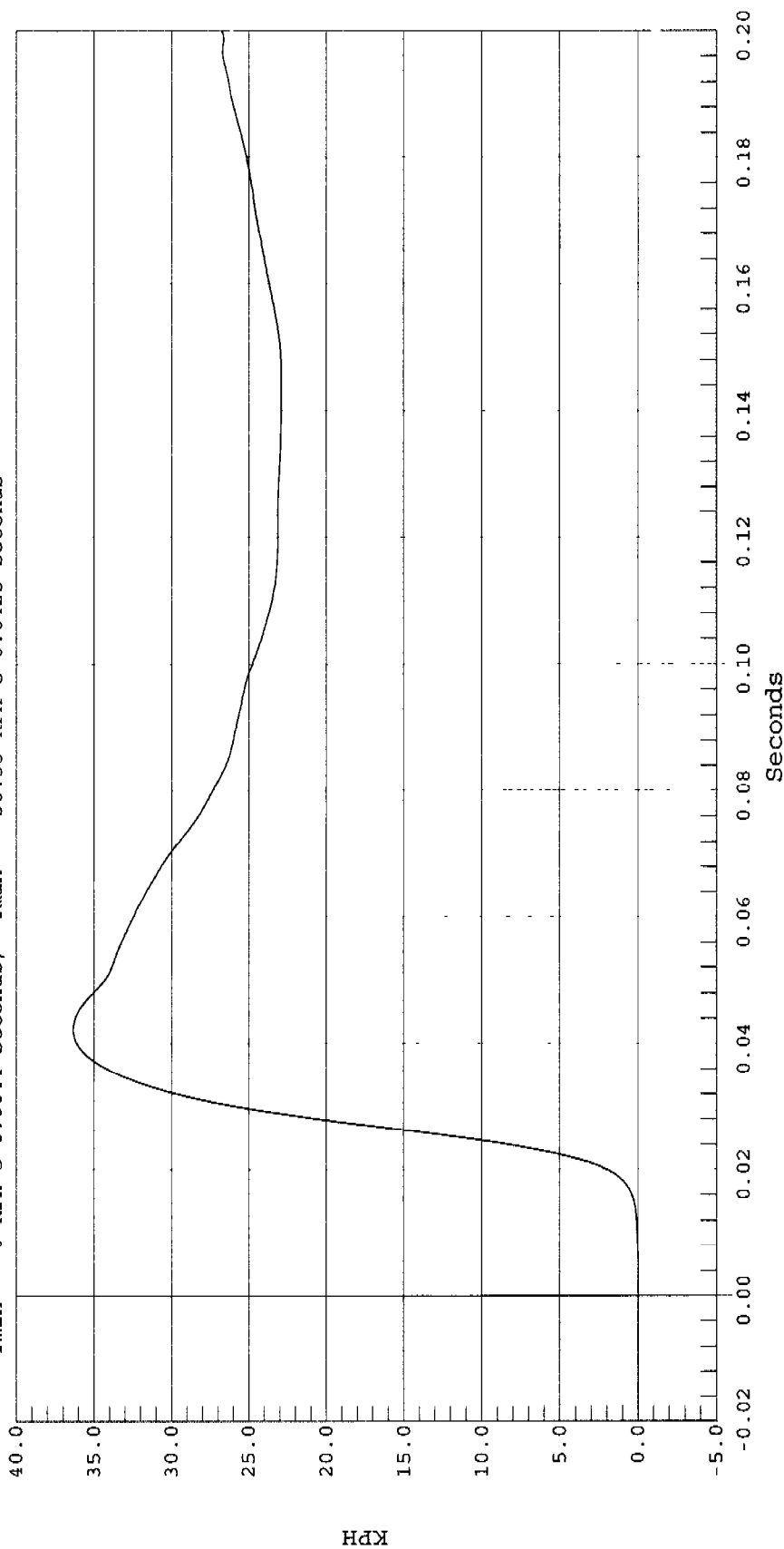
Test Date: 12-20-00

Speed: 38.5 MPH, 62.0 KPH

Fir Filtered

1 DRIVER PELVIS Y REDUNDANT VELOCITY, B00104FI.V44

Ymin = 0 KPH @ 0.0044 Seconds, Ymax = 36.33 KPH @ 0.0425 Seconds



REAR PASSENGER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Test Date: 12-20-00

Speed: 38.5 MPH, 62.0 KPH

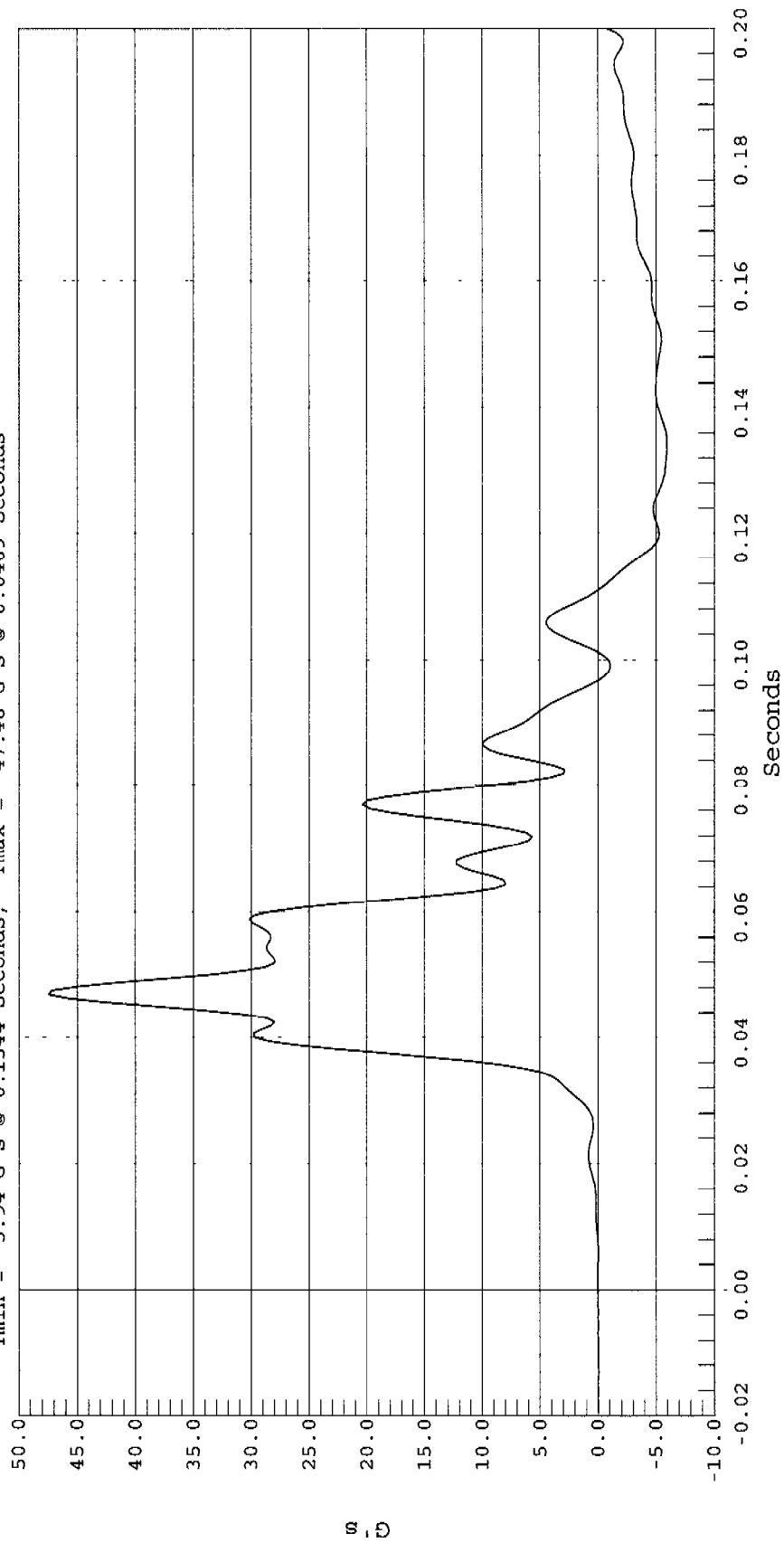
Fir Filtered

Other Info:

1 PASSENGER UPPER RIB Yr, B00104FI.R45



Ymin = -5.94 G's @ 0.1344 Seconds, Ymax = 47.48 G's @ 0.0469 Seconds

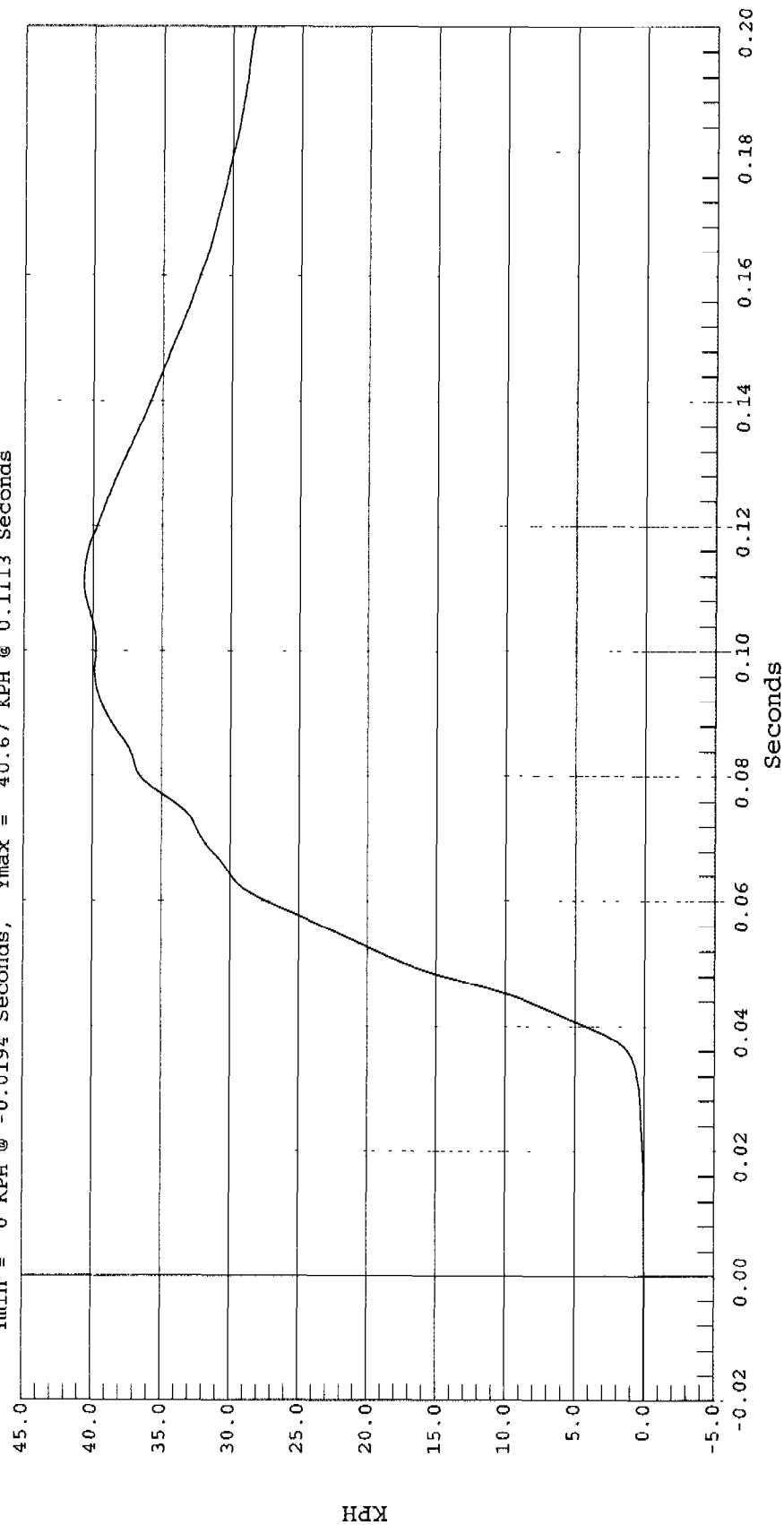


REAR PASSENGER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT 90 DEG. SIDE IMPACT
 Component: 2001 LEXUS LS300 (C15100)
 Other Info: Test Date: 12-20-00
 Speed: 38.5 MPH, 62.0 KPH
 Fir Filtered

1 REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY, B00104FI.V45

Ymin = 0 KPH @ -0.0194 Seconds, Ymax = 40.67 KPH @ 0.1113 Seconds



REAR PASSENGER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

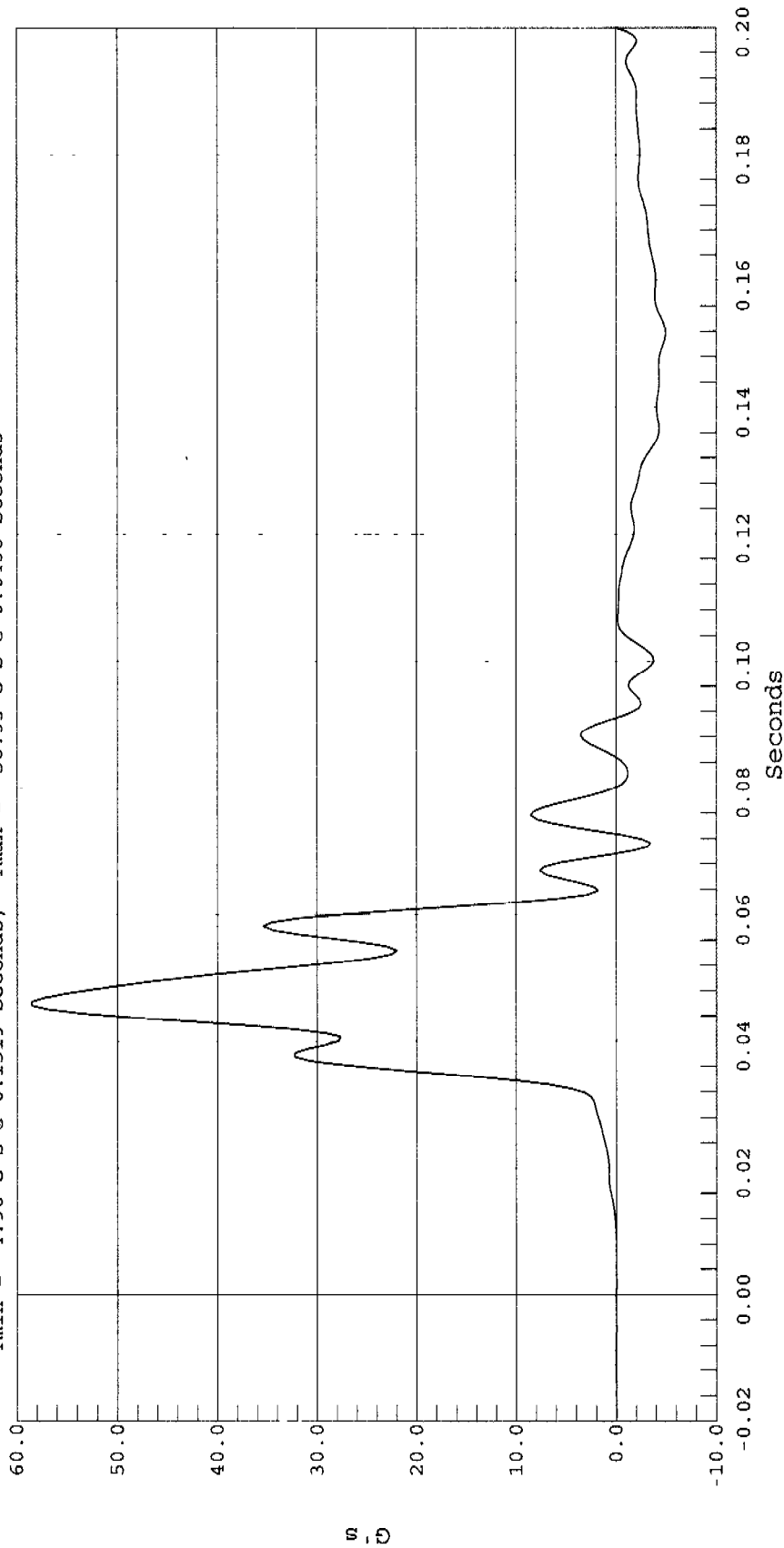
Component: 2001 LEXUS IS300 (C15100)

