

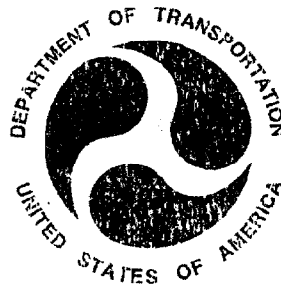
NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING
PASSENGER CARS

HONDA MOTOR COMPANY

1998 HONDA CR-V EX

NHTSA NO: MW5310

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105



Test Date: December 2, 1998

Report Date: December 15, 1998

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
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WASHINGTON, D.C. 20590

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				14. Sponsoring Agency Code NPS-10																			
15. Supplementary Notes																							
16. Abstract A 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 1998 Honda CR-V EX 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 2, 1998. The impact velocity of the Moving Deformable Barrier (MDB) was 61.8 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 326 mm at level 3. The test vehicle's performance follows: <table border="1"> <thead> <tr> <th></th> <th>DRIVER</th> <th>PASS.</th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td>56</td> <td>56</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td>42</td> <td>64</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td>59</td> <td>50</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td>57</td> <td>57</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td>84</td> <td>68</td> </tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.							DRIVER	PASS.	Left Upper Rib (LUR) Accel., g	56	56	Left Lower Rib (LLR) Accel., g	42	64	Lower Spine (T ₁₂) Accel., g	59	50	Thoracic Trauma Index (TTI)	57	57	Pelvis (PEV) Accel., g	84	68
	DRIVER	PASS.																					
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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																			
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SECTION 1
PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY99 NCAP Side Impact Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-97-D-22001. The purpose of this test was to evaluate side impact protection of a 1998 Honda CR-V EX.

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.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 1998 Honda CR-V EX 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 38.4 mph (61.8 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 2, 1998. Pre- and post-test photographs¹ 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)
5. Head Center of Gravity triaxial accelerometers (X, Y, and Z-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.

¹ Since the vehicle rolled onto its right side as a result of the impact, all post-test photographs and measurements were taken after the vehicle was righted (unless noted).

The following table summarizes the results of the test:

Injury Criteria	Front SID	Rear SID
TTI (g)	57	57
Pelvis (g)	84	68

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: 1998/Honda/CR-V/EX
Vehicle NHTSA No.: MW5310 VIN: JHLRD1861WC104131
Vehicle Body Color: Green Build Date: 10/98
Engine Data: 4 Cylinders; CID; 2.0 Liter; cc
Placement Longitudinal; X Lateral
Transmission: 4 Speed; Manual; X Automatic; Overdrive
Final Drive: Rear Wheel Drive; Frt. Wheel Drive; X Four Wheel Drive

Odometer Reading 58 miles
Options: X A/C; X Pwr. Steering; X Pwr. Brakes; X Pwr. Windows;
X Cruise Control; X Tilt Wheel; X Power Door Locks;

DATA FROM TIRE PLACARD:

Tire Pressure (at capacity): 26 Psi FRONT
26 Psi REAR
Recommended Tire Size: 205/70R15
Tires on Test Vehicle: 205/70R15 Manufacturer: BF Goodrich

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 = 423.7 kg (A)
No. of Occupants x 68.04 kg. = 340.2 kg (B)
Cargo Capacity (A-B) = 83.5 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)WEIGHT OF TEST VEHICLE WITH MAXIMUM FLUIDS:

Right Front	=	<u>395.1</u> kg	Right Rear	=	<u>342.0</u> kg
Left Front	=	<u>409.6</u> kg	Left Rear	=	<u>318.9</u> kg
TOTAL FRONT	=	<u>804.7</u> kg	TOTAL REAR	=	<u>660.9</u> kg
% of Total Vehicle Weight =		<u>54.9</u> %;	% of Total Weight =		<u>45.1</u> %
TOTAL WEIGHT = <u>1465.6</u> kg					

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)Year/Make/Model/Body Style: 1998/Honda/CR-V/EXVehicle NHTSA No.: MW5310 Test Date: December 2, 1998CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Maximum Fluids	=	<u>1465.6</u> kg
Cargo Carrying Capacity of Test Vehicle	=	<u>83.5</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>1710.5</u> kg

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO (Fully Loaded):

Right Front	=	<u>403.2</u> kg	Right Rear	=	<u>416.9</u> kg
Left Front	=	<u>458.6</u> kg	Left Rear	=	<u>430.0</u> kg
TOTAL FRONT	=	<u>861.8</u> kg	TOTAL REAR	=	<u>846.9</u> kg
% of Total Weight	=	<u>50.4</u> %	% of Total Weight	=	<u>49.6</u> %
TOTAL TEST WEIGHT	=	<u>1708.7</u> kg			

TEST VEHICLE ATTITUDE:

CURB WEIGHT ATTITUDE:

Right Front 804 mm Left Front 816 mm Right Rear 793 mm Left Rear 789 mm

FULLY LOADED WEIGHT ATTITUDE:

Right Front 795 mm Left Front 796 mm Right Rear 760 mm Left Rear 745 mm

TEST ATTITUDE:

Right Front 790 mm Left Front 798 mm Right Rear 764 mm Left Rear 757 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Test Vehicle Wheelbase: 2632 mm

C.G. = 1269 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4035 mm

Centerline = 4357 mm

Left Side = 4035 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel: 240 mm

Test Position: Mid-position (13th of 25 detents)

FRONT SEAT BACK ADJUSTMENT POSITION:

Seat Back Angle = 20° (5th position from fully upright)

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: Non-adjustable

Seat Back Adjustment Position: 28° (3rd position from fully upright)

ADJUSTABLE STEERING COLUMN POSITION: Mid-position

WINDOW POSITIONS: Left Front Closed Left Rear Closed
 Right Front Open Right Rear Open

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Fuel system usable capacity = 15.3 gallons

Test Volume: 14.2 gallons 93 % of capacity

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

Wheelbase: = 2632 mm

Impact Point is 376 mm rearward of front axle centerline

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

Overall Length = 4351 mm; Overall Width = 1734 mm

TEST WEIGHT:

Right Front = 427.7 kg

Right Rear = 408.7 kg

Left Front = 453.6 kg

Left Rear = 412.8 kg

TOTAL FRONT = 881.3 kg

TOTAL REAR = 821.5 kg

% of Total Weight = 51.8 %

% of Total Weight = 48.2 %

TOTAL VEHICLE WEIGHT = 1702.8 kg

Wheelbase = 2632 mm

Longitudinal C.G. from Center of Front Axle = 1269 mm

Impact Angle with Respect to Impactor = 90 ° degrees

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (405 mm above ground) = 263 mm

2. LEVEL 2 (663 mm above ground) = 325 mm

3. LEVEL 3 (718 mm above ground) = 326 mm

4. LEVEL 4 (1035 mm above ground) = 263 mm

5. LEVEL 5 (1530 mm above ground) = 55 mm

Maximum Post-Test Intrusion = 326 mm

OCCUPANTS:

	<u>Driver</u>	<u>Left Rear Passenger</u>
Type of Dummy	<u>SID</u>	<u>SID</u>
Restraints Used	<u>Type II belts with</u> <u>frontal airbag</u>	<u>Type II belts</u>

TEST VEHICLE SUMMARY OF RESULTS (Cont'd)INSTRUMENTATION:

Number of Vehicle Data Channels:		=	<u>25</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 RESULTSYear/Make/Model/Body Style: 1998/Honda/CR-V/EXVehicle NHTSA No.: MW5310 Test Date: December 2, 1998POSITION OF IMPACT (MDB) ON MONORAIL:Crabbed 27° to leftMDB DETAILS:Overall Width of Framework Carriage = 1252 mmOverall Length of MDB (incl. honeycomb impact face) = 4115 mmWheelbase of Framework Carriage = 2591 mmTread of Framework Carriage (Front & Rear) = 1880 mmC.G. Location Rearward of Front Axle = 1098 mmC.G. Location From Center Line = -15 mmC.G. Location Above Ground Level = 485 mmMDB WEIGHT:Left Front = 457.7 kg Left Rear = 235.1 kgRight Front = 328.1 kg Right Rear = 342.6 kgTOTAL FRONT = 785.8 kg TOTAL REAR = 577.7 kgTOTAL MDB WEIGHT = 1363.5 kgImpact Angle (MDB C/L to Target Vehicle C/L) = 90° degreesImpact Speed = Primary: 38.4 mph (61.8 kph) Secondary: 38.5 mph (62.0 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>180</u> mm |
| 2. | Row B Mid Stack (686 mm) | = | <u>133</u> mm |
| 3. | Row C Top of Bumper (533 mm) | = | <u>97</u> mm |
| 4. | Row D Center of Bumper (432 mm) | = | <u>143</u> mm |

INSTRUMENTATION:

Number of MDB Data Channels = 7

DATA SHEET NO. 4
POST-TEST OBSERVATIONS

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

VISIBLE DUMMY CONTACT POINTS:

	<u>LEFT FRONT SID</u>	<u>LEFT REAR SID</u>
Head	<u>Headrest/shoulder</u>	<u>C-post/headrest</u>
Arm	<u>Armrest/rear of door above</u> <u>armrest</u>	<u>Rear of door above</u> <u>armrest</u>
Pelvis	<u>Armrest</u>	<u>Armrest</u>
Left Knee	<u>Mid-door below armrest</u>	<u>Mid-door below armrest</u>
Right Knee	<u>Left Knee</u>	<u>Left 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: 13 mm rearward Vertical: 6 mm high

ARM REST LOCATIONS:

Front: 168 mm from bottom of window

Rear: 165 mm from bottom of window

POST-TEST OBSERVATIONS (Cont'd)SEAT CRUSH:

Front Seat Back: 3 mm Front Seat Cushion: 10 mm
Left Rear Seat Back: 3 mm Rear Seat Cushion: 30 mm

GLAZING DAMAGE:

Left side windows broke; windshield cracked

PILLAR PERFORMANCE:

No failure noted

SILL SEPARATION:

None noted

OTHER NOTABLE IMPACT EFFECTS:

Vehicle rolled onto right side

AIRBAG DEPLOYMENT STATUS:

		<u>FRONT</u>	<u>REAR</u>
	<u>DRIVER</u>	<u>PASSENGER</u>	<u>PASSENGER</u>
Frontal	<u>No</u>	<u>No</u>	<u>N/A</u>
Side	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

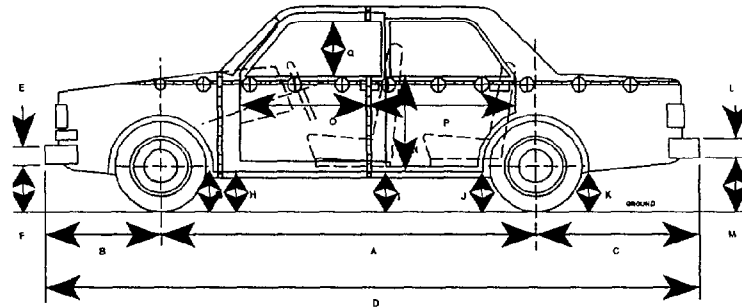
Vehicle NHTSA No.: MW5310
Test Date: December 2, 1998

	Driver SID ID # 270				Left Passenger SID ID # 269			
	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	54.7	50	-9.1	88	55.9	51	-6.4	108
Left Lower Rib (LLR) Y	42.3	49	-4.9	87	63.7	50	-21.8	80
SPINE ACCELERATIONS								
Lower Lateral Y	59.0	34	-5.9	94	49.5	54	-8.7	75
PELVIS ACCELERATIONS								
Lateral Y	84.0	37	-14.1	59	68.2	44	-11.7	96

REFERENCE:

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

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



LEFT SIDE VIEW

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

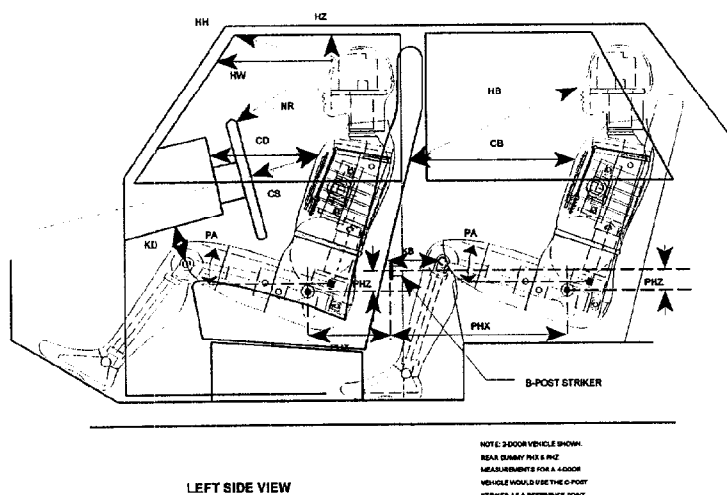
J2 = To Sill

ALL MEASUREMENTS IN (mm)

	PRE-TEST	POST-TEST*	Δ CHANGE
A	2632	2565	67
B	790	790	0
C	935	935	0
D	4357	4290	67
E	105	105	0
F	560	591	31
G	309	319	10
H	308	327	19
I	308	236	72
J1/J2	296/294	229/249	67/45
K	356	356	0
L	90	90	0
M	508	504	4
N	670	665	5
O	714	702	12
P	1328	1255	73
Q	496	475	21
R	4035	4070	35
S	4035	4060	25
T	1734	1673	61

* Measurements taken after vehicle was righted.

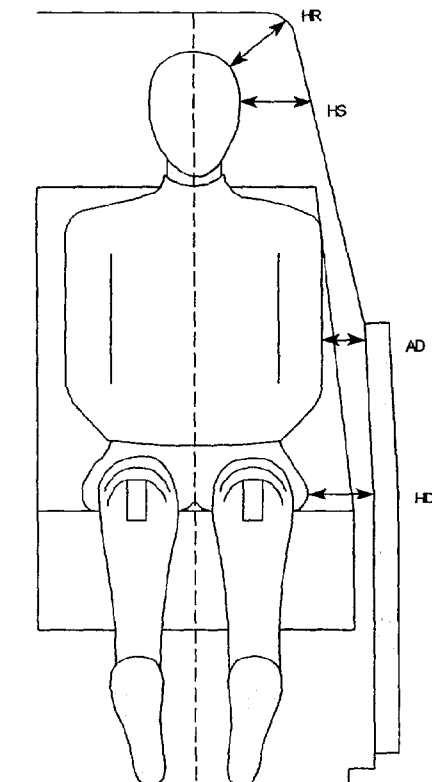
DATA SHEET NO. 7

SIDE IMPACT DUMMY (SID) LONGITUDINAL CLEARANCE DIMENSIONSYear/Make/Model/Body Style: 1998/Honda/CR-V/EXNHTSA NO.: MW5310 Test Date: December 2, 1998NOTE: All dimensions are in mm with tolerance of ± 3 mm

	DRIVER SID ID # 270		LEFT REAR PASSENGER SID ID # 269
HH	415	HZ	200
HW	611	NB	691
HZ	220	CB	593
NR	498	KBL (KBA)	217 (0.0°)
CD	572	KBR (KBA)	230 (0.0°)
CS	343	PA°	24.2°
KDL(KDA°)	120 (0.0°)	PHX	203
KDR(KDA°)	130 (0.0°)	PHZ	195
PA°	24.5°		
PHX	203		
PHZ	75		

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

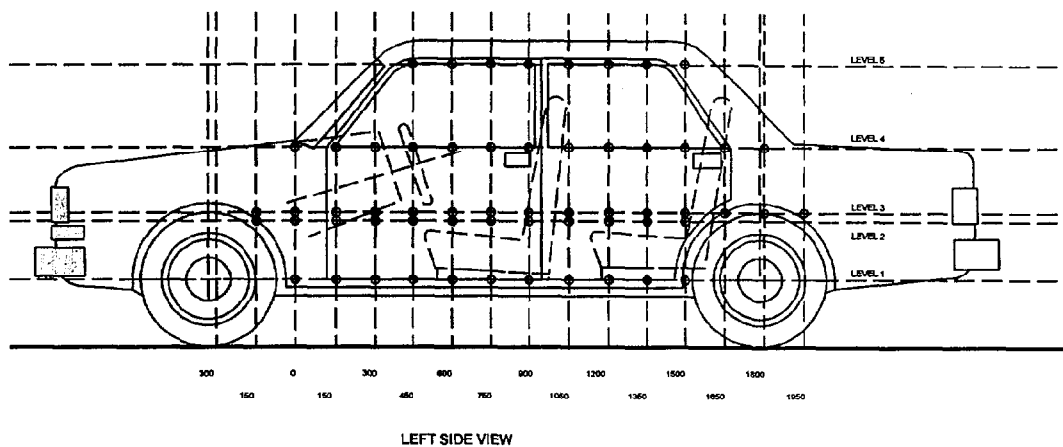
SIDE IMPACT DUMMY (SID) LATERAL CLEARANCE DIMENSIONSYear/Make/Model/Body Style: 1998/Honda/CR-V/EXNHTSA NO.: MW5310 Test Date: December 2, 1998

NOTE: All dimensions are in mm

	DRIVER SID ID # 270	LEFT REAR PASSENGER SID ID # 269
HR	234	214
HS	310	228
AD	100	98
HD	118	144

DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX
 NHTSA NO.: MW5310 Test Date: December 2, 1998



NOTE: All measurements are in millimeters (mm)

LEVEL 5 - WINDOW TOP
 LEVEL 4 - WINDOW SILL
 LEVEL 3 - MID-DOOR
 LEVEL 2 - OCCUPANT H-POINT
 LEVEL 1 - AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

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>405</u> mm
Level 2 @ Occupant H-Point	= <u>663</u> mm
Level 3 @ Mid Door	= <u>718</u> mm
Level 4 @ Window Sill	= <u>1035</u> mm
Level 5 @ Window Top	= <u>1530</u> mm

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH PROFILES

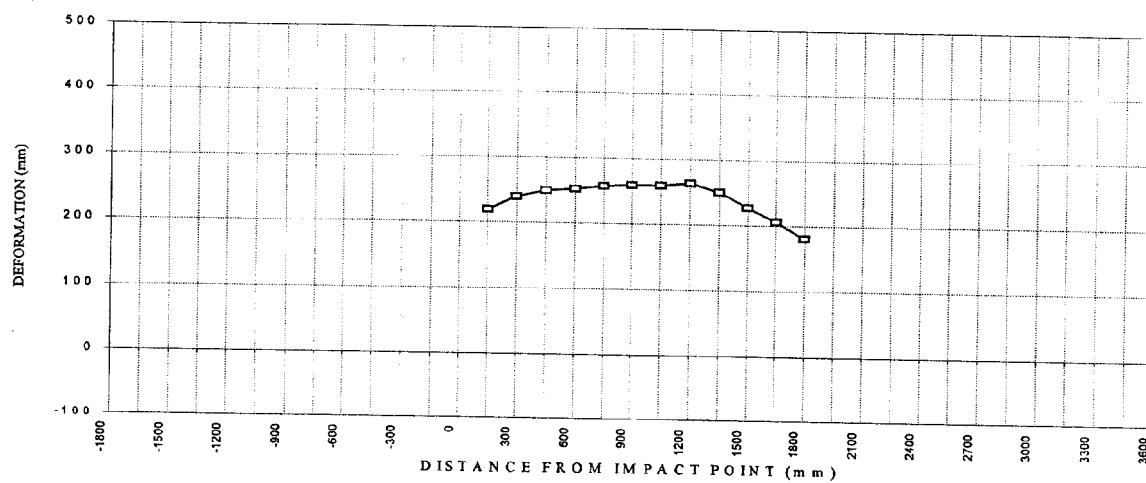
Longitudinal Distance (mm)	Level 1 - Axle Centerline		
	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900			
-750			
-600			
-450			
-300			
-150			
0 (impact point)			
150	787	1006	219
300	795	1034	239
450	795	1044	249
600	795	1047	252
750	794	1051	257
900	794	1053	259
1050	793	1052	259
1200	792	1055	263
1350	793	1043	250
1500	793	1020	227
1650	793	999	206
1800	768	949	181

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

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH PROFILES

Longitudinal Distance (mm)	Level 1 - Axle Centerline		
	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
1950			
2100			
2250			
2400			
2550			
2700			
2850			
3000			
3150			
3300			
3450			
3600			

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

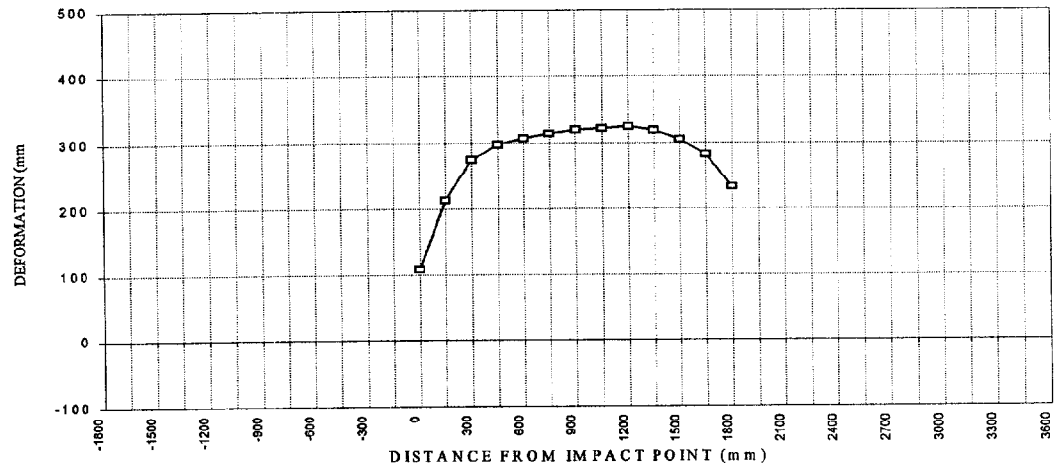
	Level 2 - Occupant H-Point		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900			
-750			
-600			
-450			
-300			
-150			
0 (impact point)	736	845	109
150	739	952	213
300	737	1012	275
450	735	1033	298
600	735	1042	307
750	734	1048	314
900	734	1054	320
1050	733	1055	322
1200	733	1058	325
1350	734	1053	319
1500	735	1040	305
1650	736	1019	283
1800	737	970	233

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)
1950			
2100			
2250			
2400			
2550			
2700			
2850			
3000			
3150			
3300			
3450			
3600			

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			
-750	752	762	10
-600			
-450			
-300			
-150			
0 (impact point)	737	844	107
150	737	939	202
300	736	1001	265
450	735	1011	276
600	735	1025	290
750	735	1033	298
900	734	1039	305
1050	733	1046	313
1200	734	1060	326
1350	734	1052	318
1500	735	1035	300
1650	736	1009	273
1800	737	973	236

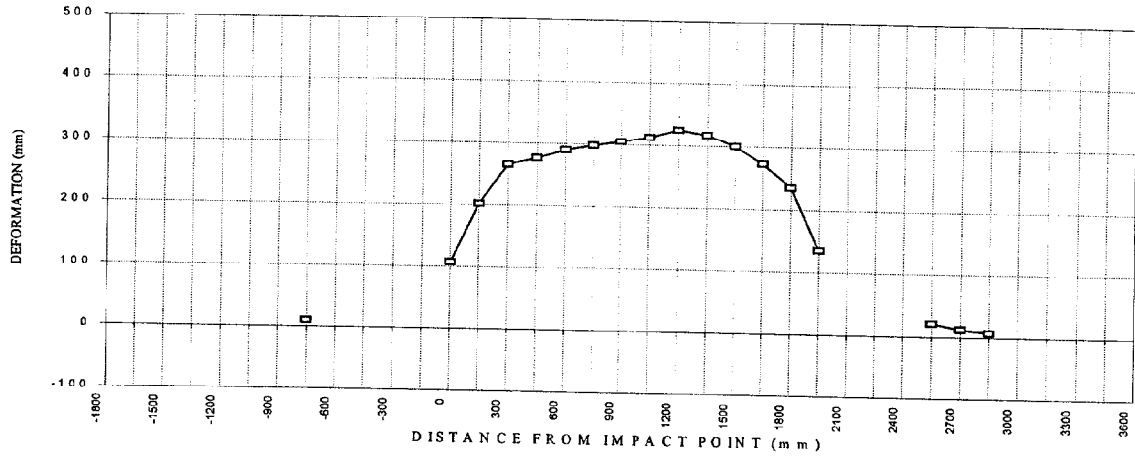
Reference plane is parallel to test vehicle longitudinal centerline.
Given dimensions = Reference plane to car body

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH PROFILES

	Level 3 - Mid-Door		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
1950	730	867	137
2100			
2250			
2400			
2550	754	775	21
2700	777	789	12
2850	793	800	7
3000			
3150			
3300			
3450			
3600			

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

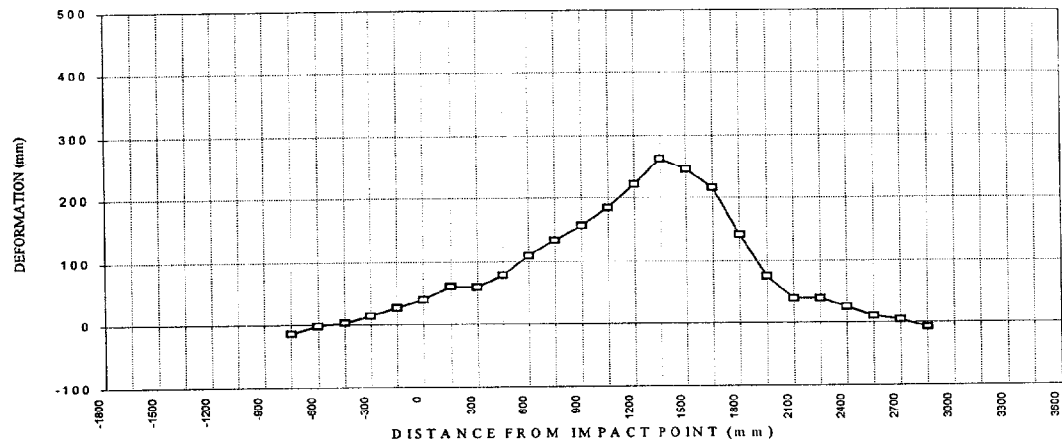
	Level 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1800			
-1650			
-1500			
-1350			
-1200			
-1050			
-900			
-750	867	853	-14
-600	844	842	-2
-450	828	831	3
-300	816	830	14
-150	805	832	27
0 (impact point)	798	838	40
150	795	856	61
300	795	855	60
450	793	872	79
600	792	902	110
750	792	927	135
900	791	949	158
1050	792	977	185
1200	792	1014	222
1350	792	1055	263
1500	794	1040	246
1650	794	1010	216
1800	796	939	143

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 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
1950	800	875	75
2100	800	839	39
2250	806	845	39
2400	815	840	25
2550	825	835	10
2700	835	839	4
2850	853	845	-8
3000			
3150			
3300			
3450			
3600			

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

	Level 5 - Window Top		
Longitudinal Distance (mm)	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	993	1022	29
900	993	998	5
1050	995	931	-64
1200	997	965	-32
1350	1000	1055	55
1500	1002	1032	30
1650	1007	997	-10
1800	1009	964	-45

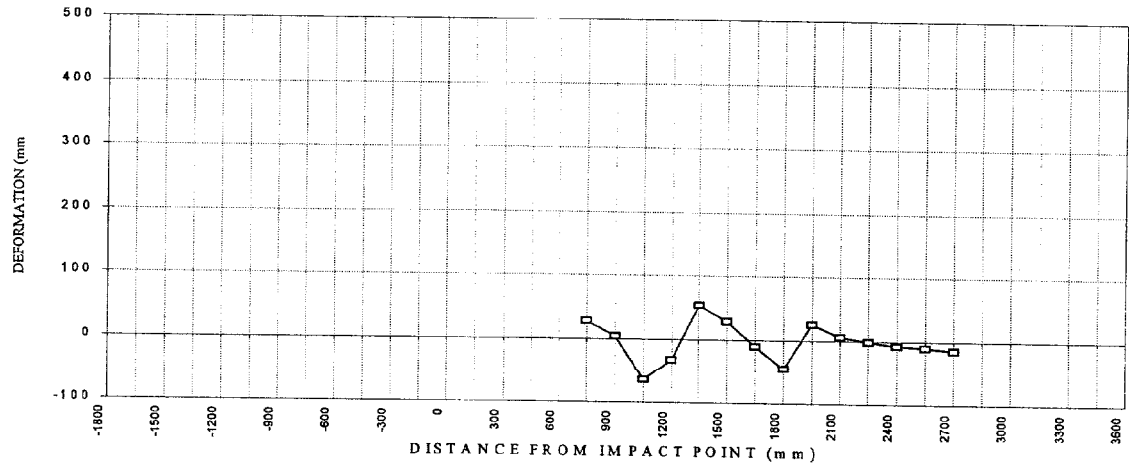
Reference plane is parallel to test vehicle longitudinal centerline.
Given dimensions = Reference plane to car body

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH PROFILES

	Level 5 - Window Top		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
1950	1013	1039	26
2100	1017	1023	6
2250	1023	1022	-1
2400	1030	1023	-7
2550	1037	1027	-10
2700	1049	1035	-14
2850			
3000			
3150			
3300			
3450			
3600			

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

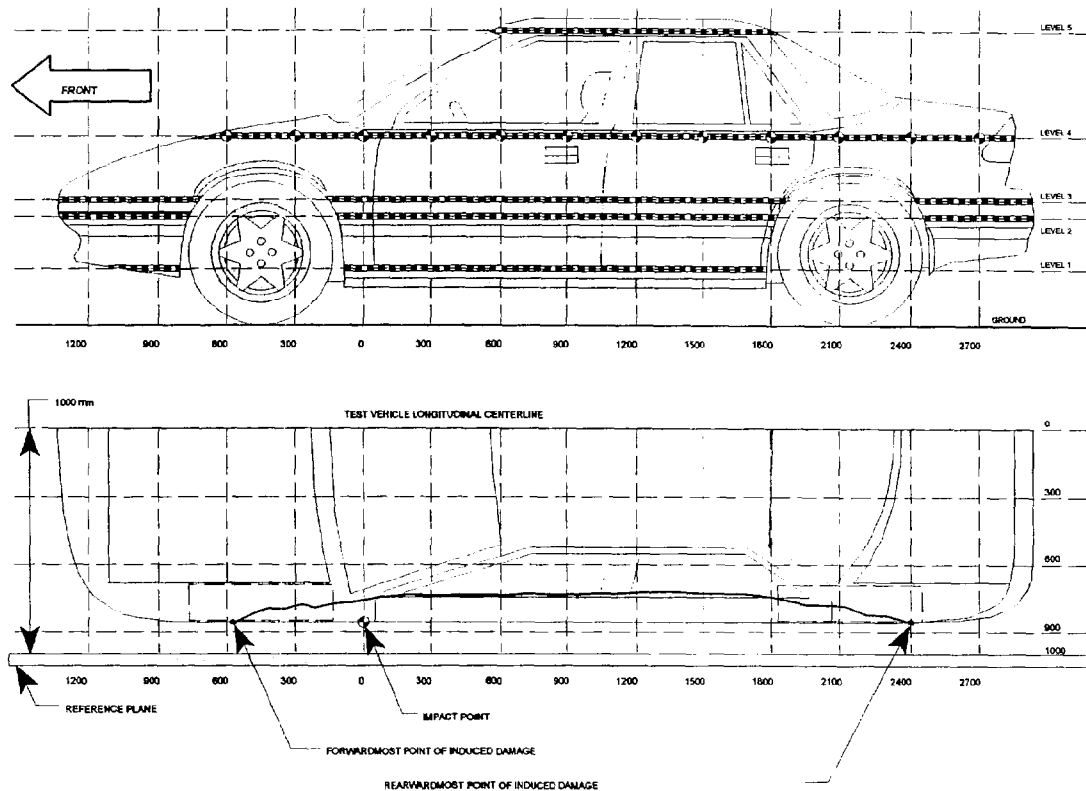
VEHICLE EXTERIOR STATIC CRUSH



LEVEL 5 - WINDOW TOP

DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX
 NHTSA NO.: MW5310 Test Date: December 2, 1998



NOTE: All measurements are in millimeters (mm)

DPD MEASUREMENTS	POST-TEST (mm)	PRE-TEST (mm)	STATIC CRUSH (mm)
1. (LF = <u>-300</u> mm)	830	816	14
2. 213 mm	1053	795	258
3. 780 mm	1098	792	306
4. 1398 mm	1089	792	297
5. 1990 mm	867	800	67
6. (LR = <u>2550</u> mm)	835	825	10

DATA SHEET NO. 12
EXTERIOR STATIC CRUSH FOR SIDE IMPACTOR

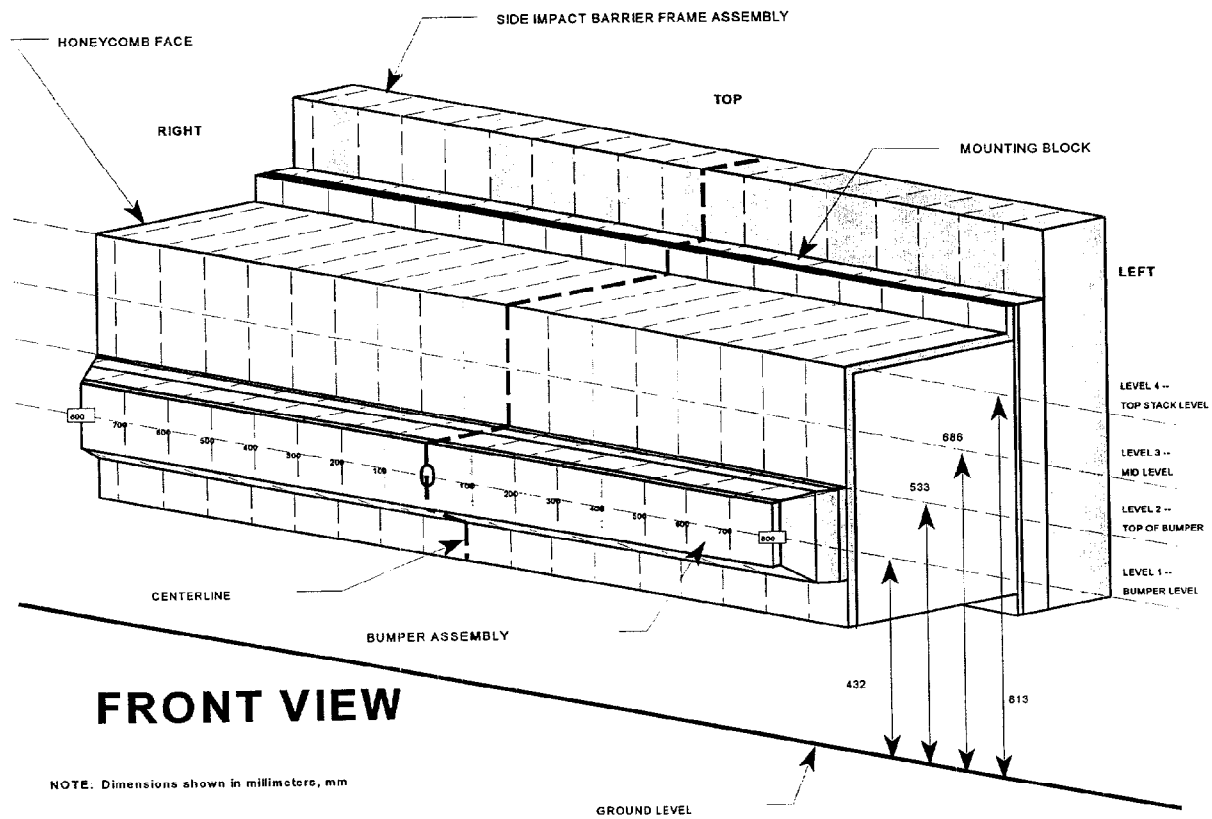
Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

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	114	63	29	16	19	24	29	31	32	38	43	51	69	93	117	148	180
Mid Level Level 3	686 mm	91	55	31	17	11	8	10	10	11	15	26	13	17	28	44	71	133
Top Bumper Level 2	533 mm	97	75	57	46	41	37	35	35	35	36	37	41	43	48	48	56	74
Mid Bumper Level 1	432 mm	143	130	117	110	104	101	99	104	104	107	107	110	112	117	121	126	134

See next page for Barrier Face Graphic

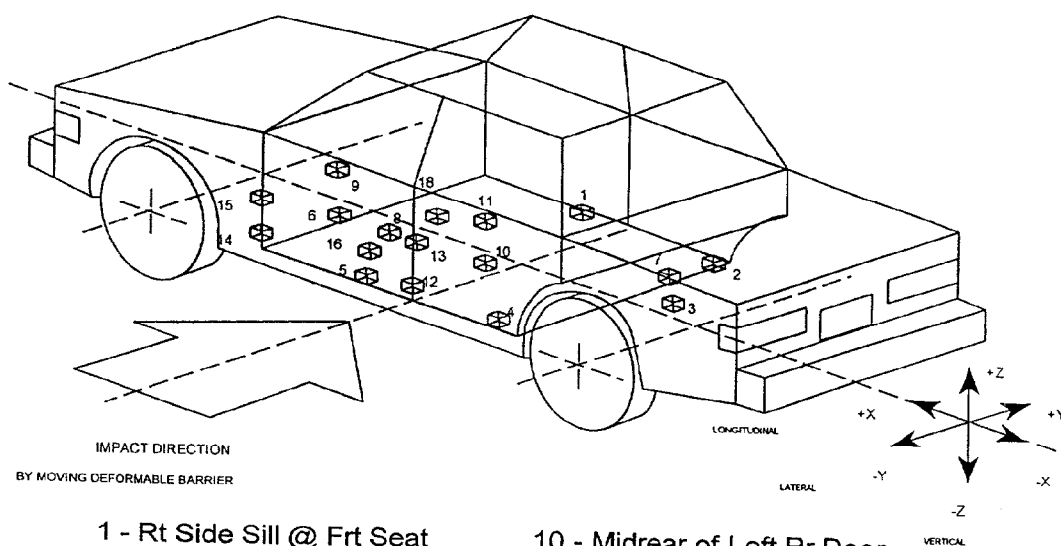
DATA SHEET NO. 12 (Cont'd)



DATA SHEET 13
TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998



- 1 - Rt Side Sill @ Frt Seat
- 2 - Rt Side Sill @ Rr Seat
- 3 - Rr Floorpan Above Axle
- 4 - Left Side Sill @ Rr Seat
- 5 - Left Side Sill @ Frt Seat
- 6 - Left Frt Door on Centerline
- 7 - Rt Rr Occ Compartment
- 8 - Midrear of Left Frt Door
- 9 - Left Frt Door Up C/Line

- 10 - Midrear of Left Rr Door
- 11 - Left Rr Door Up C/Line
- 12 - Left Lwr B-Post
- 13 - Left Middle B-Post
- 14 - Left Lwr A-Post
- 15 - Left Middle A-Post
- 16 - Frt Seat Track
- 18 - Vehicle C.G.

DATA SHEET NO. 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

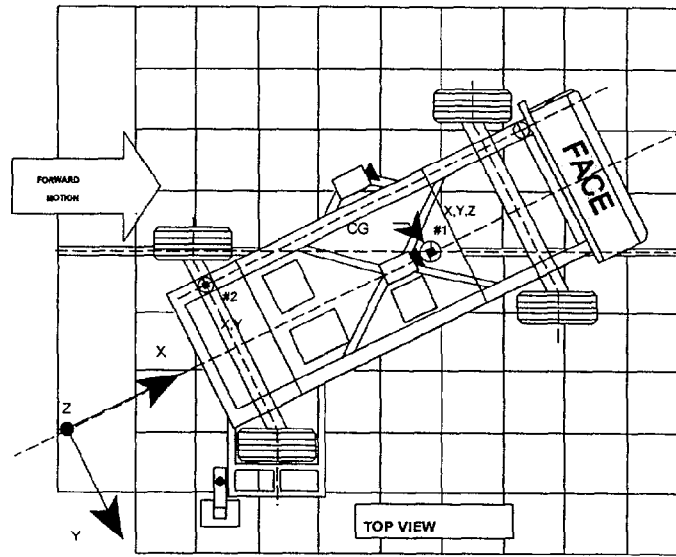
Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

Accel No.	Description	Coordinates (mm)*			Long. (X) Maximums (g's)		Lat. (Y) Maximums (g's)		Vert. (Z) Maximums (g's)		Resultant (g's)
		X	Y	Z	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
1	Rt. Side Sill @ Front Seat	2164	644	328	1.6***	-8.4***	30.1	-2.1	5.1	-8.5	30.3***
2	Rt. Side Sill @ Rear Seat	1268	670	360	2.6	-8.6	38.5	-3.0	6.3	-5.4	38.5
3	Rr. Floorpan Above Axle	870	0	706	3.6	-7.3	27.9	-2.0	11.0	-8.4	28.2
4	Left Side Sill @ Rr. Seat**	1269	-670	382	---	---	79.4	-50.4	---	---	---
5	Left Side Sill @ Frt. Seat	2167	-644	348	---	---	53.1	-19.4	---	---	---
6	Left Front Door Centerline	2430	-815	782	---	---	157.7	-101.3	---	---	---
7	Right Rear Occupant Compartment	1618	340	490	---	---	34.7	-2.1	---	---	---
8	Mid Rear of Left Front Door	2064	-815	765	---	---	95.6	-59.9	---	---	---
9	Left Front Door Upper Centerline	2382	-810	984	---	---	196.6	-117.4	---	---	---
10	Left Rear Door Mid Rear	1240	-742	818	---	---	92.3	-147.5	---	---	---
11	Left Rear Door Upper Centerline ****	1467	-740	1025	---	---	116.2	-24.3	---	---	---
12	Left Lower B-Post	1949	-662	526	---	---	248.4	-40.4	---	---	---
13	Left Mid B-Post	1880	-706	1020	---	---	135.3	-43.8	---	---	---
14	Left Lower A-Post	2909	-665	466	---	---	68.7	-43.4	---	---	---
15	Left Mid A-Post	2968	-788	990	---	---	45.6	-5.7	---	---	---
16	Driver Seat Track	2174	-645	460	---	---	142.2	-20.8	---	---	---
18	Vehicle CG	2343	15	397	2.3	-12.5	28.6	-1.4	12.3	-7.8	30.2

*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To right) Z - Ground Level (+ Up)
 ** - Data not valid after 40 msec. *** - Data not valid after 65 msec. **** - Data not valid after 60 msec.

DATA SHEET NO. 14

MOVING DEFORMABLE BARRIER (MDB) ACCELEROMETER LOCATIONS AND DATA SUMMARYYear/Make/Model/Body Style: 1998/Honda/CR-V/EXVehicle NHTSA No.: MW5310 Test Date: December 2, 1998

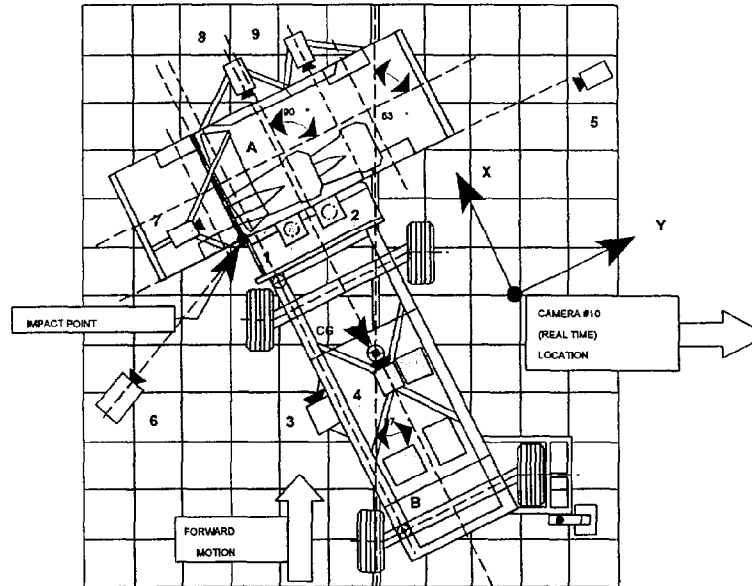
Accel. No.	Description	Coordinates (mm)*			(+) Positive		(-) Negative	
		X	Y	Z	Max. (g)	Time (msec)	Max. (g)	Time (msec)
1	MDB Center of Gravity	-1092	0	483				
	Longitudinal (X)	---	---	---	1.1	120	-19.4	42
	Lateral (Y)	---	---	---	4.0	140	-9.3	41
	Vertical (Z)	---	---	---	10.9	59	-14.9	20
	Resultant (R)	---	---	---	22.4	20	---	---
2	Rear Frame Member	-2501	-625	622				
	Longitudinal (X)	---	---	---	1.3	198	-22.4	40
	Lateral (Y)	---	---	---	6.2	36	-1.6	189

*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: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998



Camera No.	View	Coordinates (mm)*			Lens (mm)	Film Speed (fps)
		X	Y	Z		
	Real Time					
1	Top Overall	-180	1220	500	8	990
2	Top Impact	-240	10	5000	13	909
3	Cart Pointer				35	1075
4	Cart Overall				13	1000
5	Right Impact	-420	10385	1780	25	976
6	Left Impact	-395	-2780	1670	13	976
7	Onboard Hood				13	1010
8	Onboard Driver				8	1087
9	Onboard Passenger				8	1010

* 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: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

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 38.4 mph (61.8 kph)

FUEL SPILLAGE MEASUREMENT:

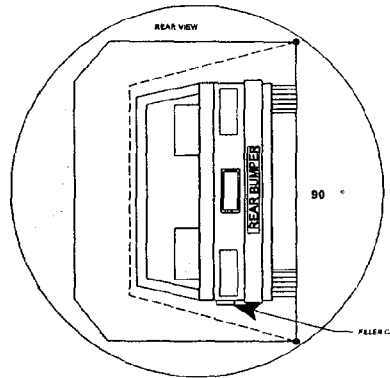
POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0	1 oz
2. For 5 minute period after vehicle motion ceases	0	5 oz
3. For next 25 minutes	0	1 oz./1 min

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 16
FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1998/Honda/CR-V/EX
Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 43 seconds
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 43 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

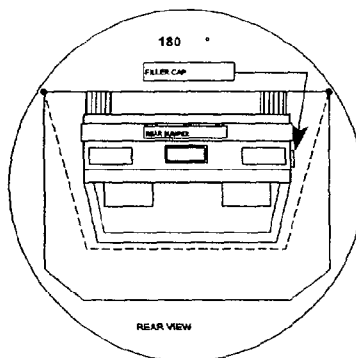
0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz.	5 oz
2. Sixth Minute From Onset of Rotation	0 oz.	1 oz
3. Seventh Minute From Onset of Rotation	0 oz.	1 oz
4. Eighth Minute if Required	0 oz.	1 oz

FUEL SPILLAGE LOCATIONS(S): None

DATA SHEET 16
FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1998/Honda/CR-V/EX
 Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

TEST PHASE: 90° - 180°



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:

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

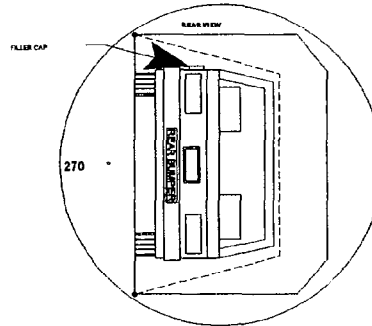
FUEL SPILLAGE LOCATIONS(S): None

DATA SHEET 16
FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

TEST PHASE: 180° - 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 25 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 25 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

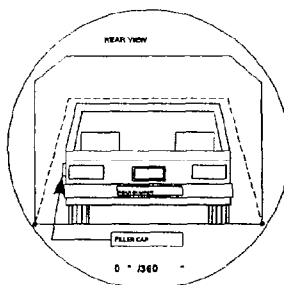
FUEL SPILLAGE LOCATIONS(S): None

DATA SHEET 16
FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1998/Honda/CR-V/EX

Vehicle NHTSA No.: MW5310 Test Date: December 2, 1998

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 38 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 38 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

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* Vehicle in rolled orientation

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

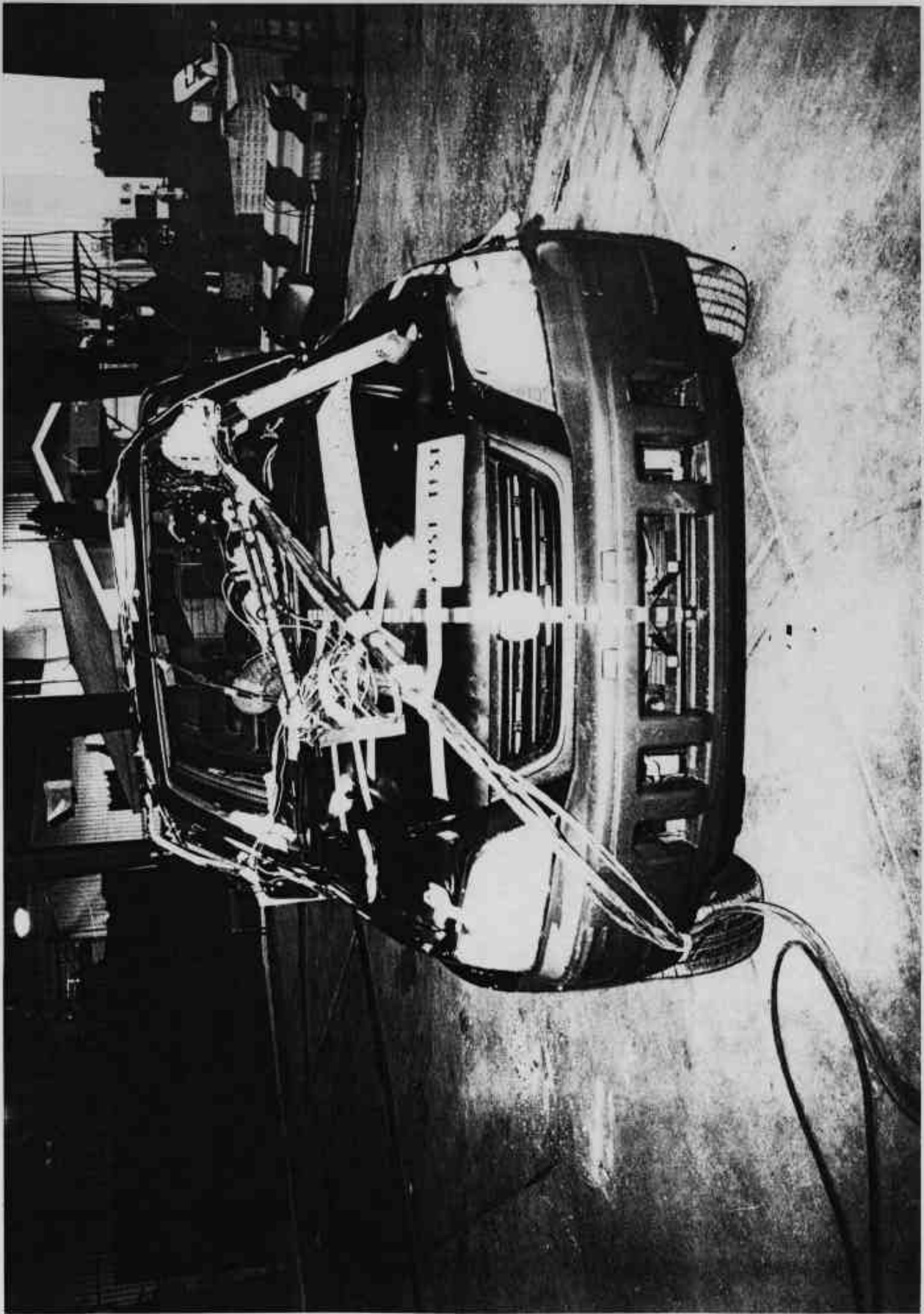


Photo No. A-2 - Post-Test Front View of Test Vehicle

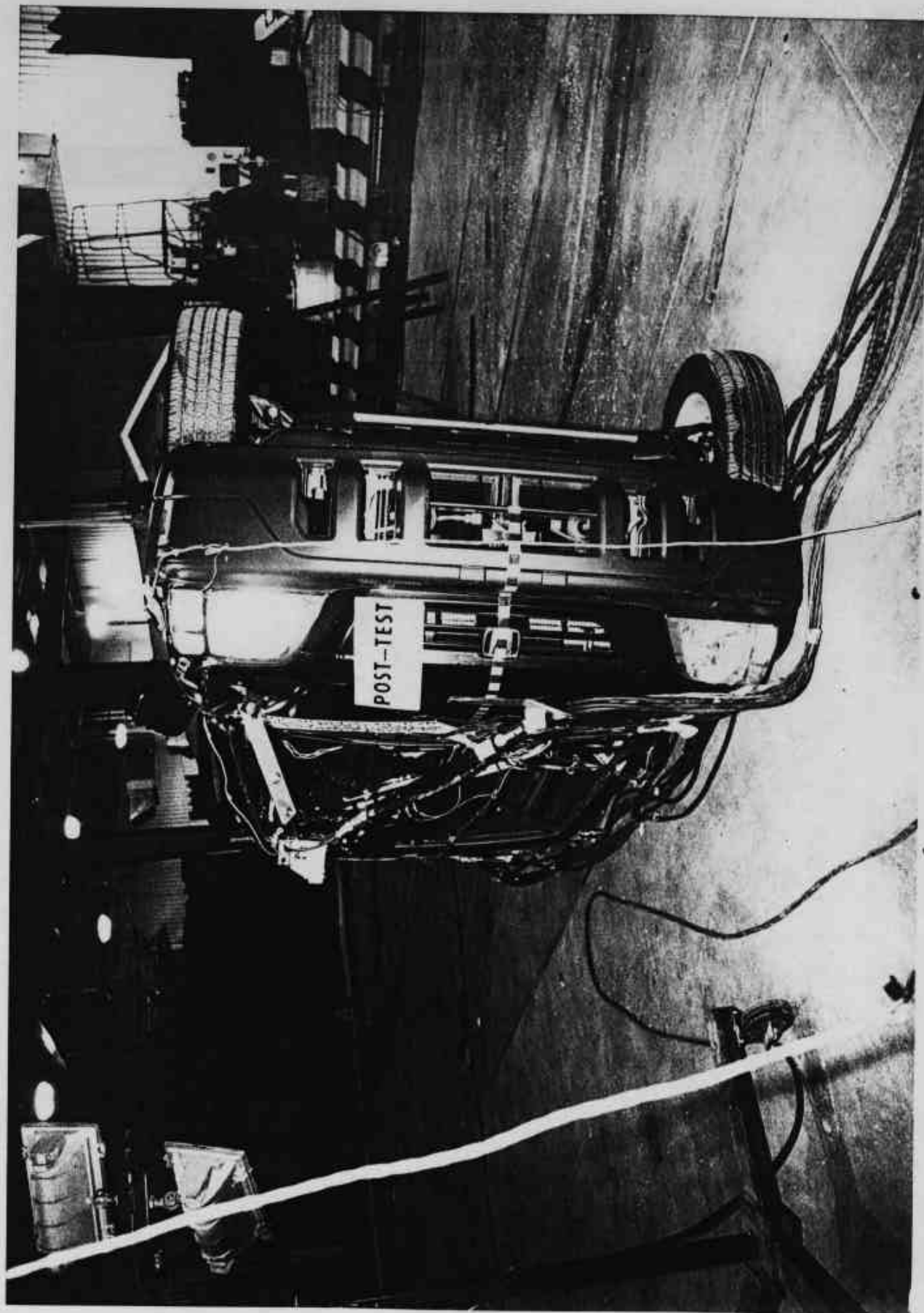


Photo No. A-3 - Post-Test Front View of Test Vehicle

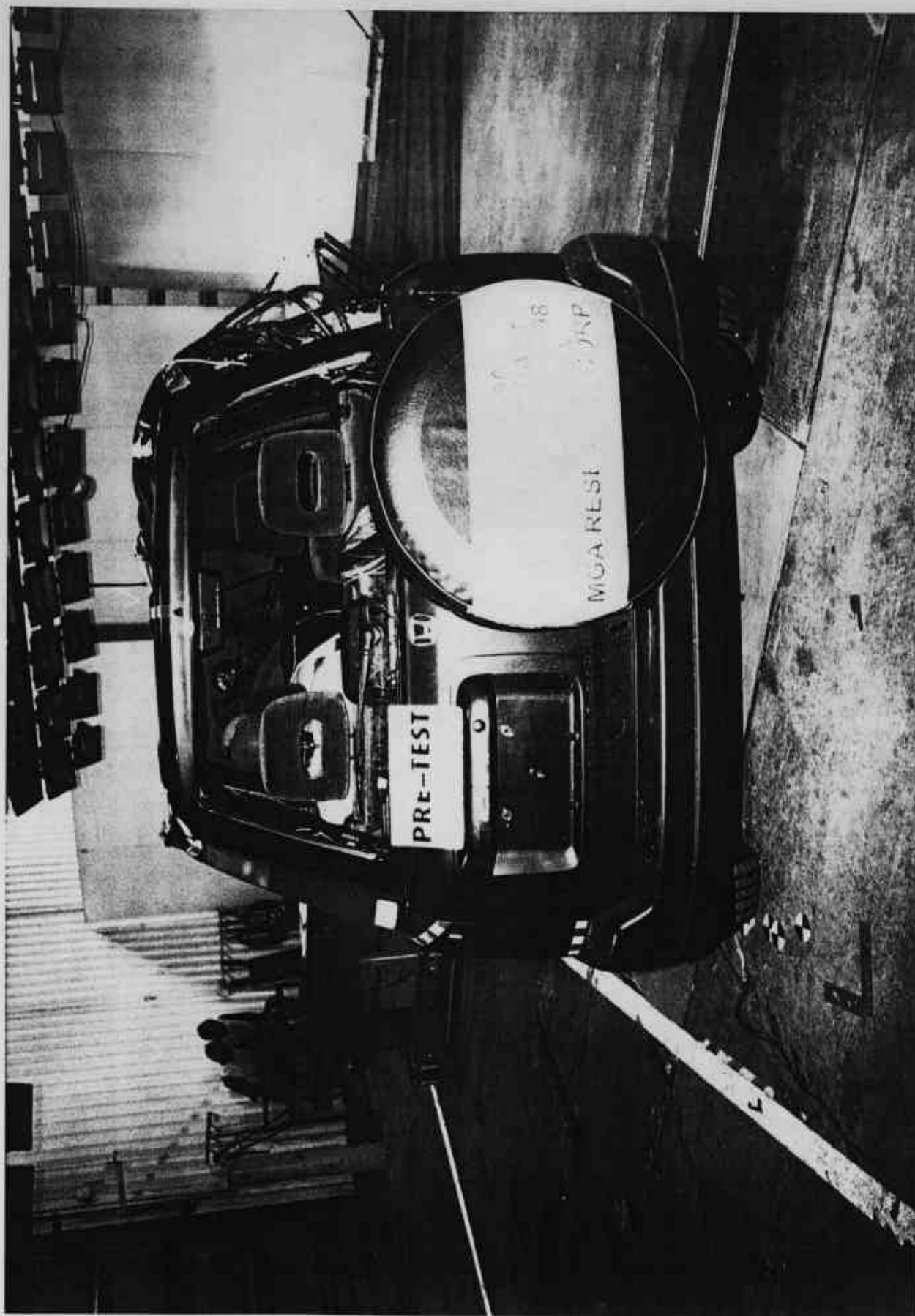


Photo No. A-4 - Pre-Test Rear View of Test Vehicle

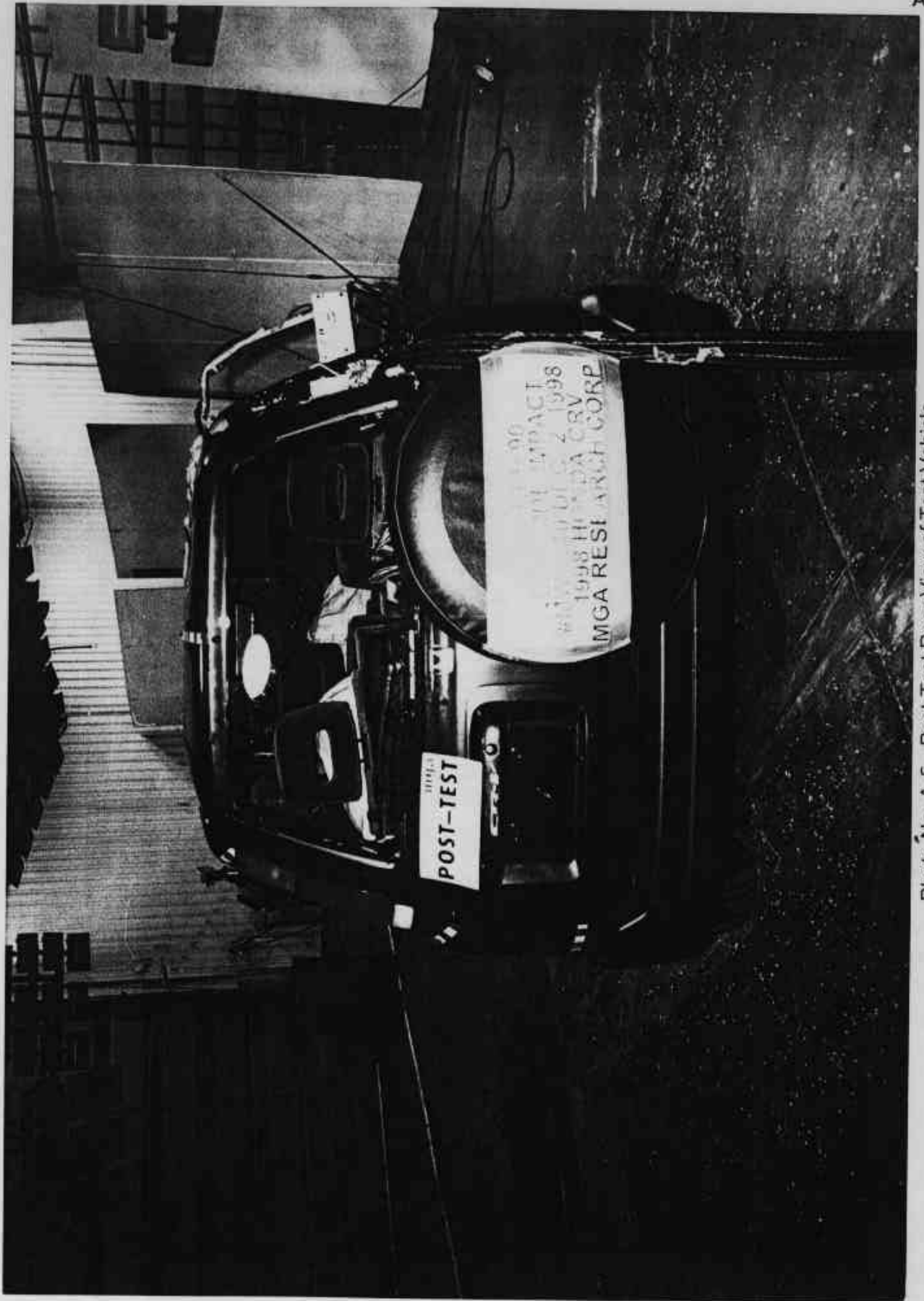


Photo No. A-5 - Post-Test Rear View of Test Vehicle

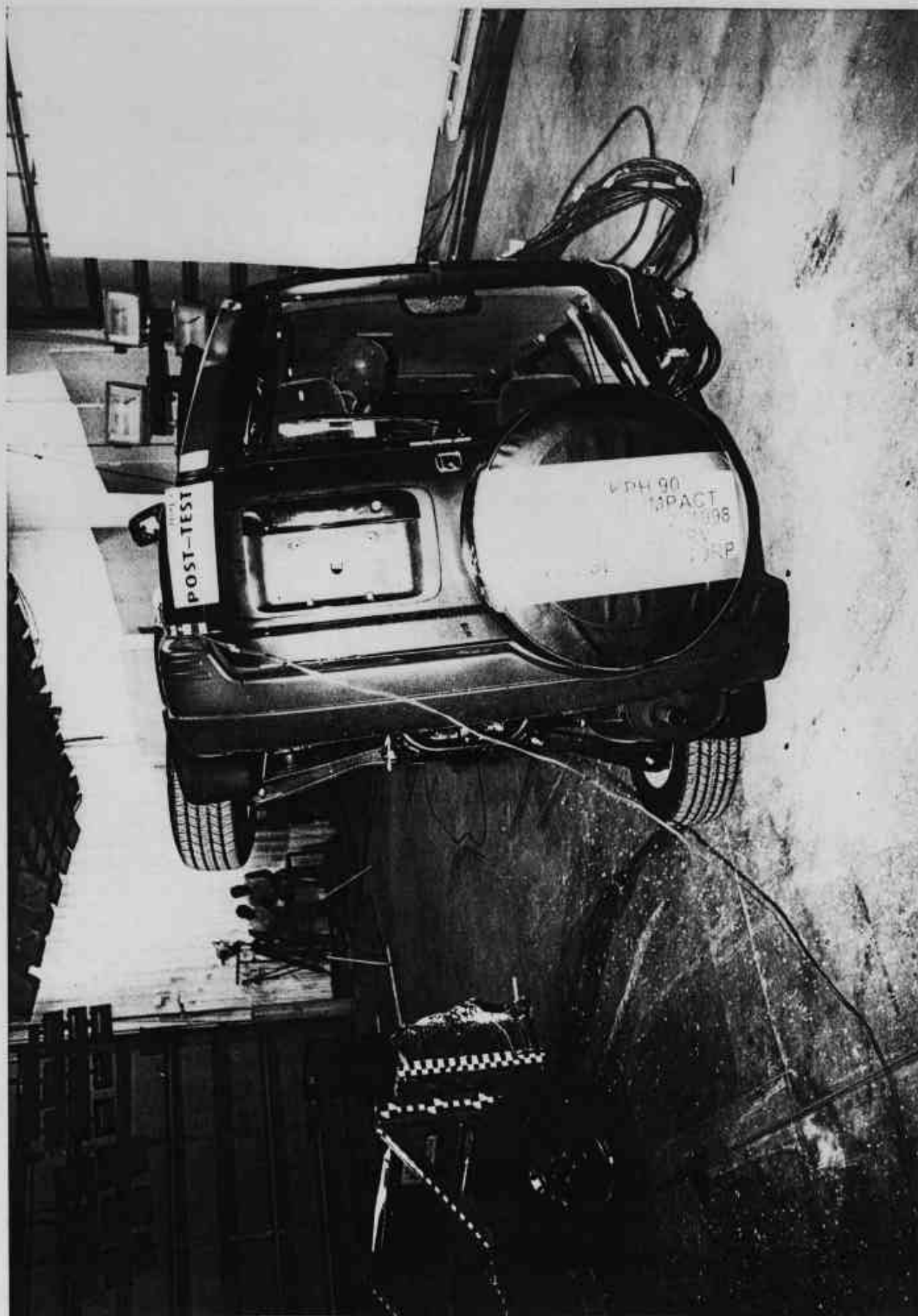


Photo No. A-6 - Post-Test Rear View of Test Vehicle

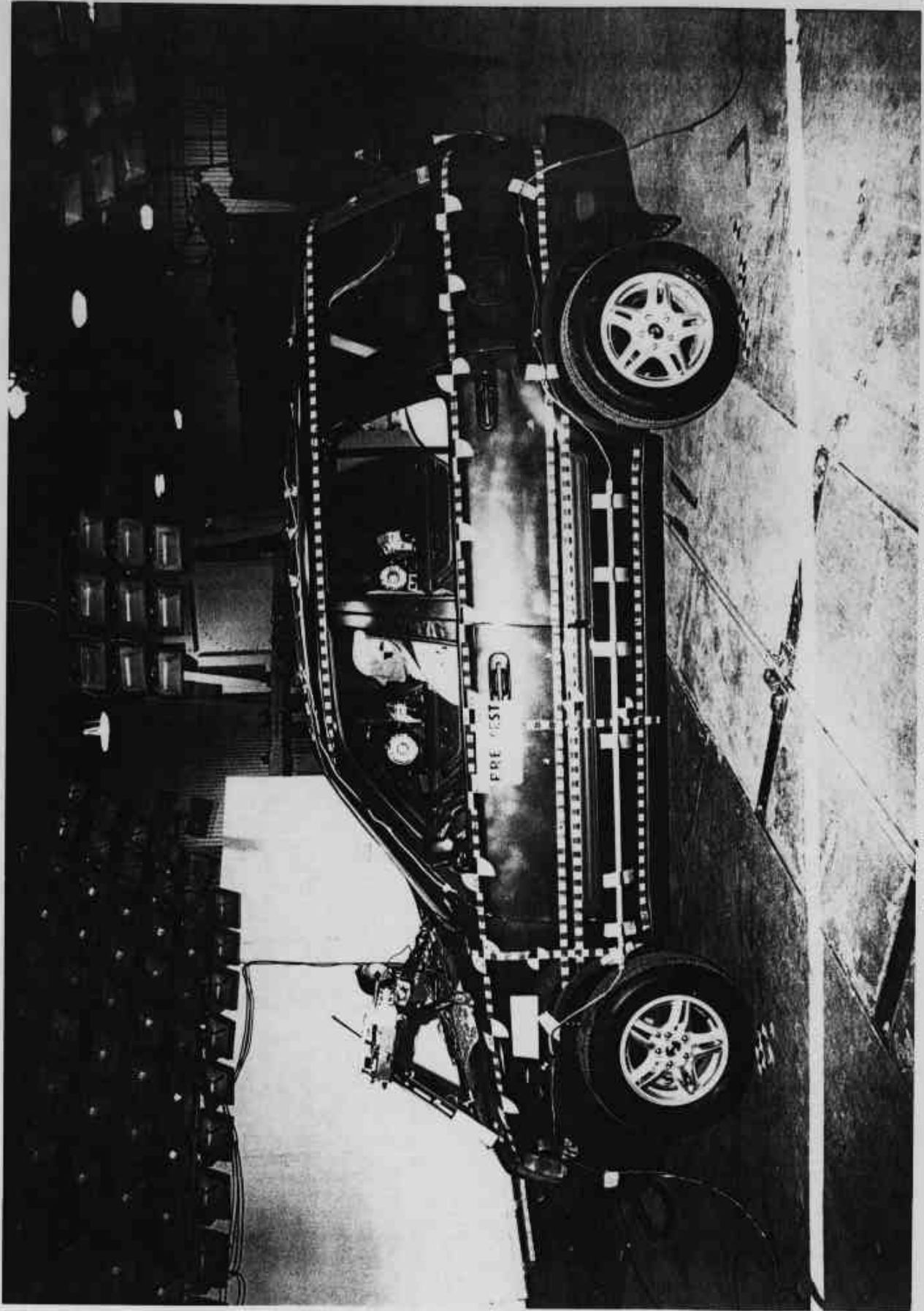


Photo No. A-7 - Pre-Test Left Side View of Test Vehicle

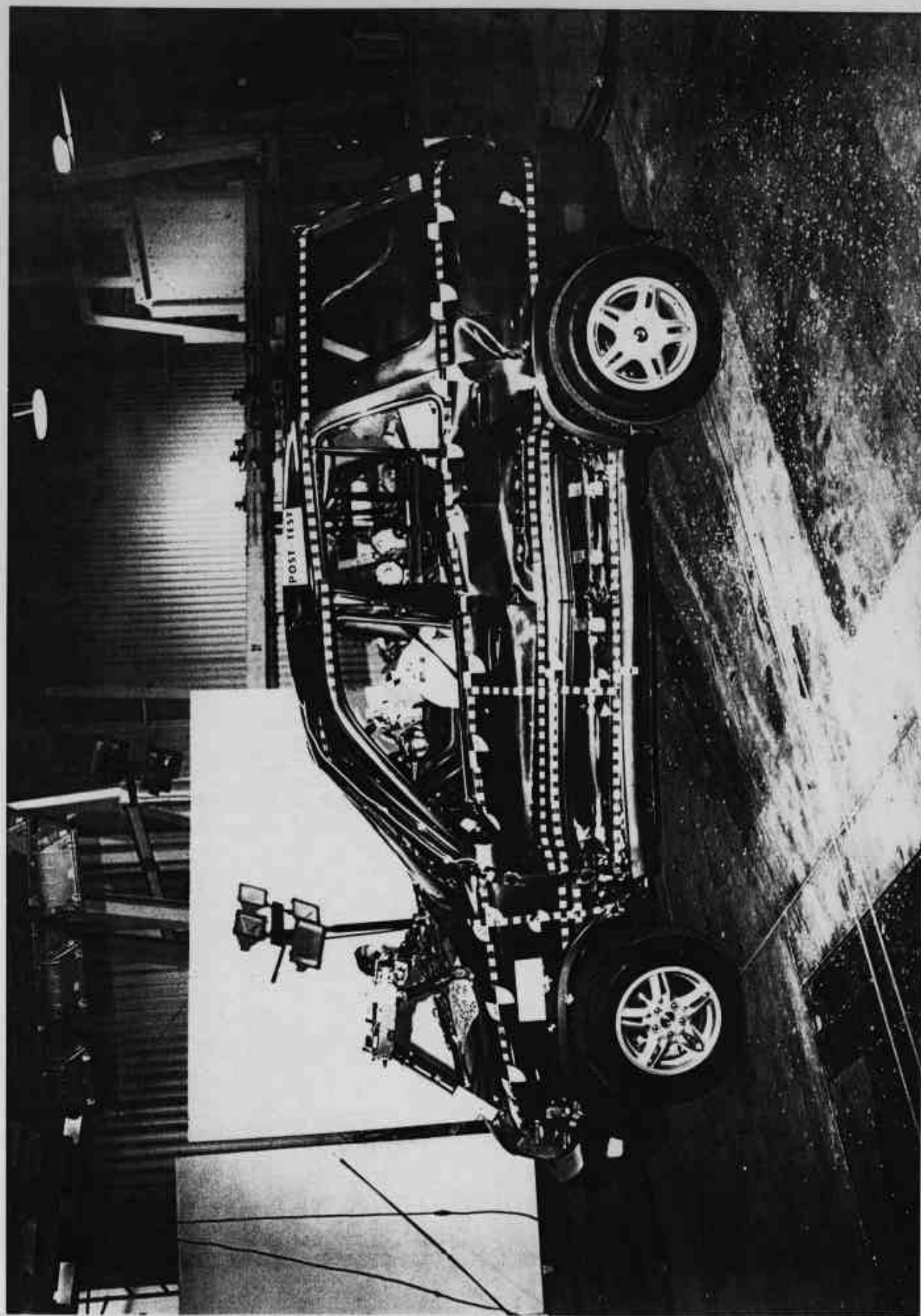


Photo No. A-8 - Post-Test Left Side View of Test Vehicle

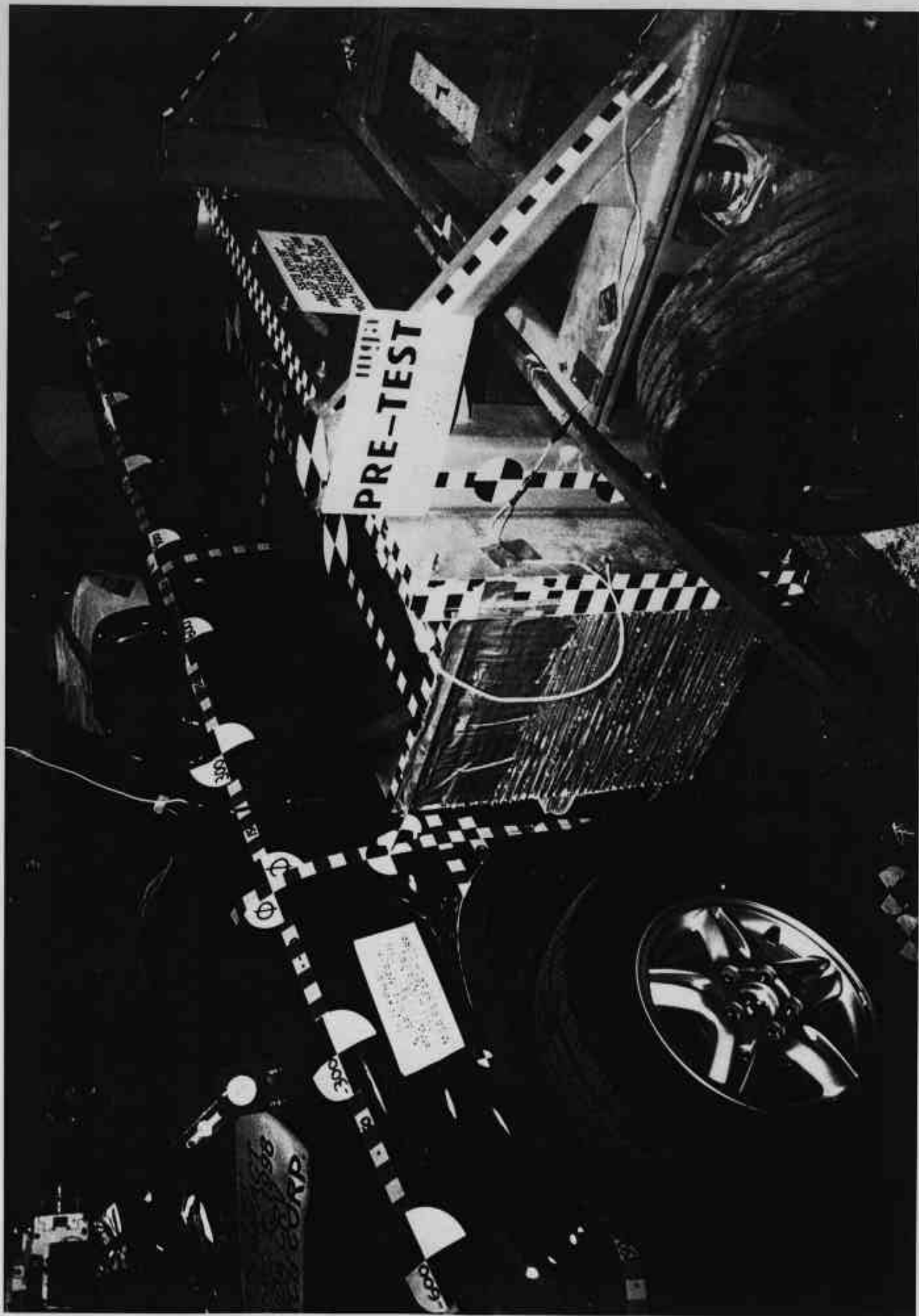


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle (left side)

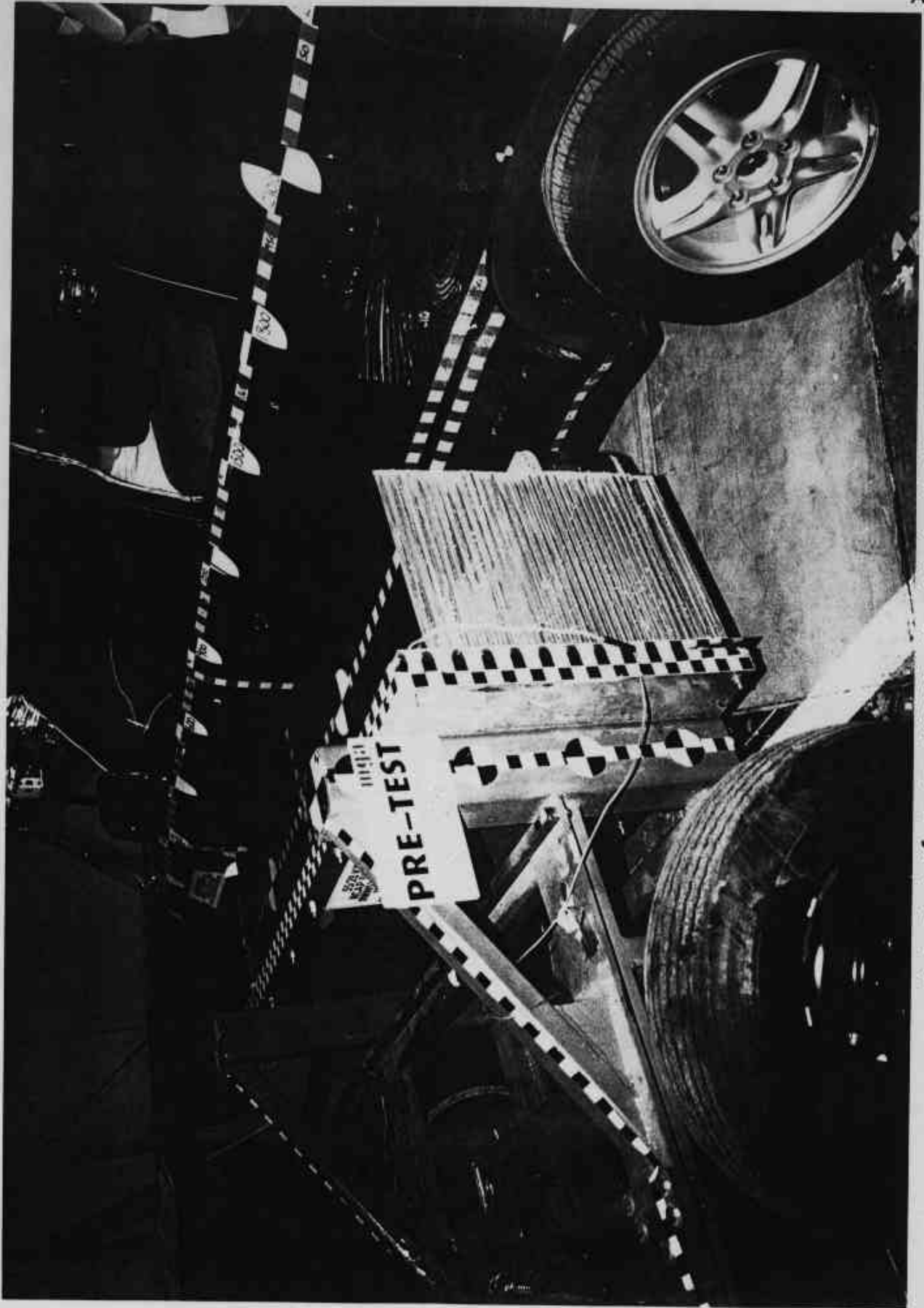


Photo No. A-10 - Pre-Test MDB Positioned Against Vehicle (right side)

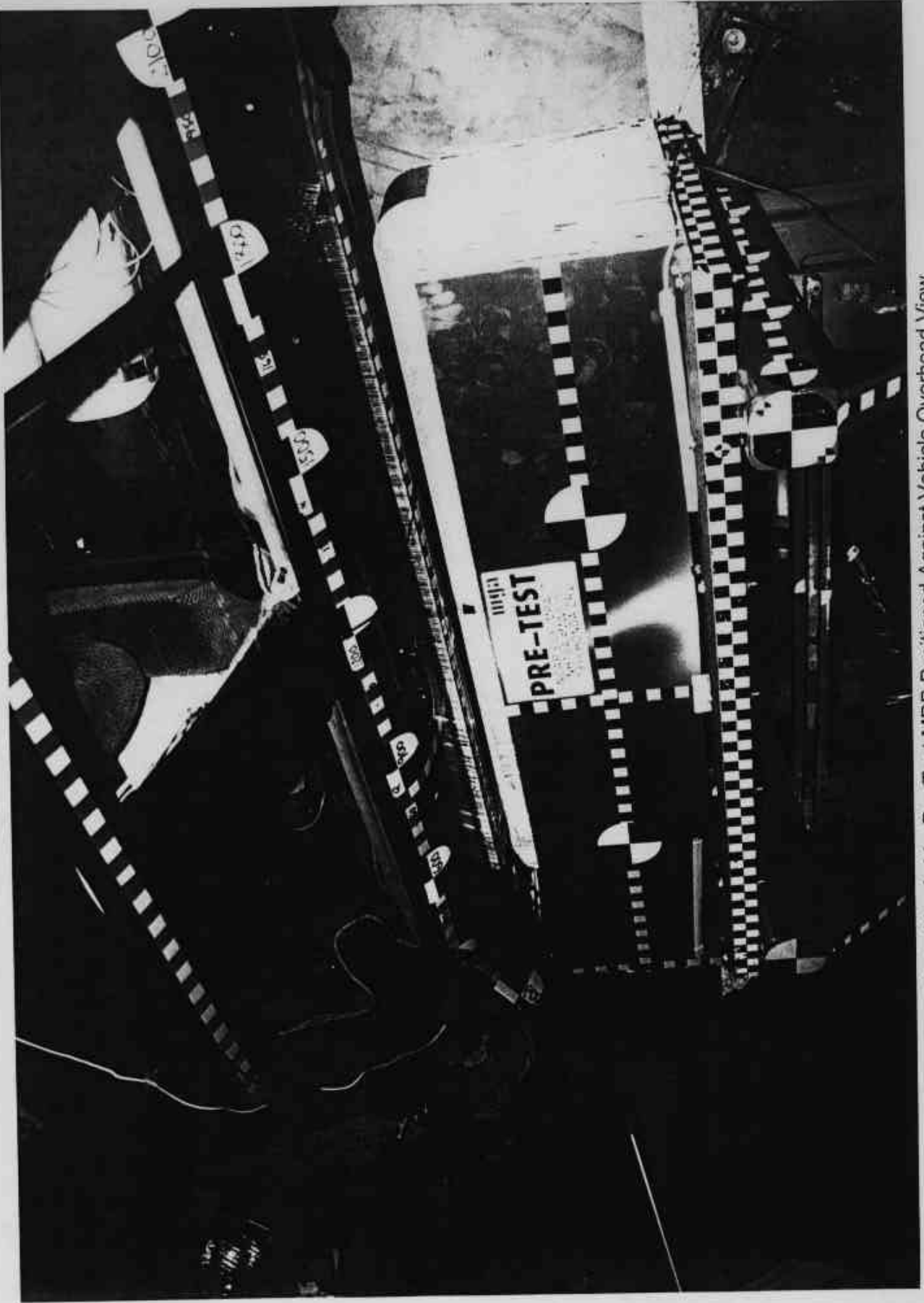


Photo No. A-11 - Pre-Test MDB Positioned Against Vehicle Overhead View

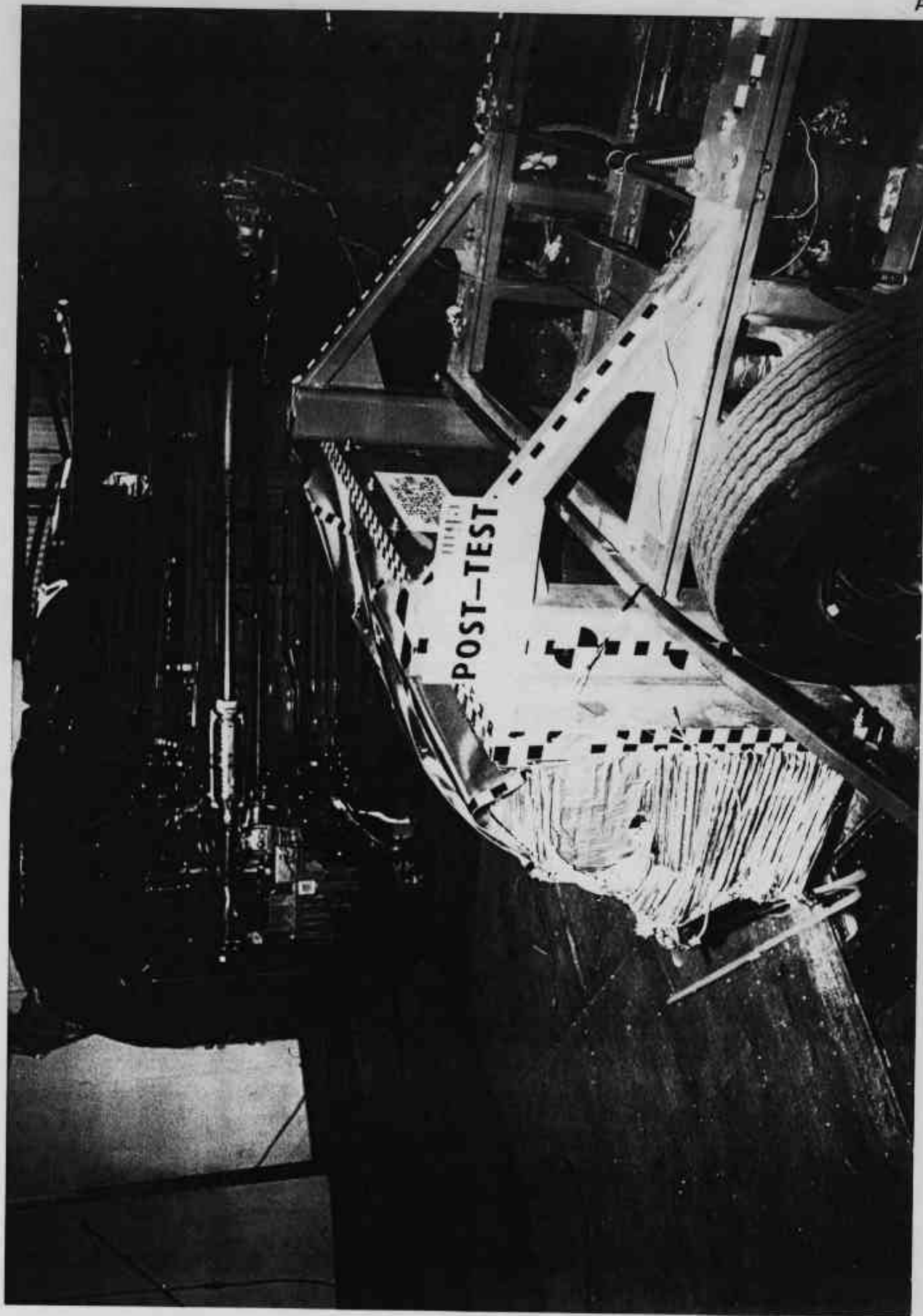


Photo No. A-12 - Post-Test MDB Positioned Against Vehicle (left side)

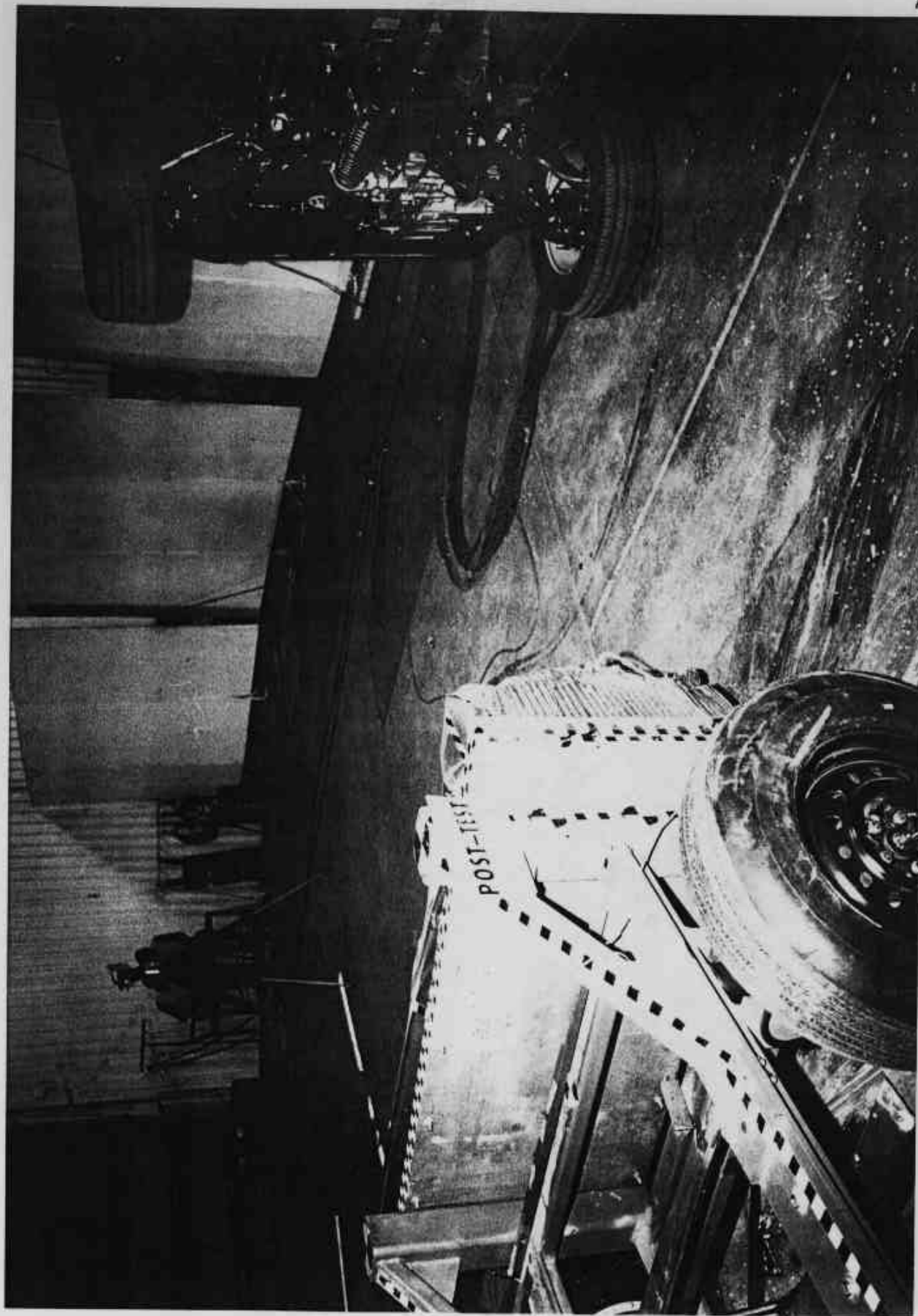


Photo No. A-13 - Post-Test MDB Positioned Against Vehicle (right side)



