

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING
PASSENGER CARS

1997 DODGE STRATUS
4-DOOR SEDAN
NHTSA NO: MV0301

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105



Test Date: December 18, 1996

Report Date: January 10, 1997

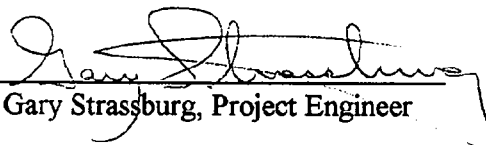
FINAL REPORT

Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY PERFORMANCE STANDARDS
OFFICE OF CRASHWORTHINESS STANDARDS
ROOM 5313, NPS-10
400 SEVENTH STREET, SW
WASHINGTON, D.C. 20590

This Final Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-93-C-02047.

This document is disseminated under the sponsorship of the U. S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its content or use thereof.

Approved By: 
Gary Strassburg, Project Engineer

Approved By: 
John Fleck, Facility Director

Approval Date: 1/20/97

FINAL REPORT ACCEPTED BY (OCWS):

Accepted By: _____
Contract Technical Manager

Acceptance Date: _____

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. 214D-MGA-97-08		2. Government Accession No.		3. Recipient's Catalog No.																			
4. Title and Subtitle New Car Assessment Programs Side Impact Test of a 1997 Dodge Stratus 4-Door Sedan NHTSA No. MV0301				5. Report Date January 10, 1997																			
				6. Performing Organization Code MGA																			
7. Author(s) Gary Strassburg, Project Engineer				8. Performing Organization Report No. MGA-DOT-214-0																			
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105				10. Work Unit No.																			
				11. Contract or Grant No. DTNH22-93-C-02047																			
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards 400 Seventh St., S.W., Washington, D.C. 20590				13. Type of Report and Period Covered Final Test Report December 18, 1996 to January 10, 1997																			
				14. Sponsoring Agency Code NPS-10																			
15. Supplementary Notes																							
16. Abstract A 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 1997 Dodge Stratus to obtain new car assessment and research data indicant of FMVSS No. 214D performance. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on December 18, 1996. The impact velocity of the Moving Deformable Barrier (MDB) was 61.5 kph, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 22°C. The target vehicle post test maximum crush was 352 mm at level 2. The test vehicle's performance follows: <table border="1"> <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>74.0</td> <td>109.3</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td>75.8</td> <td>105.7</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td>75.8</td> <td>84.9</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td>75.8</td> <td>97.1</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td>108.7</td> <td>92.6</td> </tr> </tbody> </table> The door on the struck side of the vehicle did not separate from the body. The opposite doors did not open during the side impact event.							<u>DRIVER</u>	<u>PASS</u>	Left Upper Rib (LUR) Accel., g	74.0	109.3	Left Lower Rib (LLR) Accel., g	75.8	105.7	Lower Spine (T ₁₂) Accel., g	75.8	84.9	Thoracic Trauma Index (TTI)	75.8	97.1	Pelvis (PEV) Accel., g	108.7	92.6
	<u>DRIVER</u>	<u>PASS</u>																					
Left Upper Rib (LUR) Accel., g	74.0	109.3																					
Left Lower Rib (LLR) Accel., g	75.8	105.7																					
Lower Spine (T ₁₂) Accel., g	75.8	84.9																					
Thoracic Trauma Index (TTI)	75.8	97.1																					
Pelvis (PEV) Accel., g	108.7	92.6																					
17. Key Words New Car Assessment Program (NCAP) FMVSS No. 214D Side Impact Dummy (SID) Occupant Side Impact Protection				18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590 Telephone No. 202-366-4946 Attn: Robert Hornickel																			
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 297																			
				22. Price																			

TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	PURPOSE AND TEST PROCEDURE	1-1
2	SUMMARY OF SIDE IMPACT TEST	2-1
3	SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA	3-1
4	OCCUPANT AND VEHICLE INFORMATION	4-1
APPENDIX A	PHOTOGRAPHS	
APPENDIX B	VEHICLE AND SID RESPONSE DATA	
APPENDIX C	SID CONFIGURATION AND PERFORMANCE VERIFICATION	
APPENDIX D	TEST EQUIPMENT LIST AND CALIBRATION INFORMATION	

SECTION 1
PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY97 NCAP Side Impact Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-93-C-02047. The purpose of this test was to evaluate side impact protection of a 1997 Dodge Stratus 4-Door.

This side impact test was conducted in accordance with the New Car Assessment Program Side Impact Testing Procedure dated October 1996.

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

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 1997 Dodge Stratus was impacted on the left or 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 38.2 mph (61.5 kph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by MGA Research Corporation in Burlington, Wisconsin, on December 18, 1996. Pre- and post-test photographs of the test vehicle, the MDB and the side impact dummies (SIDs) are included in Appendix A.

Two Side Impact Dummies (SIDs) were placed in the driver and left rear designated seating positions according to instructions specified in the New Car Assessment Program Side Impact Laboratory Test Procedure which is dated October 1996. The side impact event was documented by nine high speed cameras. Camera locations and other pertinent camera information can be found in this report.

The SIDs were instrumented with the following accelerometers.

1. Left Upper Rib (LUR) uniaxial accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial accelerometer (Y-direction)

Appendix B contains the vehicle and dummy response data traces. A summary of the side impact dummy (SID) configuration and performance verification test data is shown in Appendix C. Dummy and vehicle calibration data can be found in Appendix D of this report.

The following table summarizes the results of the test:

Injury Criteria	Front SID	Rear SID
TTI (g)	75.8	97.1
Pelvis (g)	108.7	92.6

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

DATA SHEET NO. 1
GENERAL VEHICLE TEST PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door
Vehicle NHTSA No.: MV0301 VIN: 1B3EJ46C7VN554773
Vehicle Body Color: Purple Build Date: 9/96
Engine Data: 4 Cylinders; CID; 2.0 Liter; cc
Placement Longitudinal; X Lateral
Transmission: 5 Speed; X Manual; Automatic; Overdrive
Final Drive: Rear Wheel Drive; X Frt. Wheel Drive; Four Wheel Drive

Odometer Reading 63 miles
Options: A/C; X Pwr. Steering; X Pwr. Brakes; Pwr. Windows;
 Cruise Control; X Tilt Wheel; Power Door Locks;

DATA FROM TIRE PLACARD:

Tire Pressure (at capacity): 30 Psi FRONT
30 Psi REAR
Recommended Tire Size: P195/70R14
Tires on Test Vehicle: P195/70R14 Manufacturer: Michelin

Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear; 3rd Seat, 5 Total
Type of Front Seats: X Bucket; Bench; Split Bench
Type of Front Seat Back: Fixed; X Adjustable with X Lever
Vehicle Maximum Capacity Loading = 392.4 kg (A)
No. of Occupants x 68.04 kg. = 340.2 kg (B)
Cargo Capacity (A-B) = 52.2 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE WITH MAXIMUM FLUIDS:

Right Front	=	<u>402.3</u>	kg	Right Rear	=	<u>259.9</u>	kg
Left Front	=	<u>418.2</u>	kg	Left Rear	=	<u>251.7</u>	kg
TOTAL FRONT	=	<u>820.5</u>	kg	TOTAL REAR	=	<u>511.6</u>	kg
% of Total Vehicle Weight	=	<u>61.6</u>	%;	% of Total Weight	=	<u>38.4</u>	%
TOTAL WEIGHT	=	<u>1332.1</u>	kg				

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Maximum Fluids	= <u>1332.1</u> kg
Cargo Carrying Capacity of Test Vehicle	= <u>52.2</u> kg
Weight of 2 Side Impact Dummies (2 x <u>80.7</u> kg.)	= <u>161.4</u> kg
TEST VEHICLE TARGET WEIGHT	= <u>1545.7</u> kg

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO:

Right Front	= <u>433.6</u> kg	Right Rear	= <u>308.4</u> kg
Left Front	= <u>469.9</u> kg	Left Rear	= <u>326.1</u> kg
TOTAL FRONT	= <u>903.5</u> kg	TOTAL REAR	= <u>634.5</u> kg
% of Total Weight	= <u>58.7</u> %	% of Total Weight	= <u>41.3</u> %
TOTAL TEST WEIGHT	= <u>1538.0</u> kg		

TEST VEHICLE ATTITUDE:

CURB WEIGHT ATTITUDE:

Right Front 705 mm Left Front 714 mm Right Rear 716 mm Left Rear 708 mm

FULLY LOADED WEIGHT ATTITUDE:

Right Front 698 mm Left Front 693 mm Right Rear 684 mm Left Rear 668 mm

TEST ATTITUDE:

Right Front 700 mm Left Front 699 mm Right Rear 692 mm Left Rear 677 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Test Vehicle Wheelbase: 2745 mm

C.G. = 1132 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4375 mm

Centerline = 4735 mm

Left Side = 4375 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

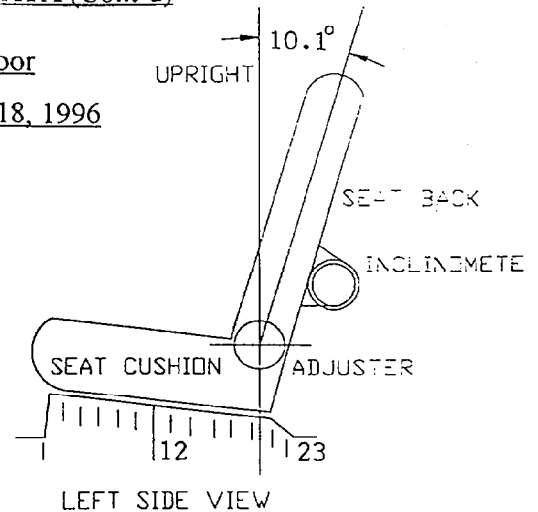
Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel: 220 mm

Test Position: 12th notch from foremost locking
position out of 23 positions



FRONT SEAT BACK ADJUSTMENT POSITION:

Seat Back Angle = 10.1° rearward from most forward position

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0

Seat Back Adjustment Position: Non-Adjustable

ADJUSTABLE STEERING COLUMN POSITION:

WINDOW POSITIONS: Left Front Up Left Rear Up
 Right Front Down Right Rear Down

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Fuel system usable capacity = 60.6 liters

Test Volume: 56.3 liters 93 % of capacity

LOCATIONS OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase: = 2745 mm

Impact Point is 432 mm rearward of front axle centerline

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

Overall Length = 4735 mm; Overall Width = 1818 mm

TEST WEIGHT:

Right Front	= <u>433.6</u> kg	Right Rear	= <u>308.4</u> kg
Left Front	= <u>469.9</u> kg	Left Rear	= <u>326.1</u> kg
TOTAL FRONT	= <u>903.5</u> kg	TOTAL REAR	= <u>634.5</u> kg
% of Total Weight	= <u>58.7</u> %	% of Total Weight	= <u>41.3</u> %
TOTAL VEHICLE WEIGHT = <u>1538.0</u> kg			
Wheelbase = <u>2745</u> mm			
Longitudinal C.G. from Center of Front Axle		= <u>1132</u> mm	
Impact Angle with Respect to Impactor		= <u>0</u> ° degrees	

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (248 mm above ground) = 177 mm
2. LEVEL 2 (477 mm above ground) = 352 mm
3. LEVEL 3 (551 mm above ground) = 350 mm
4. LEVEL 4 (838 mm above ground) = 288 mm
5. LEVEL 5 (1287 mm above ground) = 67 mm

Maximum Post-Test Intrusion = 352 mm

OCCUPANTS:

	<u>Left Front Passenger</u>	<u>Left Rear Passenger</u>
Type of Dummy	<u>SID</u>	<u>SID</u>
Restraints Used	<u>type II belt</u> <u>with airbag</u>	<u>type II belt</u>

TEST VEHICLE SUMMARY OF RESULTS (Cont'd)

INSTRUMENTATION:

Number of Vehicle Data Channels:	=	<u>24</u>
Number of Cameras: Onboard Vehicle	=	<u>3</u>
Offboard Vehicle	=	<u>4</u>
Deformable Barrier	=	<u>2</u>
TOTAL	=	<u>9</u>

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	= <u>1252 mm</u>
Overall Length of MDB (incl. honeycomb impact face)	= <u>4115 mm</u>
Wheelbase of Framework Carriage	= <u>2591 mm</u>
Tread of Framework Carriage (Front & Rear)	= <u>1880 mm</u>
C.G. Location Rearward of Front Axle	= <u>1102 mm</u>
C.G. Location From Center Line	= <u>-8 mm</u>
C.G. Location Above Ground Level	= <u>488 mm</u>

MDB WEIGHT:

Left Front	= <u>496.7 kg</u>	Left Rear	= <u>187.3 kg</u>
Right Front	= <u>283.0 kg</u>	Right Rear	= <u>389.2 kg</u>
TOTAL FRONT	= <u>779.7 kg</u>	TOTAL REAR	= <u>576.5 kg</u>
TOTAL MDB WEIGHT = <u>1356.2 kg</u>			

Impact Angle (MDB C/L to Target Vehicle C/L) = 90° degrees

Impact Speed = Primary: 38.1 mph (61.3 kph) Secondary: 37.91 mph (61.0 kph)

CRASH TEST SUMMARY FOR SIDE IMPACTOR (Cont'd)

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

- | | | |
|----|---------------------------------|-----------------|
| 1. | Row A Top of Stack (813 mm) | = <u>134</u> mm |
| 2. | Row B Mid Stack (686 mm) | = <u>82</u> mm |
| 3. | Row C Top of Bumper (533 mm) | = <u>96</u> mm |
| 4. | Row D Center of Bumper (432 mm) | = <u>158</u> mm |

INSTRUMENTATION:

Number of MDB Data Channels = 5

DATA SHEET NO. 4
POST-TEST OBSERVATIONS

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

VISIBLE DUMMY CONTACT POINTS:

	<u>LEFT FRONT SID</u>	<u>LEFT REAR SID</u>
Head	<u>to head rest</u>	<u>to C-Post</u>
Arm	<u>to door panel & armrest</u>	<u>to door panel & armrest</u>
Pelvis	<u>to door panel & armrest</u>	<u>to door panel</u>
Left Knee	<u>to door panel</u>	<u>to door panel</u>
Right Knee	<u>to right knee</u>	<u>to right knee</u>

DOOR OPENING:

	<u>LEFT SIDE</u>	<u>RIGHT SIDE</u>
Front	<u>Remained closed</u>	<u>Remained closed</u>
Rear	<u>Remained closed</u>	<u>Remained closed</u>

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal: 17 mm forward Vertical: 12 mm high

ARM REST LOCATIONS:

Front: 220 mm from bottom of window
Rear: 250 mm from bottom of window

POST-TEST OBSERVATIONS (Cont'd)

SEAT CRUSH:

Front Seat Back: 88 mm Front Seat Cushion: 77 mm
Left Rear Seat Back: 80 mm Rear Seat Cushion: 56 mm

GLAZING DAMAGE:

Left side windows broke, windshield cracked

PILLAR PERFORMANCE:

No failure

SILL SEPARATION:

Separation from impact point rearward 150 mm

OTHER NOTABLE IMPACT EFFECTS:

Airbags deployed, there was some Stoddard solvent leakage

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

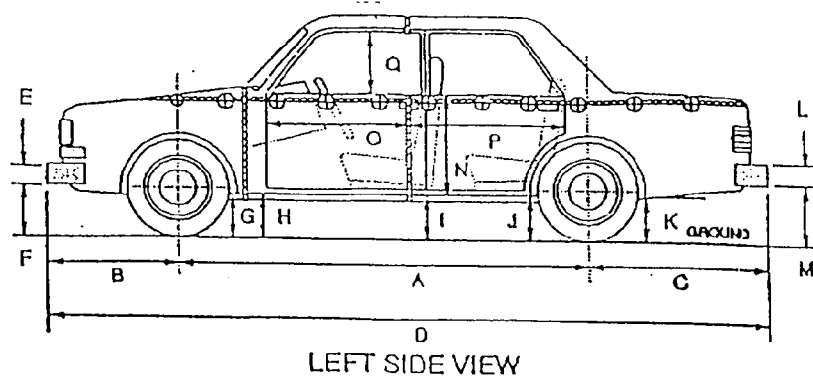
DATA SHEET NO. 5
SIDE IMPACT DUMMY (SID) INSTRUMENTATION DATA

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door
Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

	Front Dummy ID # 271				Rear Dummy ID # 272			
	Pos. Direct.		Neg. Direct		Pos. Direct.		Neg. Direct	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
RIB ACCELERATIONS								
Left Upper Rib (LUR) Y	74.0	33	-13.4	72	109.3	36	-8.6	56
Left Lower Rib (LLR) Y	75.8	35	-14.5	82	105.7	36	-5.1	128
SPINE ACCELERATIONS								
Lower Lateral Y	75.8	35	-31.8	60	84.9	41	-35.2	64
PELVIS ACCELERATIONS								
Lateral Y	108.7	28	-14.7	69	92.6	39	-9.1	73

REFERENCE: Positive Direction- Longitudinal (X) = forward
Lateral (Y) = to right
Vertical (Z) = down

DATA SHEET NO. 6
VEHICLE PRE AND POST-TEST MEASUREMENTS



D = Length at Centerline
R = Right Side Length
S = Left Side Length
T = Width at B Post
E & L = Bumper Thickness

J1 = To Pinch Weld
J2 = To Sill

ALL MEASUREMENTS IN (mm)

	PRE-TEST	POST-TEST	Δ CHANGE
A	2745	2737	8
B	948	938	10
C	1042	992	50
D	4735	4667	68
E	150	150	0
F	398	407	-9
G	224	214	10
H	170	194	-24
I	166	184	-18
J1/J2	175/173	152/155	23/18
K	223	237	-14
L	343	342	1
M	314	332	-18
N	620	510	110
O	850	478	372
P	1110	1014	-4
Q	458	428	30
R	4375	4356	19
S	4373	4313	60
T	1818	1542	276

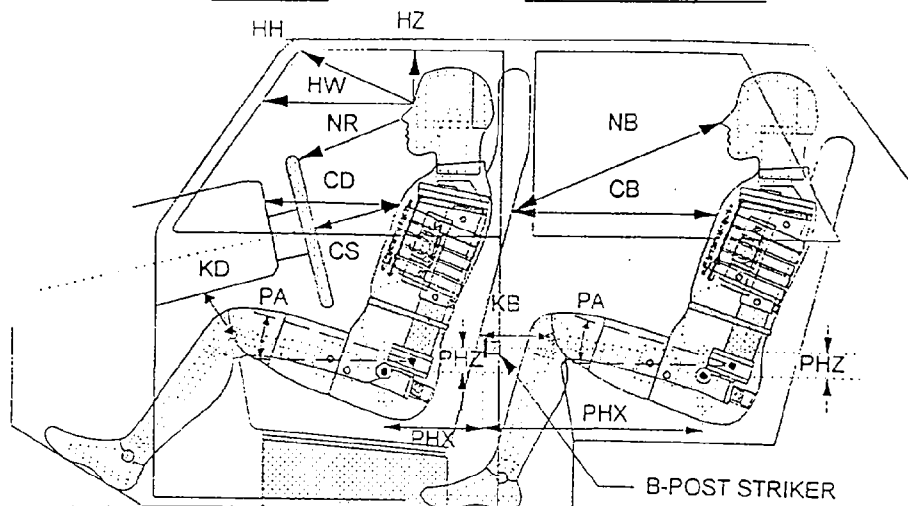
DATA SHEET NO. 7

SIDE IMPACT DUMMY (SID) LONGITUDINAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

NHTSA NO.: MV0301

Test Date: December 18, 1996



NOTE: All dimensions are in mm with tolerance of ± 3 mm

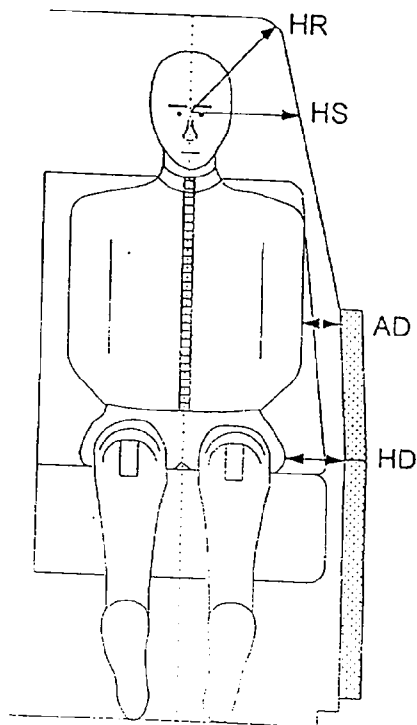
	FRONT SID ID # 271		REAR PASSENGER SID ID # 272
HH	351	HZ	138
HW	598	NB	684
HZ	131	CB	600
NR	445	KBL (KBA)	241 (3.3°)
CD	518	KBR (KBA)	245 (12.9°)
CS	338	PA°	23.6
KDL(KDA°)	132 (25.9°)	PHX	222
KDR(KDA°)	158 (19.0°)	PHZ	312
PA°	24.6°		
PHX	211		
PHZ	120		

NOTE: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as reference point.

DATA SHEET NO. 8
SIDE IMPACT DUMMY (SID) LATERAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

NHTSA NO.: MV0301 Test Date: December 18, 1996



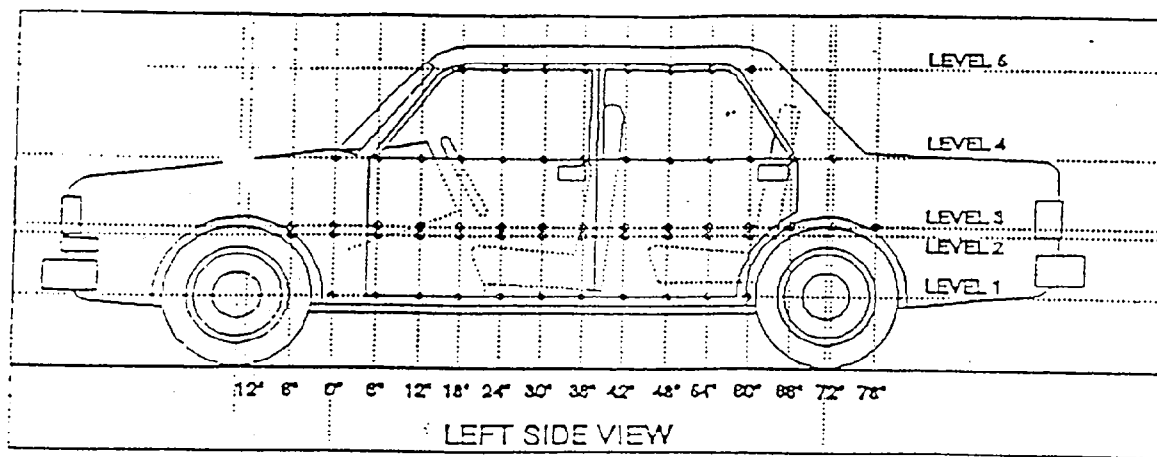
NOTE: All dimensions are in mm

	DRIVER ID # 271	LEFT REAR PASSENGER ID # 272
HR	207	210
HS	322	247
AD	103	105
HD	135	135

DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

NHTSA NO.: MV0301 Test Date: December 18, 1996



MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED"
CONFIGURATION

MEASUREMENTS ALONG THE VERTICAL 750 mm. LINE SHOWN ABOVE

Level 1 @ Axle Centerline Height (or Sill Top Height)	= <u>248</u> mm
Level 2 @ Occupant H-Point	= <u>477</u> mm
Level 3 @ Mid Door	= <u>551</u> mm
Level 4 @ Window Sill	= <u>838</u> mm
Level 5 @ Window Top	= <u>1287</u> mm

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Longitudinal Distance (mm)	Level 1 - Axle Centerline		
	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900			
-750			
-600			
-450			
-300			
-150			
0 (impact point)	659	692	33
150	669	816	147
300	668	828	160
450	668	836	168
600	670	846	176
750	670	847	177
900	672	846	174
1050	671	841	170
1200	671	833	162
1350	673	832	159
1500	675	809	134
1650	676	788	112
1800	674	757	83
1950			

Reference plane is parallel to test vehicle longitudinal centerline.

Given dimensions = Reference plane to car body

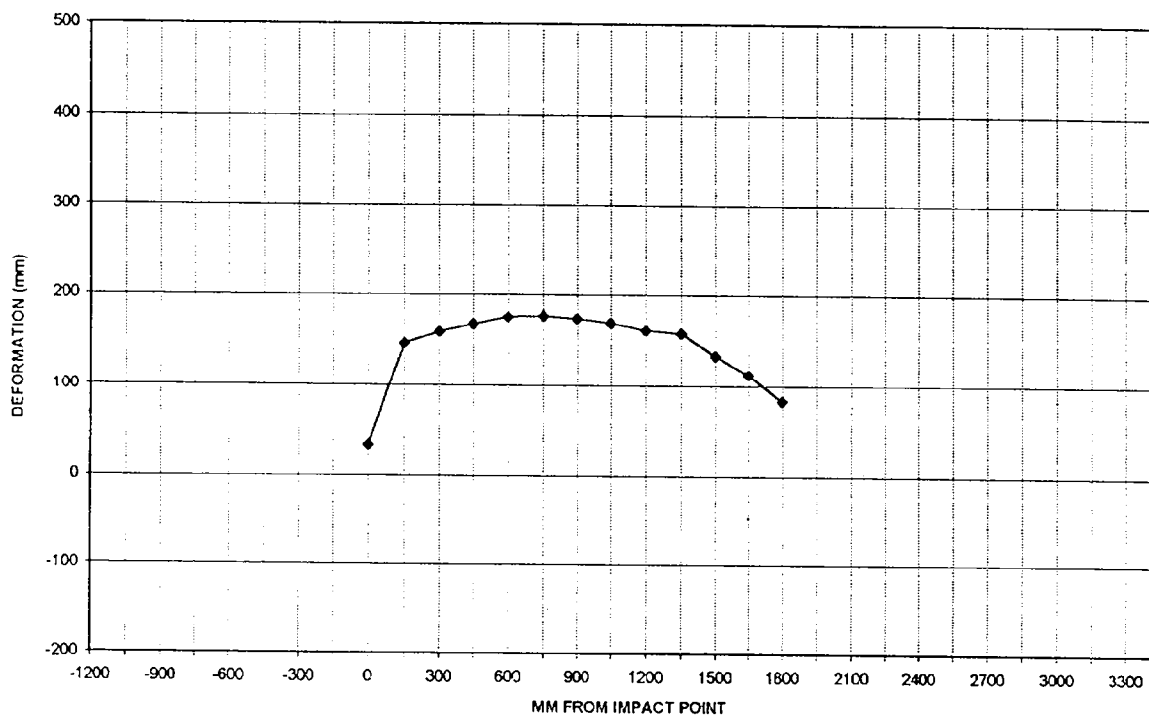
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 1 - Axle Centerline		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700			
2850			
3000			
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 1 - AXLE CENTERLINE

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 2 - Occupant H Point		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050	708	715	7
-900	670	681	11
-750			
-600			
-450			
-300			
-150			
0 (impact point)	616	848	232
150	611	908	297
300	608	923	315
450	606	930	324
600	604	935	331
750	604	938	334
900	603	935	332
1050	603	918	315
1200	607	959	352
1350	611	954	343
1500	615	927	312
1650	620	894	274
1800	626	851	225
1950	630	710	80

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

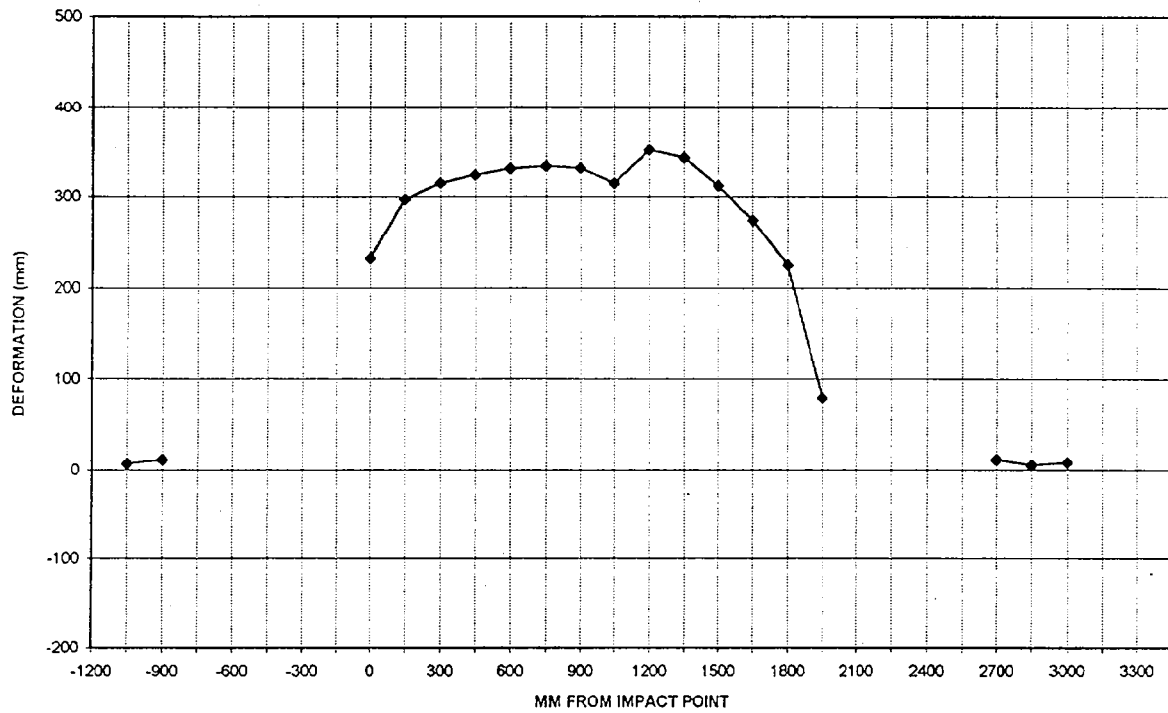
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 2 - Occupant H Point		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700	668	679	11
2850	693	698	5
3000	712	720	8
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 2 - OCCUPANT H-POINT

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 3 - Mid Door		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900	680	691	11
-750	629	645	16
-600			
-450			
-300			
-150			
0 (impact point)	605	797	192
150	600	877	177
300	598	924	326
450	595	909	314
600	593	901	308
750	591	892	301
900	592	896	304
1050	593	889	296
1200	596	946	350
1350	599	935	336
1500	603	934	331
1650	610	919	309
1800	615	863	248
1950	620	712	92

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

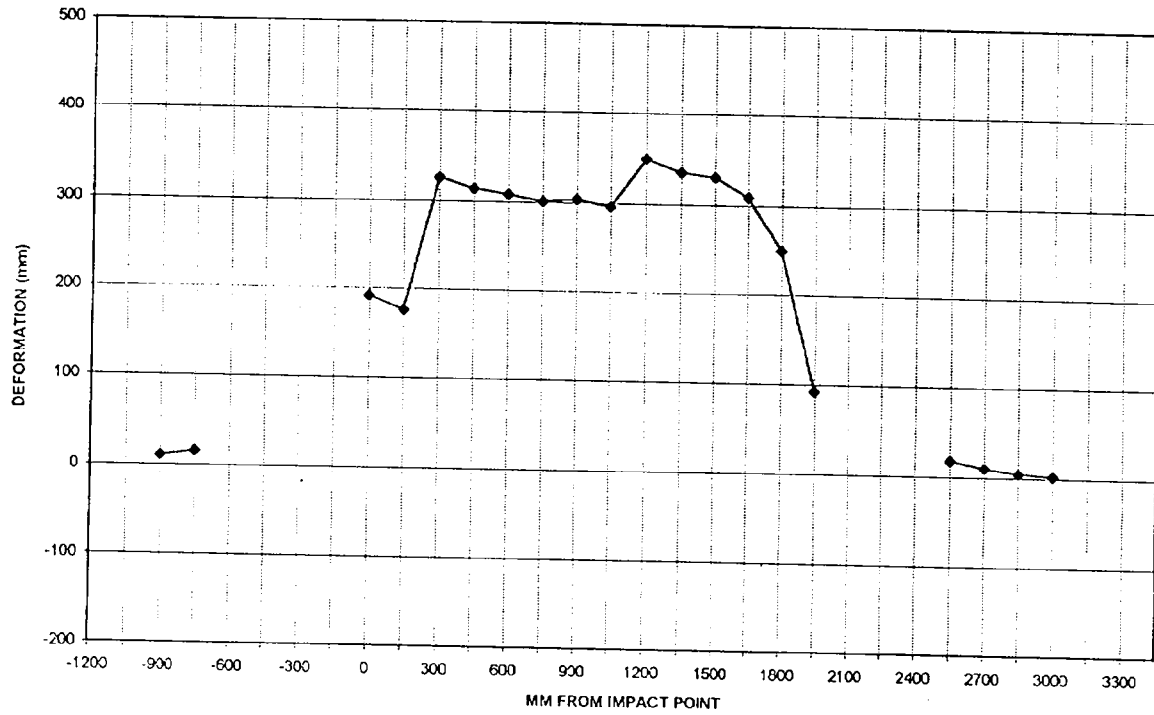
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 3 - Mid Door		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550	632	651	19
2700	668	679	11
2850	689	694	5
3000	716	718	2
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 3 - MID DOOR

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900	736	741	5
-750	710	722	12
-600	688	708	20
-450	672	701	29
-300	665	696	31
-150	662	698	36
0 (impact point)	658	734	76
150	656	789	133
300	656	847	191
450	655	881	226
600	655	877	222
750	655	876	221
900	656	879	223
1050	658	883	225
1200	659	947	288
1350	662	933	271
1500	665	929	264
1650	670	916	246
1800	670	872	202
1950	674	777	103

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

DATA SHEET No. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100	682	702	20
2250	692	726	34
2400	703	721	18
2550	717	724	7
2700	731	738	7
2850	750	753	3
3000	771	774	3
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 4 - WINDOW SILL

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Longitudinal Distance (mm)	Level 5 - Window Top		
	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900			
-750			
-600			
-450			
-300			
-150			
0 (impact point)			
150			
300			
450			
600			
750	897	944	47
900	898	821	-77
1050	901	839	-62
1200	905	857	-48
1350	904	971	67
1500	905	937	32
1650	909	906	-3
1800	919	954	35
1950			

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

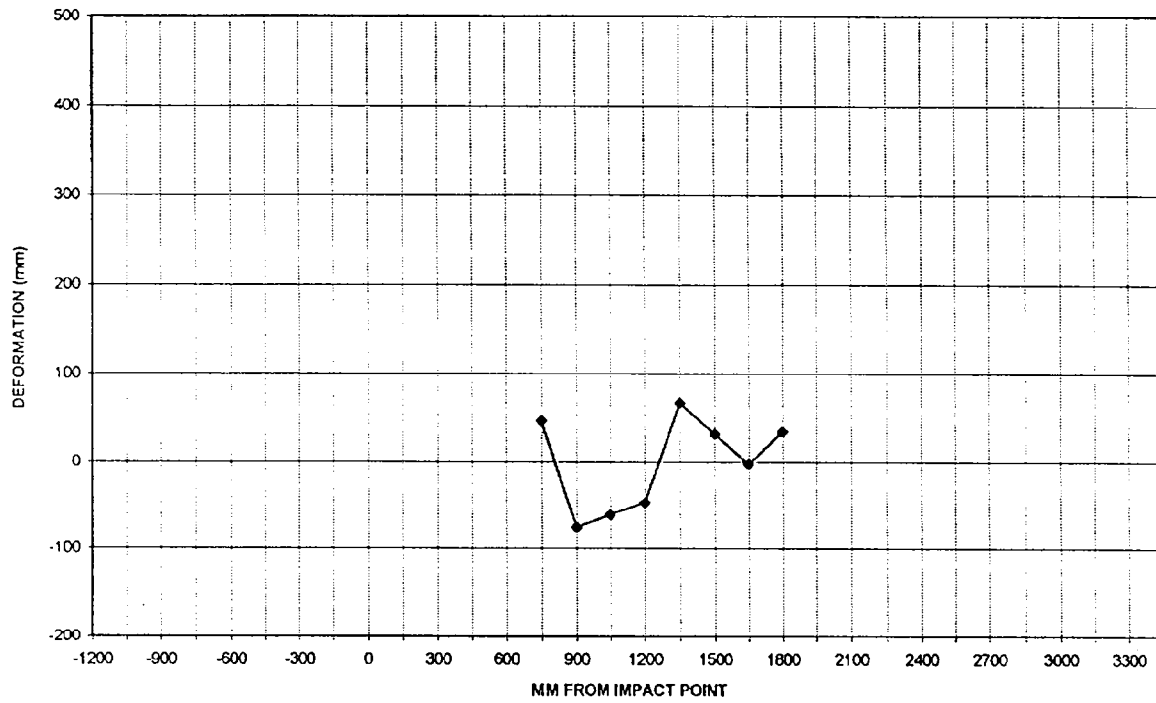
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 5 - Window Top		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700			
2850			
3000			
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



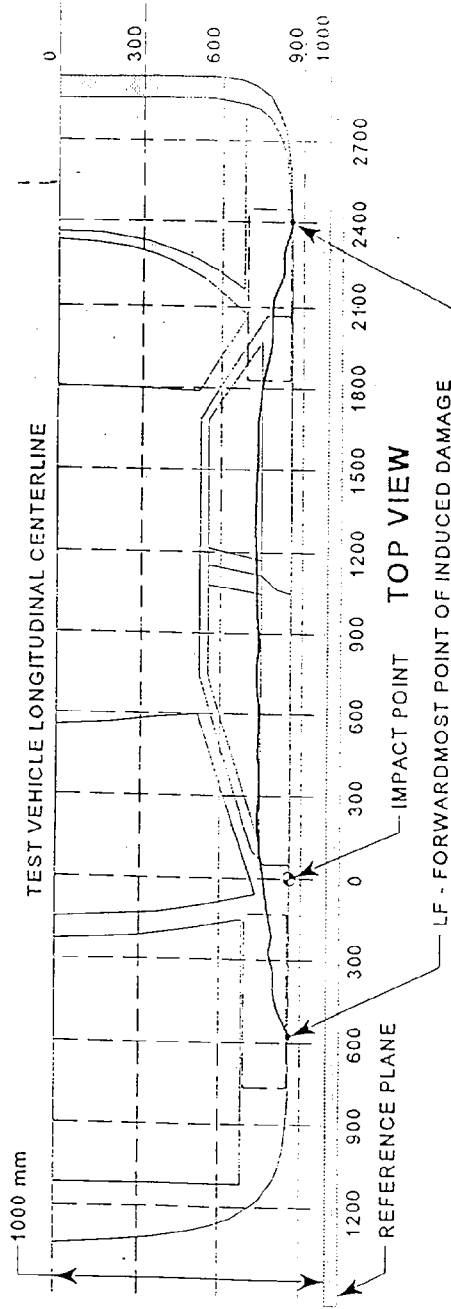
LEVEL 5 - WINDOW TOP

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

NHTSA NO.: MV0301 Test Date: December 18, 1996



MEASUREMENT CONVENTIONS:
 Forward of the impact point (towards front of vehicle) is considered negative (-).
 Rearward of the impact point (toward rear of vehicle) is considered positive (+).

DPD MEASUREMENTS	POST-TEST (mm)	PRE-TEST (mm)	STATIC CRUSH (mm)
1. (LF = <u>-1050</u> mm)	713	708	5
2. <u>-217</u> mm	695	663	32
3. <u>588</u> mm	932	605	327
4. <u>1452</u> mm	938	614	324
5. <u>2338</u> mm	721	698	23
6. (LR = <u>3150</u> mm)	752	753	-1

DATA SHEET NO. 12

EXTERIOR STATIC CRUSH FOR SIDE IMPACTOR

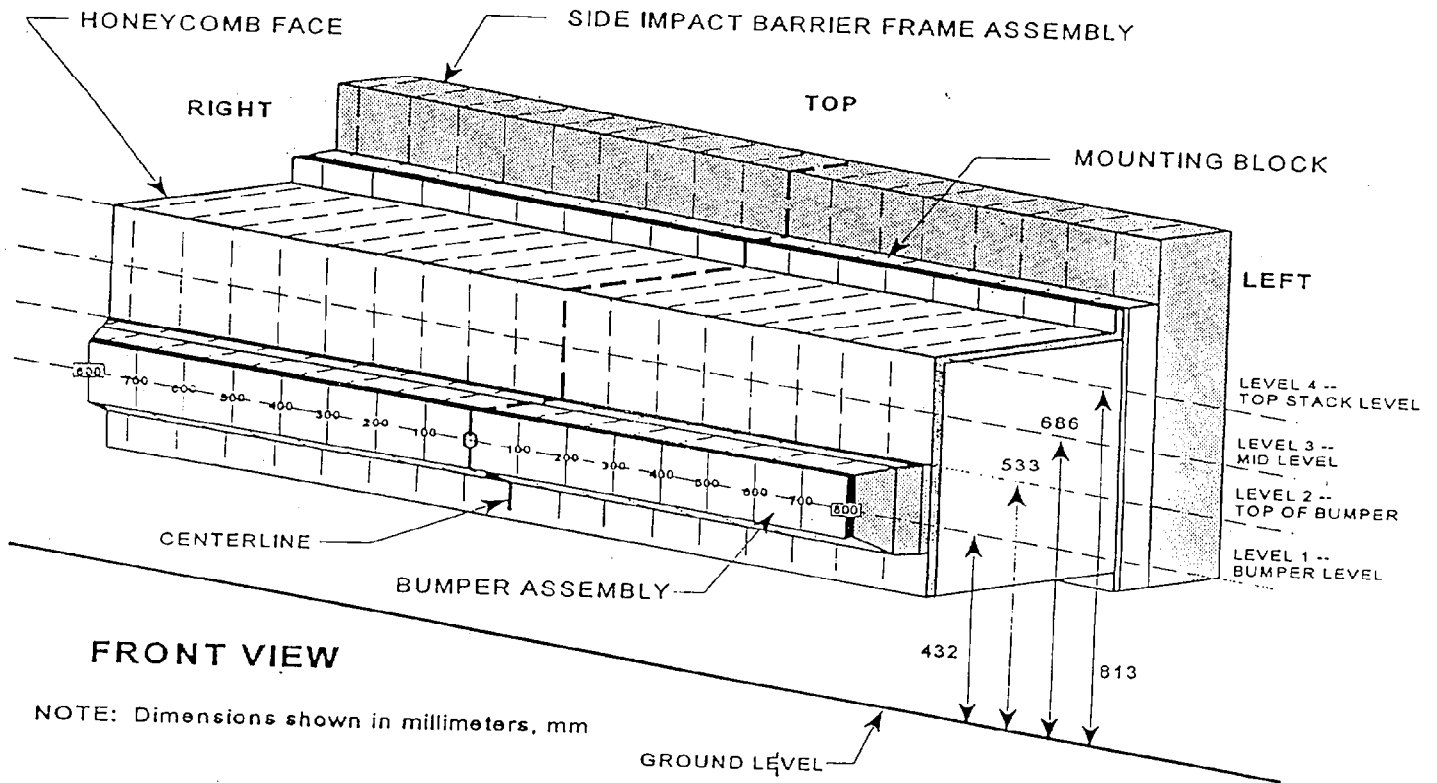
Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

Location	Height at CL	Distance Right of Center (mm)								0	Distance Left of Center (mm)							
		800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
Top Stack Level 4	813 mm	63	28	2	0	0	1	3	3	0	5	7	9	14	23	55	97	134
Mid Level Level 3	686 mm	42	12	3	0	-1	-2	0	4	4	3	3	4	6	8	12	40	82
Top Bumper Level 2	533 mm	96	78	54	34	27	22	17	15	15	13	15	17	19	19	22	30	40
Mid Bumper Level 1	432 mm	158	139	112	88	69	61	53	48	45	41	39	38	34	34	37	47	57

See next page for Barrier Face Graphic

DATA SHEET NO. 12 (Cont'd)



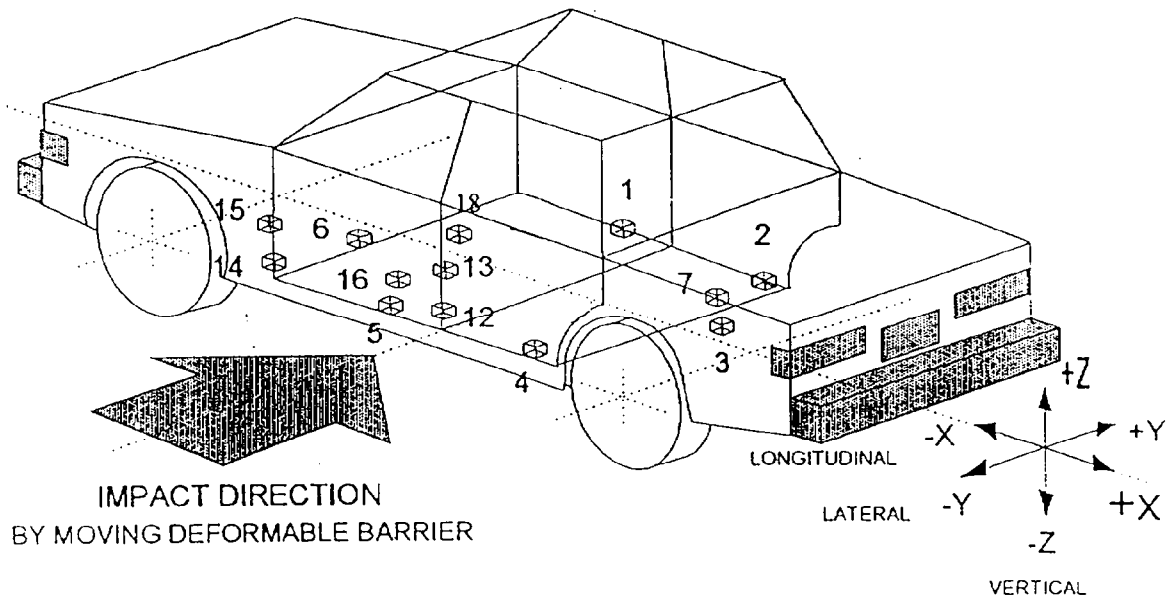
FRONT VIEW

NOTE: Dimensions shown in millimeters, mm

DATA SHEET 13
TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996



- 1 - Right Front Sill
- 2 - Right Rear Sill
- 3 - Rear Floorpan Above Axle
- 4 - Left Rear Sill
- 5 - Left Front Sill
- 6 - Left Mid Door
- 7 - Right Rear Occ. Compartment

- 12 - Left Lower B-Post
- 13 - Left Middle B-Post
- 14 - Left Lower A-Post
- 15 - Left Middle A-Post
- 16 - Front Seat Track
- 18 - Vehicle C.G.

DATA SHEET NO. 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

Accel. No.	Description	Coordinates (mm)*			Long. (X) Maximums (g's)		Lat. (Y) Maximums (g's)		Vert. (Z) Maximums (g's)		Resultant t (g's)
		X	Y	Z	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
1	Rt. Side Sill @ Front Seat	2405	683	207	6.2	-3.6	23.5	-3.6	8.5	-6.1	24.1
2	Rt. Side Sill @ Rear Seat	1678	683	215	8.1	-3.4	28.7	-3.9	6.7	-4.0	29.4
3	Rr. Floorpan Above Axle	958	0	510	3.3	-6.0	23.3	-6.2	5.4	-6.2	23.4
4	Left Side Sill @ Rr. Seat	1680	-683	220	---	---	69.4	-19.6	---	---	---
5	Left Side Sill @ Frt. Seat	2413	-683	215	---	---	41.5	-26.7	---	---	---
6	Left Front Door on Centerline	2775	-770	342	---	---	208.4	-152.6	---	---	---
7	Right Rear Occupant Compartment	1902	384	313	---	---	26.5	-4.7	---	---	---
8	Mid Rear of Left Front Door	N/R									
9	Left Front Door Upper Centerline	2752	-766	753	---	---	227.1	-114.4	---	---	---
10	Mid Rear of Left Rear Door	1707	-758	735	---	---	161.7	-72.5	---	---	---
11	Left Rear Door Upper Centerline	1740	-757	395	---	---	194.3	-47.4	---	---	---
12	Left Lower B-Post	2108	-727	390	---	---	183.0	-53.5	---	---	---
13	Left Mid B-Post	2155	-697	840	---	---	176.0	-40.8	---	---	---
14	Left Lower A-Post	3144	-715	429	---	---	*	*	---	---	---
15	Left Mid A-Post	3304	-757	800	---	---	43.8	-12.2	---	---	---
16	Driver Left Seat Track	2352	-542	245	---	---	47.4	-15.6	---	---	---
18	Vehicle CG	2722	24	403	5.3	-11.1	37.9	-3.1	20.1	-10.6	38.5

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To right)

Z - Ground Level (+ Up)

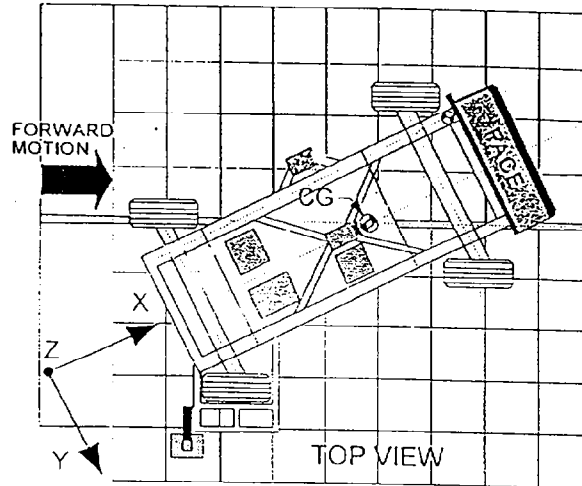
N/R = Not Run

DATA SHEET NO. 14

MOVING DEFORMABLE BARRIER (MDB) ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

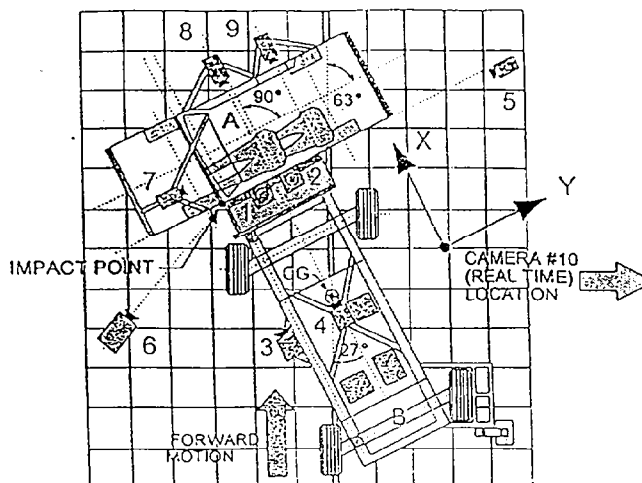


Accel. No.	Description	Coordinates (mm)*			(+) Positive		(-) Negative	
		X	Y	Z	Max. (g)	Time (msec)	Max. (g)	Time (msec)
1	MDB Center of Gravity	-1092	0	483				
	Longitudinal (X)	---	---	---	2.3	107	-17.0	30
	Lateral (Y)	---	---	---	1.3	73	-8.0	42
	Vertical (Z)	---	---	---	22.3	55	-20.9	50
	Resultant (R)	---	---	---	25.3	50	---	---
2	Rear Frame Member	-2591	-625	622				
	Longitudinal (X)	---	---	---	2.0	113	-23.2	34
	Lateral (Y)	---	---	---	1.1	60	-2.6	34

*Reference: X - Front Axle (+ Forward)
Y - Vehicle Centerline (+ To right)
Z - Ground Level (+ Up)

DATA SHEET NO. 15
HIGH SPEED CAMERA LOCATIONS AND DATA

Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door
 Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996



Camera No.	View	Coordinates (mm)*			Angle	Lens (mm)	Film Speed (fps)
		X	Y	Z			
	Real Time						
6	Left Impact	-1030	-2330	1675	90	13	1000
8	Onboard Driver					8	837
9	Onboard Passenger					8	980
7	Onboard Hood					13	778
5	Right Impact	-200	10650	1675	90	25	957
1	Top Overall	300	1470	5000		8	1031
2	Top Impact	-100	100	5000		13	897
4	Cart Overall					13	1010
3	Cart Pointer					35	1005

* Reference: (from point of impact)
 +X = Forward
 +Y = To Right
 +Z = Upward

DATA SHEET 16
FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

TEST REQUIREMENTS:

Drain the test vehicle's fuel system and operate the engine until the fuel system is dry. Add Stoddard solvent, which has been dyed purple, until 92-94% of the stated usable capacity is reached. Operate the engine to assure the Stoddard solvent is present throughout the entire fuel system.

TEST VEHICLE IMPACT TYPE: X Side Impact MDB 38.1 mph (61.3 kph)

FUEL SPILLAGE MEASUREMENT:

POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0	1 oz
2. For 5 minute period after vehicle motion ceases	.2	5 oz
3. For next 25 minutes	.2	1 oz./1 min

FUEL SPILLAGE LOCATION(S): Fuel Tank

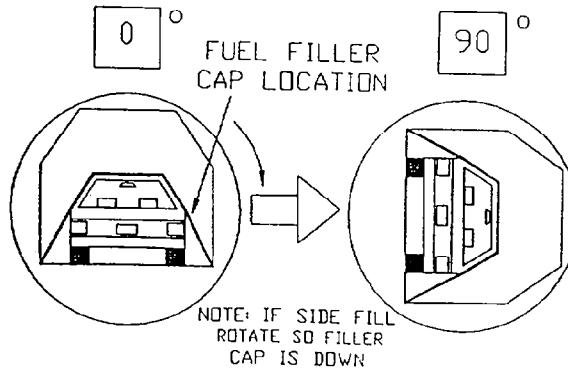
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 50 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 50 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	.3 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): Fuel Tank

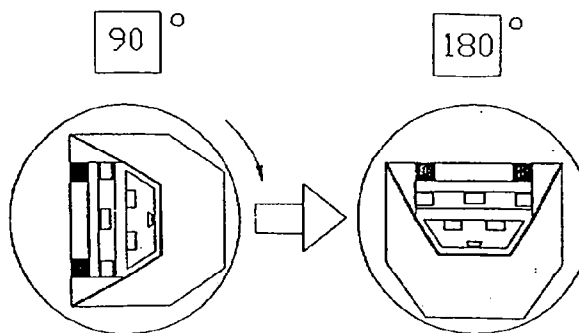
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

TEST PHASE: 90° - 180°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 29 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 29 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

90° TO 180° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

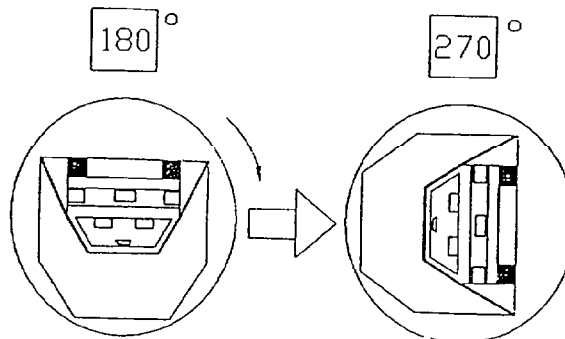
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

TEST PHASE: 180° - 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 17 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 17 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

180° TO 270° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

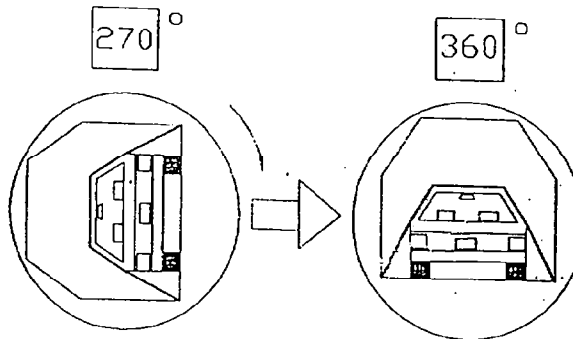
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Dodge/Stratus/4-Door

Vehicle NHTSA No.: MV0301 Test Date: December 18, 1996

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 41 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 41 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

270° TO 360° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

APPENDIX A - PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

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

TABLE OF PHOTOGRAPHS

	<u>Page No.</u>
Photo No. A-30 - Post-Test Passenger Dummy Right Side View	A-30
Photo No. A-31 - Pre-Test Passenger Dummy Left Side View	A-31
Photo No. A-32 - Post-Test Passenger Dummy Left Side View	A-32
Photo No. A-33 - Pre-Test Passenger Dummy Left Side View (Door Open)	A-33
Photo No. A-34 - Pre-Test Passenger Dummy Shoulder and Door Top View	A-34
Photo No. A-35 - Post-Test Passenger Dummy Shoulder and Door Top View	A-35
Photo No. A-36 - Post-Test Passenger Dummy Contact	A-36
Photo No. A-37 - Post-Test Passenger Dummy Head Contact	A-37
Photo No. A-38 - Pre-Test Left Front Impact Point on Vehicle	A-38
Photo No. A-39 - Post-Test Left Front Impact Point on Vehicle	A-39
Photo No. A-40 - Impact	A-40
Photo No. A-41 - Vehicle Certification Label	A-41
Photo No. A-42 - Tire Placard	A-42
Photo No. A-43 - Rollover 90°	A-43
Photo No. A-44 - Rollover 180°	A-44
Photo No. A-45 - Rollover 270°	A-45
Photo No. A-46 - Rollover 360°	A-46
Photo No. A-47 - Left Front Attitude Point	A-47
Photo No. A-48 - Right Front Attitude Point	A-48
Photo No. A-49 - Left Rear Attitude Point	A-49
Photo No. A-50 - Right Rear Attitude Point	A-50
Photo No. A-51 - Post-Test Fuel Leakage	A-51
Photo No. A-52 - Post-Test Fuel Tank	A-52

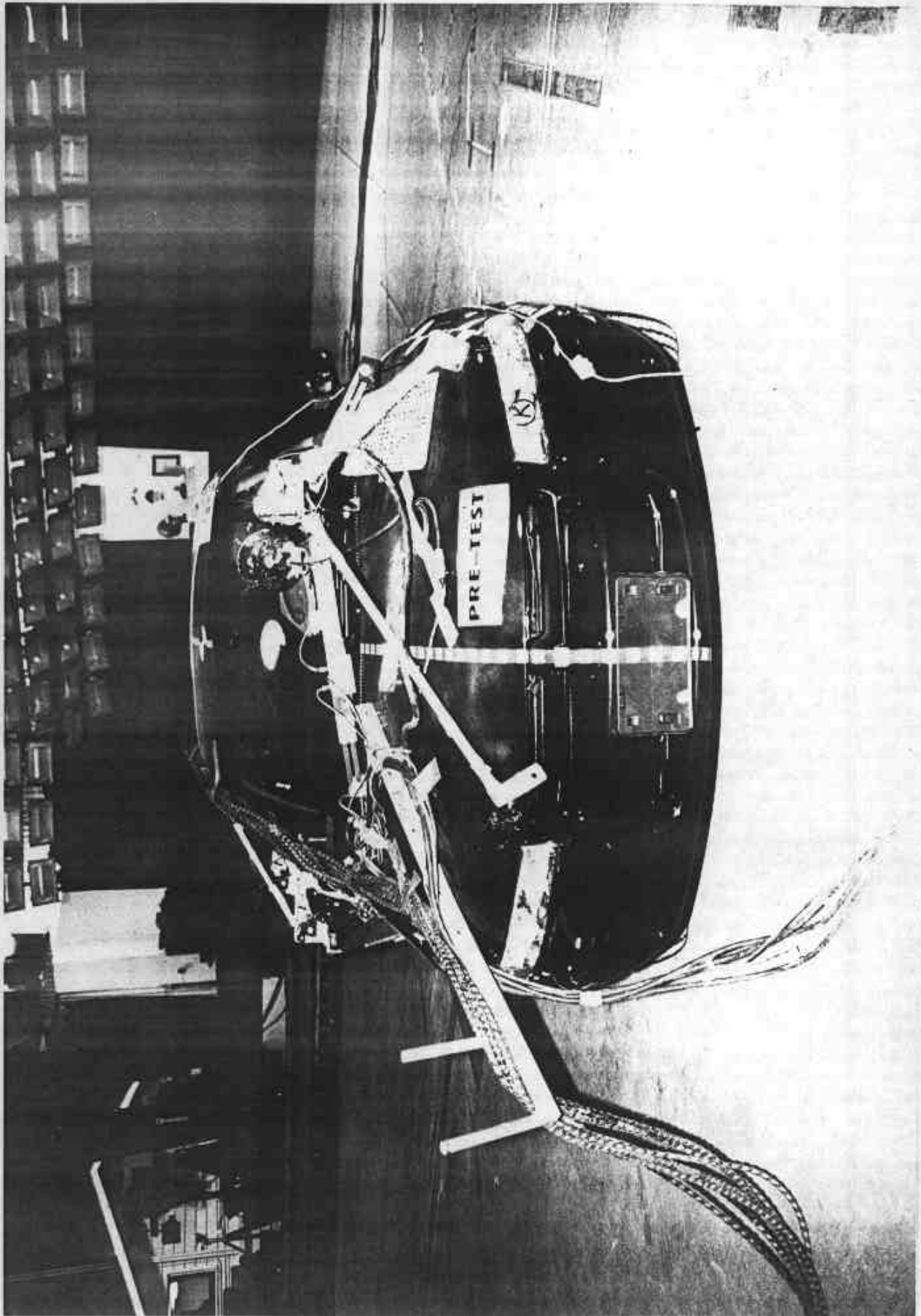


Photo No. A-1 - Pre-Test Front View of Test Vehicle

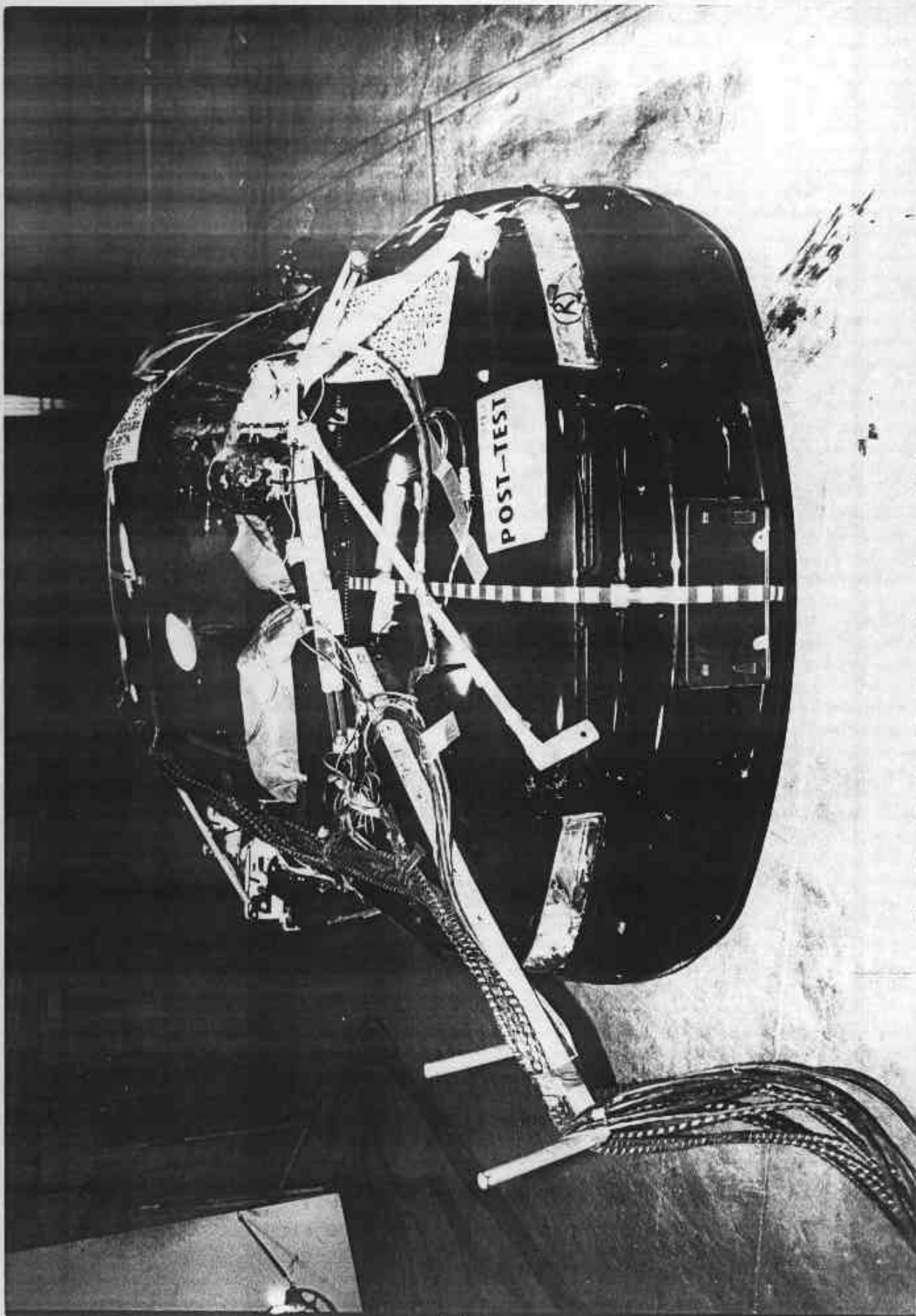


Photo No. A-2 - Post-Test Front View of Test Vehicle

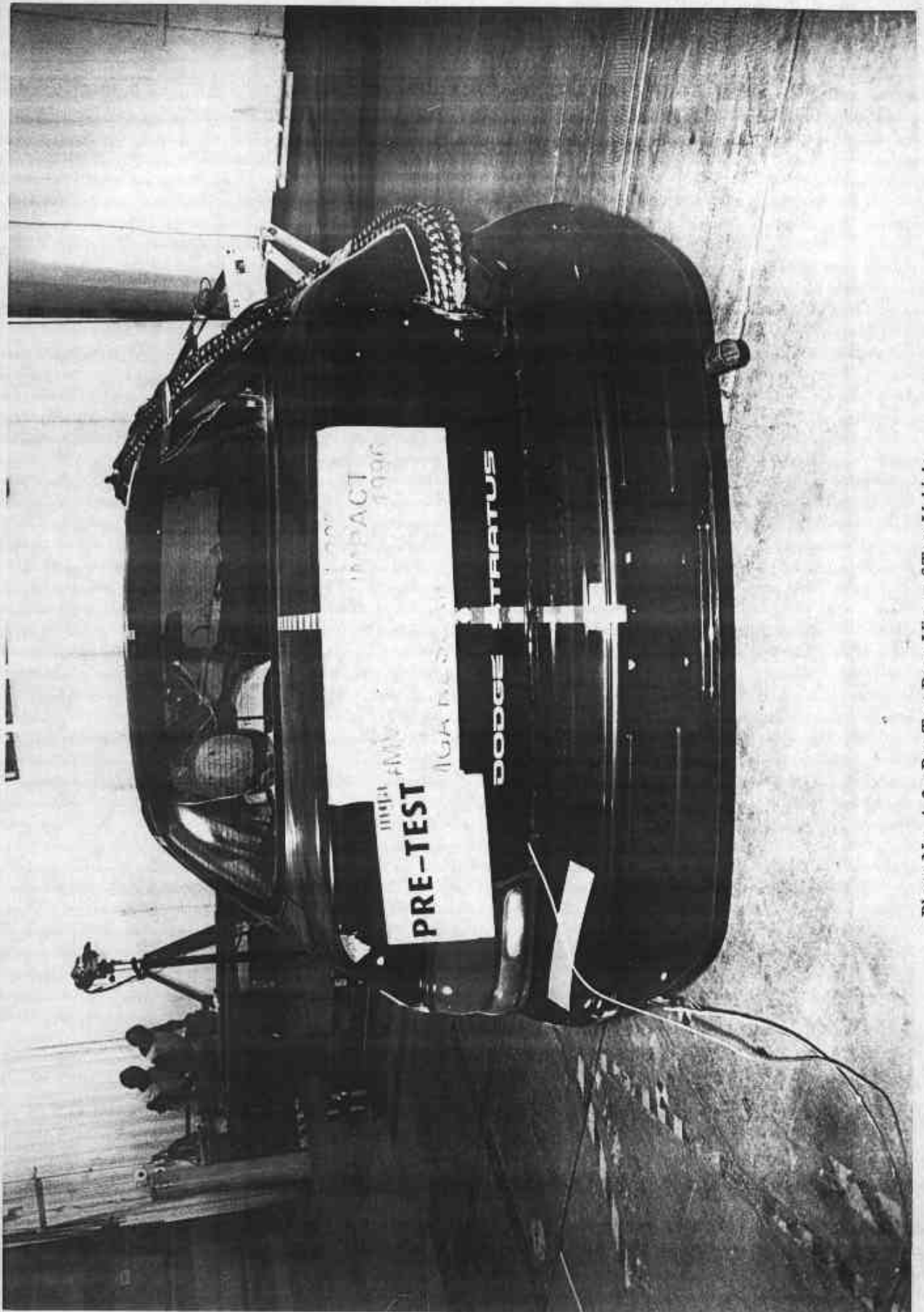


Photo No. A-3 - Pre-Test Rear View of Test Vehicle

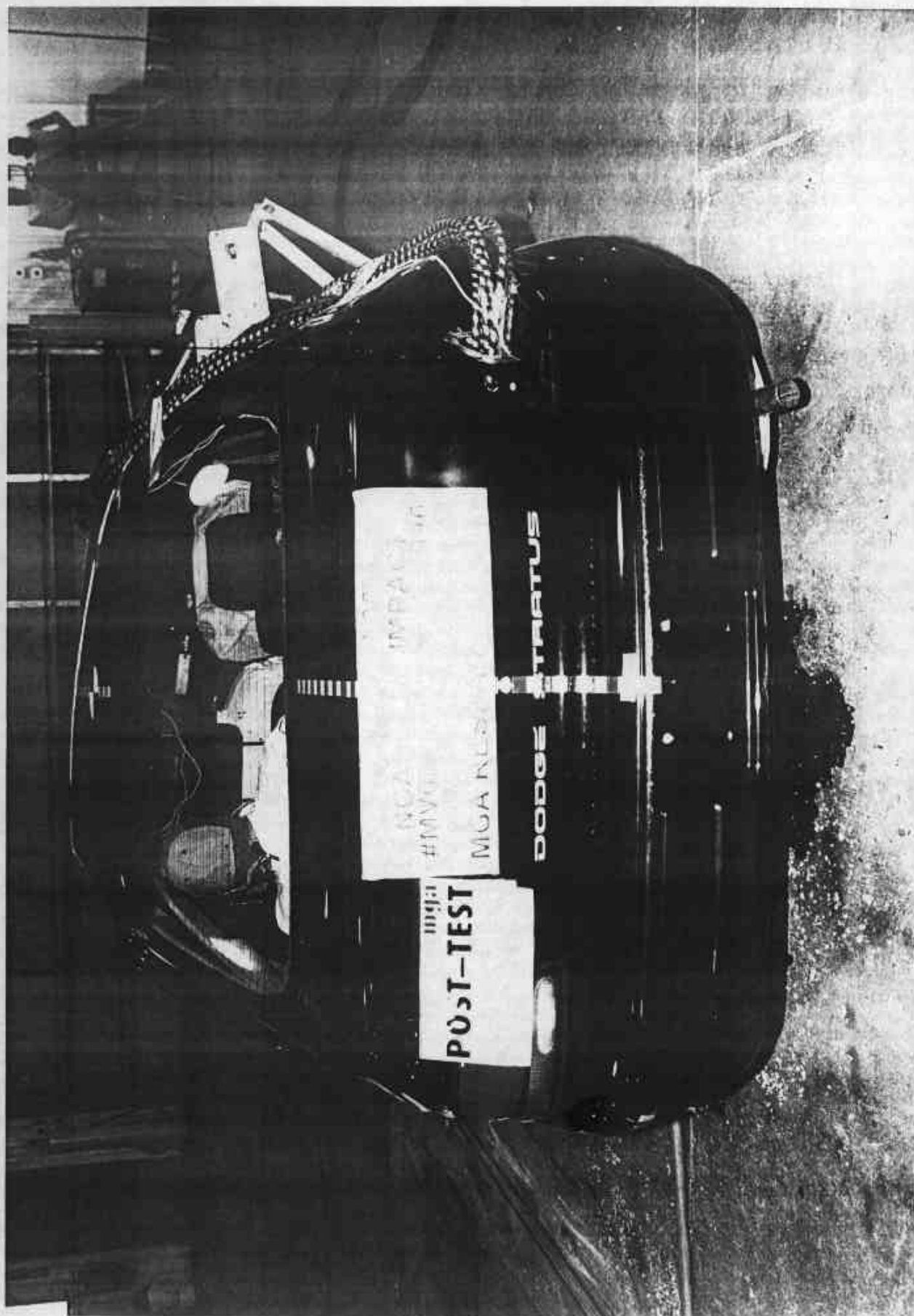


Photo No. A-4 - Post-Test Rear View of Test Vehicle

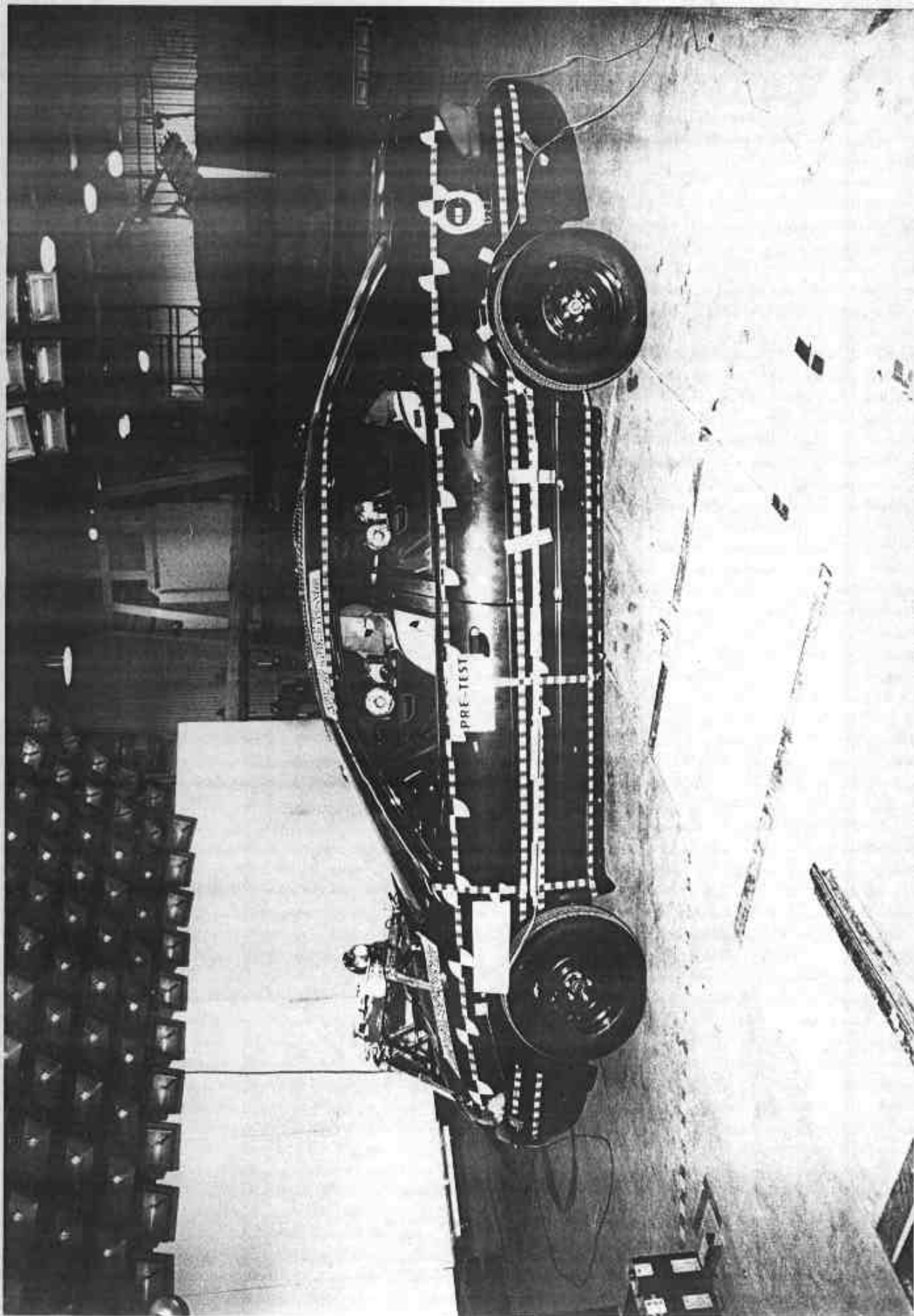


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

A-5

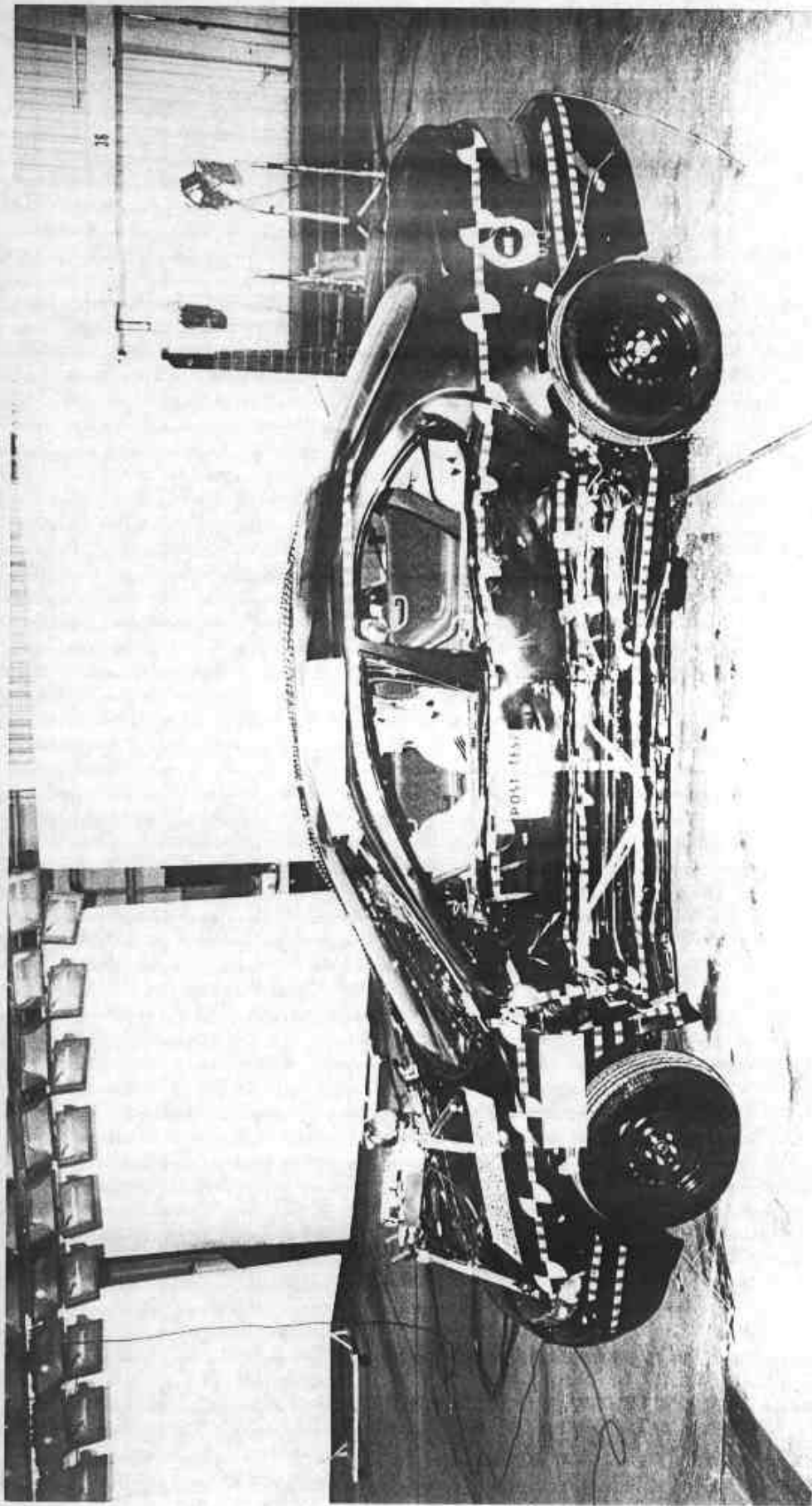


Photo No. A-6 - Post-Test Left Side View of Test Vehicle

A-6

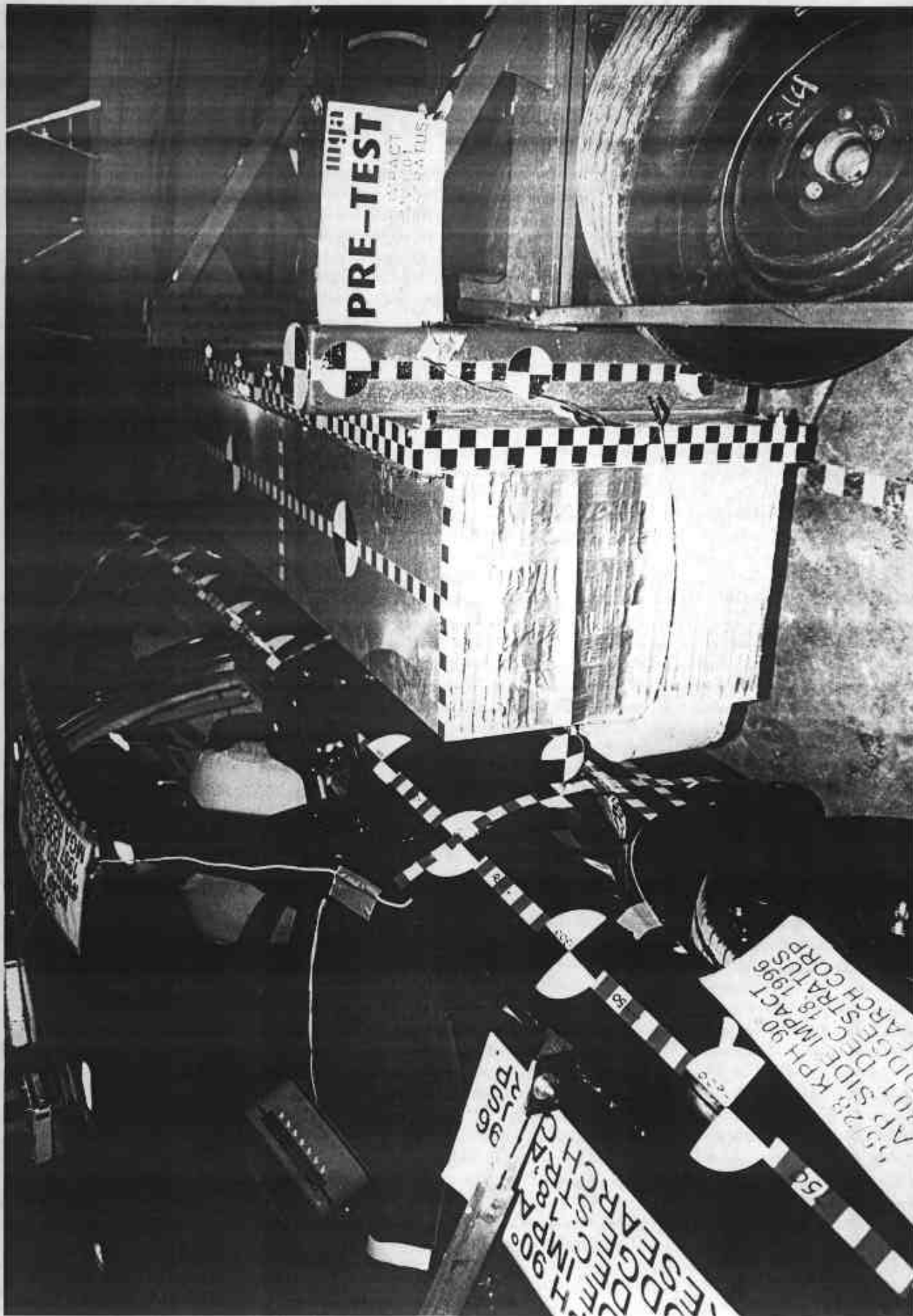


Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)

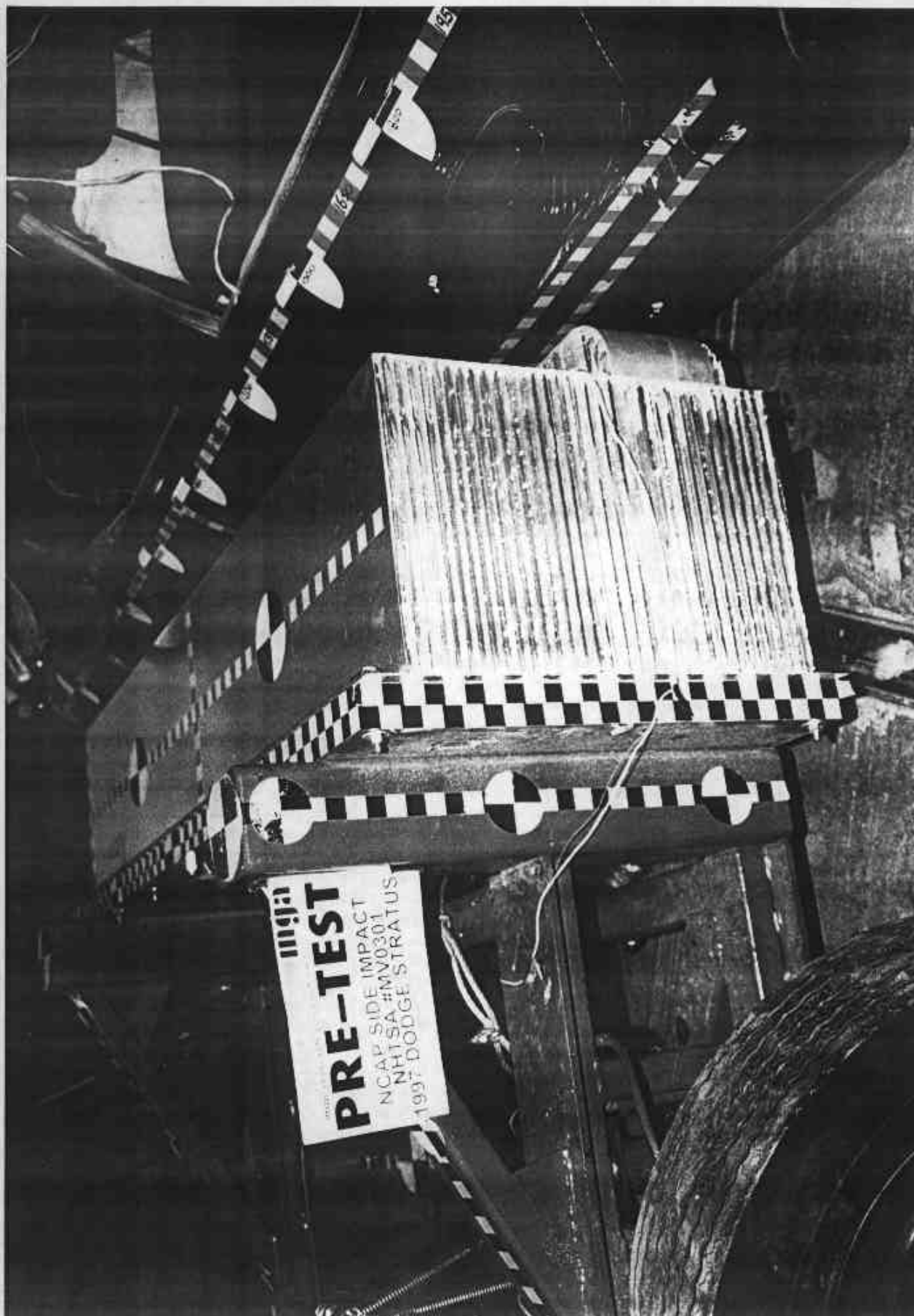


Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)

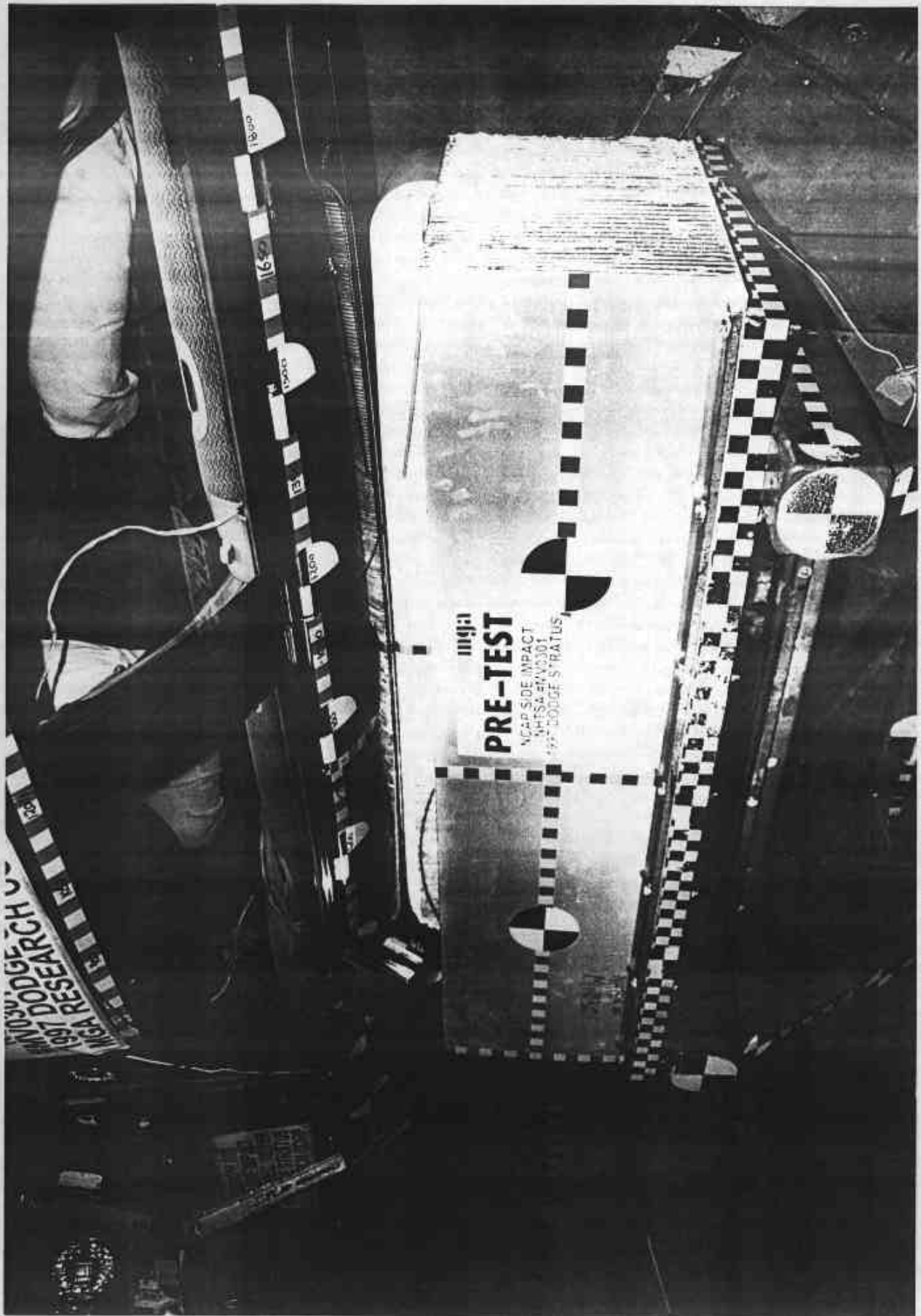


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View

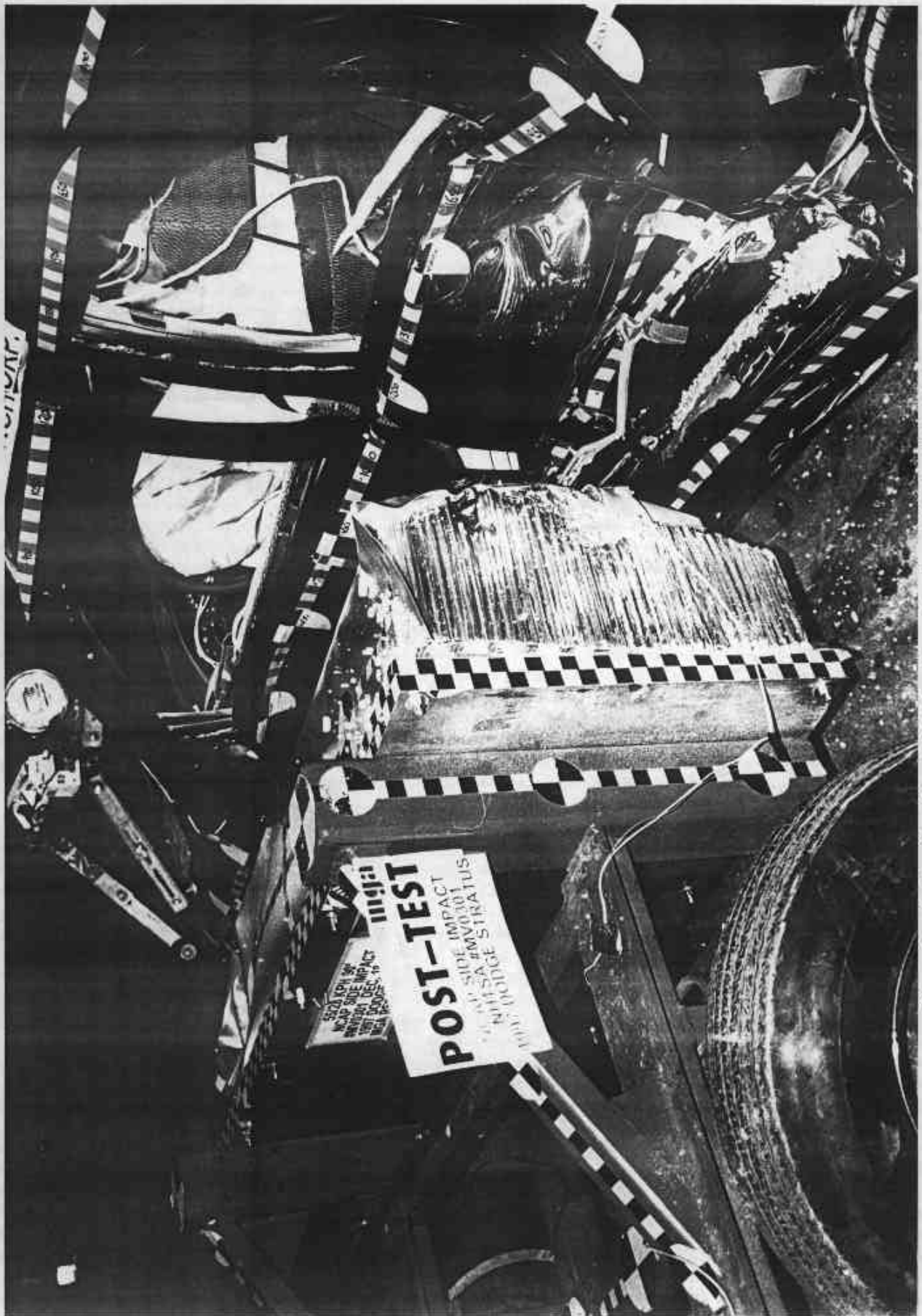


Photo No. A-11 - Post-Test MDB Positioned Against Vehicle (right side)

