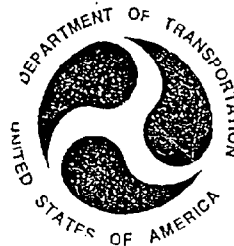


NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING
PASSENGER CARS

1997 FORD TAURUS
4-DOOR SEDAN
NHTSA NO: MV0205

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105



Test Date: December 3, 1996

Report Date: December 11, 1996

FINAL REPORT

Prepared For:

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

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Approved By: *John Fleck*
John Fleck, Facility Director

Approval Date: 12-11-96

FINAL REPORT ACCEPTED BY (OCWS):

Accepted By: _____
Contract Technical Manager

Acceptance Date: _____

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| 15. Supplementary Notes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. Abstract A 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 1997 Ford Taurus 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 3, 1996. The impact velocity of the Moving Deformable Barrier (MDB) was 61.1 kph, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 20°C. The target vehicle post test maximum crush was 461 mm at mid door level. The test vehicle's performance follows: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;"><u>DRIVER</u></th> <th style="width: 20%; text-align: center;"><u>PASS</u></th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">71</td> <td style="text-align: center;">59</td> <td></td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">78</td> <td style="text-align: center;">87</td> <td></td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">70</td> <td style="text-align: center;">85</td> <td></td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">74</td> <td style="text-align: center;">86</td> <td></td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">97</td> <td style="text-align: center;">96</td> <td></td> </tr> </tbody> </table> | | | | | | | <u>DRIVER</u> | <u>PASS</u> | | Left Upper Rib (LUR) Accel., g | 71 | 59 | | Left Lower Rib (LLR) Accel., g | 78 | 87 | | Lower Spine (T ₁₂) Accel., g | 70 | 85 | | Thoracic Trauma Index (TTI) | 74 | 86 | | Pelvis (PEV) Accel., g | 97 | 96 | |
| | <u>DRIVER</u> | <u>PASS</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Left Upper Rib (LUR) Accel., g | 71 | 59 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Left Lower Rib (LLR) Accel., g | 78 | 87 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lower Spine (T ₁₂) Accel., g | 70 | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thoracic Trauma Index (TTI) | 74 | 86 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pelvis (PEV) Accel., g | 97 | 96 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| The door on the struck side of the vehicle did not separate from the body. The opposite doors did not open during the side impact event. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. Key Words New Car Assessment Program (NCAP) FMVSS No. 214D Side Impact Dummy (SID) Occupant Side Impact Protection | | | | 18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590 Telephone No. 202-366-4946 Attn: Robert Hornickle | | | | | | | | | | | | | | | | | | | | | | | | | |
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SECTION 1
PURPOSE AND TEST PROCEDURE

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

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

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

SECTION 2
SUMMARY OF SIDE IMPACT TEST

A 1997 Ford Taurus 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 37.97 mph (61.1 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 3, 1996. Pre- and post-test photographs of the test vehicle, the MDB and the side impact dummies (SIDs) are included in Appendix A.

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

The SIDs were instrumented with the following accelerometers.

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

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

The following table summarizes the results of the test:

| Injury Criteria | Front SID | Rear SID |
|-----------------|-----------|----------|
| TTI (g) | 74.1 | 86.1 |
| Pelvis (g) | 96.9 | 96.3 |

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

DATA SHEET NO. 1

GENERAL VEHICLE TEST PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 VIN: 1FALP52UXVA105285

Vehicle Body Color: Silver Build Date: 8/96

Engine Data: 6 Cylinders; CID; 3.0 Liter; cc

Placement Longitudinal; X Lateral

Transmission: 3 Speed; Manual; X Automatic; X Overdrive

Final Drive: Rear Wheel Drive; X Frt. Wheel Drive; Four Wheel Drive

Odometer Reading 54 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): 33 Psi FRONT

33 Psi REAR

Recommended Tire Size: P205/65R15

Tires on Test Vehicle: P205/65R15 Manufacturer: General

Vehicle Capacity Data:

Number of Occupants: 3 Front; 3 Rear; 3rd Seat, 6 Total

Type of Front Seats: Bucket; Bench; X Split Bench

Type of Front Seat Back: Fixed; X Adjustable with X Lever

Vehicle Maximum Capacity Loading = 499 kg (A)

No. of Occupants x 68.04 kg. = 408 kg (B)

Cargo Capacity (A-B) = 91 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE WITH MAXIMUM FLUIDS:

Right Front = 487.2 kg Right Rear = 267.2 kg

Left Front = 488.5 kg Left Rear = 268.5 kg

TOTAL FRONT = 975.7 kg TOTAL REAR = 535.7 kg

% of Total Vehicle Weight = 65%; % of Total Weight = 35%

TOTAL WEIGHT = 1511.4 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Maximum Fluids = 1511.4 kg
Cargo Carrying Capacity of Test Vehicle = 91.0 kg
Weight of 2 Side Impact Dummies (2 x 80.7 kg.) = 161.4 kg
TEST VEHICLE TARGET WEIGHT = 1763.8 kg

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO:

Right Front = 523.5 kg Right Rear = 332.5 kg
Left Front = 532.1 kg Left Rear = 367.9 kg
TOTAL FRONT = 1055.6 kg TOTAL REAR = 700.4 kg
% of Total Weight = 60% % of Total Weight = 40%
TOTAL TEST WEIGHT = 1756.0 kg

TEST VEHICLE ATTITUDE:

CURB WEIGHT ATTITUDE:

Right Front 706 mm Left Front 700 mm Right Rear 693 mm Left Rear 682 mm

FULLY LOADED WEIGHT ATTITUDE:

Right Front 701 mm Left Front 684 mm Right Rear 648 mm Left Rear 628 mm

TEST ATTITUDE:

Right Front 700 mm Left Front 688 mm Right Rear 660 mm Left Rear 634 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Test Vehicle Wheelbase: 2755 mm

C.G. = 1099 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4654 mm

Centerline = 4976 mm

Left Side = 4654 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

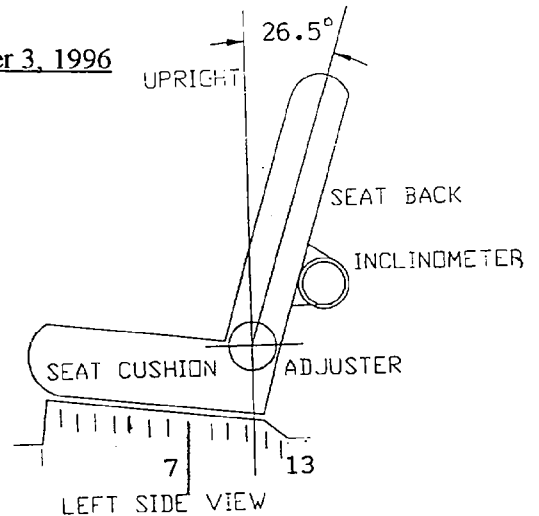
FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel: 328 mm

Test Position: 7th position rearward out of 13 total

FRONT SEAT BACK ADJUSTMENT POSITION:

Seat Back Angle = 26.5° from the vertical position.



SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0

Seat Back Adjustment Position: Non-Adjustable

ADJUSTABLE STEERING COLUMN POSITION: Mid-Position (3rd of 5th positions)

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 = 15.86 gallons

Test Volume: 14.75 gallons 93 % of capacity

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

Wheelbase: = 2755 mm

Impact Point is 438 mm rearward of front axle centerline

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1997/Ford/Taurus
Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996
Overall Length = 4976 mm; Overall Width = 1860 mm

TEST WEIGHT:

Right Front = 523.5 kg Right Rear = 332.5 kg
Left Front = 532.1 kg Left Rear = 367.9 kg
TOTAL FRONT = 1055.6 kg TOTAL REAR = 700.4 kg
% of Total Weight = 60% % of Total Weight = 40%
TOTAL VEHICLE WEIGHT = 1756.0 kg
Wheelbase = 2755 mm
Longitudinal C.G. from Center of Front Axle = 1099 mm
Impact Angle with Respect to Impactor = 0° degrees

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (255 mm above ground) = 265 mm
 2. LEVEL 2 (484 mm above ground) = 461 mm
 3. LEVEL 3 (580 mm above ground) = 451 mm
 4. LEVEL 4 (888 mm above ground) = 336 mm
 5. LEVEL 5 (1347 mm above ground) = 105 mm
- Maximum Post-Test Intrusion = 461 mm

OCCUPANTS:

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

TEST VEHICLE SUMMARY OF RESULTS (Cont'd)

INSTRUMENTATION:

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

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

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

MDB WEIGHT:

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

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

Impact Speed = Primary: 37.97 mph (61.1 kph) Secondary: 38.0 mph (61.1 kph)

CRASH TEST SUMMARY FOR SIDE IMPACTOR (Cont'd)

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Top of Stack (813 mm) = 135 mm
2. Row B Mid Stack (686 mm) = 78 mm
3. Row C Top of Bumper (533 mm) = 85 mm
4. Row D Center of Bumper (432 mm) = 126 mm

INSTRUMENTATION:

Number of MDB Data Channels = 5

DATA SHEET NO. 4
POST-TEST OBSERVATIONS

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

VISIBLE DUMMY CONTACT POINTS:

| | <u>LEFT FRONT SID</u> | <u>LEFT REAR SID</u> |
|------------|-----------------------|-----------------------------|
| Head | <u>to window sill</u> | <u>to C-Post and header</u> |
| Arm | <u>to door</u> | <u>to armrest</u> |
| Pelvis | <u>to door</u> | <u>to door</u> |
| Left Knee | <u>to door</u> | <u>to door</u> |
| Right Knee | <u>to left knee</u> | <u>to 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: 1 mm forward Vertical: 10 mm high

ARM REST LOCATIONS:

Front: 224 mm from bottom of window

Rear: 204 mm from bottom of window

POST-TEST OBSERVATIONS (Cont'd)

SEAT CRUSH:

Front Seat Back: 48 mm Front Seat Cushion: 92 mm

Left Rear Seat Back: 100 mm Rear Seat Cushion: 100 mm

GLAZING DAMAGE:

Impact side door glass broken, windshield cracked

PILLAR PERFORMANCE:

No separation noted

SILL SEPARATION:

None noted

OTHER NOTABLE IMPACT EFFECTS:

Left rear door unlatched

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

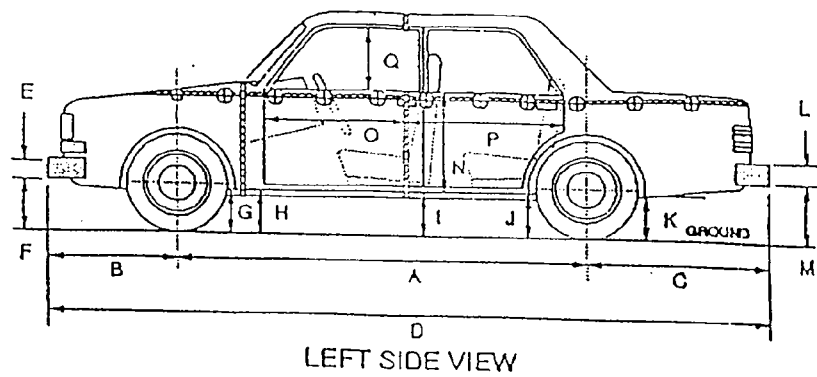
DATA SHEET NO. 5
SIDE IMPACT DUMMY (SID) INSTRUMENTATION DATA

Year/Make/Model/Body Style: 1997/Ford/Taurus
 Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

| | Front Dummy ID # 269 | | | | Rear Dummy ID # 270 | | | |
|-----------------------------|----------------------|-------------|-------------|-------------|---------------------|-------------|-------------|-------------|
| | 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 | 70.9 | 36 | 18.4 | 79 | 58.5 | 39 | 10.9 | 61 |
| Left Lower Rib (LLR) Y | 77.9 | 36 | 18.8 | 88 | 86.8 | 39 | 21.7 | 76 |
| SPINE ACCELERATIONS | | | | | | | | |
| Lower Lateral Y | 70.3 | 38 | 28.0 | 66 | 85.4 | 43 | 37.9 | 68 |
| PELVIS ACCELERATIONS | | | | | | | | |
| Lateral Y | 96.9 | 31 | 25.2 | 60 | 96.3 | 35 | 23.5 | 75 |

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

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



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

J1 = To Pinch Weld
J2 = To Sill

ALL MEASUREMENTS IN (mm)

| | PRE-TEST | POST-TEST | Δ CHANGE |
|-------|----------|-----------|----------|
| A | 2760 | 2718 | 42 |
| B | 1042 | 1050 | 8 |
| C | 1174 | 1175 | 1 |
| D | 4976 | 4943 | 33 |
| E | 190 | 190 | 0 |
| F | 377 | 397 | 20 |
| G | 235 | 238 | 3 |
| H | 170 | 166 | 4 |
| I | 154 | 128 | 26 |
| J1/J2 | 149/150 | 140/134 | 9/16 |
| K | 231 | 224 | 7 |
| L | 260 | 260 | 0 |
| M | 322 | 315 | 7 |
| N | 668 | 620 | 48 |
| O | 810 | 728 | 82 |
| P | 1183 | 848 | 335 |
| Q | 475 | 460 | 15 |
| R | 4654 | 4645 | 9 |
| S | 4654 | 4595 | 59 |
| T | 1860 | 1611 | 249 |

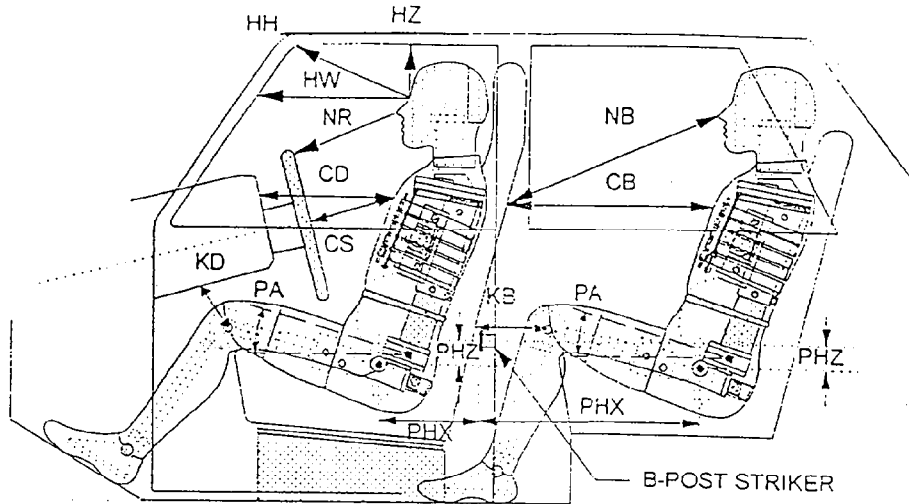
* Molding came off at impact.

DATA SHEET NO. 7

SIDE IMPACT DUMMY (SID) LONGITUDINAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1997/Ford/Taurus

NHTSA NO.: MV0205 Test Date: December 3, 1996



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

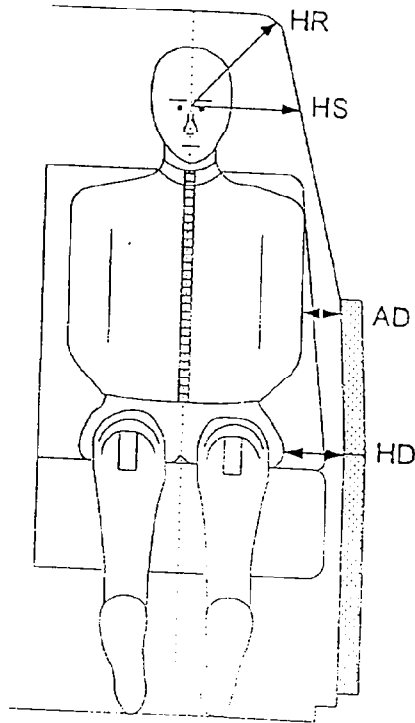
| | FRONT SID ID # 269 | REAR PASSENGER SID ID # 270 | |
|-----------|-----------------------|-----------------------------------|----------|
| HH | 307 | HZ | 133 |
| HW | 368 | NB | 711 |
| HZ | 134 | CB | 644 |
| NR | 380 | KBL (KBA) | 325 (0°) |
| CD | 517 | KBR (KBA) | 330 (0°) |
| CS | 300 | PA° | 24.8 |
| KDL(KDA°) | 140 (43.5°) | PHX | 255 |
| KDR(KDA°) | 145 (31.7°) | PHZ | 318 |
| PA° | 23.5° | | |
| PHX | 227 | | |
| PHZ | 125 | | |

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

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

Year/Make/Model/Body Style: 1997/Ford/Taurus

NHTSA NO.: MV0205 Test Date: December 3, 1996



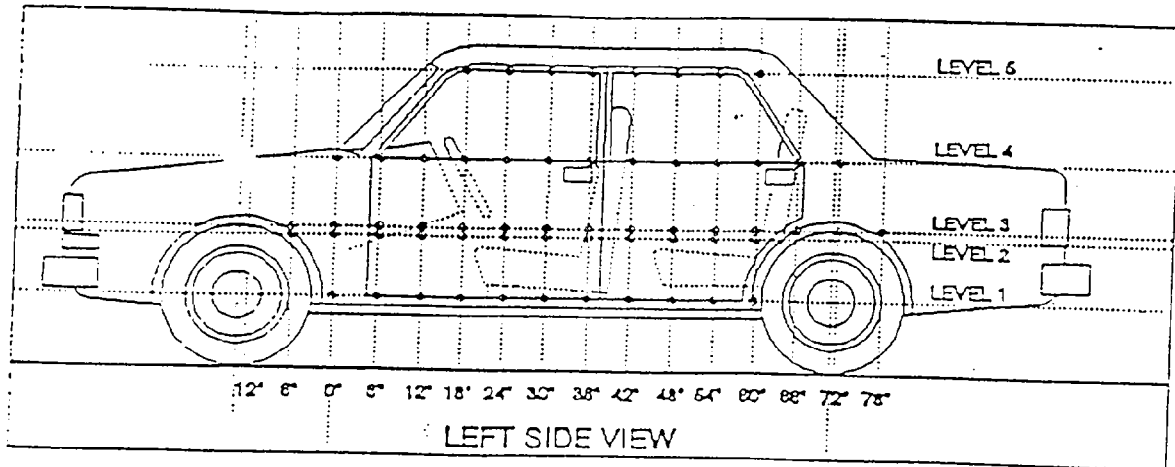
NOTE: All dimensions are in mm

| | DRIVER ID # 269 | LEFT REAR PASSENGER ID # 270 |
|----|--------------------|---------------------------------|
| HR | 208 | 218 |
| HS | 329 | 266 |
| AD | 121 | 105 |
| HD | 147 | 174 |

DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Year/Make/Model/Body Style: 1997/Ford/Taurus

NHTSA NO.: MV0205 Test Date: December 3, 1996



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

MEASUREMENTS ALONG THE VERTICAL 750 mm. LINE SHOWN ABOVE

| | | |
|--|---|----------------|
| Level 1 @ Axle Centerline Height (or Sill Top Height) | = | <u>255</u> mm |
| Level 2 @ Occupant H-Point | = | <u>484</u> mm |
| Level 3 @ Mid Door | = | <u>580</u> mm |
| Level 4 @ Window Sill | = | <u>888</u> mm |
| Level 5 @ Window Top | = | <u>1347</u> mm |

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| 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) | 585 | 655 | 70 |
| 150 | 581 | 700 | 119 |
| 300 | 577 | 734 | 157 |
| 450 | 578 | 732 | 154 |
| 600 | 577 | 750 | 173 |
| 750 | 581 | 745 | 164 |
| 900 | 573 | 745 | 172 |
| 1050 | 582 | 747 | 165 |
| 1200 | 576 | 841 | 265 |
| 1350 | 578 | 770 | 192 |
| 1500 | 583 | 692 | 109 |
| 1650 | 580 | 626 | 46 |
| 1800 | 578 | 541 | -37 |
| 1950 | | | |

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

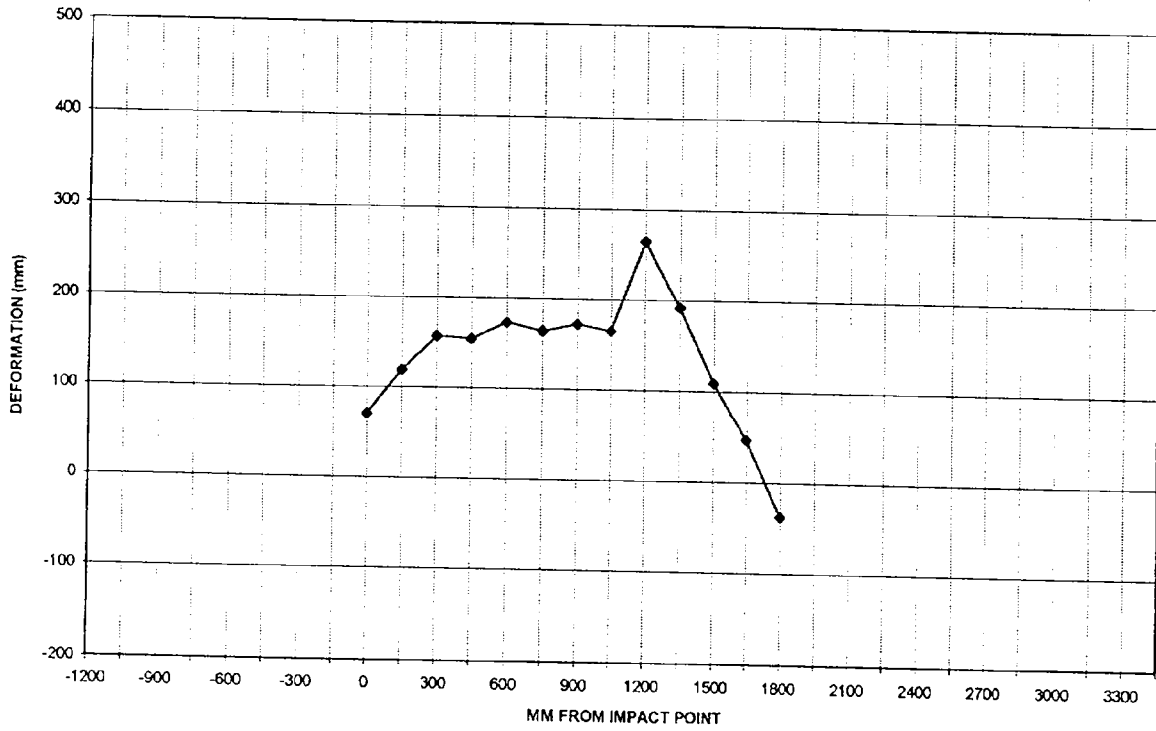
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

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

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 1 - AXLE CENTERLINE

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| Longitudinal Distance (mm) | Level 2 - Occupant H Point | | |
|----------------------------|----------------------------|----------------|-------------------|
| | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| -1800 | | | |
| -1650 | | | |
| -1500 | | | |
| -1350 | | | |
| -1200 | 645 | 647 | 2 |
| -1050 | 603 | 610 | 7 |
| -900 | 573 | 585 | 12 |
| -750 | | | |
| -600 | | | |
| -450 | | | |
| -300 | | | |
| -150 | | | |
| 0 (impact point) | 520 | 617 | 97 |
| 150 | 516 | 769 | 253 |
| 300 | 512 | 847 | 335 |
| 450 | 508 | 866 | 358 |
| 600 | 504 | 877 | 373 |
| 750 | 502 | 883 | 381 |
| 900 | 500 | 886 | 386 |
| 1050 | 498 | 886 | 388 |
| 1200 | 497 | 958 | 461 |
| 1350 | 498 | 907 | 409 |
| 1500 | 498 | 842 | 344 |
| 1650 | 499 | 766 | 267 |
| 1800 | 500 | 696 | 196 |
| 1950 | 501 | 597 | 96 |

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

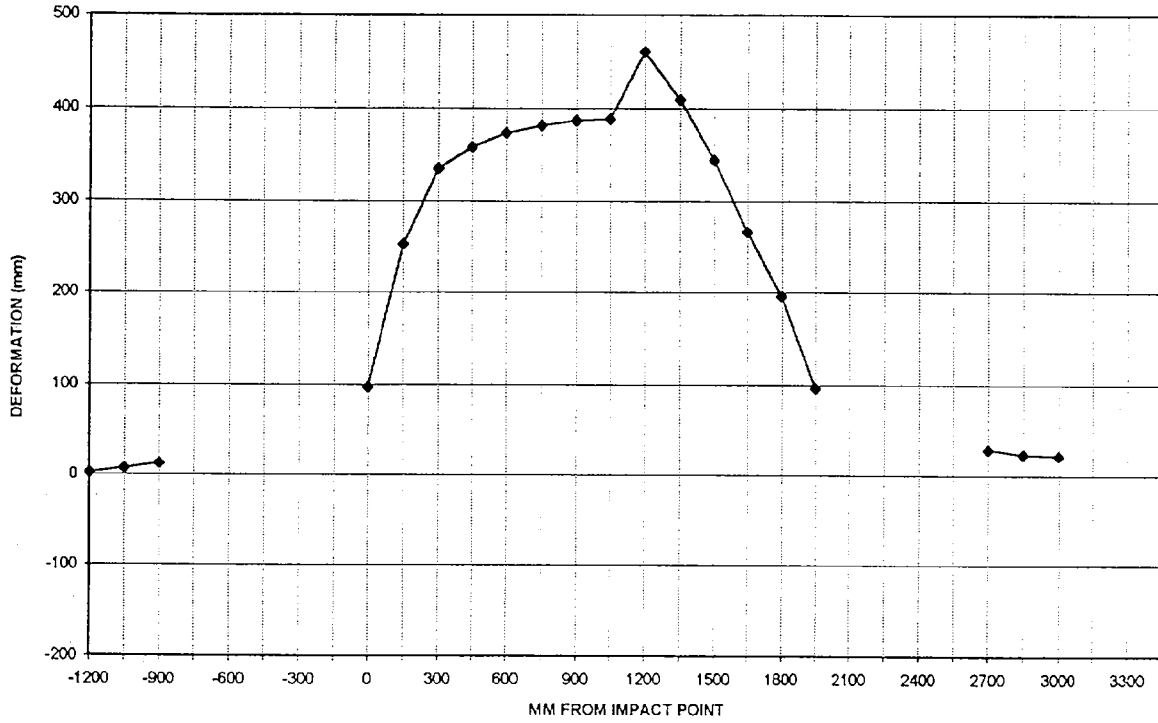
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| | Level 2 - Occupant H Point | | |
|----------------------------|----------------------------|----------------|-------------------|
| Longitudinal Distance (mm) | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| 2100 | | | |
| 2250 | | | |
| 2400 | | | |
| 2550 | | | |
| 2700 | 527 | 555 | 28 |
| 2850 | 549 | 572 | 23 |
| 3000 | 576 | 597 | 21 |
| 3150 | | | |
| 3300 | | | |

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 2 - OCCUPANT H-POINT

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| Longitudinal Distance (mm) | Level 3 - Mid Door | | |
|----------------------------|--------------------|----------------|-------------------|
| | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| -1800 | | | |
| -1650 | | | |
| -1500 | | | |
| -1350 | | | |
| -1200 | | | |
| -1050 | 607 | 622 | 15 |
| -900 | 576 | 590 | 14 |
| -750 | 552 | 568 | 16 |
| -600 | | | |
| -450 | | | |
| -300 | | | |
| -150 | 526 | 570 | 44 |
| 0 (impact point) | 525 | 616 | 91 |
| 150 | 521 | 758 | 237 |
| 300 | 518 | 833 | 315 |
| 450 | 516 | 846 | 330 |
| 600 | 513 | 854 | 341 |
| 750 | 511 | 849 | 338 |
| 900 | 508 | 851 | 343 |
| 1050 | 506 | 848 | 342 |
| 1200 | 502 | 953 | 451 |
| 1350 | 501 | 883 | 382 |
| 1500 | 501 | 821 | 320 |
| 1650 | 501 | 754 | 253 |
| 1800 | 501 | 683 | 182 |
| 1950 | 501 | 575 | 74 |

Reference plane is parallel to test vehicle longitudinal centerline.

Given dimensions = Reference plane to car body

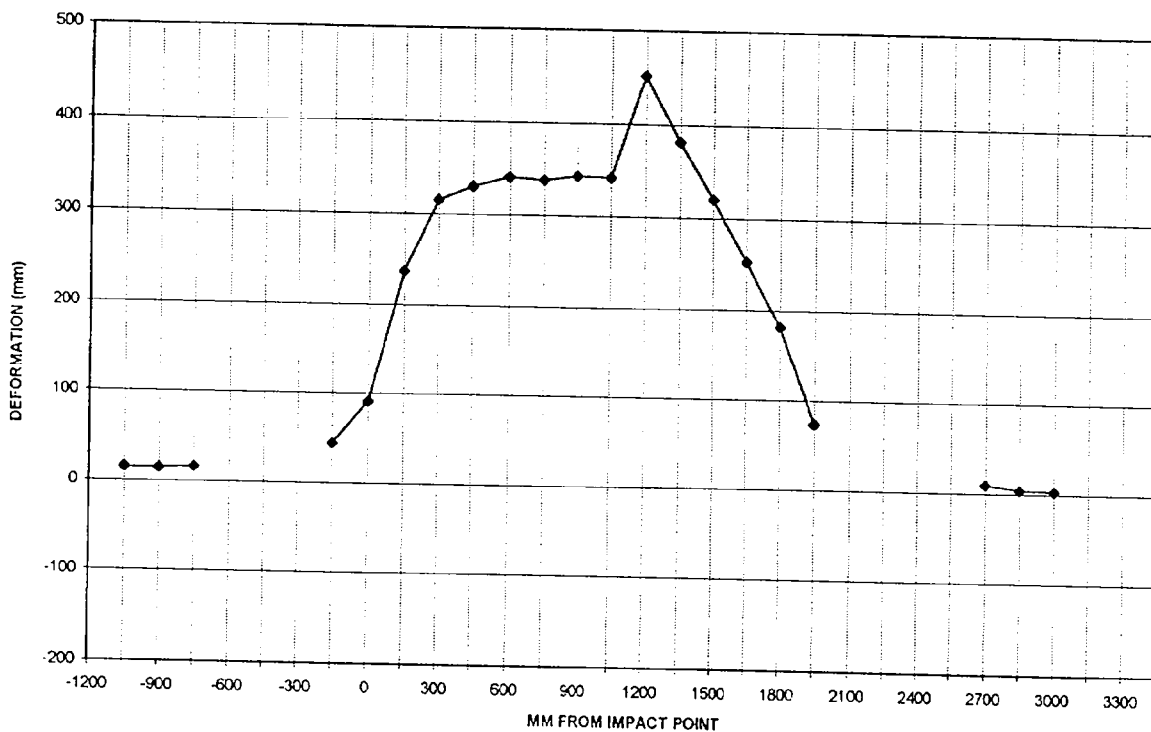
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| Longitudinal Distance (mm) | Level 3 - Mid Door | | |
|----------------------------|--------------------|----------------|-------------------|
| | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| 2100 | | | |
| 2250 | | | |
| 2400 | | | |
| 2550 | | | |
| 2700 | 535 | 545 | 10 |
| 2850 | 562 | 566 | 4 |
| 3000 | 590 | 587 | 3 |
| 3150 | | | |
| 3300 | | | |

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 3 - MID DOOR

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| | Level 4 - Window Sill | | |
|----------------------------|-----------------------|----------------|-------------------|
| Longitudinal Distance (mm) | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| -1800 | | | |
| -1650 | | | |
| -1500 | | | |
| -1350 | | | |
| -1200 | | | |
| -1050 | 685 | 687 | 2 |
| -900 | 667 | 672 | 5 |
| -750 | 647 | 658 | 11 |
| -600 | 630 | 646 | 16 |
| -450 | 617 | 636 | 19 |
| -300 | 602 | 627 | 25 |
| -150 | 588 | 621 | 33 |
| 0 (impact point) | 580 | 614 | 34 |
| 150 | 578 | 680 | 102 |
| 300 | 572 | 722 | 150 |
| 450 | 565 | 766 | 201 |
| 600 | 561 | 803 | 242 |
| 750 | 558 | 799 | 241 |
| 900 | 553 | 799 | 246 |
| 1050 | 552 | 802 | 250 |
| 1200 | 550 | 886 | 336 |
| 1350 | 551 | 828 | 277 |
| 1500 | 548 | 772 | 224 |
| 1650 | 550 | 721 | 171 |
| 1800 | 551 | 636 | 85 |
| 1950 | 553 | 478 | -75 |

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

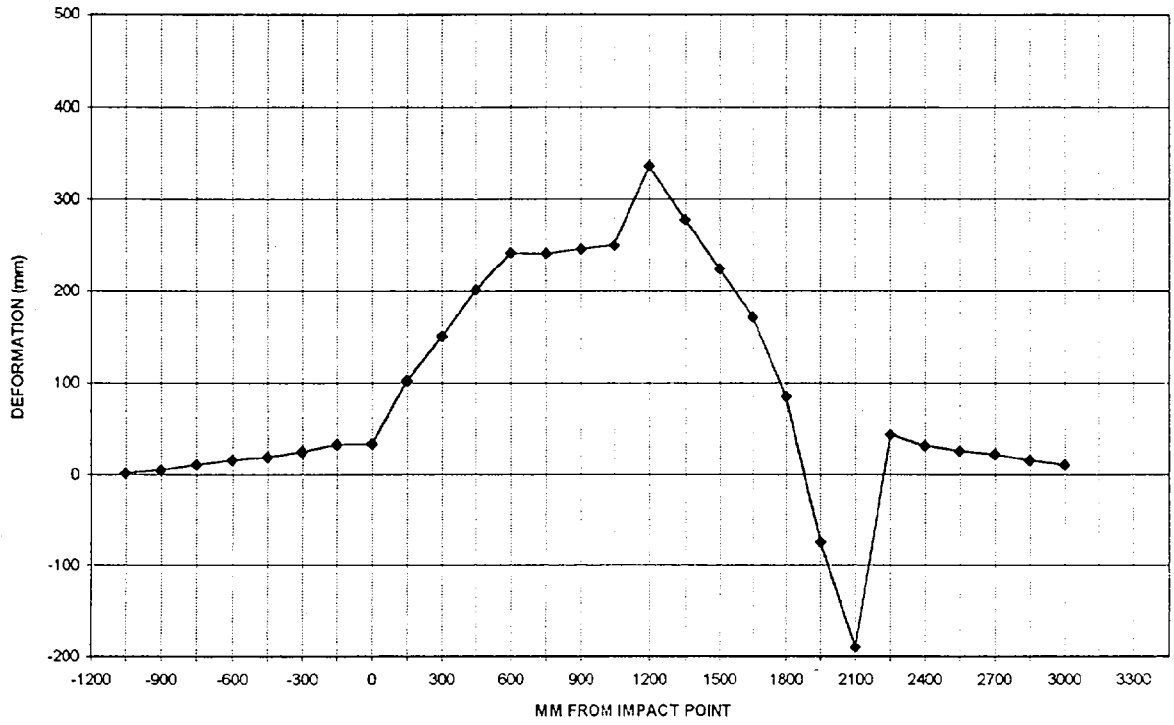
DATA SHEET No. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| | Level 4 - Window Sill | | |
|----------------------------|-----------------------|----------------|-------------------|
| Longitudinal Distance (mm) | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| 2100 | 550 | 360 | -190 |
| 2250 | 554 | 598 | 44 |
| 2400 | 560 | 592 | 32 |
| 2550 | 570 | 596 | 26 |
| 2700 | 583 | 605 | 22 |
| 2850 | 605 | 621 | 16 |
| 3000 | 634 | 645 | 11 |
| 3150 | | | |
| 3300 | | | |

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 4 - WINDOW SILL

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

| Longitudinal Distance (mm) | Level 5 - Window Top | | |
|----------------------------|----------------------|----------------|-------------------|
| | Pre-Test (mm) | Post-Test (mm) | Static Crush (mm) |
| -1800 | | | |
| -1650 | | | |
| -1500 | | | |
| -1350 | | | |
| -1200 | | | |
| -1050 | | | |
| -900 | | | |
| -750 | | | |
| -600 | | | |
| -450 | | | |
| -300 | | | |
| -150 | | | |
| 0 (impact point) | | | |
| 150 | | | |
| 300 | | | |
| 450 | | | |
| 600 | | | |
| 750 | 844 | 900 | 56 |
| 900 | 843 | 908 | 65 |
| 1050 | 841 | 929 | 88 |
| 1200 | 839 | 944 | 105 |
| 1350 | 836 | 926 | 90 |
| 1500 | 836 | 910 | 74 |
| 1650 | 836 | 896 | 60 |
| 1800 | 839 | 887 | 48 |
| 1950 | 844 | 882 | 38 |

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

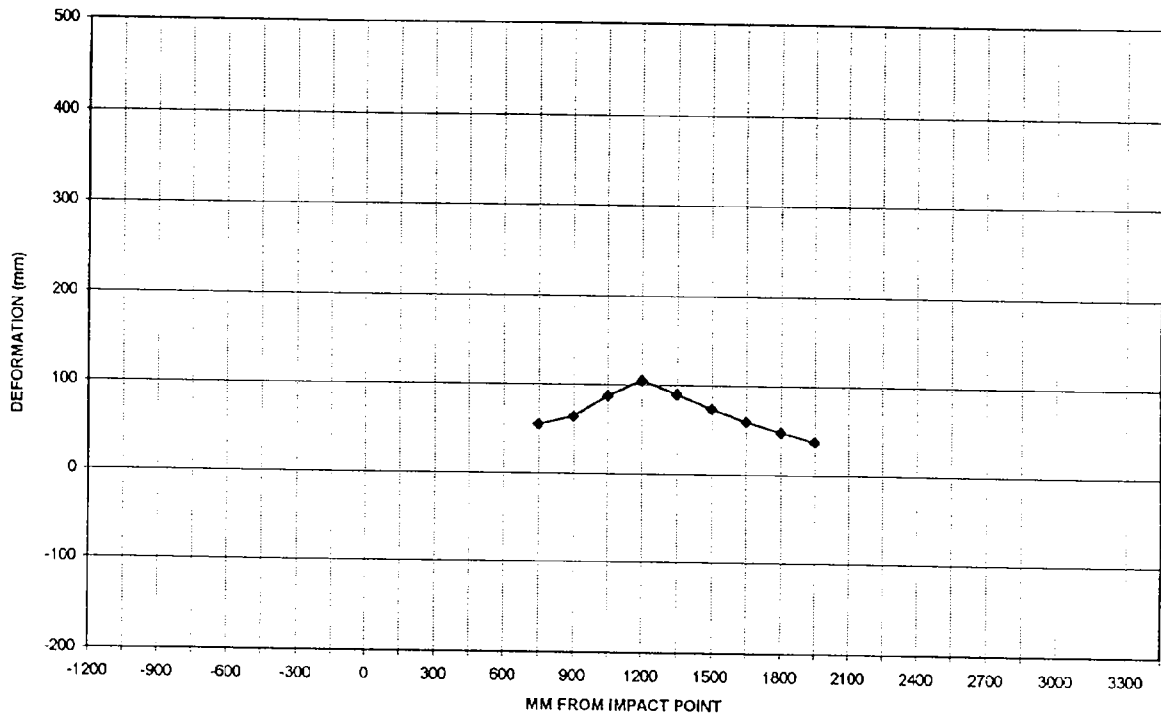
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

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

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

VEHICLE EXTERIOR STATIC CRUSH



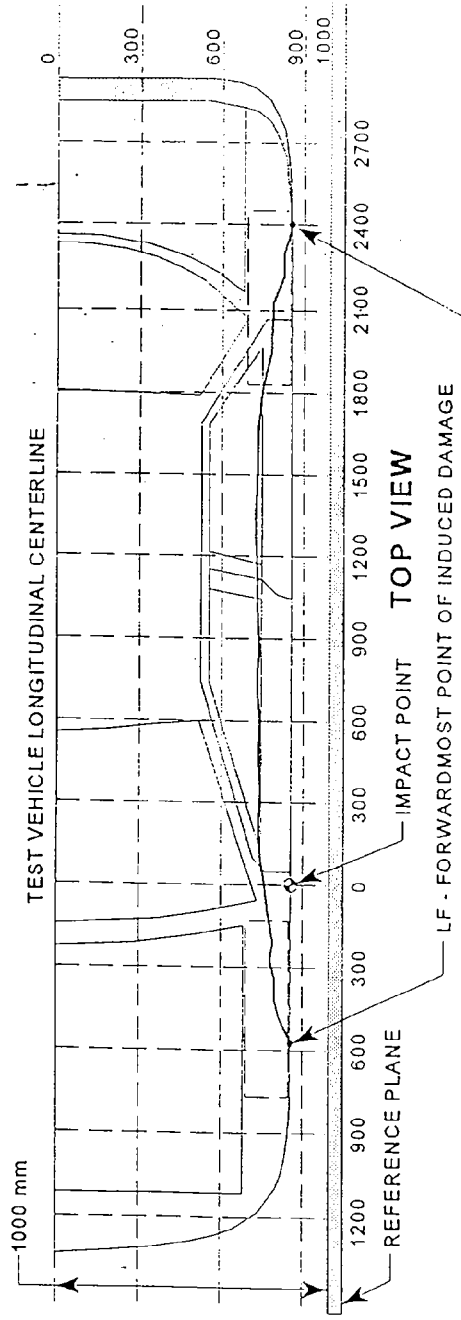
LEVEL 5 - WINDOW TOP

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Year/Make/Model/Body Style: 1997/Ford/Taurus

NHTSA NO.: MV0205 Test Date: December 3, 1996



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

| DPD MEASUREMENTS | POST-TEST (mm) | PRE-TEST (mm) | STATIC CRUSH (mm) |
|--------------------|----------------|---------------|-------------------|
| 1. (LF = -1200 mm) | 645 | 645 | 0 |
| 2. -300 mm | --- | --- | --- |
| 3. 600 mm | 877 | 504 | 373 |
| 4. 1500 mm | 842 | 498 | 344 |
| 5. 2400 mm | --- | --- | --- |
| 6. (LR = 3300 mm) | 662 | 662 | 0 |

DATA SHEET NO. 12

EXTERIOR STATIC CRUSH FOR SIDE IMPACTOR

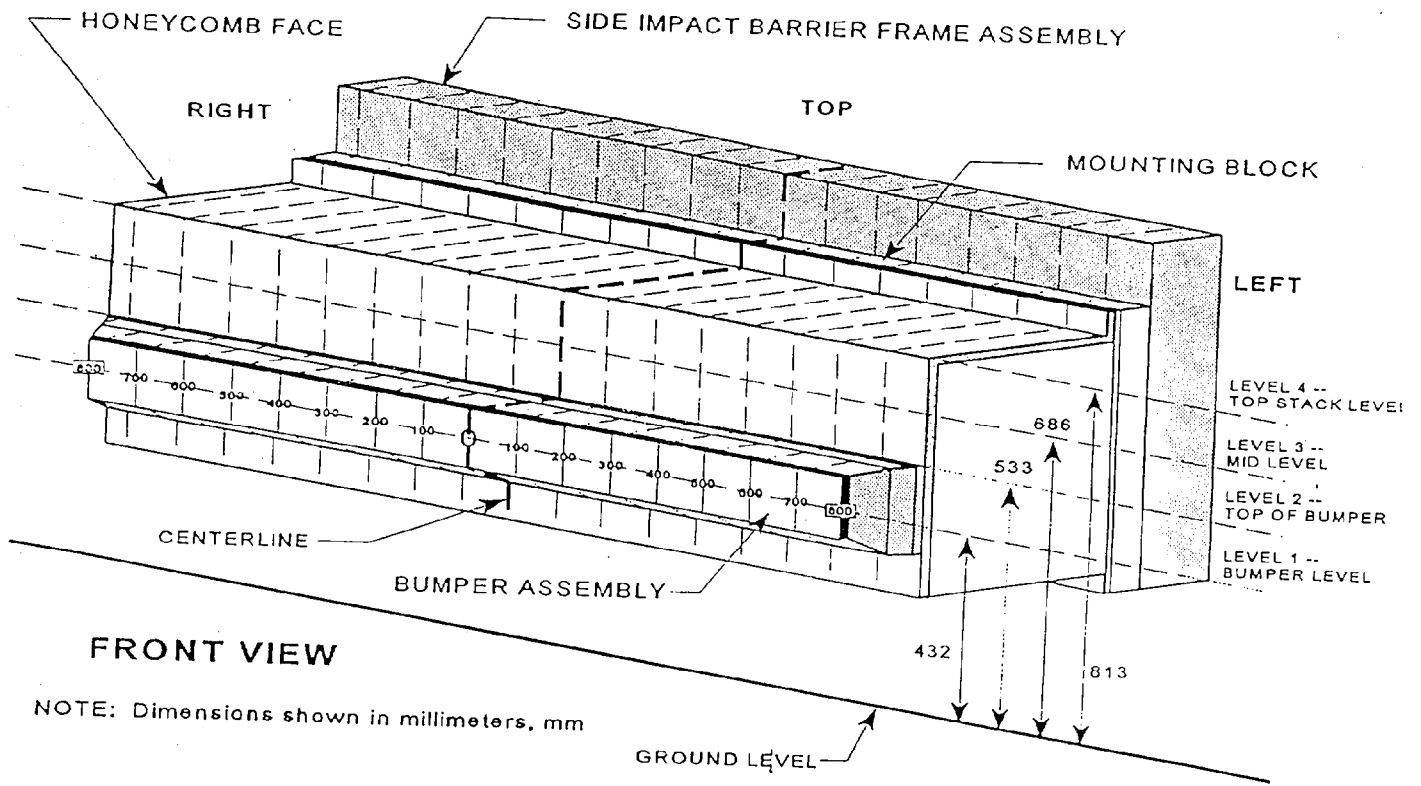
Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

| Location | Height at CL | Distance Right of Center (mm) | | | | | | | | Distance Left of Center (mm) | | | | | | | | |
|--------------------|--------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 800 | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 0 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| Top Stack Level 4 | 813 mm | 73 | 24 | 4 | 2 | 2 | 1 | 1 | 3 | 3 | 6 | 7 | 8 | 10 | 17 | 53 | 86 | 135 |
| Mid Level Level 3 | 686 mm | 27 | 7 | 5 | 9 | 4 | 5 | 5 | 10 | 11 | 7 | 8 | 10 | 10 | 12 | 24 | 78 | |
| Top Bumper Level 2 | 533 mm | 65 | 47 | 28 | 16 | 8 | 11 | 11 | 11 | 13 | 15 | 21 | 26 | 30 | 60 | 52 | 65 | 85 |
| Mid Bumper Level 1 | 432 mm | 101 | 84 | 68 | 54 | 41 | 32 | 32 | 30 | 36 | 41 | 46 | 51 | 54 | 64 | 81 | 100 | 126 |

See next page for Barrier Face Graphic

DATA SHEET NO. 12 (Cont'd)



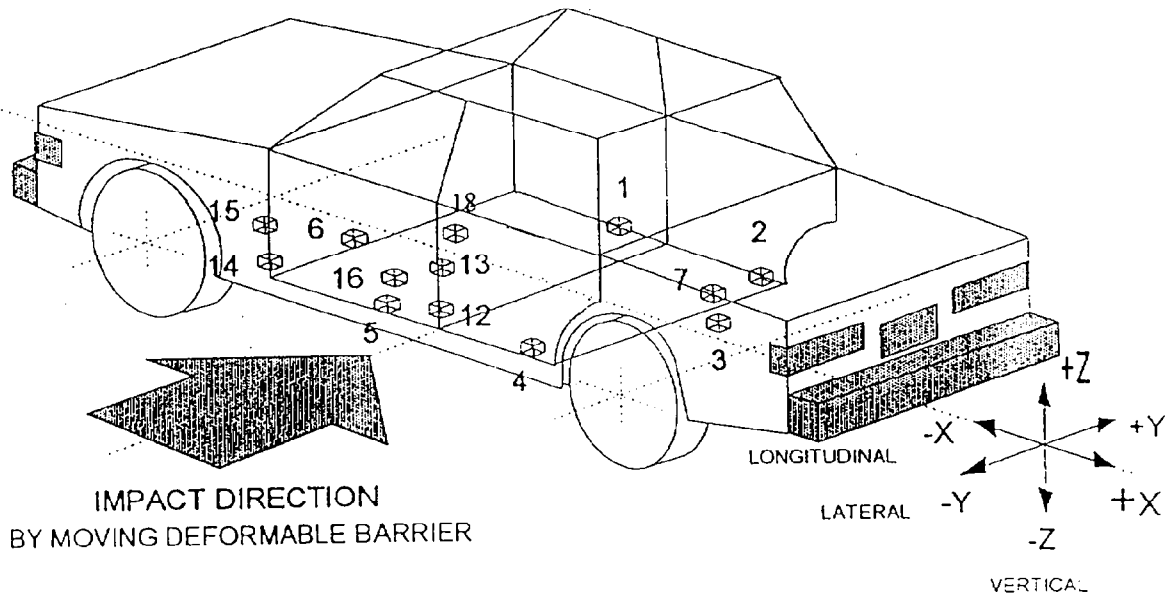
FRONT VIEW

NOTE: Dimensions shown in millimeters, mm

DATA SHEET 13
TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996



- | | |
|--|--|
| <ul style="list-style-type: none"> 1 - Right Front Sill 2 - Right Rear Sill 3 - Rear Floorpan Above Axle 4 - Left Rear Sill 5 - Left Front Sill 6 - Left Mid Door 7 - Right Rear Occ. Compartment | <ul style="list-style-type: none"> 12 - Left Lower B-Post 13 - Left Middle B-Post 14 - Left Lower A-Post 15 - Left Middle A-Post 16 - Front Seat Track 18 - Vehicle C.G. |
|--|--|

DATA SHEET NO. 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

| 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 | 2596 | 644 | 196 | 3.8 | -6.0 | 36.7 | -2.8 | 6.4 | -8.5 | 37.1 |
| 2 | Rt. Side Sill @ Rear Seat | 1813 | 647 | 194 | 3.6 | -5.2 | 29.2 | -2.2 | 4.7 | -5.9 | 29.5 |
| 3 | Rr. Floorpan Above Axle | 1089 | 8 | 494 | 2.8 | -11.9 | 16.4 | -2.0 | 9.0 | -7.4 | 19.3 |
| 4 | Left Side Sill @ Rr. Seat | 1870 | -675 | 190 | --- | --- | 56.3 | -6.1 | --- | --- | --- |
| 5 | Left Side Sill @ Frt. Seat | 2628 | -670 | 192 | --- | --- | 67.7 | -35.7 | --- | --- | --- |
| 6 | Left Front Door on Centerline | 2887 | -774 | 625 | --- | --- | 92.0 | -115.3 | --- | --- | --- |
| 7 | Right Rear Occupant Compartment | 2006 | 336 | 300 | --- | --- | 27.0 | -2.4 | --- | --- | --- |
| 8 | Mid Rear of Left Front Door | 2488 | -783 | 638 | --- | --- | 123.0 | -12.2 | --- | --- | --- |
| 9 | Left Front Door Upper Centerline | 2875 | -798 | 890 | --- | --- | 133.0 | -55.7 | --- | --- | --- |
| 10 | Mid Rear of Left Rear Door | 1879 | -781 | 886 | --- | --- | 235.3 | -82.9 | --- | --- | --- |
| 11 | Left Rear Door Upper Centerline | 1882 | -788 | 674 | --- | --- | 158.7 | -41.6 | --- | --- | --- |
| 12 | Left Lower B-Post | 2307 | -732 | 398 | --- | --- | 152.1 | -4.7 | --- | --- | --- |
| 13 | Left Mid B-Post | 2381 | -748 | 818 | --- | --- | 151.6 | -42.0 | --- | --- | --- |
| 14 | Left Lower A-Post | 3274 | -689 | 278 | --- | --- | 45.1 | -4.3 | --- | --- | --- |
| 15 | Left Mid A-Post | 3443 | -817 | 846 | --- | --- | 28.4 | -13.0 | --- | --- | --- |
| 16 | Driver Left Seat Track | 2660 | -530 | 270 | --- | --- | 118.2 | -46.1 | --- | --- | --- |
| 18 | Vehicle CG | 2884 | 0 | 305 | 9.1 | -12.9 | 28.5 | -2.9 | 26.3 | -13.6 | 29.4 |

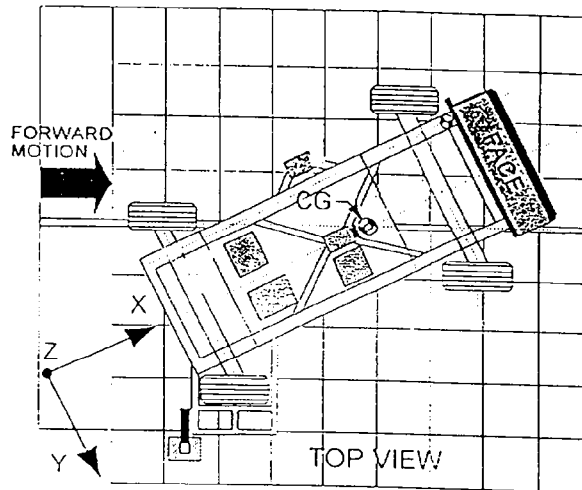
*Reference: X - Rear Bumper (+ Forward)
 Y - Vehicle Centerline (+ To right)
 Z - Ground Level (+ Up)

DATA SHEET NO. 14

MOVING DEFORMABLE BARRIER (MDB) ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996



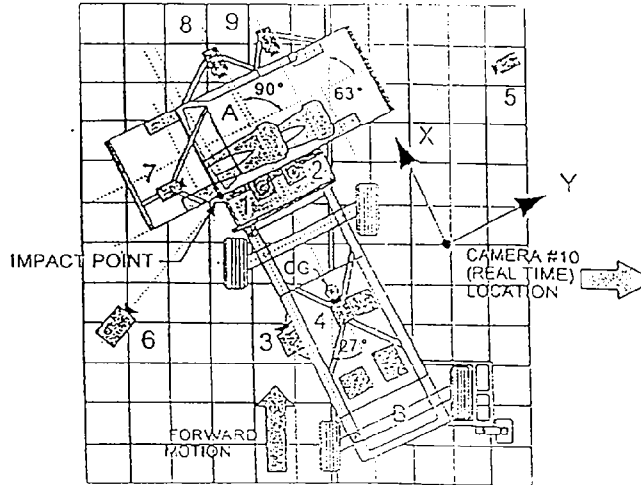
| Accel. No. | Description | Coordinates (mm)* | | | (+) Positive | | (-) Negative | |
|------------|-----------------------|-------------------|------|-----|---------------|-------------|---------------|-------------|
| | | X | Y | Z | Max. (g) | Time (msec) | Max. (g) | Time (msec) |
| 1 | MDB Center of Gravity | -1092 | 0 | 483 | | | | |
| | Longitudinal (X) | --- | --- | --- | 1.5 | 127 | -15.2 | 43 |
| | Lateral (Y) | --- | --- | --- | .8 | 65 | -7.0 | 33 |
| | Vertical (Z) | --- | --- | --- | 12.4 | 39 | -8.6 | 43 |
| | Resultant (R) | --- | --- | --- | 19.6 | 39 | --- | --- |
| 2 | Rear Frame Member | -2591 | -625 | 622 | | | | |
| | Longitudinal (X) | --- | --- | --- | 1.7 | 128 | -20.6 | 34 |
| | Lateral (Y) | --- | --- | --- | 1.4 | 34 | -.6 | 78 |

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

DATA SHEET NO. 15
HIGH SPEED CAMERA LOCATIONS AND DATA

Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996



| Camera No. | View | Coordinates (mm)* | | | Angle | Lens (mm) | Film Speed (fps) |
|------------|-------------------|-------------------|-------|------|-------|-----------|------------------|
| | | X | Y | Z | | | |
| | Real Time | | | | | 13 | |
| 6 | Left Impact | -990 | -220 | 1640 | 90 | 13 | 1031 |
| 8 | Onboard Driver | | | | | 8 | 909 |
| 9 | Onboard Passenger | | | | | 8 | 909 |
| 7 | Onboard Hood | | | | | 13 | 1000 |
| 5 | Right Impact | -220 | 10500 | 1820 | 90 | 25 | 952 |
| 1 | Top Overall | -150 | 1140 | 5000 | 90 | 8 | 1020 |
| 2 | Top Impact | -120 | 50 | 5000 | 90 | 13 | 943 |
| 4 | Cart Overall | | | | | 13 | 1020 |
| 3 | Cart Pointer | | | | | 35 | 939 |

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

DATA SHEET 16
FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

TEST REQUIREMENTS:

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

TEST VEHICLE IMPACT TYPE: X Side Impact MDB 37.97 mph (61.1 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

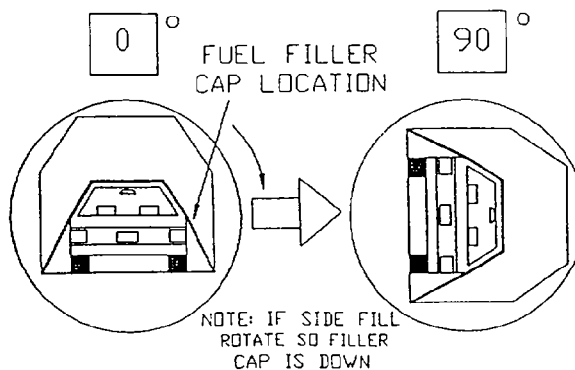
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 45 seconds
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 45 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

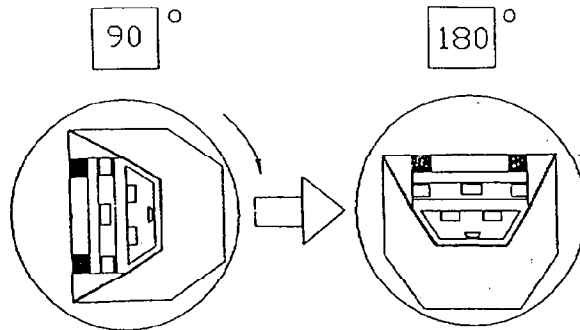
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

TEST PHASE: 90° - 180°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 26 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 26 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

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

FUEL SPILLAGE LOCATIONS(S): None

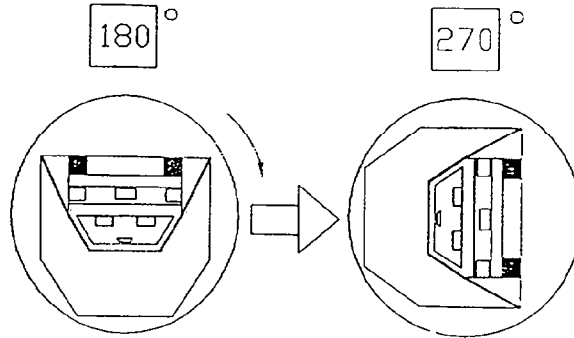
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

TEST PHASE: 180° - 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 30 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 30 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

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

FUEL SPILLAGE LOCATIONS(S): None

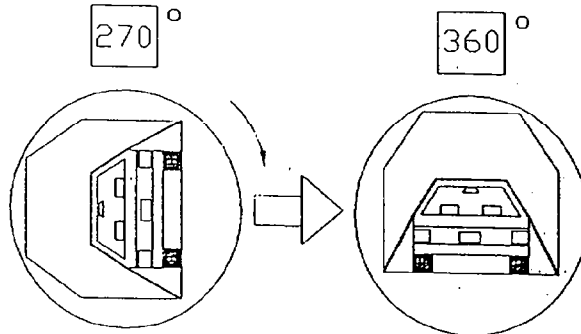
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Ford/Taurus

Vehicle NHTSA No.: MV0205 Test Date: December 3, 1996

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 46 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 46 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

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

FUEL SPILLAGE LOCATIONS(S): None

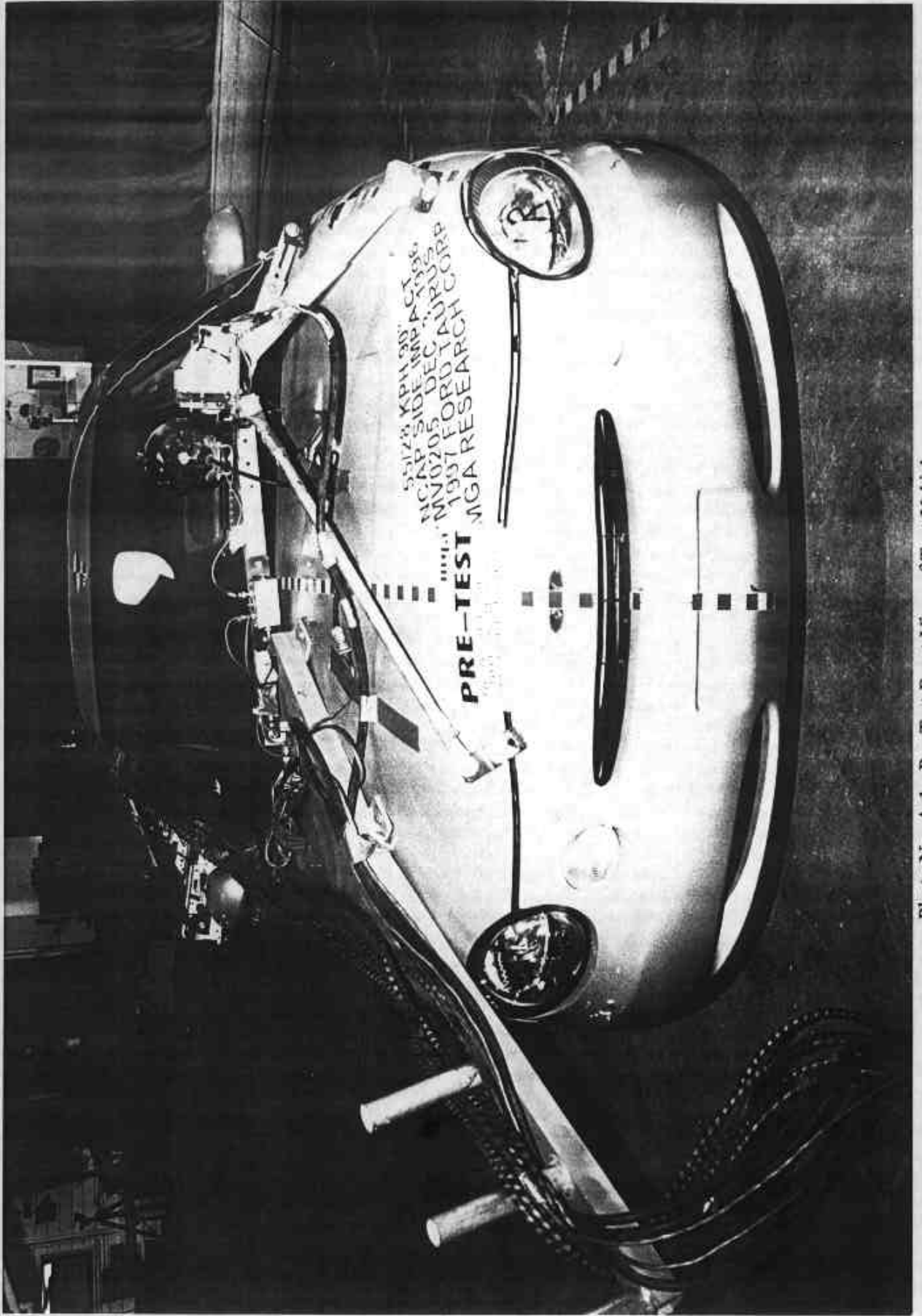
APPENDIX A - PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

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

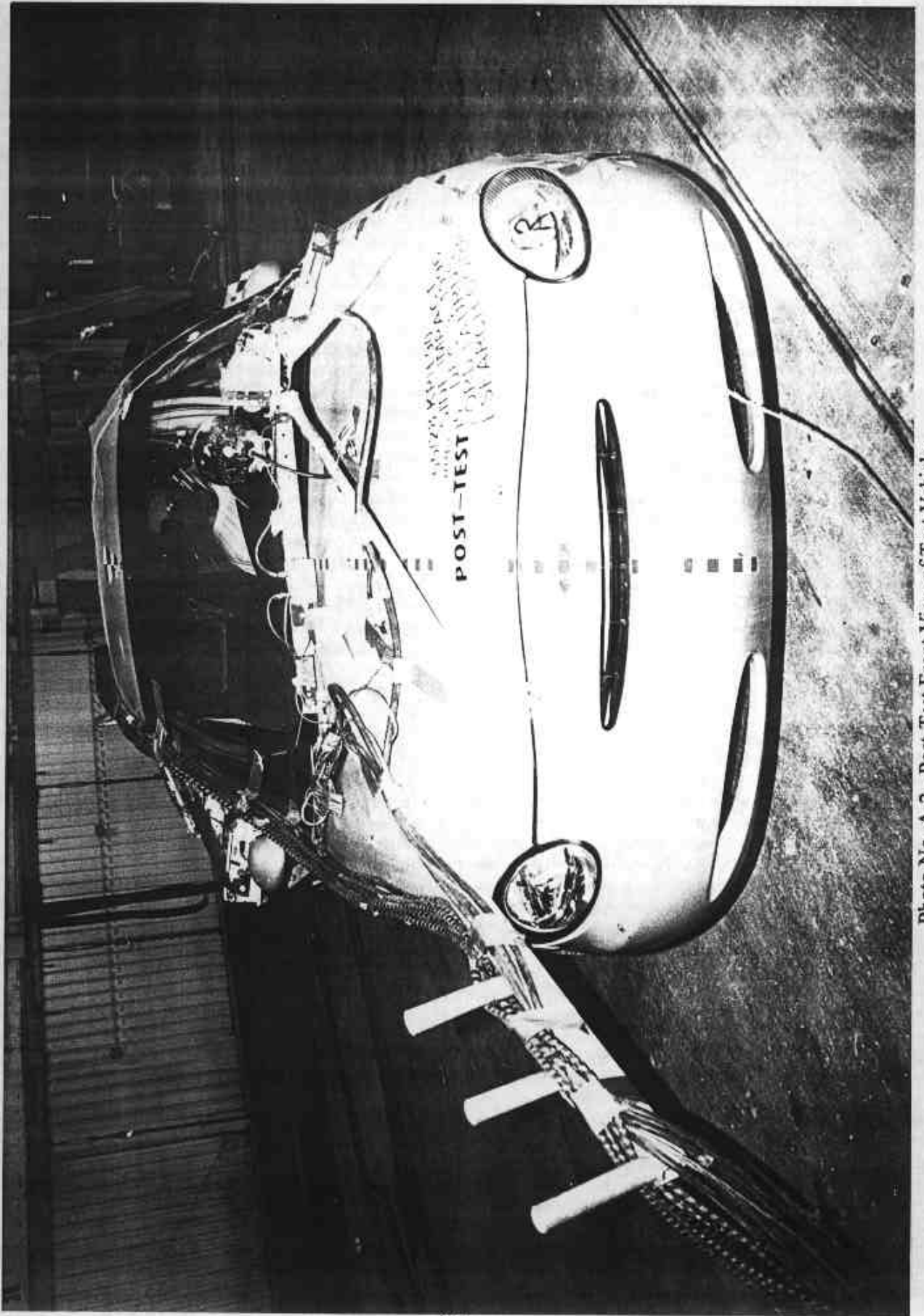


Photo No. A-2 - Post-Test Front View of Test Vehicle

A-2

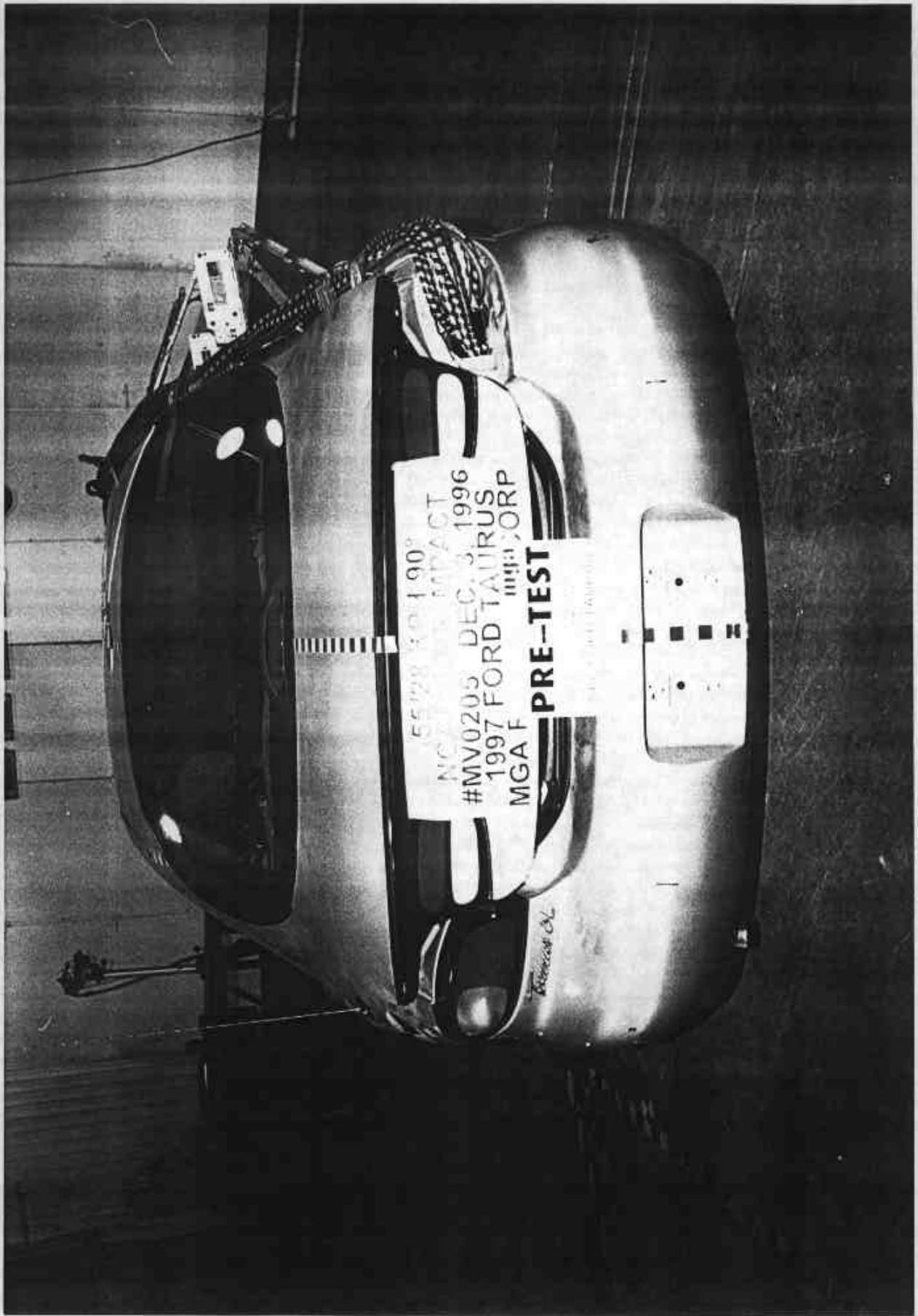


Photo No. A-3 - Pre-Test Rear View of Test Vehicle

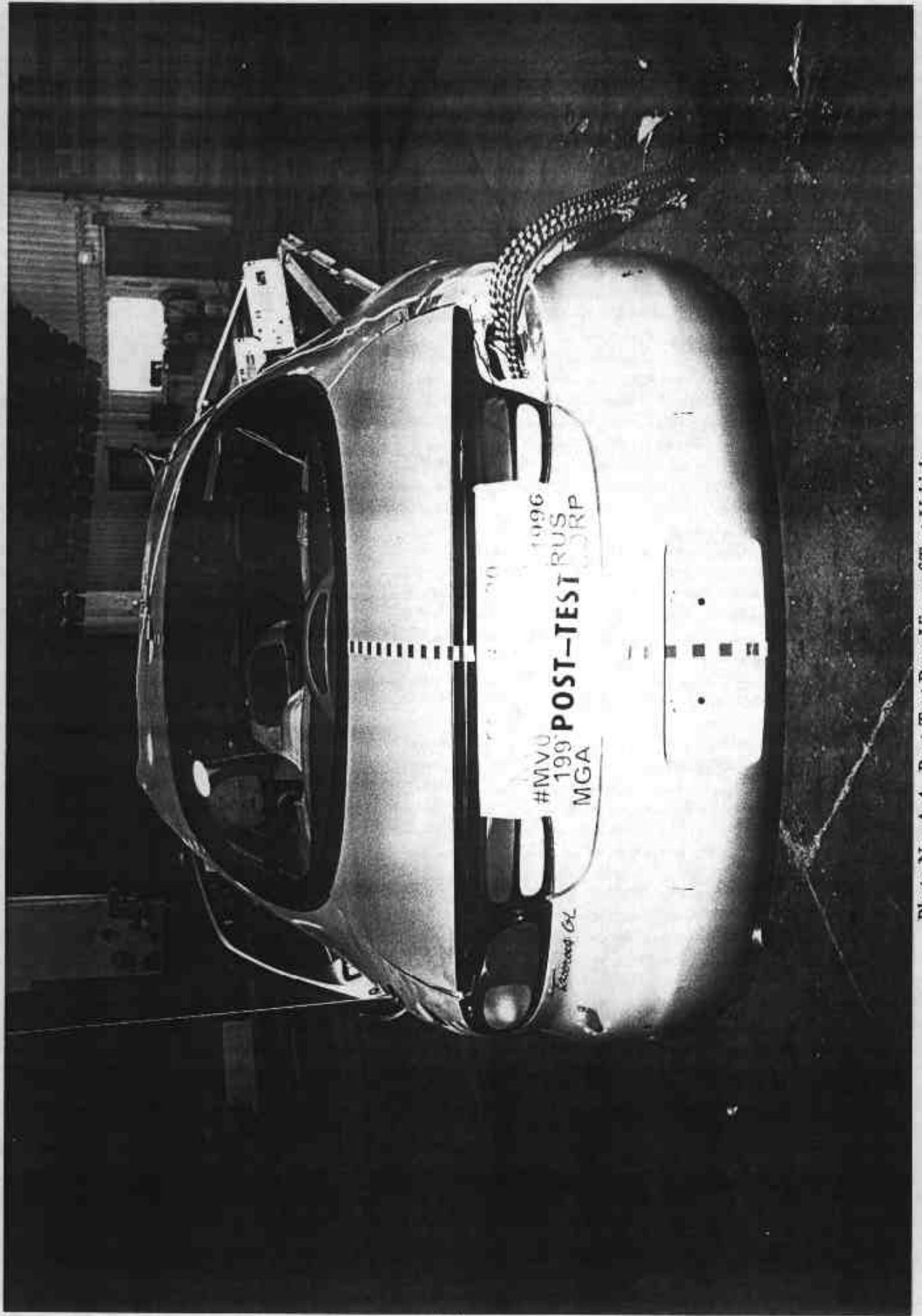


Photo No. A-4 - Post-Test Rear View of Test Vehicle

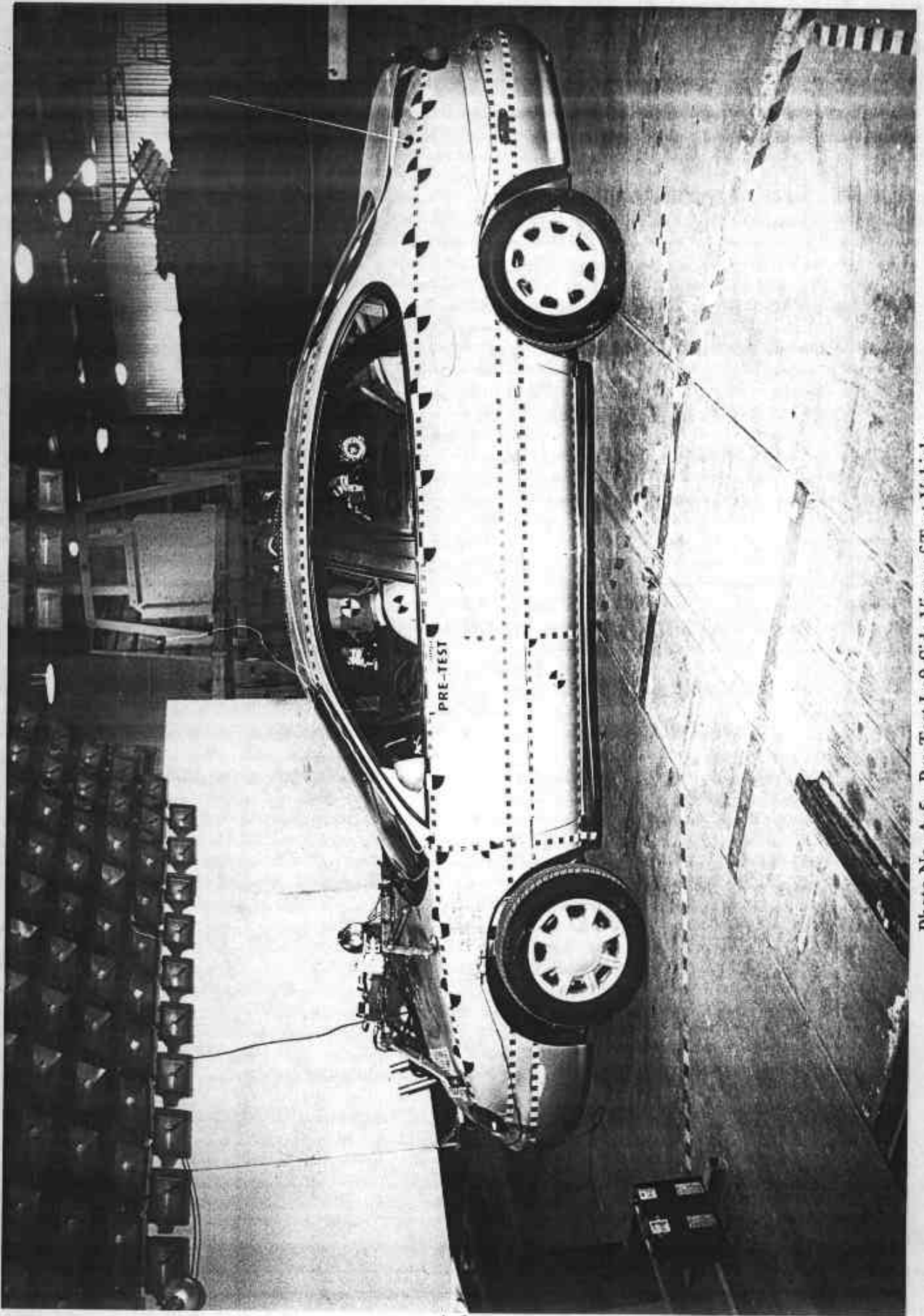


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

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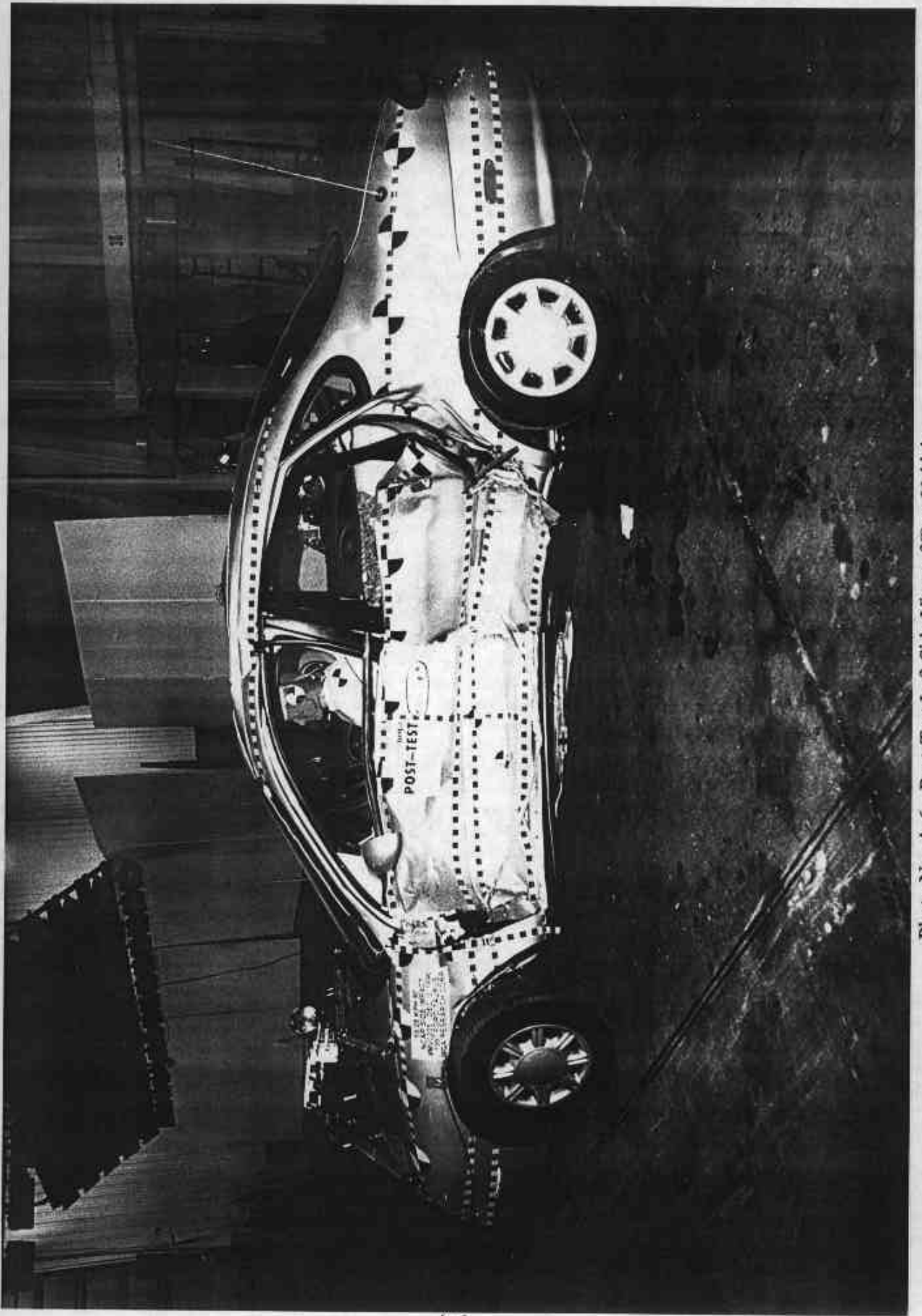


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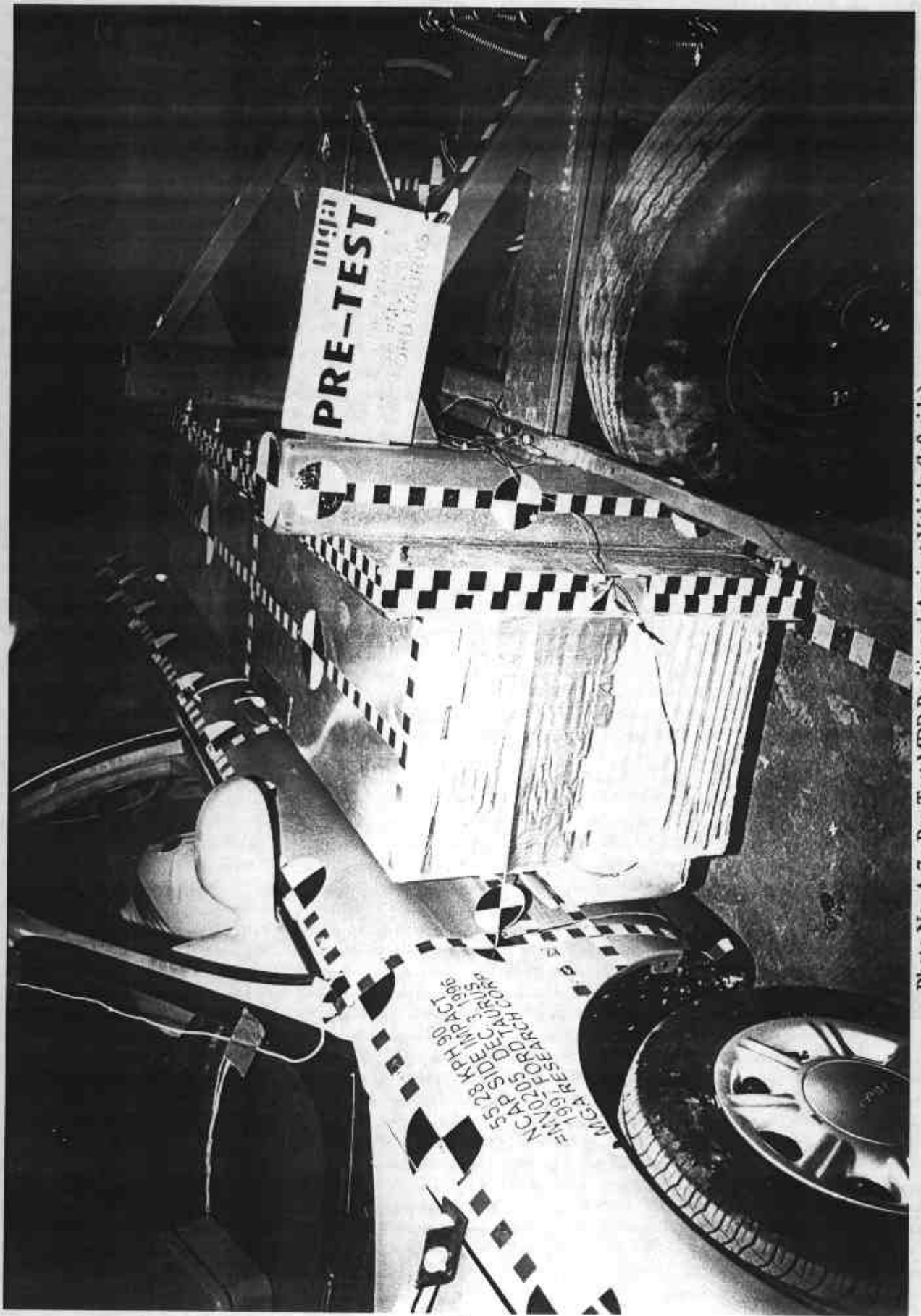


Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)

A-7

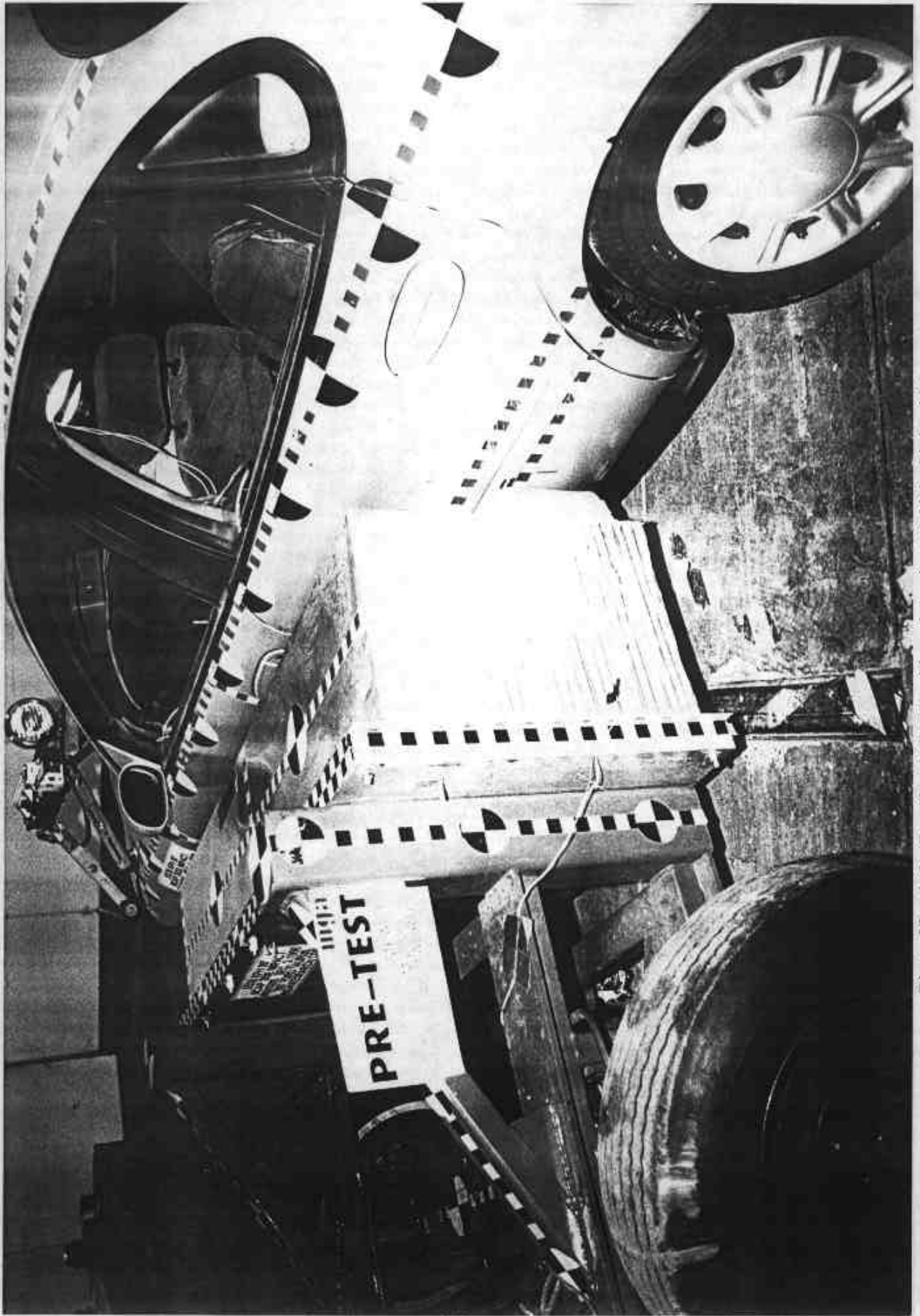


Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)