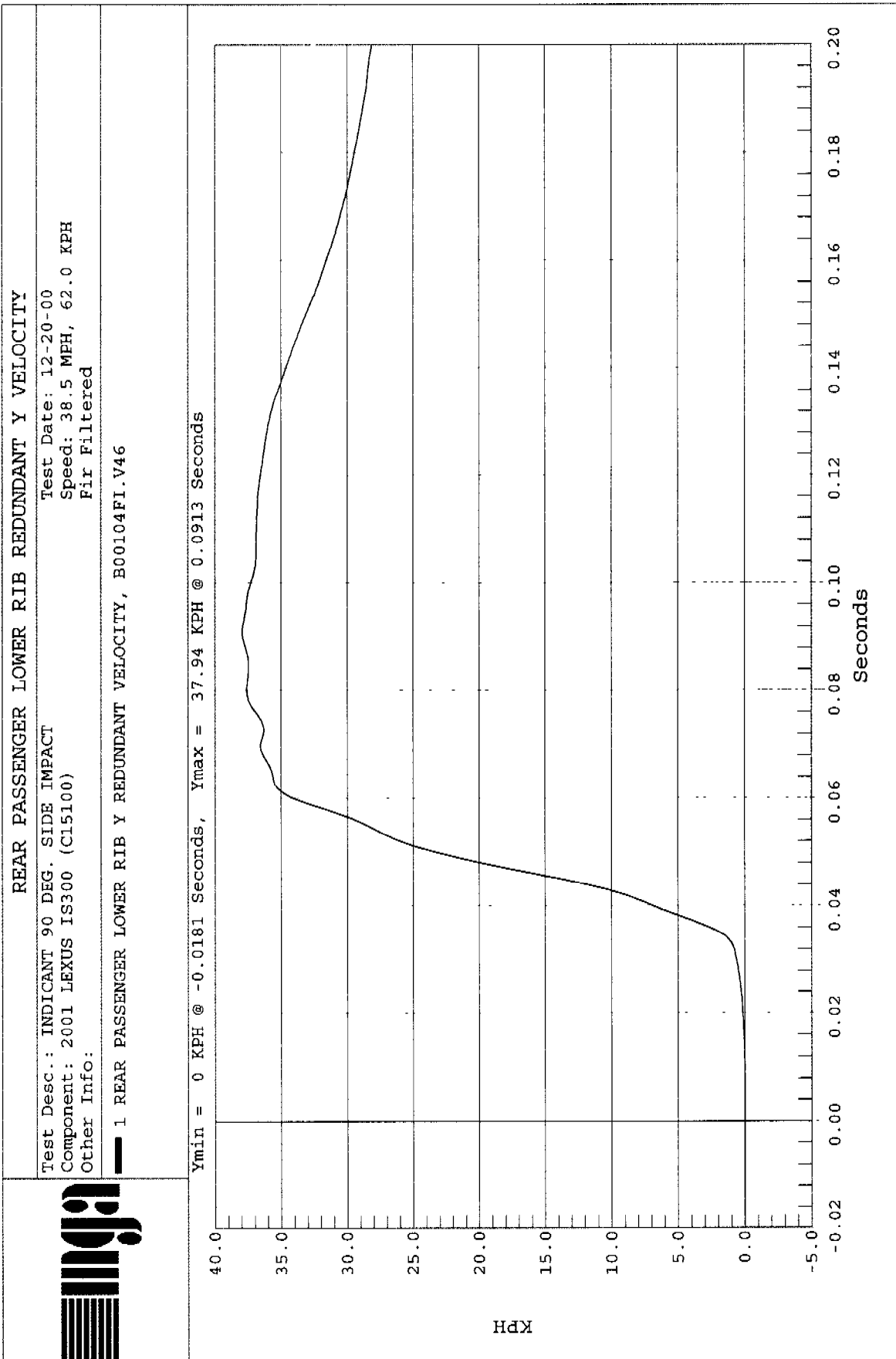
Other Info: Fir Filtered

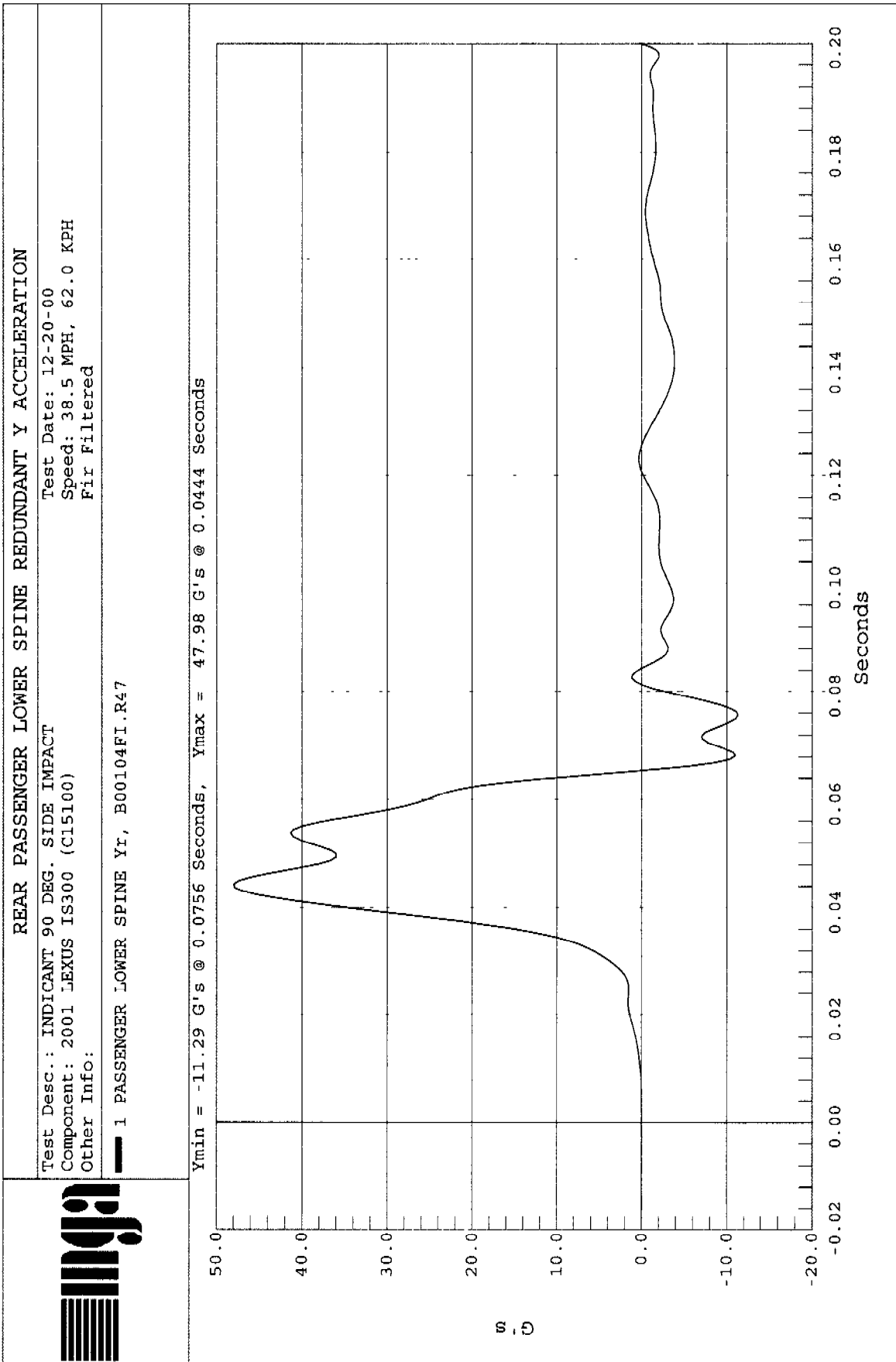


1 PASSENGER LOWER RIB Yr, B00104FI.R46

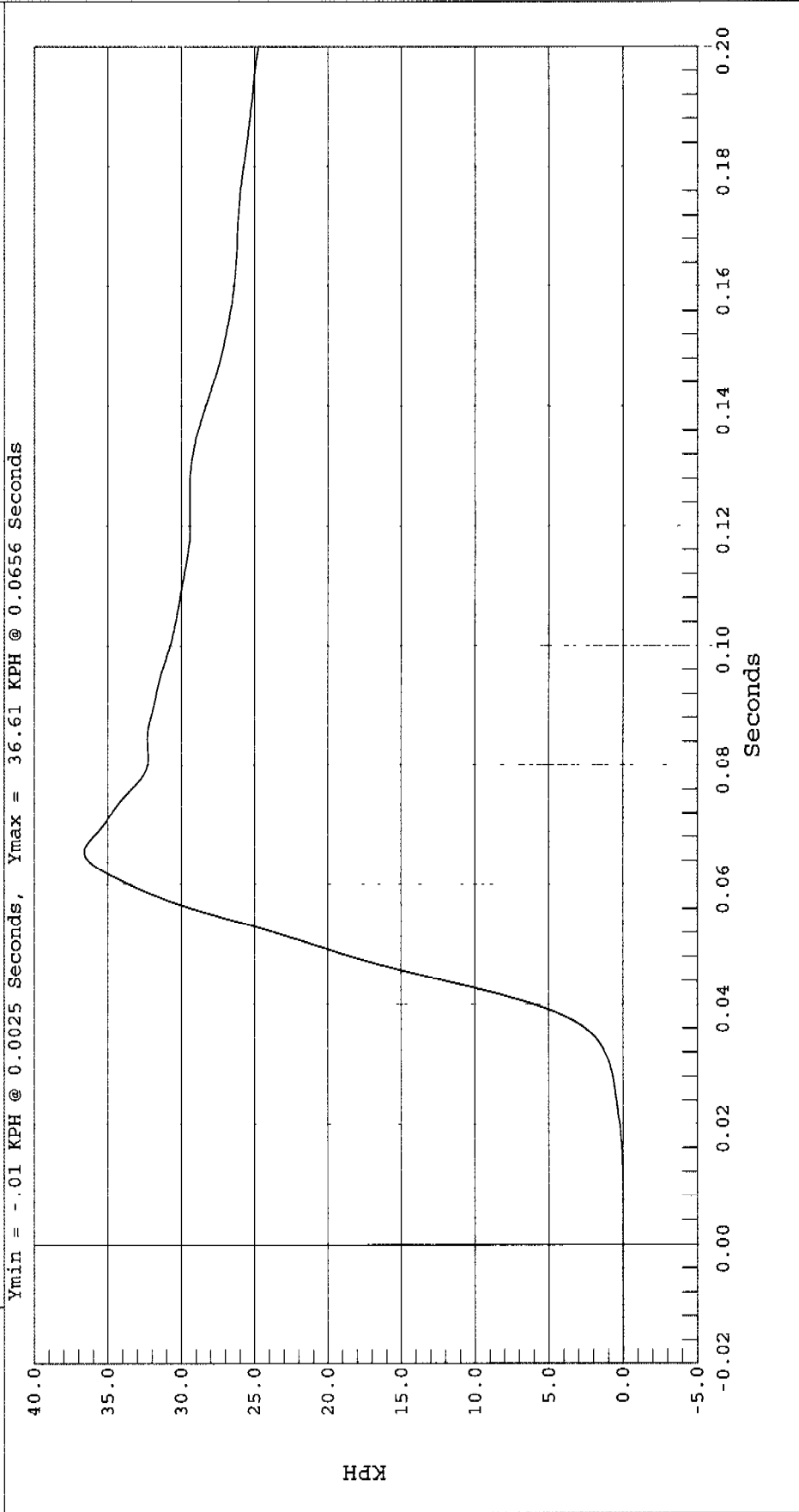
Ymin = -4.96 G's @ 0.1519 Seconds, Ymax = 58.53 G's @ 0.0456 Seconds







	REAR PASSENGER LOWER SPINE REDUNDANT Y VELOCITY	
	Test Desc.: INDICANT 90 DEG. SIDE IMPACT Component: 2001 LEXUS IS300 (C15100) Other Info:	Test Date: 12-20-00 Speed: 38.5 MPH, 62.0 KPH Fir Filtered
	— 1 REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY, B00104FI.V47	



REAR PASSENGER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: INDICANT 90 DEG. SIDE IMPACT

Test Date: 12-20-00
Speed: 38.5 MPH, 62.0 KPH

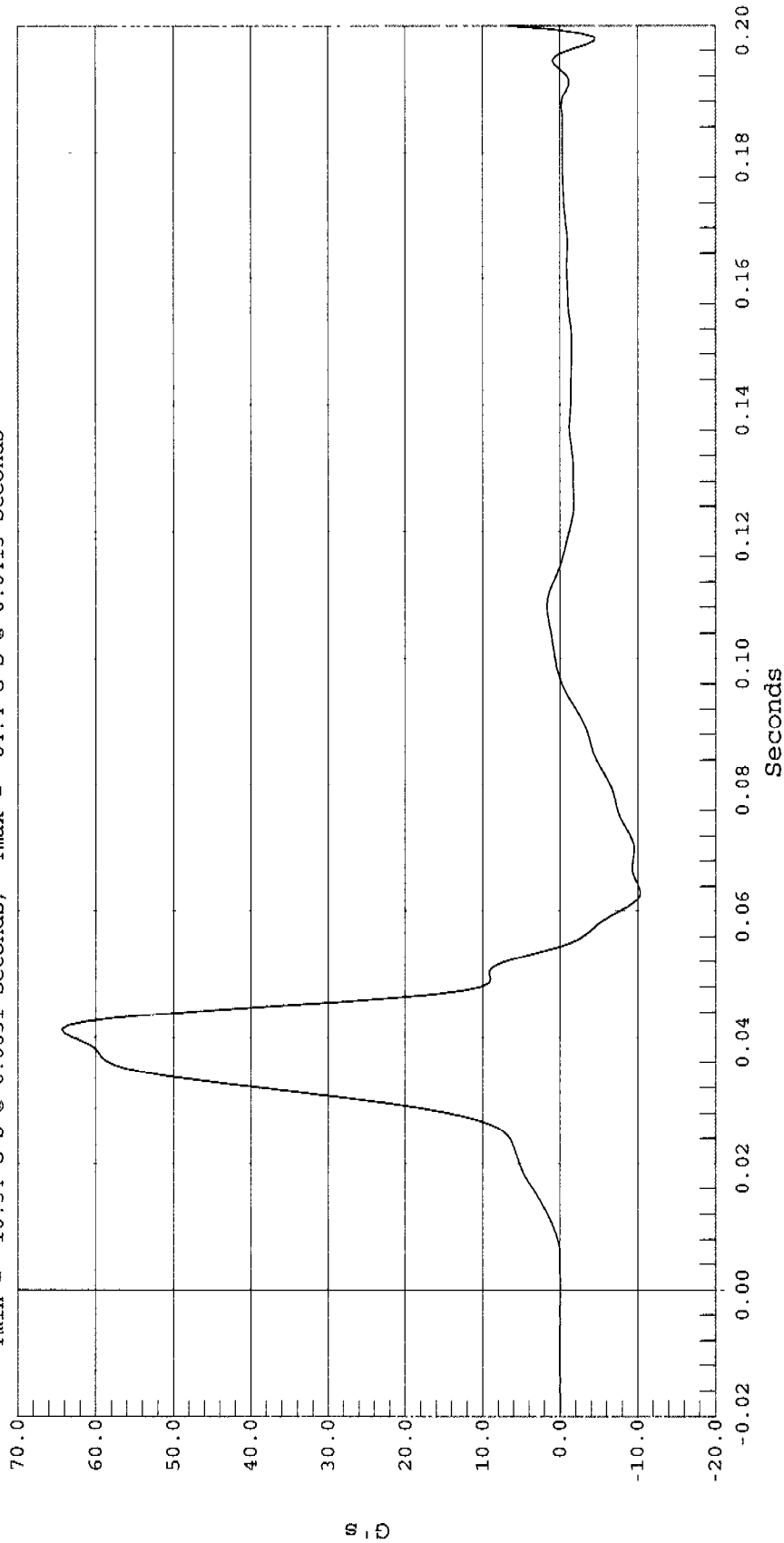
Component: 2001 LEXUS IS300 (C15100)

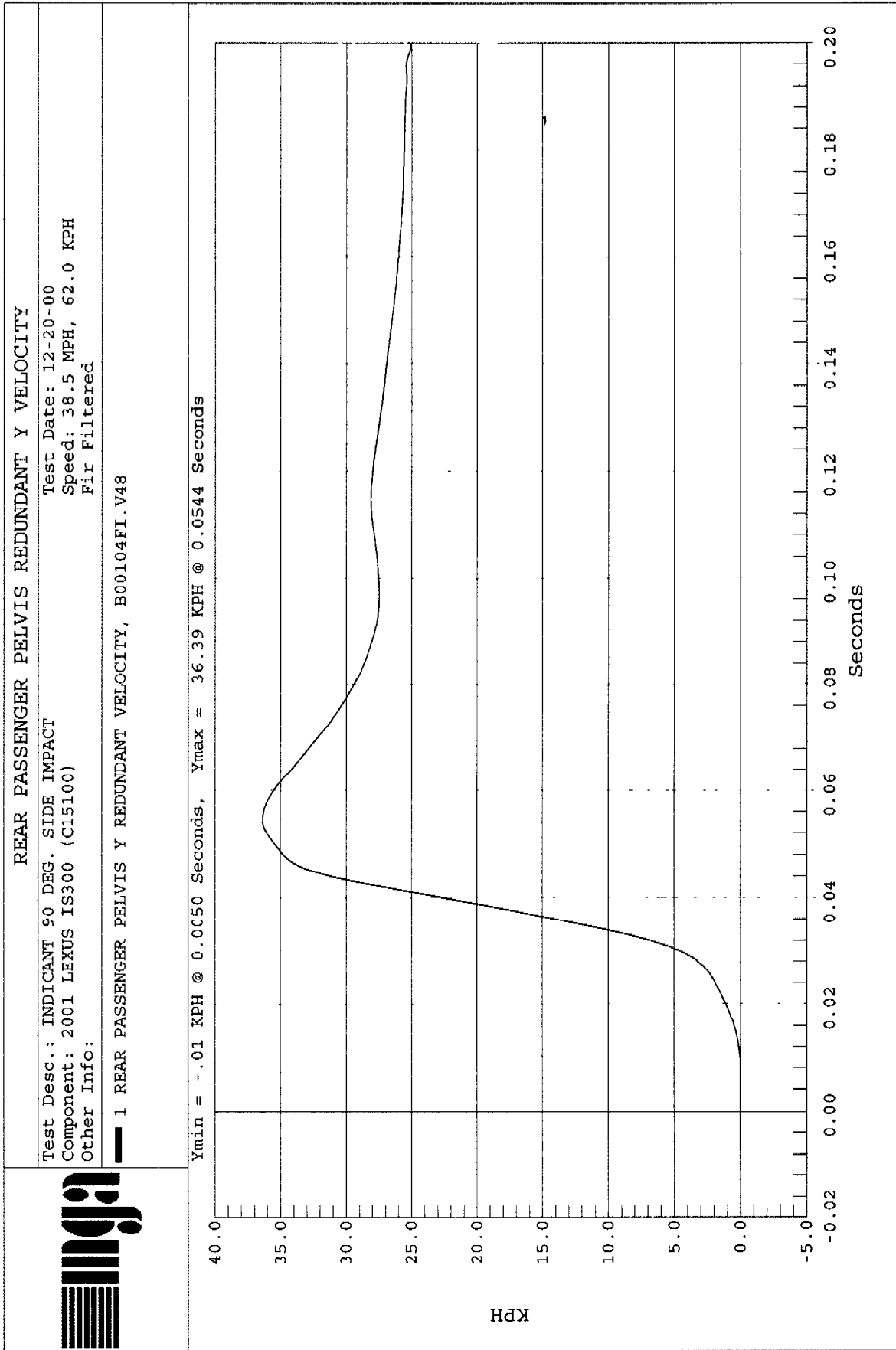
Other Info: Fir Filtered

— 1 PASSENGER PELVIS Yr, B00104FI.R48



Ymin = -10.34 G's @ 0.0631 Seconds, Ymax = 64.4 G's @ 0.0413 Seconds





APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

CALIBRATION DATA SUMMARY
SIDE IMPACT DUMMY (SID)
CONFIGURED TO LEFT/RIGHT SIDE IMPACT

Report Date: 1/8/01

Technician: Tim Michnay

Calibration Date: 12/19/00

Test# D00157

Test Parameter	Specification	Dummy Serial Number: 37		Dummy Serial Number: 36	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH-Seated Height (mm)	889 – 909	901	901	901	901
RH-Rib Height (mm)	501 – 521	511	511	505	505
HP-Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD-Rib from Back Line (mm)	229 – 241	236	236	234	234
KV-Knee Pivot from Back Line (mm)	511 – 526	520	520	520	520
SW-Knee Pivot to Floor (mm)	490 – 505	494	494	496	496
HW-Hip Width (mm)	356 - 391	380	380	372	372
Thorax Impact					
Temperature (°C)	18.9 – 25.5	21.4°	21.2°	21.5°	21.4°
Relative Humidity (%)	10 – 70	22%	19%	22%	18%
Probe Speed (m/s)	4.27 – 4.33	4.29	4.29	4.28	4.28
Upper Rib (g's)	37 – 46	42	46	43	45
Lower Rib (g's)	37 – 46	46	45	45	45
Lower Spine (g's)	15 – 22	20	20	20	19
Pelvis Impact					
Temperature (°C)	18.9 – 25.5	21.4°	21.2°	21.5°	21.4°
Relative Humidity (%)	10 – 70	22%	19%	22%	18%
Probe Speed (m/s)	4.27 – 4.33	4.30	4.29	4.28	4.28
Pelvis (g's)	40 - 60	47	45	46	42

CERTIFICATION DATA

Dummy Serial Number: 037

Calibration Test Results Summary

Dummy Serial Number: 037

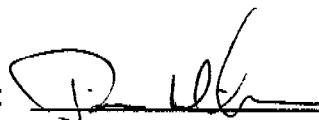
Pre-Test Calibration

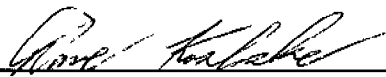
External Dimensions:	The dummy passed all external dimension requirements.
Head Drop Test:	The head passed all drop test requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 037
 Date of Verification: 12/19/00
 Test Number: D00157

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

Technician: 

Approved By: 

MGA RESEARCH CORPORATION

HEAD DROP TEST

SIDE IMPACT DUMMY (SID)

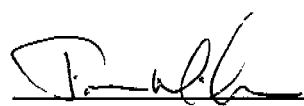
Date: 12/19/00

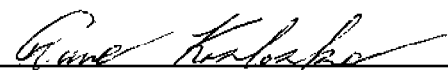
Dummy Serial Number: 037

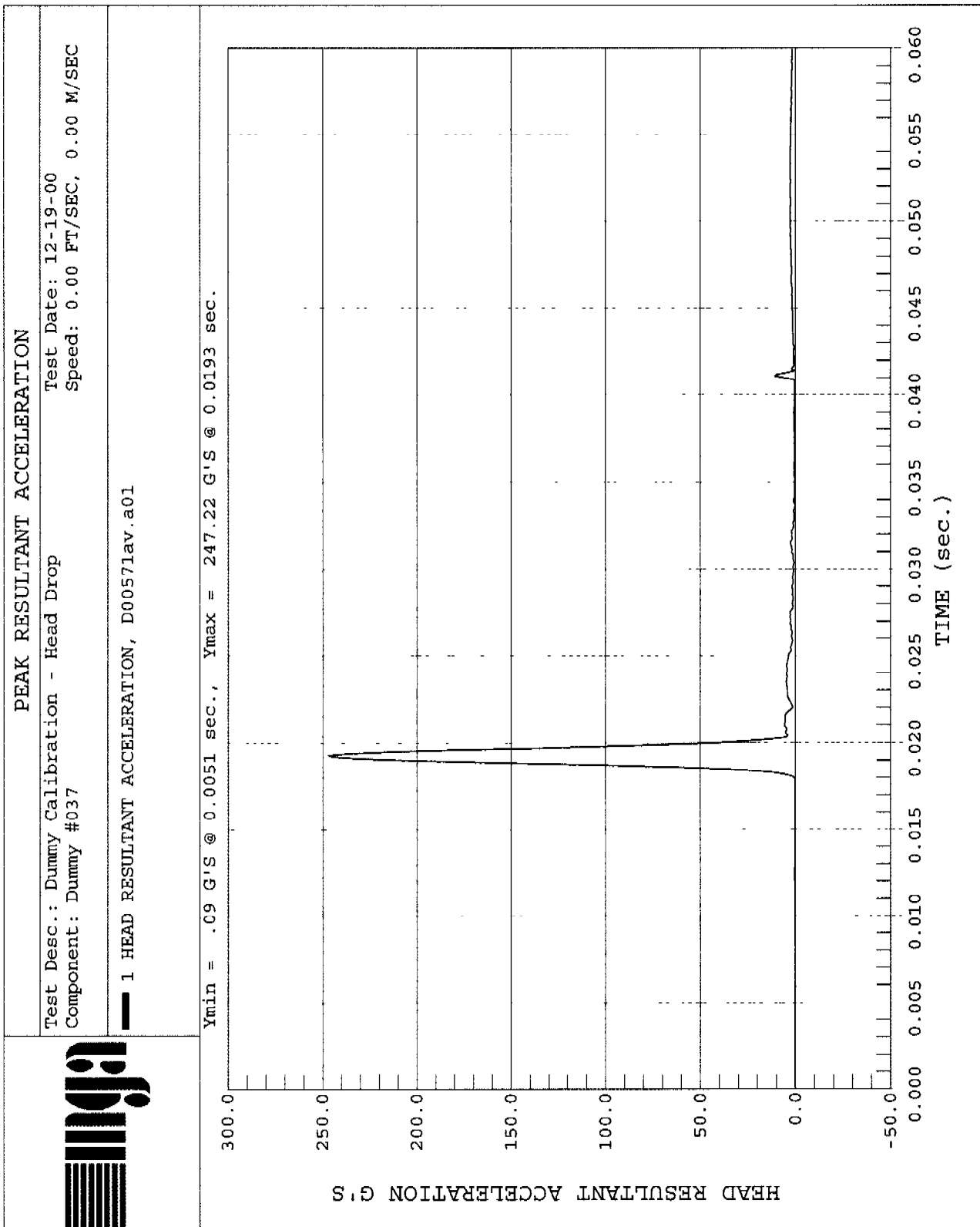
Test Number: D001571

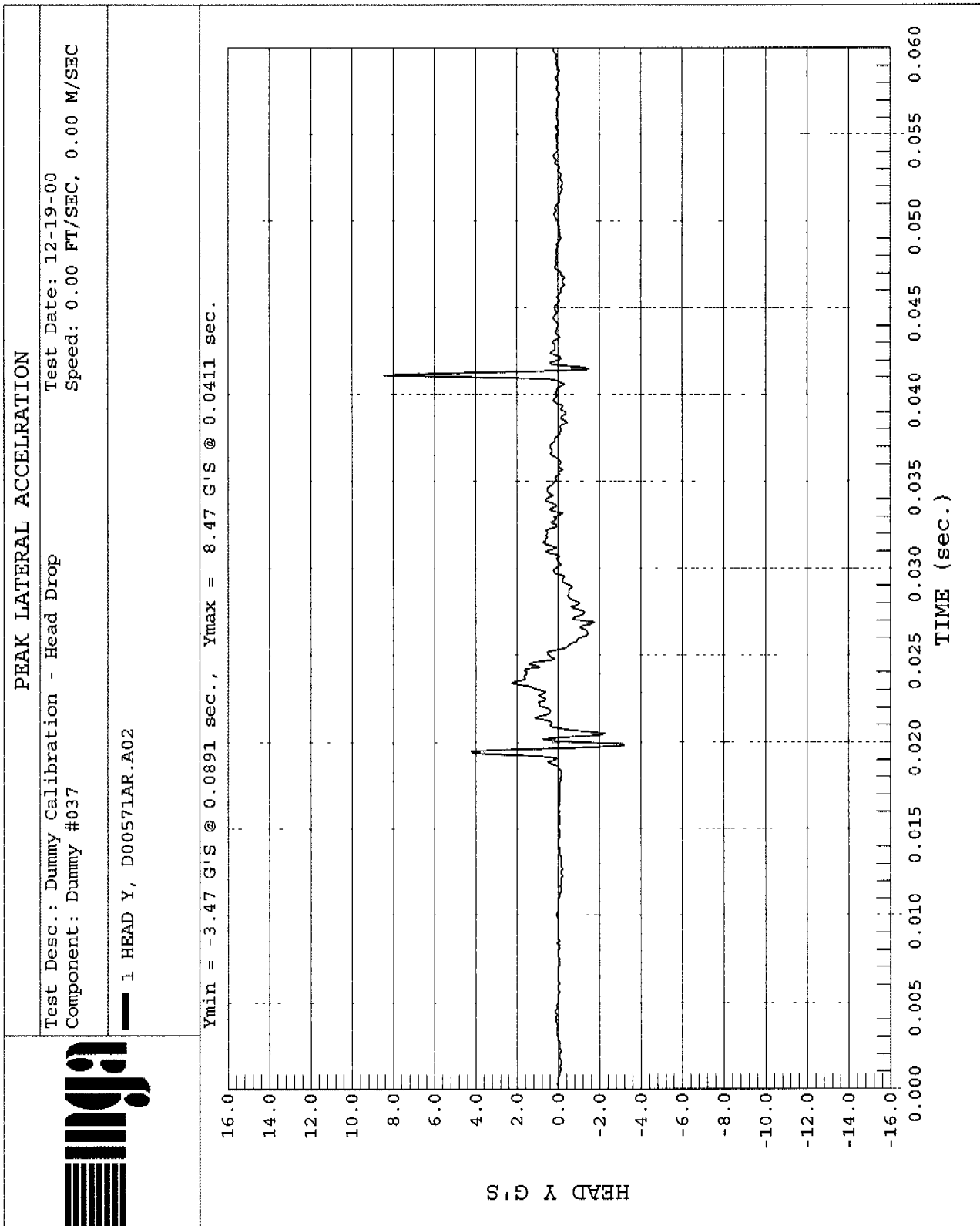
TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	21.5°
Relative Humidity (%)	10 - 70	24%
Peak Resultant Acceleration	210 - 260 g's	247
Peak Lateral Acceleration	< 10 g's	8
Time Above 100 g.	0.9 - 1.5 msec.	1.1

