

V2461  
2-1

REPORT NO. MGA-96-N03

NEW CAR ASSESSMENT PROGRAM (NCAP)

FRONTAL BARRIER IMPACT TEST

MITSUBISHI  
1997 MITSUBISHI GALANT  
NHTSA NO. MV5600

MGA PROVING GROUNDS  
5000 WARREN ROAD  
BURLINGTON, WI 53105



Test Date: October 17, 1996

Report Date: October 29, 1996

FINAL REPORT

Prepared For:

U. S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
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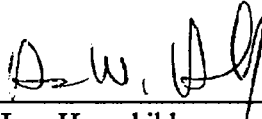
**TECHNICAL REPORT STANDARD TITLE PAGE**

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| 15. Supplementary Notes  |  |  |  |  |           |
| 16. Abstract<br><br>A 57 kph (35 mph) frontal barrier impact using a 30 load cell barrier was conducted on a 1997 Mitsubishi Galant at the MGA Proving Grounds and Crash Test Center in Burlington, WI. on October 17, 1996.<br><br>The barrier impact velocity was 57.0 kph (35.4 mph), and the ambient temperature at the time of impact was 20°C. The post-test maximum static crush was 479 mm.<br><br>The test vehicle appeared to comply with the requirements of the following Federal Motor Vehicle Safety Standards:<br><br>1. FMVSS 212, "Windshield Mounting"<br>2. FMVSS 219 (partial), "Windshield Zone Intrusion"<br>3. FMVSS 301, "Fuel System Integrity"<br><br>With regard to FMVSS 208, "Occupant Crash Protection" injury criteria, the driver's HIC was 526 and the 3 msec. Clip (Chest g's) was 54 g's. The left and right femur loads for the driver were 4043 and 6925 Newtons, respectively. The passenger's HIC was 487 and the 3 msec Clip was 50 g's. The left and right femur maximum loads were 4038 and 4069 Newtons respectively. |  |  |  |  |           |
| 17. Key Words<br><br>35 mph Frontal Barrier Impact Test<br>New Car Assessment Program (NCAP)<br>FMVSS 212 Indicant Testing<br>FMVSS 219 (partial) Indicant Testing<br>FMVSS 301 Indicant Testing   |  |  |  | 18. Distribution Statement<br><br>Copies of this report are available from: Technical Ref. Division,<br>NHTSA, NASSIF Building, Room 5108 400 Seventh Street, S.W.<br>Washington, D.C. 20590 |           |
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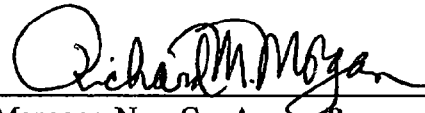
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Manager, New Car Assess. Program (NCAP)

6 December 1996  
\_\_\_\_\_  
Date of Report Acceptance

  
\_\_\_\_\_  
Contracting Officer's Tech. Rep. (COTR)

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SECTION 1  
PURPOSE AND TEST PROCEDURE

This 35 mph frontal barrier impact test is part of the Composite FY'96 Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-90-D-12121. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48 kph (30 mph) FMVSS 208/212/219/301-75 requirements.

The 56 kph (35 mph) frontal barrier impact test was conducted in accordance with the National Highway Traffic Safety Administration (NHTSA) Indicant Test Procedure for New Car Assessment Program (NCAP) dated January 1, 1990. Data for FMVSS No. 212, "Windshield Mounting", FMVSS No. 219 (Partial), "Windshield Zone Intrusion", FMVSS No. 301-75, "Fuel System Integrity," as well as occupant performance data are provided herein.

SECTION 2  
SUMMARY OF FRONTAL BARRIER IMPACT TEST

A load cell barrier consisting of 30 load cells was impacted by a 1997 Mitsubishi Galant at a velocity of 57.0 kph (35.4 mph). The test was performed at the MGA Proving Grounds and Crash Test Center on October 17, 1996. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by one real-time camera and 18 high speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs) were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head and chest primary and redundant triaxial accelerometers, pelvis triaxial accelerometers, chest displacement transducer, neck load cell, right/left femur load cells, right/left lower leg sensors, and right/left feet accelerometers. Seat belt load cells were also on the driver and passenger shoulder and lap belts to measure dummy torso and pelvic section loading. Calibrated ATDs, driver (Serial No. 036), and the right front passenger (Serial No. 037), were used for this test. Certification details, along with instrumentation calibration data, are found in Appendix C and D.

The 111 channels of data were recorded on 10 computers. Appendix B contains the vehicle, load cell barrier and dummy response data traces.

The driver's head struck the airbag. The driver HIC was 526 and the maximum chest (CLIP) deceleration over 3 milliseconds was 54 g's. The maximum chest displacement was 41 mm. The left and right femur loads were 4043 and 6925 Newtons respectively.

The right front passenger's head struck the airbag. The passenger HIC was 487 and maximum chest (CLIP) deceleration over 3 milliseconds was 50 g's. The maximum chest displacement was 40 mm. The left and right femur loads were 4038 and 4069 Newtons respectively.

GENERAL TEST AND VEHICLE PARAMETER DATA

Vehicle Yr/Make/Model/Body Style: 1997/Mitsubishi/Galant/4 Door

NHTSA No.: MV5600 VIN.: 4A3AJ46G0VE012556

Body color: Gray Date of Manufacture: 8/96

Engine: 4 Cylinders;    C.I.D.; 2.4 Liters;  
X Gas;    Diesel;    Turbocharged  
   Longitudinal; X Transverse

Transmission: 4 Speed;    Manual; X Automatic; X Overdrive

Final Drive: X Front Wheel;    Rear Wheel;    Four Wheel

Odometer Reading: 66 miles

X A/C; X P/S; X P/B;    P/wdo;  
   P/seats; X Tilt Wheel;    Cruise Control;    Abs

Type of Occupant Restraint: Type II with driver and passenger airbags.

DATA RECORDED FROM VEHICLE'S TIRE PLACARD:

Tire Pressure (at capacity): Front 221 kPa (32 Psi) Rear 200 kPa (29 Psi)

Recommended Tire Size: P185/70R14

Recommended Cold Tire Pressure: Front 221 kPa (32 Psi) Rear 200 kPa (29 Psi)

Tires on Vehicle: P185/70R14; Manufacturer: Bridgestone

Number of Occupants: 2 Front; 3 Rear;    3rd Seat; 5 TOTAL

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

Type of Front Seat Back:    Fixed; X Adj. With;    Power;    Lever

Vehicle Capacity Weight (VCW) = 375 kg. (A)

No. of Occupants x 68.0 kg. = 340 kg. (B)

Rated Cargo Weight (RCW) A-B = 35 kg.

GVWR 1780 kg. GAWR: Front 970 kg.; Rear 810 kg.

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (WITH MAXIMUM FLUIDS) = UDW:

Right Front = 405.9 kg      Right Rear = 236.7 kg  
Left Front = 405.4 kg      Left Rear = 249.0 kg  
TOTAL FRONT WEIGHT = 811.3 kg (62.6% of Total Vehicle Weight)  
TOTAL REAR WEIGHT = 485.7 kg (37.4% of Total Vehicle Weight)  
TOTAL UNLOADED DELIVERED WEIGHT (UDW) = 1297.0 kg

CALCULATION FOR TARGET TEST WEIGHT:

UDW = Unloaded Delivered Weight 1297.0 kg  
VCW = Vehicle Capacity Weight 375 kg  
DSC = Designated Seating Capacity 5 RCW = VCW - 68 (DSC) = 35 kg  
Target Test Weight = UDW + RCW + (2 dummies x 167 kg/dummy)  
Target Test Weight = 1488.0 kg

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO:

Right Front = 460.7 kg      Right Rear = 291.6 kg  
Left Front = 446.2 kg      Left Rear = 288.9 kg  
TOTAL FRONT WEIGHT = 906.9 kg (61.0% of Total Vehicle Weight)  
TOTAL REAR WEIGHT = 580.5 kg (39.0% of Total Vehicle Weight)  
TOTAL TEST WEIGHT = 1487.4 kg  
Weight of ballast secured in vehicle trunk area = 0 kg  
Vehicle components removed to meet target weight: Rear seat, rear carpet, rear speakers, taillights, complete trunk interior, muffler, rear bumper and cover, trunk lid and hinges, side mirrors.

VEHICLE ATTITUDE (all dimensions in mm):

Delivered Attitude: RF 680 LF 672 RR 681 LR 672  
Test Attitude: RF 658 LF 656 RR 656 LR 655  
Post Test RF 686 LF 670 RR 625 LR 657  
Wheel Base: 2636 mm; C.G. = 1028 mm rearward of front wheel C/L  
Remarks: None Noted

\* light trucks and MPVs RCW is 136 kgs or manufacturer's value, whichever is less



GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

|                               | <u>Front</u>  |               |
|-------------------------------|---------------|---------------|
| <u>Post-Test Door Opening</u> | <u>Left</u>   | <u>Right</u>  |
| (without use of tools)        | <u>Opened</u> | <u>Opened</u> |

|  | <u>Rear</u>   |               |
|--|---------------|---------------|
|  | <u>Opened</u> | <u>Opened</u> |

|                      | <u>Front</u>        |              |
|----------------------|---------------------|--------------|
| <u>Seat Movement</u> | <u>Left</u>         | <u>Right</u> |
| Seat Back Movement   | <u>None</u>         | <u>None</u>  |
| Seat Shift (mm)      | <u>3 mm forward</u> | <u>0 mm</u>  |

Glazing Damage

Backlight/Windshield Windshield cracked

Other Notable Impact Effects: None noted

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

POST TEST AIRBAG DATA

Vehicle Yr/Make/Model/Body Style: 1997/Mitsubishi/Galant/4 Door

NHTSA No.: MV5600 VIN: 4A3AJ46G0VE012556

- A. Number of Vent Holes: Driver 2; Passenger 2
- B. Size of Vent Holes: Driver 24 mm; Passenger 58 mm
- C. Total Vent Area; Driver 9.0 cm<sup>2</sup> Passenger 52.8 cm<sup>2</sup>
- D. Deflated Airbag Length and Width Dimensions or, if Round, Diameter  
Driver; Length      mm, Width      mm, Diameter 600 mm  
Passenger; Length 470 mm, Width 457 mm, Diameter      mm
- E. Is the Airbag Tethered?  
Driver; X Yes;    No; If yes, record length of tether 403 mm  
Passenger;    Yes; X No; If yes, record length of tether      mm

SECTION 3

SUMMARY OF RESULTS FOR-----

FMVSS 212, "Windshield Mounting"

FMVSS 219 (Partial), "Windshield Zone Intrusion"

FMVSS 301-75, "Fuel System Integrity"

FMVSS NO. 212, "WINDSHIELD MOUNTING", DATA SHEET

Details of windshield mounting such as retention method, trim type, etc.:

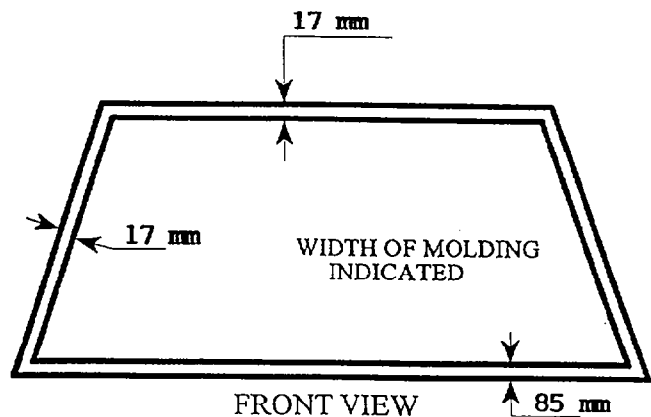
Windshield set in rubber molding with glue

**FMVSS 212 Requirements:** The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

**FMVSS 212 TEST DATA:**

|            | WINDSHIELD PERIPHERY |                |                   |
|------------|----------------------|----------------|-------------------|
|            | PRE-TEST (mm)        | POST-TEST (mm) | PERCENT RETENTION |
| RIGHT SIDE | 2010                 | 2010           | 100%              |
| LEFT SIDE  | 2010                 | 2010           | 100%              |
| TOTAL      | 4020                 | 4020           | 100%              |

AREA OF RETENTION FAILURE: None



FAILURE DETAILS: None

FMVSS NO. 219, "WINDSHIELD ZONE INTRUSION", DATA SHEET

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 6.5" dia. rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the surface of the instrument panel, including padding, and drawing the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contact points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 1/2" distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection onto the outer surface of the windshield of this line.

FMVSS 219 TEST DATA:

A= 1080 mm

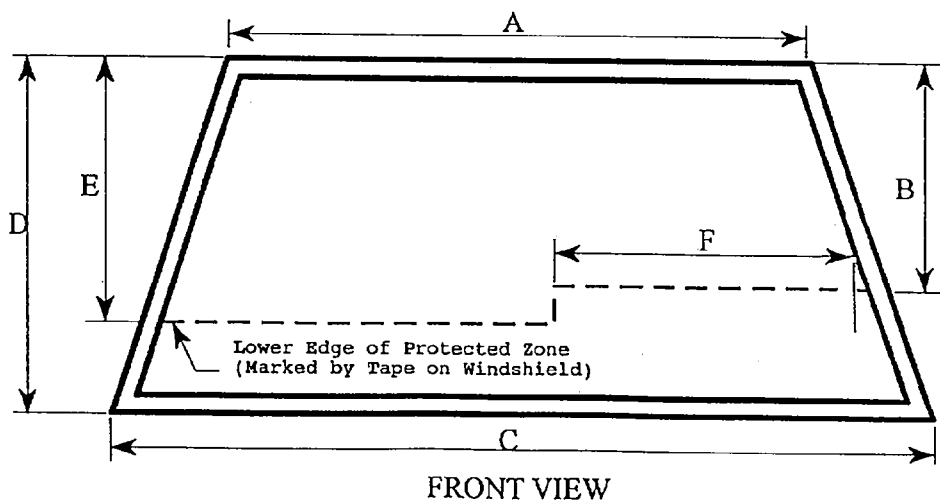
B= 530 mm

C= 1512 mm

D= 714 mm

E= 497 mm

F= 580 mm



DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4":  
(Show location of penetration)

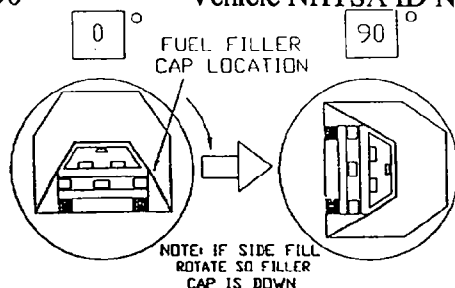
NONE



FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 0° - 90°

Vehicle NHTSA ID No.: MV5600



**I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:**

Rollover Fixture 90° Rotation Time 2 minutes 55 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 55 seconds

Next whole minute interval 8 minutes

**II. FMVSS 301 REQUIREMENTS:**

(1) Time Period

|                                    |          |          |                   |
|------------------------------------|----------|----------|-------------------|
| First 5 min FROM onset of rotation | 6th min. | 7th min. | 8th min. if reqd. |
|------------------------------------|----------|----------|-------------------|

(2) Maximum Allowable Solvent Spillage

|          |         |         |         |
|----------|---------|---------|---------|
| 5 ounces | 1 ounce | 1 ounce | 1 ounce |
|----------|---------|---------|---------|

**III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:**

|   |   |   |   |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

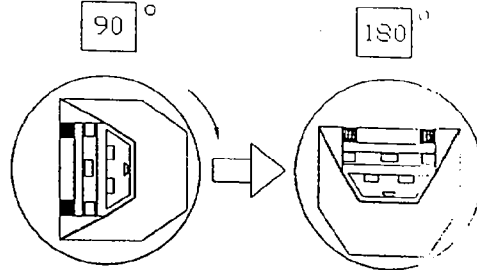
Note: Record Spillage for whole minute intervals only as determined above.

**IV. SOLVENT SPILLAGE LOCATIONS(S): None**

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 90° - 180°

Vehicle NHTSA ID No.: MV5600



**I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:**

Rollover Fixture 90° Rotation Time 2 minutes 35 seconds  
 (Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

**TOTAL** 7 minutes 35 seconds

Next whole minute interval 8 minutes

**II. FMVSS 301 REQUIREMENTS:**

(1) Time Period

|                                    |          |          |                   |
|------------------------------------|----------|----------|-------------------|
| First 5 min FROM onset of rotation | 6th min. | 7th min. | 8th min. if reqd. |
|------------------------------------|----------|----------|-------------------|

(2) Maximum Allowable Solvent Spillage

|          |         |         |         |
|----------|---------|---------|---------|
| 5 ounces | 1 ounce | 1 ounce | 1 ounce |
|----------|---------|---------|---------|

**III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:**

|   |   |   |   |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

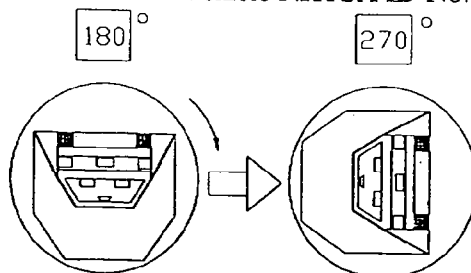
Note: Record Spillage for whole minute intervals only as determined above.

**IV. SOLVENT SPILLAGE LOCATIONS(S): None**

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 180° - 270°

Vehicle NHTSA ID No.: MV5600



**I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:**

Rollover Fixture 90° Rotation Time 2 minutes 20 seconds  
 (Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

**TOTAL** 7 minutes 20 seconds

Next whole minute interval 8 minutes

**II. FMVSS 301 REQUIREMENTS:**

(1) Time Period

|                                    |          |          |                   |
|------------------------------------|----------|----------|-------------------|
| First 5 min FROM onset of rotation | 6th min. | 7th min. | 8th min. if reqd. |
|------------------------------------|----------|----------|-------------------|

(2) Maximum Allowable Solvent Spillage

|          |         |         |         |
|----------|---------|---------|---------|
| 5 ounces | 1 ounce | 1 ounce | 1 ounce |
|----------|---------|---------|---------|

**III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:**

|   |   |   |   |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

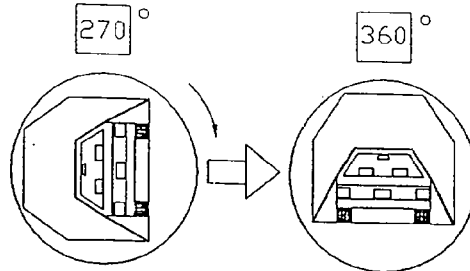
Note: Record Spillage for whole minute intervals only as determined above.

**IV. SOLVENT SPILLAGE LOCATIONS(S): None**

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 270° - 360°

Vehicle NHTSA ID No.: MV5600



**I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:**

Rollover Fixture 90° Rotation Time 2 minutes 25 seconds  
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

**TOTAL** 7 minutes 25 seconds

Next whole minute interval 8 minutes

**II. FMVSS 301 REQUIREMENTS:**

(1) Time Period

|                                    |          |          |                   |
|------------------------------------|----------|----------|-------------------|
| First 5 min FROM onset of rotation | 6th min. | 7th min. | 8th min. if reqd. |
|------------------------------------|----------|----------|-------------------|

(2) Maximum Allowable Solvent Spillage

|          |         |         |         |
|----------|---------|---------|---------|
| 5 ounces | 1 ounce | 1 ounce | 1 ounce |
|----------|---------|---------|---------|

**III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:**

|   |   |   |   |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

Note: Record Spillage for whole minute intervals only as determined above.

**IV. SOLVENT SPILLAGE LOCATIONS(S): None**

SECTION 4  
OMI FINAL DATA

Occupant and Vehicle Information

I. OMI DATA

1. Dummy Injury Criteria Data Summary
2. Dummy Positioning Data
3. Seat Belt Positioning Data
4. Seat Belt Performance Assessment Data
5. Camera Locations
6. Vehicle Target Locations

II. OVR DATA

1. Load Cell Barrier Data
2. Vehicle Accelerometer Data
3. Test Vehicle Measurements

III. AID DATA

1. Accident Investigation Damage Data Summary

**FMVSS NO. 208, "OCCUPANT CRASH PROTECTION", DATA SHEET**

VEH. YR./MAKE/MODEL/BODY STYLE: 1997/Mitsubishi/Galant/4 Door  
 VEH. NHTSA NO.: MV5600 TEST DATE: October 17, 1996

| MAX. ACCELERATION VALUES: (g's)            | DRIVER #036                                    | PASSENGER #037                                 |
|--|--|--|
| Head Channel X                             | -59.2 @ 81 msec.                               | -61.3 @ 62 msec.                               |
| Head Channel Y                             | -11.0 @ 79 msec.                               | 9.3 @ 58 msec.                                 |
| Head Channel Z                             | -15.7 @ 71 msec.                               | -35.4 @ 61 msec.                               |
| <b>HEAD RESULTANT</b>                      | <b>61.4 @ 81 msec.</b>                         | <b>70.1 @ 61 msec.</b>                         |
| Chest Channel X                            | -55.0 @ 82 msec.                               | -51.5 @ 72 msec.                               |
| Chest Channel Y                            | -6.8 @ 97 msec.                                | 7.2 @ 90 msec.                                 |
| Chest Channel Z                            | 11.8 @ 106 msec.                               | -9.3 @ 45 msec.                                |
| CLIP                                       | 54.0   | 49.6   |
| TIME INTERVAL (msec)<br>[3. msec. minimum] | t <sub>1</sub> = 80.8<br>t <sub>2</sub> = 83.9 | t <sub>1</sub> = 70.9<br>t <sub>2</sub> = 74.0 |

**HEAD INJURY CRITERIA (HIC)  
VALUES:**

|  |       |       |
|--|-------|-------|
| HIC  | 526.4 | 487.1 |
| t <sub>1</sub> = (msec)                            | 58.3  | 55.9  |
| t <sub>2</sub> = (msec)                            | 94.3  | 89.4  |
| Avg. Accel. t <sub>1</sub> to t <sub>2</sub> (g's) | 46.3  | 44.9  |

[The maximum time interval from t<sub>1</sub> to t<sub>2</sub> is 36 milliseconds.]

**MAX. COMPRESSIVE FEMUR FORCES:**

|                |                    |                    |
|----------------|--------------------|--------------------|
| Left Side (N)  | -4043.3 @ 77 msec. | -4037.7 @ 65 msec. |
| Right Side (N) | -6925.5 @ 60 msec. | -4069.3 @ 79 msec. |

**MAXIMUM SEAT BELT FORCES:**

|                   |                   |                   |
|-------------------|-------------------|-------------------|
| Lap Belt (N)      | 2794.7 @ 68 msec. | 5536.8 @ 77 msec. |
| Shoulder Belt (N) | 6257.0 @ 78 msec. | 2678.1 @ 48 msec. |

HYBRID III NECK, CHEST AND PELVIS DATA SHEET

VEHICLE YR./MAKE/MODEL/BODY STYLE: 1997/Mitsubishi/Galant/4 Door

VEHICLE NHTSA NO.: MV5600 TEST DATE: October 17, 1996

| MAXIMUM VALUES              | DRIVER DUMMY #036 | PASSENGER DUMMY #037 |
|-----------------------------|-------------------|----------------------|
| Neck Load X (N)             | 911.2 @ 50 msec.  | 889.2 @ 69 msec.     |
| Neck Load Y (N)             | 976.7 @ 143 msec. | -296.6 @ 166 msec.   |
| Neck Load Z (N)             | 926.3 @ 108 msec. | -1500.2 @ 72 msec.   |
| Neck Moment X (NM)          | 12.6 @ 75 msec.   | -19.0 @ 64 msec.     |
| Neck Moment Y (NM)          | 8.0 @ 49 msec.    | -86.7 @ 68 msec.     |
| Neck Moment Z (NM)          | -22.2 @ 81 msec.  | -8.1 @ 67 msec.      |
| Chest Deflection X (mm)     | -41               | -40                  |
| Time of Max. Occurrence     | 85 msec.          | 74 msec.             |
| Pelvis X Acceleration (g's) | -56.1 @ 59 msec.  | -54.7 @ 58 msec.     |
| Pelvis Y Acceleration (g's) | -16.1 @ 71 msec.  | 10.9 @ 103 msec.     |
| Pelvis Z Acceleration (g's) | 20.6 @ 82 msec.   | 22.3 @ 77 msec.      |
| Pelvis Resultant (g's)      | 57.2 @ 59 msec.   | 56.3 @ 58 msec.      |

PART 572 DUMMY IN-VEHICLE POSITION

Vehicle NHTSA No.: MV5600 Vehicle: 1997 Mitsubishi Galant 4 Door

SEAT TYPE:

     Bench  
  X   Bucket  
     Split Bench

ADJUSTER TYPE:

Driver:   X   Manual  
     Power  
  
Passenger:   X   Manual  
     Power

BUCKET SEAT BACK TYPE:

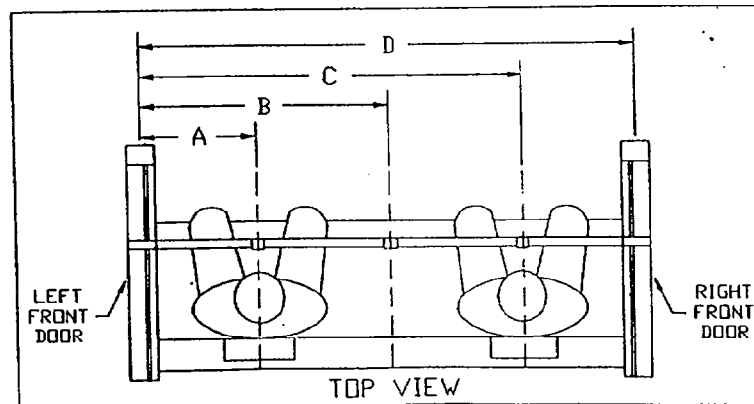
     Fixed  
  X   Adjustable Reclining  
  
     Fixed  
     Adjustable reclining

DRIVER SEAT POSITION

12th detent rearward out of 23 detents

PASSENGER SEAT POSITION

12th detent rearward of 23 detents



036 DUMMY ID 037

A = Left Door to Driver Centerline     413     mm  
B = Left Door to Center Passenger Centerline     758     mm  
C = Left Door to Right Passenger Centerline    1122    mm  
D = Left Door to Right Door    1516    mm

FRONT SEAT MEASUREMENT TABLE

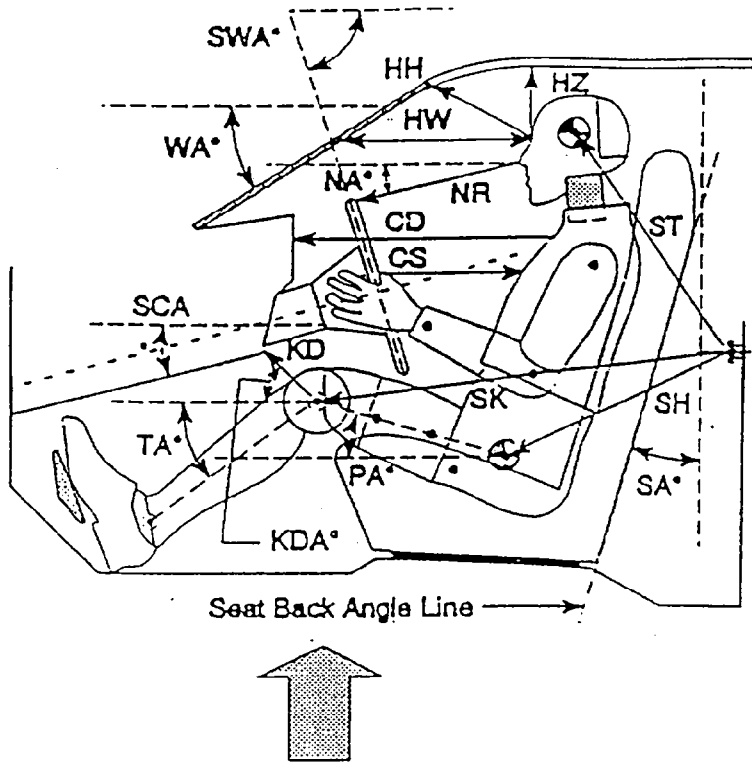
Units (mm)

|      | DRIVER (Serial #036)  | PASSENGER (Serial #037) |
|------|-----------------------|-------------------------|
| WA°  | 21.5°                 |                         |
| SWA° | 21.6°                 | N/A                     |
| SCA° | 21.6°                 | N/A                     |
| SA°  | 24° Set in 13th notch | 24° Set in 13th notch   |
| HZ   | 182                   | 167                     |
| HH   | 340                   | 334                     |
| HW   | 551                   | 605                     |
| HR   | 235                   | 218                     |
| NR   | 420 Angle (NA) 12.4°  | N/A                     |
| CD   | 572                   | 574                     |
| CS   | 349                   | N/A                     |
| RA   | 222                   | N/A                     |
| KDL  | 196 Angle (KDA) 19.8° | 188                     |
| KDR  | 202                   | 195 Angle 23.5°         |
| PA°  | 24.0°                 | 23.3°                   |
| TA°  | 36.2°                 | 33.5°                   |
| KK   | 289                   | 250                     |
| ST*  | 539 Angle 5.2°        | 540 Angle 6.0°          |
| SK*  | 554 Angle 91.8°       | 548 Angle 93.2°         |
| SH*  | 208 Angle 127.2°      | 214 Angle 133.5°        |
| SHY  | 254                   | 255                     |
| HS   | 345                   | 318                     |
| HD   | 182                   | 180                     |
| AD   | 129                   | 116                     |

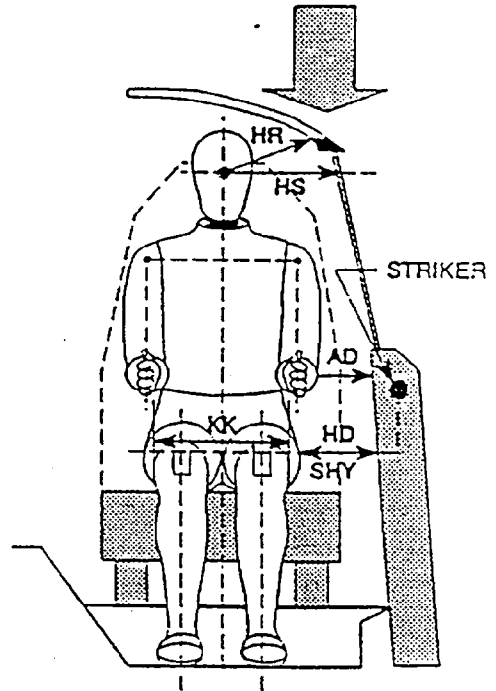
N/A = Not Applicable

\* Angles measured from vertical

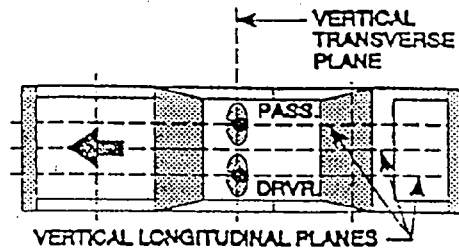
# FRONT SEAT MEASUREMENTS



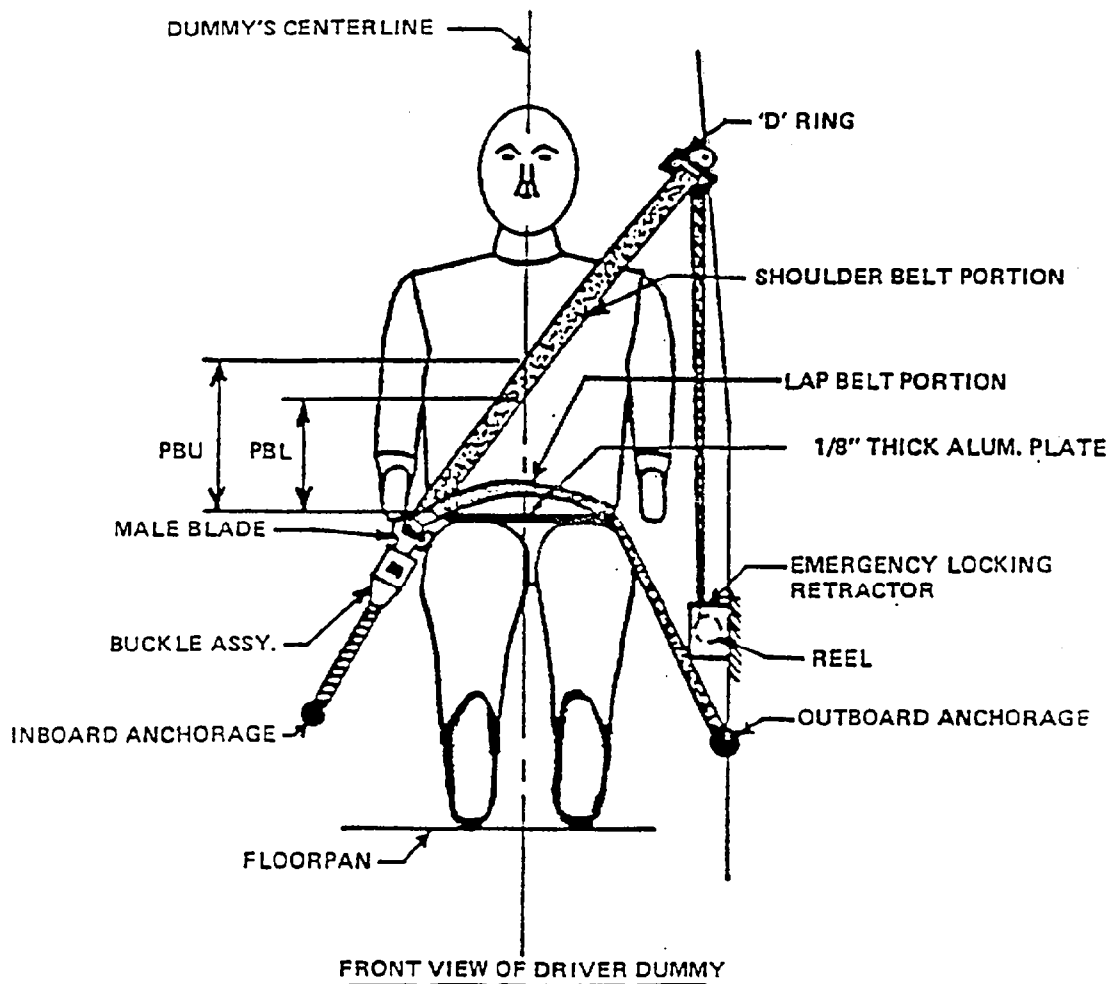
- AD - Arm to Door
- HD - H-Point to Door
- HR - Head to Side Header
- HS - Head to Side Window
- KK - Knee to Knee
- SHY - Striker to H-Point (Y-Direction)



- CD - Chest to Dash
- CS - Steering Wheel to Chest
- HH - Head to Header
- HW - Head to Windshield
- HZ - Head to Roof
- KDA - Knee to Dash Angle
- KDL - Left Knee to Dash
- KDR - Right Knee to Dash
- NA - Nose to Rim Angle
- NR - Nose to Rim
- PA - Pelvic Angle
- RA - Rim to Abdomen
- SA - Seat Back Angle
- SCA - Steering Column Angle
- SH - Striker to H-Point
- SK - Striker to Knee
- ST - Striker to Head
- SWA - Steering Wheel Angle
- TA - Tibial Angle
- WA - Windshield Angle



## SEAT BELT POSITIONING DATA



(illustration)

|   | Dimension = mm  |                    |
|---|-----------------|--------------------|
|   | DRIVER<br>DUMMY | PASSENGER<br>DUMMY |
| <u>PBU</u> -- Top surface of alum. plate to upper edge      | 342             | 325                |
| <u>PBL</u> -- Top surface of alum. plate to belt lower edge | 260             | 240                |

## SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

### BELT LENGTH DATA:

|   | <u>Driver</u> | <u>Passenger</u> |
|---|---------------|------------------|
| Length from trim above retractor reel to "D" ring as measured on dummy. | <u>606 mm</u> | <u>605 mm</u>    |
| Shoulder belt length as measured on Part 572 Dummy.                     | <u>834 mm</u> | <u>835 mm</u>    |
| Lap belt length as measured on Part 572 Dummy.                          | <u>808 mm</u> | <u>827 mm</u>    |

### SHOULDER BELT SPOOL-OFF DATA:

|                                |               |                            |
|--------------------------------|---------------|----------------------------|
| As determined by film analysis | <u>89 mm</u>  | <u>70 mm</u> at shoulder   |
| As determined mechanically     | <u>139 mm</u> | <u>105 mm</u> at retractor |
| As determined electronically   | <u>80 mm</u>  | <u>70 mm</u> at shoulder   |

### RETRACTOR LOCK-UP TIME:

|   |                 |                 |
|---|-----------------|-----------------|
| As determined by shoulder belt spool-off observed in on-board cameras | <u>89 msec.</u> | <u>74 msec.</u> |
|---|-----------------|-----------------|

## CAMERA LOCATIONS

VEH. NHTSA NO.: MV5600; TEST DATE: October 17, 1996

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1997/Mitsubishi/Galant/4 Door

| CAMERA POSITION NO. | VIEW                     | CAMERA POSITIONS (mm.)* |        |       | ANGLE (deg) | FILM PLANE TO HEAD TARGET (mm) | LENS (mm) | SPEED (fps) |
|---------------------|--------------------------|-------------------------|--------|-------|-------------|--------------------------------|-----------|-------------|
|                     |                          | X                       | Y      | Z     |             |                                |           |             |
| 1                   | Real-Time Left Side View | -                       | -      | -     | -           | -                              |           |             |
| 2                   | Left Front View          | -1000                   | -8100  | 1430  | 90          | 7675                           | 25        | 1026        |
| 3                   | Steering Column Top      | -2010                   | -8030  | 1575  | 90          | 7605                           | 25        | 1000        |
| 4                   | Steering Column Bottom   | -2000                   | -8000  | 1030  | 90          | 7575                           | 25        | 1015        |
| 5                   | Driver Close-up          | -1490                   | -10620 | 1310  | 90          | 10195                          | 75        | 1047        |
| 6                   | Driver Angle             | -5310                   | -5850  | 2040  |             |                                | 50        | 833         |
| 7                   | Onboard Driver           |                         |        |       |             |                                | 35        | 1010        |
| 8                   | Onboard Passenger        |                         |        |       |             |                                | 35        | 1000        |
| 9                   | Right Overall            | -2110                   | 7000   | 1205  | 90          | 6585                           | 13        | 952         |
| 10                  | Right Passenger Half     | -1000                   | 8100   | 1205  | 90          | 7685                           | 25        | 897         |
| 11                  | Right Close-up           | -1530                   | 10140  | 1230  | 90          | 9725                           | 75        | 957         |
| 12                  | Right Angle              | -5080                   | 6030   | 1930  |             |                                | 50        | 1005        |
| 13                  | Top Windshield           | 380                     | 0      | 2700  |             |                                | 13        | 1005        |
| 14                  | Top Driver               | -110                    | -440   | 1610  |             |                                | 13        | 873         |
| 15                  | Top Passenger            | -100                    | 460    | 1610  |             |                                | 13        | 976         |
| 16                  | Pit Front                | -1110                   | 0      | -3150 |             |                                | 13        | 1010        |
| 17                  | Pit Rear                 | -2825                   | 0      | -3150 |             |                                | 13        | 1005        |

**\* COORDINATES:**

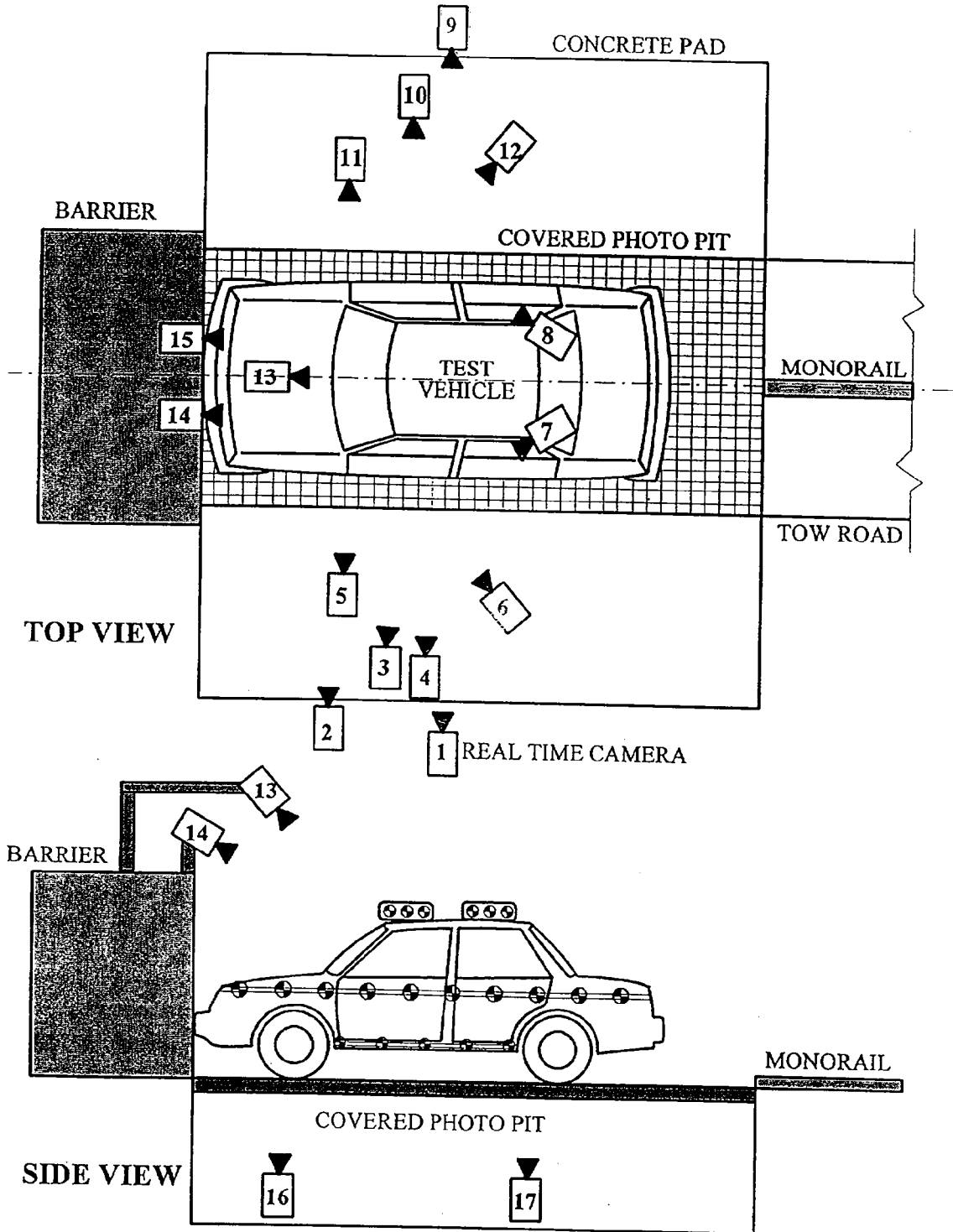
+X = film plane rearward of barrier

+Y = film plane to left of monorail centerline

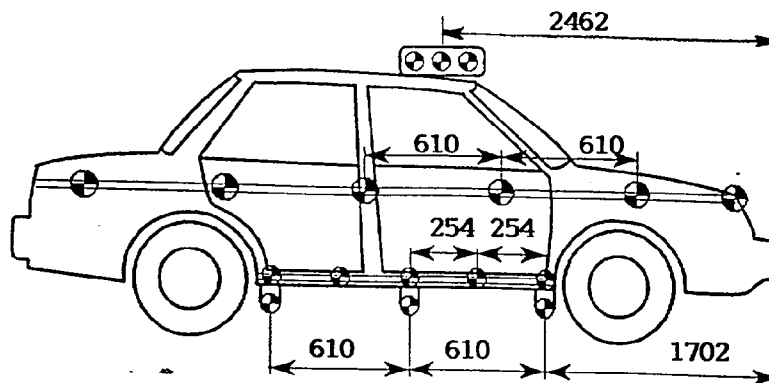
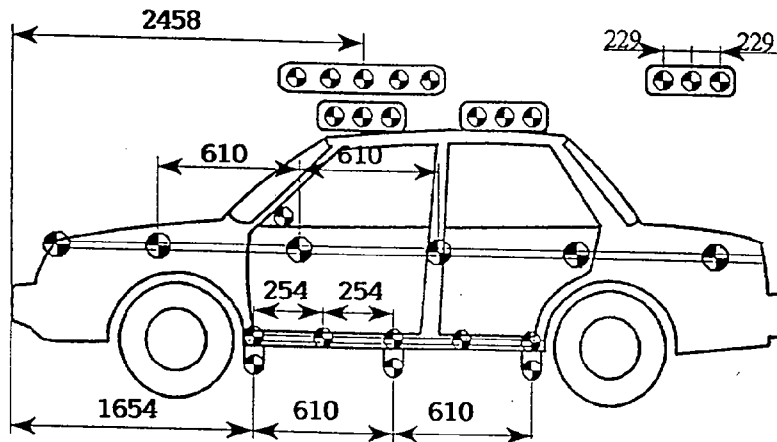
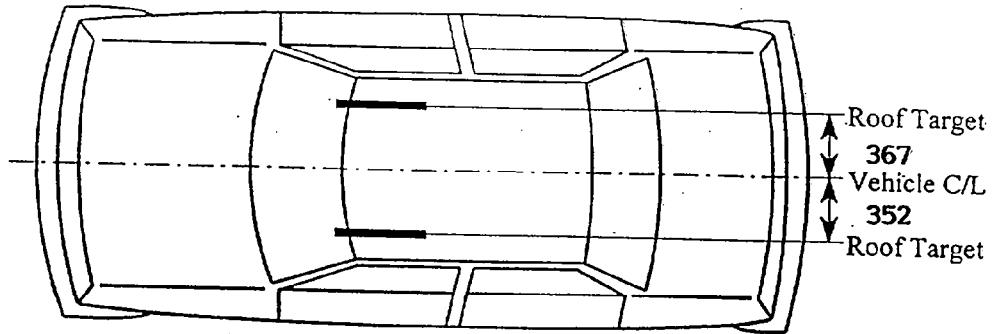
+Z = film plane to above ground level

ORIGIN: For X and Y it is the Impact Point. For Z it is the Floor.

CAMERA LOCATIONS (Cont'd)



# VEHICLE TARGET LOCATIONS



(DIMENSIONS IN MM)

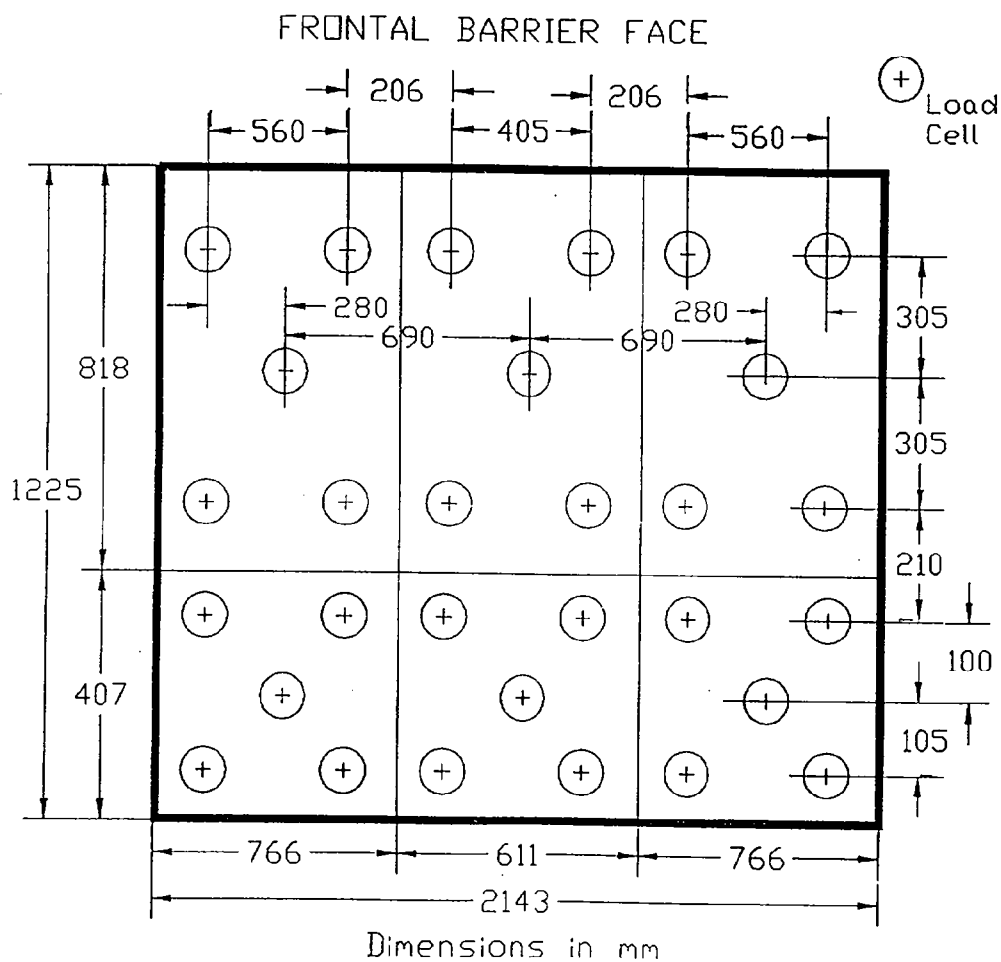
## LOAD CELL LOCATIONS ON FIXED BARRIER

30 Load Cells

6 Rows

9 Columns

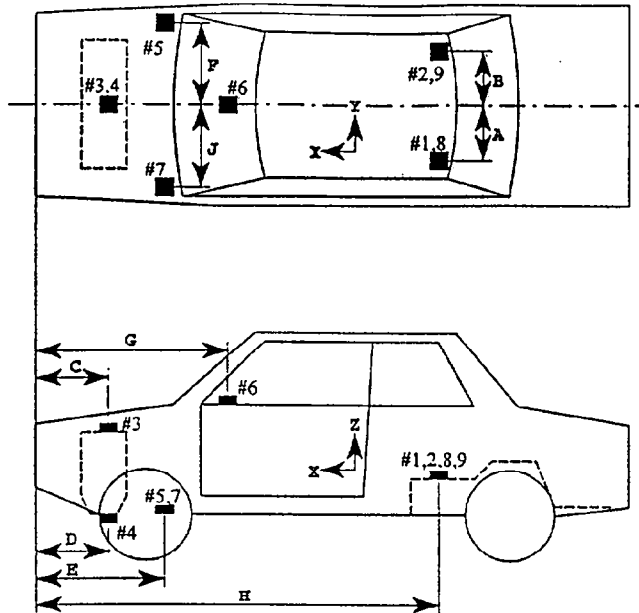
6 Groupings (5 cells/group)



The following data is presented in Appendix B:

- (1) Total or Sum of 30 individual load cells
- (2) Data from 6 Groupings shown above (5 cells/group)

## VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



Units: (mm)

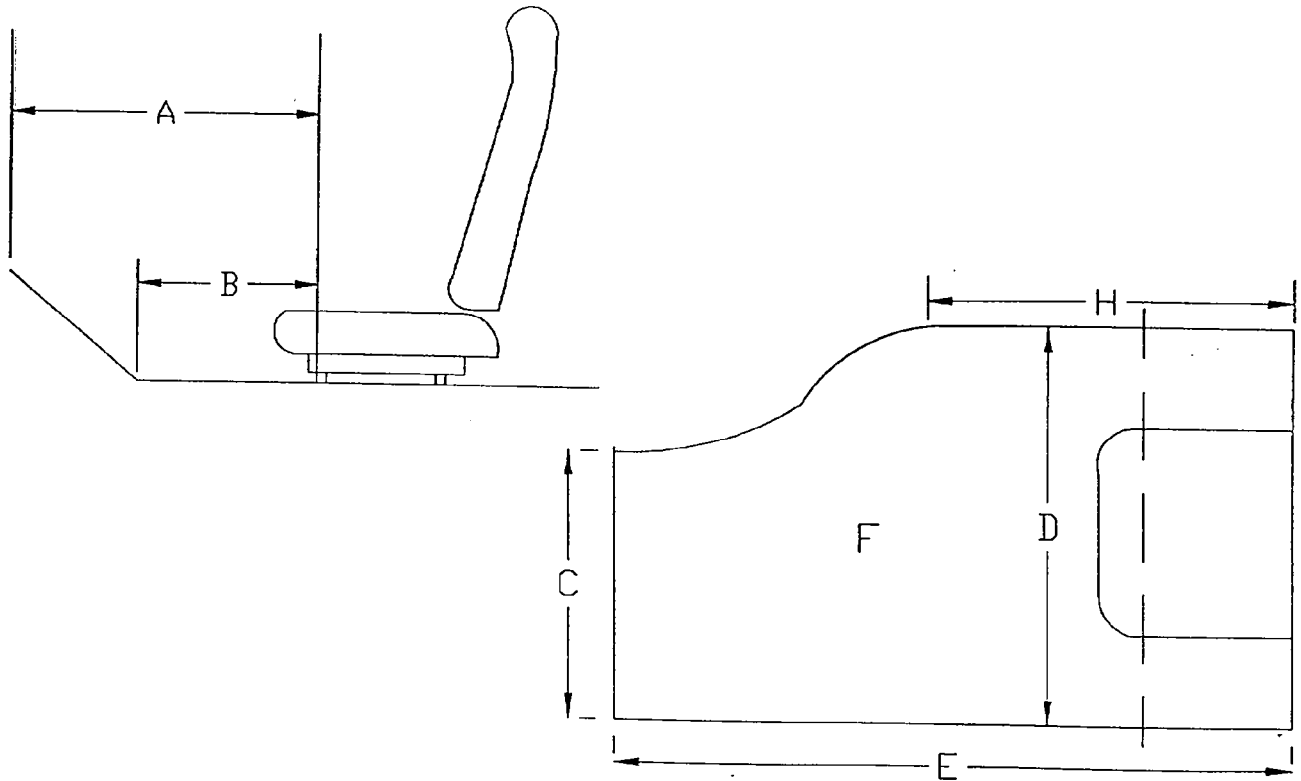
| Dimension | Length |
|-----------|--------|
| A         | 411    |
| B         | 411    |
| C         | 3790   |
| D         | 3658   |
| E         | 3662   |
| F         | 718    |
| G         | 2895   |
| H         | 1692   |
| J         | 718    |

| ACCEL. NO. | ACCELEROMETER               | DIRECTION |
|------------|-----------------------------|-----------|
| 1 and 8    | Left Rear Seat Crossmember  | X         |
| 2 and 9    | Right Rear Seat Crossmember | X         |
| 3          | Top of Engine               | X         |
| 4          | Bottom of Engine            | X         |
| 5          | Right Side Brake Caliper    | X         |
| 6          | Instrument Panel            | X         |
| 7          | Left Disc Brake Caliper     | X         |

TEST VEHICLE MEASUREMENTS

STATIC FOOTWELL DEFORMATION

Driver's Side



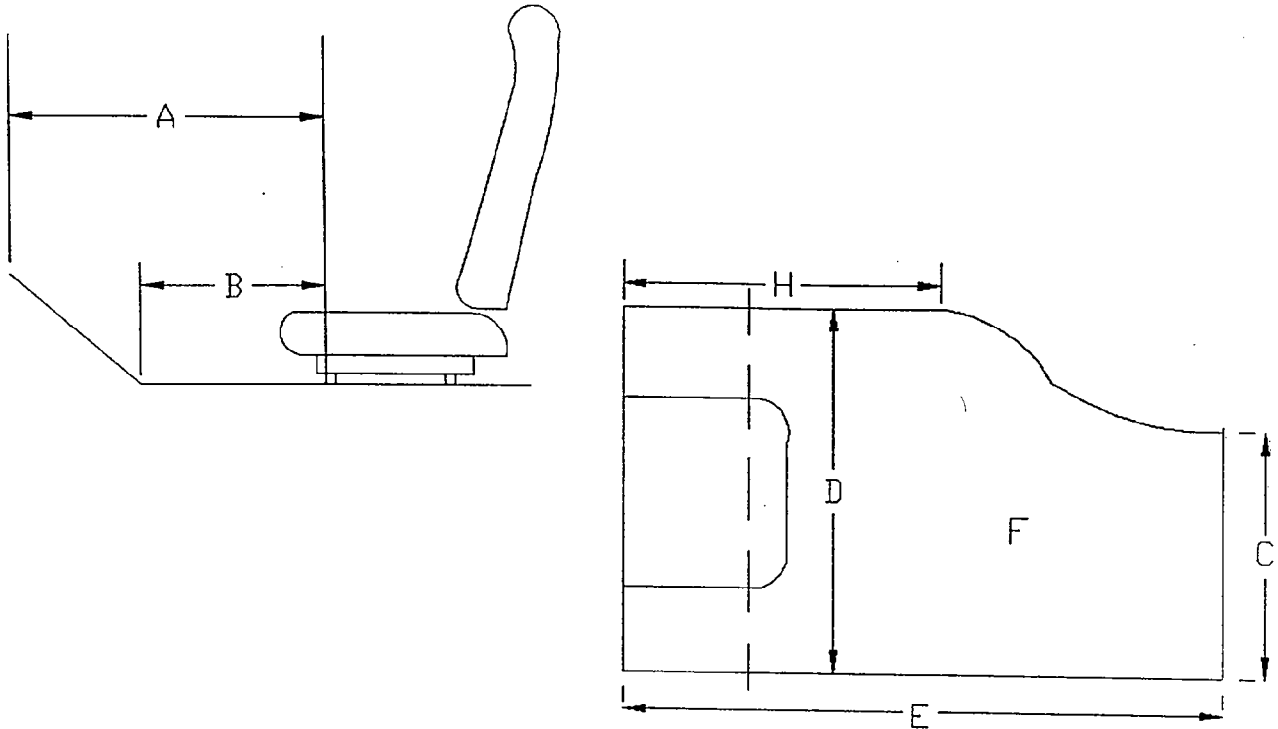
Units = mm

| MEASUREMENT          | PRE TEST | POST TEST | DIFFERENCE |
|----------------------|----------|-----------|------------|
| A                    | 777      | 598       | 179        |
| B                    | 526      | 529       | -3         |
| C                    | 298      | 294       | 4          |
| D                    | 420      | 420       | 0          |
| E                    | 2052     | 2050      | 2          |
| H                    | 1732     | 1717      | 15         |
| F (cm <sup>2</sup> ) | 8423.2   | 8400.2    | 23.0       |

TEST VEHICLE MEASUREMENTS (Cont'd)

STATIC FOOTWELL DEFORMATION

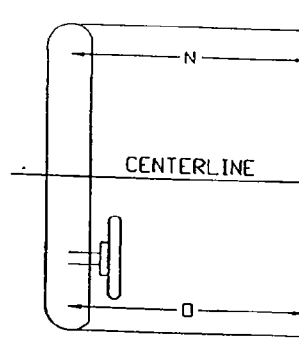
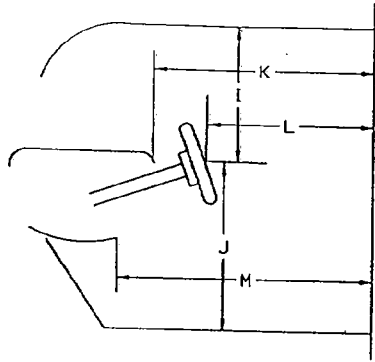
Passenger's Side



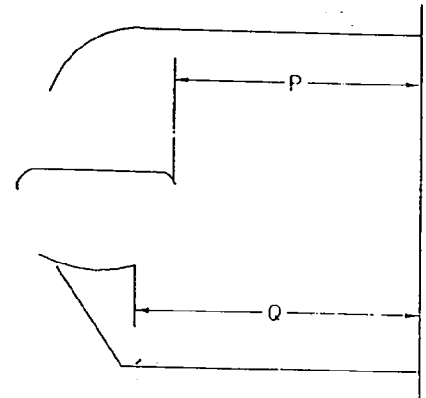
Units = mm

| MEASUREMENT          | PRE TEST | POST TEST | DIFFERENCE |
|----------------------|----------|-----------|------------|
| A                    | 804      | 617       | 187        |
| B                    | 588      | 554       | 34         |
| C                    | 335      | 323       | 12         |
| D                    | 408      | 411       | -3         |
| E                    | 2040     | 2020      | 20         |
| H                    | 1769     | 1795      | -26        |
| F (cm <sup>2</sup> ) | 8224.3   | 8203.2    | 21.1       |

TEST VEHICLE MEASUREMENTS (Cont'd)  
 STATIC PASSENGER COMPARTMENT INTRUSION



MEASUREMENTS  
 FROM C-PILLAR  
 BELT ANCHORAGE



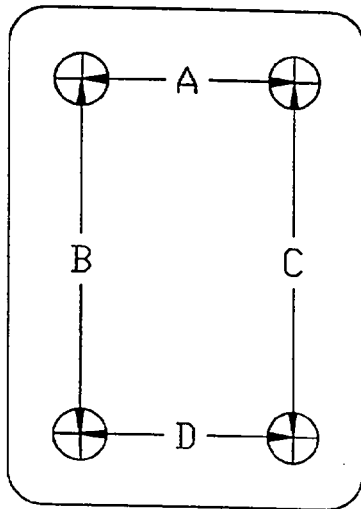
Units = mm

| MEASUREMENT | PRE TEST | POST TEST | DIFFERENCE |
|-------------|----------|-----------|------------|
| I           | 454      | 445       | 9          |
| J           | 646      | 608       | 38         |
| K           | 1811     | 1710      | 101        |
| L           | 1516     | 1516      | 0          |
| M           | 1856     | 1854      | 2          |
| N           | 1915     | 1925      | -10        |
| O           | 1967     | 1960      | 7          |
| P           | 1878     | 1873      | 5          |
| Q           | 2002     | 1755      | 247        |

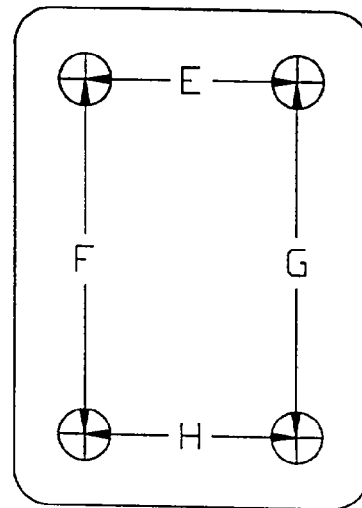
TEST VEHICLE MEASUREMENTS (Cont'd)

UNDERBODY FLOORBOARD DEFORMATION

DRIVER'S SIDE



PASSENGER'S SIDE

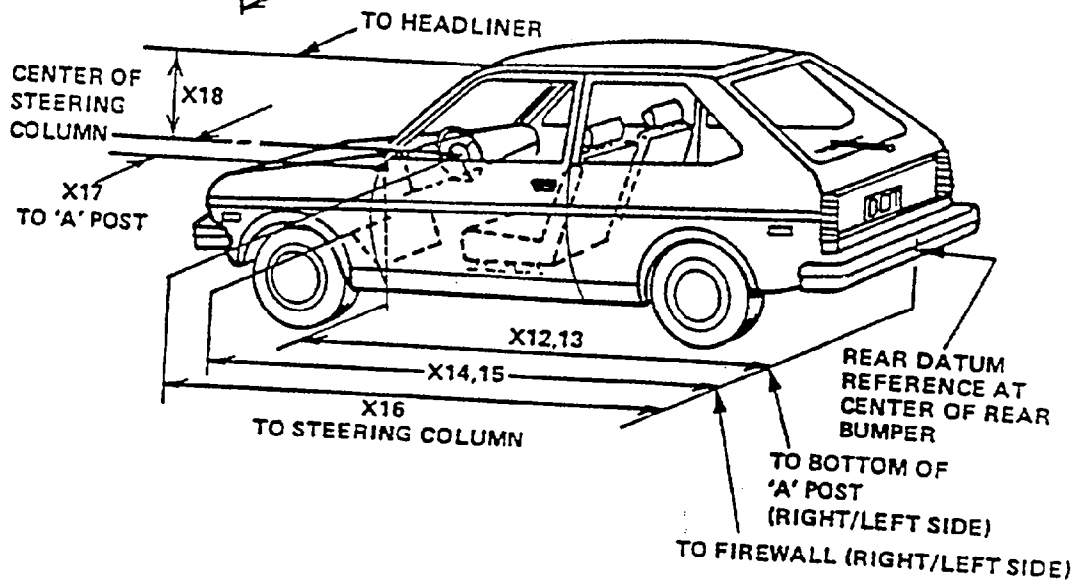
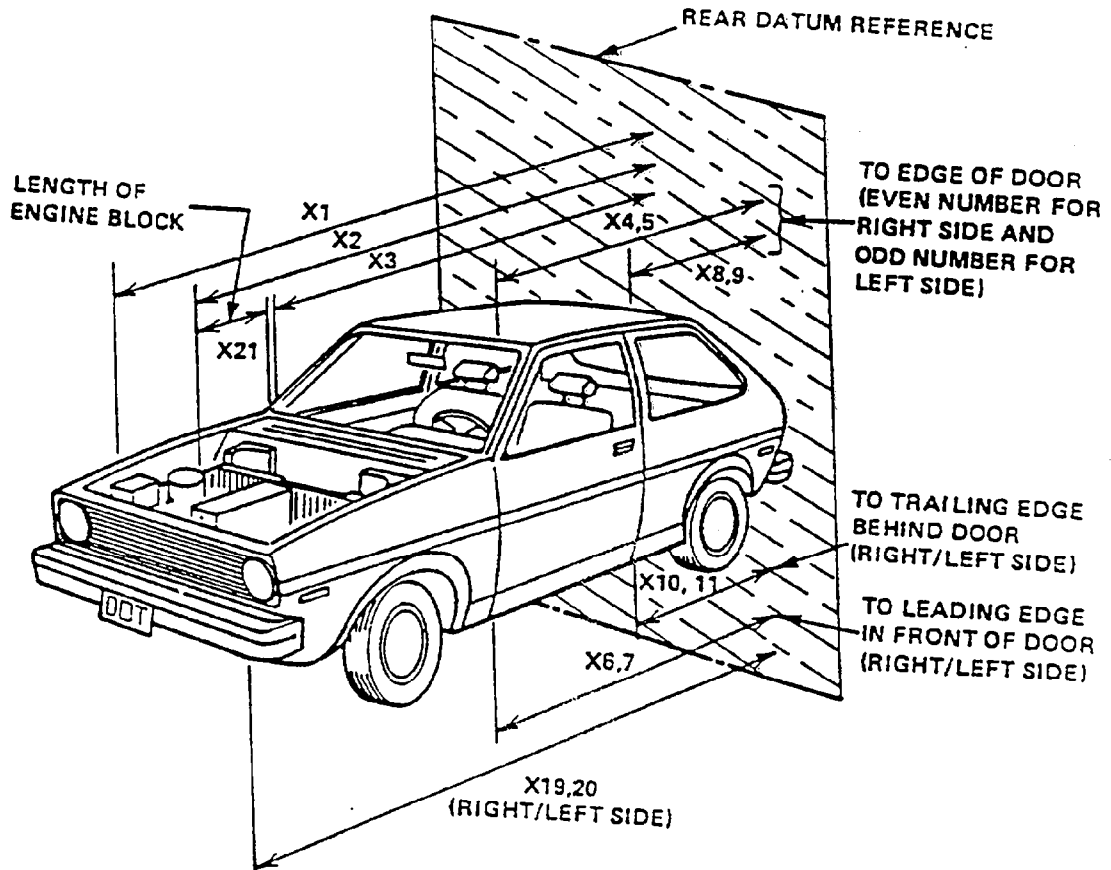


| MEASUREMENT | PRE TEST | POST TEST | DIFFERENCE |
|-------------|----------|-----------|------------|
| A           | 334      | 336       | -2         |
| B           | 301      | 300       | 1          |
| C           | 342      | 340       | 2          |
| D           | 373      | 374       | -1         |
| E           | 379      | 354       | 25         |
| F           | 337      | 322       | 15         |
| G           | 304      | 305       | -1         |
| H           | 387      | 385       | 2          |

TEST VEHICLE MEASUREMENTS (Cont'd)

| No. | MEASUREMENT DESCRIPTION:                        | Pre-Test<br>(mm) | Post-Test<br>(mm) | Diff.<br>(mm) |
|-----|---|------------------|-------------------|---------------|
| X1  | Total Length of Test Vehicle at Centerline      | 4580             | 4101              | 479           |
| X2  | Rear Surface of Vehicle to Front of Engine      | 3908             | 3731              | 177           |
| X3  | Rear Surface of Vehicle to Firewall             | 3340             | 3307              | 33            |
| X4  | Rear Surface to Upr. Leading Edge of Rt. Door   | 2947             | 2949              | -2            |
| X5  | Rear Surface to Upr. Leading Edge of Left Door  | 2941             | 2948              | -7            |
| X6  | Rear Surface to Lwr. Leading Edge of Rt. Door   | 3023             | 3011              | 12            |
| X7  | Rear Surface to Lwr. Leading Edge of Left Door  | 3029             | 3011              | 18            |
| X8  | Rear Surface to Upr. Trailing Edge of Rt. Door  | 2002             | 2008              | -6            |
| X9  | Rear Surface to Upr. Trailing Edge of Left Door | 1994             | 1997              | -3            |
| X10 | Rear Surface to Lwr. Trailing Edge of Rt. Door  | 2003             | 1996              | 7             |
| X11 | Rear Surface to Lwr. Trailing Edge of Left Door | 1995             | 1998              | -3            |
| X12 | Rear Surface to Bottom of A-Post on Rt. Side    | 3017             | 3004              | 13            |
| X13 | Rear Surface to Bottom of A-Post on Left Side   | 3014             | 3009              | 5             |
| X14 | Rear Surface to Firewall on Right Side          | 3316             | 3294              | 22            |
| X15 | Rear Surface to Firewall on Left Side           | 3296             | 3268              | 28            |
| X16 | Rear Surface to Steering Column                 | 2542             | 2591              | -49           |
| X17 | Center of Steering Column to A-Post             | 420              | 397               | 23            |
| X18 | Center of Steering Column to Headlining         | 456              | 447               | 9             |
| X19 | Rear Surface to Right Side of Front Bumper      | 4321             | 3972              | 349           |
| X20 | Rear Surface to Left Side of Front Bumper       | 4320             | 3994              | 326           |
| X21 | Length of Engine Block                          | 440              | 440               | 0             |

TEST VEHICLE MEASUREMENTS (Cont'd)



ACCIDENT INVESTIGATION DIVISION DATA

FOR 35 MPH FRONTAL BARRIER IMPACT

VEHICLE MAKE/MODEL/BODY STYLE: 1997/Mitsubishi/Galant/4 Door

VEH. NHTSA NO.: MV5600; VIN: 4A3AJ46G0VE012556

MODEL YEAR: 1997; BUILD DATE: 8/96; TEST DATE: October 17, 1996

VEH. SIZE CATEGORY: Mid; TEST WEIGHT: 1487 kg

VEH. WHEELBASE: 2636 mm; FRONT OVERHANG: 1008 mm; OVERALL WIDTH: 1724 mm

ACCELEROMETER DATA:

LOCATION: As per measurements on pages 4-13

CALIBRATION PROCEDURE: As per MGA Calibration Procedure

LINEARITY: >99.9%; INTEGRATION ALGORITHM: Trapezoidal

VEH. IMPACT SPEED: 57.0 kph; TIME OF SEPARATION: 125 msec

VELOCITY CHANGE: 65.4 kph

COLLISION DEFORMATION CLASSIFICATION (CDC) CODE: F (Frontal)

CRUSH DEPTH C1 = 326 mm

DIMENSIONS: C2 = 364 mm

C3 = 505 mm

C4 = 508 mm

C5 = 423 mm

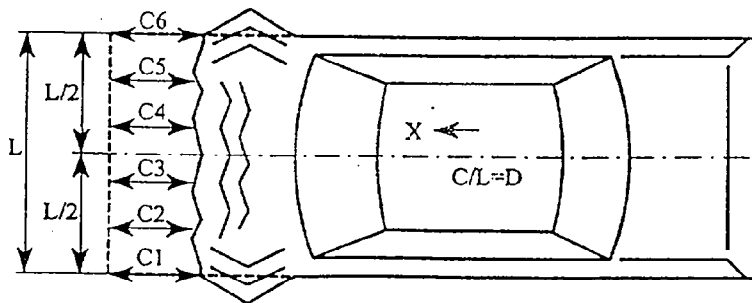
C6 = 349 mm

MIDPOINT OF D = Vehicle Centerline

DAMAGE: (Longitude)

LENGTH OF

DAMAGED REGION: L = 1504 mm



**APPENDIX A  
PHOTOGRAPHS**

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

A-1

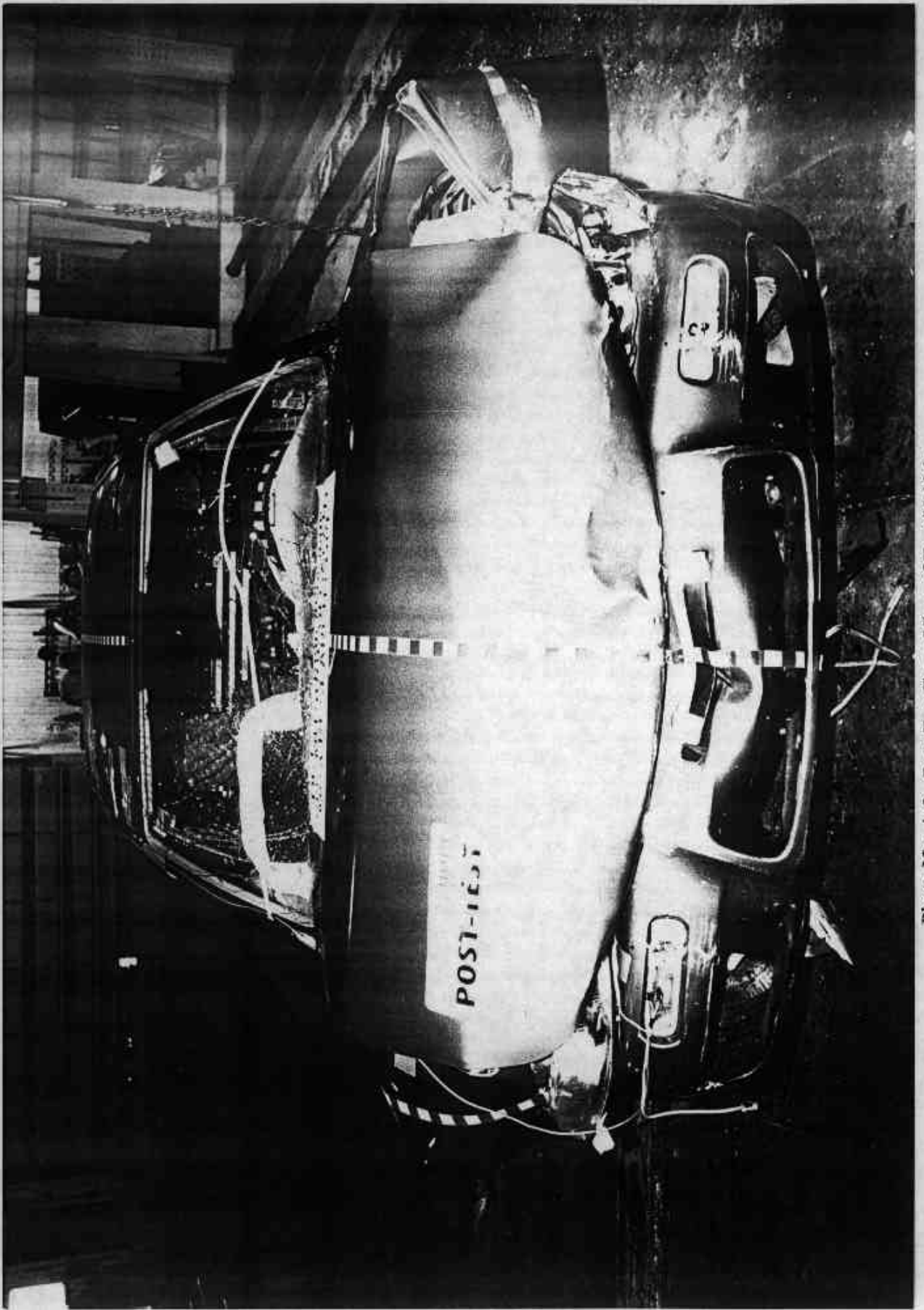


Photo No. A-2 - Post-Test Front View of Test Vehicle

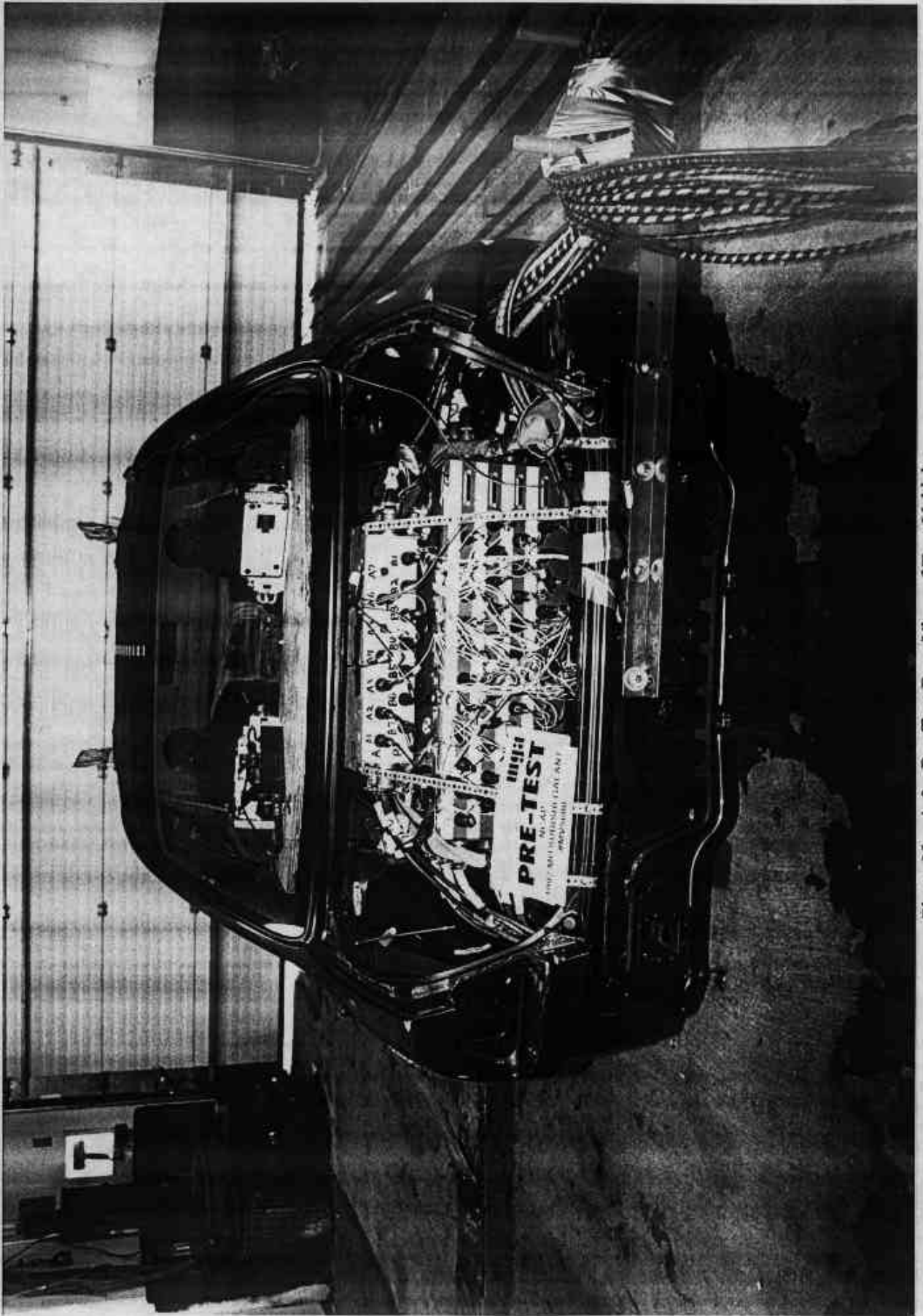


Photo No. A-3 - Pre-Test Rear View of Test Vehicle

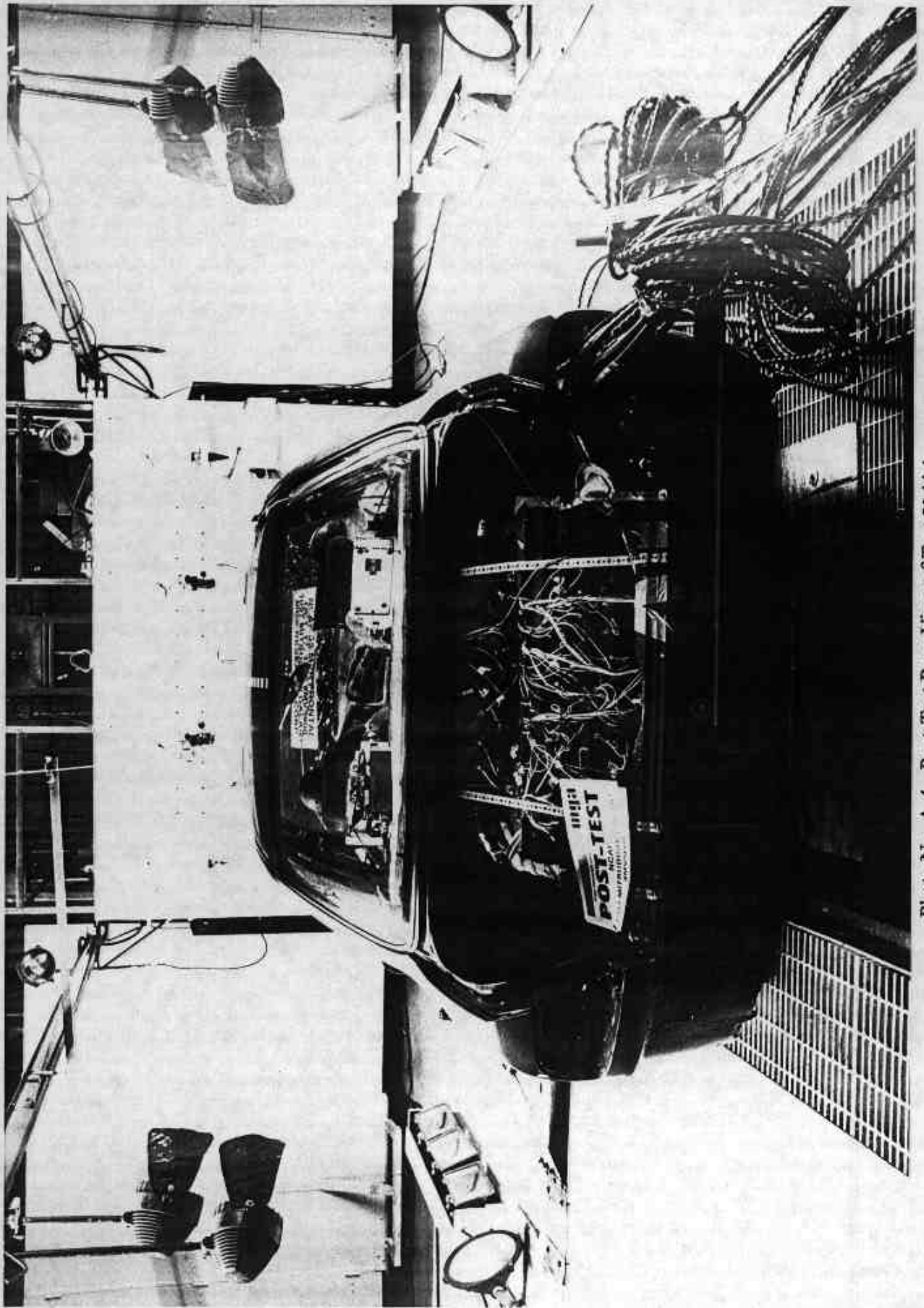


Photo No. A-4 - Post-Test Rear View of Test Vehicle

A-4

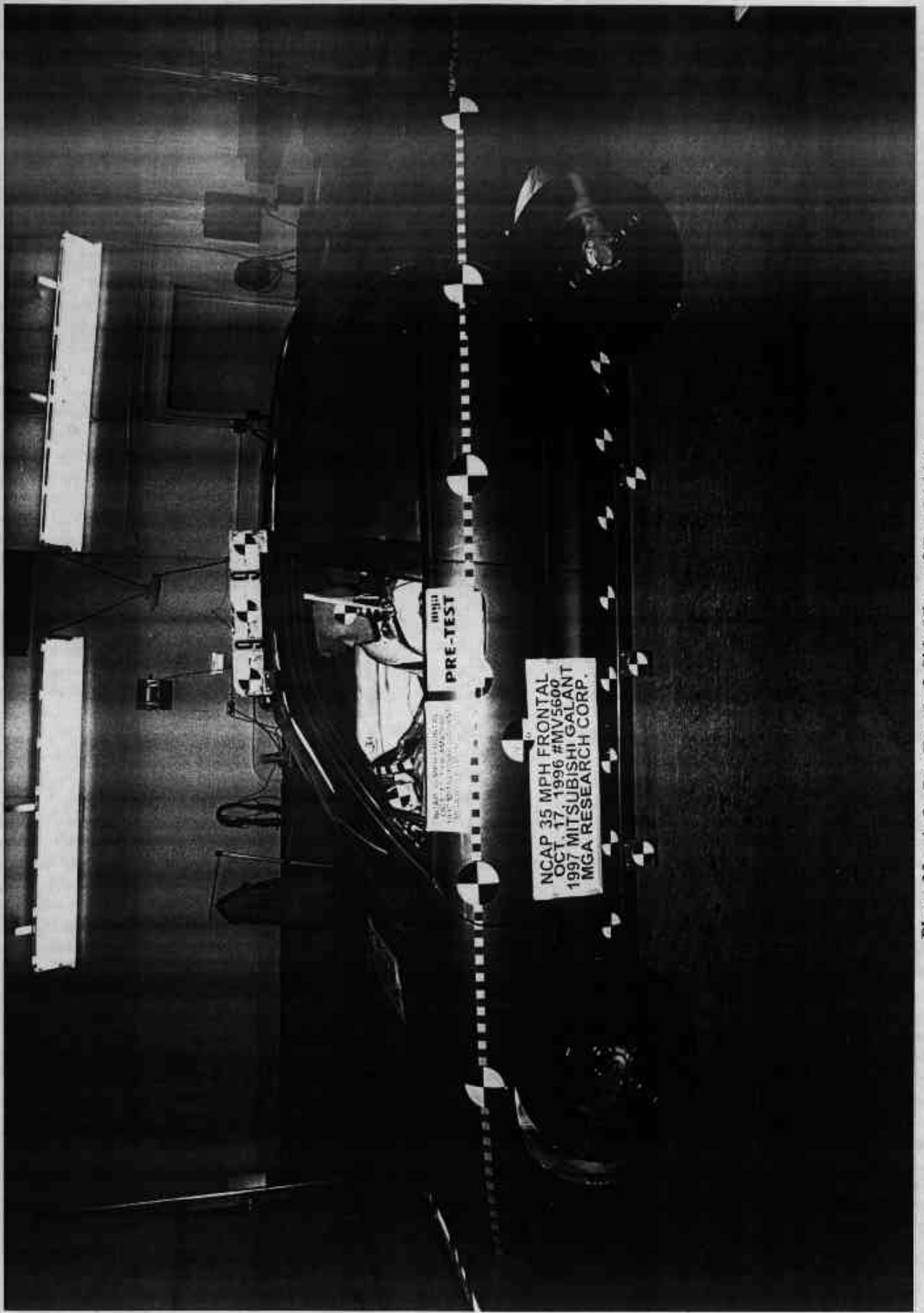


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

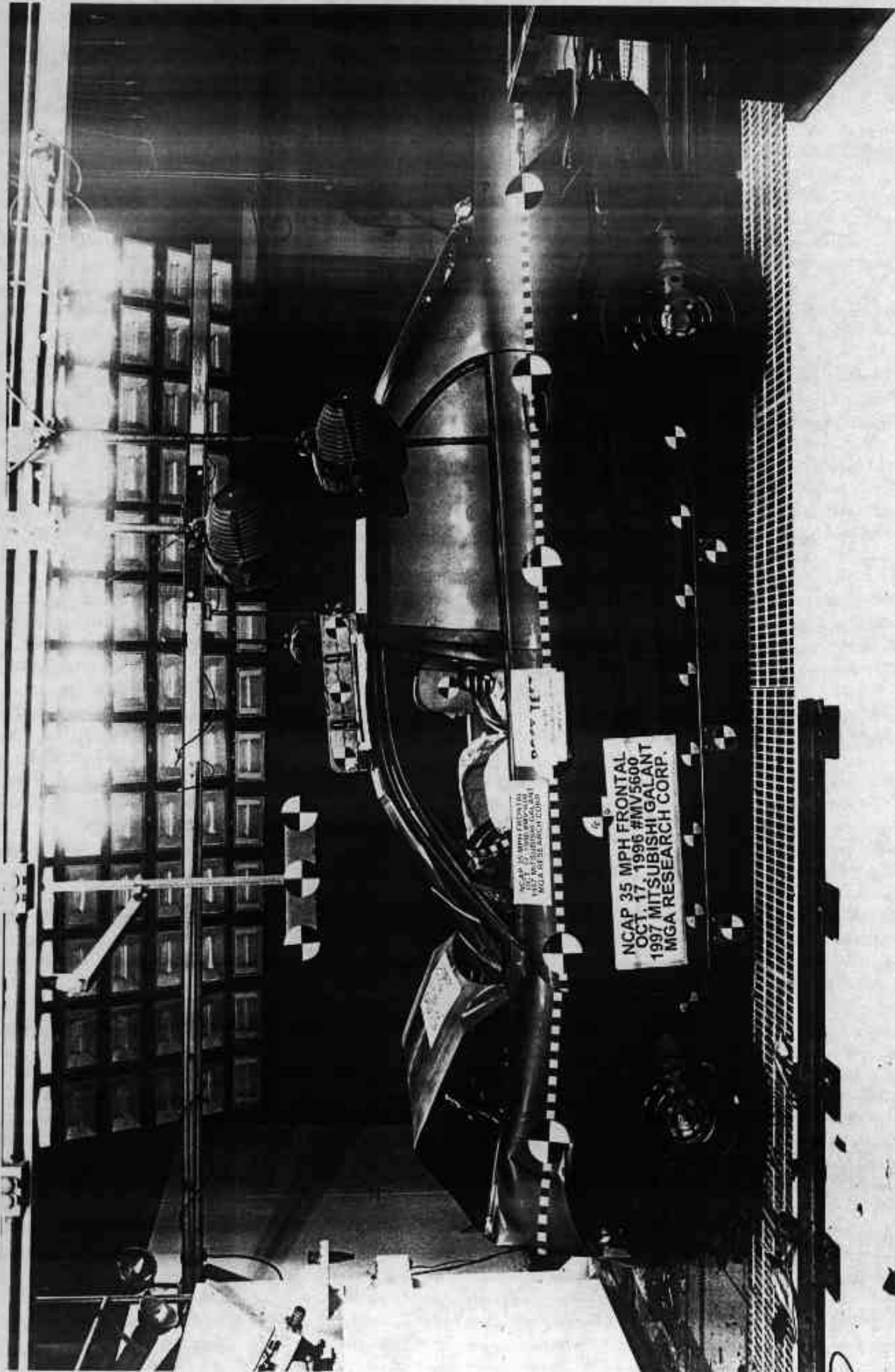


Photo No. A-6 - Post-Test Left Side View of Test Vehicle

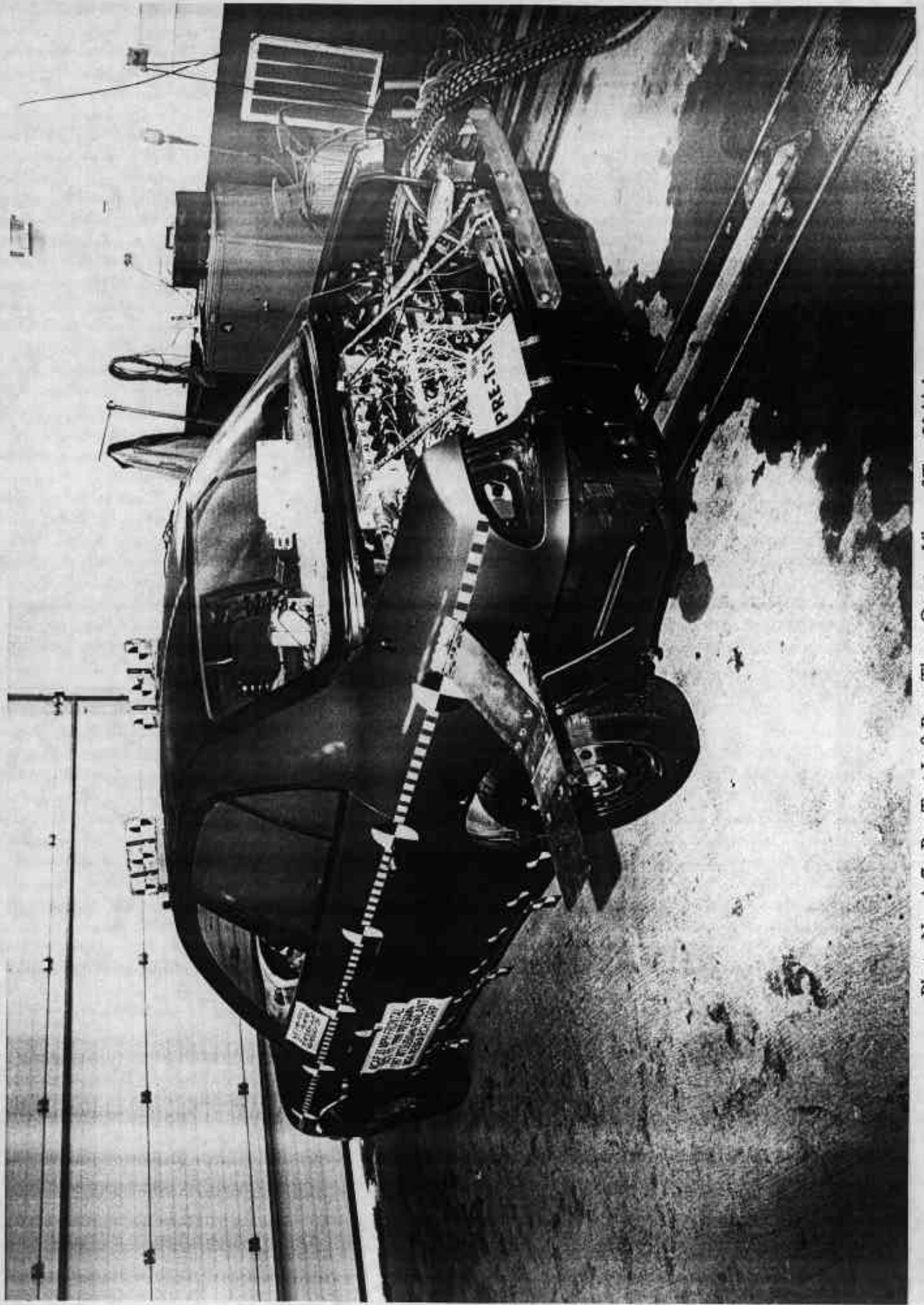


Photo No. A-7 - Pre-Test Left Rear Three-Quarter View of Test Vehicle

A-7

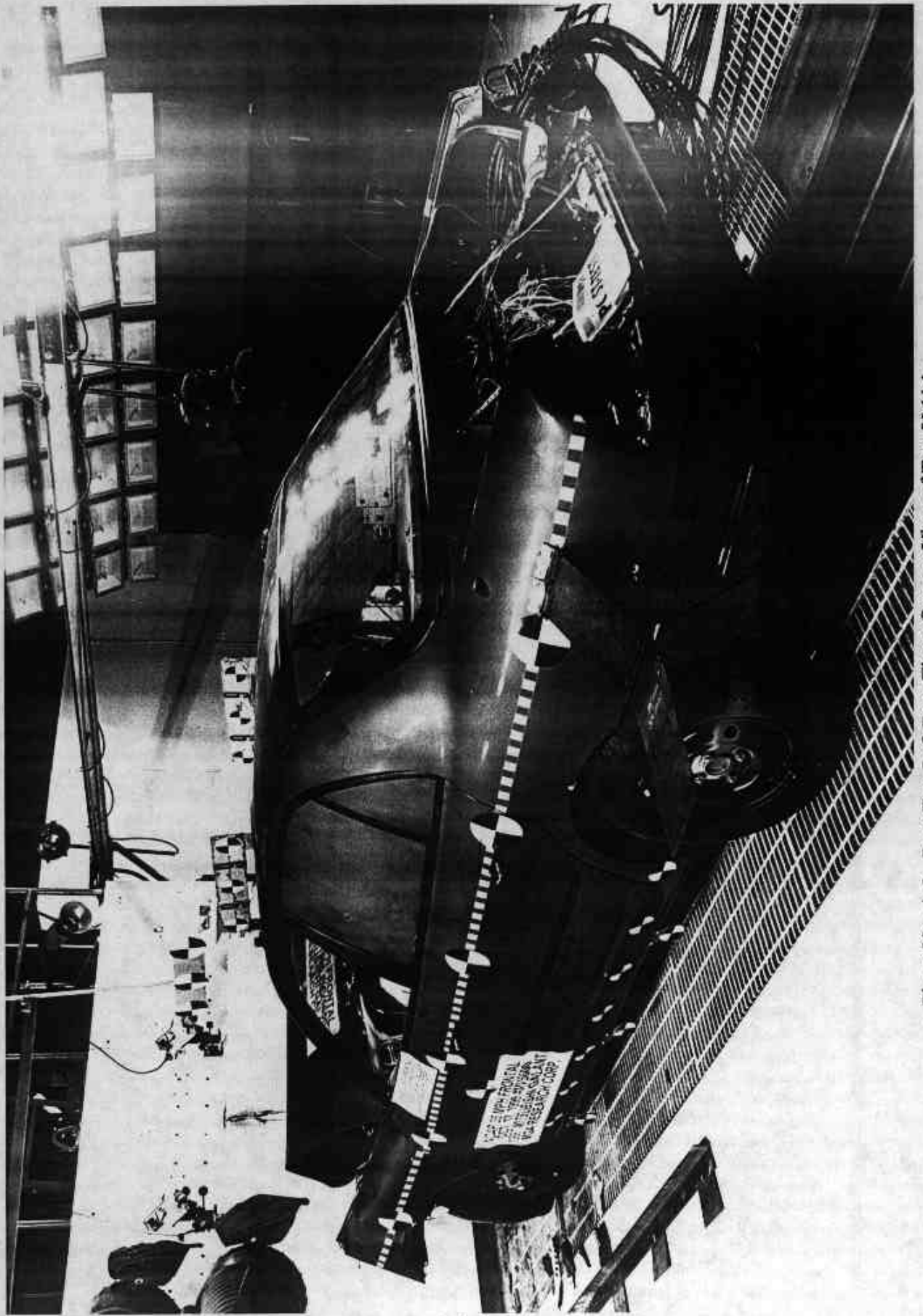


Photo No. A-8 - Post-Test Left Rear Three-Quarter View of Test Vehicle

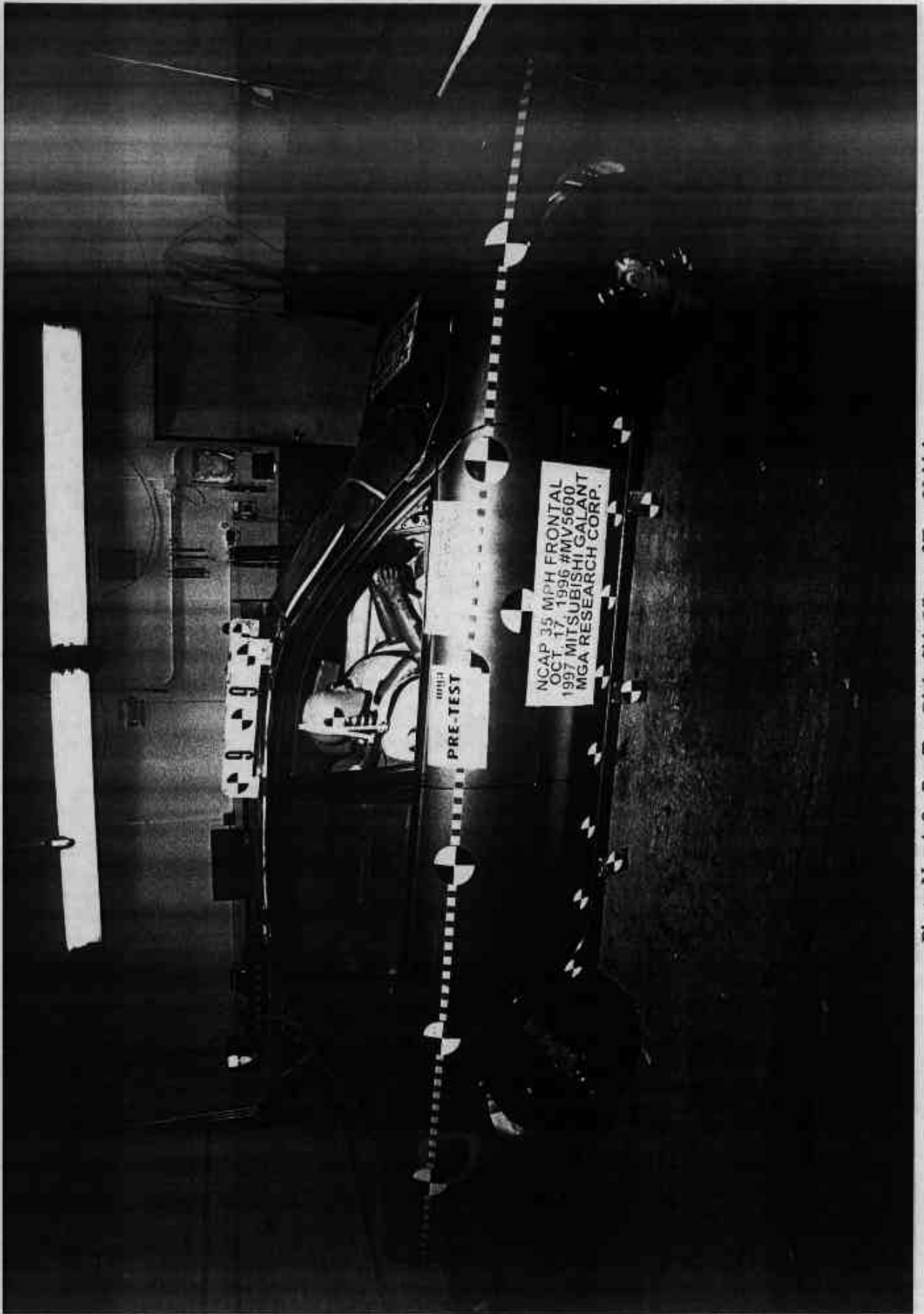


Photo No. A-9 - Pre-Test Right Side View of Test Vehicle

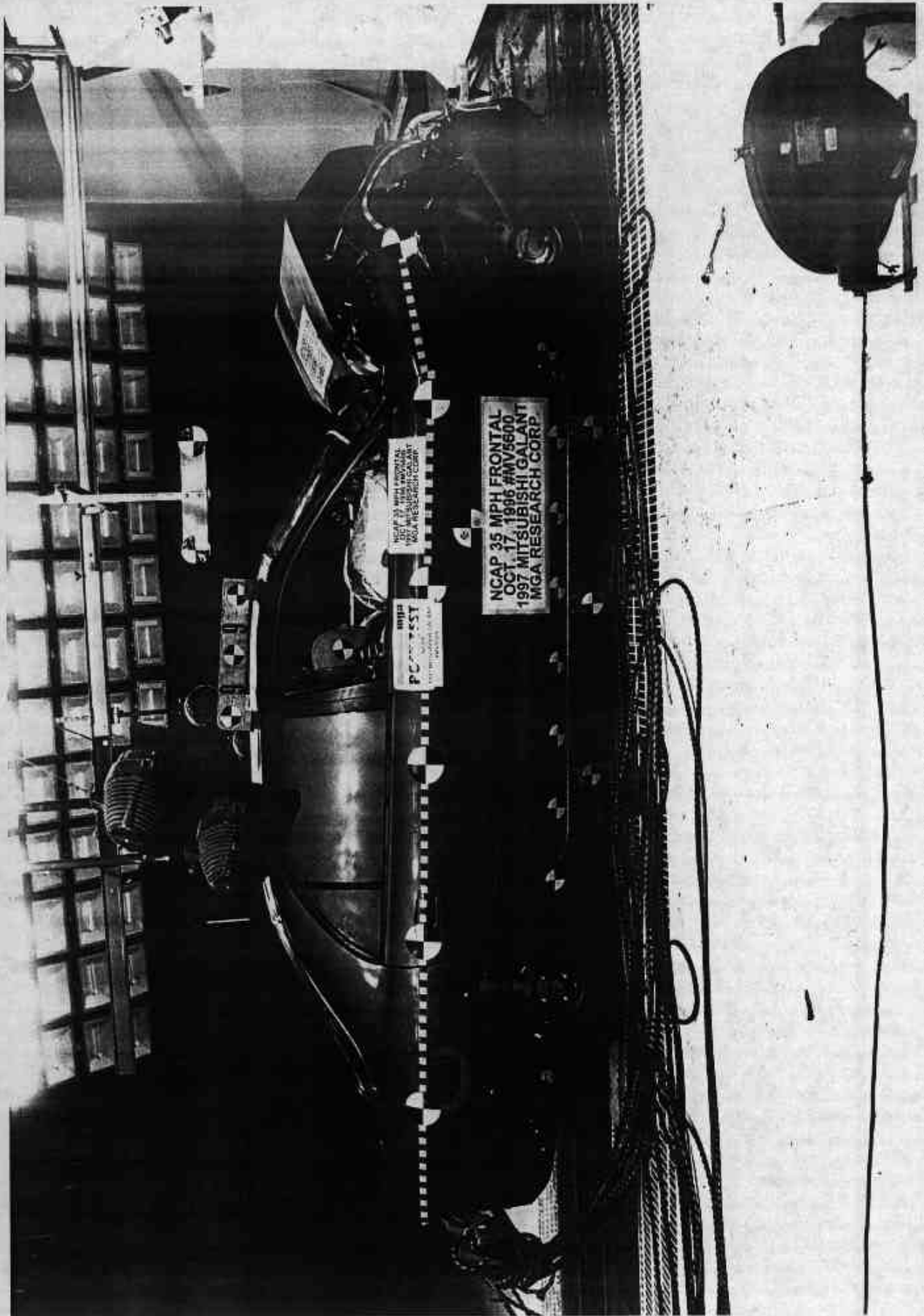


Photo No. A-10 - Post-Test Right Side View of Test Vehicle

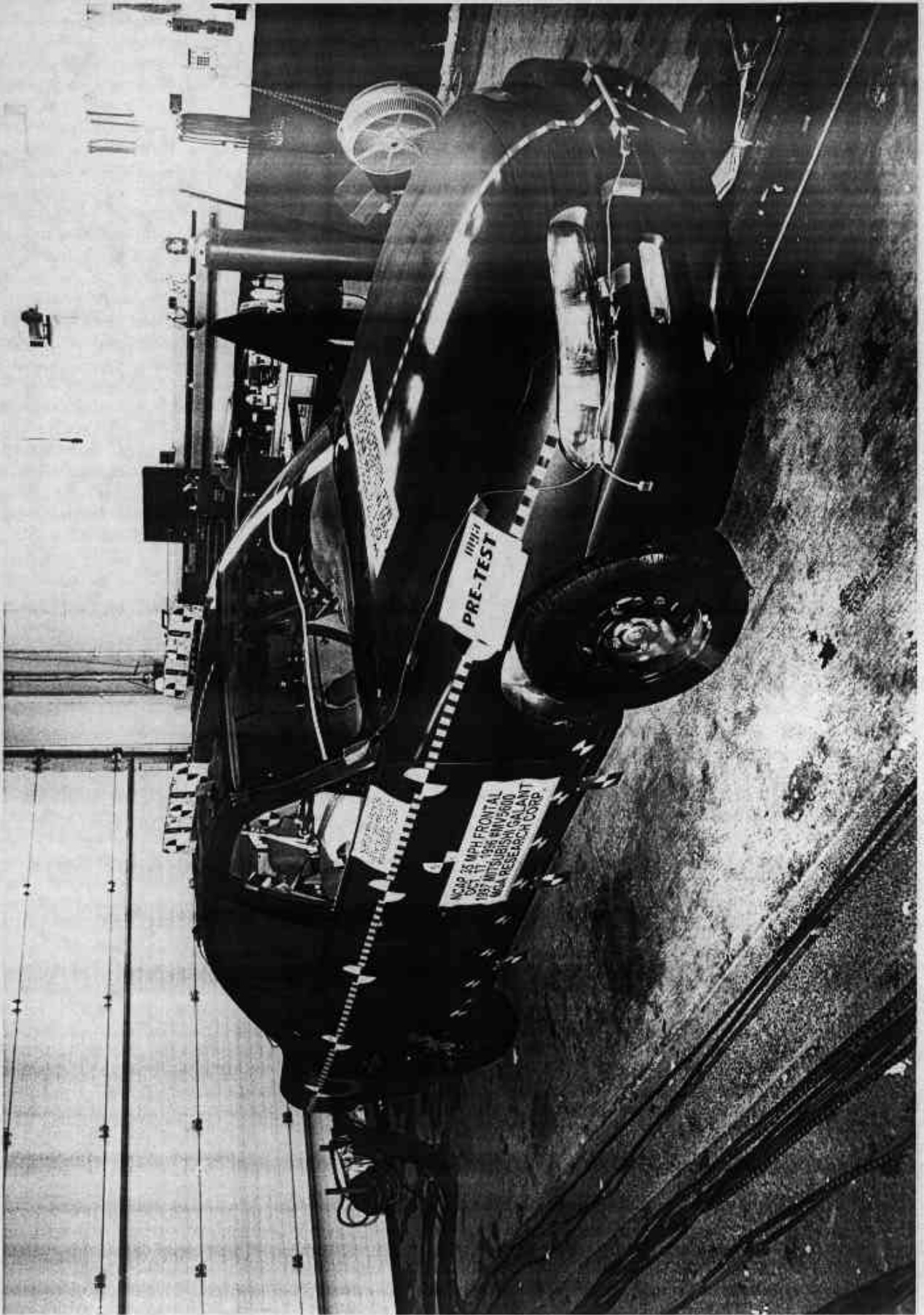


Photo No. A-11 - Pre-Test Right Front Three-Quarter View of Test Vehicle

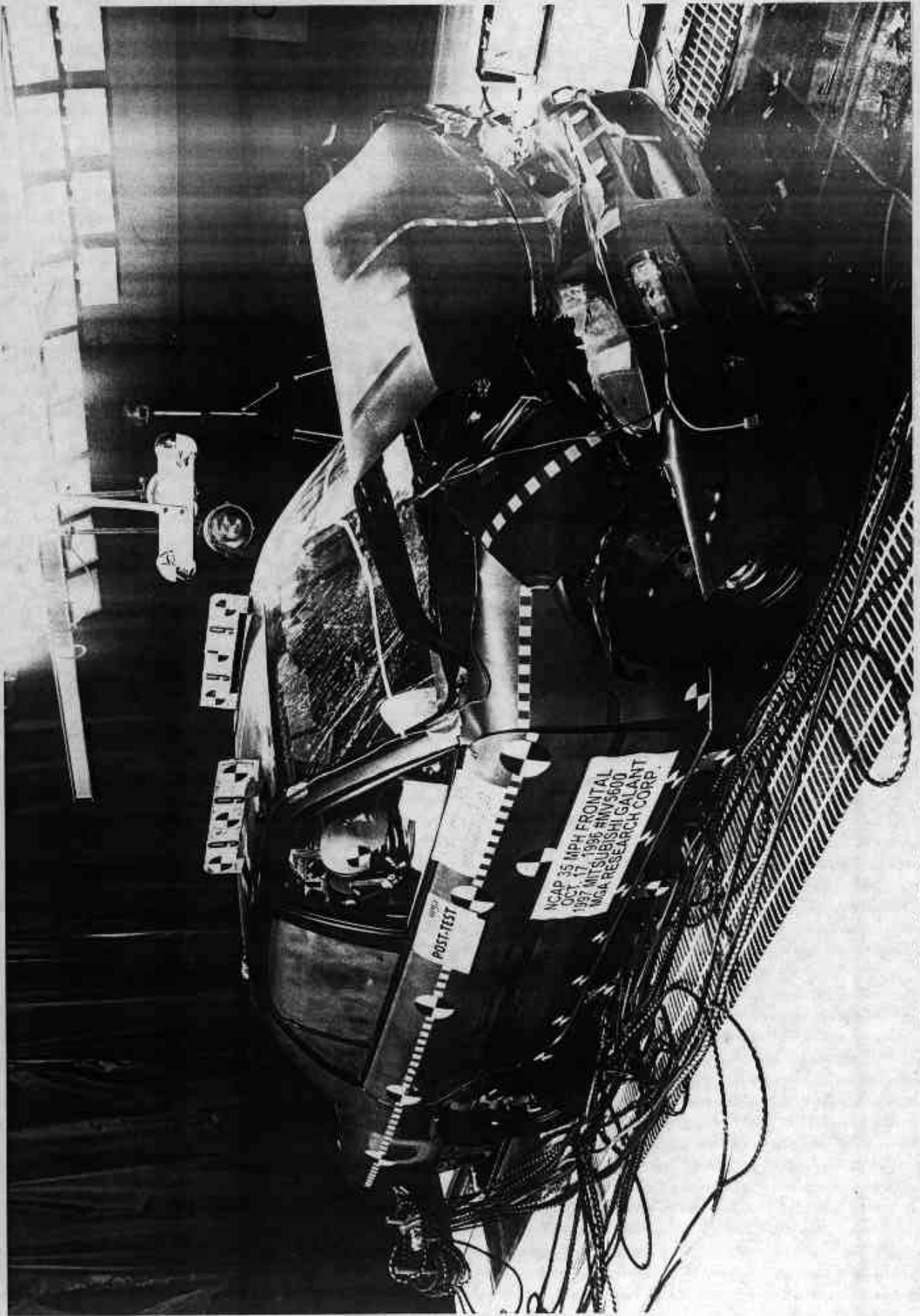
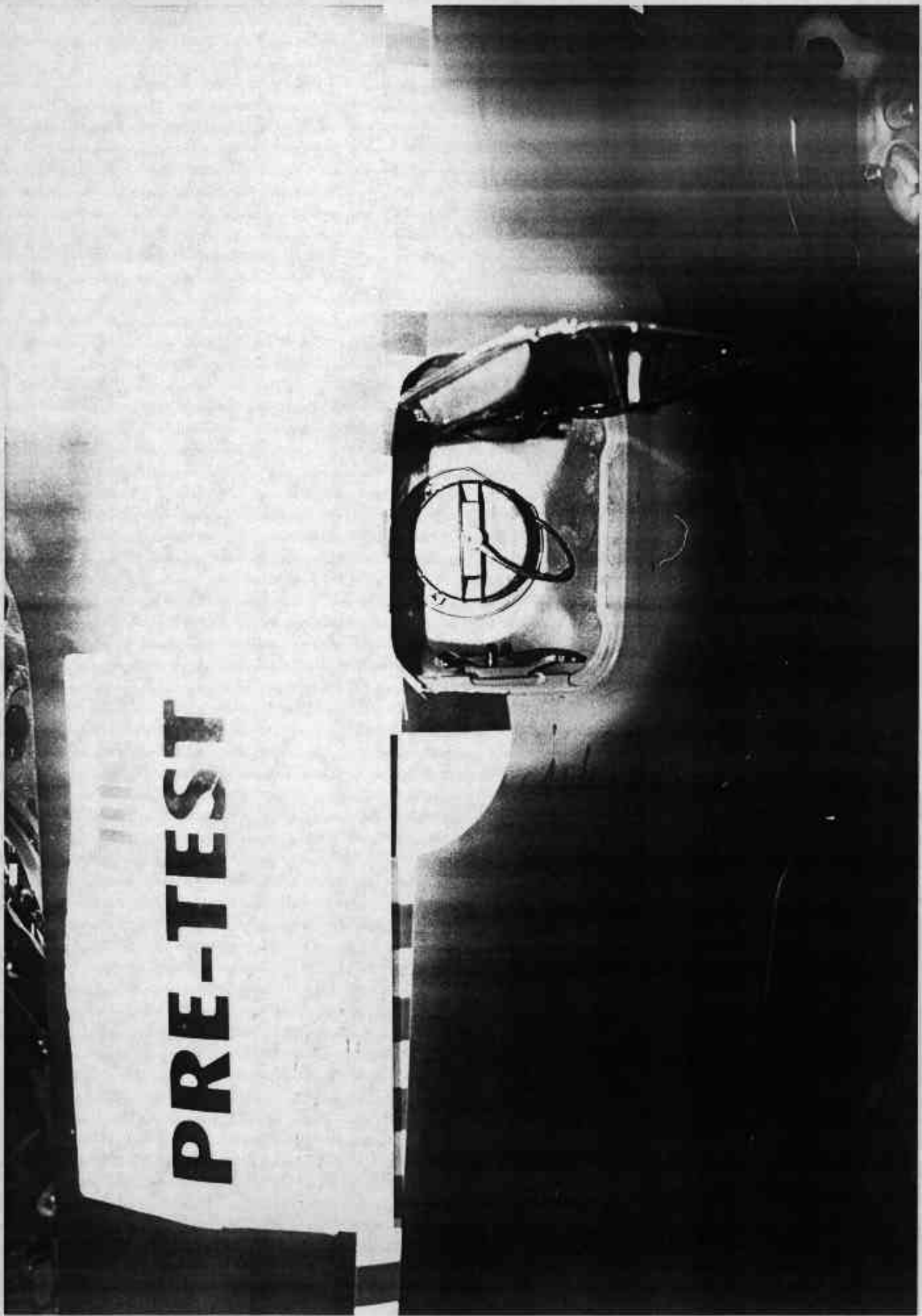