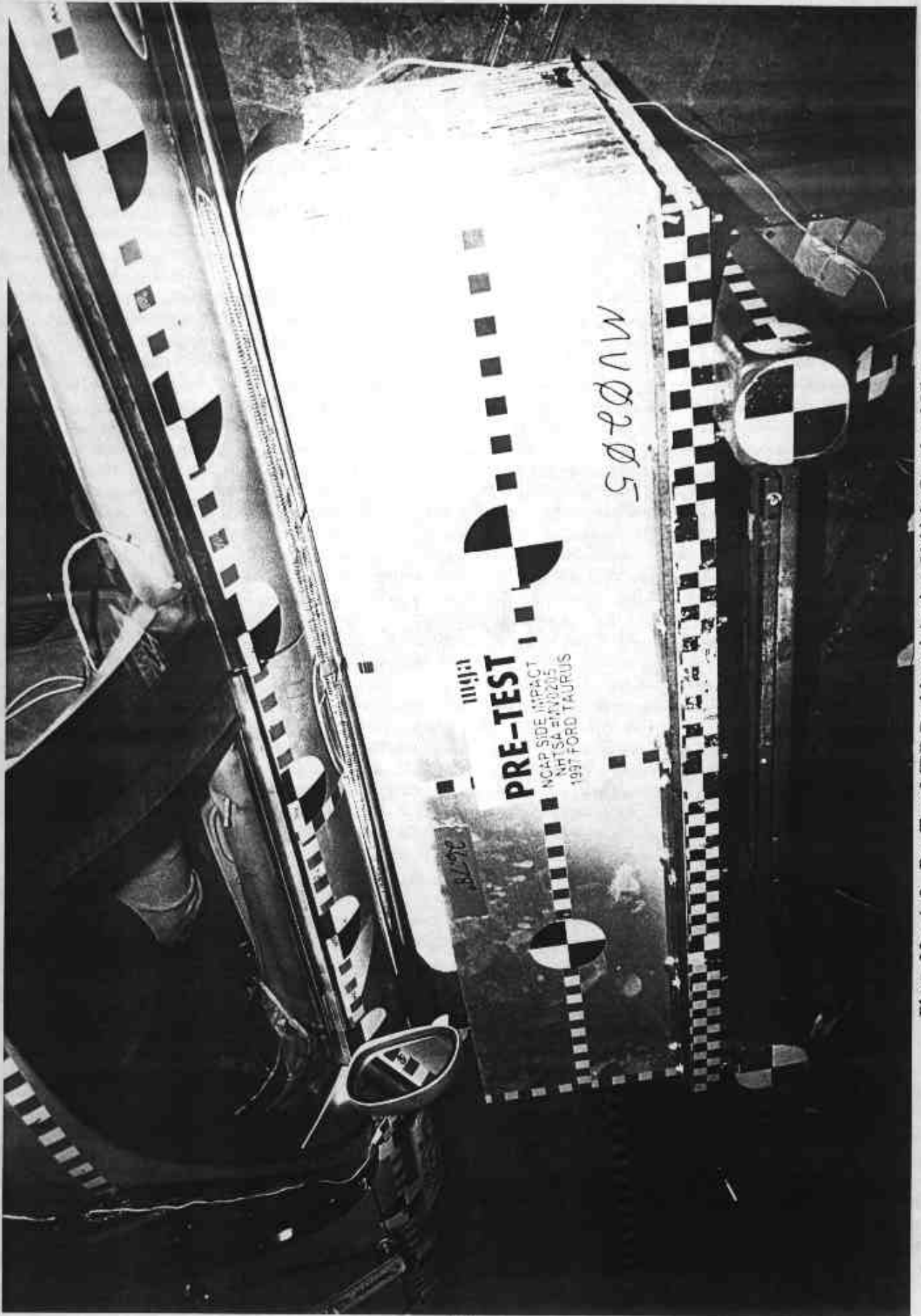


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View

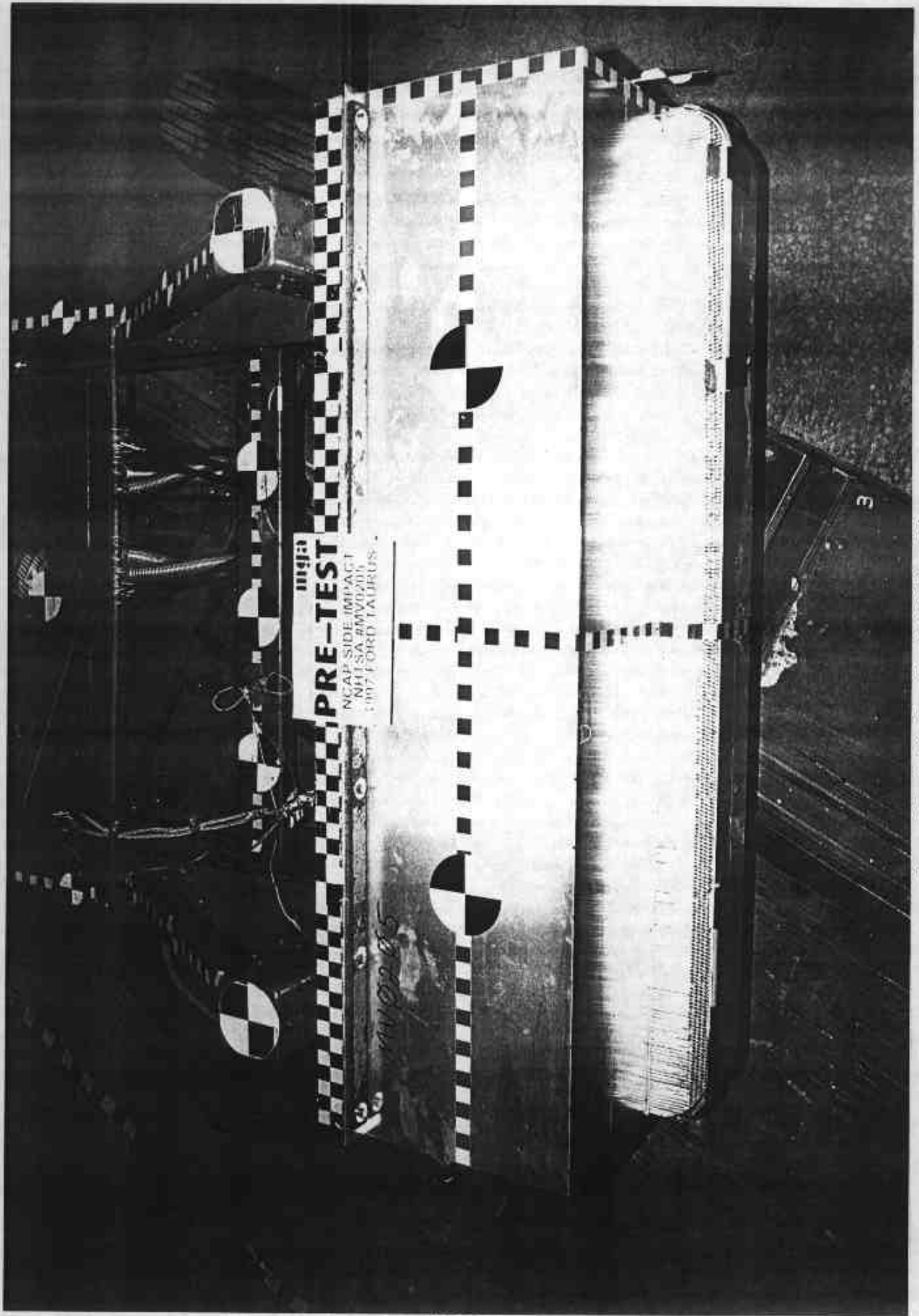


Photo No. A-10 - Pre-Test MDB Top View

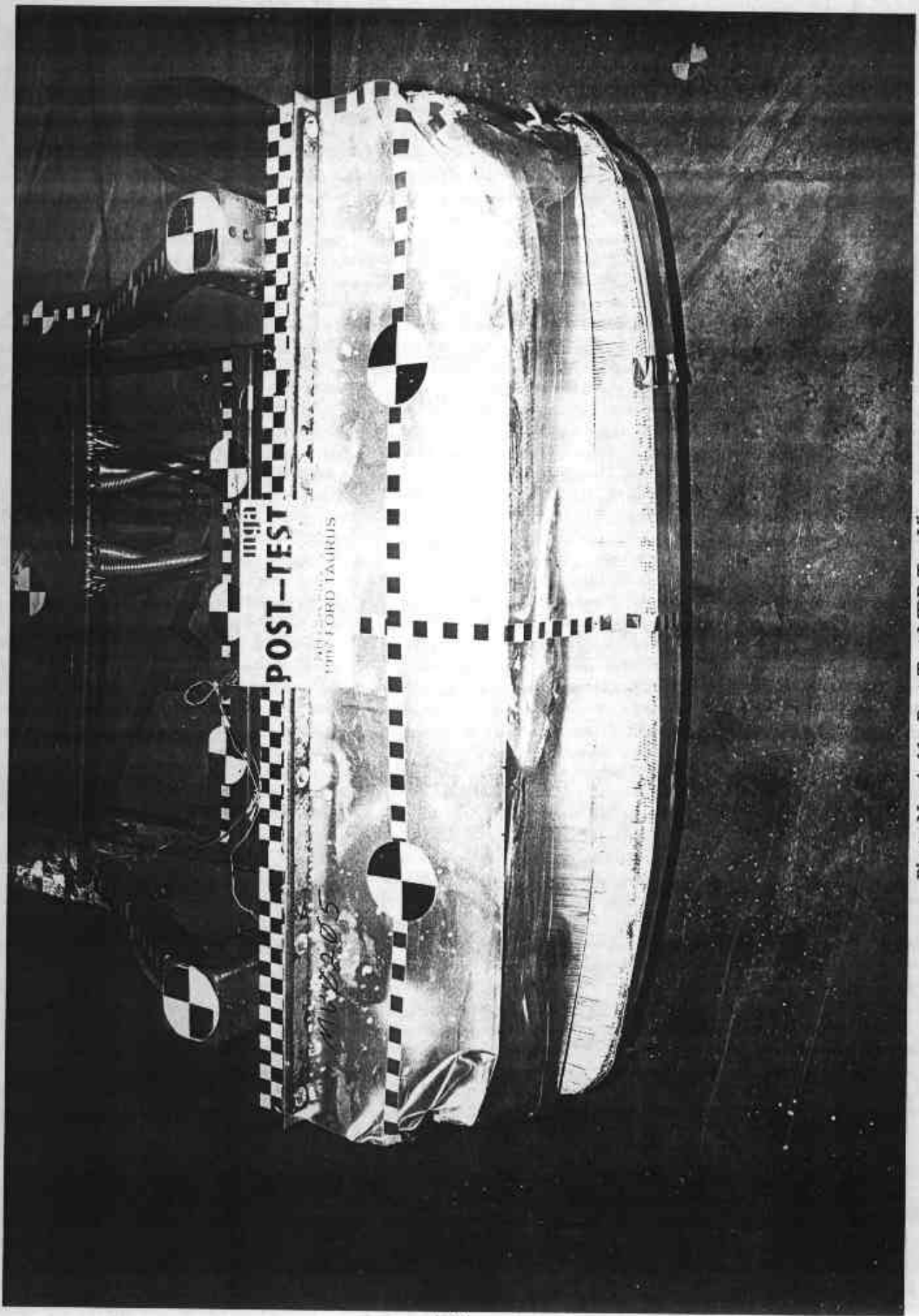


Photo No. A-11 - Post-Test MDB Top View

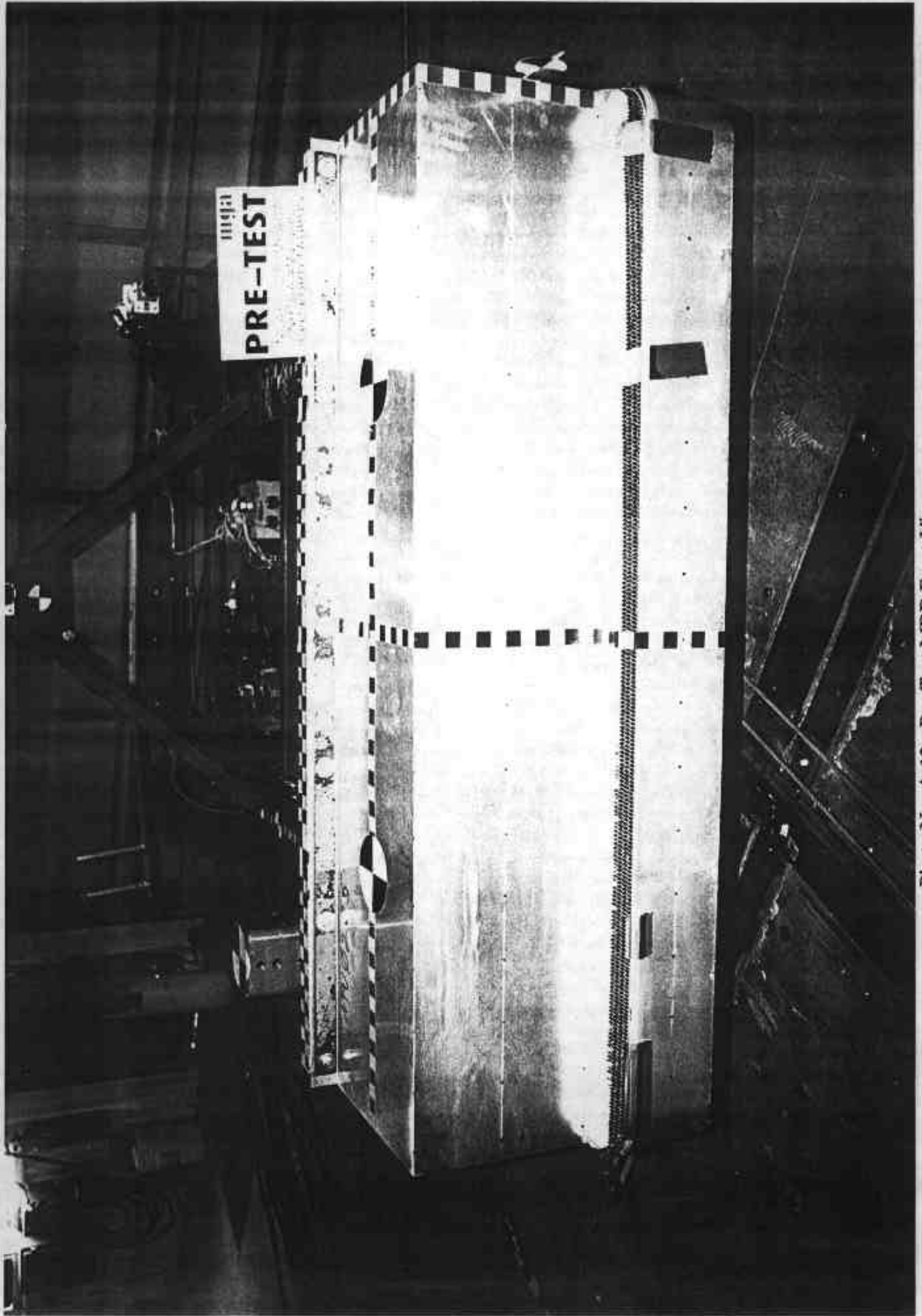
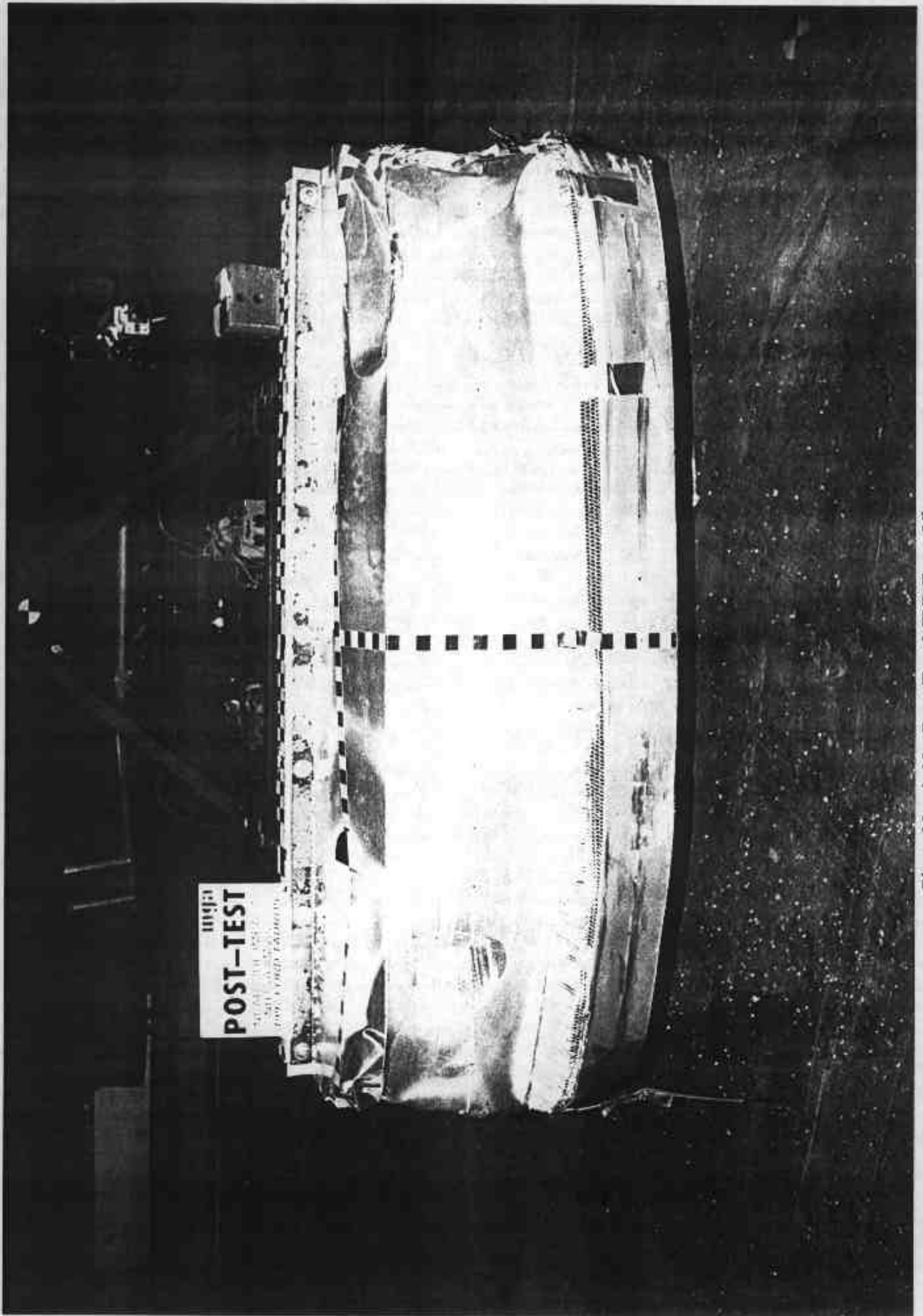


Photo No. A-12 - Pre-Test MDB Front View

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11141:1
POST-TEST
LOW ENERGY LABORATORY

A-13

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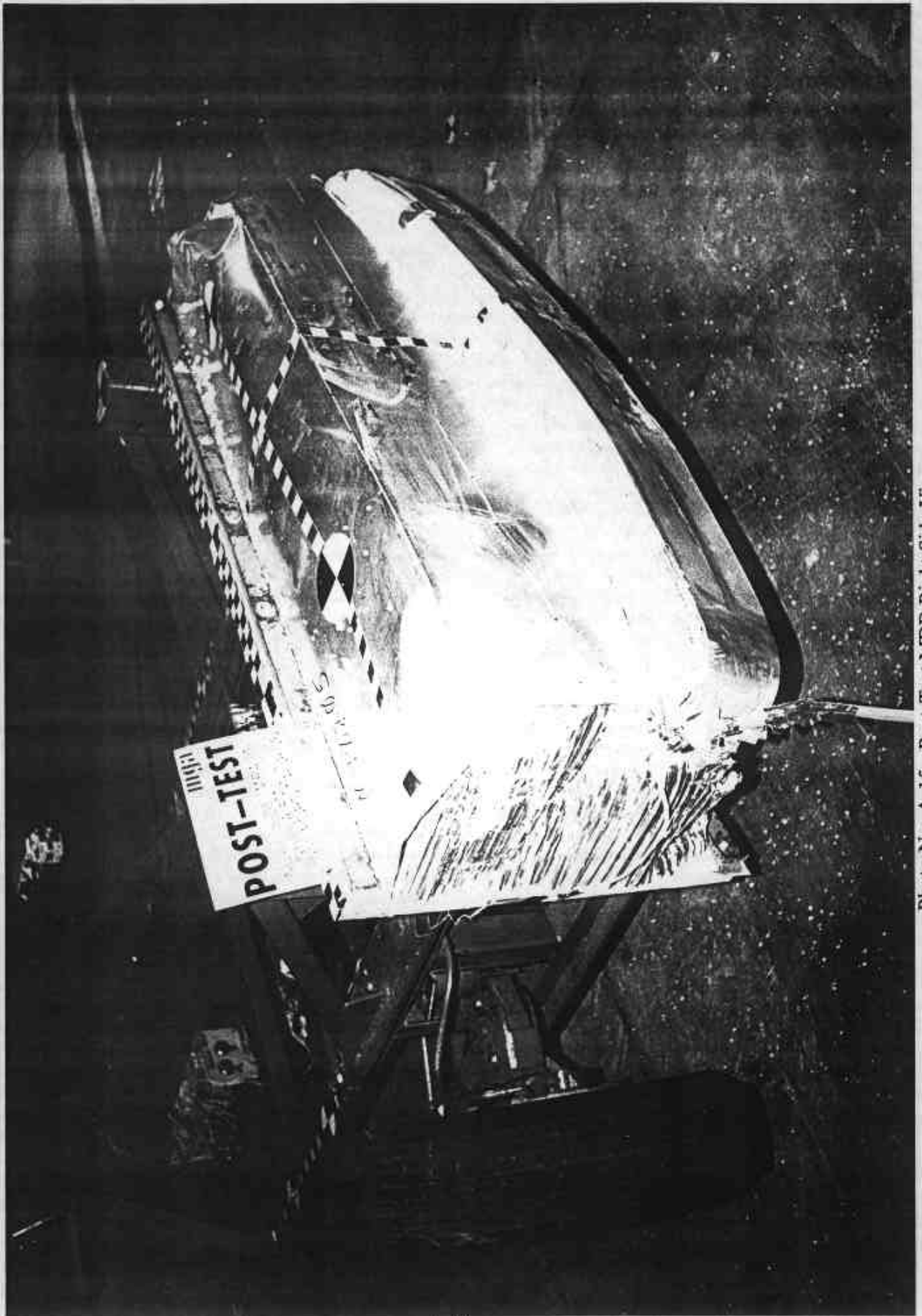


Photo No. A-15 - Post-Test MDB Right Side View

A-15

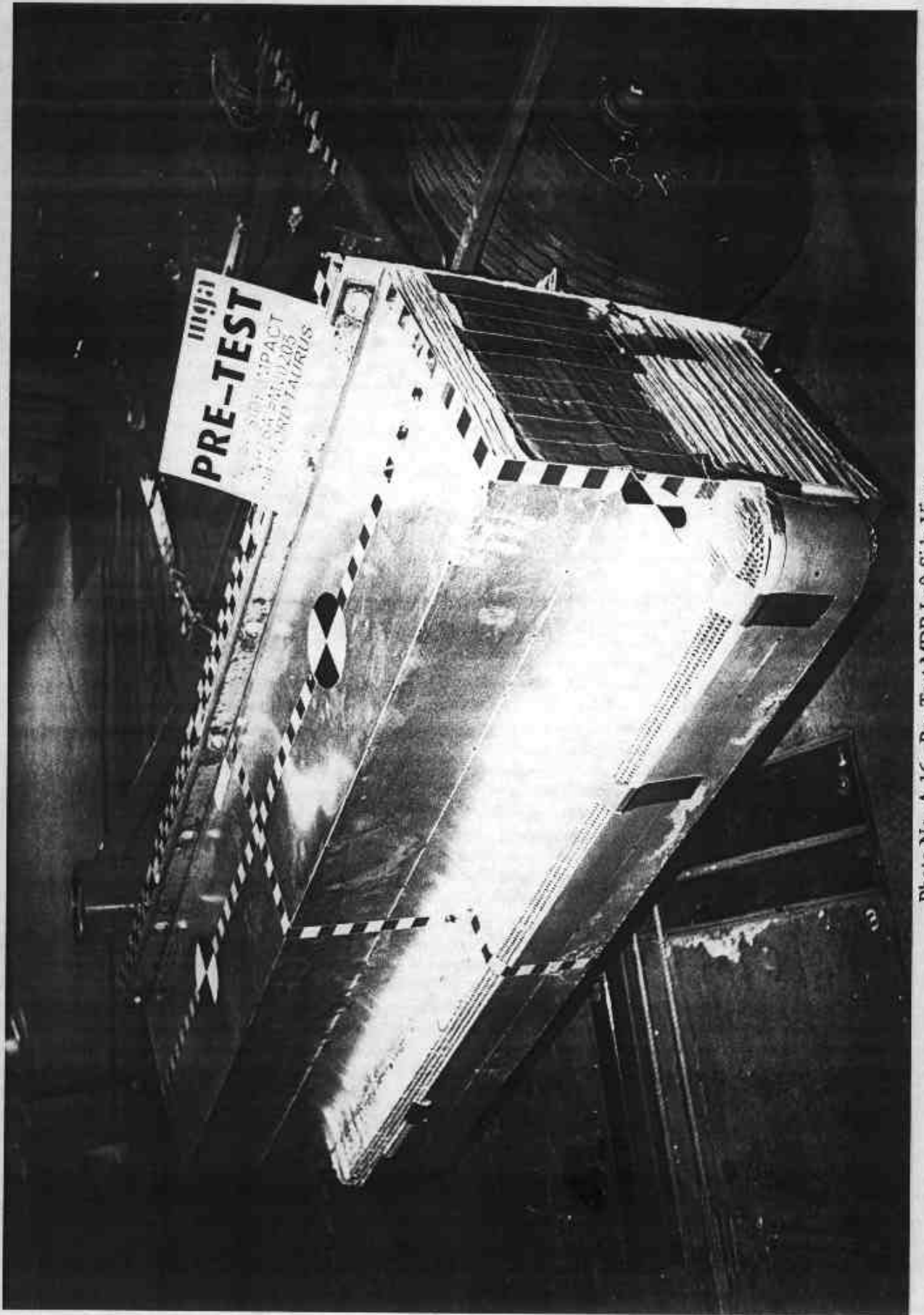


Photo No. A-16 - Pre-Test MDB Left Side View

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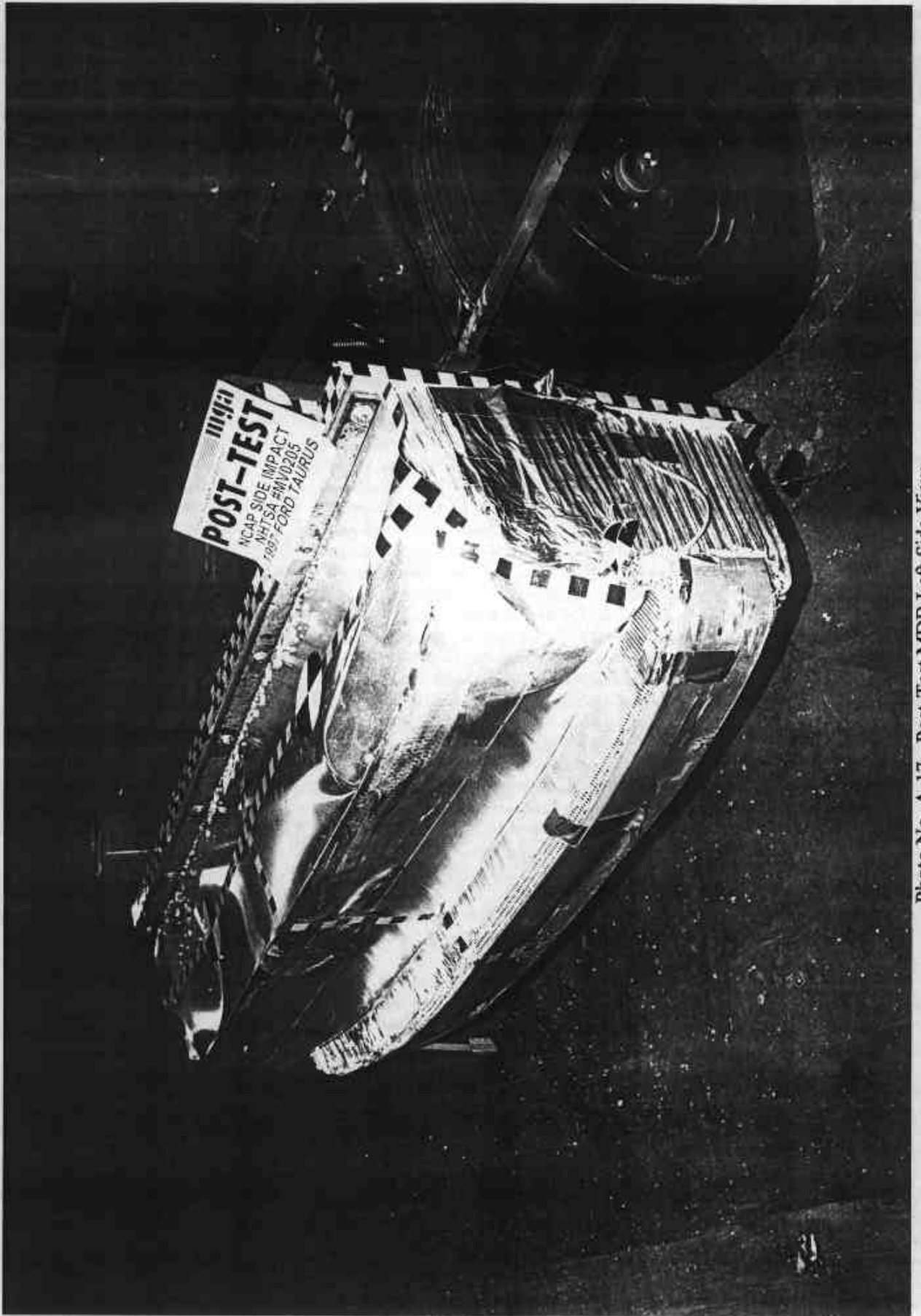


Photo No. A-17 - Post-Test MDB Left Side View



Photo No. A-18 - Pre-Test Driver Dummy Right Side View



Photo No. A-19 - Post-Test Driver Dummy Right Side View

A-19

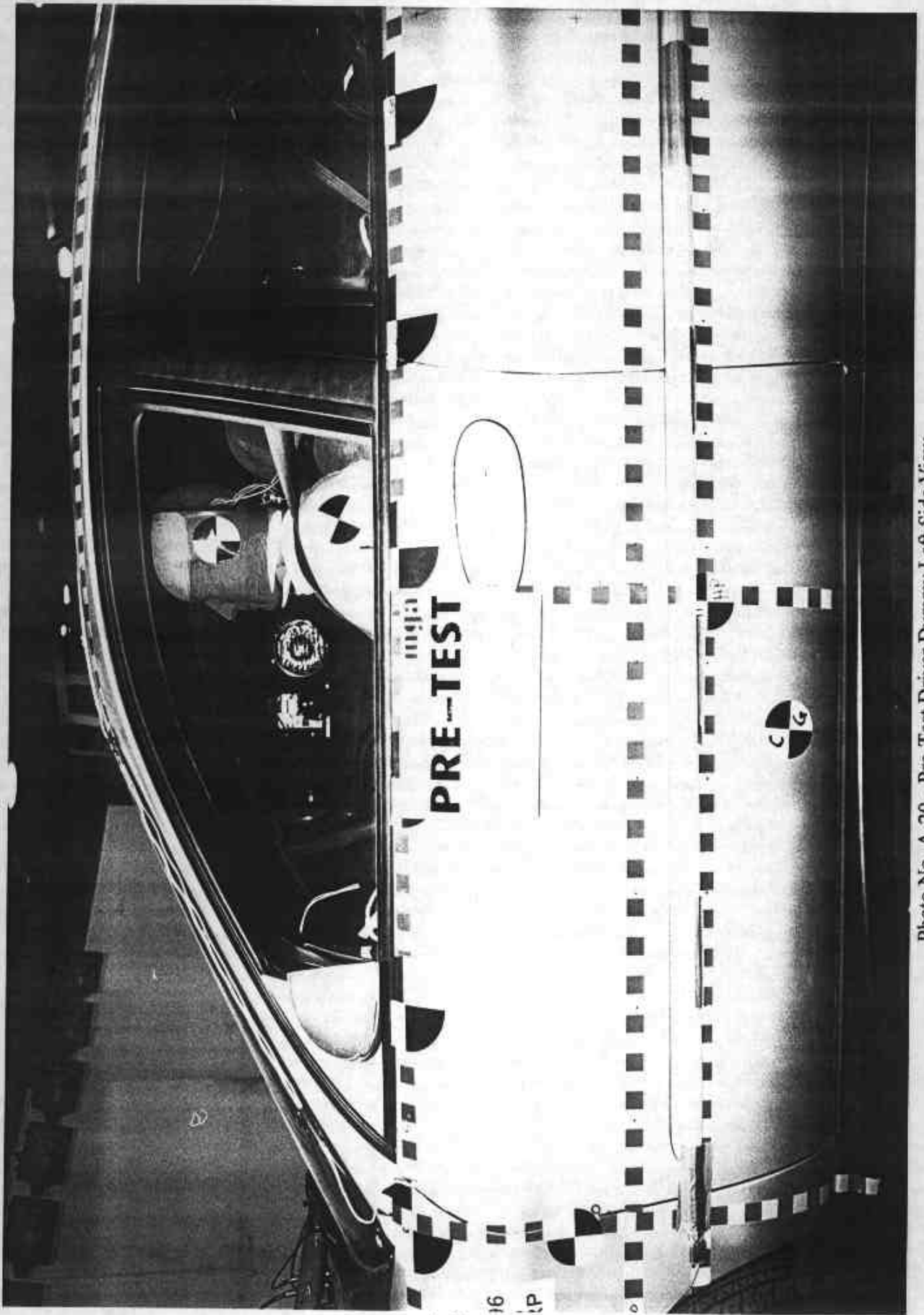


Photo No. A-20 - Pre-Test Driver Dummy Left Side View

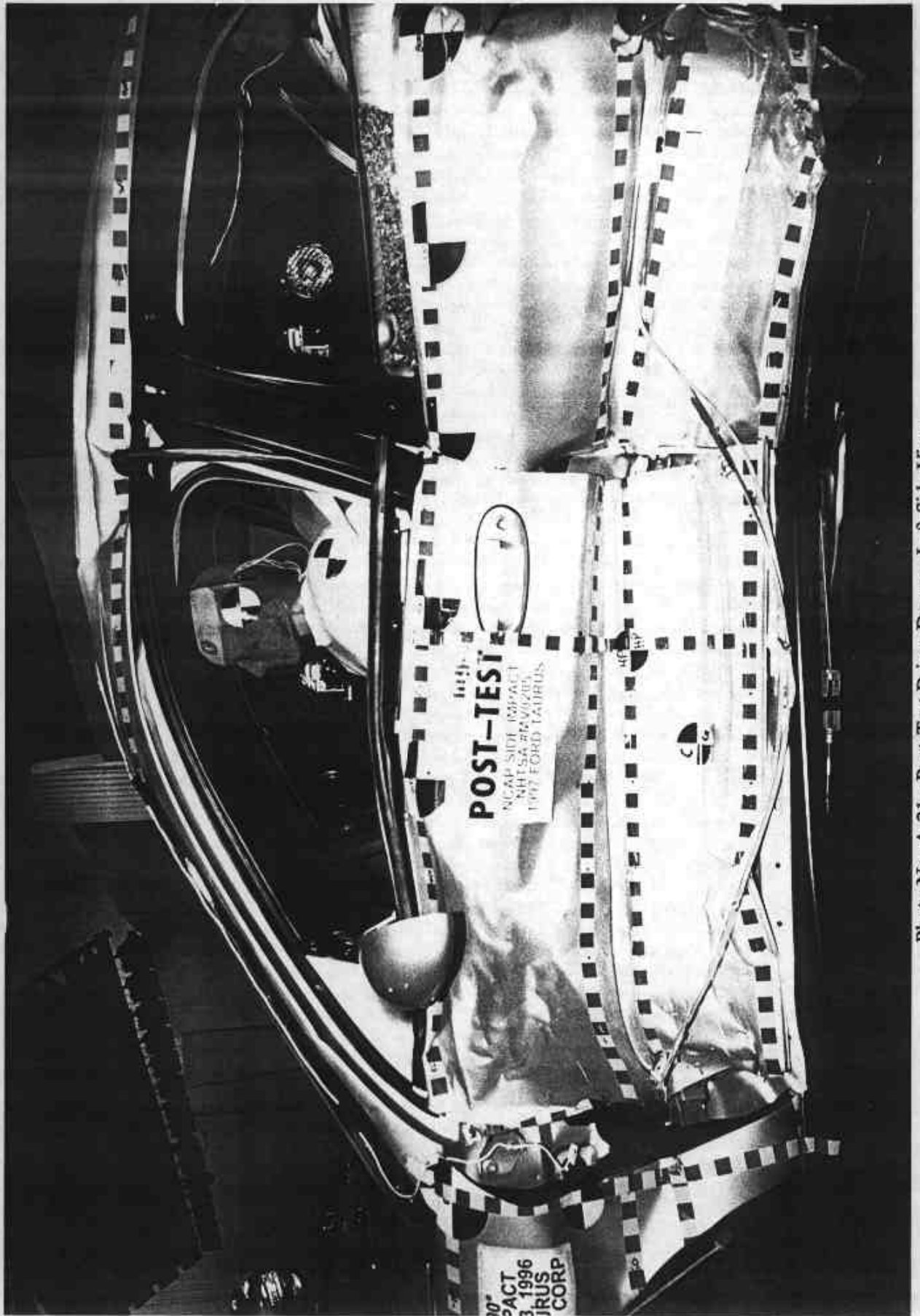


Photo No. A-21 - Post-Test Driver Dummy Left Side View

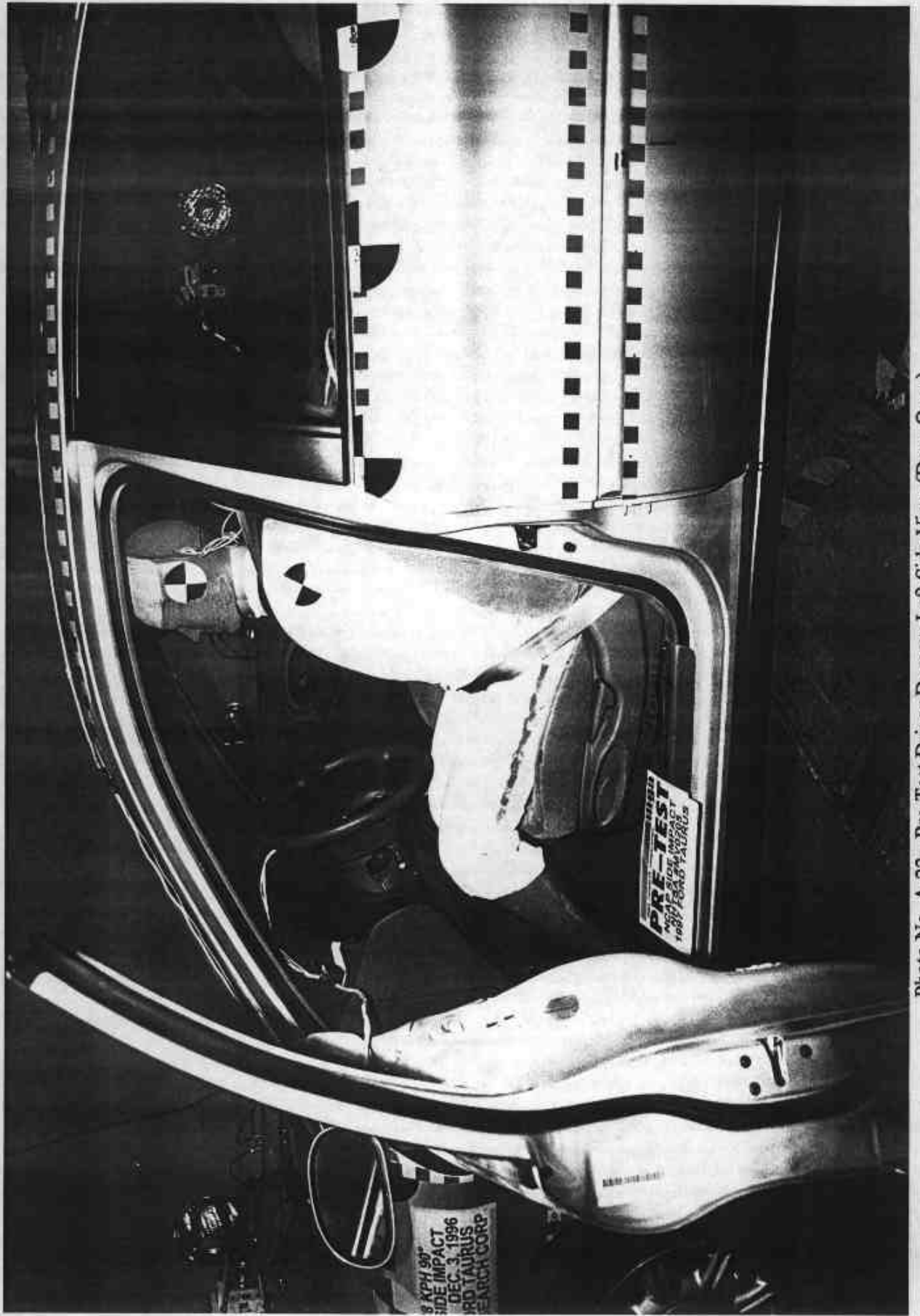


Photo No. A-22 - Pre-Test Driver Dummy Left Side View (Door Open)

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



Photo No. A-24 - Post-Test Driver Dummy Shoulder and Door Top View

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

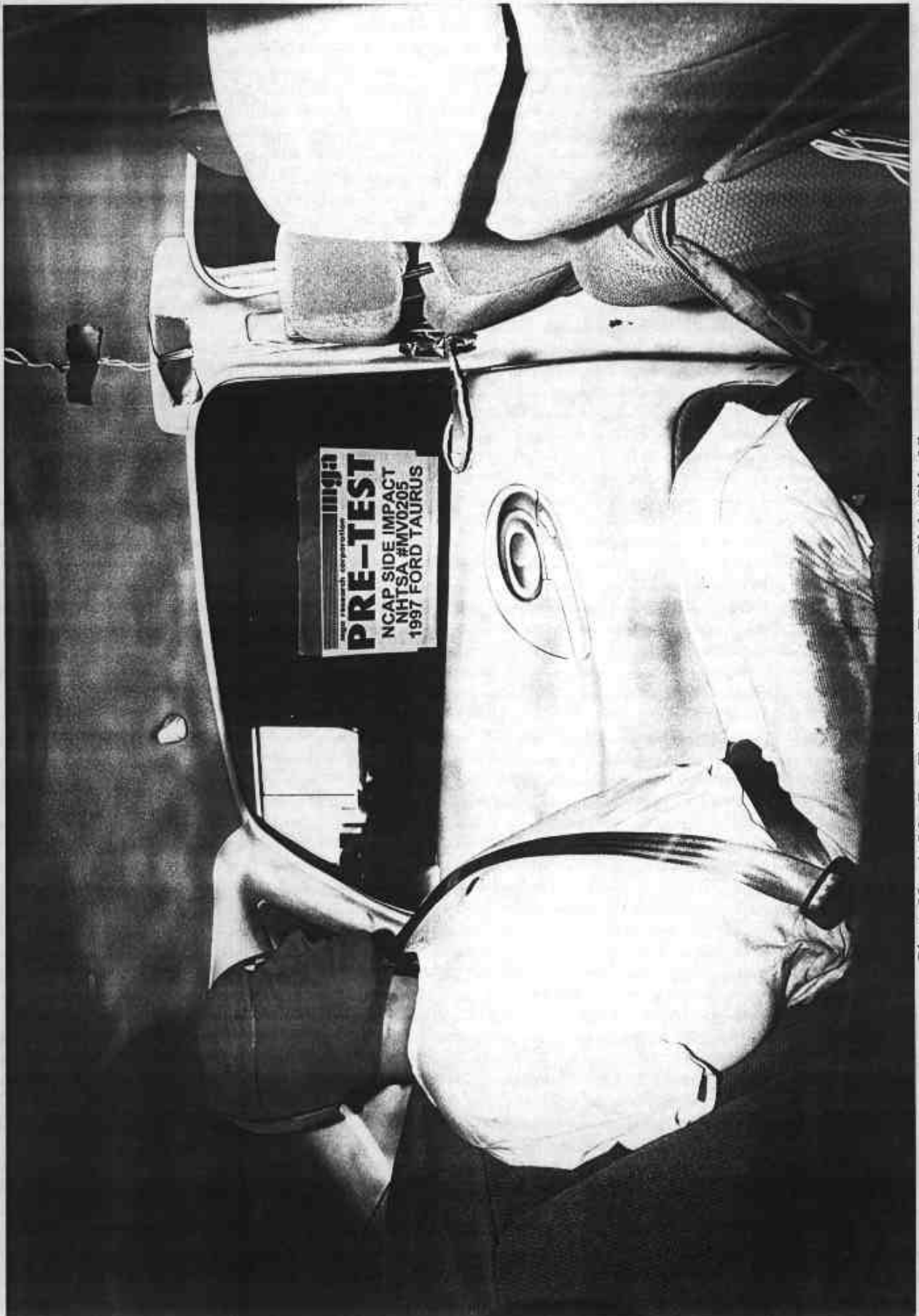
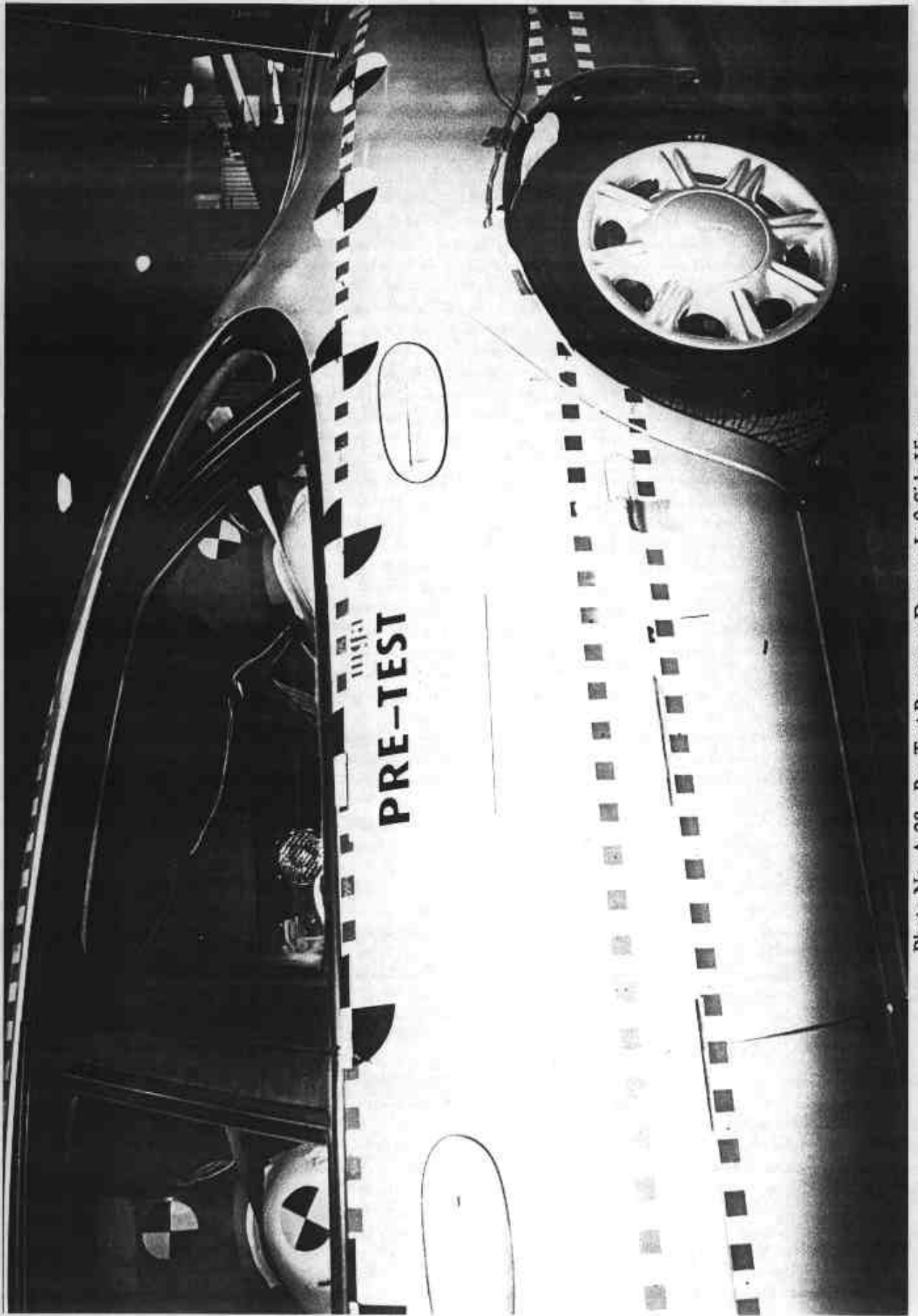


Photo No. A-26 - Pre-Test Passenger Dummy Right Side View



Photo No. A-27 - Post-Test Passenger Dummy Right Side View

A-27



PRE-TEST

1000

A-28

Photo No. A-28 - Pre-Test Passenger Dummy Left Side View

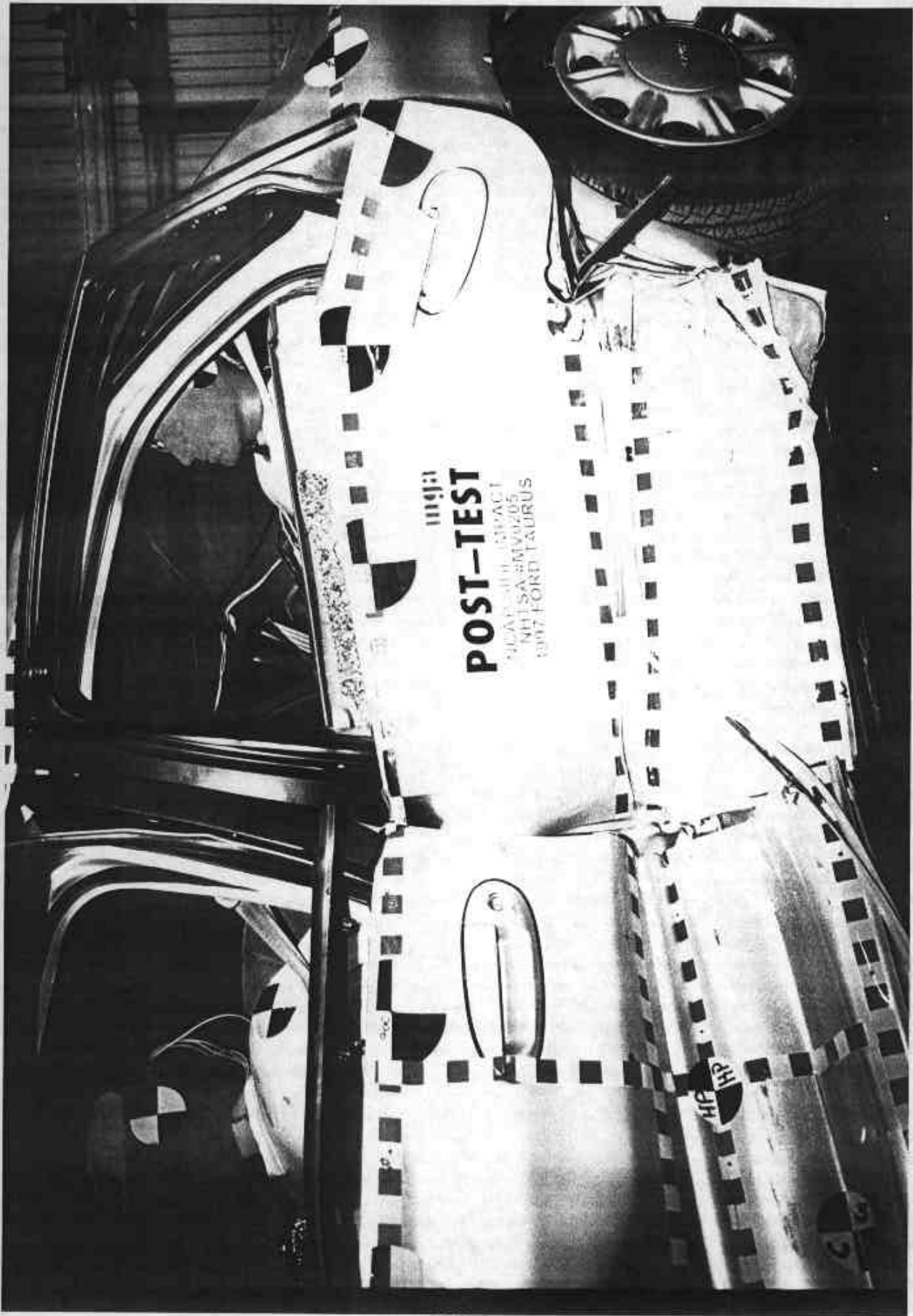


Photo No. A-29 - Post-Test Passenger Dummy Left Side View

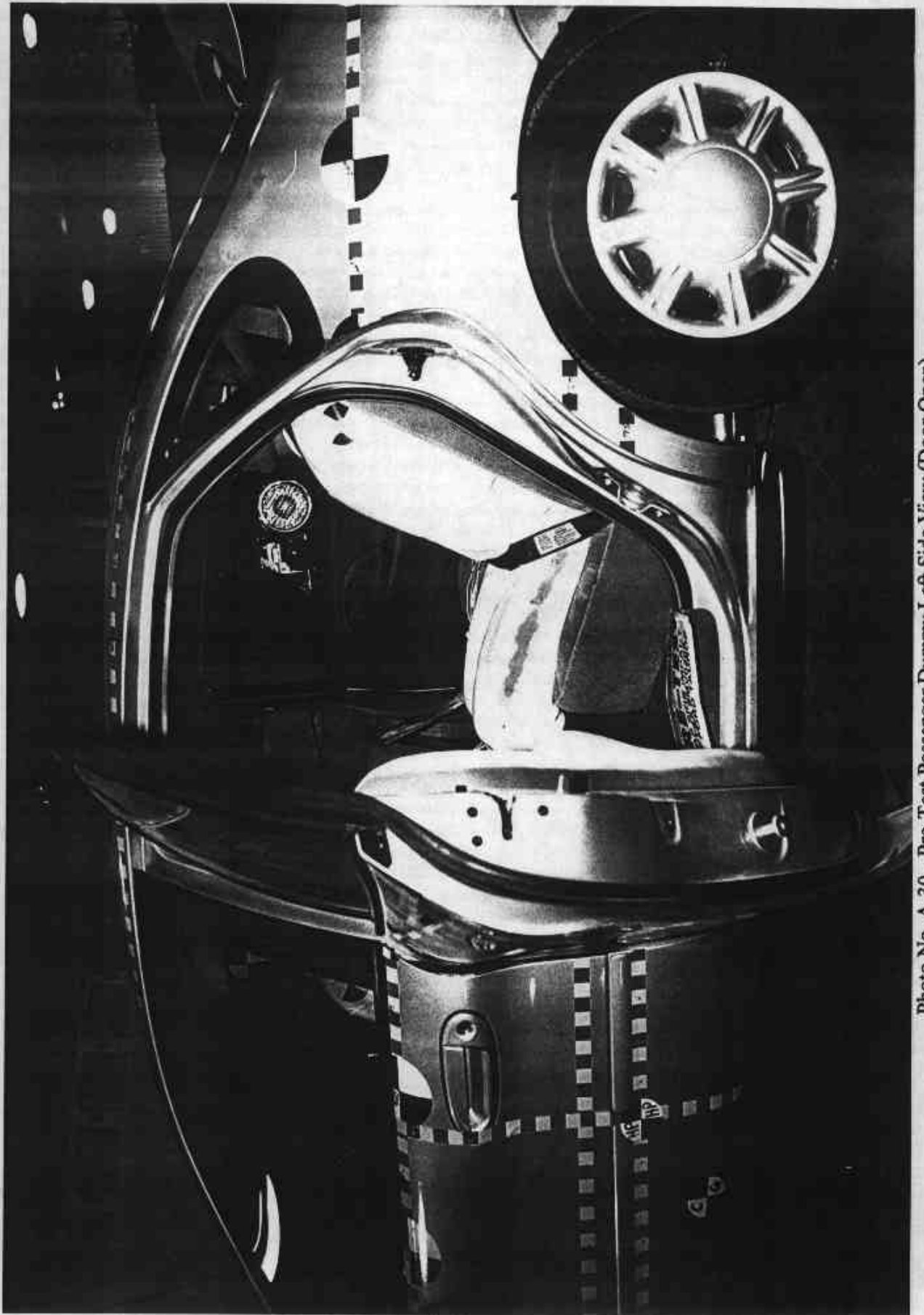


Photo No. A-30 - Pre-Test Passenger Dummy Left Side View (Door Open)

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A-31

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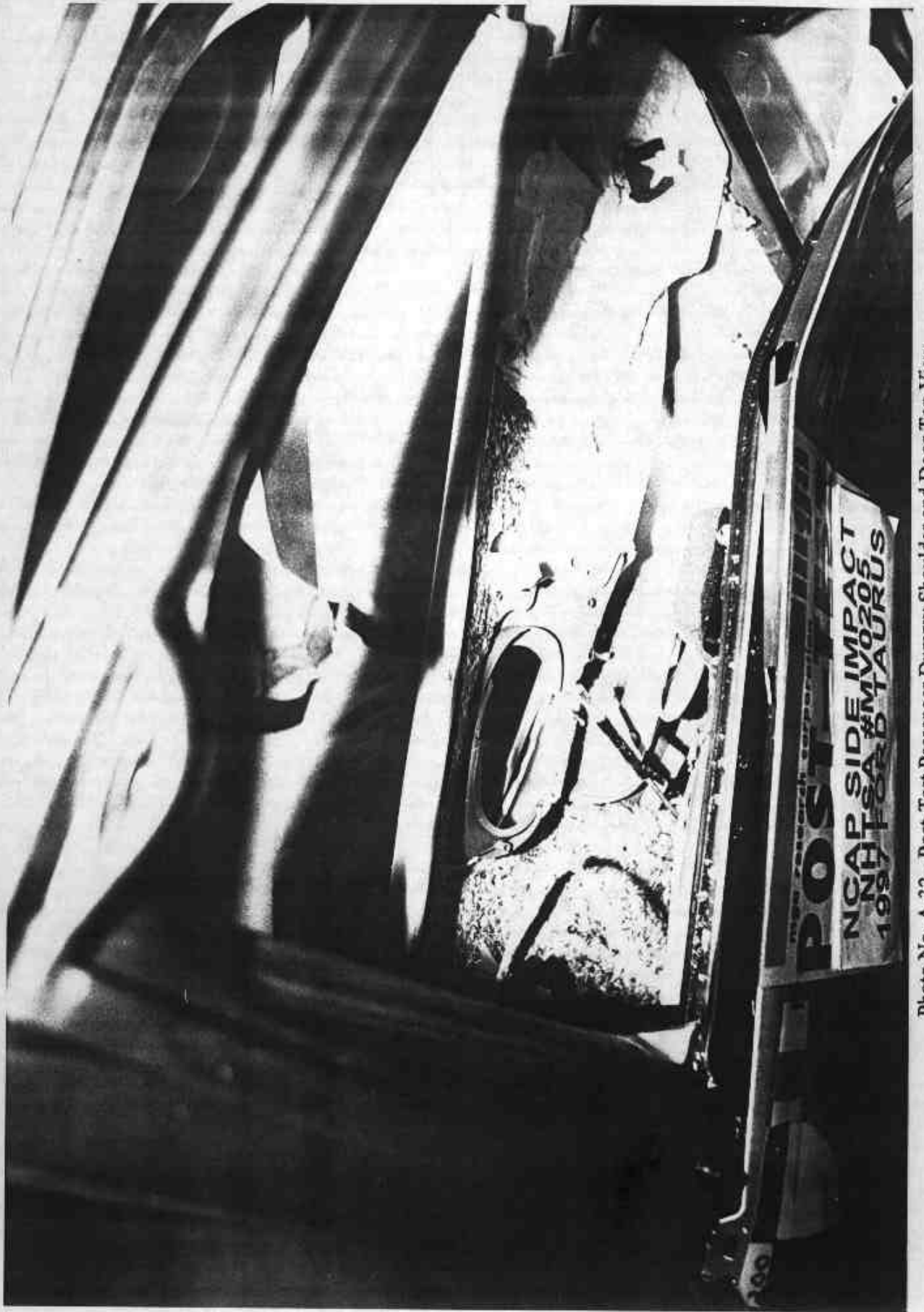


Photo No. A-32 - Post-Test Passenger Dummy Shoulder and Door Top View

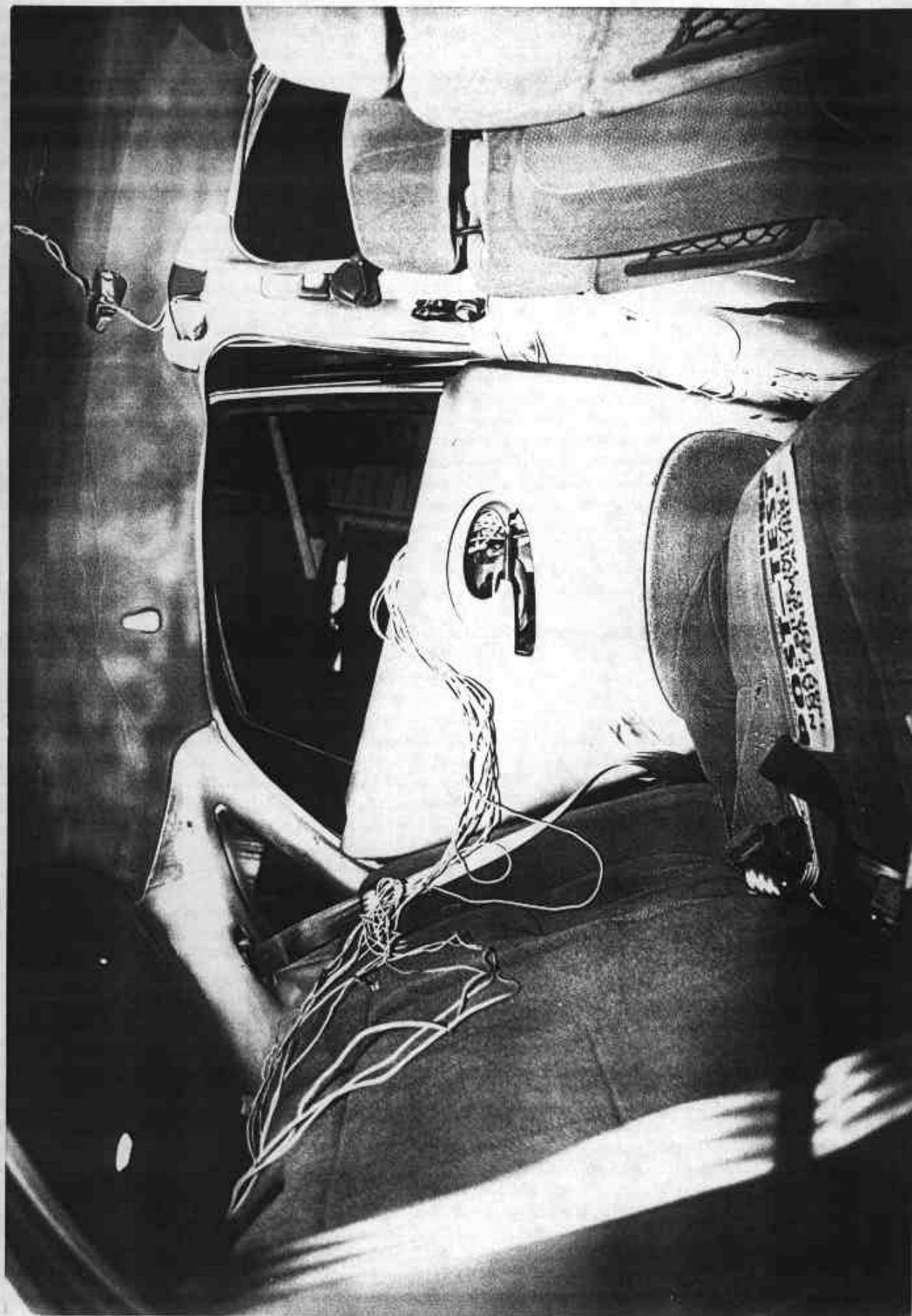


Photo No. A-33 - Post-Test Passenger Dummy Contact

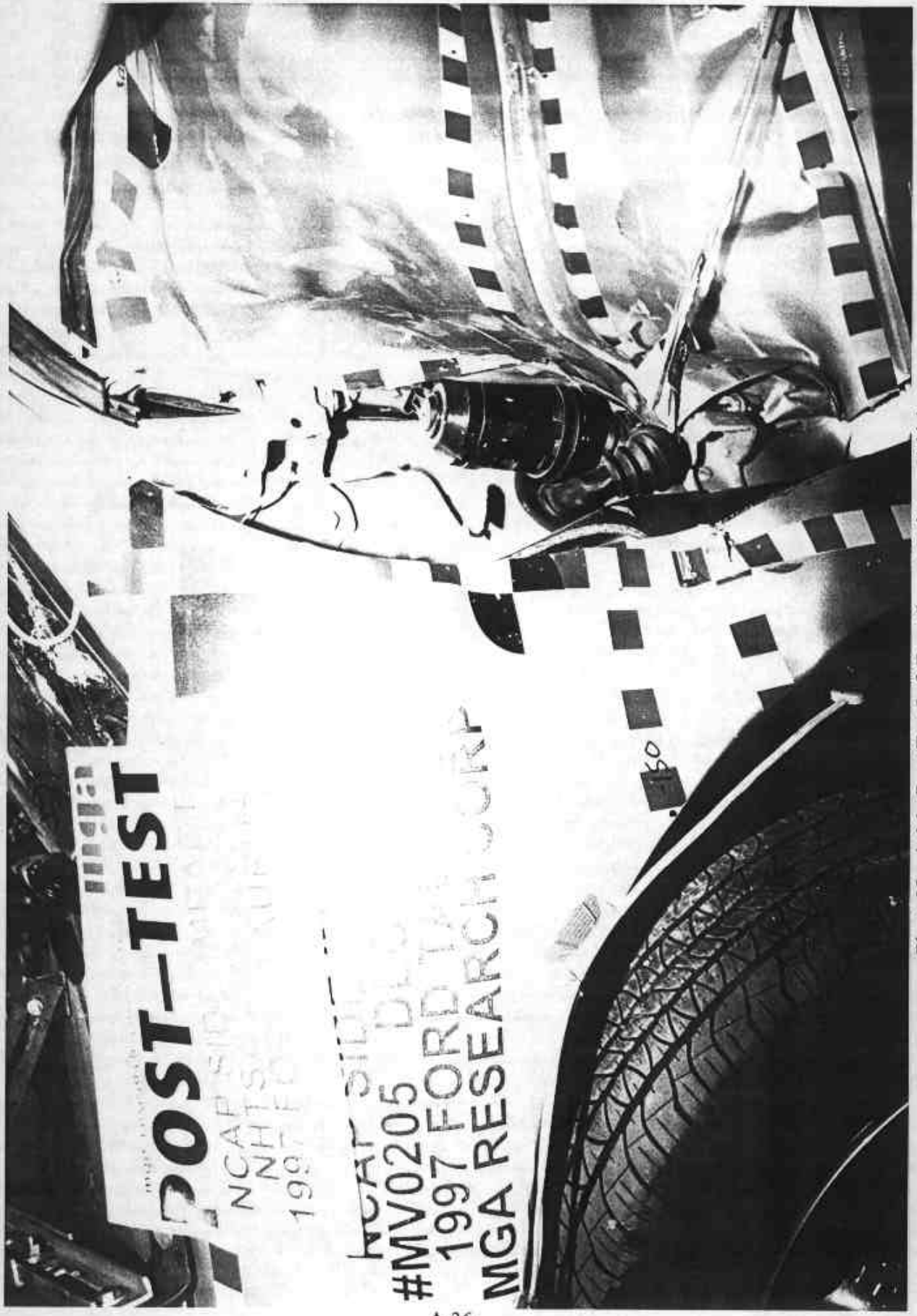
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Photo No. A-34 - Post-Test Passenger Dummy Head Contact



Photo No. A-35 - Pre-Test Left Front Impact Point on Vehicle



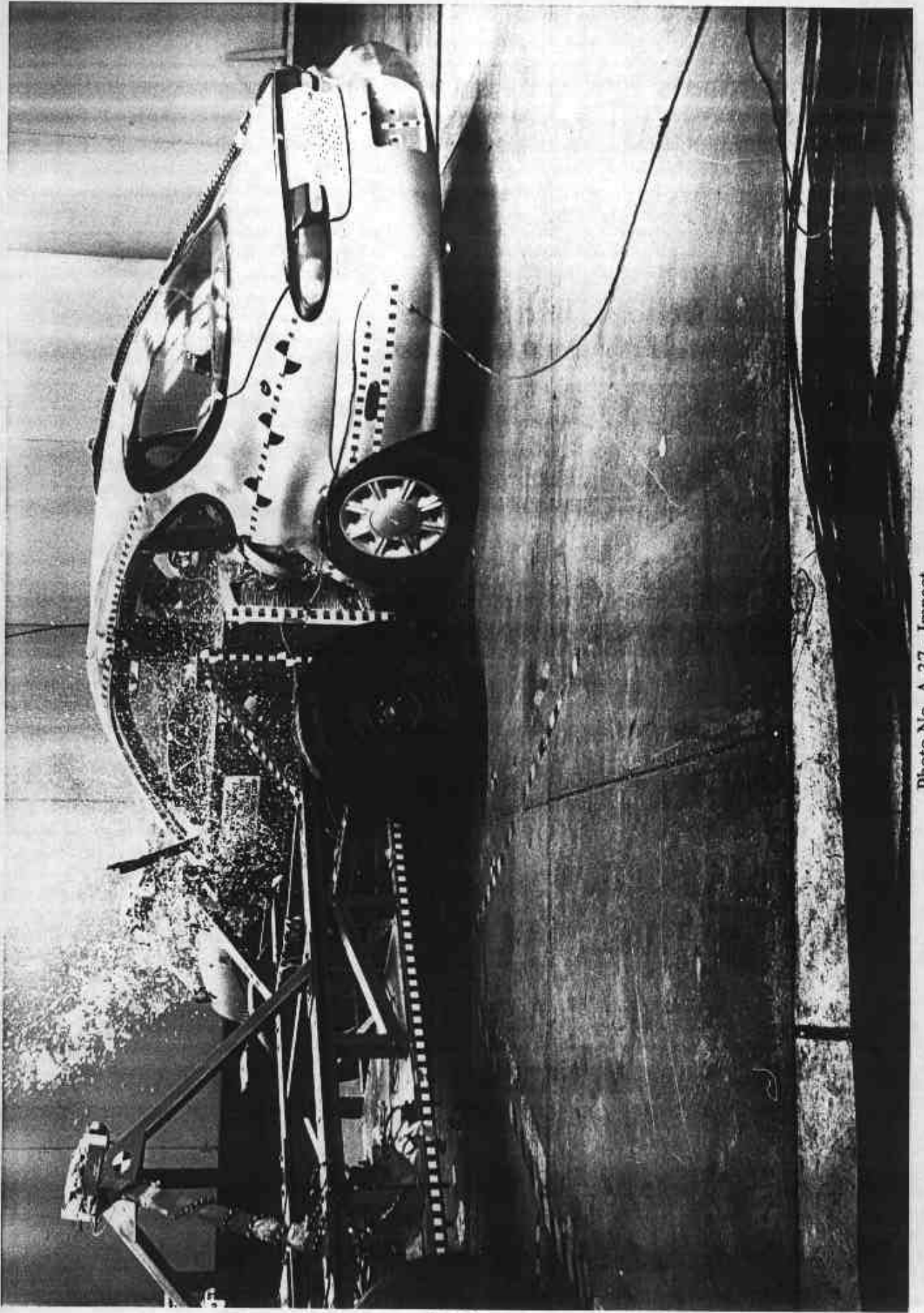
POST-TEST

NCAP SIDE IMPACT TEST
NHTSA
1997 FORD

MGA RESEARCH CORP
#MV0205

A-36

Photo No. A-36 - Post-Test Left Front Impact Point on Vehicle



A-37

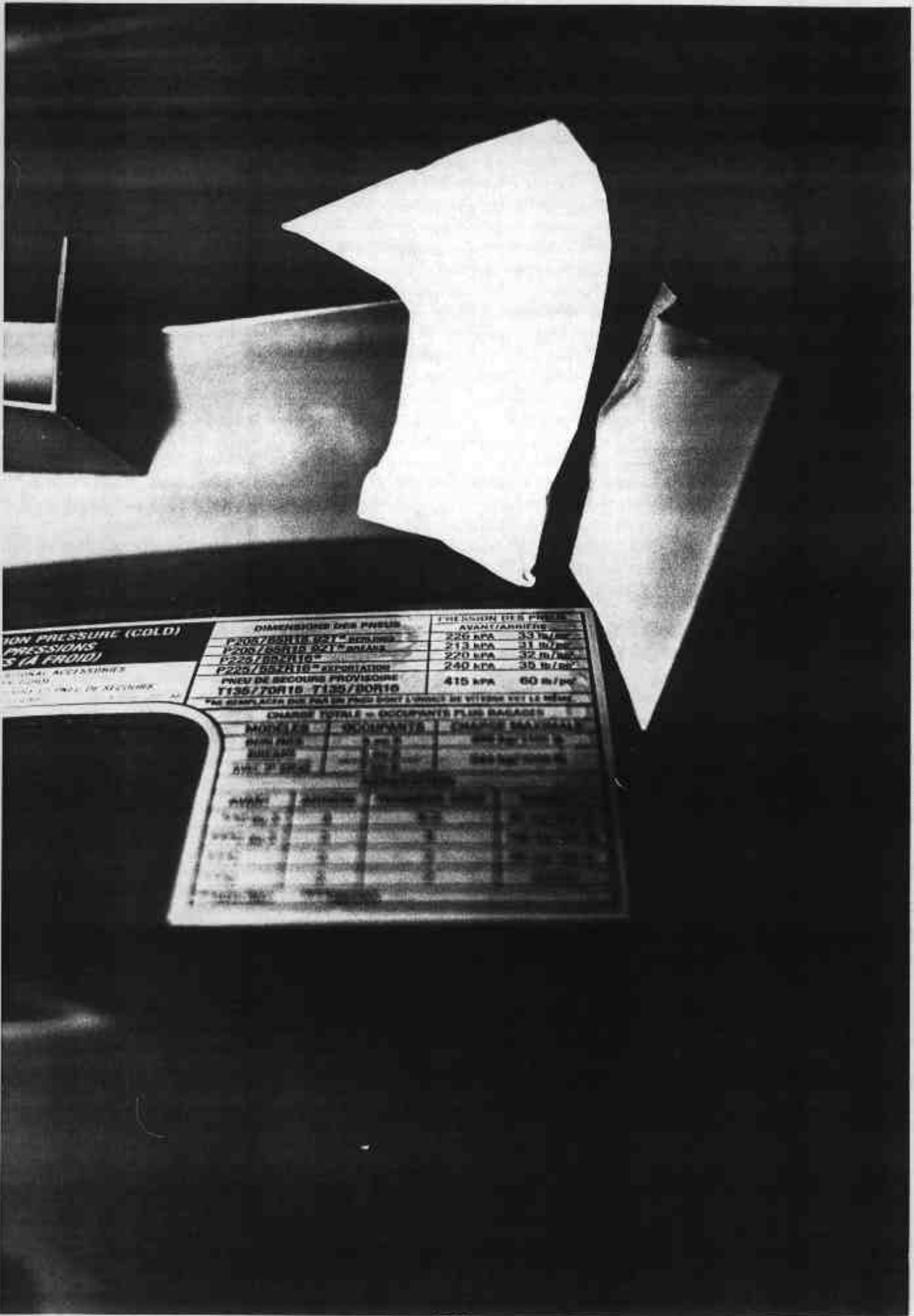
Photo No. A-37 - Impact

MADE BY FORD MOTOR CO. IN U.S.A.
 DATE: 08/96
 FRONT CURB: 2647LB 1200KG
 REAR CURB: 2065LB 936KG
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR
 VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS
 IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
 VIN: 1FALP52UXVA105285
 TYPE: PASSENGER
 F0160
 R0043



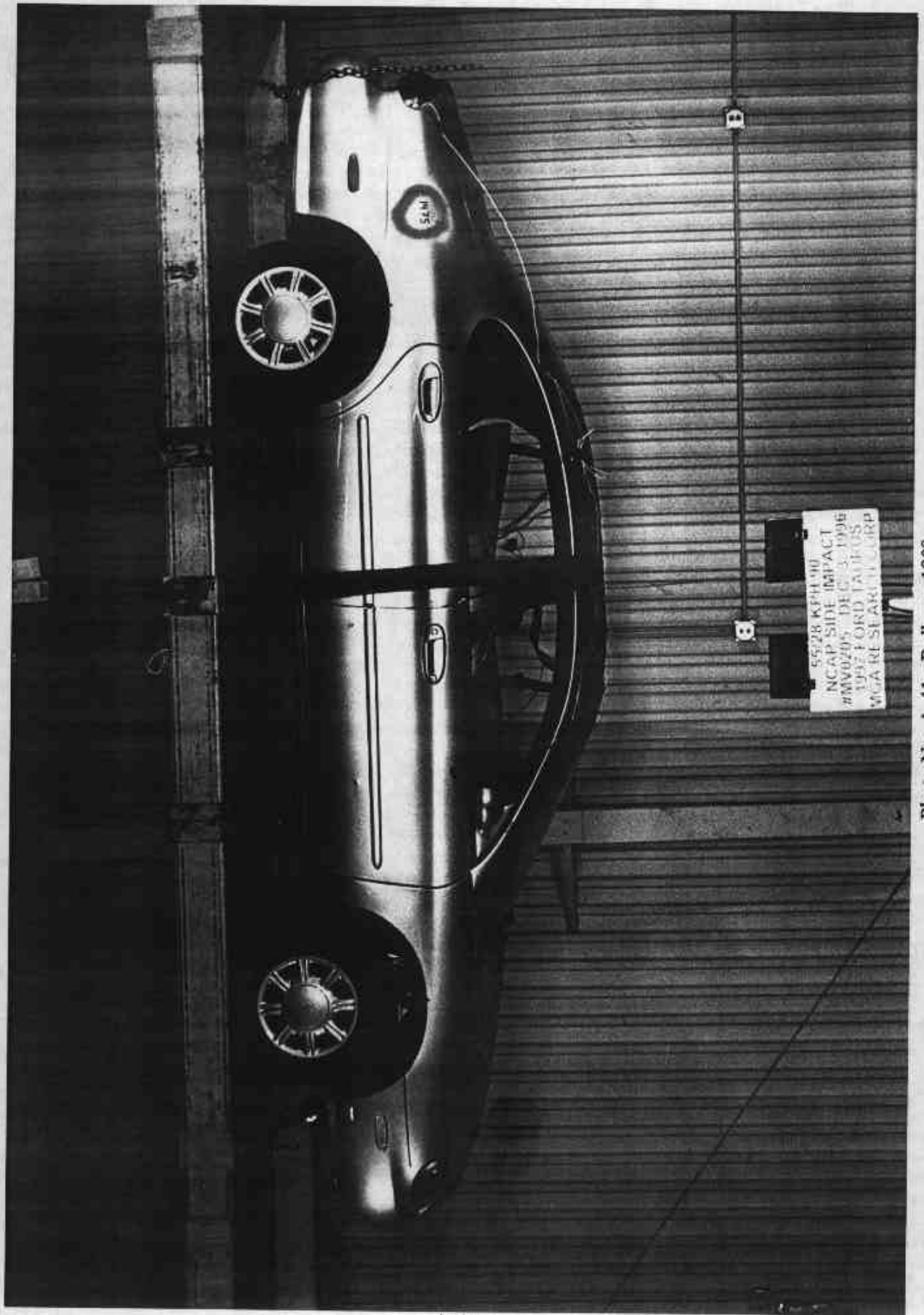
EXC. TAX TO
 GOVT/BOOK/TITLE/INT/TRIP/PSI/TAX/LETT/RSR
 FC A CC JZ
 UPC 07608-29-20072-AA
 IRC 41 DSO
 L LLJJ
 H R

Photo No. A-38 - Vehicle Certification Label



| DIAMÈTRES DES PNEUS | | TOUTES LES PNEUS | |
|--|------------------|------------------|----------|
| | | AVANT/ARRIÈRE | |
| P205/55R16 | 221 mm | 220 kPa | 32 lb/po |
| P205/55R16 | 221 mm | 213 kPa | 31 lb/po |
| P225/55R16 | 225 mm | 220 kPa | 32 lb/po |
| P225/55R16 | 225 mm | 230 kPa | 33 lb/po |
| PNEU DE SECOURS PROVISOIRE | | 415 kPa | 60 lb/po |
| NE REMPLACEZ PAS UN PNEU DONT L'ÉTAT DE SÛRETÉ EST LE MÊME | | | |
| CHARGE TOTALE DE OCCUPANTS PLUS BAGAGES | | | |
| MODÈLE | OCCUPANTS | CHARGE MAXIMALE | |
| EXEMPLE | 5 | 500 kg (1100 lb) | |
| AVANT | ARRIÈRE | | |
| 500 kg (1100 lb) | 500 kg (1100 lb) | | |

Photo No. A-39 - Tire Placard



A-41

Photo No. A-41 - Rollover 180°

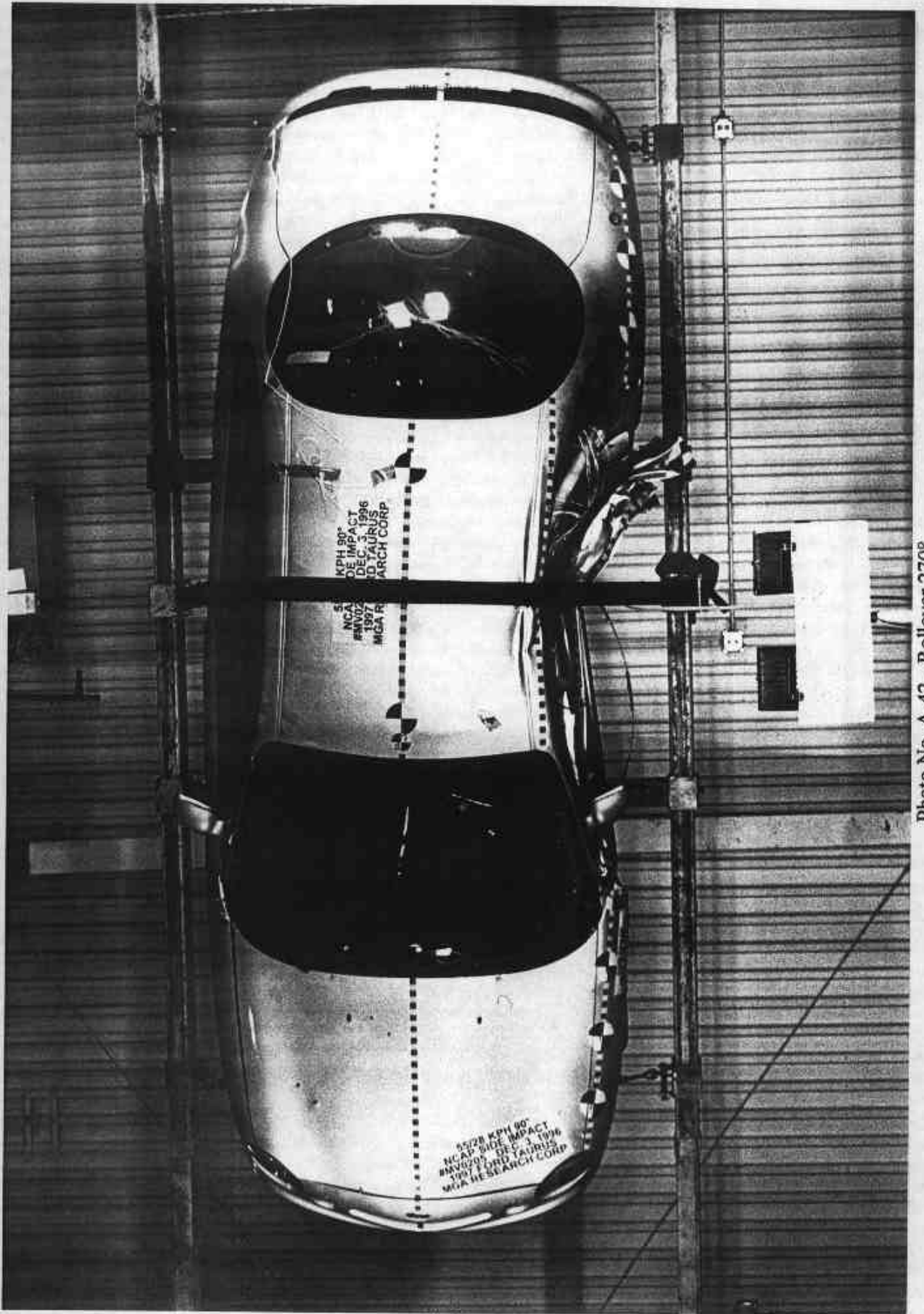


Photo No. A-42 - Rollover 270°

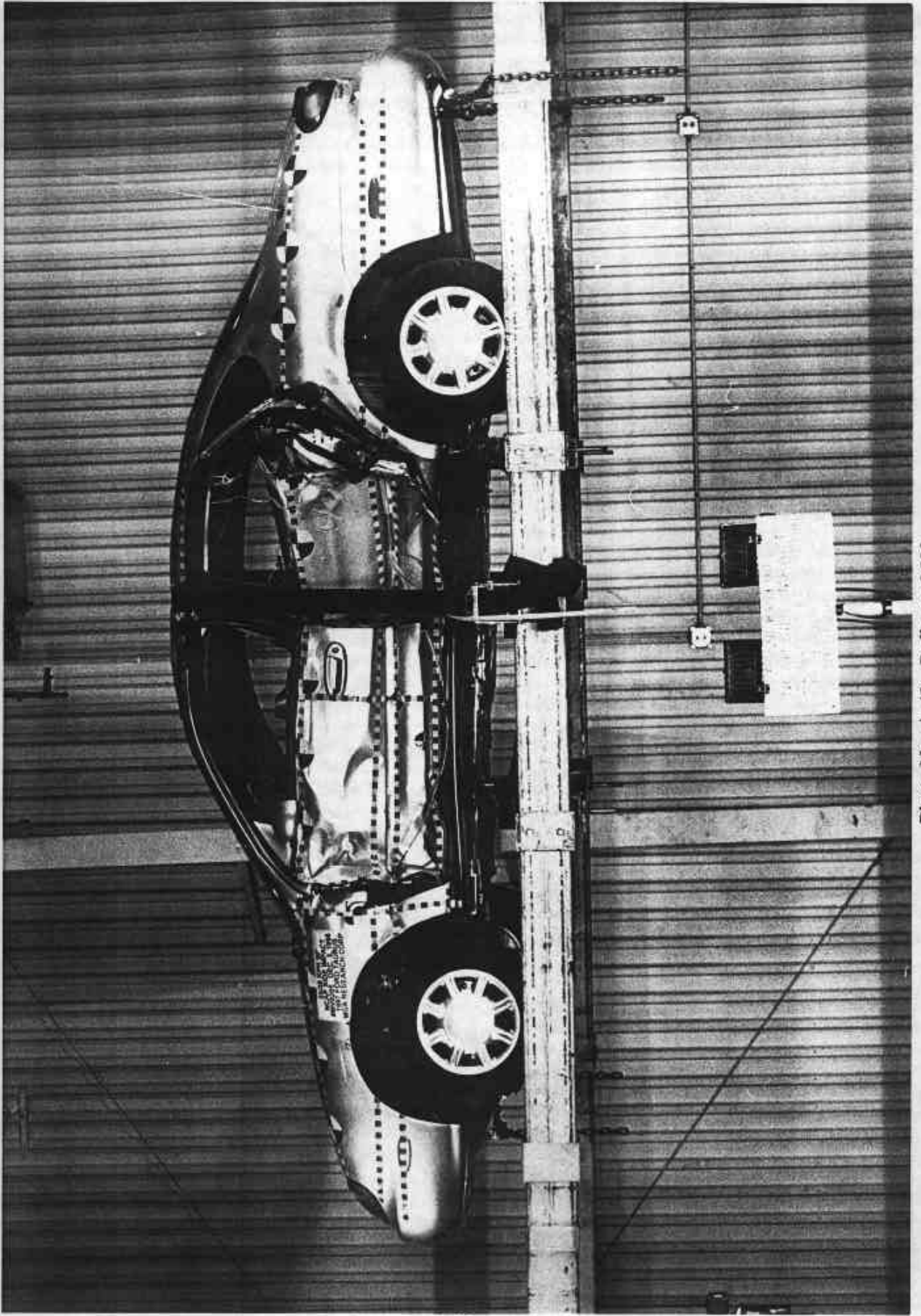
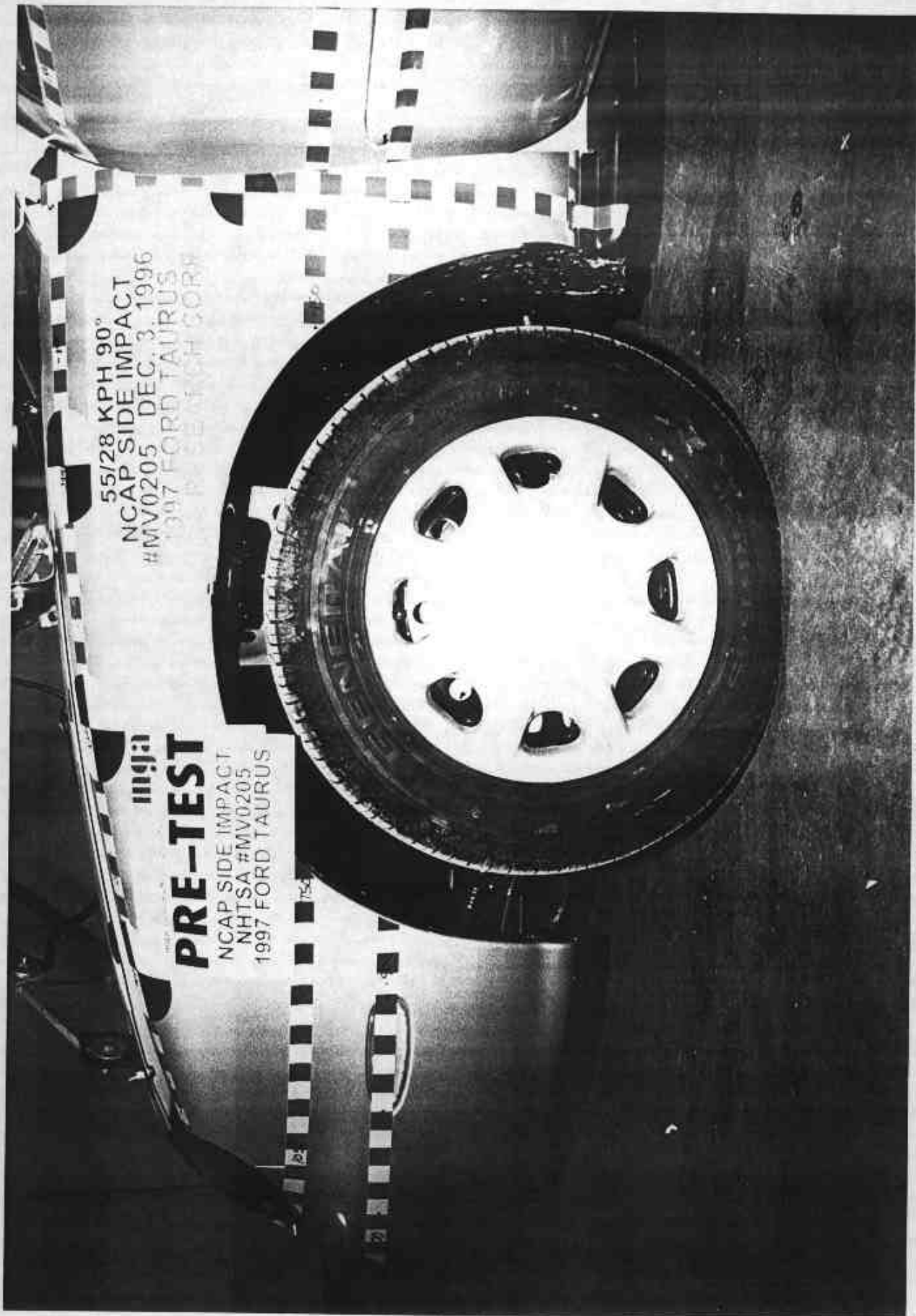


Photo No. A-43 - Rollover 360°

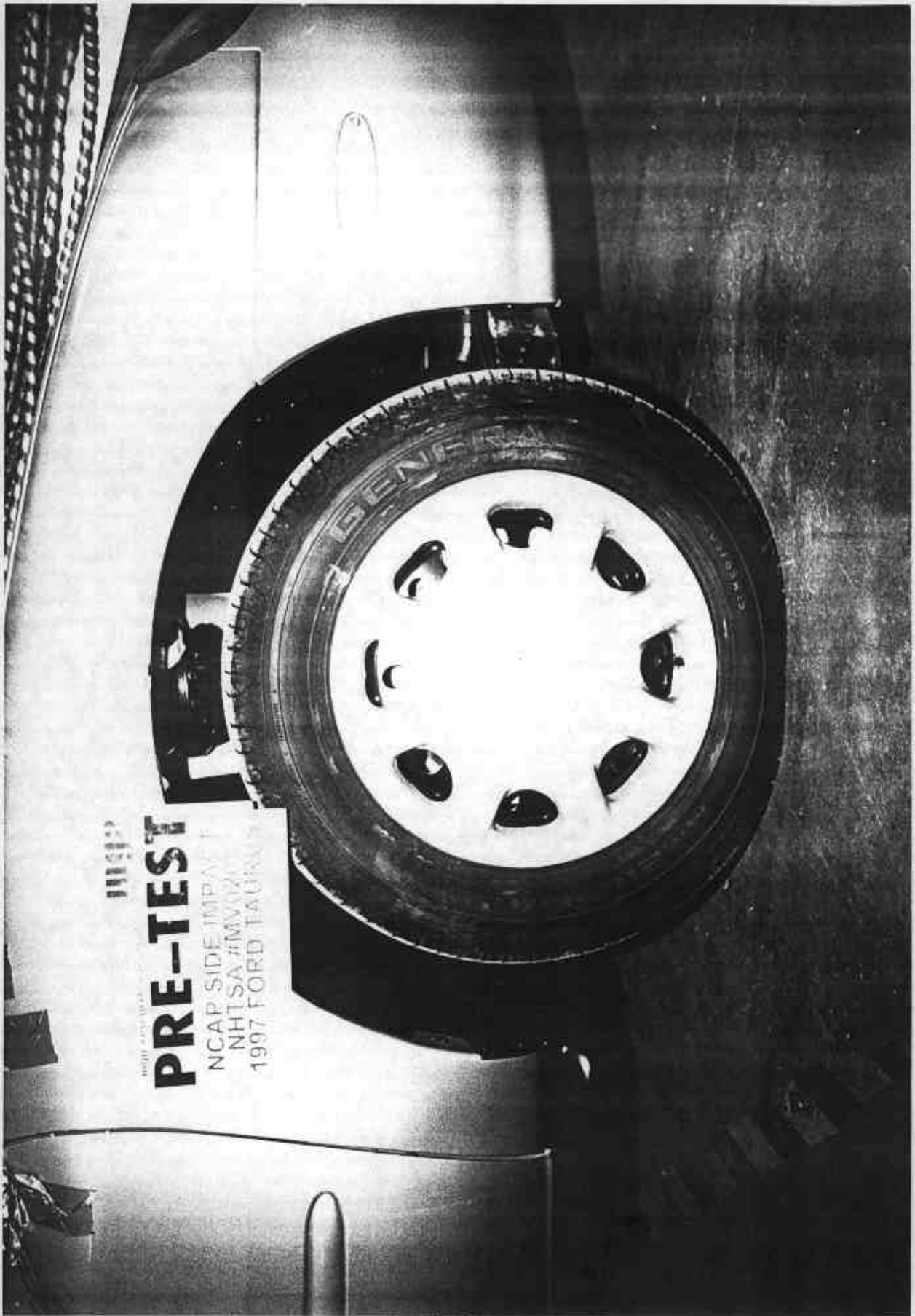
A-43



55/28 KPH 90°
NCAP SIDE IMPACT
#MV0205 DEC. 3, 1996
1997 FORD TAURUS
RESEARCH CORP.