Photo No. A-14 - Post-Test MDB Positioned Against Vehicle Overhead View

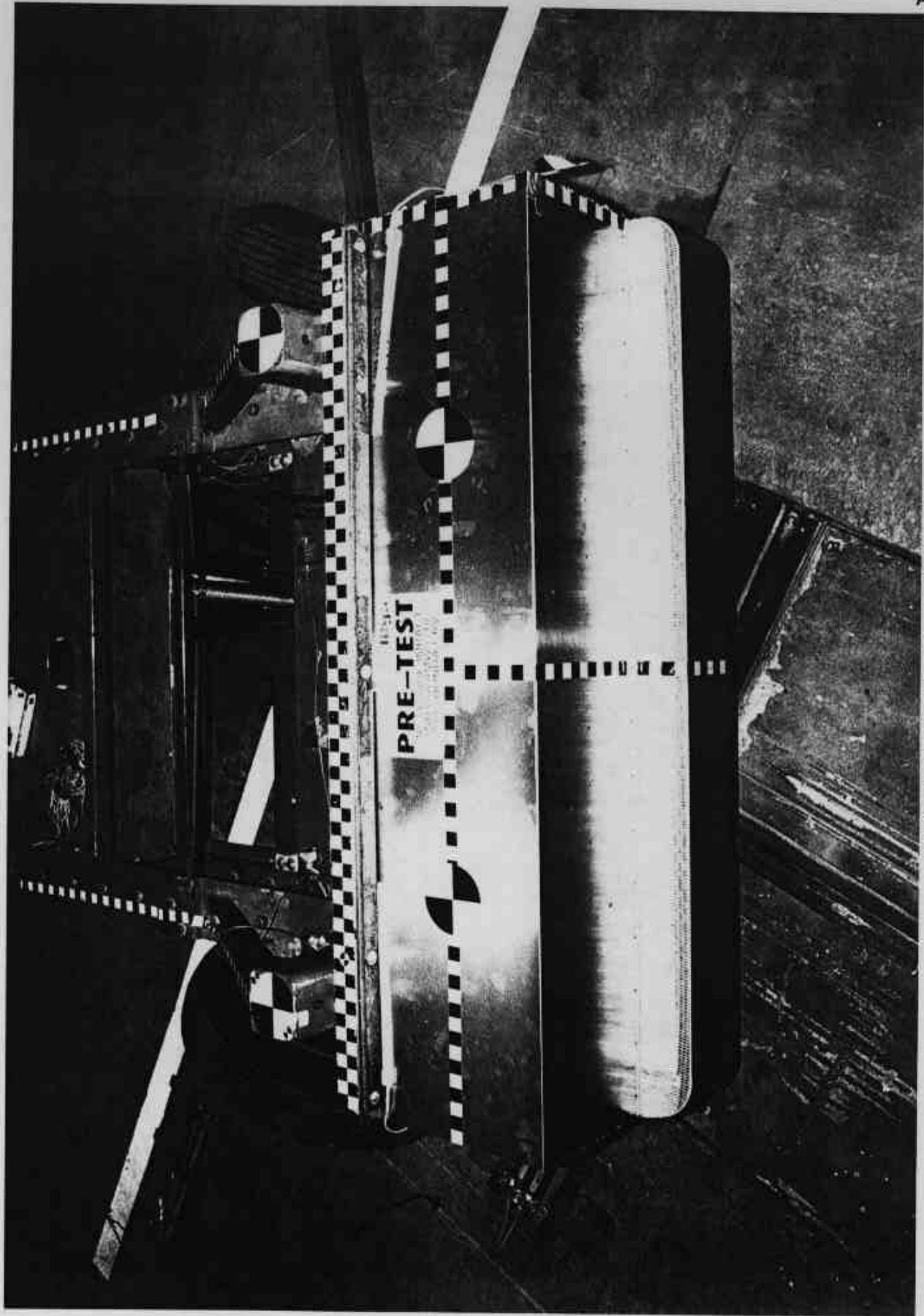


Photo No. A-15 - Pre-Test MDB Top View

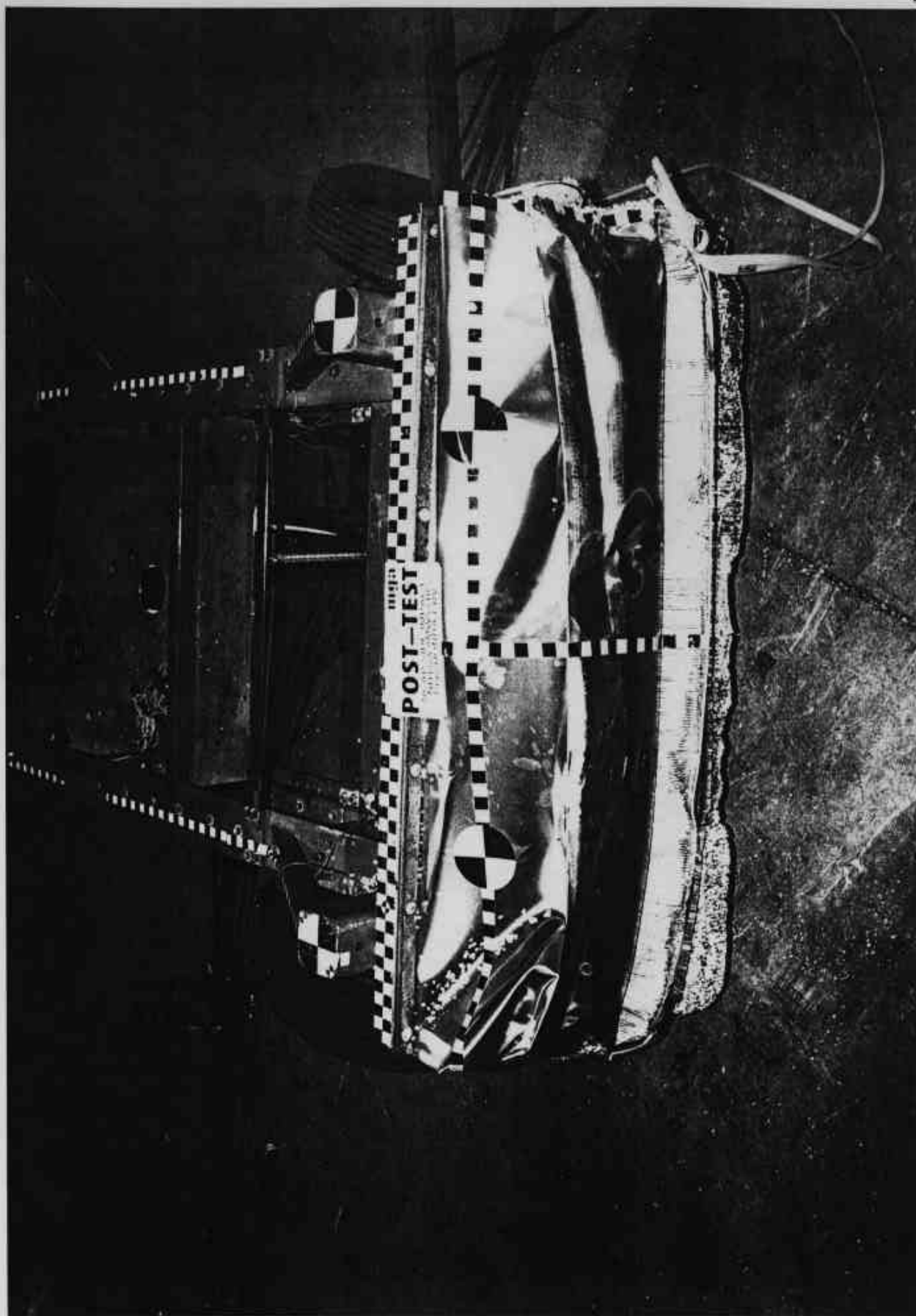


Photo No. A-16 - Post-Test MDB Top View

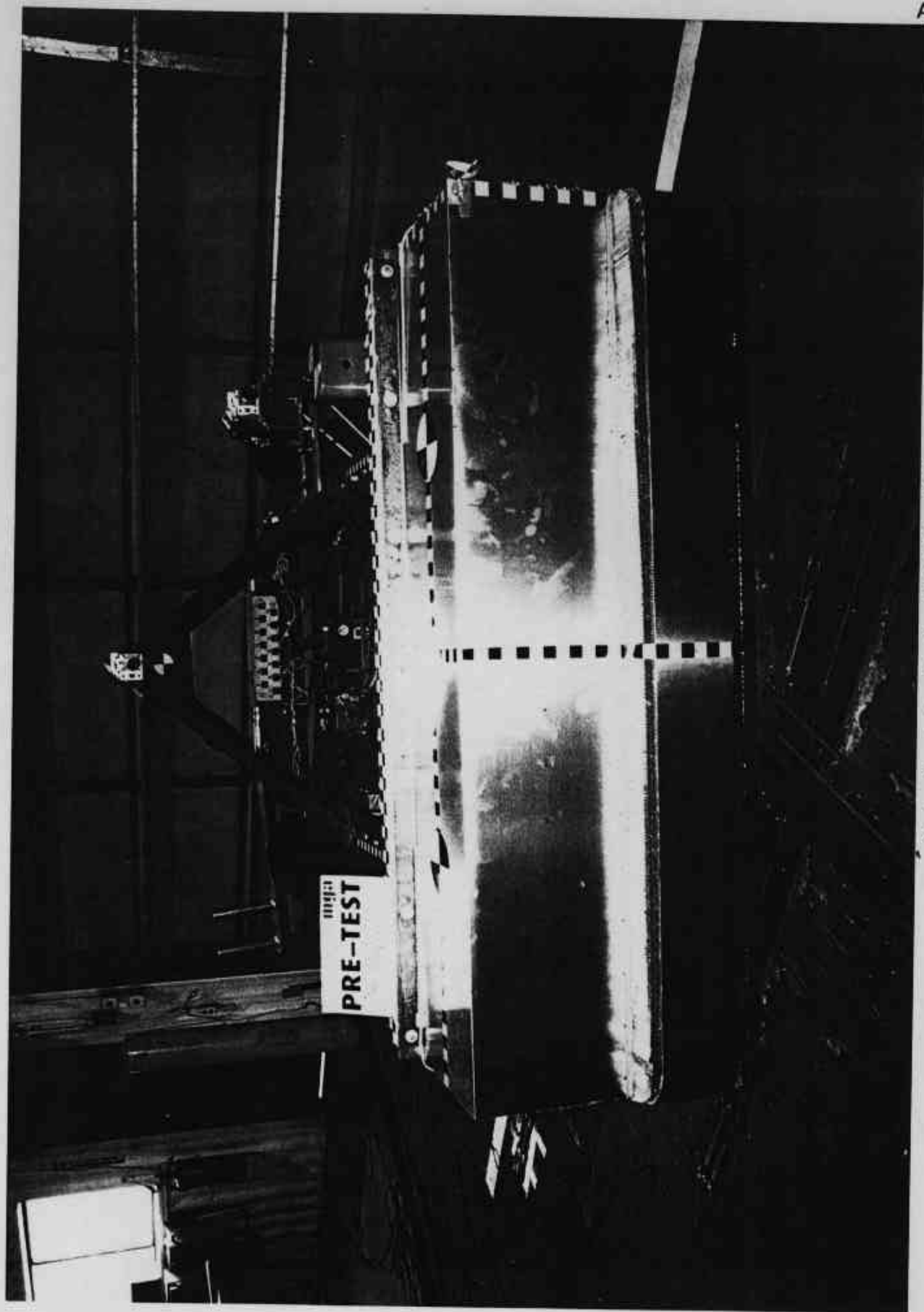


Photo No. A-17 - Pre-Test MDB Front View

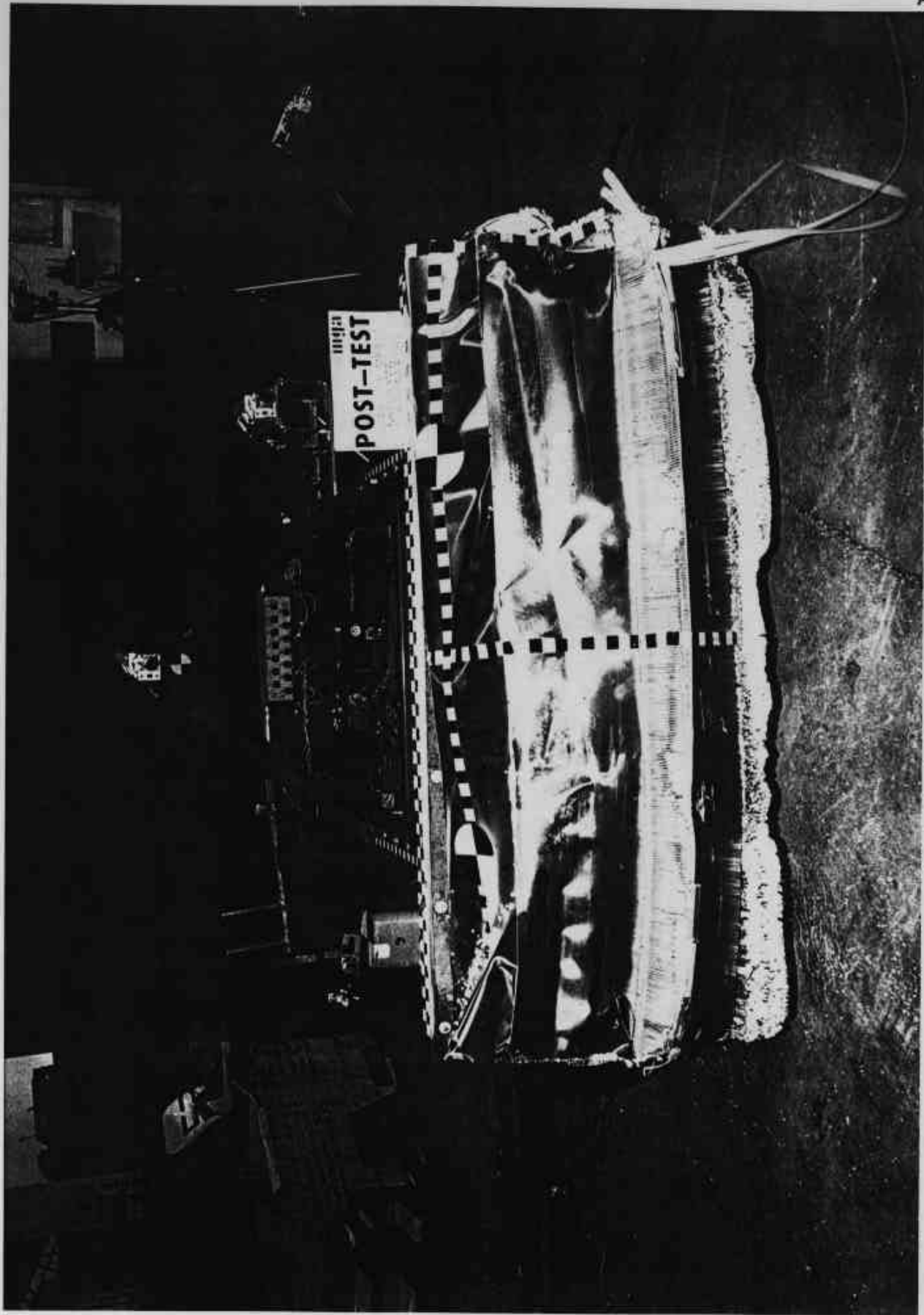


Photo No. A-18 - Post-Test MDB Front View

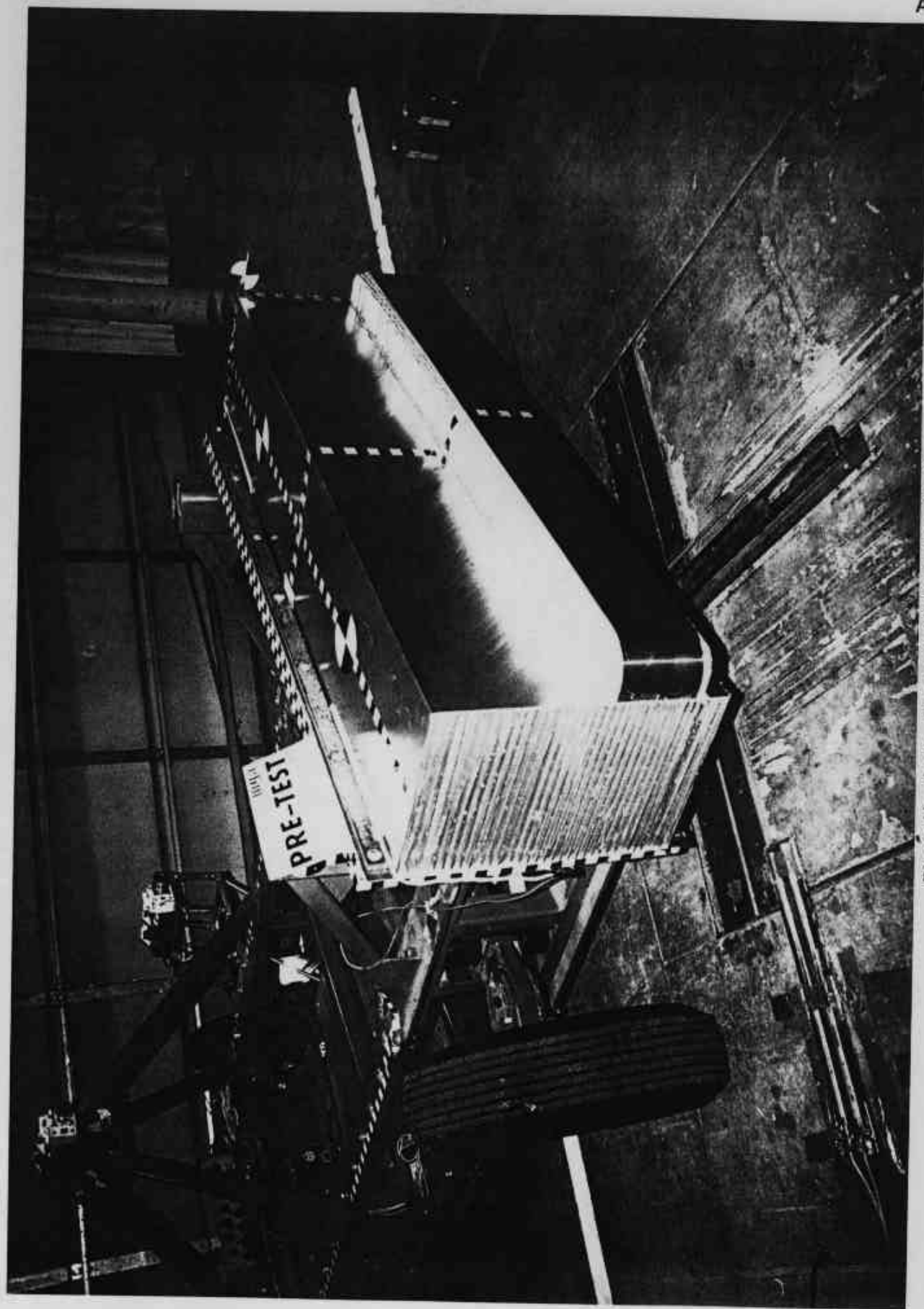


Photo No. A-19 - Pre-Test MDB Right Side View



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

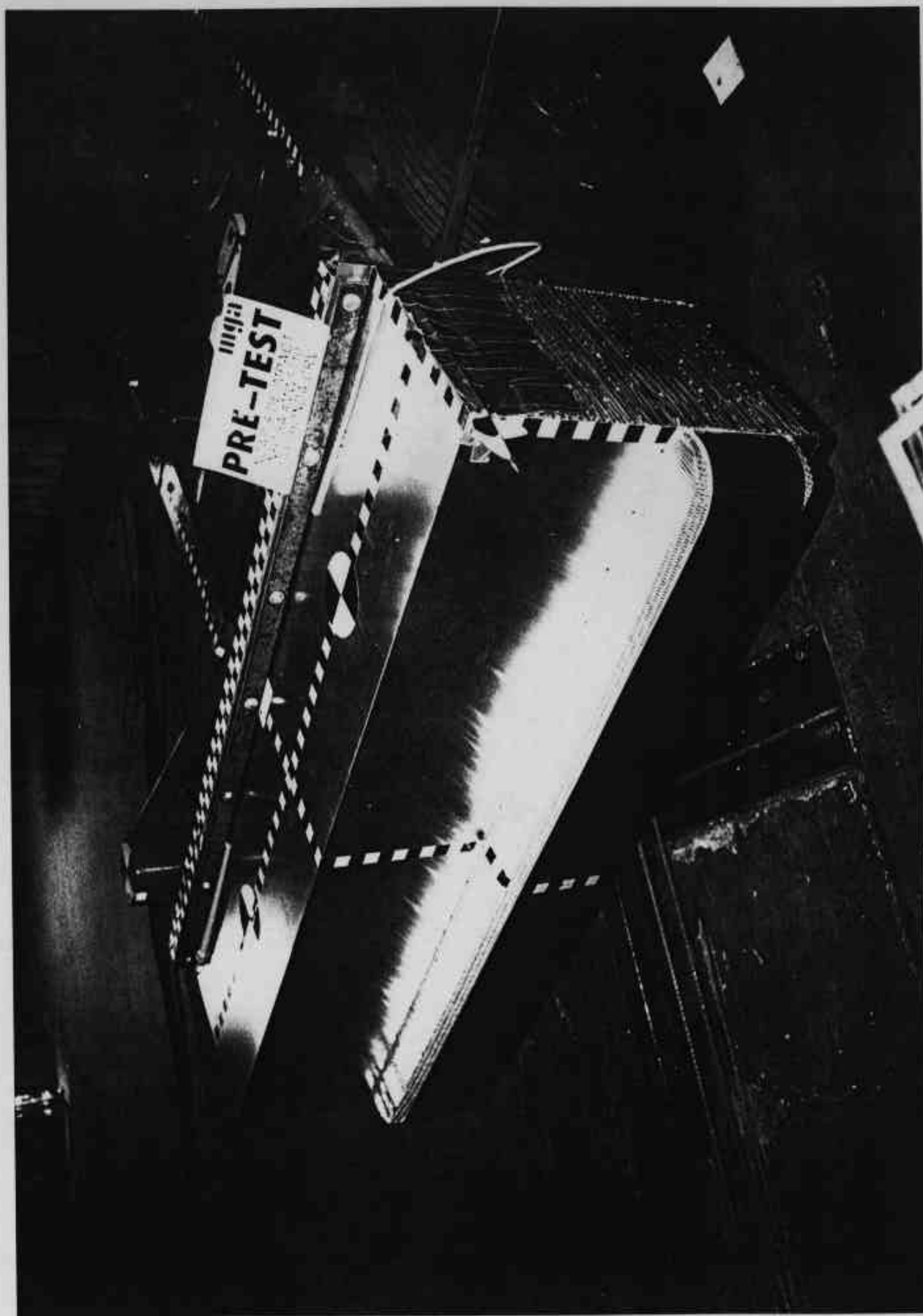


Photo No. A-21 - Pre-Test MDB Left Side View

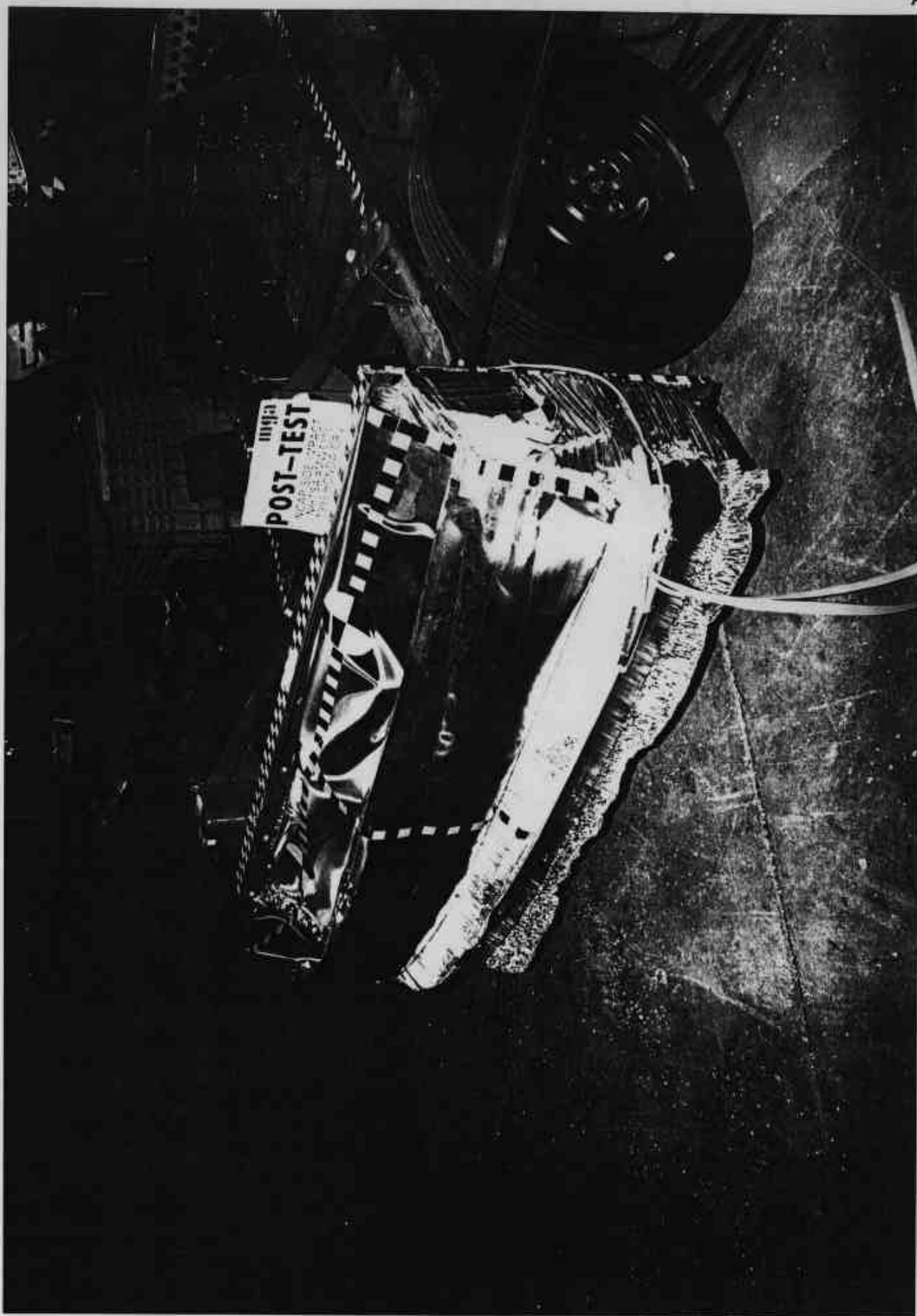


Photo No. A-22 - Post-Test MDB Left Side View



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



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

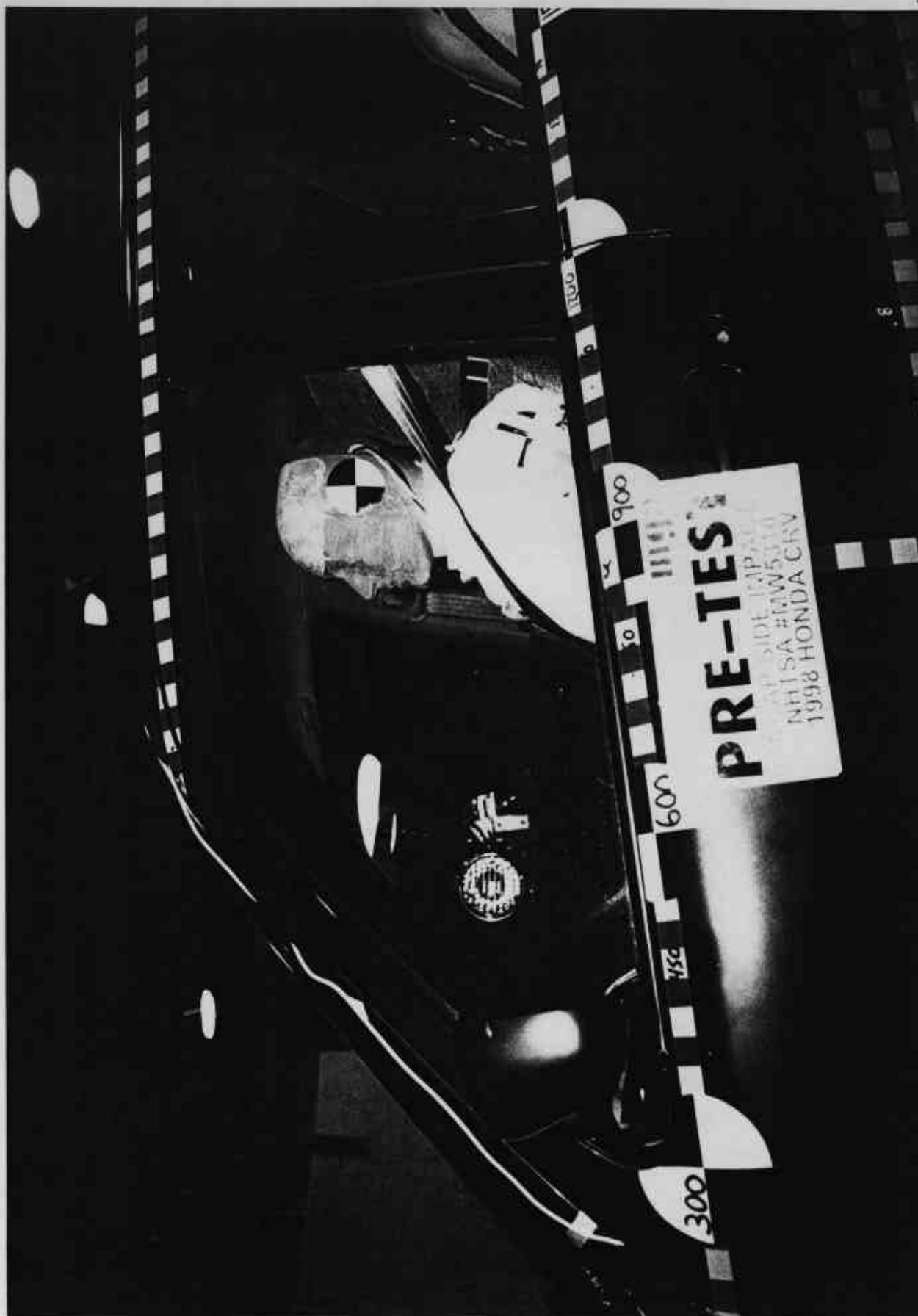


Photo No. A-25 - Pre-Test Driver Dummy Left Side View



Photo No. A-26 - Post-Test Driver Dummy Left Side View



Photo No. A-27 - Pre-Test Driver Dummy Left Side View (Door Open)



Photo No. A-28 - Pre-Test Driver Dummy Shoulder and Door Top View



Photo No. A-29 - Post-Test Driver Dummy Shoulder and Door Top View



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



Photo No. A-31 - Post-Test Driver Dummy Head Contact

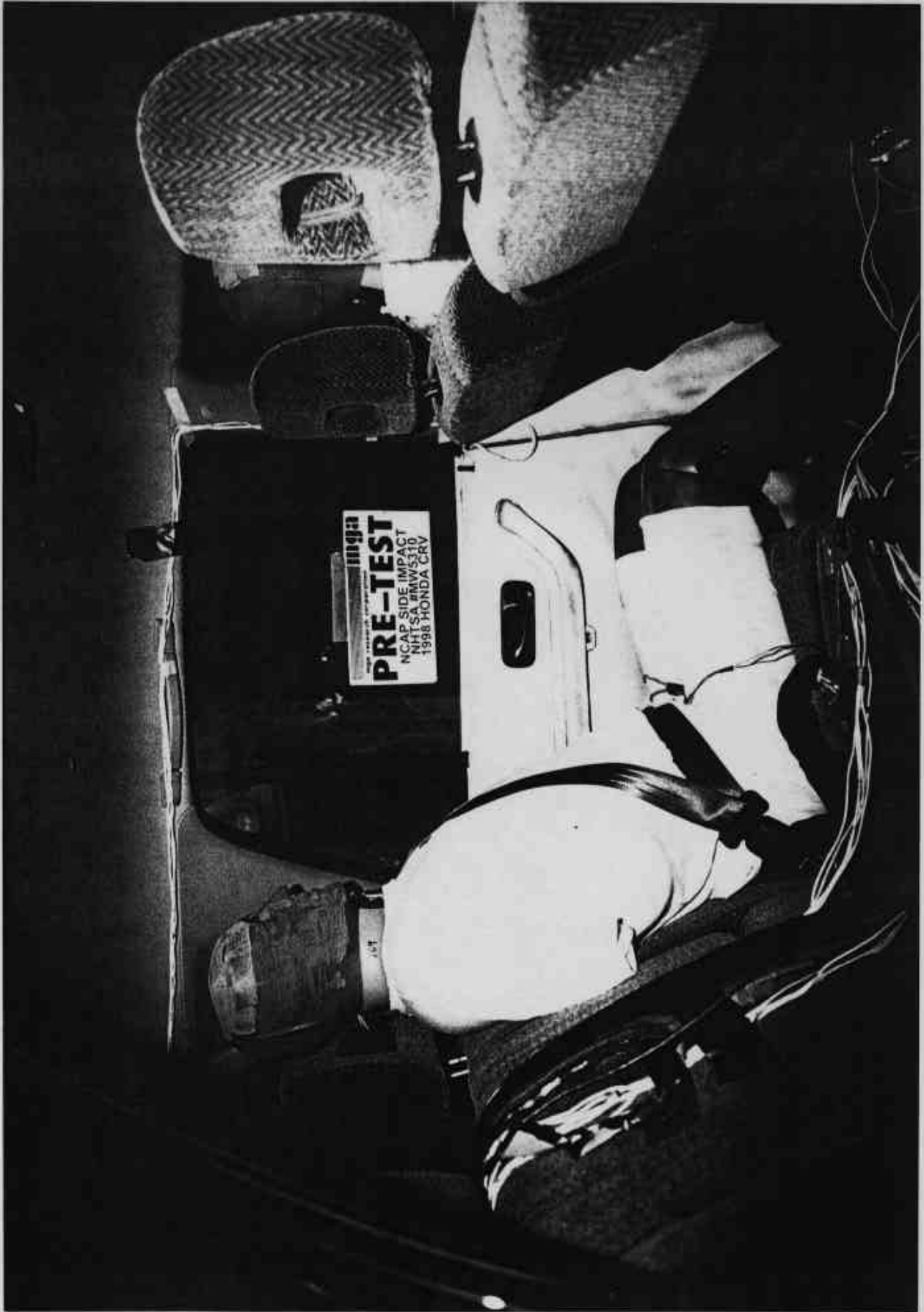


Photo No. A-32 - Pre-Test Passenger Dummy Right Side View

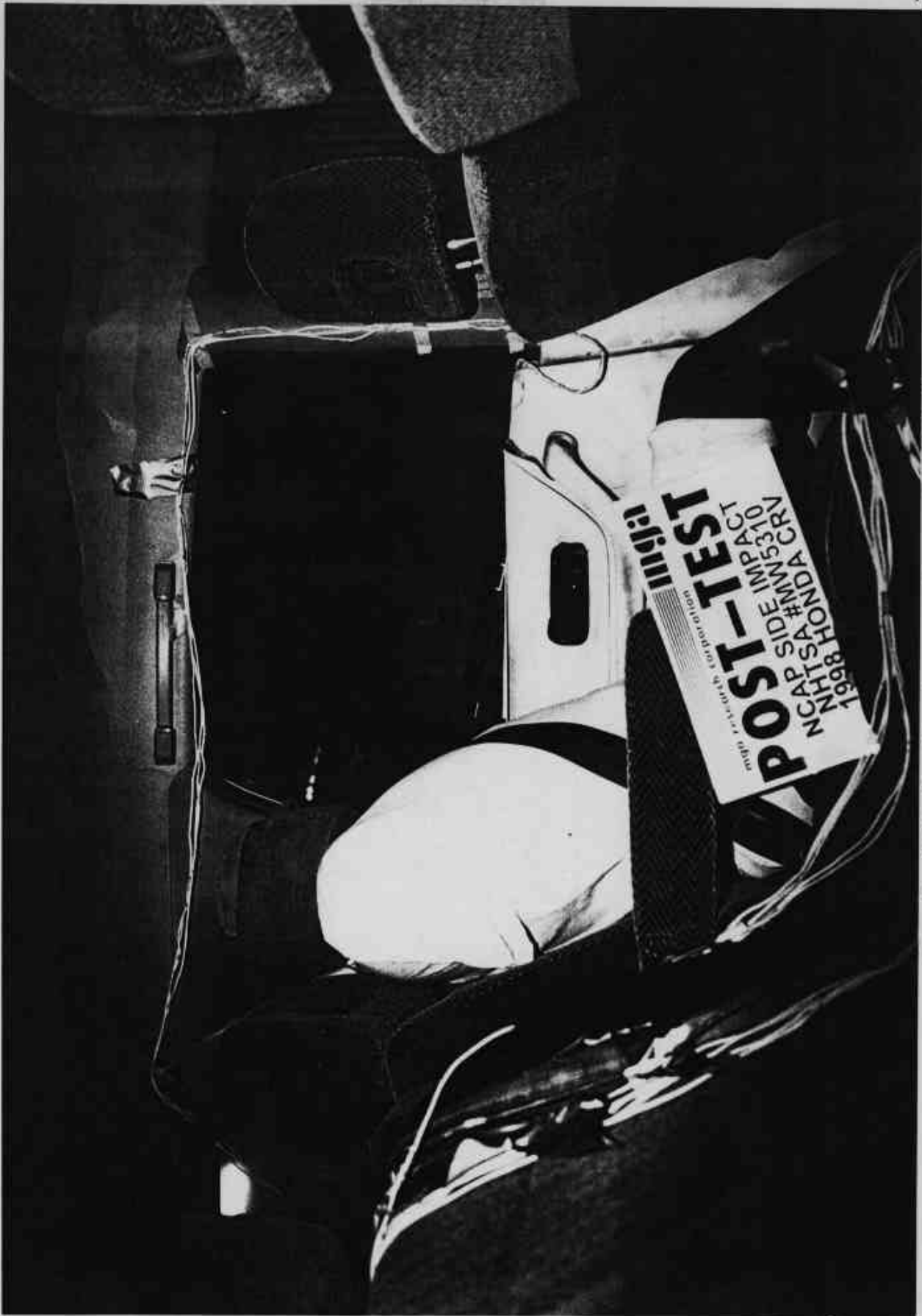


Photo No. A-33 - Post-Test Passenger Dummy Right Side View



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

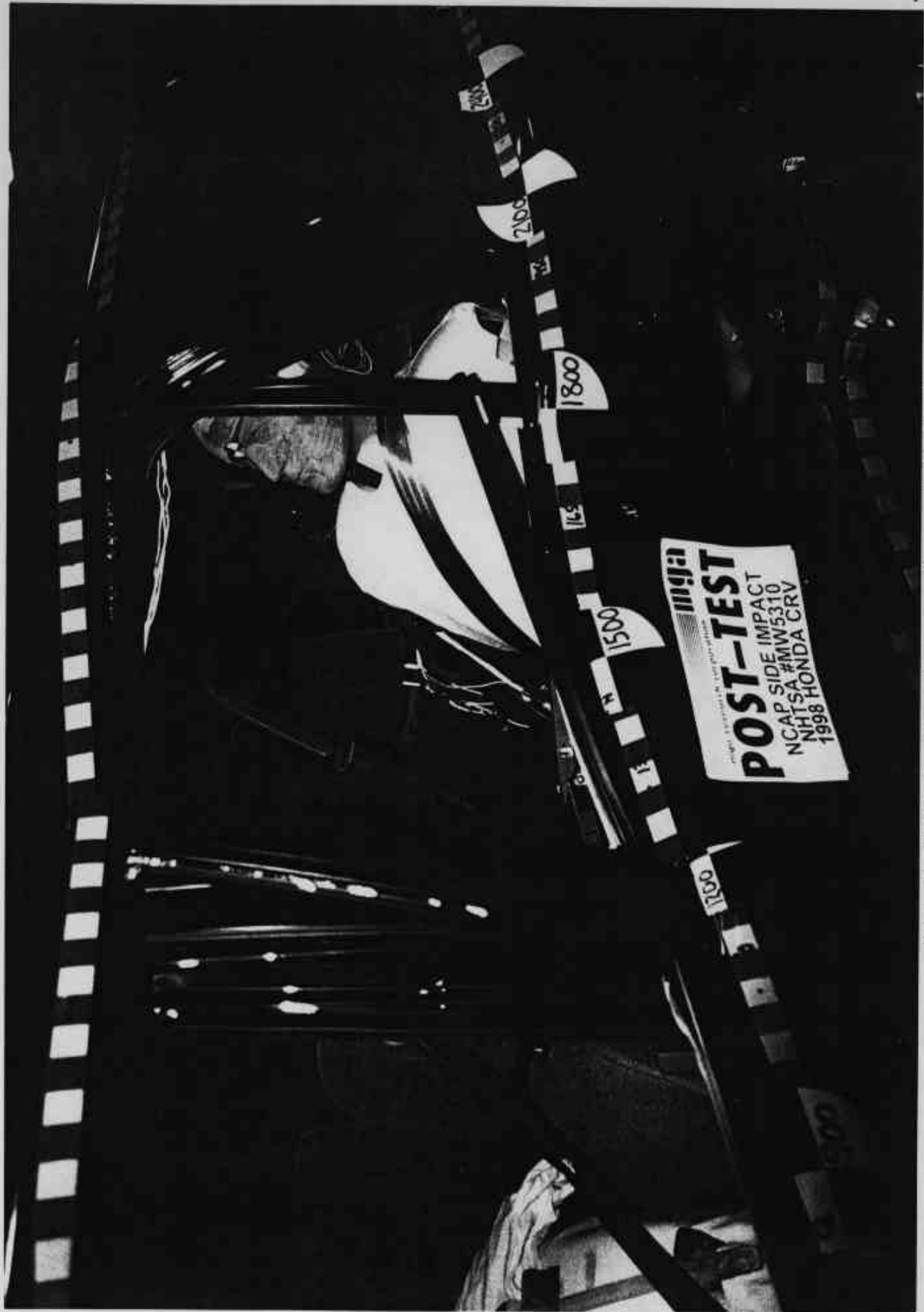


Photo No. A-35 - Post-Test Passenger Dummy Left Side View



Photo No. A-36 - Pre-Test Passenger Dummy Left Side View (Door Open)

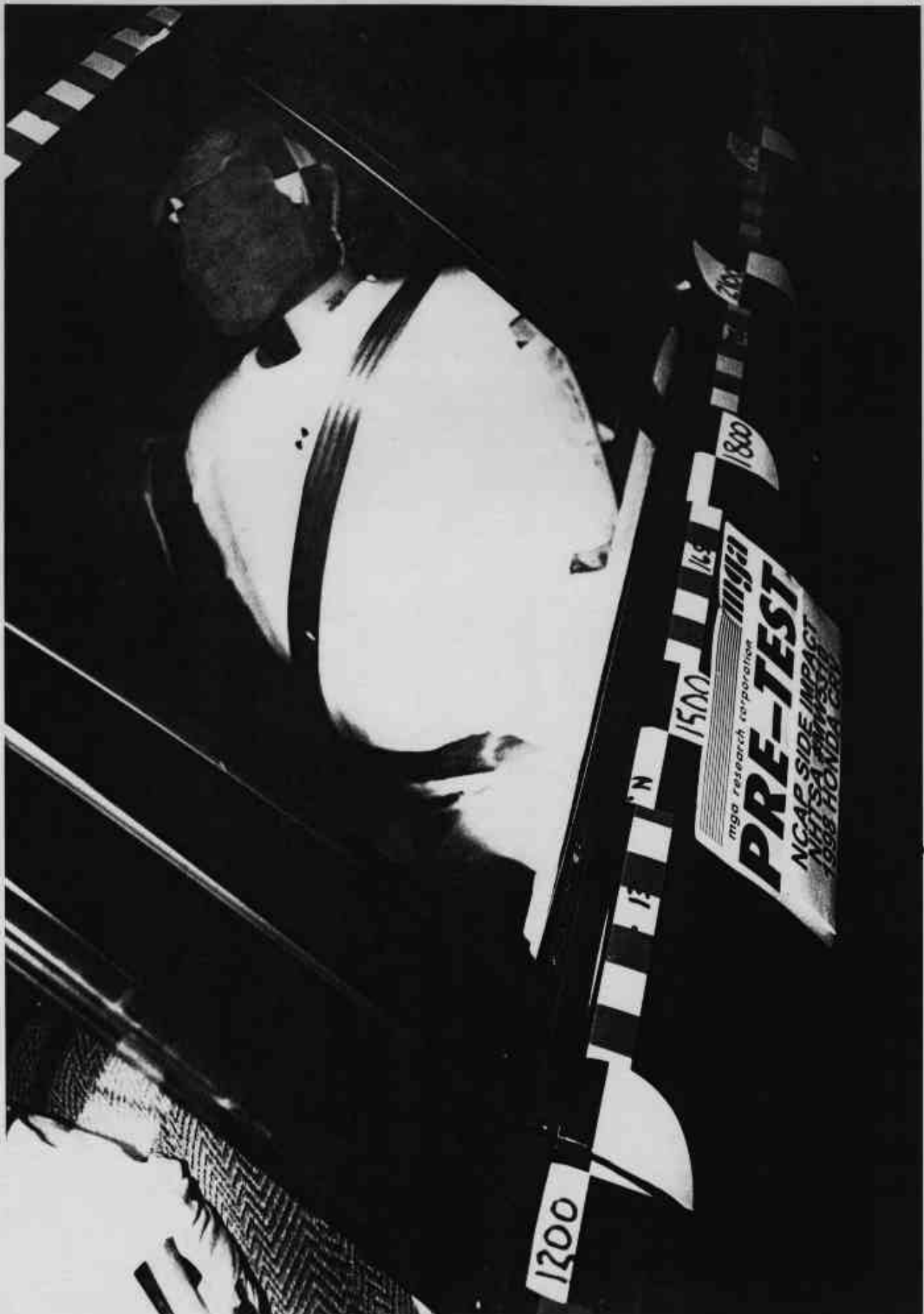


Photo No. A-37 - Pre-Test Passenger Dummy Shoulder and Door Top View



Photo No. A-38 - Post-Test Passenger Dummy Shoulder and Door Top View

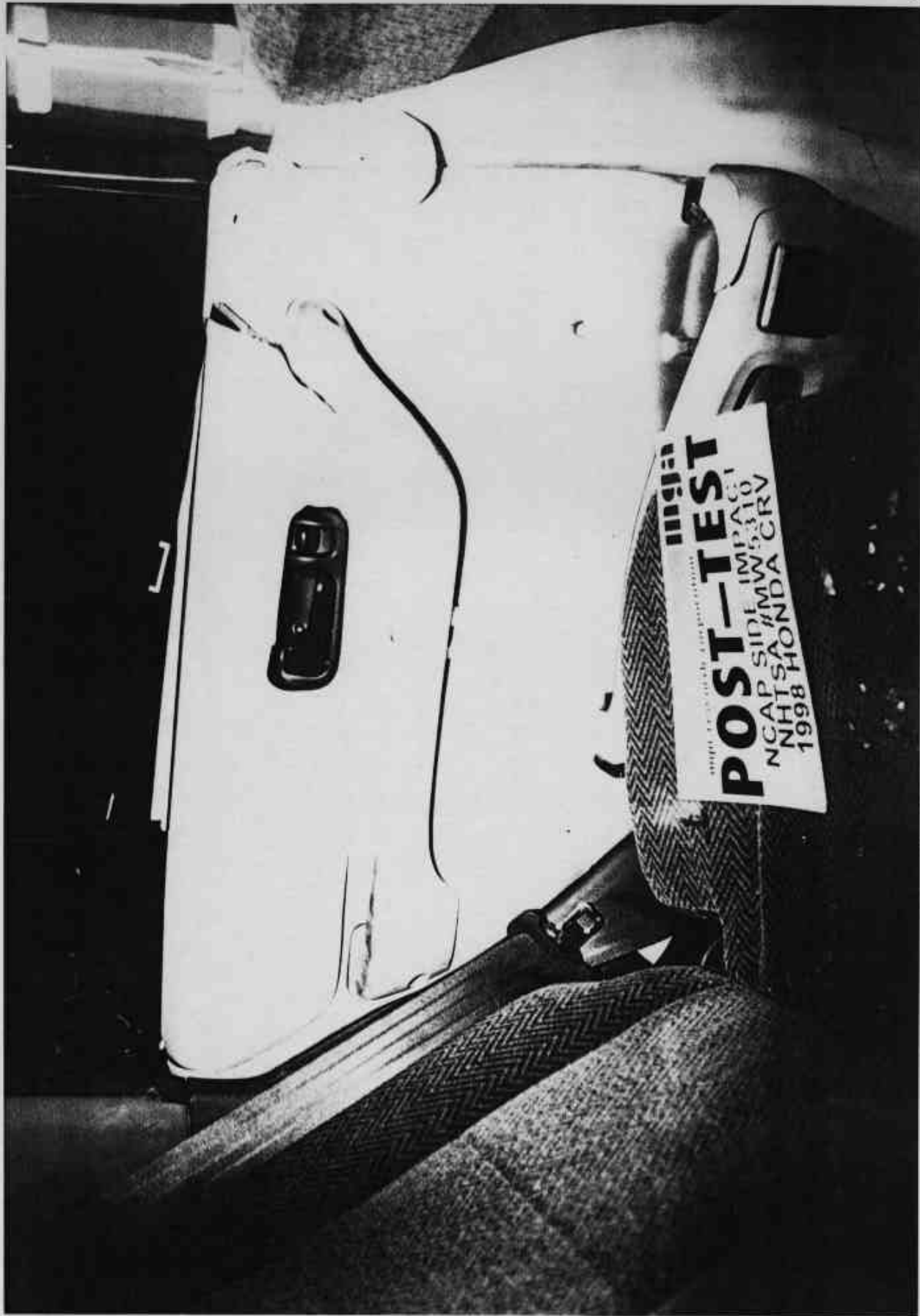


Photo No. A-39 - Post-Test Passenger Dummy Contact



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

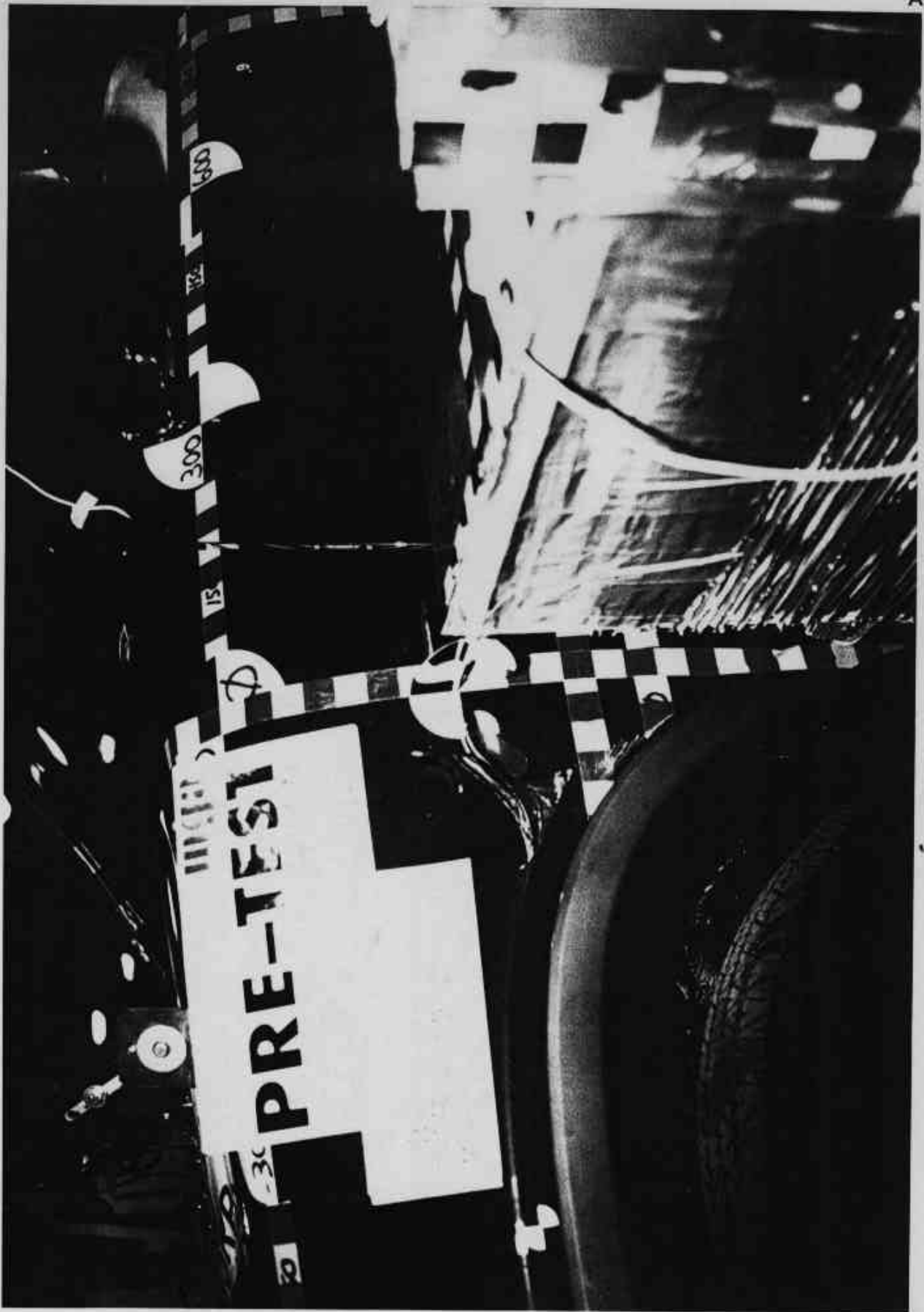


Photo No. A-41 - Pre-Test Left Front Impact Point on Vehicle

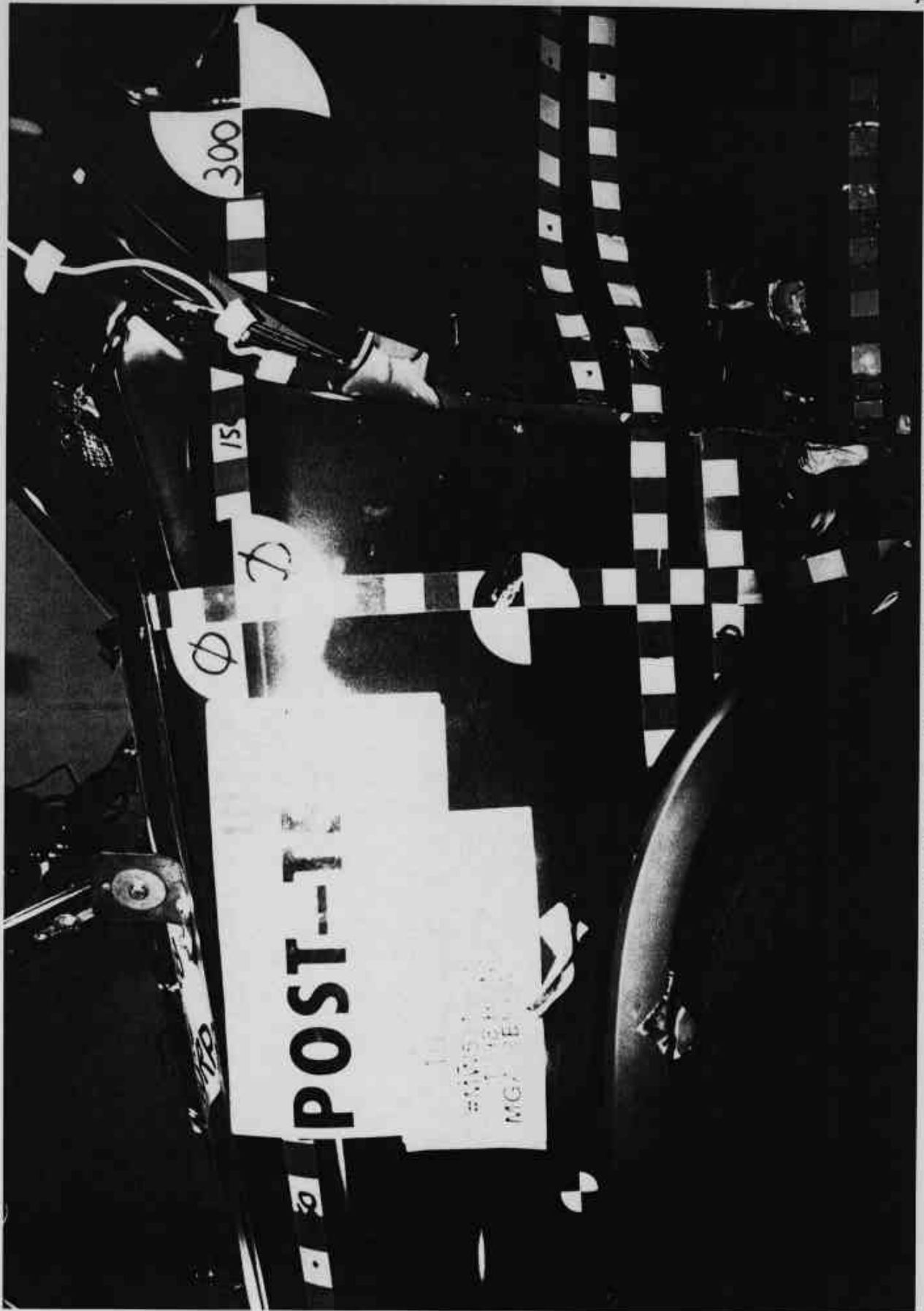


Photo No. A-42 - Post-Test Left Front Impact Point on Vehicle

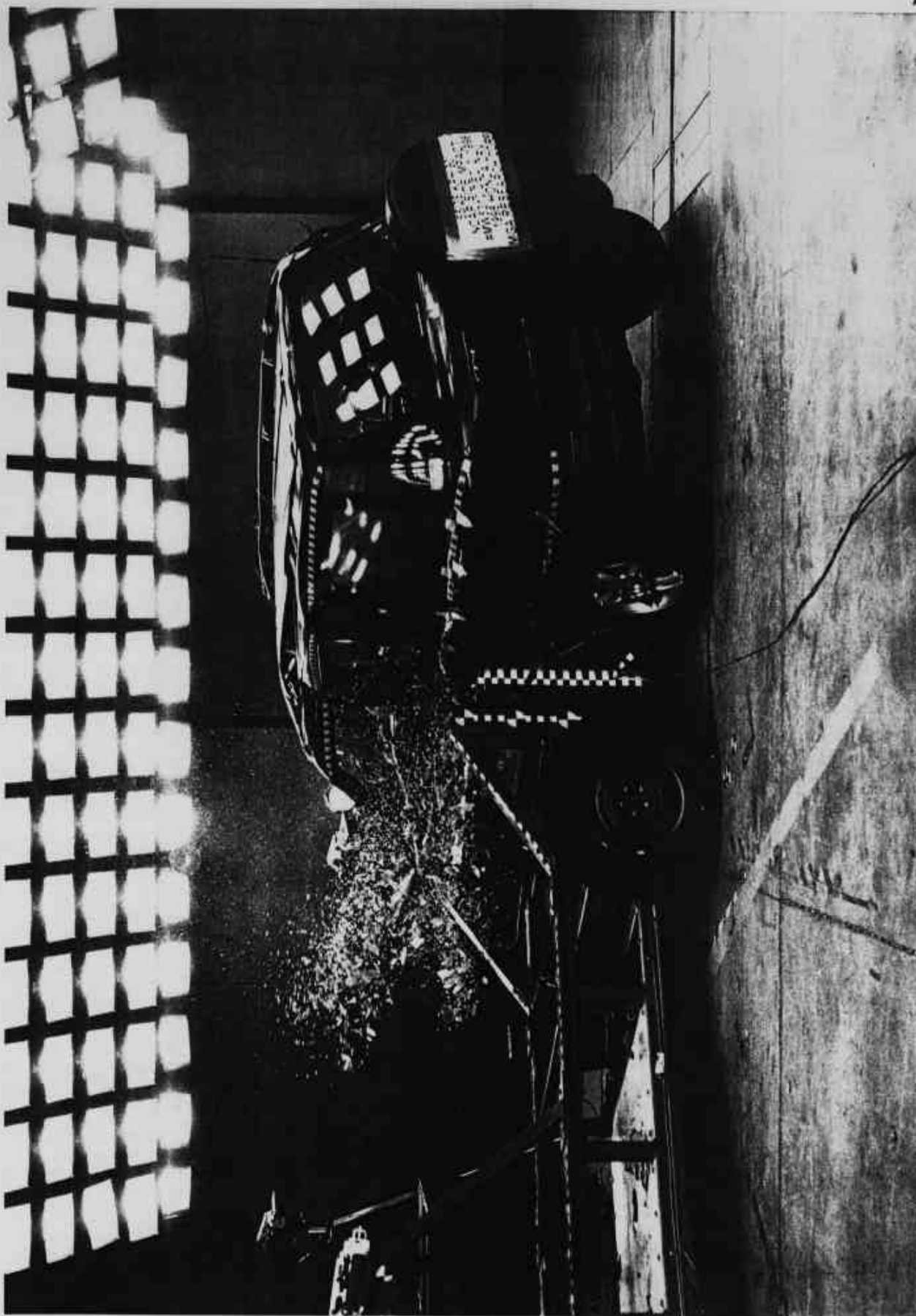


Photo No. A-43 - Impact

MFD. IN JAPAN BY HONDA MOTOR CO., LTD. 10/98
 GVMR 4165LBS GAWR F 2030LBS R 2155LBS
 THIS VEHICLE CONFORMS TO ALL APPLICABLE
 FEDERAL MOTOR VEHICLE SAFETY,
 AND THEFT PREVENTION STANDARDS IN EFFECT
 ON THE DATE OF MANUFACTURE SHOWN ABOVE:
 V.I.N. JHLRD1861WC104131



MPV

Photo No. A-44 - Vehicle Certification Label

TIRE INFORMATION		-A0
GVWR	4165LBS	
GAWR	FRONT REAR	
	2030LBS 2155LBS	
TIRE SIZE	205/70R15 95S	
RIM SIZE	15x6JJ	
COLD TIRE INFLATION PRESSURE	180KPA, 26PSI	
	UP TO GAWR	
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION.		

Photo No. A-45 - Tire Placard

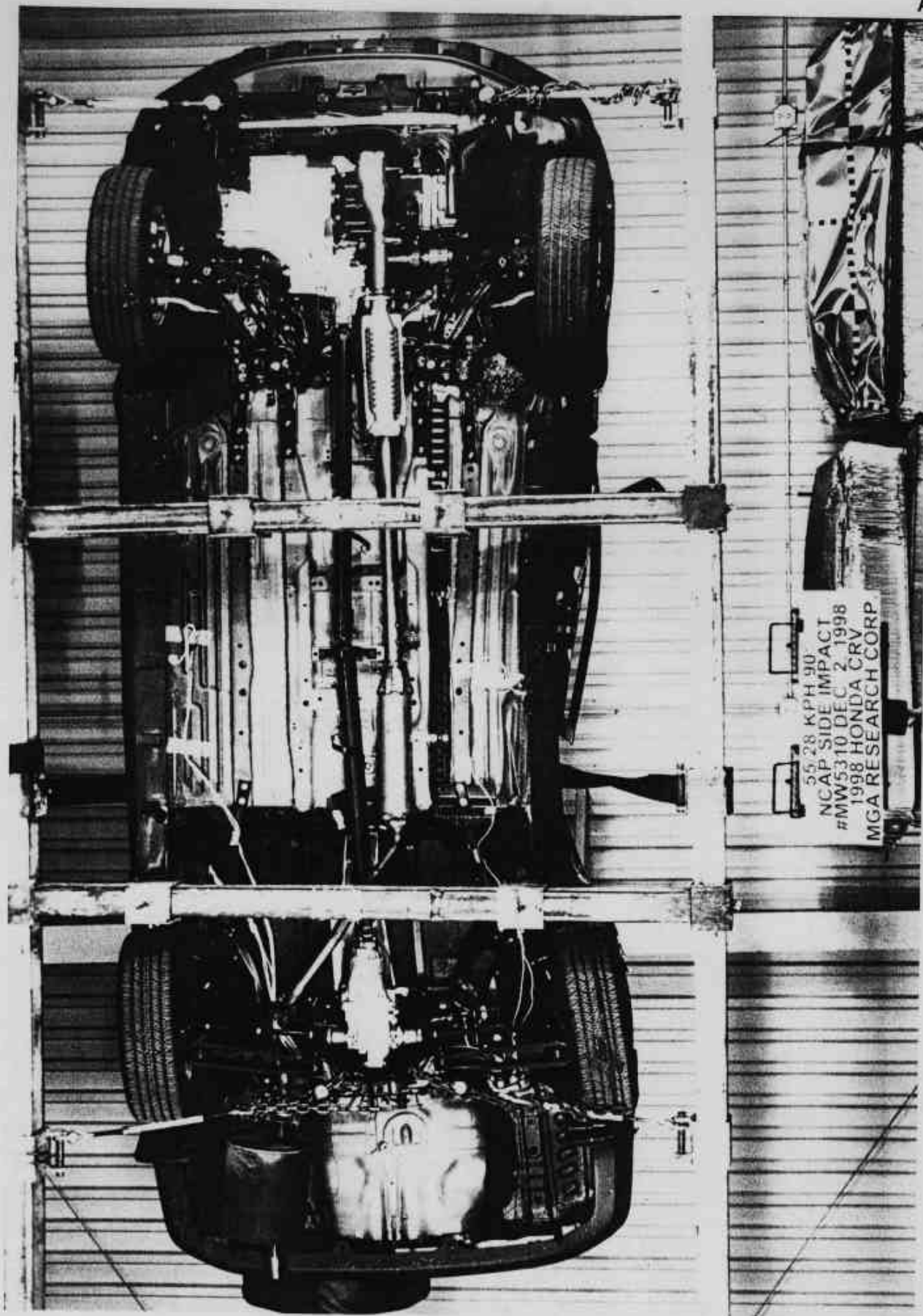


Photo No. A-46 - Rollover 90°

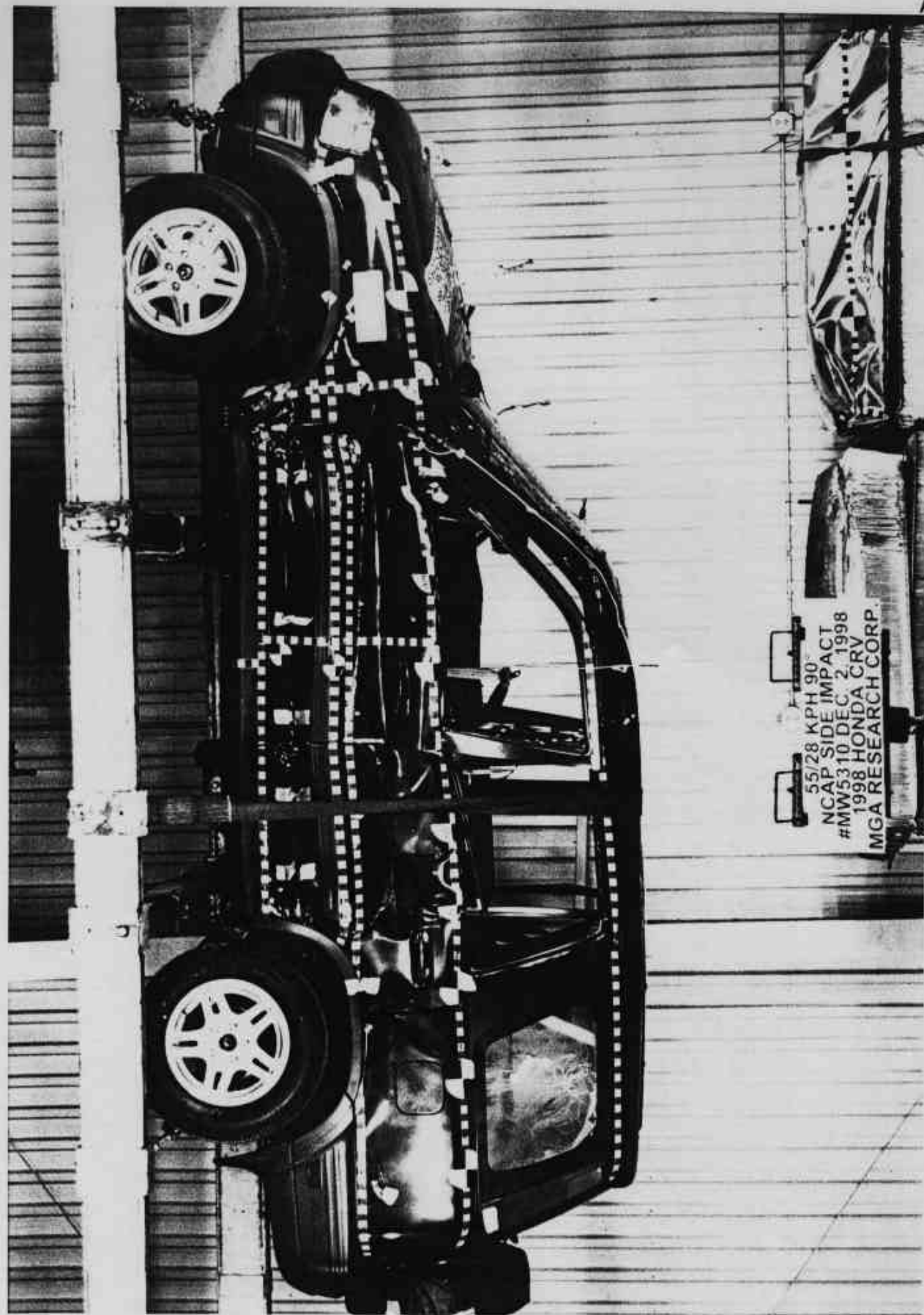


Photo No. A-47 - Rollover 180°

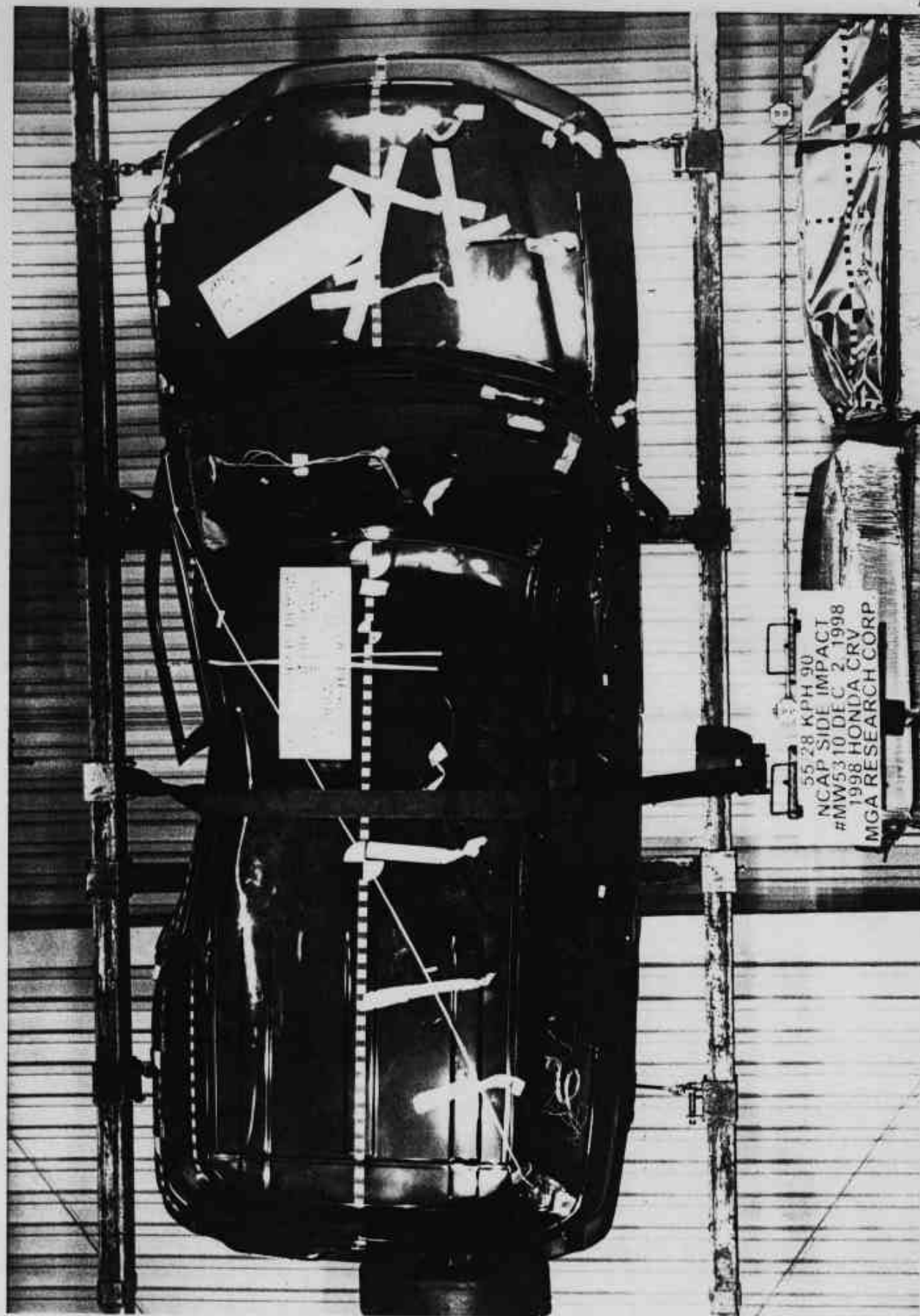


Photo No. A-48 - Rollover 270°

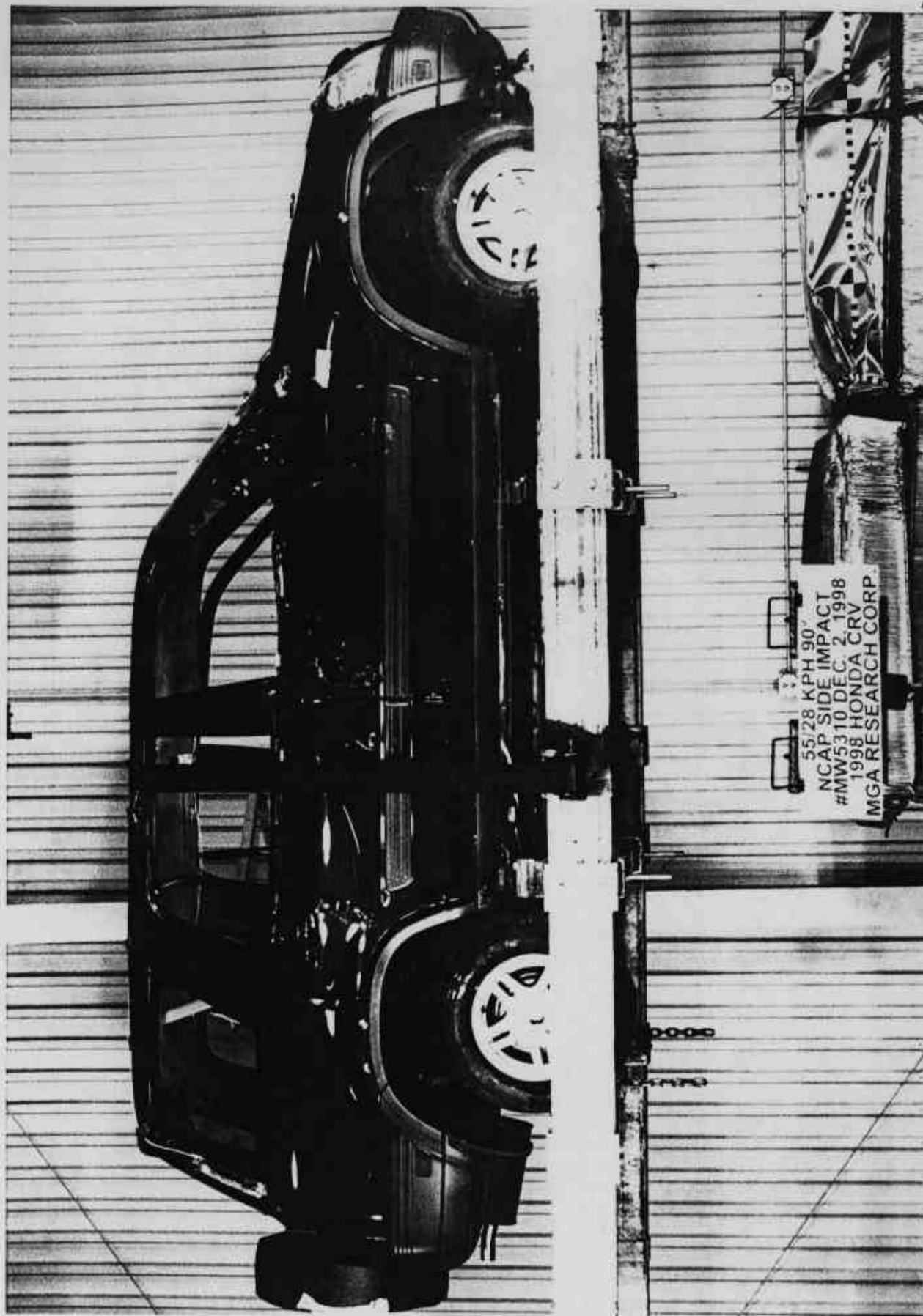


Photo No. A-49 - Rollover 360°

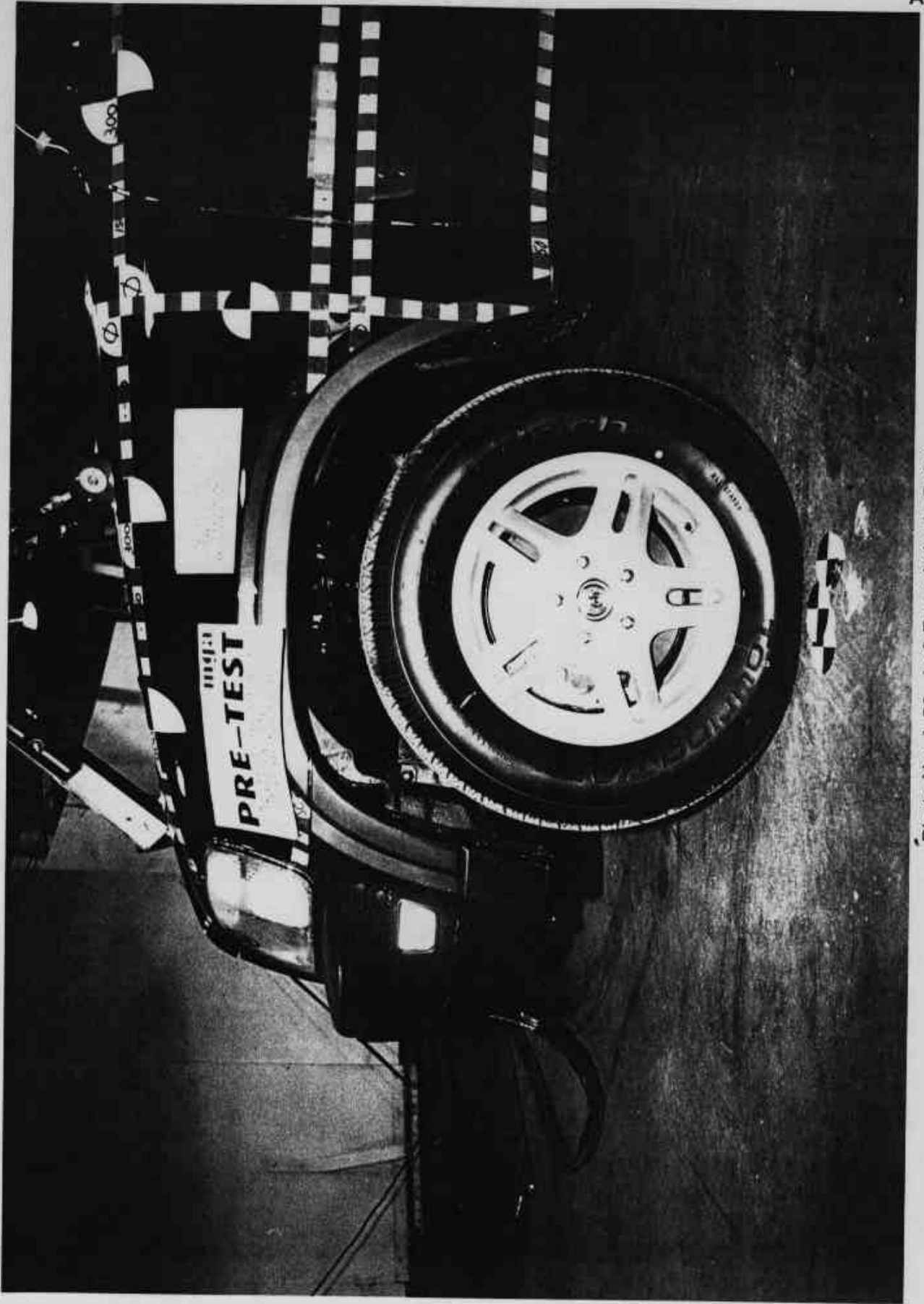


Photo No. A-50 - Left Front Attitude Point



Photo No. A-51 - Right Front Attitude Point

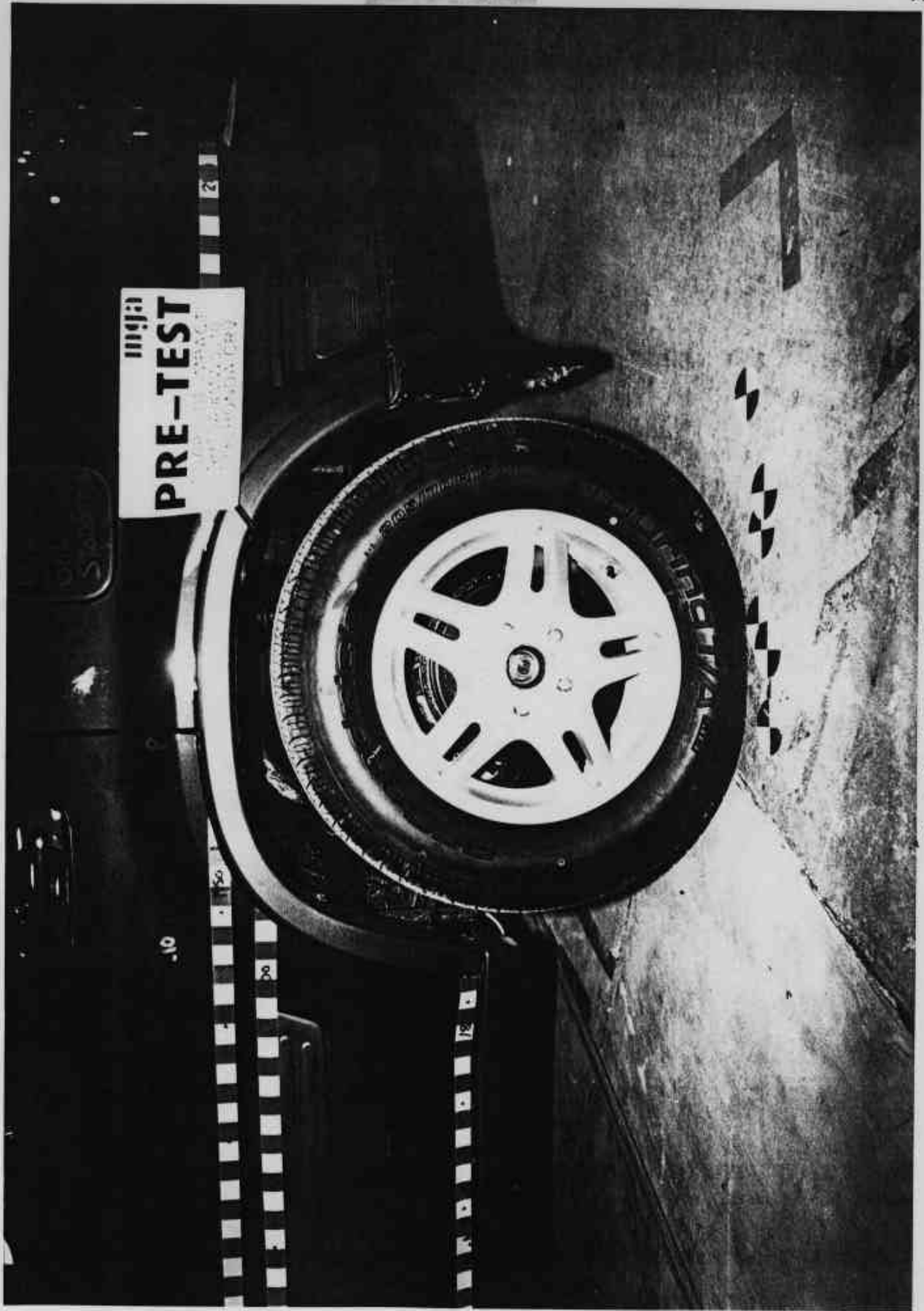


Photo No. A-52 - Left Rear Attitude Point



Photo No. A-53 - Right Rear Attitude Point

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* Data not valid after approximately 40 msec.

** Data not valid after approximately 65 msec.

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* Data not valid after approximately 60 msec.

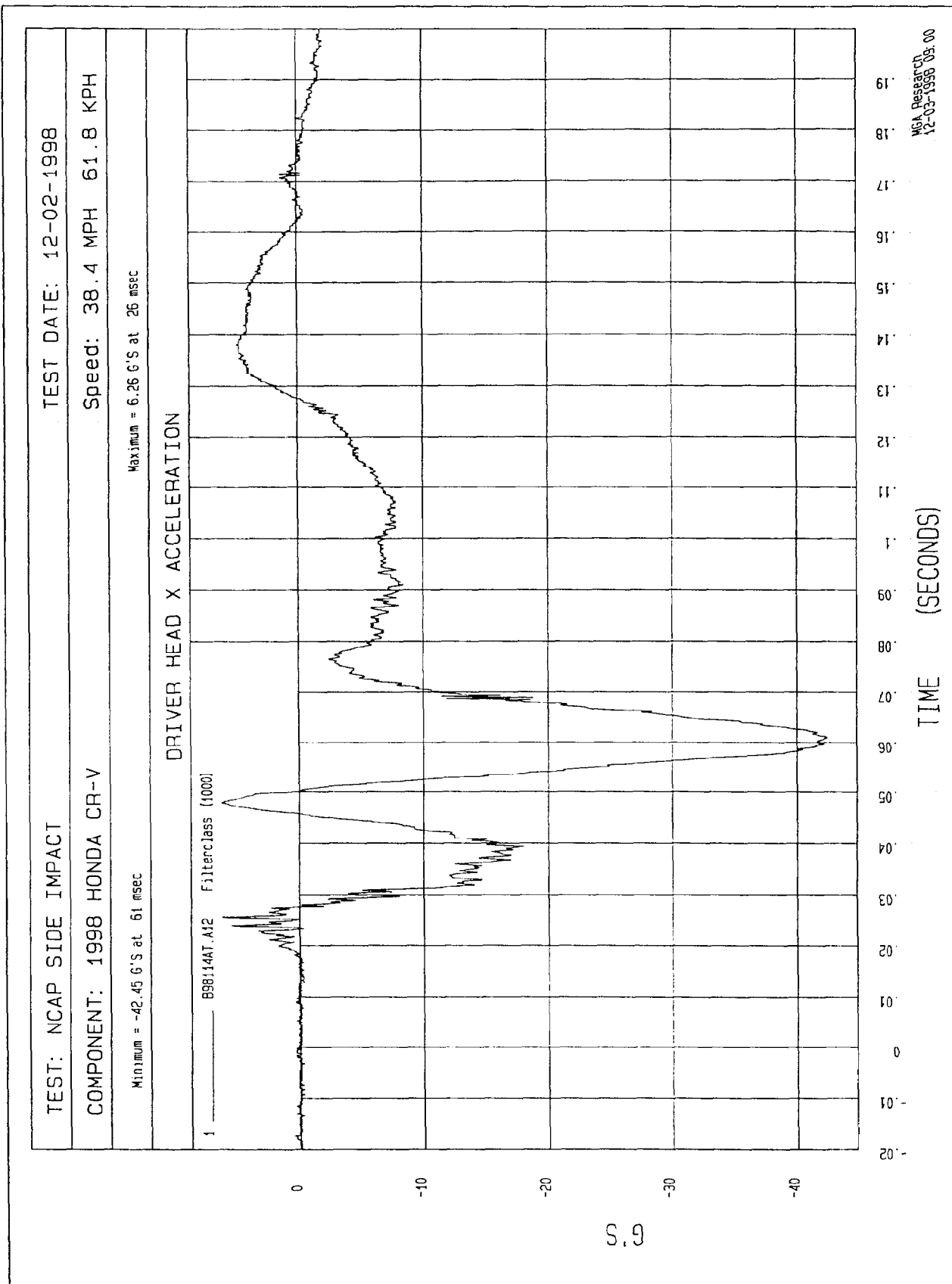
Table of Data Plots

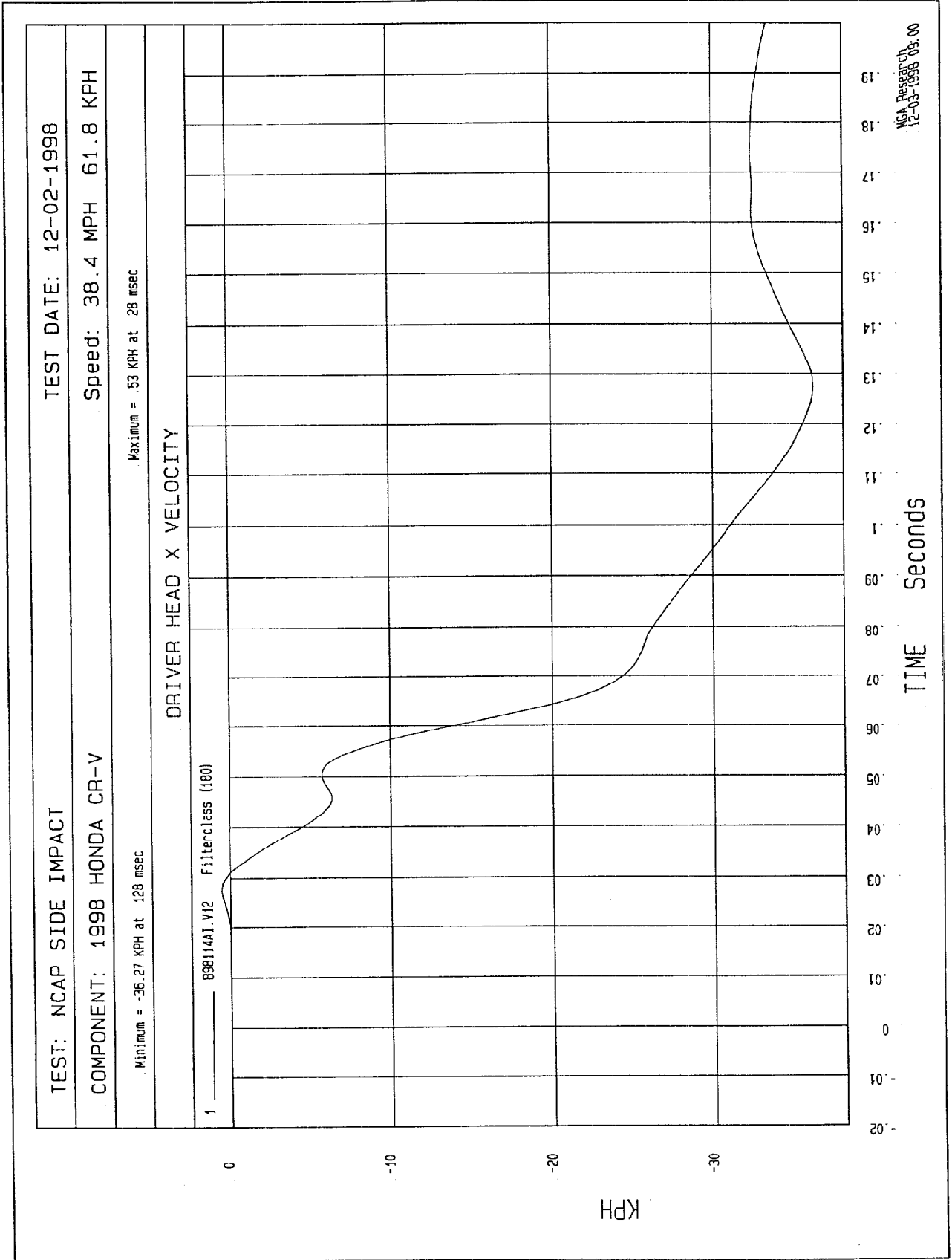
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FIR Filtered

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TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

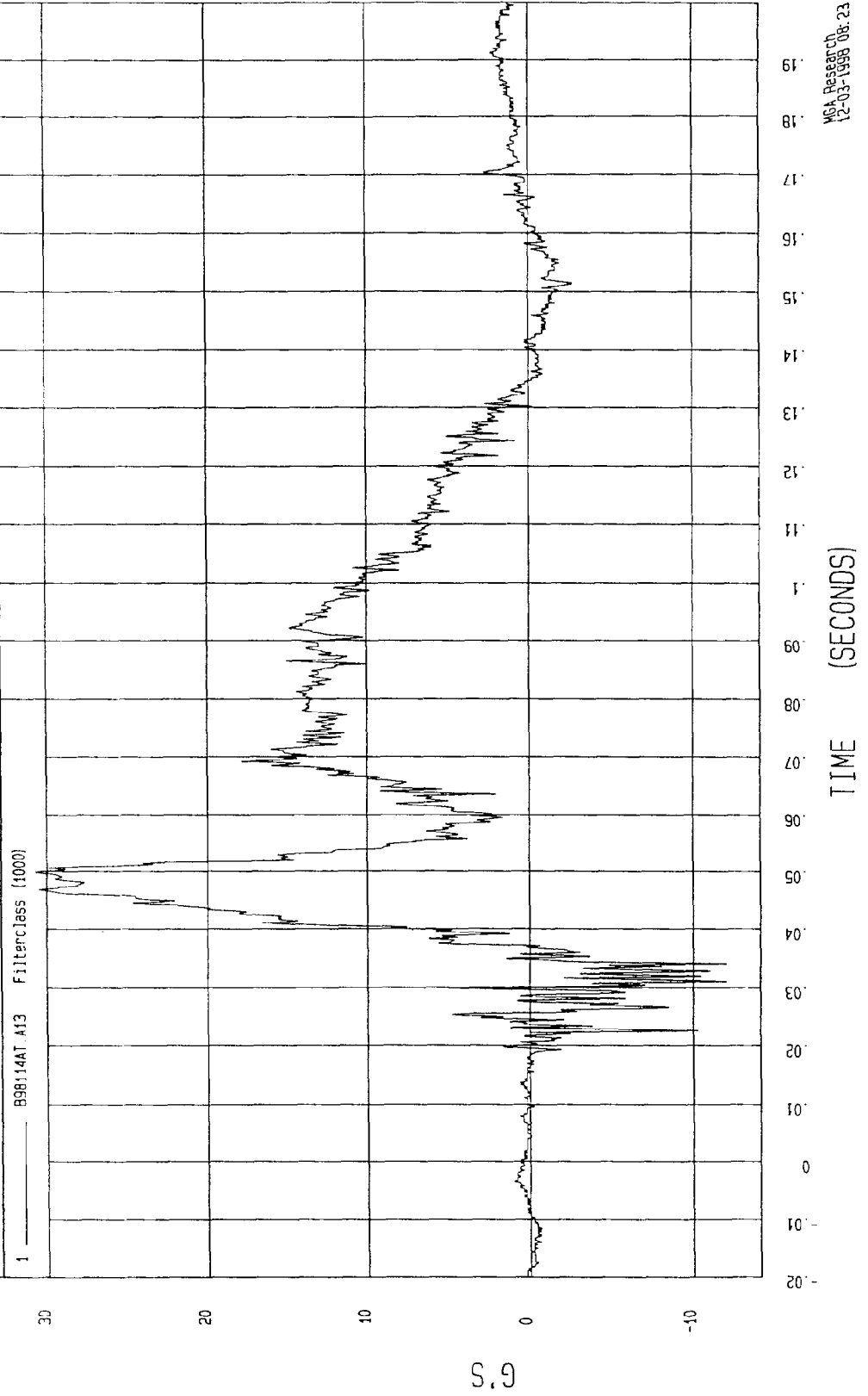
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = 30.7 G'S at 50 msec

Minimum = -12.06 G'S at 31 msec

DRIVER HEAD Y ACCELERATION



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

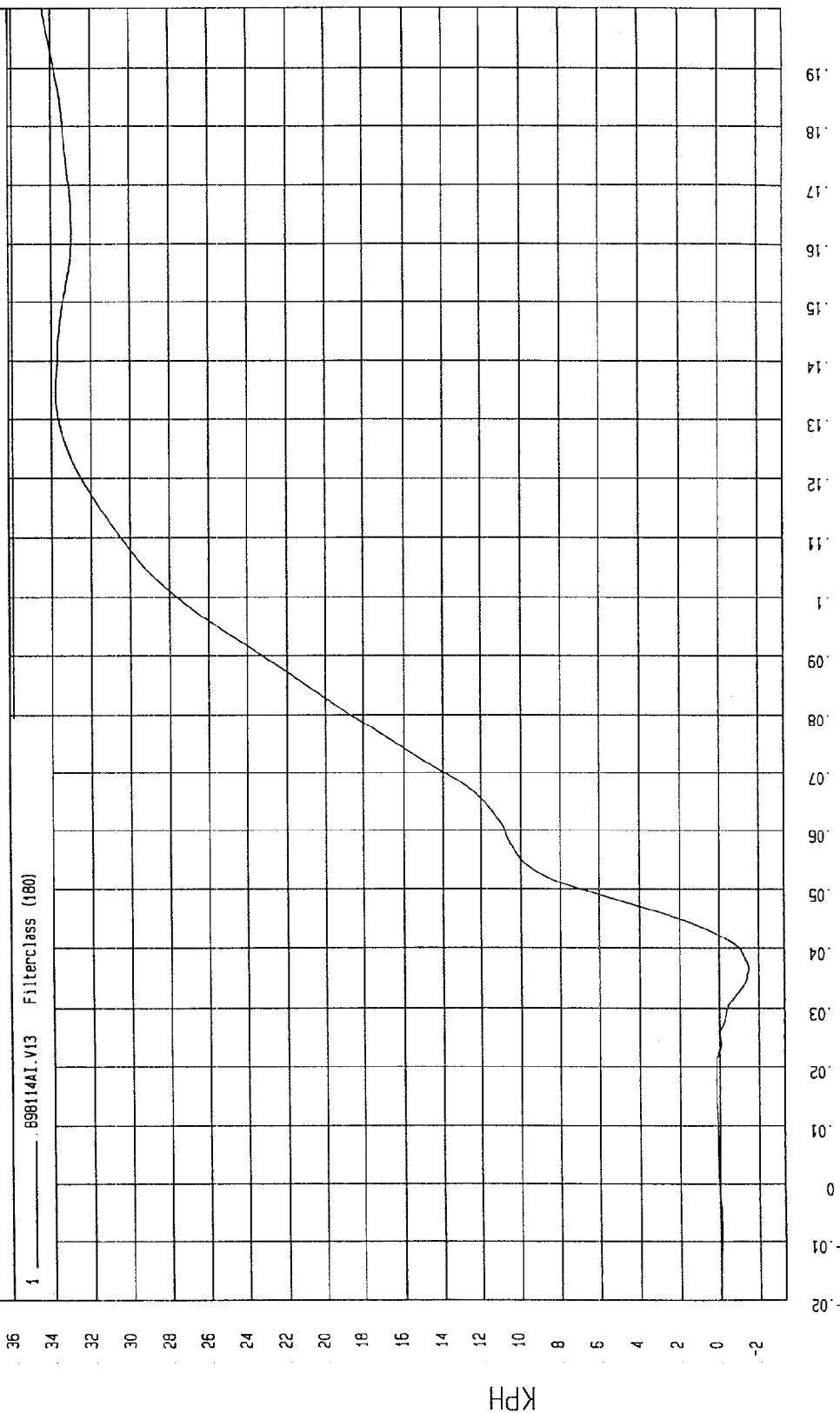
COMPONENT: 1998 HONDA CR-V

Speed: 38.4 MPH 61.8 KPH

Minimum = -1.49 KPH at 37 msec

Maximum = 34.4 KPH at 200 msec

DRIVER HEAD Y VELOCITY



MCA Research
12-03-1998 08:55

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

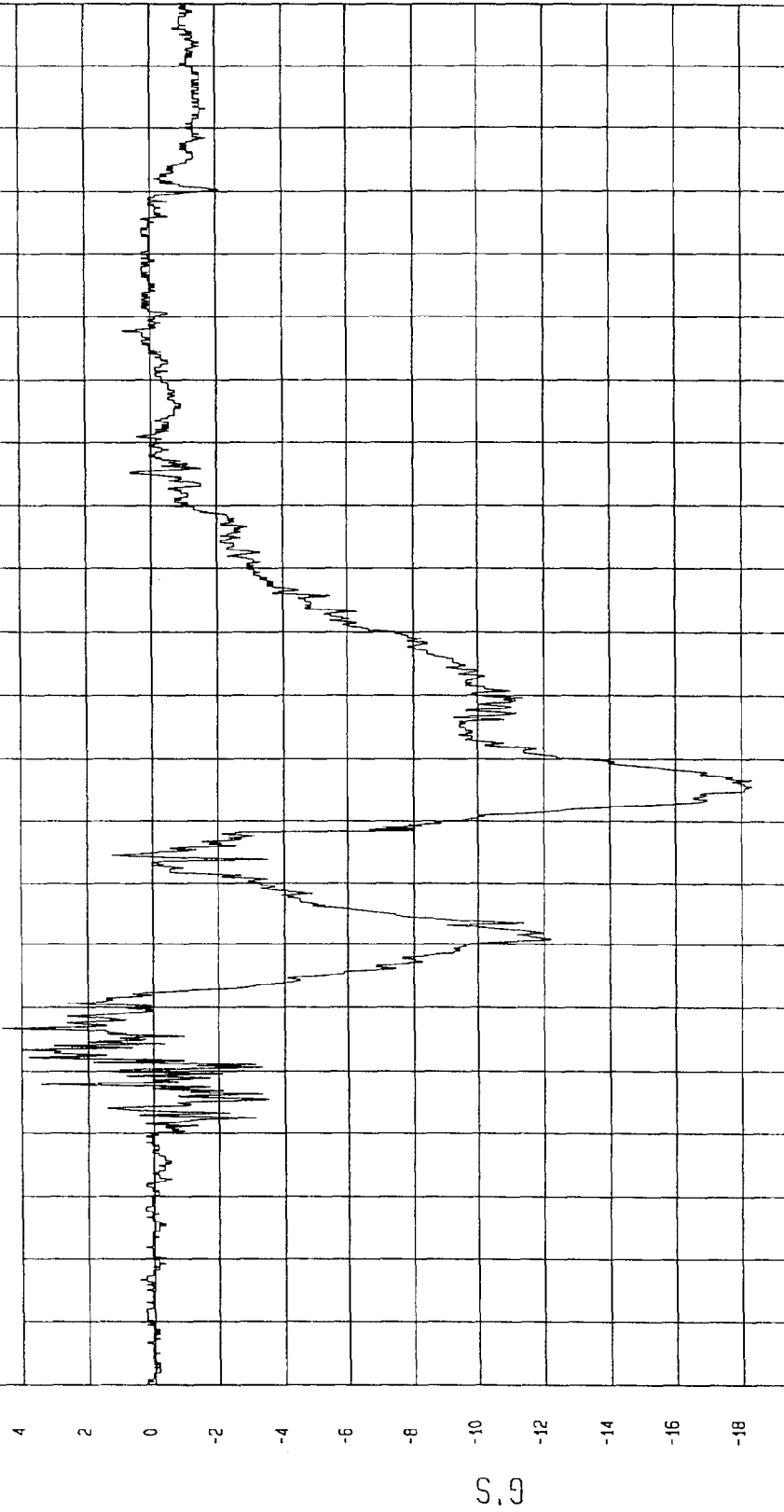
COMPONENT: 1998 HONDA CR-V

Maximum = 4.6 G'S at 37 msec

Minimum = -18.31 G'S at 75 msec

DRIVER HEAD Z ACCELERATION

1 — 898114AT.A14 Filterclass (1000)