Photo No. A-12 - Post-Test Right Front Three-Quarter View of Test Vehicle

A-12



**PRE-TEST**

A-13

Photo No. A-13 - Pre-Test Fuel Filler Cap View

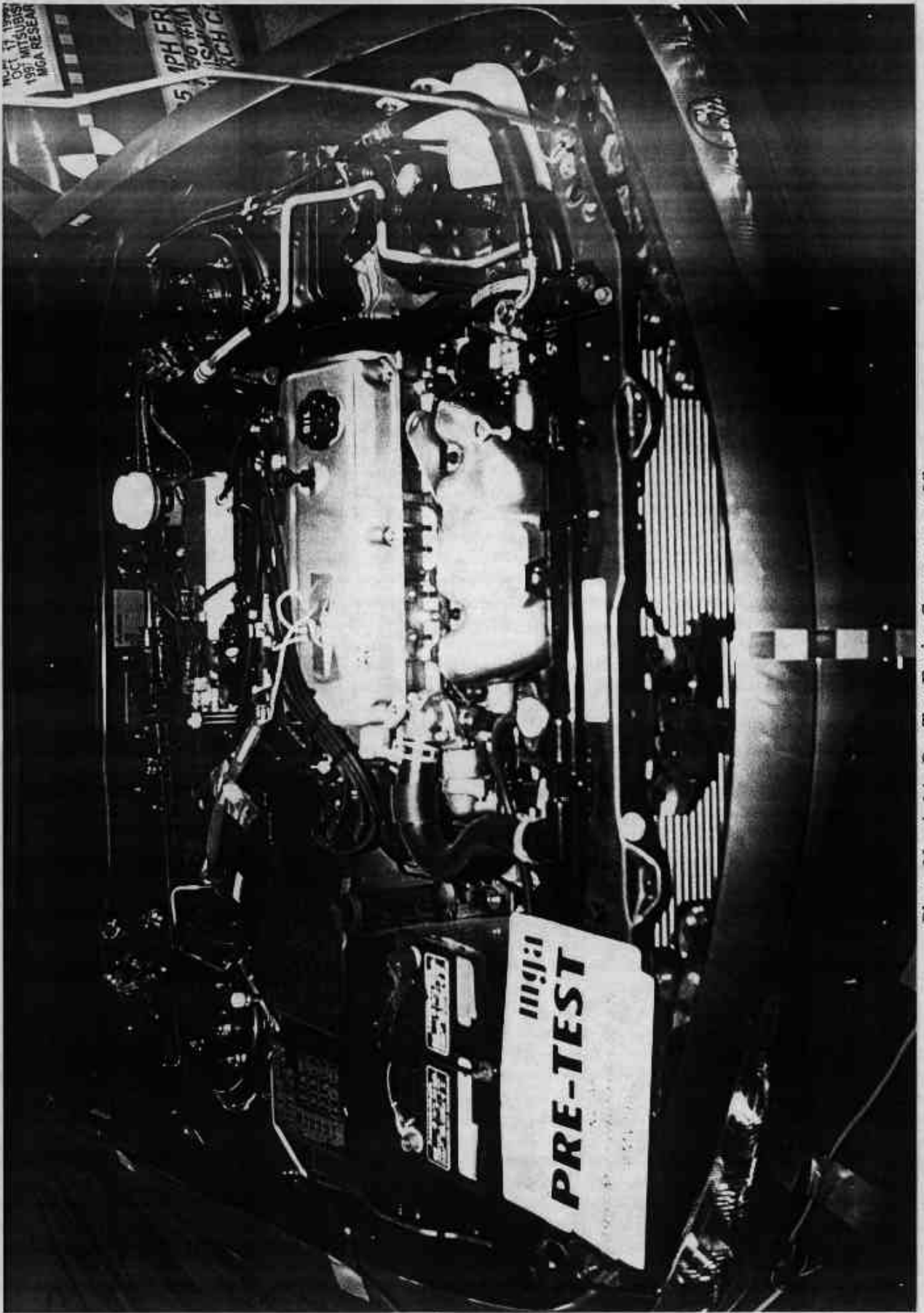


Photo No. A-14 - Pre-Test Engine Compartment View

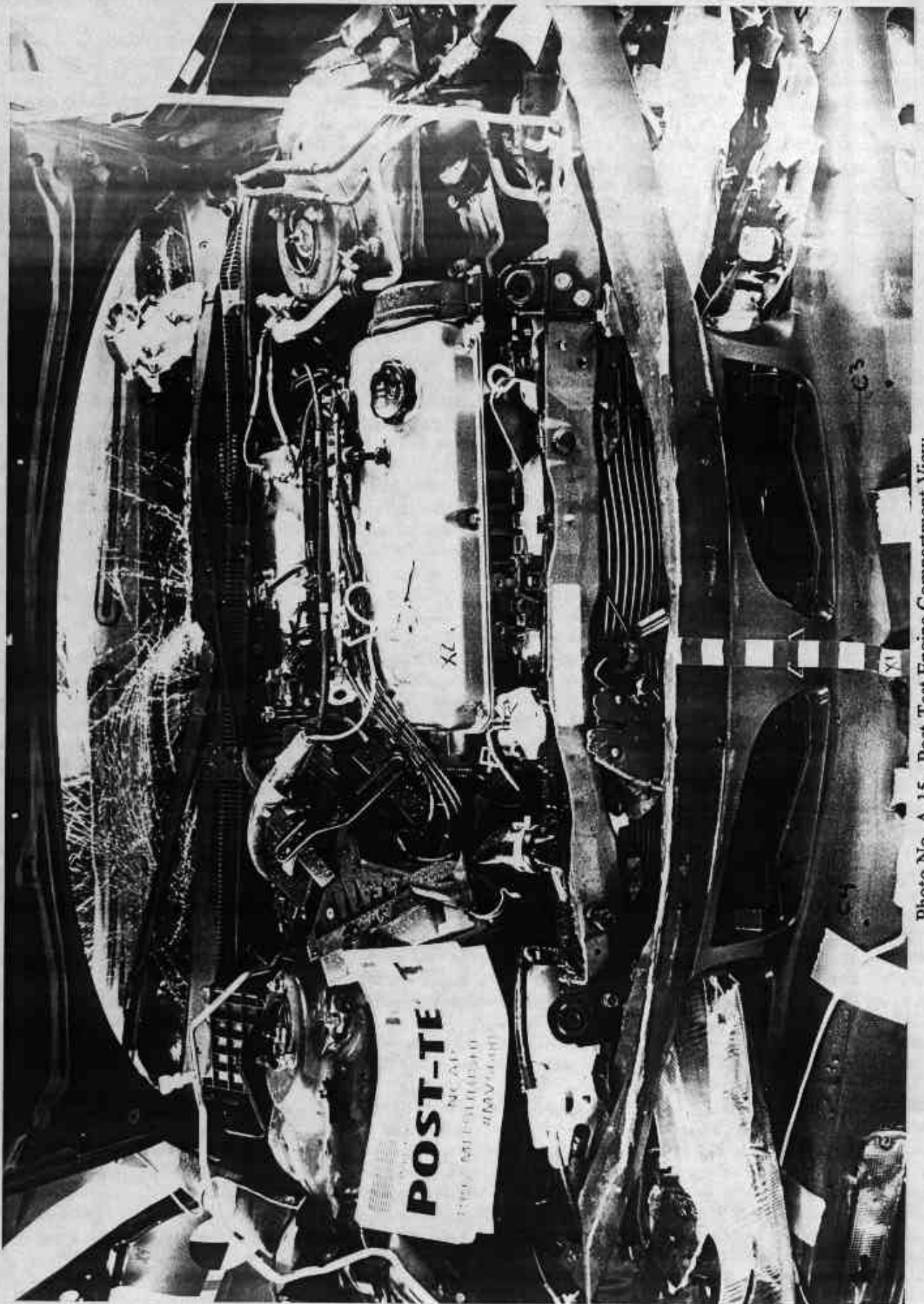


Photo No. A-15 - Post-Test Engine Compartment View

A-15

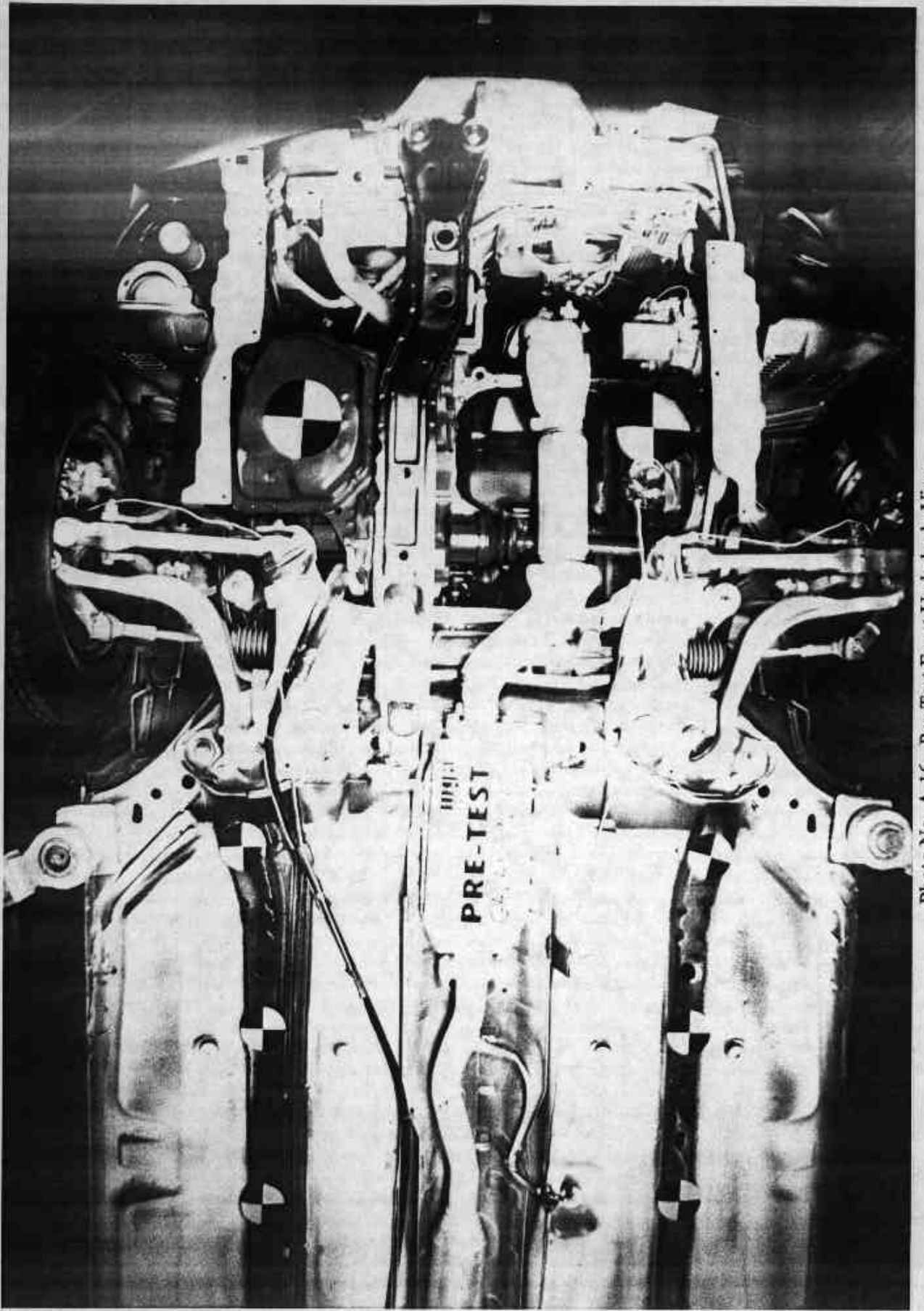


Photo No. A-16 - Pre-Test Front Underbody View

A-16

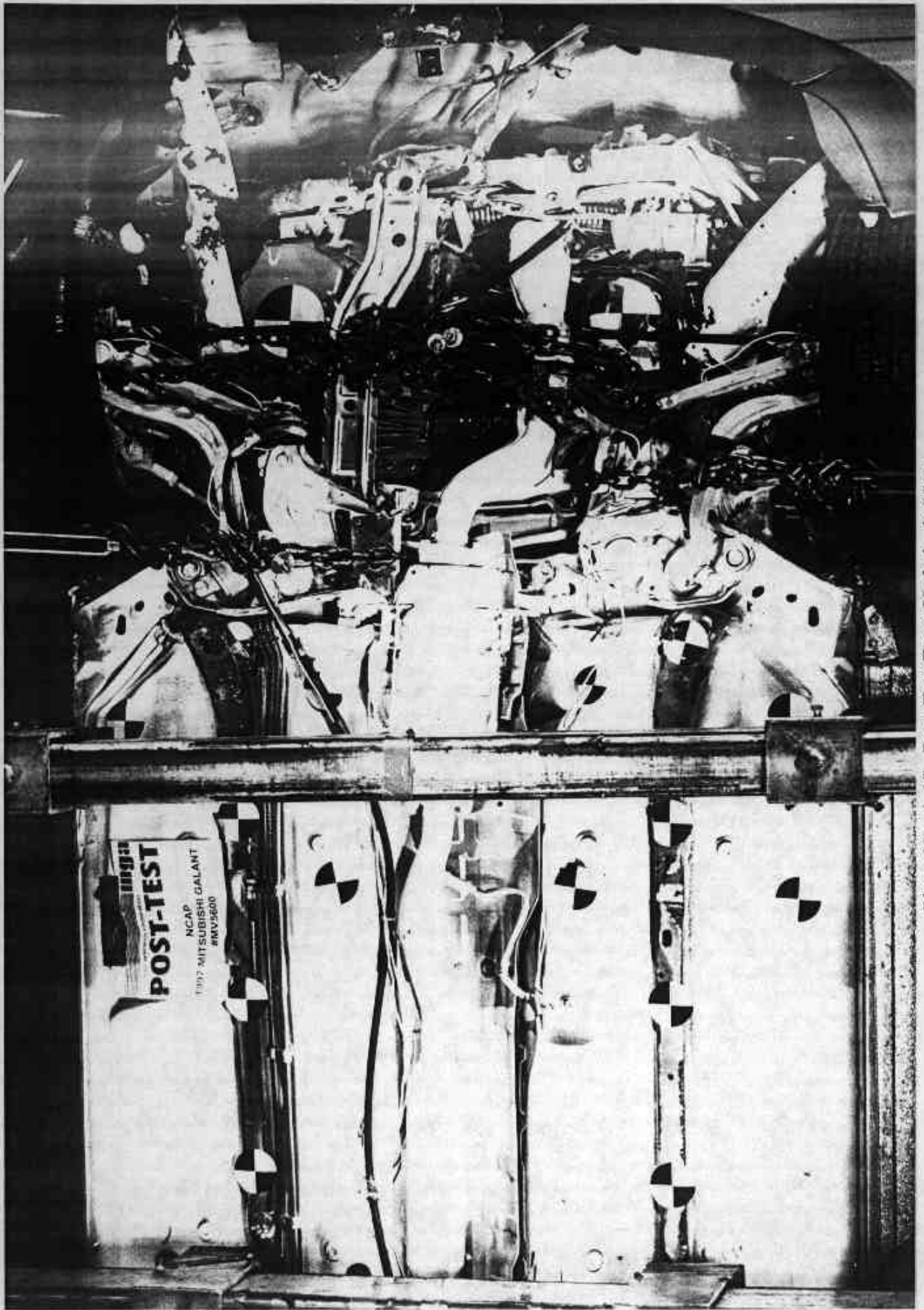


Photo No. A-17 - Post-Test Front Underbody View

A-17

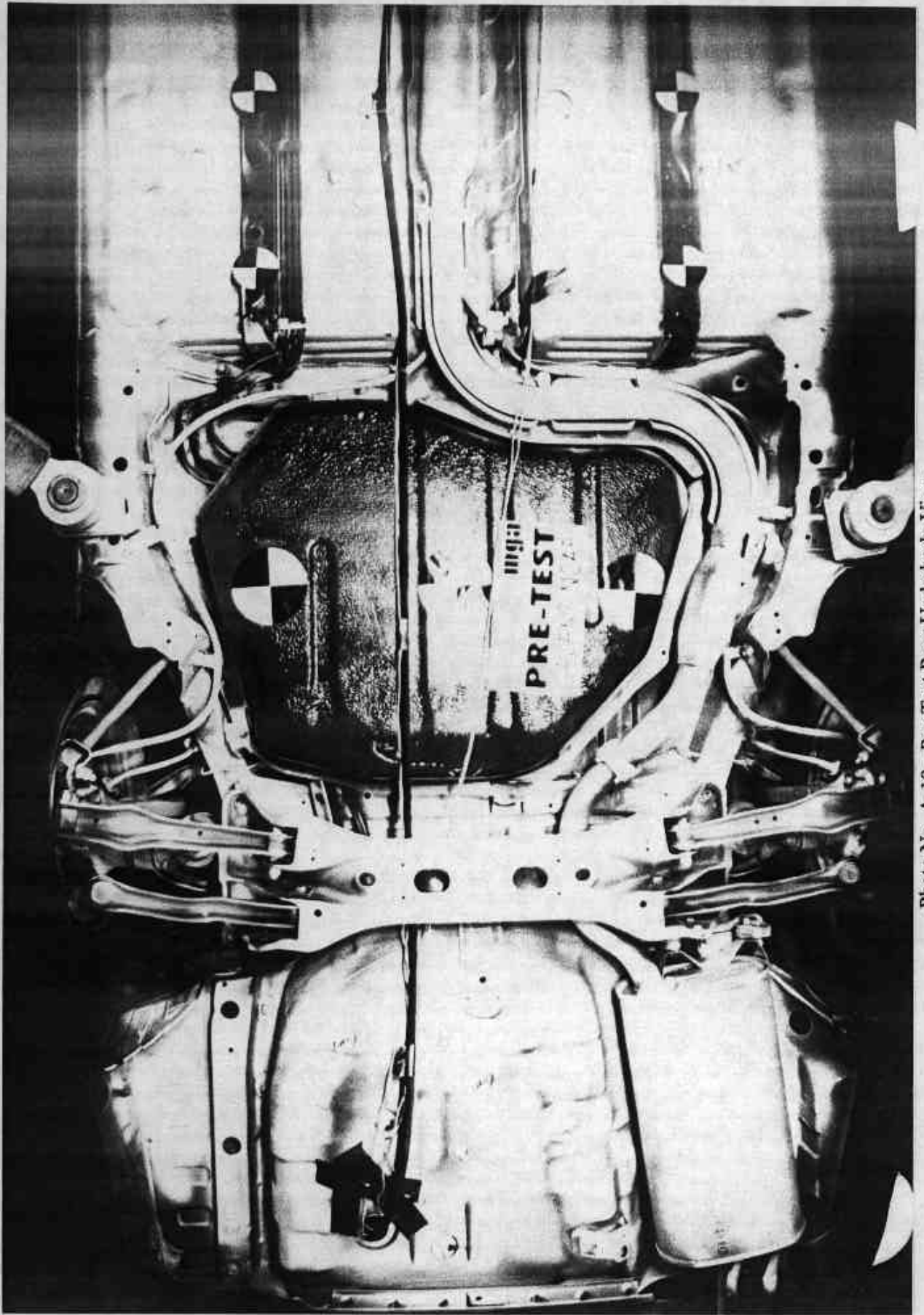


Photo No. A-18 - Pre-Test Rear Underbody View

A-18

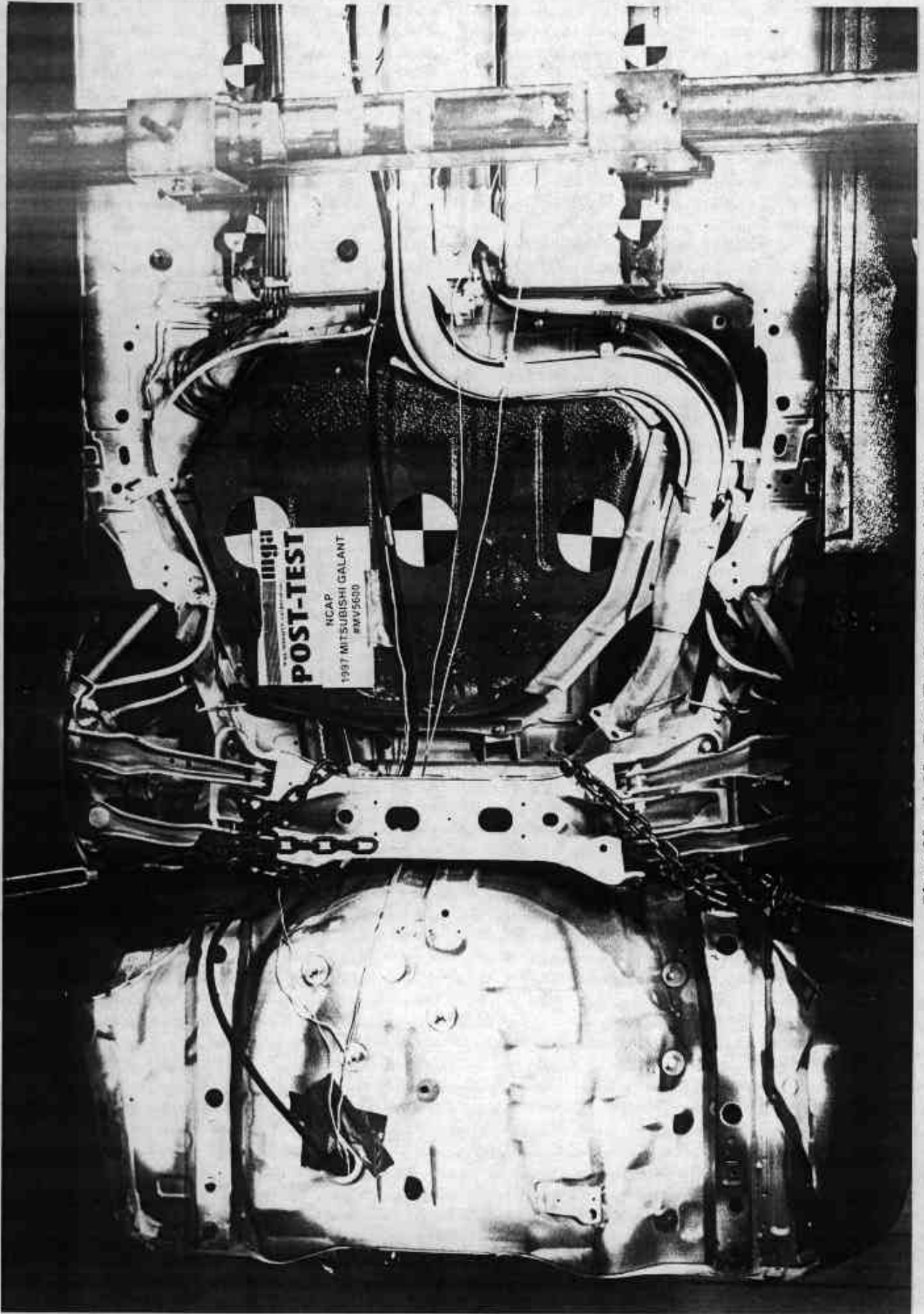
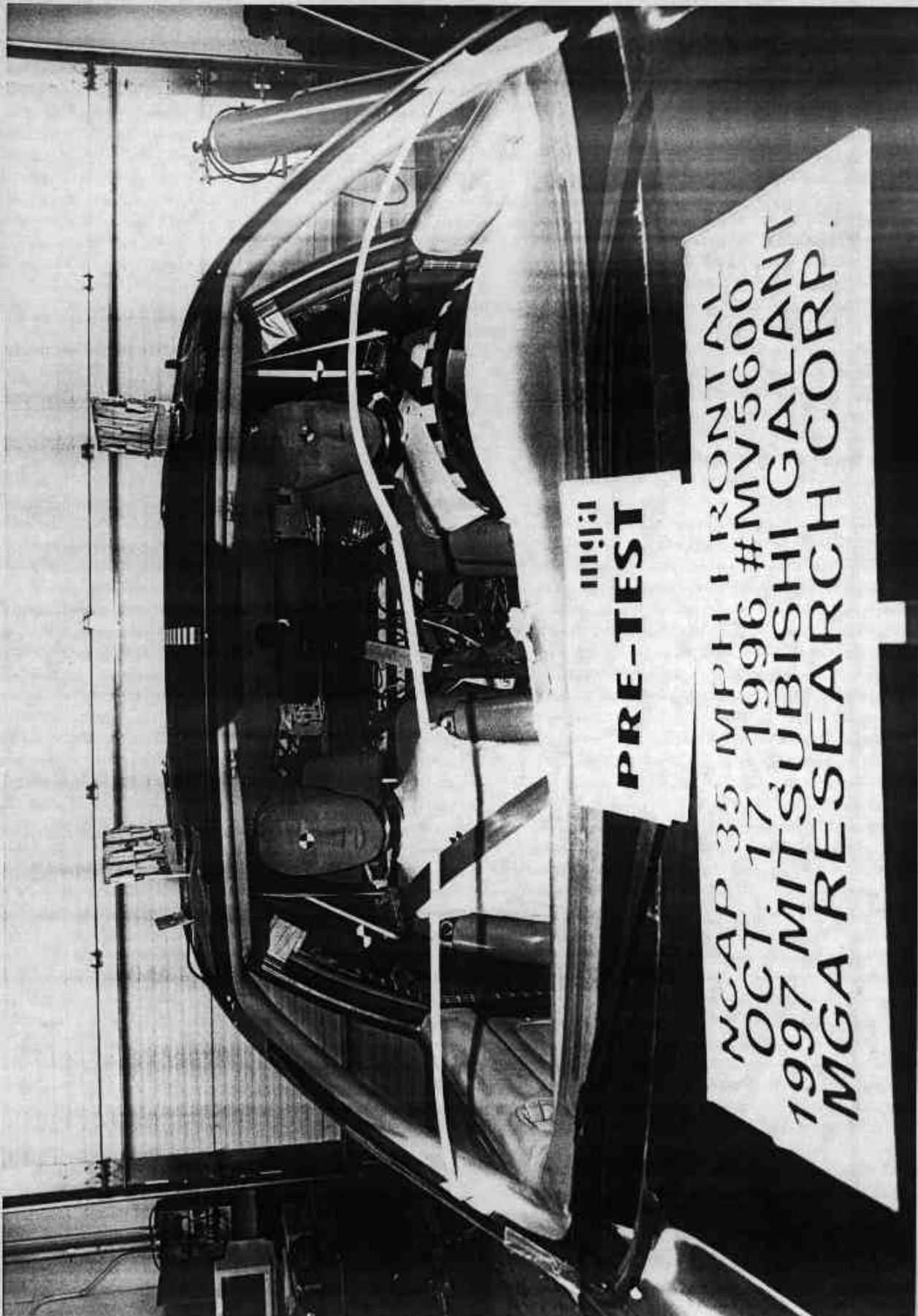


Photo No. A-19 - Post-Test Rear Underbody View

A-19



A-20

Photo No. A-20 - Pre-Test Windshield View

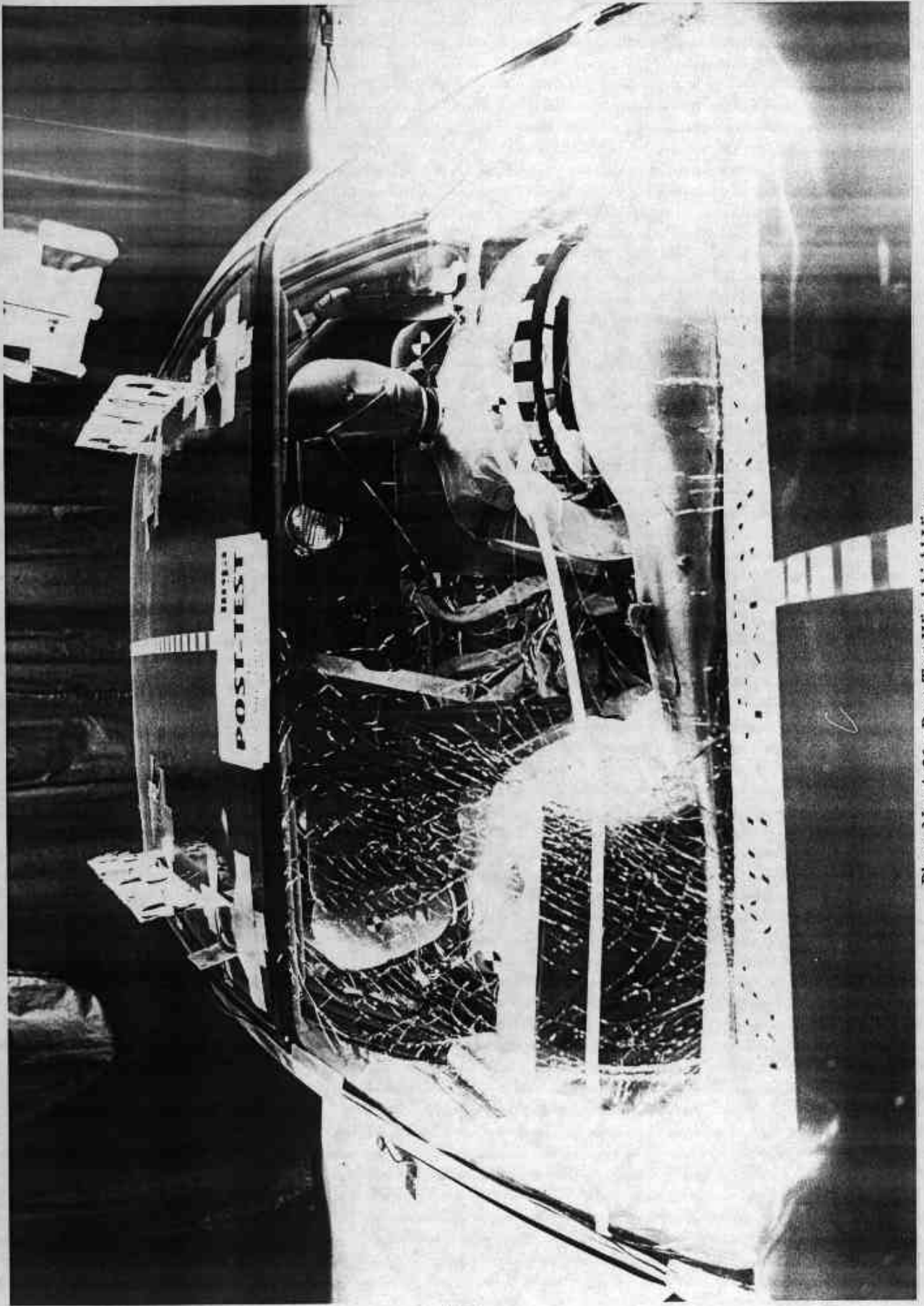


Photo No. A-21 - Post-Test Windshield View

A-21

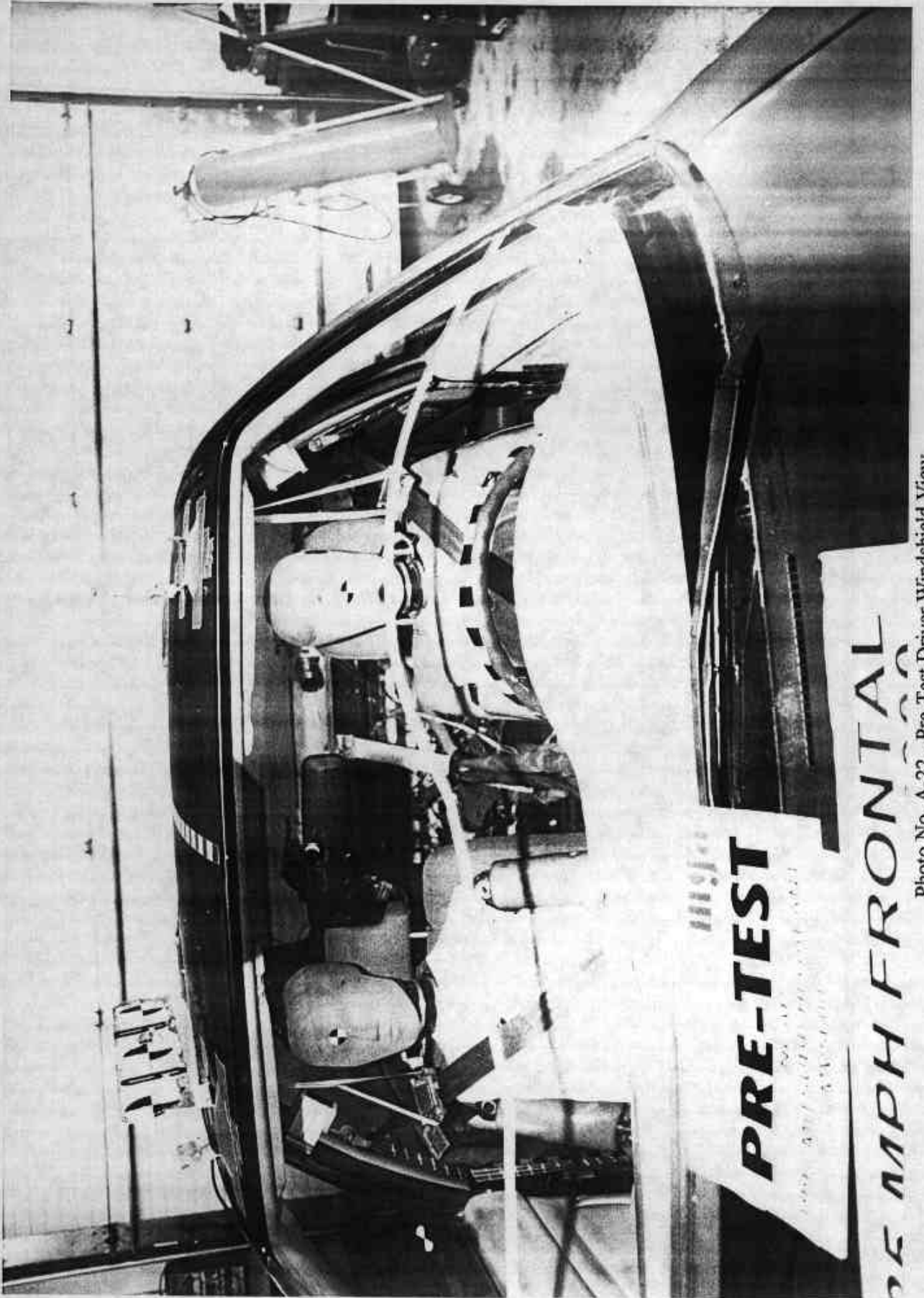


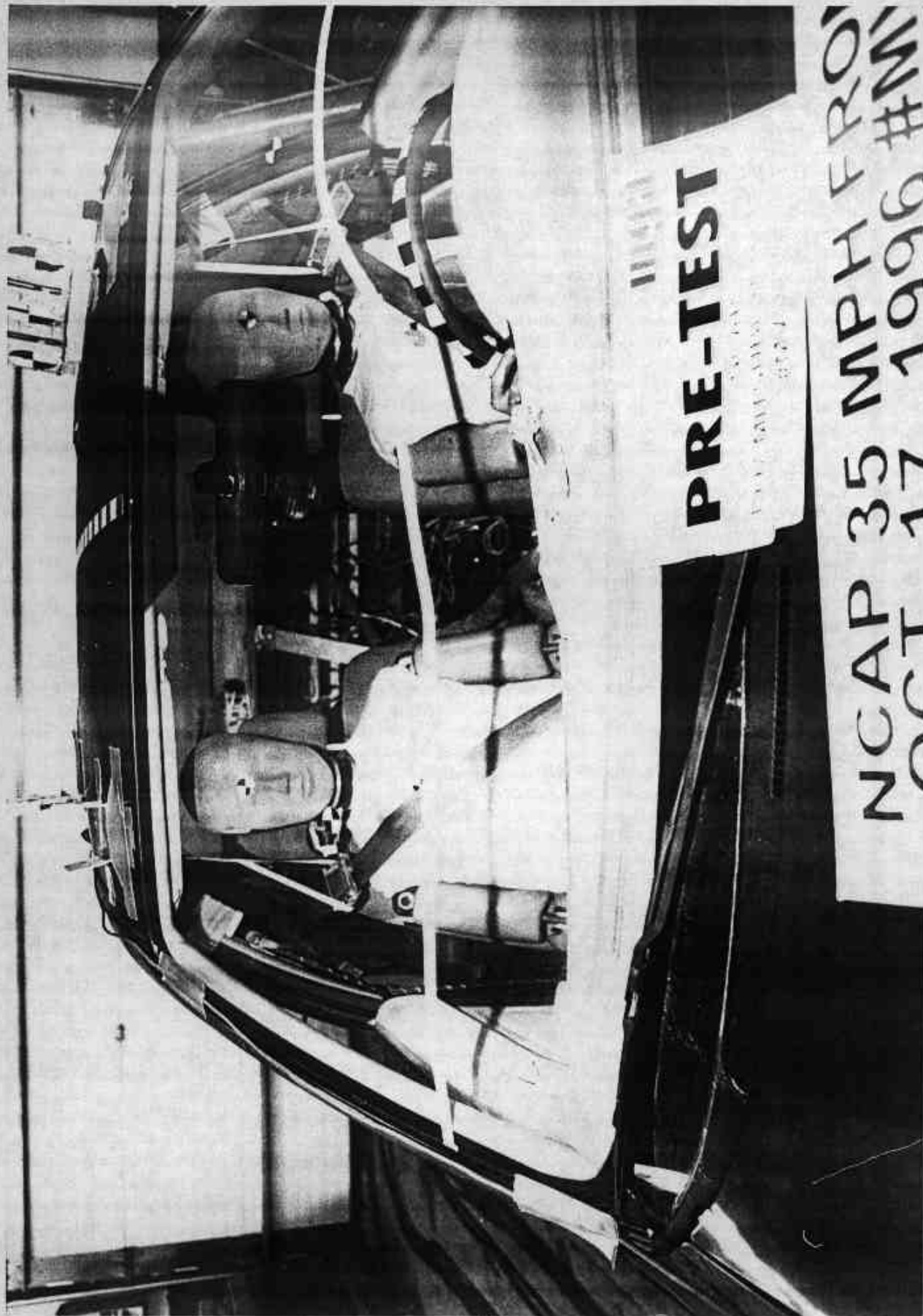
Photo No. A-22 - Pre-Test Driver Windshield View

**PRE-TEST**  
50 MPH FRONTAL

50 MPH FRONTAL

A-22





**PRE-TEST**

**NCAP 35 MPH FROM  
OCT 17 1996 #W**

Photo No. A-24 - Pre-Test Passenger Windshield View

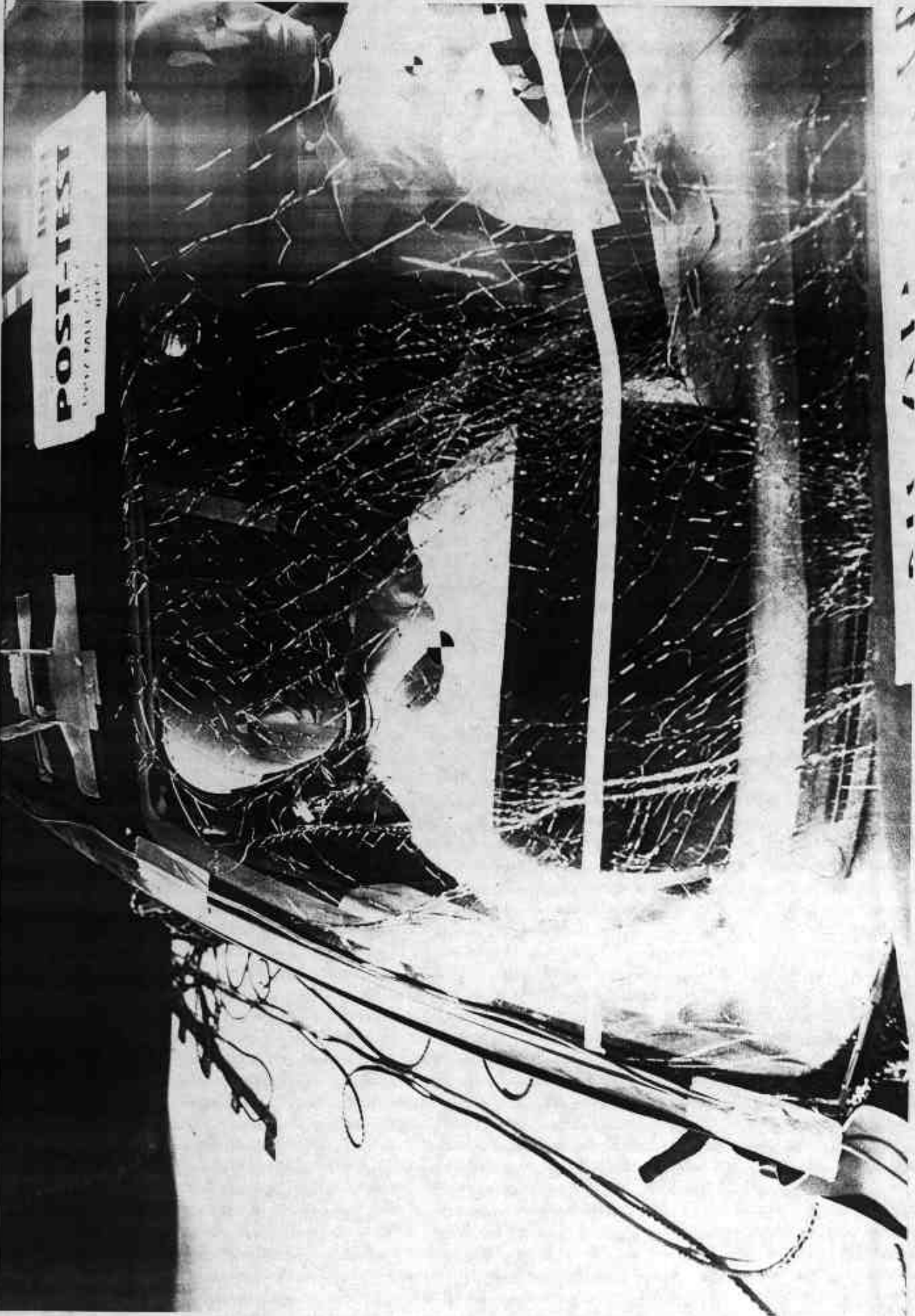
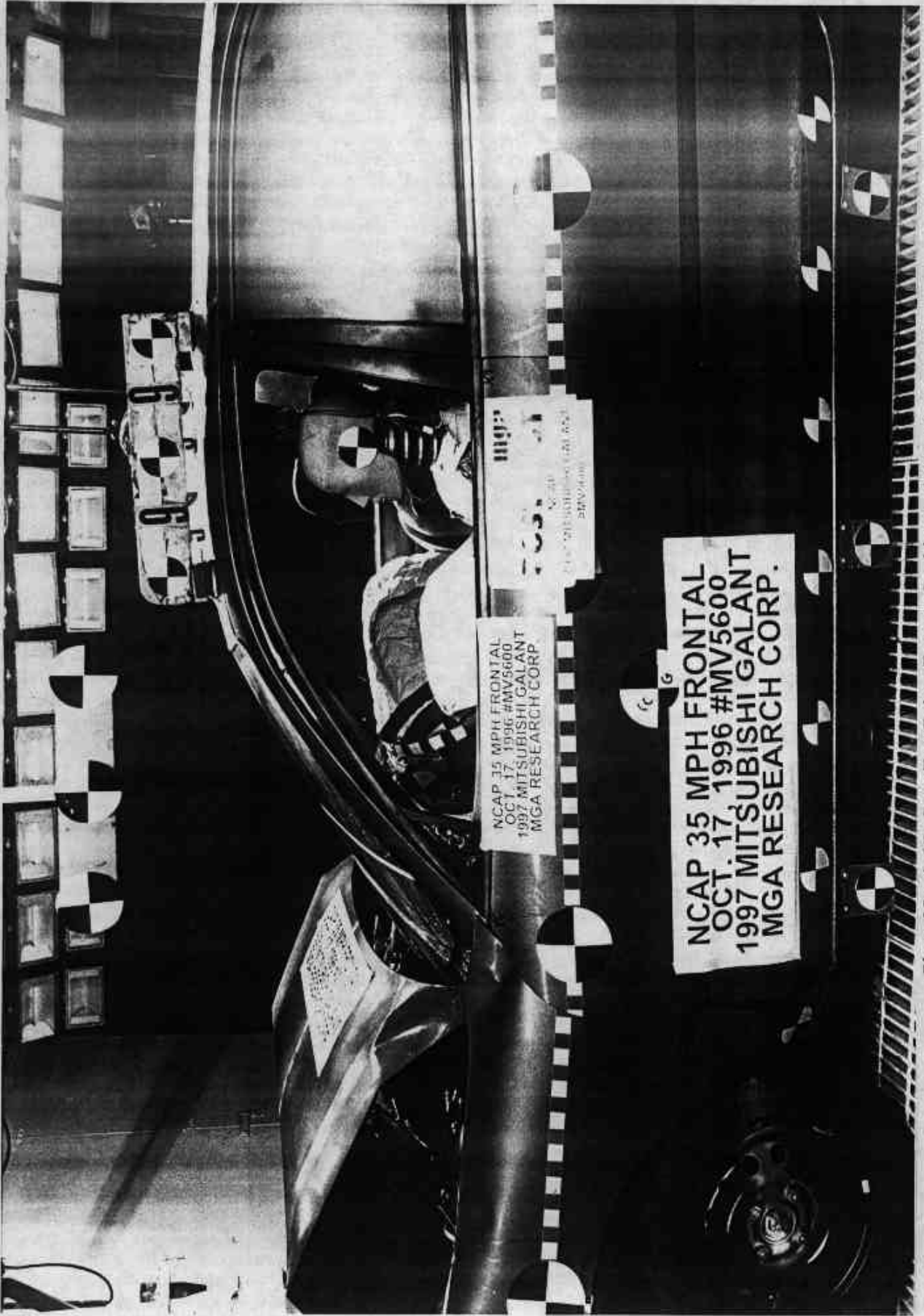


Photo No. A-25 - Post-Test Passenger Windshield View



A-26

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



A-27

Photo No. A-27 - Post-Test Driver Dummy Position Left Side View

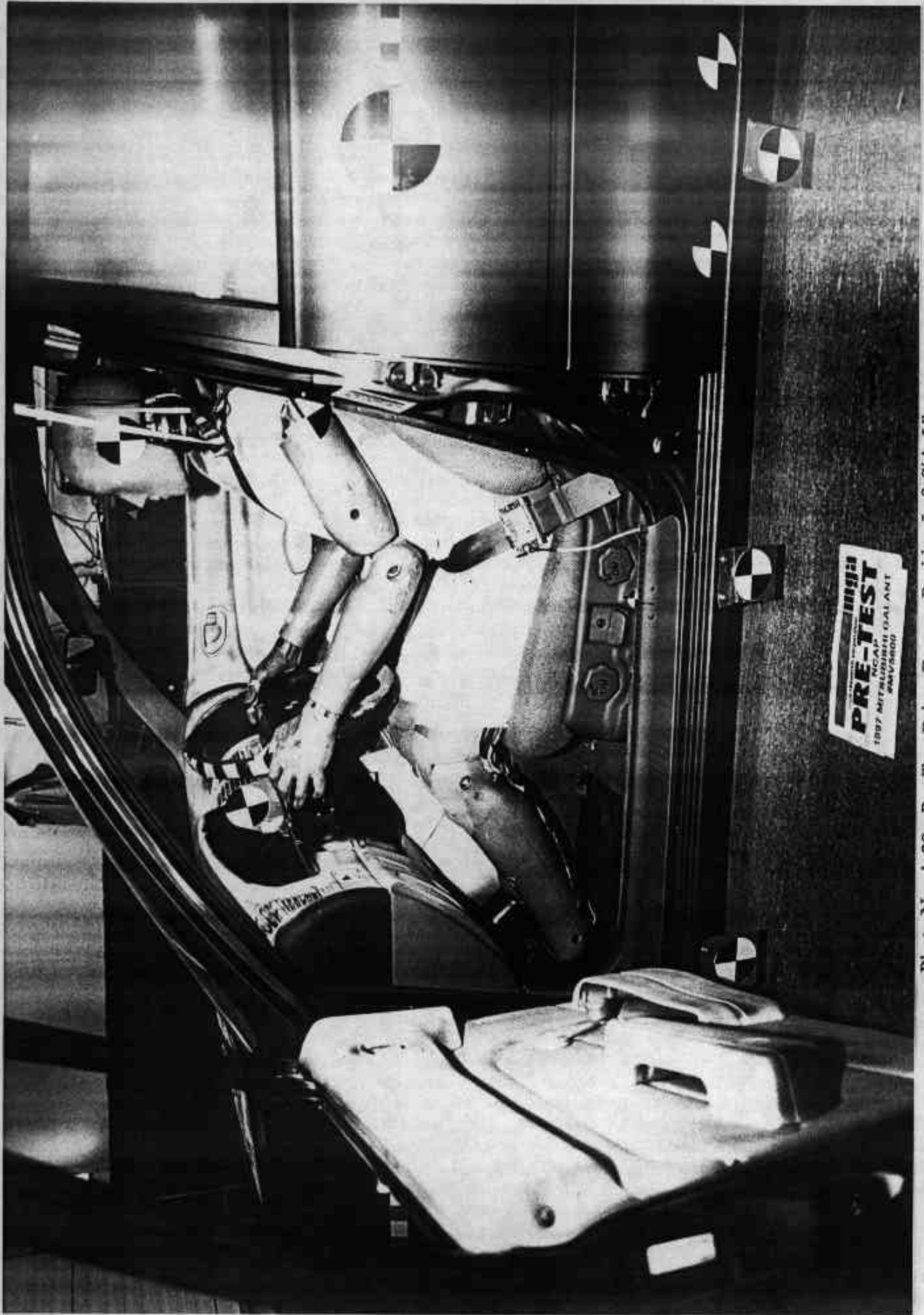


Photo No. A-28 - Pre-Test Driver Dummy Position Left Side View  
(Door Open)

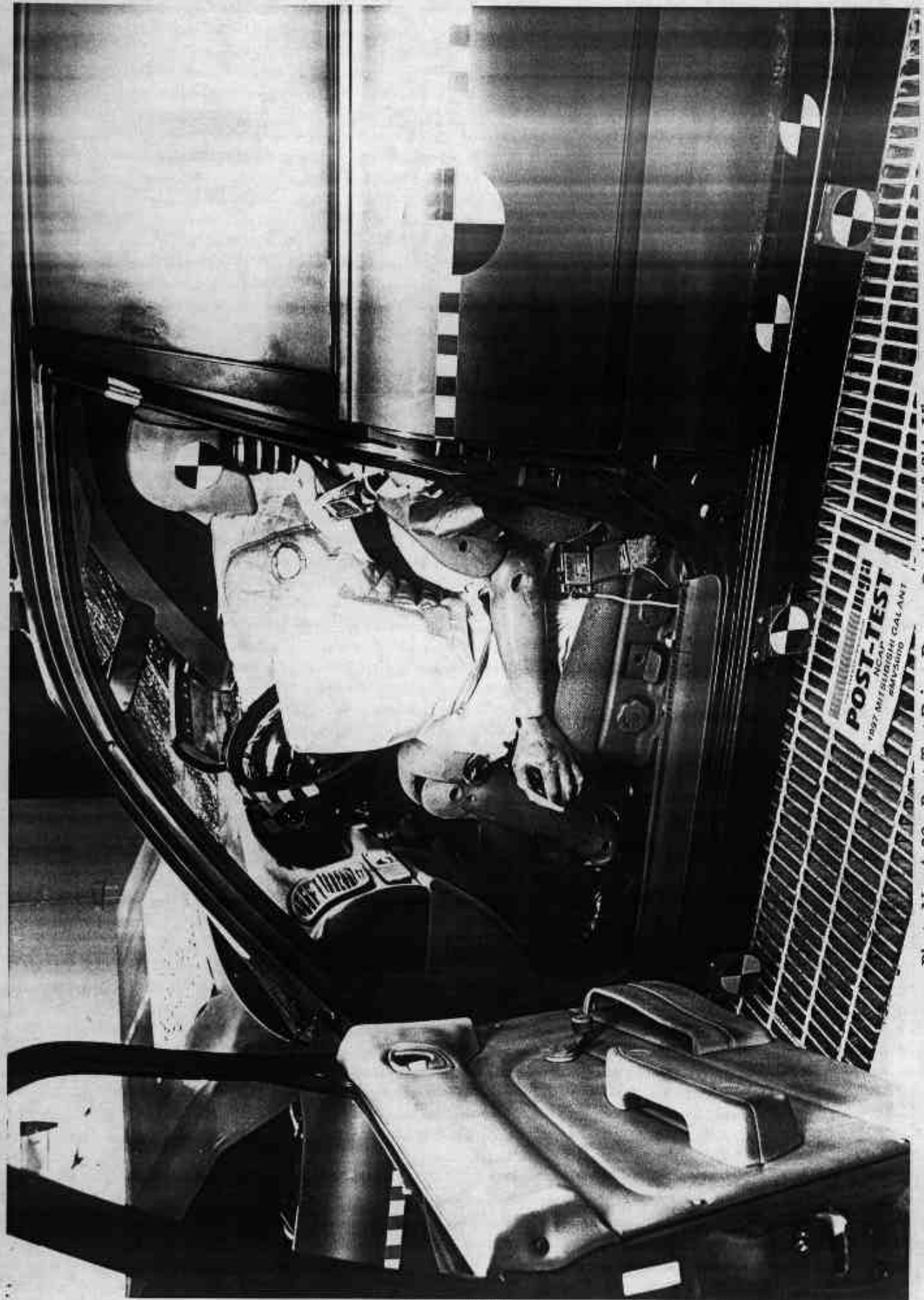


Photo No. A-29 - Post-Test Driver Dummy Position Left Side View  
(Door Open)

A-29



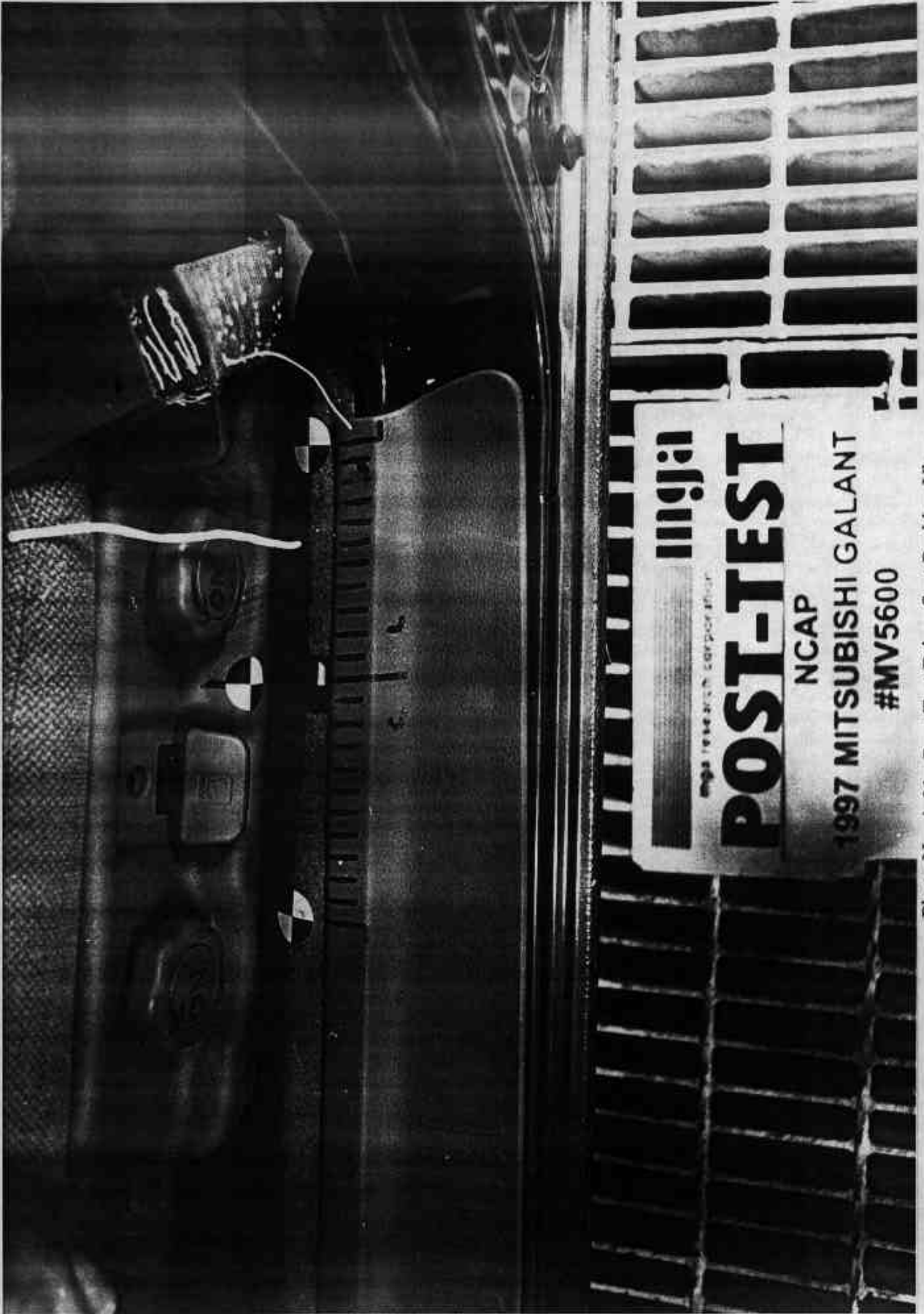
**PRE-TEST**

NCAP

1997 MITSUBISHI GALANT

#MV5600

Photo No. A-30 - Pre-Test Driver Seat Position View



ingja

ingja research corporation

**POST-TEST**

NCAP

1997 MITSUBISHI GALANT

#MV5600

Photo No. A-31 - Post-Test Driver Seat Position View



A-32

Photo No. A-32 - Pre-Test Driver Dummy Knee Position



Photo No. A-33 - Post-Test Driver Dummy Knee Position



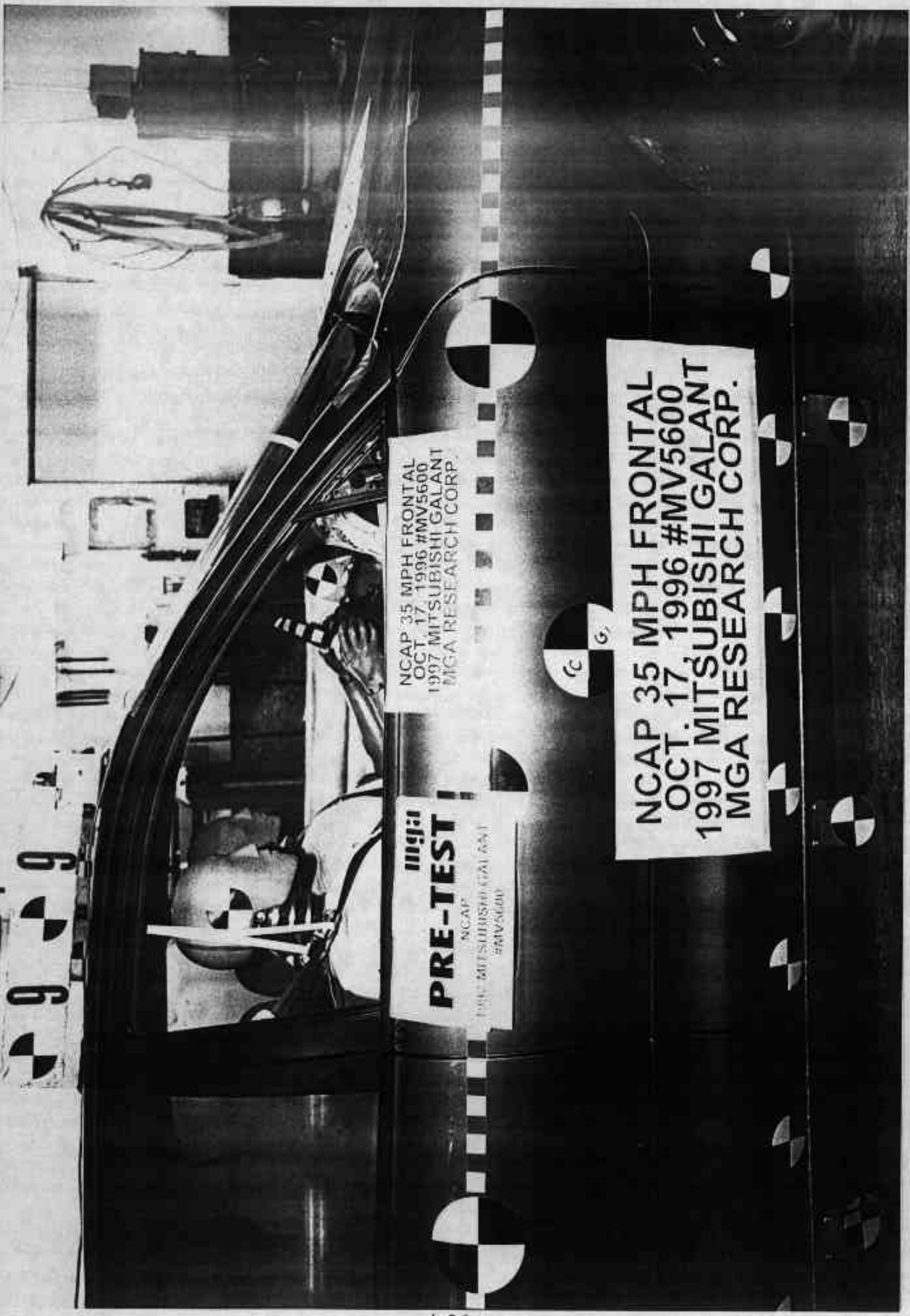
**Ingram**  
POST-TEST  
NCAP  
1997 MITSUBISHI GALANT  
#MV5600

Photo No. A-34 - Post-Test Driver Airbag Contact



A-35

Photo No. A-35 - Post-Test Driver Knee Contact View



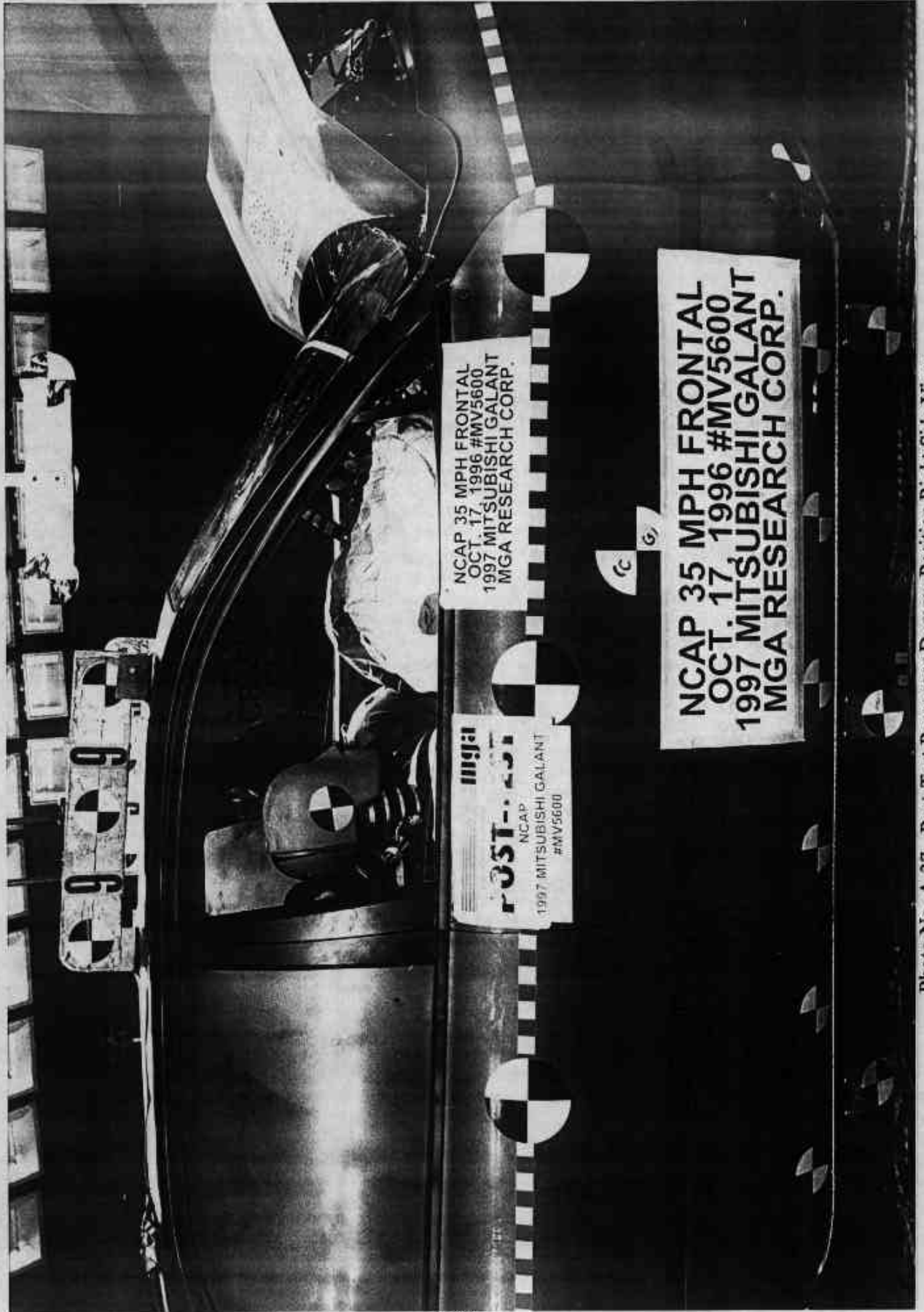
NCAP 35 MPH FRONTAL  
OCT. 17, 1996 #MV5600  
1997 MITSUBISHI GALANT  
MGA RESEARCH CORP.

**PRE-TEST**  
Mitsubishi  
NCAP  
1996 MITSUBISHI GALANT  
#MV5600

NCAP 35 MPH FRONTAL  
OCT. 17, 1996 #MV5600  
1997 MITSUBISHI GALANT  
MGA RESEARCH CORP.

A-36

Photo No. A-36 - Pre-Test Passenger Dummy Position Right Side View



NCAP 35 MPH FRONTAL  
OCT. 17, 1996 #MV5600  
1997 MITSUBISHI GALANT  
MGA RESEARCH CORP.

**POST-TEST**  
NCAP  
1997 MITSUBISHI GALANT  
#MV5600

NCAP 35 MPH FRONTAL  
OCT. 17, 1996 #MV5600  
1997 MITSUBISHI GALANT  
MGA RESEARCH CORP.

A-37

Photo No. A-37 - Post-Test Passenger Dummy Position Right Side View

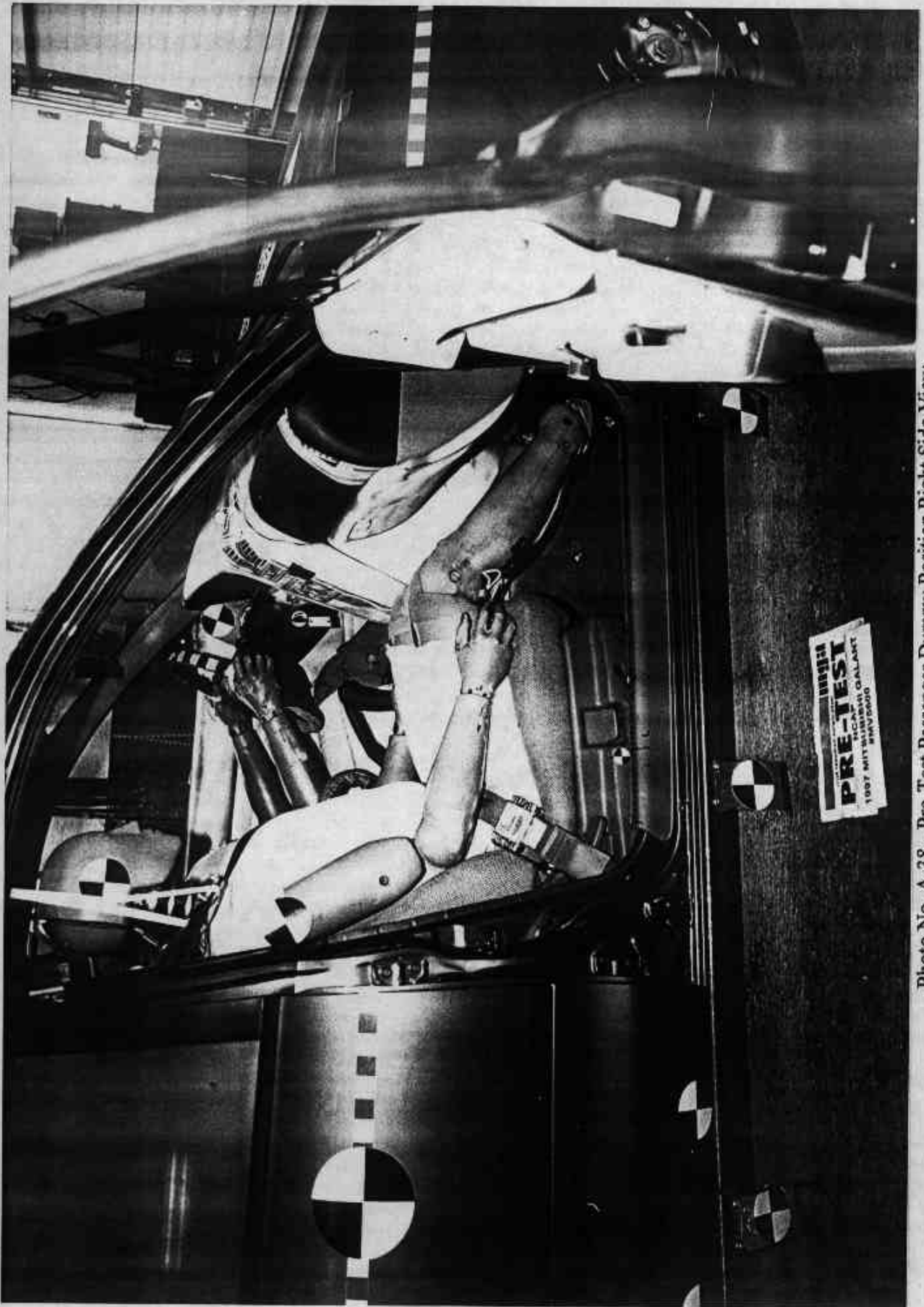


Photo No. A-38 - Pre-Test Passenger Dummy Position Right Side View  
(Door Open)

A-38

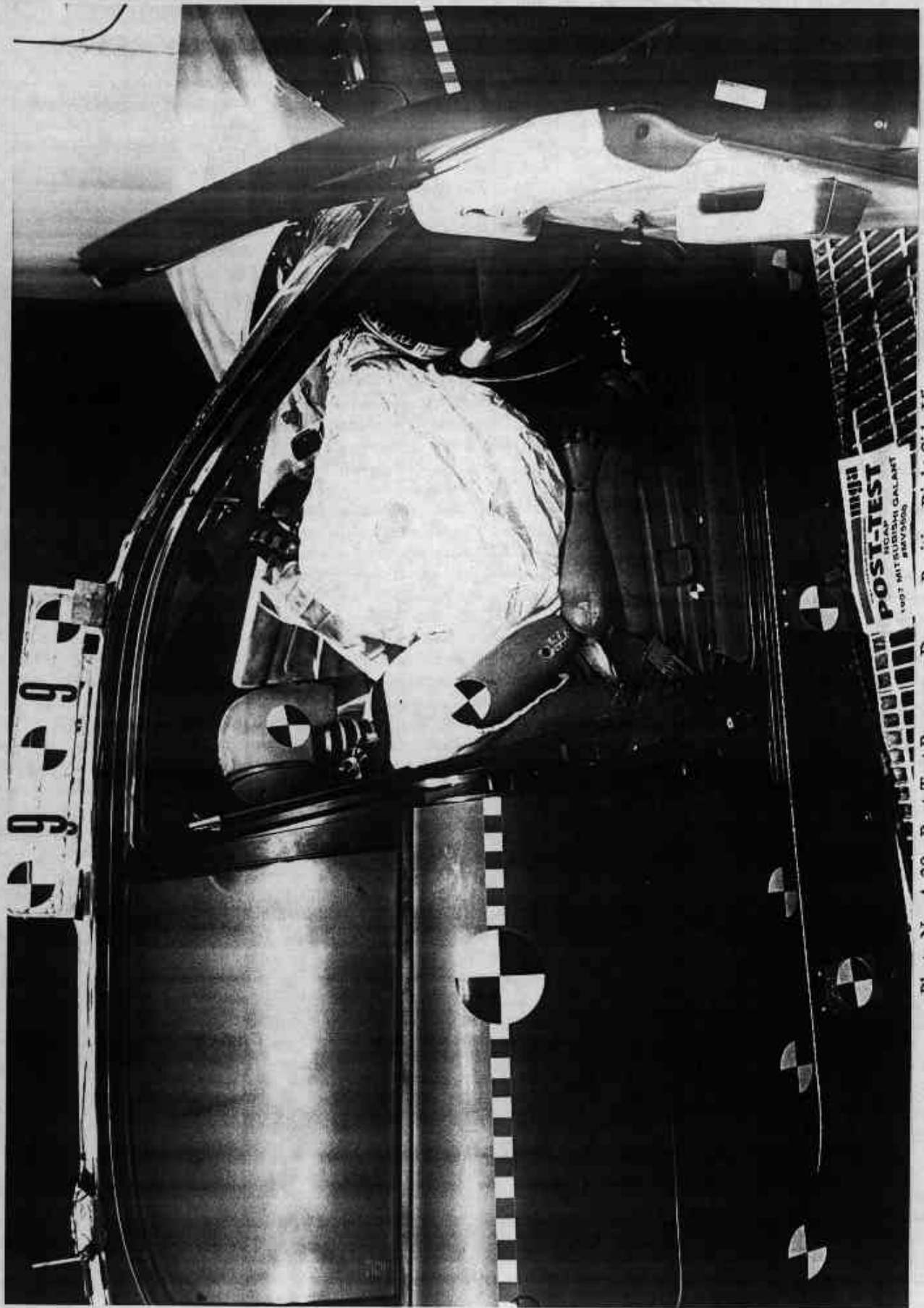


Photo No. A-39 - Post-Test Passenger Dummy Position Right Side View  
(Door Open)

A-39



**PRE-TEST**

NCAP

1997 MITSUBISHI GALANT

#MV5600

Photo No. A-40 - Pre-Test Passenger Seat Position View



**IIHS**

Insurance Institute for Highway Safety

**POST-TEST**

NCAP

1997 MITSUBISHI GALANT

#MV5600

Photo No. A-41 - Post-Test Passenger Seat Position View



Photo No. A-42 - Pre-Test Passenger Dummy Knee Position

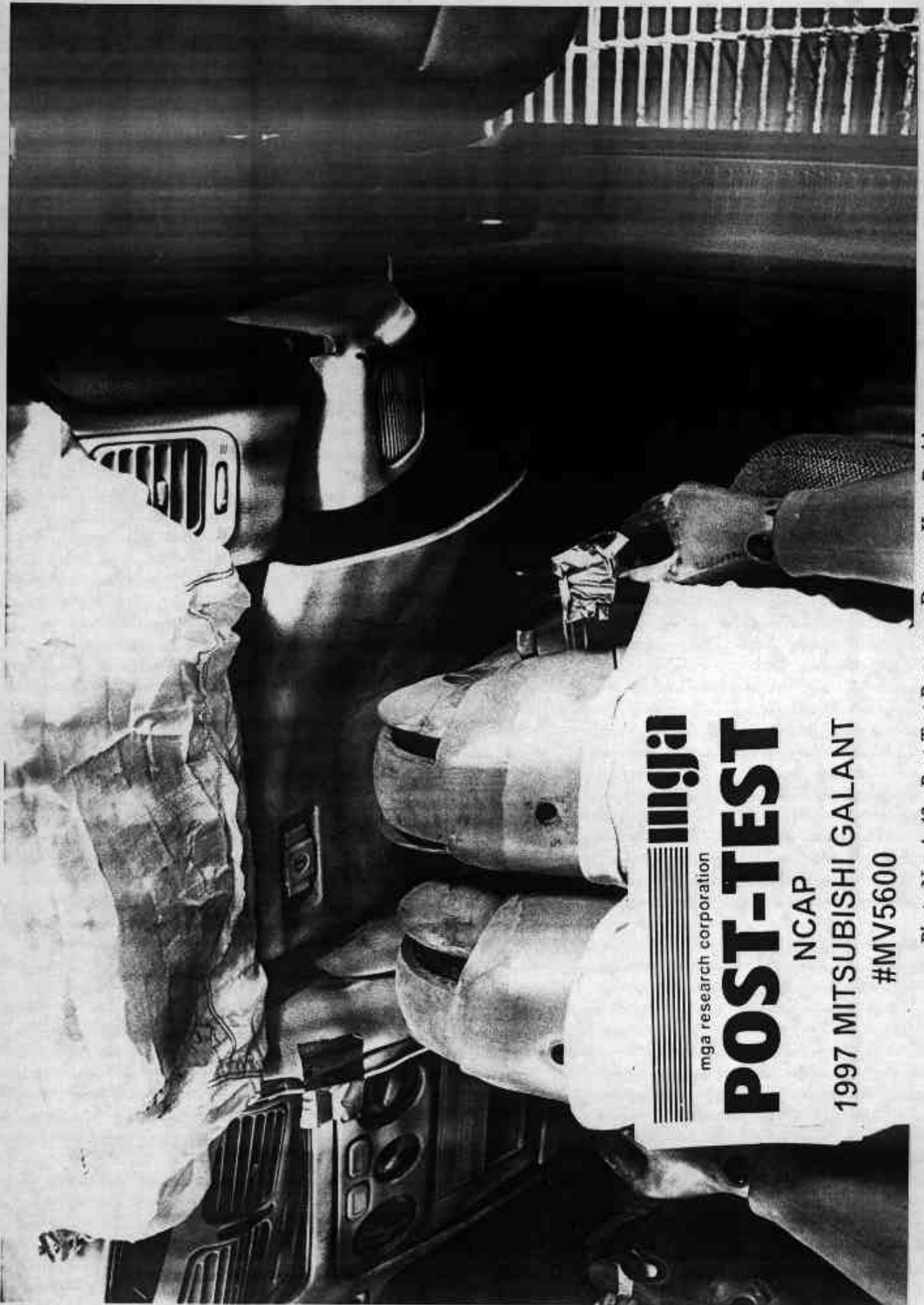


Photo No. A-43 - Post-Test Passenger Dummy Knee Position

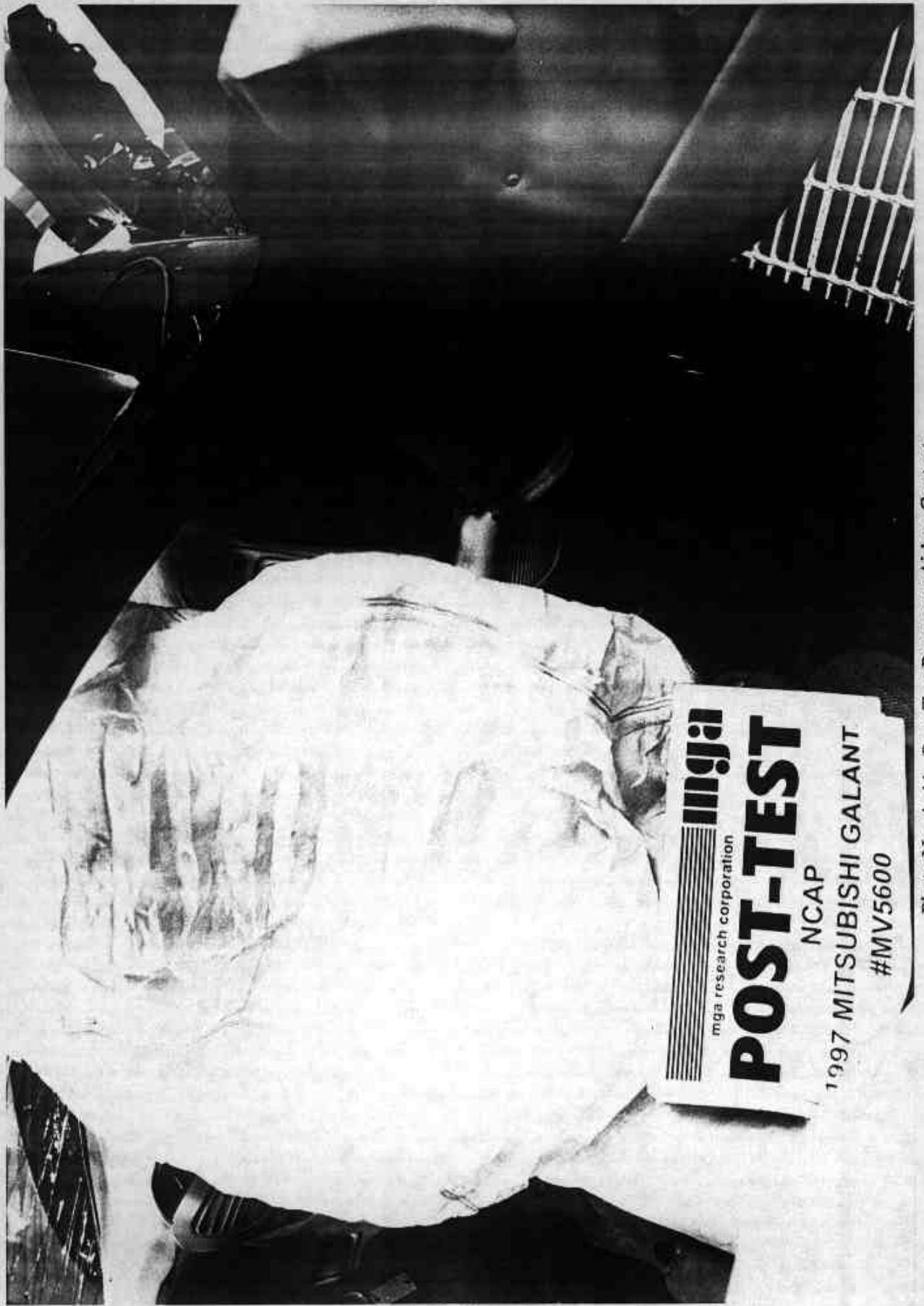


Photo No. A-44 - Post-Test Passenger Airbag Contact

A-44



Photo No. A-45 - Post-Test Passenger Knee Contact View

MADE IN U.S.A. DATE AUG. 1996  
MFD BY MITSUBISHI MOTOR MFG. OF AMERICA, INC.