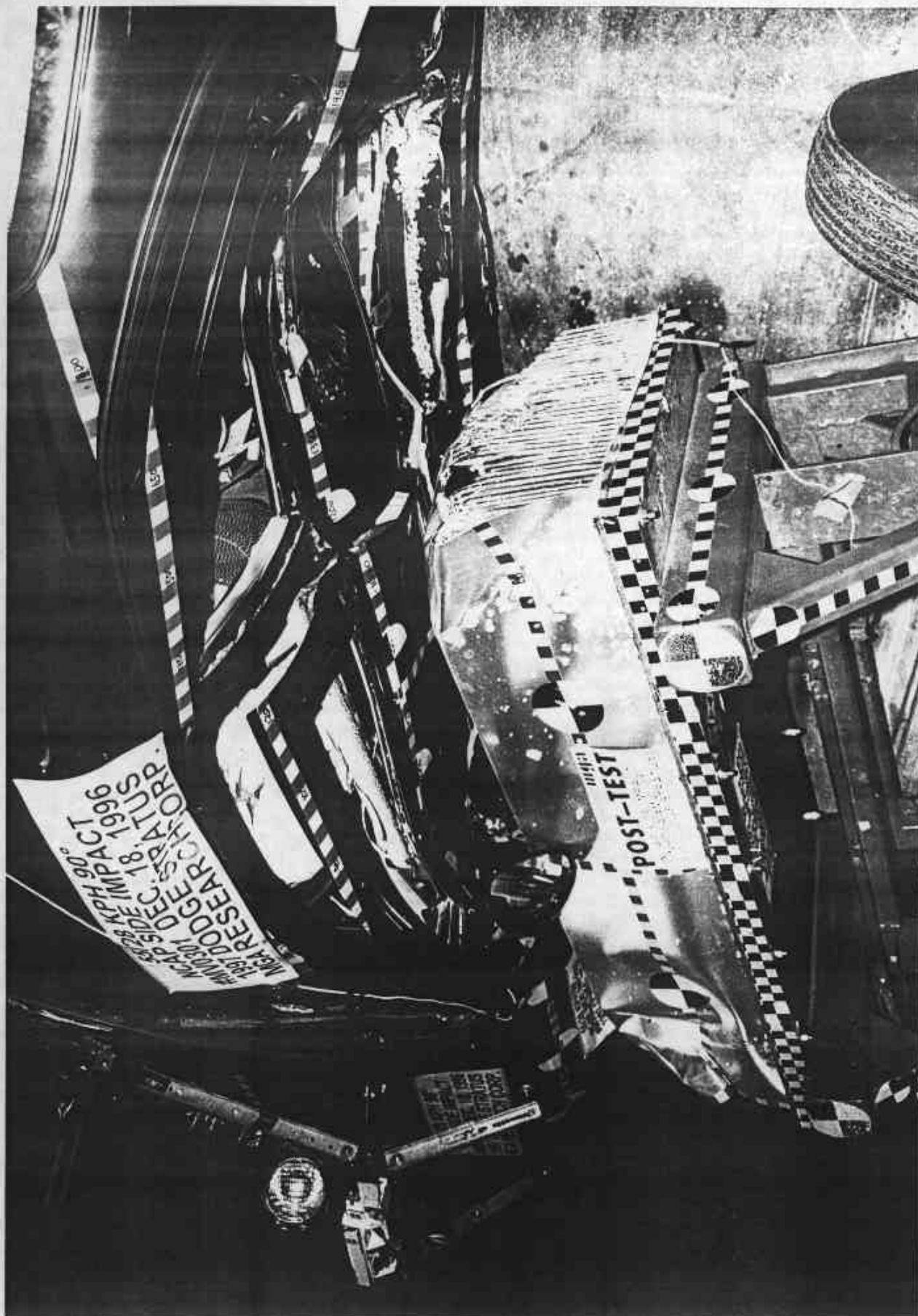


Photo No. A-12 - Post-Test MDB Positioned Against Vehicle Overhead View

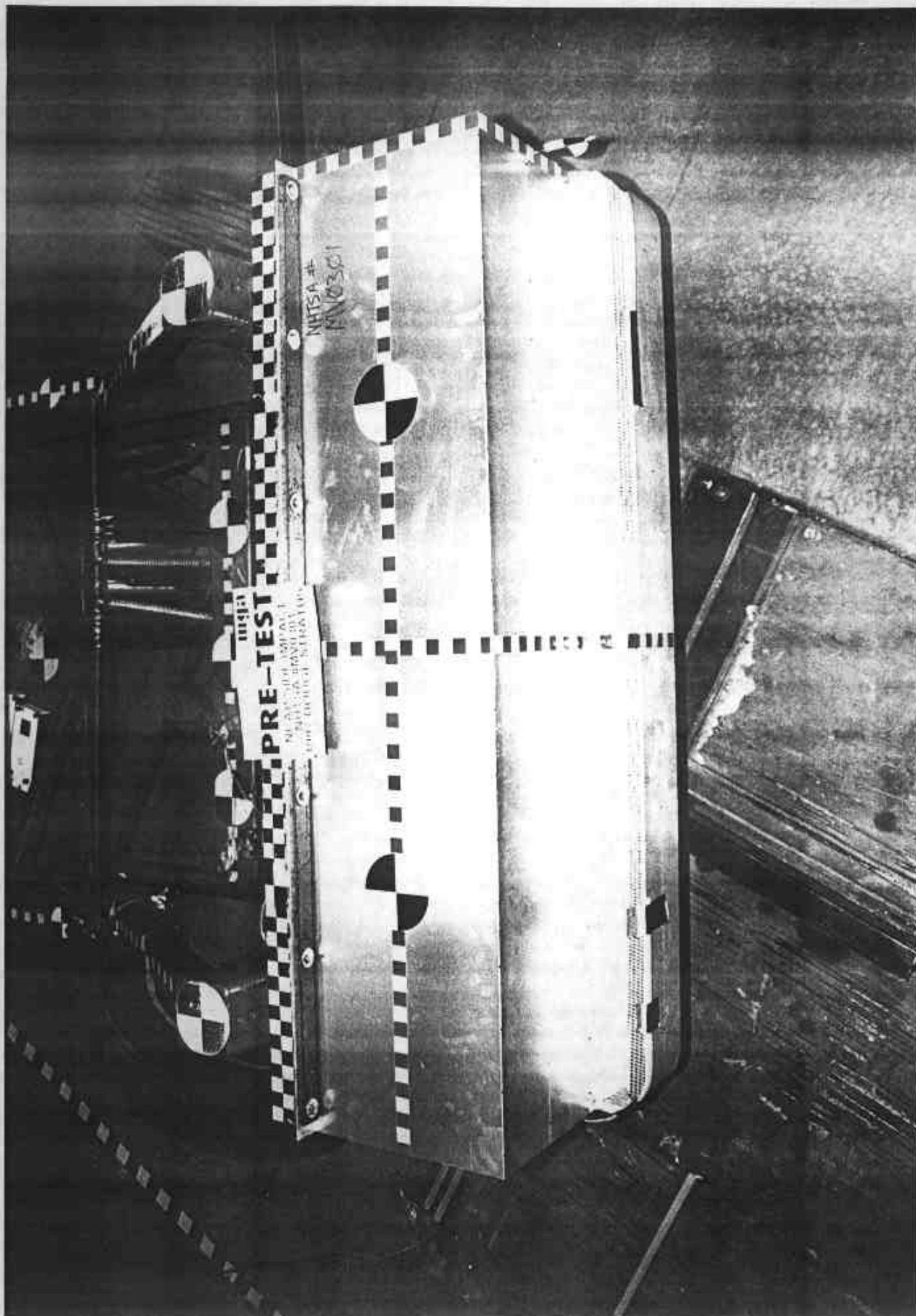


Photo No. A-13 - Pre-Test MDB Top View

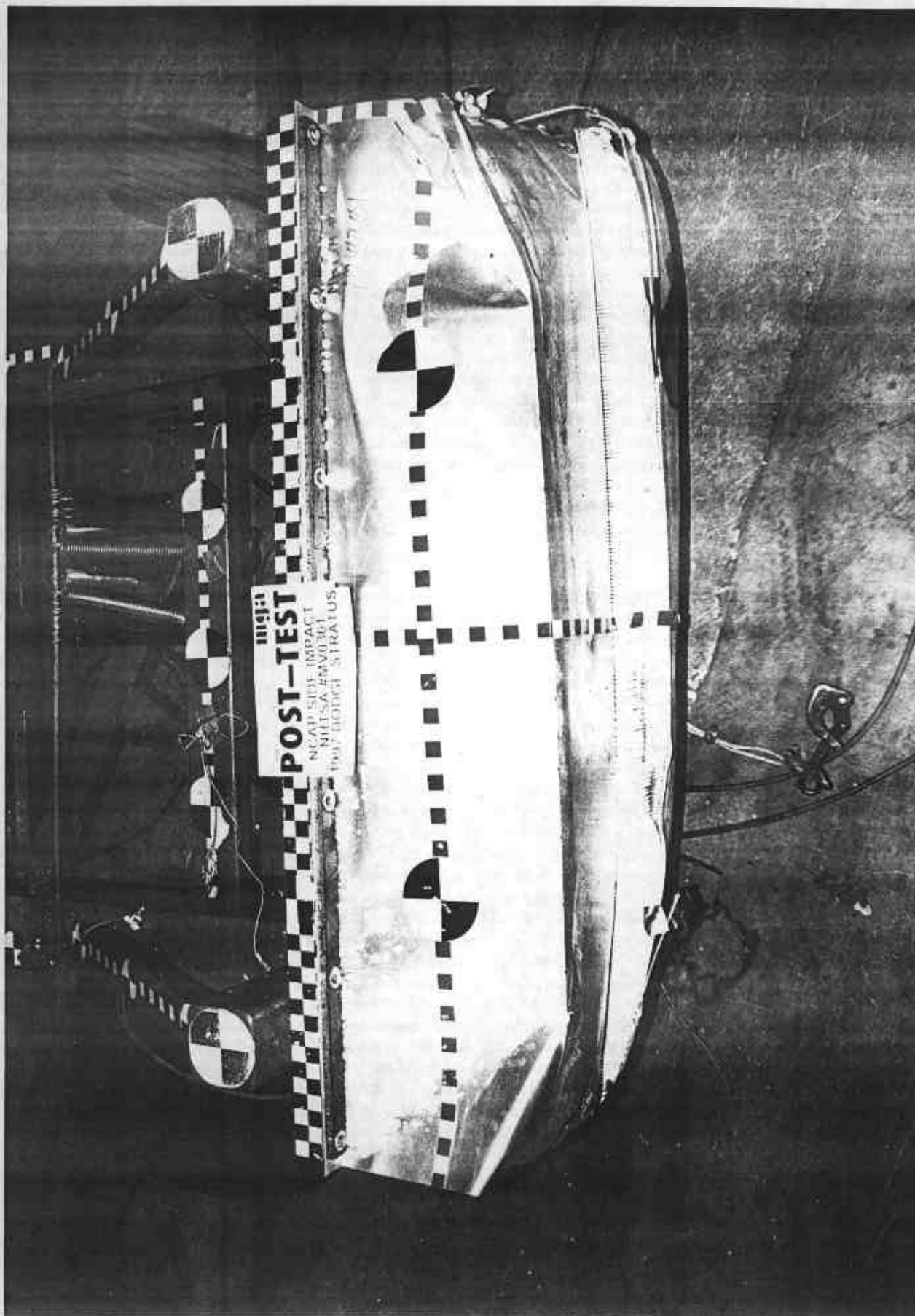


Photo No. A-14 - Post-Test MDB Top View

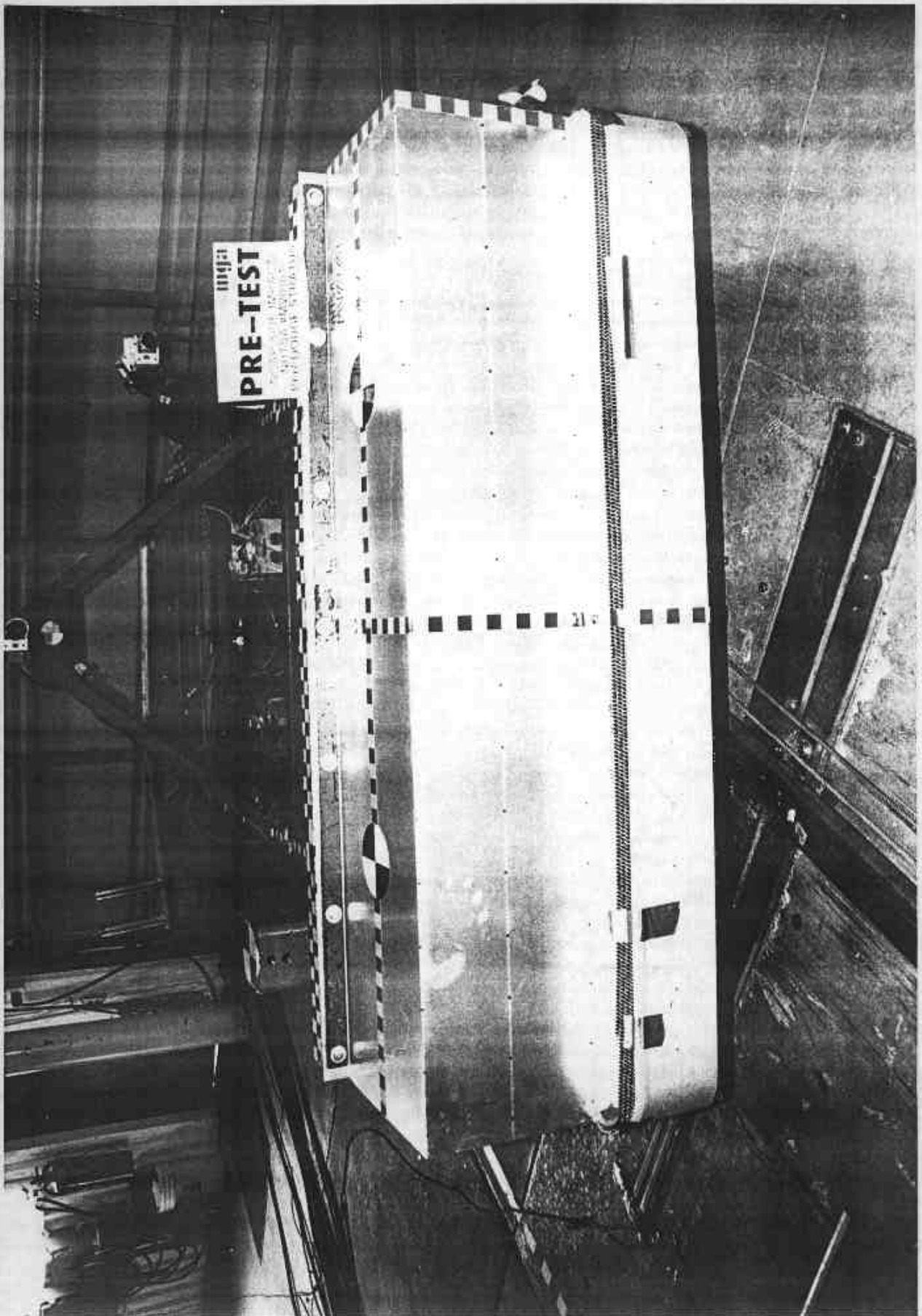


Photo No. A-15 - Pre-Test MDB Front View

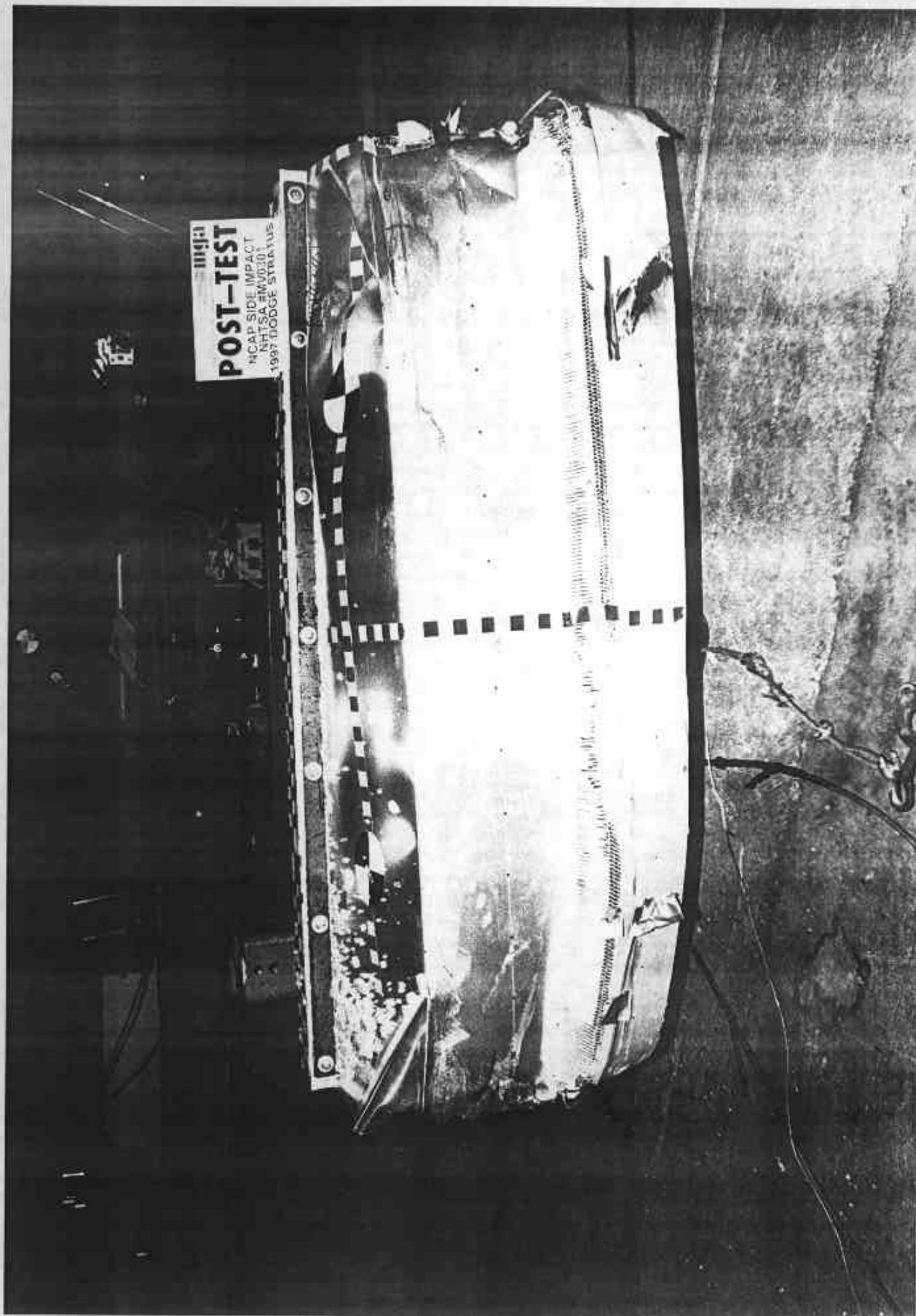


Photo No. A-16 - Post-Test MDB Front View

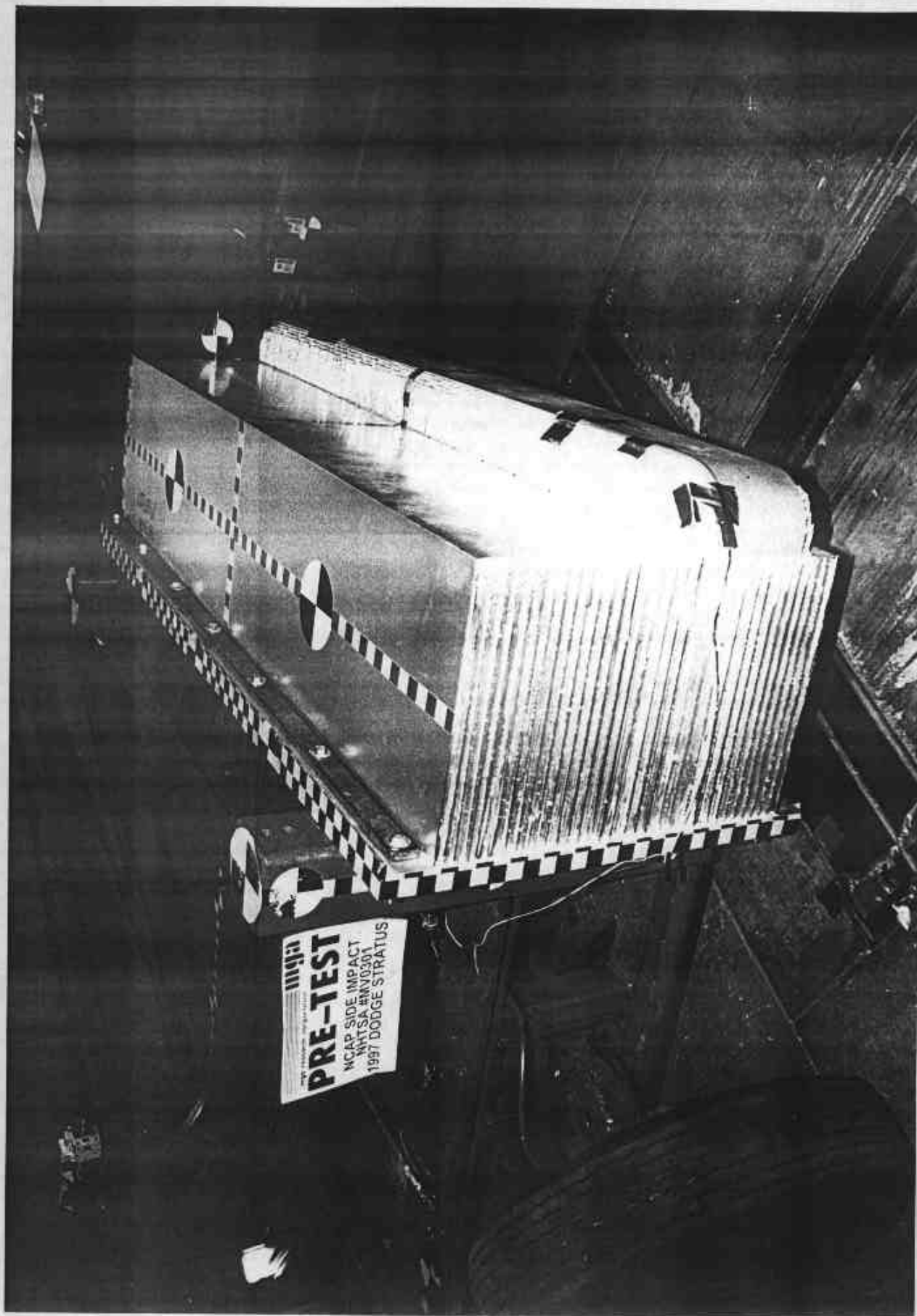


Photo No. A-17 - Pre-Test MDB Right Side View



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

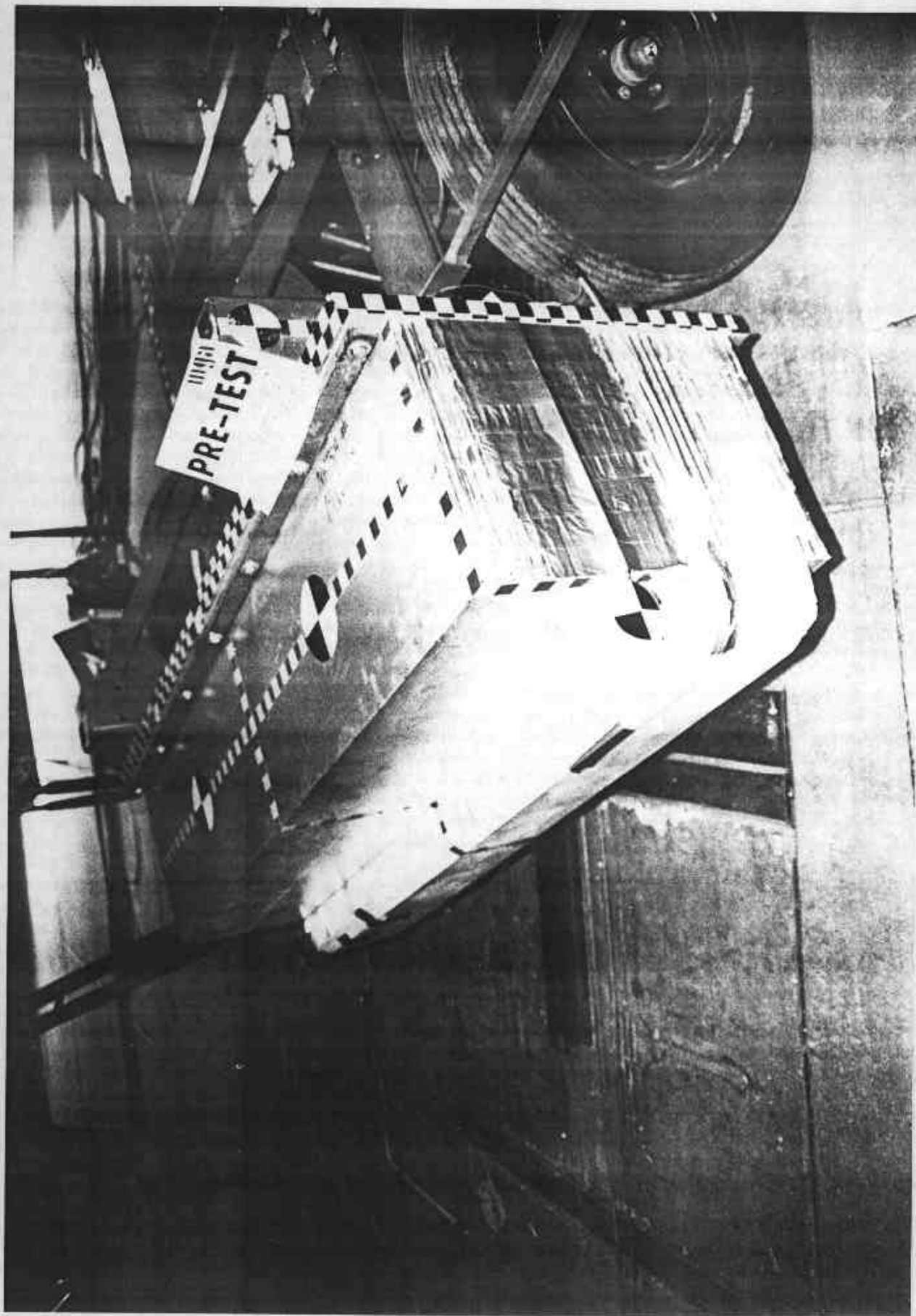


Photo No. A-19 - Pre-Test MDB Left Side View

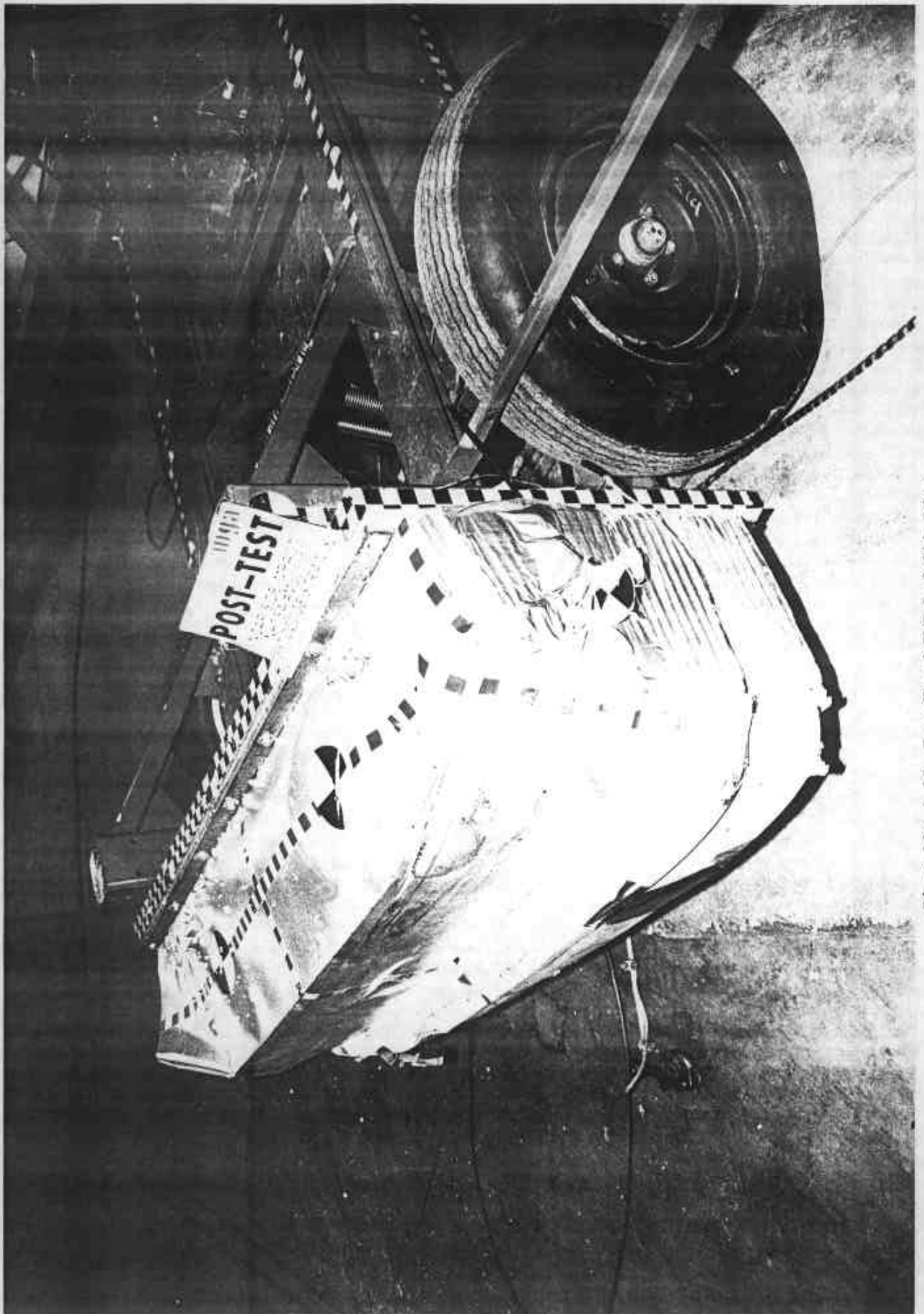


Photo No. A-20 - Post-Test MDB Left Side View



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

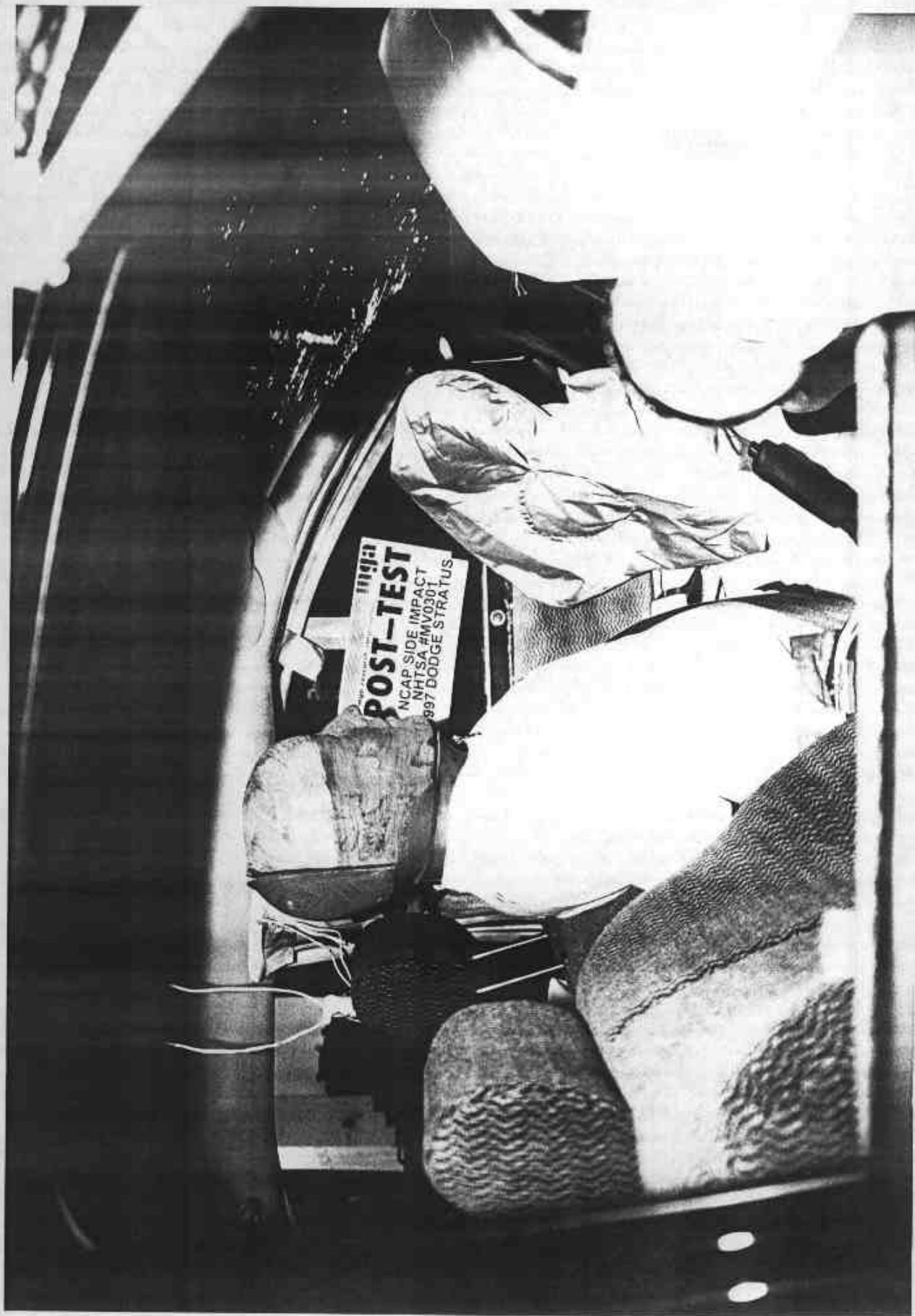


Photo No. A-22 - Post-Test Driver Dummy Right Side View

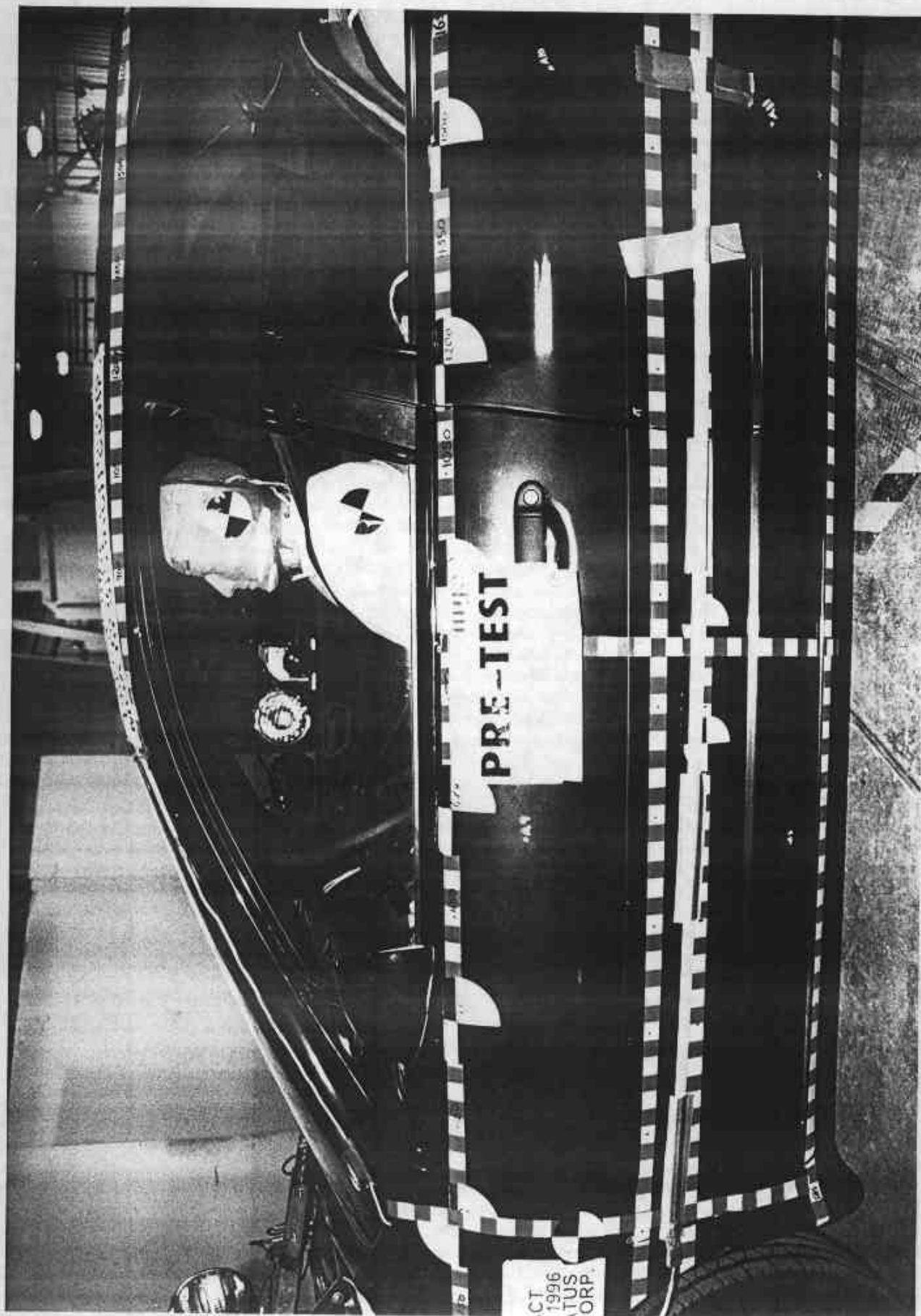
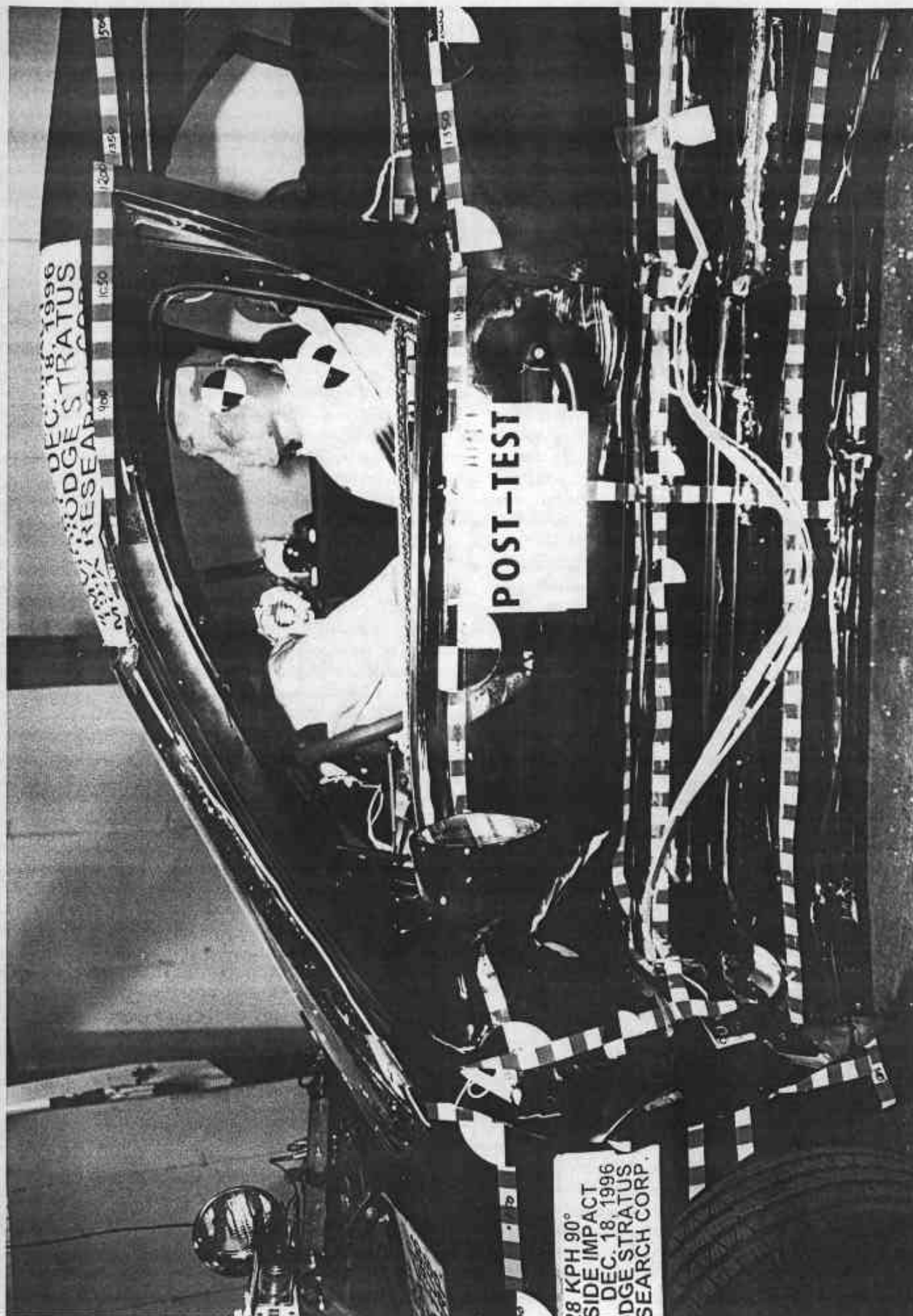
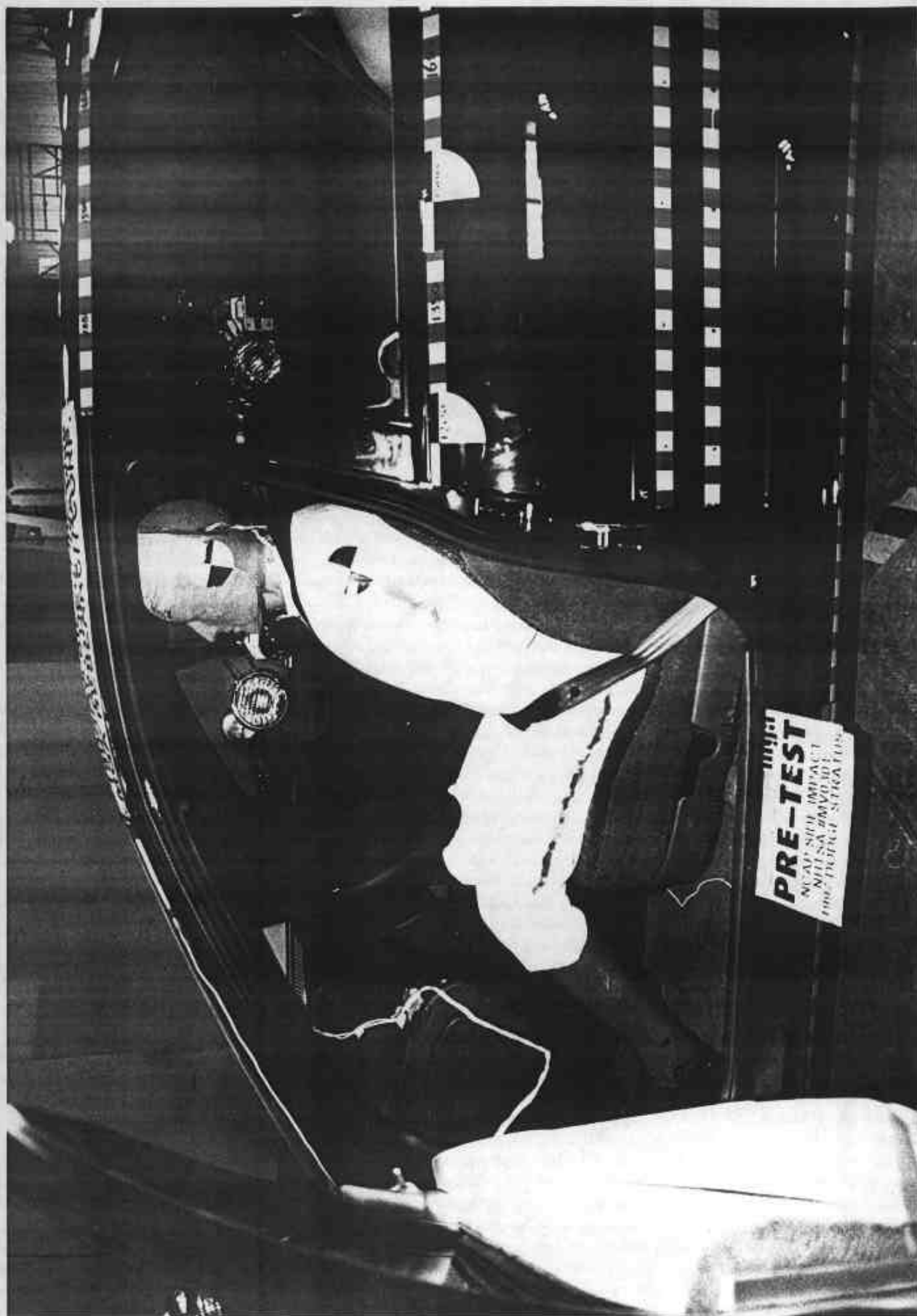


Photo No. A-23 - Pre-Test Driver Dummy Left Side View



A-24

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



A-25

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

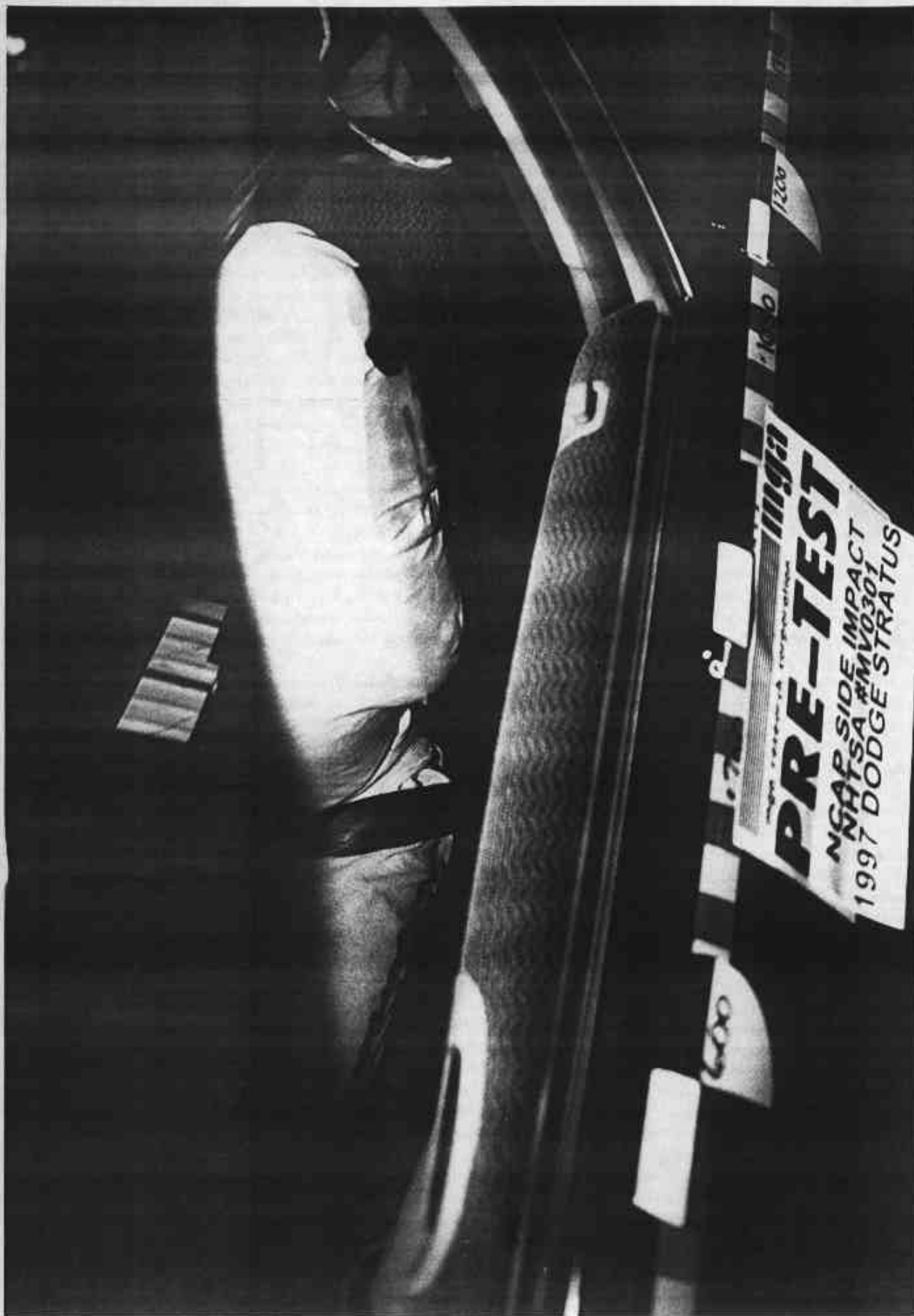


Photo No. A-26 - Pre-Test Driver Dummy Shoulder and Door Top View

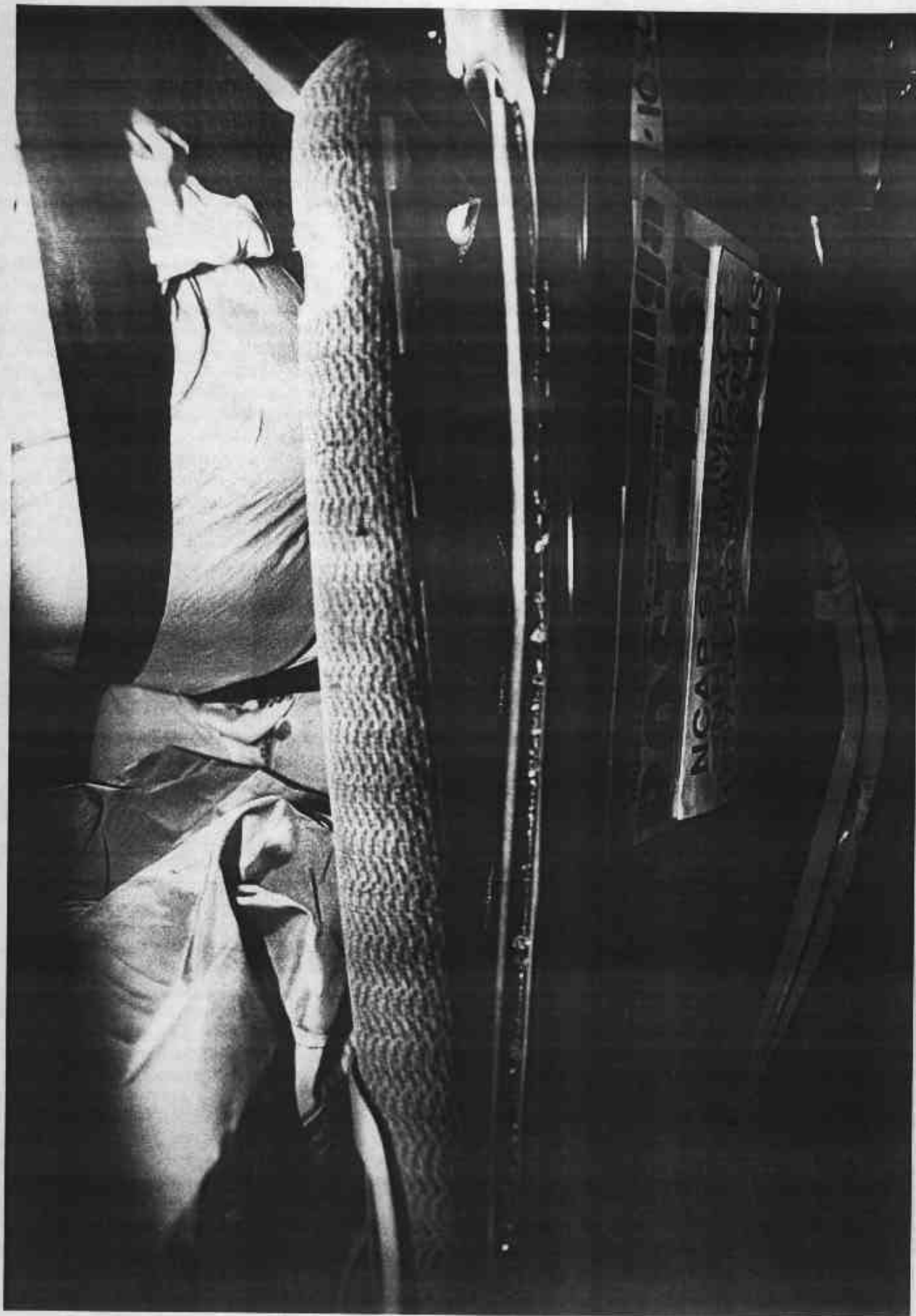


Photo No. A-27 - Post-Test Driver Dummy Shoulder and Door Top View

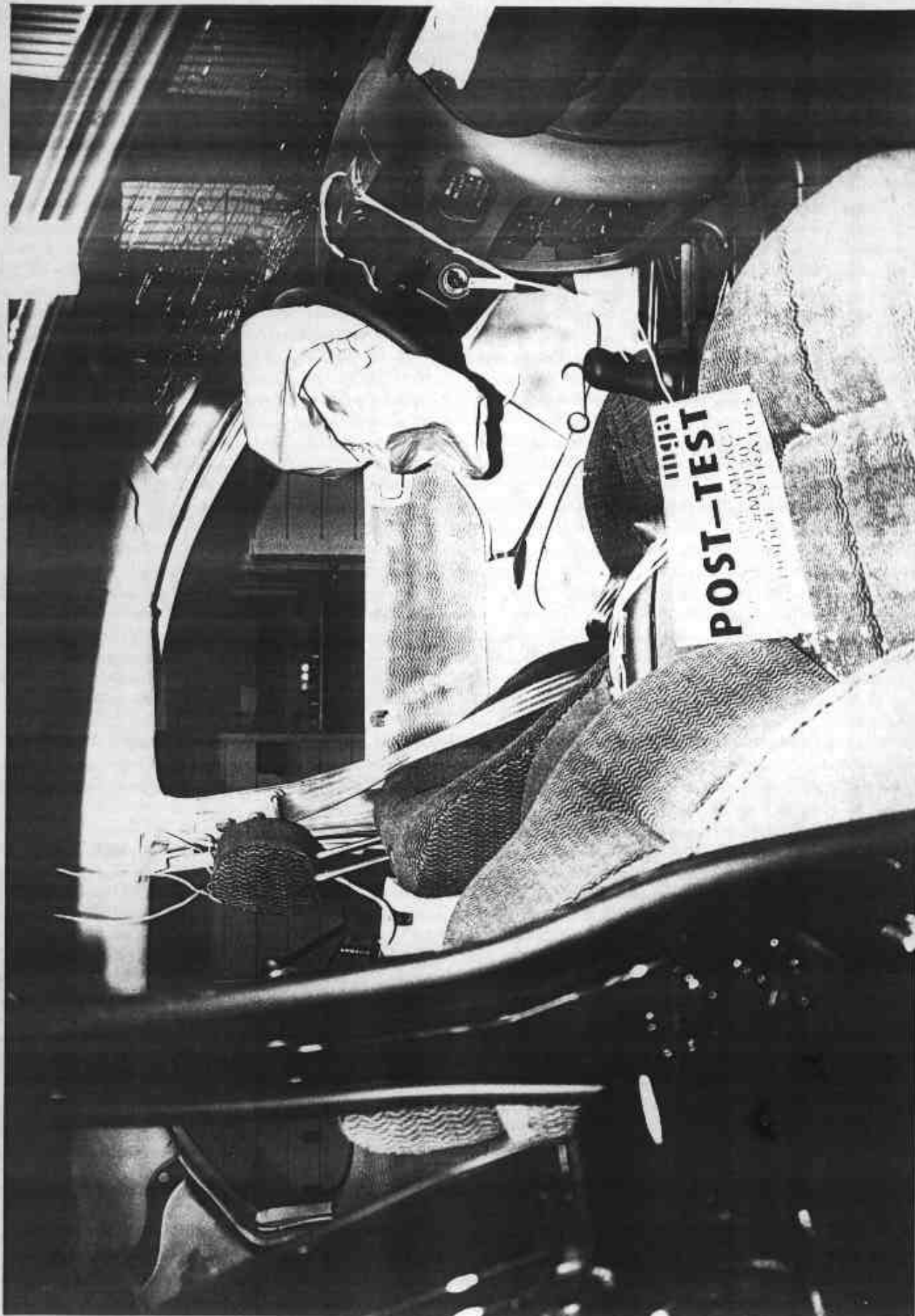


Photo No. A-28 - Post-Test Driver Dummy Contact

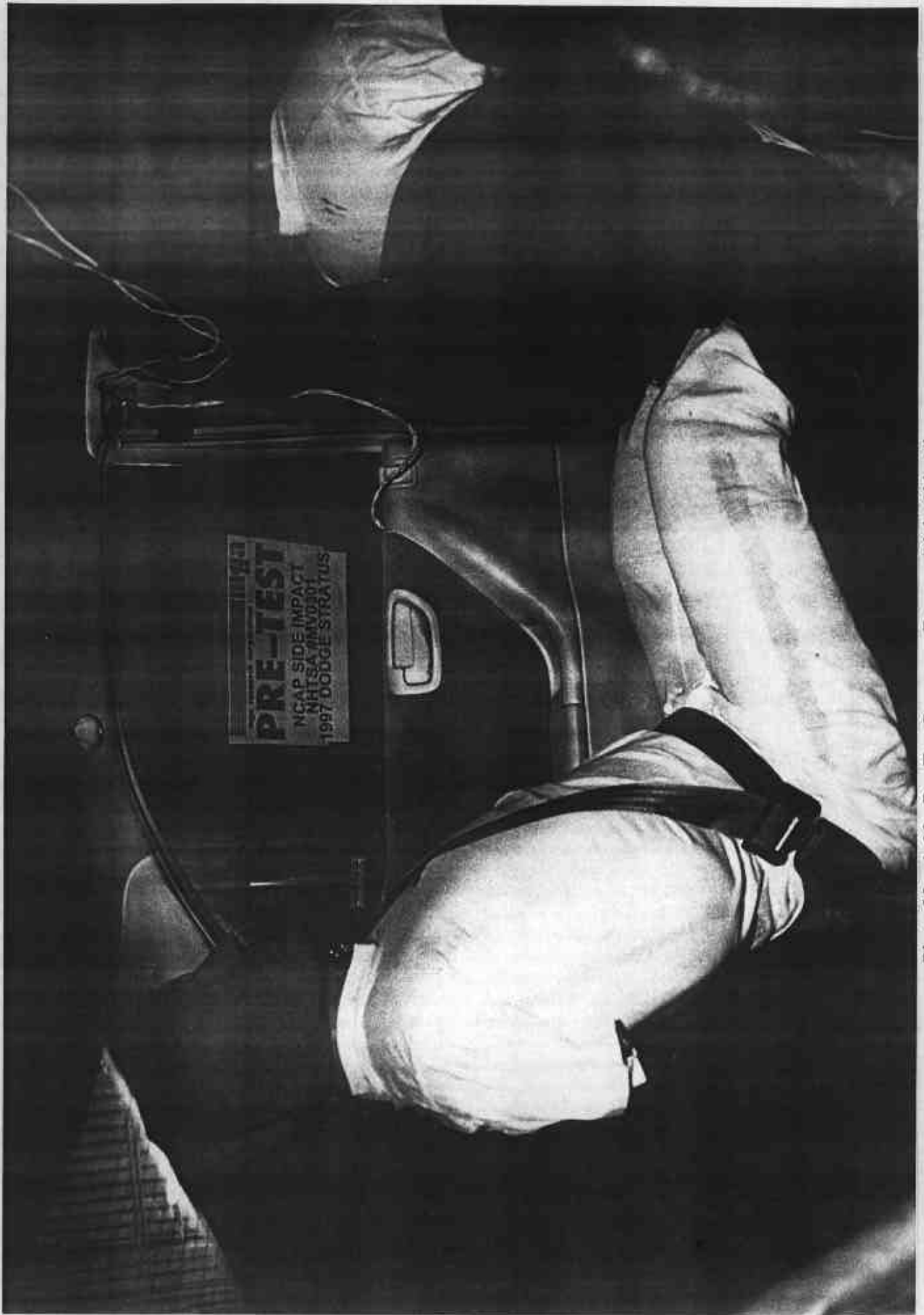


Photo No. A-29 - Pre-Test Passenger Dummy Right Side View



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

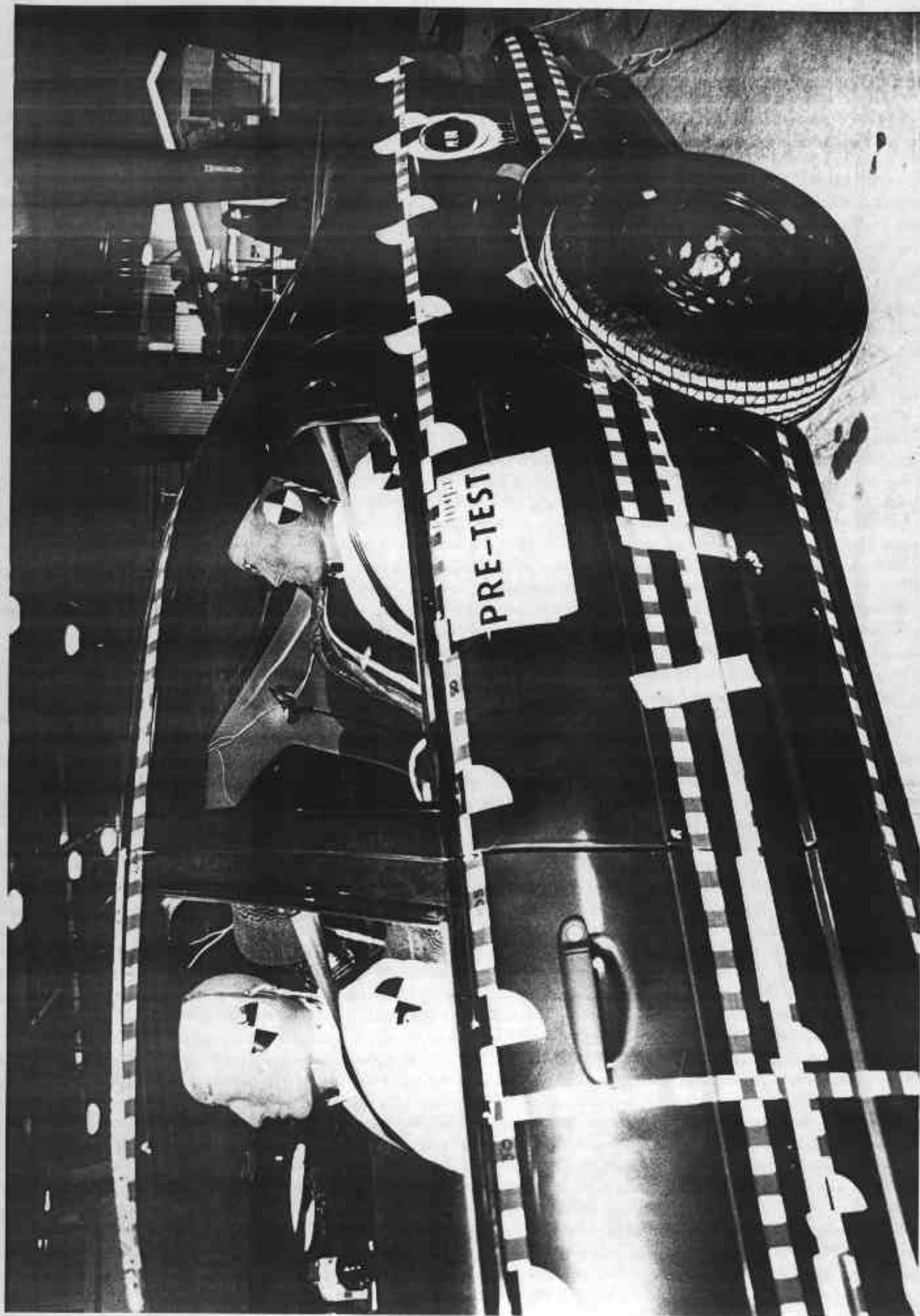


Photo No. A-31 - Pre-Test Passenger Dummy Left Side View

A-31

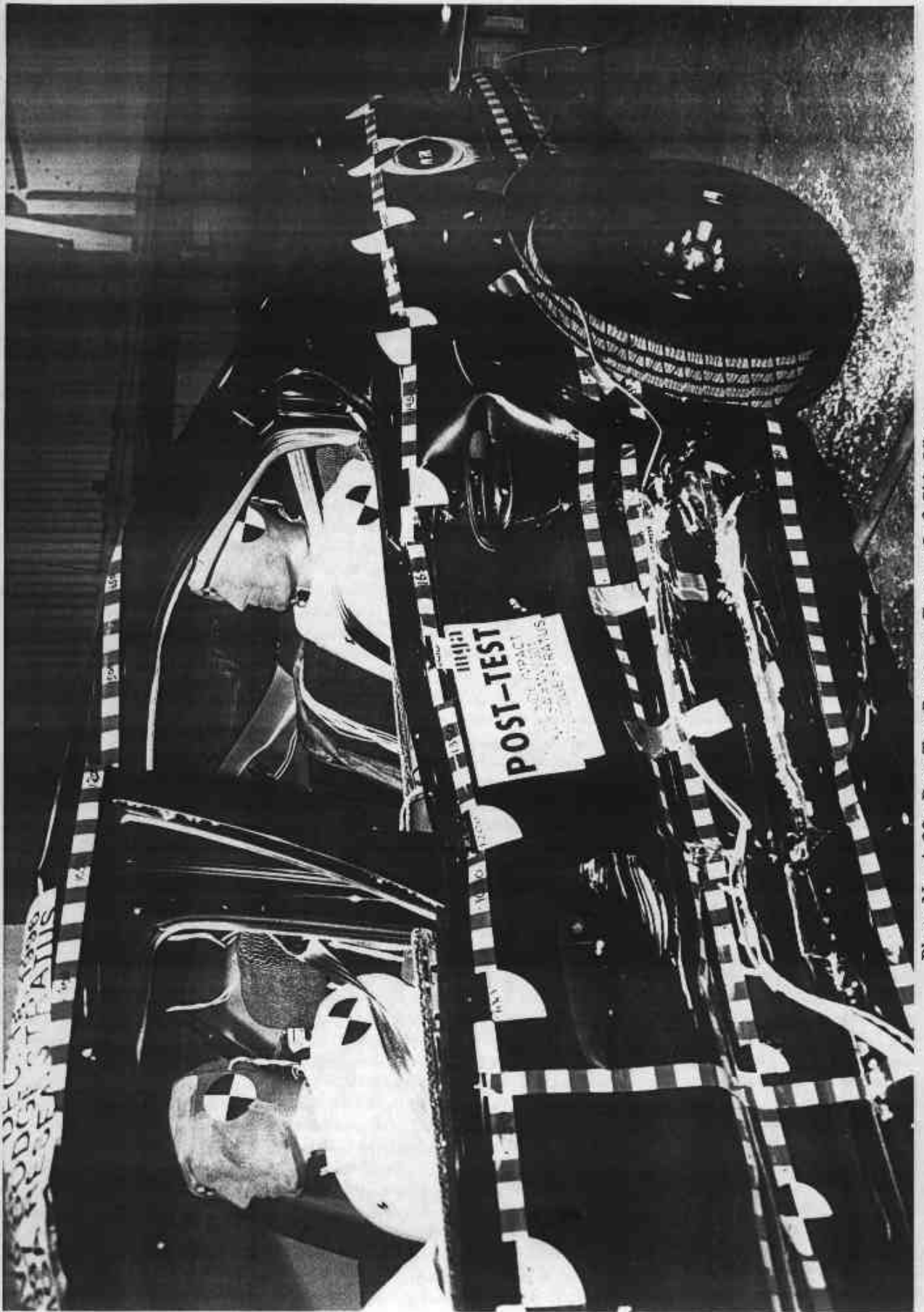


Photo No. A-32 - Post-Test Passenger Dummy Left Side View

A-32

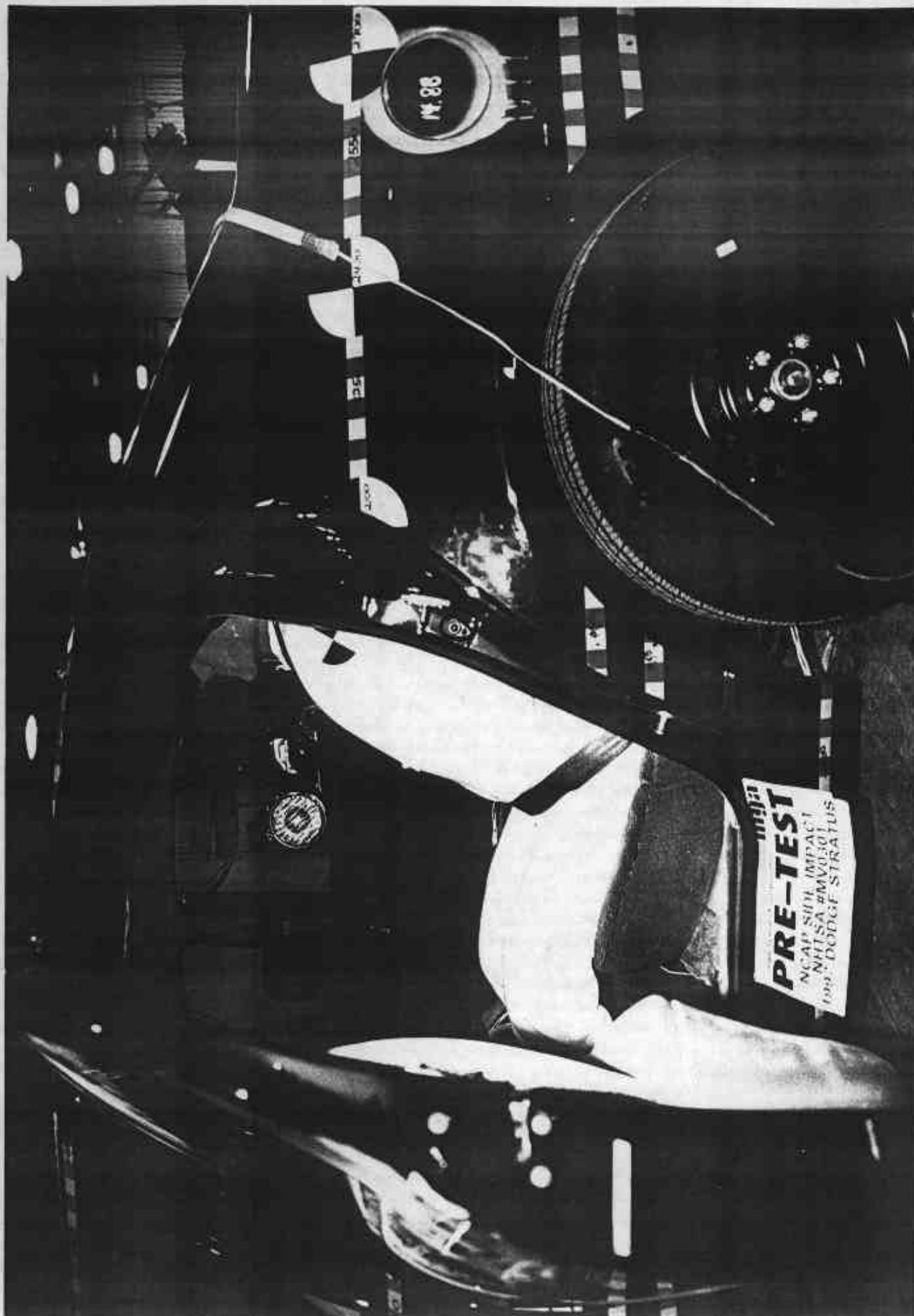
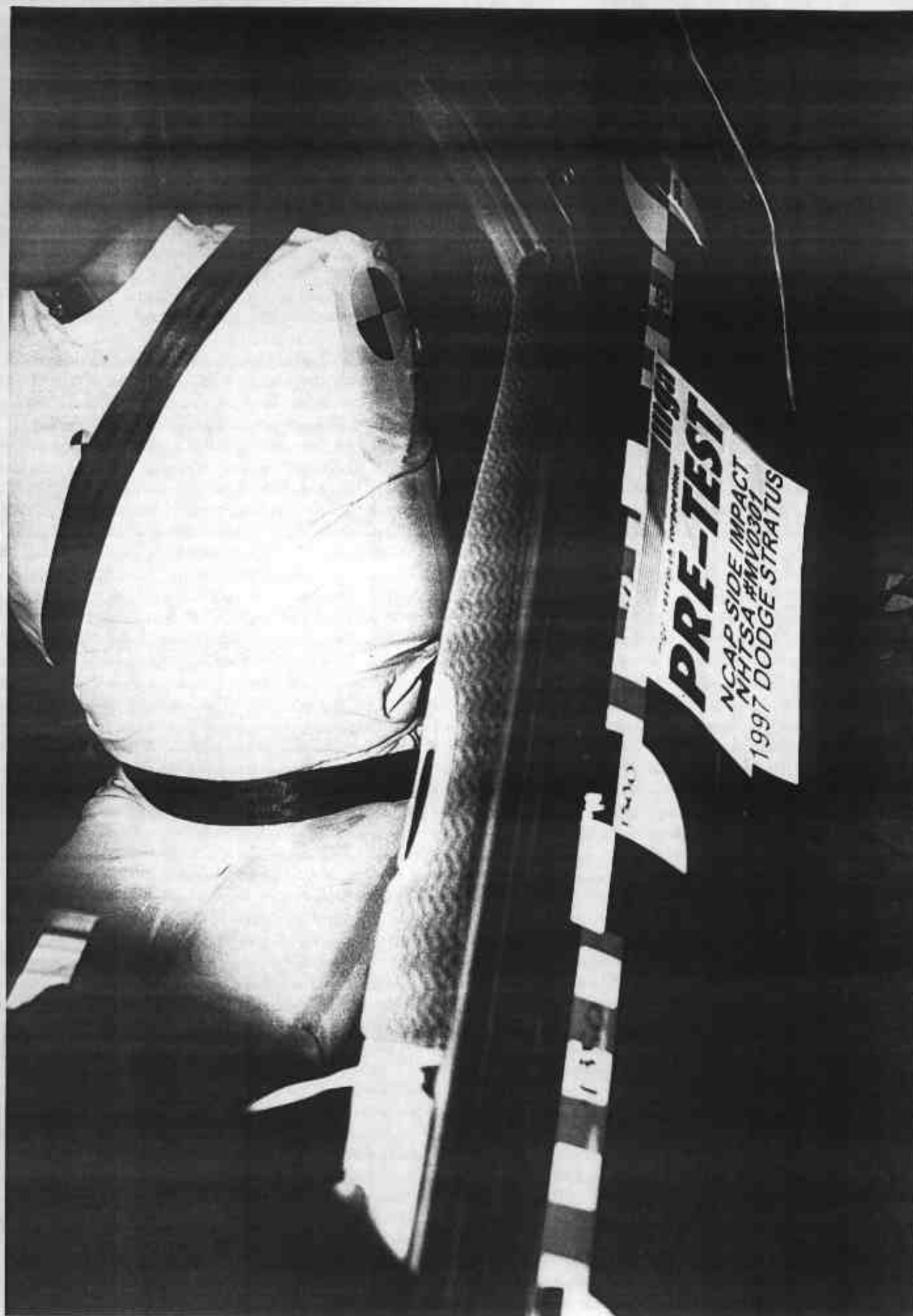


Photo No. A-33 - Pre-Test Passenger Dummy Left Side View (Door Open)



A-34

Photo No. A-34 - Pre-Test Passenger Dummy Shoulder and Door Top View



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



Photo No. A-36 - Post-Test Passenger Dummy Contact



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



Photo No. A-38 - Pre-Test Left Front Impact Point on Vehicle



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

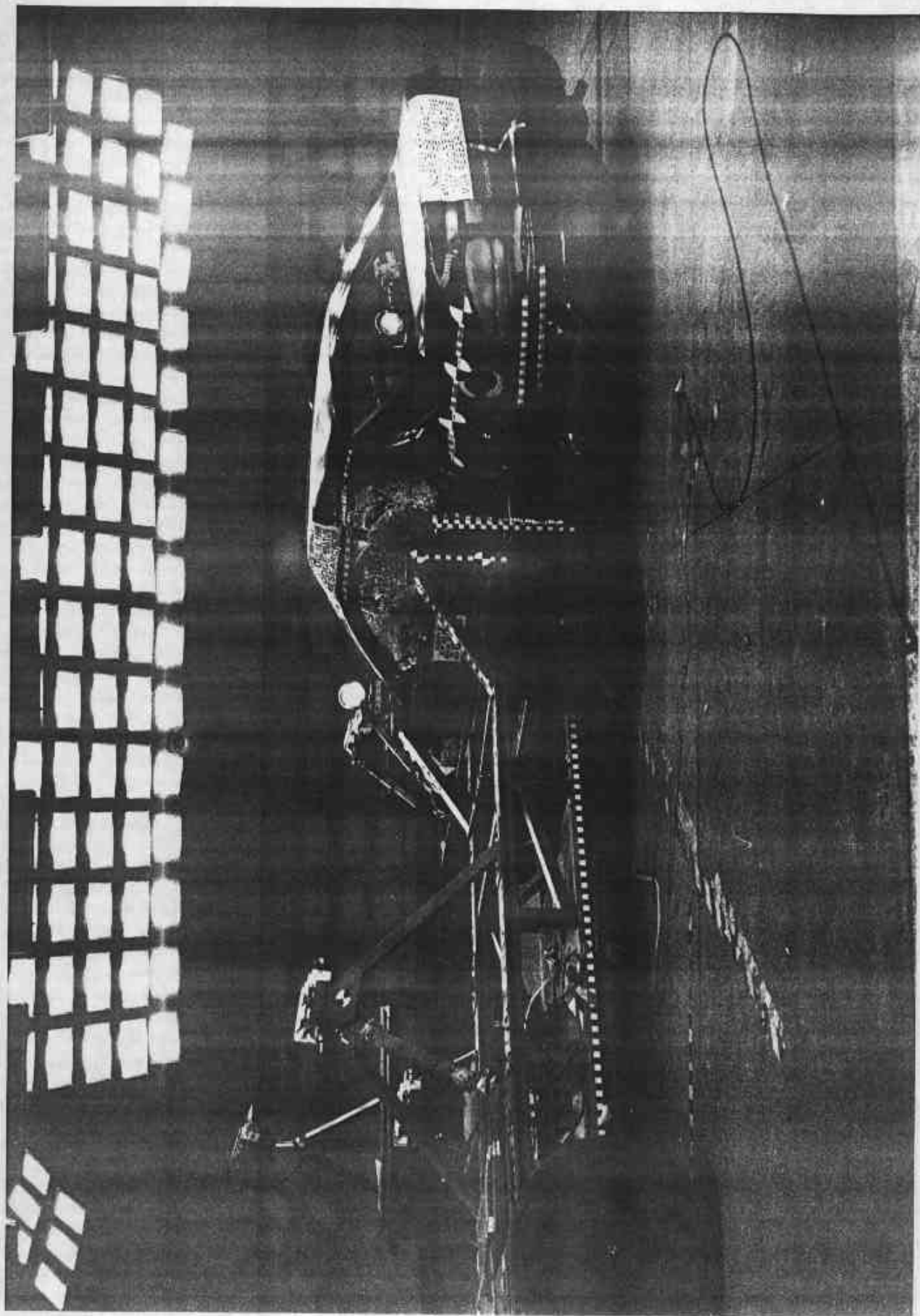


Photo No. A-40 - Impact

A-40

MADE BY CHRYSLER CORPORATION

DATE OF MFR: 9-96

GWR 1793 KG
03952 LB

GWR 0982 KG
FRONT 2163 LB

GWR 0835 KG
FRONT 1839 LB

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

VIN: 1B3EJ46C7VN554773

TYPE: PASSENGER CAR



MDH: 092806 519

PAINT: PCN

VEHICLE MADE IN U.S.A.

TRIM: J7C3

4648102

VEHICLE CAPACITY OR LESS	
1ST SEAT	2 PASS.
2ND SEAT	3 PASS.
LUGGAGE	115 LBS-52 kg
TOTAL	5 PASS.
TOTAL WEIGHT	865 LBS-392 kg
TIRE PRESSURE (COLD)	30 PSI 210 kPa
	FRONT AND REAR

RECOMMENDED TIRE SIZES	
P195/70R14	90S
P195/65R15	89S
P195/65R15	89H
STANDARD LOAD	

SEE OWNERS MANUAL FOR ADDITIONAL DATA	
PRINTED IN USA	04595675

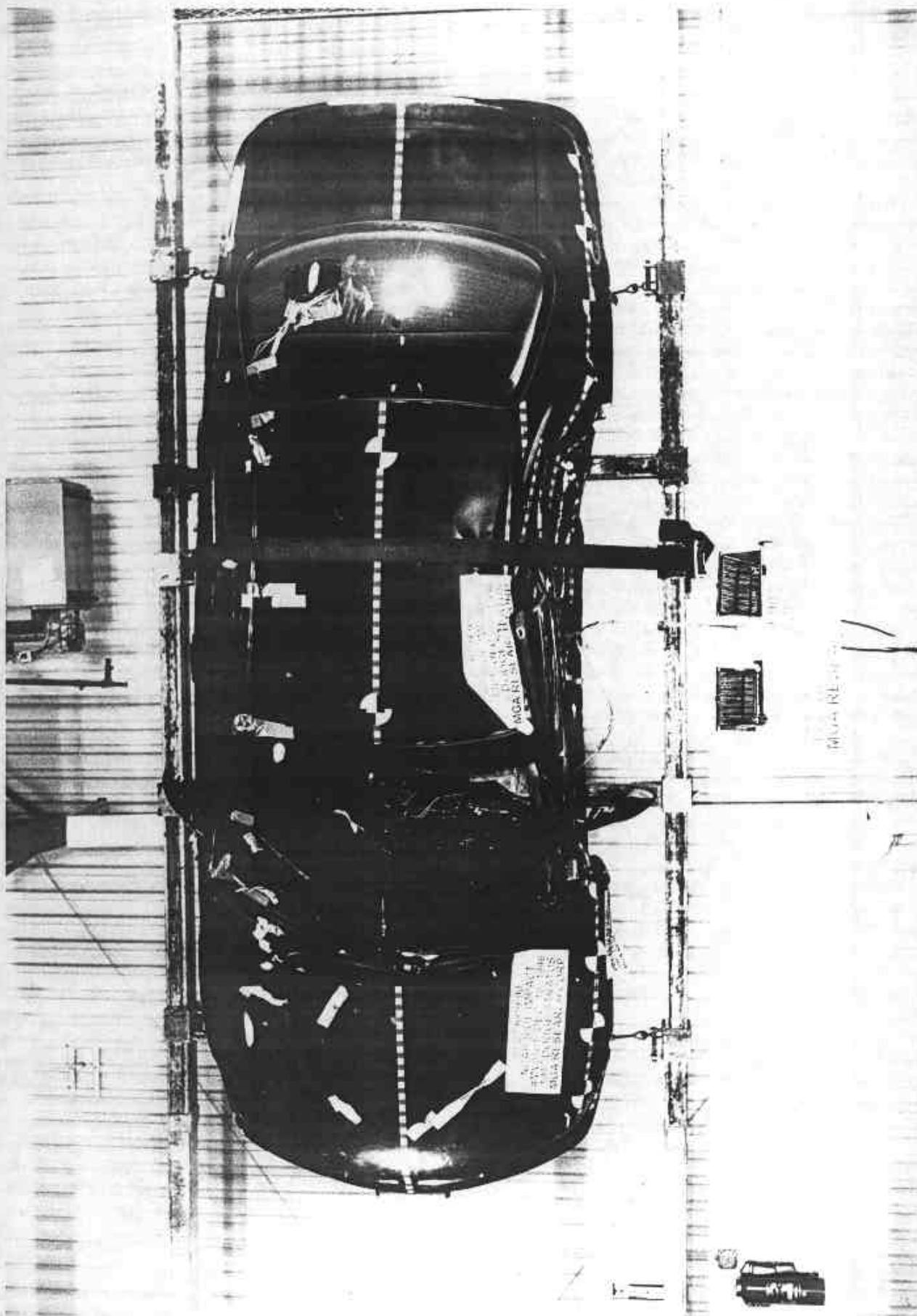
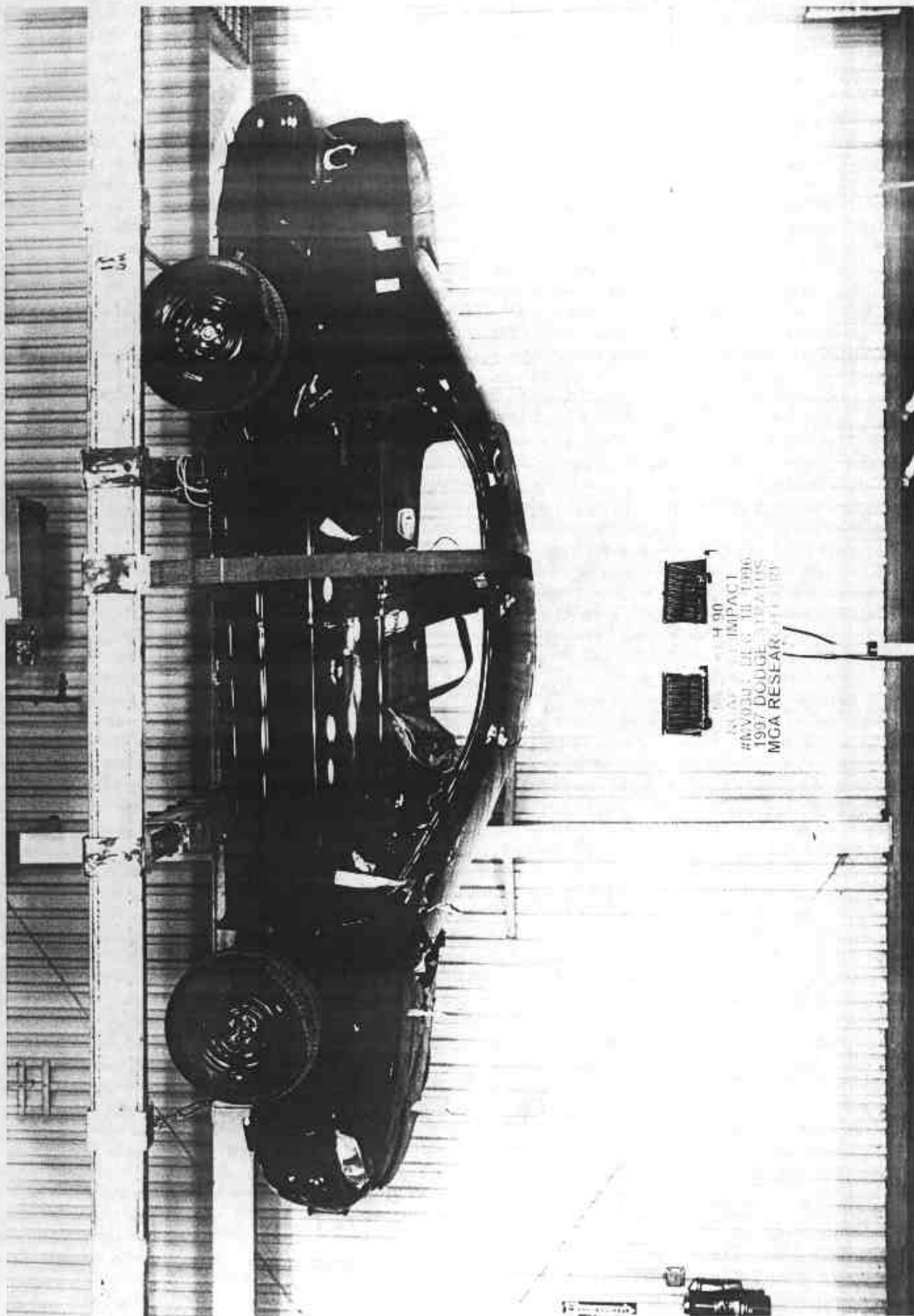