MSA Research
12-02-1998 08:23

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

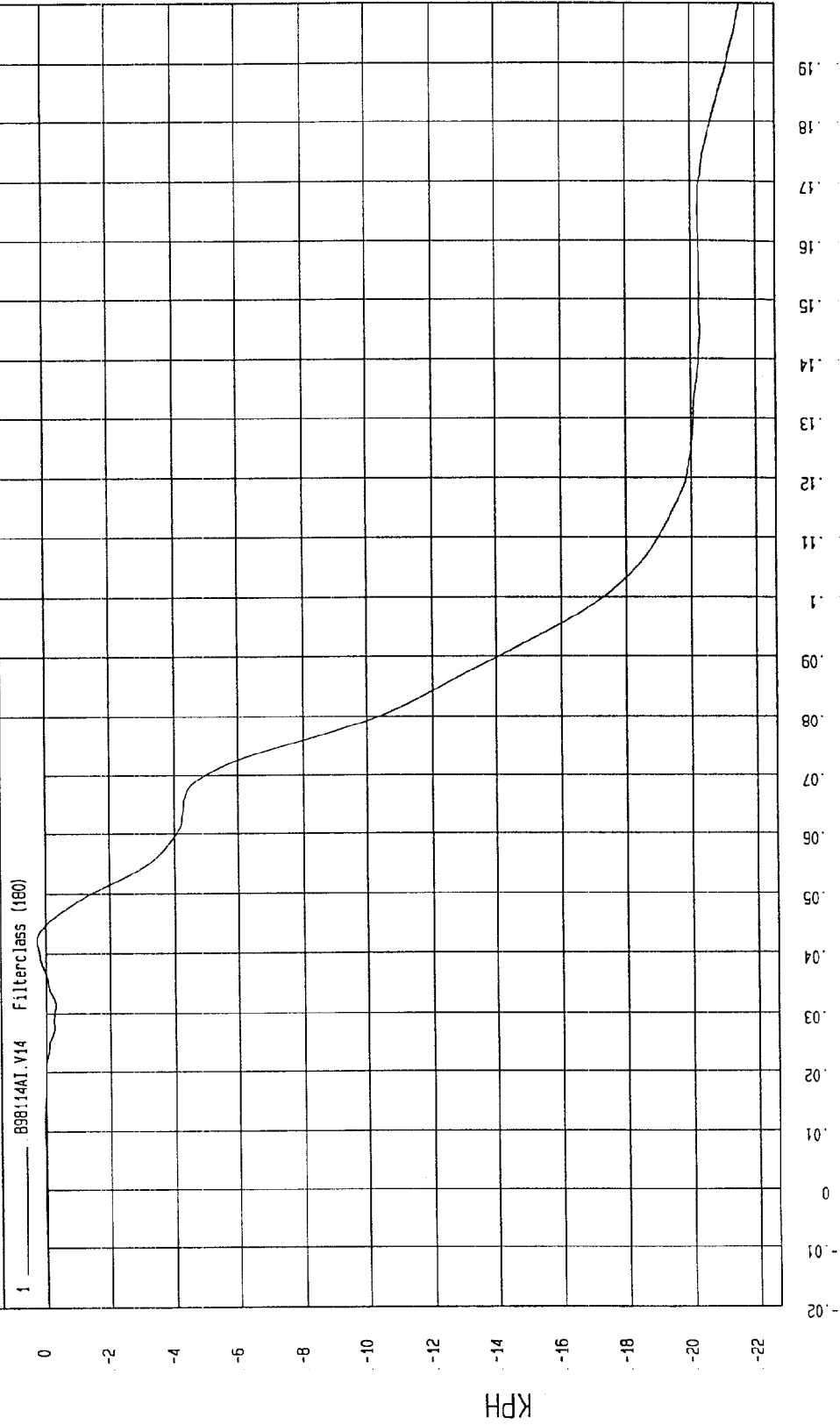
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = .26 KPH at 42 msec

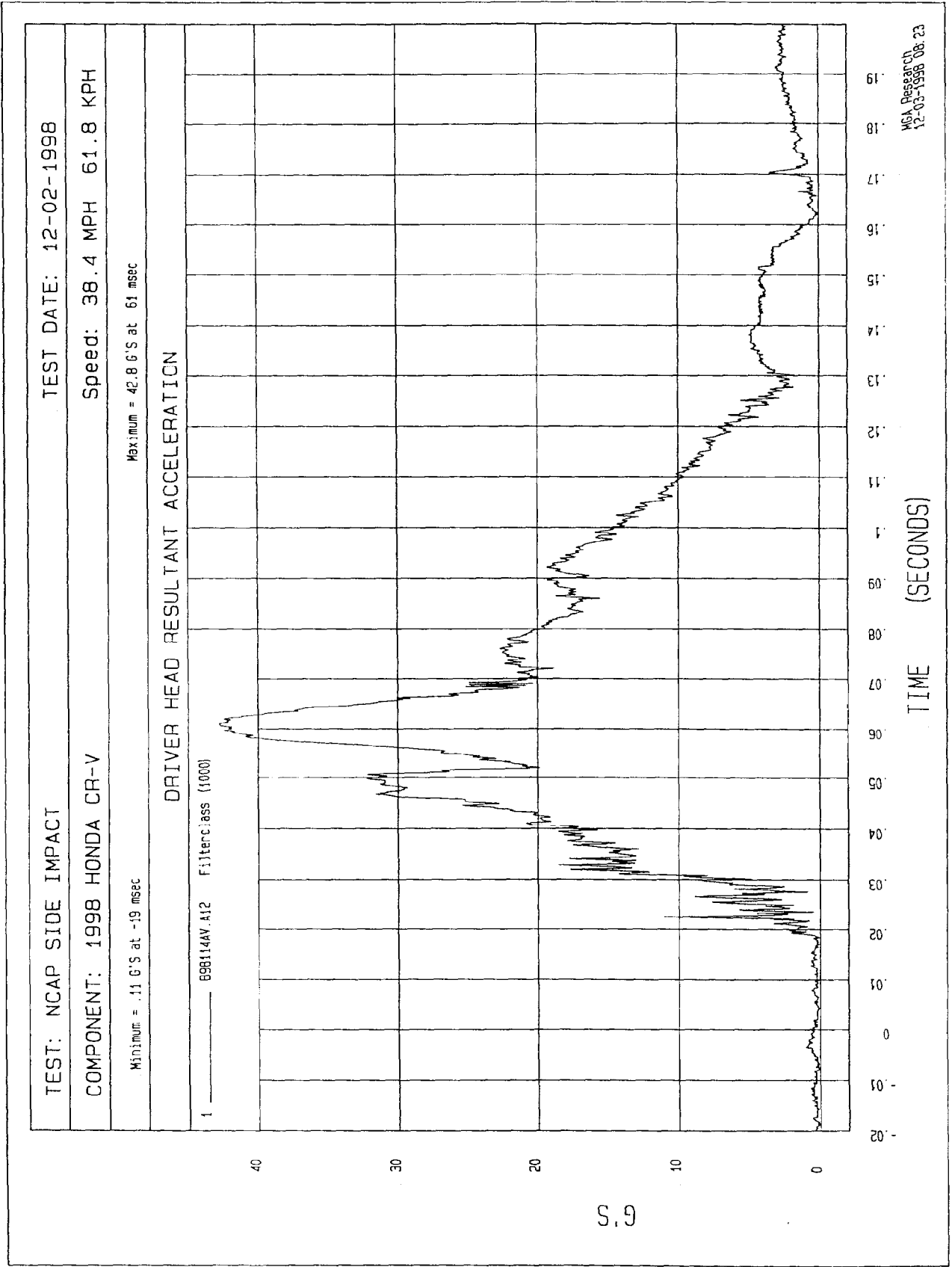
Minimum = -21.52 KPH at 200 msec

DRIVER HEAD Z VELOCITY



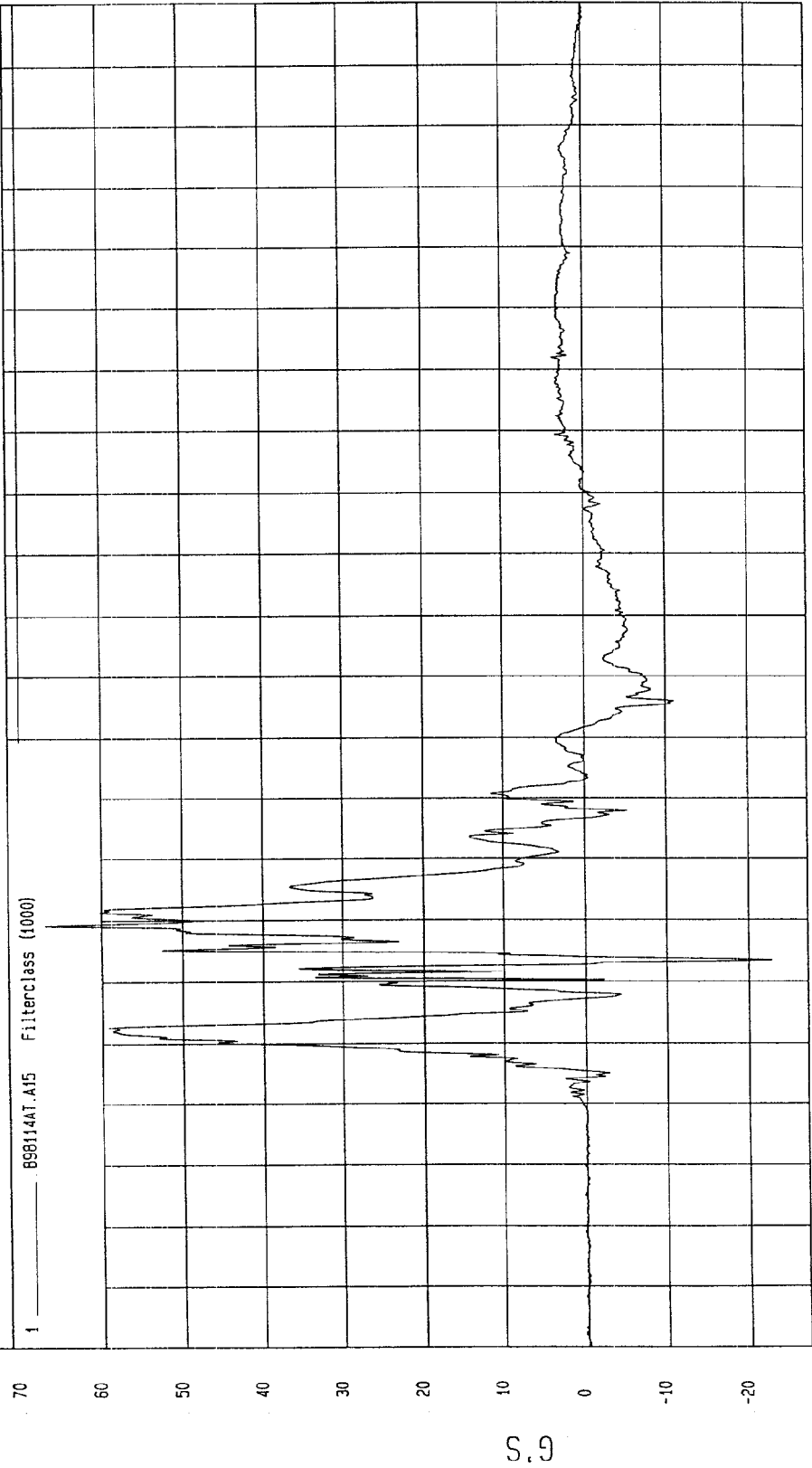
MCA Research
12-03-1998 08:55

TIME Seconds



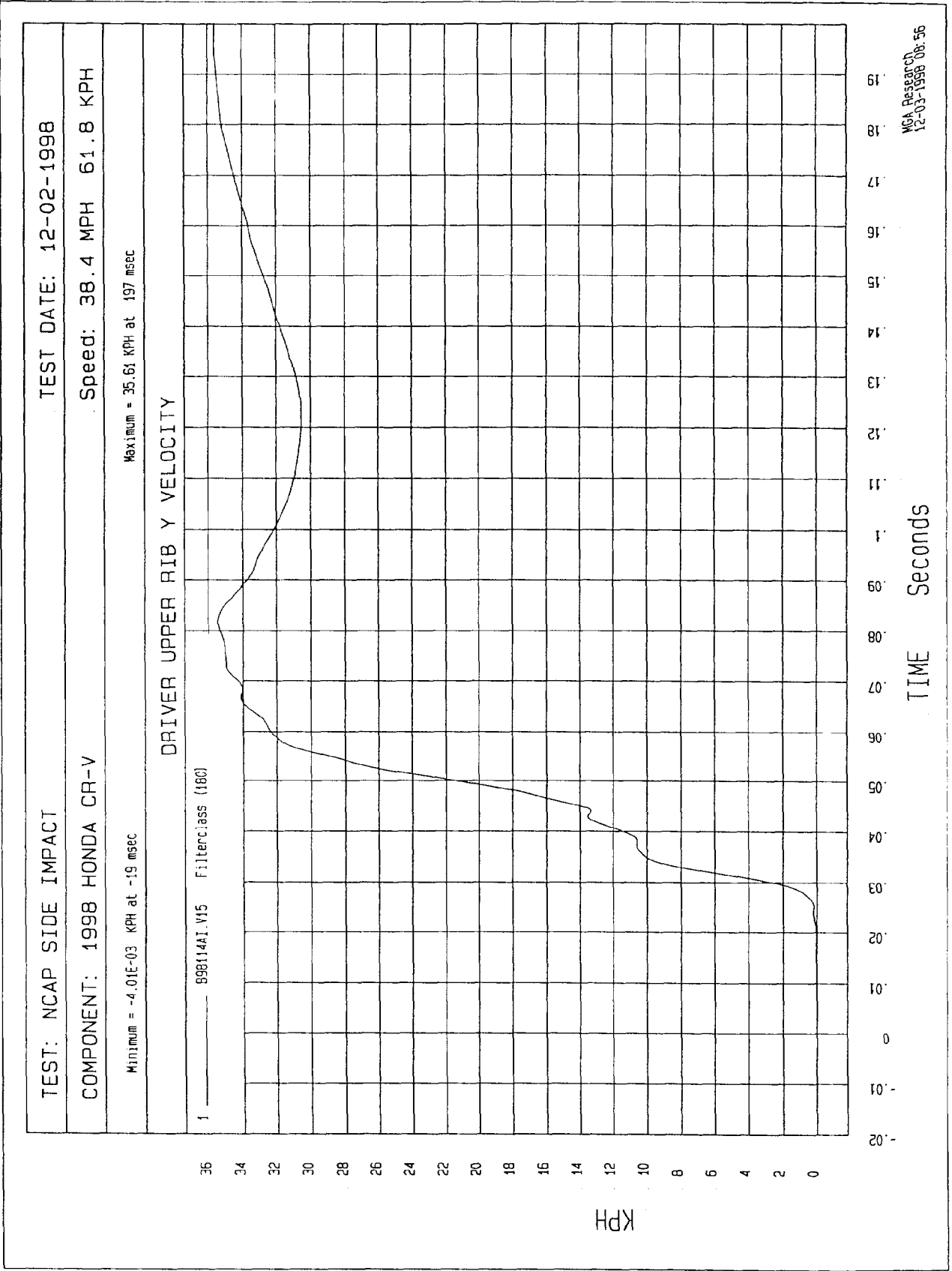
TEST: NCAP SIDE IMPACT
COMPONENT: 1998 HONDA CR-V
TEST DATE: 12-02-1998
Speed: 38.4 MPH 61.8 KPH
Minimum = -22.85 G'S at 44 msec
Maximum = 66.95 G'S at 49 msec

DRIVER UPPER RIB Y ACCELERATION



TIME (SECONDS)

MCA Research
12-03-1998 08:33

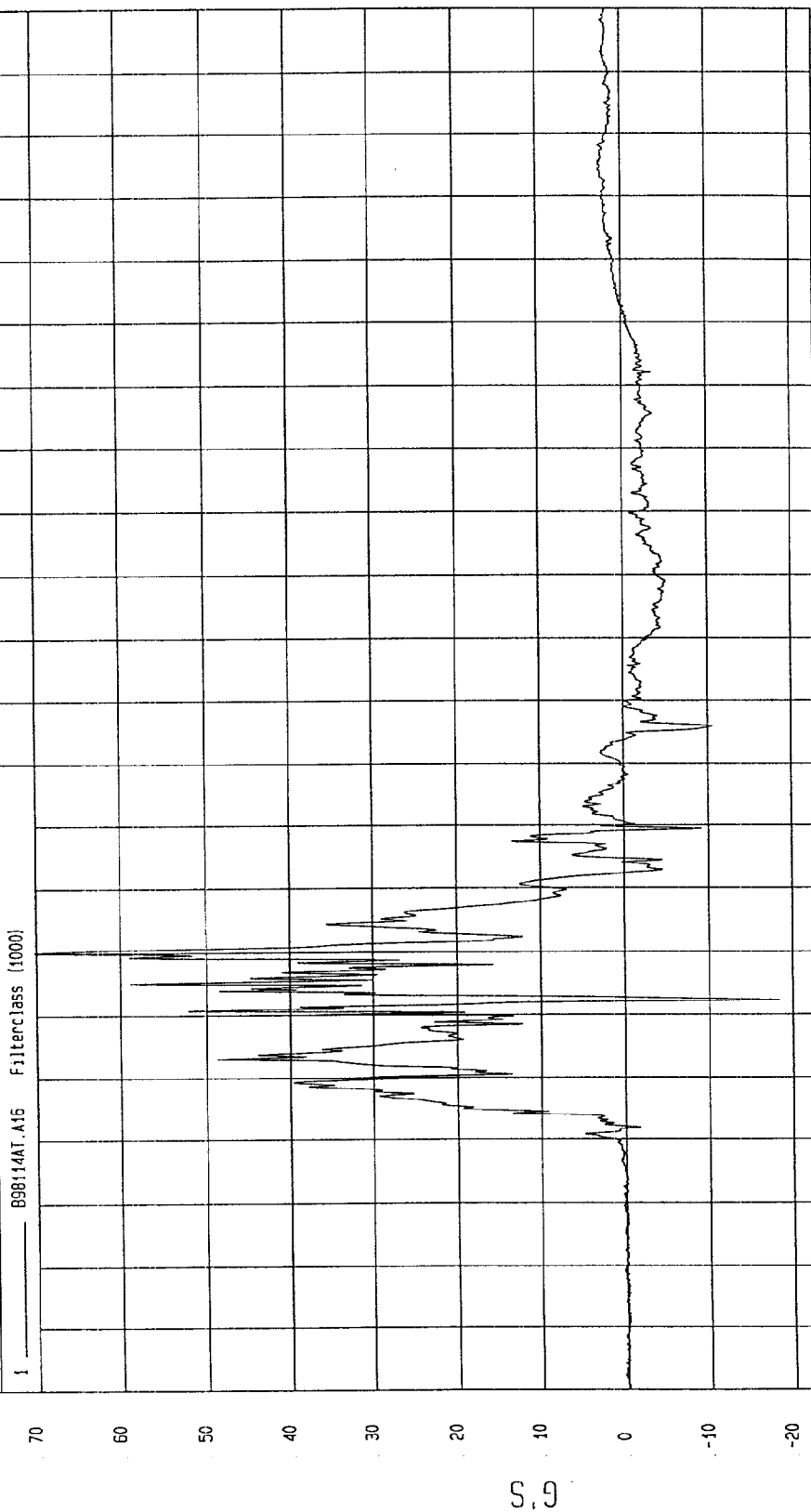


TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

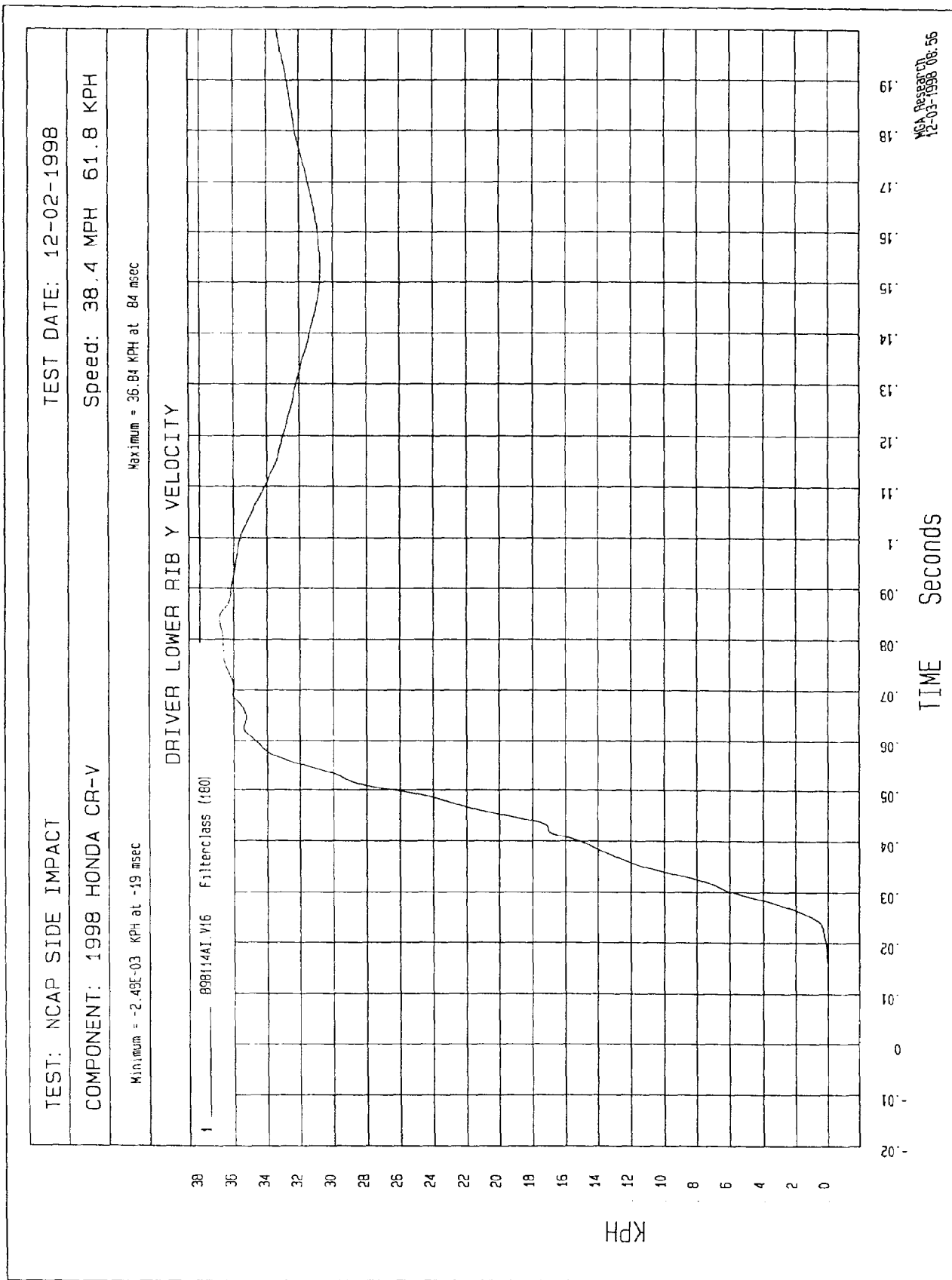
COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

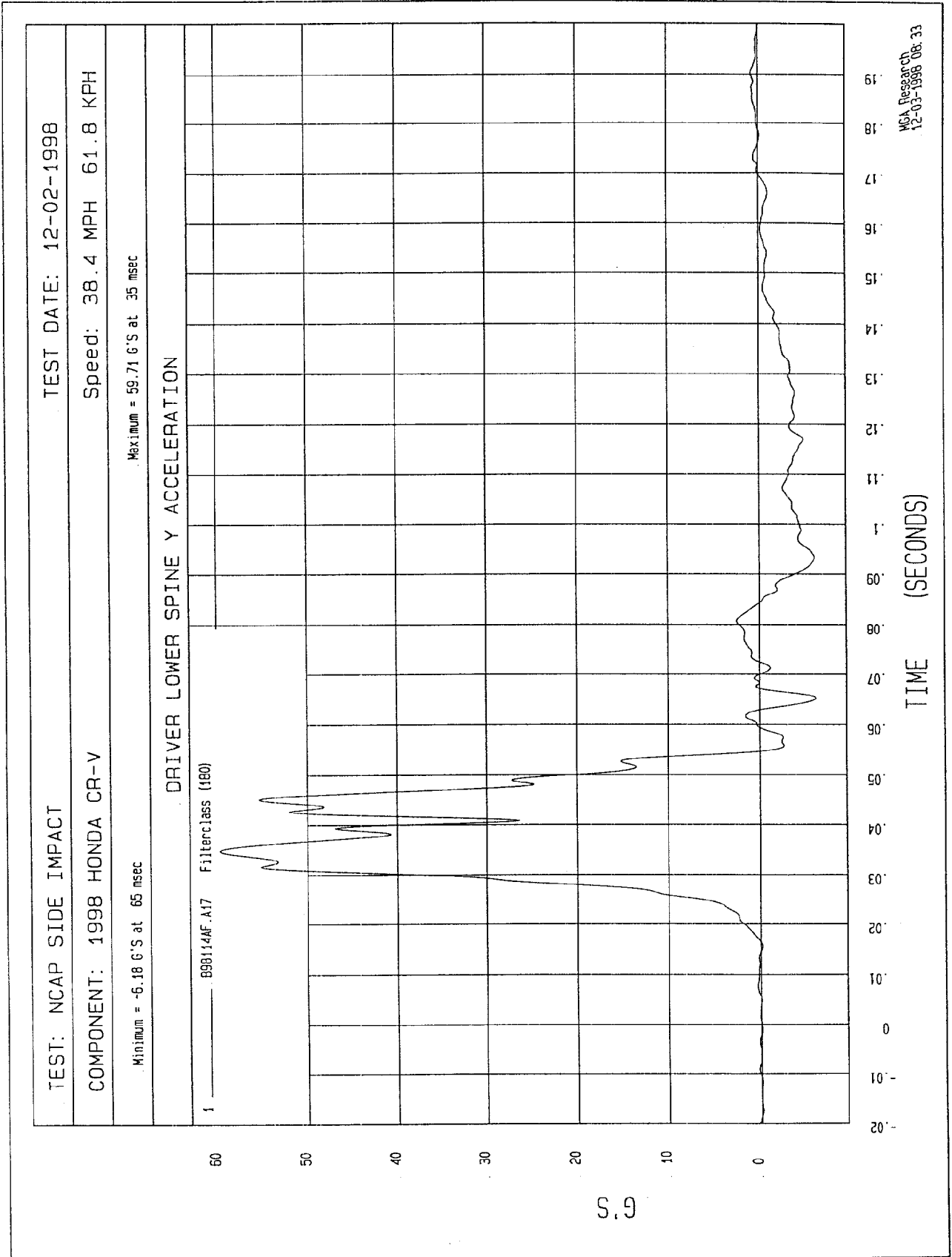
Minimum = -18.36 G'S at 42 msec Maximum = 70.21 G'S at 50 msec

DRIVER LOWER RIB Y ACCELERATION

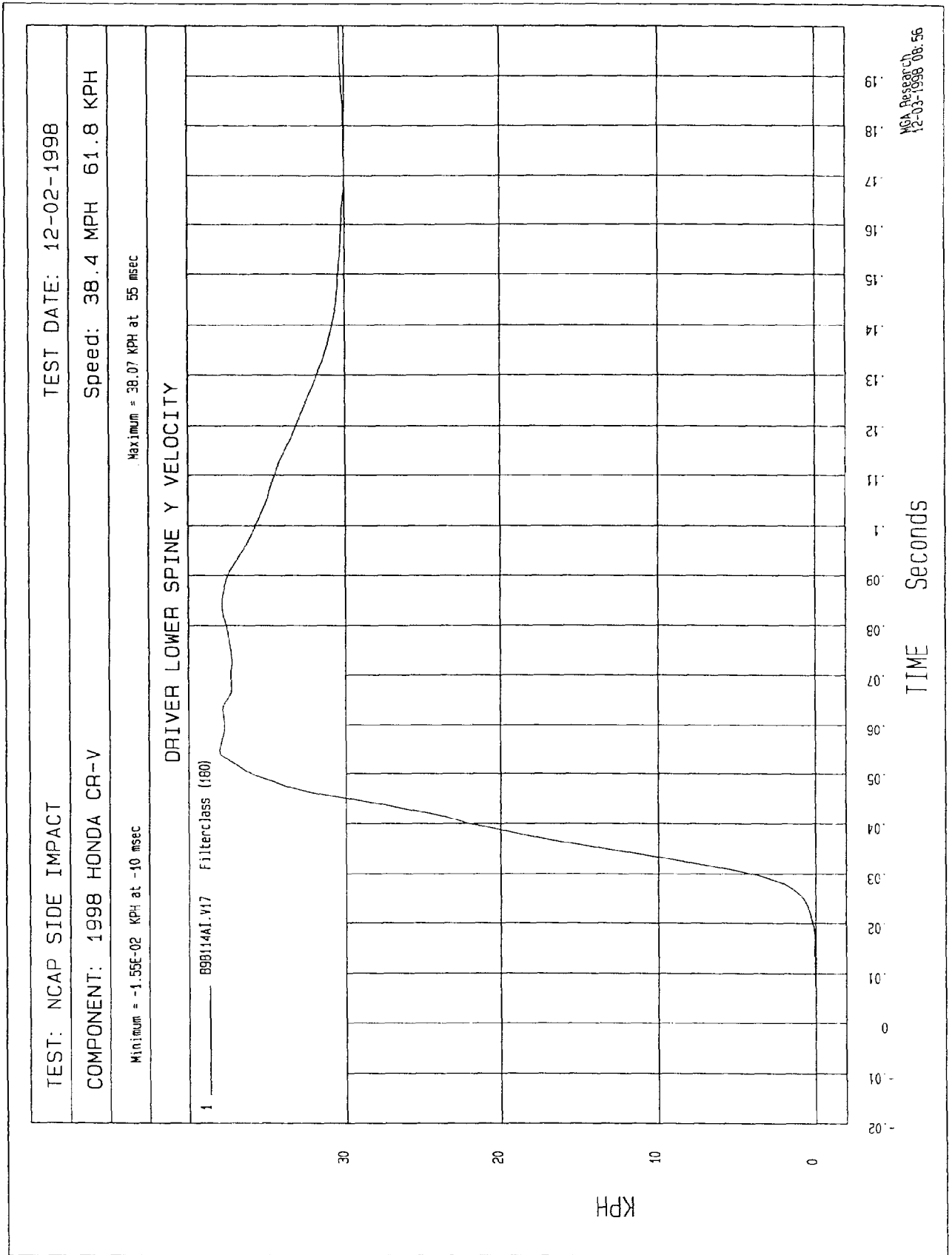


MCA Research
12-03-1998 08:33



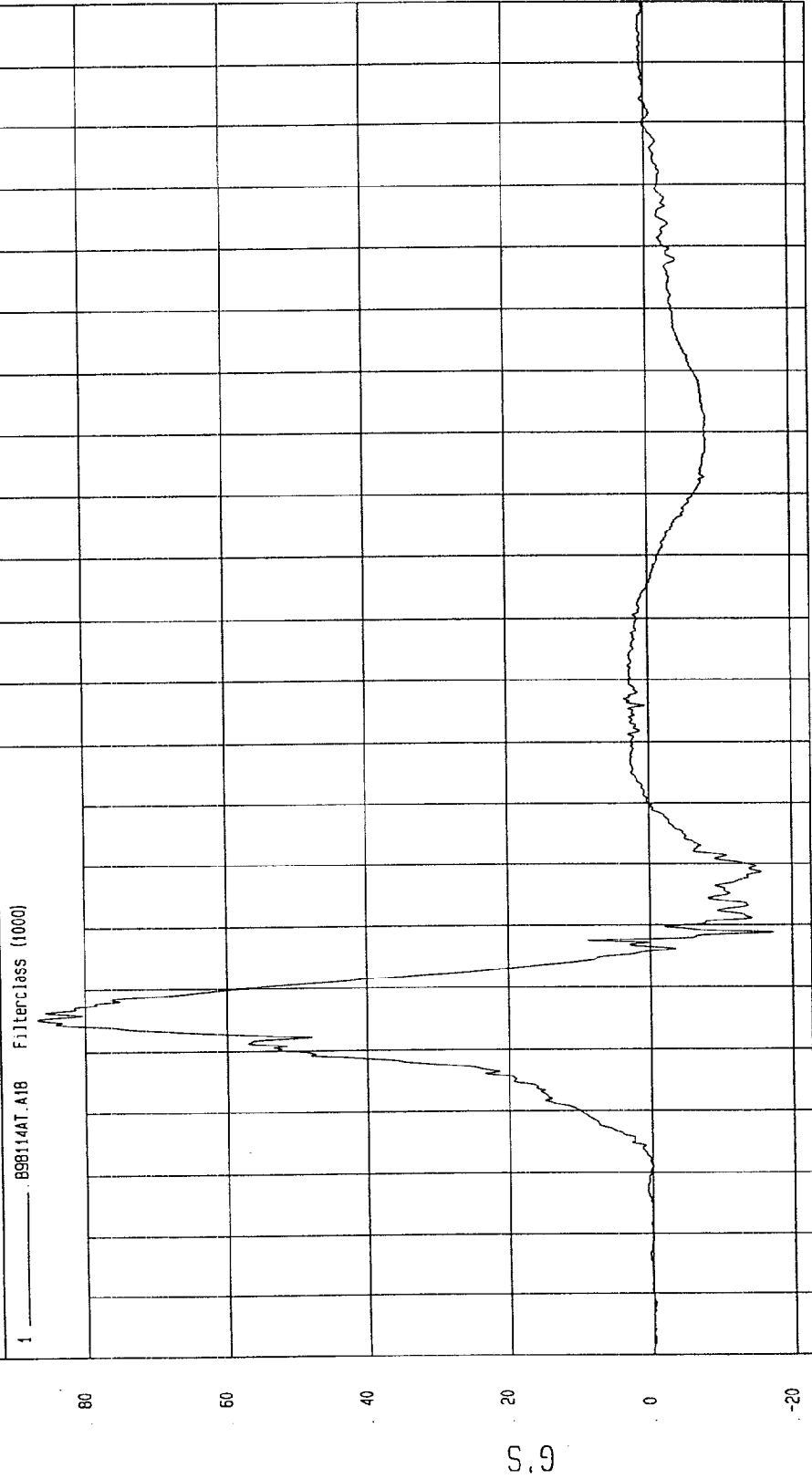


MCA Research
12-03-1998 08:33



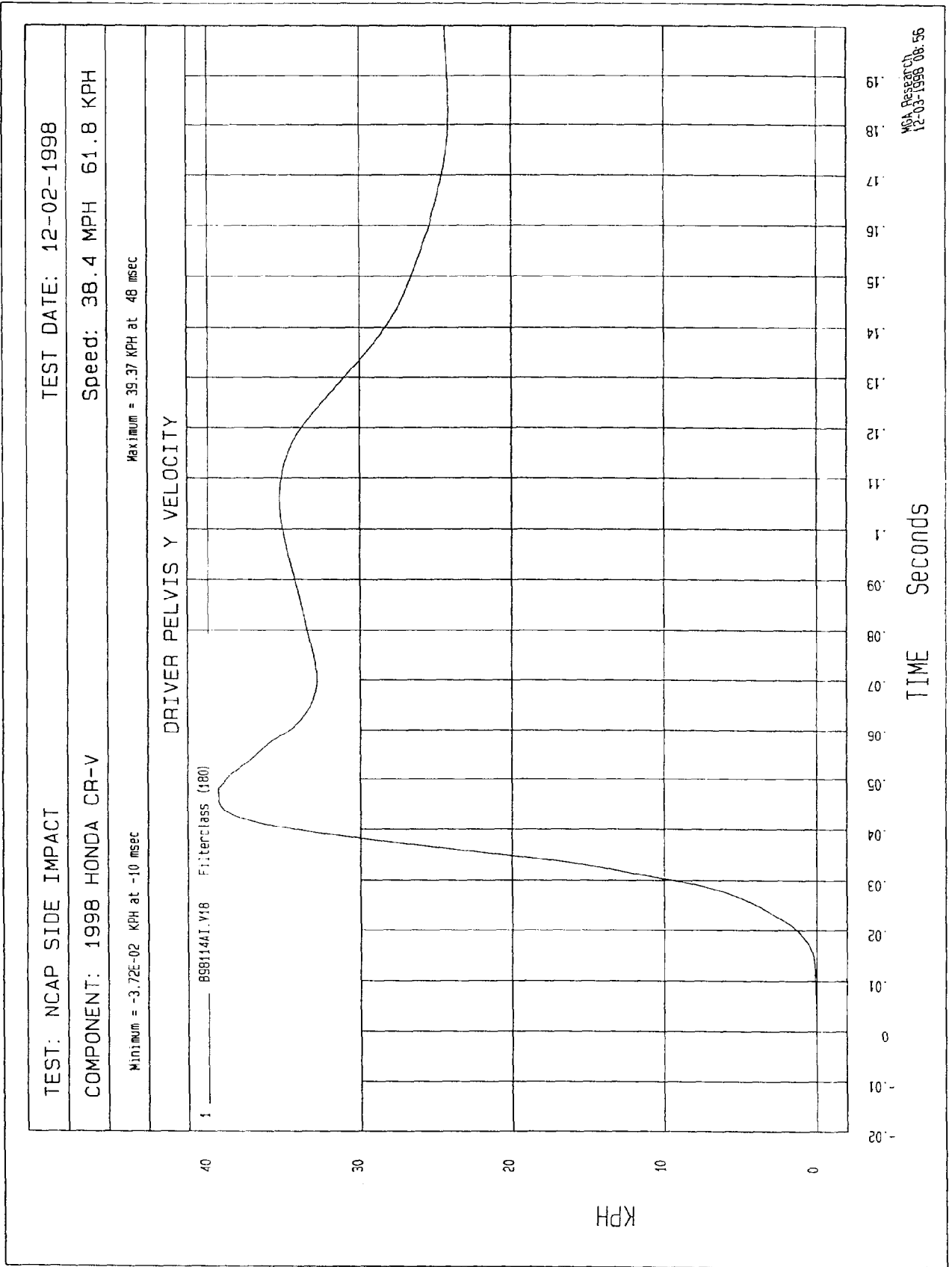
TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH
Minimum = -17.43 G'S at 49 msec
Maximum = 86.68 G'S at 35 msec

DRIVER PELVIS Y ACCELERATION



WGA Research
12-03-1998 08:33

TIME (SECONDS)



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

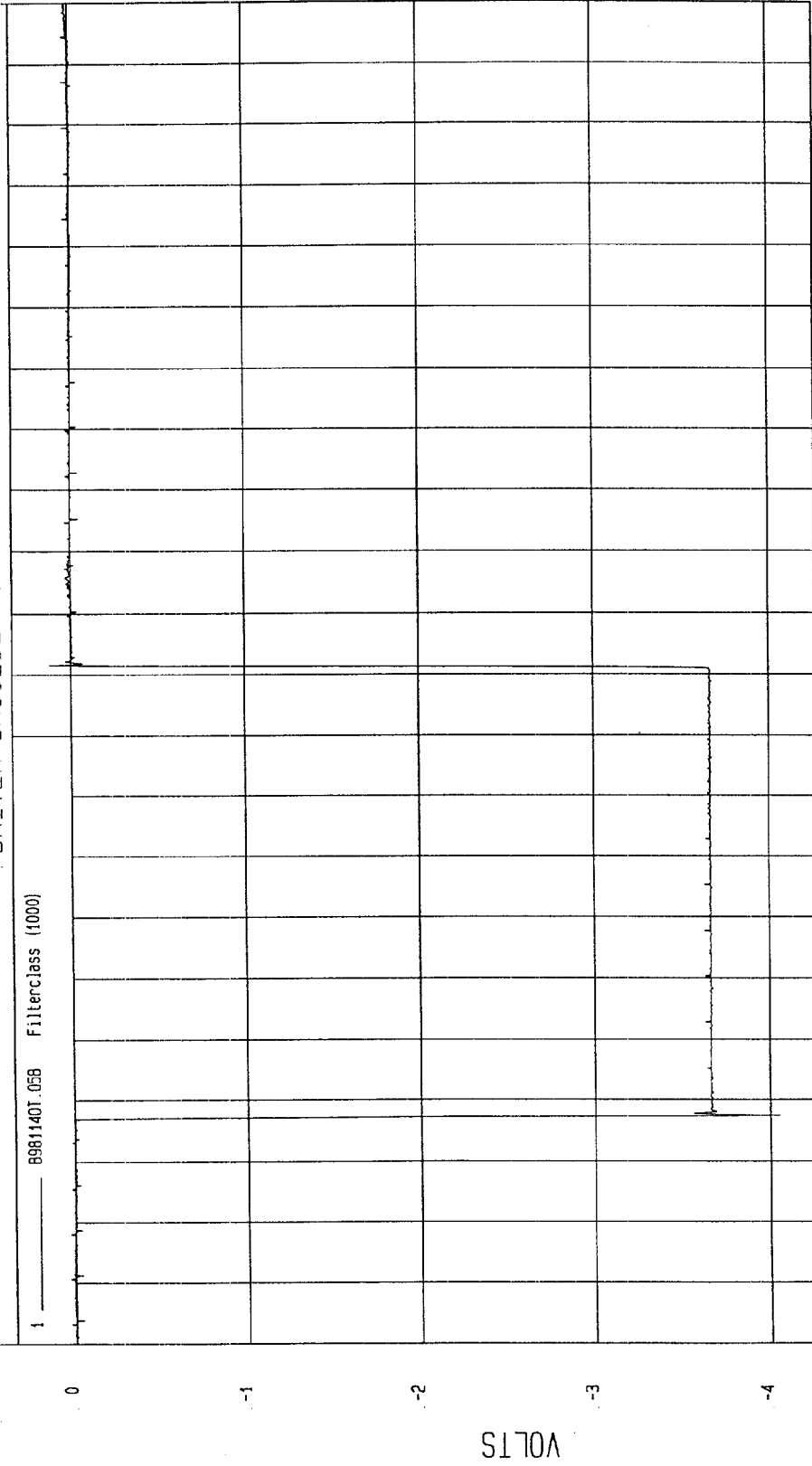
COMPONENT: 1998 HONDA CR-V

Maximum = .13 VOLTS at 92 msec

Minimum = -4.06 VOLTS at 17 msec

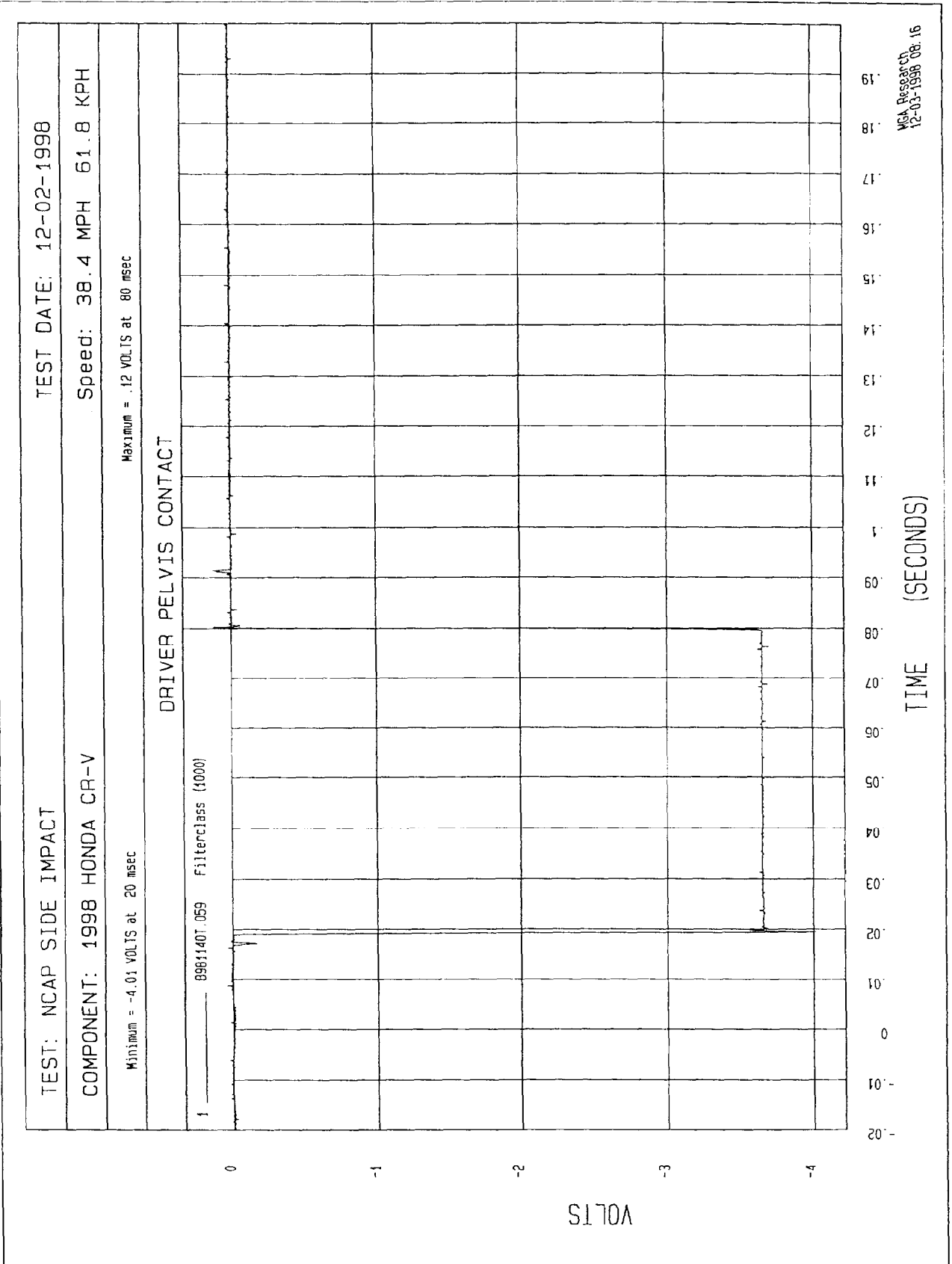
DRIVER SHOULDER CONTACT

1 8981140T.058 Filterclass (1000)



TIME (SECONDS)

WGA Research Co.
12-03-1998 08:16



TEST: NCAP SIDE IMPACT

Speed: 38.4 MPH 61.8 KPH

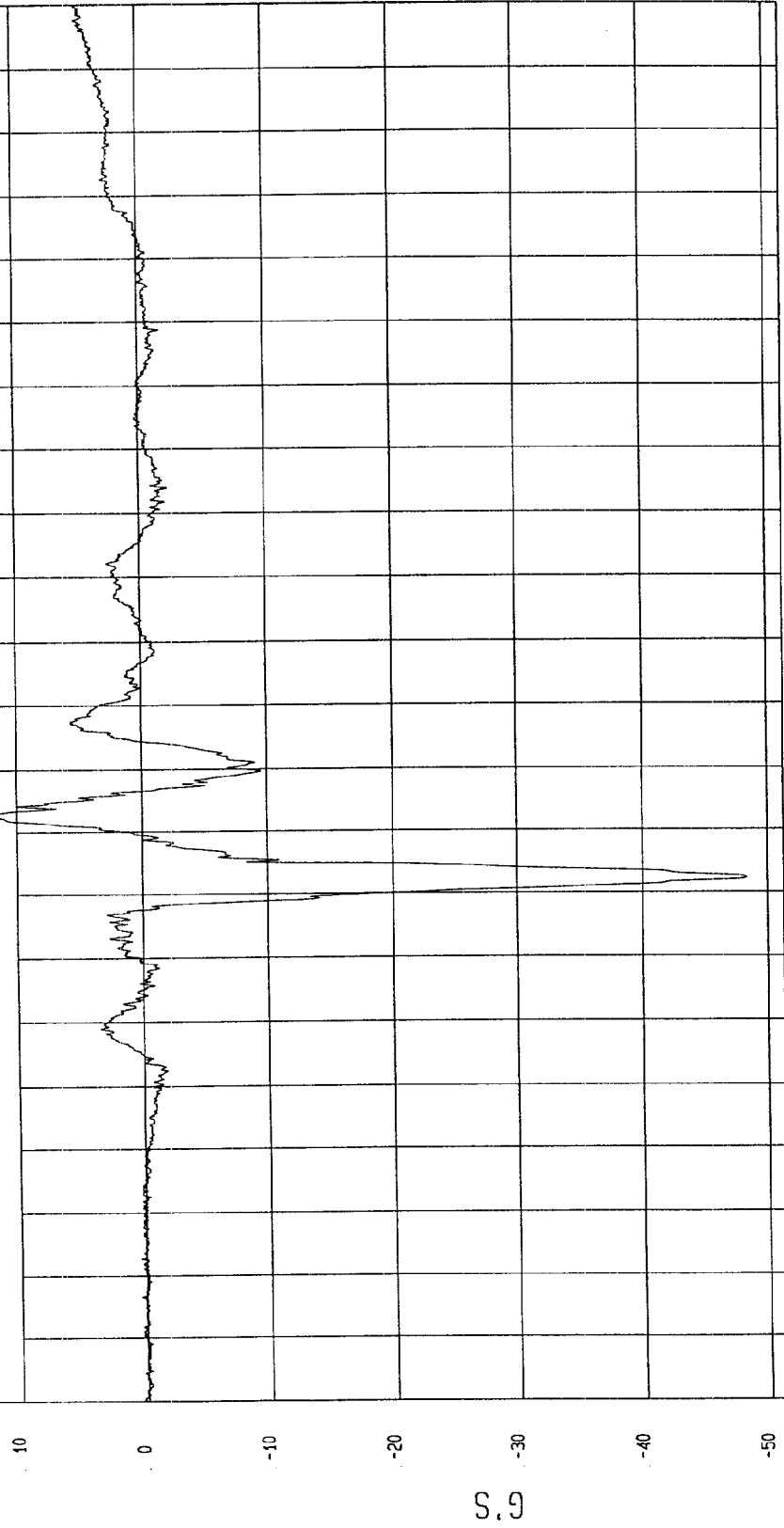
COMPONENT: 1998 HONDA CR-V

Maximum = 12.01 G'S at 73 msec

Minimum = -48.31 G'S at 62 msec

REAR PASSENGER HEAD X ACCELERATION

1 B98114AT.A22 Filterclass (1000)



MSA Research
12-03-1998 08:23

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

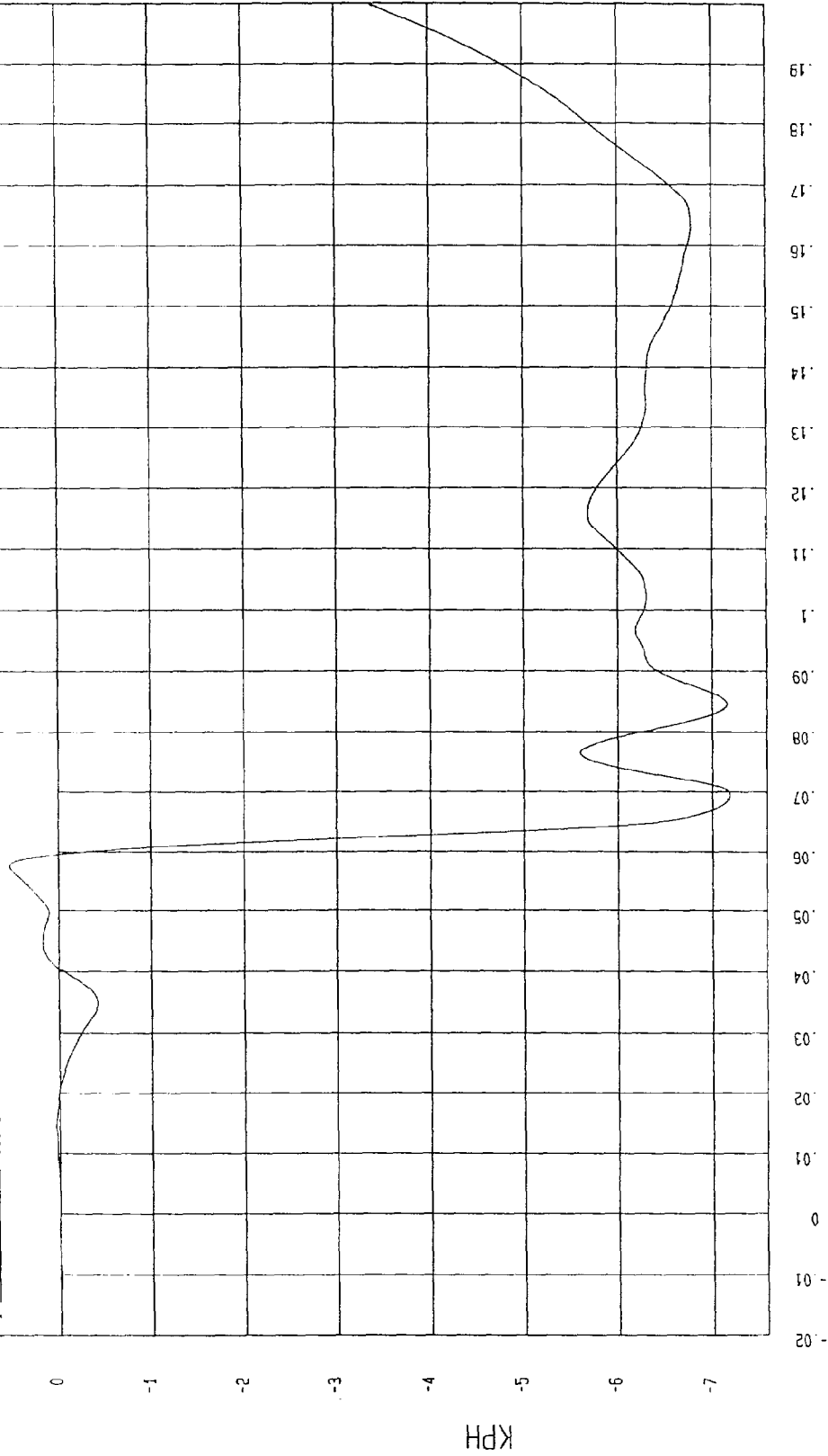
COMPONENT: 1998 HONDA CR-V

Maximum = .52 KPH at 58 msec

Minimum = -7.19 KPH at 70 msec

REAR PASSENGER HEAD X VELOCITY

1 ——— 898114A1.V22 Filterclass (180)



MSA Research
12-03-1998 08:56

TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

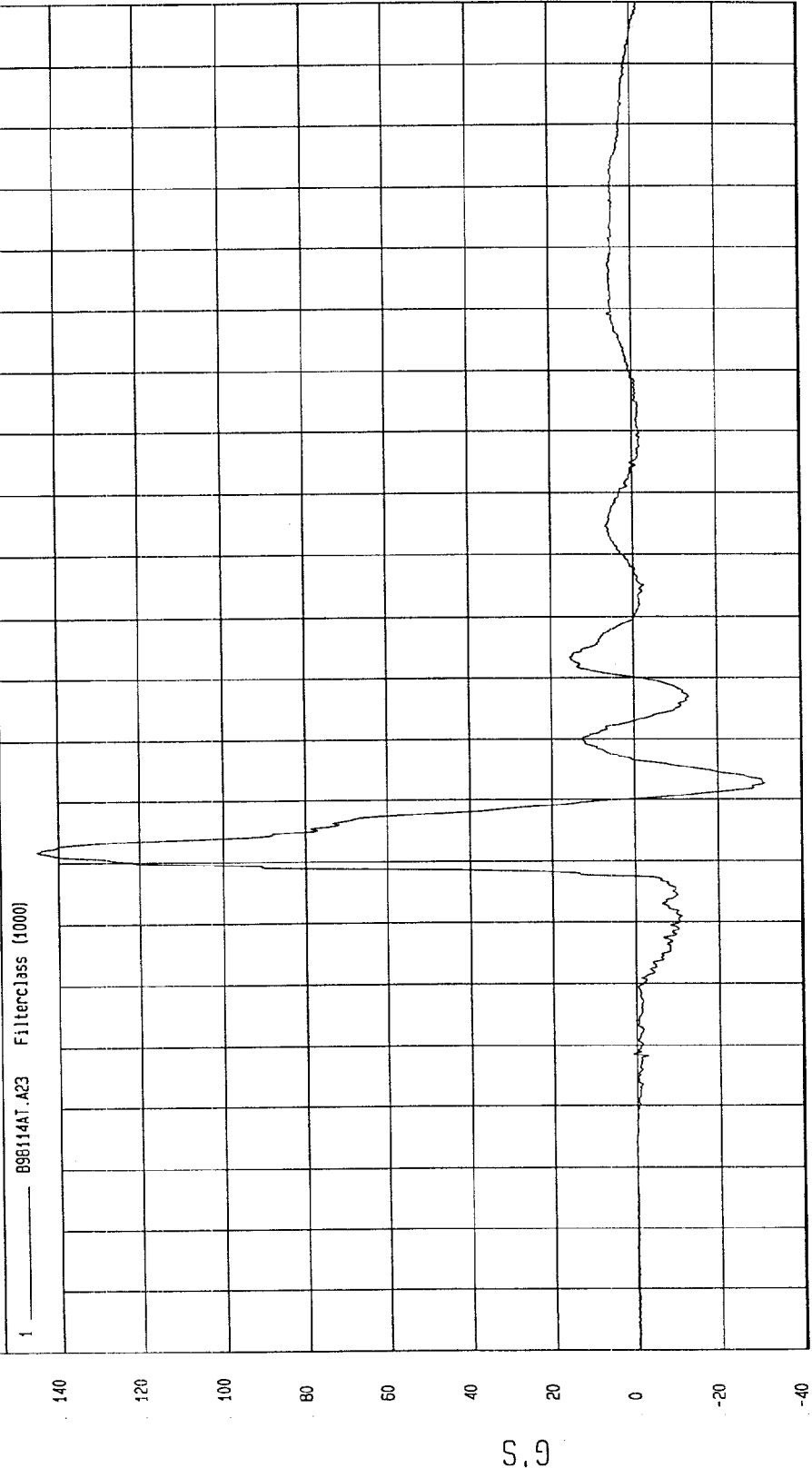
COMPONENT: 1998 HONDA CR-V

Speed: 38.4 MPH 61.8 KPH

Minimum = -31.55 G'S at 73 msec

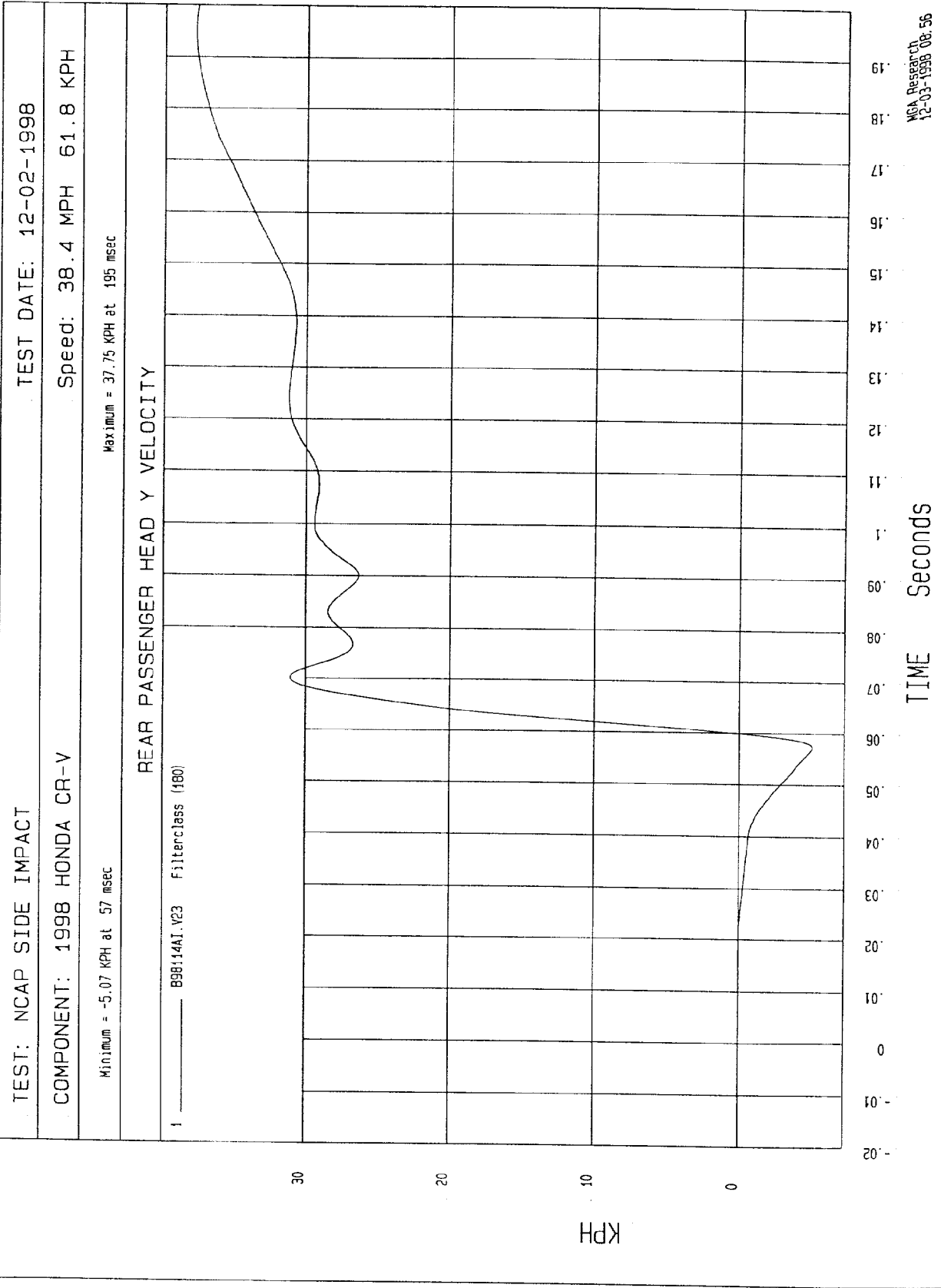
Maximum = 145.05 G'S at 62 msec

REAR PASSENGER HEAD Y ACCELERATION



MSA Research
12-03-1998 08:23

TIME (SECONDS)



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

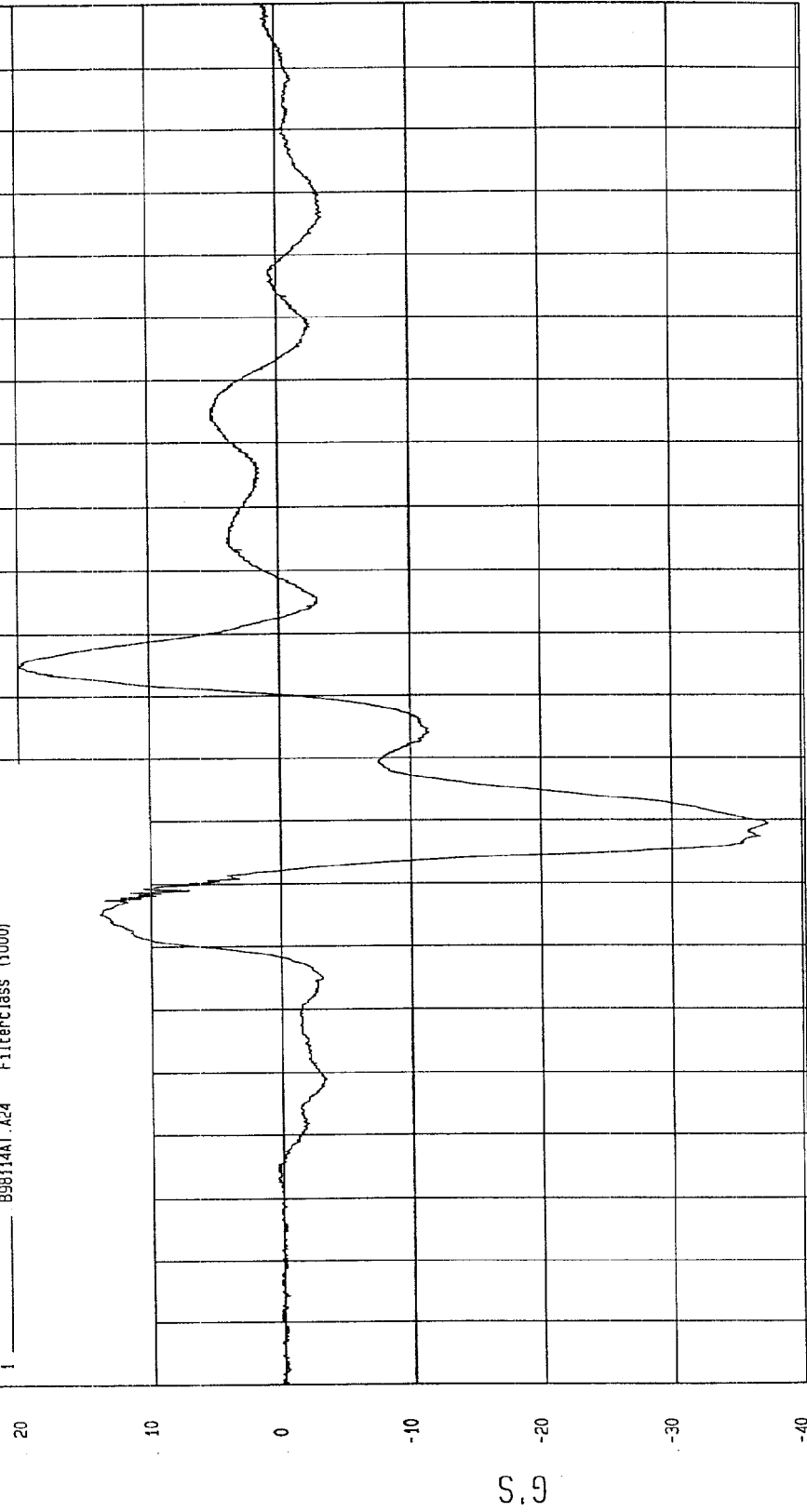
COMPONENT: 1998 HONDA CR-V

Maximum = 20 G'S at 95 msec

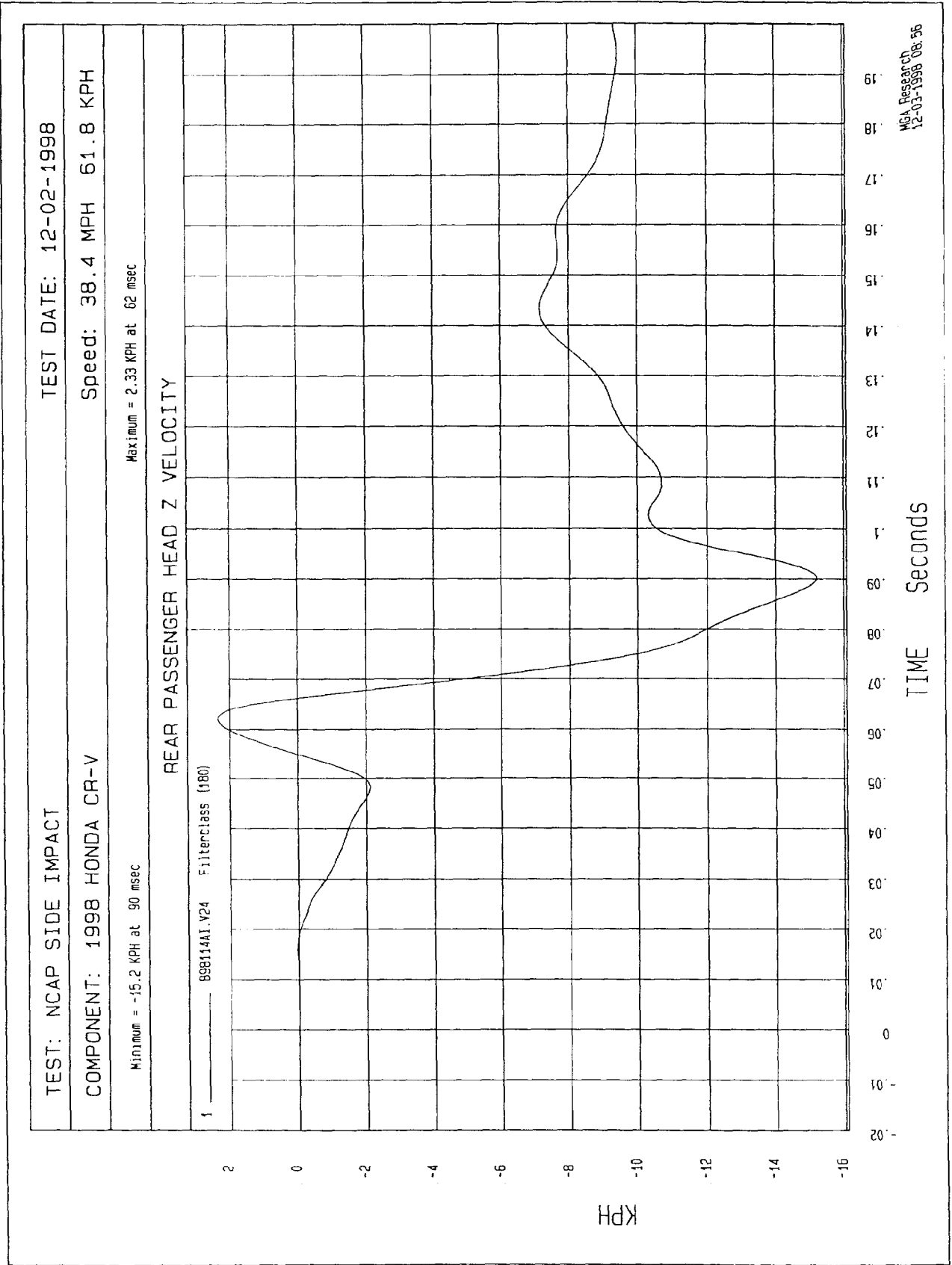
Minimum = -37.42 G'S at 69 msec

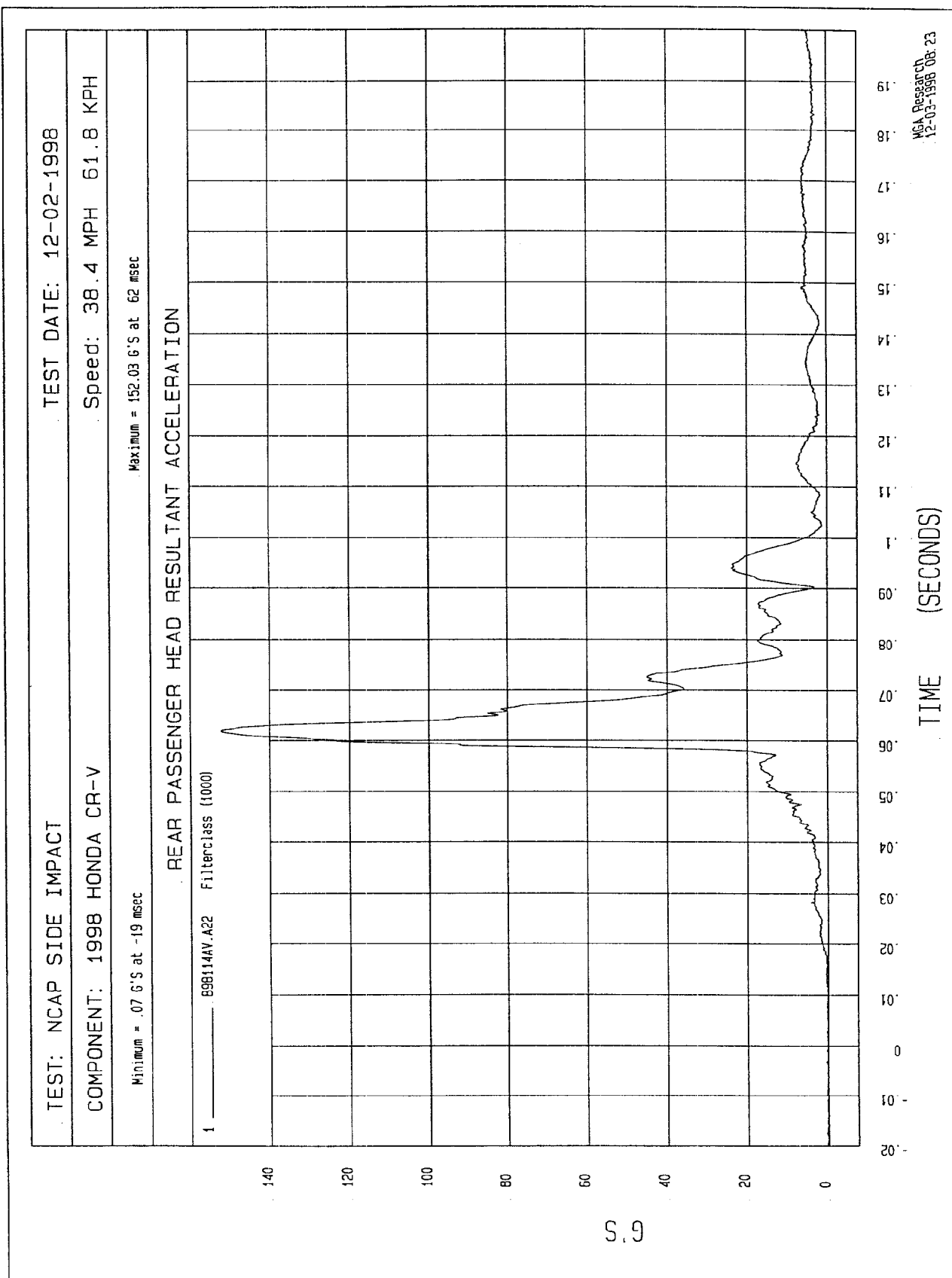
REAR PASSENGER HEAD Z ACCELERATION

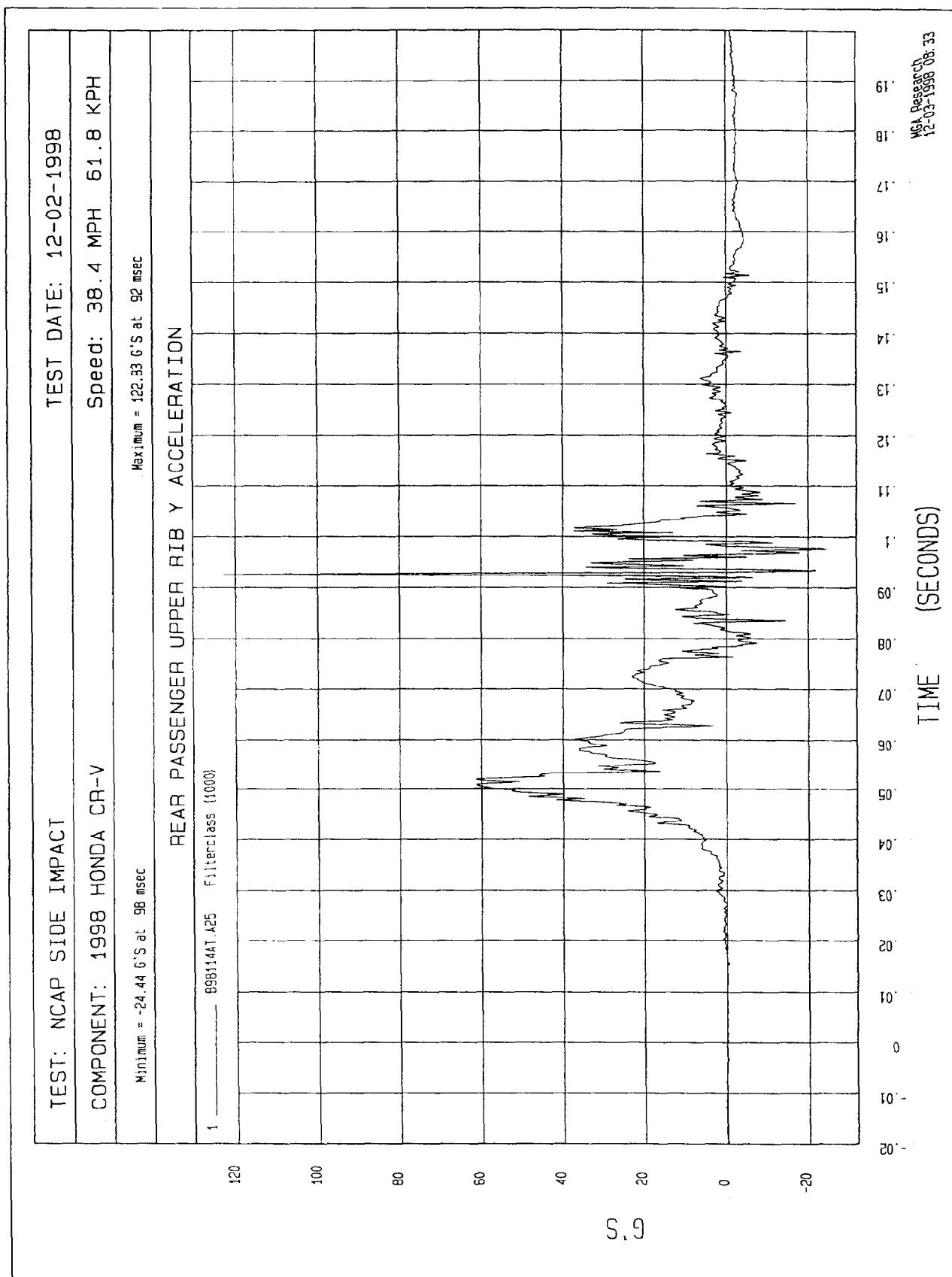
1 B9814AT.A24 FilterClass (1000)



MSA Research
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MCA Research
12-03-1998 08:33

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

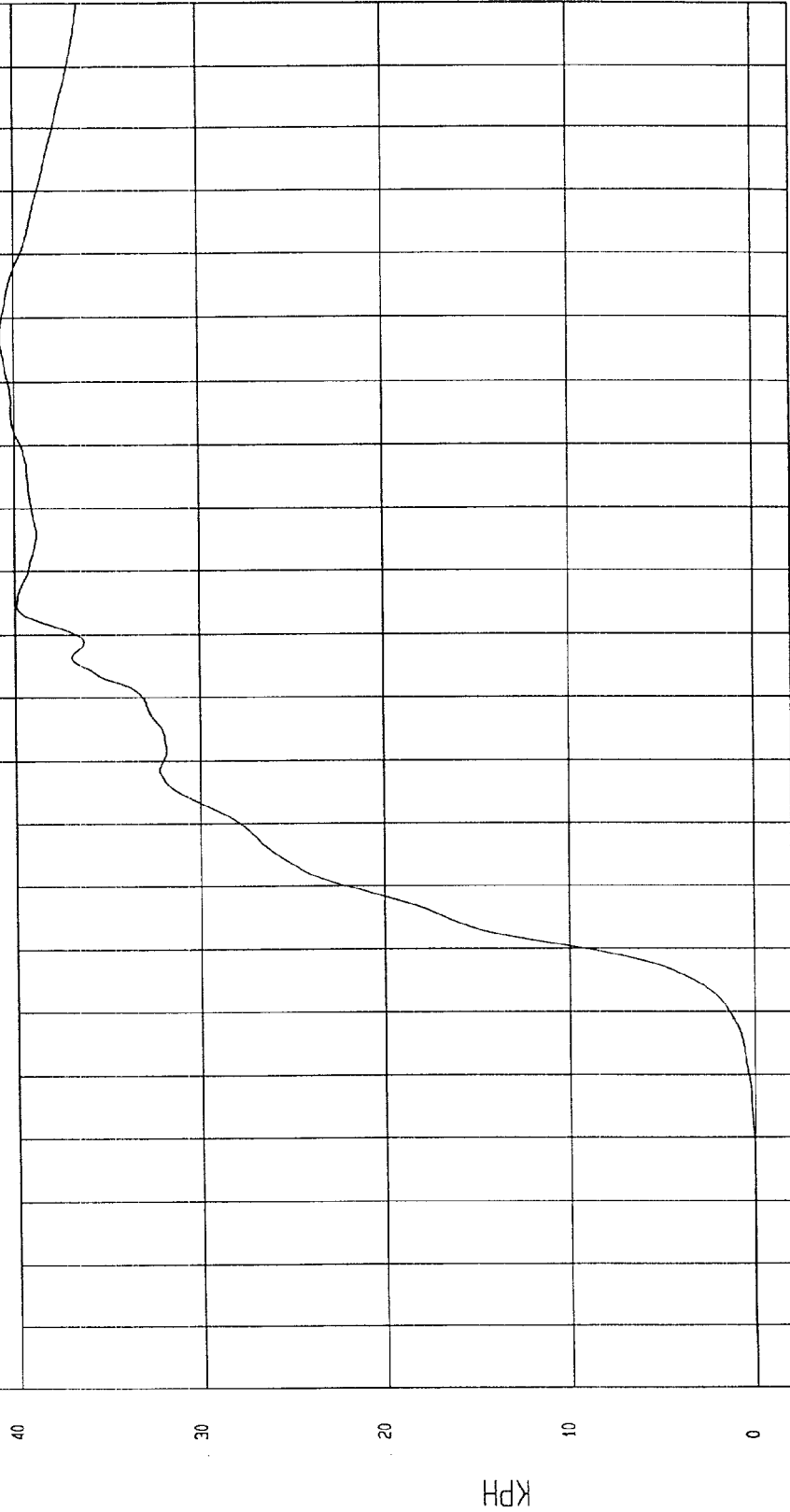
COMPONENT: 1998 HONDA CR-V

Maximum = 40.76 KPH at 147 msec

Minimum = -5.22E-03 KPH at -19 msec

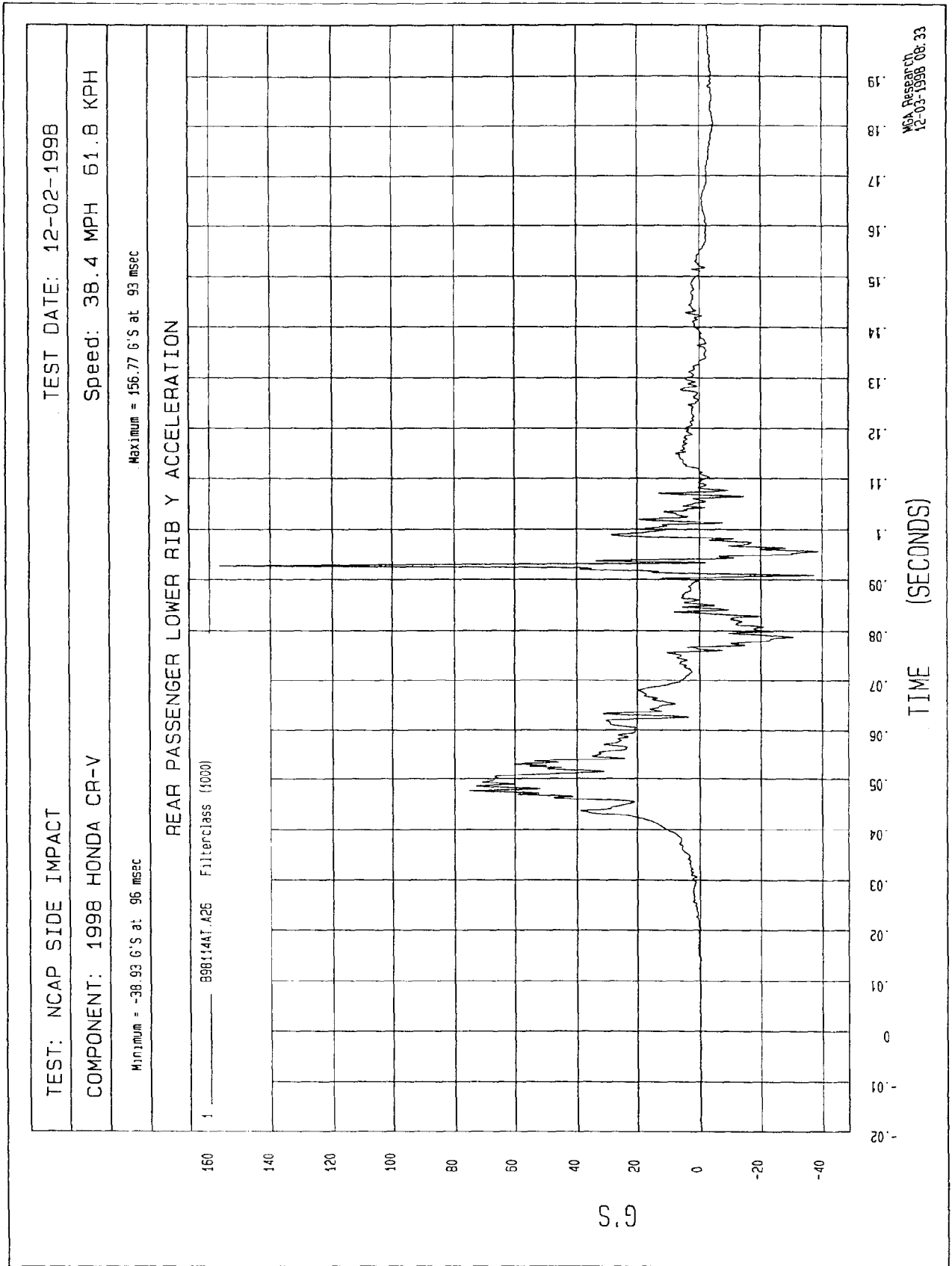
REAR PASSENGER UPPER RIB V VELOCITY

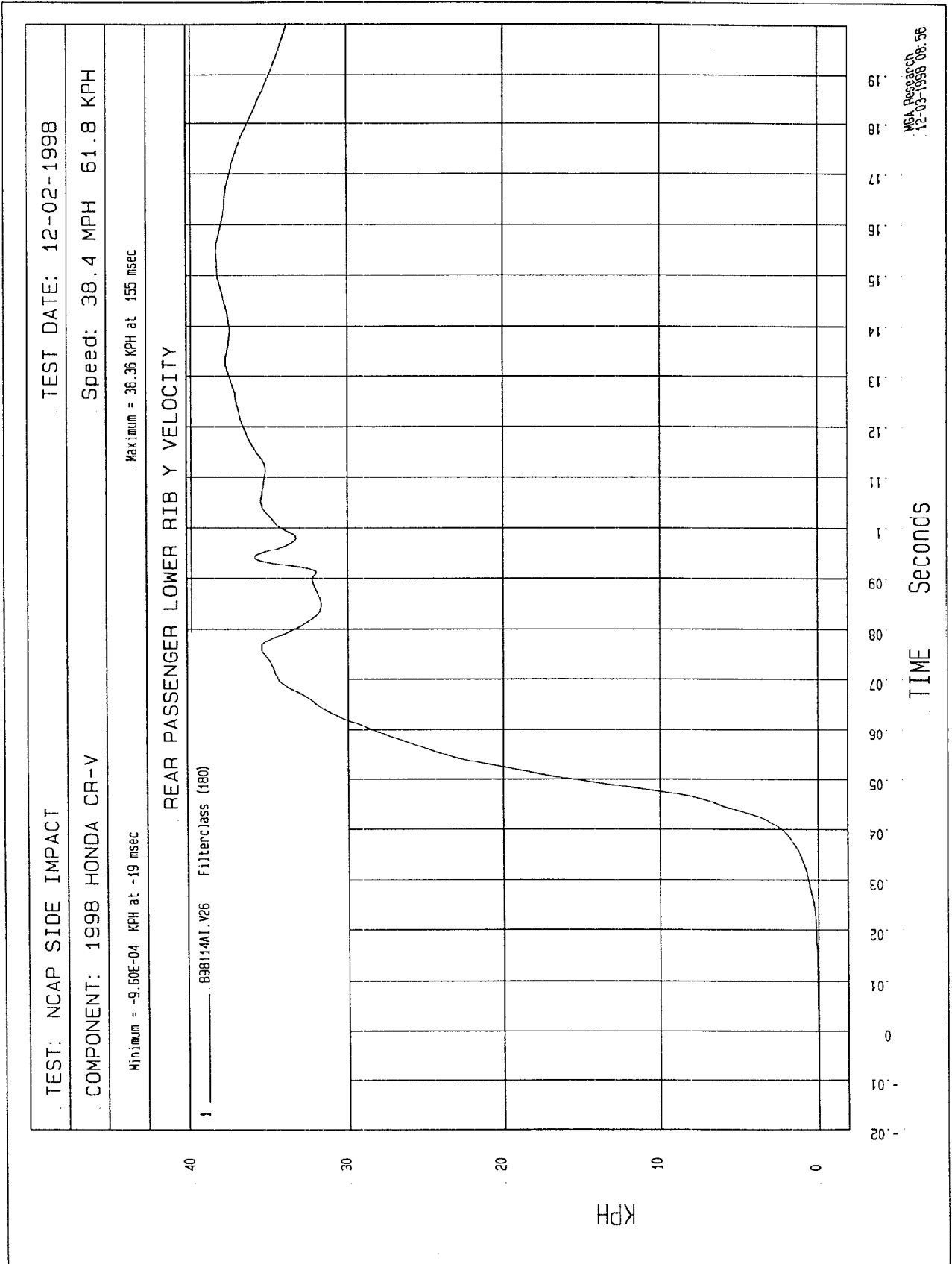
1 898114A1.V25 Filterclass (190)

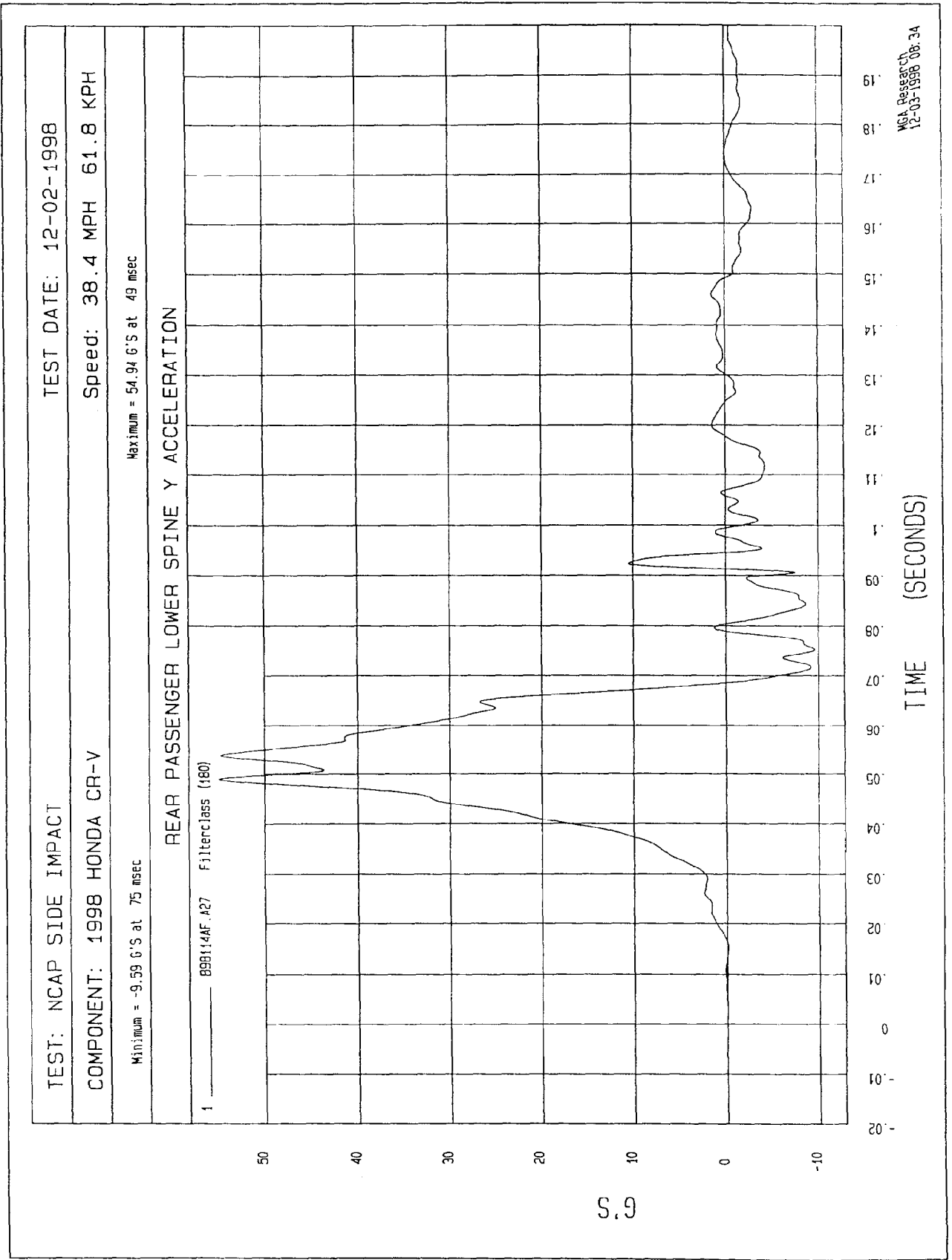


NSA Research
12-03-1998 08:56

TIME Seconds







TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

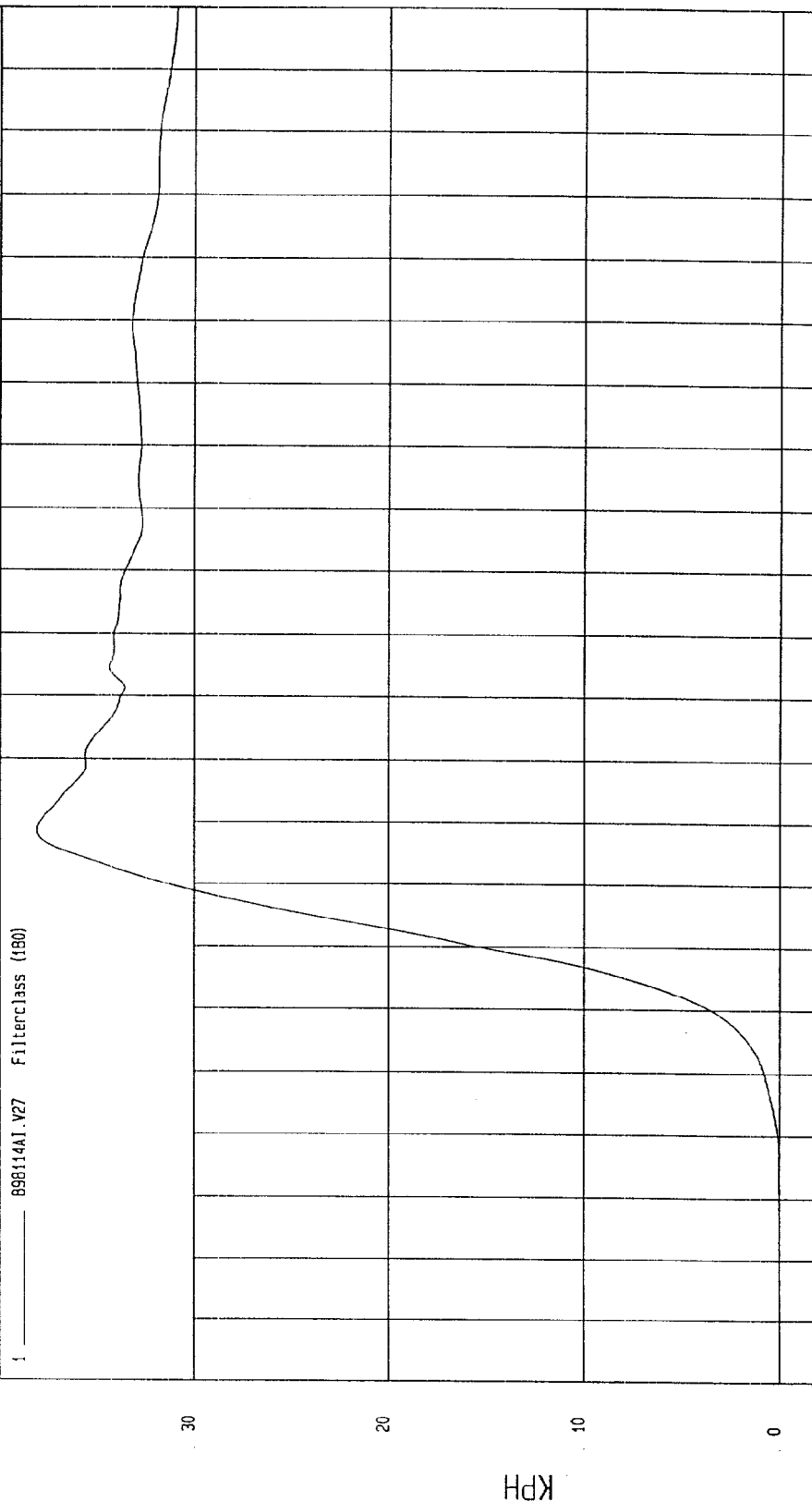
COMPONENT: 1998 HONDA CR-V

Maximum = 38.05 KPH at 68 msec

Minimum = -1.30E-03 KPH at -12 msec

REAR PASSENGER LOWER SPINE Y VELOCITY

1 — 898114A1.V27 Filterclass (480)