GVWR 3925 LBS GAWR 2340 LBS GAWR 1785 LBS  
1780 KG FR. 970 KG RR. 810 KG

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

4 A 3 A J 4 6 G O V E 0 1 2 5 5 6



MDH 080909

VEHICLE TYPE: PASSENGER CAR MU900223

| TIRE INFLATION PRESSURE (COLD)           |                 |
|--|-----------------|
| STANDARD INFLATION PRESSURE FOR ALL LOAD |                 |
| 1ST SEAT                                 | 2 PASS.         |
| 2ND SEAT                                 | 3 PASS.         |
| TOTAL                                    | 5 PASS.         |
| LUGGAGE                                  | 35kg (77 LBS)   |
| TOTAL WEIGHT                             | 370kg (827 LBS) |
| TIRE SIZE                                | P185/70R14 87H  |
| FRONT                                    | P195/60R15 87H  |
| REAR                                     |                 |
|  | 220kPa (32psi)  |
|  | 200kPa (29psi)  |
| TIRE SIZE                                | T125/70D15      |
| TEMPORARY USE ONLY                       |                 |
|  | 420kPa (60psi)  |
| PART NO. MR103096                        |                 |

Photo No. A-47 - Tire Placard

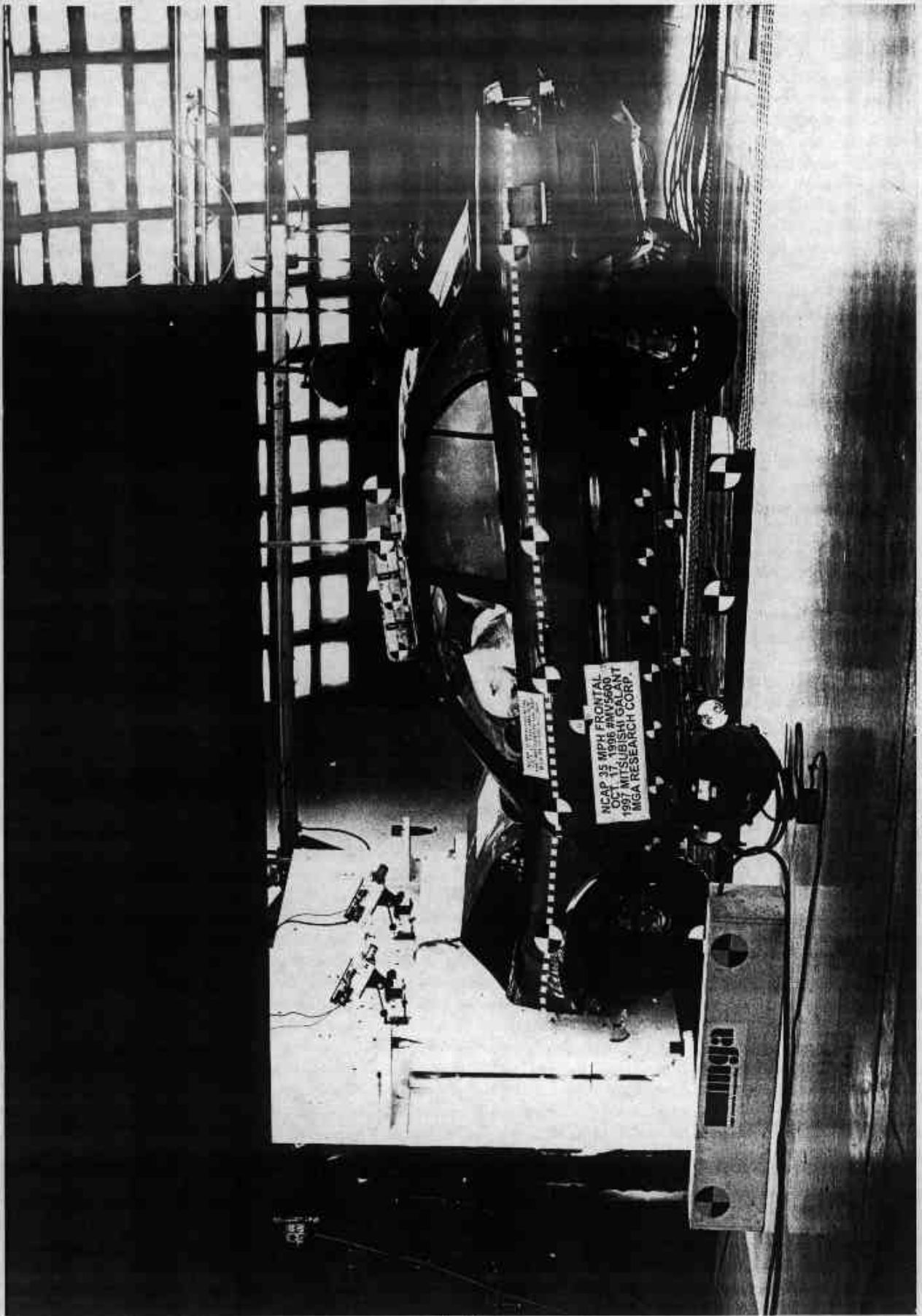
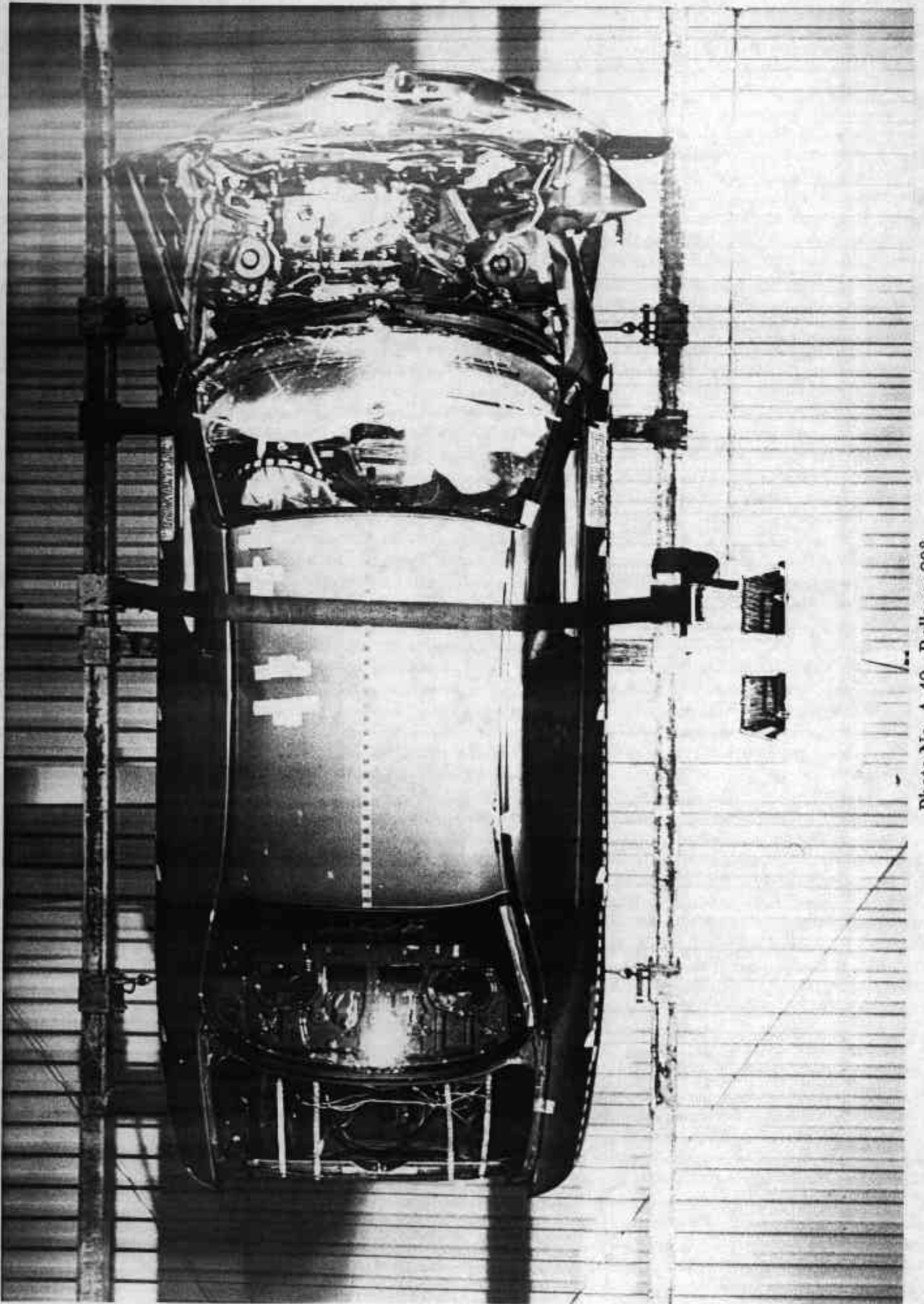


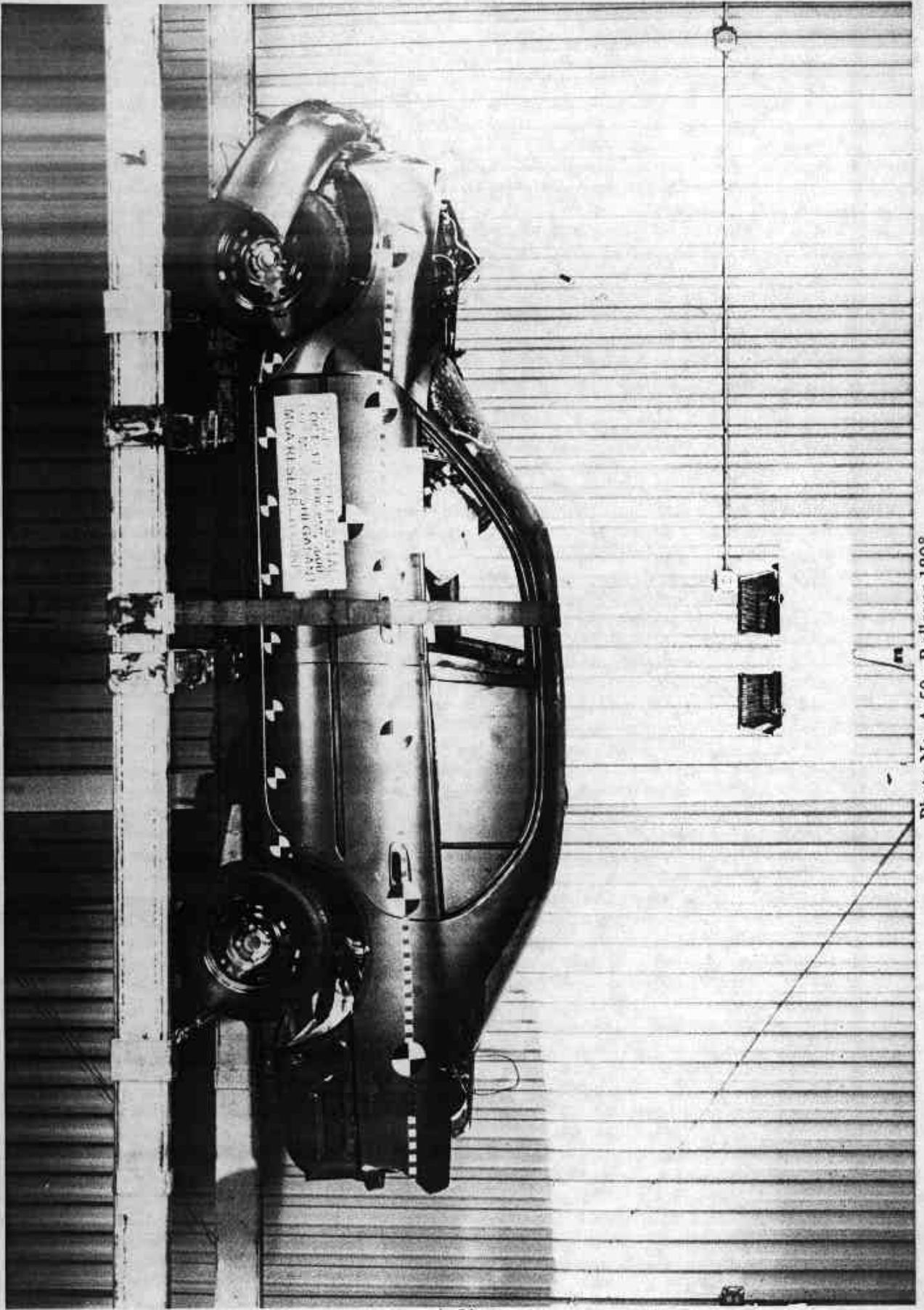
Photo No. A-48 - Vehicle Impact

A-48



A-49

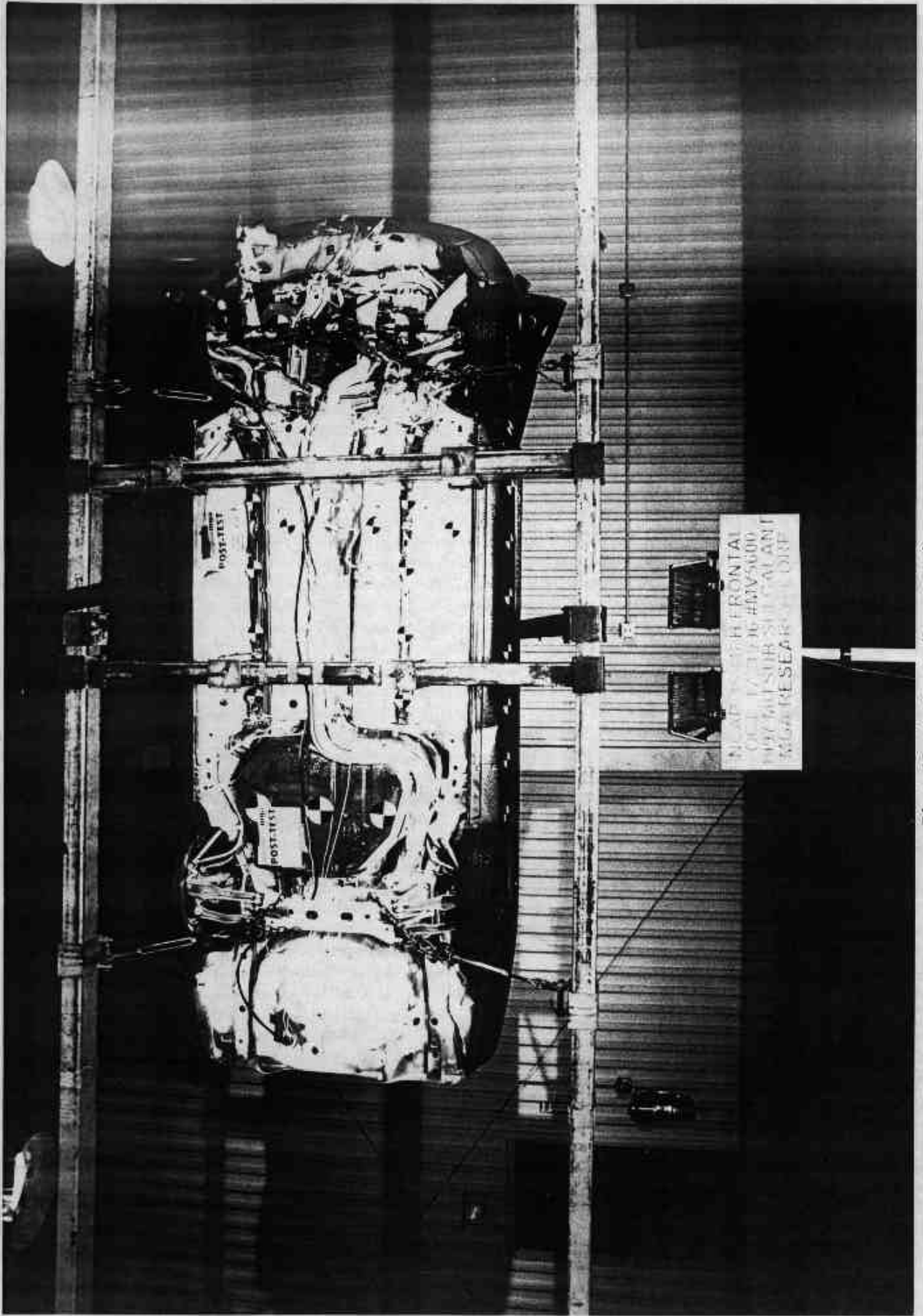
Photo No. A-49 - Rollover 90°



For more information  
call 1-800-4-A-CAR  
MOTORCARS

Photo No. A-50 - Rollover 180°

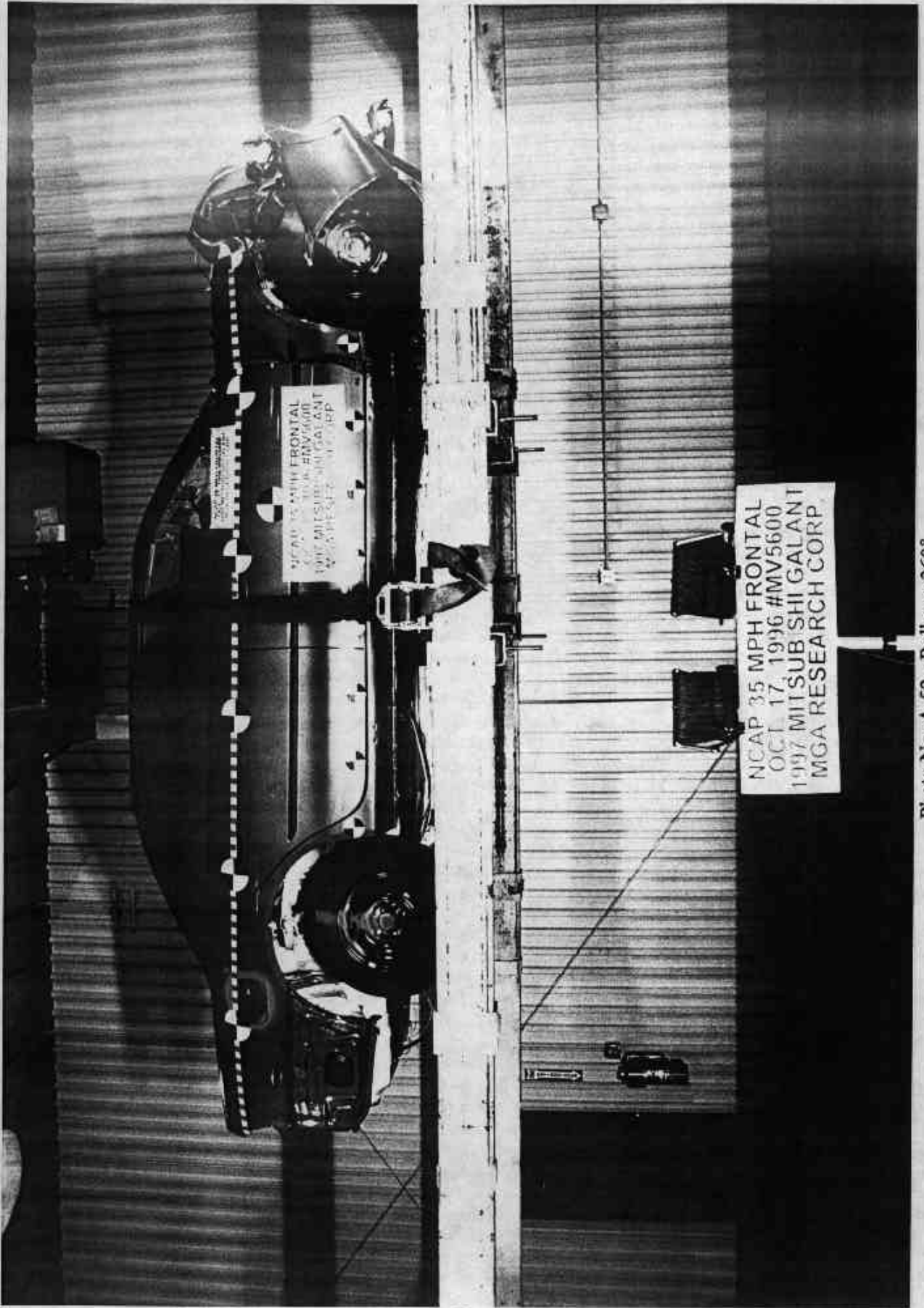
A-50



NAME: A-51 HORIZONTAL  
DATE: 10/11/66 #44V-5000  
1997 AIR FORCE RESEARCH AND DEVELOPMENT  
RESEARCH REPORT

A-51

Photo No. A-51 - Rollover 270°



9000 75 MPH FRONTAL  
1006 8000000  
1997 MITSUBISHI GALANT  
MGA RESEARCH CORP

NCAP 35 MPH FRONTAL  
OCT. 17, 1996 #MV5600  
1997 MITSUBISHI GALANT  
MGA RESEARCH CORP.

A-52

Photo No. A-52 - Rollover 360°

**APPENDIX B**

**Vehicle, Load Cell Barrier and Dummy Response Data**

1997 Mitsubishi Galant  
NHTSA NO.: MV5600

VEHICLE DATA FILTER CHANNEL CLASS

Head Accelerations 1000 (1650 Hz)  
Chest Accelerations 180 (300 Hz)  
Vehicle Accelerations 60 (100 Hz)  
Barrier Load Cells 60 (100 Hz)  
Femur Load Cells 600 (1000 Hz)  
Lap and Torso Belts 60 (100 Hz)

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\* No Valid Data Collected

| <u>Data Plot</u>  | <u>Page No.</u> |
|---|-----------------|
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Data Plot

Page No.

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B-144

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B-145

Figure B-146 - Passenger Right Foot Heel X Acceleration vs. Time

B-146

Figure B-147 - Passenger Right Foot Heel Z Acceleration vs. Time

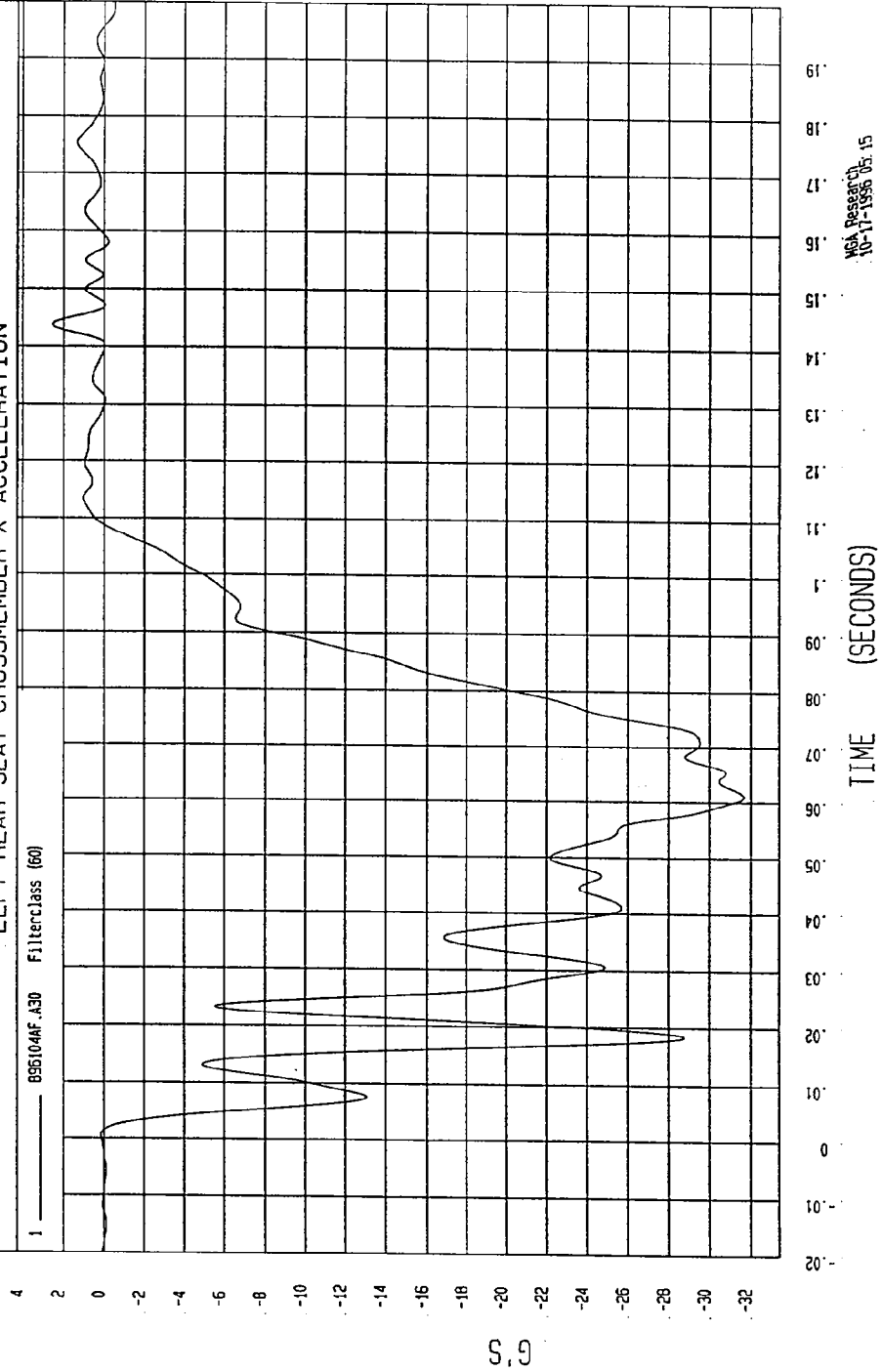
B-147

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-31.66745 G'S at 61 msec YMAX= 2.542817 G'S at 143 msec

LEFT REAR SEAT CROSSMEMBER X ACCELERATION



TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

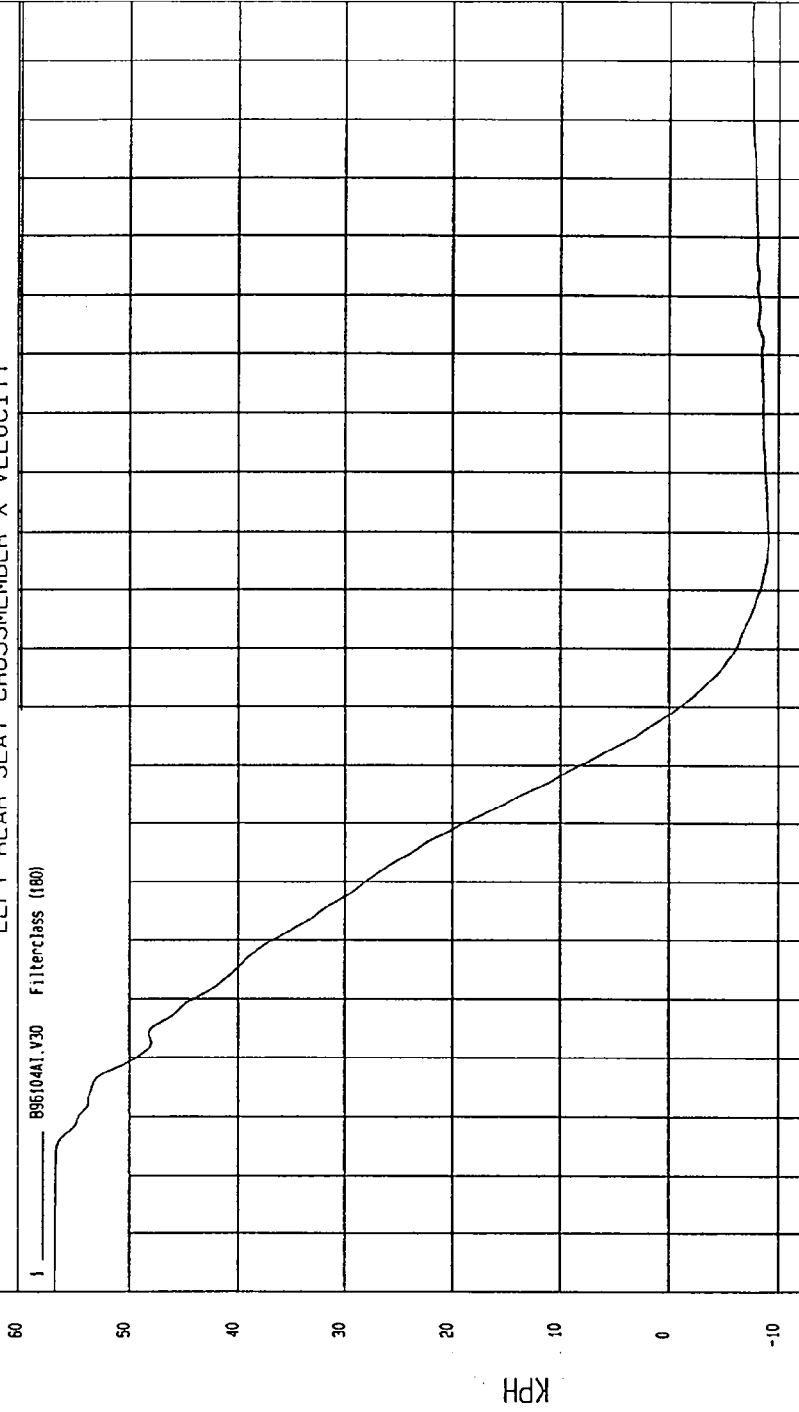
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-9.083511 KPH at 108 msec

YMAX=57.00012 KPH at -19. msec

LEFT REAR SEAT CROSSMEMBER X VELOCITY

1 8951041.V30 Filterclass (180)



NGA REPORT  
10-27-1996 08:30

TIME Seconds

TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

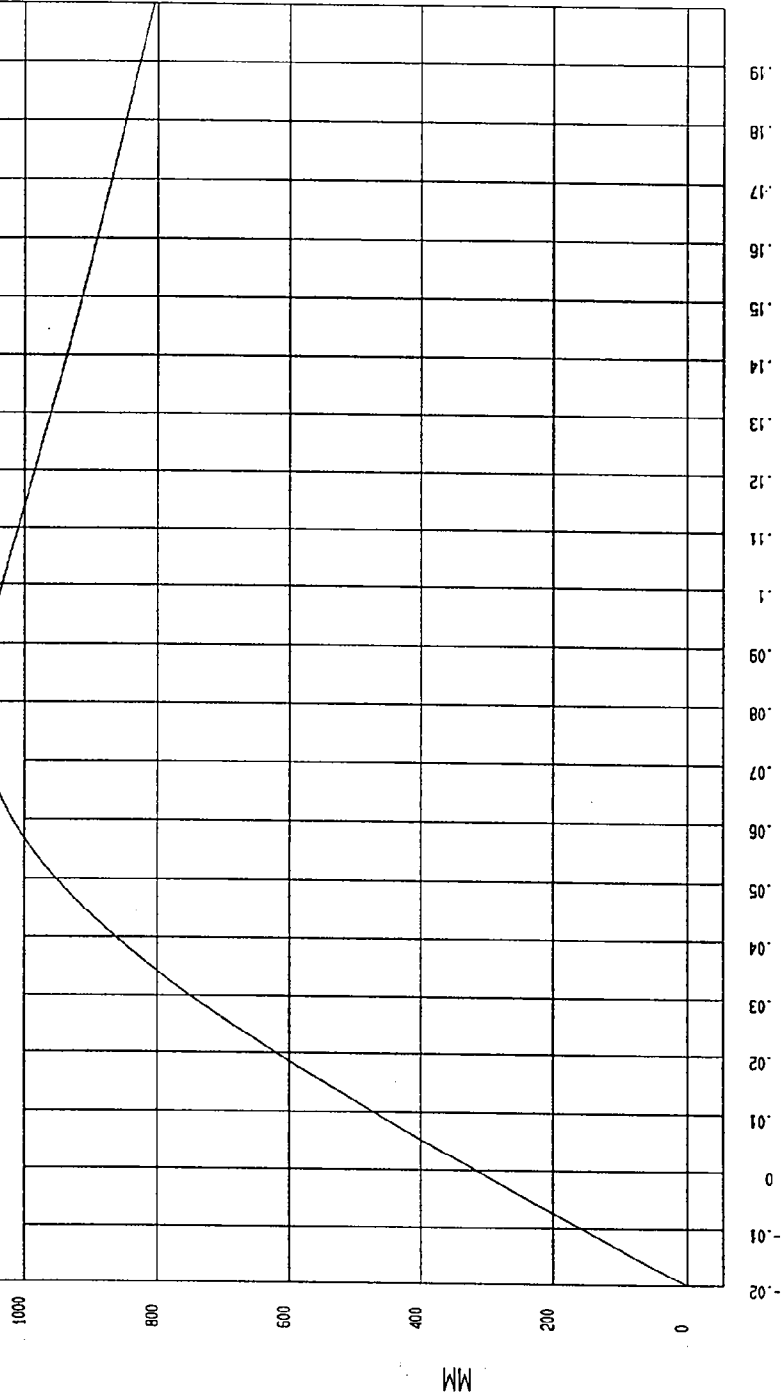
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 1064.938 MM at 78. msec

LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT

1 896104M1.030 Filterclass (180)



MSA Research  
10-27-1996 08:21

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

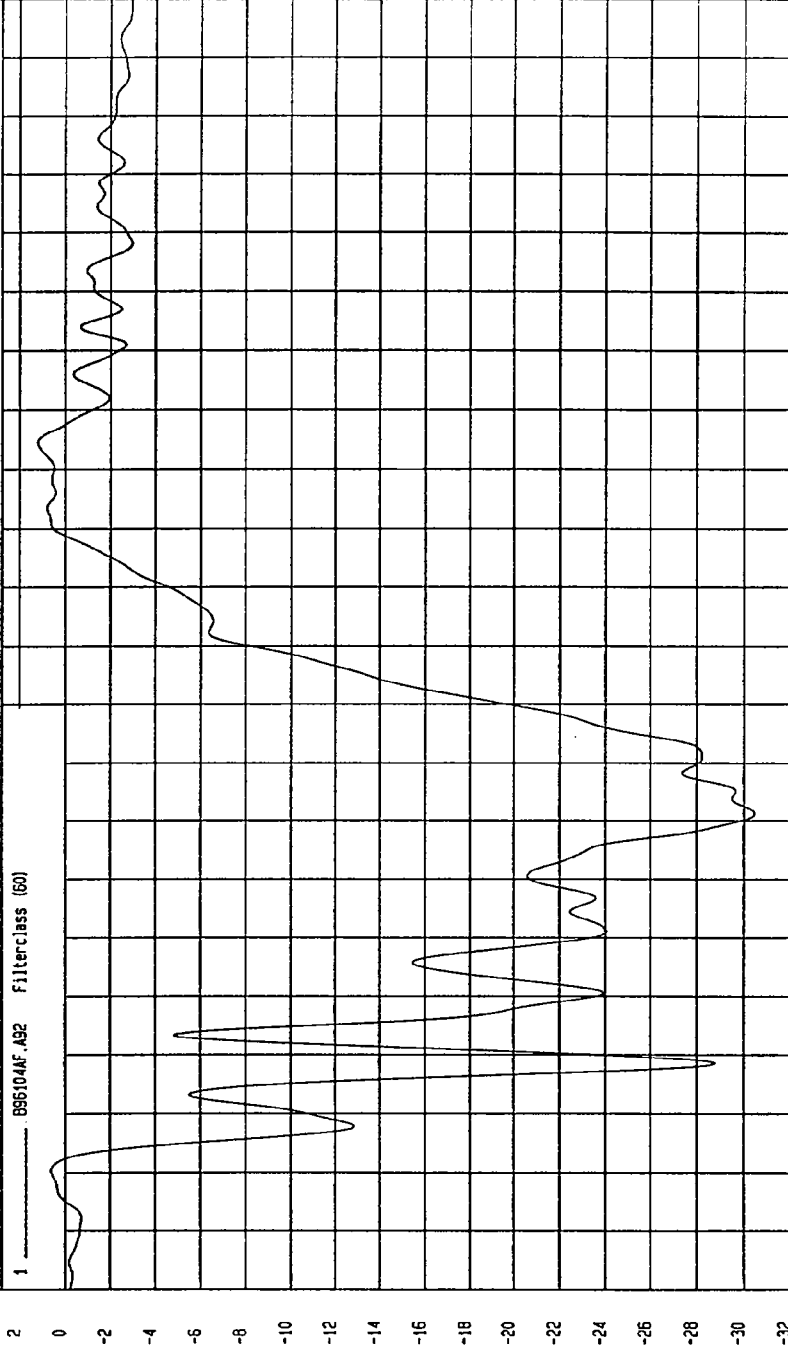
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-30.47449 G'S at 61. msec

YMAX= 1.204556 G'S at 124 msec

LEFT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION

1 896104F.A92 Filterclass (60)



TIME (SECONDS)

MEA REPORTED  
10-17-1996 05:15

G.S

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

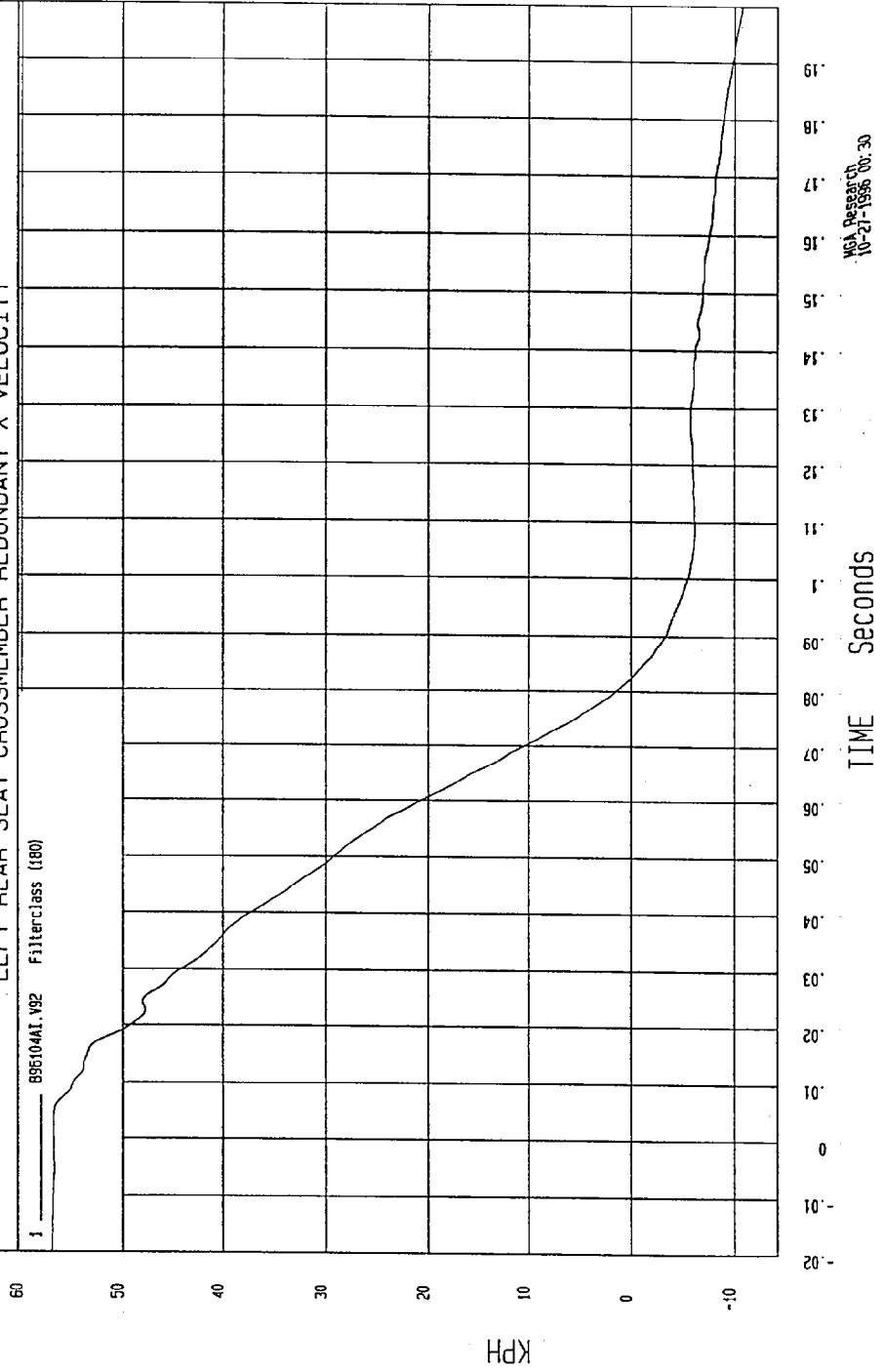
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-10.76151 KPH at 199 msec

YMAX= 57 KPH at -20 msec

LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY

1 895104A1.V92 Filterclass (180)



MGA Research  
10-27-1996 00:30

TEST DATE: 10-17-1996

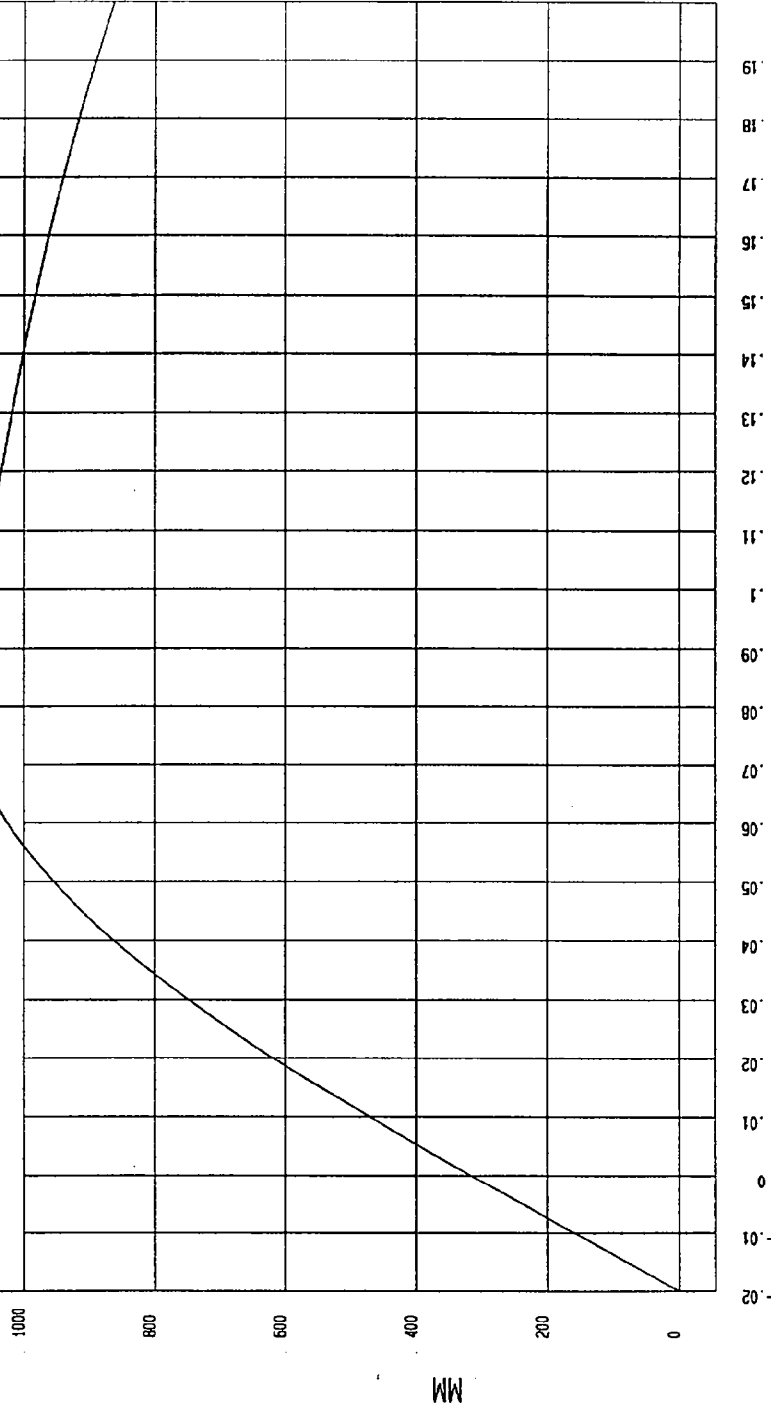
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec YMAX= 1084.274 MM at 82. msec

LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT

1 \_\_\_\_\_ 8961041.092 Filterclass (180)



MECA Research  
10-27-1996 00:22

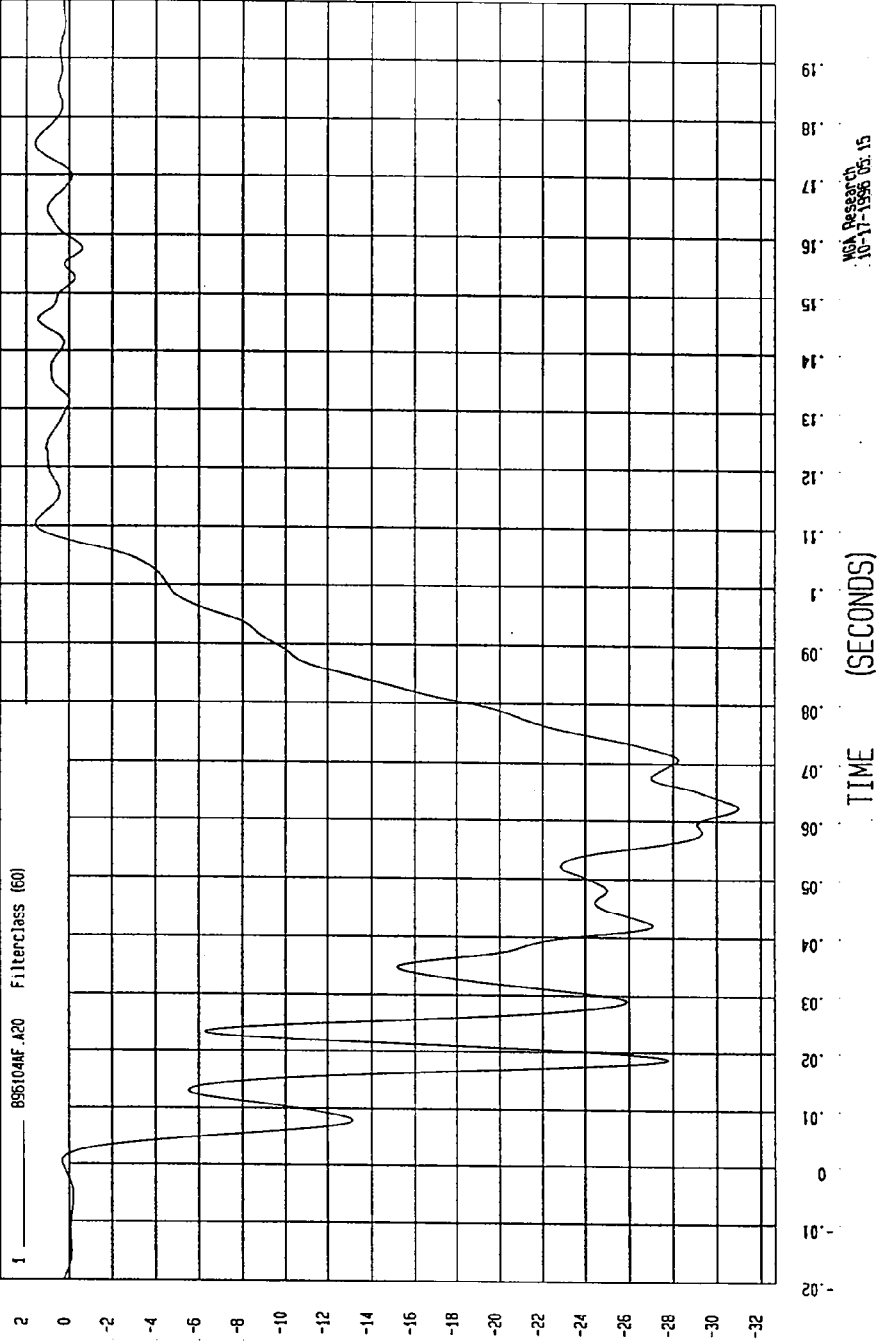
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-30.99925 G'S at 52. msec

YMAX= 1.582464 G'S at 175 msec

RIGHT REAR SEAT CROSSMEMBER X ACCELERATION



S.D

TEST DATE: 10-17-1996

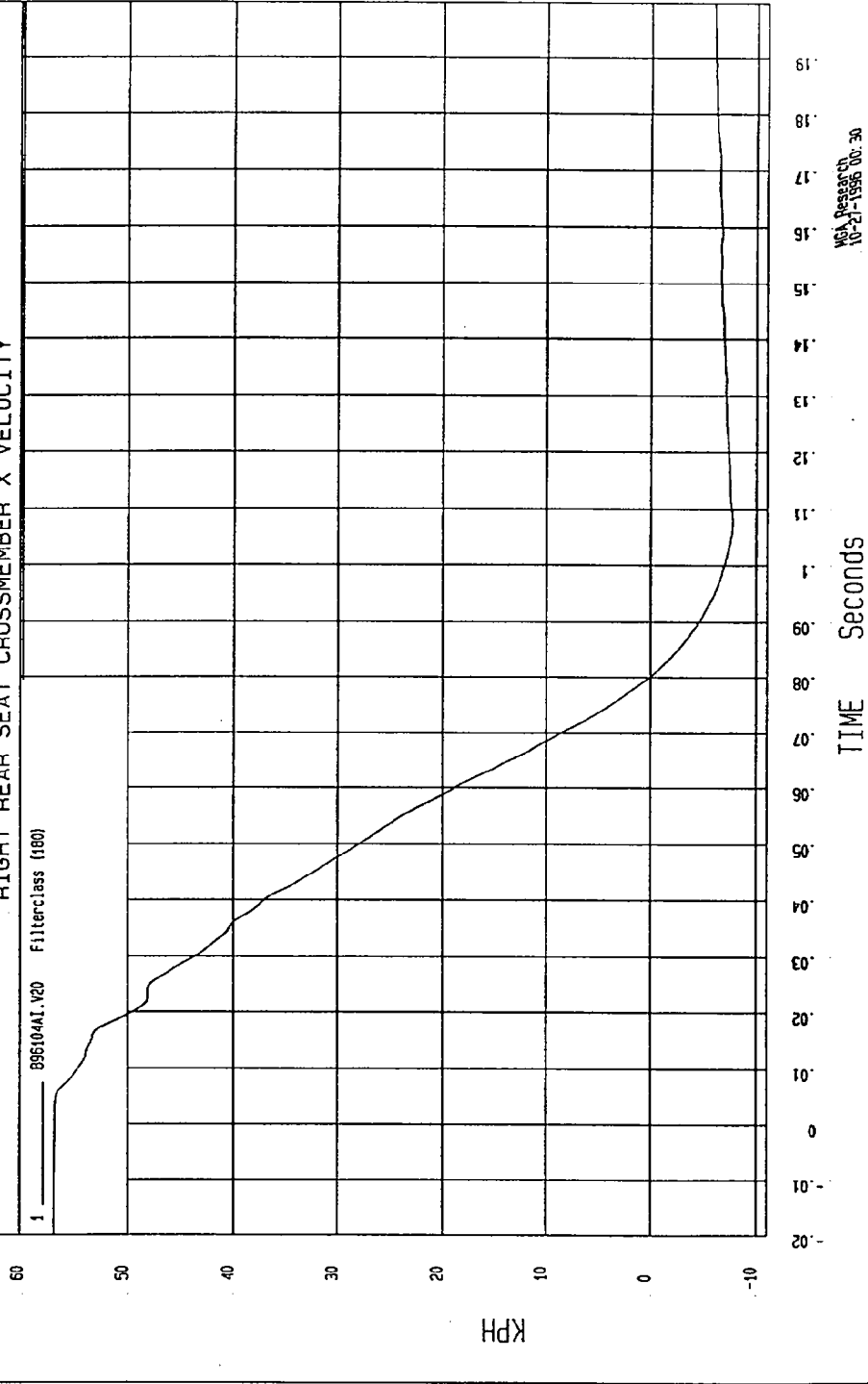
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 57.0058 KPH at -18. msec

YMIN=-7.778 KPH at 107 msec

RIGHT REAR SEAT CROSSMEMBER X VELOCITY



TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

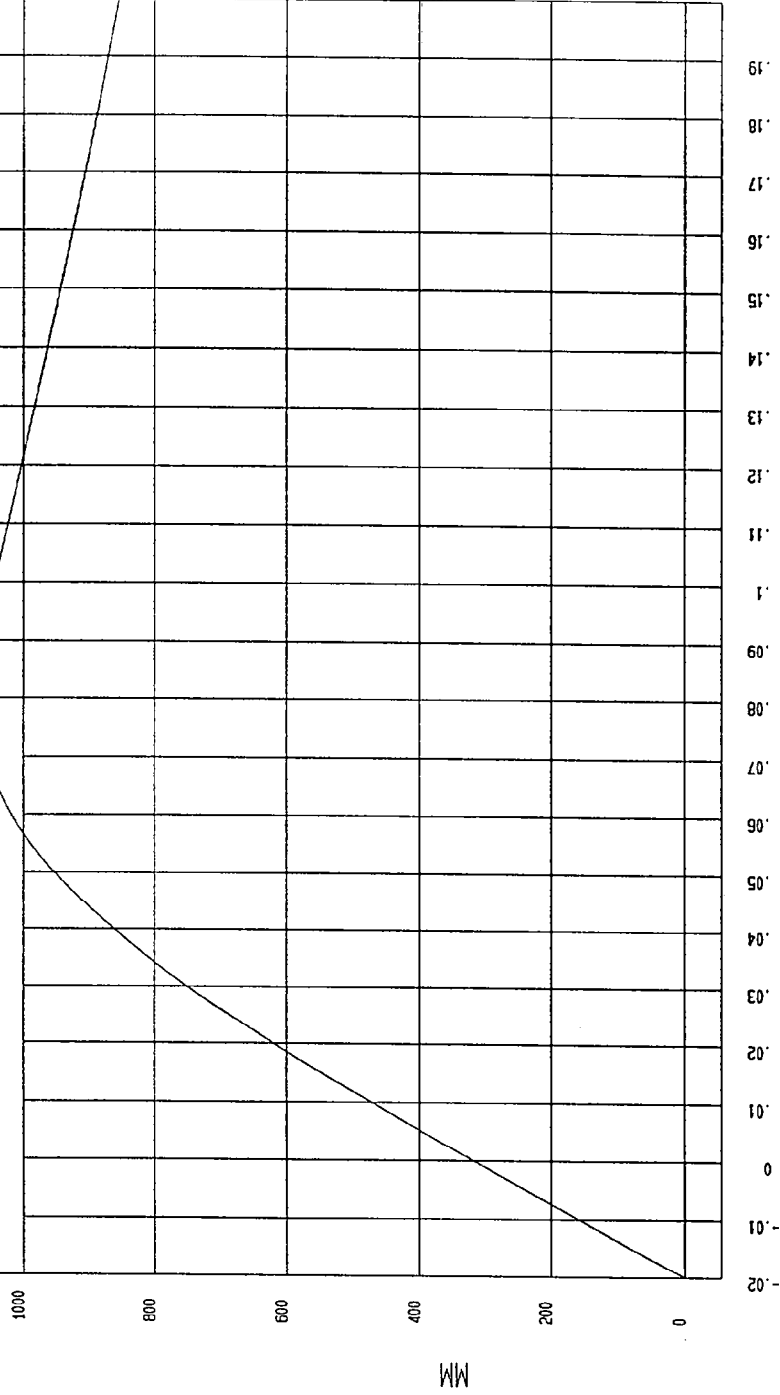
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 1067.603 MM at 80. msec

RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT

1 ——— 895104AT.020 Filterclass (160)



Ms. Passed  
10-21-1996 09:21

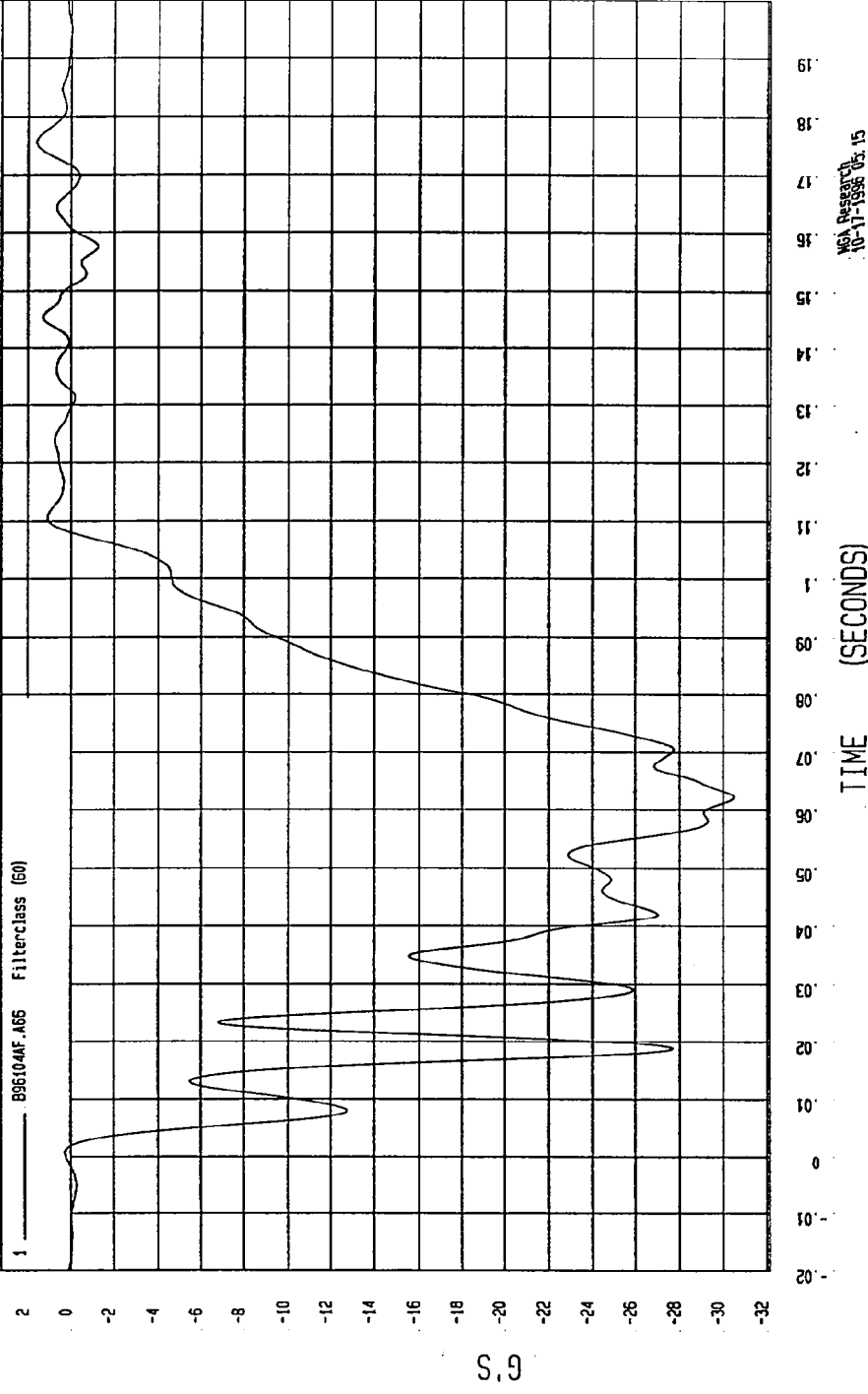
TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-30.52382 G'S at 62. msec . YMAX= 1.556982 G'S at 175 msec

RIGHT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

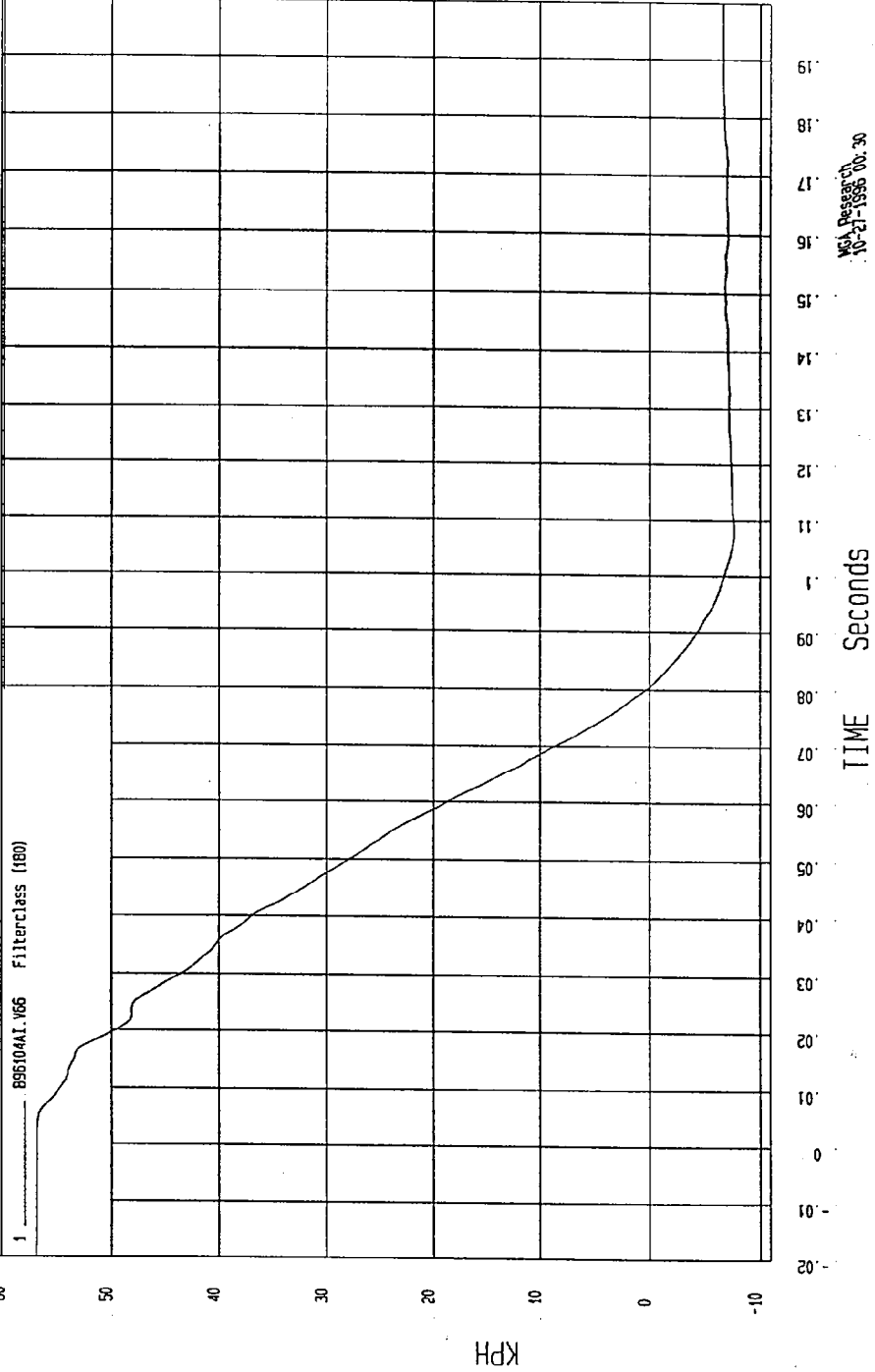
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-7.659554 KPH at 108 msec

YMAX= 57.00551 KPH at -19 msec

RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY

1 895104A1.V66 Filterclass (180)



00:00:00  
10-17-1996  
10:00:00

TIME Seconds

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

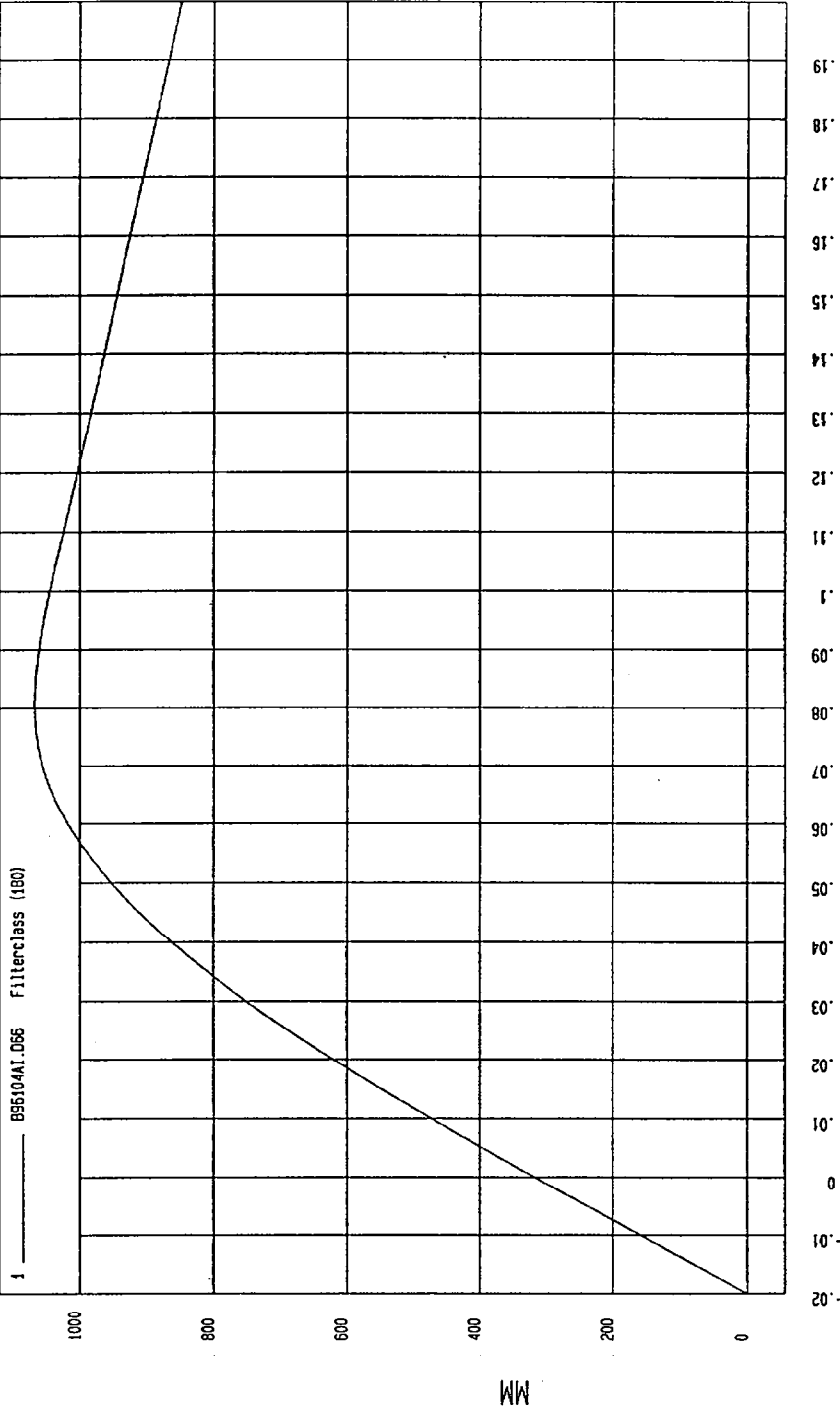
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 1067.382 MM at 80. msec

RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT

1 \_\_\_\_\_ B515104A1.066 Filterclass (160)



MM Research  
10-21-1996 09:21

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

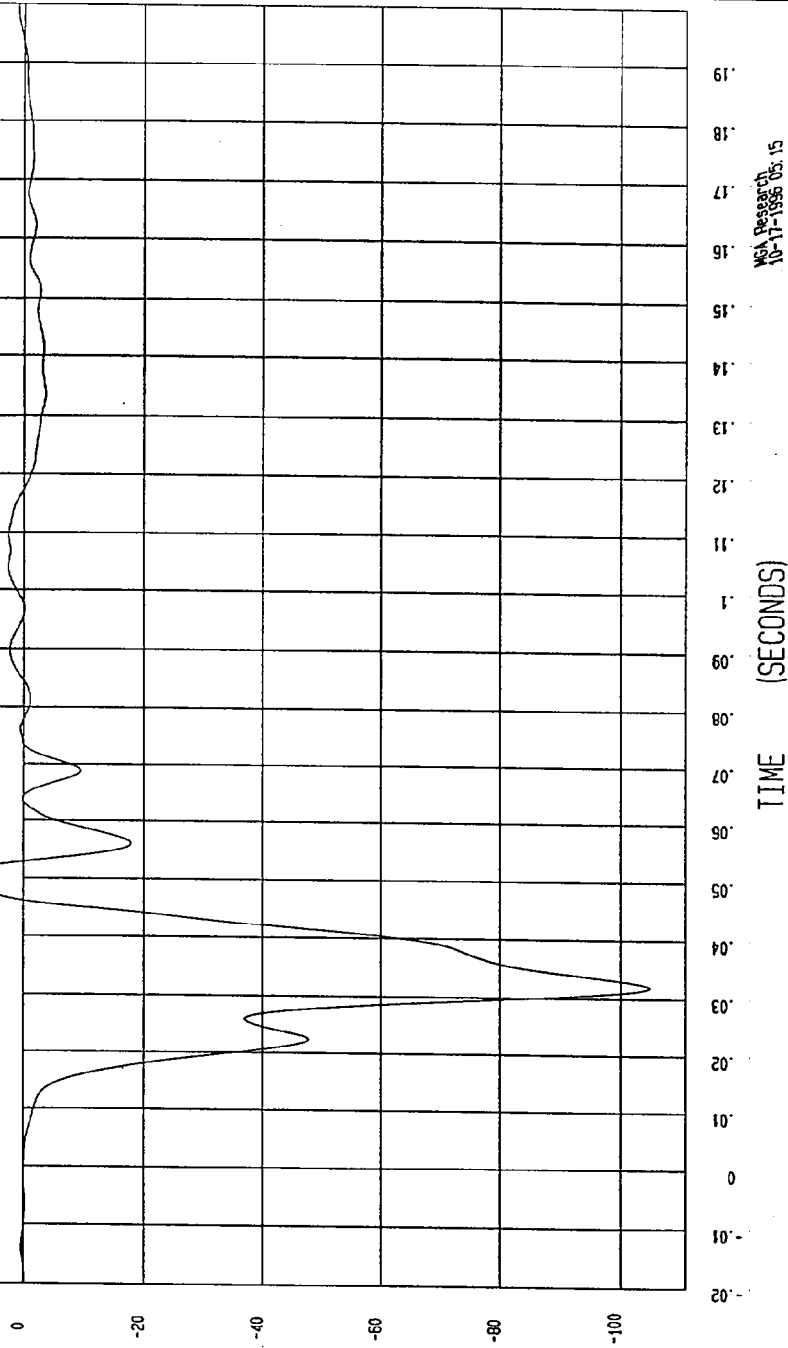
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-104.8928 G's at 31. msec

YMAX= 13.35547 G's at 50. msec

TOP OF ENGINE BLOCK X ACCELERATION

1 696104AF.A06 FilterClass (60)



MSA Research  
10-17-1996 05:15

S.9

TEST: 35 MPH FRONTAL NCAP TEST

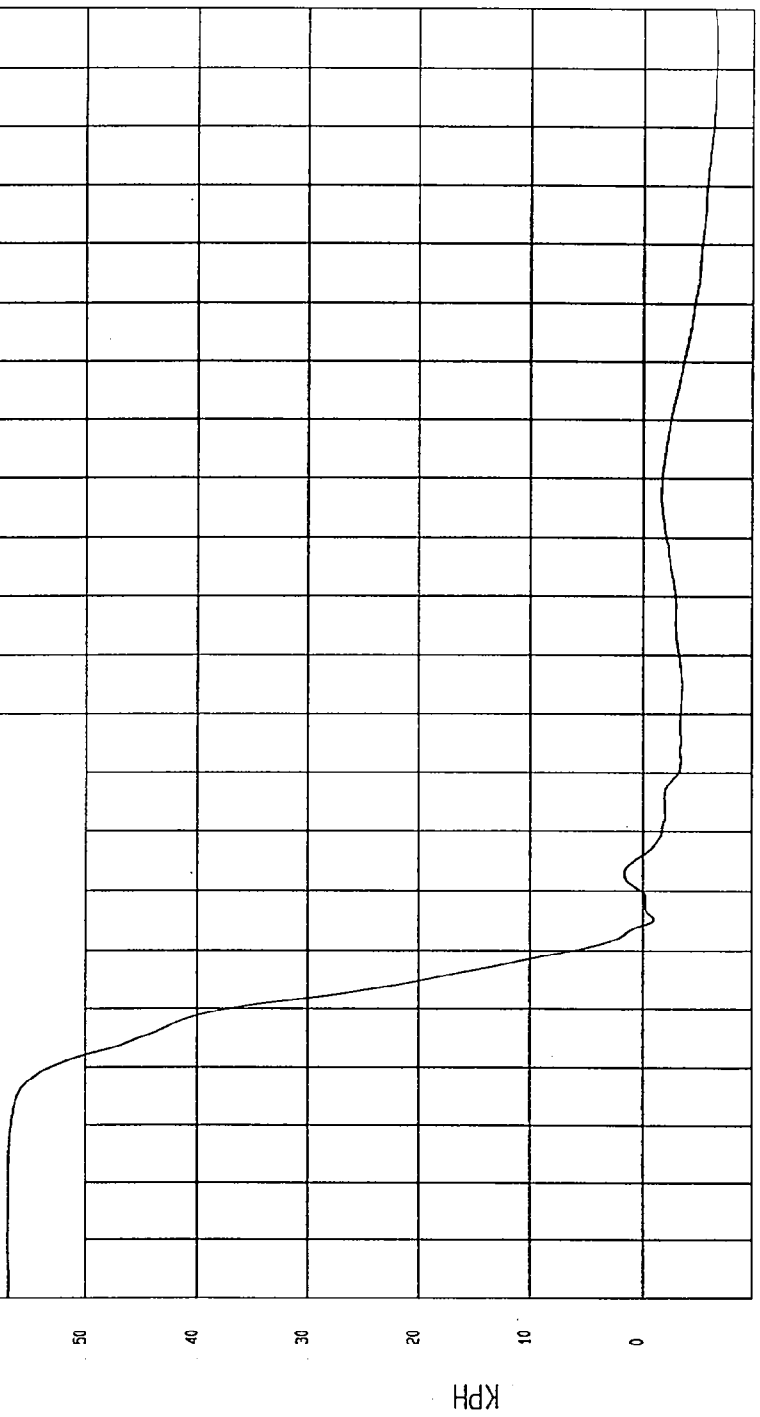
TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

.YMIN=-6.59542 KPH at 192 msec .YMAX= 57.04411 KPH at -10. msec

TOP OF ENGINE BLOCK X VELOCITY

1 \_\_\_\_\_ 095104A1.V08 Fillterclass (800)



NGA Research  
10-21-1996 06:29

TIME Seconds

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

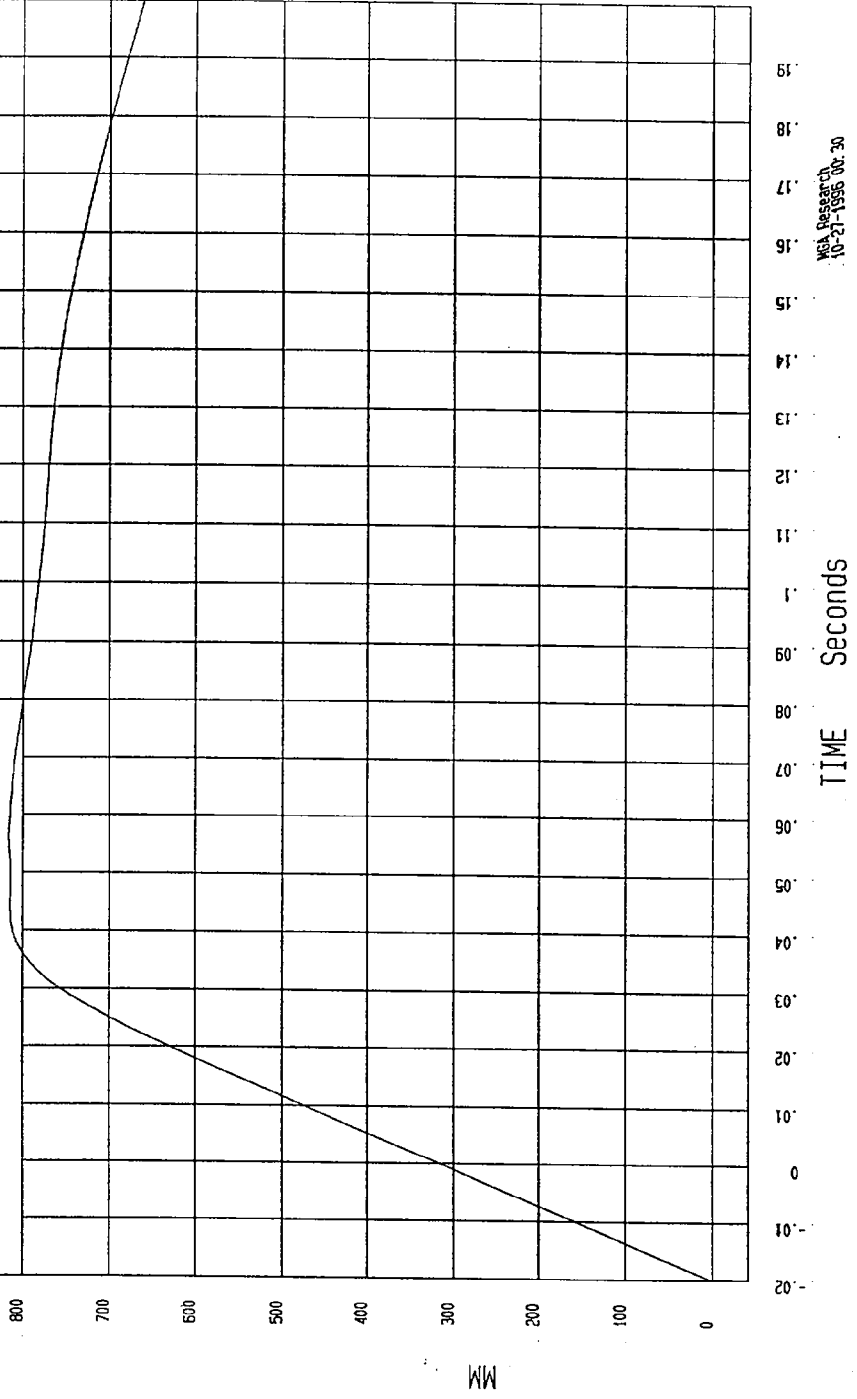
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 815.9432 MM at 56 msec

TOP OF ENGINE BLOCK X DISPLACEMENT

1 8961041.008 Filterclass (180)



MM Research  
10-21-1996 00:30

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

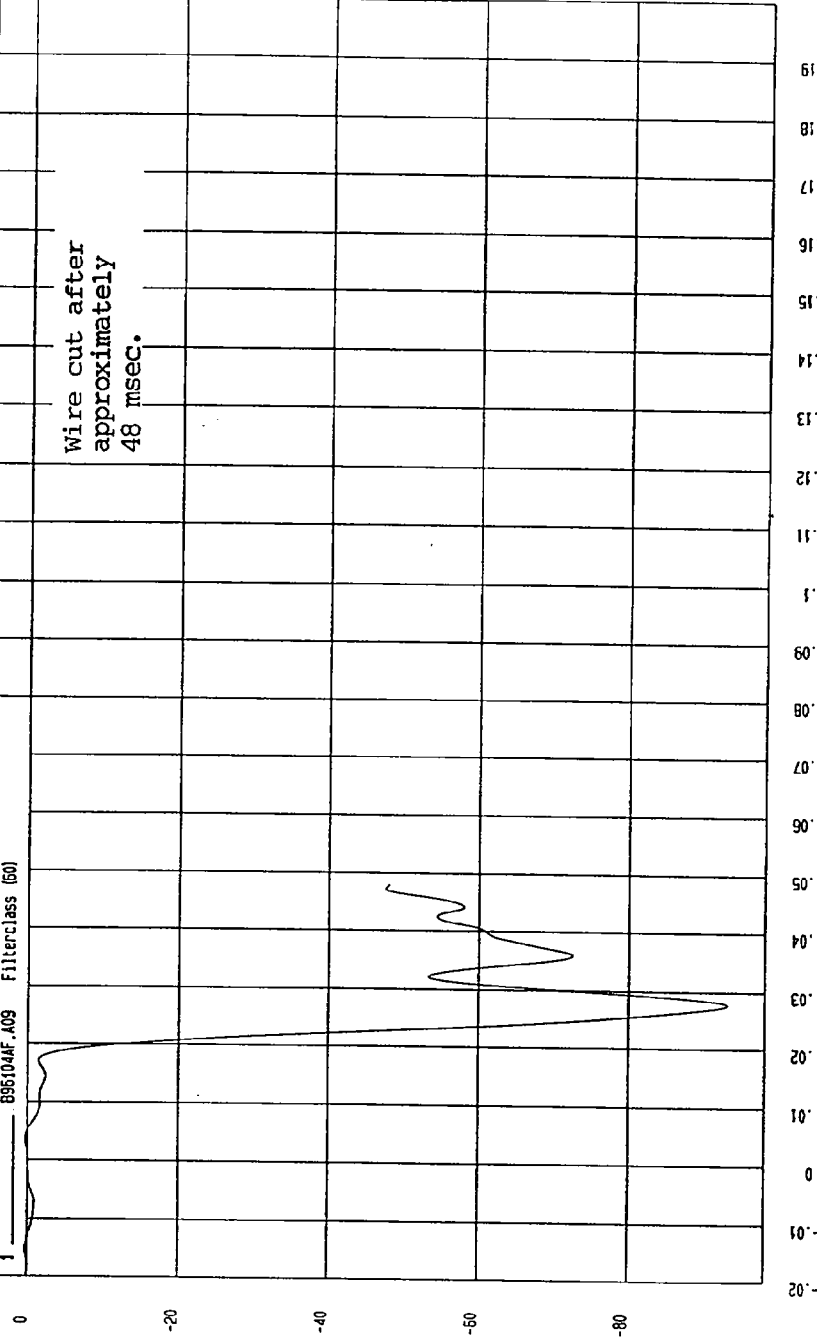
YMIN=-93.07391 G'S at 27. msec

YMAX=.2590938 G'S at 3.5 msec

BOTTOM OF ENGINE X ACCELERATION

1 B96104F.A09 FilterClass (50)

Wire cut after approximately 48 msec.



MEA Research  
10-21-1996 2:13

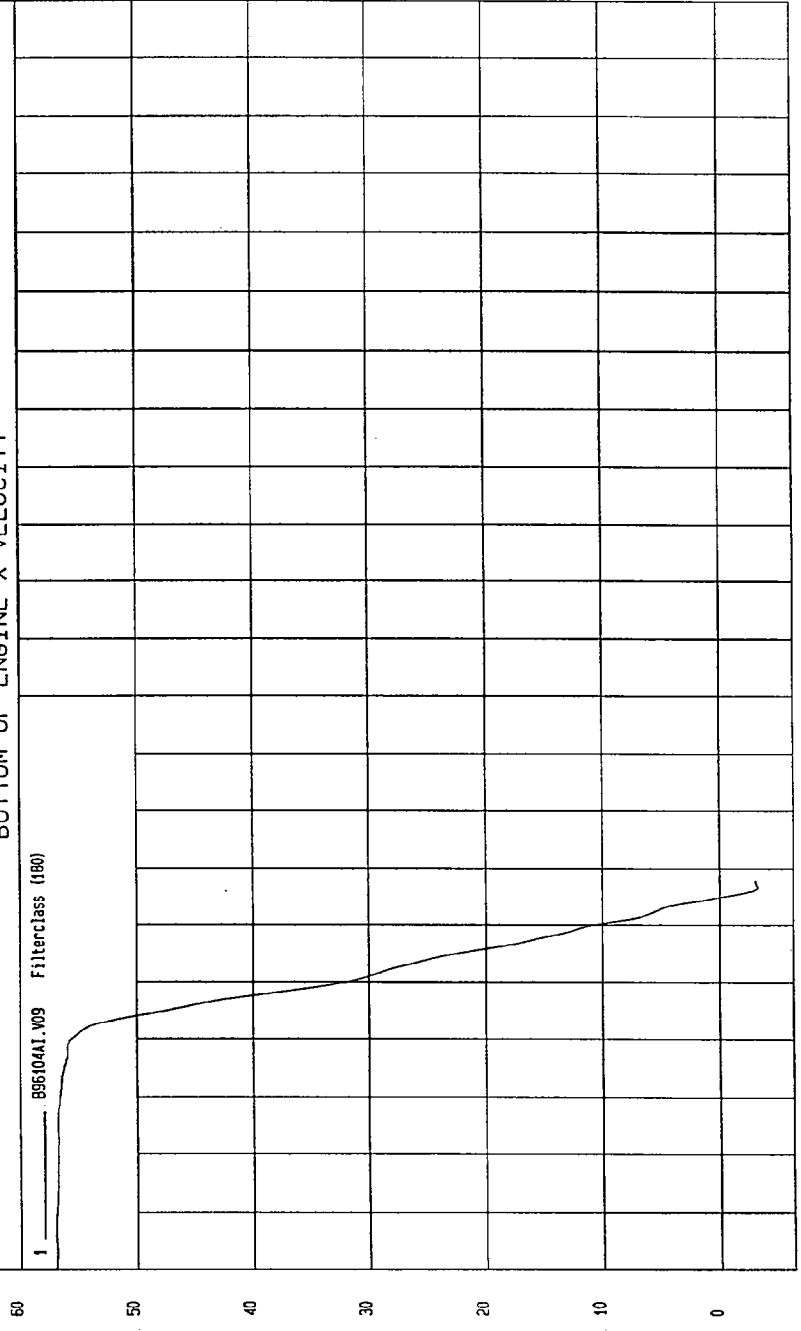
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-3.195728 KPH at .46. #SEC YMAX= 57.02443 KPH at -14. #SEC

BOTTOM OF ENGINE X VELOCITY

1 896104A1.V09 FilterClass (180)



NCA Research  
10-21-1996 23.17

TIME Seconds

KPH

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

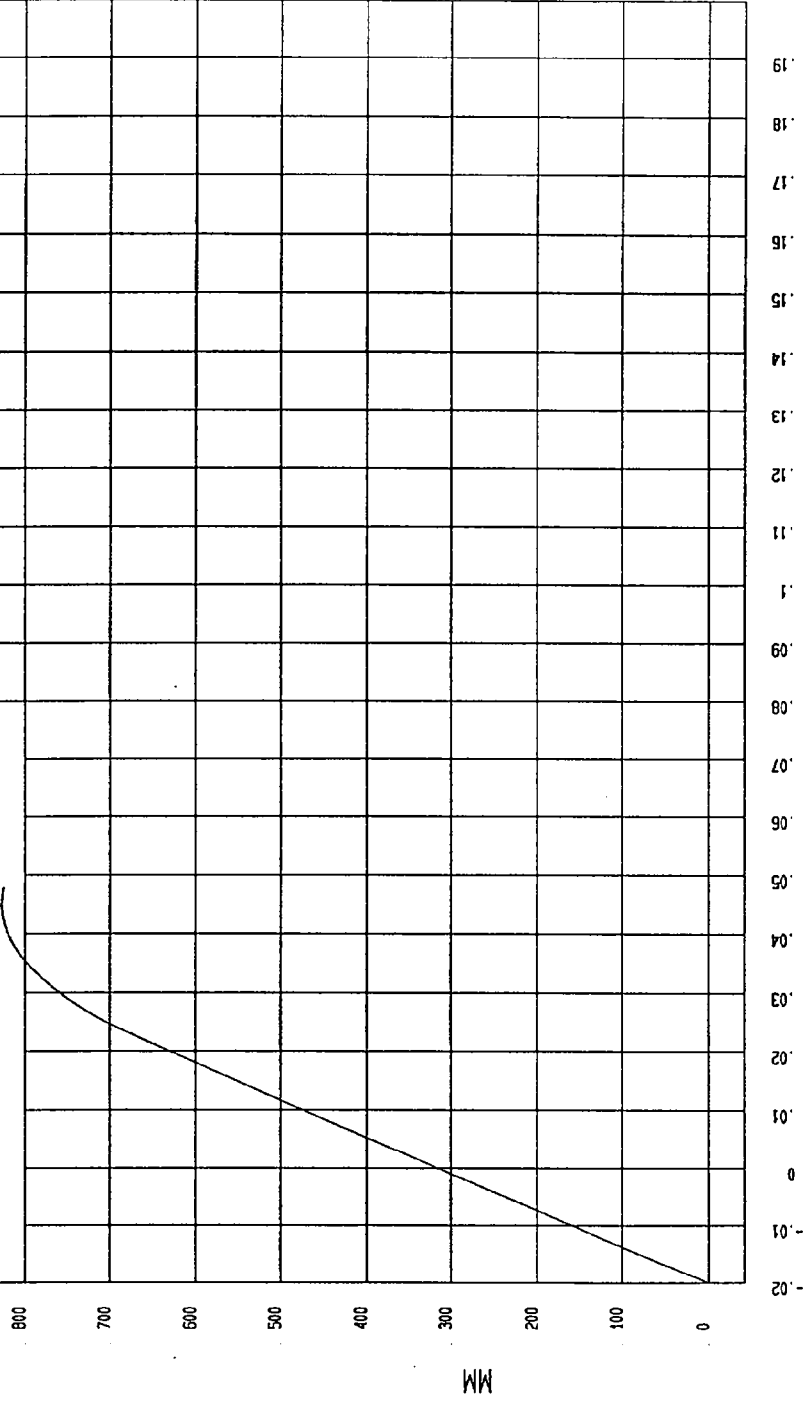
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 826.7522 MM at 45 msec

BOTTOM OF ENGINE X DISPLACEMENT

1 8961041.D09 Filterclass (180)



MSL Research  
10-21-1996 2:13

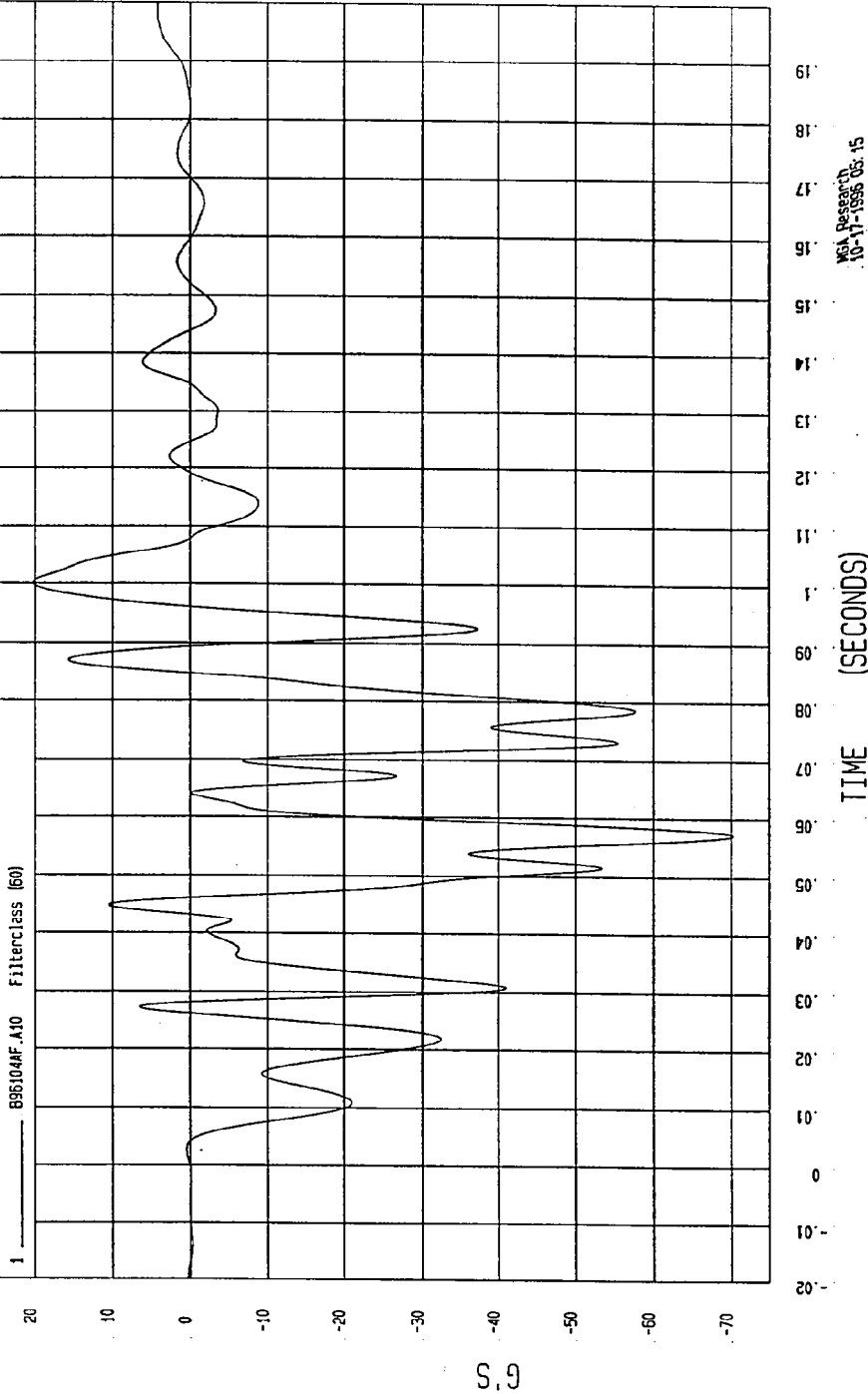
TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MIN=-70.26242 G'S at 57. msec MAX=20.26496 G'S at 100 msec

INSTRUMENT PANEL X ACCELERATION



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

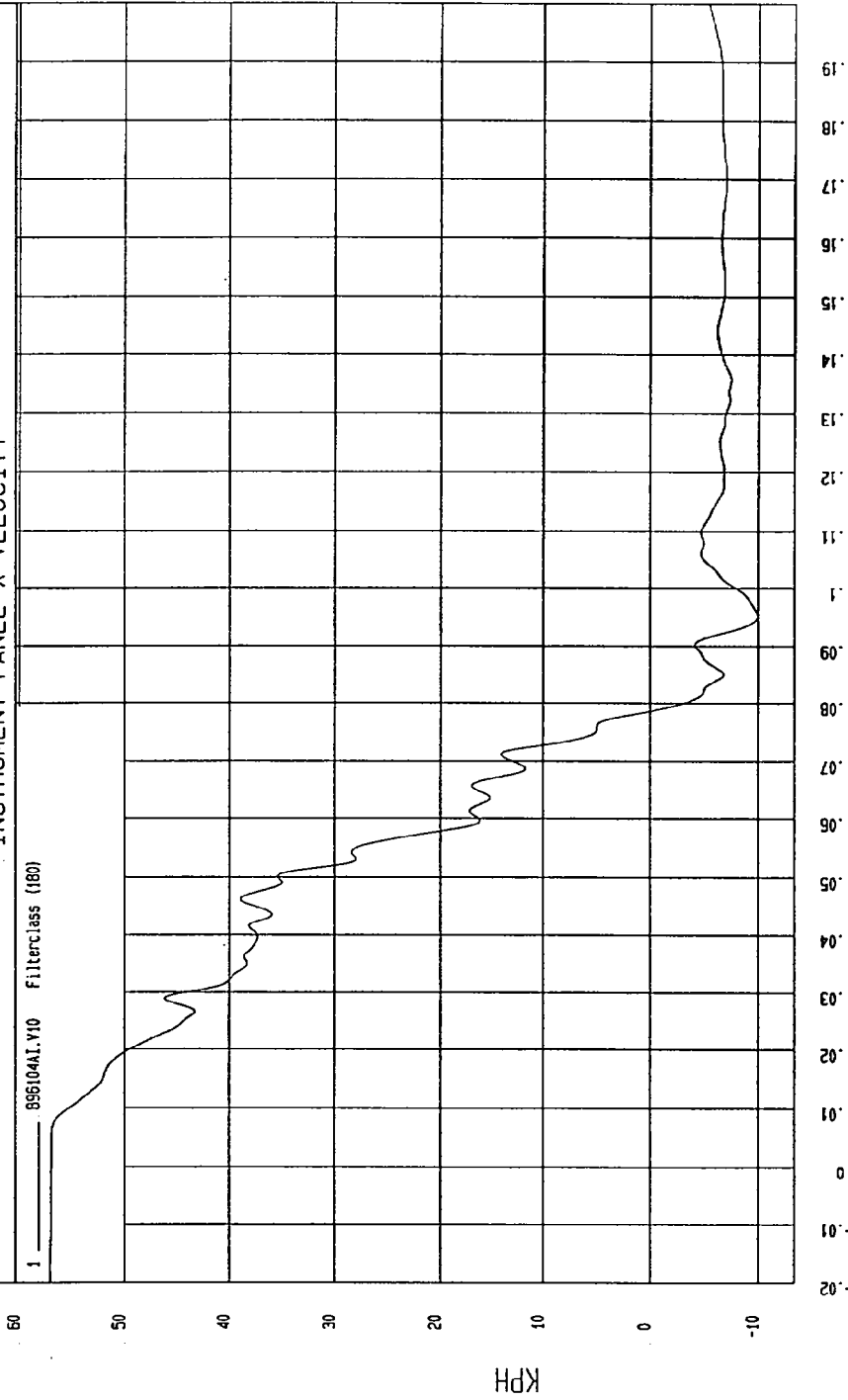
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-9.970047 KPH at 95. msec

YMAX= 57.02834 KPH at -17. msec

INSTRUMENT PANEL X VELOCITY

1 896104A1.Y10 Filterclass (180)



WCA Research  
10-21-1996 00:30

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

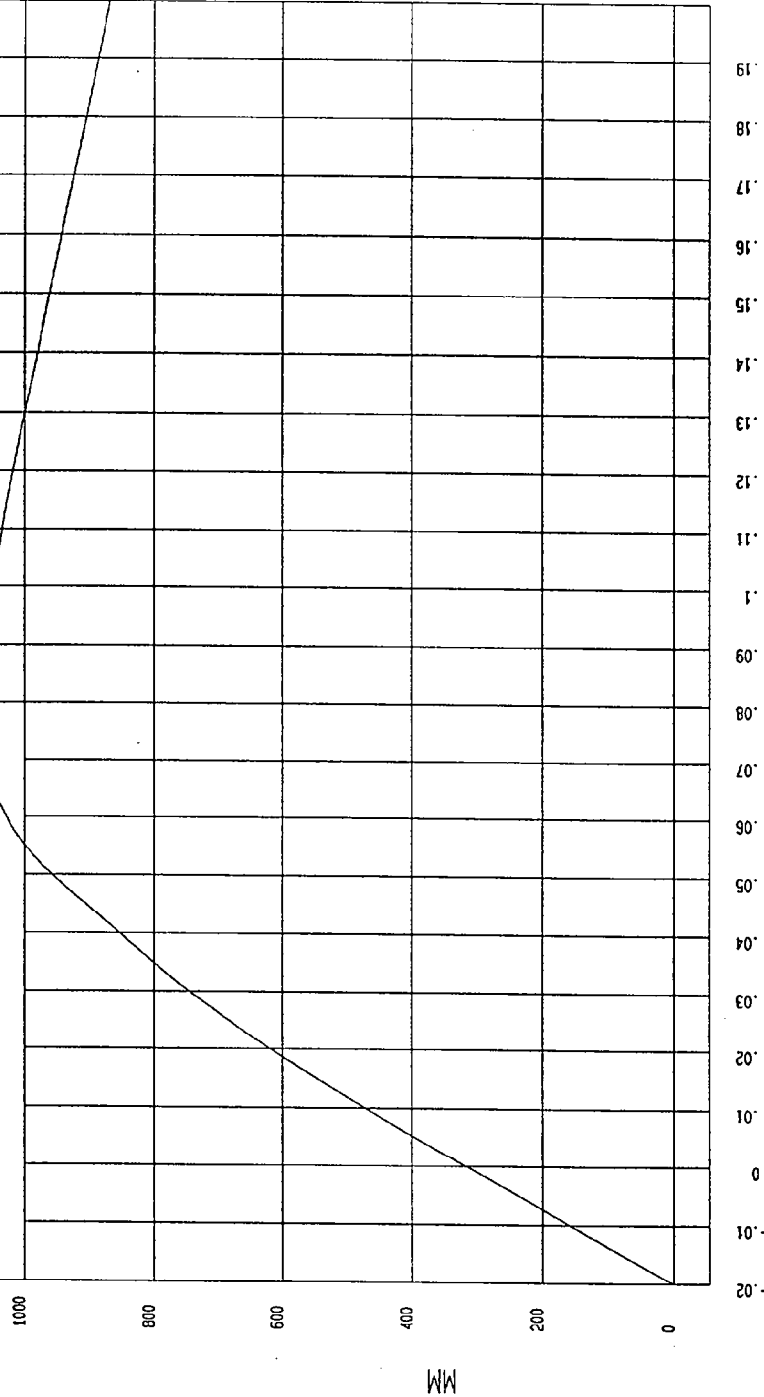
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 1089.419 MM at 76. msec

INSTRUMENT PANEL X DISPLACEMENT

1 \_\_\_\_\_ B95104A1.D10 Filterclass (180)



MGA Research  
10-21-1996 04:21

TIME Seconds

MM

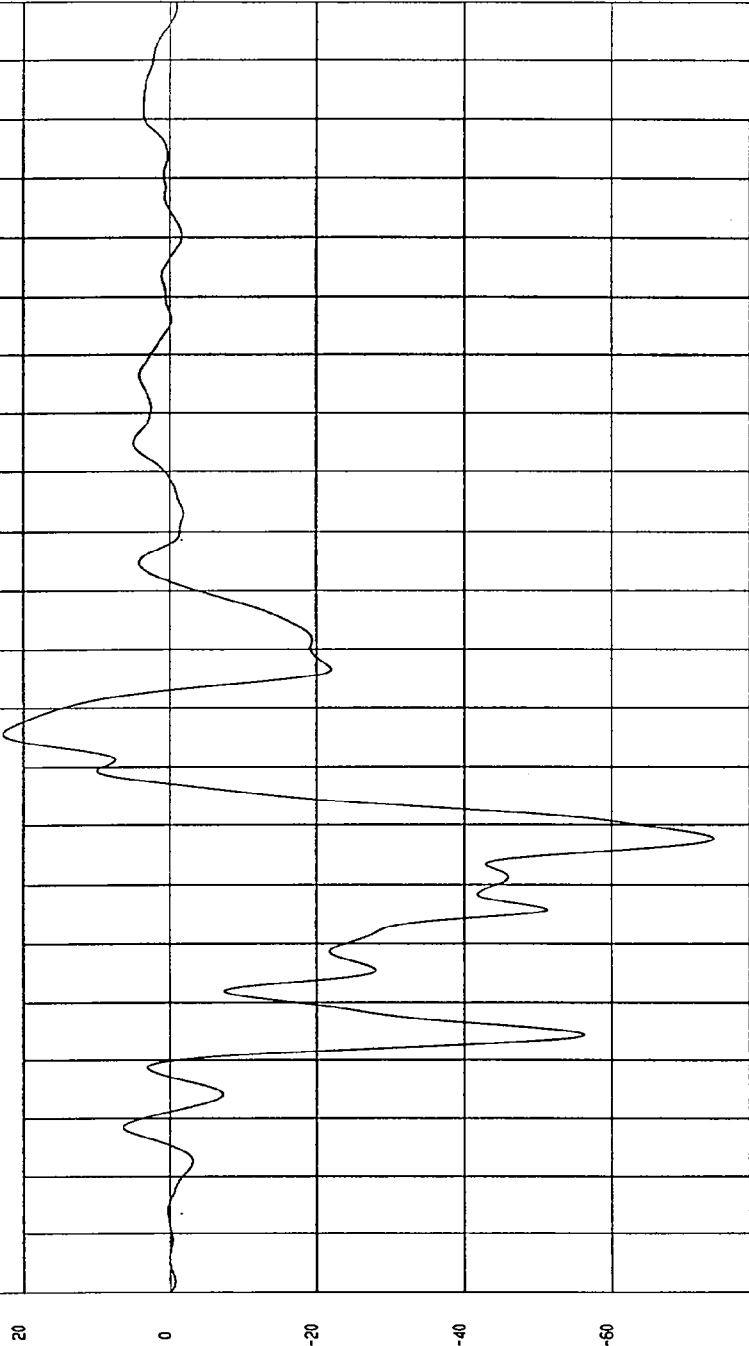
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIW-73.64742 G'S at 57. msec YMAX= 22.76673 G'S at 75. msec

LEFT FRONT BRAKE CALIPER X ACCELERATION

1 ——— B96104F.AB2 Filterclass (60)



MSA Research  
10-27-1996 23:13

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

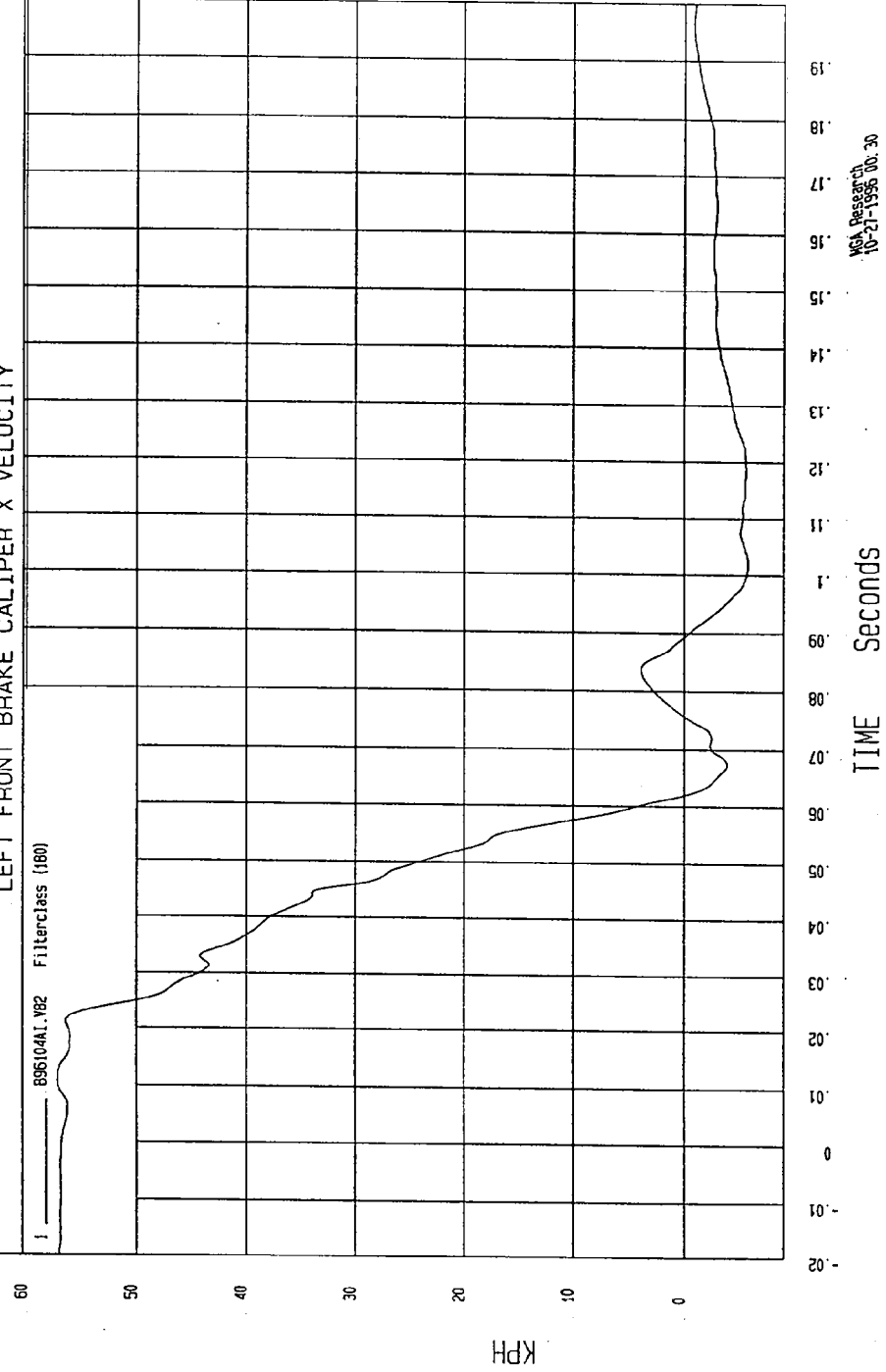
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-5.704327 KPH at 101 msec

YMAX= 57.17507 KPH at 10. msec

LEFT FRONT BRAKE CALIPER X VELOCITY

1 895104A1.V82 Filterclass (180)



MSA Research  
10-27-1996 00:30

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

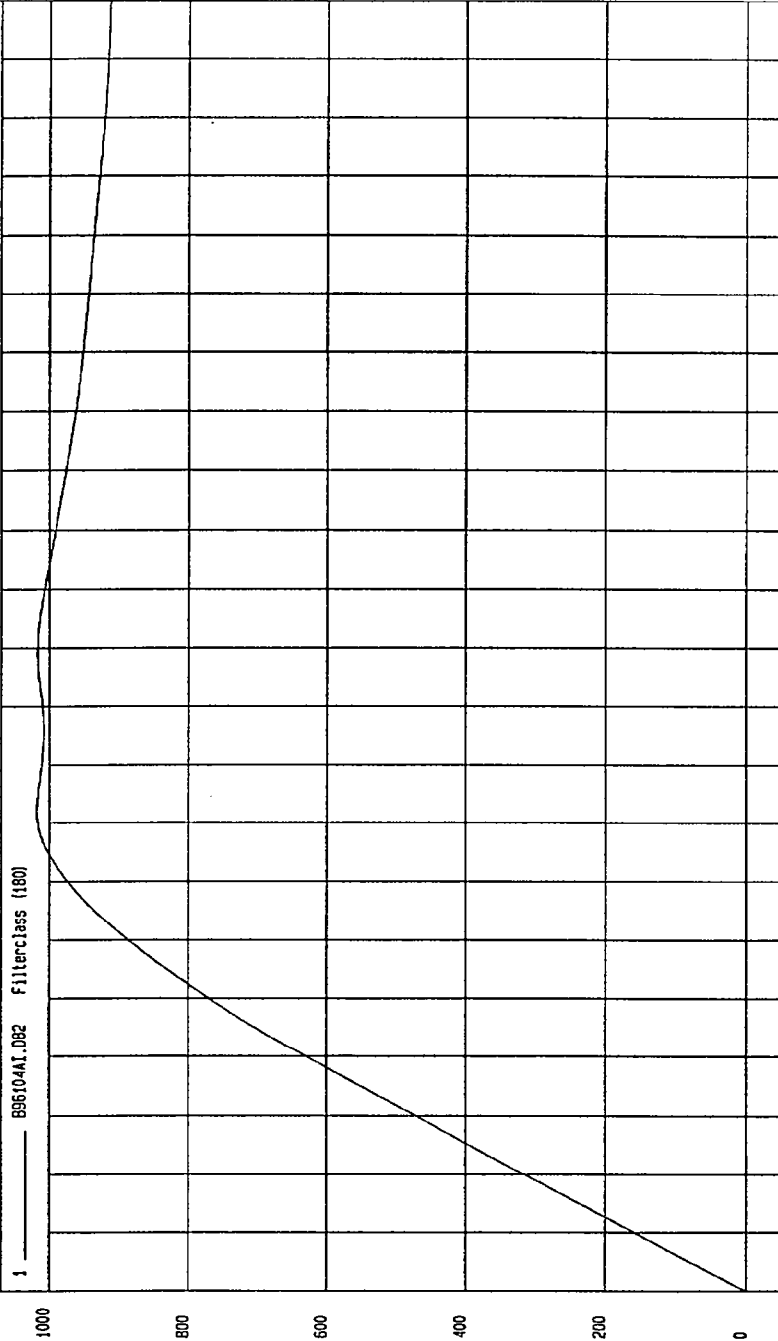
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MIN= 0 MM at -20 msec