Photo No. A-43 - Rollover 90°

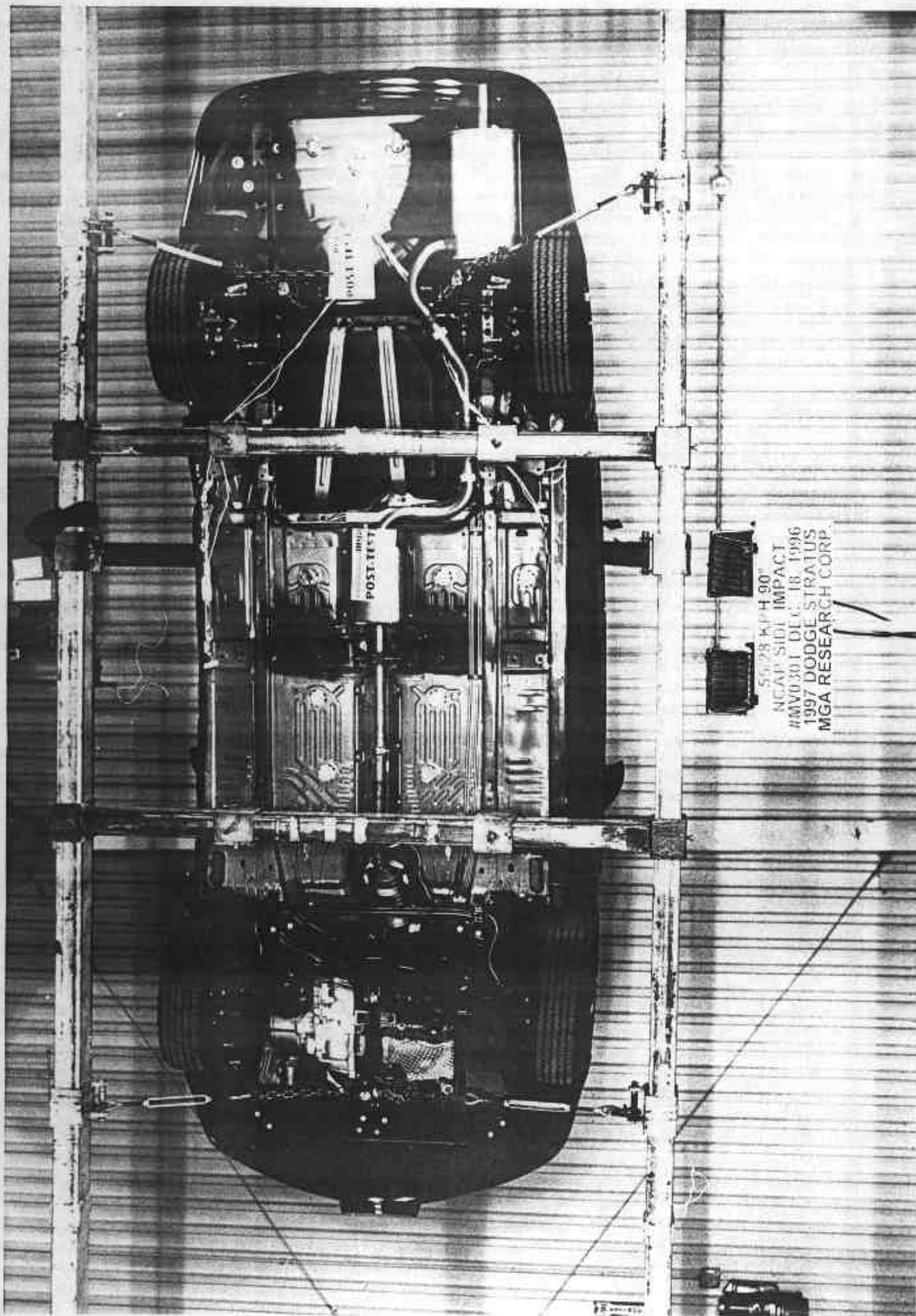
A-43



4 90
IMPACT
#N030, DE-6, 11-1996
1997 DODGE STRATUS
MGA RESEARCH, 11-1-97

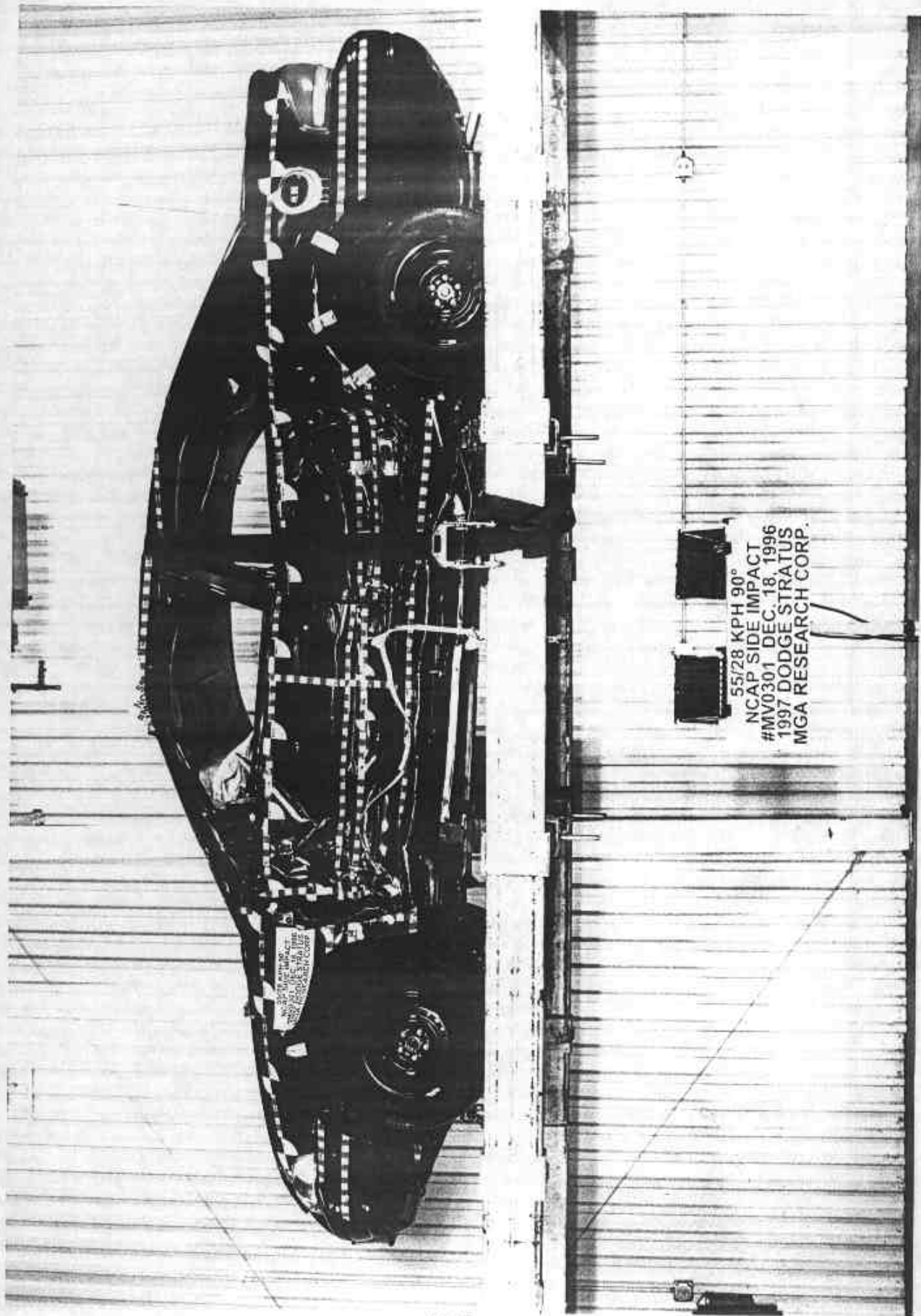
A-44

Photo No. A-44 - Rollover 180°



A-45

Photo No. A-45 - Rollover 270°



A-46

Photo No. A-46 - Rollover 360°

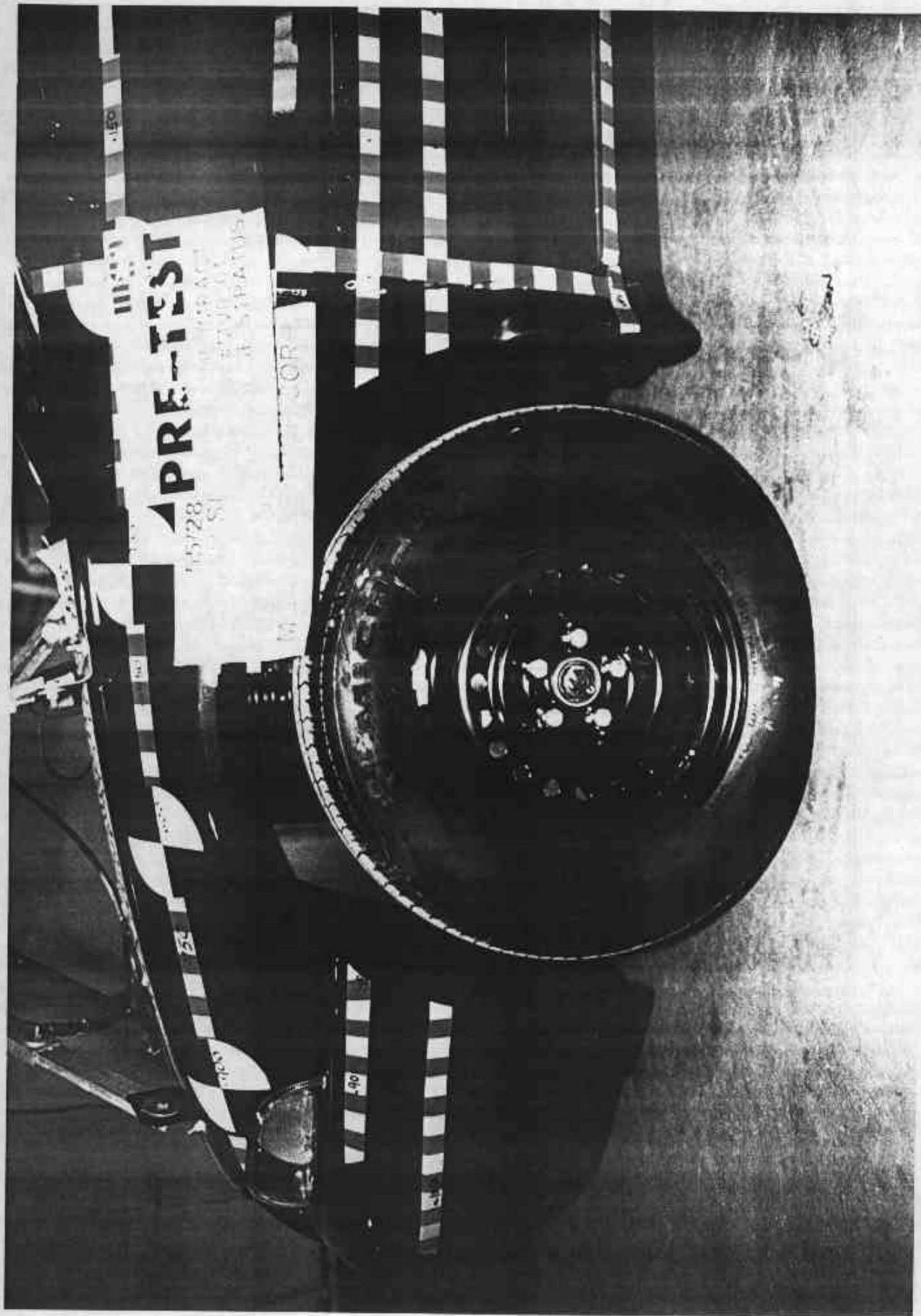


Photo No. A-47 - Left Front Attitude Point



Photo No. A-48 - Right Front Attitude Point

A-48

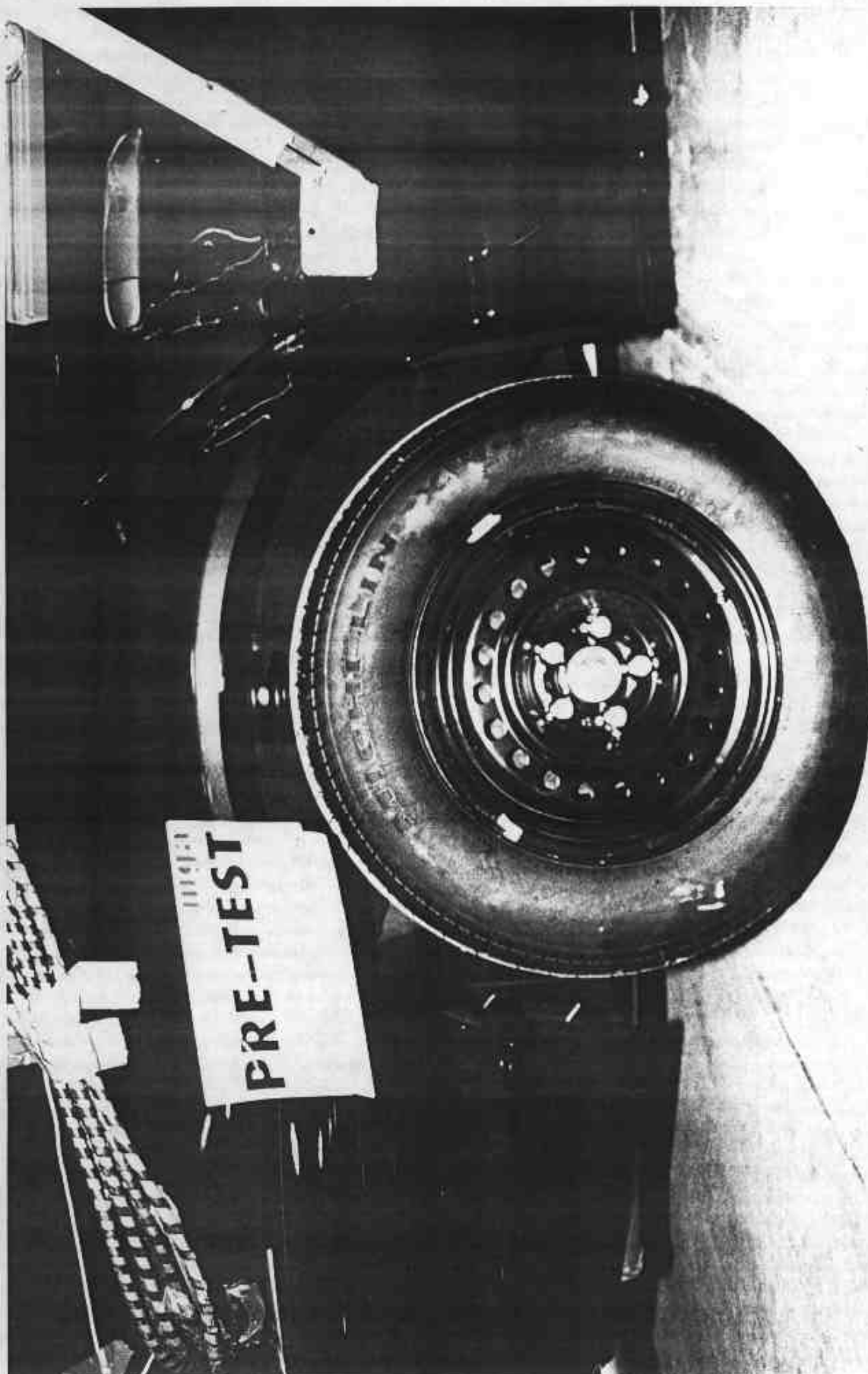


Photo No. A-49 - Left Rear Attitude Point

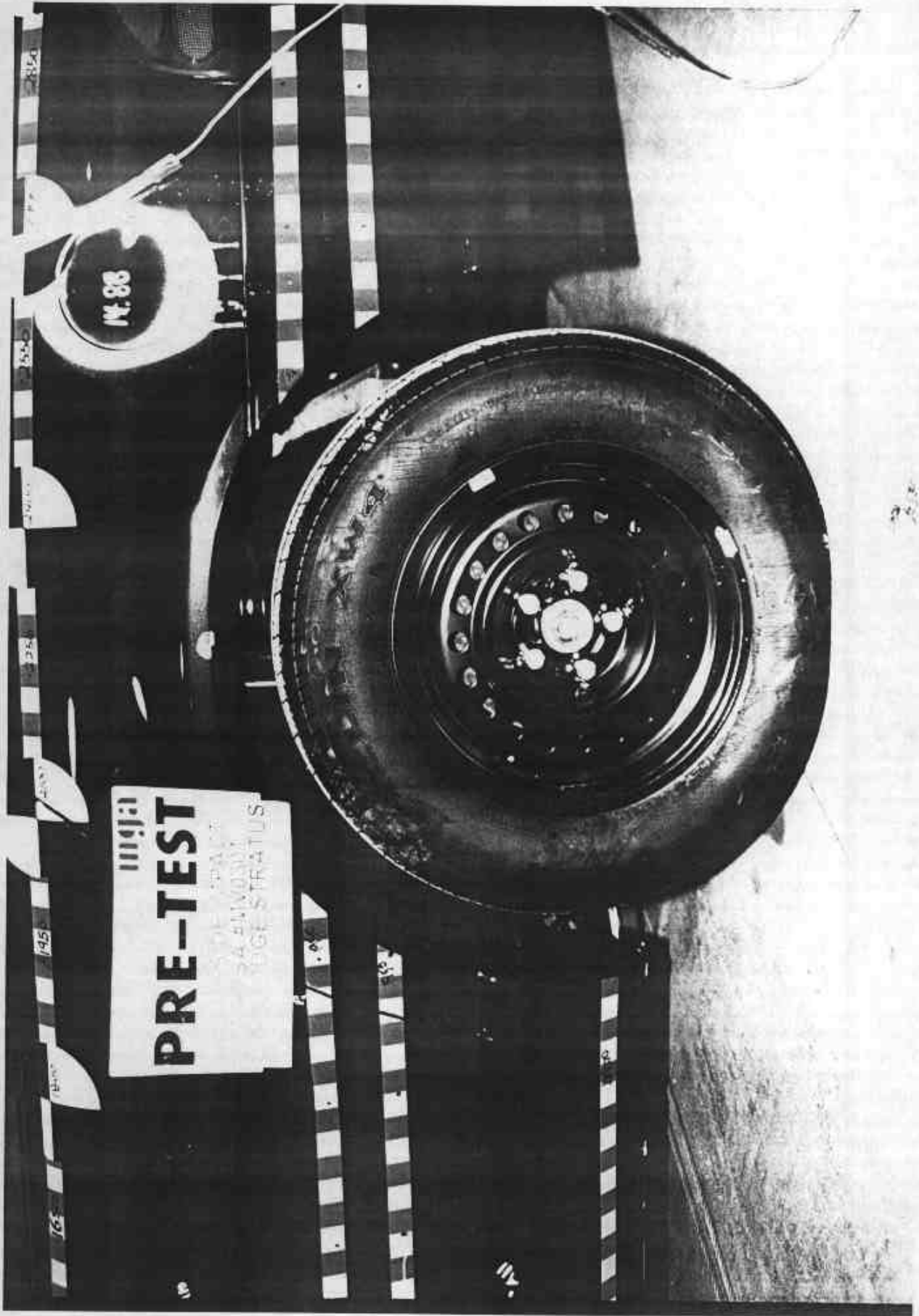


Photo No. A-50 - Right Rear Attitude Point

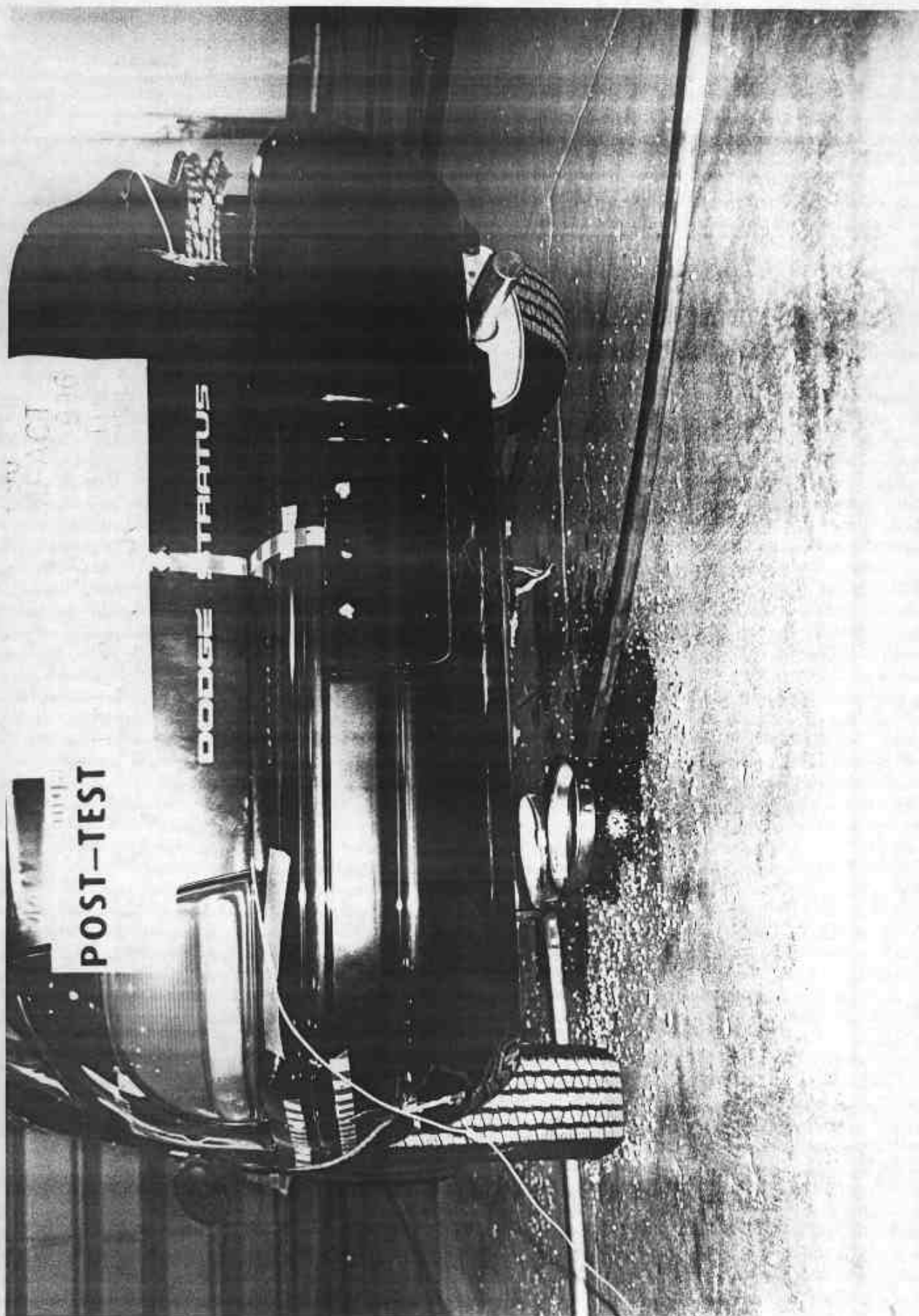


Photo No. A-51 - Post-Test Fuel Leakage

A-51

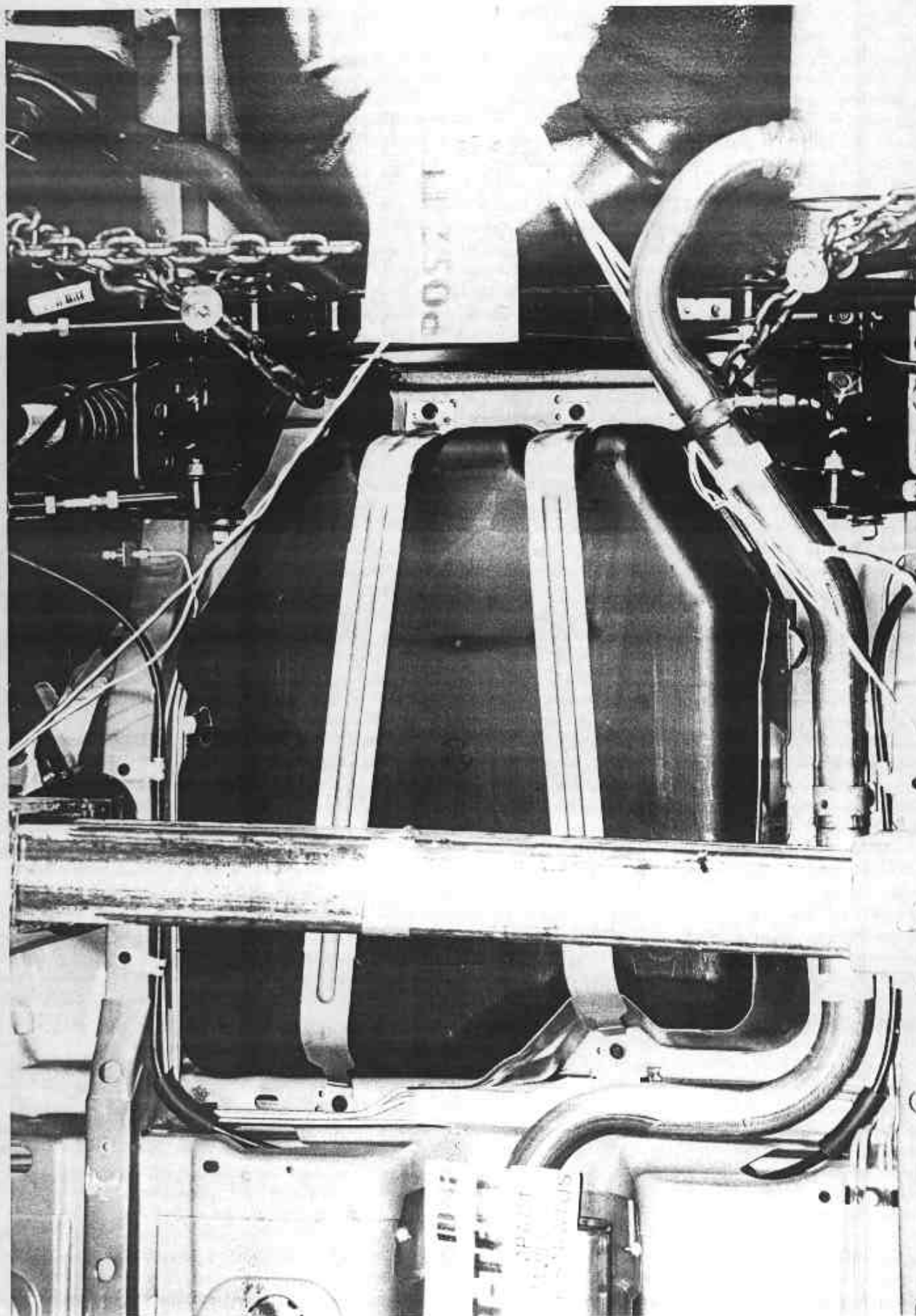


Photo No. A-52 - Post-Test Fuel Tank

APPENDIX B - VEHICLE AND SID RESPONSE DATA

Table of Data Plots

<u>Occupant:</u>	<u>Page No.</u>
Figure B-1 - Driver Head X Acceleration vs. Time	B-1
Figure B-2 - Driver Head Y Acceleration vs. Time	B-2
Figure B-3 - Driver Head Z Acceleration vs. Time	B-3
Figure B-4 - Driver Head Resultant Acceleration vs. Time	B-4
Figure B-5 - Driver Upper Rib Y Acceleration vs. Time	B-5
Figure B-6 - Driver Upper Rib Y Velocity vs. Time	B-6
Figure B-7 - Driver Lower Rib Y Acceleration vs. Time	B-7
Figure B-8 - Driver Lower Rib Y Velocity vs. Time	B-8
Figure B-9 - Driver Lower Spine Y Acceleration vs. Time	B-9
Figure B-10 - Driver Lower Spine Y Velocity vs. Time	B-10
Figure B-11 - Driver Pelvis Y Acceleration vs. Time	B-11
Figure B-12 - Driver Pelvis Y Velocity vs. Time	B-12
Figure B-13 - Rear Passenger Head X Acceleration vs. Time	B-13
Figure B-14 - Rear Passenger Head Y Acceleration vs. Time	B-14
Figure B-15 - Rear Passenger Head Z Acceleration vs. Time	B-15
Figure B-16 - Rear Passenger Head Resultant Acceleration vs. Time	B-16
Figure B-17 - Rear Passenger Upper Rib Y Acceleration vs. Time	B-17
Figure B-18 - Rear Passenger Upper Rib Y Velocity vs. Time	B-18
Figure B-19 - Rear Passenger Lower Rib Y Acceleration vs. Time	B-19
Figure B-20 - Rear Passenger Lower Rib Y Velocity vs. Time	B-20
Figure B-21 - Rear Passenger Lower Spine Y Acceleration vs. Time	B-21
Figure B-22 - Rear Passenger Lower Spine Y Velocity vs. Time	B-22
Figure B-23 - Rear Passenger Pelvis Y Acceleration vs. Time	B-23
Figure B-24 - Rear Passenger Pelvis Y Velocity vs. Time	B-24
 <u>Vehicle:</u>	
Figure B-25 - Left Side Sill at Front Seat Y Acceleration vs. Time	B-25
Figure B-26 - Left Side Sill at Front Seat Y Velocity vs. Time	B-26

Table of Data Plots

<u>Vehicle (Cont'd):</u>	<u>Page No.</u>
Figure B-27 - Left Side Sill at Rear Seat Y Acceleration vs. Time	B-27
Figure B-28 - Left Side Sill at Rear Seat Y Velocity vs. Time	B-28
Figure B-29 - Right Side Sill at Front Seat X Acceleration vs. Time	B-29
Figure B-30 - Right Side Sill at Front Seat X Velocity vs. Time	B-30
Figure B-31 - Right Side Sill at Front Seat Y Acceleration vs. Time	B-31
Figure B-32 - Right Side Sill at Front Seat Y Velocity vs. Time	B-32
Figure B-33 - Right Side Sill at Front Seat Z Acceleration vs. Time	B-33
Figure B-34 - Right Side Sill at Front Seat Z Velocity vs. Time	B-34
Figure B-35 - Right Side Sill at Front Seat Resultant Acceleration vs. Time	B-35
Figure B-36 - Right Side Sill at Rear Seat X Acceleration vs. Time	B-36
Figure B-37 - Right Side Sill at Rear Seat X Velocity vs. Time	B-37
Figure B-38 - Right Side Sill at Rear Seat Y Acceleration vs. Time	B-38
Figure B-39 - Right Side Sill at Rear Seat Y Velocity vs. Time	B-39
Figure B-40 - Right Side Sill at Rear Seat Z Acceleration vs. Time	B-40
Figure B-41 - Right Side Sill at Rear Seat Z Velocity vs. Time	B-41
Figure B-42 - Right Side Sill at Rear Seat Resultant Acceleration vs. Time	B-42
Figure B-43 - Driver Seat Track Y Acceleration vs. Time	B-43
Figure B-44 - Driver Seat Track Y Velocity vs. Time	B-44
Figure B-45 - Rear Floorpan above Axle X Acceleration vs. Time	B-45
Figure B-46 - Rear Floorpan above Axle X Velocity vs. Time	B-46
Figure B-47 - Rear Floorpan above Axle Y Acceleration vs. Time	B-47
Figure B-48 - Rear Floorpan above Axle Y Velocity vs. Time	B-48
Figure B-49 - Rear Floorpan above Axle Z Acceleration vs. Time	B-49
Figure B-50 - Rear Floorpan above Axle Z Velocity vs. Time	B-50
Figure B-51 - Rear Floorpan above Axle Resultant Acceleration vs. Time	B-51
Figure B-52 - Right Rear Occupant Compartment Y Acceleration vs. Time	B-52
Figure B-53 - Right Rear Occupant Compartment Y Velocity vs. Time	B-53
Figure B-54 - Left Lower A-Post Y Acceleration vs. Time	B-54
Figure B-55 - Left Lower A-Post Y Velocity vs. Time	B-55

Vehicle (Cont'd):

Page No.

Figure B-56 - Left Mid A-Post Y Acceleration vs. Time	B-56
Figure B-57 - Left Mid A-Post Y Velocity vs. Time	B-57
Figure B-58 - Left Lower B-Post Y Acceleration vs. Time	B-58
Figure B-59 - Left Lower B-Post Y Velocity vs. Time	B-59
Figure B-60 - Left Mid B-Post Y Acceleration vs. Time	B-60
Figure B-61 - Left Mid B-Post Y Velocity vs. Time	B-61
Figure B-62 - Vehicle Center of Gravity X Acceleration vs. Time	B-62
Figure B-63 - Vehicle Center of Gravity X Velocity vs. Time	B-63
Figure B-64 - Vehicle Center of Gravity Y Acceleration vs. Time	B-64
Figure B-65 - Vehicle Center of Gravity Y Velocity vs. Time	B-65
Figure B-66 - Vehicle Center of Gravity Z Acceleration vs. Time	B-66
Figure B-67 - Vehicle Center of Gravity Z Velocity vs. Time	B-67
Figure B-68 - Vehicle Center of Gravity Resultant Acceleration vs. Time	B-68
Figure B-69 - Left Front Door Centerline Y Acceleration vs. Time	B-69
Figure B-70 - Left Front Door Centerline Y Velocity vs. Time	B-70
Figure B-71 - Left Front Door Upper Centerline Y Acceleration vs. Time	B-71
Figure B-72 - Left Front Door Upper Centerline Y Velocity vs. Time	B-72
Figure B-73 - Left Rear Door Mid Rear Y Acceleration vs. Time	B-73
Figure B-74 - Left Rear Door Mid Rear Y Velocity vs. Time	B-74
Figure B-75 - Left Rear Door Upper Centerline Y Acceleration vs. Time	B-75
Figure B-76 - Left Rear Door Upper Centerline Y Velocity vs. Time	B-76

Barrier:

Figure B-77 - Moving Barrier Center of Gravity X Acceleration vs. Time	B-77
Figure B-78 - Moving Barrier Center of Gravity X Velocity vs. Time	B-78
Figure B-79 - Moving Barrier Center of Gravity Y Acceleration vs. Time	B-79
Figure B-80 - Moving Barrier Center of Gravity Y Velocity vs. Time	B-80
Figure B-81 - Moving Barrier Center of Gravity Z Acceleration vs. Time	B-81
Figure B-82 - Moving Barrier Center of Gravity Z Velocity vs. Time	B-82
Figure B-83 - Moving Barrier Center of Gravity Resultant Acceleration vs. Time	B-83

Table of Data Plots

Barrier (Cont'd):

Page No.

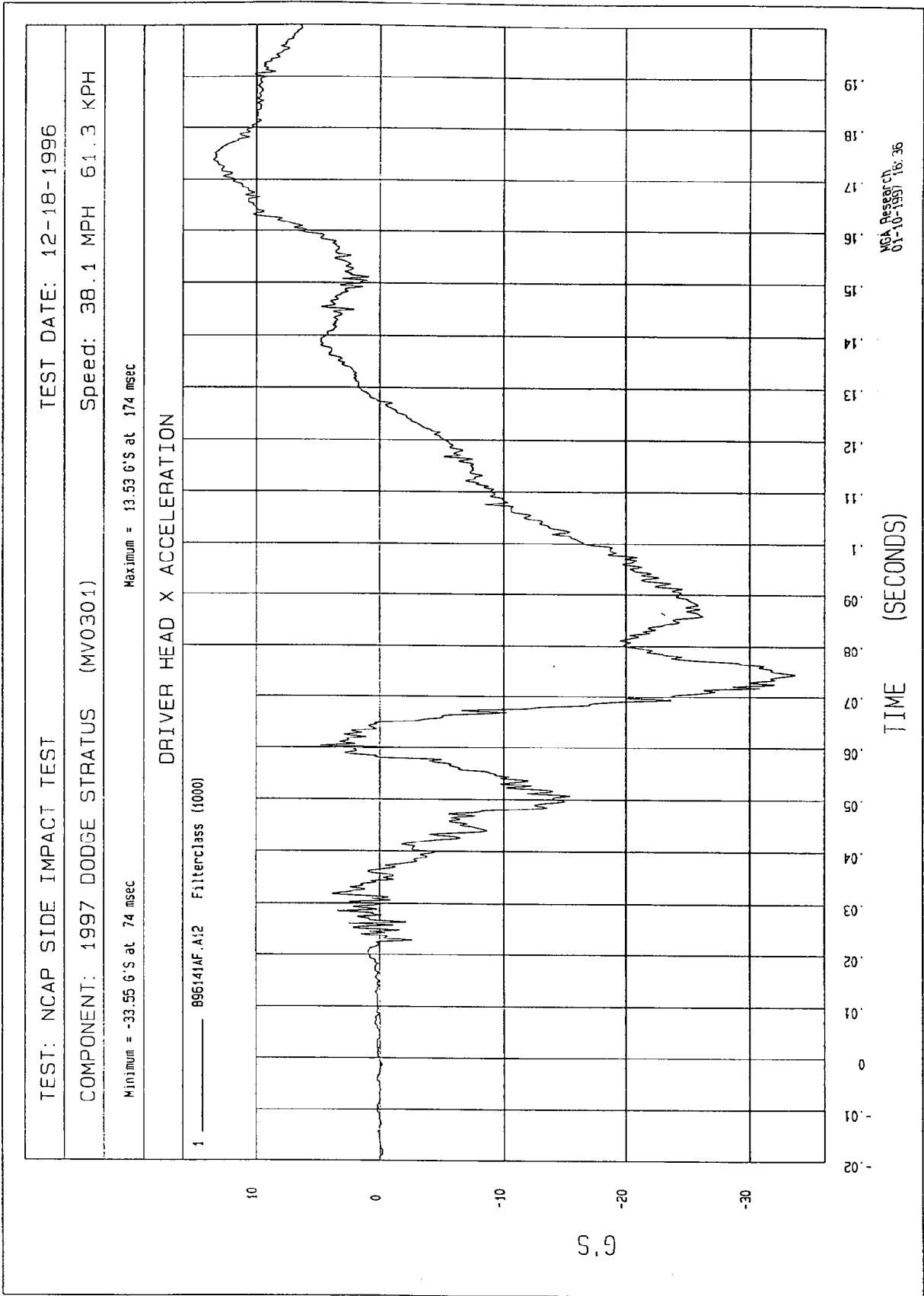
Figure B-84 - Moving Barrier Rear Axle X Acceleration vs. Time	B-84
Figure B-85 - Moving Barrier Rear Axle X Velocity vs. Time	B-85
Figure B-86 - Moving Barrier Rear Axle Y Acceleration vs. Time	B-86
Figure B-87 - Moving Barrier Rear Axle Y Velocity vs. Time	B-87
Figure B-88 - Left Barrier Contact	B-88
Figure B-89 - Right Barrier Contact	B-89

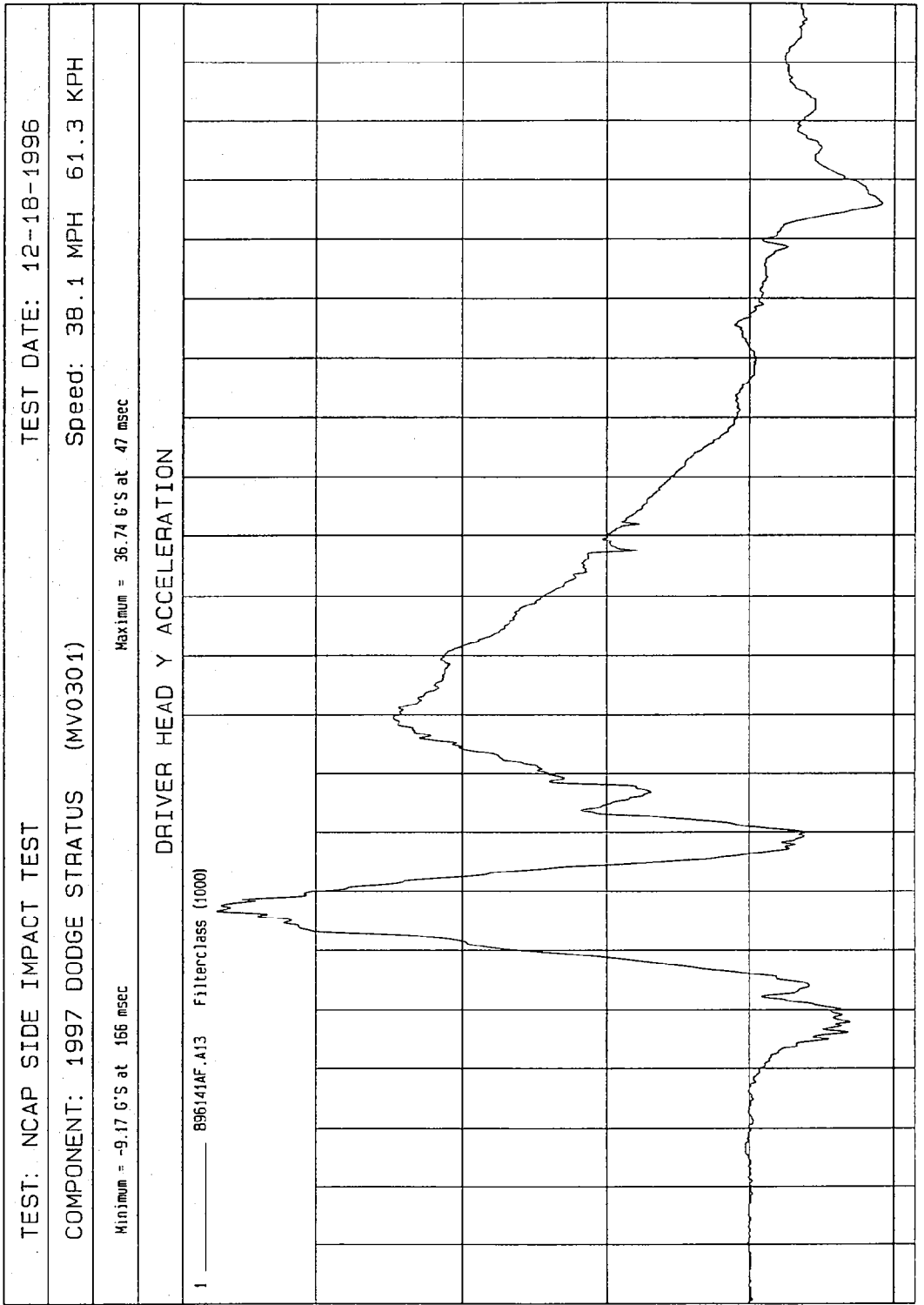
Redundant:

Figure B-90 - Driver Upper Rib Y Redundant Acceleration vs. Time	B-90
Figure B-91 - Driver Upper Rib Y Redundant Velocity vs. Time	B-91
Figure B-92 - Driver Lower Rib Y Redundant Acceleration vs. Time	B-92
Figure B-93 - Driver Lower Rib Y Redundant Velocity vs. Time	B-93
Figure B-94 - Driver Lower Spine Y Redundant Acceleration vs. Time	B-94
Figure B-95 - Driver Lower Spine Y Redundant Velocity vs. Time	B-95
Figure B-96 - Driver Pelvis Y Redundant Acceleration vs. Time	B-96
Figure B-97 - Driver Pelvis Y Redundant Velocity vs. Time	B-97
Figure B-98 - Rear Passenger Upper Rib Y Redundant Acceleration vs. Time	B-98
Figure B-99 - Rear Passenger Upper Rib Y Redundant Velocity vs. Time	B-99
Figure B-100 - Rear Passenger Lower Rib Y Redundant Acceleration vs. Time	B-100
Figure B-101 - Rear Passenger Lower Rib Y Redundant Velocity vs. Time	B-101
Figure B-102 - Rear Passenger Lower Spine Y Redundant Acceleration vs. Time	B-102
Figure B-103 - Rear Passenger Lower Spine Y Redundant Velocity vs. Time	B-103
Figure B-104 - Rear Passenger Pelvis Y Redundant Acceleration vs. Time	B-104
Figure B-105 - Rear Passenger Pelvis Y Redundant Velocity vs. Time	B-105

Table of Data Plots

<u>FIR Filtered:</u>	<u>Page No.</u>
Figure B-106 - Driver Upper Rib Y Acceleration vs. Time	B-106
Figure B-107 - Driver Upper Rib Y Redundant Acceleration vs. Time	B-107
Figure B-108 - Driver Lower Rib Y Acceleration vs. Time	B-108
Figure B-109 - Driver Lower Rib Y Redundant Acceleration vs. Time	B-109
Figure B-110 - Driver Lower Spine Y Acceleration vs. Time	B-110
Figure B-111 - Driver Lower Spine Y Redundant Acceleration vs. Time	B-111
Figure B-112 - Driver Pelvis Y Acceleration vs. Time	B-112
Figure B-113 - Driver Pelvis Y Redundant Acceleration vs. Time	B-113
Figure B-114 - Rear Passenger Upper Rib Y Acceleration vs. Time	B-114
Figure B-115 - Rear Passenger Upper Rib Y Redundant Acceleration vs. Time	B-115
Figure B-116 - Rear Passenger Lower Rib Y Acceleration vs. Time	B-116
Figure B-117 - Rear Passenger Lower Rib Y Redundant Acceleration vs. Time	B-117
Figure B-118 - Rear Passenger Lower Spine Y Acceleration vs. Time	B-118
Figure B-119 - Rear Passenger Lower Spine Y Redundant Acceleration vs. Time	B-119
Figure B-120 - Rear Passenger Pelvis Y Acceleration vs. Time	B-120
Figure B-121 - Rear Passenger Pelvis Y Redundant Acceleration vs. Time	B-121

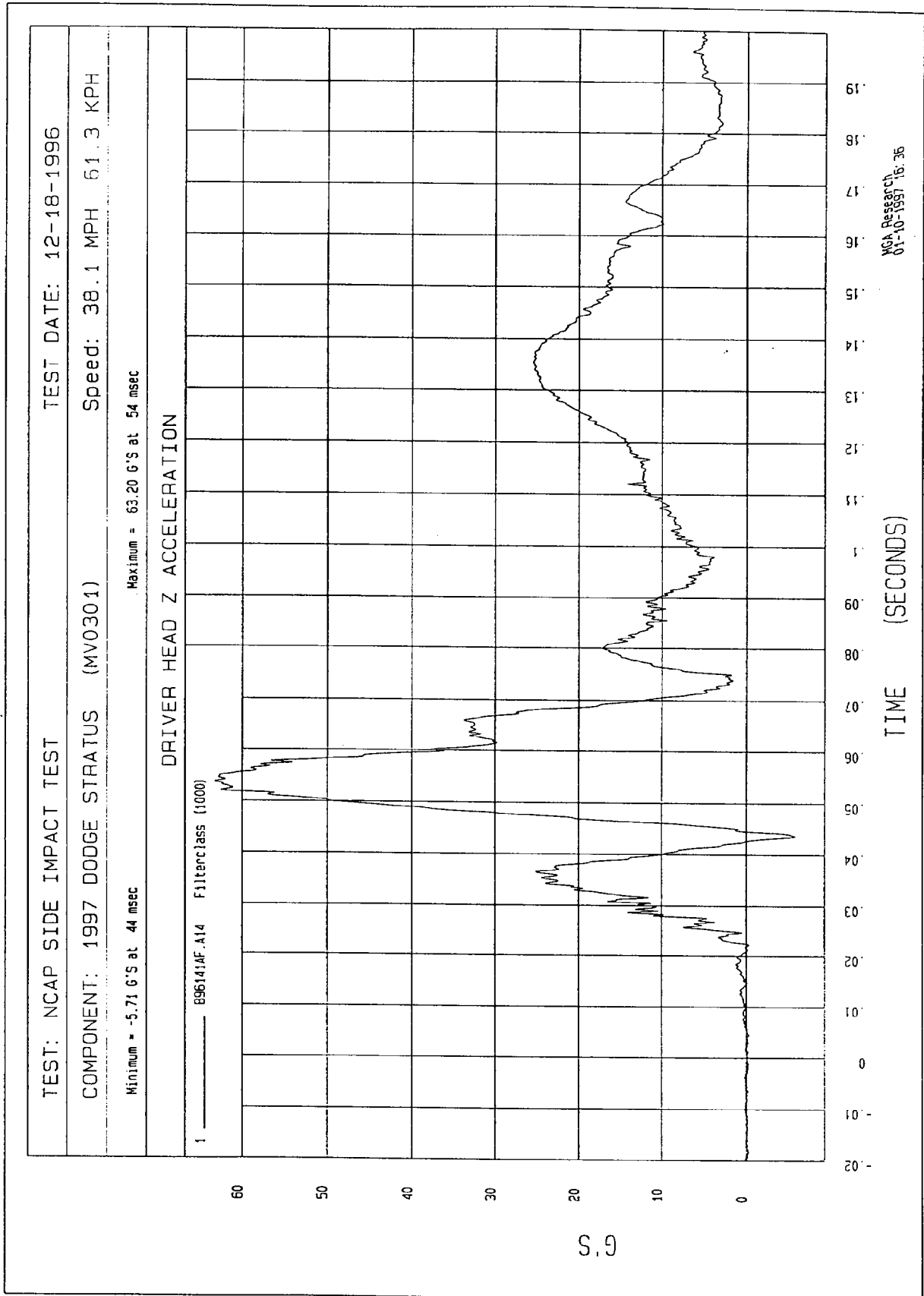


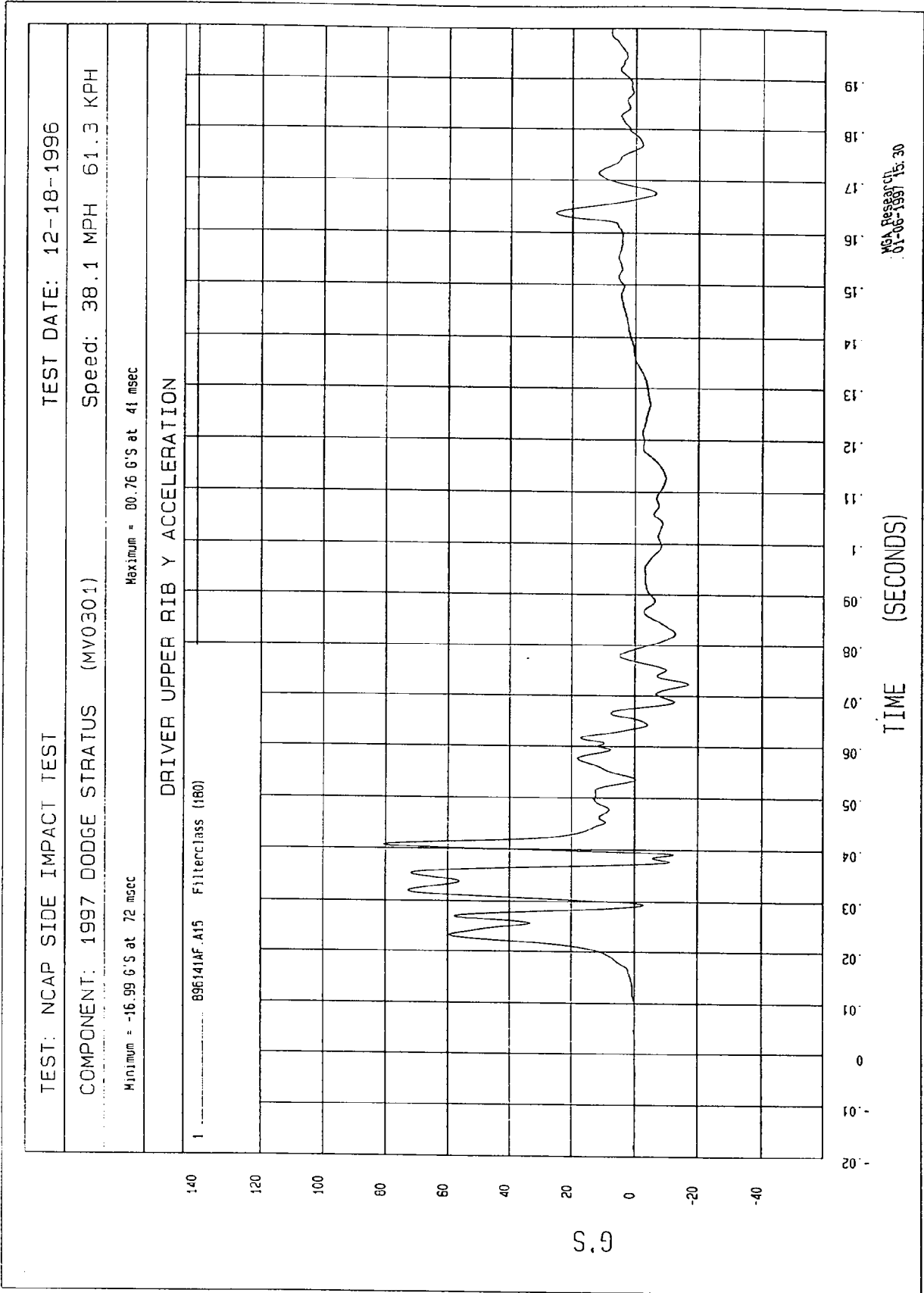


TIME (SECONDS)

MGA Research
01-10-1997 16:36

S.9



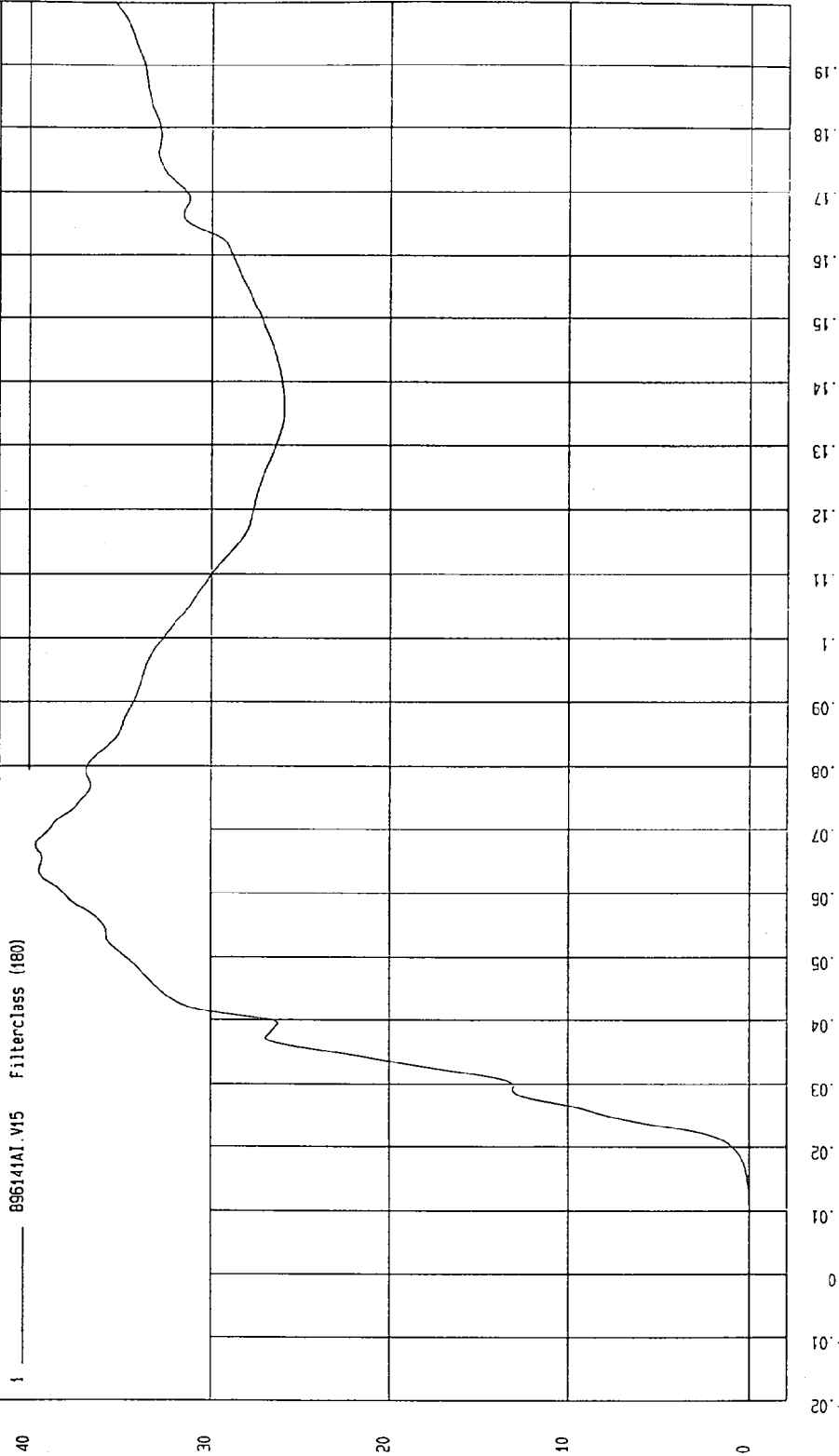


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

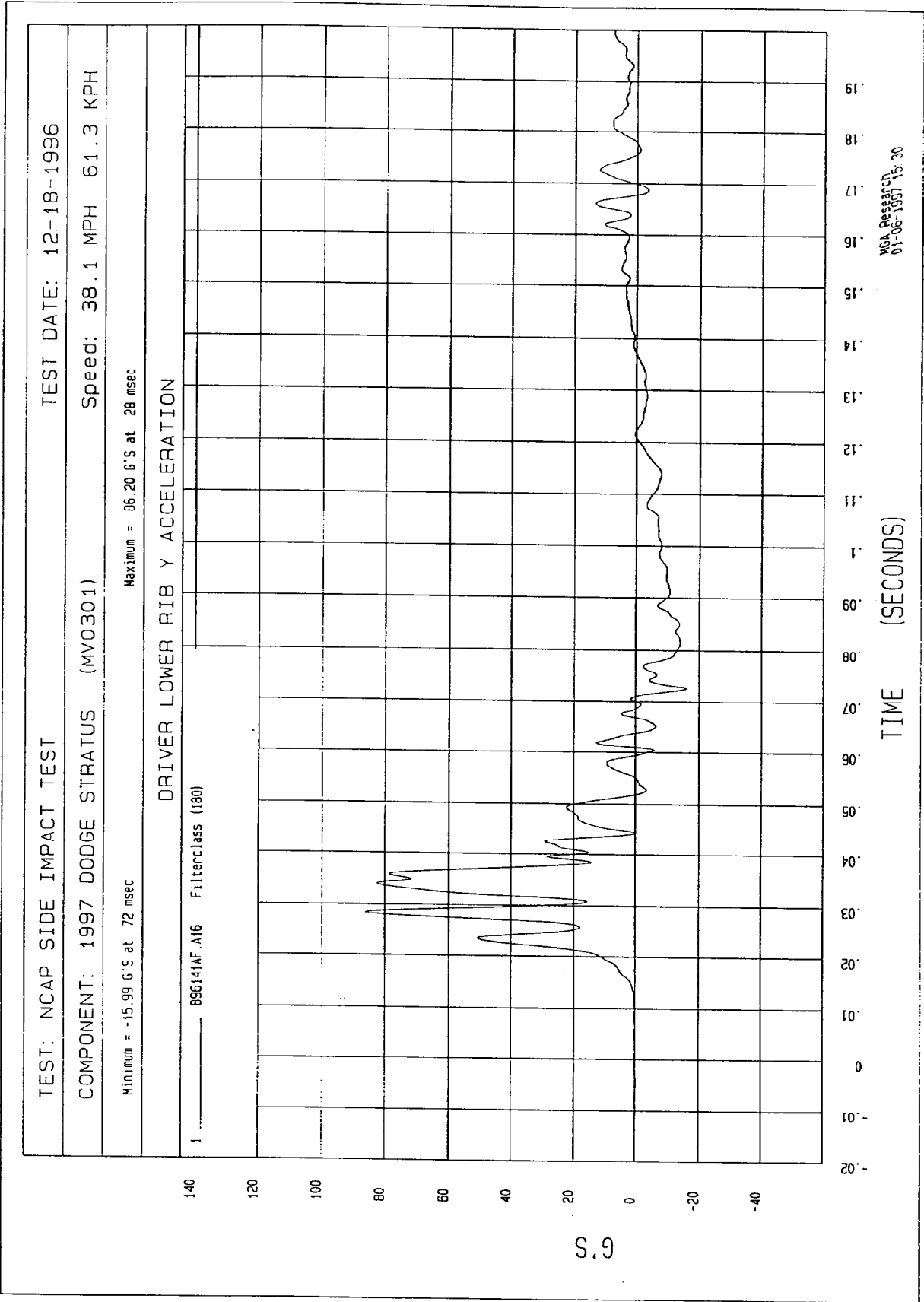
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -9.21E-03 KPH at -3 msec Maximum = 39.65 KPH at 68 msec

DRIVER UPPER RIB Y VELOCITY



MCA Research
01-06-1997 15:32

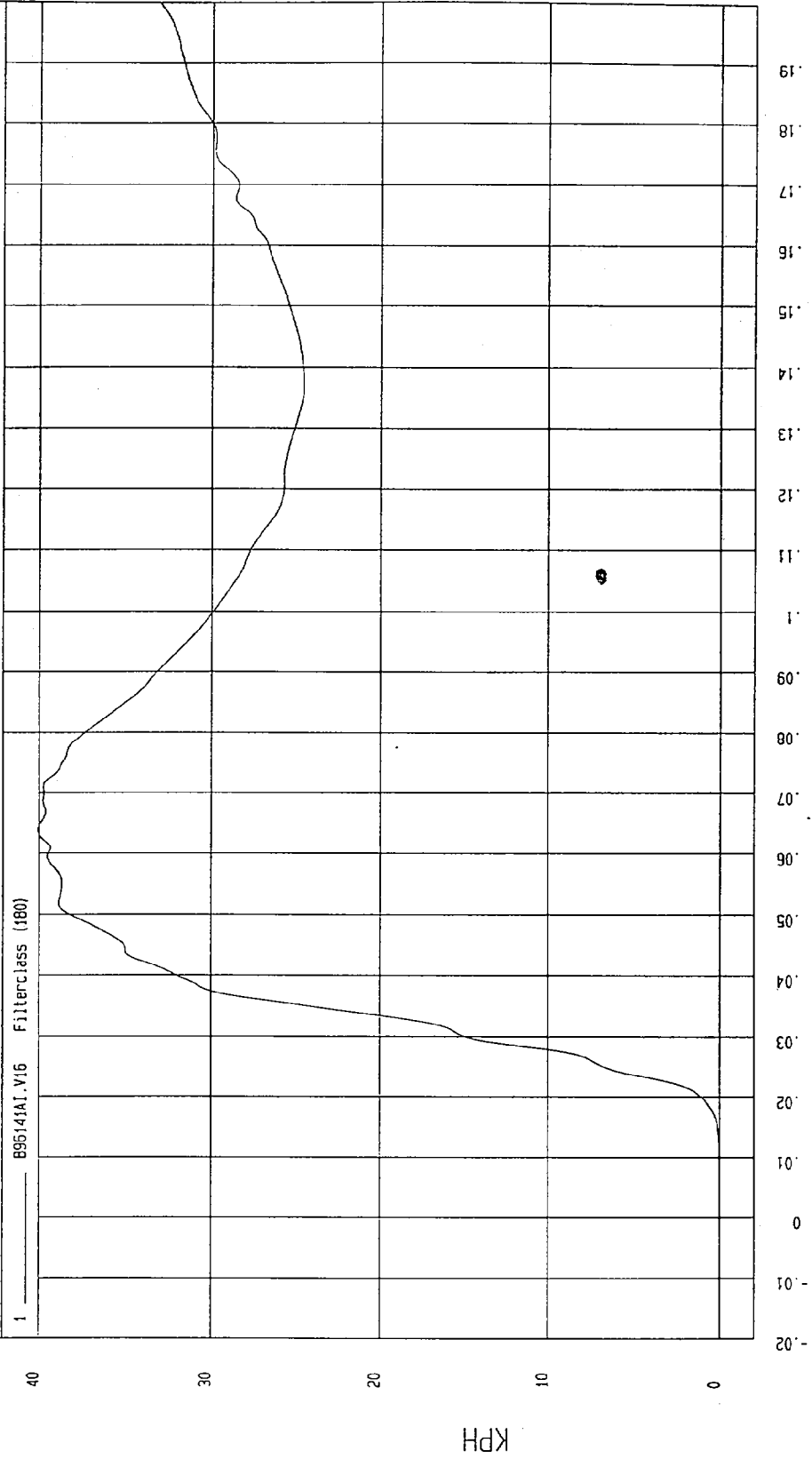


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -2.25E-03 KPH at -3 msec Maximum = 40.08 KPH at 64 msec

DRIVER LOWER RIB Y VELOCITY



NGA Research
01-06-1997 15:32

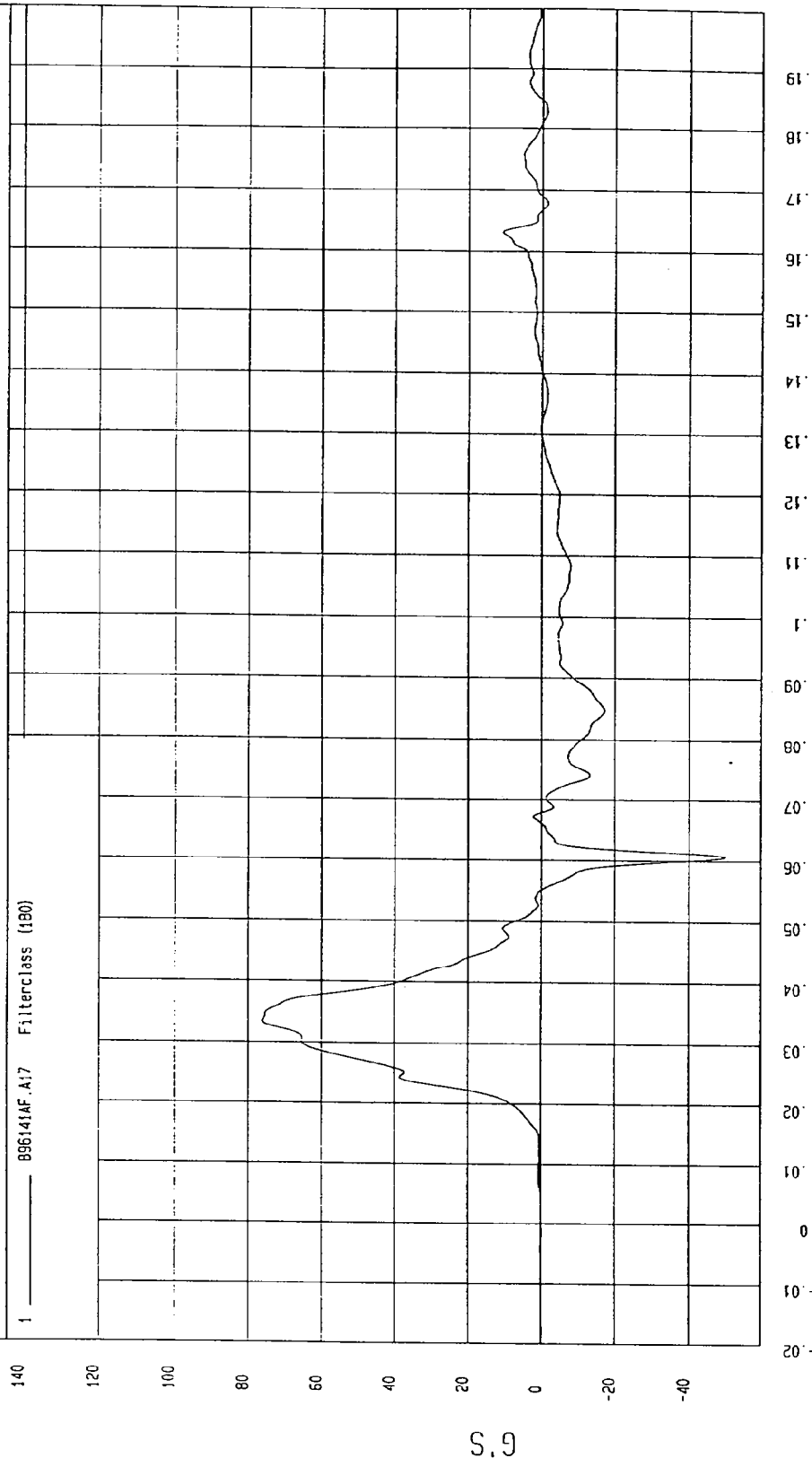
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -49.76 G'S at 61 msec Maximum = 76.16 G'S at 33 msec

DRIVER LOWER SPINE Y ACCELERATION

1 ——— 896141AF.A17 Filterclass (130)



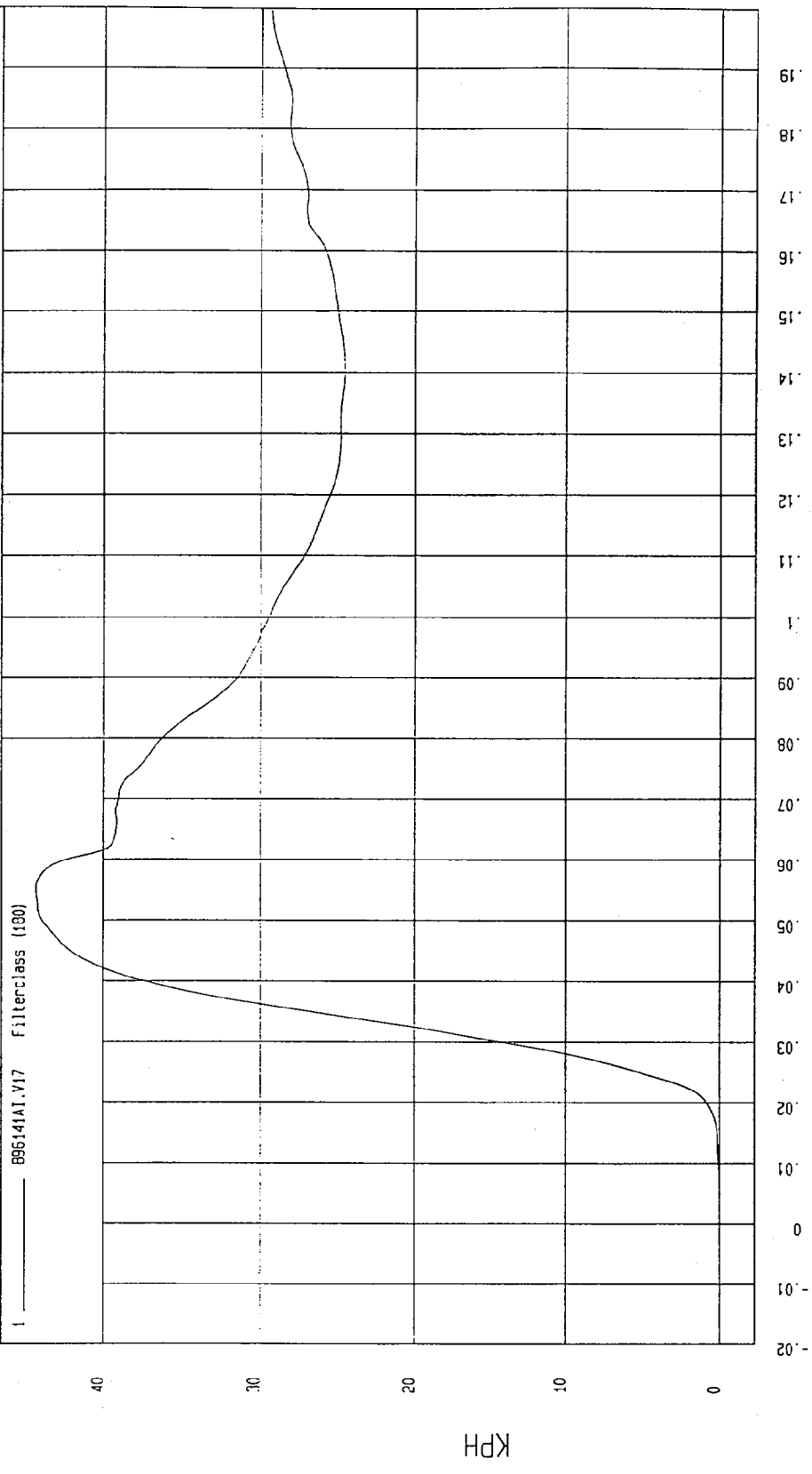
WCA Research
01-06-1997 15:30

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -1.97E-02 KPH at -11 msec Maximum = 44.37 KPH at 55 msec

DRIVER LOWER SPINE Y VELOCITY



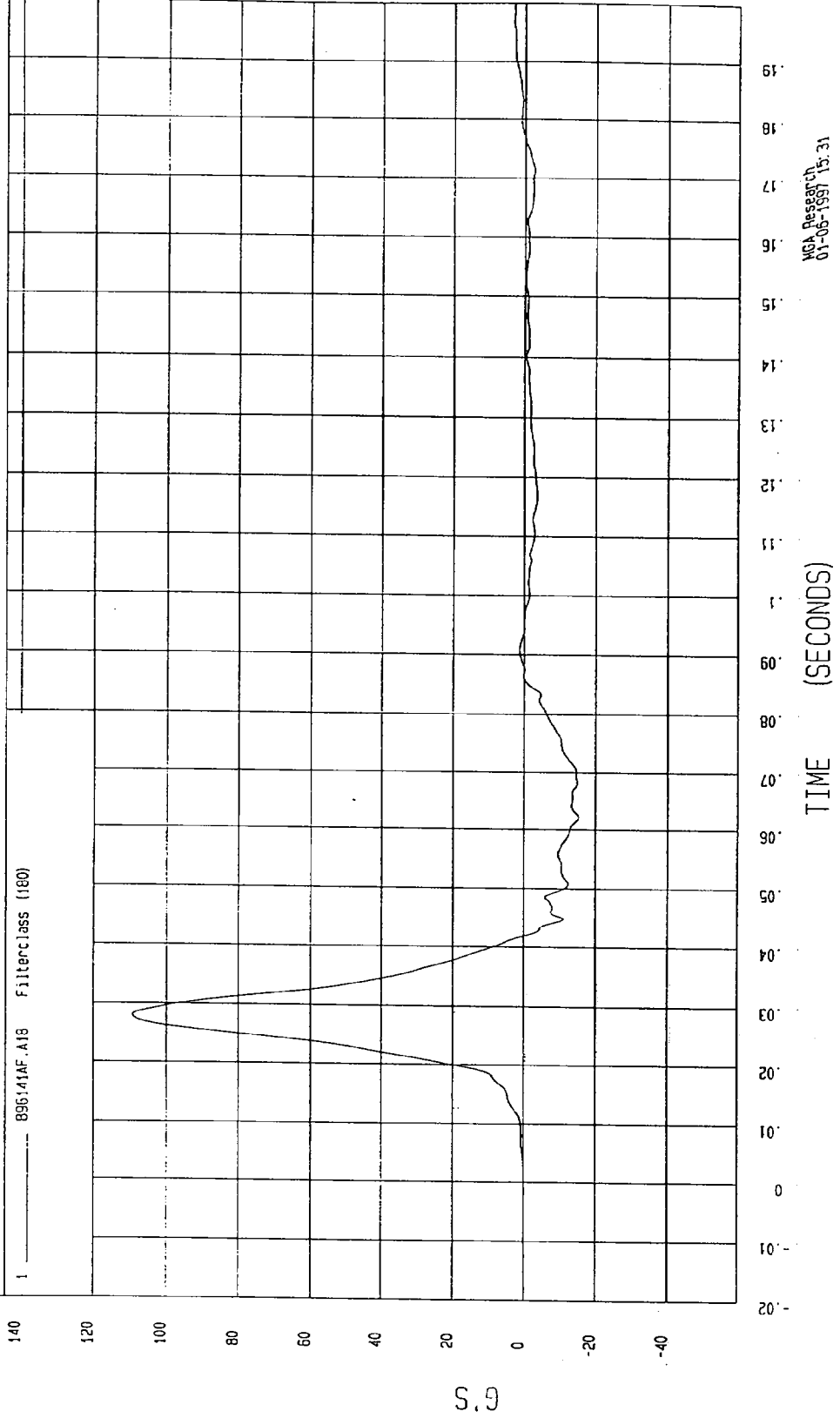
WGA Research
01-06-1997 15:33

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -15.30 G'S at 52 msec Maximum = 109.23 G'S at 28 msec

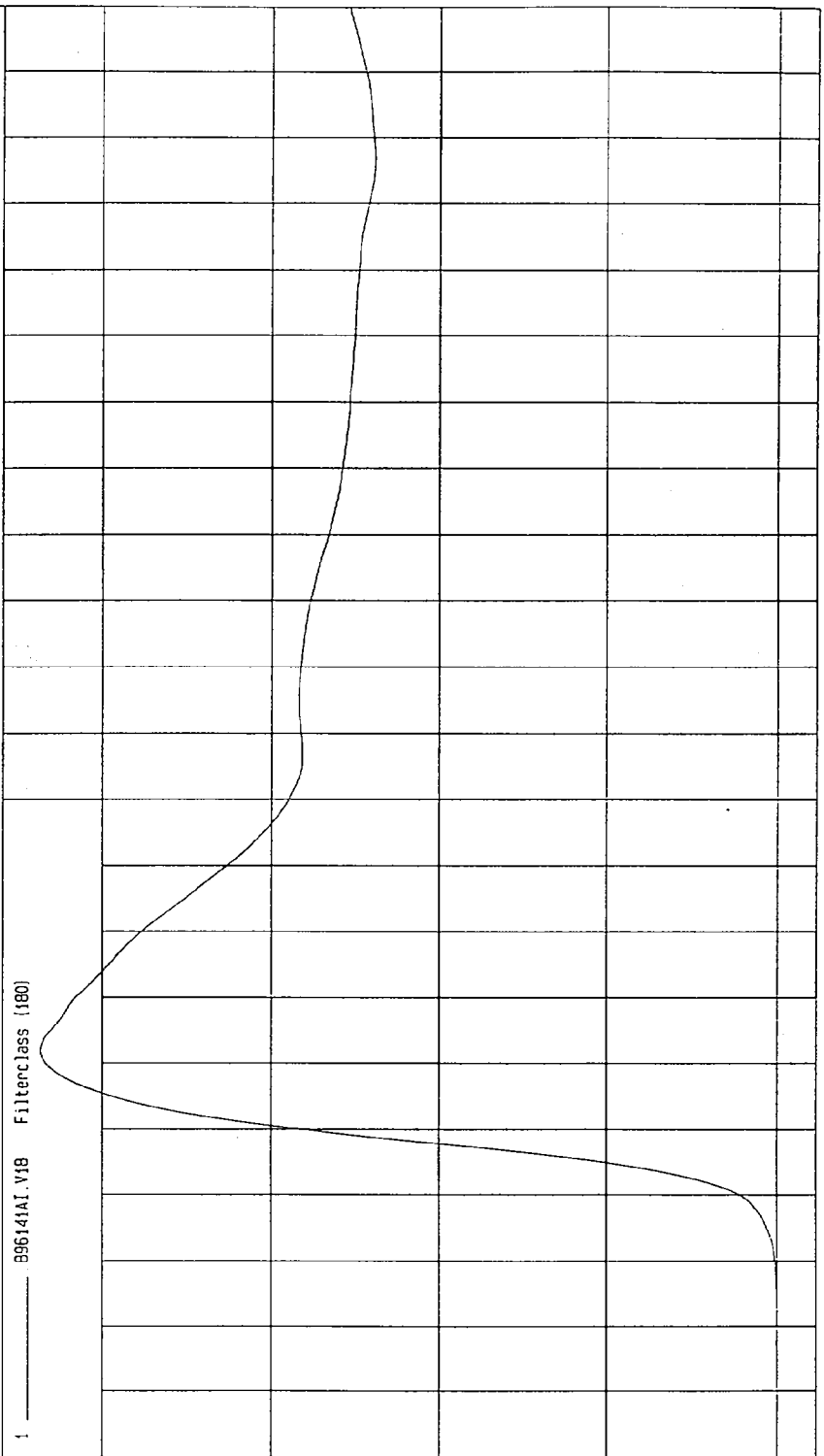
DRIVER PELVIS Y ACCELERATION



NCAP Research
01-05-1997 15:31

TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -1.40E-02 KPH at -11 msec	Maximum = 43.60 KPH at 42 msec

DRIVER PELVIS Y VELOCITY



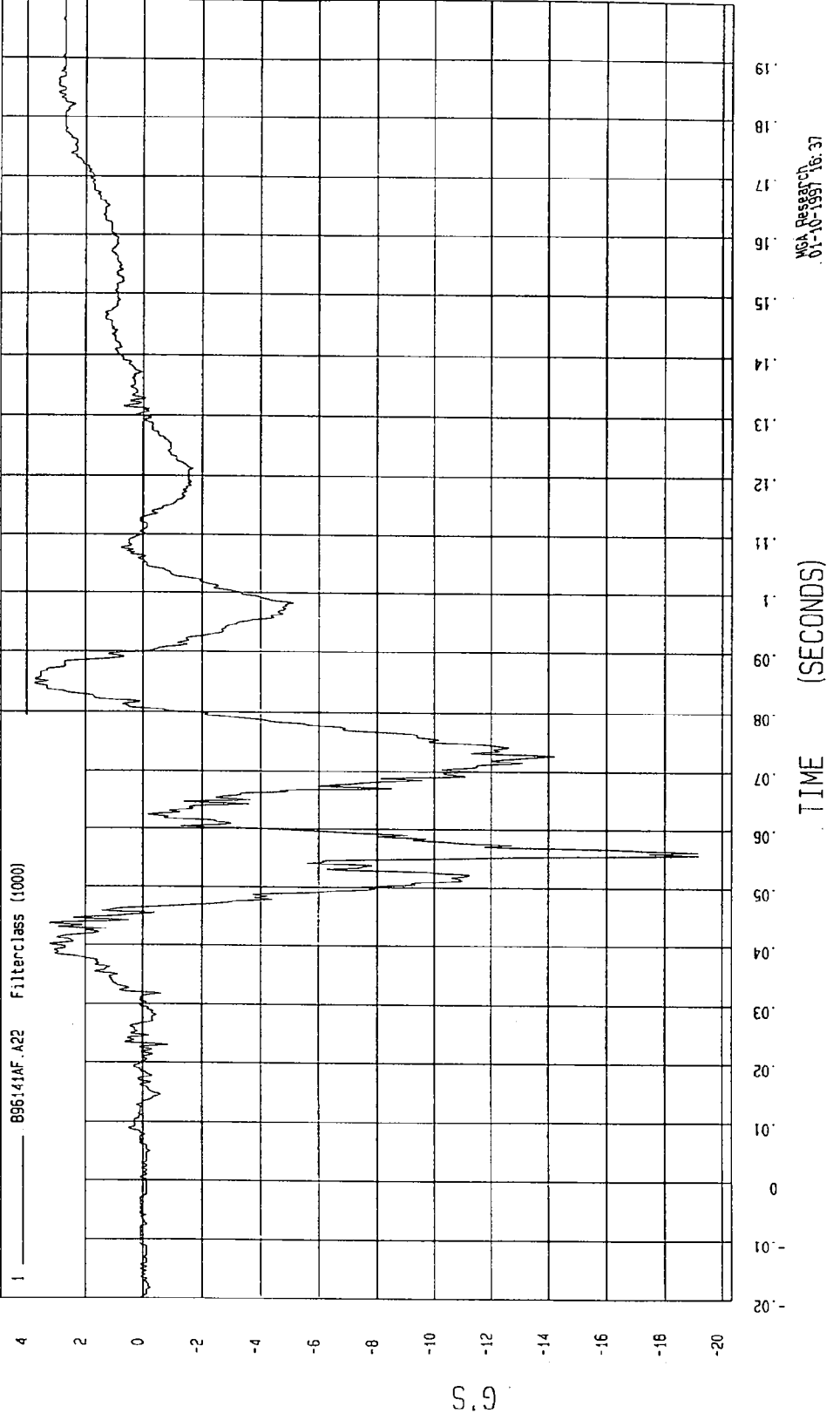
TIME Seconds

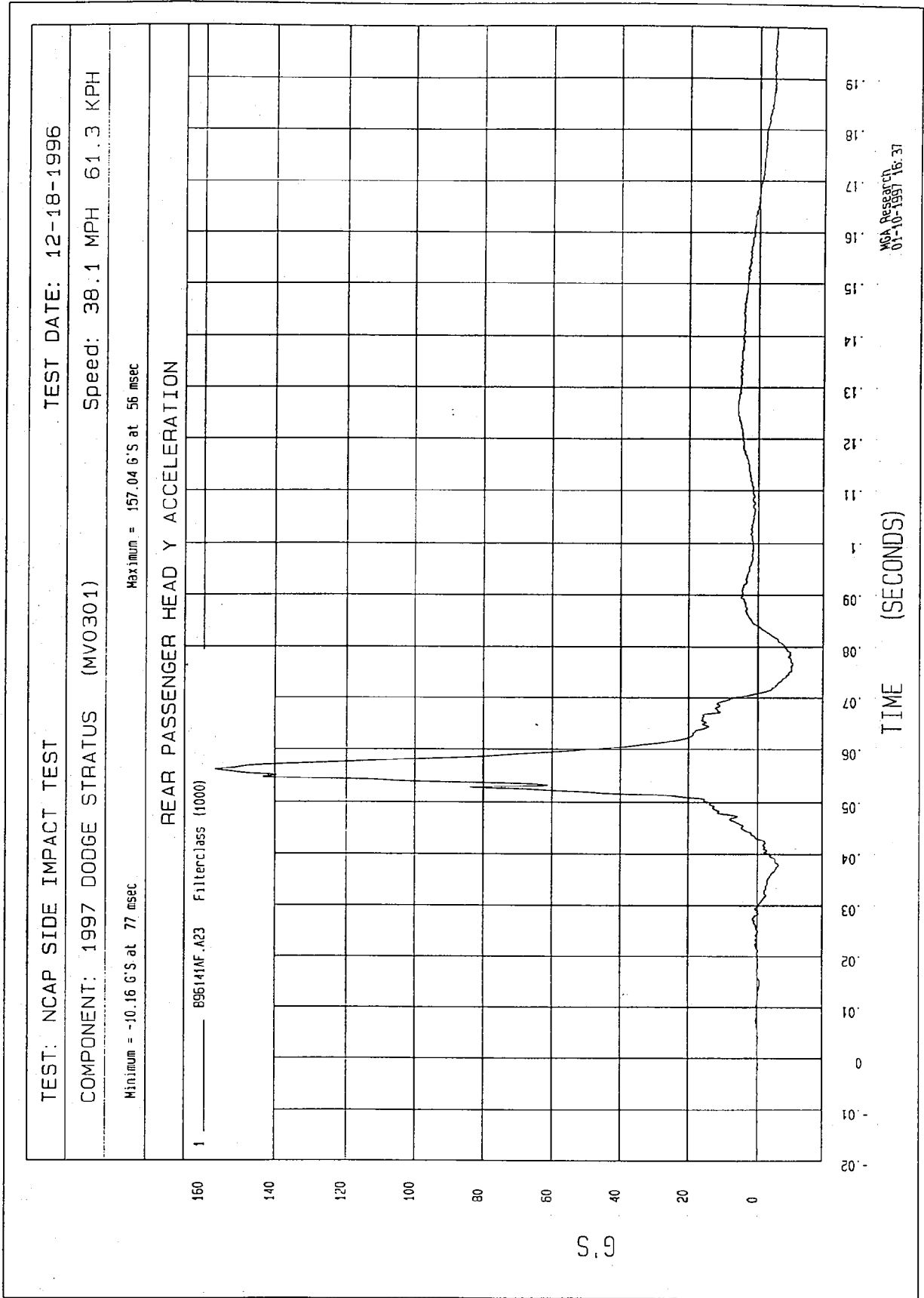
69
18
17
16
15
14
13
12
11
10
09
08
07
06
05
04
03
02
01
0
-01
-02

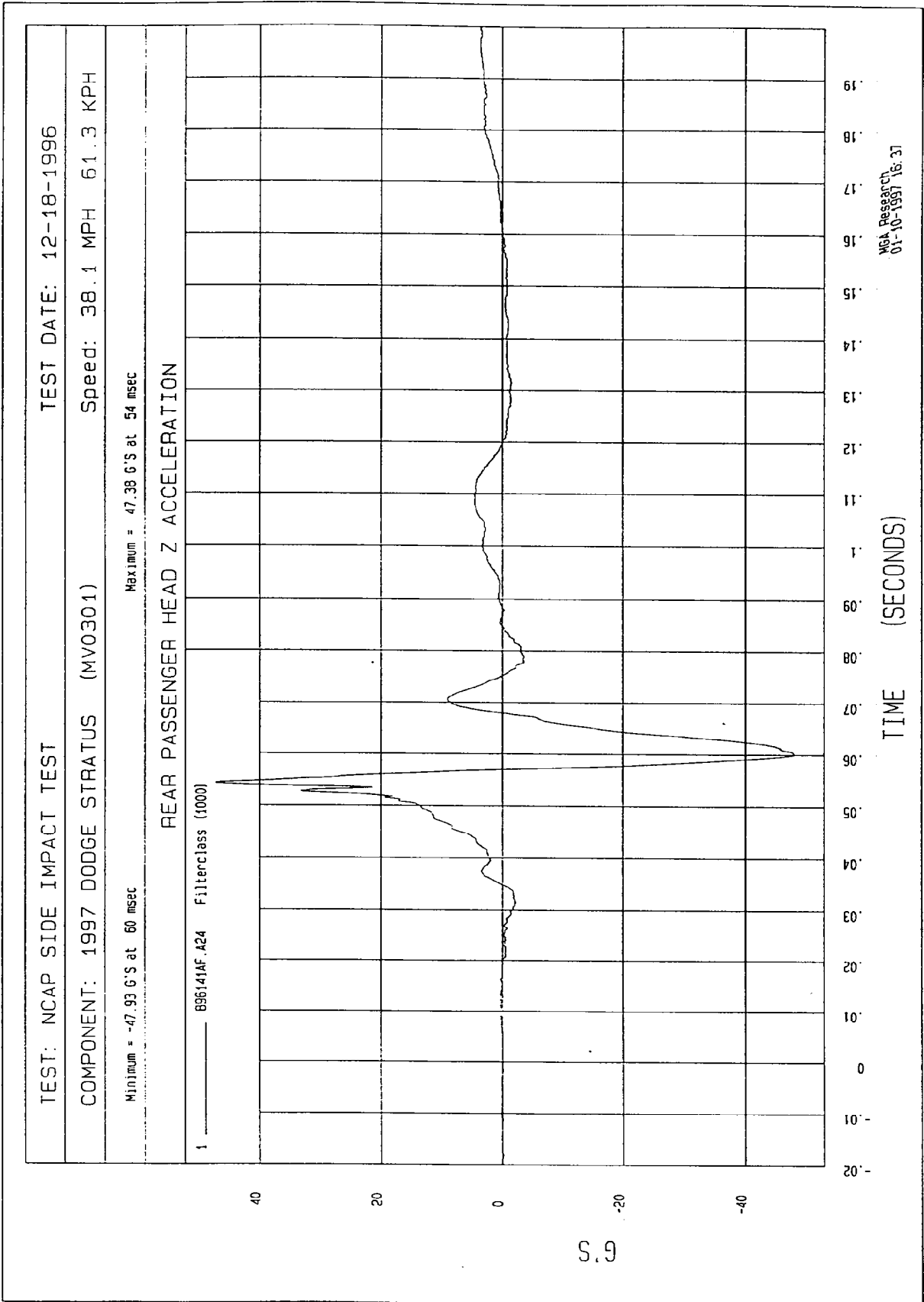
MCA Research
01-06-1997 15:33

TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -19.17 G'S at 56 msec	
Maximum = 3.73 G'S at 85 msec	

REAR PASSENGER HEAD X ACCELERATION

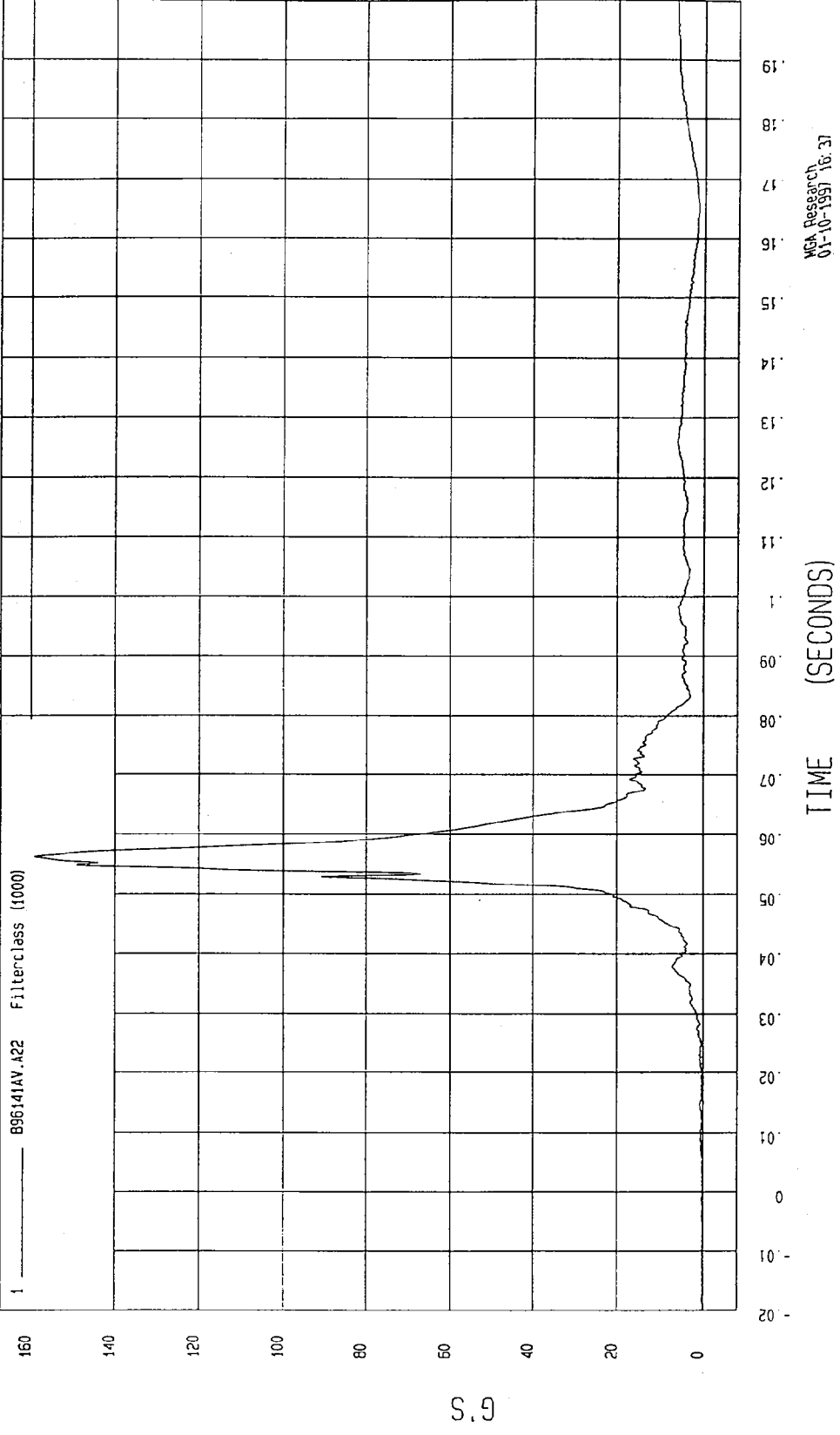




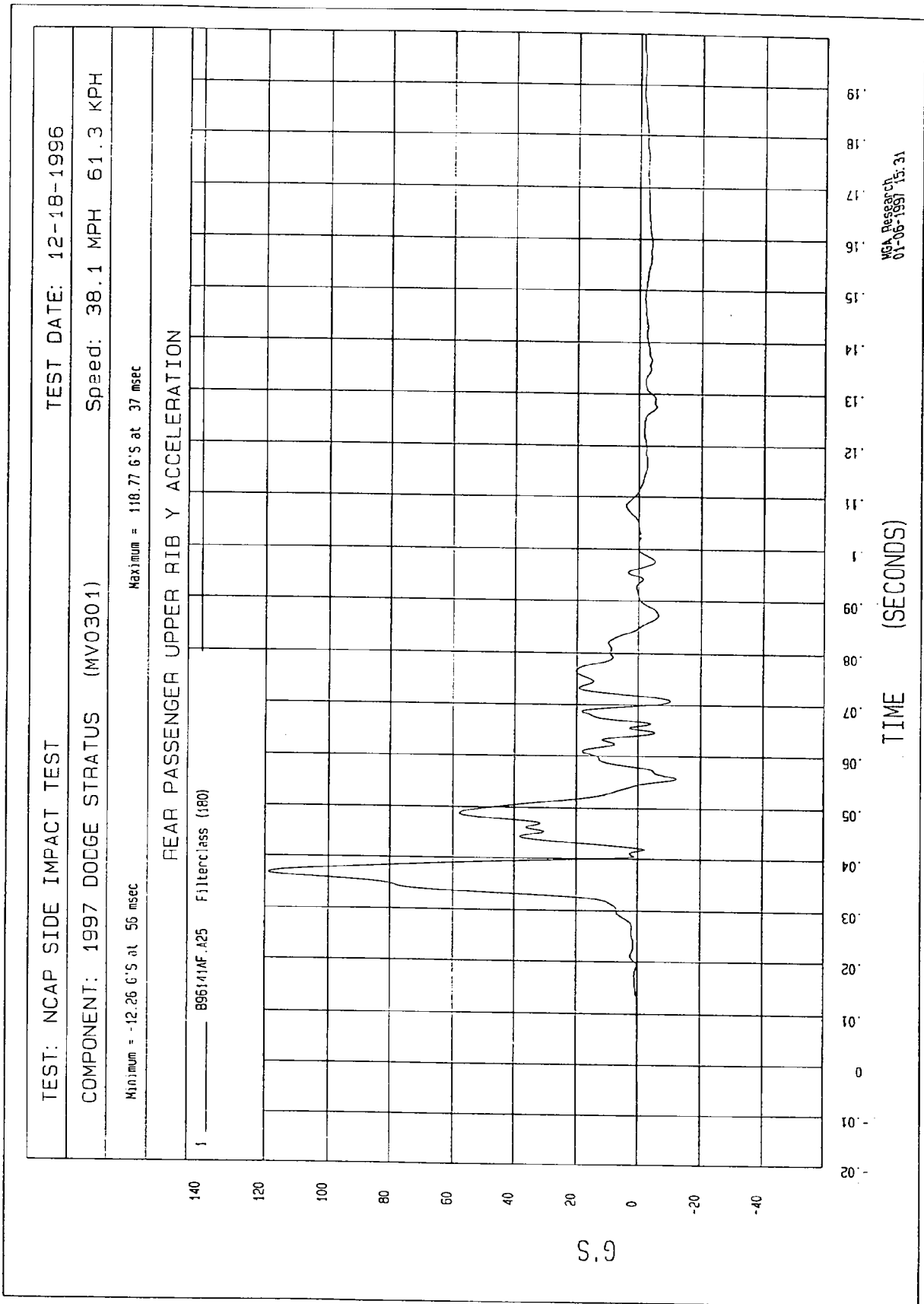


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = 4.75E-02 G'S at 3 msec	Maximum = 159.28 G'S at 56 msec

REAR PASSENGER HEAD RESULTANT

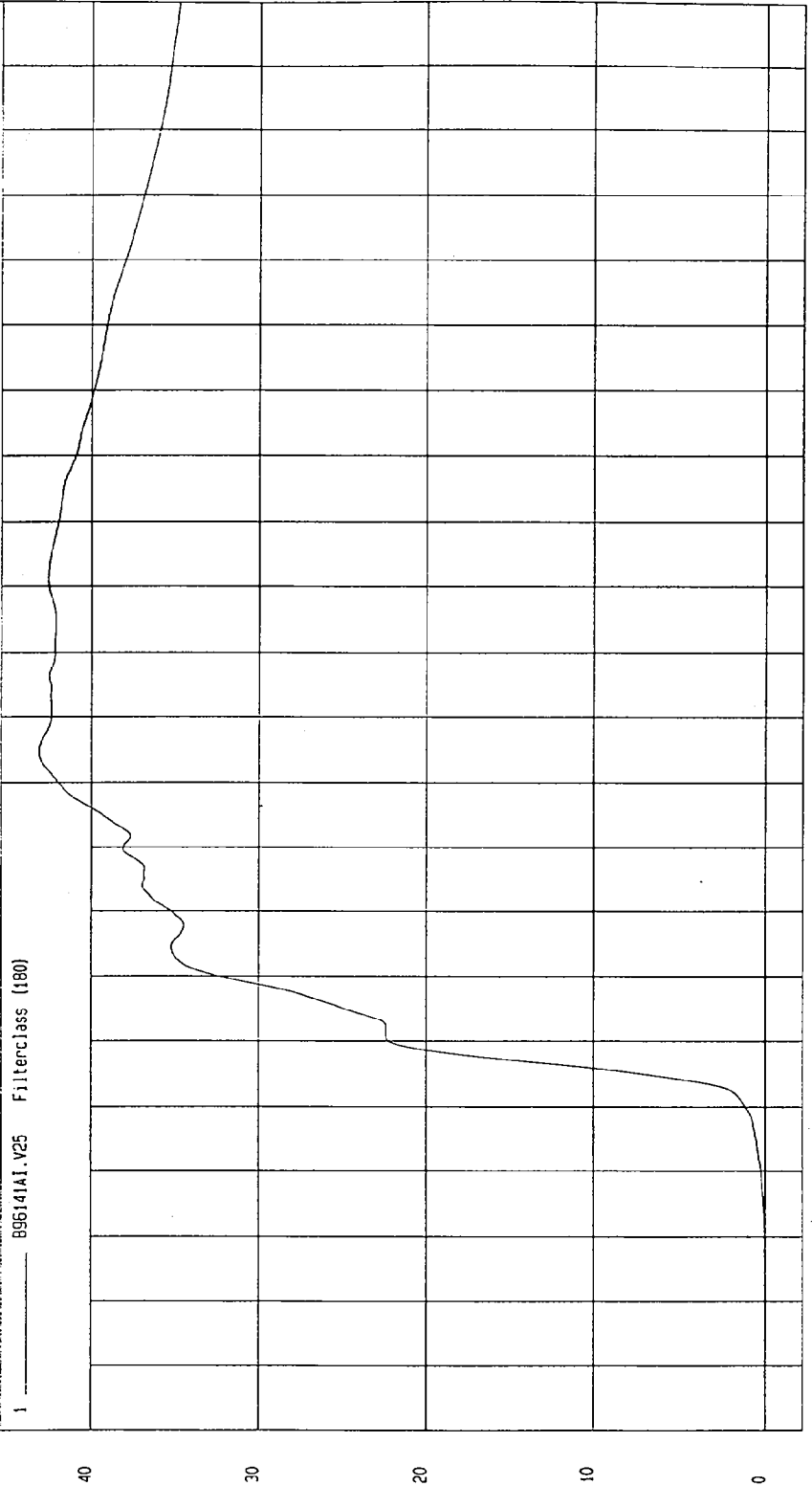


MCA Research
01-10-1997 16:37



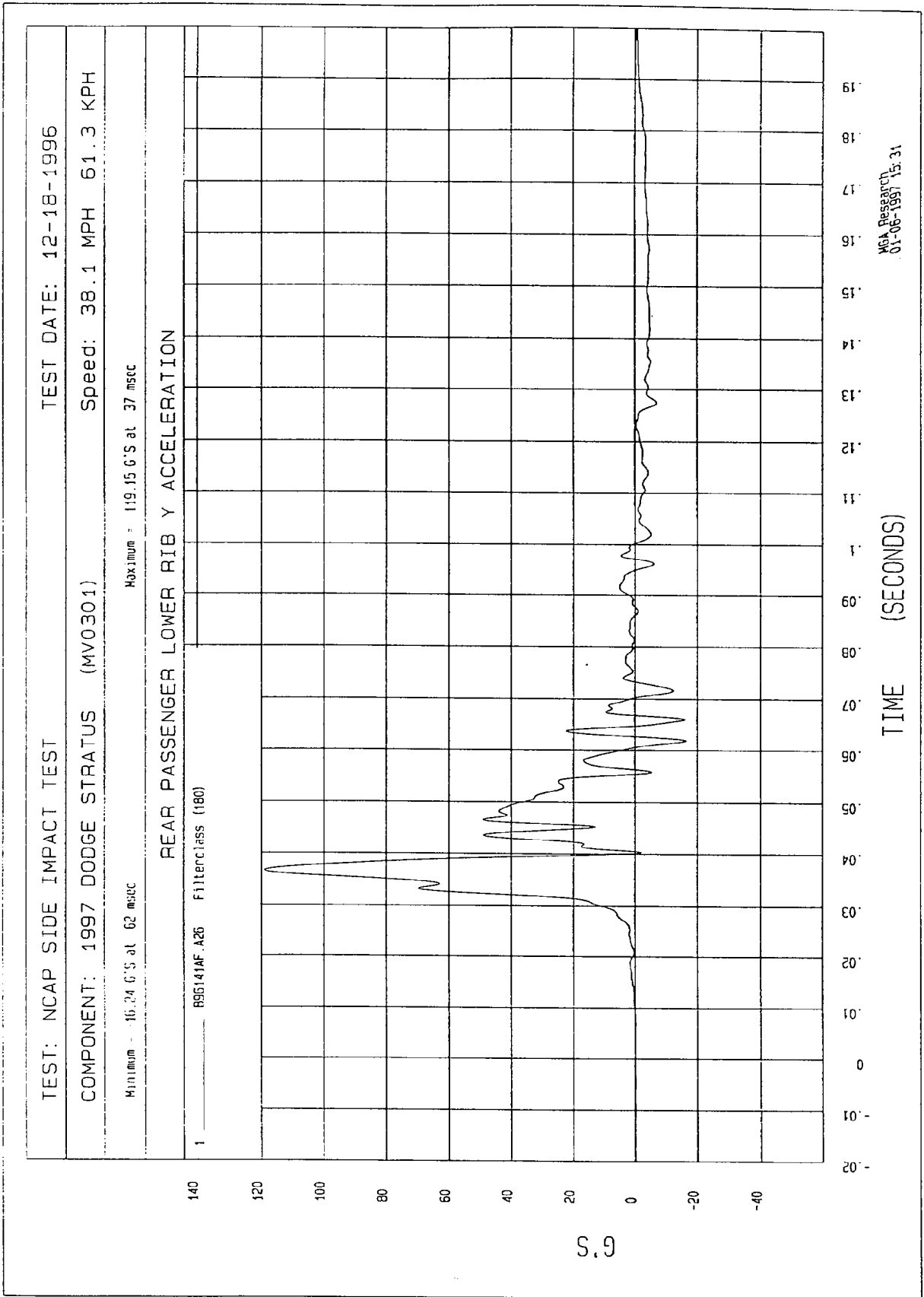
TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -6.98E-05 KPH at -20 msec	
Maximum = 43.10 KPH at 85 msec	

