

REPORT NO.: 214D-MGA-2000-05

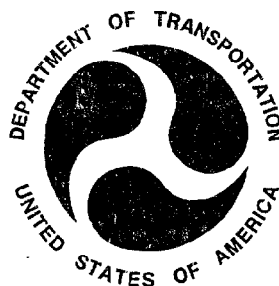
NEW CAR ASSESSMENT PROGRAM  
SIDE IMPACT TESTING

FORD MOTOR CORPORATION

2000 FORD FOCUS SE  
4-DOOR SEDAN

NHTSA NO: MY0205

MGA PROVING GROUNDS  
5000 WARREN ROAD  
BURLINGTON, WI 53105



Test Date: February 10, 2000

Report Date: February 11, 2000

FINAL REPORT


Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
SAFETY PERFORMANCE STANDARDS  
OFFICE OF CRASHWORTHINESS STANDARDS  
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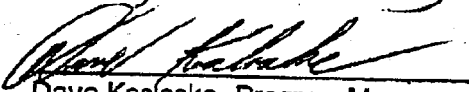
This Final Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-93-C-02047.

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| 1. Report No.<br>214D-MGA-2000-05   |               | 2. Government Accession No.                       |   | 3. Recipient's Catalog No.   |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
|---|---------------|---|---|--|-----------|--|---------------|--------------|--------------------------------|----|----|--------------------------------|----|----|--|----|----|-----------------------------|----|----|------------------------|----|----|
| 4. Title and Subtitle<br>New Car Assessment Program<br>Side Impact Test of a 2000 Ford Focus SE 4-Door<br>NHTSA No.: MY0205   |               |   |   | 5. Report Date<br>February 11, 2000  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
|   |               |   |   | 6. Performing Organization Code<br>MGA   |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 7. Author(s)<br>Gary Strassburg, Project Engineer   |               |   |   | 8. Performing Organization Report No.<br>MGA-DOT-214-05  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 9. Performing Organization Name and Address<br>MGA Research Corporation<br>5000 Warren Road<br>Burlington, WI 53105   |               |   |   | 10. Work Unit No.  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
|   |               |   |   | 11. Contract or Grant No.<br>DTNH22-97-D-22001   |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 12. Sponsoring Agency Name and Address<br><br>U.S. Department of Transportation<br>National Highway Traffic Safety Administration<br>Office of Crashworthiness Standards<br>400 Seventh St., S.W. Washington, D.C. 20590  |               |   |   | 13. Type of Report and Period Covered Final<br>Test Report<br>February 10, 2000 to February 11, 2000 |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
|   |               |   |   | 14. Sponsoring Agency Code<br>NPS-10   |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 15. Supplementary Notes   |               |   |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 16. Abstract<br>A 90° Moving Deformable Barrier NCAP side impact was conducted on the subject 2000 Ford Focus SE 4-Door to obtain new car assessment and research data indicant of FMVSS No. 214D performance. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on February 10, 2000.<br><br>The impact velocity of the Moving Deformable Barrier (MDB) was 62.2 kph, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 22 °C. The target vehicle post test maximum crush was 350 mm at level 2. The test vehicle's performance follows:<br><table border="1" style="margin-left: 40px;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">74</td> <td style="text-align: center;">73</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">55</td> <td style="text-align: center;">81</td> </tr> <tr> <td>Lower Spine (T<sub>12</sub>) Accel., g</td> <td style="text-align: center;">84</td> <td style="text-align: center;">62</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">79</td> <td style="text-align: center;">71</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">93</td> <td style="text-align: center;">69</td> </tr> </tbody> </table><br>The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event. |               |   |   |  |           |  | <u>DRIVER</u> | <u>PASS.</u> | Left Upper Rib (LUR) Accel., g | 74 | 73 | Left Lower Rib (LLR) Accel., g | 55 | 81 | Lower Spine (T <sub>12</sub> ) Accel., g | 84 | 62 | Thoracic Trauma Index (TTI) | 79 | 71 | Pelvis (PEV) Accel., g | 93 | 69 |
|   | <u>DRIVER</u> | <u>PASS.</u>                                      |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| Left Upper Rib (LUR) Accel., g  | 74            | 73  |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| Left Lower Rib (LLR) Accel., g  | 55            | 81  |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| Lower Spine (T <sub>12</sub> ) Accel., g  | 84            | 62  |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| Thoracic Trauma Index (TTI)   | 79            | 71  |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| Pelvis (PEV) Accel., g  | 93            | 69  |   |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 17. Key Words<br>New Car Assessment Program (NCAP)<br>FMVSS No. 214D<br>Side Impact Dummy (SID)<br>Occupant Side Impact Protection  |               |   | 18. Distribution Statement<br>Copies of this report are available from:<br>National Highway Traffic Safety Adm.<br>Technical Ref. Division,<br>Room 5108 (NAD-52)<br>400 Seventh Street, S.W.<br>Washington, D.C. 20590 |  |           |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |
| 19. Security Classif. (of this report) Unclassified   |               | 20. Security Classif. (of this page) Unclassified |   | 21. No. of Pages<br>319  | 22. Price |  |               |              |                                |    |    |                                |    |    |  |    |    |                             |    |    |                        |    |    |

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SECTION 1  
PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY99 NCAP Side Impact Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-97-D-22001. The purpose of this test was to evaluate side impact protection of a 2000 Ford Focus SE 4-Door.

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

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

SECTION 2  
SUMMARY OF SIDE IMPACT TEST

A 2000 Ford Focus SE 4-Door was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 38.65 mph (62.2 kph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by MGA Research Corporation in Burlington, Wisconsin, on February 10, 2000. Pre- and post-test photographs of the test vehicle, the MDB and the side impact dummies (SIDs) are included in Appendix A.

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

The SIDs were instrumented with the following accelerometers.

1. Left Upper Rib (LUR) uniaxial accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial accelerometer (Y-direction)
3. Lower Thoracic Spine (T<sub>12</sub>) uniaxial accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial accelerometer (Y-direction)
5. Head Center of Gravity triaxial accelerometers (X, Y, and Z-direction)

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

The following table summarizes the results of the test:

| Injury Criteria | Front SID | Rear SID |
|-----------------|-----------|----------|
| TTI (g)         | 79        | 71       |
| Pelvis (g)      | 93        | 69       |

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

DATA SHEET NO. 1  
GENERAL VEHICLE TEST PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door  
 Vehicle NHTSA No.: MY0205 VIN: 1FAFP3430YW119743  
 Vehicle Body Color: White Build Date: August, 1999  
 Engine Data: 4 Cylinders;     CID; 2.0 Liter;     cc  
 Placement     Longitudinal;   X   Lateral  
 Transmission: 4 Speed;     Manual;   X   Automatic;   X   Overdrive  
 Final Drive:     Rear Wheel Drive;   X   Frt. Wheel Drive;     Four Wheel Drive

Odometer Reading 46 miles  
 Options:   X   A/C;   X   Pwr. Steering;   X   Pwr. Brakes;     Pwr. Windows;  
    Cruise Control;     Tilt Wheel;   X   Power Door Locks;

DATA FROM TIRE PLACARD:

Tire Pressure (at capacity): 32 Psi FRONT  
32 Psi REAR  
 Recommended Tire Size: P195/60R/15  
 Tires on Test Vehicle: P195/60R/15 Manufacturer: Goodyear

Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear;     3rd Seat, 5 Total  
 Type of Front Seats:   X   Bucket;     Bench;     Split Bench  
 Type of Front Seat Back:     Fixed;   X   Adjustable with   X   Lever  
 Vehicle Maximum Capacity Loading = 399.2 kg (A)  
 No. of Occupants x 68.04 kg. = 340.2 kg (B)  
 Cargo Capacity (A-B) = 59.0 kg

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

|                     |                  |                     |                 |
|---------------------|------------------|---------------------|-----------------|
| Right Front =       | <u>381.5</u> kg  | Right Rear =        | <u>237.2</u> kg |
| Left Front =        | <u>365.1</u> kg  | Left Rear =         | <u>249.5</u> kg |
| TOTAL FRONT =       | <u>746.6</u> kg  | TOTAL REAR =        | <u>486.7</u> kg |
| % of Total Weight = | <u>60.5</u> %    | % of Total Weight = | <u>39.5</u> %   |
| TOTAL WEIGHT =      | <u>1233.3</u> kg |                     |                 |

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-DoorVehicle NHTSA No.: MY0205 Test Date: February 10, 2000CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

|   |   |               |    |
|---|---|---------------|----|
| Total Test Vehicle Delivered Weight with Maximum Fluids | = | <u>1233.3</u> | kg |
| Cargo Carrying Capacity of Test Vehicle*                | = | <u>59.0</u>   | kg |
| Weight of 2 Side Impact Dummies (2 x <u>80.7</u> kg.)   | = | <u>161.4</u>  | kg |
| TEST VEHICLE TARGET WEIGHT                              | = | <u>1453.7</u> | kg |

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

|                     |               |    |                     |              |    |
|---------------------|---------------|----|---------------------|--------------|----|
| Right Front =       | <u>388.3</u>  | kg | Right Rear =        | <u>299.8</u> | kg |
| Left Front =        | <u>422.8</u>  | kg | Left Rear =         | <u>342.9</u> | kg |
| TOTAL FRONT =       | <u>811.1</u>  | kg | TOTAL REAR =        | <u>642.7</u> | kg |
| % of Total Weight = | <u>55.8</u>   | %  | % of Total Weight = | <u>44.2</u>  | %  |
| TOTAL WEIGHT =      | <u>1453.8</u> | kg |                     |              |    |

TEST VEHICLE ATTITUDE:

## CURB WEIGHT ATTITUDE:

Right Front 668 mm Left Front 674 mm Right Rear 684 mm Left Rear 670 mm

## FULLY LOADED WEIGHT ATTITUDE:

Right Front 655 mm Left Front 653 mm Right Rear 653 mm Left Rear 628 mm

## TEST ATTITUDE:

Right Front 654 mm Left Front 658 mm Right Rear 656 mm Left Rear 640 mm\* light trucks and MPV's RCW is 136 kgs or manufacturer's value, whichever is less

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Test Vehicle Wheelbase: 2618 mm

C.G. = 1142 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 3828 mm

Centerline = 4424 mm

Left Side = 3828 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-DoorVehicle NHTSA No.: MY0205 Test Date: February 10, 2000FRONT SEAT CUSHION PLACEMENT:Total Length of Adjustment Travel: 240 mmTest Position 9th position rearward out of 17 positionsFRONT SEAT BACK ADJUSTMENT POSITION:Seat Back Angle = 24.1SECOND POSITION SEAT:Total Length of Fore/Aft Adjustment Travel: NASeat Back Adjustment Position: NAADJUSTABLE STEERING COLUMN POSITION: NA

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

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:Fuel system usable capacity = 13.2 gallonsTest Volume: 12.3 gallons 93 % of capacityLOCATIONS OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:Wheelbase: = 2618 mmImpact Point is 369 mm rearward of front axle centerline

## DATA SHEET NO. 2

TEST VEHICLE SUMMARY OF RESULTSYear/Make/Model/Body Style: 2000/Ford/Focus SE/4-DoorVehicle NHTSA No.: MY0205 Test Date: February 10, 2000Overall Length = 4424 mm; Overall Width = 1696 mmTEST WEIGHT:

|                     |                  |                     |                 |
|---------------------|------------------|---------------------|-----------------|
| Right Front =       | <u>401.9</u> kg  | Right Rear =        | <u>299.4</u> kg |
| Left Front =        | <u>412.8</u> kg  | Left Rear =         | <u>331.1</u> kg |
| TOTAL FRONT =       | <u>814.7</u> kg  | TOTAL REAR =        | <u>630.5</u> kg |
| % of Total Weight = | <u>56.4</u> %    | % of Total Weight = | <u>43.6</u> %   |
| TOTAL WEIGHT =      | <u>1445.2</u> kg |                     |                 |

Wheelbase = 2618 mmLongitudinal C.G. from Center of Front Axle = 1142 mmImpact Angle with Respect to Impactor = 0 degreesMAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 ( 250 mm above ground) = 245 mm
2. LEVEL 2 ( 476 mm above ground) = 350 mm
3. LEVEL 3 ( 615 mm above ground) = 339 mm
4. LEVEL 4 ( 913 mm above ground) = 273 mm
5. LEVEL 5 ( 1360 mm above ground) = 72 mm

Maximum Post-Test Intrusion = 350 mmOCCUPANTS:

|                 |                                |                                |
|-----------------|--------------------------------|--------------------------------|
|                 | Driver _____                   | Left Rear Passenger _____      |
| Type of Dummy   | <u>SID</u> _____               | <u>SID</u> _____               |
| Restraints Used | <u>3 point belt with</u> _____ | <u>3 point belt with</u> _____ |
|                 | <u>frontal airbag</u> _____    |                                |

TEST VEHICLE SUMMARY OF RESULTS (Cont'd)

INSTRUMENTATION:

|                                  |                    |   |           |
|----------------------------------|--------------------|---|-----------|
| Number of Vehicle Data Channels: |                    | = | <u>25</u> |
| Number of Cameras:               | Onboard Vehicle    | = | <u>3</u>  |
|                                  | Offboard Vehicle   | = | <u>4</u>  |
|                                  | Deformable Barrier | = | <u>2</u>  |
|                                  | TOTAL              | = | <u>9</u>  |

## DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTSYear/Make/Model/Body Style: 2000/Ford/Focus SE/4-DoorVehicle NHTSA No.: MY0205 Test Date: February 10, 2000POSITION OF IMPACT (MDB) ON MONORAIL:Crabbed 27° to leftMDB DETAILS:

|   |   |                |
|---|---|----------------|
| Overall Width of Framework Carriage                 | = | <u>1252 mm</u> |
| Overall Length of MDB (incl. honeycomb impact face) | = | <u>4115 mm</u> |
| Wheelbase of Framework Carriage                     | = | <u>2591 mm</u> |
| Tread of Framework Carriage (Front & Rear)          | = | <u>1880 mm</u> |
| C.G. Location Rearward of Front Axle                | = | <u>1100 mm</u> |
| C.G. Location From Center Line                      | = | <u>-10 mm</u>  |
| C.G. Location Above Ground Level                    | = | <u>477 mm</u>  |

MDB WEIGHT:

|                                     |   |                 |            |   |                 |
|-------------------------------------|---|-----------------|------------|---|-----------------|
| Left Front                          | = | <u>458.8 kg</u> | Left Rear  | = | <u>230.3 kg</u> |
| Right Front                         | = | <u>324.4 kg</u> | Right Rear | = | <u>350.6 kg</u> |
| TOTAL FRONT                         | = | <u>783.2 kg</u> | TOTAL REAR | = | <u>580.9 kg</u> |
| TOTAL MDB WEIGHT = <u>1364.1 kg</u> |   |                 |            |   |                 |

Impact Angle (MDB C/L to Target Vehicle C/L) = 90 degreesImpact Speed = Primary: 38.65 mph (62.2 kph) Secondary: 38.64 mph (62.2 kph)

CRASH TEST SUMMARY FOR SIDE IMPACTOR (Cont'd)MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Top of Stack (813 mm) = 201 mm
2. Row B Mid Stack (686 mm) = 146 mm
3. Row C Top of Bumper (533 mm) = 104 mm
4. Row D Center of Bumper (432 mm) = 153 mm

INSTRUMENTATION:

Number of MDB Data Channels = 7

DATA SHEET NO. 4  
POST-TEST OBSERVATIONS

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

VISIBLE DUMMY CONTACT POINTS:

|            | <u>LEFT FRONT SID</u>           | <u>LEFT REAR SID</u>       |
|------------|---------------------------------|----------------------------|
| Head       | <u>B-Post &amp; headrest</u>    | <u>C-Post &amp; header</u> |
| Arm        | <u>Door panel &amp; armrest</u> | <u>Door panel</u>          |
| Pelvis     | <u>Door panel</u>               | <u>Armrest</u>             |
| Left Knee  | <u>Door panel</u>               | <u>Door panel</u>          |
| Right Knee | <u>Left knee</u>                | <u>Left knee</u>           |

DOOR OPENING:

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

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal: 6 mm forward

Vertical: 11 mm above

ARM REST LOCATIONS:

Front: 211 mm from below window

Rear: 275 mm from below window

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

Front Seat Back: 37 mm      Front Seat Cushion: 60 mm  
Left Rear Seat Back: 80 mm      Rear Seat Cushion: 118 mm

GLAZING DAMAGE:

Left side windows broke, windshield cracked

PILLAR PERFORMANCE:

No failure

SILL SEPARATION:

None

OTHER NOTABLE IMPACT EFFECTS:

None noted

AIRBAG DEPLOYMENT STATUS:

|         | <u>DRIVER</u> | <u>FRONT<br/>PASSENGER</u> | <u>REAR<br/>PASSENGER</u> |
|---------|---------------|----------------------------|---------------------------|
| Frontal | <u>Yes</u>    | <u>Yes</u>                 | <u>NA</u>                 |
| Side    | <u>NA</u>     | <u>NA</u>                  | <u>NA</u>                 |

SECTION 4  
OCCUPANT AND VEHICLE INFORMATION

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

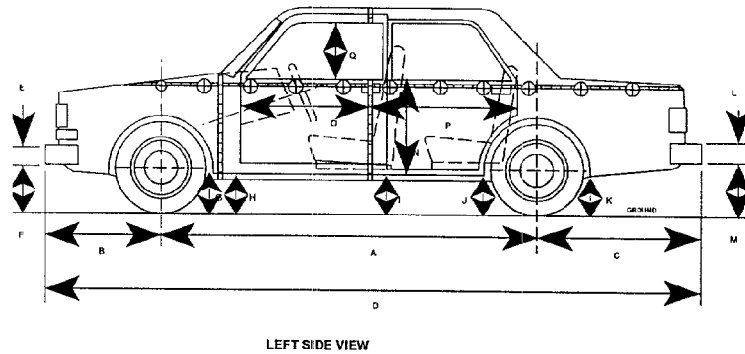
Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

|                             | Driver SID ID # 269 |             |             |             | Left Passenger SID ID # 270 |             |             |             |
|-----------------------------|---------------------|-------------|-------------|-------------|-----------------------------|-------------|-------------|-------------|
|                             | Pos. Direct.        |             | Neg. Direct |             | Pos. Direct.                |             | Neg. Direct |             |
|                             | Max (g)             | Time (msec) | Max (g)     | Time (msec) | Max (g)                     | Time (msec) | Max (g)     | Time (msec) |
| <b>HEAD ACCELERATIONS</b>   |                     |             |             |             |                             |             |             |             |
| Longitudinal                | 21.8                | 39          | -19.8       | 68          | 16.5                        | 140         | -32.7       | 76          |
| Lateral                     | 89.5                | 40          | -17.2       | 29          | 128.3                       | 51          | -13.4       | 81          |
| Vertical                    | 37.9                | 52          | -37.1       | 39          | 23.9                        | 49          | -41.1       | 58          |
| Resultant                   | 99.9                | 40          | ----        | ----        | 128.5                       | 51          | ----        | ----        |
| HIC                         | 372                 |             |             |             | 586                         |             |             |             |
| <b>RIB ACCELERATIONS</b>    |                     |             |             |             |                             |             |             |             |
| Left Upper Rib (LUR) Y      | 73.6                | 24          | -27.8       | 71          | 72.6                        | 38          | -7.0        | 89          |
| Left Lower Rib (LLR) Y      | 54.9                | 28          | -17.6       | 72          | 80.9                        | 39          | -15.1       | 66          |
| <b>SPINE ACCELERATIONS</b>  |                     |             |             |             |                             |             |             |             |
| Lower Lateral Y             | 83.9                | 26          | -21.1       | 66          | 61.9                        | 44          | -24.7       | 69          |
| <b>PELVIS ACCELERATIONS</b> |                     |             |             |             |                             |             |             |             |
| Lateral Y                   | 92.5                | 23          | -12.6       | 46          | 68.6                        | 32          | -13.3       | 71          |

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

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



D = Length at Centerline

R = Right Side Length

S = Left Side Length

T = Width at B Post

E &amp; L = Bumper Thickness

J1 = To Pinch Weld

J2 = To Sill

ALL MEASUREMENTS IN (mm)

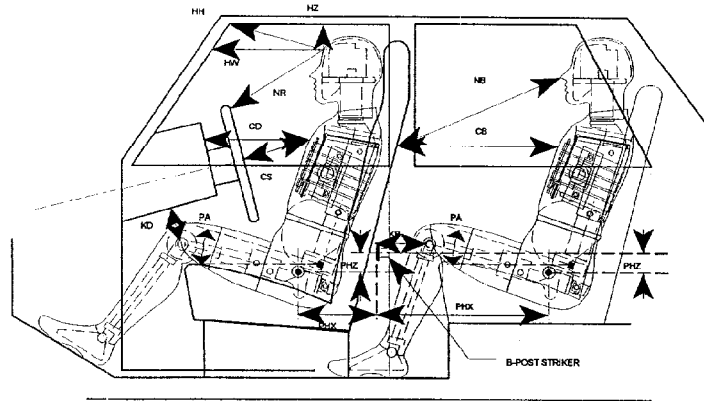
|       | PRE-TEST | POST-TEST | Δ CHANGE |
|-------|----------|-----------|----------|
| A     | 2618     | 2558      | 60       |
| B     | 874      | 864       | 10       |
| C     | 932      | 932       | 0        |
| D     | 4424     | 4354      | 70       |
| E     | 135      | 135       | 0        |
| F     | 410      | 430       | -20      |
| G     | 162      | 190       | -28      |
| H     | 160      | 192       | -32      |
| I     | 154      | 193       | -39      |
| J1/J2 | 155/150  | 168/173   | -13/-23  |
| K     | 258      | 266       | -8       |
| L     | 80       | 80        | 0        |
| M     | 499      | 498       | 1        |
| N     | 685      | 584       | 101      |
| O     | 748      | 744       | 4        |
| P     | 1242     | 1103      | 139      |
| Q     | 444      | 437       | 7        |
| R     | 3828     | 3843      | -15      |
| S     | 3828     | 3748      | 80       |
| T     | 1696     | 1400      | 296      |

DATA SHEET NO. 7

SIDE IMPACT DUMMY (SID) LONGITUDINAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

NHTSA NO.: MY0205 Test Date: February 10, 2000



NOTE: All dimensions are in mm with tolerance of  $\pm 3$  mm

|           | DRIVER<br>SID ID # 269 |           | LEFT REAR<br>PASSENGER<br>SID ID # 270 |
|-----------|------------------------|-----------|--|
| HH        | 410                    | HZ        | 160                                    |
| HW        | 662                    | NB        | 522                                    |
| HZ        | 198                    | CB        | 457                                    |
| NR        | 496                    | KBL (KBA) | 174 (0.0°)                             |
| CD        | 556                    | KBR (KBA) | 179 (0.0°)                             |
| CS        | 360                    | PA°       | 24.8°                                  |
| KDL(KDA°) | 183 (0.0°)             | PHX       | 211                                    |
| KDR(KDA°) | 180 (0.0°)             | PHZ       | 292                                    |
| PA°       | 24.6°                  |           |  |
| PHX       | 171                    |           |  |
| PHZ       | 131                    |           |  |

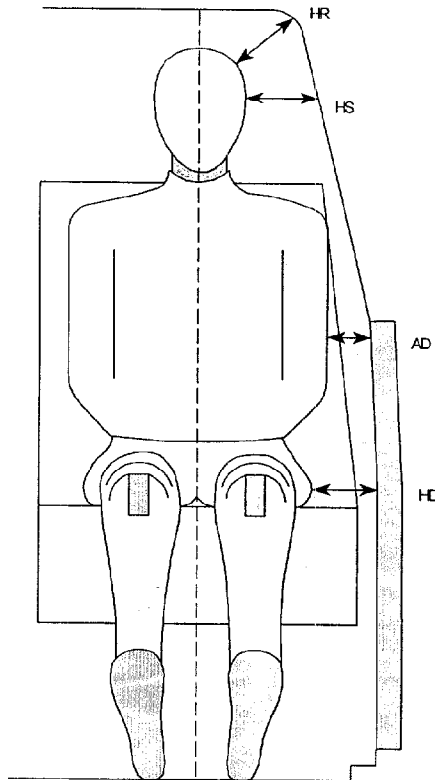
NOTE: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as reference point.

DATA SHEET NO. 8

SIDE IMPACT DUMMY (SID) LATERAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

NHTSA NO.: MY0205 Test Date: February 10, 2000



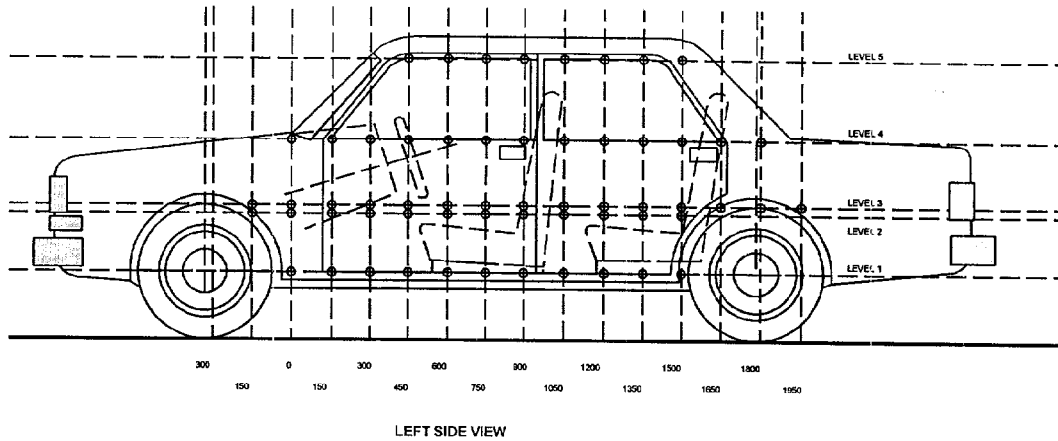
NOTE: All dimensions are in mm

|    | DRIVER<br>SID ID # 269 | LEFT REAR PASSENGER<br>SID ID # 270 |
|----|------------------------|-------------------------------------|
| HR | 200                    | 186                                 |
| HS | 316                    | 300                                 |
| AD | 94                     | 103                                 |
| HD | 100                    | 142                                 |

DATA SHEET NO. 9  
VEHICLE SIDE MEASUREMENTS

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

NHTSA NO.: MY0205 Test Date: February 10, 2000



NOTE: All measurements are in millimeters (mm)

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

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

MEASUREMENTS ALONG THE VERTICAL 750 mm. LINE SHOWN ABOVE

|  |   |                |
|--|---|----------------|
| Level 1 @ Axle Centerline Height<br>(or Sill Top Height) | = | <u>250</u> mm  |
| Level 2 @ Occupant H-Point                               | = | <u>476</u> mm  |
| Level 3 @ Mid Door                                       | = | <u>615</u> mm  |
| Level 4 @ Window Sill                                    | = | <u>913</u> mm  |
| Level 5 @ Window Top                                     | = | <u>1360</u> mm |

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 1 - Axle Centerline |                |                      |
|-------------------------------|---------------------------|----------------|----------------------|
|                               | Pre-Test (mm)             | Post-Test (mm) | Static Crush<br>(mm) |
| -1800                         |                           |                |                      |
| -1650                         |                           |                |                      |
| -1500                         |                           |                |                      |
| -1350                         |                           |                |                      |
| -1200                         |                           |                |                      |
| -1050                         |                           |                |                      |
| -900                          |                           |                |                      |
| -750                          |                           |                |                      |
| -600                          |                           |                |                      |
| -450                          |                           |                |                      |
| -300                          |                           |                |                      |
| -150                          |                           |                |                      |
| 0 (impact point)              |                           |                |                      |
| 150                           | 674                       | 805            | 131                  |
| 300                           | 678                       | 825            | 147                  |
| 450                           | 682                       | 844            | 162                  |
| 600                           | 682                       | 858            | 176                  |
| 750                           | 681                       | 872            | 191                  |
| 900                           | 680                       | 885            | 205                  |
| 1050                          | 680                       | 904            | 224                  |
| 1200                          | 679                       | 924            | 245                  |
| 1350                          | 679                       | 882            | 203                  |
| 1500                          | 682                       | 832            | 150                  |
| 1650                          | 676                       | 789            | 113                  |
| 1800                          | 663                       | 734            | 71                   |

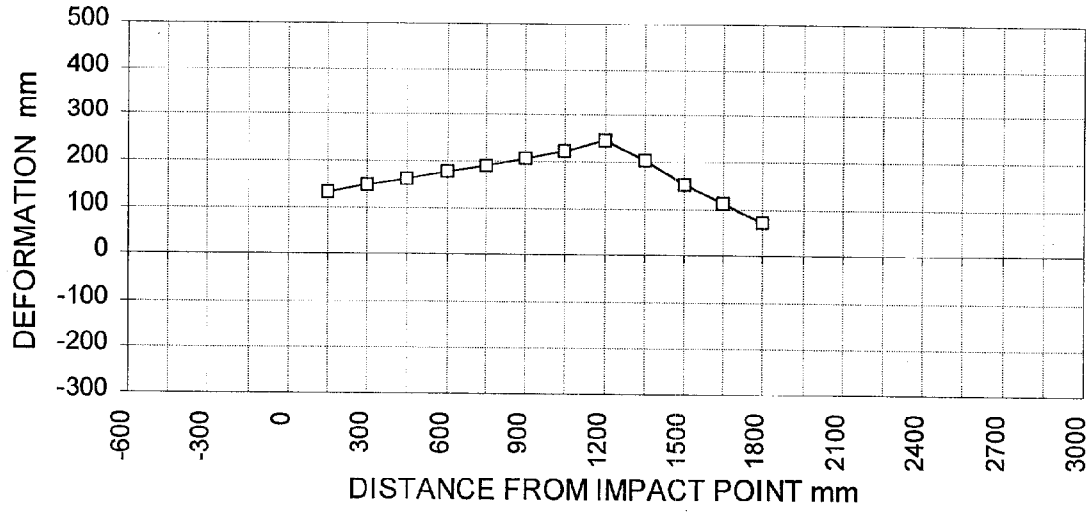
Reference plane is parallel to test vehicle longitudinal centerline.  
Given dimensions = Reference plane to car body

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

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

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 1 - AXLE CENTERLINE

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 2 - Occupant H-Point |                |                      |
|-------------------------------|----------------------------|----------------|----------------------|
|                               | Pre-Test (mm)              | Post-Test (mm) | Static Crush<br>(mm) |
| -1800                         |                            |                |                      |
| -1650                         |                            |                |                      |
| -1500                         |                            |                |                      |
| -1350                         |                            |                |                      |
| -1200                         |                            |                |                      |
| -1050                         |                            |                |                      |
| -900                          |                            |                |                      |
| -750                          |                            |                |                      |
| -600                          |                            |                |                      |
| -450                          |                            |                |                      |
| -300                          |                            |                |                      |
| -150                          |                            |                |                      |
| 0 (impact point)              | 635                        | 725            | 90                   |
| 150                           | 637                        | 928            | 291                  |
| 300                           | 640                        | 958            | 318                  |
| 450                           | 638                        | 977            | 339                  |
| 600                           | 637                        | 983            | 346                  |
| 750                           | 635                        | 984            | 349                  |
| 900                           | 632                        | 982            | 350                  |
| 1050                          | 632                        | 978            | 346                  |
| 1200                          | 632                        | 982            | 350                  |
| 1350                          | 632                        | 972            | 340                  |
| 1500                          | 632                        | 932            | 300                  |
| 1650                          | 633                        | 890            | 257                  |
| 1800                          | 630                        | 796            | 166                  |

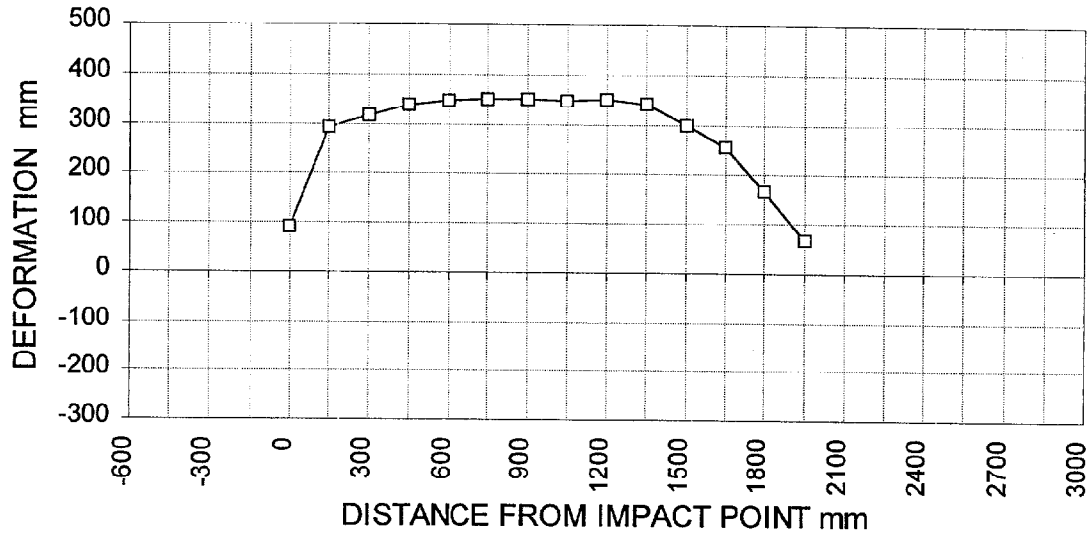
Reference plane is parallel to test vehicle longitudinal centerline.  
Given dimensions = Reference plane to car body

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 2 - Occupant H-Point |                |                      |
|-------------------------------|----------------------------|----------------|----------------------|
|                               | Pre-Test (mm)              | Post-Test (mm) | Static Crush<br>(mm) |
| 1950                          | 627                        | 693            | 66                   |
| 2100                          |                            |                |                      |
| 2250                          |                            |                |                      |
| 2400                          |                            |                |                      |
| 2550                          |                            |                |                      |
| 2700                          |                            |                |                      |
| 2850                          |                            |                |                      |
| 3000                          |                            |                |                      |
| 3150                          |                            |                |                      |
| 3300                          |                            |                |                      |
| 3450                          |                            |                |                      |
| 3600                          |                            |                |                      |

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 2 - OCCUPANT H-POINT

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 3 - Mid-Door |                |                      |
|-------------------------------|--------------------|----------------|----------------------|
|                               | Pre-Test (mm)      | Post-Test (mm) | Static Crush<br>(mm) |
| -1800                         |                    |                |                      |
| -1650                         |                    |                |                      |
| -1500                         |                    |                |                      |
| -1350                         |                    |                |                      |
| -1200                         |                    |                |                      |
| -1050                         |                    |                |                      |
| -900                          |                    |                |                      |
| -750                          |                    |                |                      |
| -600                          |                    |                |                      |
| -450                          |                    |                |                      |
| -300                          |                    |                |                      |
| -150                          | 627                | 685            | 58                   |
| 0 (impact point)              | 629                | 723            | 94                   |
| 150                           | 633                | 910            | 277                  |
| 300                           | 631                | 910            | 279                  |
| 450                           | 629                | 924            | 295                  |
| 600                           | 627                | 922            | 295                  |
| 750                           | 626                | 924            | 298                  |
| 900                           | 624                | 923            | 299                  |
| 1050                          | 624                | 926            | 302                  |
| 1200                          | 625                | 964            | 339                  |
| 1350                          | 625                | 960            | 335                  |
| 1500                          | 625                | 952            | 327                  |
| 1650                          | 627                | 908            | 281                  |
| 1800                          | 627                | 838            | 211                  |

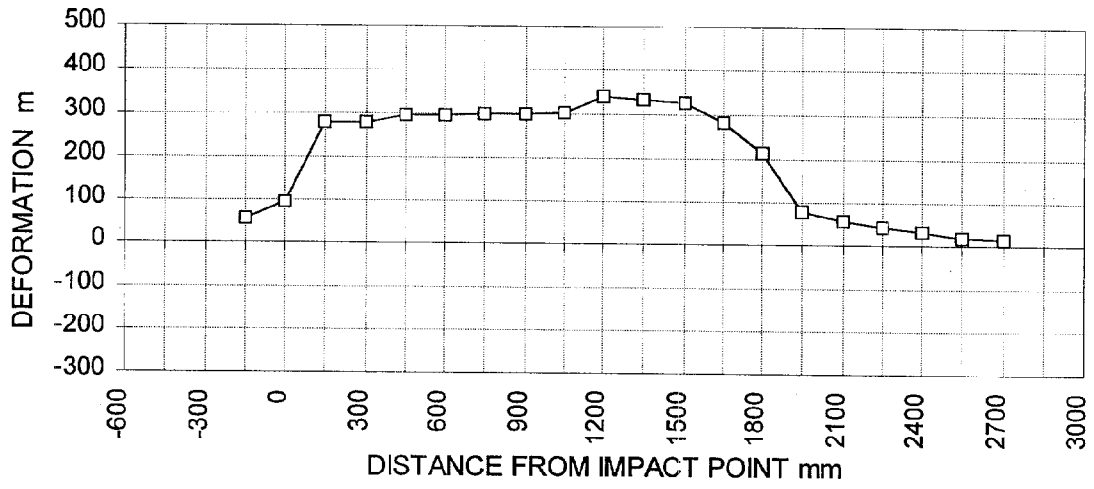
Reference plane is parallel to test vehicle longitudinal centerline.  
Given dimensions = Reference plane to car body