MAX= 1016.929 MM at 61. msec

LEFT FRONT BRAKE CALIPER X DISPLACEMENT

1 ——— B96104A1.D82 FilterClass (180)



MSA Research  
10-27-1996 Doc: 21

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

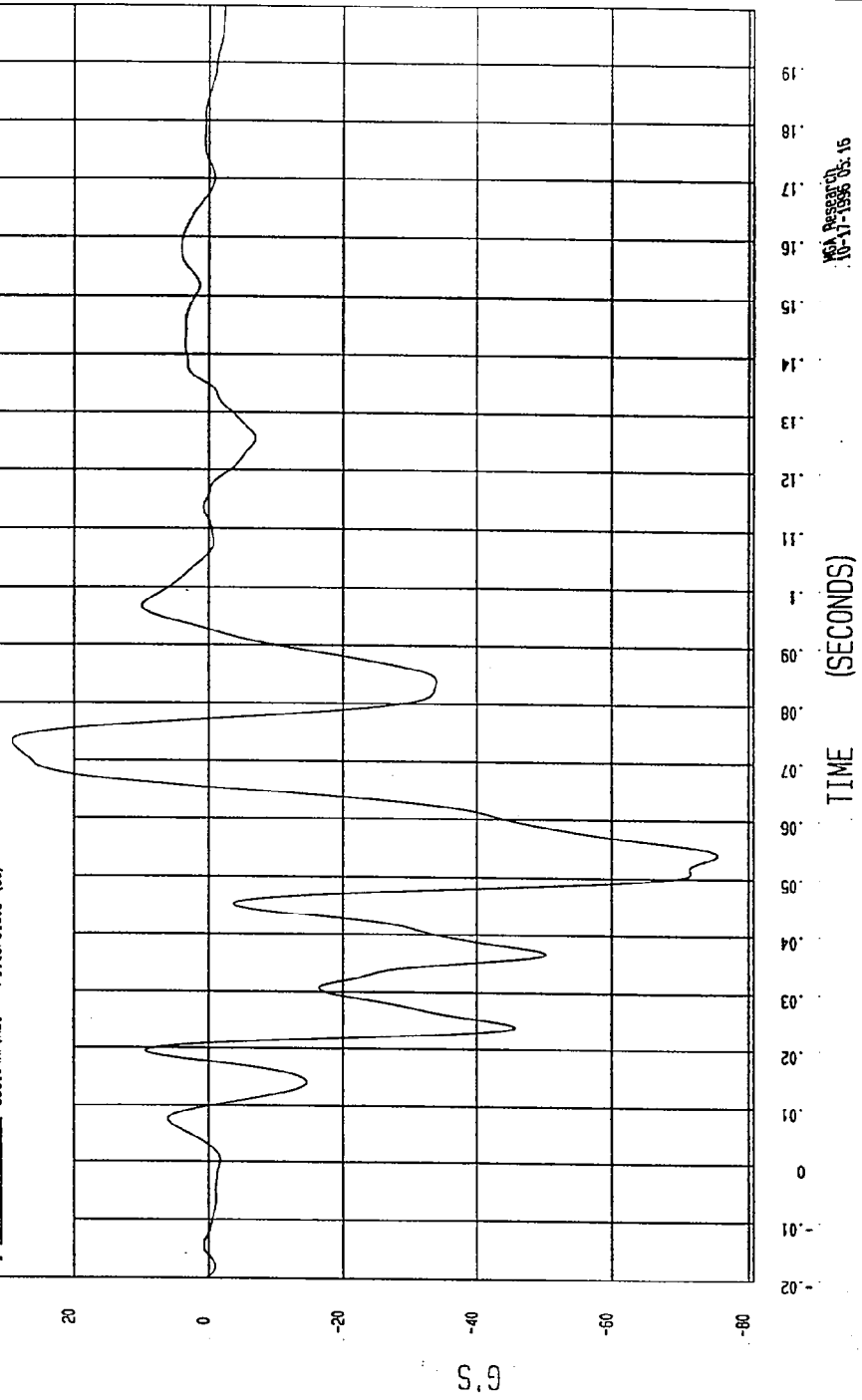
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

WIN=75.51083 G'S at 54. msec

MAX= 29.27835 G'S at 73. msec

RIGHT FRONT BRAKE CALIPER X ACCELERATION

1 ——— 896104F.ABI Filterclass (60)



TEST DATE: 10-17-1996

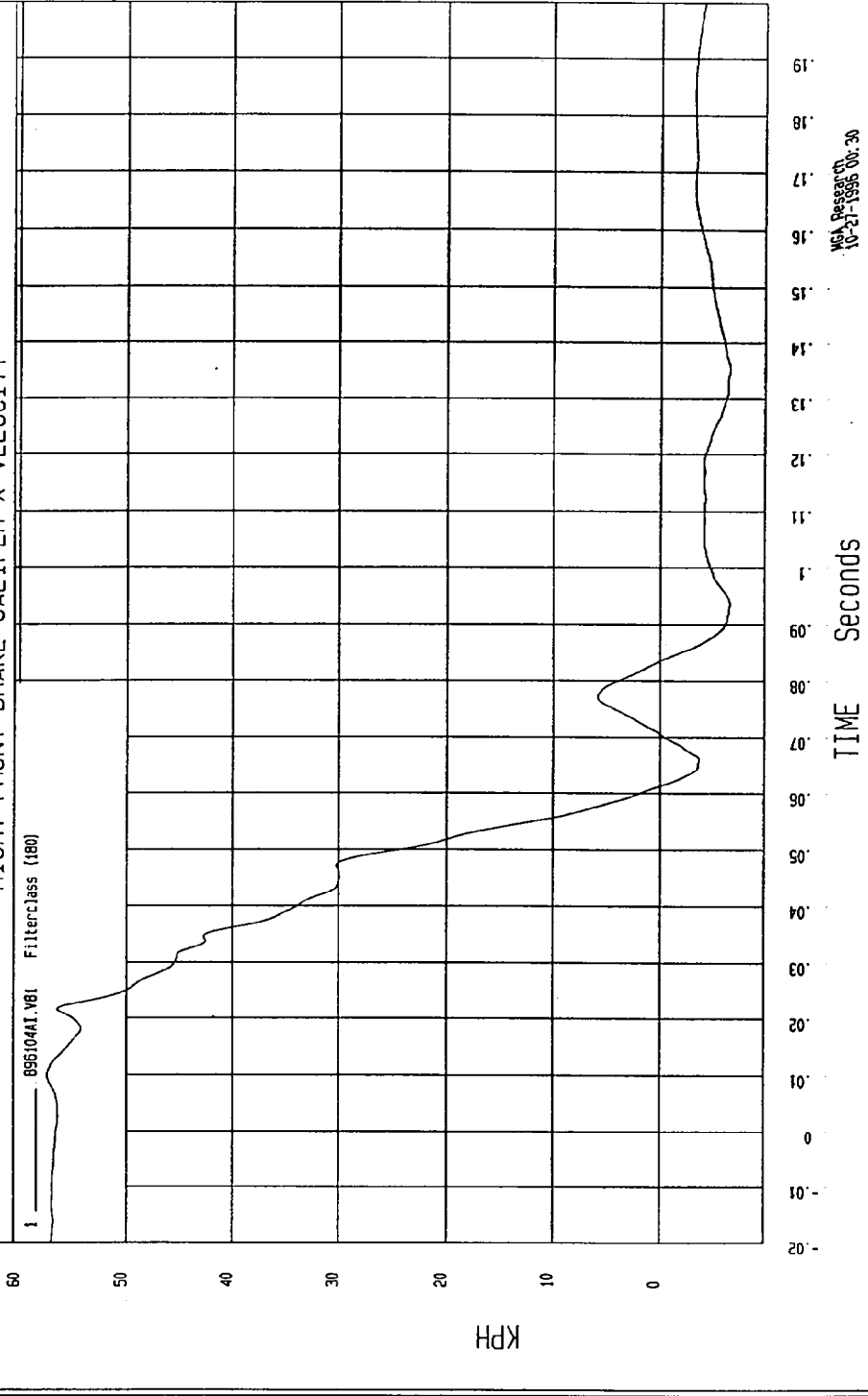
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 57.36391 KPH at 10 psec

YMIN= -6.427288 KPH at 93. psec

RIGHT FRONT BRAKE CALIPER X VELOCITY



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

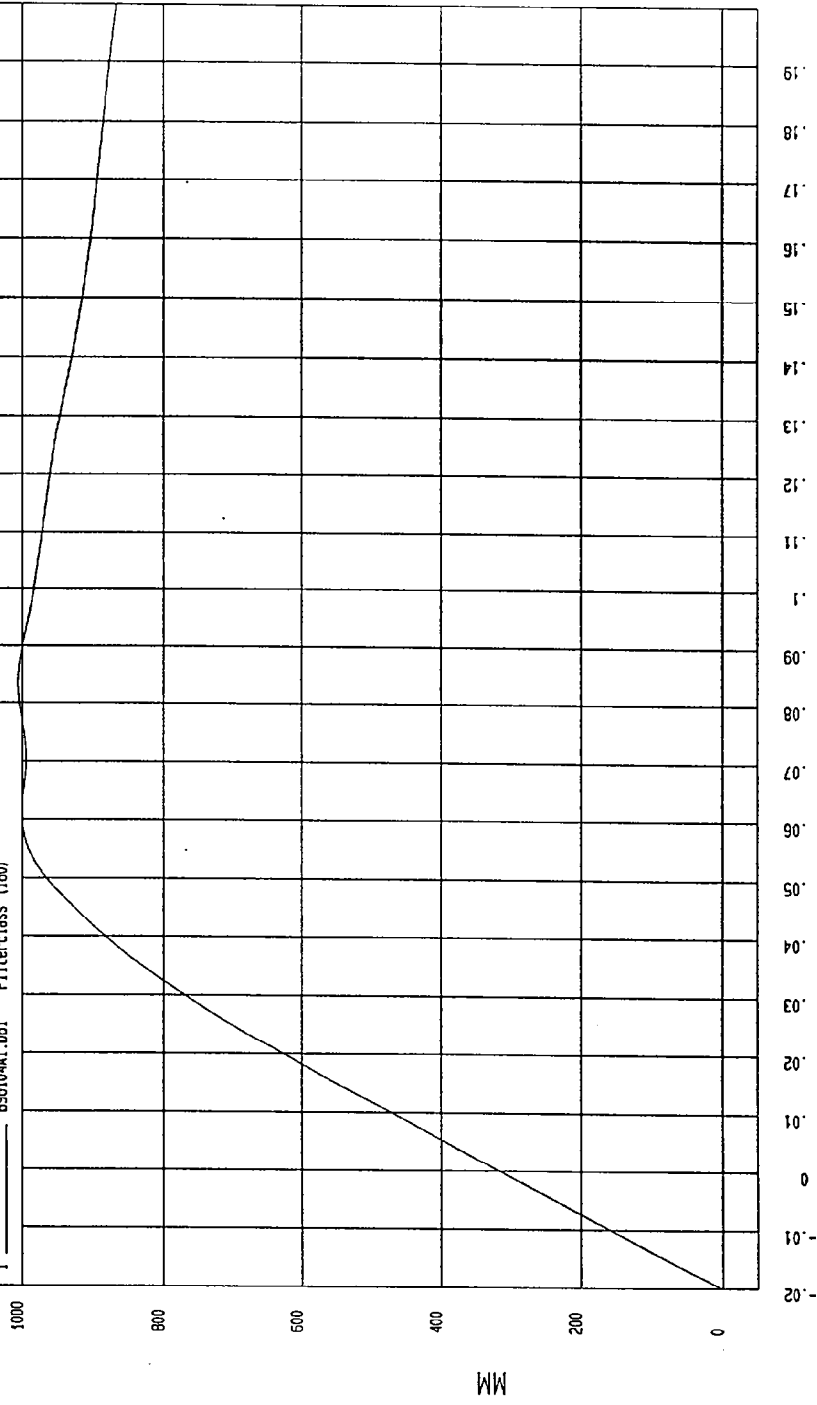
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 0 MM at -20 msec

YMAX= 1006.337 MM at 83. msec

RIGHT FRONT BRAKE CALIPER X DISPLACEMENT

1 ——— B56104A1.DBI Filterclass (160)



FILE REPORT  
10-21-1996 00:22

TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

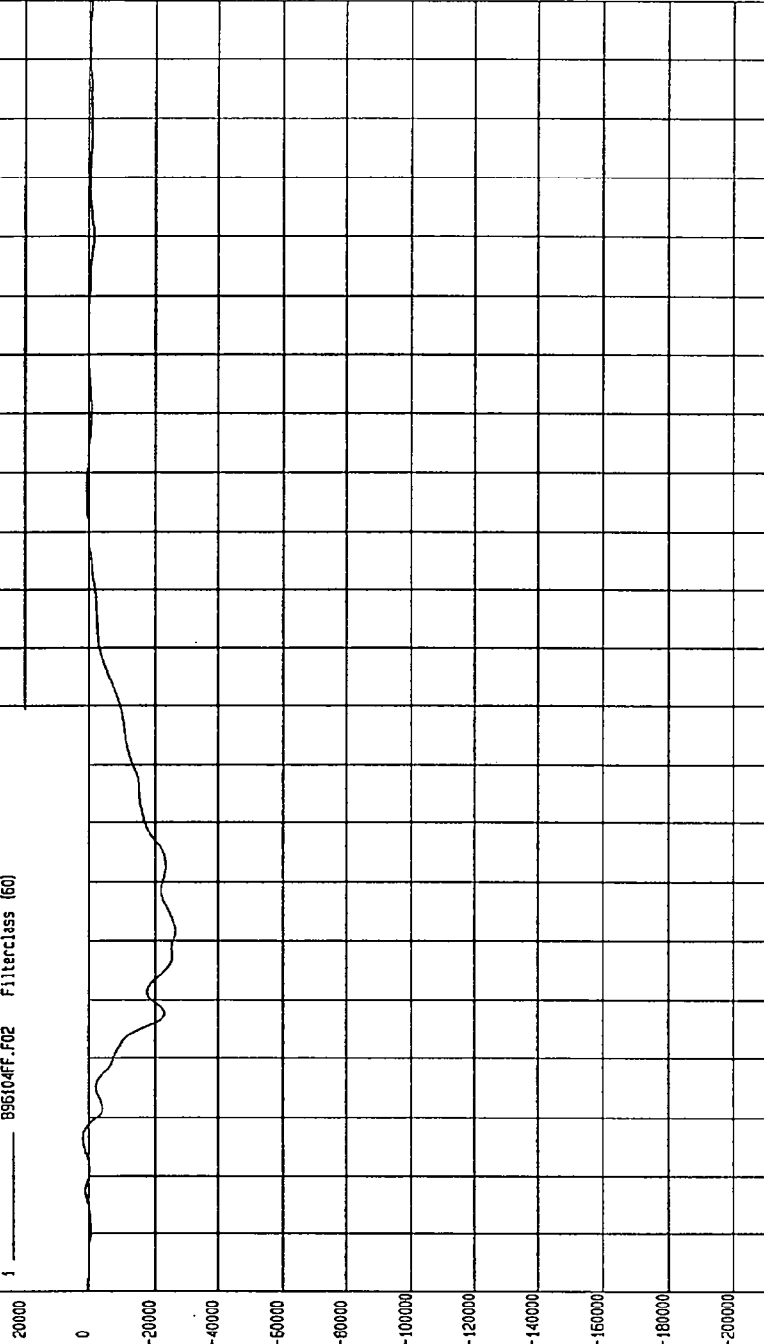
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-26424.13 N at 41. msec

YMAX= 1645.204 N at 6.5 msec

UPPER LEFT BARRIER FORCE

1 ——— 996104FF.F02 Filterclass (60)



MCA Reseal CD  
10-27-1996 06:31

TIME (SECONDS)

N

TEST: 35 MPH FRONTAL NCAP TEST

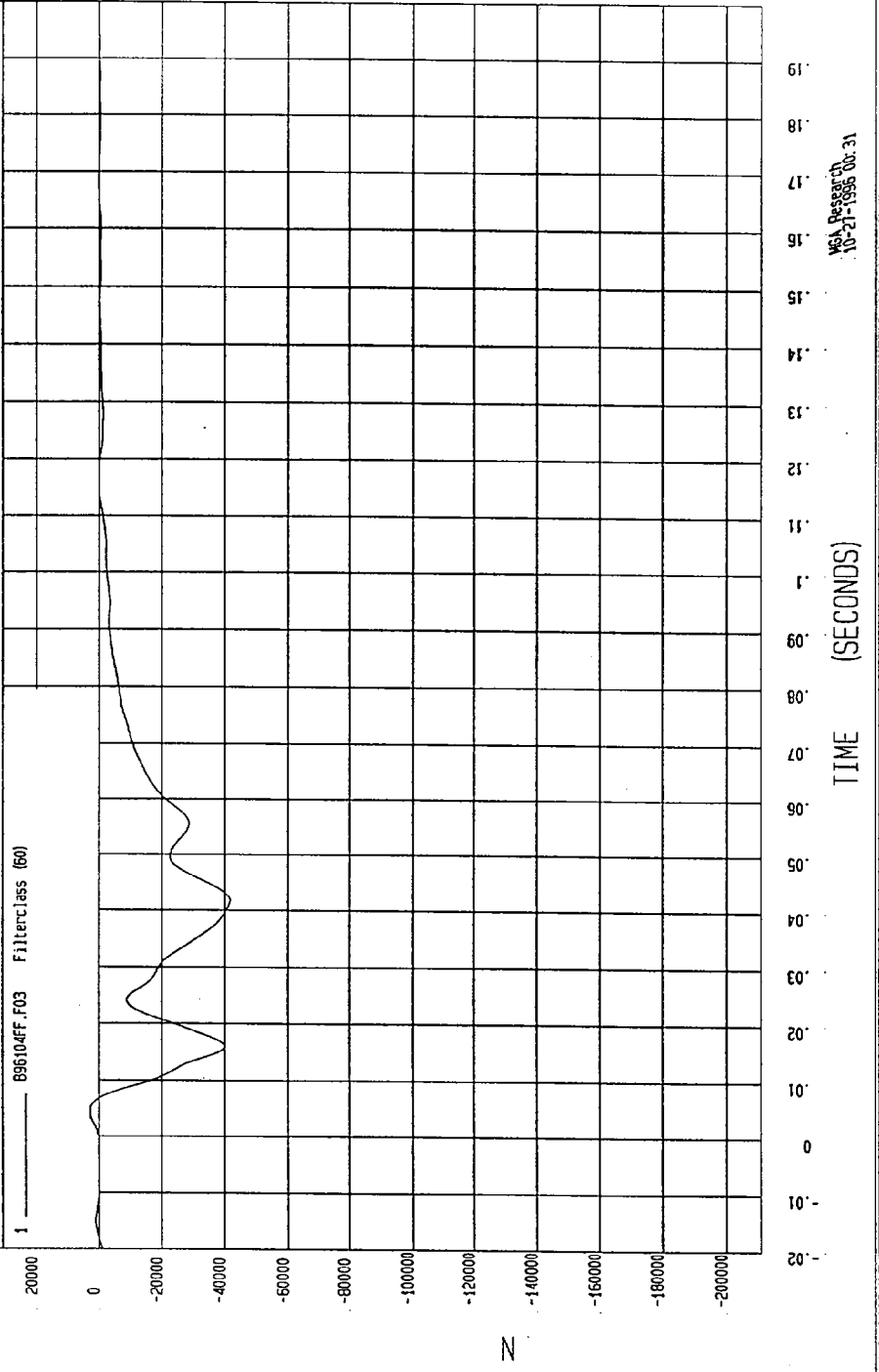
TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-41884.29 N at 41. msec

YMAX= 2851.951 N at 4.4 msec

UPPER CENTER BARRIER FORCE



MSA Research  
10-21-1996 06:31

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

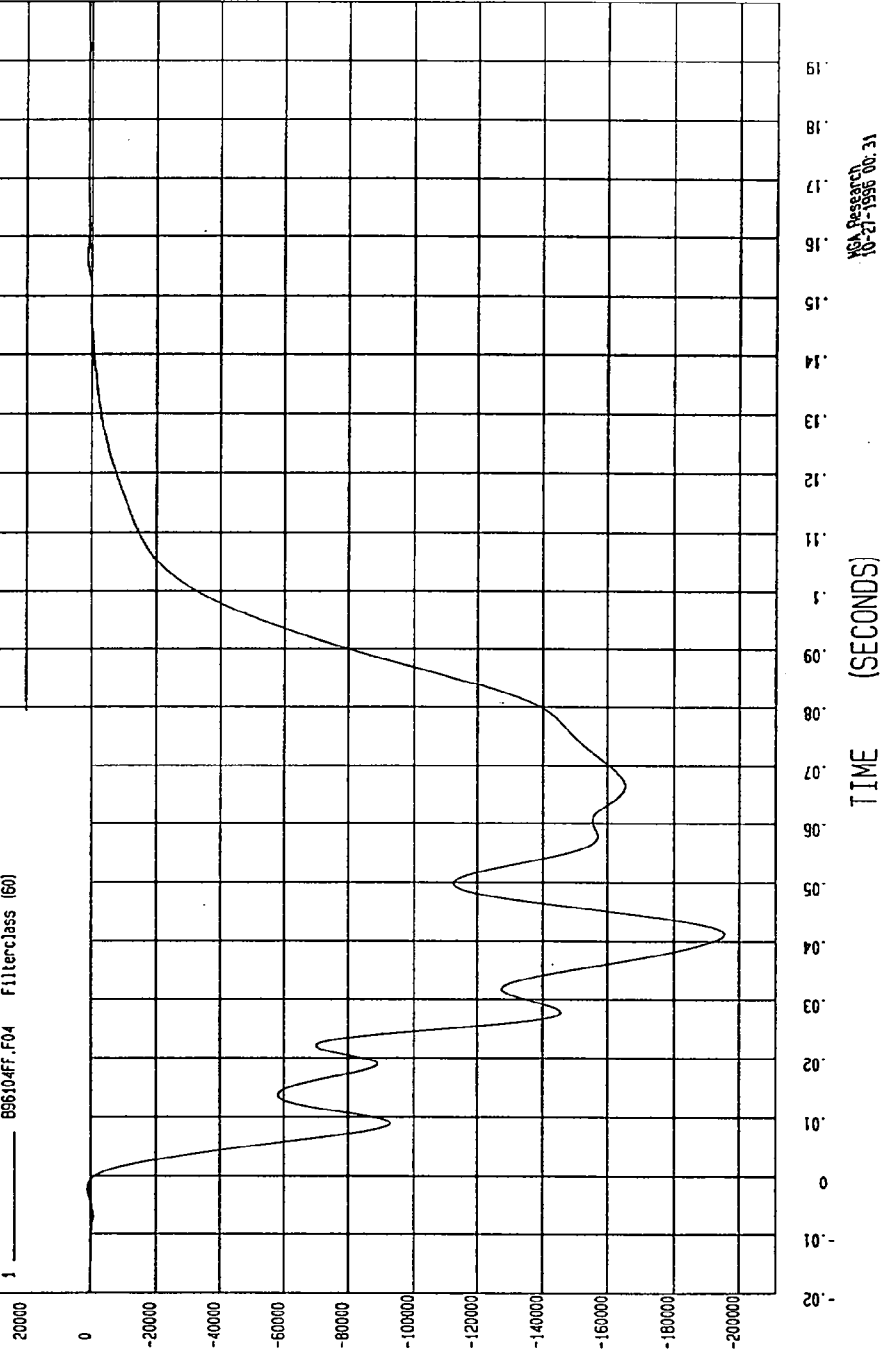
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-195606.9 N at 41. msec

YMAX= 1324.788 N at 156 msec

UPPER RIGHT BARRIER FORCE

1 ——— 896104FF.F04 F11terclass (60)



10:00 9851-12-01  
104 Research  
104-3333-03

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

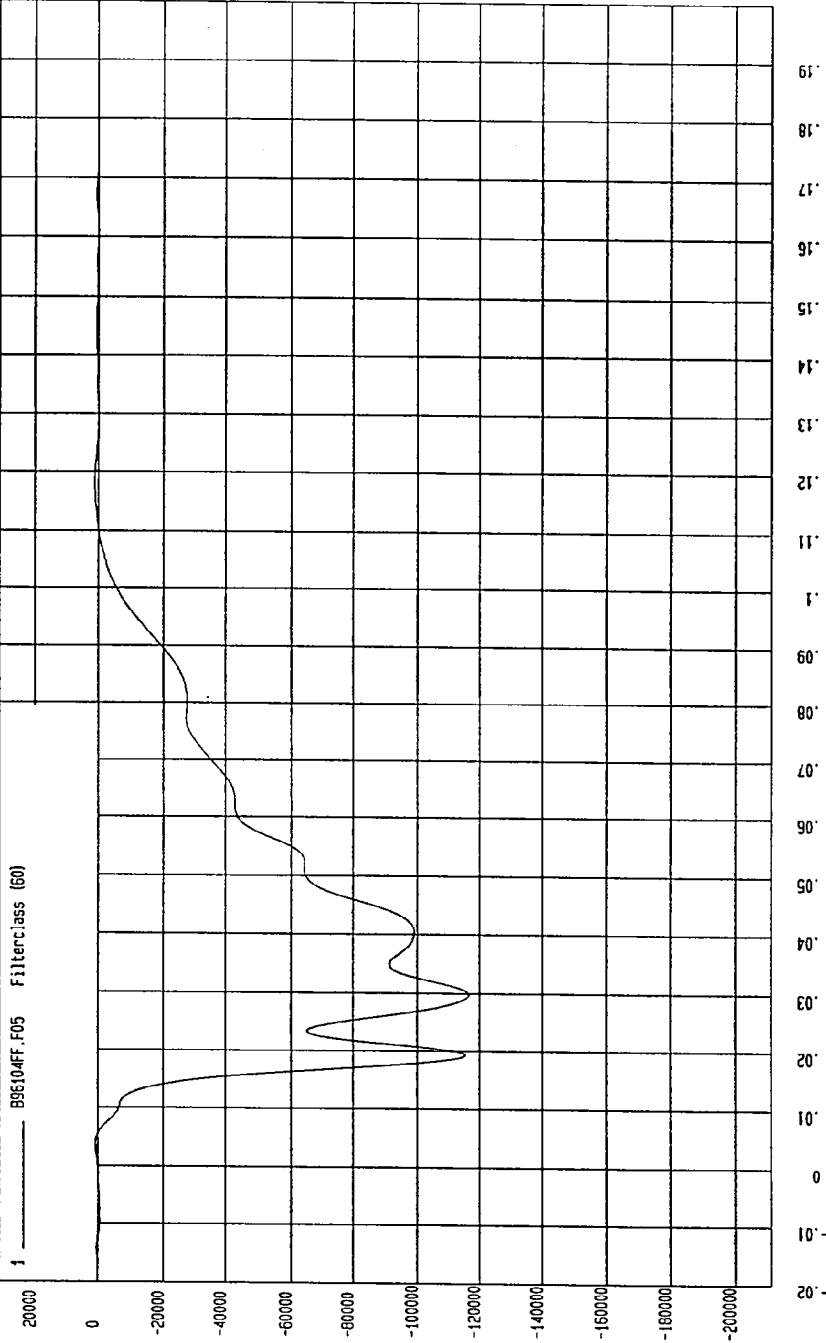
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-116673.5 N at 29. msec

YMAX= 1183.082 N at 118 msec

LOWER LEFT BARRIER FORCE

1 \_\_\_\_\_ B9E104FF.F05 Filterclass (60)



MSA Research  
10-27-1996 00:31

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

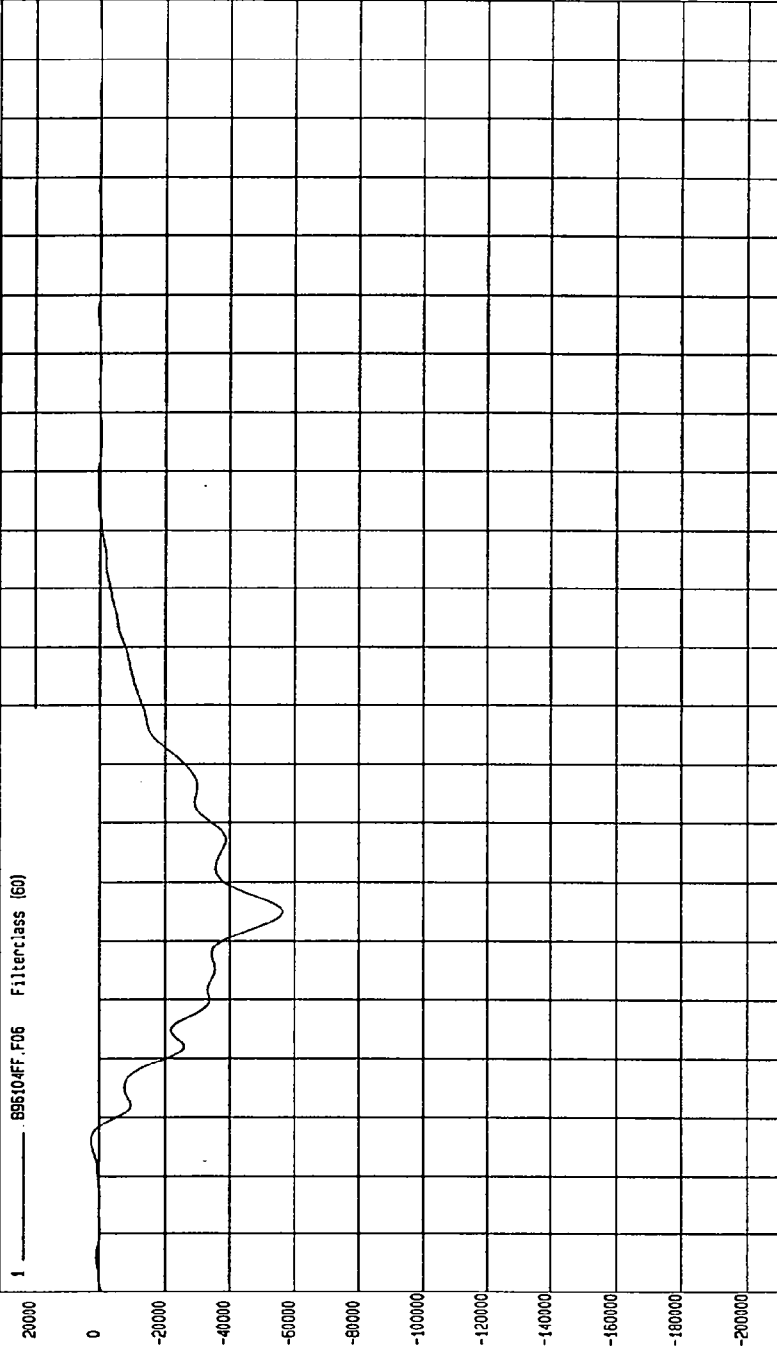
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-56282 N at .45 msec

YMAX= 2501.041 N at 6.0 msec

LOWER CENTER BARRIER FORCE

1 ——— 895104F.F06 Filterclass (60)



MSA Research  
10-21-1996 00:31

TIME (SECONDS)

N

TEST: 35 MPH FRONTAL NCAP TEST

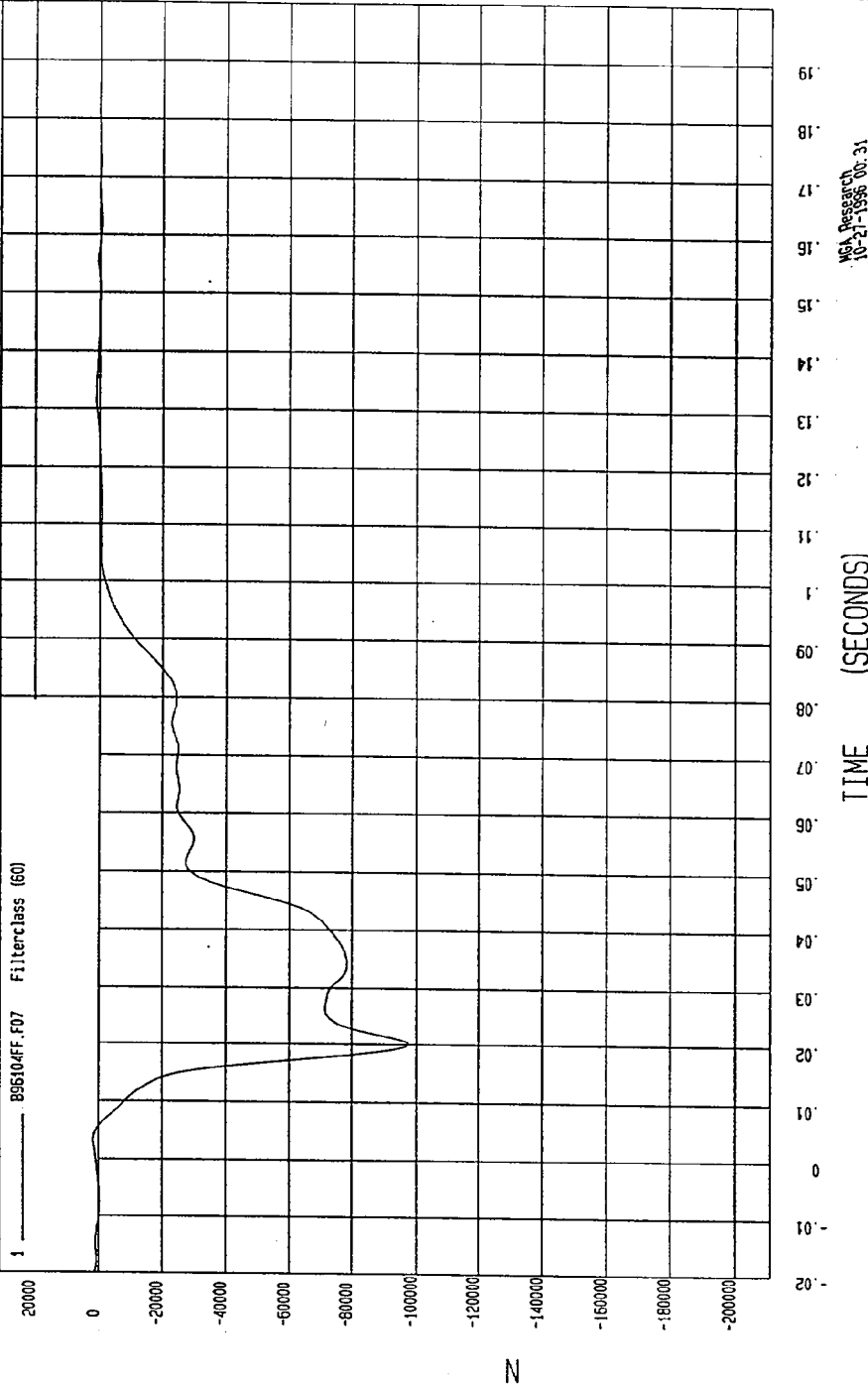
TEST DATE: 10-17-1996

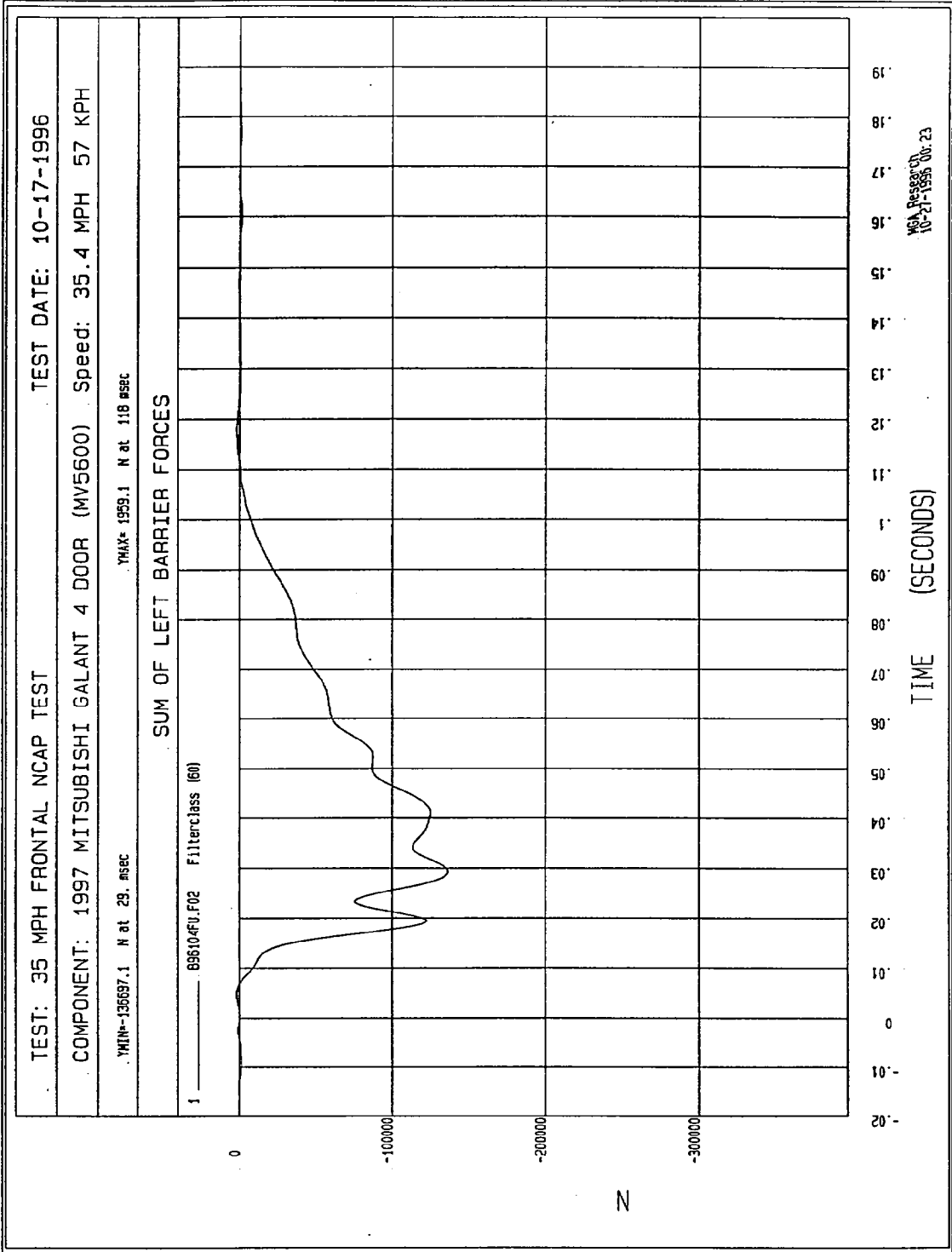
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-97713.13 N at 20. msec

YMAX= 1655.967 N at 3.1 msec

LOWER RIGHT BARRIER FORCE





TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

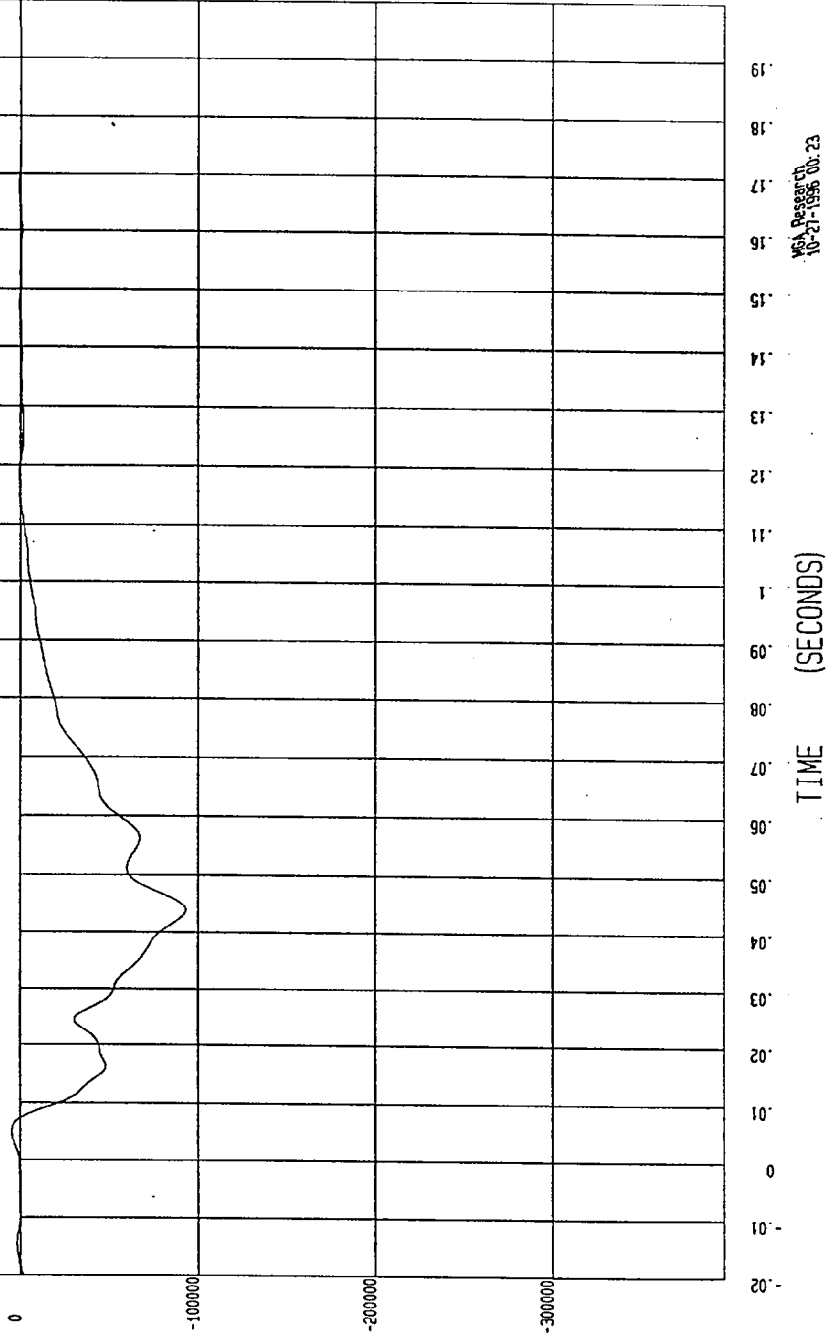
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MIN=-02981.88 N at 43. msec

MAX= 4945.217 N at 5 msec

SUM OF CENTER BARRIER FORCES

1 895104FU.F03 Filterclass (50)



McL Research  
10-27-1996 00:23

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

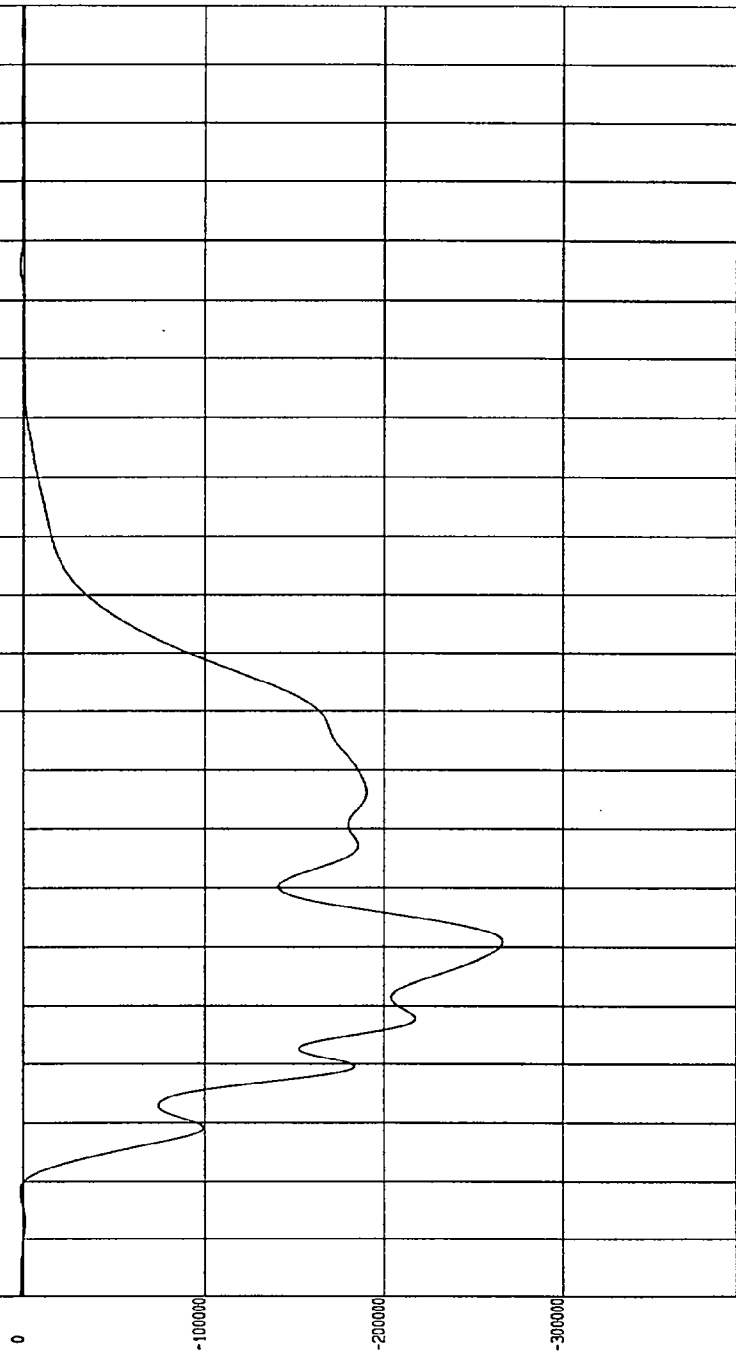
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-266840.2 N at 40. usec

YMAX= 1915.105 N at -20 usec

SUM OF RIGHT BARRIER FORCES

1 896104FU.F04 FilterClass (60)



WCA Research  
10-21-1996 00:23

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

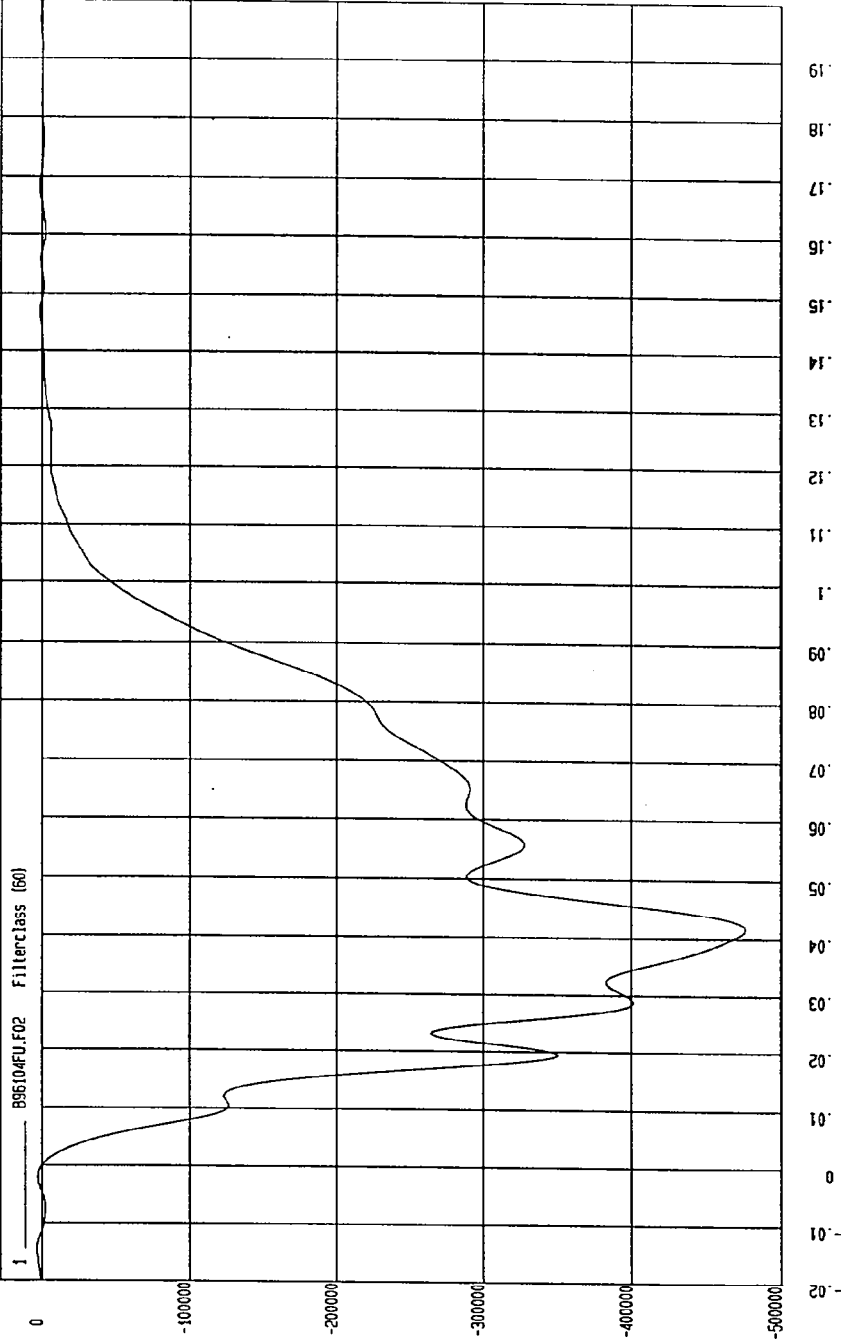
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-476596.8 N at 41. msec

YMAX= 3349.052 N at -14. msec

SUM OF BARRIER FORCES

1 896104FU.F02 Filterclass (60)



WCA Research  
10-21-1996 00:23

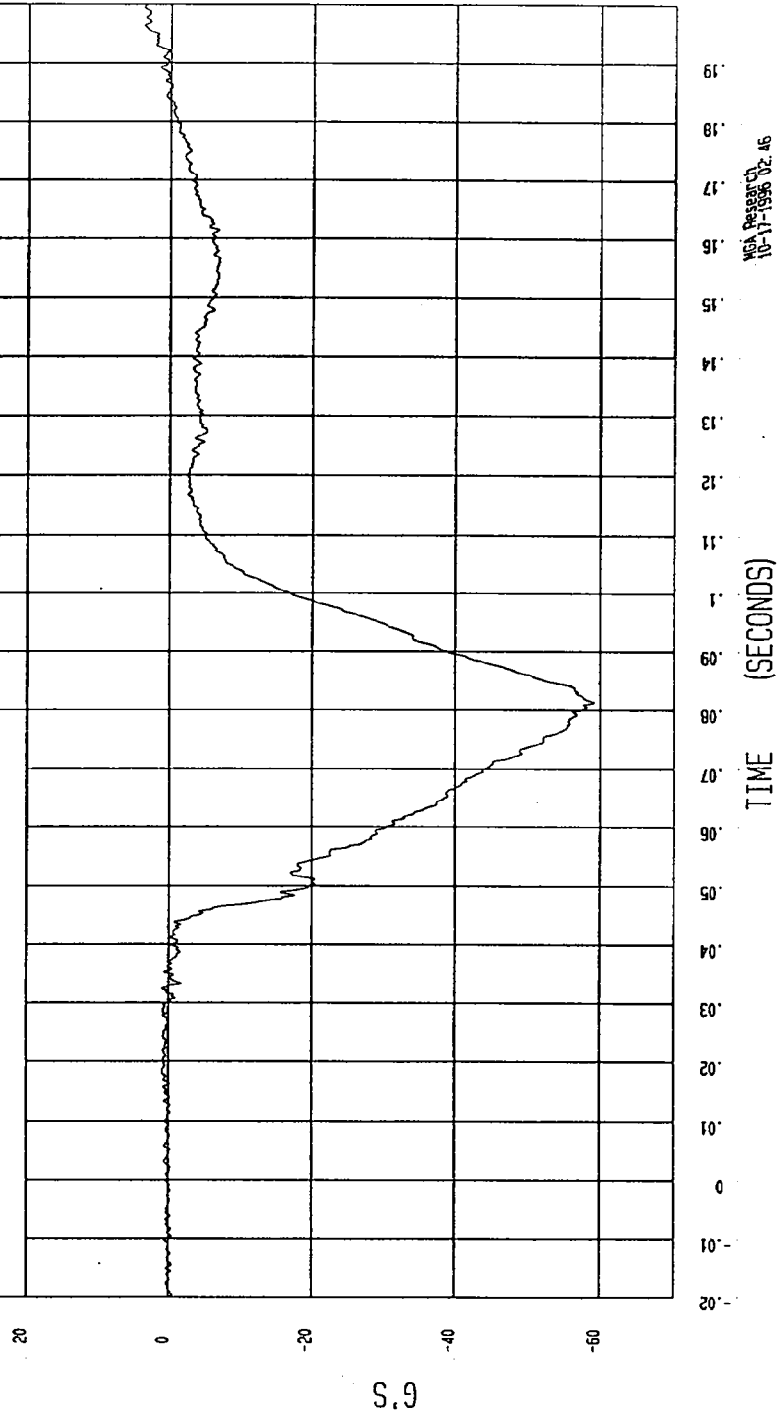
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-59.22608 G'S at 81. msec YMAX= 3.74671 G'S at 199 msec

DRIVER HEAD X ACCELERATION

1 . . . . . 896104F.A12 Filterclass (1000)



NGA Research  
10-17-1996 02.46

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

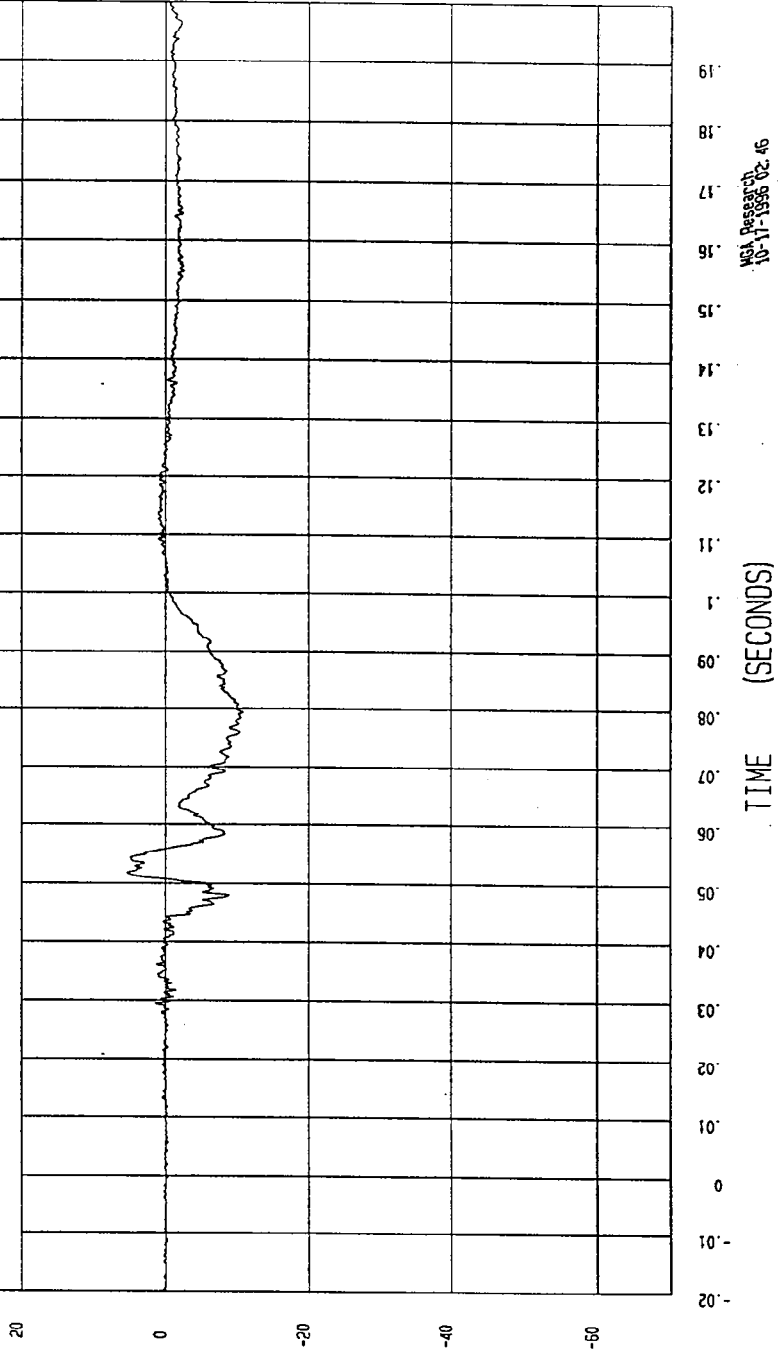
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-10.95491 G'S at 79. msec

YMAX= 5.297497 G'S at 51. msec

DRIVER HEAD Y ACCELERATION

1 895104F.A13 Filterclass (1000)



S.9

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

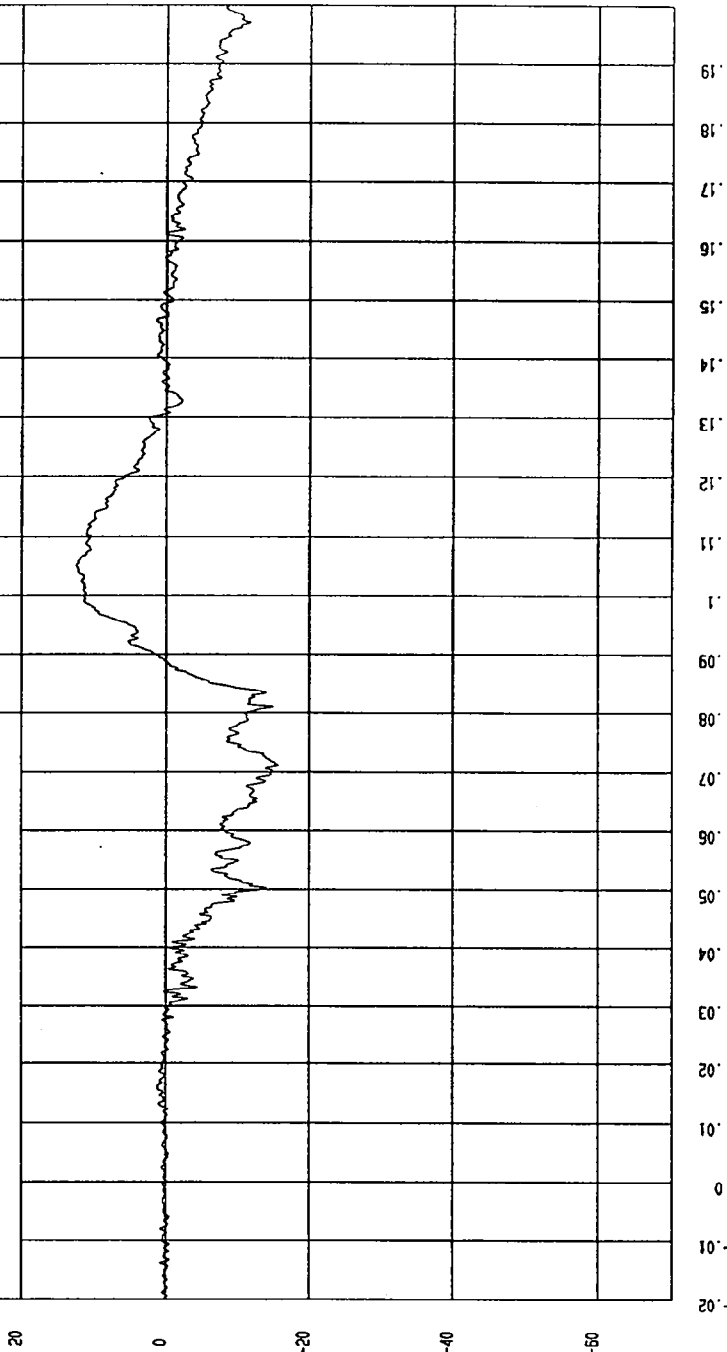
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-15.7389 G'S at 71 msec

YMAX= 12.60864 G'S at 105 msec

DRIVER HEAD Z ACCELERATION

1 ——— 895104AF.A14 Filterclass (1000)



WCA Research  
10-17-1996 02:46

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

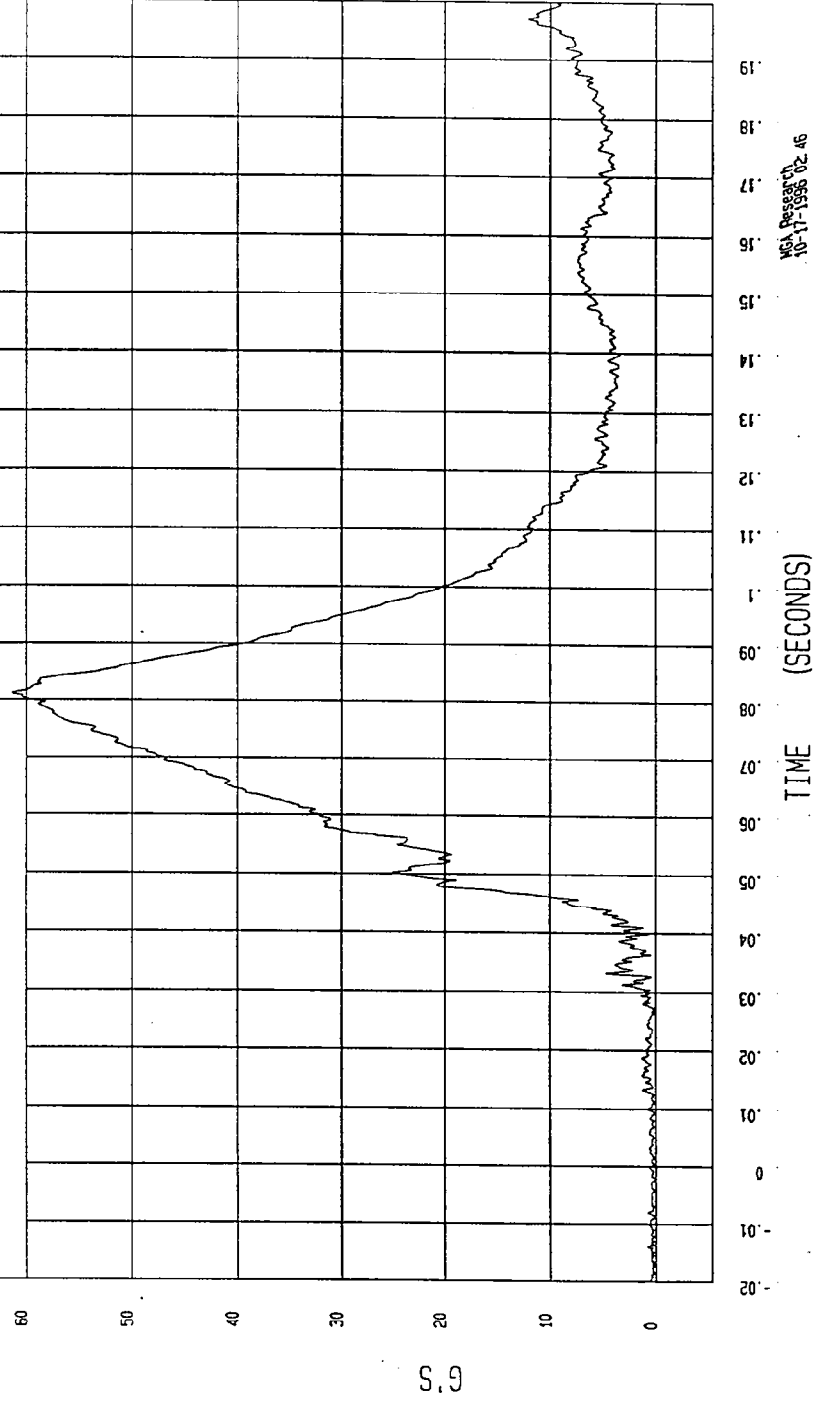
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= .0464292 G'S at -.1 msec

YMAX= 61.37378 G'S at 81. msec

DRIVER HEAD RESULTANT ACCELERATION

1 896104AV.A12 FilterClass (1000)



MSA Research  
10-17-1996 02:46

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

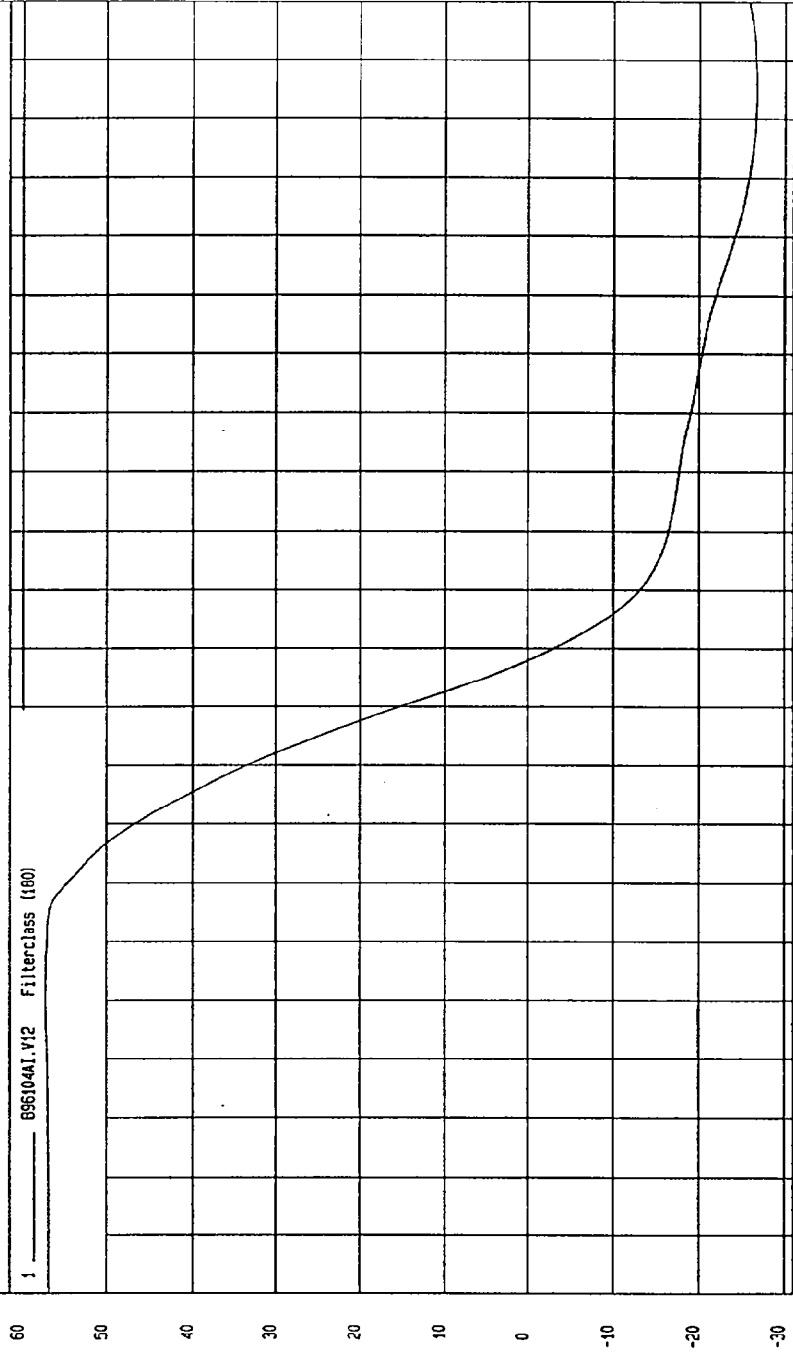
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=26.78603 KPH at 183 msec

YMAX= 57.33607 KPH at 30. msec

DRIVER HEAD X VELOCITY

1 896104A1.V12 Filterclass (180)



TIME Seconds

61  
59  
57  
55  
53  
51  
49  
47  
45  
43  
41  
39  
37  
35  
33  
31  
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21  
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17  
15  
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11  
9  
7  
5  
3  
1  
0  
-1  
-3  
-5  
-7  
-9  
-11  
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-15  
-17  
-19  
-21  
-23  
-25  
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-29  
-30

MGA Research  
10-27-1996 00:29

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

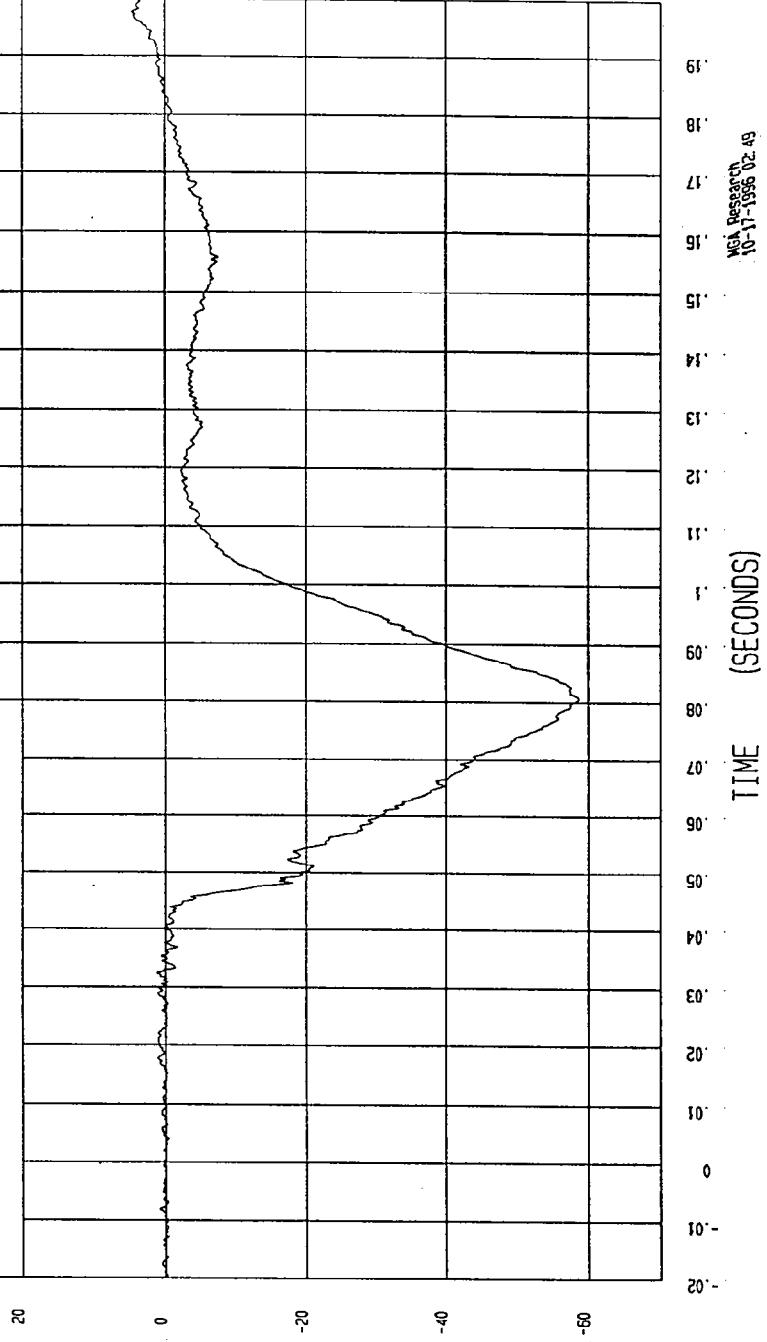
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-58.68505 G'S at 80. msec

YMAX= 4.742321 G'S at 197 msec

DRIVER HEAD REDUNDANT X ACCELERATION

1 \_\_\_\_\_ B55104AF.A32 FilterClass (1000)



NCI Report  
10-17-1996 02:49

TEST DATE: 10-17-1996

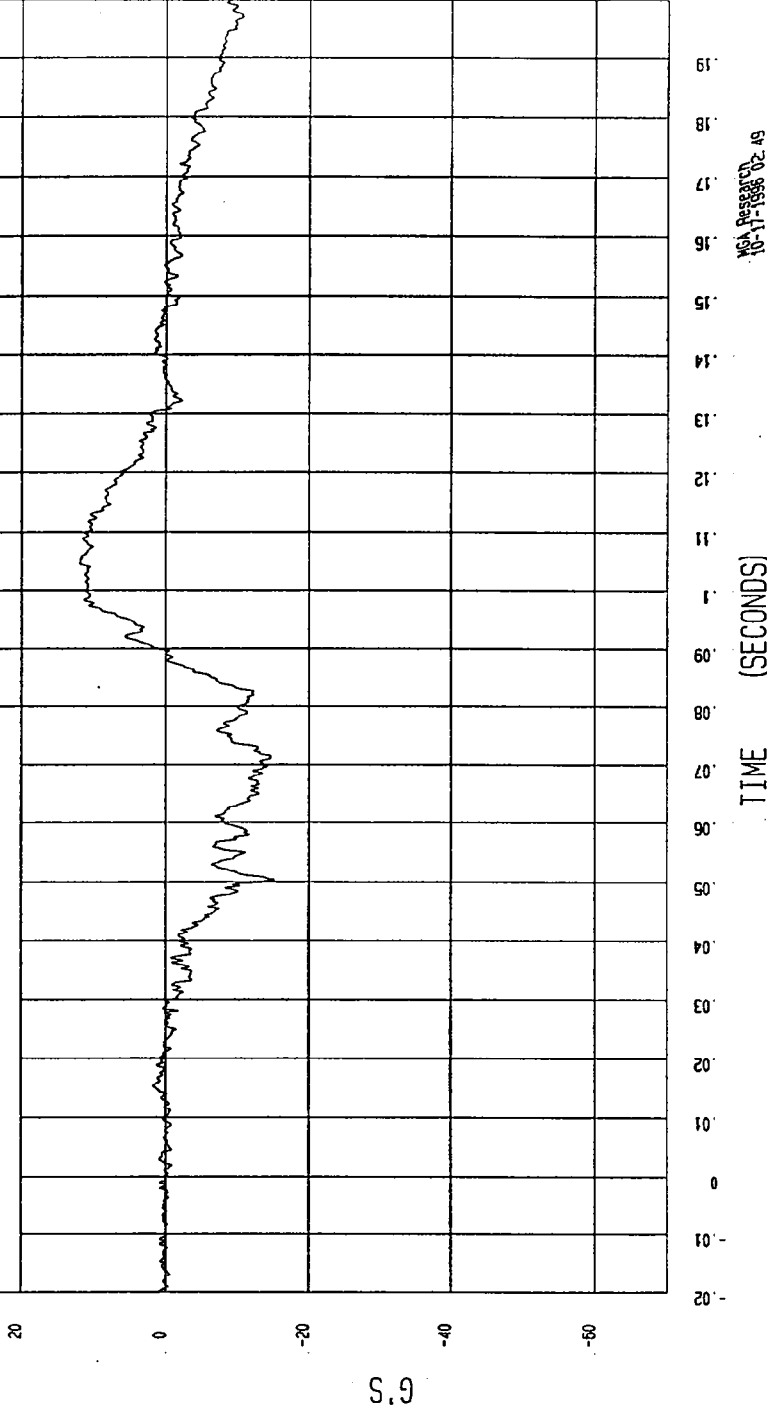
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-15.38495 G'S at 50. msec YMAX= 11.9531 G'S at 104 msec

DRIVER HEAD REDUNDANT Y ACCELERATION

1 \_\_\_\_\_ B95104F.A34 Filterclass (1000)



MGA Research  
10-17-1996 02.49

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

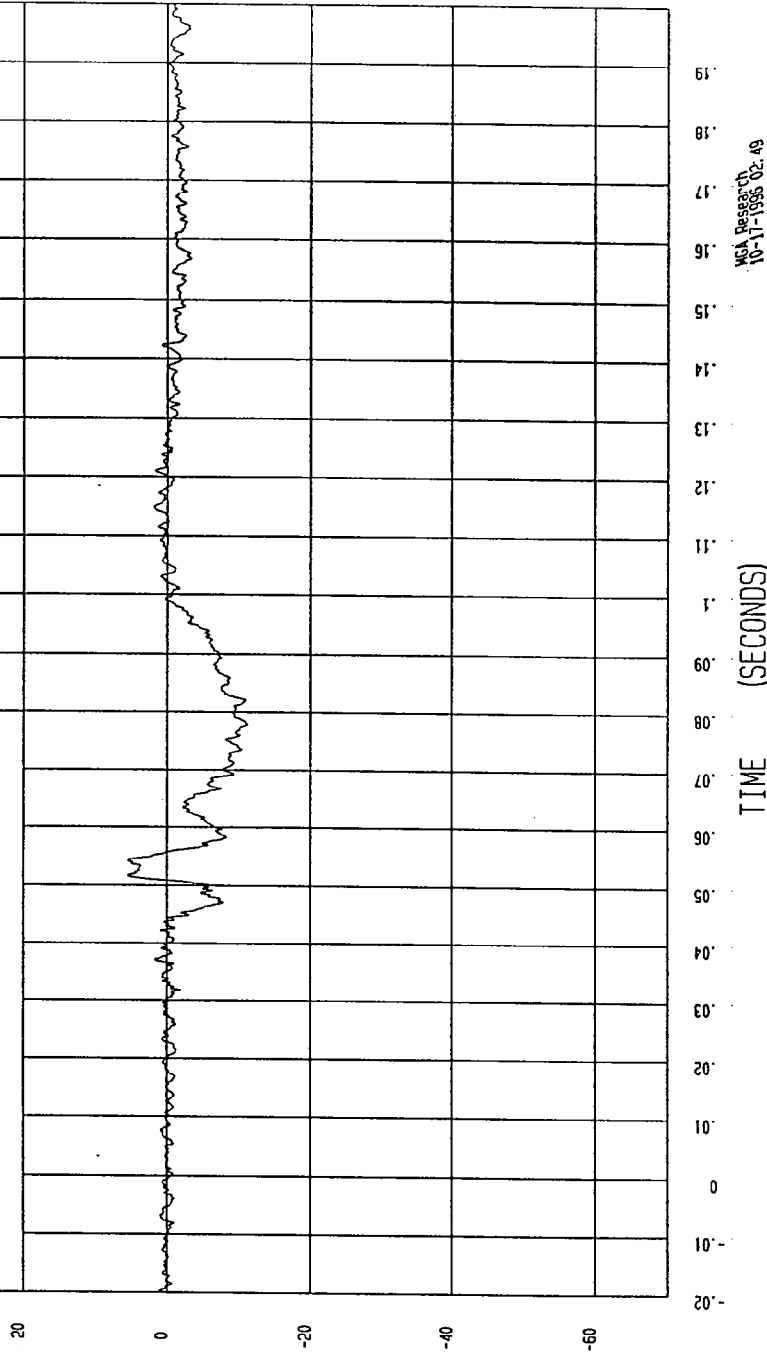
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-11.33343 G'S at 77. msec

YMAX= 5.388051 G'S at 54. msec

DRIVER HEAD REDUNDANT Z ACCELERATION

1 \_\_\_\_\_ 895104F.A33 FilterClass (1000)



NCAP Pressed  
10-17-1996 02:48

G.S

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

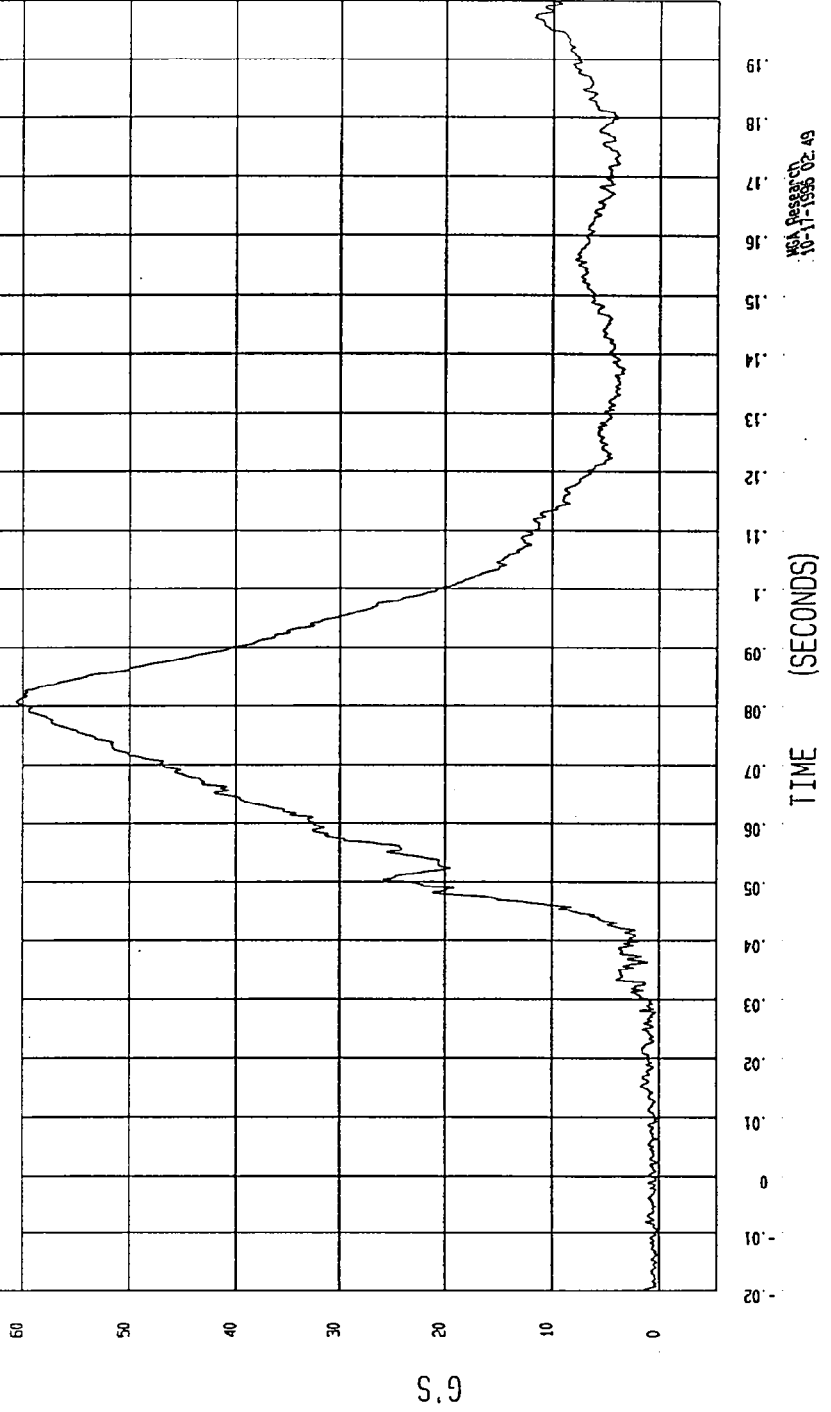
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 9.94933E-02 G'S at 2.2 msec

YMAX= 60.57709 G'S at 80. msec

DRIVER HEAD REDUNDANT RESULTANT ACCELERATION

1 \_\_\_\_\_ B86104V.A32 Filterclass (1000)



YEA PRESSURE  
10-17-1996 02:49

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

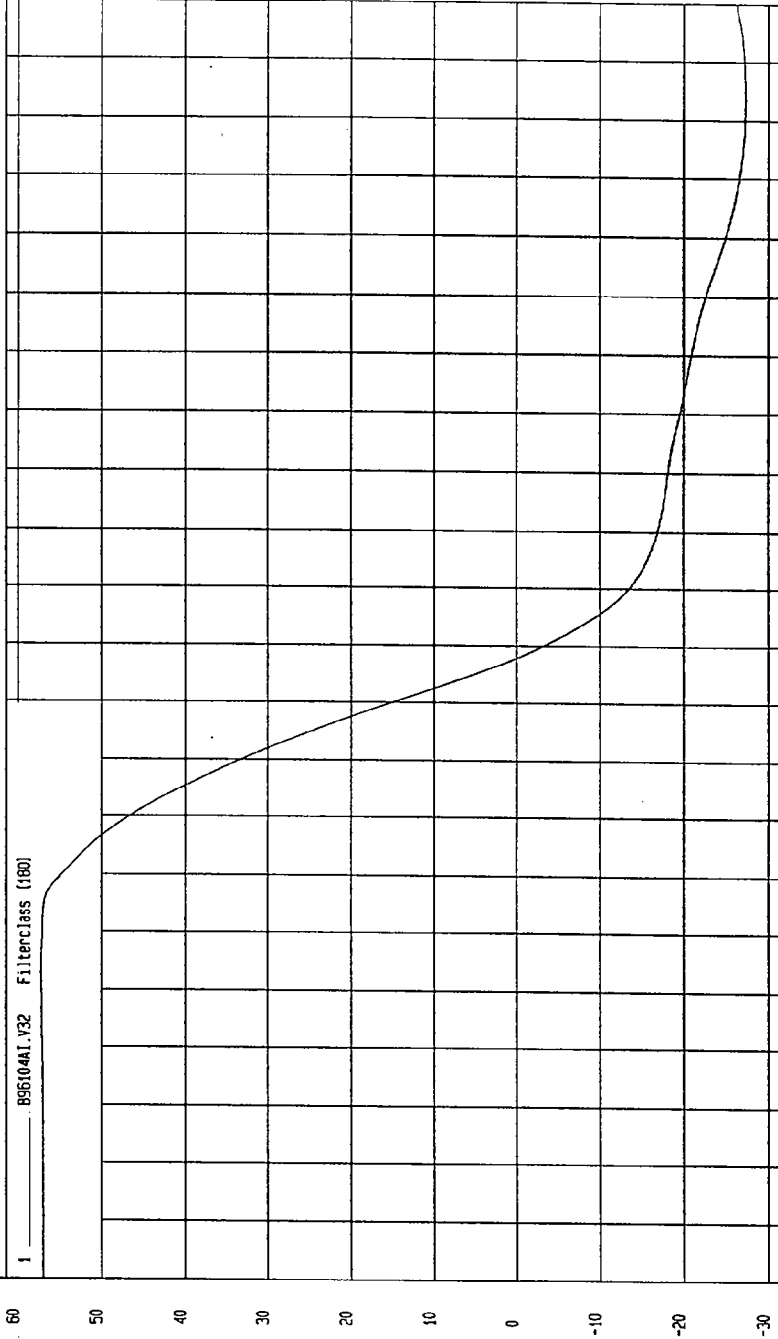
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-27.31722 KPH at 183 msec

YMAX= 57.2461 KPH at 32. msec

DRIVER HEAD REDUNDANT X VELOCITY

1 896104A1.V32 FilterClass (180)



MGA Research  
10-27-1996 00:23

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

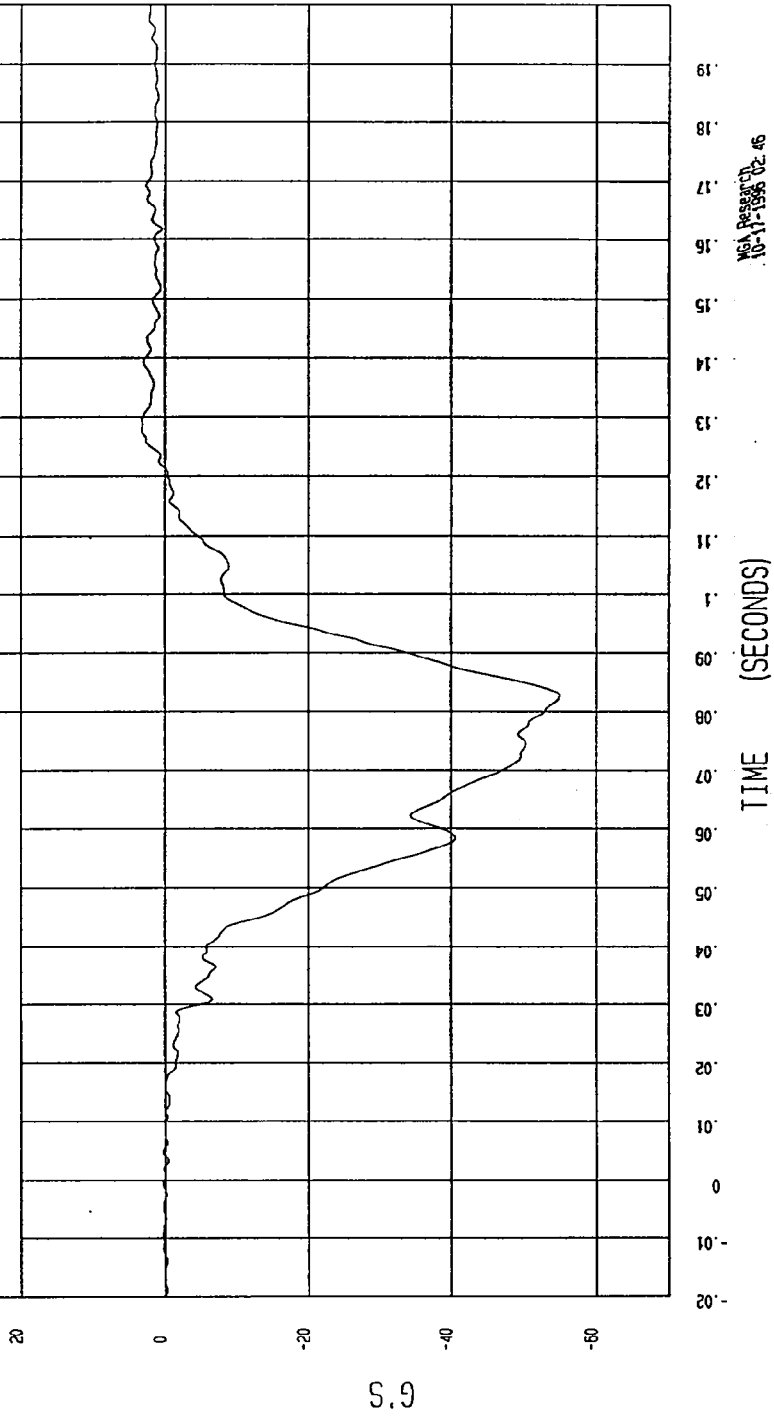
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-55.04525 G'S at 82. msec

YMAX= 3.314013 G'S at 127 msec

DRIVER CHEST X ACCELERATION

1 896104F.A15 Filterclass (180)



WCA Research  
10-17-1996 12:46

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

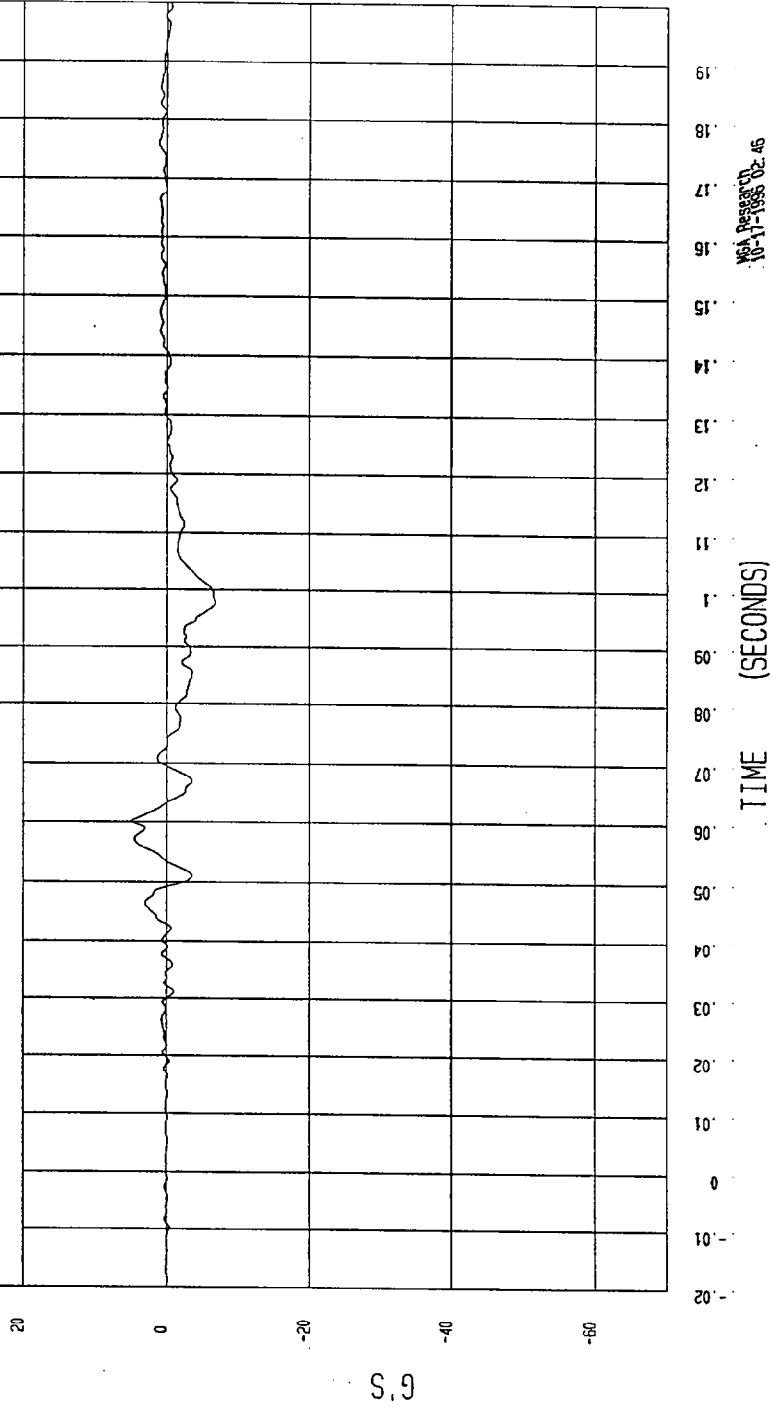
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-6.002988 G'S at 97. msec

YMAX= 4.924324 G'S at 60. msec

DRIVER CHEST Y ACCELERATION

1 \_\_\_\_\_ 89510AF.A16 FilterClass (180)



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

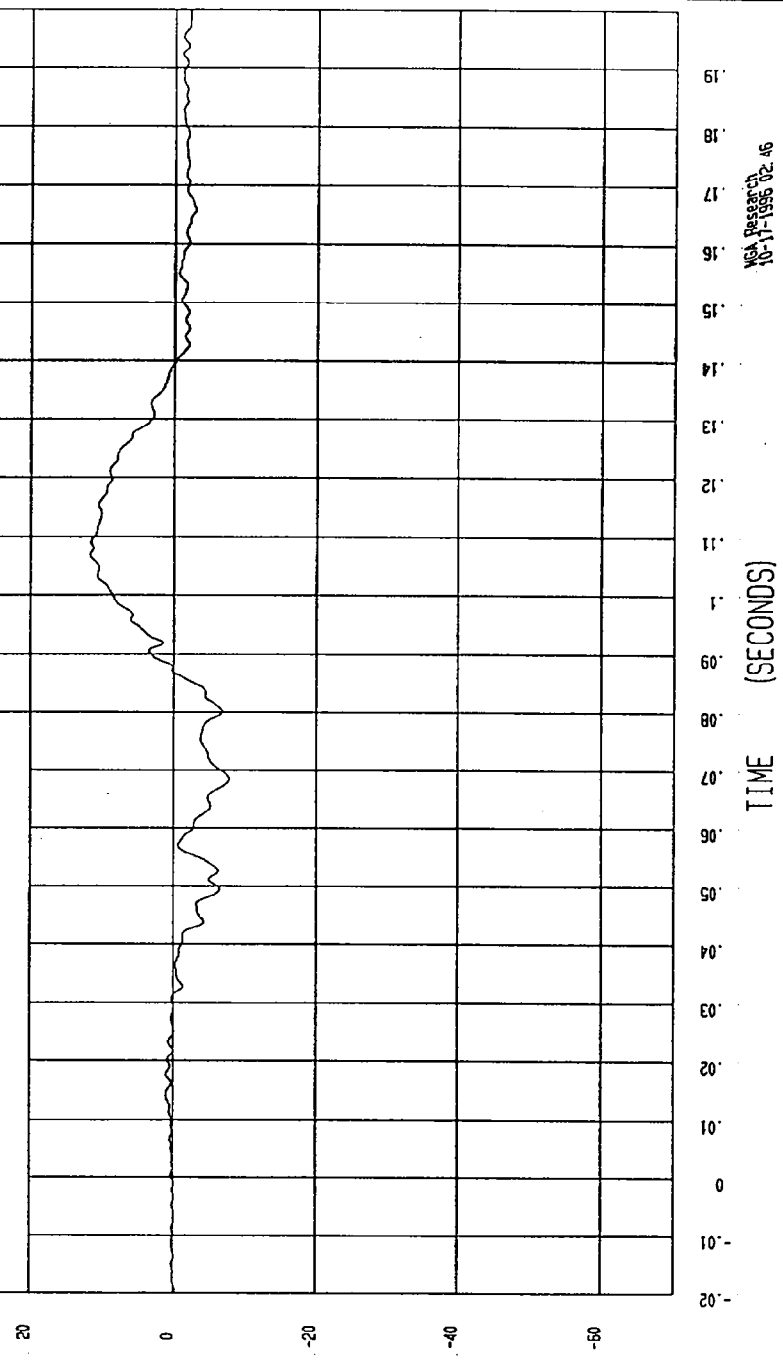
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MIN=-7.904271 G'S at 68. msec

MAX=11.77749 G'S at 106 msec

DRIVER CHEST Z ACCELERATION

1 B95104AF.A17 FilterClass (180)



NGA Research  
10-17-1996 02.46

S.G

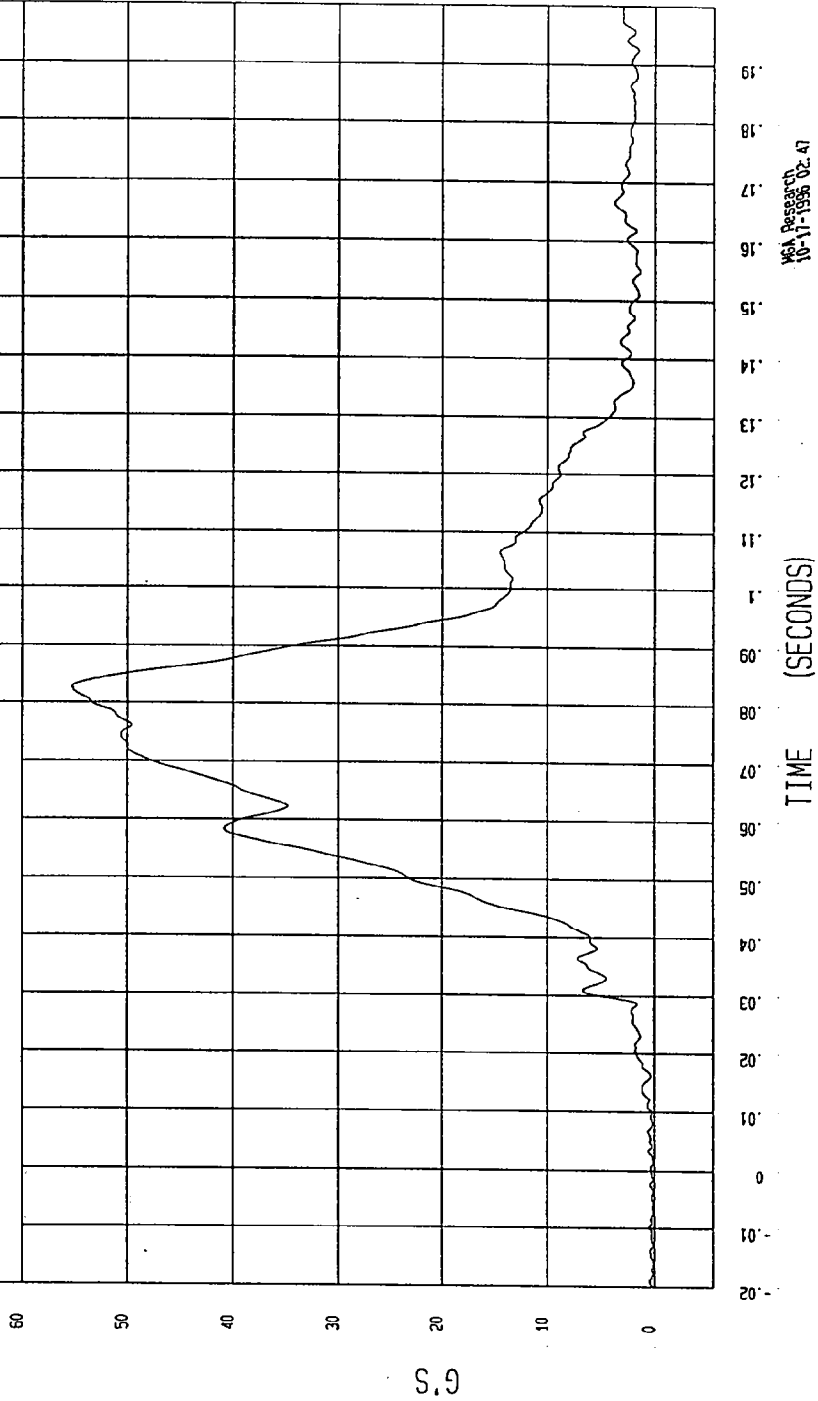
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 4.87693E-02 G'S at 1.4 msec YMAX= 55.30148 G'S at 82. msec

DRIVER CHEST RESULTANT ACCELERATION

1 \_\_\_\_\_ B96104V.A15 Filterclass (80)



MA Research  
10-17-1996 02.47

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

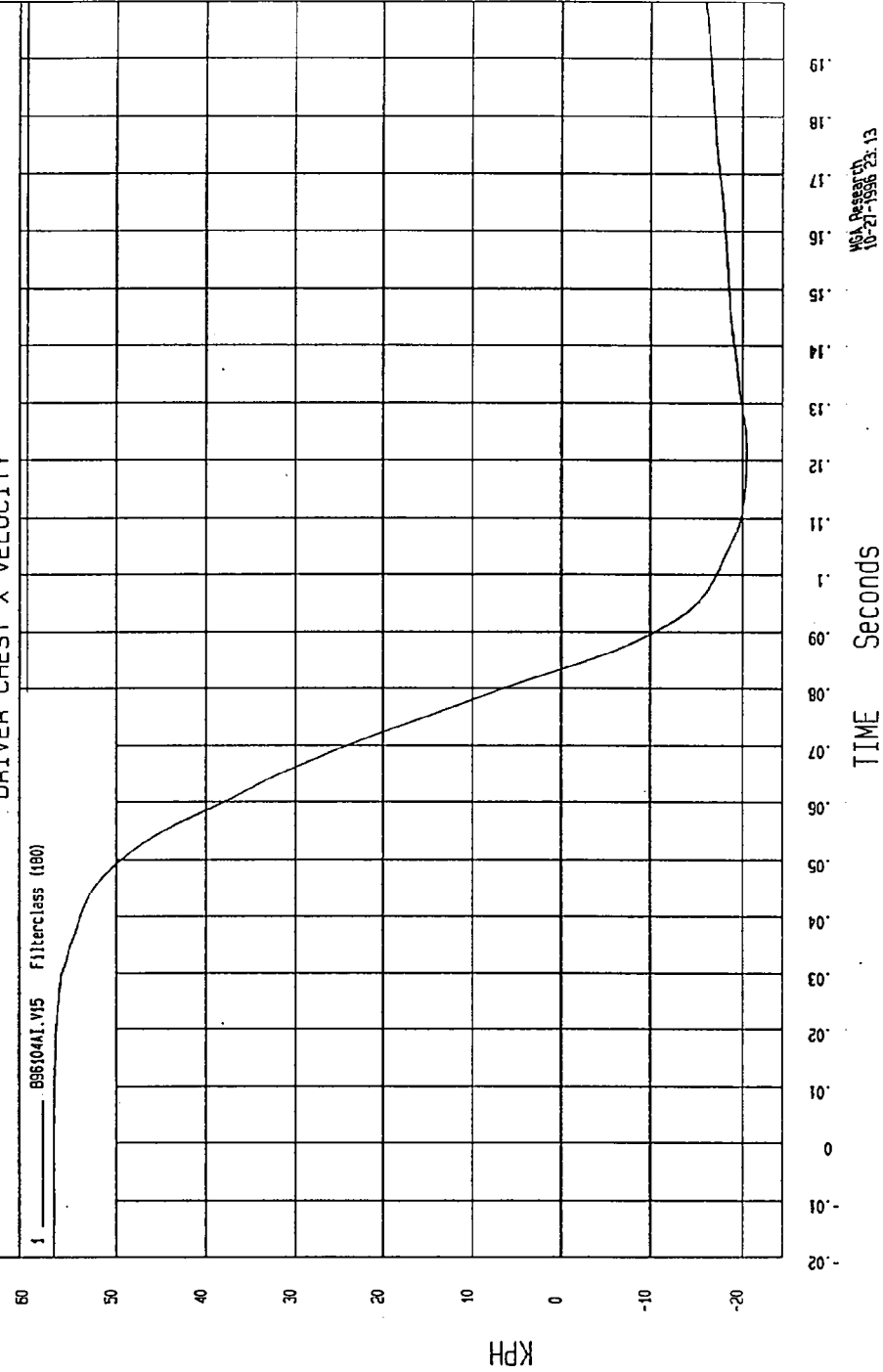
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-20.48112 KPH at 121 msec