MSA Research
12-03-1998 08:56

TIME Seconds

TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

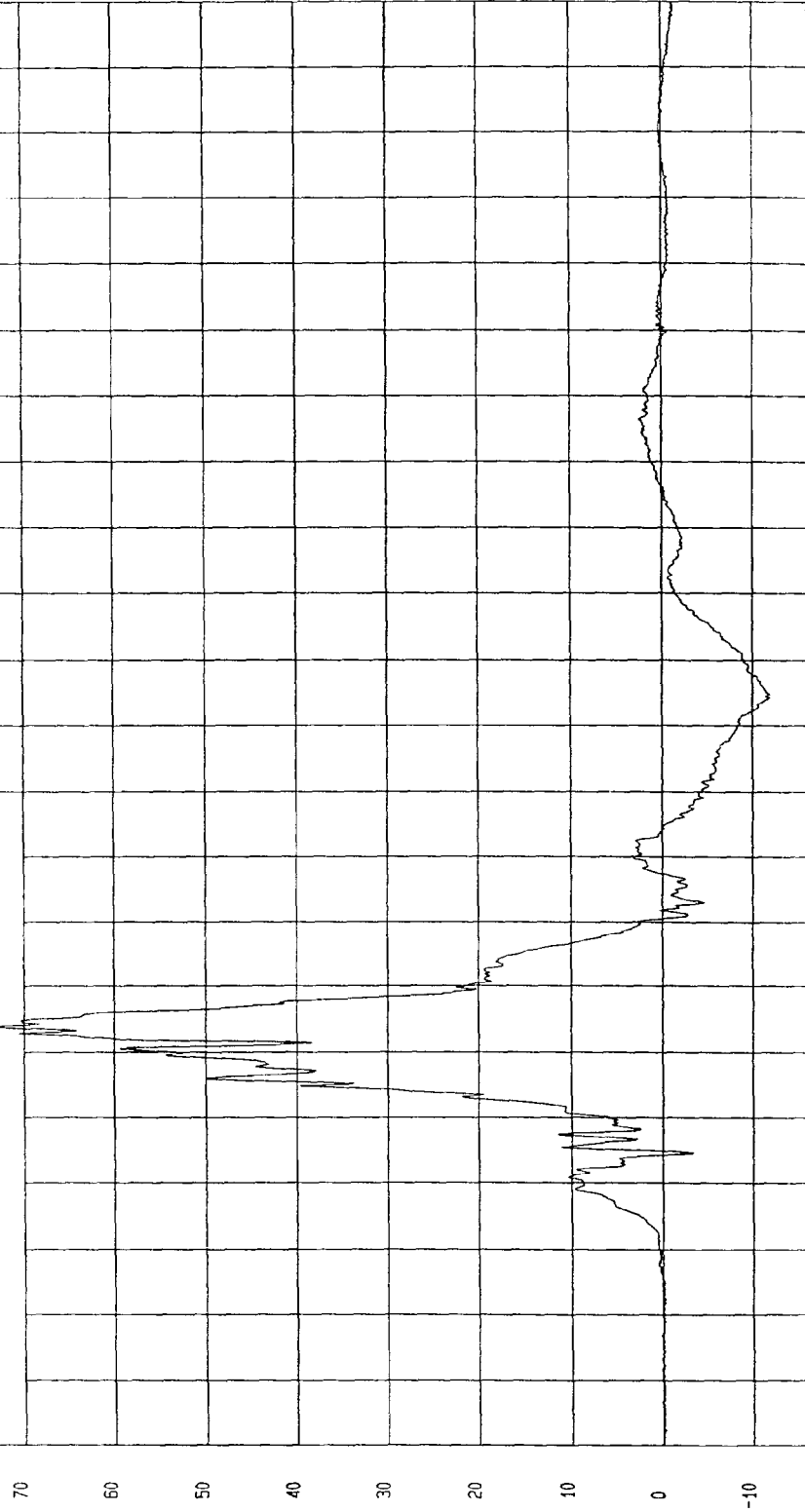
SPEED: 38.4 MPH 61.8 KPH

Maximum = 73.87 G'S at 44 msec

Minimum = -11.73 G'S at 94 msec

REAR PASSENGER PELVIS Y ACCELERATION

898114AT.A28 Filterclass (1000)



MGA Research
12-03-1998 08:34

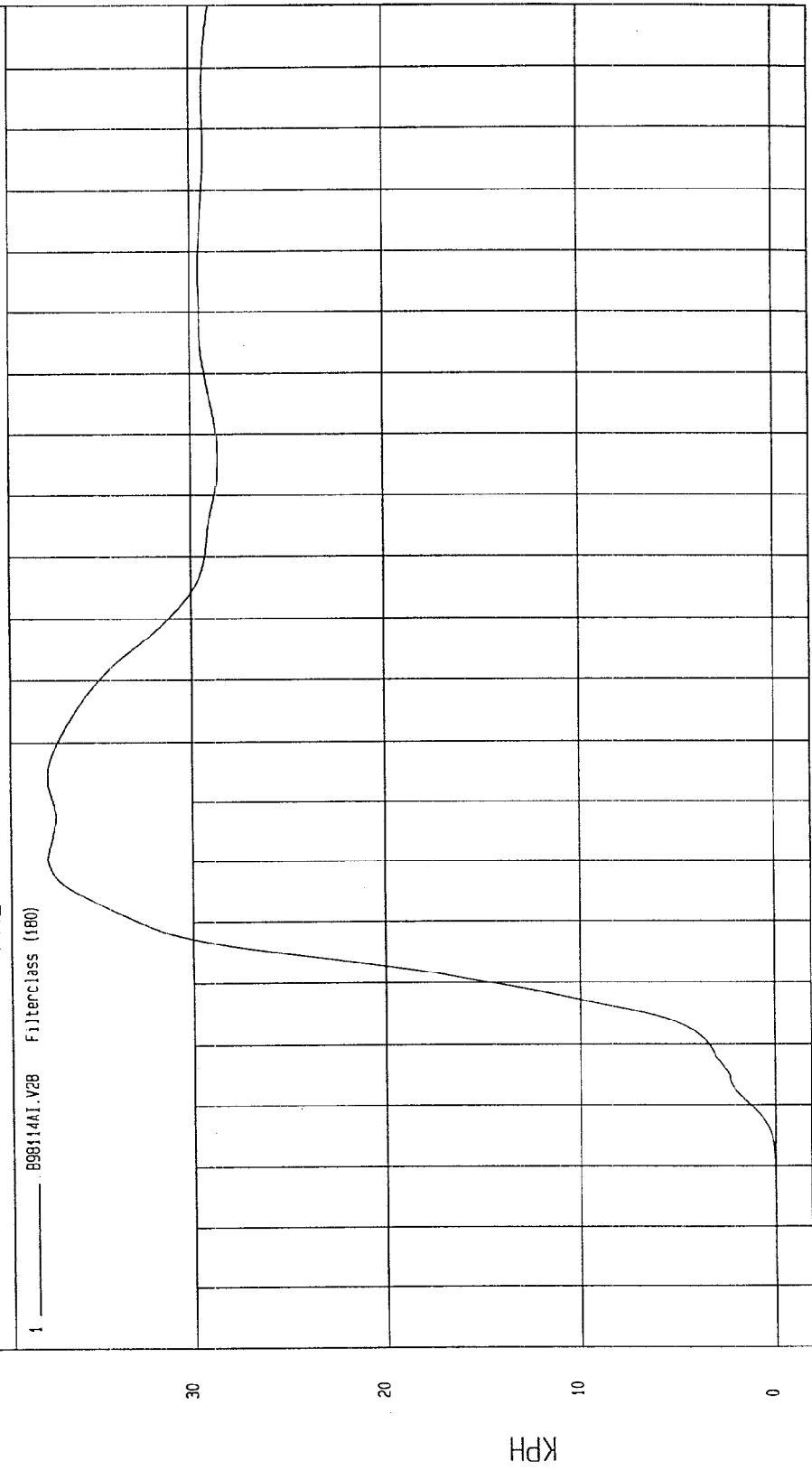
TIME (SECONDS)

G.S

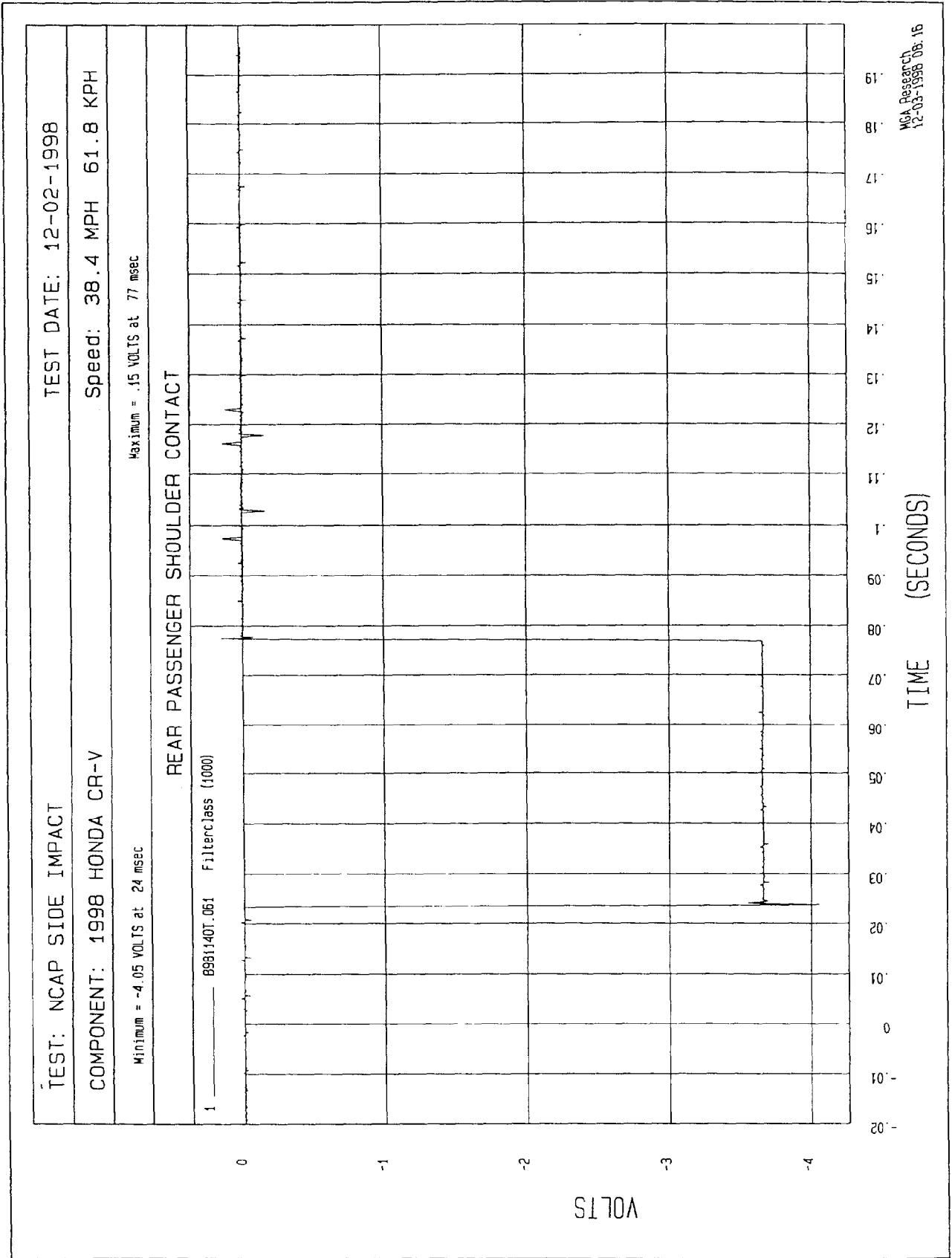
TEST: NCAP SIDE IMPACT
TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V
Speed: 38.4 MPH 61.8 KPH
Minimum = -1.97E-02 KPH at 6 msec
Maximum = 37.47 KPH at 61 msec

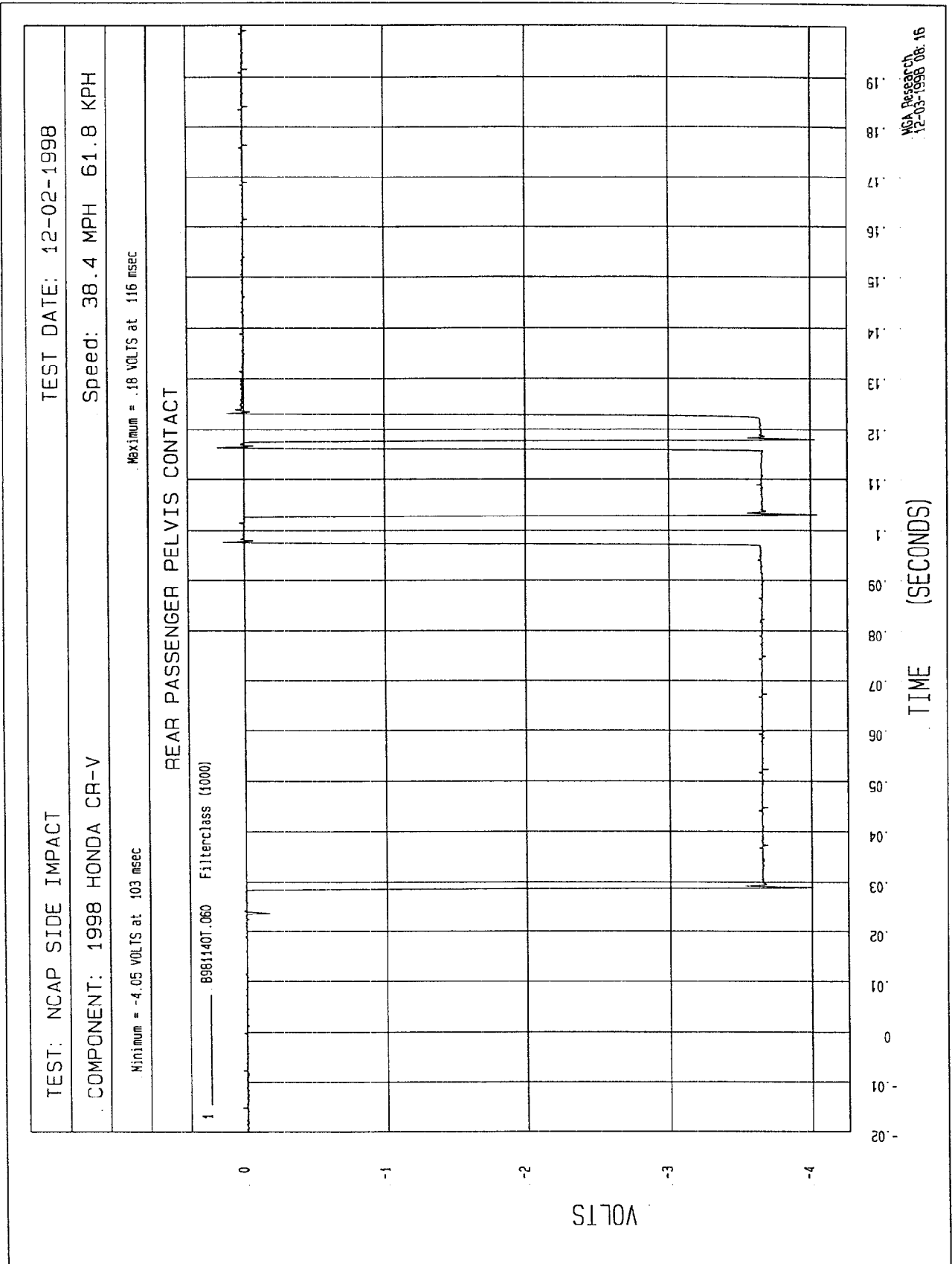
REAR PASSENGER PELVIS Y VELOCITY

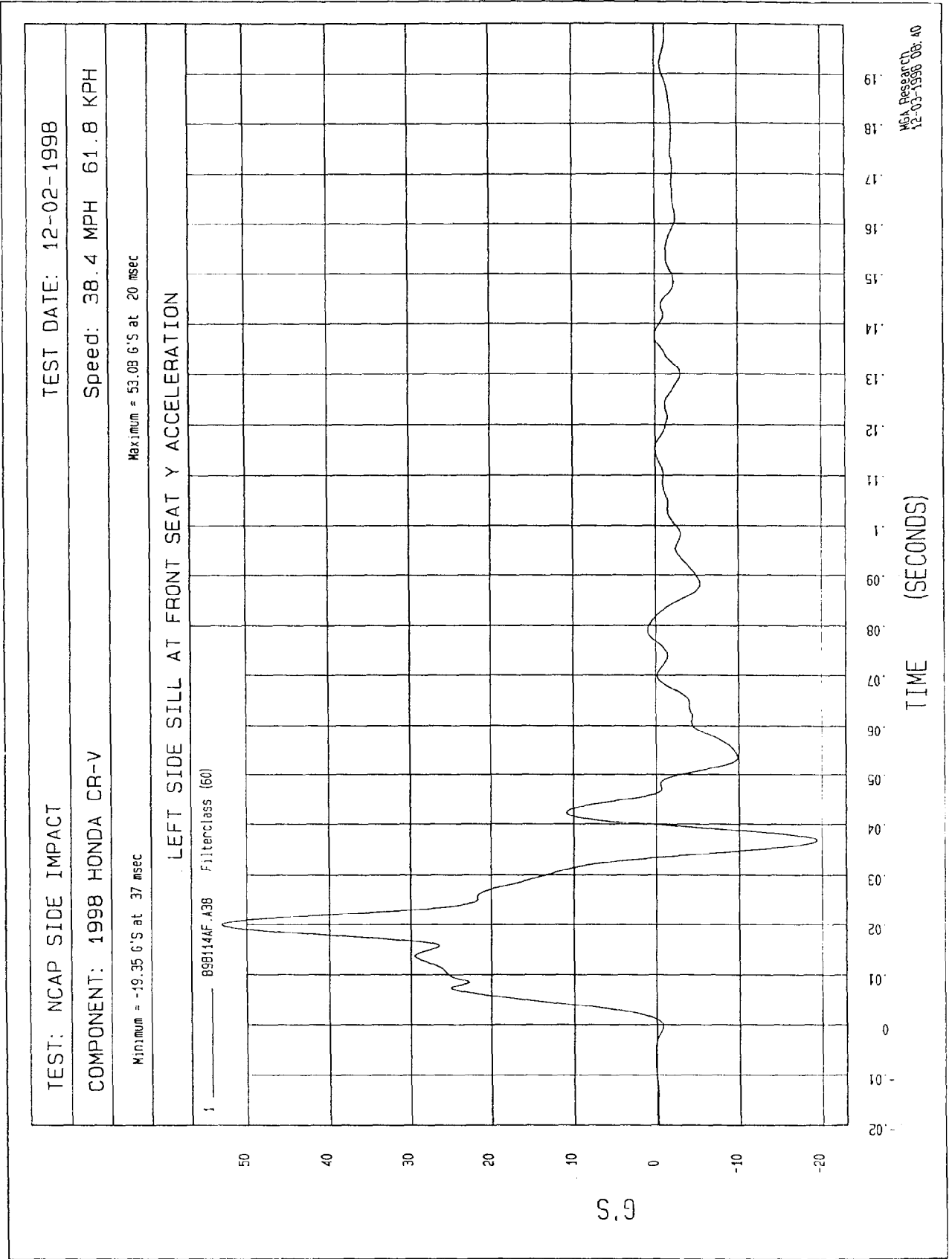
1 ——— B98114A1.V2B Filterclass (180)



TIME Seconds
MSA Research
12-03-1998 08:56







TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

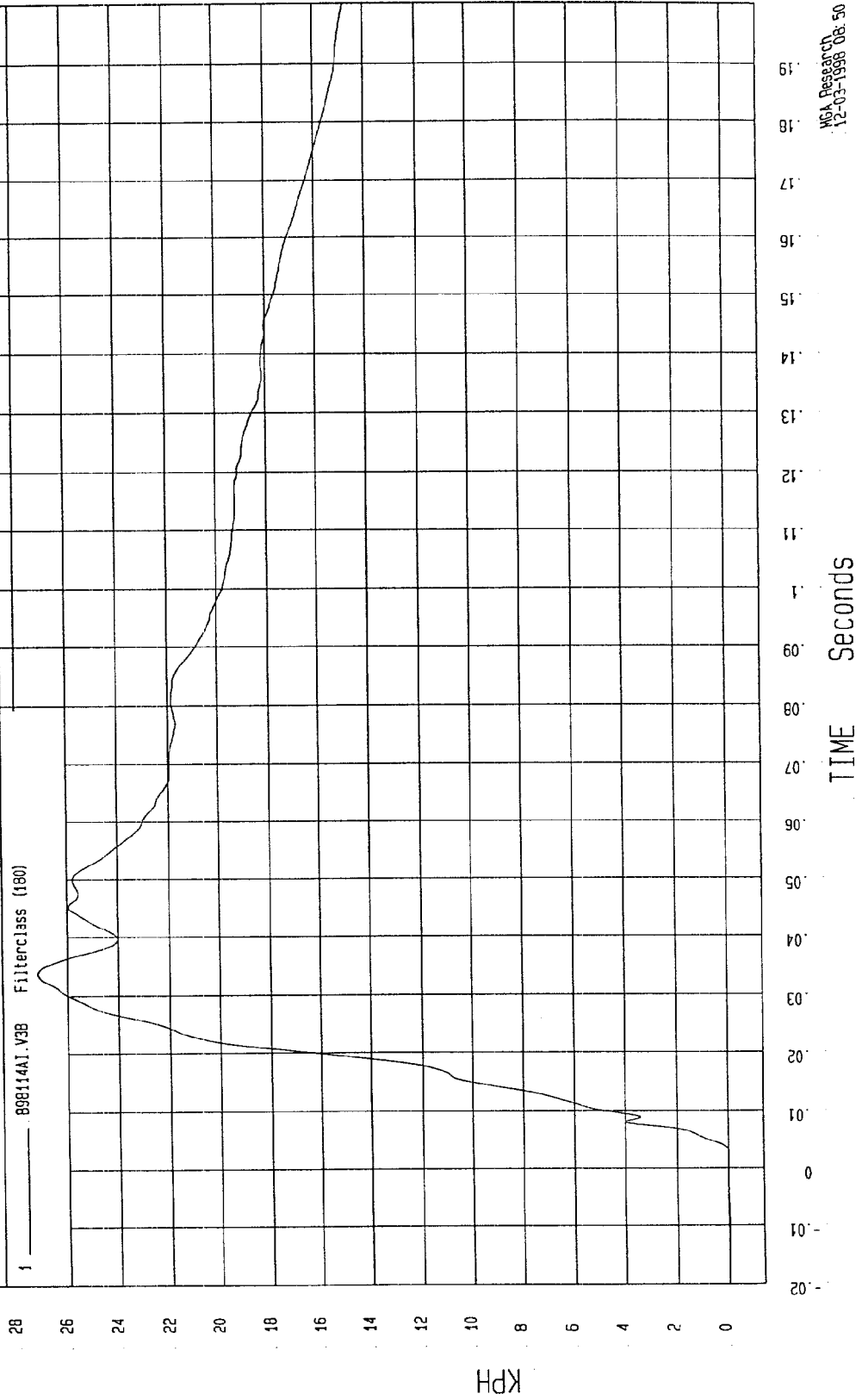
SPEED: 38.4 MPH 61.8 KPH

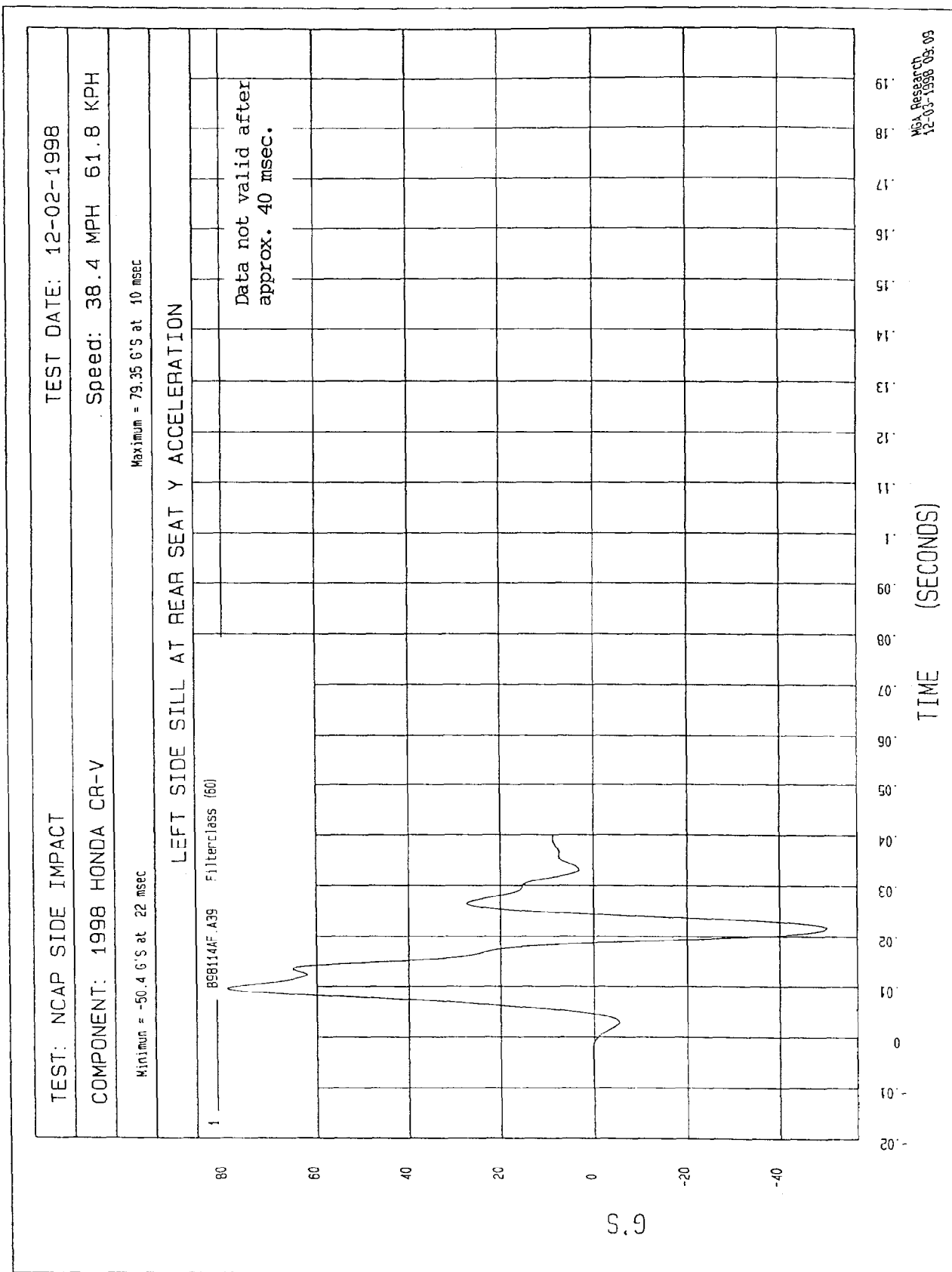
COMPONENT: 1998 HONDA CR-V

Minimum = -4.12E-02 KPH at -10 msec

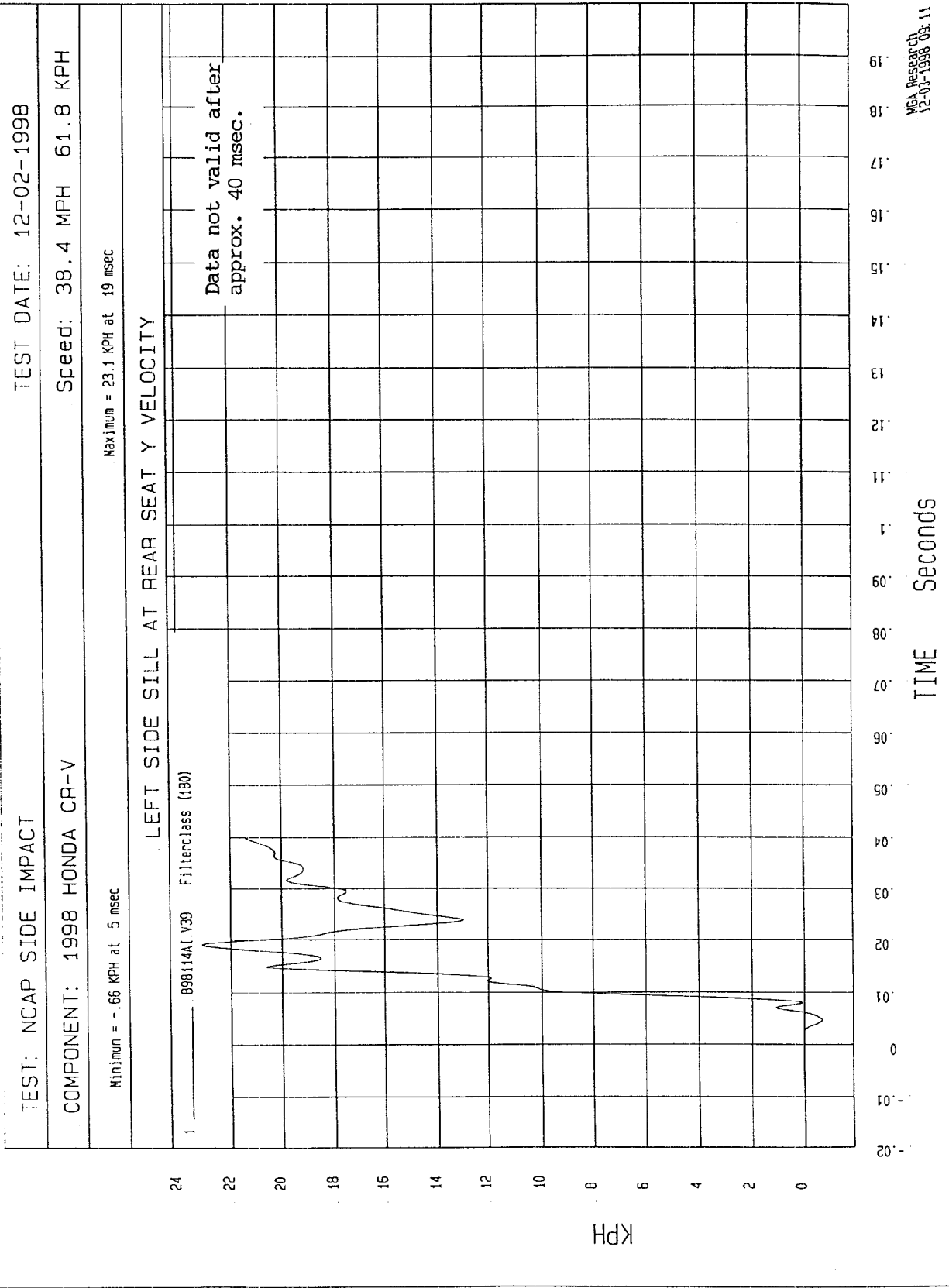
Maximum = 27.16 KPH at 34 msec

LEFT SIDE SILL AT FRONT SEAT Y VELOCITY





MSA Research
12-03-1998 09:09



TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

Maximum = 1.6 G'S at 34 msec

TEST: NCAP SIDE IMPACT

COMPONENT: 1998 HONDA CR-V

Minimum = -8.35 G'S at 15 msec

RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION

1 B98112AF.A32 Filterclass [60]

Data not valid after approx. 65 msec.

2

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G.S

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TIME (SECONDS)

MCA Research
12-03-1998 09:15

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = .15 KPH at 8 msec

Minimum = -2.55 KPH at 50 msec

RIGHT SIDE SILL AT FRONT SEAT X VELOCITY

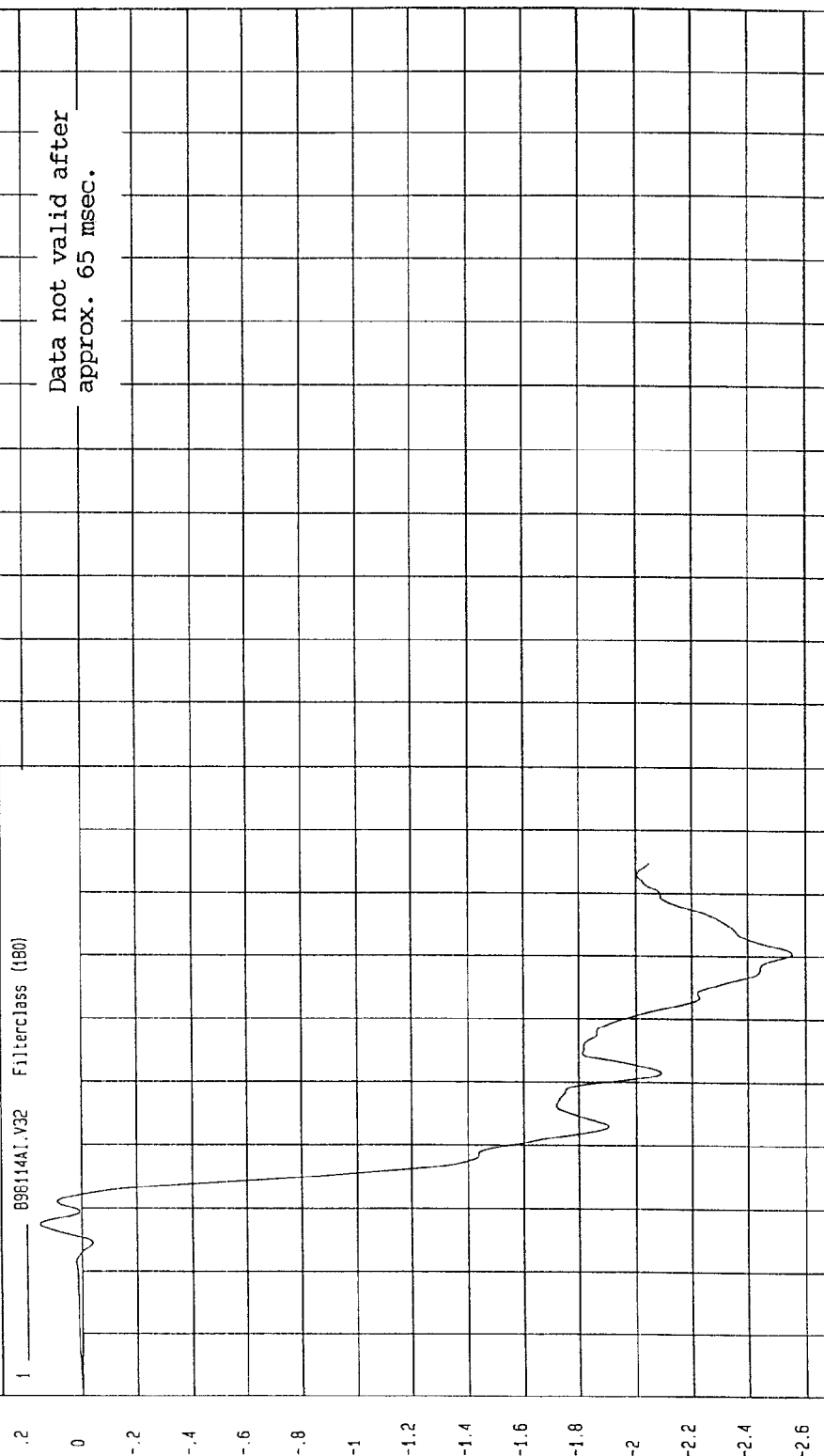
1 896114A1.V32 Filterclass (180)

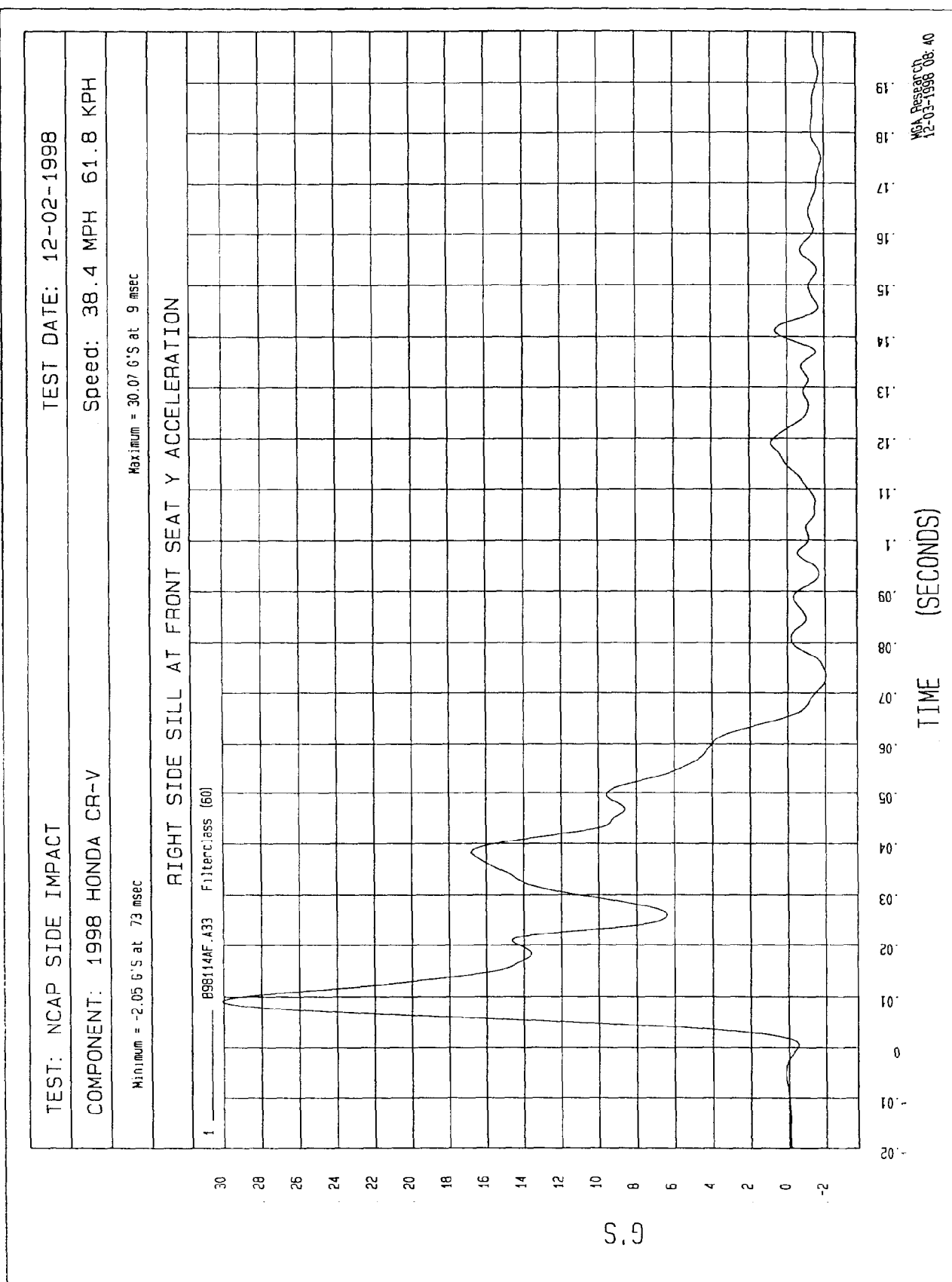
Data not valid after
approx. 65 msec.

KPH

TIME Seconds

MCA Research
12-03-1998 09.17





TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

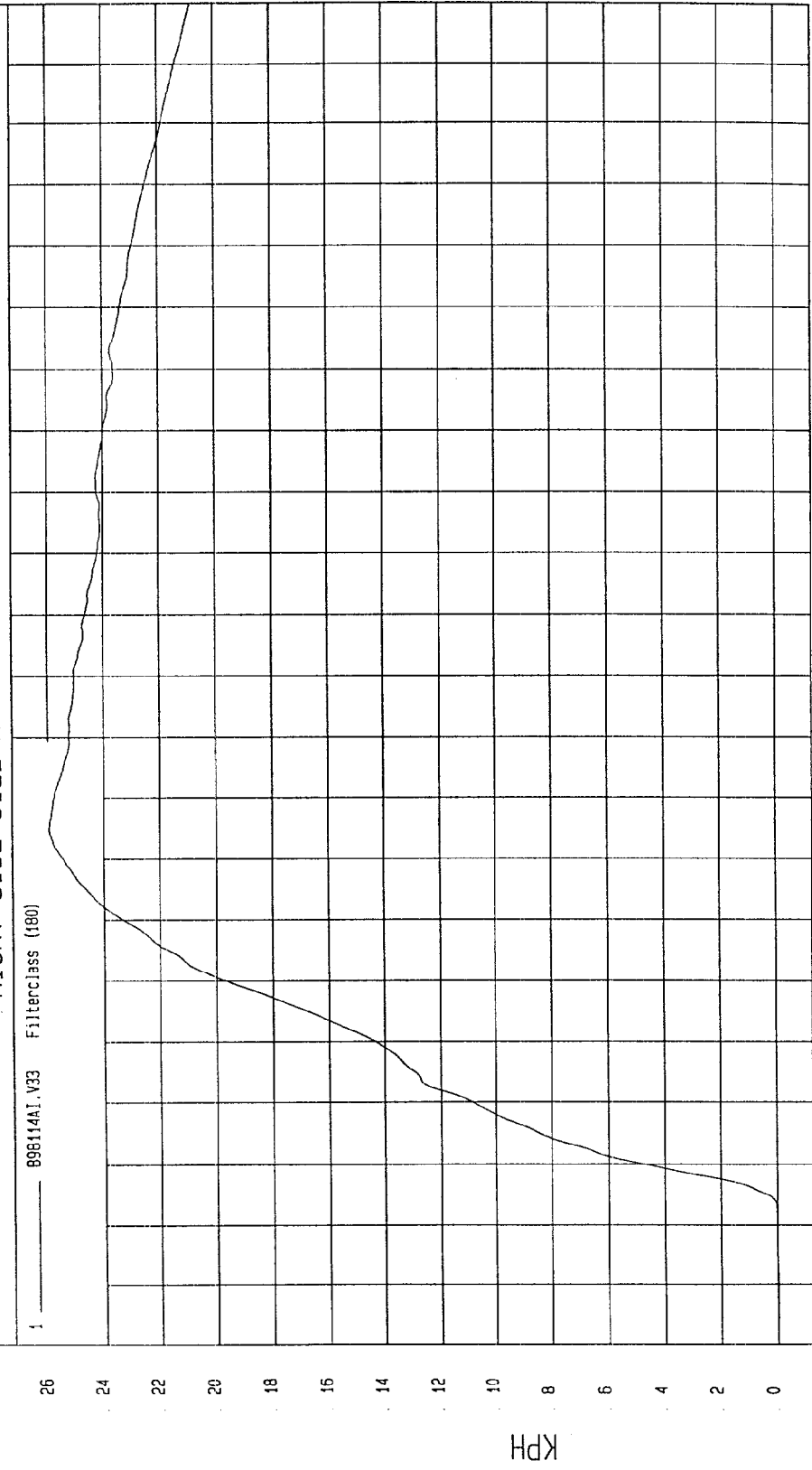
COMPONENT: 1998 HONDA CR-V

Maximum = 25.97 KPH at 65 msec

Minimum = -2.27E-02 KPH at -9 msec

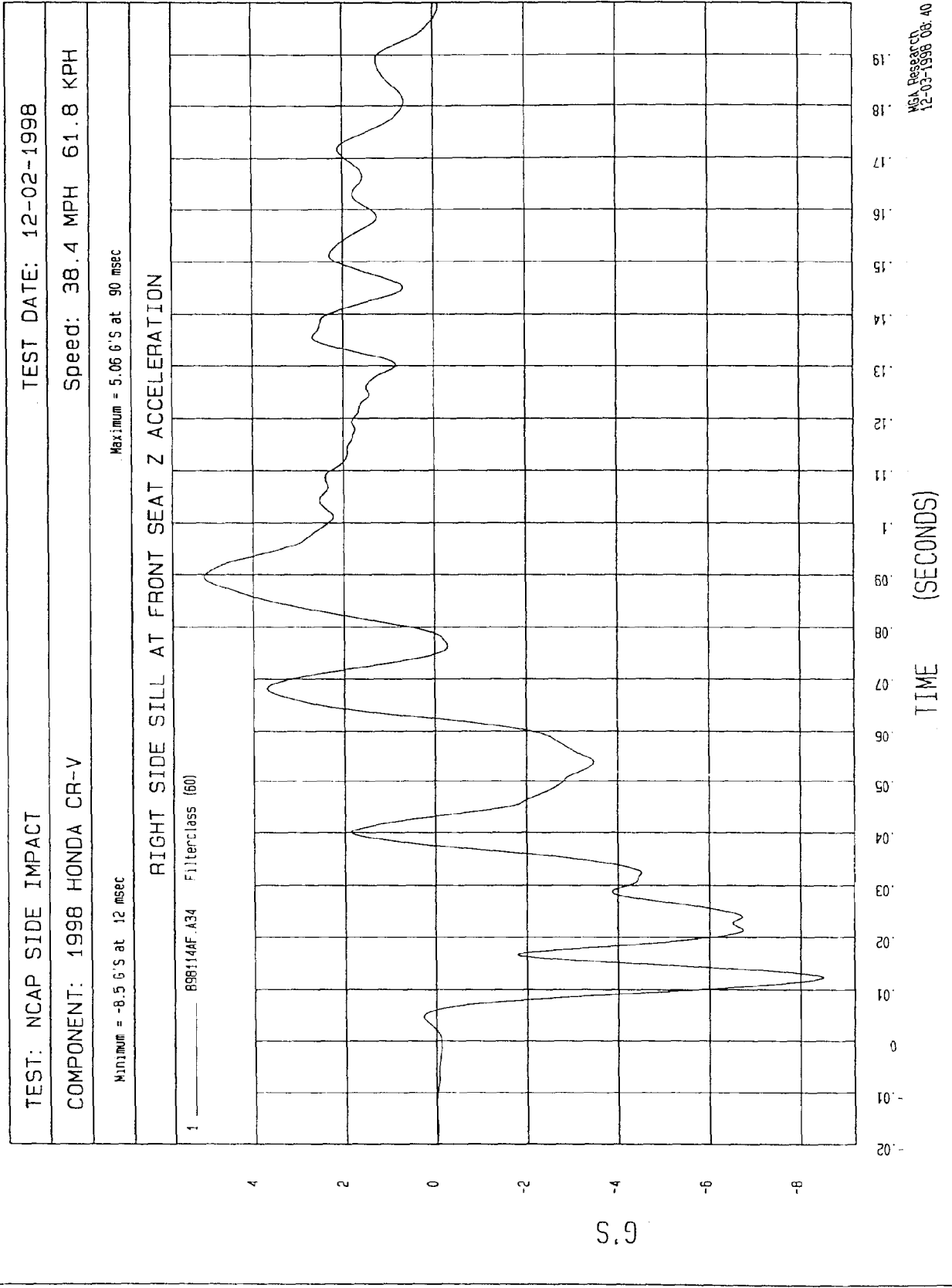
RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY

1 998114A1.V33 Filterclass (180)



MSA Research
12-03-1998 08:50

TIME Seconds



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

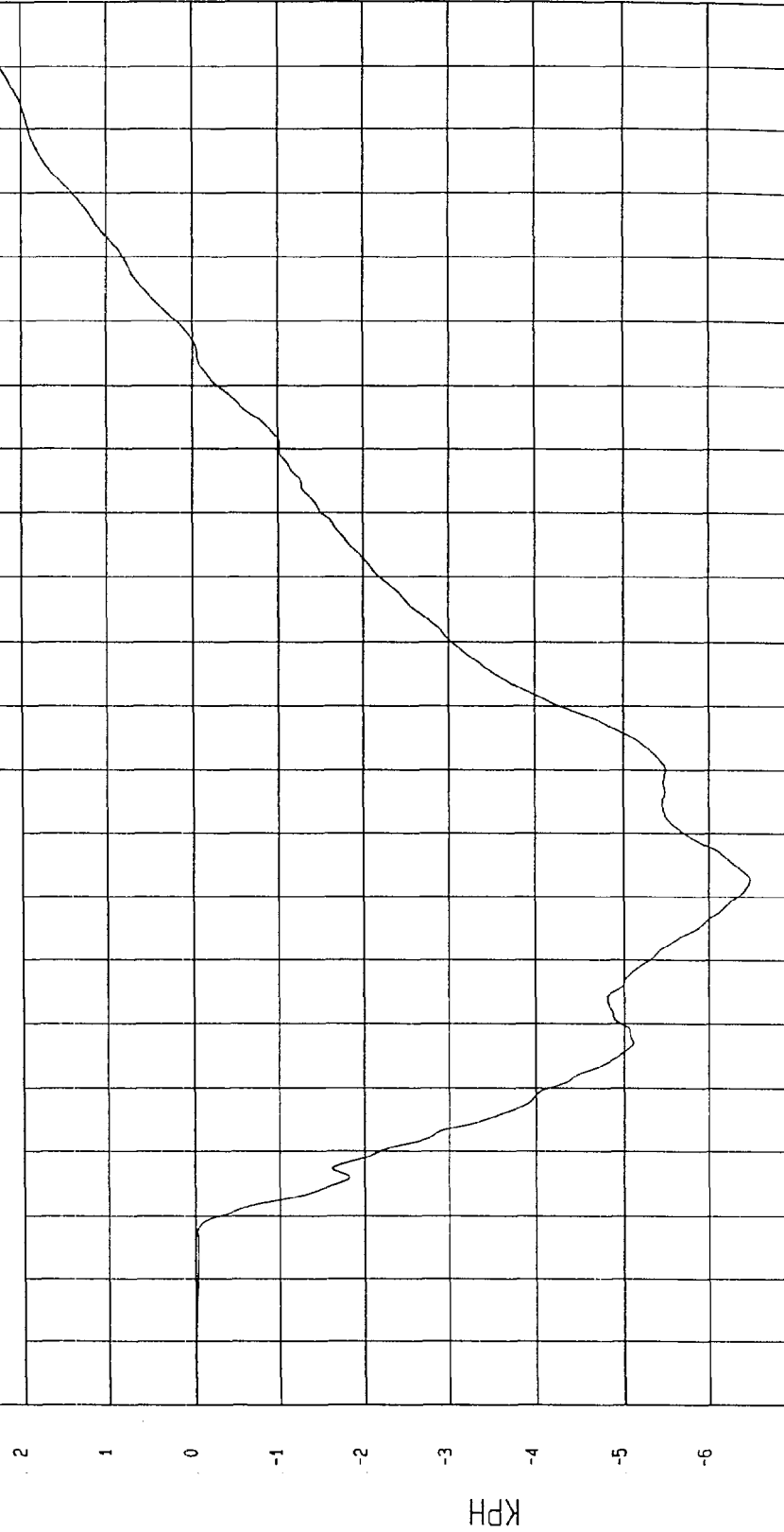
COMPONENT: 1998 HONDA CR-V

Maximum = 2.38 KPH at 197 msec

Minimum = -6.47 KPH at 63 msec

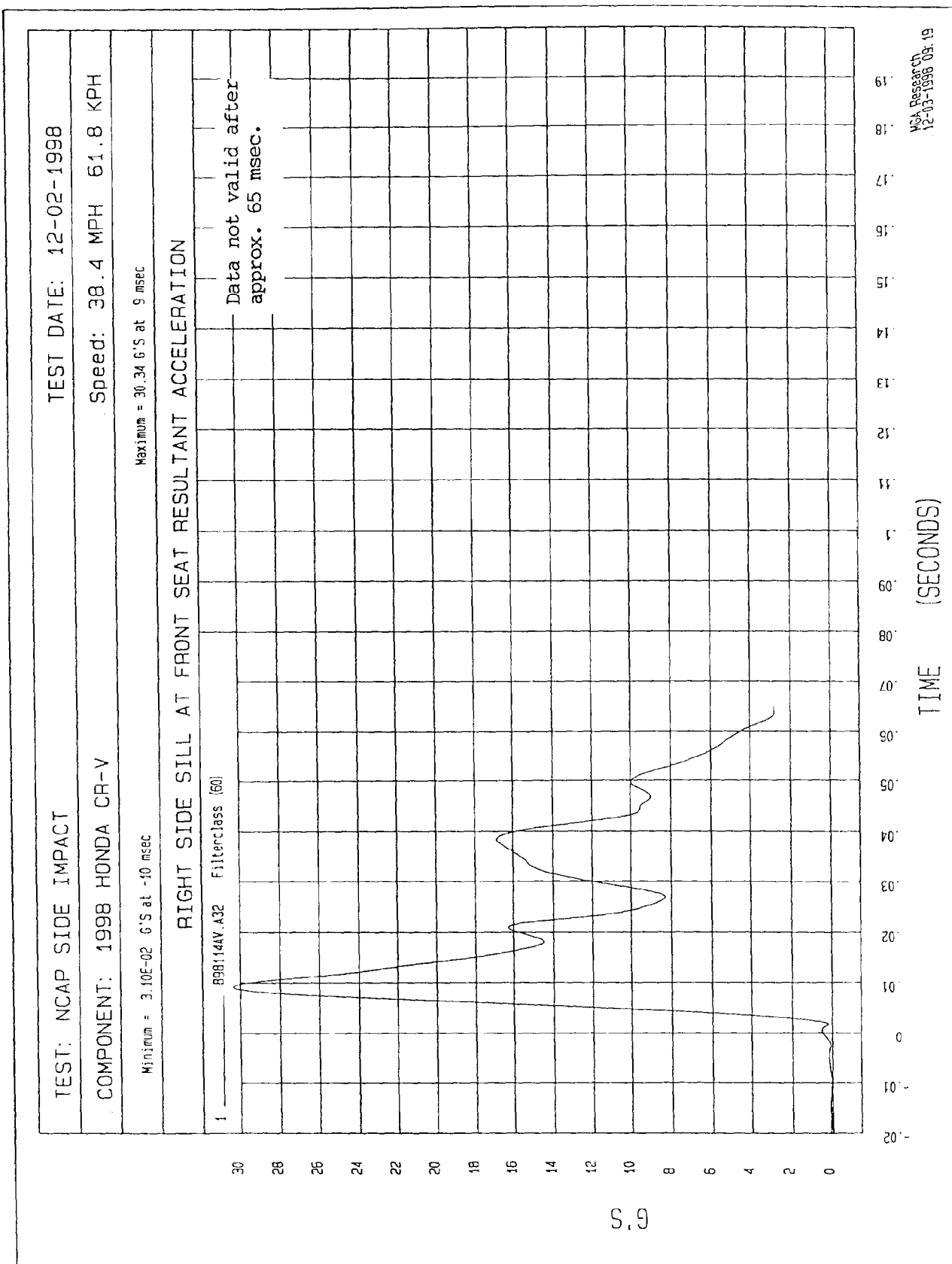
RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY

1 998114A1.V34 Filterclass (180)



TIME Seconds

MSA Research
12-03-1998 08:50



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

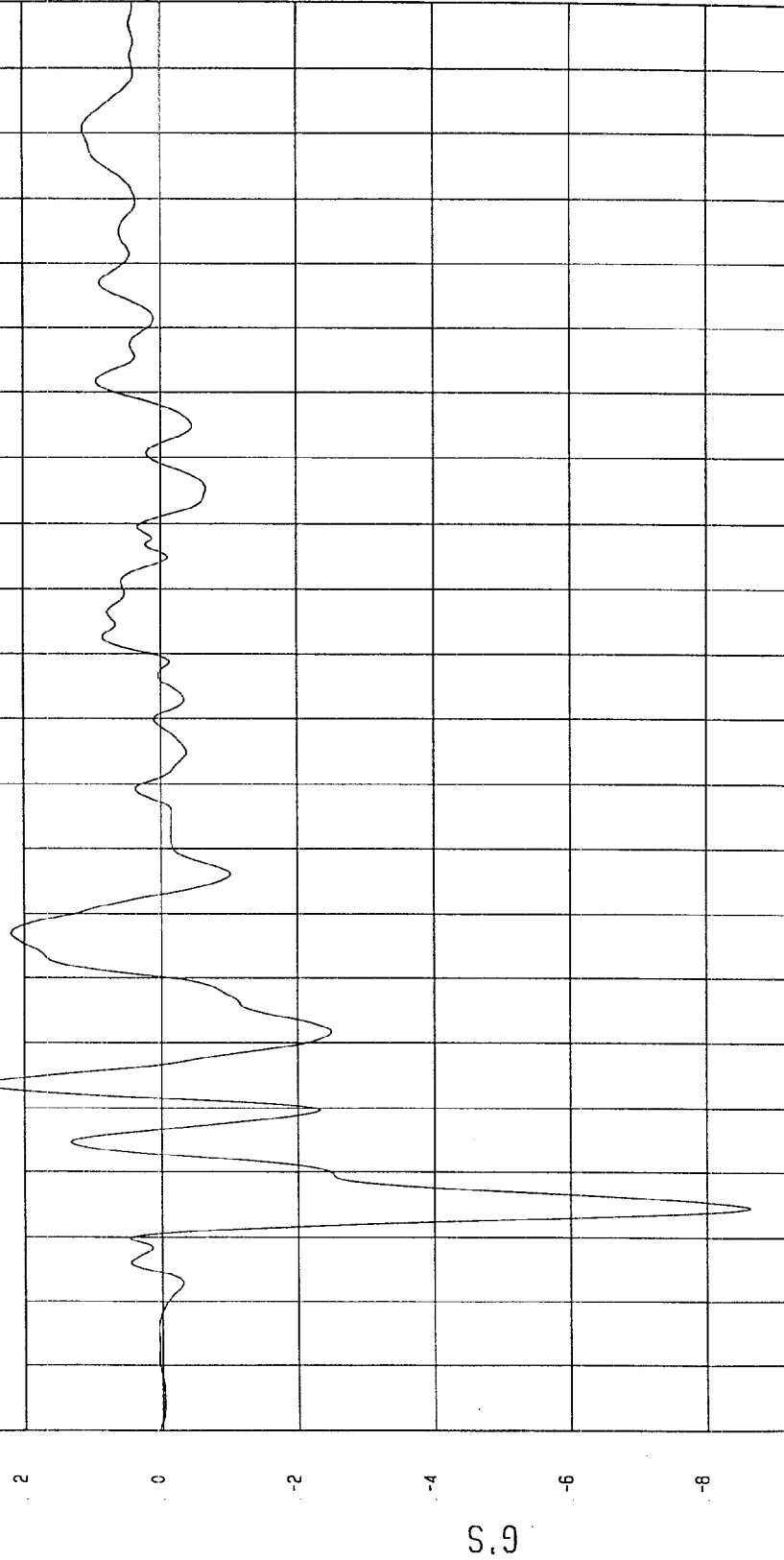
COMPONENT: 1998 HONDA CR-V

Maximum = 2.64 G'S at 34 msec

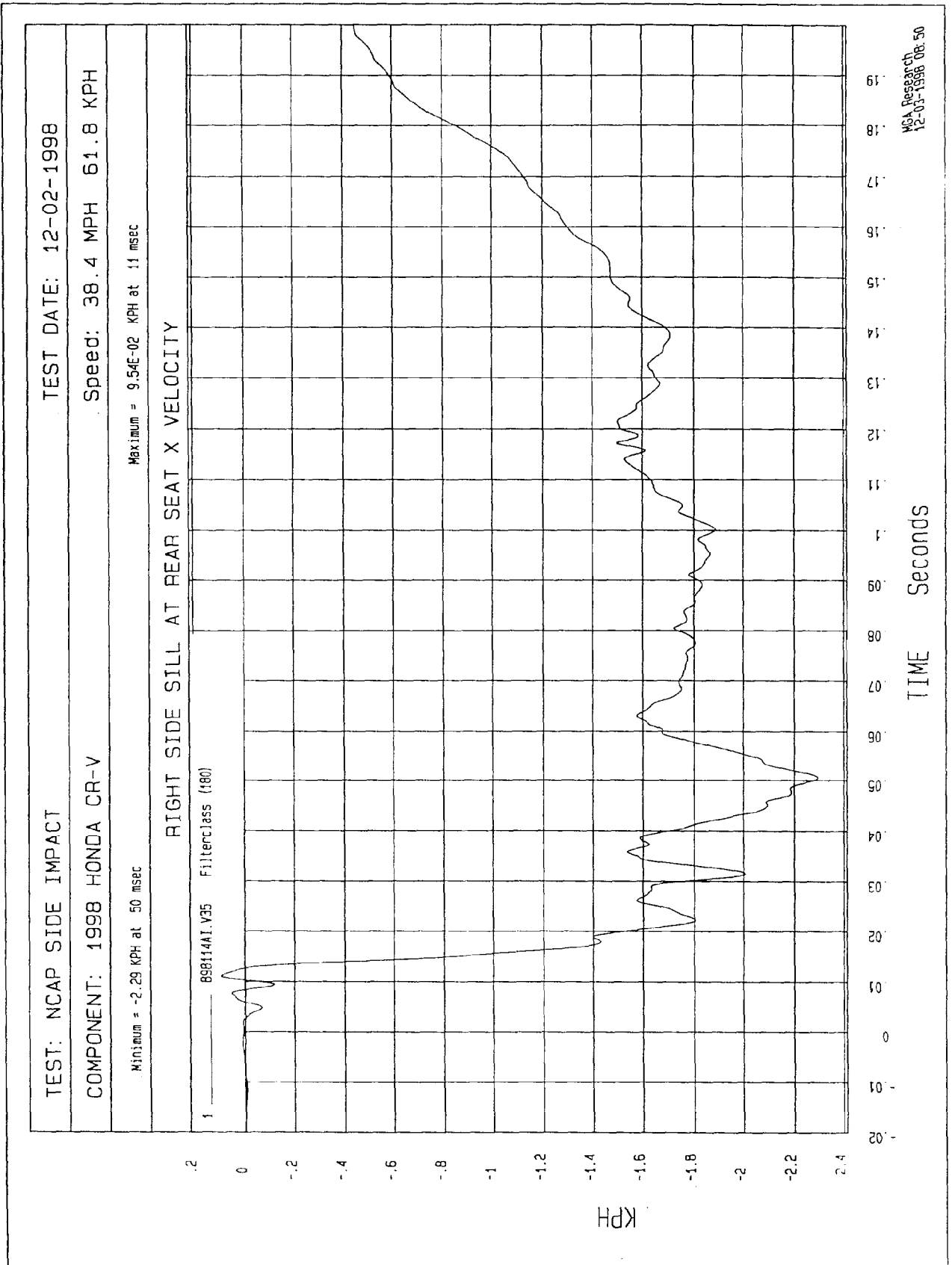
Minimum = -8.64 G'S at 15 msec

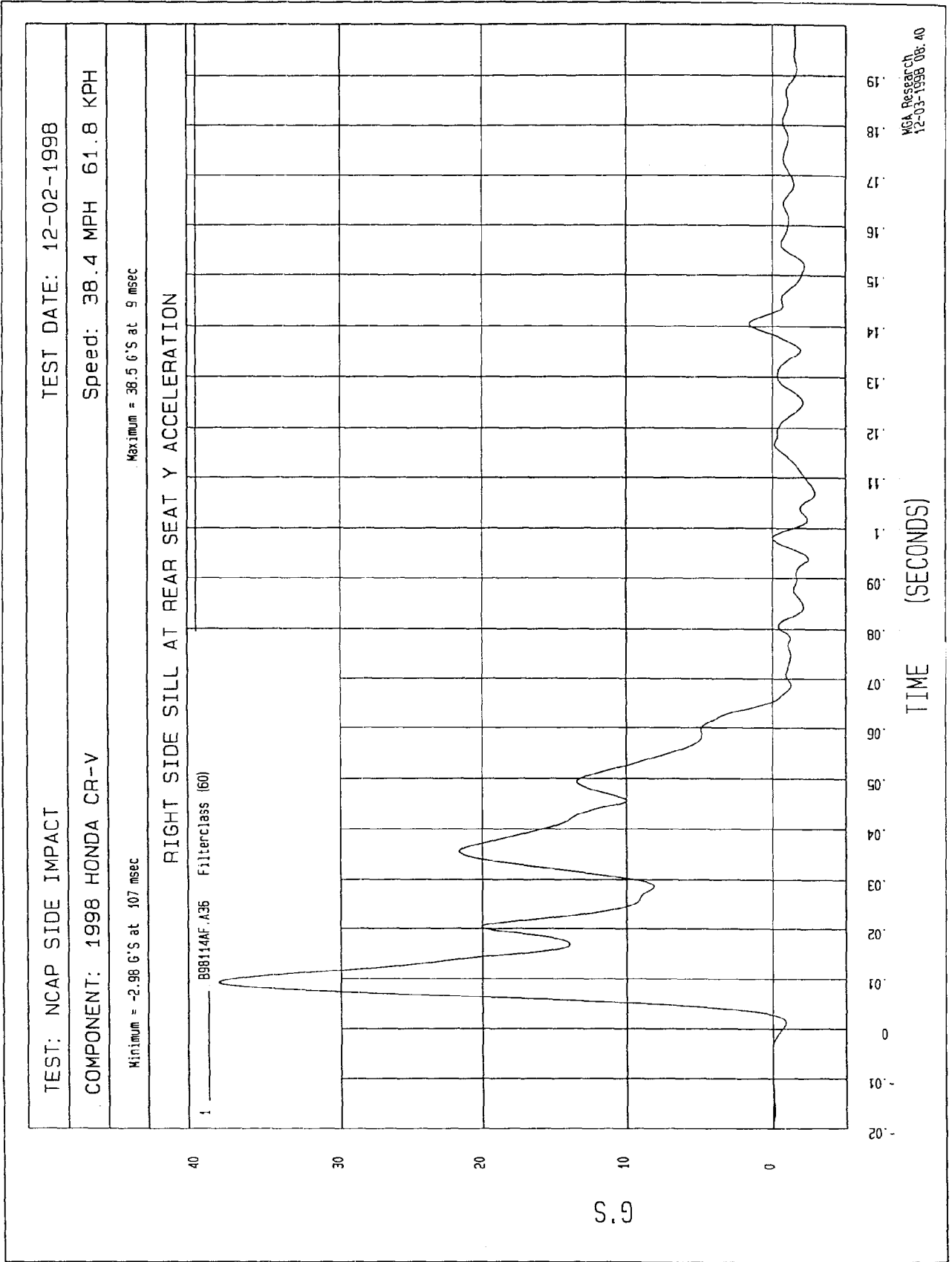
RIGHT SIDE SILL AT REAR SEAT X ACCELERATION

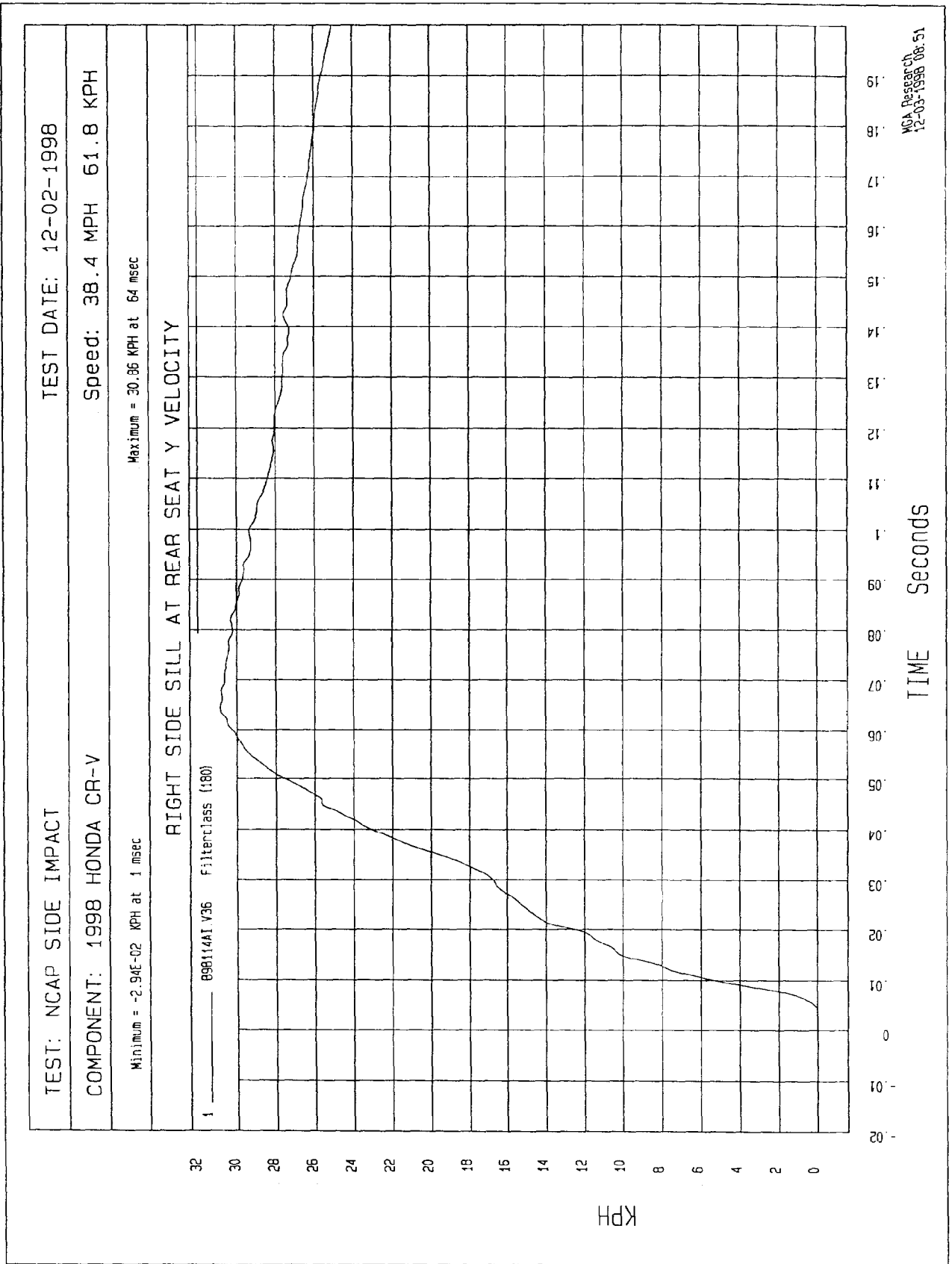
1 ——— 898114AF.A35 Filterclass (60)



WCA Research
12-03-1998 08:40







TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

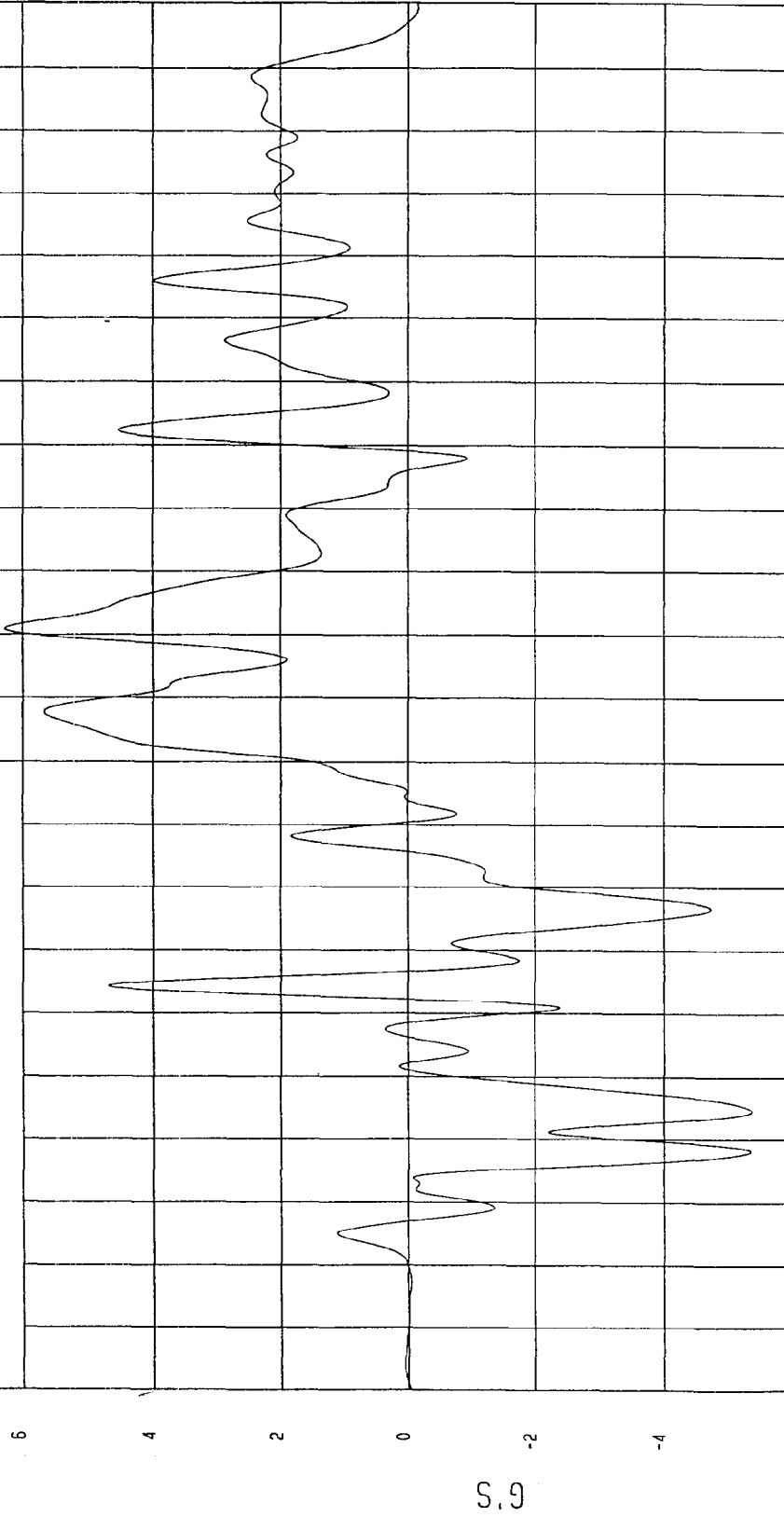
COMPONENT: 1998 HONDA CR-V

Maximum = 6.28 G'S at 101 msec

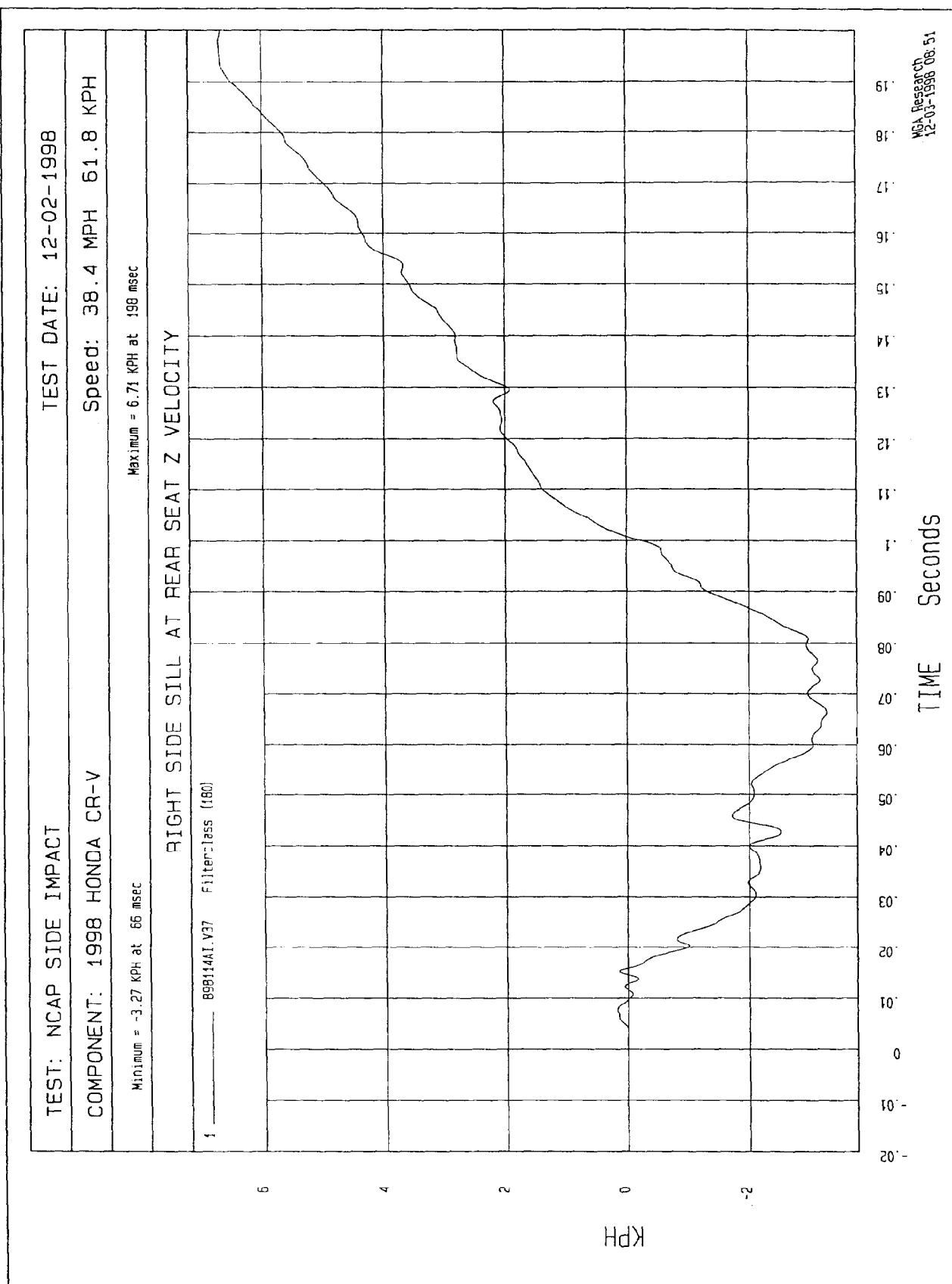
Minimum = -5.36 G'S at 25 msec

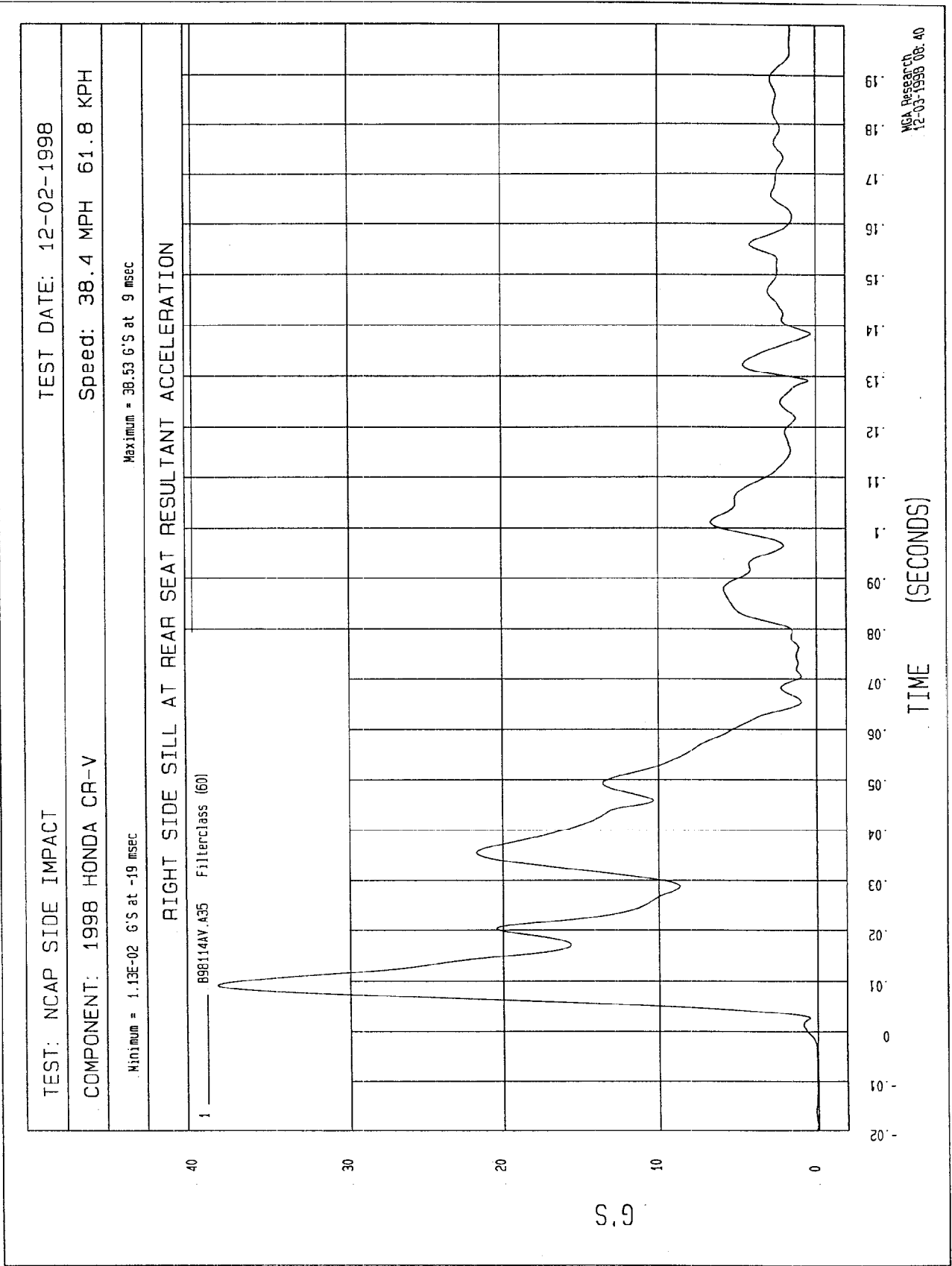
RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION

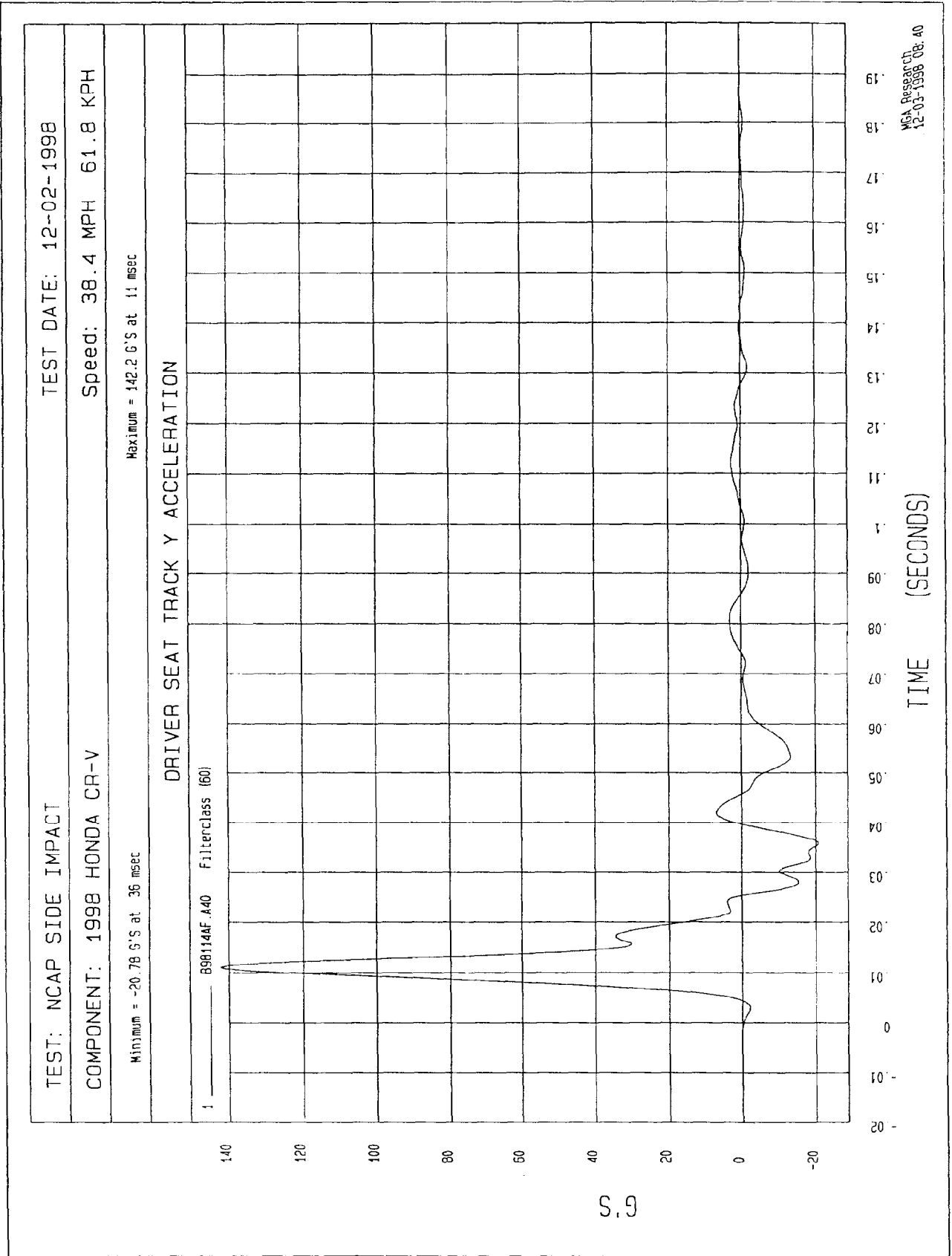
1 ——— B98114AF.A37 Filterclass (50)



MCA Research
12-03-1998 08:40







TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

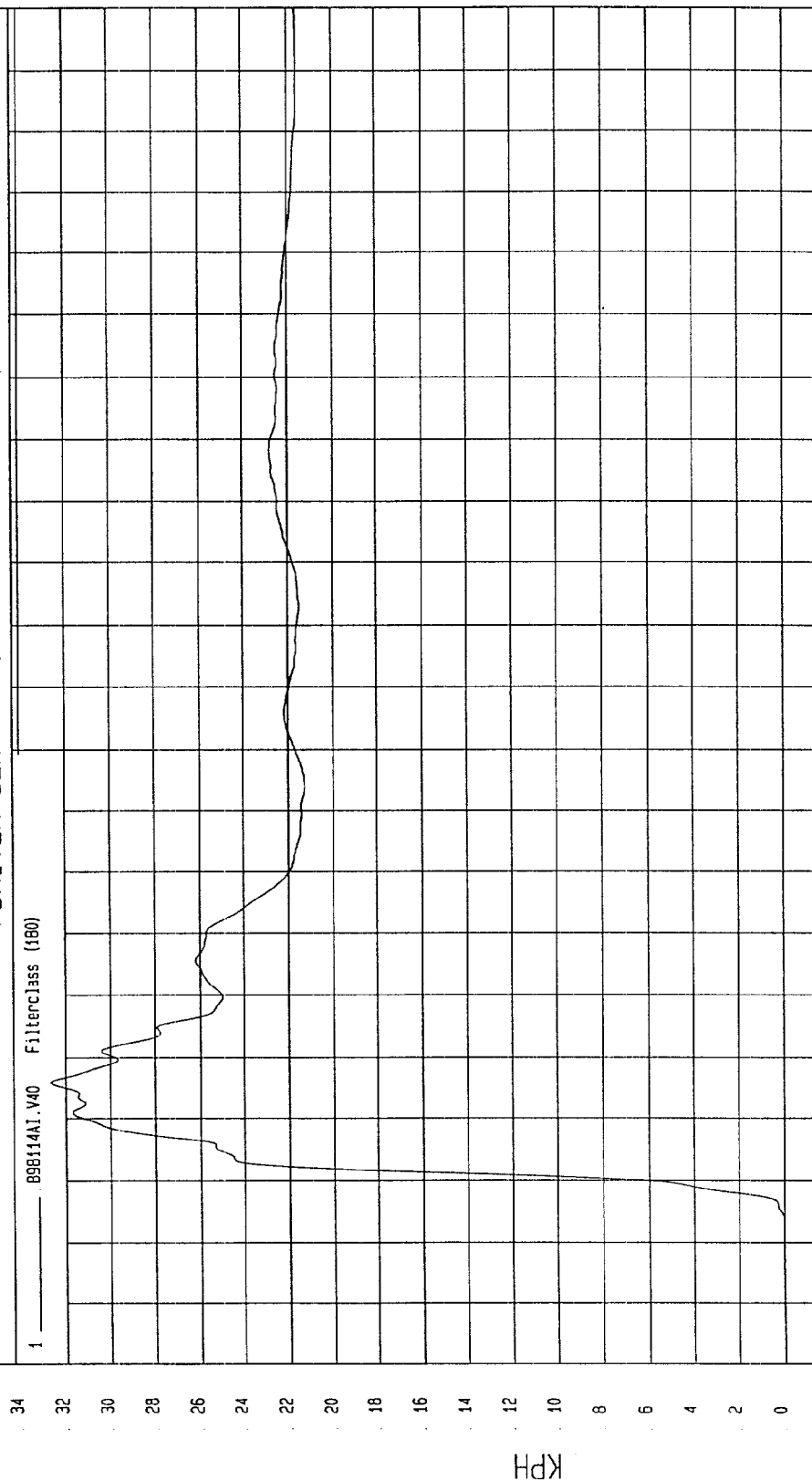
Speed: 38.4 MPH 61.8 KPH

Minimum = -1.54E-02 KPH at 3 msec

Maximum = 32.65 KPH at 26 msec

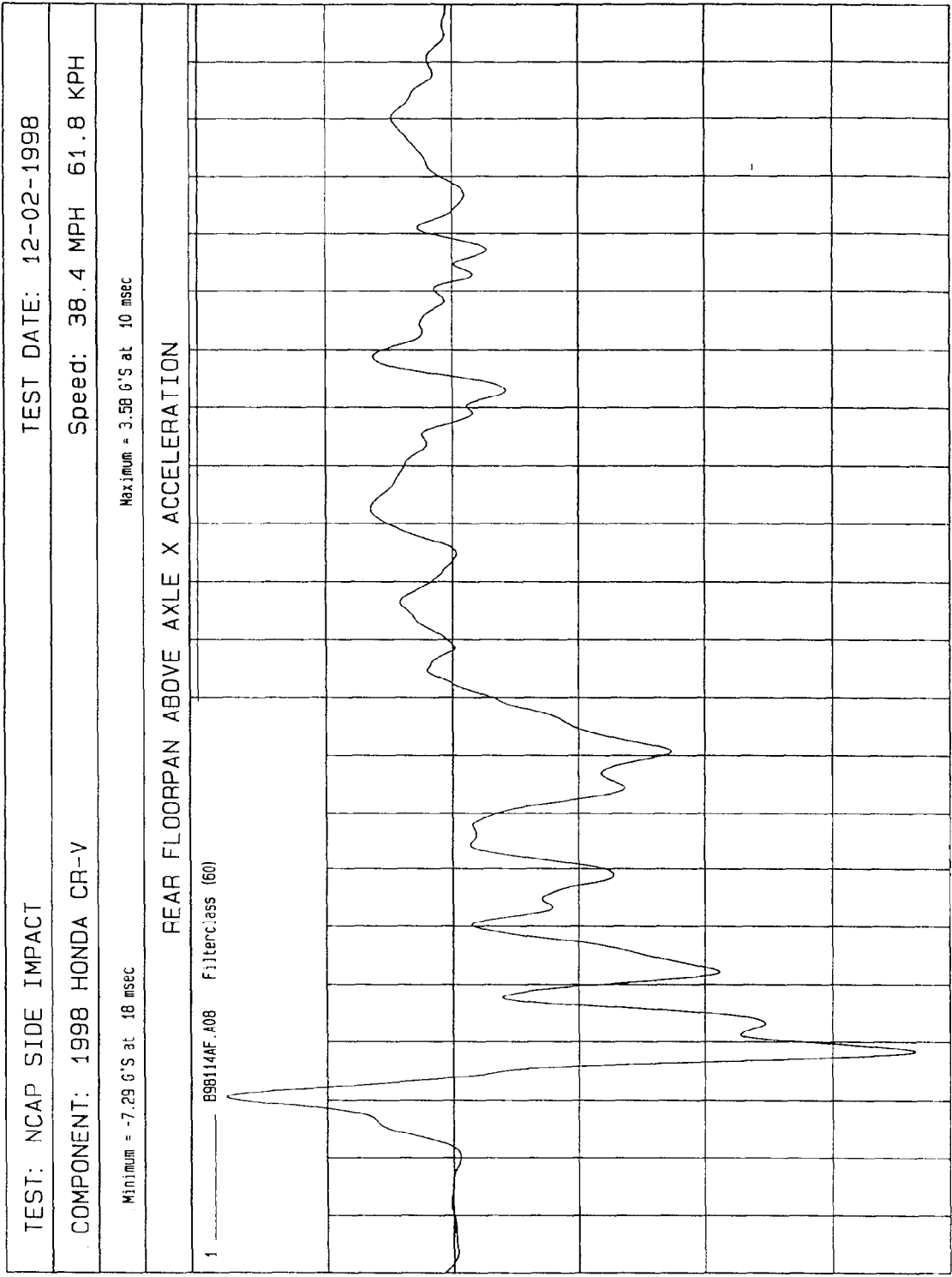
DRIVER SEAT TRACK Y VELOCITY

1 B9B14A1.V40 FilterClass (180)



MCA Research
12-03-1998 08:51

TIME Seconds

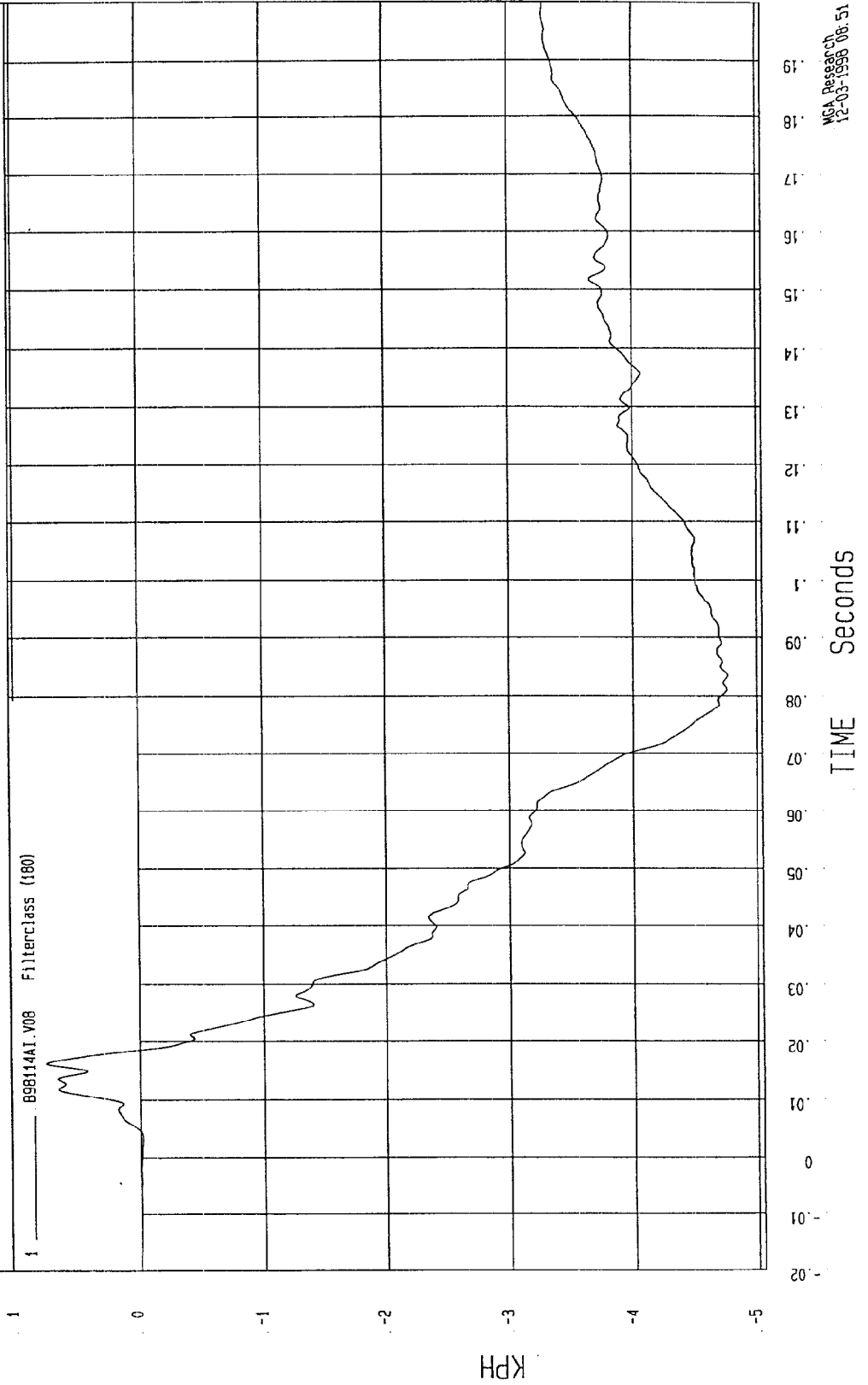


TIME (SECONDS)

MSA Research
12-03-1998 08:40

TEST: NCAP SIDE IMPACT
TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V
Speed: 38.4 MPH 61.8 KPH
Minimum = -4.77 KPH at 84 msec
Maximum = .76 KPH at 16 msec