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 3 - Mid-Door |                |                   |
|-------------------------------|--------------------|----------------|-------------------|
|                               | Pre-Test (mm)      | Post-Test (mm) | Static Crush (mm) |
| 1950                          | 624                | 701            | 77                |
| 2100                          | 617                | 673            | 56                |
| 2250                          | 614                | 658            | 44                |
| 2400                          | 620                | 654            | 34                |
| 2550                          | 640                | 659            | 19                |
| 2700                          | 651                | 667            | 16                |
| 2850                          |                    |                |                   |
| 3000                          |                    |                |                   |
| 3150                          |                    |                |                   |
| 3300                          |                    |                |                   |
| 3450                          |                    |                |                   |
| 3600                          |                    |                |                   |

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 3 - MID-DOOR

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 4 - Window Sill |                |                      |
|-------------------------------|-----------------------|----------------|----------------------|
|                               | Pre-Test (mm)         | Post-Test (mm) | Static Crush<br>(mm) |
| -1800                         |                       |                |                      |
| -1650                         |                       |                |                      |
| -1500                         |                       |                |                      |
| -1350                         |                       |                |                      |
| -1200                         |                       |                |                      |
| -1050                         |                       |                |                      |
| -900                          |                       |                |                      |
| -750                          |                       |                |                      |
| -600                          | 727                   | 747            | 20                   |
| -450                          | 714                   | 744            | 30                   |
| -300                          | 702                   | 735            | 33                   |
| -150                          | 693                   | 731            | 38                   |
| 0 (impact point)              | 685                   | 738            | 53                   |
| 150                           | 681                   | 787            | 106                  |
| 300                           | 677                   | 836            | 159                  |
| 450                           | 673                   | 868            | 195                  |
| 600                           | 671                   | 879            | 208                  |
| 750                           | 670                   | 895            | 225                  |
| 900                           | 670                   | 915            | 245                  |
| 1050                          | 674                   | 924            | 250                  |
| 1200                          | 673                   | 946            | 273                  |
| 1350                          | 677                   | 933            | 256                  |
| 1500                          | 680                   | 917            | 237                  |
| 1650                          | 683                   | 878            | 195                  |
| 1800                          | 689                   | 840            | 151                  |

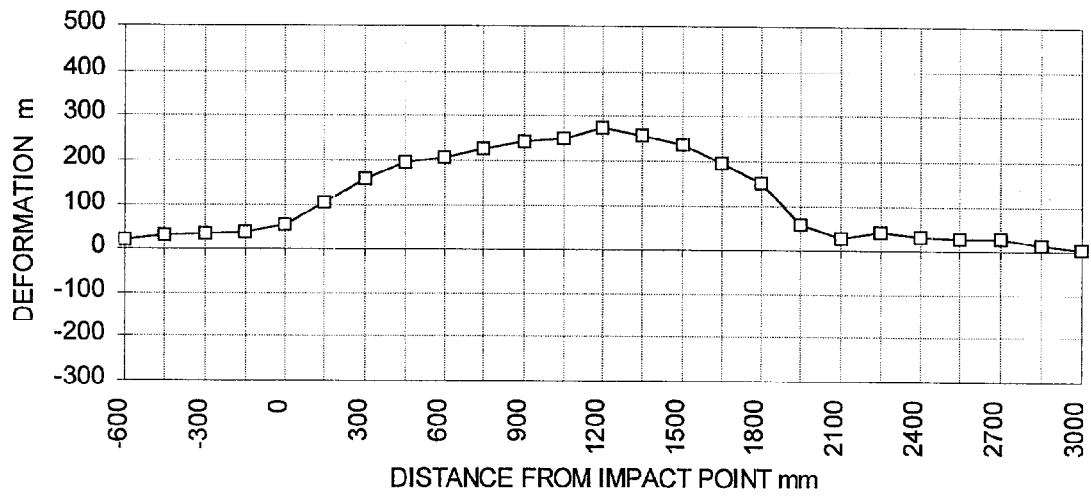
Reference plane is parallel to test vehicle longitudinal centerline.  
Given dimensions = Reference plane to car body

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 4 - Window Sill |                |                      |
|-------------------------------|-----------------------|----------------|----------------------|
|                               | Pre-Test (mm)         | Post-Test (mm) | Static Crush<br>(mm) |
| 1950                          | 694                   | 752            | 58                   |
| 2100                          | 697                   | 726            | 29                   |
| 2250                          | 707                   | 747            | 40                   |
| 2400                          | 716                   | 747            | 31                   |
| 2550                          | 727                   | 753            | 26                   |
| 2700                          | 737                   | 763            | 26                   |
| 2850                          | 752                   | 767            | 15                   |
| 3000                          | 773                   | 777            | 4                    |
| 3150                          |                       |                |                      |
| 3300                          |                       |                |                      |
| 3450                          |                       |                |                      |
| 3600                          |                       |                |                      |

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 4 - WINDOW SILL

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance<br>(mm) | Level 5 - Window Top |                |                      |
|-------------------------------|----------------------|----------------|----------------------|
|                               | Pre-Test (mm)        | Post-Test (mm) | Static Crush<br>(mm) |
| -1800                         |                      |                |                      |
| -1650                         |                      |                |                      |
| -1500                         |                      |                |                      |
| -1350                         |                      |                |                      |
| -1200                         |                      |                |                      |
| -1050                         |                      |                |                      |
| -900                          |                      |                |                      |
| -750                          |                      |                |                      |
| -600                          |                      |                |                      |
| -450                          |                      |                |                      |
| -300                          |                      |                |                      |
| -150                          |                      |                |                      |
| 0 (impact point)              |                      |                |                      |
| 150                           |                      |                |                      |
| 300                           |                      |                |                      |
| 450                           |                      |                |                      |
| 600                           |                      |                |                      |
| 750                           | 879                  | 931            | 52                   |
| 900                           | 882                  | 898            | 16                   |
| 1050                          | 885                  | 925            | 40                   |
| 1200                          | 890                  | 955            | 65                   |
| 1350                          | 891                  | 963            | 72                   |
| 1500                          | 893                  | 937            | 44                   |
| 1650                          | 897                  | 914            | 17                   |
| 1800                          | 899                  | 945            | 46                   |

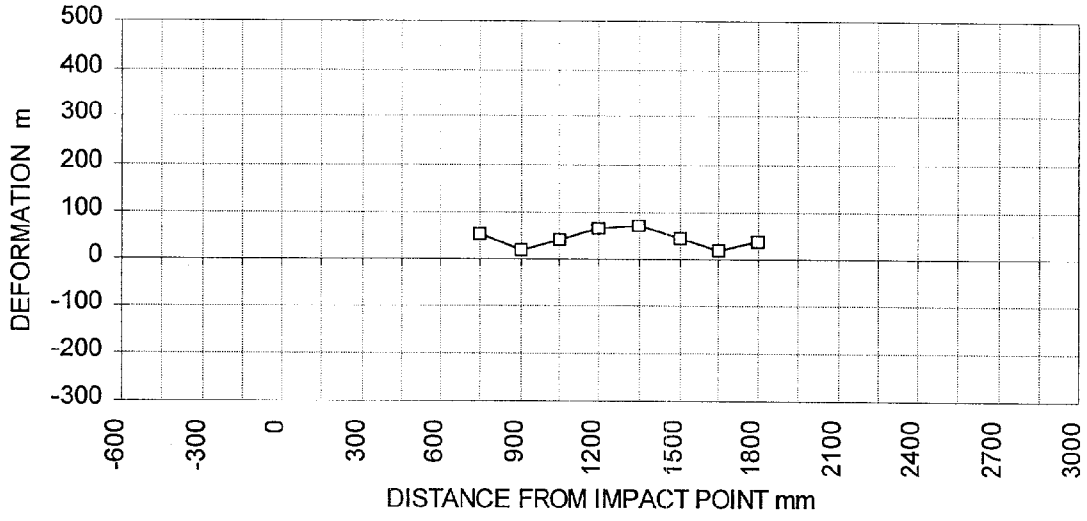
Reference plane is parallel to test vehicle longitudinal centerline.  
Given dimensions = Reference plane to car body

DATA SHEET NO. 10  
VEHICLE EXTERIOR CRUSH PROFILES

| Longitudinal Distance (mm) | Level 5 - Window Top |                |                   |
|----------------------------|----------------------|----------------|-------------------|
|                            | Pre-Test (mm)        | Post-Test (mm) | Static Crush (mm) |
| 1950                       | 905                  | 942            | 37                |
| 2100                       |                      |                |                   |
| 2250                       |                      |                |                   |
| 2400                       |                      |                |                   |
| 2550                       |                      |                |                   |
| 2700                       |                      |                |                   |
| 2850                       |                      |                |                   |
| 3000                       |                      |                |                   |
| 3150                       |                      |                |                   |
| 3300                       |                      |                |                   |
| 3450                       |                      |                |                   |
| 3600                       |                      |                |                   |

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

VEHICLE EXTERIOR STATIC CRUSH

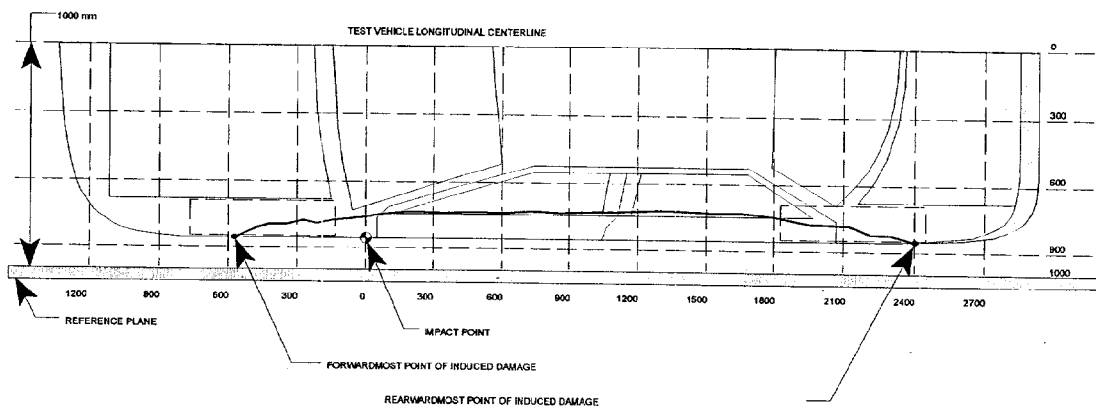
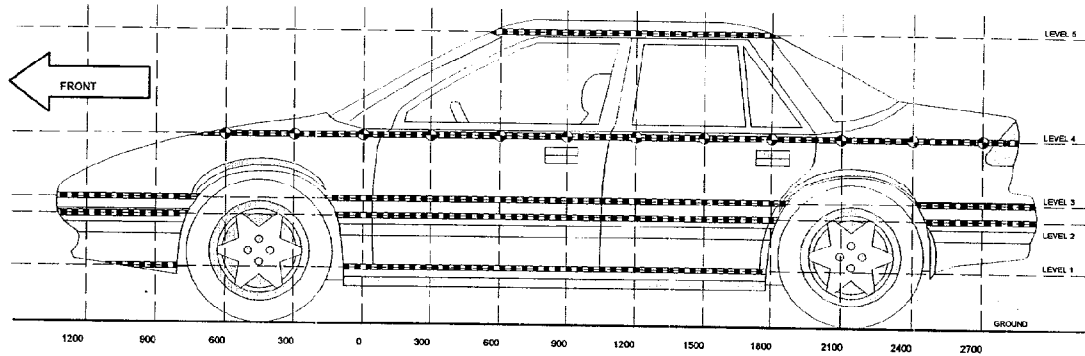


LEVEL 5 - WINDOW TOP

DATA SHEET NO. 11  
VEHICLE DAMAGE PROFILE DISTANCES

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

NHTSA NO.: MY0205 Test Date: February 10, 2000



NOTE: All measurements are in millimeters (mm)

| DPD MEASUREMENTS         | POST-TEST (mm) | PRE-TEST (mm) | STATIC CRUSH (mm) |
|--------------------------|----------------|---------------|-------------------|
| 1. (LR = <u>3000</u> mm) | 777            | 773           | 4                 |
| 2. 2004 mm               | 655            | 616           | 39                |
| 3. 1506 mm               | 954            | 625           | 329               |
| 4. 806 mm                | 980            | 634           | 346               |
| 5. 90 mm                 | 909            | 631           | 278               |
| 6. (LF = <u>-600</u> mm) | 747            | 727           | 20                |

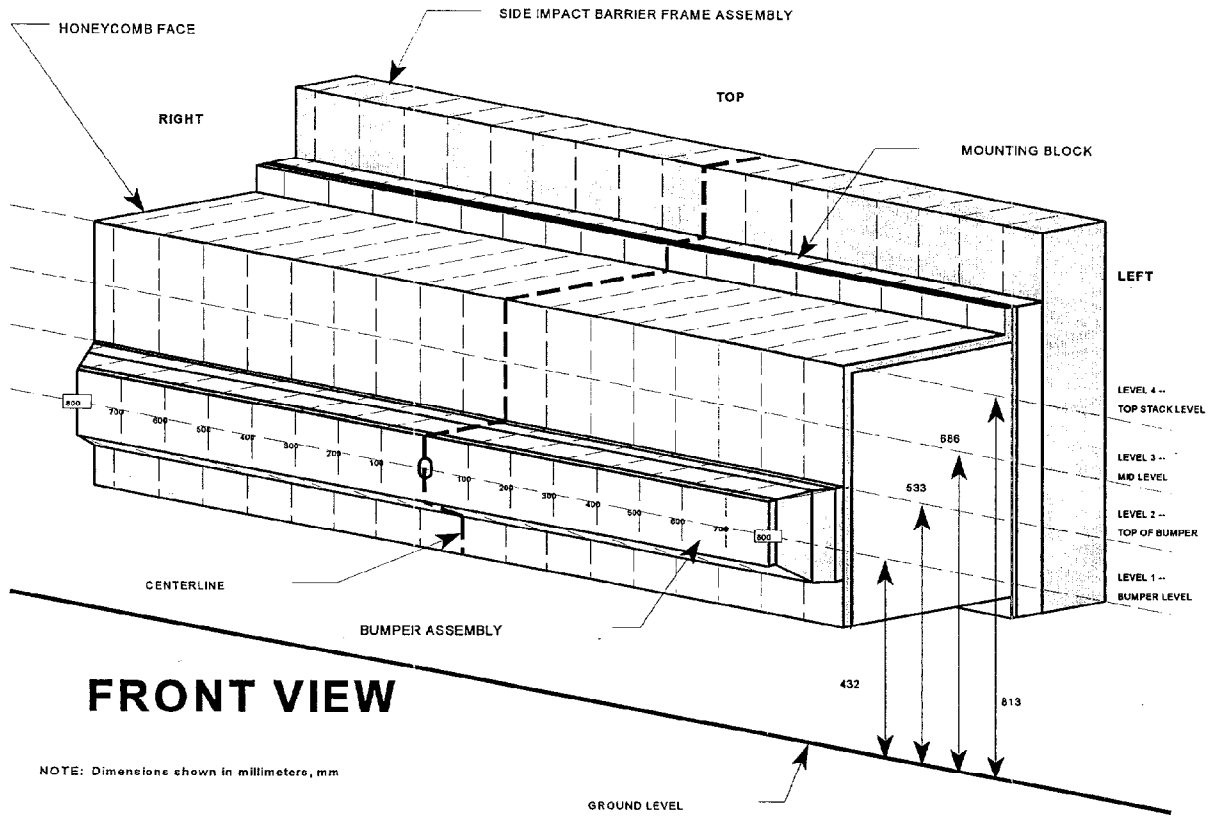
DATA SHEET NO. 12  
EXTERIOR STATIC CRUSH FOR SIDE IMPACTOR

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door  
 Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

| Location           | Height at CL | Distance Right of Center (mm) |     |     |     |     |     |     |     | Distance Left of Center (mm) |     |     |     |     |     |     |     |     |
|--------------------|--------------|-------------------------------|-----|-----|-----|-----|-----|-----|-----|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|                    |              | 800                           | 700 | 600 | 500 | 400 | 300 | 200 | 100 | 0                            | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| Top Stack Level 4  | 813 mm       | 86                            | 49  | 20  | 5   | 7   | 18  | 29  | 31  | 38                           | 28  | 28  | 49  | 69  | 99  | 146 | 201 |     |
| Mid Level Level 3  | 686 mm       | 71                            | 34  | 13  | 11  | 12  | 16  | 18  | 17  | 18                           | 18  | 22  | 31  | 46  | 54  | 96  | 146 |     |
| Top Bumper Level 2 | 533 mm       | 75                            | 79  | 69  | 52  | 52  | 55  | 57  | 58  | 63                           | 64  | 65  | 74  | 88  | 99  | 102 | 104 |     |
| Mid Bumper Level 1 | 432 mm       | 120                           | 96  | 78  | 65  | 62  | 74  | 73  | 77  | 79                           | 79  | 84  | 94  | 102 | 116 | 142 | 153 |     |

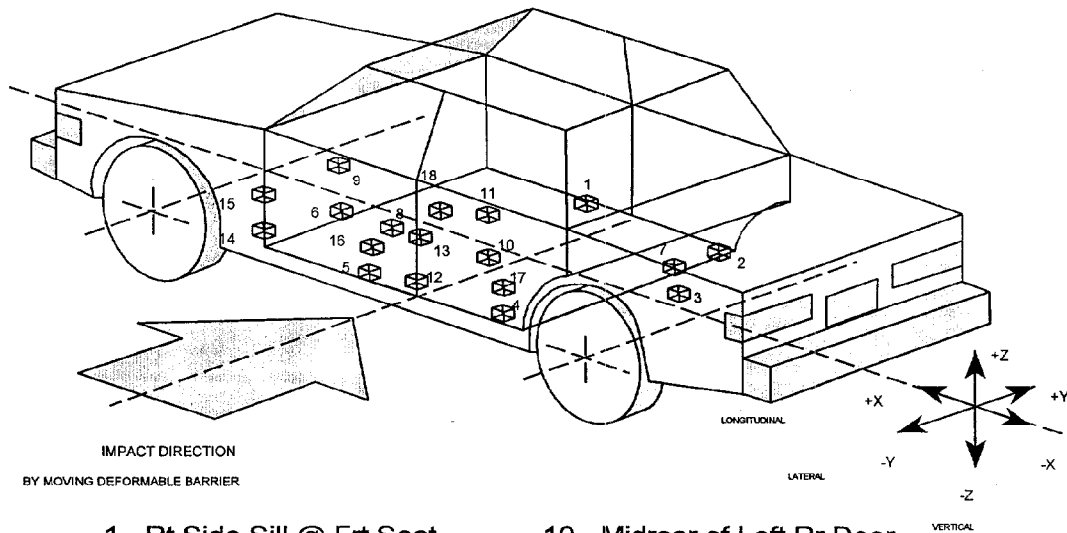
See next page for Barrier Face Graphic

DATA SHEET NO. 12 (Cont'd)



DATA SHEET 13  
TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door  
 Vehicle NHTSA No.: MY0205    Test Date: February 10, 2000



IMPACT DIRECTION  
 BY MOVING DEFORMABLE BARRIER

- |                                 |                              |
|---------------------------------|------------------------------|
| 1 - Rt Side Sill @ Frt Seat     | 10 - Midrear of Left Rr Door |
| 2 - Rt Side Sill @ Rr Seat      | 11 - Left Rr Door Upr C/Line |
| 3 - Rr Floorpan Above Axle      | 12 - Left Lwr B-Post         |
| 4 - Left Side Sill @ Rr Seat    | 13 - Left Middle B-Post      |
| 5 - Left Side Sill @ Frt Seat   | 14 - Left Lwr A-Post         |
| 6 - Left Frt Door on Centerline | 15 - Left Middle A-Post      |
| 7 - Rt Rr Occ Compartment       | 16 - Frt Seat Track          |
| 8 - Midrear of Left Frt Door    | 17 - Rr Seat Track           |
| 9 - Left Frt Door Upr C/Line    | 18 - Vehicle C.G.            |

DATA SHEET NO. 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

| Accel. No. | Description                      | Coordinates (mm)* |      |      | Long. (X) Maximums (g's) |       | Lat. (Y) Maximums (g's) |        | Vert. (Z) Maximums (g's) |       | Resultant (g's) |
|------------|----------------------------------|-------------------|------|------|--------------------------|-------|-------------------------|--------|--------------------------|-------|-----------------|
|            |                                  | X                 | Y    | Z    | Pos.                     | Neg.  | Pos.                    | Neg.   | Pos.                     | Neg.  |                 |
| 1          | Rt. Side Sill @ Front Seat       | 2512              | 685  | 192  | 5.7                      | -3.5  | 22.4                    | -4.0   | 7.6                      | -7.4  | 23.3            |
| 2          | Rt. Side Sill @ Rear Seat        | 1422              | 695  | 197  | 4.7                      | -5.4  | 27.1                    | -2.6   | 6.9                      | -6.6  | 27.7            |
| 3          | Rr. Floorpan Above Axle          | 1094              | 0    | 505  | **                       | **    | **                      | **     | **                       | **    | **              |
| 4          | Left Side Sill @ Rr. Seat        | 1437              | -695 | 190  | ----                     | ----  | 61.2                    | -25.2  | ----                     | ----  | ----            |
| 5          | Left Side Sill @ Ft. Seat        | 2527              | -685 | 195  | ----                     | ----  | ***                     | ***    | ----                     | ----  | ----            |
| 6          | Left Front Door Centerline       | 2475              | -722 | 700  | ----                     | ----  | 255.0                   | -174.4 | ----                     | ----  | ----            |
| 7          | Right Rear Occupant Compartment  | 1710              | 360  | 296  | ----                     | ----  | 27.6                    | -2.2   | ----                     | ----  | ----            |
| 8          | Mid Rear of Left Front Door      | 2169              | -716 | 705  | ----                     | ----  | 176.7                   | -141.6 | ----                     | ----  | ----            |
| 9          | Left Front Door Upper Centerline | 2477              | -720 | 926  | ----                     | ----  | 307.3                   | -207.8 | ----                     | ----  | ----            |
| 10         | Left Rear Door Mid Rear          | 1305              | -716 | 735  | ----                     | ----  | 189.9                   | -93.1  | ----                     | ----  | ----            |
| 11         | Left Rear Door Upper Centerline  | 1155              | -720 | 950  | ----                     | ----  | 153.8                   | -168.7 | ----                     | ----  | ----            |
| 12         | Left Lower B-Post                | 1915              | -682 | 290  | ----                     | ----  | 102.5                   | -16.2  | ----                     | ----  | ----            |
| 13         | Left Mid B-Post                  | 1990              | -717 | 1030 | ----                     | ----  | 174.2                   | -29.2  | ----                     | ----  | ----            |
| 14         | Left Lower A-Post                | 2923              | -680 | 458  | ----                     | ----  | 176.1                   | -36.9  | ----                     | ----  | ----            |
| 15         | Left Mid A-Post                  | 3063              | -742 | 865  | ----                     | ----  | 39.8                    | -14.7  | ----                     | ----  | ----            |
| 16         | Driver Left Seat Track           | 2075              | -661 | 312  | ----                     | ----  | ****                    | ****   | ----                     | ----  | ----            |
| 18         | Vehicle CG                       | 2378              | 0    | 440  | 5.5                      | -10.5 | 37.1                    | -12.4  | 9.2                      | -13.0 | 37.7            |

\*Reference: X - Rear Bumper (+ Forward)

\*\* Accelerometers came loose from mount after 30 msec

Y - Vehicle Centerline (+ To right)

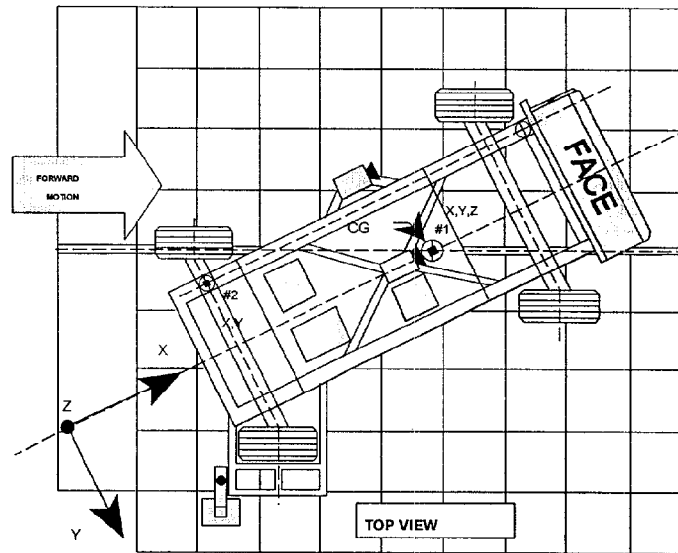
\*\*\* Not valid after 37 msec

Z - Ground Level (+ Up)

\*\*\*\* Not valid after 23 msec

DATA SHEET NO. 14  
MOVING DEFORMABLE BARRIER (MDB) ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door  
 Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000



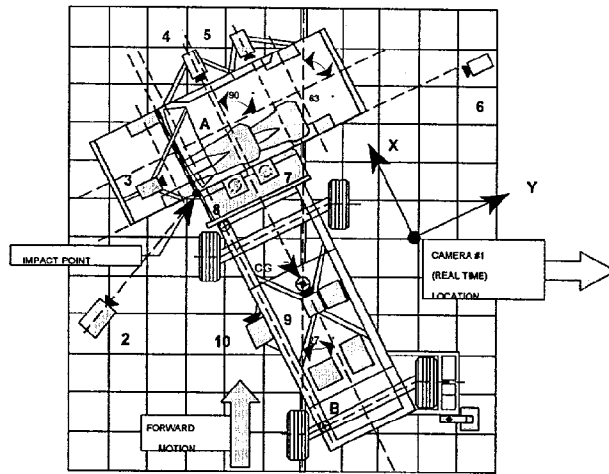
| Accel. No. | Description           | Coordinates (mm)* |      |      | (+ Positive) |             | (- Negative) |             |
|------------|-----------------------|-------------------|------|------|--------------|-------------|--------------|-------------|
|            |                       | X                 | Y    | Z    | Max. (g)     | Time (msec) | Max. (g)     | Time (msec) |
| 1          | MDB Center of Gravity | -1092             | 0    | 483  |              |             |              |             |
|            | Longitudinal (X)      | ----              | ---- | ---- | 1.9          | 0           | -19.5        | 35          |
|            | Lateral (Y)           | ----              | ---- | ---- | 6.1          | 0           | -8.1         | 27          |
|            | Vertical (Z)          | ----              | ---- | ---- | 18.7         | 34          | -19.8        | 41          |
|            | Resultant (R)         | ----              | ---- | ---- | 27.7         | 41          | ----         | ----        |
| 2          | Rear Frame Member     | -2501             | -625 | 622  |              |             |              |             |
|            | Longitudinal (X)      | ----              | ---- | ---- | 1.7          | 195         | -23.7        | 35          |
|            | Lateral (Y)           | ----              | ---- | ---- | 5.7          | 27          | -1.2         | 191         |

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

DATA SHEET NO. 15  
HIGH SPEED CAMERA LOCATIONS AND DATA

Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Test Date: February 10, 2000



| Camera No. | View          | Coordinates (mm)* |       |       | Lens (mm) | Film Speed (fps) |
|------------|---------------|-------------------|-------|-------|-----------|------------------|
|            |               | X                 | Y     | Z     |           |                  |
| 1          | Real Time     |                   |       |       |           |                  |
| 2          | Left Impact   | -1000             | -2330 | -1750 | 13        | 1042             |
| 3          | Onboard Hood  |                   |       |       | 13        | 1000             |
| 4          | Onboard Front |                   |       |       | 7.5       | 1005             |
| 5          | Onboard Rear  |                   |       |       | 8         | 1005             |
| 6          | Right Impact  | -520              | 10100 | 1840  | 25        | 1015             |
| 7          | Top Overall   | -210              | 1200  | 5000  | 8         | 1047             |
| 8          | Top Impact    | -550              | 30    | 5000  | 13        | 1000             |
| 9          | Cart Overall  |                   |       |       | 13        | 1010             |
| 10         | Cart Impact   |                   |       |       | 35        | 1000             |

\* Reference: (from point of impact)

- +X = Forward
- +Y = To Right
- +Z = Upward

DATA SHEET 16  
FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

TEST REQUIREMENTS:

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

TEST VEHICLE IMPACT TYPE: X Side Impact MDB 38.65 mph (62.2 kph)

FUEL SPILLAGE MEASUREMENT:

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

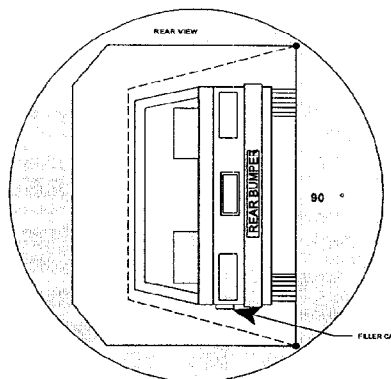
FUEL SPILLAGE LOCATION(S): None

DATA SHEET 16  
FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205      Test Date: February 10, 2000

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

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

FMVSS 301 Position Hold Time              =   5   minutes      0  seconds

TOTAL TIME                                      =   7   minutes     43  seconds

Next Whole Minute Interval                =   8   minutes

FUEL SPILLAGE MEASUREMENT:

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

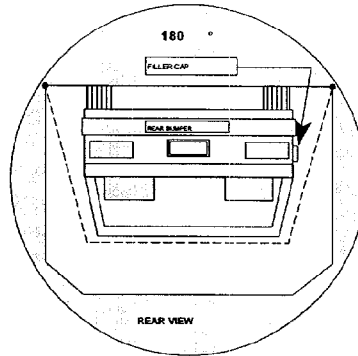
FUEL SPILLAGE LOCATIONS(S): None

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

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

TEST PHASE: 90° - 180°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 16 seconds  
 (Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 16 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

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

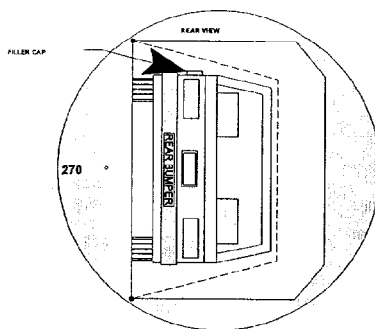
FUEL SPILLAGE LOCATIONS(S): None

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

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

TEST PHASE: 180° - 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 21 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 21 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

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

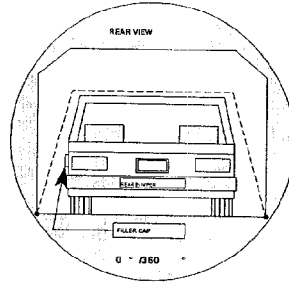
FUEL SPILLAGE LOCATIONS(S): None

DATA SHEET 16  
FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus SE/4-Door

Vehicle NHTSA No.: MY0205 Test Date: February 10, 2000

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 40 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 40 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

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

FUEL SPILLAGE LOCATIONS(S): None

## APPENDIX A - PHOTOGRAPHS

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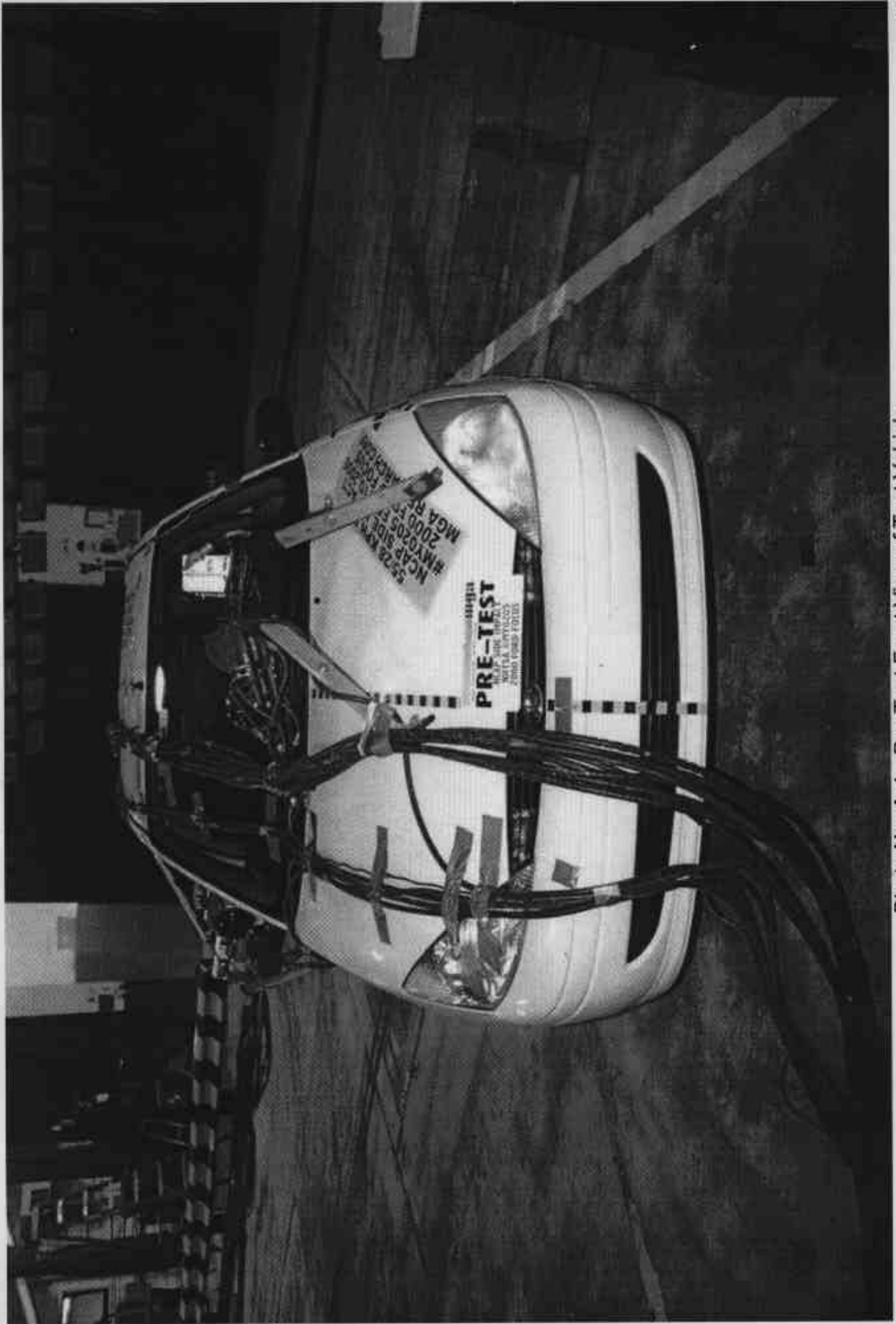