YMAX= 57 KPH at -20 msec

DRIVER CHEST X VELOCITY

1 ——— B951041.V15 Filterclass (100)



MSA Presented  
10-27-1996 23.13

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

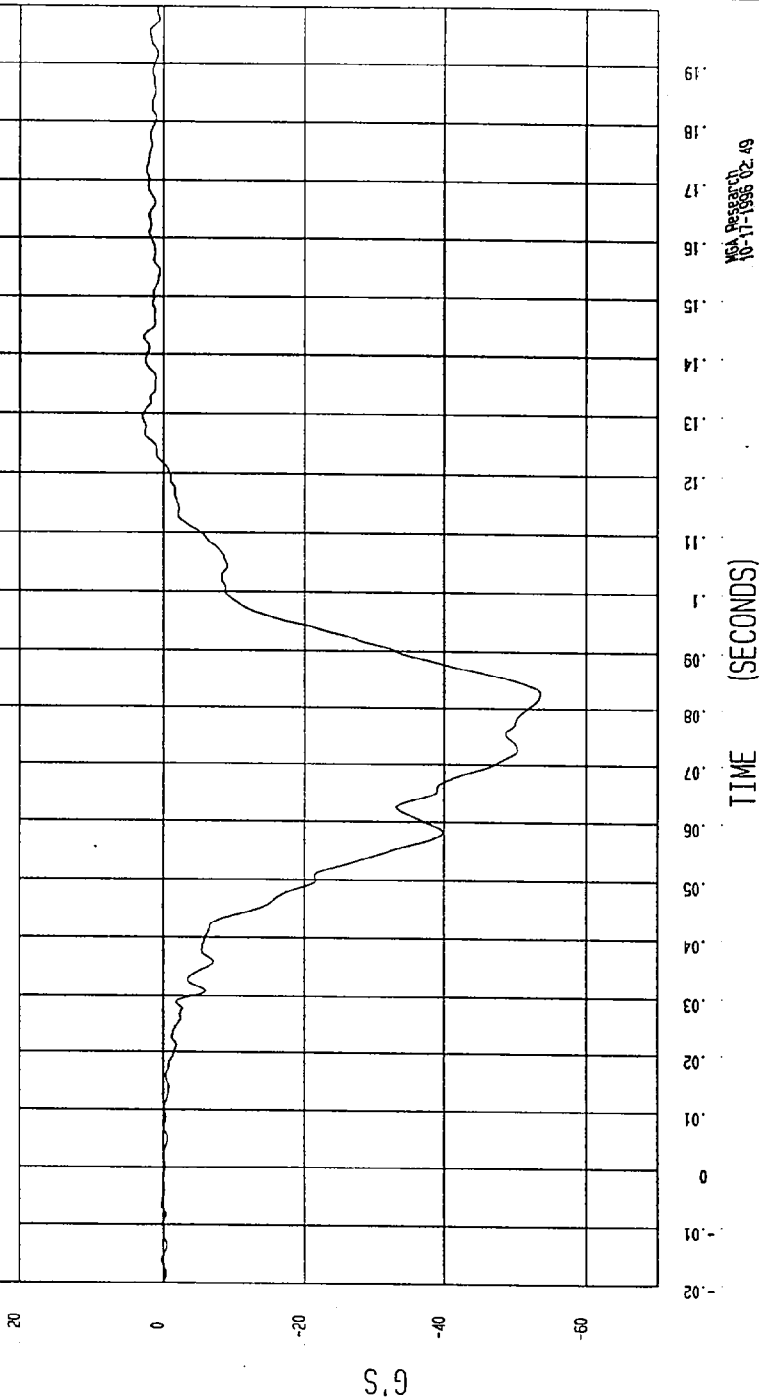
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 2.865567 G'S at 129 msec

YMIN=-53.60533 G'S at 82. msec

DRIVER CHEST REDUNDANT X ACCELERATION

1 896104F.A35 Filterless (180)



VEA PROPERTY  
10-17-1996 02.49

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

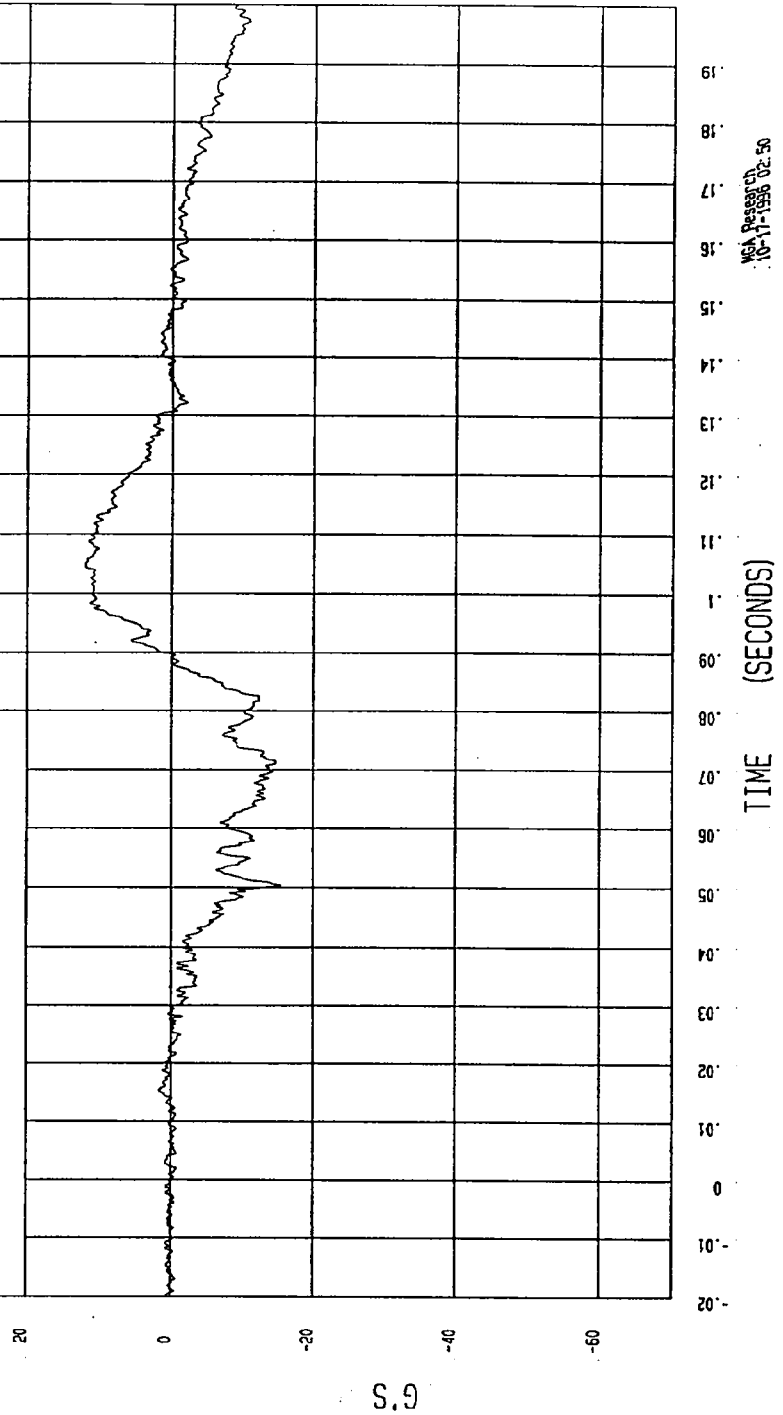
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-15.38495 G'S at 50. msec

YMAX= 11.9631 G'S at 104 msec

DRIVER CHEST REDUNDANT Y ACCELERATION

1 ——— B96104F.A34 Filterclass (1000)



McGraw-Hill  
10-17-1996 06:50

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

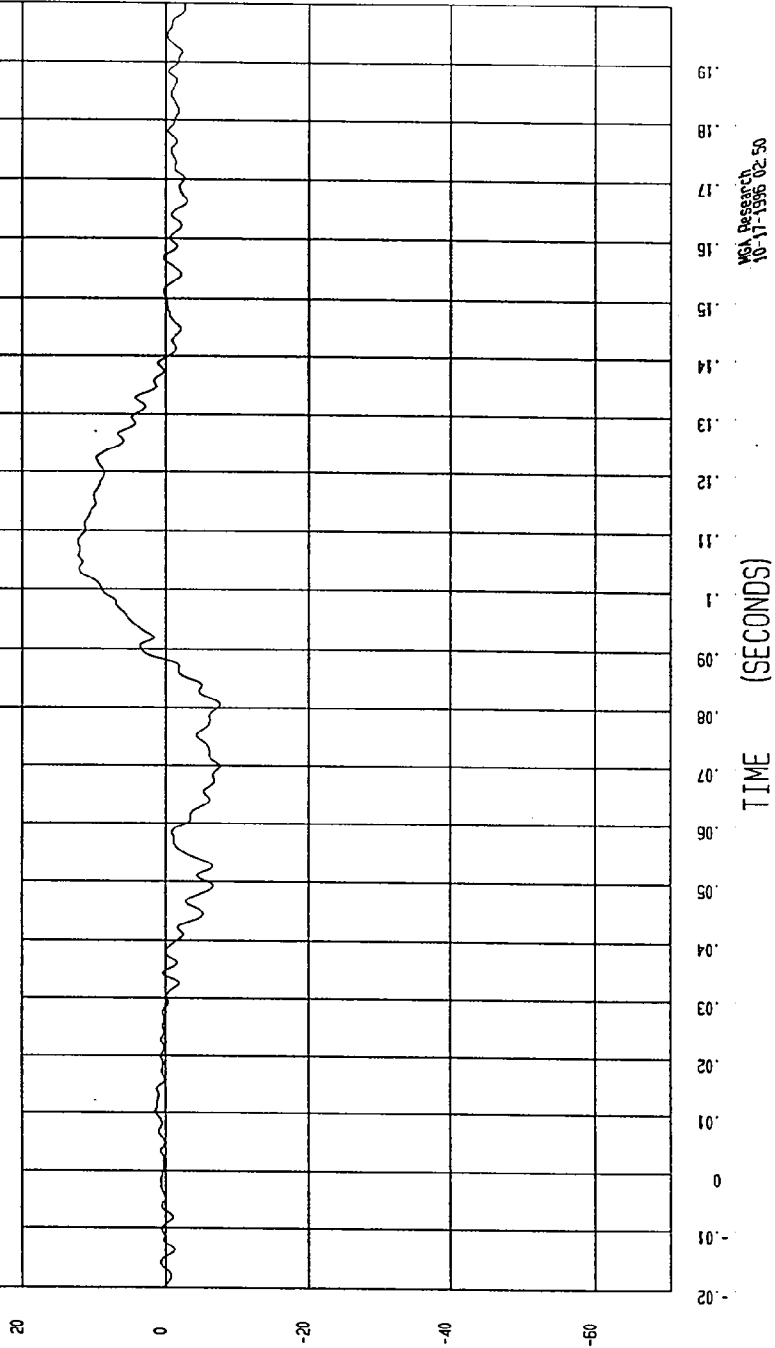
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MIN=-7.600535 G'S at 69. msec

MAX=12.30359 G'S at 108 msec

DRIVER CHEST REDUNDANT Z ACCELERATION

1 896104F.A37 Filterclass (160)



MSA Research  
10-17-1996 02:50

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

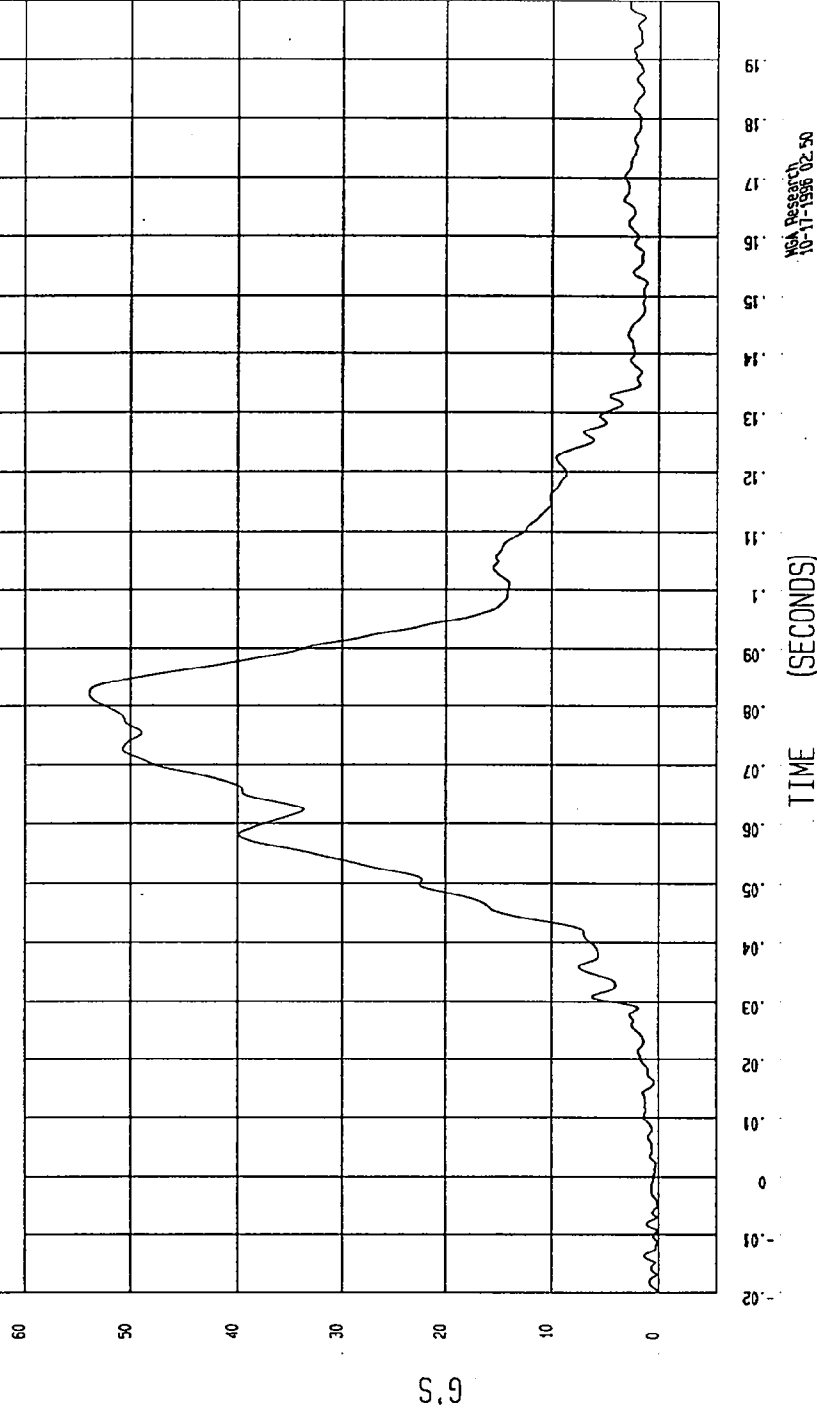
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 2.190415E-02 G'S at -9.4 msec

YMAX= 53.93547 G'S at 82 msec

DRIVER CHEST REDUNDANT RESULTANT ACCELERATION

1 895104AV.A35 Filterclass (160)



NGA Research  
10-17-1996 02:50

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

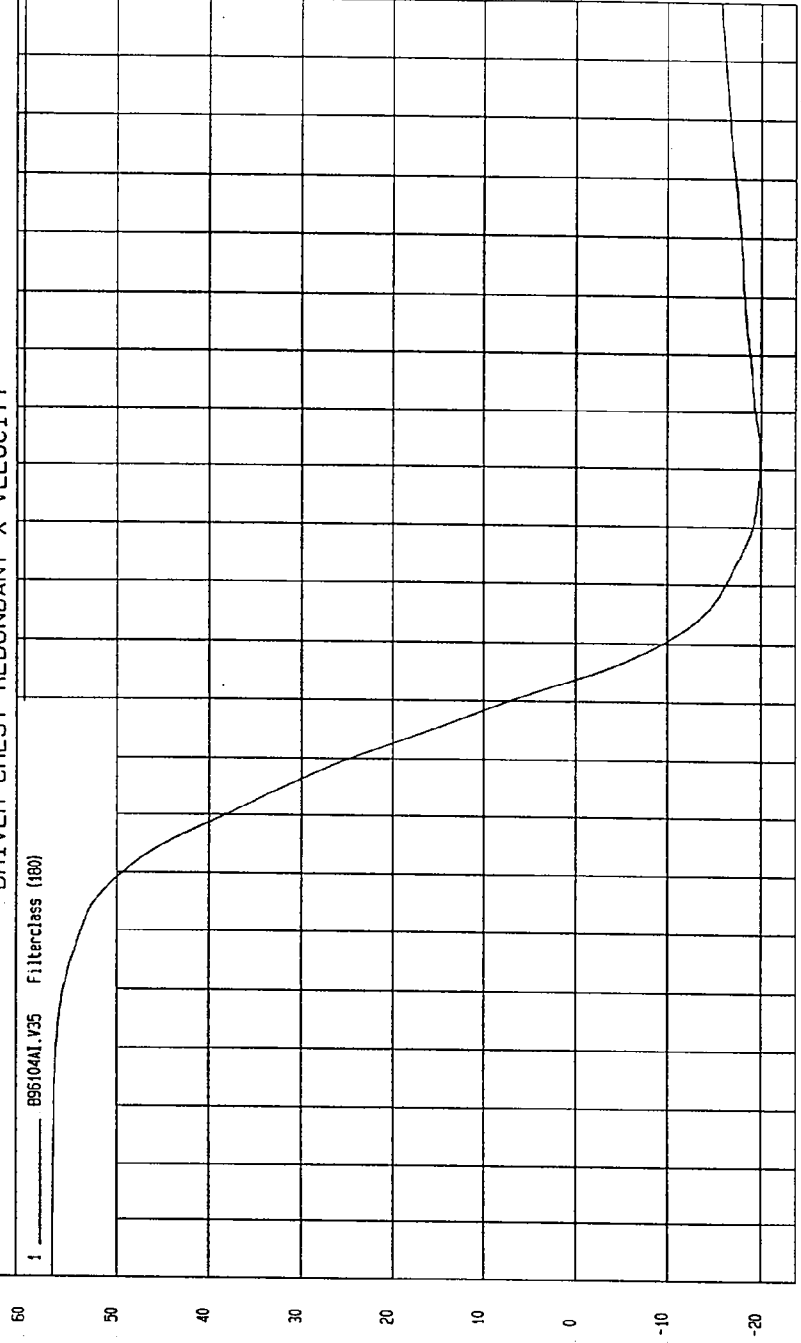
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-19.91302 KPH at 121 msec

YMAX= 57 KPH at -20 msec

DRIVER CHEST REDUNDANT X VELOCITY

1 - B9604A1.V95 Filterclass (180)



MVA Research  
10-21-1996 06:29

TIME Seconds

KPH

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

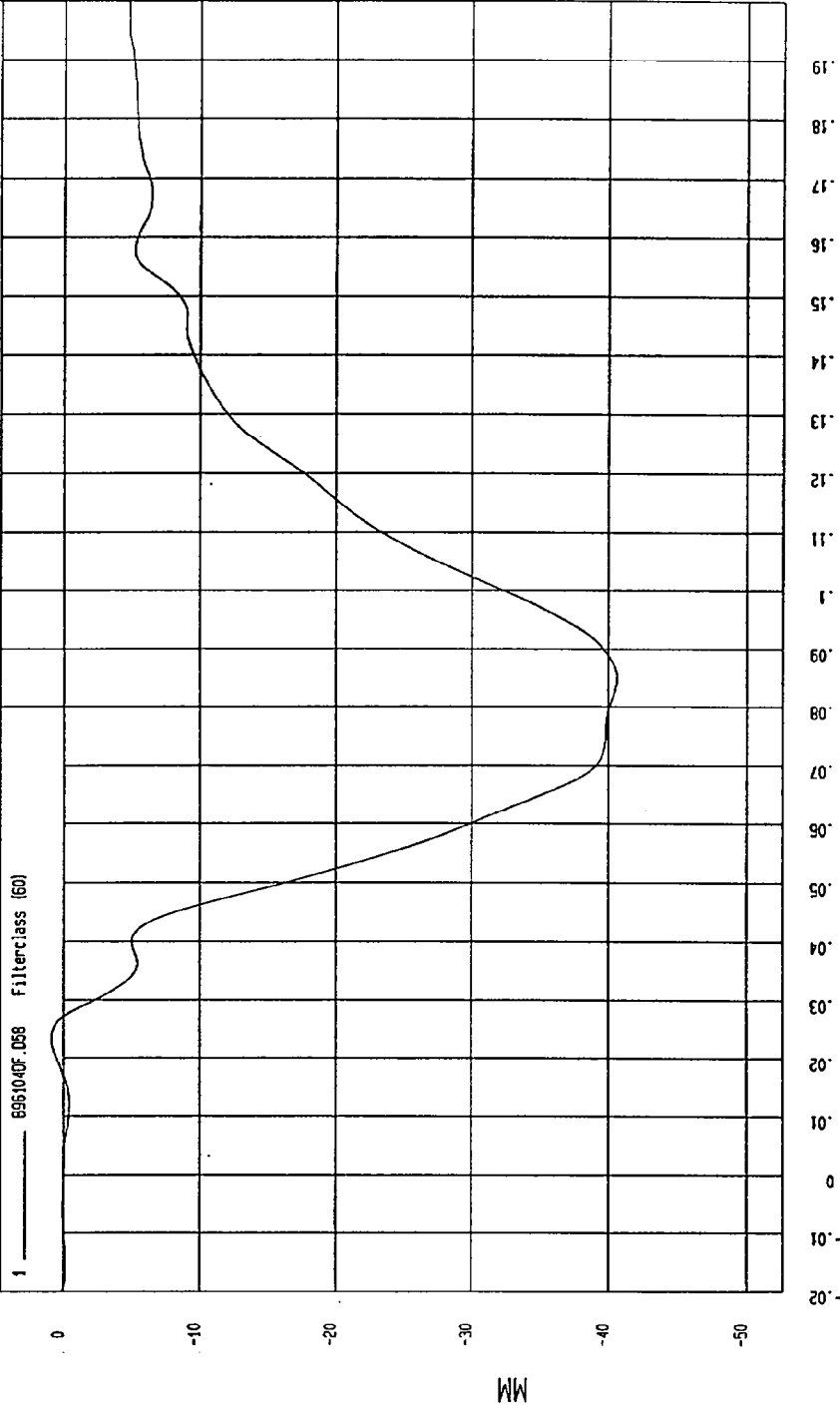
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-40.6568 MI at 05 msec

YMAX= .905336 MI at 23. msec

DRIVER CHEST COMPRESSION

1 ——— 896104F.098 Filterclass (60)



MI Pressure  
10-17-1996 03:00

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

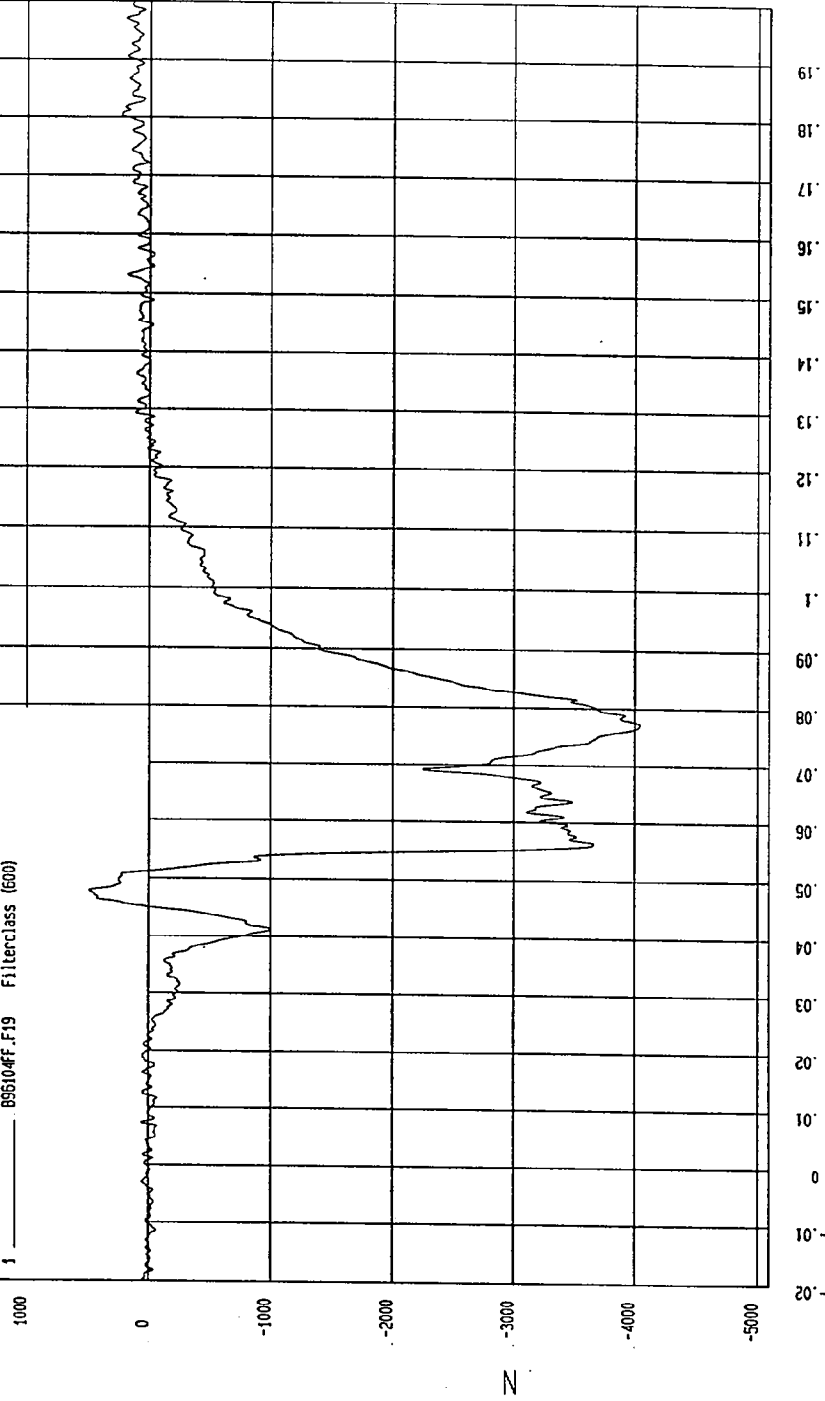
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4043.234 N at 77. mSec

YMAX= 482.7085 N at 47. mSec

DRIVER LEFT FEMUR FORCE

1 895104F.F19 Filterclass (600)



NSA Research  
10-17-1996 02:41

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

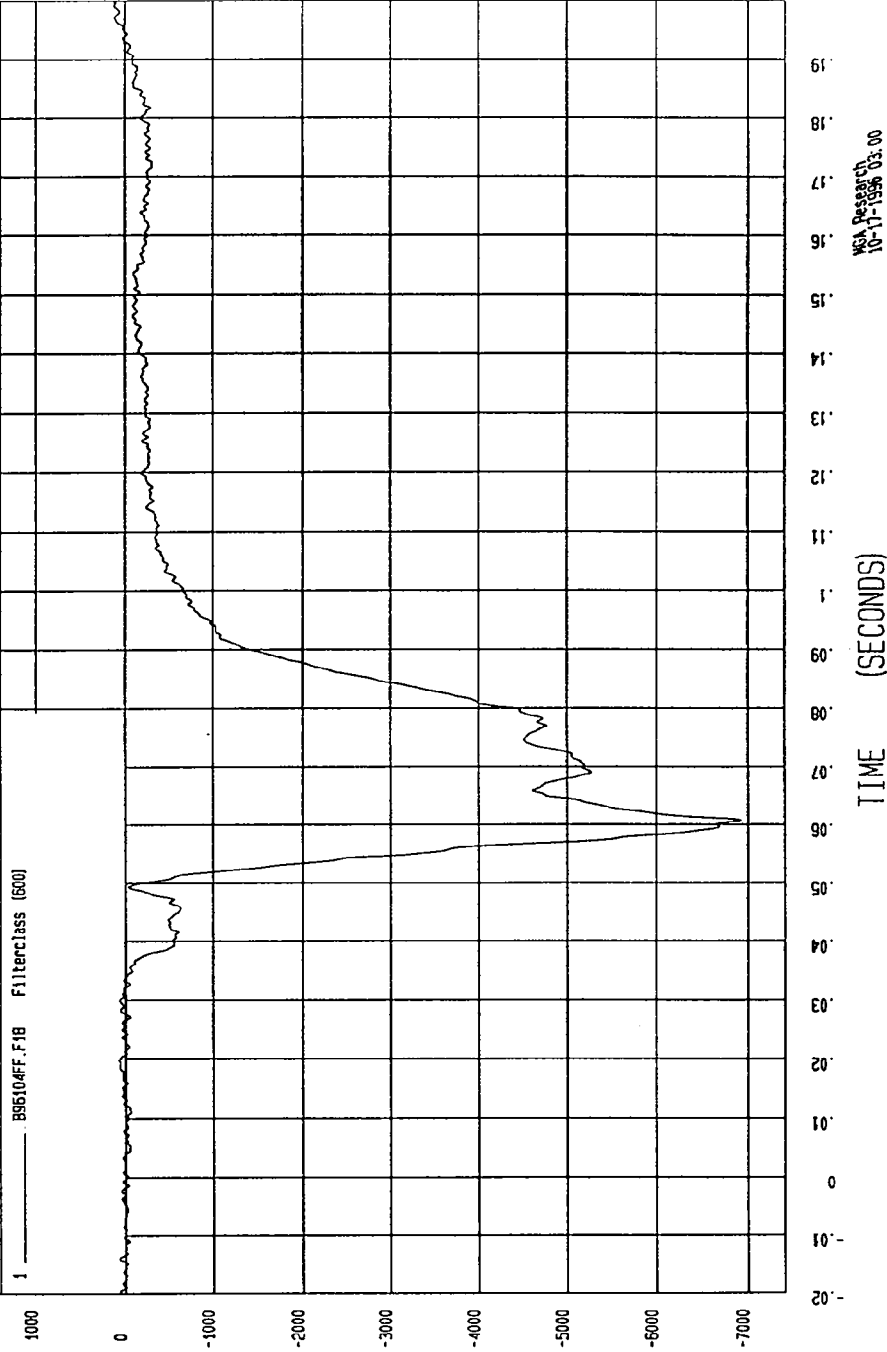
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-6925.455 N at 60. msec

YMAX= 123.7576 N at 199 msec

DRIVER RIGHT FEMUR FORCE

1 \_\_\_\_\_ B95104FF.F1B Filterclass (600)



MOA Research  
10-17-1996 03:00

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

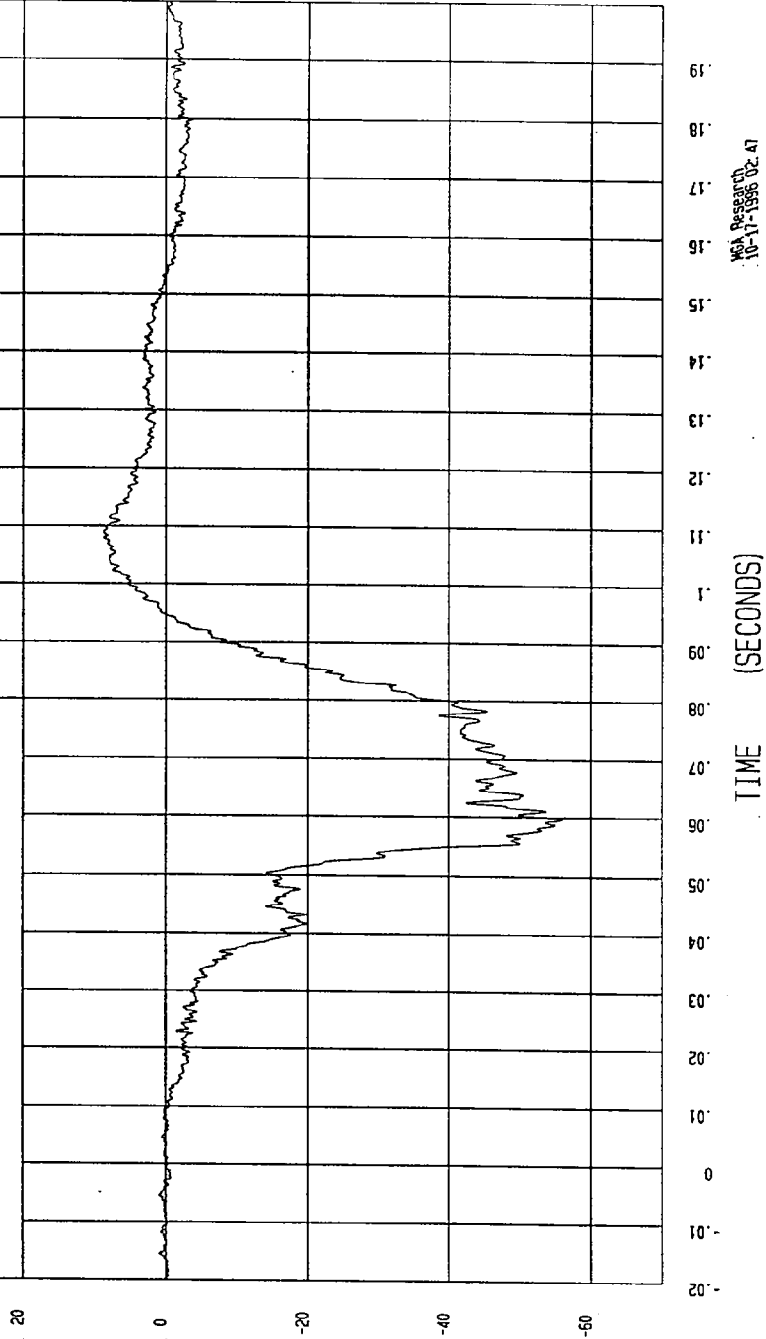
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-56.1377 G'S at 59. msec

YMAX= 8.672933 G'S at 108 msec

DRIVER PELVIS X ACCELERATION

1 896104F.460 Filterclass (1000)



SEA Research  
10-17-1996 02:47

S.9

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

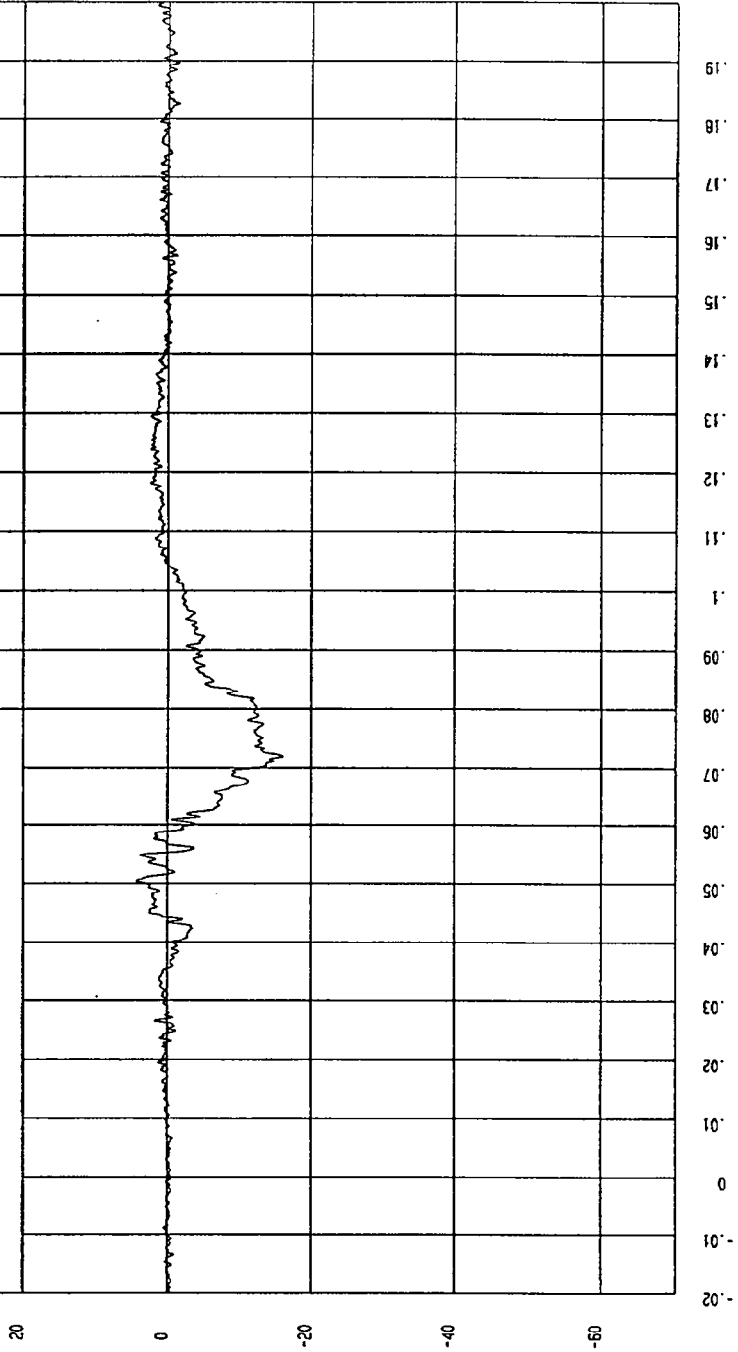
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-16.10739 G'S at 71. msec

YMAX= 4.29742 G'S at 50. msec

DRIVER PELVIS Y ACCELERATION

1 \_\_\_\_\_ 895104IF.A61 Filterclass (1000)



WCA Research  
10-17-1996 02:47

G.S

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

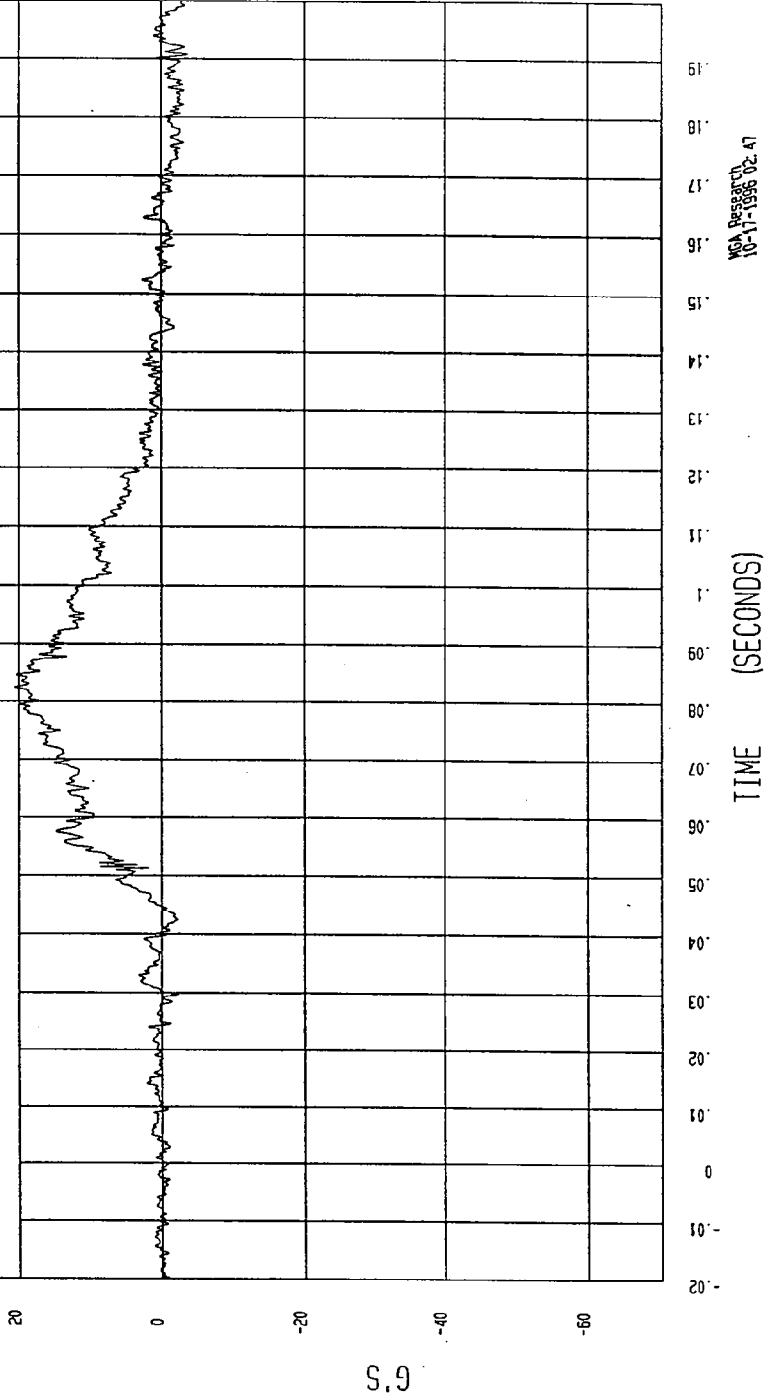
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-3.787495 G'S at 150 msec

YMAX= 20.63874 G'S at 82. msec

DRIVER PELVIS Z ACCELERATION

1 \_\_\_\_\_ 895/04AF .462 Filterclass (1000)



VEA REPORT  
10-17-1996 02:47

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

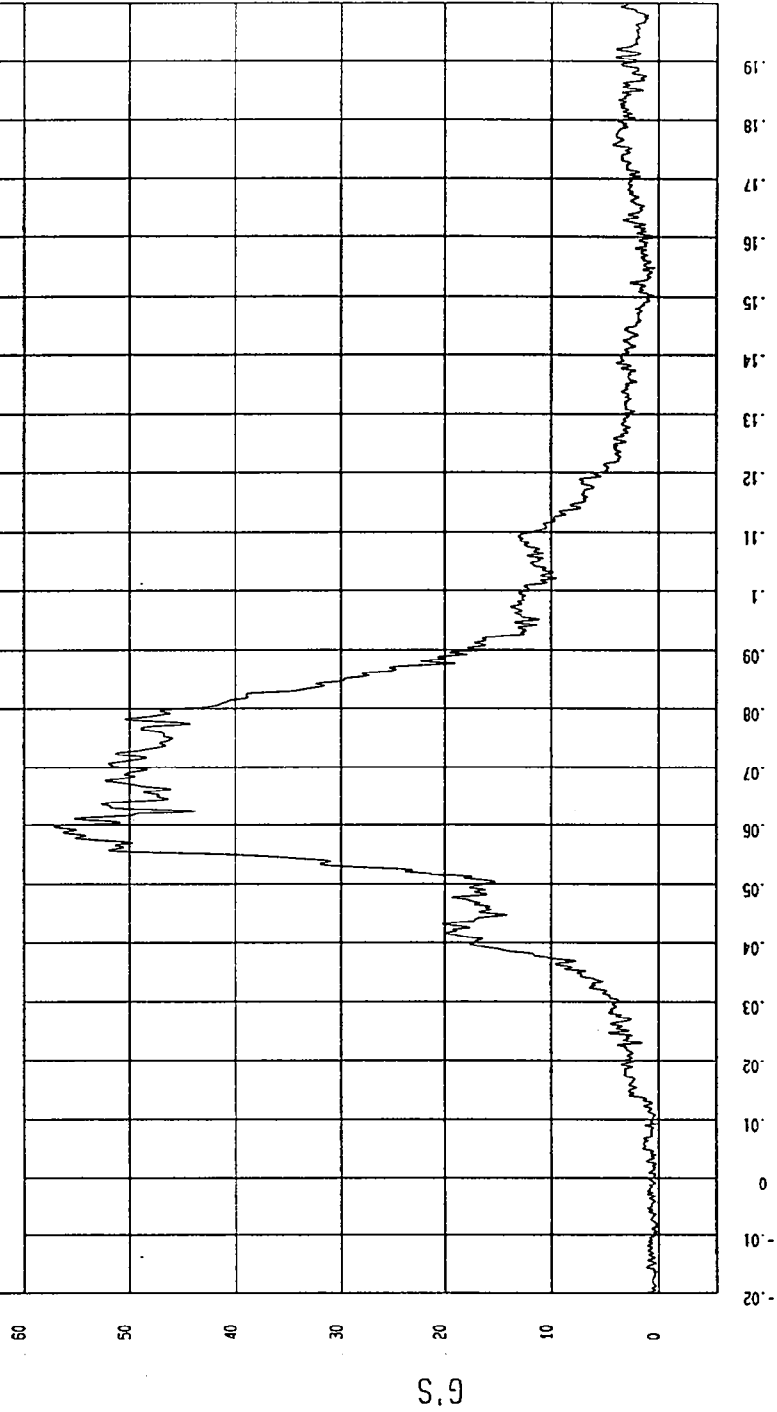
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= .1140908 G'S at -8.5 msec

YMAX= 57.19371 G'S at 99. msec

DRIVER PELVIS RESULTANT ACCELERATION

1 \_\_\_\_\_ 896104AV.A60 FilterClass (1000)



MEA Prepared  
10-17-1996 02:47

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

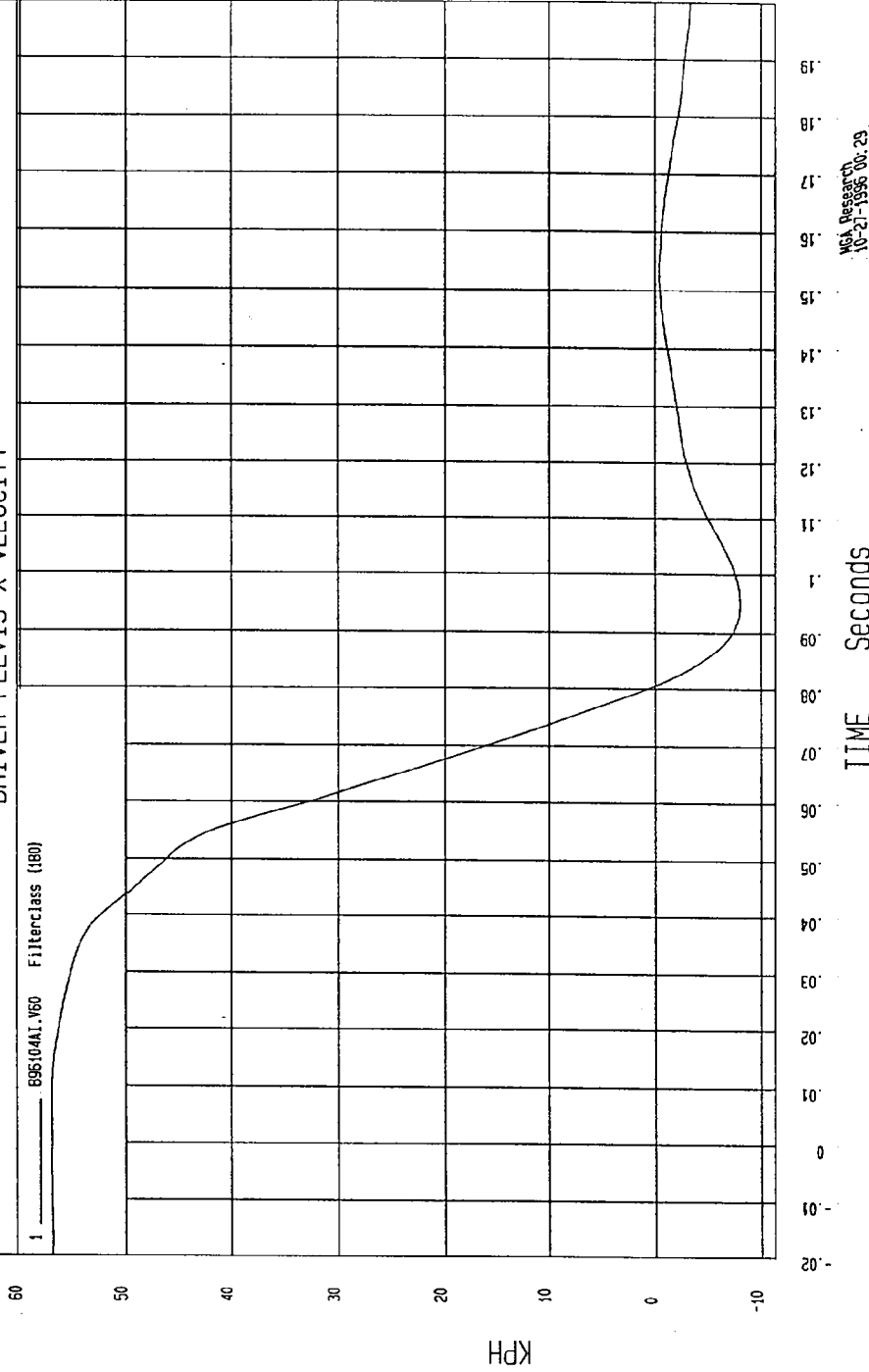
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-8.019638 KPH at 94. msec

YMAX= 57.07805 KPH at -3.9 msec

DRIVER PELVIS X VELOCITY

1 695/04A1.V60 Filterclass (180)



MOA Research  
10-21-1996 00:23

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

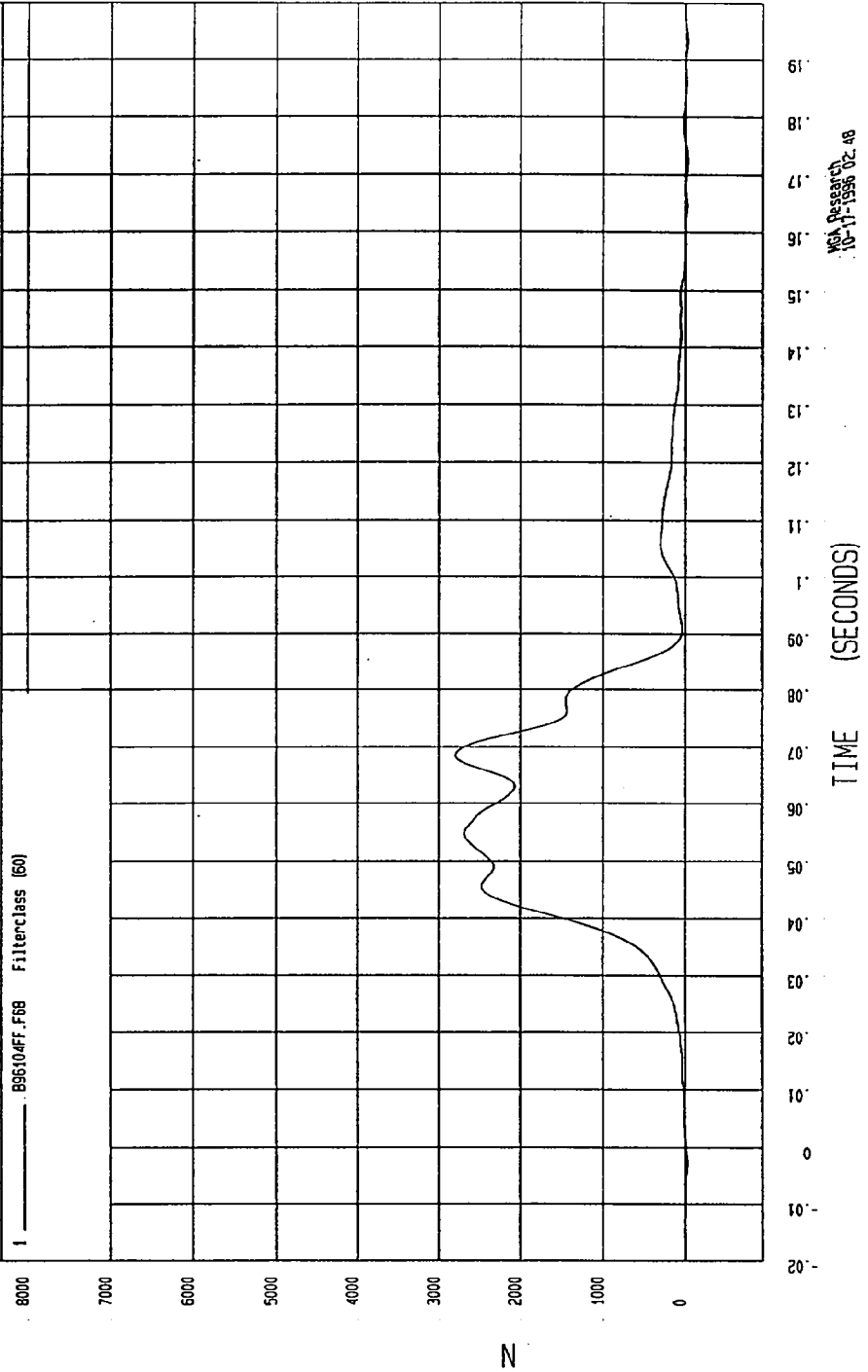
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-27.69721 N at 172 msec

YMAX= 2754.745 N at 68. msec

DRIVER LAP BELT FORCE

1 886104FF.F68 FilterClass (60)



NCAP Report  
10-17-1996 02:48

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

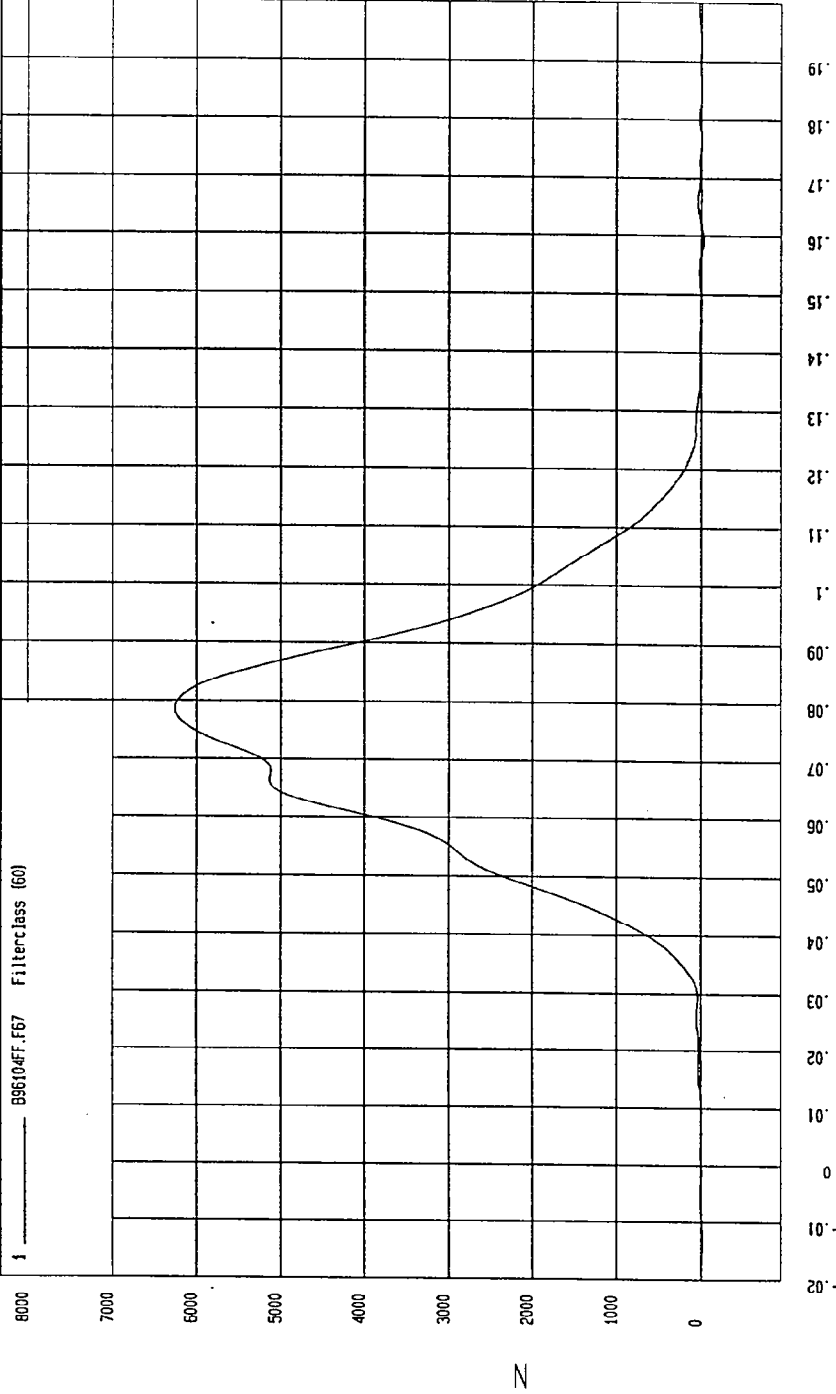
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMI#-29.03983 N at 159 msec

YMAX= 6256.95 N at 78.85sec

DRIVER SHOULDER BELT FORCE

1 ----- B96104FF.F67 Filterclass (60)



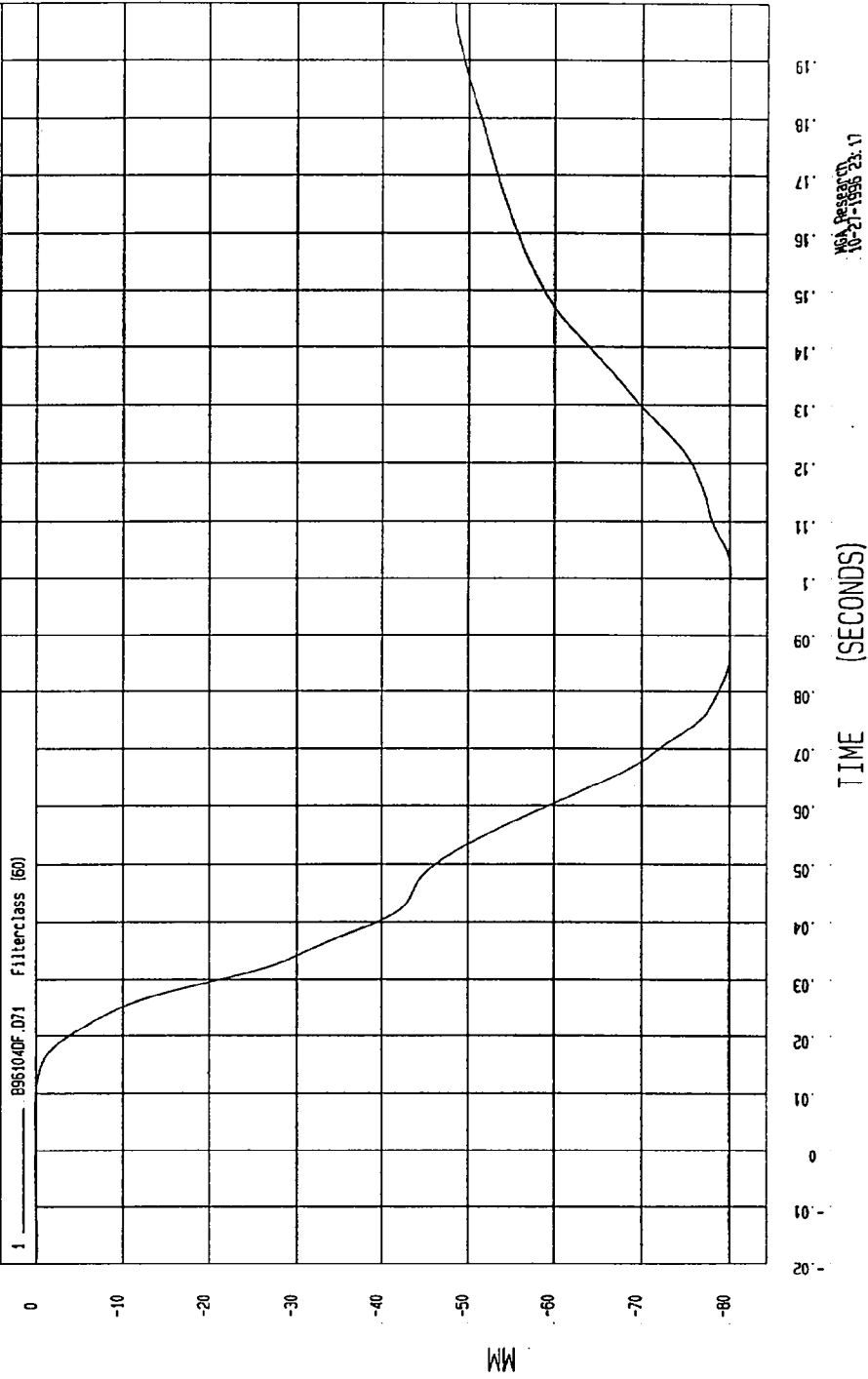
MGA Research  
10-17-1996 02:41

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-80.15027 MM at 100 msec YMAX= .1447597 MM at 6.2 msec

DRIVER BELT SPOOLOUT DISP



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

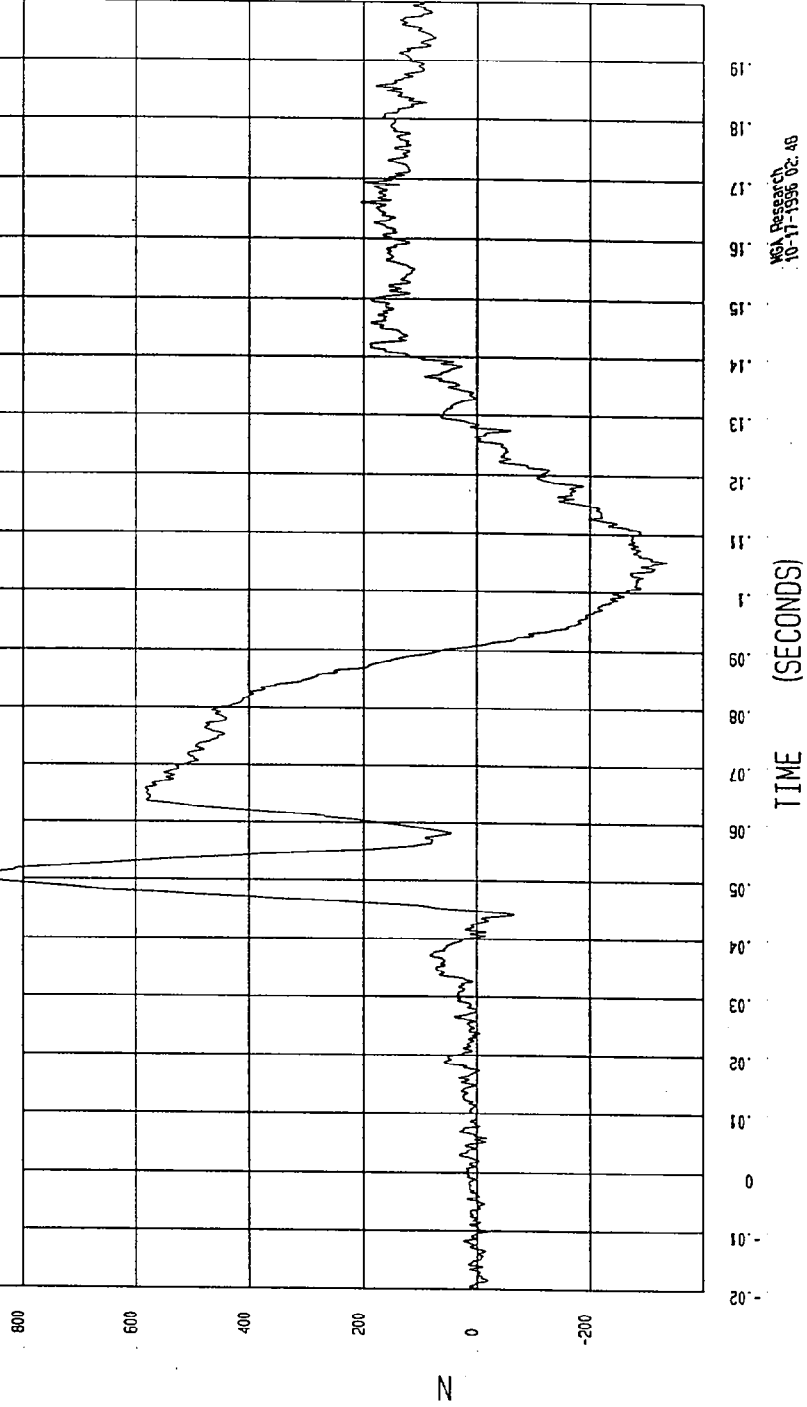
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-334.7644 N at 105 msec

YMAX= 911.2103 N at 50. msec

DRIVER NECK FORCE X

1 ——— .896(0.4F.F.45 Filterclass (1000)



NSA Research  
10-17-1996 02: 48

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

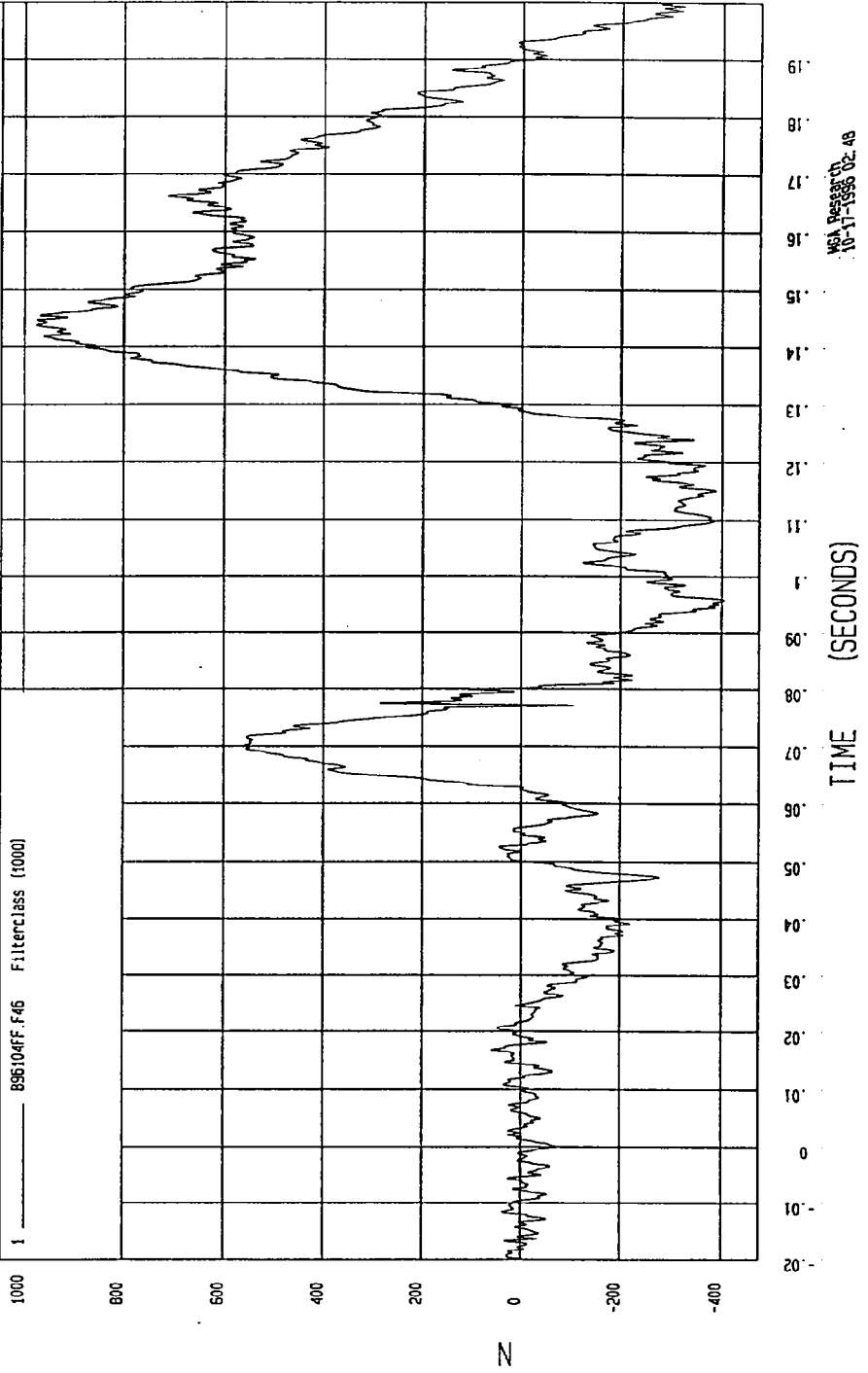
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-405.1361 N at 95. msec

YMAX= 976.6812 N at 143 msec

DRIVER NECK FORCE Y

1 896104FF F46 Filterclass (1000)



MSA Research  
10-17-1996 02.48

TEST: 35 MPH FRONTAL NCAP TEST

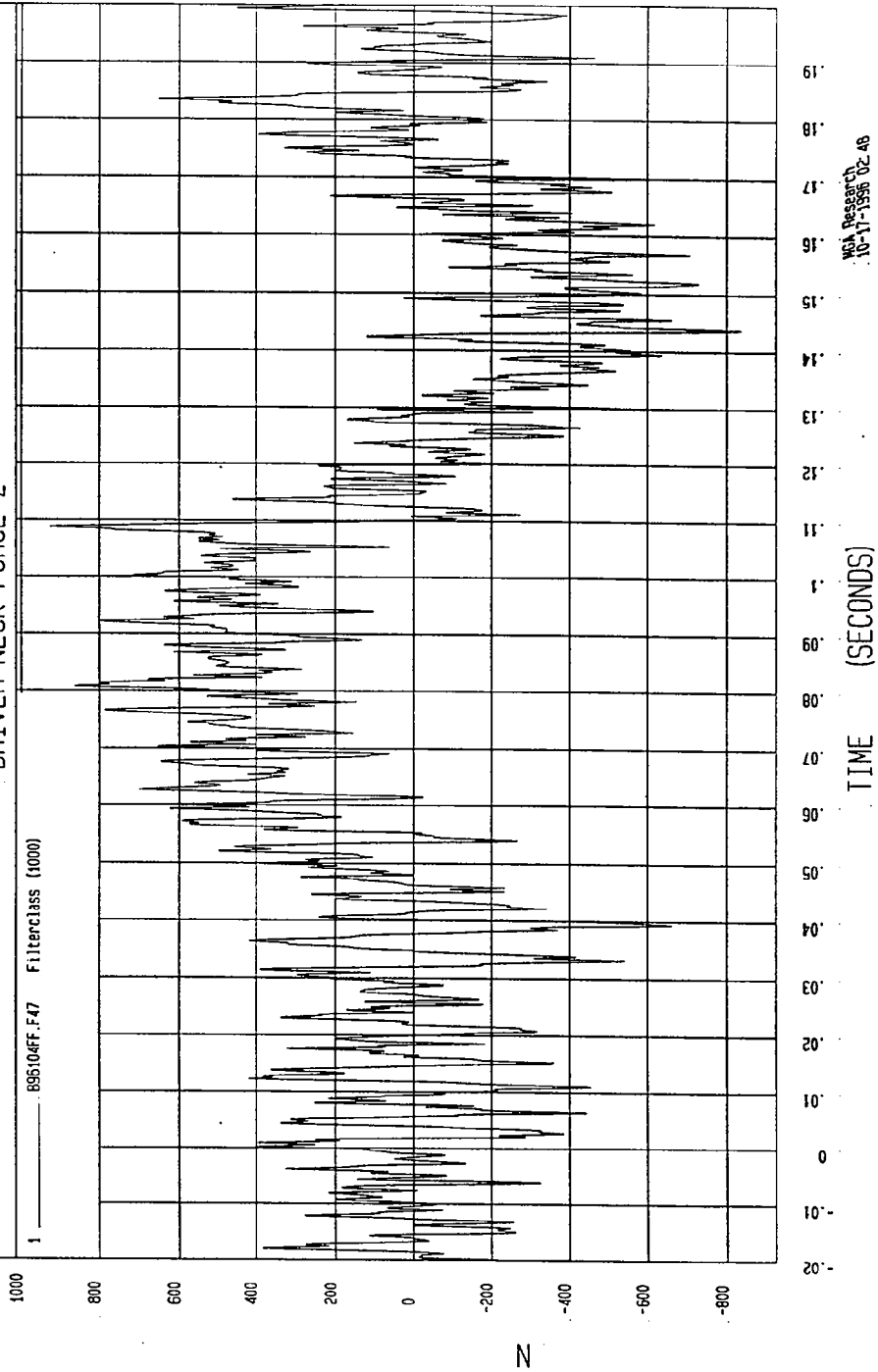
TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-835.8947 N at 143 msec

YMAX= 926.2945 N at 108 msec

DRIVER NECK FORCE Z



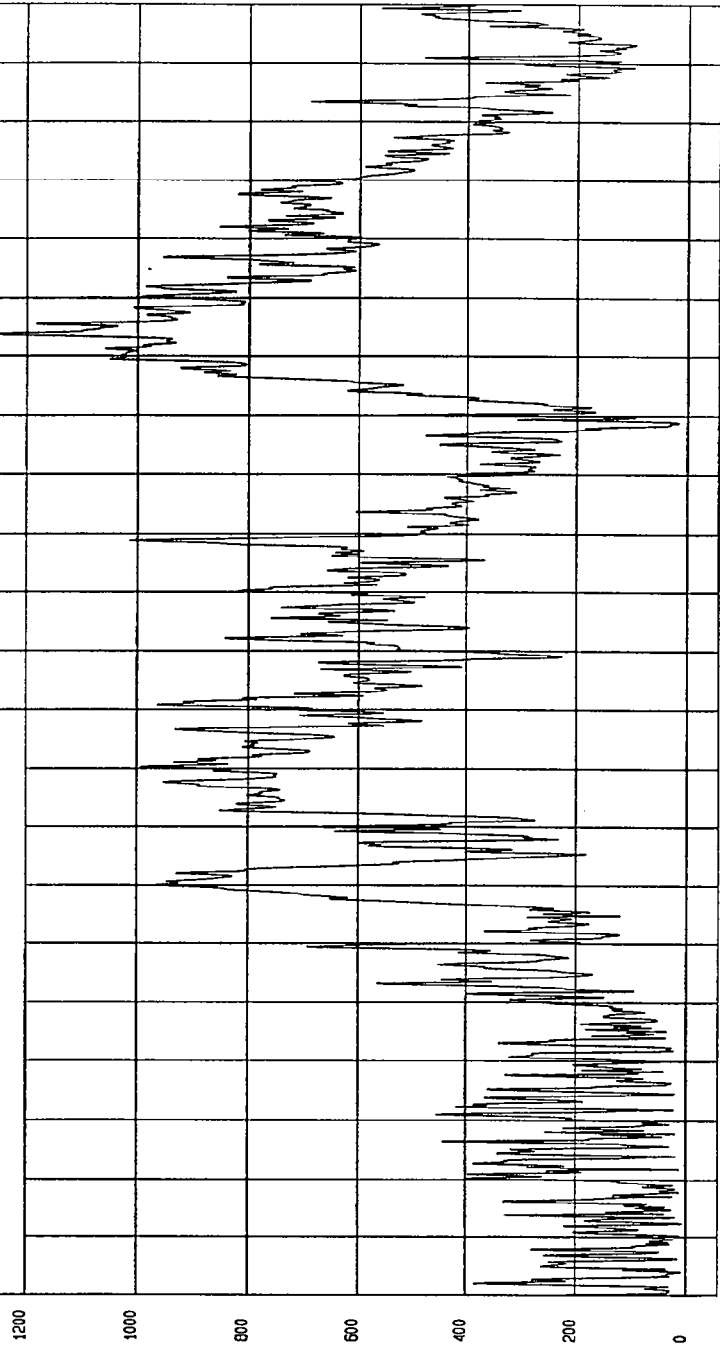
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

.YMIN= 7.404891 N at -7.7 msec .YMAX= 1291.377 N at 143 msec

DRIVER NECK FORCE RESULTANT

1 \_\_\_\_\_ 896104FV.F45 Filterclass (1000)



MCA Research  
10-17-1996 02:48

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

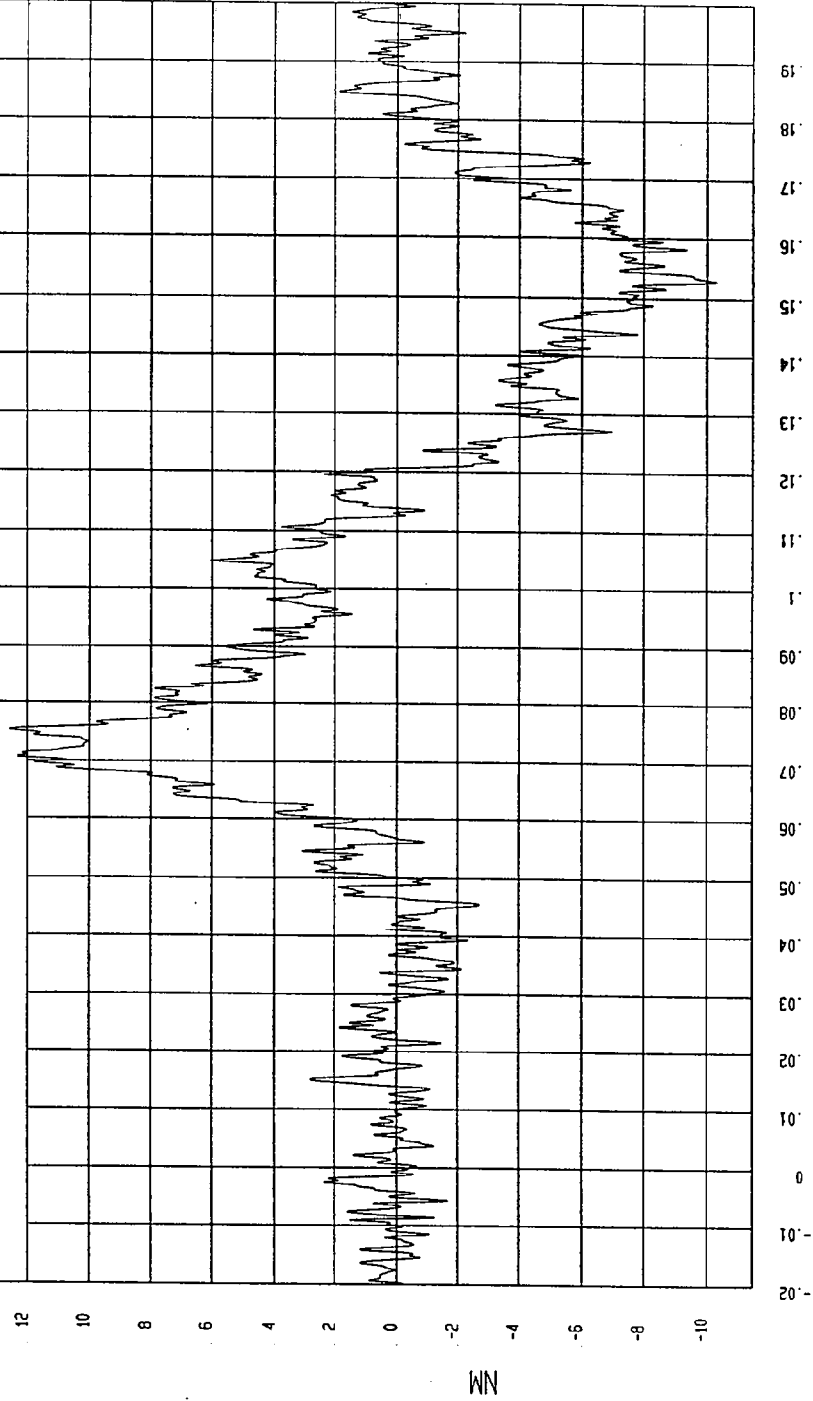
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-10.30678 NM at 152 msec

YMAX= 12.59333 NM at 75. msec

DRIVER NECK MOMENT X

1 896104F.M48 Filter:ass (500)



NCAP Report  
10-17-1996 02:48

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

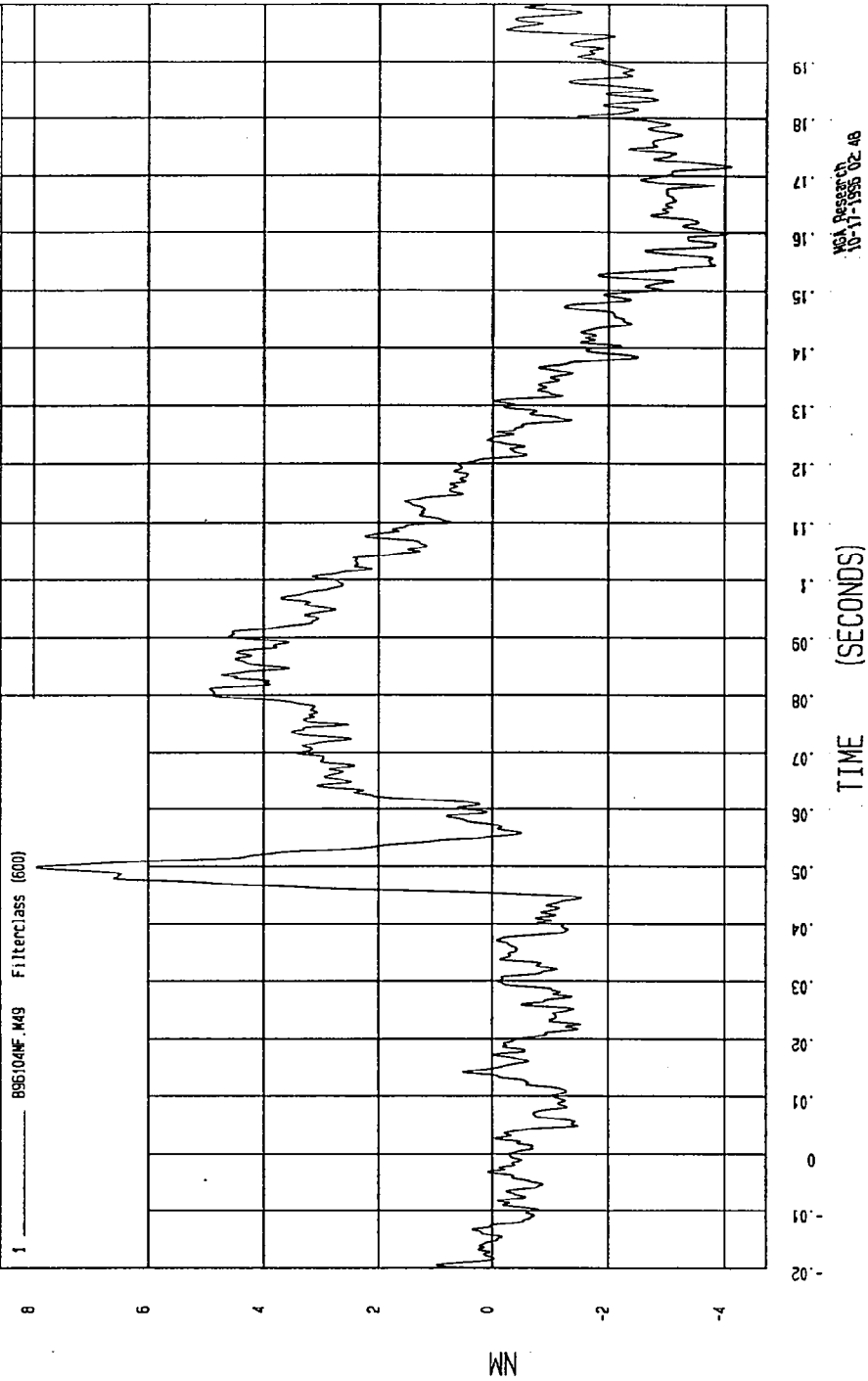
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4.104078 NM at 171 msec

YMAX= 7.959181 NM at 49. msec

DRIVER NECK MOMENT Y

1 896104NF.M49 FilterClass (600)



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

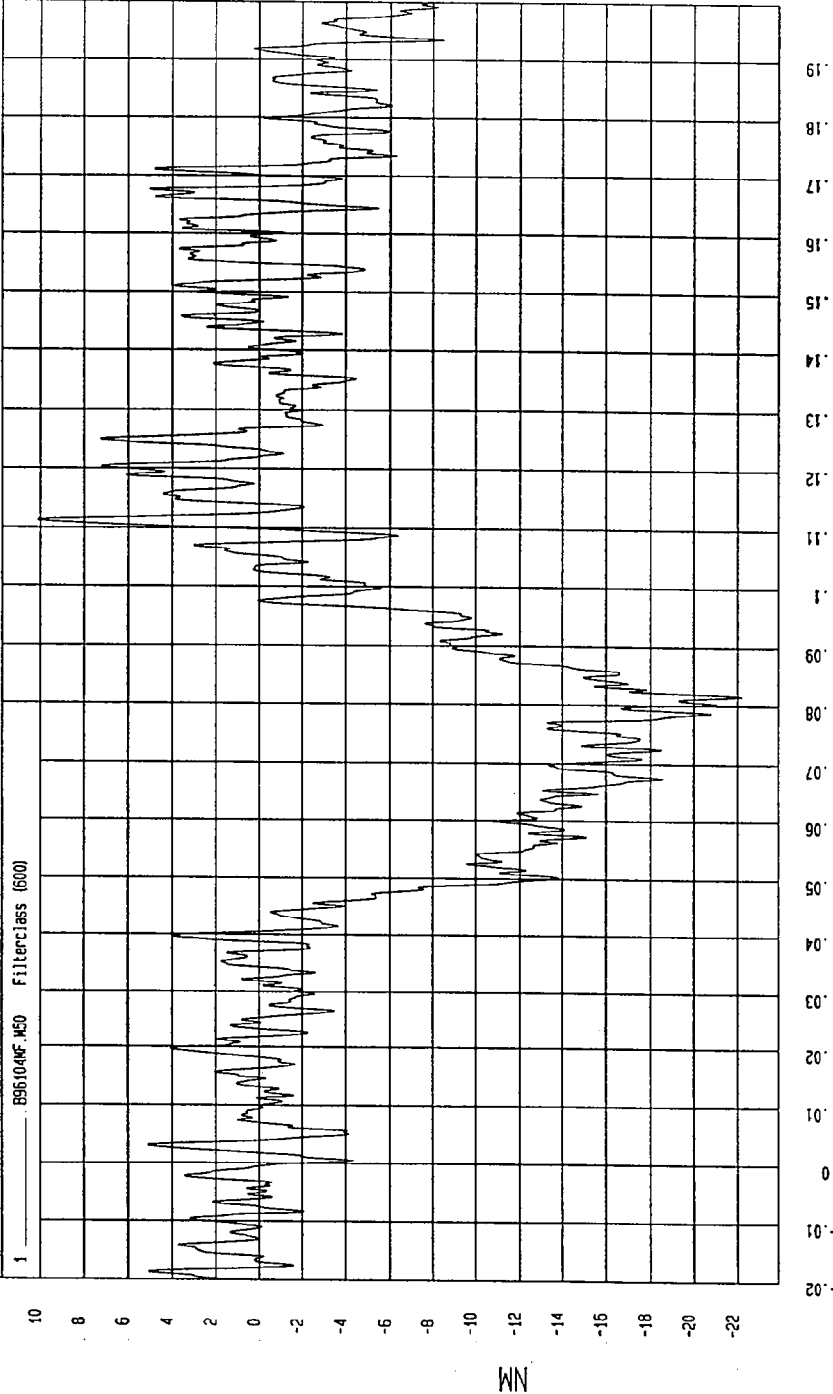
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-22.19565 NM at 81. msec

YMAX= 10.13112 NM at 111 msec

DRIVER NECK MOMENT Z

1 896104NF.ME0 Filterclass 600



NSA Research  
10-17-1996 02:48

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

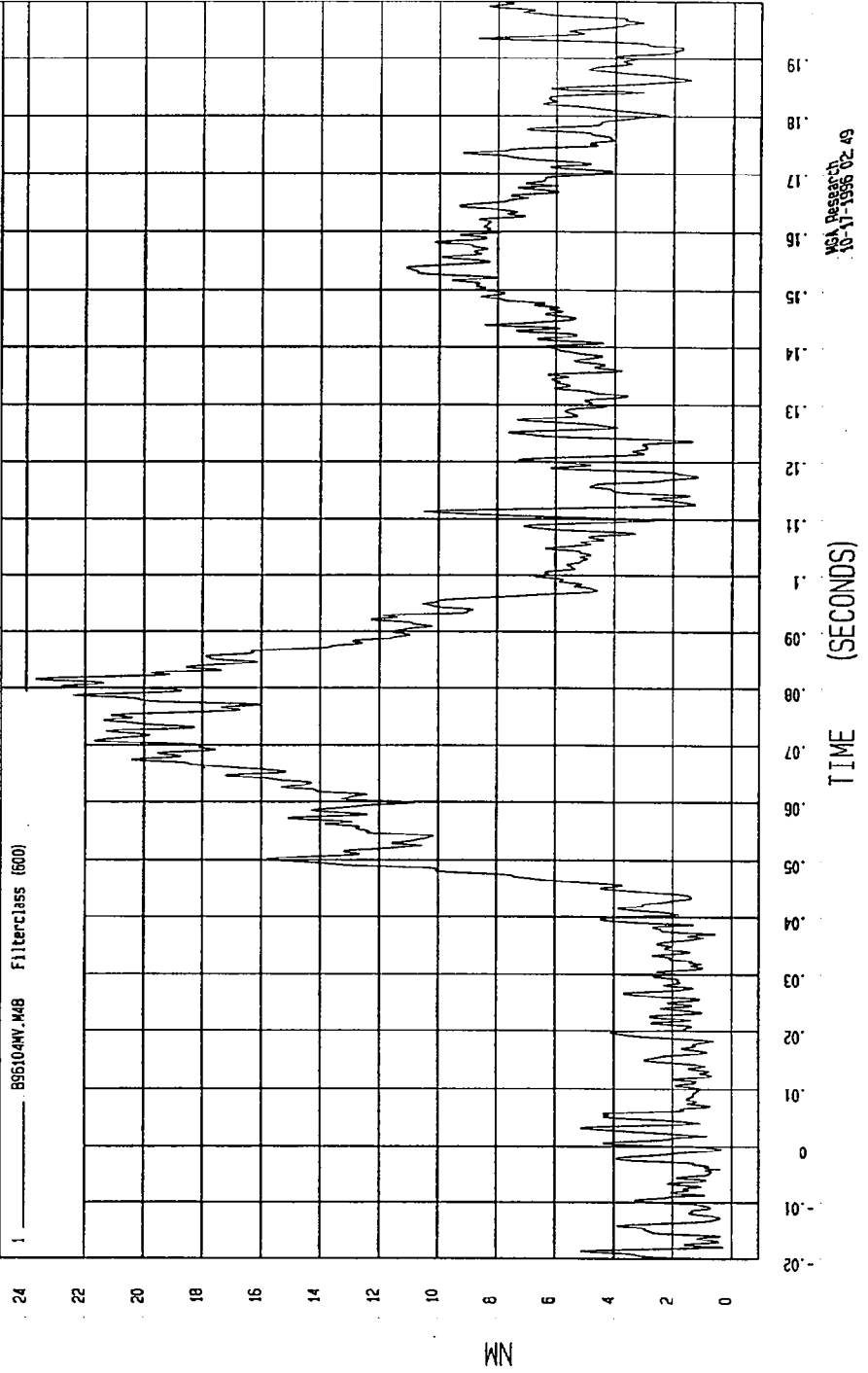
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= .2699429 NM at -17. msec

YMAX= 23.68756 NM at 81. msec

DRIVER NECK MOMENT RESULTANT

1 \_\_\_\_\_ 896104MV.M48 Filterclass (600)



WCA Research  
10-17-1996 02:49

TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

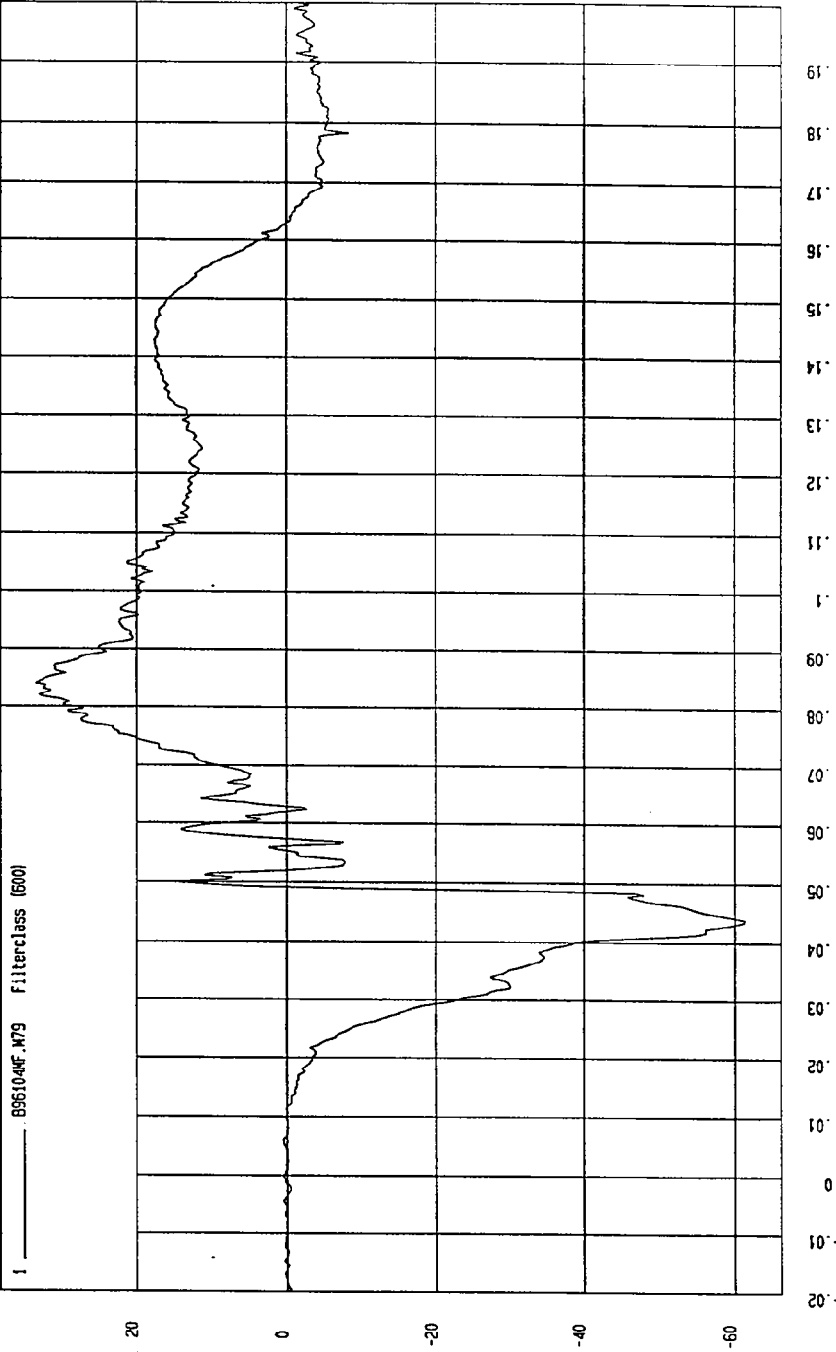
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-61.46435 NI at 43. msec

YMAX= 33.33789 NI at 84. msec

DRIVER LEFT UPPER TIBIA MOMENT X

1 ——— 896104NF.M79 Filterclass (600)



NSA Research  
10-17-1996 08:13

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

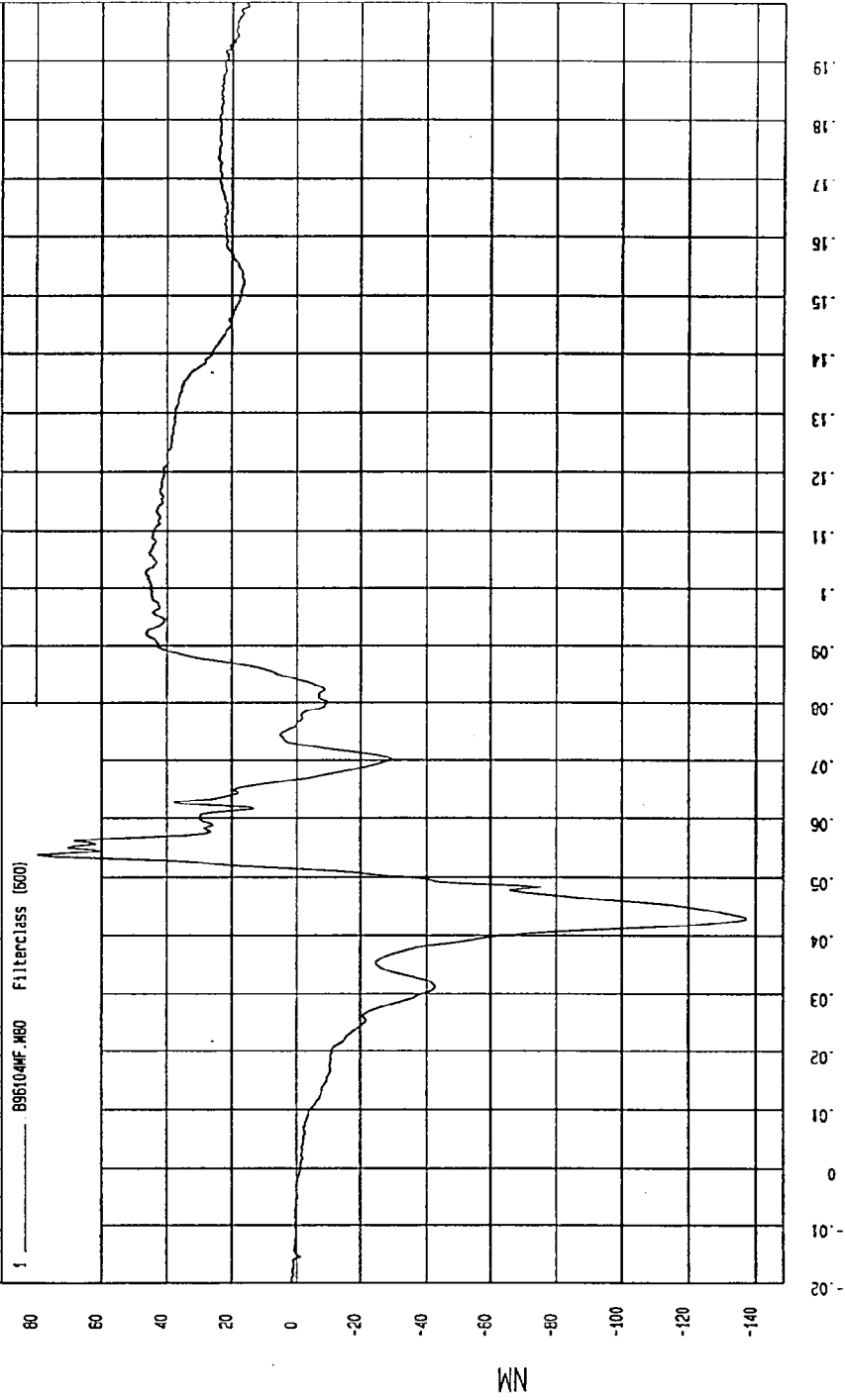
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-137.4641 NM at 43.85sec

YMAX= 79.68202 NM at 53.85sec

DRIVER LEFT UPPER TIBIA MOMENT Y

1 896104MF.H80 Filterclass (600)



M&L Research  
10-17-1996 Ch. 13

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

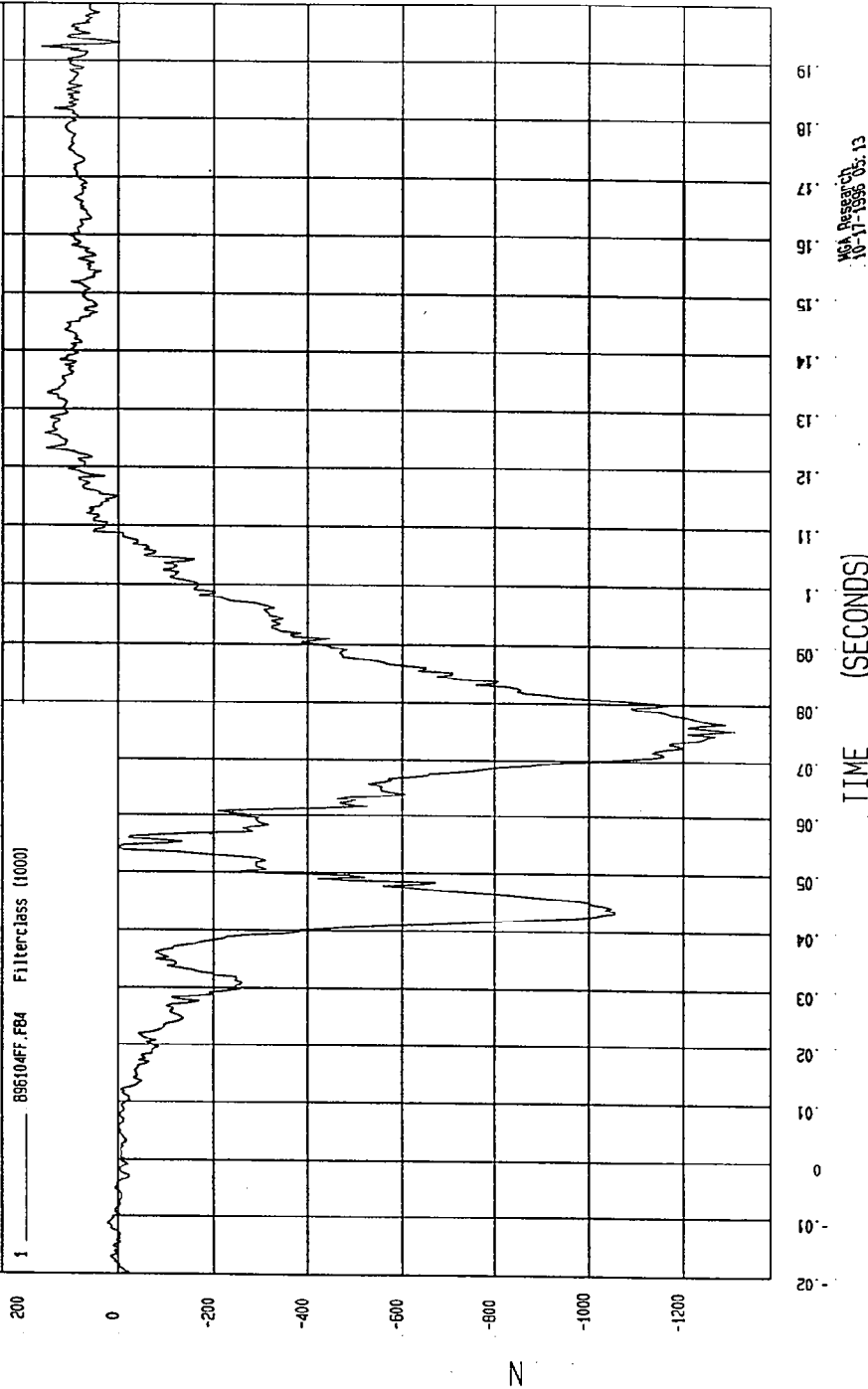
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-1309.737 N at 75. msec

YMAX= 168.8185 N at 192 msec

DRIVER LEFT LOWER TIBIA FORCE X

1 895104FF.FB4 Filterclass (1000)