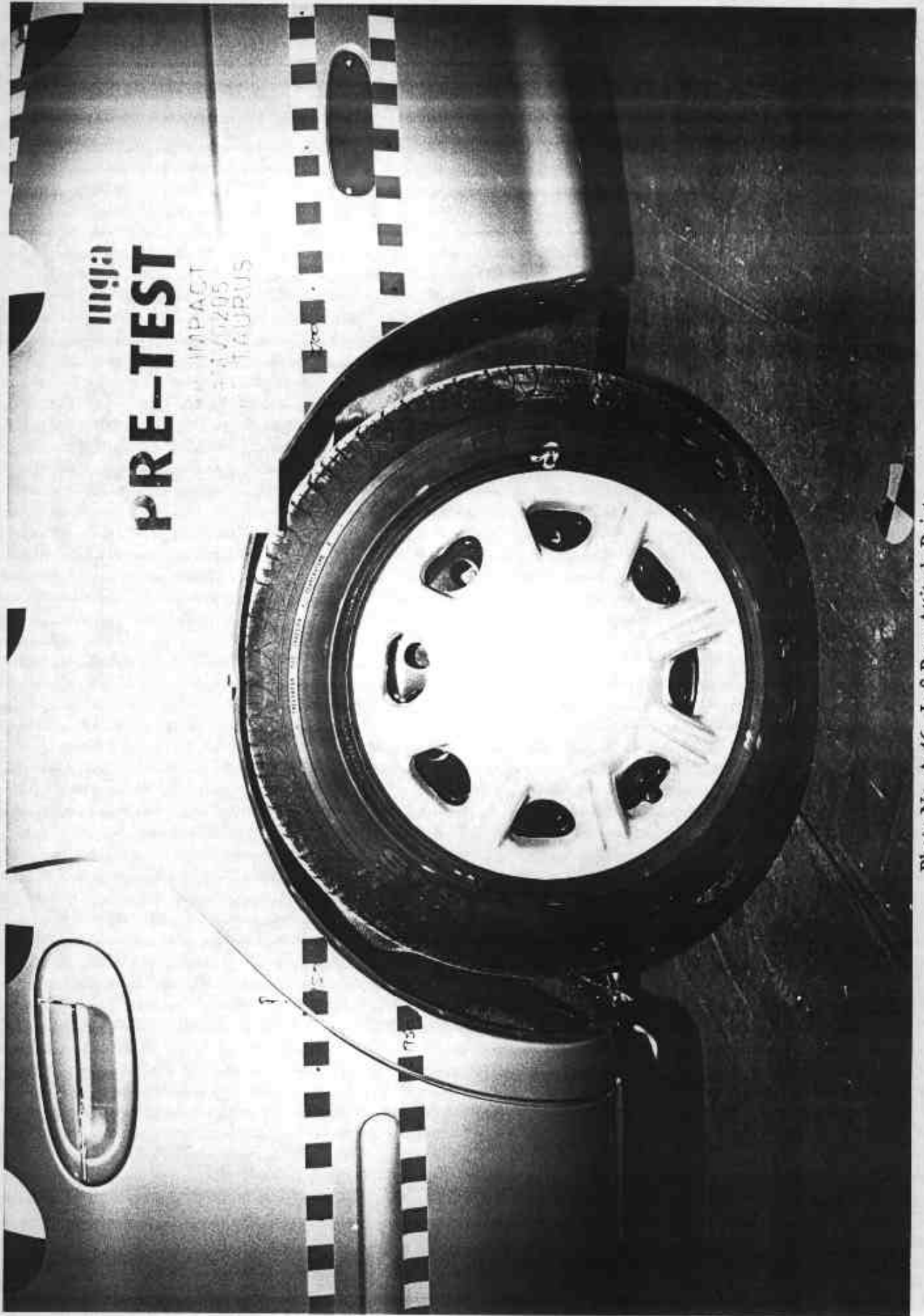
PRE-TEST
NCAP SIDE IMPACT
NHTSA #MV0205
1997 FORD TAURUS

Photo No. A-44 - Left Front Attitude Point



PRE-TEST
NCAP SIDE IMPACT
NHTSA #MMV21
1997 FORD TAURUS

Photo No. A-45 - Right Front Attitude Point



PRE-TEST

IMPACT
MAZDA
TAURUS

A-46

Photo No. A-46 - Left Rear Attitude Point



14.75

PRE-TEST
NCAP SIDE IMPACT
NHTSA #MV0205
1997 FORD TAURUS

A-47

Photo No. A-47 - Right Rear Attitude Point

APPENDIX B - VEHICLE AND SID RESPONSE DATA

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TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

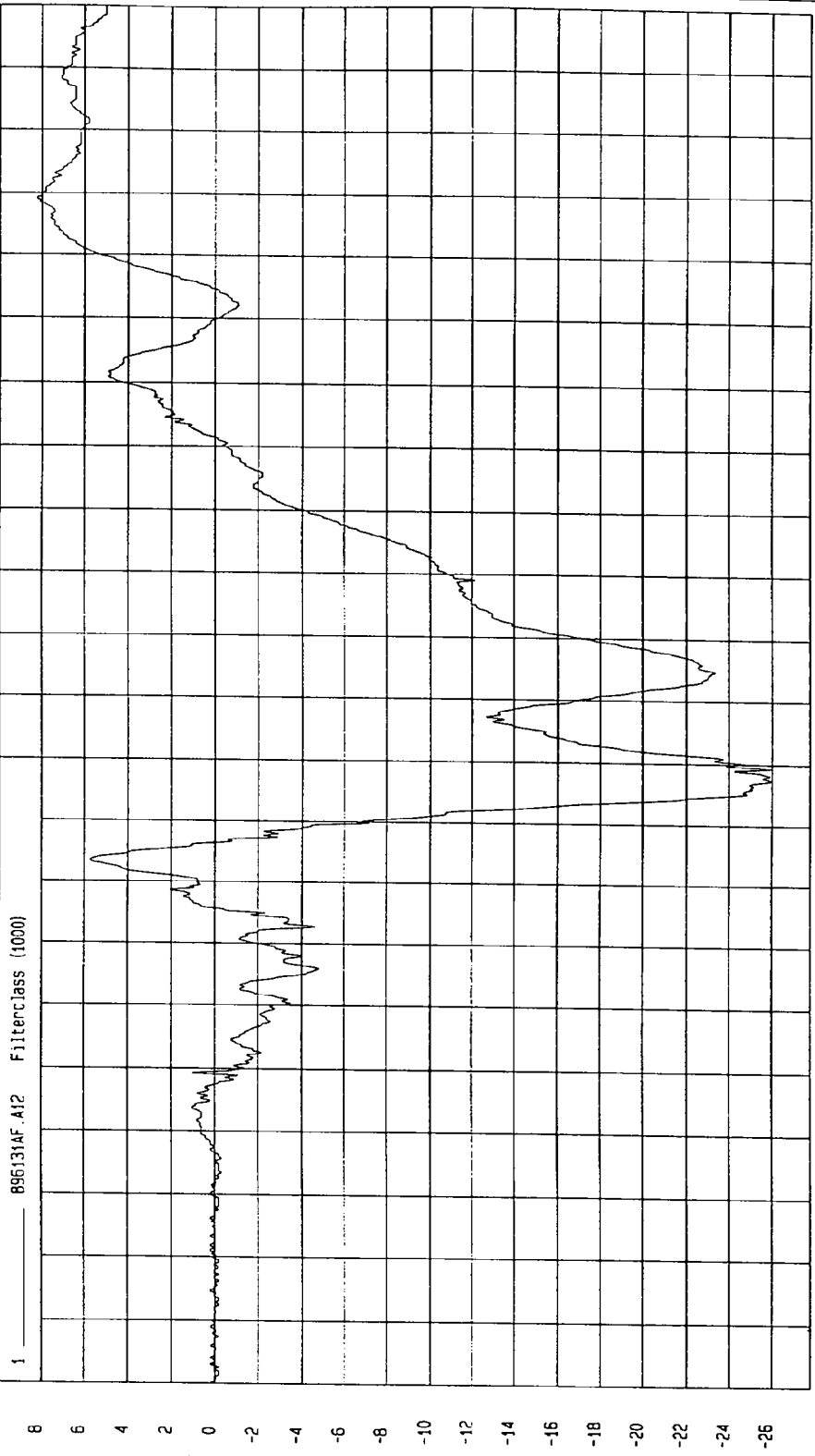
COMPONENT: 1997 FORD TAURUS (MV0205)

Speed: 37.97 MPH 61.1 KPH

YMIN=-26.0432 G'S at 79. msec

YMAX= 8.221284 G'S at 169 msec

DRIVER HEAD X ACCELERATION



MCA Research
12-03-1996 13:40

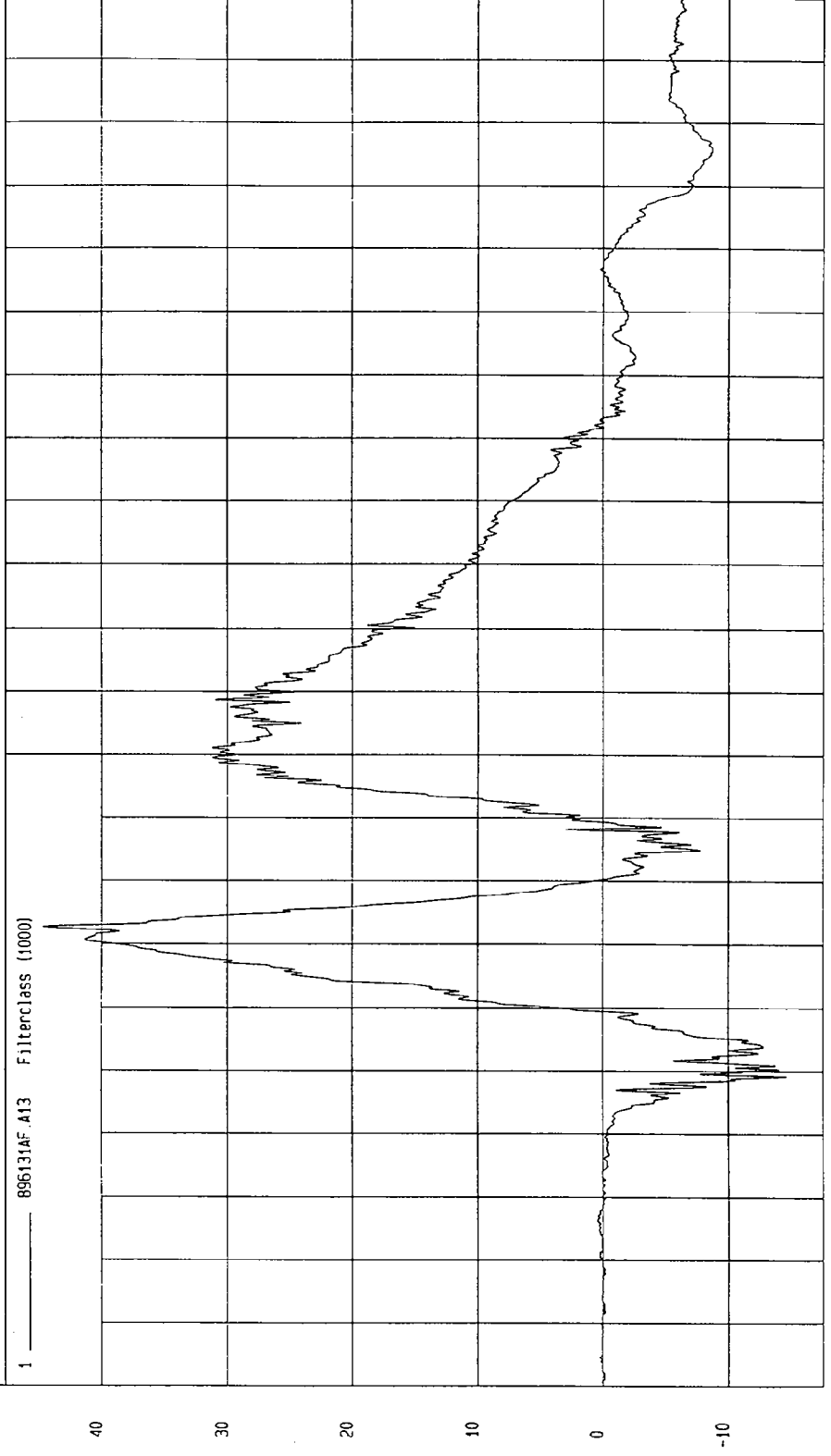
TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-14.50862 G'S at 29. msec YMAX= 44.68164 G'S at 52. msec

DRIVER HEAD Y ACCELERATION



TIME (SECONDS)

MCA Research
12-03-1996 13:40

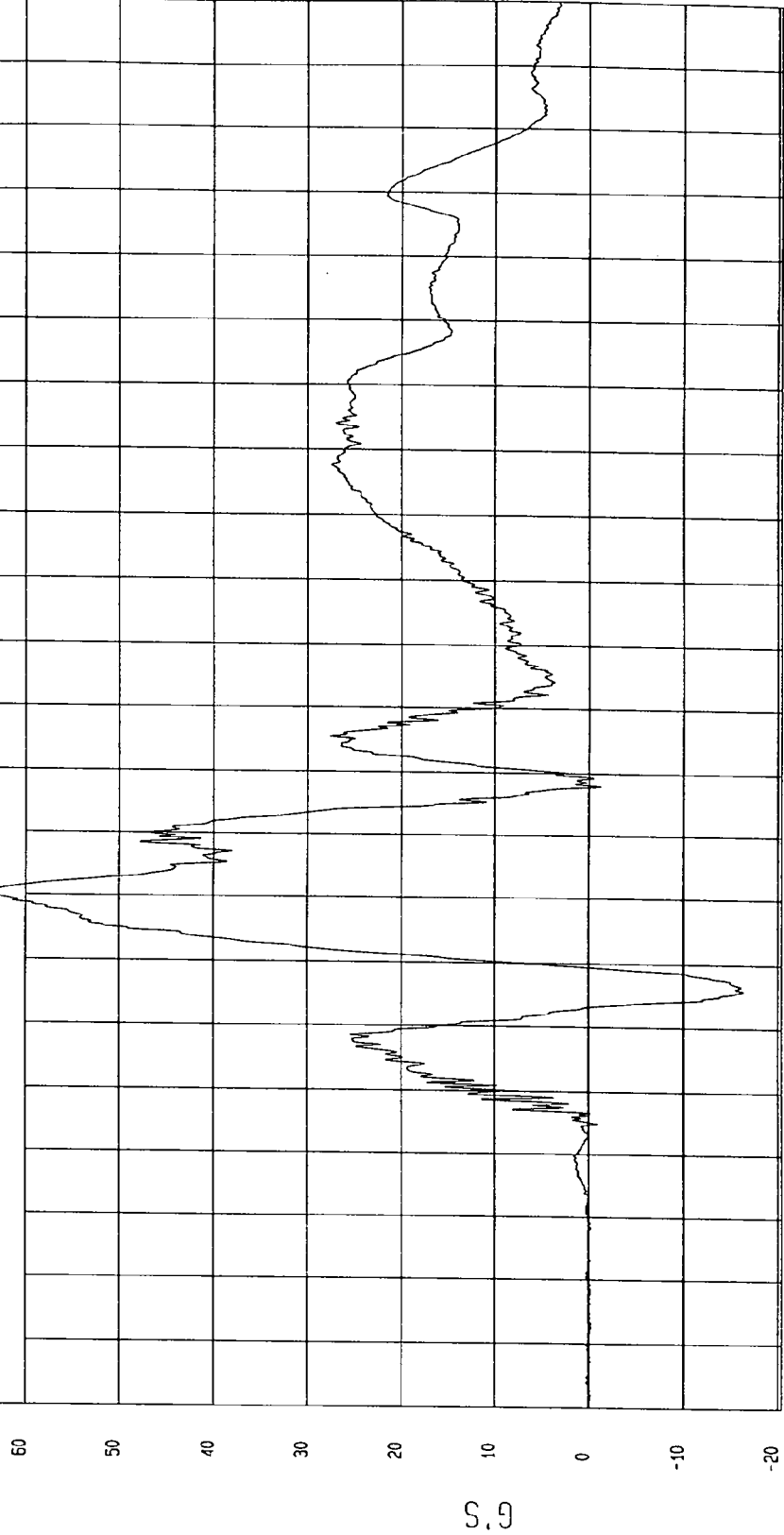
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-16.42856 G'S at 45. msec YMAX= 63.63577 G'S at 60 msec

DRIVER HEAD Z ACCELERATION

1 896131AF.A14 Filterclass (1000)



TIME (SECONDS)

MGA Research
12-09-1996 13.41

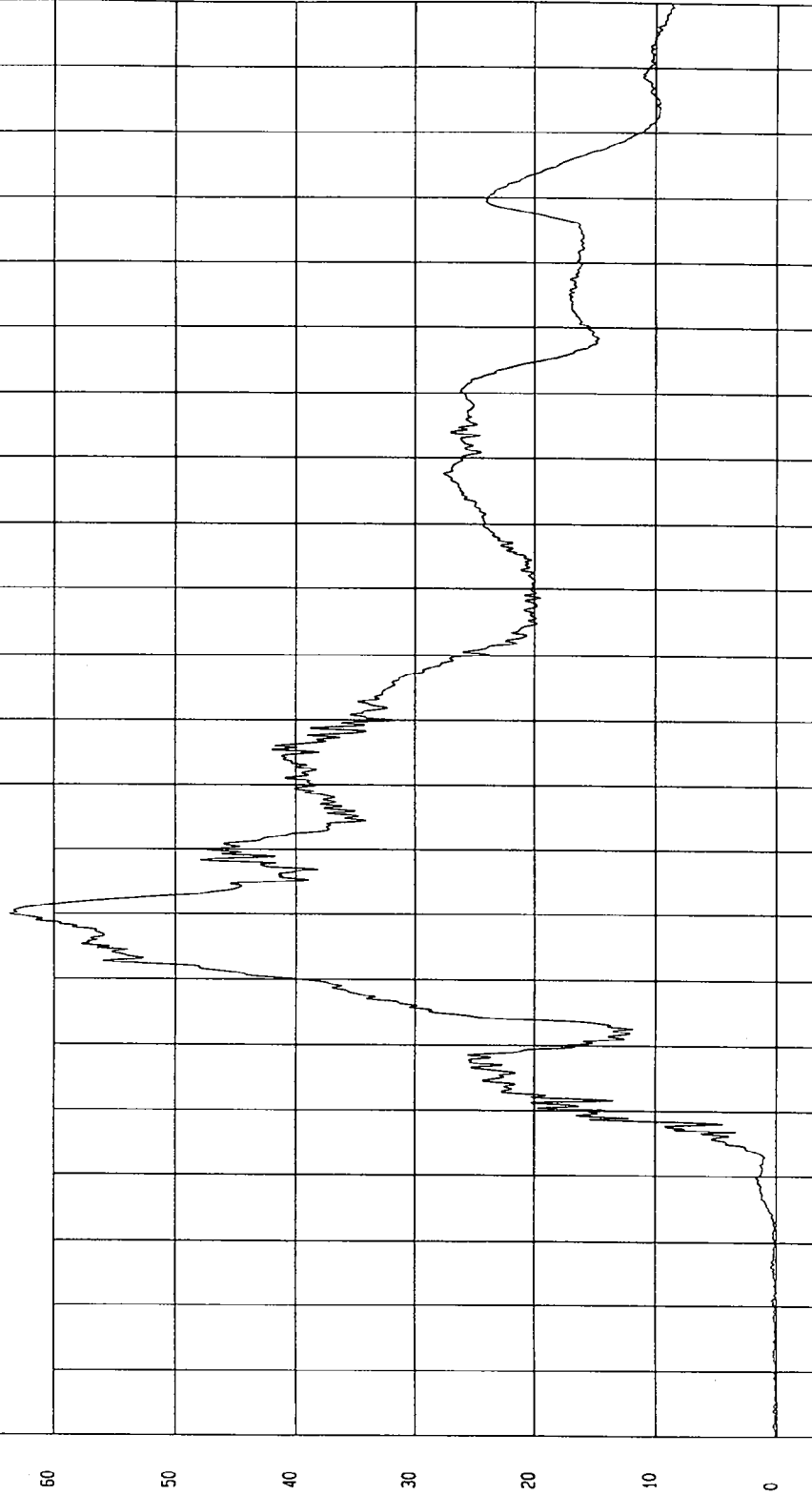
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

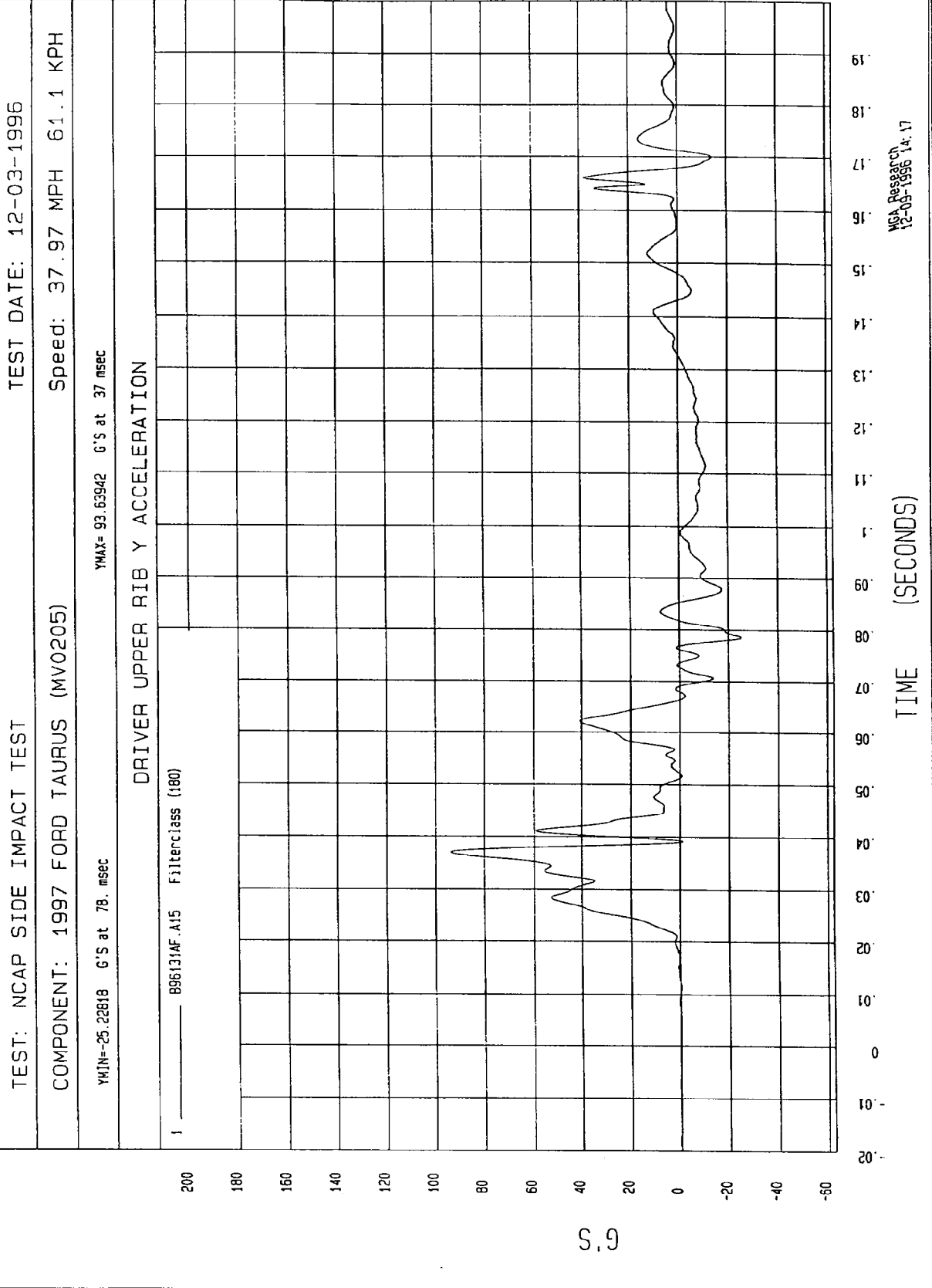
YMIN= 2.54463E-02 G'S at -4.7 msec YMAX= 63.5454 G'S at 60 msec

DRIVER HEAD RESULTANT

1 ——— 896131AV.A12 Filterclass (1000)



MCA Research
12-09-1996 13:42



TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205)

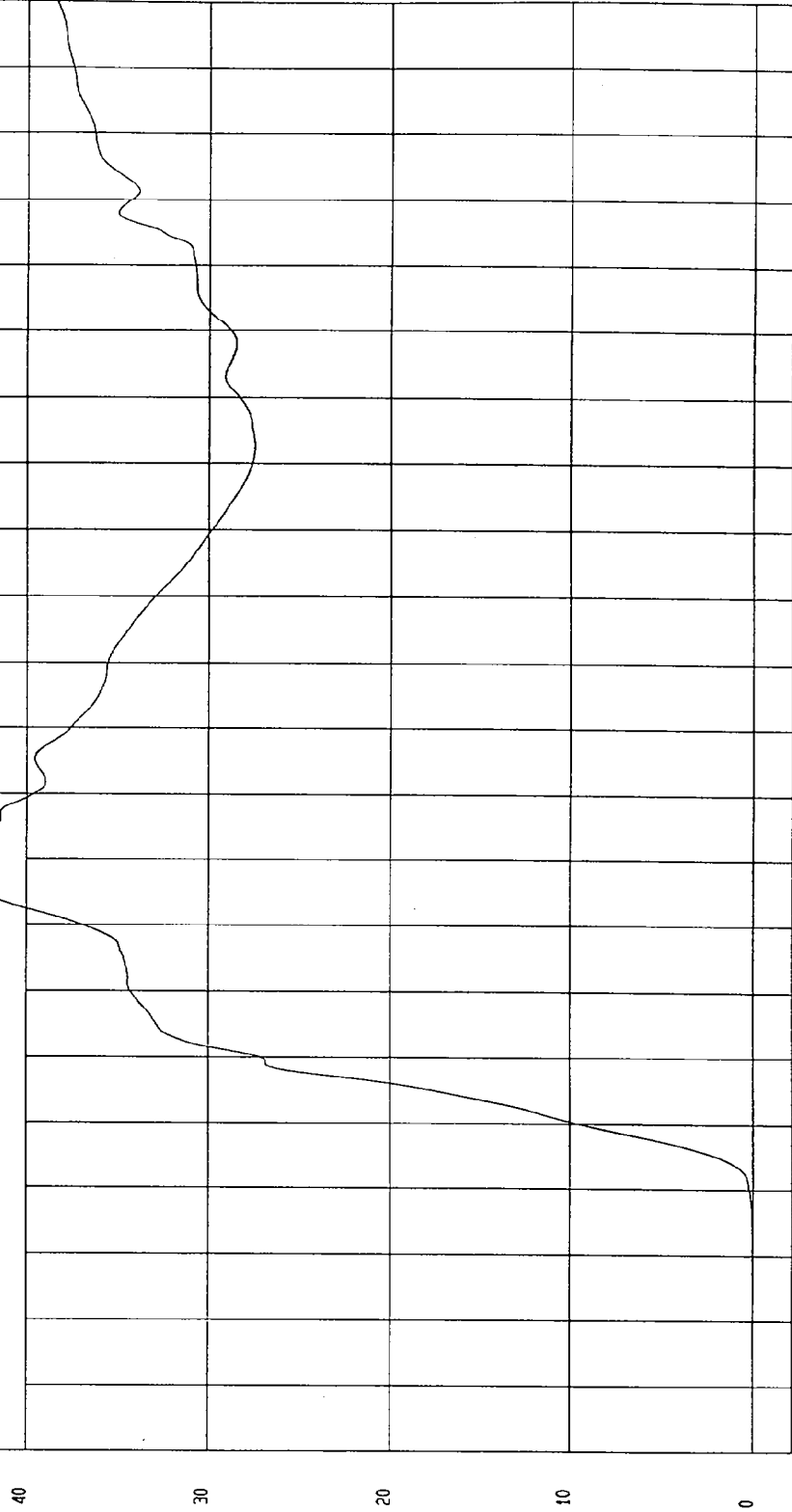
Speed: 37.97 MPH 61.1 KPH

YMIN=-5.037802E-03 KPH at -9 msec

YMAX= 42.72525 KPH at 65. msec

DRIVER UPPER RIB Y VELOCITY

1 ——— 896131A1.V15 Filterclass (180)



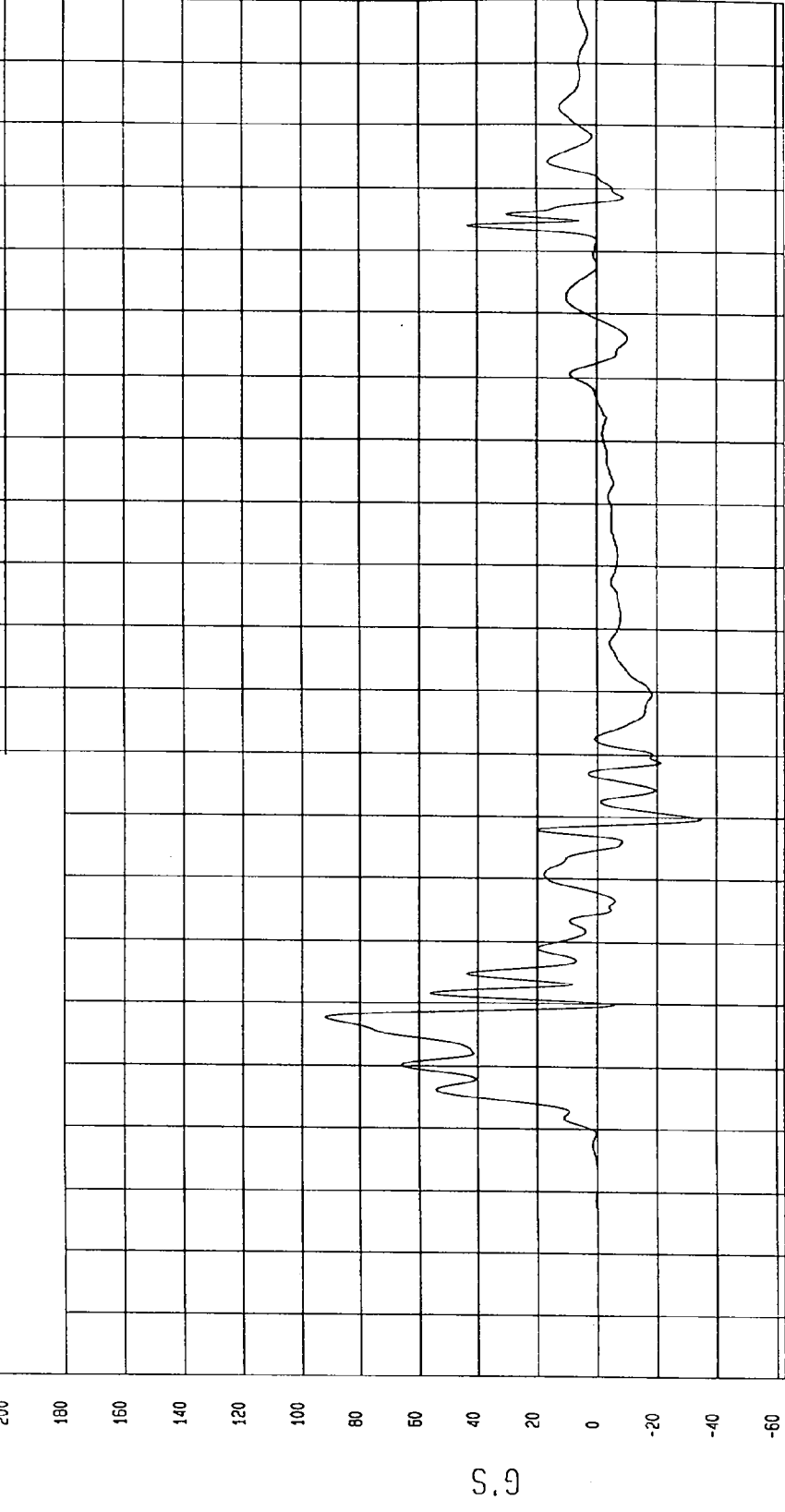
MCA Research
12-03-1996 13.56

TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-34.66915 G'S at 69. msec YMAX= 91.70251 G'S at 37. msec

DRIVER LOWER RIB Y ACCELERATION
1 _____ 896131AF.A16 FilterClass (180)



MSA Research
12-09-1996 14:17

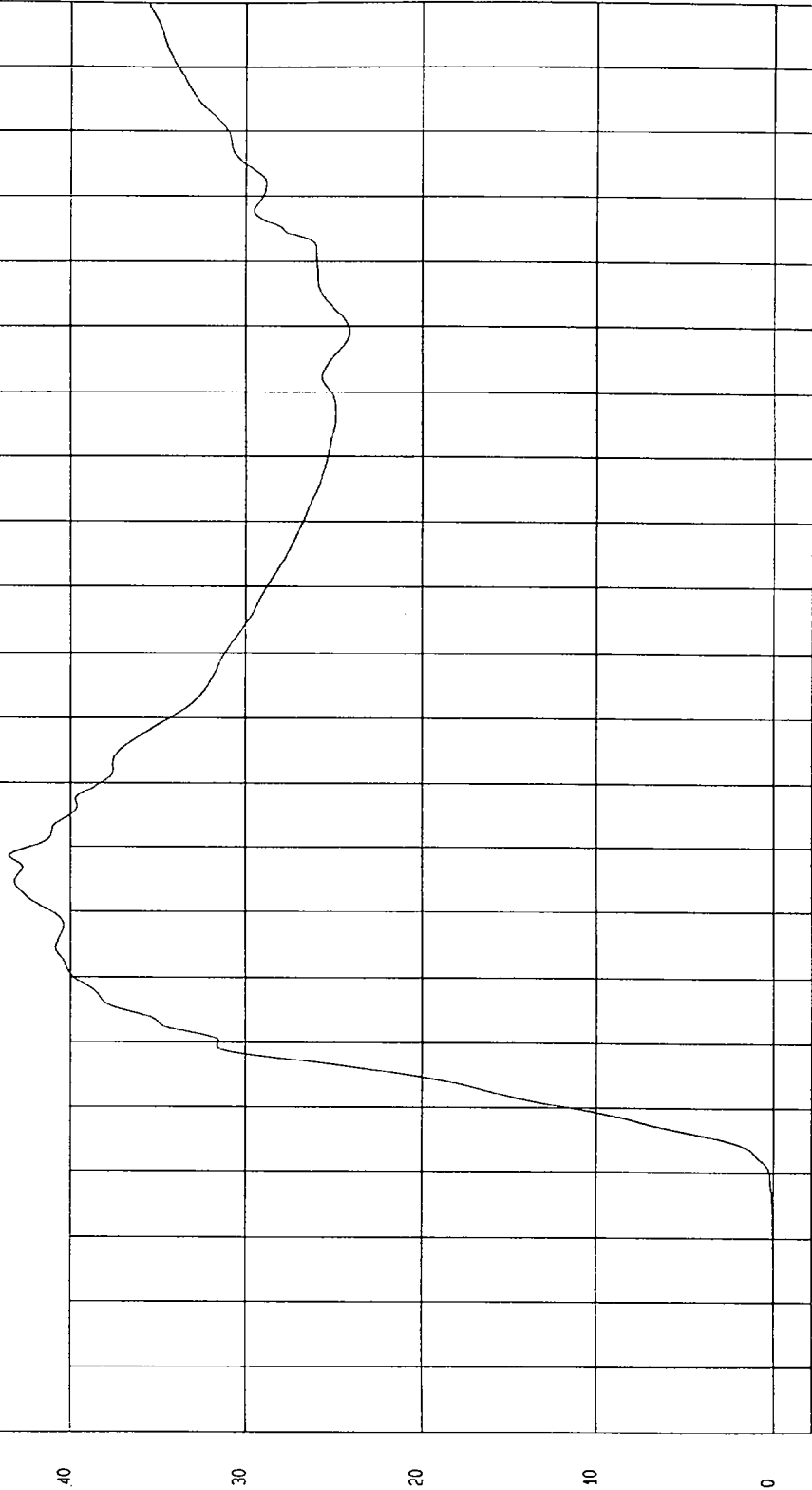
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-1.707841E-02 KPH at -9.1 msec YMAX= 43.44027 KPH at 68. msec

DRIVER LOWER RIB Y VELOCITY

1 ——— 896131A1.V16 Filterclass (180)



MCA Research
12-09-1996 13:57

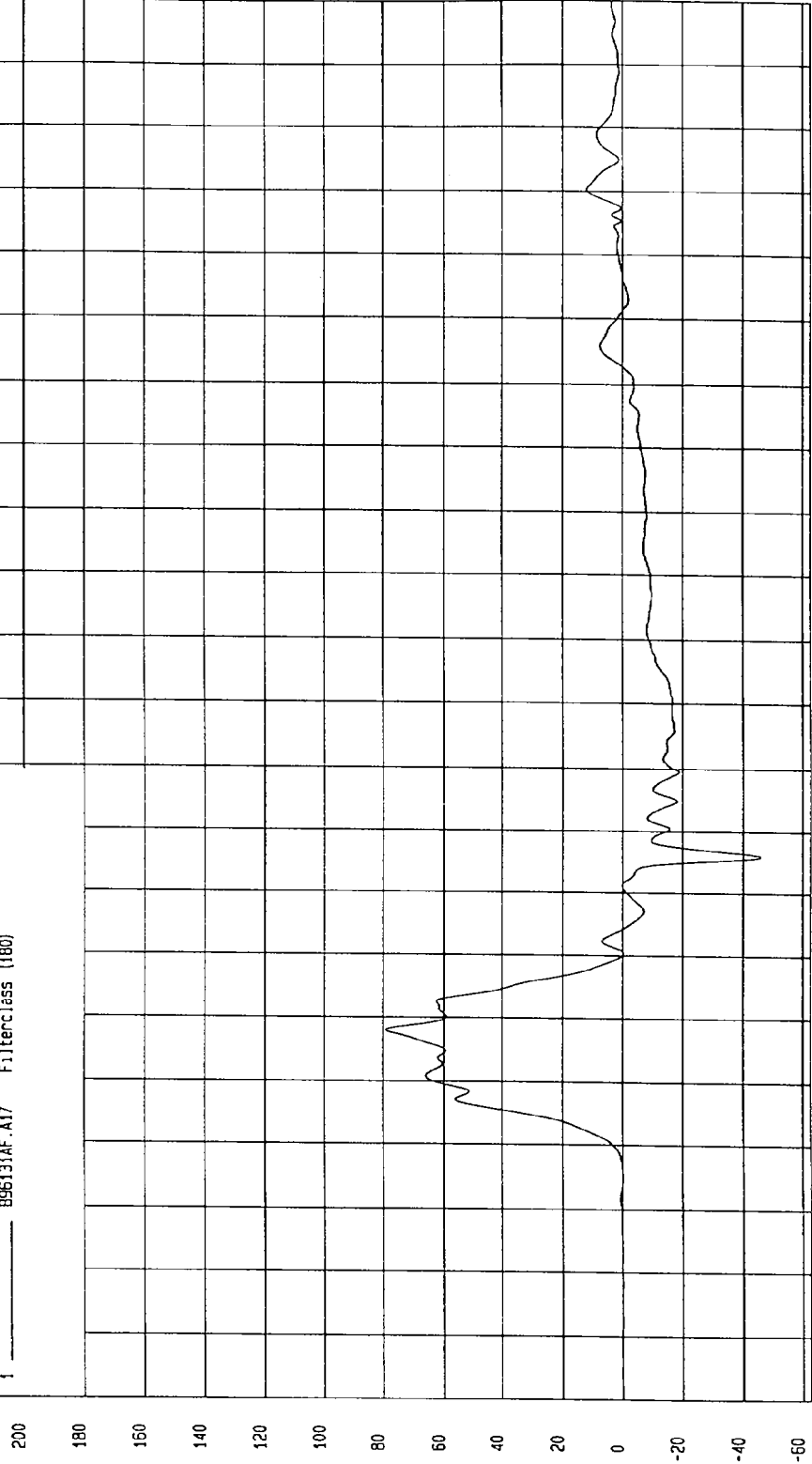
TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-45.93809 G'S at 66 msec YMAX= 79.25597 G'S at 38 msec

DRIVER LOWER SPINE Y ACCELERATION

1 ——— 89613(AF-A17 Filter:less (180)



MGA Research
12-09-1996 14:17

TIME (SECONDS)

G.S

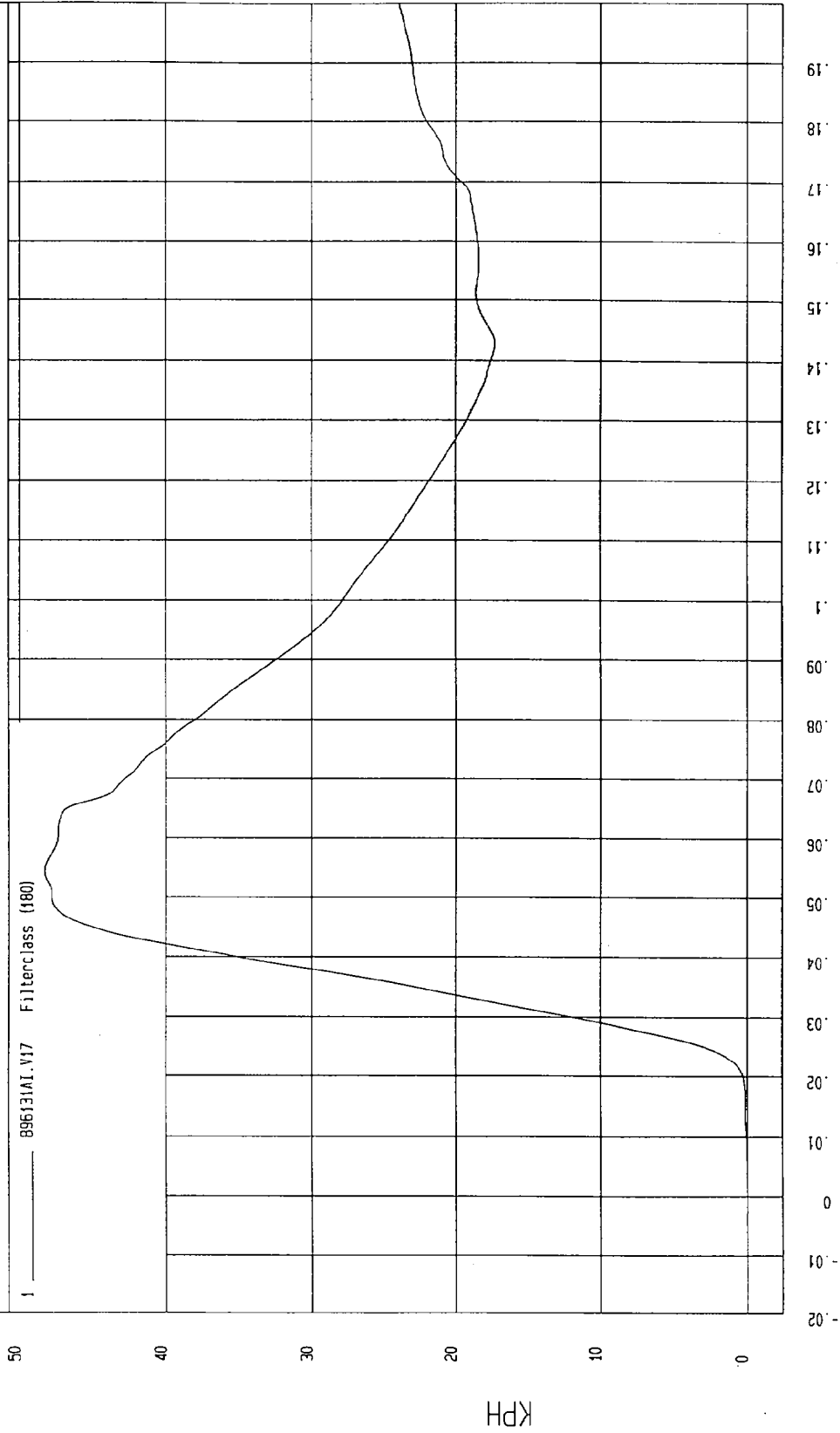
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-1.13273E-02 KPH at -17. msec YMAX= 48.34144 KPH at 54. msec

DRIVER LOWER SPINE Y VELOCITY

1 896131A1.V17 Filterclass (180)



MGA Research
12-09-1996 13:57

TIME Seconds

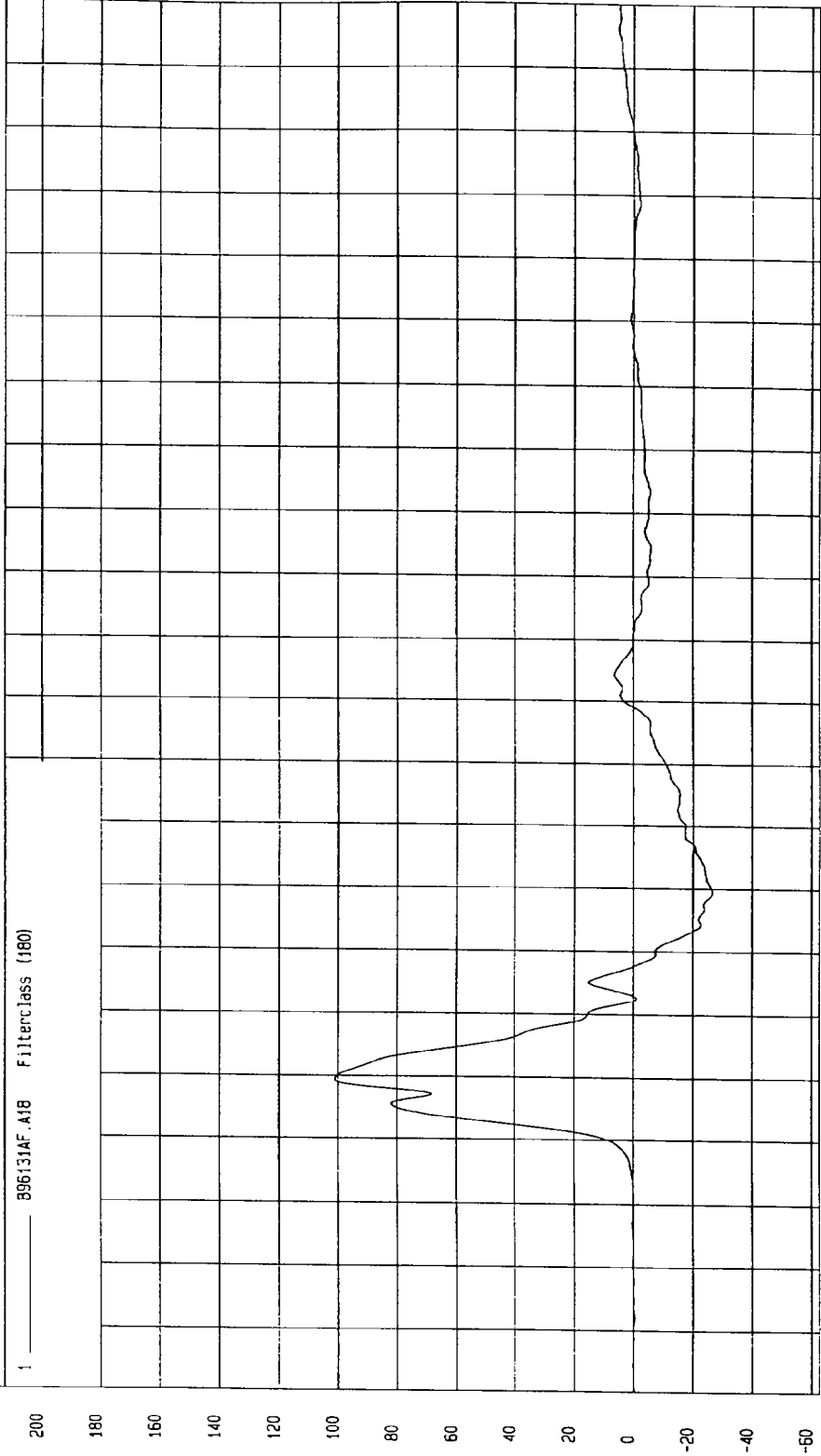
KPH

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-26.39004 G'S at 59. msec YMAX= 101.0783 G'S at 29. msec

DRIVER PELVIS Y ACCELERATION



MGA Research
12-03-1996 14: 18

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

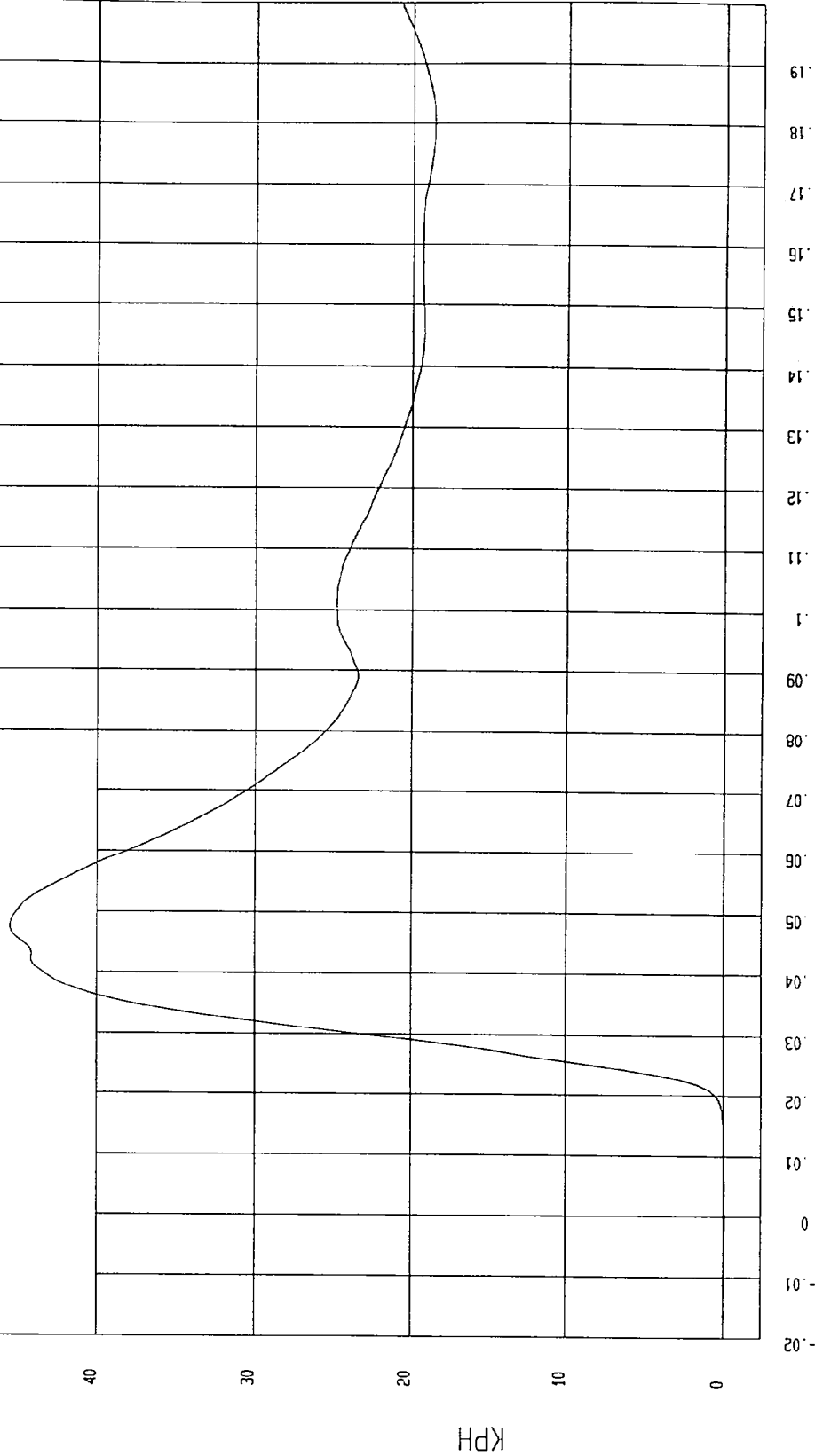
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-9.537602E-02 KPH at -1 msec

YMAX= 45.60145 KPH at 47. msec

DRIVER PELVIS Y VELOCITY

1 ——— 896131A1.V18 Filterclass (180)



MCA Research
12-09-1996 13:57

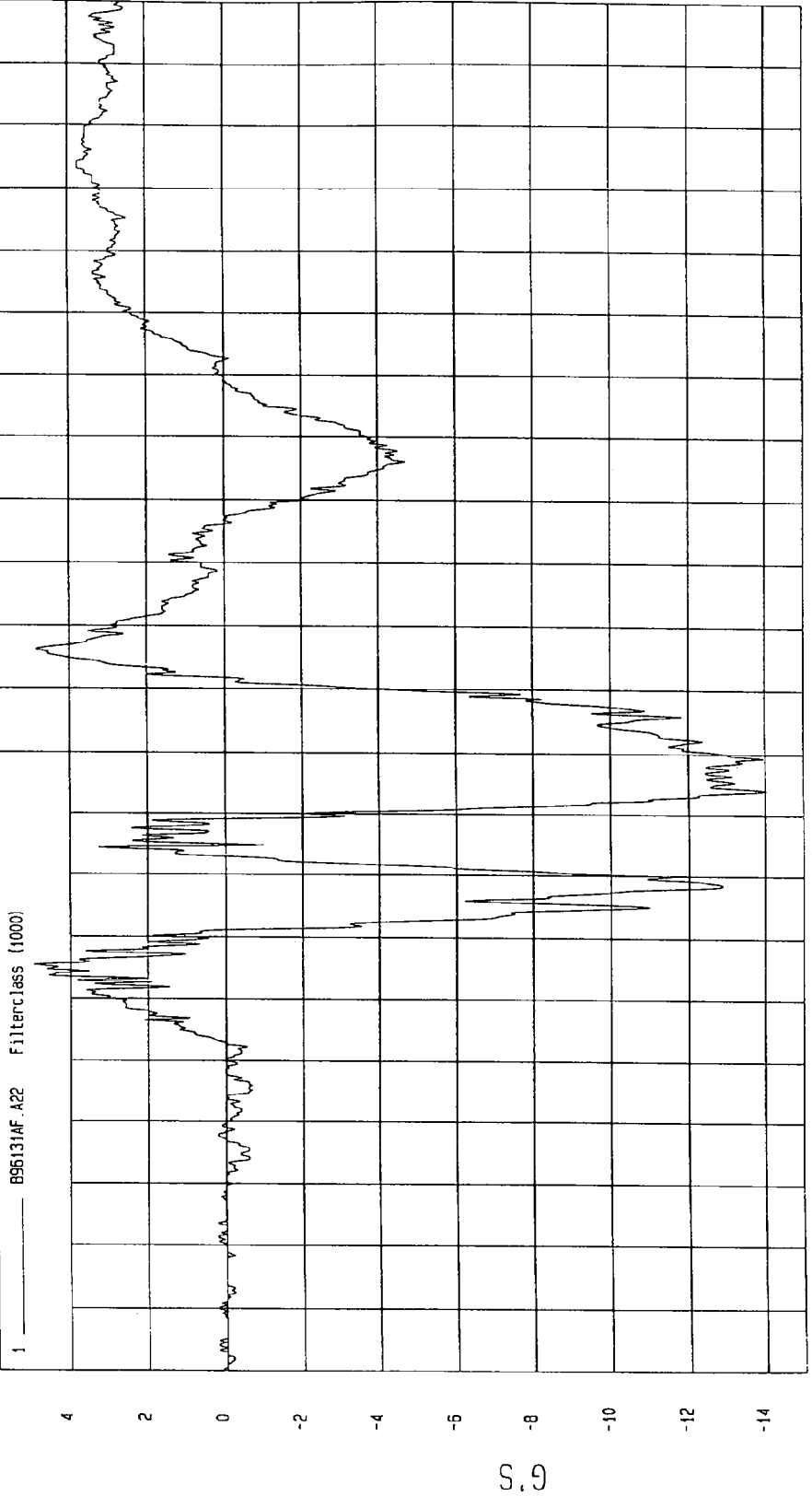
TIME Seconds

KPH

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-14.02138 G'S at 74 msec YMAX= 4.931005 G'S at 45. msec

REAR PASSENGER HEAD X ACCELERATION



TIME (SECONDS)

MECA Research
12-09-1996 13:42

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205)

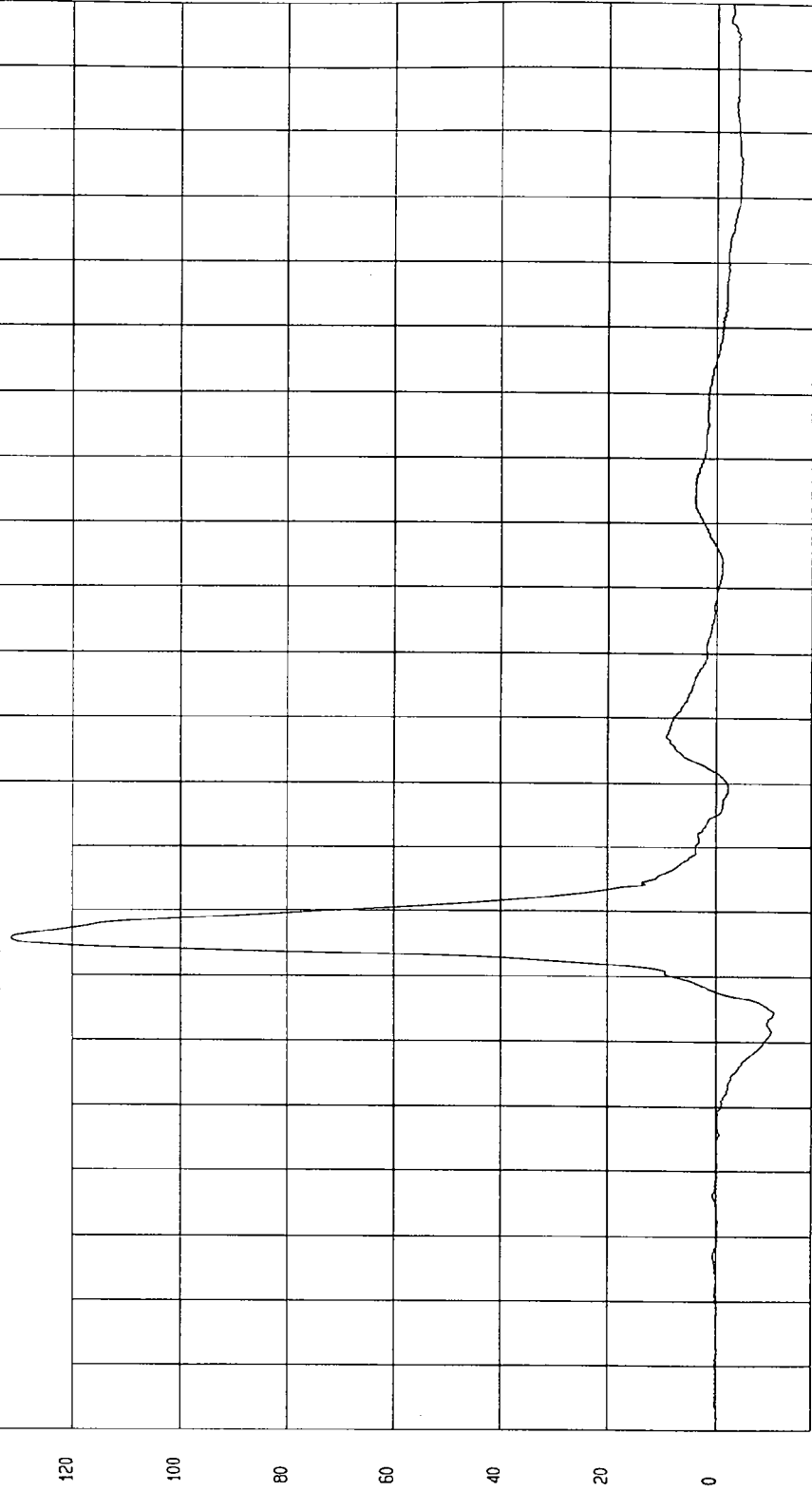
Speed: 37.97 MPH 61.1 KPH

YMIN=-10.54612 G'S at 44. msec

YMAX= 131.4177 G'S at 55. msec

REAR PASSENGER HEAD Y ACCELERATION

1 ——— 896131AF.A23 Filterclass (1000)



TIME (SECONDS)

MOA Research
12-09-1996 13.42

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

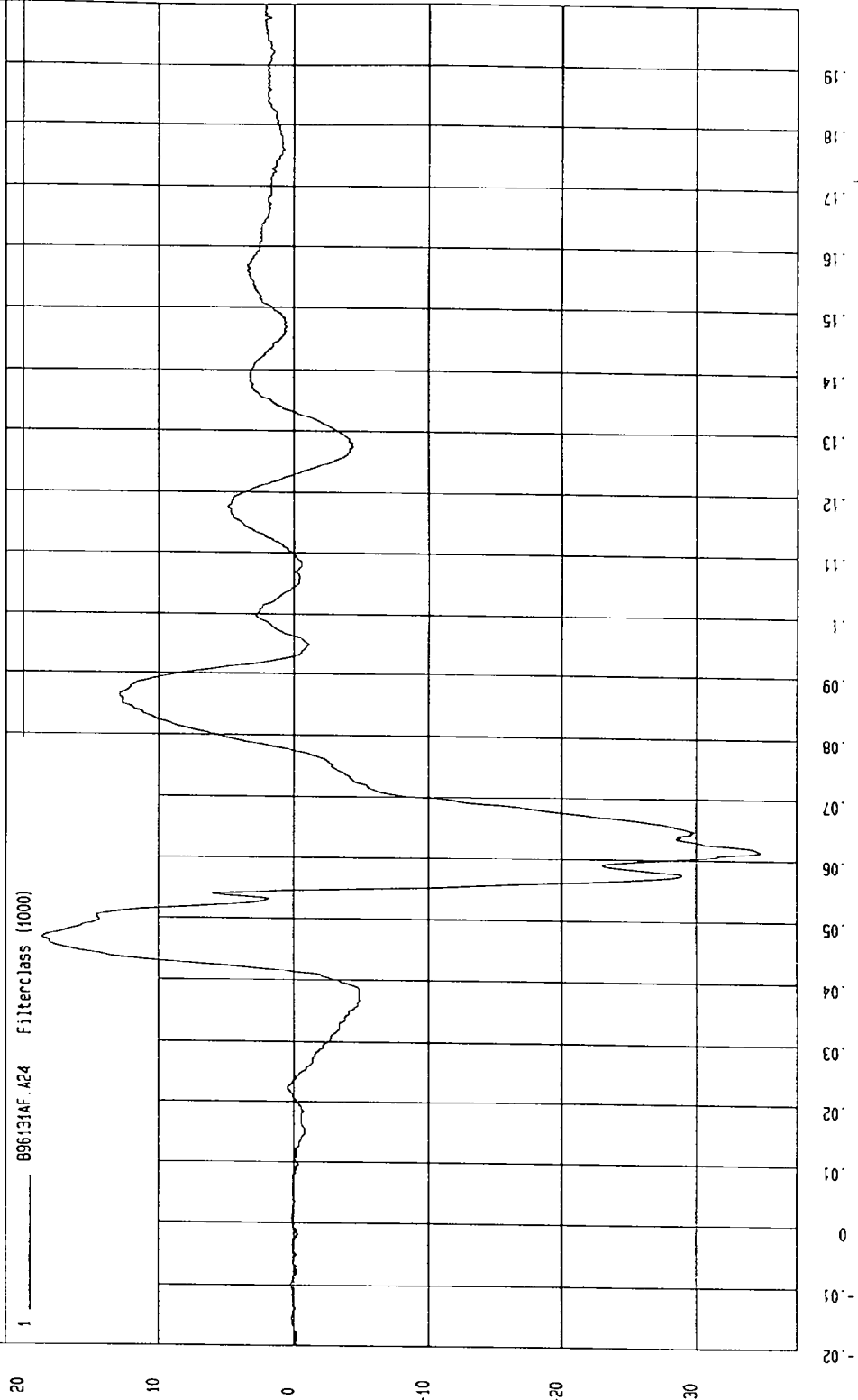
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-34.76862 G'S at 61. msec

YMAX= 18.62047 G'S at 46. msec

REAR PASSENGER HEAD Z ACCELERATION

1 _____ 896131AF.A24 Filterclass (1000)

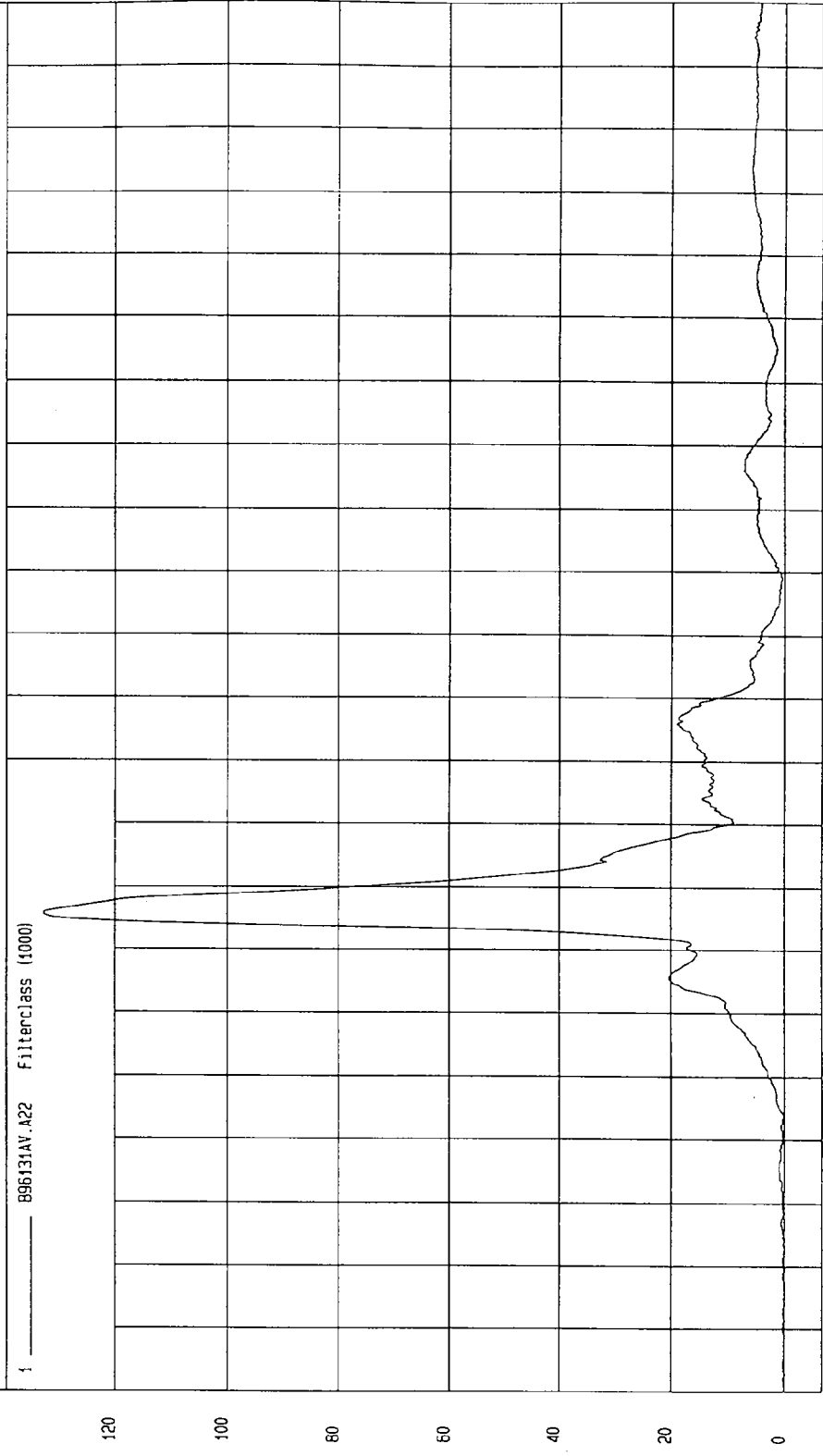


MSA Research
12-03-1996 13.43

S.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
 COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH
 YMIN= 1.316913E-02 G'S at 2.9 msec YMAX= 132.5135 G'S at 55. msec

REAR PASSENGER HEAD RESULTANT



TIME (SECONDS)

MCA Research
 12-09-1996 13: 43

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

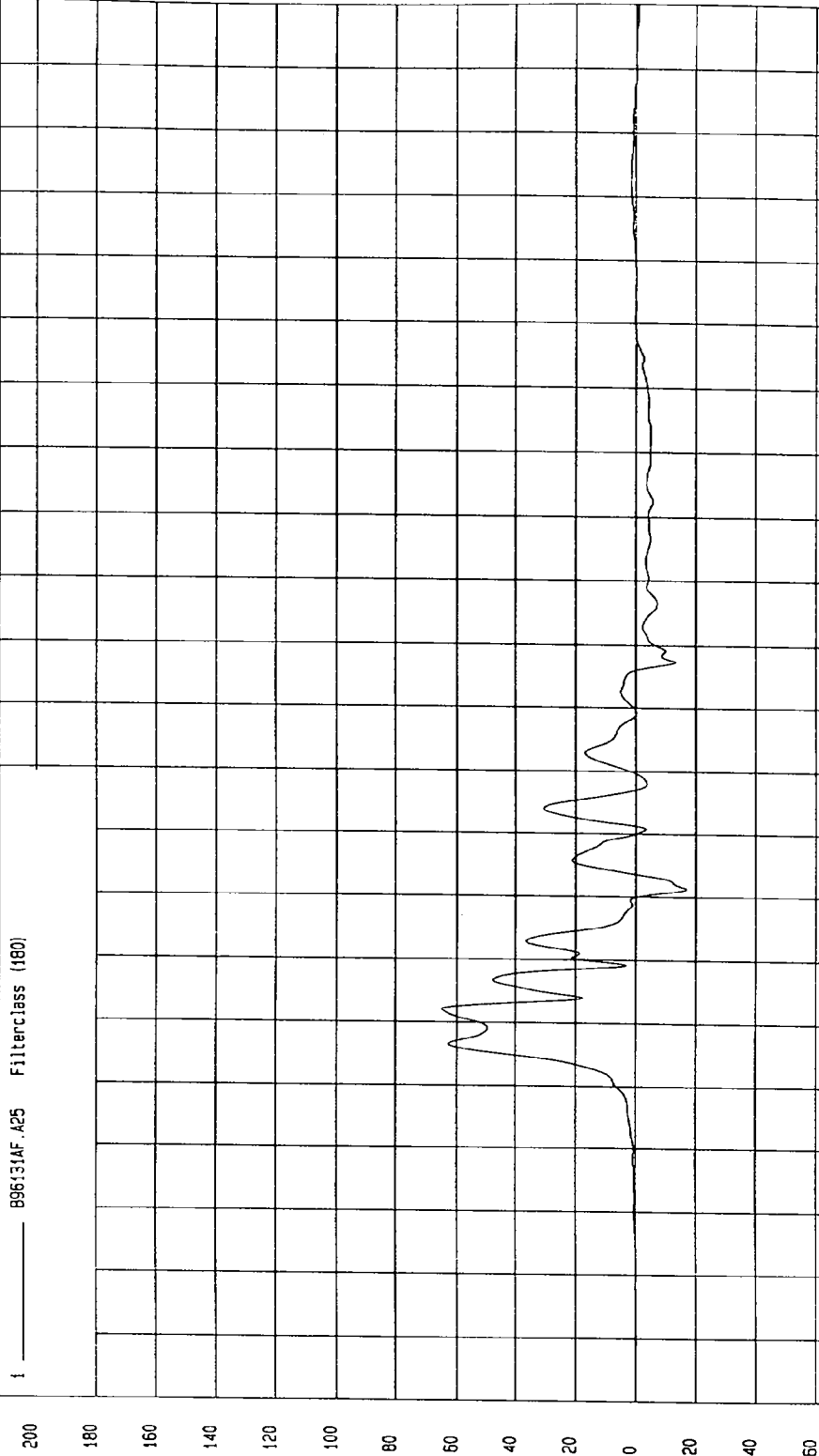
COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-16.95455 G'S at 61. msec

YMAX= 64.86549 G'S at 42. msec

REAR PASSENGER UPPER RIB Y ACCELERATION

1 ——— 896131AF.A25 Filterclass (180)



MoA Reseach Co
12-03-1996 14: 16

TIME (SECONDS)

S.G

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

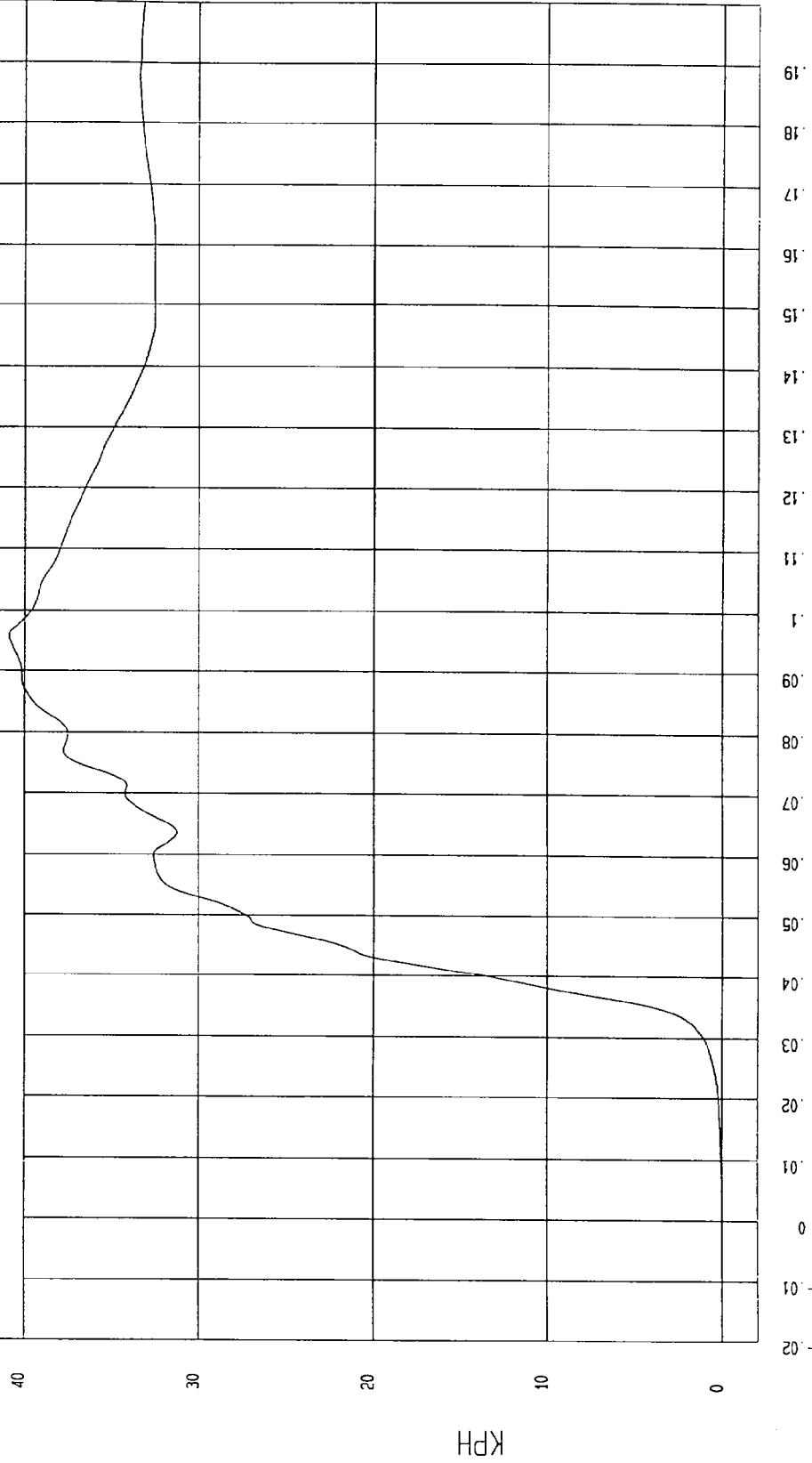
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-5.520794E-03 KPH at -8.9 msec

YMAX= 40.86927 KPH at 95. msec

REAR PASSENGER UPPER RIB Y VELOCITY

1 ——— 896131A1.V25 Filterclass (180)



MCA Research
12-09-1996 13:57

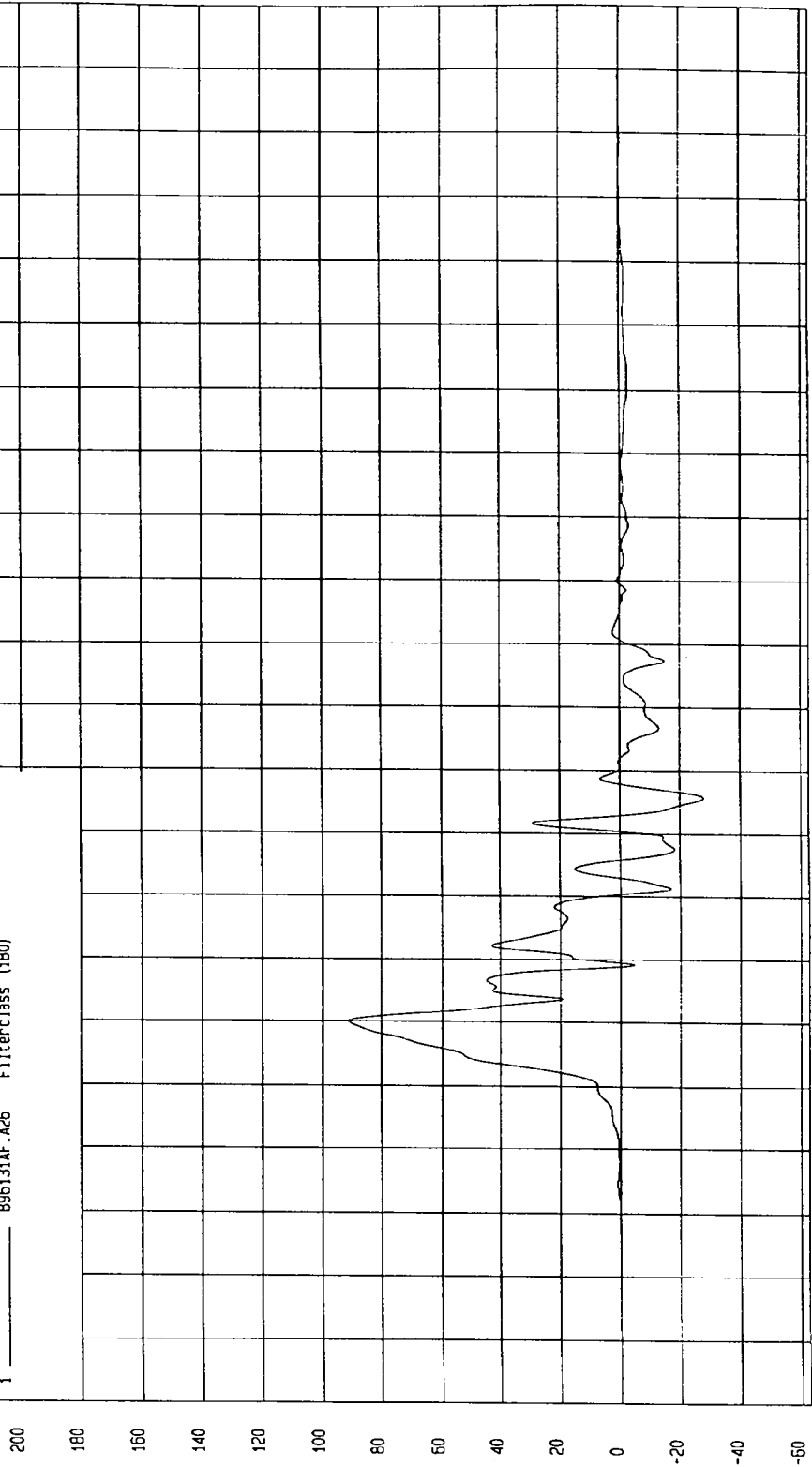
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-27.87329 G'S at 75. msec YMAX= 91.21292 G'S at 40 msec

REAR PASSENGER LOWER RIB Y ACCELERATION

1 ——— 896131AF.A26 Filterclass (180)



MCA Research
12-09-1996 14:19

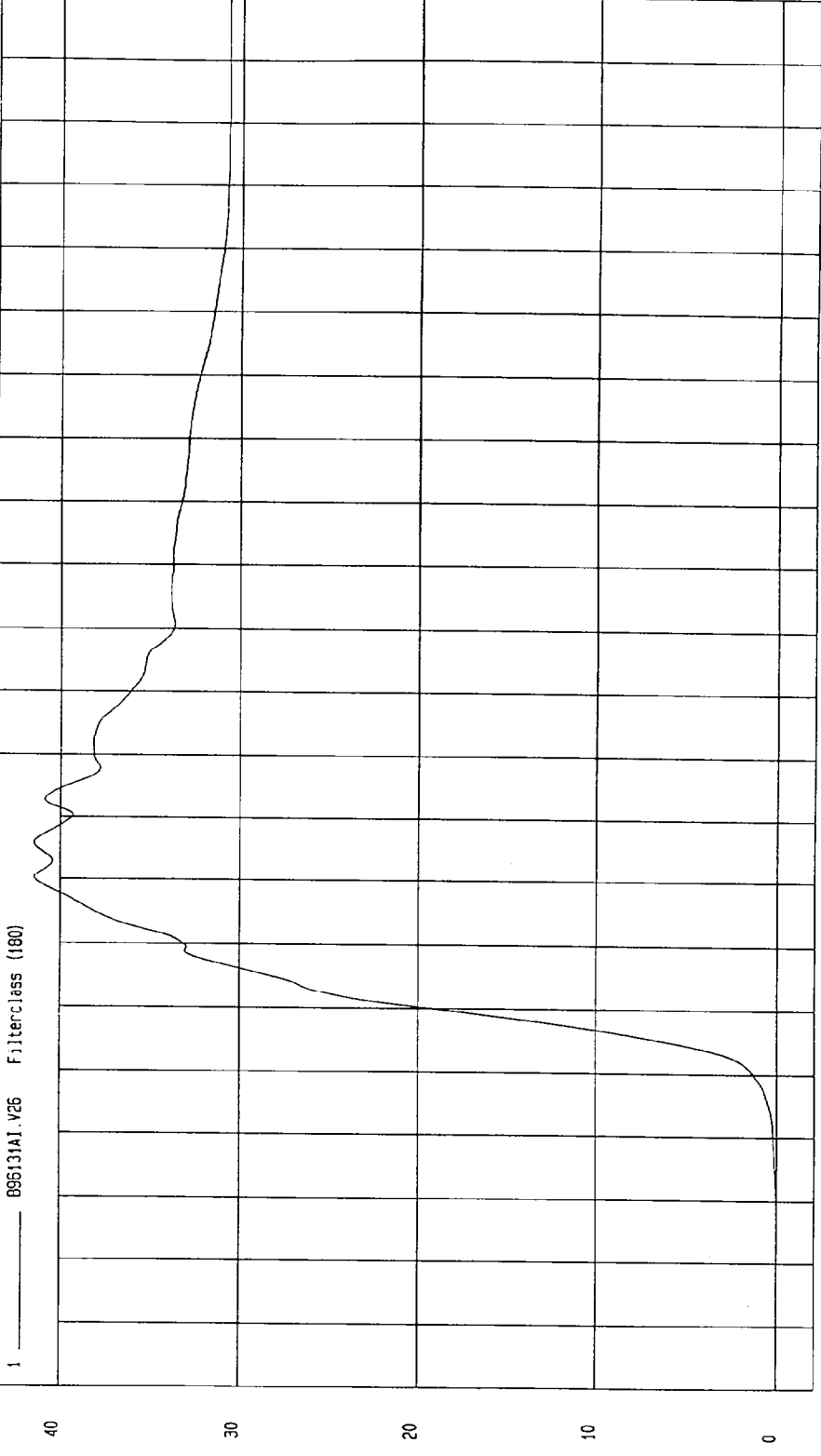
TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST
TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205)
Speed: 37.97 MPH 61.1 KPH

YMIN=-2.126015E-02 KPH at -8.7 msec
YMAX= 41.40202 KPH at 65. msec

REAR PASSENGER LOWER RIB Y VELOCITY



TIME Seconds

MECA Research
12-03-1996 13:58

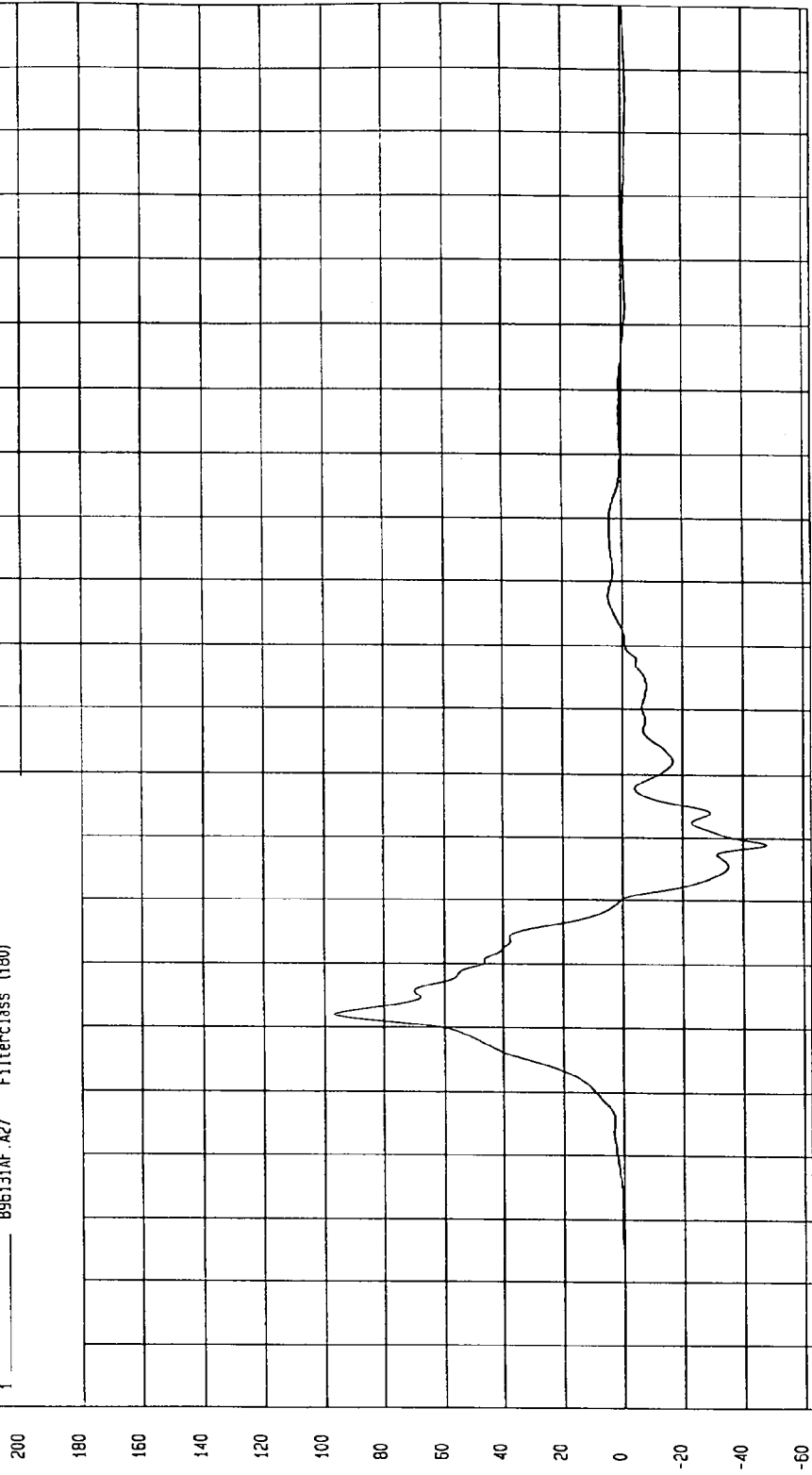
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-47.64243 G'S at 69 msec YMAX= 96.81477 G'S at 42 msec

REAR PASSENGER LOWER SPINE Y ACCELERATION

1 896131AF.A27 Filterclass (180)



NCA Research
12-09-1996 14:19

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205)

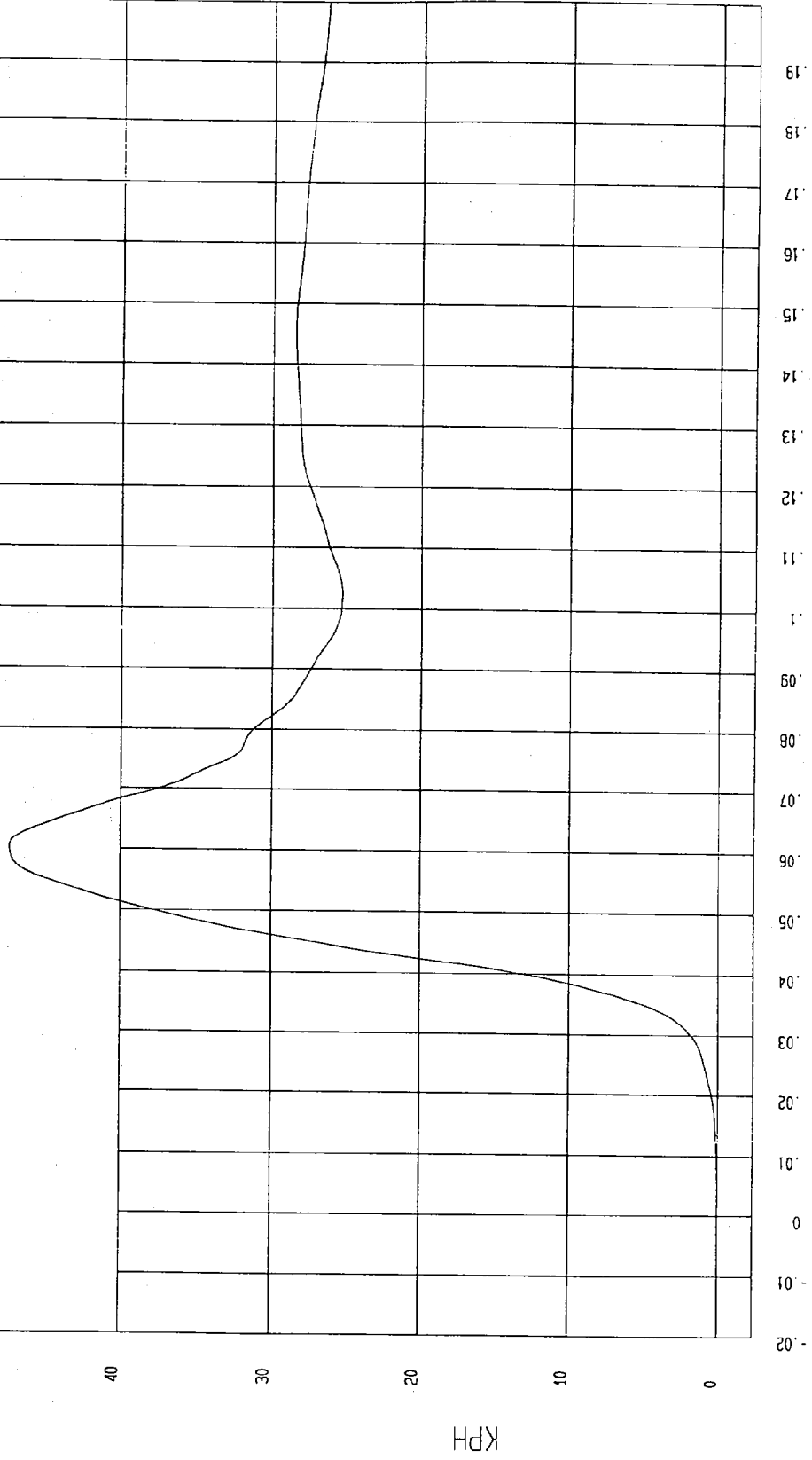
Speed: 37.97 MPH 61.1 KPH

YMIN= 0 KPH at -20 msec

YMAX= 47.43238 KPH at 50. msec

REAR PASSENGER LOWER SPINE Y VELOCITY

1 ——— B96131A1.V27 Filterclass (180)



MCA Research
12-09-1996 13:58

TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

SPEED: 37.97 MPH 61.1 KPH

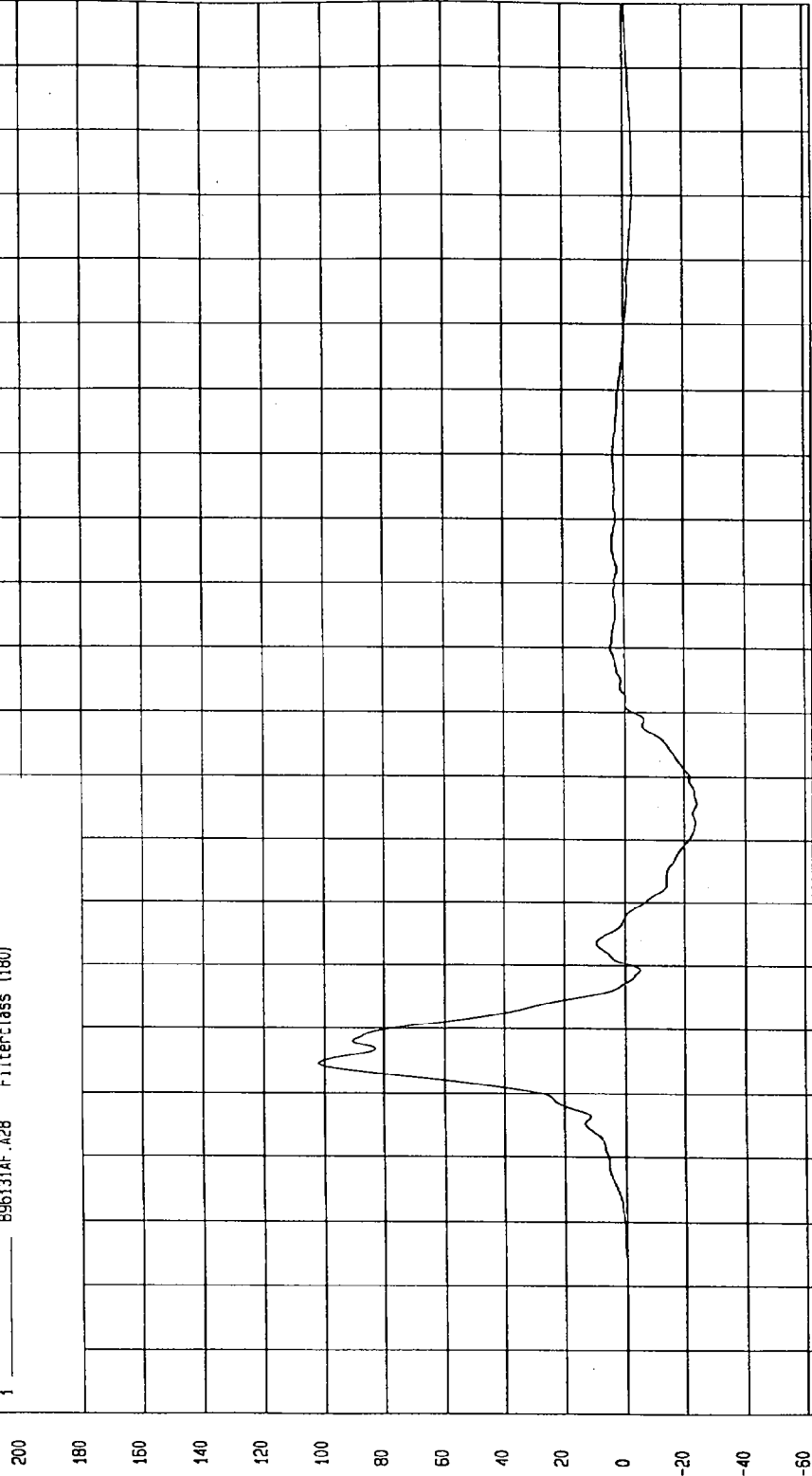
COMPONENT: 1997 FORD TAURUS (MV0205)

YMAX= 102.0401 G'S at 34. msec

YMIN= -24.10769 G'S at 75. msec

REAR PASSENGER PELVIS Y ACCELERATION

1 ——— B96131AF.A28 Filterclass (180)



MGA Research
12-09-1996 14:19

TIME (SECONDS)

G.S

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

Speed: 37.97 MPH 61.1 KPH

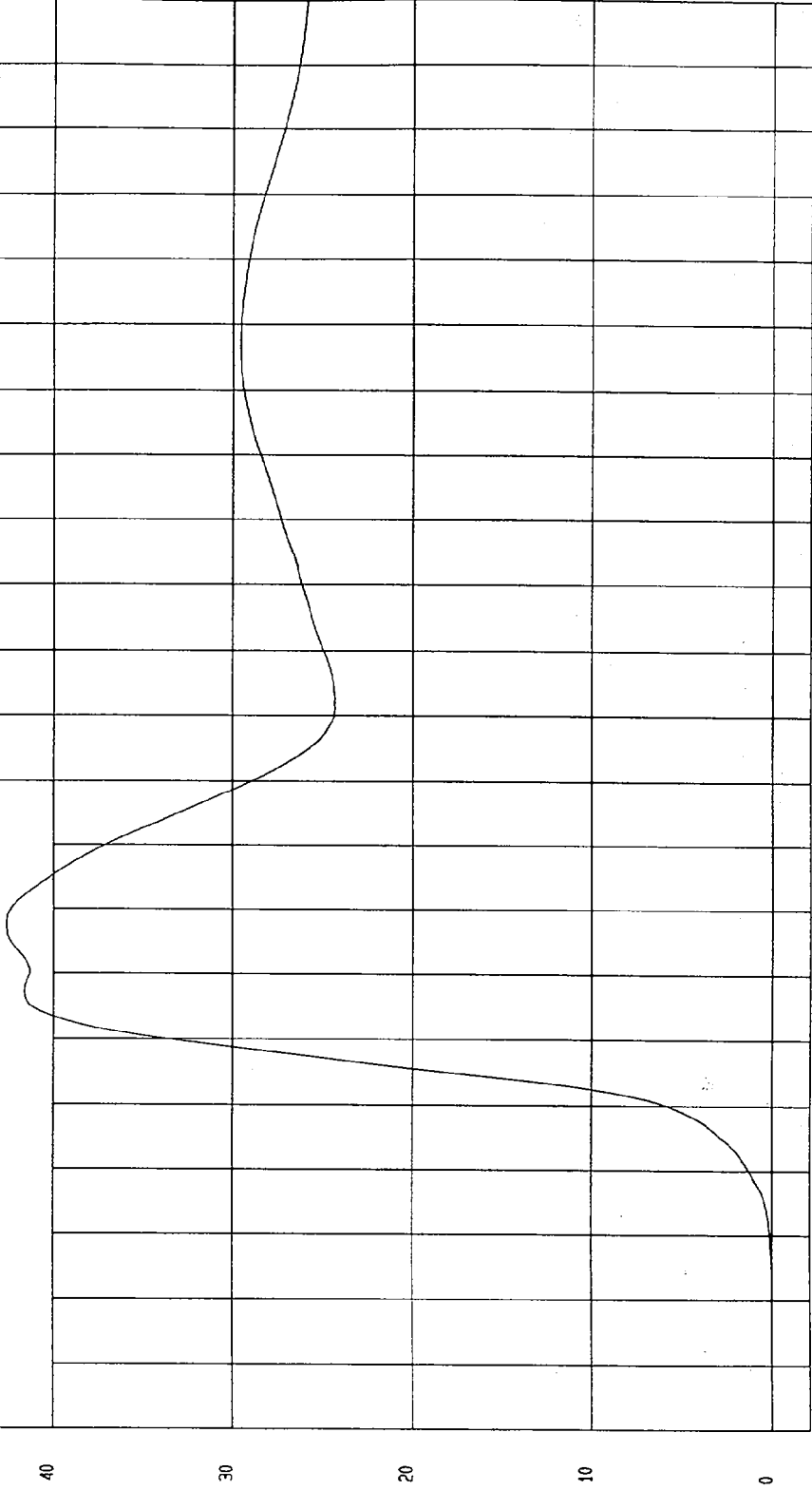
COMPONENT: 1997 FORD TAURUS (MVC205)

YMAX= 42.57573 KPH at 57. msec

YMIN= -5.953405E-03 KPH at -16. msec

REAR PASSENGER PELVIS Y VELOCITY

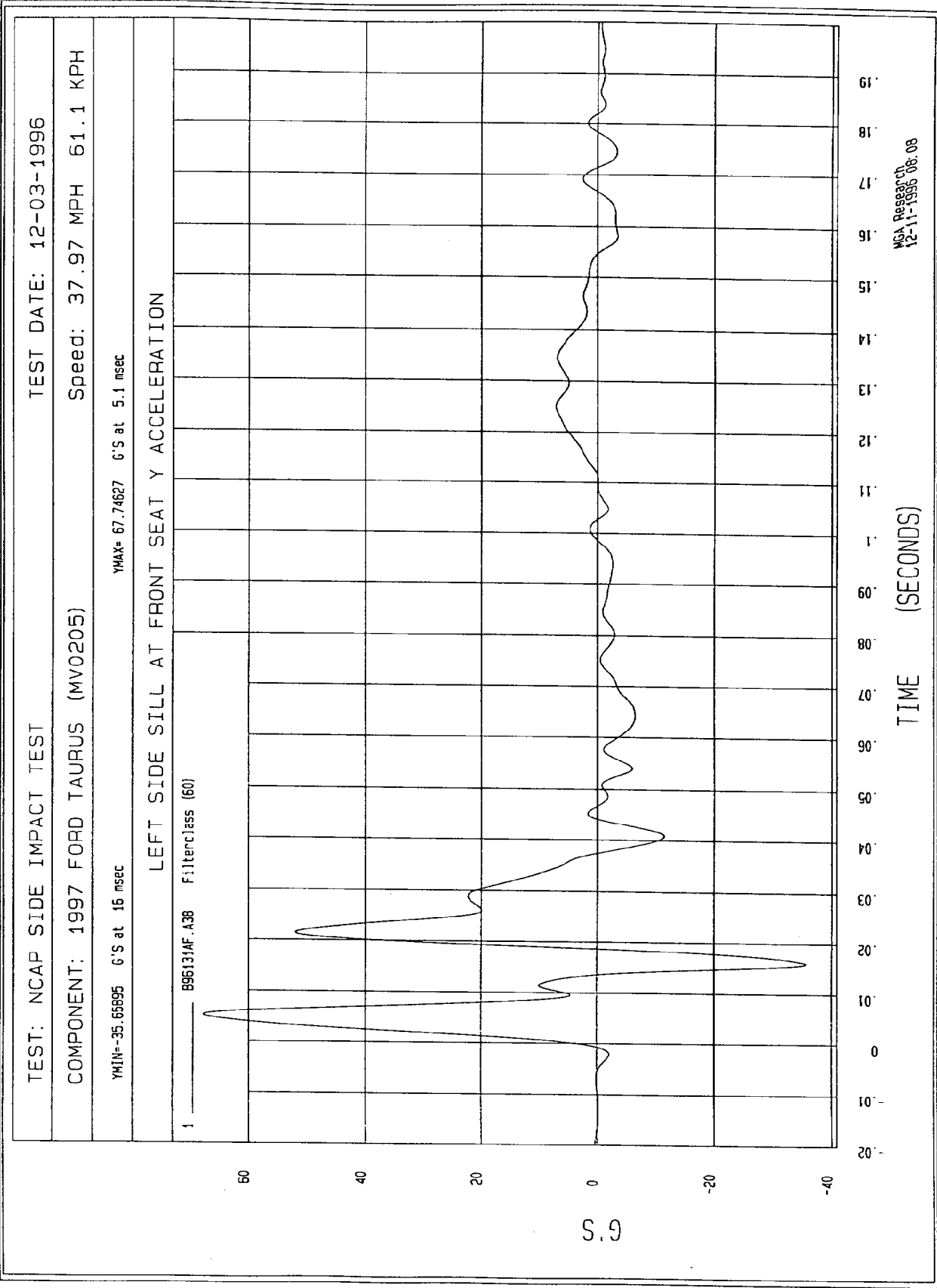
1 896131A1.V2B Filterclass (180)