Photo No. A-1 - Pre-Test Front View of Test Vehicle

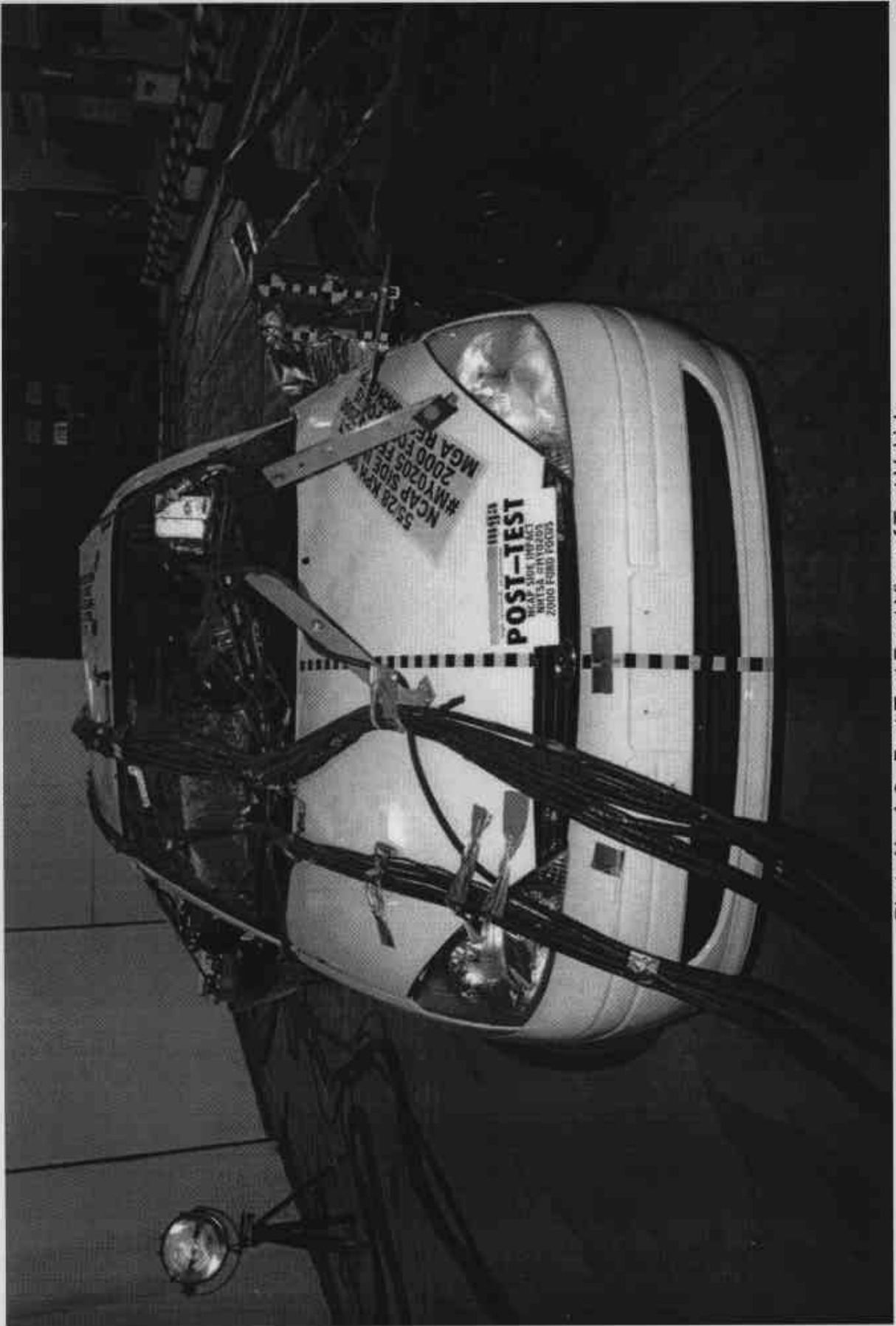


Photo No. A-2 - Post-Test Front View of Test Vehicle

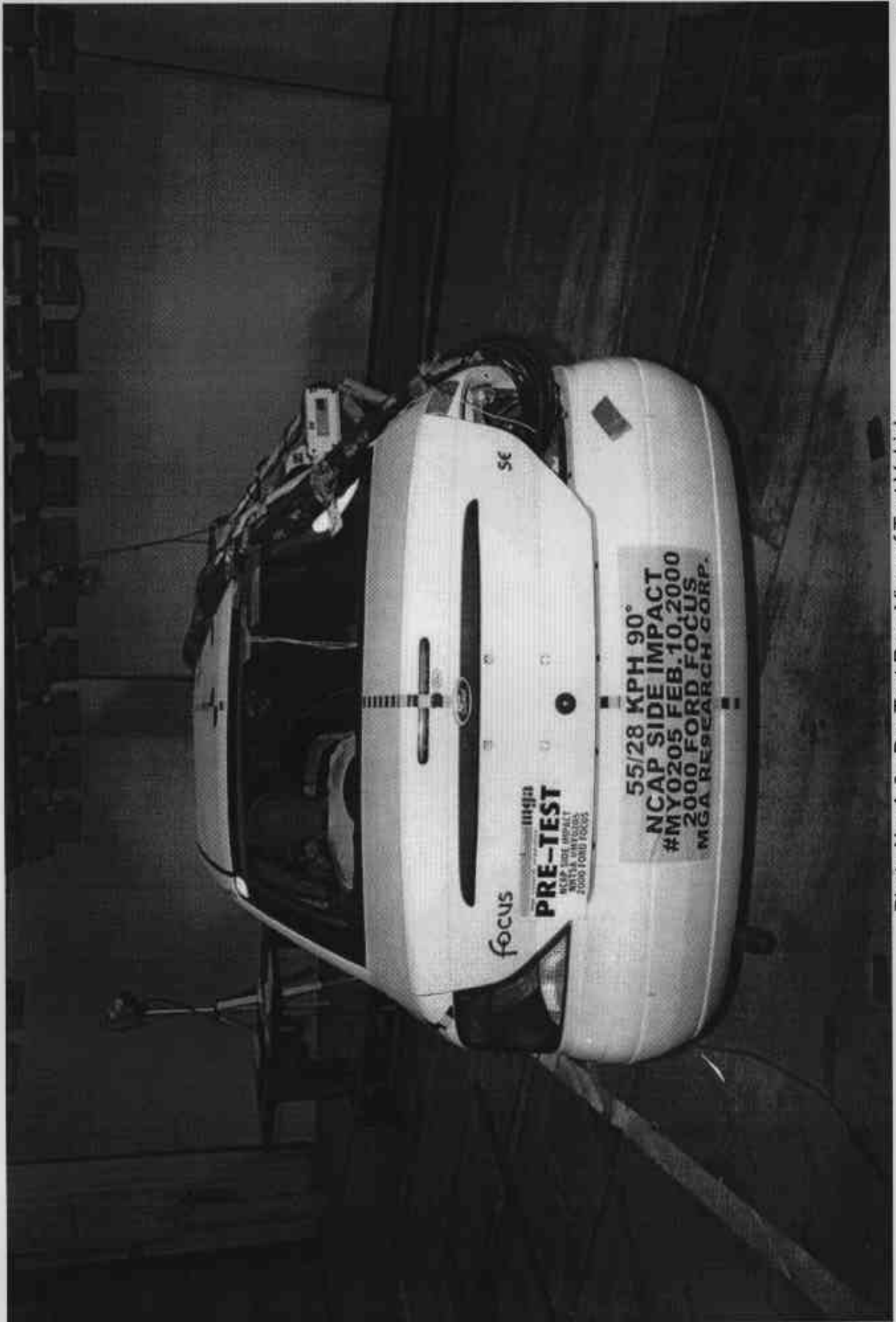


Photo No. A-3 - Pre-Test Rear View of Test Vehicle



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

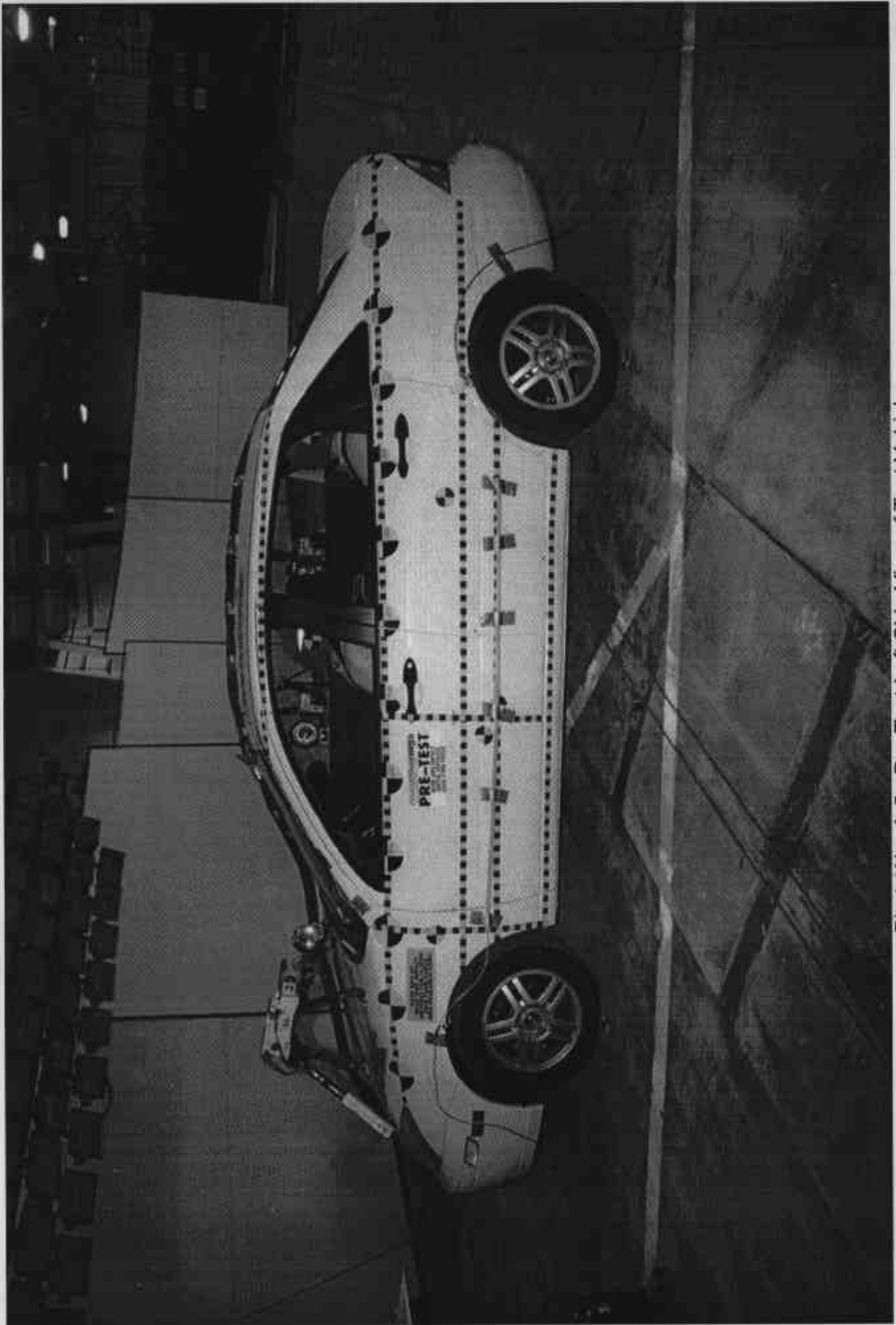


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

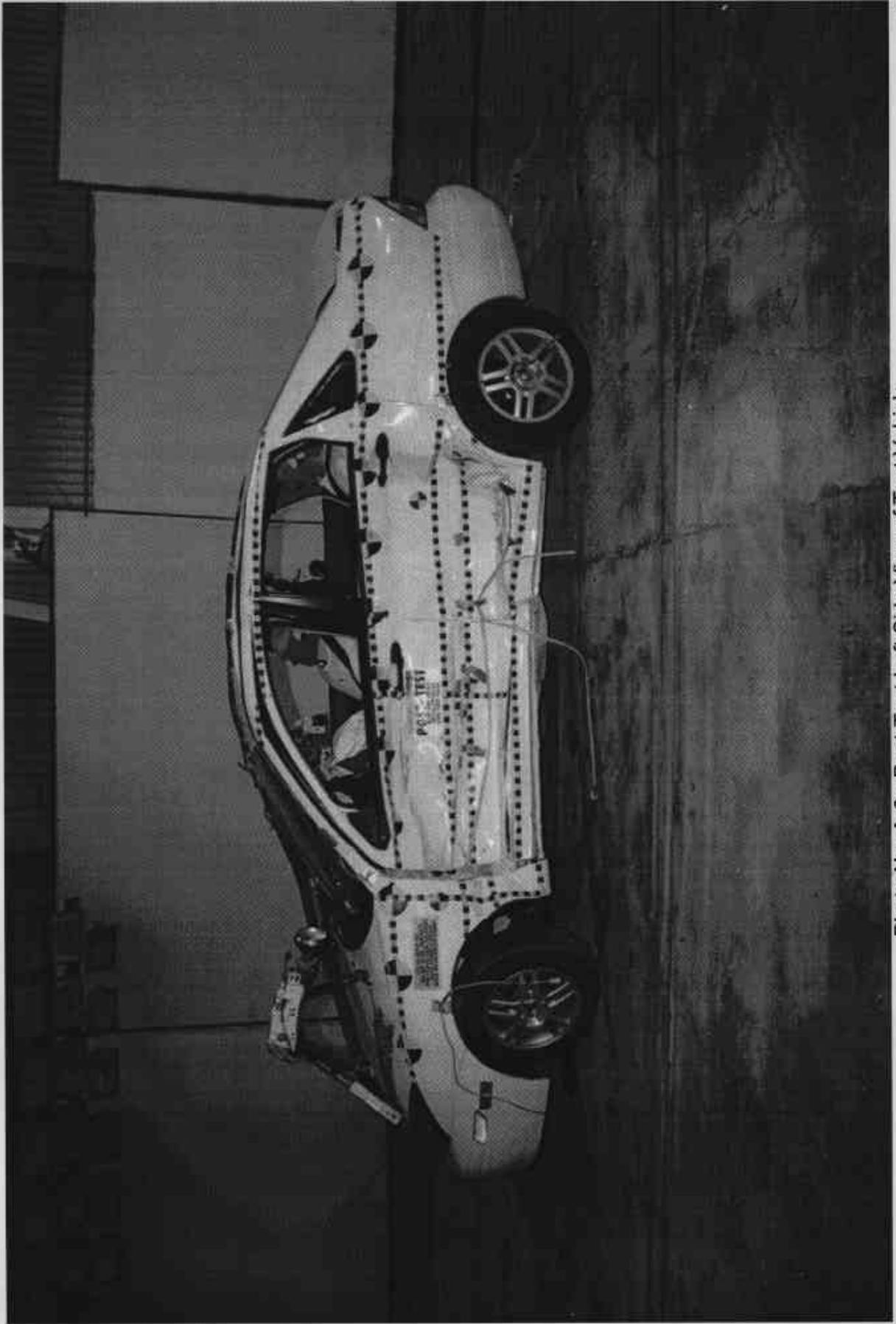


Photo No. A-6 - Post-Test Left Side View of Test Vehicle

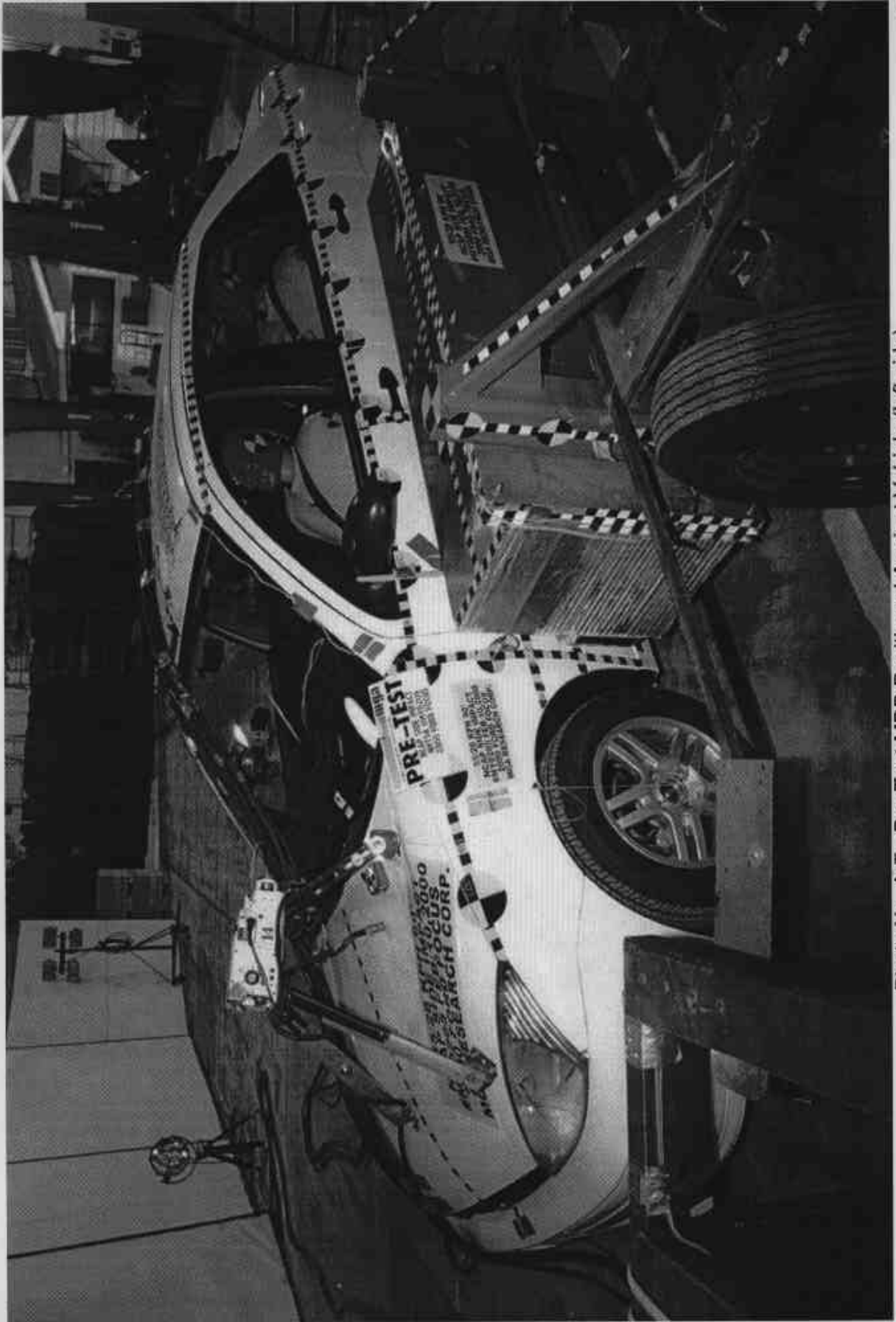


Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)

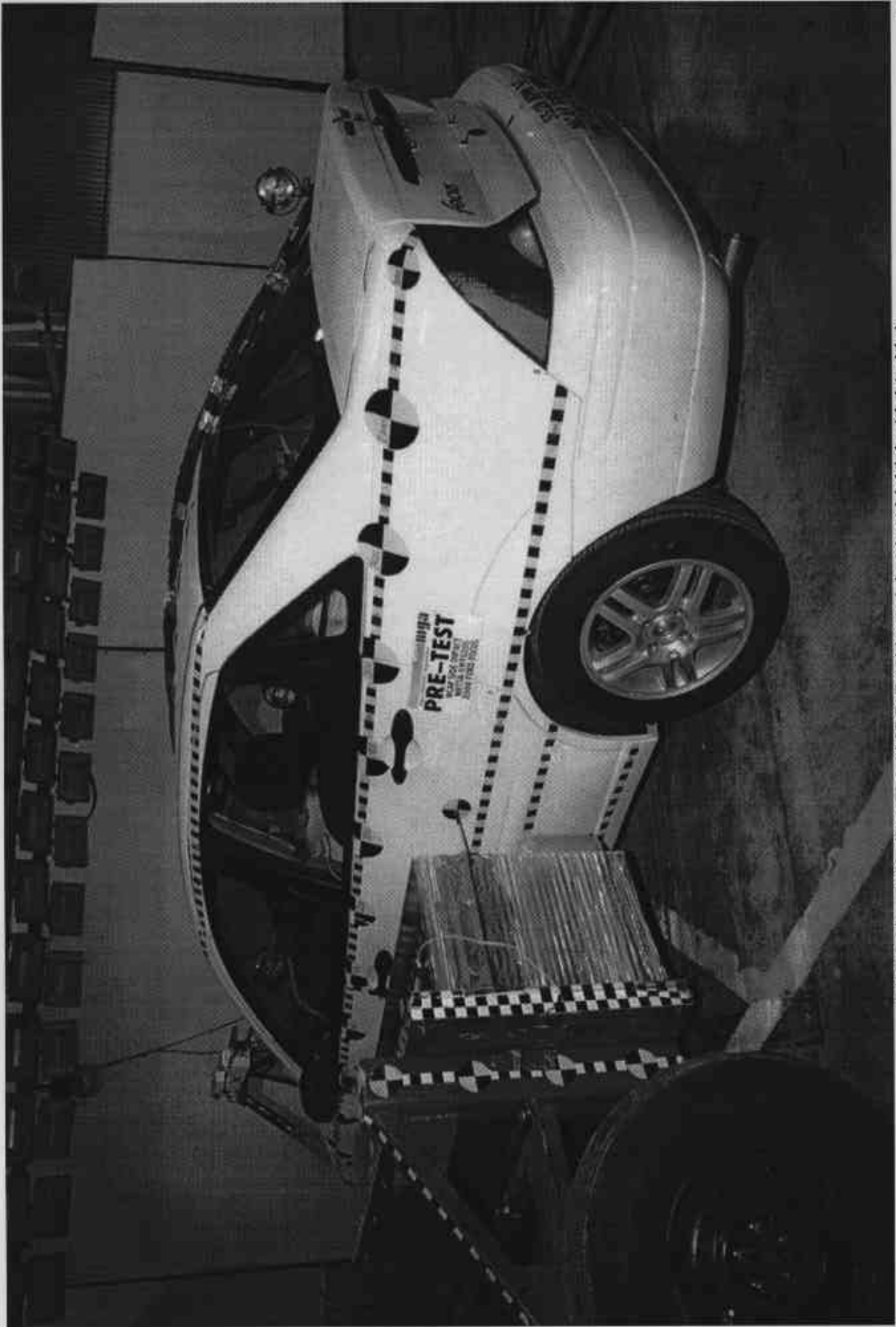


Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)