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 





MGA RESEARCH CORPORATION
THORAX IMPACT TEST
SIDE IMPACT DUMMY (SID)

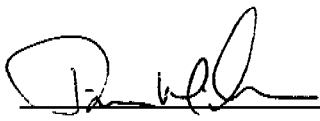
Date: 12/19/00

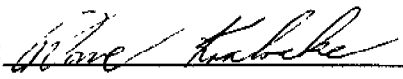
Dummy Serial Number: 037

Test Number: D001572

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4°
Relative Humidity (%)	10 – 70	22%
Probe Speed (m/s)	4.27 – 4.33	4.29
Upper Rib (g's)	37 – 46	42
Lower Rib (g's)	37 – 46	46
Lower Spine (g's)	15 - 22	20

TEST MEETS SPECIFICATIONS

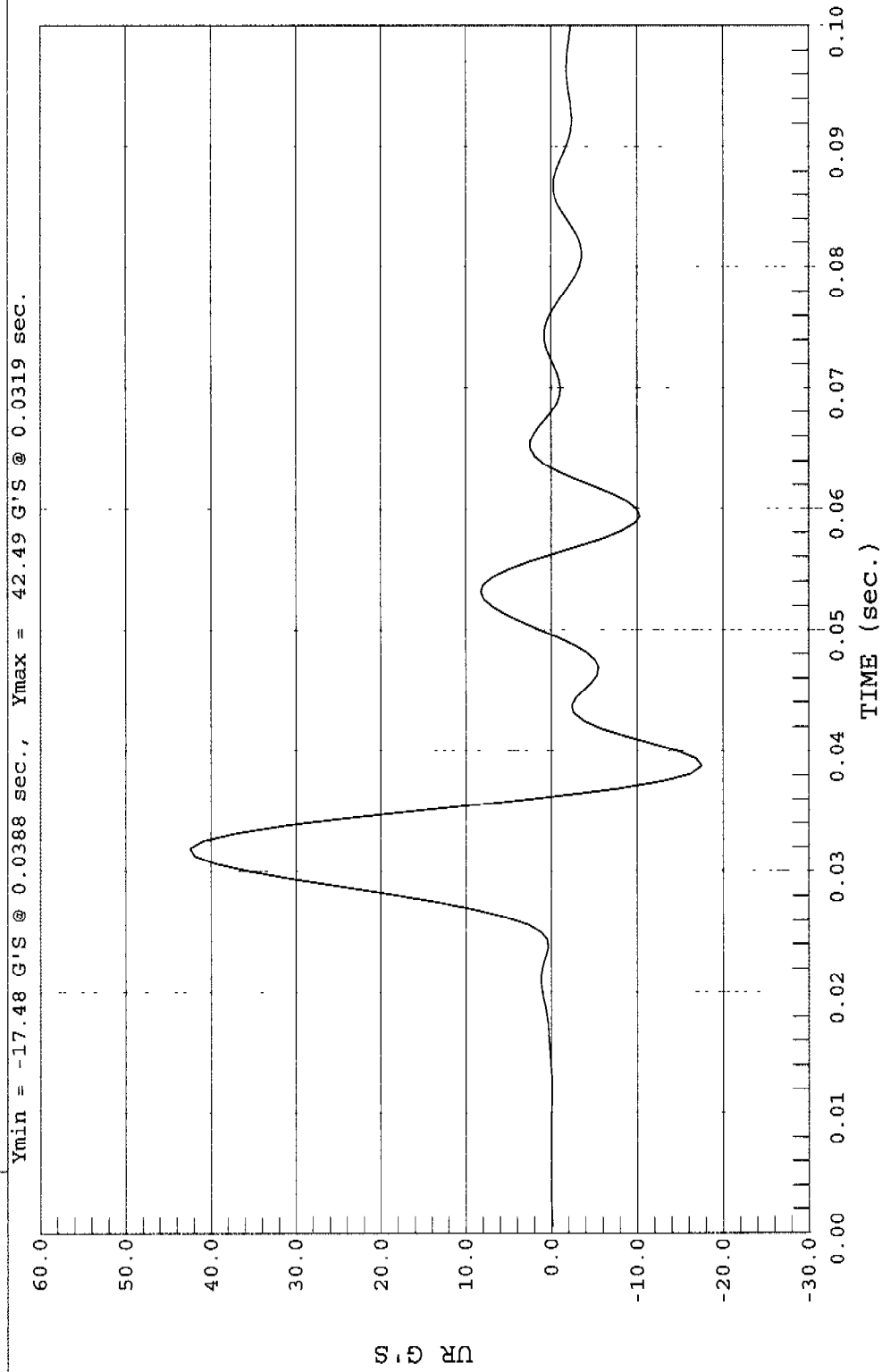
Technician: 

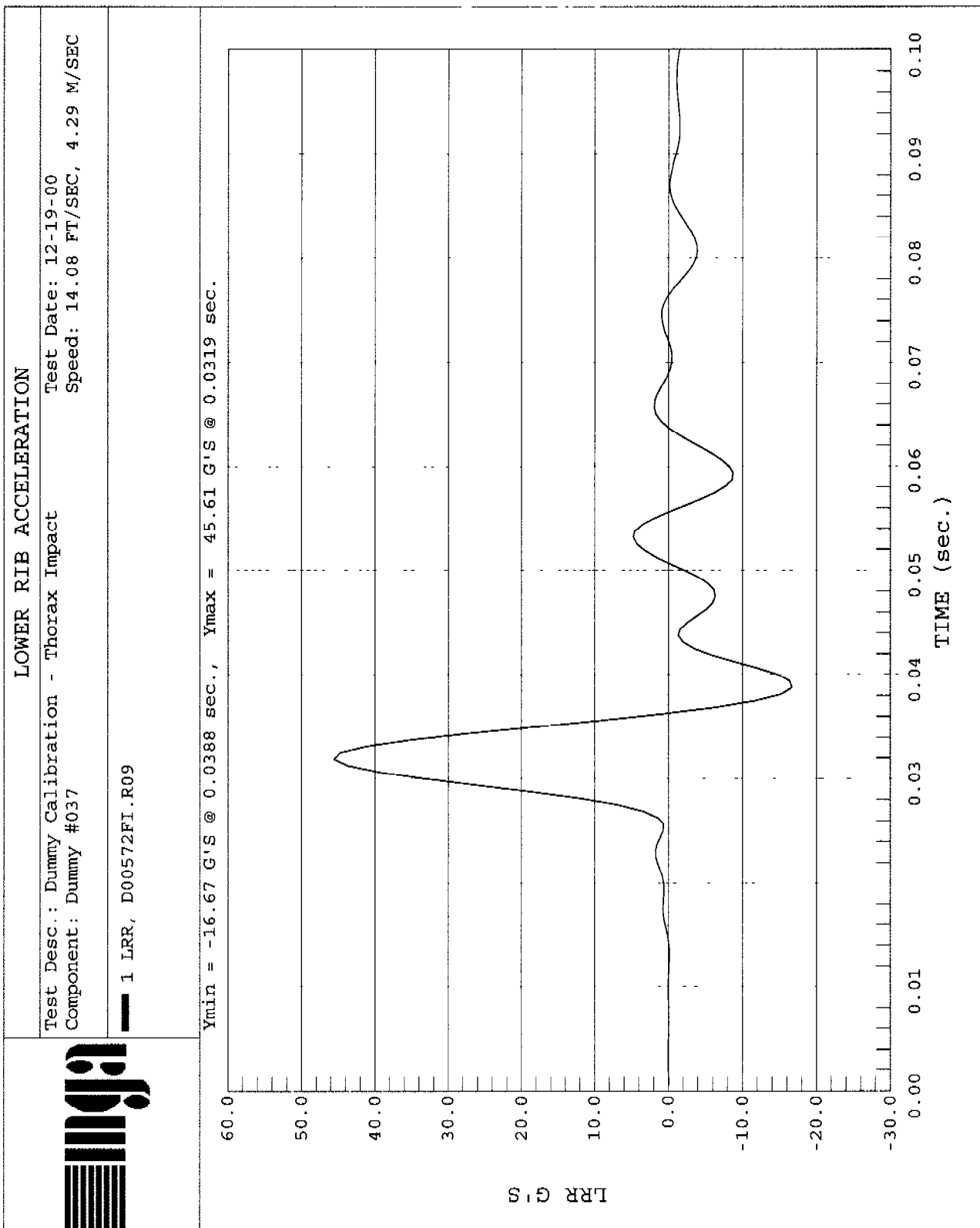
Approved By: 

UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-19-00
 Component: Dummy #037 Speed: 14.08 FT/SEC, 4.29 M/SEC

— 1 UR, D00572FT.R08





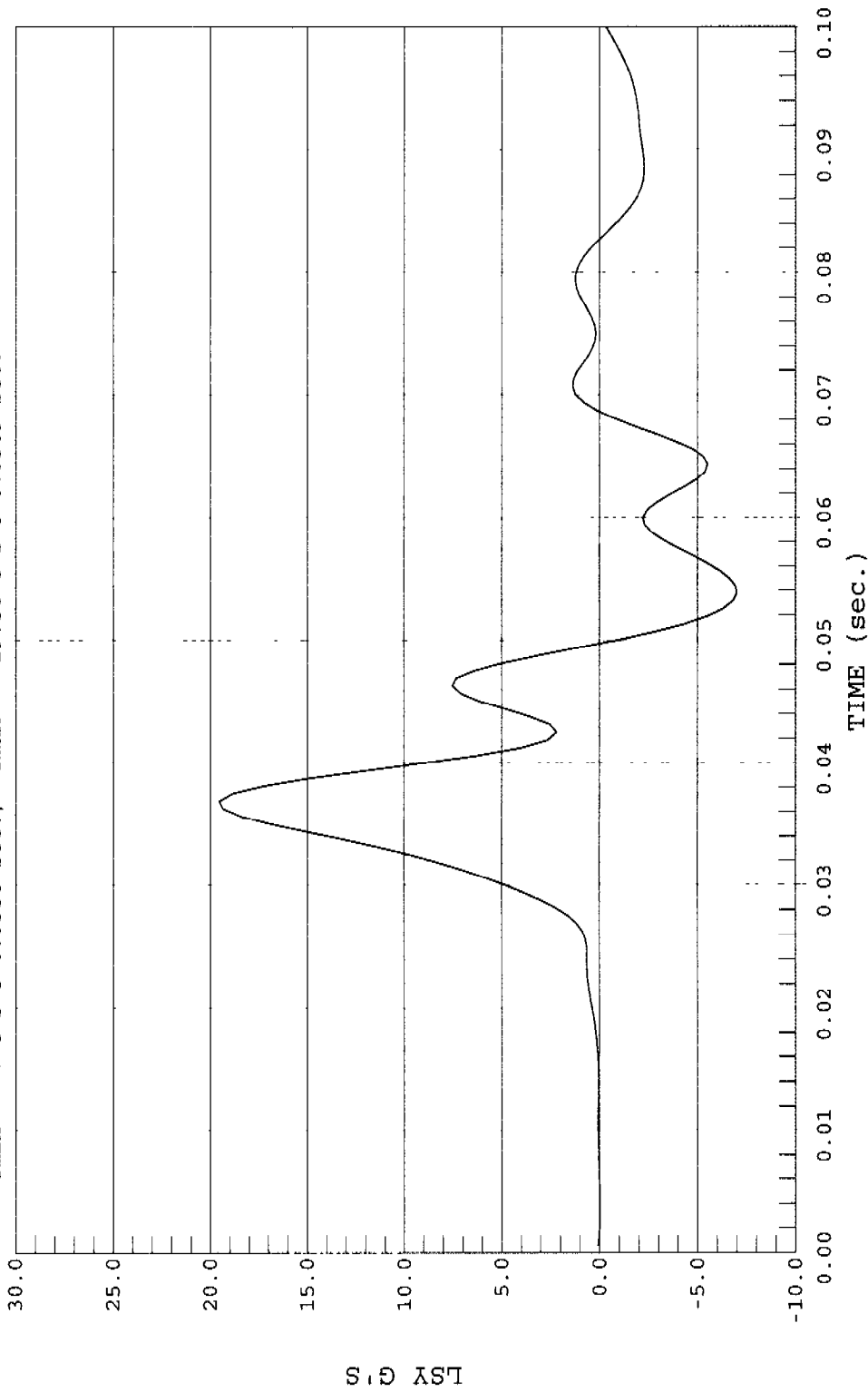
LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-19-00
 Component: Dummy #037 Speed: 14.08 FT/SEC, 4.29 M/SEC

— 1 LSY, D00572FI.R10



Ymin = -7 G'S @ 0.0538 sec., Ymax = 19.56 G'S @ 0.0369 sec.

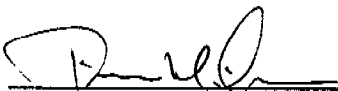


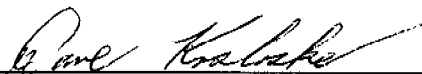
MGA RESEARCH CORPORATION
PELVIS IMPACT TEST
SIDE IMPACT DUMMY (SID)

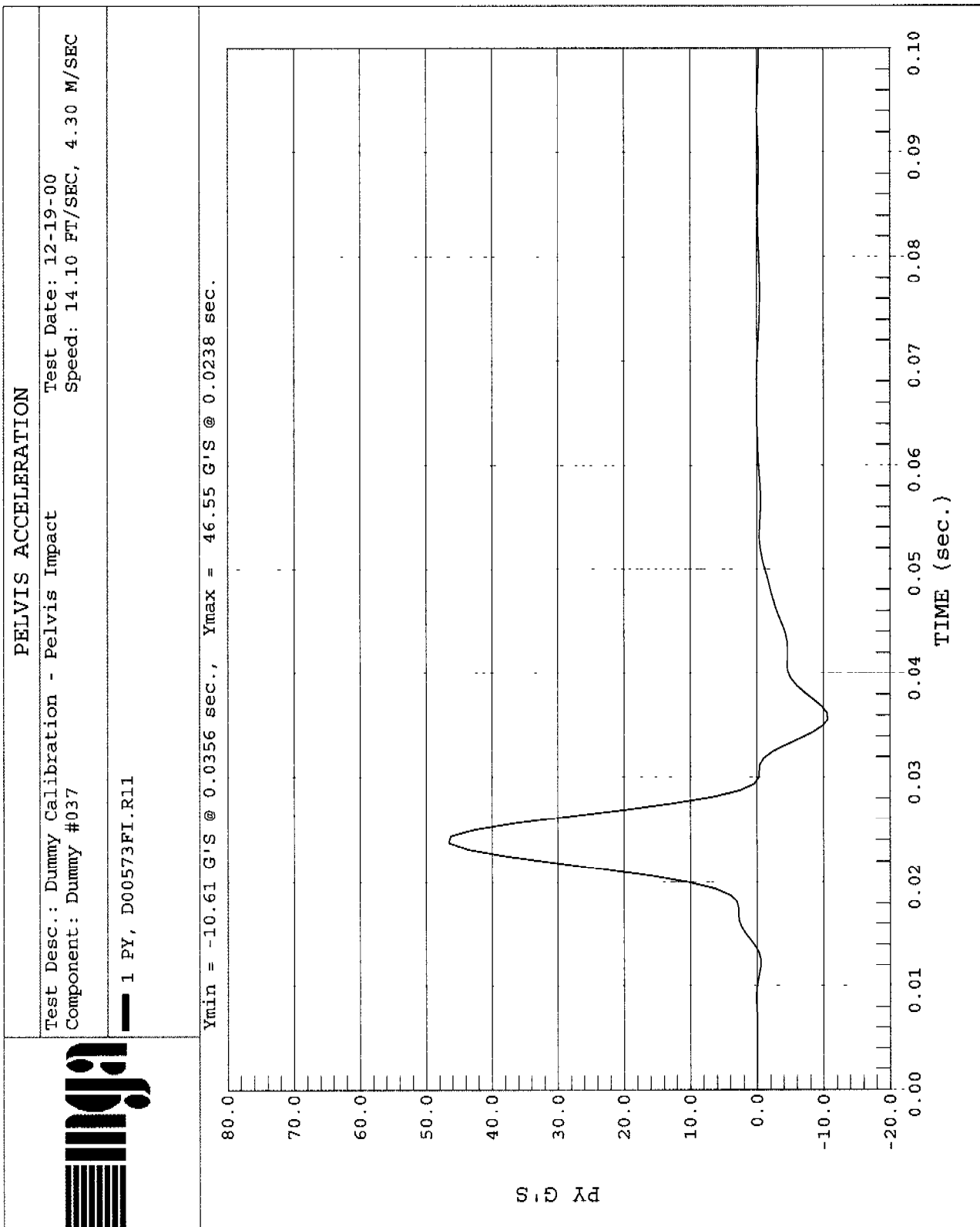
Date: 12/19/00
Dummy Serial Number: 037
Test Number: D001573

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4°
Relative Humidity (%)	10 – 70	22%
Probe Speed (m/s)	4.27 – 4.33	4.30
Pelvis Acceleration (g's)	40 – 60	47

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 



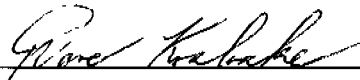
MGA RESEARCH CORPORATION
ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)
SIDE IMPACT DUMMY (SID)

Date: 12/19/00
Dummy Serial Number: 037
Test Number: D001574

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4°
Relative Humidity (%)	10 – 70	24%
Force @ 12.7 mm	104 – 162	135
Force @ 19 mm	163 – 222	185
Force @ 25.4 mm	222 – 280	244
Force @ 33 mm	325 - 391	336

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

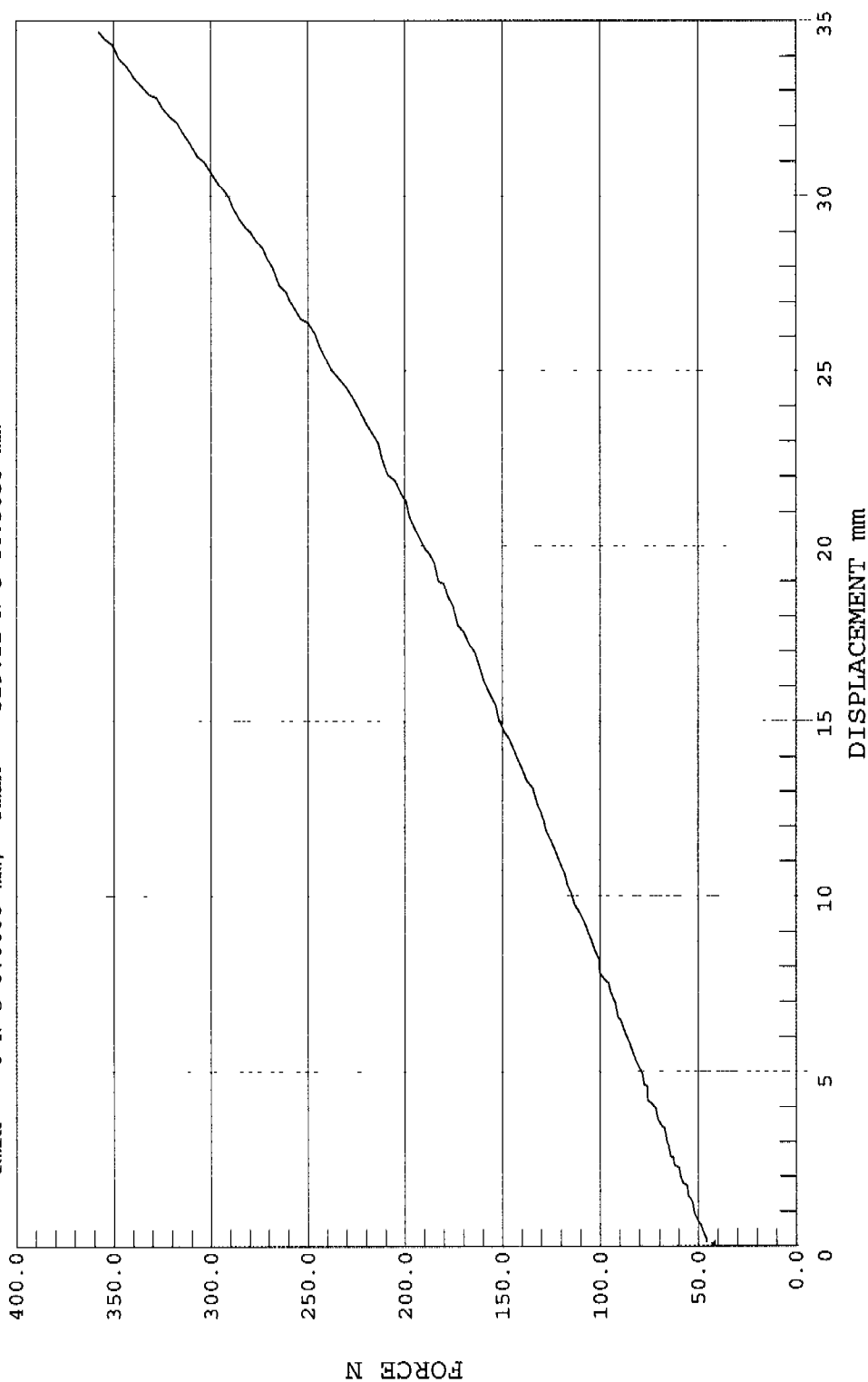
ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION Test Date: 12-19-00
 Component: DUMMY # 037 Speed: 0.00 FT/SEC, 0.00 M/SEC