MCA Research  
10-17-1996 05.13

TEST DATE: 10-17-1996

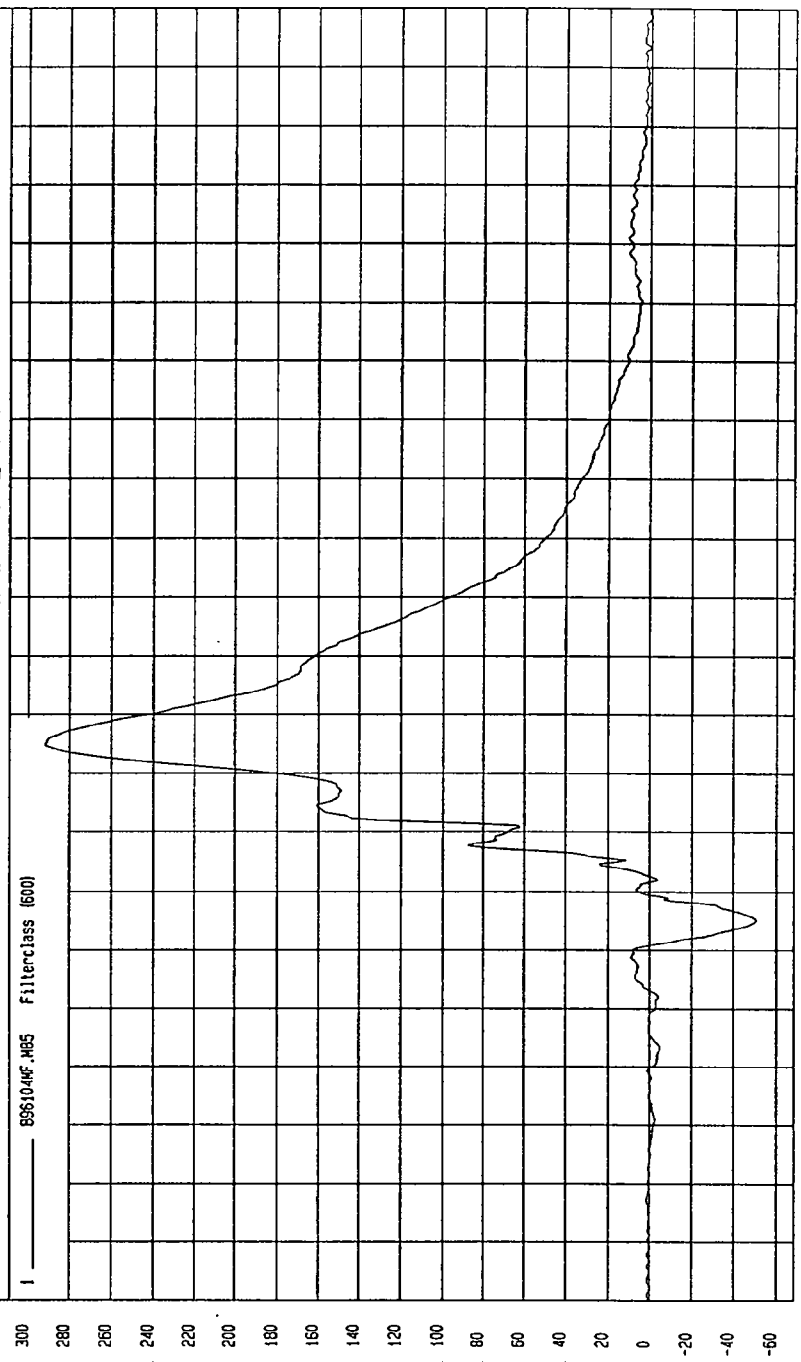
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-50.99029 NM at 45. msec      YMAX= 292.0653 NM at 74. msec

DRIVER LEFT LOWER TIBIA MOMENT Y

1 ——— 896104F.M05 Filterclass (600)



TIME (SECONDS)

1.5  
1.4  
1.3  
1.2  
1.1  
1.0  
0.9  
0.8  
0.7  
0.6  
0.5  
0.4  
0.3  
0.2  
0.1  
0  
-1  
-2  
-3  
-4  
-5  
-6  
-7  
-8  
-9  
-10  
-11  
-12  
-13  
-14  
-15  
-16  
-17  
-18  
-19

MOA Research  
10-21-1996 23:13

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

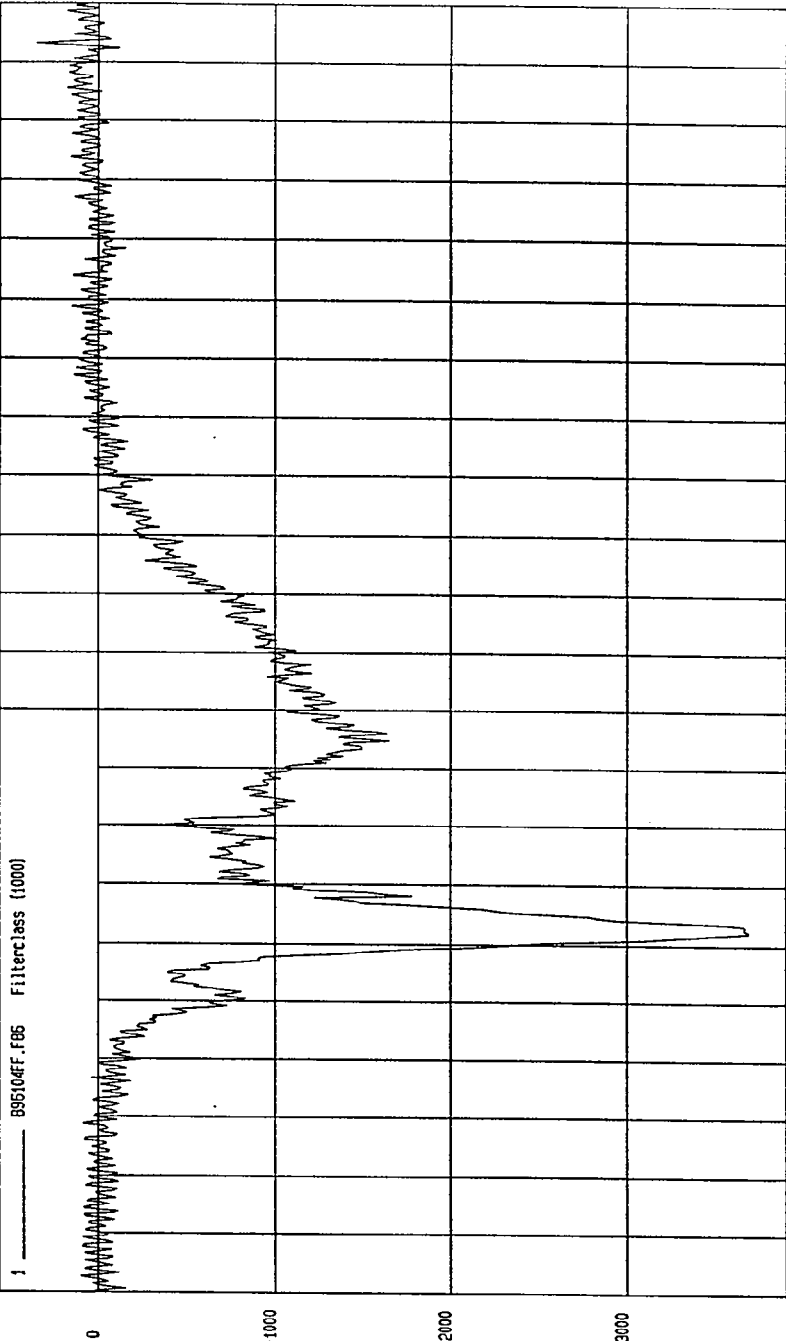
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-3682.157 N at 42. msec

YMAX= 351.9987 N at 193 msec

DRIVER LEFT LOWER TIBIA FORCE Z

1 - 895104FF.F05 FilterClass (1000)



MSA Research  
10-17-1996 05:13

TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

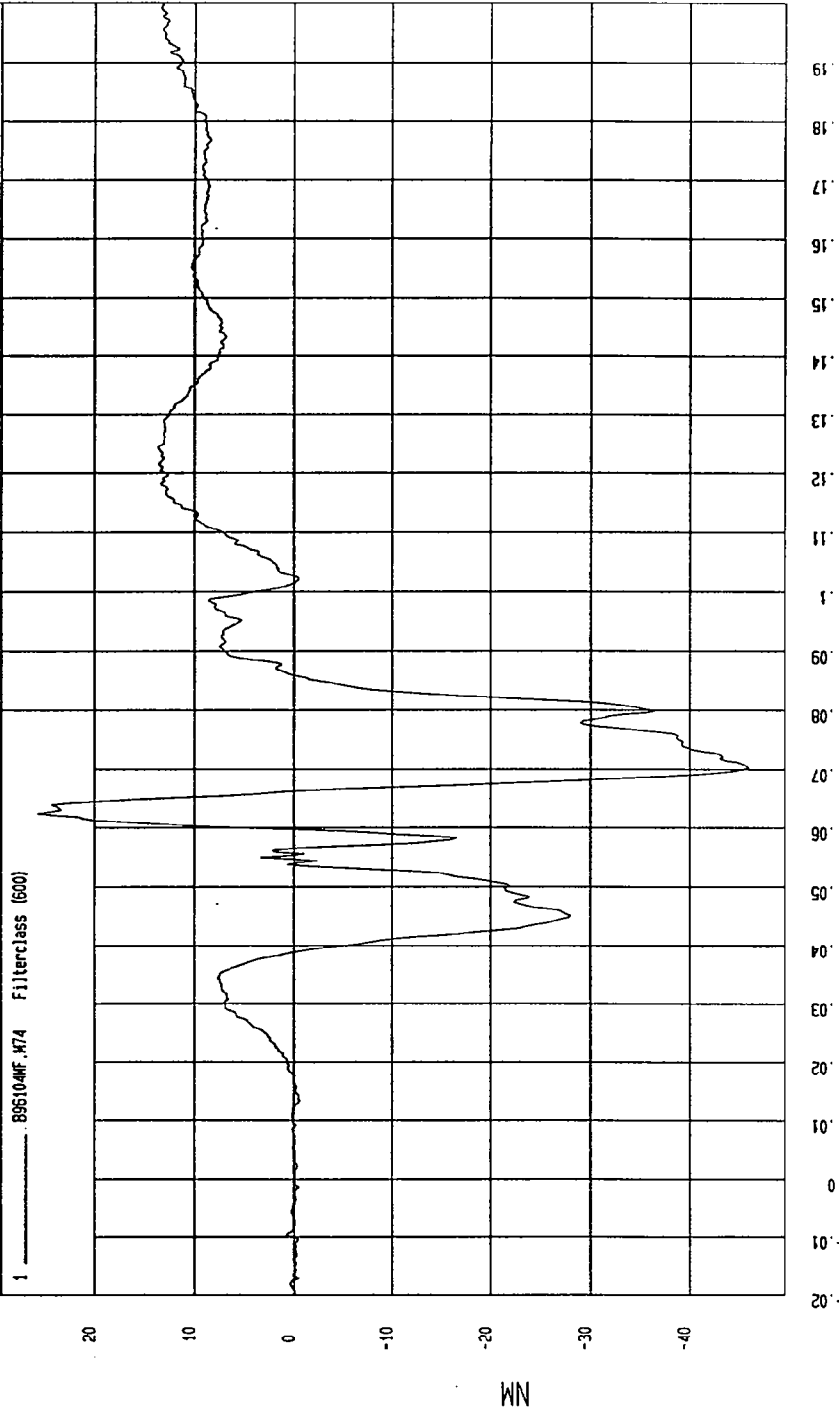
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-45.74919 NM at 70. msec

YMAX= 25.71224 NM at 62. msec

DRIVER RIGHT UPPER TIBIA MOMENT X

1 \_\_\_\_\_ .896104NF .M74 Filterclass (600)



NSA REPORT  
10-17-1996 06.13

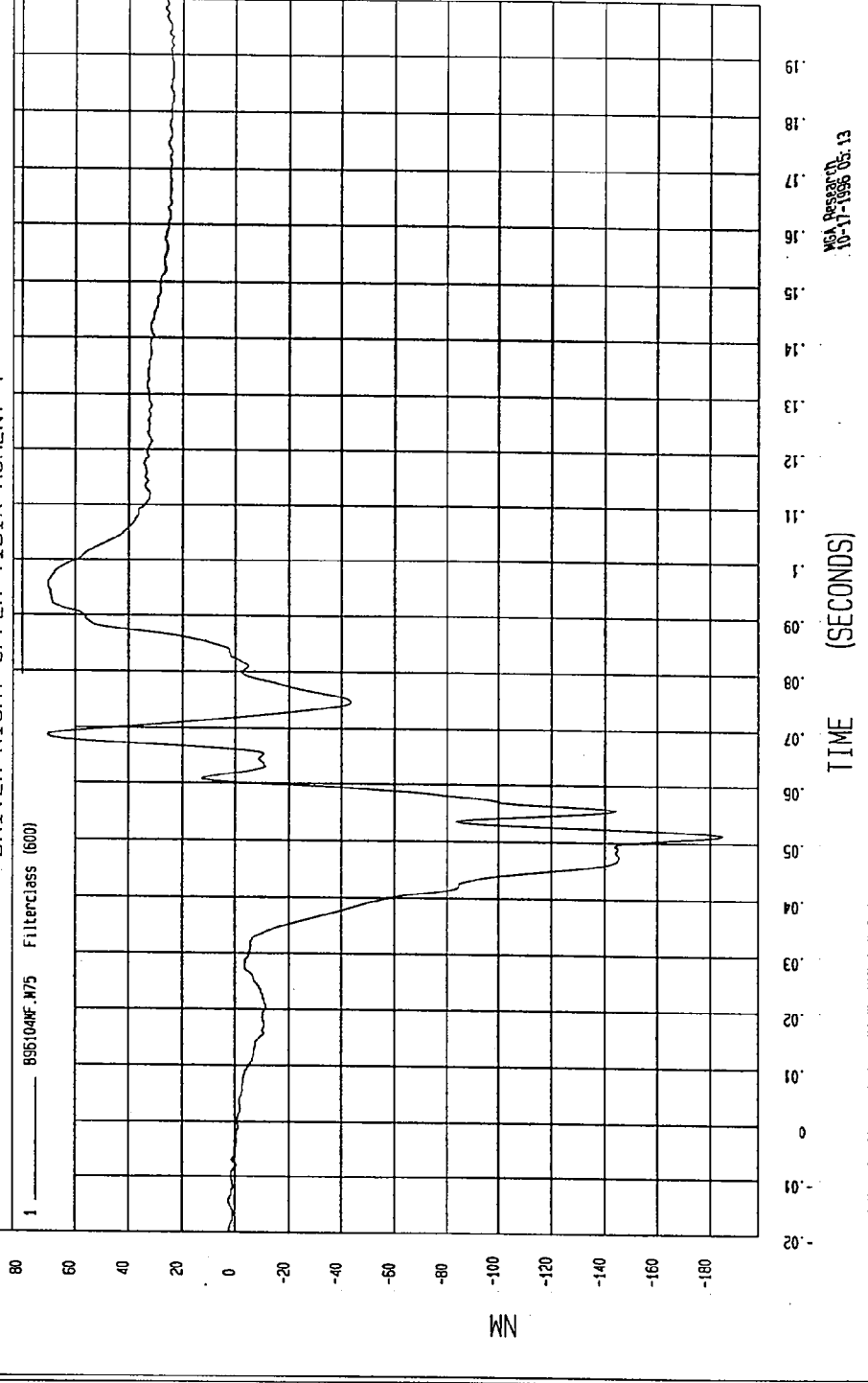
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-185.0091 NM at 51. msec

YMAX= 70.56464 NM at 68. msec

DRIVER RIGHT UPPER TIBIA MOMENT Y



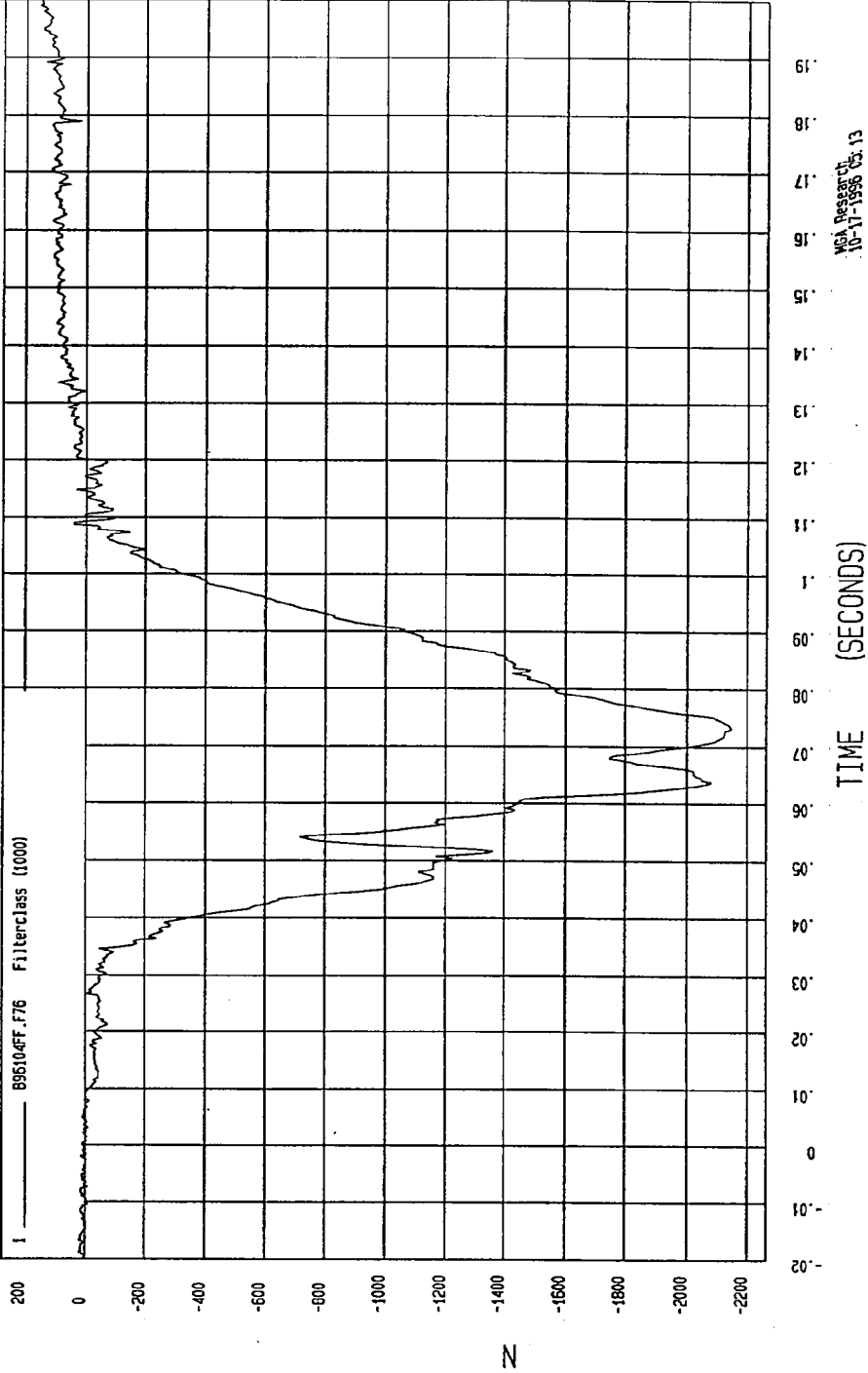
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

.TMIN=-2146.185 N at 73. msec .TMAX= 158.8725 N at 199 msec

DRIVER RIGHT LOWER TIBIA FORCE X

1 895104FF.F76 FilterClass (1000)



MOA Research  
10-17-1996 Ch. 13

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

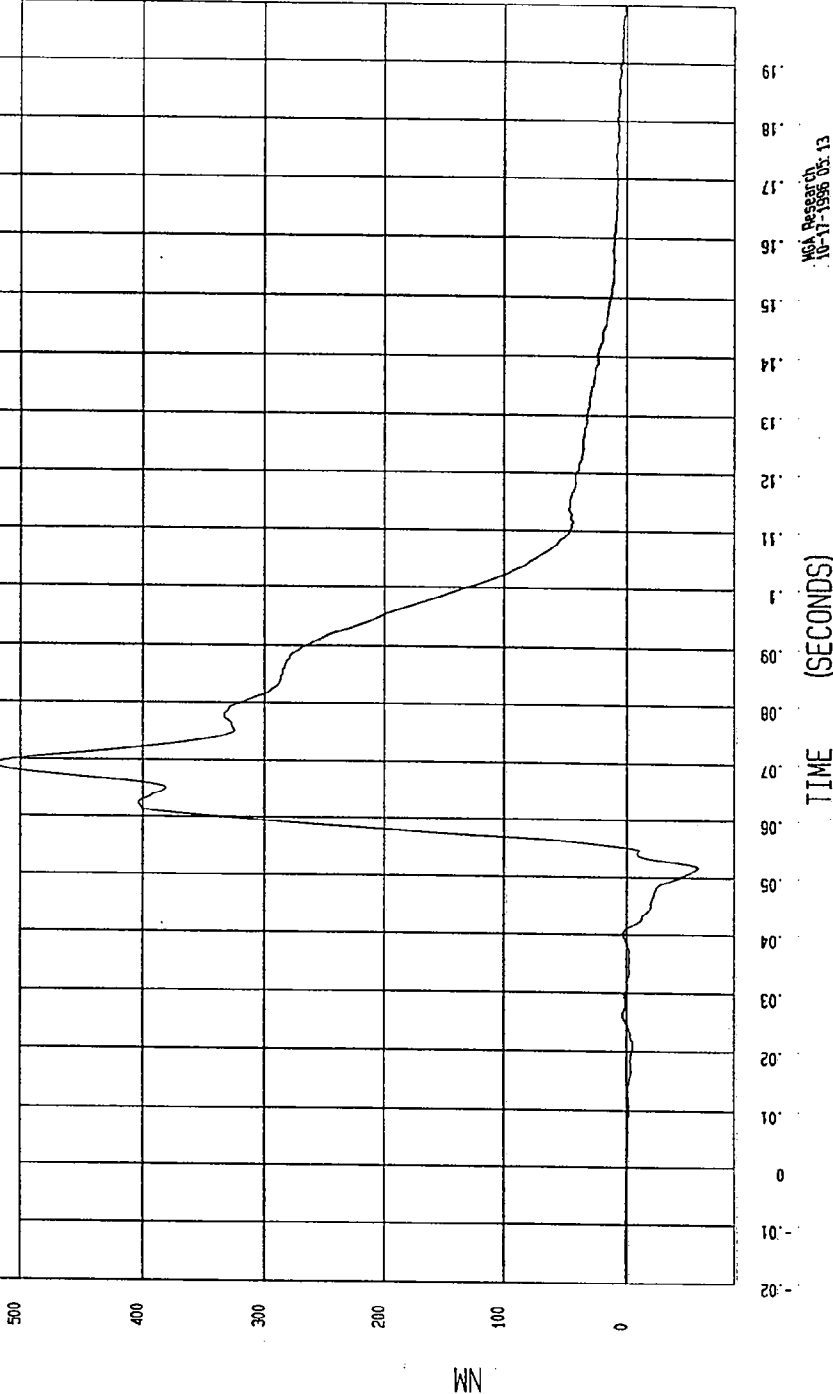
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=58.53083 NM at 51. msec

YMAX= 519.8835 NM at 69. msec

DRIVER RIGHT LOWER TIBIA MOMENT Y

1 896104NF.M77 Filterclass (600)



MOA Research  
10-17-1996 05:13

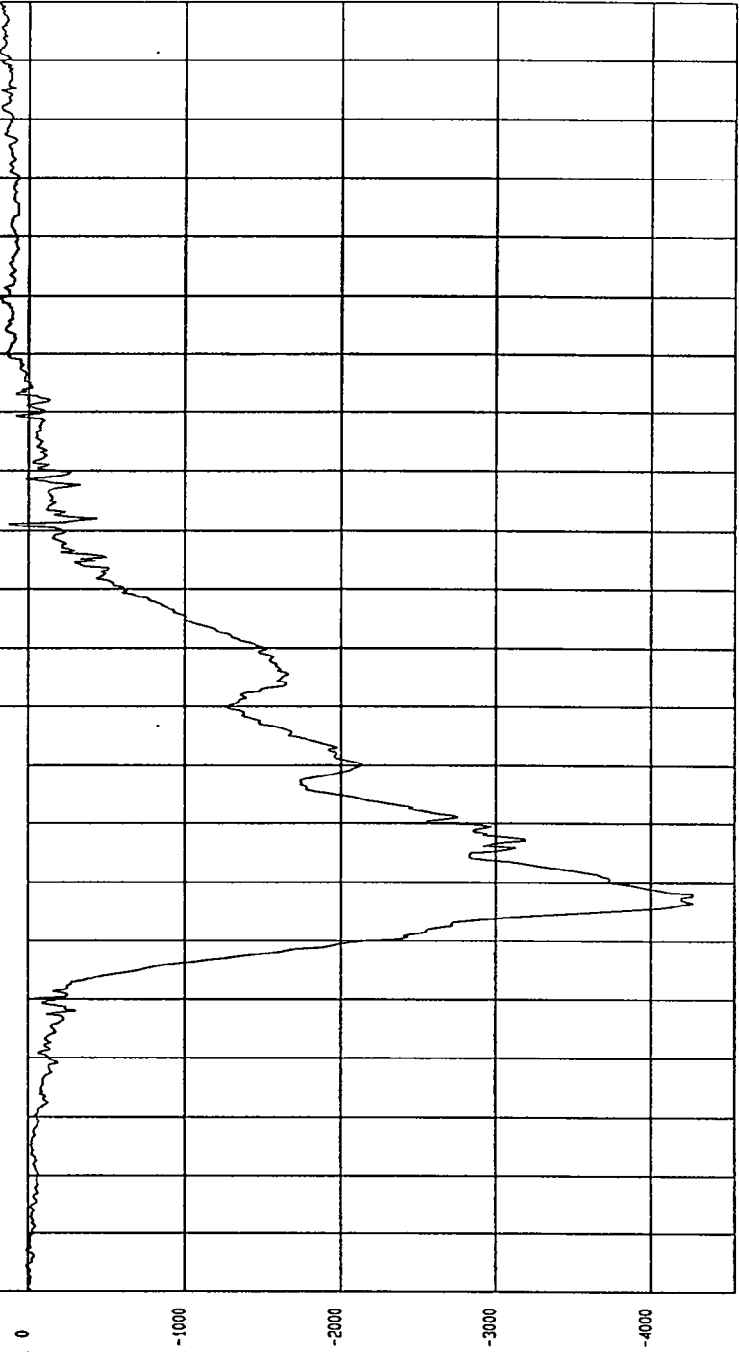
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4294.91 N at 47. msec YMAX= 250.8434 N at 111 msec

DRIVER RIGHT LOWER TIBIA FORCE Z

1 ——— B96104FF.F78 F11terClass (1000)



TIME (SECONDS)

MSL Research  
10-17-1996 05.14

DRIVER LEFT FOOT BALL Z ACCELERATION VS. TIME

NO VALID DATA COLLECTED



TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

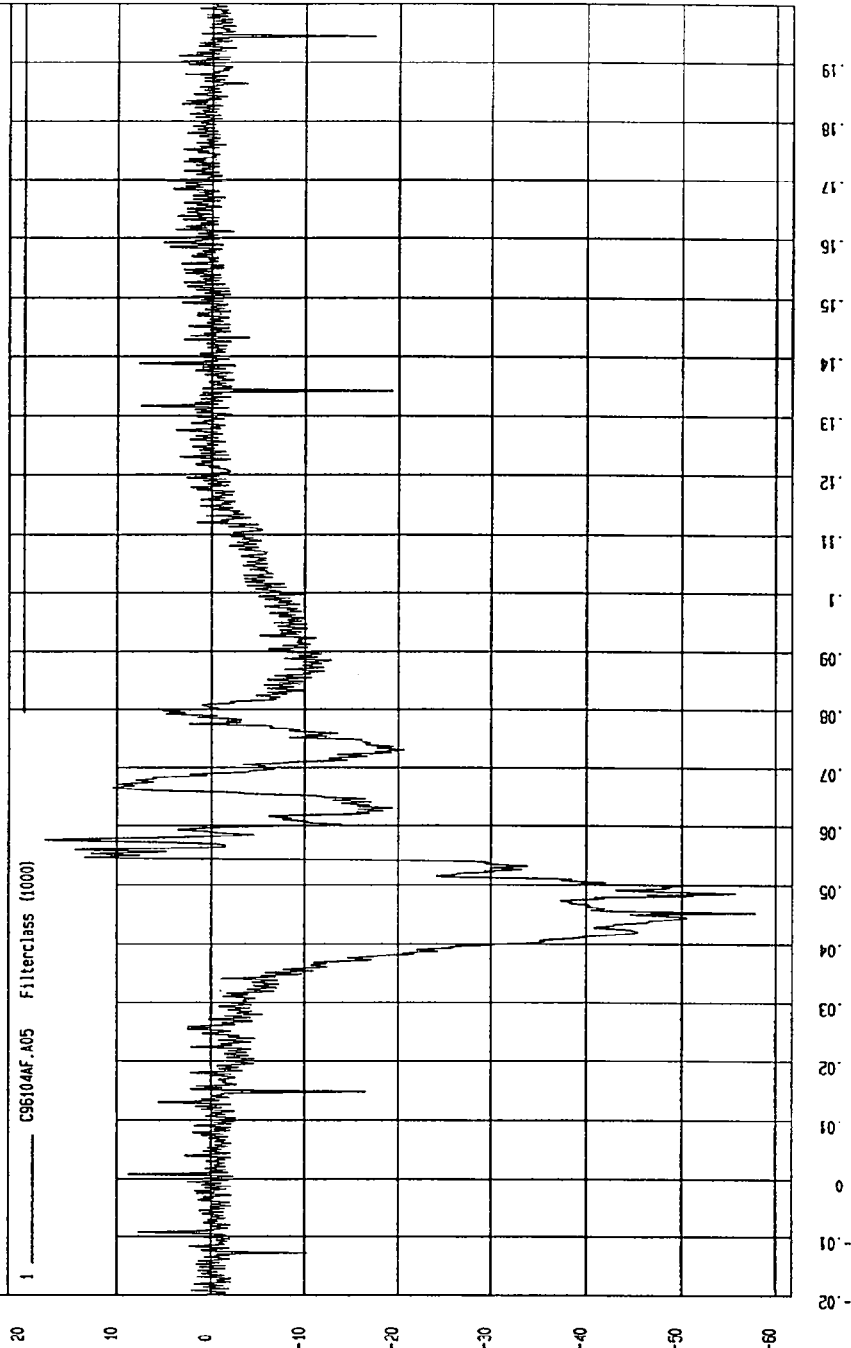
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-57.89675 G'S at .45. msec

YMAX= 17.80541 G'S at 57. msec

DRIVER LEFT FOOT HEEL X ACCELERATION

1 \_\_\_\_\_ C96104AF.A05 Filterclass (1000)



MCA Research  
10-21-1996 03.44

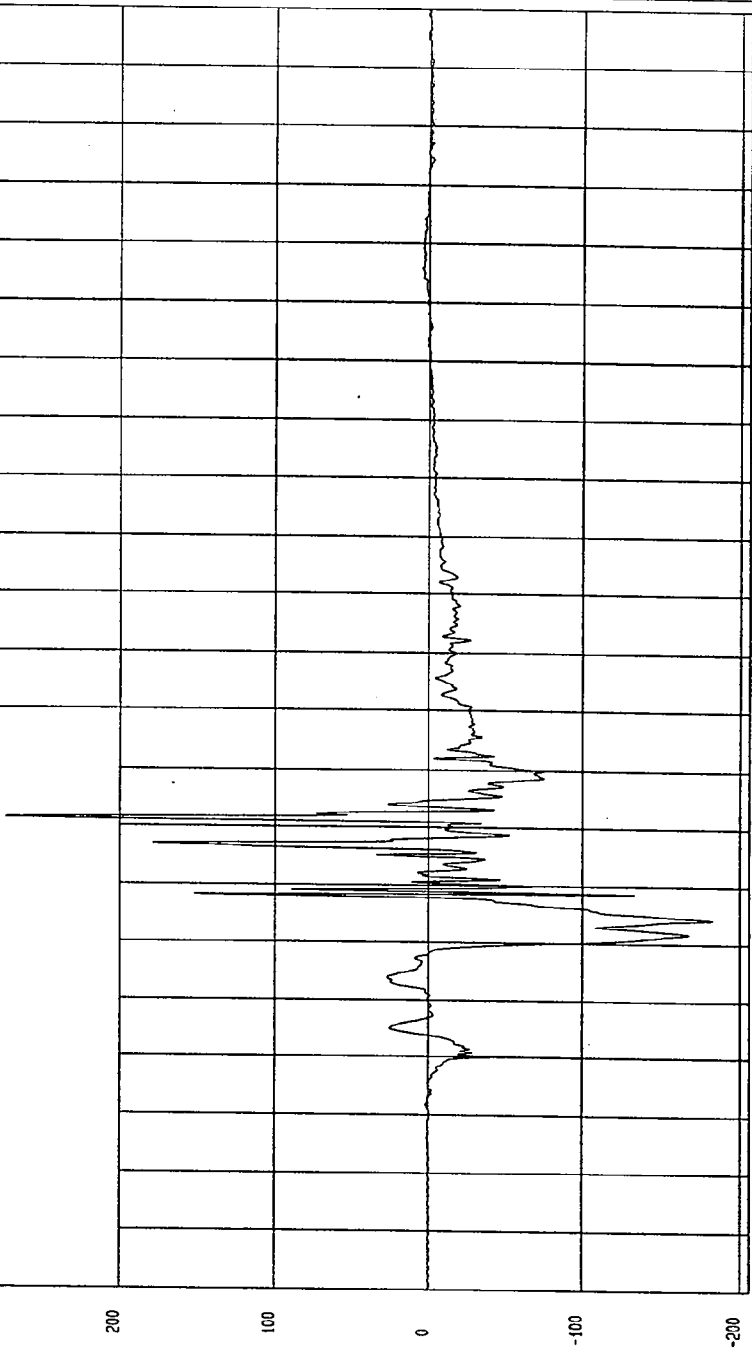
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMI#=-1B2.7767 G'S at 44. msec YMAX= 272.6054 G'S at 61. msec

DRIVER LEFT FOOT HEEL Z ACCELERATION

— C96104AF.A06 FilterClass (1000)



TIME (seconds)  
MSA Research  
10-21-1996 03:44

TEST DATE: 10-17-1996

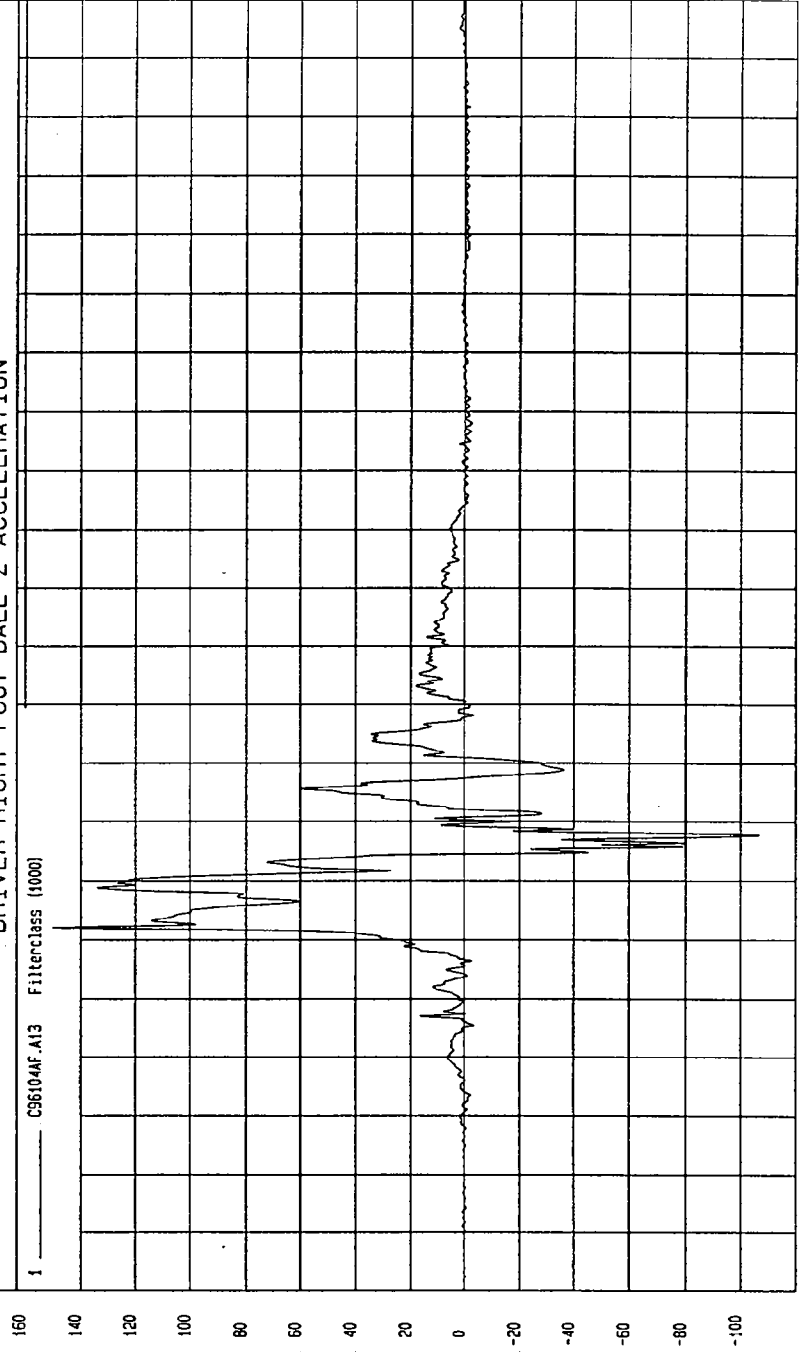
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-106.5567 G'S at 57. msec YMAX= 150.1536 G'S at 42. msec

DRIVER RIGHT FOOT BALL Z ACCELERATION

1 C96104F.A13 Filterclass (1000)



TIME (seconds)

MVA Report  
10-21-1996 08:45

TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

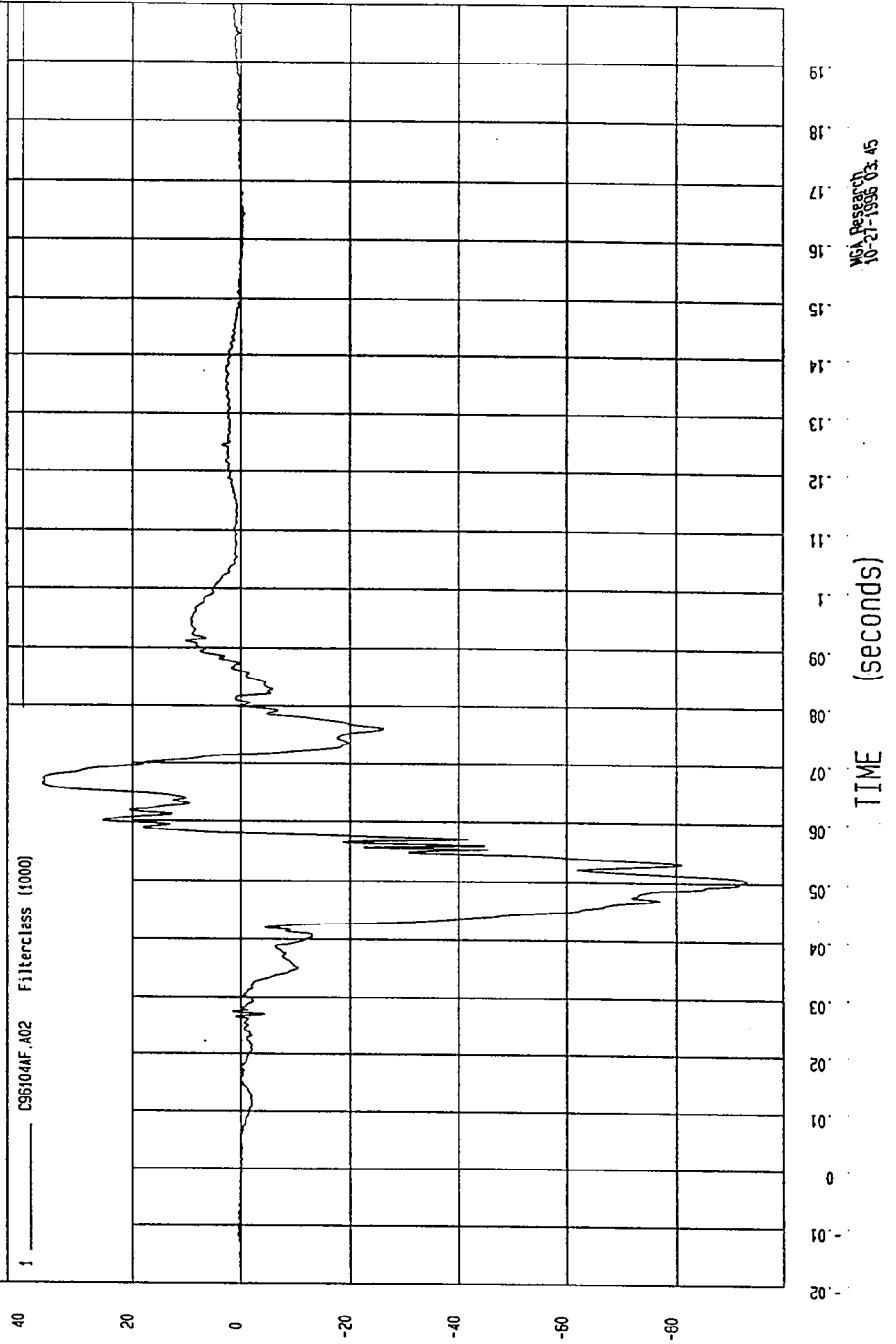
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-92.91533 G'S at 50. msec

YMAX= 36.45445 G'S at 66. msec

DRIVER RIGHT FOOT HEEL X ACCELERATION

1 \_\_\_\_\_ C95104F.A02 Filterclass (1000)



S.9

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

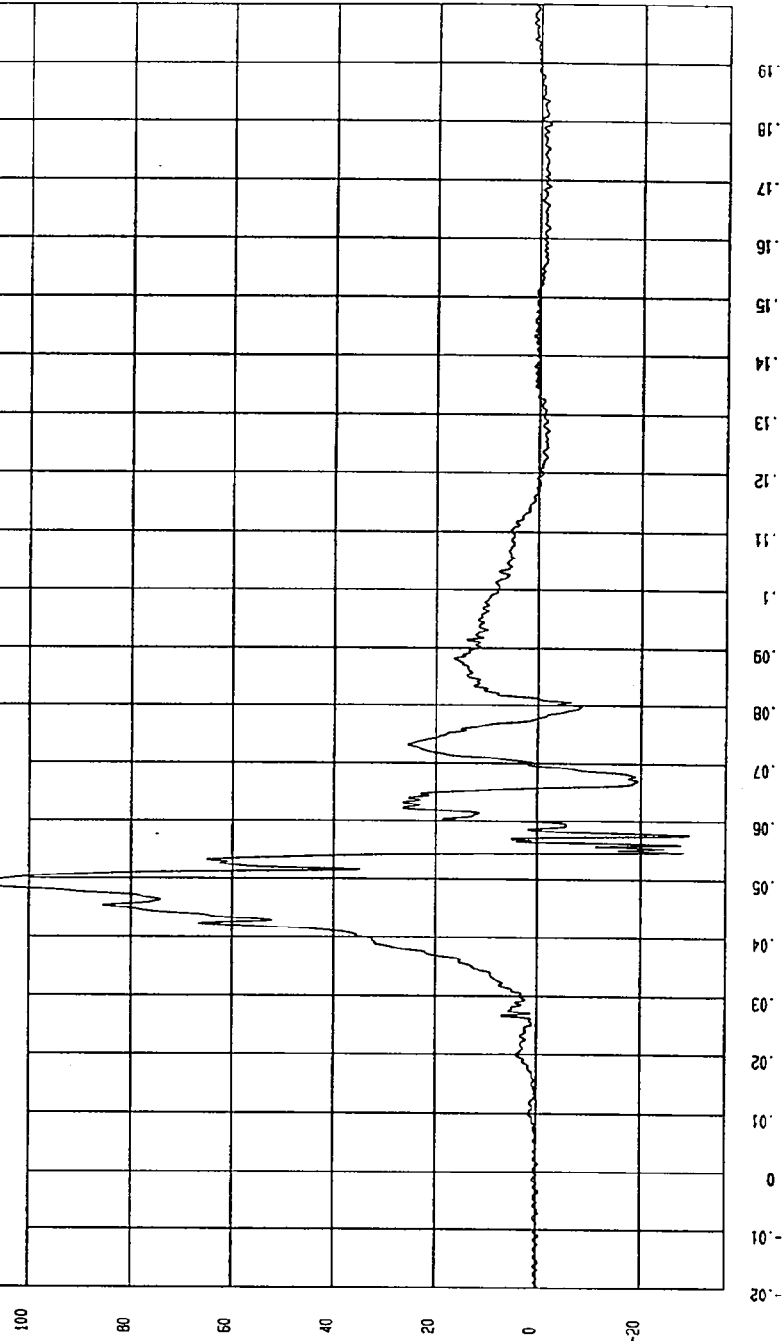
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MAX= 108.9566 G'S at 48. nsec

MIN= 29.34076 G'S at 57. nsec

DRIVER RIGHT FOOT HEEL Z ACCELERATION

1 C96104AF.A03 Filterclass (1000)



MSA Report 03.45  
10-21-1996

TIME (seconds)

G.S

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

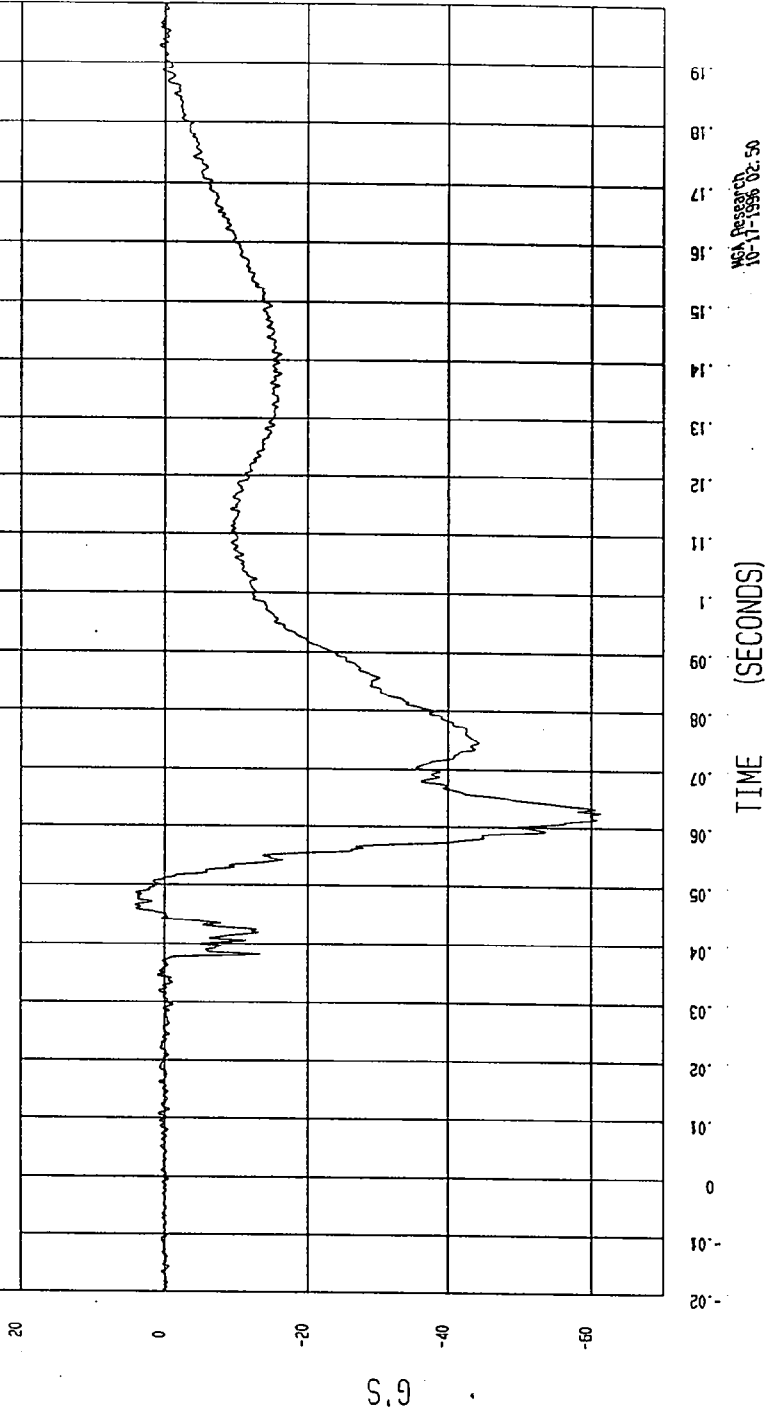
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-61.25997 G'S at 52. msec

YMAX= 4.091171 G'S at 46. msec

PASSENGER HEAD X ACCELERATION

1 ——— 895104F.A22 Filtrclass (1000)



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

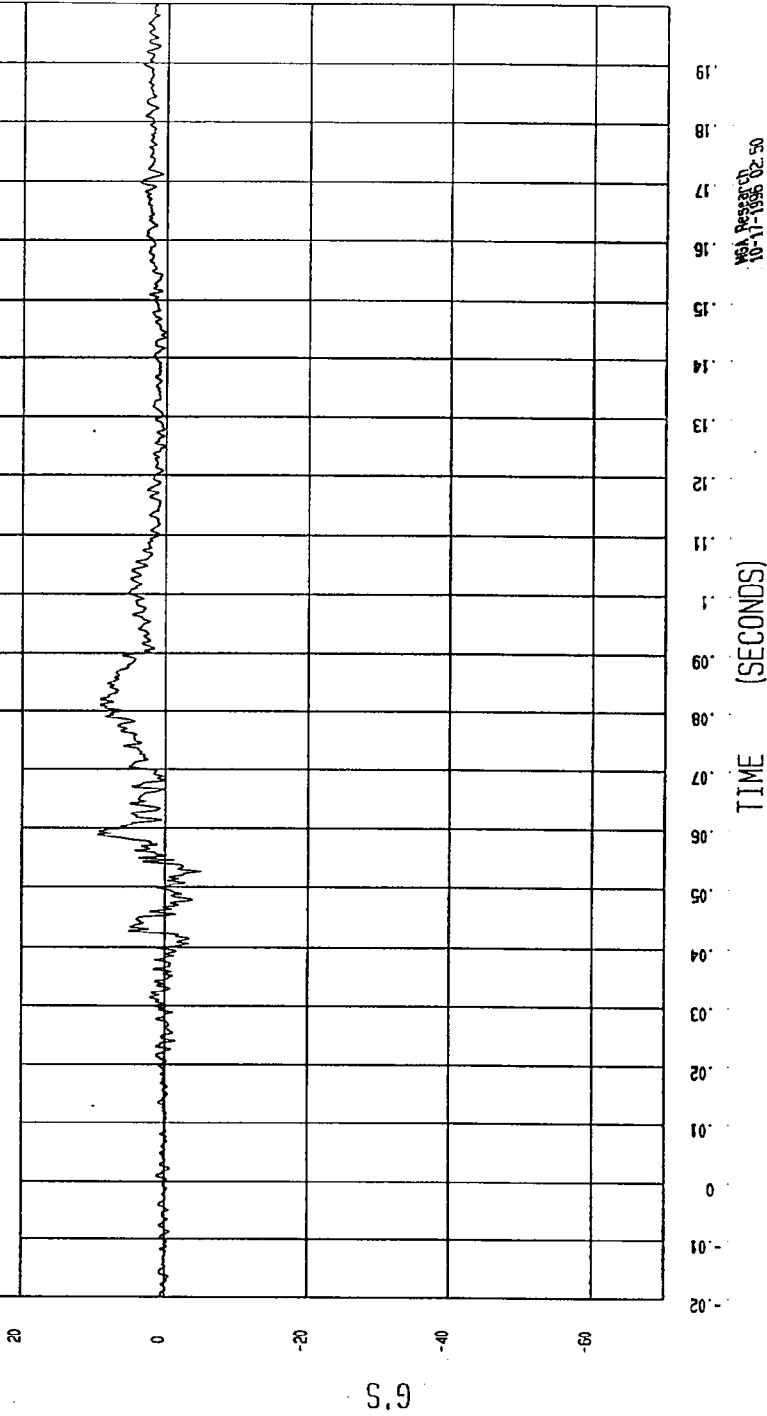
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-5.028952 G'S at 52. msec

YMAX= 9.32333 G'S at 96. msec

PASSENGER HEAD Y ACCELERATION

1 896104F.A23 Filterclass (1000)



MAX PRESSURE  
10-17-1996 02:50

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

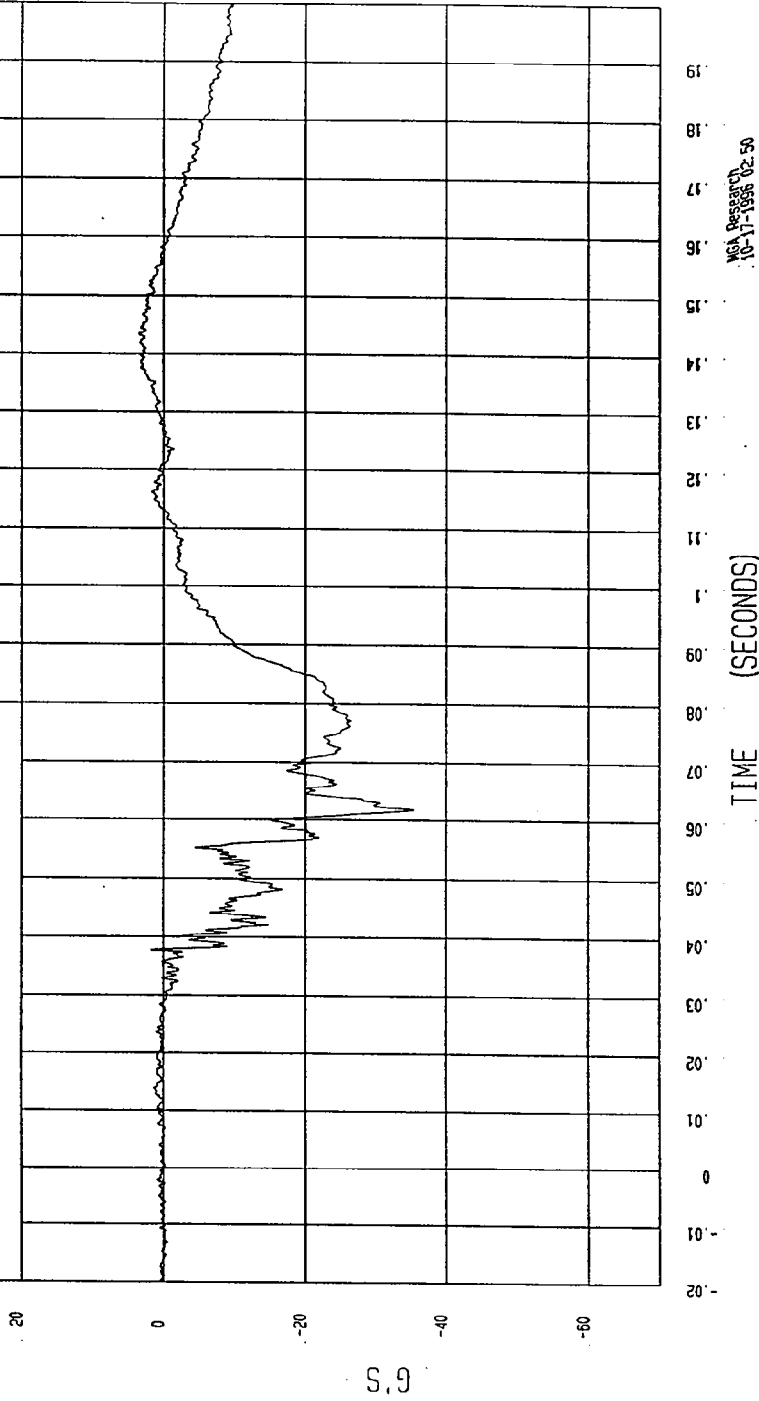
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-35.4066 G's at 61. msec

YMAX= 3.46123 G's at 143 msec

PASSENGER HEAD Z ACCELERATION

1 \_\_\_\_\_ B95104F.A24 Filterclass (1000)



NGA Research  
10-17-1996 02:50

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

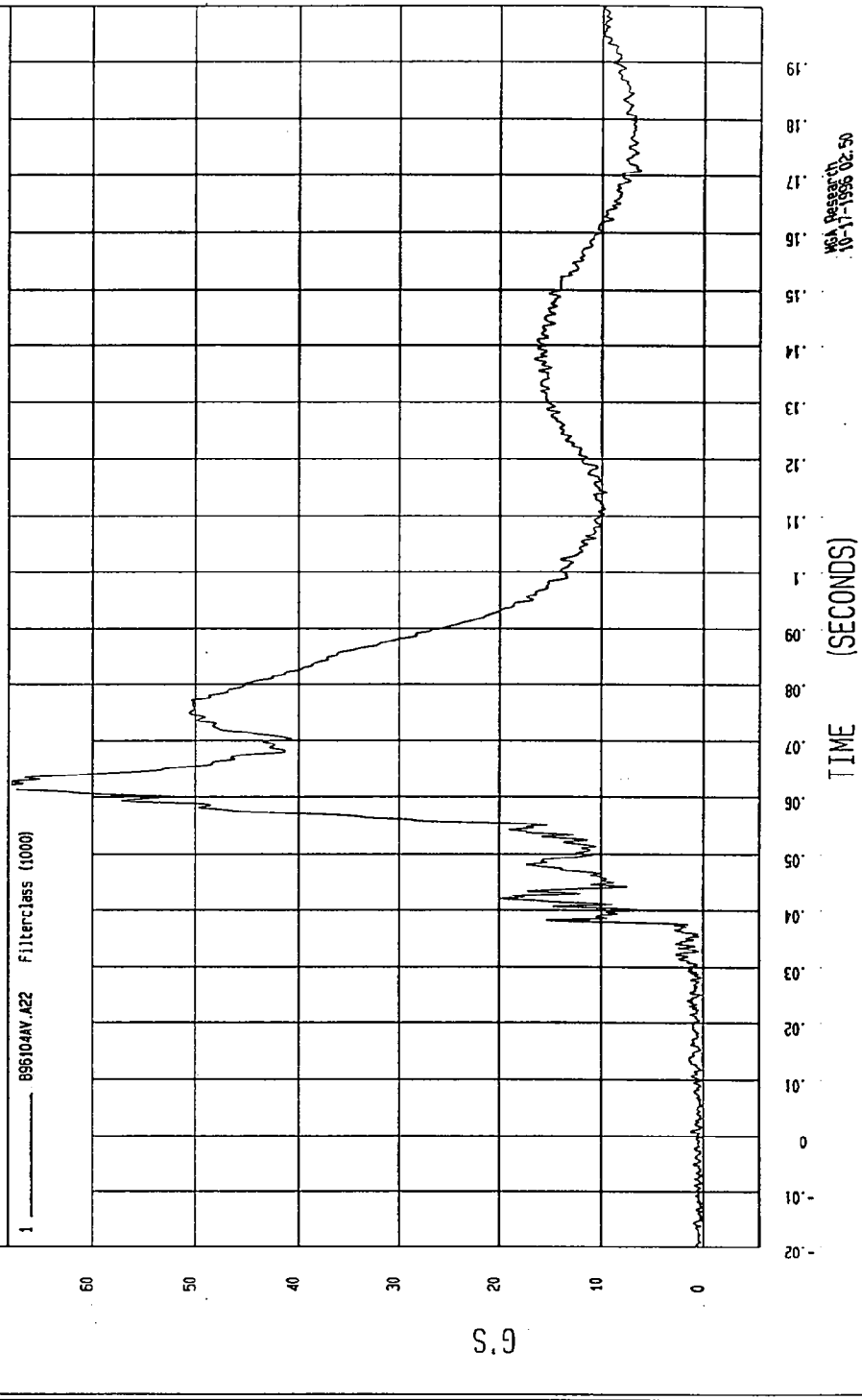
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 3.109071E-02 6'S at -.20 msec

YMAX= 70.10075 6'S at 61. msec

PASSENGER HEAD RESULTANT ACCELERATION

1 896104AV.A22 FilterClass (1000)



Web Page: 10-17-1996 02:50

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

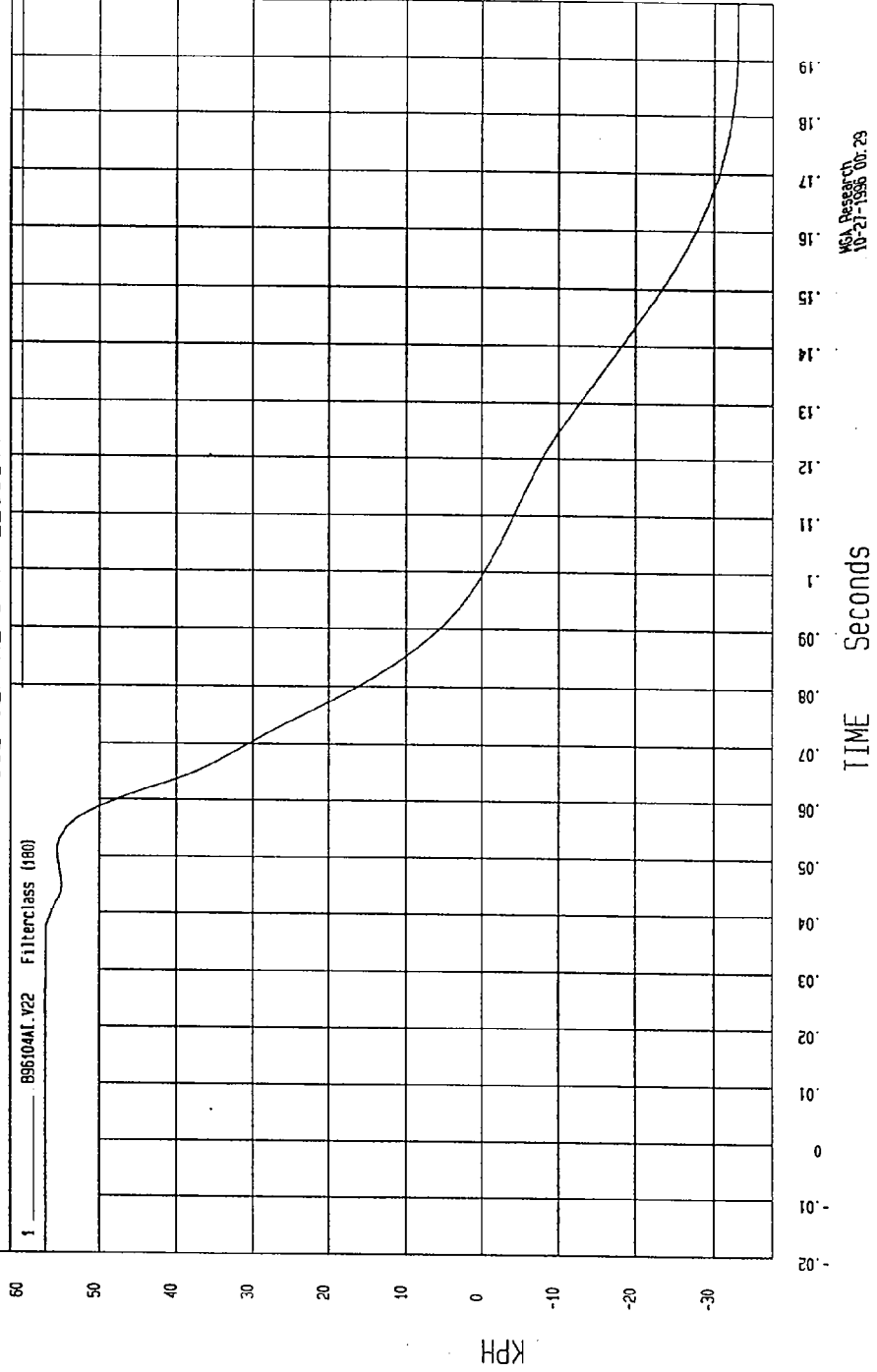
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-33.05112 KPH at 199 msec

YMAX= 57.01695 KPH at 23. msec

PASSENGER HEAD X VELOCITY

1 B9104AL.V22 Filterclass (80)



MSA Research  
10-21-1996 09:23

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

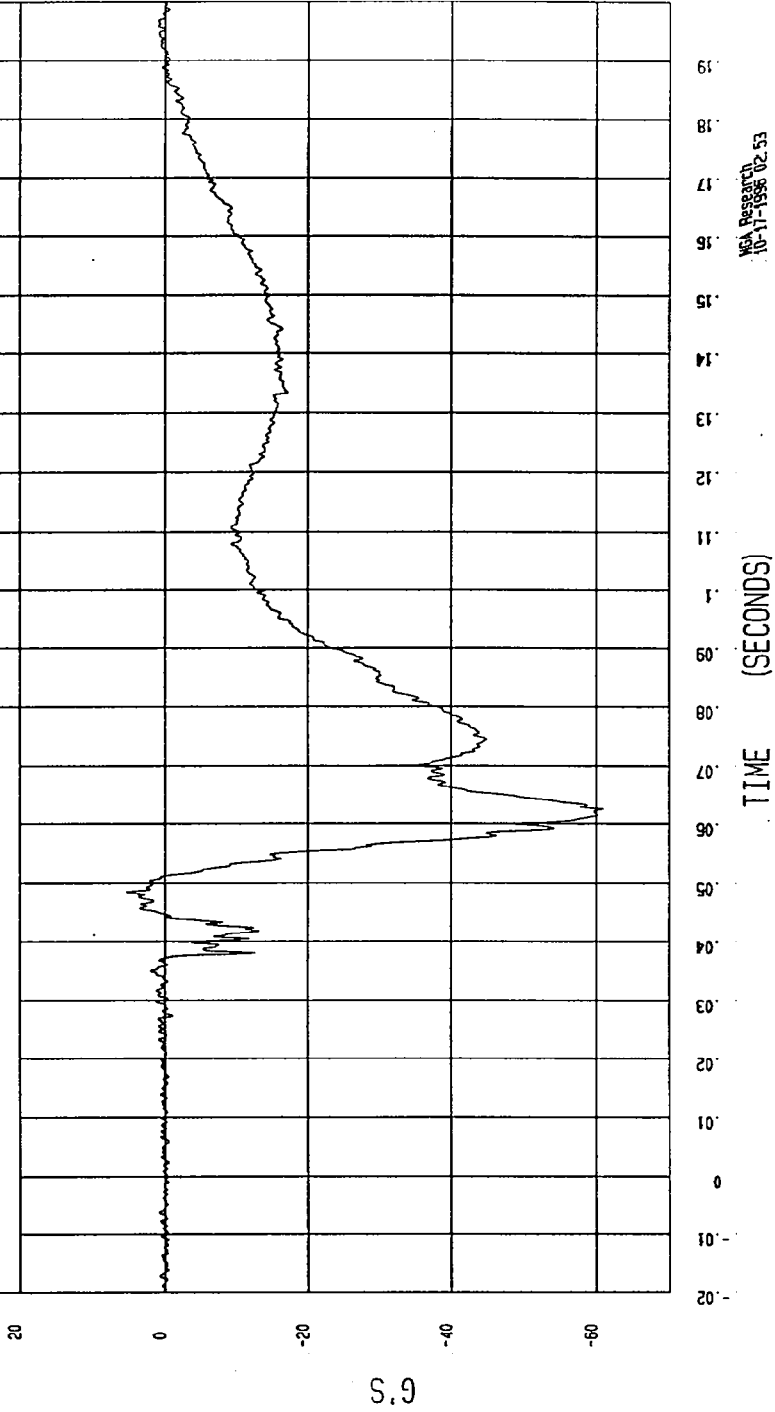
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 5.357177 G'S at 48. msec

YMIN= -60.91572 G'S at 62. msec

PASSENGER HEAD REDUNDANT X ACCELERATION

1 \_\_\_\_\_ B95104AF.A38 Filterclass (1000)



SEA REPORTED  
10-17-1996 02:53

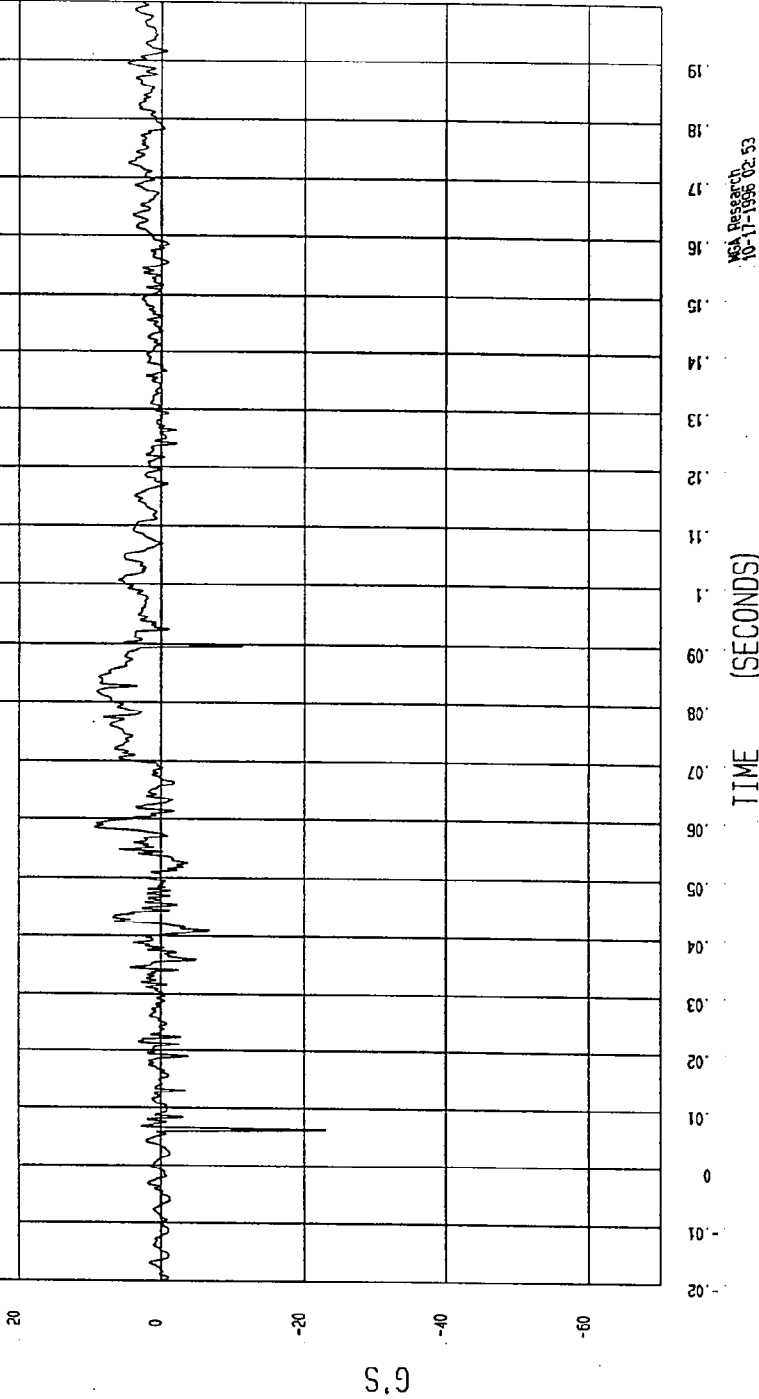
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-23.01714 G'S at 5.2 msec YMAX= 9.408607 G'S at 58. msec

PASSENGER HEAD REDUNDANT Y ACCELERATION

1 895104F.A39 Filterclass (1000)



NSA Research  
10-17-1996 02:53

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

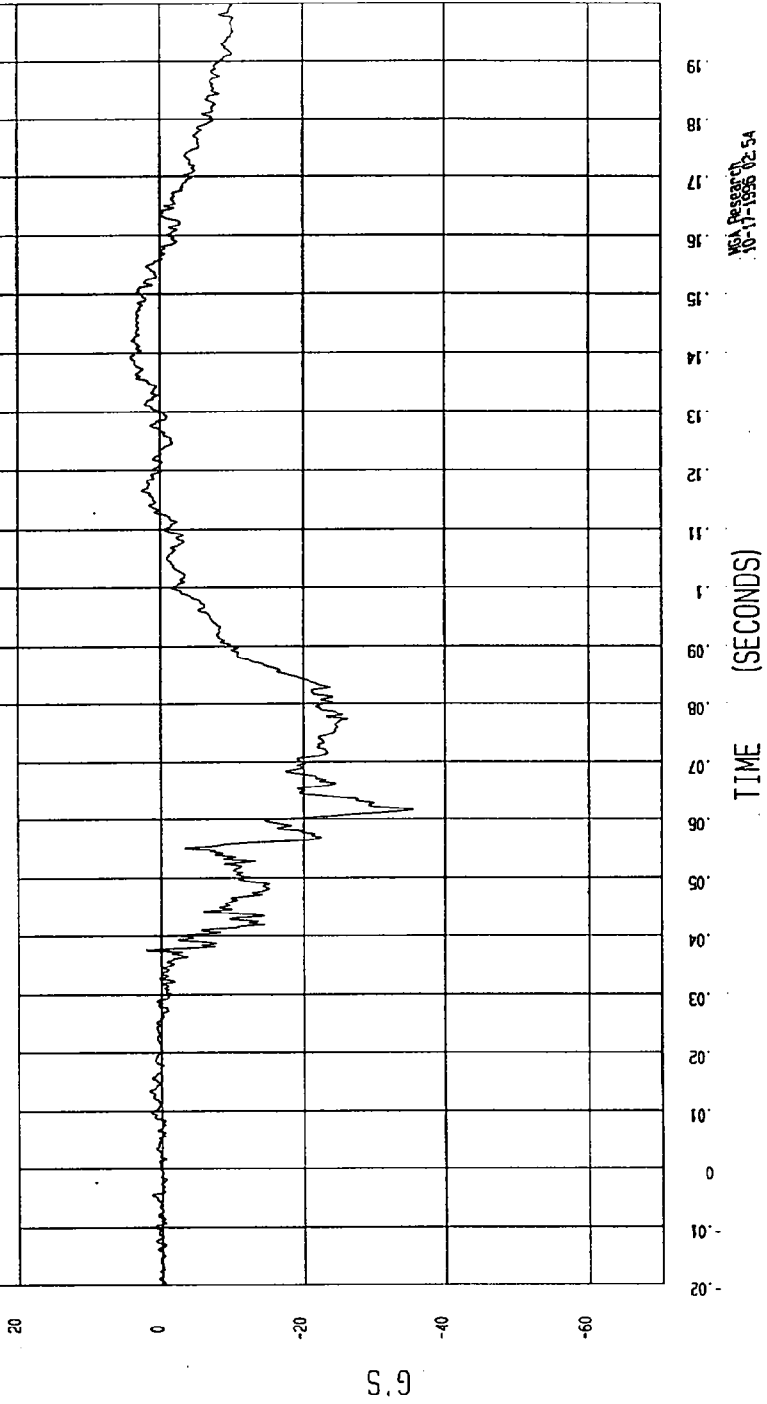
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-35.55542 G'S at 61. msec

YMAX= 4.03807 G'S at 139 msec

PASSENGER HEAD REDUNDANT Z ACCELERATION

1 \_\_\_\_\_ B96104F.A40 Filterclass (1000)



MSL Report  
10-17-1996 02.54

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

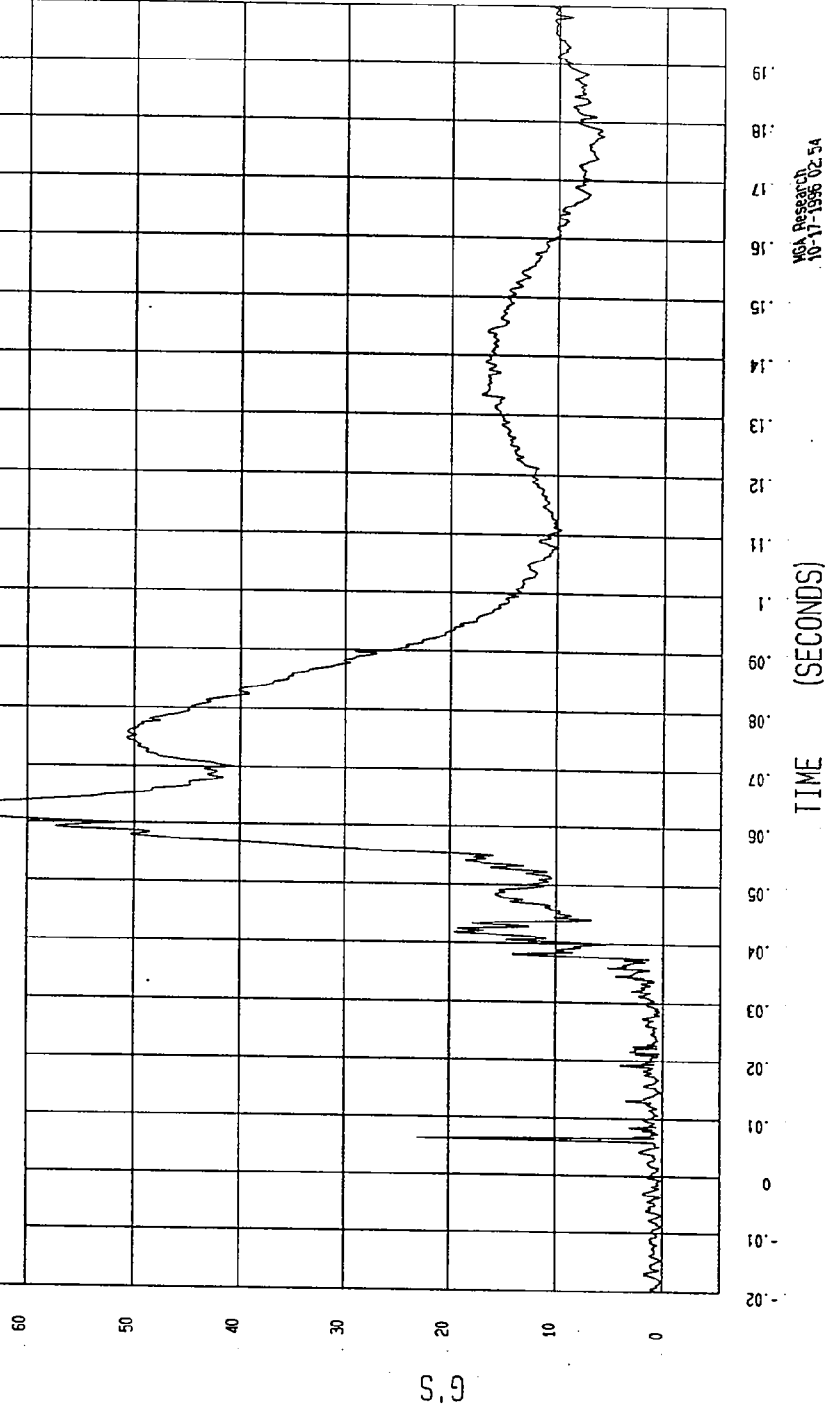
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 69.82367 G'S at 61. msec

YMIN= 8.079331E-02 G'S at -7 msec

PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION

1 895104N.A3B Filterclass (1000)



MGA Research  
10-17-1996 02.5A

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

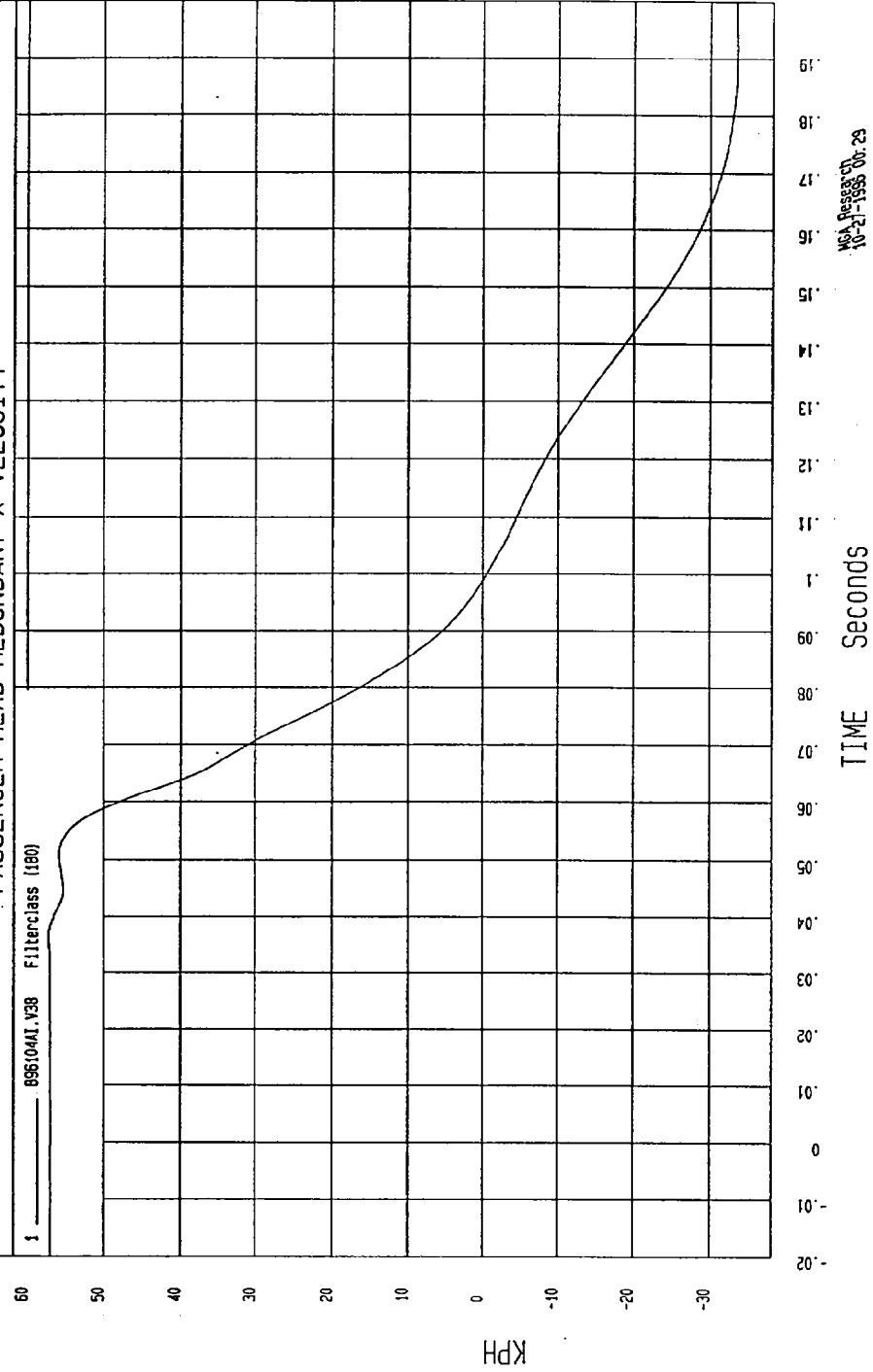
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=33.52282 KPH at 191 msec

YMAX= 57.23522 KPH at 35. msec

PASSENGER HEAD REDUNDANT X VELOCITY

1 ——— 8961041.V38 Filterclass (180)



MOA Pressed CT  
10-21-1996 06:23

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

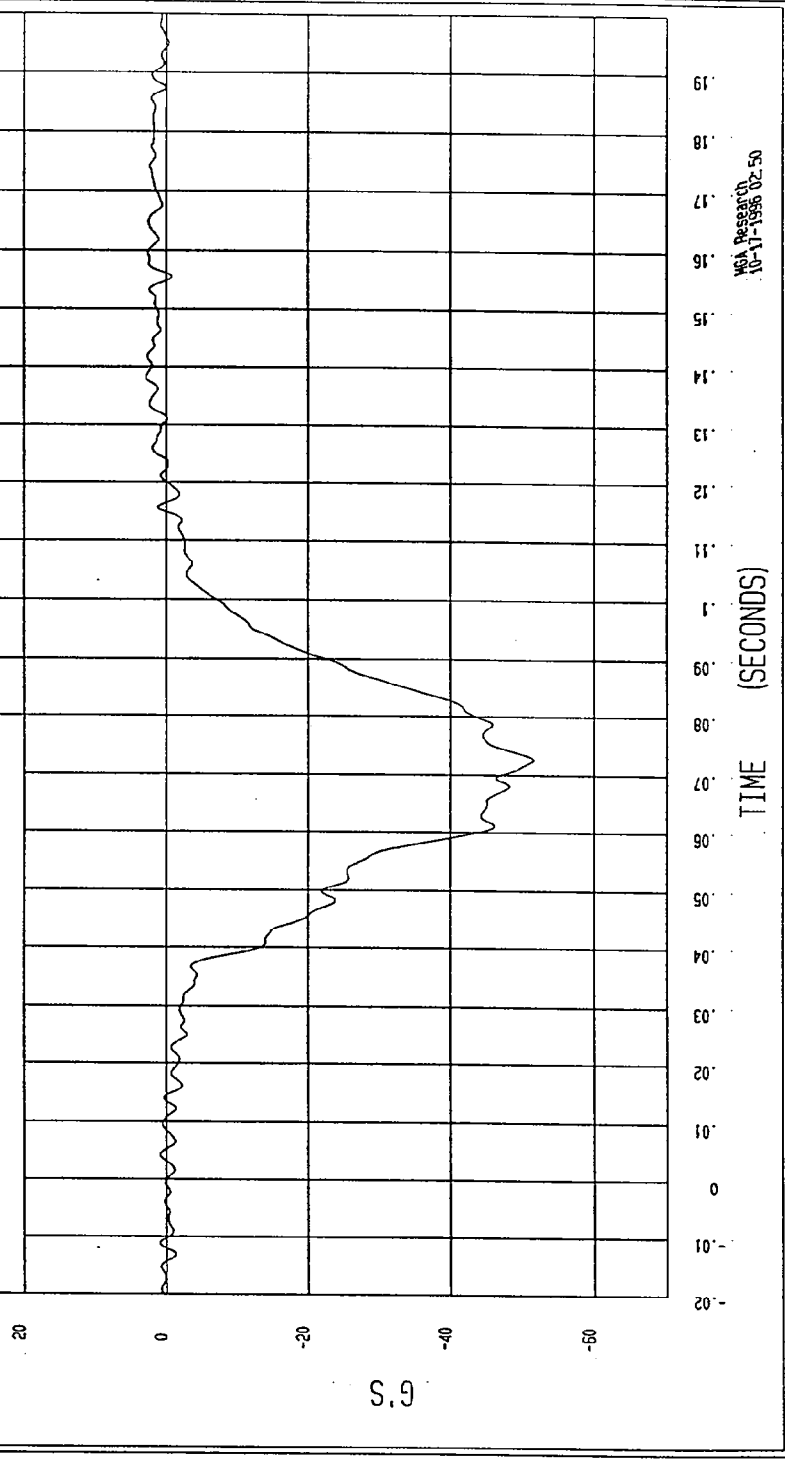
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 2.658324 G'S at 138 msec

YMIN= -31.51834 G'S at 72 msec

PASSENGER CHEST X ACCELERATION

1 \_\_\_\_\_ 896104F.A25 Filterc185 (180)



MVA Research  
10-17-1996 02:50

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

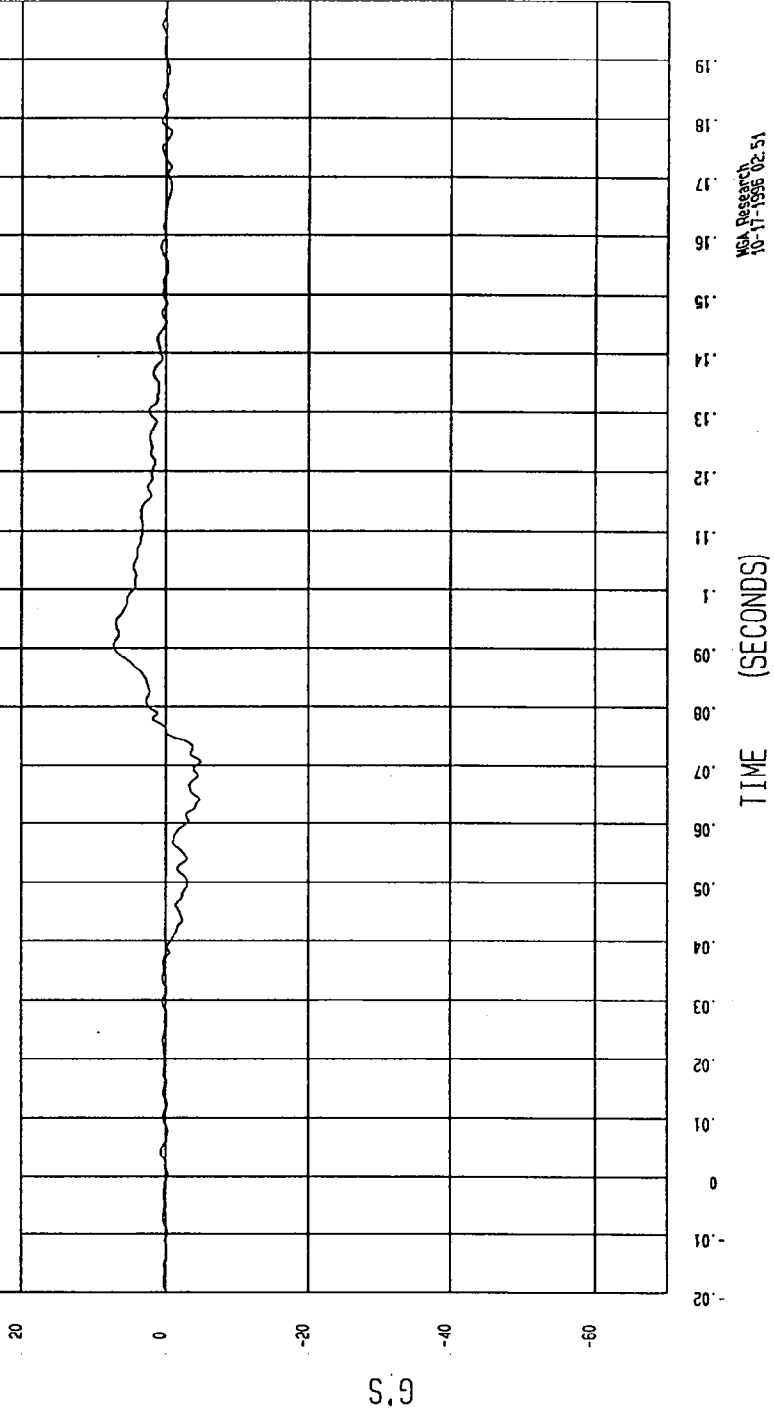
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4.95081 G'S at 70. msec

YMAX= 7.176256 G'S at 90. msec

PASSENGER CHEST Y ACCELERATION

1 \_\_\_\_\_ 896104F.A26 Filterclass (180)



TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

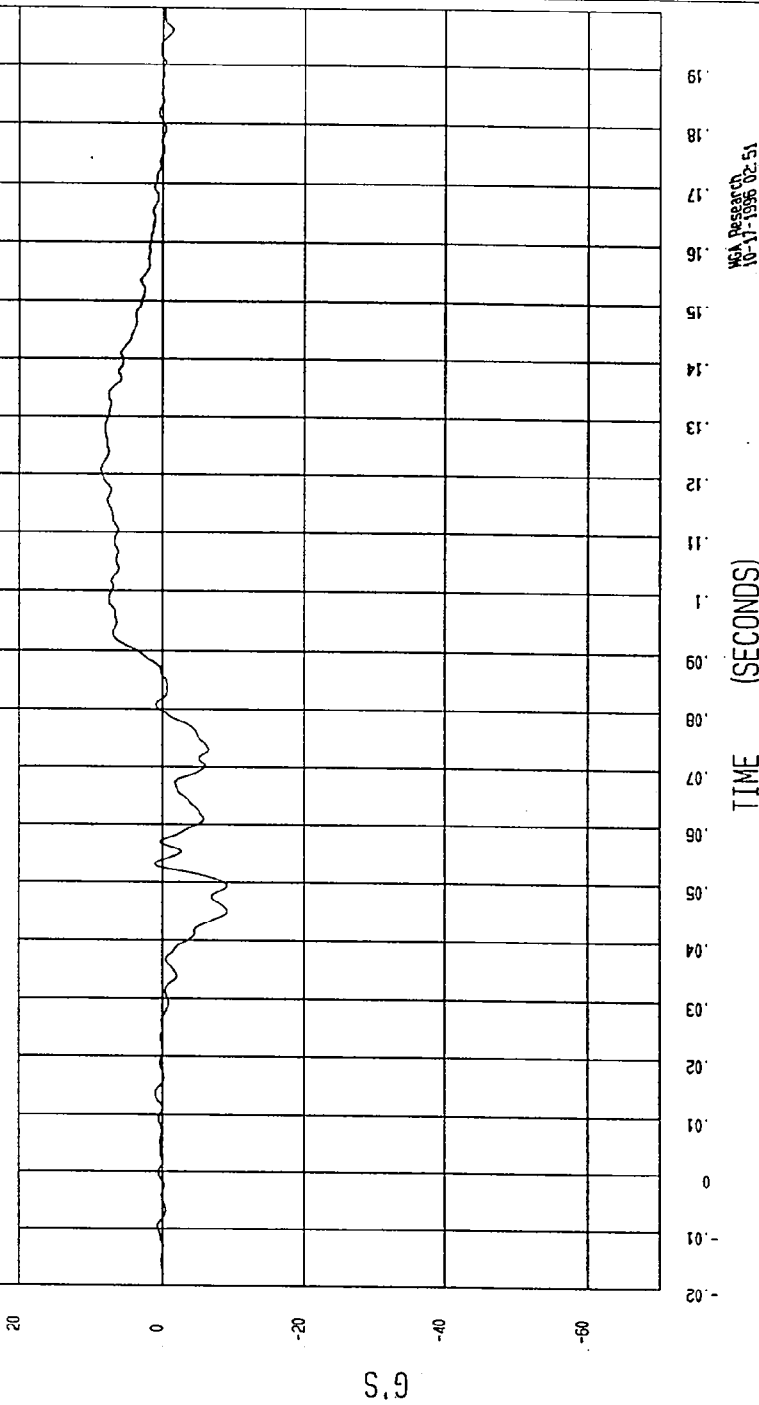
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-9.292953 G'S at .45 msec

YMAX= 8.487217 G'S at 120 msec

PASSENGER CHEST Z ACCELERATION

1 ——— 896104F.A27 Filterclass (180)



TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

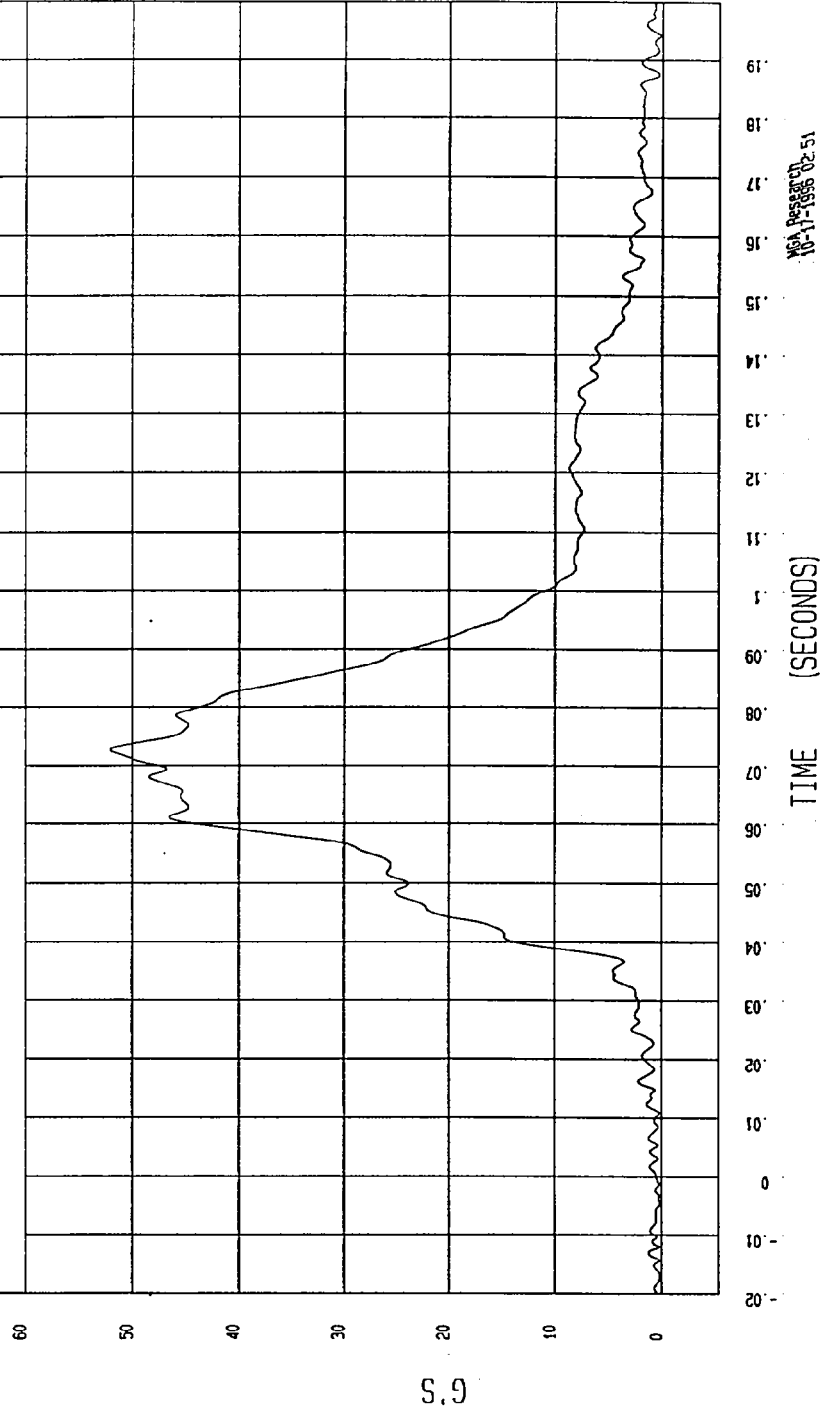
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 9.913702E-02 G'S at 194 msec

YMAX= 52.05339 G'S at 72. msec

PASSENGER CHEST RESULTANT ACCELERATION

1 — 896104V.A25 Filterclass (180)



MGA Research  
10-17-1996 12:51

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

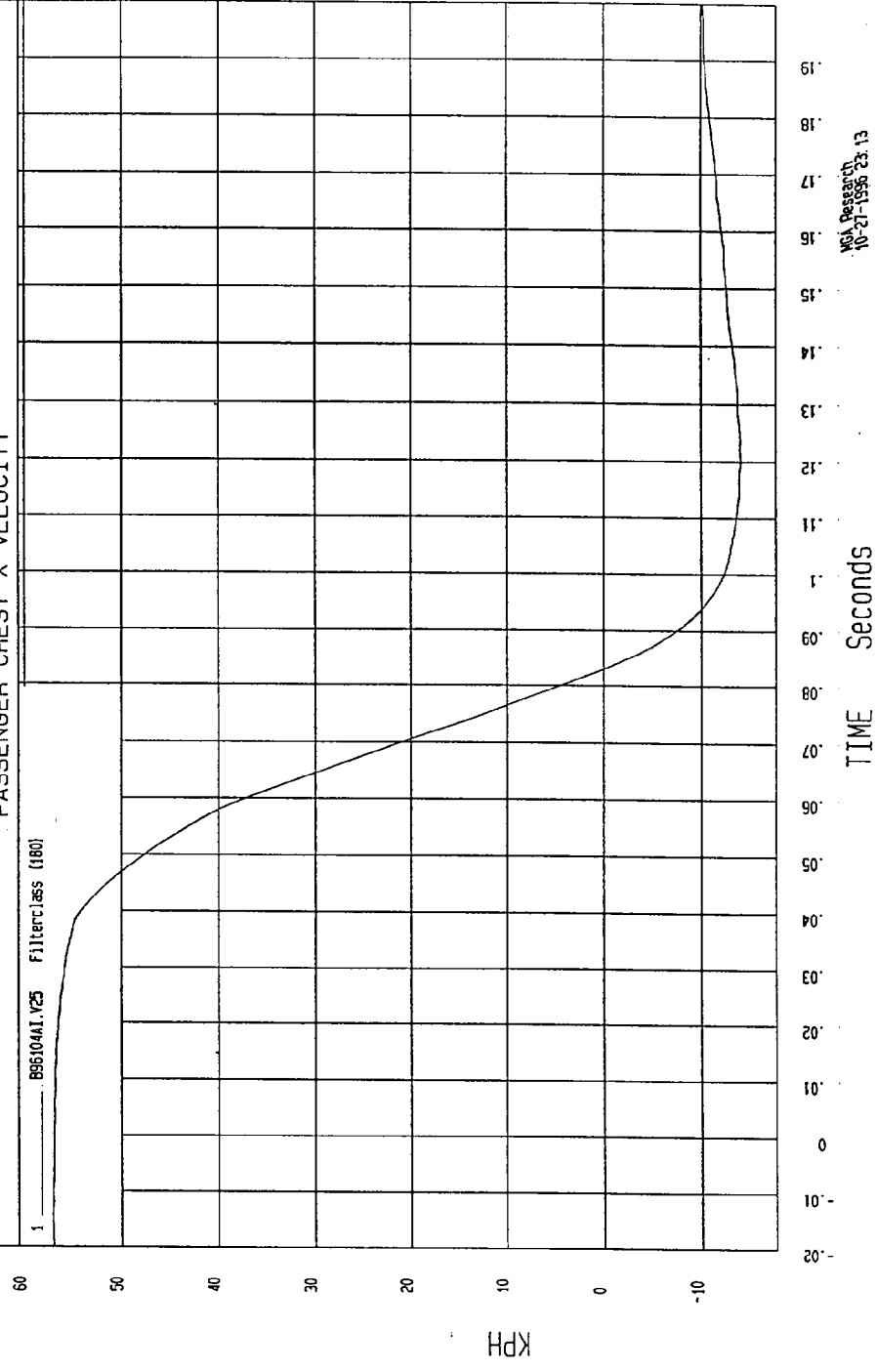
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-14.01797 KPH at 120 msec

YMAX= 57.08476 KPH at -14. msec

PASSENGER CHEST X VELOCITY

1 B96104A1.V25 Filter: class (160)



MOI, Passivity  
10-21-1996 23.13

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

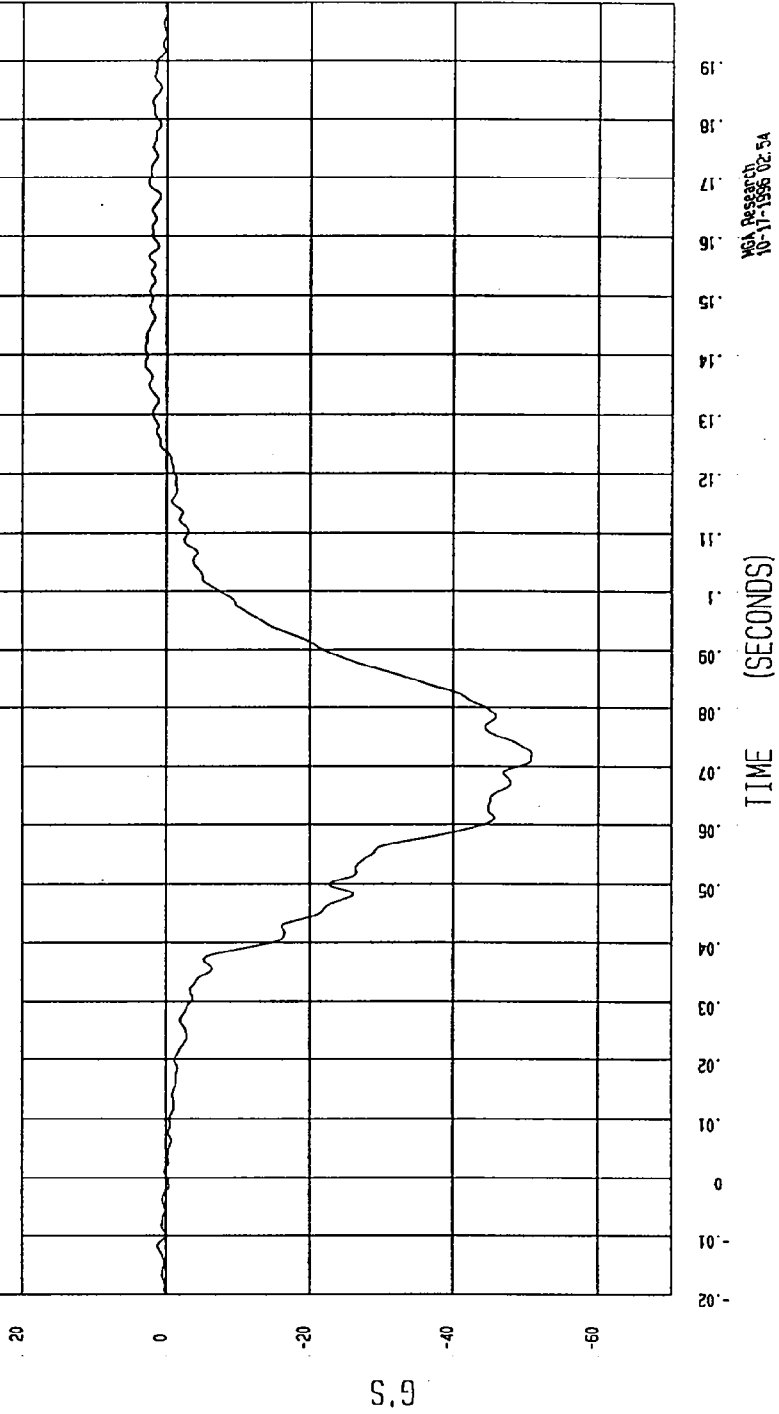
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=50.93876 G'S at 72. msec