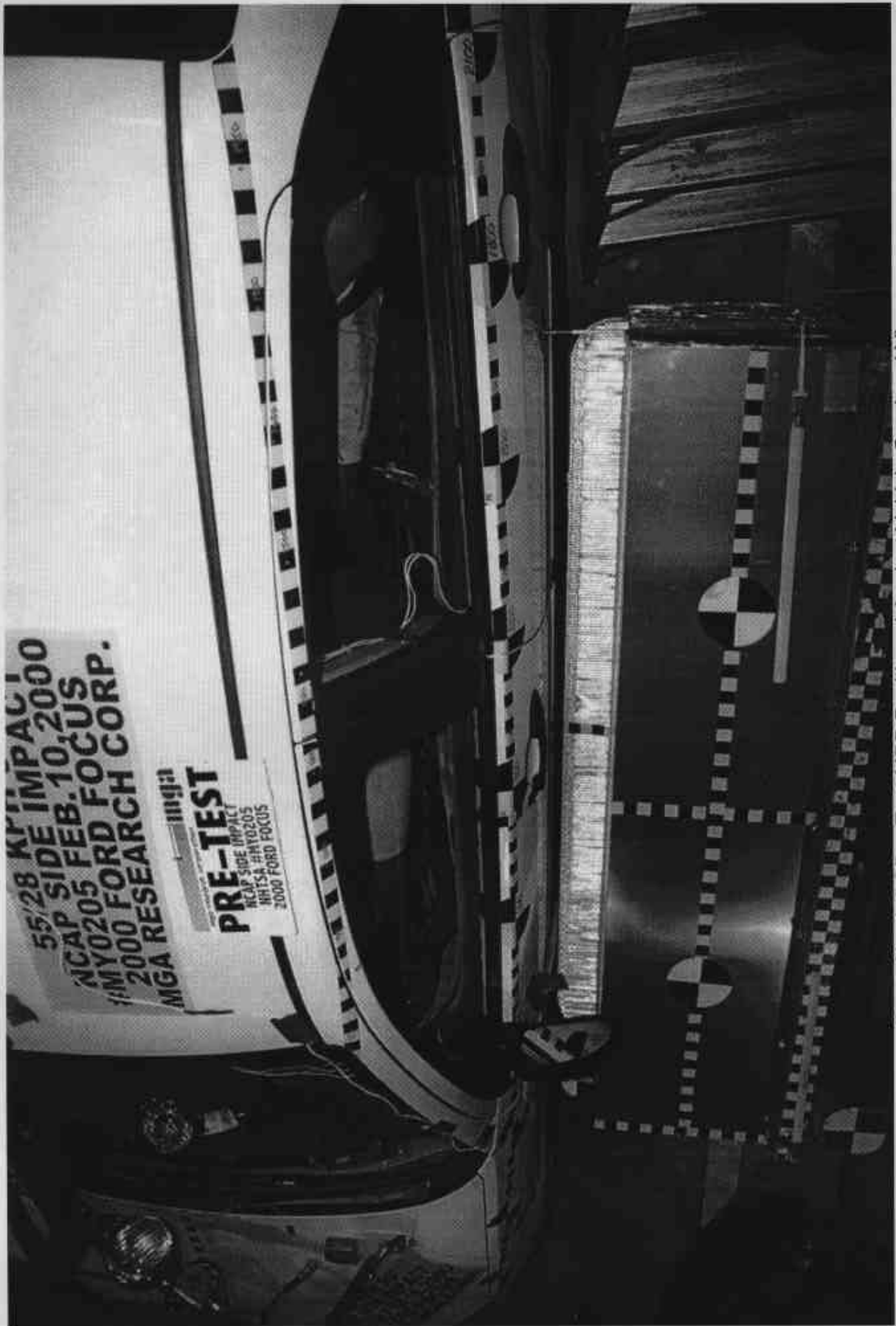


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View



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



A-11

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



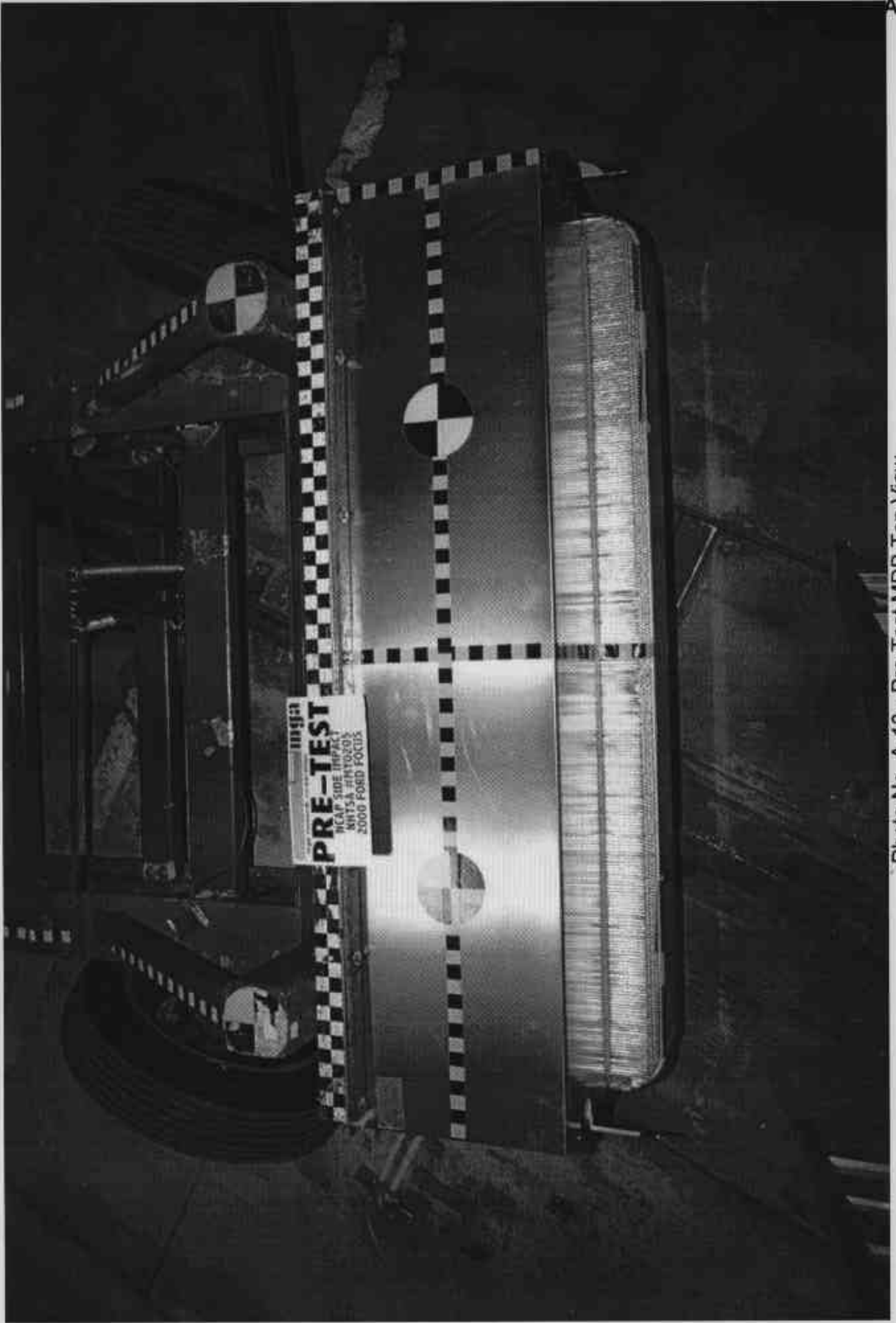


Photo No. A-13 - Pre-Test MDB Top View

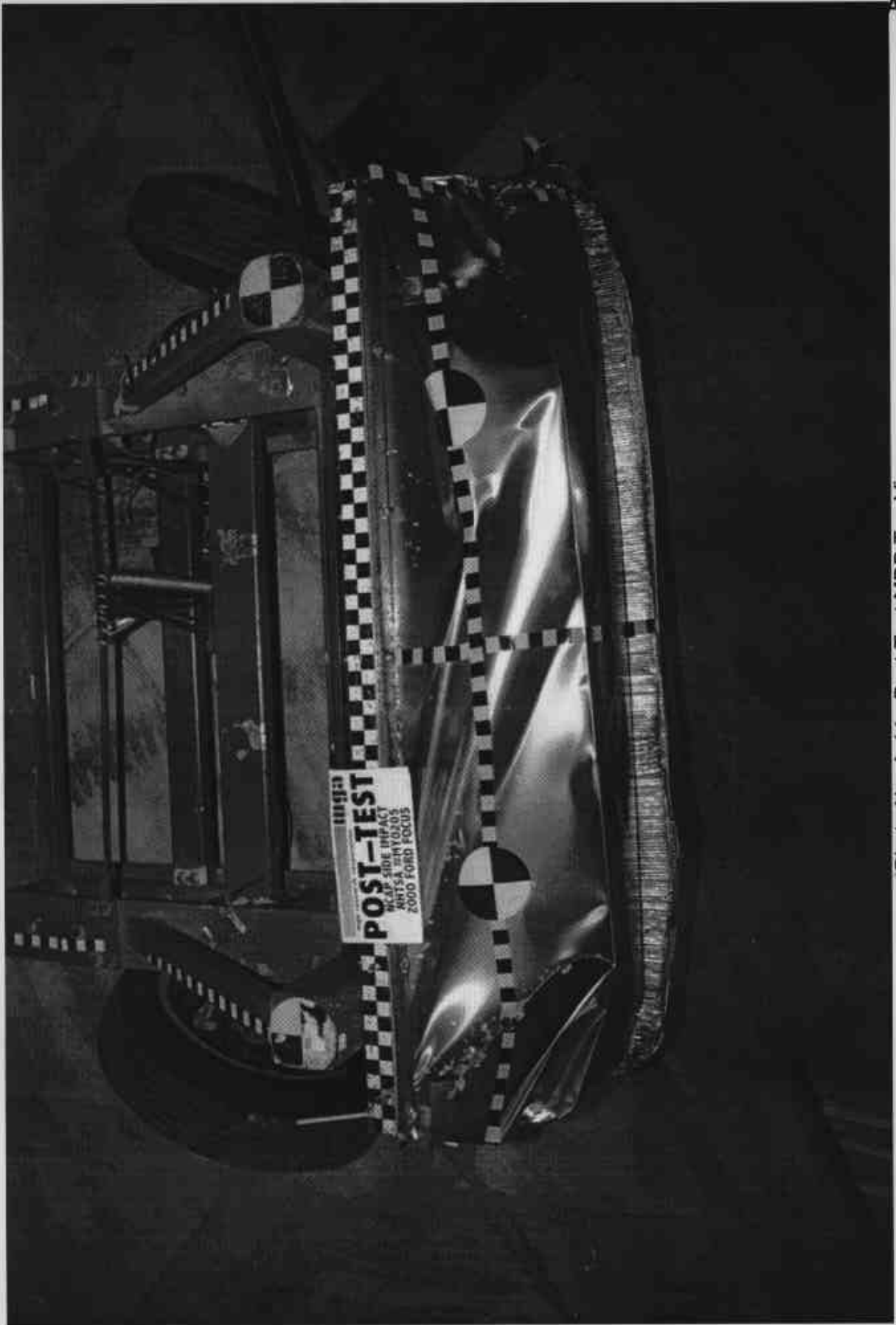


Photo No. A-14 - Post-Test MDB Top View

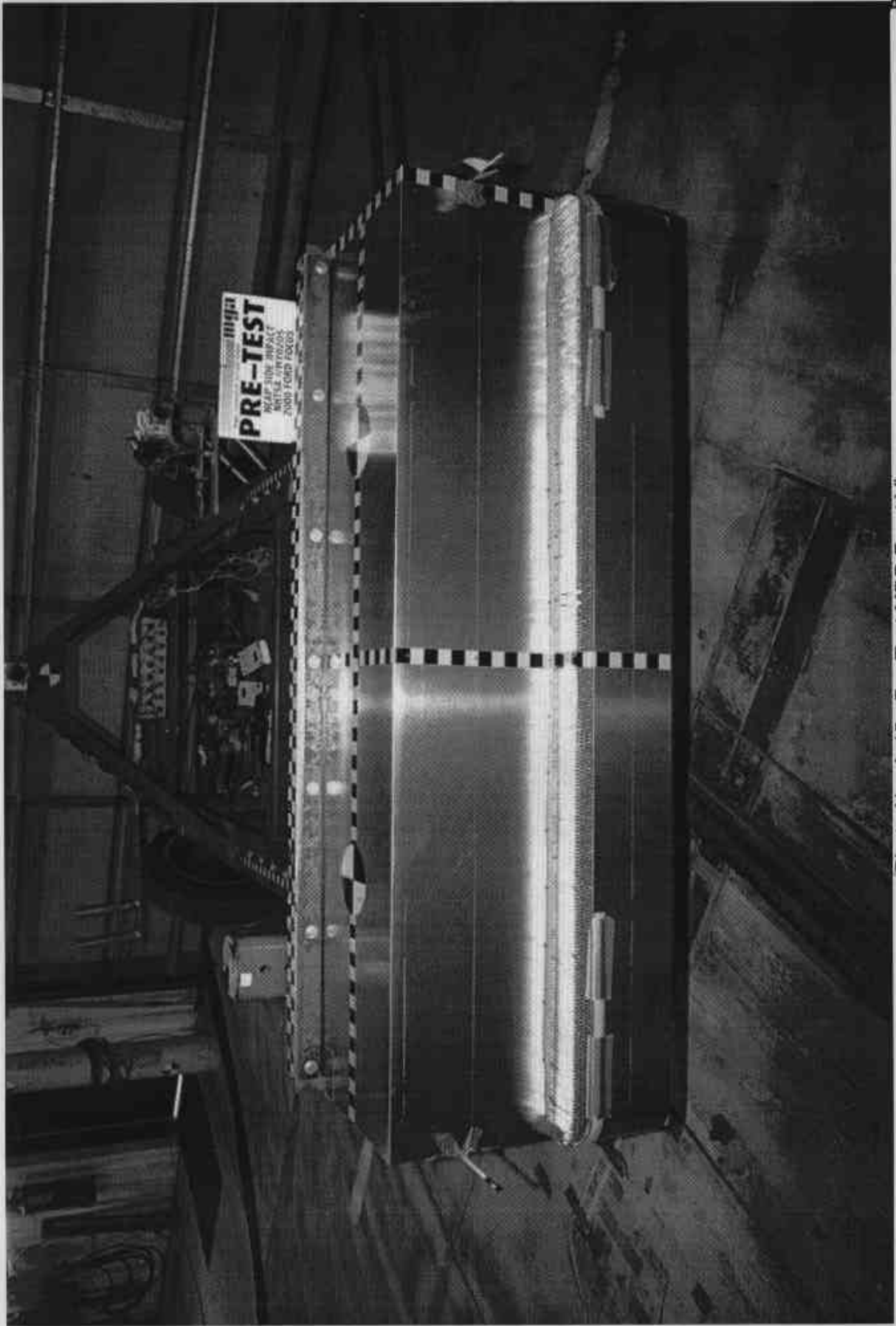


Photo No. A-15 - Pre-Test MDB Front View

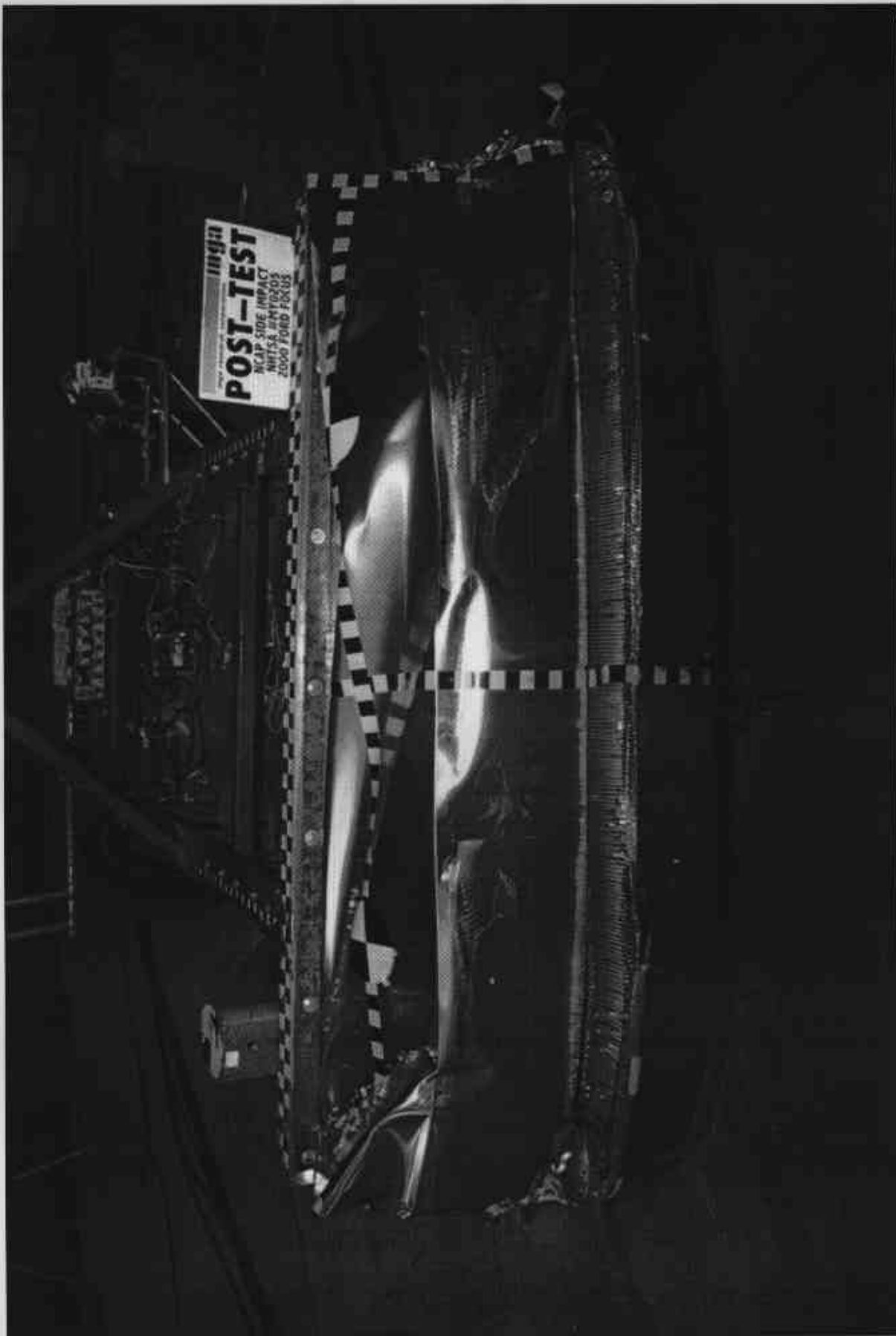


Photo No. A-16 - Post-Test MDB Front View

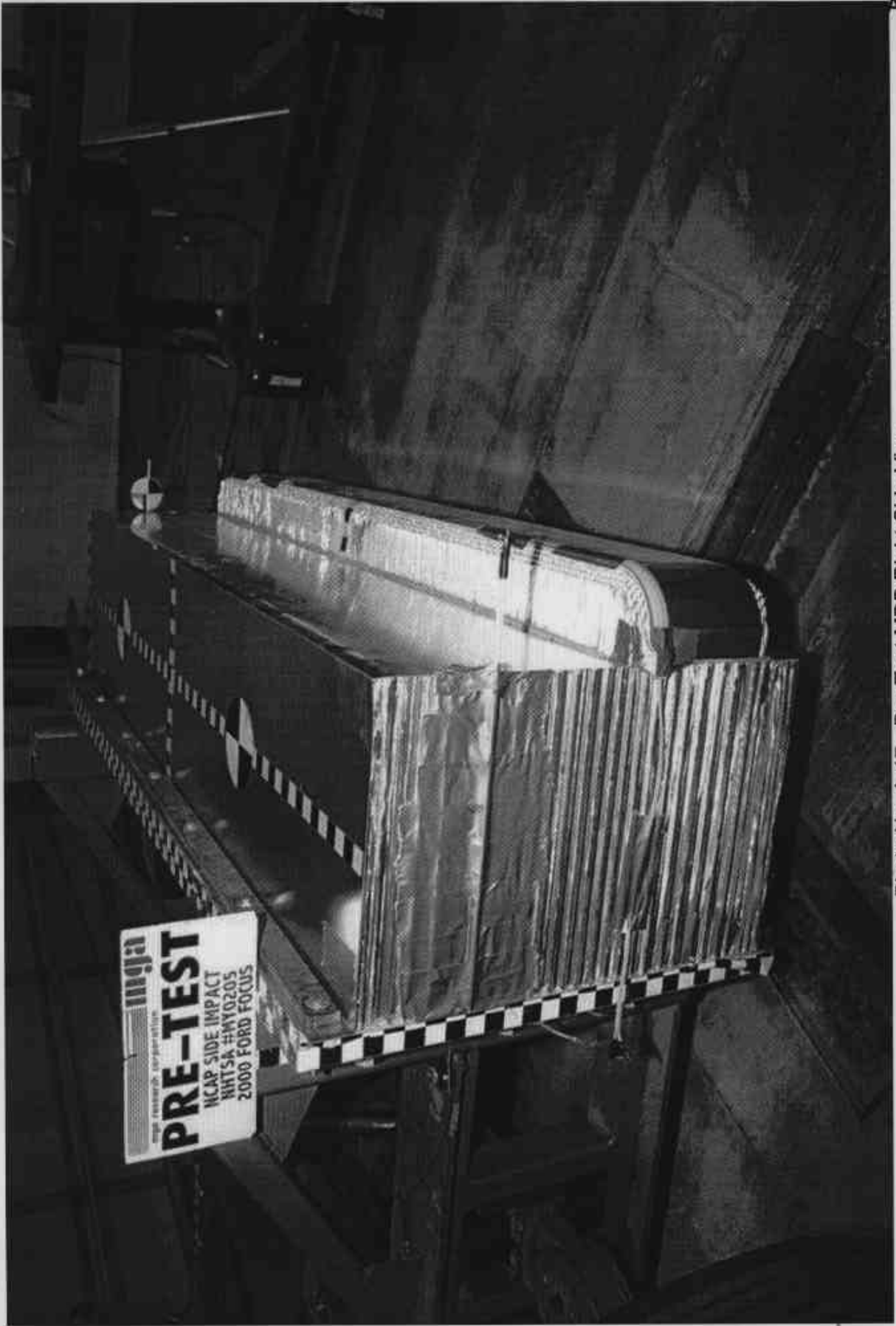


Photo No. A-17 - Pre-Test MDB Right Side View

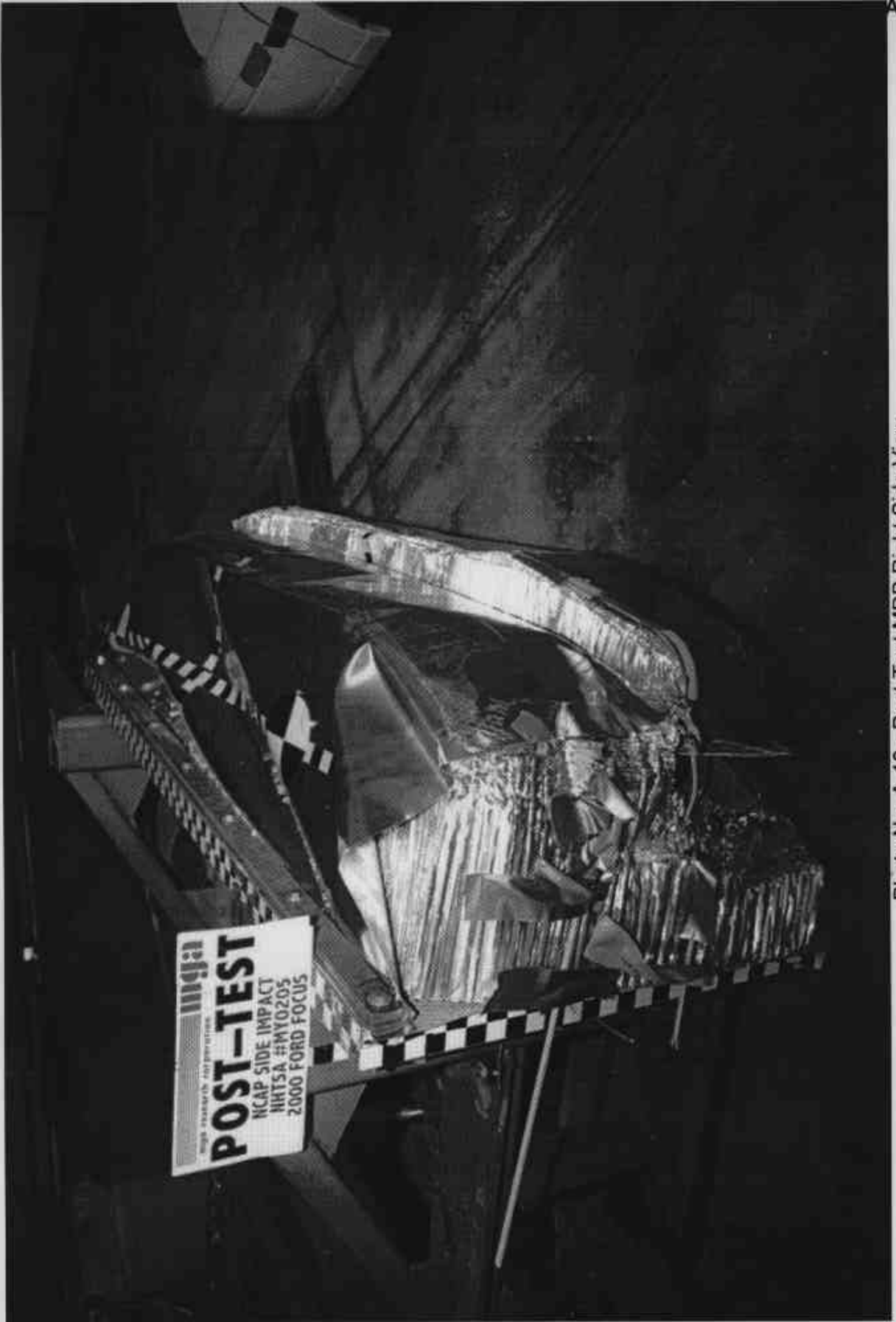


Photo No. A-18 - Post-Test MDB Right Side View



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



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



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



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

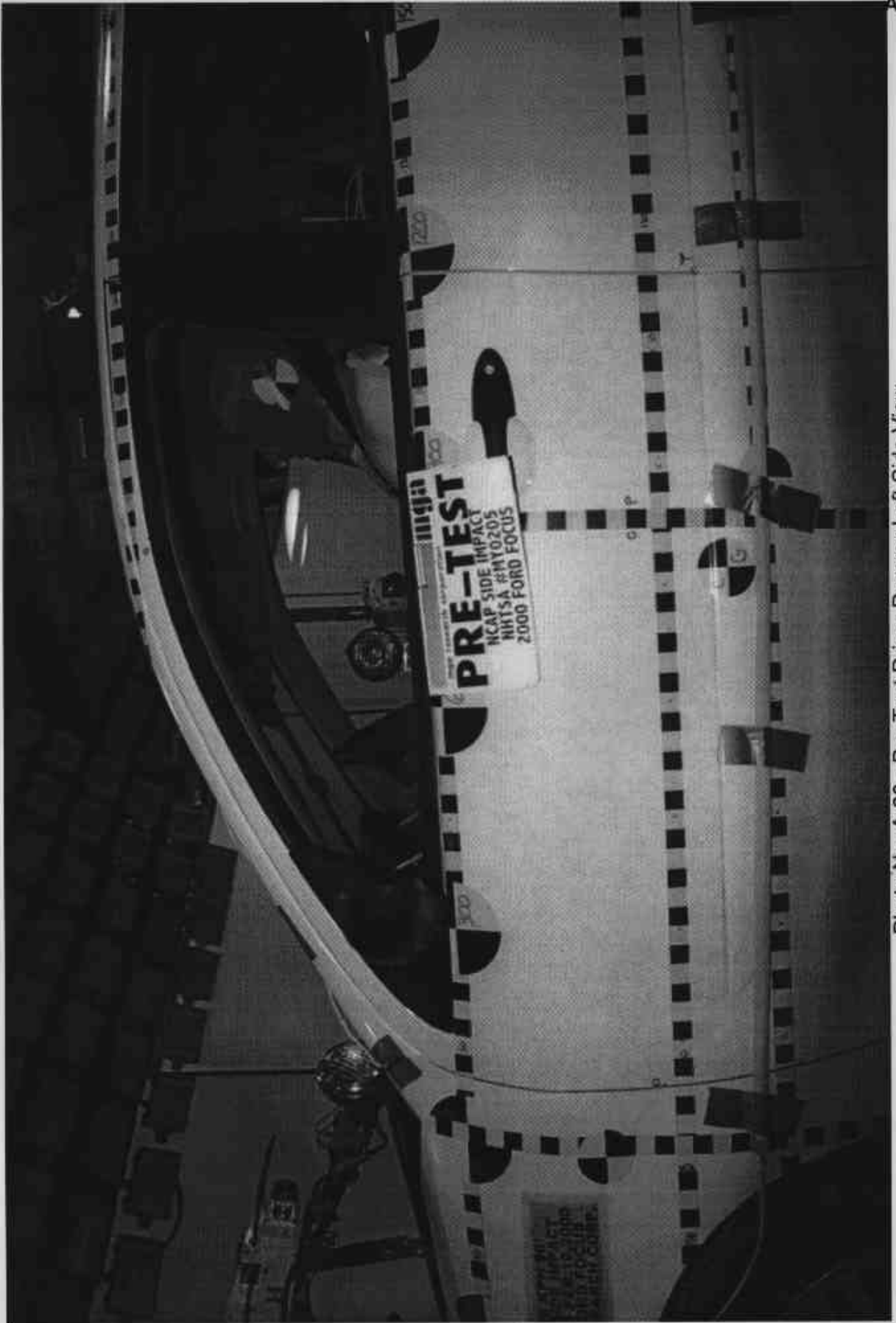


Photo No. A-23 - Pre-Test Driver Dummy Left Side View

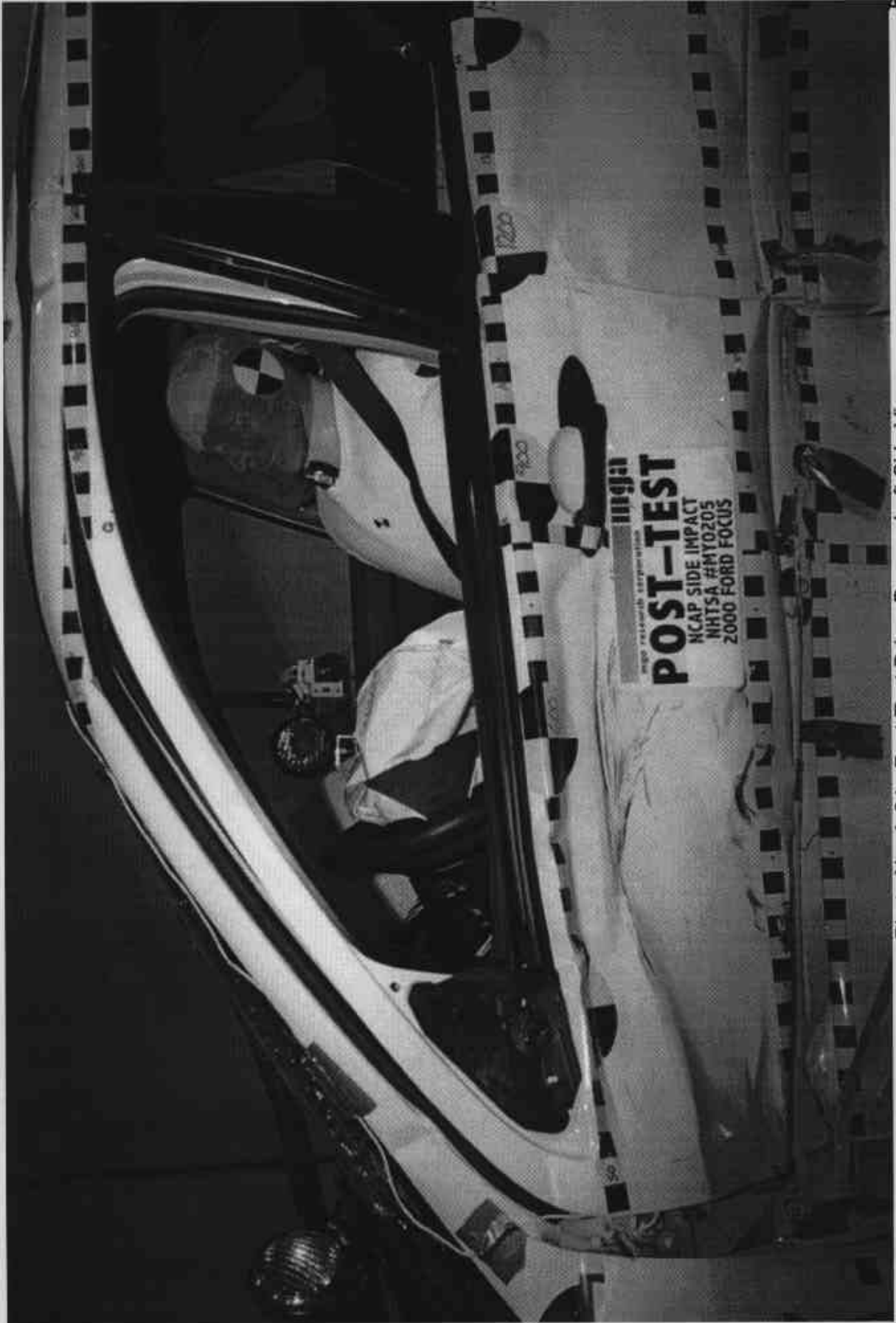


Photo No. A-24 - Post-Test Driver Dummy Left Side View

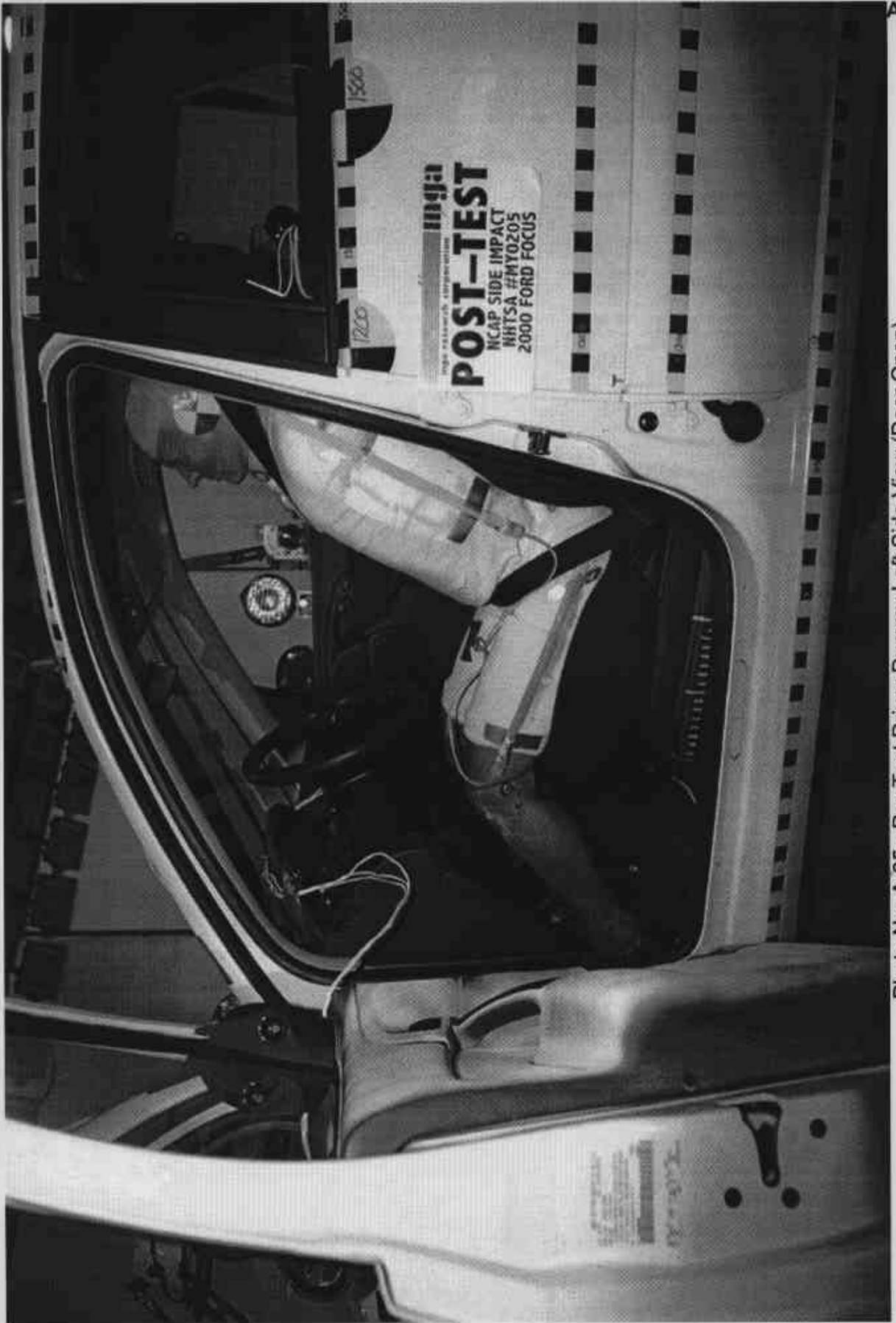


Photo No. A-25 - Pre-Test Driver Dummy Left Side View (Door Open)



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

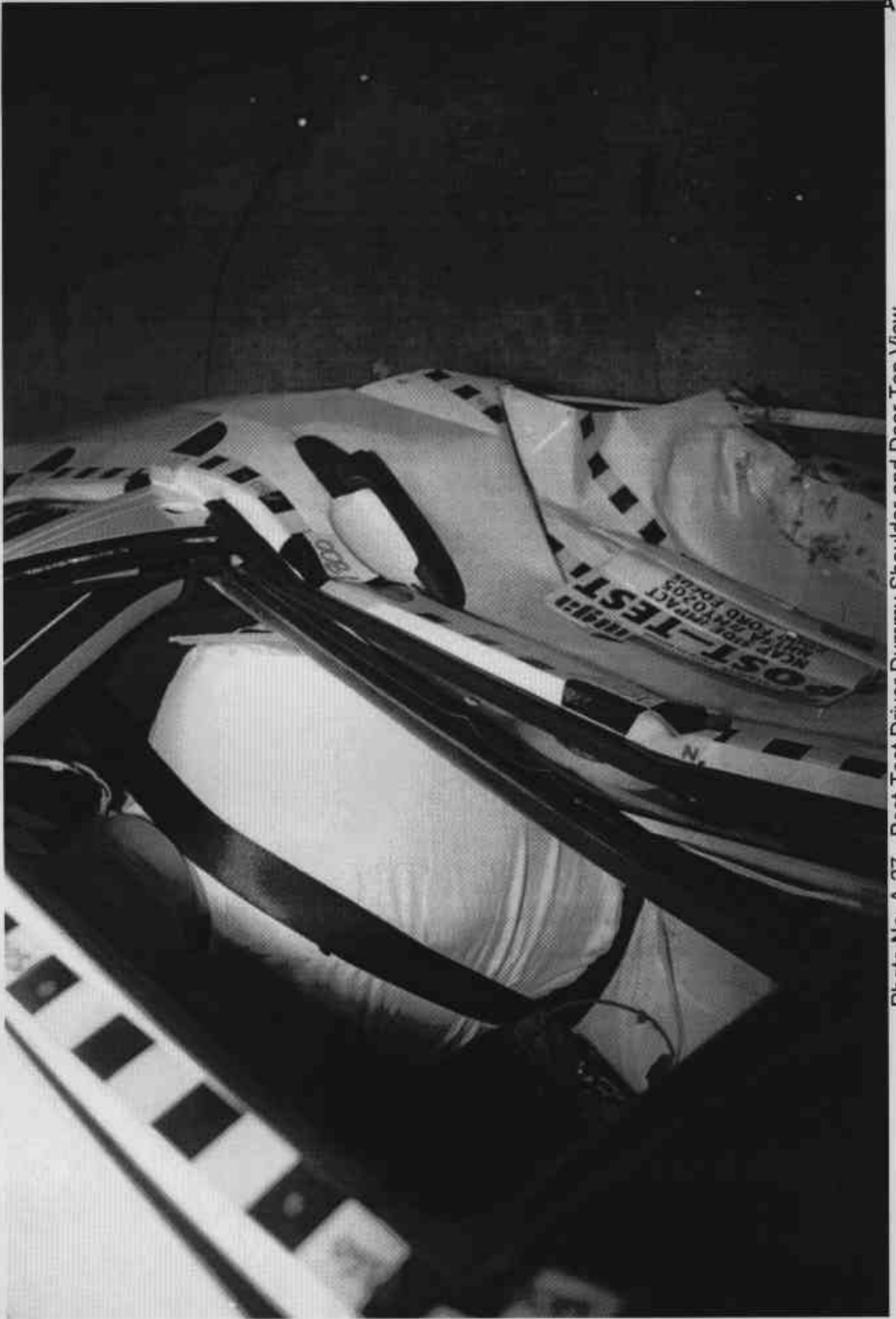


Photo No. A-27 - Post-Test Driver Dummy Shoulder and Door Top View





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



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



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

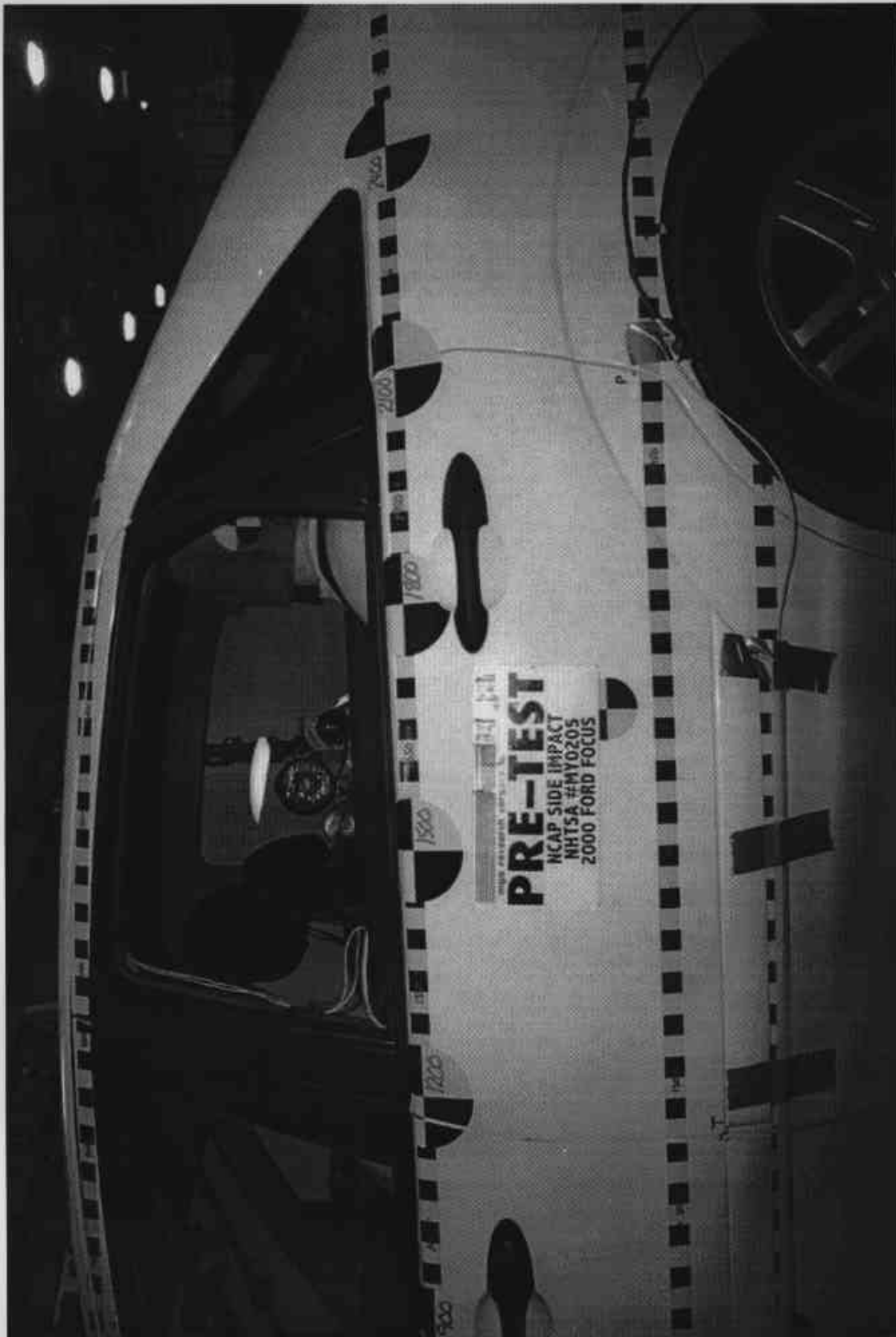


Photo No. A-32 - Pre-Test Passenger Dummy Left Side View

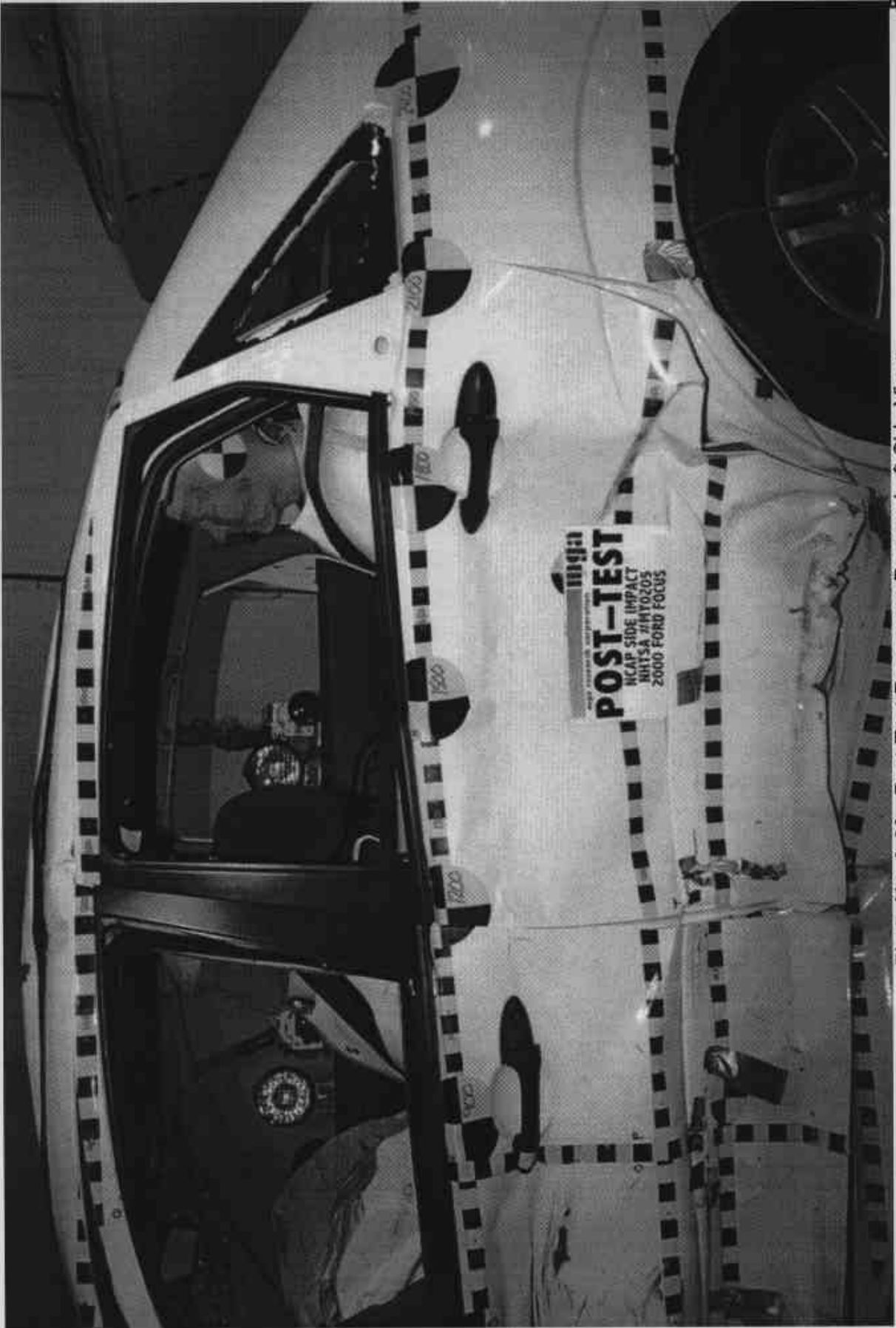


Photo No. A-33 - Post-Test Passenger Dummy Left Side View

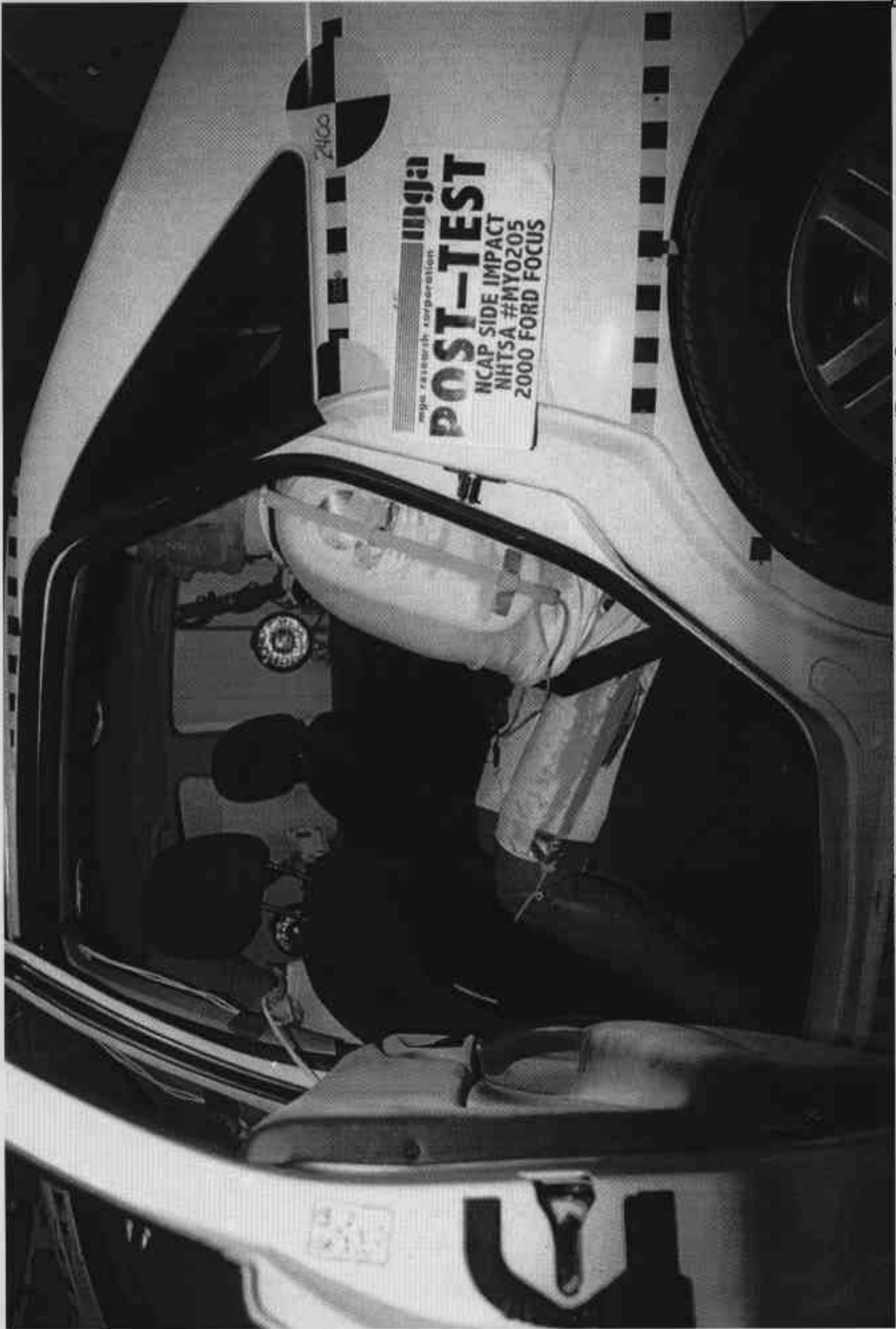


Photo No. A-34 - Pre-Test Passenger Dummy Left Side View (Door Open)