REAR PASSENGER UPPER RIB Y VELOCITY



TIME Seconds

MSA Research
01-06-1997 15:33



TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -5.94L-04 KPH at -20 msec

Maximum = 42.71 KPH at 95 msec

REAR PASSENGER LOWER RIB Y VELOCITY

1 B96141A1.V26 Filter: class (180)

40

30

20

10

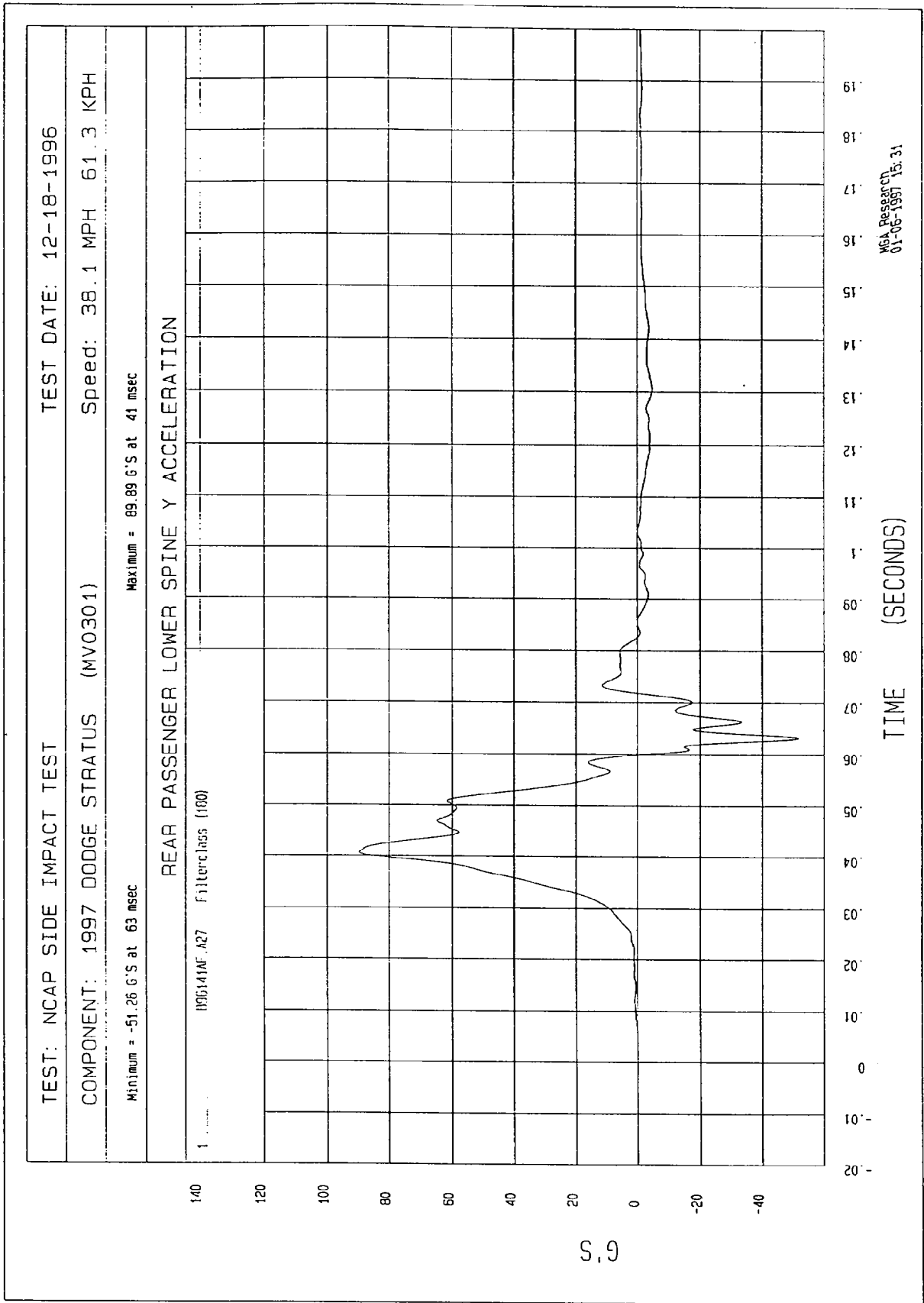
0

KPH

-0.02 -0.01 0 .01 .02 .03 .04 .05 .06 .07 .08 .09 .1 .11 .12 .13 .14 .15 .16 .17 .18 .19

TIME Seconds

NOA Research
01-06-1997 15:33

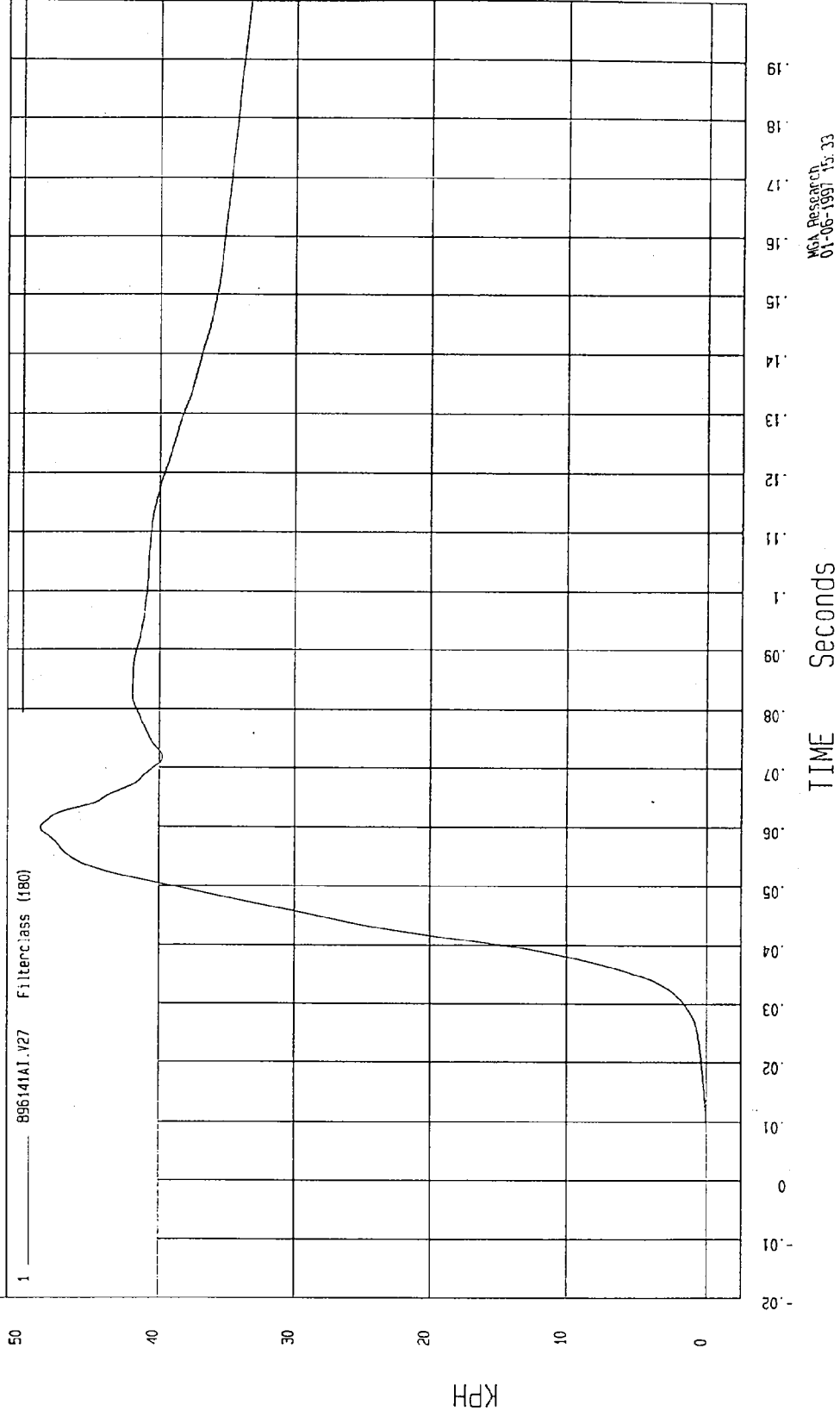


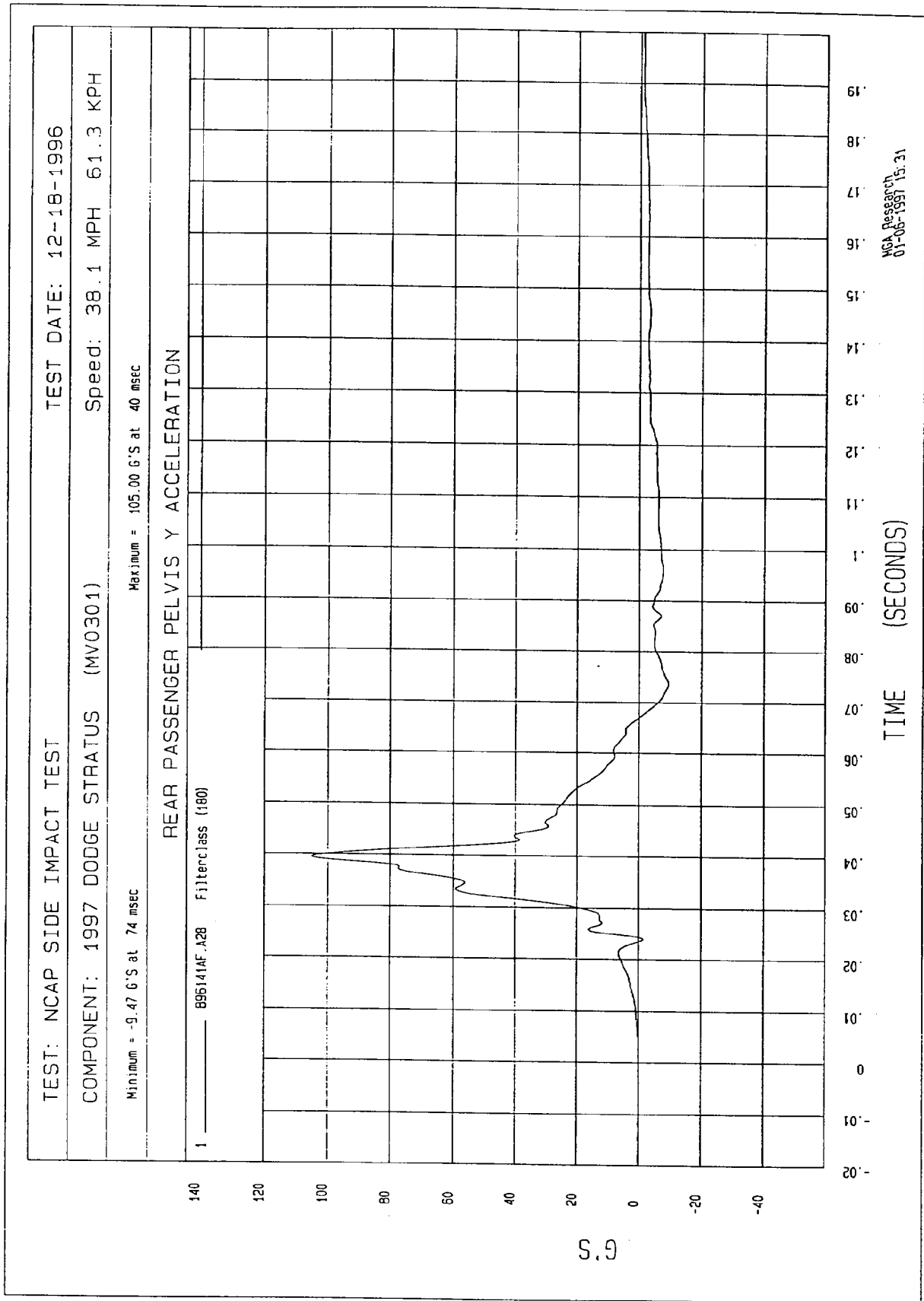
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -1.10E-02 KPH at 5 msec Maximum = 48.67 KPH at 60 msec

REAR PASSENGER LOWER SPINE Y VELOCITY





TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301)

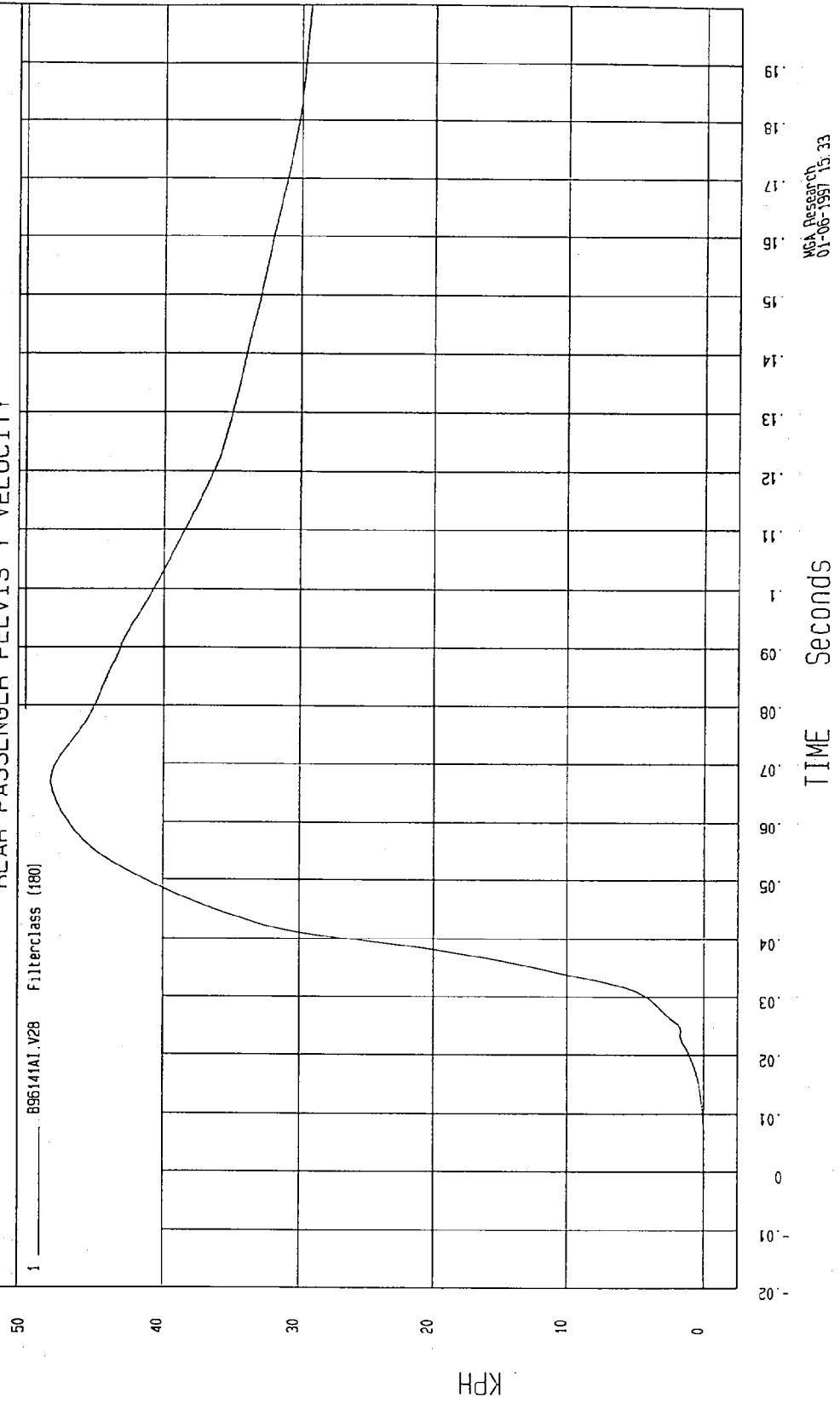
Speed: 38.1 MPH 61.3 KPH

Minimum = -1.89E-03 KPH at -3 msec

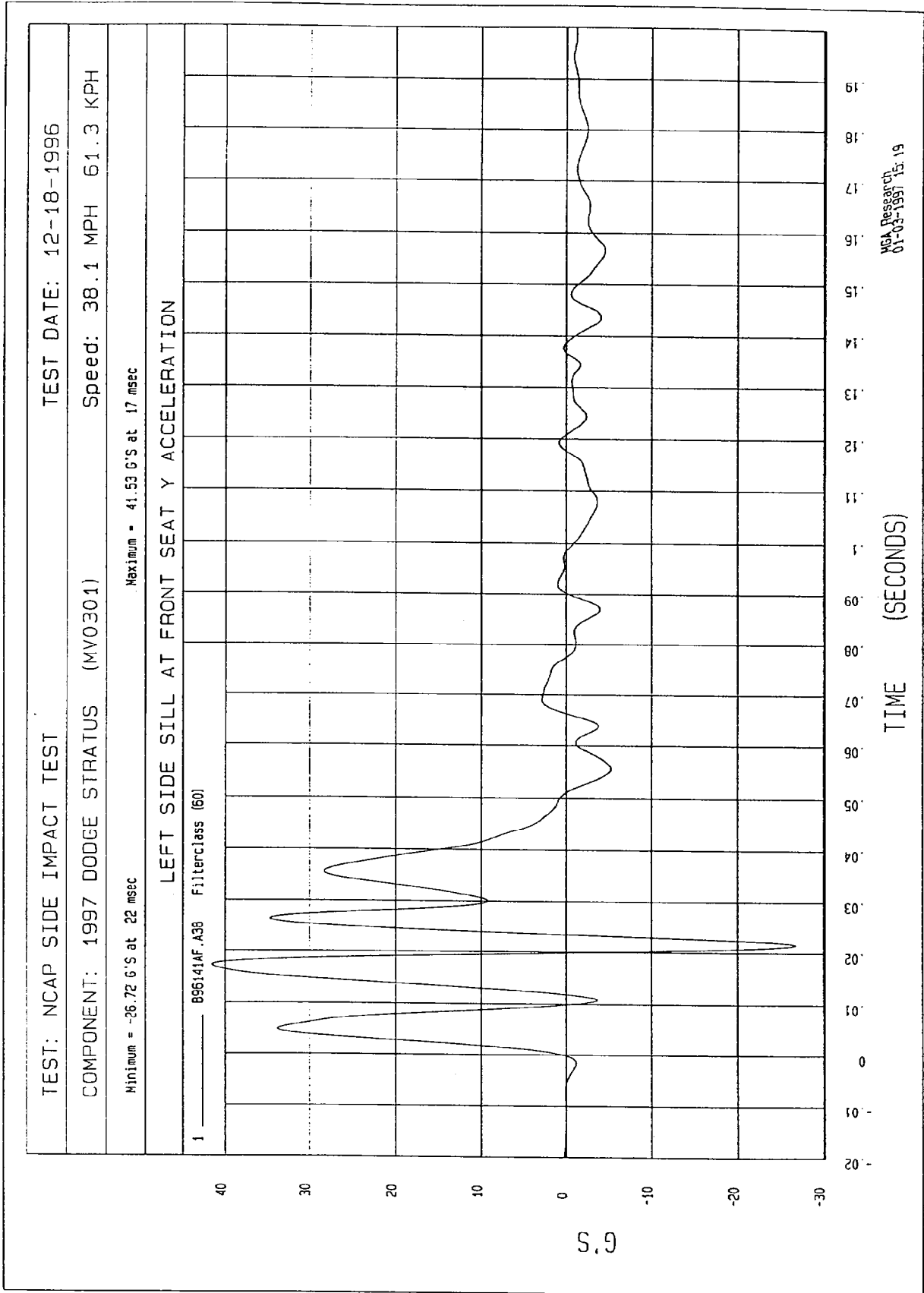
Maximum = 48.12 KPH at 67 msec

REAR PASSENGER PELVIS Y VELOCITY

1 ——— B96141A1.V28 Filterclass (180)

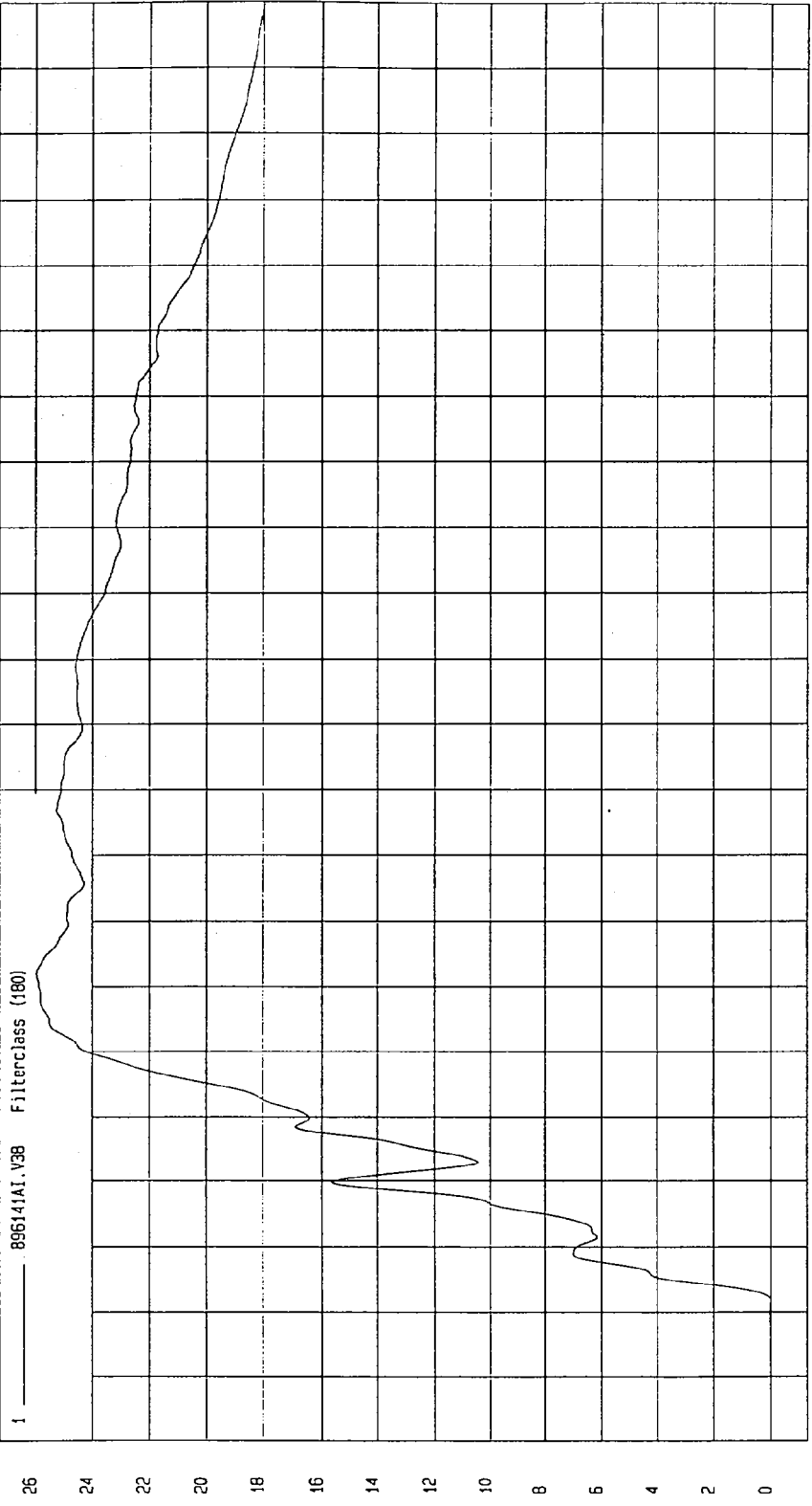


MSA Research
01-06-1997 15:33



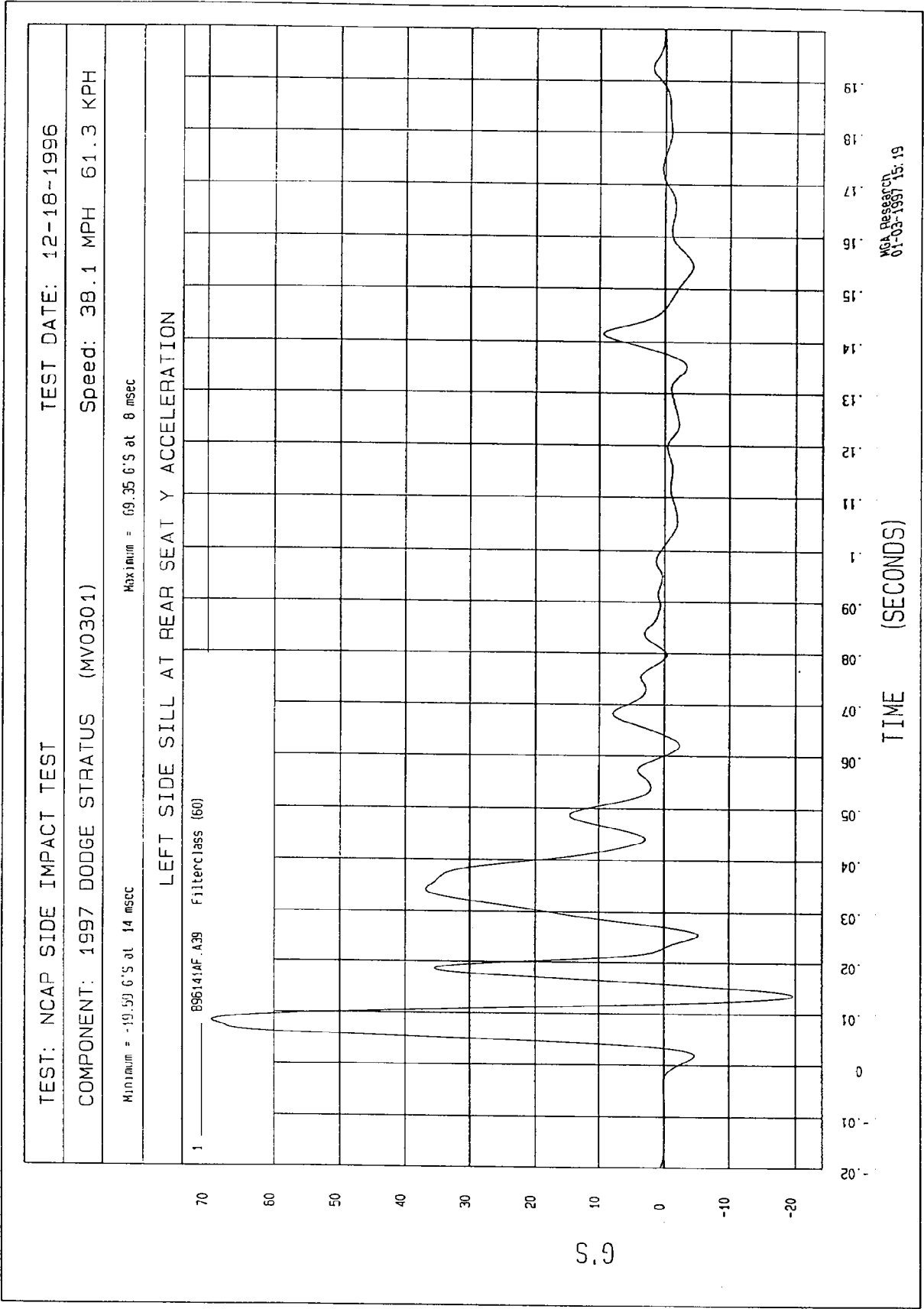
TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = 0 KPH at -20 msec	Maximum = 25.97 KPH at 52 msec

LEFT SIDE SILL AT FRONT SEAT Y VELOCITY



TIME Seconds

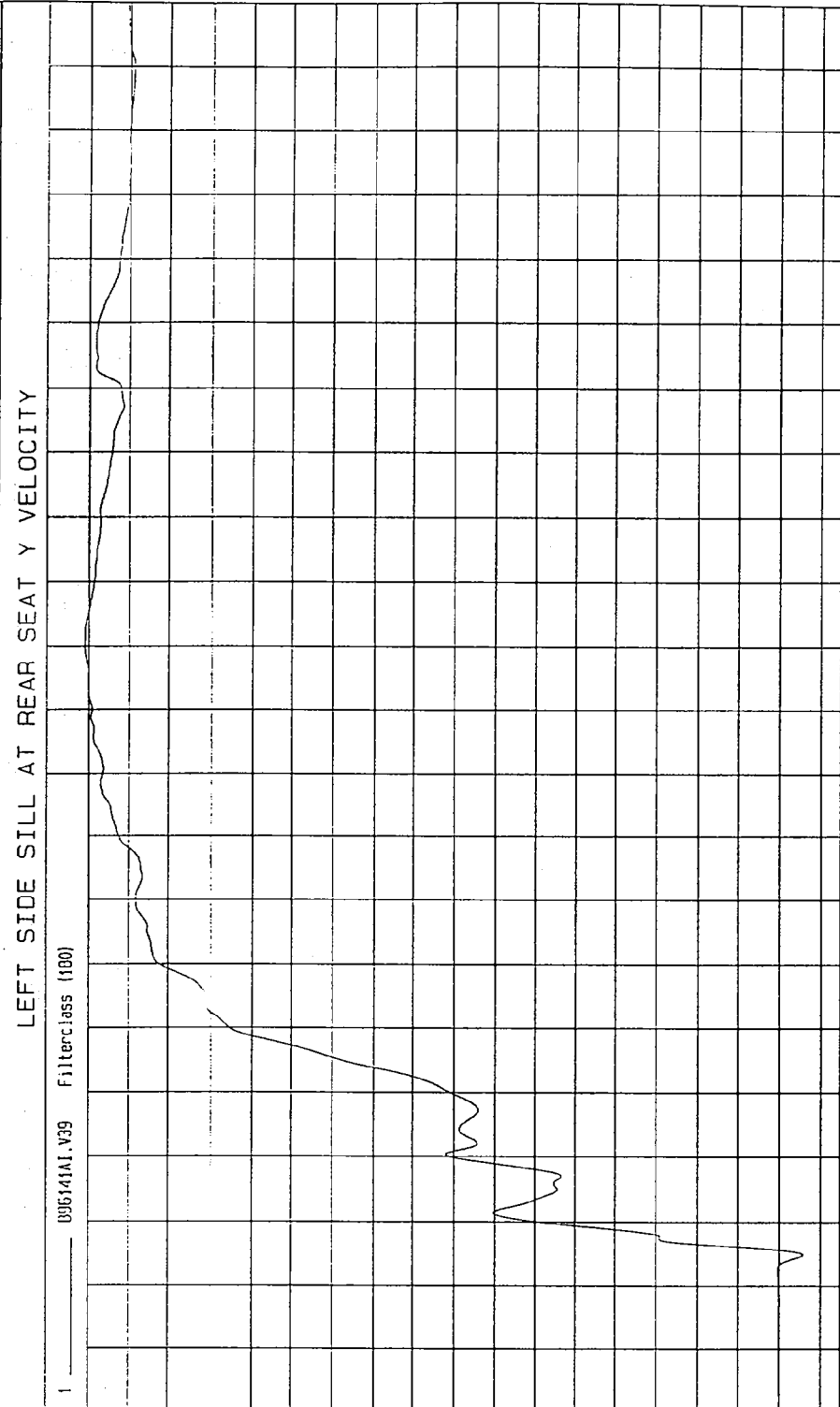
MSA Research
01-03-1997 15:24



TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

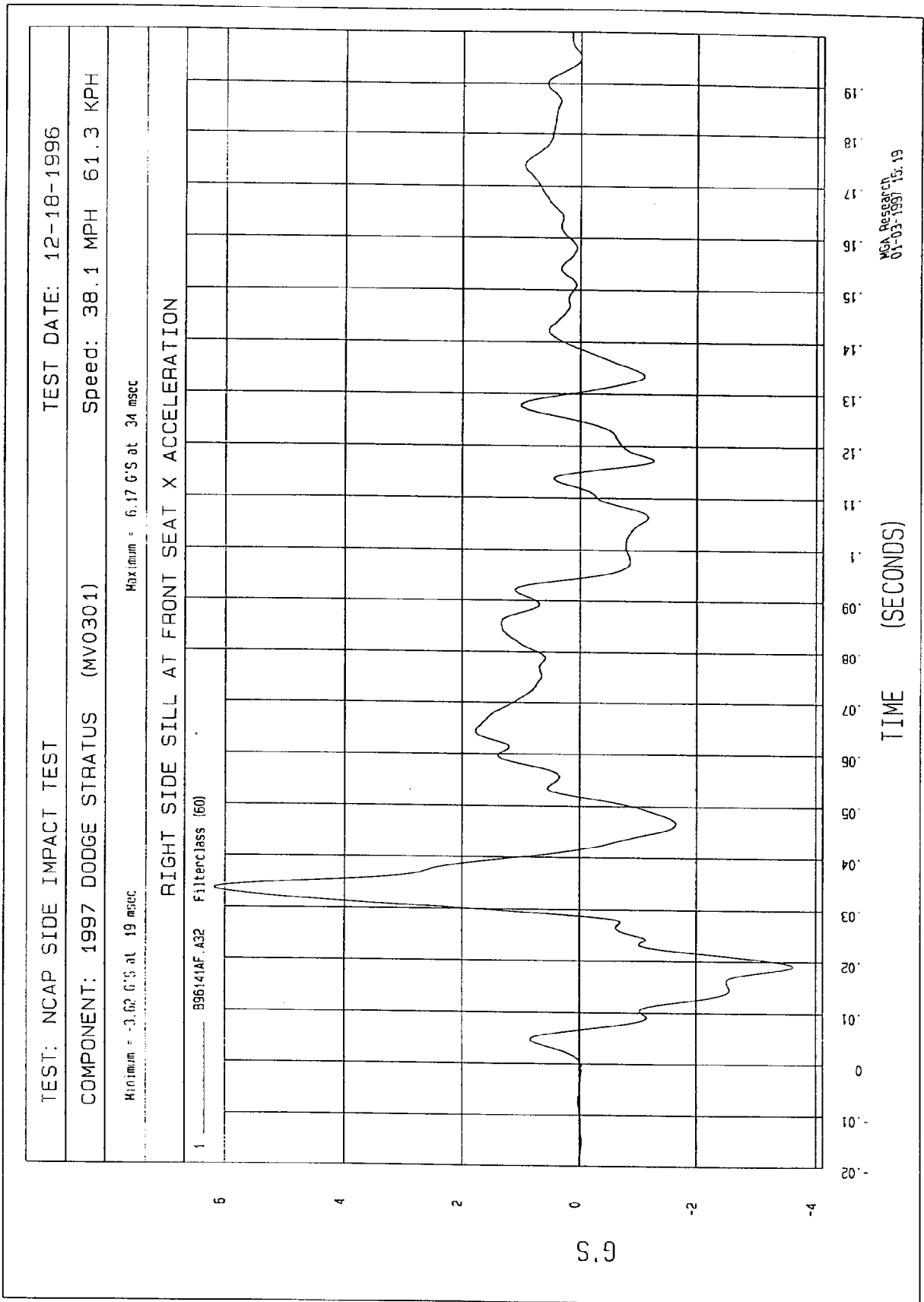
Minimum = -1.17 KPH at 5 msec Maximum = 34.22 KPH at 100 msec

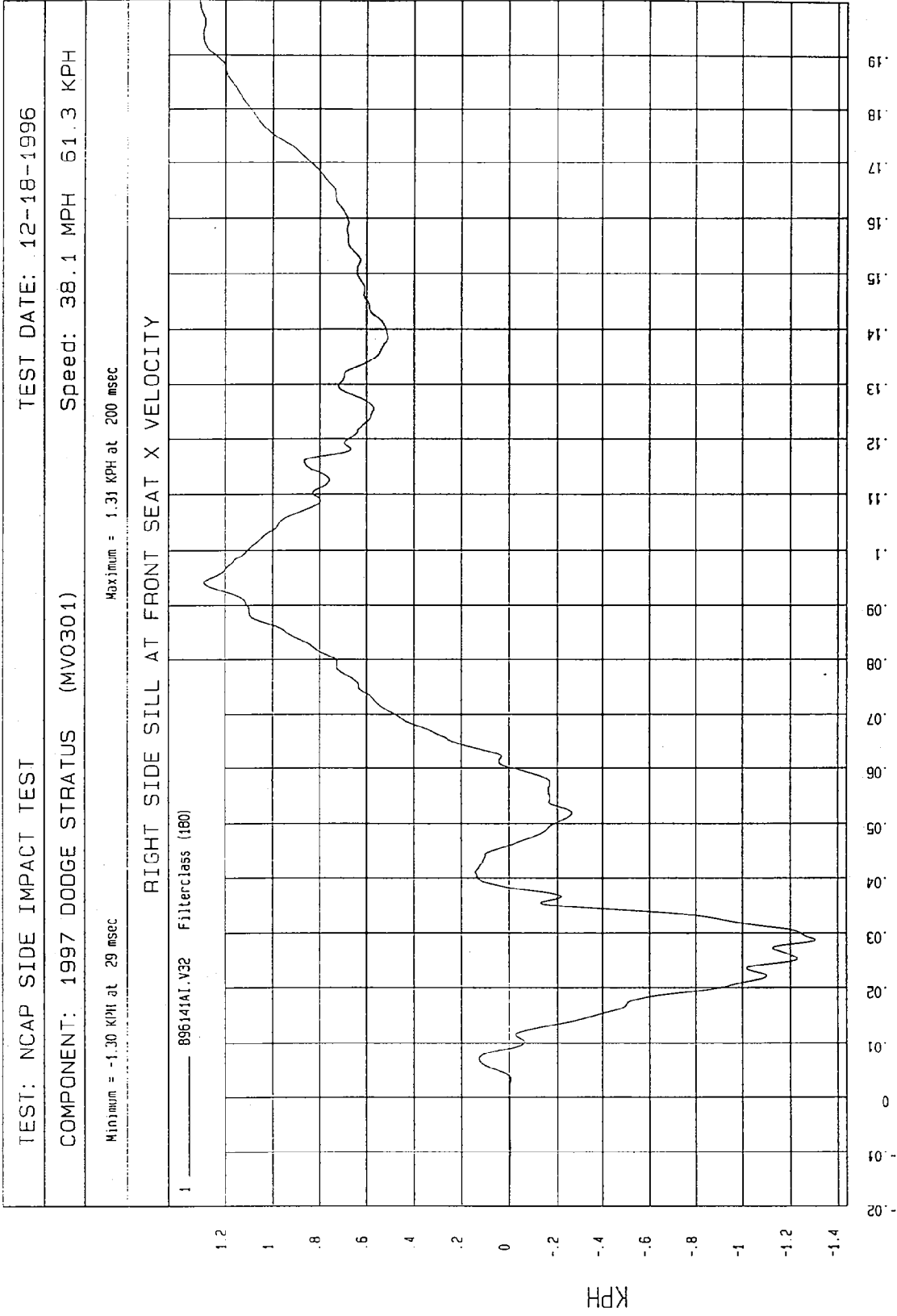


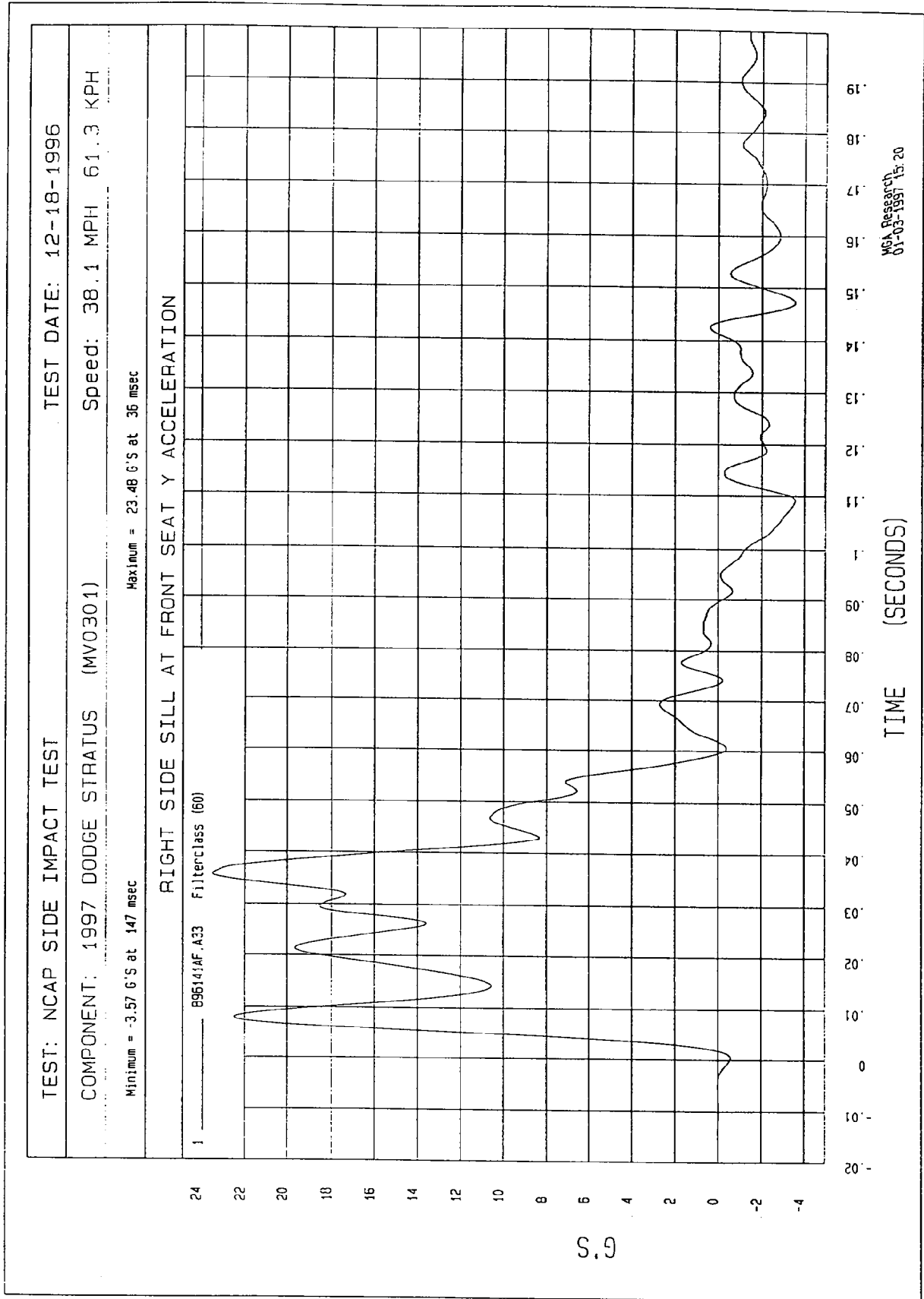
KPH

TIME Seconds

NGA Research
01-03-1997 15:24







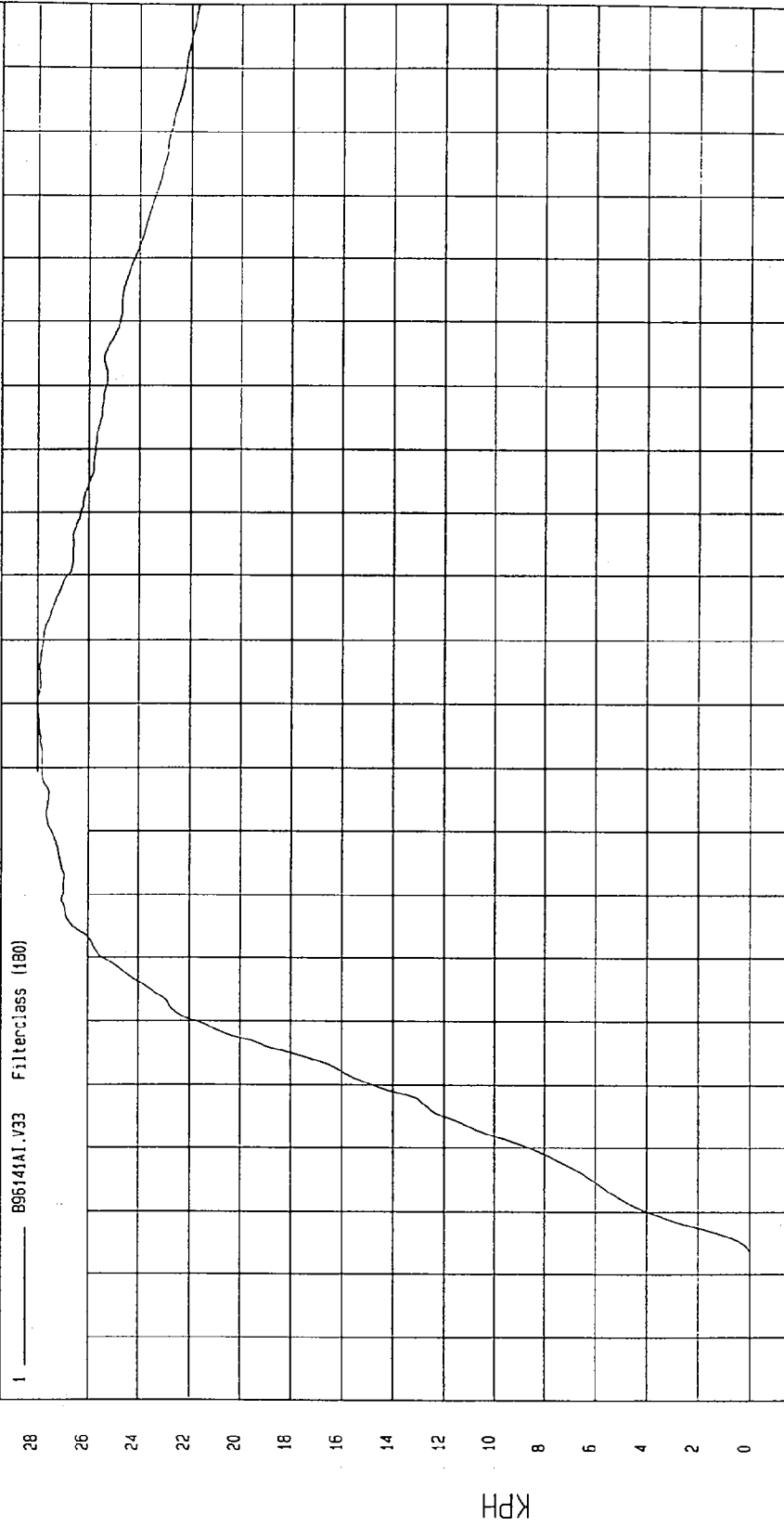
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

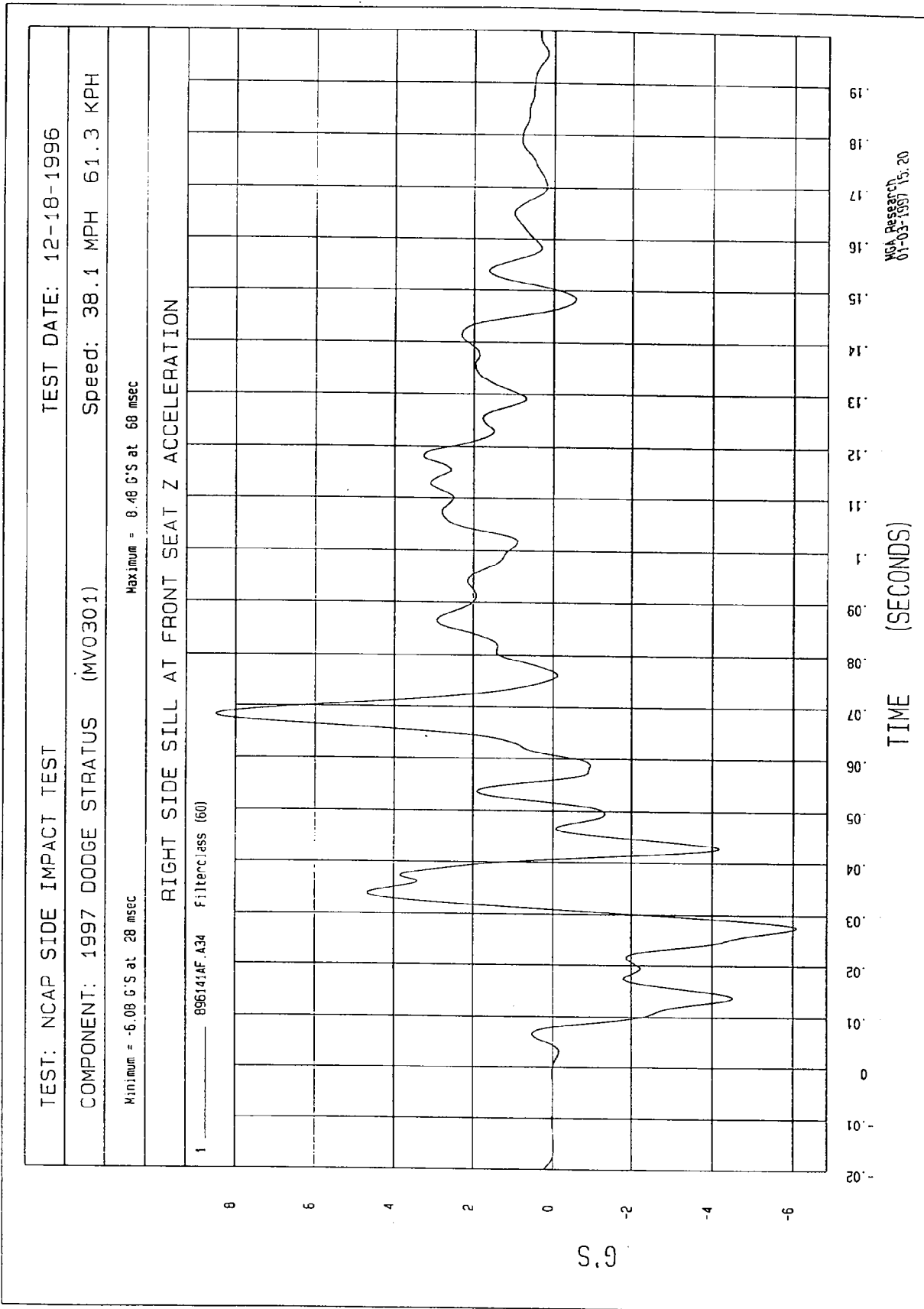
Minimum = -3.39E-03 KPH at -4 msec Maximum = 28.00 KPH at 90 msec

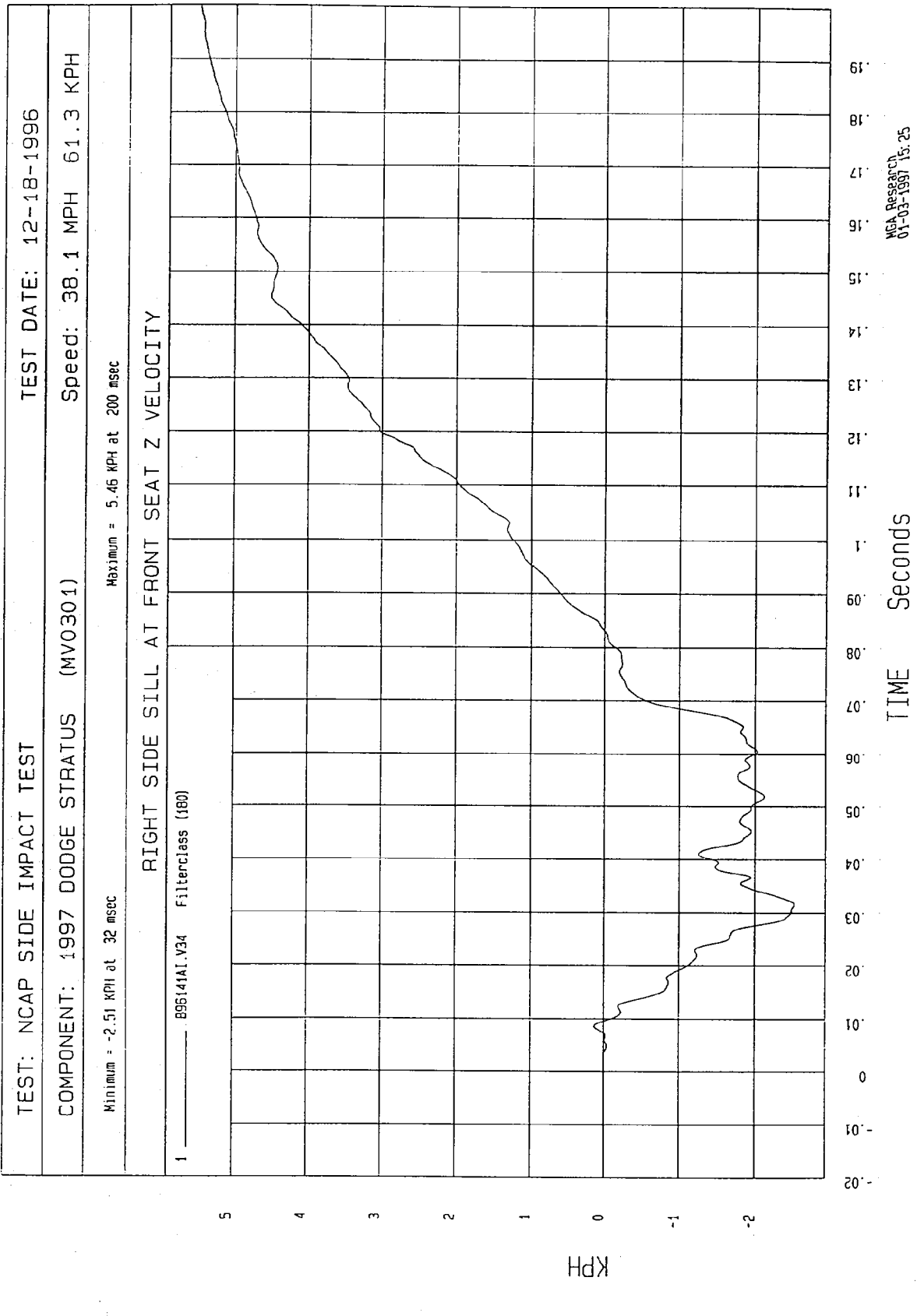
RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY

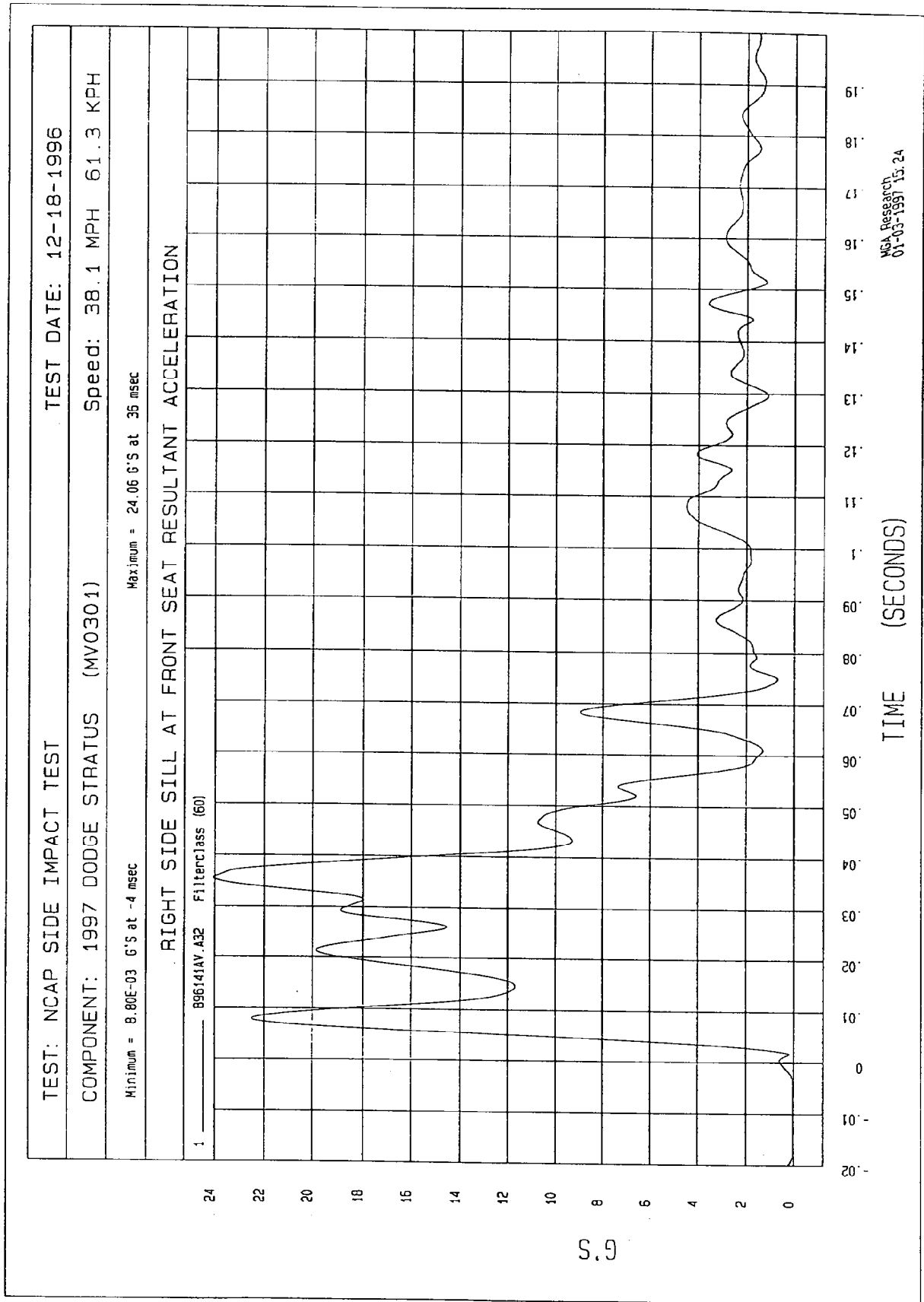
1 — B96141A1.V33 Filterclass (180)



NCAP Research
01-03-1997 15:24







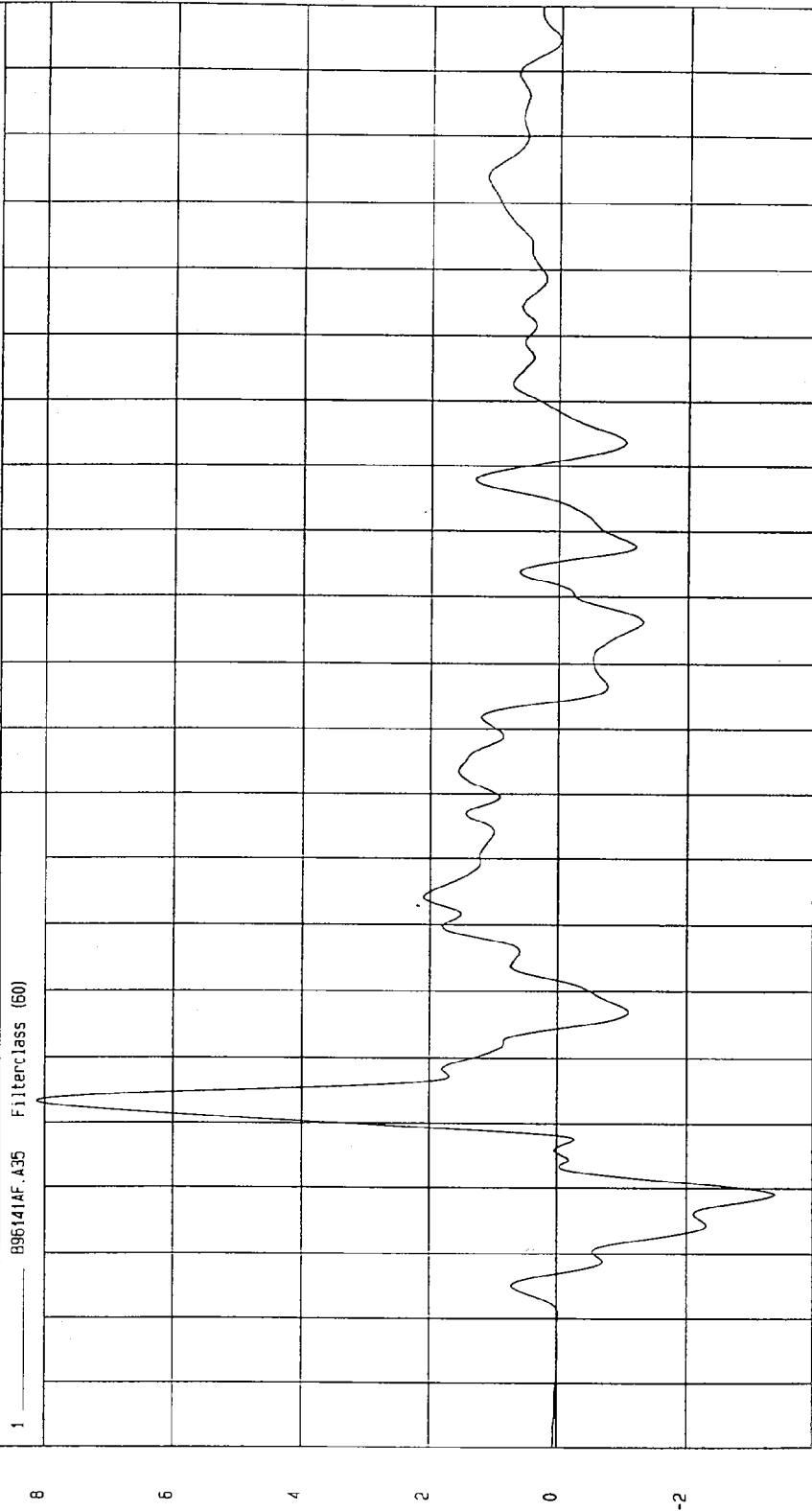
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MVO301) Speed: 38.1 MPH 61.3 KPH

Minimum = -3.36 G'S at 19 msec Maximum = 8.12 G'S at 33 msec

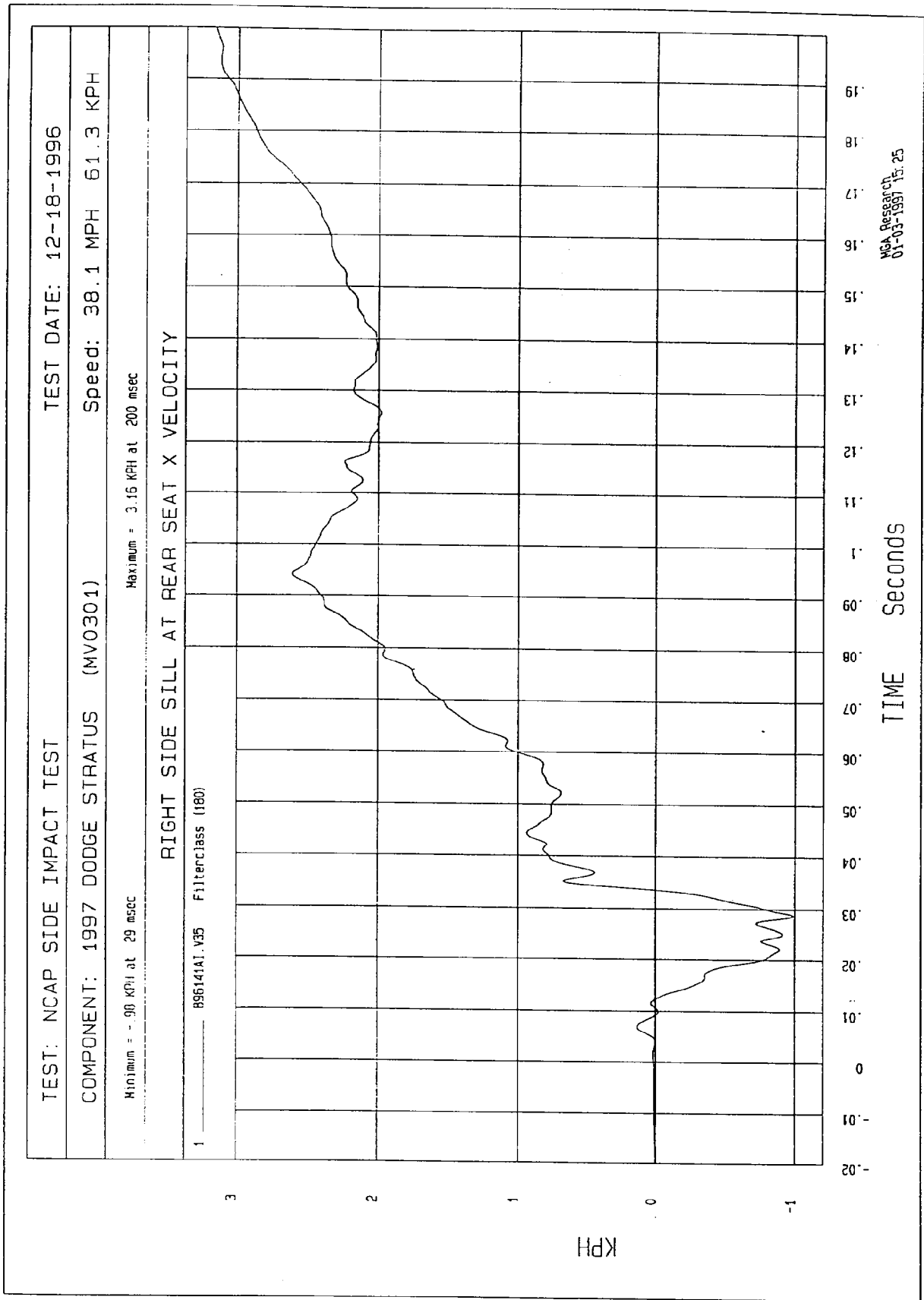
RIGHT SIDE SILL AT REAR SEAT X ACCELERATION

1 896141AF.A35 Filterclass (50)



TIME (SECONDS)

MCA Research
01-03-1997 15:20

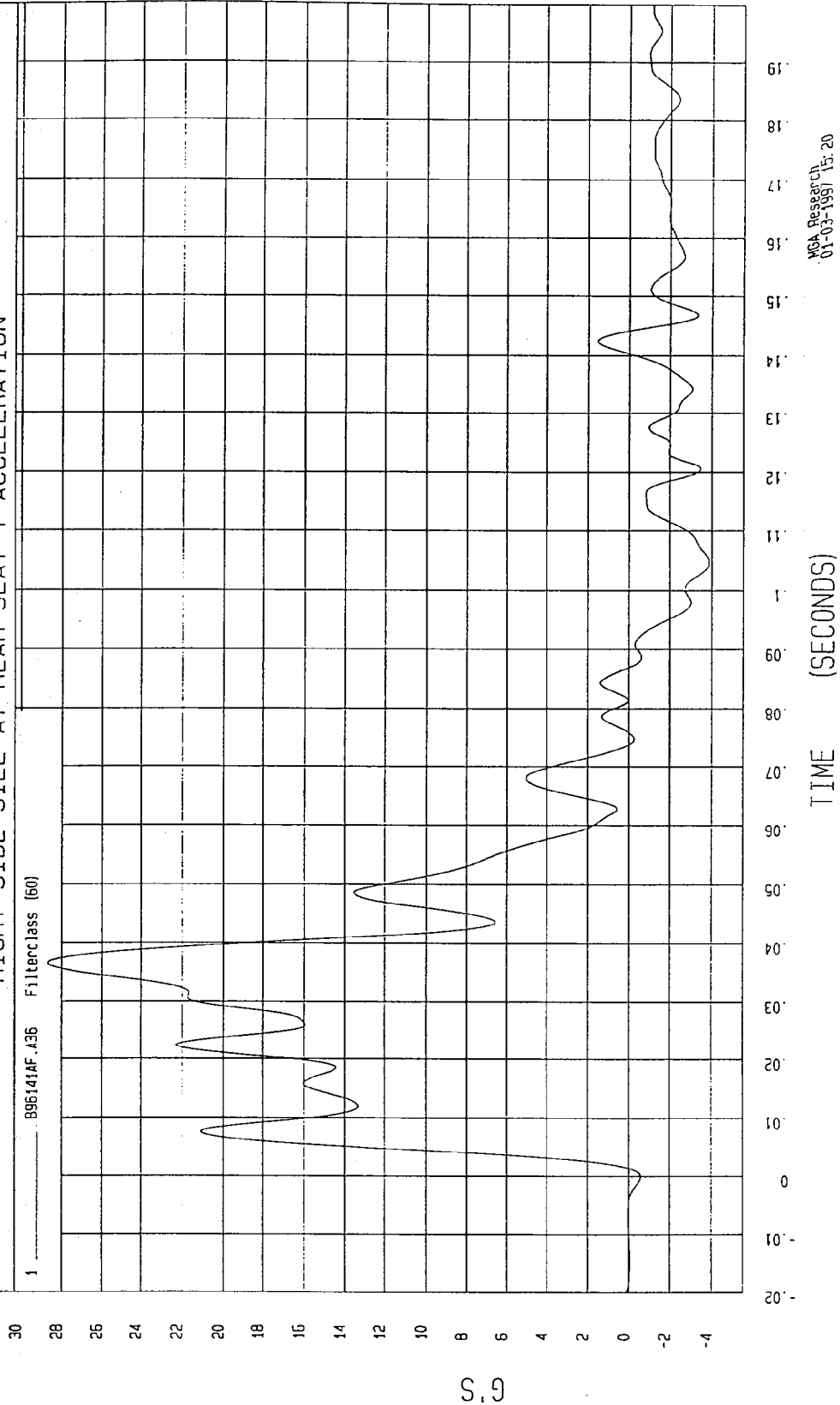


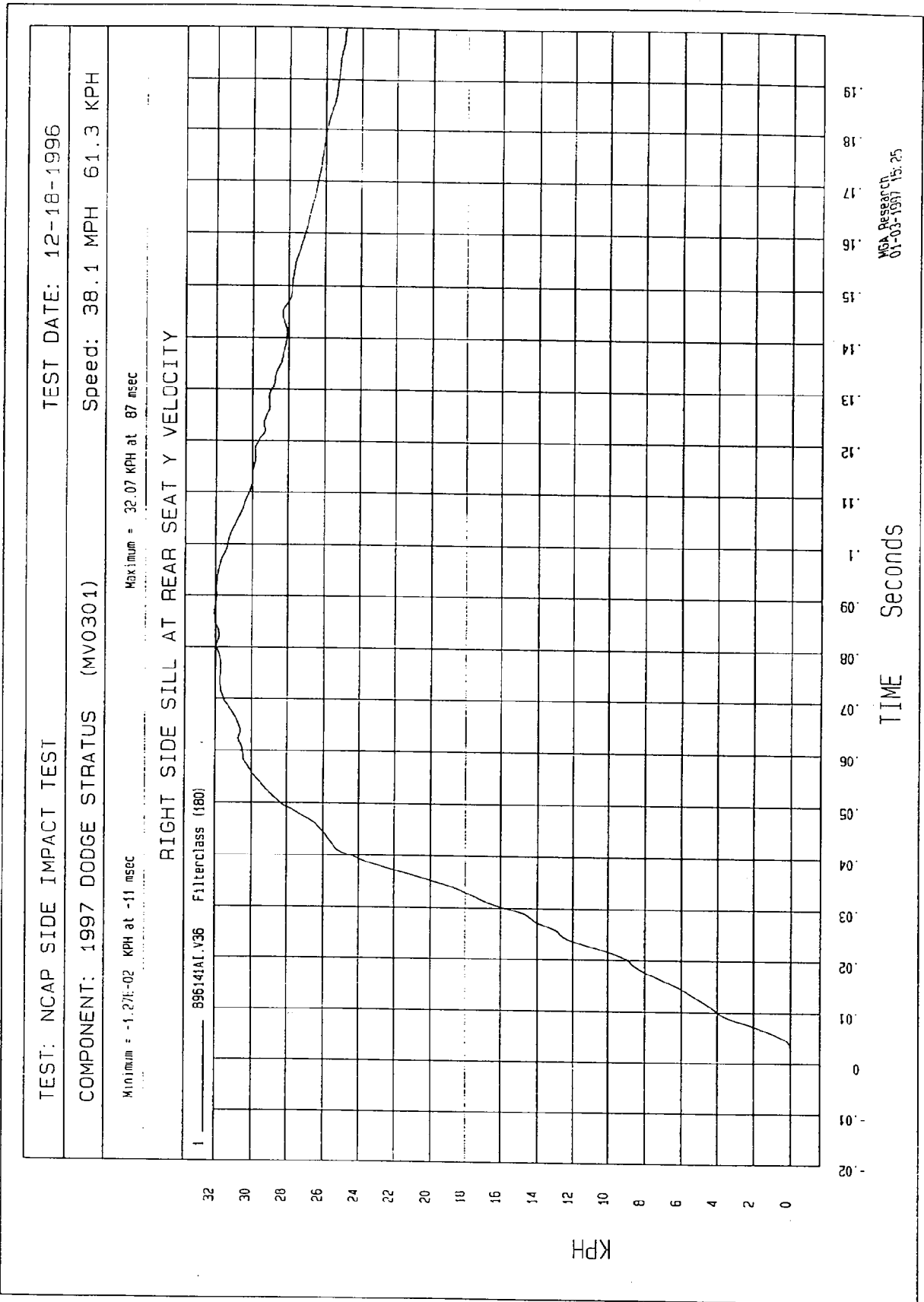
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -3.86 G'S at 105 msec Maximum = 28.69 G'S at 36 msec

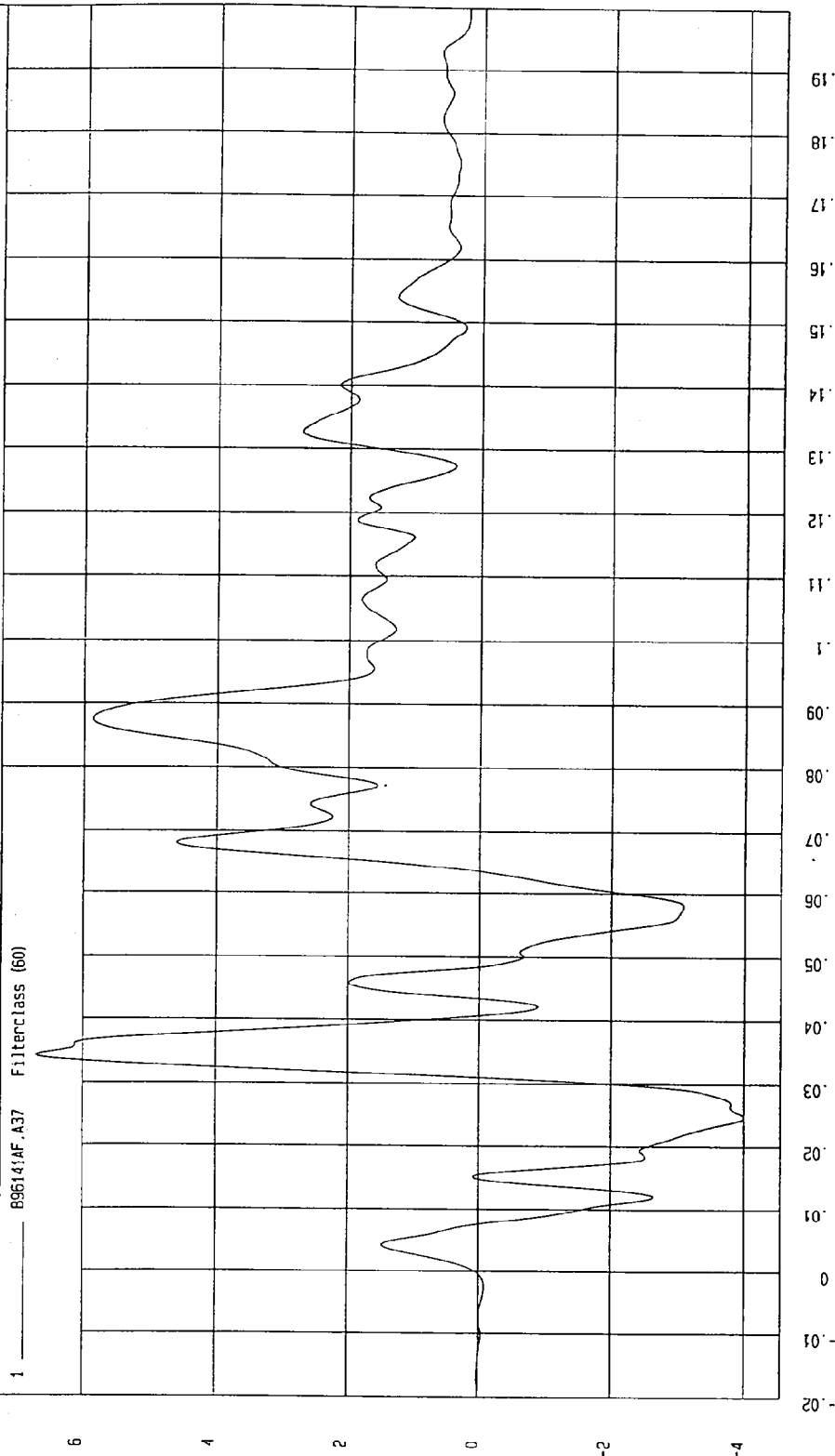
RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION



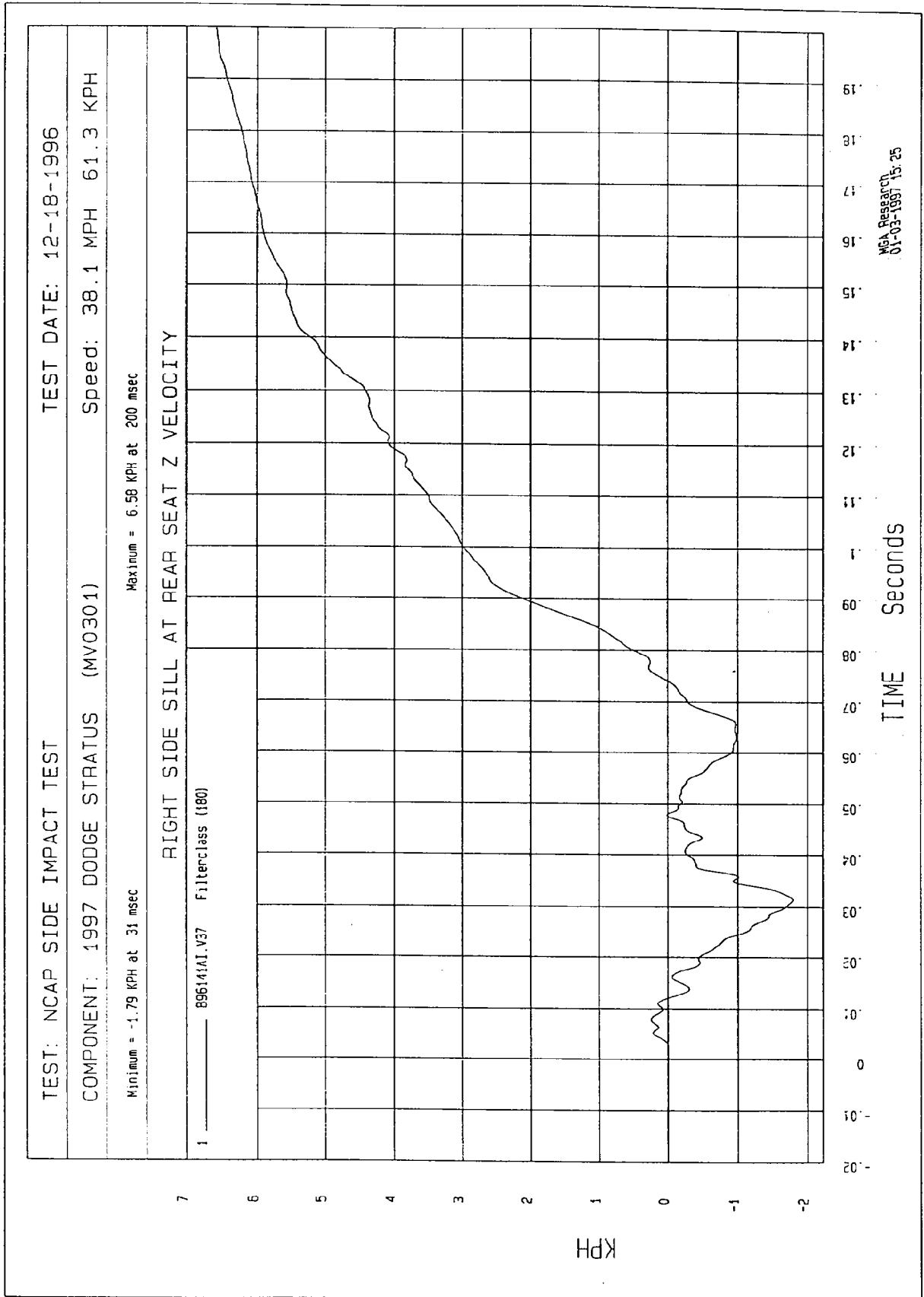


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -4.00 G'S at 25 msec	Maximum = 6.67 G'S at 34 msec

RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION



MCA Research
01-03-1997 15:20

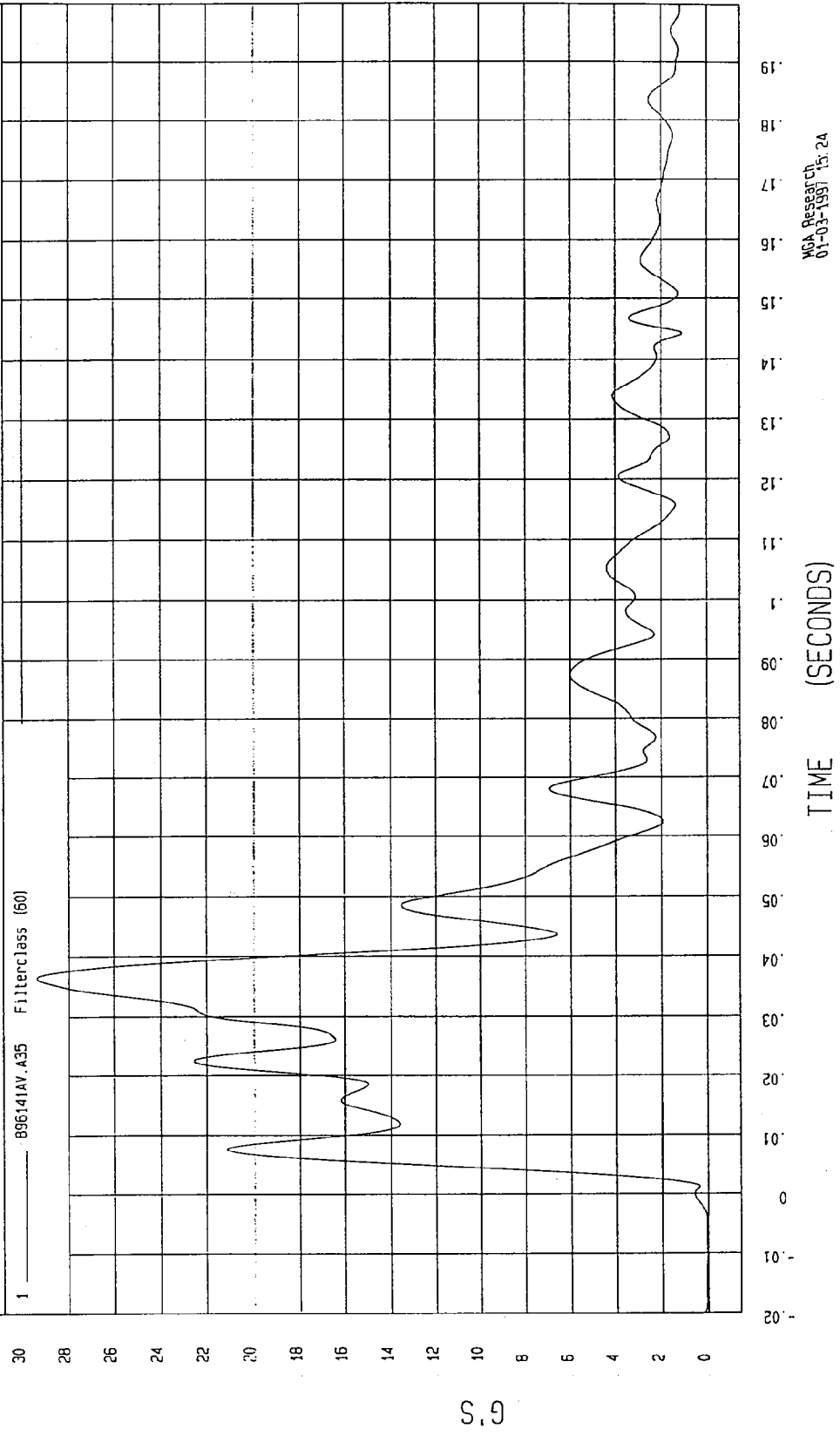


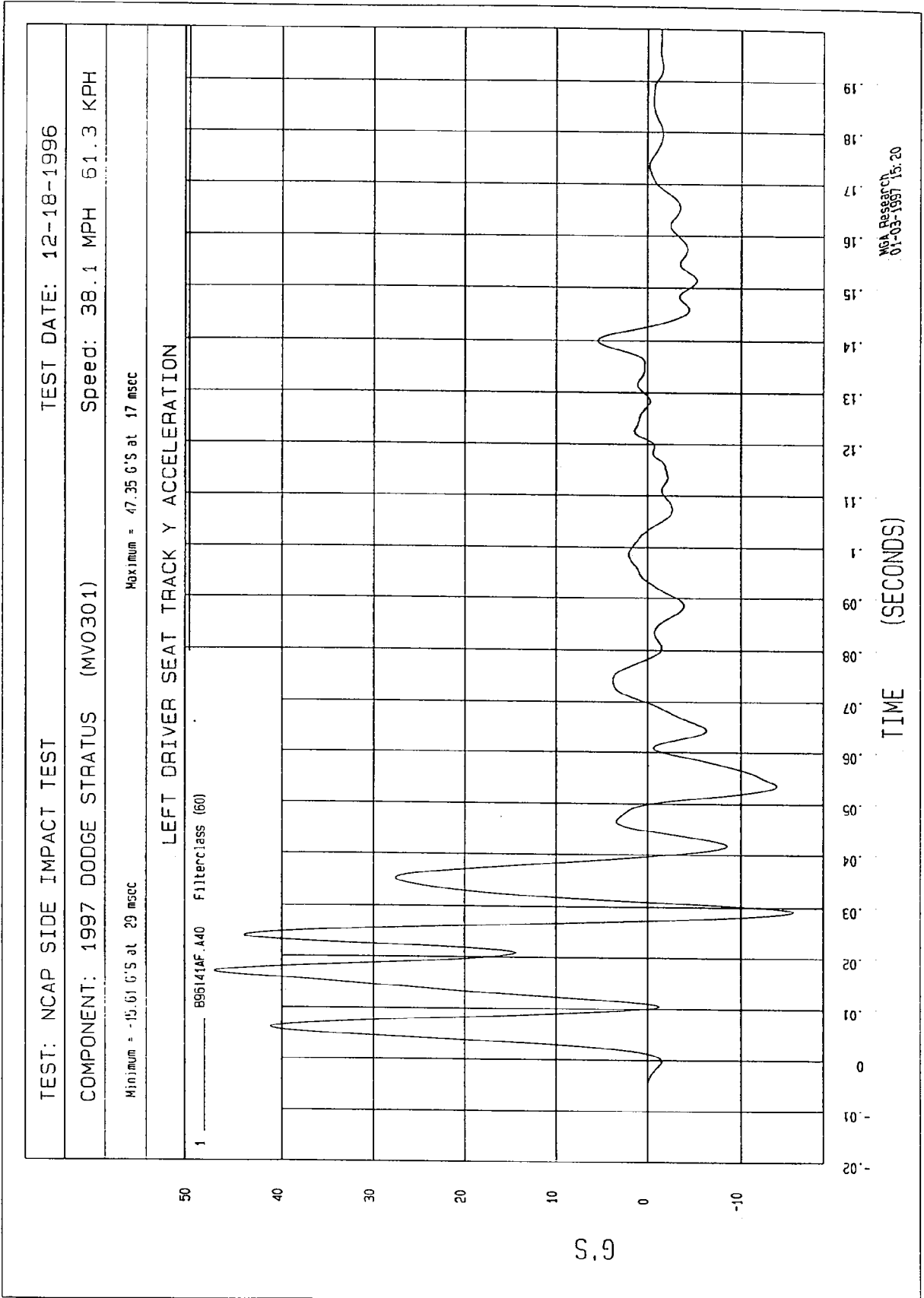
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = 4.13E-02 G'S at -10 msec Maximum = 29.37 G'S at 36 msec

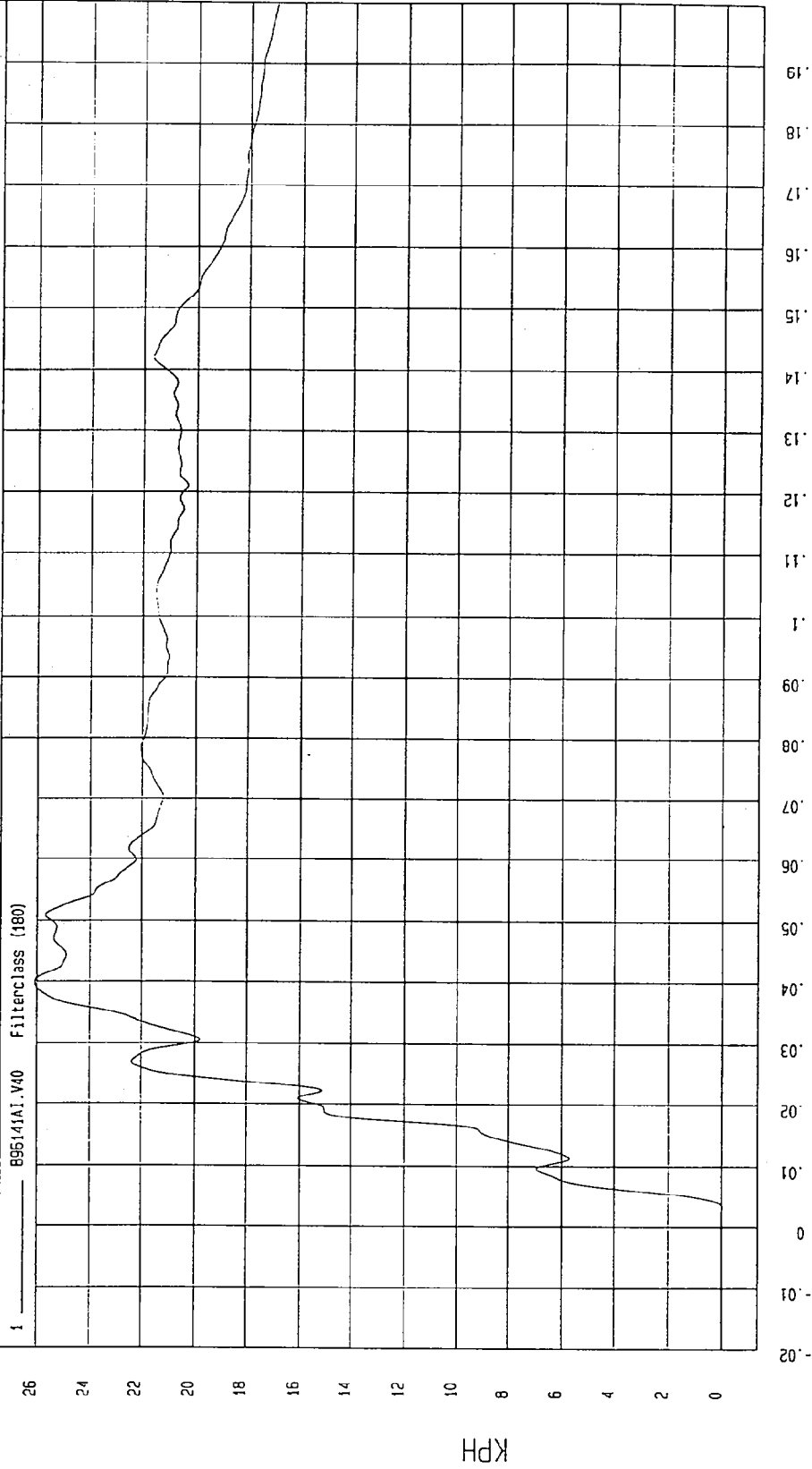
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION



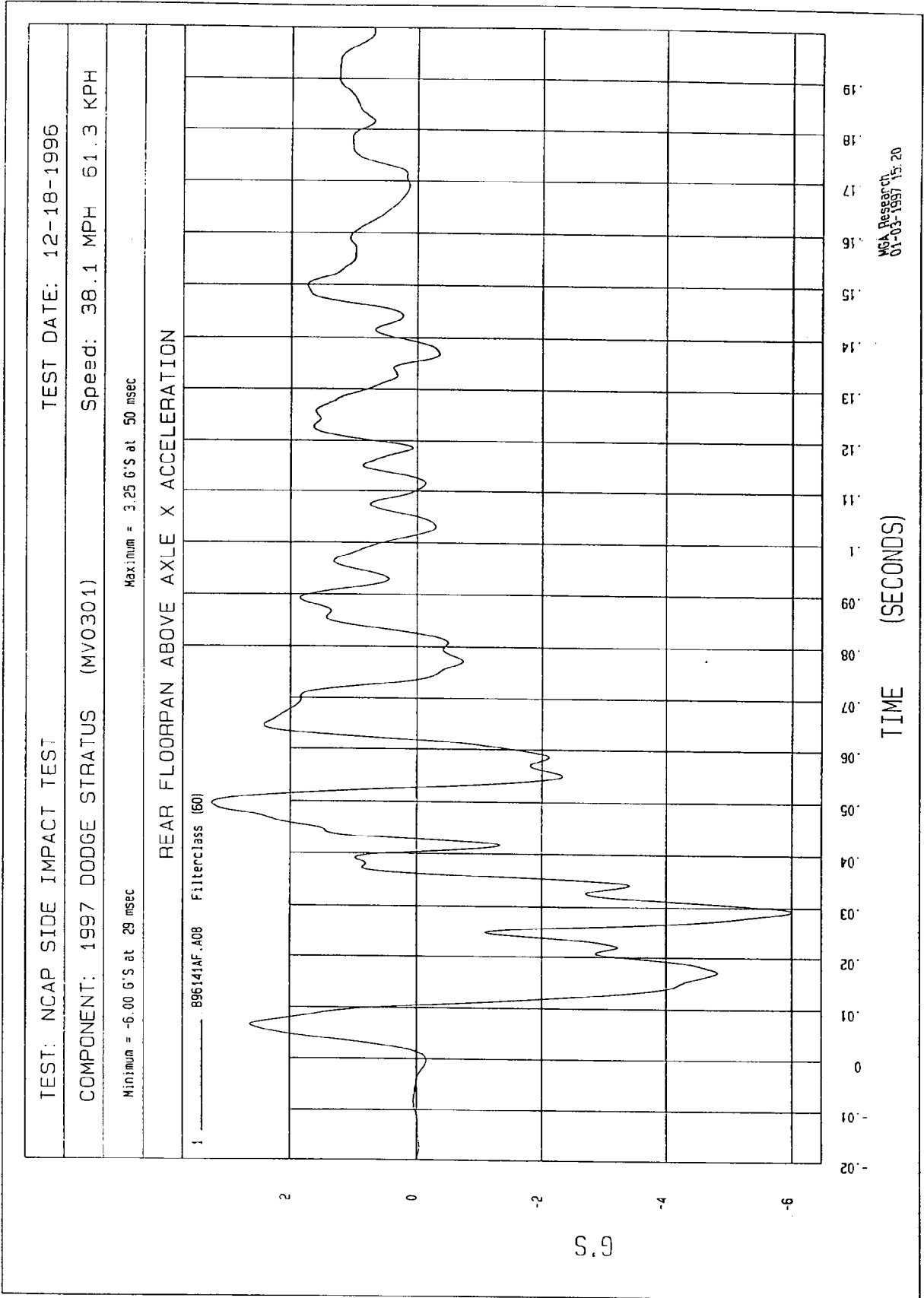


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -2.49E-02 KPH at 3 msec	Maximum = 26.08 KPH at 40 msec