REAR FLOORPAN ABOVE AXLE X VELOCITY



MCA Research
12-03-1998 08:51

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

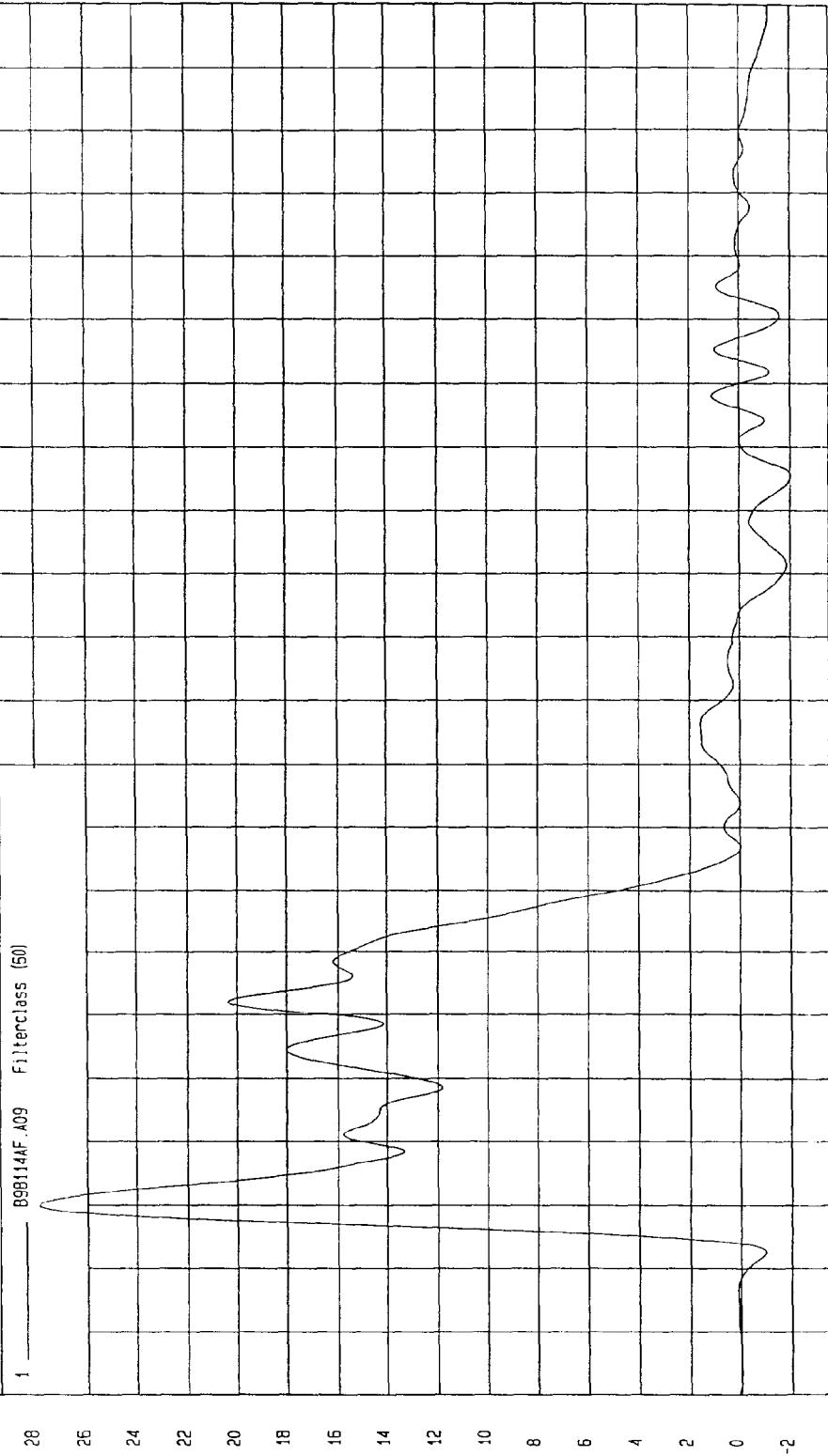
COMPONENT: 1998 HONDA CR-V

Maximum = 27.87 G'S at 10 msec

Minimum = -2.03 G'S at 125 msec

REAR FLOORPAN ABOVE AXLE Y ACCELERATION

1 ——— B98114AF A09 Filterclass (50)



MCA Research
12-03-1998 08:40

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

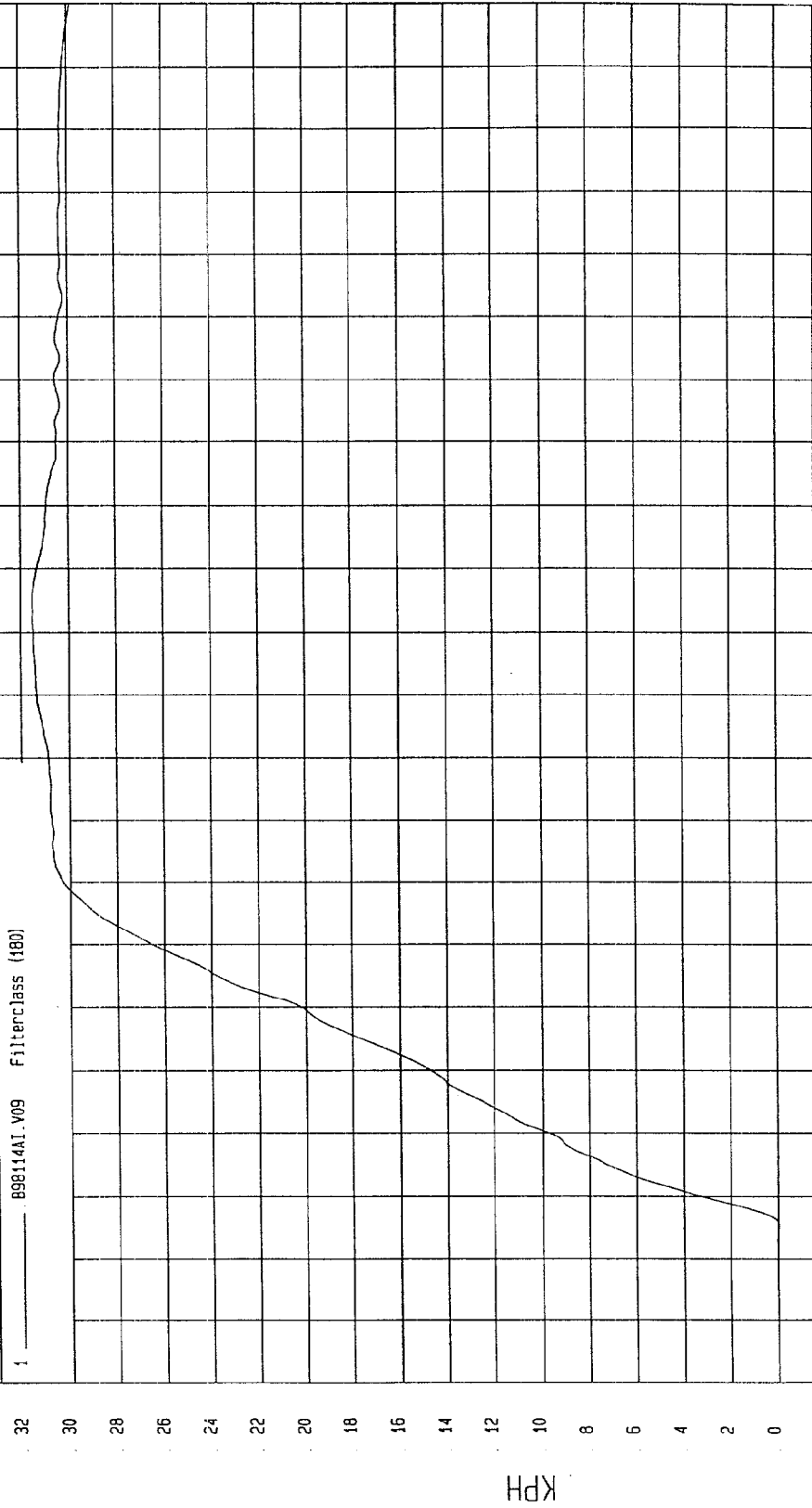
COMPONENT: 1998 HONDA CR-V

Maximum = 31.51 KPH at 106 msec

Minimum = -3.87E-02 KPH at 5 msec

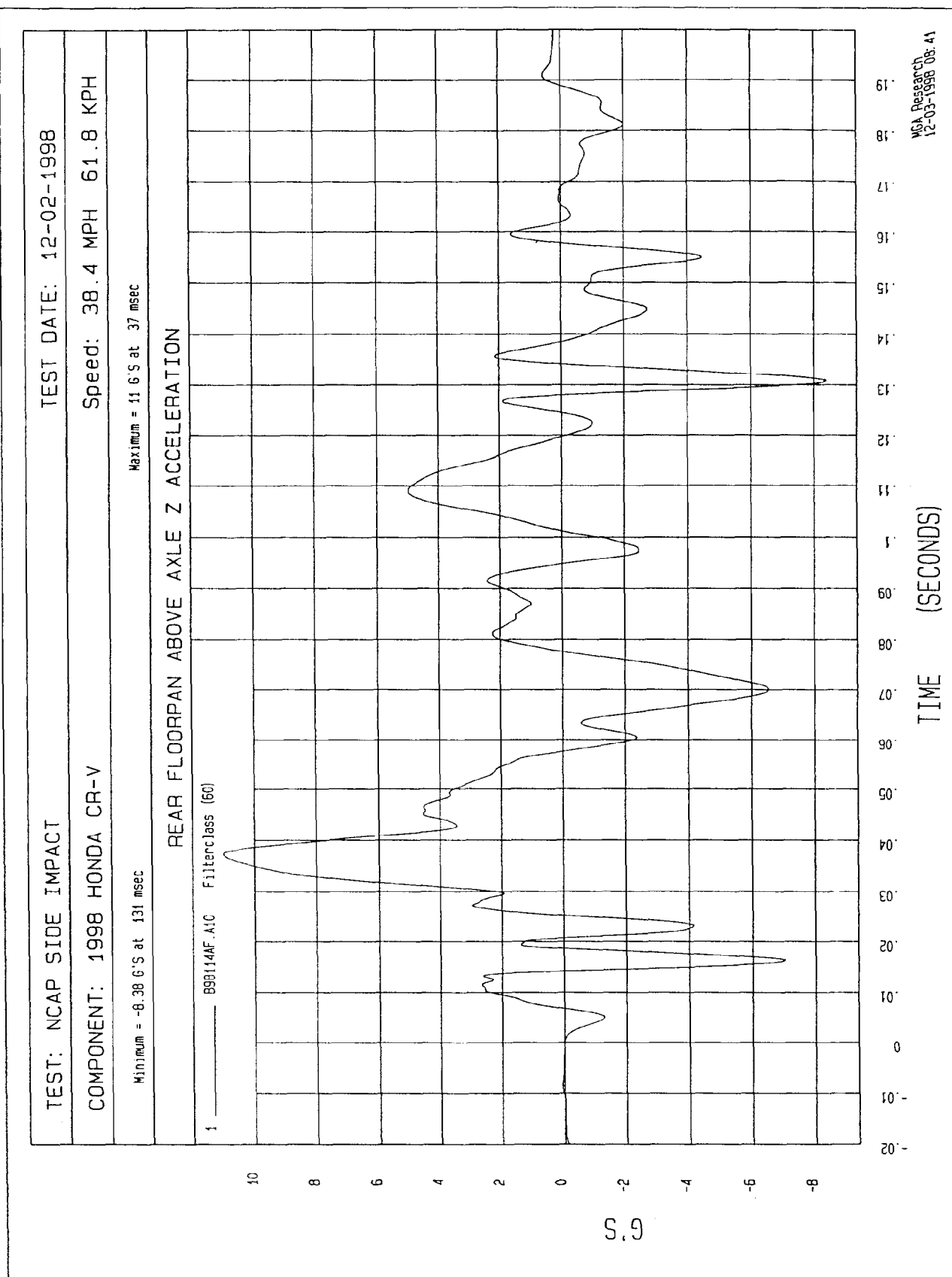
REAR FLOORPAN ABOVE AXLE Y VELOCITY

1 B981441.V09 Filterclass (180)



MCA Research
12-03-1998 08:51

TIME Seconds



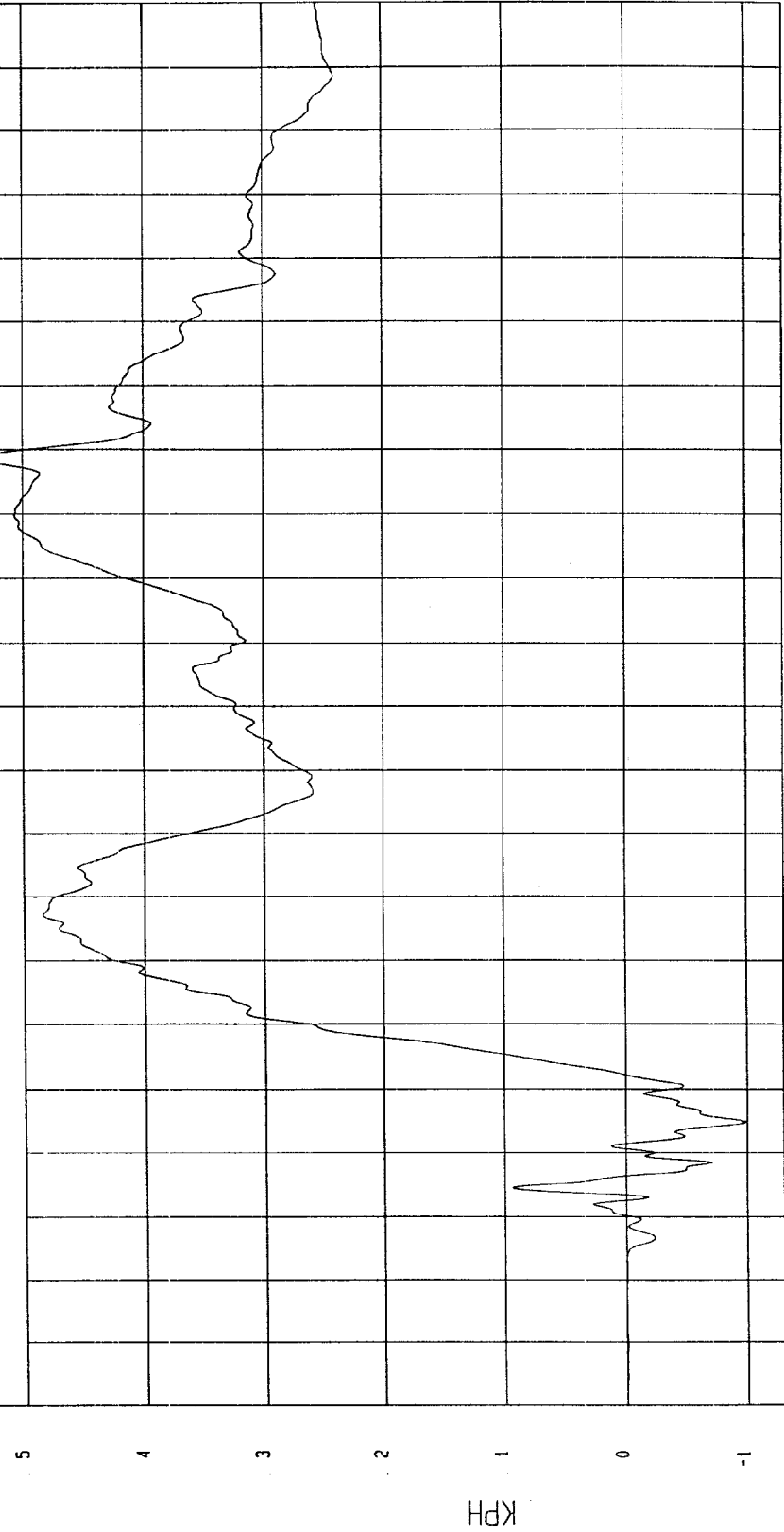
TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -.99 KPH at 25 msec Maximum = 5.31 KPH at 129 msec

REAR FLOORPAN ABOVE AXLE Z VELOCITY

1 _____ 898114A1.V10 Filterclass (180)



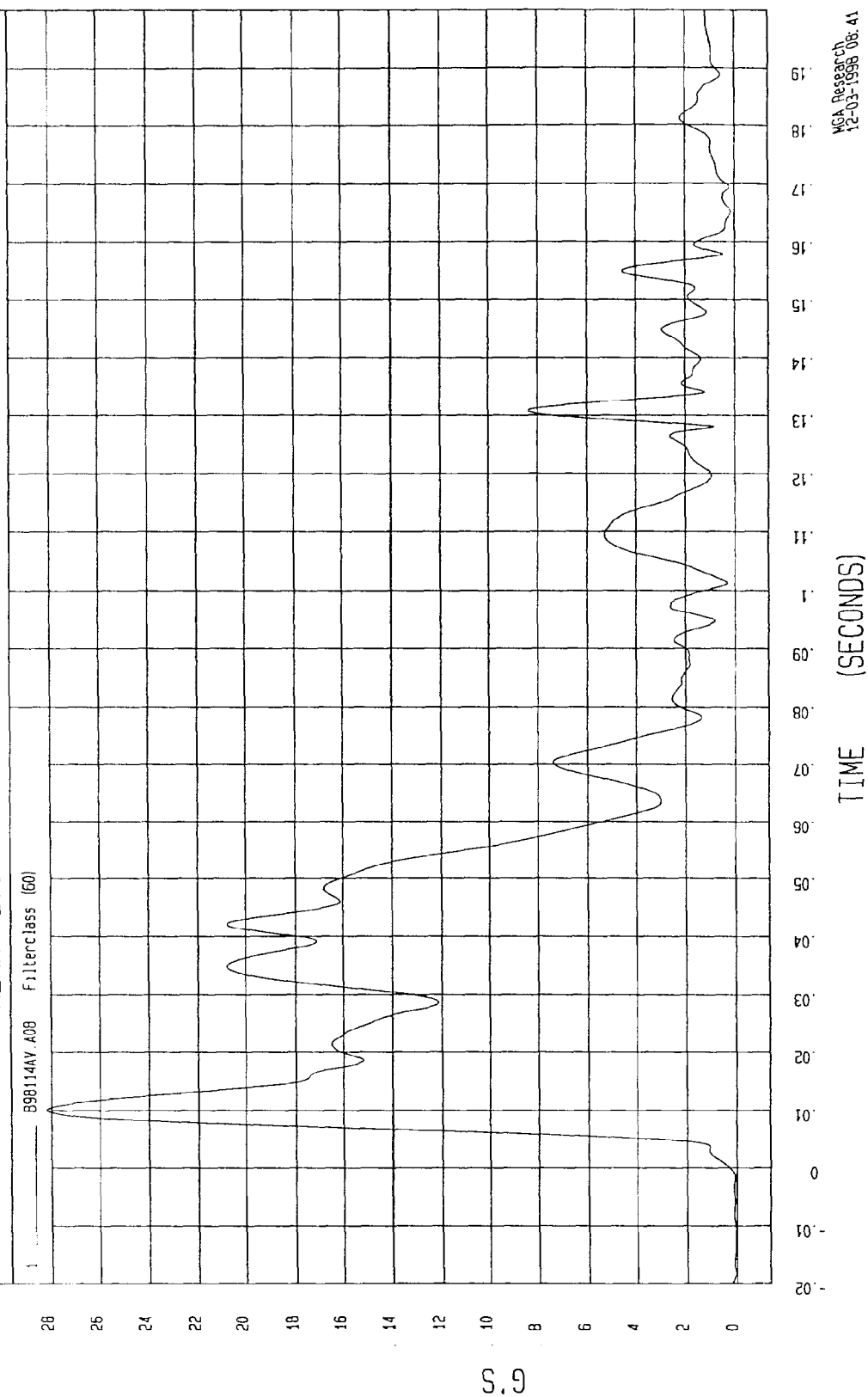
MSA Research
12-03-1998 08:51

TEST: NCAP SIDE IMPACT

COMPONENT: 1998 HONDA CR-V

Minimum = 2.56E-02 G'S at -11 msec

REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

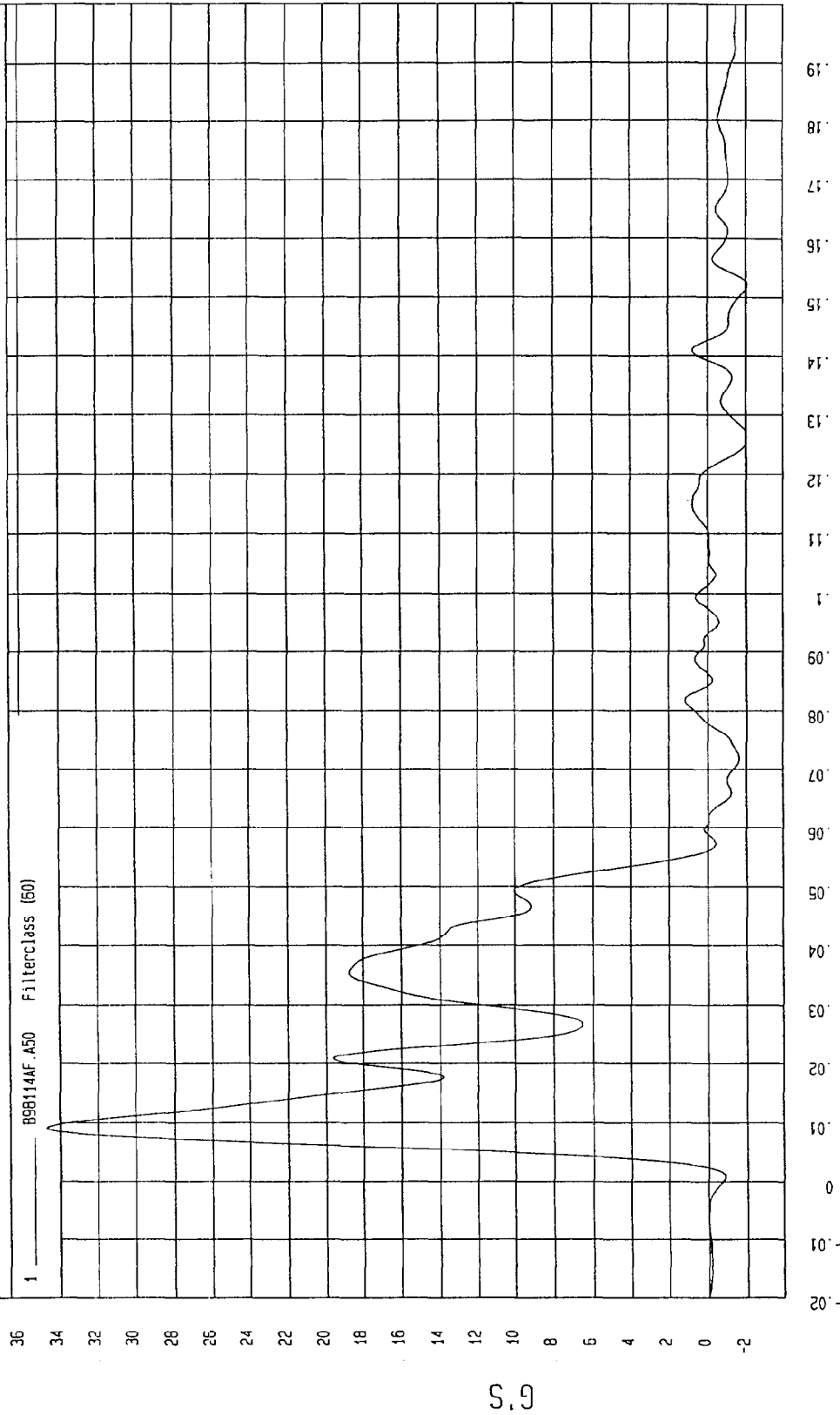
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

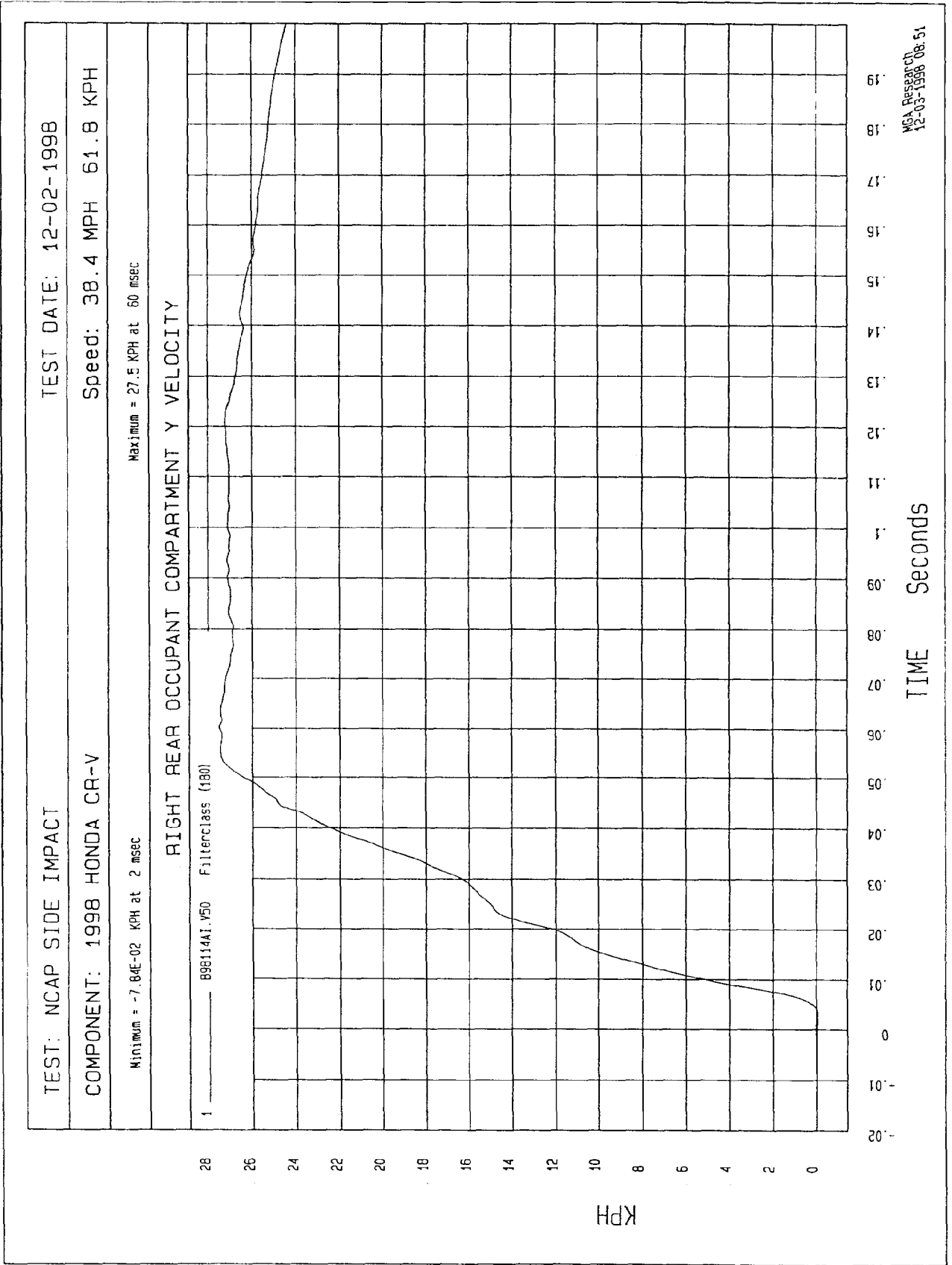
Maximum = 34.69 G'S at 9 msec

Minimum = -2.05 G'S at 152 msec

RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION



MCA Research
12-03-1998 08: 41

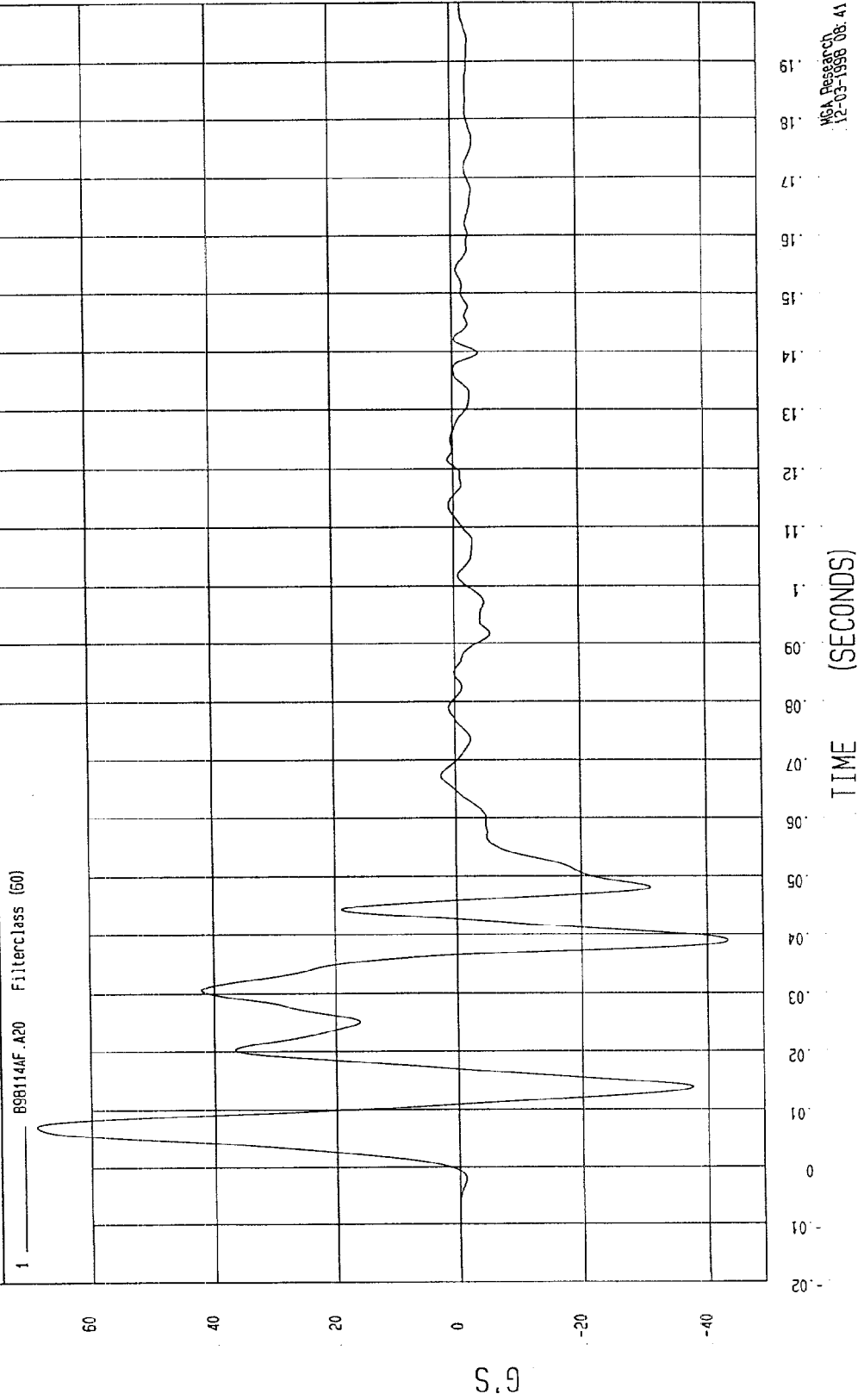


TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -43.38 G'S at 39 msec Maximum = 68.69 G'S at 7 msec

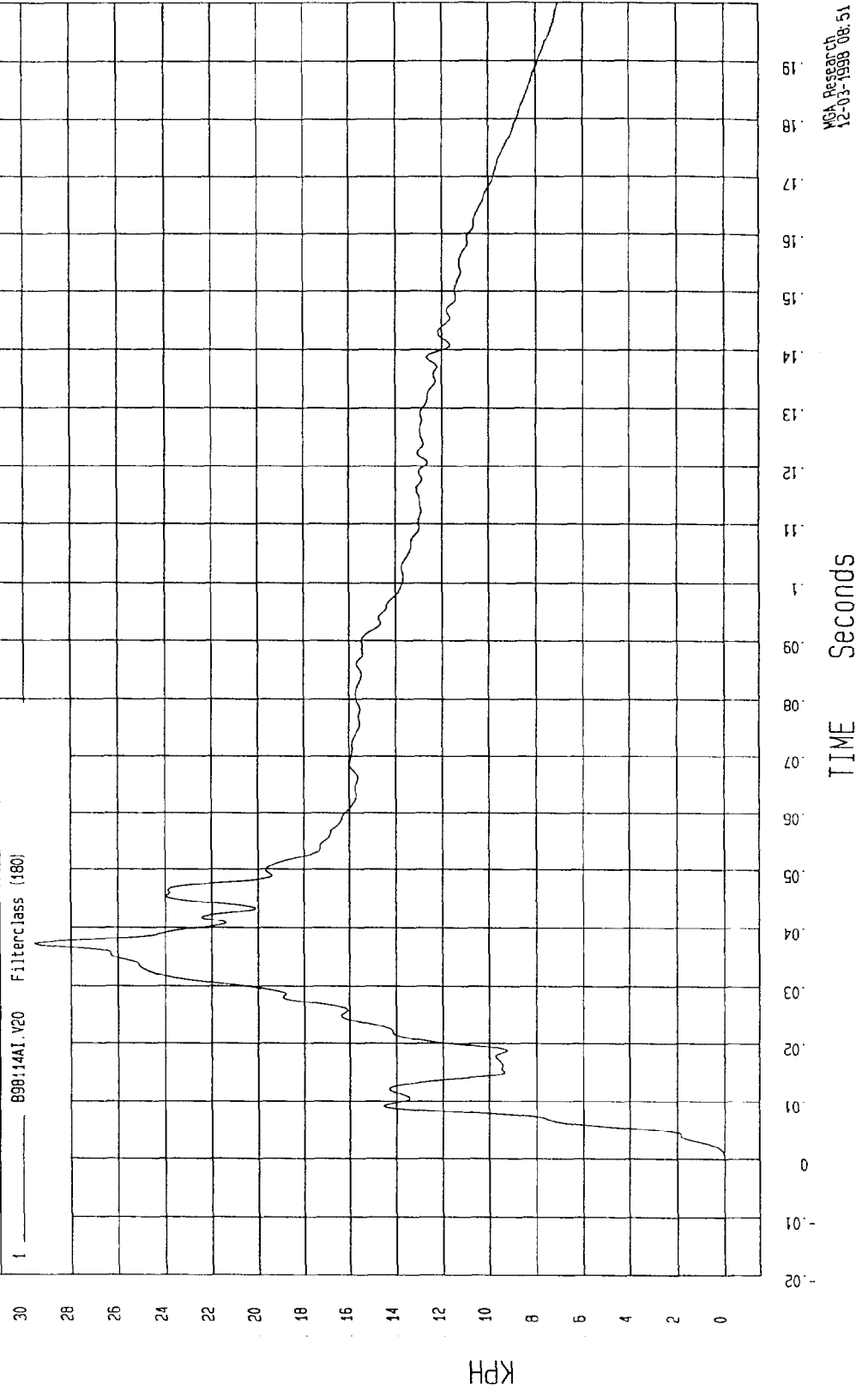
LEFT LOWER A-POST Y ACCELERATION



TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -4.91E-03 KPH at -18 msec Maximum = 29.55 KPH at 37 msec

LEFT LOWER A-POST Y VELOCITY



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = 45.57 G'S at 11 msec

Minimum = -5.68 G'S at 22 msec

LEFT MID A-POST Y ACCELERATION

1 B98144F.A19 Filterclass (60)

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30

20

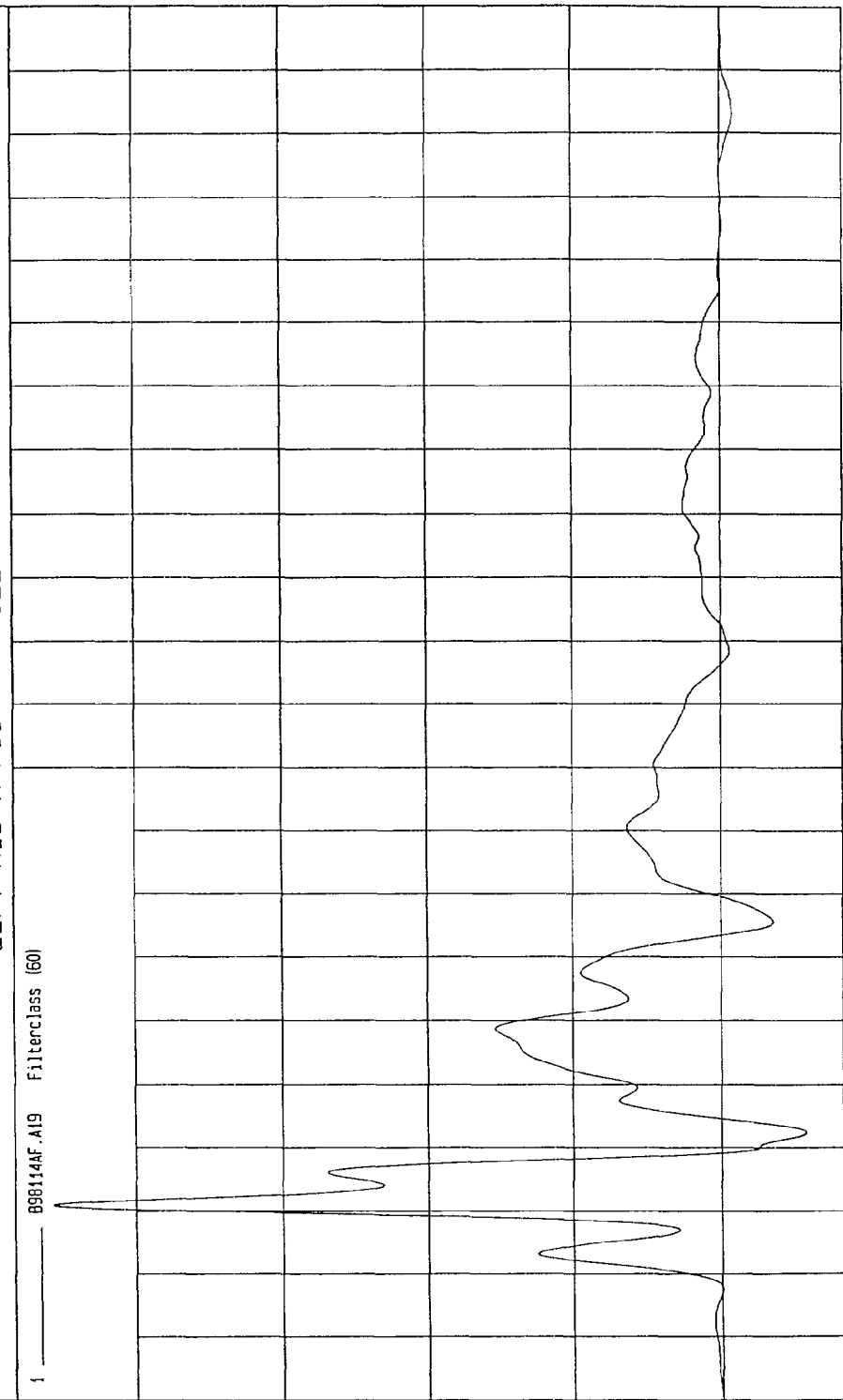
10

0

G.S

TIME (SECONDS)

MCA Research
12-03-1998 08:41



TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

Maximum = 26.68 KPH at 164 msec

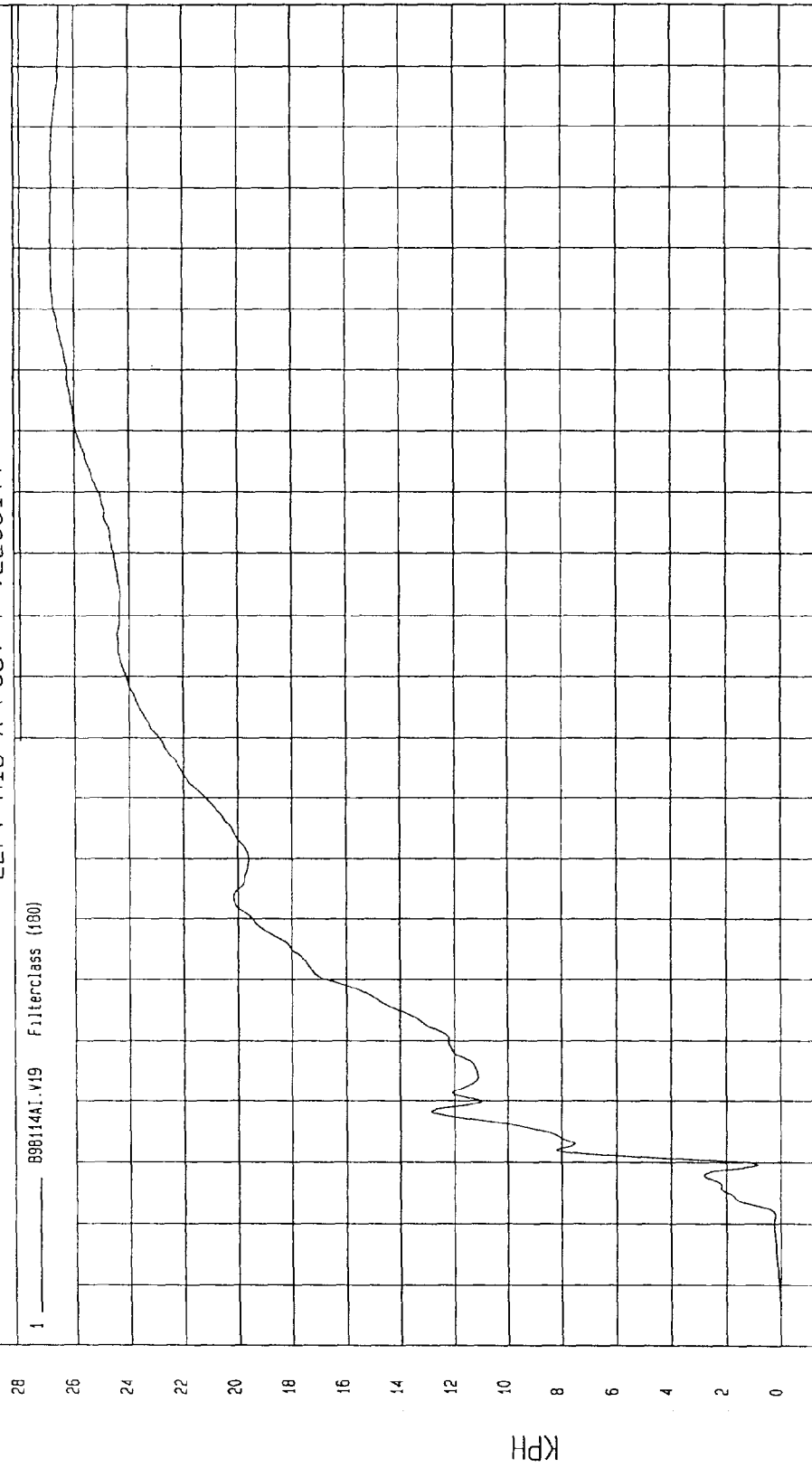
TEST: NCAP SIDE IMPACT

COMPONENT: 1998 HONDA CR-V

Minimum = 0 KPH at -20 msec

LEFT MID A-POST Y VELOCITY

1 B98114A1.V19 Filterclass (180)



WCA Research
12-03-1998 08:51

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

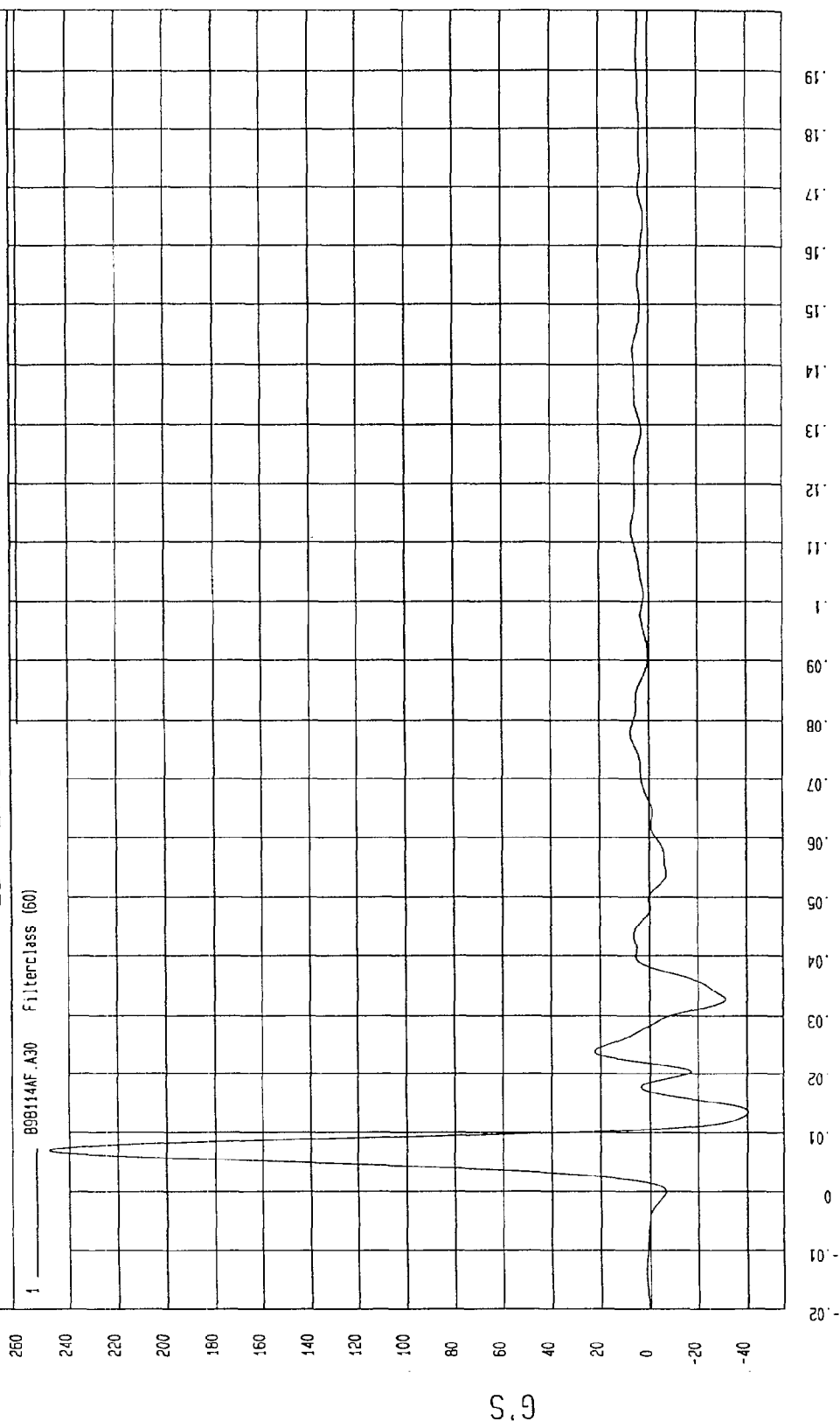
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

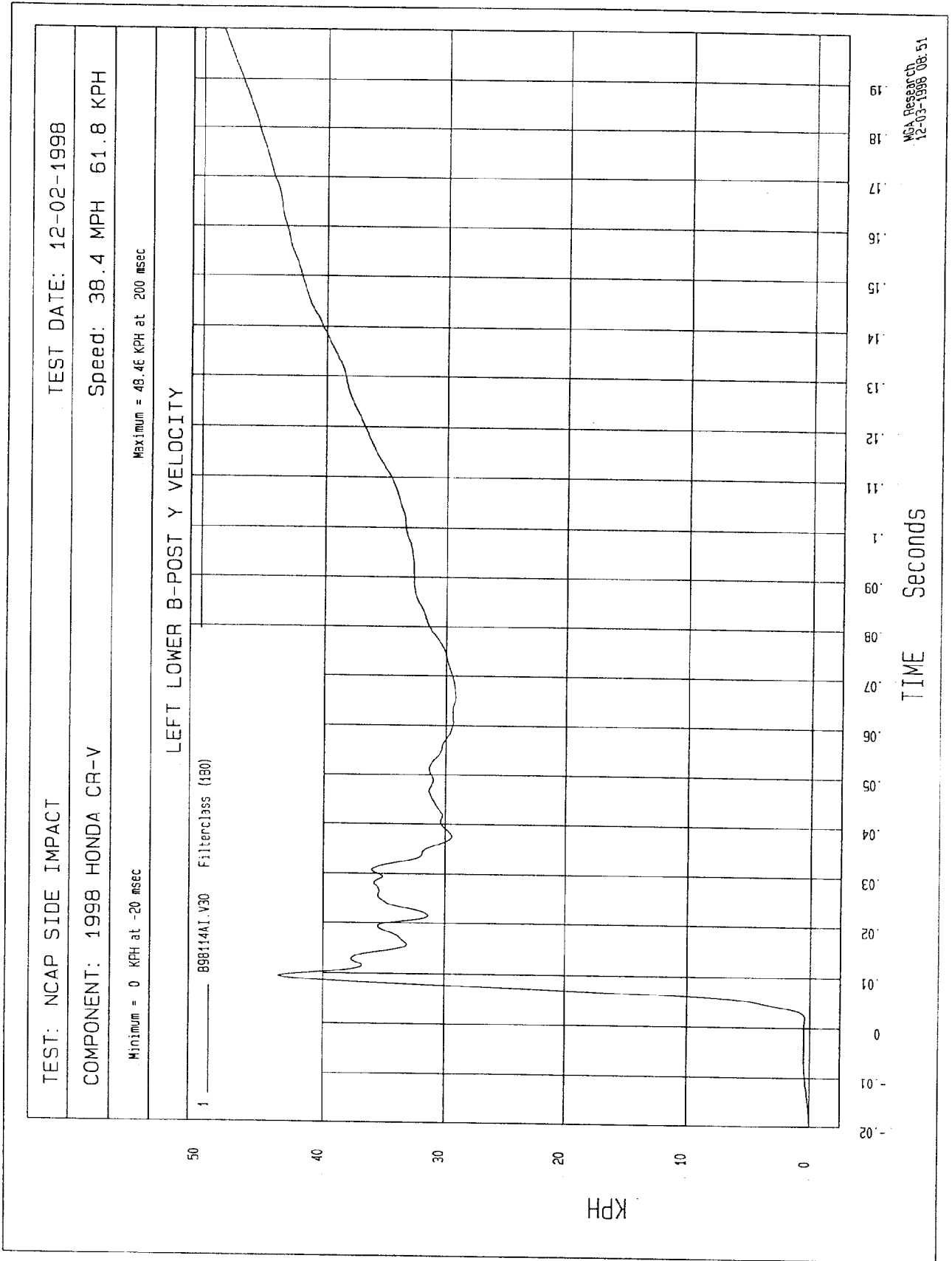
Maximum = 248.41 G'S at 7 msec

Minimum = -40.39 G'S at 14 msec

LEFT LOWER B-POST Y ACCELERATION



MCA Research
12-03-1998 08:41



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

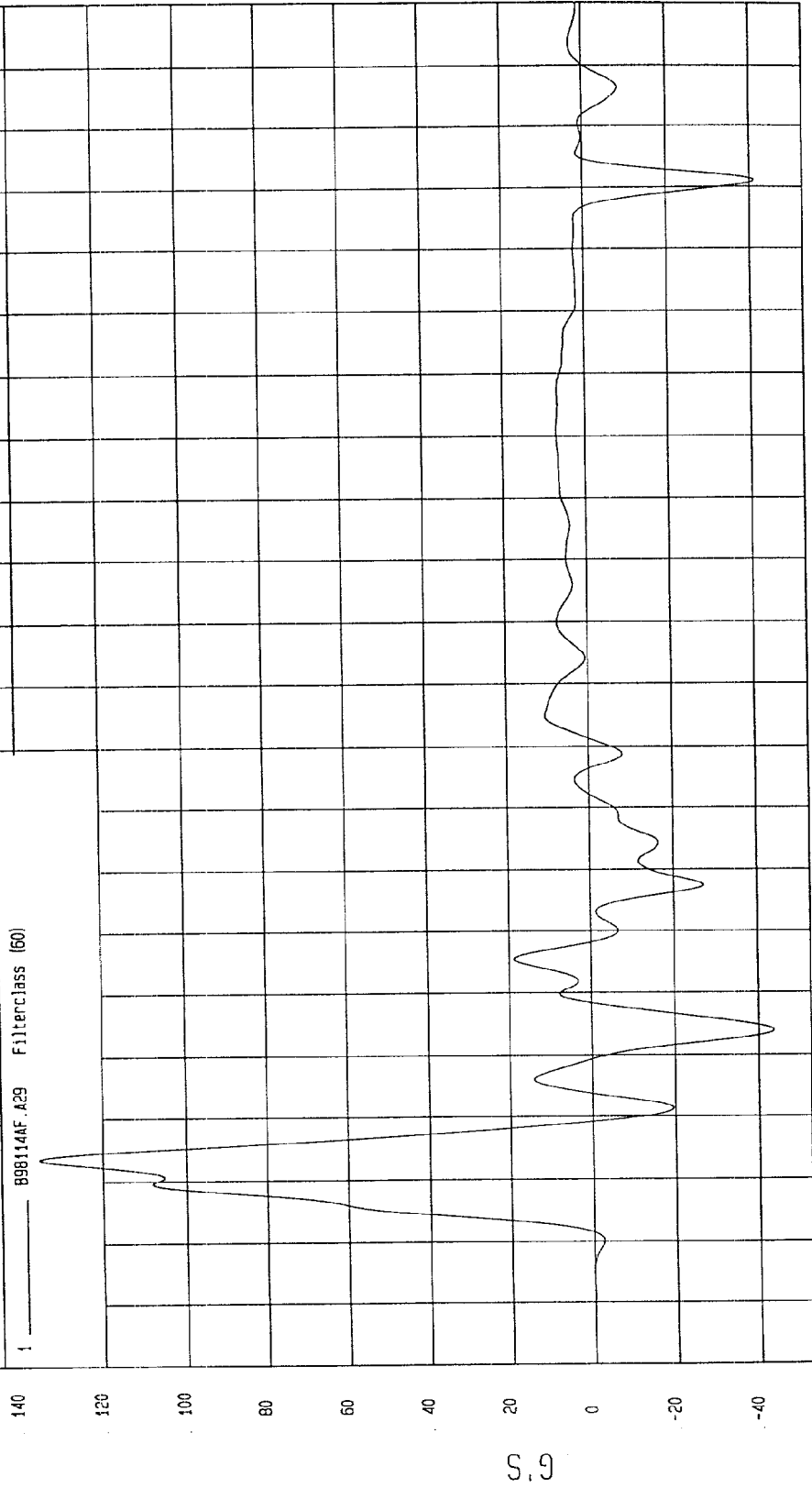
Speed: 38.4 MPH 61.8 KPH

Minimum = -43.79 G'S at 34 msec

Maximum = 135.32 G'S at 14 msec

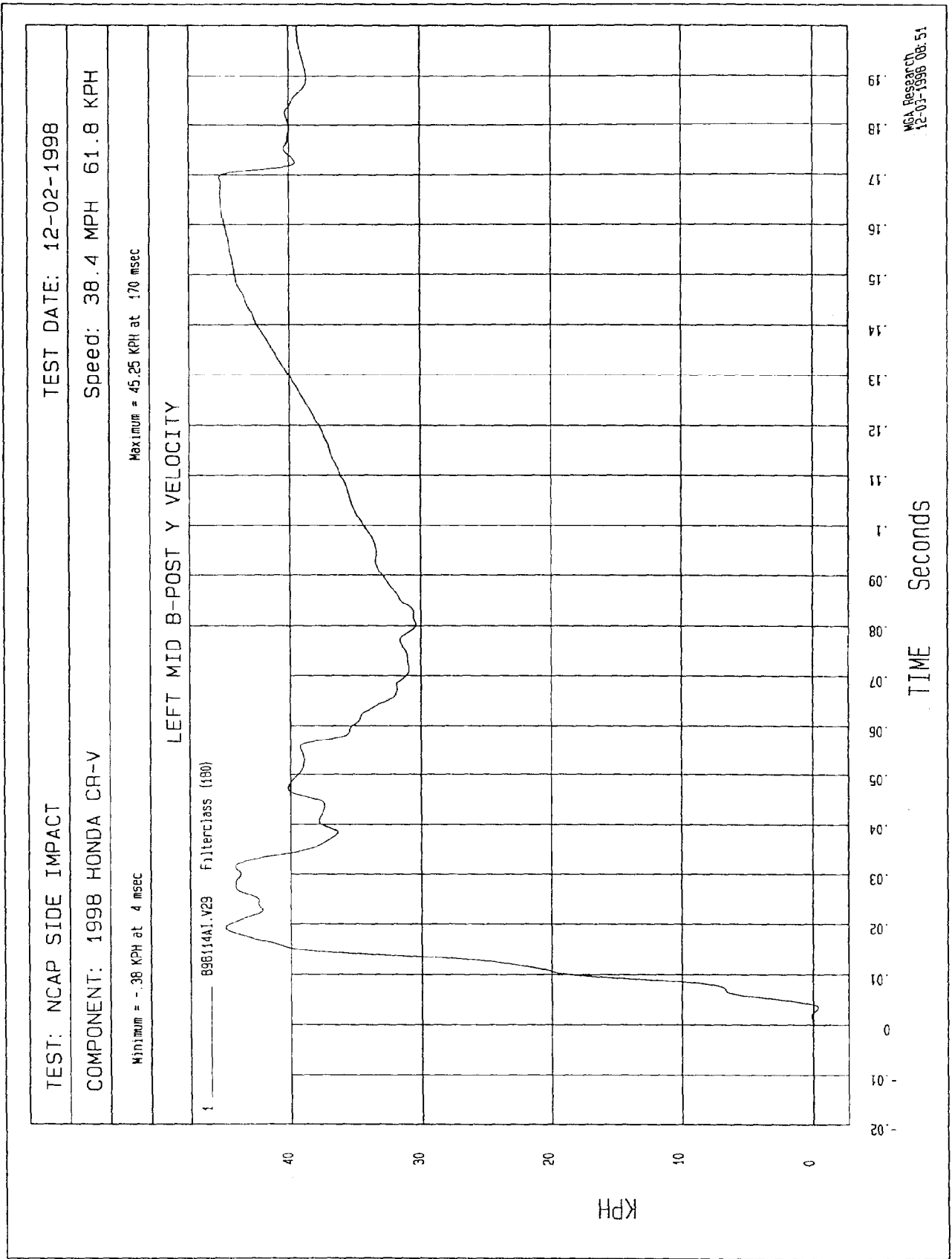
LEFT MID B-POST Y ACCELERATION

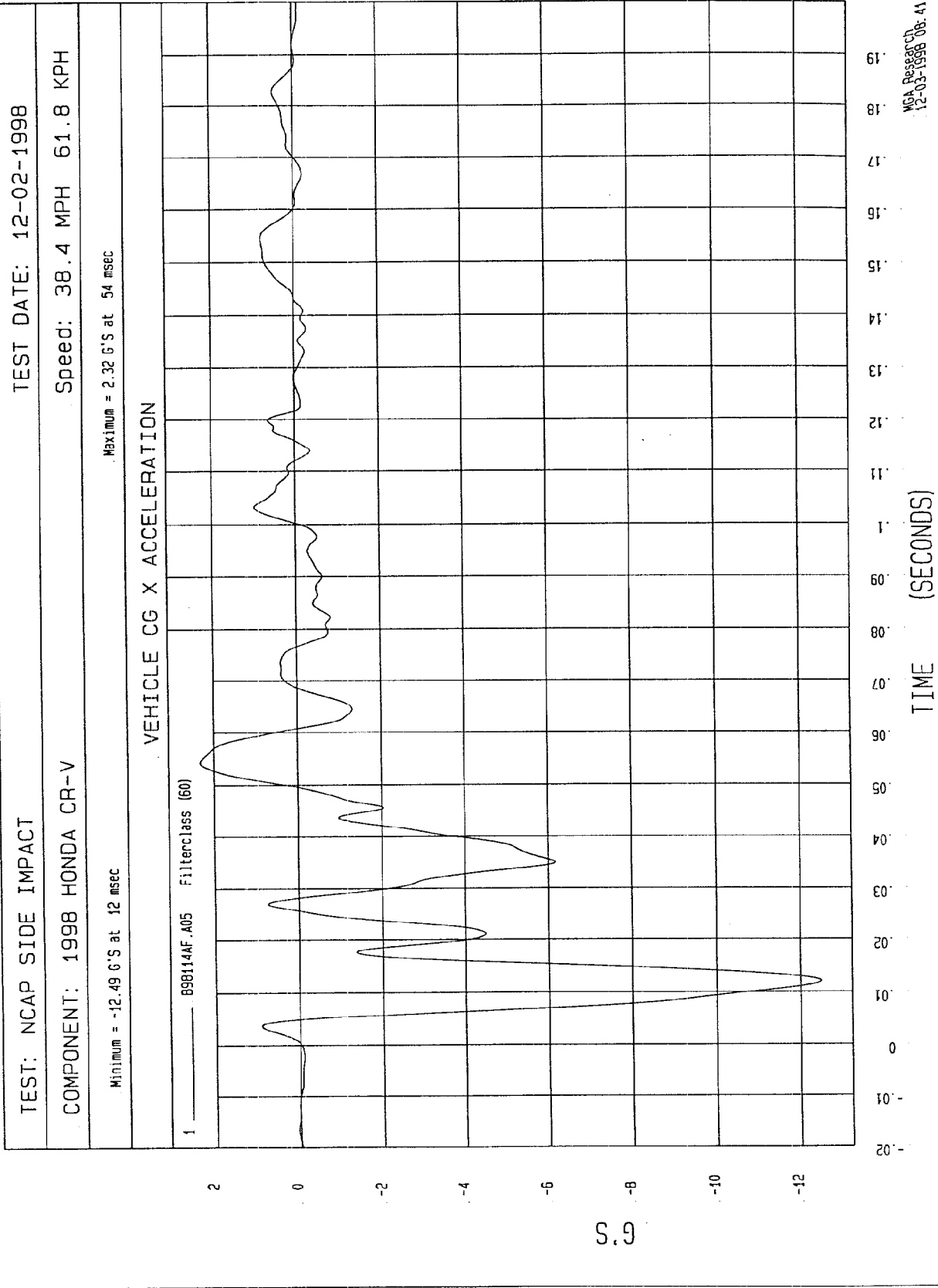
1 B98114AF.A29 Filterclass (60)

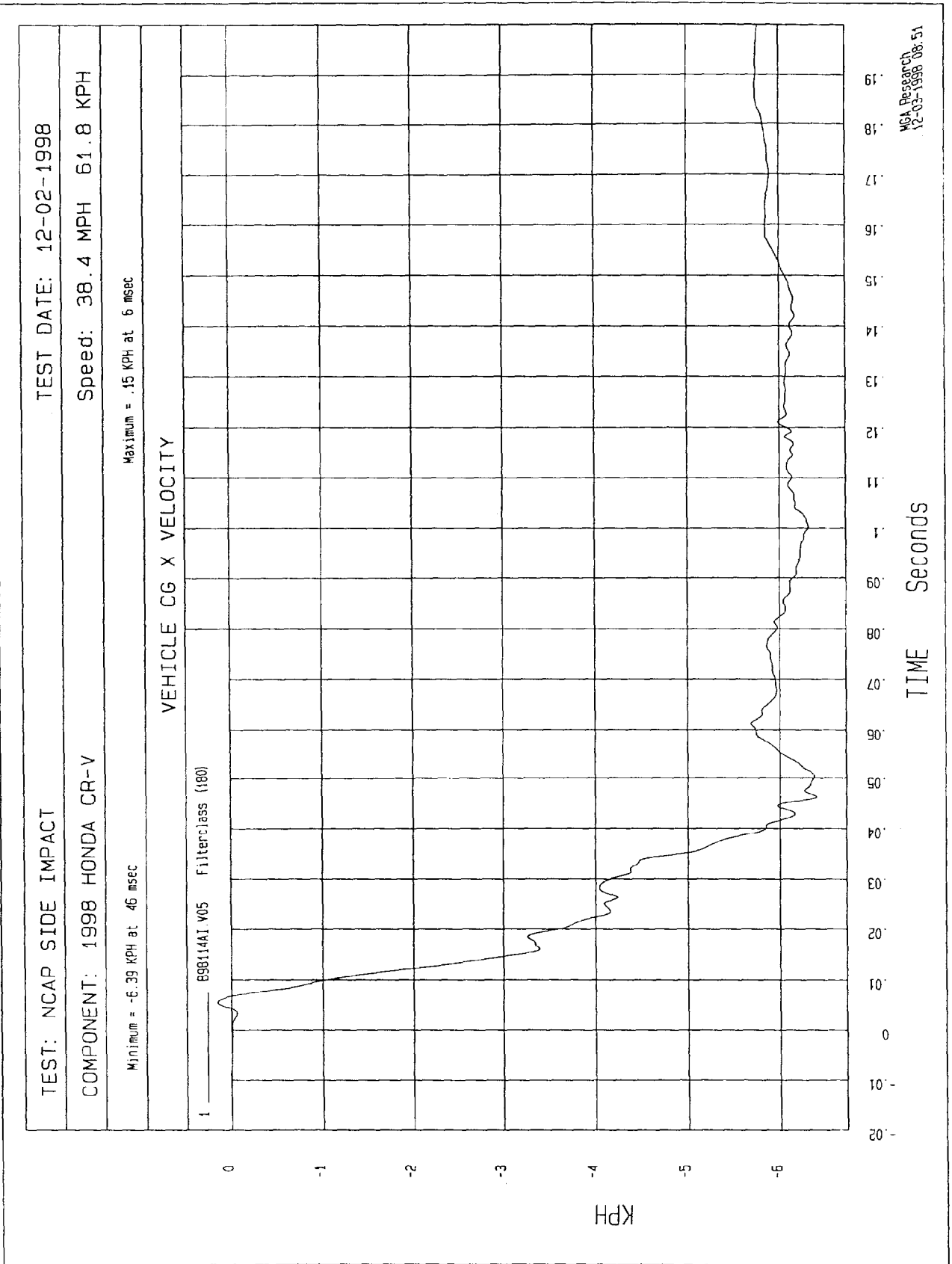


WGA Research
12-03-1998 08:41

TIME (SECONDS)







TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

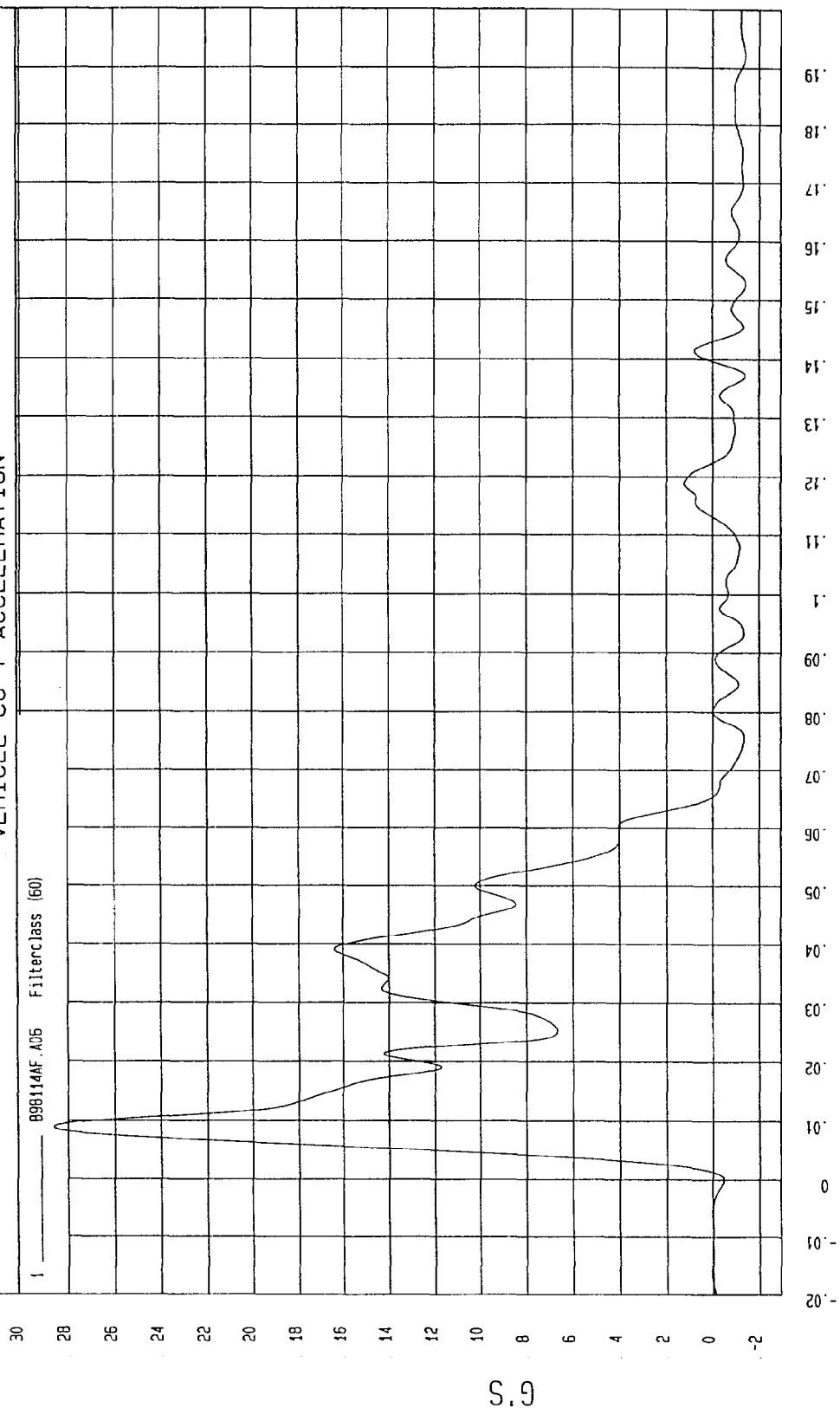
Maximum = 28.62 G'S at 9 msec

TEST: NCAP SIDE IMPACT

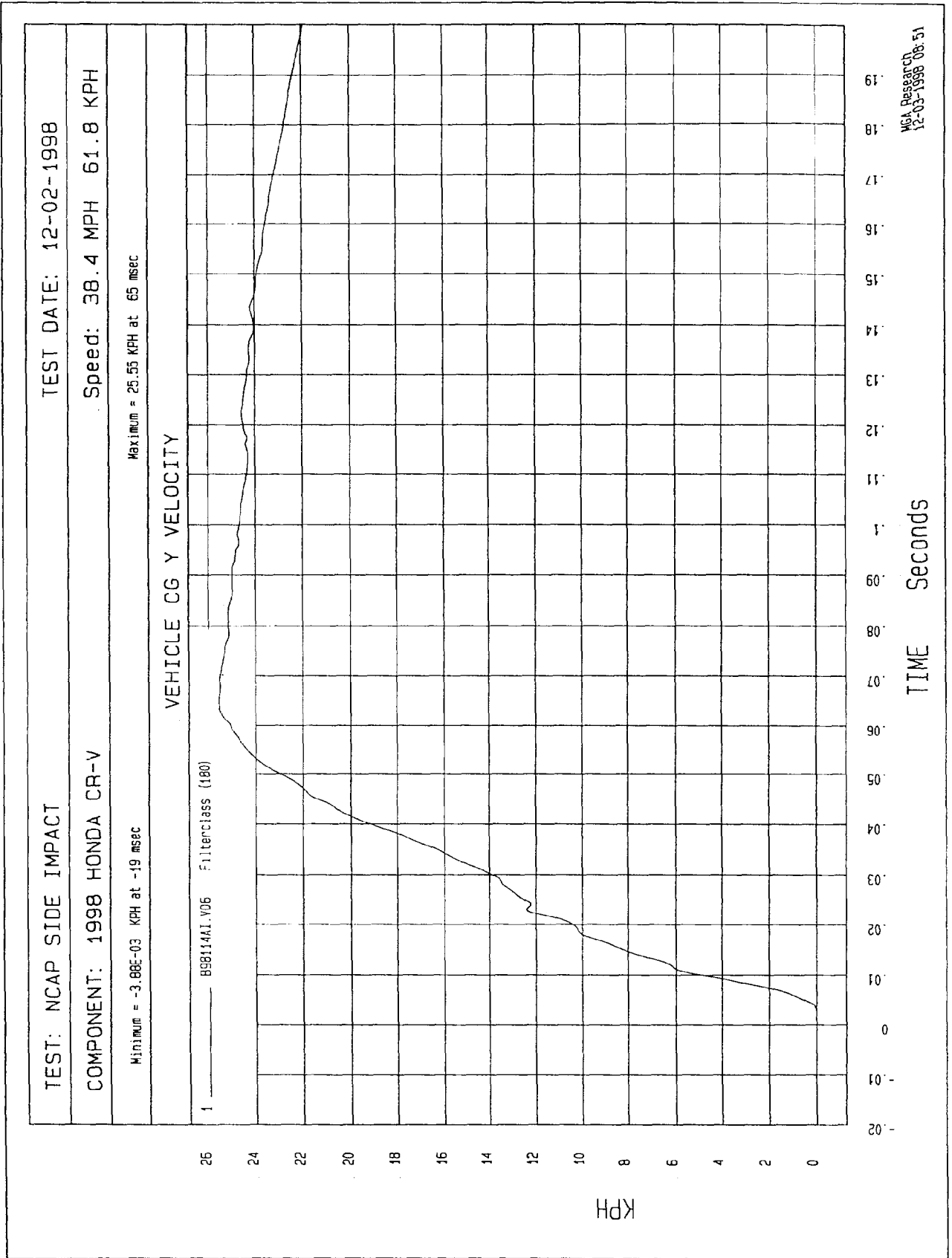
COMPONENT: 1998 HONDA CR-V

Minimum = -1.42 G'S at 192 msec

VEHICLE CG Y ACCELERATION



MCA Research
12-03-1998 08:41



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = 12.29 G'S at 60 msec

Minimum = -7.79 G'S at 41 msec

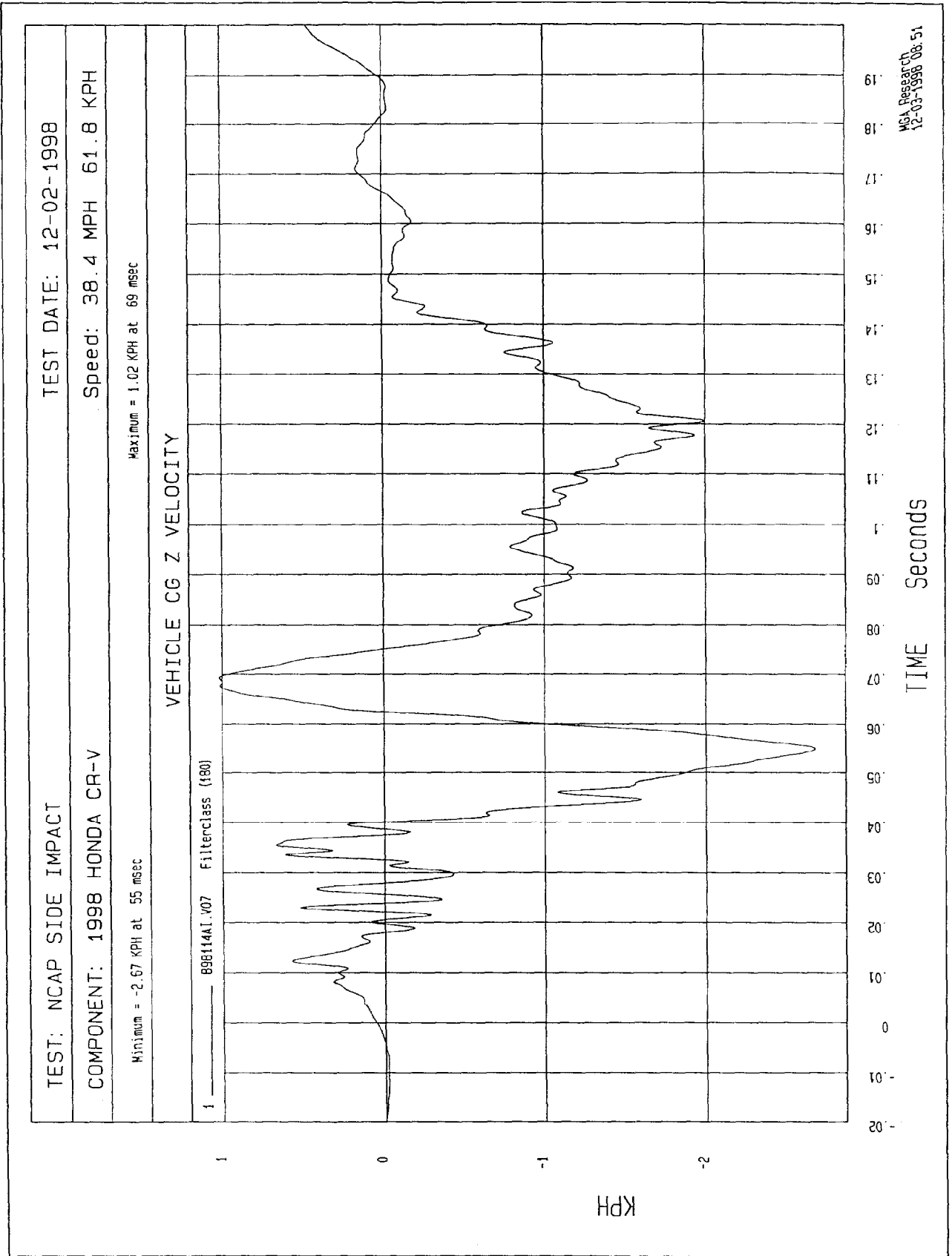
VEHICLE CG Z ACCELERATION

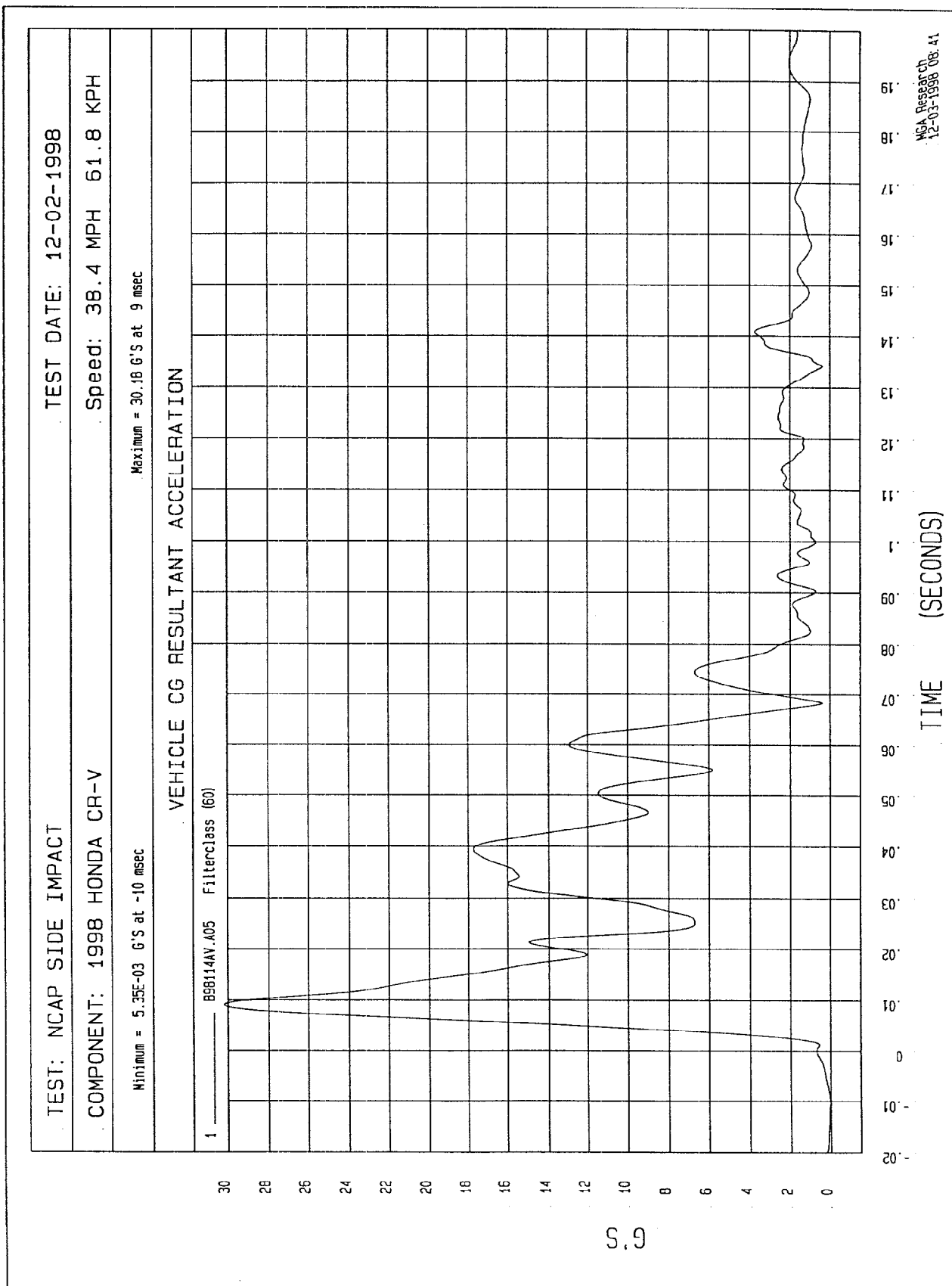
1 ——— 898114AF.A07 Filterclass (60)

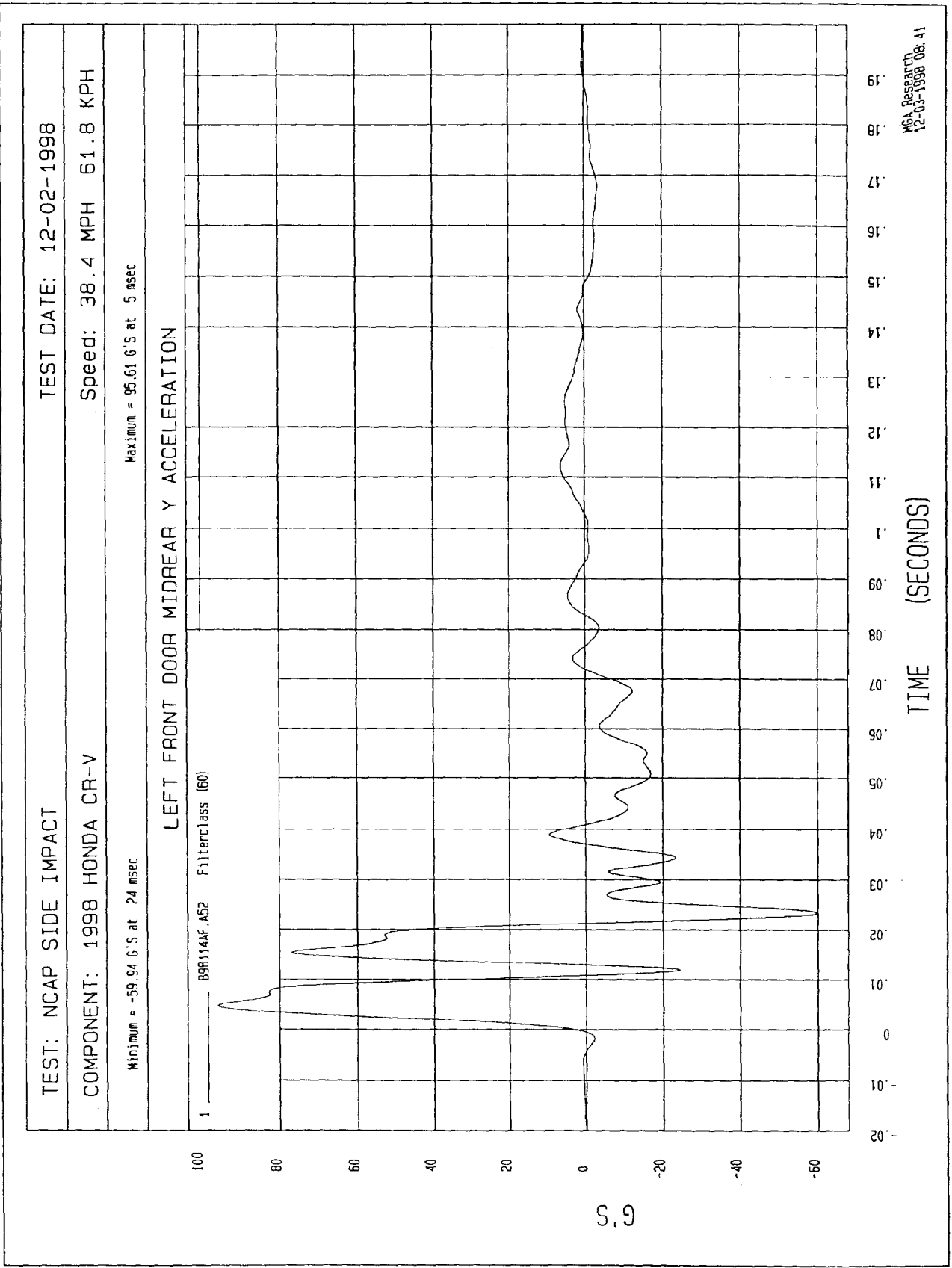


TIME (SECONDS)

MCA Research
12-03-1998 08:41







TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

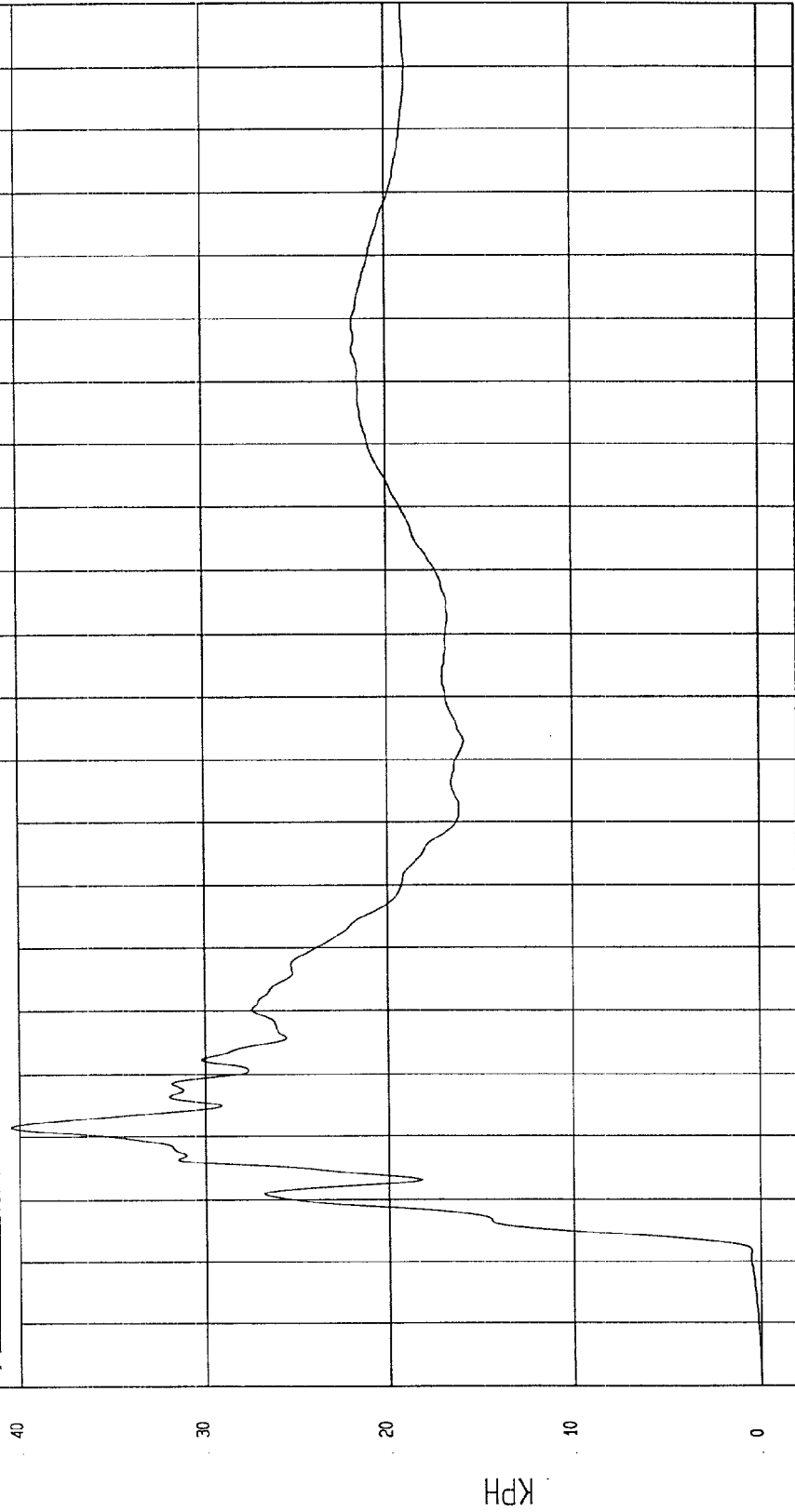
COMPONENT: 1998 HONDA CR-V

Maximum = 40.43 KPH at 22 msec

Minimum = 0 KPH at -20 msec

LEFT FRONT DOOR MIDREAR Y VELOCITY

1 _____ B98114A1.V52 Filterclass (180)



WGA Research
12-03-1998 08:51

TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

Maximum = 157.65 G'S at 18 msec

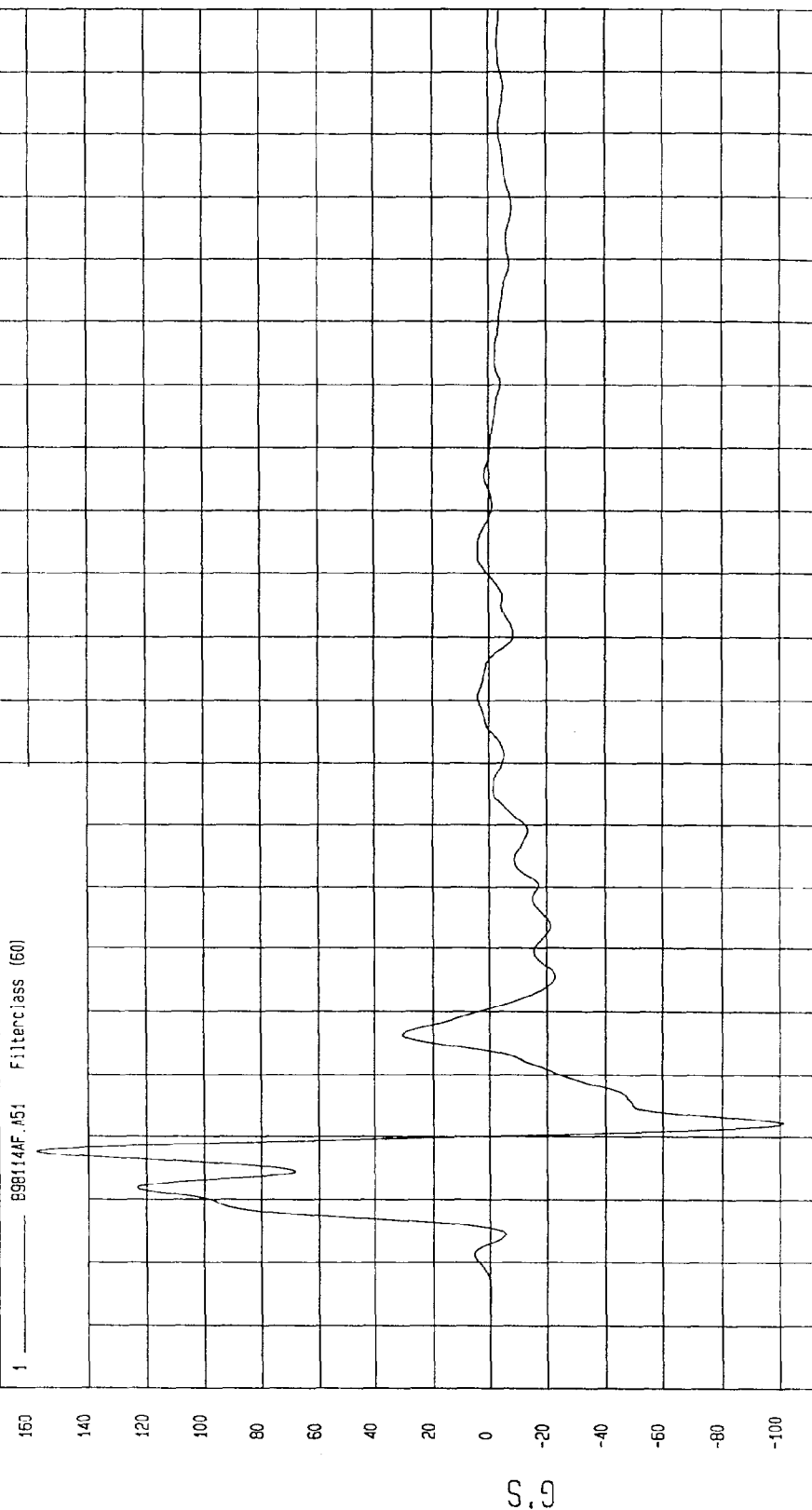
TEST: NCAP SIDE IMPACT

COMPONENT: 1998 HONDA CR-V

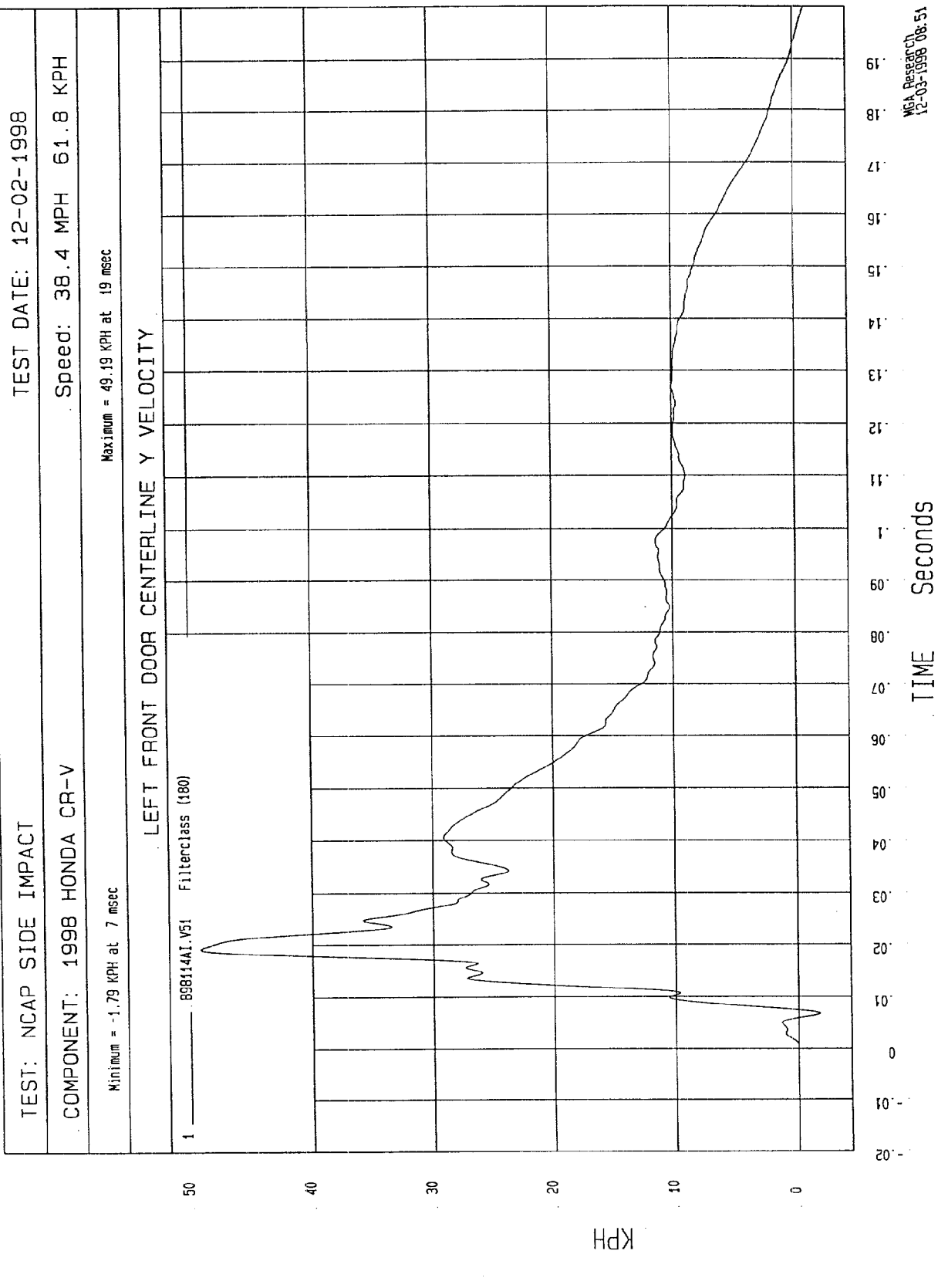
Minimum = -101.34 G'S at 22 msec

LEFT FRONT DOOR CENTERLINE Y ACCELERATION

1 B98114AF /51 Filterclass (60)



MCA Research
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WCA Research
12-03-1998 08:51