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

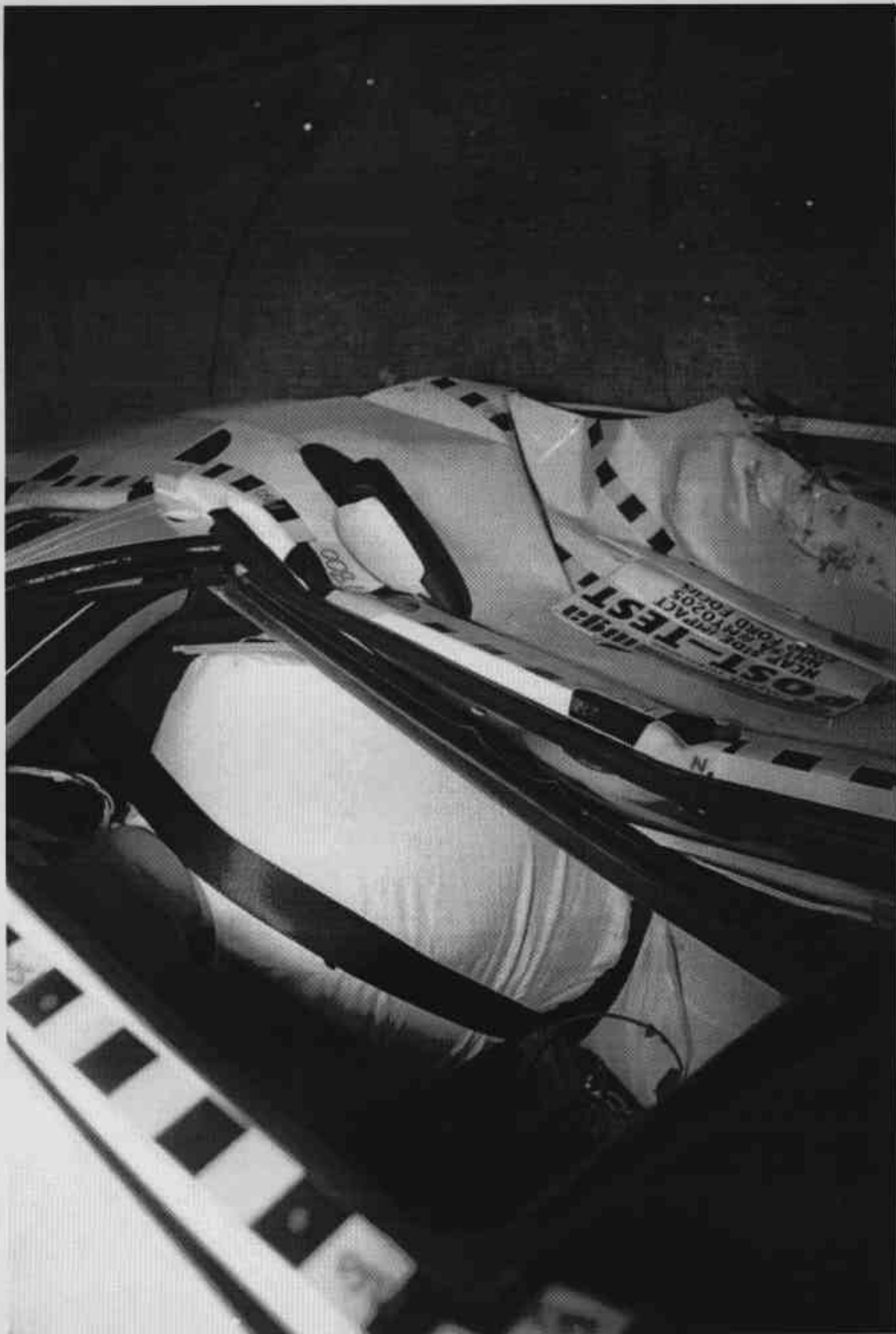


Photo No. A-36 - Post-Test Passenger Dummy Shoulder and Door Top View



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

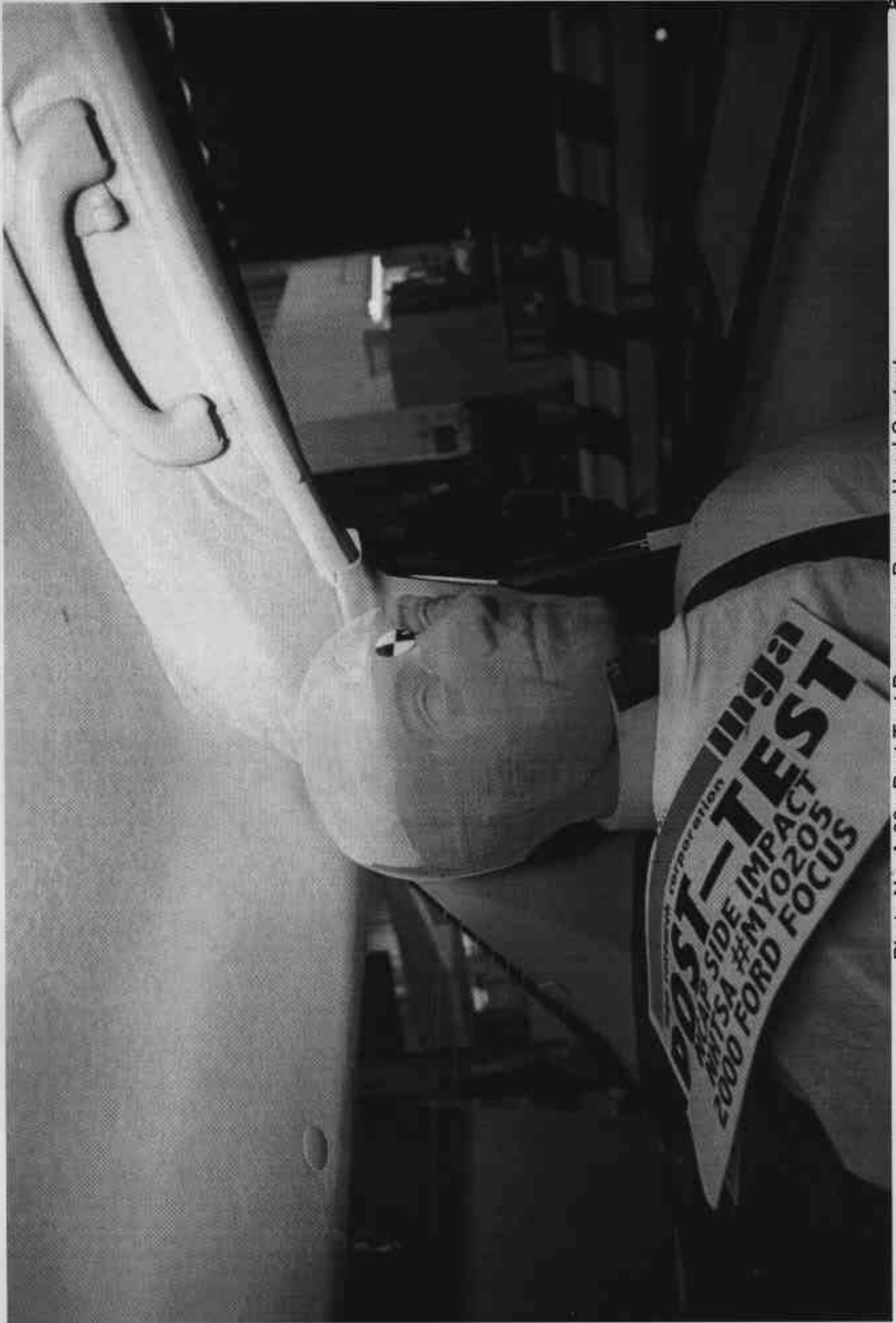


Photo No. A-38 - Post-Test Passenger Dummy Head Contact



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

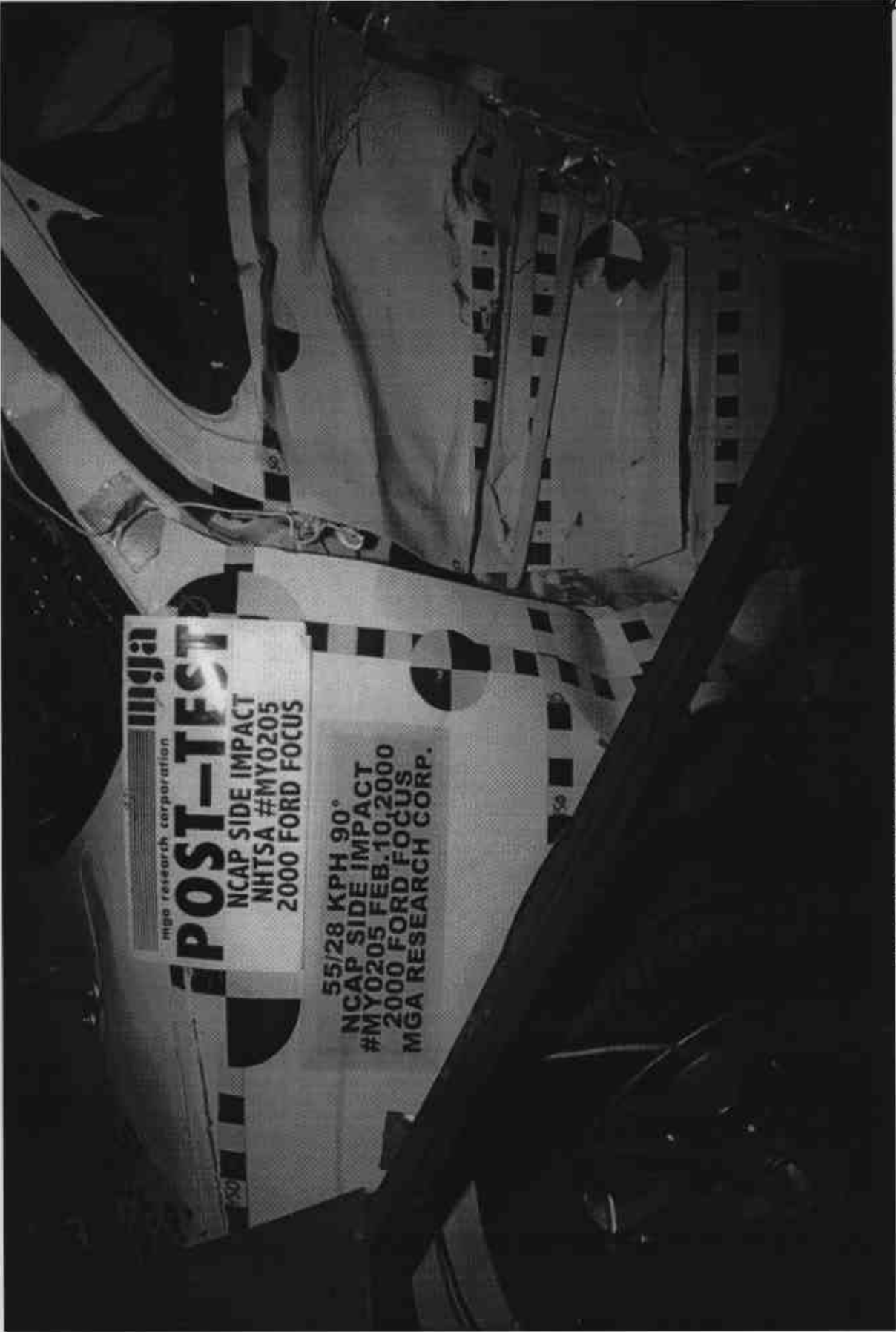
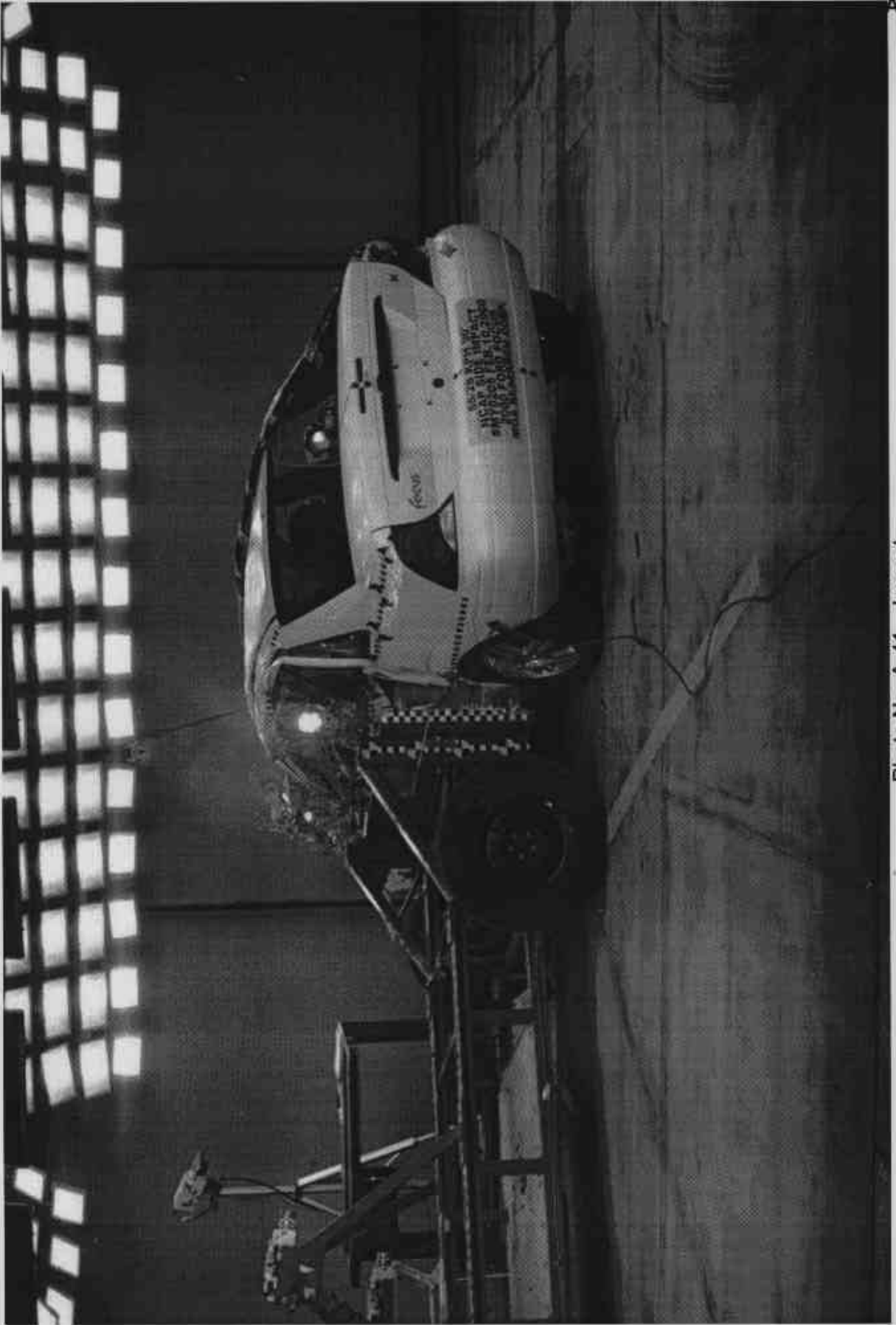


Photo No. A-40 - Post-Test Left Front Impact Point on Vehicle



A-41

Photo No. A-41 - Impact



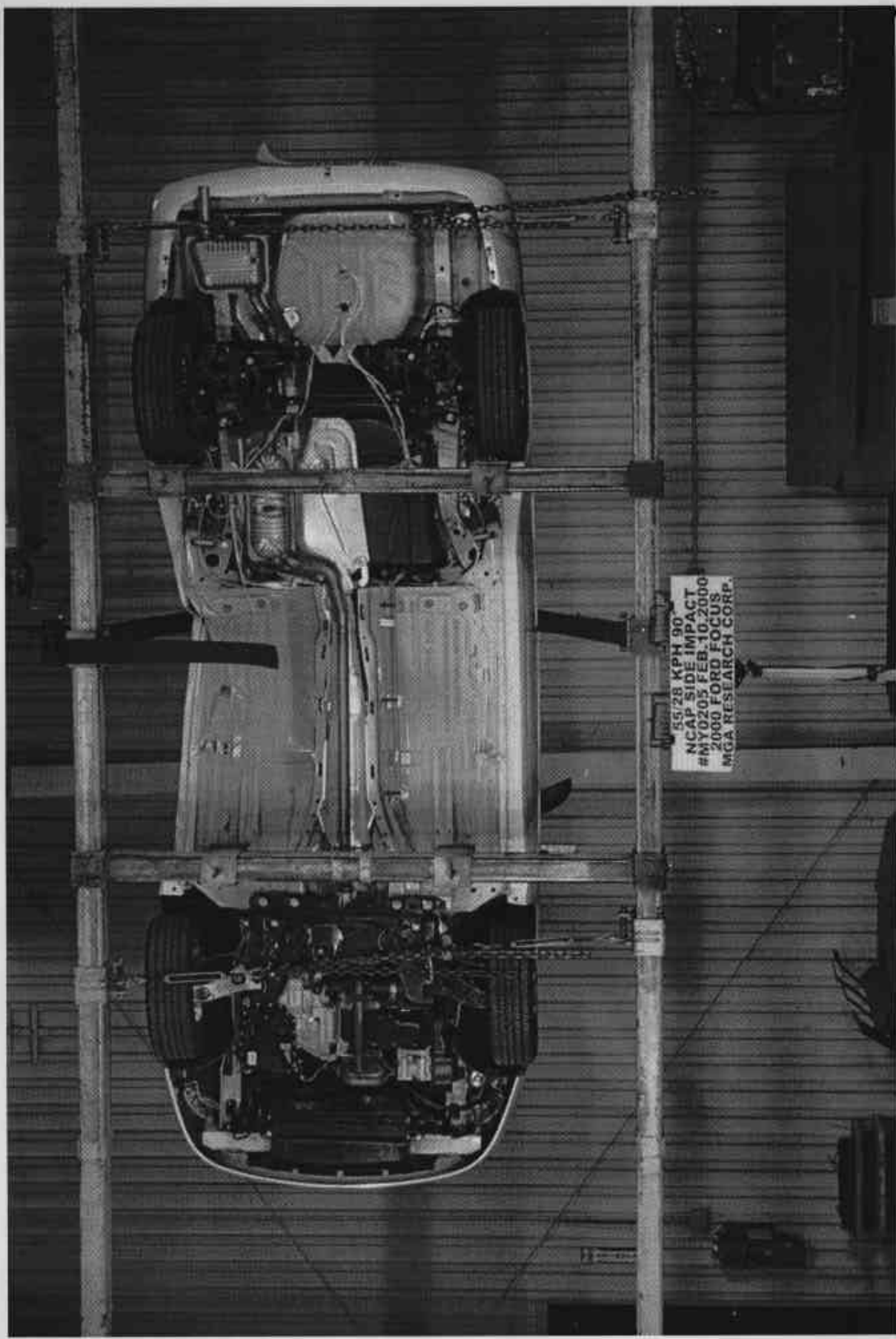


Photo No. A-43 - Rollover 90°

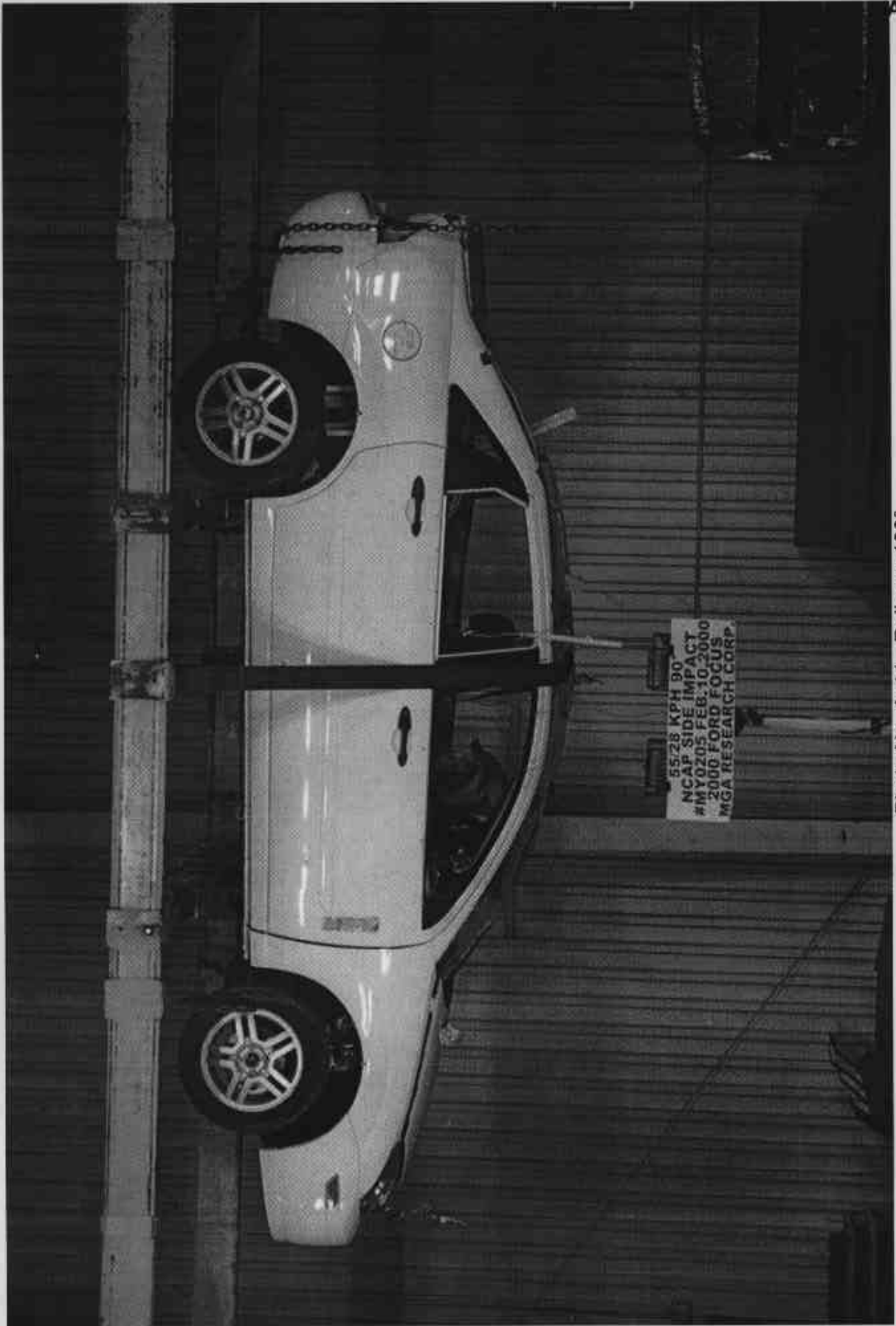
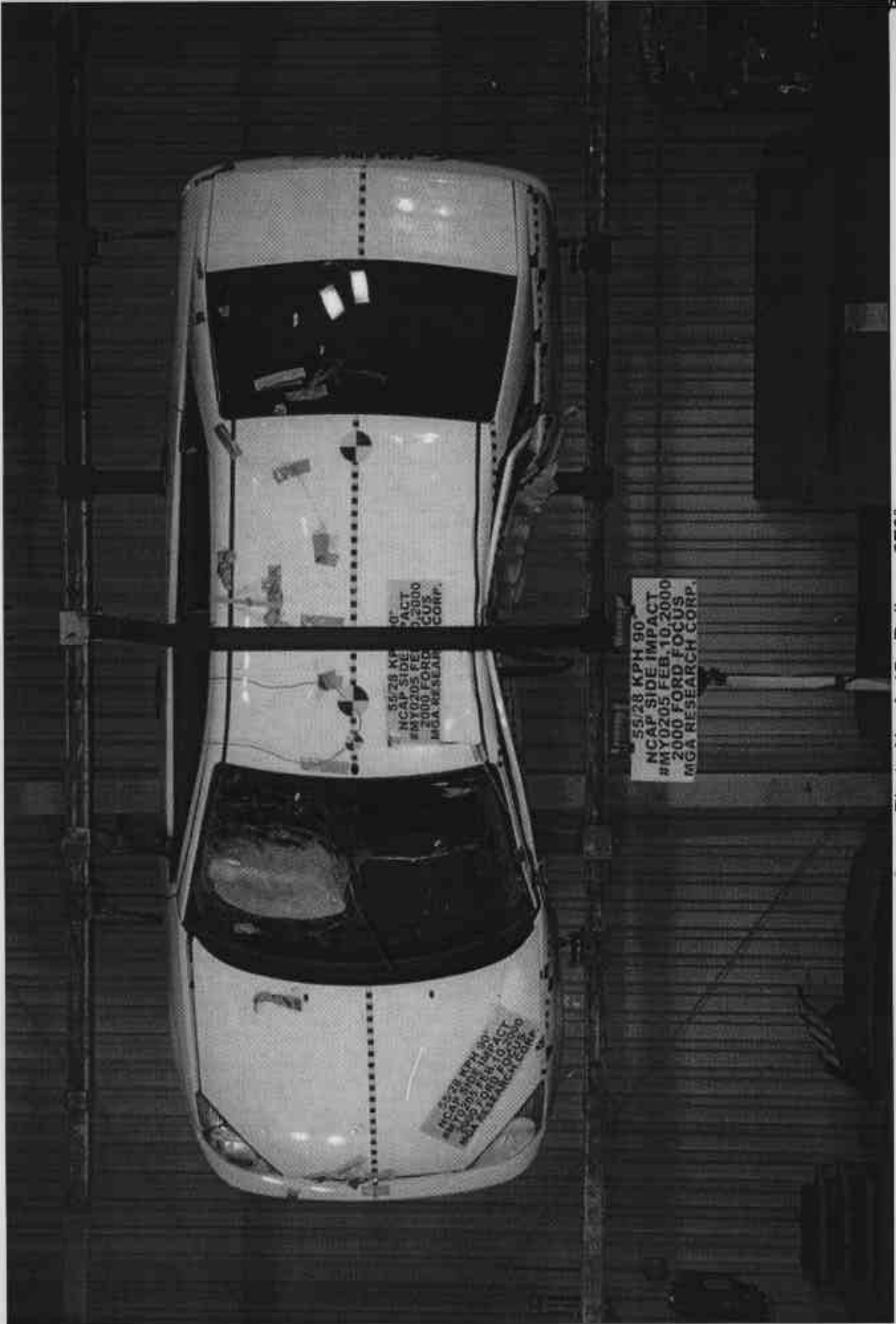


Photo No. A-44 - Rollover 180°

A-44



01  
NCAP SIDE  
#MY0205 FORD  
2000 FORD  
MGA RESEARCH  
CORP.

55/28 KPH  
NCAP SIDE  
#MY0205 FORD  
2000 FORD  
MGA RESEARCH  
CORP.

55/28 KPH  
NCAP SIDE  
#MY0205 FORD  
2000 FORD  
MGA RESEARCH  
CORP.

55/28 KPH 90°  
NCAP SIDE IMPACT  
#MY0205 FEB. 10, 2000  
2000 FORD FOCUS  
MGA RESEARCH CORP.

Photo No. A-45 - Rollover 270°

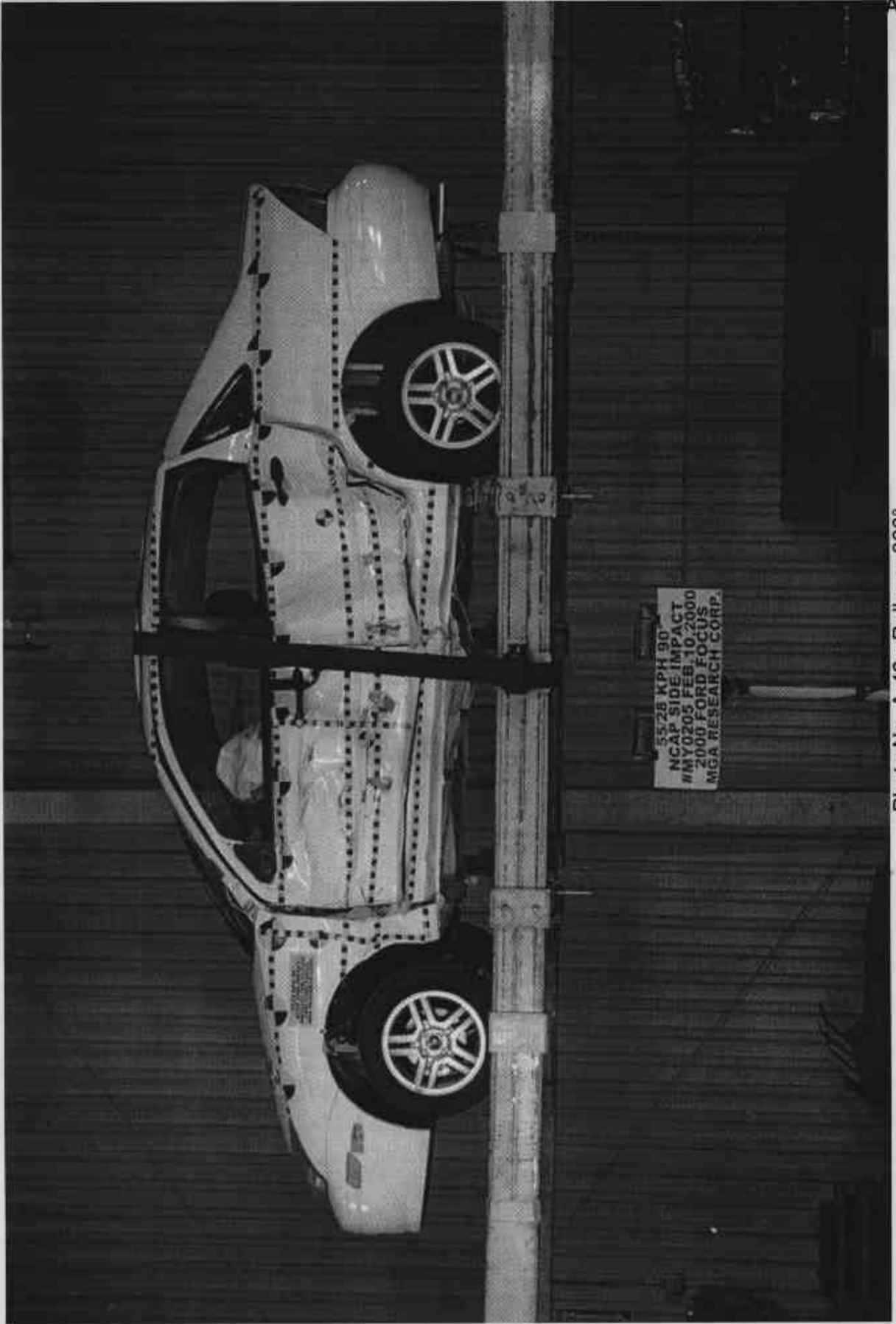


Photo No. A-46 - Rollover 360°

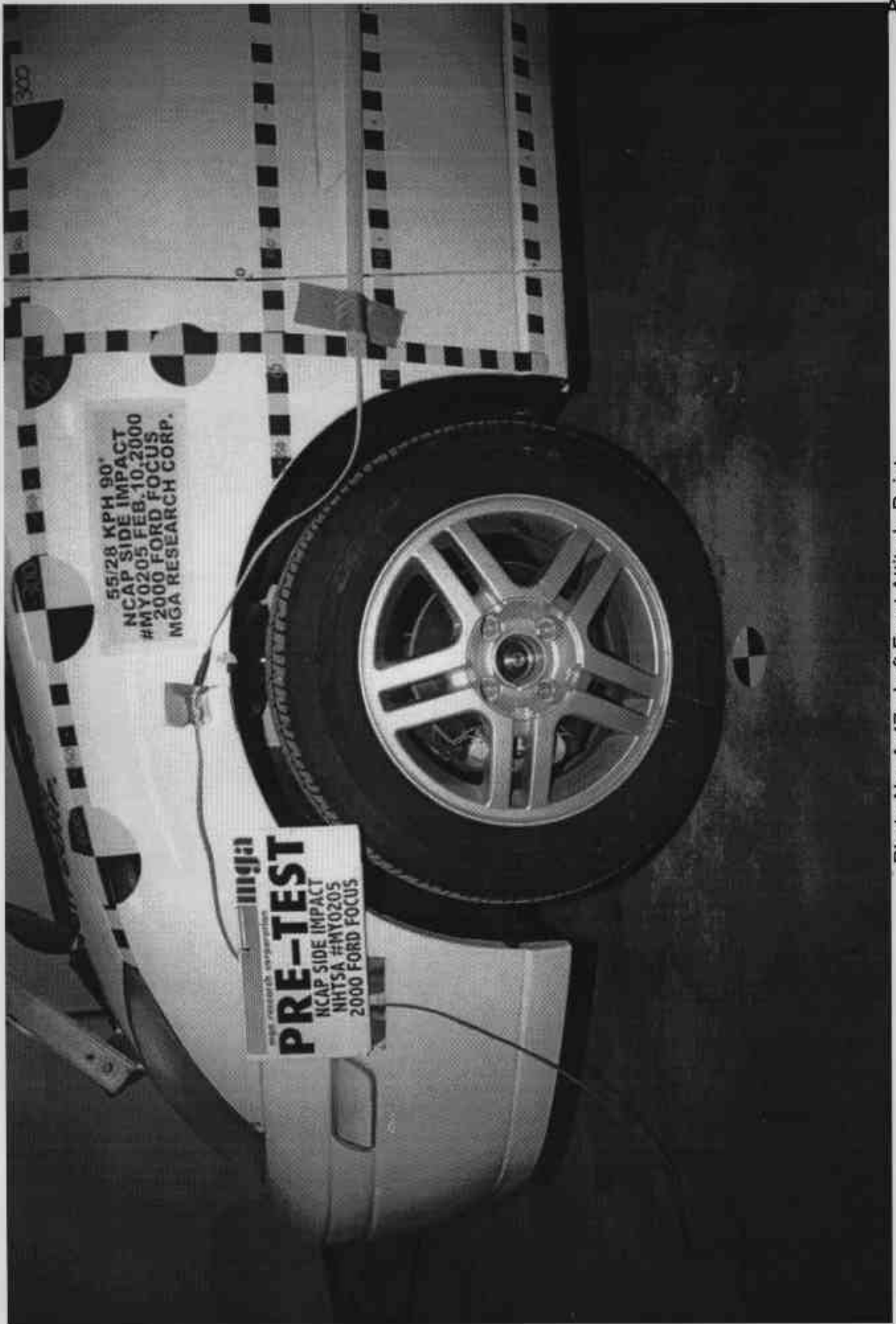


Photo No. A-47 - Left Front Attitude Point



Photo No. A-48 - Right Front Attitude Point

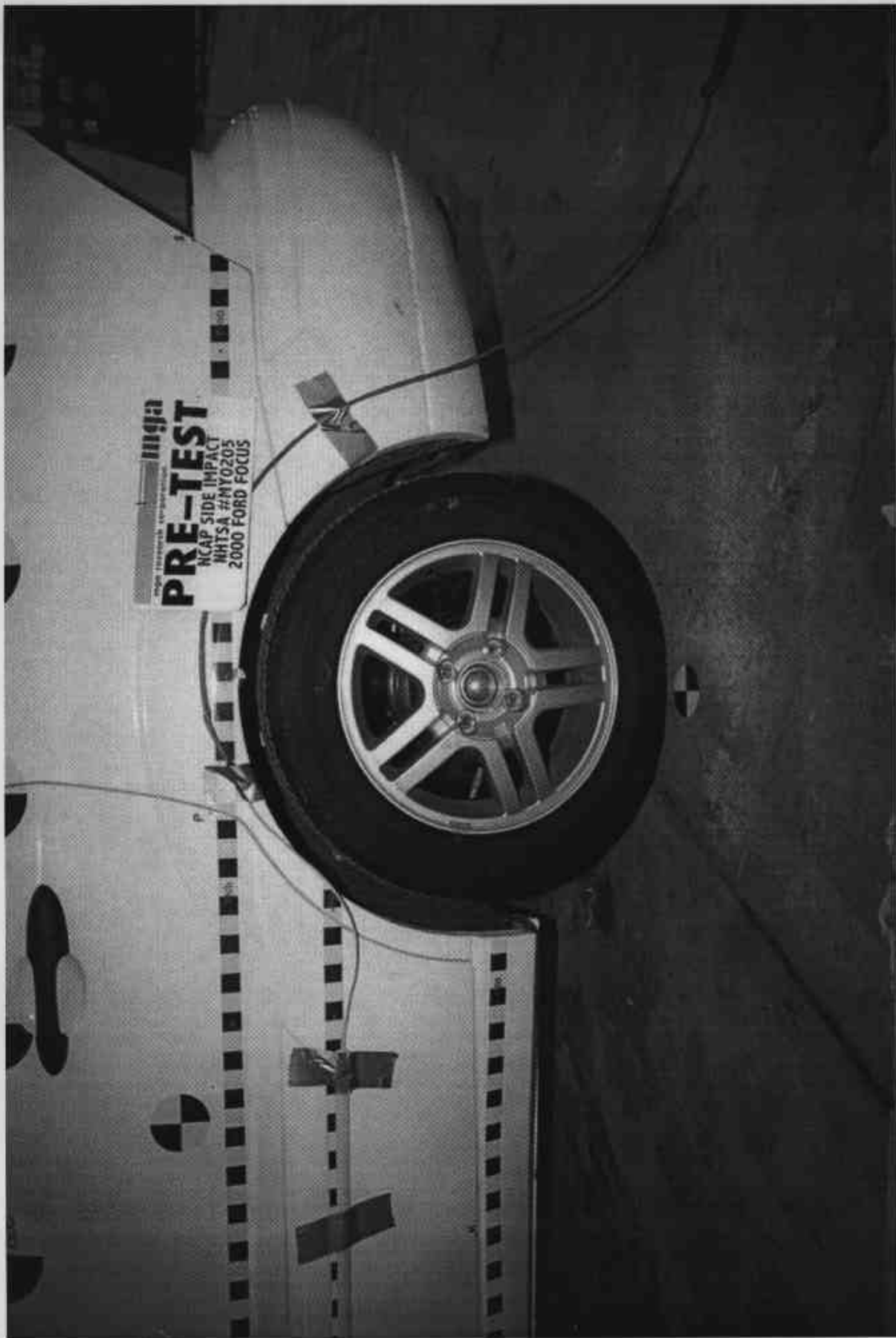


Photo No. A-49 - Left Rear Attitude Point



12.28  
GM  
ST6703400

**PRE-TEST**  
NHTSA #MY0205  
2000 FORD FOCUS

A-50

Photo No. A-50 - Right Rear Attitude Point

**APPENDIX B - VEHICLE AND SID RESPONSE DATA**

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\* Data not valid after approximately 37 msec.