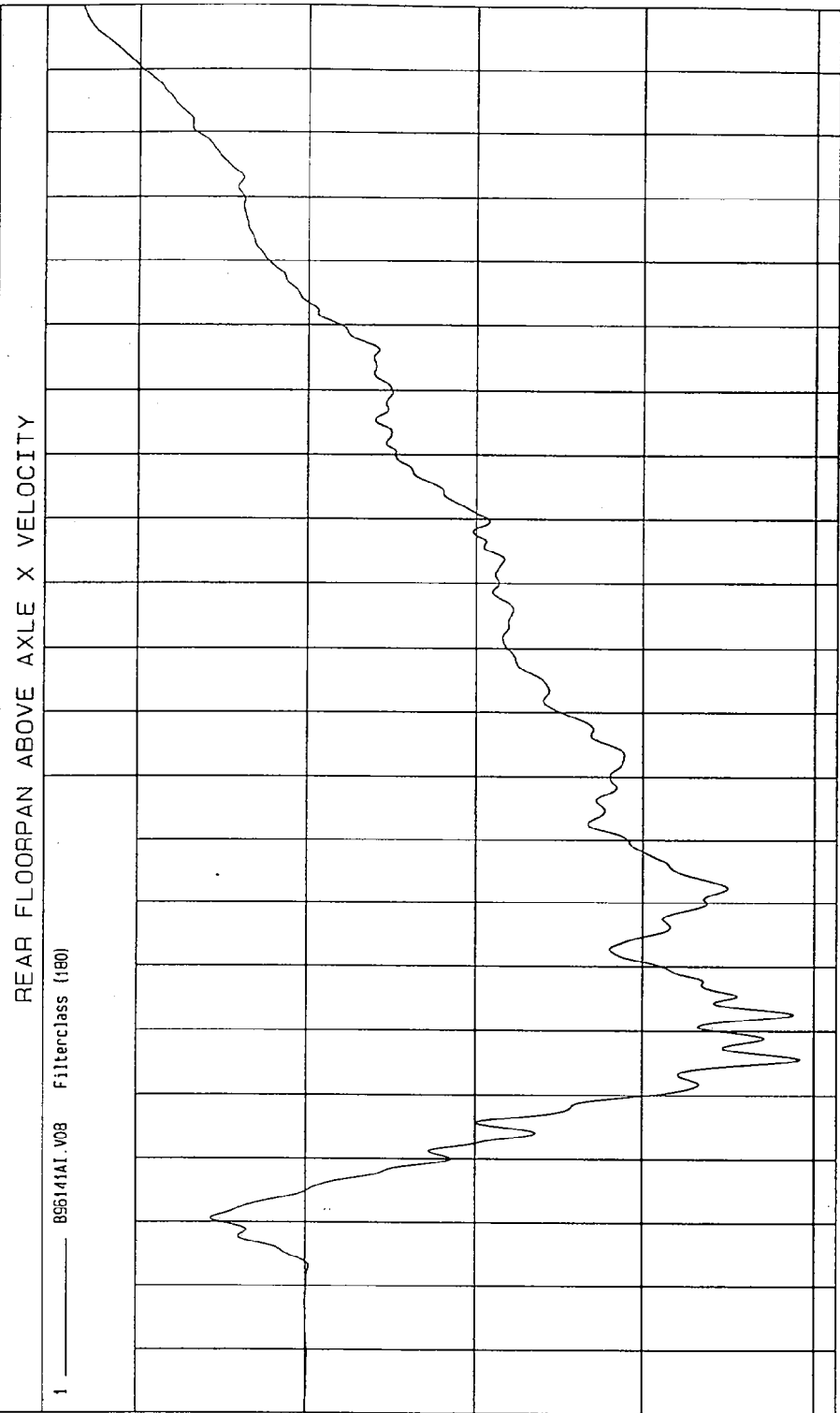
LEFT DRIVER SEAT TRACK Y VELOCITY



NGA Research
01-03-1997 15:25

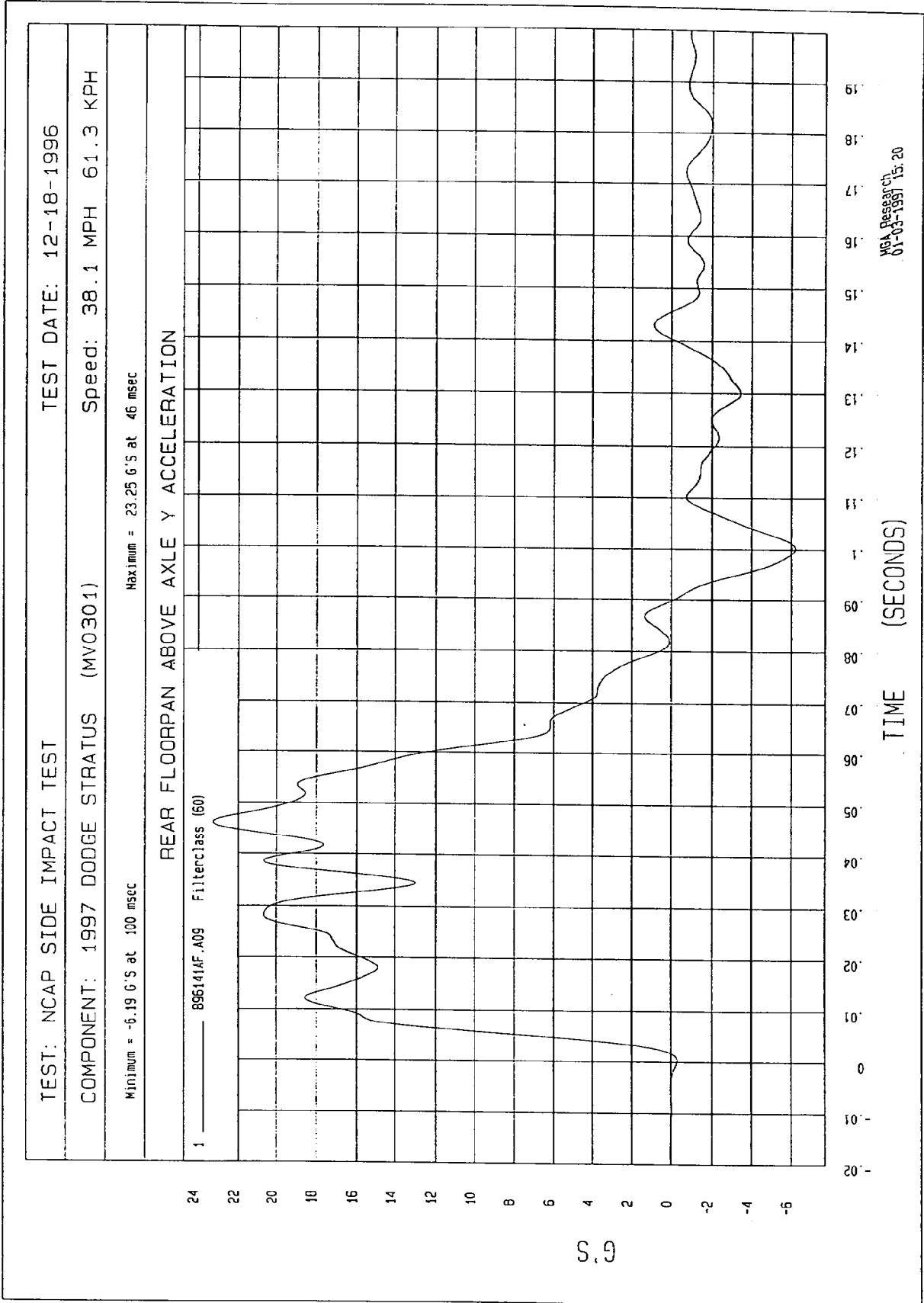


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -2.91 KPH at 36 msec	Maximum = 1.32 KPH at 200 msec



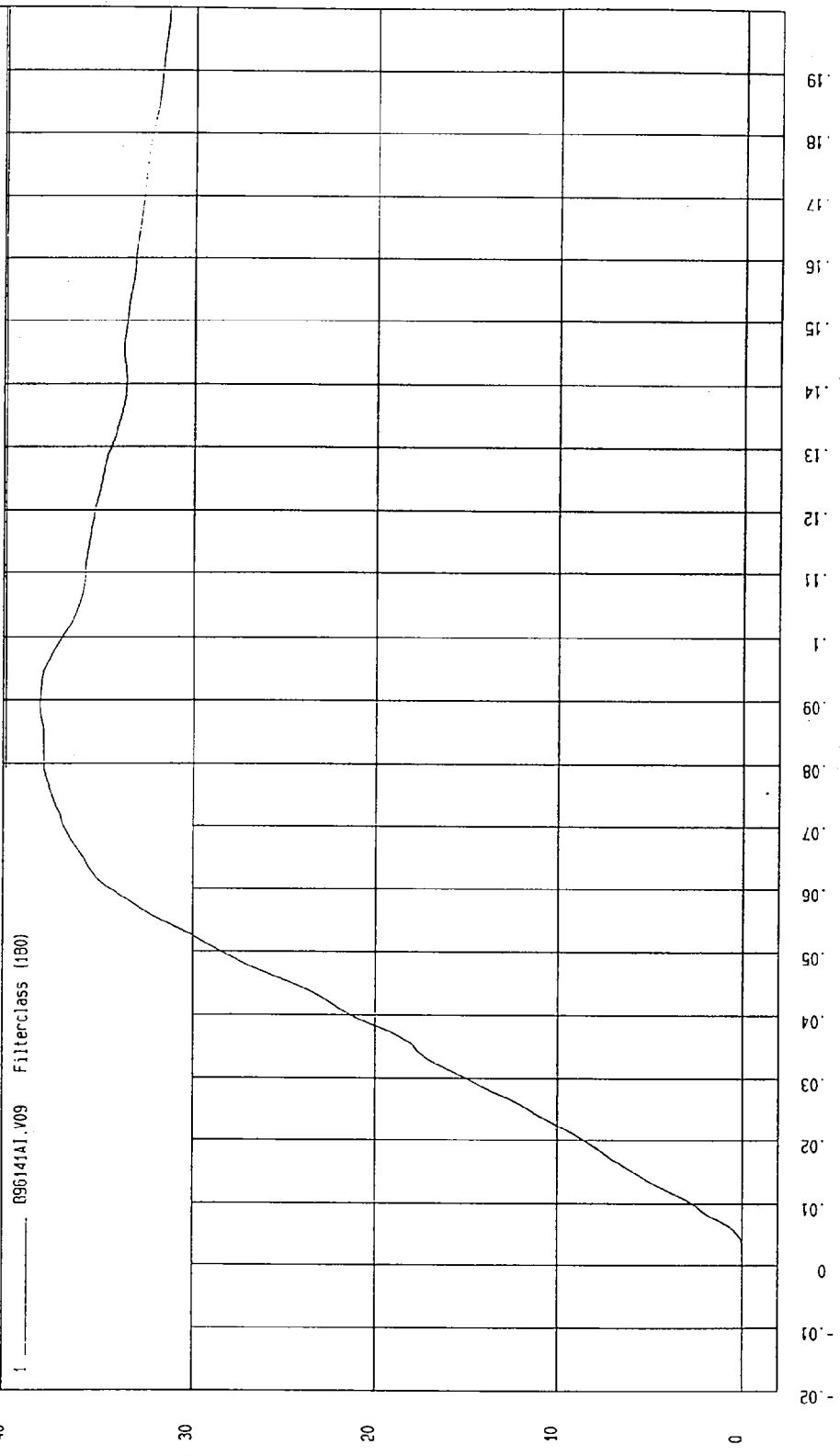
TIME Seconds

NGA Research
01-03-1997 15:25

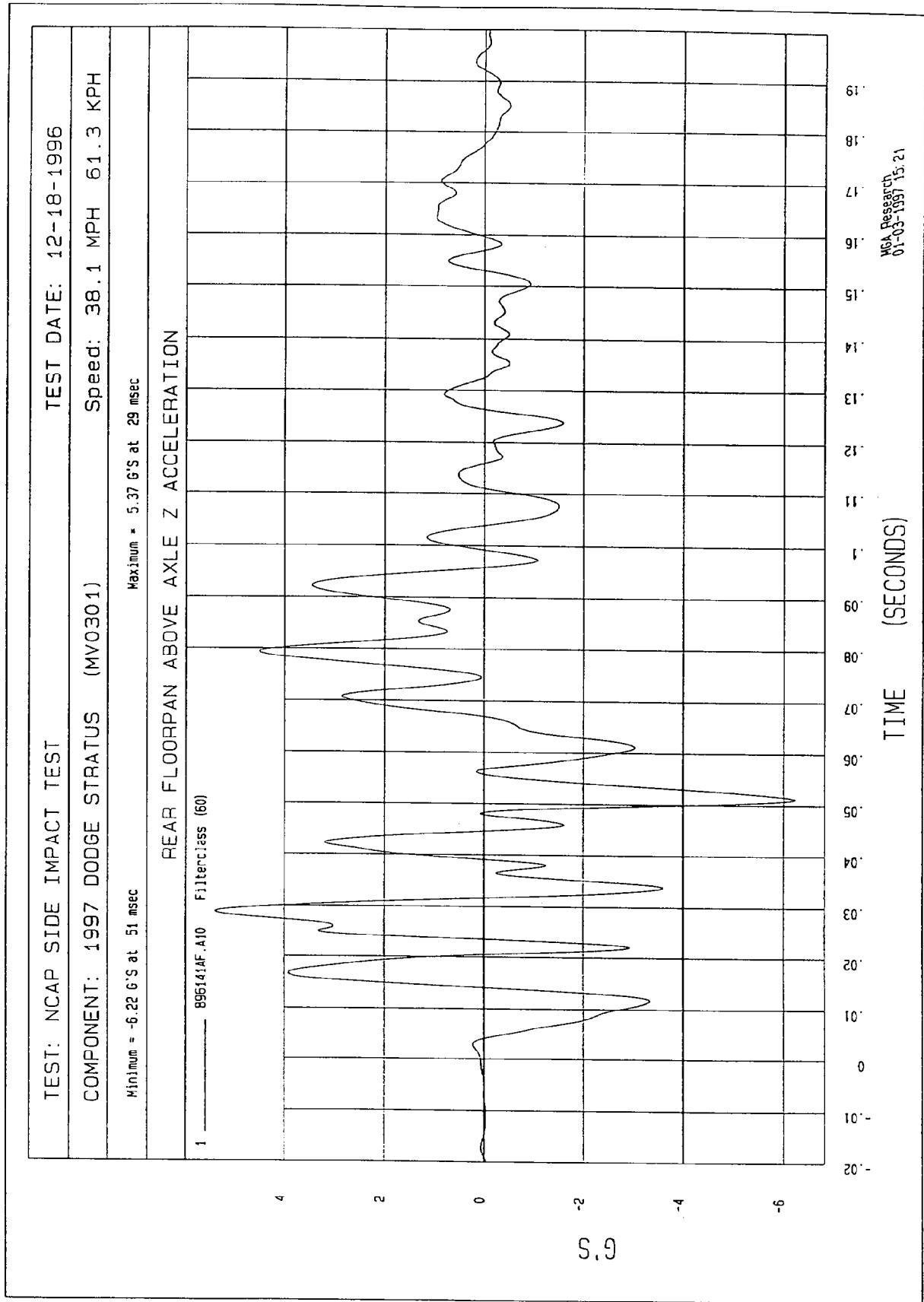


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -1.00E-03 KPH at -19 msec	Maximum = 38.22 KPH at 89 msec

REAR FLOORPAN ABOVE AXLE Y VELOCITY



WGA Research
01-03-1997 15:25

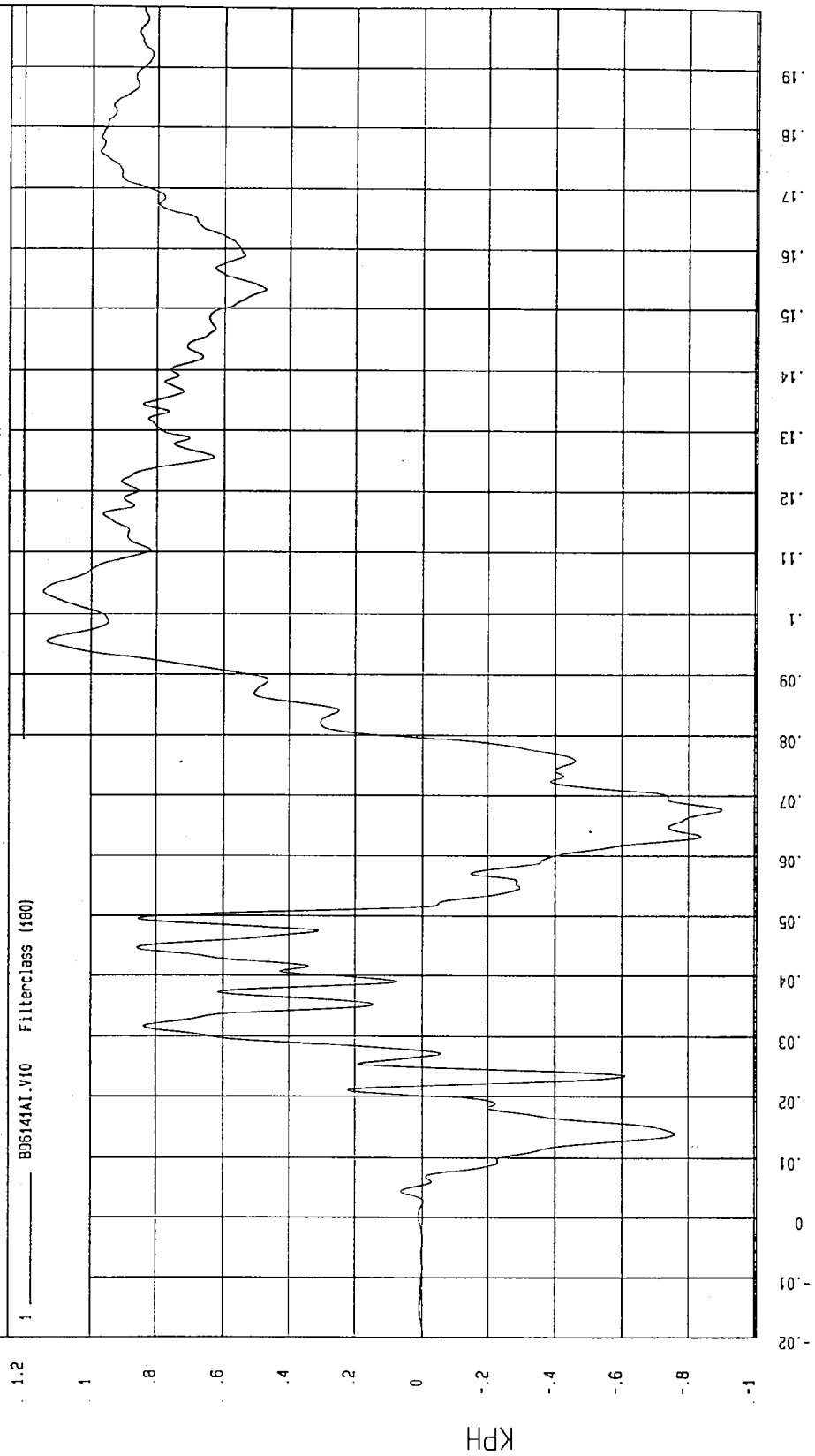


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

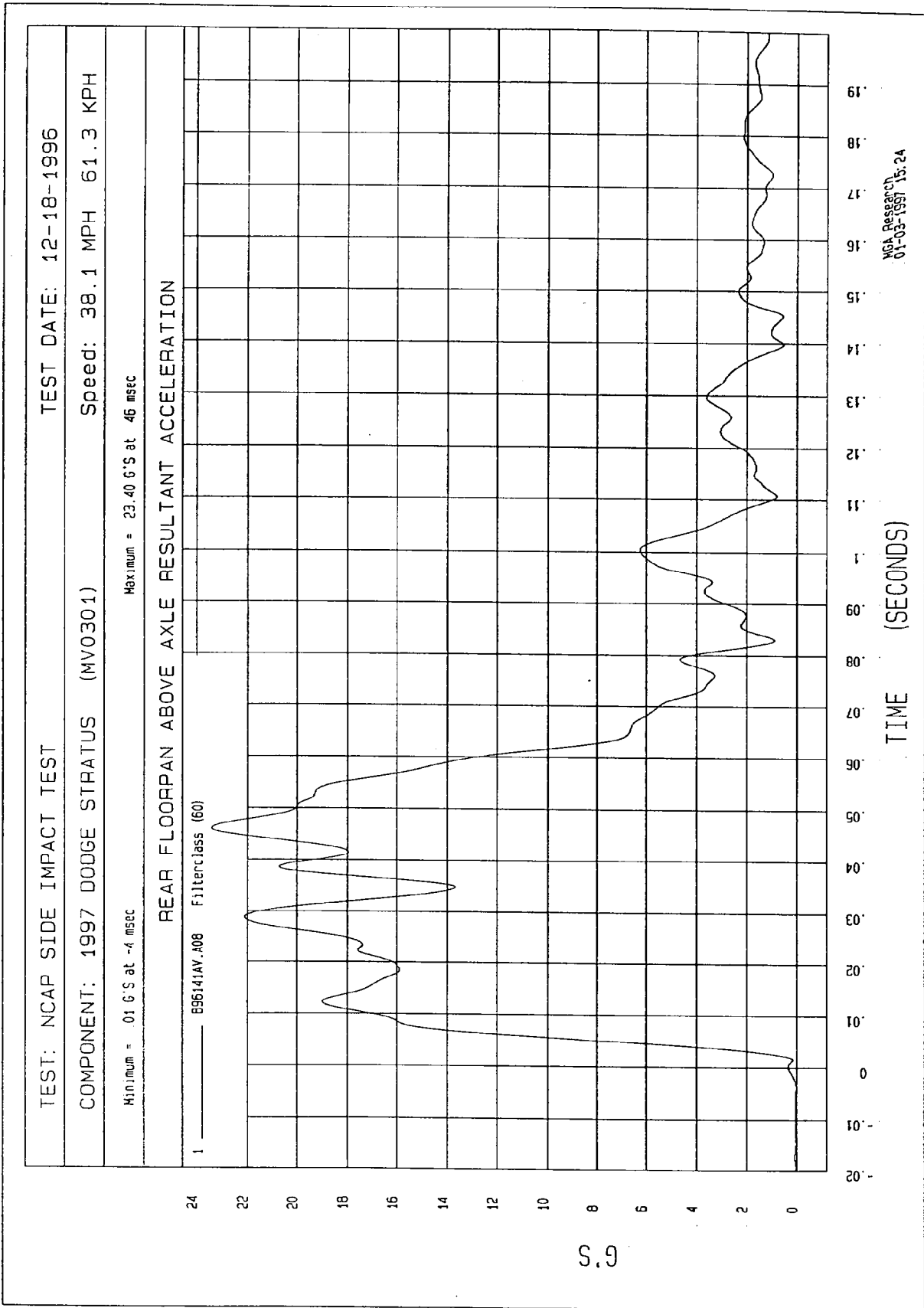
Minimum = - 90 KPH at 68 msec Maximum = 1.14 KPH at 104 msec

REAR FLOORPAN ABOVE AXLE Z VELOCITY

1 _____ B96141A1.V10 Filterclass (480)



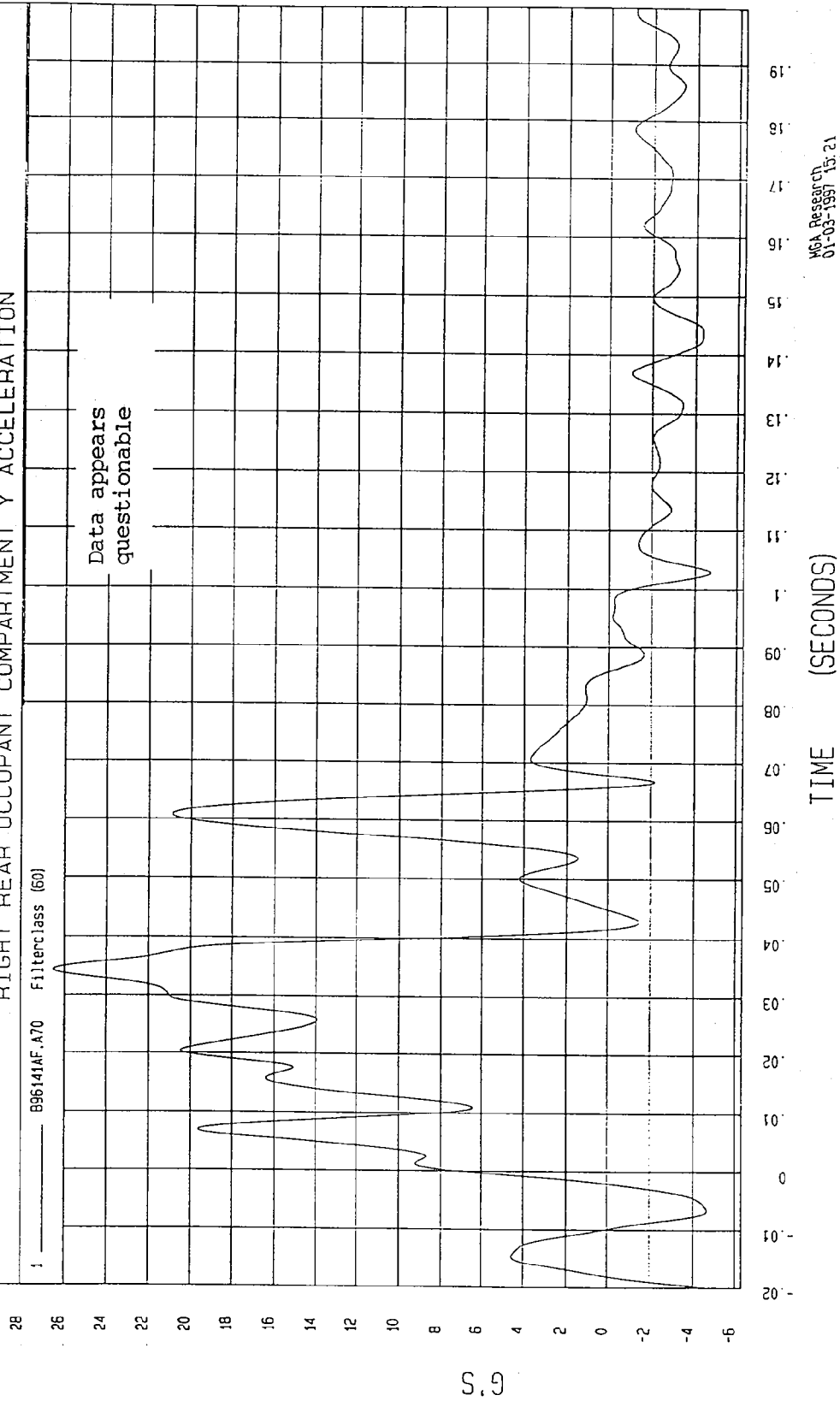
WCA Research
01-03-1997 15:25

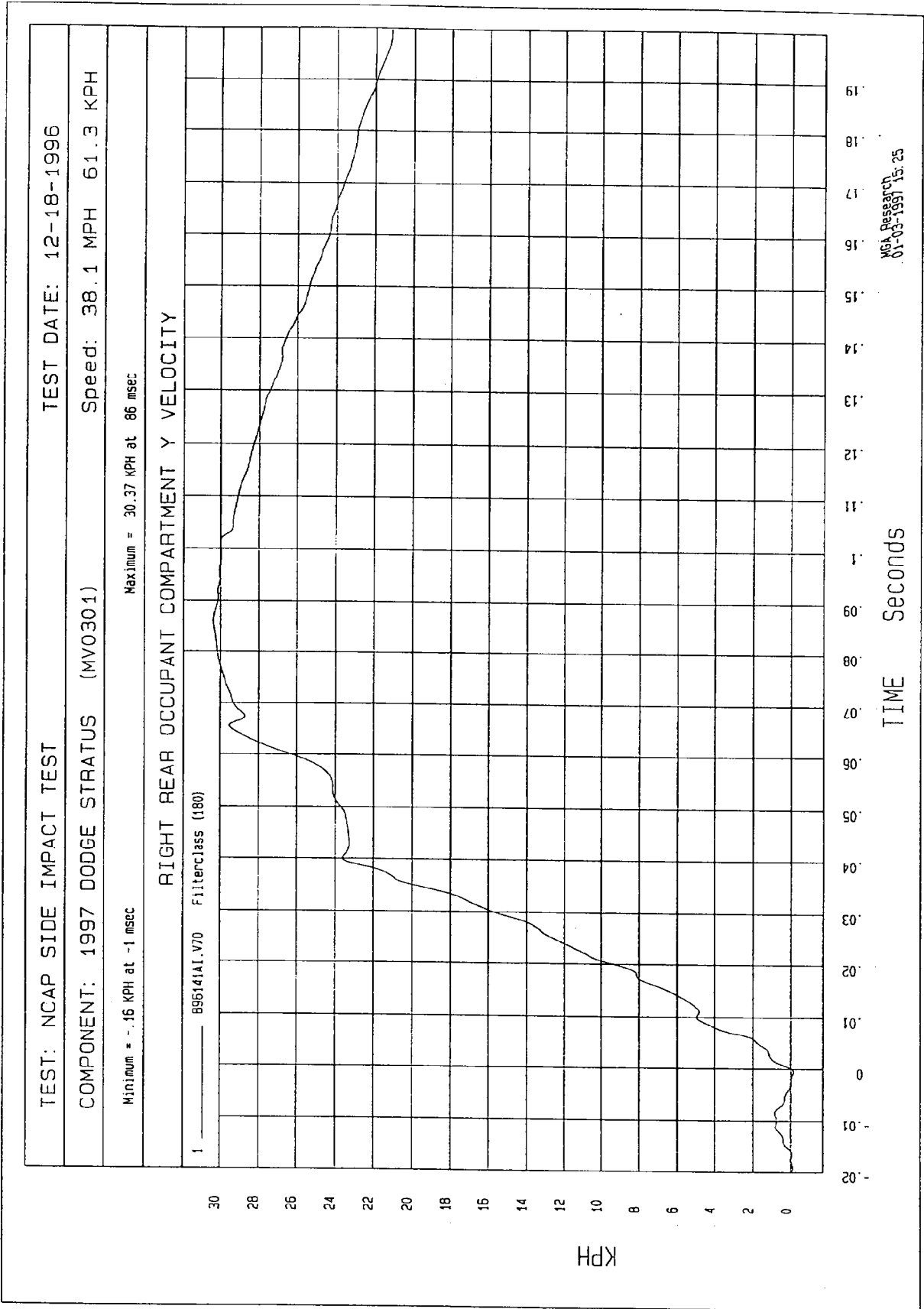


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum: 4.73 G'S at 103 msec Maximum: 26.52 G'S at 34 msec

RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION



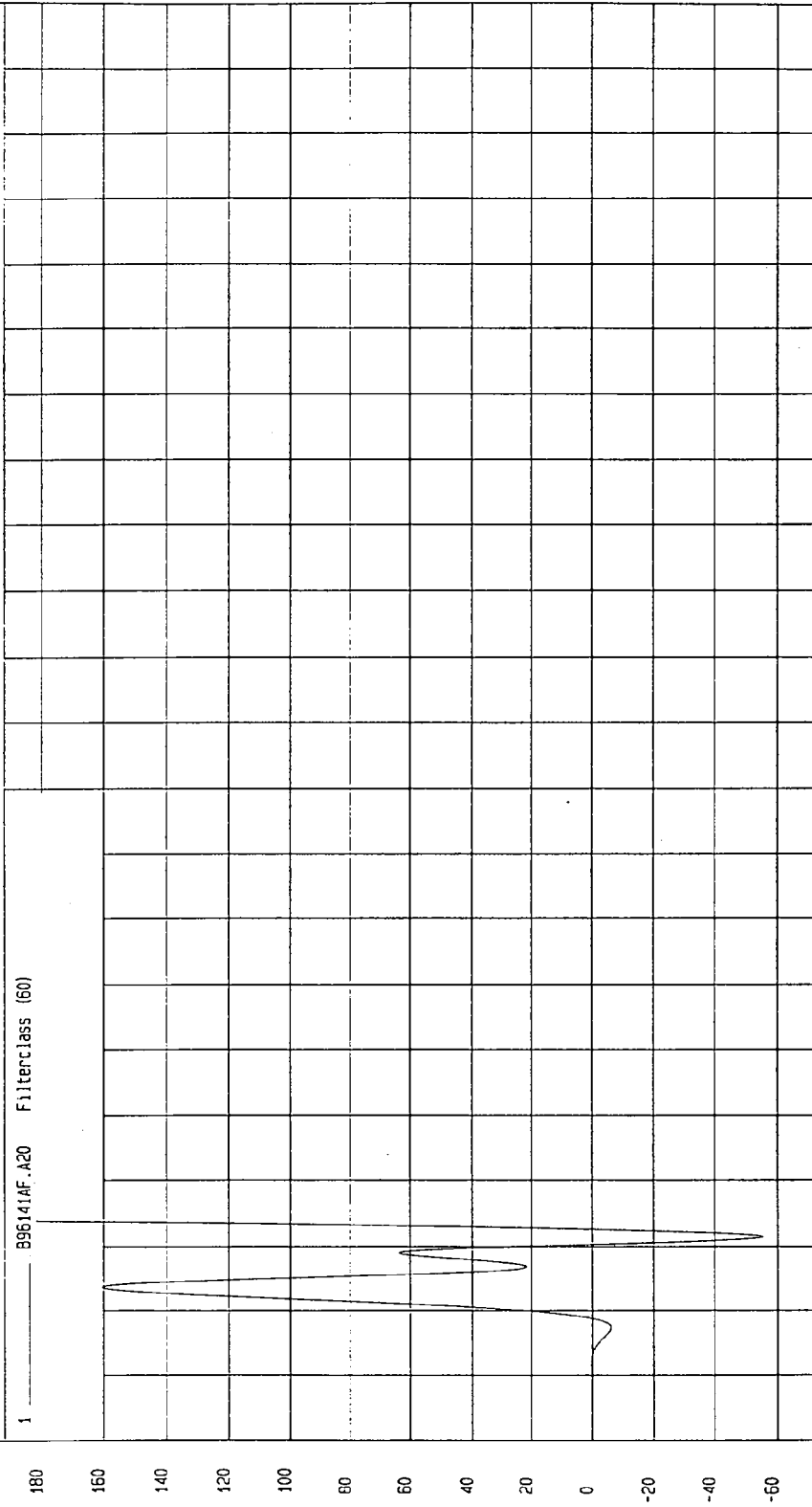


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -55.45 G'S at 12 msec Maximum = 1039.40 G'S at 19 msec

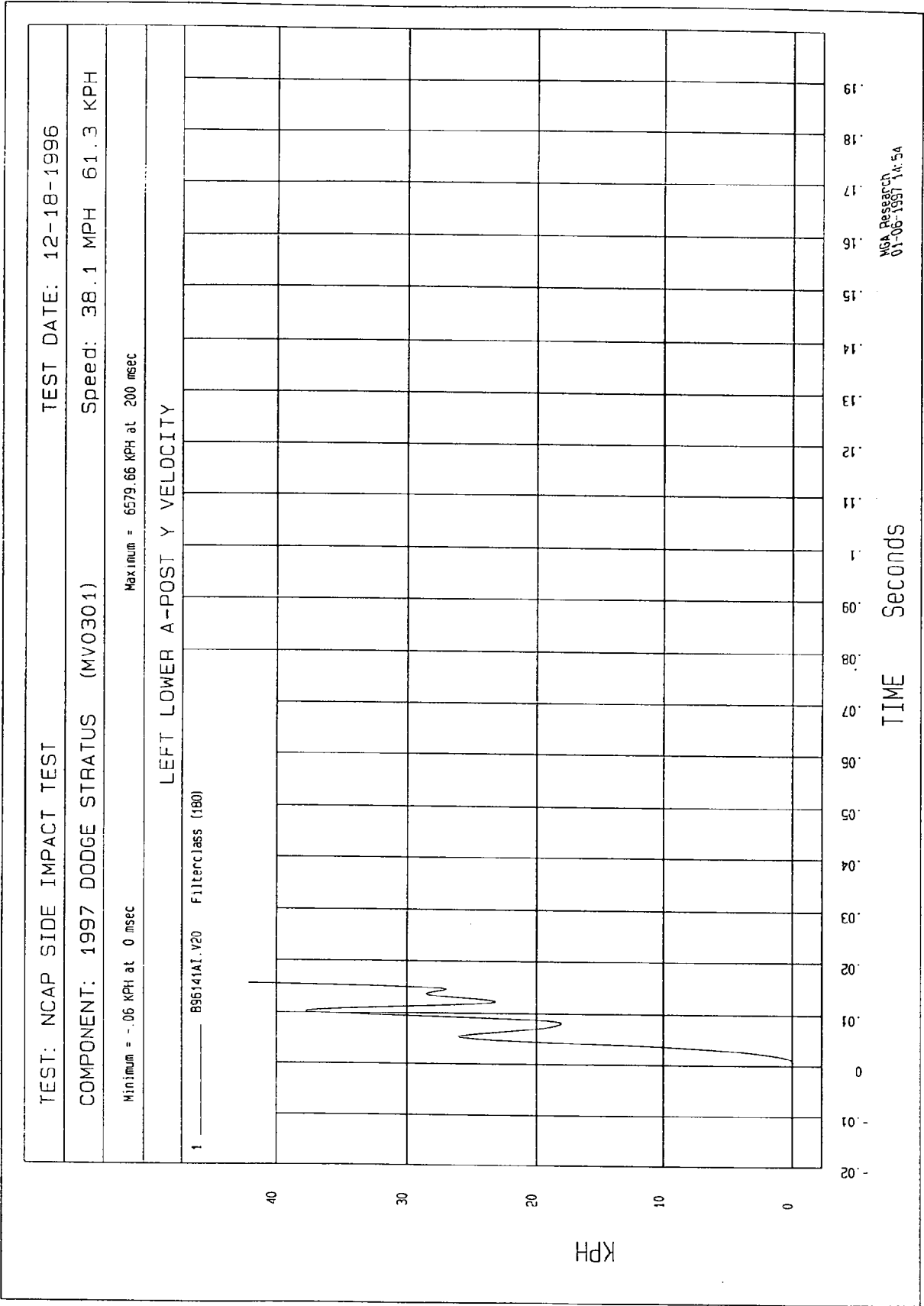
LEFT LOWER A-POST Y ACCELERATION



NGA Research
01-06-1997 14:54

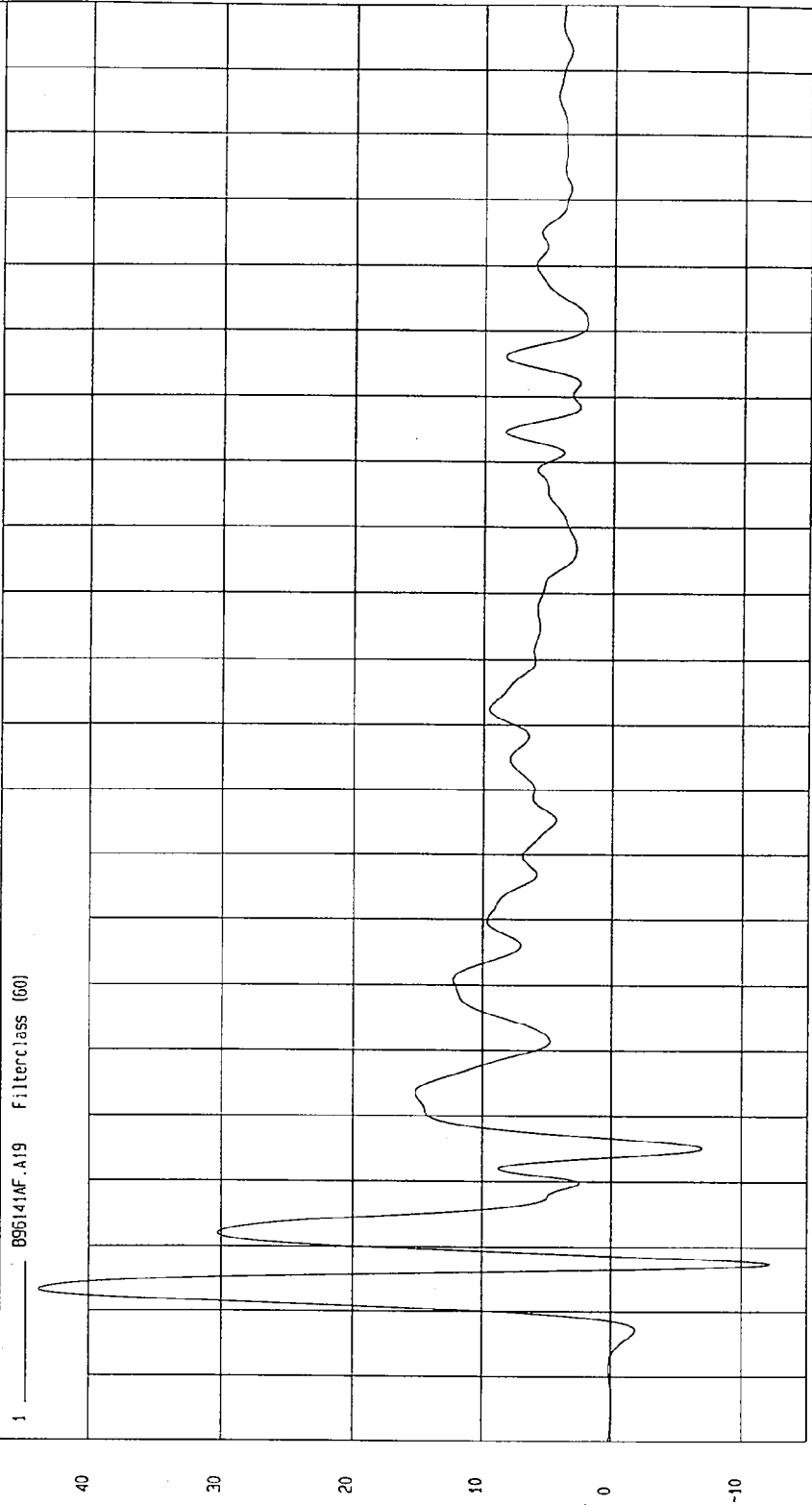
TIME (SECONDS)

G



TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -12.16 G'S at 7 msec	Maximum = 43.80 G'S at 3 msec

LEFT MID A-POST Y ACCELERATION



TIME (SECONDS)

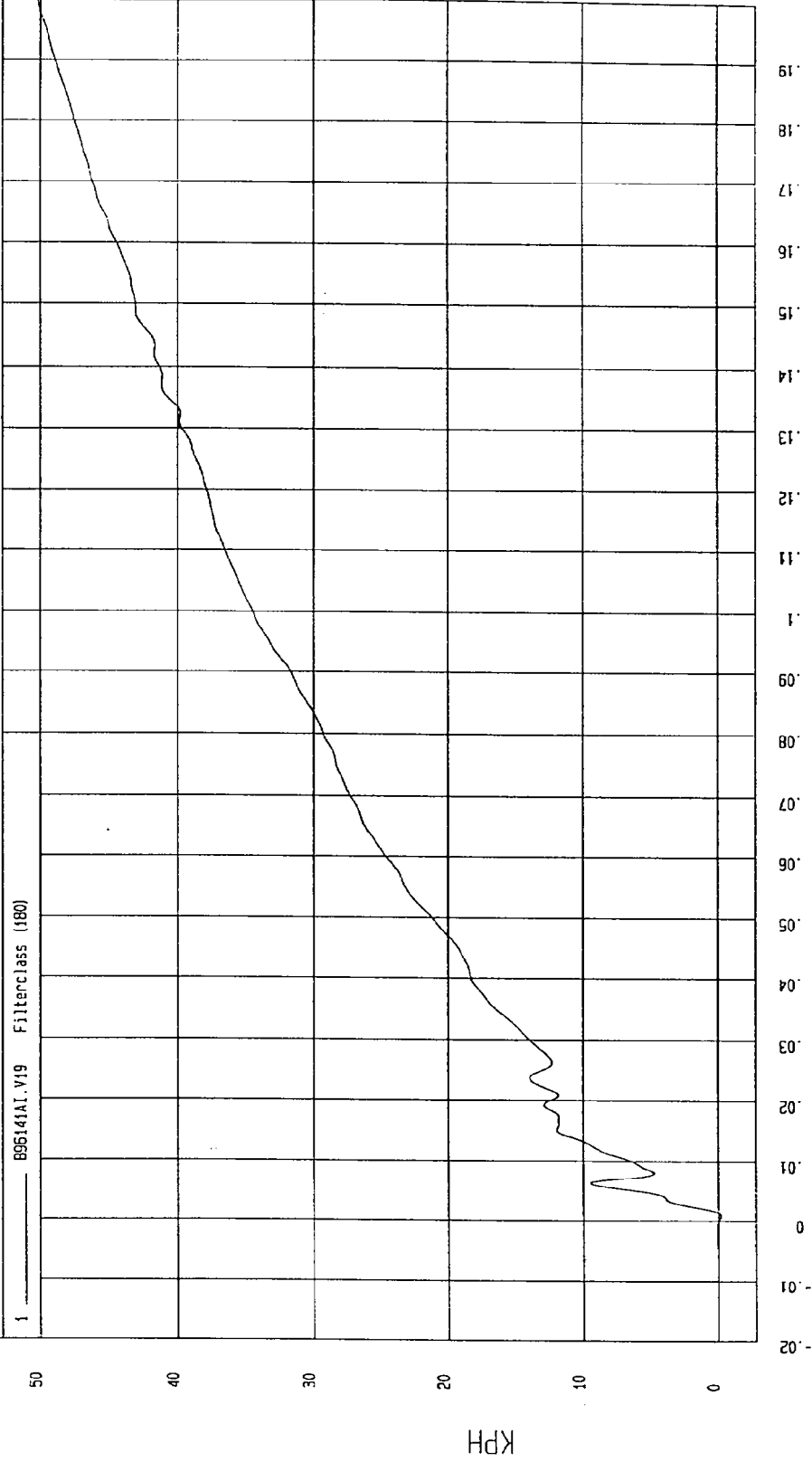
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
-0.01
-0.02

NCAP Research
01-03-1997 15:21

G.S

TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -23 KPH at 1 msec	Maximum = 50.24 KPH at 200 msec

LEFT MID A-POST Y VELOCITY

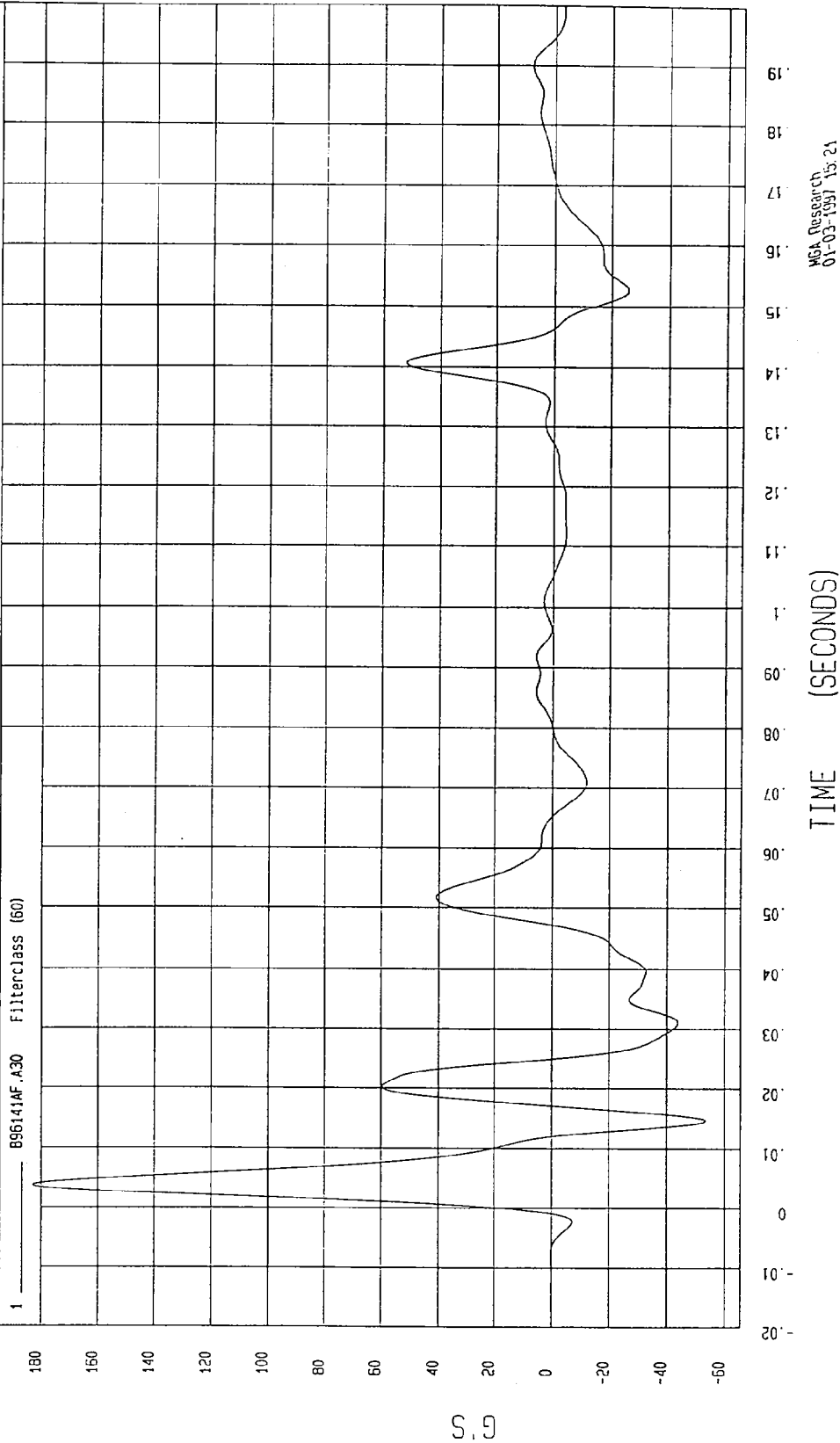


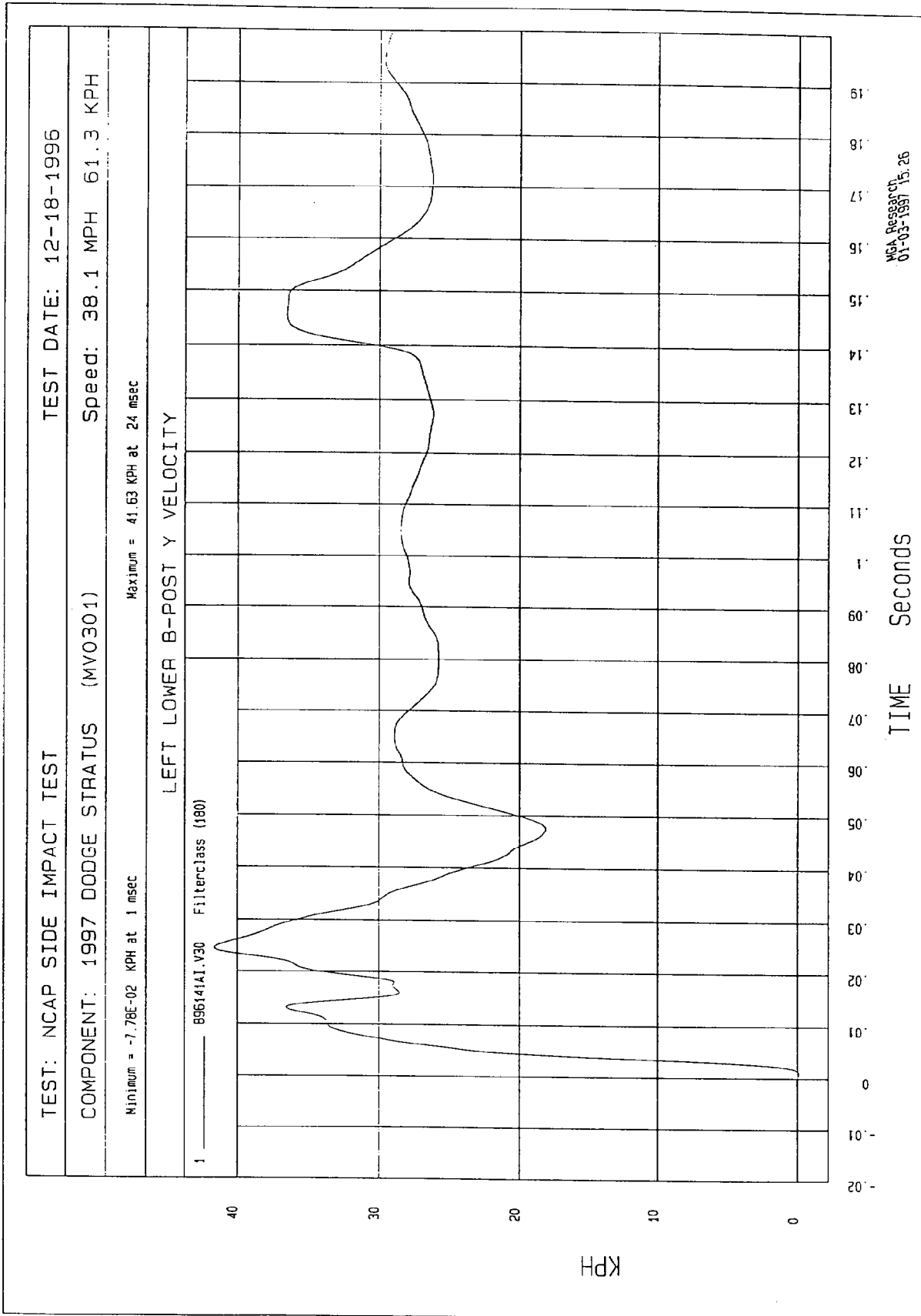
NSA Research
01-03-1997 15:26

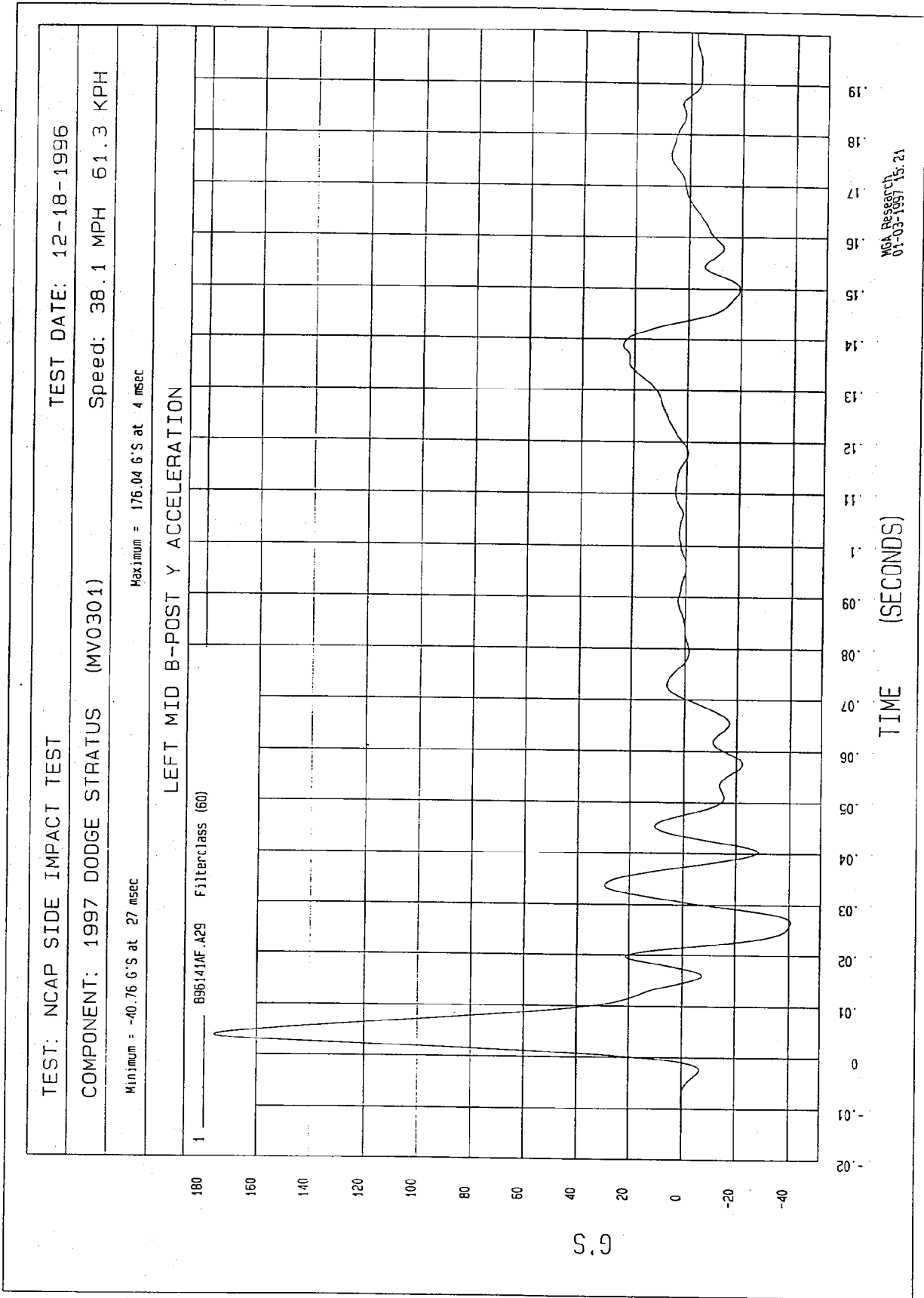
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

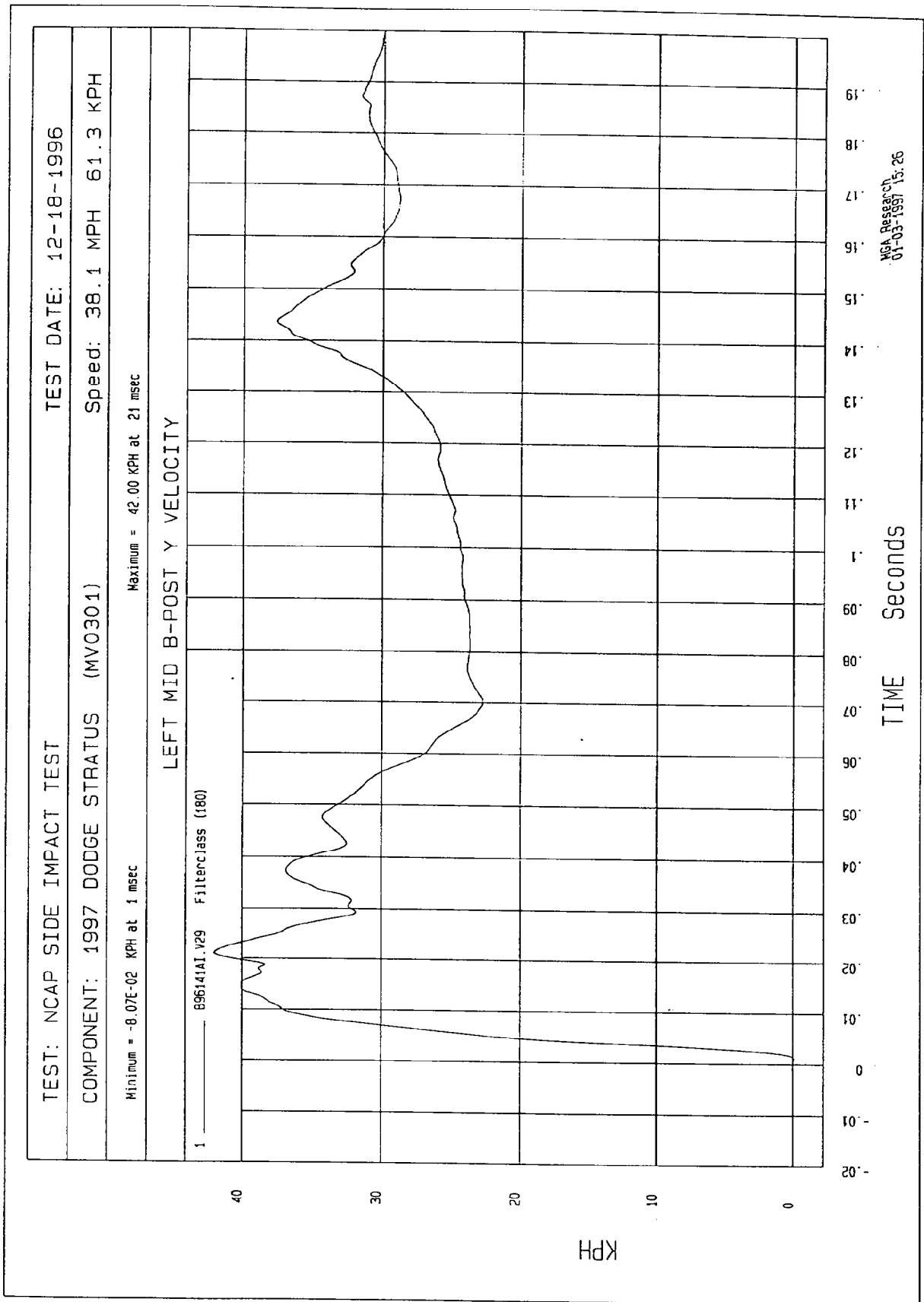
Minimum = -53.51 G'S at 15 msec Maximum = 183.03 G'S at 4 msec

LEFT LOWER B-POST Y ACCELERATION







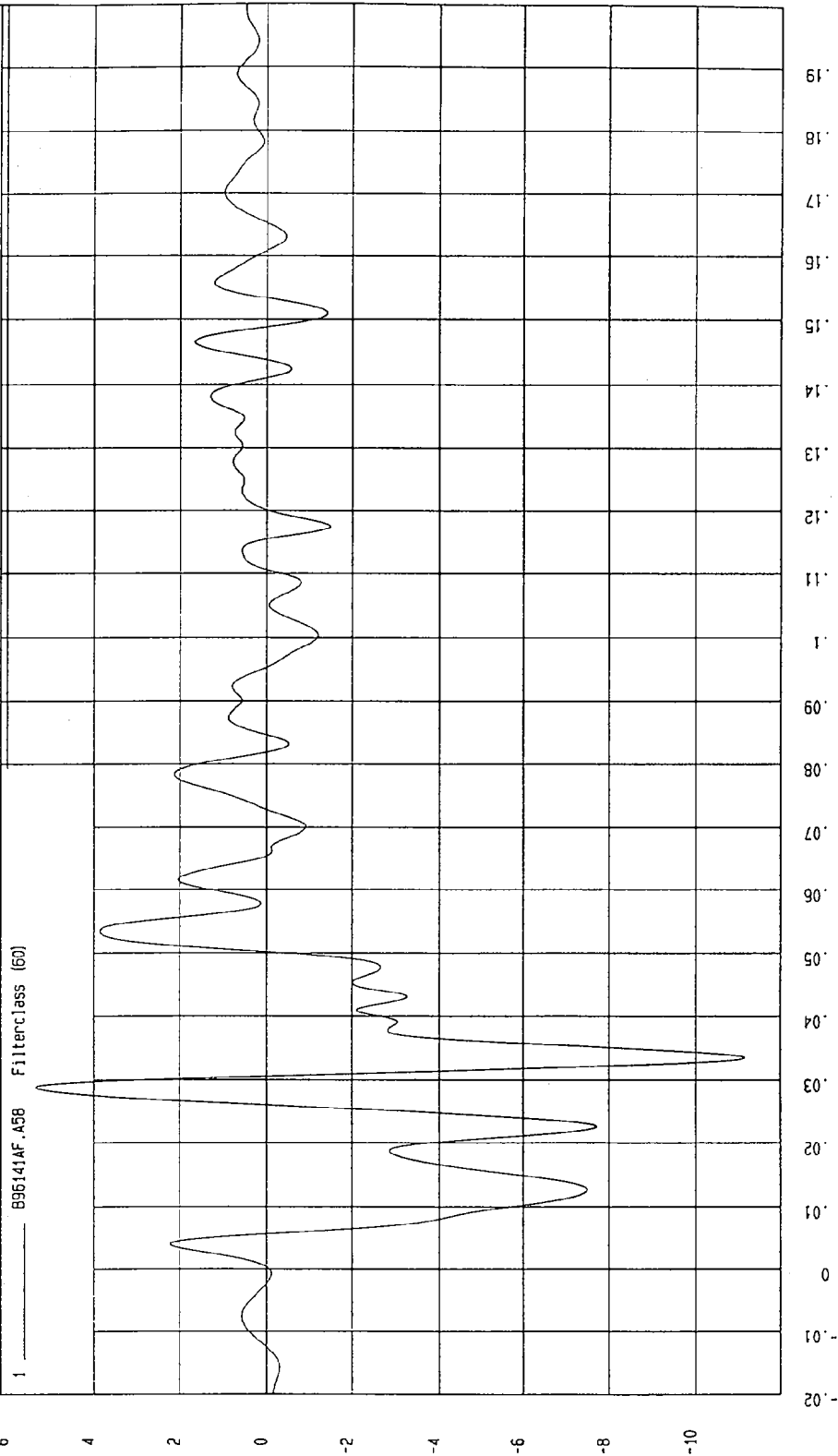


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

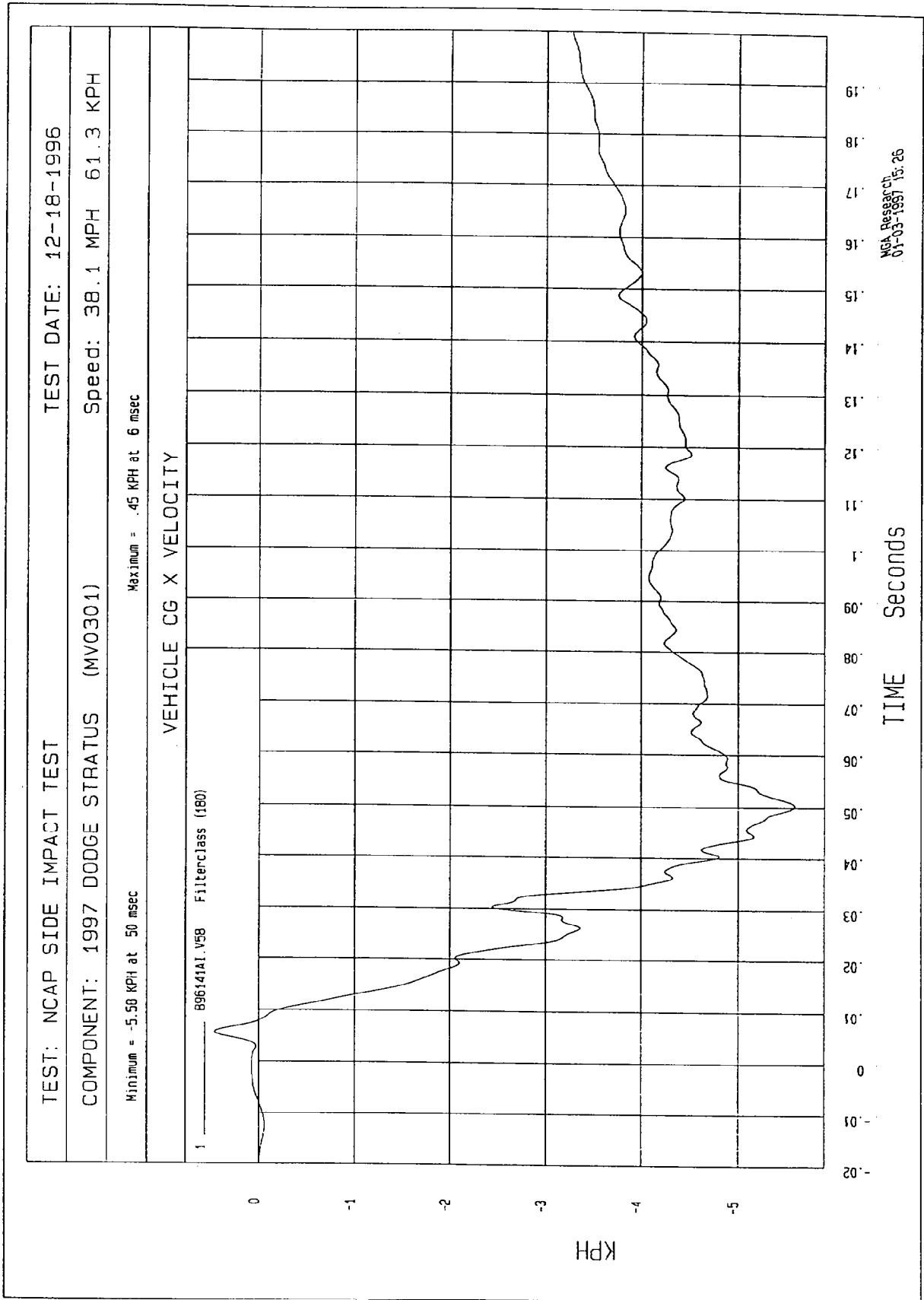
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -11.13 G'S at 34 msec Maximum = 5.33 G'S at 29 msec

VEHICLE CG X ACCELERATION

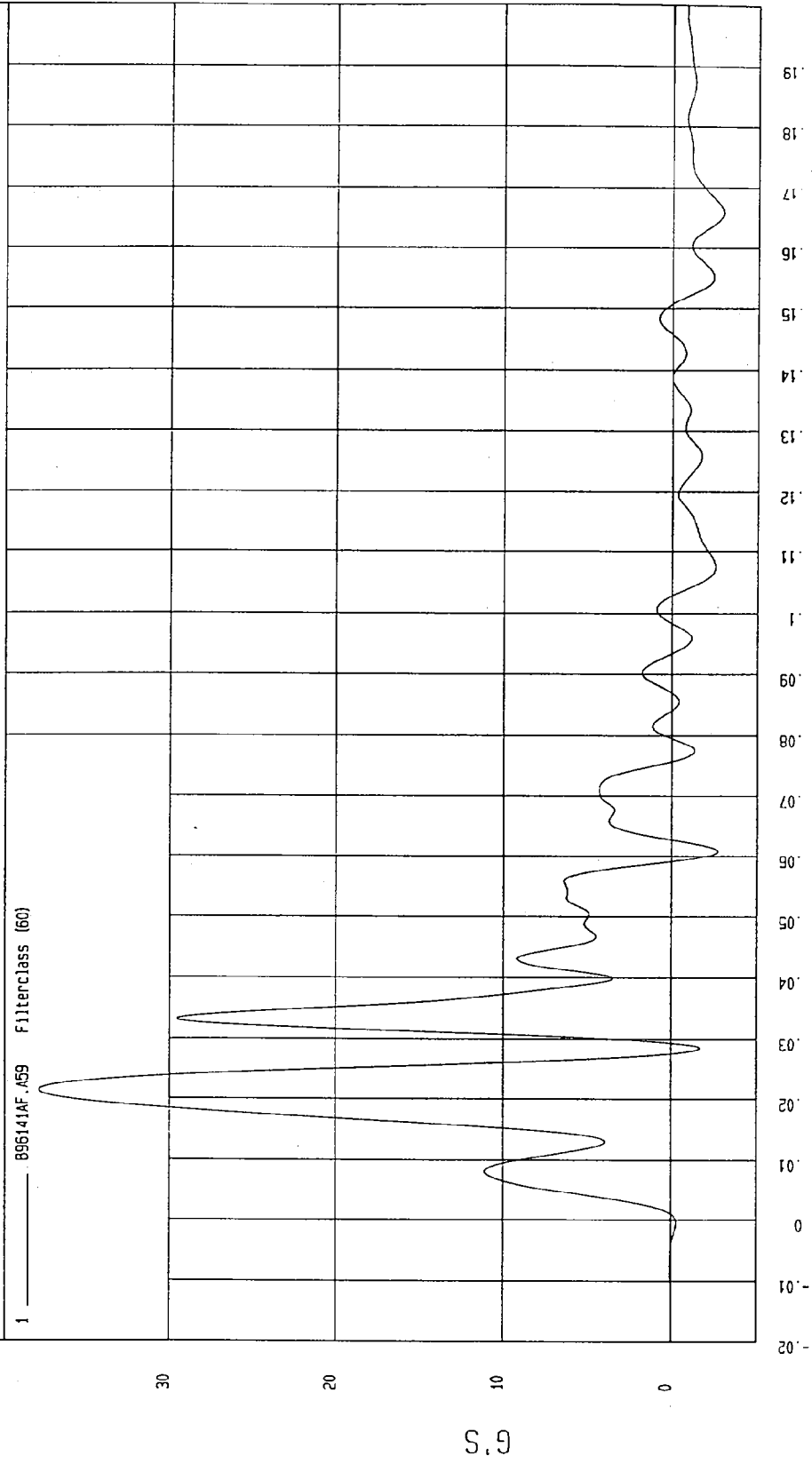


NCA Research
01-03-1997 13:22

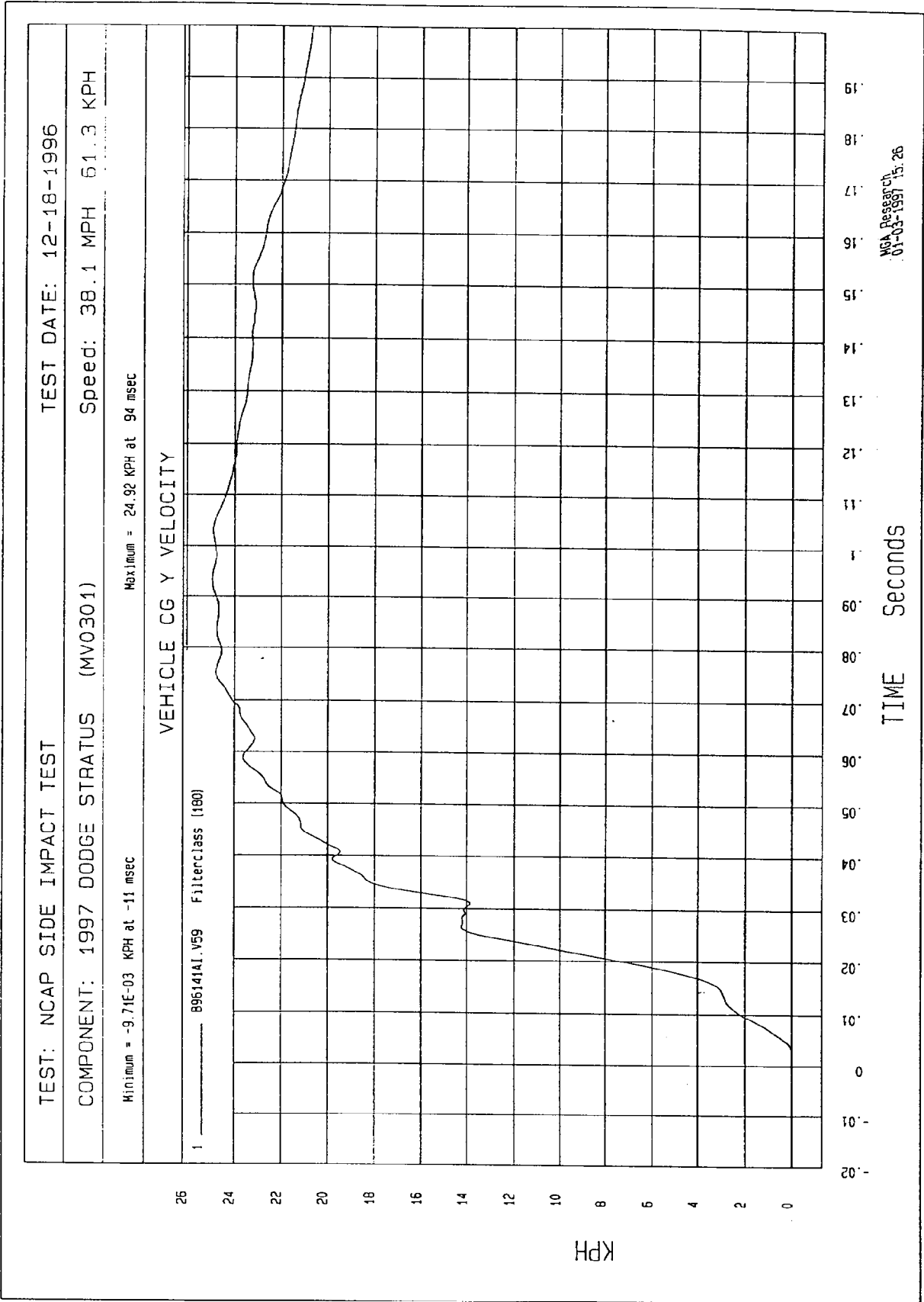


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -3.07 G'S at 166 msec	Maximum = 37.66 G'S at 21 msec

VEHICLE CG Y ACCELERATION



NSA Research
01-03-1997 15:22

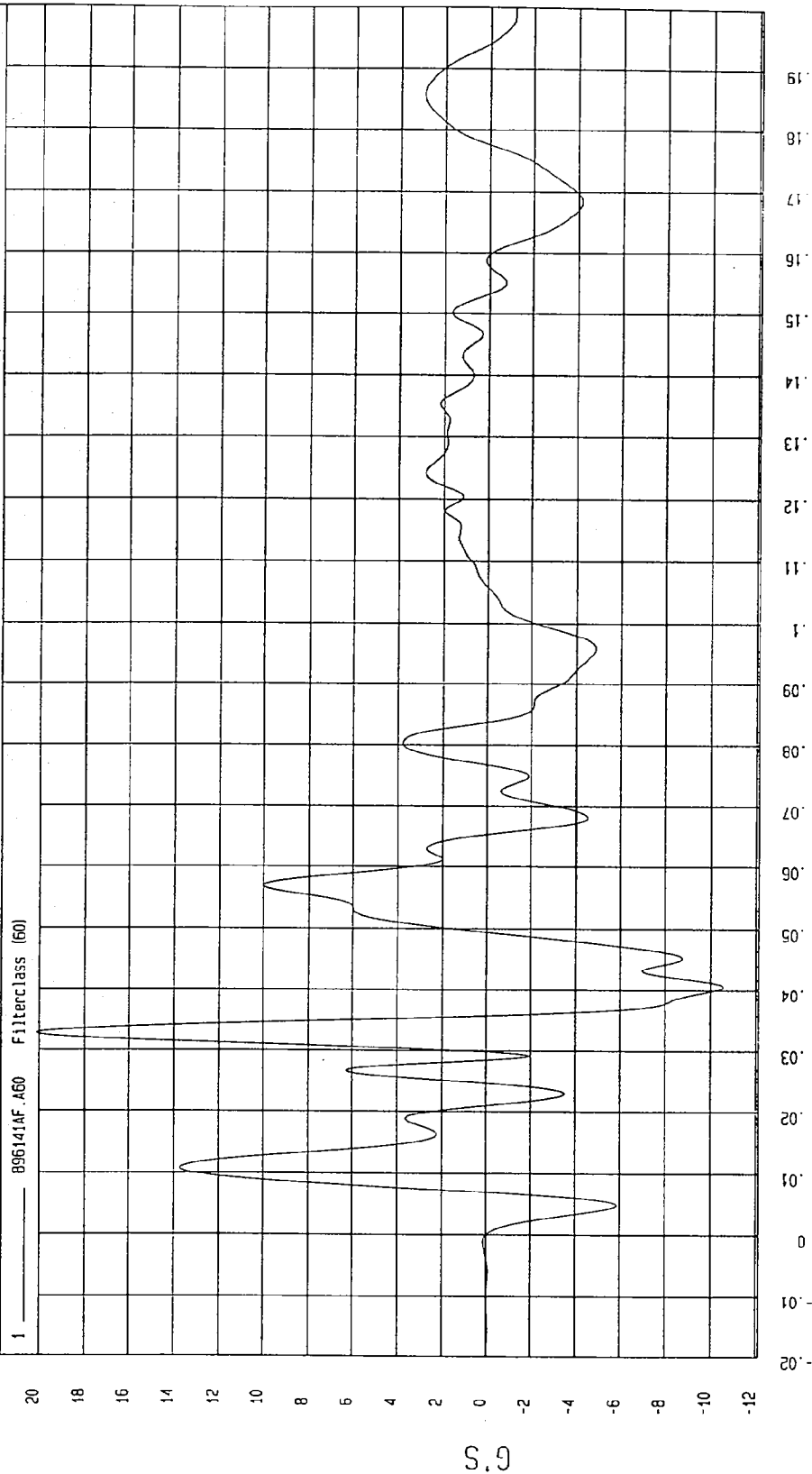


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -10.56 G'S at 40 msec Maximum = 20.13 G'S at 33 msec

VEHICLE CG Z ACCELERATION



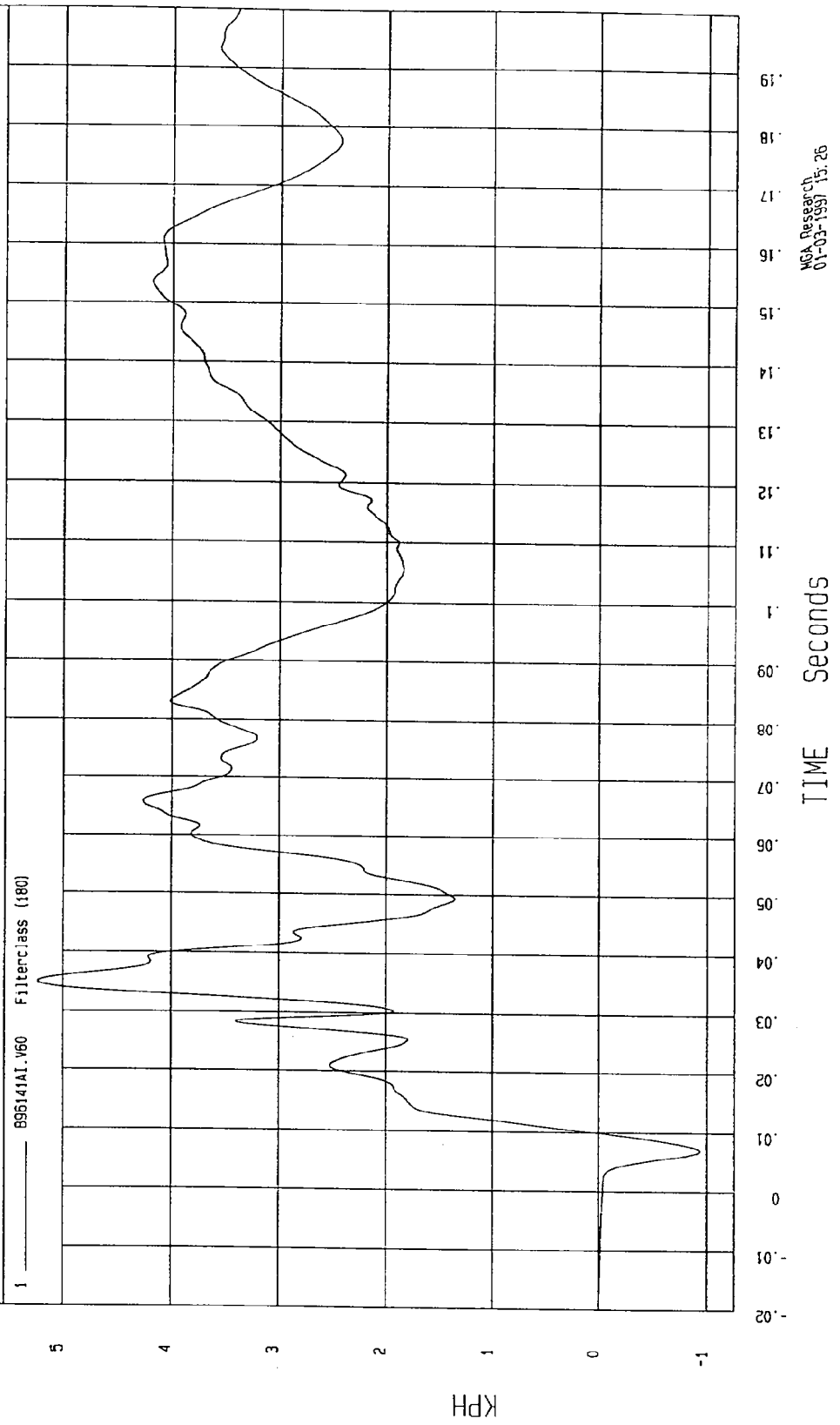
MCA Research
01-03-1997 15:22

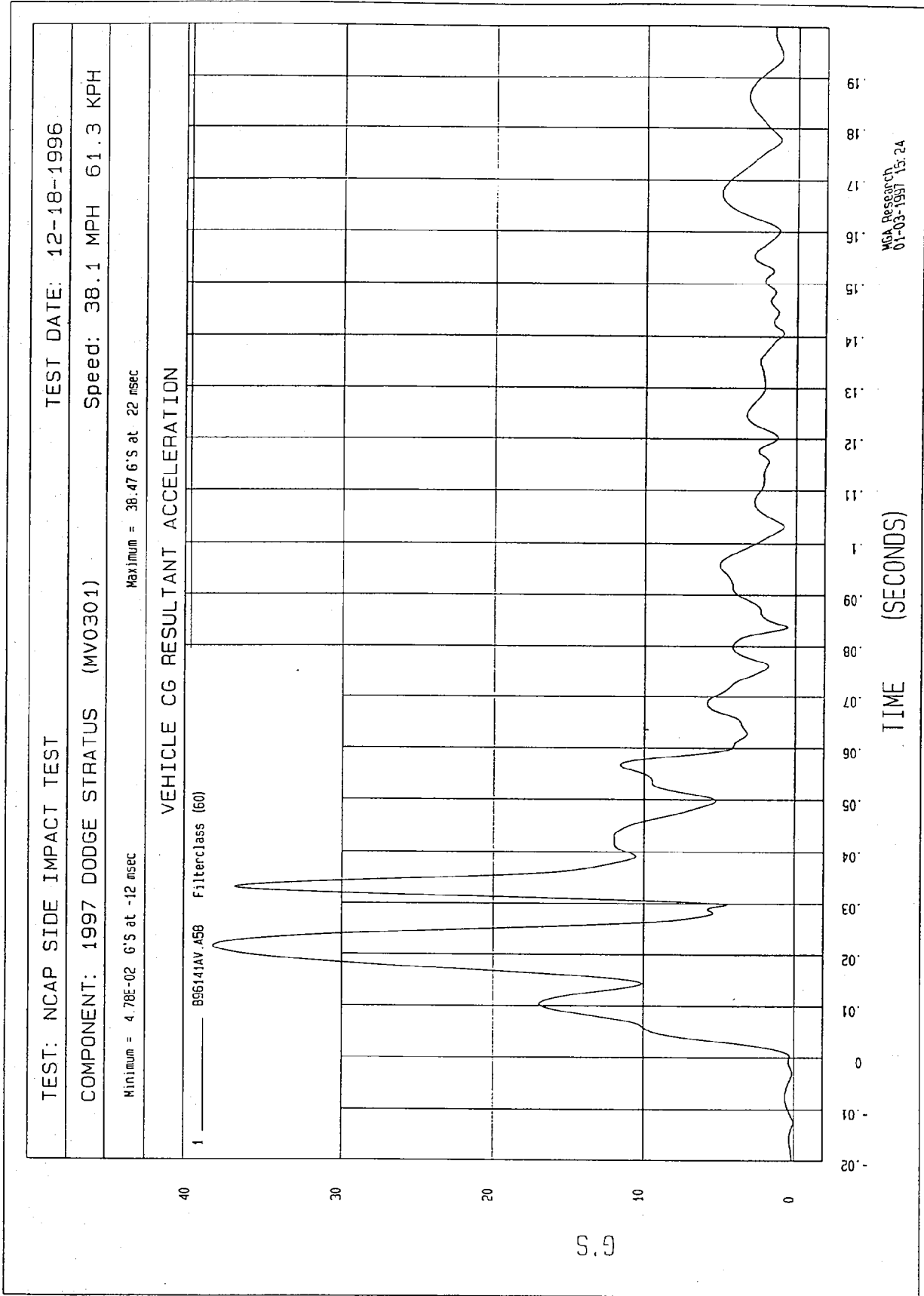
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

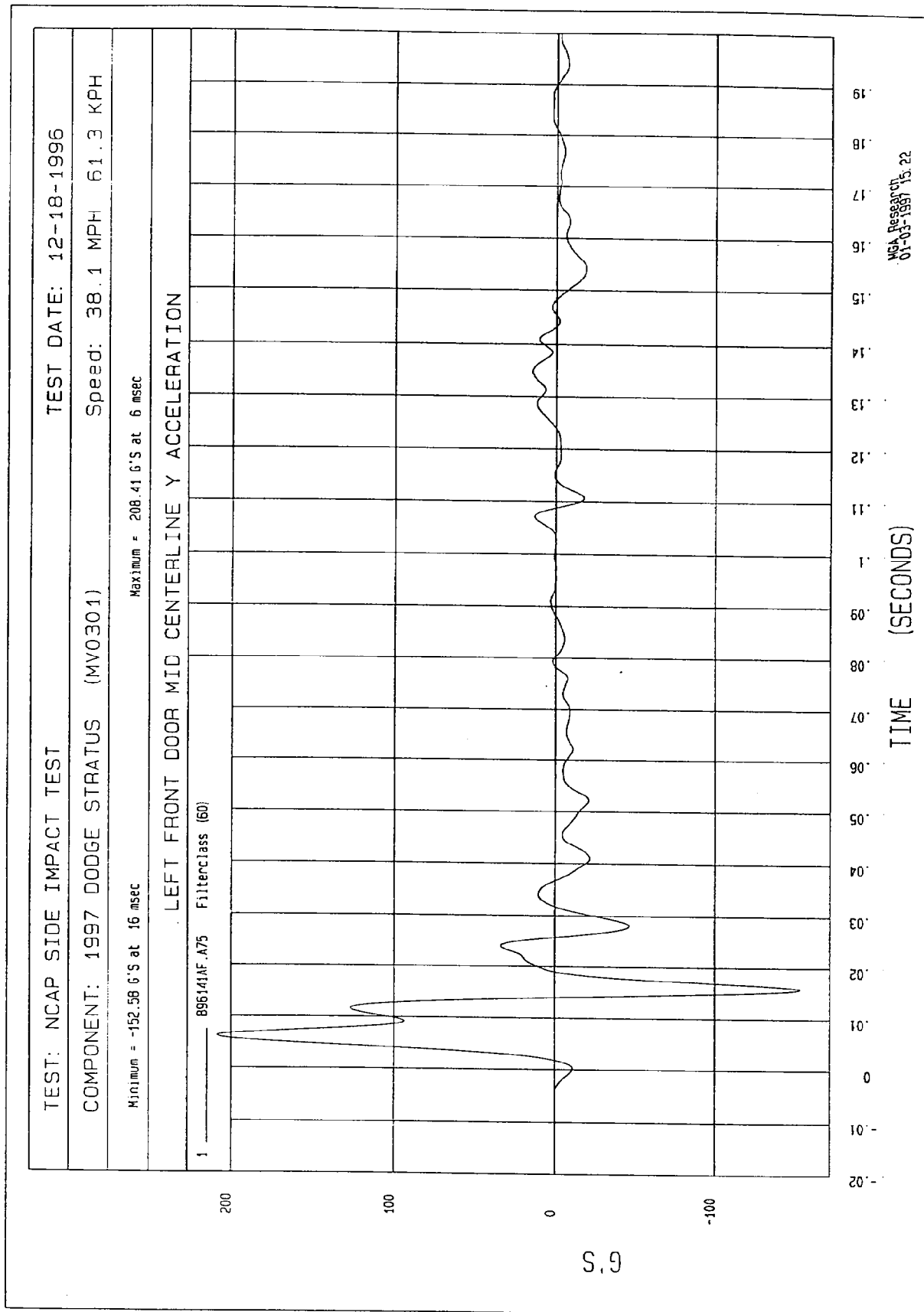
Minimum = -.93 KPH at 7 msec Maximum = 5.23 KPH at 35 msec

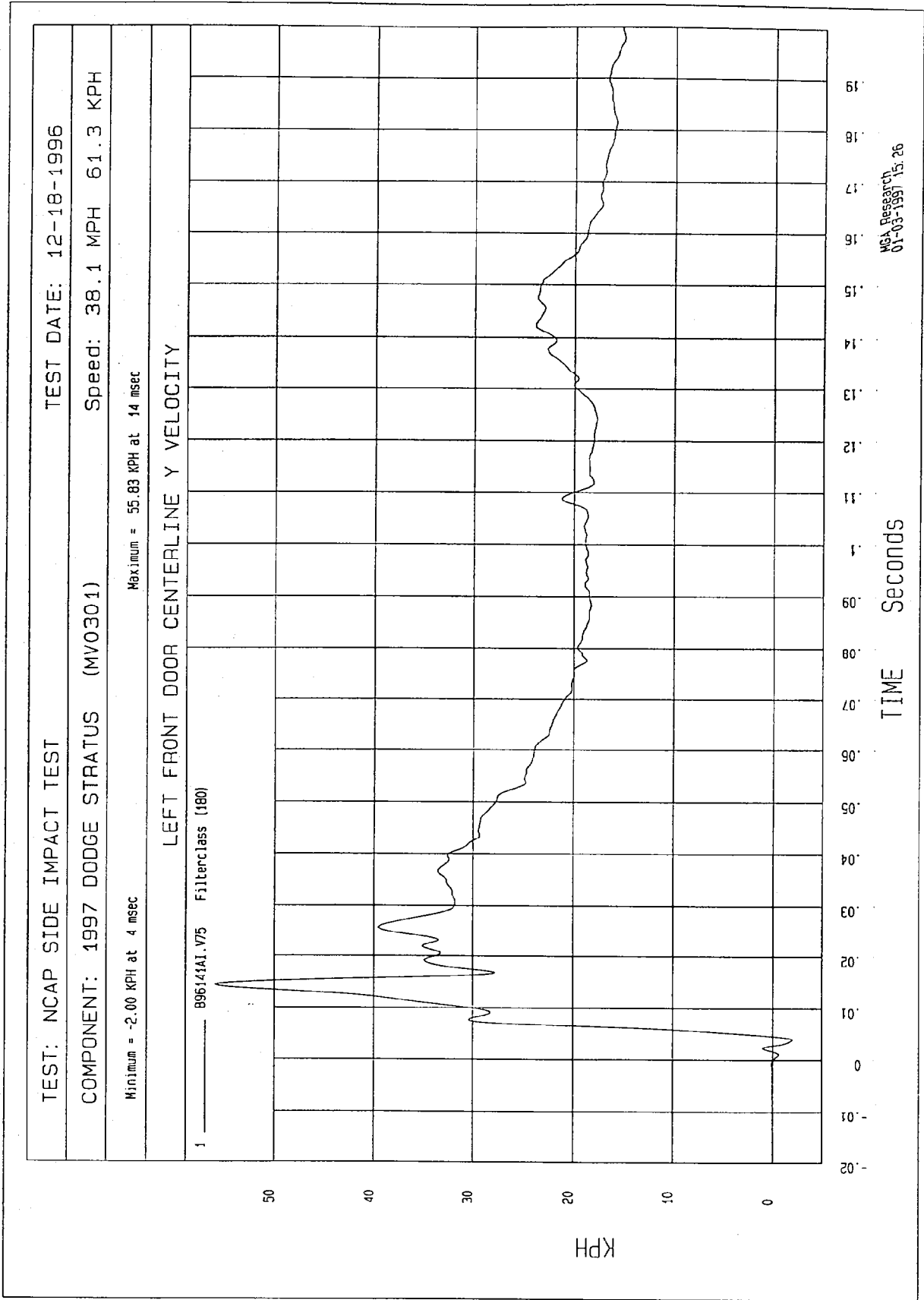
VEHICLE CG Z VELOCITY





MGA Research
01-03-1997 13:24



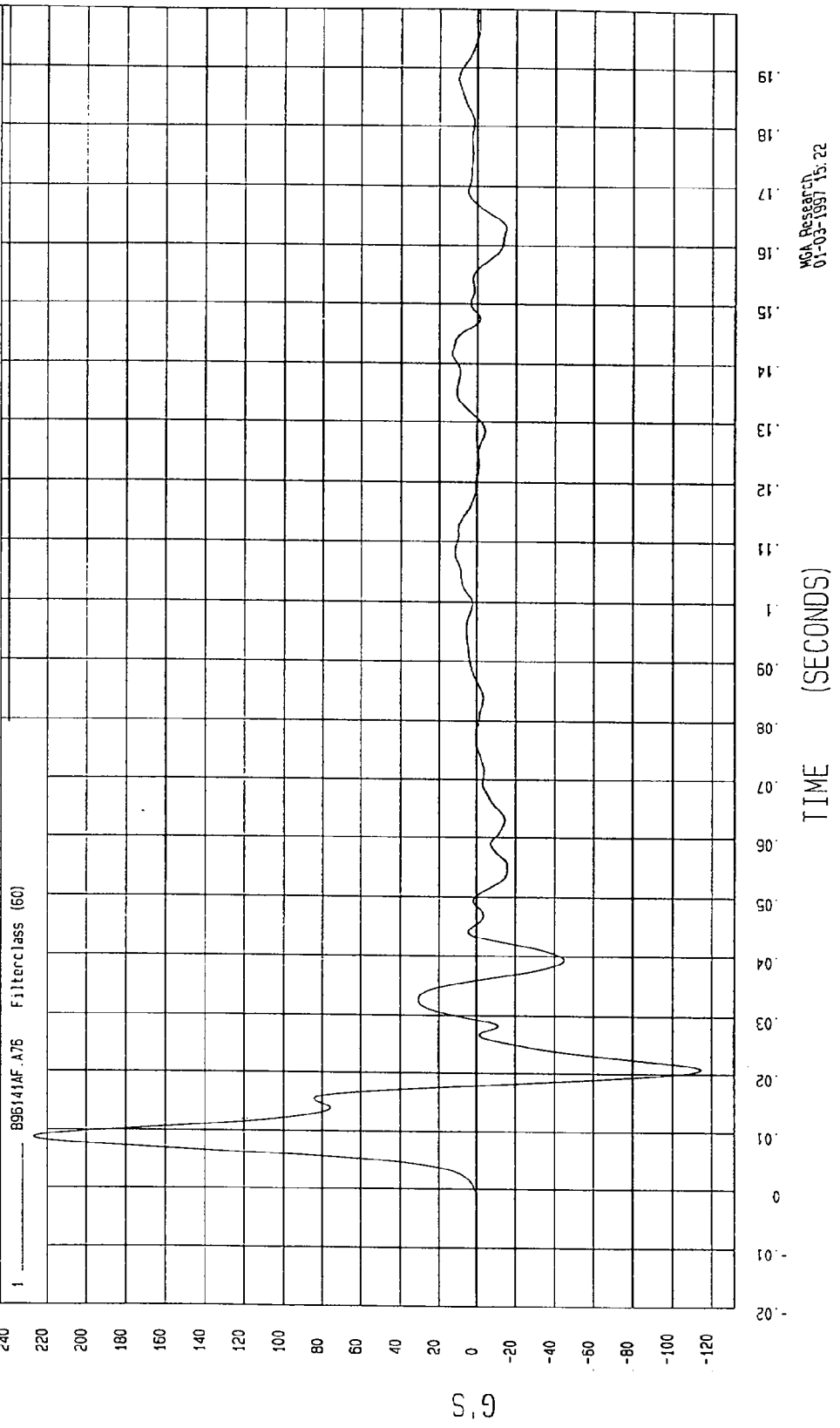


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

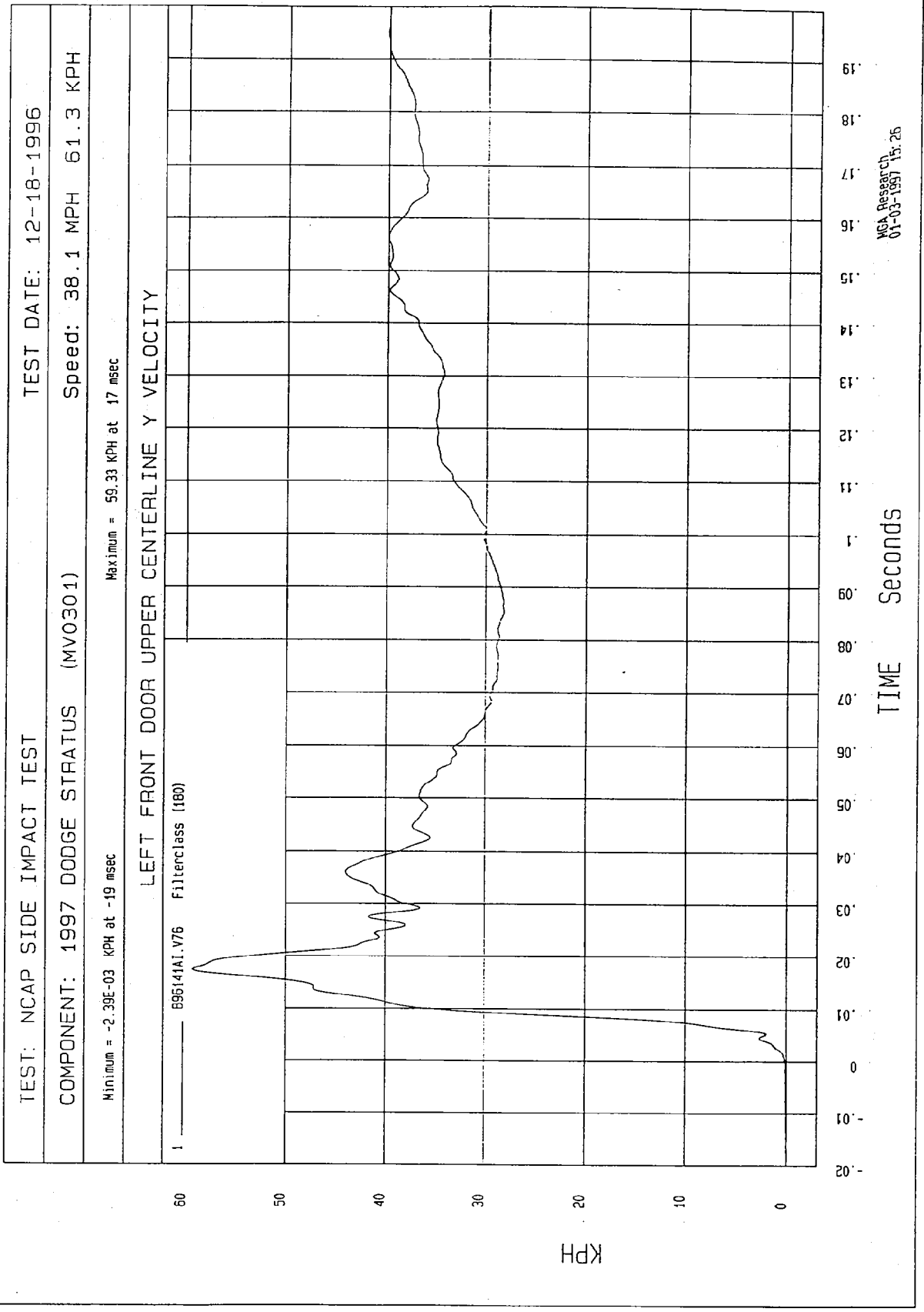
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -114.44 G'S at 21 msec Maximum = 227.05 G'S at 9 msec