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

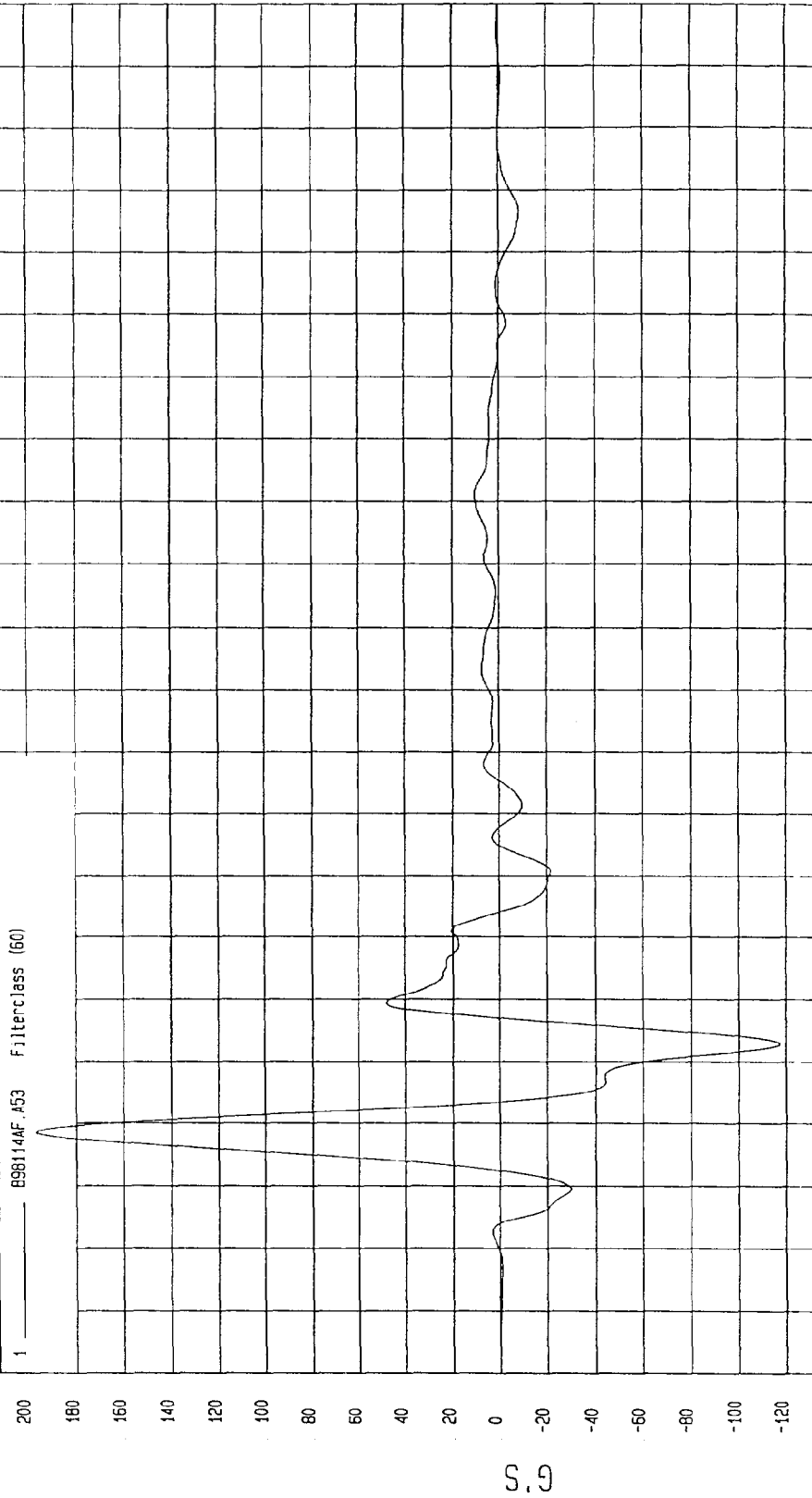
COMPONENT: 1998 HONDA CR-V

Maximum = 196.62 G'S at 18 msec

Minimum = -117.39 G'S at 33 msec

LEFT FRONT DOOR UPPER CENTERLINE Y ACCELERATION

1 ——— B98114AF.A53 Filterclass (50)



MCA Research
12-03-1998 08:41

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

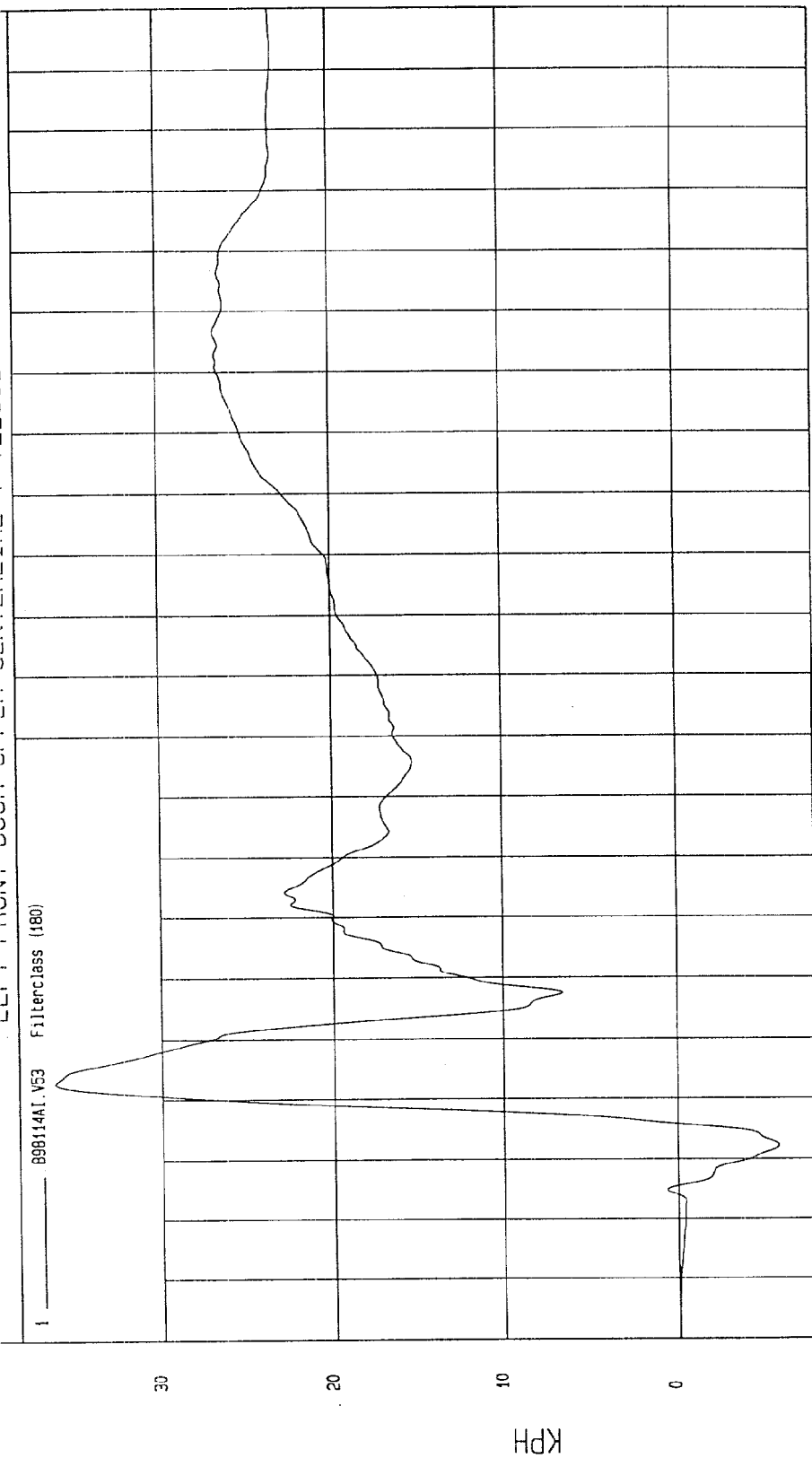
COMPONENT: 1998 HONDA CR-V

Maximum = 36.18 KPH at 23 msec

Minimum = -5.82 KPH at 12 msec

LEFT FRONT DOOR UPPER CENTERLINE Y VELOCITY

1 B98114A1.V53 Filterclass (480)



MGA Research
12-03-1998 08:51

TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

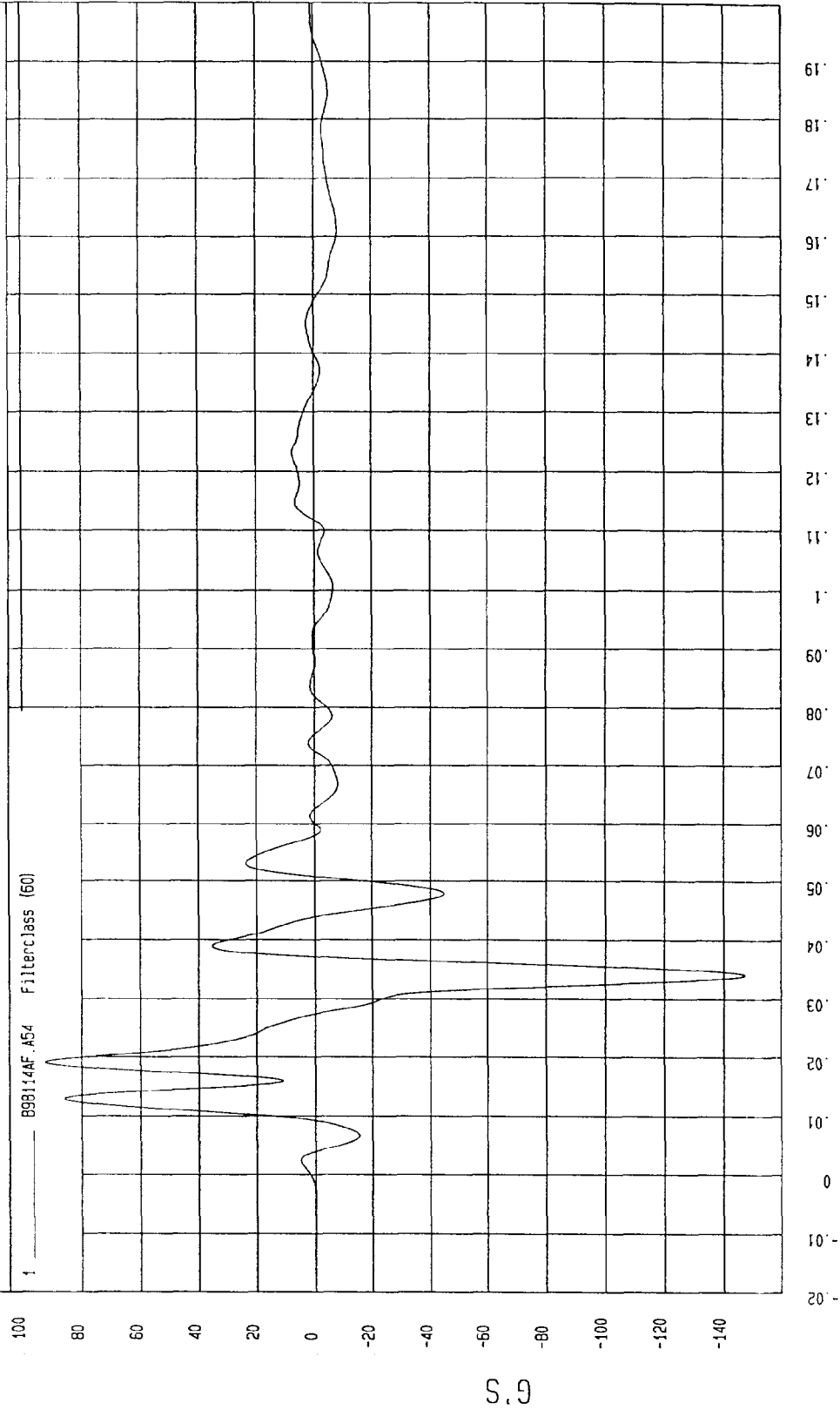
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

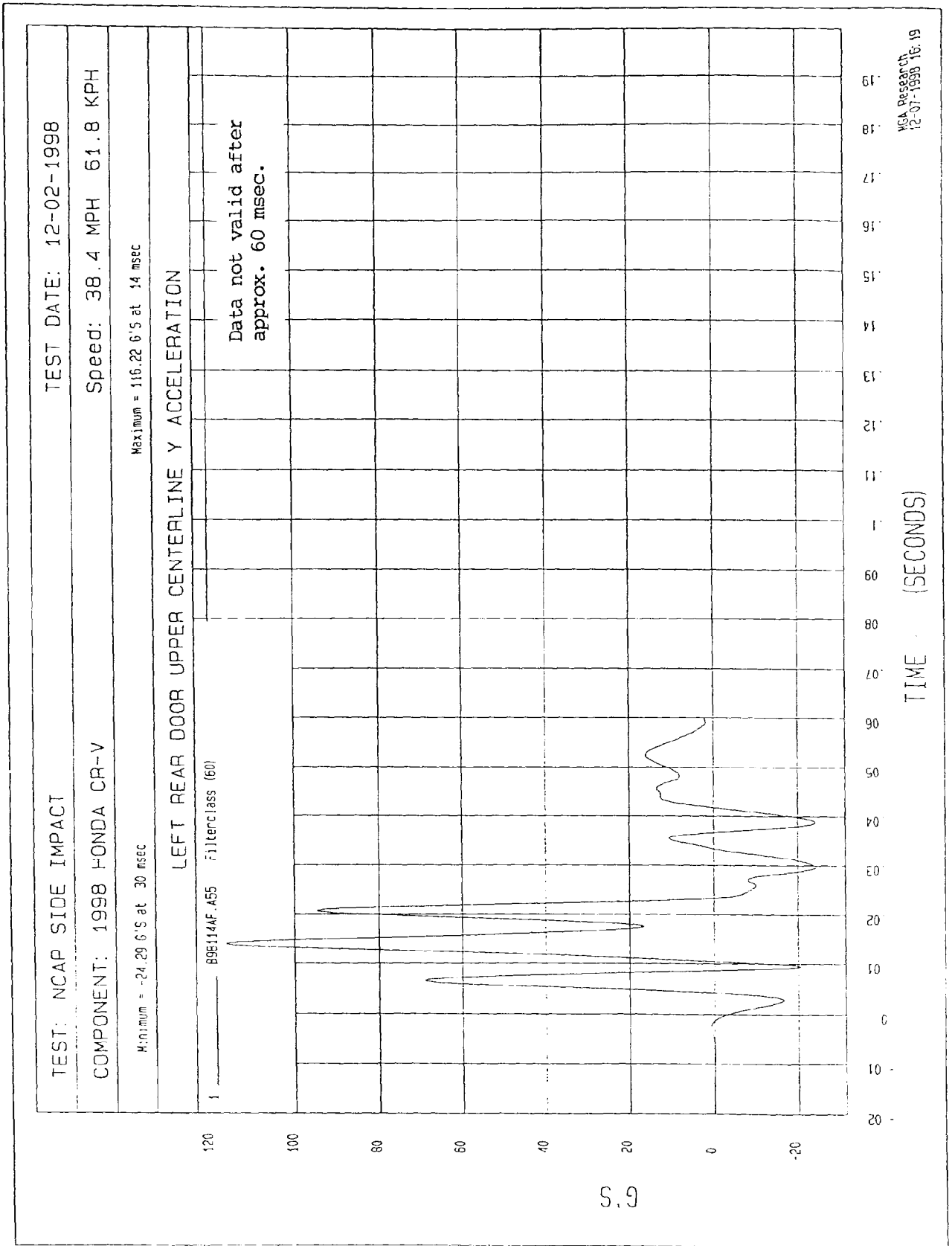
Maximum = 92.32 G'S at 19 msec

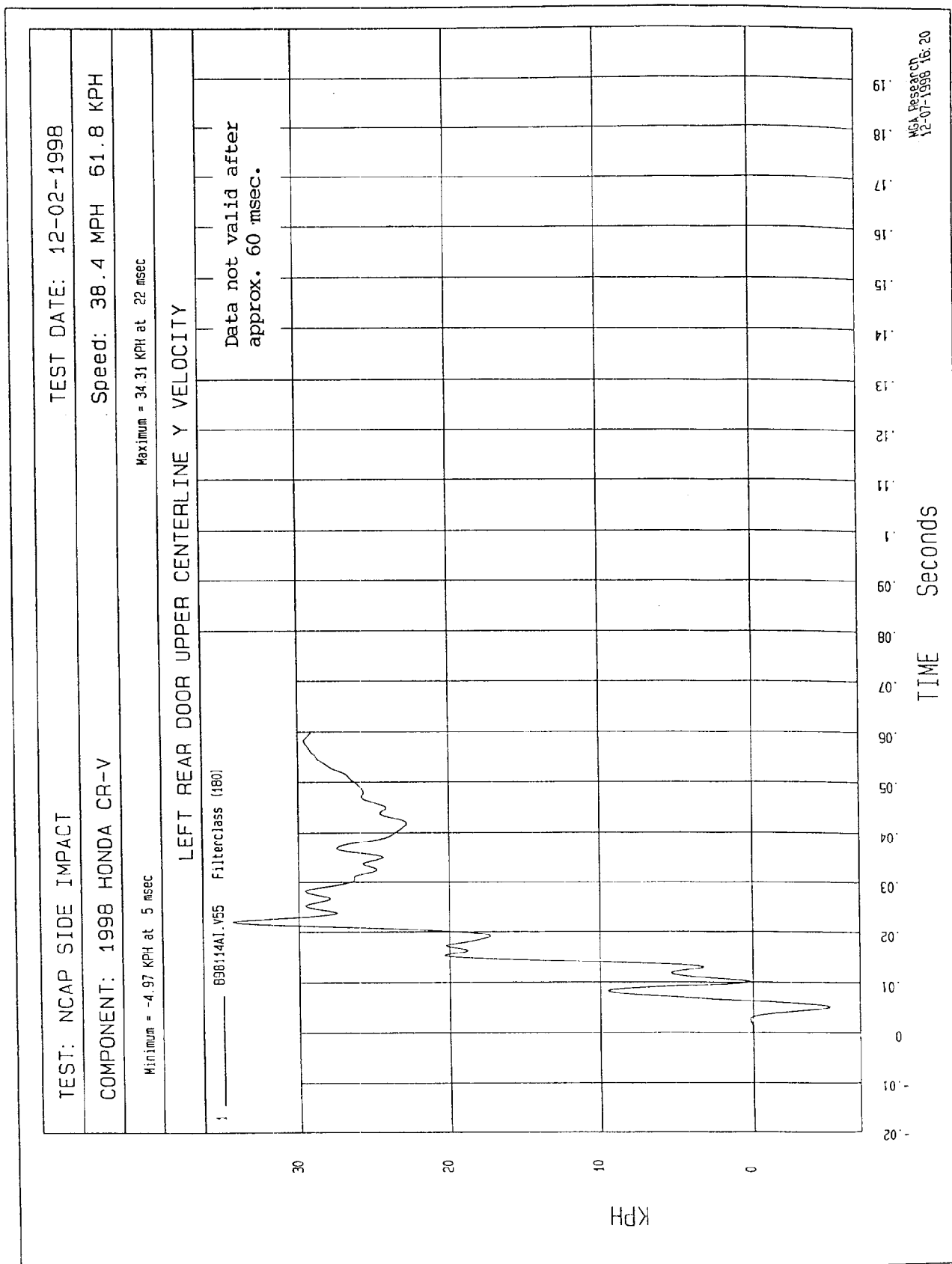
Minimum = -147.47 G'S at 34 msec

LEFT REAR DOOR MIDREAR Y ACCELERATION



MCA Research
12-03-1998 08:41



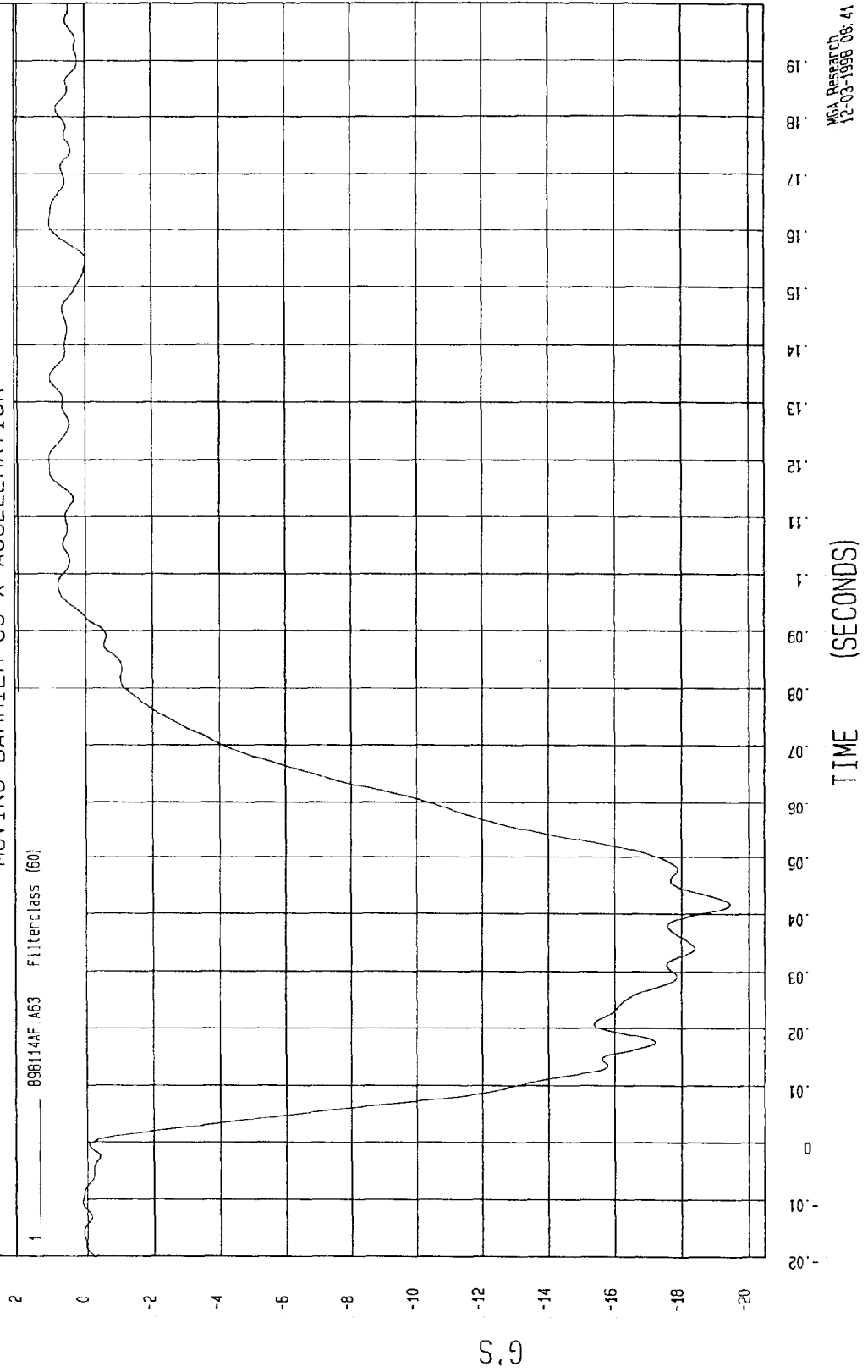


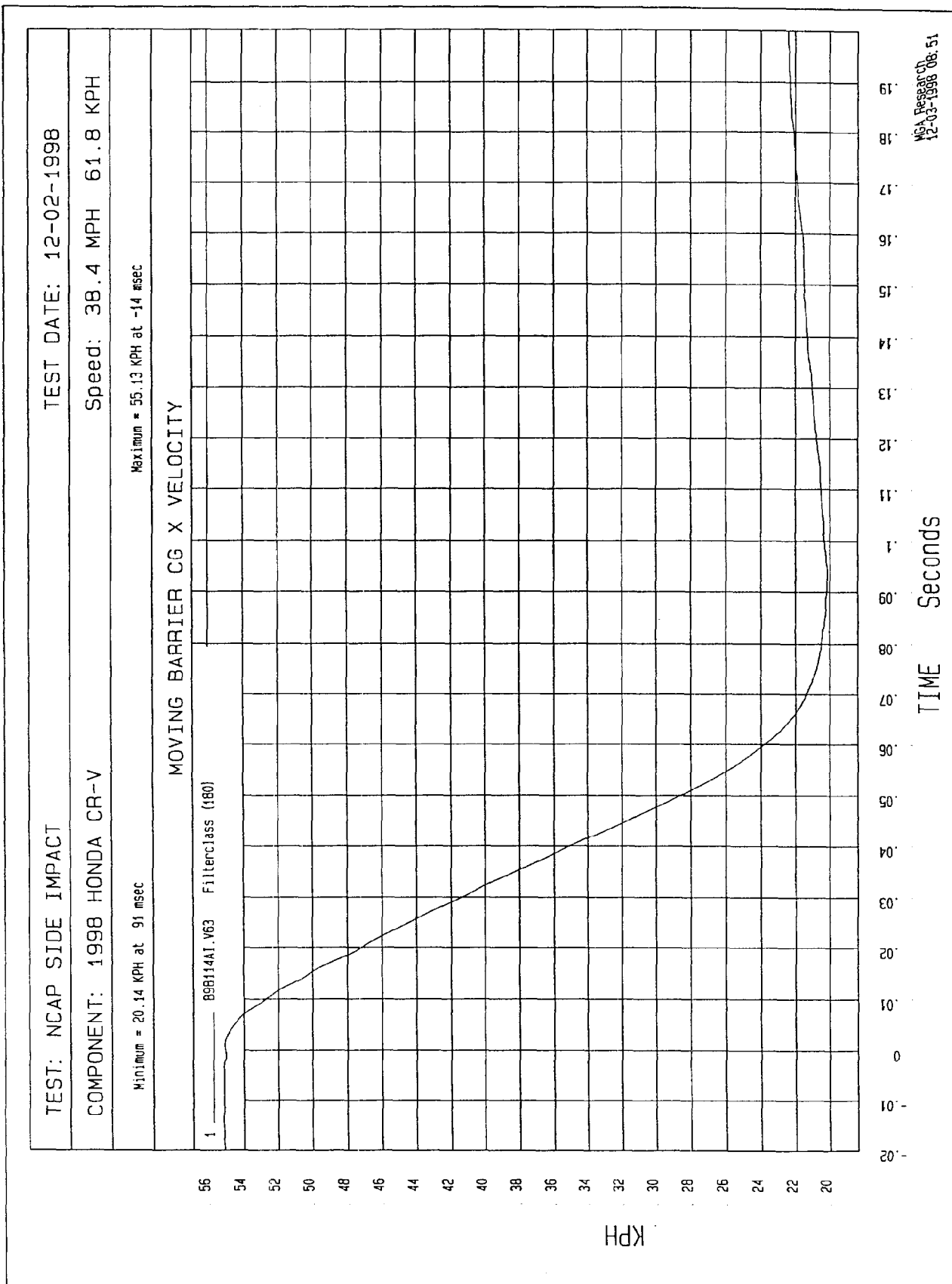
TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -19.44 G'S at 42 msec Maximum = 1.07 G'S at 120 msec

MOVING BARRIER CG X ACCELERATION





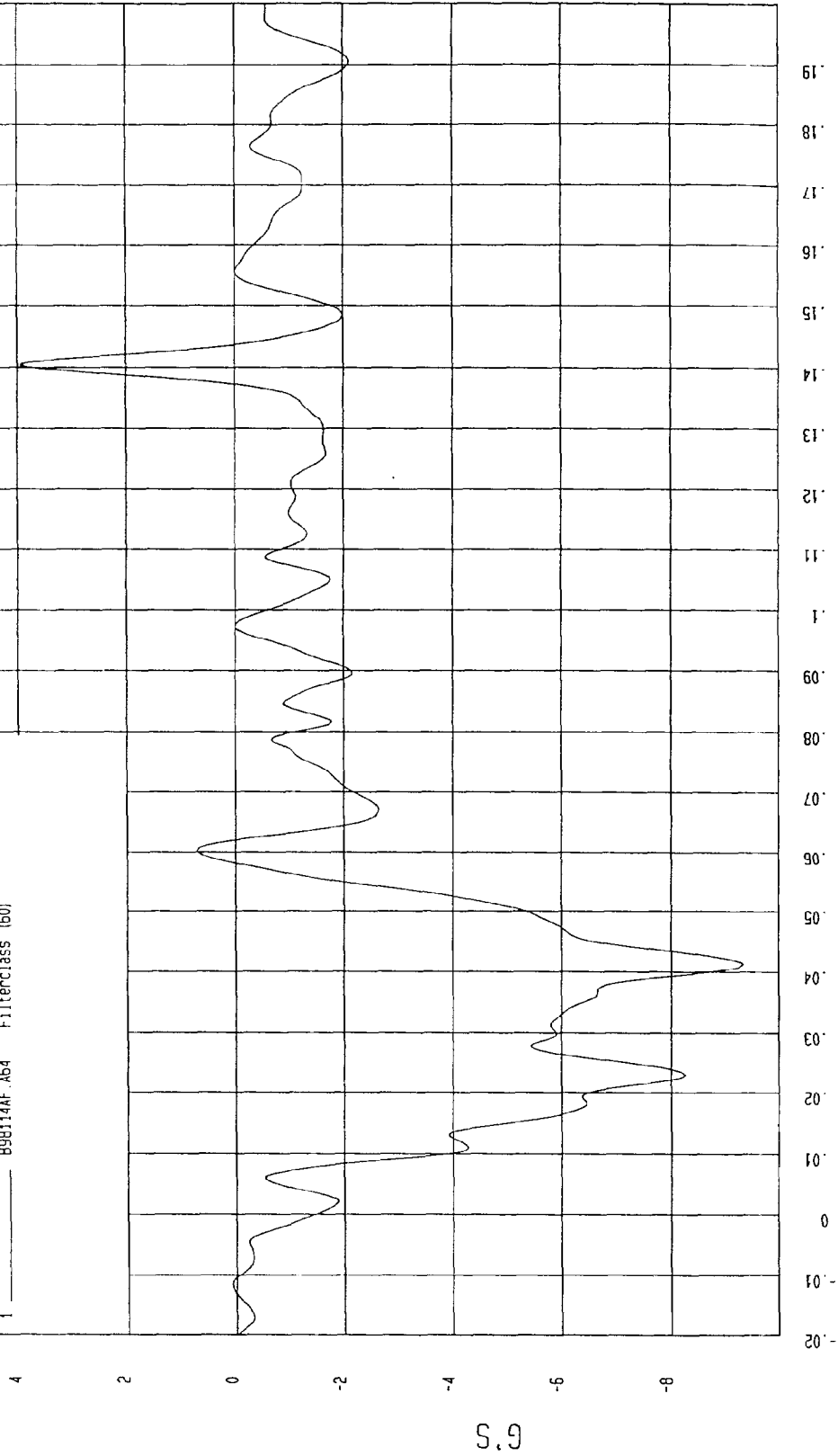
TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -9.3 G'S at 41 msec Maximum = 3.95 G'S at 140 msec

MOVING BARRIER CG Y ACCELERATION

1 ——— B98114AF .A54 Filterclass (60)

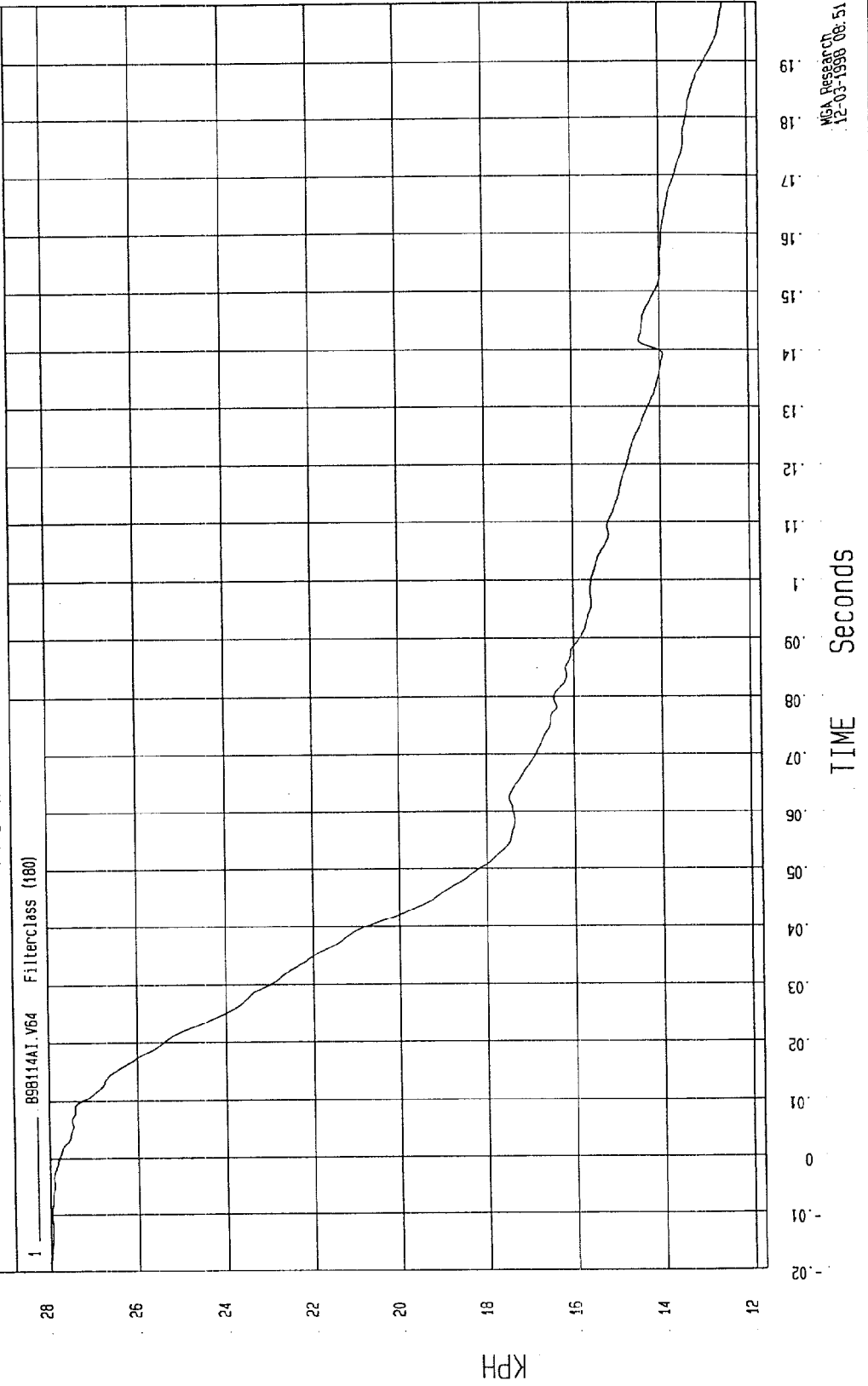


TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = 12.54 KPH at 200 msec Maximum = 28.01 KPH at -19 msec

MOVING BARRIER CG Y VELOCITY

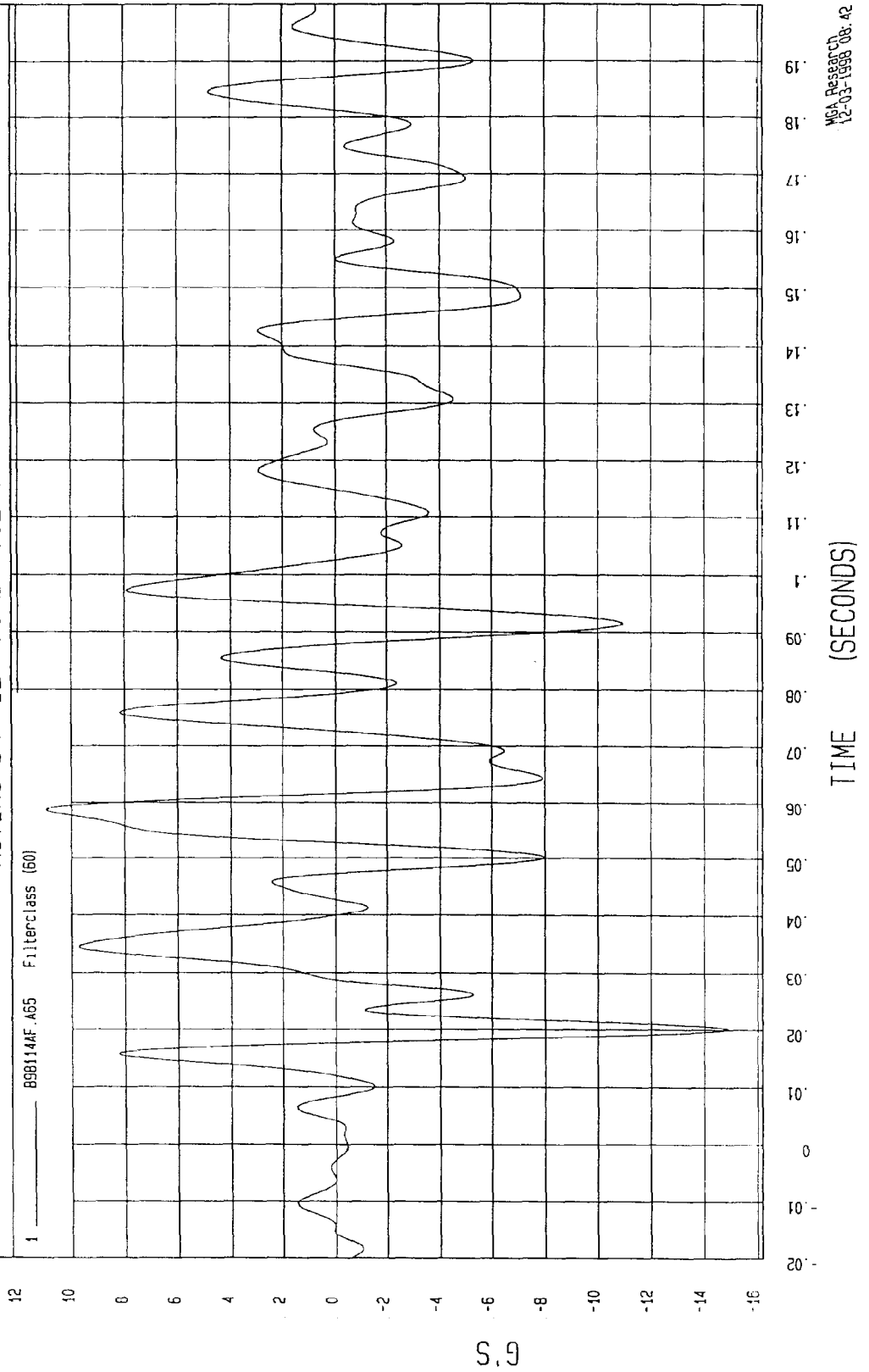


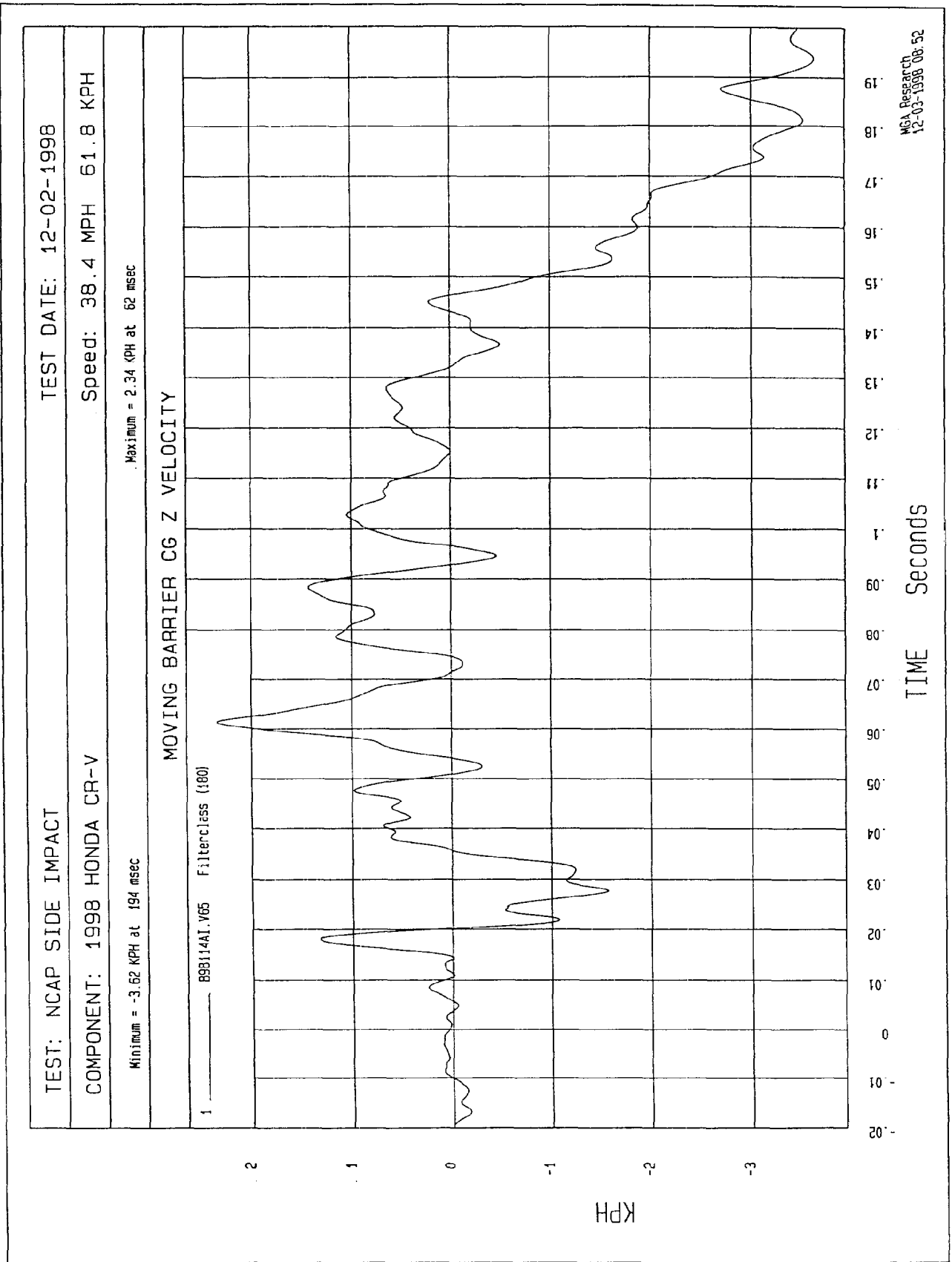
TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -14.88 G'S at 20 msec Maximum = 10.94 G'S at 59 msec

MOVING BARRIER CG Z ACCELERATION





TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

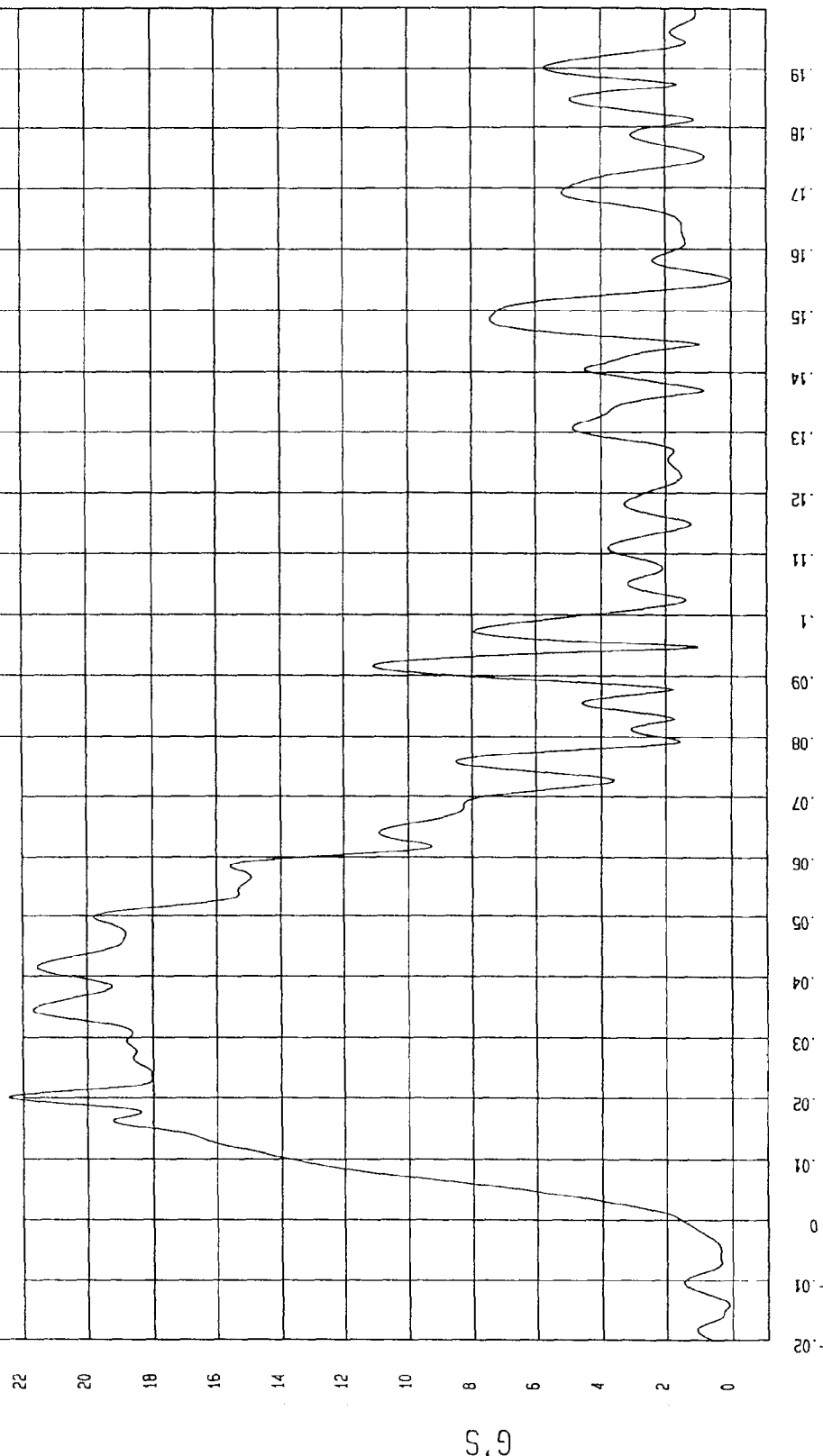
Maximum = 22.44 G's at 20 msec

COMPONENT: 1998 HONDA CR-V

Minimum = .03 G's at 155 msec

MOVING BARRIER CG RESULTANT ACCELERATION

1 898114AV.A63 Filterclass (60)



MSA Research
12-03-1998 08:42

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

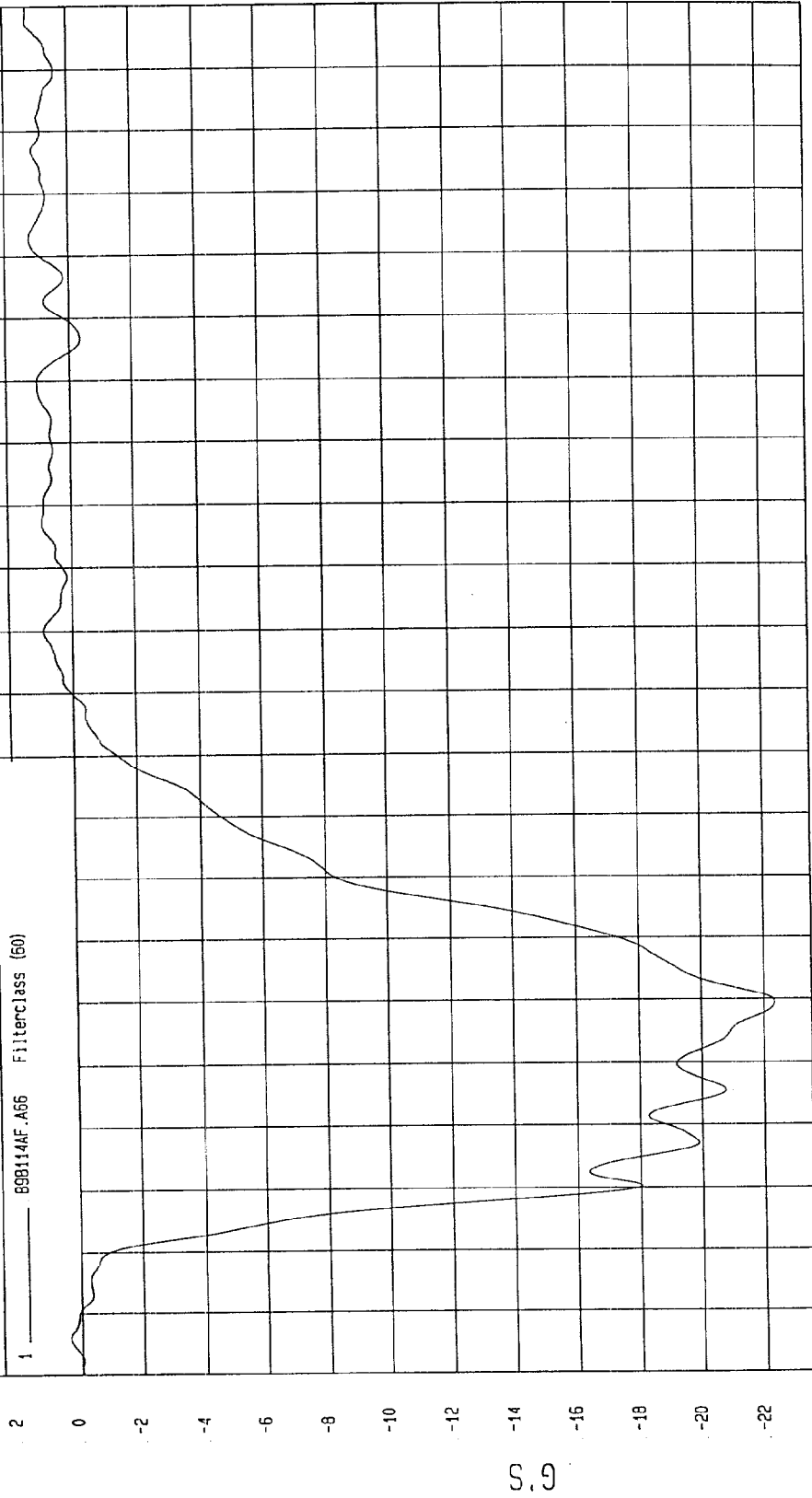
Speed: 38.4 MPH 61.8 KPH

Minimum = -22.35 G'S at 40 msec

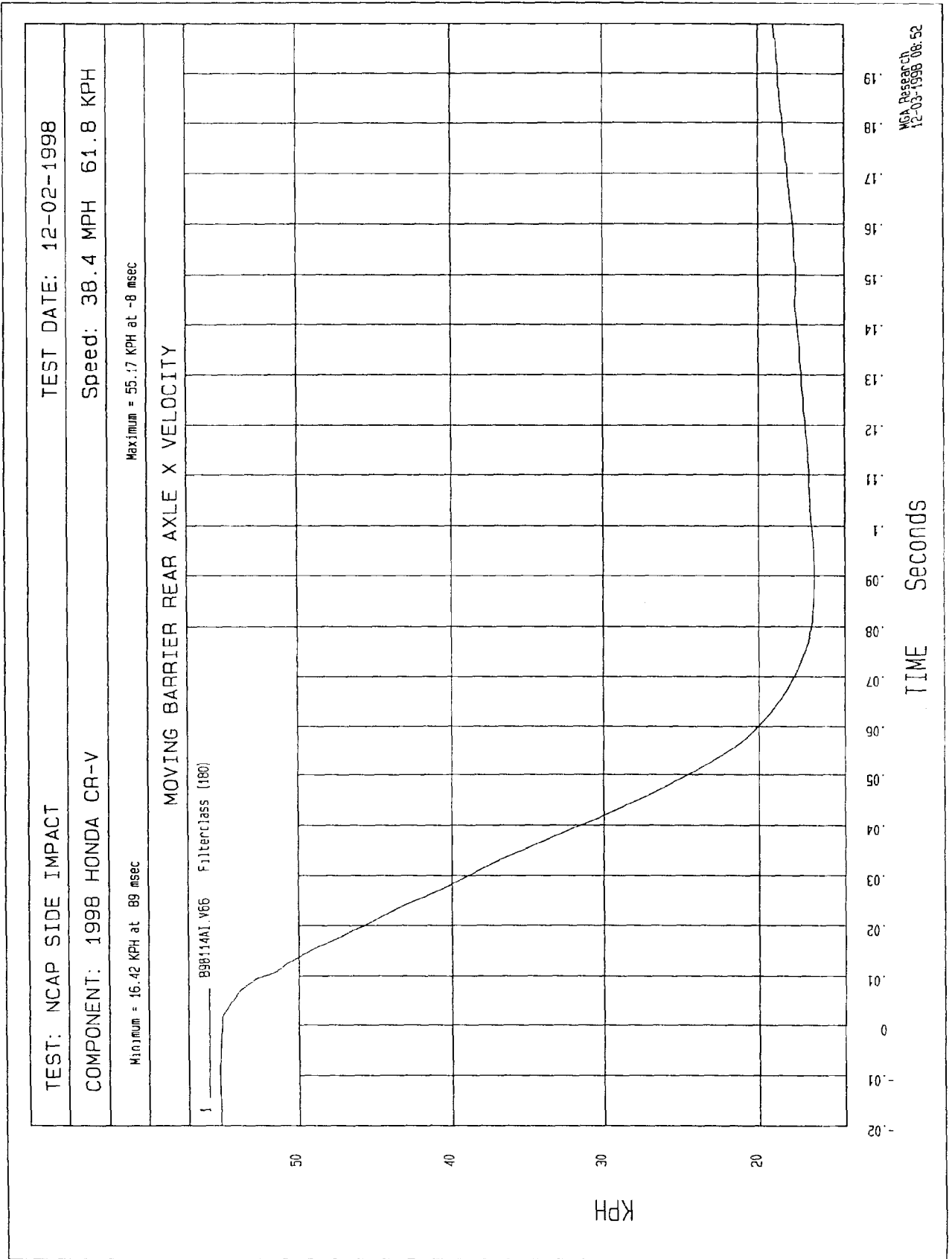
Maximum = 1.29 G'S at 198 msec

MOVING BARRIER REAR AXLE X ACCELERATION

1 ——— 898114AF.A66 Filterclass (60)



MGA Research
12-03-1998 08:42

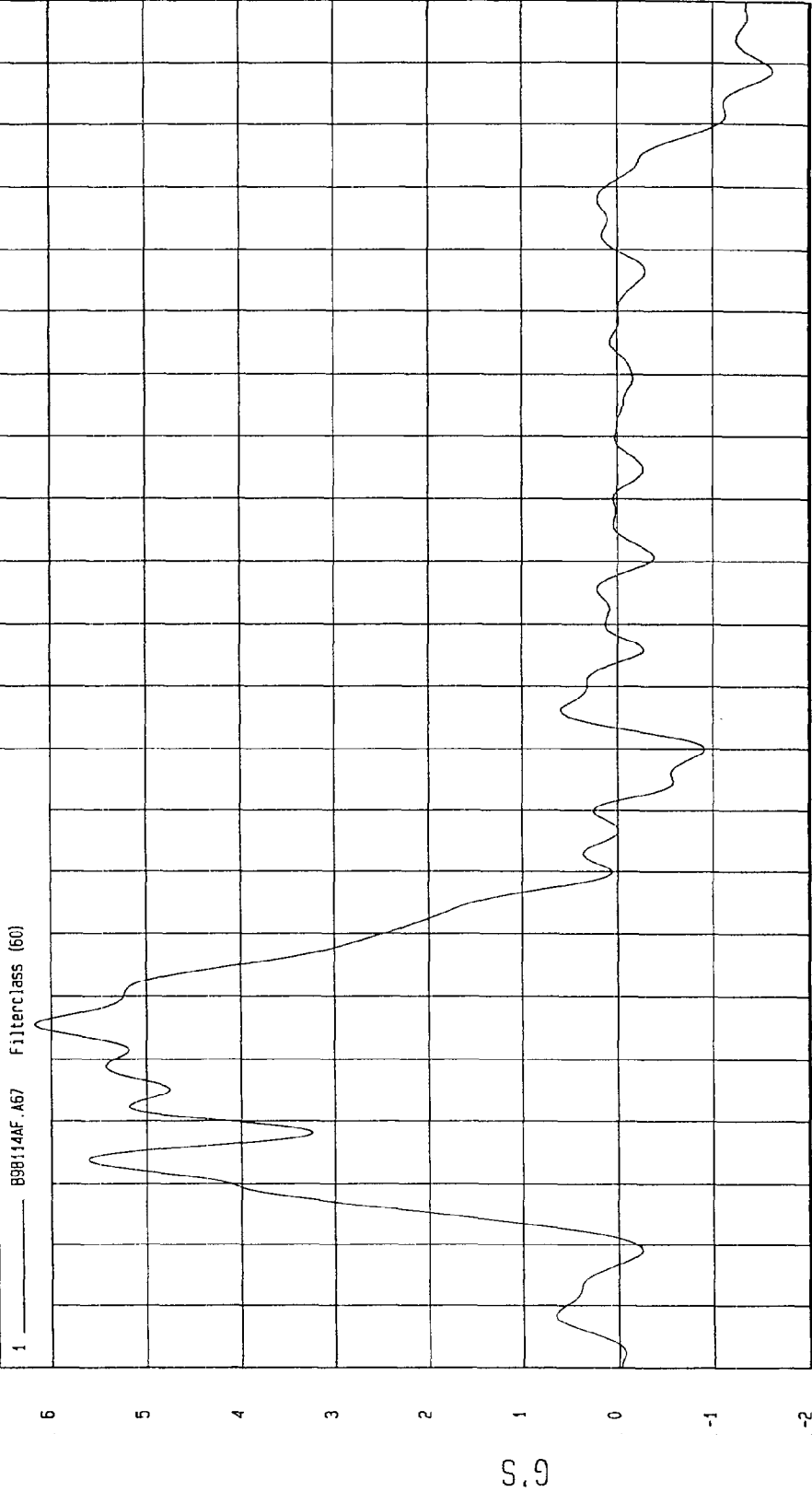


TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -1.63 G'S at .189 msec Maximum = 6.17 G'S at .36 msec

MOVING BARRIER REAR AXLE Y ACCELERATION



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

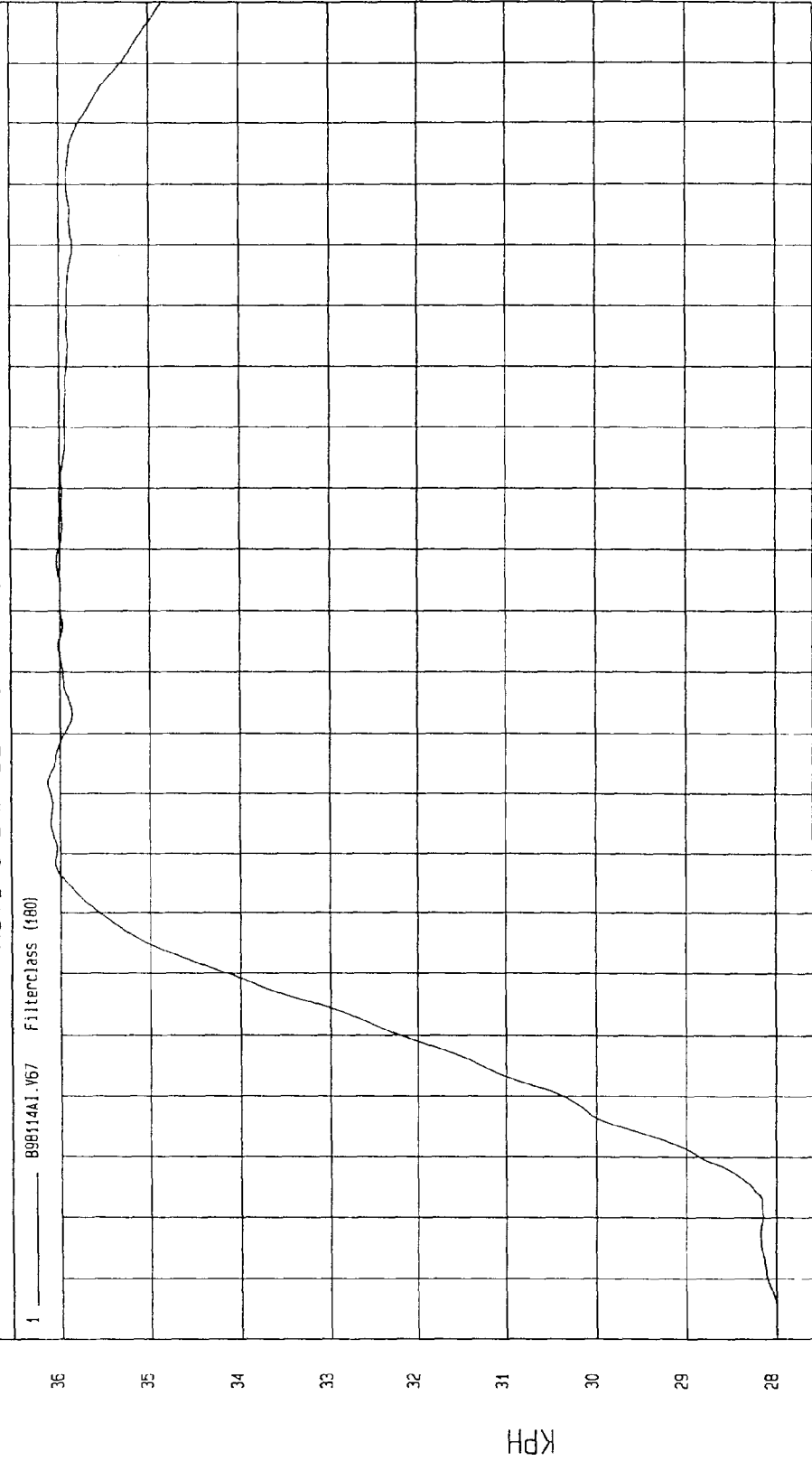
COMPONENT: 1998 HONDA CR-V

Maximum = 36.14 KPH at 72 msec

Minimum = 27.99 KPH at -16 msec

MOVING BARRIER REAR AXLE Y VELOCITY

1 — B06114A1.V67 Filterclass (180)



MSC Research
12-03-1998 08:52

TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

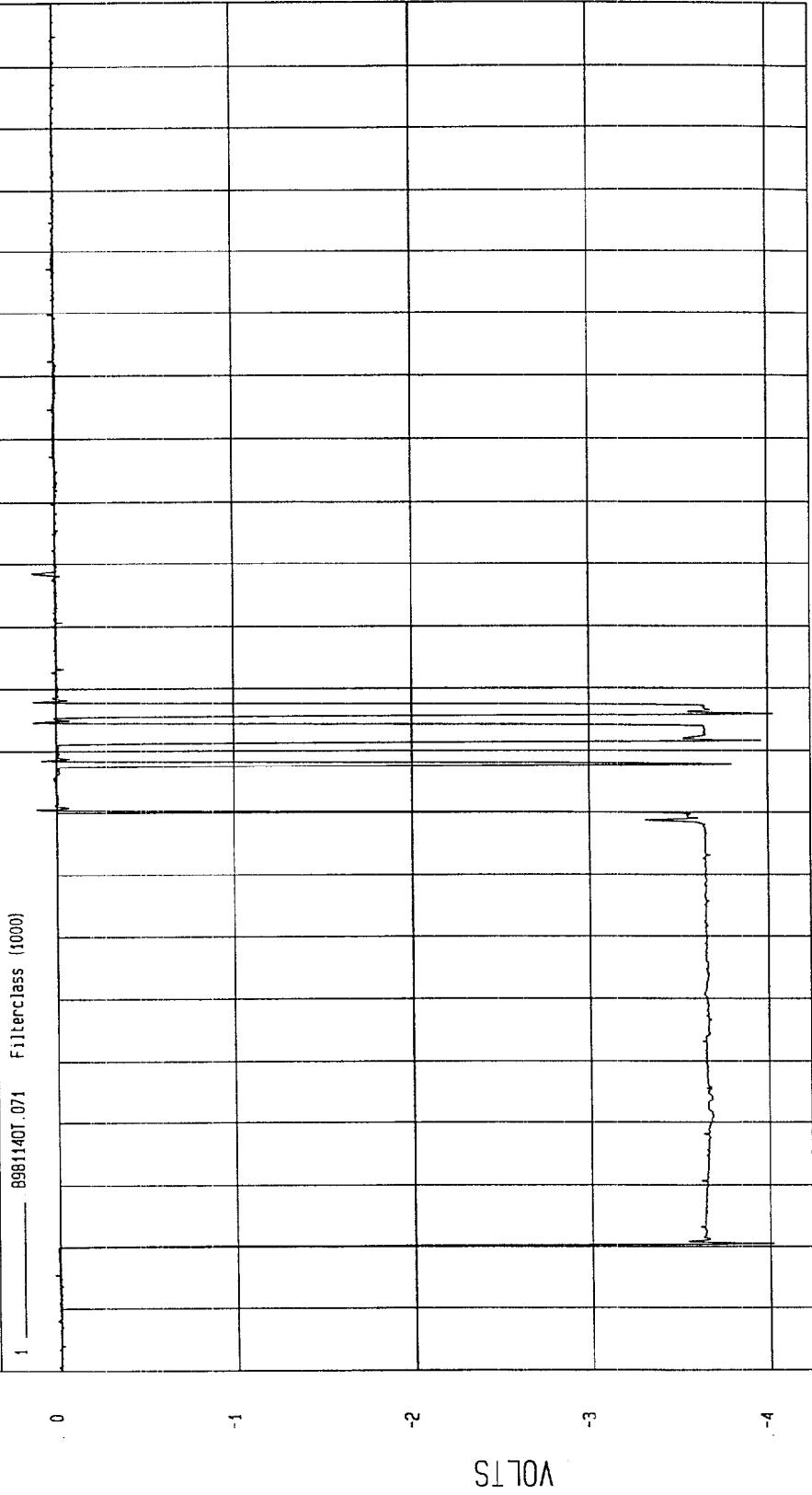
Speed: 38.4 MPH 61.8 KPH

Minimum = -4.03 VOLTS at 86 msec

Maximum = .13 VOLTS at 88 msec

LEFT BARRIER CONTACT

1 B981140T.071 Filterclass (1000)



MGA Research
12-03-1998 08:42

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

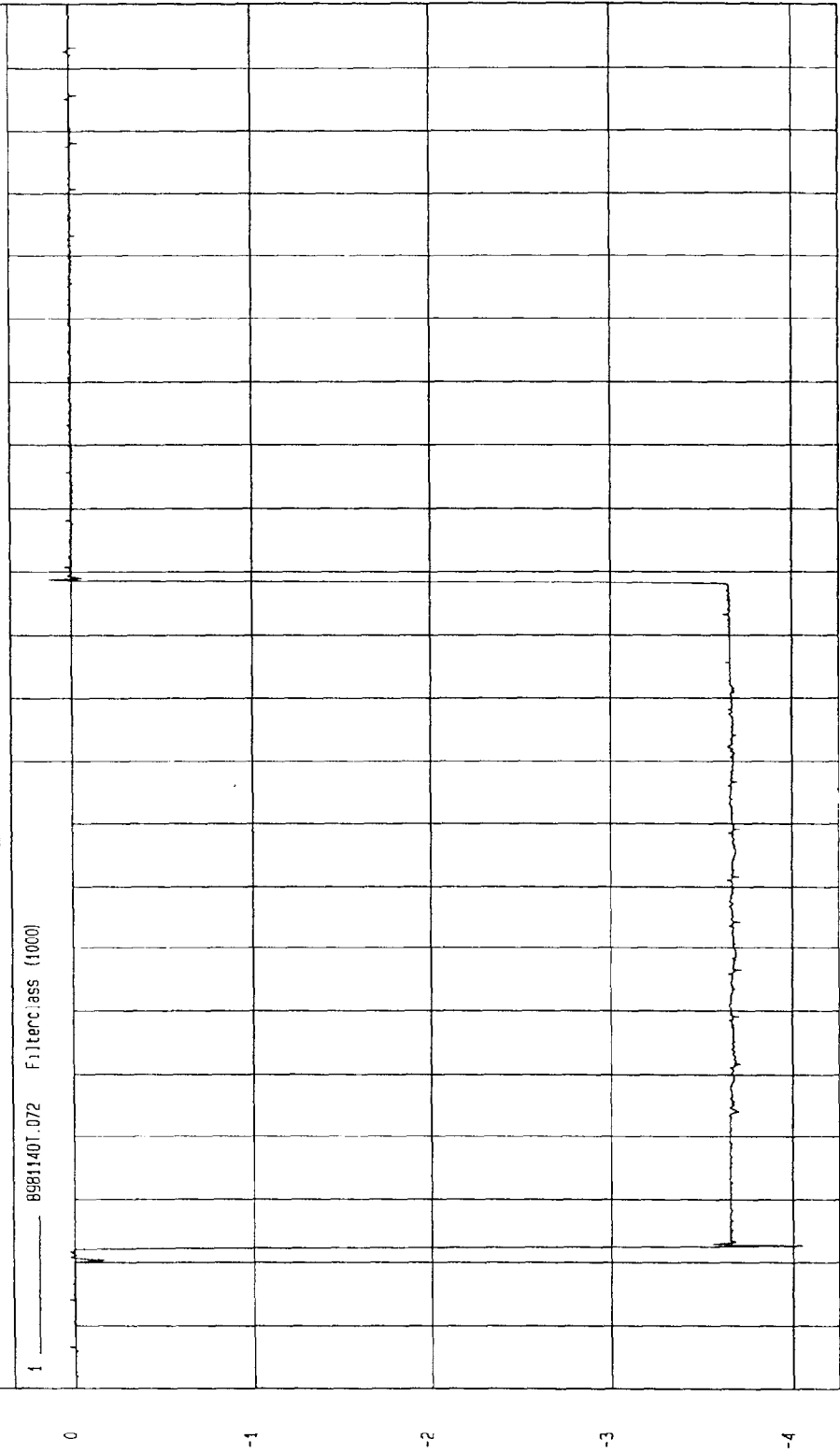
COMPONENT: 1998 HONDA CR-V

Maximum = .12 VOLTS at 109 msec

Minimum = -4.05 VOLTS at 2 msec

RIGHT BARRIER CONTACT

1 ——— B981140T.072 Filterclass (1000)



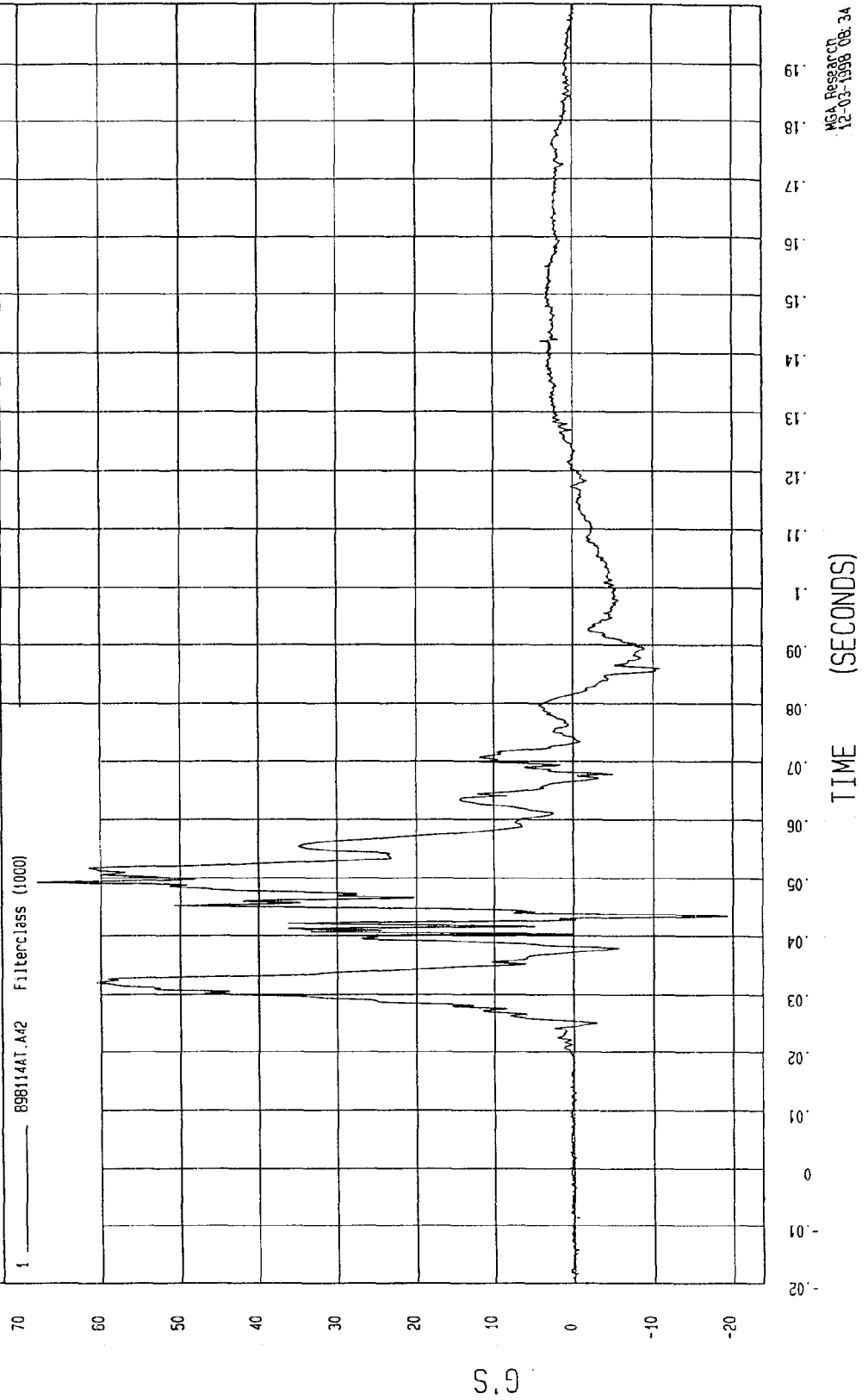
MSA Research
12-03-1998 08:42

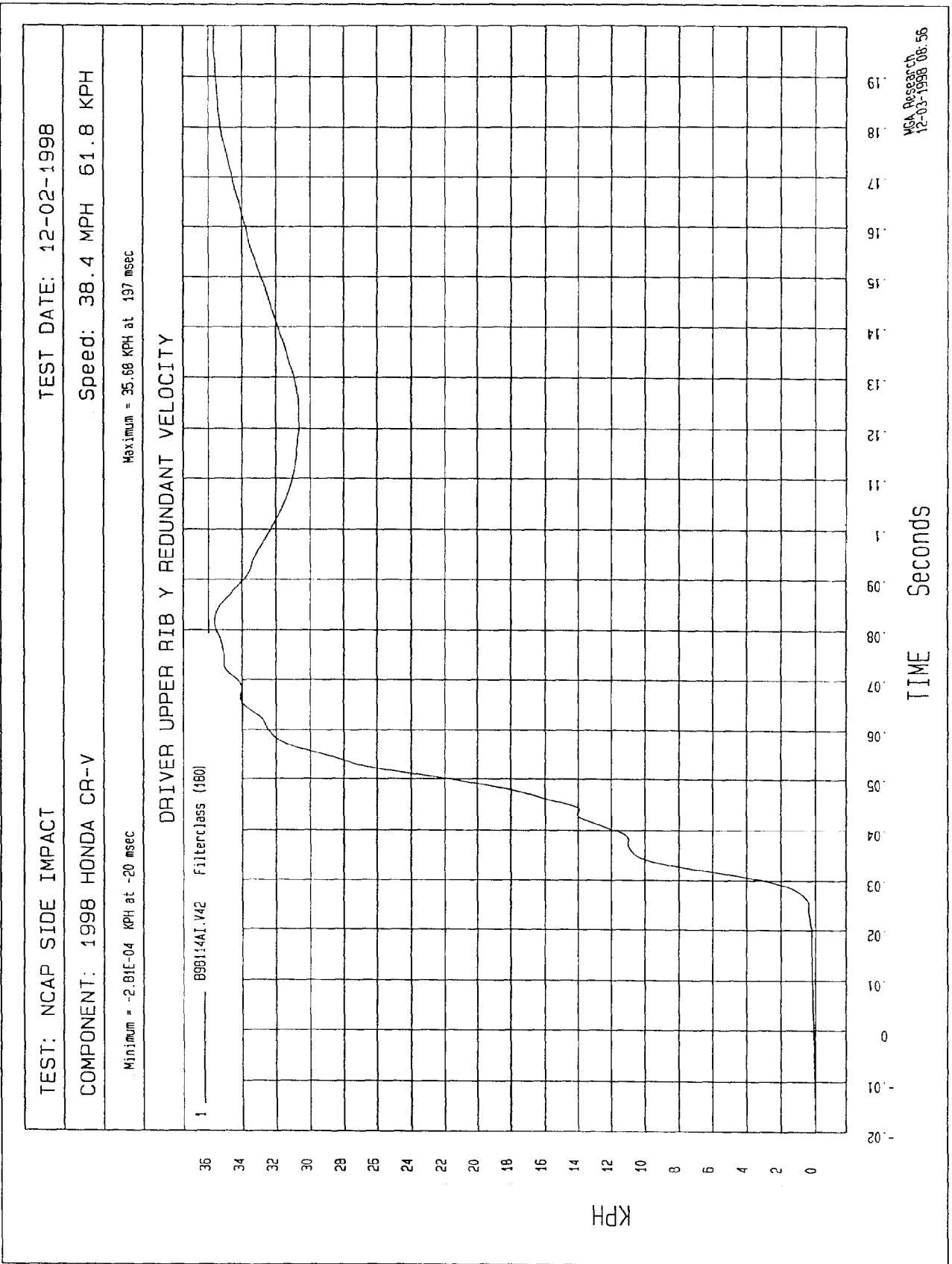
TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

= 67.97 G'S at 49 msec

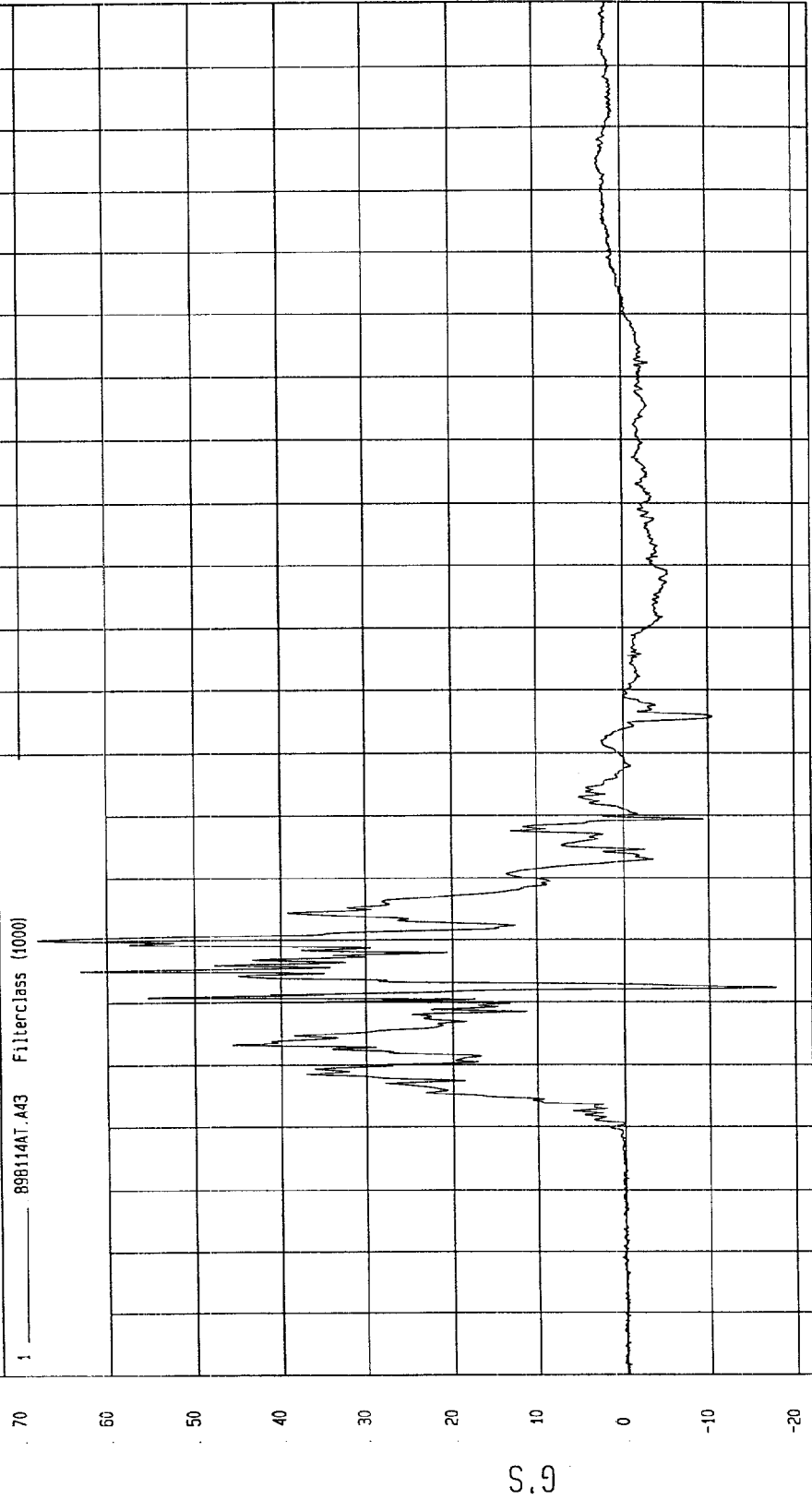
DRIVER UPPER RIB Y REDUNDANT ACCELERATION



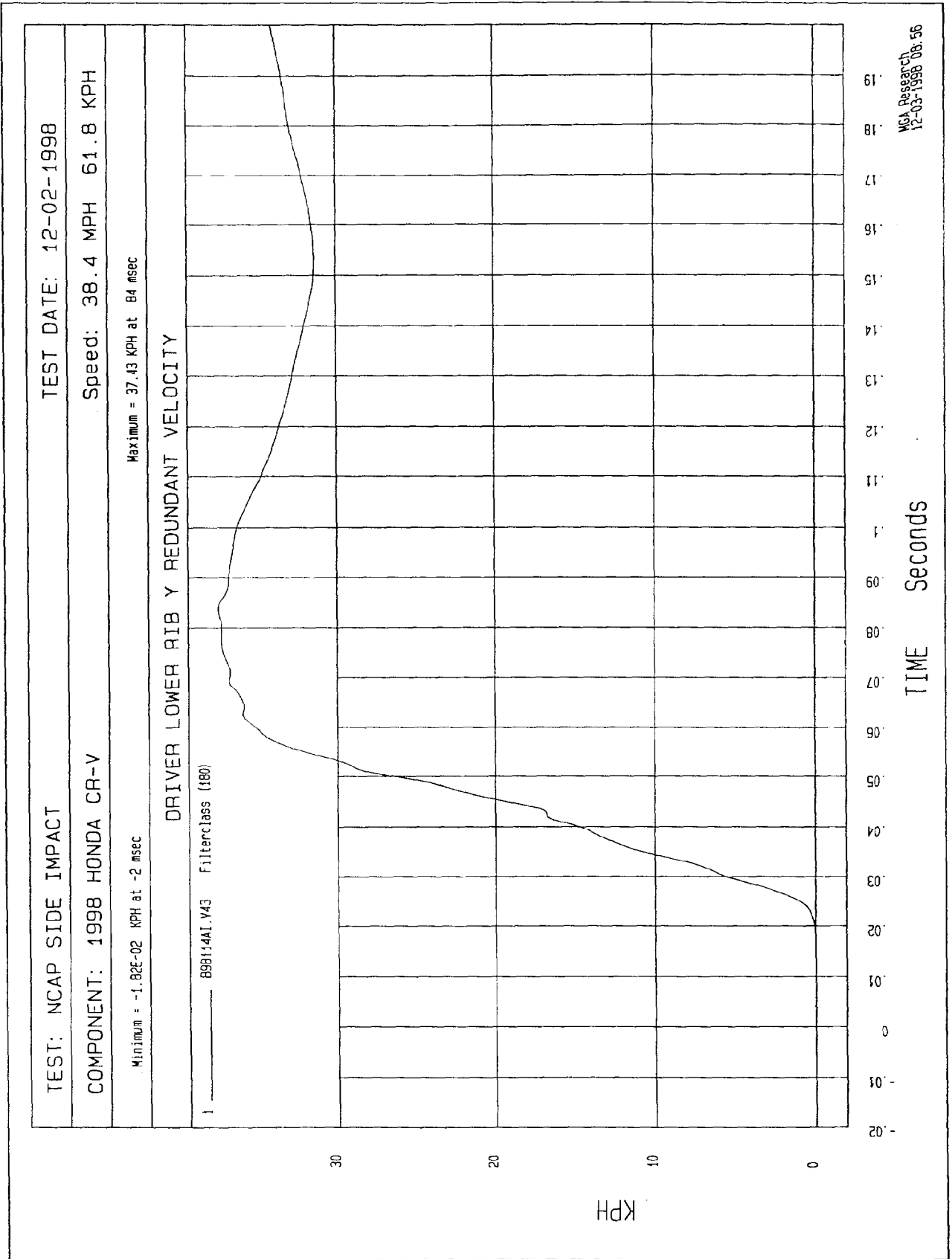


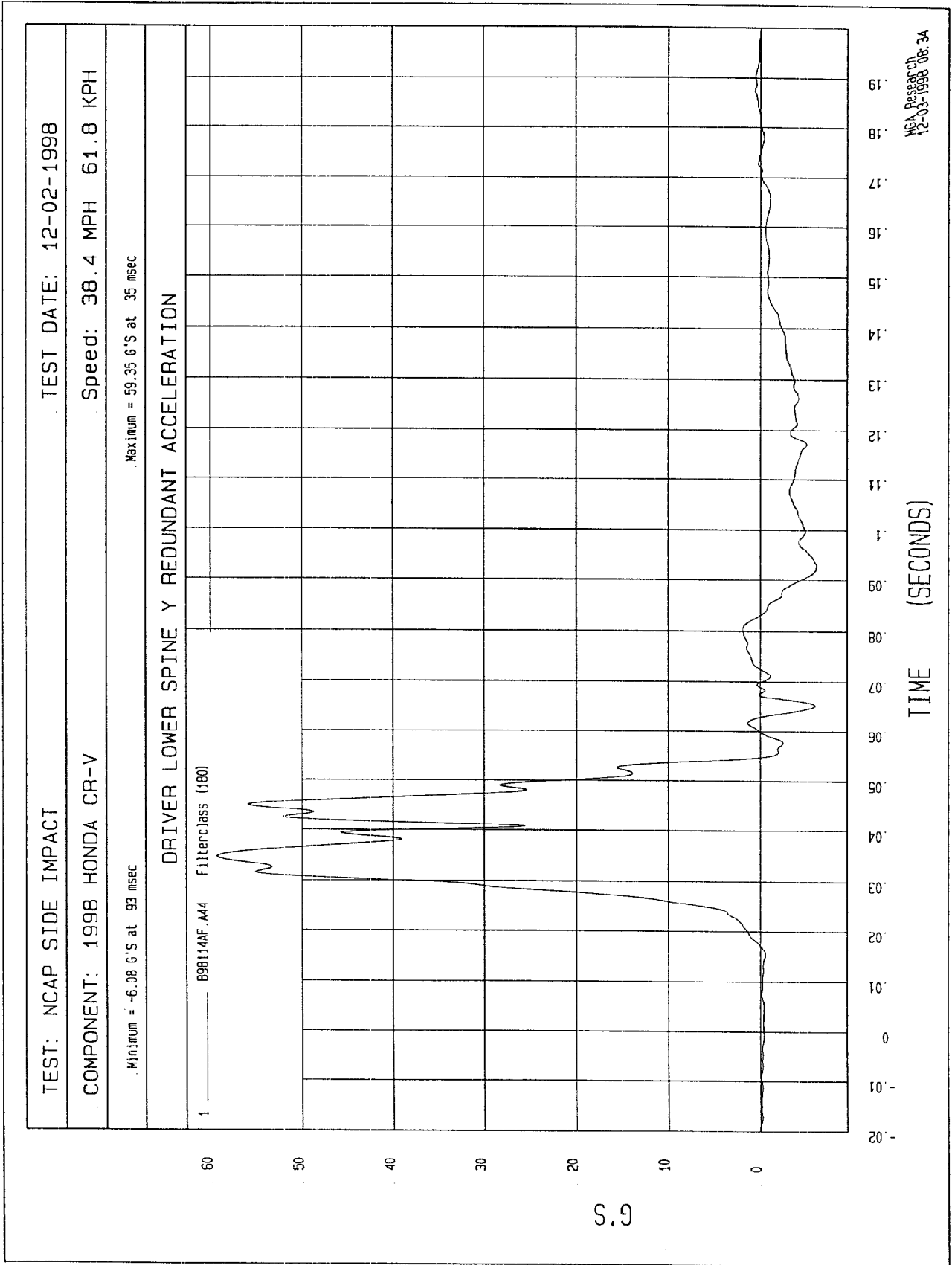
TEST: NCAP SIDE IMPACT
TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V
Speed: 38.4 MPH 61.8 KPH
Minimum = -17.72 G'S at 42 msec
Maximum = 68.12 G'S at 50 msec

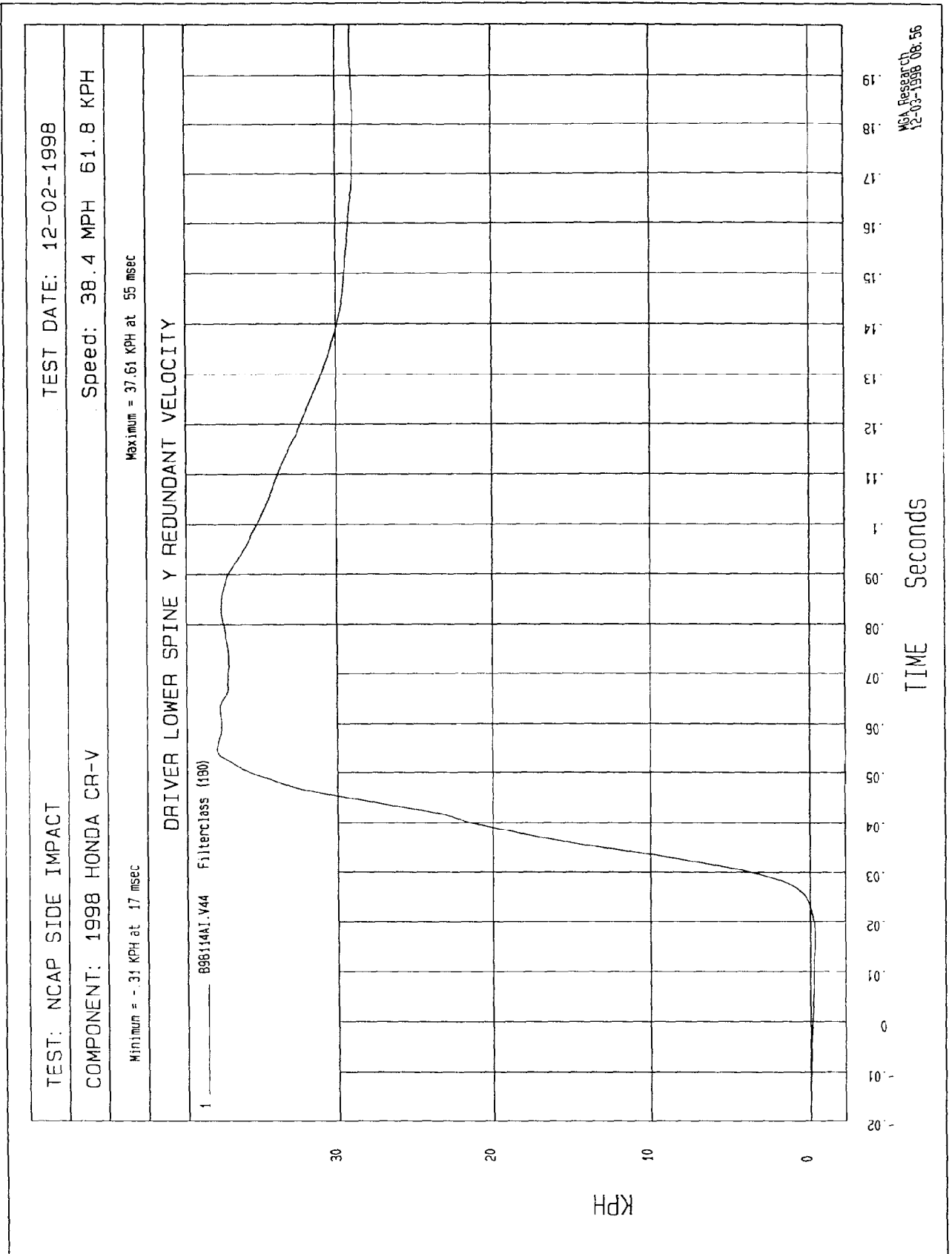
DRIVER LOWER RIB Y REDUNDANT ACCELERATION

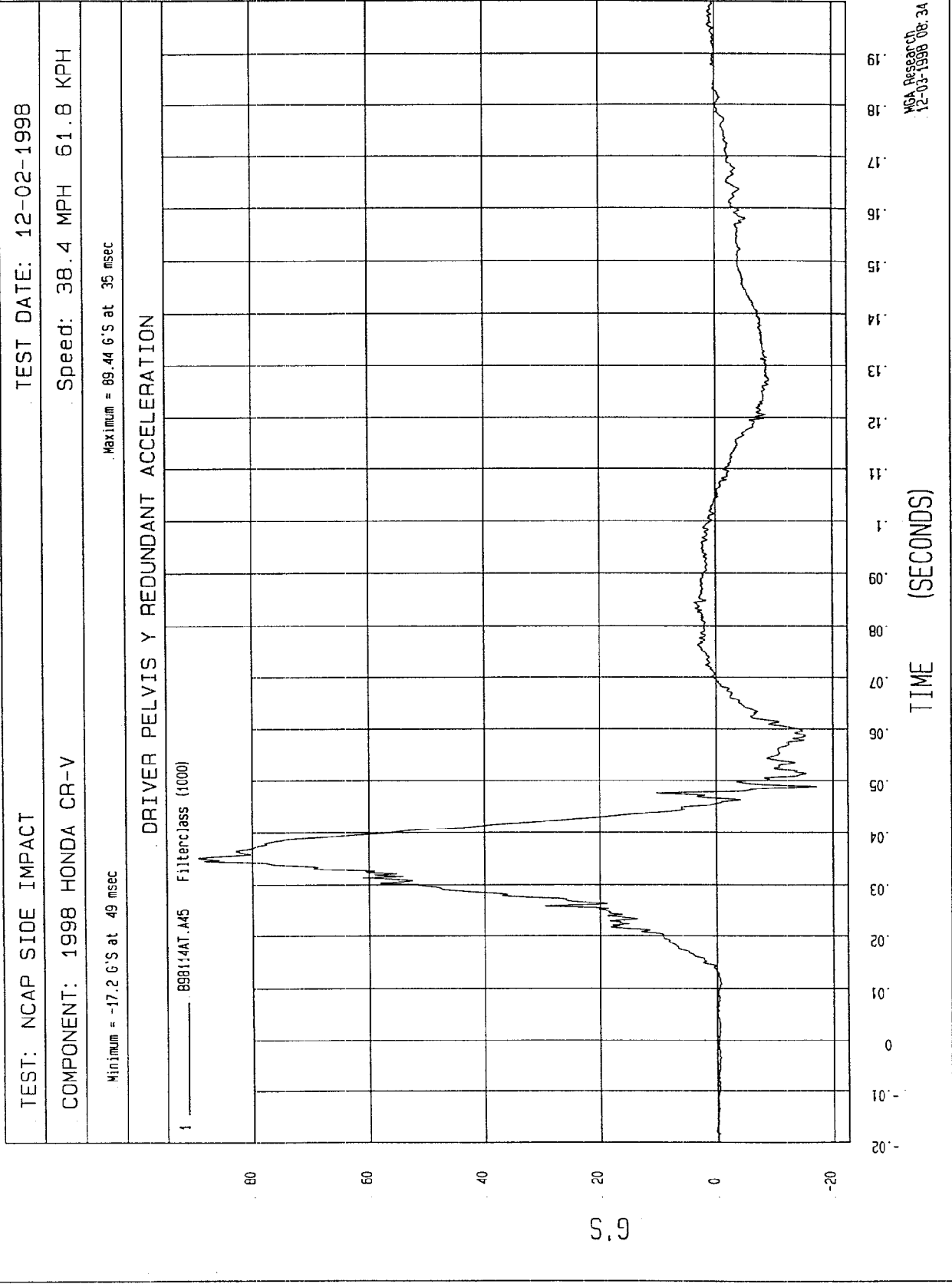


MSA Research
12-03-1998 08:34







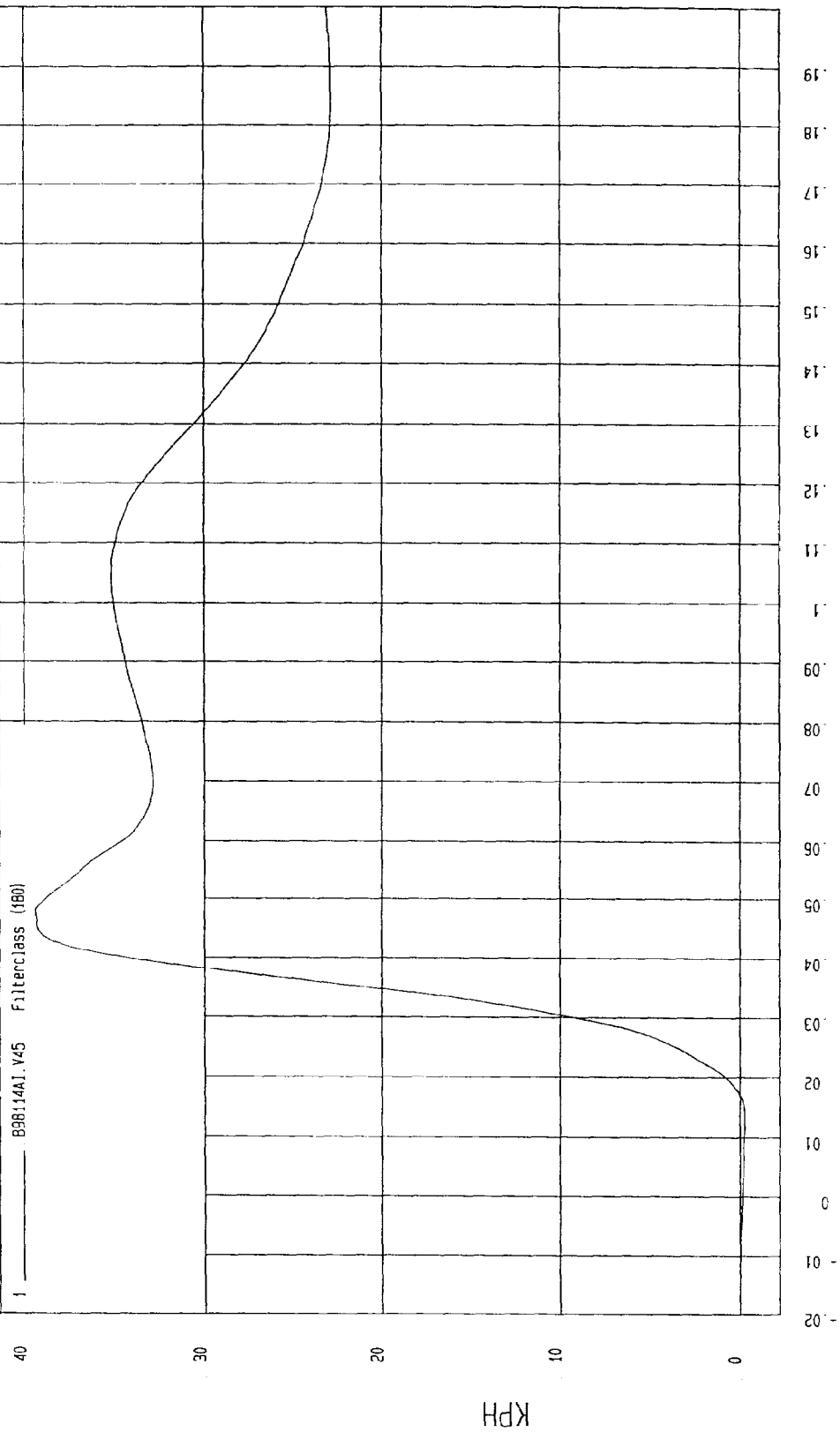


TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -.27 KPH at 13 msec Maximum = 39.39 KPH at 48 msec