1 FORCE, D00574FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 529.11 N @ 44.3655 mm



MGA RESEARCH CORPORATION
LUMBAR FLEXION TEST
SIDE IMPACT DUMMY (SID)

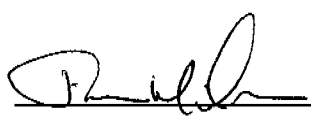
Date: 12/19/00

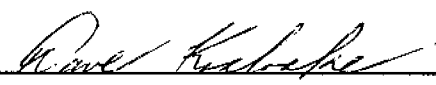
Dummy Serial Number: 037

Test Number: D001575

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4°
Relative Humidity (%)	10 – 70	24%
Force @ 0°	0 – 26.7	0
Force @ 20°	97.9 – 151.2	110.0
Force @ 30°	151.2 – 204.6	182.3
Force @ 40°	204.6 – 258.0	250.5
Return Angle	12° maximum	5°

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

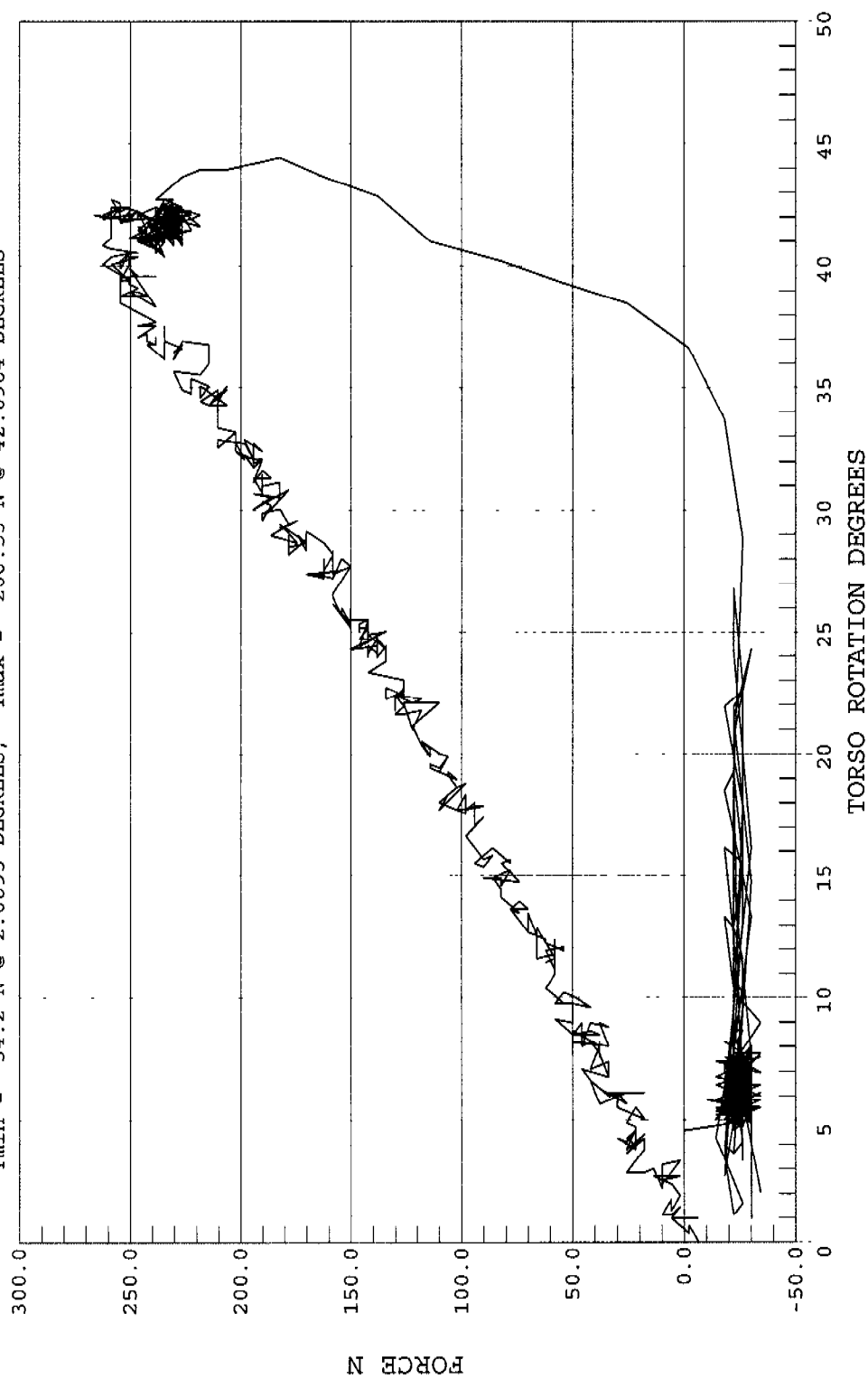


LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION
Component: DUMMY # 037
Test Date: 12-19-00
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D00575FC.F14

Ymin = -34.2 N @ 2.0895 DEGREES, Ymax = 266.53 N @ 42.0964 DEGREES



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 037

Inspected By: Tim Michnay

Date: 12/19/00

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

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

CERTIFICATION DATA

Dummy Serial Number: 036

Calibration Test Results Summary

Dummy Serial Number: 036

Pre-Test Calibration

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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

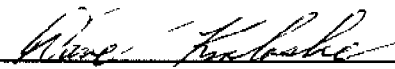
Dummy Serial Number: 036

Date of Verification: 12/19/00

Test Number: D00156

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

Technician: 

Approved By: 

MGA RESEARCH CORPORATION

HEAD DROP TEST

SIDE IMPACT DUMMY (SID)

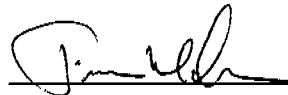
Date: 12/19/00

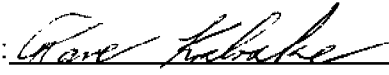
Dummy Serial Number: 036

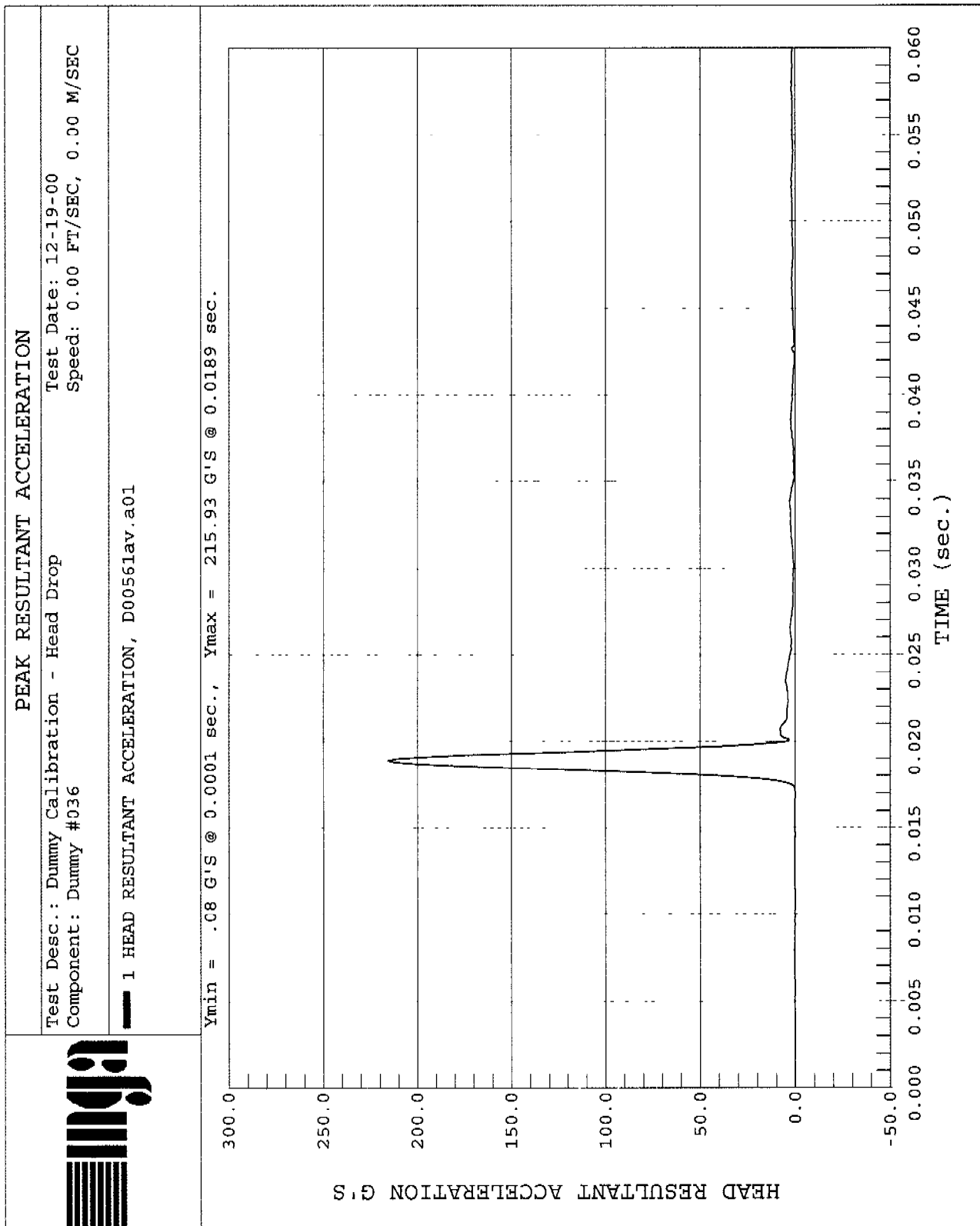
Test Number: D001561

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	21.5°
Relative Humidity (%)	10 - 70	24%
Peak Resultant Acceleration	210 - 260 g's	216
Peak Lateral Acceleration	< 10 g's	-8
Time Above 100 g.	0.9 - 1.5 msec.	1.2

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

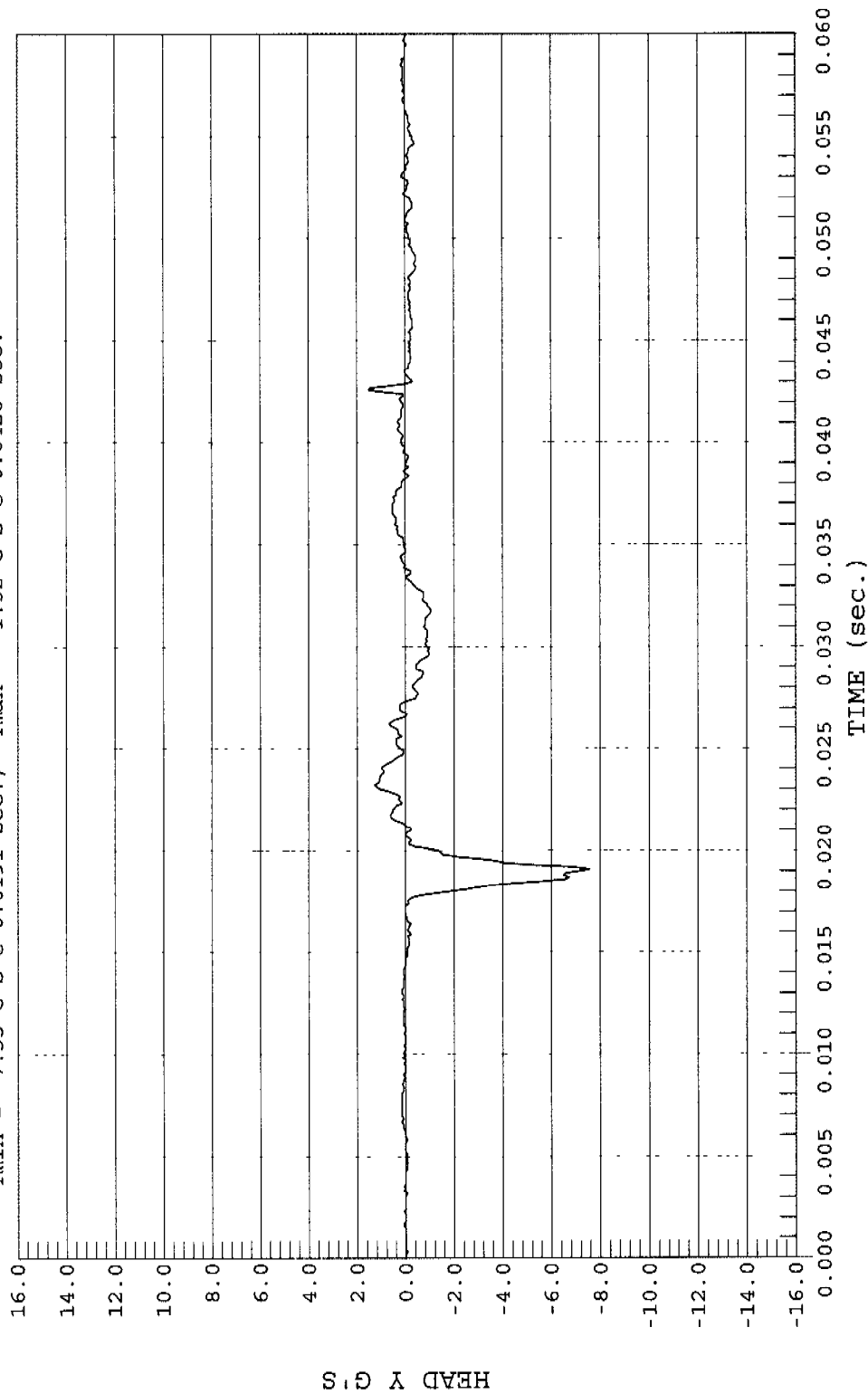


PEAK LATERAL ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
 Component: Dummy #036
 Test Date: 12-19-00
 Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D00561AR.A02

Ymin = -7.55 G'S @ 0.0191 sec., Ymax = 1.52 G'S @ 0.0426 sec.



MGA RESEARCH CORPORATION
THORAX IMPACT TEST
SIDE IMPACT DUMMY (SID)

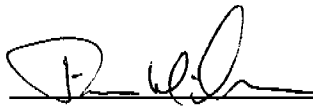
Date: 12/19/00

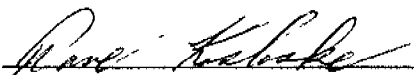
Dummy Serial Number: 036

Test Number: D001562

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.5°
Relative Humidity (%)	10 – 70	22%
Probe Speed (m/s)	4.27 – 4.33	4.28
Upper Rib (g's)	37 – 46	43
Lower Rib (g's)	37 – 46	45
Lower Spine (g's)	15 - 22	20

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

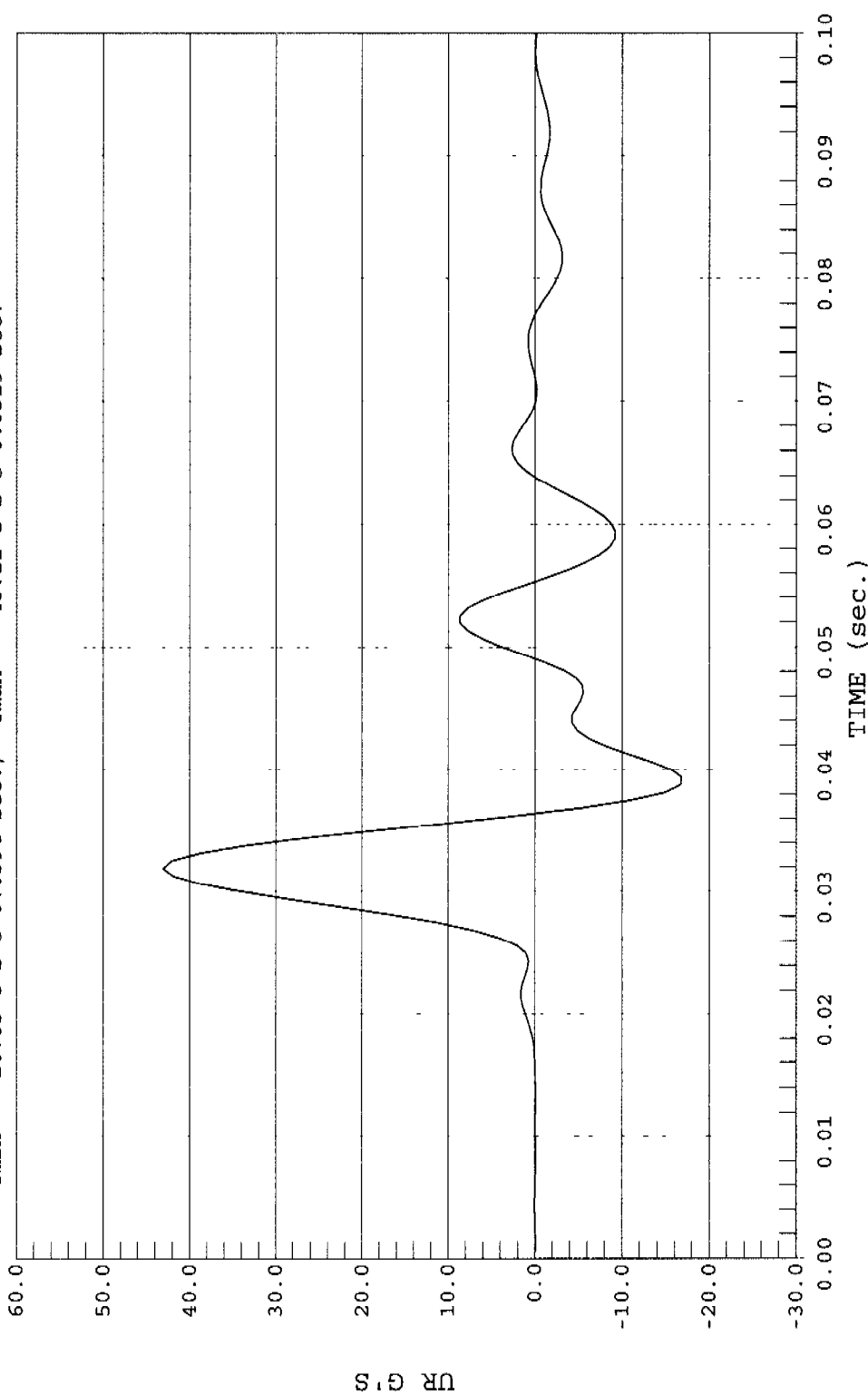
UPPER RIB ACCELERATION

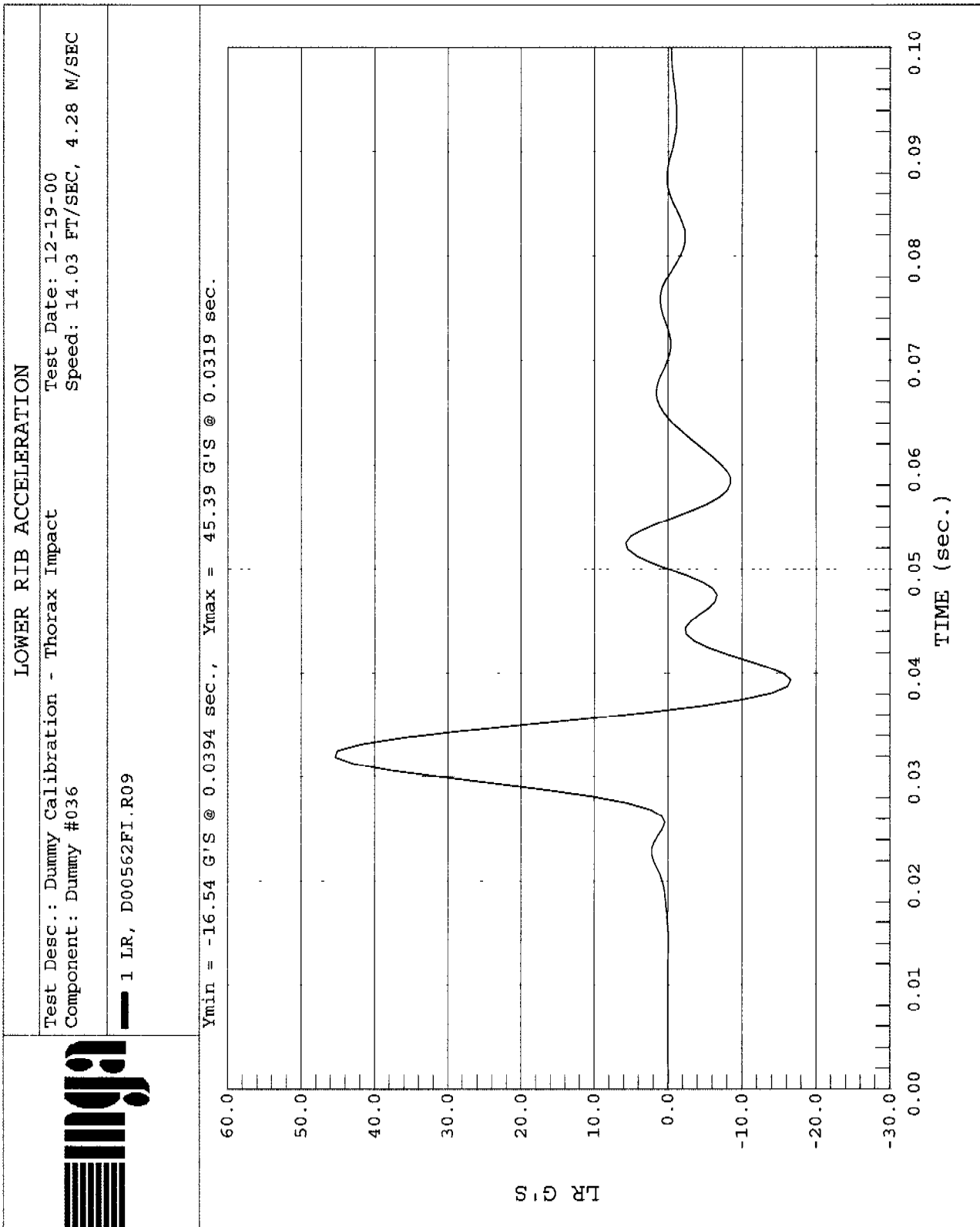
Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-19-00
 Component: Dummy #036 Speed: 14.03 FT/SEC, 4.28 M/SEC

— 1 UR, D00562FI.R08



Ymin = -16.85 G'S @ 0.0394 sec., Ymax = 43.11 G'S @ 0.0319 sec.