LEFT FRONT DOOR UPPER CENTERLINE Y ACCELERATION



MCA Research
01-03-1997 15:22

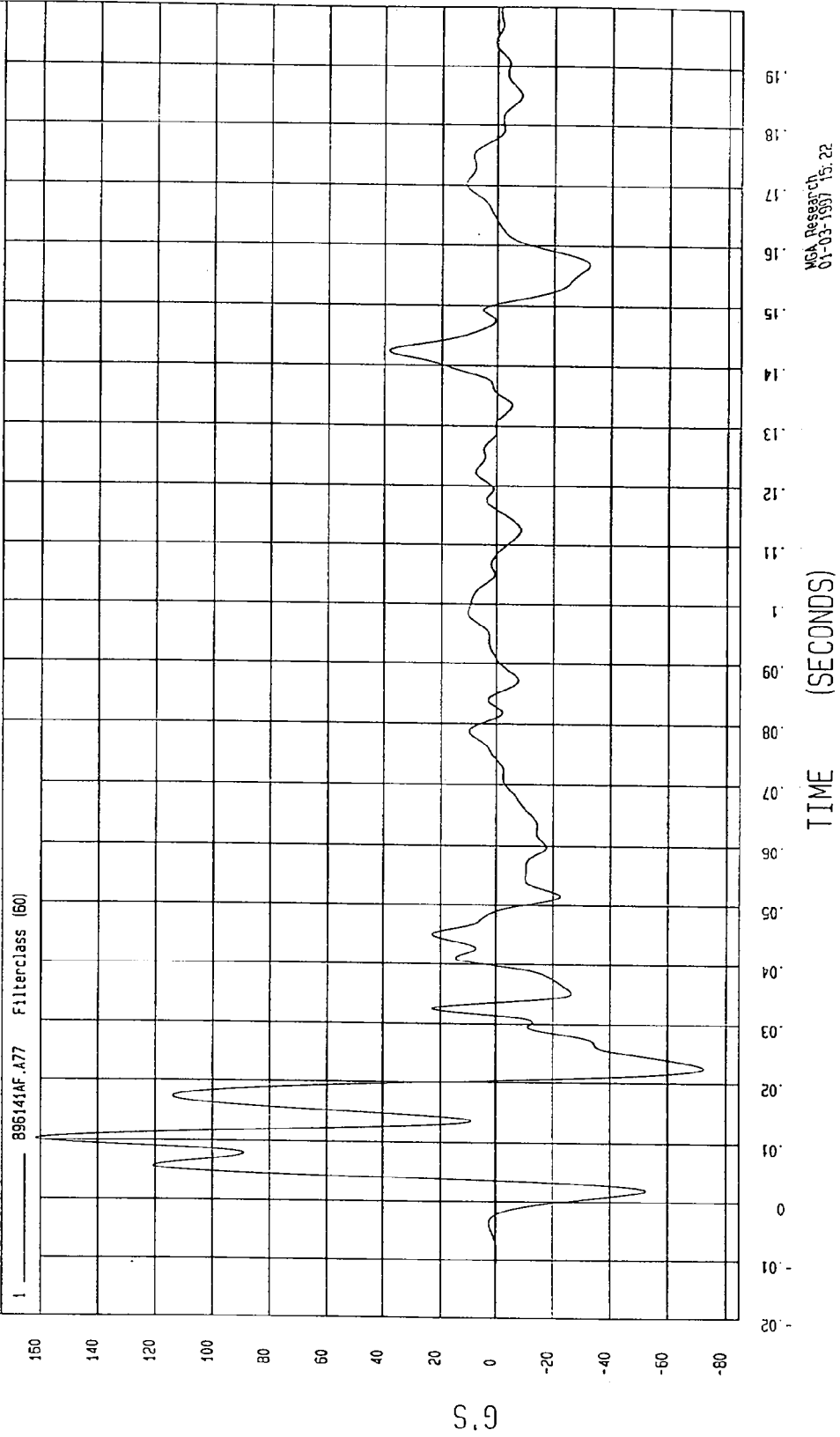


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

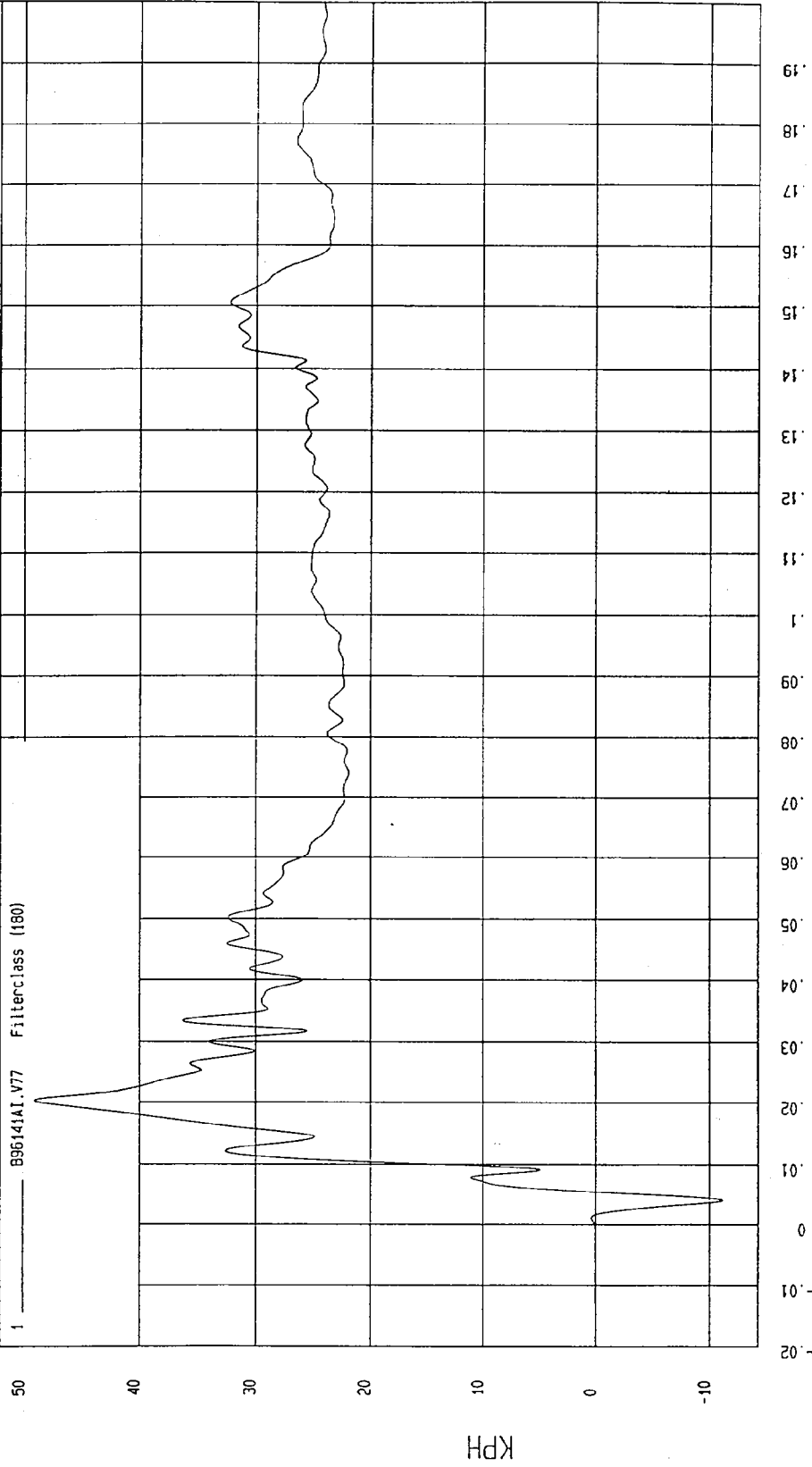
Minimum = -72.54 G'S at 23 msec Maximum = 161.73 G'S at 10 msec

LEFT REAR DOOR MID REAR Y ACCELERATION

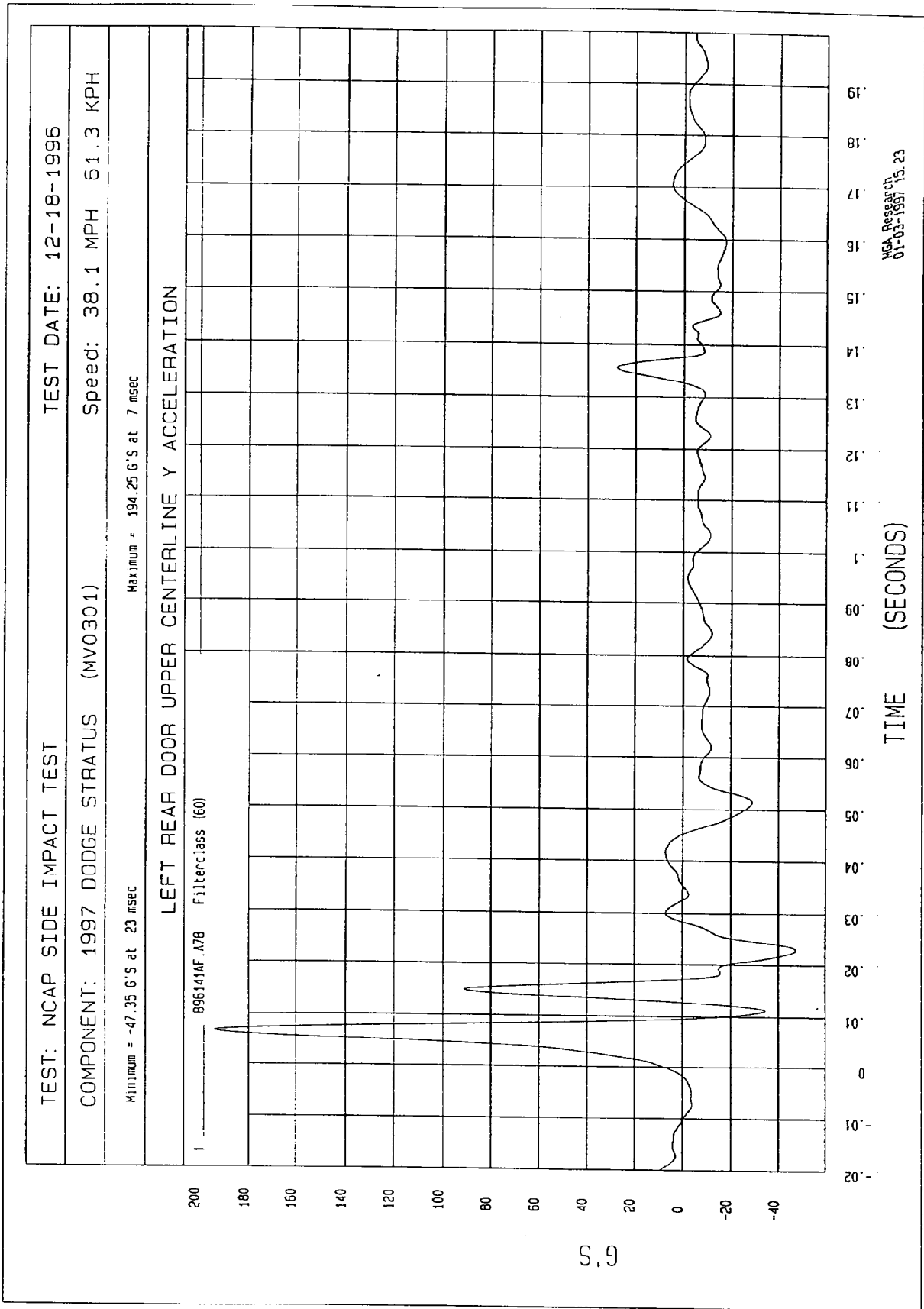


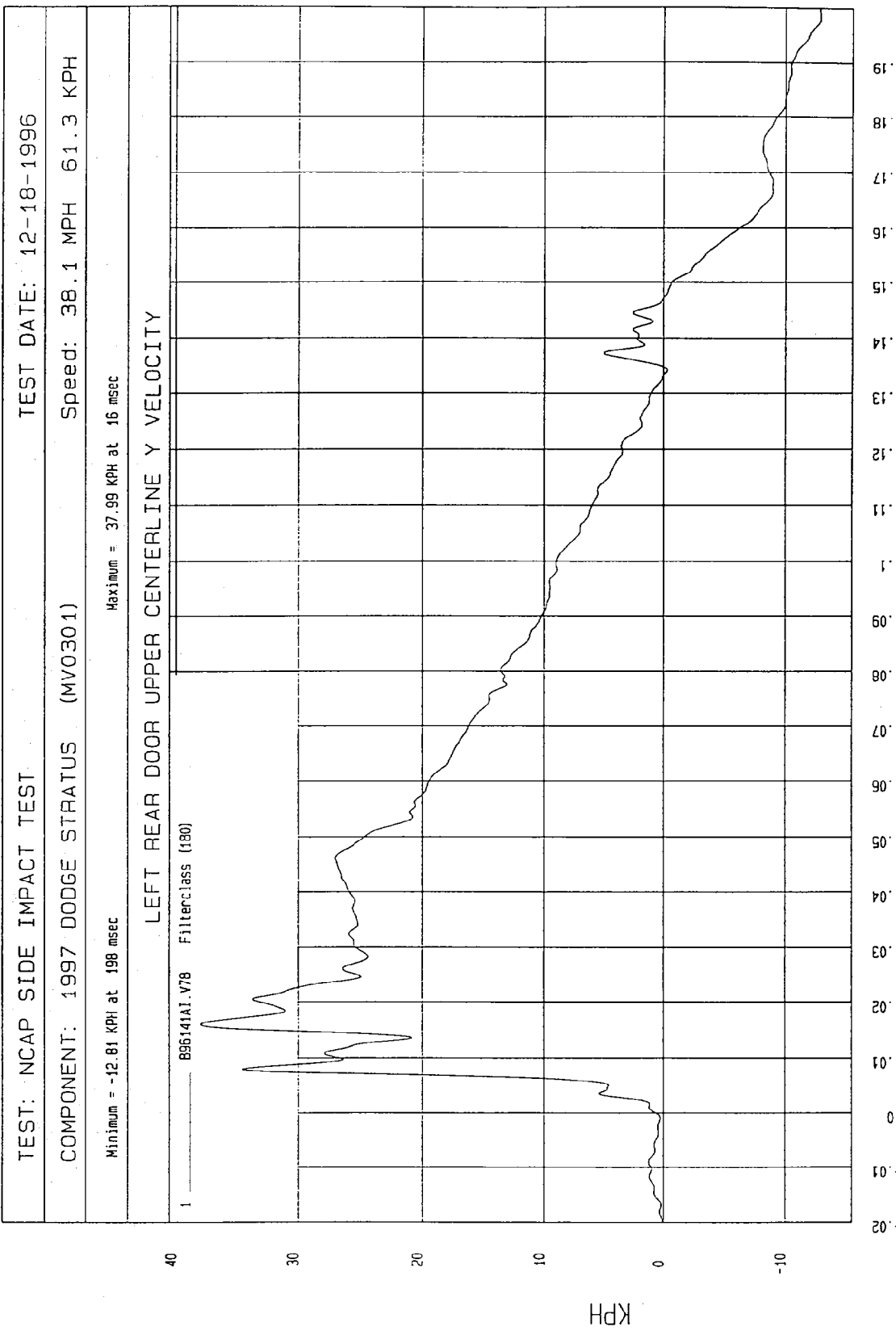
TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -11.17 KPH at 4 msec	Maximum = 49.15 KPH at 20 msec

LEFT REAR DOOR MID REAR Y VELOCITY

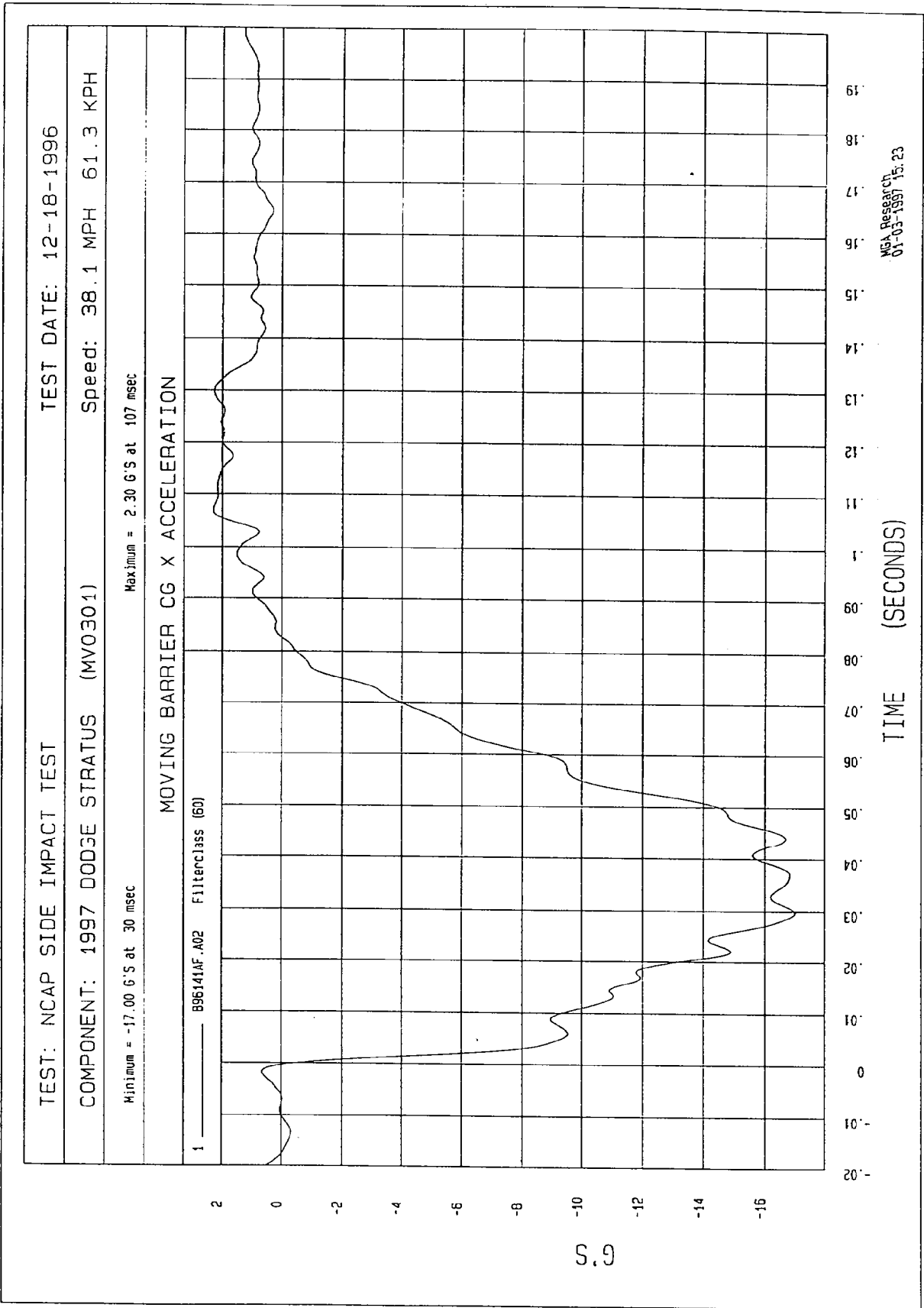


MGA Research
01-03-1997 15:26





MOA Research
01-03-1997 15:26

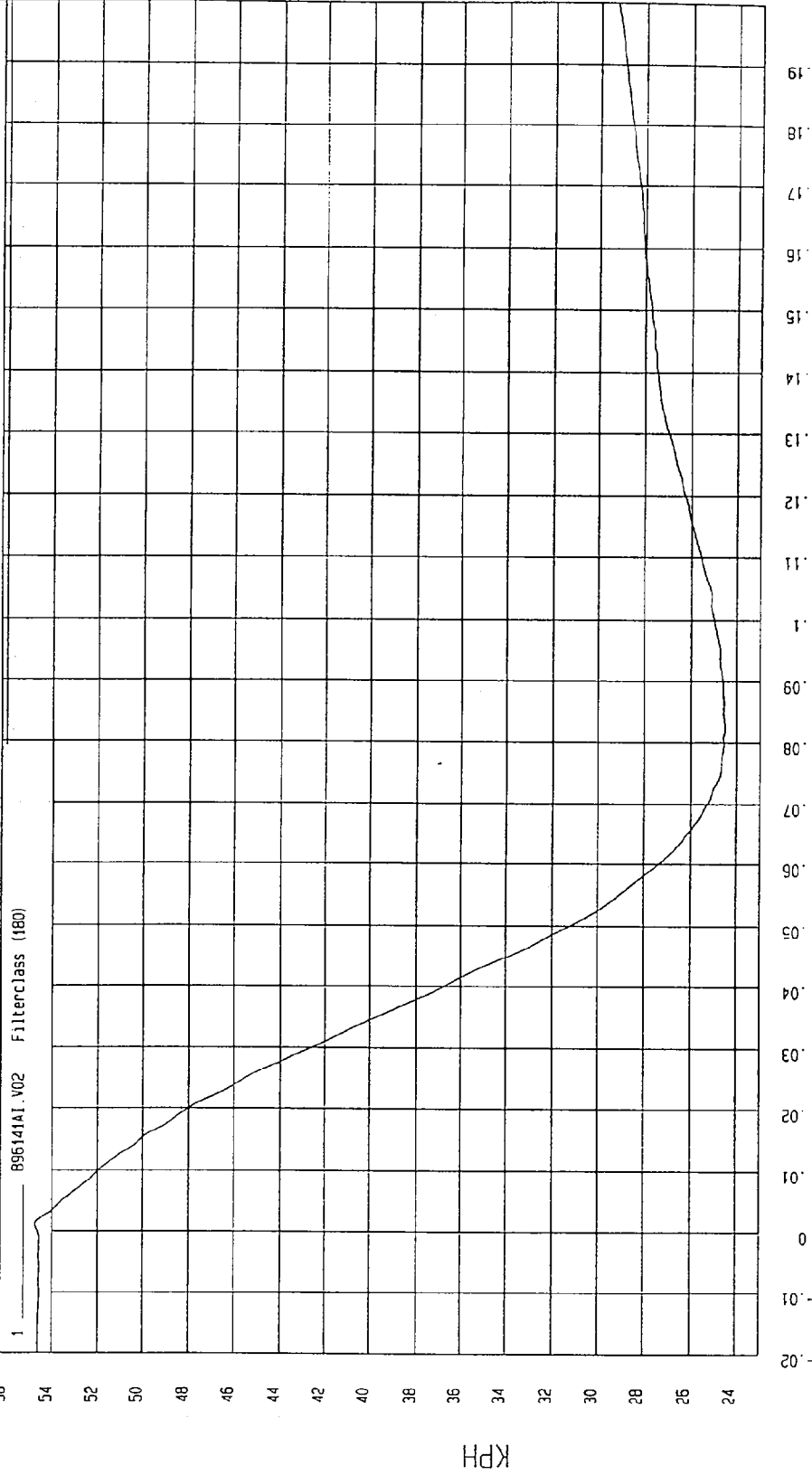


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

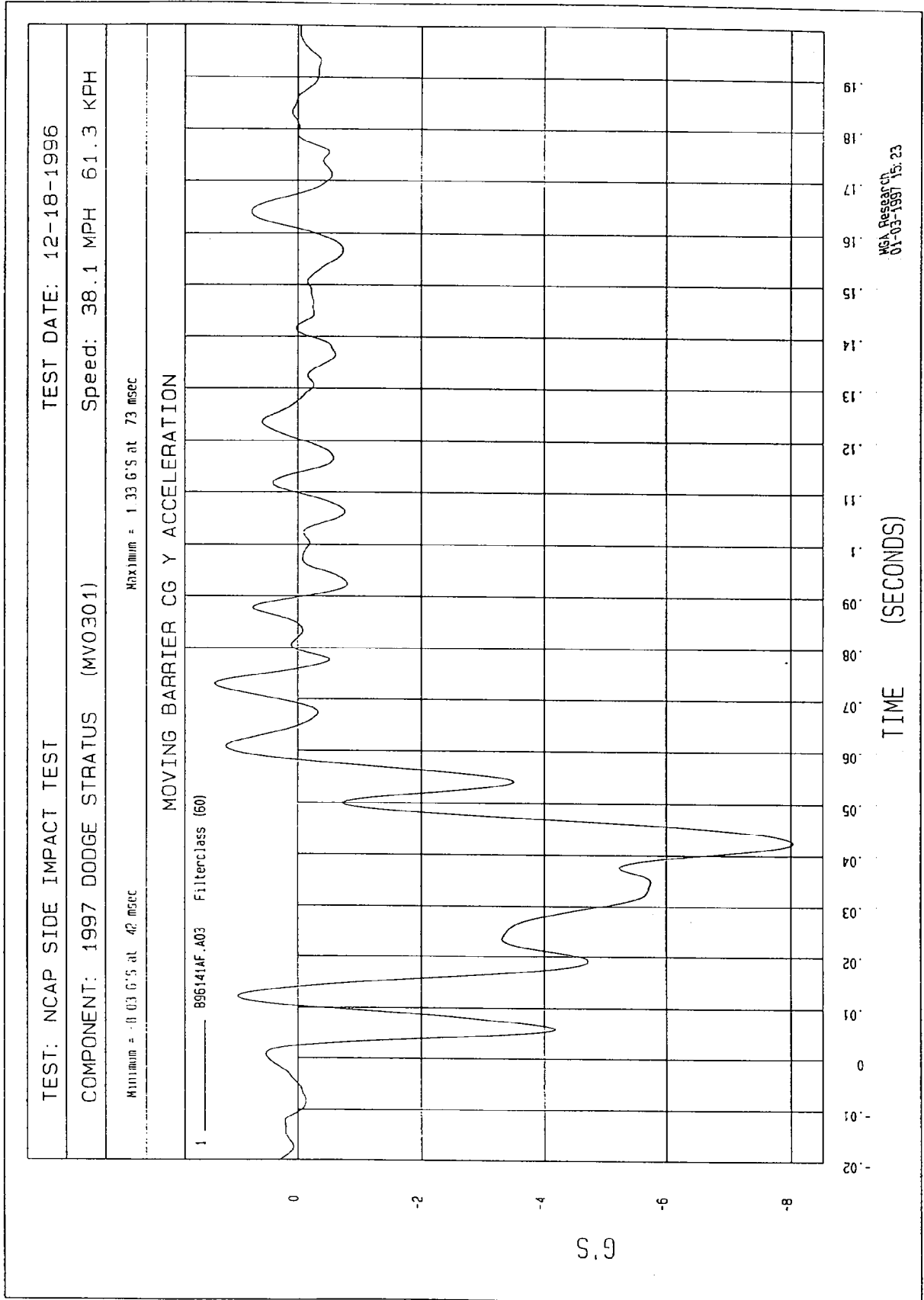
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = 24.50 KPH at .02 msec Maximum = 54.72 KPH at 1 msec

MOVING BARRIER CG X VELOCITY

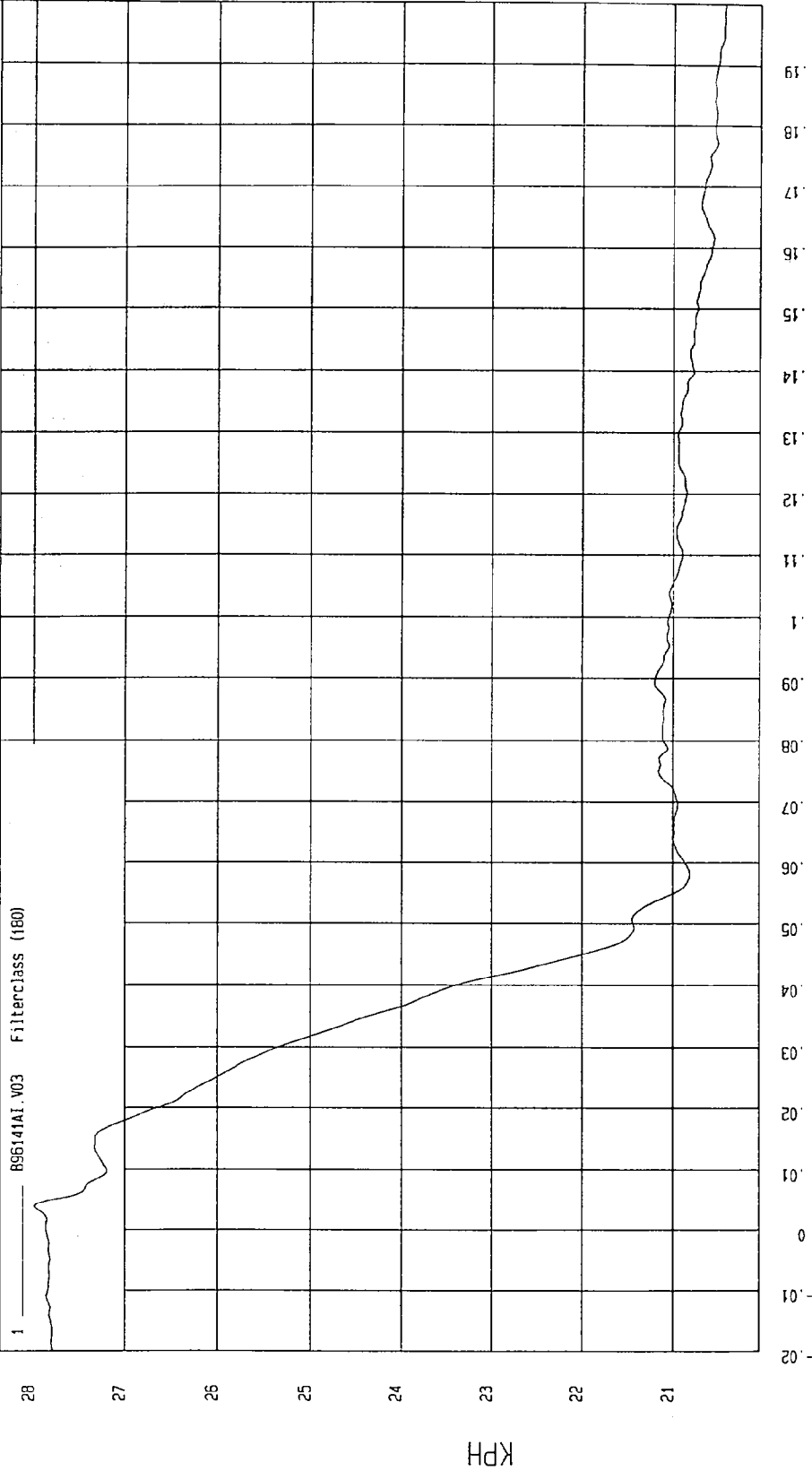


MGA Research
01-03-1997 15:26

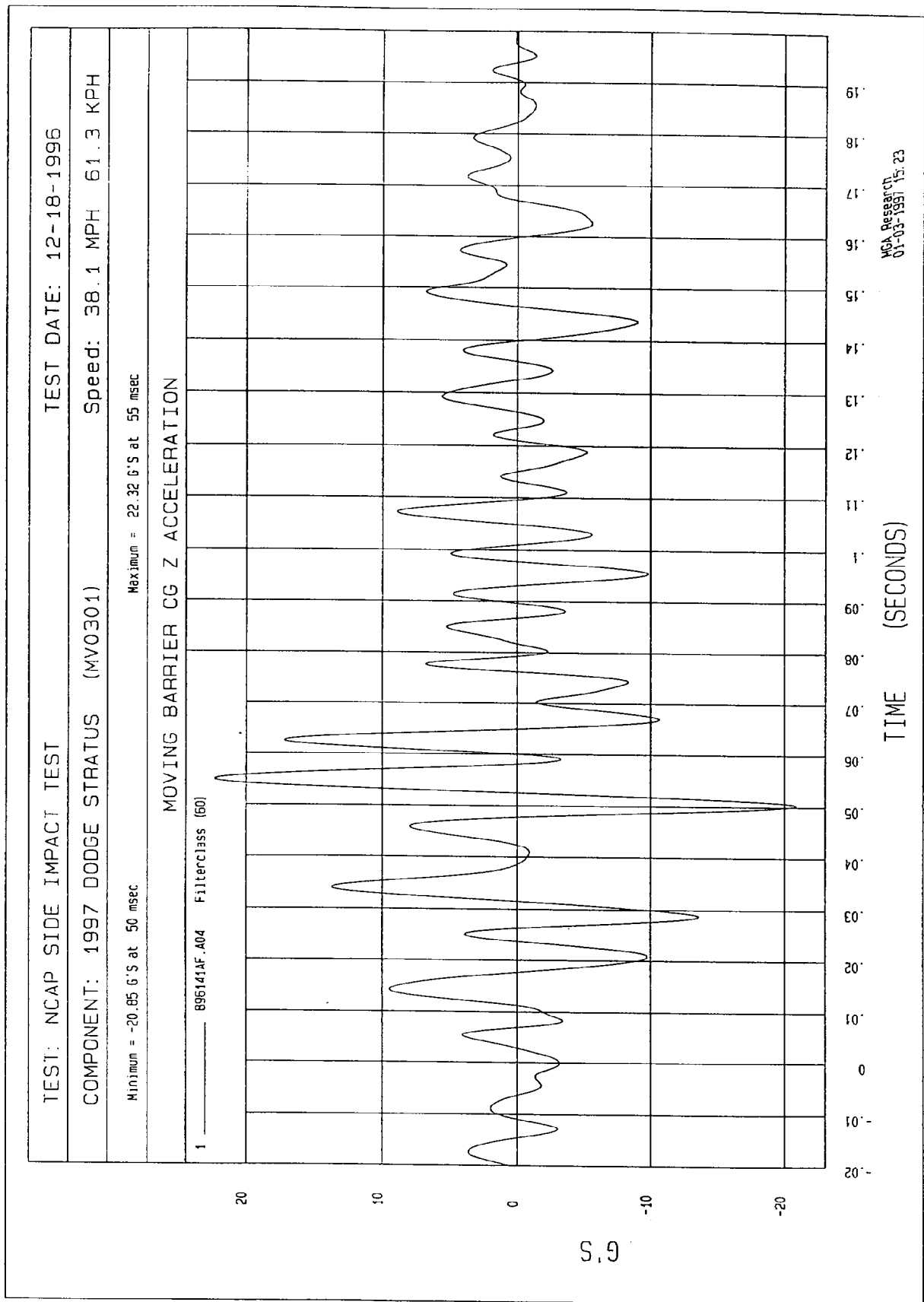


TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = 20.44 KPH at 200 msec	Maximum = 27.99 KPH at 4 msec

MOVING BARRIER CG Y VELOCITY

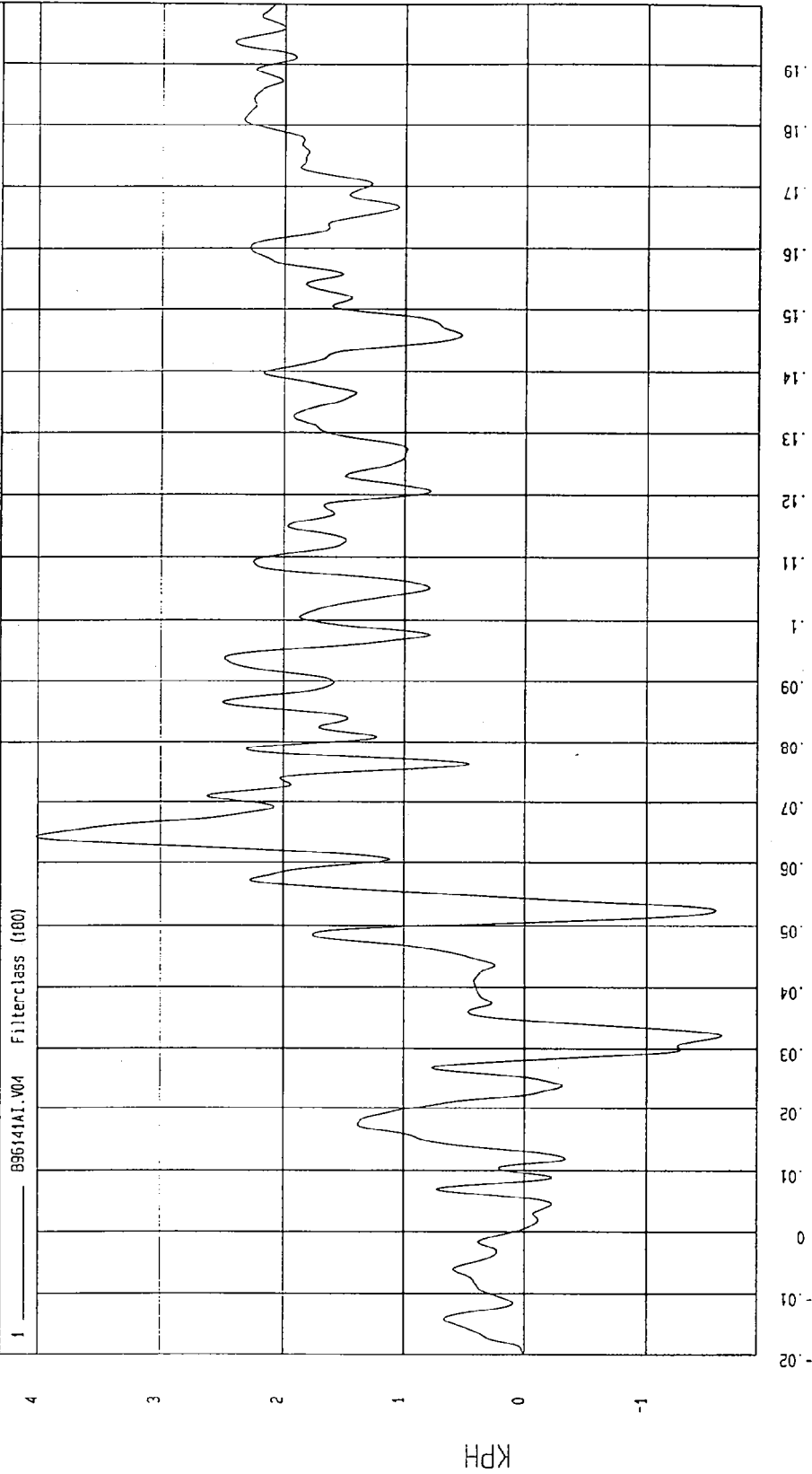


MCA Research
01-03-1997 15:27



TEST: NCAP SIDE IMPACT TEST	TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301)	Speed: 38.1 MPH 61.3 KPH
Minimum = -1.60 KPH at 32 msec	Maximum = 4.01 KPH at 64 msec

MOVING BARRIER CG Z VELOCITY



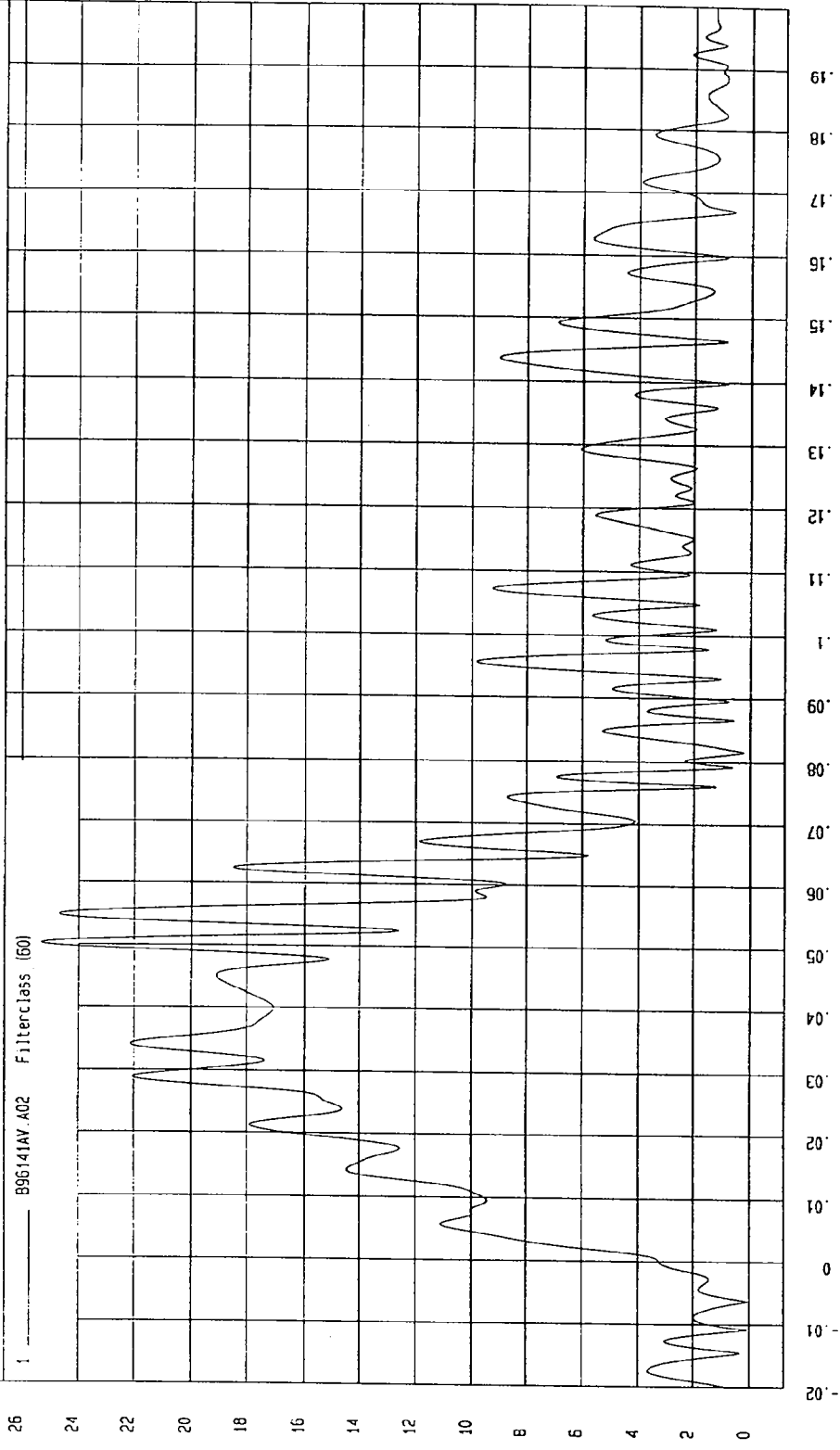
MSA Research
01-03-1997 15:27

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

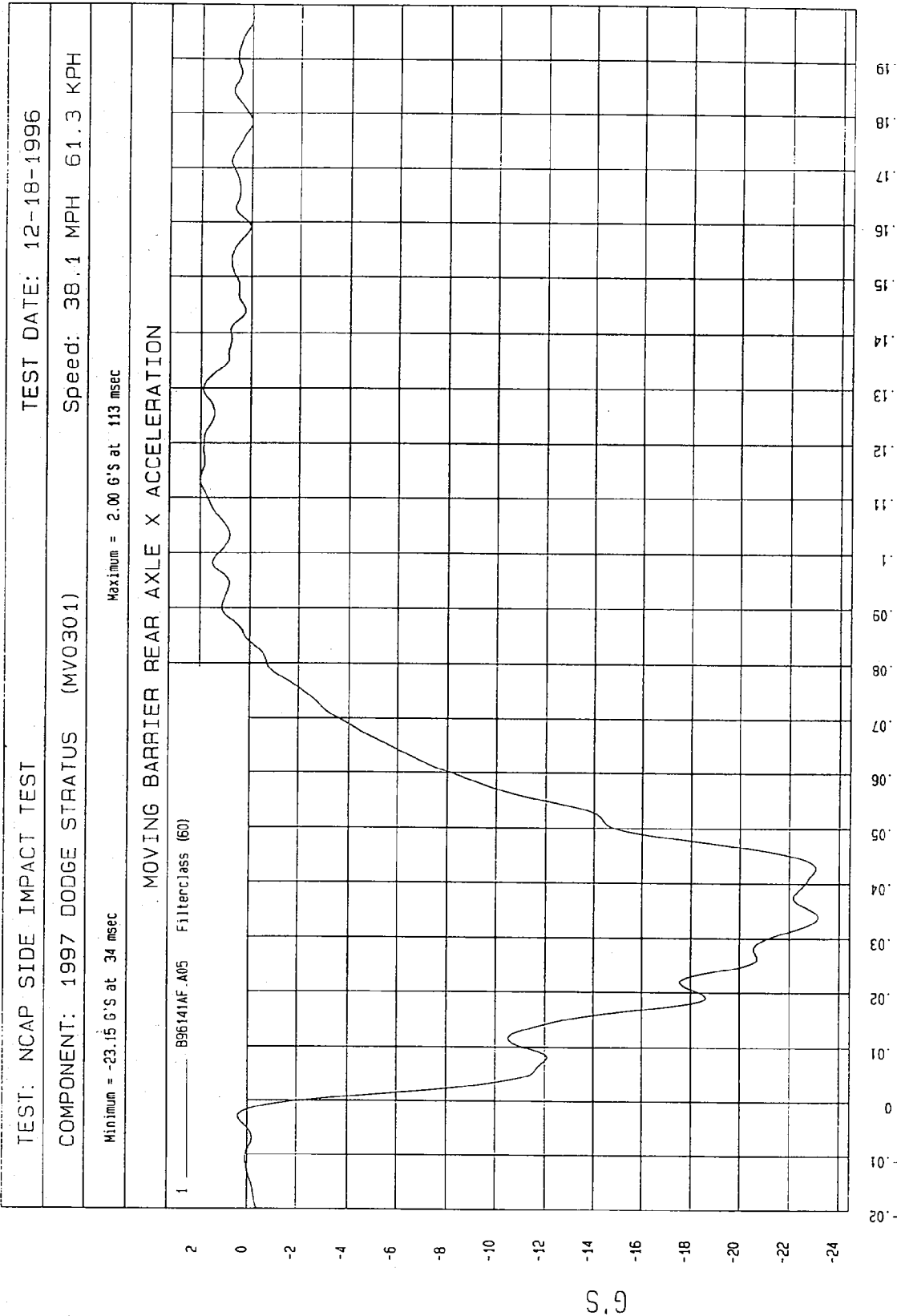
COMPONENT: 1997 DODGE STRATUS (MVO301) Speed: 38.1 MPH 61.3 KPH

Minimum = 6.62E-02 G'S at -5 msec Maximum = 25.33 G'S at 50 msec

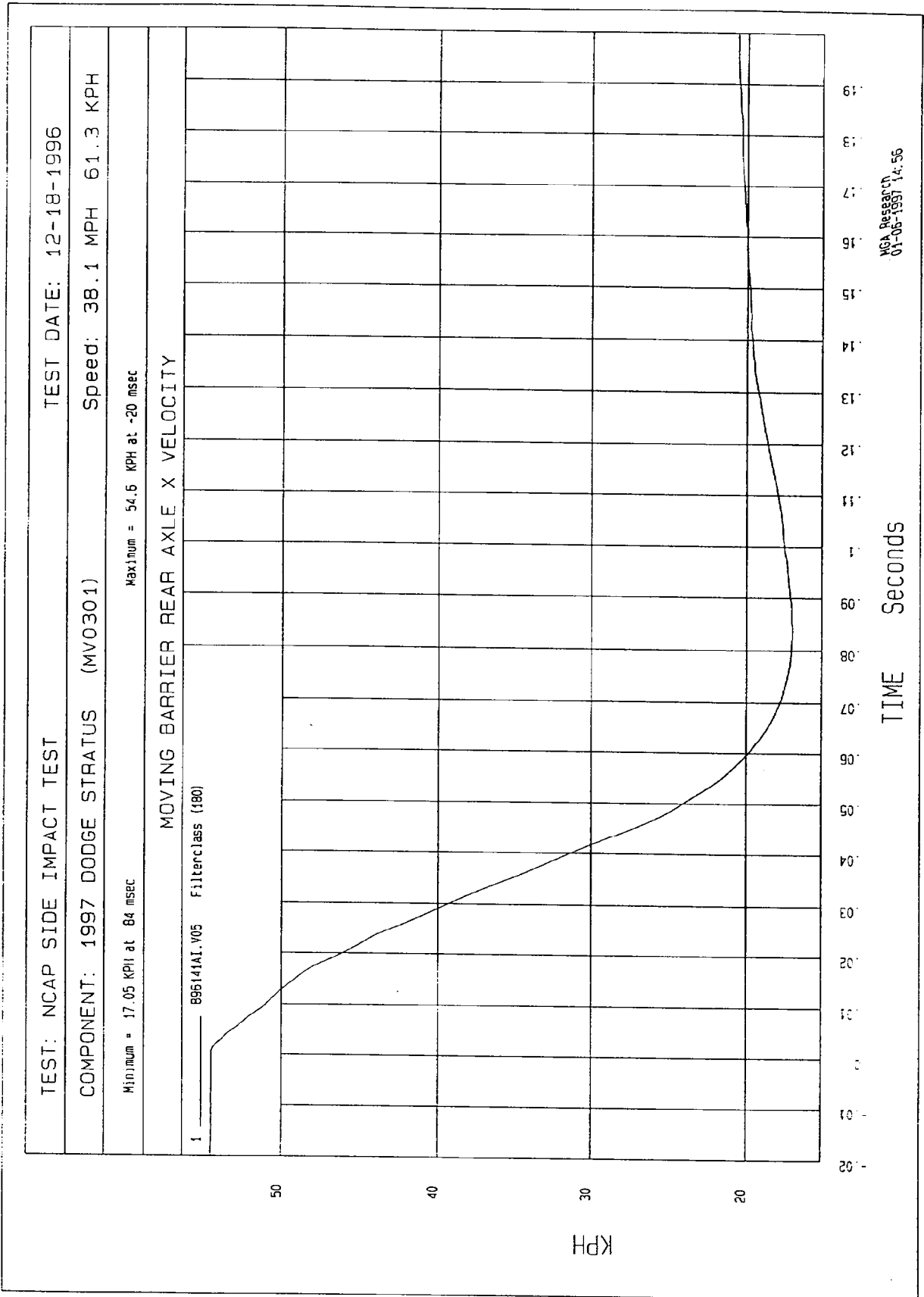
MOVING BARRIER CG RESULTANT ACCELERATION



NECA Research
01-03-1997 15:24



MSA Research
01-06-1997 14:56

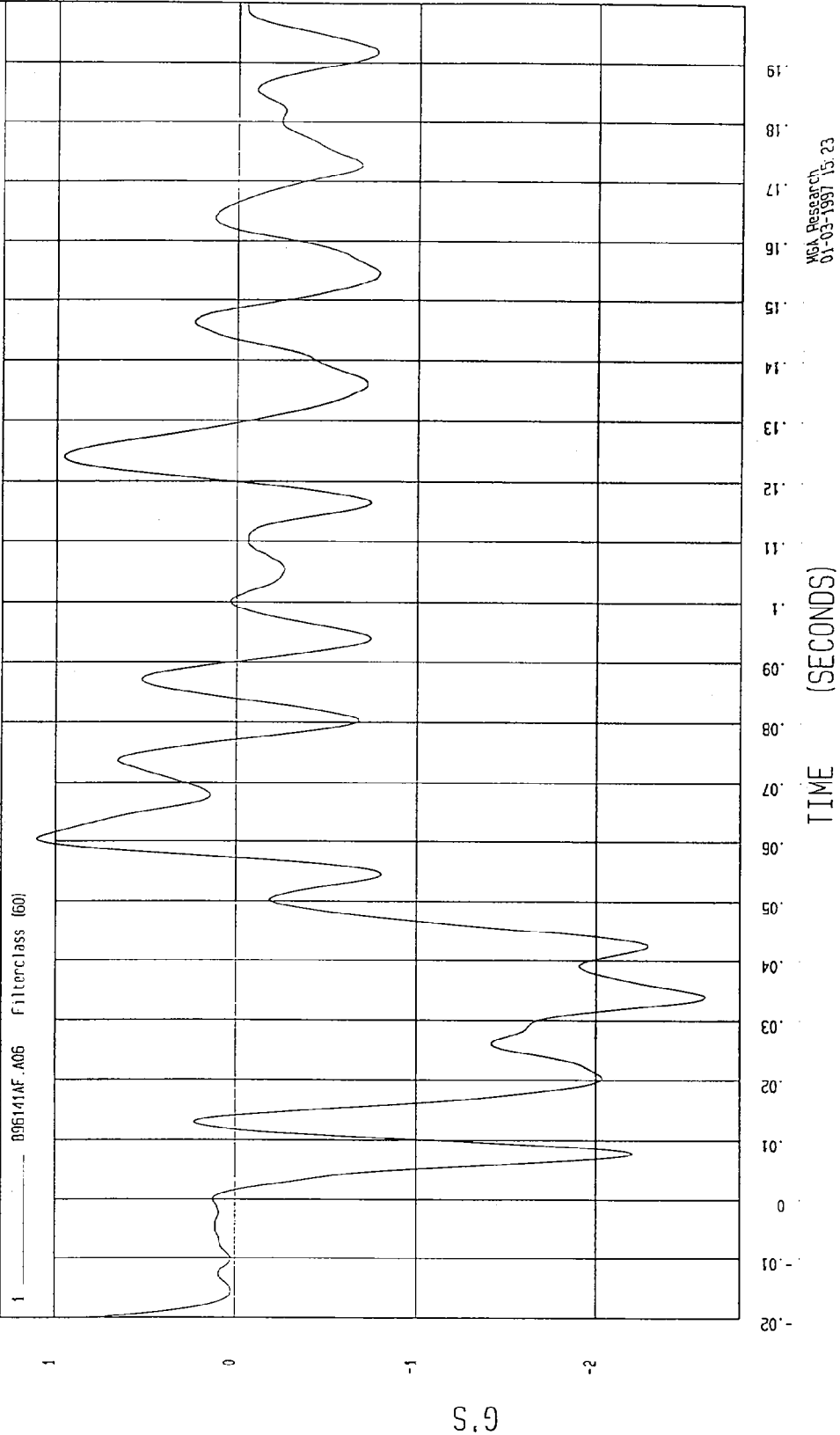


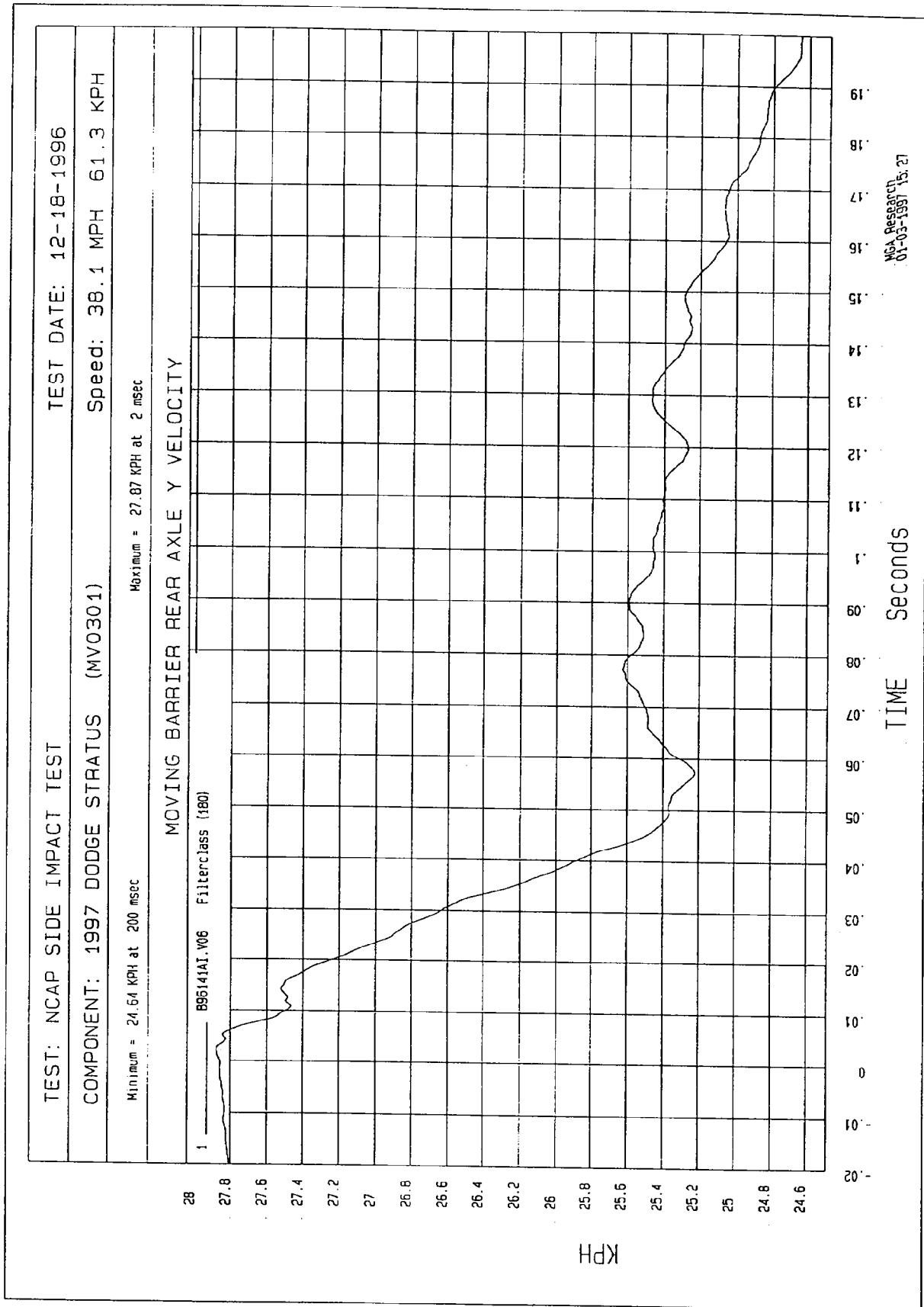
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -2.59 G'S at 34 msec Maximum = 1.10 G'S at 60 msec

MOVING BARRIER REAR AXLE Y ACCELERATION



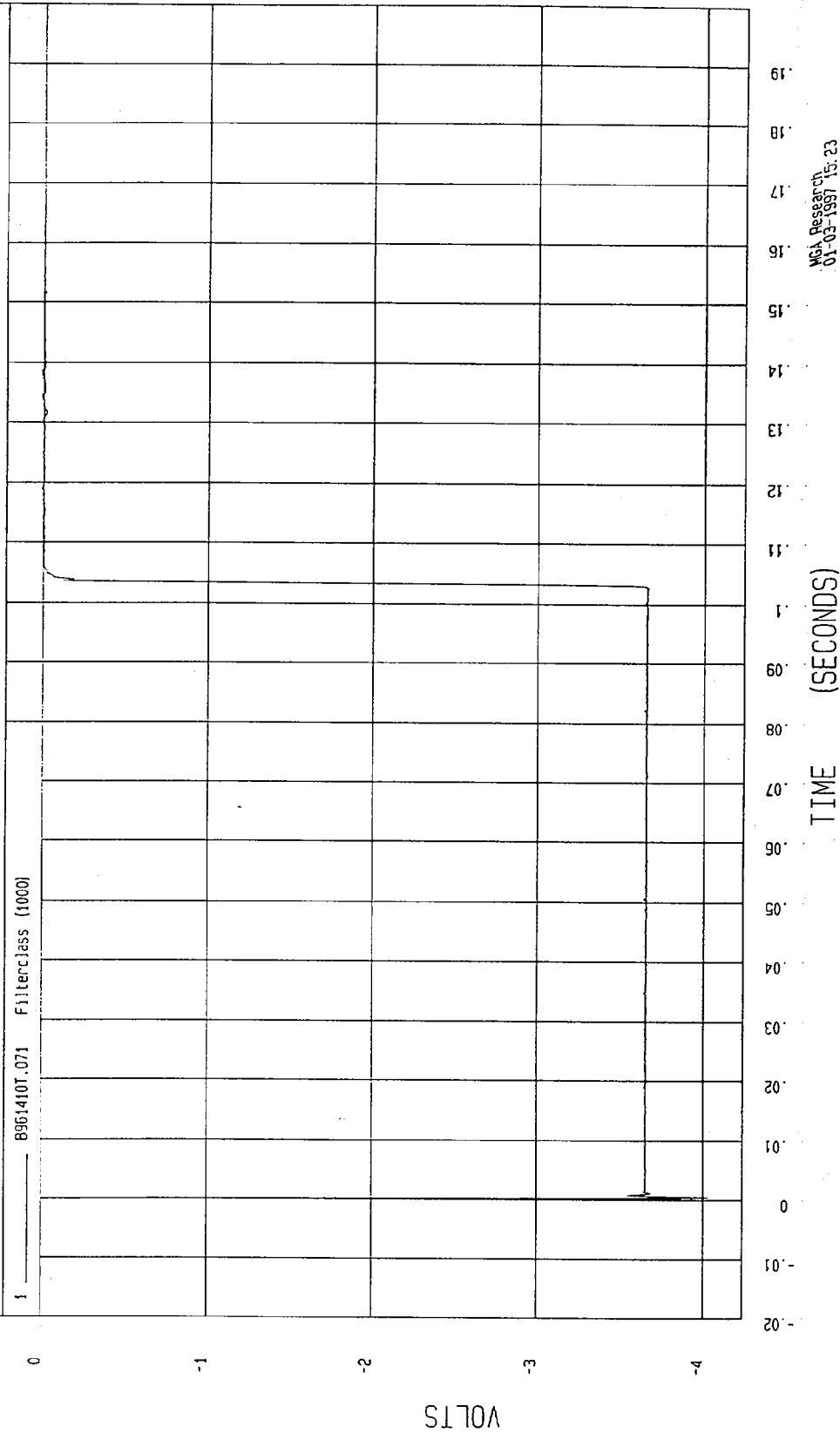


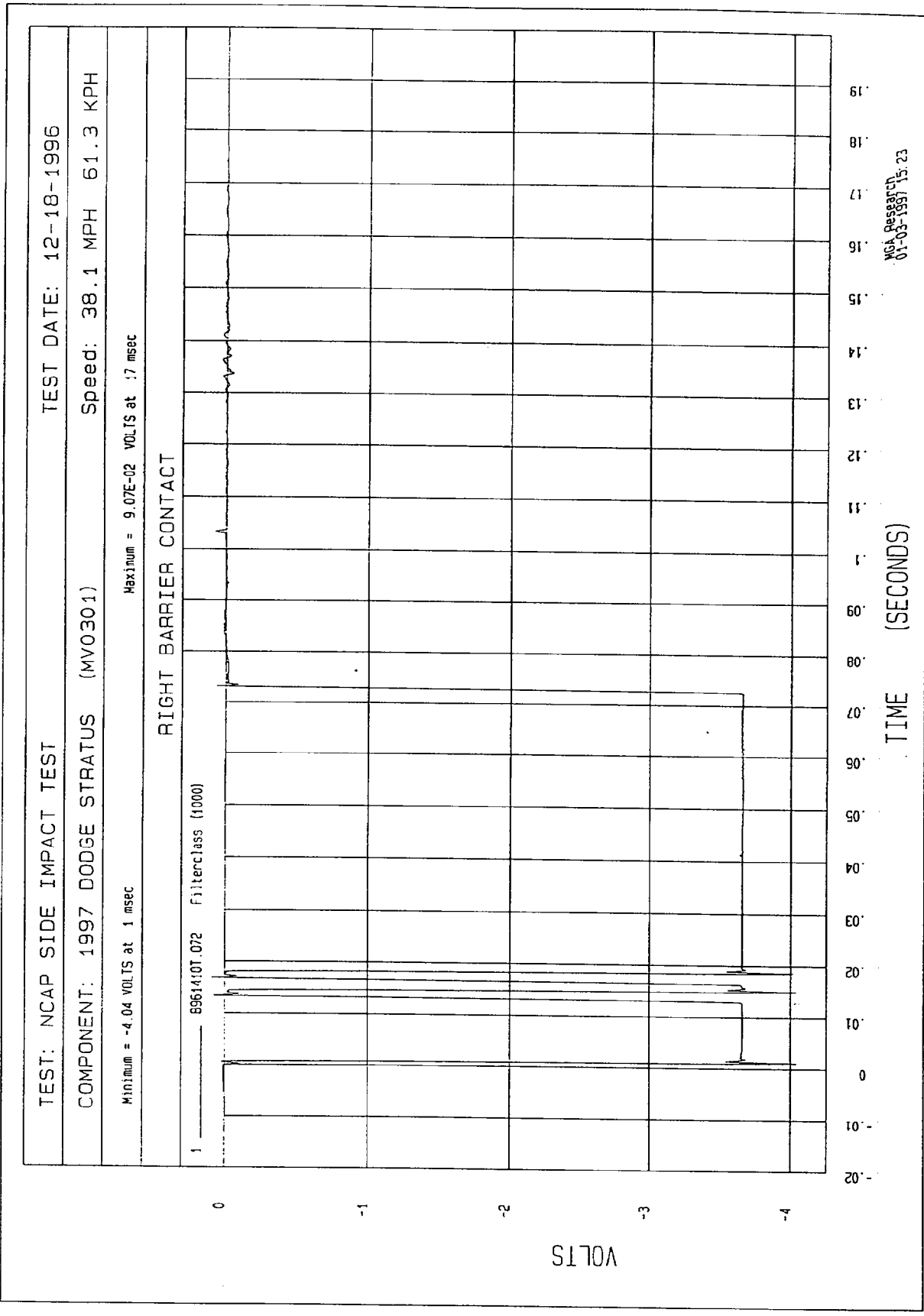
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

Minimum = -4.03 VOLTS at 0 msec Maximum = 1.35E-02 VOLTS at 134 msec

LEFT BARRIER CONTACT



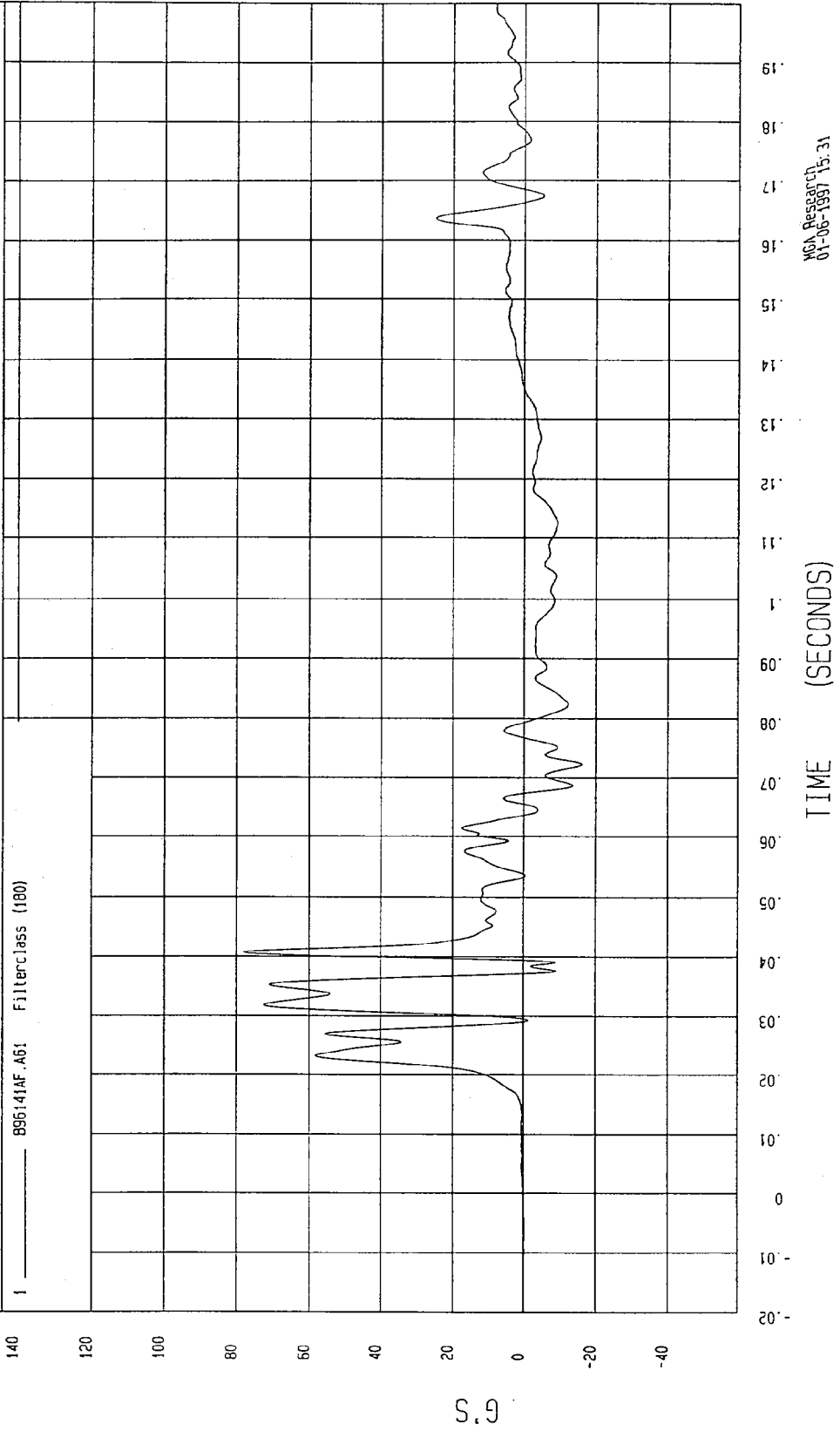


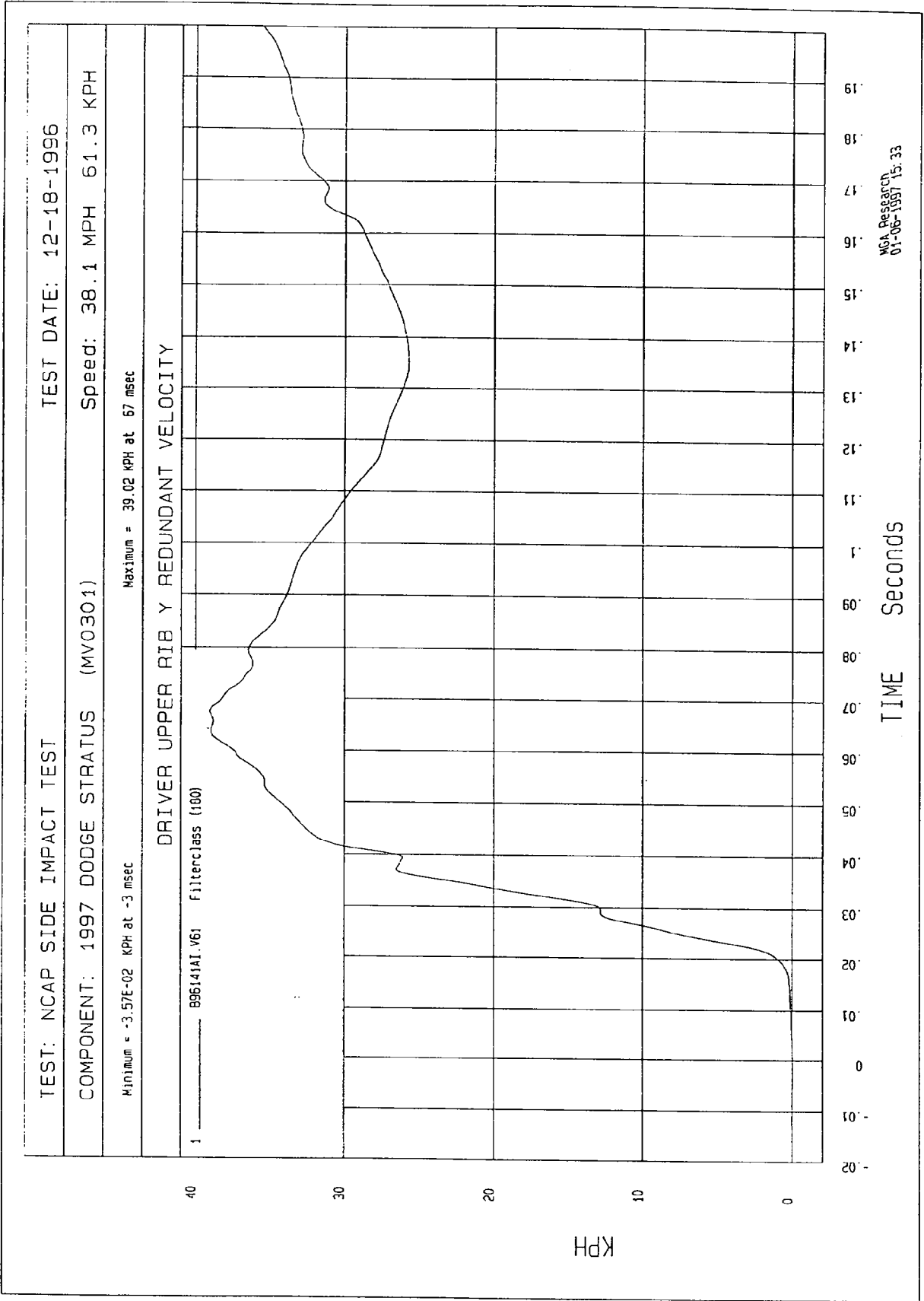
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

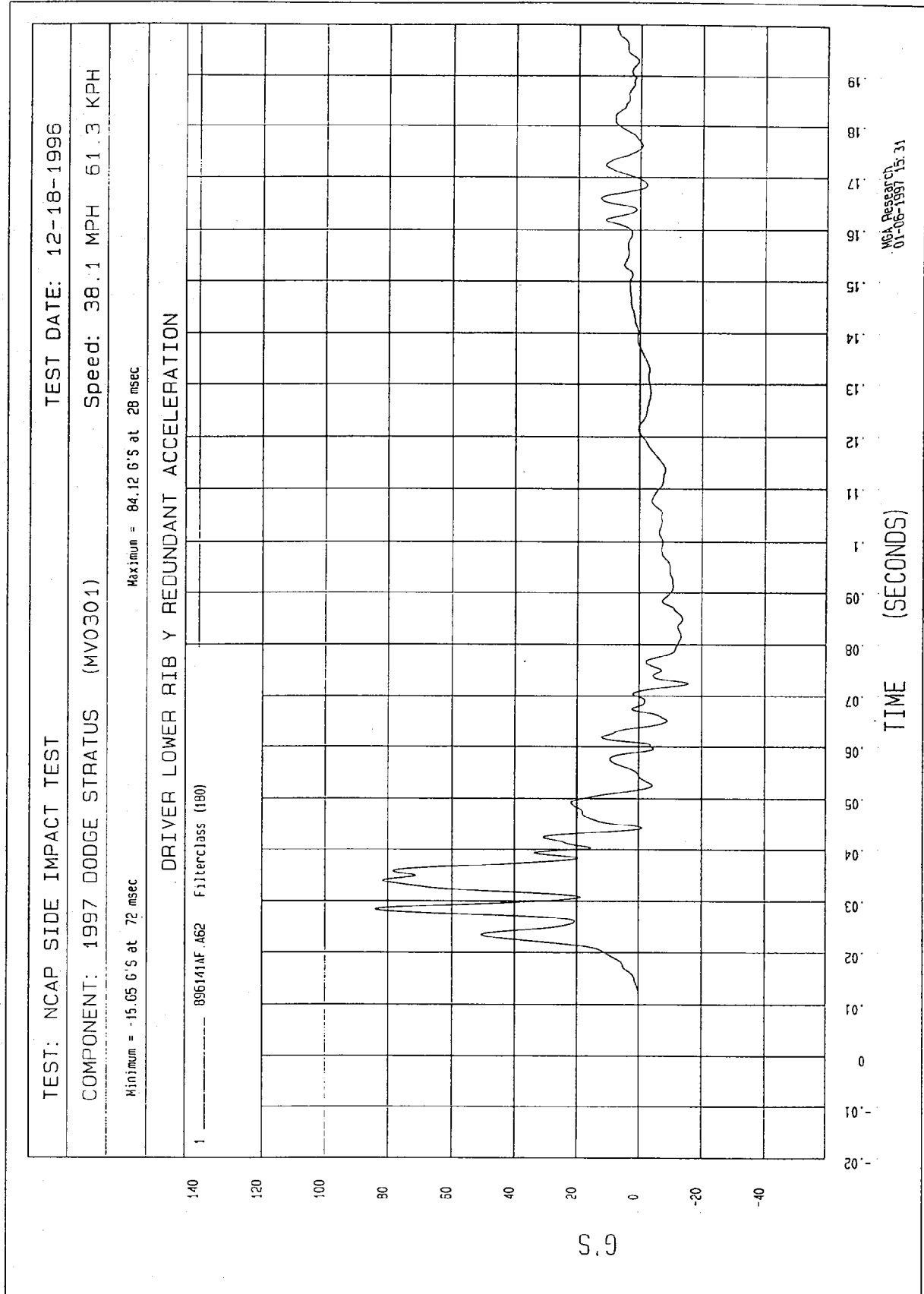
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

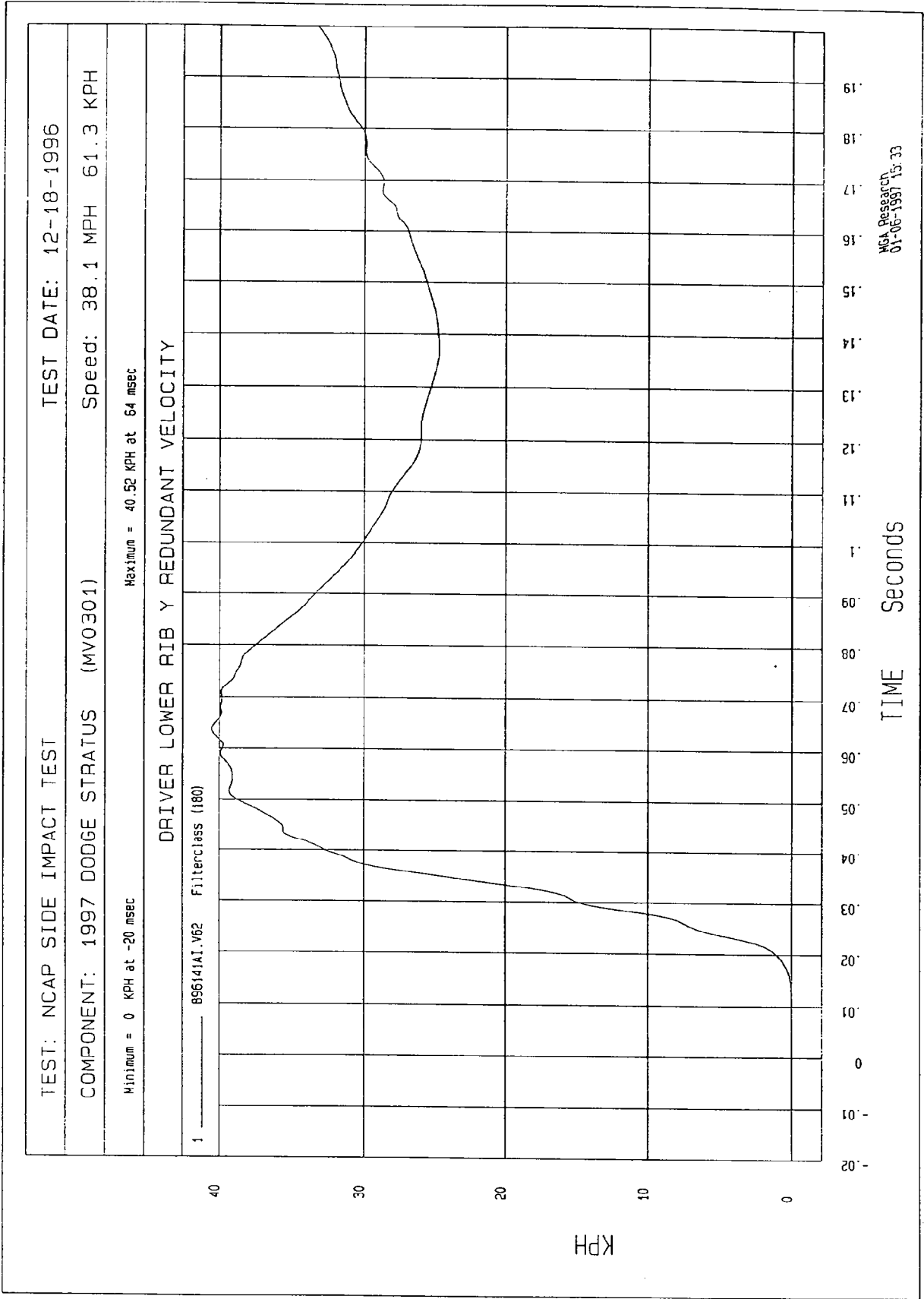
Minimum = -16.26 G'S at 72 msec Maximum = 78.13 G'S at 41 msec

DRIVER UPPER RIB Y REDUNDANT ACCELERATION









TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301)

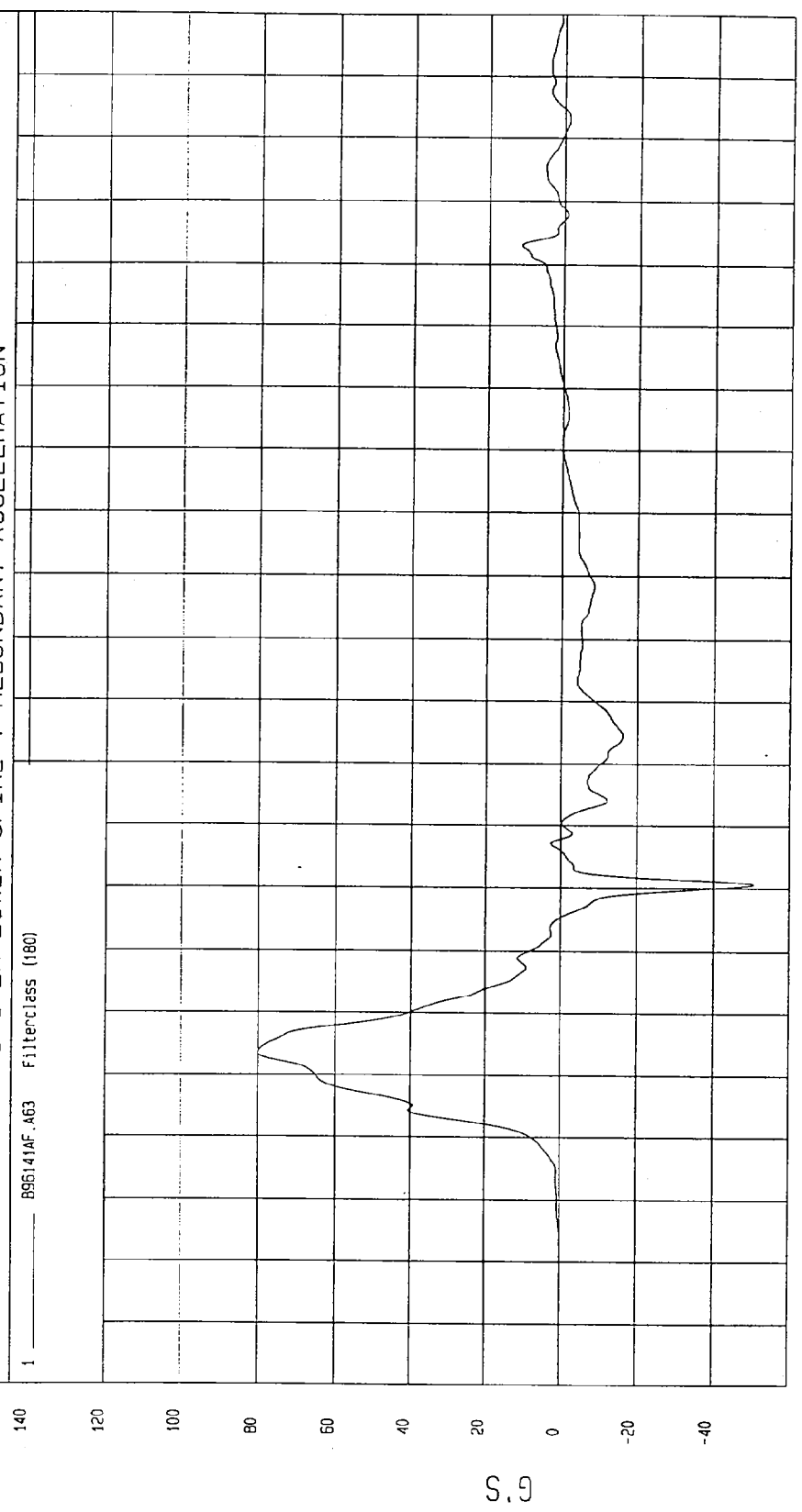
Speed: 38.1 MPH 61.3 KPH

Minimum = -50.23 G'S at 61 msec

Maximum = 80.12 G'S at 33 msec

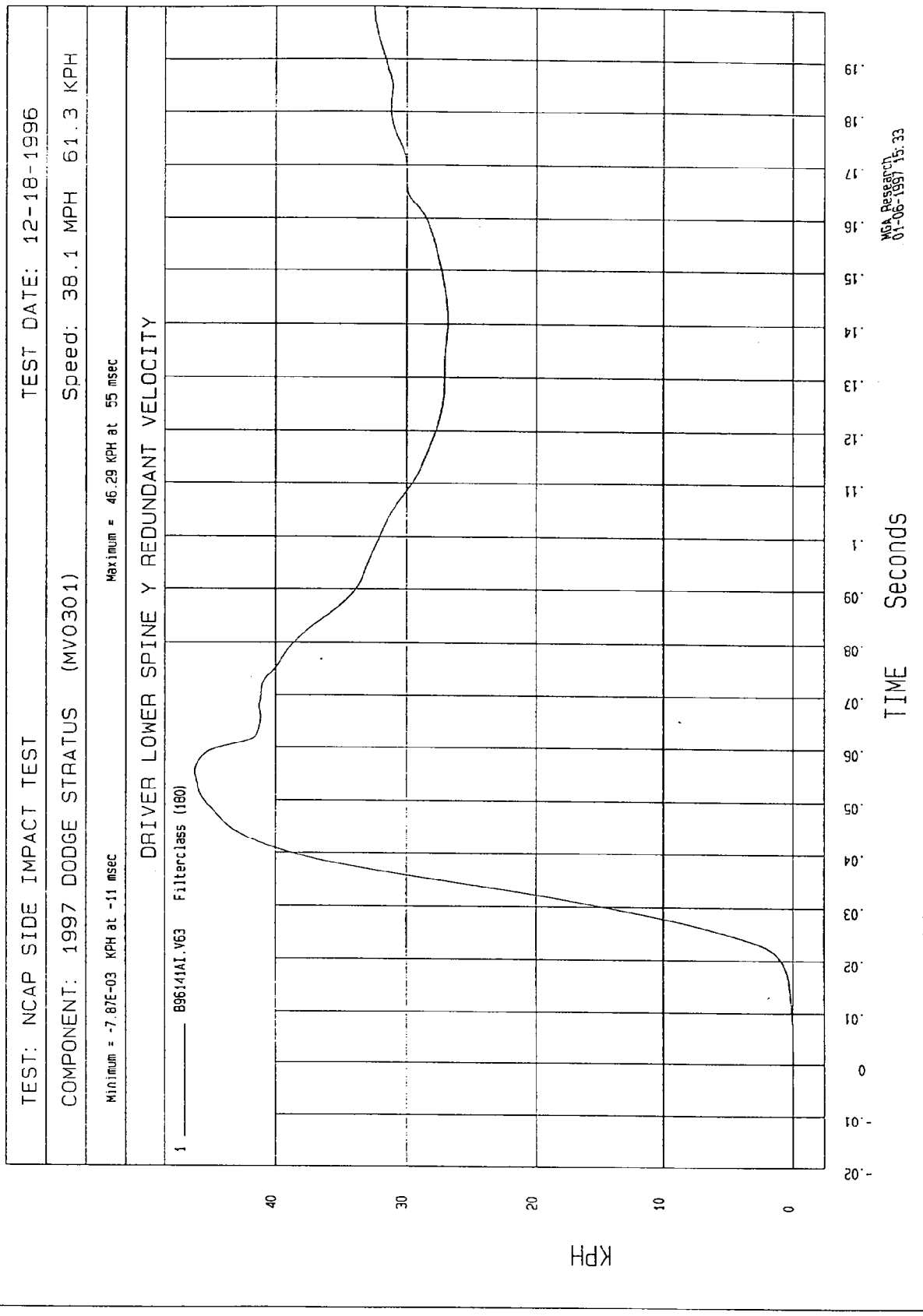
DRIVER LOWER SPINE Y REDUNDANT ACCELERATION

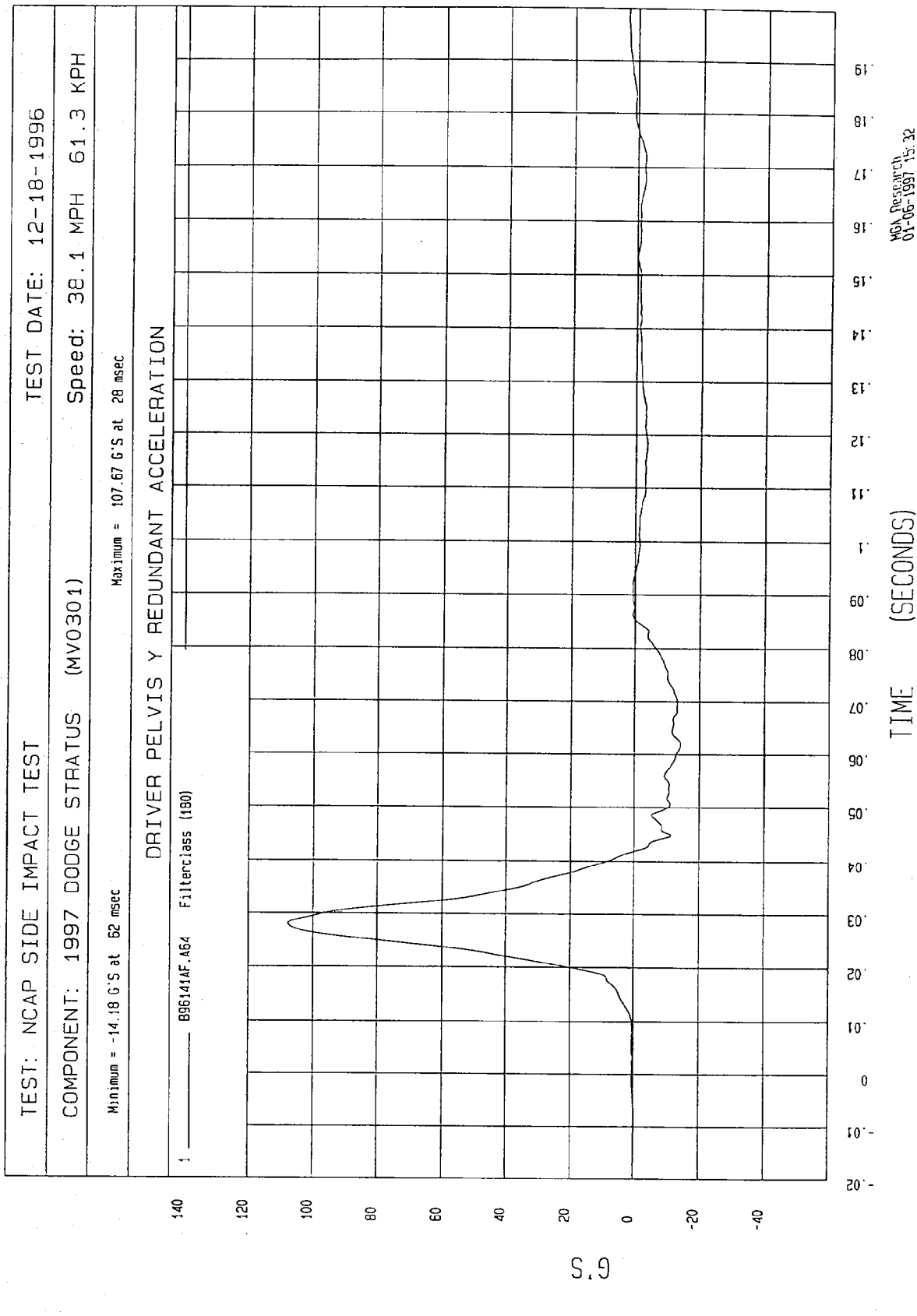
1 B96141AF.A63 Filterclass (180)

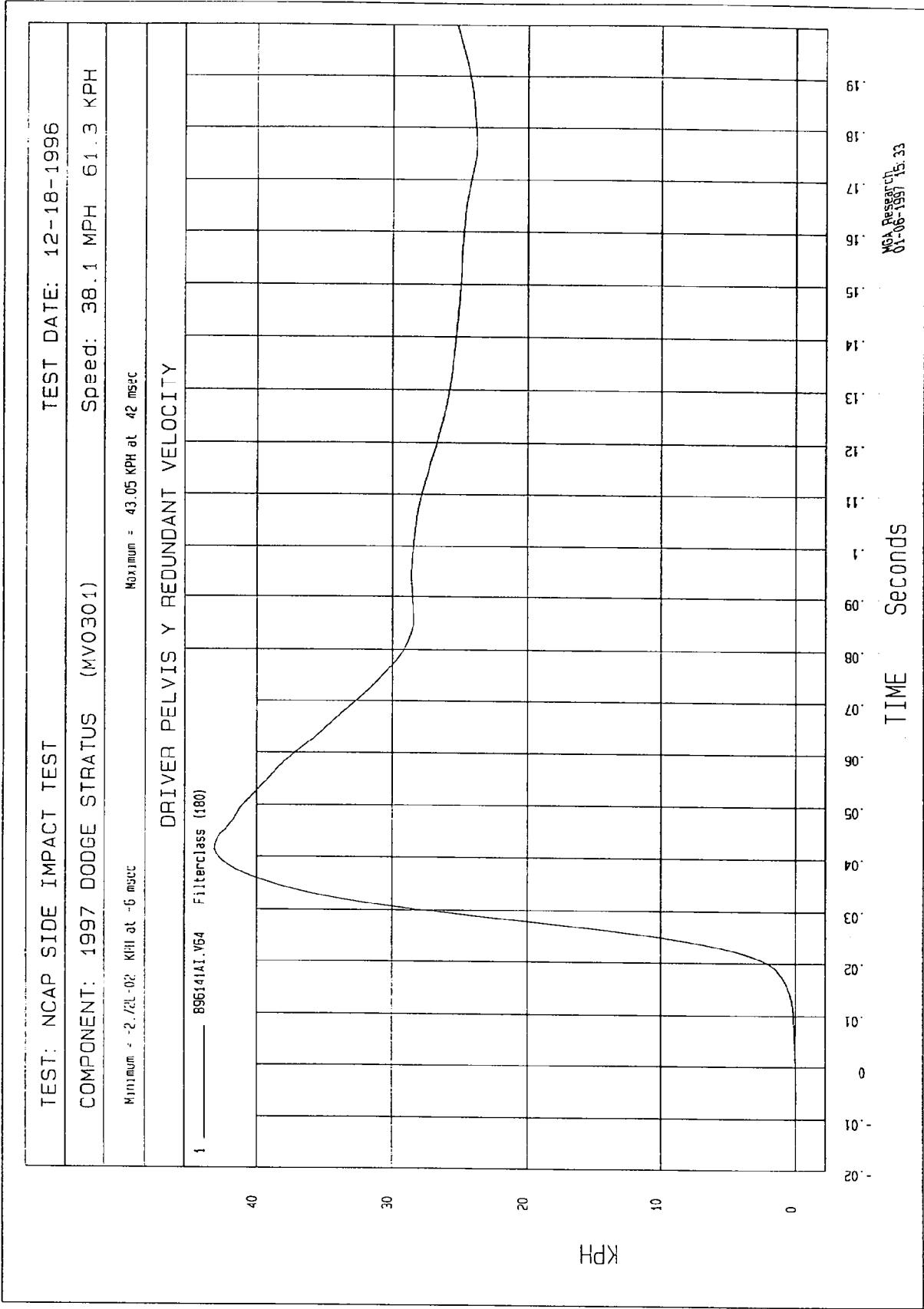


TIME (SECONDS)