\*\* Data not valid after approximately 23 msec.

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\* Accelerometers broke loose from its mounting at approximately 30 msec.

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### FIR Filtered

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TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

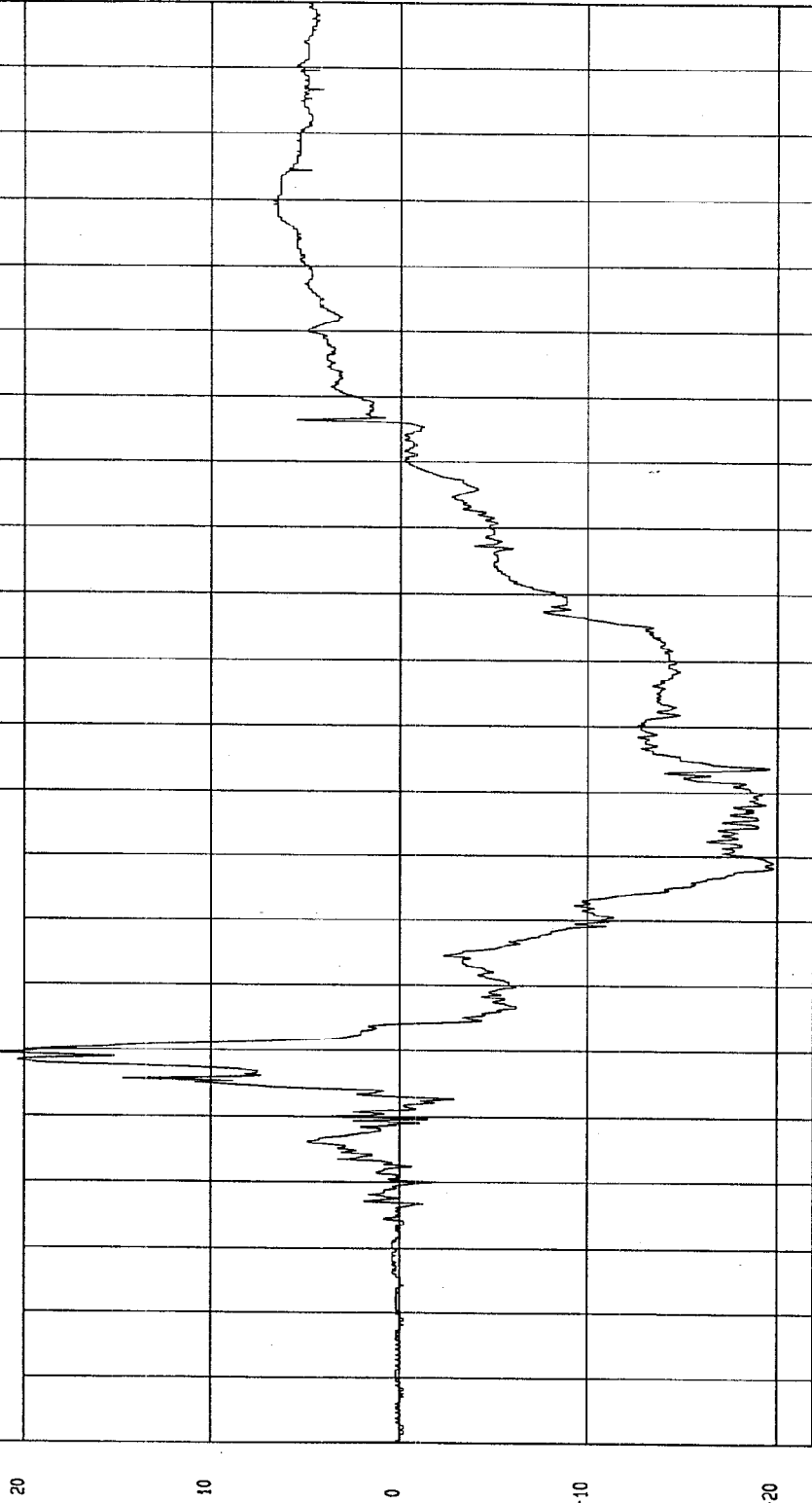
Speed: 38.65 MPH 62.2 KPH

Minimum = -19.82 G'S at 68 msec

Maximum = 21.8 G'S at 39 msec

DRIVER HEAD X ACCELERATION

1 ——— 800011AT.A12 Filterclass (1000)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

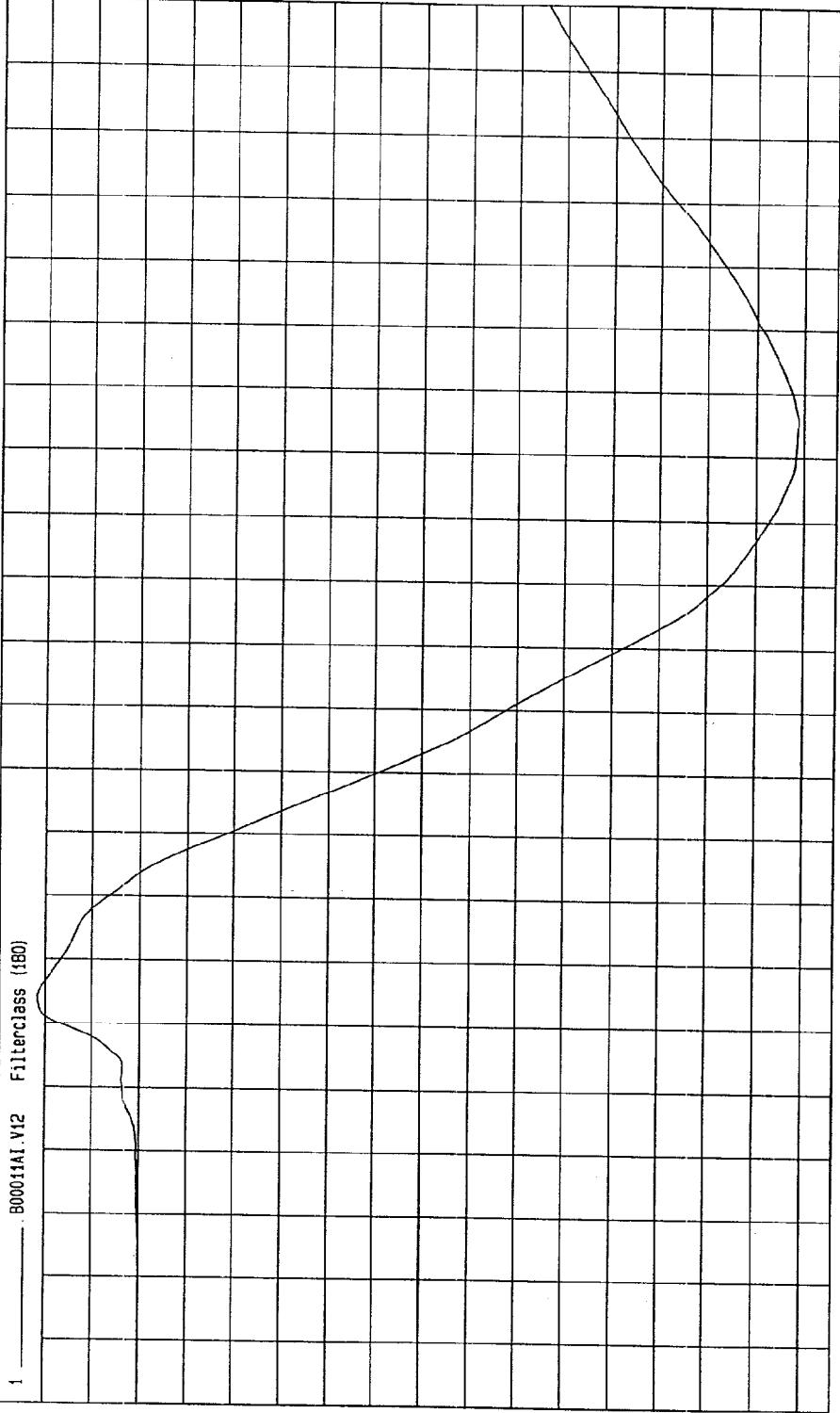
Speed: 38.65 MPH 62.2 KPH

Minimum = -27.76 KPH at 136 msec

Maximum = 4.34 KPH at 44 msec

DRIVER HEAD X VELOCITY

1 ——— 800011A1.V12 FilterClass (180)



4  
2  
0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28

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

KPH

TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

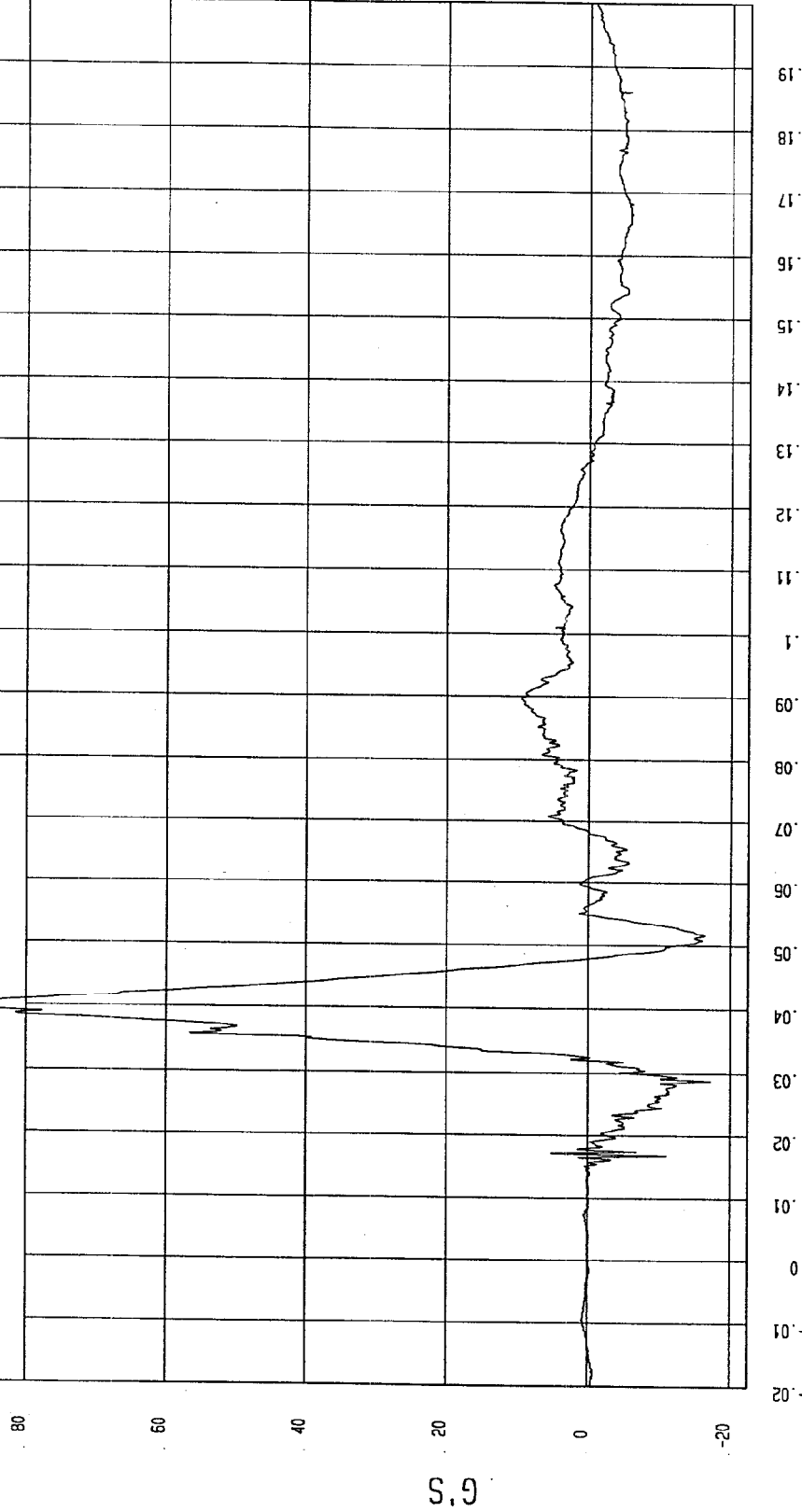
Speed: 38.65 MPH 62.2 KPH

Minimum = -17.21 G'S at 29 msec

Maximum = 89.49 G'S at 40 msec

DRIVER HEAD Y ACCELERATION

1 \_\_\_\_\_ 800011AT.A13 Filterclass (1000)



MCA Research  
02-10-2000 16:48

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

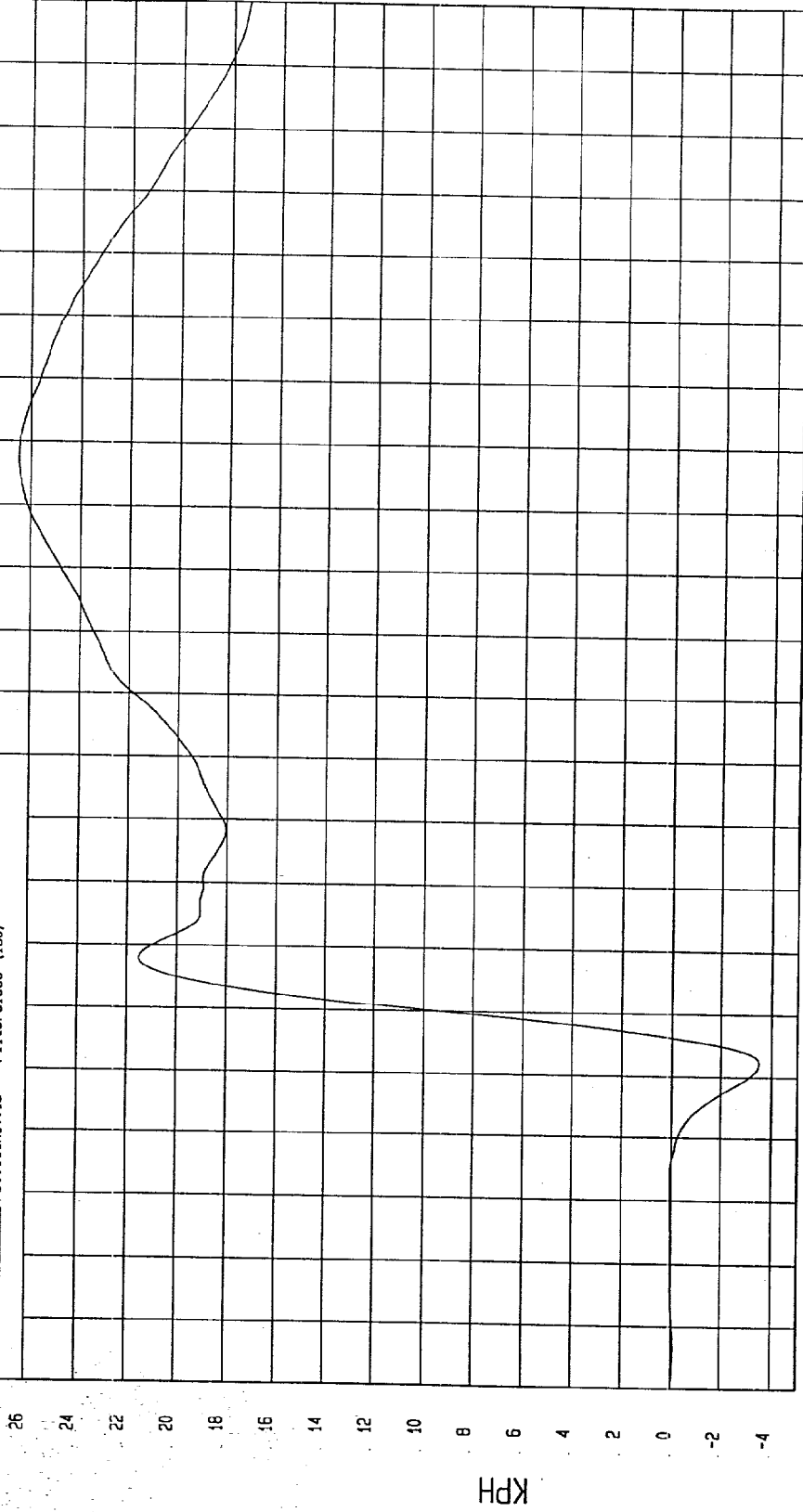
Speed: 38.65 MPH 62.2 KPH

Minimum = -3.5 KPH at 32 msec

Maximum = 26.49 KPH at 127 msec

DRIVER HEAD Y VELOCITY

1 — .800011A1.V13 Filterclass (180)



TIME Seconds

MGA Research  
02-10-2000 16:48

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

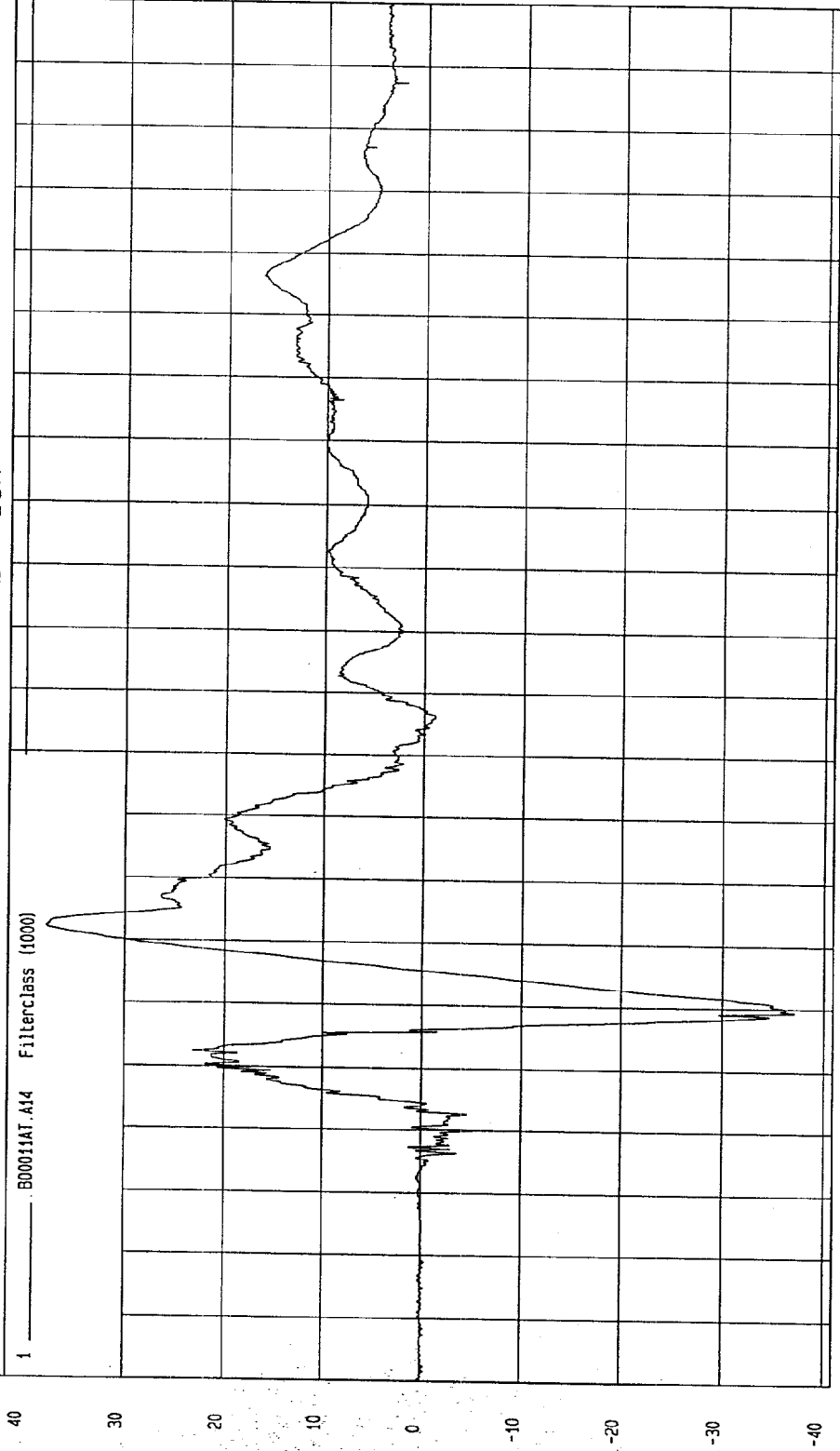
Speed: 38.65 MPH 62.2 KPH

Minimum = -37.13 G'S at 39 msec

Maximum = 37.89 G'S at 52 msec

DRIVER HEAD Z ACCELERATION

1 800011AT.A14 Filterclass (4000)



MEV Research  
02-10-2000 16:48

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

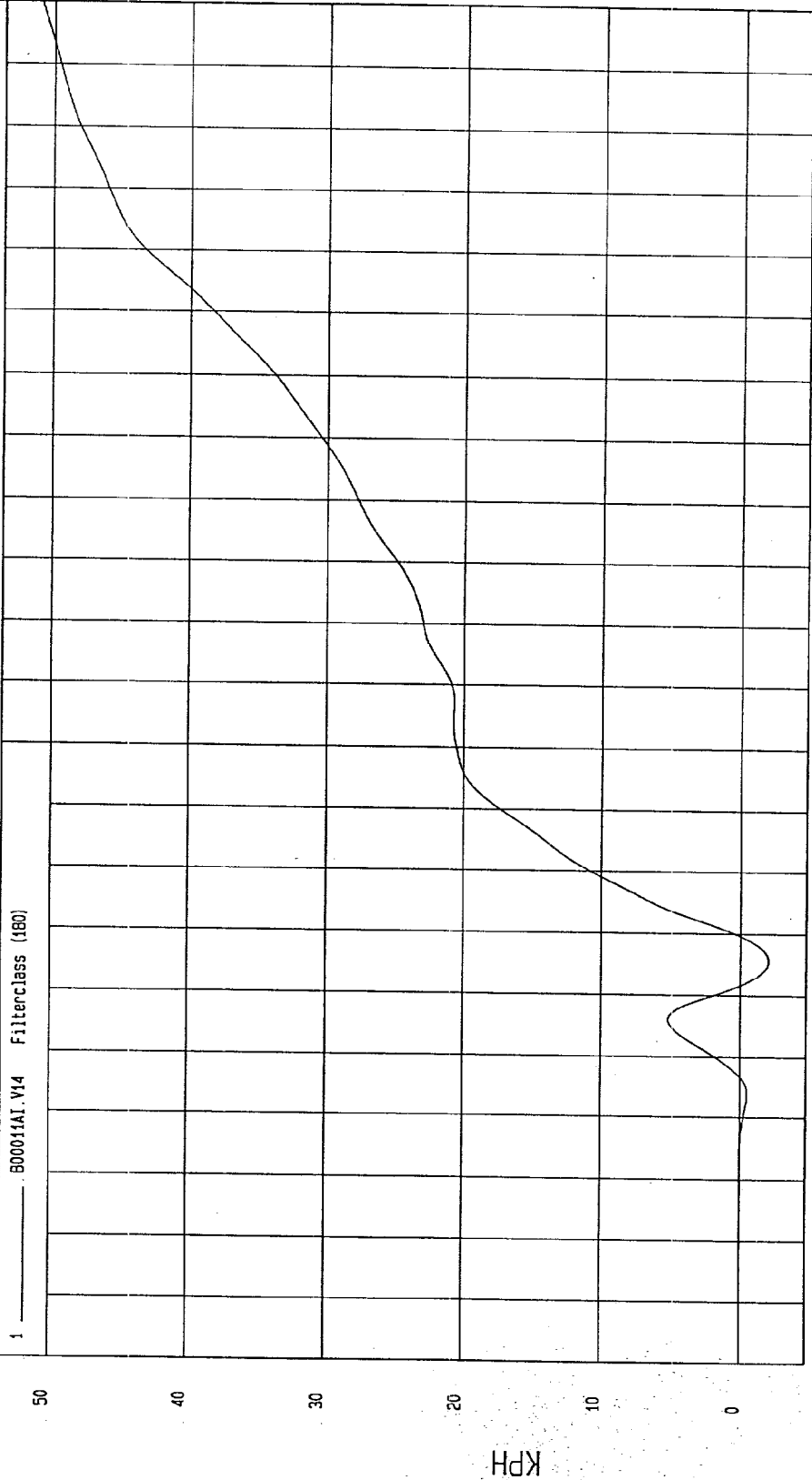
Speed: 38.65 MPH 62.2 KPH

Minimum = -1.99 KPH at 46 msec

Maximum = 50.9 KPH at 200 msec

DRIVER HEAD Z VELOCITY

1 800011A1.V14 Filterclass (180)



KPH

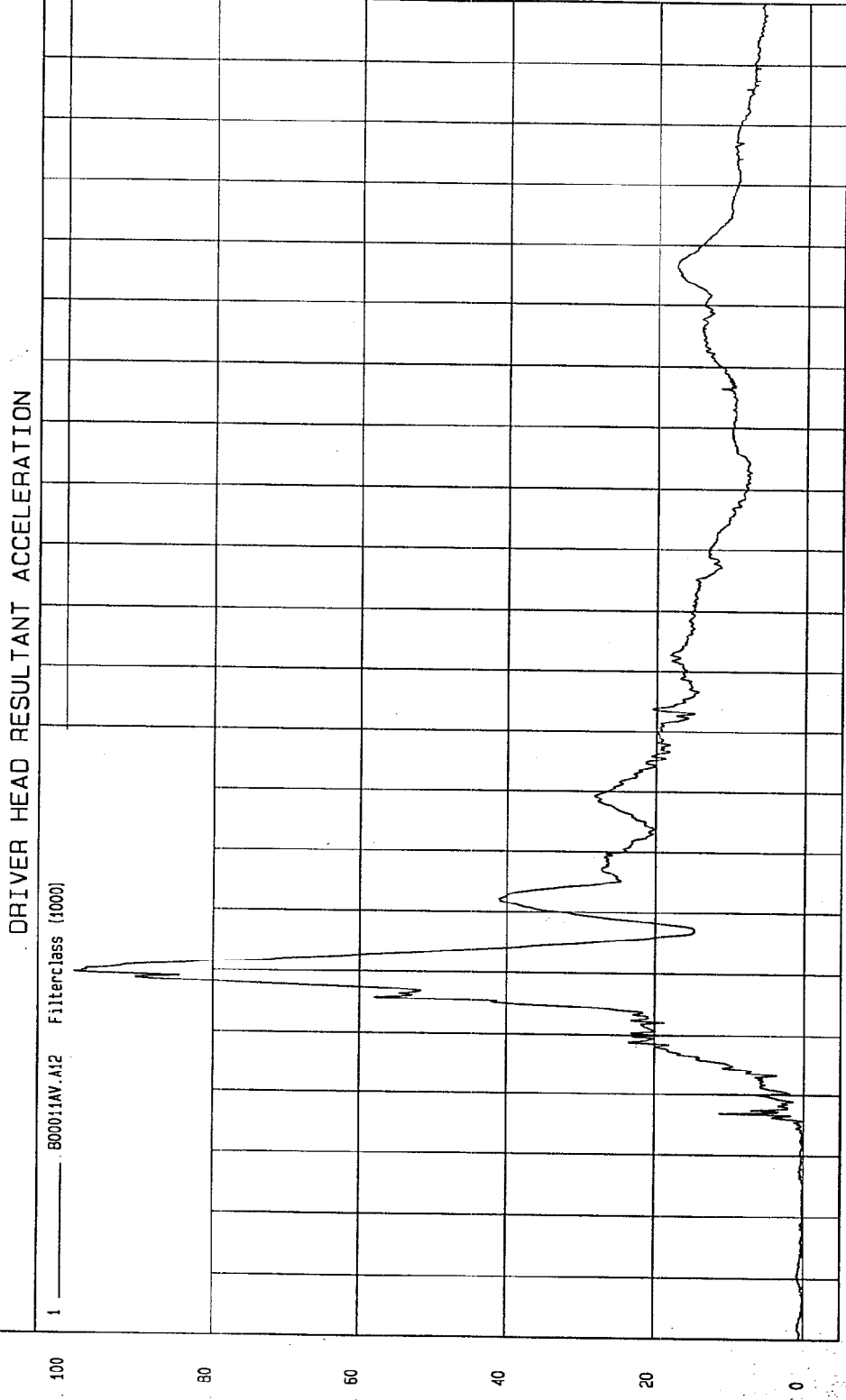
TIME Seconds

MCA Research  
02-10-2000 16:48

TEST: NCAP SIDE IMPACT      TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)      Speed: 38.65 MPH 62.2 KPH

Minimum = .12 G'S at -14 msec      Maximum = 98.88 G'S at 40 msec



TIME (SECONDS)

MSA Research  
02-10-2000 16:48

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

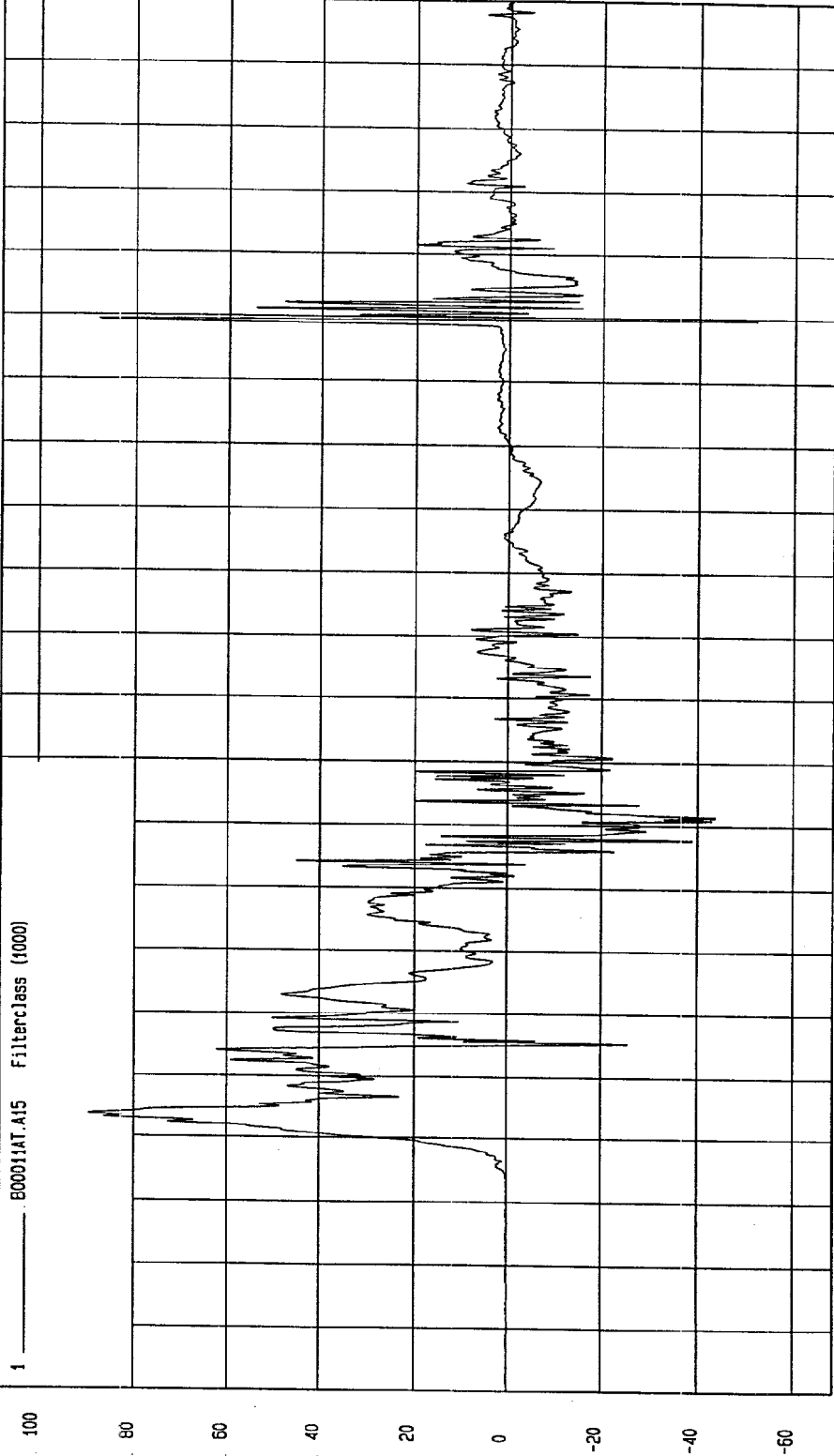
Speed: 38.65 MPH 62.2 KPH

Minimum = -84.88 G'S at 150 msec

Maximum = 89.55 G'S at 24 msec

DRIVER UPPER RIB Y ACCELERATION

1 800011AT.A15 Filterclass (1000)



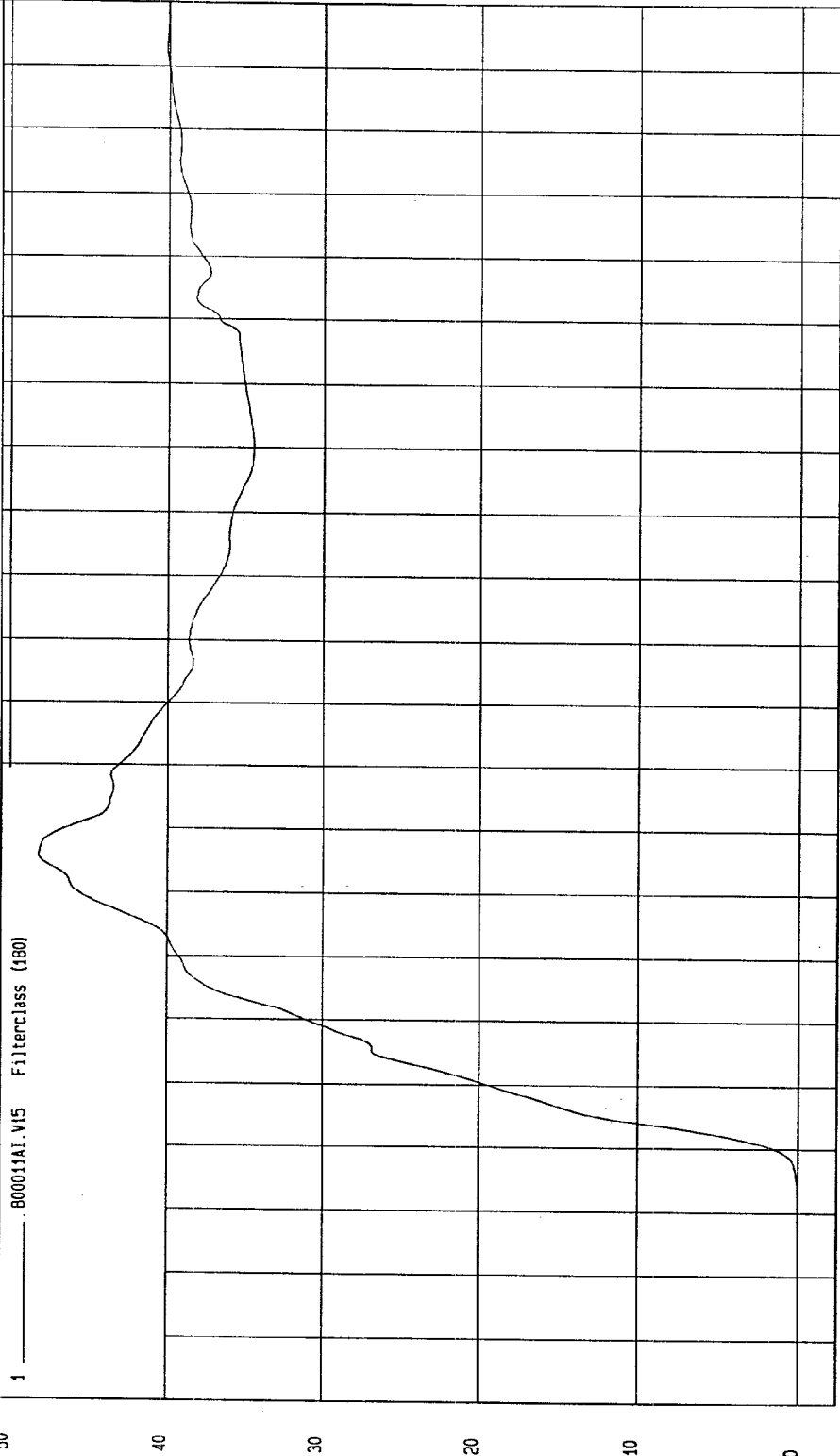
TIME (SECONDS)