MOA Research
12-09-1996 13:59

TIME Seconds

KPH



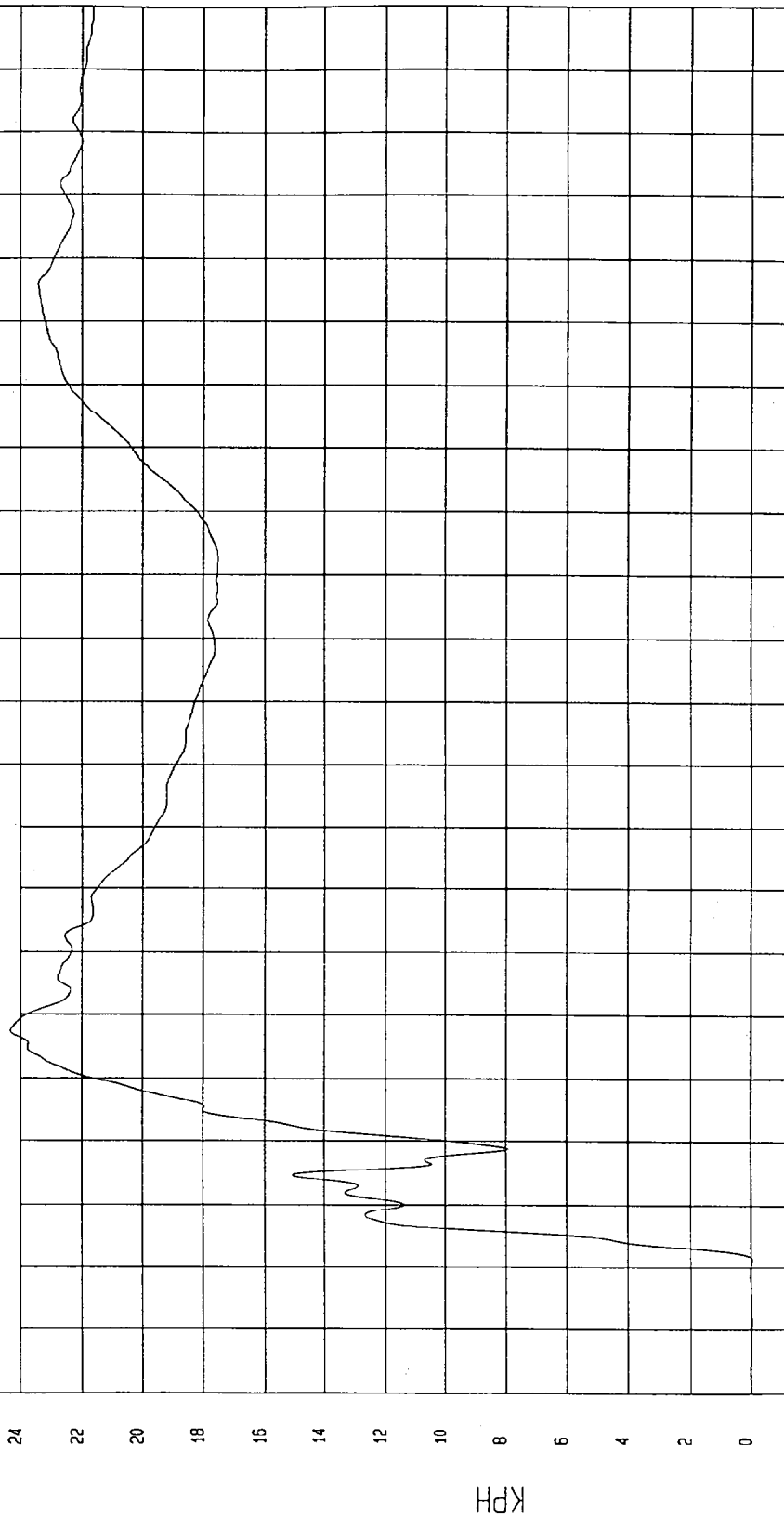
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-5.422216E-02 KPH at 1.1 msec YMAX= 24.36376 KPH at 37. msec

LEFT SIDE SILL AT FRONT SEAT Y VELOCITY

1 896131A1.V38 Filterclass (180)



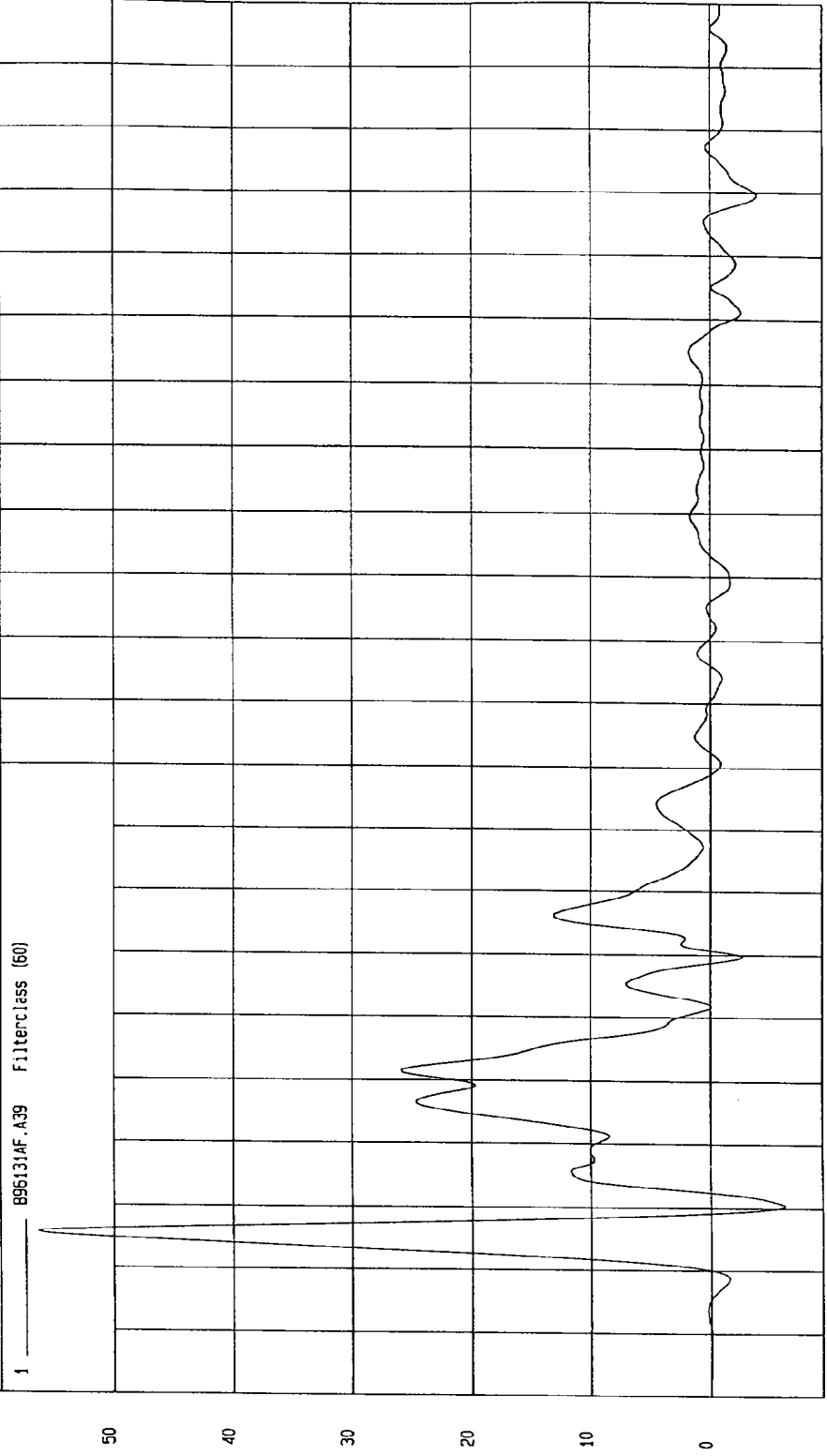
MSA Research
12-03-1996 13:48

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-6.136074 G'S at 10. msec YMAX= 55.29165 G'S at 5.5 msec

LEFT SIDE SILL AT REAR SEAT Y ACCELERATION



MGA Research
12-11-1996 08:04

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

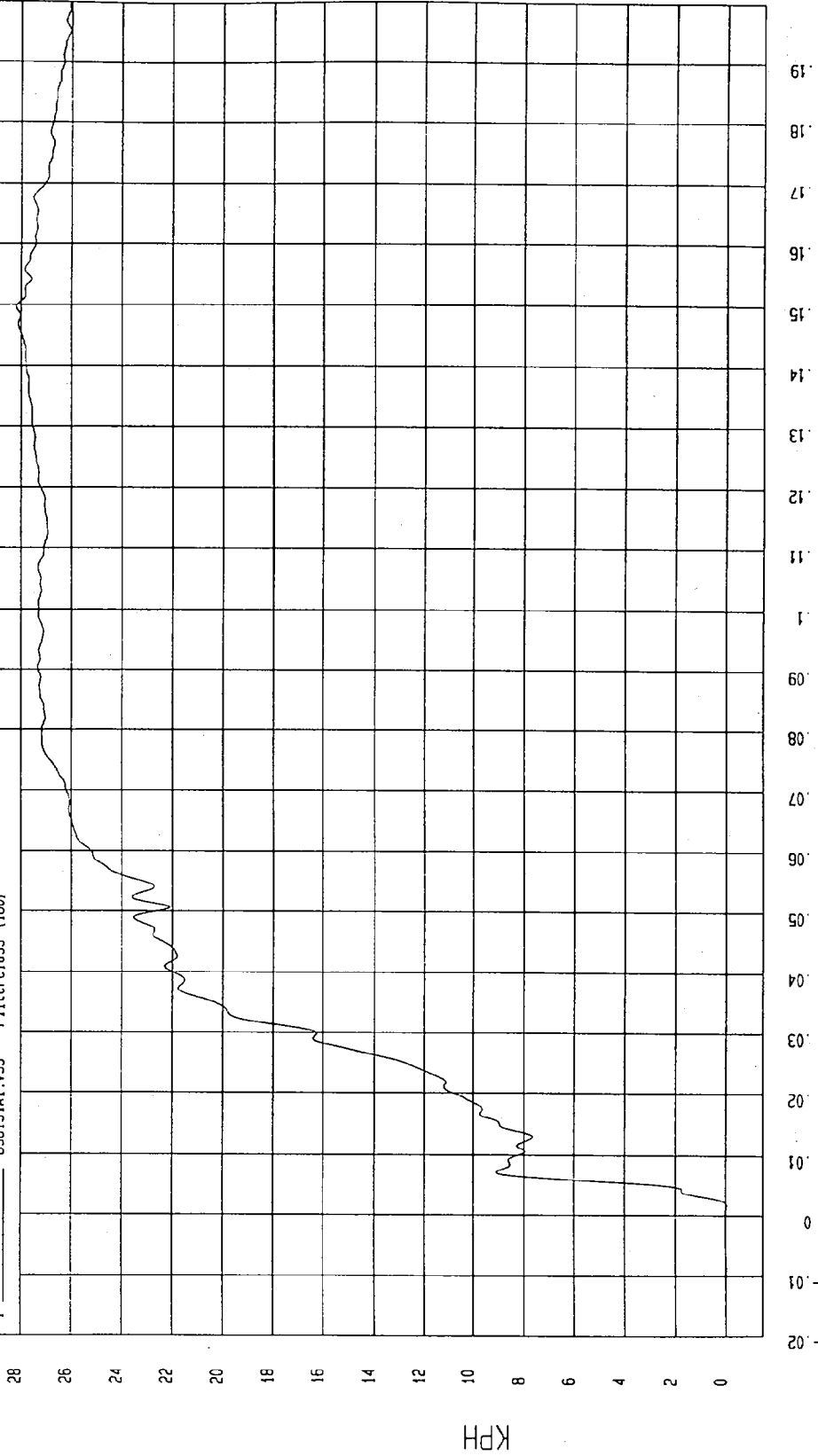
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-3.913652E-02 KPH at 1.6 msec

YMAX= 28.1942 KPH at 149 msec

LEFT SIDE SILL AT REAR SEAT Y VELOCITY

1 896131A1.V39 FilterClass (180)

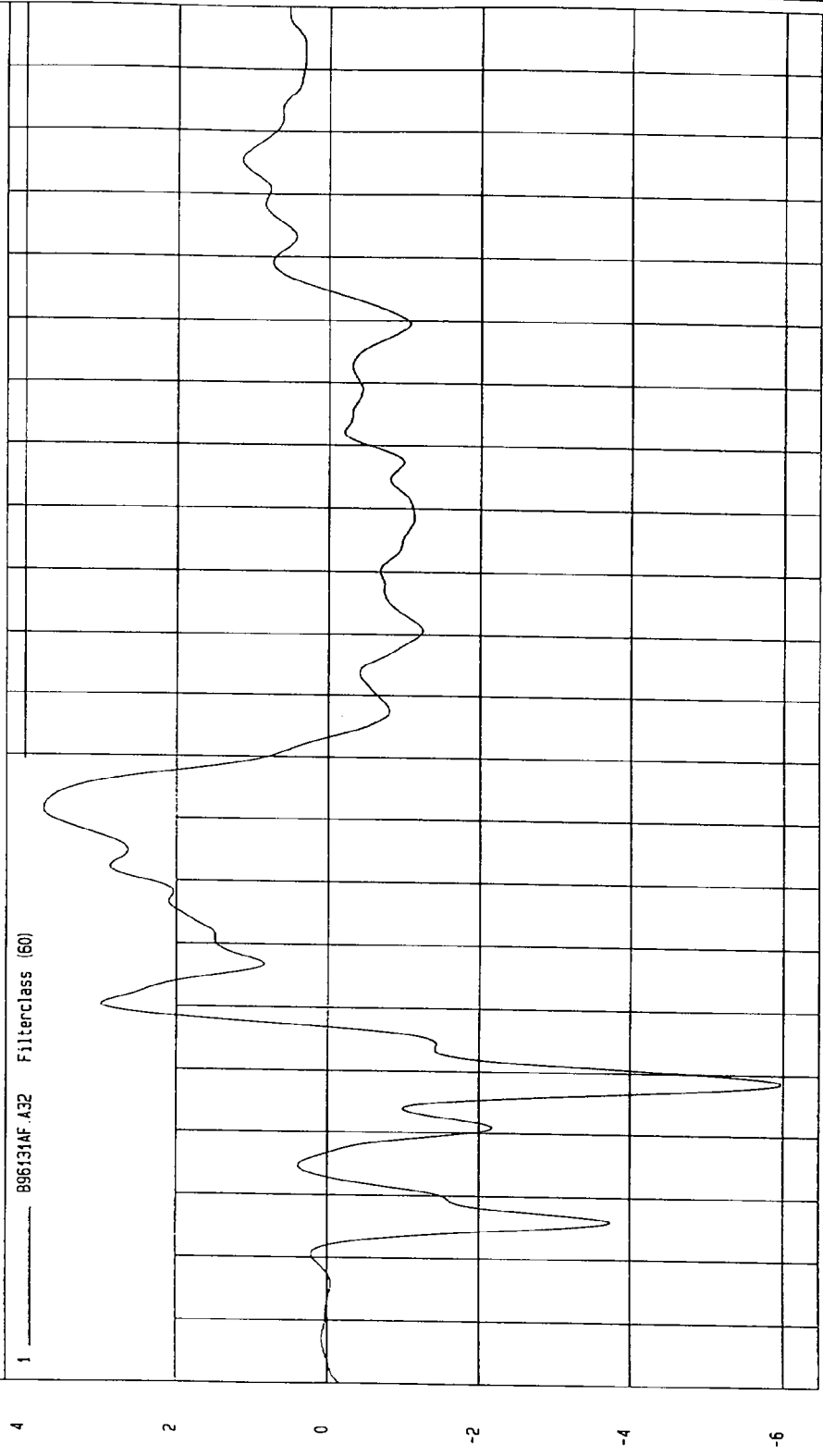


MCA Research
12-09-1996 13:48

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-5.972401 G'S at 28. msec YMAX= 3.754282 G'S at 71. msec

RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION
1 896131AF.A32 FilterClass (60)



TIME (SECONDS)
MCA Research
12-09-1996 14.06

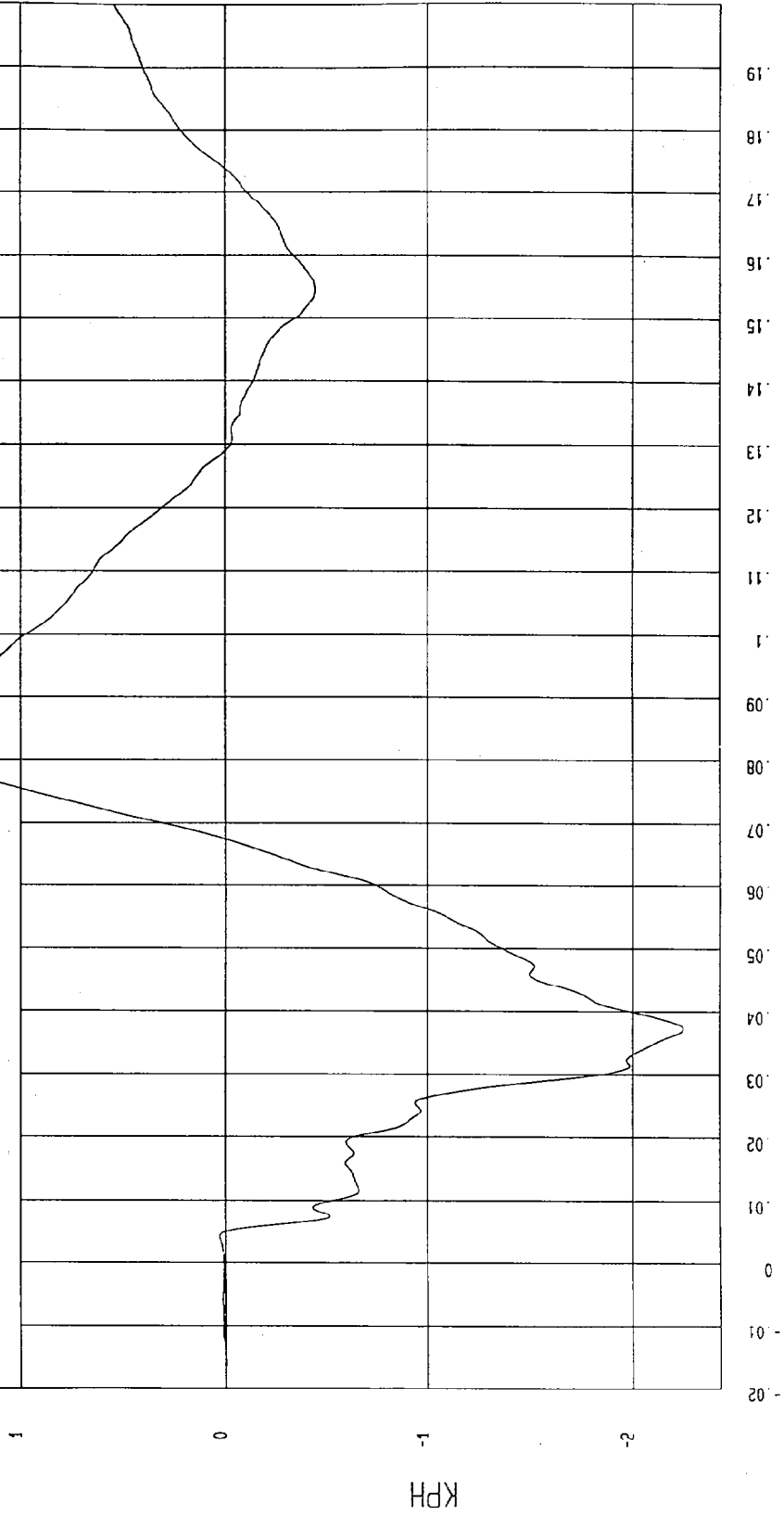
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.250284 KPH at 37. msec YMAX= 1.375417 KPH at 83. msec

RIGHT SIDE SILL AT FRONT SEAT X VELOCITY

1 ——— 896131A1.V32 Filterclass (180)



MCA Research
12-09-1996 13: 45

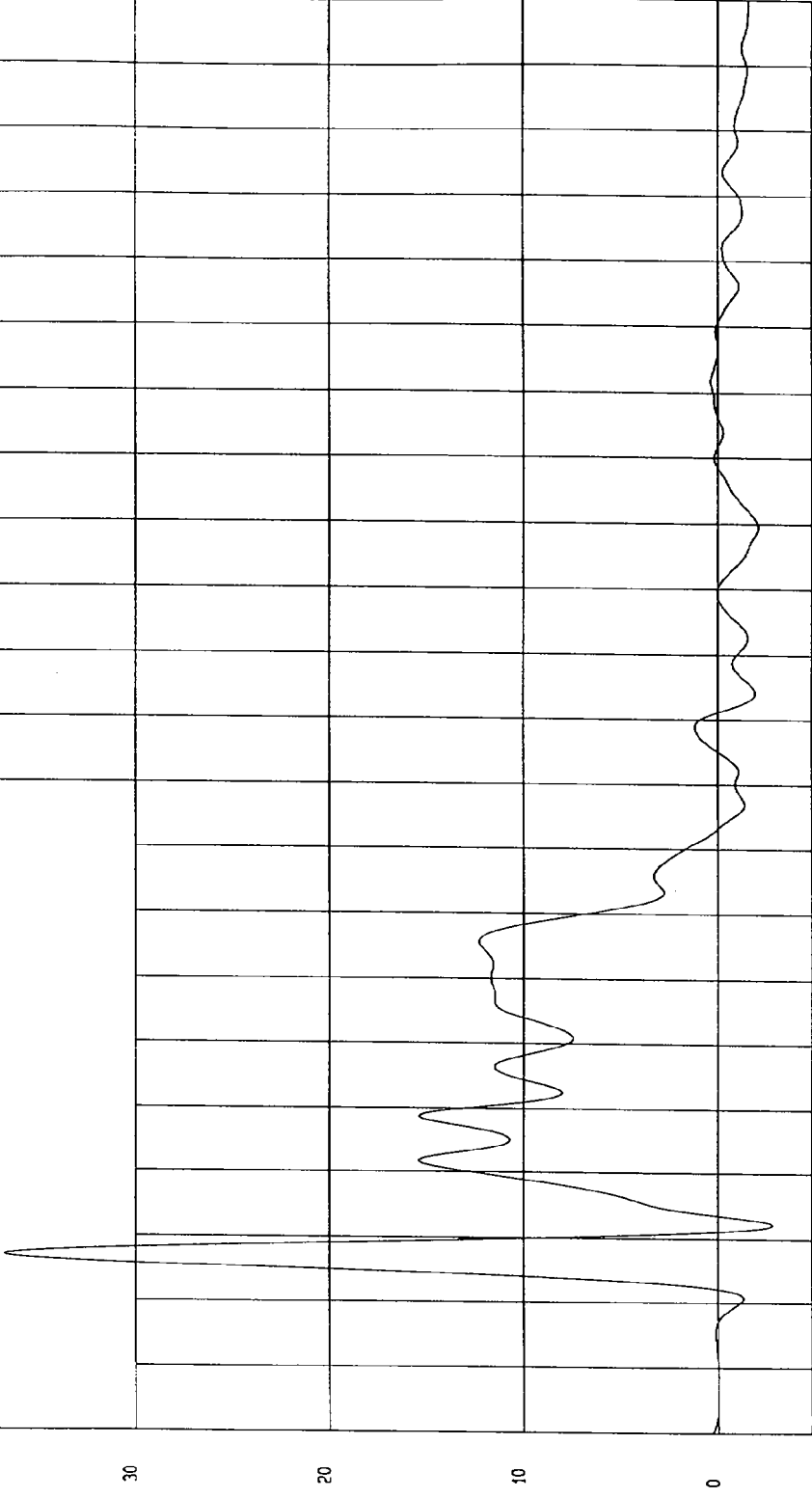
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MY0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.782656 G'S at 12. msec YMAX= 36.72616 G'S at 7.0 msec

RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION

1 896131AF.A33 Filterclass (60)



TIME (SECONDS)

W&A Research
12-03-1996 14.06

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

Speed: 37.97 MPH 61.1 KPH

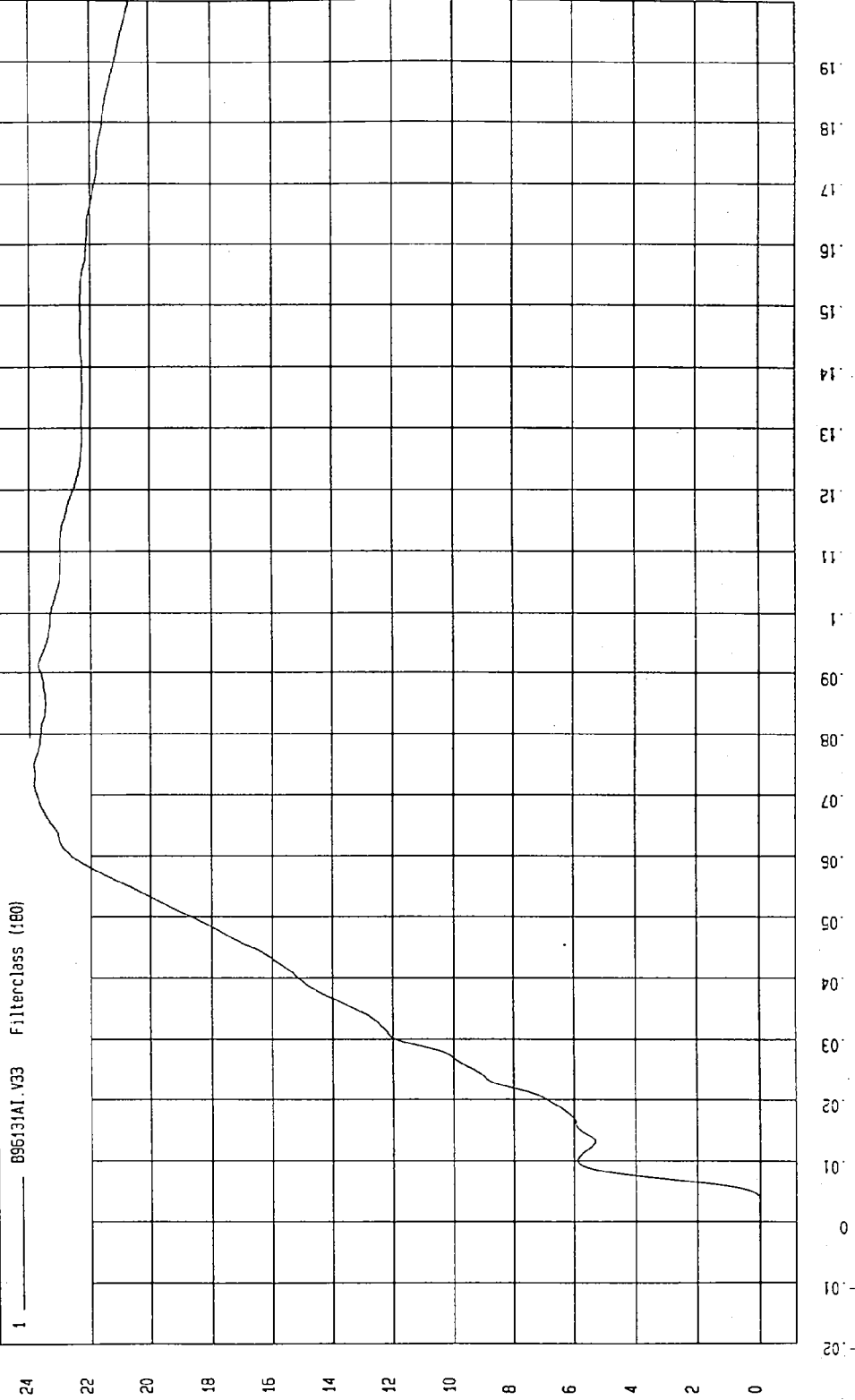
COMPONENT: 1997 FORD TAURUS (MV0205)

YMAX= 23.86789 KPH at 74. msec

YMIN= 0 KPH at -20 msec

RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY

1 ——— B96131A1.V33 Filterclass (180)



MCA Research
12-09-1996 13:45

TIME Seconds

KPH

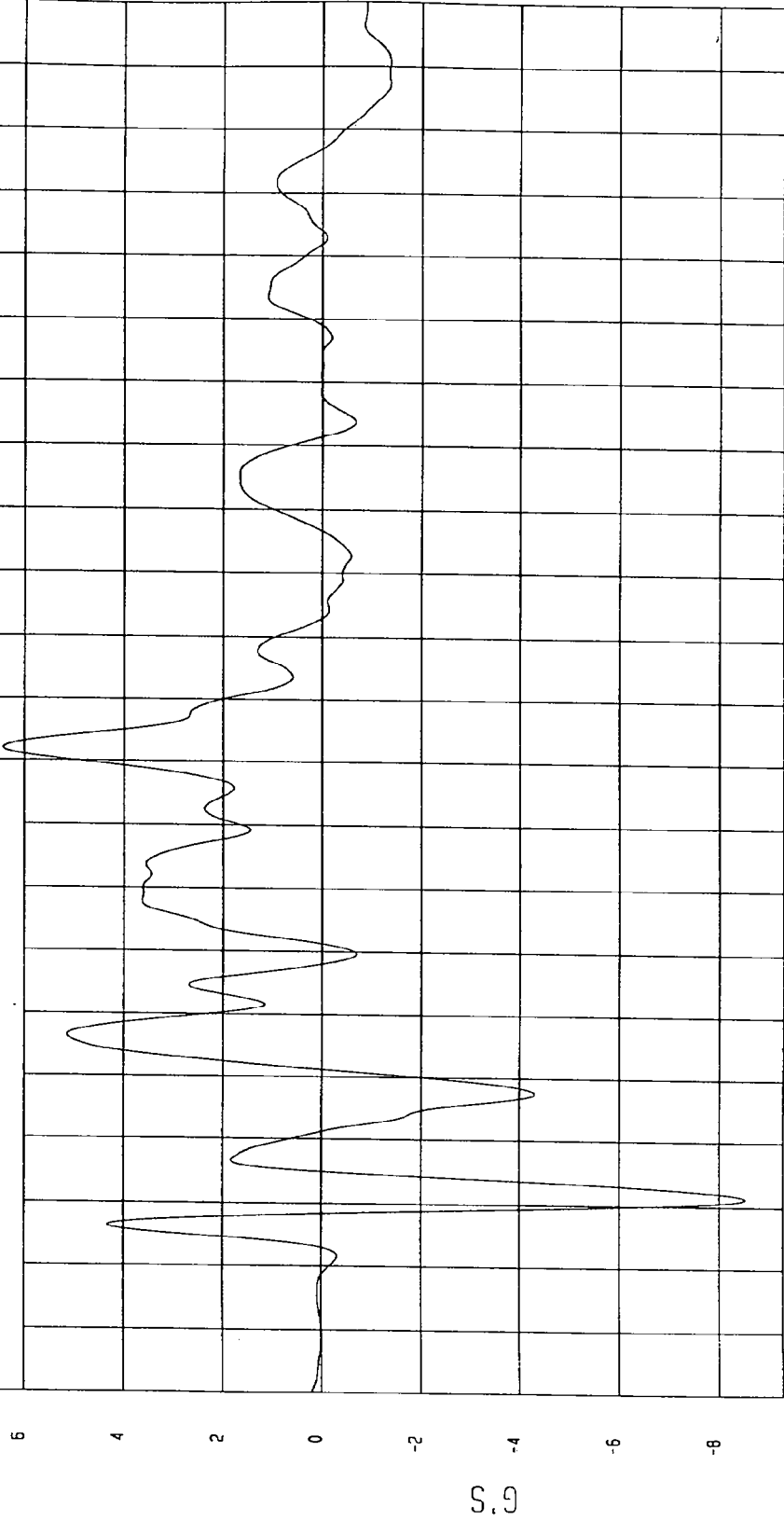
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-8.528646 G'S at 11. msec YMAX= 6.425427 G'S at 81. msec

RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION

1 ——— B96131AF.A34 Filterclass (60)



MCA Research
12-09-1996 14:07

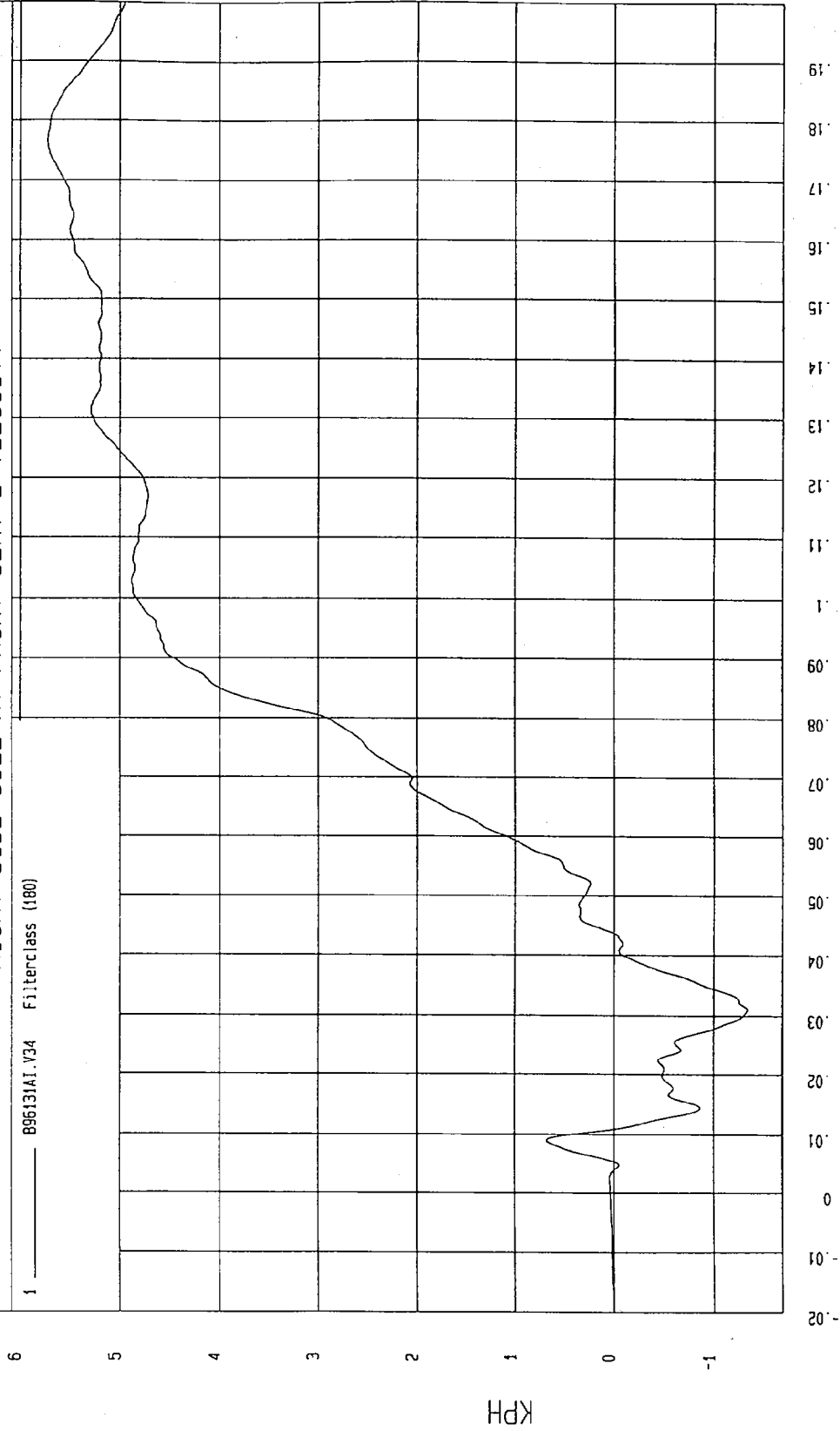
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-1.3331 KPH at 31 msec YMAX= 5.730003 KPH at 176 msec

RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY

1 ——— 896131A1.V34 Filterclass (180)



MGA Research
12-09-1996 13:46

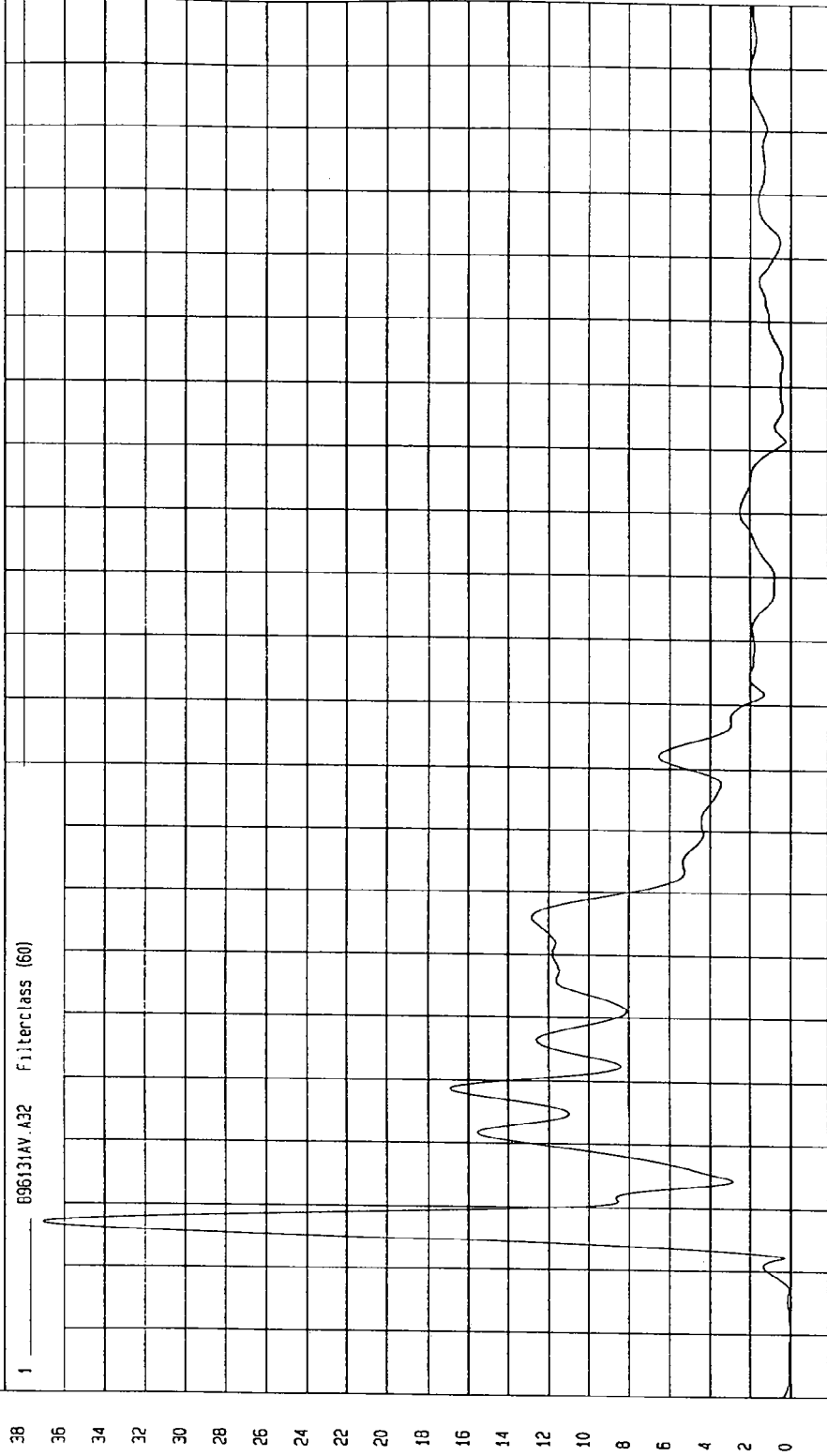
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 2.592769E-02 G'S at -9.4 msec YMAX= 37.06579 G'S at 7 msec

RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

1 896131AV.A32 Filterclass (60)



TIME (SECONDS)

MCA Research
12-11-1996 08.04

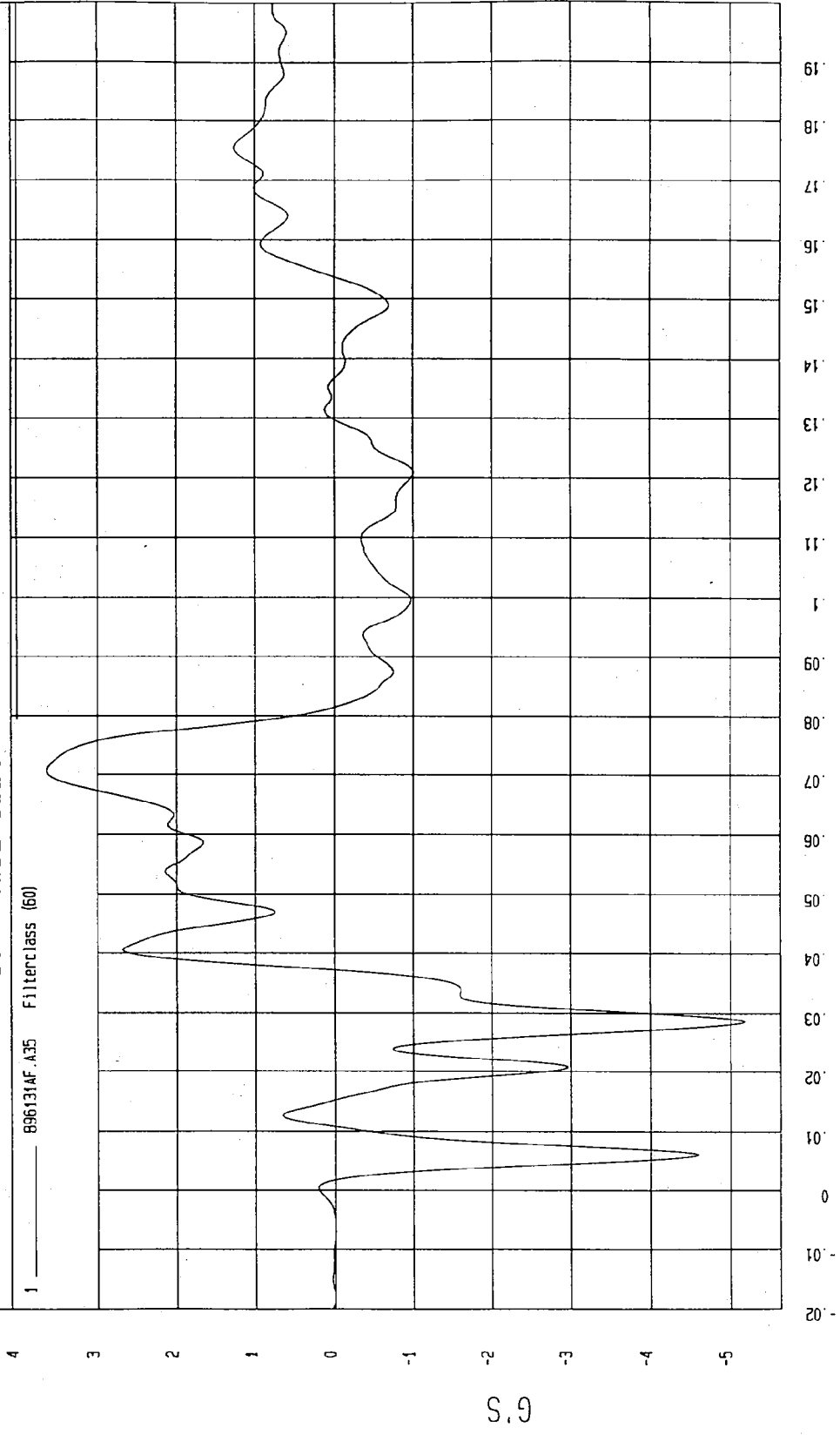
G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-5.176551 G'S at 28. msec YMAX= 3.632947 G'S at 70. msec

RIGHT SIDE SILL AT REAR SEAT X ACCELERATION



MGA Research
12-03-1996 14:08

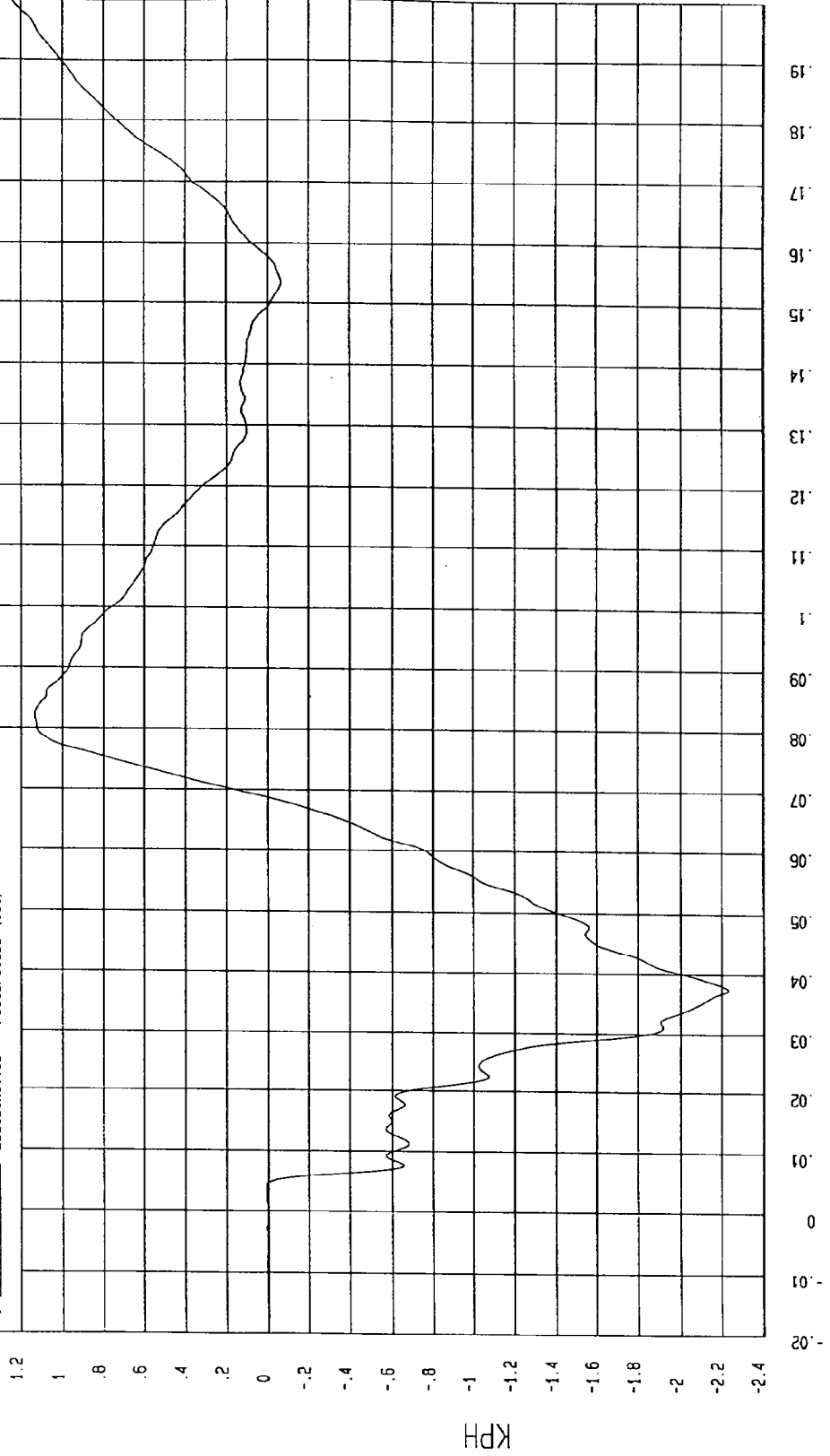
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.231824 KPH at 37. msec YMAX= 1.24611 KPH at 199 msec

RIGHT SIDE SILL AT REAR SEAT X VELOCITY

1 896131A1.V35 Filterclass (180)

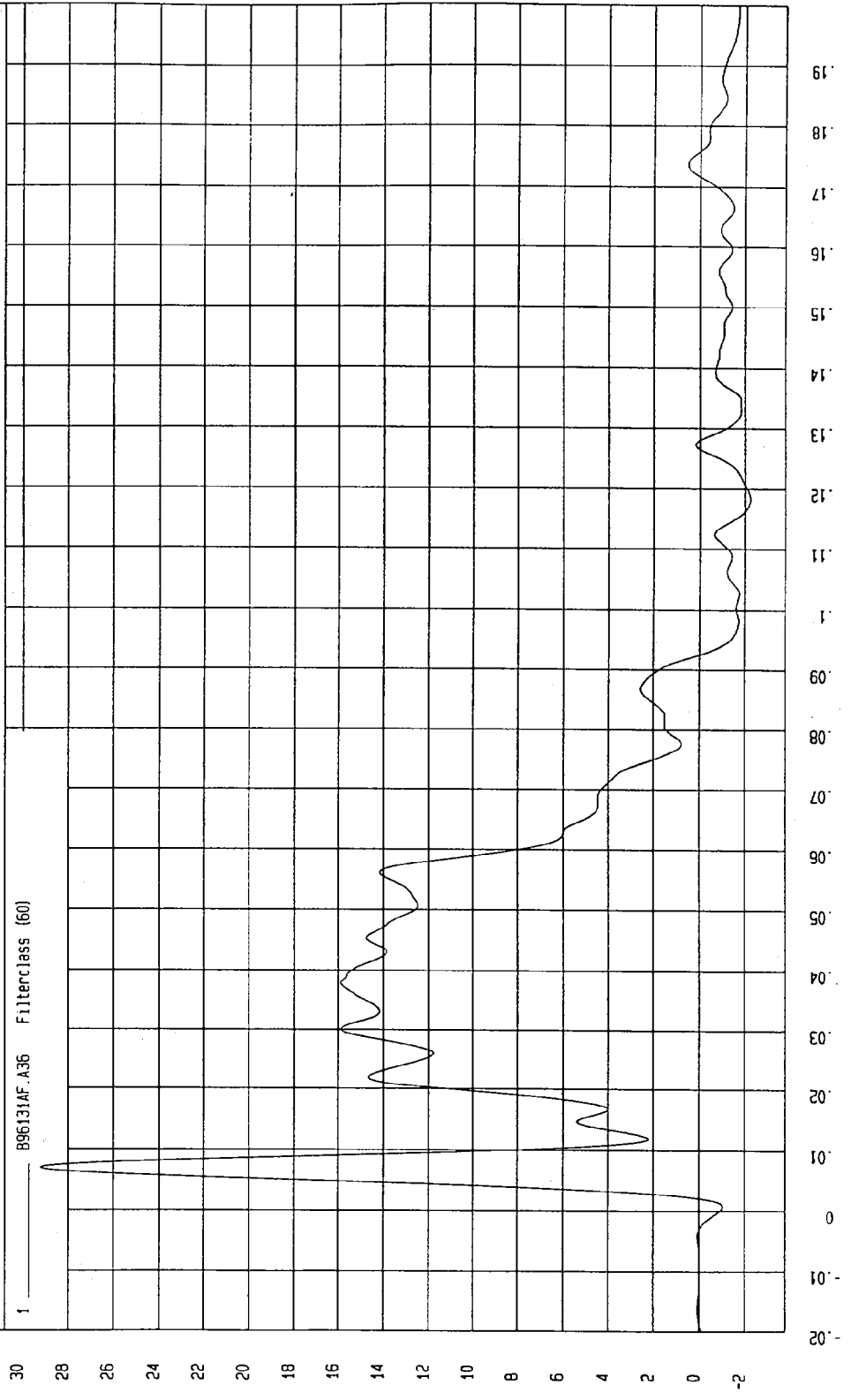


MCA Research
12-09-1996 13:45

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.226746 G'S at 118 msec YMAX= 29.22606 G'S at 7 msec

RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION

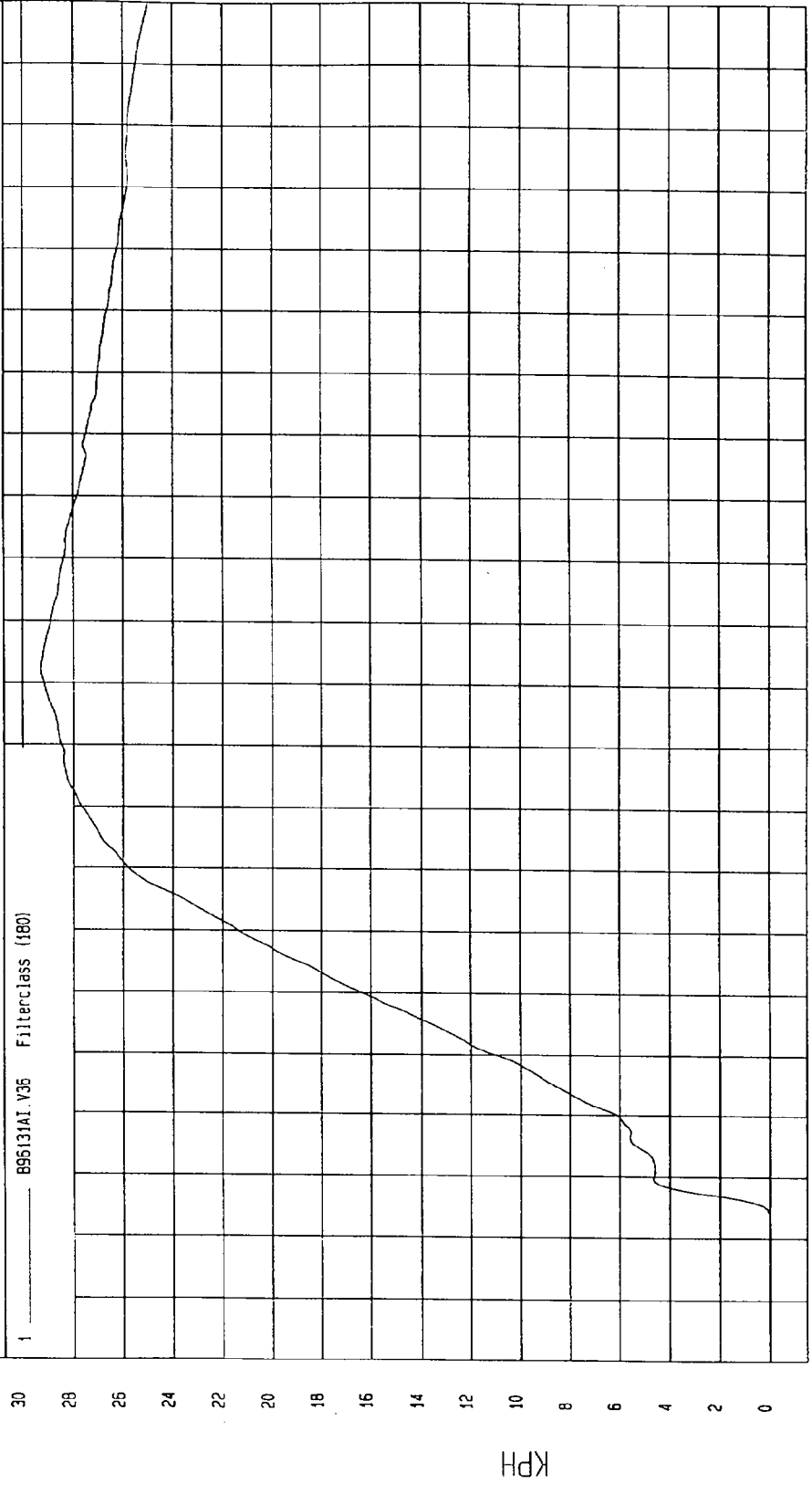


MCA Research
12-03-1996 14:08

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
 COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-6.36937E-04 KPH at +19. msec YMAX= 29.29147 KPH at 92. msec

RIGHT SIDE SILL AT REAR SEAT Y VELOCITY



MGA Research
 12-09-1996 13: 46

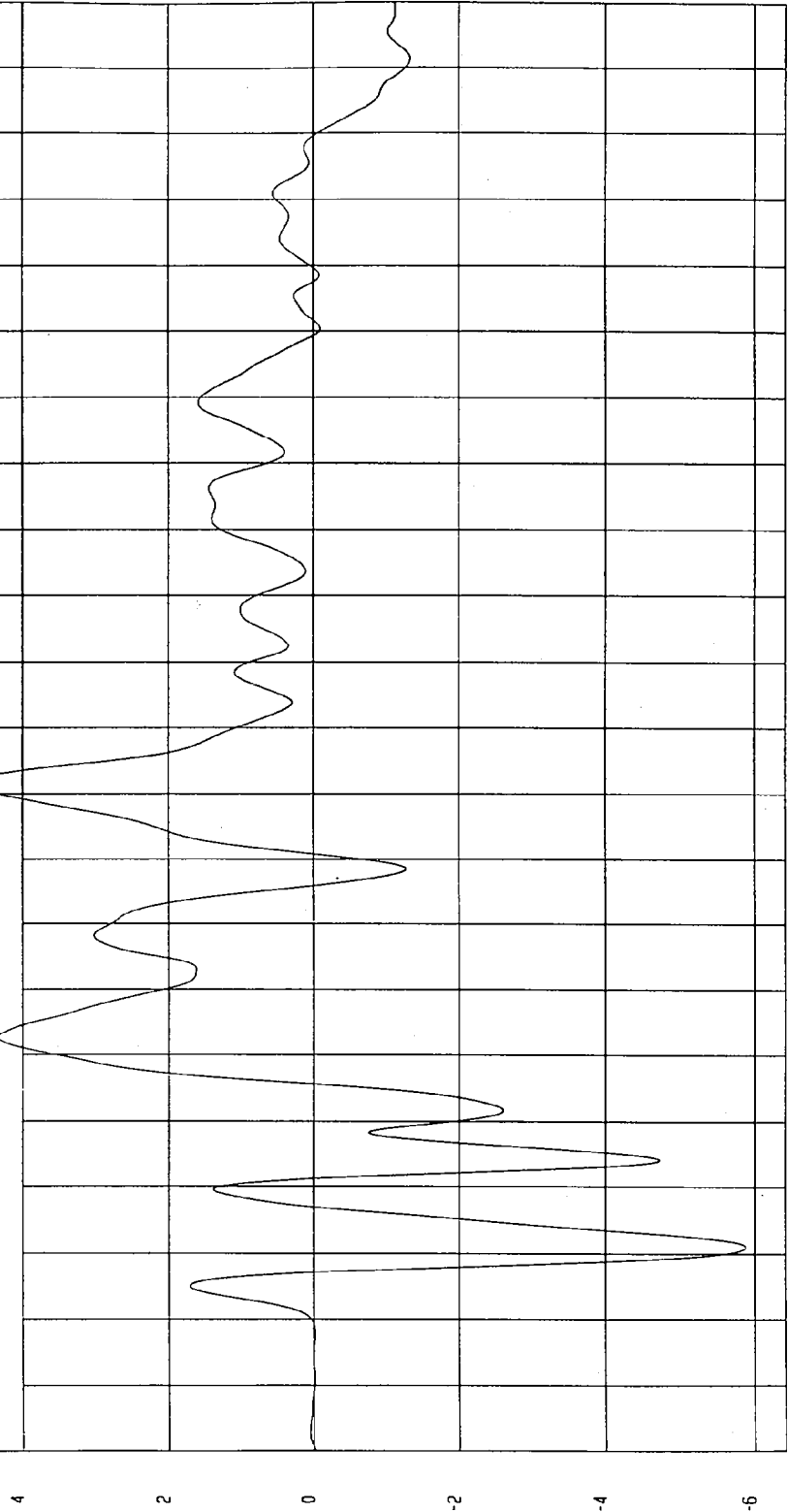
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-5.860835 G'S at 11 msec YMAX= 4.725563 G'S at 81. msec

RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION

1 ——— 8961314F.A37 Filterclass (60)



MCA Research
12-03-1996 14:08

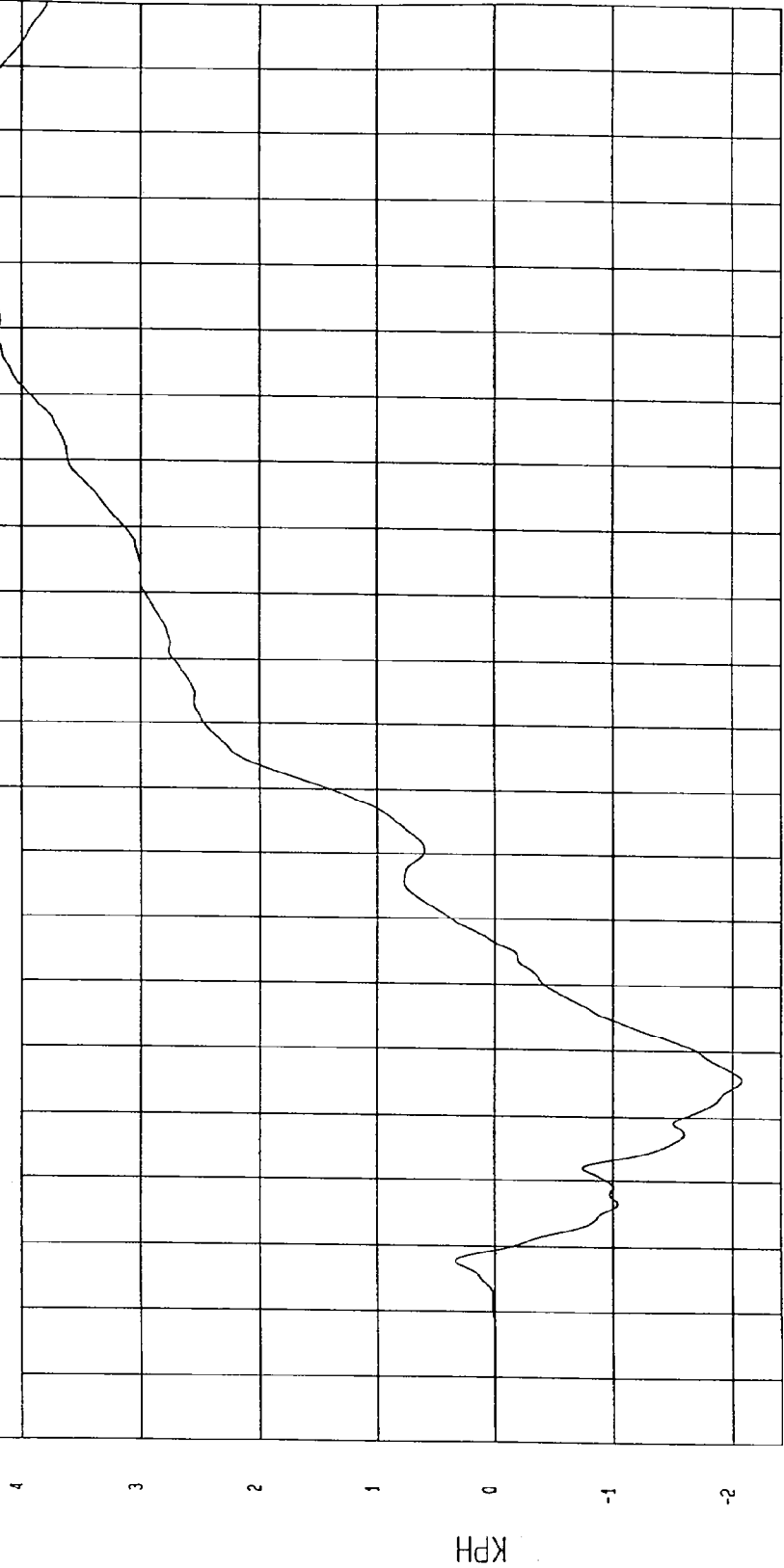
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.07194 KPH at 35. msec YMAX= 4.432196 KPH at 179 msec

RIGHT SIDE SILL AT REAR SEAT Z VELOCITY

1 ——— 896131A1.V37 Filterclass (180)



TIME Seconds
MSA Research
12-03-1996 13.47

TEST DATE: 12-03-1996

Speed: 37.97 MPH 61.1 KPH

TEST: NCAP SIDE IMPACT TEST

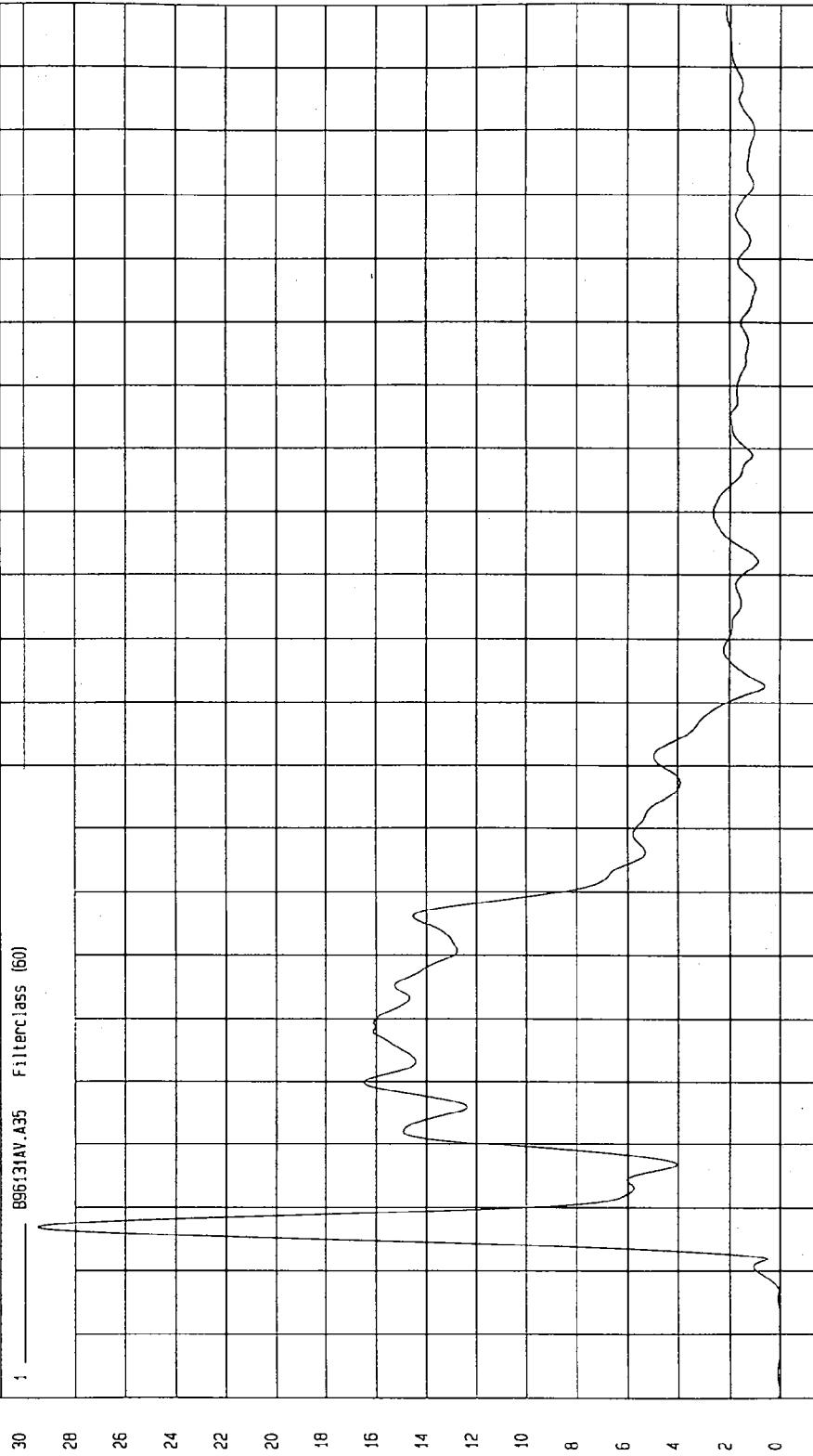
COMPONENT: 1997 FORD TAURUS (MV0205)

YMIN= 1.487314E-02 G'S at -19 msec

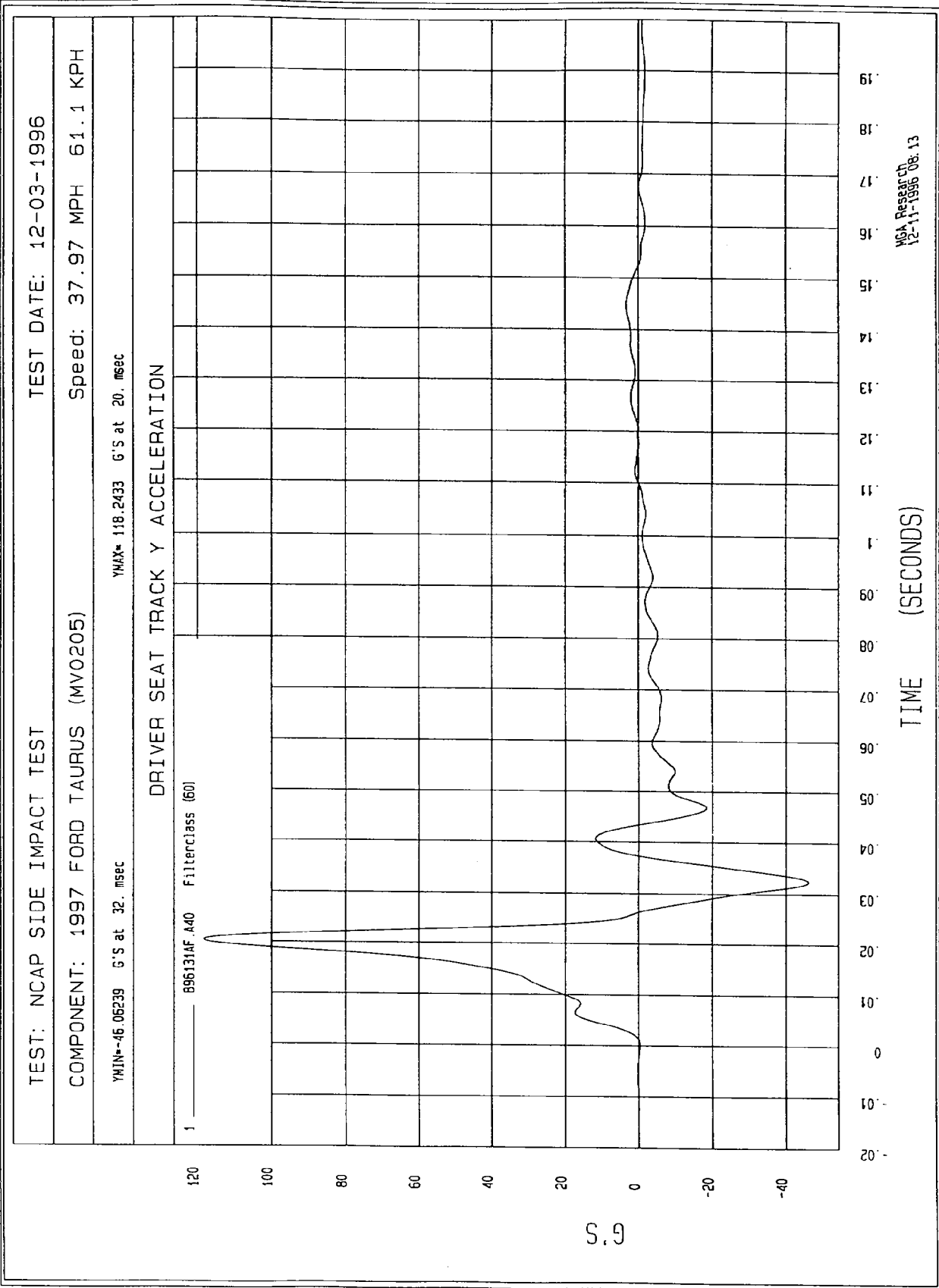
YMAX= 29.48306 G'S at 7 msec

RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

896131AV.A35 Filterclass (60)



MCA Research
12-11-1996 08:05



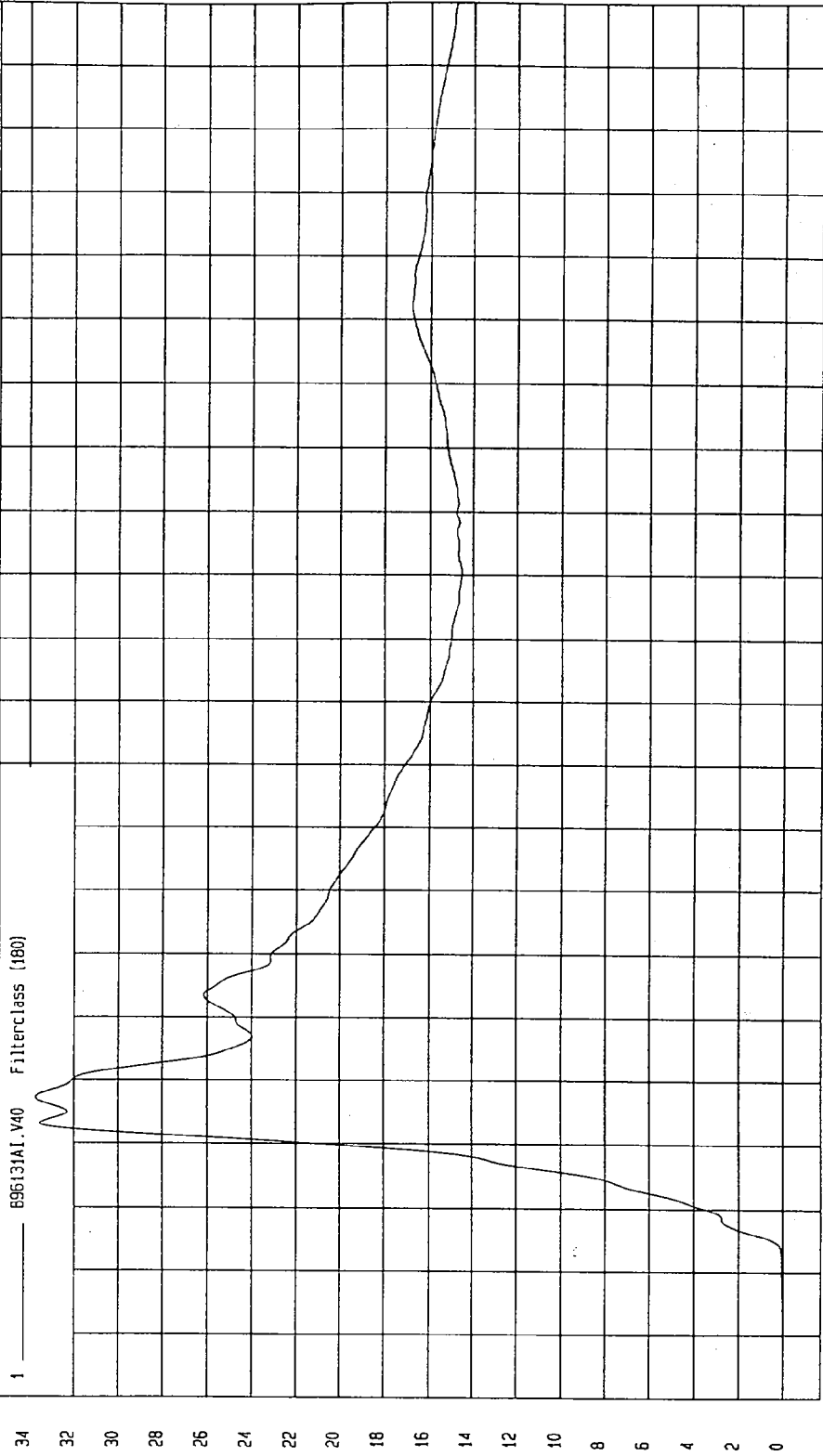
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.787914E-04 KPH at -19. msec

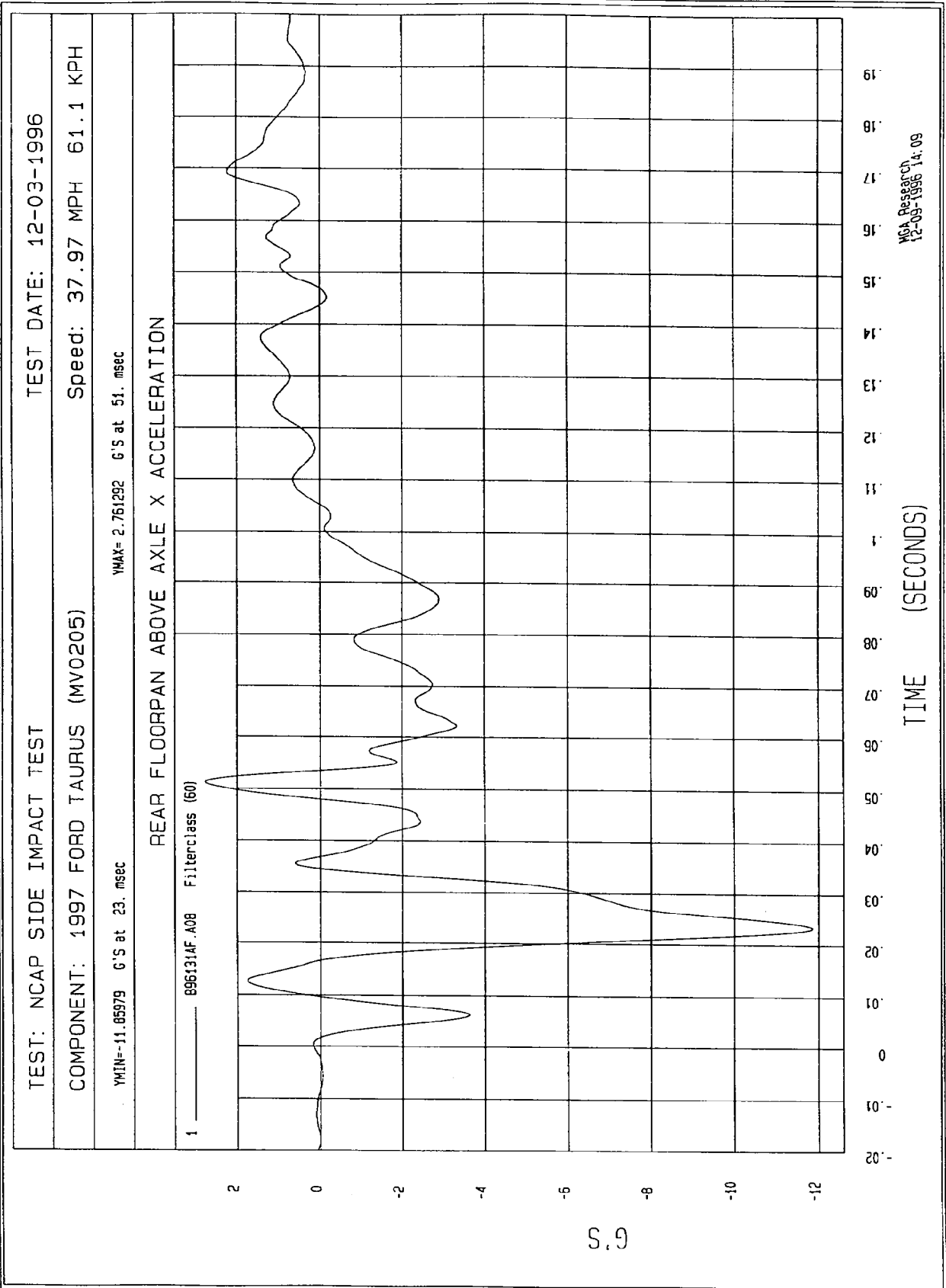
YMAX= 33.7149 KPH at 27. msec

DRIVER SEAT TRACK Y VELOCITY



TIME Seconds

NSA Research
12-11-1996 08: 12



TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-7.706326 KPH at 105 msec YMAX= 2.316652E-02 KPH at -8.6 msec

REAR FLOORPAN ABOVE AXLE X VELOCITY

1 896131A1.V06 Filterclass (180)



MOA Research
12-09-1996 13: 47

TIME Seconds

KPH

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

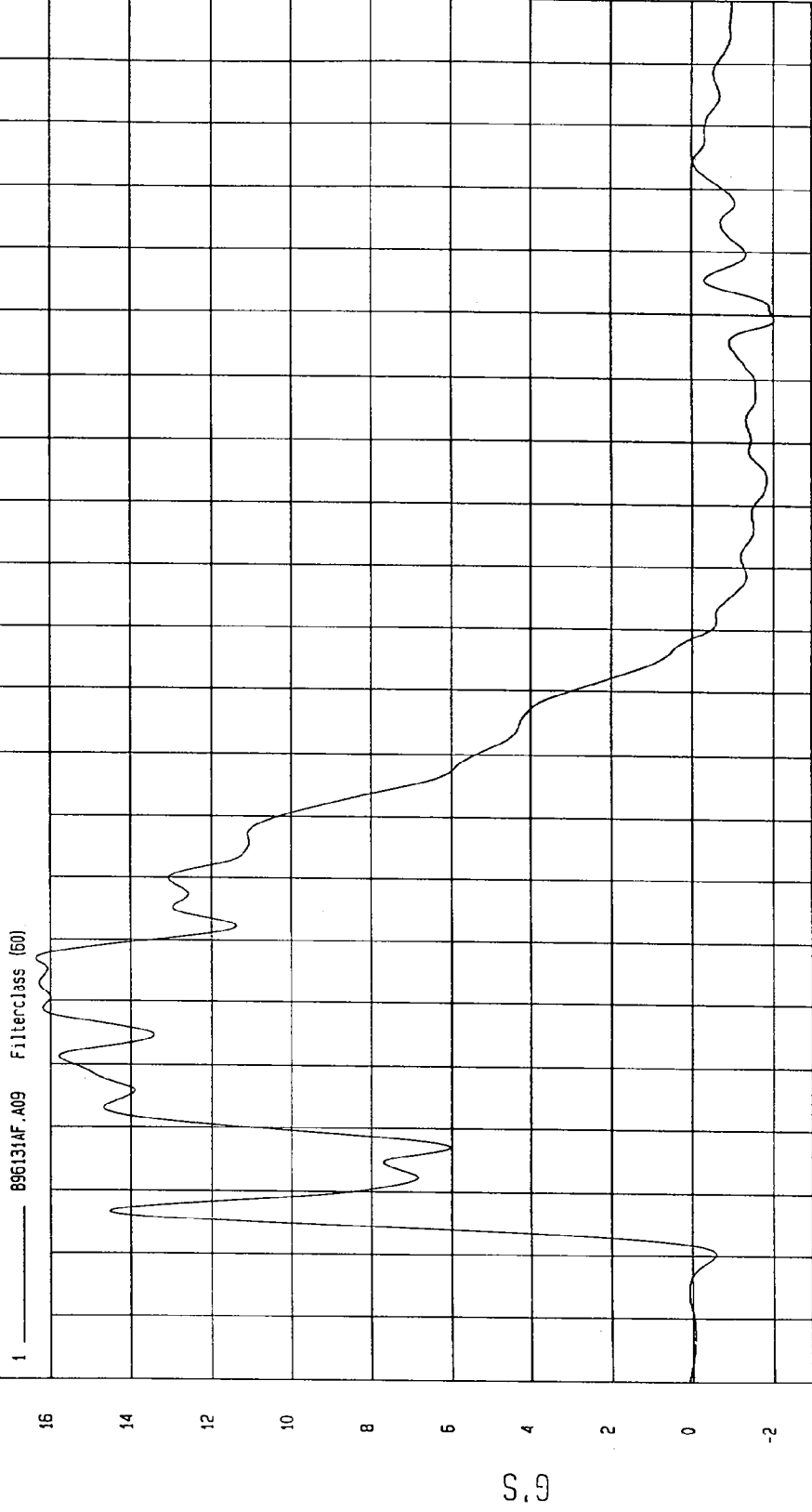
COMPONENT: 1997 FORD TAURUS (MV0205)

Speed: 37.97 MPH 61.1 KPH

YMIN=-2.020954 G'S at 149 msec

YMAX= 16.35498 G'S at 46. msec

REAR FLOORPAN ABOVE AXLE Y ACCELERATION



MCA Research
12-03-1996 14:09

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205)

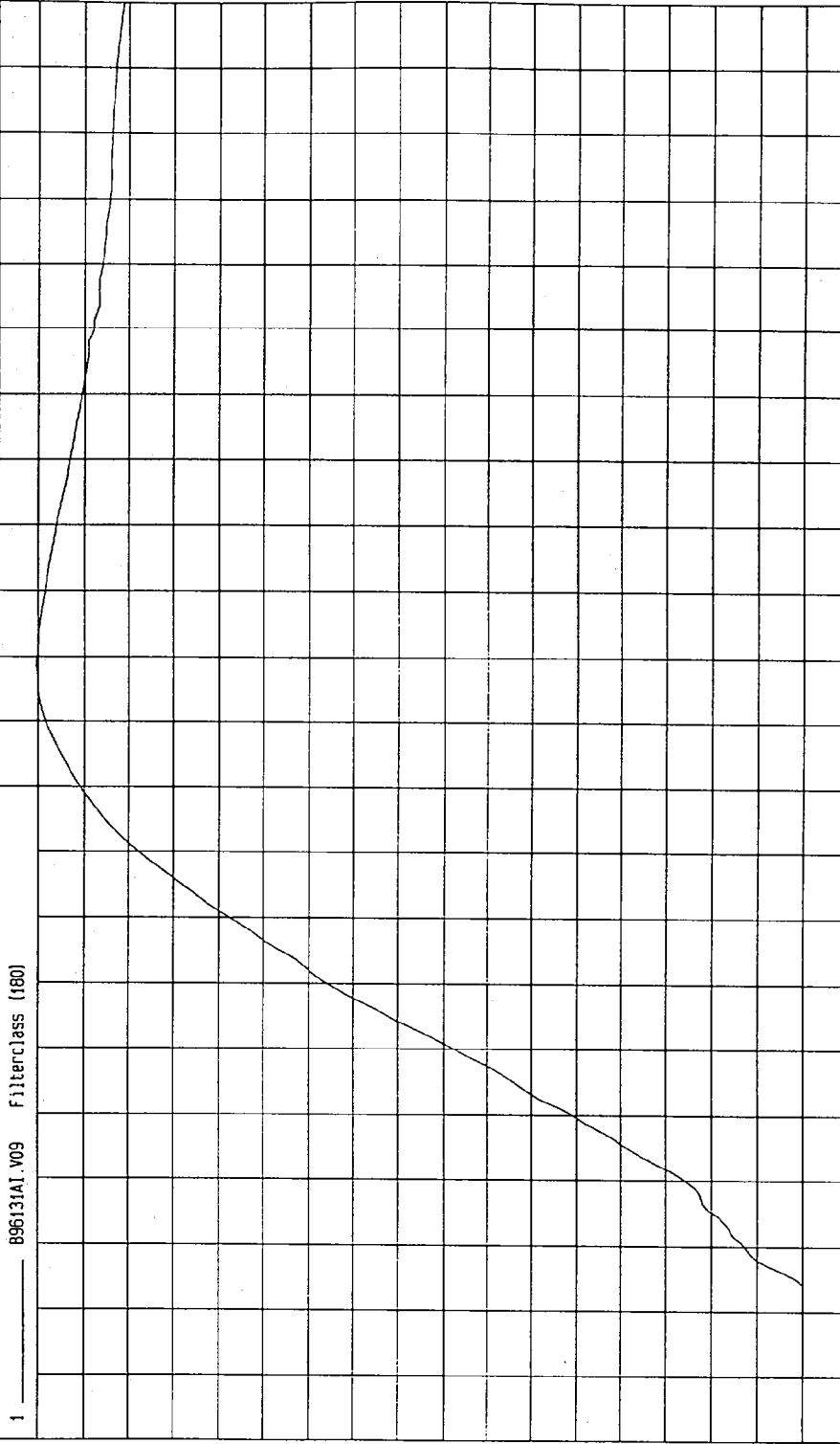
Speed: 37.97 MPH 61.1 KPH

YMIN=-3.153284E-02 KPH at 3.5 msec

YMAX= 34.07803 KPH at 99. msec

REAR FLOORPAN ABOVE AXLE Y VELOCITY

1 896131A1.V09 FilterClass (180)



MSA Research
12-09-1996 13:47

TIME Seconds

KPH

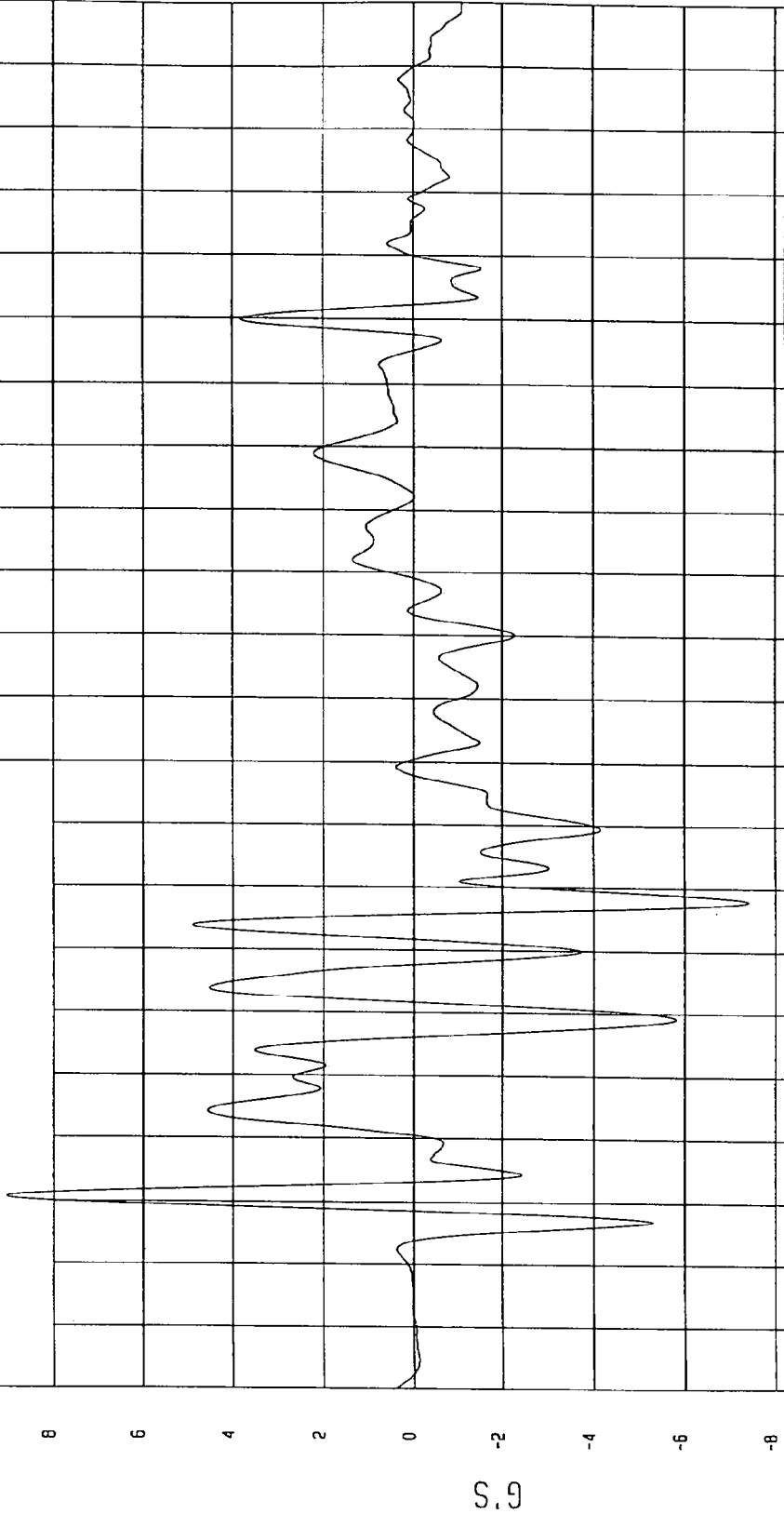
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-7.41151 G'S at 58 msec YMAX= 9.044999 G'S at 10. msec

REAR FLOORPAN ABOVE AXLE Z ACCELERATION

1 ——— 895131AF.A10 Filterclass (60)



MEA Research
12-03-1996 14:10

TIME (SECONDS)

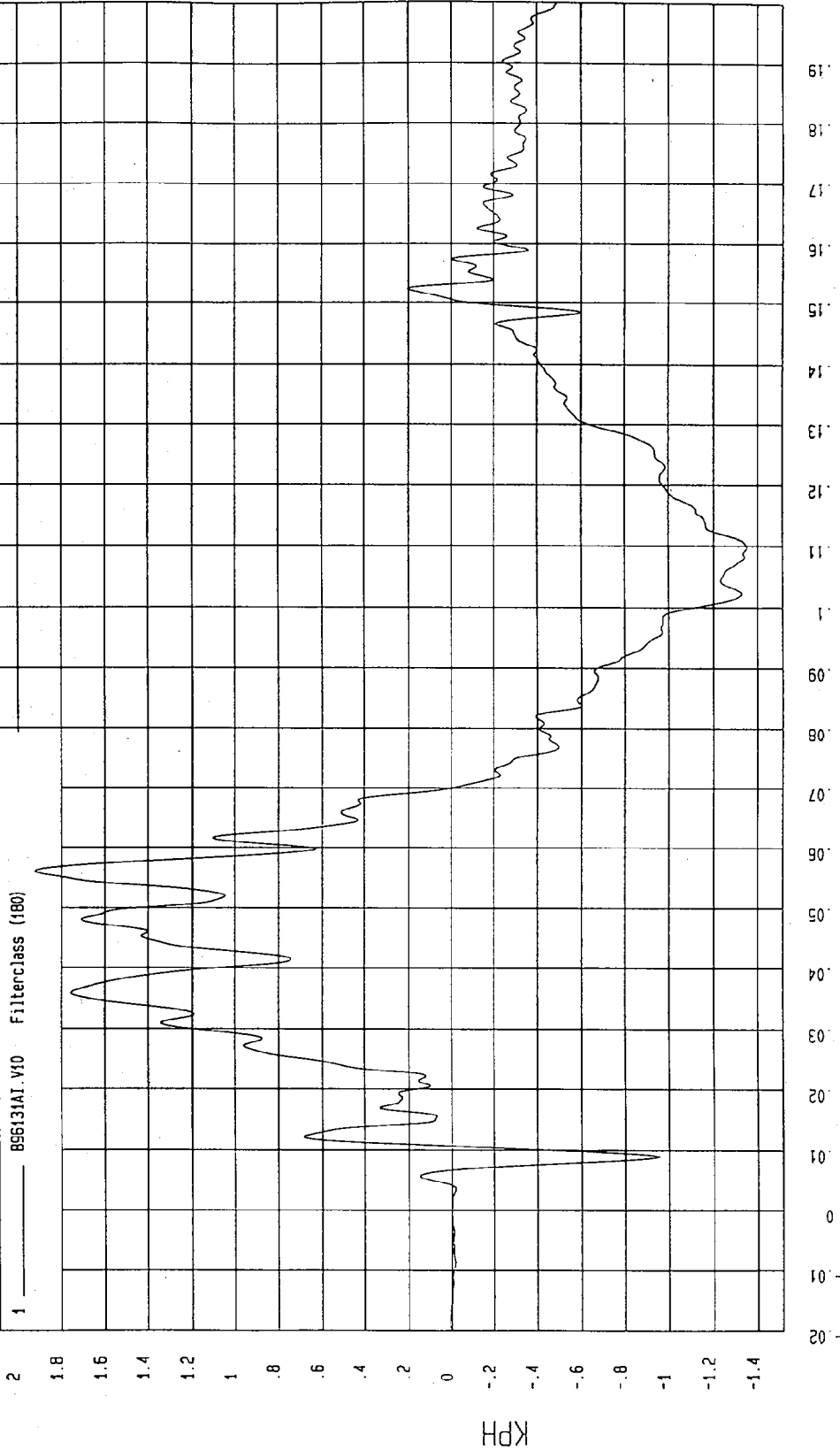
G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-1.351817 KPH at 109 msec YMAX= 1.922722 KPH at 56 msec