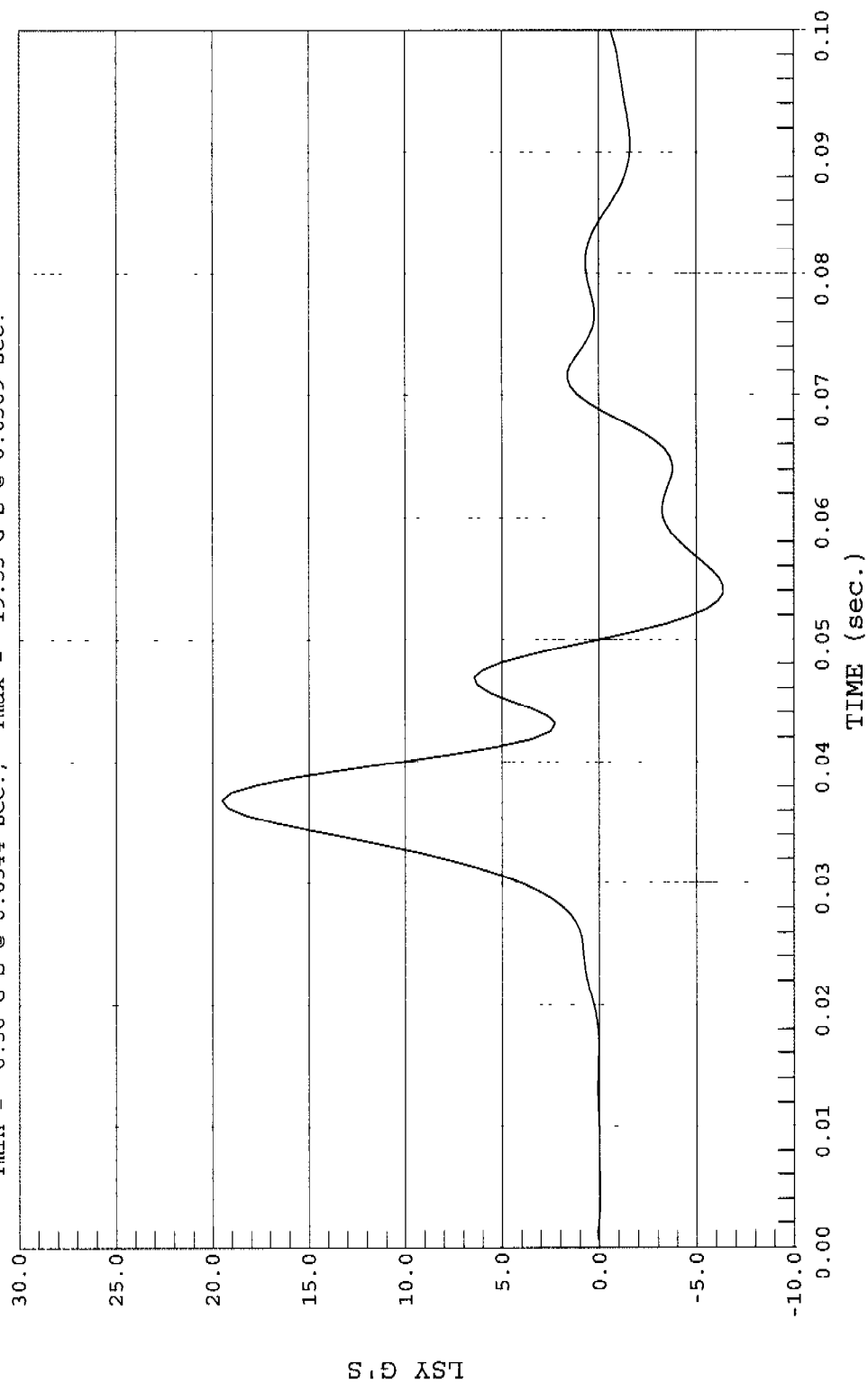


LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-19-00
 Component: Dummy #036 Speed: 14.03 FT/SEC, 4.28 M/SEC

— 1 LSY, D00562FI.R10

Ymin = -6.36 G'S @ 0.0544 sec., Ymax = 19.53 G'S @ 0.0369 sec.



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

Date: 12/19/00

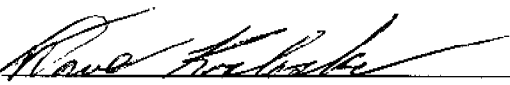
Dummy Serial Number: 036

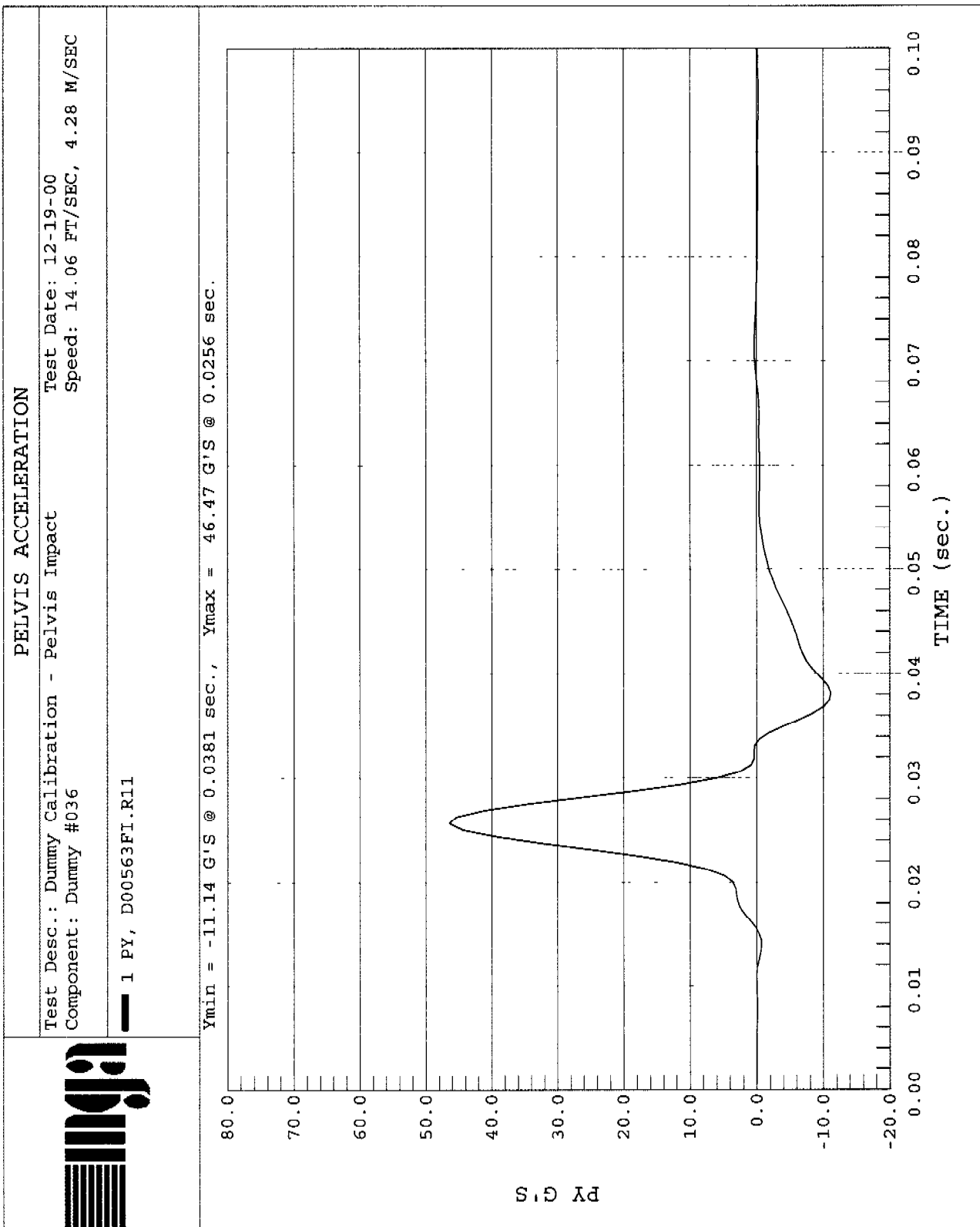
Test Number: D001563

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.4°
Relative Humidity (%)	10 – 70	22%
Probe Speed (m/s)	4.27 – 4.33	4.28
Pelvis Acceleration (g's)	40 – 60	46

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

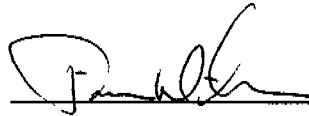


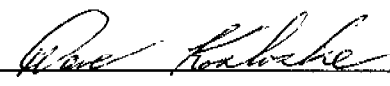
MGA RESEARCH CORPORATION
ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)
SIDE IMPACT DUMMY (SID)

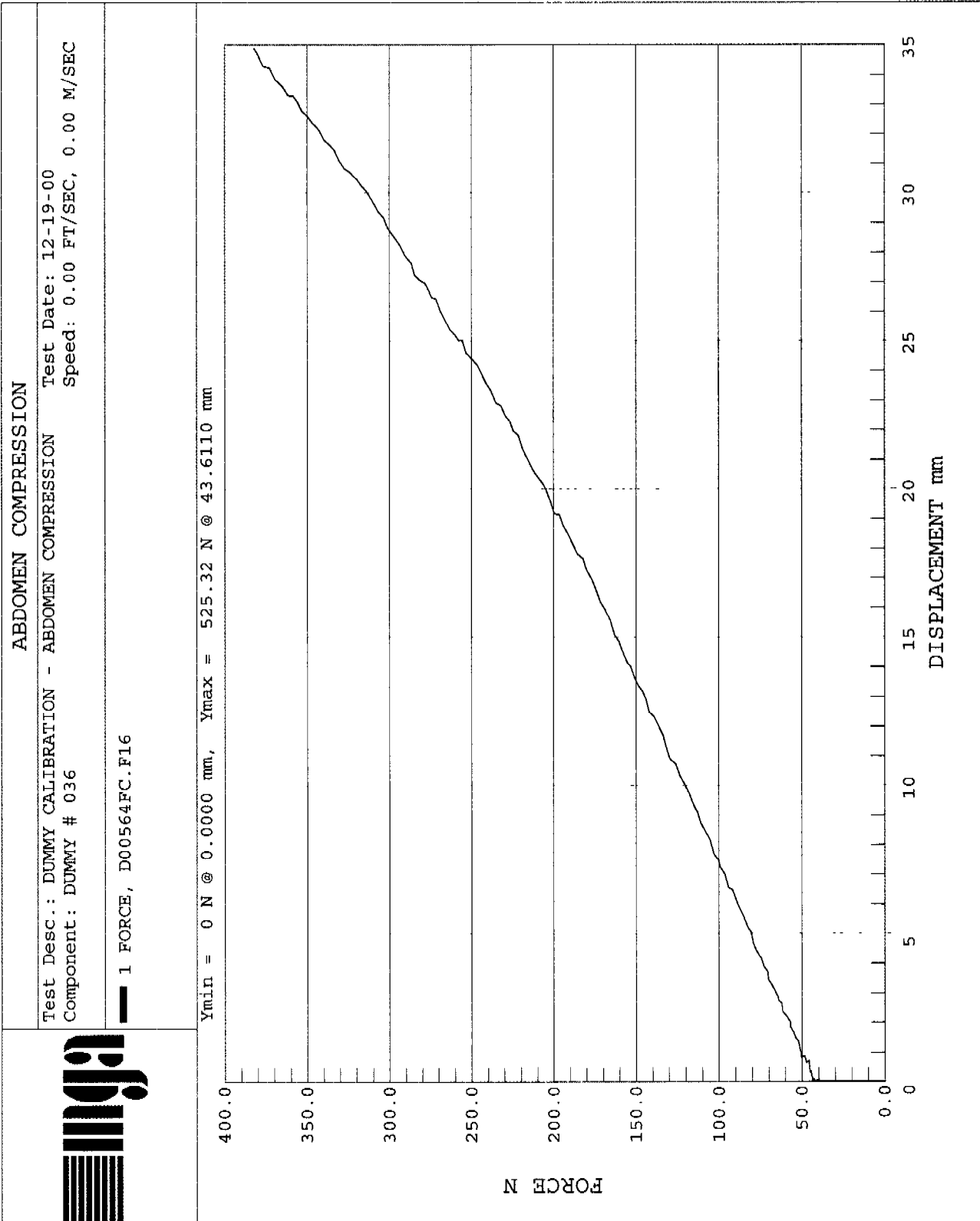
Date: 12/19/00
Dummy Serial Number: 036
Test Number: D001564

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.5°
Relative Humidity (%)	10 – 70	24%
Force @ 12.7 mm	104 – 162	144
Force @ 19 mm	163 – 222	197
Force @ 25.4 mm	222 – 280	267
Force @ 33 mm	325 - 391	356

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 



MGA RESEARCH CORPORATION

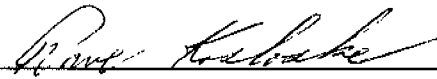
LUMBAR FLEXION TEST

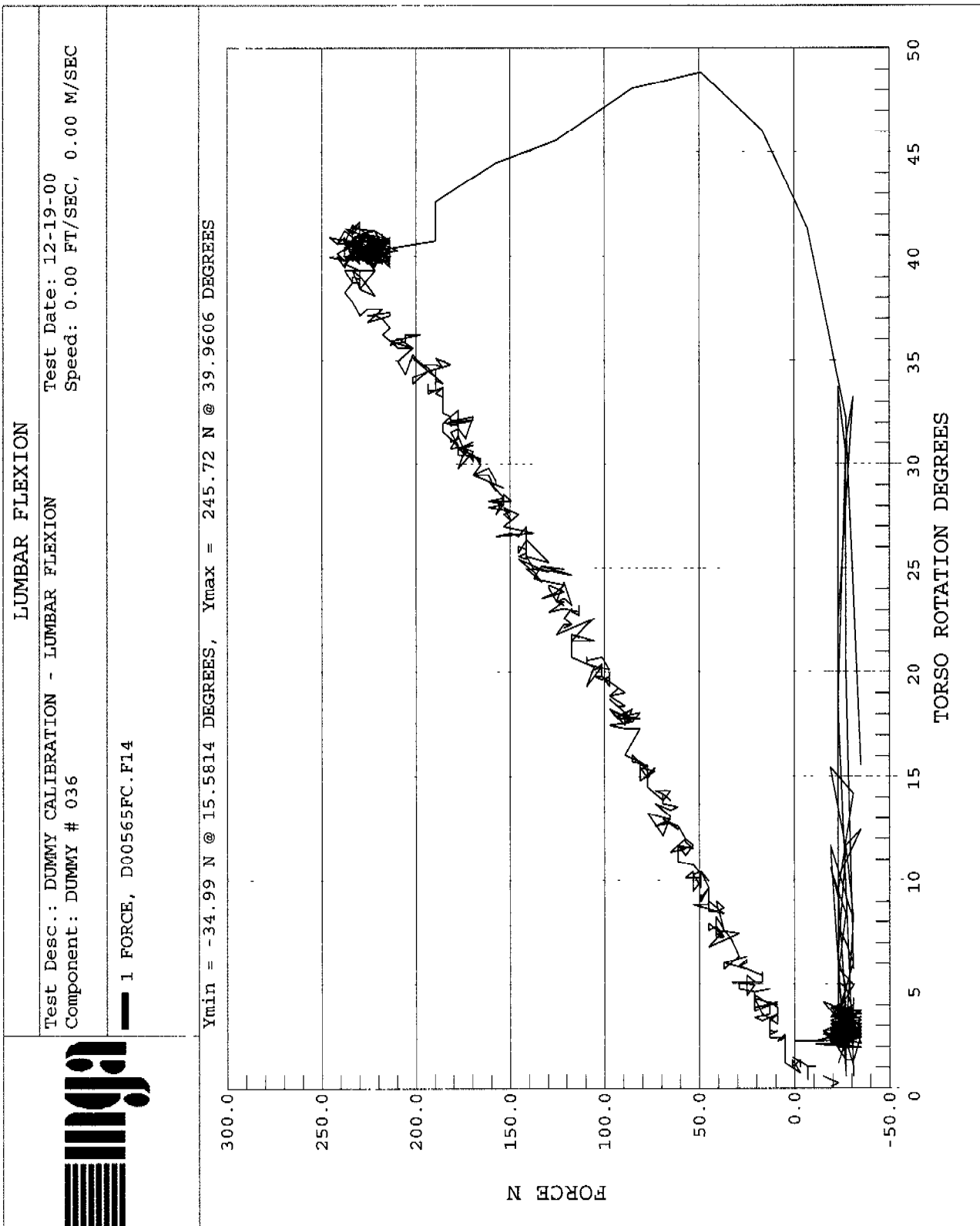
SIDE IMPACT DUMMY (SID)

Date: 12/19/00Dummy Serial Number: 036Test Number: D001565

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 – 25.5	21.5°
Relative Humidity (%)	10 – 70	24%
Force @ 0°	0 – 26.7	0
Force @ 20°	97.9 – 151.2	101.4
Force @ 30°	151.2 – 204.6	169.5
Force @ 40°	204.6 – 258.0	233.7
Return Angle	12° maximum	2°

TEST MEETS SPECIFICATIONS

Technician: Approved By: 



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 036

Inspected By: Tim Michnay

Date: 12/19/00

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

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

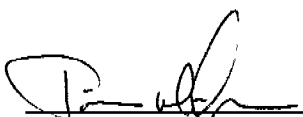
CERTIFICATION DATA

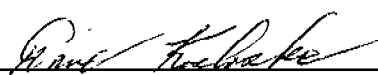
Dummy Serial Number: 037

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 037
 Date of Verification: 12/22/00
 Test Number: D00161

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

Technician: 

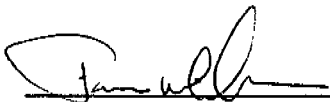
Approved By: 

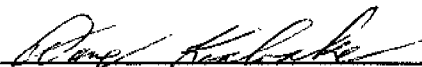
MGA RESEARCH CORPORATION
HEAD DROP TEST
SIDE IMPACT DUMMY (SID)

Date: 12/22/00
Dummy Serial Number: 037
Test Number: D001611

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

TEST MEETS SPECIFICATIONS

Technician: 

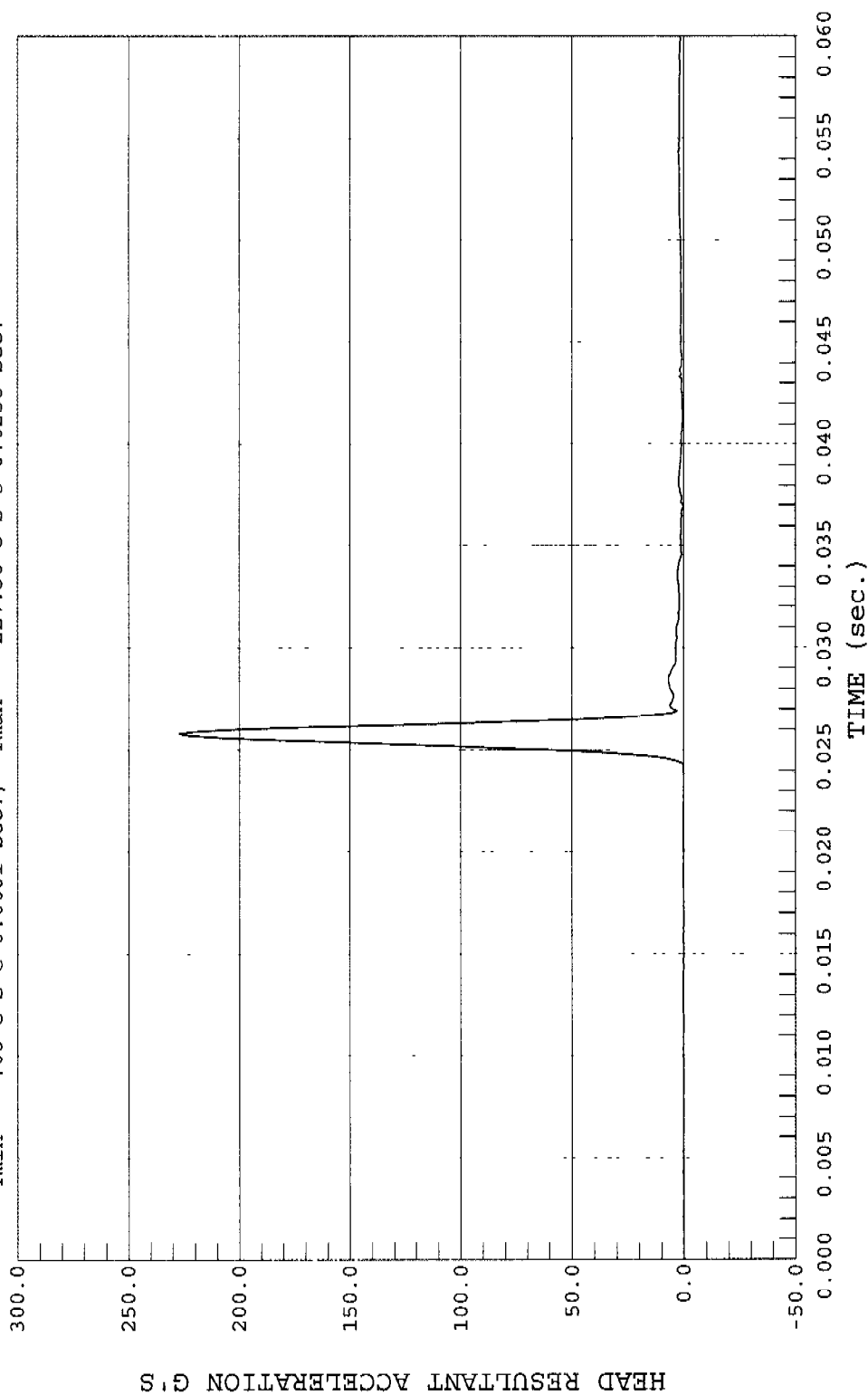
Approved By: 

PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
 Component: Dummy #037
 Test Date: 12-22-00
 Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT ACCELERATION, D00611av.a01