MSA Research  
02-14-2000 11:33

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -2.45E-03 KPH at -19 msec  
Maximum = 48.17 KPH at 66 msec

DRIVER UPPER RIB Y VELOCITY



TIME Seconds

NSA Research  
02-10-2000 16:49

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

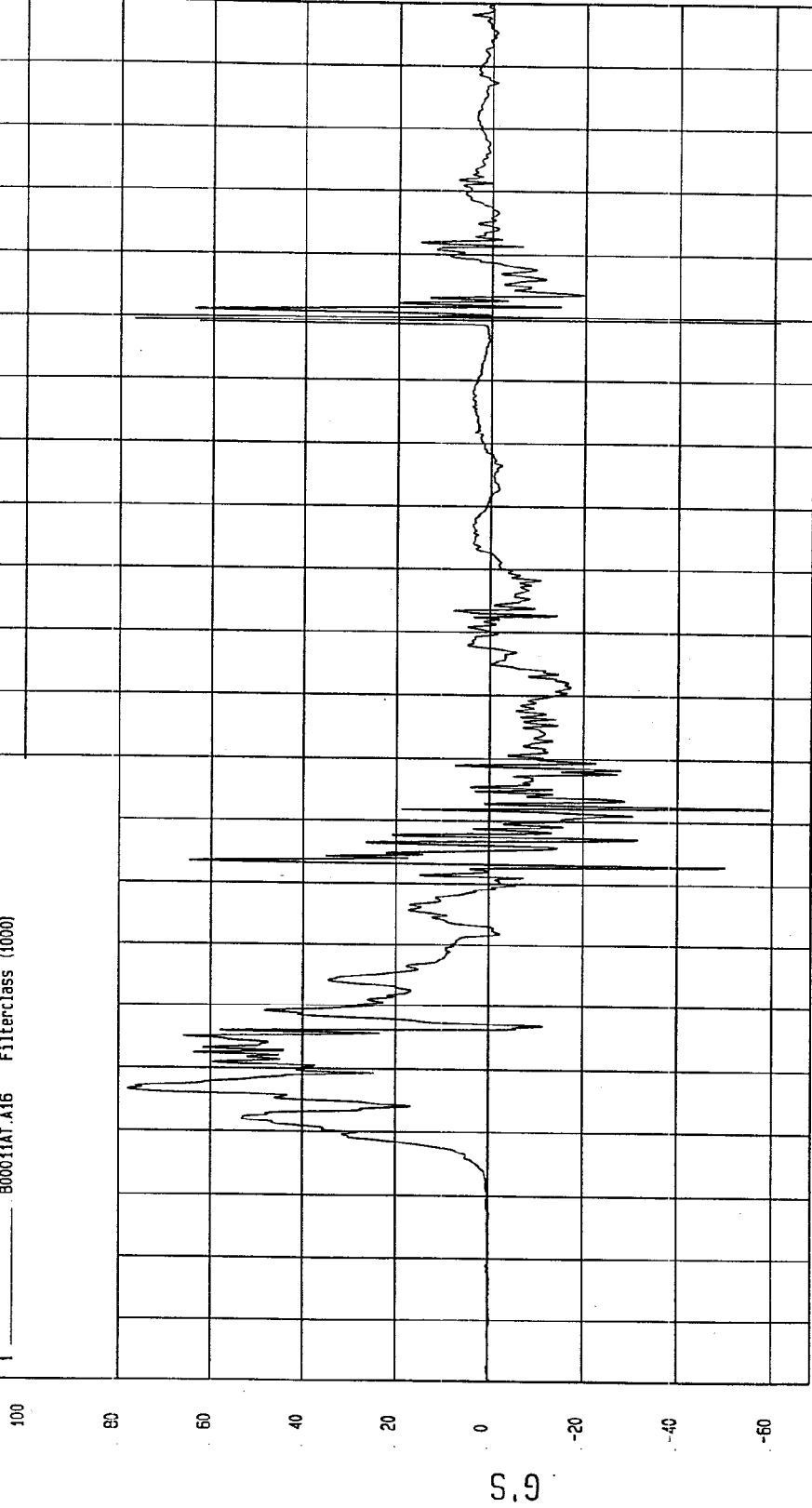
Speed: 38.65 MPH 62.2 KPH

Minimum = -103.27 G'S at 150 msec

Maximum = 139.8 G'S at 149 msec

DRIVER LOWER RIB Y ACCELERATION

1 800011AT.A16 FilterClass (1000)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

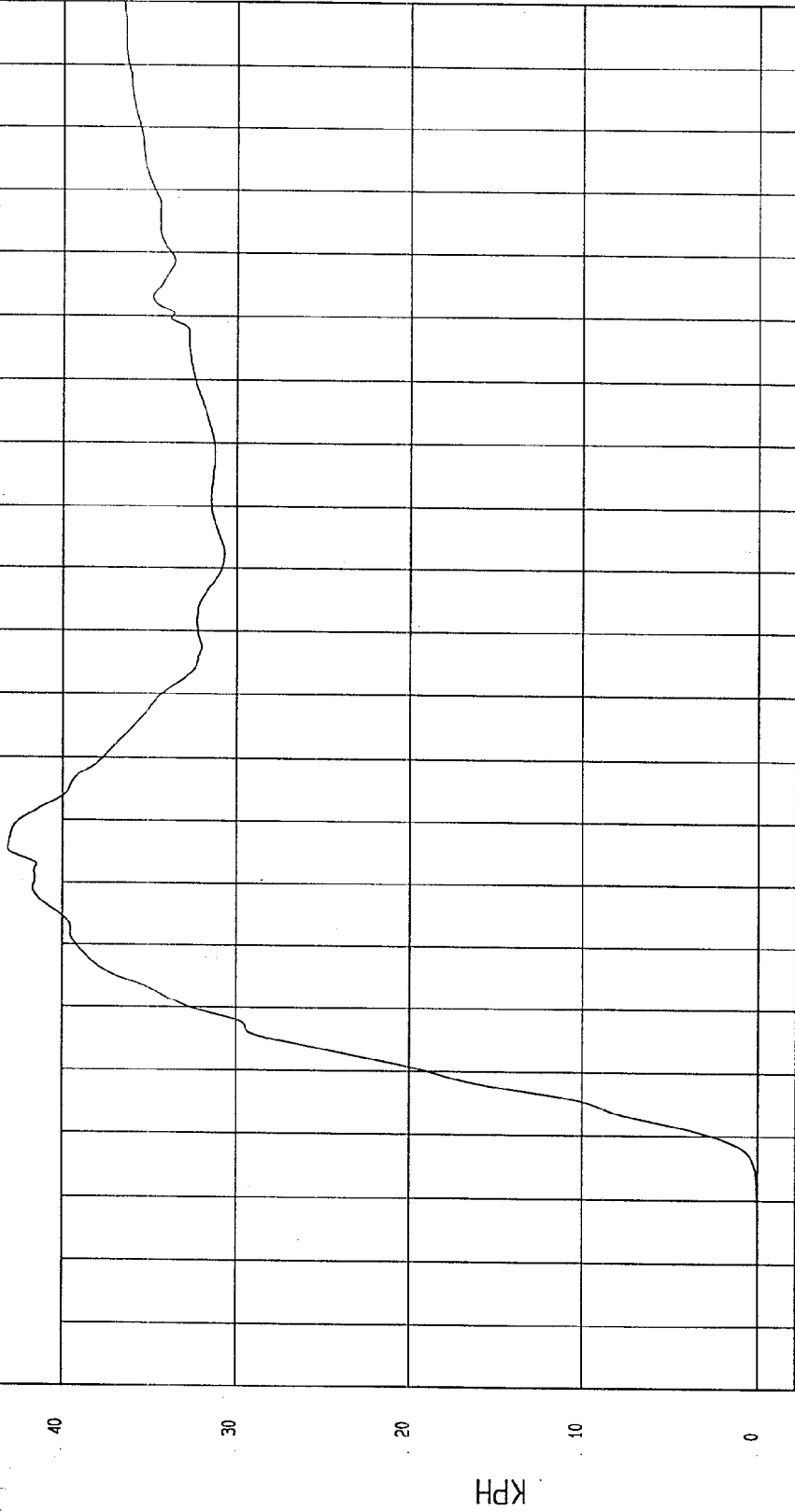
Speed: 38.65 MPH 62.2 KPH

Minimum = -6.17E-03 KPH at -3 msec

Maximum = 43.14 KPH at 66 msec

DRIVER LOWER RIB Y VELOCITY

1 ——— B00011A1.V16 Filterclass (180)



TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

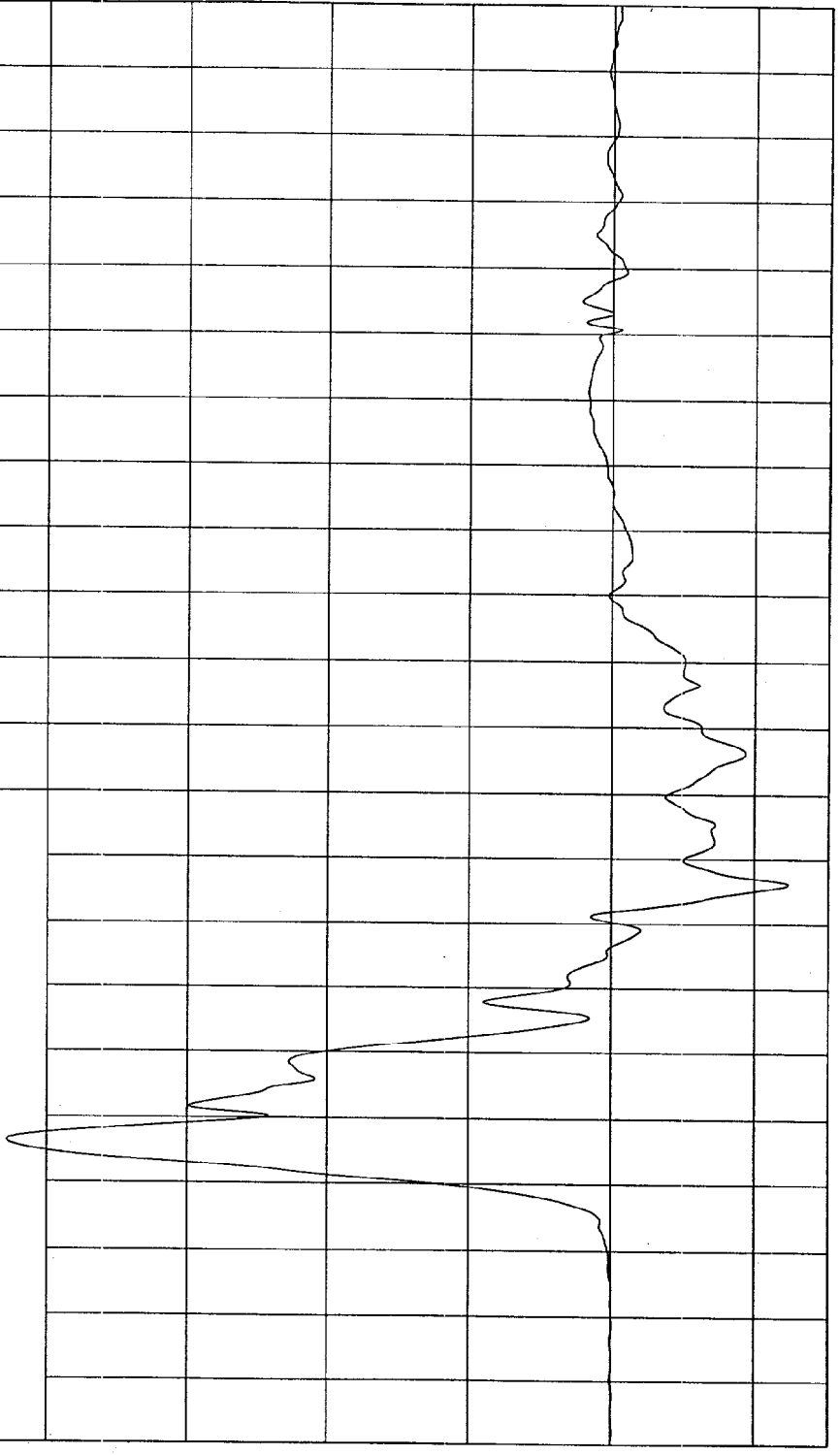
Speed: 38.65 MPH 62.2 KPH

Minimum = -24.83 G'S at 66 msec

Maximum = 85.75 G'S at 26 msec

DRIVER LOWER SPINE Y ACCELERATION

1 ——— 800014F.A17 Filterclass (160)



TIME (SECONDS)

MEA Research  
02-10-2000 16:49

G.S.

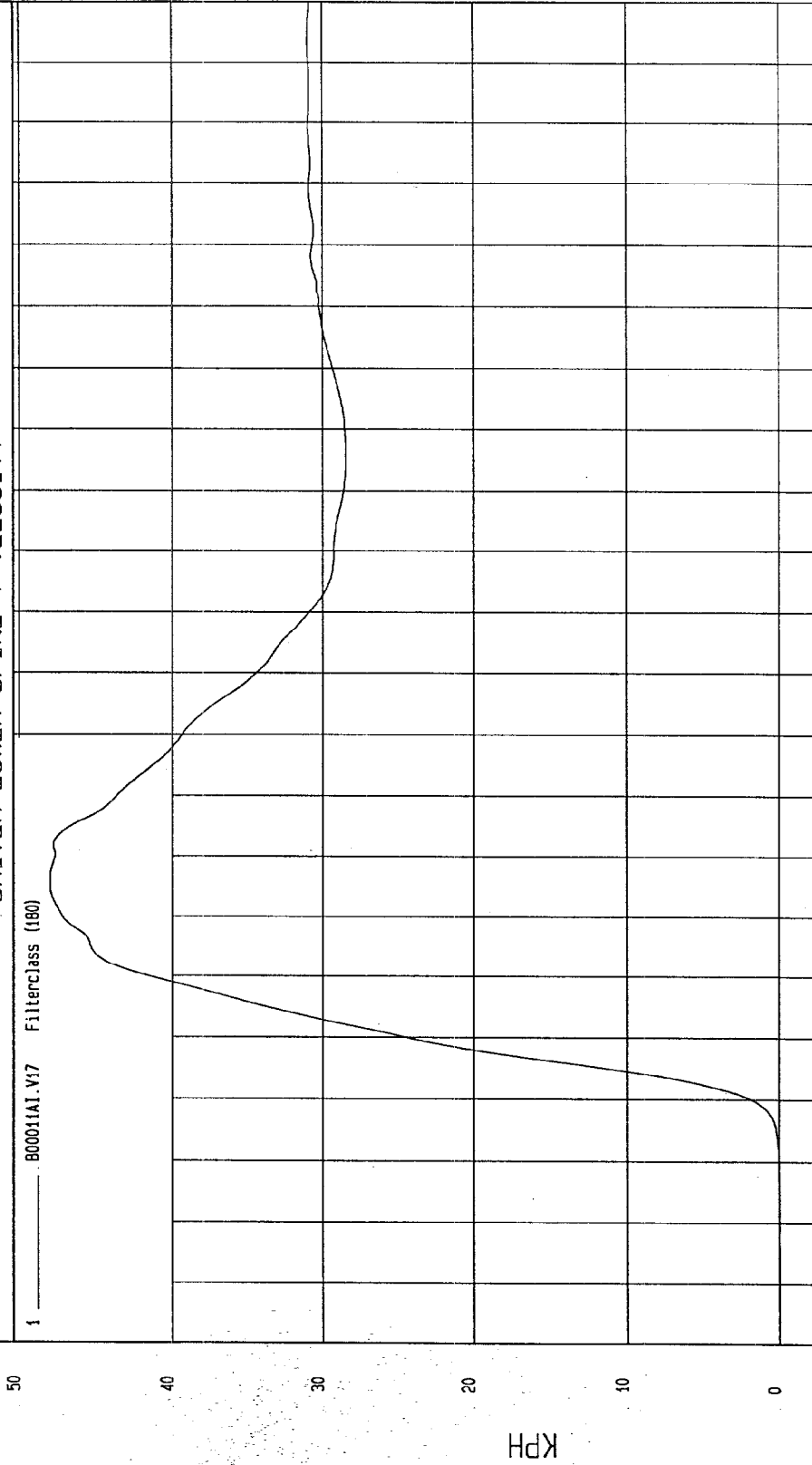
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -1.79E-02 KPH at -11 msec  
Maximum = 47.98 KPH at 56 msec

DRIVER LOWER SPINE Y VELOCITY

1 800011A1.V17 FilterClass (180)



WCA Research  
02-10-2000 16:49

TIME Seconds

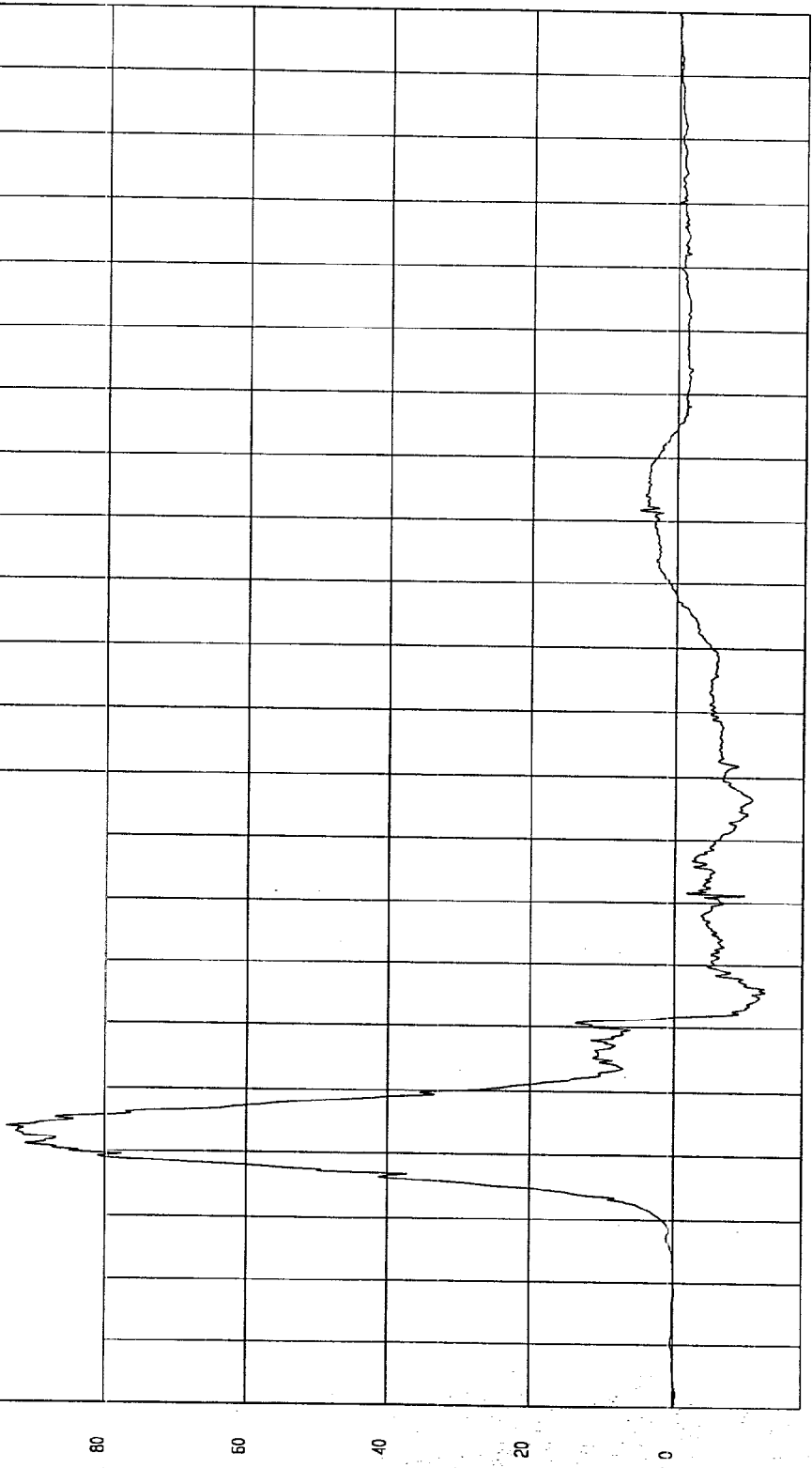
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -12.49 G'S at 46 msec Maximum = 93.7 G'S at 24 msec

DRIVER PELVIS Y ACCELERATION

1 80001AT.A18 Filterclass (1000)



TIME (SECONDS)

MSA Research  
02-10-2000 16:49

G'S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

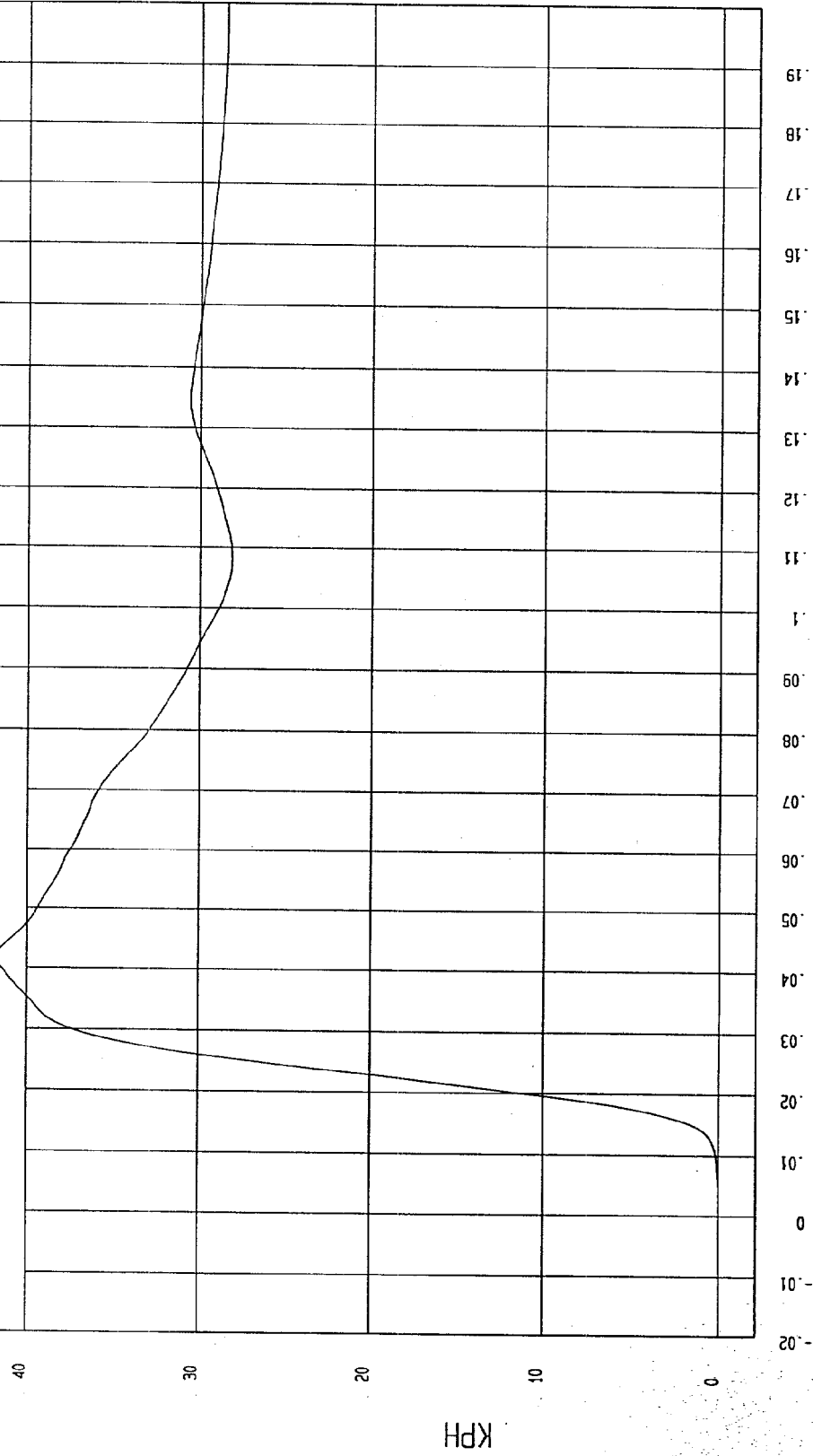
Speed: 38.65 MPH 62.2 KPH

Minimum = -3.19E-02 KPH at -15 msec

Maximum = 42.01 KPH at 42 msec

DRIVER PELVIS Y VELOCITY

1 ——— B00011A1.V18 FilterClass (180)



TIME Seconds

MCA Research  
02-10-2000 16:49

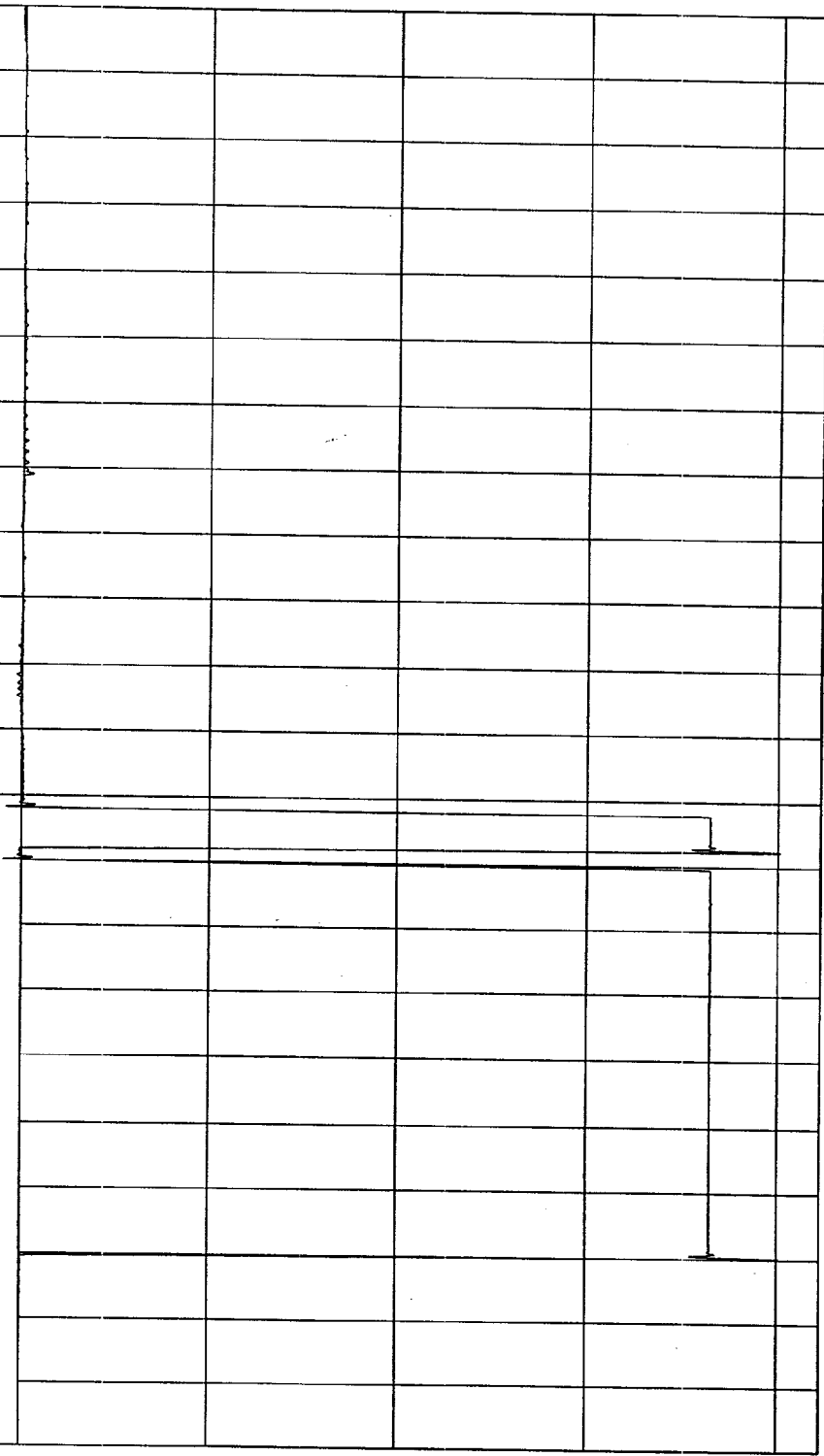
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -4.01 VOLTS at 72 msec  
Maximum = .09 VOLTS at 70 msec

DRIVER SHOULDER CONTACT

1 8000110T.05B Filterclass (1000)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

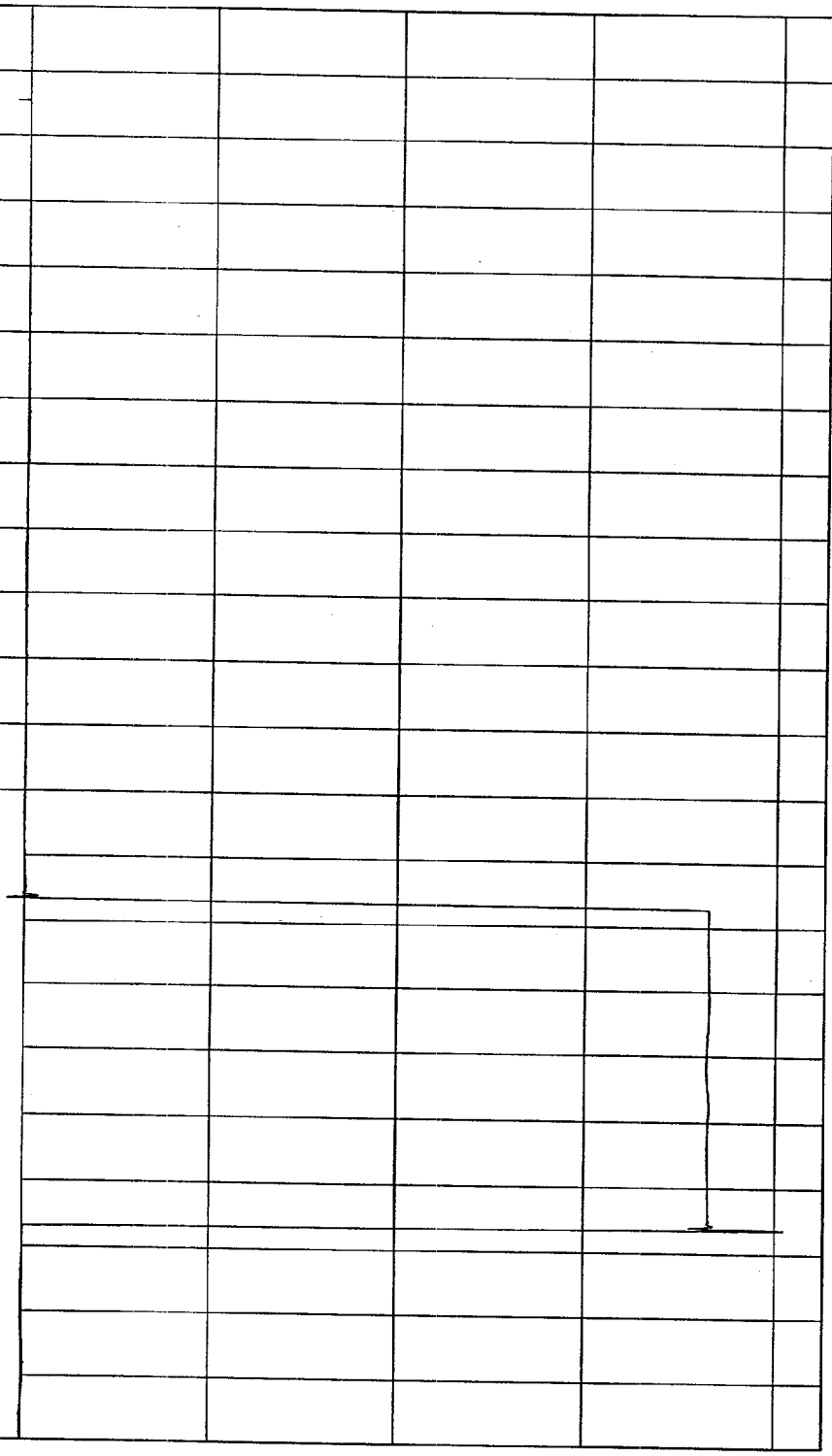
Speed: 38.65 MPH 62.2 KPH

Minimum = -4.05 VOLTS at 14 msec

Maximum = 9.41E-02 VOLTS at 64 msec

DRIVER PELVIS CONTACT

1 800010T.059 Filterclass (1000)



TIME (SECONDS)

NSA Research  
02-14-2000 11:33

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

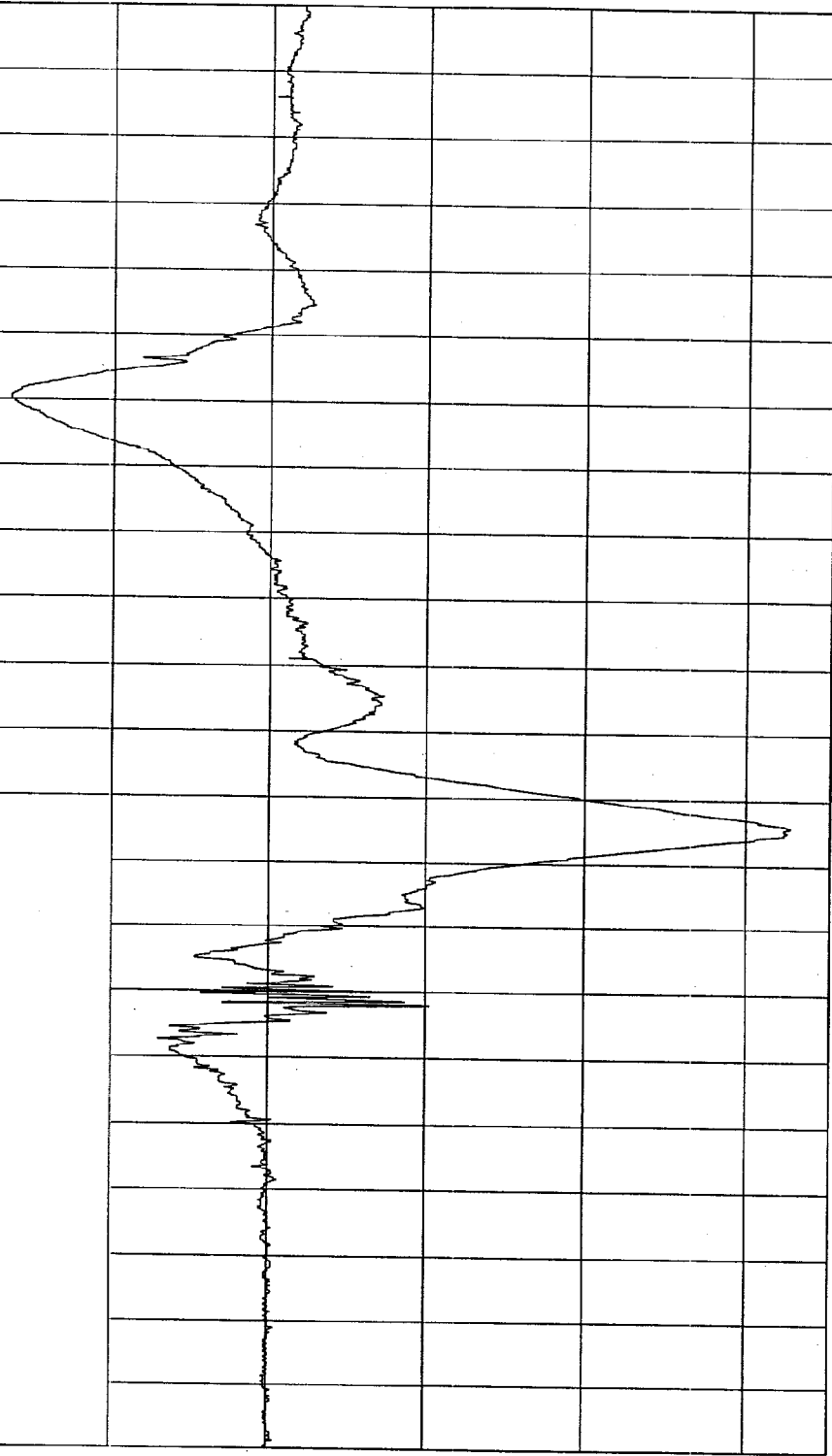
Speed: 38.65 MPH 62.2 KPH

Minimum = -32.7 G'S at 76 msec

Maximum = 16.48 G'S at 140 msec

REAR PASSENGER HEAD X ACCELERATION

1 800011AT.A22 Filterclass (1000)