REAR FLOORPAN ABOVE AXLE Z VELOCITY



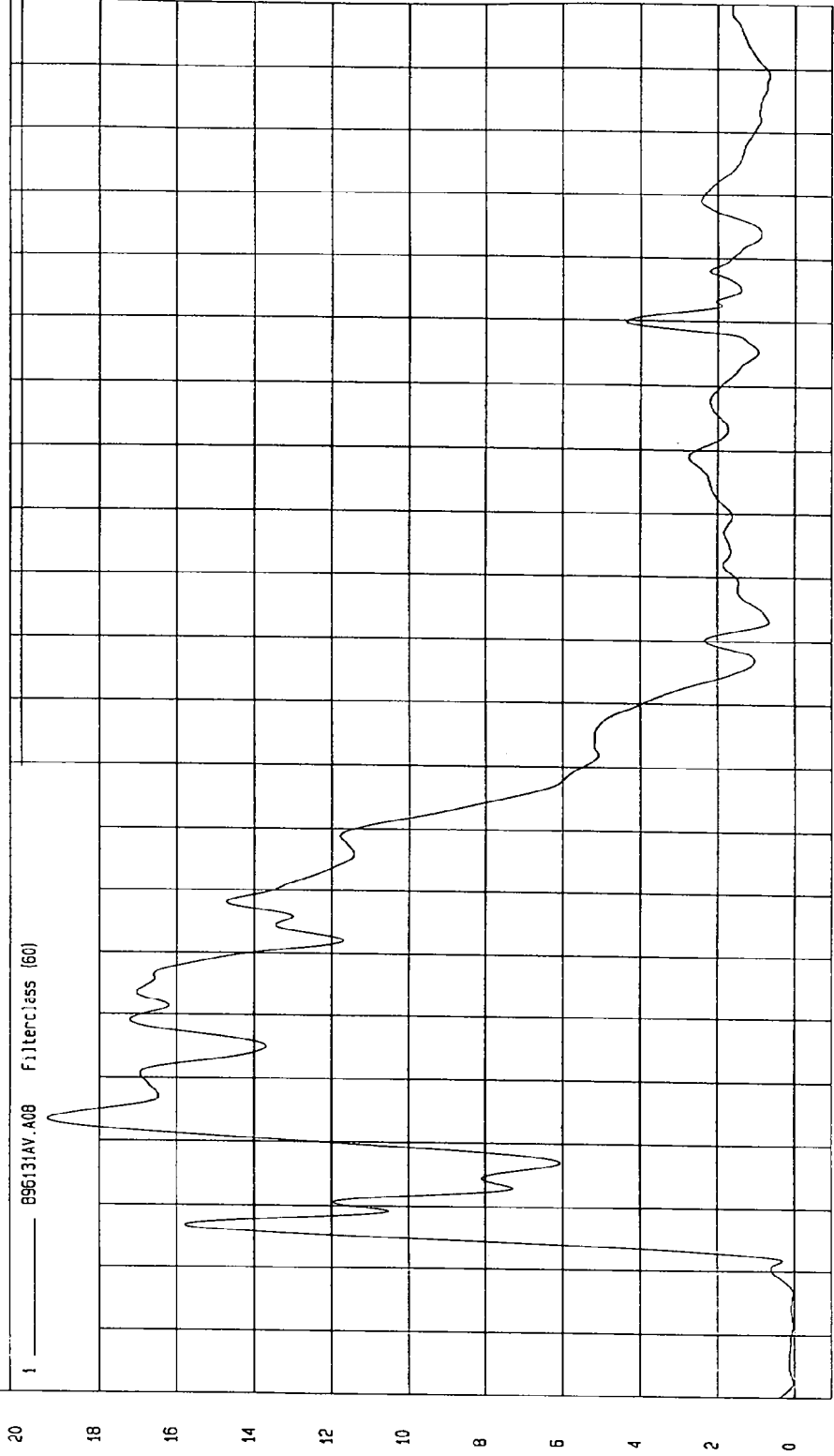
MCA Research
12-09-1996 13:46

TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 1.645299E-02 G'S at -17. msec YMAX= 19.33164 G'S at 23. msec

REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION



TIME (SECONDS)

MCA Research
12-11-1996 08:05

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

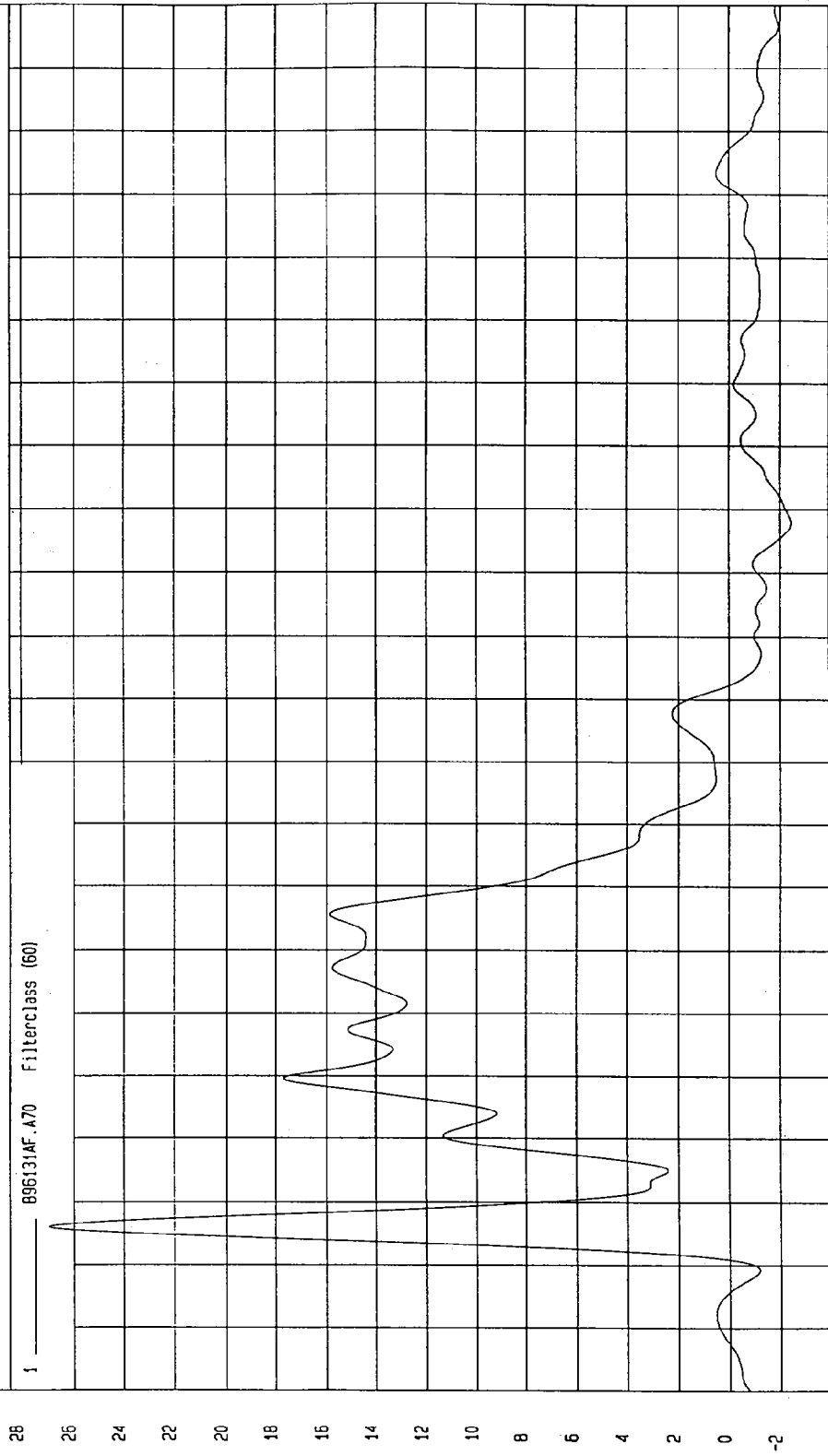
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-2.440978 G'S at 117 msec

YMAX= 26.98648 G'S at 6.0 msec

RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION

1 896131AF.A70 Filterclass (60)



MOA Research
12-09-1996 1A:10

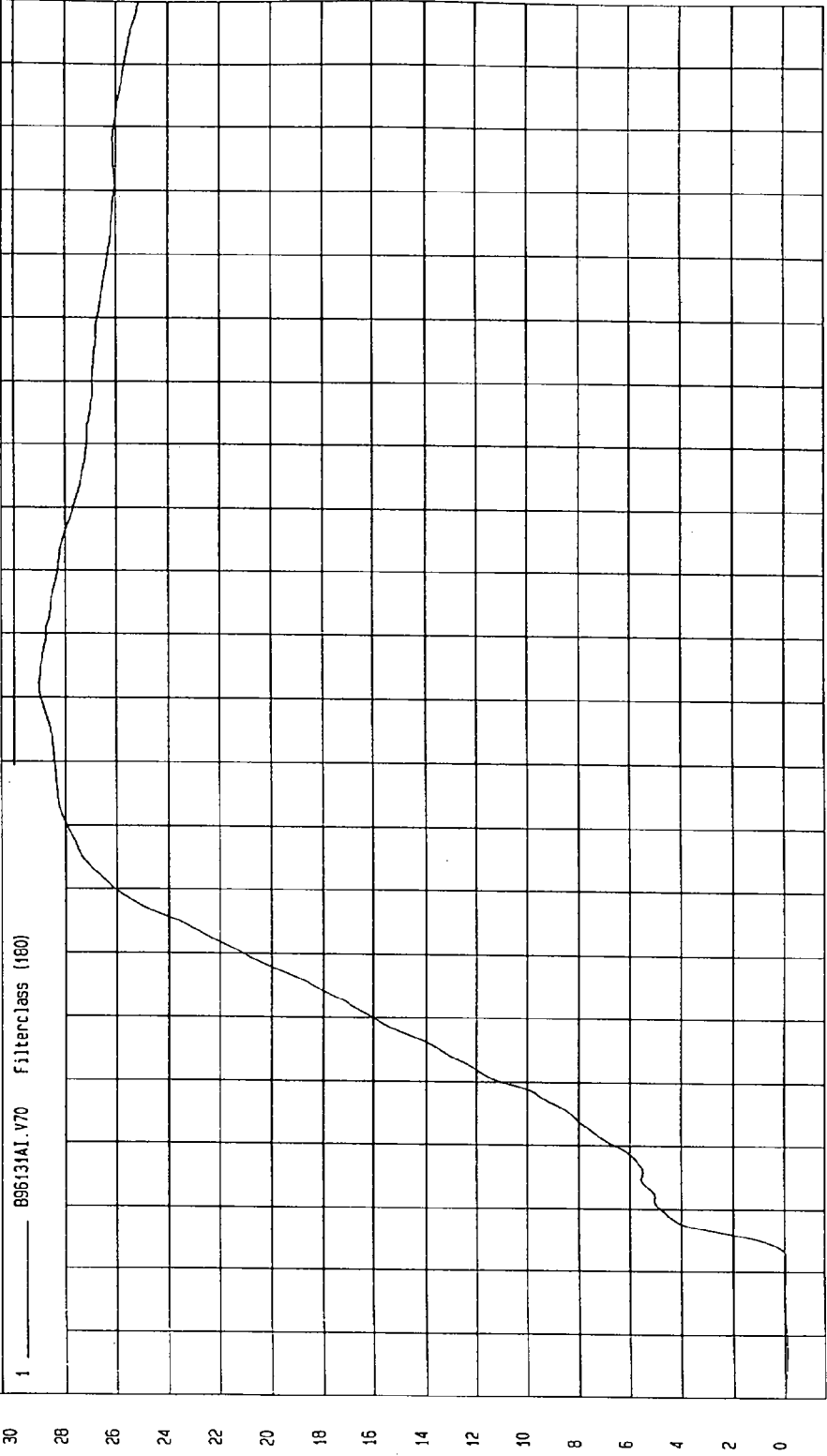
TIME (SECONDS)

G'S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
 COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-.1066612 KPH at -13 msec YMAX= 29.03494 KPH at 91. msec

RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY



TIME Seconds
 MEA Research
 12-03-1996 13:50

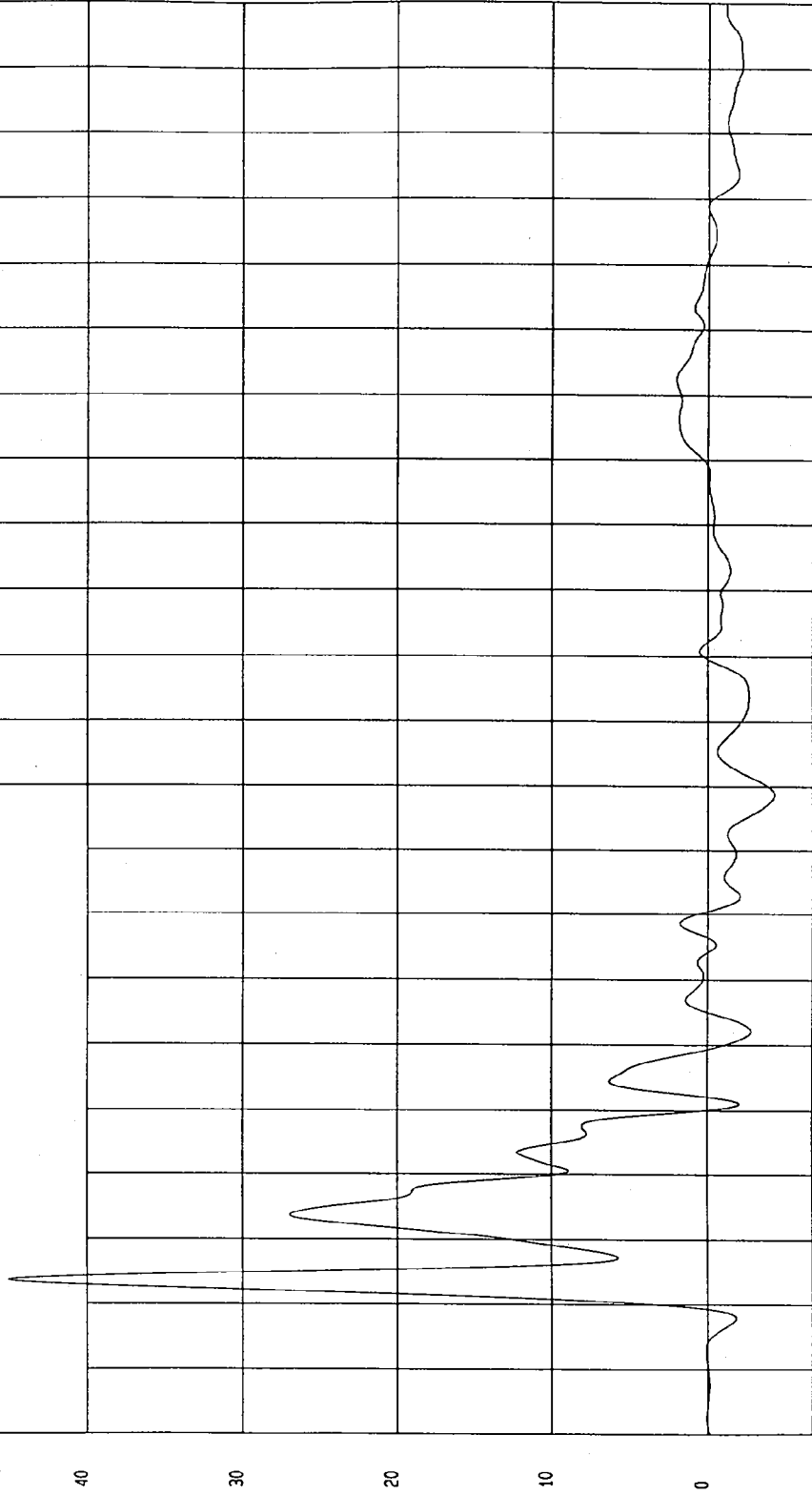
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-4.200032 G'S at 78. msec YMAX=45.05308 G'S at 3.6 msec

LEFT LOWER A-POST Y ACCELERATION

1 896131AF.A20 Filterclass (60)



MCA Research
12-09-1996 14:11

TIME (SECONDS)

G's

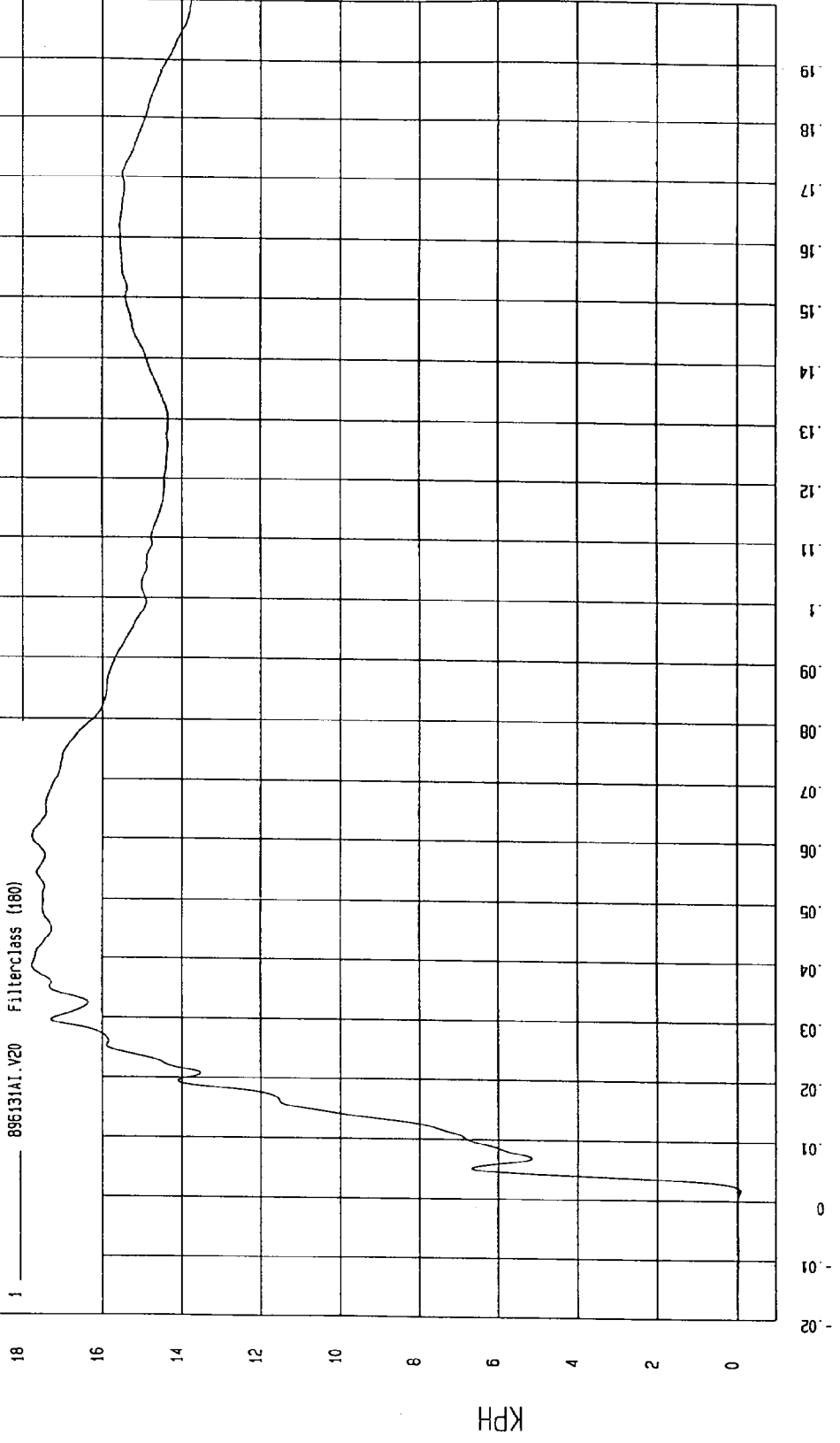
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-6.836619E-02 KPH at 1.6 msec YMAX=17.76393 KPH at 38. msec

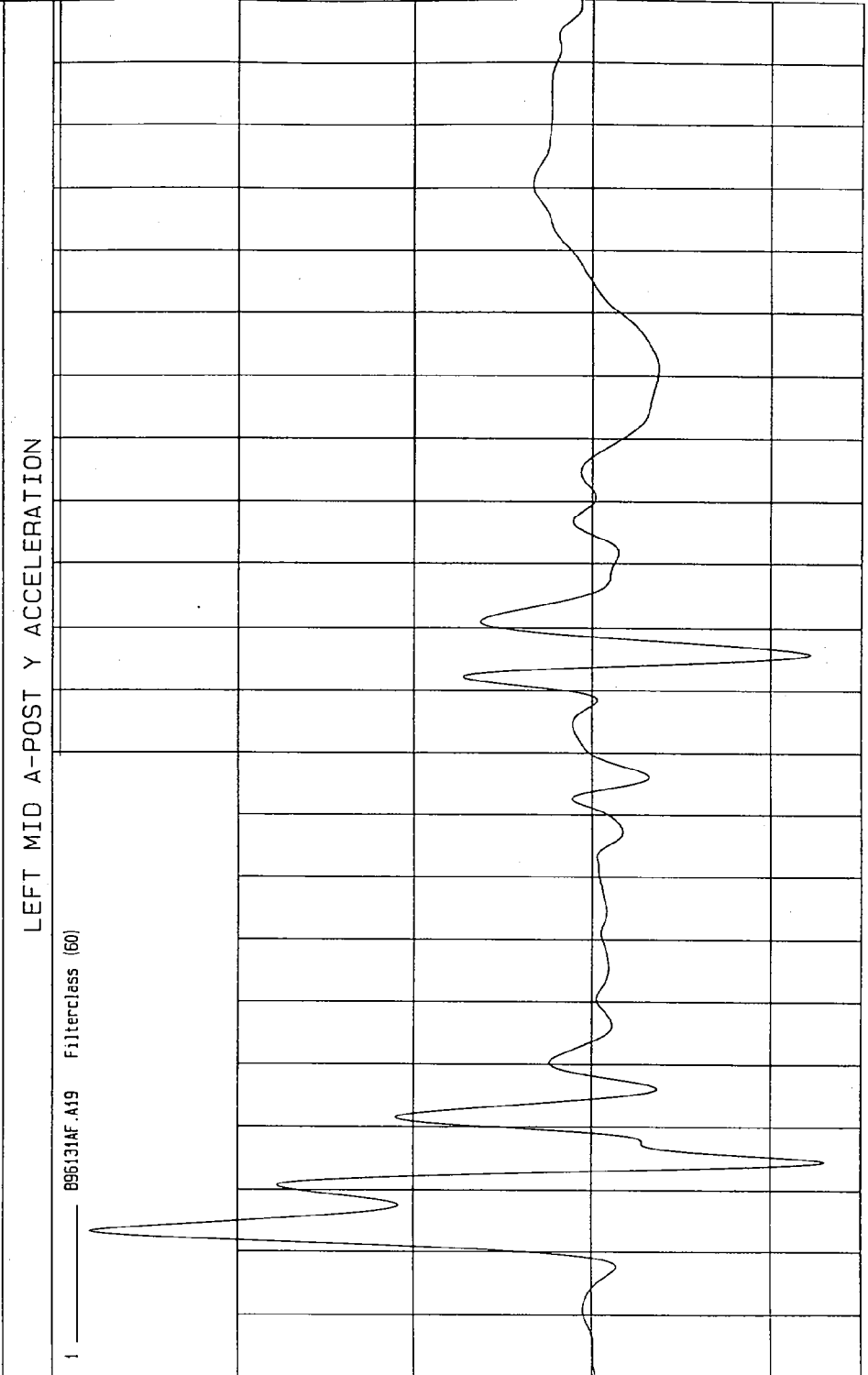
LEFT LOWER A-POST Y VELOCITY

1 ——— 896131A1.V20 Filterclass (180)



MECA Research
12-03-1996 13.49

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH
YMIN=-13.00386 G'S at 14. msec YMAX= 28.35602 G'S at 3.1 msec



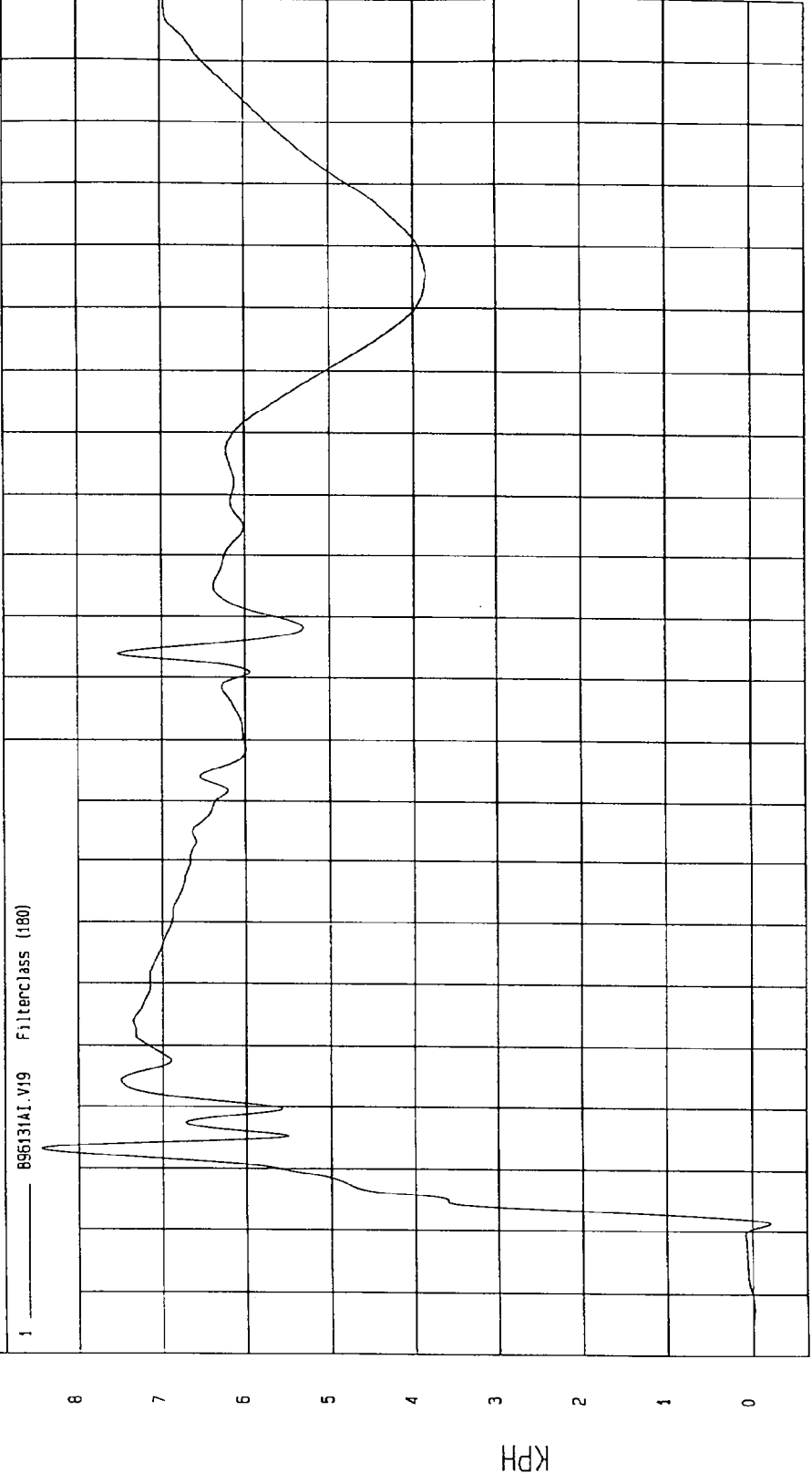
TIME (SECONDS)

MVA Research
12-09-1996 14:11

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=- 2113616 KPH at 1.2 msec YMAX= 8.44624 KPH at 13. msec

LEFT MID A-POST Y VELOCITY

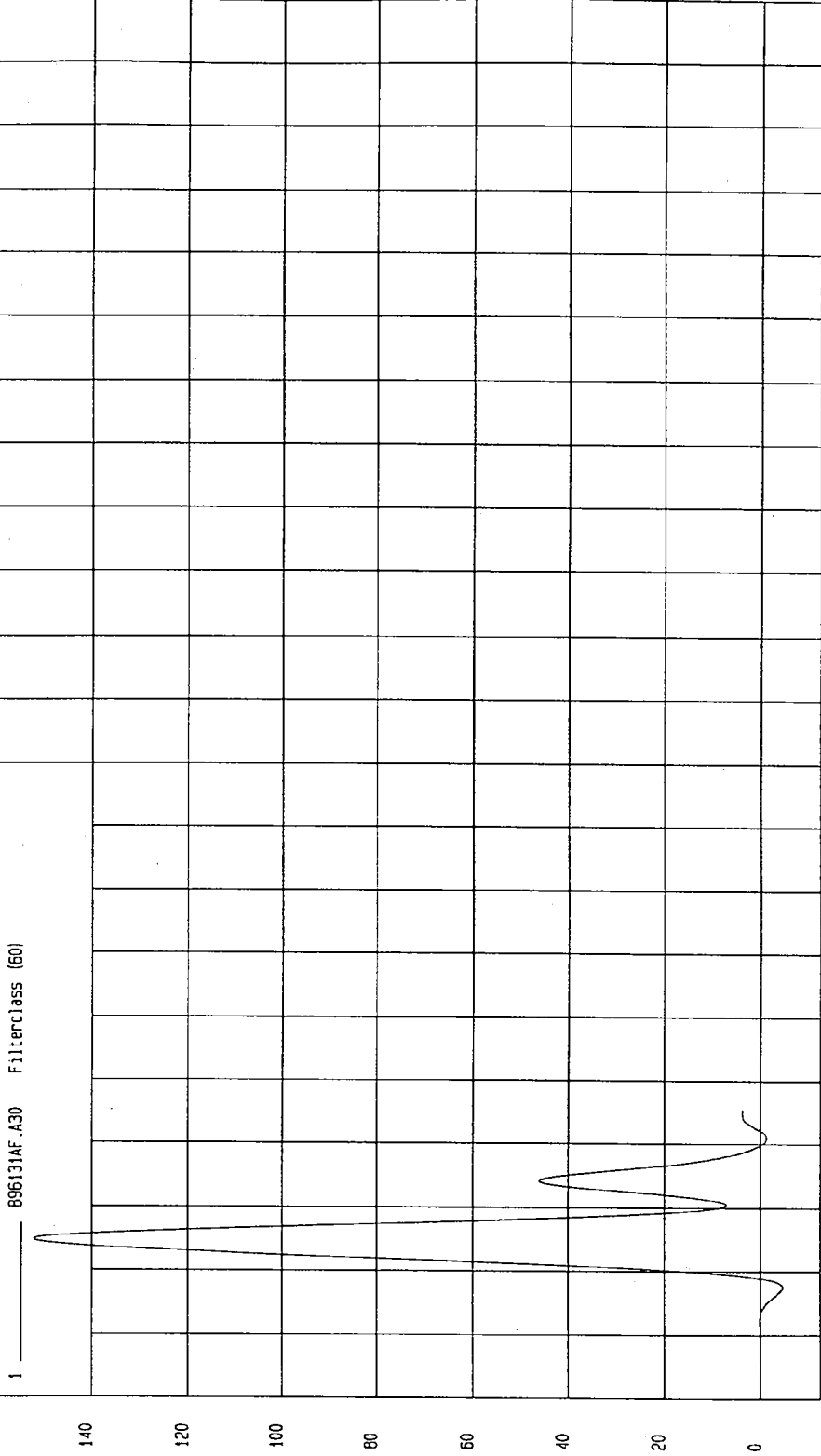


MCA Research
12-03-1996 13:49

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-4.708414 G'S at -2.5 msec YMAX= 152.1492 G'S at 4.9 msec

LEFT LOWER B-POST Y ACCELERATION



TIME (SECONDS)

MSA Research
12-11-1996 08:19

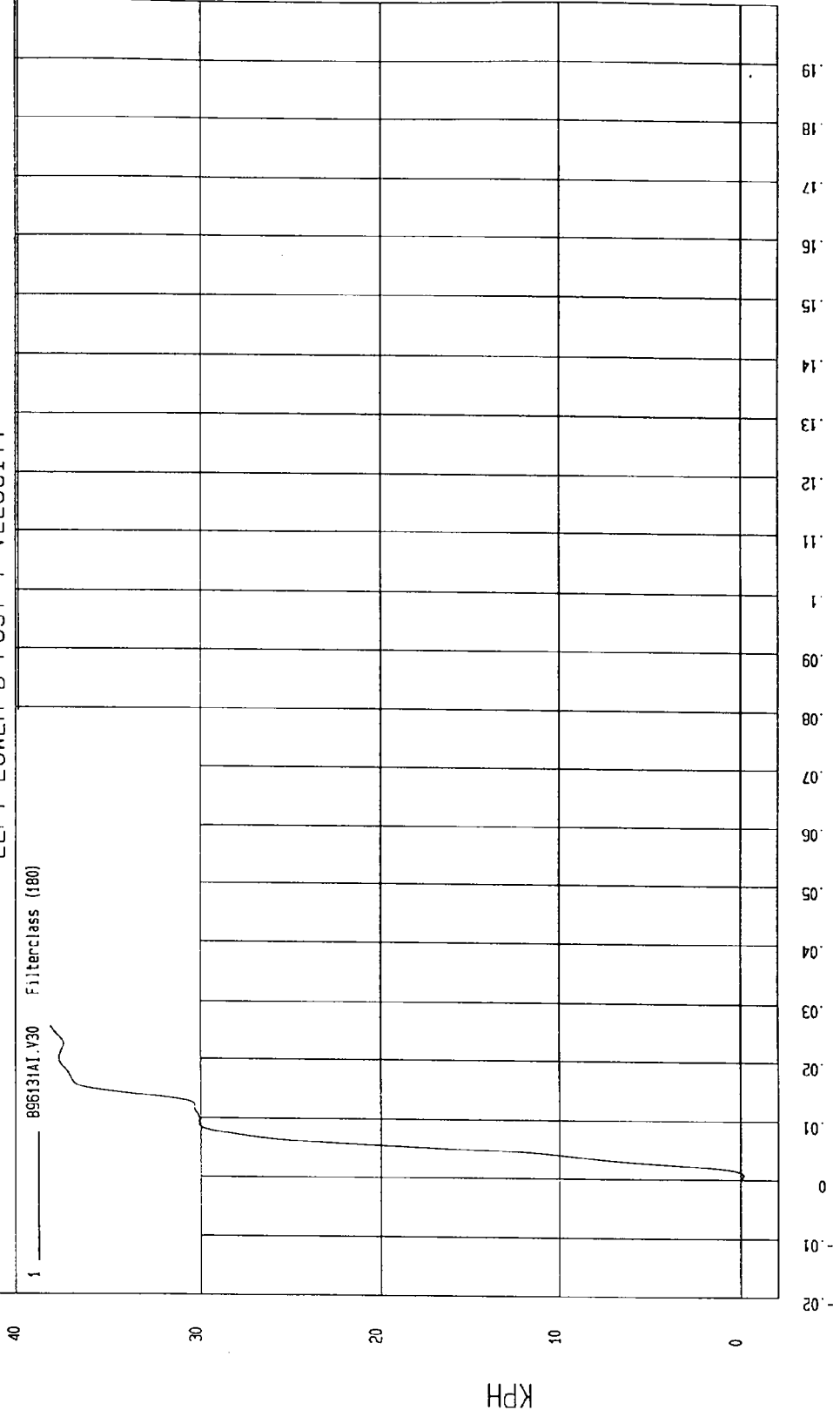
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN = .1430272 KPH at .79 msec YMAX = 38.25748 KPH at 25. msec

LEFT LOWER B-POST Y VELOCITY

1 ——— 896131A1.V30 Filterclass (180)



MCA Research
12-11-1996 08:18

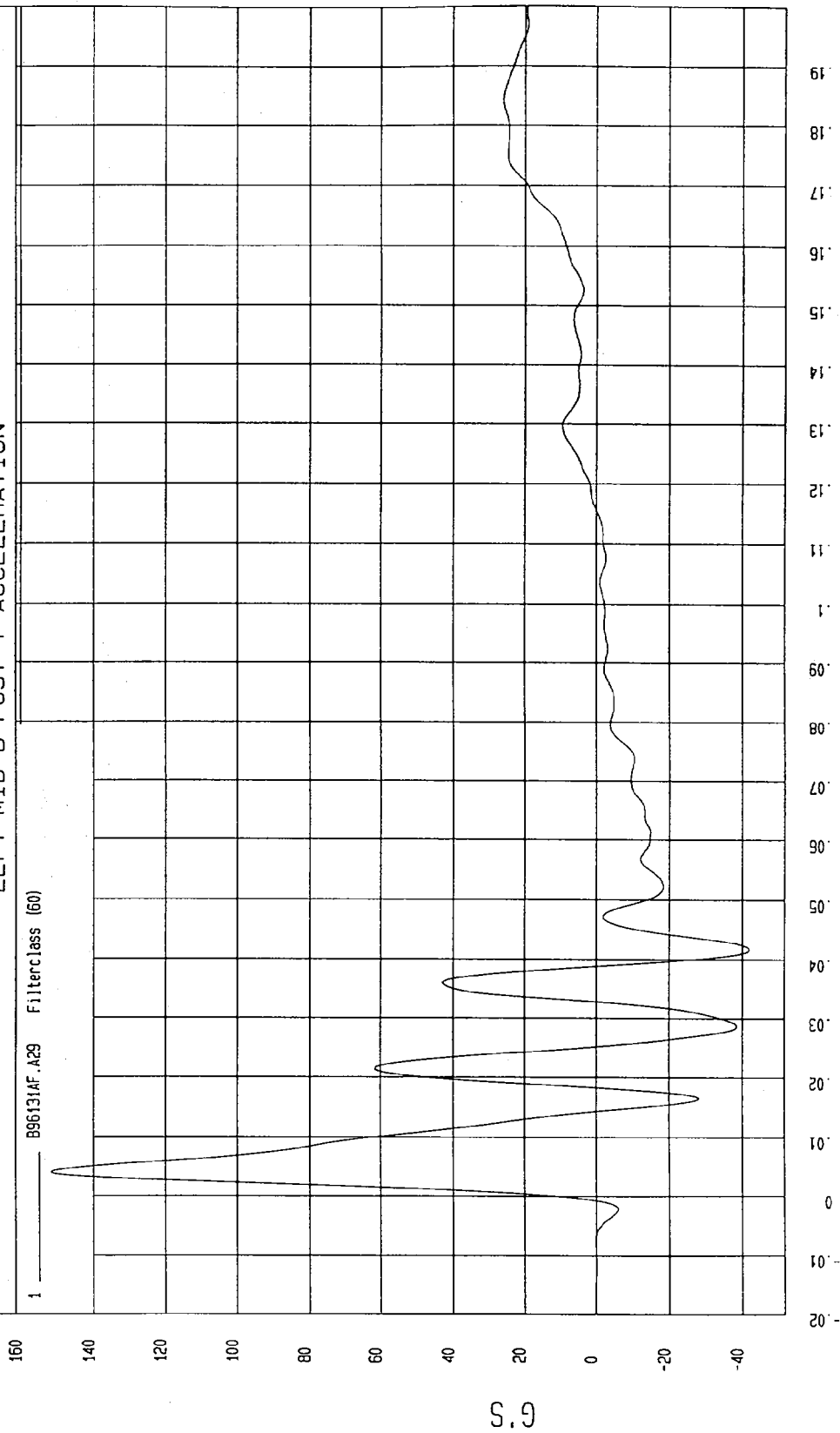
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-41.96287 G'S at 41. msec

YMAX= 151.6261 G'S at 4 msec

LEFT MID B-POST Y ACCELERATION



MGA Research
12-09-1996 14: 12

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

Speed: 37.97 MPH 61.1 KPH

COMPONENT: 1997 FORD TAURUS (MV0205)

YMIN=-.1815089 KPH at 1.5 msec

YMAX= 59.13136 KPH at 199 msec

LEFT MID B-POST Y VELOCITY

1 ——— 896131A1.V29 Filterclass (180)



MSA Research
12-03-1996 13.50

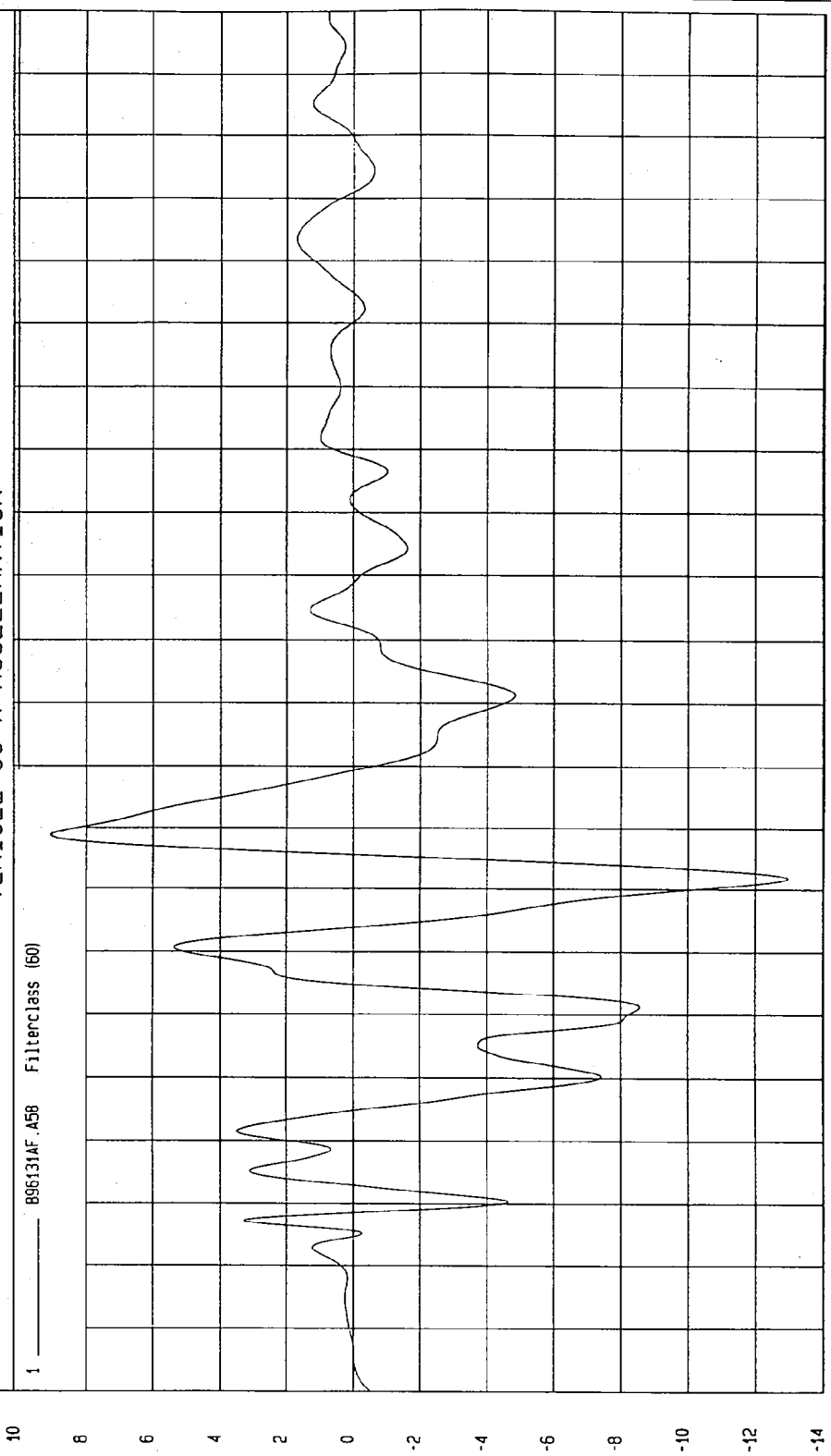
TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-12.94149 G'S at 61. msec YMAX= 9.060851 G'S at 68. msec

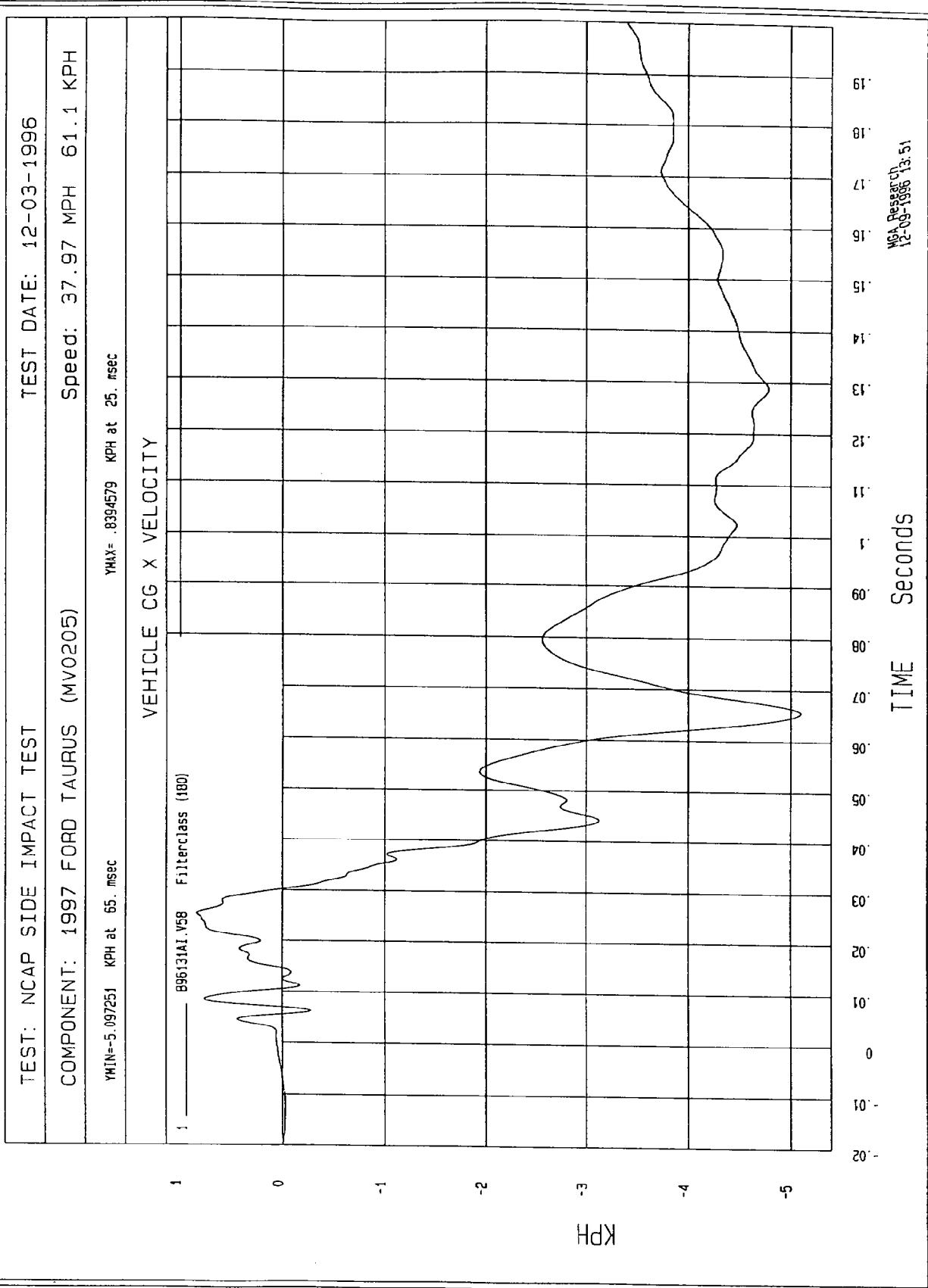
VEHICLE CG X ACCELERATION

1 ——— 896131AF.A58 Filterclass (60)



TIME (SECONDS)

MCA Research
12-09-1996 14:12



TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

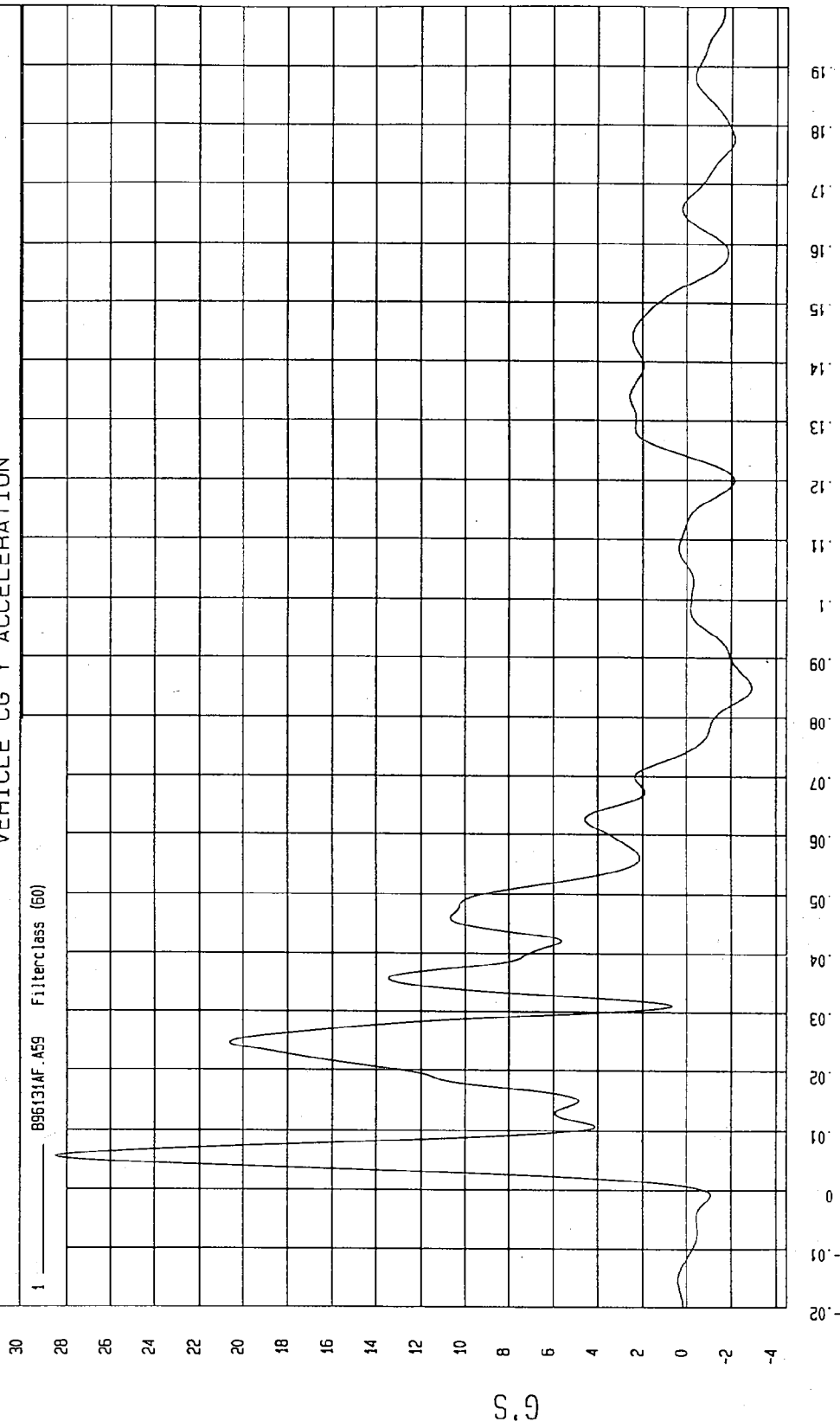
Speed: 37.97 MPH 61.1 KPH

COMPONENT: 1997 FORD TAURUS (MVO205)

YMAX= 28.51541 G'S at 5.5 msec

YMIN= -2.912268 G'S at 85 msec

VEHICLE CG Y ACCELERATION



MGA Research
12-09-1996 14: 13

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

Speed: 37.97 MPH 61.1 KPH

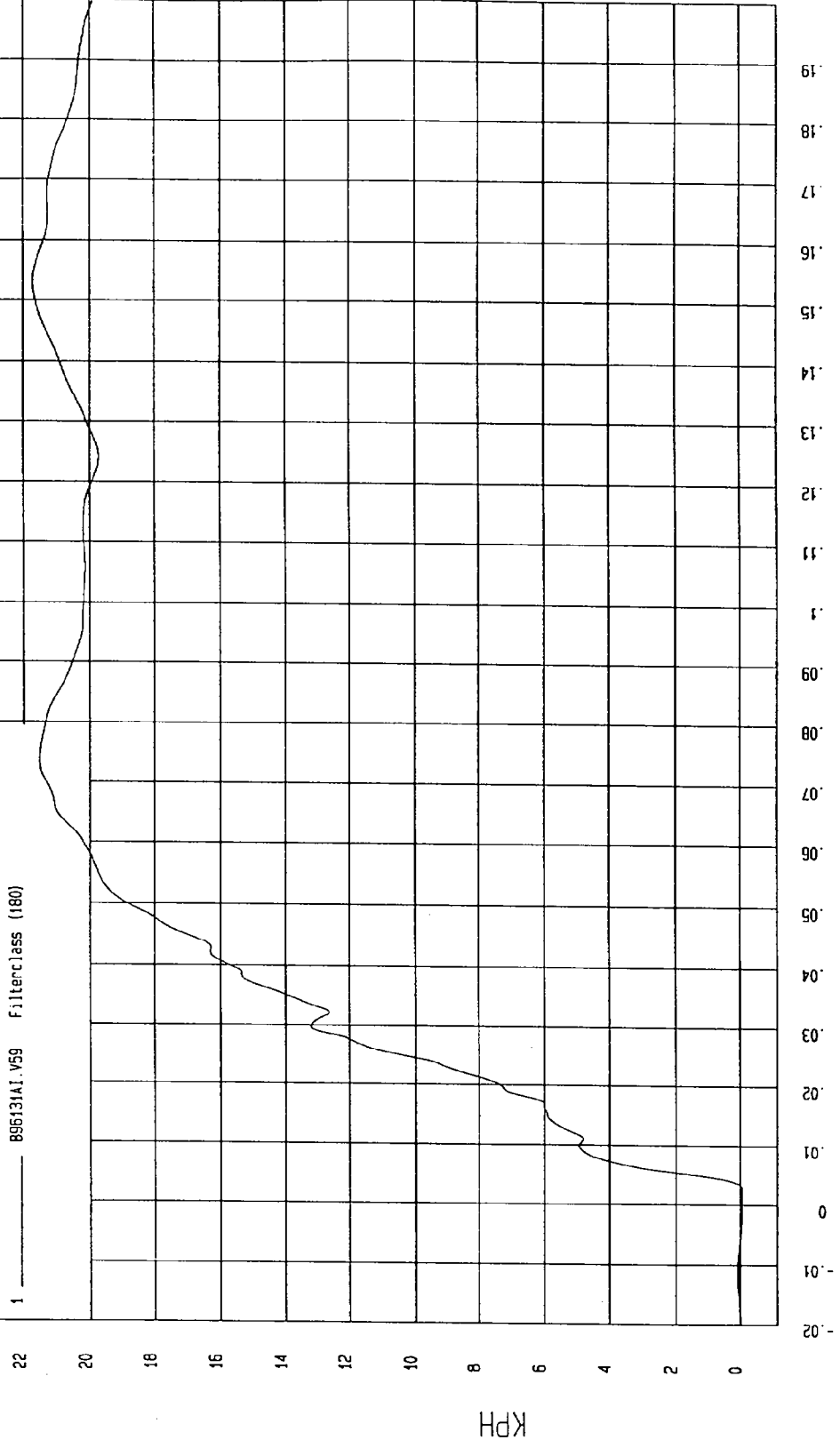
COMPONENT: 1997 FORD TAURUS (MV0205)

YMAX= 21.72743 KPH at .153 msec

YMIN= -5.17677E-02 KPH at 2.5 msec

VEHICLE CG Y VELOCITY

1 ——— 896131A1.V59 Filterclass (180)



MSA Research
12-03-1996 13:51

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

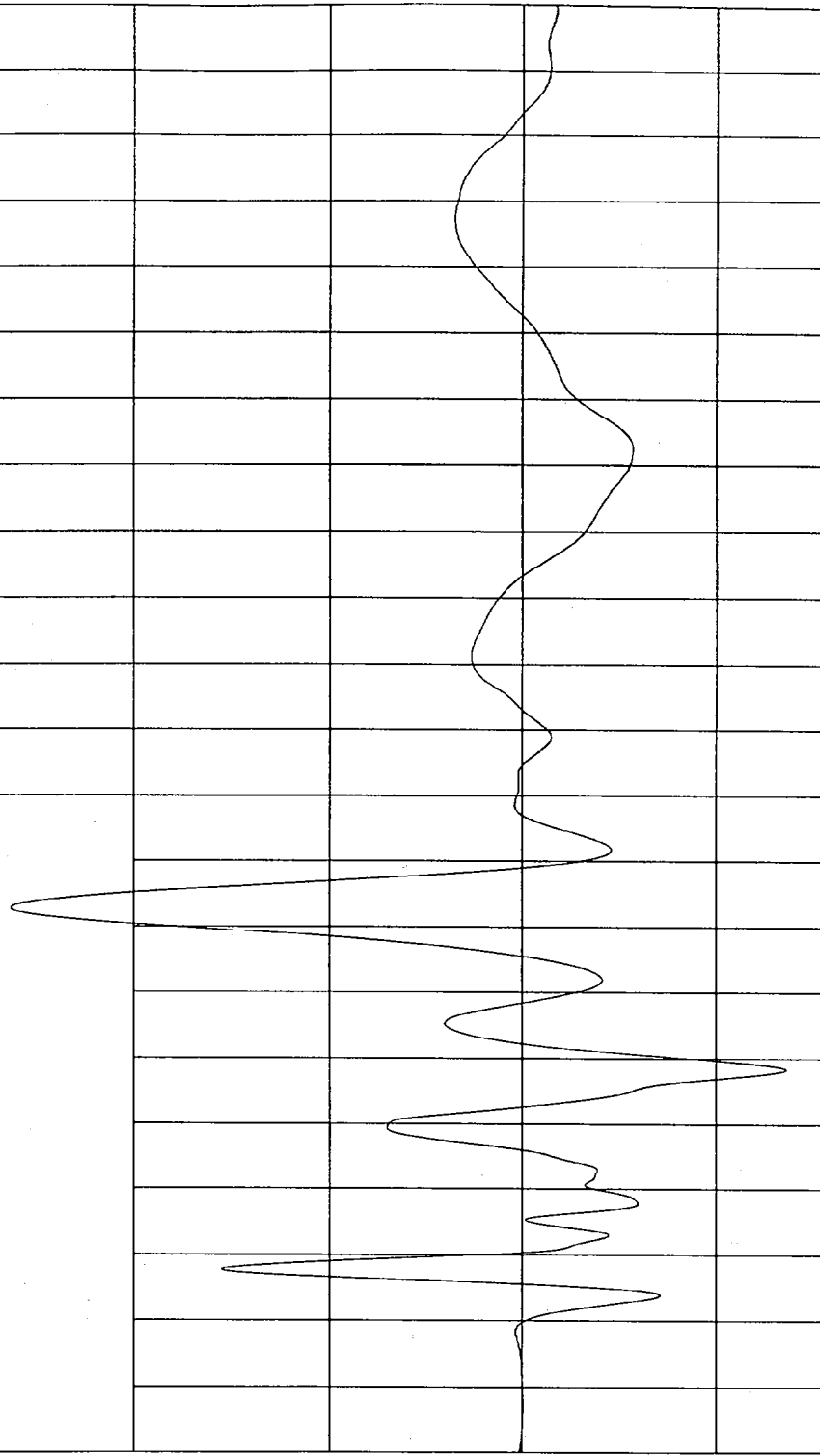
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-13.57182 G'S at 38. msec

YMAX= 26.31872 G'S at 62. msec

VEHICLE CG Z ACCELERATION

1 ——— 896131AF.A60 Filterclass (60)



MEA Research
12-09-1996 14: 13

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

Speed: 37.97 MPH 61.1 KPH

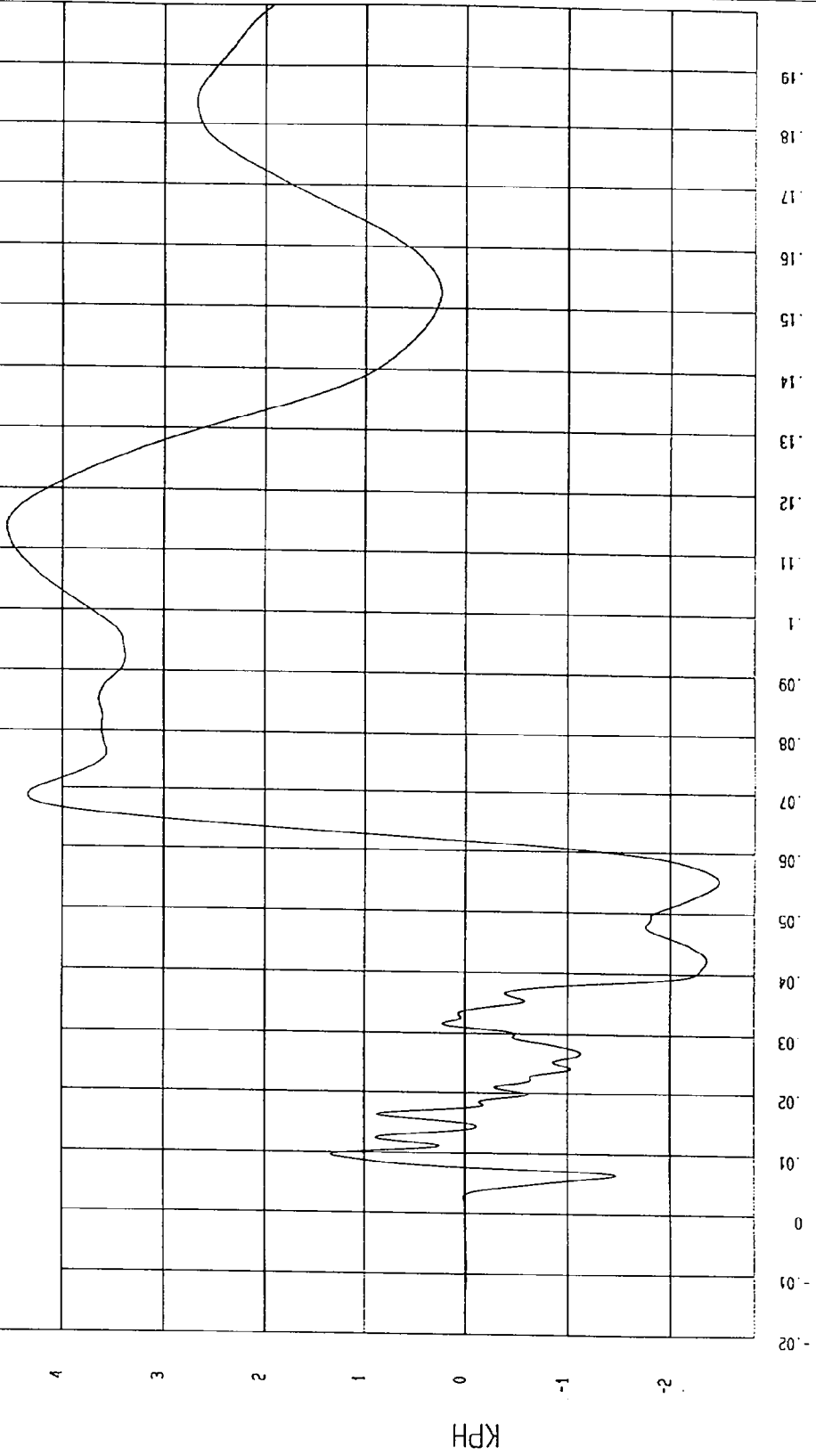
COMPONENT: 1997 FORD TAURUS (MV0205)

YMIN=-2.474893 KPH at 55. msec

YMAX= 4.552363 KPH at 113 msec

VEHICLE CG Z VELOCITY

1 ——— 896131A1.V60 Filterclass (180)



MGA Research
12-09-1996 13:51

TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

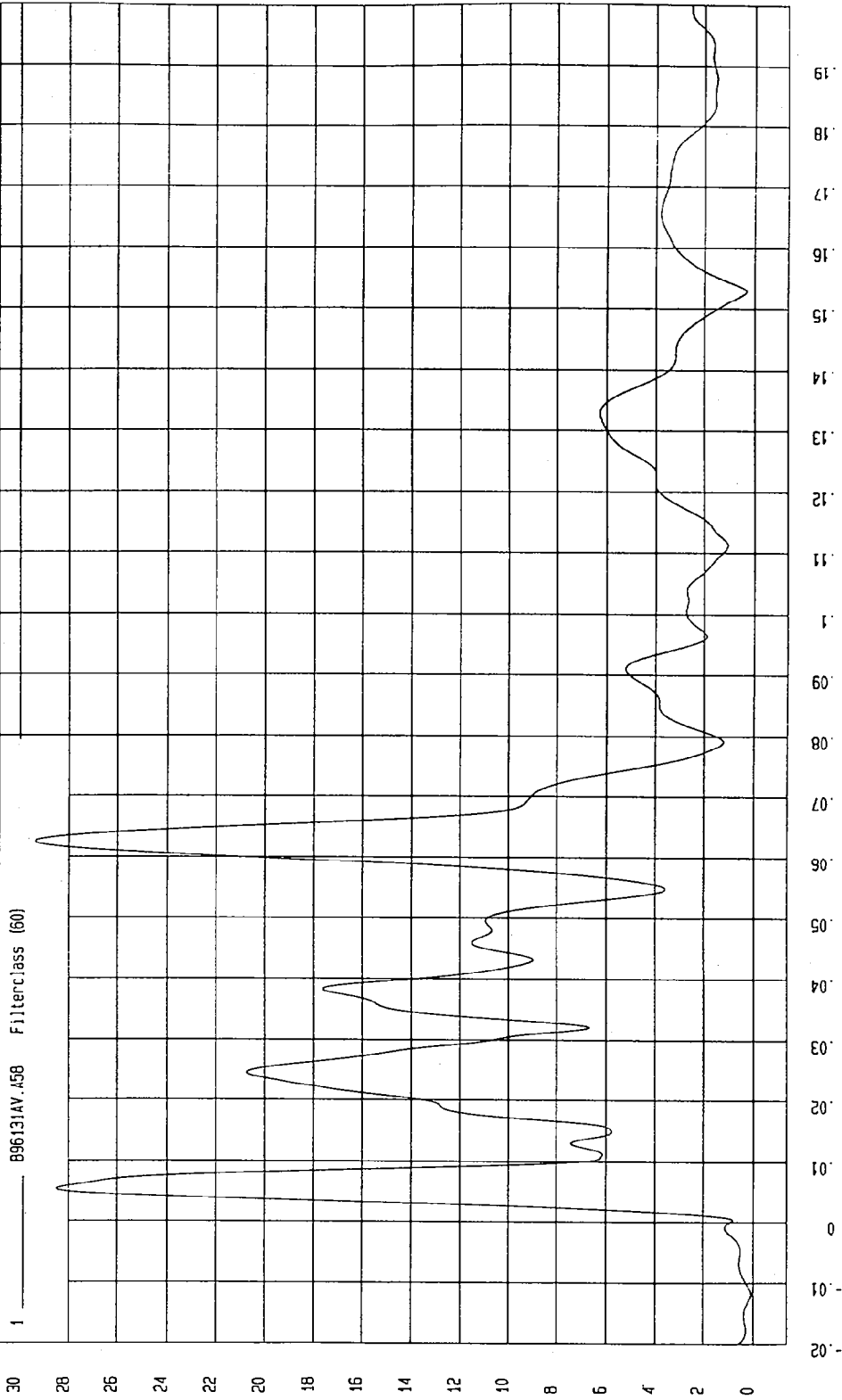
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 7.757841E-02 G'S at -11. msec

YMAX= 29.39318 G'S at 62. msec

VEHICLE CG RESULTANT ACCELERATION

1 896131AV.A58 Filterclass (60)



MGA Research
12-11-1996 08:05

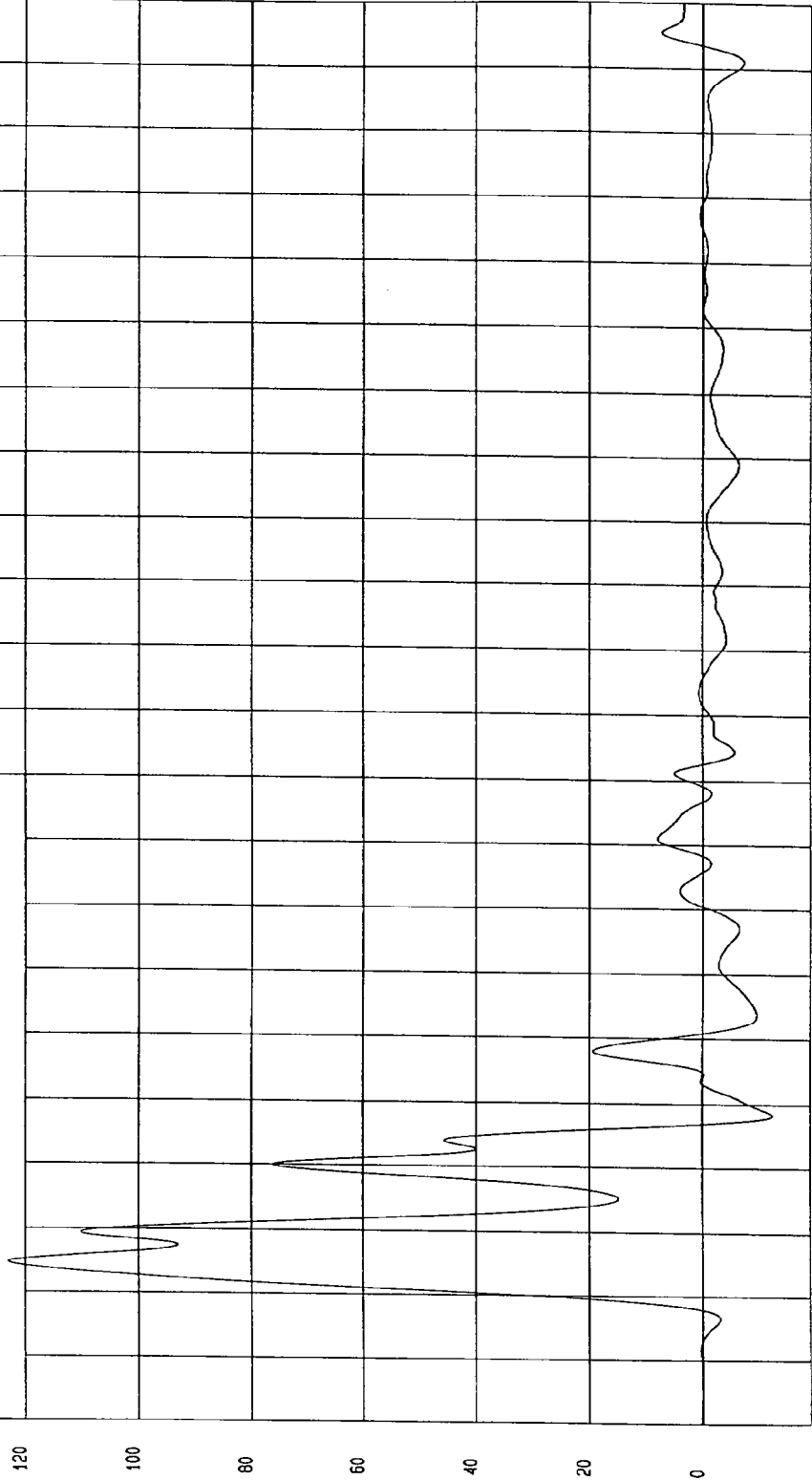
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-12.17062 G'S at 28. msec YMAX= 123.0351 G'S at 4.7 msec

LEFT FRONT DOOR MIDREAR Y ACCELERATION

1 896131AF.A74 Filterclass (60)



MSA Research
12-09-1996 14.03

TIME (SECONDS)

G.S

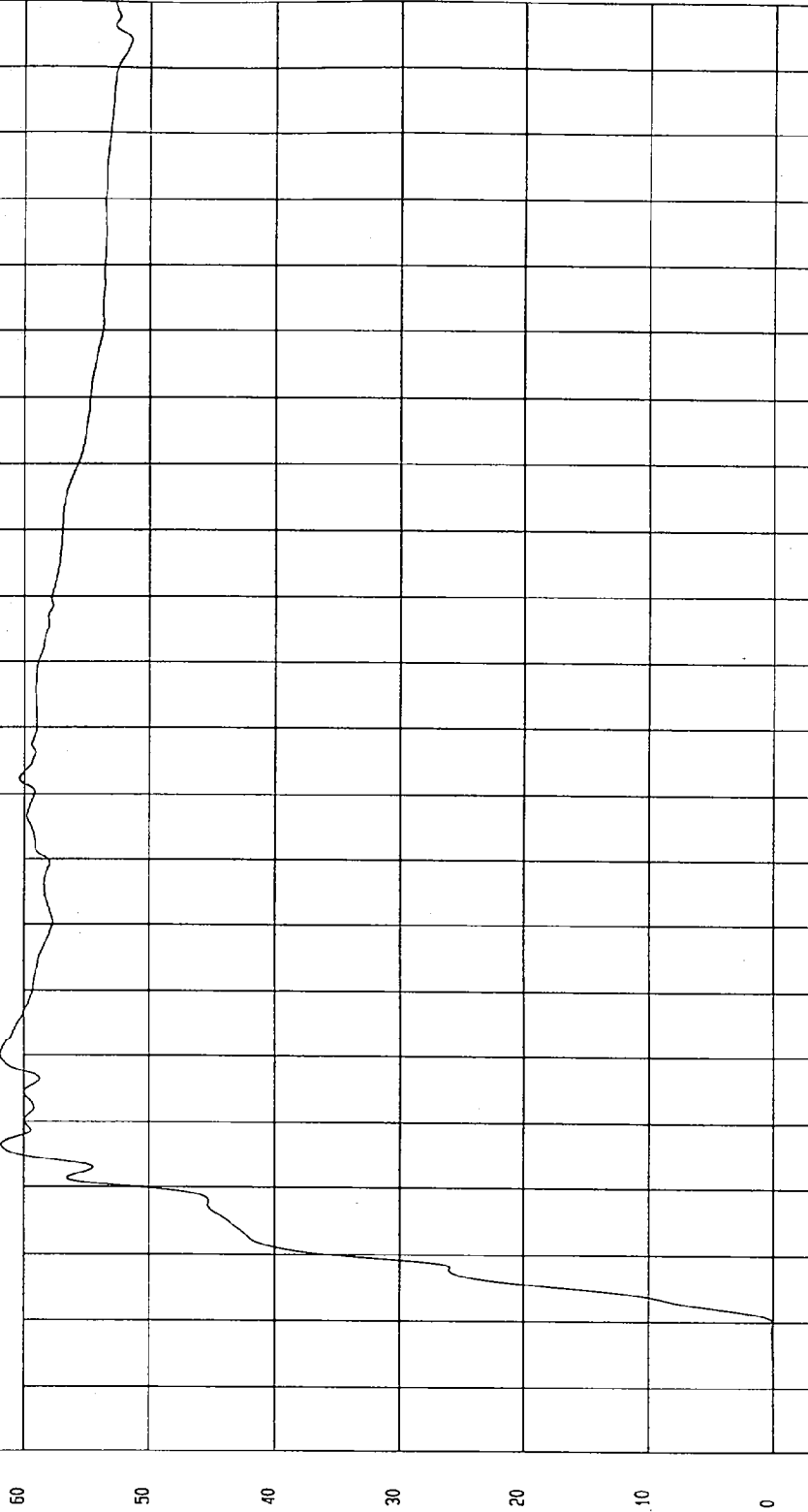
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 0 KPH at -20 msec YMAX= 61.92495 KPH at 40 msec

LEFT FRONT DOOR MIDREAR Y VELOCITY

1 ——— 896131A1.V74 FilterClass (180)



NSA Research
12-03-1996 13:54

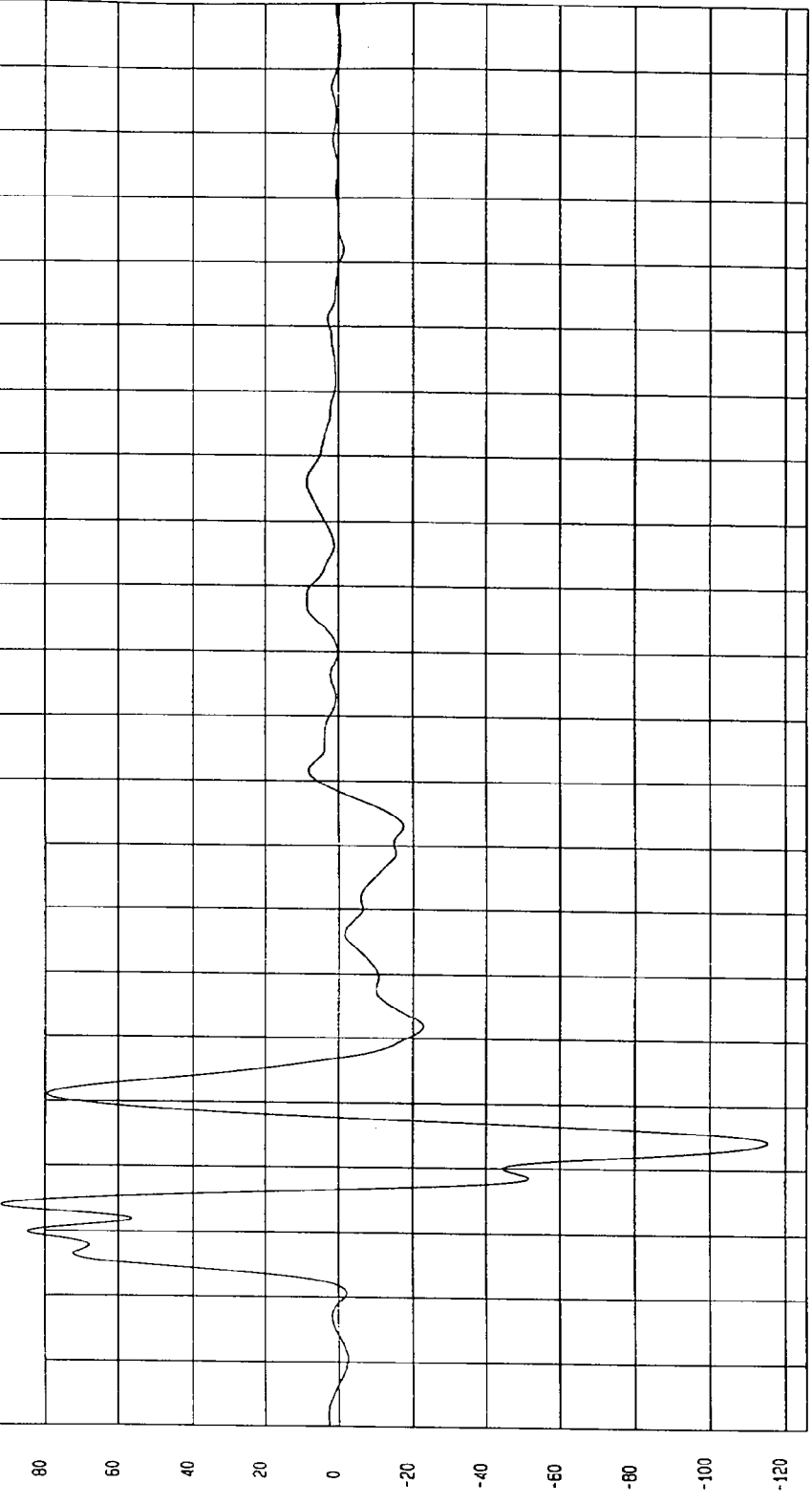
TIME Seconds

KPH

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-115.3206 G'S at 24. msec YMAX= 91.96922 G'S at 14 msec

LEFT FRONT DOOR CENTERLINE Y ACCELERATION
1 896131AF.A75 Filterclass (60)



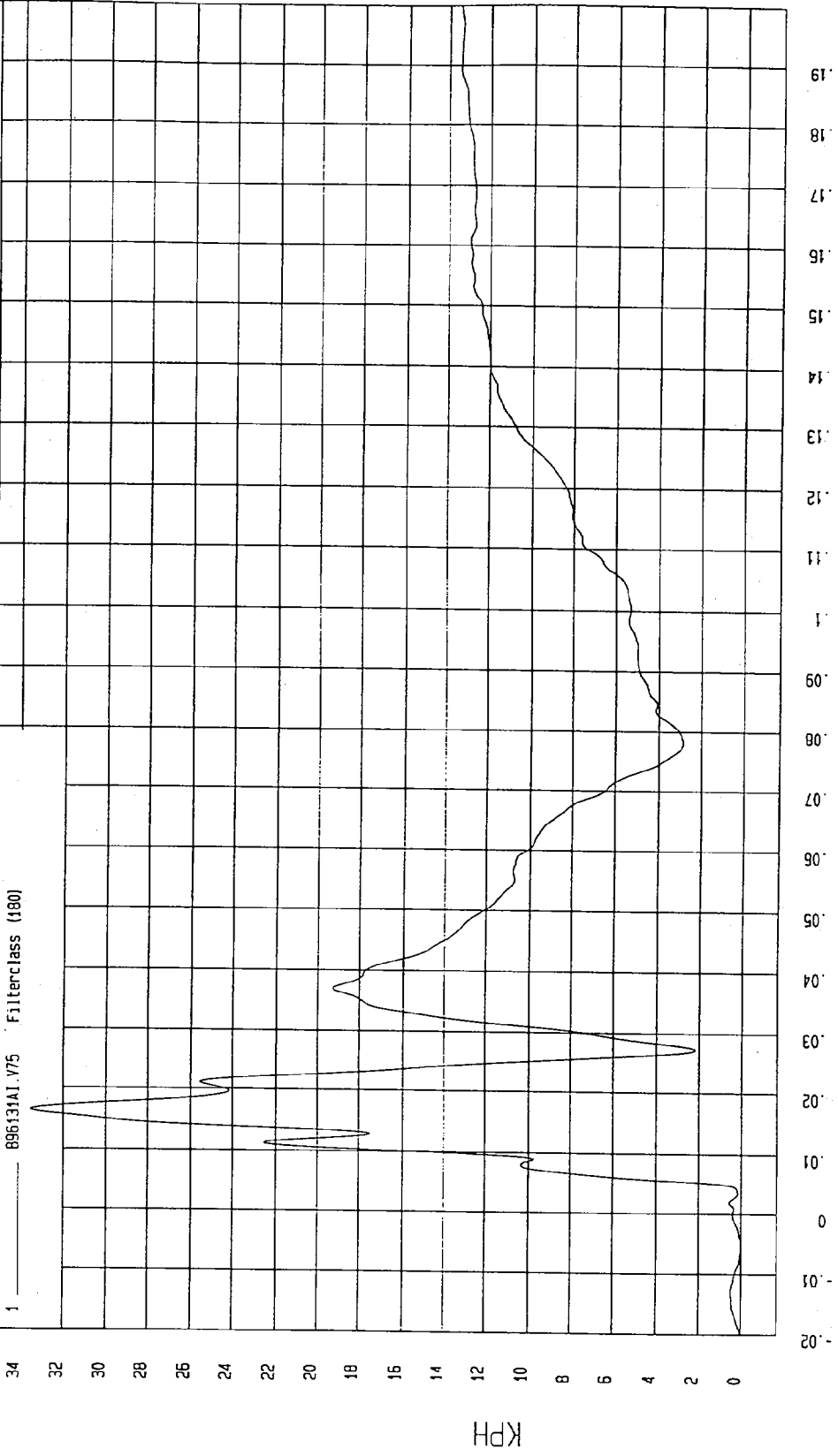
TIME (SECONDS)

MEA 89583CT
12-05-1996 14.03

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 0 KPH at -20 msec YMAX= 33.53064 KPH at 16. msec

LEFT FRONT DOOR CENTERLINE Y VELOCITY



MGA Research
12-09-1996 13:54

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

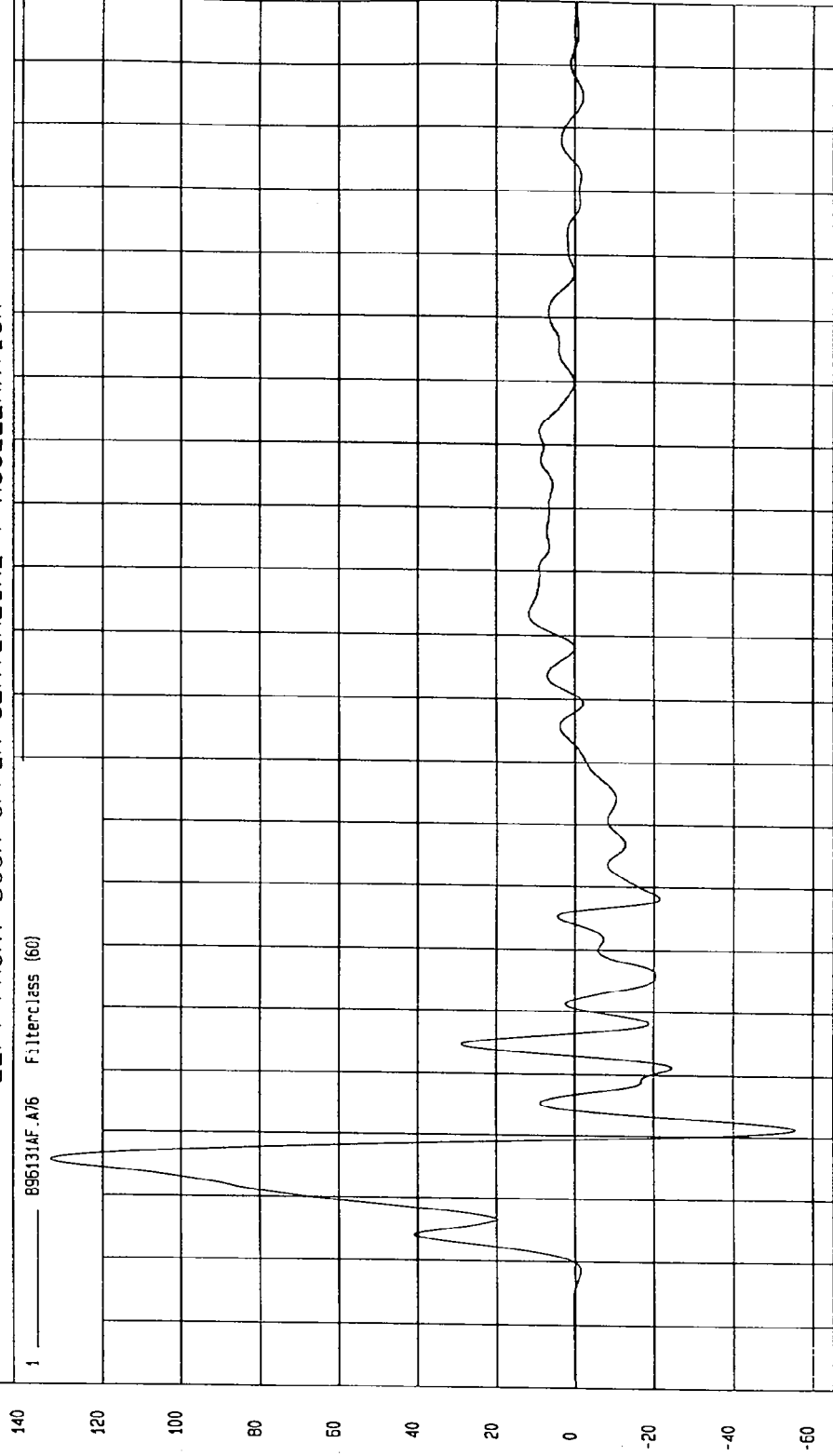
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-55.74874 G'S at 21. msec

YMAX= 133.0495 G'S at 15. msec

LEFT FRONT DOOR UPPER CENTERLINE Y ACCELERATION

1 896131AF.A76 Filterclass (60)



MCA Research
12-09-1996 14:04

TIME (SECONDS)

G.S

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

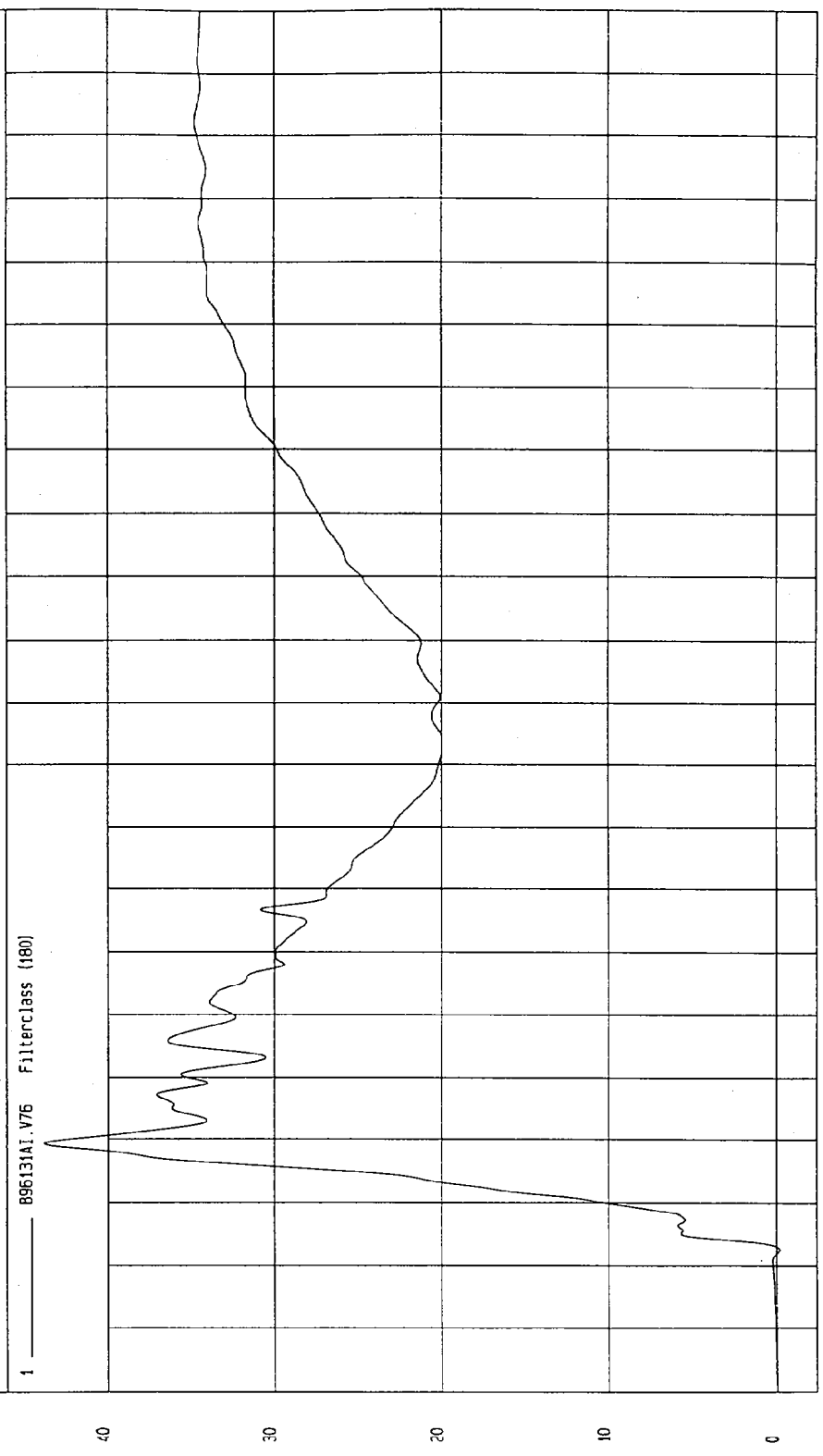
Speed: 37.97 MPH 61.1 KPH

COMPONENT: 1997 FORD TAURUS (MV0205)

YMAX= 43.81485 KPH at 19. msec

YMIN=-.1775262 KPH at 2.5 msec

LEFT FRONT DOOR UPPER CENTERLINE Y VELOCITY



M&A Research
12-09-1996 13:54

TIME Seconds

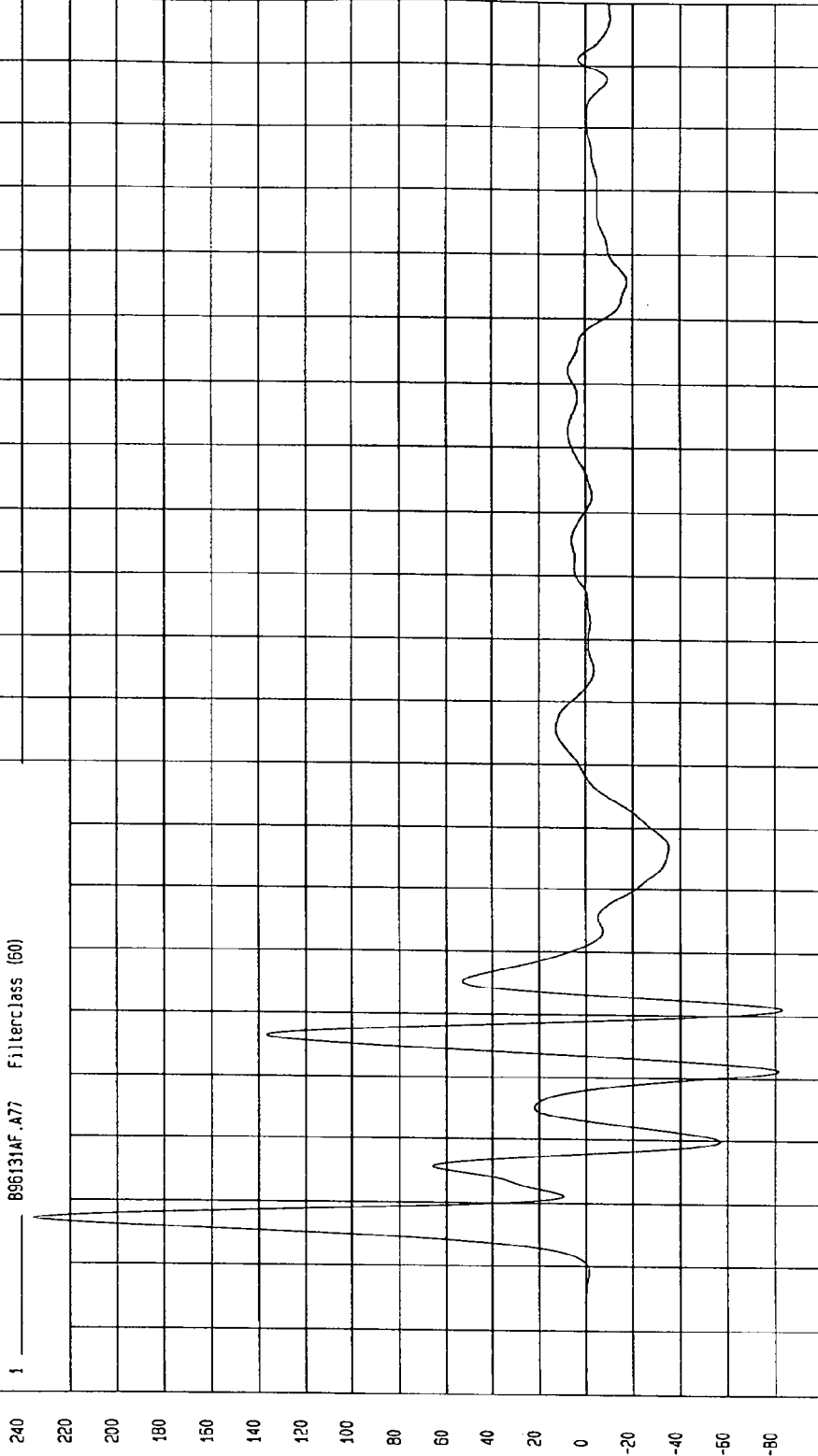
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-82.85203 6'S at 41 msec YMAX= 235.2742 6'S at 7.0 msec

LEFT REAR DOOR MIDREAR Y ACCELERATION

1 896131AF.A77 FilterClass (50)