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

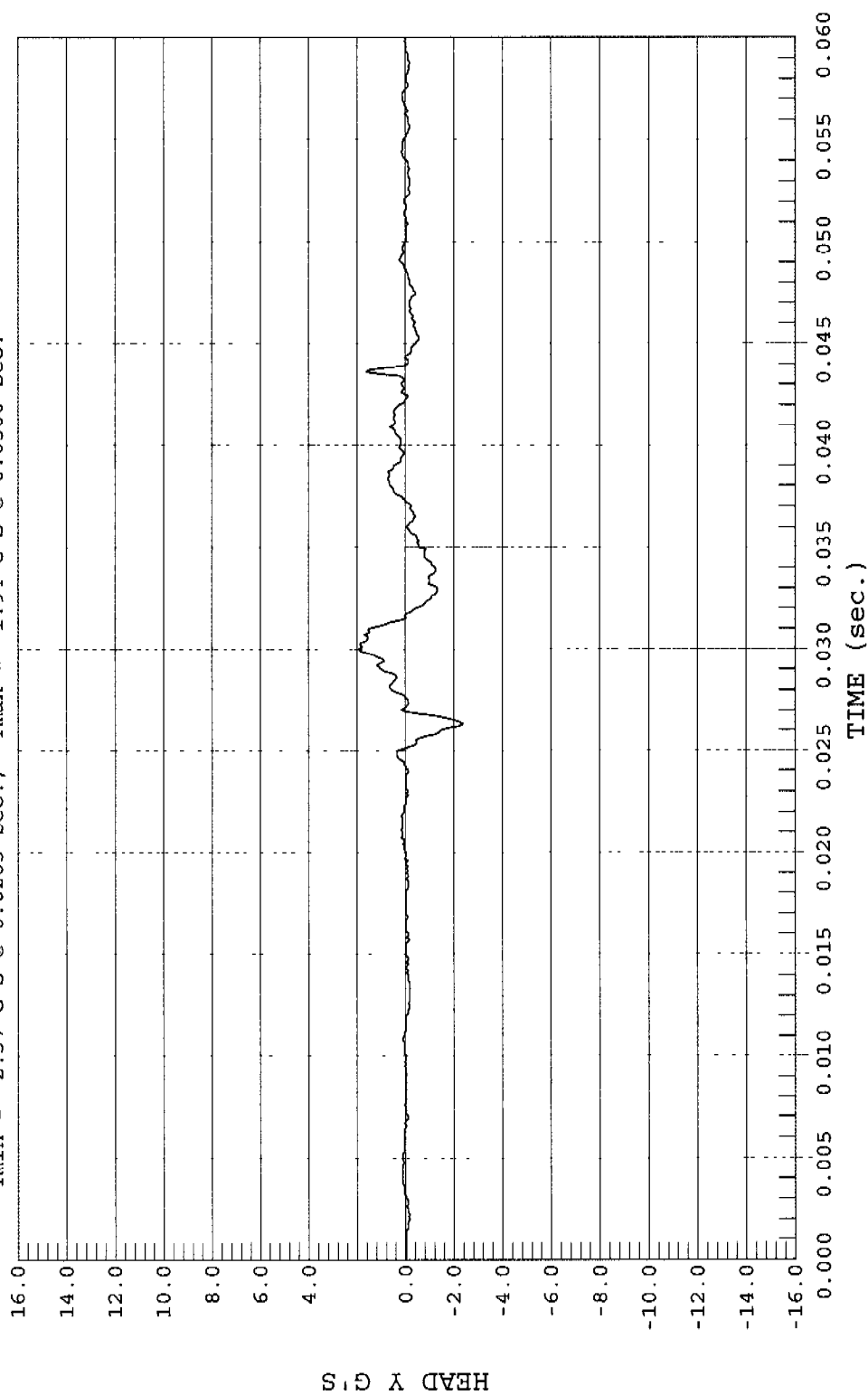


PEAK LATERAL ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
 Component: Dummy #037
 Test Date: 12-22-00
 Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D00611AR.A02

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



MGA RESEARCH CORPORATION
THORAX IMPACT TEST
SIDE IMPACT DUMMY (SID)

Date: 12/21/00

Dummy Serial Number: 037

Test Number: D001612

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

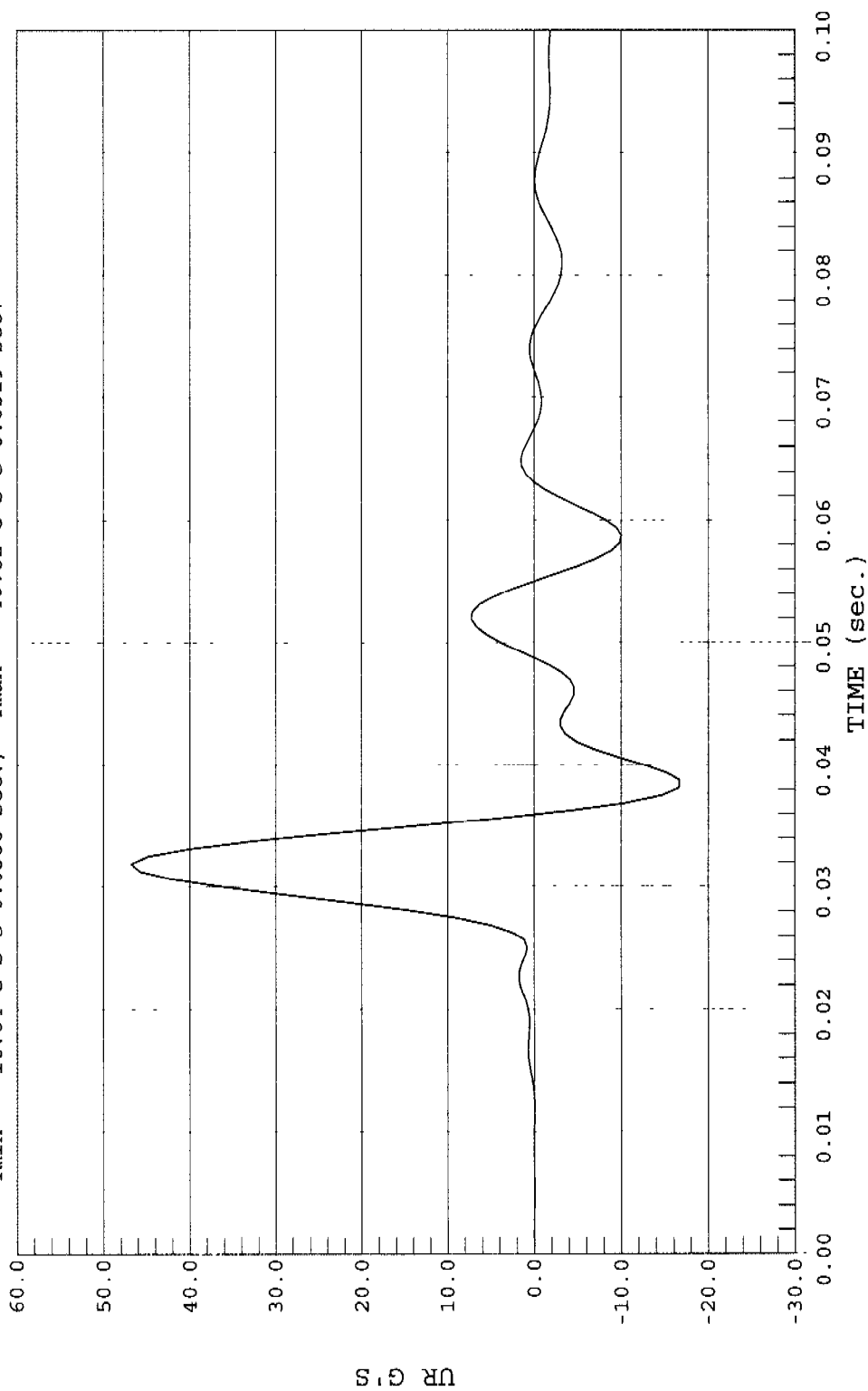
UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact
 Component: Dummy #037
 Test Date: 12-21-00
 Speed: 14.07 FT/SEC, 4.29 M/SEC

— 1 UR, D00612FT.R08



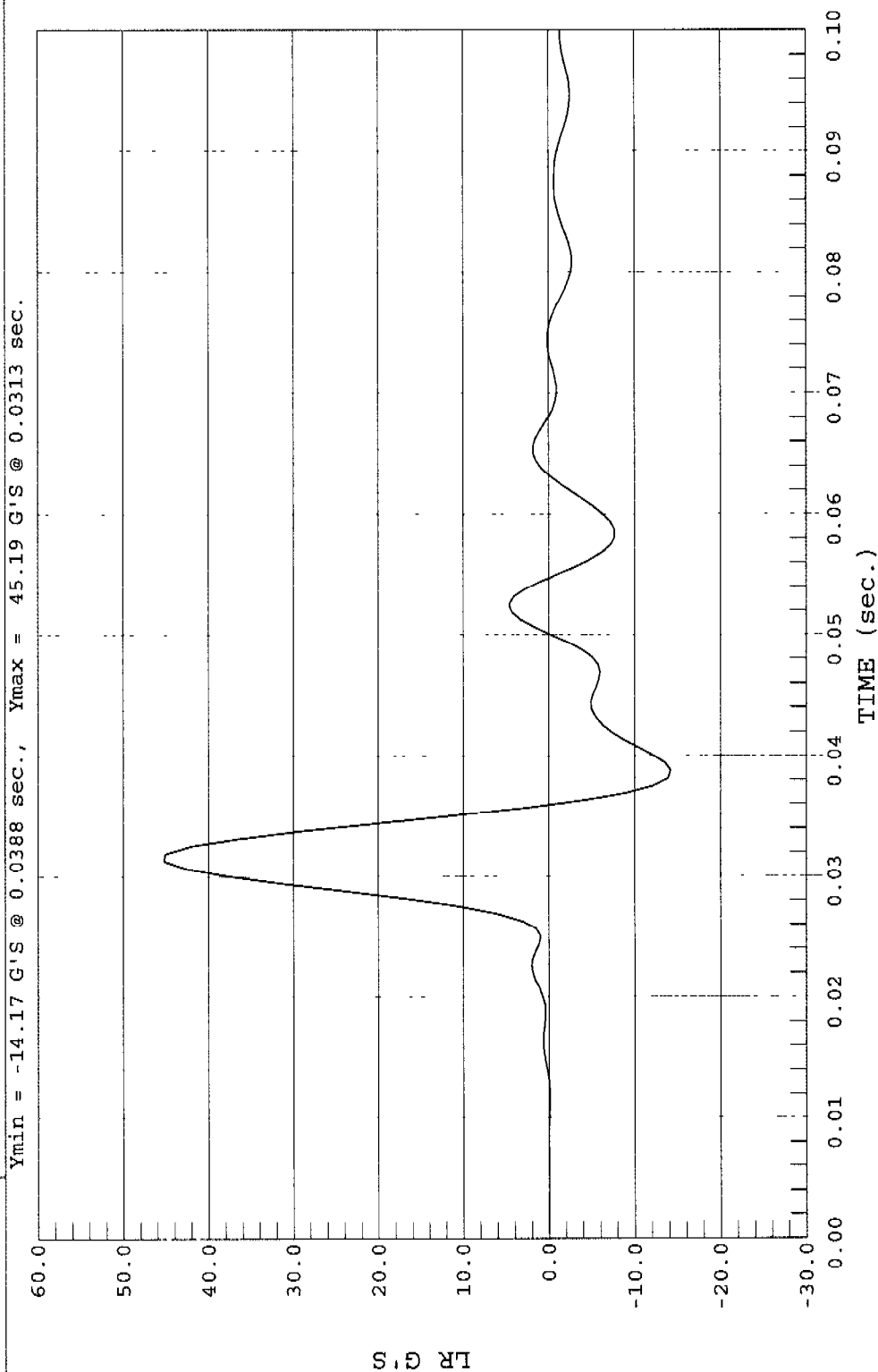
Ymin = -16.64 G'S @ 0.0388 sec., Ymax = 46.82 G'S @ 0.0319 sec.



LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-21-00
 Component: Dummy #037 Speed: 14.07 FT/SEC, 4.29 M/SEC

1 LR, D00612FI.R09

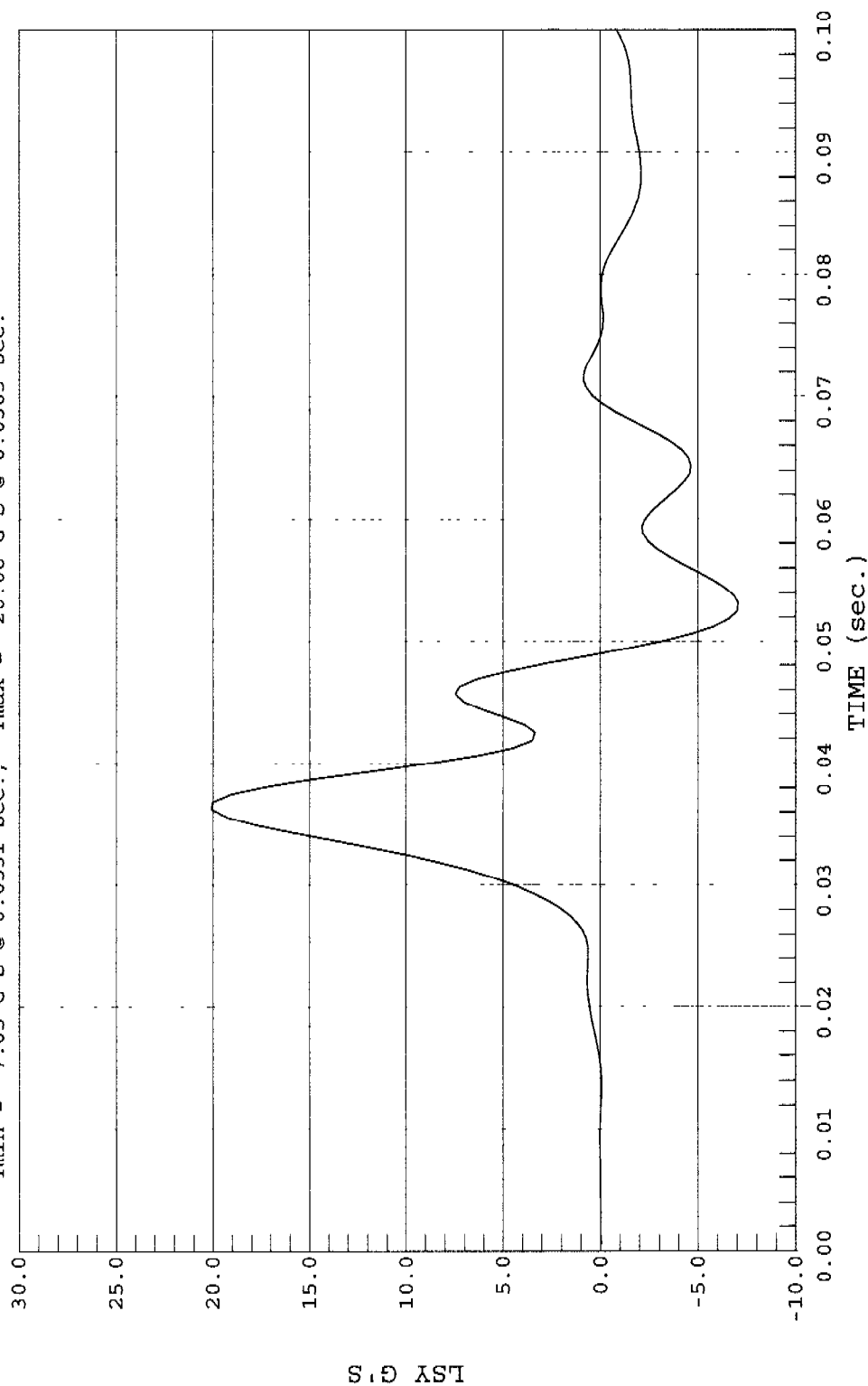


LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-21-00
 Component: Dummy #037 Speed: 14.07 FT/SEC, 4.29 M/SEC

— 1 LSY, D00612FI.R10

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

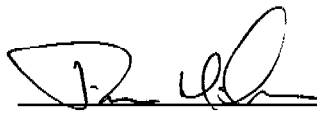


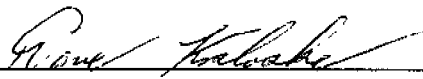
MGA RESEARCH CORPORATION
PELVIS IMPACT TEST
SIDE IMPACT DUMMY (SID)

Date: 12/21/00
Dummy Serial Number: 037
Test Number: D001613

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

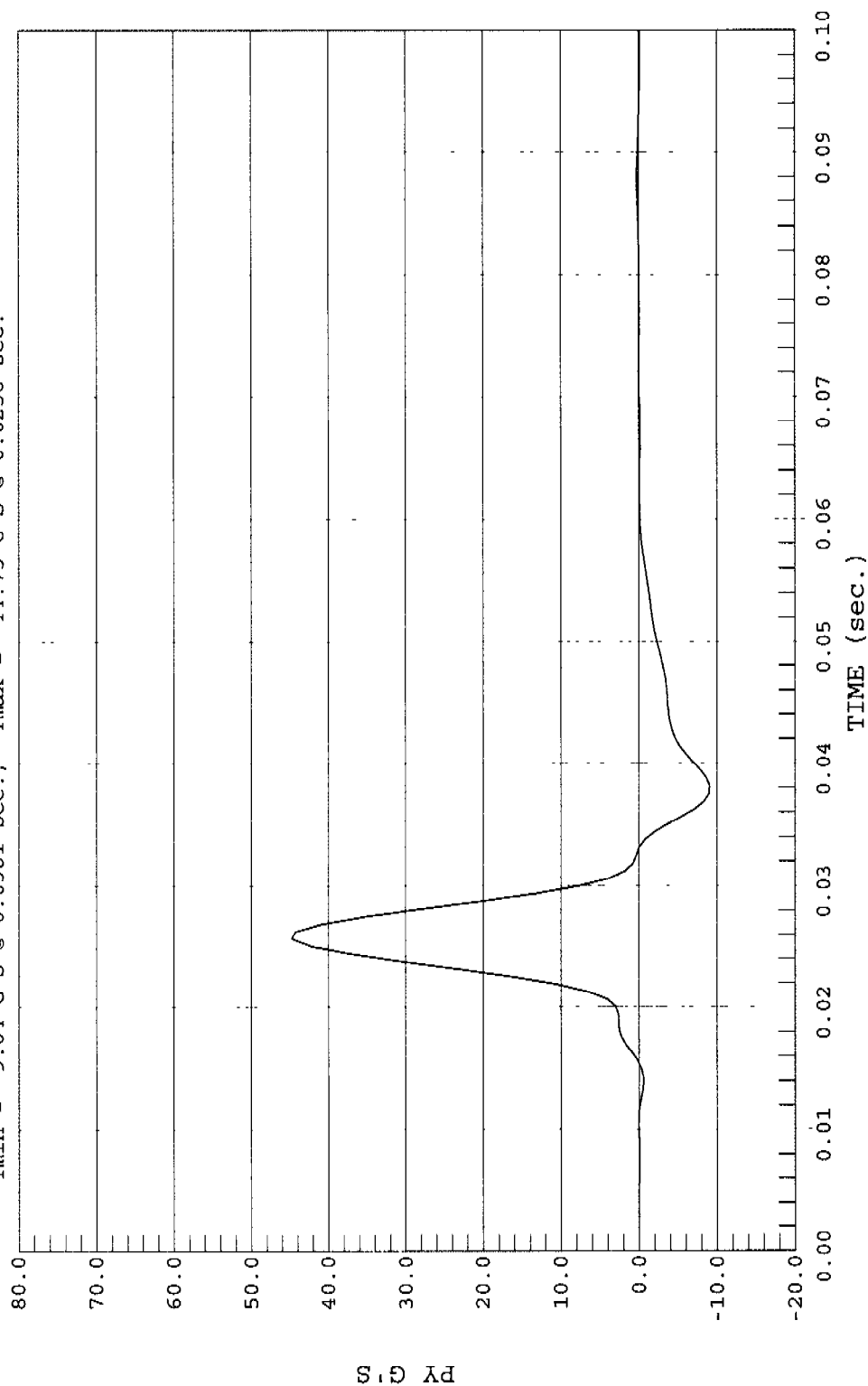
PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact Test Date: 12-21-00
 Component: Dummy #037 Speed: 14.08 FT/SEC, 4.29 M/SEC



1 PY, D00613FI.R11

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



MGA RESEARCH CORPORATION
ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)
SIDE IMPACT DUMMY (SID)