MGA Research
01-06-1997 15:31



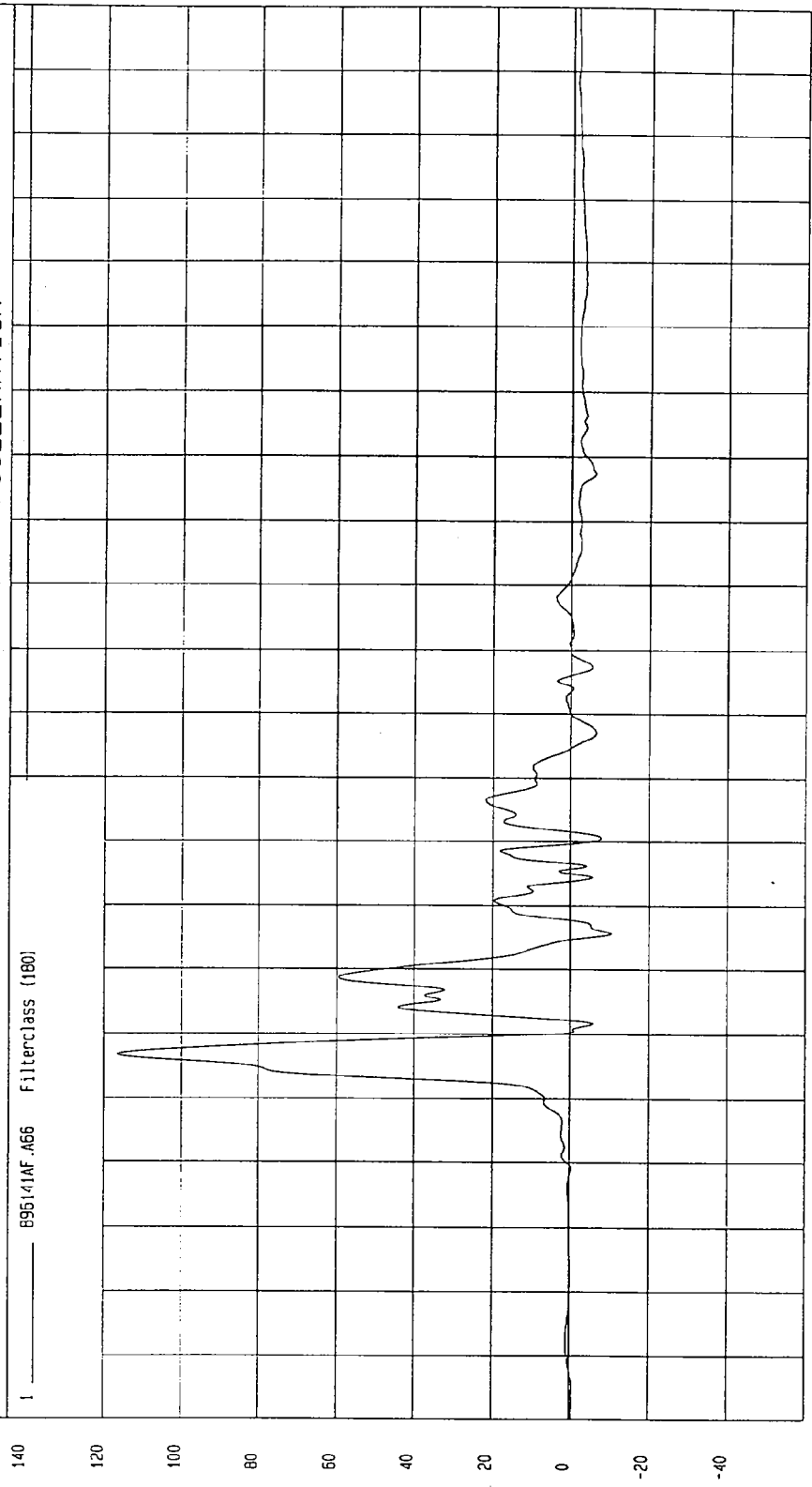




TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996
COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH
Minimum = -10.64 G'S at 56 msec Maximum = 116.49 G'S at 37 msec

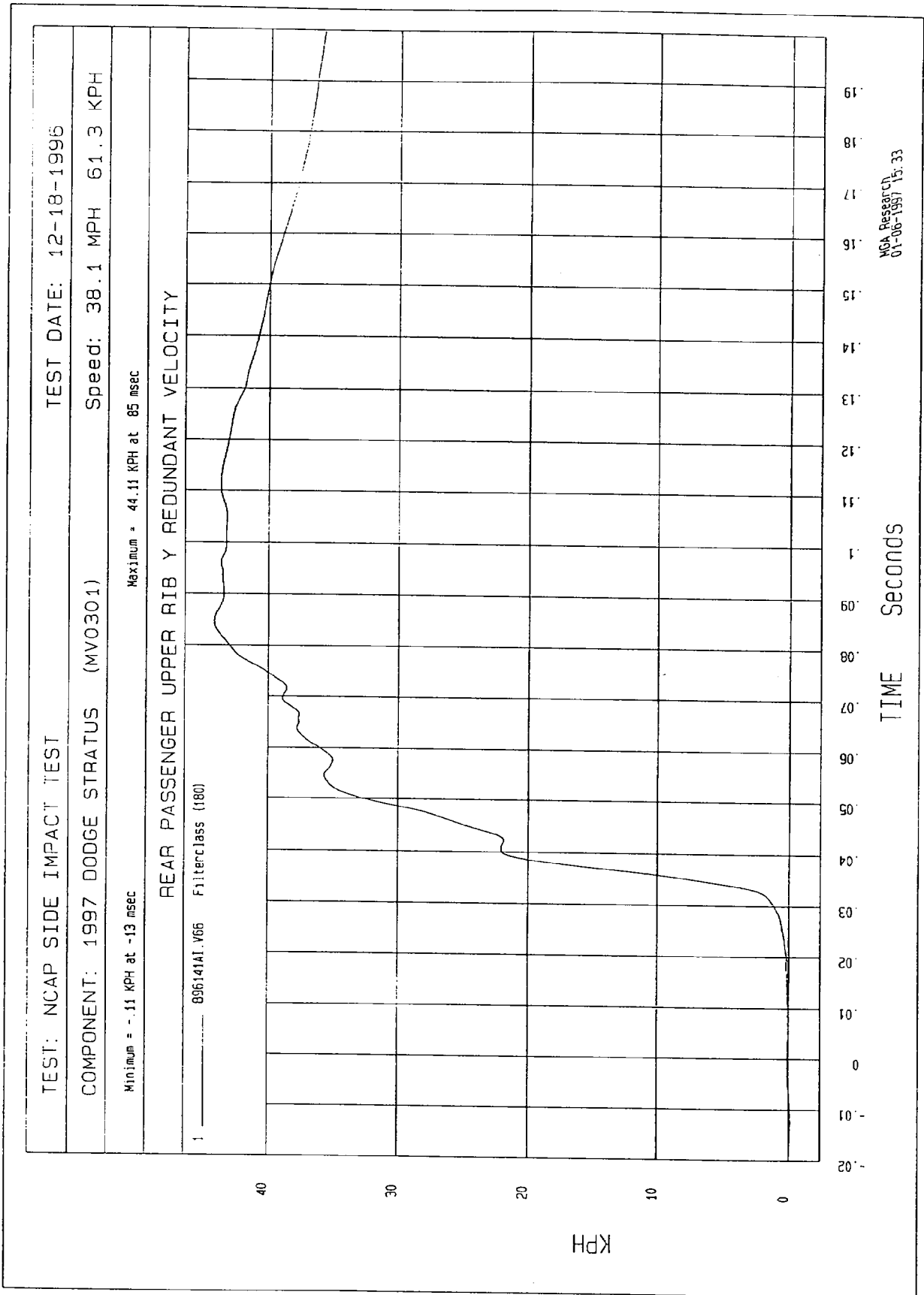
REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION

1 _____ 895141AF .A56 FilterClass (180)



TIME (SECONDS)

WCA Research
01-06-1997 15:32

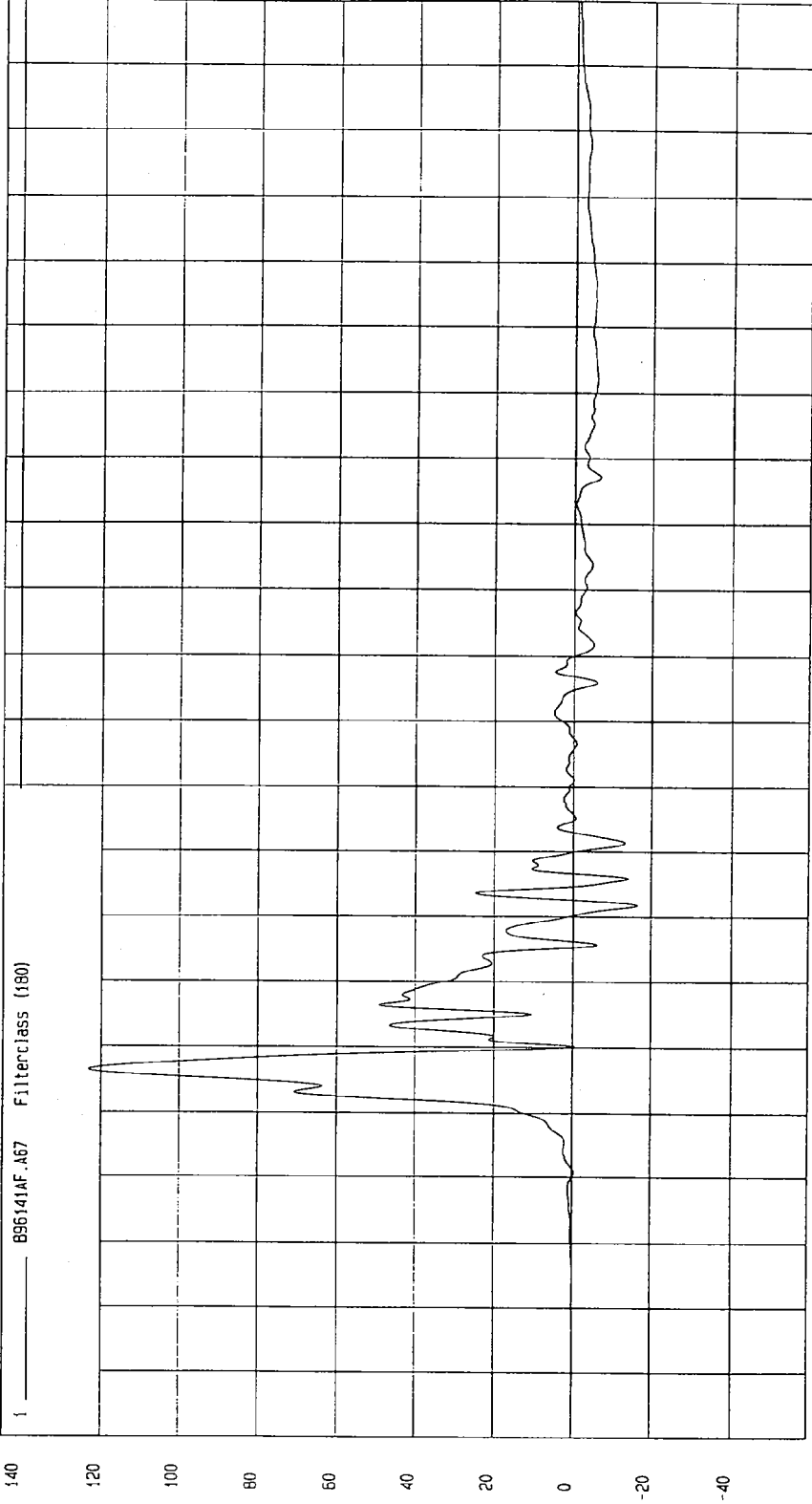


TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

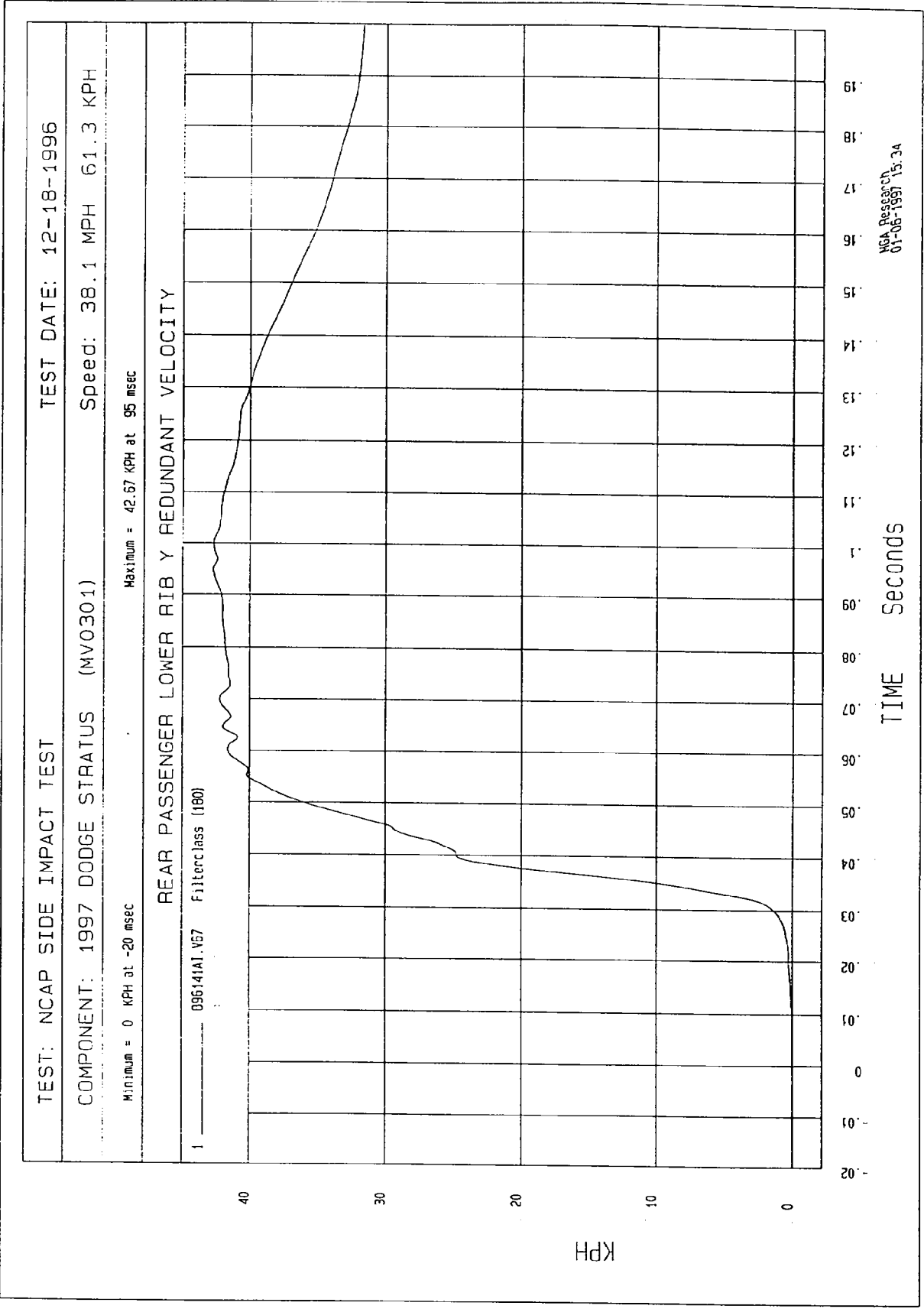
Minimum = -16.59 G'S at 62 msec Maximum = 123.11 G'S at 36 msec

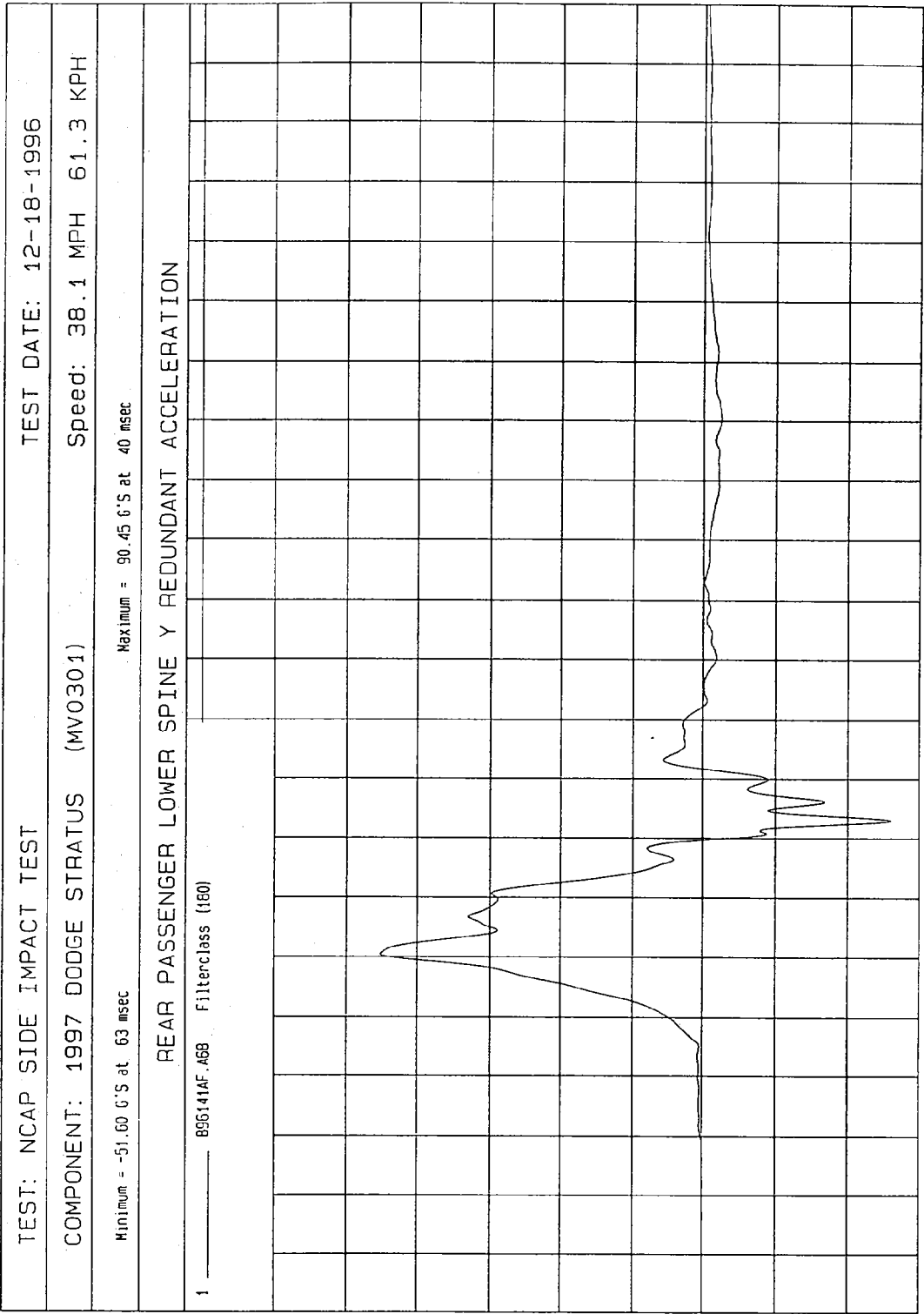
REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION



TIME (SECONDS)

MCA Research
01-06-1997 15:32

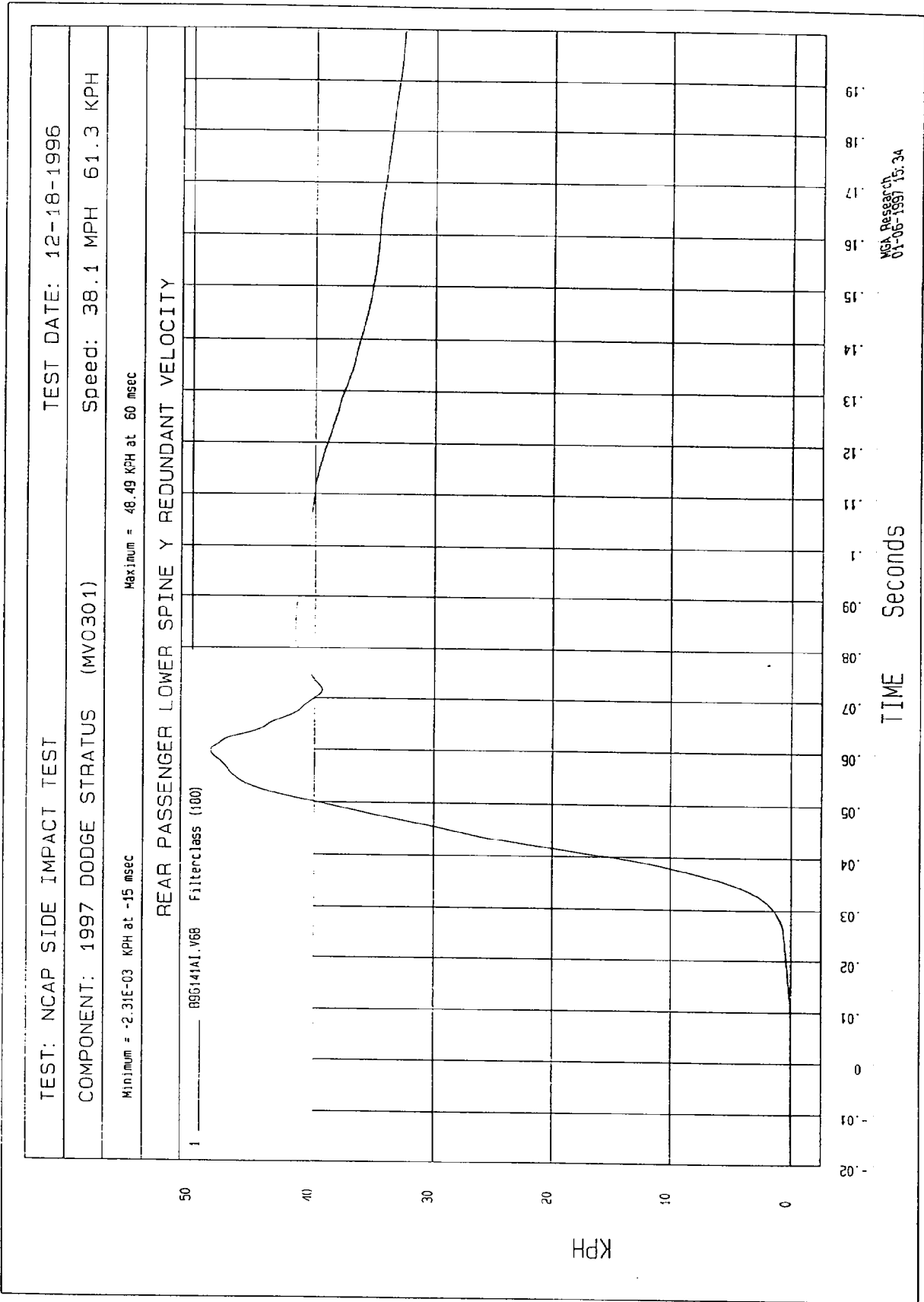




TIME (SECONDS)

0.02 0.01 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

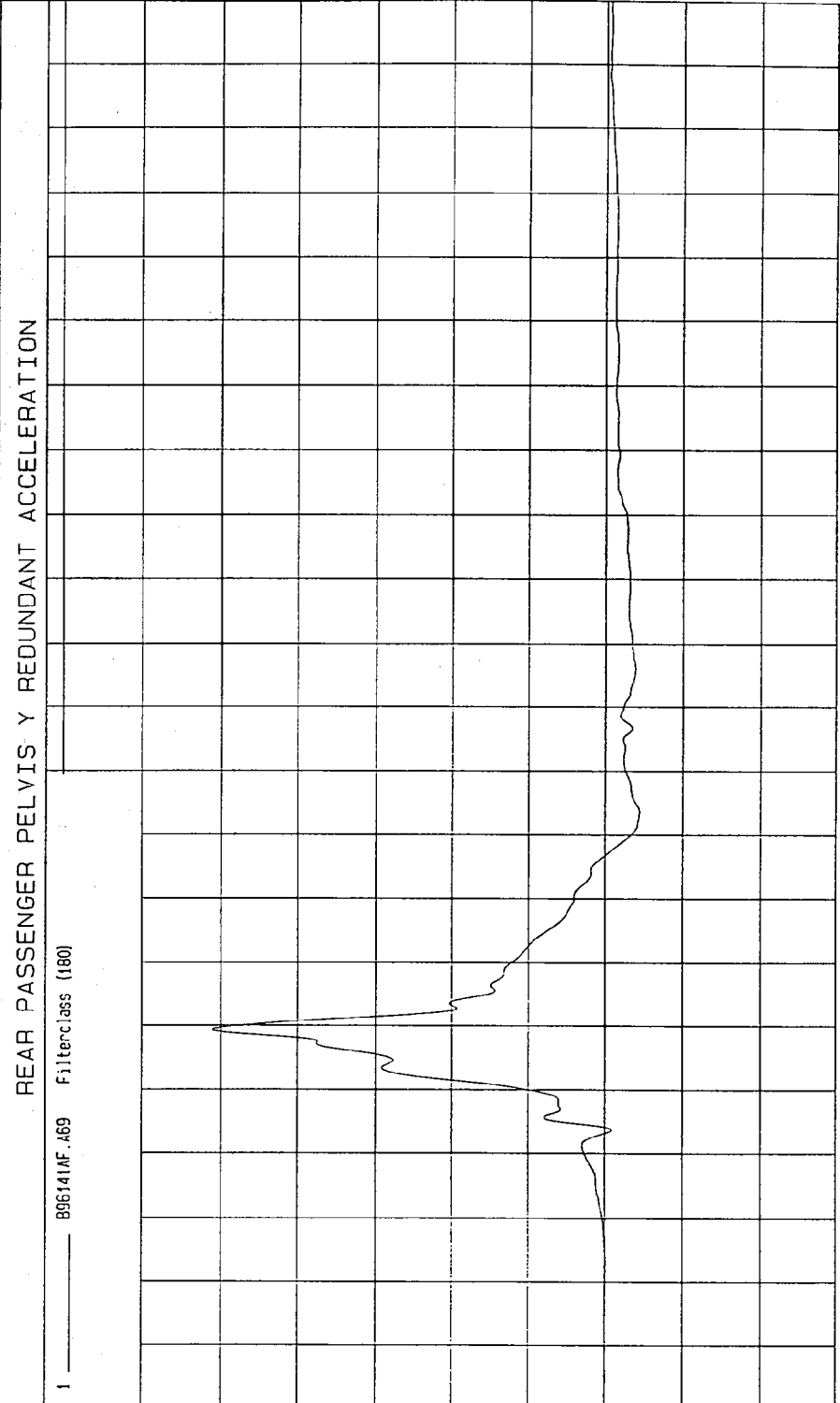
MCA Research
01-06-1997 15:32



TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-18-1996

COMPONENT: 1997 DODGE STRATUS (MV0301) Speed: 38.1 MPH 61.3 KPH

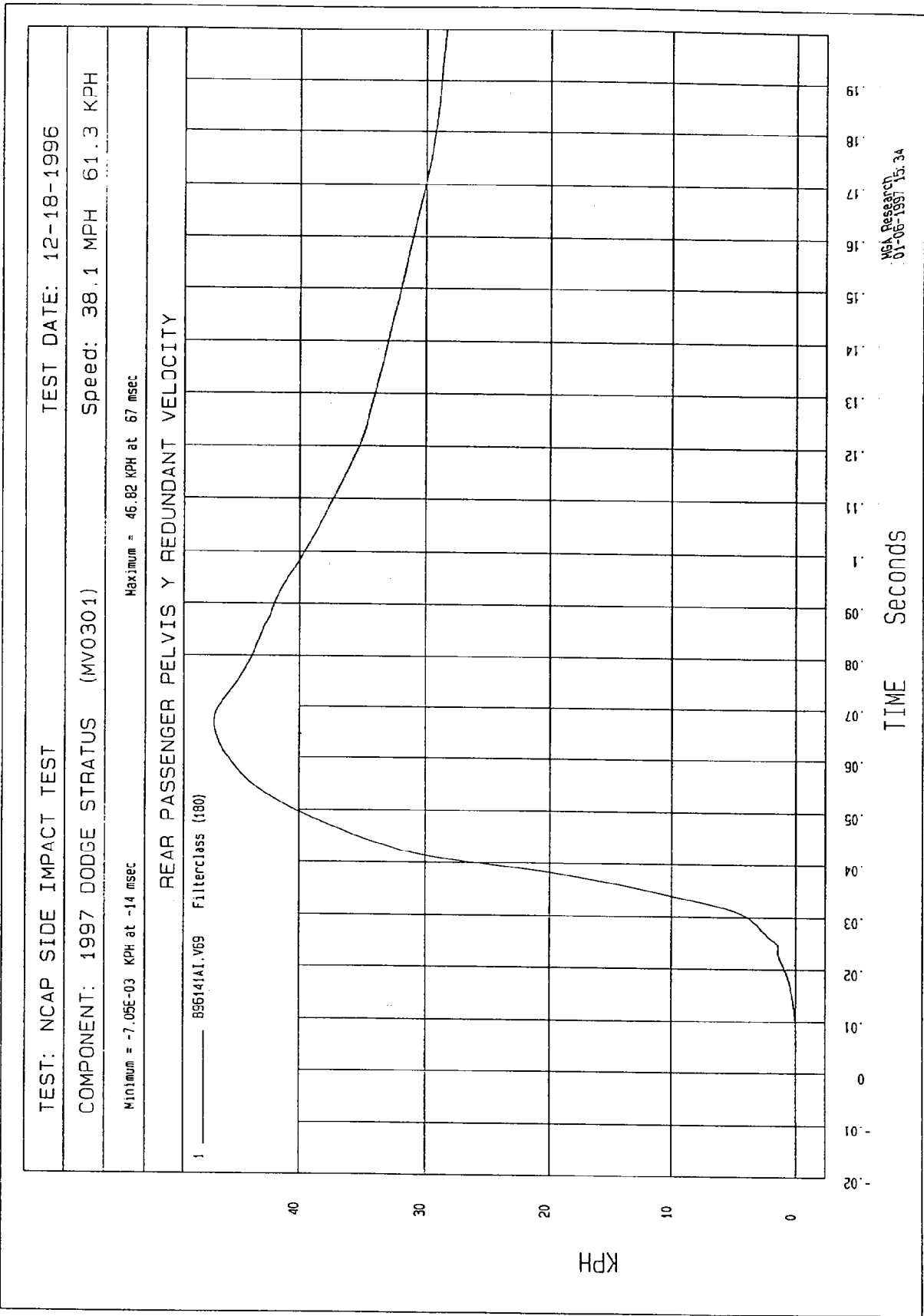
Minimum: -0.07 G'S at 74 msec Maximum: 102.07 G'S at 39 msec



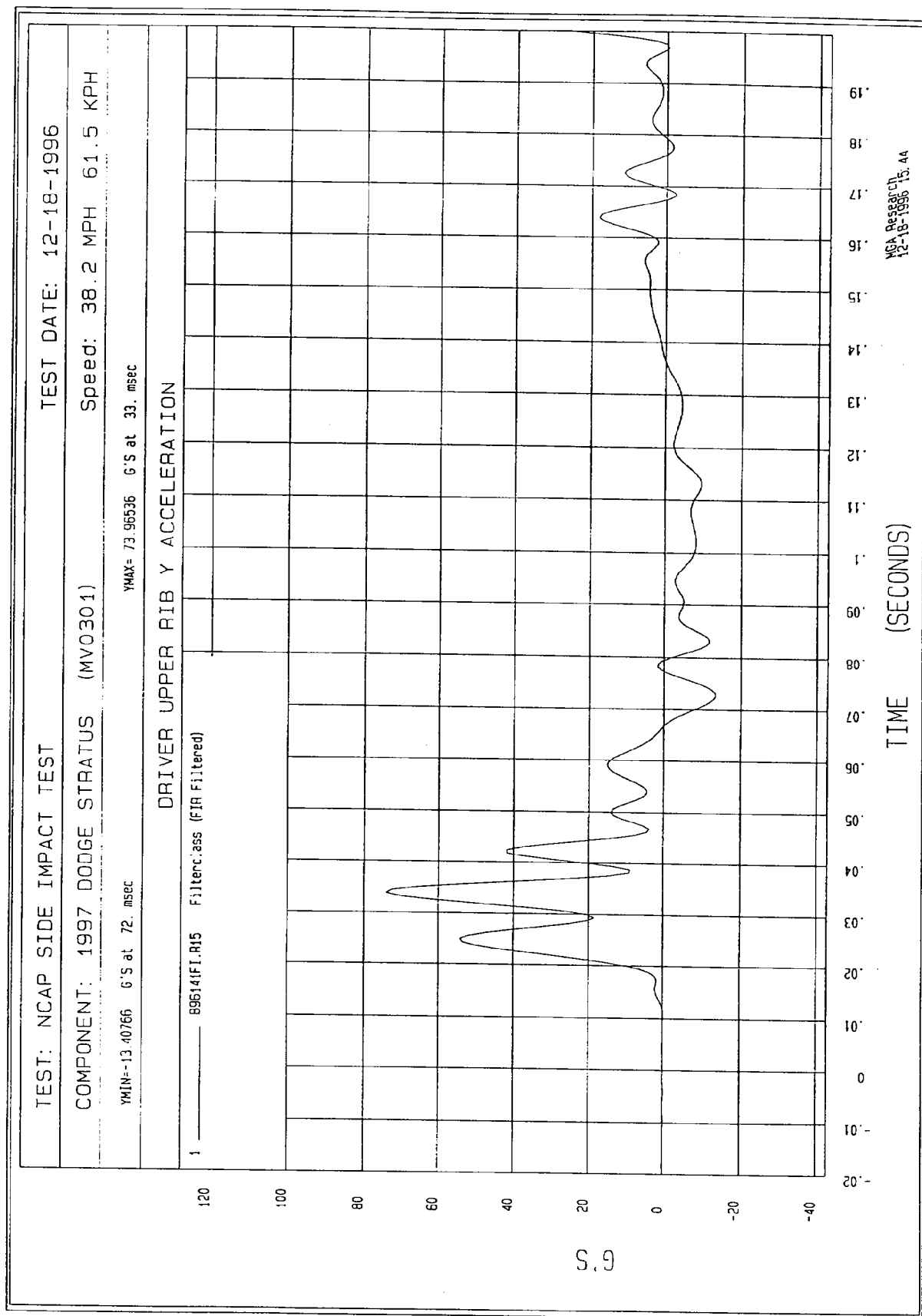
TIME (SECONDS)

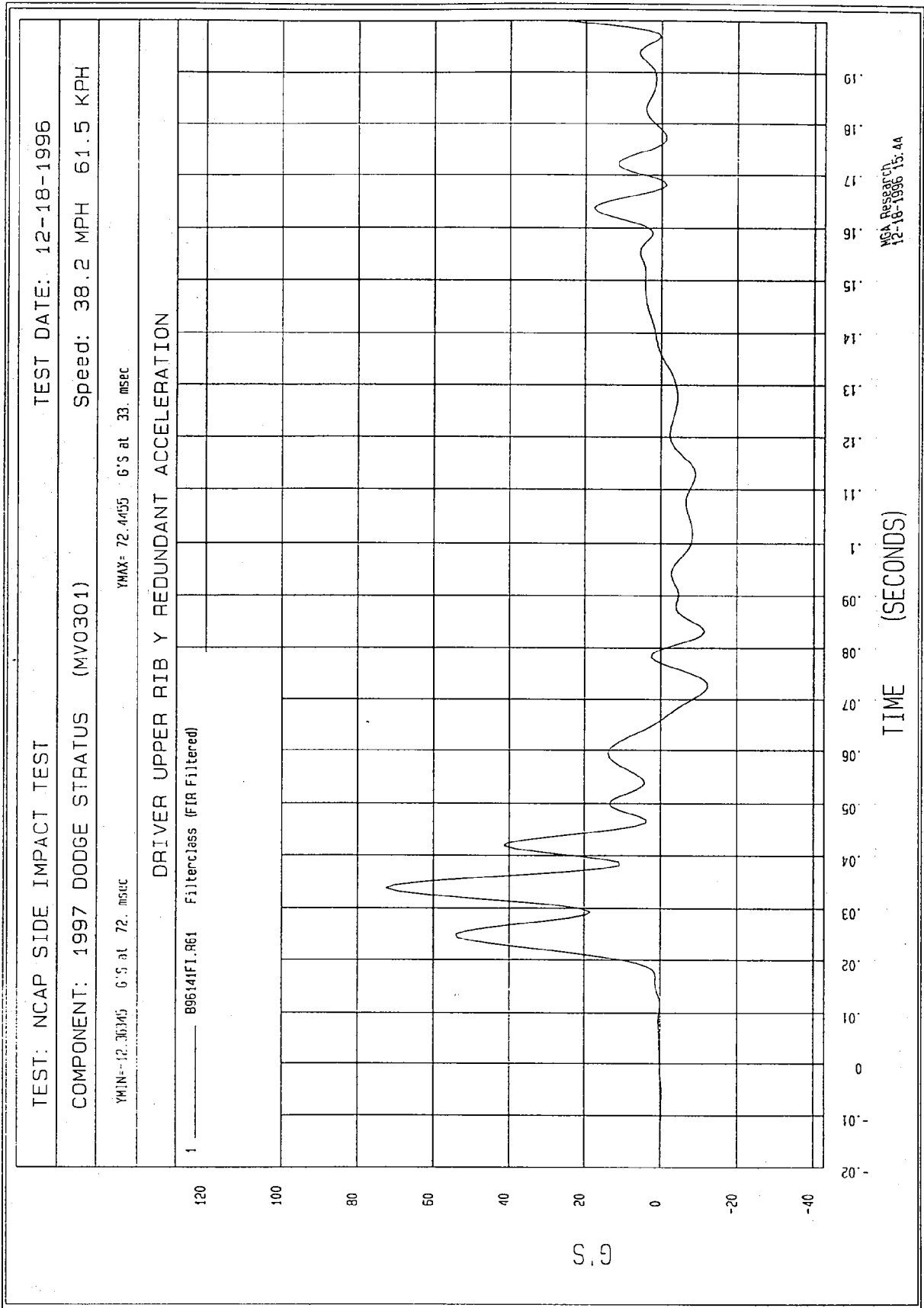
0.19 0.18 0.17 0.16 0.15 0.14 0.13 0.12 0.11 0.1 0.09 0.08 0.07 0.06 0.05 0.04 0.03 0.02 0.01 0 -0.01 -0.02

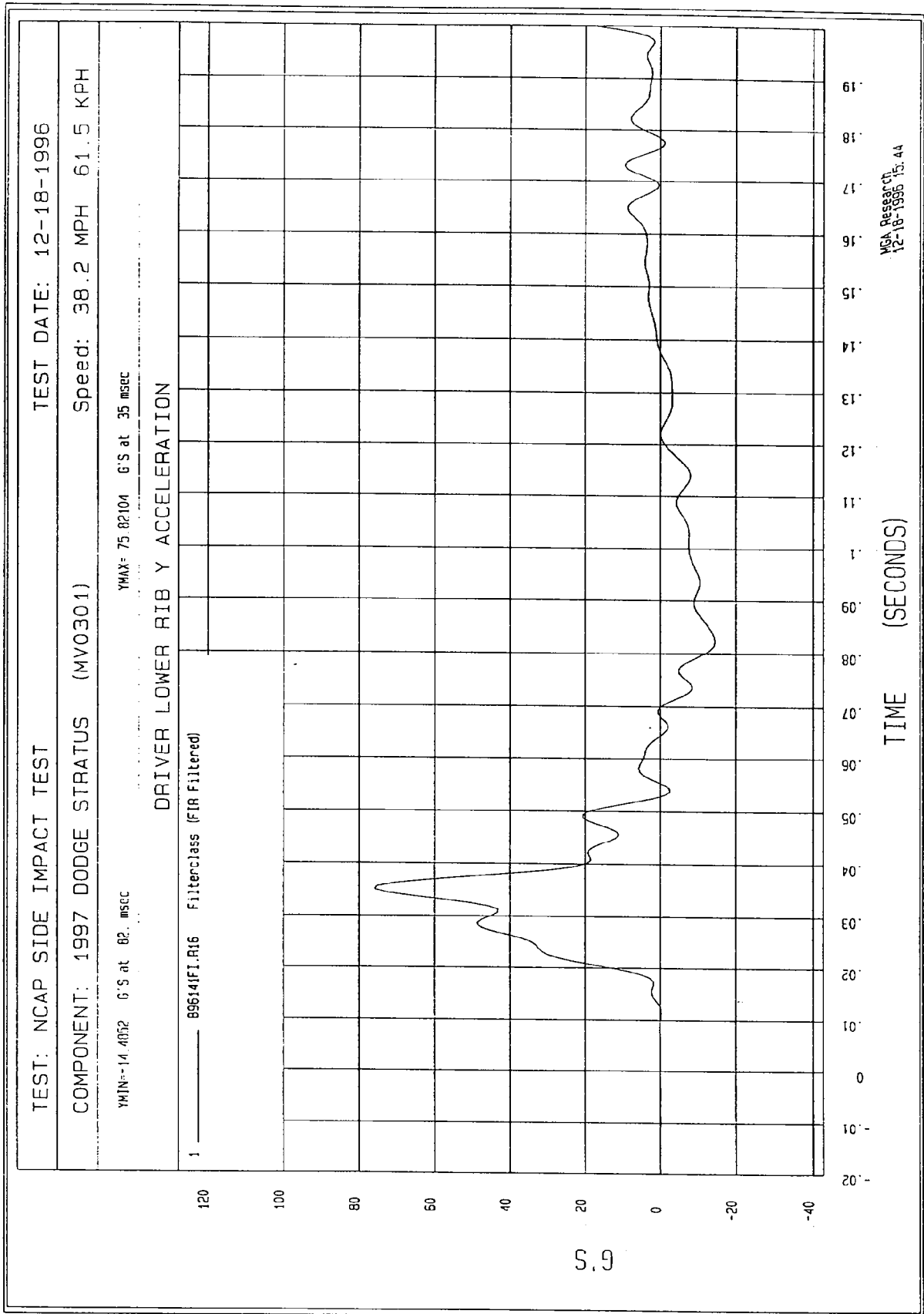
MSA Research
01-06-1997 15:32

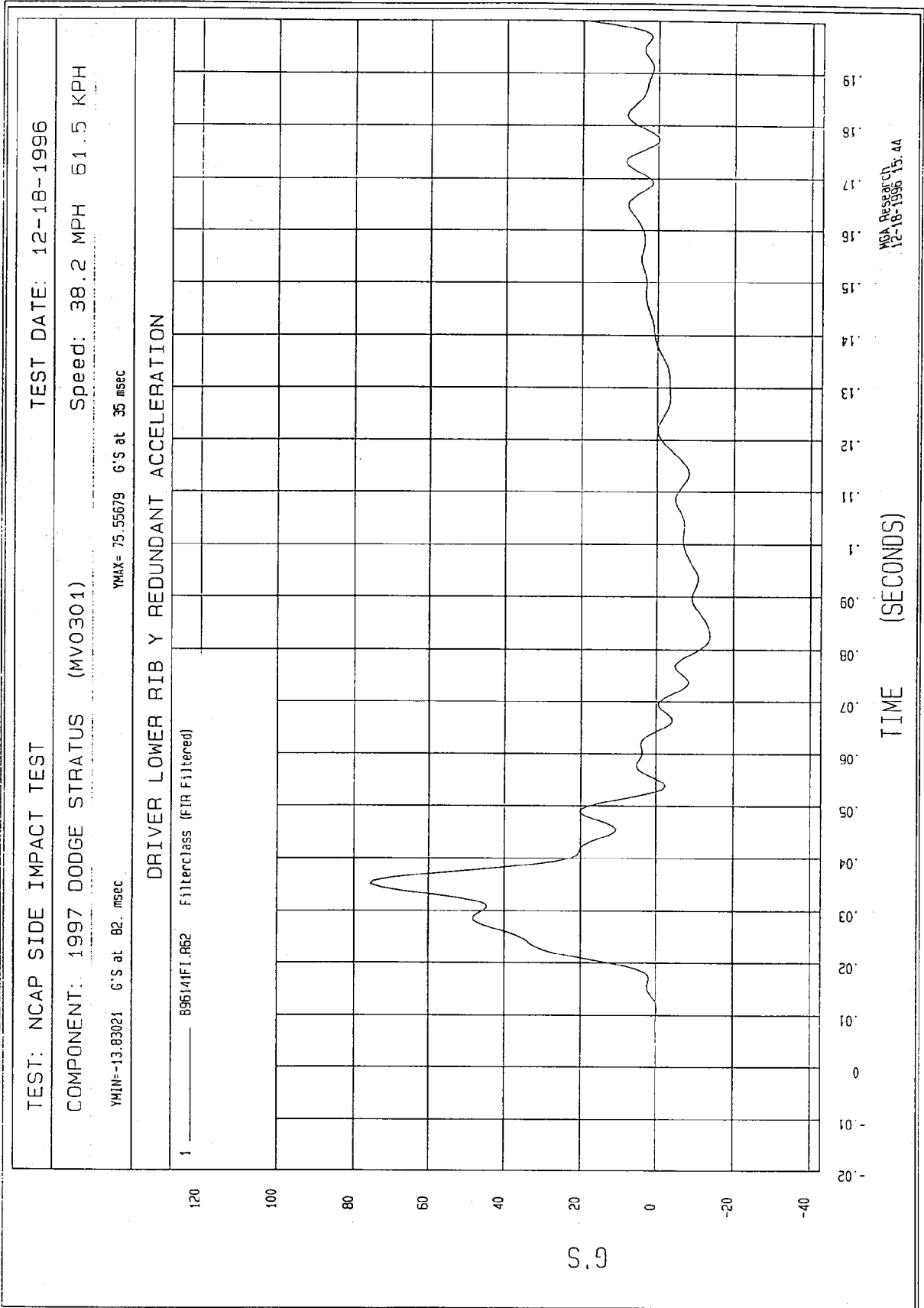


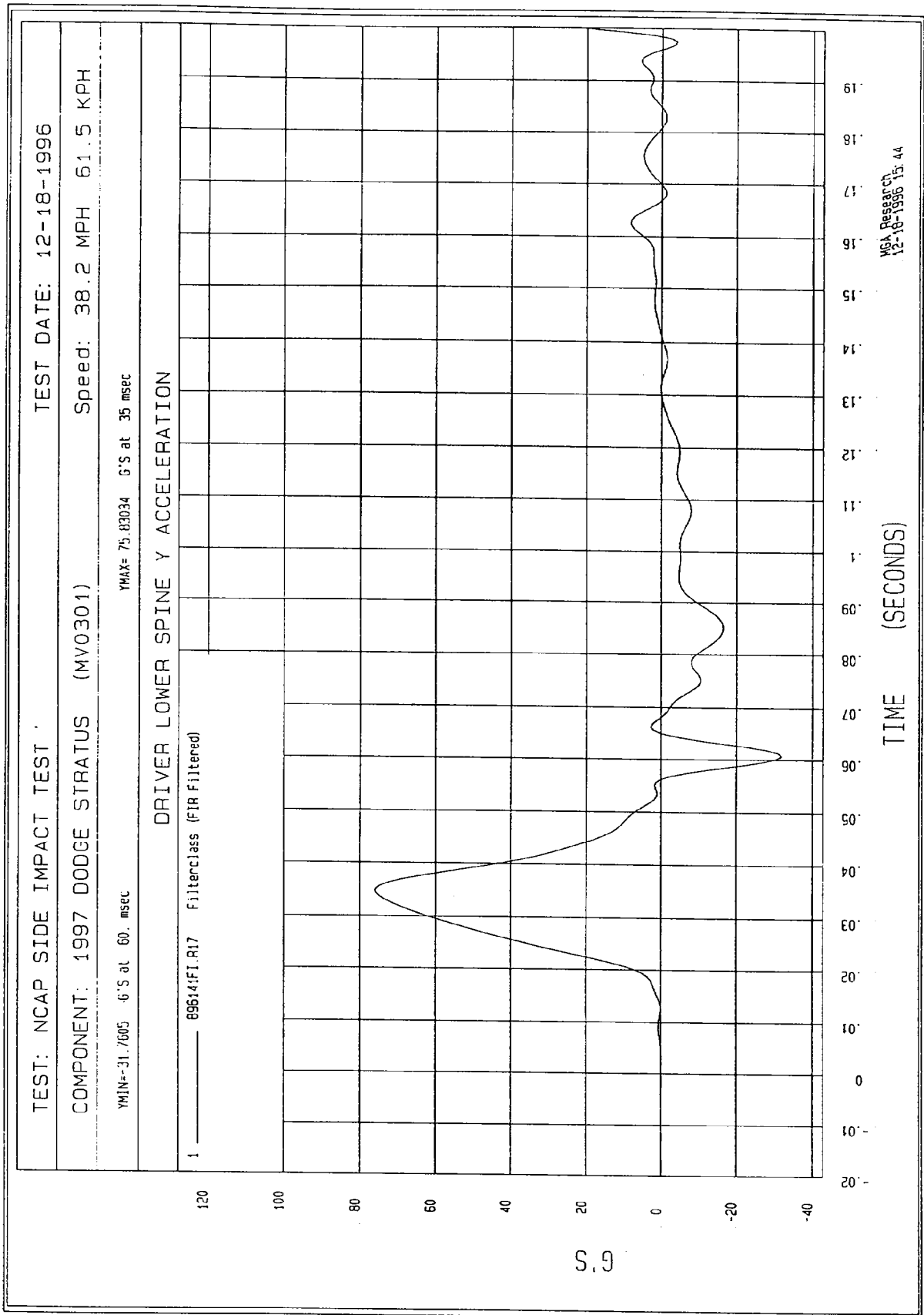
FINITE IMPULSE RESPONSE (FIR) FILTERED DATA

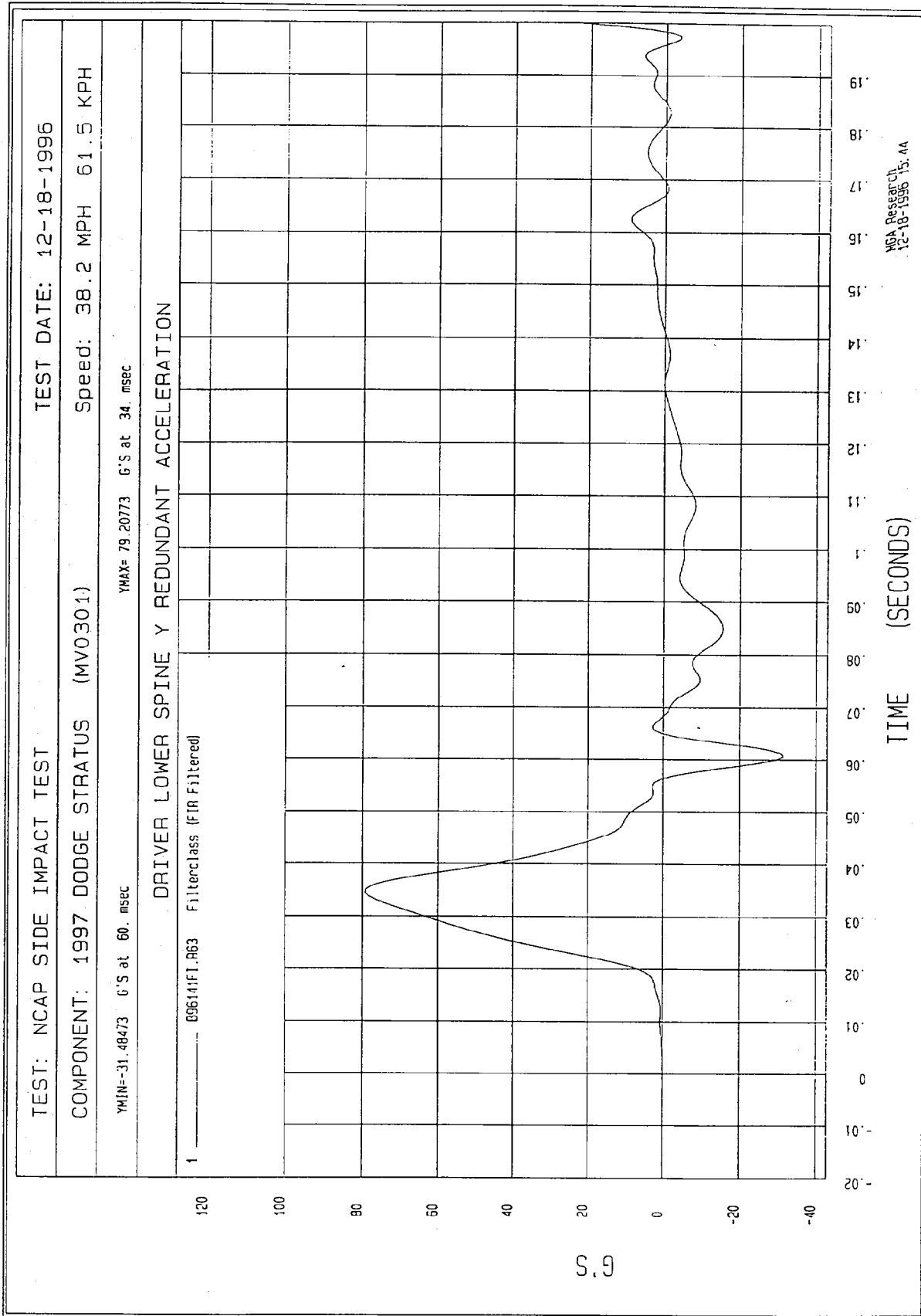


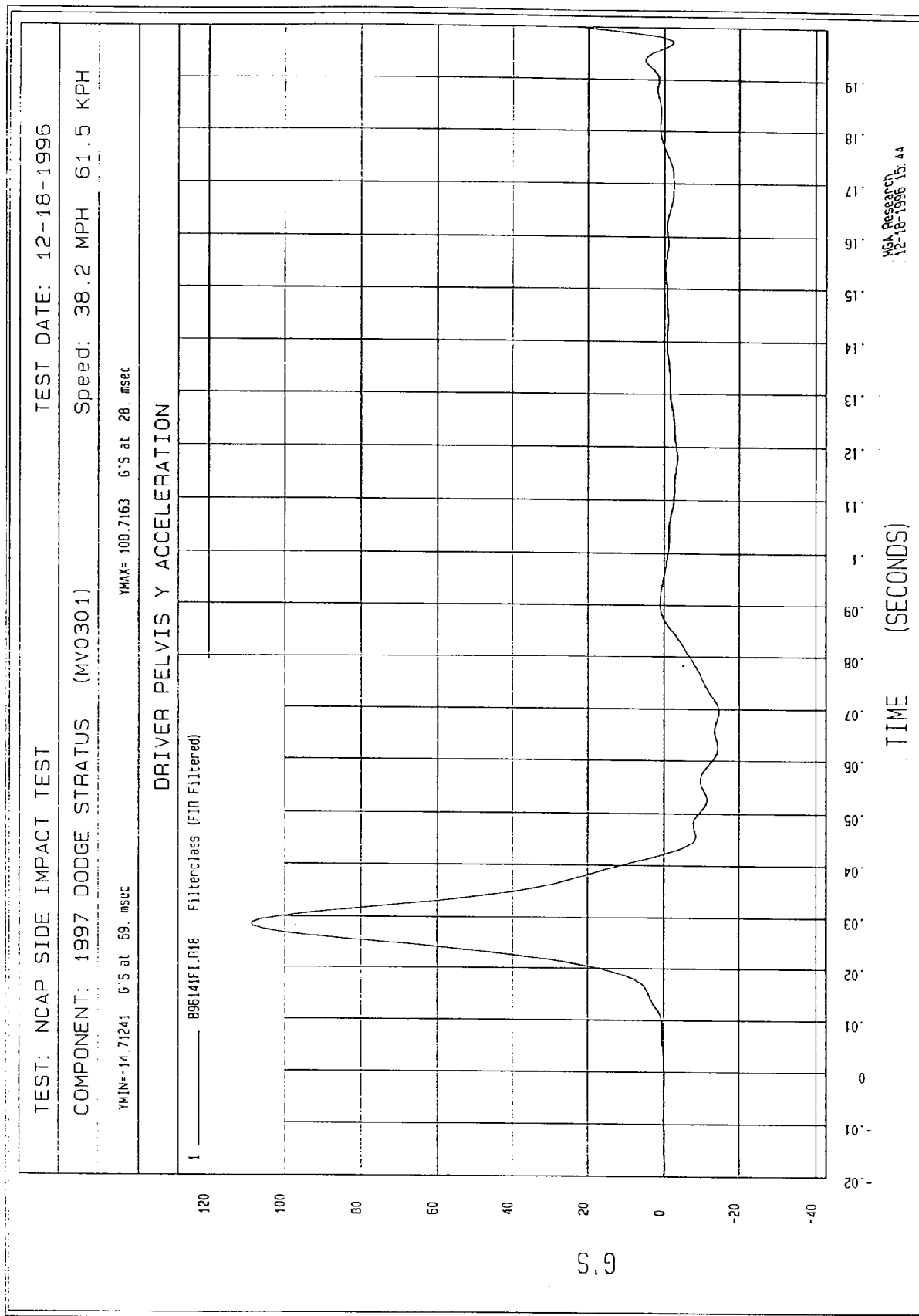


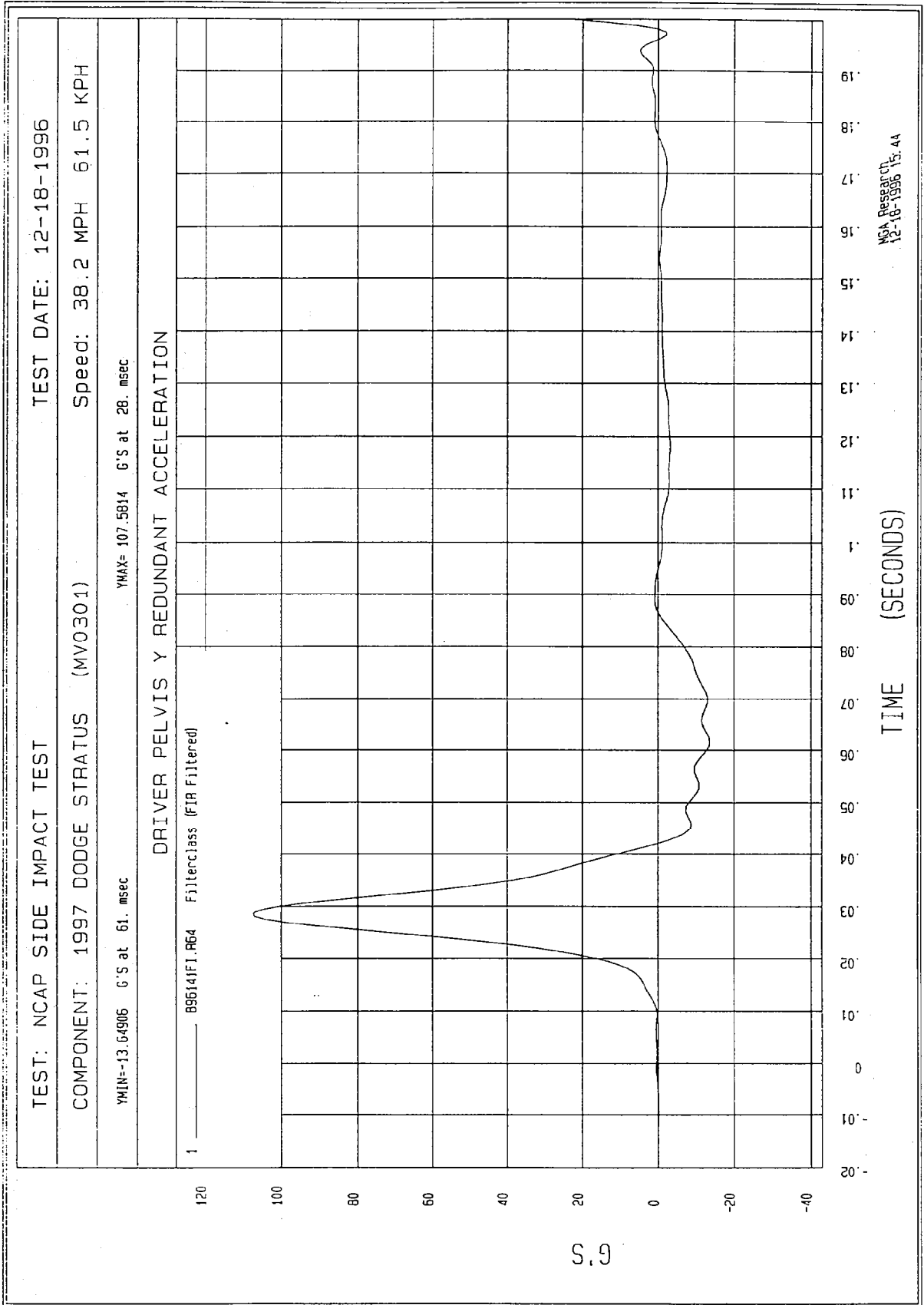


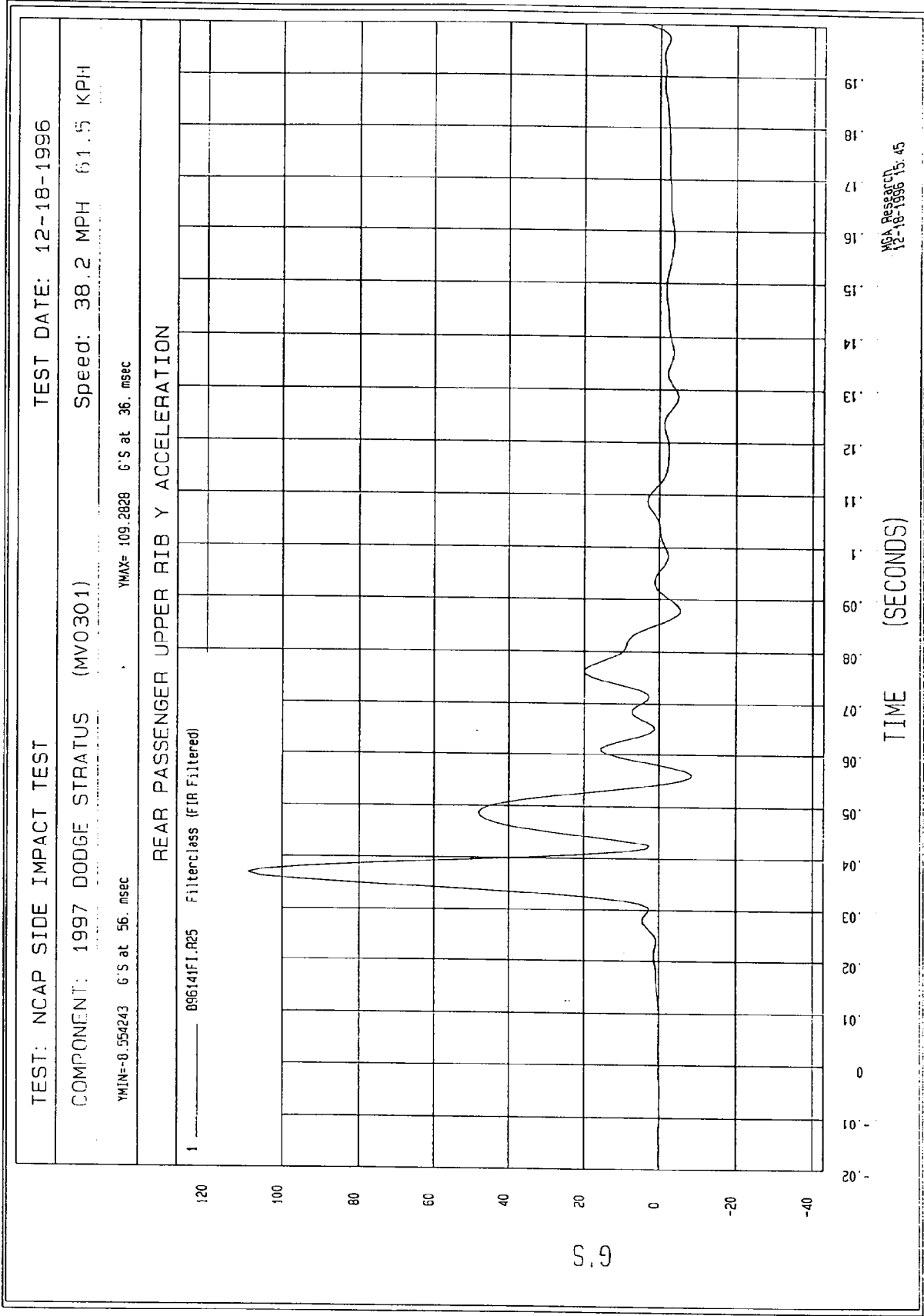


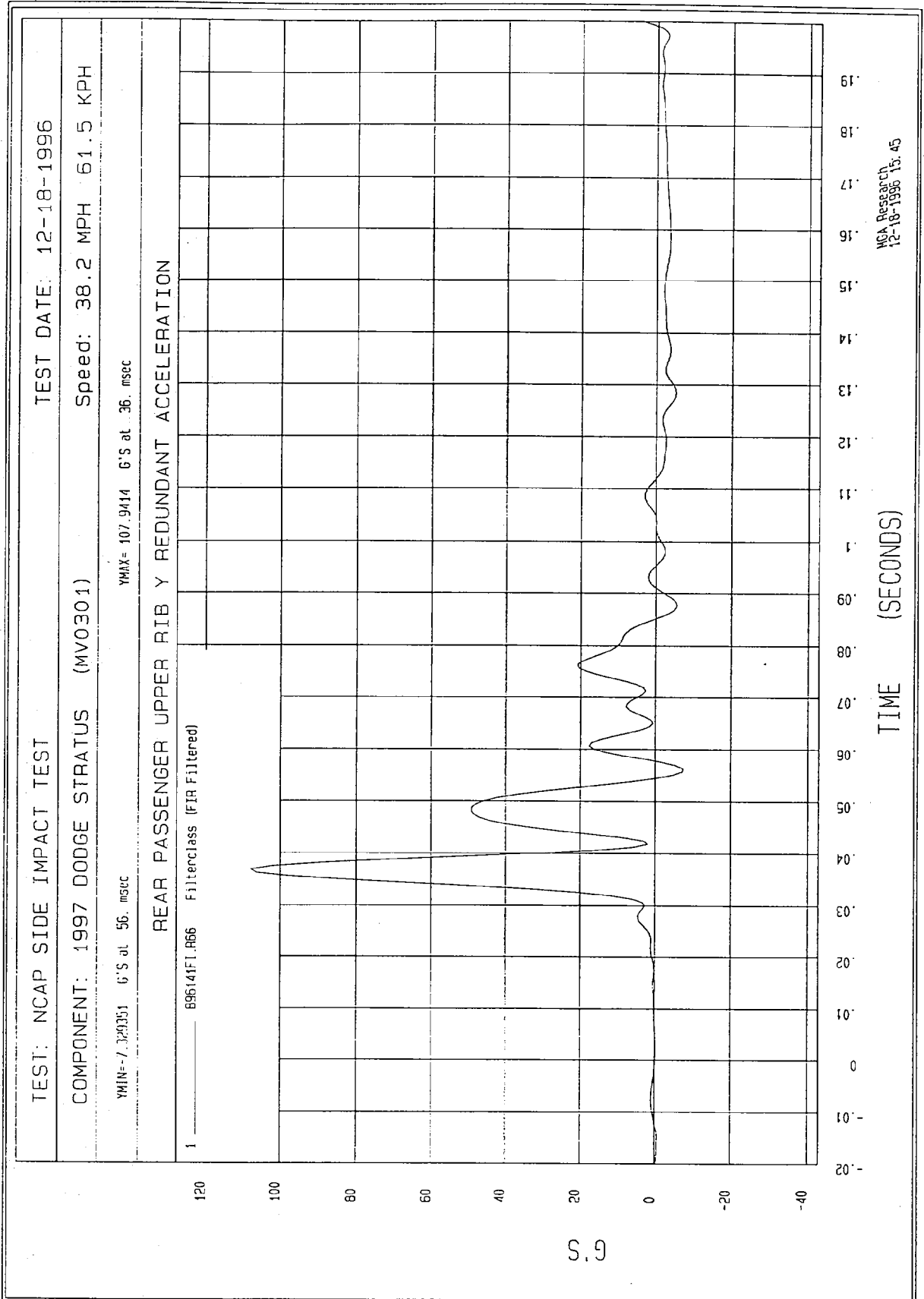


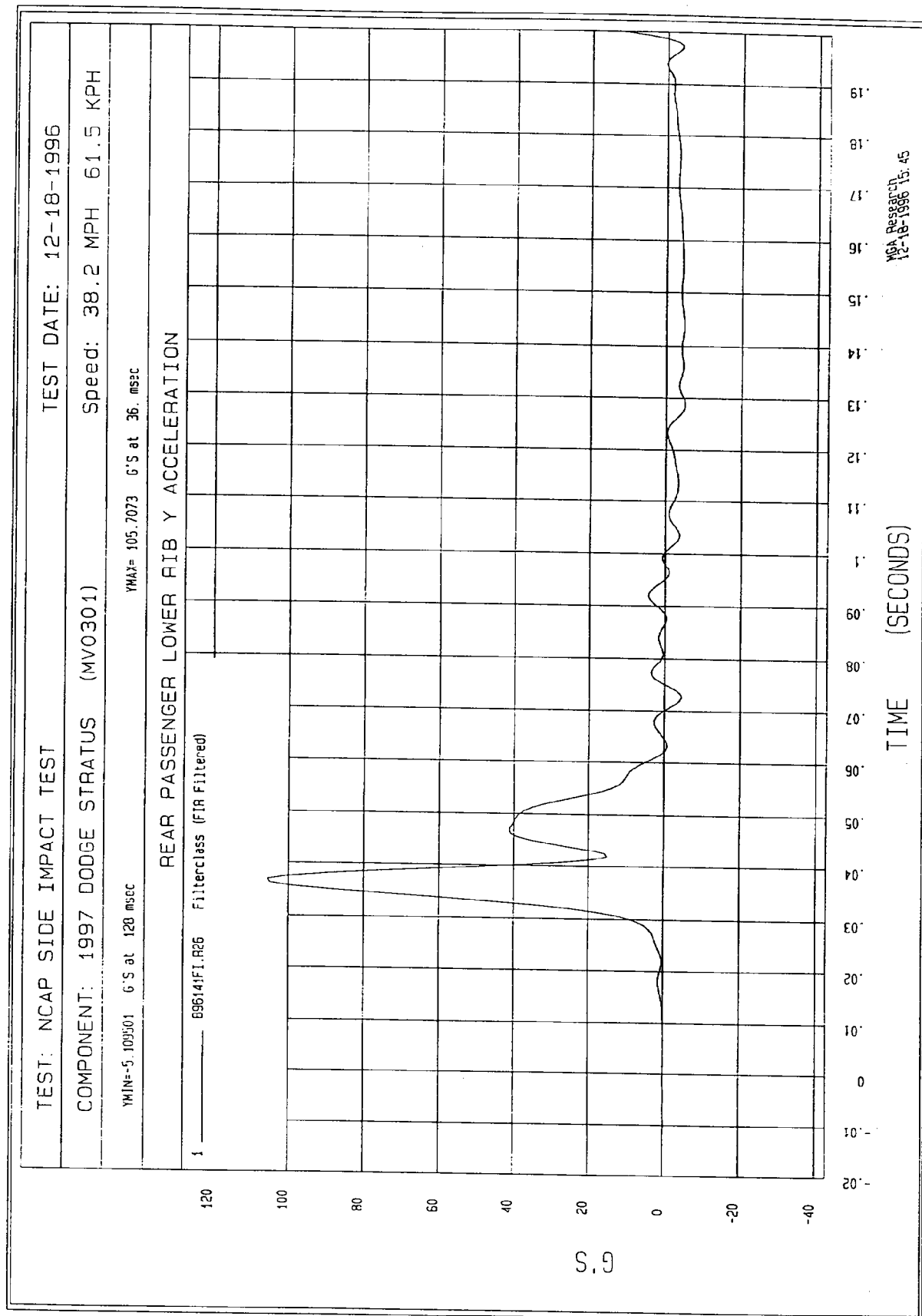


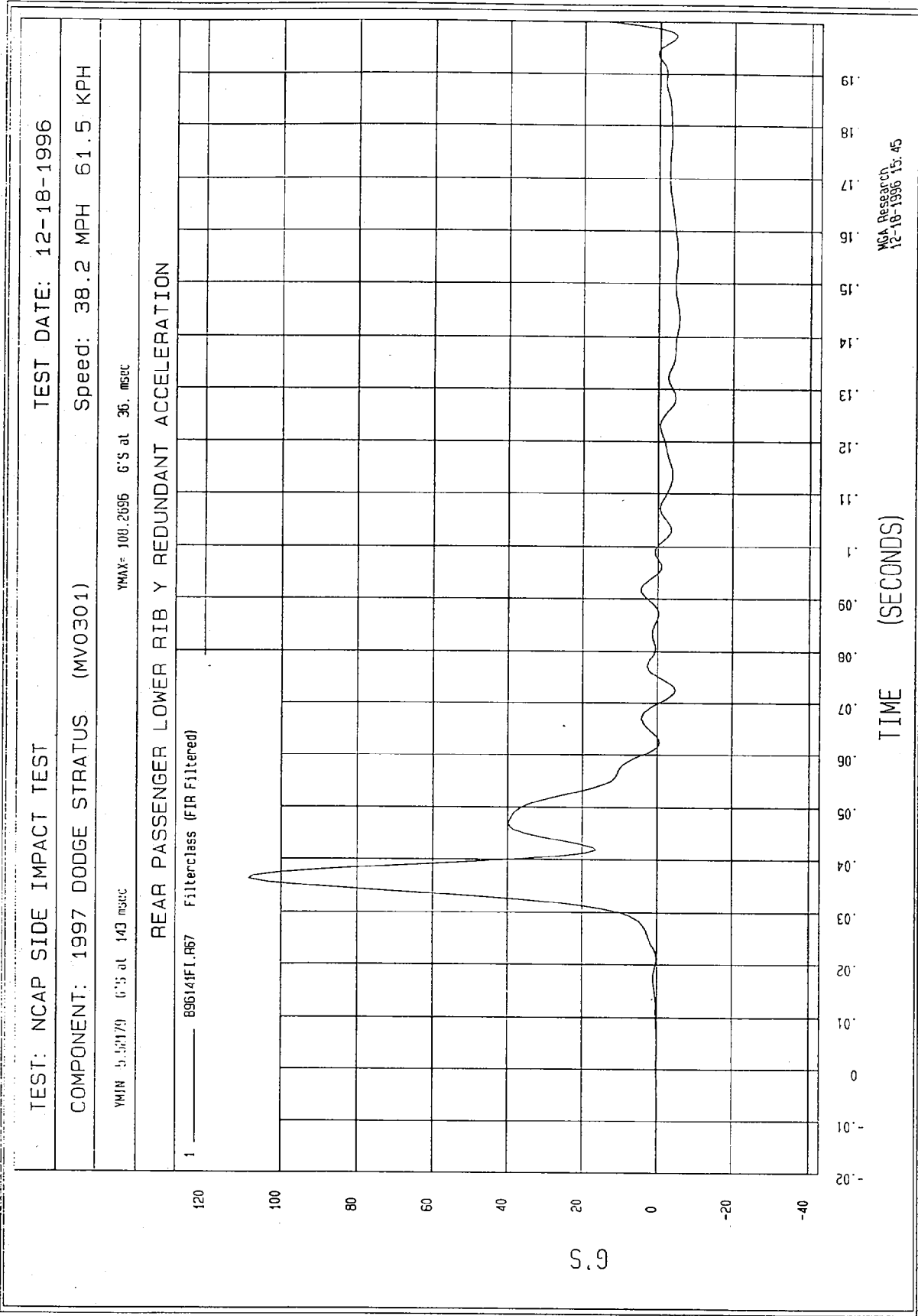


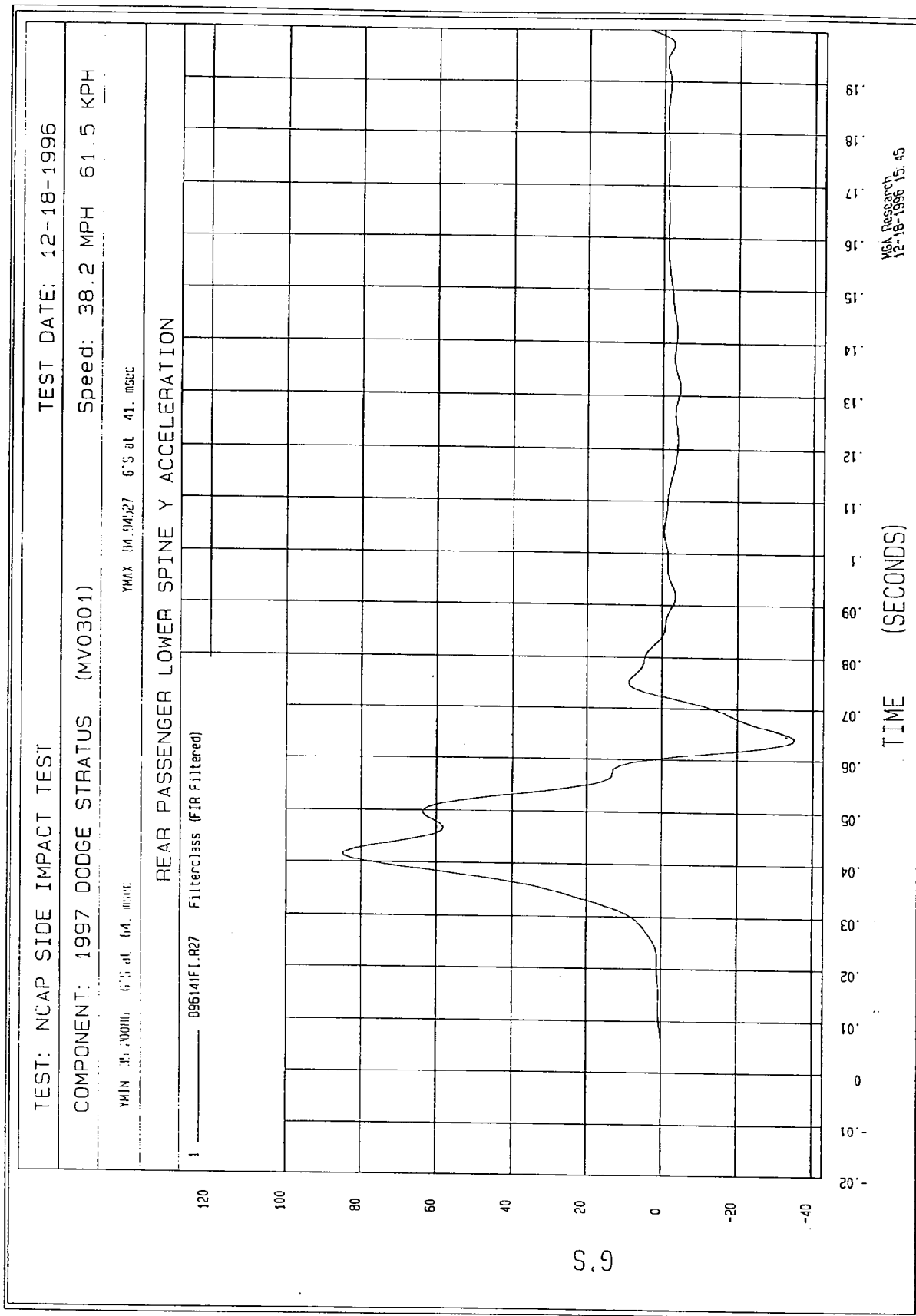


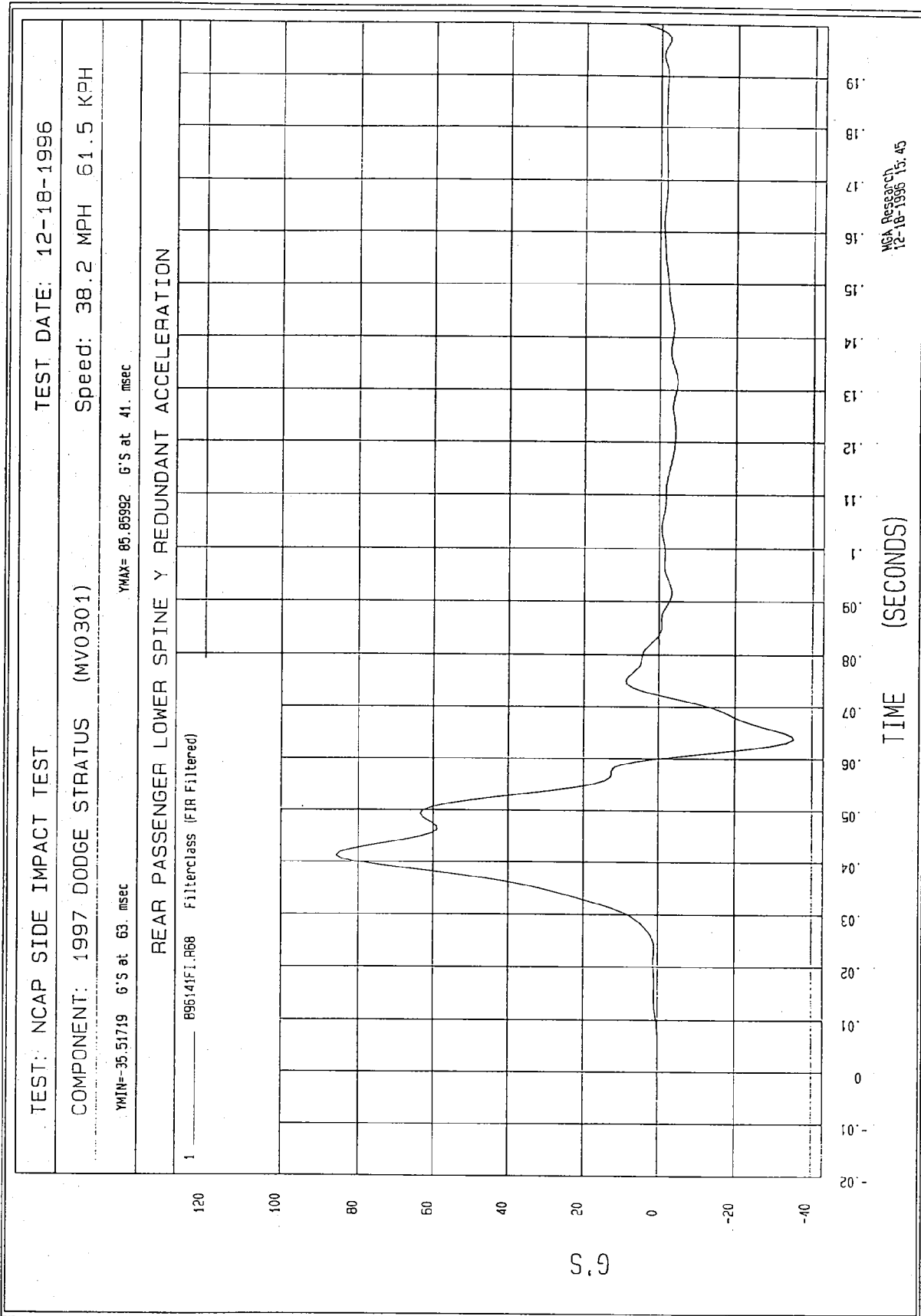


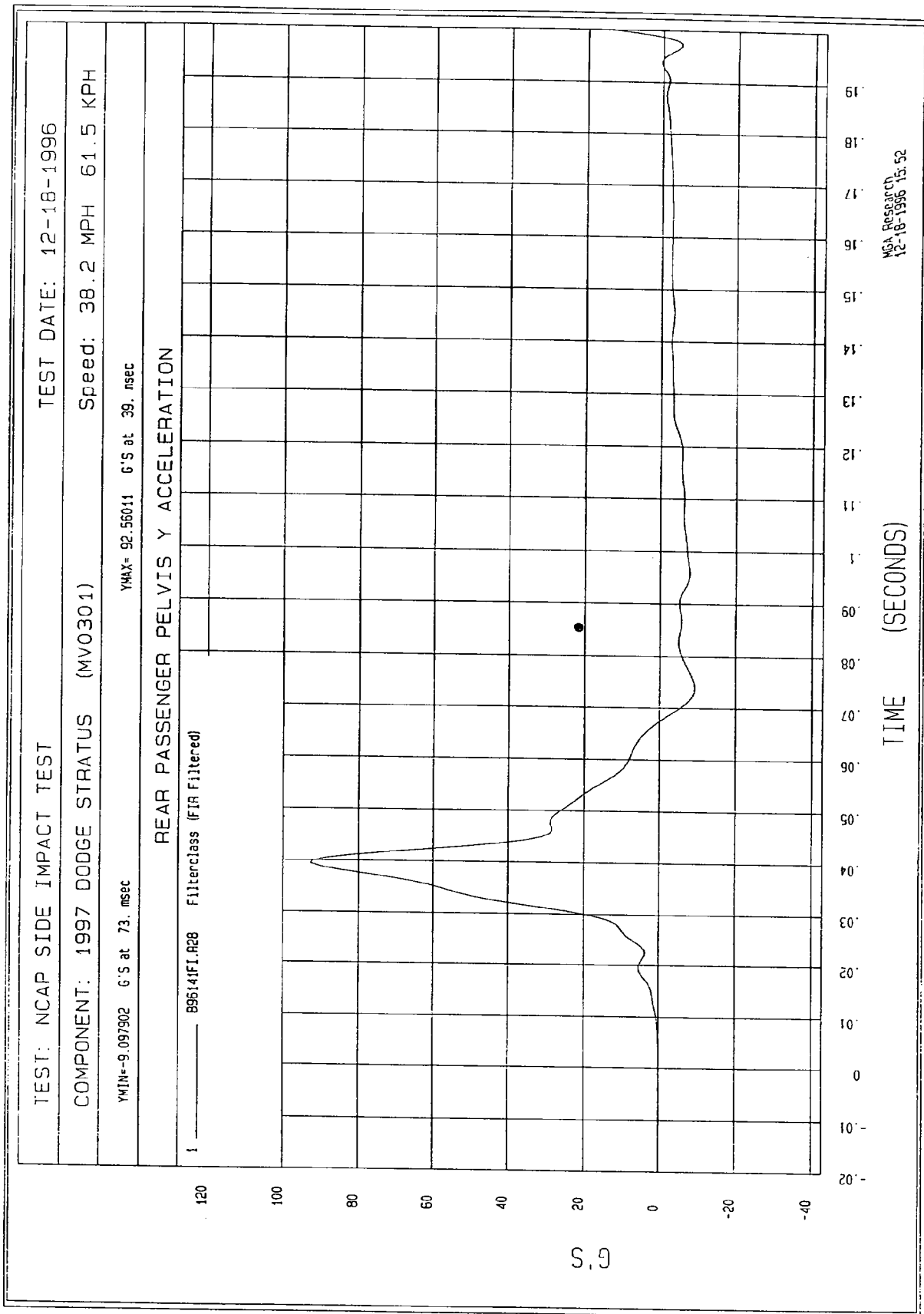












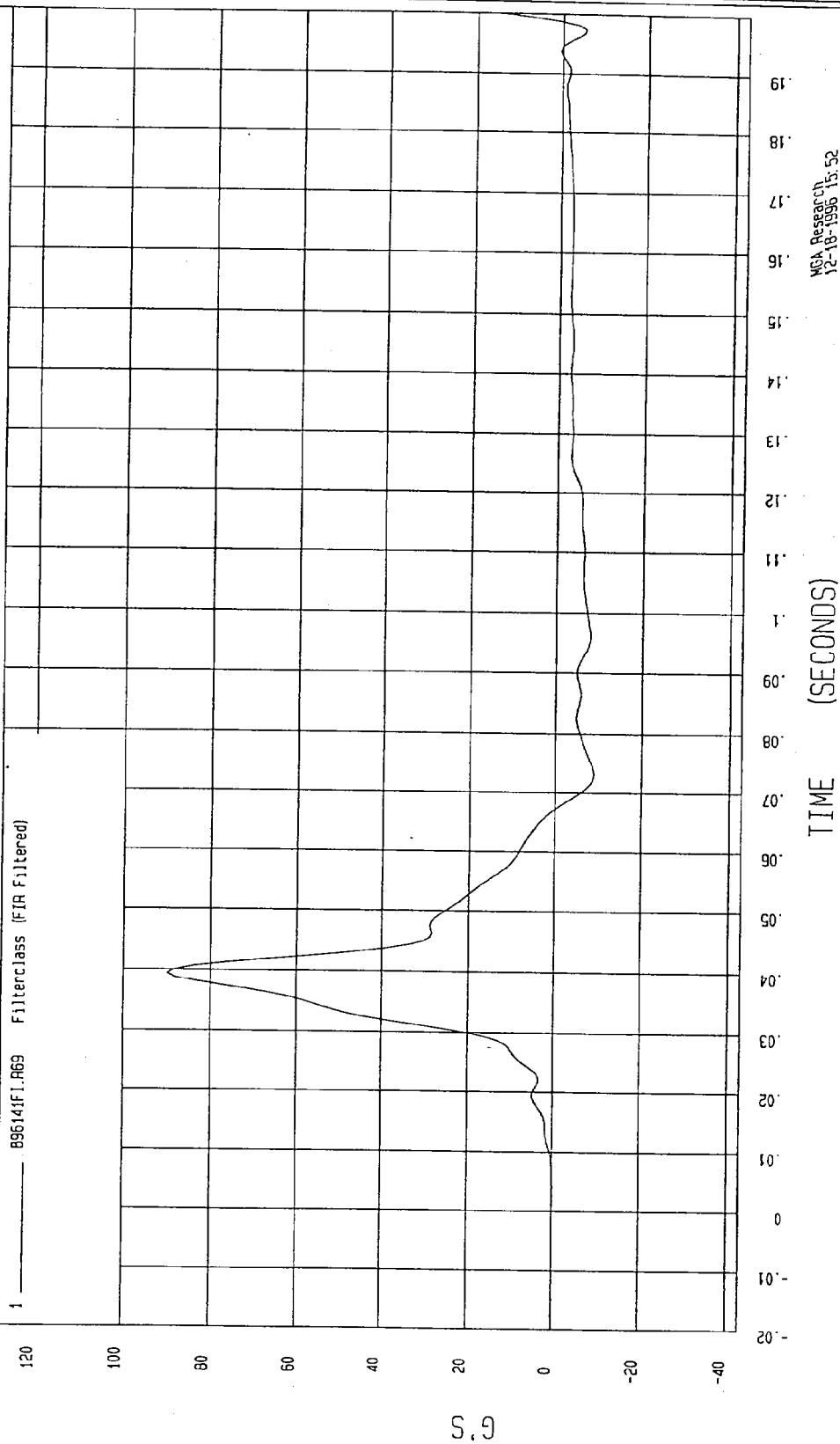
TEST DATE: 12-18-1996

Speed: 38.2 MPH 61.5 KPH

YMAX= 89.9683 G'S at 39. msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION

1



A vertical dashed line consisting of 18 black rectangular segments, evenly spaced, running down the left margin of the page.