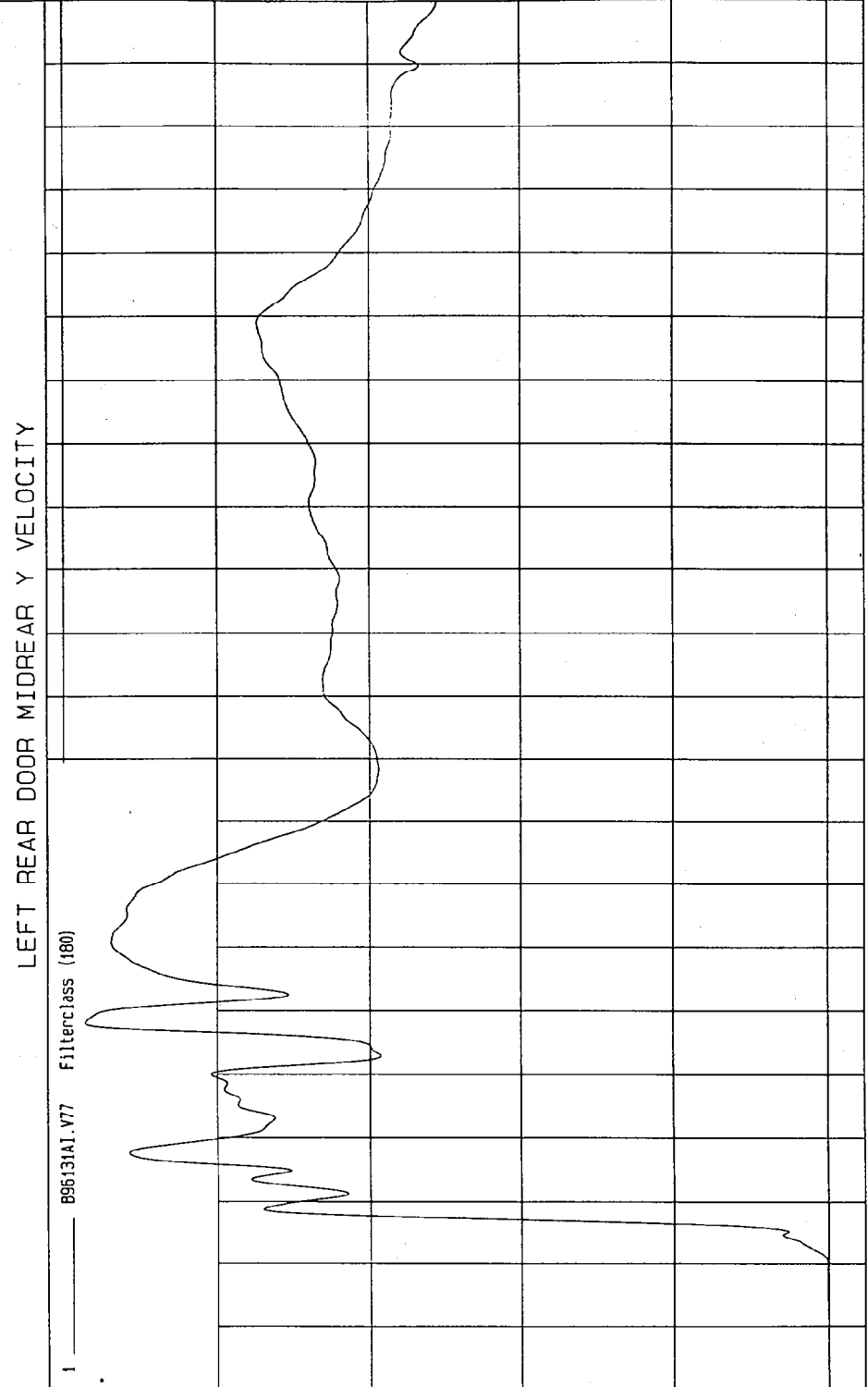


MCA Research
12-09-1996 14:04

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-1.4777E-03 KPH at -19. msec YMAX= 48.642 KPH at 38. msec



MGA Research
12-09-1996 13:55

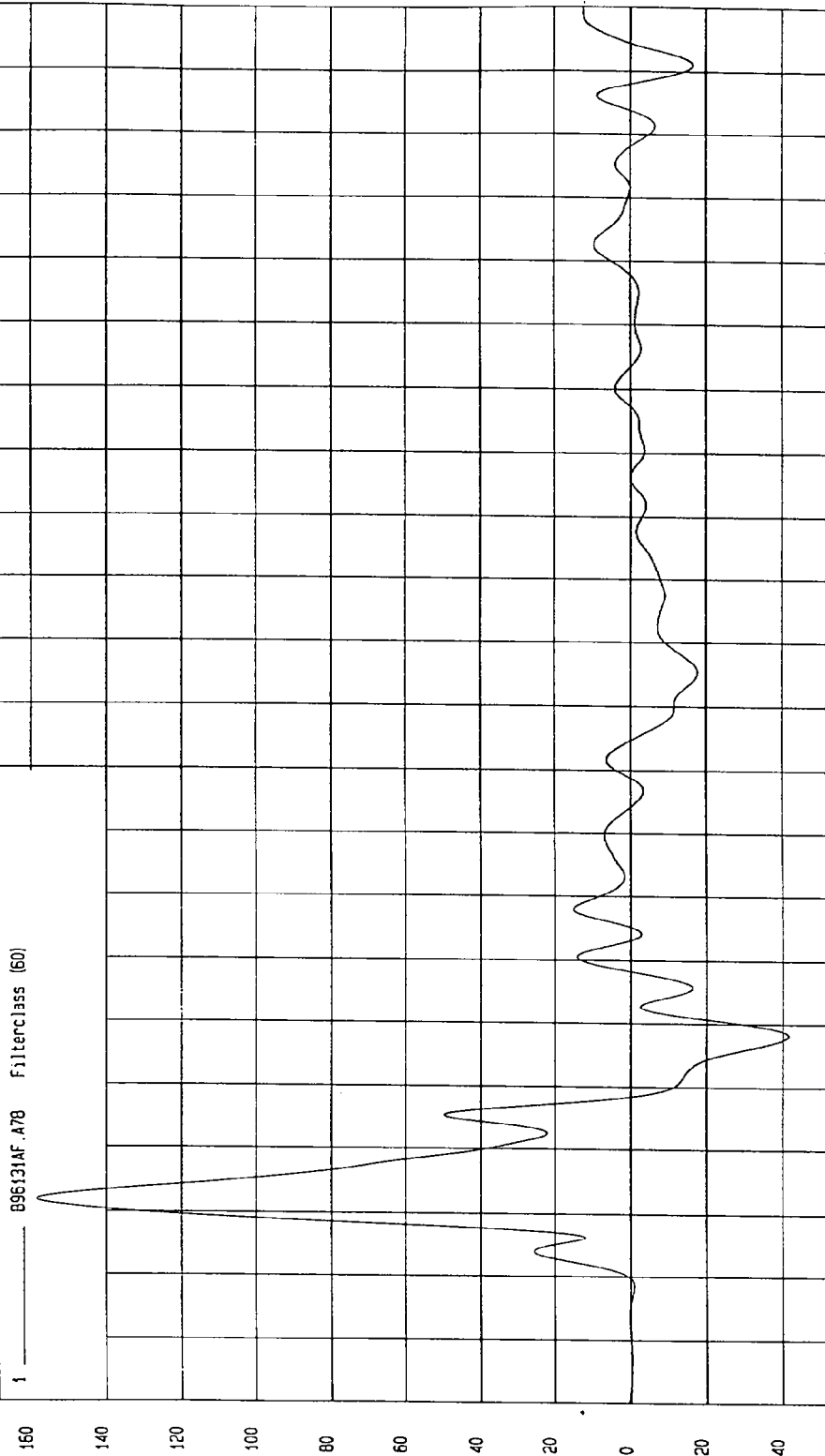
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-41.59993 G'S at 38. msec YMAX= 158.6734 G'S at 11. msec

LEFT REAR DOOR UPPER CENTERLINE Y ACCELERATION

1 896131AF.A78 FilterClass (60)



TIME (SECONDS)

MCA Research
12-03-1996 14:05

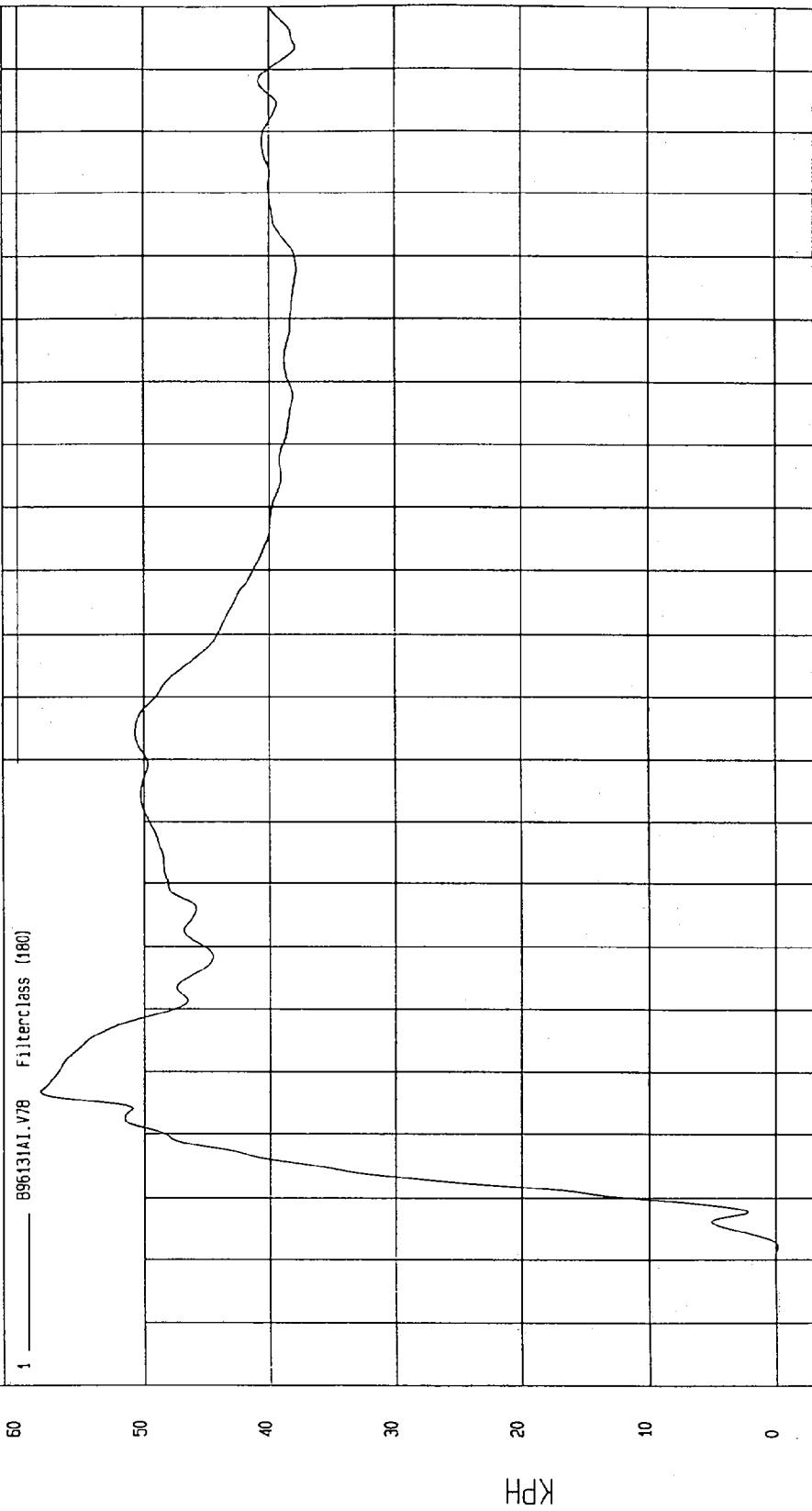
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-.159696 KPH at 2 msec YMAX= 59.25519 KPH at 26. msec

LEFT REAR DOOR UPPER CENTERLINE Y VELOCITY

1 896131A1.V78 Filterclass (180)



MCA Research
12-09-1996 13:55

TIME Seconds

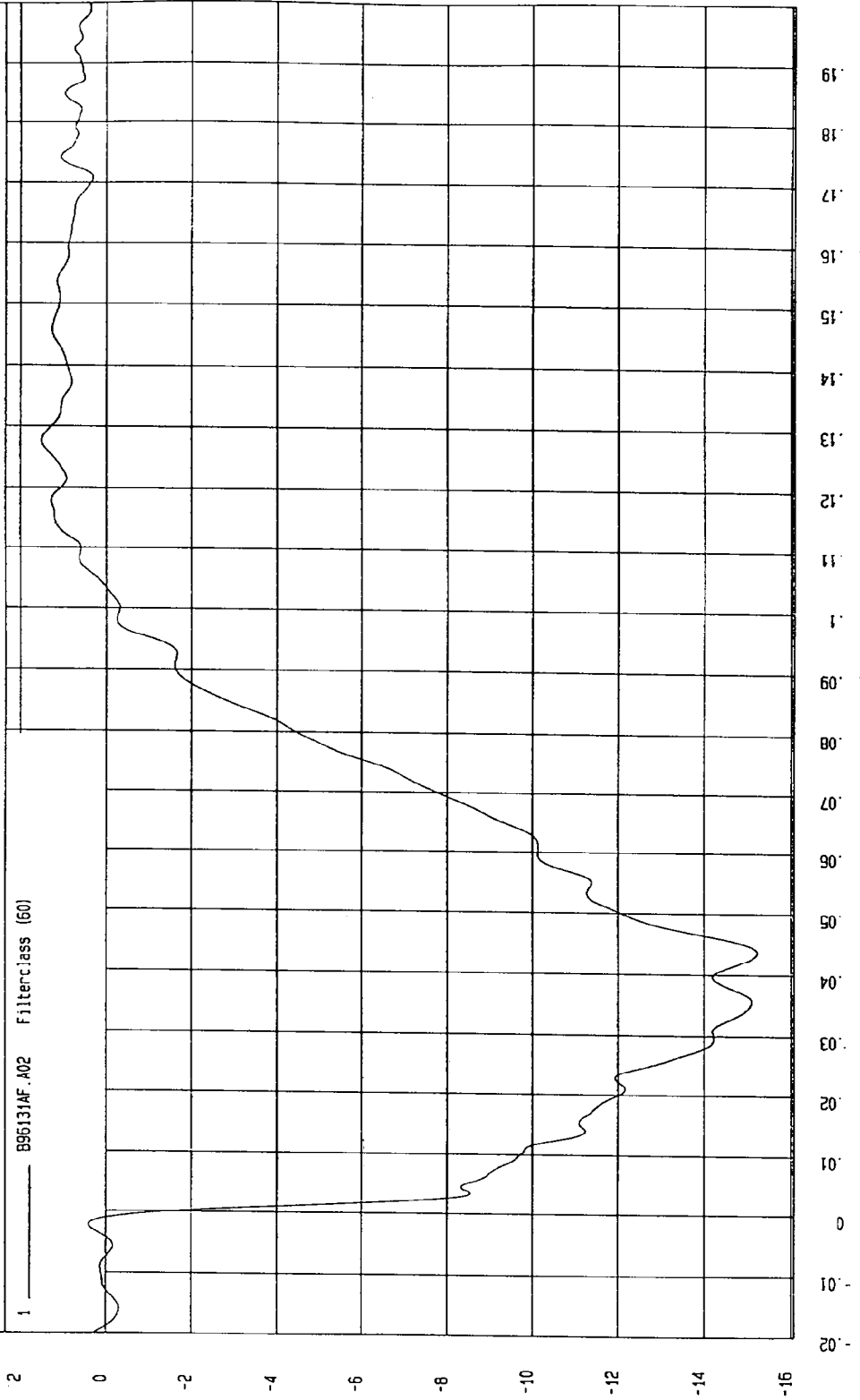
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-15.22673 G'S at 43. msec YMAX= 1.502472 G'S at 127 msec

MOVING BARRIER CG X ACCELERATION

1 ——— B95131AF.A02 Filterclass (60)



MCA Research
12-03-1996 14:14

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

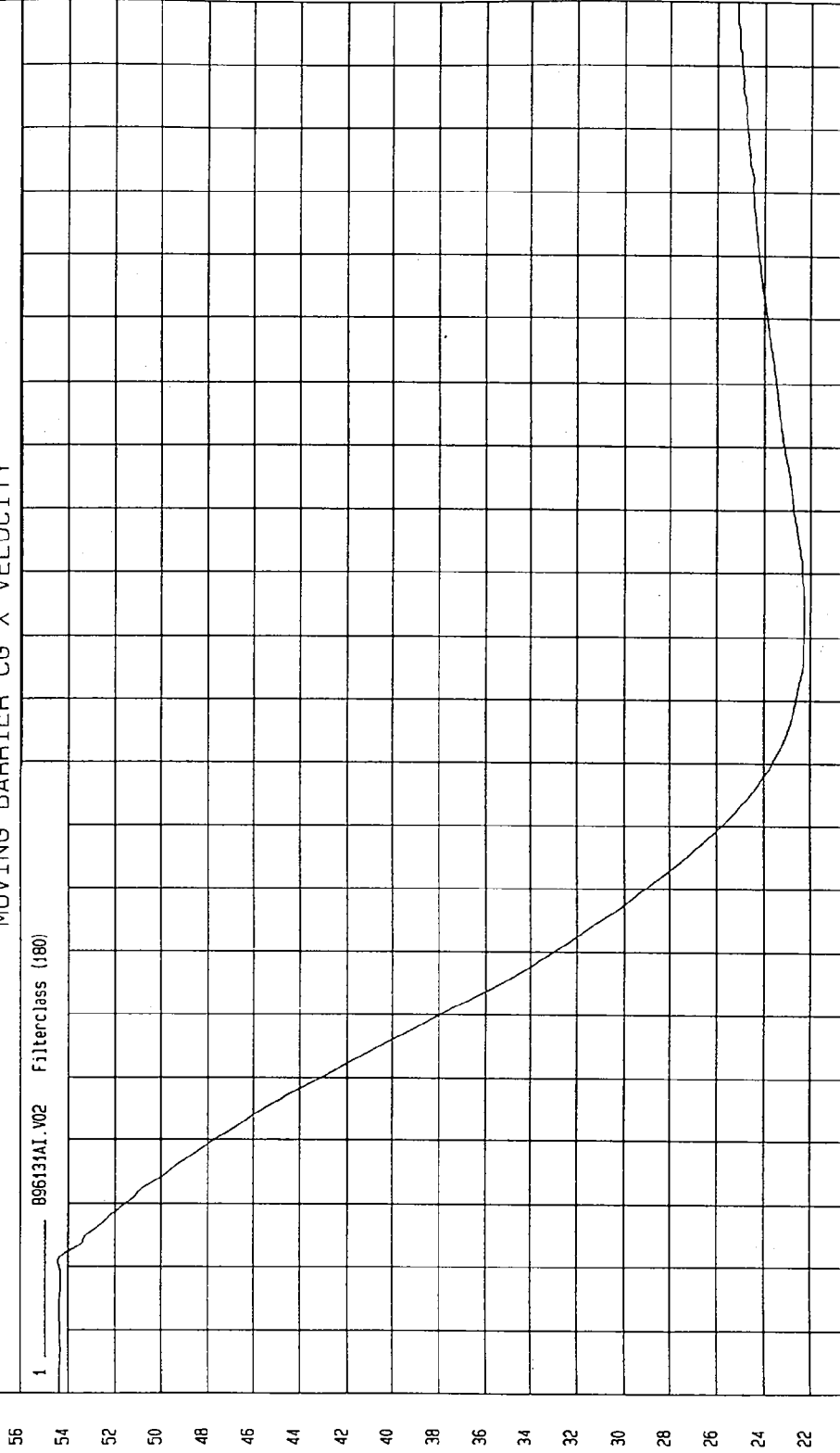
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 22.23971 KPH at 101 msec

YMAX= 54.44741 KPH at .69 msec

MOVING BARRIER CG X VELOCITY

1 896131AI.V02 Filterclass (180)



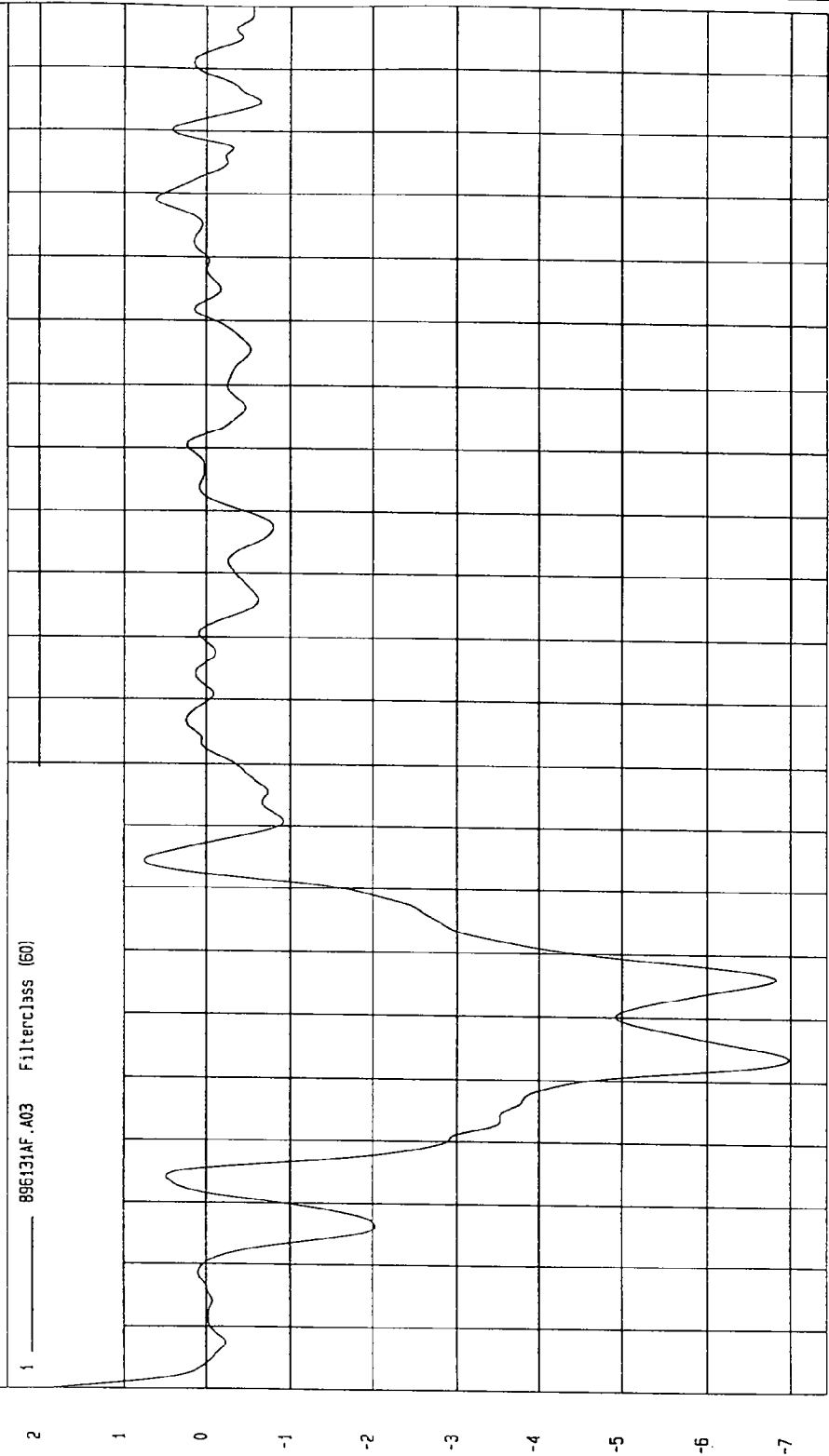
MGA Research
12-09-1996 13:52

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-6.964873 G'S at 33. msec YMAX= 1.941224 G'S at -20 msec

MOVING BARRIER CG Y ACCELERATION



TIME (SECONDS)

MCA Research
12-03-1996 14:14

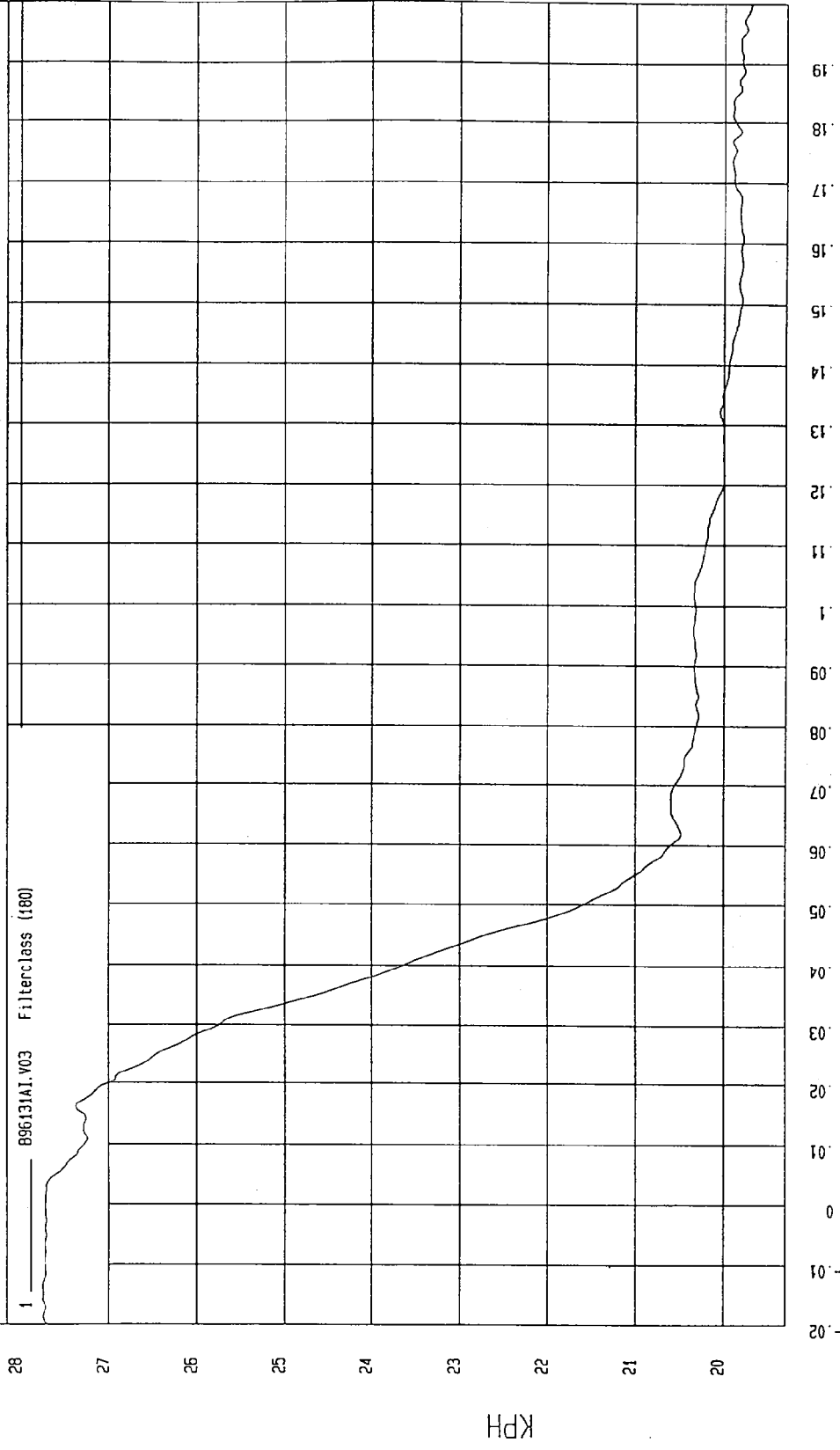
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 19.70266 KPH at 199 msec YMAX= 27.75513 KPH at -15. msec

MOVING BARRIER CG Y VELOCITY

1 ——— B96131A1.V03 Filterclass (180)



MGA Research
12-09-1996 13.52

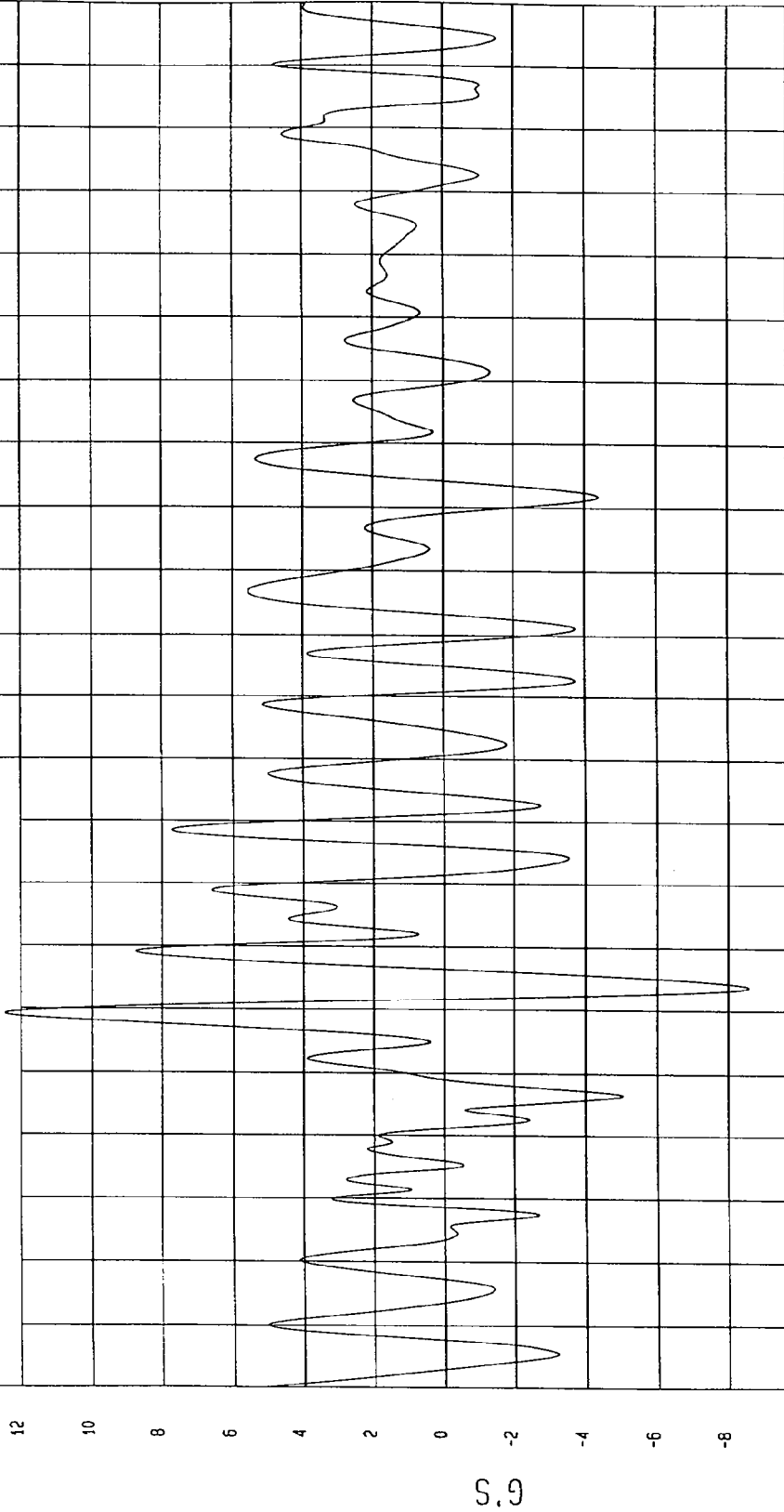
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-8.574507 G'S at 43. msec YMAX= 12.44696 G'S at 39. msec

MOVING BARRIER CG Z ACCELERATION

1 - 996131AF.A04 Filterclass (60)



MGA Research
12-09-1996 14. 14

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

Speed: 37.97 MPH 61.1 KPH

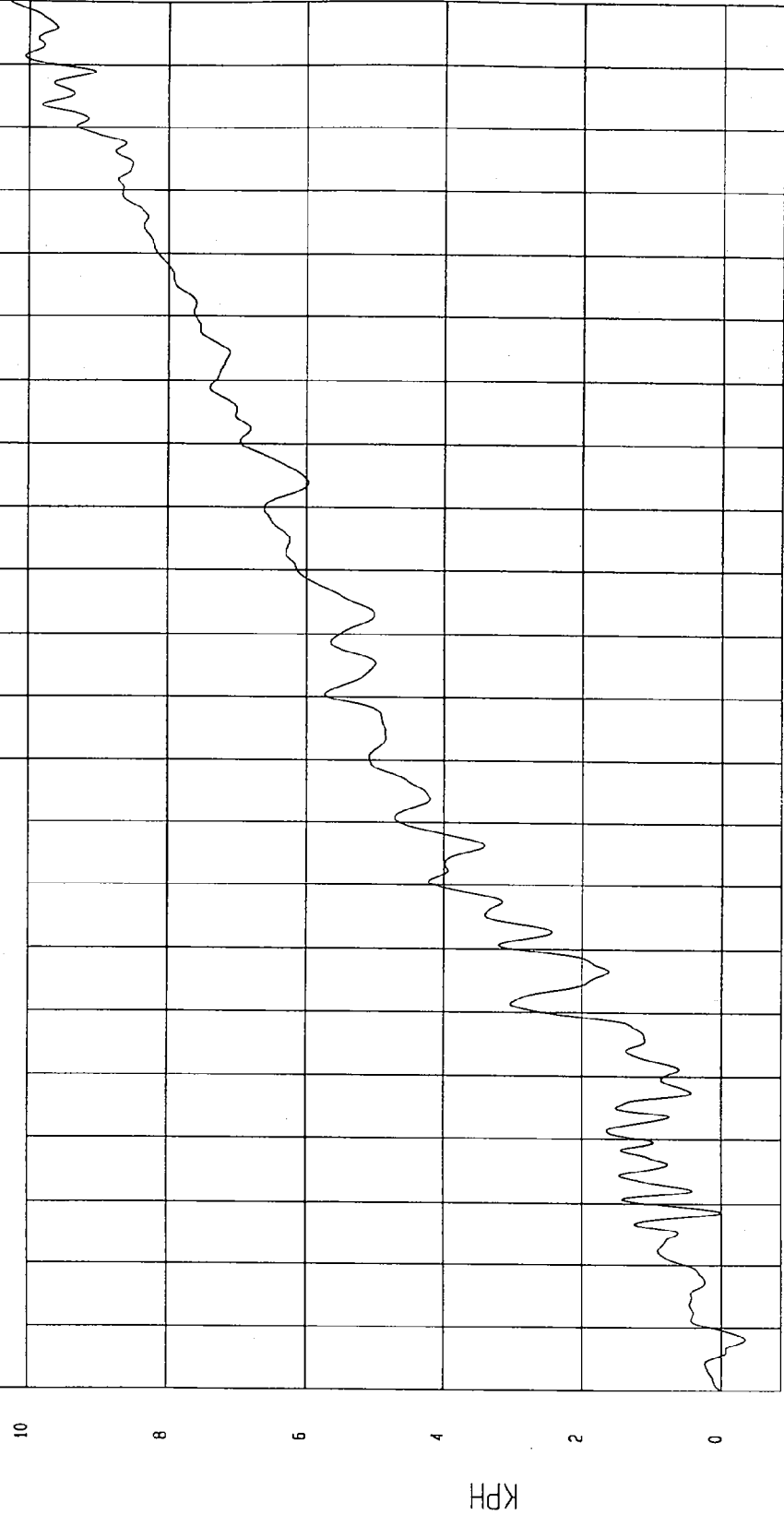
COMPONENT: 1997 FORD TAURUS (MV0205)

YMIN=-.390366 KPH at -11. msec

YMAX= 10.2957 KPH at 199 msec

MOVING BARRIER CG Z VELOCITY

1 ——— B96131A1.V04 Filterclass (160)



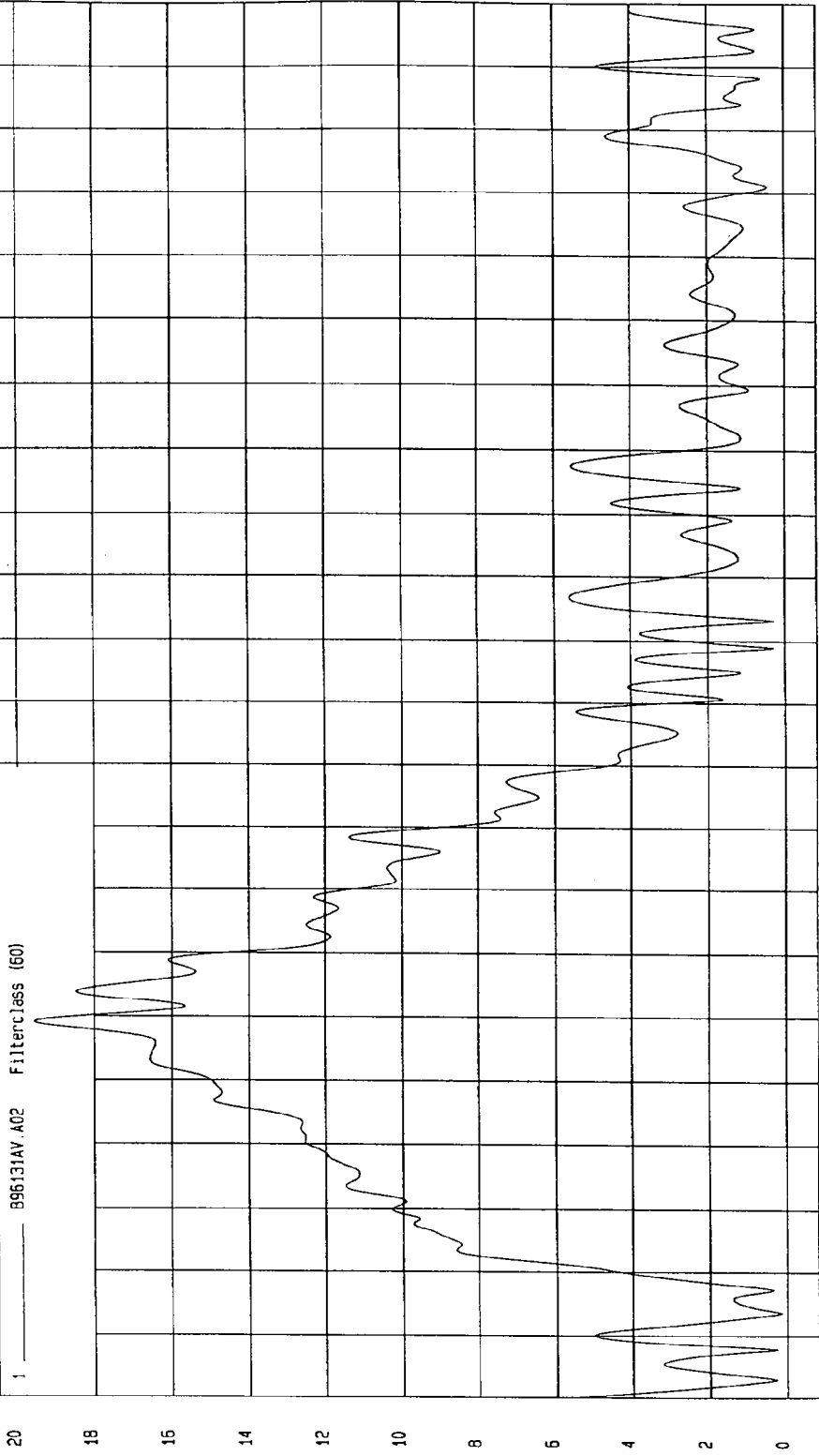
MSA Research Co.
12-09-1996 13:52

TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= .1363292 G'S at -6.4 msec YMAX= 19.56239 G'S at 39. msec

MOVING BARRIER CG RESULTANT ACCELERATION



TIME (SECONDS)

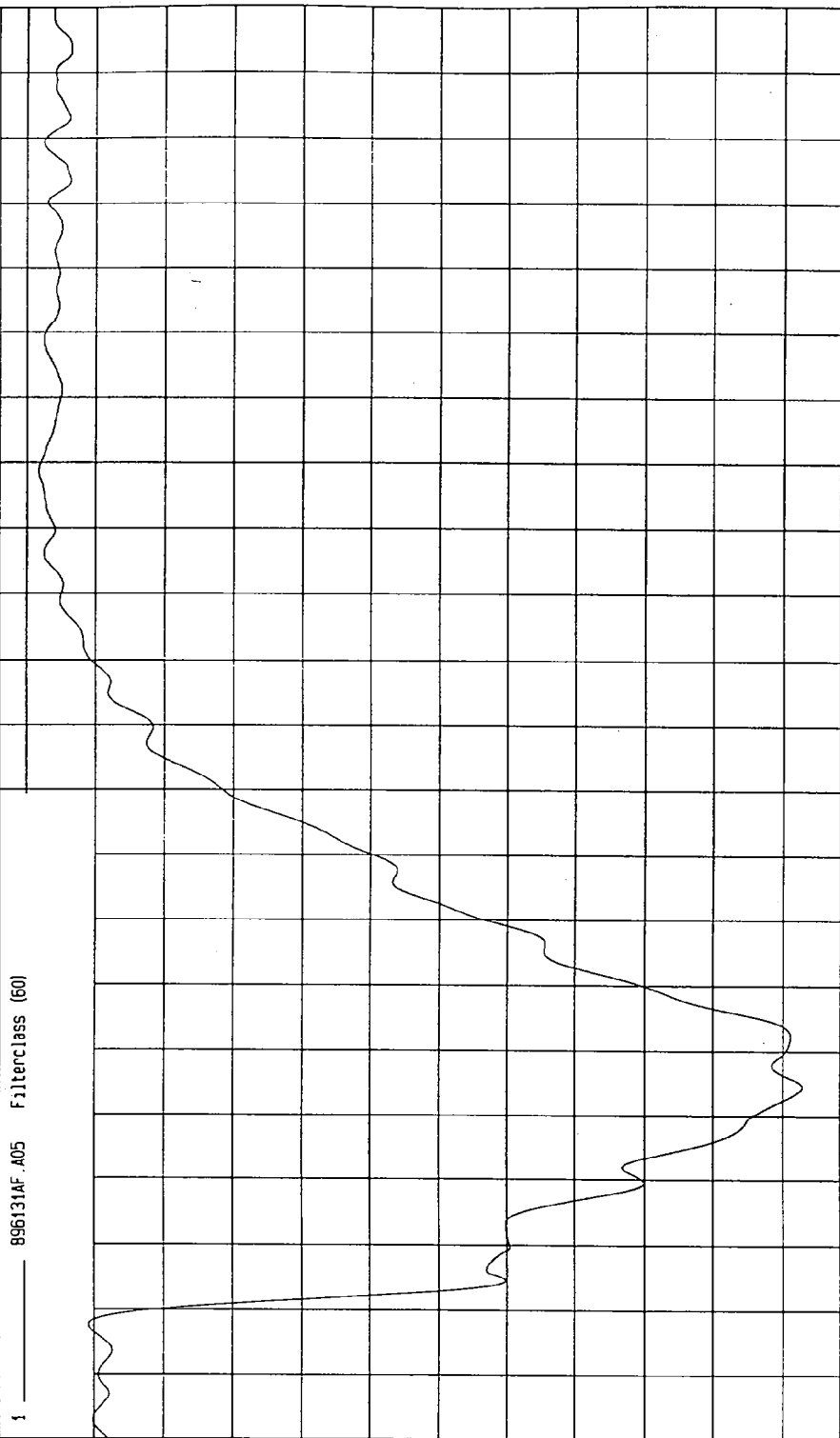
19
18
17
16
15
14
13
12
11
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0

USA Research
12-11-1996 08:06

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-20.56386 G'S at 34. msec YMAX= 1.664139 G'S at 128 msec

MOVING BARRIER REAR AXLE X ACCELERATION

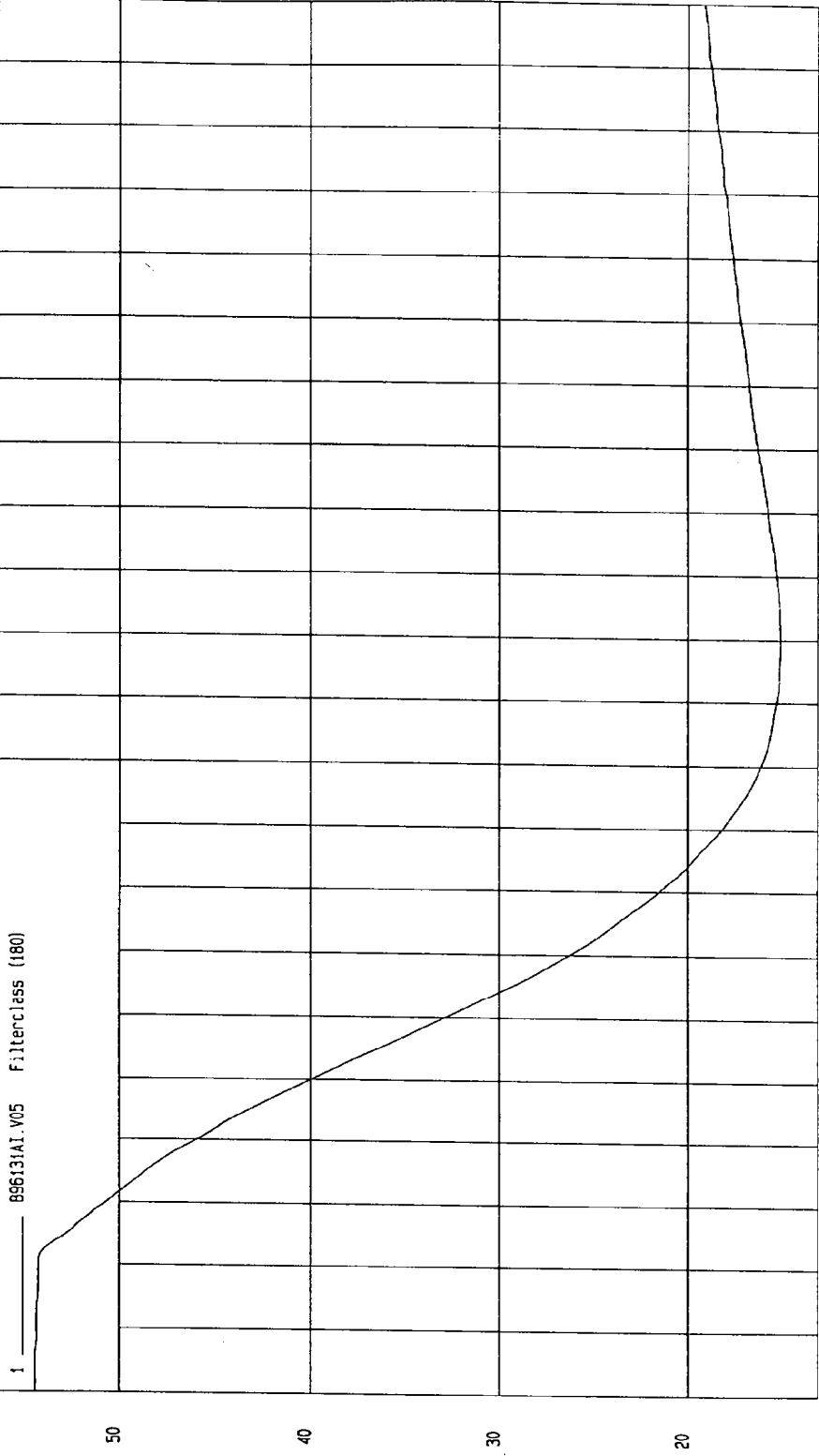


TIME (SECONDS)

MSA Research
12-09-1996 14.15

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
 COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH
 YMIN= 15.13728 KPH at 99. msec YMAX= 54.4 KPH at -20 msec

MOVING BARRIER REAR AXLE X VELOCITY



MGA Research
 12-09-1996 13:53

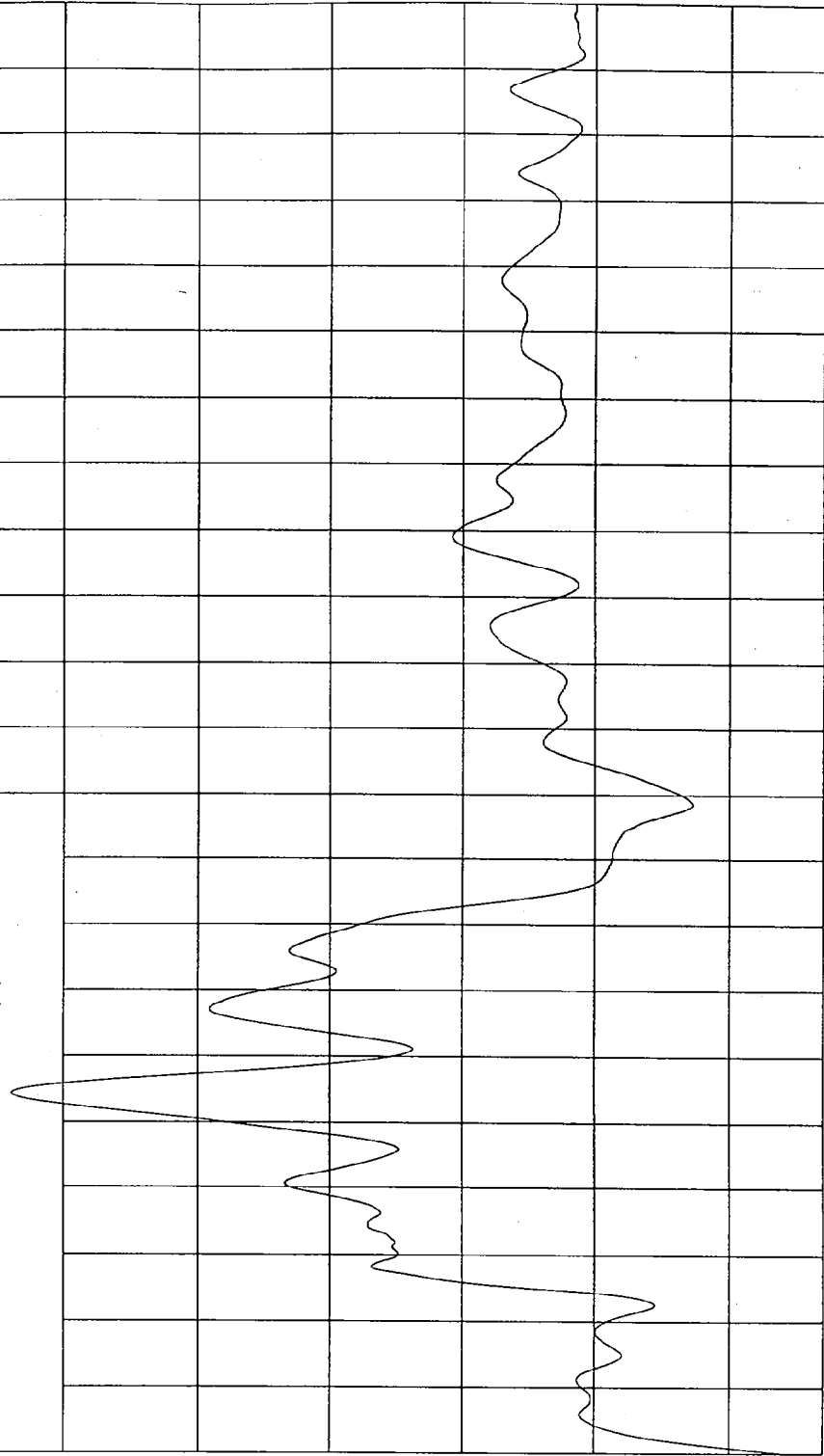
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-1.405479 G'S at -20 msec YMAX= 4.382596 G'S at 34. msec

MOVING BARRIER REAR AXLE Y ACCELERATION

1 ——— 896131AF.A06 Filterclass (50)



MOA Research
12-09-1996 1A: 15

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

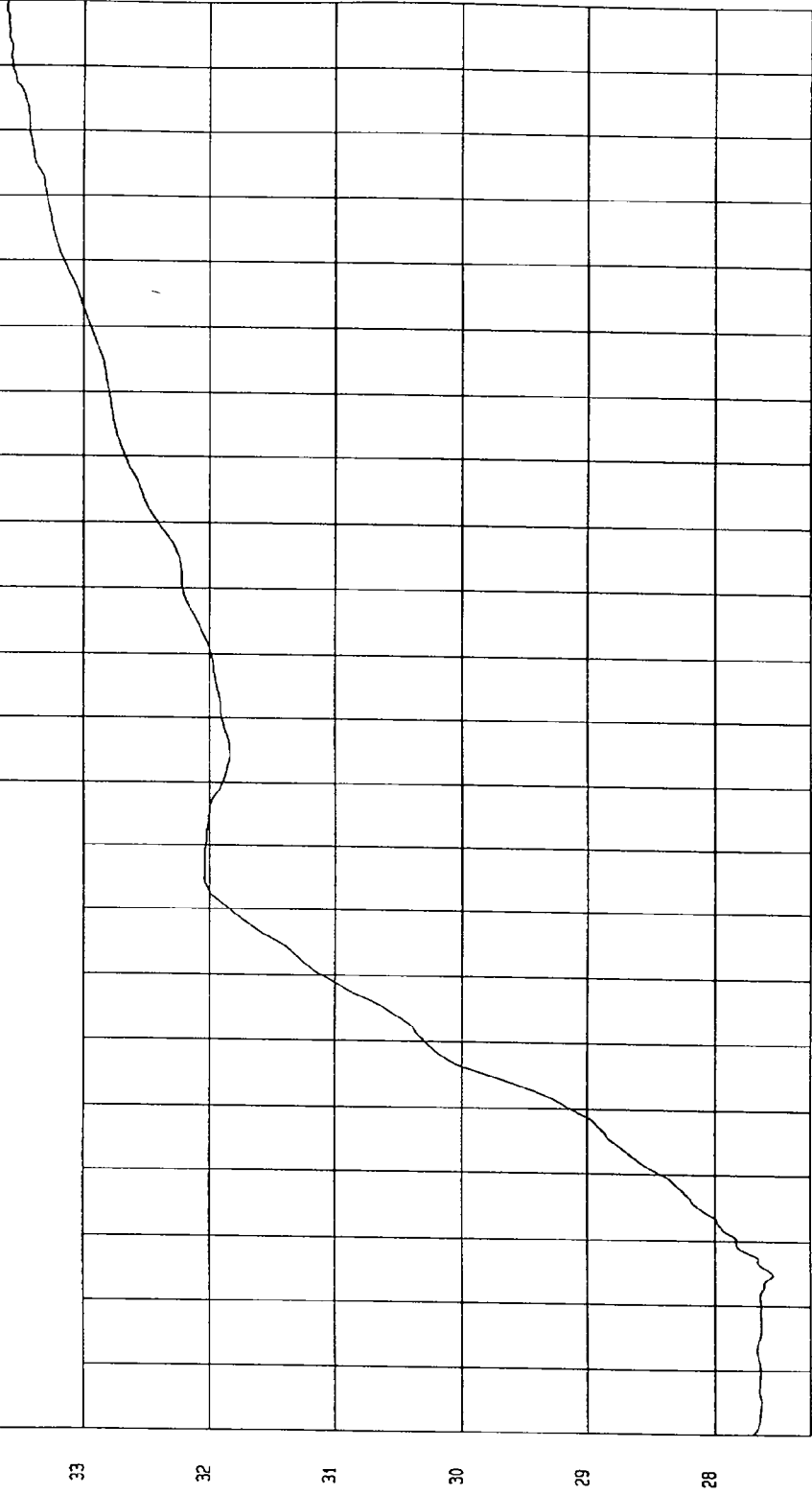
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 27.54187 KPH at 4.6 msec

YMAX= 33.60877 KPH at 198 msec

MOVING BARRIER REAR AXLE Y VELOCITY

1 896131A1.V06 Filterclass (180)



MOA Research
12-09-1996 13:53

TIME Seconds

KPH

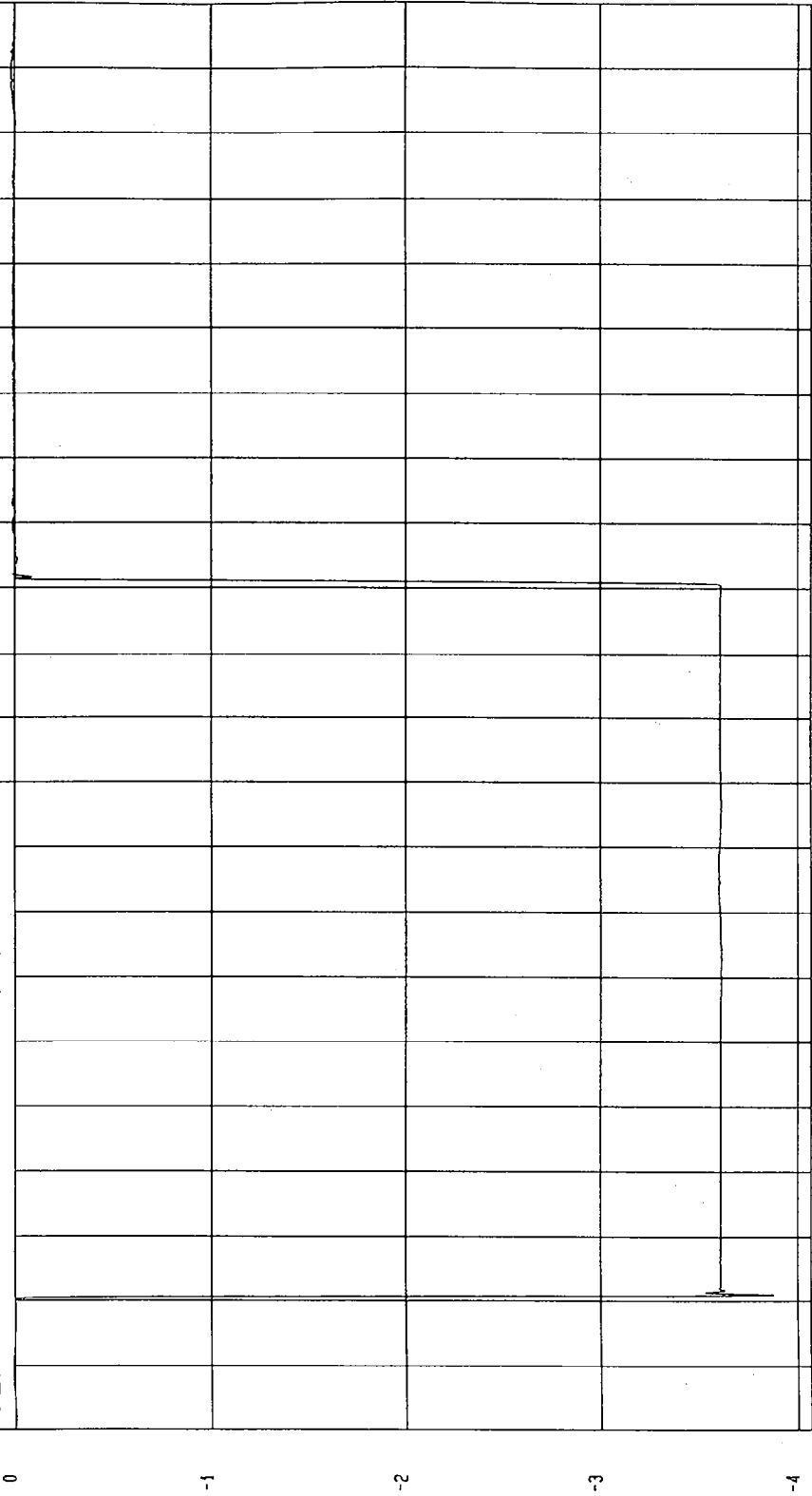
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-3.673368 VOLTS at .89 msec YMAX= 1.823401E-02 VOLTS at 188 msec

LEFT BARRIER CONTACT

1 89513107.D71 Filterclass (1000)



MCA Research
12-03-1996 14:16

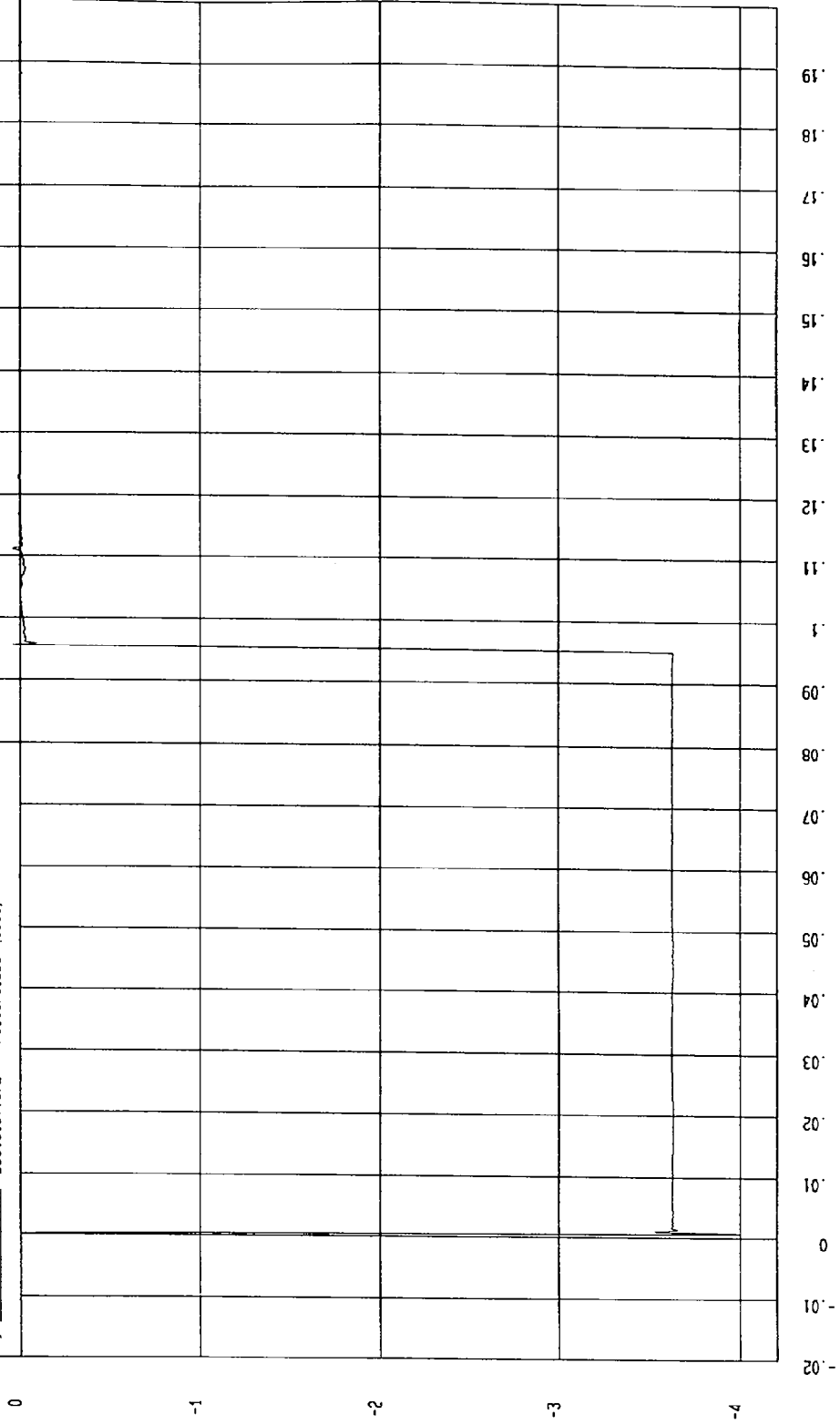
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-4.004089 VOLTS at .60 msec YMAX= 4.376197E-02 VOLTS at 95. msec

RIGHT BARRIER CONTACT

1 9961310T.072 Filterclass (1000)



NSA Research
12-03-1996 14.16

VOLTS

TIME (SECONDS)

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205)

Speed: 37.97 MPH 61.1 KPH

YMIN=-23.32676 G'S at 78. msec

YMAX= 92.20276 G'S at 37. msec

DRIVER UPPER RIB Y REDUNDANT ACCELERATION

1 ——— 896131AF.A61 Filterclass (180)

200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60

G.S

TIME (SECONDS)

0
.01
.02
.03
.04
.05
.06
.07
.08
.09
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9

MSA Research
12-09-1996 14:20

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205)

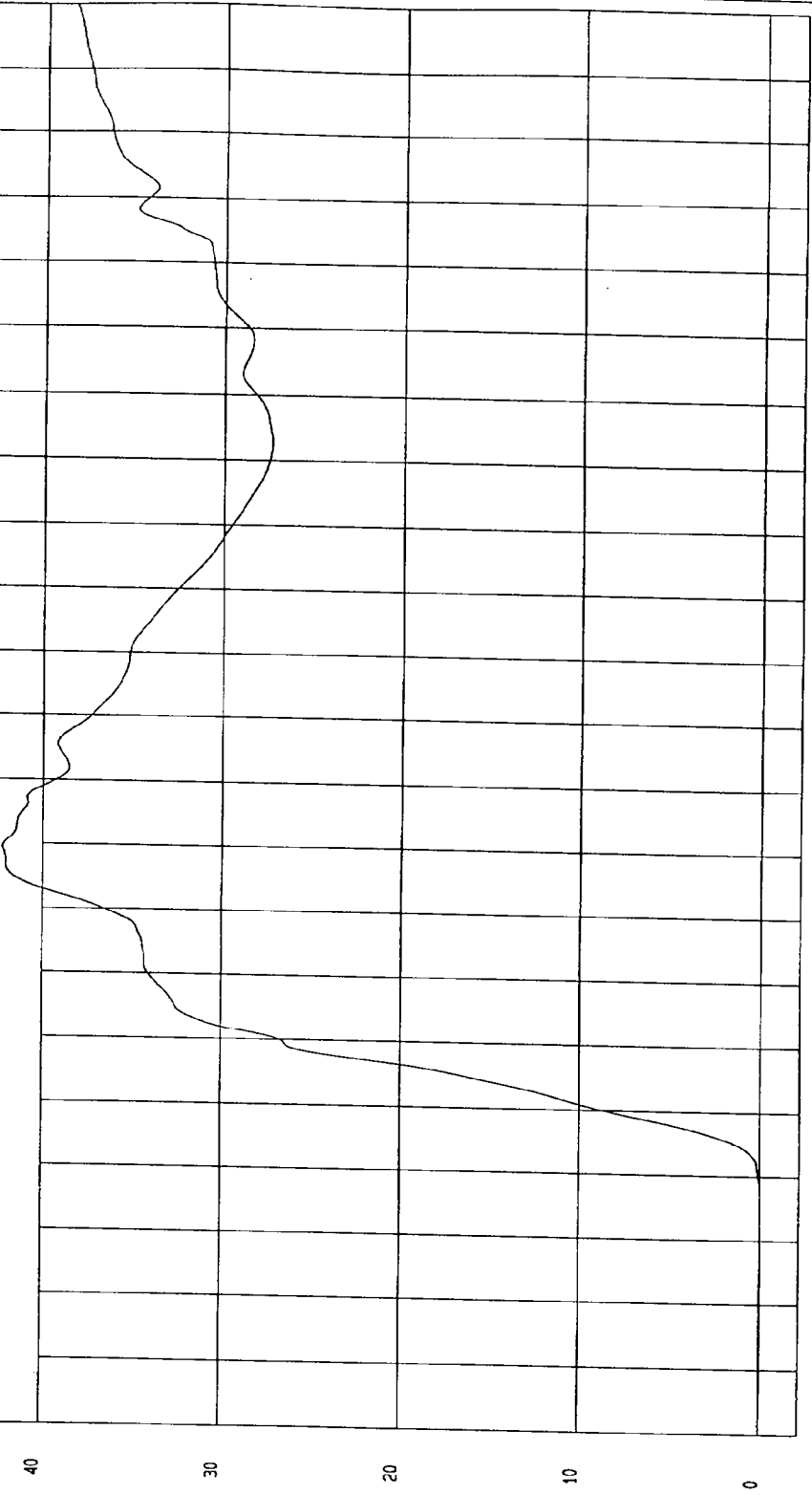
Speed: 37.97 MPH 61.1 KPH

YMIN=-5.685945E-02 KPH at -8.2 msec

YMAX= 42.21223 KPH at 69. msec

DRIVER UPPER RIB Y REDUNDANT VELOCITY

1 896131A1.V61 Filterclass (180)

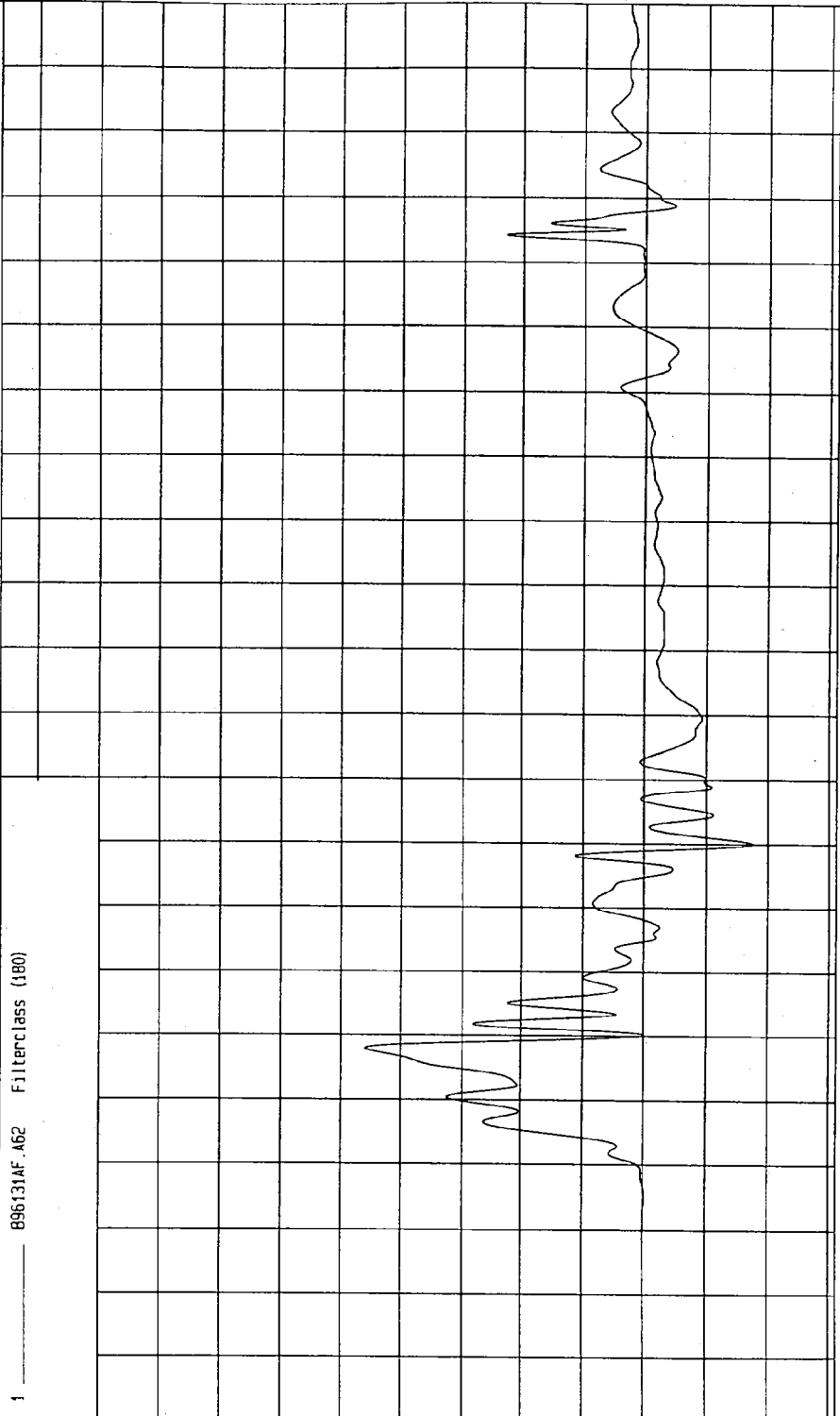


MECA Research
12-09-1996 13:59

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-35.06836 G'S at 70 msec YMAX= 91.75111 G'S at 37. msec

DRIVER LOWER RIB Y REDUNDANT ACCELERATION



TIME (SECONDS)

MCA Research
12-09-1996 14:20

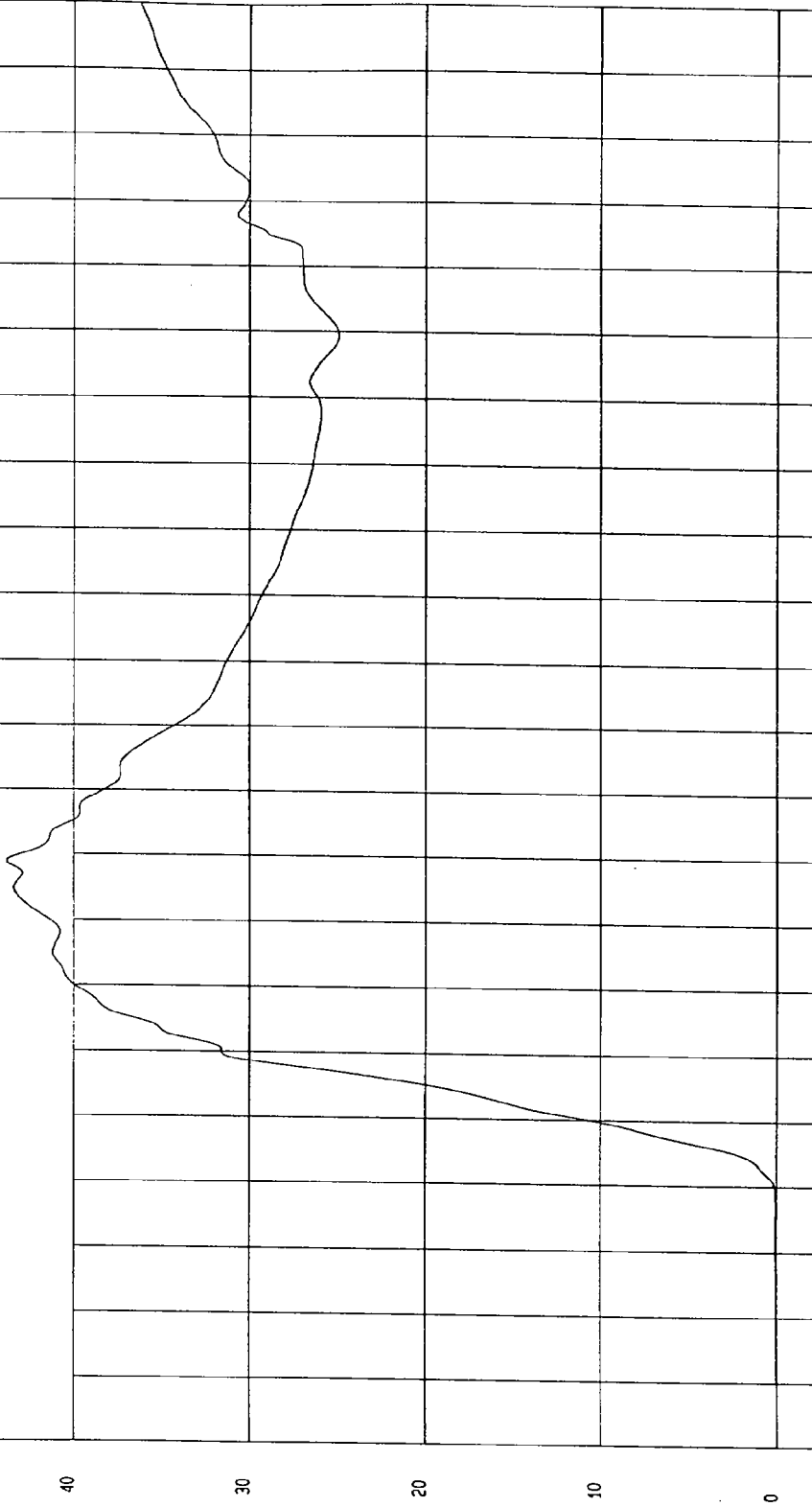
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN= 0 KPH at -20 msec YMAX= 43.74723 KPH at 58. msec

DRIVER LOWER RIB Y REDUNDANT VELOCITY

1 ——— 896131A1.V62 Filterclass (180)



MCA Research
12-09-1996 13:59

TIME Seconds

KPH

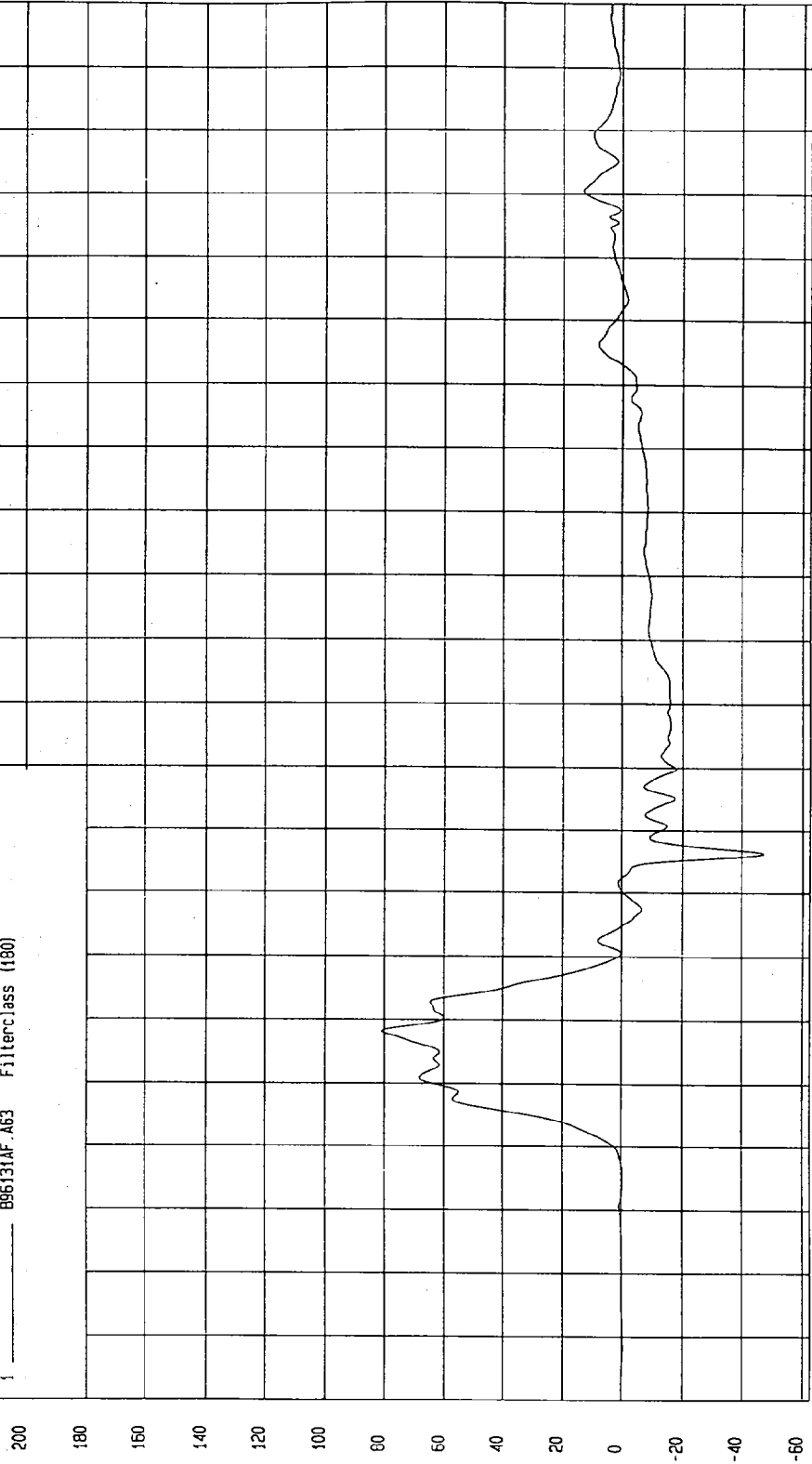
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-46.96775 G'S at 66. msec YMAX= 80.89808 G'S at 38. msec

DRIVER LOWER SPINE Y REDUNDANT ACCELERATION

1 896131AF.A53 Filterclass (180)



WGA Research
12-09-1996 14: 21

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

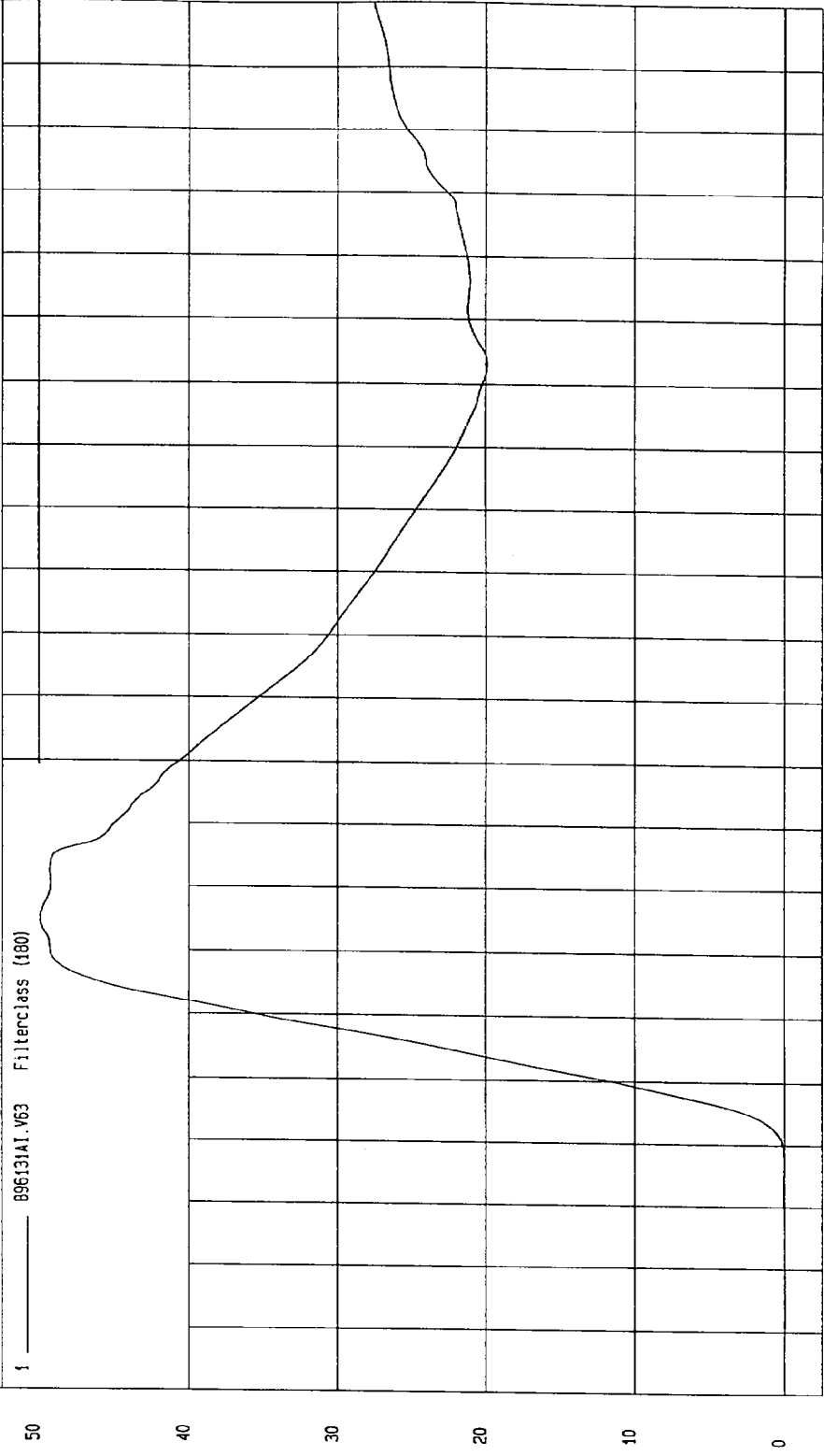
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-4.795075E-02 KPH at -6.5 msec

YMAX= 49.91391 KPH at 54. msec

DRIVER LOWER SPINE Y REDUNDANT VELOCITY

1 ——— 896131A1.V63 FilterClass (480)



TIME Seconds

MGA Research
12-09-1996 14:00

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

Speed: 37.97 MPH 61.1 KPH

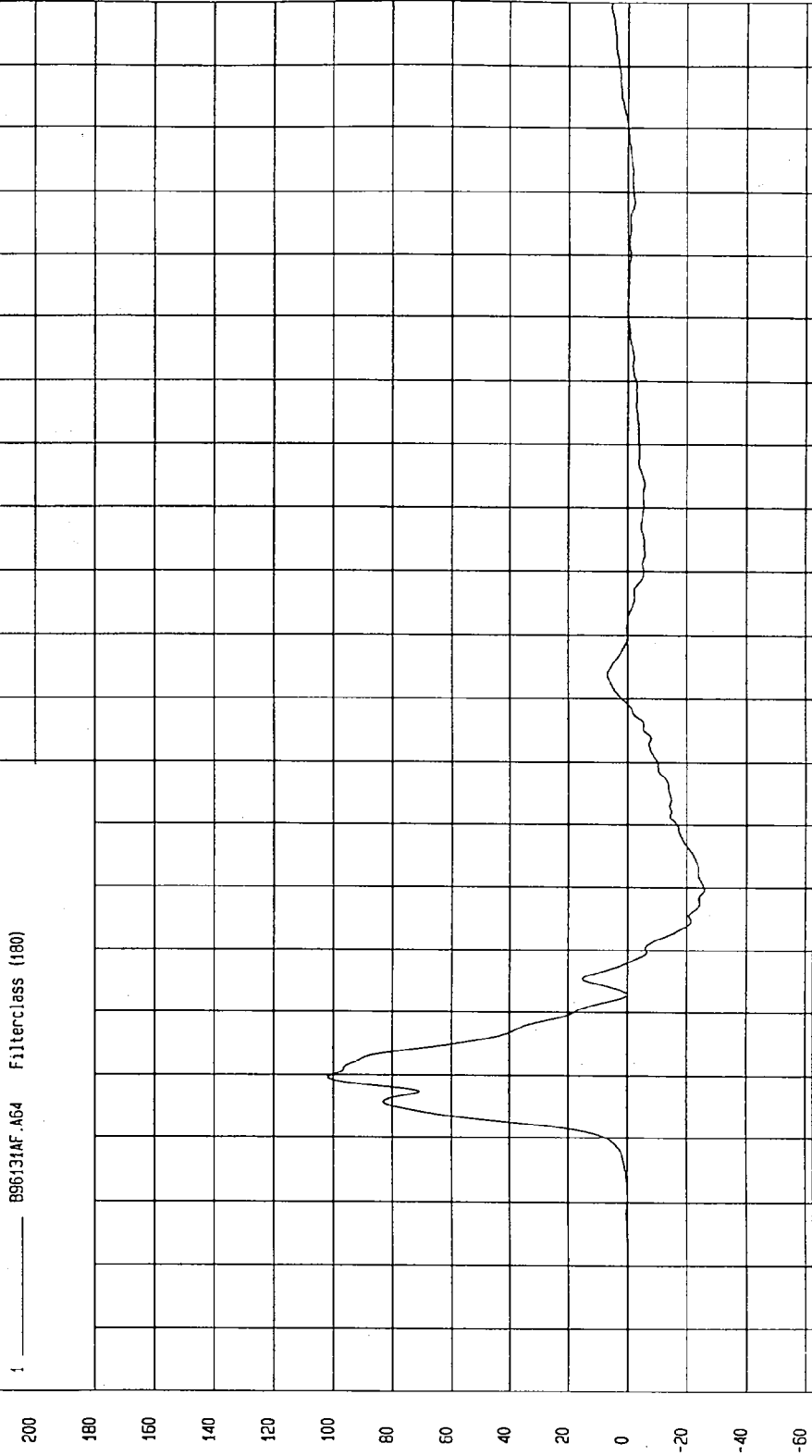
COMPONENT: 1997 FORD TAURUS (MVO205)

YMAX= 101.6693 G'S at 29. msec

YMIN=-25.85502 G'S at 59. msec

DRIVER PELVIS Y REDUNDANT ACCELERATION

1 _____ B96131AF-A64 Filterclass (180)



MOA Research
12-09-1996 1A: 21

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

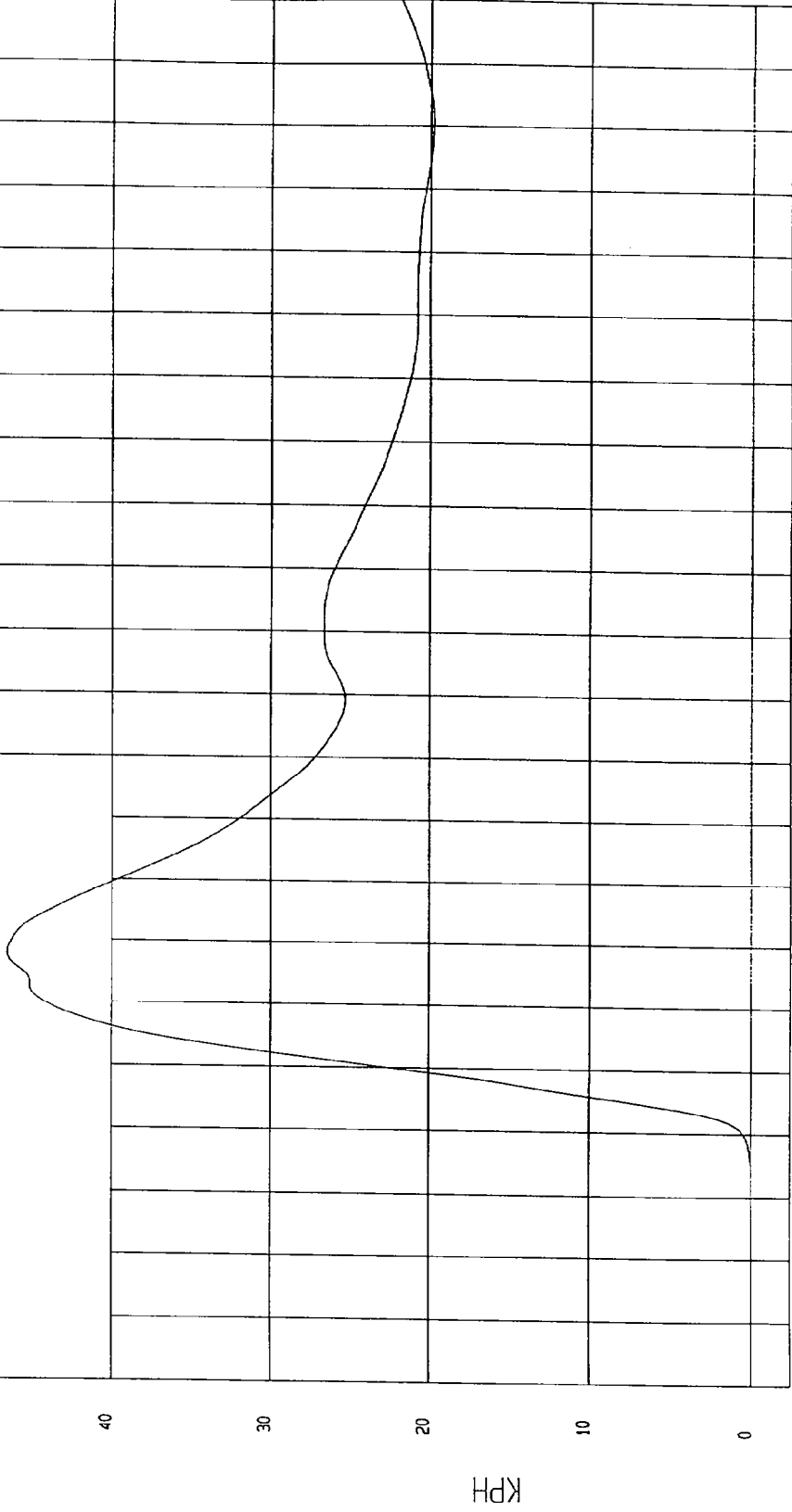
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-3.532348E-02 KPH at 3.1 msec

YMAX=46.57733 KPH at 48 msec

DRIVER PELVIS Y REDUNDANT VELOCITY

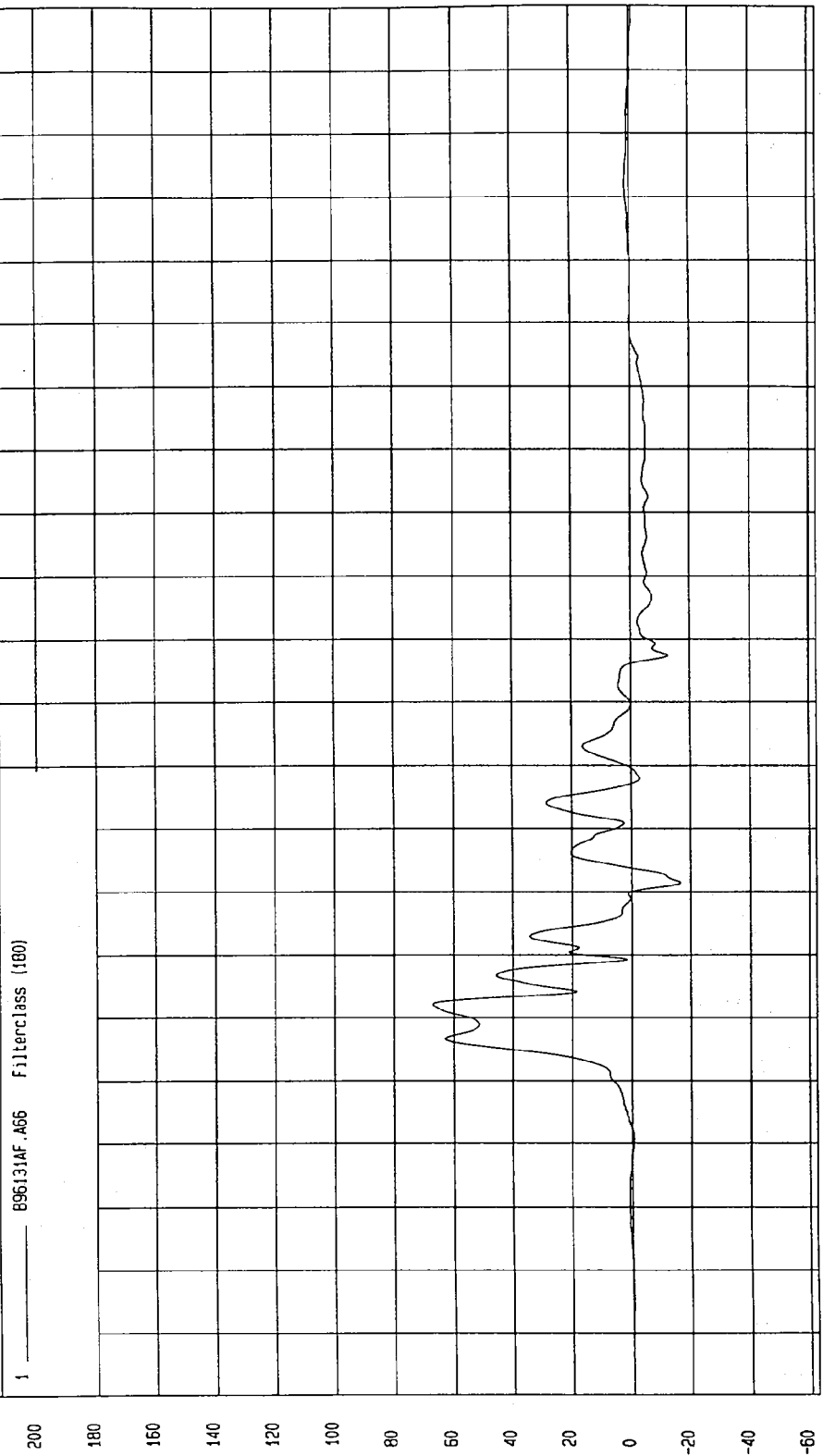
1 ——— 896131A1.V64 Filterclass (180)



TIME Seconds
MGA Research
12-09-1996 14:00

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
 COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH
 YMIN=-16.55592 G'S at 61. msec YMAX= 67.23047 G'S at 42. msec

REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION



G.S
 TIME (SECONDS)
 MGA Research
 12-09-1996 1A: 21

TEST: NCAP SIDE IMPACT TEST

TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205)