Date: 12/21/00

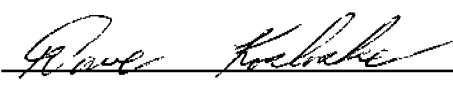
Dummy Serial Number: 037

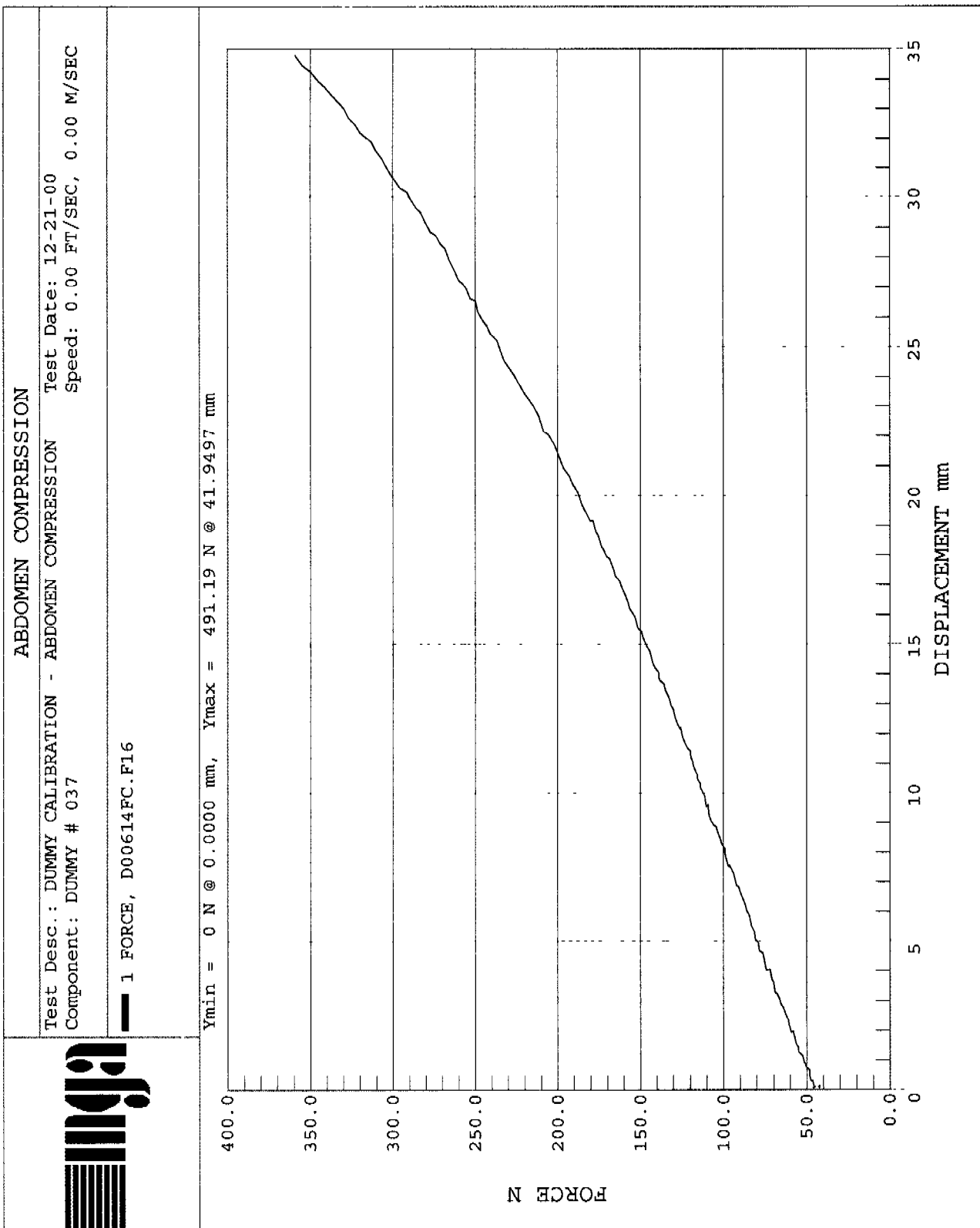
Test Number: D001614

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 



MGA RESEARCH CORPORATION
LUMBAR FLEXION TEST
SIDE IMPACT DUMMY (SID)

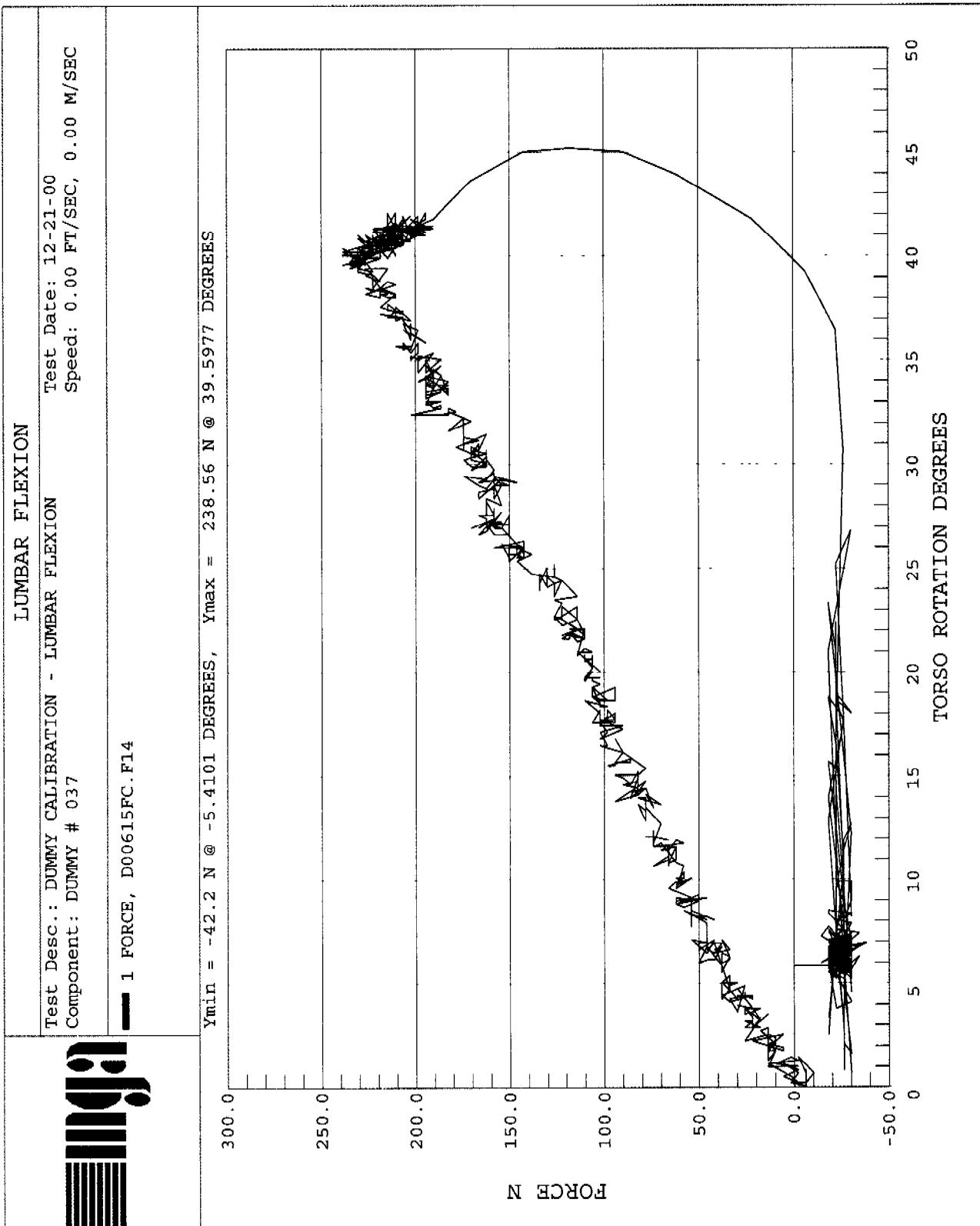
Date: 1/21/00
Dummy Serial Number: 037
Test Number: D001615

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 037

Inspected By: Tim Michnay

Date: 12/22/00

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

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

CERTIFICATION DATA

Dummy Serial Number: 036

Calibration Test Results Summary

Dummy Serial Number: 036

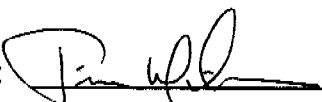
Post-Test Calibration

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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 036
 Date of Verification: 12/22/00
 Test Number: D00160

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

Technician: 

Approved By: 

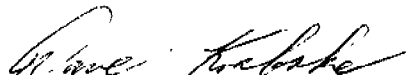
MGA RESEARCH CORPORATION
HEAD DROP TEST
SIDE IMPACT DUMMY (SID)

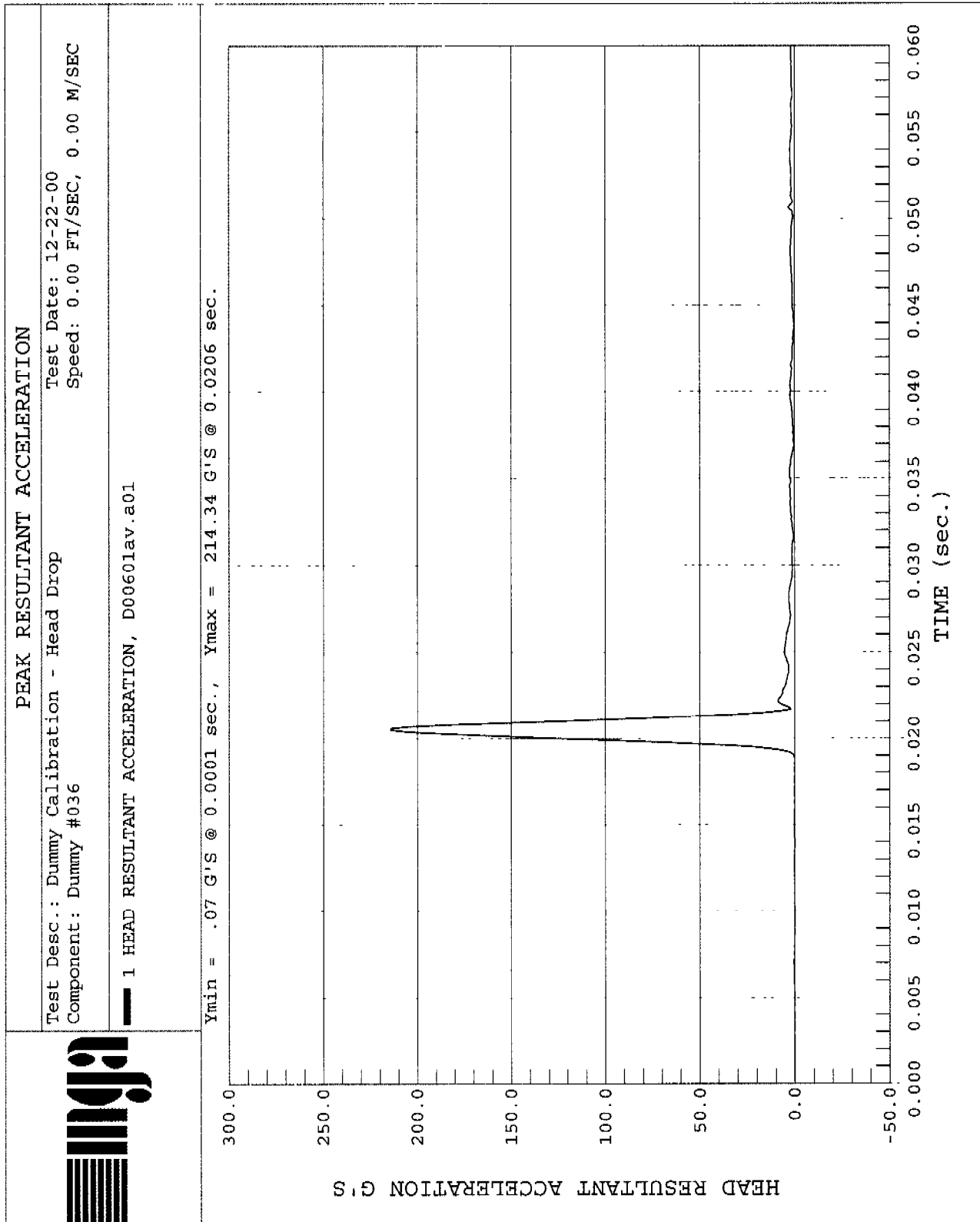
Date: 12/22/00
Dummy Serial Number: 036
Test Number: D001601

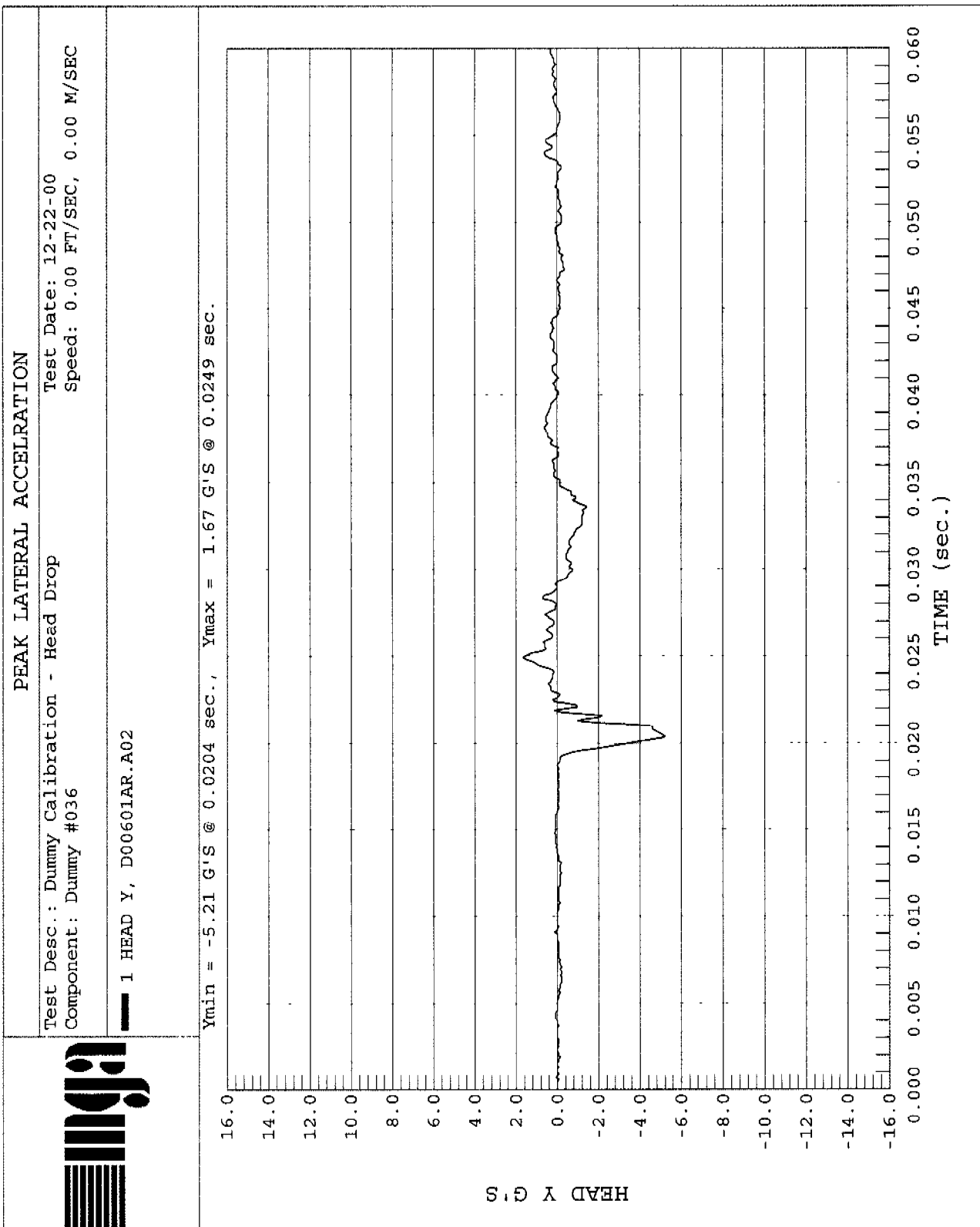
TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature (°C)	18.9 - 25.5	21.0°
Relative Humidity (%)	10 - 70	127%
Peak Resultant Acceleration	210 - 260 g's	214
Peak Lateral Acceleration	< 10 g's	-5
Time Above 100 g.	0.9 - 1.5 msec.	1.2

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 





MGA RESEARCH CORPORATION
THORAX IMPACT TEST
SIDE IMPACT DUMMY (SID)