DRIVER PELVIS Y REDUNDANT VELOCITY



NSA Research
12-03-1998 08:56

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

Speed: 38.4 MPH 61.8 KPH

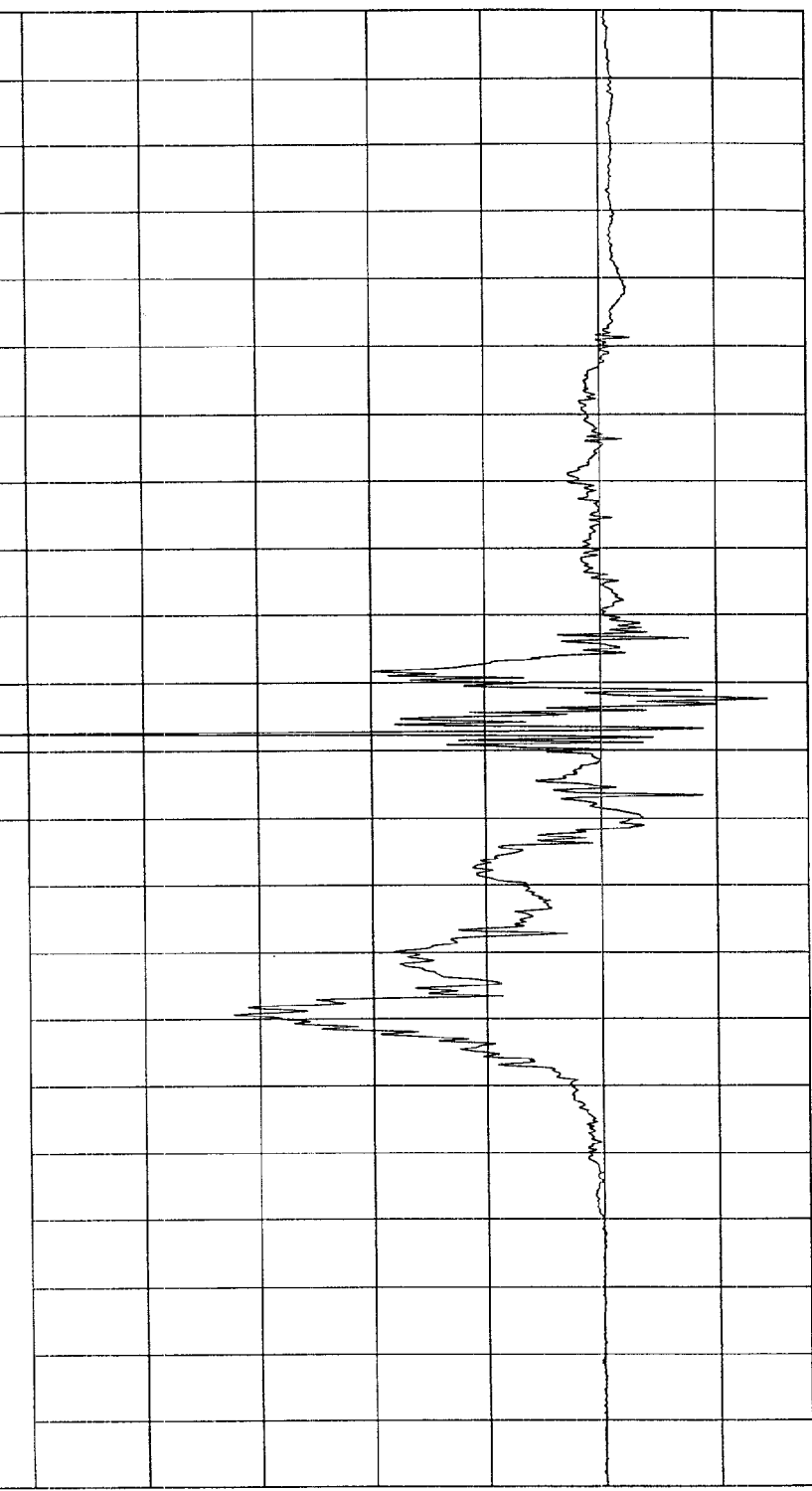
Minimum = -29.19 G'S at 98 msec

Maximum = 109.68 G'S at 92 msec

REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION

1 898114AT.A46 Filterclass (4000)

G.S



TIME (SECONDS)

MSA Report CT
12-03-1998 08:34

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

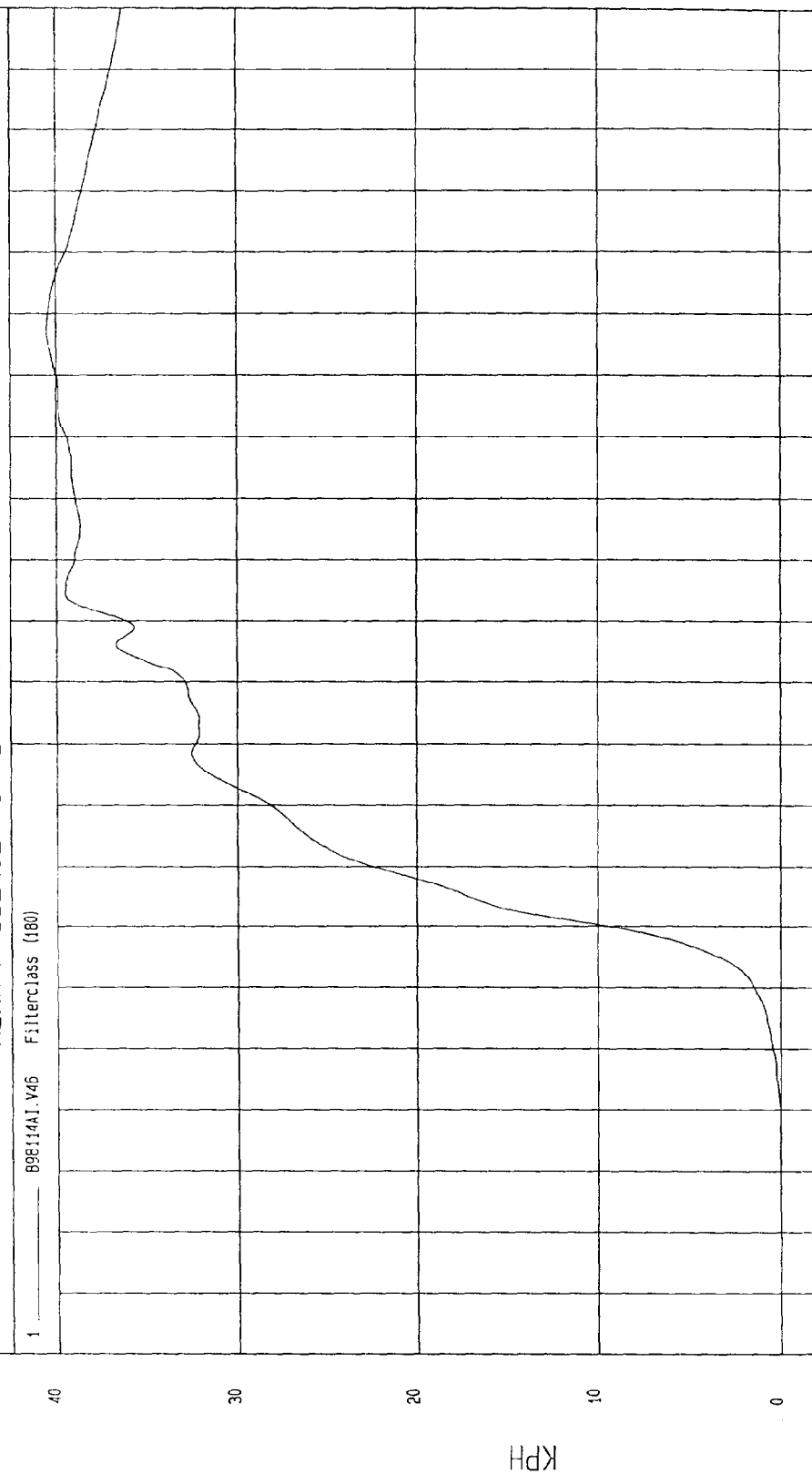
COMPONENT: 1998 HONDA CR-V

Maximum = 40.52 KPH at 147 msec

Minimum = 0 KPH at -19 msec

REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY

1 89E114A1.V46 Filterclass (180)



MOA Research
12-03-1998 08:56

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

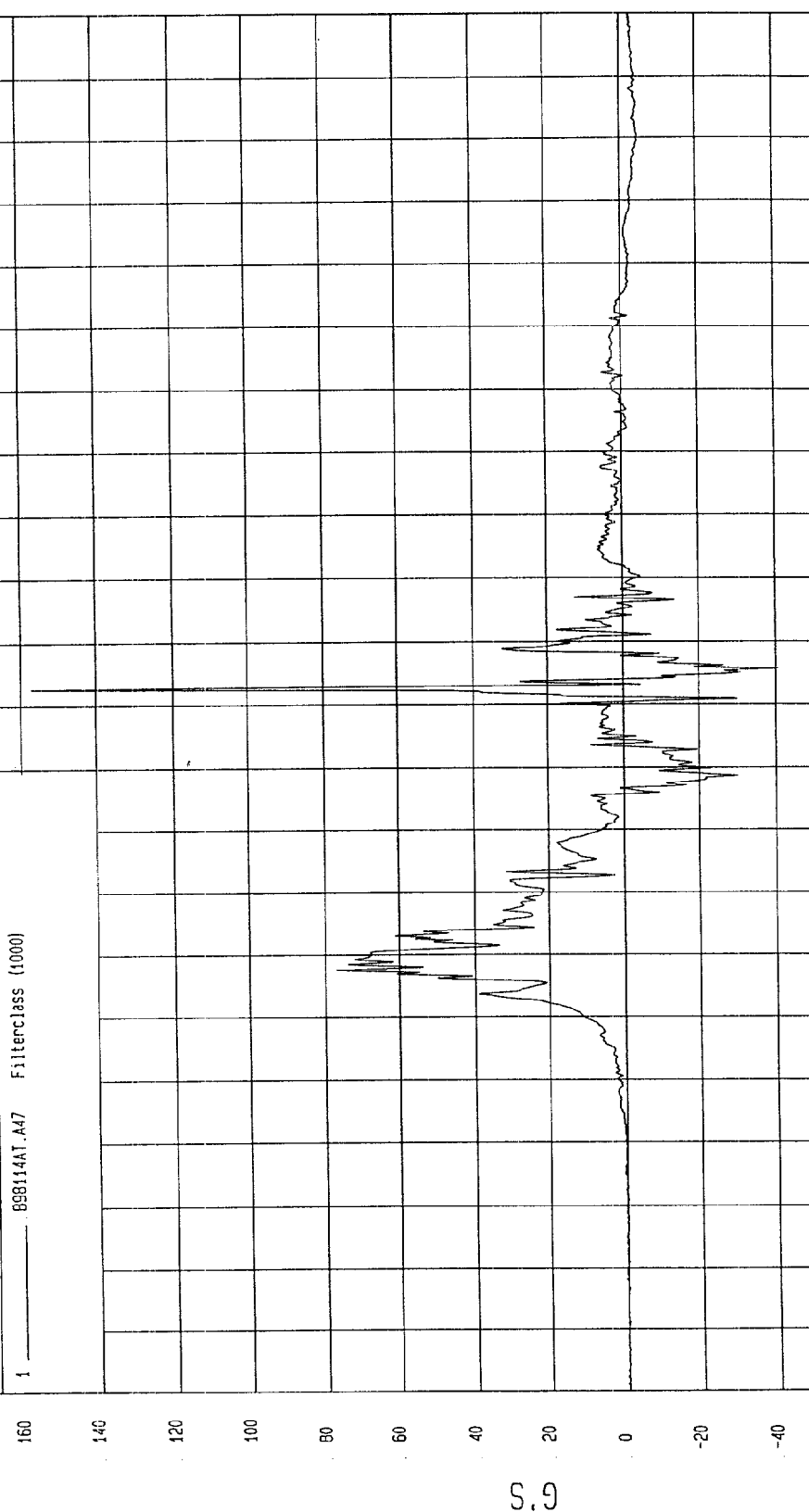
COMPONENT: 1998 HONDA CR-V

Maximum = 157.07 G'S at 93 msec

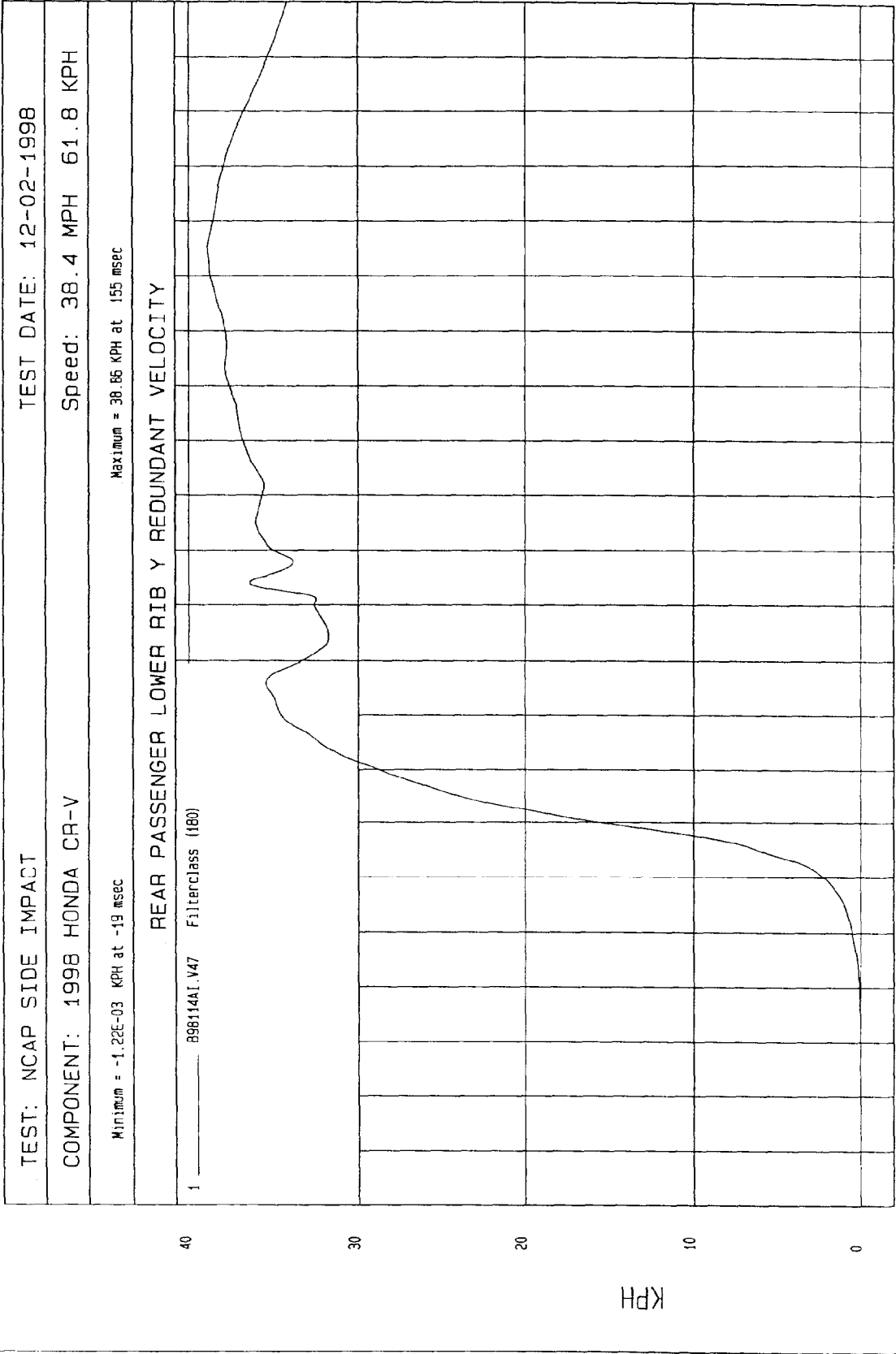
Minimum = -40.73 G'S at 96 msec

REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION

1 898114AT.A47 Filterclass (1000)



NCAP Research
12-03-1998 08:34



WSA Research
12-03-1998 08:56

TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

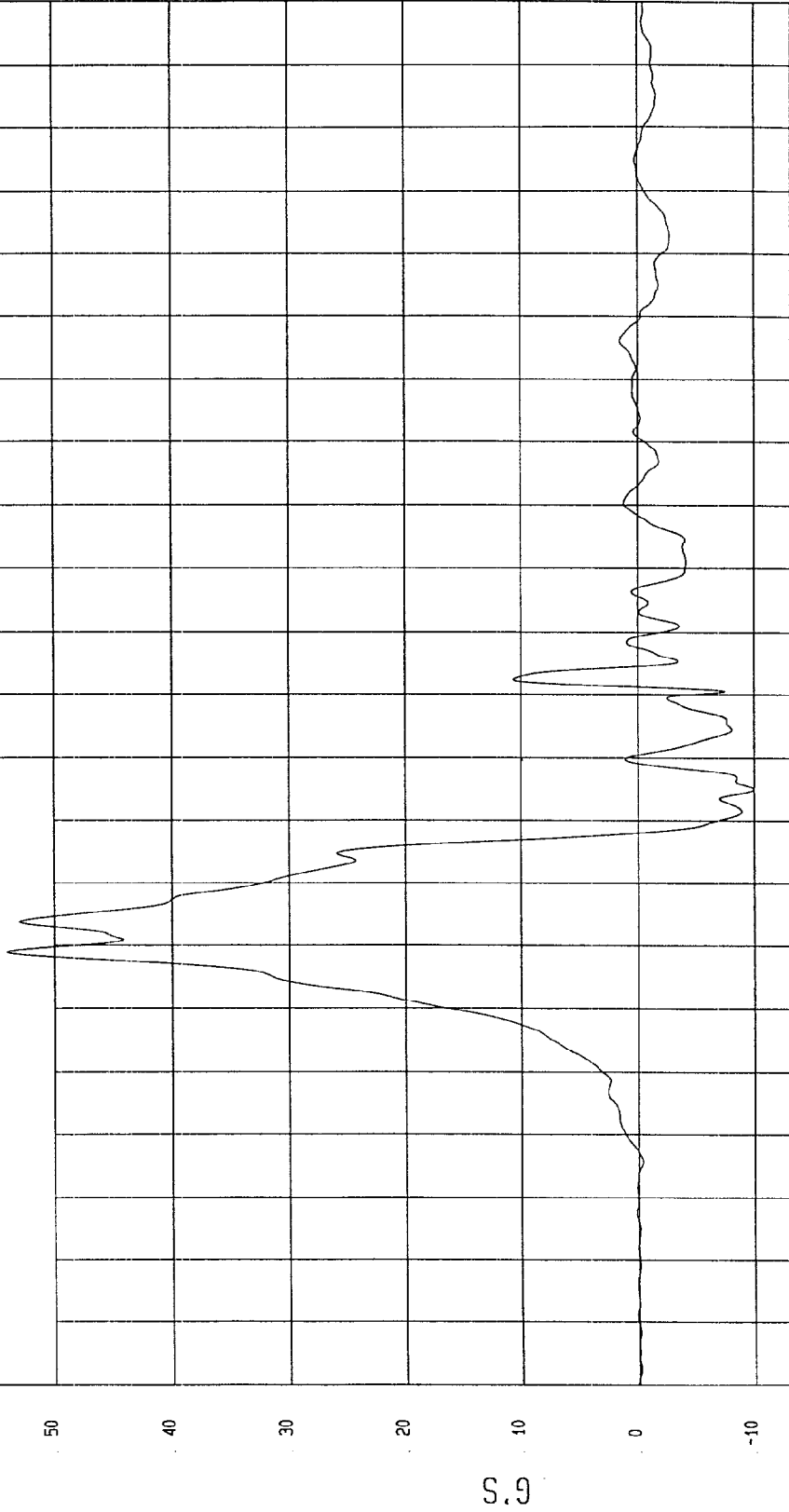
COMPONENT: 1998 HONDA CR-V

Maximum = 53.96 G'S at 49 msec

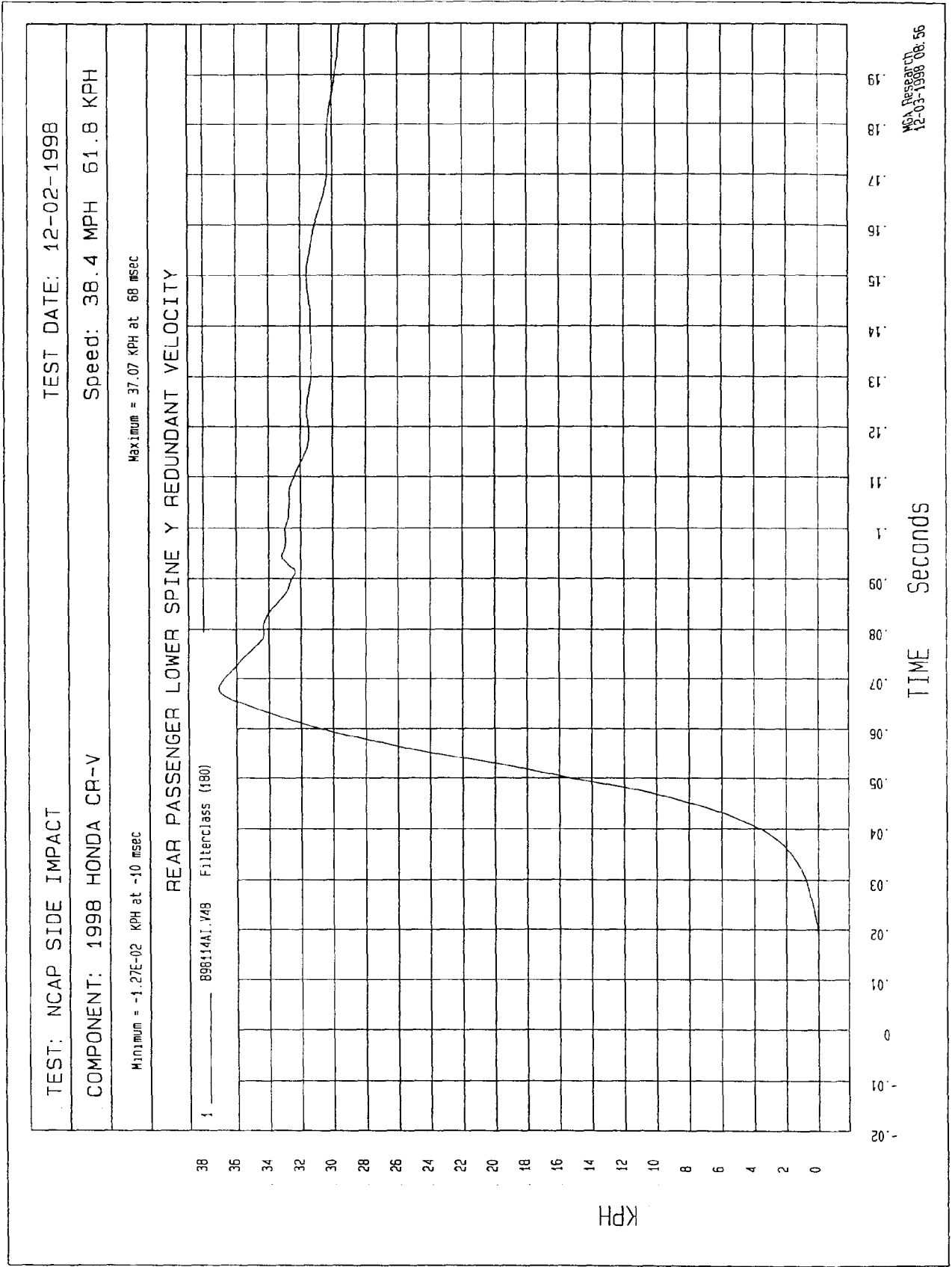
Minimum = -10.01 G'S at 75 msec

REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION

1 898114AF.A48 Filterclass (180)



MSA Research
12-03-1998 08:34



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

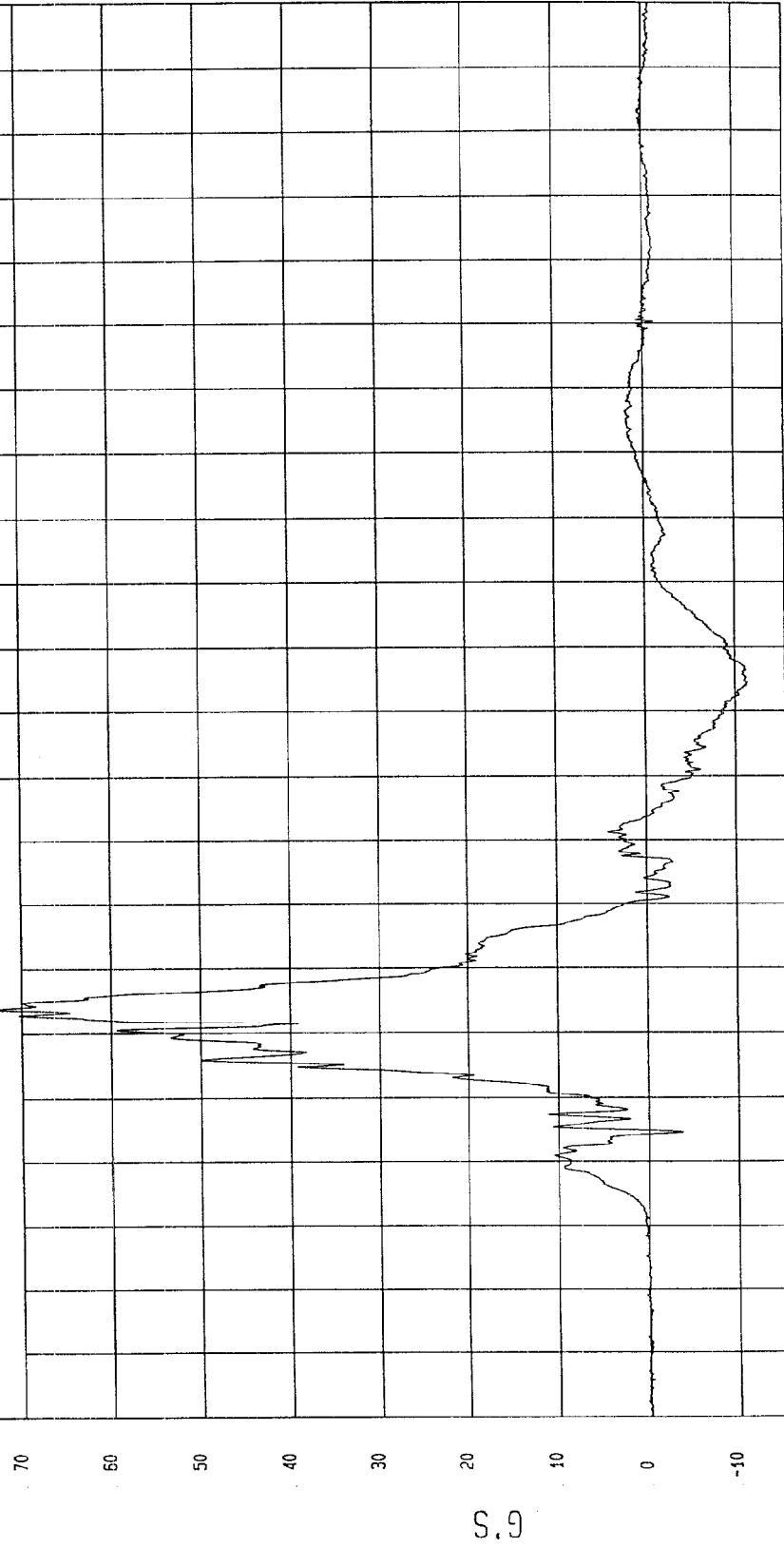
Speed: 38.4 MPH 61.8 KPH

Minimum = -11.39 G'S at 94 msec

Maximum = 73.64 G'S at 44 msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION

1 898144T.A49 Filterclass (1000)



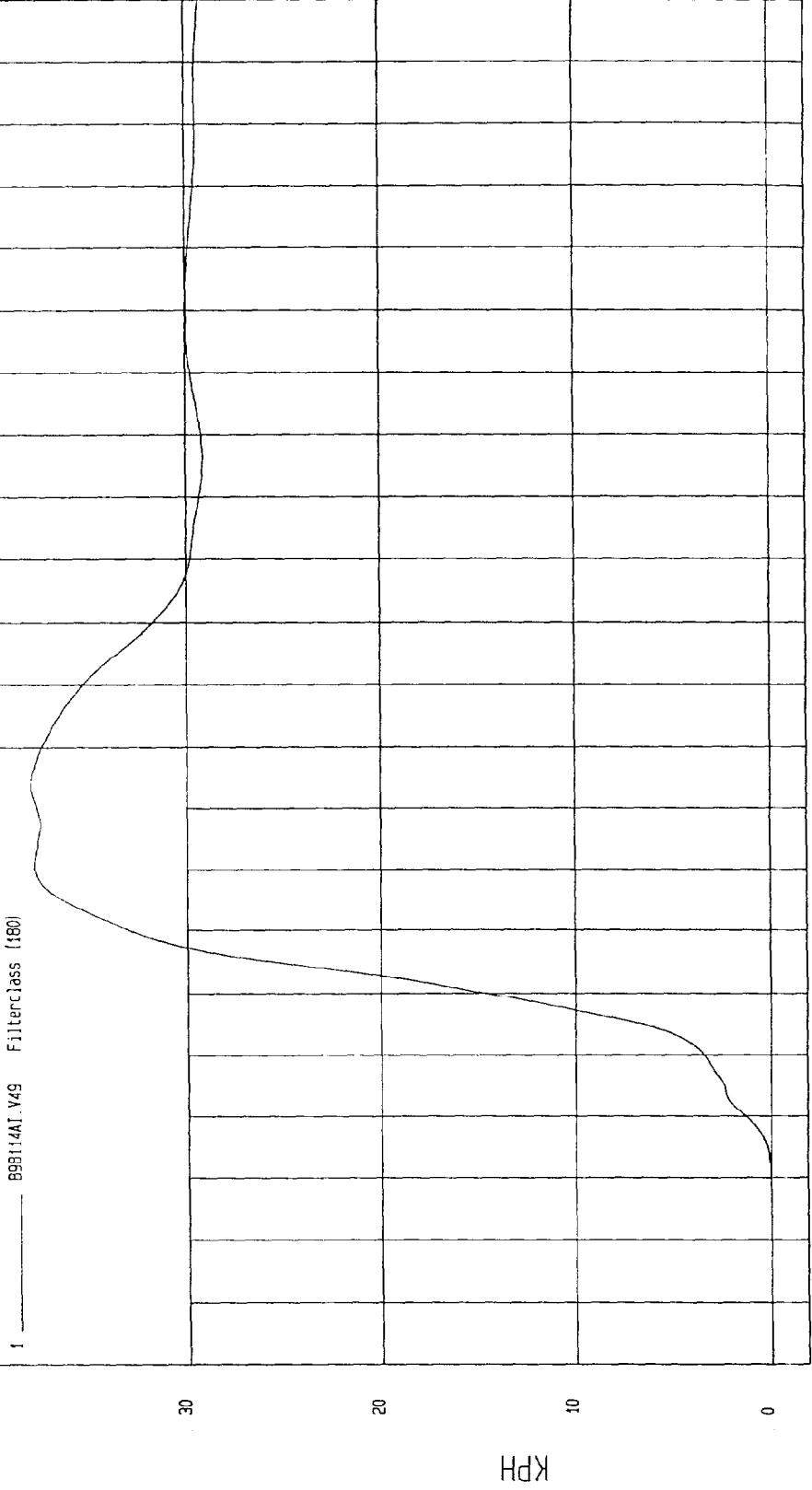
WCA Research
12-03-1998 08:34

TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

Minimum = -3.61E-03 KPH at -19 msec Maximum = 38.01 KPH at 74 msec

REAR PASSENGER PELVIS Y REDUNDANT VELOCITY



FINITE IMPULSE RESPONSE (FIR) FILTERED DATA

TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

Maximum = 54.68 G'S at 50 msec

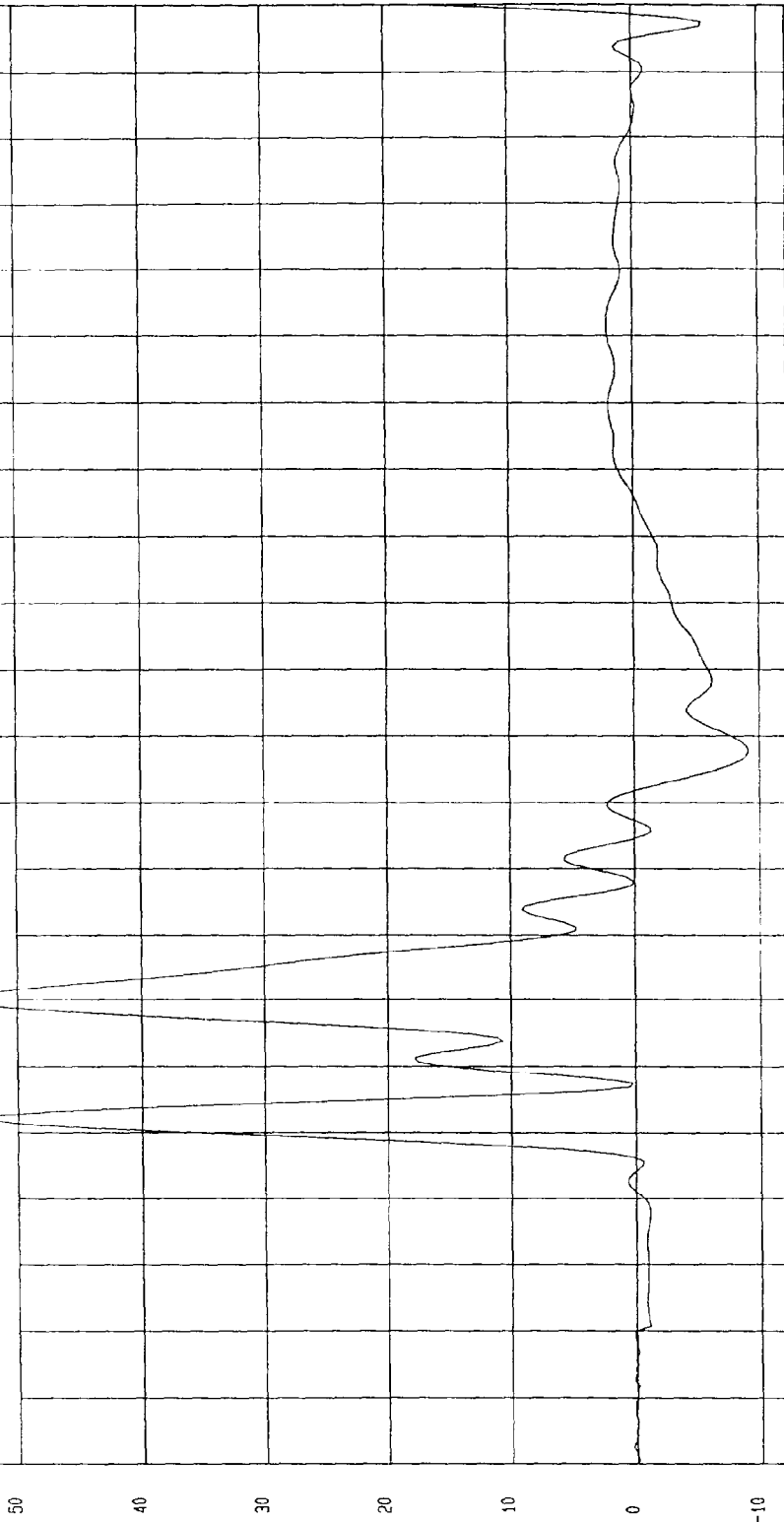
COMPONENT: 1998 HONDA CR-V

Minimum = -9.07 G'S at 88 msec

DRIVER UPPER RIB Y ACCELERATION

1 ——— BS614FI R15 Filterclass (FIR Filtered)

G.S

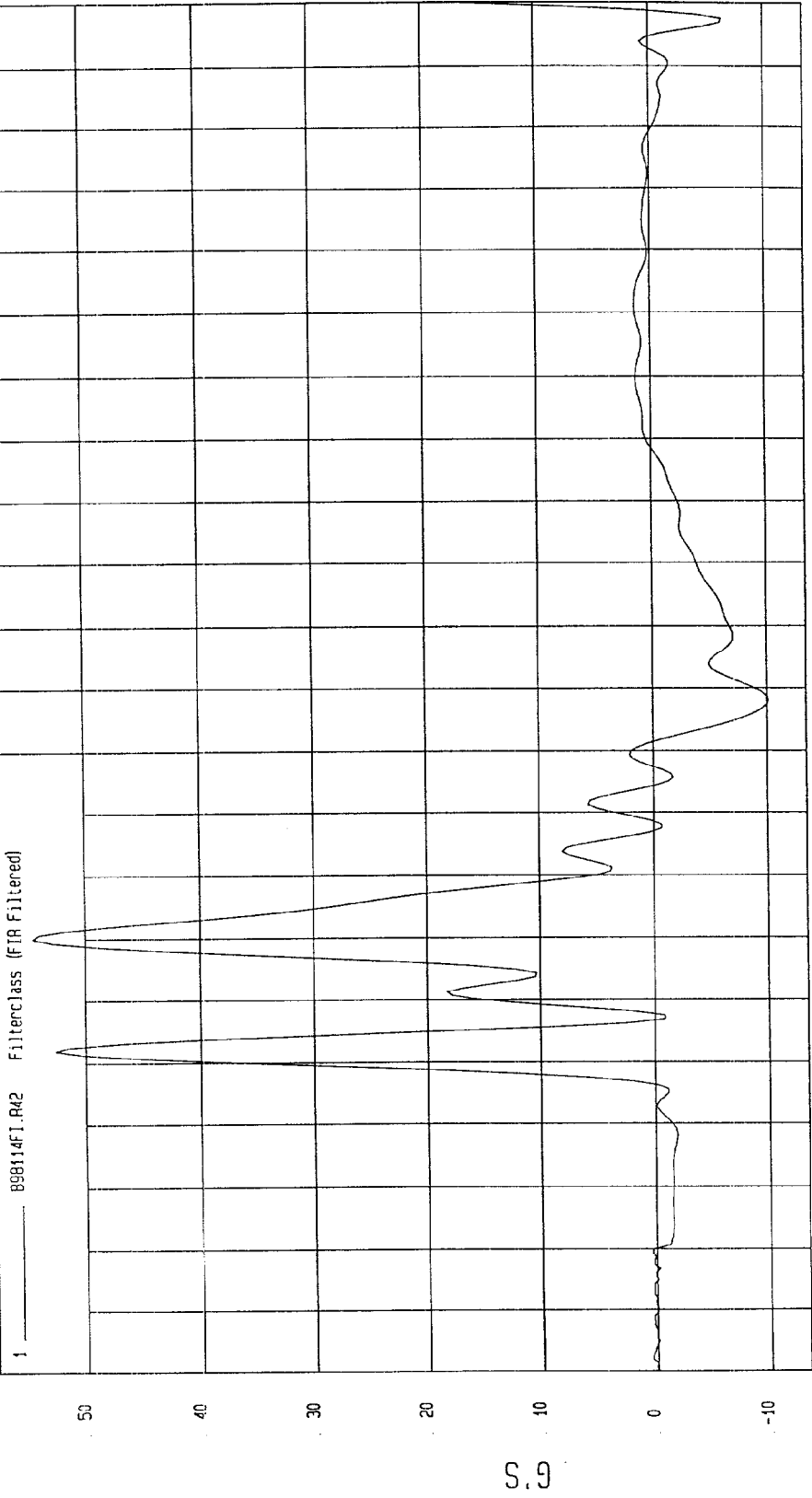


MECA Research
12-11-1998 09:39

TIME (SECONDS)

TEST: NCAP SIDE IMPACT
TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V
Speed: 38.4 MPH 61.8 KPH
Minimum = -10.45 G'S at 88 msec
Maximum = 54.51 G'S at 50 msec

DRIVER UPPER RIB Y REDUNDANT ACCELERATION



TIME (SECONDS)

WCA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

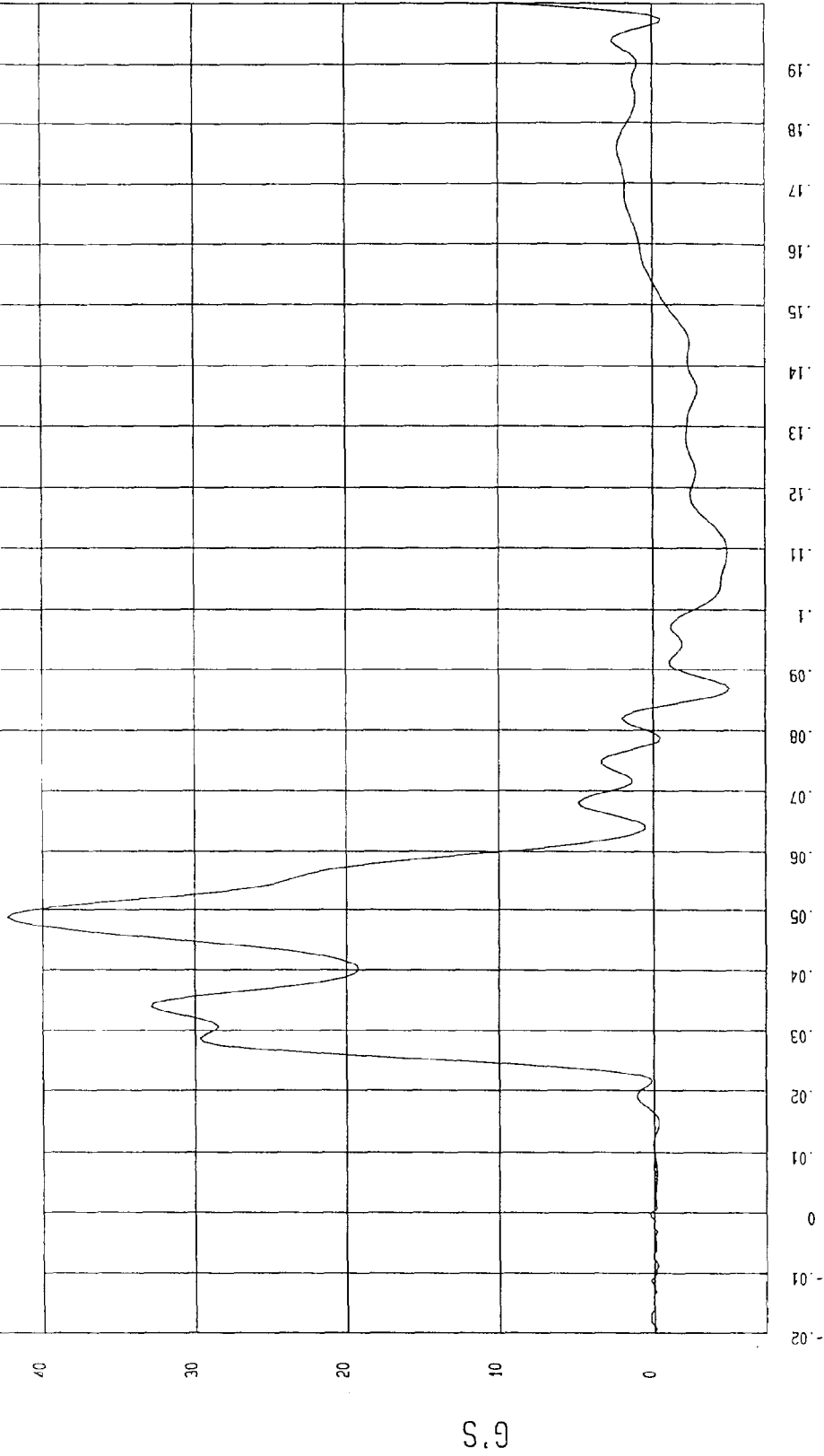
COMPONENT: 1998 HONDA CR-V

Maximum = 42.28 G'S at 49 msec

Minimum = -4.87 G'S at 87 msec

DRIVER LOWER RIB Y ACCELERATION

1 ——— B98114FI.R16 Filterclass (FIR Filtered)

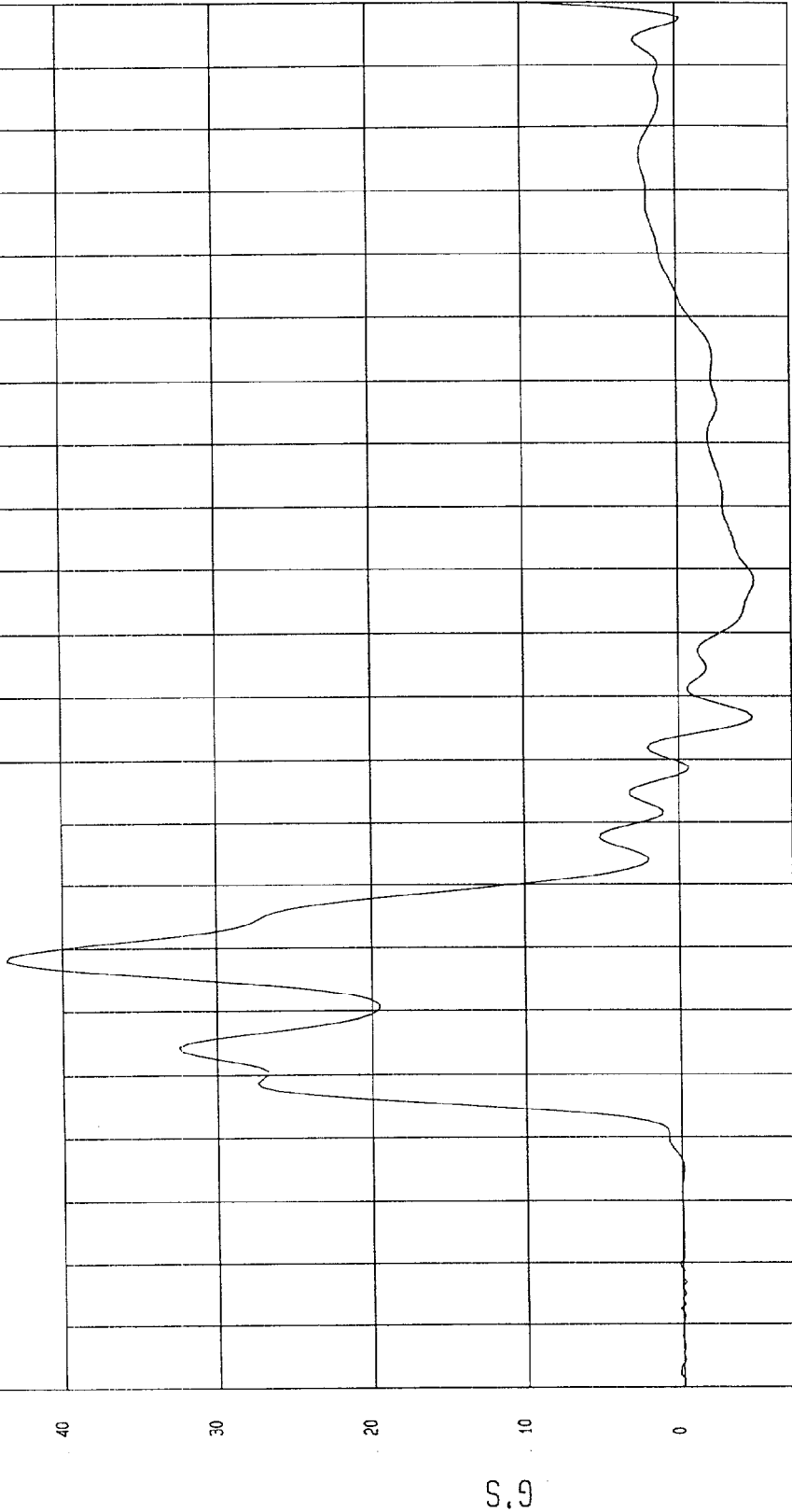


MCA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT
 COMPONENT: 1998 HONDA CR-V
 TEST DATE: 12-02-1998
 Speed: 38.4 MPH 61.8 KPH
 Minimum = -4.88 G'S at 108 msec
 Maximum = 43.67 G'S at 48 msec

DRIVER LOWER RIB Y REDUNDANT ACCELERATION

1 898114FI.R43 Filterclass (FIR filtered)



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

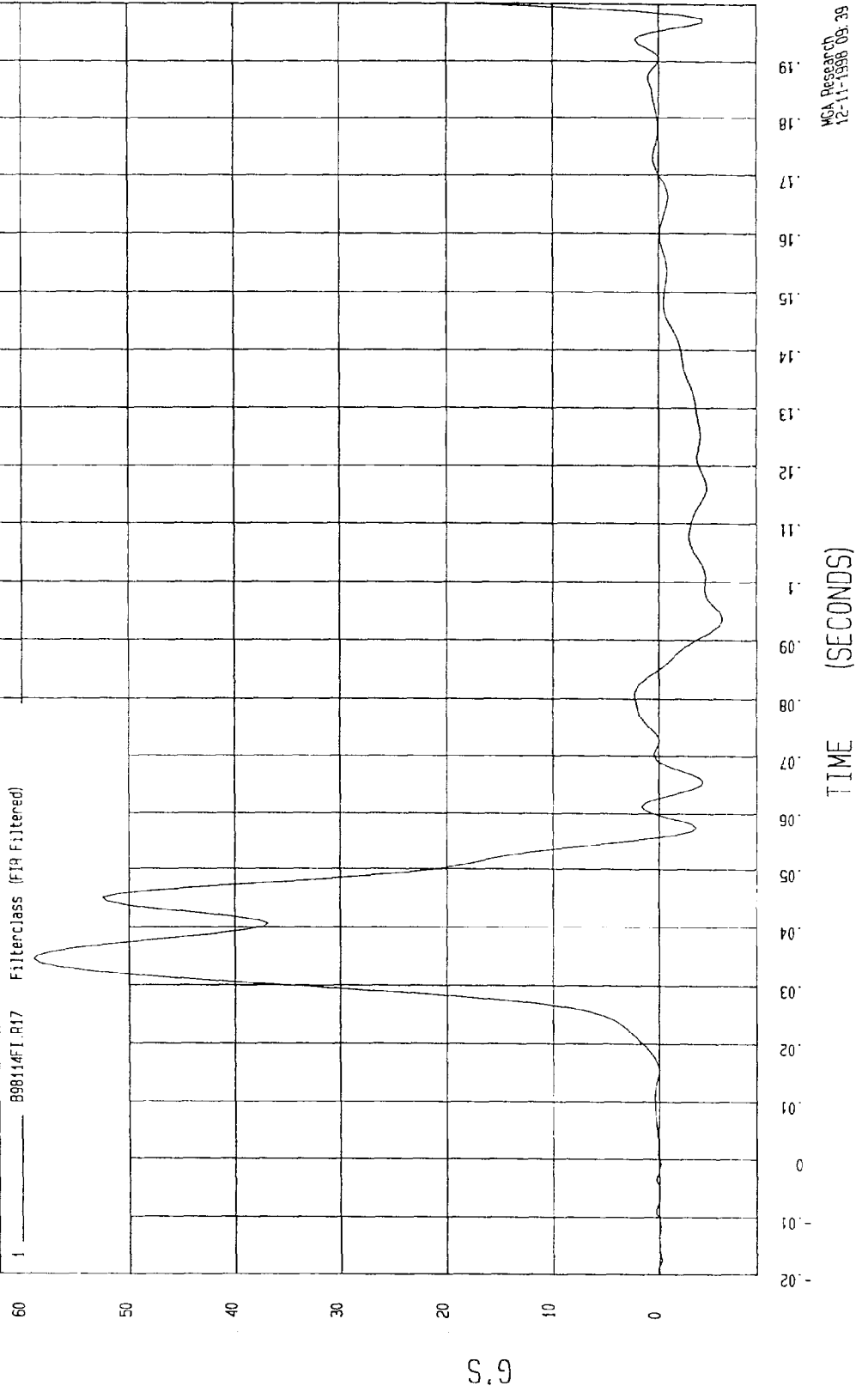
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = 59 G'S at 34 msec

Minimum = -5.86 G'S at 94 msec

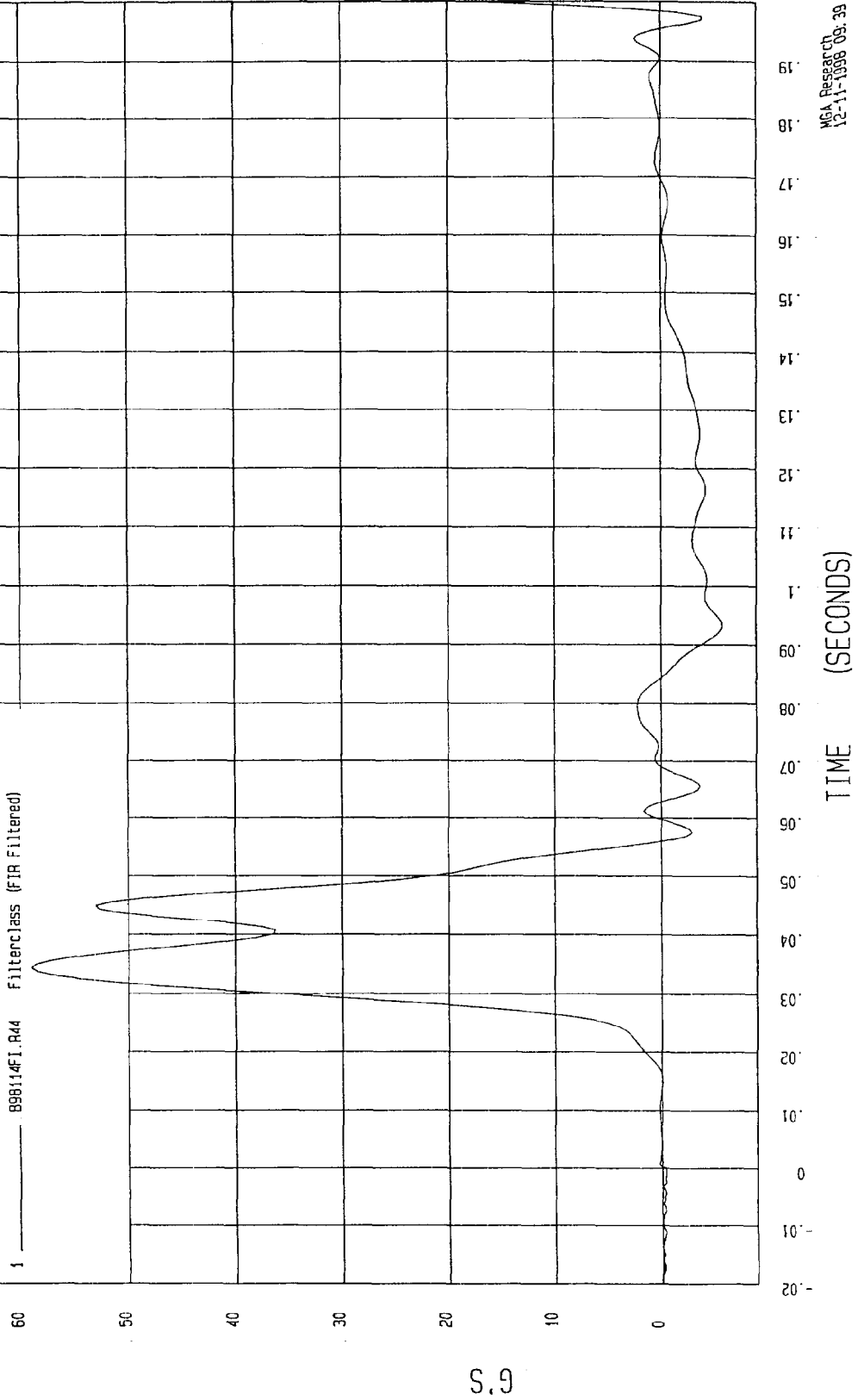
DRIVER LOWER SPINE Y ACCELERATION



MGA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT
TEST DATE: 12-02-1998
COMPONENT: 1998 HONDA CR-V
Speed: 38.4 MPH 61.8 KPH
Minimum = -5.66 G'S at 93 msec
Maximum = 59.07 G'S at 34 msec

DRIVER LOWER SPINE Y REDUNDANT ACCELERATION



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

SPEED: 38.4 MPH 61.8 KPH

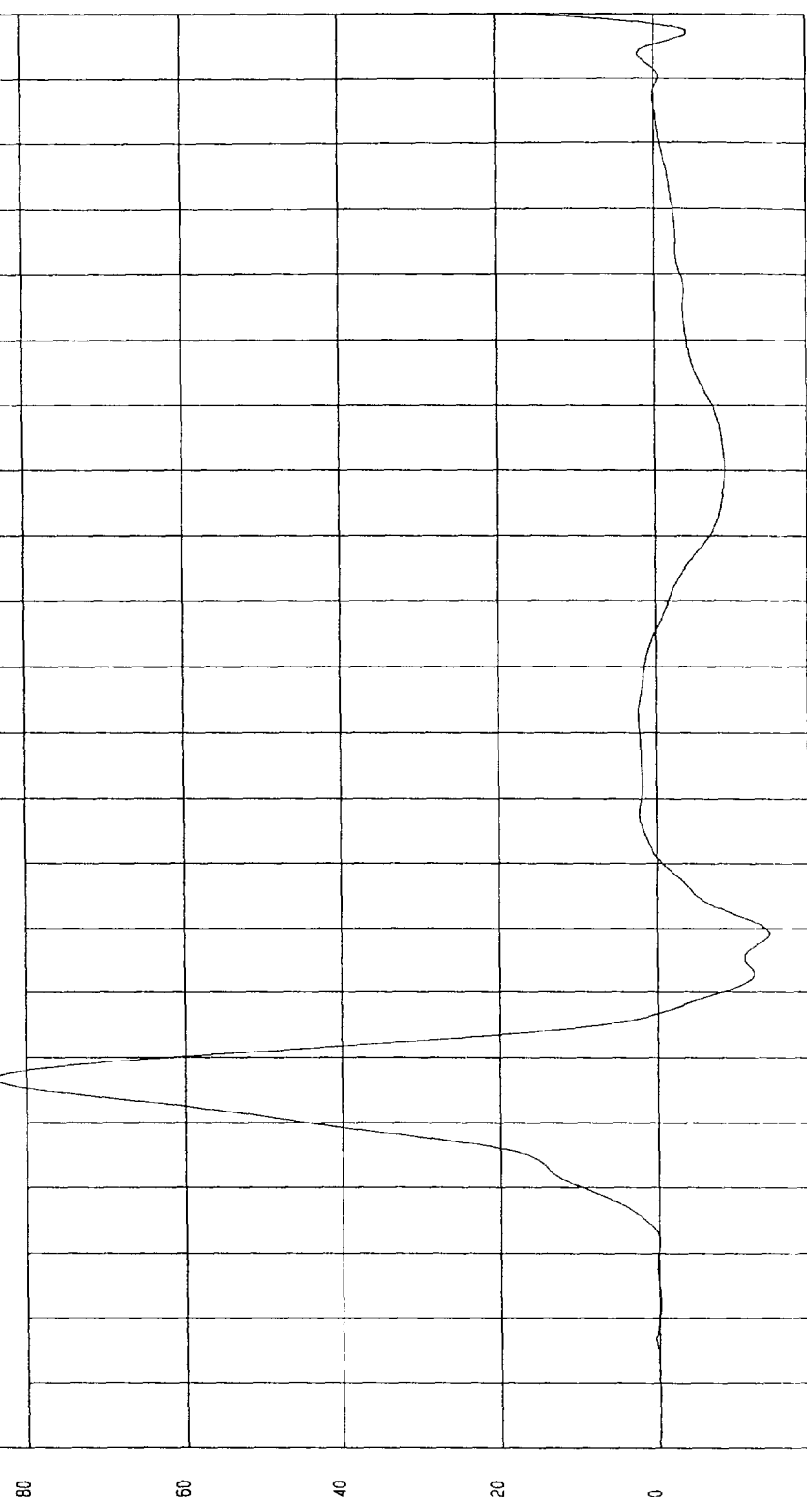
COMPONENT: 1998 HONDA CR-V

Minimum = -14.09 G'S at 59 msec

Maximum = 84.02 G'S at 37 msec

DRIVER PELVIS Y ACCELERATION

1 B9B14FL.R16 FilterClass (FIR Filtered)



MGA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V

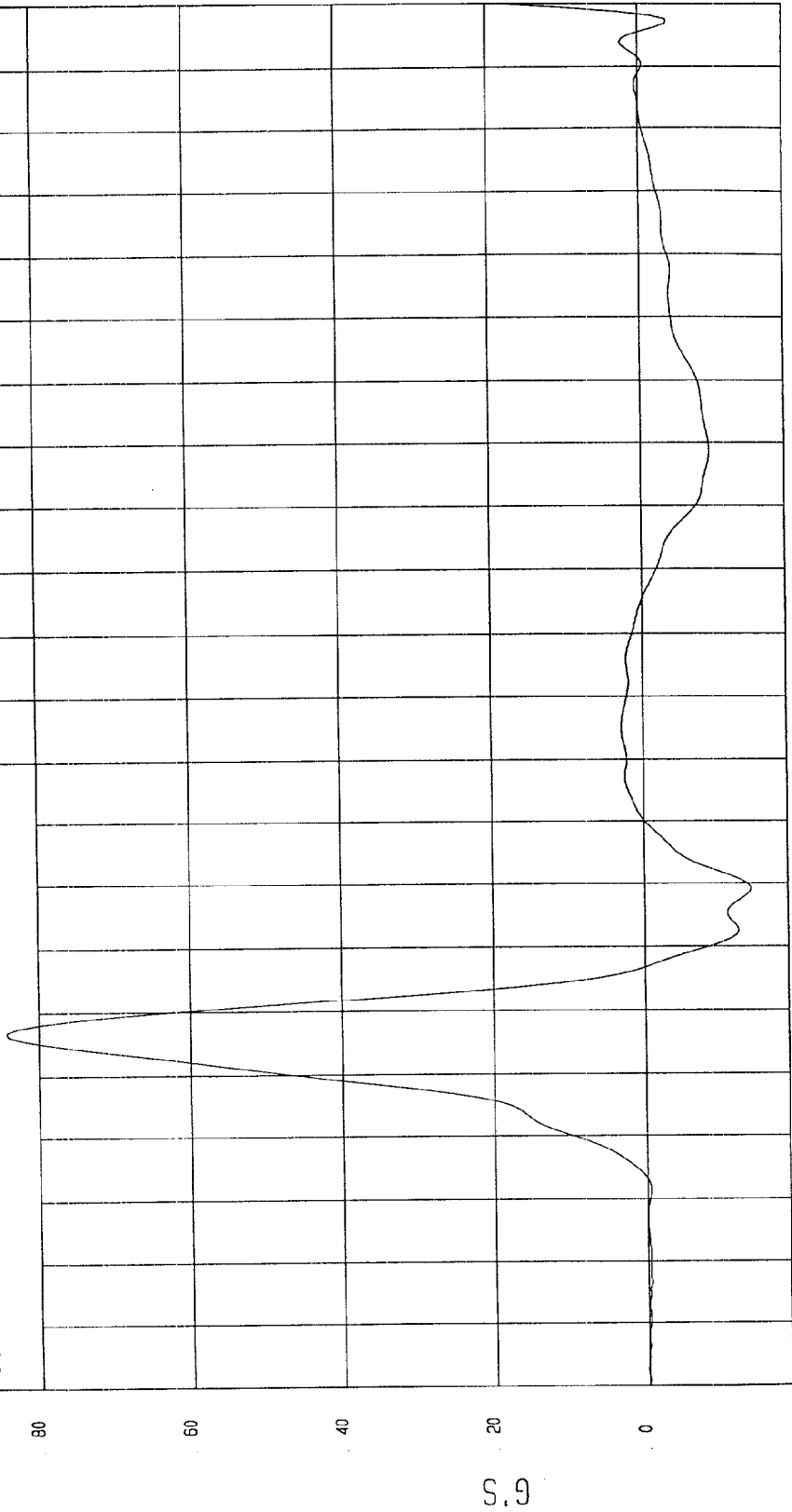
Speed: 38.4 MPH 61.8 KPH

Minimum = -13.84 G'S at 59 msec

Maximum = 84.17 G'S at 37 msec

DRIVER PELVIS Y REDUNDANT ACCELERATION

1 898114F1.R45 Filterclass (FIR Filtered)



TIME (SECONDS)

MCA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

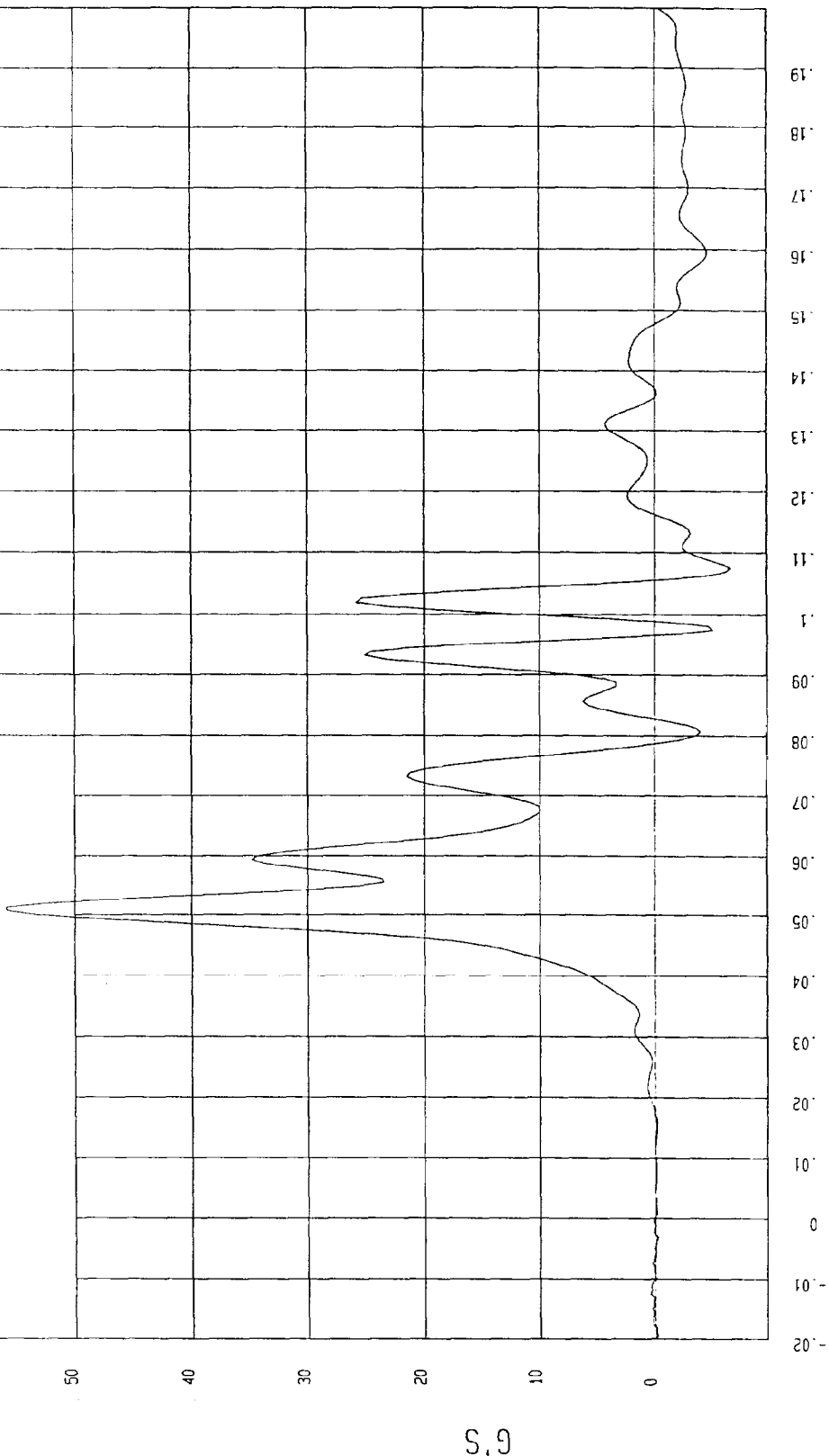
SPEED: 38.4 MPH 61.8 KPH

Maximum = 55.68 G'S at 51 msec

Minimum = -6.43 G'S at 108 msec

REAR PASSENGER UPPER RIB Y ACCELERATION

1 898114F1.R25 Filterclass (FIR Filtered)



WCA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

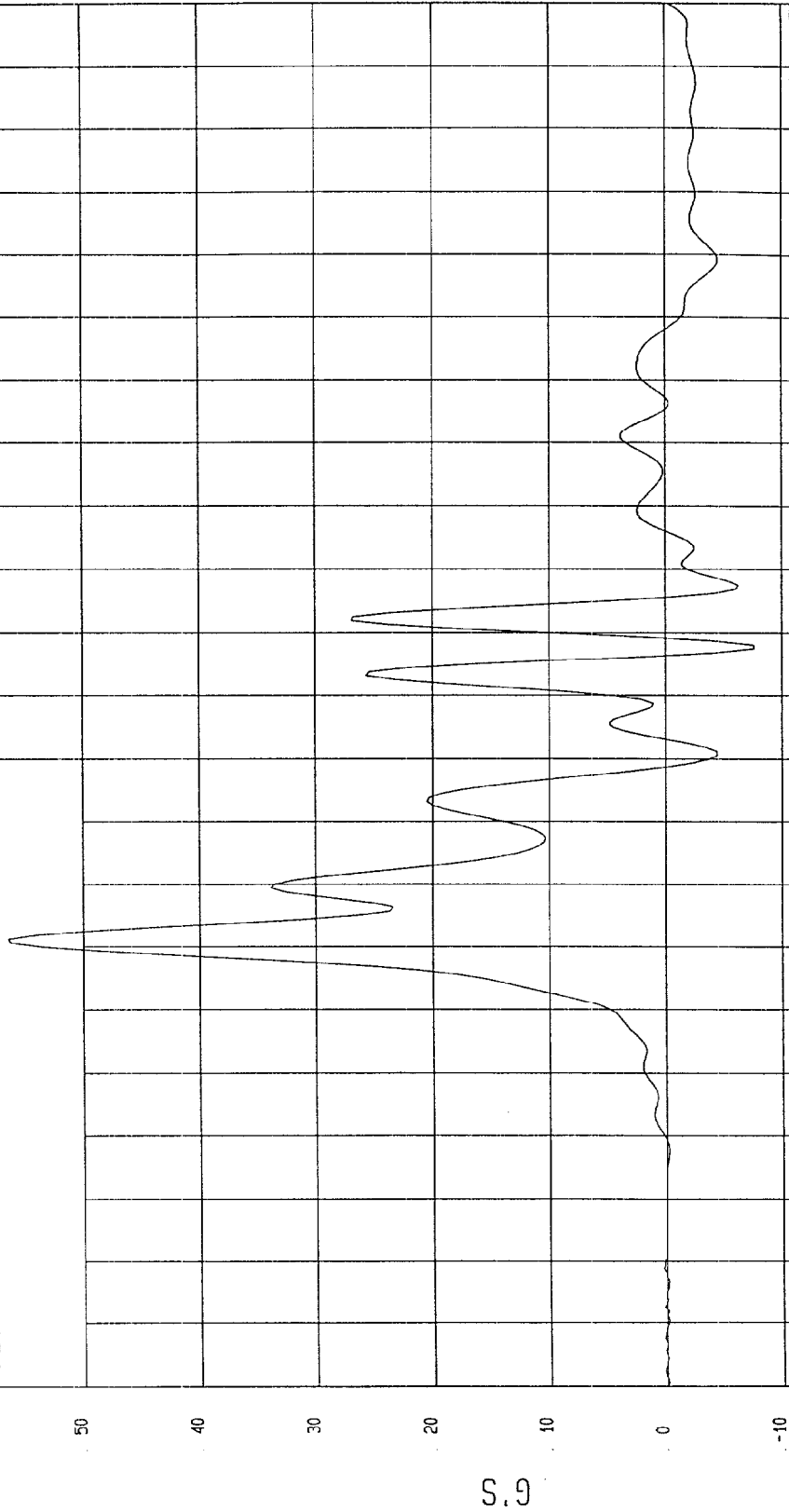
COMPONENT: 1998 HONDA CR-V

Maximum = 56.39 G'S at 51 msec

Minimum = -7.62 G'S at 98 msec

REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION

1 99814FI.R46 Filterclass (FIR Filtered)



MSA Research
12-11-1998 09:39

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

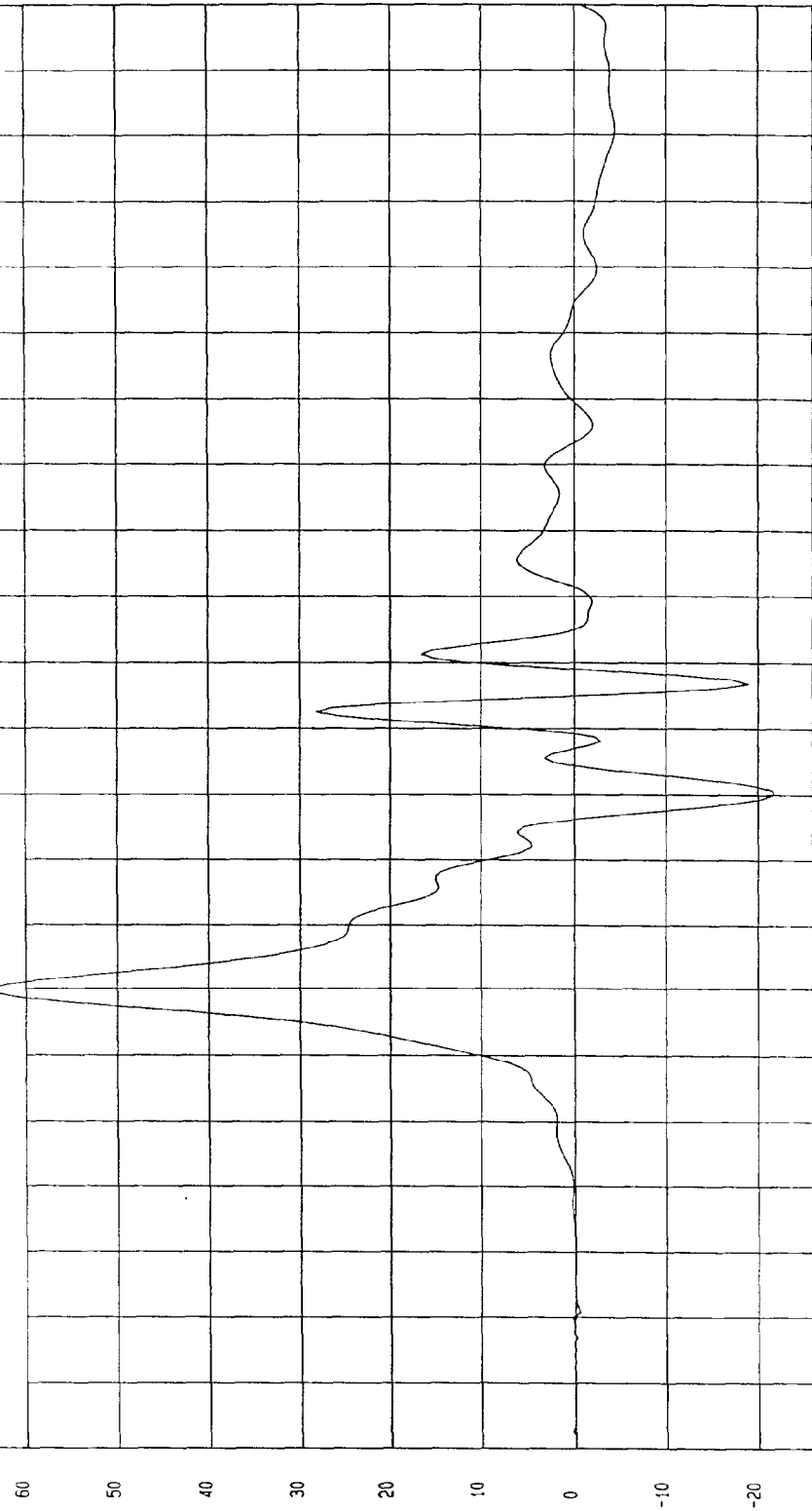
COMPONENT: 1998 HONDA CR-V

Maximum = 63.71 G'S at 50 msec

Minimum = -21.76 G'S at 80 msec

REAR PASSENGER LOWER RIB Y ACCELERATION

1 898114FI R26 Filterclass (FIR Filtered)



MOA Research
12-11-1998 09:39

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

Speed: 38.4 MPH 61.8 KPH

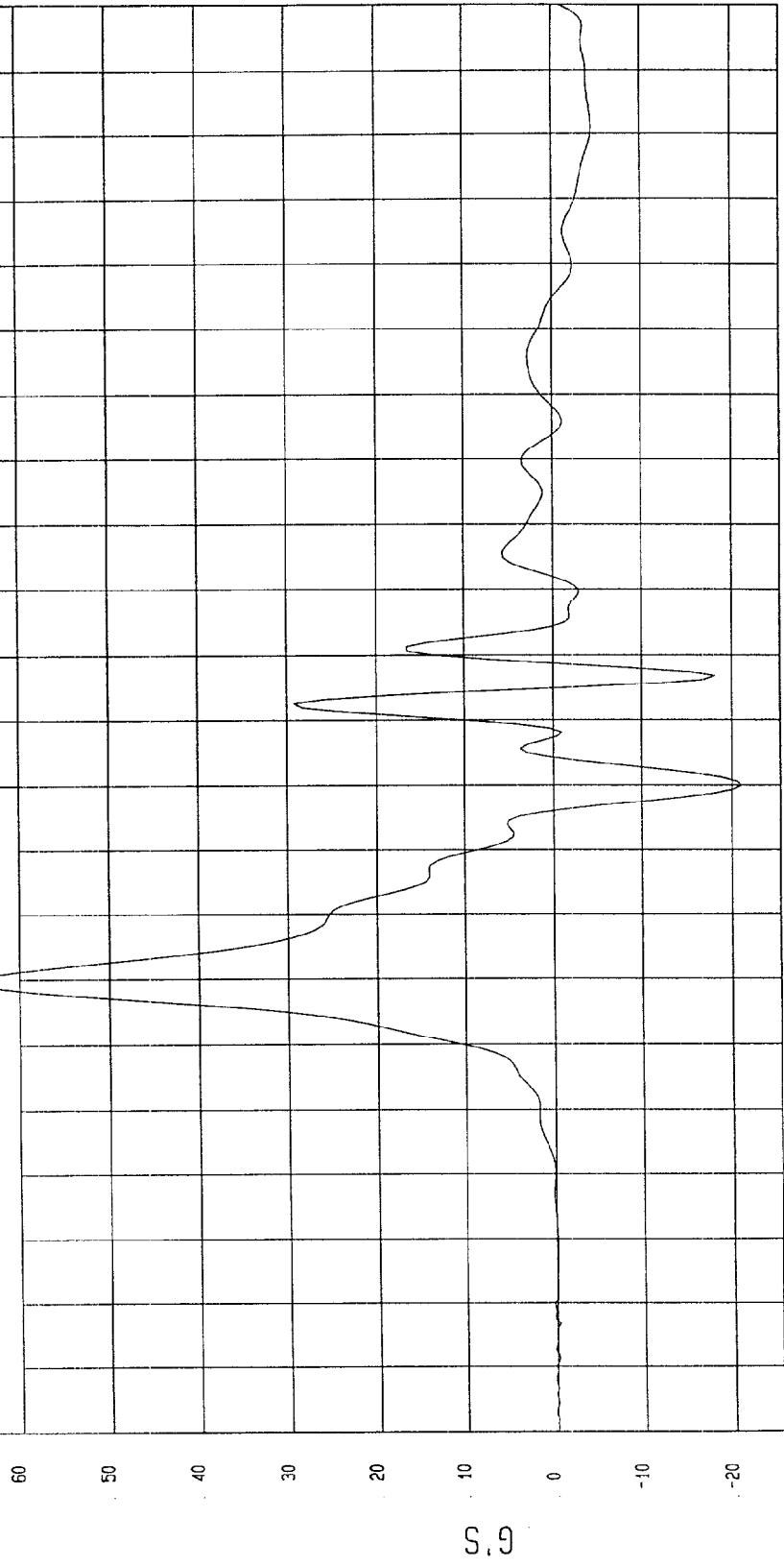
COMPONENT: 1998 HONDA CR-V

Maximum = 65.17 G'S at 50 msec

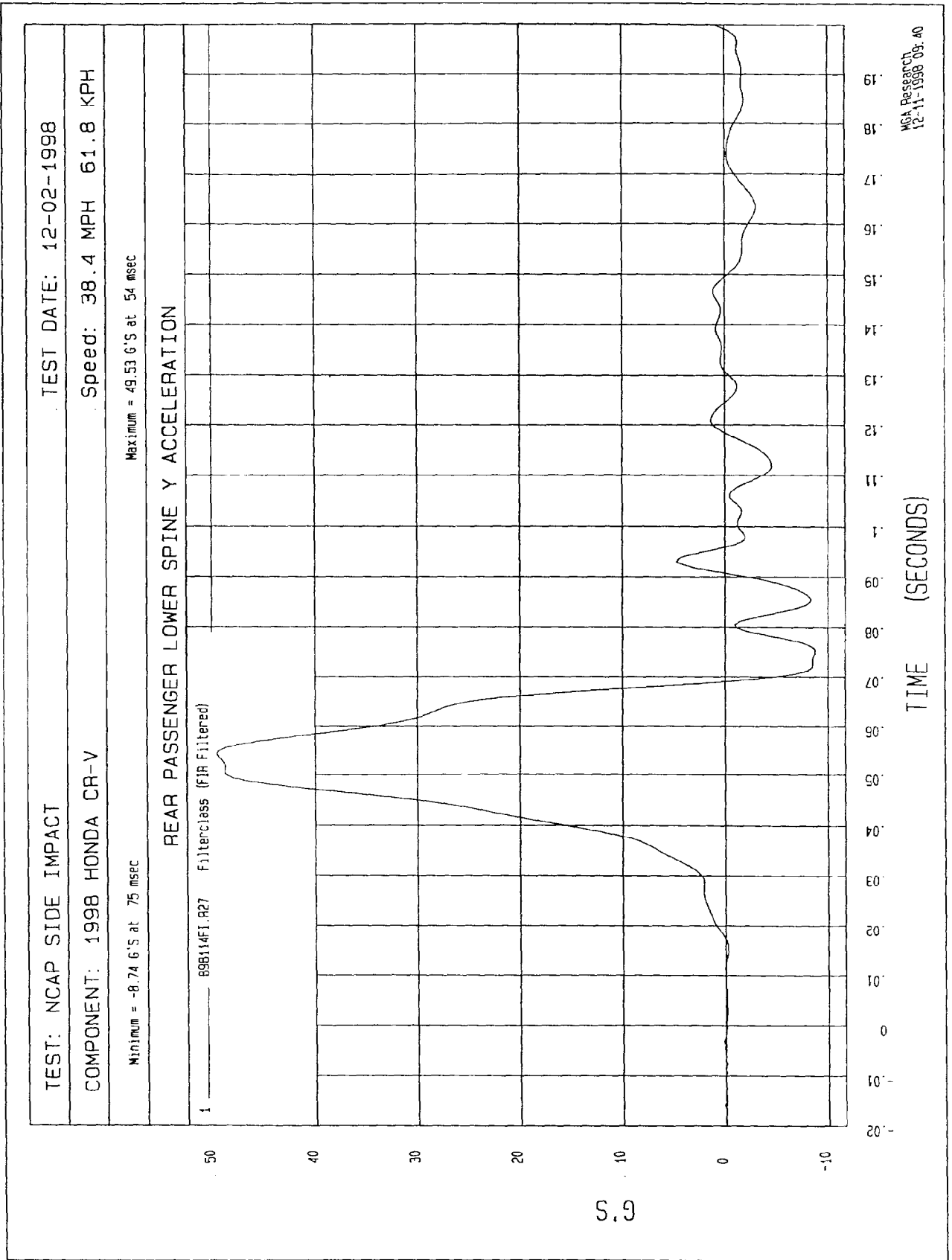
Minimum = -21.12 G'S at 80 msec

REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION

1 89814F1.R47 Filterclass (FIR Filtered)



MCA Research
12-11-1998 09:40

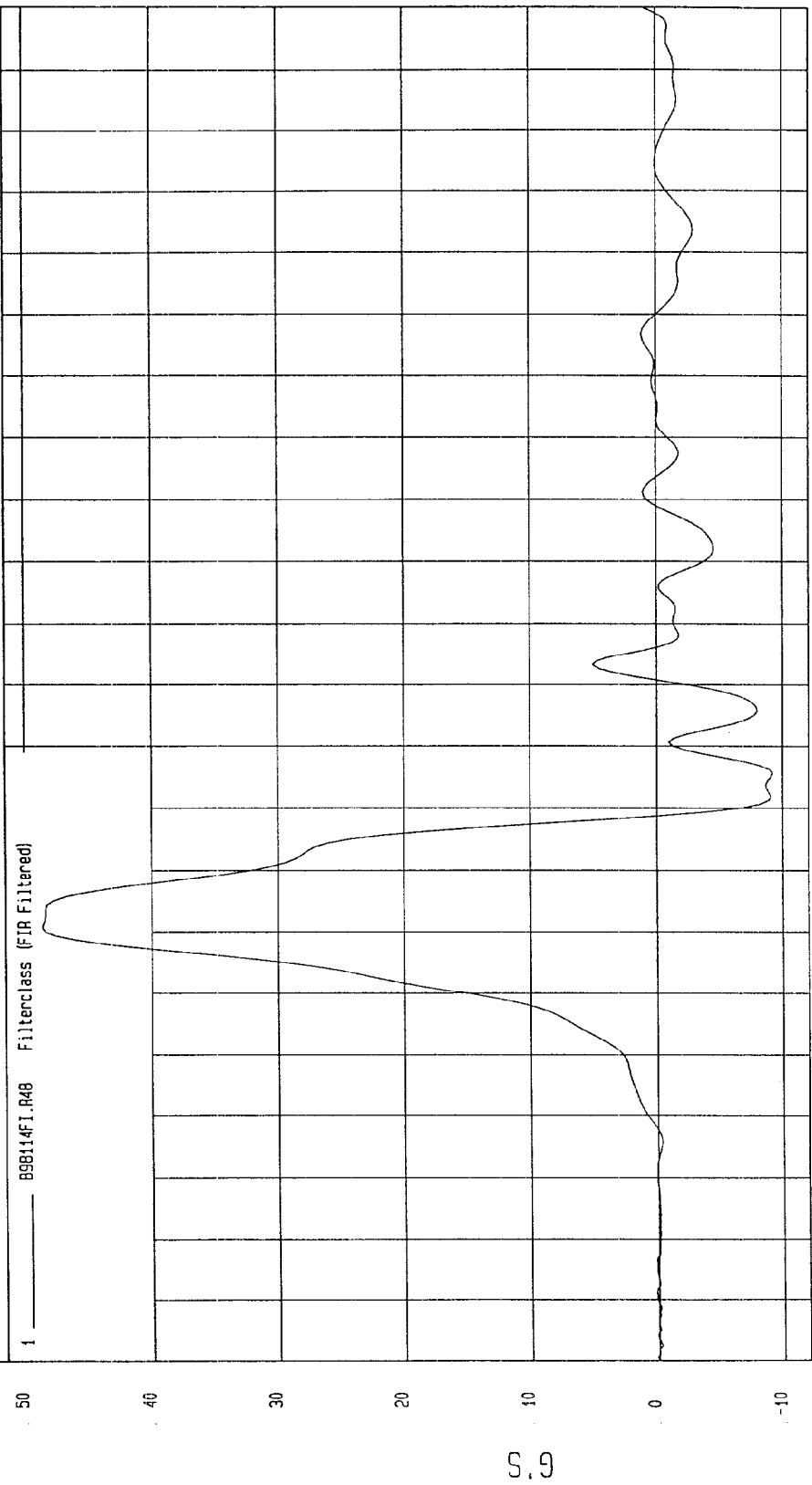


TEST: NCAP SIDE IMPACT TEST DATE: 12-02-1998

COMPONENT: 1998 HONDA CR-V Speed: 38.4 MPH 61.8 KPH

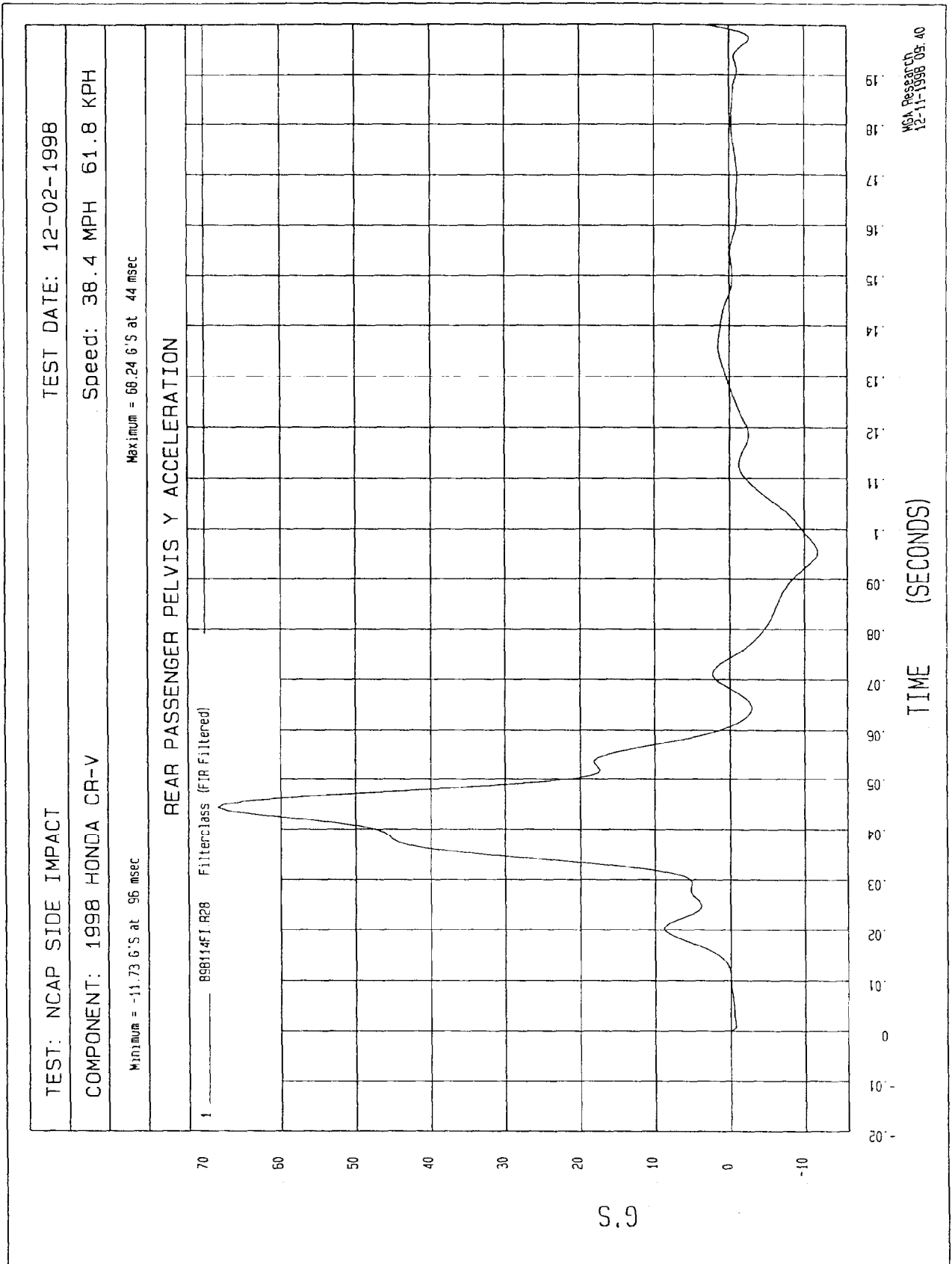
Minimum = -9.17 G'S at 76 msec Maximum = 48.61 G'S at 51 msec

REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION



TIME (SECONDS)

MCA Research
12-11-1998 09:40



TEST: NCAP SIDE IMPACT

TEST DATE: 12-02-1998

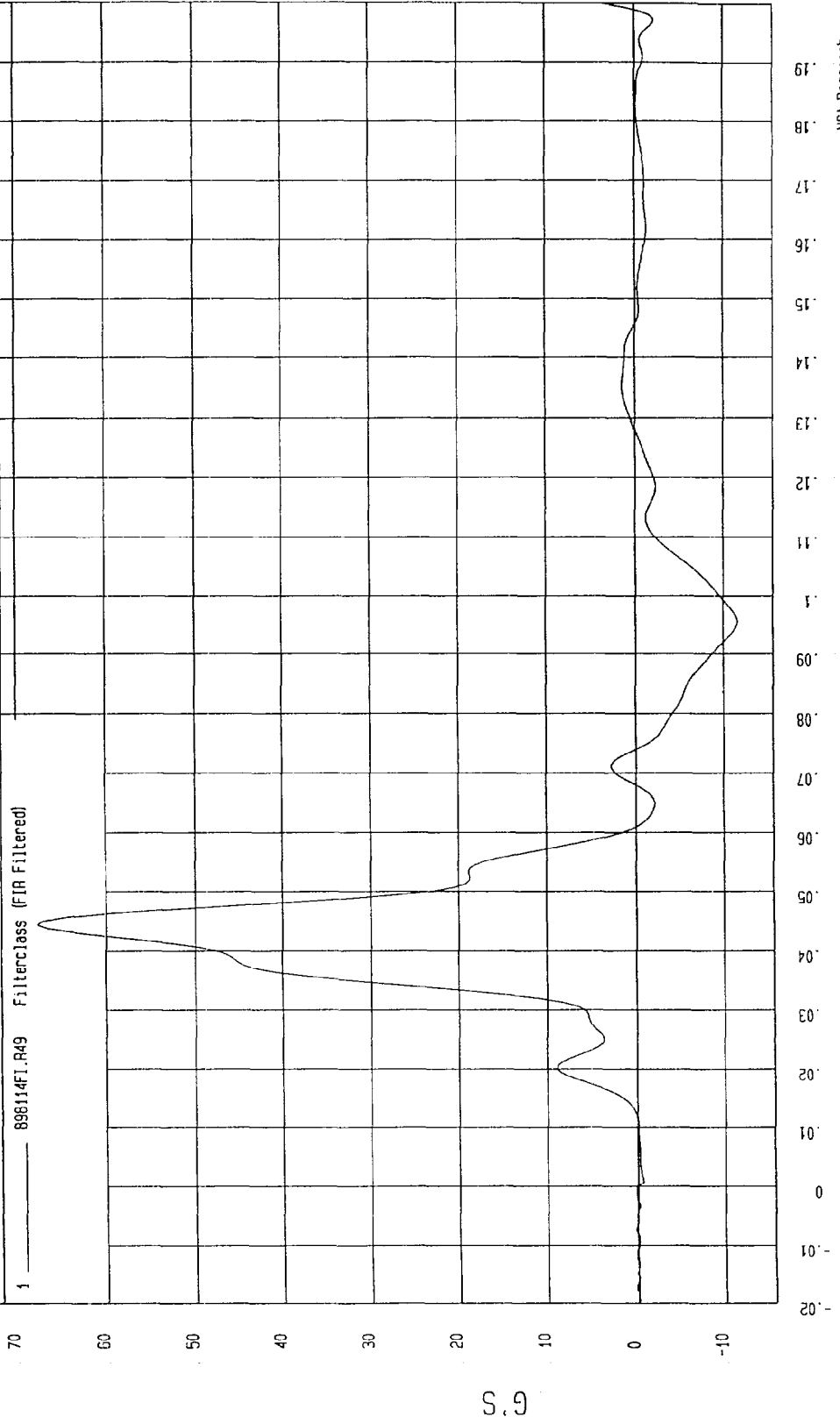
Speed: 38.4 MPH 61.8 KPH

COMPONENT: 1998 HONDA CR-V

Maximum = 67.71 G'S at 44 msec

Minimum = -11.52 G'S at 96 msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION



MCA Research
12-11-1998 09:40

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION

PRE-TEST CERTIFICATION DATA

Driver Dummy Serial Number: 270

Calibration Test Results Summary

Driver Dummy Serial Number: 270

Pre-Test Calibration

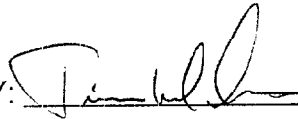
External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

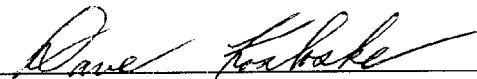
DUMMY SERIAL NUMBER: 270DATE OF VERIFICATION: December 1, 1998

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	894
RH - Rib Height (mm)	501 - 521	514
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	238
KV - Knee Pivot From Back Line (mm)	511 - 526	519
SW - Knee Pivot to Floor (mm)	490 - 505	494
HW - Hip Width (mm)	356 - 391	371

MEASUREMENTS BY:



APPROVED BY:



MGA RESEARCH CORPORATION

THORAX IMPACT TEST

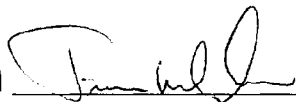
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981532

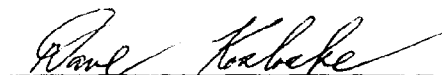
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	34%
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46 g's	43
LOWER RIB (g's)	37 - 46 g's	40
LOWER SPINE (g's)	15 - 22 g's	22