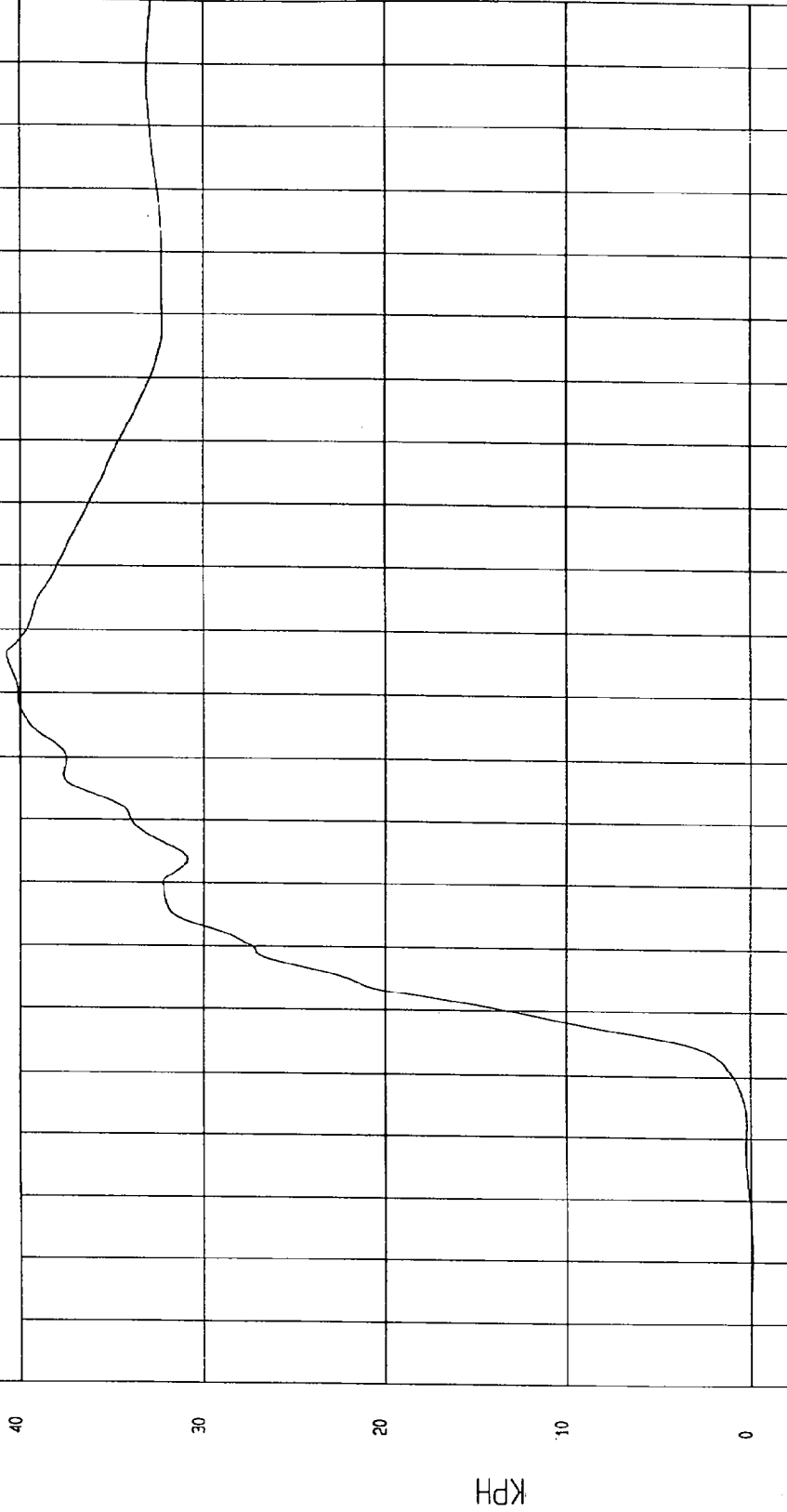
Speed: 37.97 MPH 61.1 KPH

YMIN=-7.728025E-02 KPH at .60 msec

YMAX= 40.73812 KPH at 96. msec

REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY

1 89613/AT.V66 Filterclass (180)



MCA Research
12-03-1996 14:00

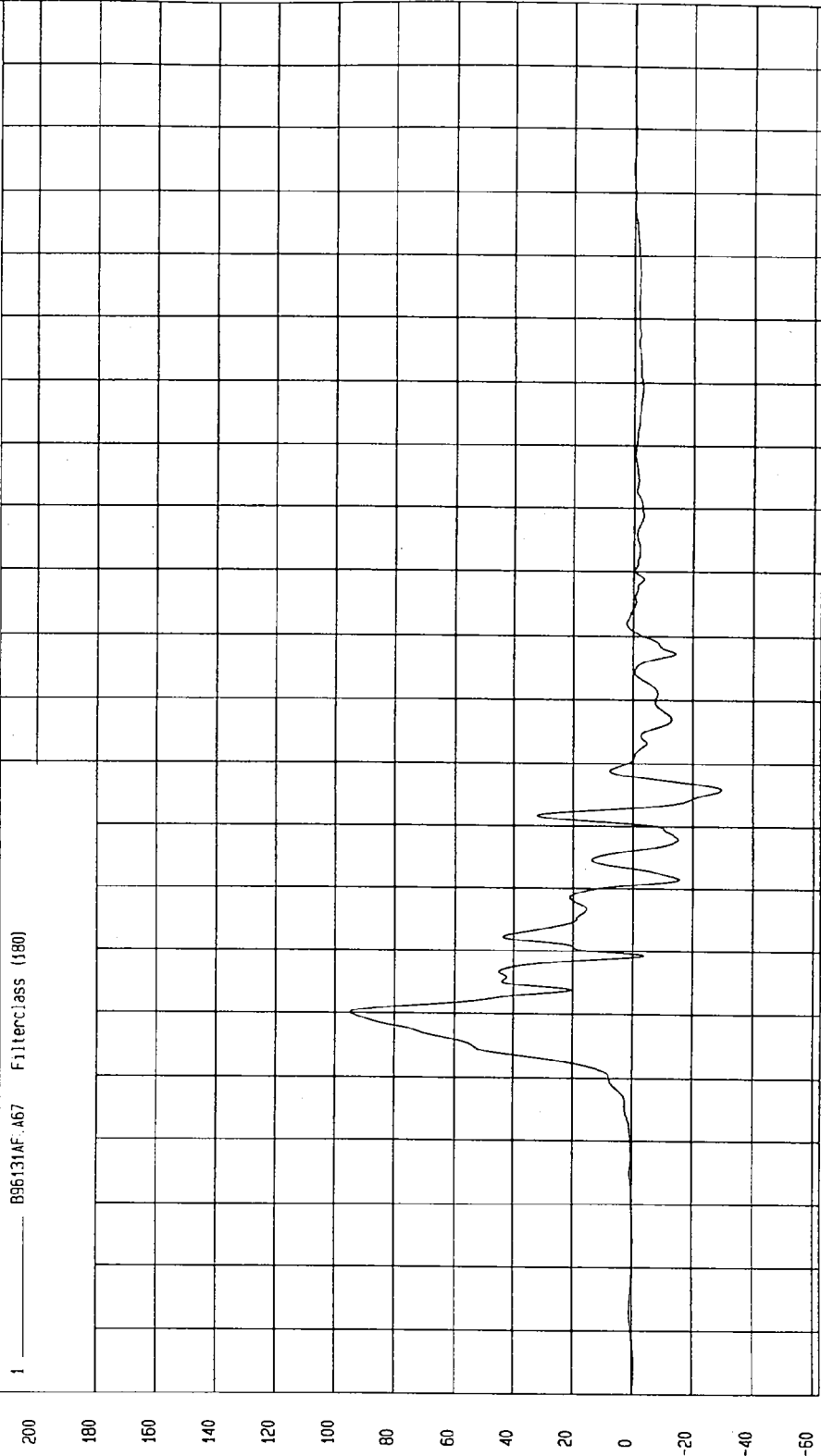
TIME Seconds

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-29.71403 G'S at 75. msec YMAX= 94.75677 G'S at 40. msec

REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION

1 896131AF.A67 Filterclass (180)



MGA Research
12-09-1996 1A:22

TIME (SECONDS)

G.S

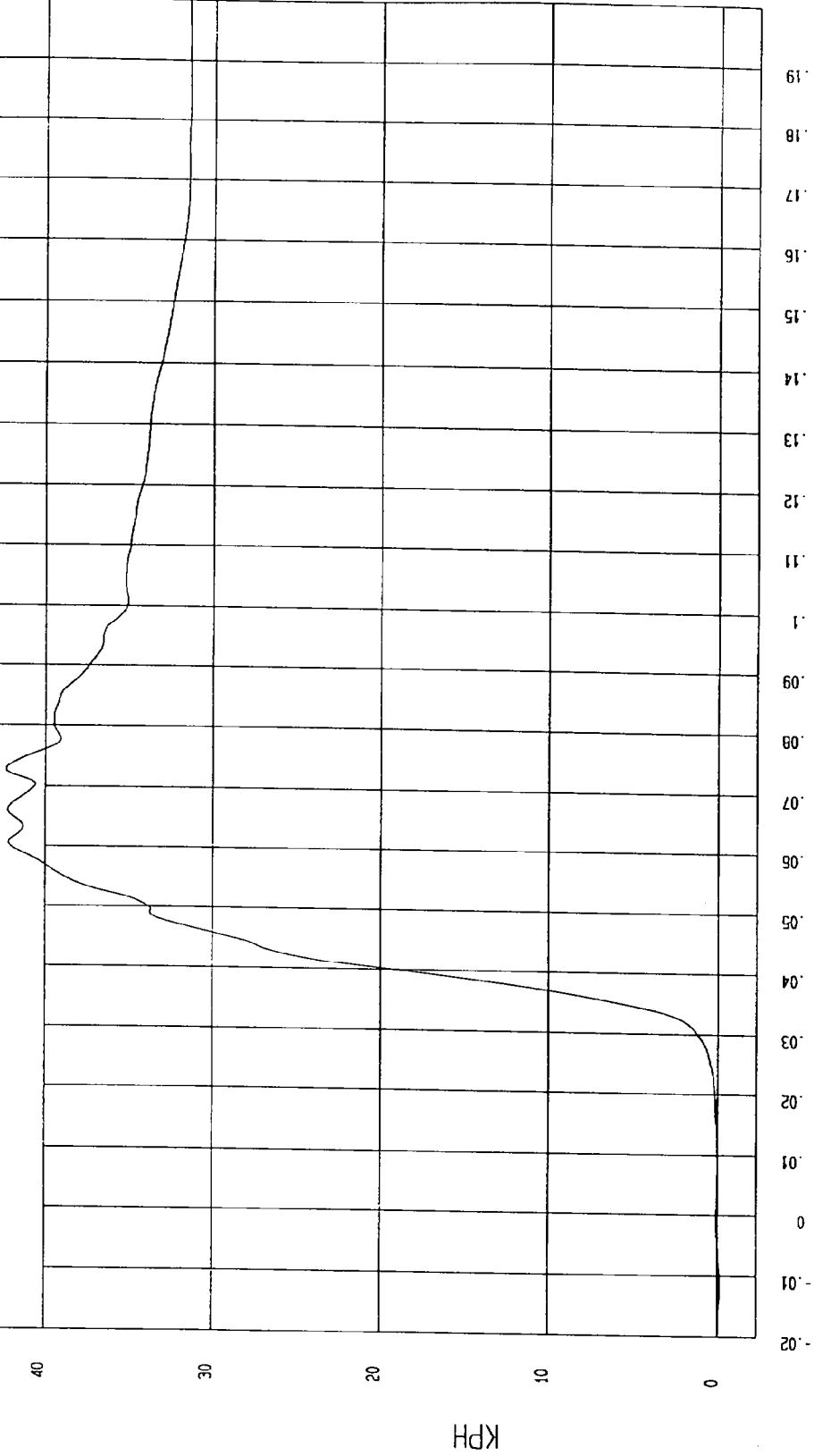
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-.1241268 KPH at -.11. msec YMAX= 42.32525 KPH at 72. msec

REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY

1 ——— 896131A1.V67 Filterclass (180)



M&A Research
12-09-1996 14.00

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

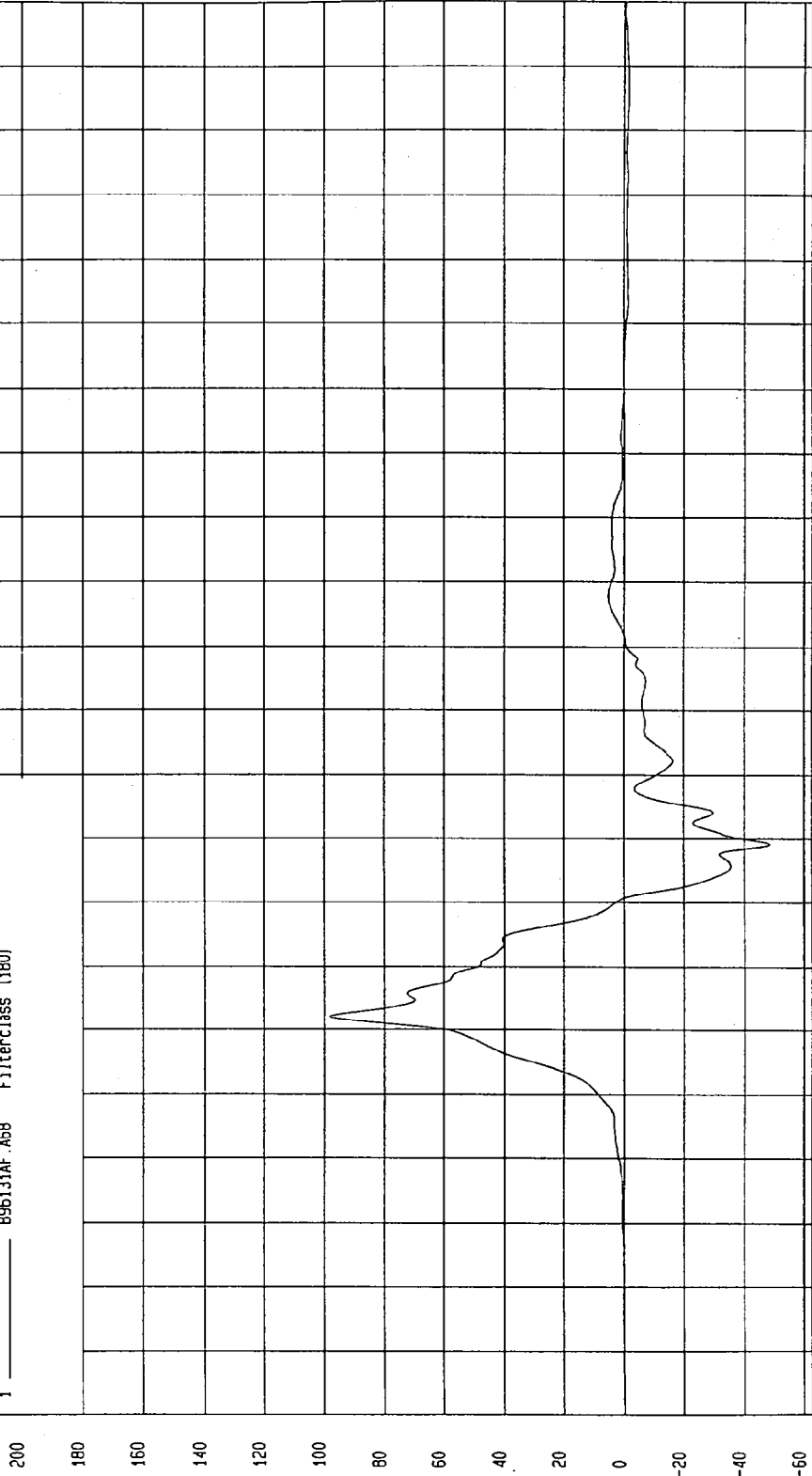
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-48.46476 G'S at 69. msec

YMAX= 96.39245 G'S at 42. msec

REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION

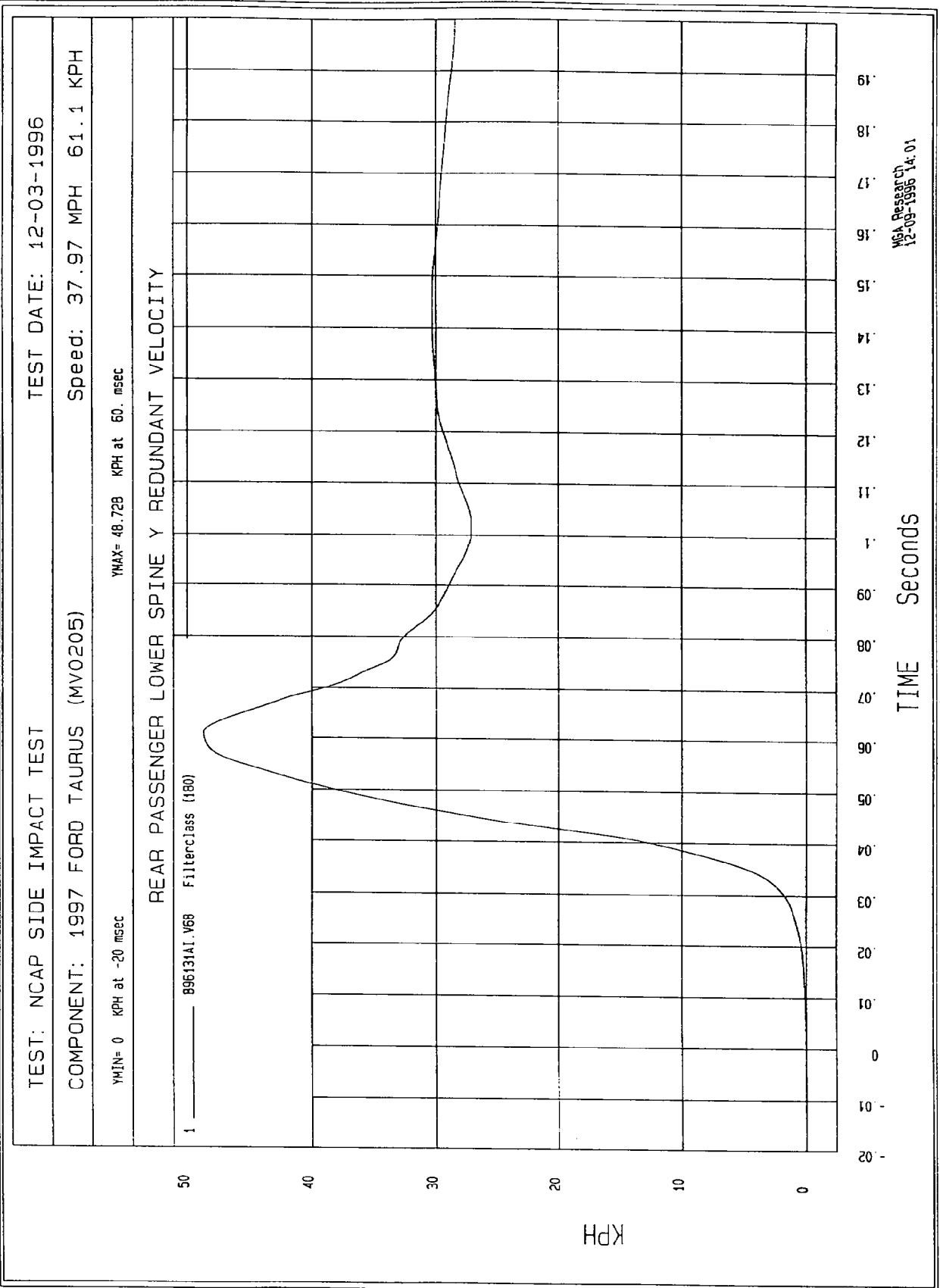
1 ——— 896131AF.468 Filterclass (180)



MCA Research
12-09-1996 14:22

TIME (SECONDS)

G.S



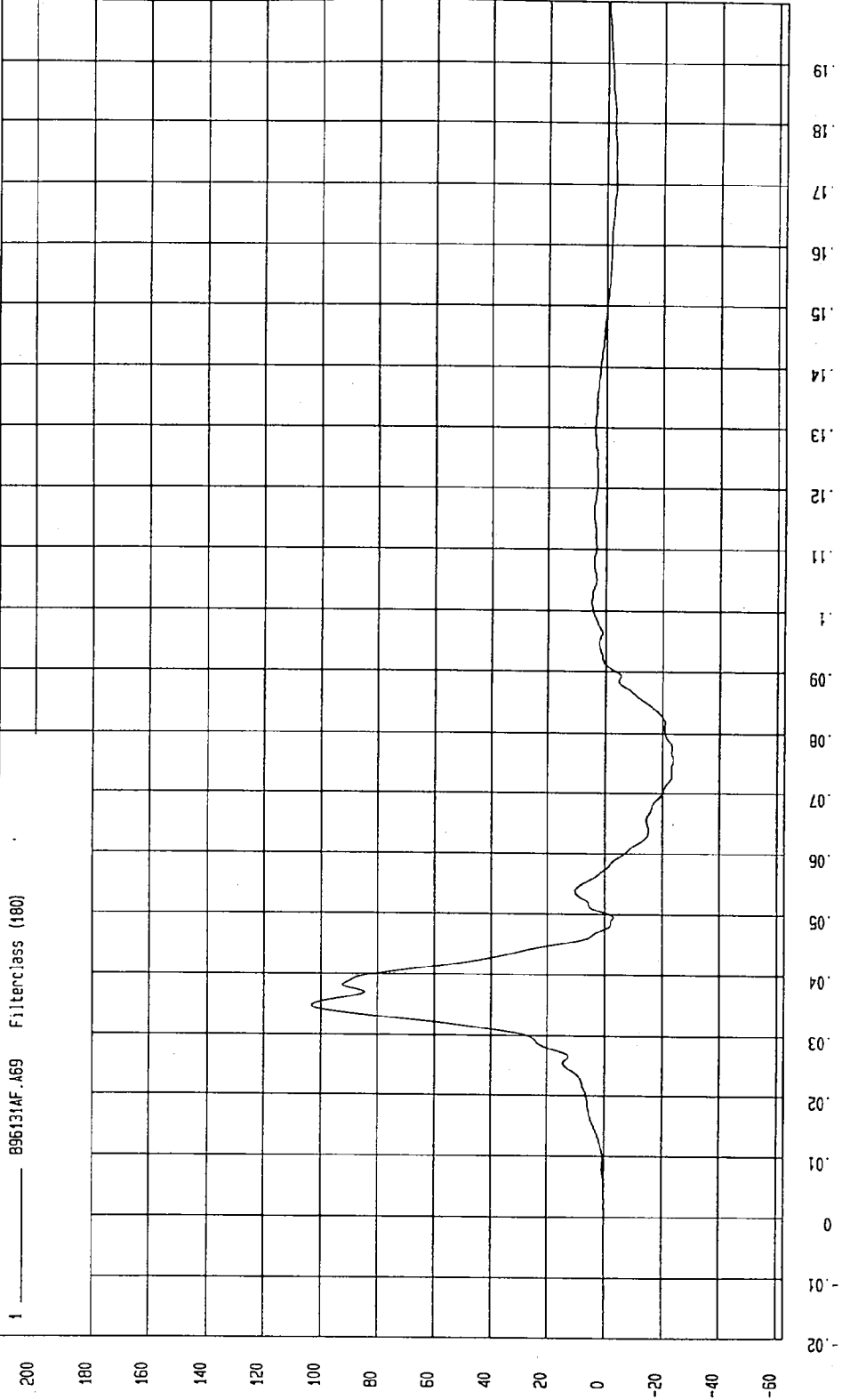
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-23.00347 G'S at 75. msec YMAX= 103.3897 G'S at 34. msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION

1 B96131AF.A69 Filterclass (180)

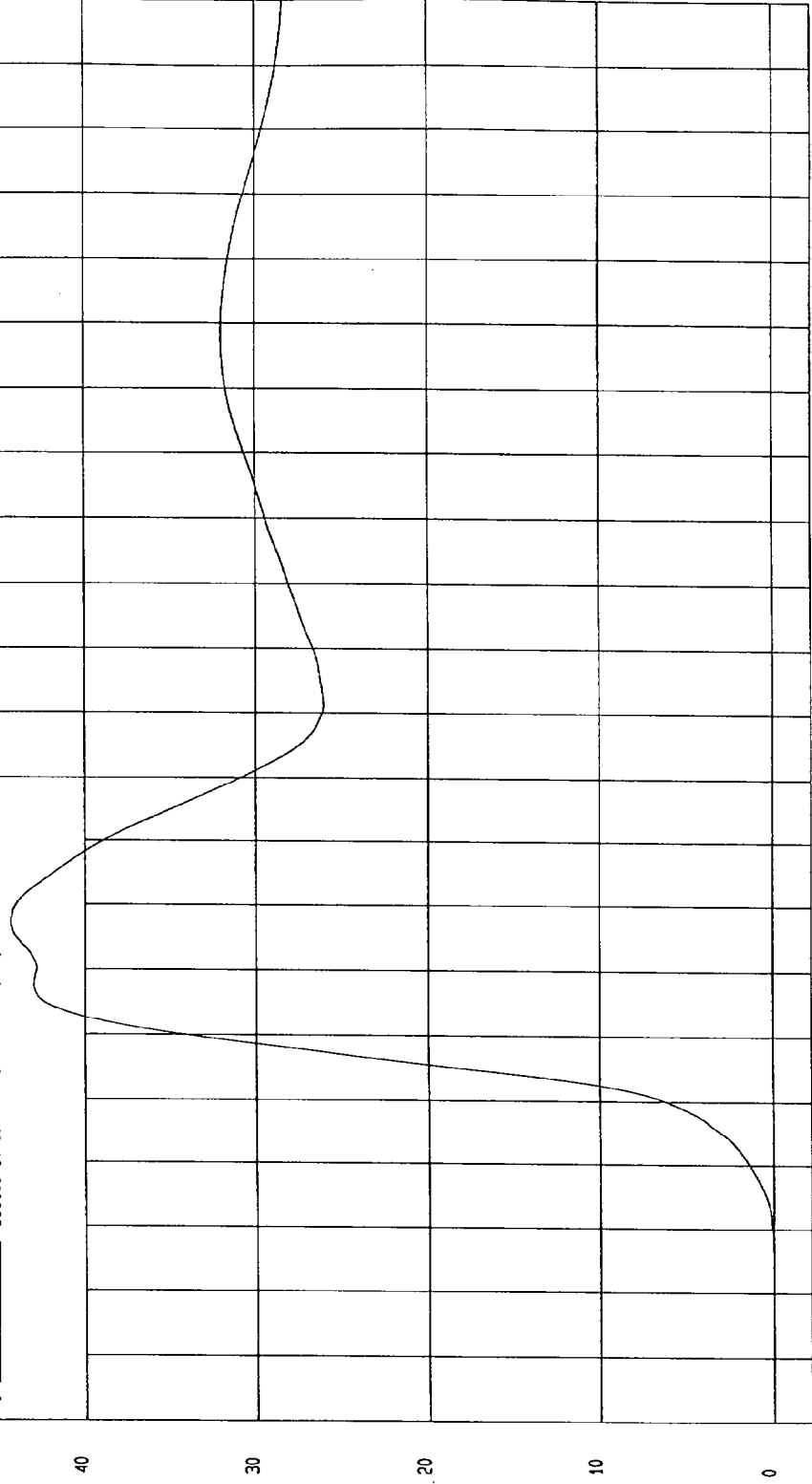


MGA Research
12-09-1996 14:23

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-3.105428E-02 KPH at -9 msec YMAX= 44.28563 KPH at 57. msec

REAR PASSENGER PELVIS Y REDUNDANT VELOCITY
1 896131A1.V69 Filterclass (180)



TIME Seconds
MGA Research
12-09-1996 14:01

FINITE IMPULSE RESPONSE (FIR) FILTERED DATA

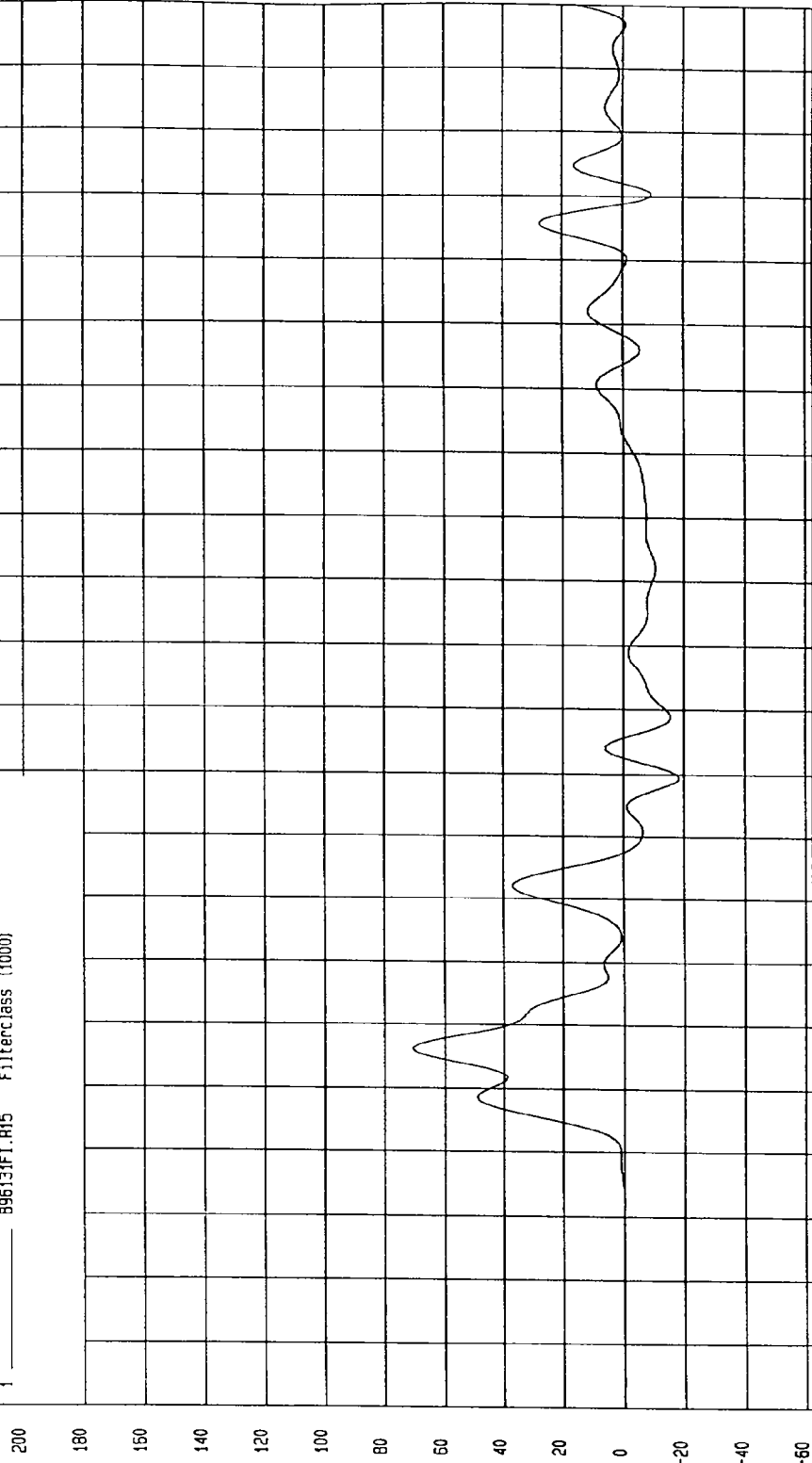
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-18.41106 G'S at 79. msec YMAX= 70.85464 G'S at 36. msec

DRIVER UPPER RIB Y ACCELERATION

1 99613FI.R15 Filterclass (1000)



MCA Research
12-03-1996 13:35

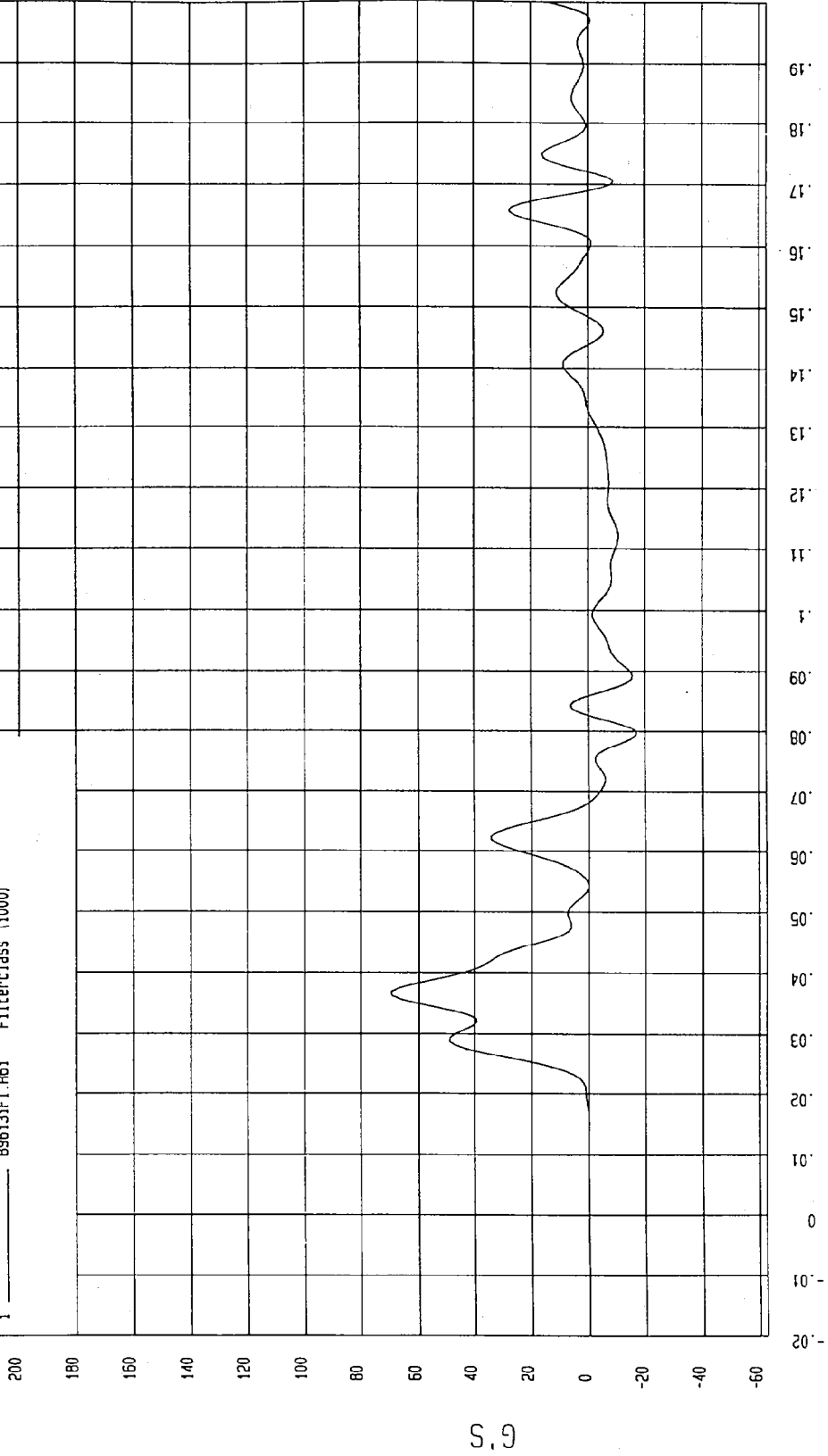
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-16.84711 G'S at 80 msec YMAX= 69.66331 G'S at 36. msec

DRIVER UPPER RIB Y REDUNDANT ACCELERATION

1 _____ 896131FLR61 Filterclass (1000)

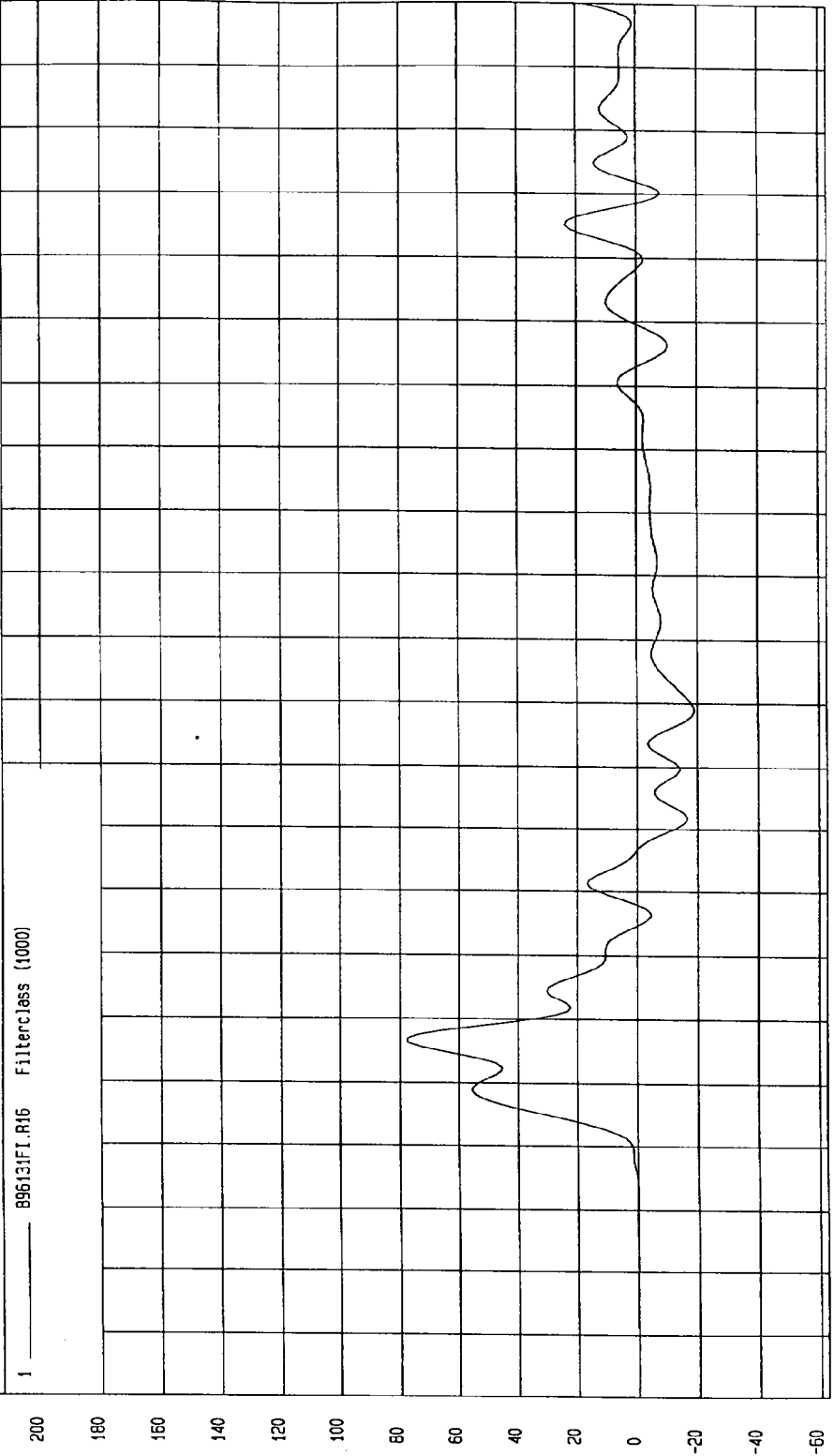


MCA Research
12-09-1996 13.35

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-18.76908 G'S at 88. msec YMAX= 77.89504 G'S at 36. msec

DRIVER LOWER RIB Y ACCELERATION



MCA Research
12-09-1996 13:35

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

Speed: 37.97 MPH 61.1 KPH

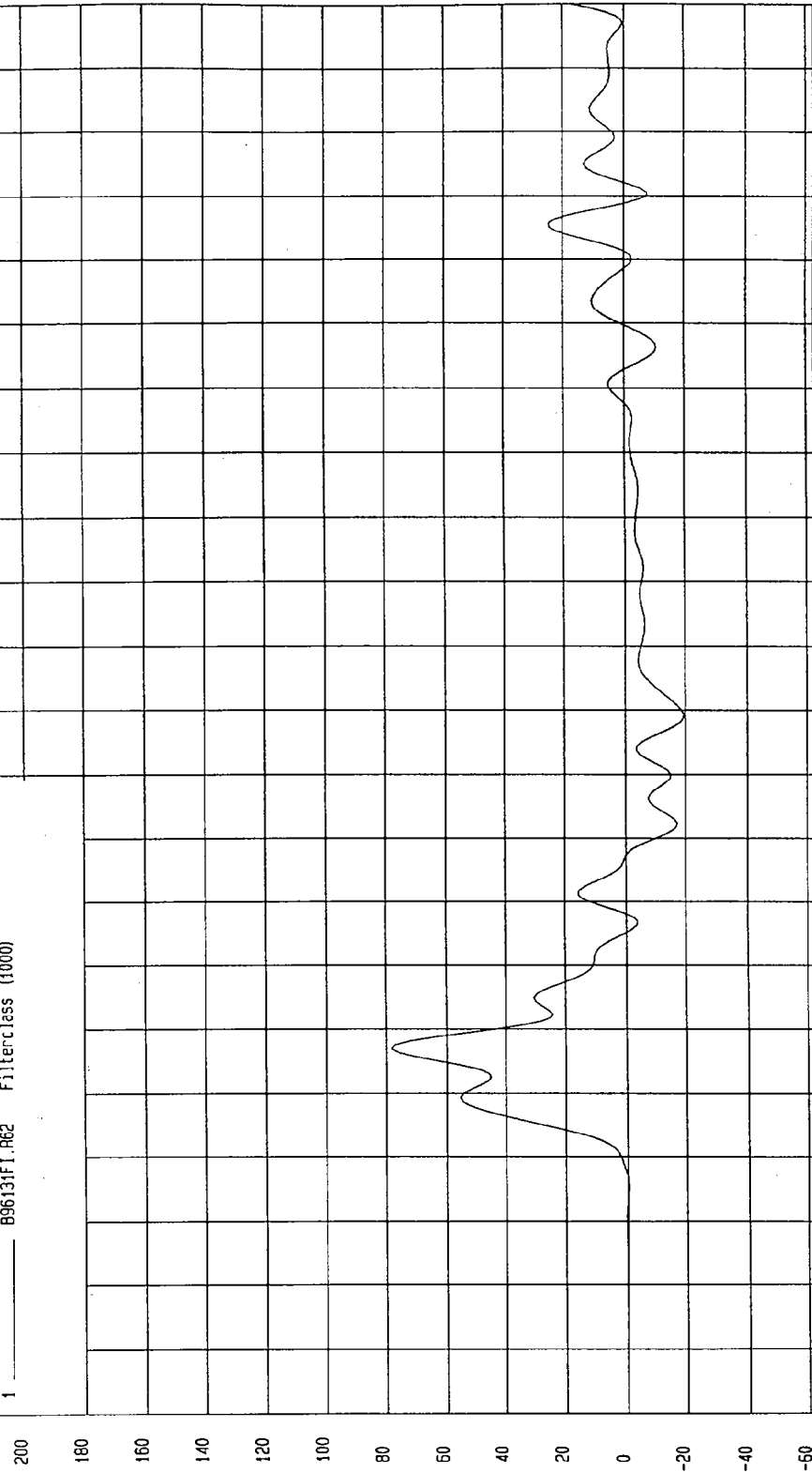
COMPONENT: 1997 FORD TAURUS (MVO205)

YMAX= 78.35781 G'S at 36. msec

YMIN= -19.37106 G'S at 89. msec

DRIVER LOWER RIB Y REDUNDANT ACCELERATION

1 _____ 896131F1.R62 Filterclass (4000)



MGA Research
12-03-1996 13:36

TIME (SECONDS)

G.S

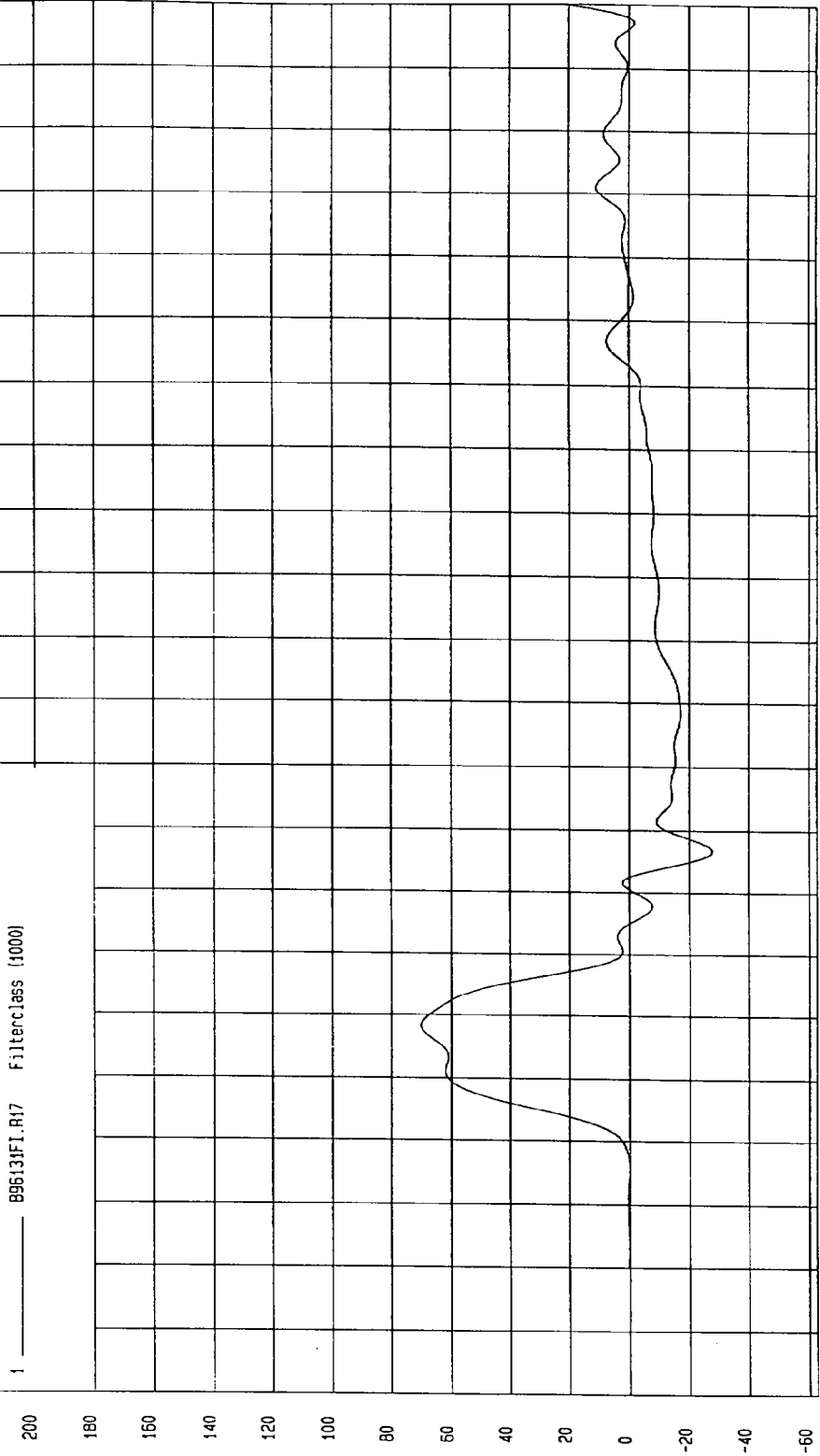
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-27.99777 G'S at 66. msec YMAX= 70.29665 G'S at 38. msec

DRIVER LOWER SPINE Y ACCELERATION

1 _____ B9613FI.R17 Filterclass (1000)



MCA Research
12-03-1996 13:36

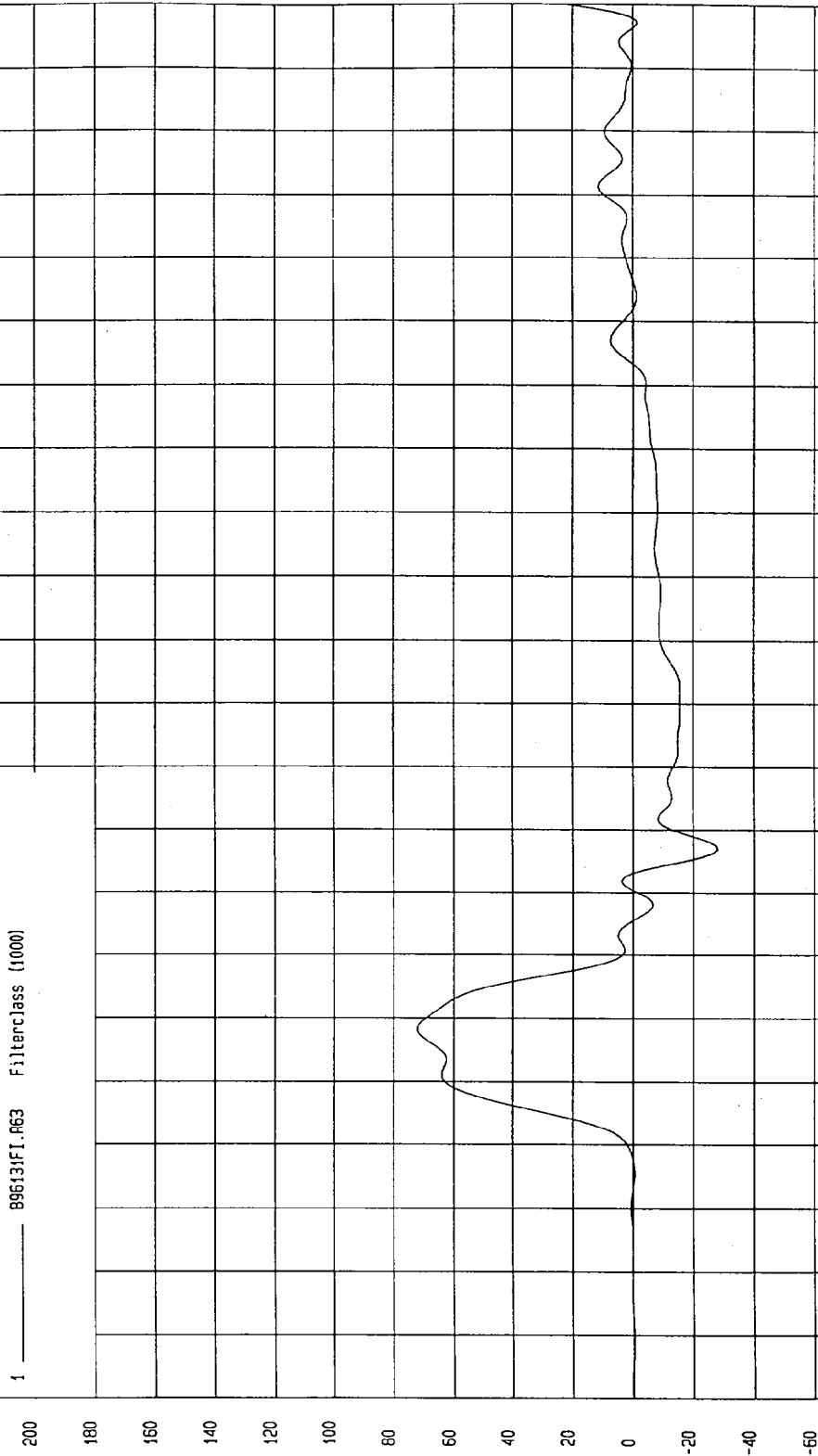
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MVO205) Speed: 37.97 MPH 61.1 KPH

YMIN=-28.07771 G'S at 66. msec YMAX= 72.25173 G'S at 38. msec

DRIVER LOWER SPINE Y REDUNDANT ACCELERATION

1 ——— 896131FI.R63 FilterClass (1000)



MEA Research
12-09-1996 13:36

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

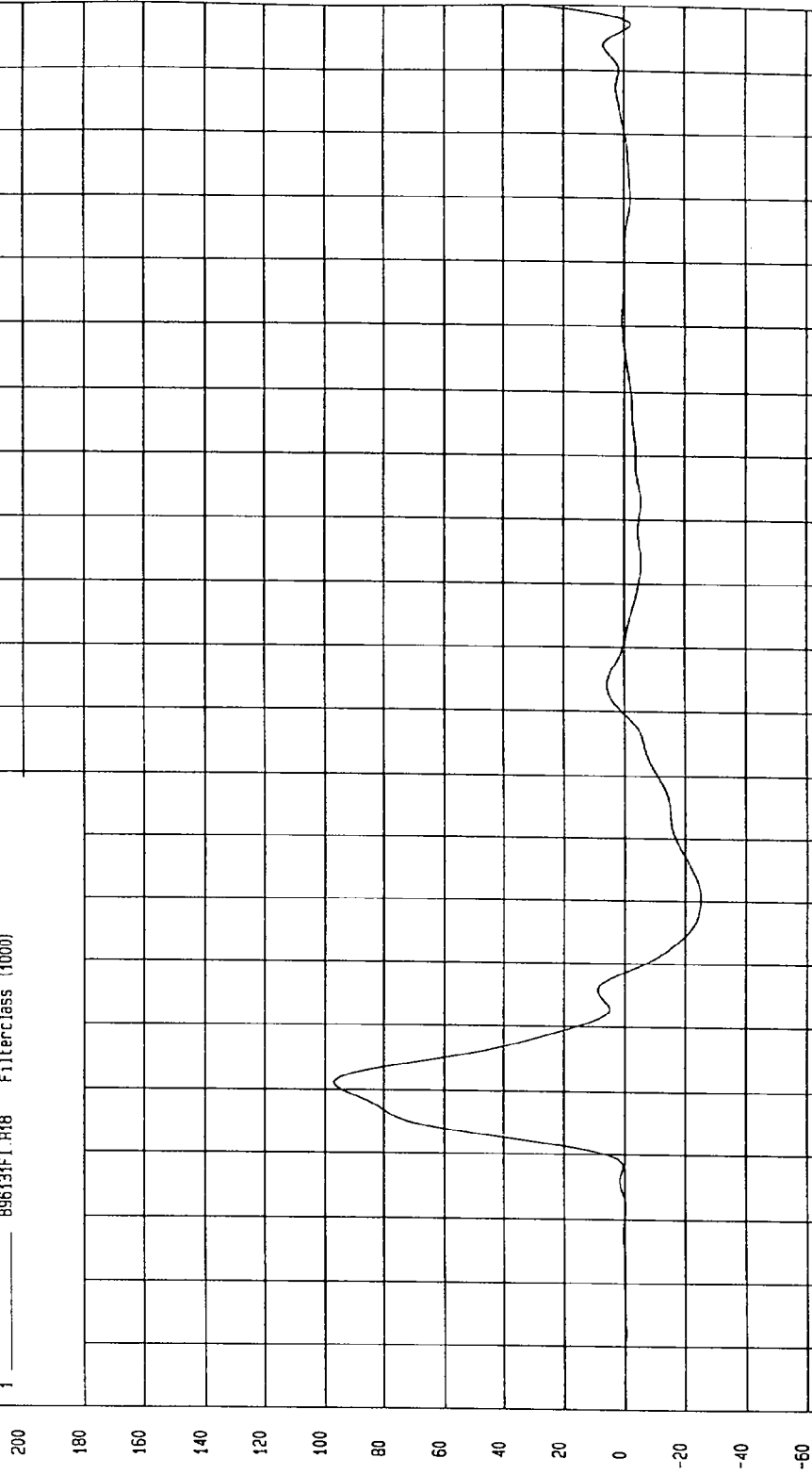
COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-25.21787 G'S at 60. msec

YMAX= 96.93614 G'S at 31. msec

DRIVER PELVIS Y ACCELERATION

1 ——— 896131FI.R18 Filterclass (1000)



MCA Research
12-03-1996 13:36

TIME (SECONDS)

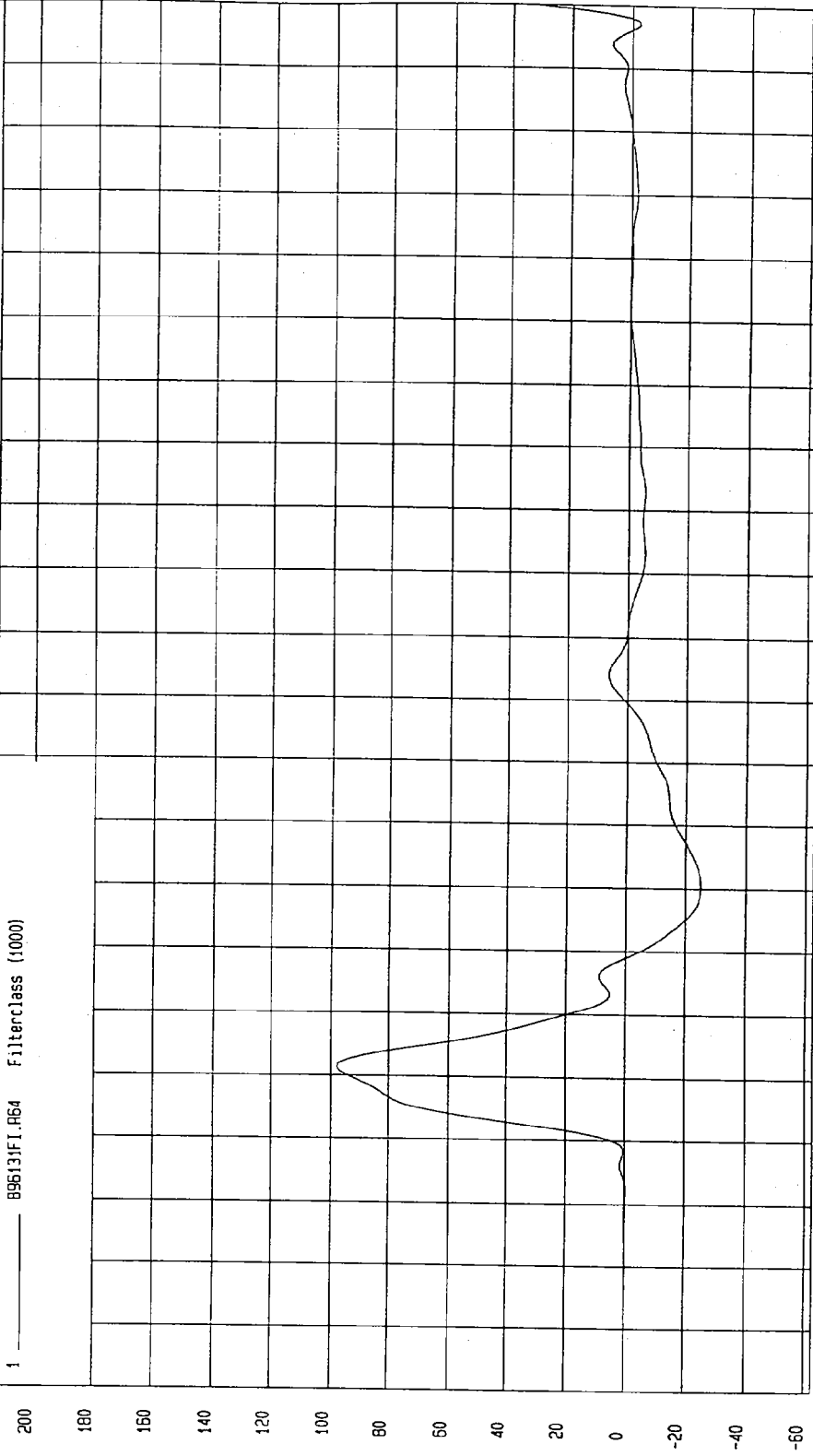
G.S

TEST: NCAP SIDE IMPACT TEST
TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205)
Speed: 37.97 MPH 61.1 KPH

YMIN=-25.0333 6'S at 60 msec
YMAX= 97.99199 6'S at 31. msec

DRIVER PELVIS Y REDUNDANT ACCELERATION

1 ——— 89613FI.064 Filterclass (1000)



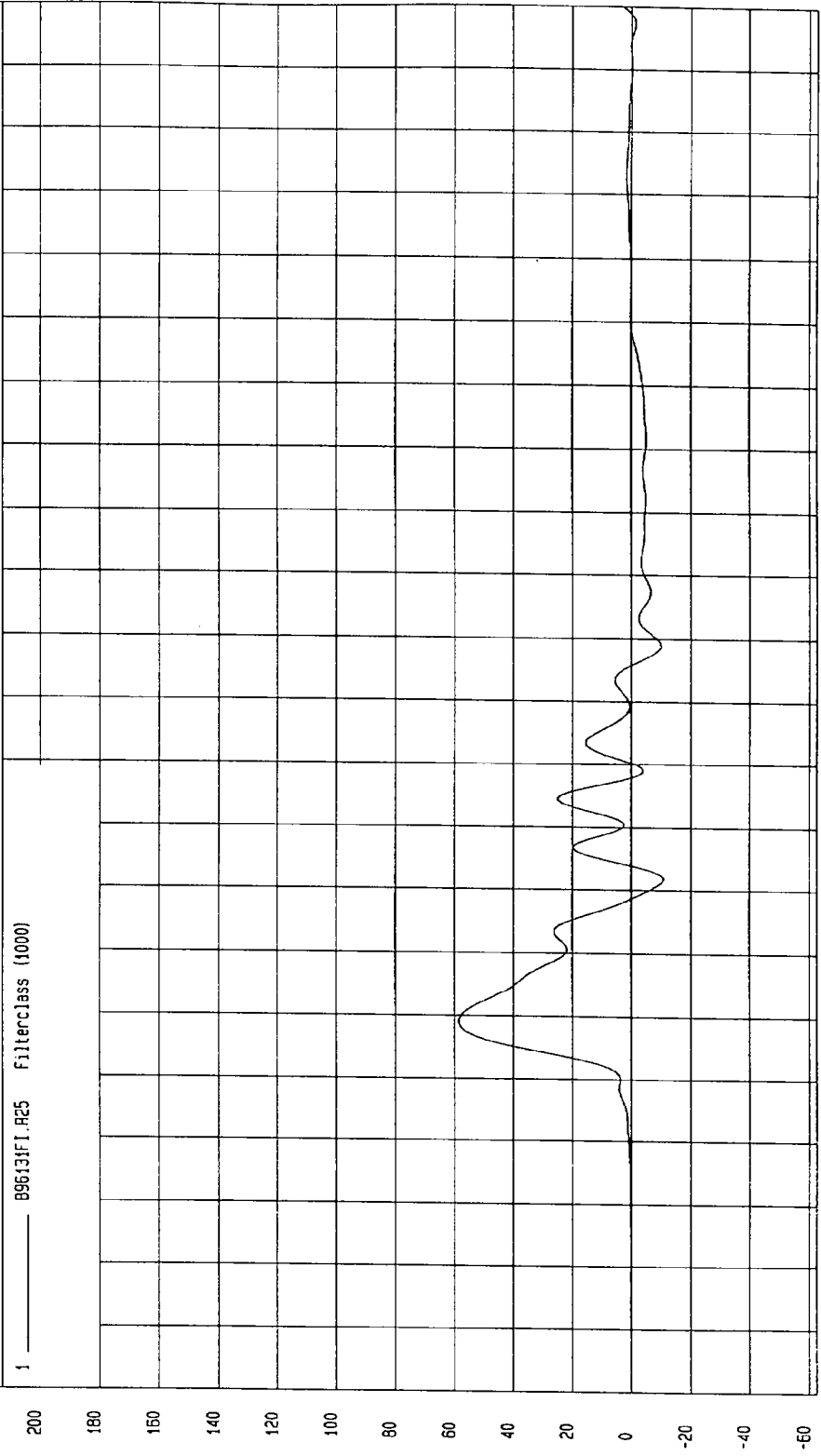
MCA Research
12-09-1996 13: 37

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996
 COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH
 YMIN=-10.91509 G'S at 61. msec YMAX= 59.49566 G'S at 39. msec

REAR PASSENGER UPPER RIB Y ACCELERATION

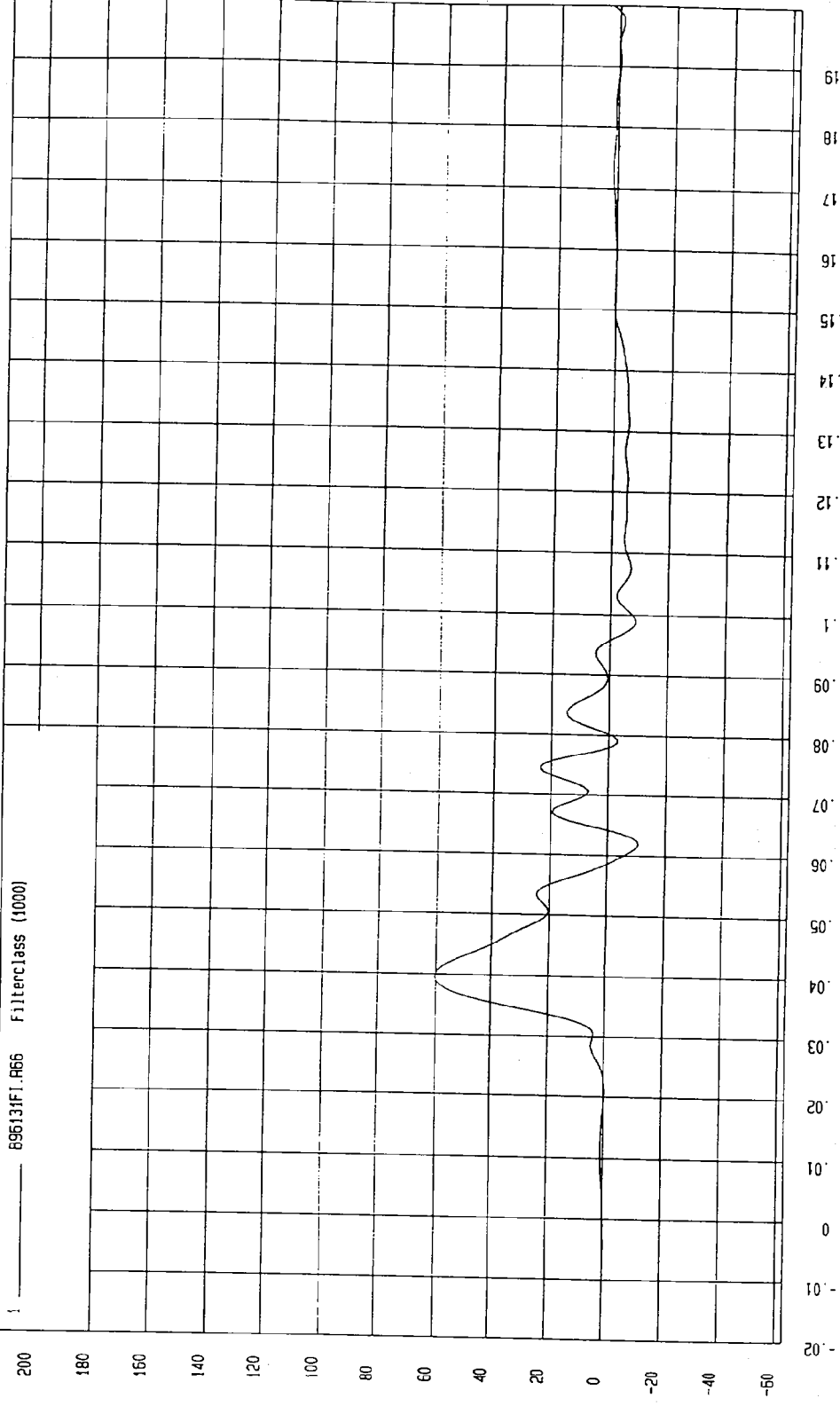


MSA Research
 12-05-1996 13.37

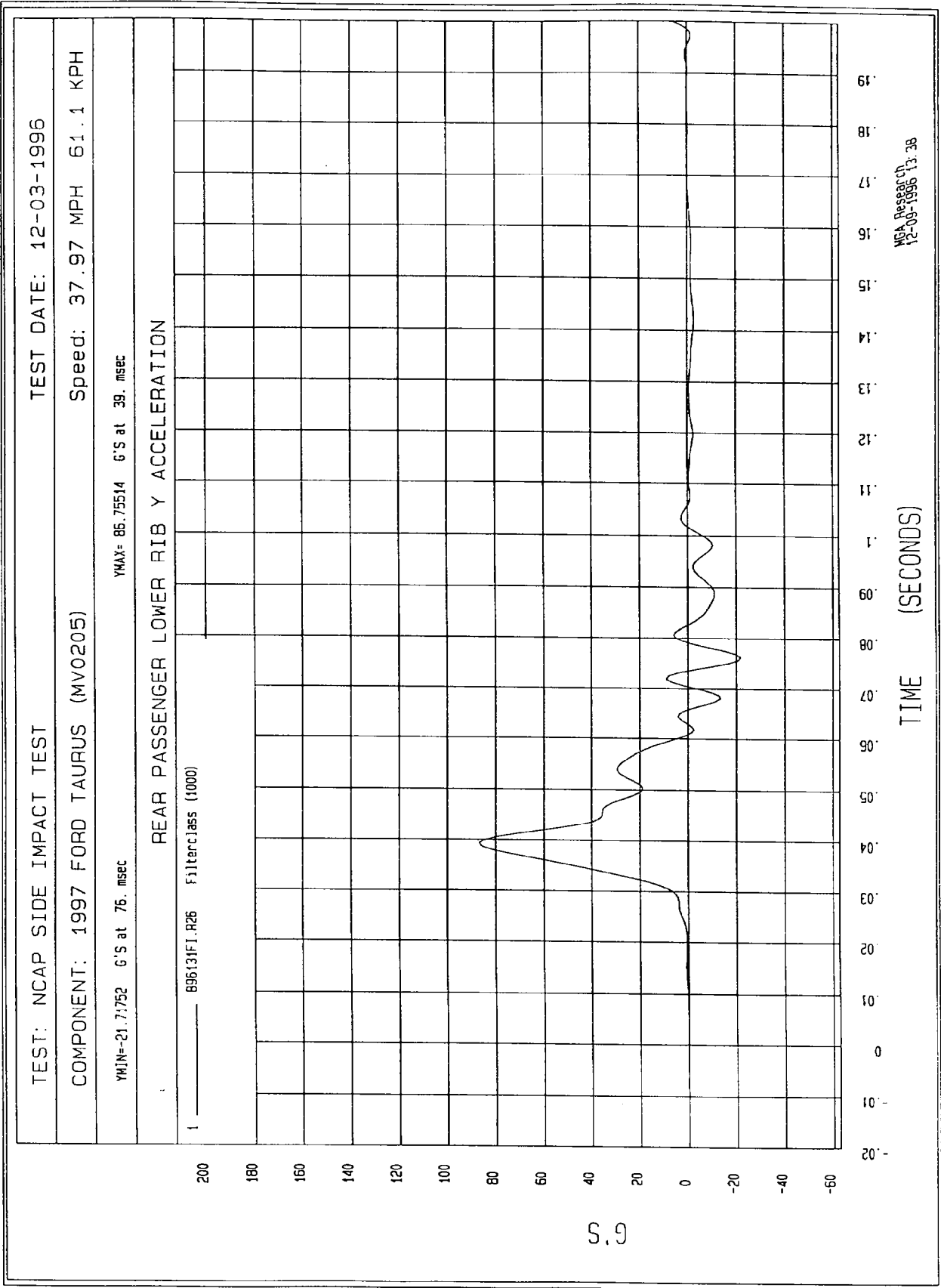
TEST: NCAP SIDE IMPACT TEST
TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MV0205)
Speed: 37.97 MPH 61.1 KPH

YMIN=-10.60991 G'S at 61. msec
YMAX= 60.39498 G'S at 39. msec

REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION
896131F1.R66 FilterClass (4000)



MOA RESEARCH
12-09-1996 13:38

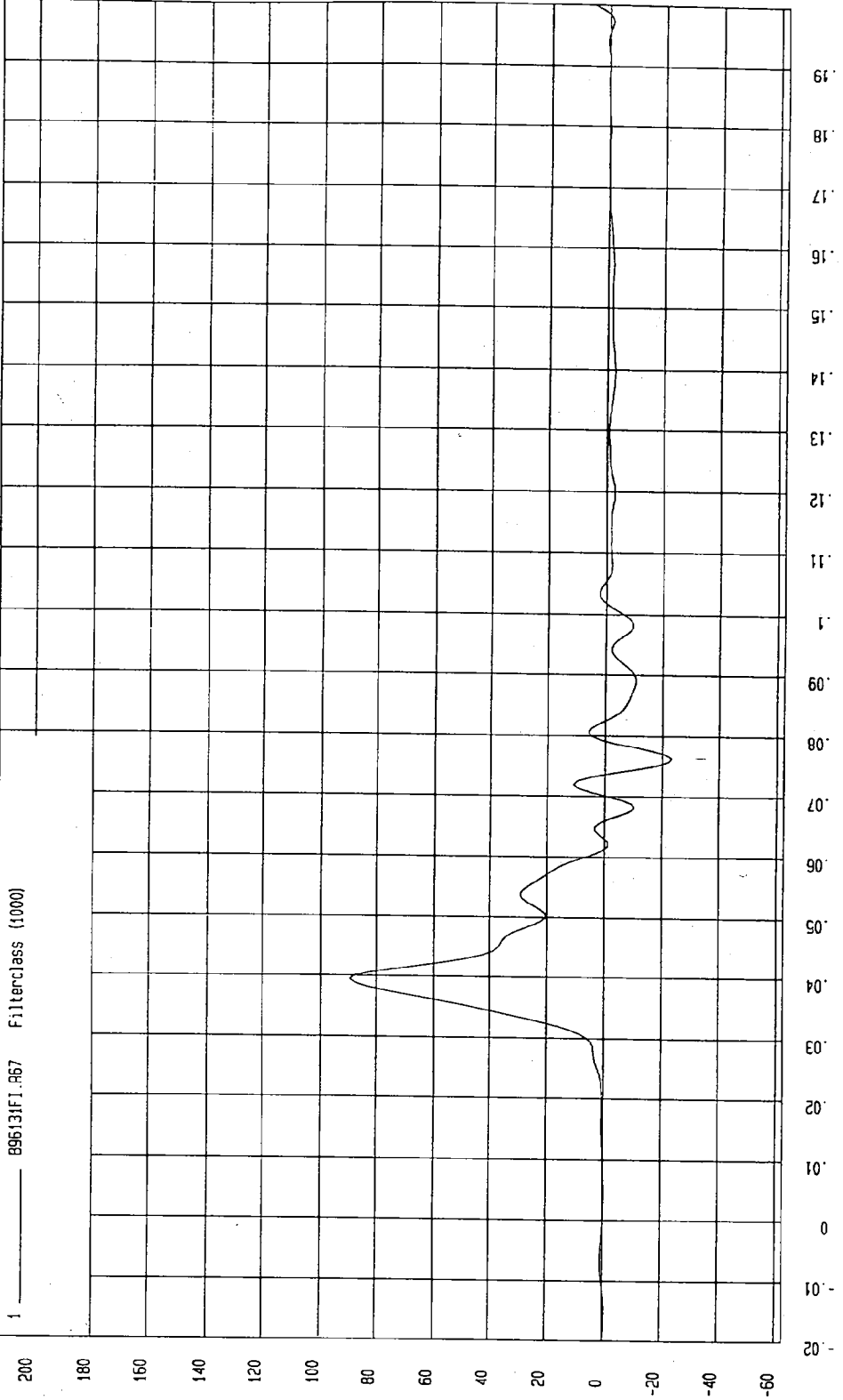


TEST: NCAP SIDE IMPACT TEST
TEST DATE: 12-03-1996
COMPONENT: 1997 FORD TAURUS (MVO205)
Speed: 37.97 MPH 61.1 KPH

YMIN=-23.3336 G'S at 76. msec
YMAX= 89.3726 G'S at 39. msec

REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION

1 ——— 896131F1.967 Filterclass (1000)



MGA Research
12-09-1996 13.38

TIME (SECONDS)

G.S

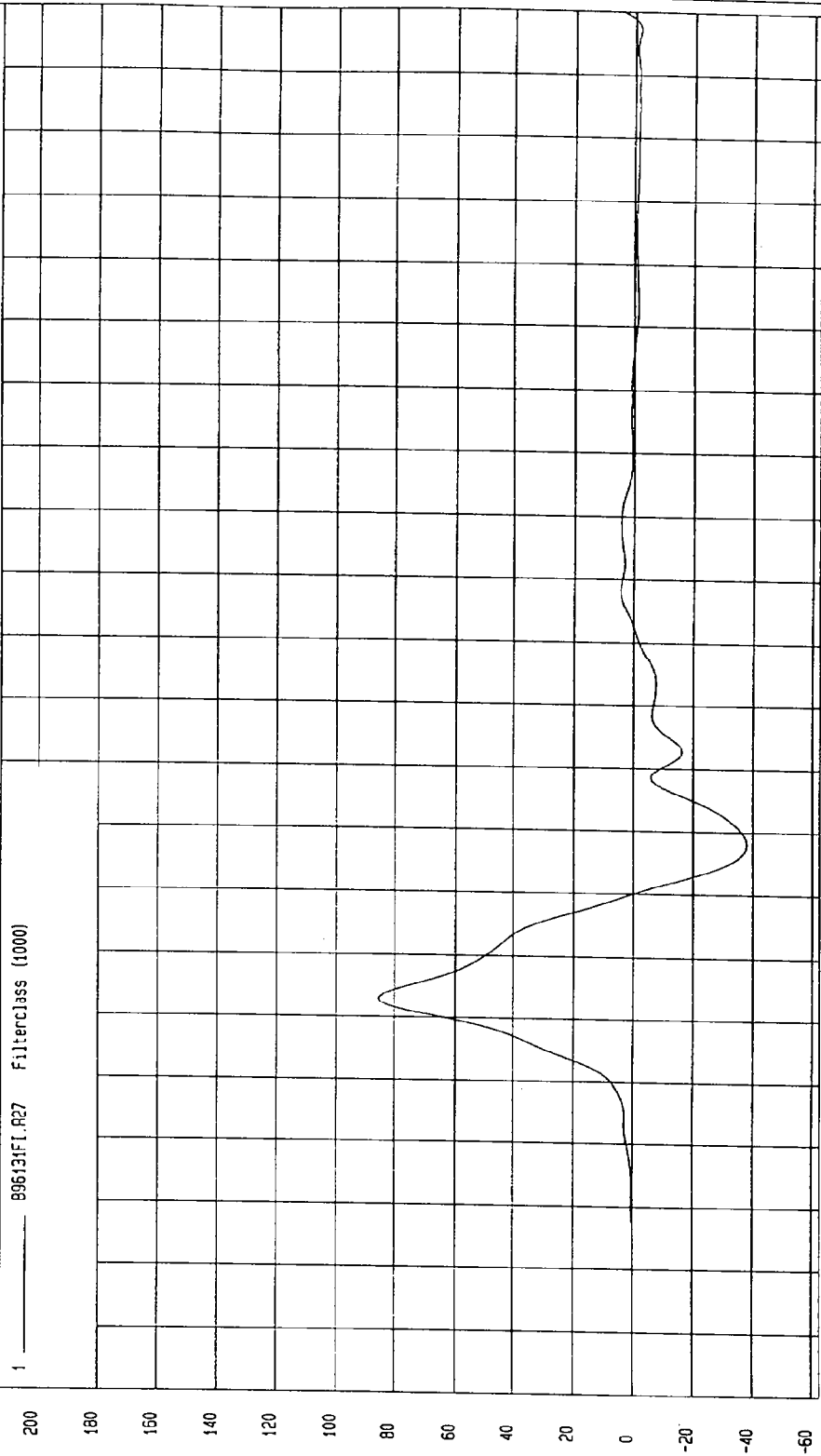
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-37.87585 G'S at 68. msec YMAX= 85.41991 G'S at 43. msec

REAR PASSENGER LOWER SPINE Y ACCELERATION

1 896131FI.R27 FilterClass (1000)



MCA Research
12-09-1996 13:38

TEST DATE: 12-03-1996

TEST: NCAP SIDE IMPACT TEST

Speed: 37.97 MPH 61.1 KPH

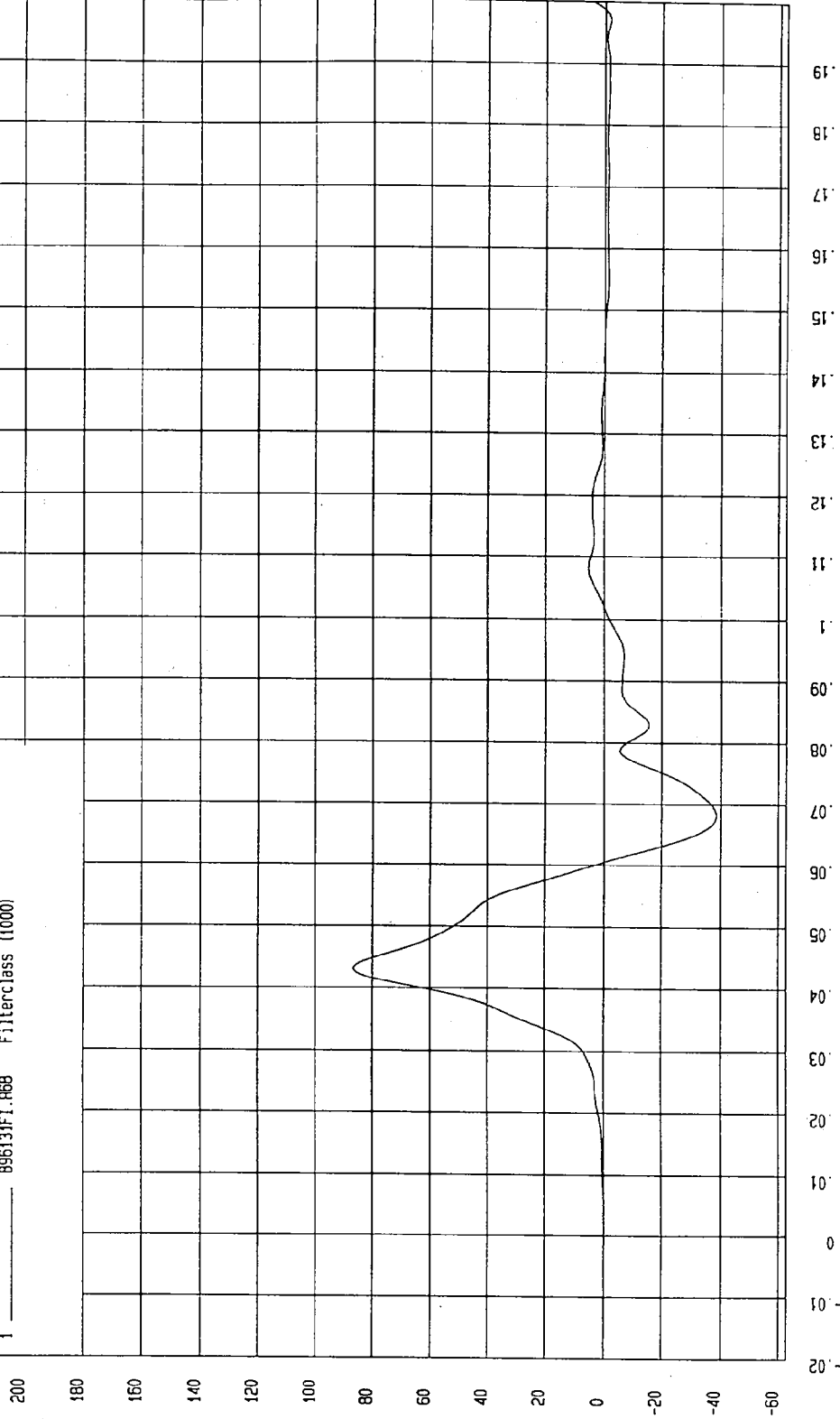
COMPONENT: 1997 FORD TAURUS (MV0205)

YMAX= 86.72629 G'S at 43. msec

YMIN= -38.59593 G'S at 68. msec

REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION

1 896131F1.R68 Filterclass (1000)



MCA Research
12-09-1996 13.39

TIME (SECONDS)

G.S

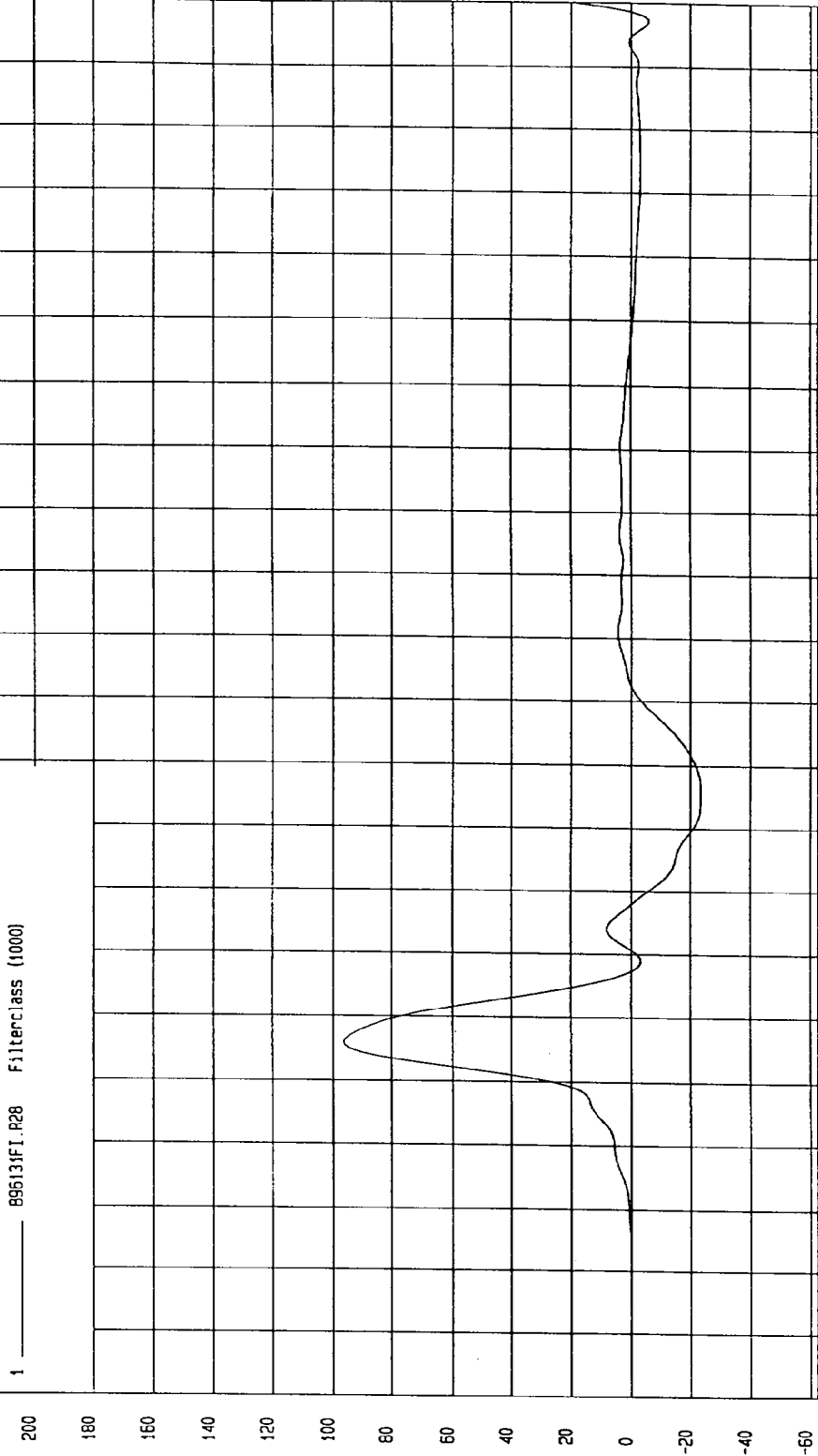
TEST: NCAP SIDE IMPACT TEST TEST DATE: 12-03-1996

COMPONENT: 1997 FORD TAURUS (MV0205) Speed: 37.97 MPH 61.1 KPH

YMIN=-23.48133 G'S at 75. msec YMAX= 96.32627 G'S at 35. msec

REAR PASSENGER PELVIS Y ACCELERATION

1 ——— 89613.FI.P28 Filterclass (1000)



MCA Research
12-09-1996 13.39

TIME (SECONDS)

G.S

TEST DATE: 12-03-1996

Speed: 37.97 MPH 61.1 KPH

TEST: NCAP SIDE IMPACT TEST

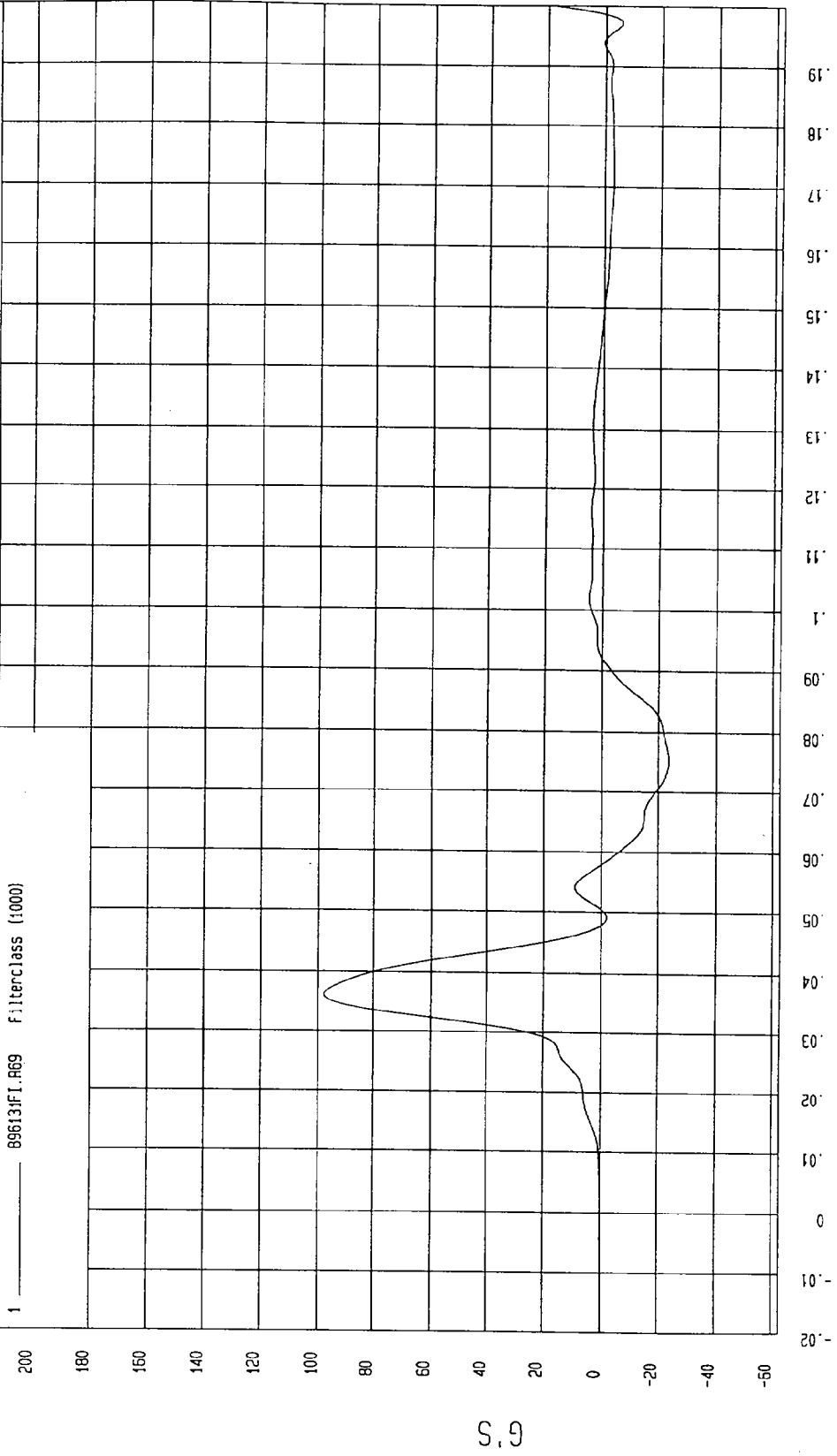
COMPONENT: 1997 FORD TAURUS (MV0205)

YMIN=-23.63371 G'S at 75 msec

YMAX= 98.05262 G'S at 36. msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION

1 896131F1.R69 FilterClass (1000)



MGA Research
12-09-1996 13:39

APPENDIX C
SID CONFIGURATION AND PERFORMANCE VERIFICATION

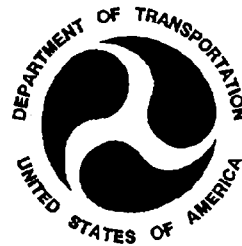
REPORT NO. MGA-97-DC04

DUMMY PERFORMANCE CALIBRATIONS

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST

1997 FORD TAURUS
NHTSA NO. MV0205

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105



Test Date: December 3, 1996

Report Date: December 11, 1996

FINAL REPORT

Prepared For:

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

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| DUMMY S/N: 269 | POST-TEST INSPECTION CHECKLIST | 5-1 |
| DUMMY S/N: 270 | POST-TEST INSPECTION CHECKLIST | 6-1 |
| | VEHICLE AND DUMMY TEMPERATURE | 7-1 |

PRE-TEST CERTIFICATION DATA

Front Dummy Serial Number: 269

Calibration Test Results Summary

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 NO.: 269

DATE OF VERIFICATION: December 02, 1996

| DESCRIPTION | SPECIFICATION | TEST RESULTS |
|--------------------------------|-----------------|--------------|
| SH - Seated Height | 35.0" - 35.8" | 35.1 |
| RH - Rib Height | 19.75" - 20.50" | 20.00 |
| HP - Hip Pivot Height | 3.9" ref. | 3.9 |
| RD - Rib From Back Line | 9.0" to 9.5" | 9.3 |
| KV - Knee Pivot From Back Line | 20.1" - 20.7" | 20.4 |
| SW - Knee Pivot to Floor | 19.3" - 19.9" | 19.4 |
| HW - Hip Width | 14.0" - 15.4" | 15.1 |

MEASUREMENTS BY: 

APPROVED BY: 

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

DUMMY NUMBER: 269

TEST NUMBER: D961962

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| PROBE SPEED | 13.8 - 14.2 fps | 14.1 |
| UPPER RIB | 37 - 46 g's | 40 |
| LOWER RIB | 37 - 46 g's | 39 |
| LOWER SPINE | 15 - 22 g's | 20 |