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION

REPORT NO. MGA-97-DC08

DUMMY PERFORMANCE CALIBRATIONS

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST

1997 DODGE STRATUS 4 DOOR
NHTSA NO. MV0301

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105



Test Date: December 18, 1996

Report Date: January 10, 1997

FINAL REPORT

Prepared For:

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
ROOM 5313, NPS-10
400 SEVENTH STREET, S.W.
Washington, D.C. 20590

TABLE OF CONTENTS

		<u>Page No.</u>
DUMMY S/N: 271	PRE-TEST CERTIFICATION DATA	1-1
DUMMY S/N: 272	PRE-TEST CERTIFICATION DATA	2-1
DUMMY S/N: 271	POST-TEST CERTIFICATION DATA	3-1
DUMMY S/N: 272	POST-TEST CERTIFICATION DATA	4-1
DUMMY S/N: 271	POST-TEST INSPECTION CHECKLIST	5-1
DUMMY S/N: 272	POST-TEST INSPECTION CHECKLIST	6-1
	VEHICLE AND DUMMY TEMPERATURE	7-1

PRE-TEST CERTIFICATION DATA

Front Dummy Serial Number: 271

Calibration Test Results Summary

Dummy Serial Number: 271

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension 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 NO.: 271

DATE OF VERIFICATION: December 17, 1996

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.6
RH - Rib Height	19.75" - 20.50"	20.40
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.4
SW - Knee Pivot to Floor	19.3" - 19.9"	19.5
HW - Hip Width	14.0" - 15.4"	15.1

MEASUREMENTS BY:

Jim Milin

APPROVED BY:

Rene Kestake

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 17, 1996

DUMMY NUMBER: 271

TEST NUMBER: D962222

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	25%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	43
LOWER RIB	37 - 46 g's	43
LOWER SPINE	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN

Tim Wilson

APPROVED BY

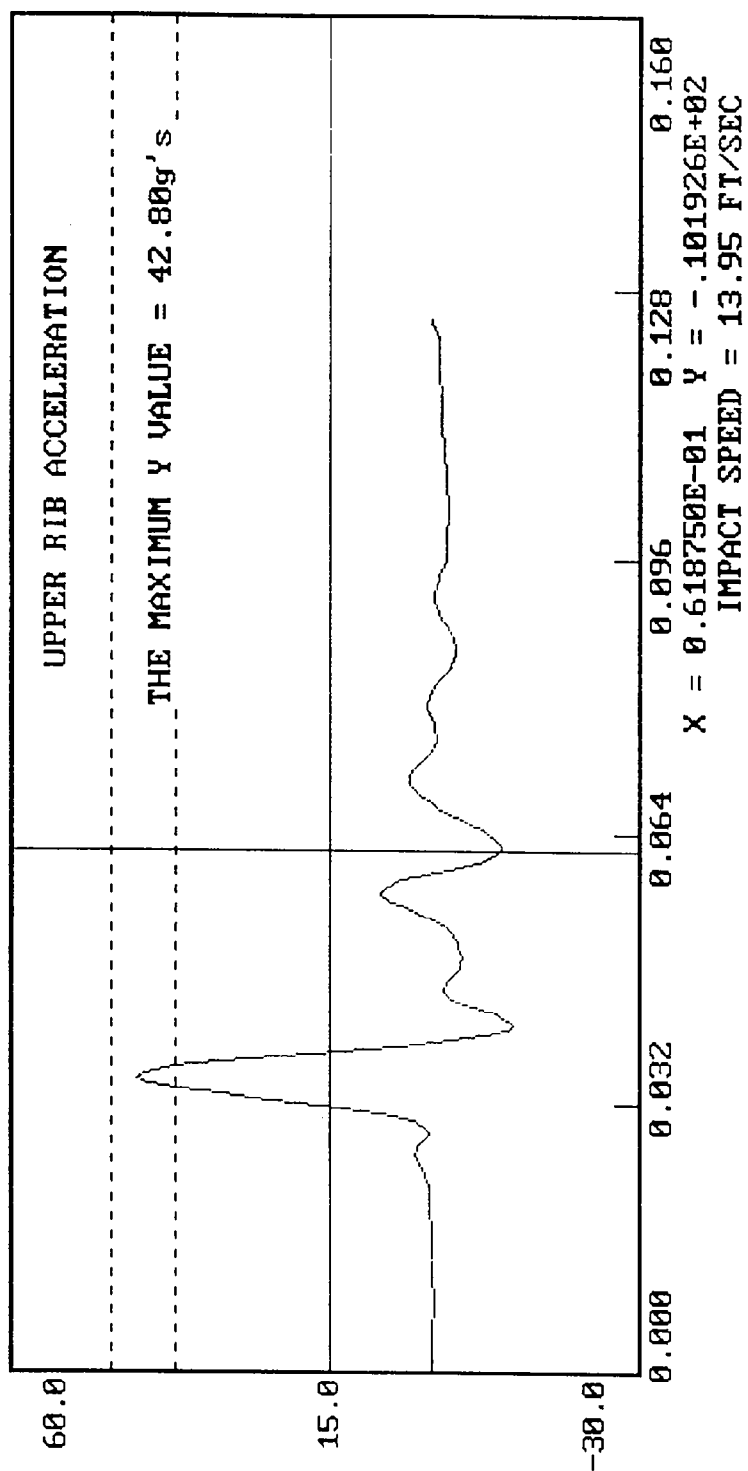
Rare Korbake

12-17-1996 16:28

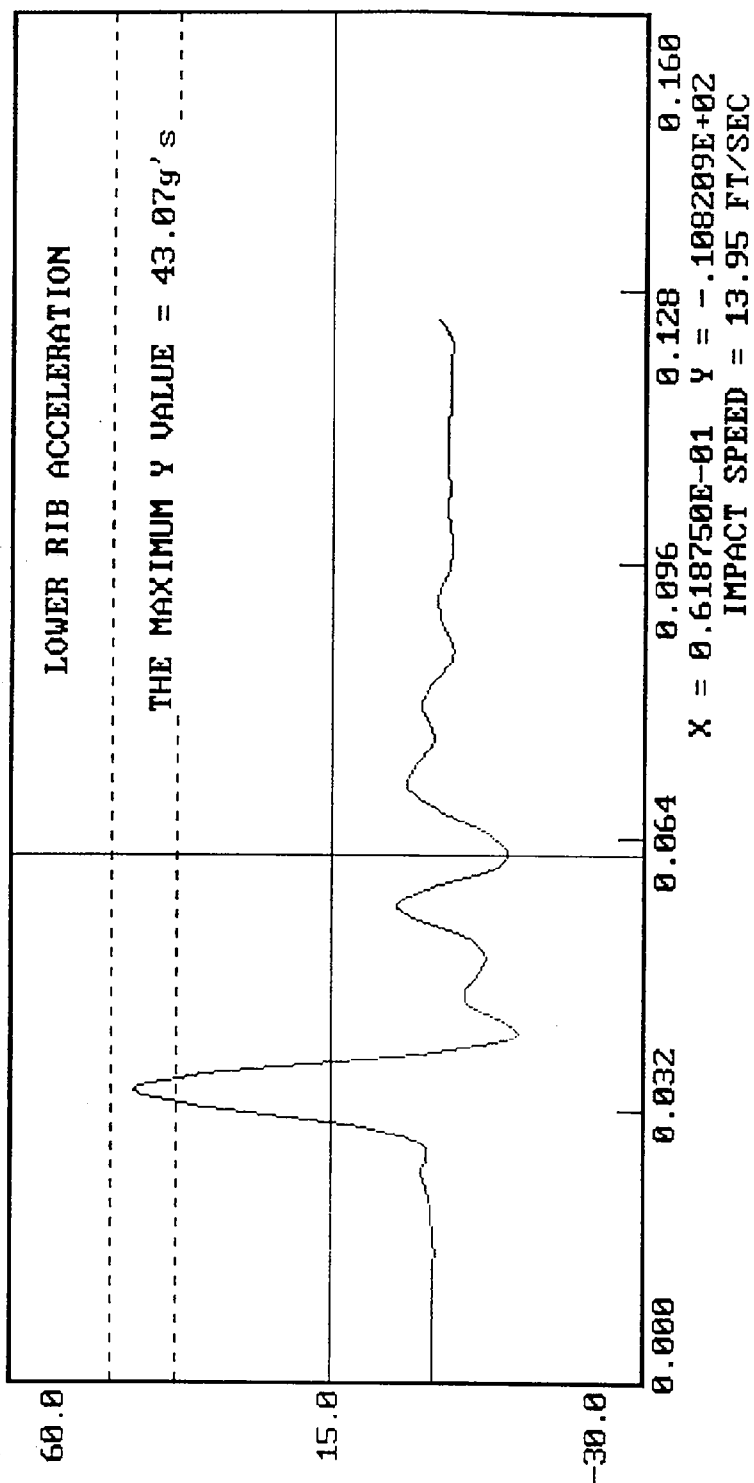
DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 271

ACCELERATION (G'S) VS. TIME ((SECONDS))



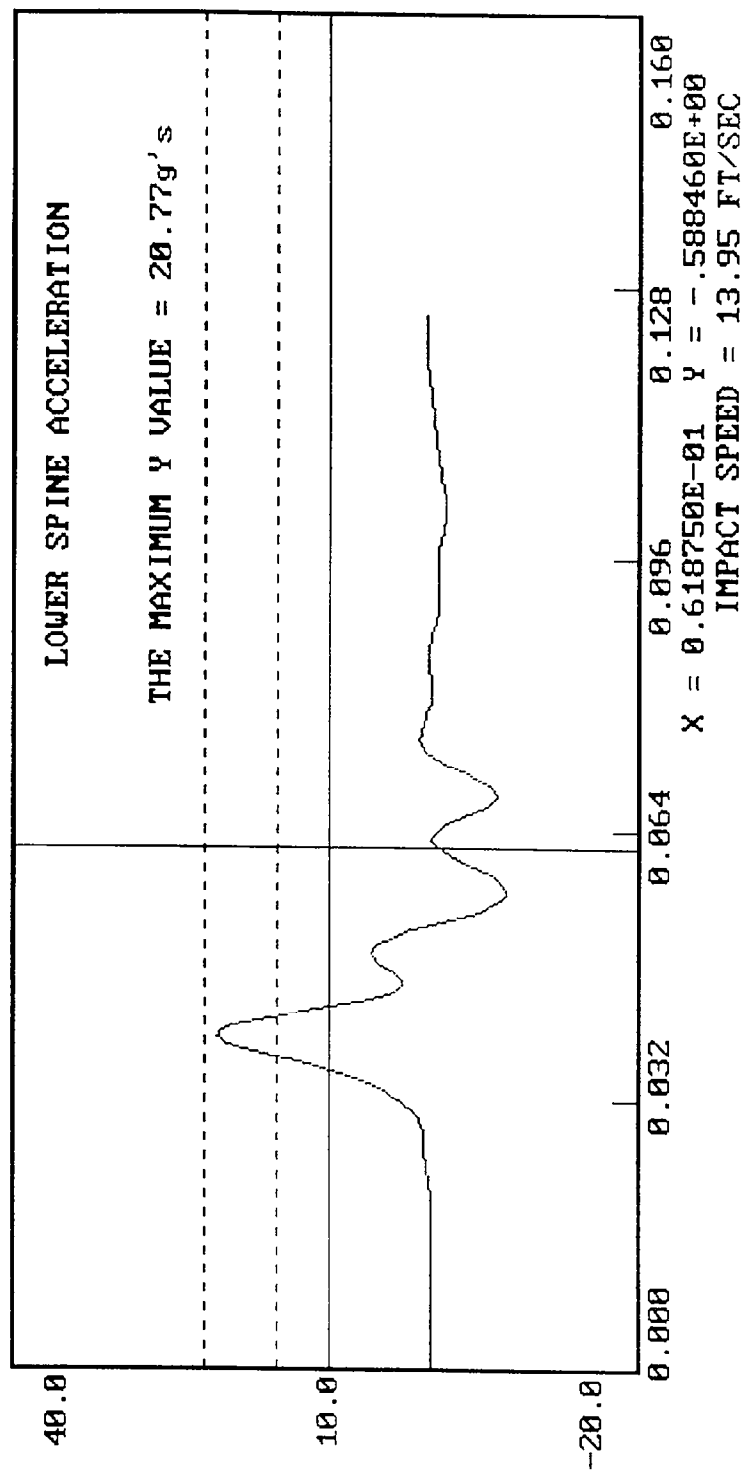
DUMMY CALIBRATION - THORAX IMPACT
 DUMMY # 271
 12-17-1996 16:28
 ACCELERATION (G'S) VS. TIME ((SECONDS))



DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 271

ACCELERATION (G'S) VS. TIME ((SECONDS))



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 17, 1996

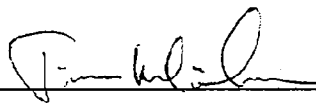
DUMMY NUMBER: 271

TEST NUMBER: D962223

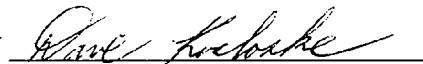
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	25%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	46

TEST MEETS SPECIFICATIONS

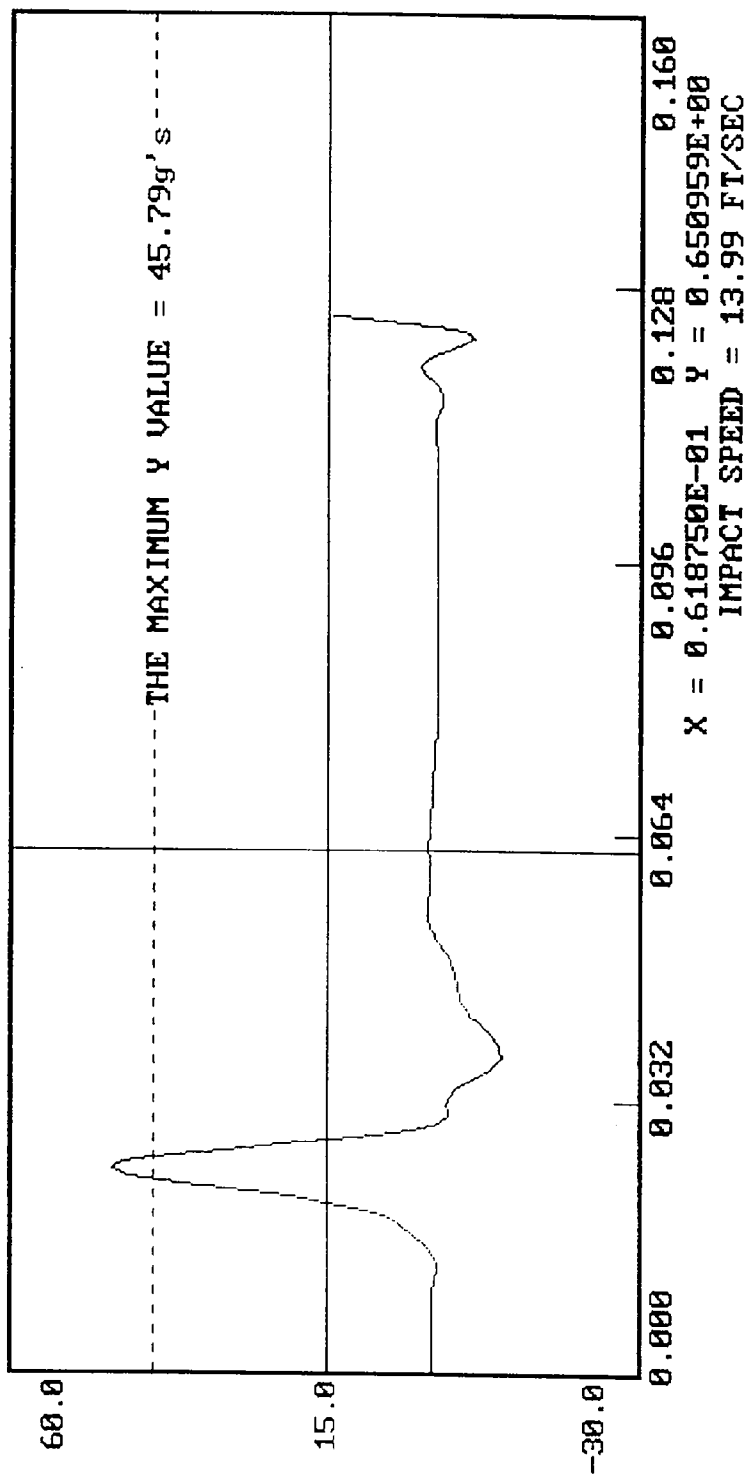
TECHNICIAN



APPROVED BY



DUMMY CALIBRATION - PELVIS IMPACT
 DUMMY # 271
 12-17-1996 16:43
 ACCELERATION (G'S) VS. TIME ((SECONDS))



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

DATE: December 16, 1996

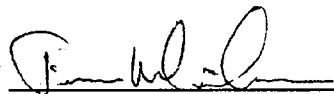
DUMMY NUMBER: 271

TEST NUMBER: D962224

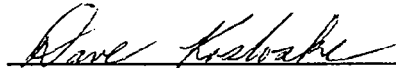
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0.5 in	23.3 - 36.5 lbs	31.8
FORCE @ 0.75 in	36.7 - 49.8 lbs	44.2
FORCE @ 1.0 in	50 - 63 lbs	58
FORCE @ 1.3 in	73 - 88 lbs	80

TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY

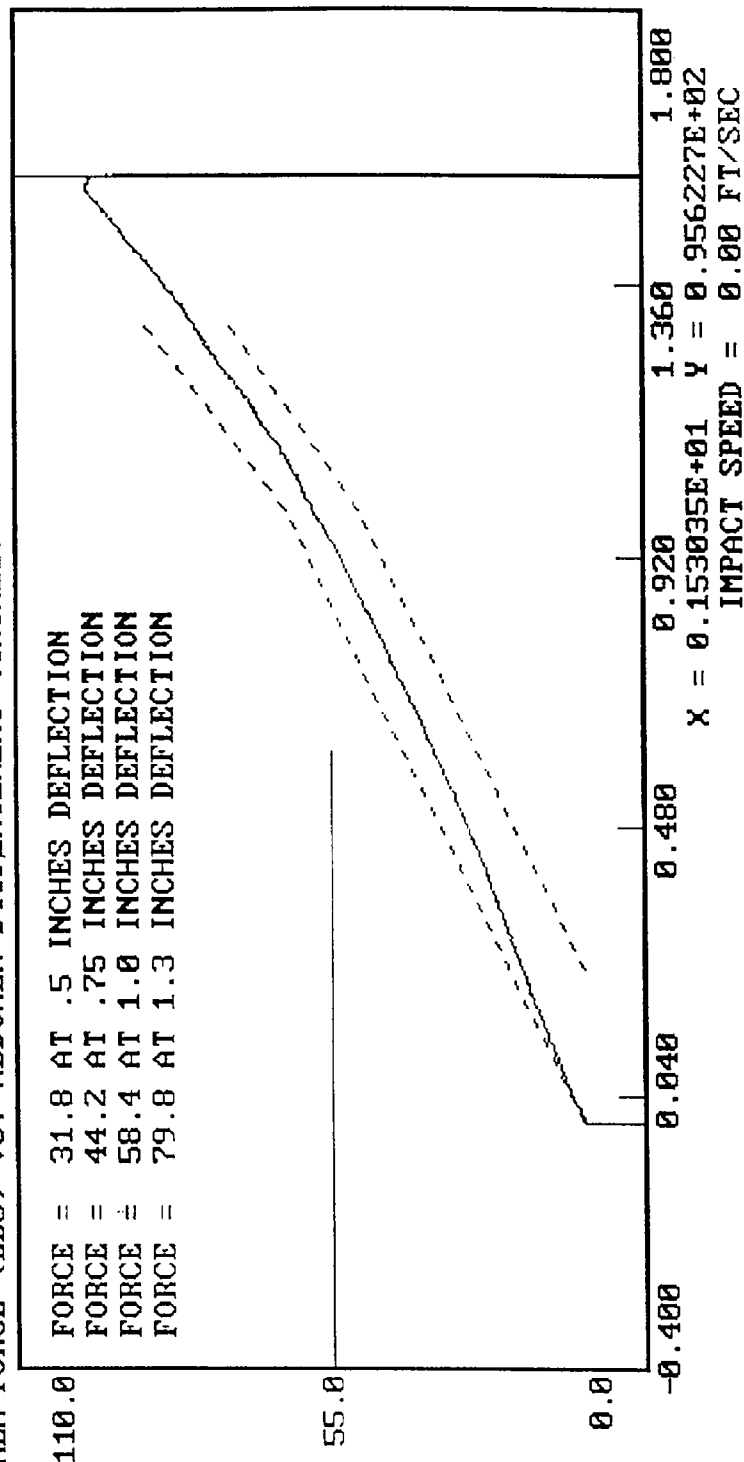


12-16-1996 12:23

DUMMY CALIBRATION - ABDOMEN COMPRESSION

DUMMY # 271

ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 16, 1996

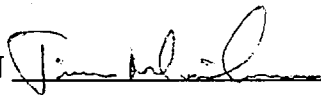
DUMMY NUMBER: 271

TEST NUMBER: D962225

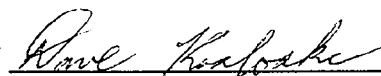
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	26
FORCE @ 30°	34 - 46 lbs	37
FORCE @ 40°	46 - 58 lbs	48
RETURN ANGLE	12° maximum	5°

TEST MEETS SPECIFICATIONS

TECHNICIAN

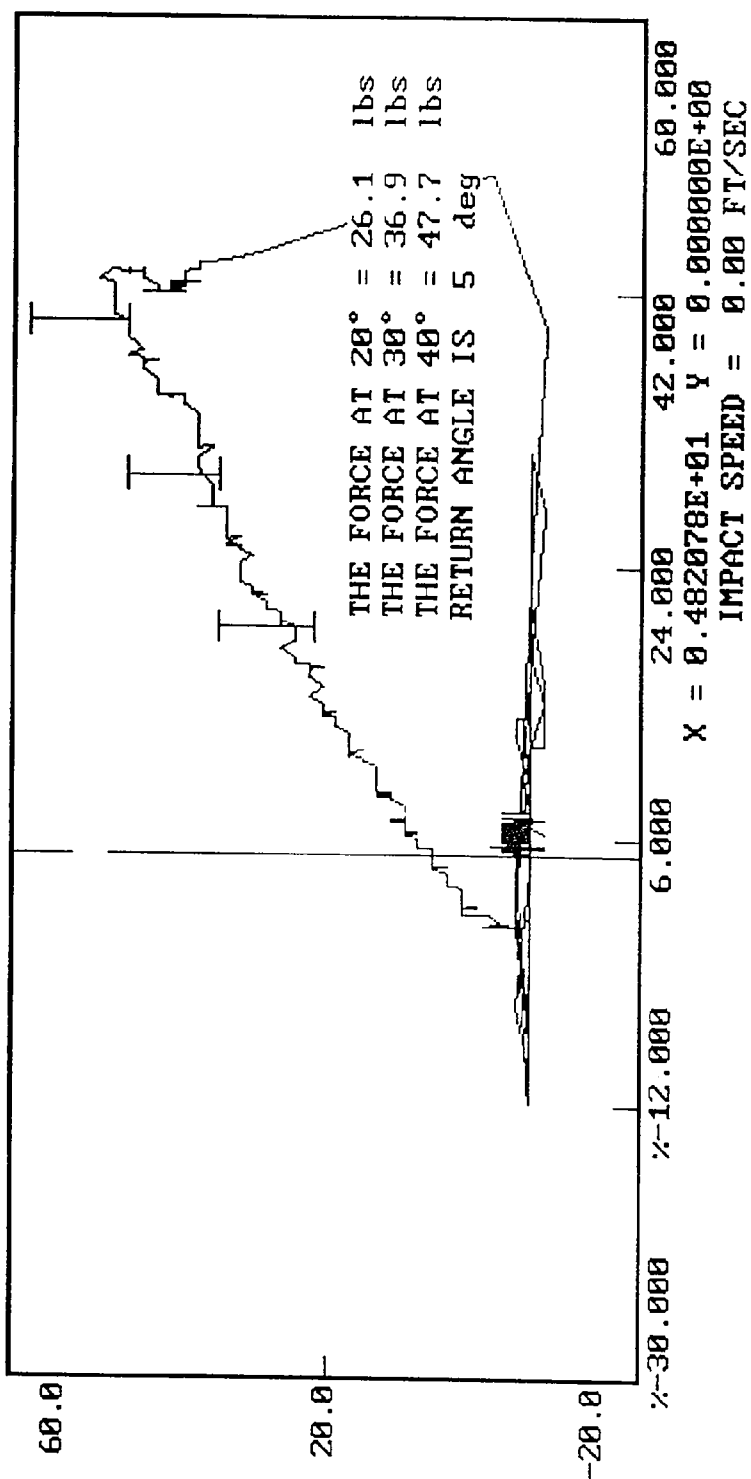


APPROVED BY



DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 271
12-16-1996 13:05

FORCE (LBS) VS. TORSO ROTATION (DEGREES)



PRE-TEST CERTIFICATION DATA

Rear Dummy Serial Number: 272

Calibration Test Results Summary

Passenger Serial Number: 272

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension 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 NO.: 272

DATE OF VERIFICATION: December 17, 1996

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.2
RH - Rib Height	19.75" - 20.50"	20.20
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.7
SW - Knee Pivot to Floor	19.3" - 19.9"	19.6
HW - Hip Width	14.0" - 15.4"	15.0

MEASUREMENTS BY: Jim H. Lin

APPROVED BY: Paul Korbach

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 17, 1996

DUMMY NUMBER: 272

TEST NUMBER: D962232

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	42
LOWER RIB	37 - 46 g's	41
LOWER SPINE	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN Tim McInnis

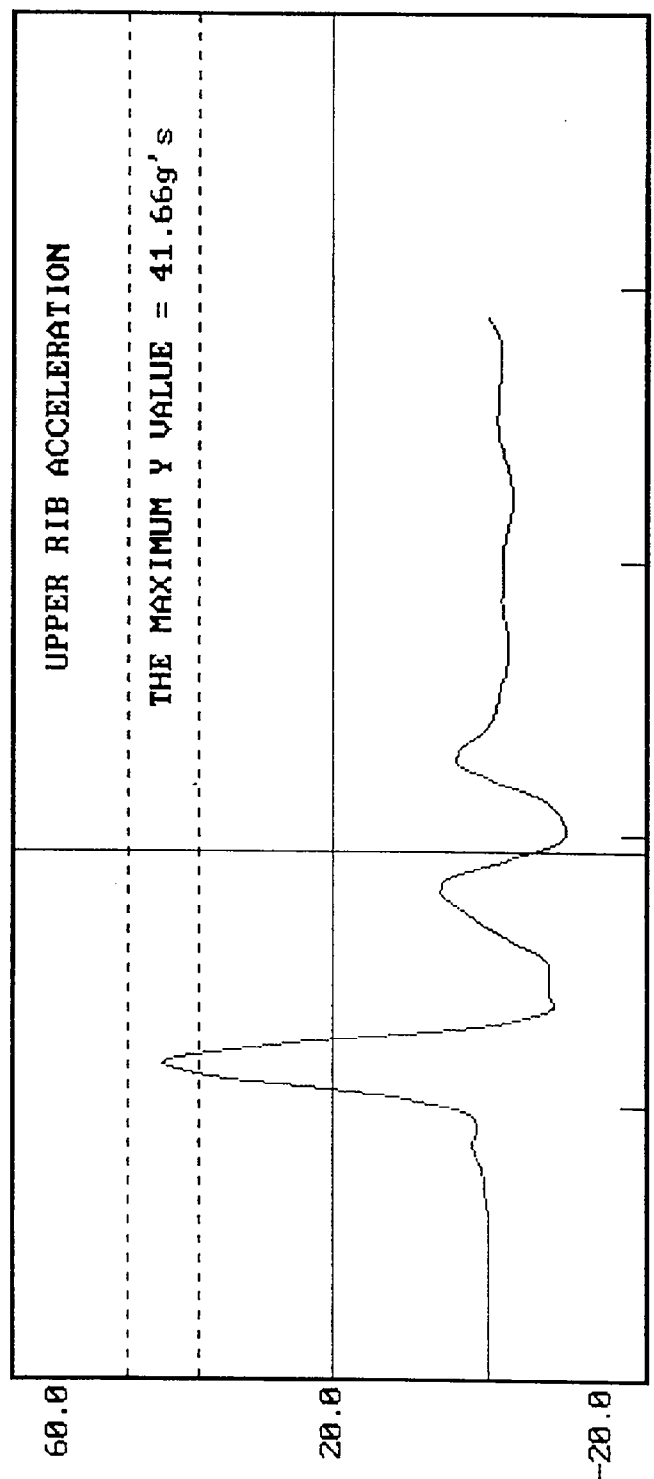
APPROVED BY Paul Kusback

12-17-1996 16:55

DUMMY CALIBRATION - THORAX IMPACT

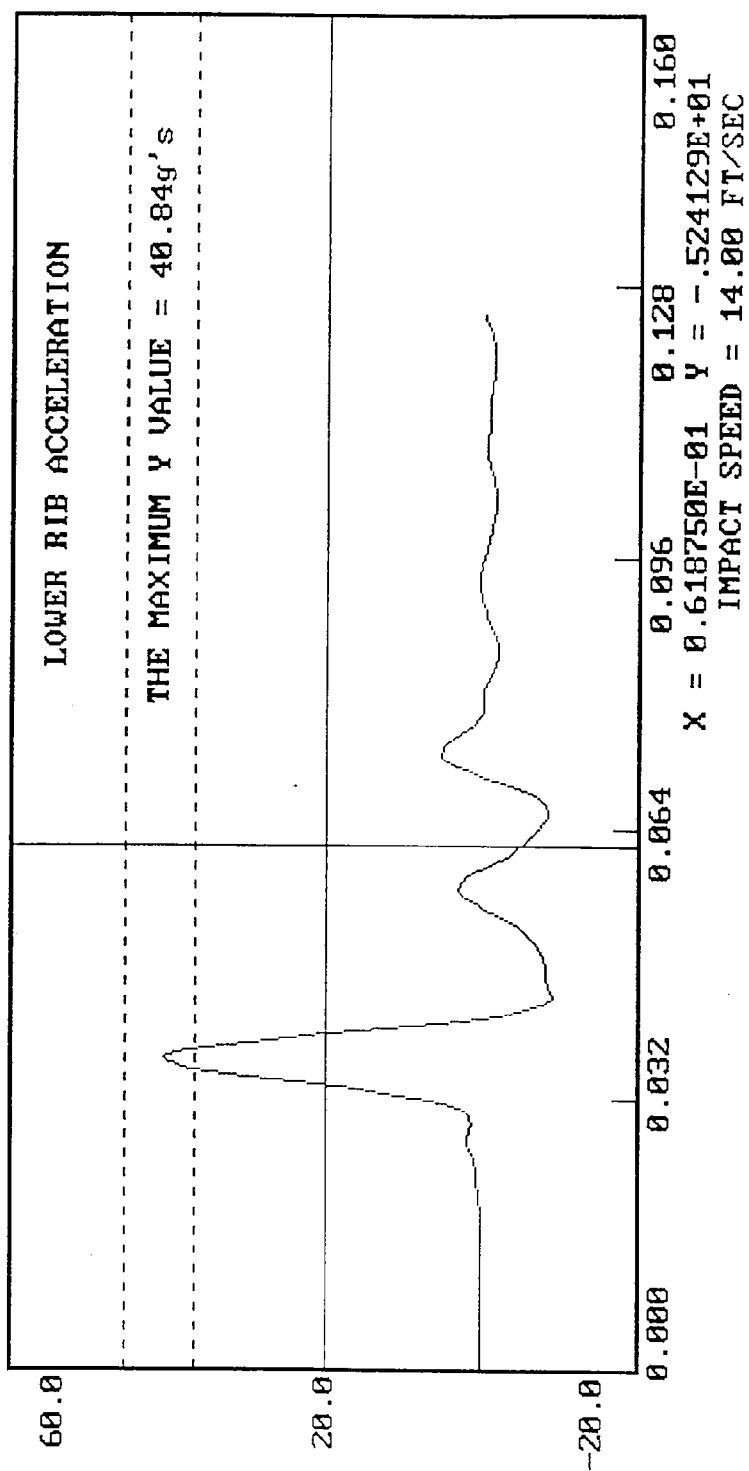
DUMMY # 272

ACCELERATION (G'S) VS. TIME ((SECONDS))

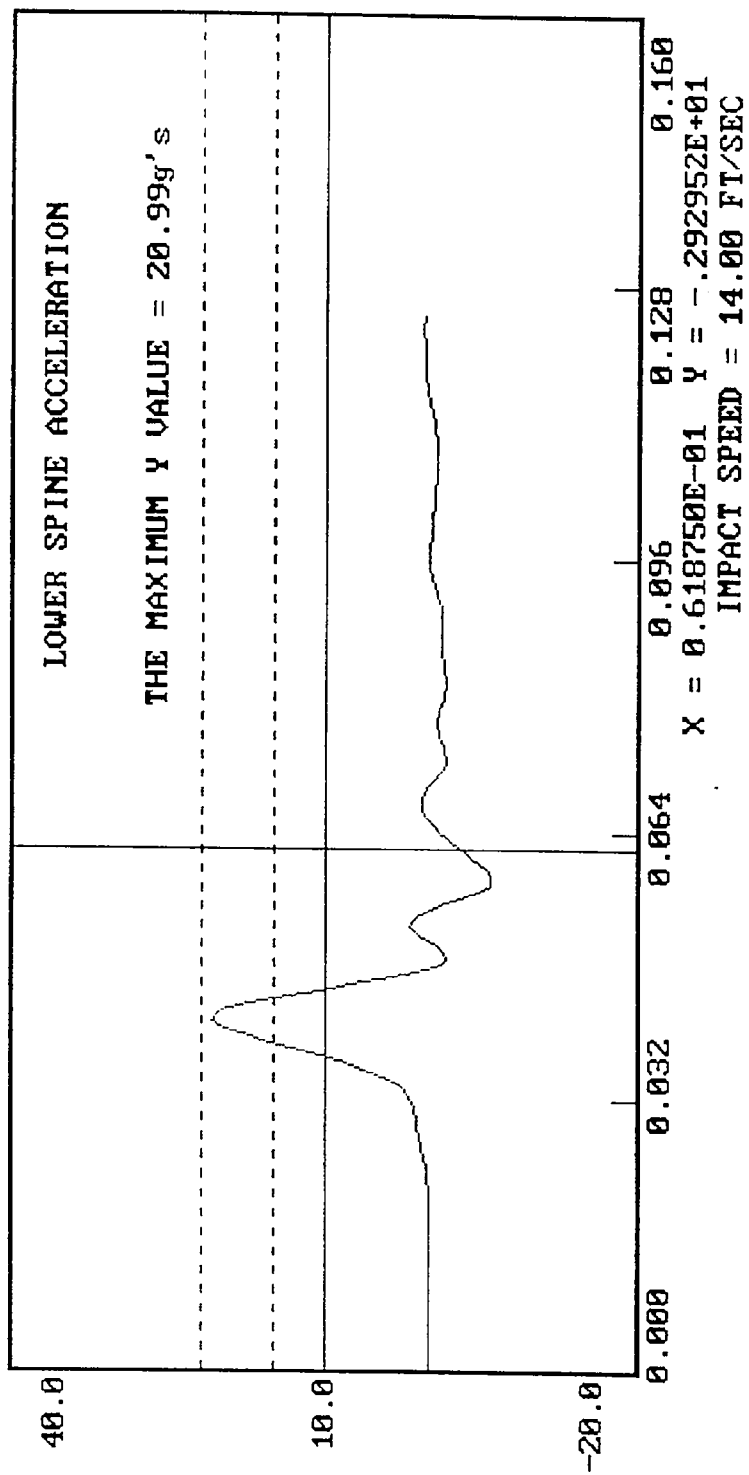


X = 0.618750E-01 Y = -.588231E+01
IMPACT SPEED = 14.00 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT
 DUMMY # 272
 12-17-1996 16:55
 ACCELERATION (G'S) VS. TIME ((SECONDS))



DUMMY CALIBRATION - THORAX IMPACT
 DUMMY # 272
 12-17-1996 16:57
 ACCELERATION (G'S) VS. TIME ((SECONDS))



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 17, 1996

DUMMY NUMBER: 272

TEST NUMBER: D962233

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	51

TEST MEETS SPECIFICATIONS

TECHNICIAN Timberline

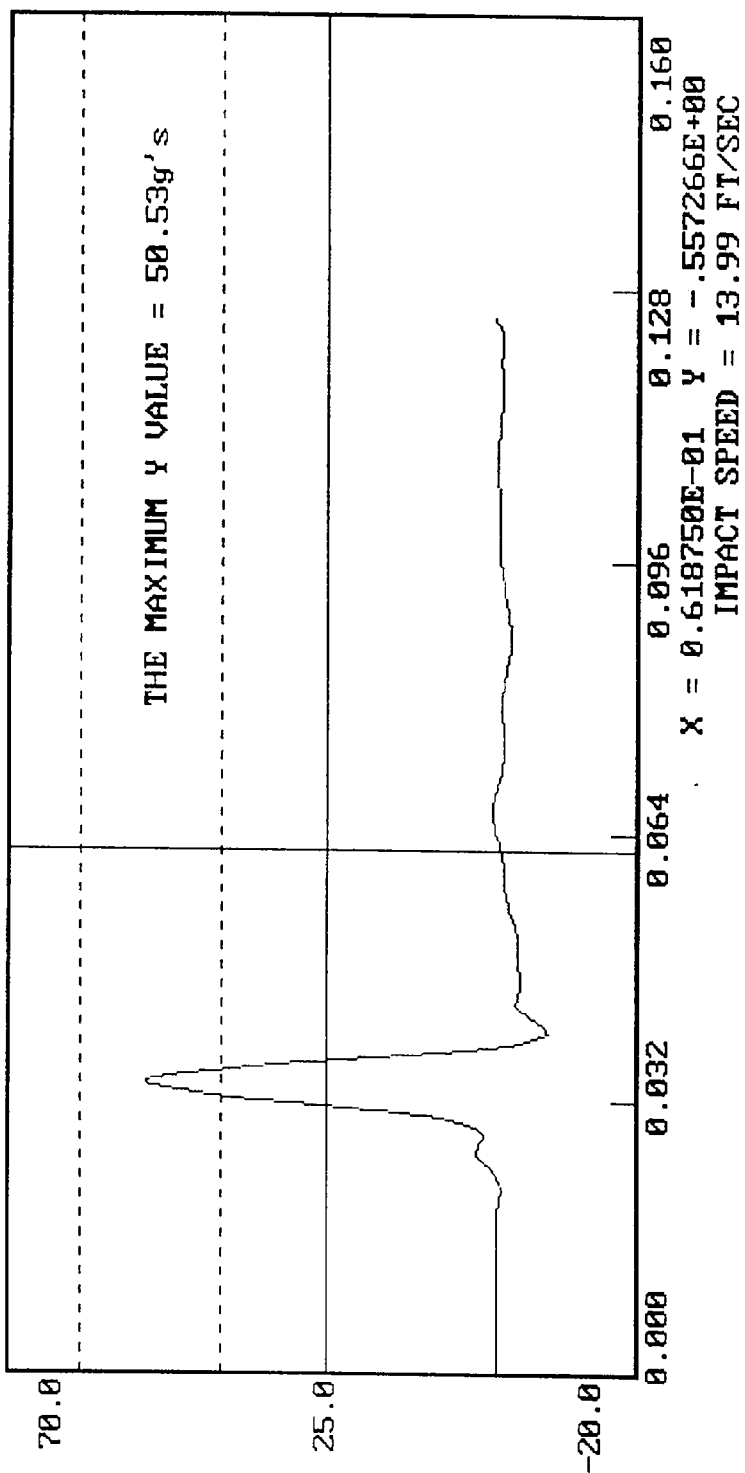
APPROVED BY Steve Koshaka

12-17-1996 17:00

DUMMY CALIBRATION - PELVIS IMPACT

DUMMY # 272

ACCELERATION (G'S) VS. TIME ((SECONDS))



MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

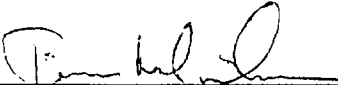
DATE: December 16, 1996

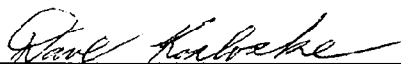
DUMMY NUMBER: 272

TEST NUMBER: D962234

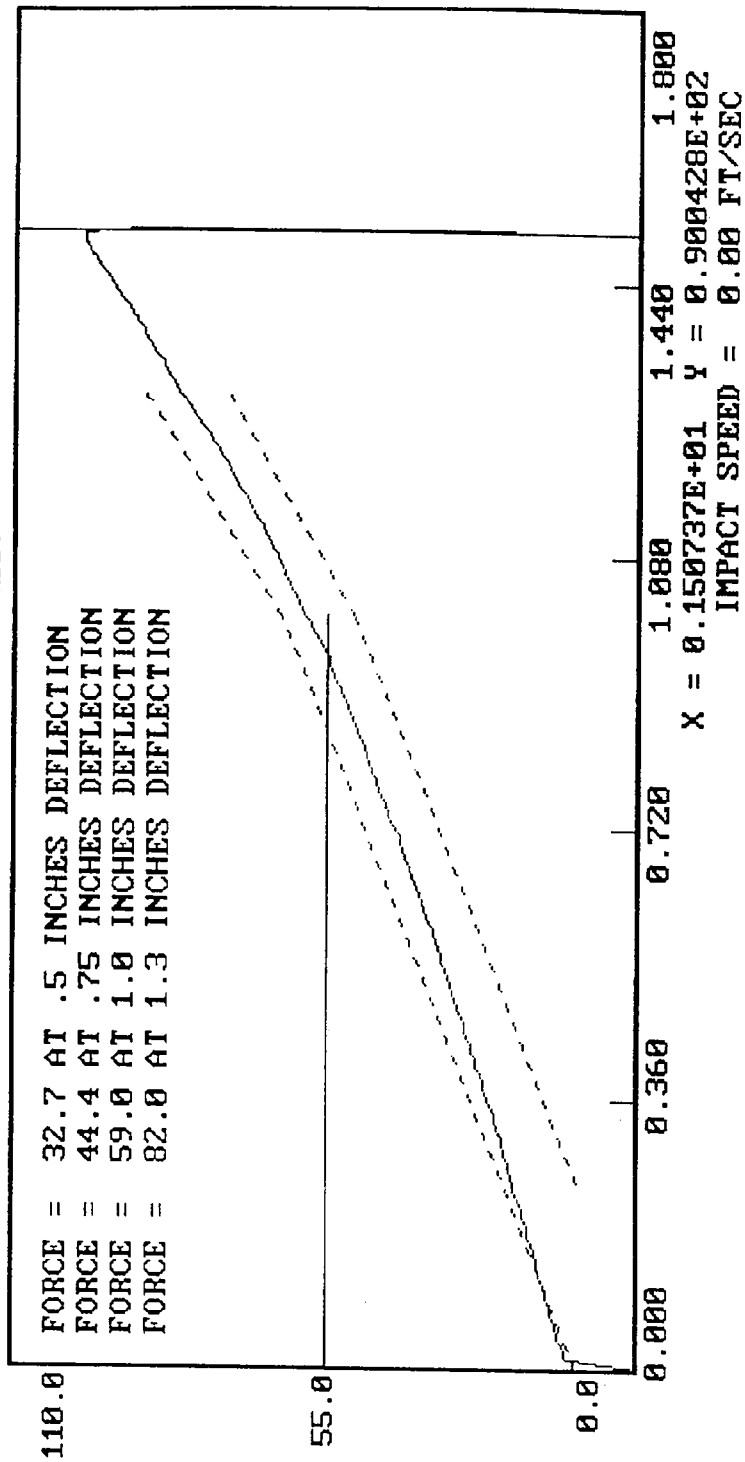
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0.5 in	23.3 - 36.5 lbs	32.7
FORCE @ 0.75 in	36.7 - 49.8 lbs	44.4
FORCE @ 1.0 in	50 - 63 lbs	59
FORCE @ 1.3 in	73 - 88 lbs	82

TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - ABDOMEN COMPRESSION
 DUMMY # 272
 12-16-1996 12:31
 ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 16, 1996

DUMMY NUMBER: 272

TEST NUMBER: D962235

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	26
FORCE @ 30°	34 - 46 lbs	37
FORCE @ 40°	46 - 58 lbs	49
RETURN ANGLE	12° maximum	1°

TEST MEETS SPECIFICATIONS

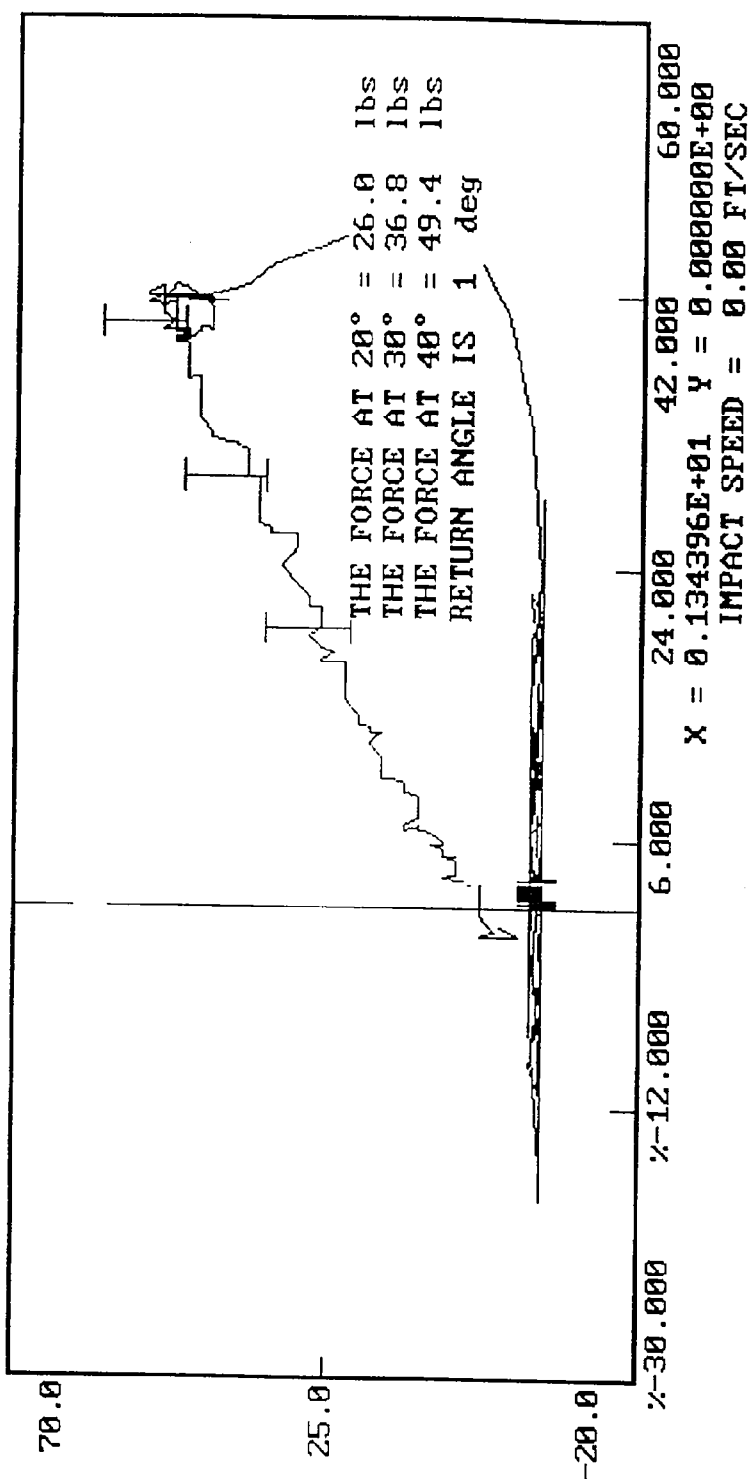
TECHNICIAN

Jim White

APPROVED BY

Don Kabeke

DUMMY CALIBRATION - LUMBAR FLEXION
 DUMMY # 272
 12-16-1996 12:54
 FORCE (LBS) VS. TORSO ROTATION (DEGREES)



POST-TEST CERTIFICATION DATA

Front Dummy Serial Number: 271

Calibration Test Results Summary

Dummy Serial Number: 271

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension 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 NO.: 271

DATE OF VERIFICATION: January 13, 1997

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.6
RH - Rib Height	19.75" - 20.50"	20.40
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.4
SW - Knee Pivot to Floor	19.3" - 19.9"	19.5
HW - Hip Width	14.0" - 15.4"	15.1

MEASUREMENTS BY: Tim Wilcox

APPROVED BY: Dave Krabacke

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

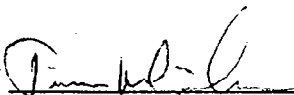
DATE: January 13, 1997

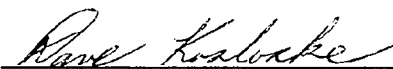
DUMMY NUMBER: 271

TEST NUMBER: D97092

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	46
LOWER RIB	37 - 46 g's	46
LOWER SPINE	15 - 22 g's	22

TEST MEETS SPECIFICATIONS

TECHNICIAN 

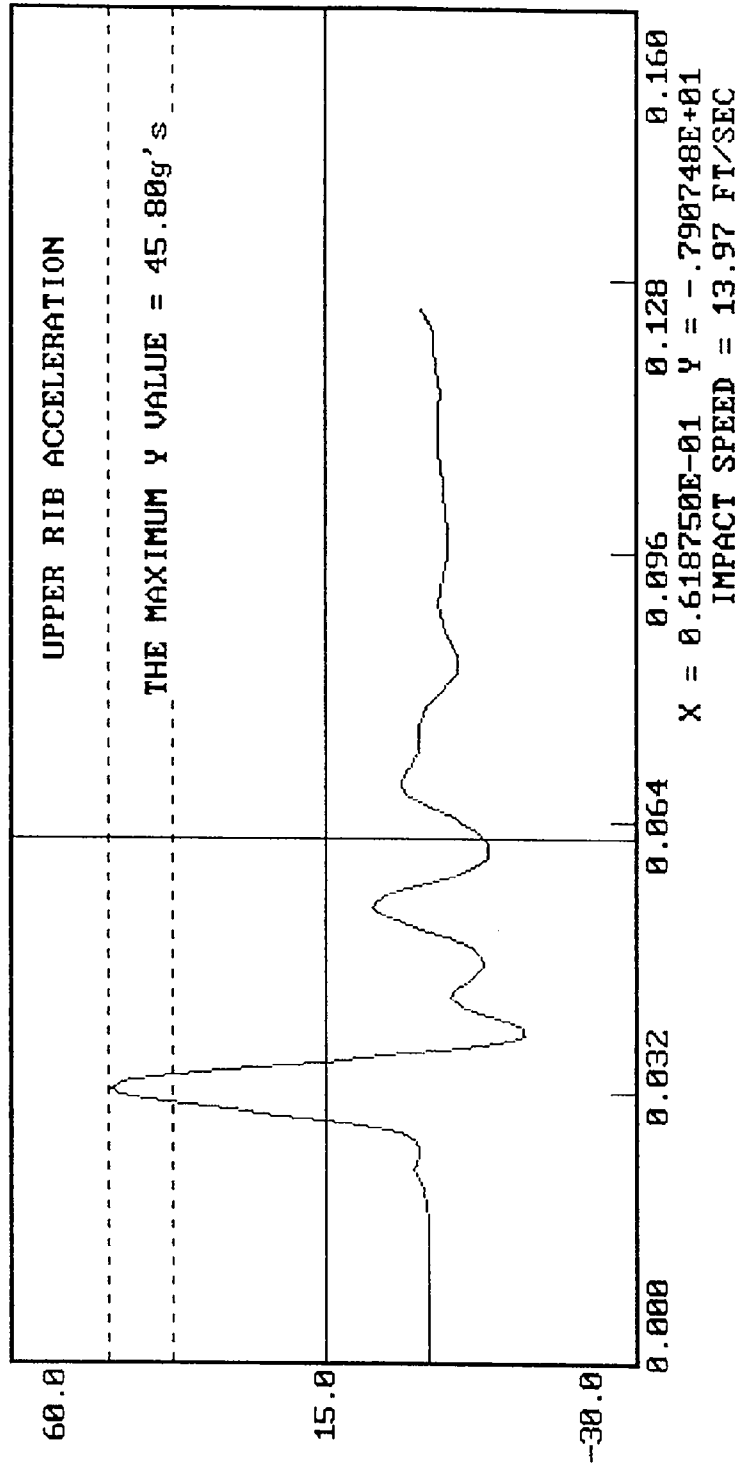
APPROVED BY 

01-13-1997 14:48

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 271

ACCELERATION (G'S) VS. TIME ((SECONDS))

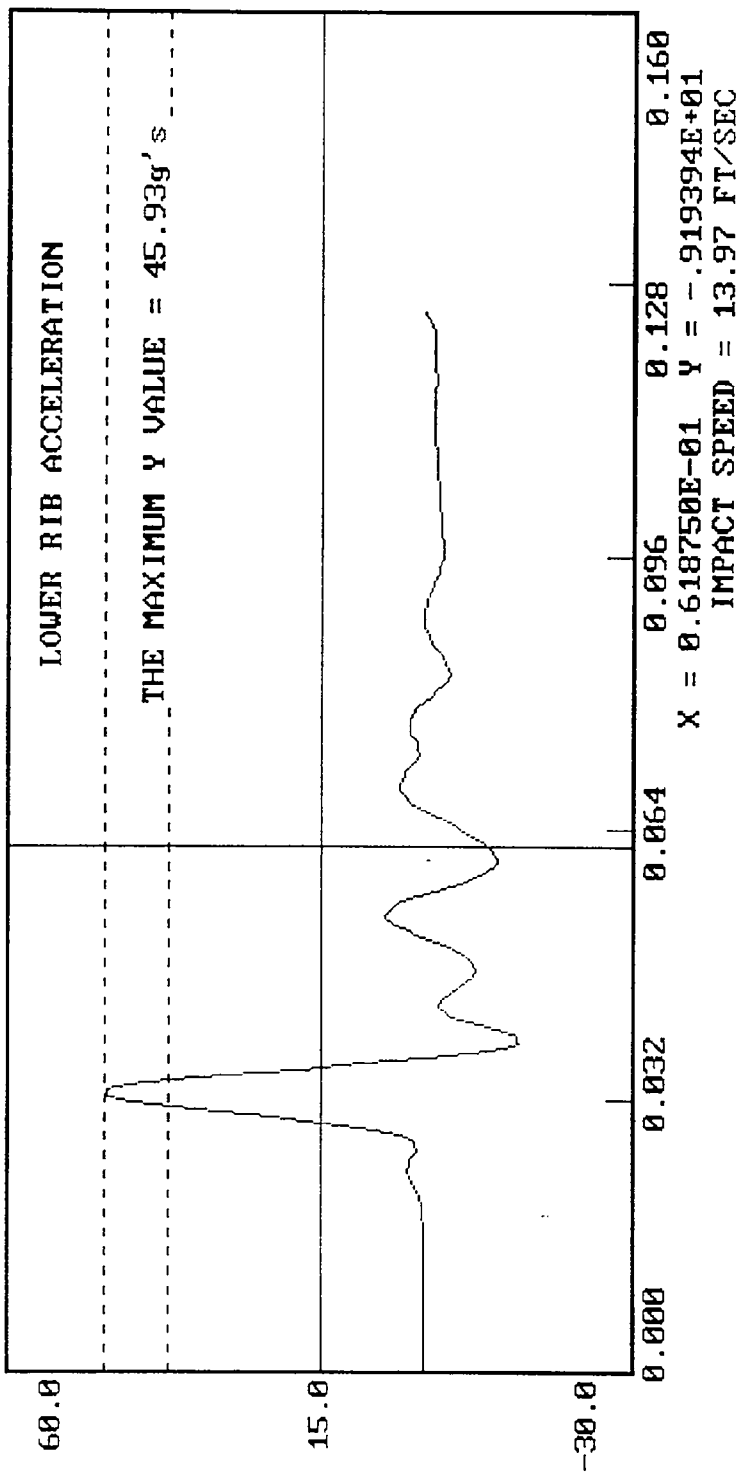


01-13-1997 14:48

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 271

ACCELERATION (G'S) VS. TIME ((SECONDS))

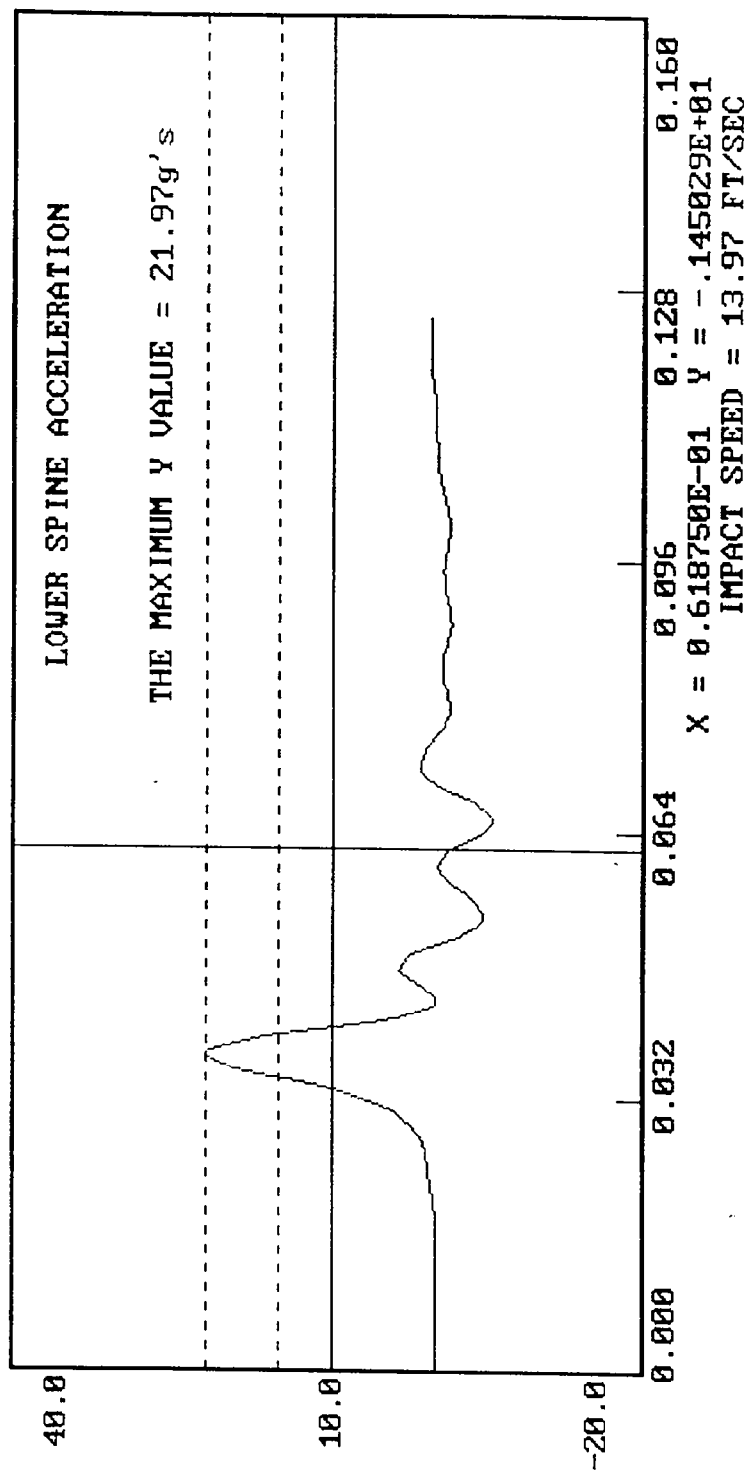


DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 271

ACCELERATION (G'S) VS. TIME ((SECONDS))

01-13-1997 14:48



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: January 13, 1997

DUMMY NUMBER: 271

TEST NUMBER: D97093

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	49

TEST MEETS SPECIFICATIONS

TECHNICIAN Tim [Signature]

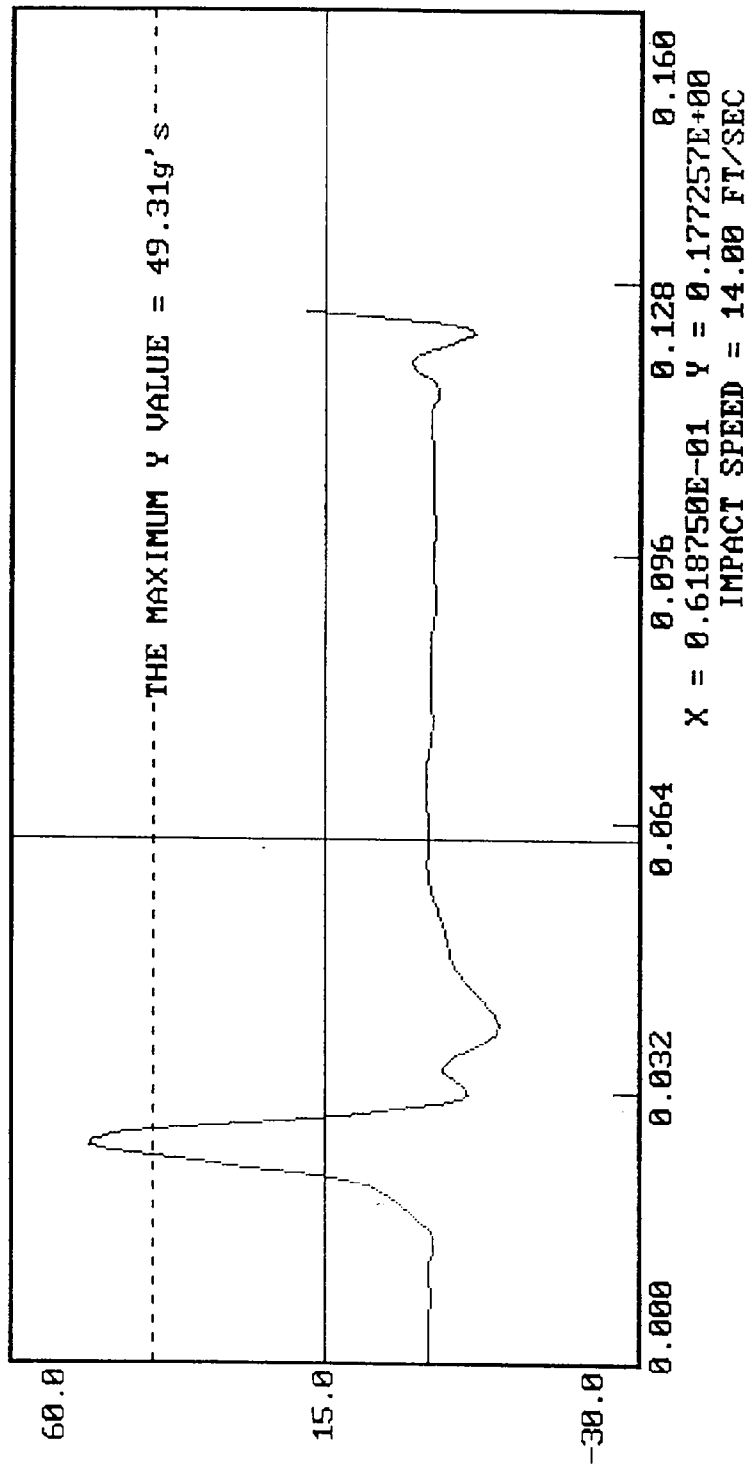
APPROVED BY Rene Kaskaske

DUMMY CALIBRATION - PELVIS IMPACT

DUMMY # 271

ACCELERATION (G'S) VS. TIME ((SECONDS))

01-13-1997 15:05



MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

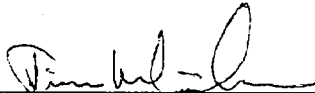
DATE: January 13, 1997

DUMMY NUMBER: 271

TEST NUMBER: D97094

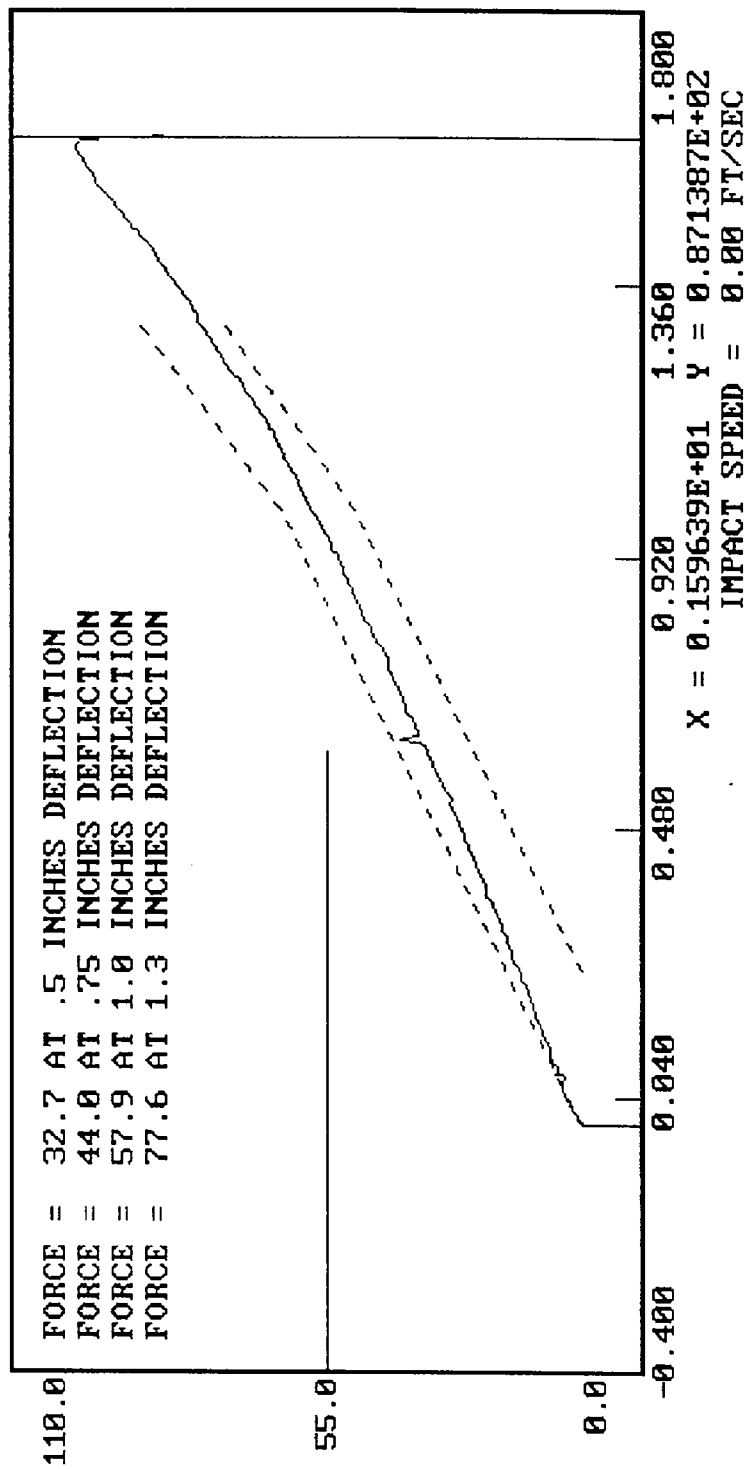
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
FORCE @ 0.5 in	23.3 - 36.5 lbs	32.7
FORCE @ 0.75 in	36.7 - 49.8 lbs	44.0
FORCE @ 1.0 in	50 - 63 lbs	58
FORCE @ 1.3 in	73 - 88 lbs	78

TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - ABDOMEN COMPRESSION
 DUMMY # 271
 01-13-1997 12:28
 ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: January 13, 1997

DUMMY NUMBER: 271

TEST NUMBER: D97095

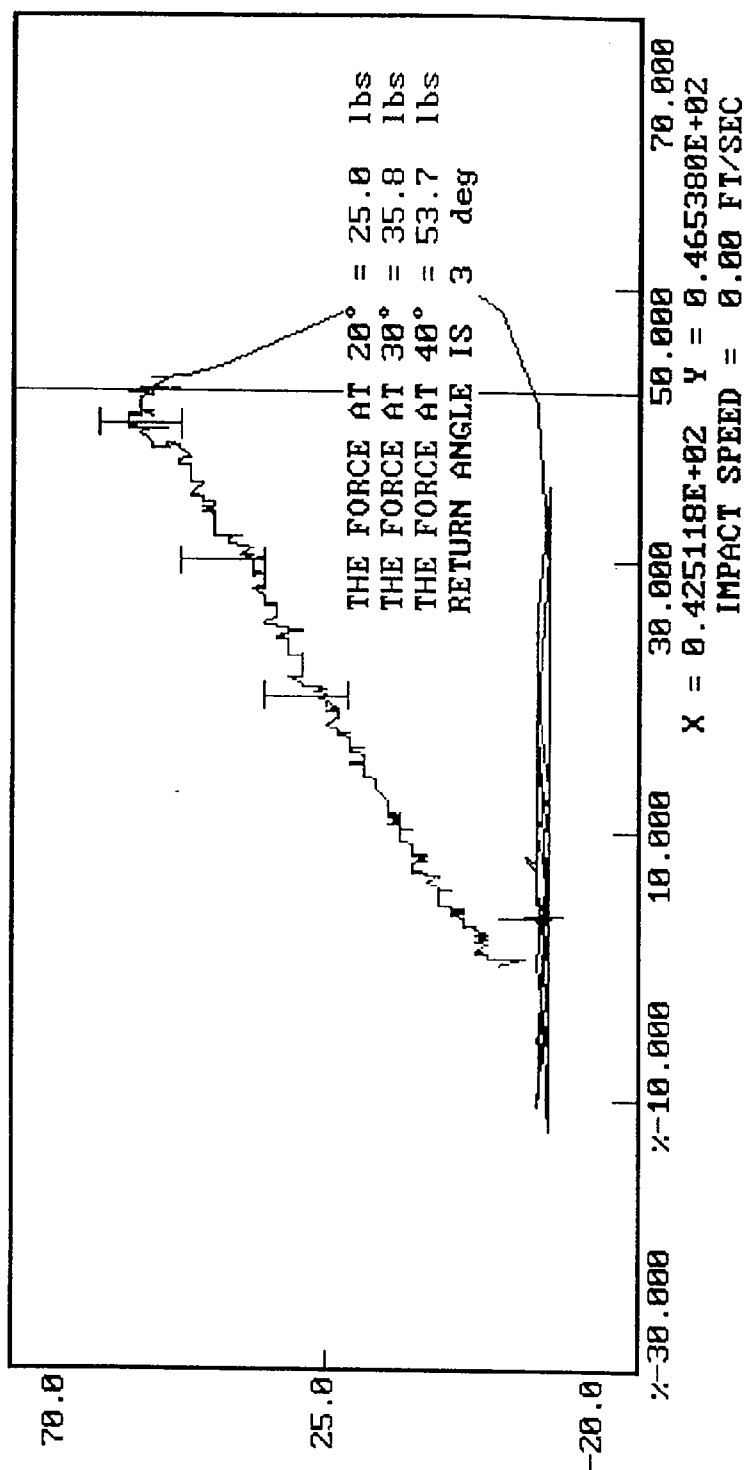
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	25
FORCE @ 30°	34 - 46 lbs	36
FORCE @ 40°	46 - 58 lbs	54
RETURN ANGLE	12° maximum	3°

TEST MEETS SPECIFICATIONS

TECHNICIAN Jim White

APPROVED BY Paul Korbke

DUMMY CALIBRATION - LUMBAR FLEXION
 DUMMY # 271
 01-13-1997 11:14
 FORCE (LBS) VS. TORSO ROTATION (DEGREES)



POST-TEST CERTIFICATION DATA

Rear Dummy Serial Number: 272

Calibration Test Results Summary

Dummy Serial Number: 272

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension 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 NO.: 272

DATE OF VERIFICATION: January 13, 1997

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.2
RH - Rib Height	19.75" - 20.50"	20.20
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.7
SW - Knee Pivot to Floor	19.3" - 19.9"	19.6
HW - Hip Width	14.0" - 15.4"	15.0

MEASUREMENTS BY: Tim Wilkins

APPROVED BY: Dave Korbake

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

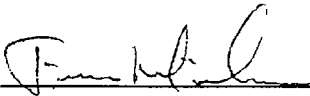
DATE: January 13, 1997

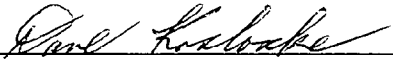
DUMMY NUMBER: 272

TEST NUMBER: D97102

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	43
LOWER RIB	37 - 46 g's	42
LOWER SPINE	15 - 22 g's	20

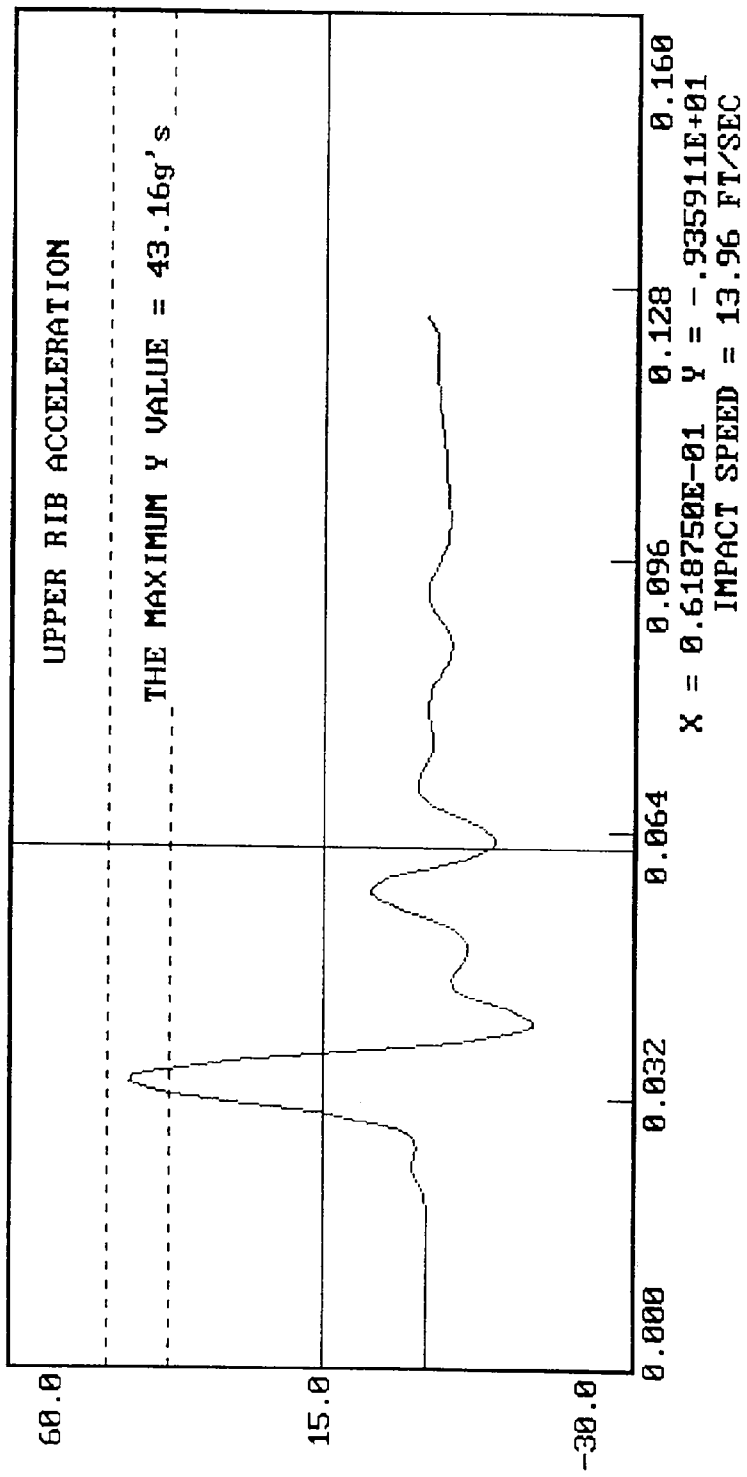
TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - THORAX IMPACT
 DUMMY # 272
 01-13-1997 15:21

ACCELERATION (G'S) VS. TIME ((SECONDS))

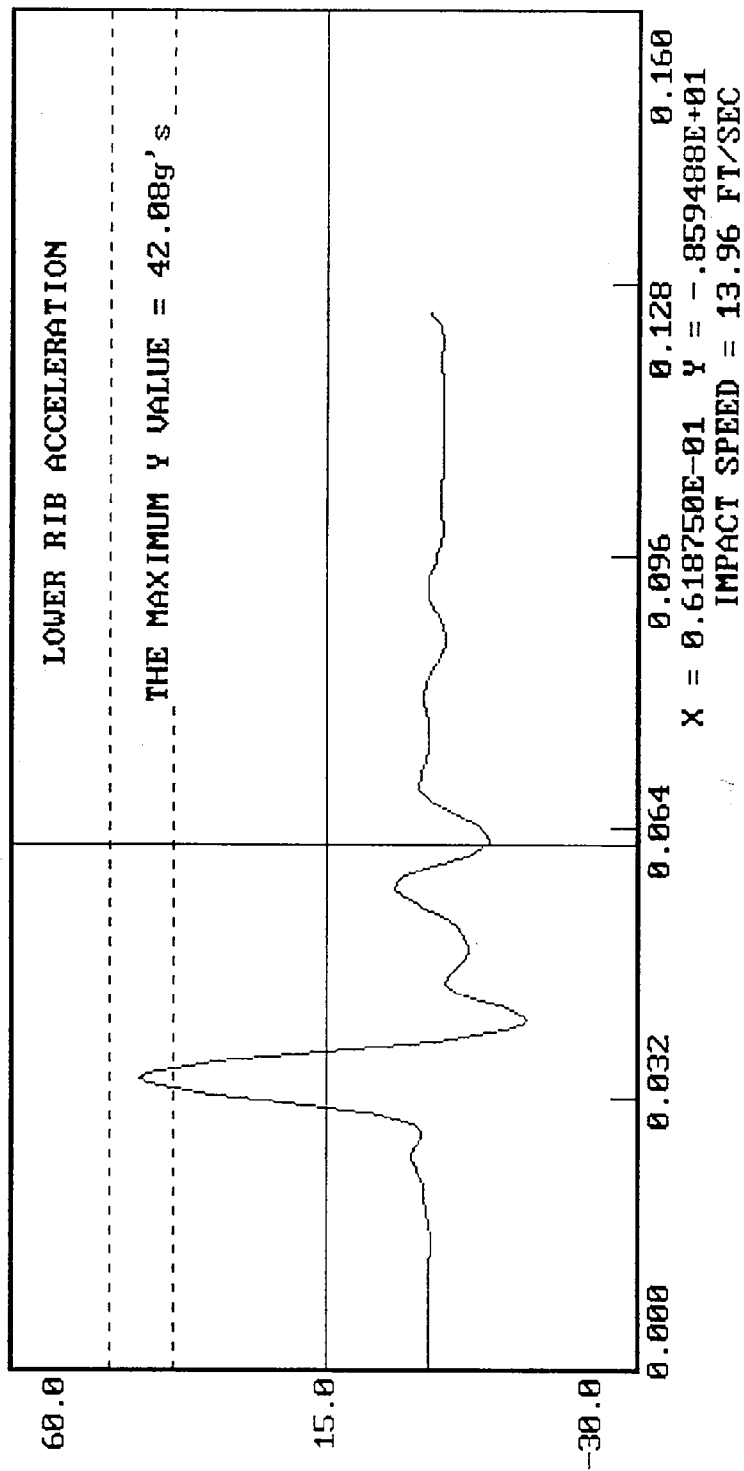


01-13-1997 15:21

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 272

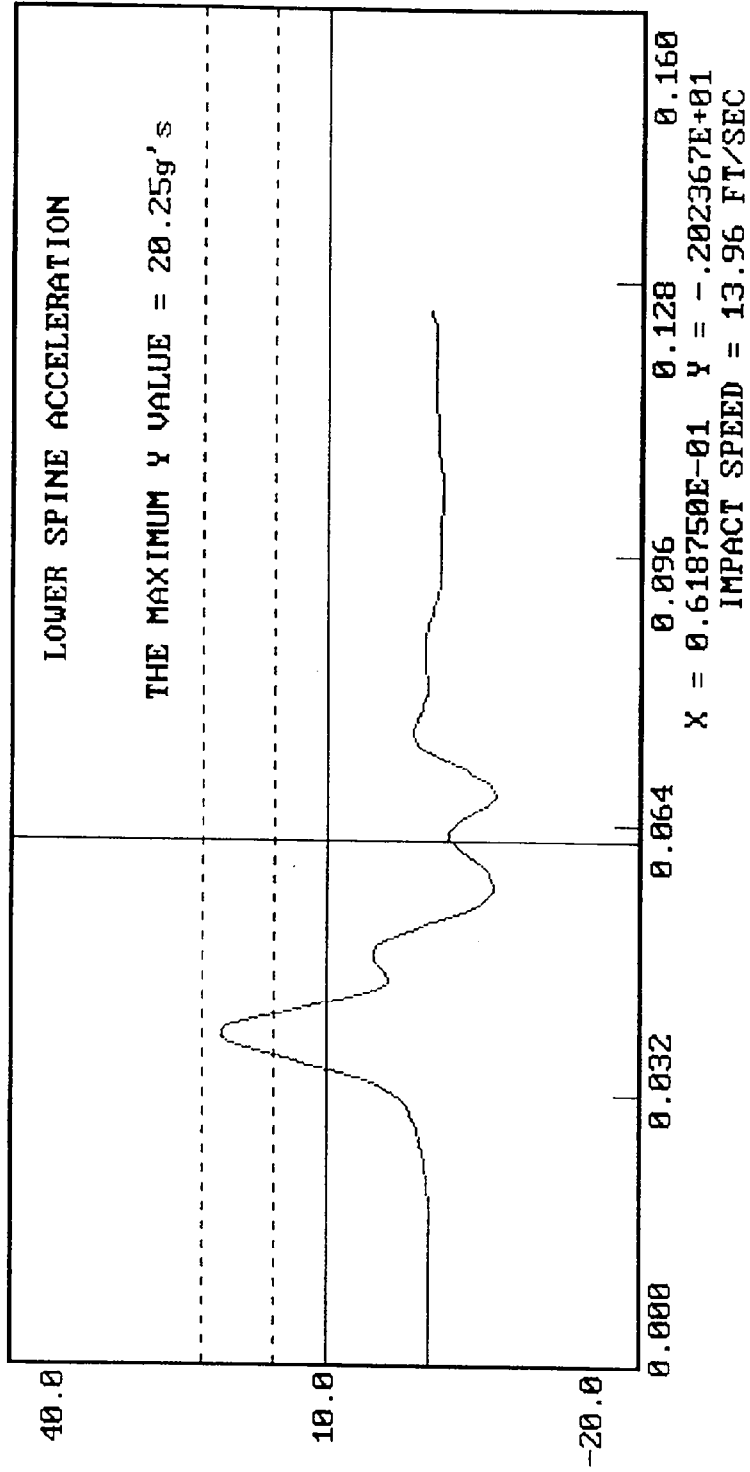
ACCELERATION (G'S) VS. TIME ((SECONDS))



DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 272

01-13-1997 15:36

ACCELERATION (G'S) VS. TIME ((SECONDS))



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: January 13, 1997

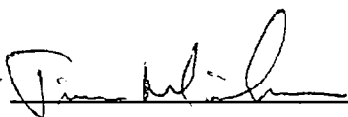
DUMMY NUMBER: 272

TEST NUMBER: D97103

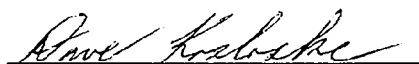
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	60

TEST MEETS SPECIFICATIONS

TECHNICIAN

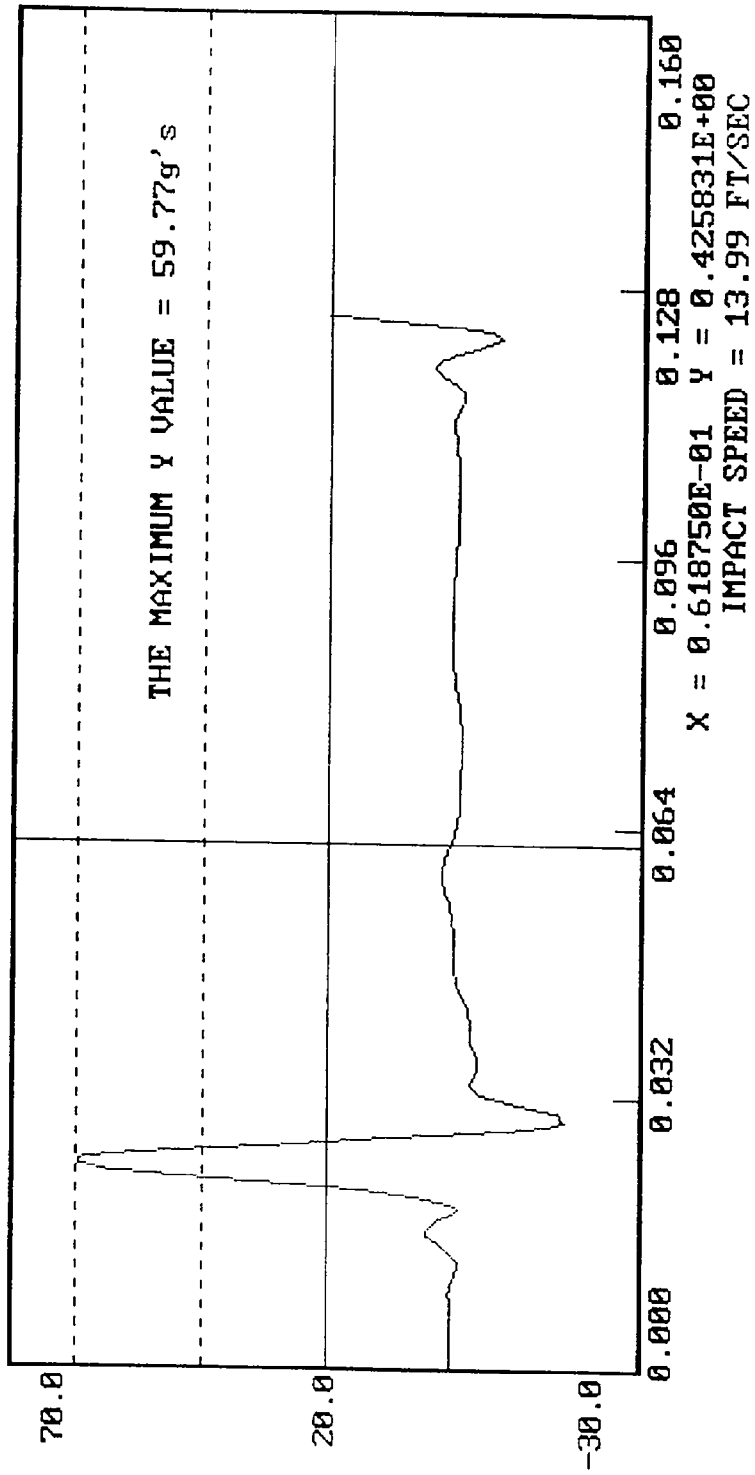


APPROVED BY



DUMMY CALIBRATION - PELVIS IMPACT
DUMMY # 272
01-13-1997 15:47

ACCELERATION (G'S) VS. TIME ((SECONDS))



MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

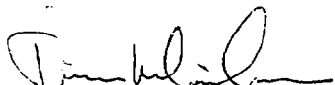
DATE: January 13, 1997

DUMMY NUMBER: 272

TEST NUMBER: D97104

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
FORCE @ 0.5 in	23.3 - 36.5 lbs	31.4
FORCE @ 0.75 in	36.7 - 49.8 lbs	42.7
FORCE @ 1.0 in	50 - 63 lbs	57
FORCE @ 1.3 in	73 - 88 lbs	77

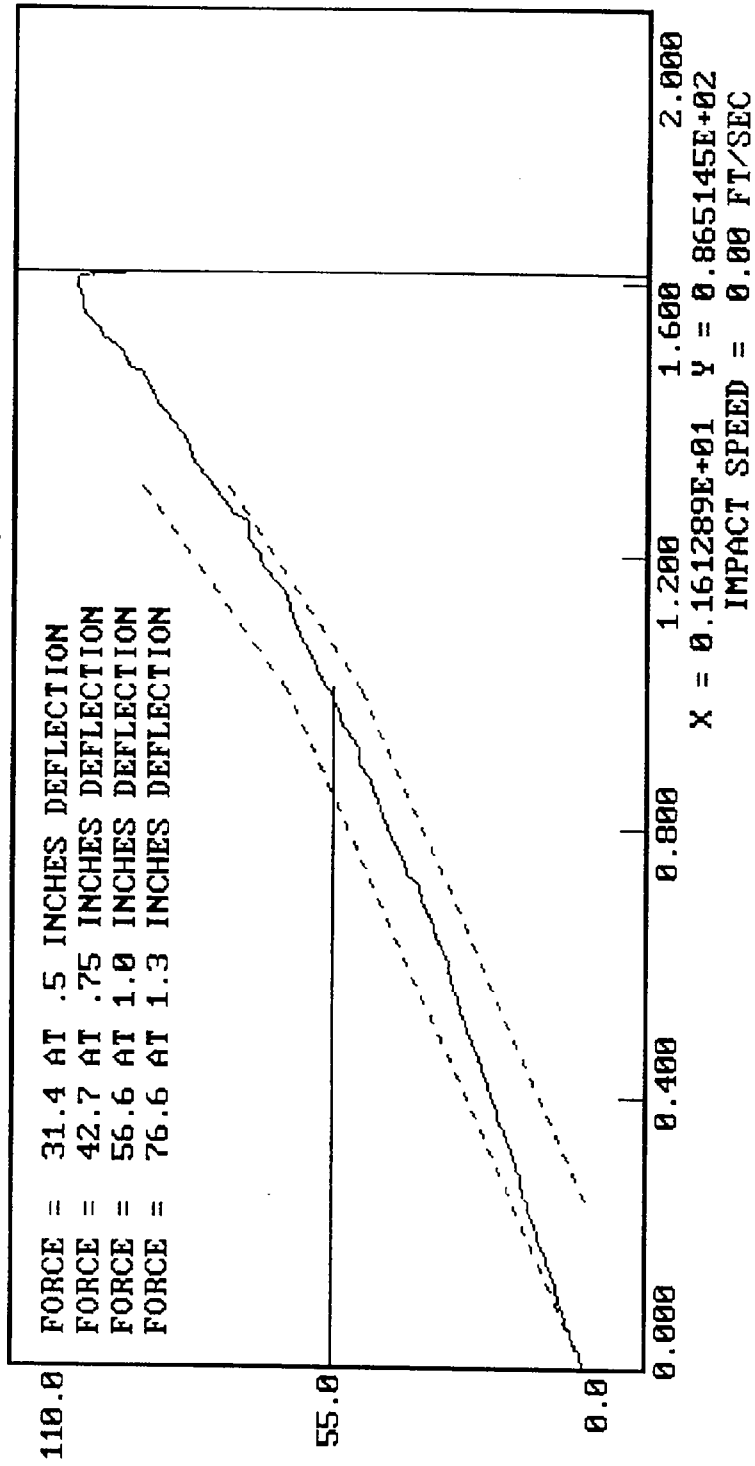
TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - ABDOMEN COMPRESSION
 DUMMY # 272
 01-13-1997 12:10

ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: January 13, 1997

DUMMY NUMBER: 272

TEST NUMBER: D97105

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	11%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	27
FORCE @ 30°	34 - 46 lbs	41
FORCE @ 40°	46 - 58 lbs	56
RETURN ANGLE	12° maximum	1°

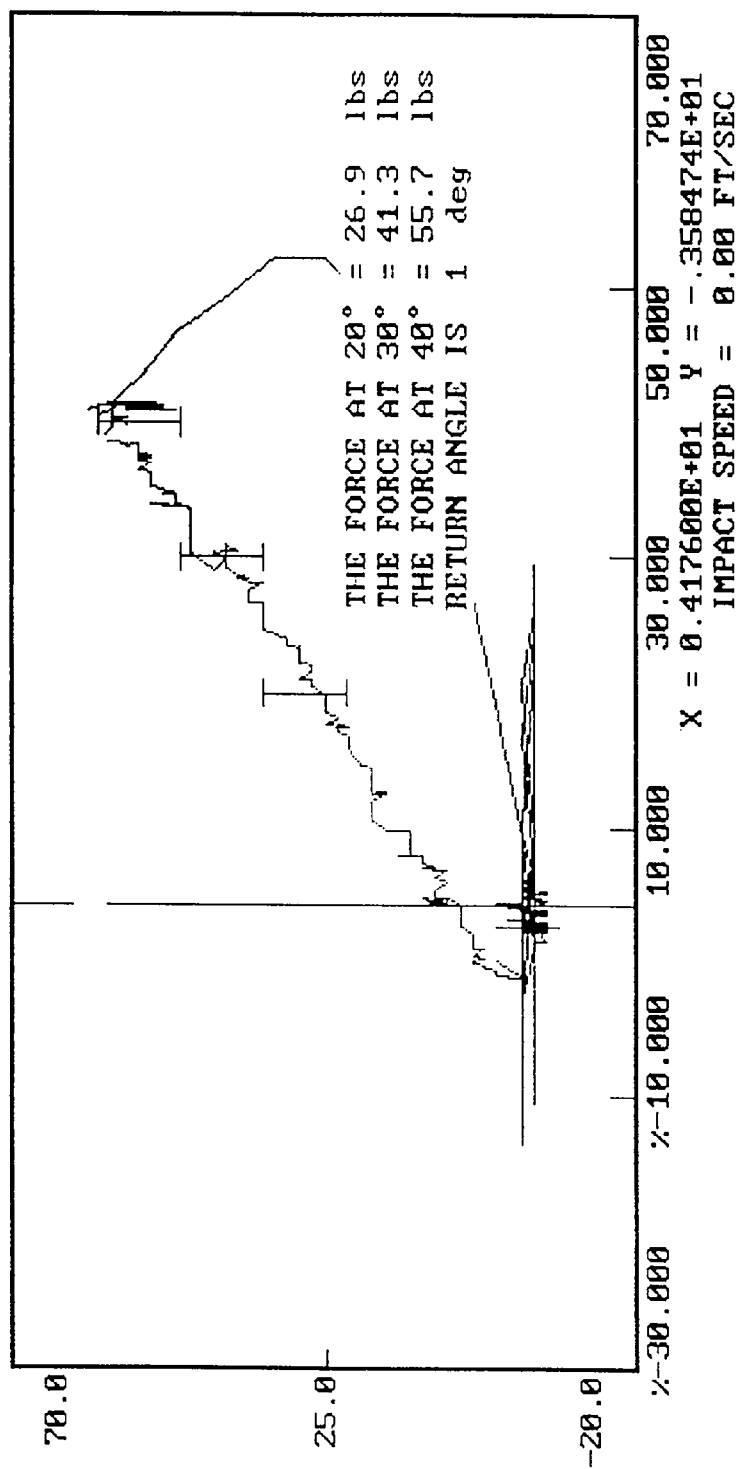
TEST MEETS SPECIFICATIONS

TECHNICIAN Jim Blum

APPROVED BY Paul Kosloske

01-13-1997 11:42

DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 272
FORCE (LBS) VS. TORSO ROTATION (DEGREES)



POST-TEST DRIVER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Serial Number: 271

Inspected By: Tim Michnay

Date: January 13, 1997

<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):

POST-TEST PASSENGER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Serial Number: 272

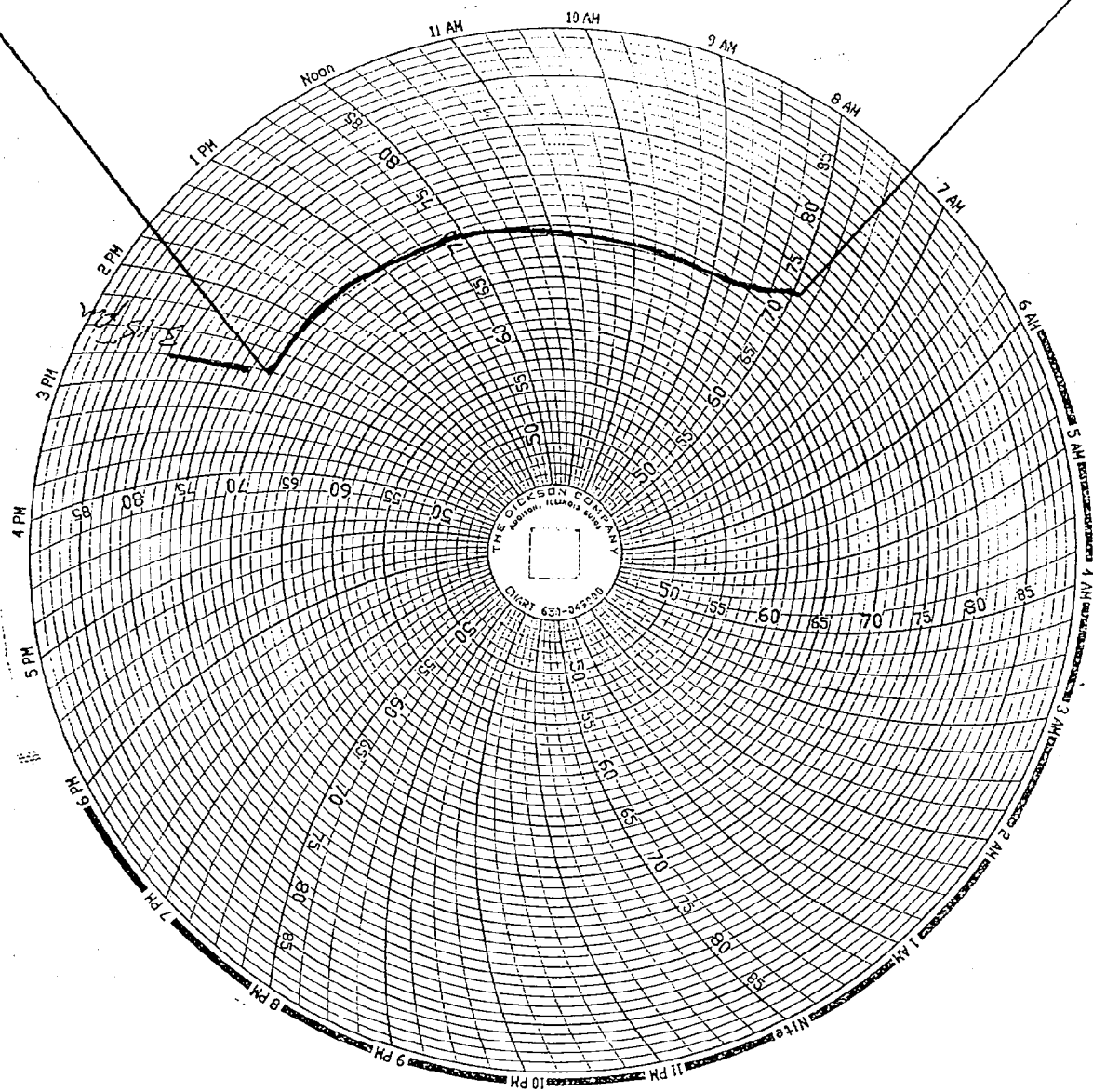
Inspected By: Tim Michnay

Date: January 13, 1997

<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
B = test conducted

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

DUMMY AND VEHICLE CALIBRATION DATA
INSTRUMENTS FOR DRIVER DUMMY NO. 271

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	ALFJ7	Endevco	12/09/96
Lower Rib Y	APYN0	Endevco	12/09/96
Lower Spine Y	AP0G2	Endevco	12/09/96
Pelvis Y	APY15	Endevco	12/09/96
Upper Rib Redundant Y	ALDD6	Endevco	12/09/96
Lower Rib Redundant Y	APYN3	Endevco	12/09/96
Lower Spine Redundant Y	AP138	Endevco	12/09/96
Pelvis Redundant Y	APY16	Endevco	12/09/96

INSTRUMENTS FOR PASSENGER DUMMY NO. 272

	LEFT REAR PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AP2A4	Endevco	9/16/96
Lower Rib Y	AP1B3	Endevco	9/16/96
Lower Spine Y	ANAP1	Endevco	9/16/96
Pelvis Y	AHTC3	Endevco	9/16/96
Upper Rib Redundant Y	AP2D8	Endevco	9/16/96
Lower Rib Redundant Y	AP1C6	Endevco	9/16/96
Lower Spine Redundant Y	ANAT6	Endevco	9/16/96
Pelvis Redundant Y	AGP53	Endevco	9/16/96

VEHICLE INSTRUMENT CALIBRATION

VEHICLE ACCELEROMETERS			
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	C14-Z10	Entran	7/12/96
Moving Barrier CG Y	B14-R01	Entran	7/15/96
Moving Barrier CG Z	B13-Z05	Entran	7/11/96
Moving Barrier Rear Axle X	B14-R03	Entran	7/11/96
Moving Barrier Rear Axle Y	B14-R13	Entran	7/15/96
Left Mid A-Post Y	J06-D23	Entran	7/03/96
Left Lower A-Post Y	A09-G08	Entran	7/11/96
Left Mid B-Post Y	L14-D17	Entran	12/03/96
Left Lower B-Post Y	B02-G09	Entran	12/03/96
Rear Floorpan Above Axle X	D05-R12	Entran	7/12/96
Rear Floorpan Above Axle Y	J06-D17	Entran	7/10/96
Rear Floorpan Above Axle Z	J10-E14	Entran	7/10/96
Driver Seat Track Y	L14-D19	Entran	12/04/96
Right Side Sill at Front Seat X	D06-A09	Entran	7/03/96
Right Side Sill at Front Seat Y	MGA095	Entran	7/11/96
Right Side Sill at Front Seat Z	C20-J10	Entran	7/11/96
Right Side Sill at Rear Seat X	D05-R05	Entran	7/11/97
Right Side Sill at Rear Seat Y	B02-G06	Entran	10/02/96
Right Side Sill at Rear Seat Z	J10-E03	Entran	7/10/96
Left Side Sill at Front Seat Y	A09-G05	Entran	12/03/96

	VEHICLE ACCELEROMETERS		
	SERIAL NO	MANUFACTURER	CALIBRATION DATE
Right Side Sill at Rear Seat Y	D05-R24	Entran	12/04/96
Left Rear Occupant Compartment Y	D05-R14	Entran	7/11/96
Vehicle CG X	C14-Z15	Entran	7/11/96
Vehicle CG Y	L22-G05	Entran	7/11/96
Vehicle CG Z	B28-B03	Entran	7/11/96
Left Front Door Upper Centerline	L14-D16	Entran	12/03/96
Left Front Door on Centerline	L15-G03	Entran	10/02/96
Left Rear Door Mid Rear	B28-B01	Entran	7/15/96
Left Rear Door Upper Centerline	B12-G14	Entran	10/02/96

Note: All Endevco accelerometers are Model No. 7264-2000 All Entran accelerometers are Model No. EGE-72