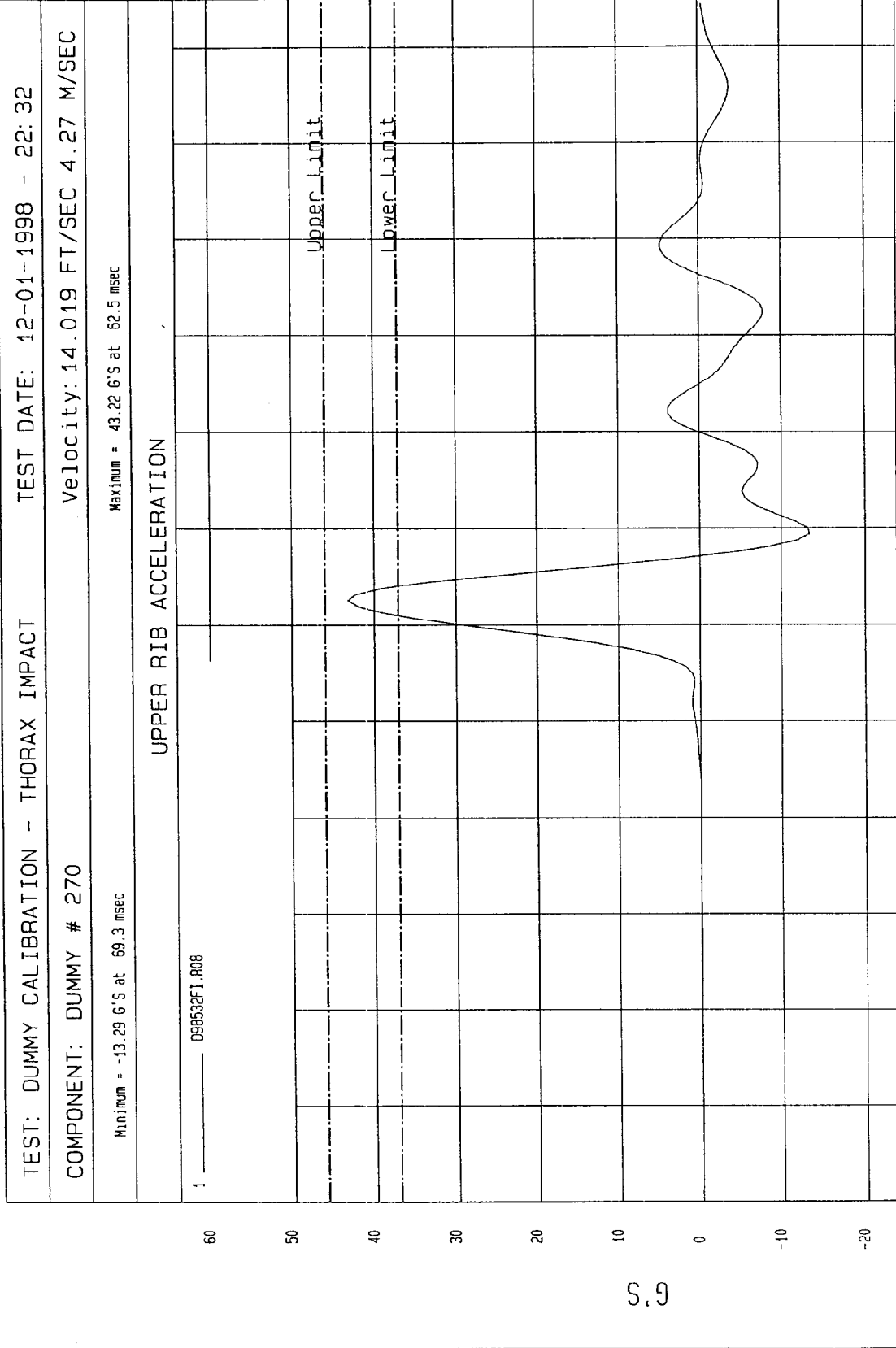
TEST MEETS SPECIFICATIONS

TECHNICIAN

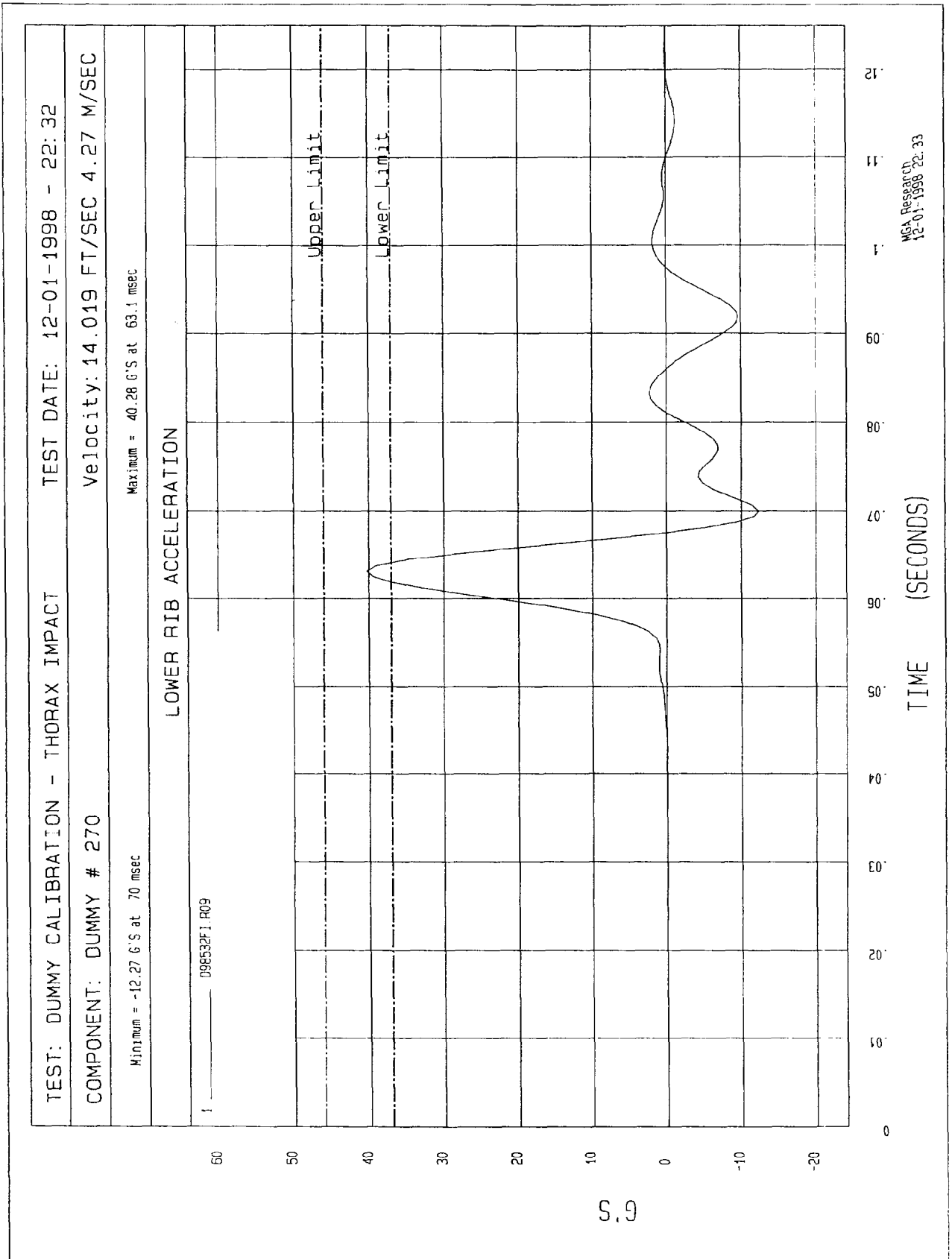


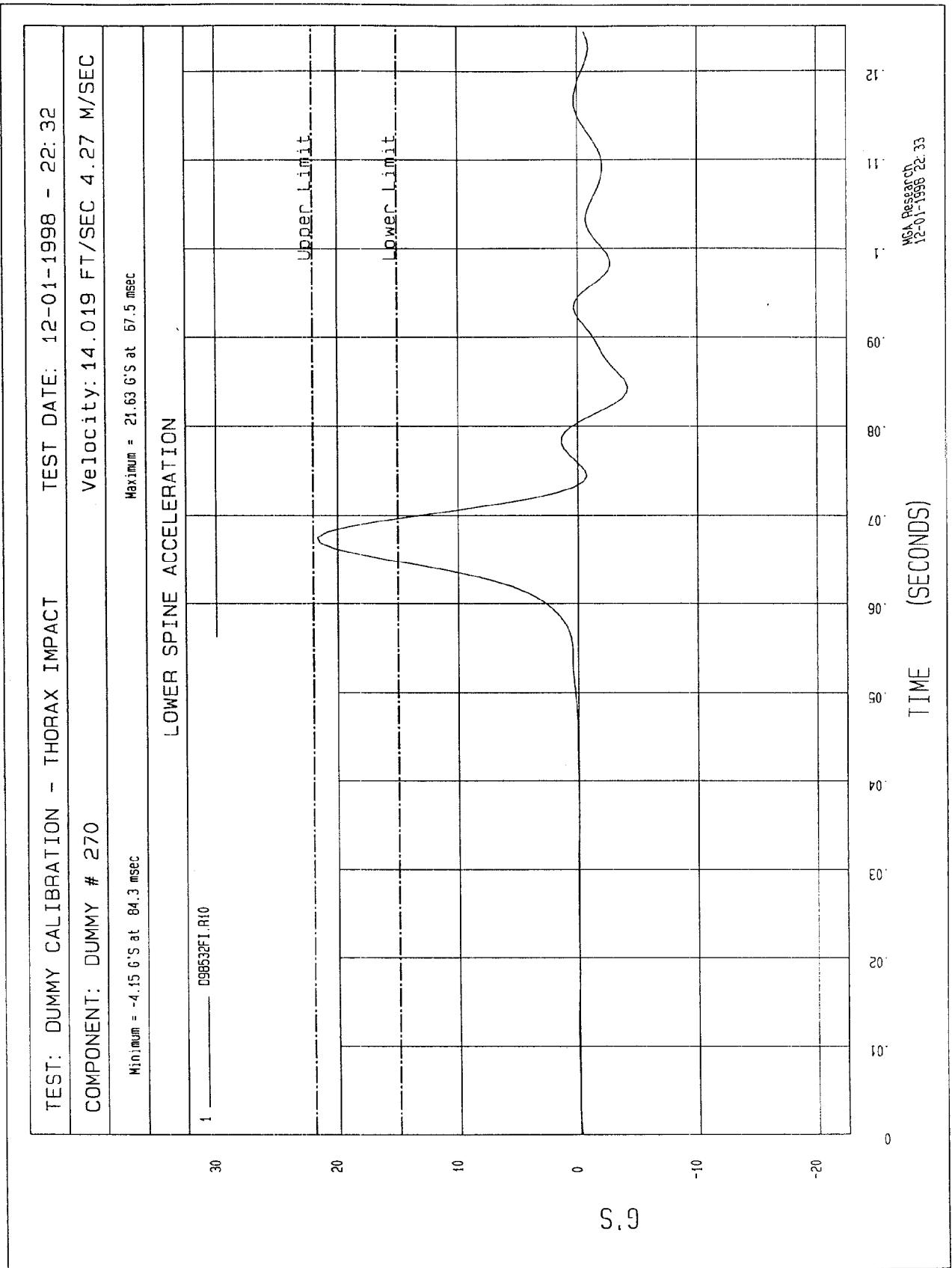
APPROVED BY





HGA Research
12-01-1998 22:33





MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

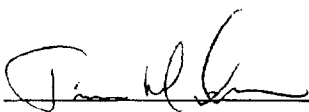
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981533

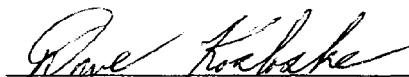
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	34%
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	42

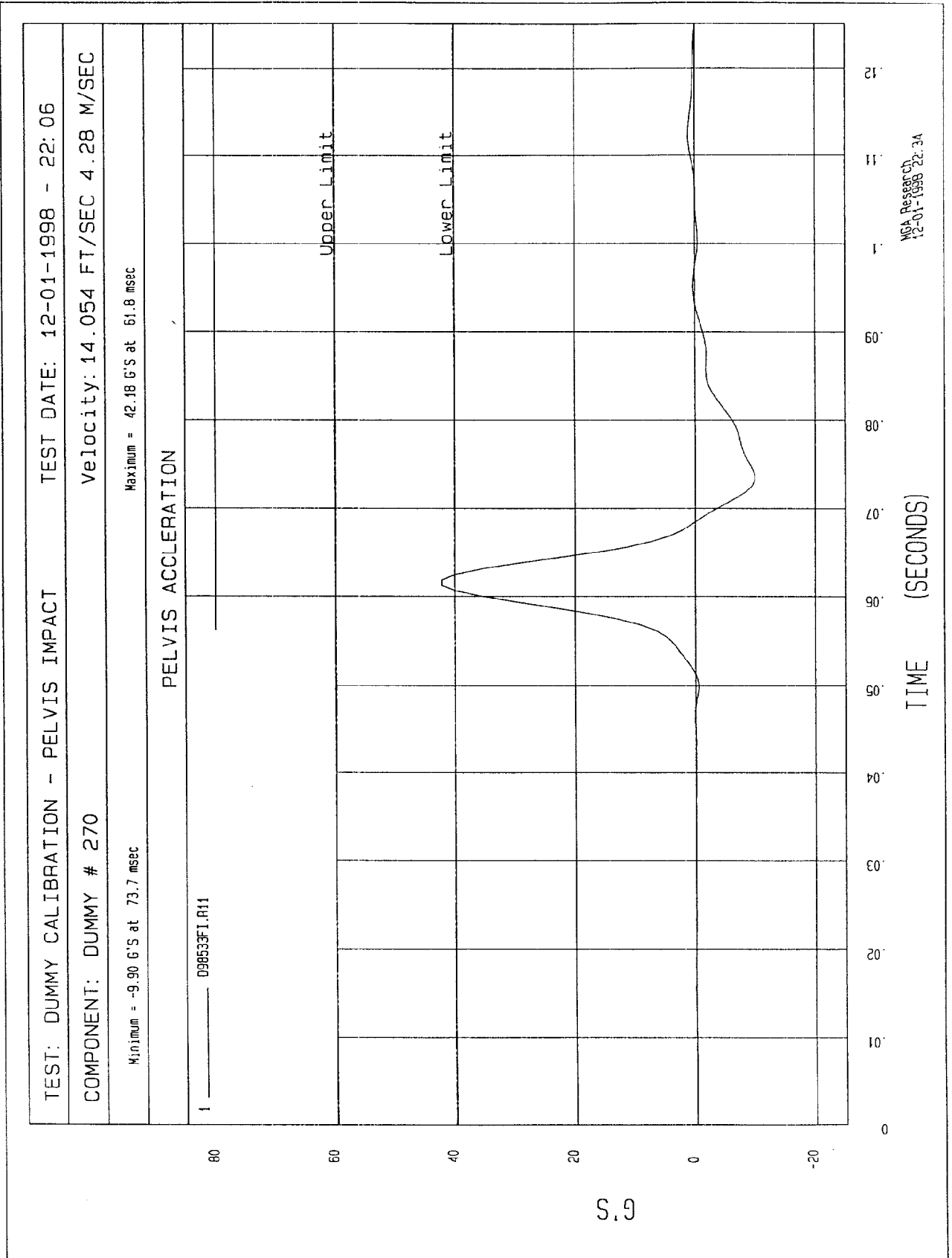
TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY





MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

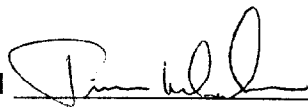
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981534

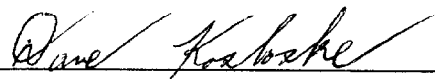
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	32%
FORCE @ 12.7 mm	104 - 162	139
FORCE @ 19.0 mm	163 - 222	202
FORCE @ 25.4 mm	222 - 280	269
FORCE @ 33 mm	325 - 391	381

TEST MEETS SPECIFICATIONS

TECHNICIAN



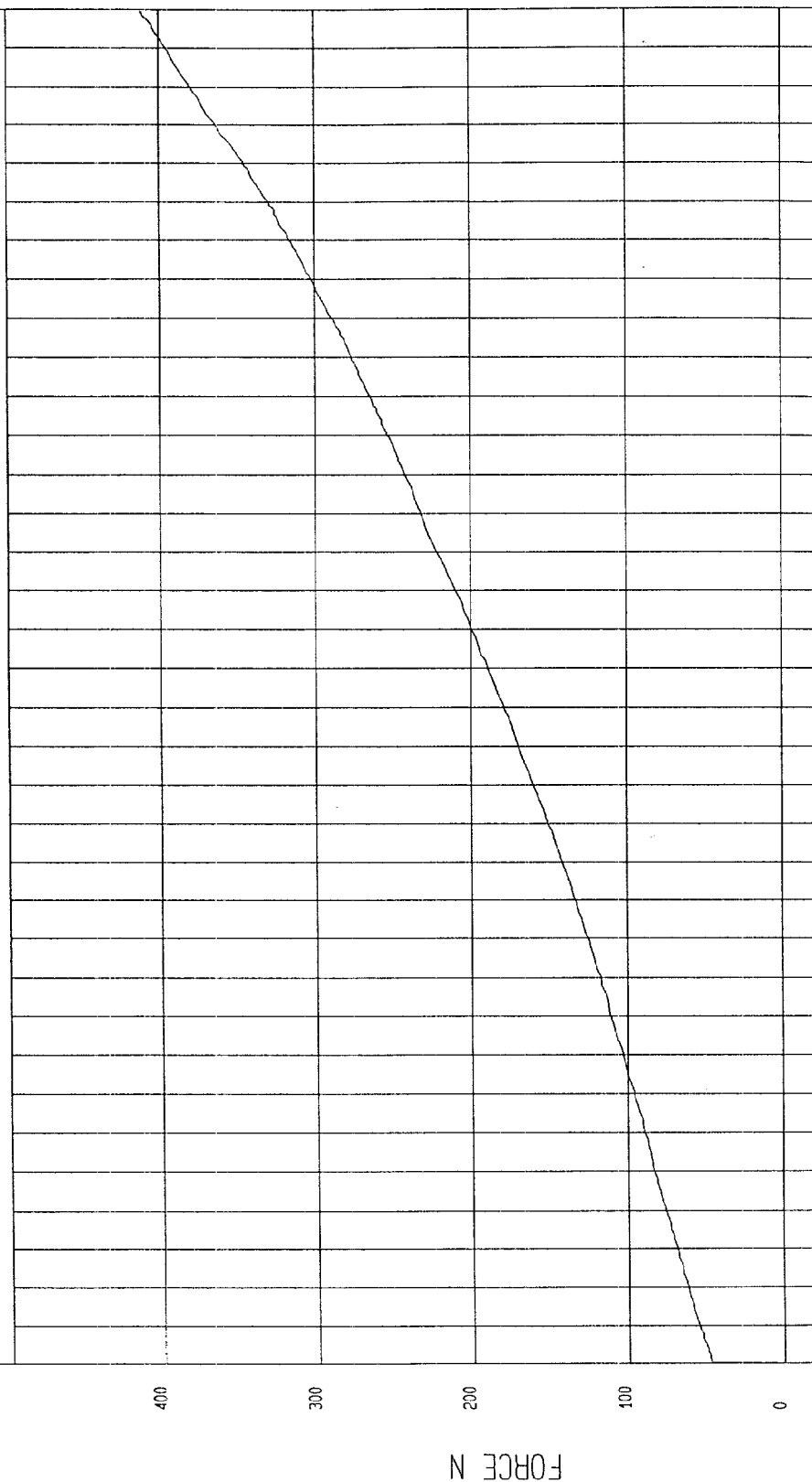
APPROVED BY



TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 12-01-1998 - 20:18:53

COMPONENT: DUMMY # 270

FORCE as a function of DISPLACEMENT



NSA Research
12-01-1998 20:19

DISPLACEMENT mm

FORCE N

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

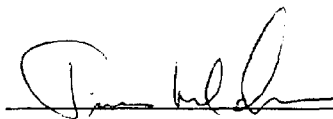
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981535

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	30%
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	115.1
FORCE @ 30°	151.2 - 204.6	163.2
FORCE @ 40°	204.6 - 258.0	211.4
RETURN ANGLE	12° maximum	5°

TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY



TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 12-01-1998 - 15:04:23

COMPONENT: DUMMY # 270

FORCE as a function of TORSO ROTATION.

FORCE N

240

220

200

180

160

140

120

100

80

60

40

20

0

-20

-40

0

10

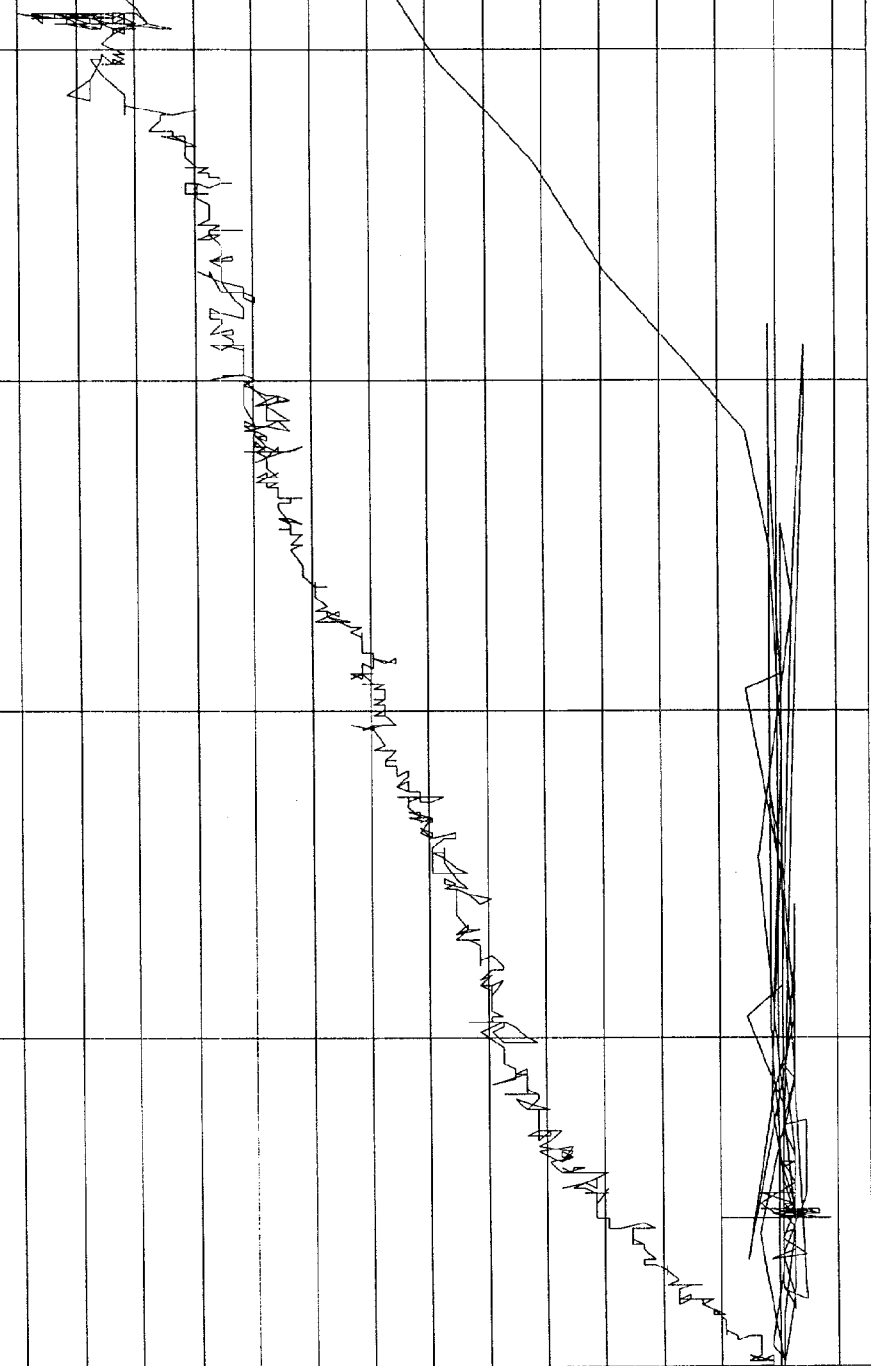
20

30

40

TORSO ROTATION DEGREES

MGA Research
12-01-1998 21:09



PRE-TEST CERTIFICATION DATA

Passenger Dummy Serial Number: 269

Calibration Test Results Summary

Passenger Dummy Serial Number: 269

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 SERIAL NUMBER: 269DATE OF VERIFICATION: December 1, 1998

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	892
RH - Rib Height (mm)	501 - 521	508
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	232
KV - Knee Pivot From Back Line (mm)	511 - 526	523
SW - Knee Pivot to Floor (mm)	490 - 505	501
HW - Hip Width (mm)	356 - 391	382

MEASUREMENTS BY: Jim WillAPPROVED BY: Dave Kabate

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

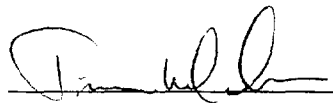
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981512

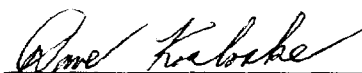
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	34%
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46 g's	43
LOWER RIB (g's)	37 - 46 g's	44
LOWER SPINE (g's)	15 - 22 g's	20

TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY



TEST: DUMMY CALIBRATION - THORAX IMPACT TEST DATE: 12-01-1998 - 21:30

COMPONENT: DUMMY # 269 Velocity: 14.043 FT/SEC 4.28 M/SEC

Minimum = -11.18 G'S at 58.7 msec

Maximum = 42.57 G'S at 51.8 msec

UPPER RIB ACCELERATION

1 D98512F1.R08

60

50

40

30

20

10

0

-10

-20

G

Upper Limit

Lower Limit

12

11

10

09

08

07

06

05

04

03

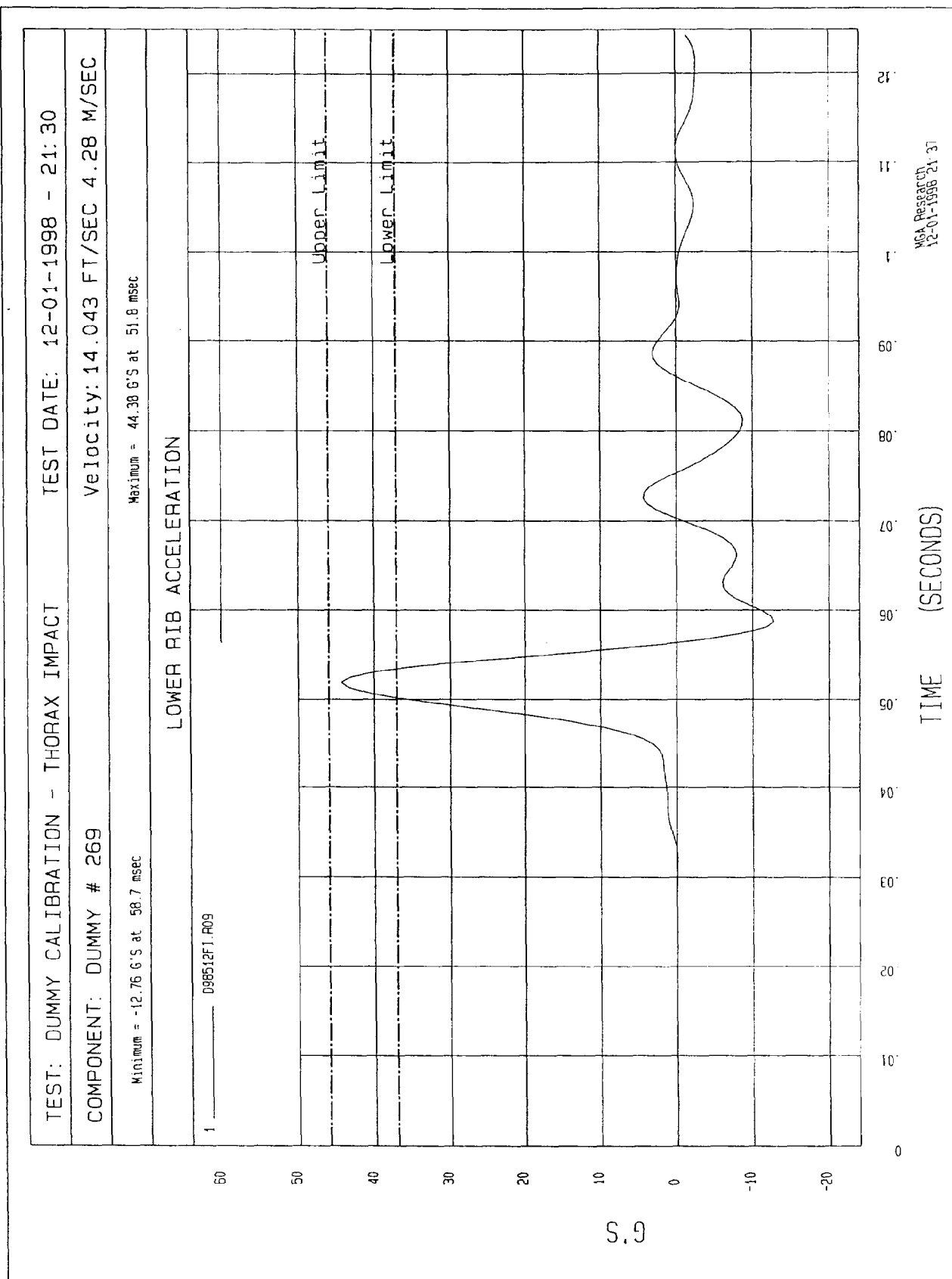
02

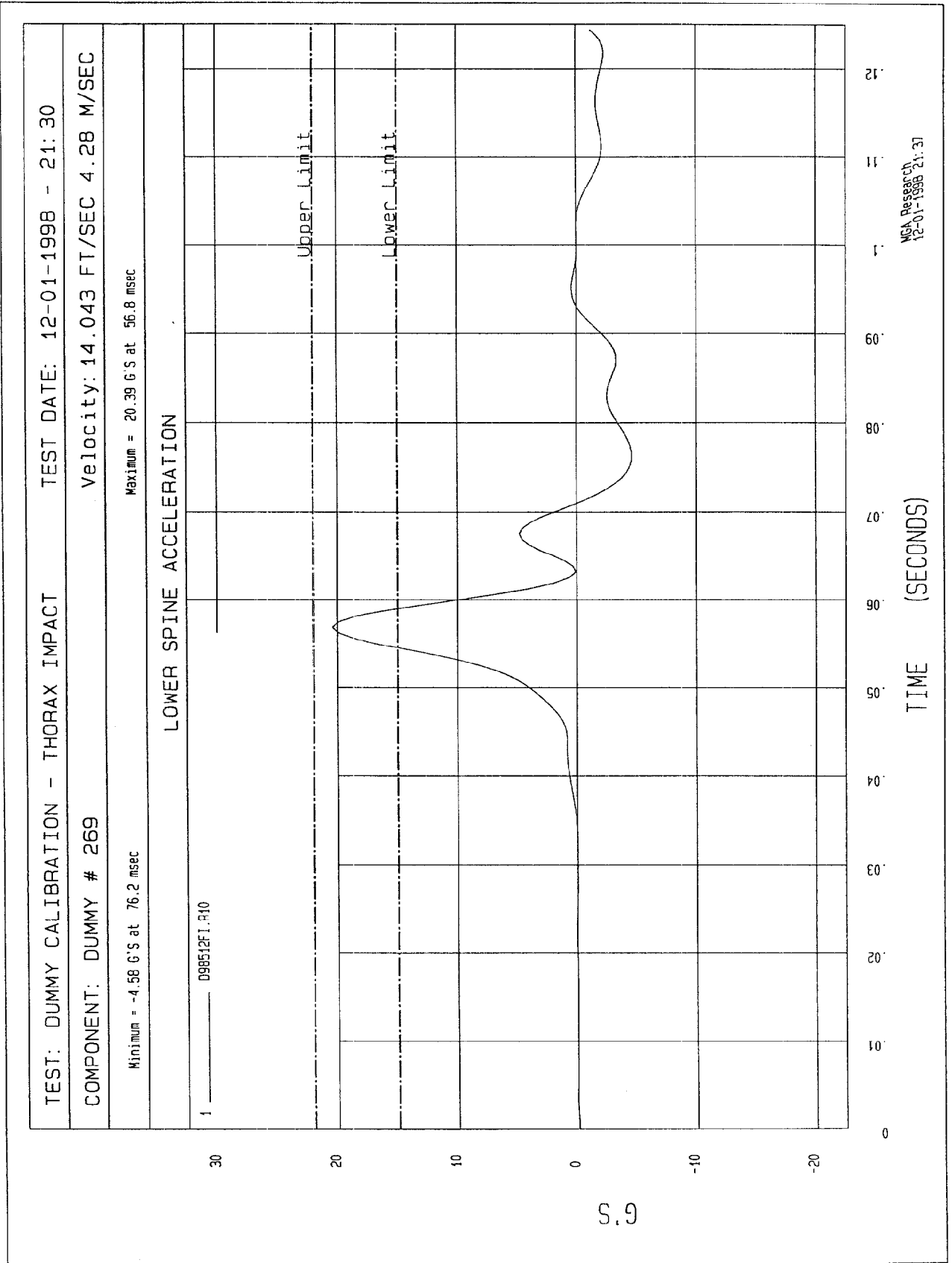
01

0

TIME (SECONDS)

NSA Research
12-01-1998 21:36





MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

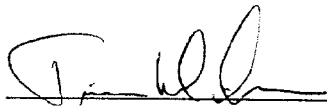
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981513

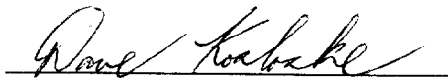
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	34%
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	40

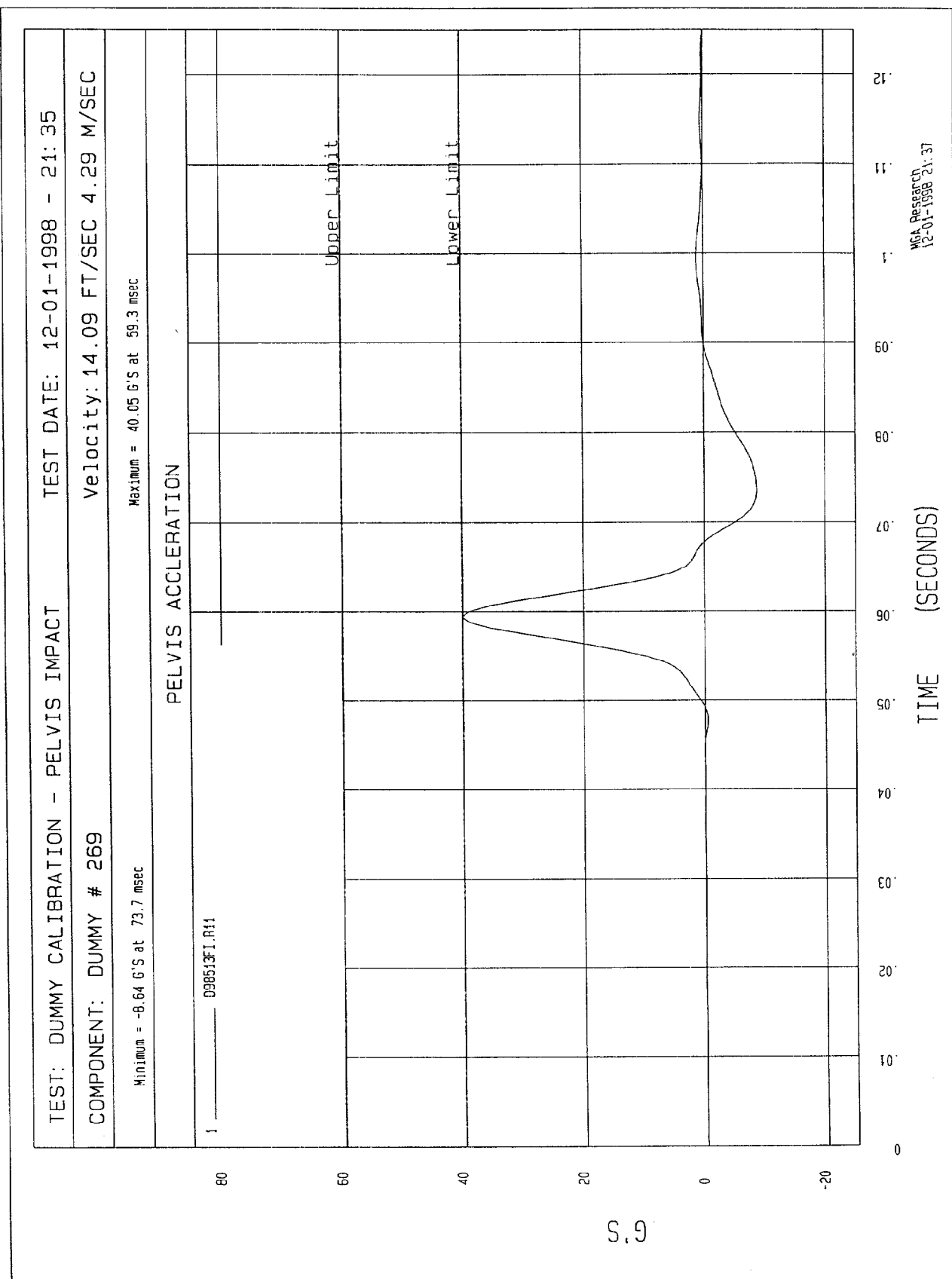
TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY





MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981514

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	33%
FORCE @ 12.7 mm	104 - 162	147
FORCE @ 19.0 mm	163 - 222	208
FORCE @ 25.4 mm	222 - 280	272
FORCE @ 33 mm	325 - 391	371

TEST MEETS SPECIFICATIONS

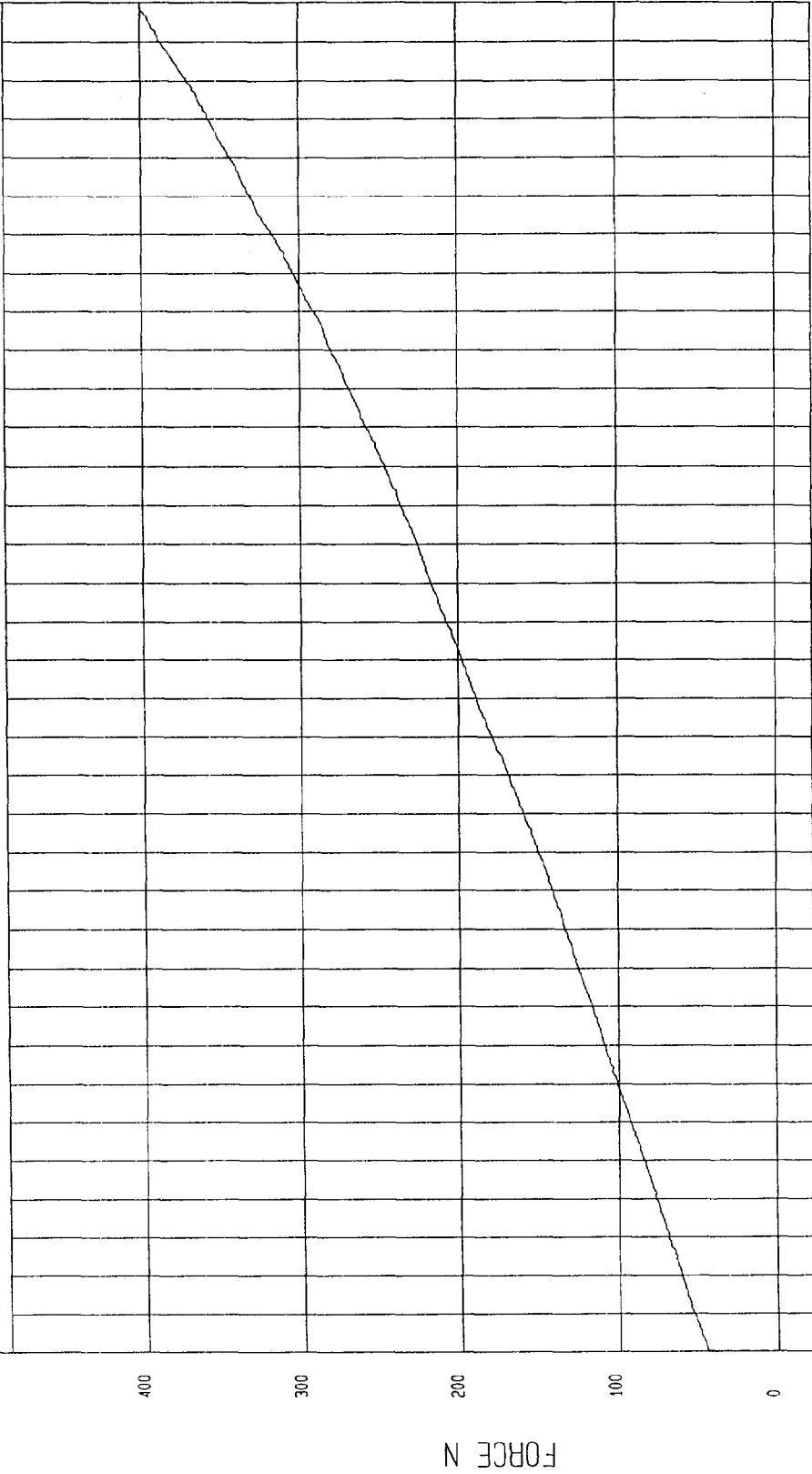
TECHNICIAN _____

APPROVED BY _____

TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 12-01-1998 - 20:17:15

COMPONENT: DUMMY # 269

FORCE as a function of DISPLACEMENT



MSA Research
12-01-1998 20:19

DISPLACEMENT mm

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

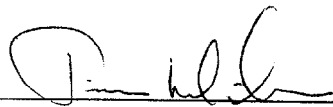
SIDE IMPACT DUMMY (SID)

DATE: December 1, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981515

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	30%
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	145.9
FORCE @ 30°	151.2 - 204.6	194.0
FORCE @ 40°	204.6 - 258.0	218.1
RETURN ANGLE	12° maximum	4°

TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY



TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 12-01-1998 - 14:34:01

COMPONENT: DUMMY # 269

FORCE as a function of TORSO ROTATION



MECA Research
12-01-1998 21:08

POST-TEST CERTIFICATION DATA

Driver Dummy Serial Number: 270

Calibration Test Results Summary

Driver Dummy Serial Number: 270

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 SERIAL NUMBER: 270DATE OF VERIFICATION: December 10, 1998

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	894
RH - Rib Height (mm)	501 - 521	514
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	238
KV - Knee Pivot From Back Line (mm)	511 - 526	519
SW - Knee Pivot to Floor (mm)	490 - 505	494
HW - Hip Width (mm)	356 - 391	371

MEASUREMENTS BY:



APPROVED BY:



MGA RESEARCH CORPORATION

THORAX IMPACT TEST

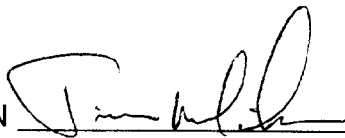
SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981582

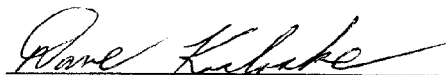
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	22%
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46 g's	38
LOWER RIB (g's)	37 - 46 g's	42
LOWER SPINE (g's)	15 - 22 g's	22

TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY



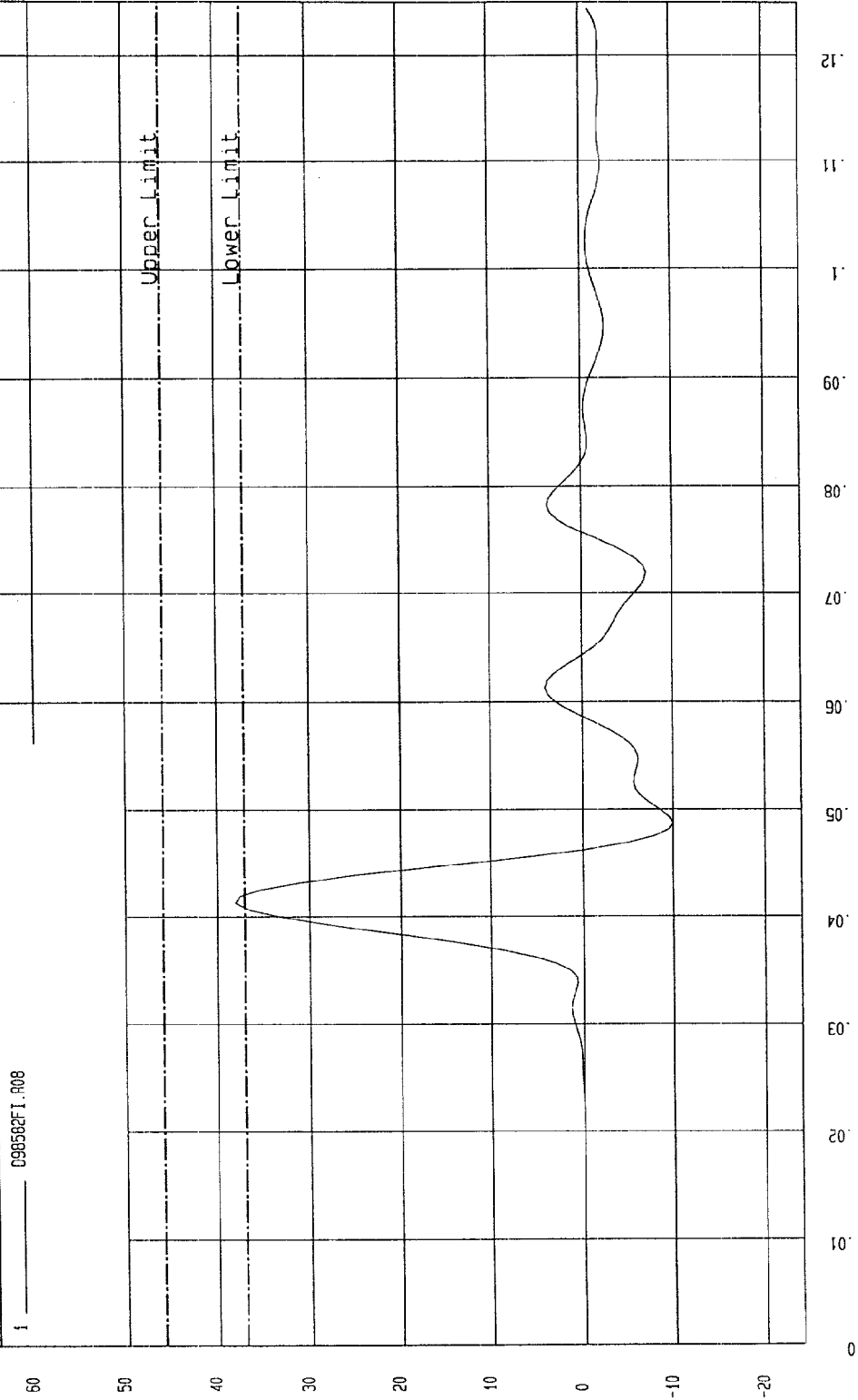
TEST: DUMMY CALIBRATION - THORAX IMPACT TEST DATE: 12-10-1998 - 15:18

COMPONENT: DUMMY # 270 Velocity: 14.02 FT/SEC 4.27 M/SEC

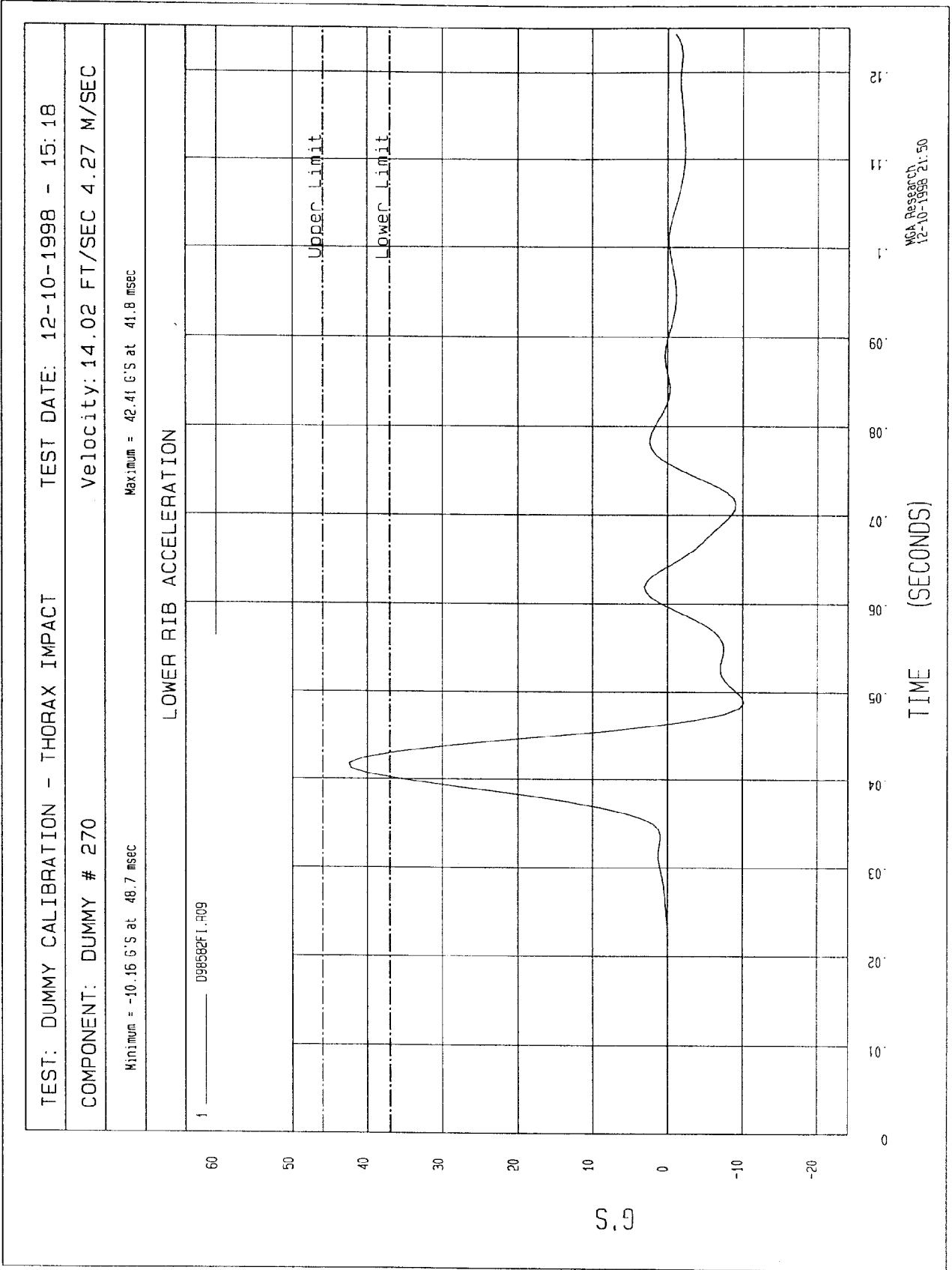
Minimum = -9.97 G'S at 48.7 msec

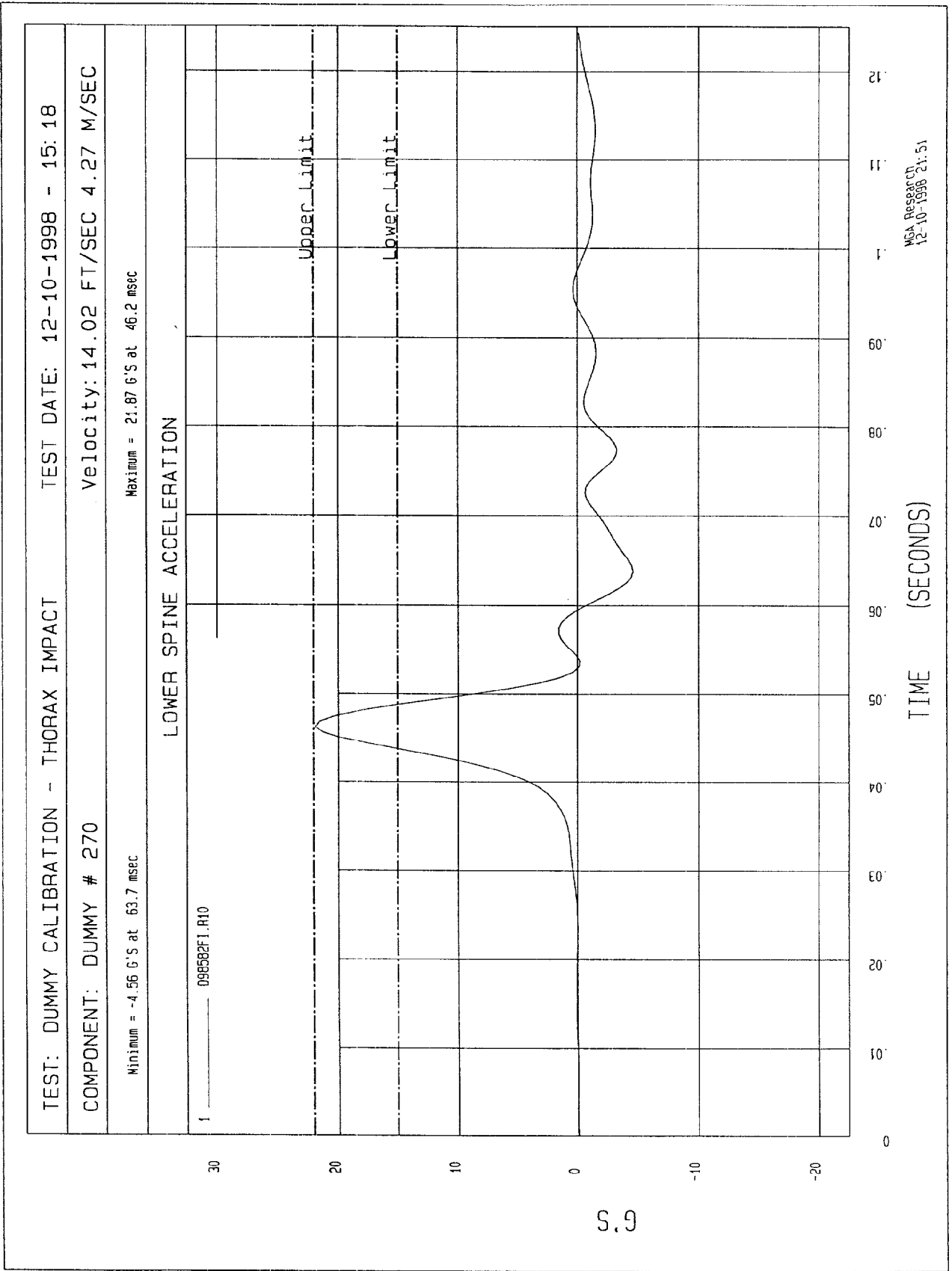
Maximum = 37.98 G'S at 41.2 msec

UPPER RIB ACCELERATION



WGA Research
12-10-1998 21:50





MGA RESEARCH CORPORATION

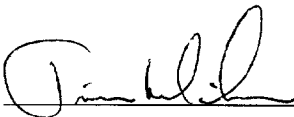
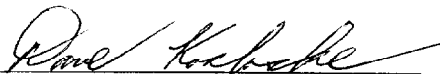
PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981583

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	22%
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	44

TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - PELVIS IMPACT TEST DATE: 12-10-1998 - 21:50

COMPONENT: DUMMY # 270 Velocity: 14.043 FT/SEC 4.28 M/SEC

Minimum = -9.72 G'S at 45 msec

Maximum = 43.71 G'S at 33.1 msec

PELVIS ACCELERATION

1 _____ D98563F1.R11

80

60

40

20

0

-20

G.S

Upper Limit

Lower Limit

.12

.11

.1

.09

.08

.07

.06

.05

.04

.03

.02

.01

0

TIME (SECONDS)

NSA Research
12-10-1998 21:51

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

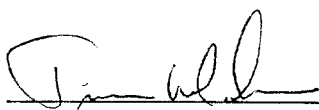
SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 270TEST NUMBER: D981584

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	23%
FORCE @ 12.7 mm	104 - 162	135
FORCE @ 19.0 mm	163 - 222	184
FORCE @ 25.4 mm	222 - 280	246
FORCE @ 33 mm	325 - 391	342

TEST MEETS SPECIFICATIONS

TECHNICIAN



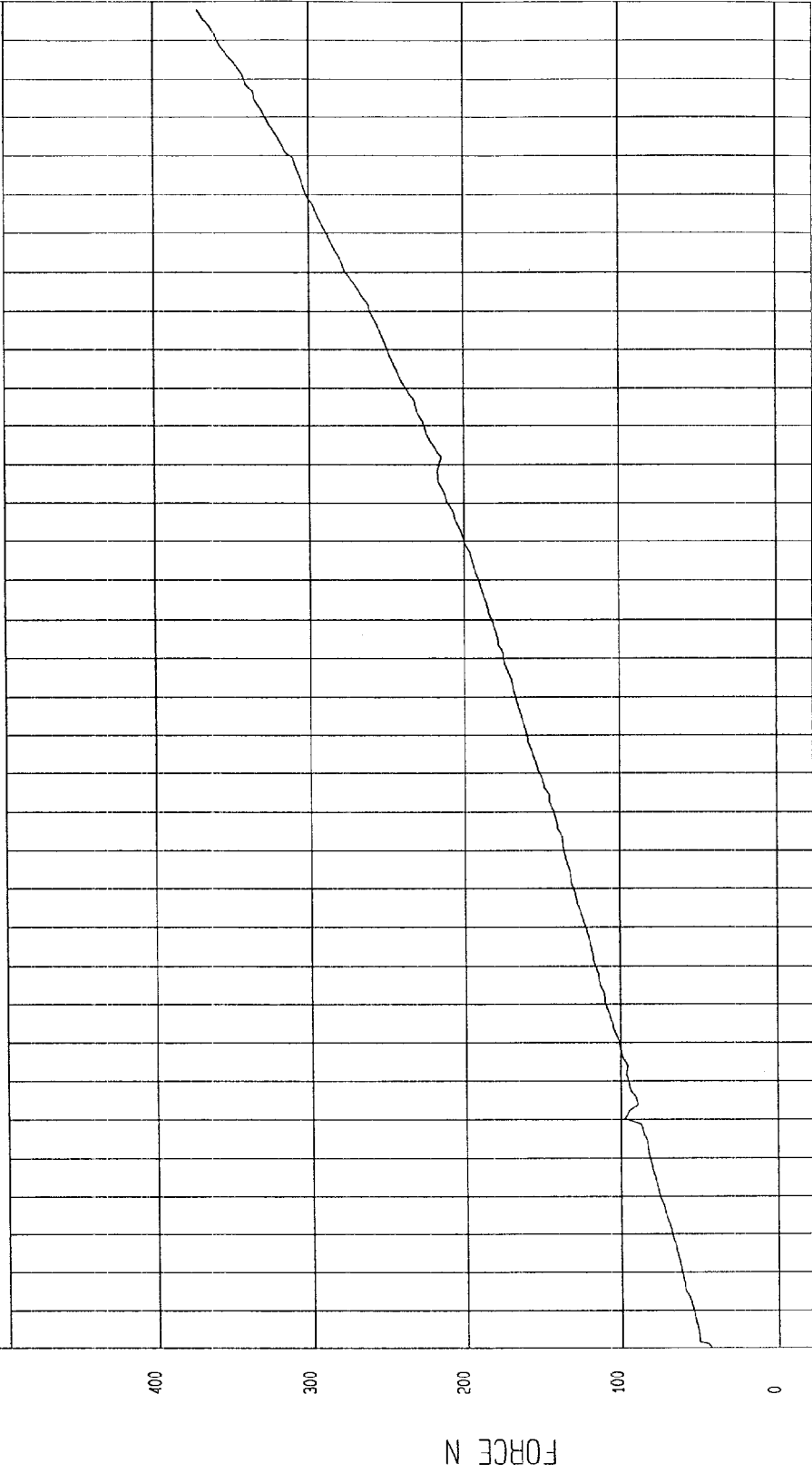
APPROVED BY



TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 12-10-1998 - 13:48:36

COMPONENT: DUMMY # 270

FORCE as a function of DISPLACEMENT



MCA Research
12-10-1998 14:02

DISPLACEMENT mm

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 270 TEST NUMBER: D981585

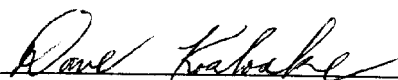
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	24%
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	133.5
FORCE @ 30°	151.2 - 204.6	185.7
FORCE @ 40°	204.6 - 258.0	229.8
RETURN ANGLE	12° maximum	6°

TEST MEETS SPECIFICATIONS

TECHNICIAN



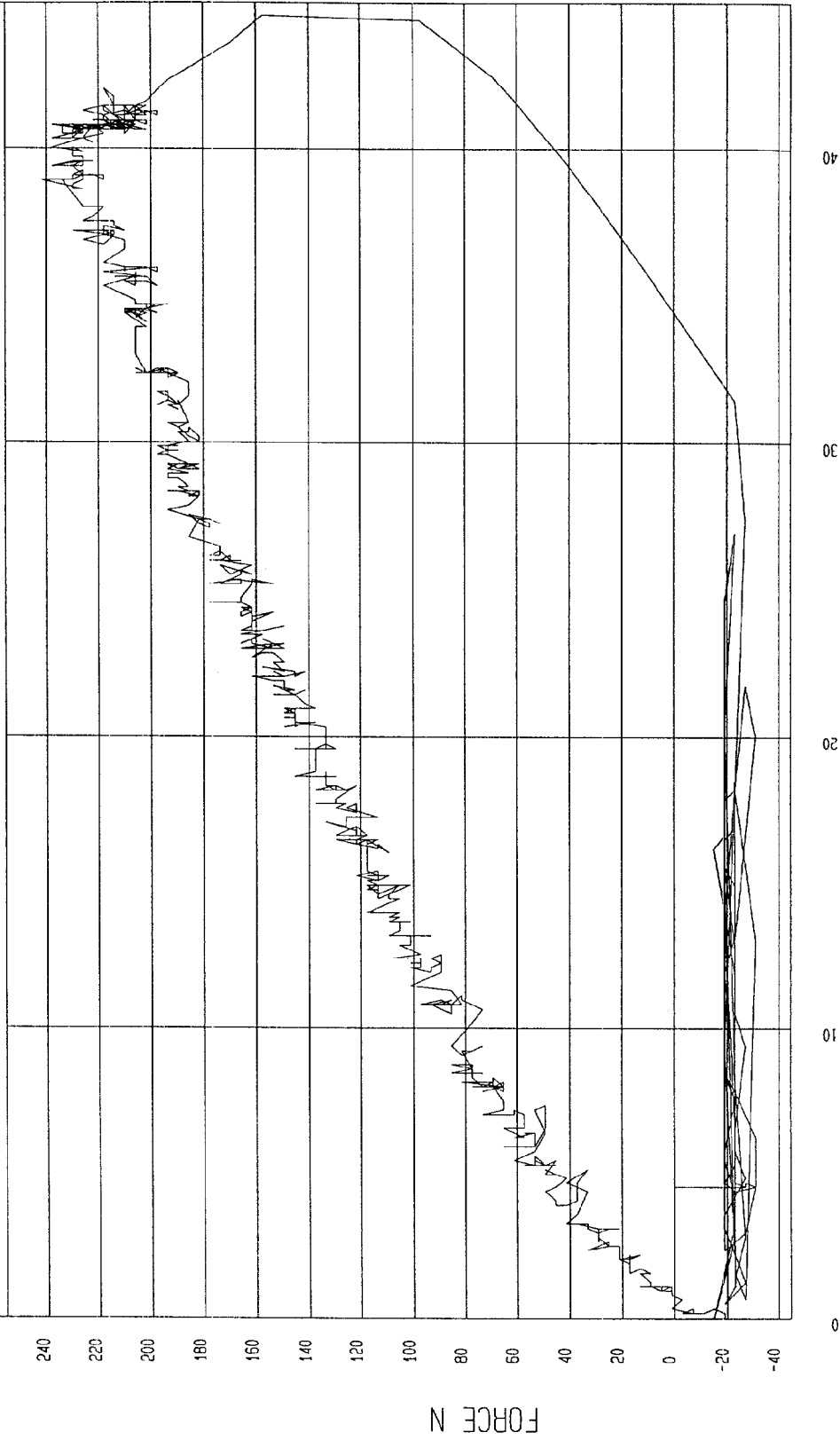
APPROVED BY



TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 12-10-1998 - 11:25:54

COMPONENT: DUMMY # 270

FORCE as a function of TORSO ROTATION.



MGA Research
12-10-1998 11:54

POST-TEST CERTIFICATION DATA

Passenger Dummy Serial Number: 269

Calibration Test Results Summary

Passenger Dummy Serial Number: 269

Post-Test Calibration

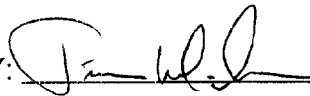
External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY SERIAL NUMBER: 269DATE OF VERIFICATION: December 10, 1998

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	892
RH - Rib Height (mm)	501 - 521	508
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	232
KV - Knee Pivot From Back Line (mm)	511 - 526	523
SW - Knee Pivot to Floor (mm)	490 - 505	501
HW - Hip Width (mm)	356 - 391	382

MEASUREMENTS BY:



APPROVED BY:



MGA RESEARCH CORPORATION

THORAX IMPACT TEST

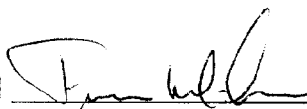
SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981572

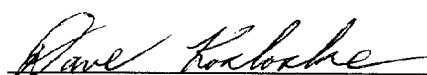
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	23%
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46 g's	43
LOWER RIB (g's)	37 - 46 g's	46
LOWER SPINE (g's)	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN



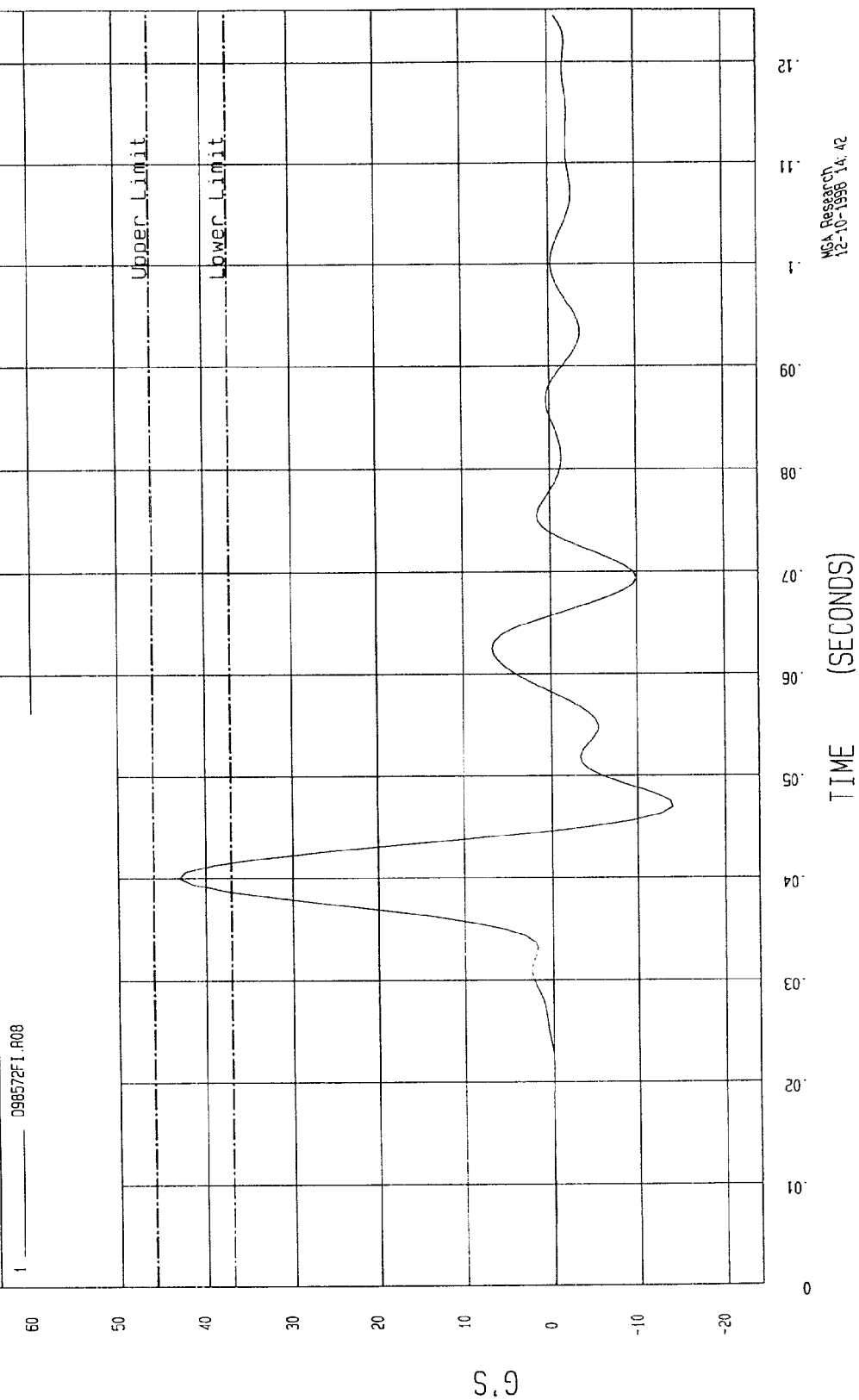
APPROVED BY

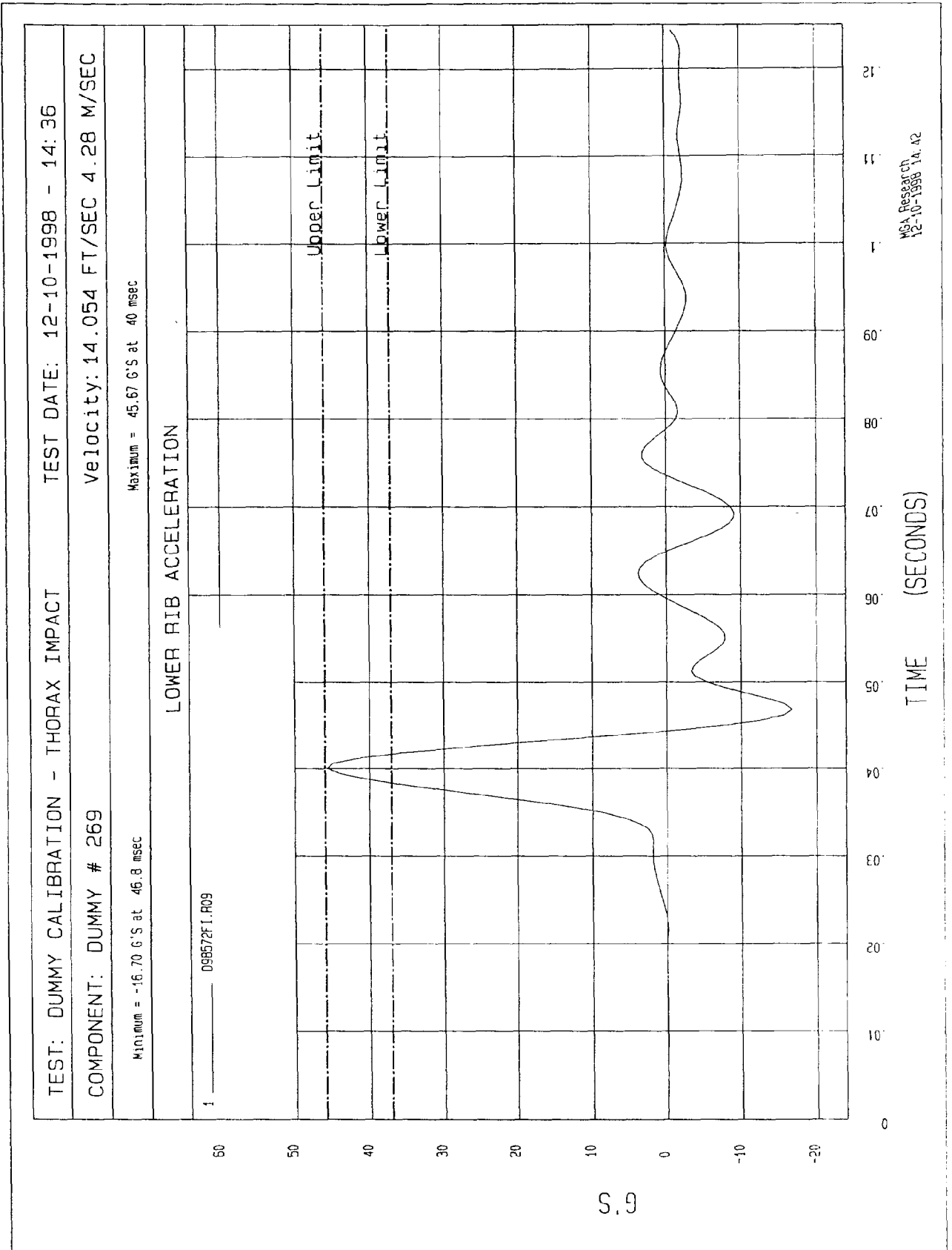


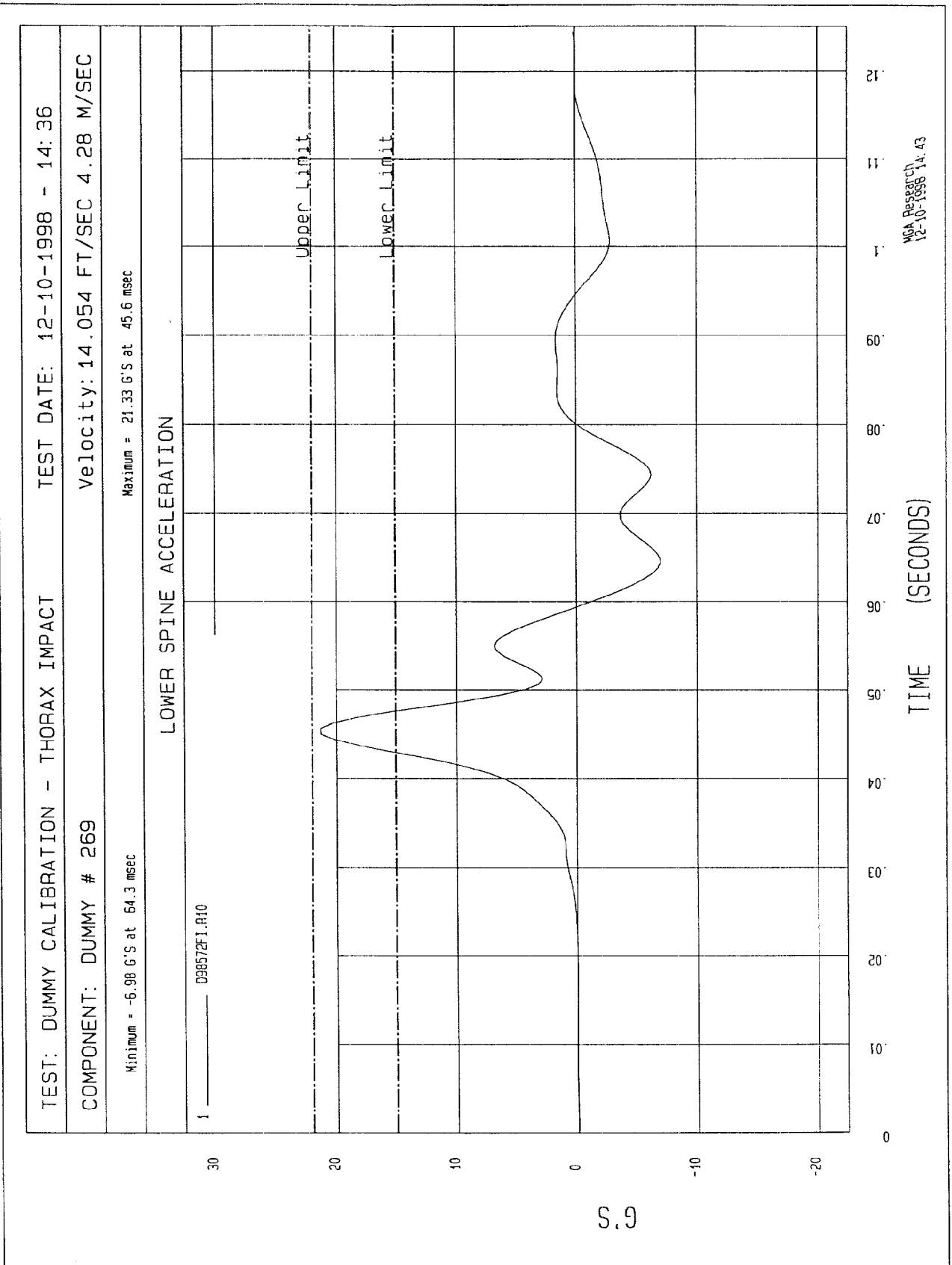
TEST: DUMMY CALIBRATION - THORAX IMPACT TEST DATE: 12-10-1998 - 14:36
COMPONENT: DUMMY # 269 Velocity: 14.054 FT/SEC 4.28 M/SEC

Minimum = -13.86 G'S at 45.8 msec Maximum = 43.10 G'S at 40 msec

UPPER RIB ACCELERATION







MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

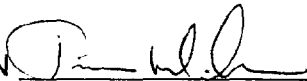
SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981573

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	23%
PROBE SPEED (m/s)	4.27 - 4.33	4.27
PELVIS ACCELERATION (g's)	40 - 60	40

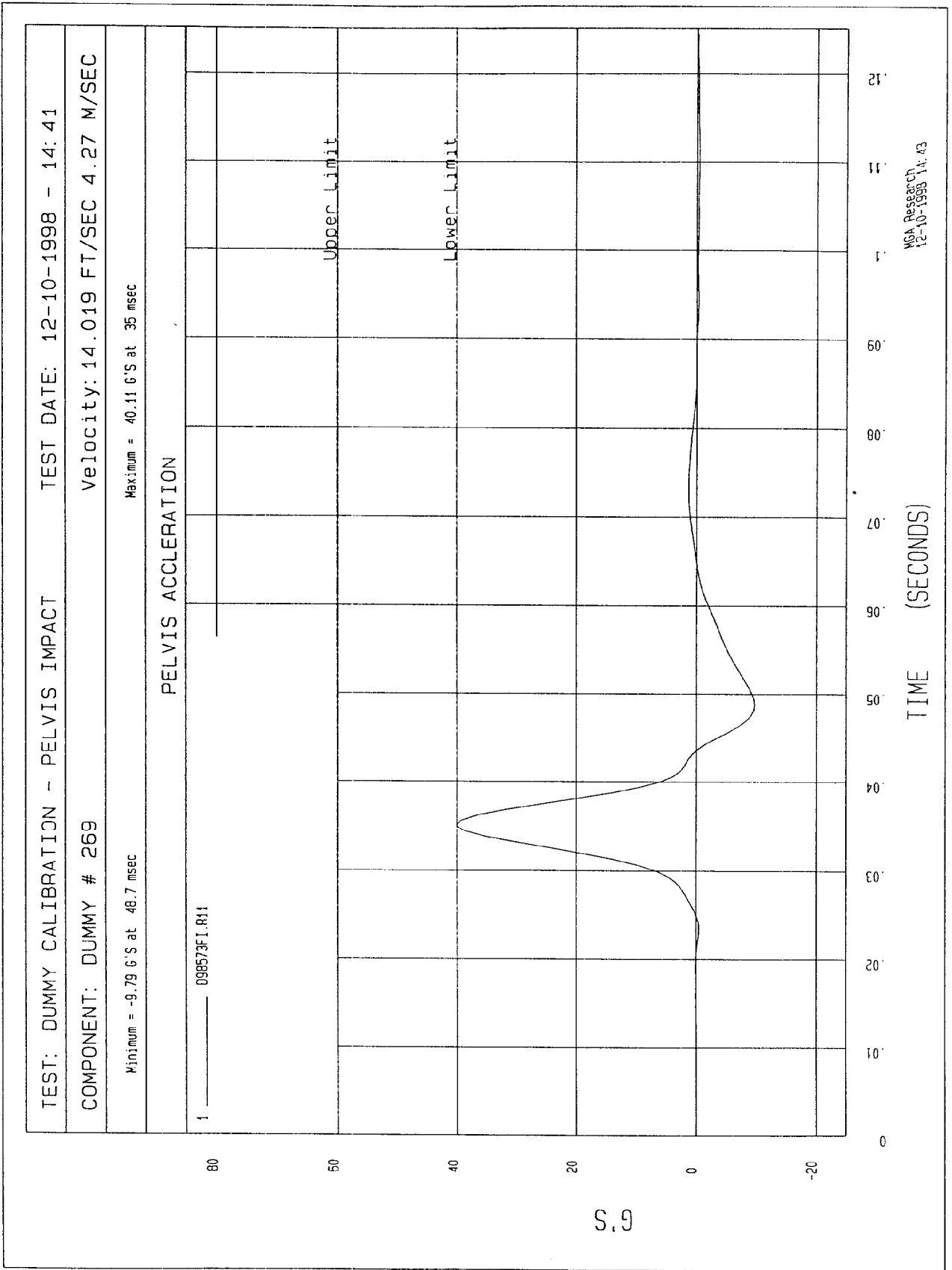
TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY





MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST

(PRELOAD = 10 LBS)

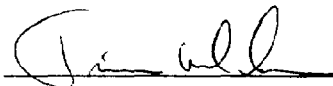
SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 269 TEST NUMBER: D981574

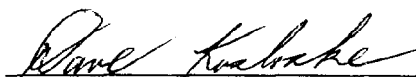
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	23%
FORCE @ 12.7 mm	104 - 162	152
FORCE @ 19.0 mm	163 - 222	213
FORCE @ 25.4 mm	222 - 280	277
FORCE @ 33 mm	325 - 391	382

TEST MEETS SPECIFICATIONS

TECHNICIAN



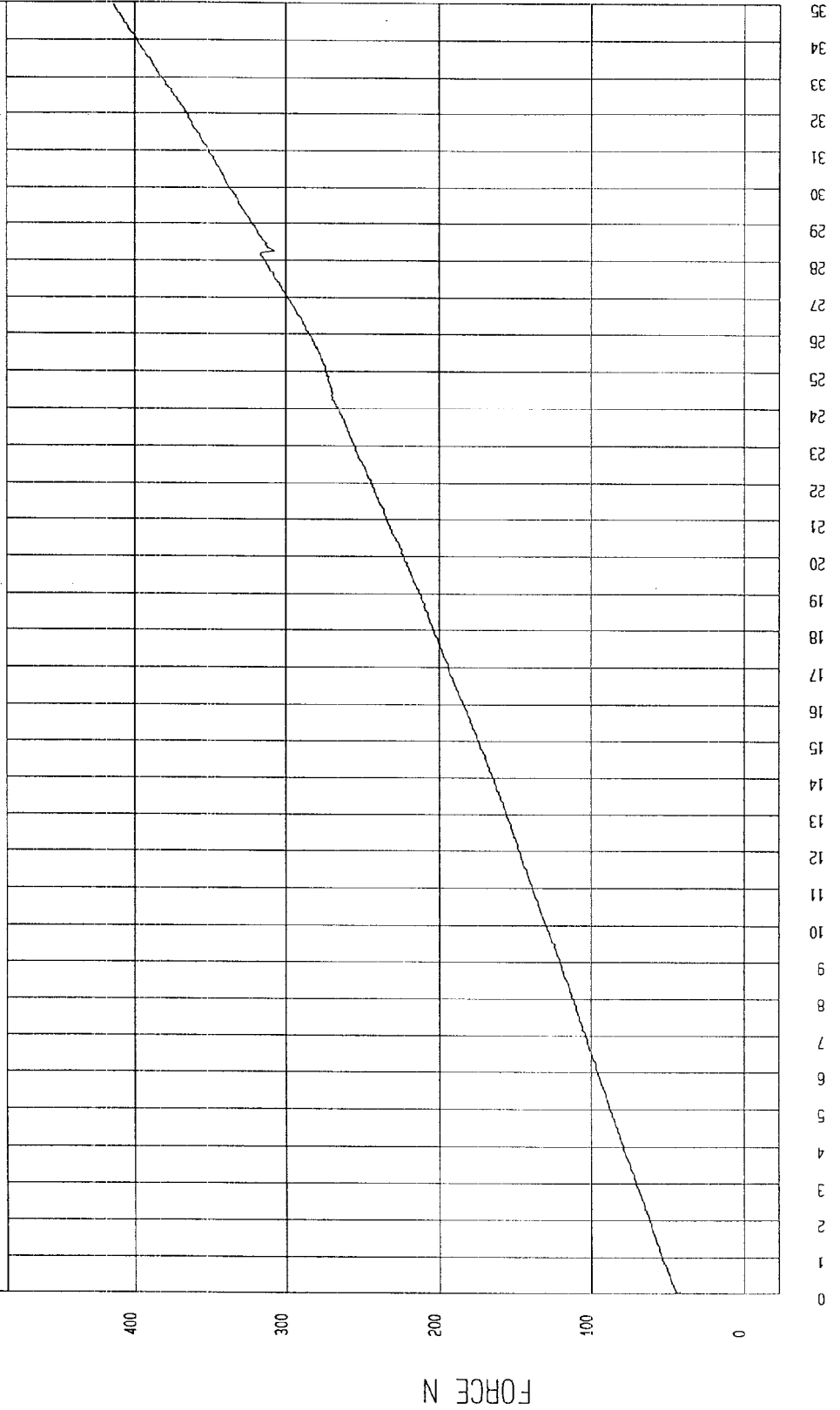
APPROVED BY



TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 12-10-1998 - 13:44:48

COMPONENT: DUMMY # 269

FORCE as a function of DISPLACEMENT ,



NSA Research
12-10-1998 14:02

DISPLACEMENT mm

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

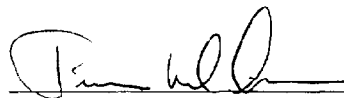
SIDE IMPACT DUMMY (SID)

DATE: December 10, 1998DUMMY SERIAL NUMBER: 269TEST NUMBER: D981575

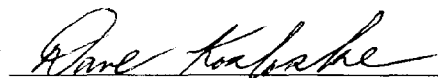
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0°
RELATIVE HUMIDITY (%)	10 - 70	24%
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	110.0
FORCE @ 30°	151.2 - 204.6	174.2
FORCE @ 40°	204.6 - 258.0	206.3
RETURN ANGLE	12° maximum	5°

TEST MEETS SPECIFICATIONS

TECHNICIAN



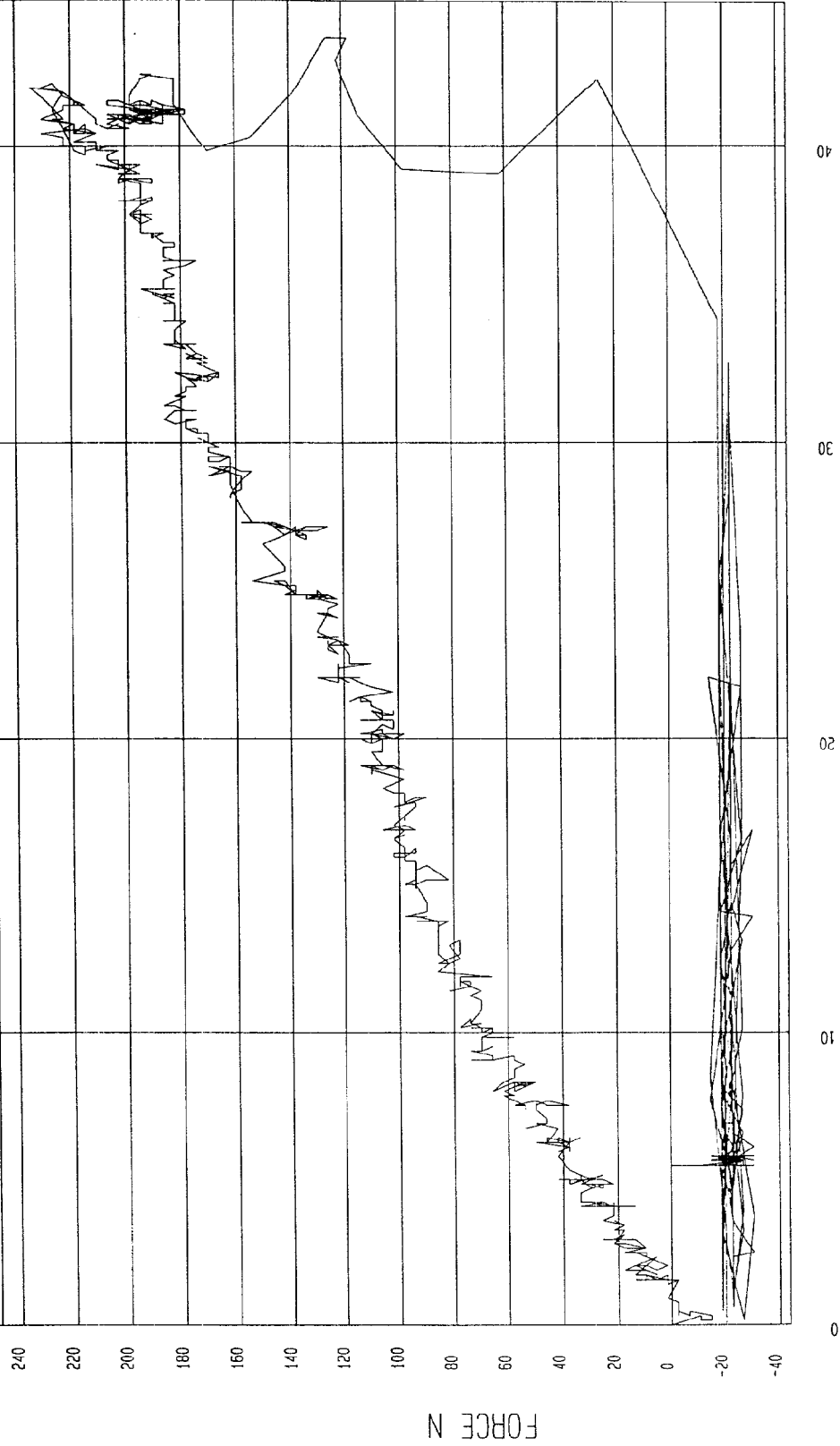
APPROVED BY



TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 12-10-1998 - 10:53:30

COMPONENT: DUMMY # 269

FORCE as a function of TORSO ROTATION,



MGA Research
12-10-1998 11:54

POST-TEST DRIVER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Serial Number: 270

Inspected By: Tim Michnay

Date: December 10, 1998

<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

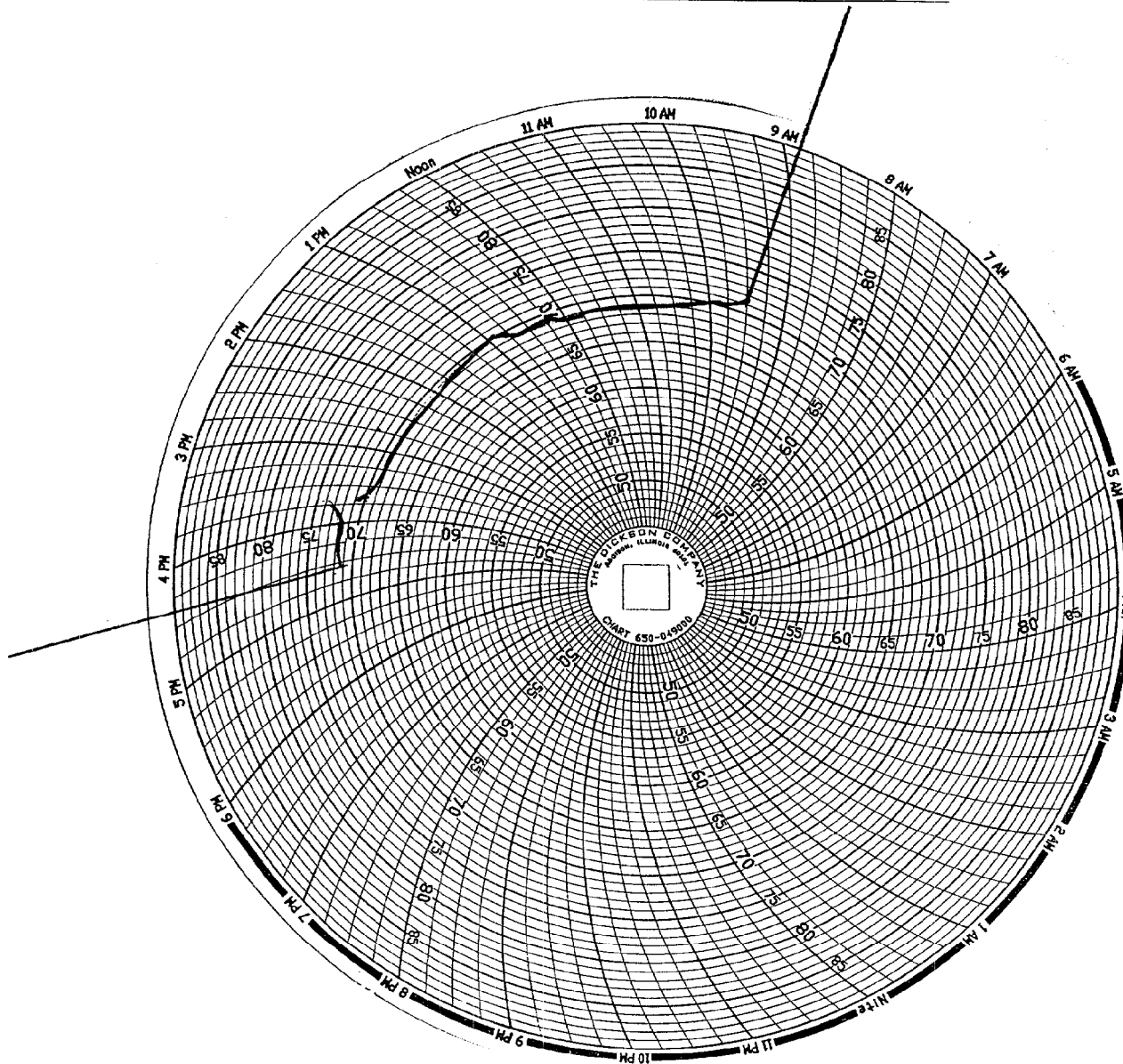
Serial Number: 269

Inspected By: Tim Michnay

Date: December 10, 1998

<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. 270

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AP2D8	Endevco	October 20, 1998
Lower Rib Y	AP170	Endevco	October 14, 1998
Lower Spine Y	AGTP7	Endevco	October 20, 1998
Pelvis Y	ANBP7	Endevco	October 20, 1998
Upper Rib Redundant Y	AP2A4	Endevco	October 20, 1998
Lower Rib Redundant Y	AP2G9	Endevco	October 14, 1998
Lower Spine Redundant Y	AGT04	Endevco	October 20, 1998
Pelvis Redundant Y	AP1C6	Endevco	October 20, 1998
Head Center of Gravity X	AP179	Endevco	October 20, 1998
Head Center of Gravity Y	ALFP1	Endevco	October 20, 1998
Head Center of Gravity Z	AHTY4	Endevco	October 20, 1998

DUMMY AND VEHICLE CALIBRATION DATA
INSTRUMENTS FOR PASSENGER DUMMY NO. 269

	LEFT REAR PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	ALFJ7	Endevco	October 20, 1998
Lower Rib Y	APYN0	Endevco	October 20, 1998
Lower Spine Y	ANAP1	Endevco	October 20, 1998
Pelvis Y	AP0G2	Endevco	October 20, 1998
Upper Rib Redundant Y	ALDD6	Endevco	October 20, 1998
Lower Rib Redundant Y	APYN3	Endevco	October 20, 1998
Lower Spine Redundant Y	ANAT6	Endevco	October 20, 1998
Pelvis Redundant Y	AP138	Endevco	October 20, 1998
Head Center of Gravity X	AH0A5	Endevco	October 20, 1998
Head Center of Gravity Y	AN8A4	Endevco	October 20, 1998
Head Center of Gravity Z	AJ9C4	Endevco	October 20, 1998

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	J06-D22	Entran	June 22, 1998
Moving Barrier CG Y	I18-E18	Entran	September 16, 1998
Moving Barrier CG Z	F12-G02	Entran	June 28, 1998
Moving Barrier Rear Axle X	J10-E14	Entran	June 16, 1998
Moving Barrier Rear Axle Y	F07-A14	Entran	June 16, 1998
Left Mid A-Post Y	K16-X10	Entran	August 27, 1998
Left Lower A-Post Y	J06-D20	Entran	June 16, 1998
Left Mid B-Post Y	B13-Z02	Entran	June 16, 1998
Left Lower B-Post Y	J23-E13	Entran	June 16, 1998
Rear Floorpan Above Axle X	I25-J08	Entran	June 25, 1998
Rear Floorpan Above Axle Y	G01-J11	Entran	June 17, 1998
Rear Floorpan Above Axle Z	H02-J15	Entran	June 17, 1998
Driver Seat Track Y	J10-E05	Entran	June 16, 1998
Right Side Sill at Front Seat X	E24-G07	Entran	June 16, 1998
Right Side Sill at Front Seat Y	I26-D15	Entran	June 17, 1998
Right Side Sill at Front Seat Z	C25-A09	Entran	June 16, 1998
Right Side Sill at Rear Seat X	E10-F03	Entran	June 18, 1998
Right Side Sill at Rear Seat Y	I25-J05	Entran	September 24, 1998
Right Side Sill at Rear Seat Z	F11-G08	Entran	June 17, 1998

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO	MANUFACTURER	CALIBRATION DATE
Left Side Sill at Front Seat Y	G13-B01	Entran	June 16, 1998
Left Side Sill at Rear Seat Y	K11-J08	Entran	September 15, 1998
Right Rear Occupant Compartment Y	G13-B14	Entran	September 16, 1998
Vehicle CG X	F12-G09	Entran	June 16, 1998
Vehicle CG Y	E13-D07	Entran	June 25, 1998
Vehicle CG Z	B14-R16	Entran	September 16, 1998
Left Front Door on Centerline	I25-J07	Entran	June 28, 1998
Midrear of Left Front Door	B12-G06	Entran	June 22, 1998
Left Front Door Upper Centerline	I18-E05	Entran	September 16, 1998
Midrear of Left Rear Door	E13-D14	Entran	June 25, 1998
Left Rear Door Upper Centerline	A10-G04	Entran	April 16, 1998

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