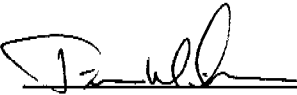
Date: 12/21/00

Dummy Serial Number: 036

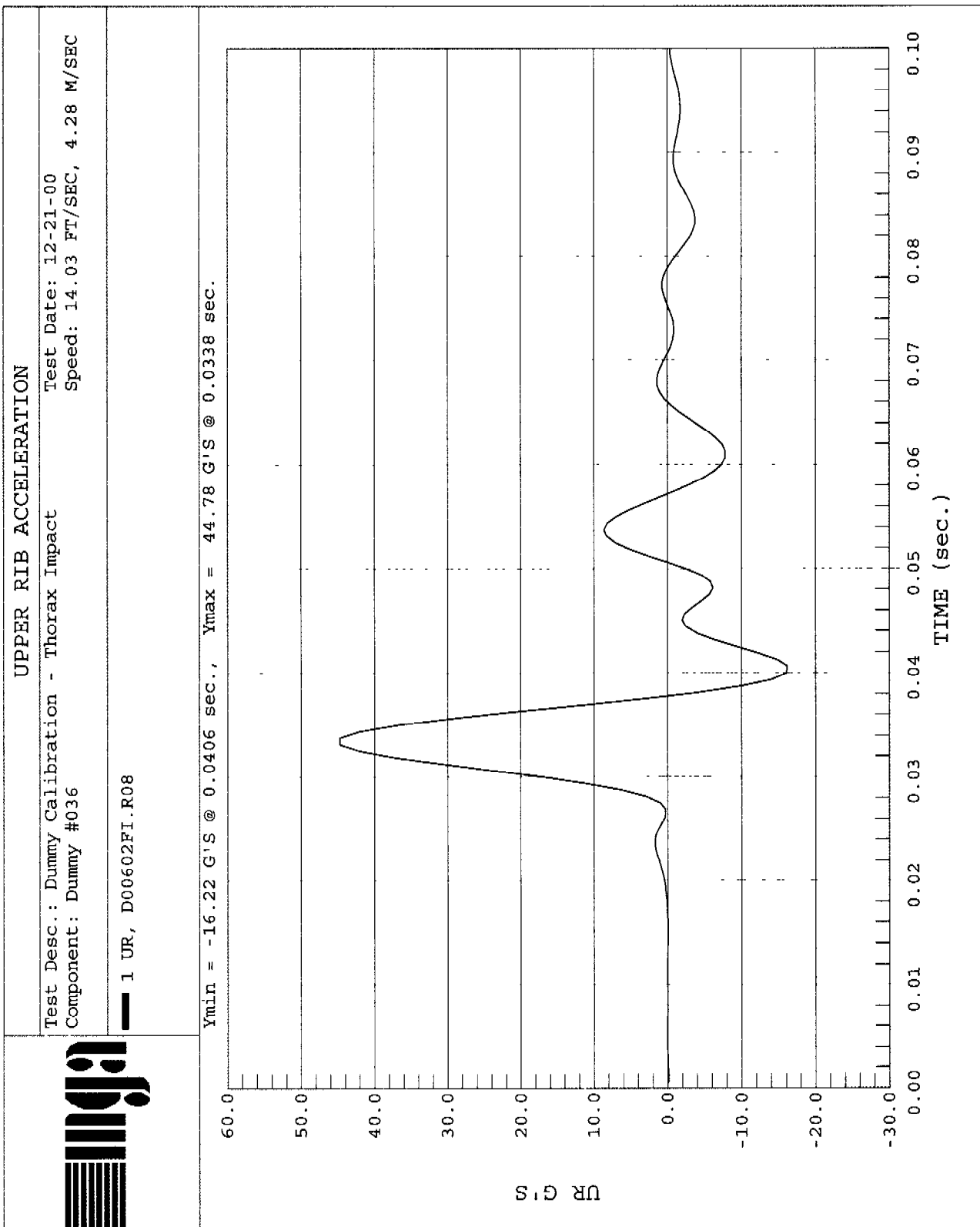
Test Number: D001602

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 



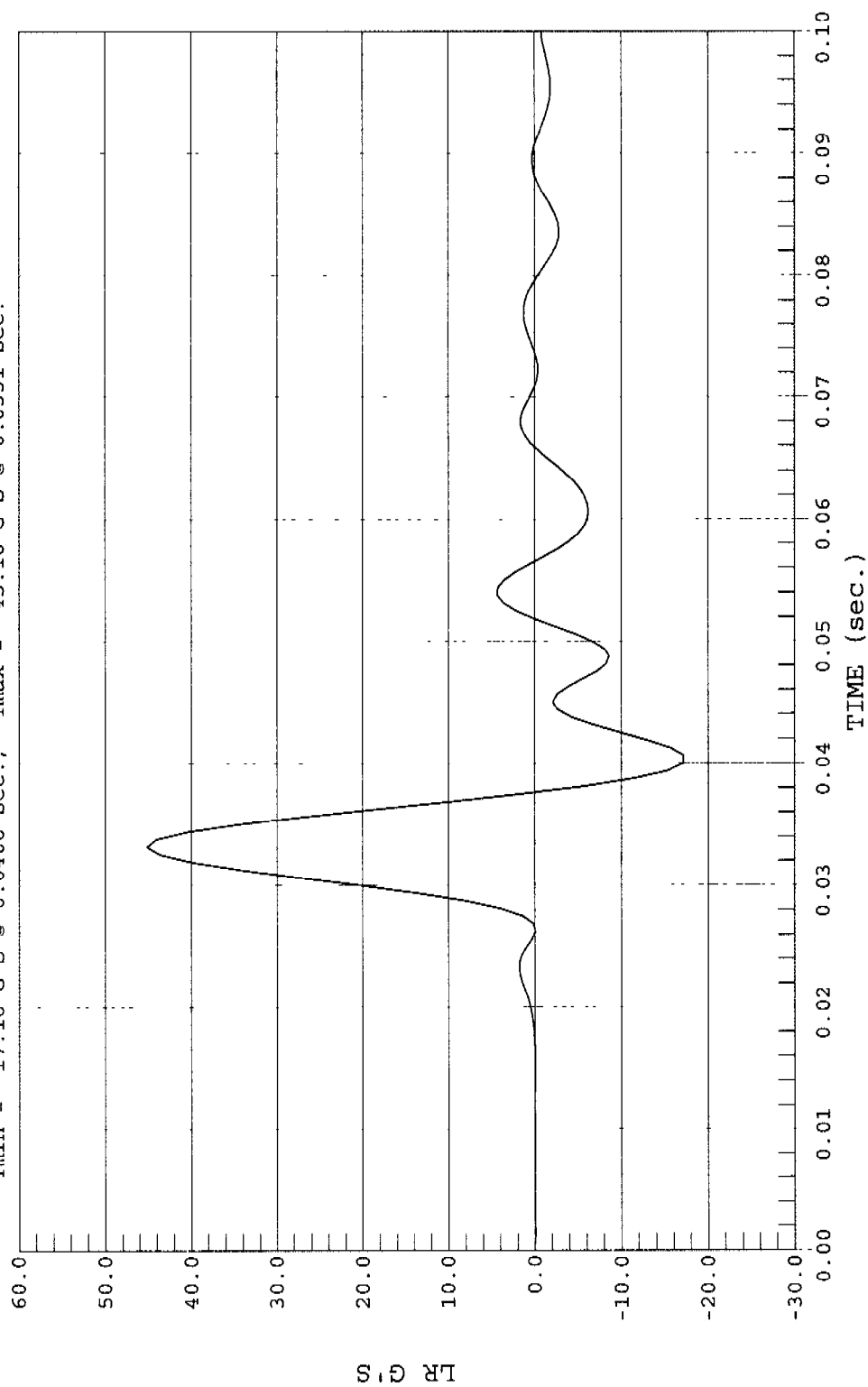
LOWER RIB ACCELERATION

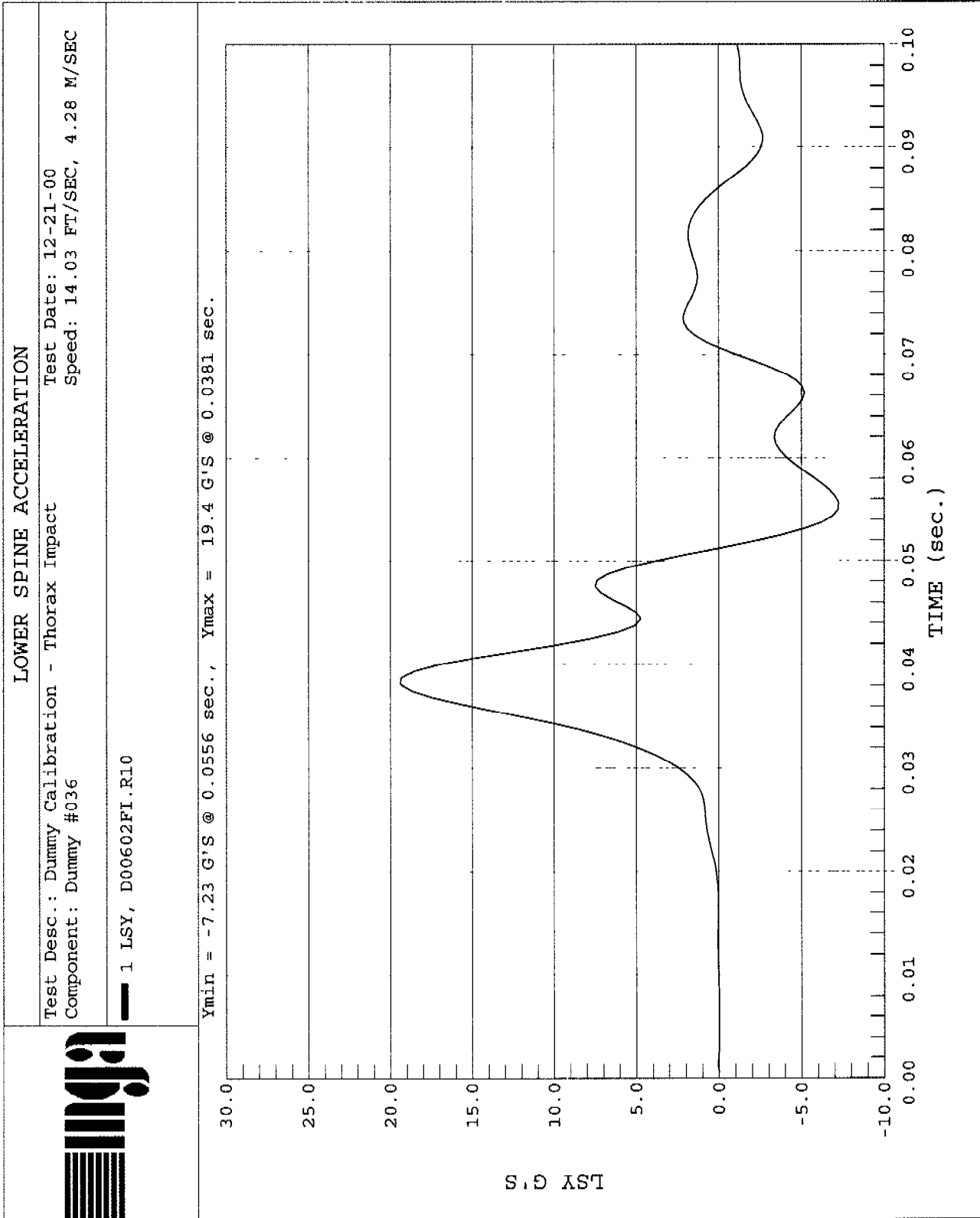
Test Desc.: Dummy Calibration - Thorax Impact Test Date: 12-21-00
 Component: Dummy #036 Speed: 14.03 FT/SEC, 4.28 M/SEC

— 1 LR, D00602FL.R09



Ymin = -17.16 G'S @ 0.0406 sec., Ymax = 45.16 G'S @ 0.0331 sec.





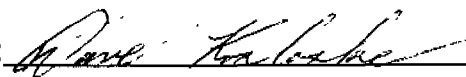
MGA RESEARCH CORPORATION
PELVIS IMPACT TEST
SIDE IMPACT DUMMY (SID)

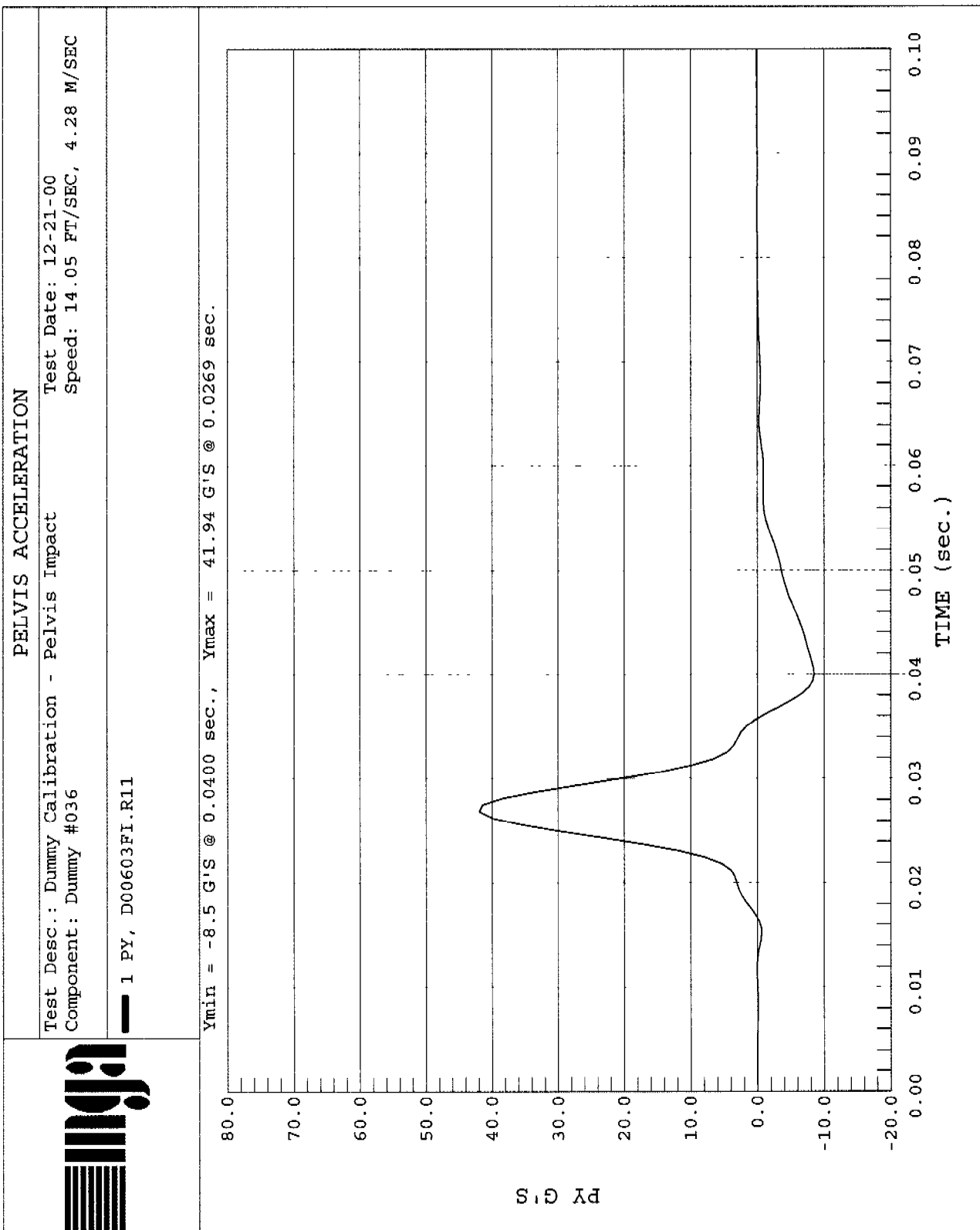
Date: 12/21/00
Dummy Serial Number: 036
Test Number: D001603

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 



MGA RESEARCH CORPORATION
ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)
SIDE IMPACT DUMMY (SID)

Date: 12/21/00
Dummy Serial Number: 036
Test Number: D001604

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

TEST MEETS SPECIFICATIONS

Technician: _____

Approved By: _____

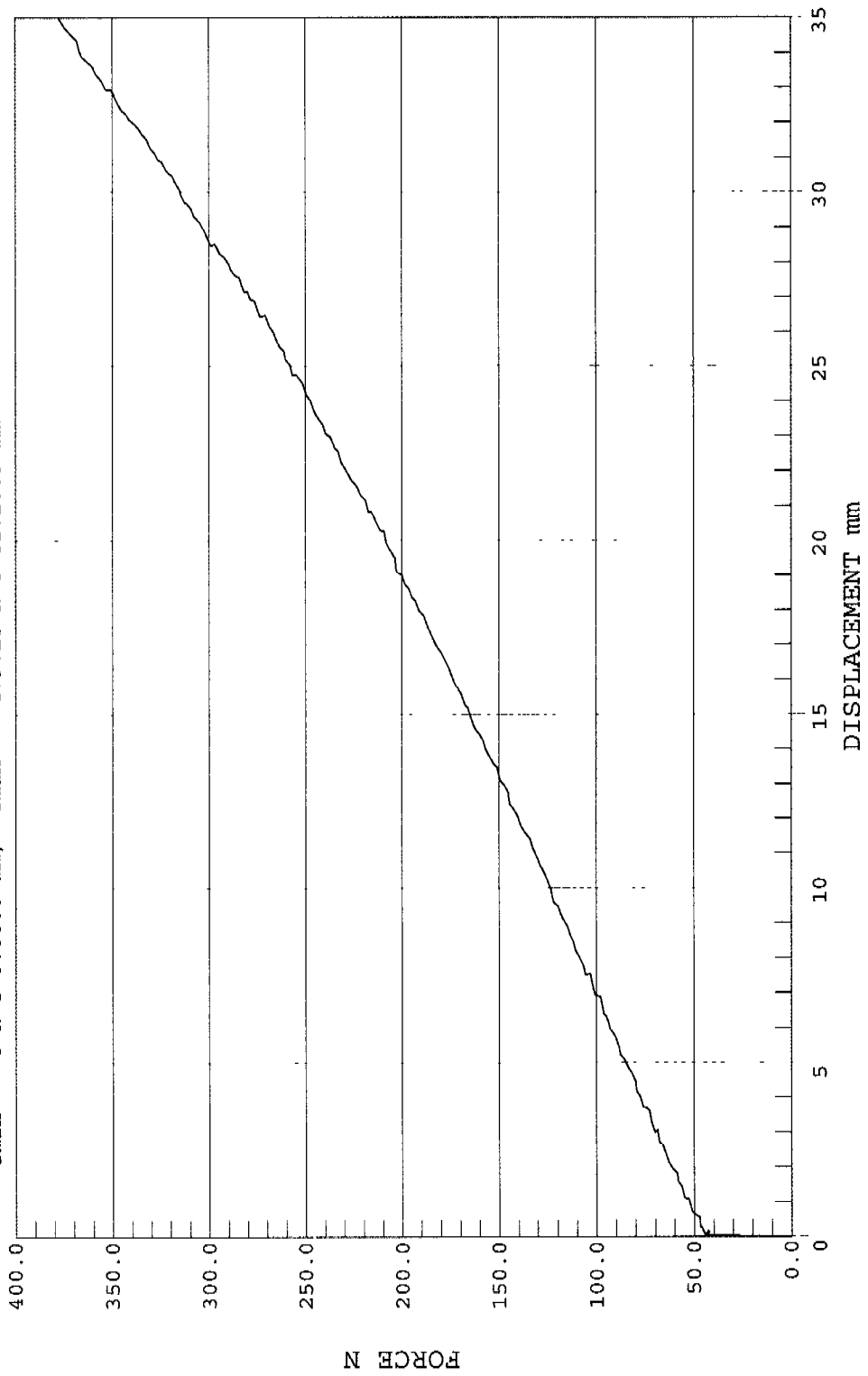
ABDOMEN COMPRESSION

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



— 1 FORCE, D00604FC.F16

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



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

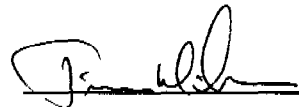
Date: 12/21/00

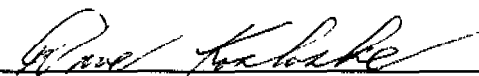
Dummy Serial Number: 036

Test Number: D001605

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

TEST MEETS SPECIFICATIONS

Technician: 

Approved By: 

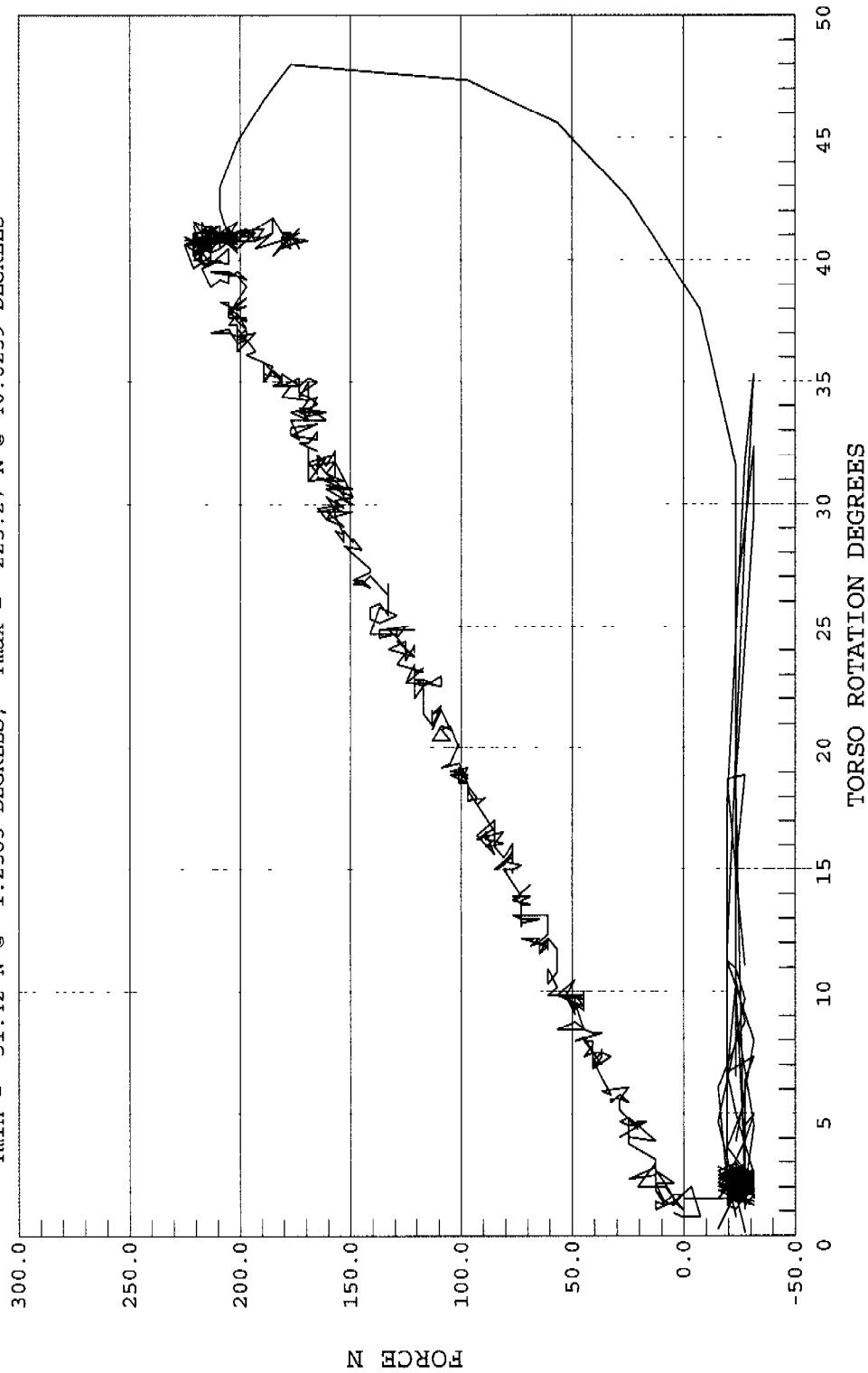


LUMBAR FLEXION

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

— 1 FORCE, D00605FC.F14

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



DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 036

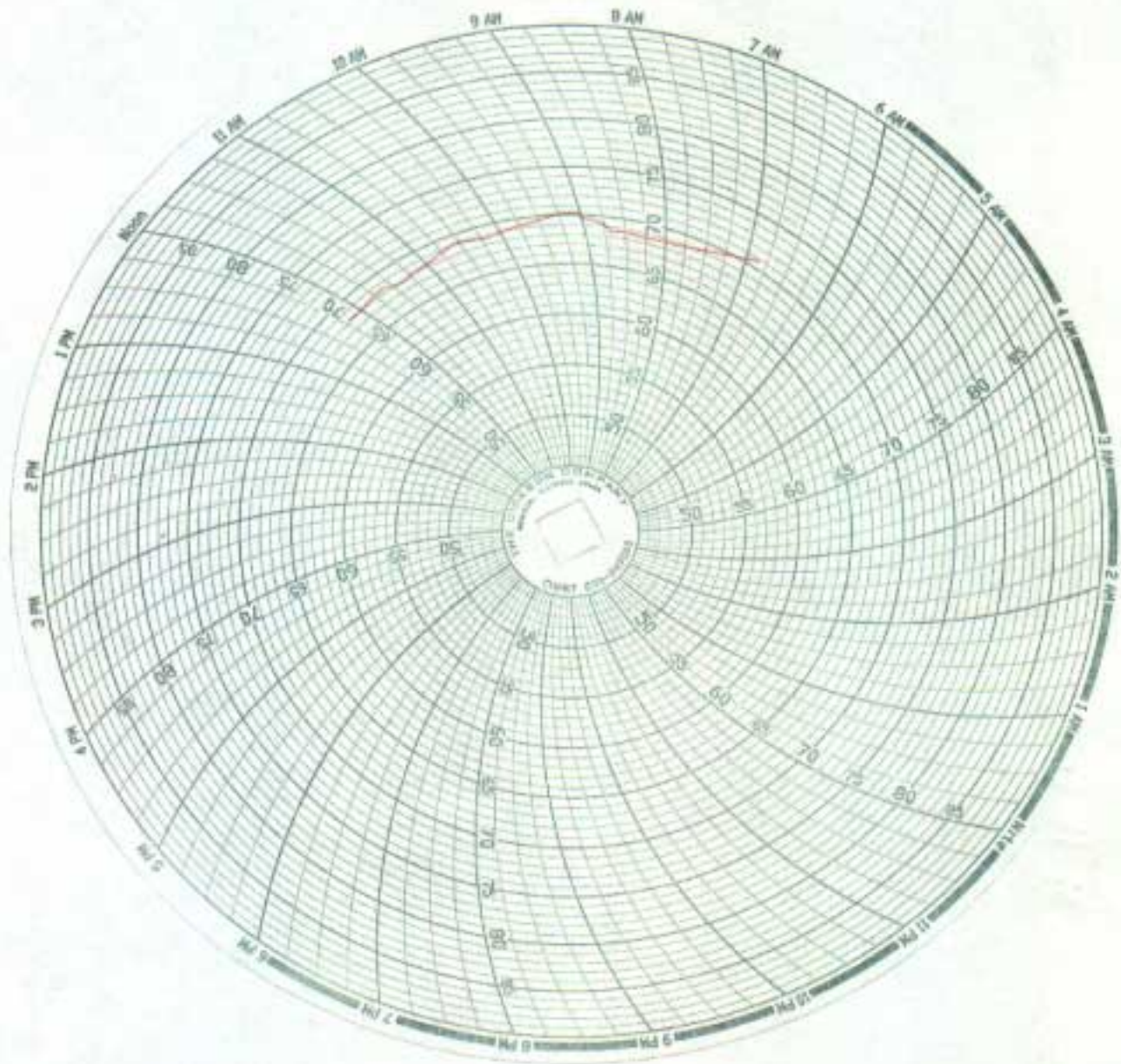
Inspected By: Tim Michnay

Date: 12/22/00

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

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

VEHICLE AND DUMMY TEMPERATURE



A = Dummies installed in vehicle at 6:50 a.m.

B = Test conducted at 12:27 p.m.

APPENDIX D
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

DUMMY AND VEHICLE CALIBRATION DATA

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

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

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	I25-F09	Entran	12/13/00
Moving Barrier CG Y	I25-F07	Entran	12/13/00
Moving Barrier CG Z	I25-F08	Entran	12/13/00
Moving Barrier Rear Axle X	K19-A15	Entran	7/11/00
Moving Barrier Rear Axle Y	G13-F10	Entran	8/14/00
Left Mid A-Post Y	K16-X05	Entran	8/8/00
Left Lower A-Post Y	F18-G08	Entran	8/8/00
Left Mid B-Post Y	I25-J12	Entran	9/14/00
Left Lower B-Post Y	J07-X16	Entran	9/12/00
Rear Floorpan Above Axle X	I26-D11	Entran	8/18/00
Rear Floorpan Above Axle Y	I25-J18	Entran	8/18/00
Rear Floorpan Above Axle Z	F07-A24	Entran	8/18/00
Driver Seat Track Y	I25-J02	Entran	9/14/00
Right Side Sill at Front Seat X	F10-D04	Entran	10/2/00
Right Side Sill at Front Seat Y	C25-A22	Entran	9/14/00
Right Side Sill at Front Seat Z	L15-G21	Entran	9/14/00
Right Side Sill at Rear Seat X	F12-G01	Entran	7/11/00
Right Side Sill at Rear Seat Y	K11-J18	Entran	7/11/00
Right Side Sill at Rear Seat Z	B13-Z02	Entran	6/2/00
Left Side Sill at Front Seat Y	E25-G07	Entran	9/14/00
Left Side Sill at Rear Seat Y	E13-D07	Entran	7/11/00
Right Rear Occupant Compartment Y	G01-J11	Entran	9/12/00
Vehicle CG X	G13-F15	Entran	8/14/00
Vehicle CG Y	G13-F02	Entran	8/14/00
Vehicle CG Z	G13-F12	Entran	8/14/00

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

All Entran accelerometers are Model No. EGE-72