TEST MEETS SPECIFICATIONS

TECHNICIAN 

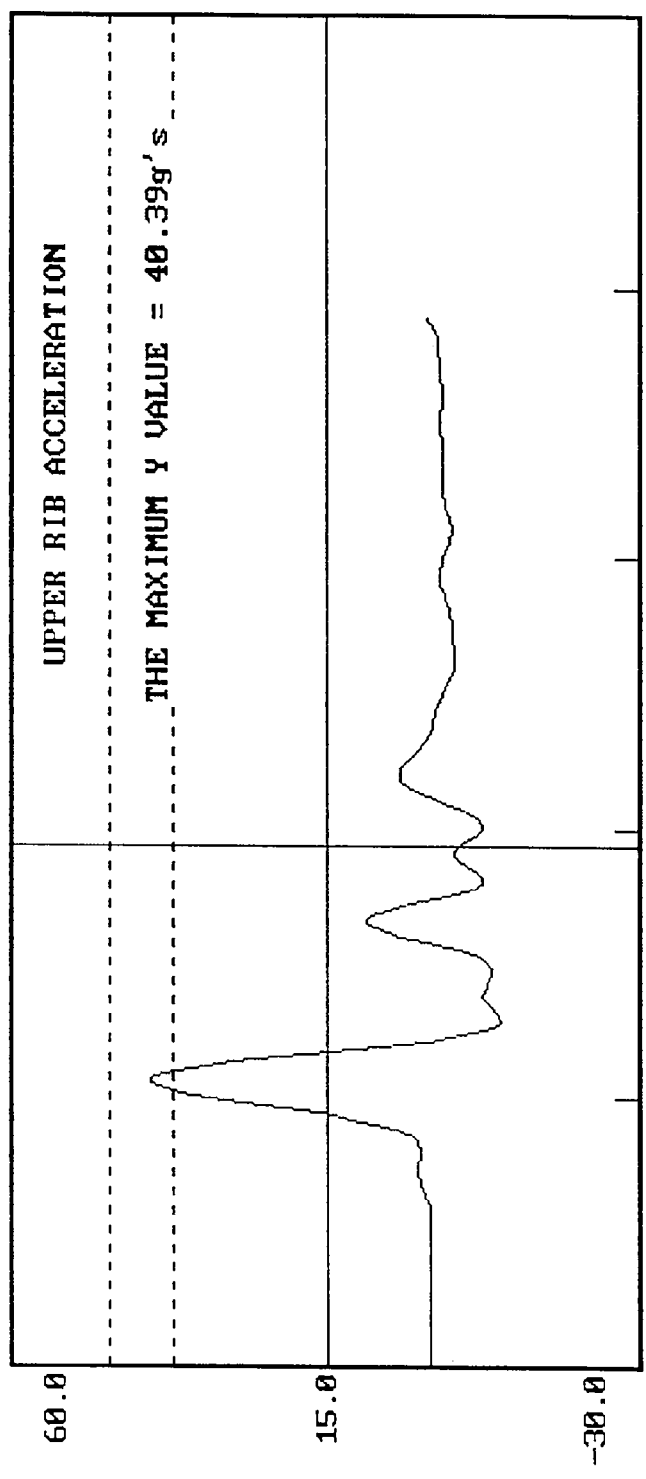
APPROVED BY 

12-02-1996 15:03

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 269

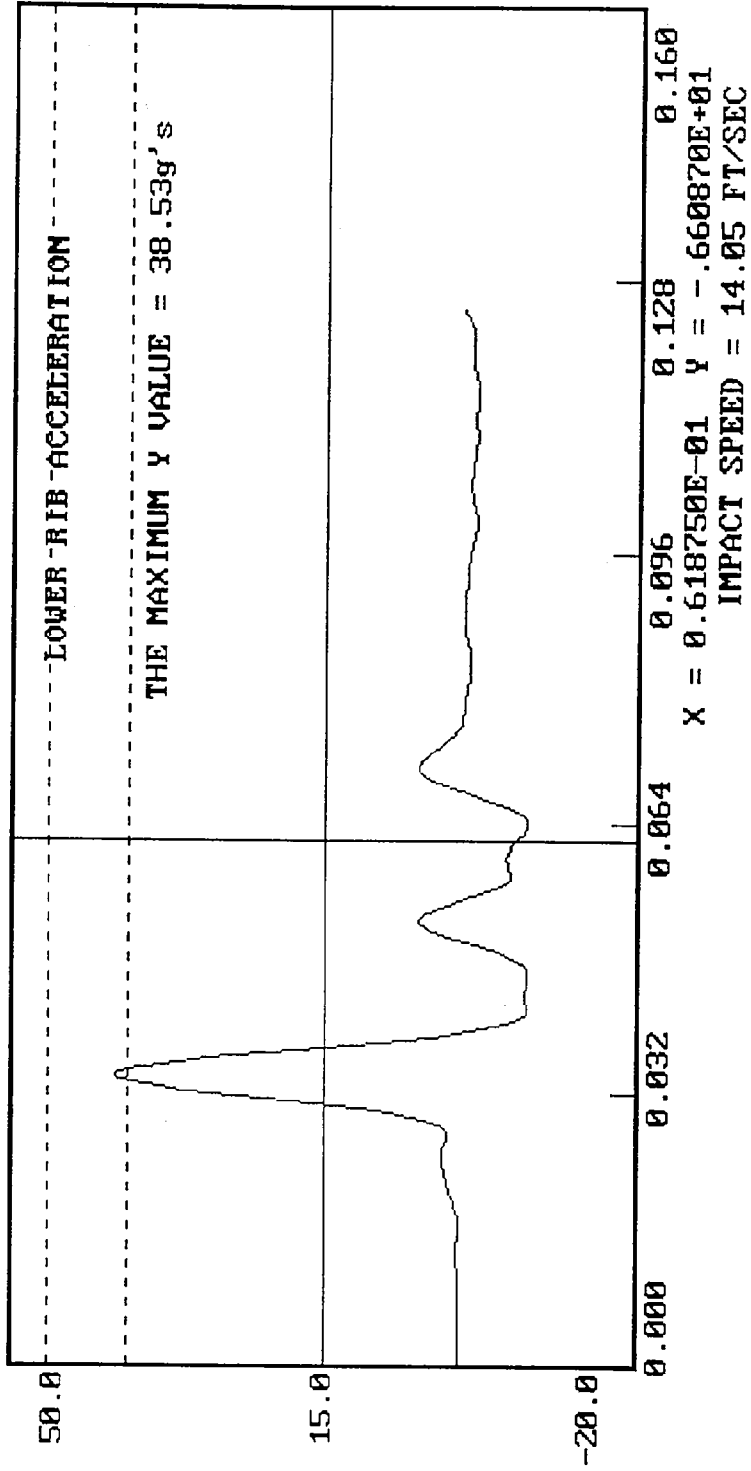
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.412620E+01
IMPACT SPEED = 14.05 FT/SEC

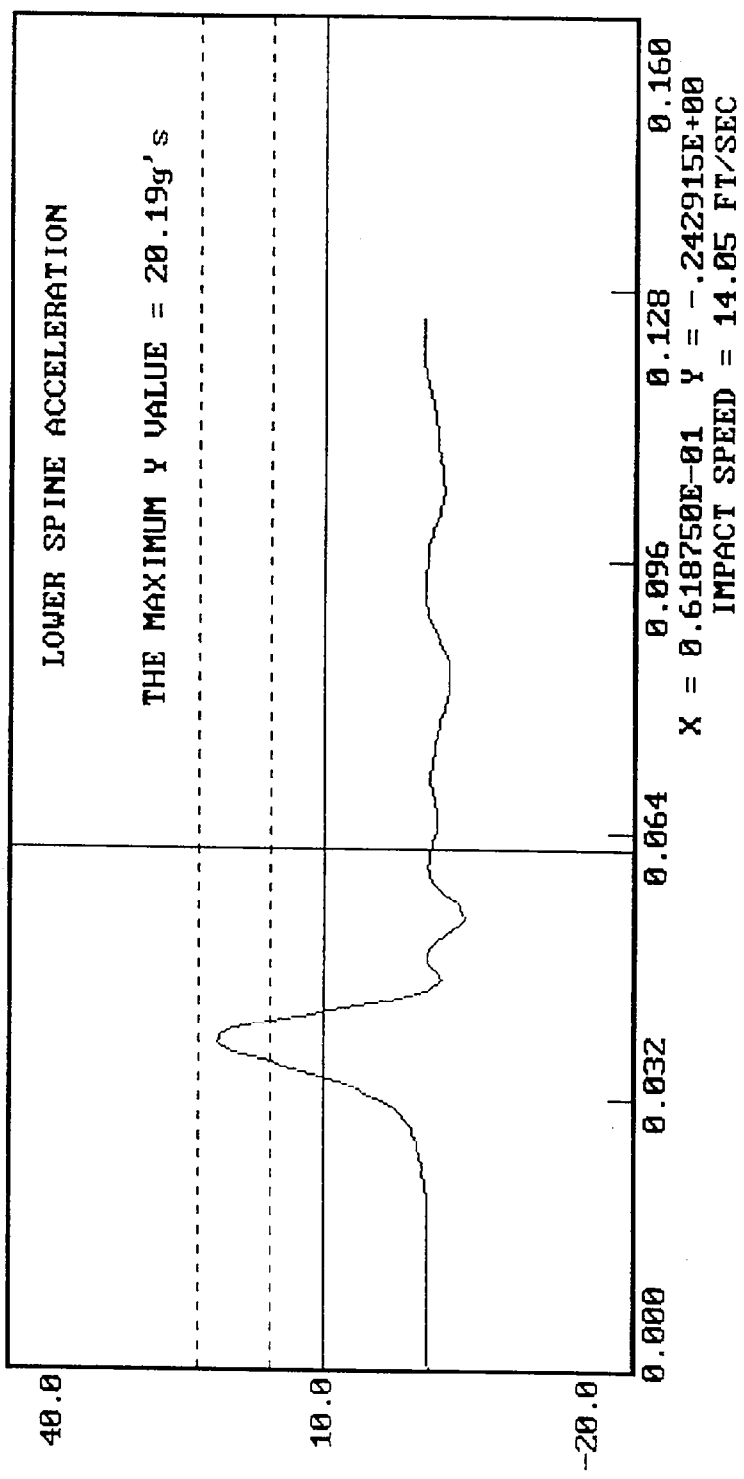
DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 269
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-02-1996 15:03



DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 269
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-02-1996 15:05



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

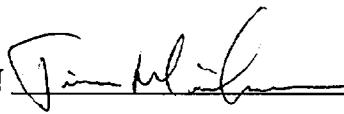
DUMMY NUMBER: 269

TEST NUMBER: D961963

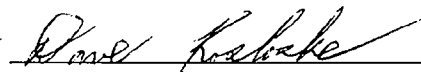
| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|---------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| PROBE SPEED | 13.8 - 14.2 f/s | 14.0 |
| PELVIS ACCELERATION | 40 - 60 g's | 45 |

TEST MEETS SPECIFICATIONS

TECHNICIAN



APPROVED BY

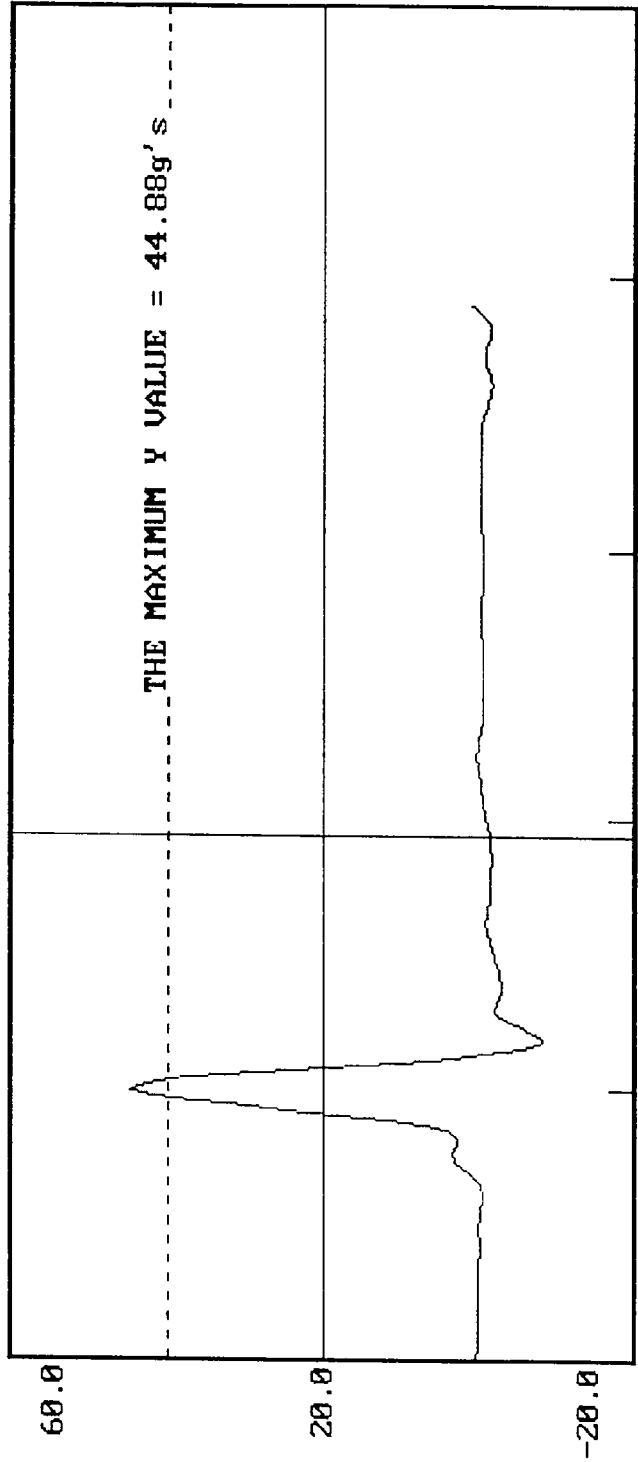


12-02-1996 15:18

DUMMY CALIBRATION - PELVIS IMPACT

DUMMY # 269

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



THE MAXIMUM Y VALUE = 44.88g' s

X = 0.618750E-01 Y = -.153585E+01

IMPACT SPEED = 13.97 FT/SEC

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

DUMMY NUMBER: 269

TEST NUMBER: D961964

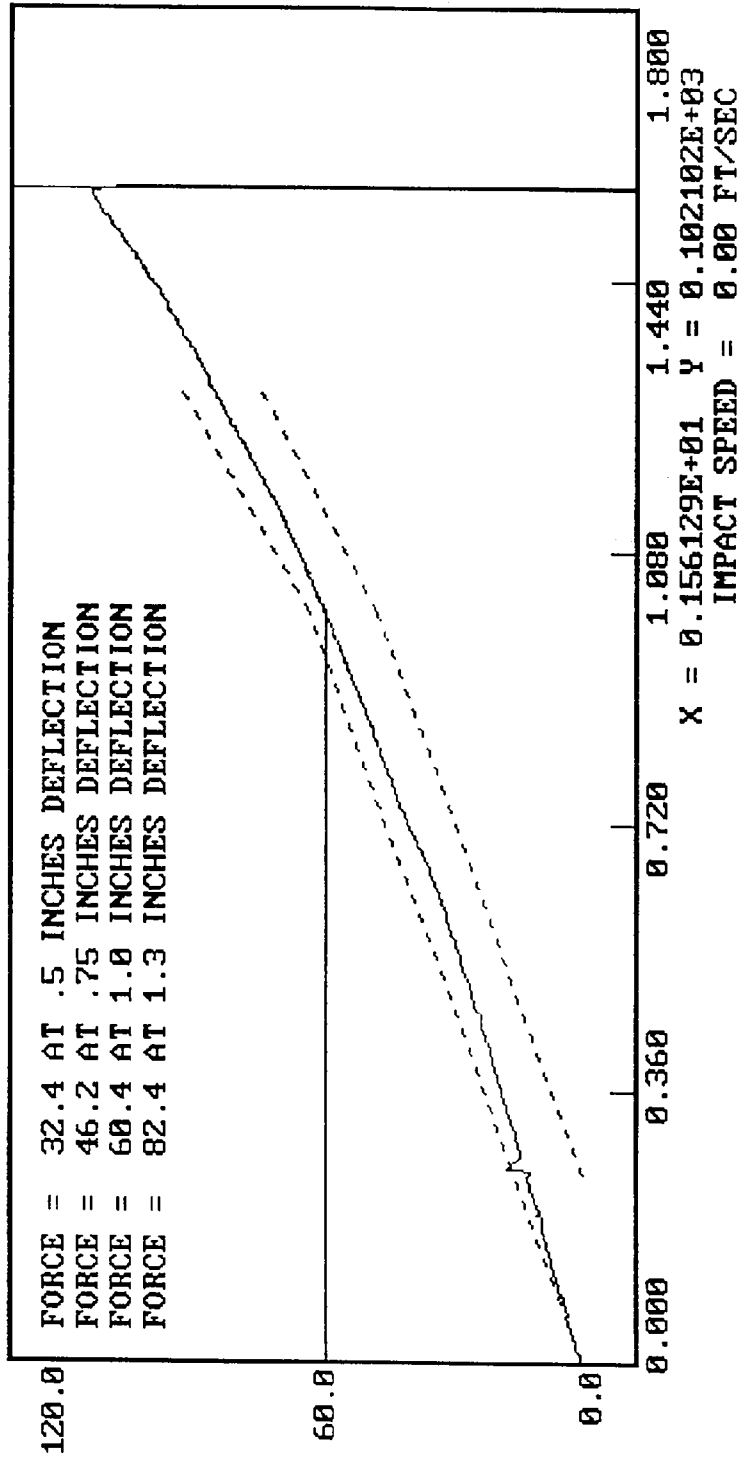
| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| FORCE @ 0.5 in | 23.3 - 36.5 lbs | 32.4 |
| FORCE @ 0.75 in | 36.7 - 49.8 lbs | 46.2 |
| FORCE @ 1.0 in | 50 - 63 lbs | 60 |
| FORCE @ 1.3 in | 73 - 88 lbs | 82 |

TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - ABDOMEN COMPRESSION
DUMMY # 269
ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

DUMMY NUMBER: 269

TEST NUMBER: D961965

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|---------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| FORCE @ 0° | 0 - 6 lbs | 0 |
| FORCE @ 20° | 22 - 34 lbs | 29 |
| FORCE @ 30° | 34 - 46 lbs | 40 |
| FORCE @ 40° | 46 - 58 lbs | 51 |
| RETURN ANGLE | 12° maximum | 4° |

TEST MEETS SPECIFICATIONS

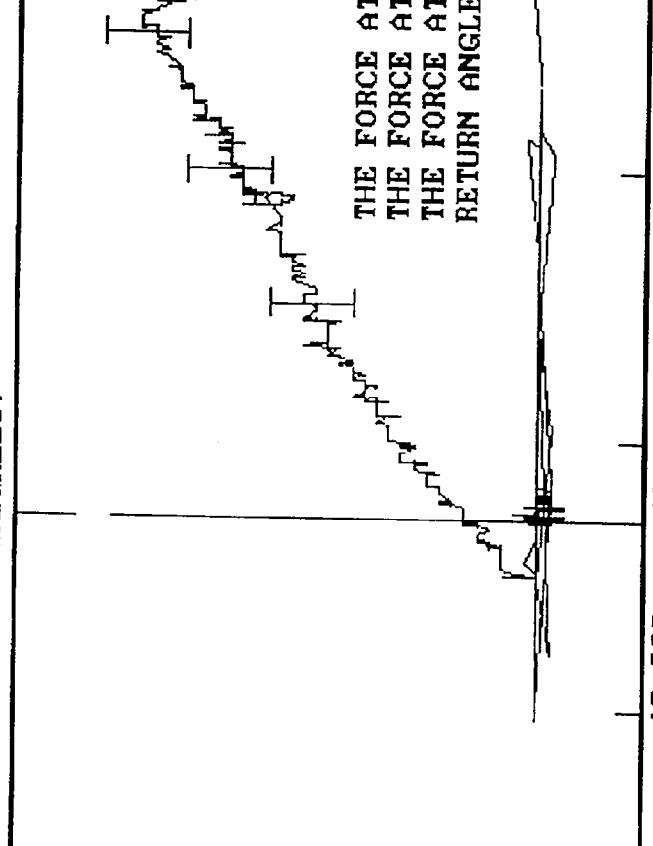
TECHNICIAN Jim Walsh

APPROVED BY Rene Kabiske

DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 269
FORCE (LBS) VS. TORSO ROTATION (DEGREES)

12-02-1996 22:16

70.0
25.0
-20.0



THE FORCE AT 20° = 29.2 lbs
THE FORCE AT 30° = 40.0 lbs
THE FORCE AT 40° = 50.7 lbs
RETURN ANGLE IS 4 deg

X = 0.416269E+01 Y = 0.000000E+00
IMPACT SPEED = 0.00 FT/SEC

PRE-TEST CERTIFICATION DATA

Rear Dummy Serial Number: 270

Calibration Test Results Summary

Passenger 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 NO.: 270

DATE OF VERIFICATION: December 02, 1996

| DESCRIPTION | SPECIFICATION | TEST RESULTS |
|--------------------------------|-----------------|--------------|
| SH - Seated Height | 35.0" - 35.8" | 35.2 |
| RH - Rib Height | 19.75" - 20.50" | 20.50 |
| HP - Hip Pivot Height | 3.9" ref. | 3.9 |
| RD - Rib From Back Line | 9.0" to 9.5" | 9.5 |
| KV - Knee Pivot From Back Line | 20.1" - 20.7" | 20.6 |
| SW - Knee Pivot to Floor | 19.3" - 19.9" | 19.5 |
| HW - Hip Width | 14.0" - 15.4" | 15.0 |

MEASUREMENTS BY: Jim K. [Signature]

APPROVED BY: Don Kabeche [Signature]

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

DUMMY NUMBER: 270

TEST NUMBER: D961972

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| PROBE SPEED | 13.8 - 14.2 fps | 14.0 |
| UPPER RIB | 37 - 46 g's | 42 |
| LOWER RIB | 37 - 46 g's | 44 |
| LOWER SPINE | 15 - 22 g's | 21 |

TEST MEETS SPECIFICATIONS

TECHNICIAN Jim Killion

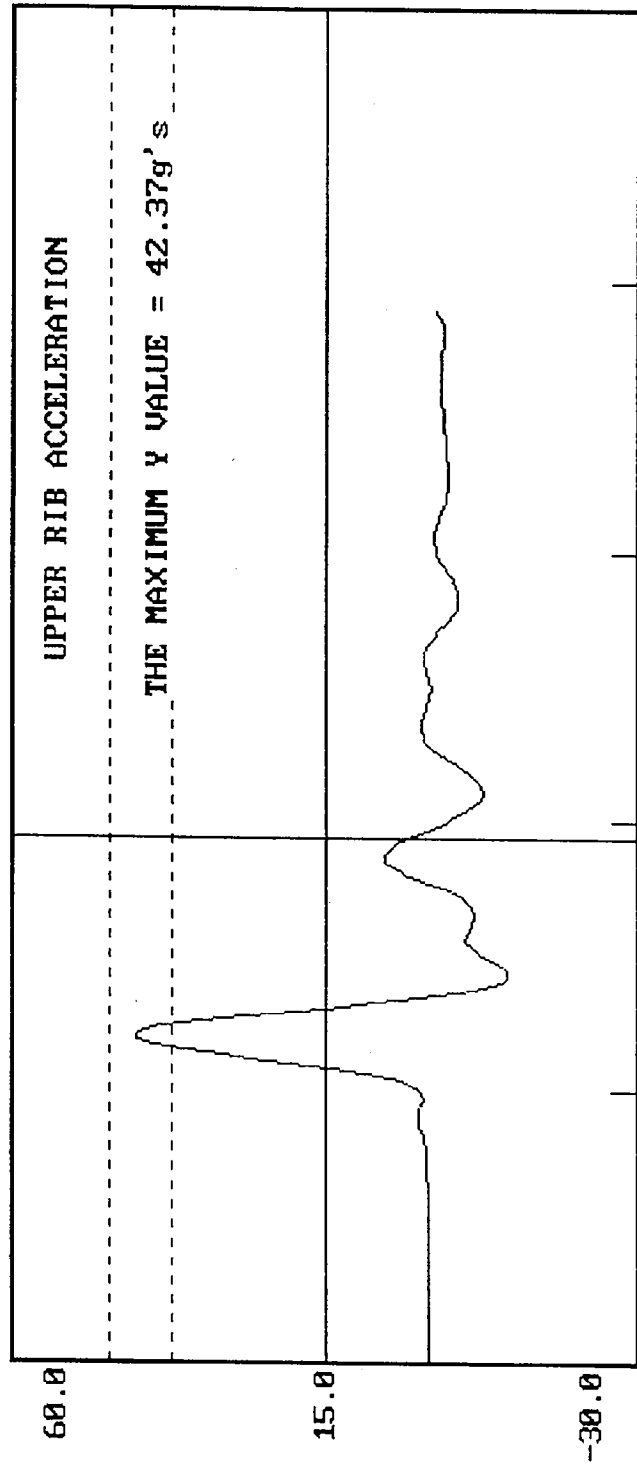
APPROVED BY Don Kabsche

12-02-1996 15:31

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 270

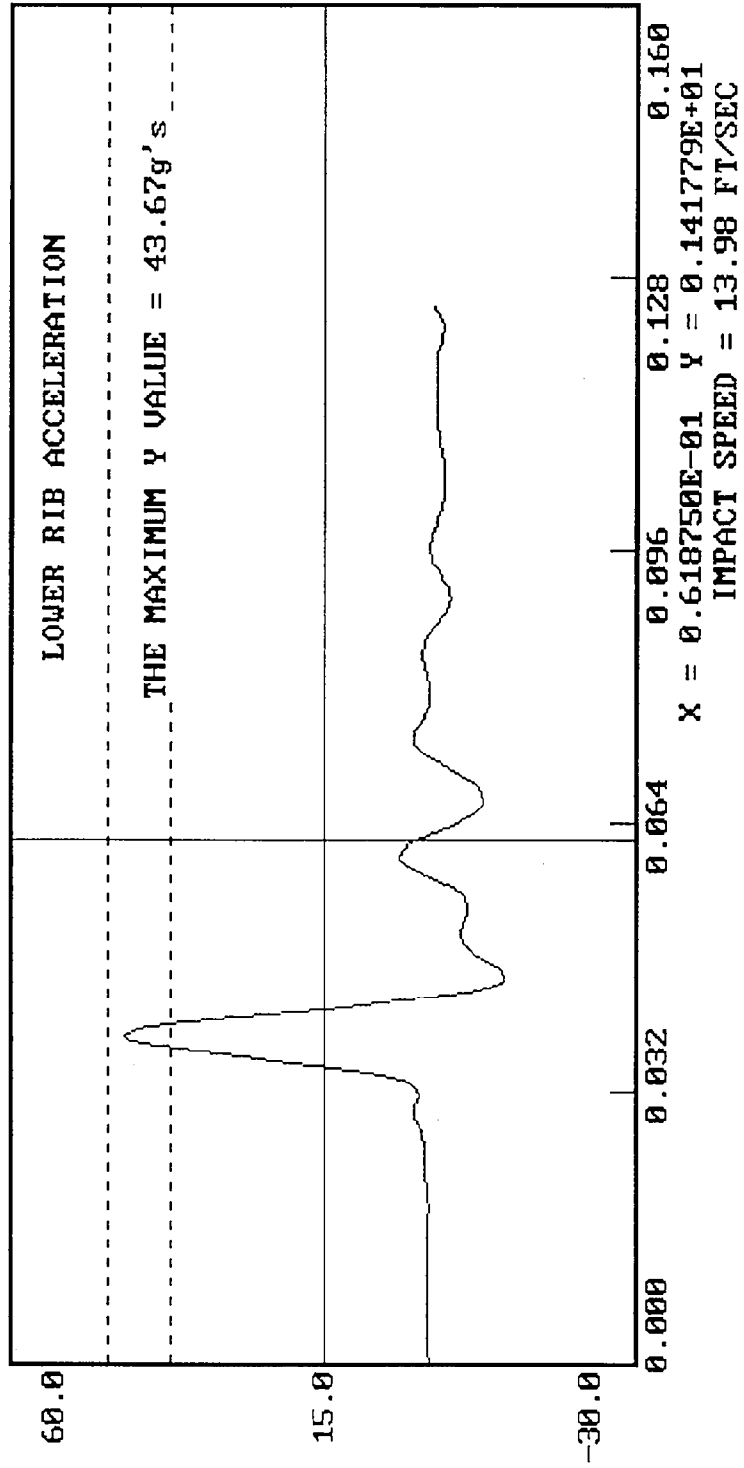
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = 0.293920E+01
IMPACT SPEED = 13.98 FT/SEC

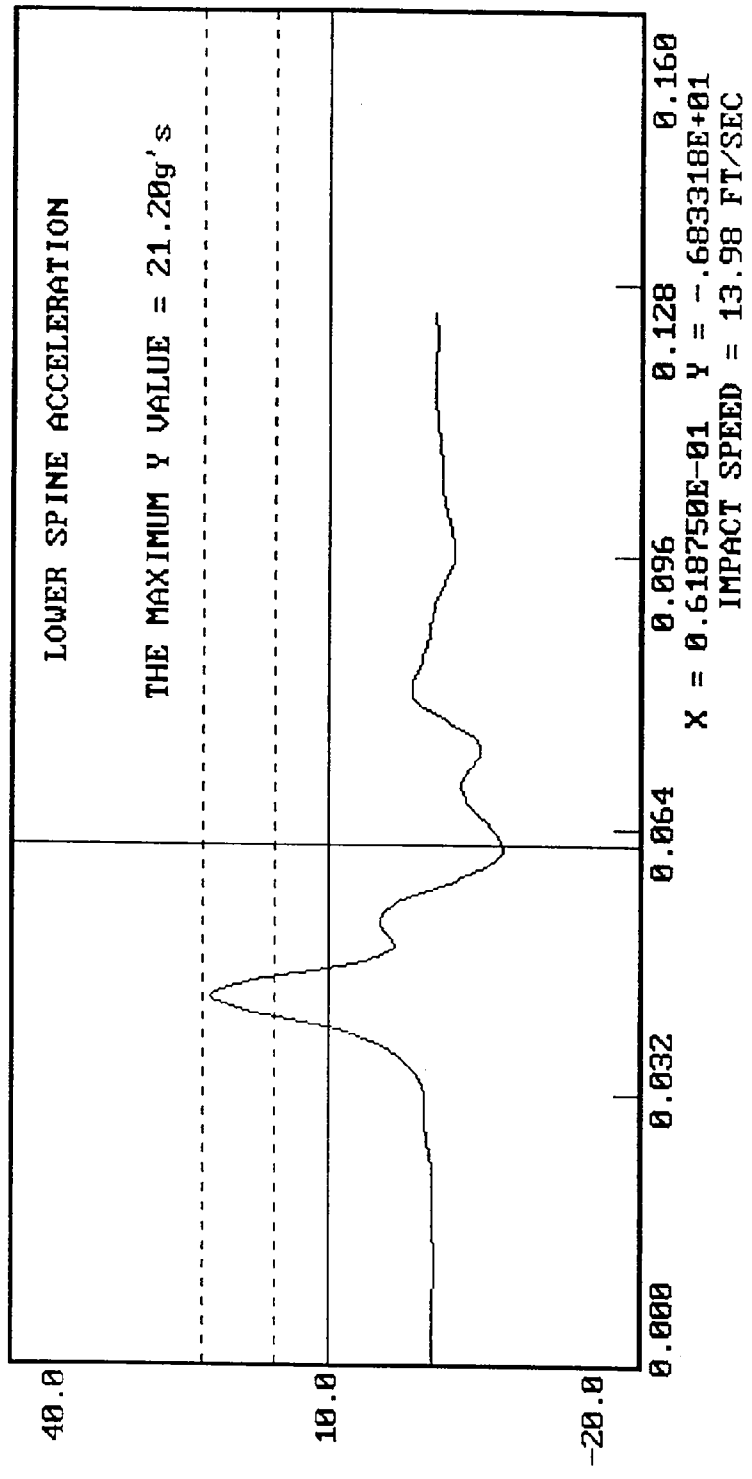
DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 270
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-02-1996 15:31



DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 270
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-02-1996 15:31



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

DUMMY NUMBER: 270

TEST NUMBER: D961973

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|---------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| PROBE SPEED | 13.8 - 14.2 f/s | 13.9 |
| PELVIS ACCELERATION | 40 - 60 g's | 56 |

TEST MEETS SPECIFICATIONS

TECHNICIAN Jim Wilson

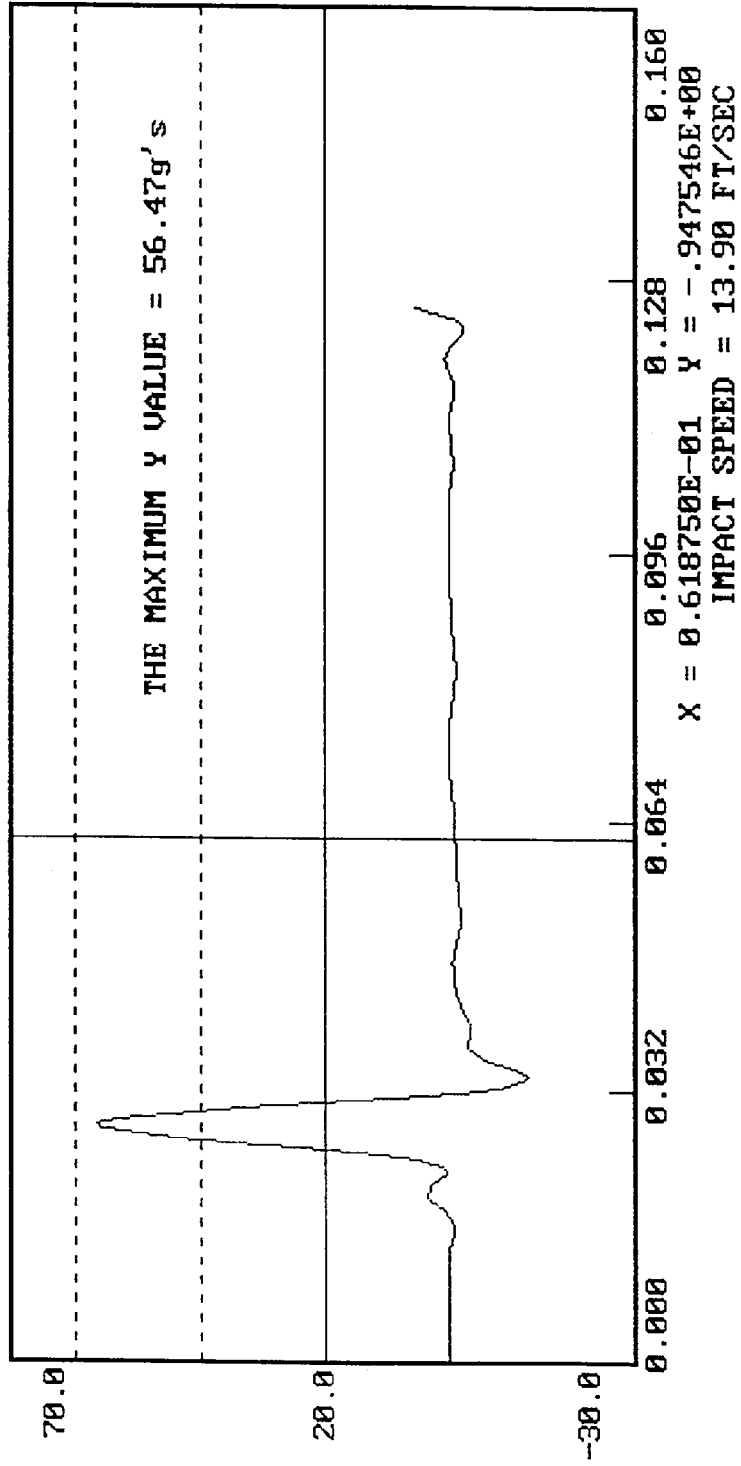
APPROVED BY Paul Korbake

12-02-1996 16:21

DUMMY CALIBRATION - PELVIS IMPACT

DUMMY # 270

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



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

DATE: December 02, 1996

DUMMY NUMBER: 270

TEST NUMBER: D961974

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| FORCE @ 0.5 in | 23.3 - 36.5 lbs | 29.9 |
| FORCE @ 0.75 in | 36.7 - 49.8 lbs | 41.8 |
| FORCE @ 1.0 in | 50 - 63 lbs | 56 |
| FORCE @ 1.3 in | 73 - 88 lbs | 76 |

TEST MEETS SPECIFICATIONS

TECHNICIAN Tim Mink

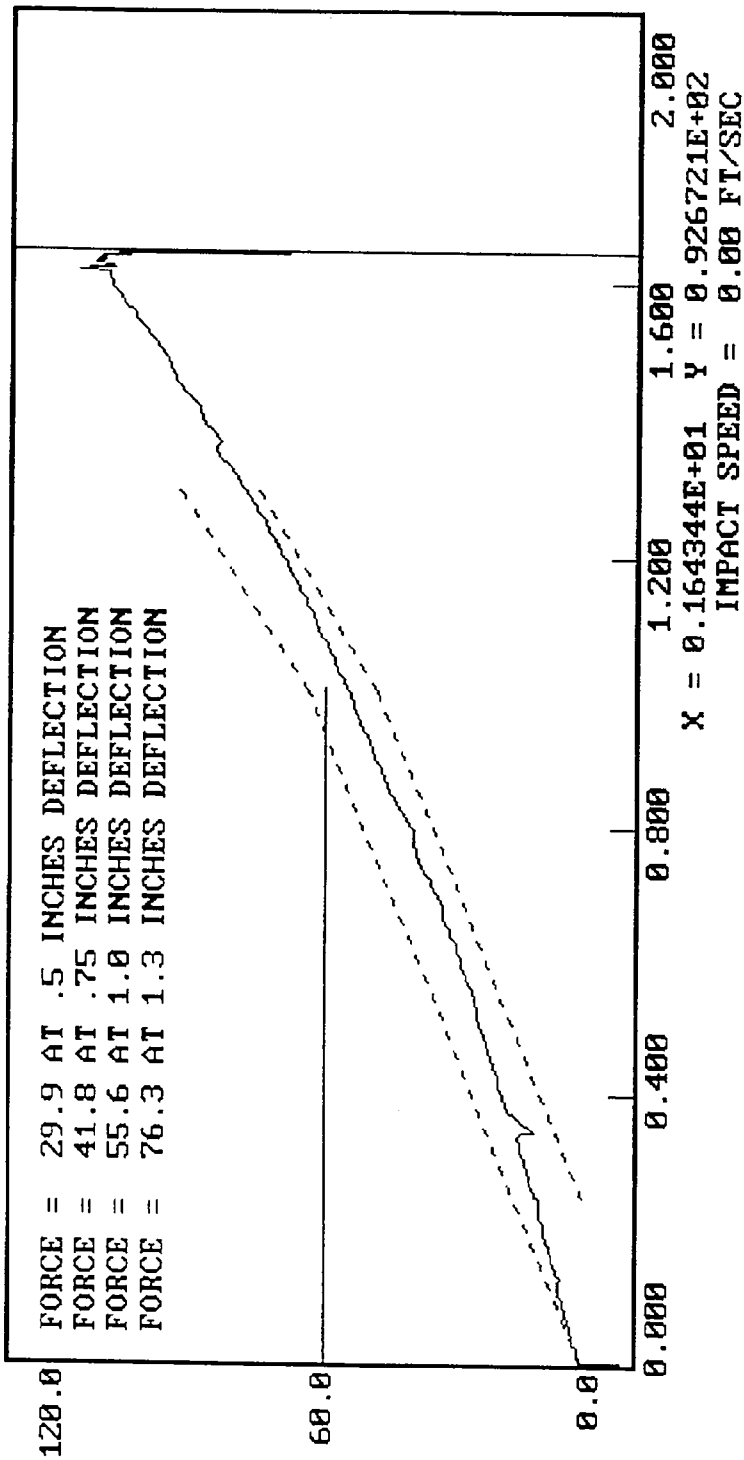
APPROVED BY Rene Kosloski

DUMMY CALIBRATION - ABDOMEN COMPRESSION

DUMMY # 270

12-02-1996 21:38

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



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 02, 1996

DUMMY NUMBER: 270

TEST NUMBER: D961975

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|---------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 20% |
| FORCE @ 0° | 0 - 6 lbs | 0 |
| FORCE @ 20° | 22 - 34 lbs | 24 |
| FORCE @ 30° | 34 - 46 lbs | 38 |
| FORCE @ 40° | 46 - 58 lbs | 49 |
| RETURN ANGLE | 12° maximum | 1° |

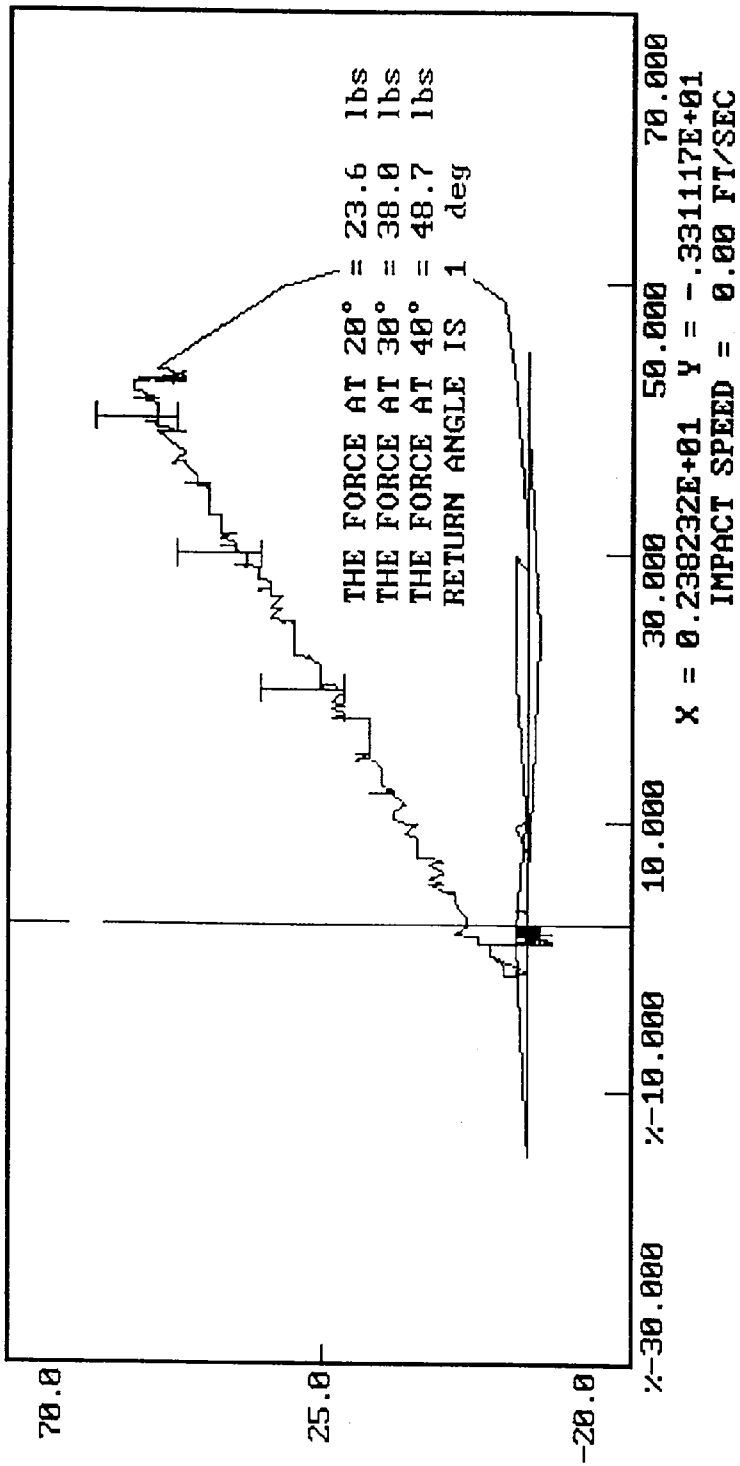
TEST MEETS SPECIFICATIONS

TECHNICIAN Jim Mitchell

APPROVED BY Pave Koschke

12-02-1996 22:04

DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 270
FORCE (LBS) VS. TORSO ROTATION (DEGREES)



POST-TEST CERTIFICATION DATA

Front Dummy Serial Number: 269

Calibration Test Results Summary

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 NO.: 269

DATE OF VERIFICATION: December 04, 1996

| DESCRIPTION | SPECIFICATION | TEST RESULTS |
|--------------------------------|-----------------|--------------|
| SH - Seated Height | 35.0" - 35.8" | 35.1 |
| RH - Rib Height | 19.75" - 20.50" | 20.00 |
| HP - Hip Pivot Height | 3.9" ref. | 3.9 |
| RD - Rib From Back Line | 9.0" to 9.5" | 9.3 |
| KV - Knee Pivot From Back Line | 20.1" - 20.7" | 20.4 |
| SW - Knee Pivot to Floor | 19.3" - 19.9" | 19.4 |
| HW - Hip Width | 14.0" - 15.4" | 15.1 |

MEASUREMENTS BY: 

APPROVED BY: 

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 269

TEST NUMBER: D962002

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 25% |
| PROBE SPEED | 13.8 - 14.2 fps | 14.0 |
| UPPER RIB | 37 - 46 g's | 46 |
| LOWER RIB | 37 - 46 g's | 44 |
| LOWER SPINE | 15 - 22 g's | 20 |

TEST MEETS SPECIFICATIONS

TECHNICIAN Jim Mil...

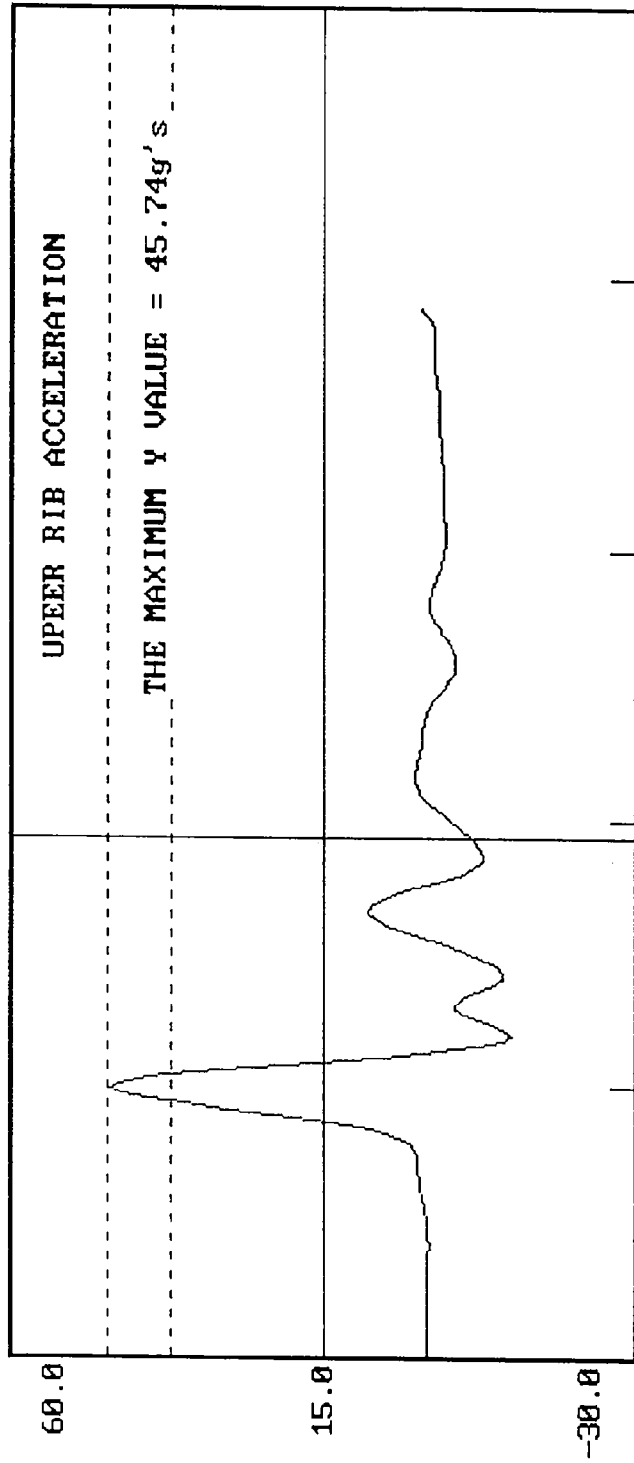
APPROVED BY Paul K...

12-04-1996 11:25

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 269

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

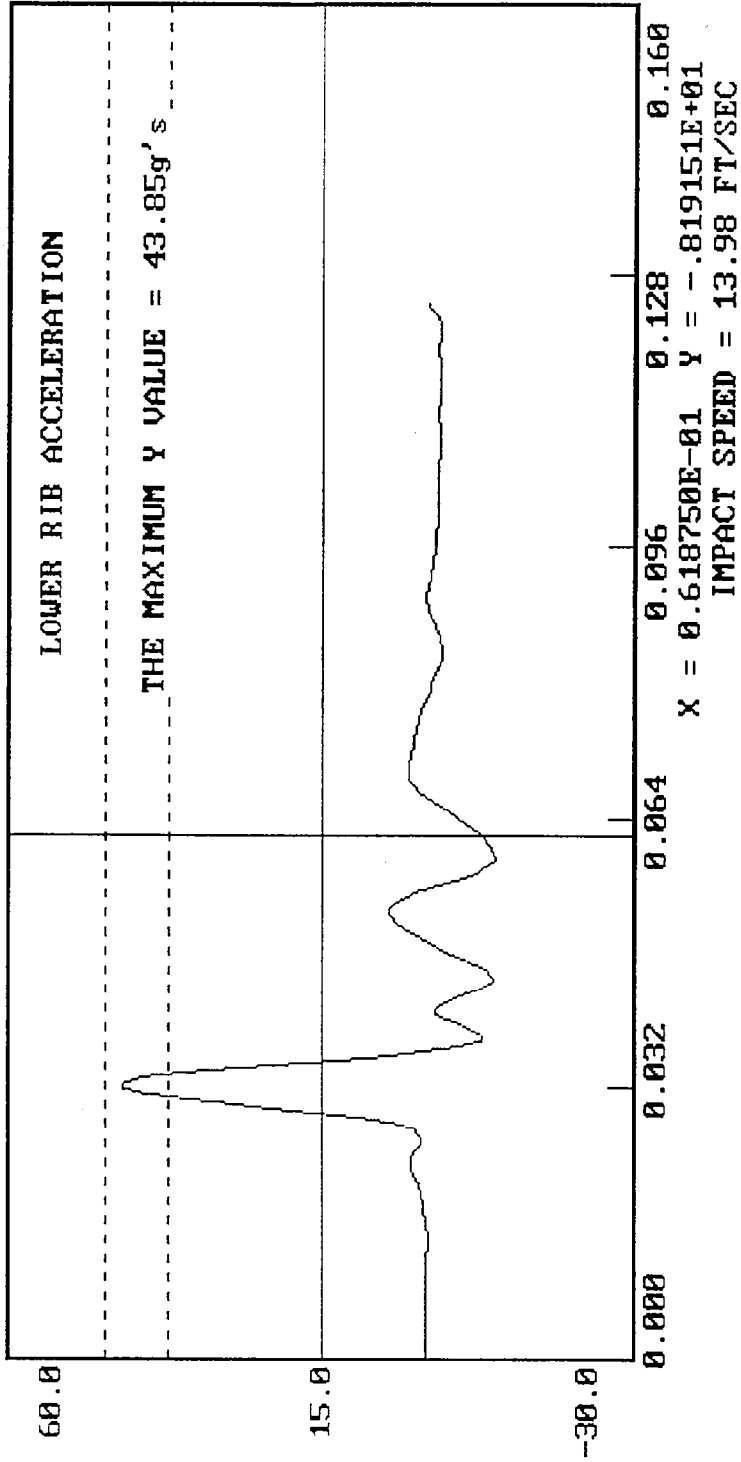


X = 0.618750E-01 Y = -.643900E+01
IMPACT SPEED = 13.98 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 269

12-04-1996 11:25

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

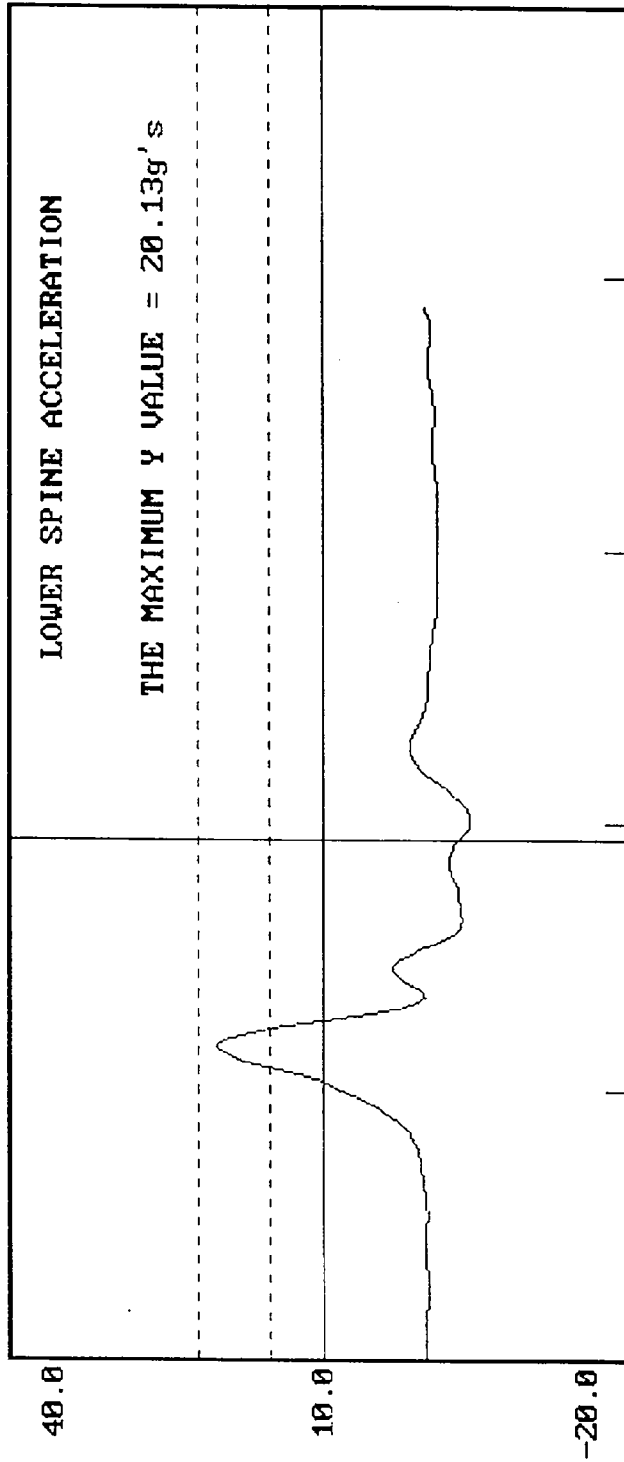


12-04-1996 11:26

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 269

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



X = 0.618750E-01 Y = -.311051E+01
IMPACT SPEED = 13.98 FT/SEC

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 269

TEST NUMBER: D962003

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|---------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 25% |
| PROBE SPEED | 13.8 - 14.2 f/s | 14.0 |
| PELVIS ACCELERATION | 40 - 60 g's | 48 |

TEST MEETS SPECIFICATIONS

TECHNICIAN

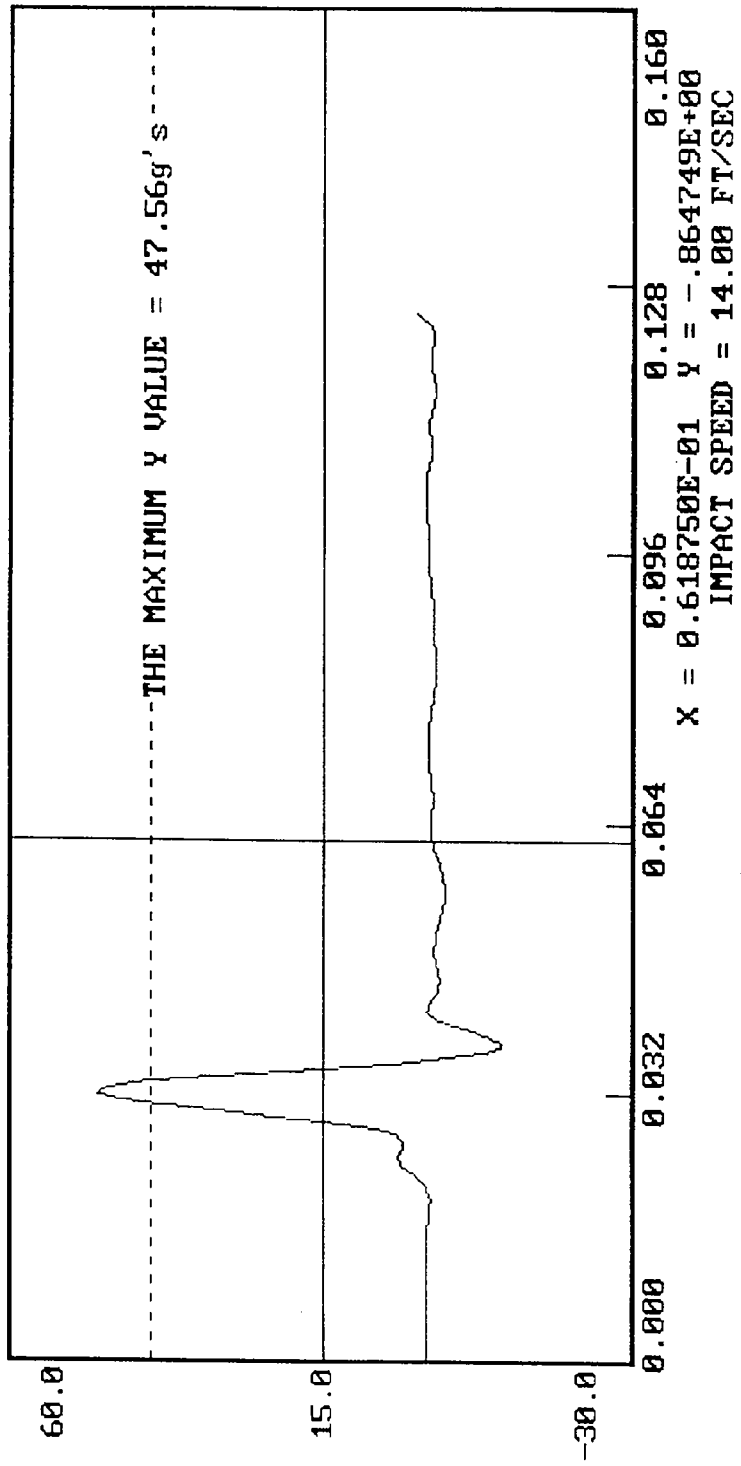
Jim White

APPROVED BY

Rone Kabeke

DUMMY CALIBRATION - PELVIS IMPACT
DUMMY # 269
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-04-1996 11:31



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

DATE: December 04, 1996

DUMMY NUMBER: 269

TEST NUMBER: D962004

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 30% |
| FORCE @ 0.5 in | 23.3 - 36.5 lbs | 32.2 |
| FORCE @ 0.75 in | 36.7 - 49.8 lbs | 44.9 |
| FORCE @ 1.0 in | 50 - 63 lbs | 60 |
| FORCE @ 1.3 in | 73 - 88 lbs | 82 |

TEST MEETS SPECIFICATIONS

TECHNICIAN Tim Mil

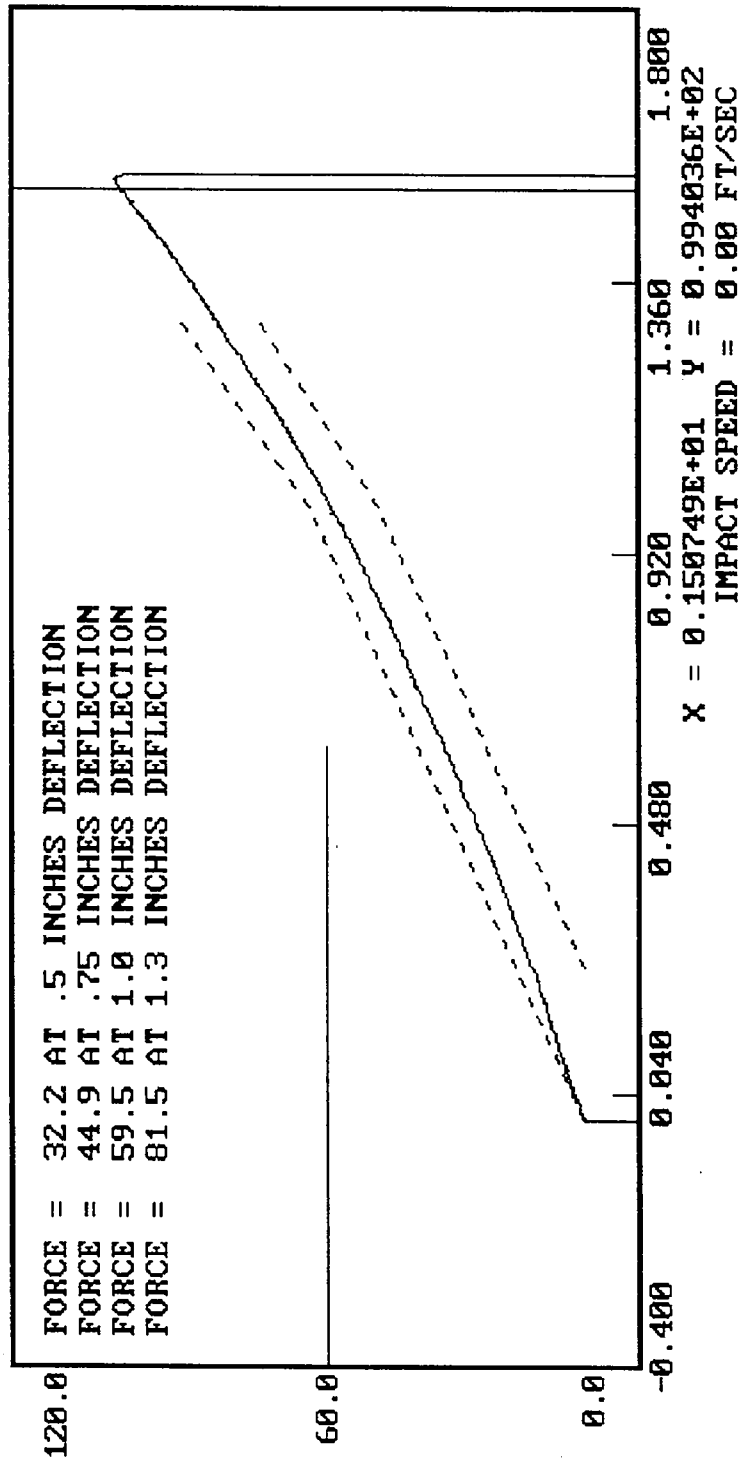
APPROVED BY Dave Kochake

DUMMY CALIBRATION - ABDOMEN COMPRESSION

DUMMY # 269

12-04-1996 15:20

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



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 269

TEST NUMBER: D962005

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|---------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 30% |
| FORCE @ 0° | 0 - 6 lbs | 0 |
| FORCE @ 20° | 22 - 34 lbs | 27 |
| FORCE @ 30° | 34 - 46 lbs | 36 |
| FORCE @ 40° | 46 - 58 lbs | 47 |
| RETURN ANGLE | 12° maximum | 4° |

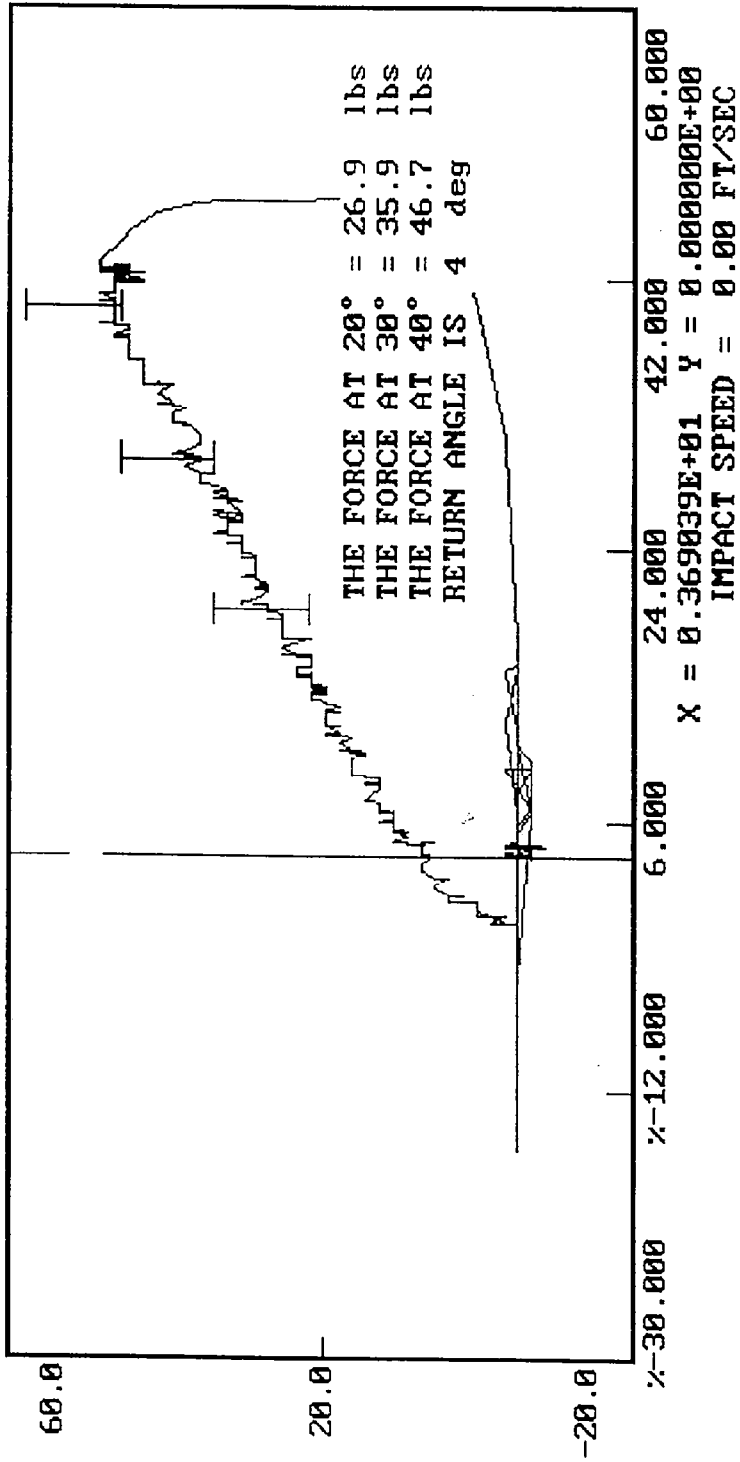
TEST MEETS SPECIFICATIONS

TECHNICIAN Jim M. [Signature]

APPROVED BY Paul Kapske [Signature]

12-04-1996 15:57

DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 269
FORCE (LBS) VS. TORSO ROTATION (DEGREES)



POST-TEST CERTIFICATION DATA

Rear Dummy Serial Number: 270

Calibration Test Results Summary

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 NO.: 270

DATE OF VERIFICATION: December 04, 1996

| DESCRIPTION | SPECIFICATION | TEST RESULTS |
|--------------------------------|-----------------|--------------|
| SH - Seated Height | 35.0" - 35.8" | 35.2 |
| RH - Rib Height | 19.75" - 20.50" | 20.50 |
| HP - Hip Pivot Height | 3.9" ref. | 3.9 |
| RD - Rib From Back Line | 9.0" to 9.5" | 9.5 |
| KV - Knee Pivot From Back Line | 20.1" - 20.7" | 20.6 |
| SW - Knee Pivot to Floor | 19.3" - 19.9" | 19.5 |
| HW - Hip Width | 14.0" - 15.4" | 15.0 |

MEASUREMENTS BY:

Jim Whelan

APPROVED BY:

Dave Kobake

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 270

TEST NUMBER: D962012

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

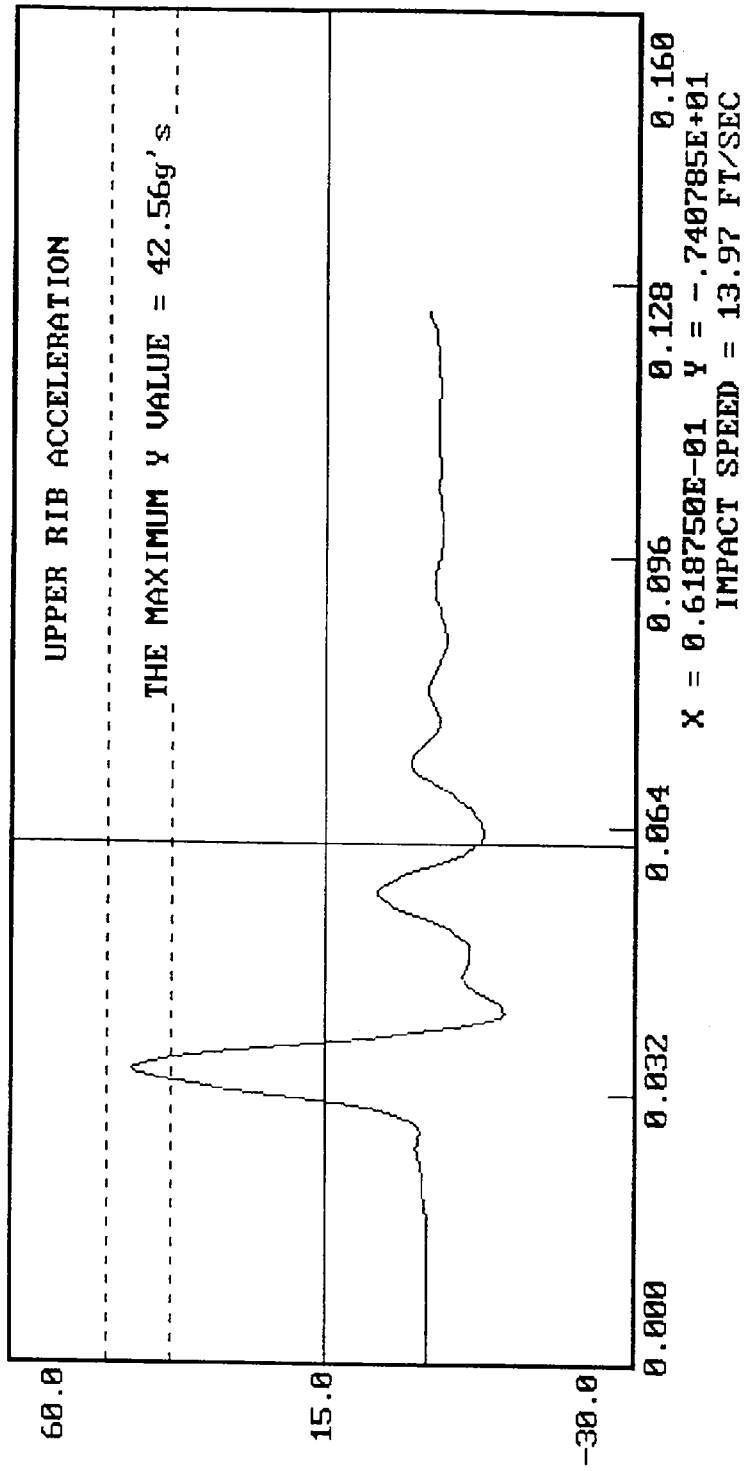
TEST MEETS SPECIFICATIONS

TECHNICIAN *Tim White*

APPROVED BY *Raul Kabeke*

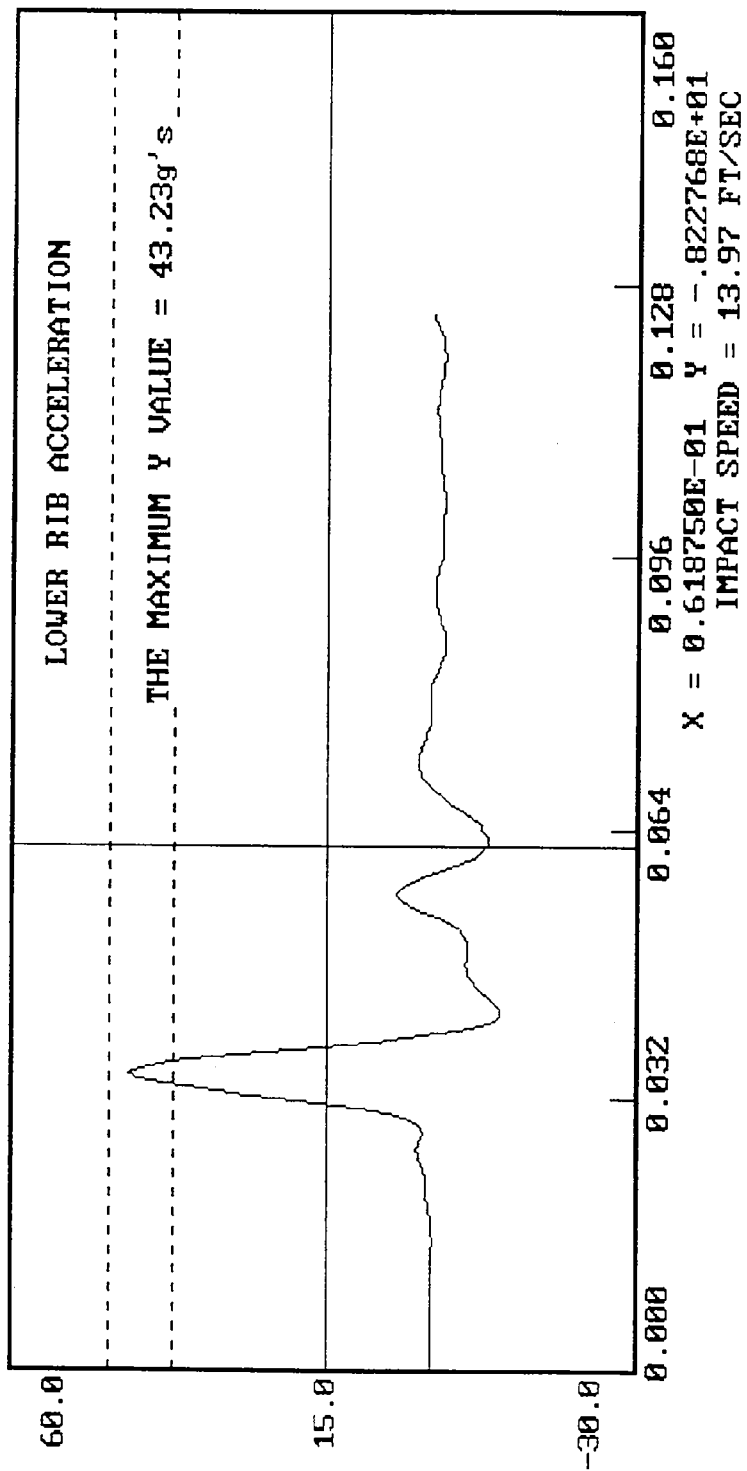
DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 270
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-04-1996 12:44



DUMMY CALIBRATION - THORAX IMPACT
 DUMMY # 278
 ACCELERATION (G'S) VS. TIME ((SECONDS))

12-04-1996 12:44

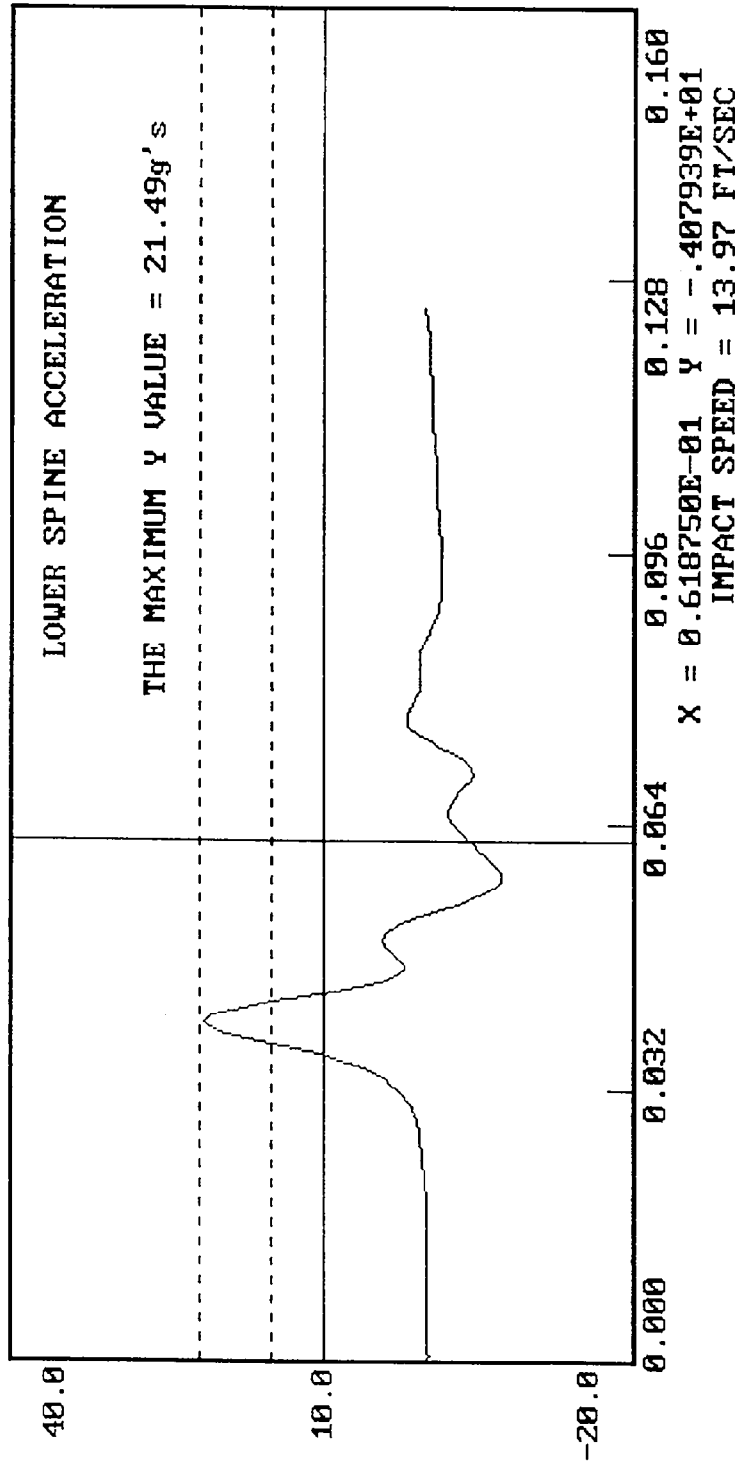


12-04-1996 12:45

DUMMY CALIBRATION - THORAX IMPACT

DUMMY # 270

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



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 270

TEST NUMBER: D962013

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|---------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 30% |
| PROBE SPEED | 13.8 - 14.2 f/s | 14.0 |
| PELVIS ACCELERATION | 40 - 60 g's | 54 |

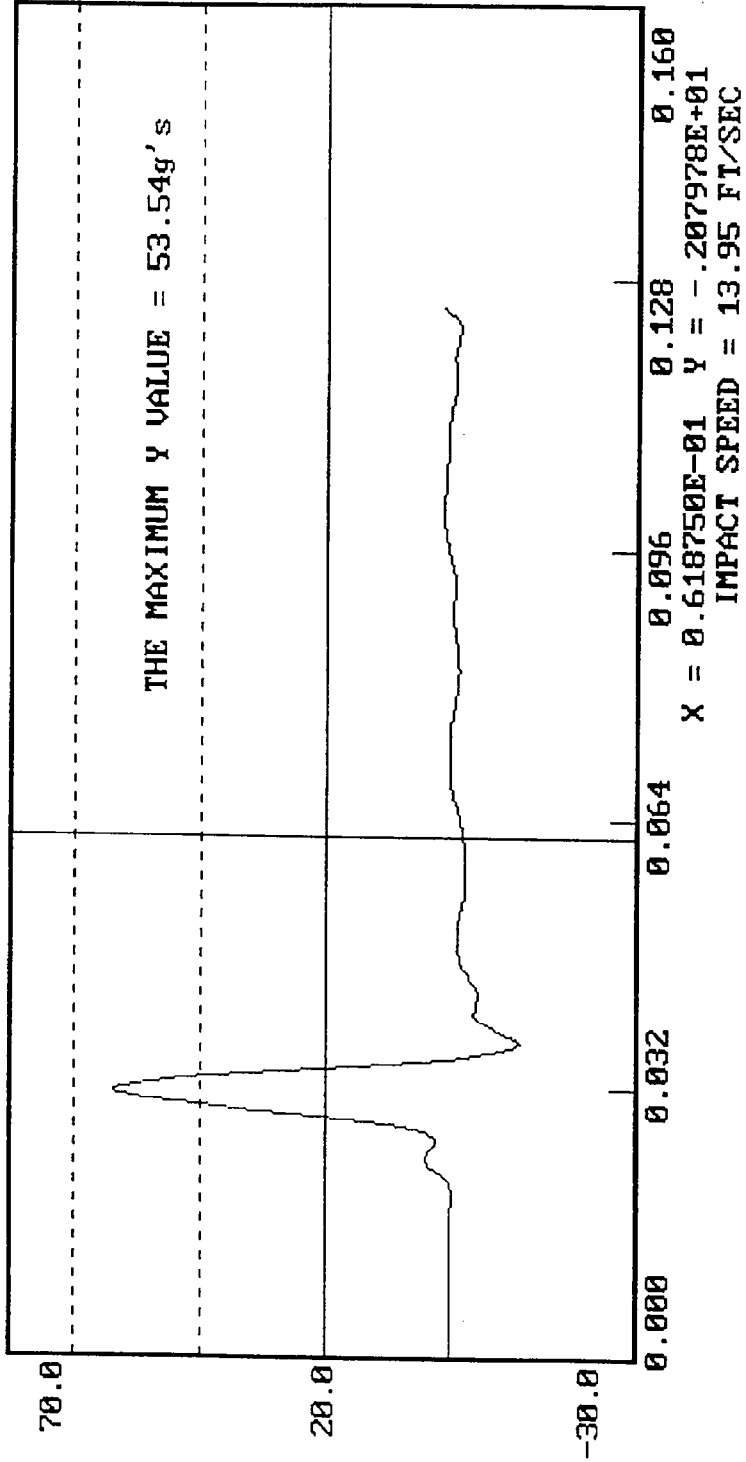
TEST MEETS SPECIFICATIONS

TECHNICIAN Tim White

APPROVED BY Gene Korbak

12-04-1996 12:55

DUMMY CALIBRATION - PELVIS IMPACT
DUMMY # 270
ACCELERATION (G'S) VS. TIME ((SECONDS))



MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 270

TEST NUMBER: D962014

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|-----------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 30% |
| FORCE @ 0.5 in | 23.3 - 36.5 lbs | 30.8 |
| FORCE @ 0.75 in | 36.7 - 49.8 lbs | 43.3 |
| FORCE @ 1.0 in | 50 - 63 lbs | 58 |
| FORCE @ 1.3 in | 73 - 88 lbs | 80 |

TEST MEETS SPECIFICATIONS

TECHNICIAN Tim M. [Signature]

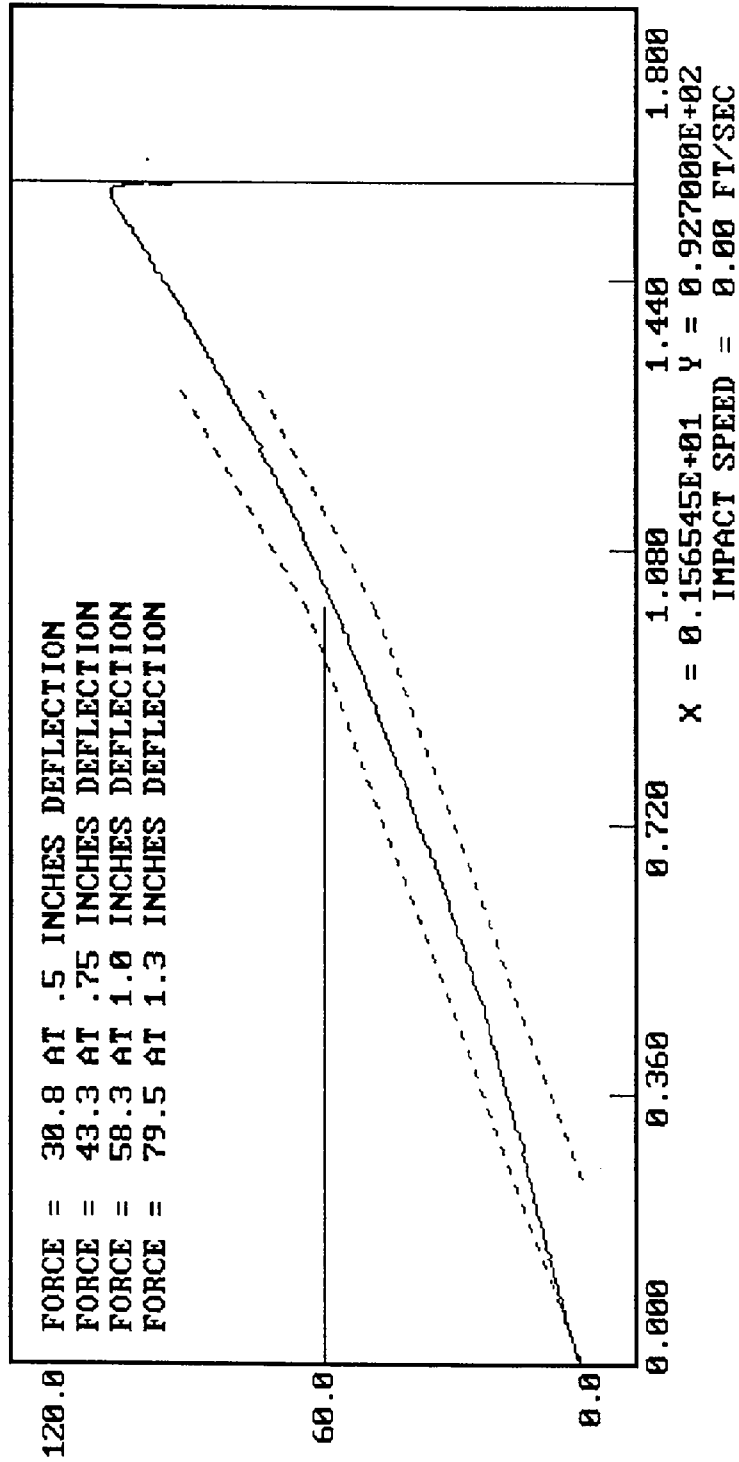
APPROVED BY [Signature]

DUMMY CALIBRATION - ABDOMEN COMPRESSION

DUMMY # 270

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

12-04-1996 15:25



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 04, 1996

DUMMY NUMBER: 270

TEST NUMBER: D962015

| TEST PARAMETER | SPECIFICATION | TEST RESULTS |
|-------------------|---------------|--------------|
| TEMPERATURE | 66 - 78° F | 70° |
| RELATIVE HUMIDITY | 10 - 70% | 30% |
| FORCE @ 0° | 0 - 6 lbs | 0 |
| FORCE @ 20° | 22 - 34 lbs | 27 |
| FORCE @ 30° | 34 - 46 lbs | 40 |
| FORCE @ 40° | 46 - 58 lbs | 54 |
| RETURN ANGLE | 12° maximum | 1° |

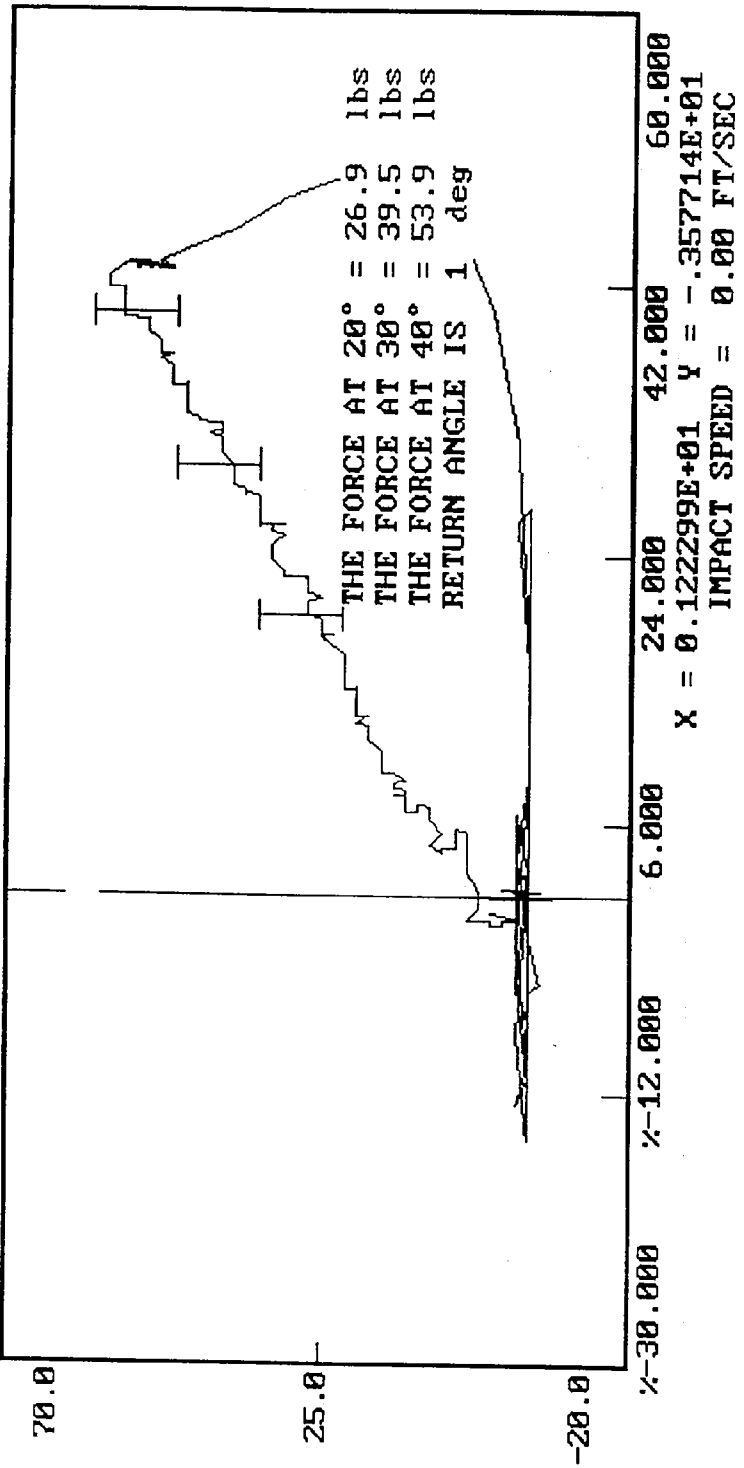
TEST MEETS SPECIFICATIONS

TECHNICIAN Jim Pliskin

APPROVED BY Dave Kabske

DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 270
12-04-1996 15:45

FORCE (LBS) VS. TORSO ROTATION (DEGREES)



POST-TEST DRIVER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Serial Number: 269

Inspected By: Tim Michnay

Date: December 04, 1996

| <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: 270

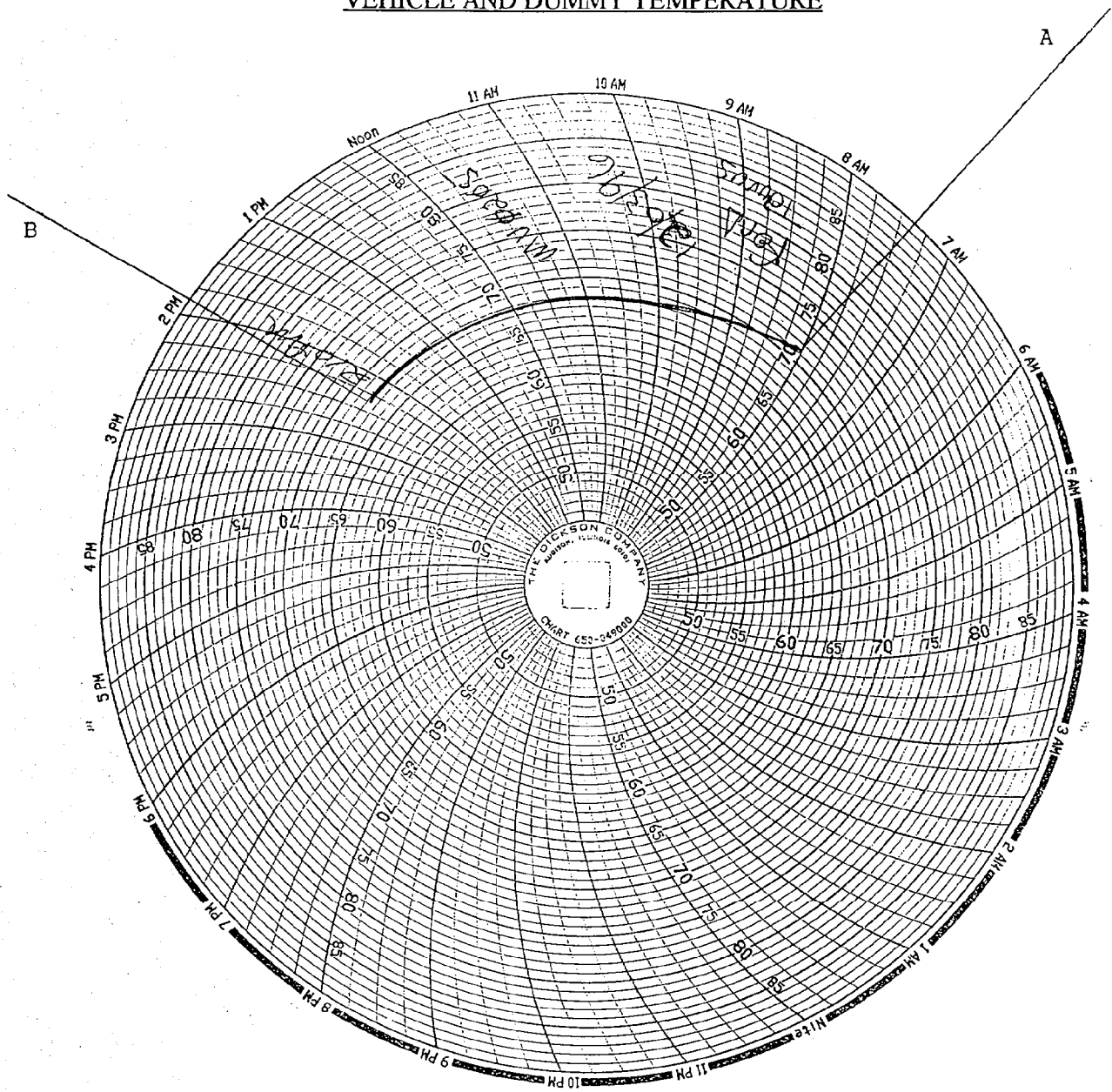
Inspected By: Tim Michnay

Date: December 04, 1996

| <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. 269

| | DRIVER | | |
|-------------------------|------------|--------------|------------------|
| | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Rib Y | AGTM2 | Endevco | 9/10/96 |
| Lower Rib Y | ALEC1 | Endevco | 9/16/96 |
| Lower Spine Y | AHIG2 | Endevco | 9/11/96 |
| Pelvis Y | ALCN6 | Endevco | 9/10/96 |
| Upper Rib Redundant Y | AGTB5 | Endevco | 9/10/96 |
| Lower Rib Redundant Y | J10411 | Endevco | 9/16/96 |
| Lower Spine Redundant Y | AM751 | Endevco | 9/11/96 |
| Pelvis Redundant Y | AKAF3 | Endevco | 9/10/96 |

INSTRUMENTS FOR PASSENGER DUMMY NO. 270

| LEFT REAR PASSENGER | | |
|-------------------------|------------|------------------|
| | SERIAL NO. | CALIBRATION DATE |
| Upper Rib Y | AP1H2 | 9/10/96 |
| Lower Rib Y | AJ9C2 | 9/09/96 |
| Lower Spine Y | AP2D7 | 9/10/96 |
| Pelvis Y | ALCH7 | 9/09/96 |
| Upper Rib Redundant Y | AH0B0 | 9/10/96 |
| Lower Rib Redundant Y | AHTT2 | 9/09/96 |
| Lower Spine Redundant Y | AP178 | 9/10/96 |
| Pelvis Redundant Y | AJ420 | 9/09/96 |

VEHICLE INSTRUMENT CALIBRATION

| VEHICLE ACCELEROMETERS | | |
|---------------------------------|--------------|------------------|
| SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Moving Barrier CG X | Entran | 7/12/96 |
| Moving Barrier CG Y | Entran | 7/15/96 |
| Moving Barrier CG Z | Entran | 7/11/96 |
| Moving Barrier Rear Axle X | Entran | 7/11/96 |
| Moving Barrier Rear Axle Y | Entran | 6/04/96 |
| Left Mid A-Post Y | Entran | 7/15/96 |
| Left Lower A-Post Y | Entran | 7/15/96 |
| Left Mid B-Post Y | Entran | 10/02/96 |
| Left Lower B-Post Y | Entran | 7/03/96 |
| Rear Floorpan Above Axle X | Entran | 6/04/96 |
| Rear Floorpan Above Axle Y | Entran | 7/11/96 |
| Rear Floorpan Above Axle Z | Entran | 7/10/96 |
| Driver Seat Track Y | Entran | 7/11/96 |
| Right Side Sill at Front Seat X | Entran | 7/10/96 |
| Right Side Sill at Front Seat Y | Entran | 7/12/96 |
| Right Side Sill at Front Seat Z | Entran | 7/11/96 |
| Right Side Sill at Rear Seat X | Entran | 7/11/96 |
| Right Side Sill at Rear Seat Y | Entran | 7/11/96 |
| Right Side Sill at Rear Seat Z | Entran | 7/11/96 |
| Left Side Sill at Front Seat Y | Entran | 6/04/96 |

VEHICLE INSTRUMENT CALIBRATION

| | VEHICLE ACCELEROMETERS | | |
|----------------------------------|------------------------|--------------|------------------|
| | SERIAL NO | MANUFACTURER | CALIBRATION DATE |
| Right Side Sill at Rear Seat Y | C14-Z12 | Entran | 7/11/96 |
| Left Rear Occupant Compartment Y | B14-R04 | Entran | 6/04/96 |
| Vehicle CG X | A09-G08 | Entran | 7/11/96 |
| Vehicle CG Y | J06-D23 | Entran | 7/03/96 |
| Vehicle CG Z | D05-R14 | Entran | 7/11/96 |
| Left Front Door Upper Centerline | J10-E03 | Entran | 7/10/96 |
| Left Front Door Mid Rear | D05-R24 | Entran | 6/04/96 |
| Left Front Door on Centerline | D05-R05 | Entran | 7/11/96 |
| Left Rear Door Mid Rear | H07-A21 | Entran | 10/01/96 |
| Left Rear Door Upper Centerline | F10-D08 | Entran | 10/02/96 |

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