YMAX= 2.949245 G'S at 141 msec

PASSENGER CHEST REDUNDANT X ACCELERATION

1 856104AF.A42 Filter: class (180)



MGA Research  
10-17-1996 02:54

TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

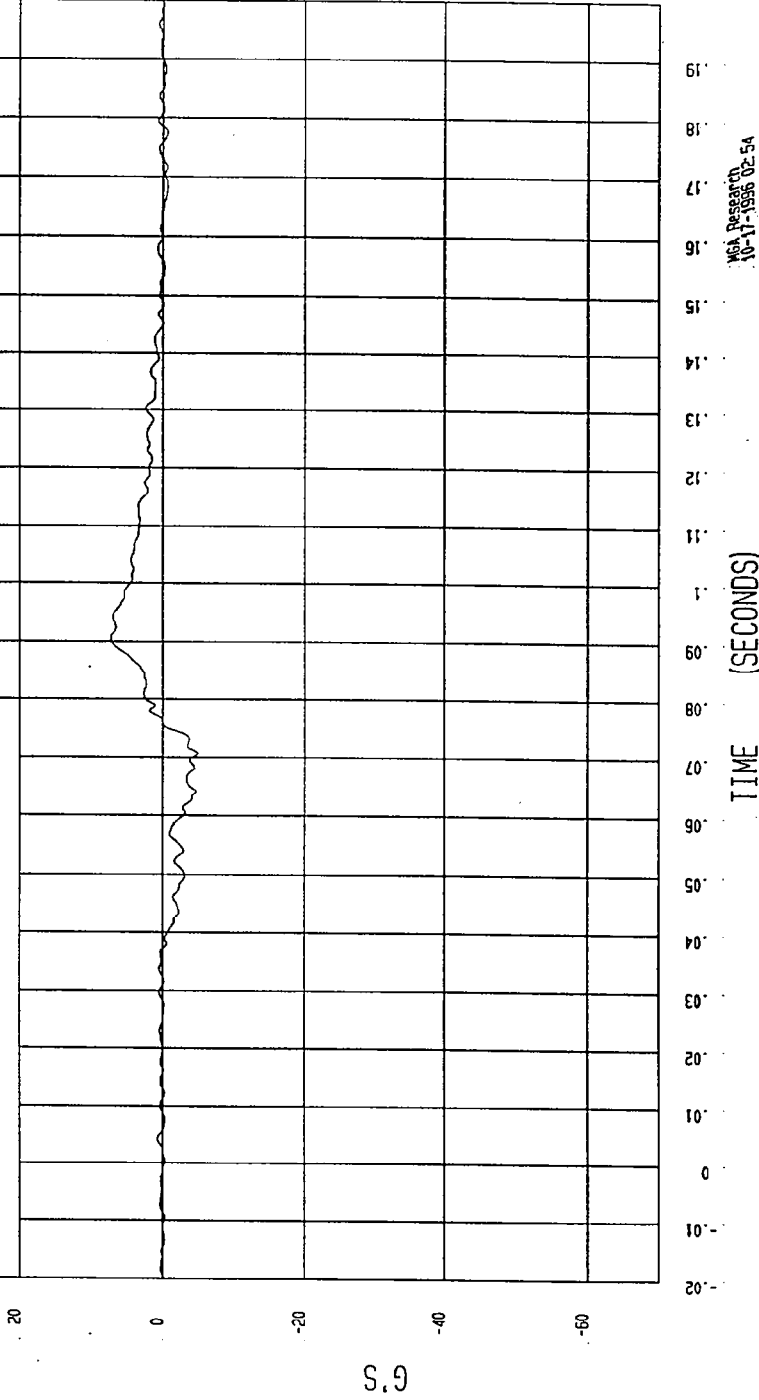
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4.959081 G'S at 70. msec

YMAX= 7.172556 G'S at 90. msec

PASSENGER CHEST REDUNDANT Y ACCELERATION

1 ——— 896104F.AC6 Filterless (100)



NSA Research  
10-17-1996 02:54

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

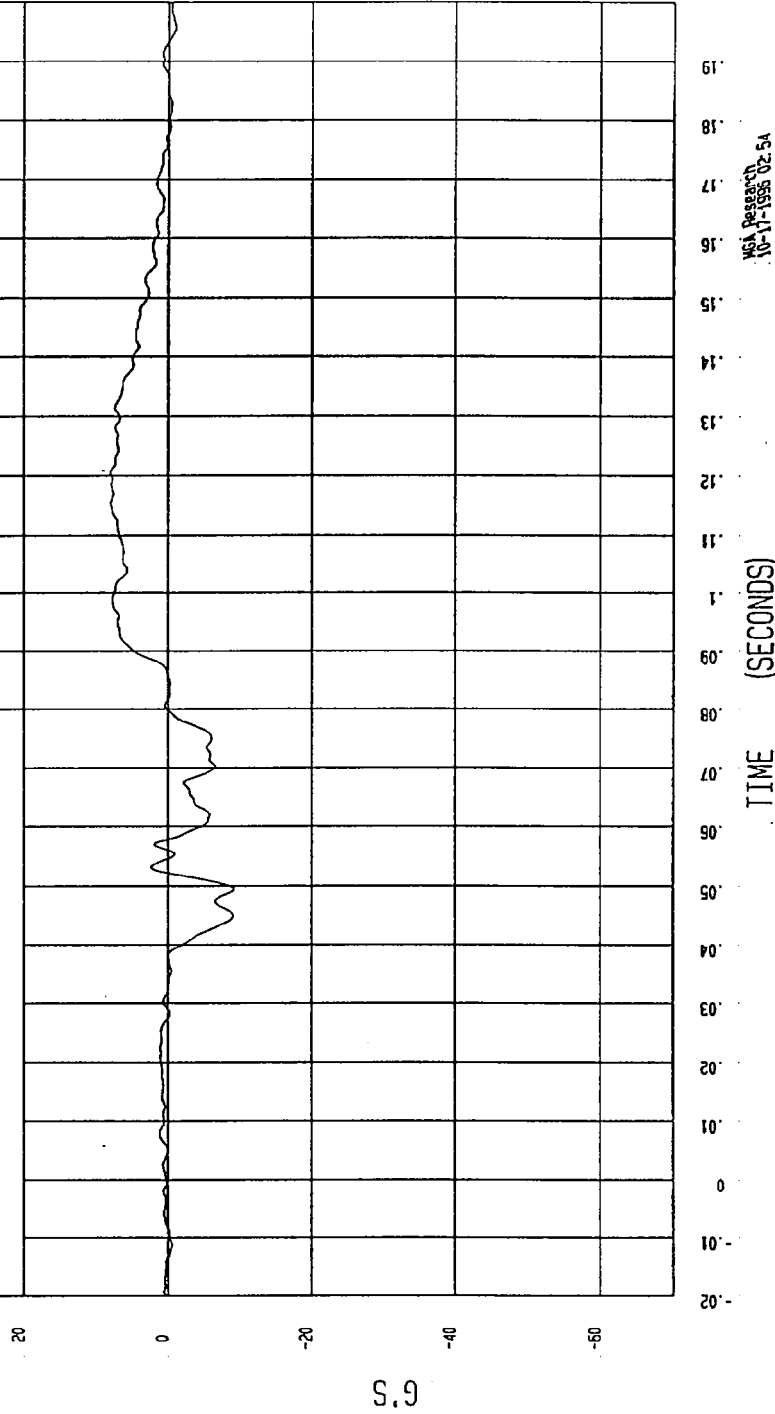
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-9.247723 G'S at 49. msec

YMAX= 7.994244 G'S at 120 msec

PASSENGER CHEST REDUNDANT Z ACCELERATION

1 \_\_\_\_\_ B96104F.A44 FilterClass (180)



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

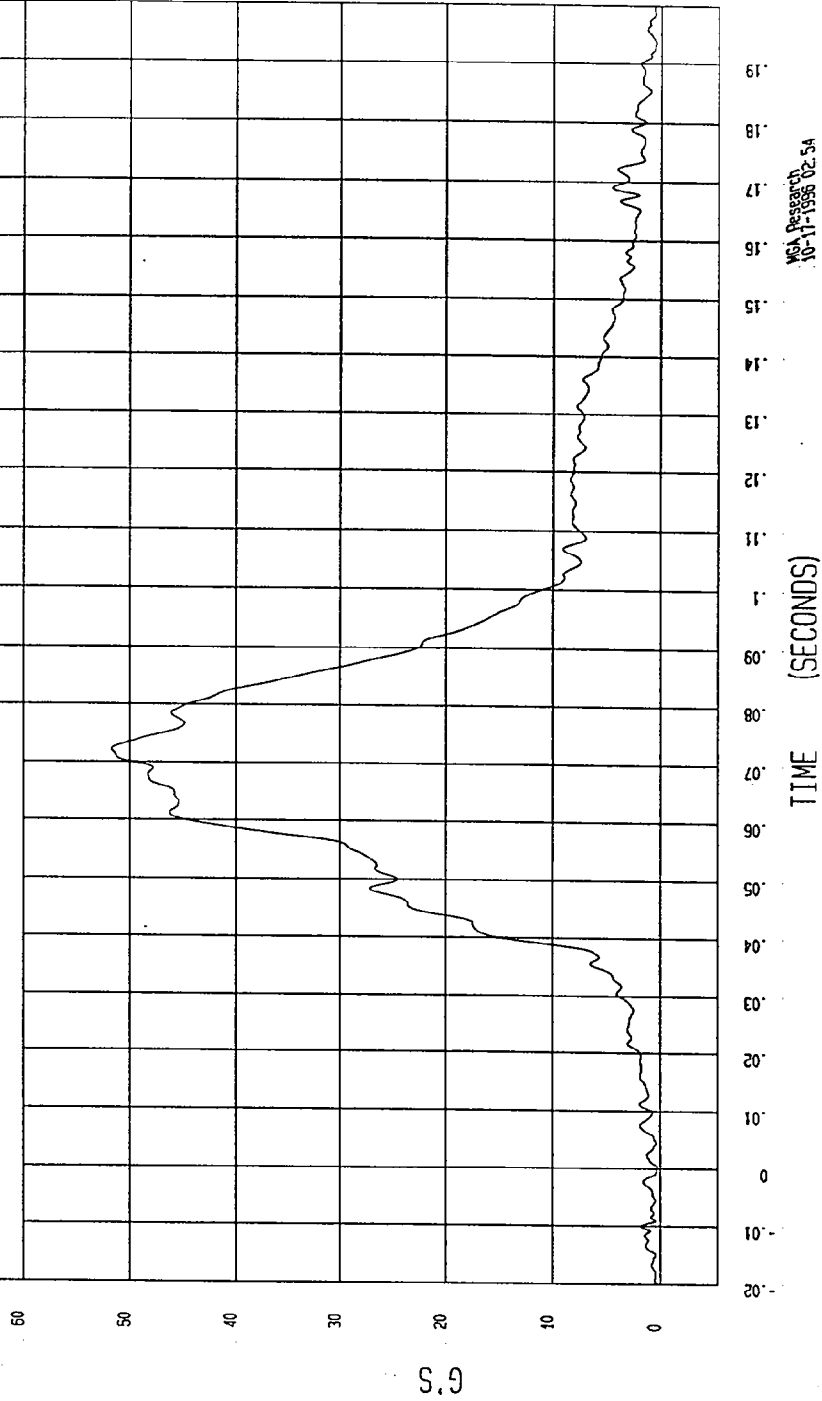
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= .176522 G'S at .20 msec

YMAX= 51.76585 G'S at 72. msec

PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION

1 896104NY.A42 FilterClass (180)



MSA Research  
10-17-1996 02:54

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

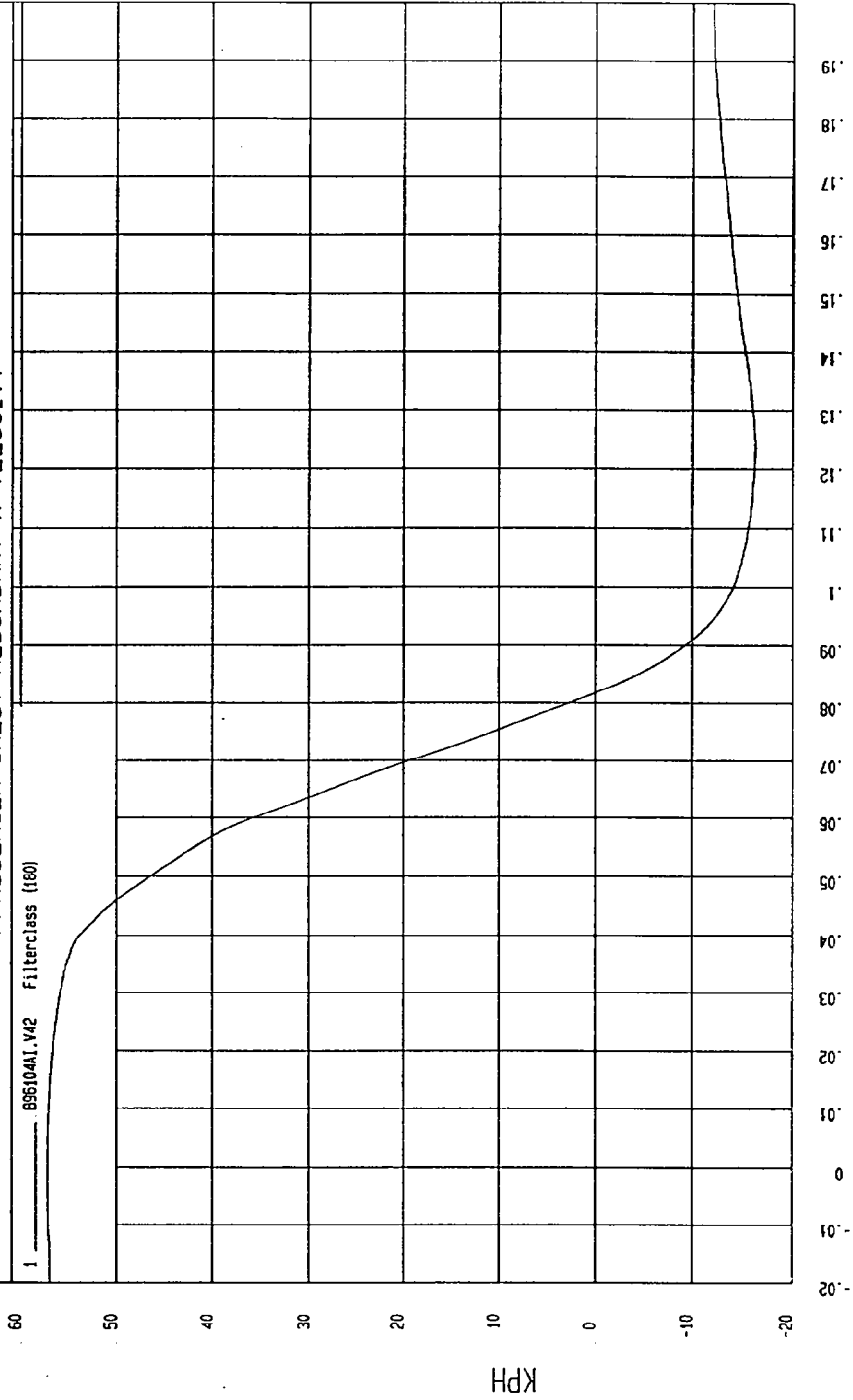
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-16.3553 KPH at 123 msec

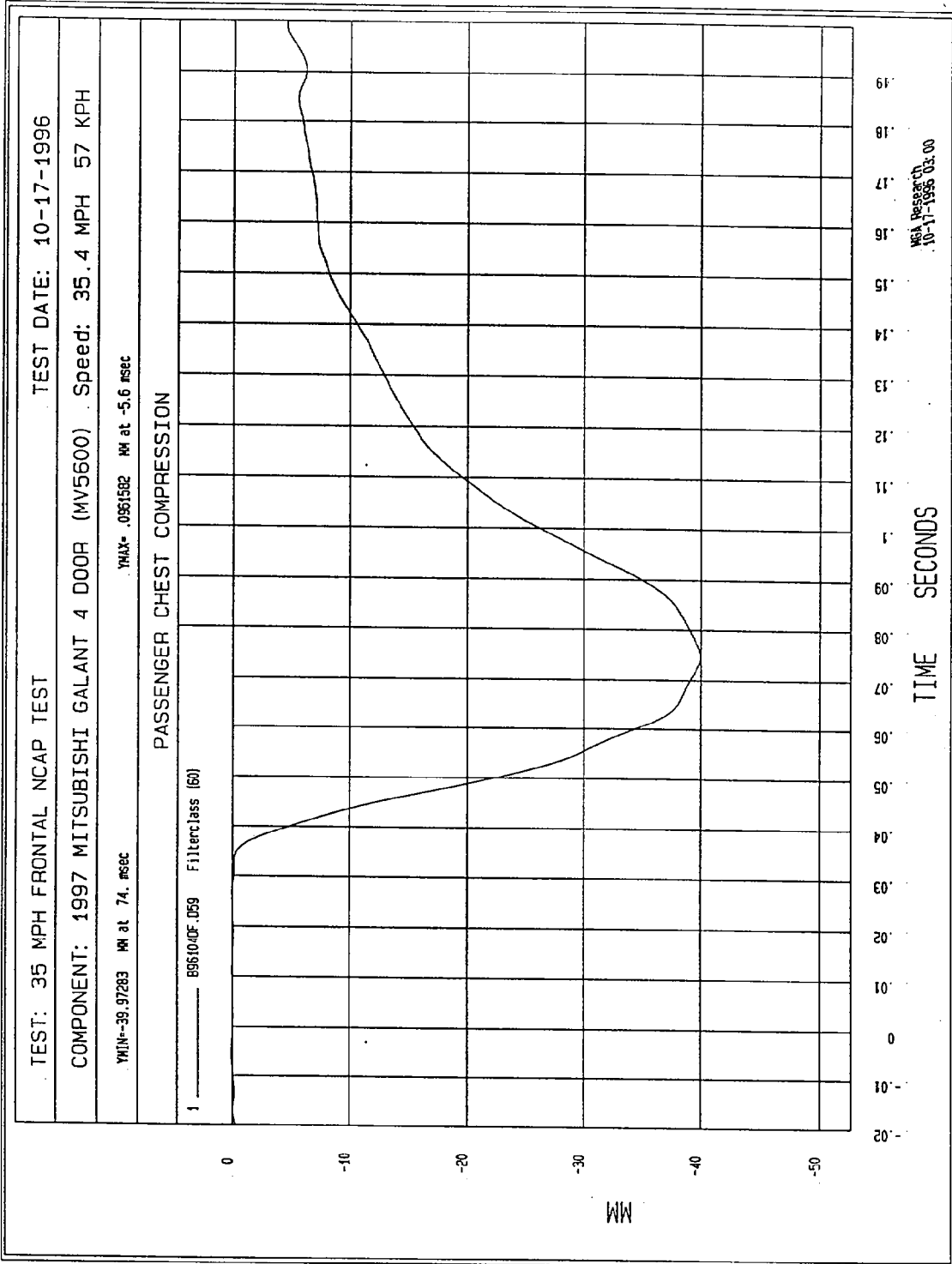
YMAX= 57.25482 KPH at -2.5 msec

PASSENGER CHEST REDUNDANT X VELOCITY

1 B95104A1.V42 Filterclass (180)



MSA Research  
10-27-1996 00:29



TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

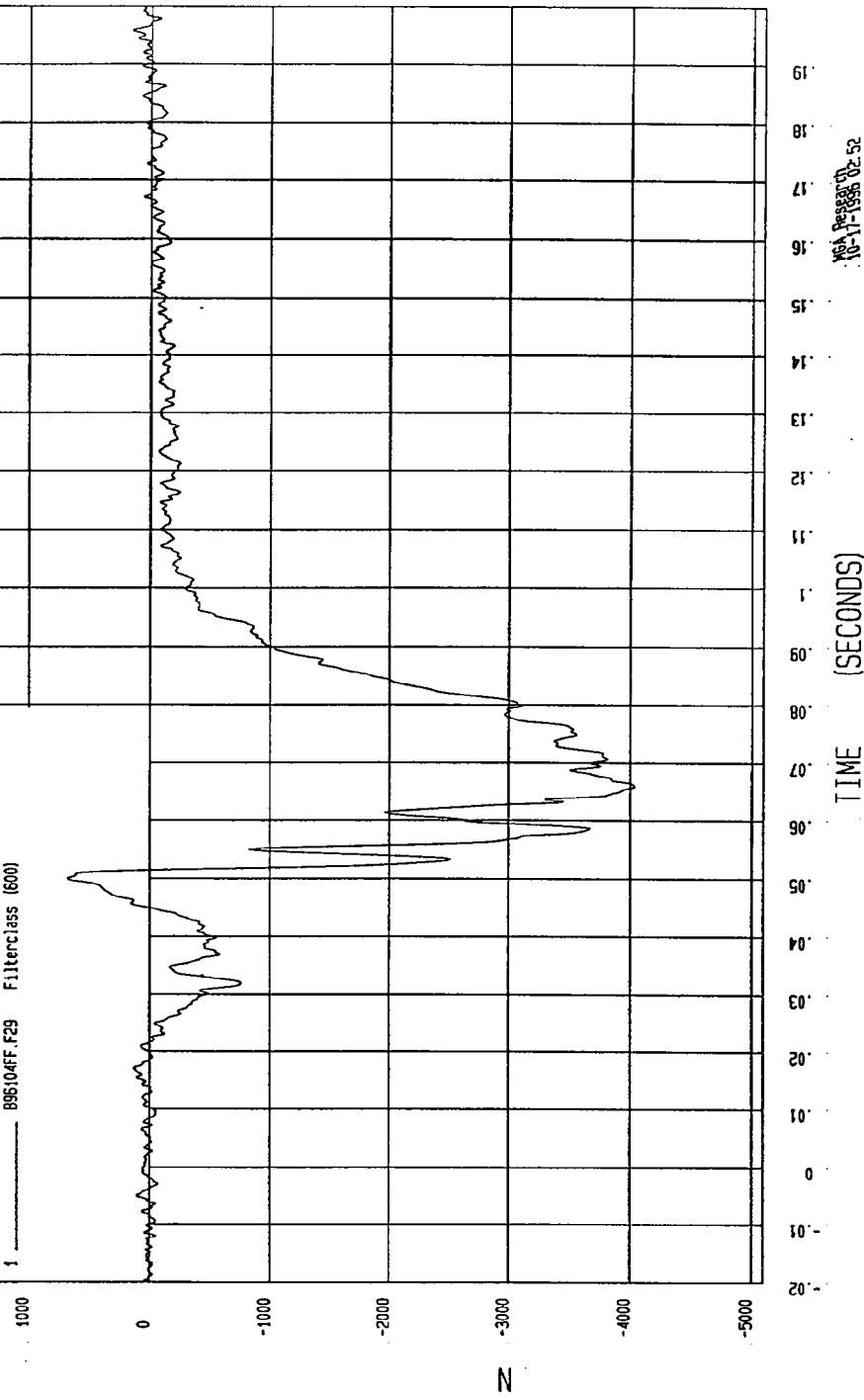
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4037.747 N at 55. msec

YMAX= 666.9787 N at 50 msec

PASSENGER LEFT FEMUR FORCE

1 995104FF.F29 Filterclass (600)



MSA PAPERCO  
10-17-1996 02:52

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

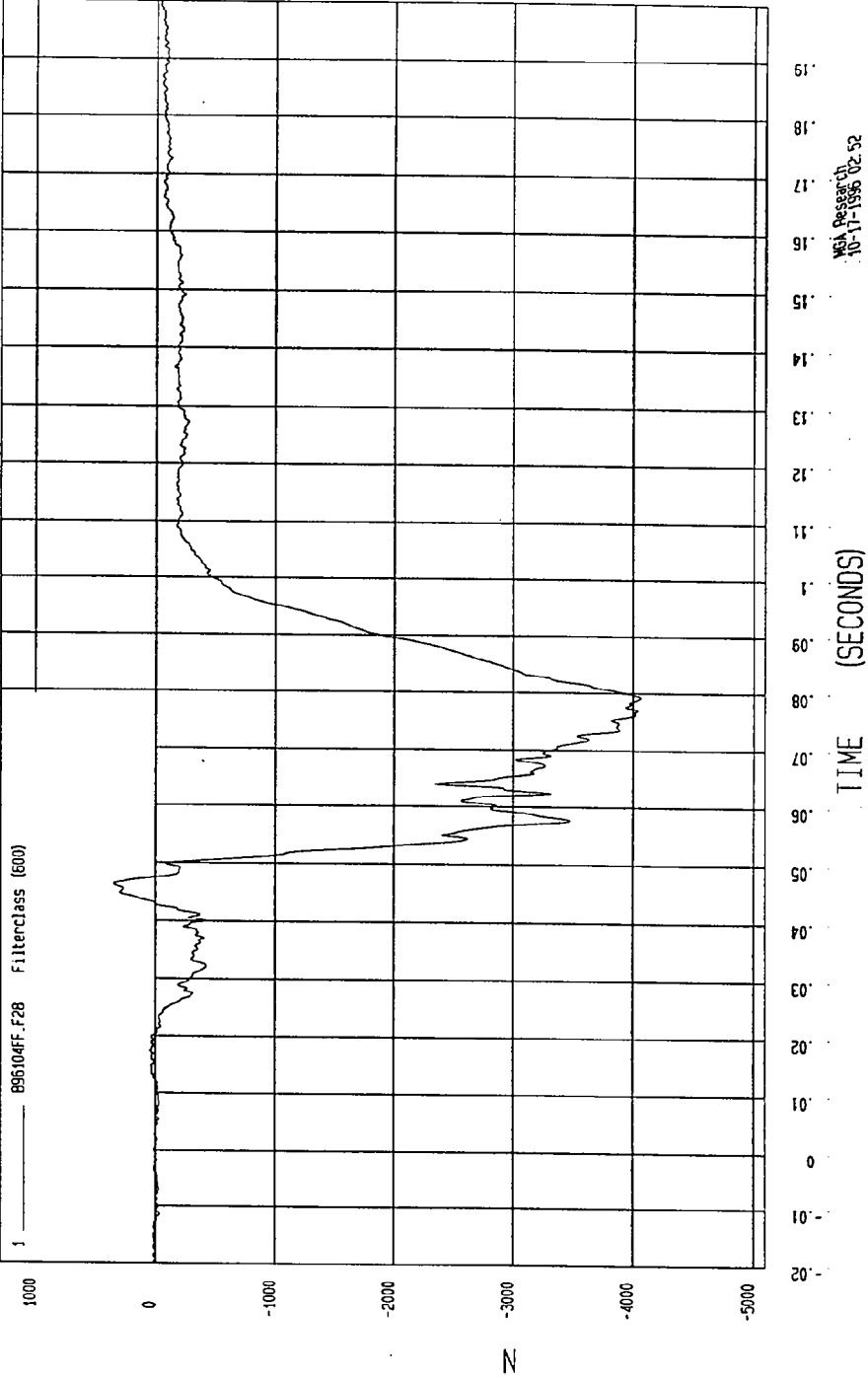
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4059.252 N at 79. msec

YMAX= 342.8057 N at 46. msec

PASSENGER RIGHT FEMUR FORCE

1 896104FF.F28 Filterclass (600)



MEA Research  
10-17-1996 02:52

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

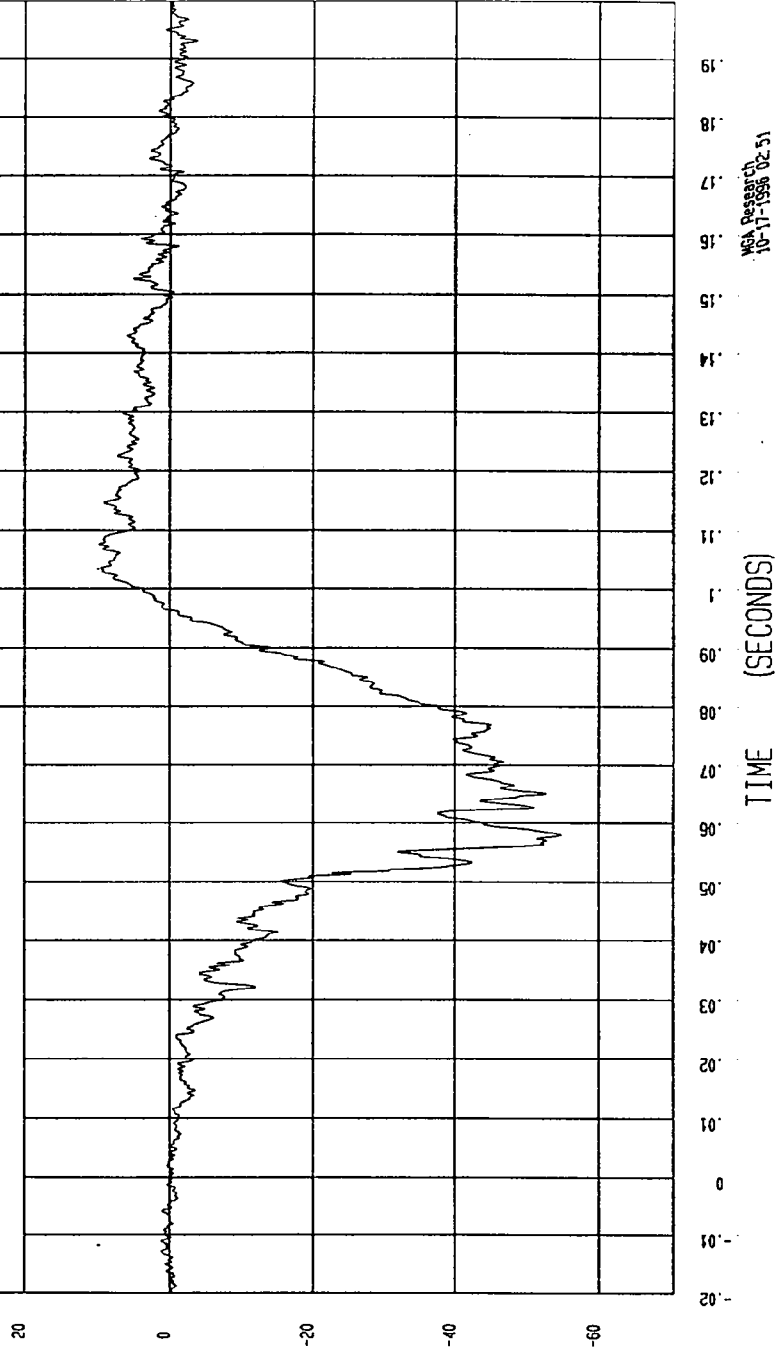
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

MIN=-54.73667 G'S at 58 msec

MAX= 9.782069 G'S at 107 msec

PASSENGER PELVIS X ACCELERATION

1 \_\_\_\_\_ 895104F.A63 Filterclass (1000)



MEV Research  
10-17-1996 02:51

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

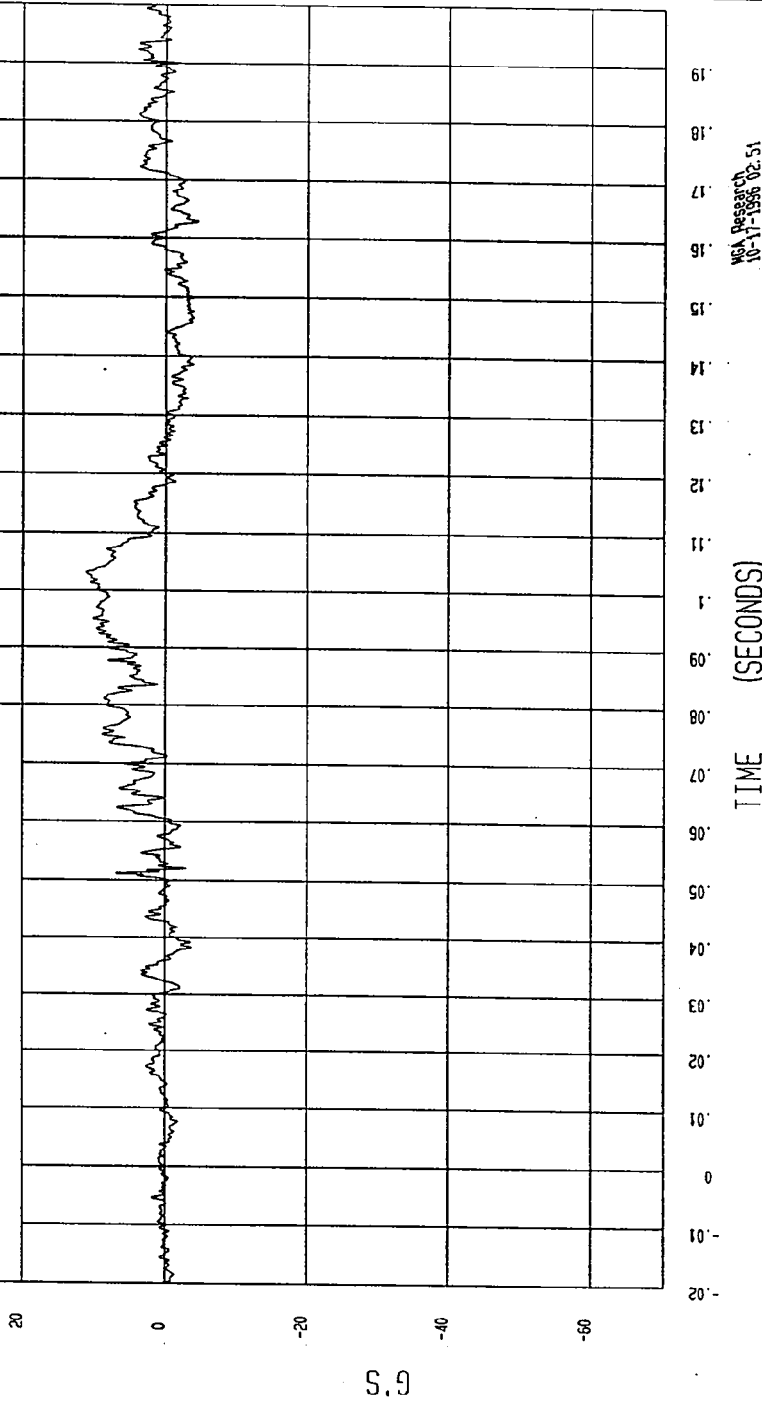
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-4.699027 6'S at 162 msec

YMAX= 10.93544 6'S at 103 msec

PASSENGER PELVIS Y ACCELERATION

1 \_\_\_\_\_ 896104AF.A64 Filterclass (1000)



MGA Research  
10-17-1996 02:51

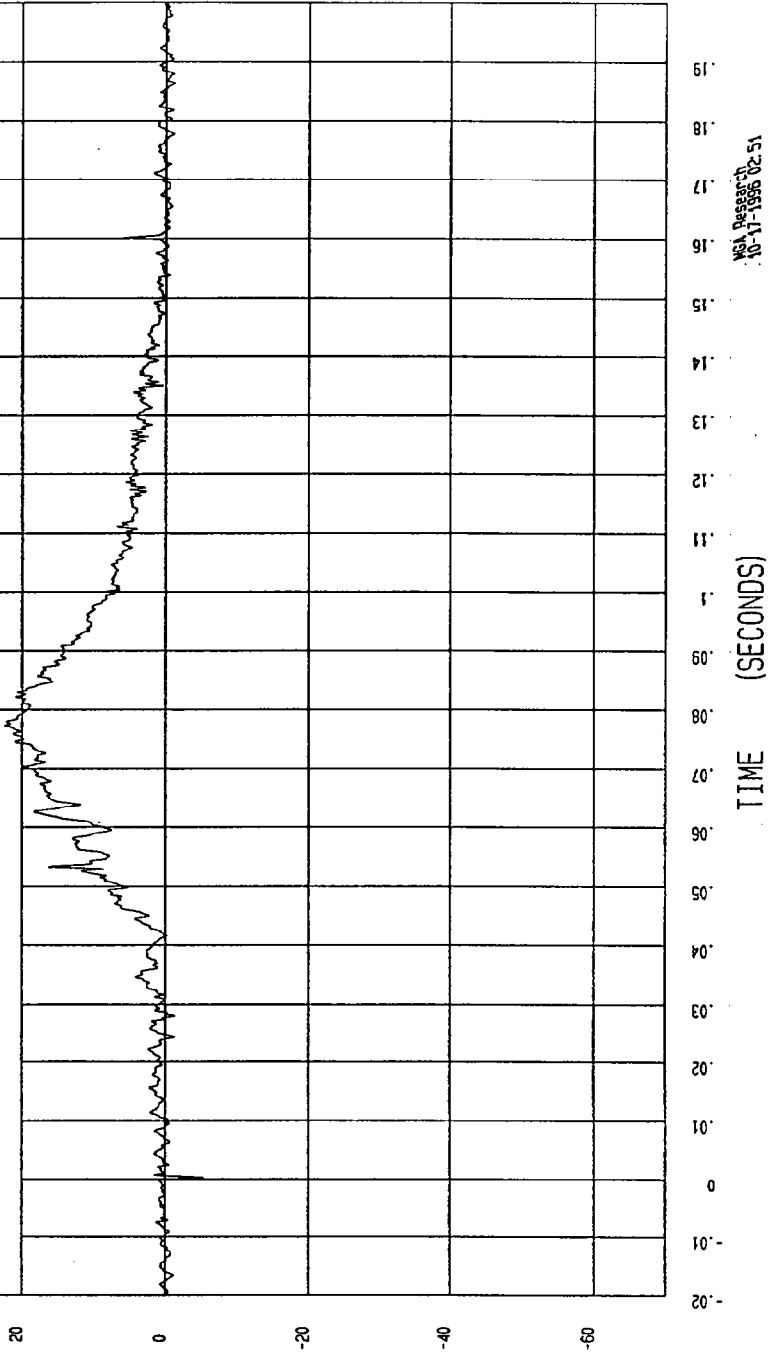
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-5.442007 G'S at .29 msec YMAX= 22.33972 G'S at 77. msec

PASSENGER PELVIS Z ACCELERATION

1 895104AF.A65 Filterclass (1000)



MsA Research  
10-17-1996 02:51

S.G

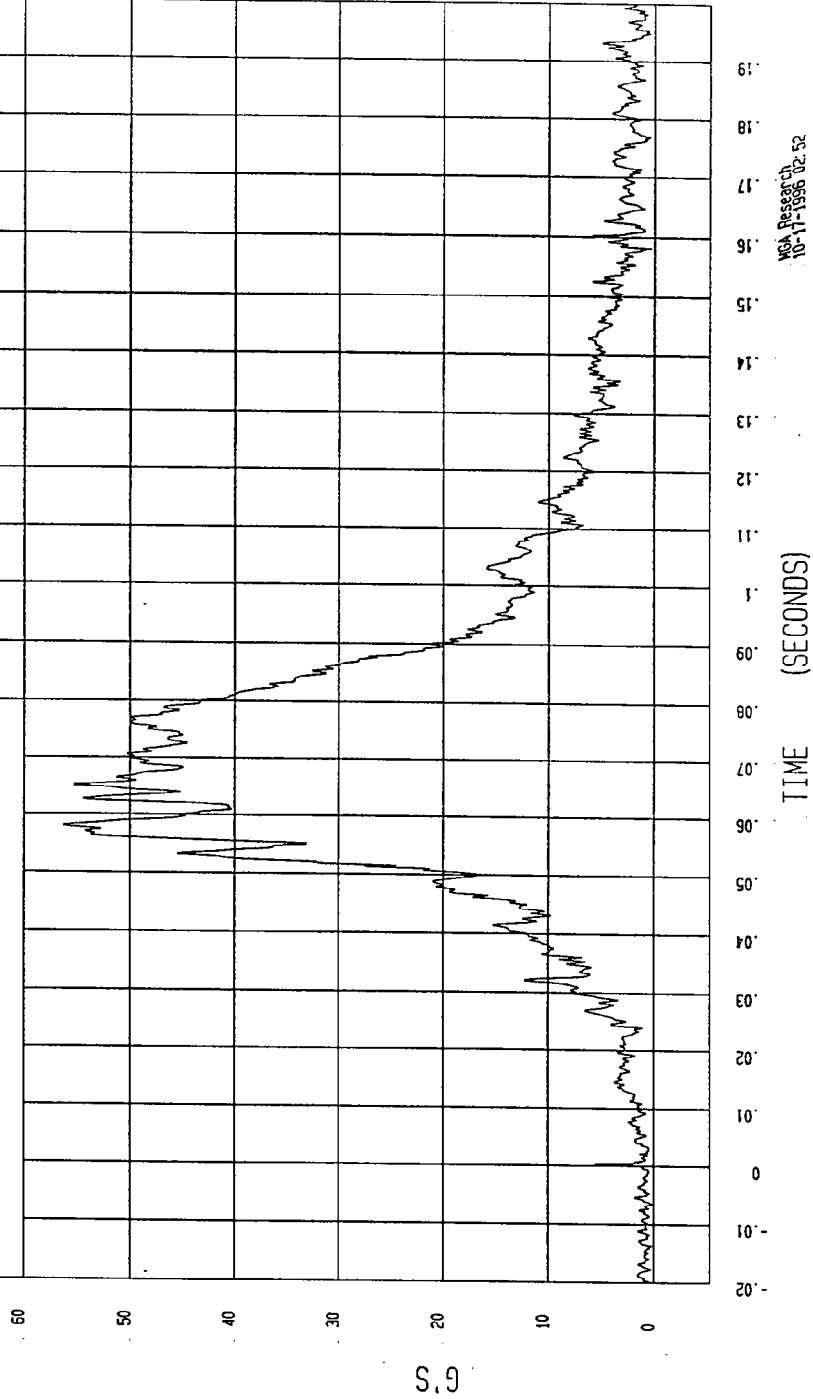
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= .1602559 G'S at -6.6 msec YMAX= 56.26168 G'S at 58 msec

PASSENGER PELVIS RESULTANT ACCELERATION

1 896104V.A63 Filterclass (1000)



MGA Research  
10-17-1996 12:52

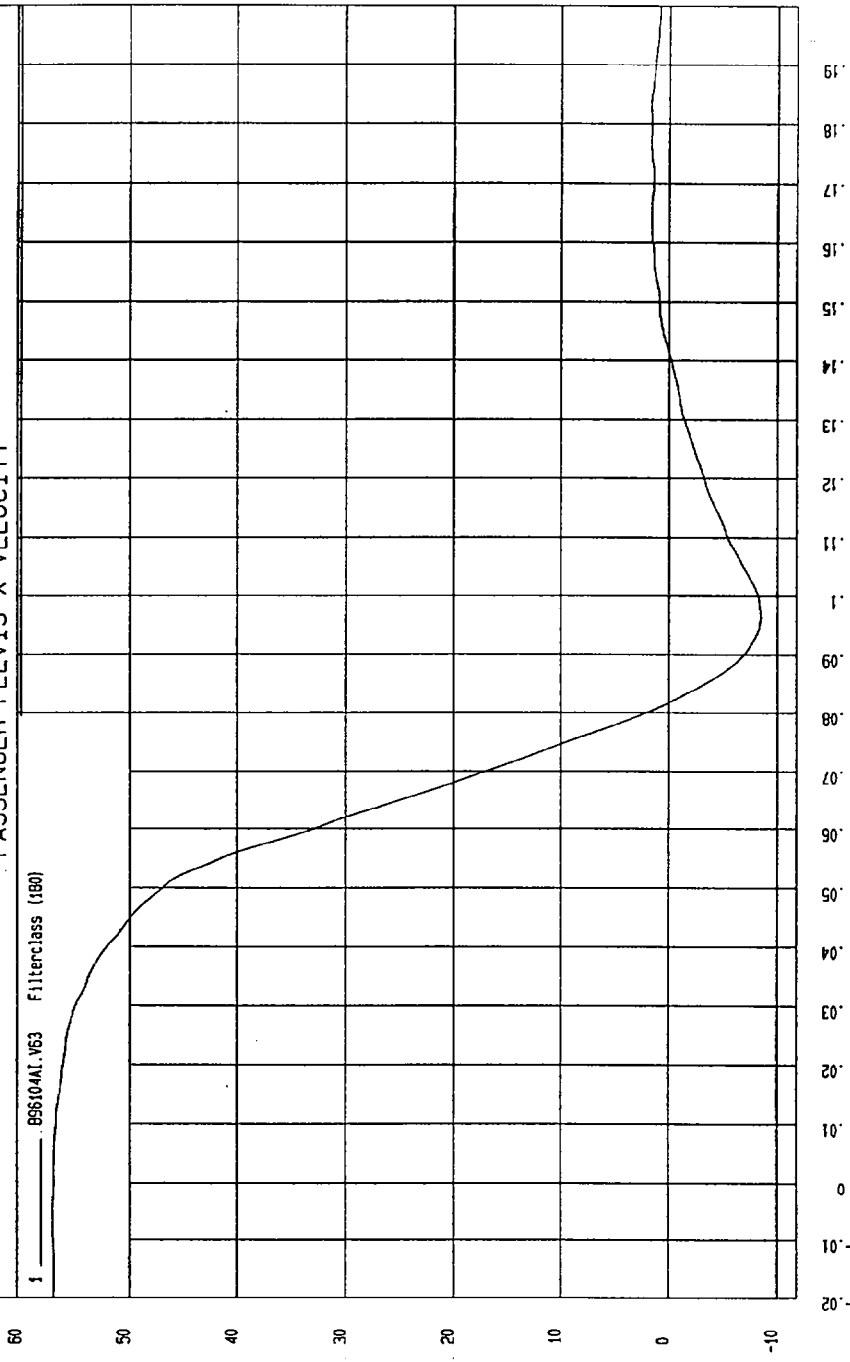
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-8.471886 KPH at 96. msec YMAX= 57.05902 KPH at -4.9 msec

PASSENGER PELVIS X VELOCITY

1 896104L.V63 Filterclass (180)



MEA Research  
10-27-1996 00: 29

TEST: 35 MPH FRONTAL NCAP TEST

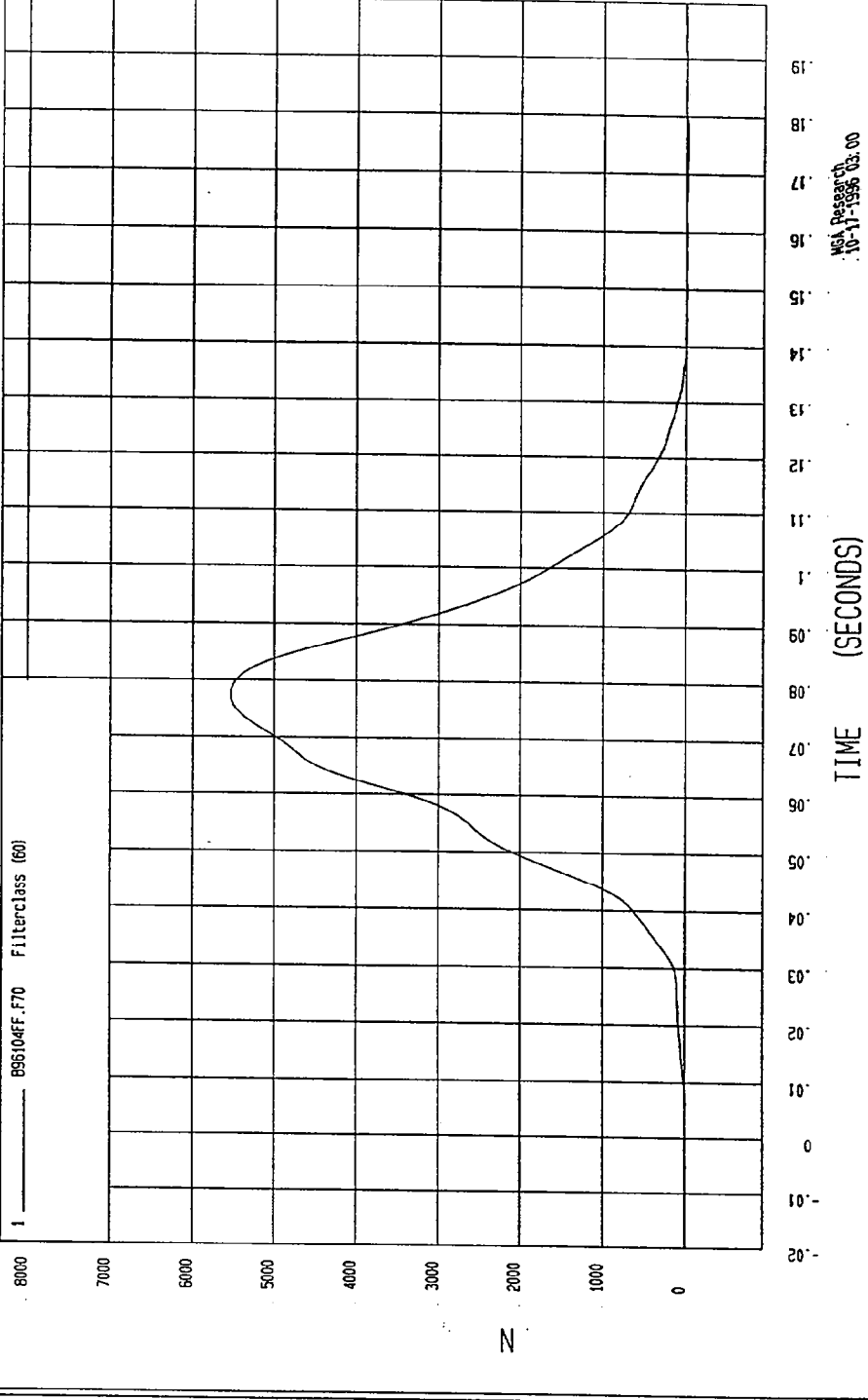
TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-18.65905 N at 174 msec

YMAX= 5536.846 N at 77. msec

PASSENGER LAP BELT FORCE



MoA Research  
10-17-1996 03.00

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

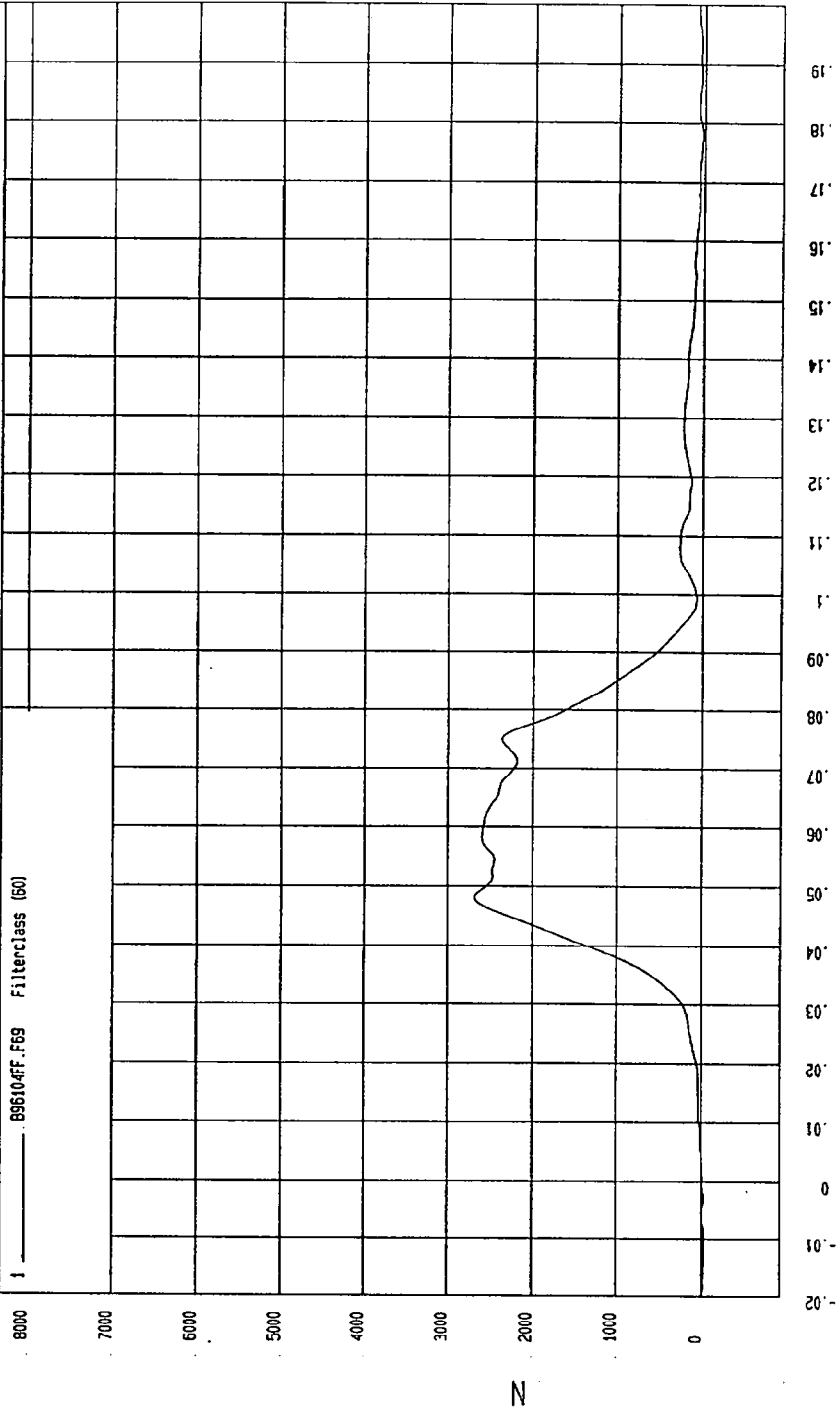
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YH#-34.1B373 N at -12. msec

YMAX- 2678.114 N at 48. msec

PASSENGER SHOULDER BELT FORCE

1 — .895104FF.F59 FilterClass (60)



MSA Research  
10-17-1996 02:52

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

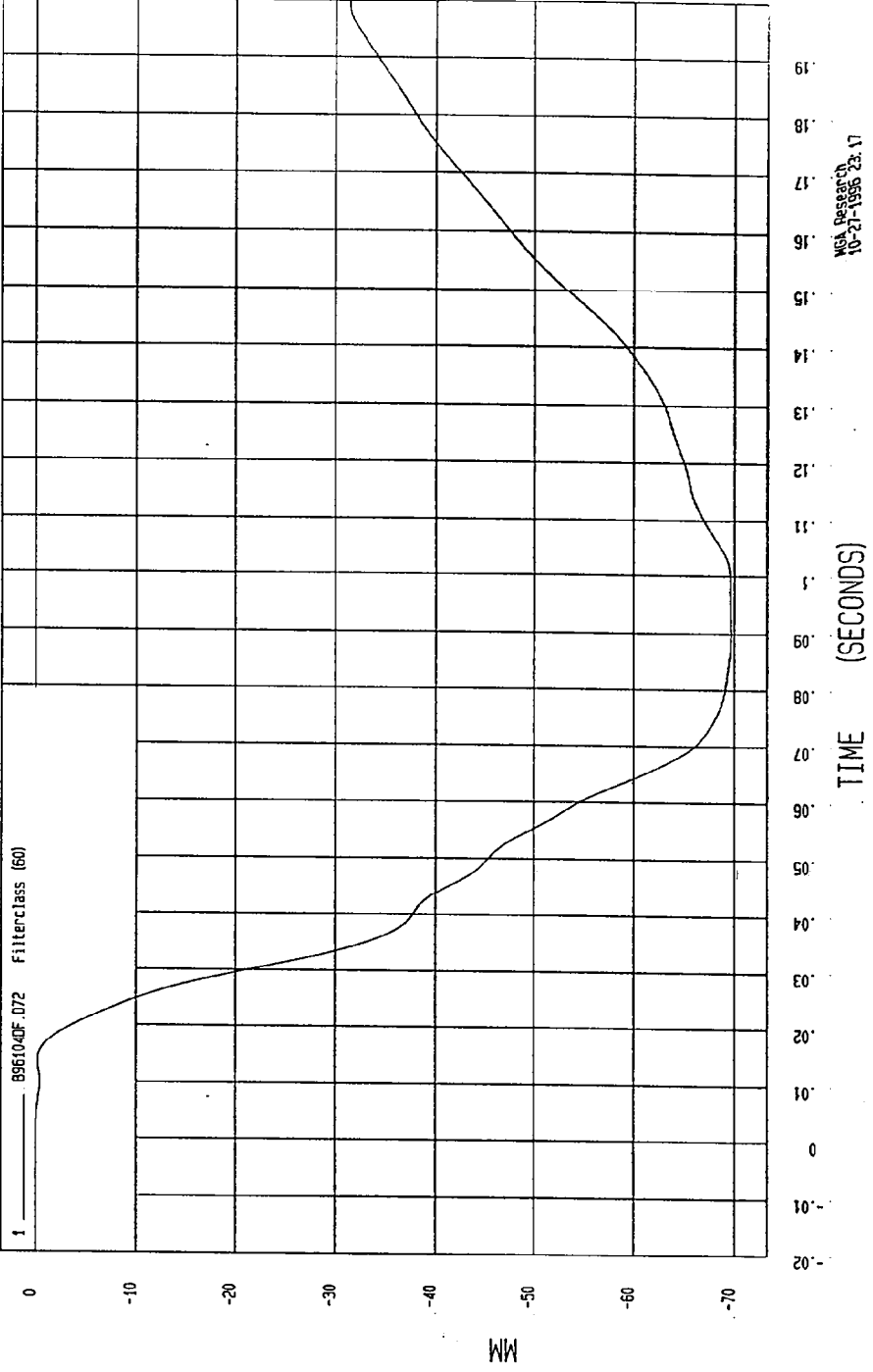
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-59.65504 MM at 90 msec

YMAX= 2.65210E-03 MM at -6.5 msec

PASSENGER BELT SPOOLOUT DISP

1 896104DF.072 Filterclass (60)



MSL Research  
10-21-1996 2:17

TEST DATE: 10-17-1996

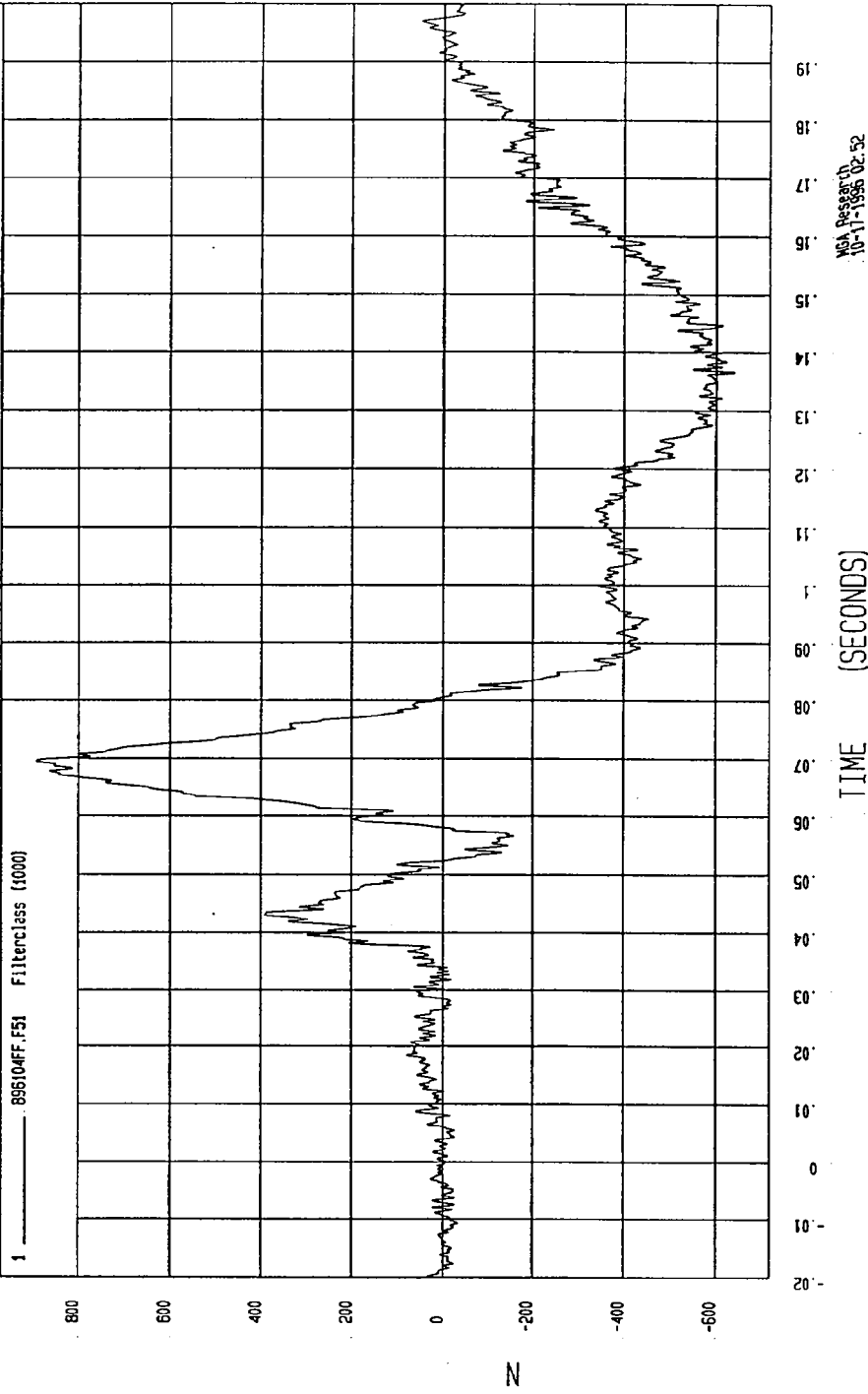
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-640.0992 N at 136 msec

YMAX= 889.2397 N at 69. msec

PASSENGER NECK FORCE X



MCA Research  
10-17-1996 02:52

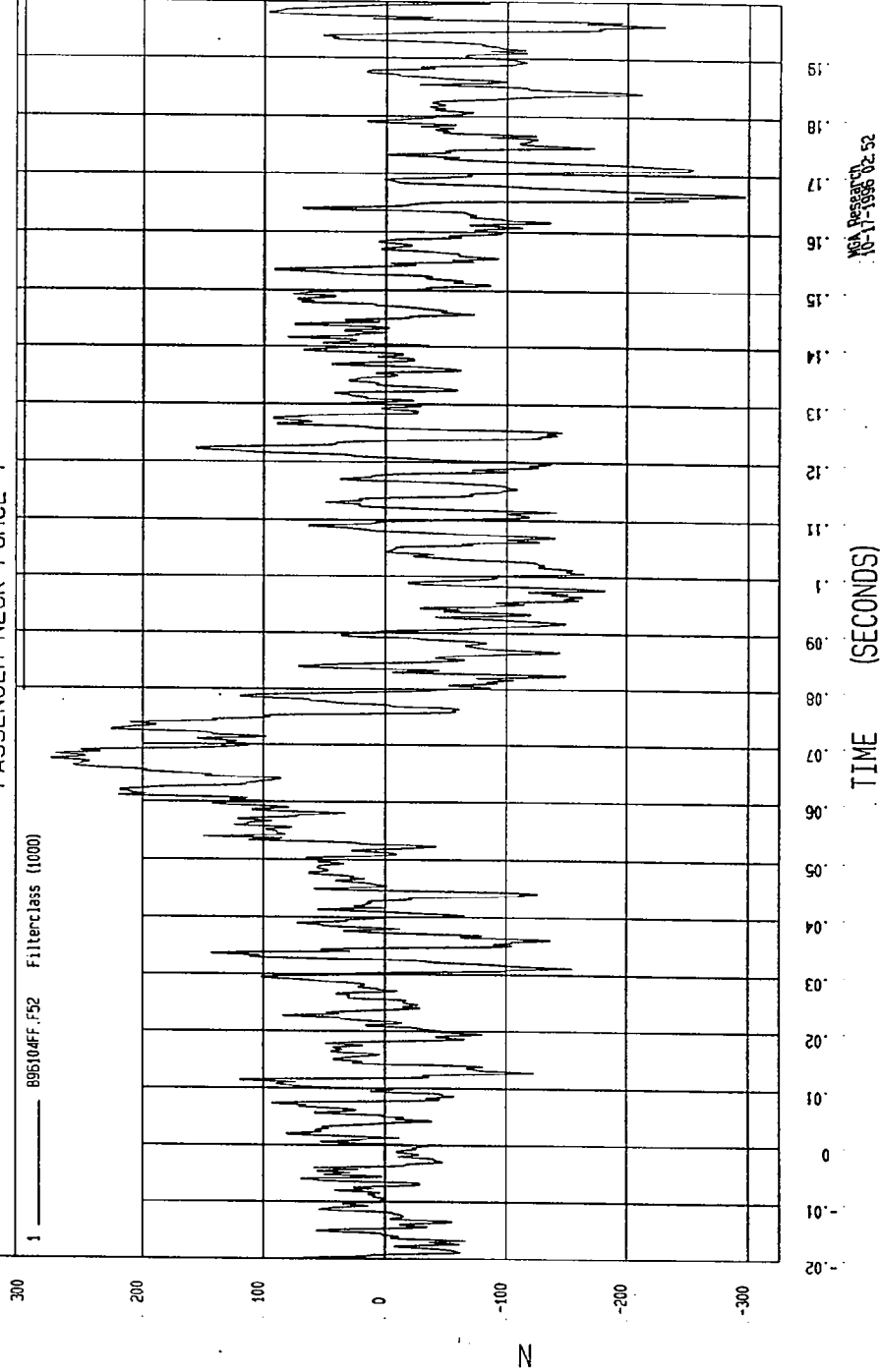
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-295.6281 N at .165 msec

YMAX= 277.7683 N at .671 msec

PASSENGER NECK FORCE Y



TEST DATE: 10-17-1996

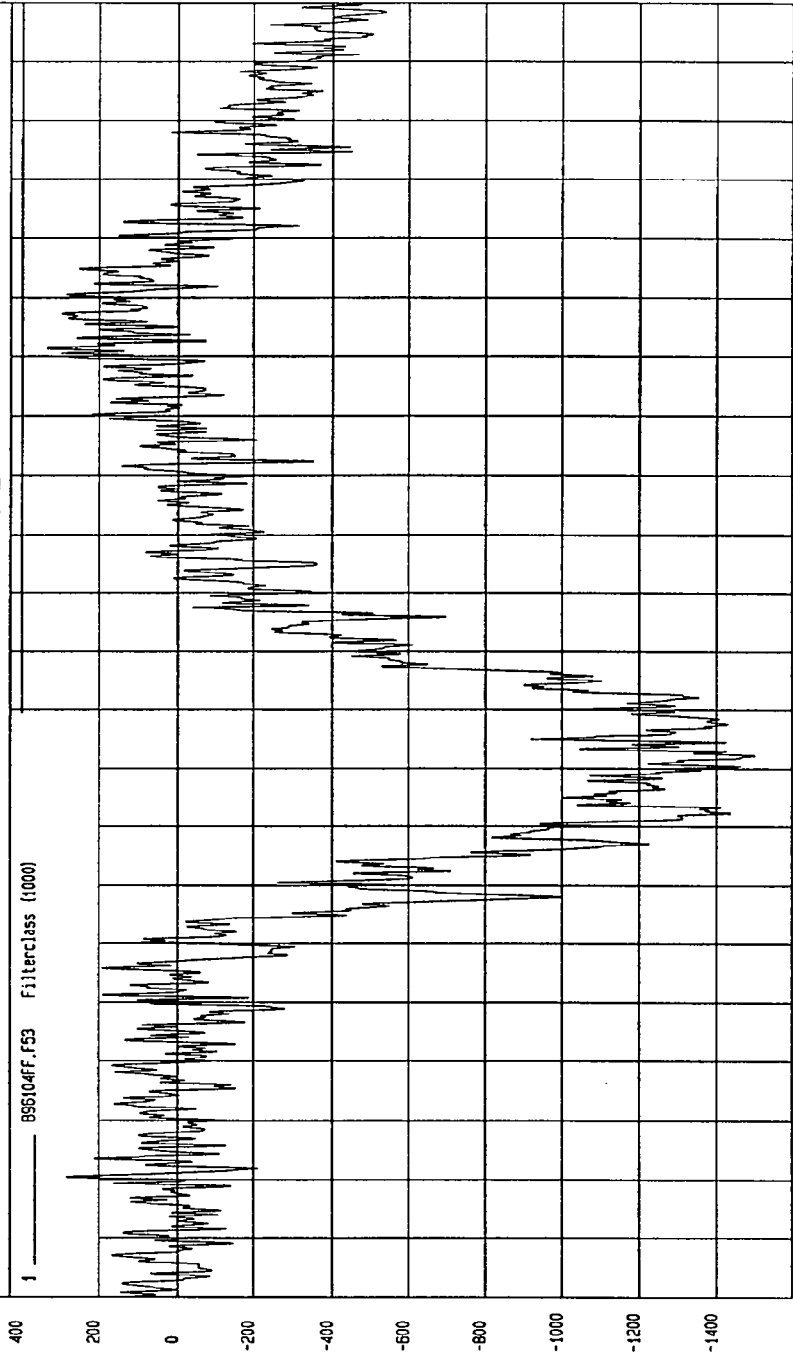
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MY5600) Speed: 35.4 MPH 57 KPH

YMIN=-1500.221 N at 72. msec YMAX= 337.7137 N at 141 msec

PASSENGER NECK FORCE Z

1 895104FF.F53 Filterclass (1000)



TIME (SECONDS)

McA Research  
10-17-1996 02:52

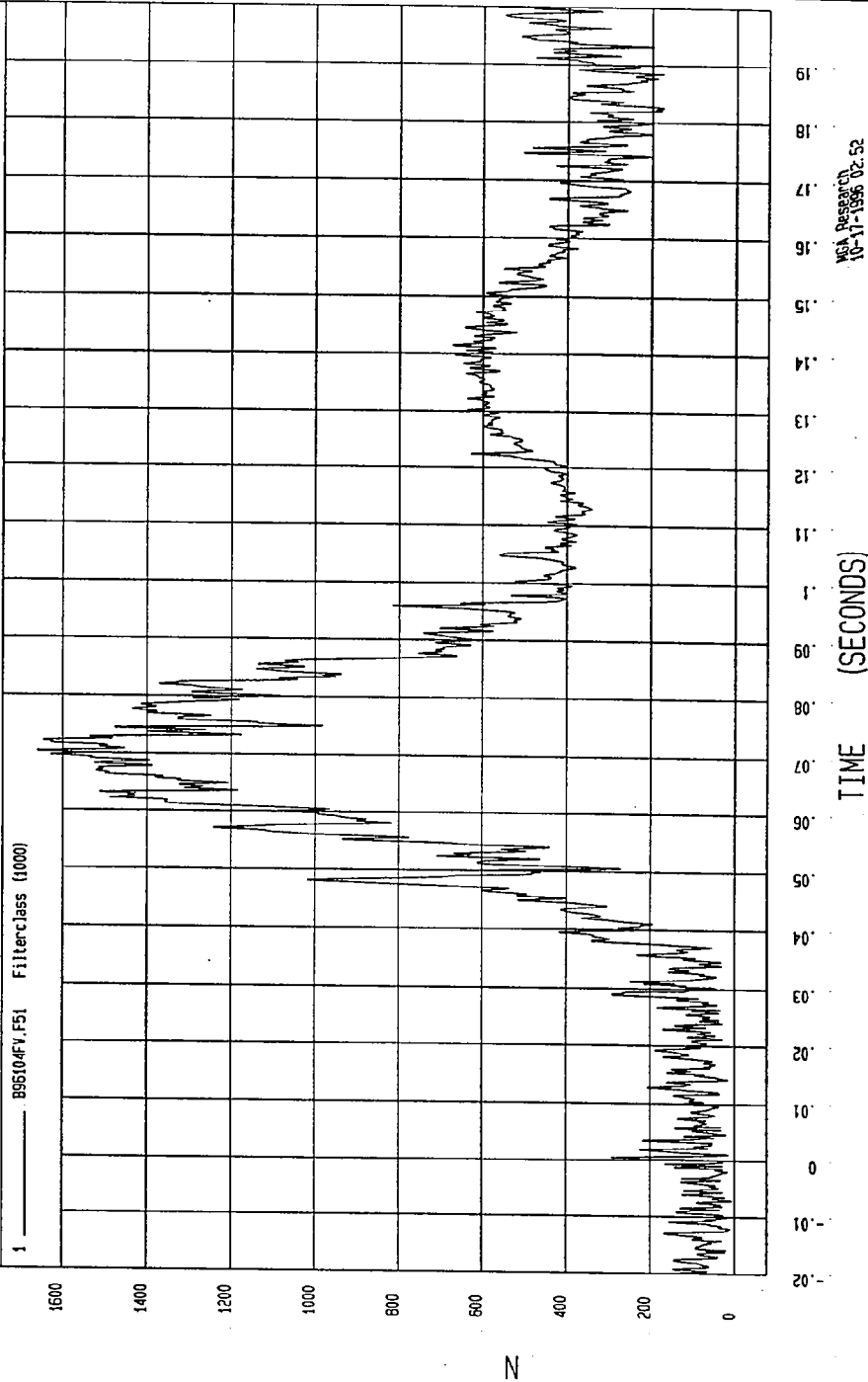
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= 6.379116 N at -7.2 msec

YMAX= 1658.261 N at 70. msec

PASSENGER NECK FORCE RESULTANT



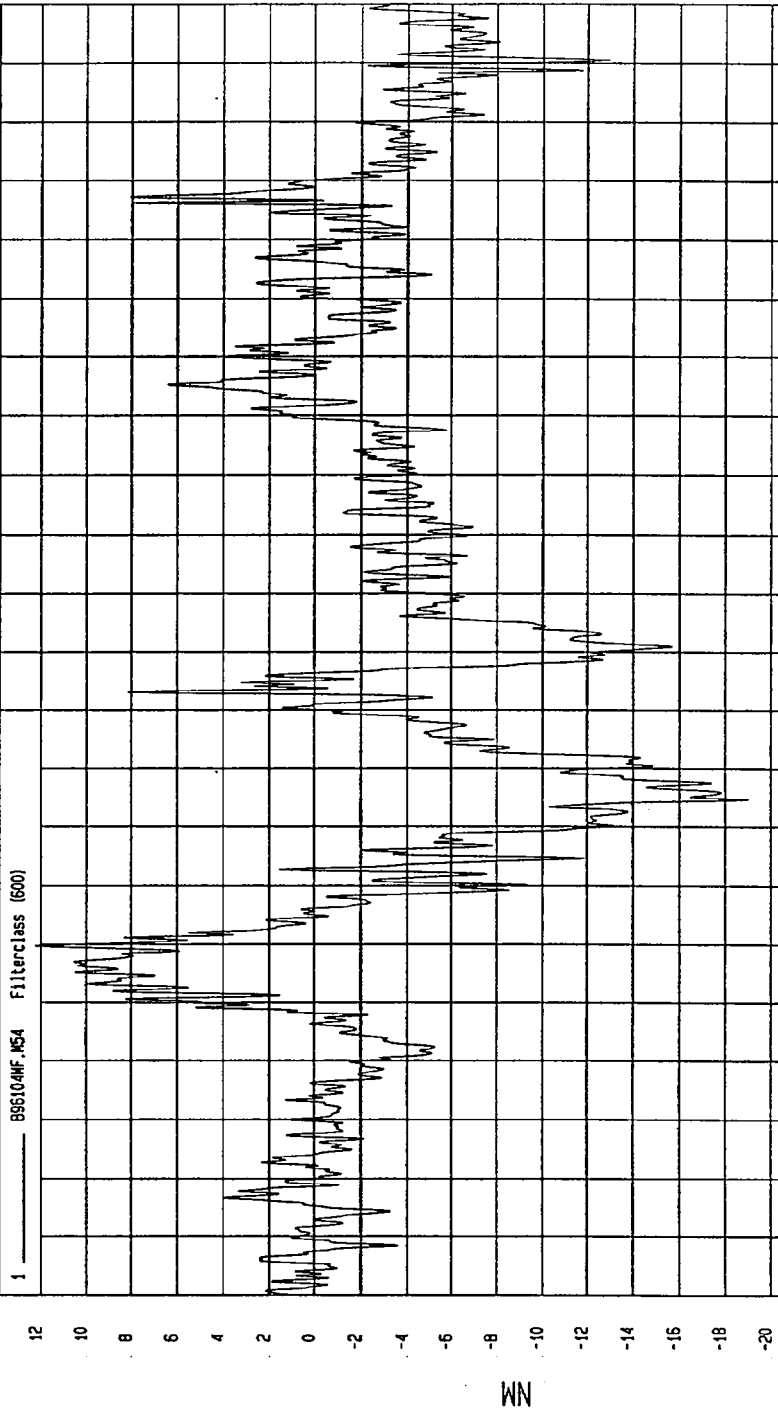
TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-19.02168 NI at 64. msec YMAX= 12.24025 NI at 39. msec

PASSENGER NECK MOMENT X



MGA Research  
10-17-1996 02:53

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

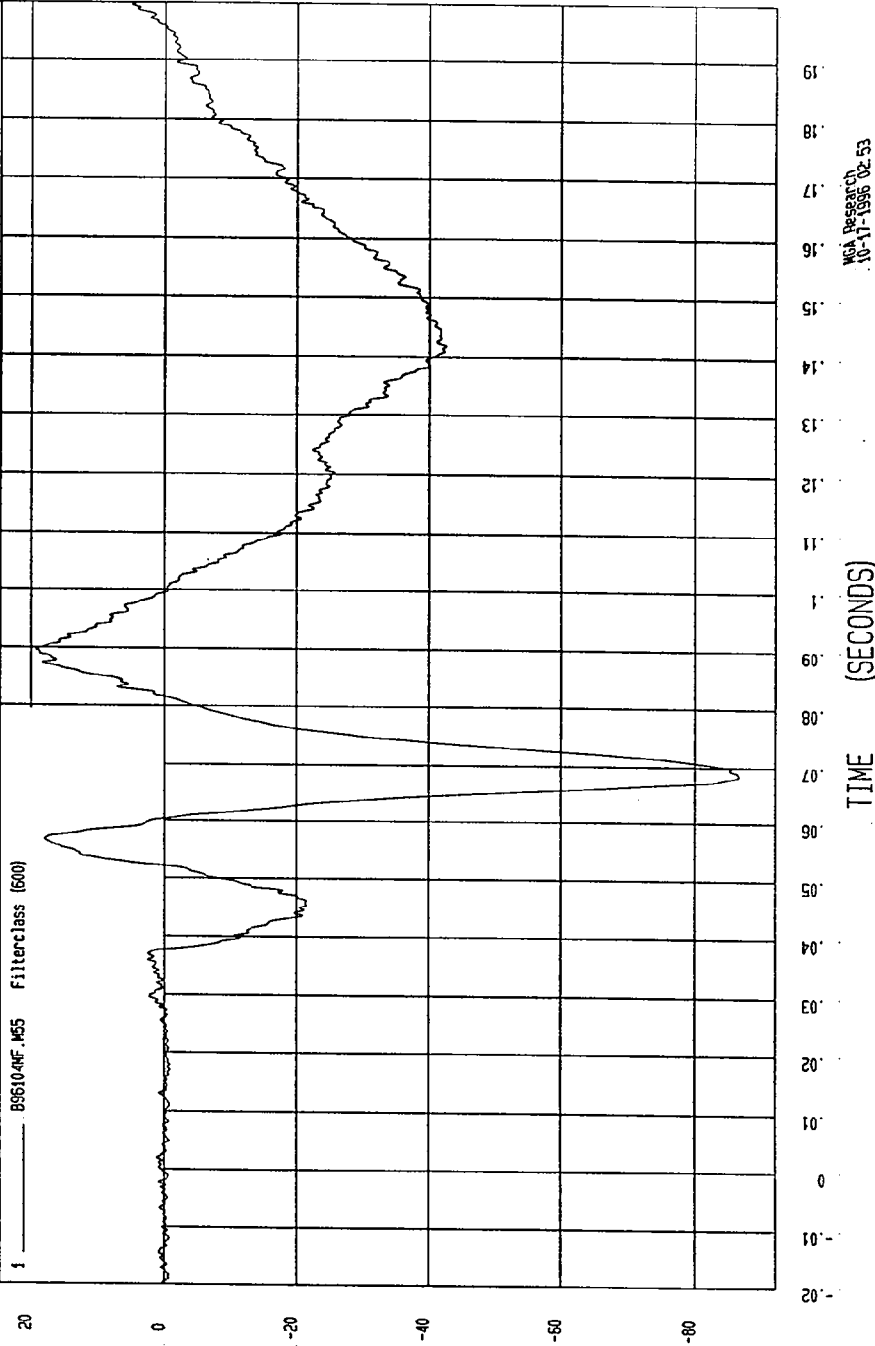
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-86.6735 NM at 68. msec

YMAX= 19.35229 NM at 89. msec

PASSENGER NECK MOMENT Y

1 ——— 896104NF.M55 Filterclass (500)



MOI Passenck  
10-17-1996 02:53

TIME (SECONDS)

NM

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

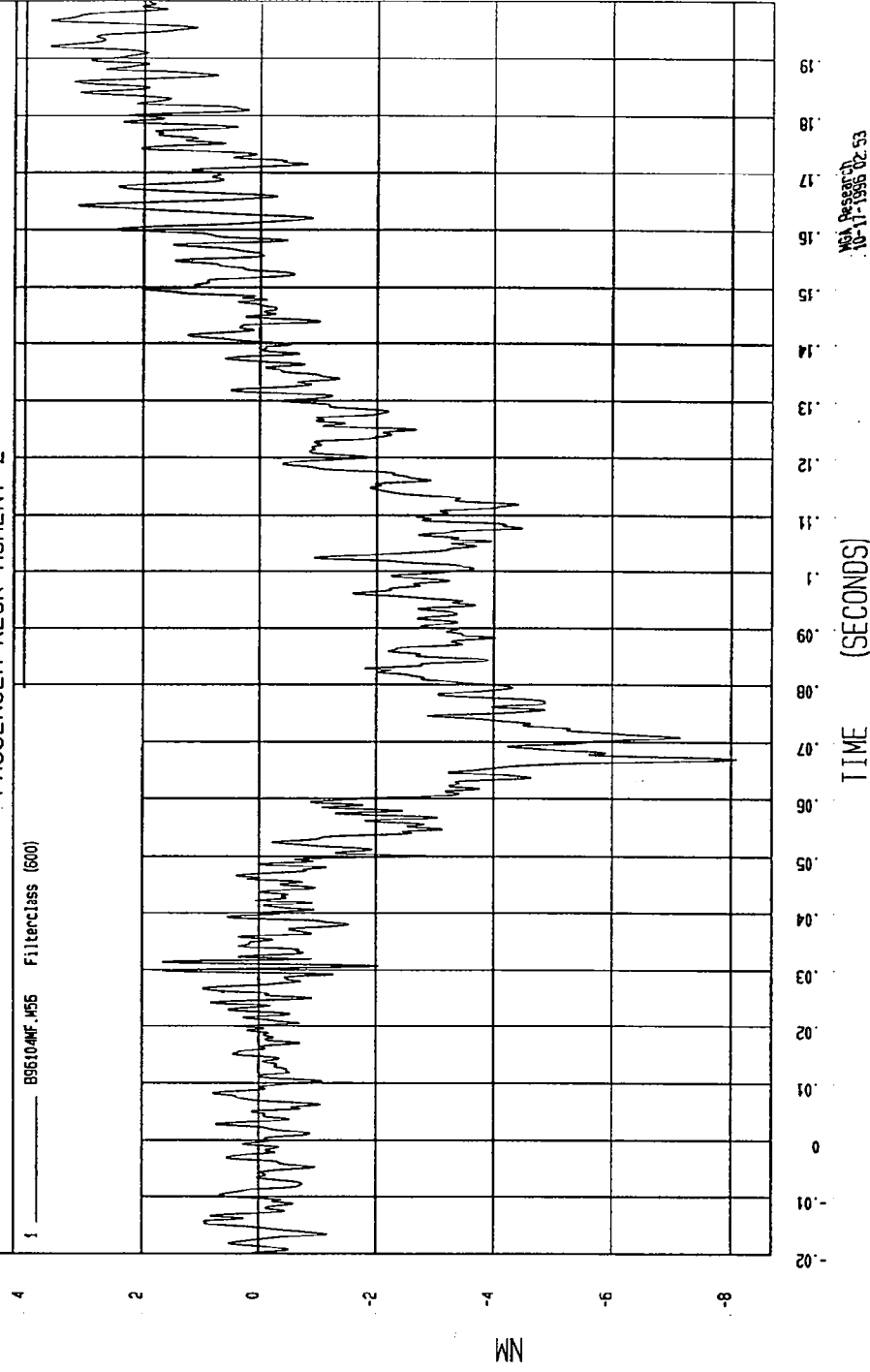
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-8.087941 NM at 67. msec

YMAX= 3.594876 NM at 196 msec

PASSENGER NECK MOMENT Z

1 89510MF.H55 Filterclass (600)



MVA Present  
10-17-1996 02:53

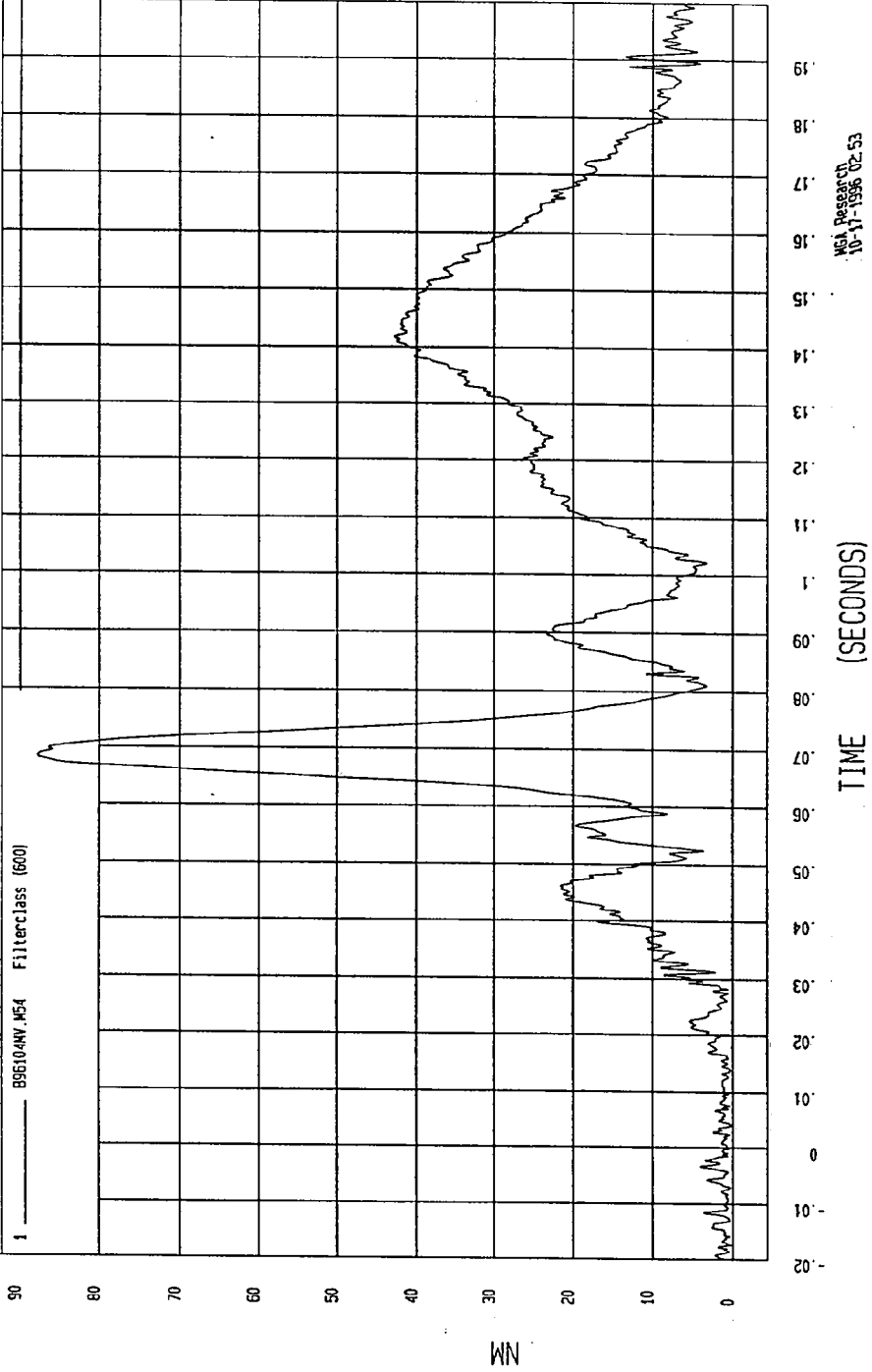
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN= .1176055 IM at 4.0 msec

YMAX= 87.88226 IM at 68. msec

PASSENGER NECK MOMENT RESULTANT



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

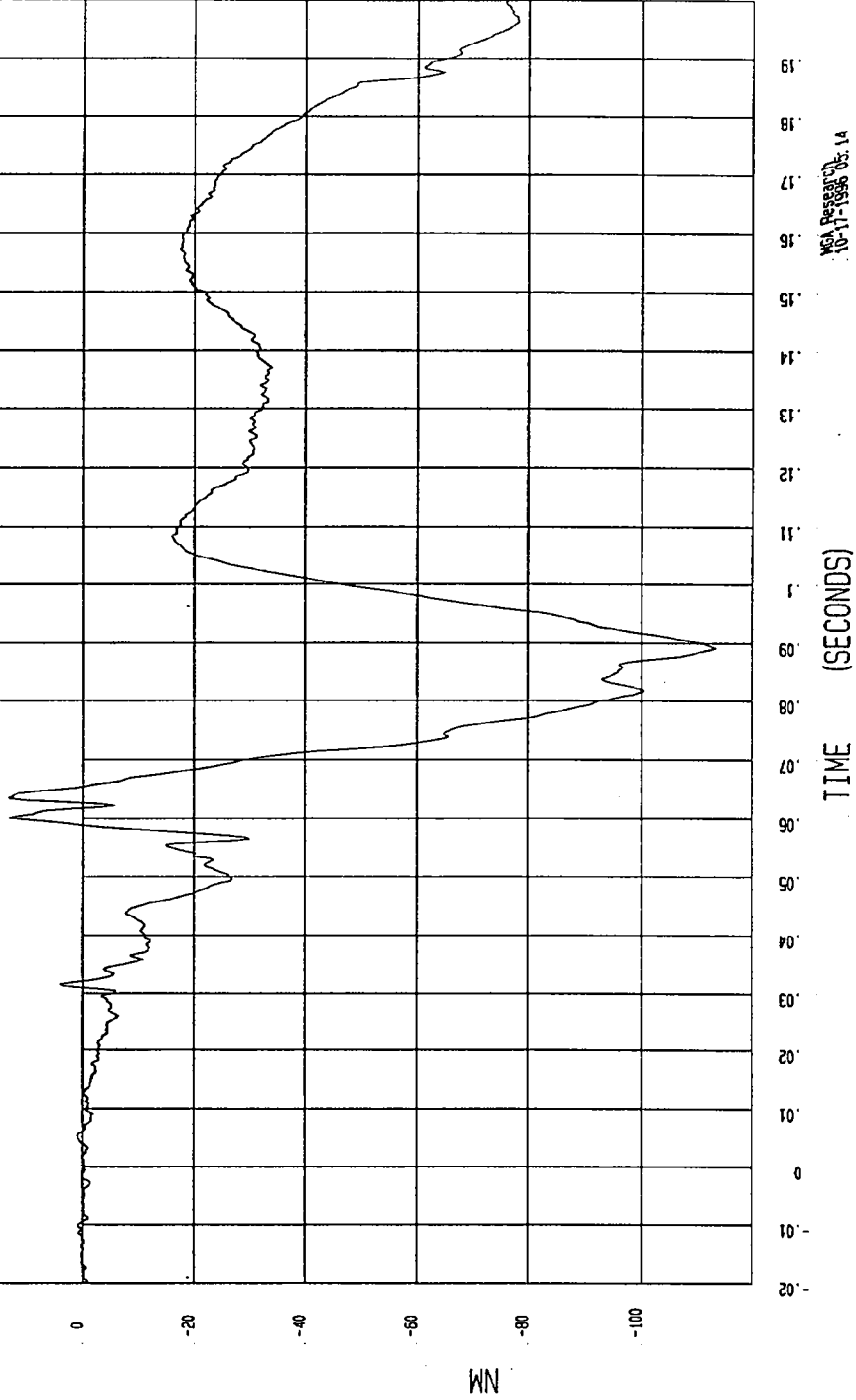
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-113.1687 NM at 83. msec

YMAX= 13.35691 NM at 63. msec

PASSENGER LEFT UPPER TIBIA MOMENT X

1 896104NF.M94 Filterclass (500)



MOA PASSENGER  
10-17-1996 05:14

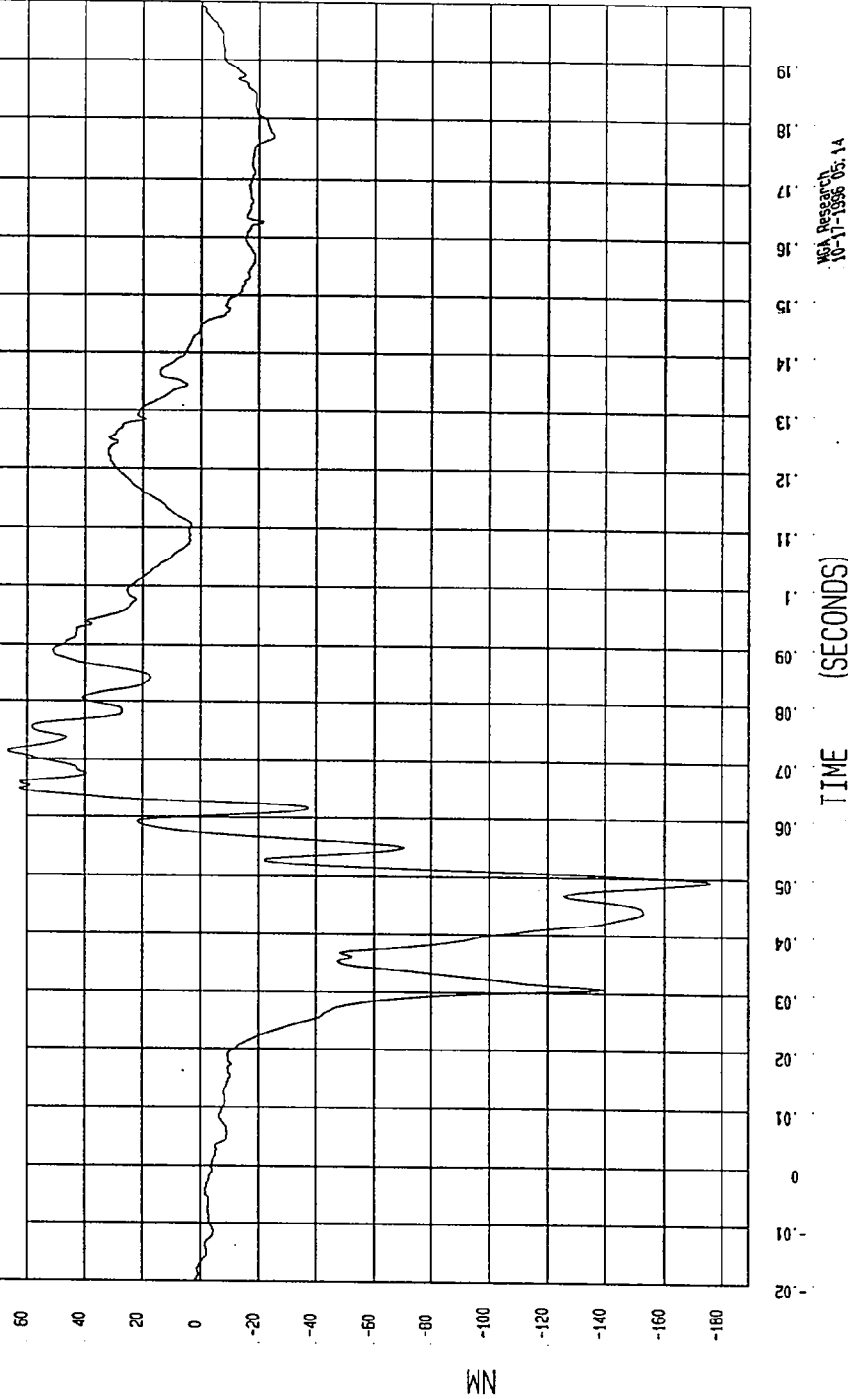
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-176.5095 N at 49. msec YMAX= 66.85409 N at 71. msec

PASSENGER LEFT UPPER TIBIA MOMENT Y

1 89610MF.H95 Filter:ass (500)



NCI Research  
10-17-1996 05.14

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

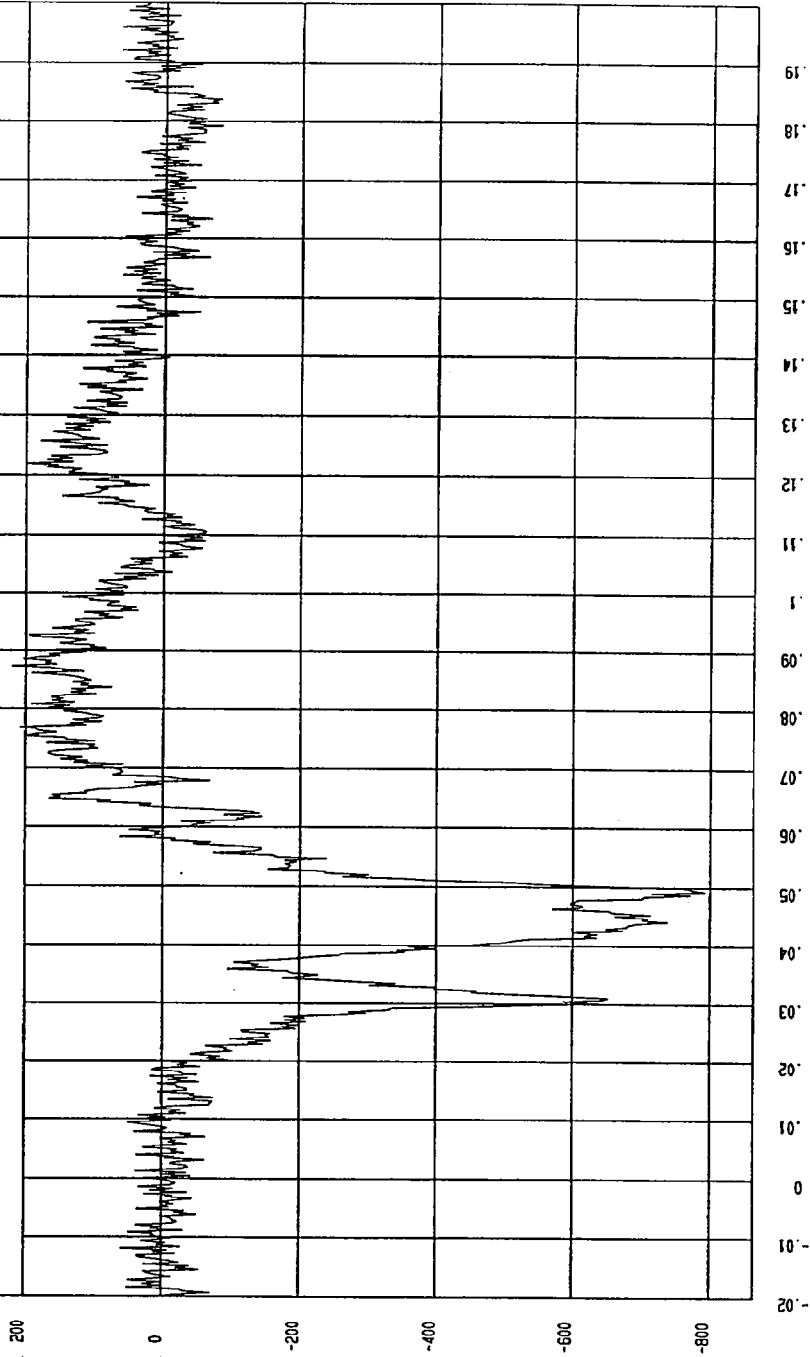
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-809.1875 N at 49. msec

YMAX= 225.0916 N at 92. msec

PASSENGER LEFT LOWER TIBIA FORCE X

1 895104F.F96 FilterClass (1000)



TIME (SECONDS)

MSA PAPER LTD.  
10-17-1996 05:14

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

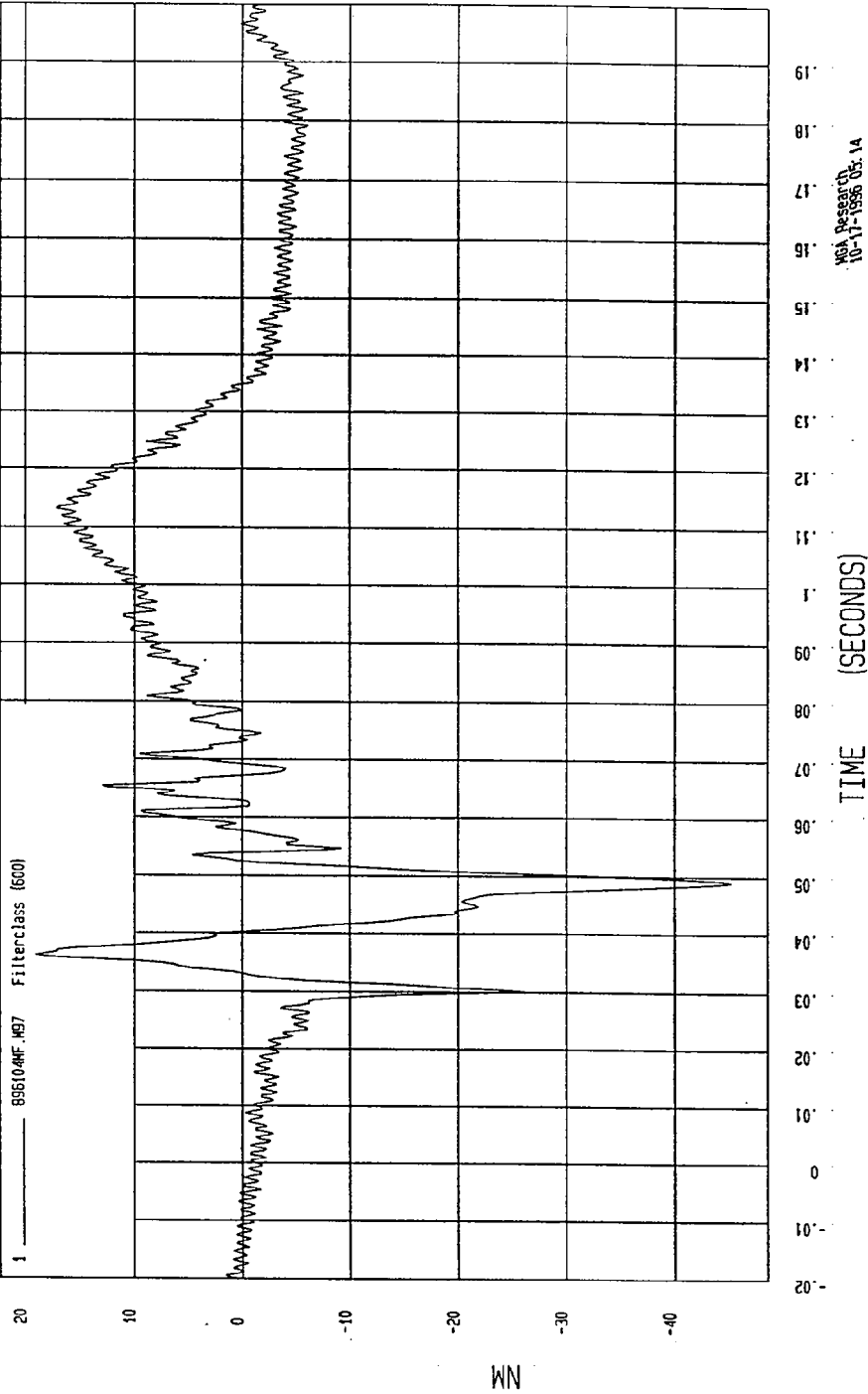
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-45.35796 NM at 49. msec

YMAX= 19.07436 NM at 36. msec

PASSENGER LEFT LOWER TIBIA MOMENT Y

1 896104NF.MB7 Filterclass (600)



MOA Research  
10-17-1996 08:14

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

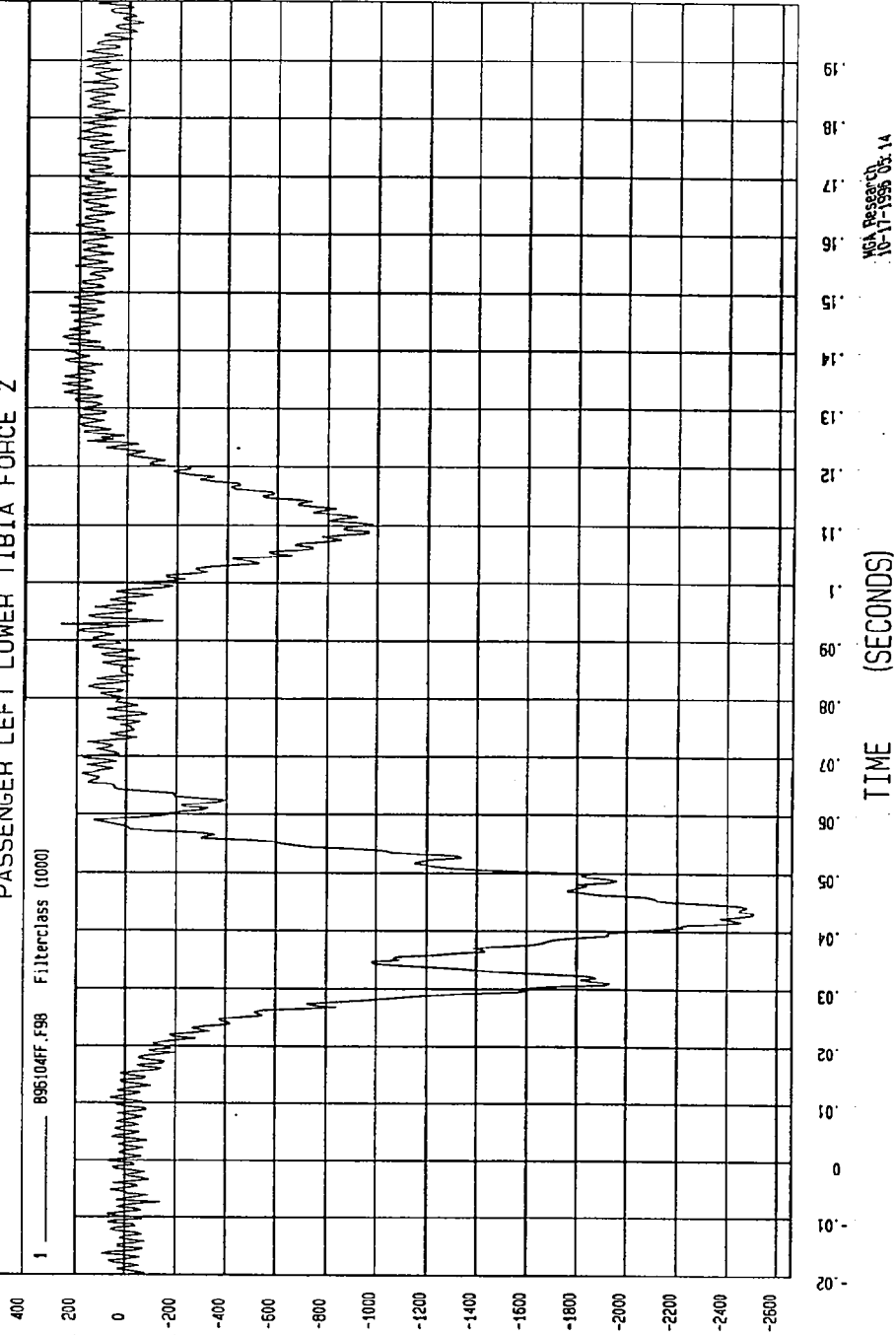
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-2516.587 N at 43. msec

YMAX= 267.3992 N at 134 msec

PASSENGER LEFT LOWER TIBIA FORCE Z

1 896104FF.F98 Filterclass (1000)



MCA Research  
10-17-1996 03:14

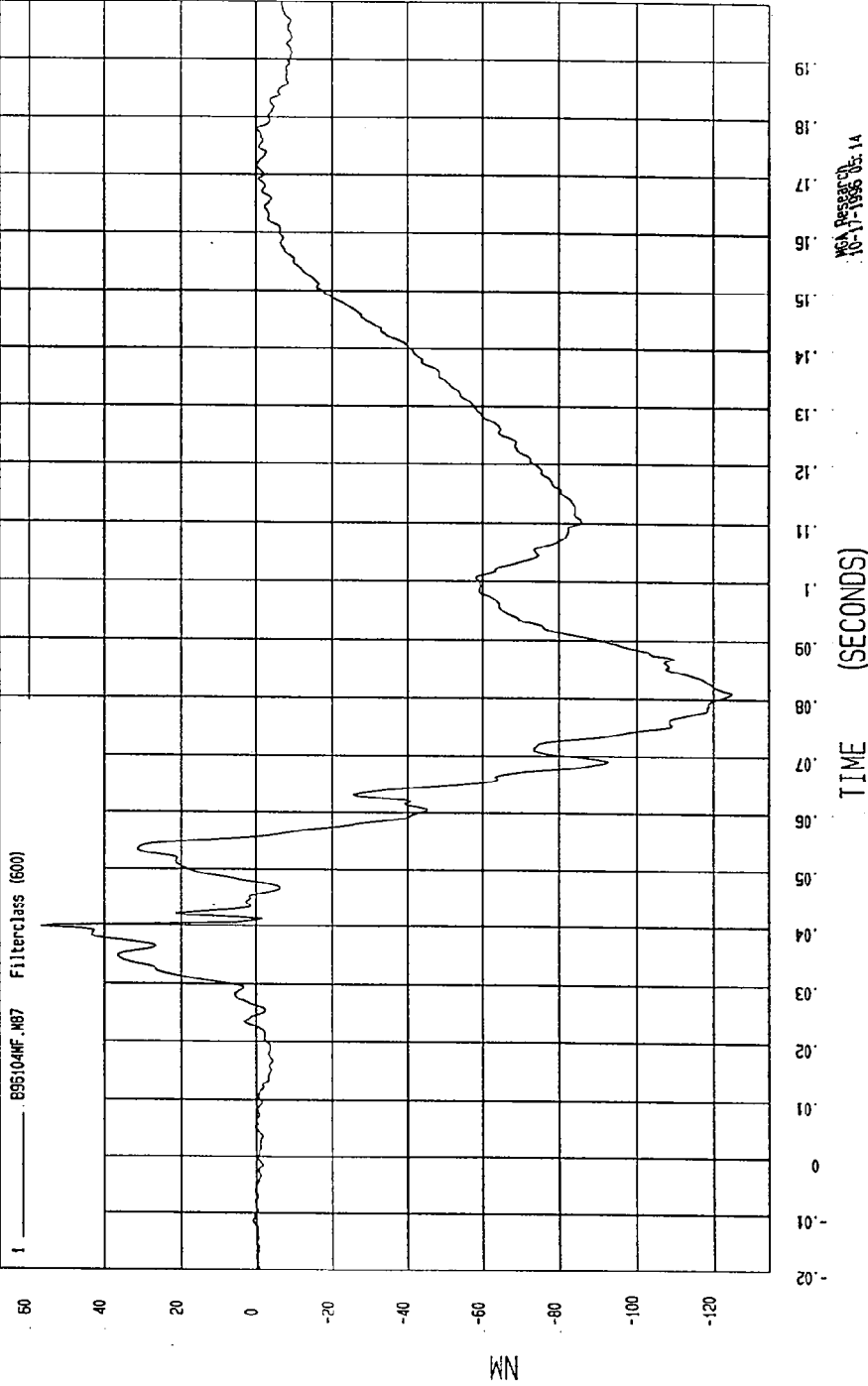
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-124.788 NM at 80. msec YMAX= 58.65529 NM at 39. msec

PASSENGER RIGHT UPPER TIBIA MOMENT X

1 .895104HF.167 Filterclass (600)



TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

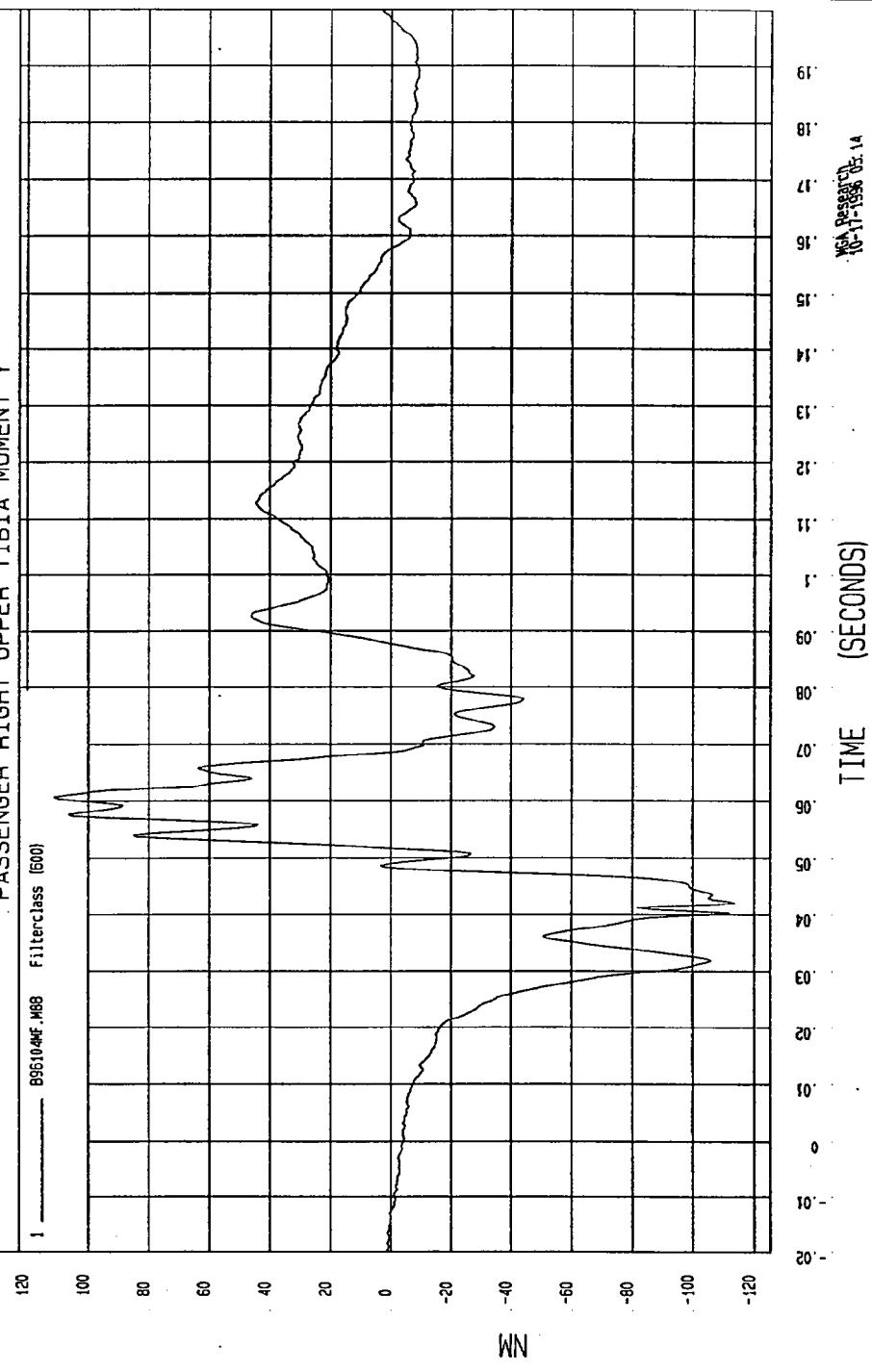
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-113.9373 NM at 42. msec

YMAX= 111.474 NM at 50. msec

PASSENGER RIGHT UPPER TIBIA MOMENT Y

1 B95104F.M88 FilterClass (600)



SEA REPORTED  
10-17-1996 02:14

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

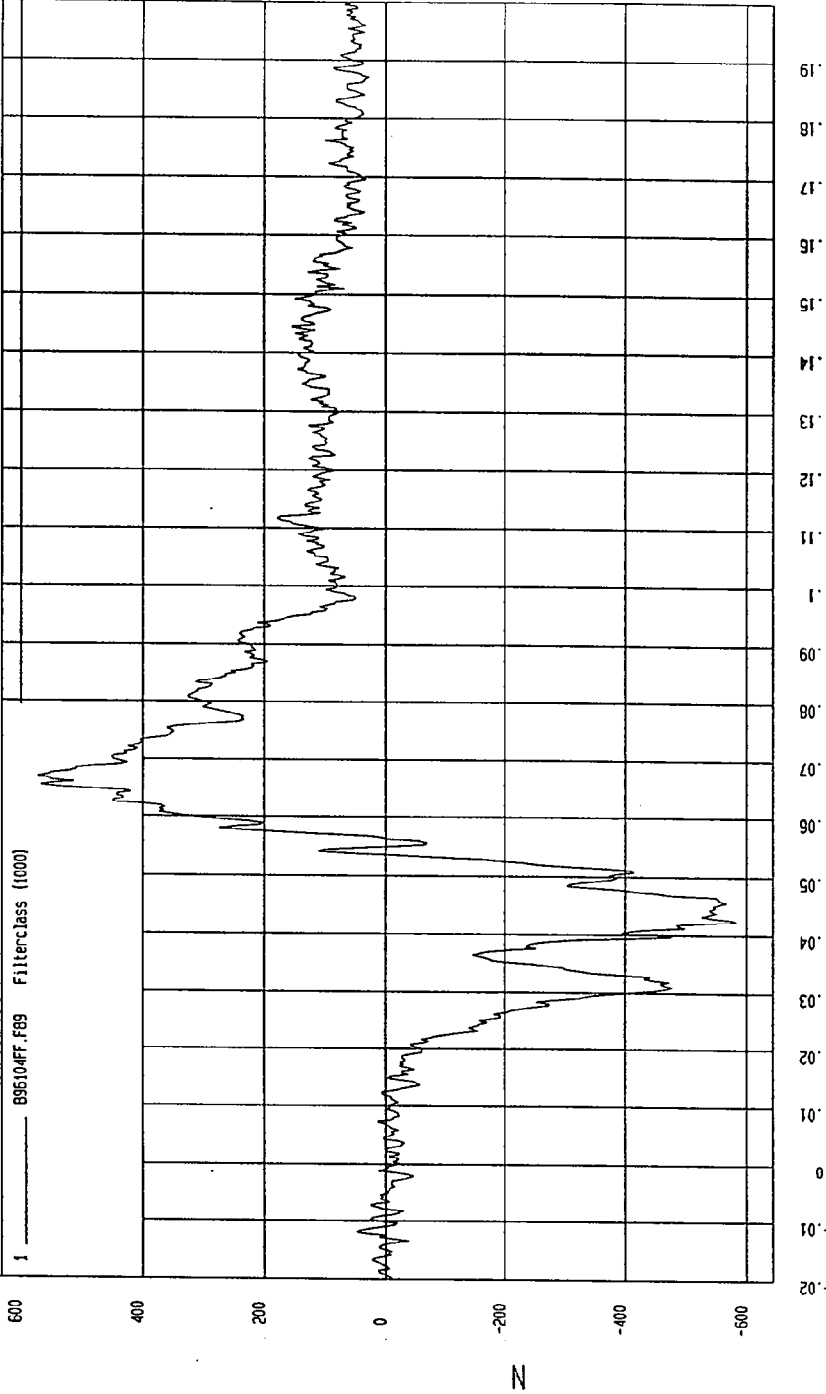
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-586.2489 N at 42. msec

YMAX= 572.8243 N at 67 msec

PASSENGER RIGHT LOWER TIBIA FORCE X

1 \_\_\_\_\_ 896104FF.F09 Filterclass (1000)



MEV Research  
10-17-1996 08:14

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

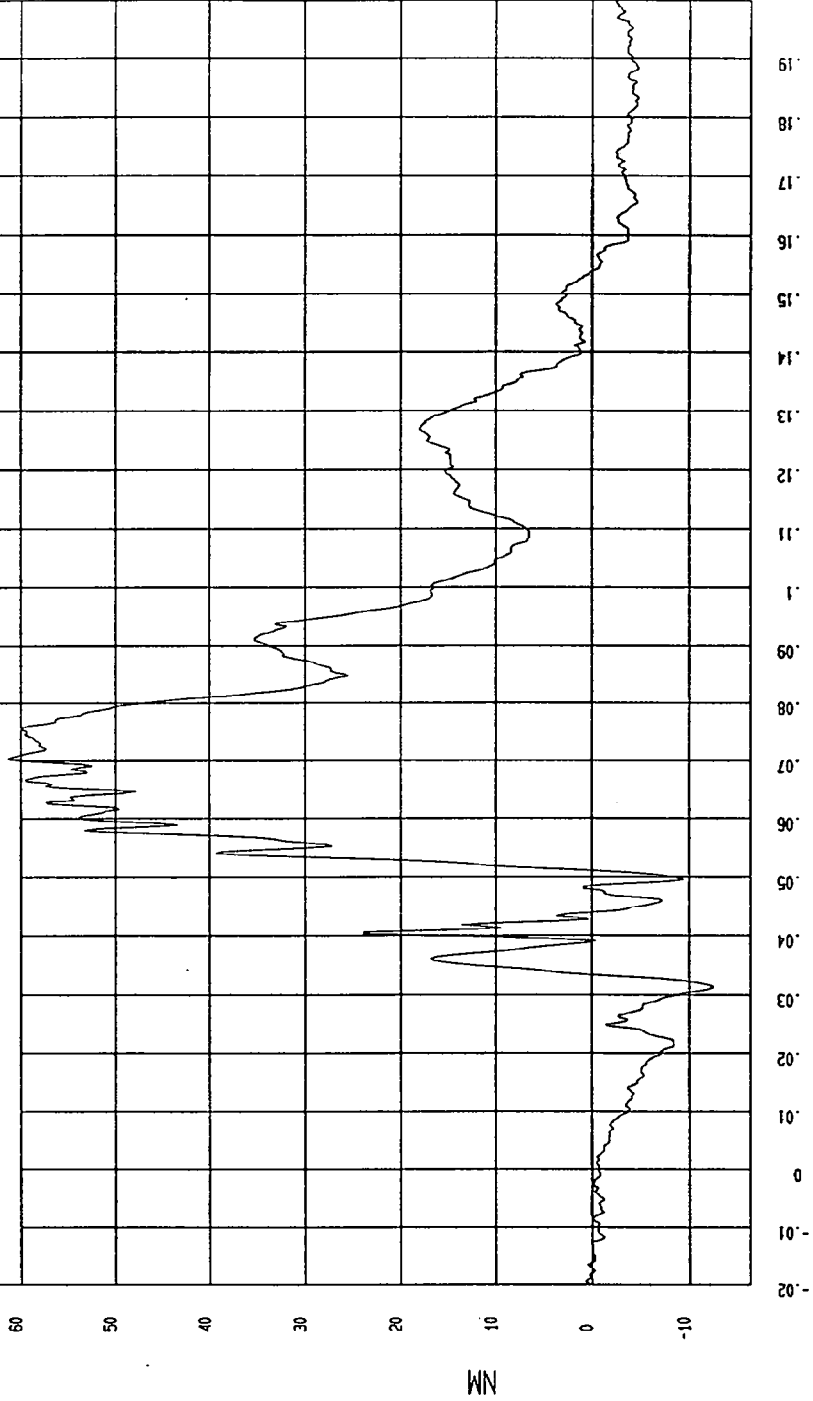
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

.YMIN=-12.49742 NM at 31. msec

.YMAX= 61.39371 NM at 70. msec

PASSENGER RIGHT LOWER TIBIA MOMENT Y

1 896104NF.M80 Filterclass (600)



NCAP Passenger  
10-17-1996 03:14

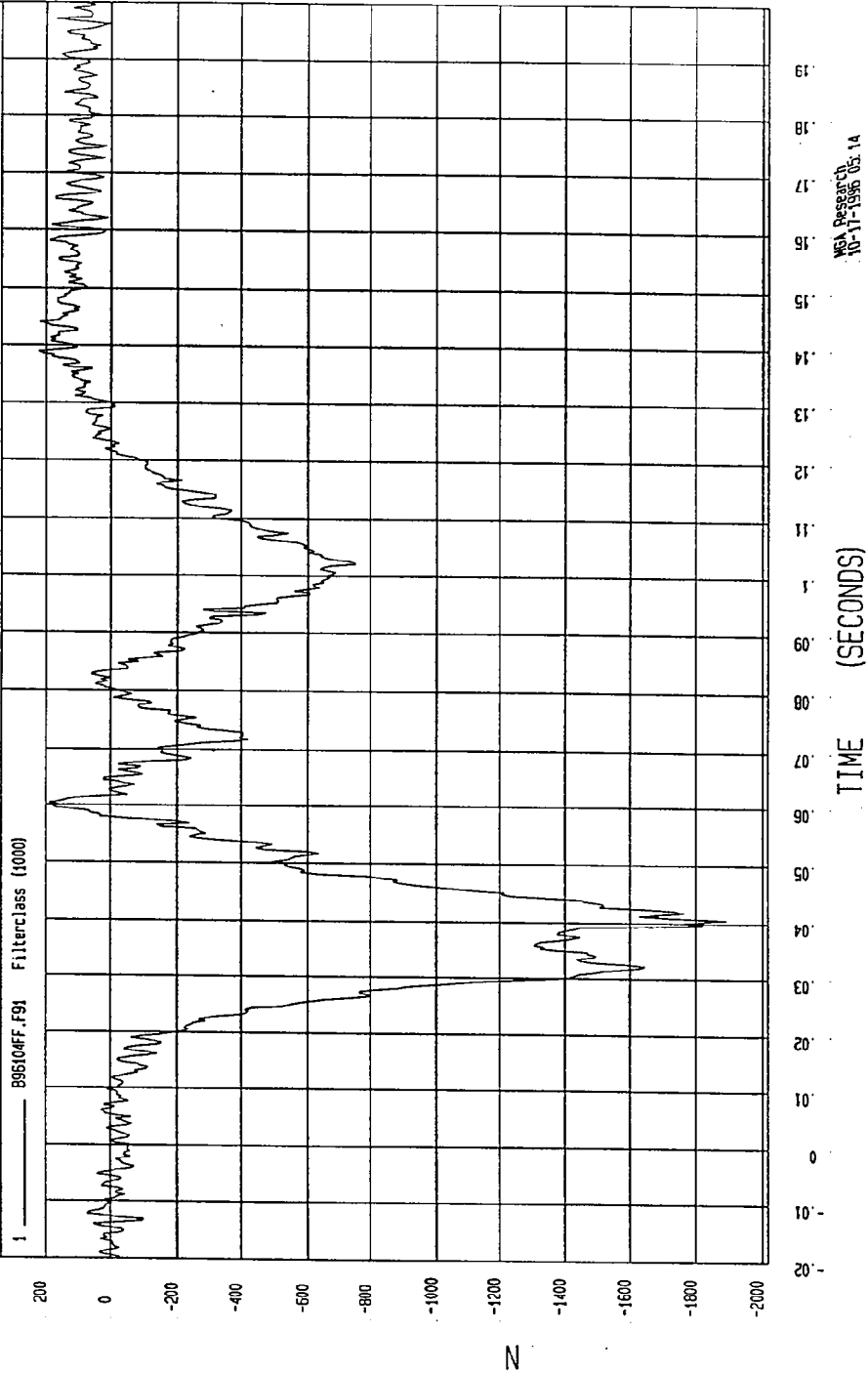
TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-1910.127 N at .40. msec

YMAX= 228.5799 N at 138 msec

PASSENGER RIGHT LOWER TIBIA FORCE Z



TEST DATE: 10-17-1996

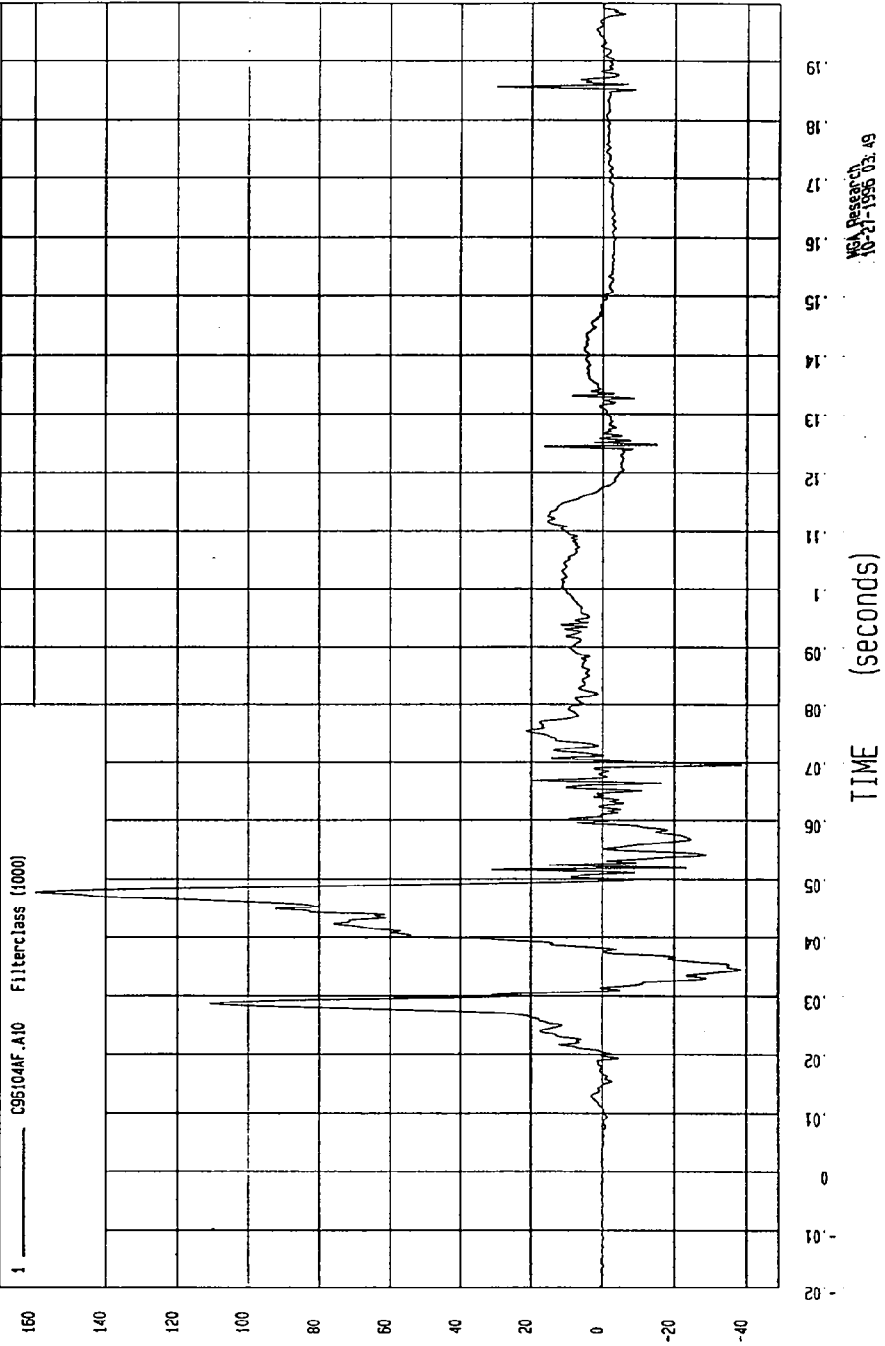
TEST: 35 MPH FRONTAL NCAP TEST

COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-38.7178 G'S at 69. msec

YMAX=159.6331 G'S at 47. msec

PASSENGER LEFT FOOT BALL Z ACCELERATION



TEST: 35 MPH FRONTAL NCAP TEST

TEST DATE: 10-17-1996

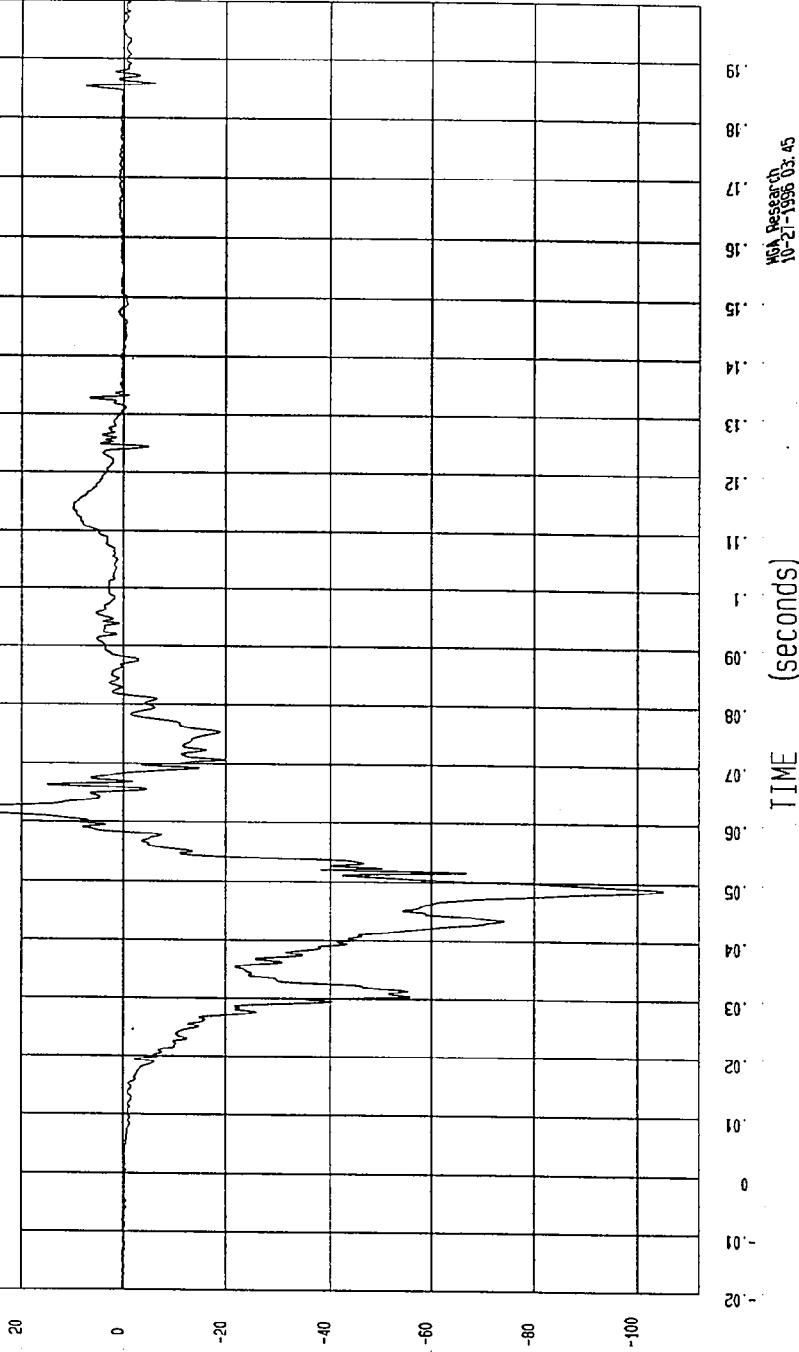
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-105.0619 G'S at 49 msec

YMAX= 33.02846 G'S at 61. msec

PASSENGER LEFT FOOT HEEL X ACCELERATION

1 C95104F.A11 Filterclass (1000)



HGA Research  
10-27-1996 03:45

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

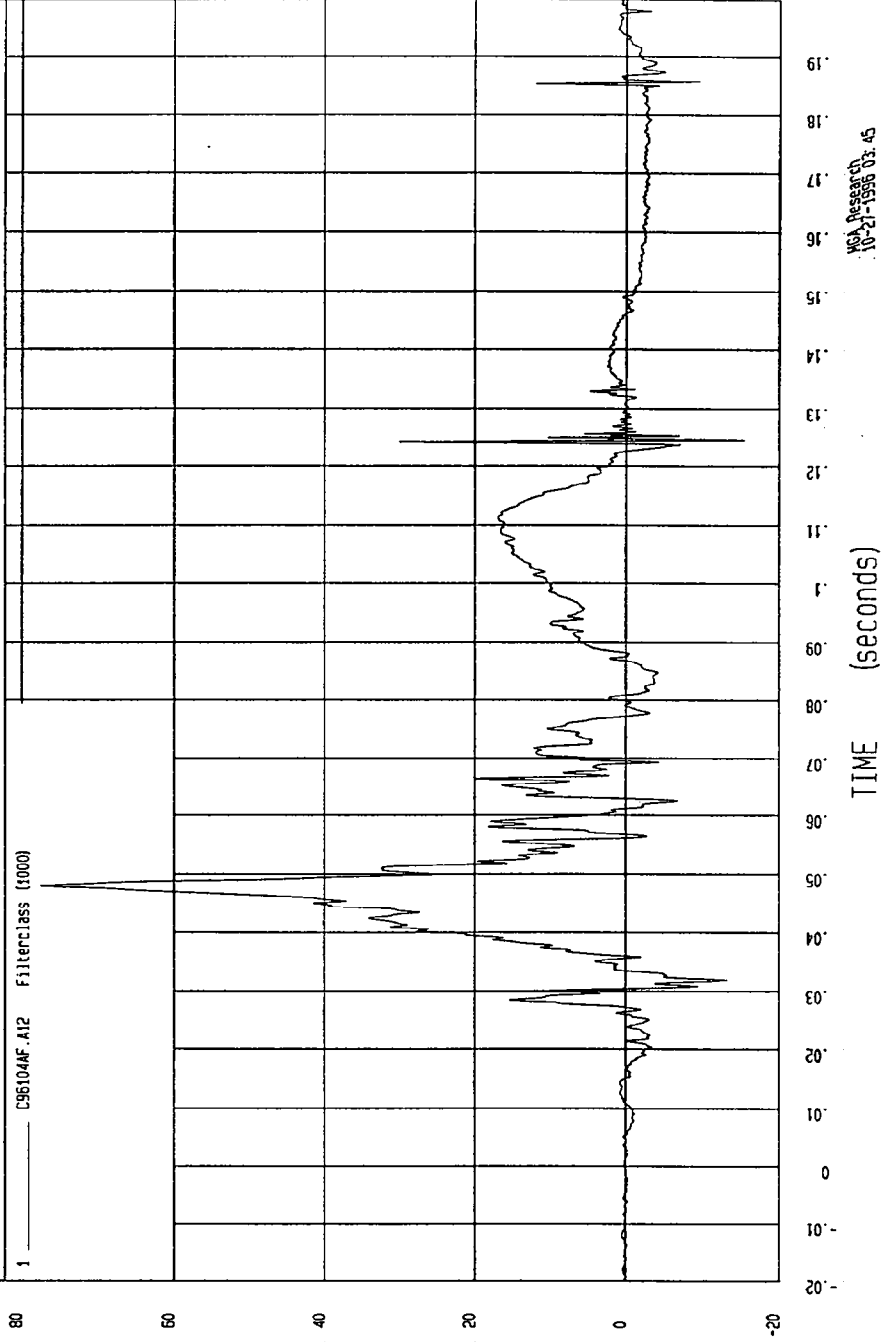
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-15.47381 G'S at 124 msec

YMAX= 77.58827 G'S at 48 msec

PASSENGER LEFT FOOT HEEL Z ACCELERATION

1 C96104AF.A12 Filterclass (1000)



MOA Research  
10-21-1996 03:45

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

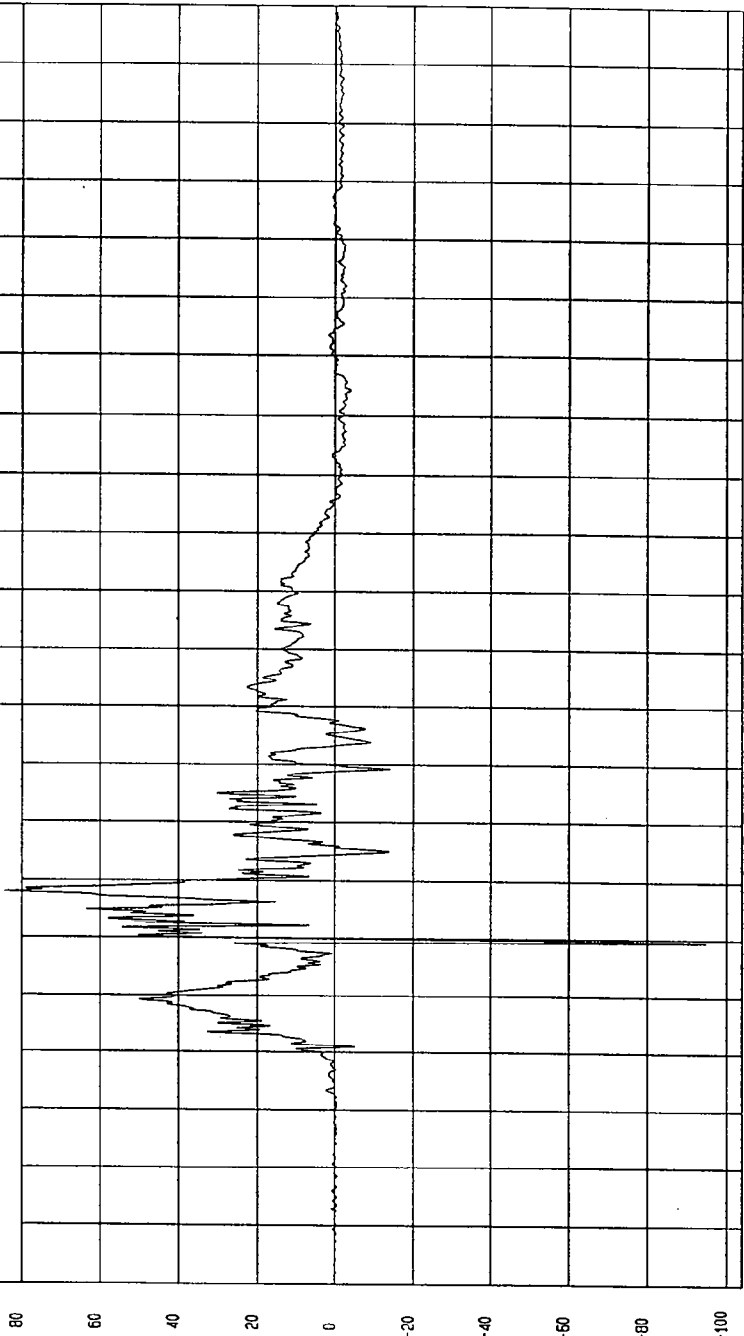
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN-94.82391 G'S at 39. msec

YMAX= 84.41785 G'S at 48 msec

PASSENGER RIGHT FOOT BALL Z ACCELERATION

1 C95104AF.A07 Filterless (1000)



NSI Research  
10-21-1996 03:45

S.G

TEST DATE: 10-17-1996

TEST: 35 MPH FRONTAL NCAP TEST

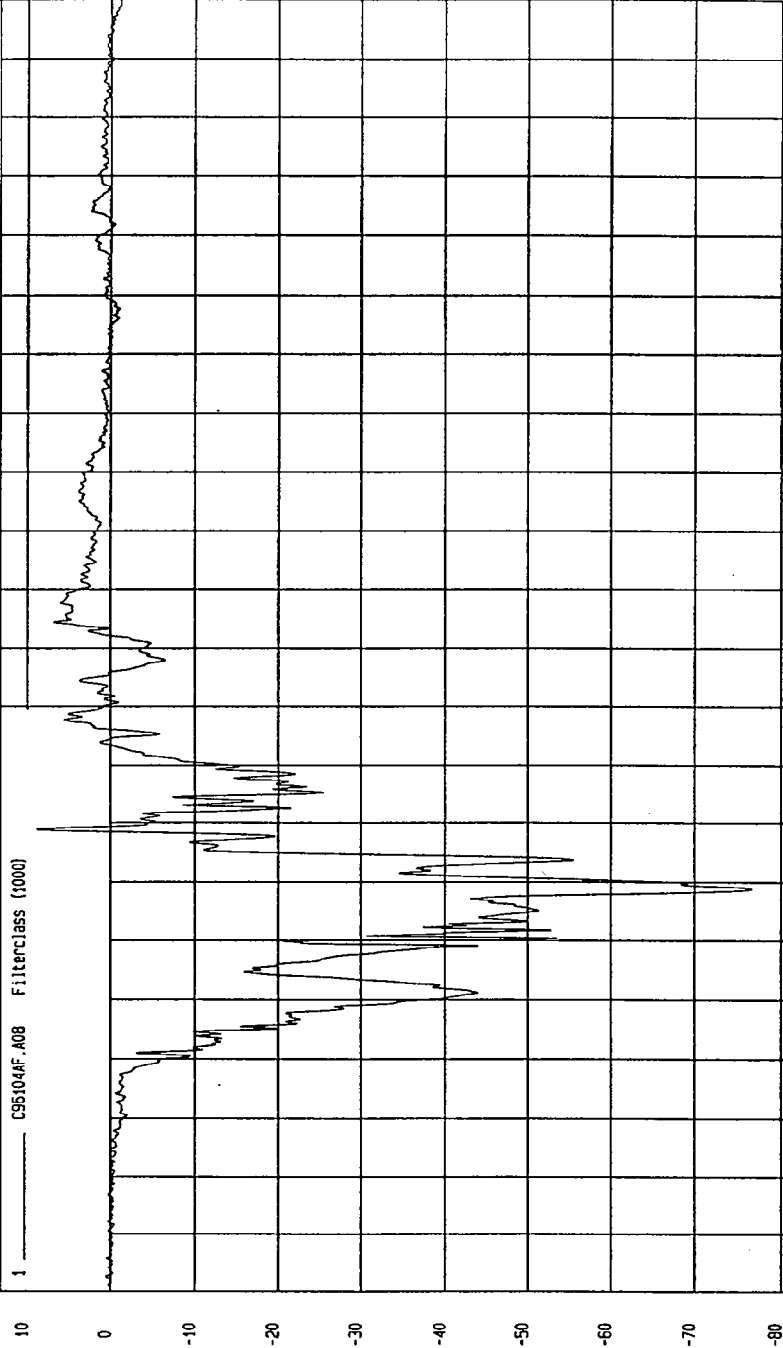
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMAX= 9.008493 G'S at 59. msec

YMIN= -76.62156 G'S at 48. msec

PASSENGER RIGHT FOOT HEEL X ACCELERATION

1 CS95104F.A08 FilterClass (1000)



TIME (seconds)

NGA Research  
10-2-1996 03:46

S.G

TEST: 35 MPH FRONTAL NCAP TEST TEST DATE: 10-17-1996

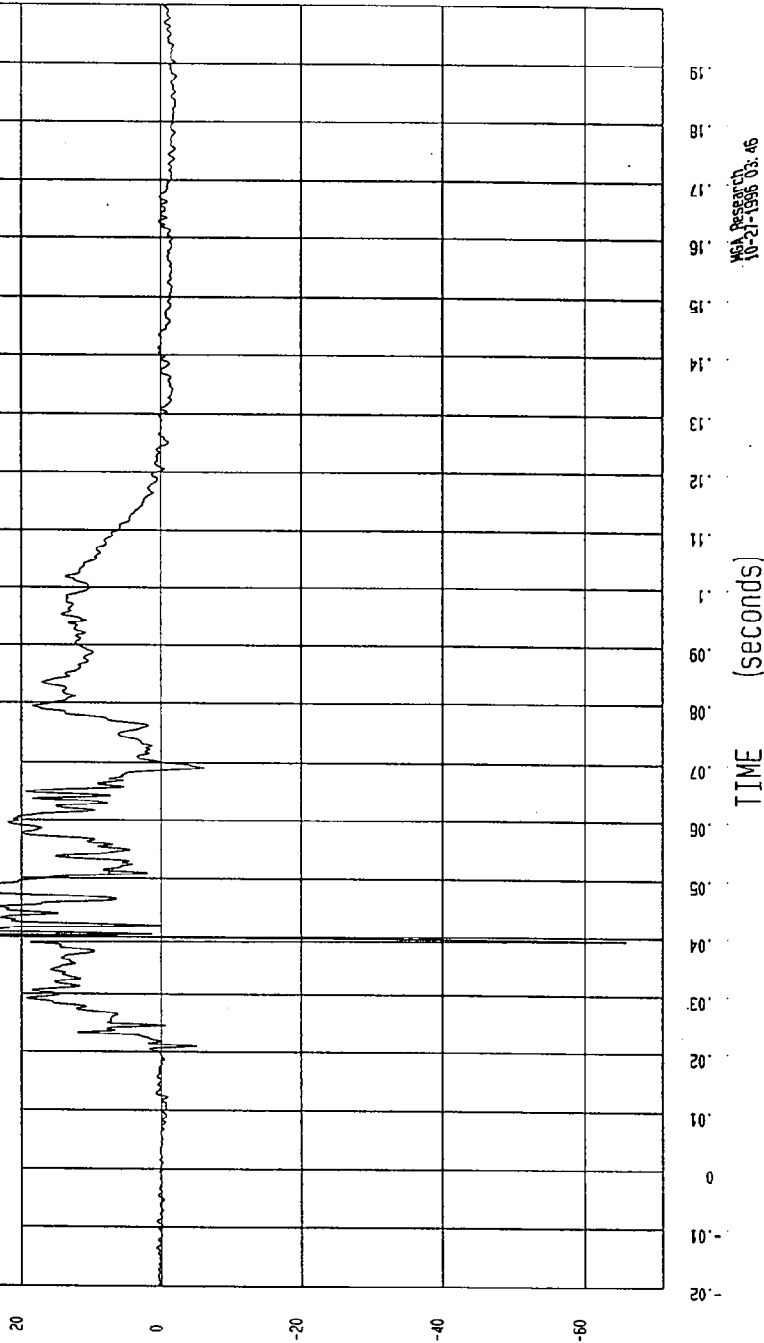
COMPONENT: 1997 MITSUBISHI GALANT 4 DOOR (MV5600) Speed: 35.4 MPH 57 KPH

YMIN=-65.74339 G'S at 39. msec

YMAX= 34.28337 G'S at 40 msec

PASSENGER RIGHT FOOT HEEL Z ACCELERATION

1 ——— C95104AF.A09 Filterclass (1000)



1996 Research  
10-R-1-1996 0.46

**APPENDIX C**

**Dummy Configuration & Performance Verification Data**



HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 036 DUMMY CALIBRATION BY: Al Chalmers

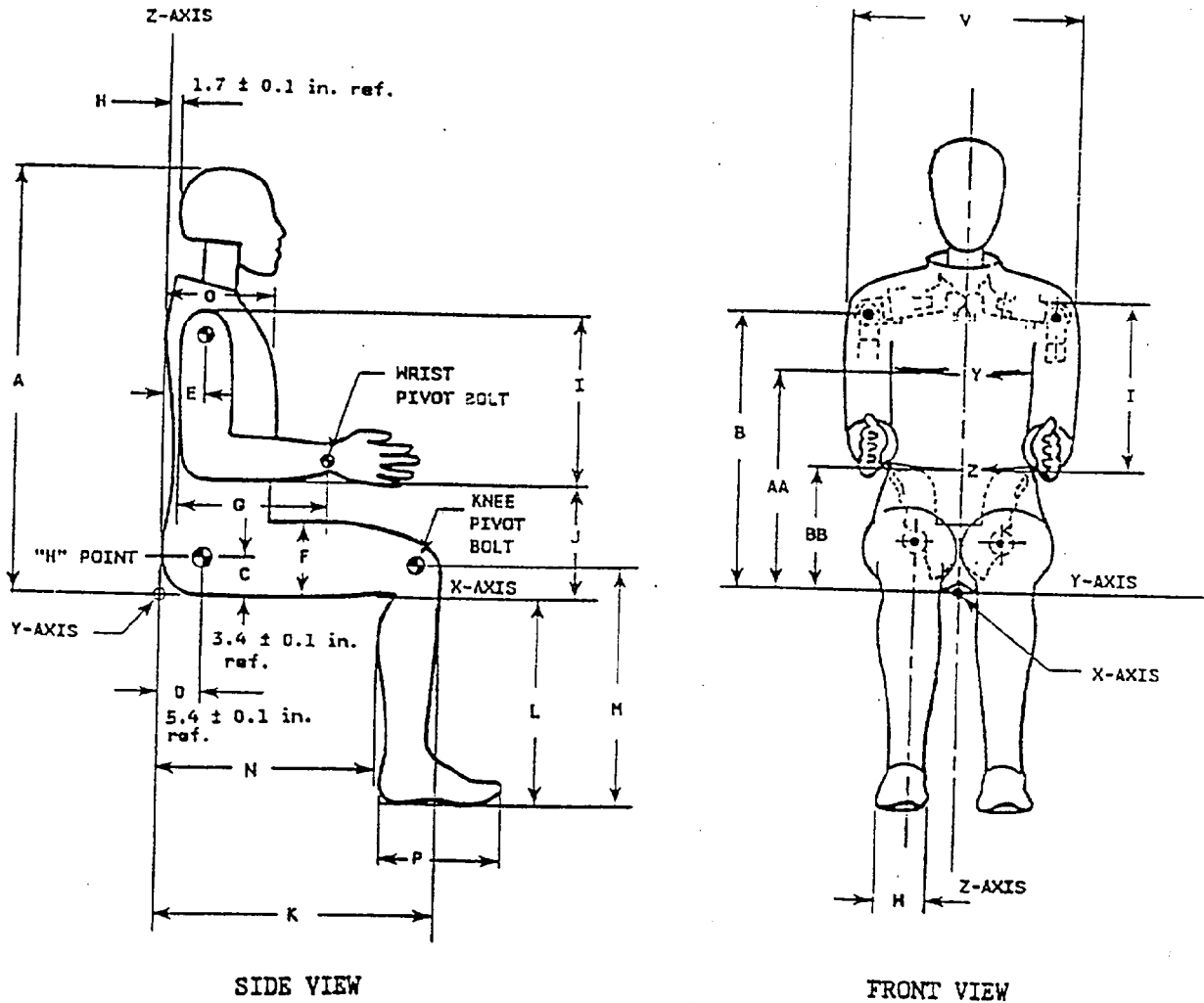
I. CONFIGURATION VERIFICATION DATA

DATE OF VERIFICATION: 5-30-96

| DESCRIPTION                      | SPECIFICATION<br>(Inches) | ACTUAL<br>MEASUREMENT<br>(inches) |
|----------------------------------|---------------------------|-----------------------------------|
| A - Total Sitting Height         | 34.6 - 35.0               | 34.8                              |
| B - Shoulder Pivot Height        | 19.9 - 20.5               | 20.5                              |
| C - "H" Point Height             | 3.3 - 3.5                 | 3.5                               |
| D - "H" Point from Seat Back     | 5.3 - 5.5                 | 5.5                               |
| E - Shoulder Pivot From Backline | 3.3 - 3.7                 | 3.5                               |
| F - Thigh Clearance              | 5.5 - 6.1                 | 6.1                               |
| G - Back of Elbow to Wrist Pivot | 11.4 - 12.0               | 11.5                              |
| H - Skull Cap Skin to Backline   | 1.6 - 1.8                 | 1.7                               |
| I - Shoulder Elbow Length        | 13.0 - 13.6               | 13.0                              |
| J - Elbow Rest Height            | 7.5 - 8.3                 | 8.0                               |
| K - Buttock Knee Length          | 22.8 - 23.8               | 23.5                              |
| L - Popliteal Height             | 16.9 - 17.9               | 17.0                              |
| M - Knee Pivot Height            | 19.1 - 19.9               | 19.5                              |
| N - Buttock Popliteal Length     | 17.8 - 18.8               | 18.5                              |
| O - Chest Depth at 3rd Rib       | 8.4 - 9.0                 | 8.8                               |
| P - Foot Length                  | 9.9 - 10.5                | 10.3                              |
| V - Shoulder Breadth             | 16.6 - 17.2               | 16.8                              |
| W - Foot Breadth                 | 3.5 - 4.2                 | 4.0                               |
| Y - Chest Circumference          | 38.2 - 39.4               | 39.0                              |
| Z - Waist Circumference          | 32.9 - 34.1               | 33.5                              |

Note: (See next page for external dimensions)

## HYBRID III EXTERNAL DIMENSIONS



Note: Figure is referenced to the erect seated position. The curved lumbar does not allow the hybrid III to be positioned in a perfect erect attitude.

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

DUMMY NO.: 036      DUMMY CALIBRATION BY: Al Chalmers

VERIFICATION DATE: 10-09-96

VERIFICATION LABORATORY TEMPERATURE (66° - 78°): 70°

1.0 HEAD DROP TEST

|                                | SPECIFICATION      | MEASUREMENT |
|--------------------------------|--------------------|-------------|
| Peak Resultant Acceleration    | 225 - 275 G        | 255         |
| Peak Lateral Acceleration      | 15 G. MAX          | 3           |
| Is Acceleration Curve Unimodal | within 10% of peak | Yes         |

2.0 NECK FLEXION TEST

|   |       | SPECIFICATION      | MEASUREMENT |
|---|-------|--------------------|-------------|
| Pendulum Speed                                  |       | 22.6 - 23.4 FT/SEC | 23.0        |
| Pendulum Deceleration                           | 10 MS | 22.50 - 27.50 G    | 22.62       |
|   | 20 MS | 17.60 - 22.60 G    | 19.16       |
|   | 30 MS | 12.50 - 18.50 G    | 13.47       |
| Max. Pendulum G Above 30 MS                     |       | 29.0 G MAX         | 13.7        |
| Deceleration - Time Curve Decay Time to 5 G     |       | 34 - 42 MS         | 38          |
| D Plane Rotation                                | MAX   | 64 - 78 DEG.       | 78          |
|   | TIME  | 57 - 64 MS         | 58          |
| Rotation Angle - Time Curve Decay Time to Zero  |       | 113 - 128 MS       | 116         |
| Moment About Occipital Condyle                  | MIN.  | 65 - 80 FT.LBS     | 72          |
|   | TIME  | 47 - 58 MS         | 51          |
| Positive Moment - Time Curve Decay Time to Zero |       | 97 - 107 MS        | 102         |

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

3.0 NECK EXTENSION TEST

|   |       | SPECIFICATION      | MEASUREMENT |
|---|-------|--------------------|-------------|
| Pendulum Speed                                  |       | 9.50 - 20.30 F/S   | 20.00       |
| Pendulum Deceleration                           | 10 MS | 17.20 - 21.20 G    | 17.54       |
|   | 20 MS | 14.00 - 19.00 G    | 15.80       |
|   | 30 MS | 11.00 - 16.00 G    | 12.24       |
| Max. Pendulum G Above 30 MS                     |       | 22 G Max           | 13          |
| Deceleration - Time Curve Decay Time to 5 G     |       | 38 - 46 MS         | 40          |
| D Plane Rotation                                | MAX   | 81 - 106 DEG.      | 102         |
|   | TIME  | 72 - 82 MS         | 77          |
| Rotation Angle - Time Curve Decay Time to Zero  |       | 147 - 174 MS       | 162         |
| Moment About Occipital Condyle                  | MIN.  | -59.0/-39.0 FT LBS | -51.9       |
|   | TIME  | 65 - 79 MS         | 71          |
| Positive Moment - Time Curve Decay Time to Zero |       | 120 - 148 MS       | 142         |

4.0 CHEST IMPACT TESTS

|                      |  | SPECIFICATION     | MEASUREMENT |
|----------------------|--|-------------------|-------------|
| Probe Speed          |  | 21.6 to 22.4 F/S  | 21.8        |
| Peak Deflection      |  | 2.50 to 2.86 IN.  | 2.77        |
| Peak Resistive Force |  | 1160 to 1325 LBS. | 1239        |
| Internal Hysteresis  |  | 69 to 85%         | 69%         |

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

5.0 KNEE IMPACT TESTS

| LEFT KNEE     | SPECIFICATION    | MEASUREMENT |
|---------------|------------------|-------------|
| Probe Speed   | 6.8 to 7.0 F/S   | 6.9         |
| Maximum Force | 1060 - 1300 LBS. | 1136        |

| RIGHT KNEE    | SPECIFICATION    | MEASUREMENT |
|---------------|------------------|-------------|
| Probe Speed   | 6.8 to 7.0 F/S   | 7.0         |
| Maximum Force | 1060 - 1300 LBS. | 1205        |

HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 037 DUMMY CALIBRATION BY: Al Chalmers

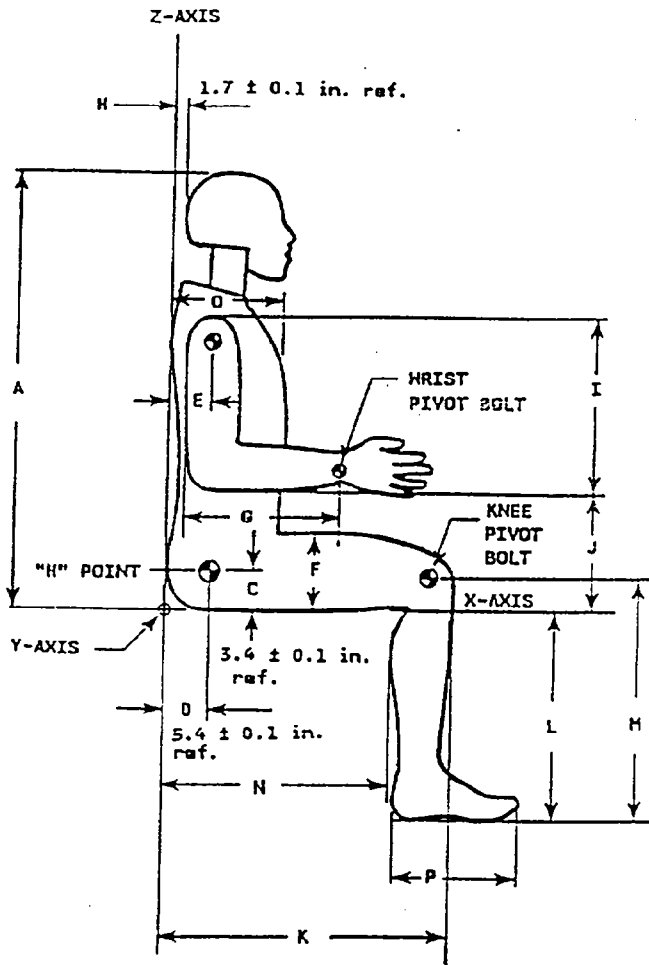
I. CONFIGURATION VERIFICATION DATA

DATE OF VERIFICATION: 5-8-96

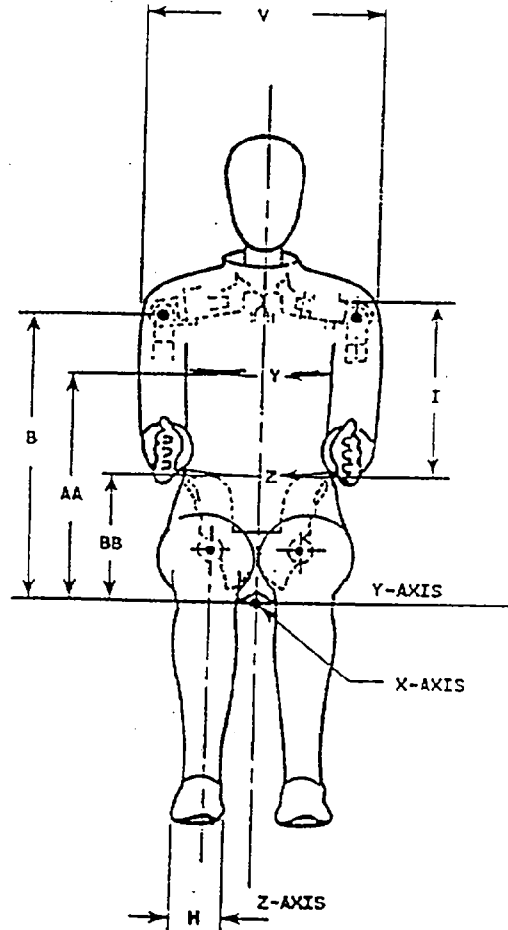
| DESCRIPTION                      | SPECIFICATION<br>(inches) | ACTUAL<br>MEASUREMENT<br>(inches) |
|----------------------------------|---------------------------|-----------------------------------|
| A - Total Sitting Height         | 34.6 - 35.0               | 34.9                              |
| B - Shoulder Pivot Height        | 19.9 - 20.5               | 20.5                              |
| C - "H" Point Height             | 3.3 - 3.5                 | 3.5                               |
| D - "H" Point from Seat Back     | 5.3 - 5.5                 | 5.5                               |
| E - Shoulder Pivot From Backline | 3.3 - 3.7                 | 3.5                               |
| F - Thigh Clearance              | 5.5 - 6.1                 | 6.1                               |
| G - Back of Elbow to Wrist Pivot | 11.4 - 12.0               | 11.5                              |
| H - Skull Cap Skin to Backline   | 1.6 - 1.8                 | 1.7                               |
| I - Shoulder - Elbow Length      | 13.0 - 13.6               | 13.0                              |
| J - Elbow Rest Height            | 7.5 - 8.3                 | 8.0                               |
| K - Buttock to Knee Length       | 22.8 - 23.8               | 23.5                              |
| L - Popliteal Height             | 16.9 - 17.9               | 17.0                              |
| M - Knee Pivot Height            | 19.1 - 19.9               | 19.5                              |
| N - Buttock Popliteal Length     | 17.8 - 18.8               | 18.5                              |
| O - Chest Depth at 3rd Rib       | 8.4 - 9.0                 | 8.8                               |
| P - Foot Length                  | 9.9 - 10.5                | 10.3                              |
| V - Shoulder Breadth             | 16.6 - 17.2               | 16.8                              |
| W - Foot Breadth                 | 3.6 - 4.2                 | 4.0                               |
| Y - Chest Circumference          | 38.2 - 39.4               | 39.0                              |
| Z - Waist Circumference          | 32.9 - 34.1               | 33.5                              |

Note: (See next page for external dimensions)

# HYBRID III EXTERNAL DIMENSIONS



SIDE VIEW



FRONT VIEW

Note: Figure is referenced to the erect seated position. The curved lumbar does not allow the hybrid III to be positioned in a perfect erect attitude.

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET

DUMMY NO.: 037      DUMMY CALIBRATION BY: Al Chalmers

VERIFICATION DATE: 10-16-96

VERIFICATION LABORATORY TEMPERATURE (66° - 78°): 70°

1.0 HEAD DROP TEST

|                                | SPECIFICATION      | MEASUREMENT |
|--------------------------------|--------------------|-------------|
| Peak Resultant Acceleration    | 225 - 275 G        | 260         |
| Peak Lateral Acceleration      | 15 G. MAX          | 10          |
| Is Acceleration Curve Unimodal | within 10% of peak | Yes         |

2.0 NECK FLEXION TEST

|   |       | SPECIFICATION      | MEASUREMENT |
|---|-------|--------------------|-------------|
| Pendulum Speed                                  |       | 22.6 - 23.4 FT/SEC | 23.0        |
| Pendulum Deceleration                           | 10 MS | 22.50 - 27.50 G    | 22.67       |
|   | 20 MS | 17.60 - 22.60 G    | 20.42       |
|   | 30 MS | 12.50 - 18.50 G    | 15.99       |
| Max. Pendulum G Above 30 MS                     |       | 29.0 G MAX         | 15.9        |
| Deceleration - Time Curve Decay Time to 5 G     |       | 34 - 42 MS         | 37          |
| D Plane Rotation                                | MAX   | 64 - 78 DEG.       | 69          |
|   | TIME  | 57 - 64 MS         | 60          |
| Rotation Angle - Time Curve Decay Time to Zero  |       | 113 - 128 MS       | 118         |
| Moment About Occipital Condyle                  | MIN.  | 65 - 80 FT.LBS     | 71          |
|   | TIME  | 47 - 58 MS         | 51          |
| Positive Moment - Time Curve Decay Time to Zero |       | 97 - 107 MS        | 105         |

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

3.0 NECK EXTENSION TEST

|   |       | SPECIFICATION      | MEASUREMENT |
|---|-------|--------------------|-------------|
| Pendulum Speed                                  |       | 19.50 - 20.30 F/S  | 20.04       |
| Pendulum Deceleration                           | 10 MS | 17.20 - 21.20 G    | 17.50       |
|   | 20 MS | 14.00 - 19.00 G    | 16.58       |
|   | 30 MS | 11.00 - 16.00 G    | 13.66       |
| Max. Pendulum G Above 30 MS                     |       | 22 G Max           | 14          |
| Deceleration - Time Curve Decay Time to 5 G     |       | 38 - 46 MS         | 39          |
| D Plane Rotation                                | MAX   | 81 - 106 DEG.      | 96          |
|   | TIME  | 72 - 82 MS         | 75          |
| Rotation Angle - Time Curve Decay Time to Zero  |       | 147 - 174 MS       | 155         |
| Moment About Occipital Condyle                  | MIN.  | -59.0/-39.0 FT LBS | -54.1       |
|   | TIME  | 65 - 79 MS         | 70          |
| Positive Moment - Time Curve Decay Time to Zero |       | 120 - 148 MS       | 139         |

4.0 CHEST IMPACT TESTS

|                      |  | SPECIFICATION     | MEASUREMENT |
|----------------------|--|-------------------|-------------|
| Probe Speed          |  | 21.6 to 22.4 F/S  | 21.8        |
| Peak Deflection      |  | 2.50 to 2.86 IN.  | 2.56        |
| Peak Resistive Force |  | 1160 to 1325 LBS. | 1298        |
| Internal Hysteresis  |  | 69 to 85%         | 69          |

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

5.0 KNEE IMPACT TESTS

| LEFT KNEE     | SPECIFICATION    | MEASUREMENT |
|---------------|------------------|-------------|
| Probe Speed   | 6.8 to 7.0 F/S   | 6.8         |
| Maximum Force | 1060 - 1300 LBS. | 1234        |

| RIGHT KNEE    | SPECIFICATION    | MEASUREMENT |
|---------------|------------------|-------------|
| Probe Speed   | 6.8 to 7.0 F/S   | 6.8         |
| Maximum Force | 1060 - 1300 LBS. | 1131        |

APPENDIX D

Dummy, Vehicle and Laboratory Calibration Data

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 036

|                       | DRIVER     |              |                  |
|-----------------------|------------|--------------|------------------|
|                       | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Head X                | AAMN8      | Endevco      | 6-06-96          |
| Head Y                | ACC61      | Endevco      | 6-06-96          |
| Head Z                | ACCW9      | Endevco      | 6-06-96          |
| Head X Redundant      | AJ621      | Endevco      | 6-06-96          |
| Head Y Redundant      | AJ619      | Endevco      | 6-06-96          |
| Head Z Redundant      | AHY54      | Endevco      | 6-06-96          |
| Chest X               | ACC78      | Endevco      | 6-06-96          |
| Chest Y               | ACCE6      | Endevco      | 6-06-96          |
| Chest Z               | ACCY3      | Endevco      | 6-06-96          |
| Chest X Redundant     | AJ9J7      | Endevco      | 6-06-96          |
| Chest Y Redundant     | AJ7A2      | Endevco      | 6-06-96          |
| Chest Z Redundant     | AJ819      | Endevco      | 6-06-96          |
| Right Femur Load Cell | 259        | Denton       | 8-28-96          |
| Left Femur Load Cell  | 260        | Denton       | 8-28-96          |
| Pelvis X              | ALB87      | Endevco      | 6-06-96          |
| Pelvis Y              | AGH83      | Endevco      | 6-06-96          |
| Pelvis Z              | AJ834      | Endevco      | 6-06-96          |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 036

|                        | DRIVER     |              |                  |
|------------------------|------------|--------------|------------------|
|                        | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Neck Load Cell X       | 442        | Denton       | 6-18-96          |
| Neck Load Cell Y       | 442        | Denton       | 6-18-96          |
| Neck Load Cell Z       | 442        | Denton       | 6-18-96          |
| Neck Moment X          | 442        | Denton       | 6-18-96          |
| Neck Moment Y          | 442        | Denton       | 6-18-96          |
| Neck Moment Z          | 442        | Denton       | 6-18-96          |
| Chest Deflection Gauge | 036        | Servo        | 5-08-96          |
| Lap Belt Load Cell     | 624        | Lebow        | 4-18-96          |
| Torso Belt Load Cell   | 625        | Lebow        | 4-18-96          |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 036

|                            | DRIVER     |              |                  |
|----------------------------|------------|--------------|------------------|
|                            | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Right Tibia Moment X | 040        | Denton       | 4-16-96          |
| Upper Right Tibia Moment Y | 040        | Denton       | 4-16-96          |
| Lower Right Tibia Moment Y | 034        | Denton       | 4-17-96          |
| Lower Right Tibia Force X  | 034        | Denton       | 4-17-96          |
| Lower Right Tibia Force Z  | 034        | Denton       | 4-17-96          |
| Upper Left Tibia Moment X  | 023        | Denton       | 4-16-96          |
| Upper Left Tibia Moment Y  | 023        | Denton       | 4-16-96          |
| Lower Left Tibia Moment Y  | 019        | Denton       | 4-17-96          |
| Lower Left Tibia Force X   | 019        | Denton       | 4-17-96          |
| Lower Left Tibia Force Z   | 019        | Denton       | 4-17-96          |
| Right Foot Ball Z          | AP0P6      | Endevco      | 6-06-96          |
| Right Foot Heel X          | AP0T3      | Endevco      | 6-06-96          |
| Right Foot Heel Z          | AP122      | Endevco      | 6-06-96          |
| Left Foot Ball Z           | ACC81      | Endevco      | 6-06-96          |
| Left Foot Heel X           | APPY1      | Endevco      | 6-06-96          |
| Left Foot Heel Z           | AMTB8      | Endevco      | 6-06-96          |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 037

|                       | PASSENGER  |              | CALIBRATION DATE |
|-----------------------|------------|--------------|------------------|
|                       | SERIAL NO. | MANUFACTURER |                  |
| Head X                | ACCY6      | Endevco      | 6-07-96          |
| Head Y                | ACCH1      | Endevco      | 6-07-96          |
| Head Z                | AAMW5      | Endevco      | 6-07-96          |
| Head X Redundant      | AJ9D2      | Endevco      | 6-07-96          |
| Head Y Redundant      | AHIE2      | Endevco      | 6-07-96          |
| Head Z Redundant      | AJ7K3      | Endevco      | 6-07-96          |
| Chest X               | ACCY1      | Endevco      | 6-06-96          |
| Chest Y               | ACCC8      | Endevco      | 6-06-96          |
| Chest Z               | ACCT7      | Endevco      | 6-06-96          |
| Chest X Redundant     | AJ904      | Endevco      | 6-06-96          |
| Chest Y Redundant     | AJ9F3      | Endevco      | 6-06-96          |
| Chest Z Redundant     | AJ909      | Endevco      | 6-06-96          |
| Right Femur Load Cell | 261        | Denton       | 8-28-96          |
| Left Femur Load Cell  | 262        | Denton       | 8-28-96          |
| Pelvis X              | ALDY8      | Endevco      | 6-06-96          |
| Pelvis Y              | ALEK9      | Endevco      | 6-06-96          |
| Pelvis Z              | ALE80      | Endevco      | 6-06-96          |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 037

|                        | PASSENGER  |              |                  |
|------------------------|------------|--------------|------------------|
|                        | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Neck Load Cell X       | 443        | Denton       | 6-18-96          |
| Neck Load Cell Y       | 443        | Denton       | 6-18-96          |
| Neck Load Cell Z       | 443        | Denton       | 6-18-96          |
| Neck Moment X          | 443        | Denton       | 6-18-96          |
| Neck Moment Y          | 443        | Denton       | 6-18-96          |
| Neck Moment Z          | 443        | Denton       | 6-18-96          |
| Chest Deflection Gauge | 037        | Servo        | 7-10-96          |
| Lap Belt Load Cell     | 657        | Lebow        | 4-18-96          |
| Torso Belt Load Cell   | 690        | Lebow        | 4-18-96          |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 037

|                            | PASSENGER  |              |                  |
|----------------------------|------------|--------------|------------------|
|                            | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Right Tibia Moment X | 036        | Denton       | 10-01-96         |
| Upper Right Tibia Moment Y | 036        | Denton       | 10-01-96         |
| Lower Right Tibia Moment Y | 040        | Denton       | 9-24-96          |
| Lower Right Tibia Force X  | 040        | Denton       | 9-24-96          |
| Lower Right Tibia Force Z  | 040        | Denton       | 9-24-96          |
| Upper Left Tibia Moment X  | 039        | Denton       | 10-01-96         |
| Upper Left Tibia Moment Y  | 039        | Denton       | 10-01-96         |
| Lower Left Tibia Moment Y  | 033        | Denton       | 9-24-96          |
| Lower Left Tibia Force X   | 033        | Denton       | 9-24-96          |
| Lower Left Tibia Force Z   | 033        | Denton       | 9-24-96          |
| Right Foot Ball Z          | AP120      | Endevco      | 6-06-96          |
| Right Foot Heel X          | AP2C4      | Endevco      | 6-06-96          |
| Right Foot Heel Z          | AP042      | Endevco      | 6-06-96          |
| Left Foot Ball Z           | AN8M6      | Endevco      | 6-06-96          |
| Left Foot Heel X           | AHY99      | Endevco      | 6-06-96          |
| Left Foot Heel Z           | AP0E1      | Endevco      | 6-06-96          |

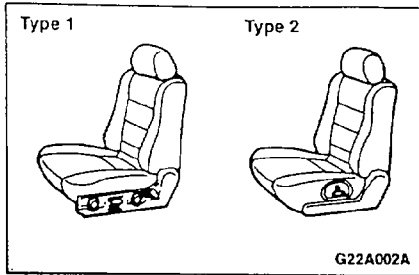
DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

| VEHICLE ACCELEROMETERS                  |            |                  |
|---|------------|------------------|
|   | SERIAL NO. | CALIBRATION DATE |
| Left Rear Seat Crossmember X            | C14-Z12    | July 11, 1996    |
| Right Rear Seat Crossmember X           | F10-D08    | October 2, 1996  |
| Top of Engine Block X                   | L14-D01    | October 2, 1996  |
| Bottom of Engine X                      | B12-G09    | October 2, 1996  |
| Left Brake Caliper X                    | J06-D17    | July 10, 1996    |
| Right Brake Caliper X                   | J10-E16    | July 10, 1996    |
| Instrument Panel X                      | C14-Z10    | July 12, 1996    |
| Redundant Left Rear Seat Crossmember X  | L22-G05    | July 11, 1996    |
| Redundant Right Rear Seat Crossmember X | D05-R24    | June 4, 1996     |

| LABORATORY INSTRUMENTS                     |            |                  |
|--|------------|------------------|
|  | SERIAL NO. | CALIBRATION DATE |
| Neck Bending Pendulum Accelerometer        | C12871     | 9-11-96          |
| Neck Bending Head Rotary Potentiometer     | 018        | 4-17-96          |
| Neck Bending Pendulum Rotary Potentiometer | 019        | 4-17-96          |
| Chest Probe Accelerometer                  | ACJ63      | 7-12-96          |
| Knee Impact Accelerometer                  | AJ816      | 6-10-96          |

APPENDIX E

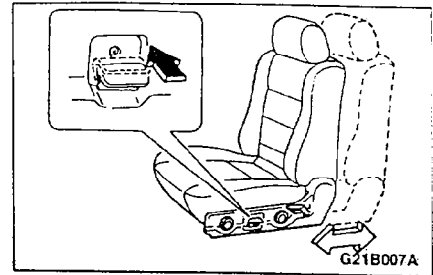
Vehicle Owner's Occupant Restraint System Instructions



## Front seats

ND01A-DA

Adjust the driver's seat to the position that enables you to easily control the pedals, steering wheel and switches on the instrument panel, and also gives you a clear front view.

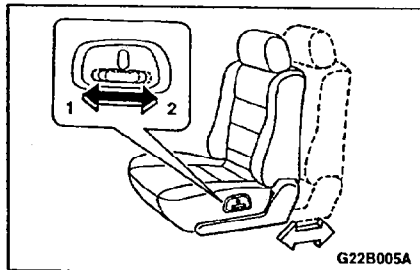
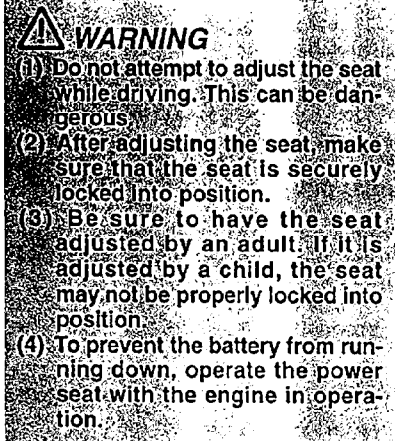


## To Adjust forward or backward

ND01B-G

### Type 1 (Manual)

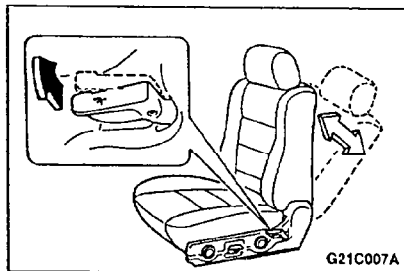
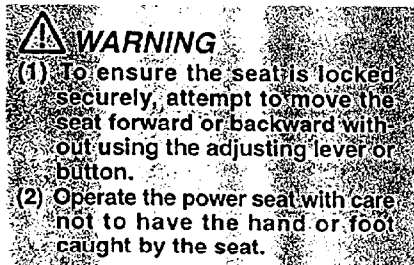
Pull the seat adjusting lever and adjust the seat forward or backward to the desired position. After adjustment release the adjusting lever to lock the seat in position.



### Type 2 (Power, driver's side only)

Slide the switch to adjust the seat forward or backward to the desired position. Release the switch, and the seat will lock at that position.

- 1- Backward
- 2- Forward

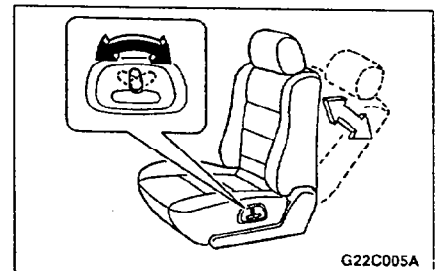


## To recline the seatback

ND01C-FA

### Type 1 (Manual)

In order to recline the seatback lean forward slightly pull the seatback lock lever up and then lean backward to the desired position and release the lever. The seatback will lock in that position.



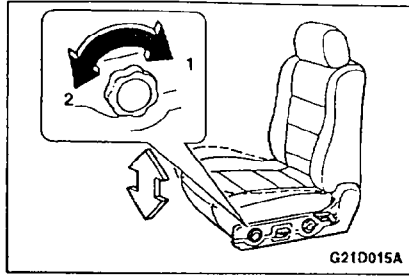
### Type 2 (Power, driver's side only)

Adjust the seatback angle by operating the switch as indicated by the arrows.

- 1- To move to forward direction
- 2- To recline rearward

**⚠ WARNING**

- (1) To minimize risk of personal injury in the event of a collision or sudden stop both the driver and passenger seatbacks should remain in a nearly upright position while the car is in motion. The protection provided by the seat belts may be reduced significantly when the seatback is reclined. There is greater risk that the seat occupant will slide under the belt resulting in serious injury when the seatback is reclined.
- (2) For Type 1 (Manual), pull the seatback lock lever and the seatback will return to its original position. When operating the lever, sit close to the seatback or check a hand on it!



**To adjust height (driver's side only)**

ND01D-0

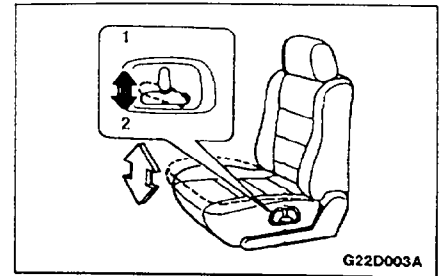
Front and/or rear part of the seat cushion height can be adjusted.

**Front part of the seat cushion**

**Type 1 (Manual)**

Turn the knob to raise or lower the front part of the seat cushion.

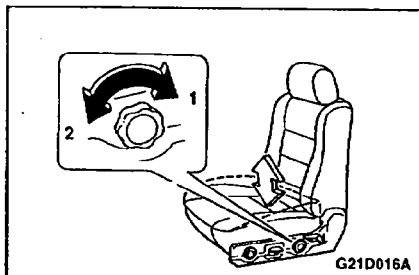
- 1- Raise
- 2- Lower



**Type 2 (Power)**

Operate the switch to raise or lower the front part of the seat cushion.

- 1- Raise
- 2- Lower

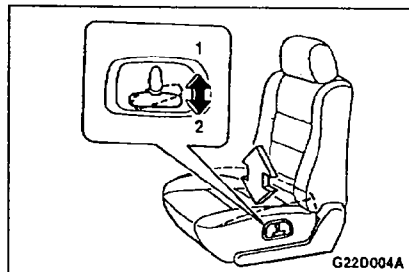


**Rear part of the seat cushion**

**Type 1 (Manual)**

Turn the knob to raise or lower the rear part of the seat cushion.

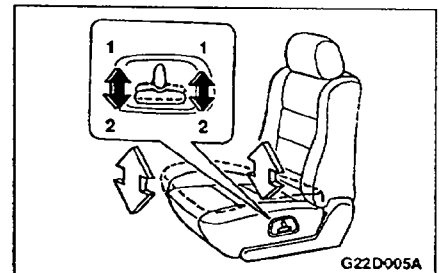
- 1- Raise
- 2- Lower



**Type 2 (Power)**

Operate the switch to raise or lower the rear part of the seat cushion.

- 1- Raise
- 2- Lower



And in case of type 2, the whole seat cushion height can be adjusted.

Operate the center of the switch to raise or lower the whole seat cushion.

- 1- Raise
- 2- Lower

## Seat belts

ND06A-AG

Seat belts are installed in your car for the protection of the driver and passengers. Always use the seat belts. In the event of an accident, injury to the driver and passengers may be reduced if seat belts are properly used.

### NOTE

Legislation in your state may require seat belt usage, but even if not required, they should always be used.

**WARNING**  
Driving with the head restraints removed is dangerous. Always have them mounted when operating the car. Failure to have them properly mounted may increase the chance of injury in the event of a collision.

### **WARNING**

- (1) Be sure to lock all doors before driving. Locking the doors and using the seat belts provided will minimize the risk of injury or ejection in an accident.
- (2) Seat belts should always be worn by everyone who drives or rides in this car, with infants and small children in child restraints.
- (3) Never use one seat belt for more than one occupant.
- (4) Never carry more people in the car than there are seat belts.
- (5) Always adjust the belt to a snug fit.
- (6) Always route the shoulder belt over your shoulder and across your chest.
- (7) Always wear the lap belt as low as possible around the hips, not around the waist.

## UNIBELT restraint system

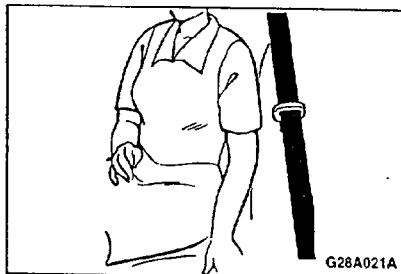
ND06B-RA

Front seats and both outboard rear seat positions are equipped with a UNIBELT system which uses a single combined lap-and-shoulder belt with an emergency locking retractor.

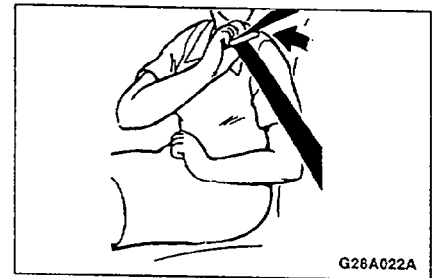
This system is designed to provide comfort and safety by permitting full extension and automatic retraction of the belts during normal car operation. A sensing device inside the belt retractor is designed to lock the retractor in the event of an abrupt change in car motion.

### NOTE

For instruction on how to install a child restraint system in an outboard rear seat position or in the front passenger seat, see "Installing a child restraint system with a UNIBELT at the outboard rear seat positions or the front passenger seat" on page 36.



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## UNIBELT instructions

ND06D-AI

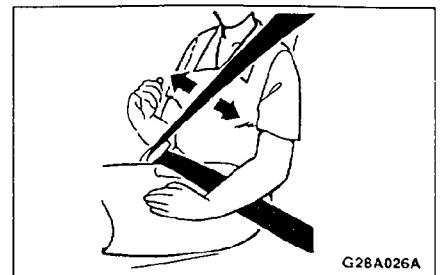
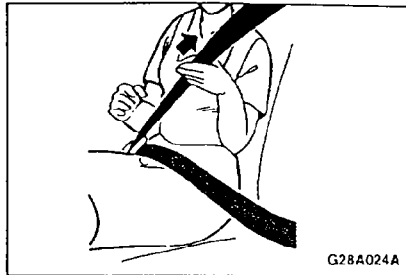
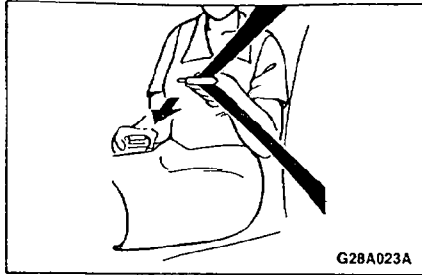
1. Get in the car and sit in the normal correct posture. Adjust the seat.

### **WARNING**

To minimize the risk of personal injury in the event of a collision or sudden stop, both the driver and passenger seatbacks should always be in a nearly upright position while the car is in motion.

The protection provided by the seat belts may be reduced significantly when the seatback is reclined. There is greater risk that the driver or the passenger will slide under the belt and be seriously injured when the seatback is reclined.

2. Grasp the movable latch plate and slide it up the webbing as far as necessary so that it will be easy to pull across your body. After a couple of tries this will become an automatic one-handed operation.



3. Pull the seat belts out slowly while holding the plate. This system will not lock up if you stop or hesitate, so relax and continue to "buckle-up". Push the latch plate into the buckle until a "click" is heard.

4. Pull up on the shoulder belt to ensure that there is no extra slack in the seat belt. The belt will retain the small amount of slack necessary for comfort when you return to your normal seating position. If the belt is still too tight, pull out 6 inches or 8 inches of webbing, release the belt and let it return to your chest.

5. The shoulder belt will allow regular movement under normal conditions. The belt will lock in the event of an abrupt change in car motion.

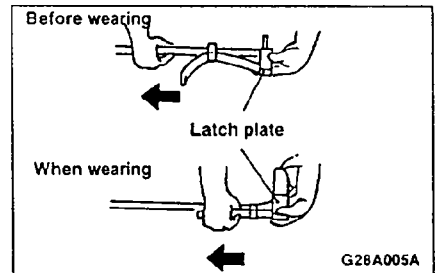
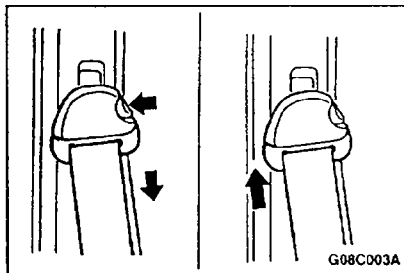
**NOTE**

When the seat belts cannot be pulled out in a locked condition, pull the belts once with force and then return them. After that, pull the belts out slowly once again.

**WARNING**

(1) Be sure the lap belt portion fits snugly and as low as possible around the hips, not around the waist. Failure to do so may increase the chance or severity of injury in the event of a collision.

(2) Wear the seat belt without twisting it.



6. To release the belt, push the button on the buckle. To return the belt to its stowed position, pull the shoulder belt down slightly and release immediately.

**Adjustable shoulder belt anchor (front seats)**  
ND06E-CB

The shoulder belt anchor height can be adjusted. To move the anchor down, depress the lock knob. To move the anchor up, do not depress the lock knob.

**Rear seat lap belt (center rear seat)**  
ND06C-CF

The center rear seat belt should be adjusted by holding the belt and latch plate at right angles to each other, and then pulling the belt as illustrated above to a snug fit, low around the occupant's hips. Insert the latch plate into the buckle until a "click" is heard. NEVER USE THE LAP BELT ON MORE THAN ONE PERSON AT A TIME. To unfasten the belt, press the button on the buckle.

**NOTE**

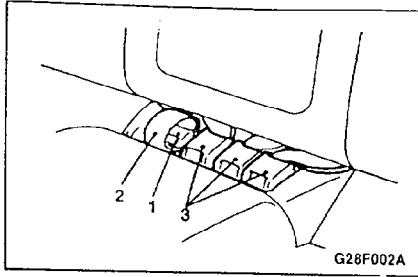
The belt retracts automatically, so hold the latch plate while the belt retracts when it is released.

**WARNING**

When adjusting the anchor, set it at a position so that the belt passes over your shoulder but does not touch your neck. Make sure the anchor is securely fixed after adjustment.

**NOTE**

The buckle and latch plate of the center rear lap belt are marked "CENTER". Be sure to check the marking before wearing the center rear lap belt. The center rear lap belt latch plate will not fasten in the outboard rear seat buckles.

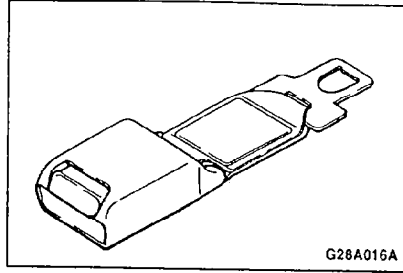


### Rear seat belt pocket (if so equipped)

ND06I-EA

When the seat belt is not in use, place it in the storage pocket.  
For compact storage of the plate side seat belt, coil it around the latch plate.

- 1- Latch plate
- 2- Belt
- 3- Buckle



G28A016A

### Seat belt extender

ND06I-AD

If the seat belt is too short, even when fully extended, a seat belt extender is available from your dealer. The extender may be used for either front seating position. This extender should only be used if the existing belt is not long enough. When not required, it must be removed and stowed because the use of the extender when not required may deactivate the seat belt locking mechanism.

**WARNING**  
Persons who can use the standard seat belt should not use an extender. Such unnecessary use could result in serious personal injury in the event of an accident.

### Child restraints for infants and small children

ND06FFWG

When transporting infants or small children in your car, an appropriate child restraint system should always be used. This is required by law in most states. Child restraints specifically designed for infants and small children are available from your authorized dealer or from most automotive parts and accessory supply outlets. Only choose a child restraint system with a label certifying it complies with Federal Motor Vehicle Standard 213. The child restraint system should be appropriate for your child's weight and height and properly fit the car's seat.

### **WARNING**

- (1) Accident statistics indicate that children are safer when properly restrained in the rear seat rather than in the front seat. Accordingly, Mitsubishi Motor Sales of America, Inc. recommends that child restraints be installed in the rear seat.
- (2) Holding a child in your arms or on your lap is no substitute for a restraint system. Failure to use a proper child restraint system can result in severe or fatal injury to your child.
- (3) This car is also equipped with a front passenger airbag. **REAR-FACING CHILD RESTRAINTS SHOULD ONLY BE USED IN THE REAR SEAT.** The force of an inflating front passenger airbag could strike a rear-facing child restraint, causing serious or fatal injury to the child. Front-facing child restraints should be used in the rear seat whenever possible; if used in the front passenger seat, adjust the seat as far back as possible.

### **WARNING**

- (4) It is important to use an approved rearward facing infant restraint for a full year to allow the neck and spine to develop enough to support the weight of the child's head in the event of collision.
- (5) When installing a child restraint system, follow the instructions provided by its manufacturer, and follow the directions in this manual. Failure to do so can result in severe or fatal injury to your child.
- (6) After installation, push and pull the child restraint system back and forth, and side to side, to see that it is positively secured. If the child restraint system is not installed securely, it may cause injury to the child or other occupants in case of accident or sudden stops.
- (7) When not in use, keep your child restraint system secured with a seat belt or remove it from the car in order to prevent it being thrown forward in an accident.

### NOTE

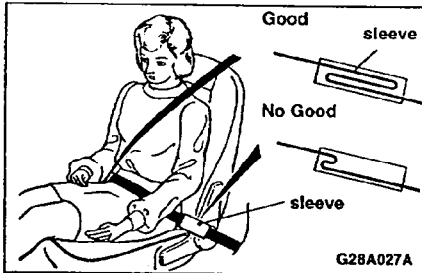
Before purchasing a child restraint system, try installing it in the rear seat to ensure a good fit. Due to the location of the seat belt buckles in the seat cushion, and for the degree of seat cushion "buckling" it may be difficult to securely install some child restraint systems. If the child restraint system can be pulled forward easily on the seat cushion after the belt has been tightened, choose another child restraint system.

## Children who have outgrown child restraint system

Children who have outgrown a child restraint system should be seated in the rear seat and wear the UNIBELT. If the shoulder belt crosses the face or neck, a commercially available booster seat may be used, to help raise the child so that the shoulder belt crosses the shoulder and the lap belt is low on the hips. The booster seat should fit the car seat, and should have a label certifying compliance with Federal Motor Vehicle Safety Standards.

### **⚠ WARNING**

- (1) Children who are not buckled up, with the doors all locked, can be thrown out of the car or otherwise be seriously injured in the event of an accident.
- (2) A child should never be left unattended in your car. When you leave the car, take the child out as well.



The lap belt portions of the front UNIBELT has on it a sleeve inside which the webbing is folded back over itself in a loop. This allows it to absorb the energy of a shock by pulling loose, and releasing slack. In the event that the loop inside the sleeve has come loose, replace the entire seat belt assembly.

## Pregnant woman restraint

ND06G-BC

### **⚠ WARNING**

Mitsubishi Motor Sales of America, Inc. recommends that pregnant women use the available UNIBELT. This will reduce the likelihood of injury to both the woman and the unborn child. The lap belt should be worn and low as possible across the hips, not across the waist. The woman's doctor should be consulted if there are any questions.

## Maintenance and inspection of seat belts

ND06H-GD

The webbing used in seat belts may be cleaned with a hydrocarbon dry cleaning solution or with mild soap or detergent solution.

Allow the belts to dry in the shade. Do not allow them to retract until fully dry. Do not attempt to bleach or re-dye belts. The resulting color may rub off and webbing strength could be affected.

Regularly check seat belt buckles and release mechanisms for positive action and automatic locking retractors for positive engagement.

Check that the anchor mounting bolts are tight. If the seat belt webbing shows obvious cuts, protruding broken fibers causing a local increase in webbing thickness, or severe fading which indicates weakening by exposure to sunlight, the entire seat belt assembly should be replaced.

### **⚠ WARNING**

All seat belt assemblies including retractors and attaching hardware should be inspected by an authorized dealer after any collision. We recommend that all seat belt assemblies in use during a collision be replaced unless the collision was minor and the belts show no damage and continue to operate properly.

Do not attempt to repair or replace any part of the seat belt assemblies; that work should be done by an authorized dealer. Failure to have an authorized dealer perform the work could reduce the effectiveness of the belts and could result in serious injury in the event of a collision.

## Supplemental Restraint System (SRS)

ND10A-BC

This car is equipped with a Supplemental Restraint System (SRS), which includes driver and front passenger air bags.

The SRS is designed to supplement the seat belts to provide those occupants with protection against head and chest injuries in certain moderate to severe frontal collisions.

The SRS is NOT a substitute for the seat belts; for maximum protection in all types of crashes and accidents, seat belts should ALWAYS be worn by everyone who drives or rides in this vehicle, with infants and small children in child restraints.

### **⚠ WARNING**

IT IS VERY IMPORTANT TO ALWAYS WEAR YOUR SEAT BELT, EVEN WITH AN AIR BAG:

- (1) Seat belts help keep the driver and front passenger properly positioned, which reduces injury risk in all accidents, and reduces injury risk when the air bags inflate.
- (2) Seat belts reduce the risk of injury in rollovers, side or rear impact collisions, and in lower-speed frontal collisions because the air bags are not designed to inflate in those situations.
- (3) Seat belts reduce the risk of being thrown from your vehicle in a collision or rollover.

### **⚠ WARNING**

IT IS VERY IMPORTANT TO BE PROPERLY SEATED, EVEN WITH AN AIR BAG:

Air bags inflate very fast, and with great force. If the driver and front passenger are not properly seated, the air bag may not protect you properly, and could cause injury when it inflates. So:

- (1) Before driving, adjust the driver's seat as far back as possible while still maintaining complete control of the car.
- (2) Before driving, adjust the front passenger seat as far back as possible.
- (3) With seat belts properly fastened, the driver and front passenger should sit upright with backs against the seat backs.
- (4) Do not lean head or chest close to the steering wheel or instruments panel. Do not put feet or legs on or against the instrument panel.

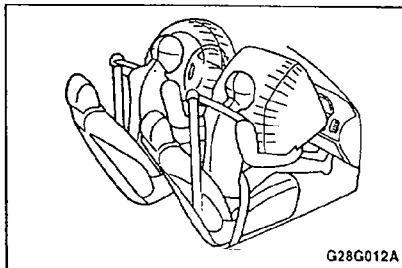
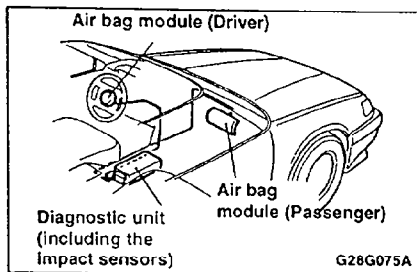
### **⚠ WARNING**

- (5) Infants and small children should never be unrestrained, or held in your arms or on your lap, while in the car; they could be seriously hurt in an accident, or when the air bag inflates. They should be properly seated in a child restraint system. See the "Child Restraints for infants and small children" section of this owner's manual.

● **REAR-FACING CHILD RESTRAINTS** must NOT be used in the front passenger seat, because the force of an inflating passenger air bag could strike that restraint causing serious or fatal injury to the child.

Rear-facing child restraints should only be used in the rear seat.

● **FRONT-FACING CHILD RESTRAINTS** should be used in the rear seat whenever possible; if used in the front passenger seat, adjust the seat as far back as possible.



When the impact sensors detect an impact of sufficient frontal force, their switches close a circuit which ignites materials in the inflator to generate nitrogen gas and inflate the air bags.

Deployment of the air bags produces a sudden, fairly loud noise, and releases some smoke and powder, but these conditions are not injurious, and do not indicate a fire in the car. The air bags deflate very rapidly after deployment, so there is little danger of obscured vision.

### **How the Supplement Restraint System works**

ND10B-FB

The SRS includes the following components:

- Air bag control unit (including the impact sensors)
- SRS warning light
- Air bag module
- Interconnecting wiring

The air bags will operate only when the ignition switch is in the "ON" or "START" position.

### **Air bag system**

The driver's air bag is located under the padded cover in the middle of the steering wheel. The front passenger air bag is contained in the instrument panel above the glove compartment. The driver air bag and the front passenger air bag are designed to inflate at the same time.

The air bags are designed to inflate only in certain moderate to severe frontal collision. The air bags are not designed to inflate in certain lower-speed frontal collisions, in rollovers, or in side or rear impact collisions. The air bags also may not inflate in certain frontal collisions, even though the car may be severely damaged.

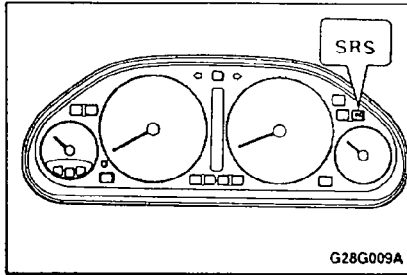
Such non-inflation does not mean that something is wrong with the SRS system, but rather that the collision forces were not severe enough to activate it.

### **⚠ WARNING**

- (1) Do not attach anything to the steering wheel padded cover, such as trim material, badges, etc. It might strike and injure an occupant if the air bag inflates.
- (2) Do not set anything on, or attach anything to, the instrument panel above the glove compartment. It might strike and injure an occupant if the air bag inflates.

**⚠ WARNING**

- (3) Do not attach accessories to, or put them in front of, the windshield. They could restrict air bag inflation, or strike and injure an occupant if the air bags inflate.
- (4) Do not put packages, pets or other objects between the air bags and the driver or front passenger. It could affect air bag performance, or could cause injury when the air bag inflates.
- (5) Right after air bag inflation, several air bag system components will be hot. Do not touch them; you could be burned.
- (6) The SRS system is designed to work only once. After the air bags deploy, they will not work again. They must promptly be replaced, and the entire SRS system inspected by an authorized dealer.



**SRS warning light**

There is a Supplemental Restraint System ("SRS") warning light on the instrument panel. The system checks itself and the light tells you if there is a problem. When the ignition key is turned to the "ON" or "START" position, the warning light should illuminate for about 7 seconds and then should go out. This means the system is ready.

The air bags will operate only when the ignition switch is in the "ON" or "START" position.

**⚠ WARNING**

If any of following conditions occur, the SRS is not working properly, and you should immediately have it inspected by an authorized dealer:

- The SRS warning light does not illuminate when you start the car.
- The SRS warning light does not go off after about 7 seconds.
- The SRS warning light illuminates while driving.

**SRS servicing**

ND10C-C

The entire SRS system must be inspected by an authorized dealer 10 years after the car manufacture date shown on the certification label located on the center pillar on the driver's side.

**⚠ WARNING**

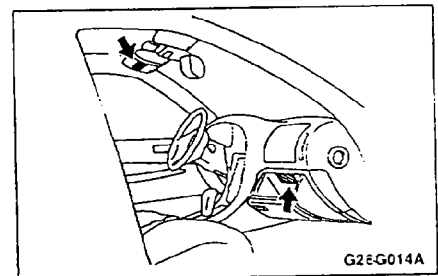
- (1) Any maintenance performed on or near the components of the SRS must be performed only by an authorized dealer. Do not permit anyone else to do service, inspection, maintenance or repair on any SRS components or wiring; similarly, no part of the SRS system should ever be handled or disposed of by anyone except an authorized dealer. Improper work on the SRS components or wiring could result in inadvertent deployment of the air bags, or could render the SRS system inoperative; either situation could result in serious injury.

**⚠ WARNING**

- (2) Do not modify your steering wheel or any other SRS components. For example, replacement of the steering wheel, or modifications to the front bumper or body structure can adversely affect SRS performance and lead to possible injury.
- (3) If your car has received any front-end damage, you should have the SRS system inspected by an authorized dealer to ensure it is in proper working order.

**NOTE**

- (1) When you transfer ownership of the car to some other person, we urge you to alert the new owner that it is equipped with the SRS system and refer that owner to the applicable section in this owner's manual.
- (2) If you junk or scrap the car, we urge you to first take the car to an authorized dealer so that the SRS system can be rendered safe.



**Service and information label**

Service and information labels are attached as shown in the illustration.