MGA Research  
02-10-2000 16:48

TIME (SECONDS)

G'S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

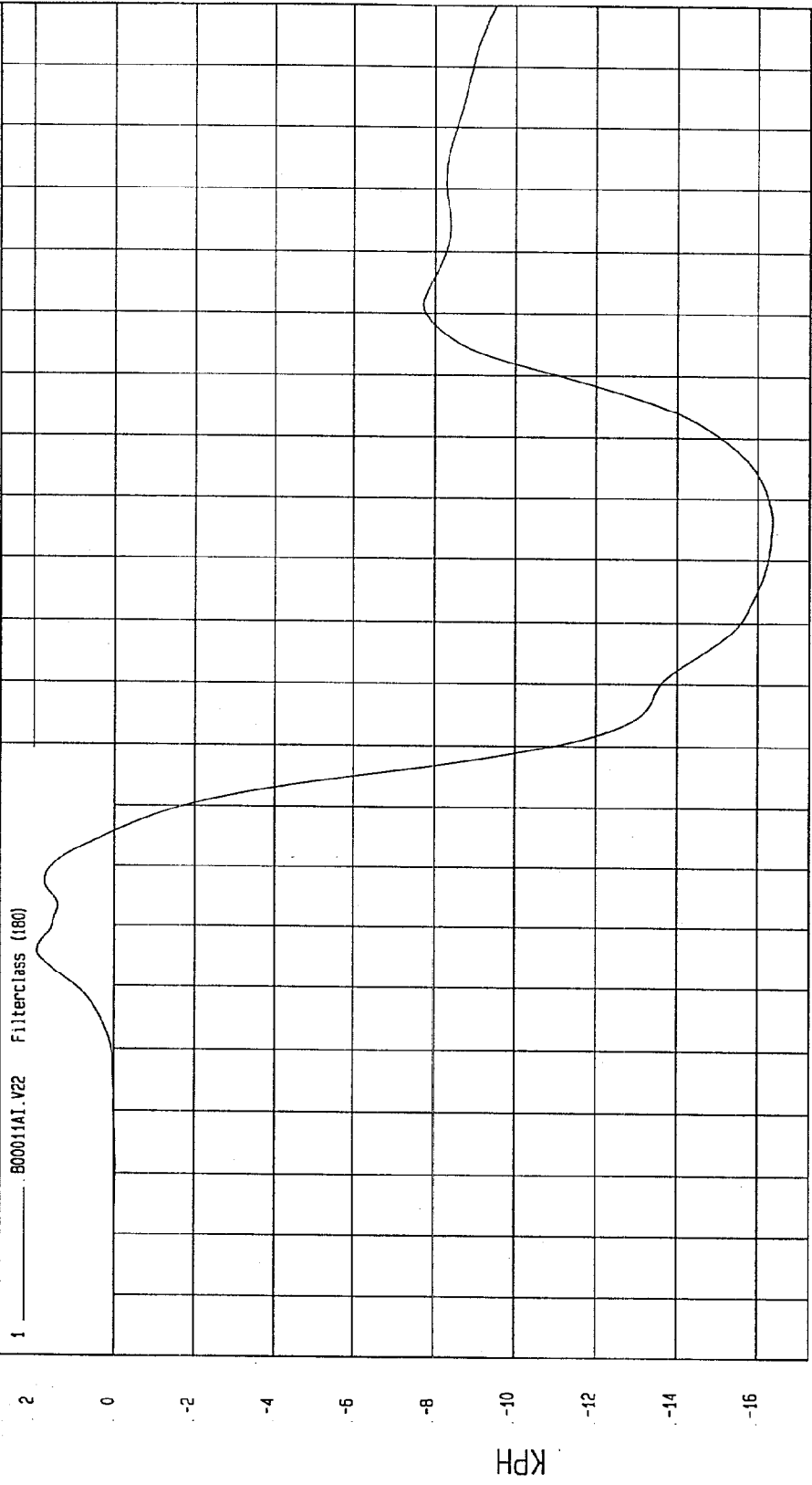
COMPONENT: 2000 FORD FOCUS (MY0205)

Speed: 38.65 MPH 62.2 KPH

Minimum = -16.37 KPH at 116 msec

Maximum = 1.92 KPH at 46 msec

REAR PASSENGER HEAD X VELOCITY



2

0

-2

-4

-6

-8

-10

-12

-14

-16

KPH

0

0.01

0.02

0.03

0.04

0.05

0.06

0.07

0.08

0.09

0.1

0.11

0.12

0.13

0.14

0.15

0.16

0.17

0.18

0.19

TIME Seconds

WCA Research  
02-10-2000 16:48

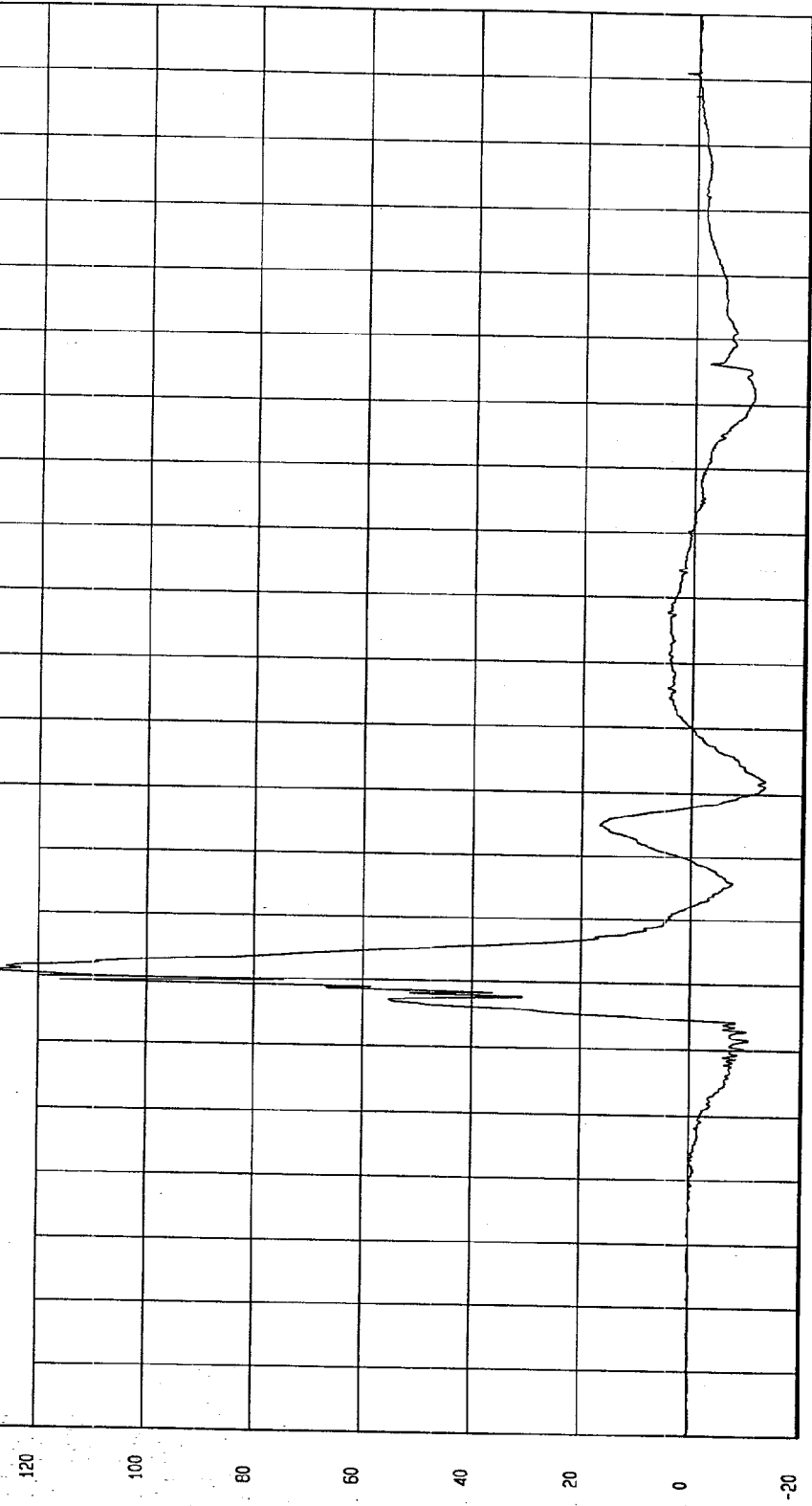
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -13.37 G'S at 81 msec Maximum = 128.28 G'S at 51 msec

REAR PASSENGER HEAD Y ACCELERATION

1 . . . . . B00011AT.A23 FilterClass (1000)



TIME (SECONDS)

MGA Research  
02-10-2000 16:48

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

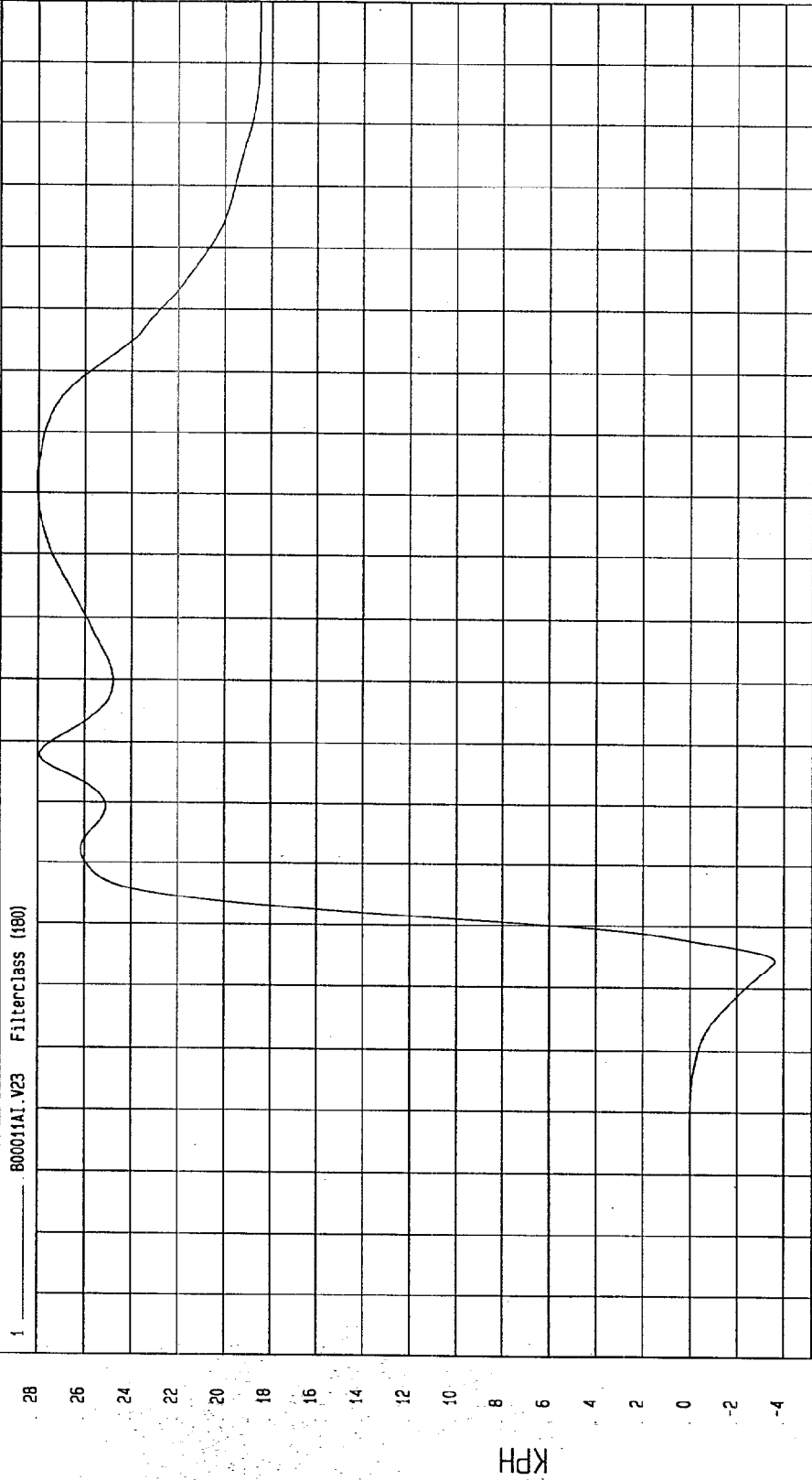
COMPONENT: 2000 FORD FOCUS (MY0205)

Speed: 38.65 MPH 62.2 KPH

Minimum = -3.62 KPH at 44 msec

Maximum = 28.05 KPH at 122 msec

REAR PASSENGER HEAD Y VELOCITY



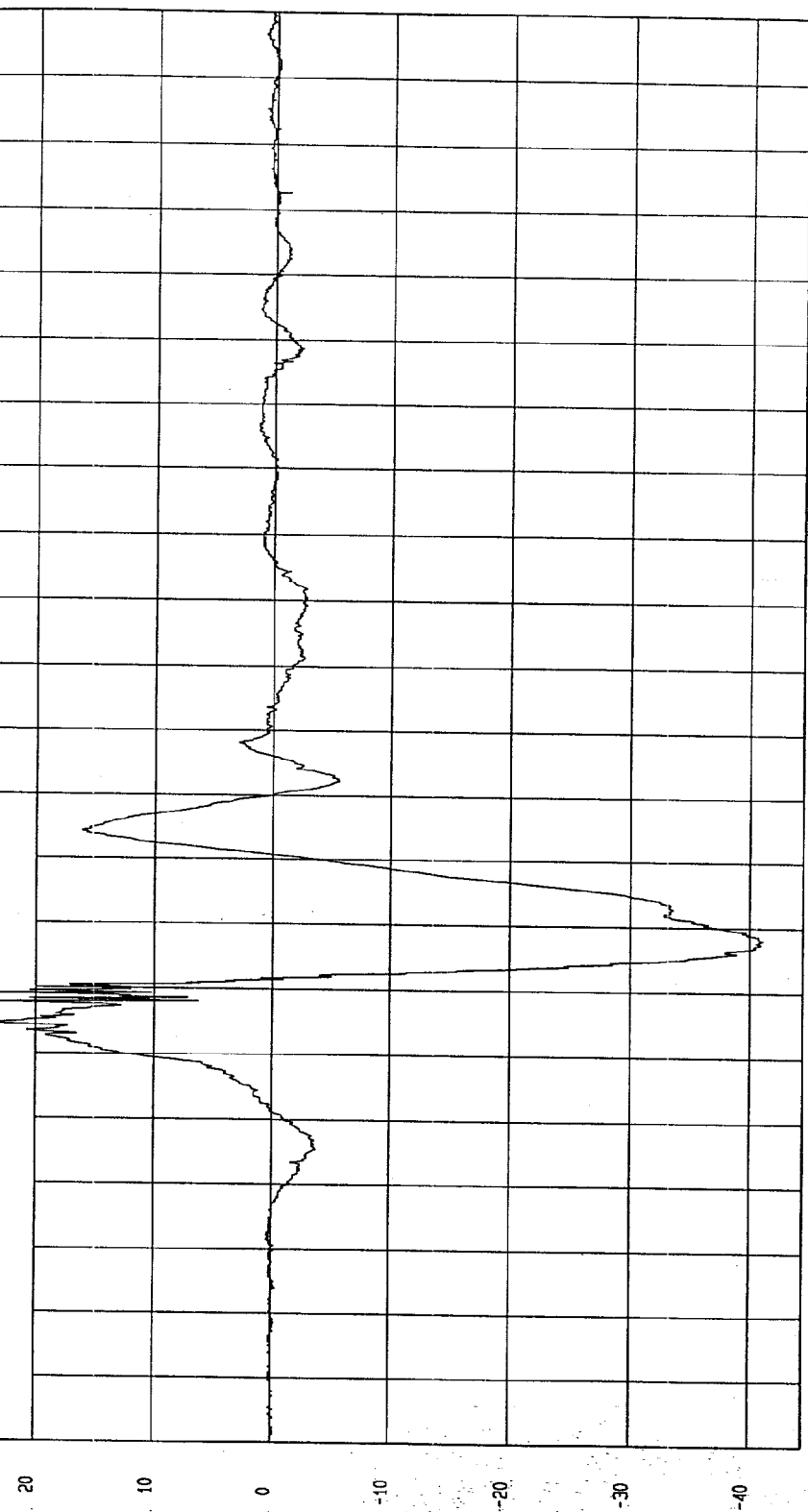
WCA Research  
02-10-2000 16:49

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -41.14 G'S at 58 msec  
Maximum = 23.93 G'S at 49 msec

REAR PASSENGER HEAD Z ACCELERATION

1 \_\_\_\_\_ 800011A1.A24 FilterClass (1000)



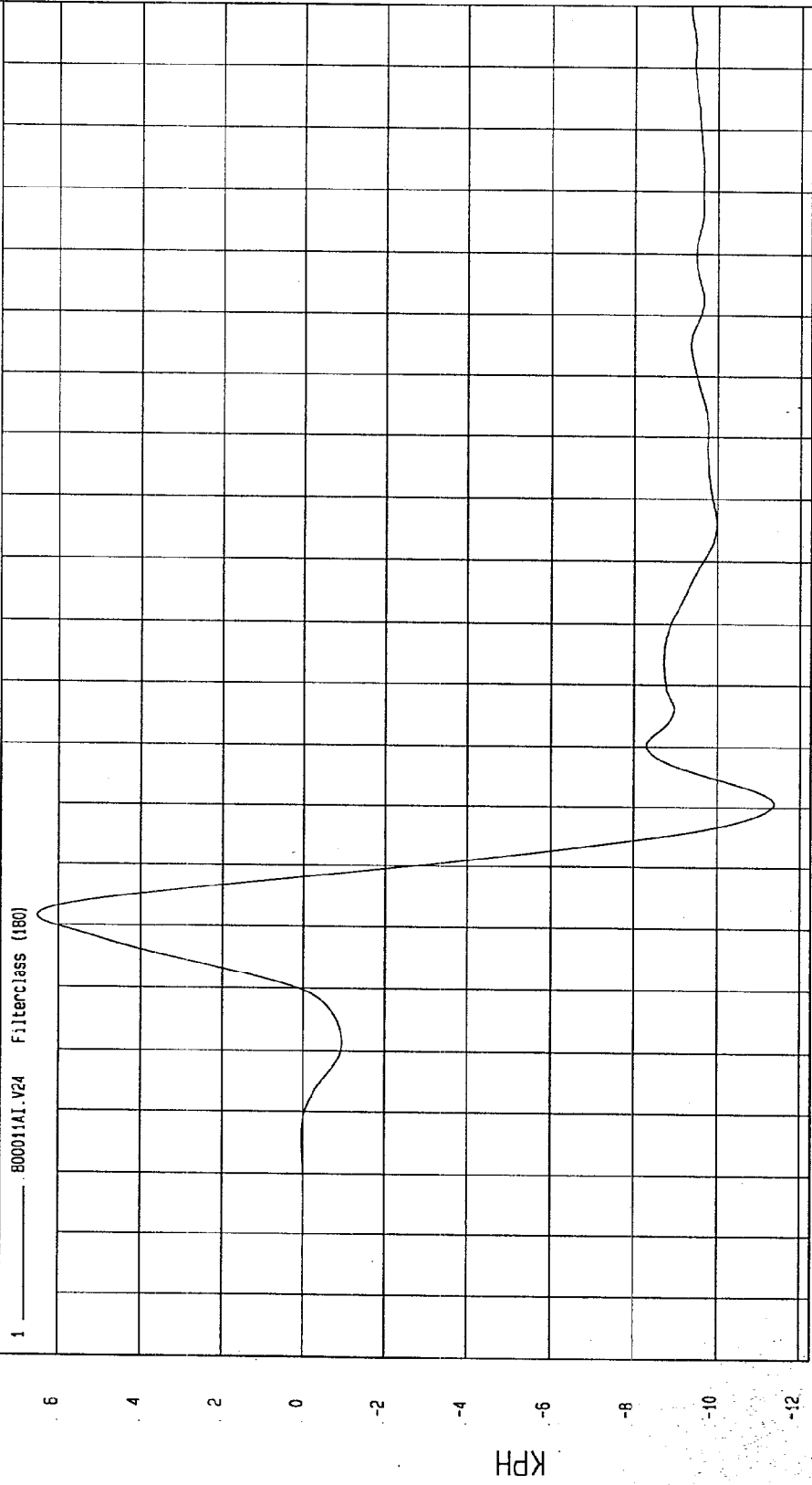
TIME (SECONDS)

WCA Research  
02-10-2000 16:49

G.S

TEST: NCAP SIDE IMPACT      TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)      Speed: 38.65 MPH 62.2 KPH  
Minimum = -11.37 KPH at 71 msec      Maximum = 6.51 KPH at 52 msec

REAR PASSENGER HEAD Z VELOCITY



MSA Research  
02-10-2000 16:49

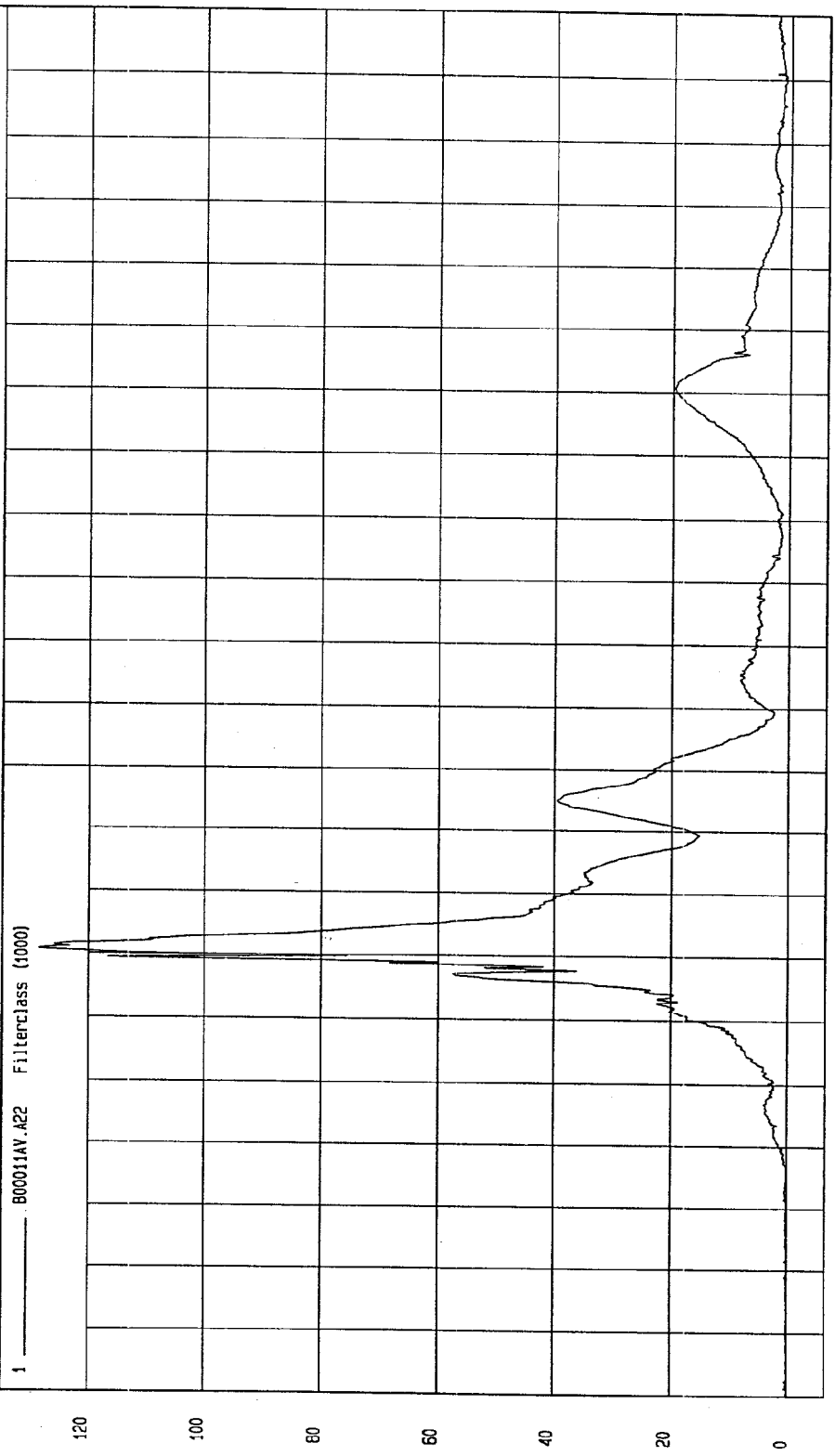
TIME Seconds

KPH

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = 5.54E-02 G'S at -20 msec Maximum = 128.5 G'S at 51 msec

REAR PASSENGER HEAD RESULTANT ACCELERATION



TIME (SECONDS)

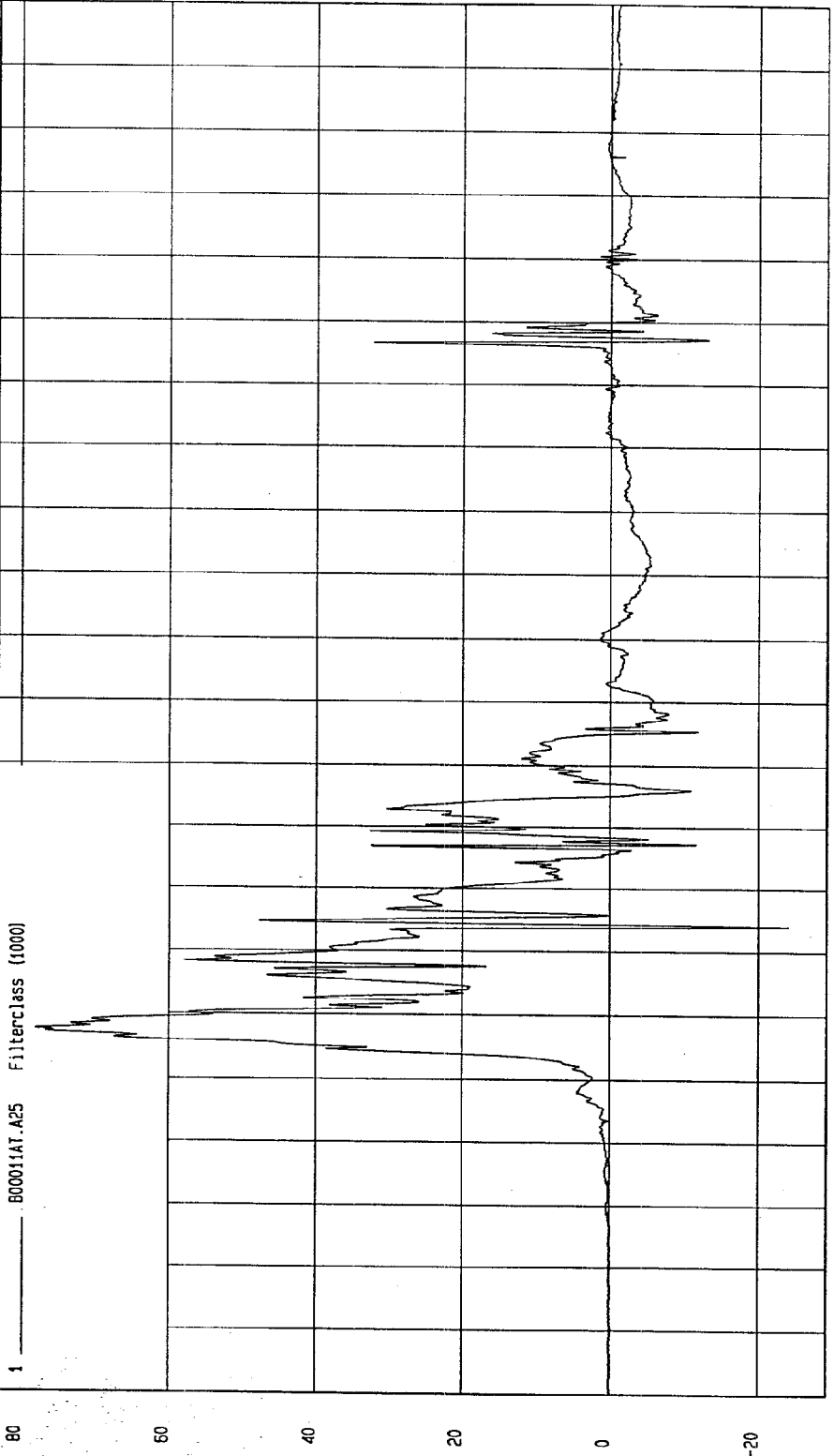
NSA Research  
02-10-2000 16:49

G'S

TEST: NCAP SIDE IMPACT  
 TEST DATE: 02-10-2000  
 COMPONENT: 2000 FORD FOCUS (MY0205)  
 Speed: 38.65 MPH 62.2 KPH

Minimum = -24 G'S at 54 msec  
 Maximum = 78.1 G'S at 38 msec

REAR PASSENGER UPPER RIB Y ACCELERATION



TIME (SECONDS)

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

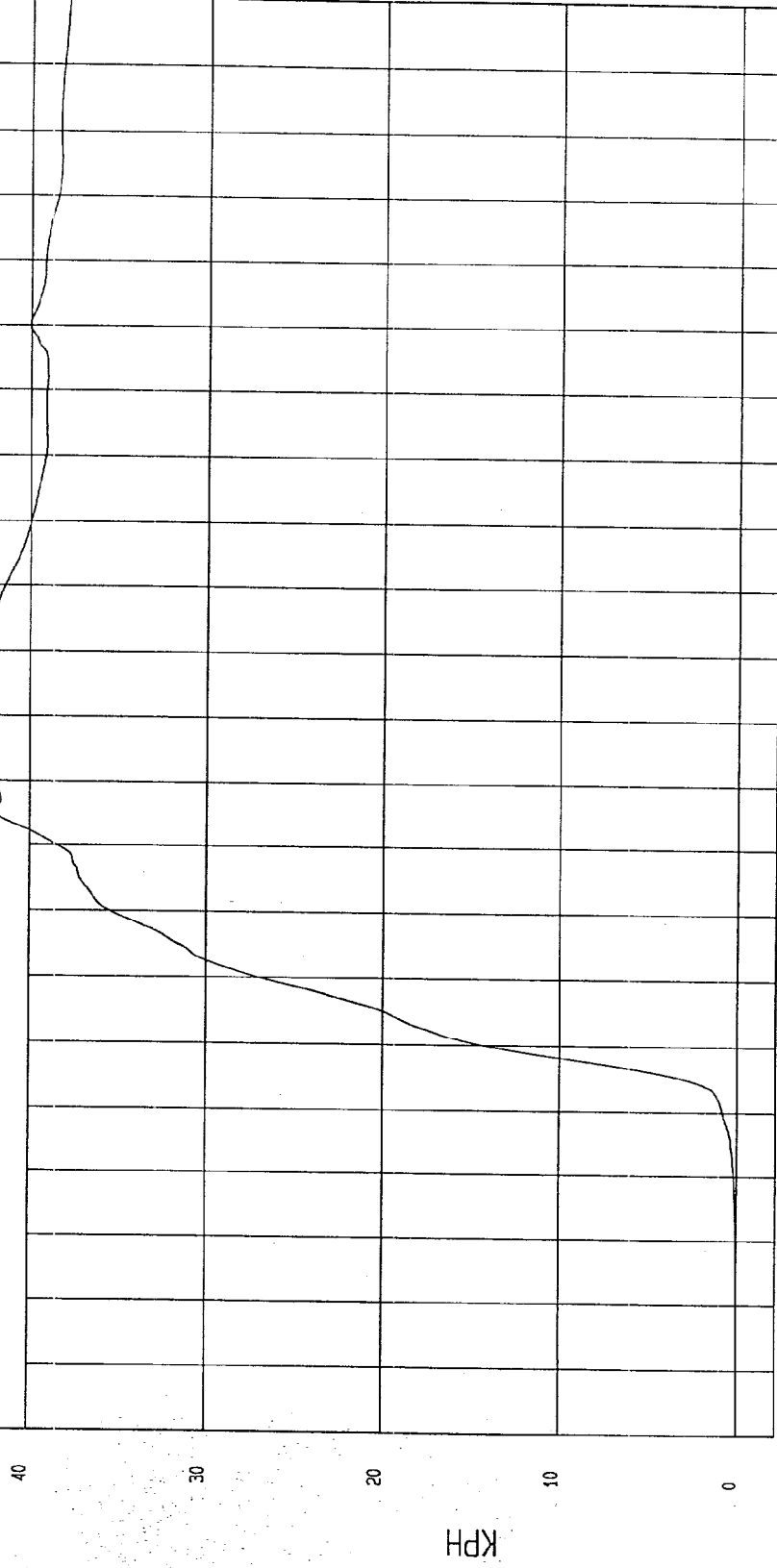
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -4.30E-03 KPH at -9 msec  
Maximum = 43.61 KPH at 85 msec

REAR PASSENGER UPPER RIB Y VELOCITY

1 800011A1.V25 Filterclass (180)



NSA Research  
02-10-2000 16:49

TIME Seconds

KPH

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

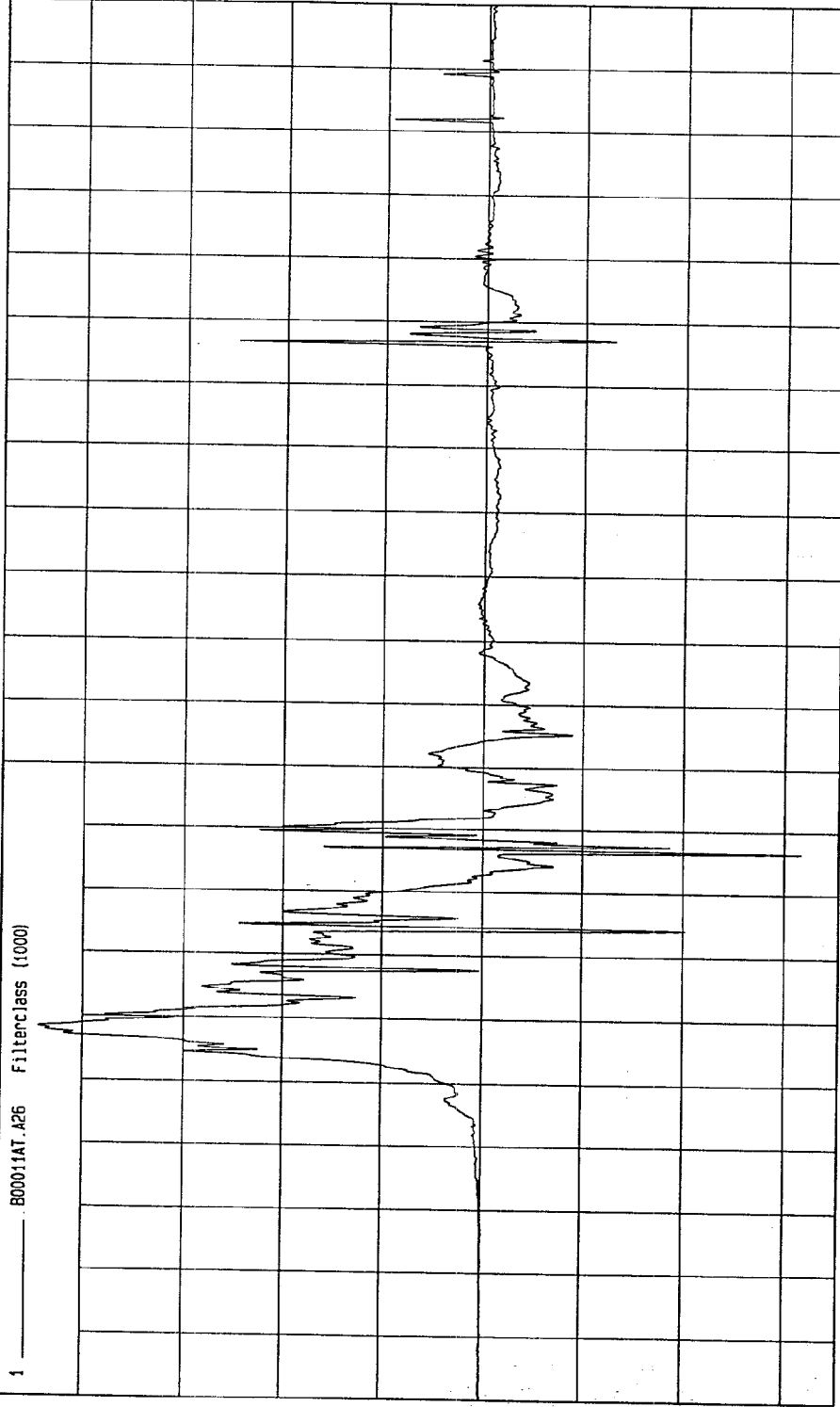
Speed: 38.65 MPH 62.2 KPH

Minimum = -63.14 G'S at 66 msec

Maximum = 88.88 G'S at 38 msec

REAR PASSENGER LOWER RIB Y ACCELERATION

1 800011AT.A26 Filterclass (1000)



MSA Research  
02-10-2000 16:49

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

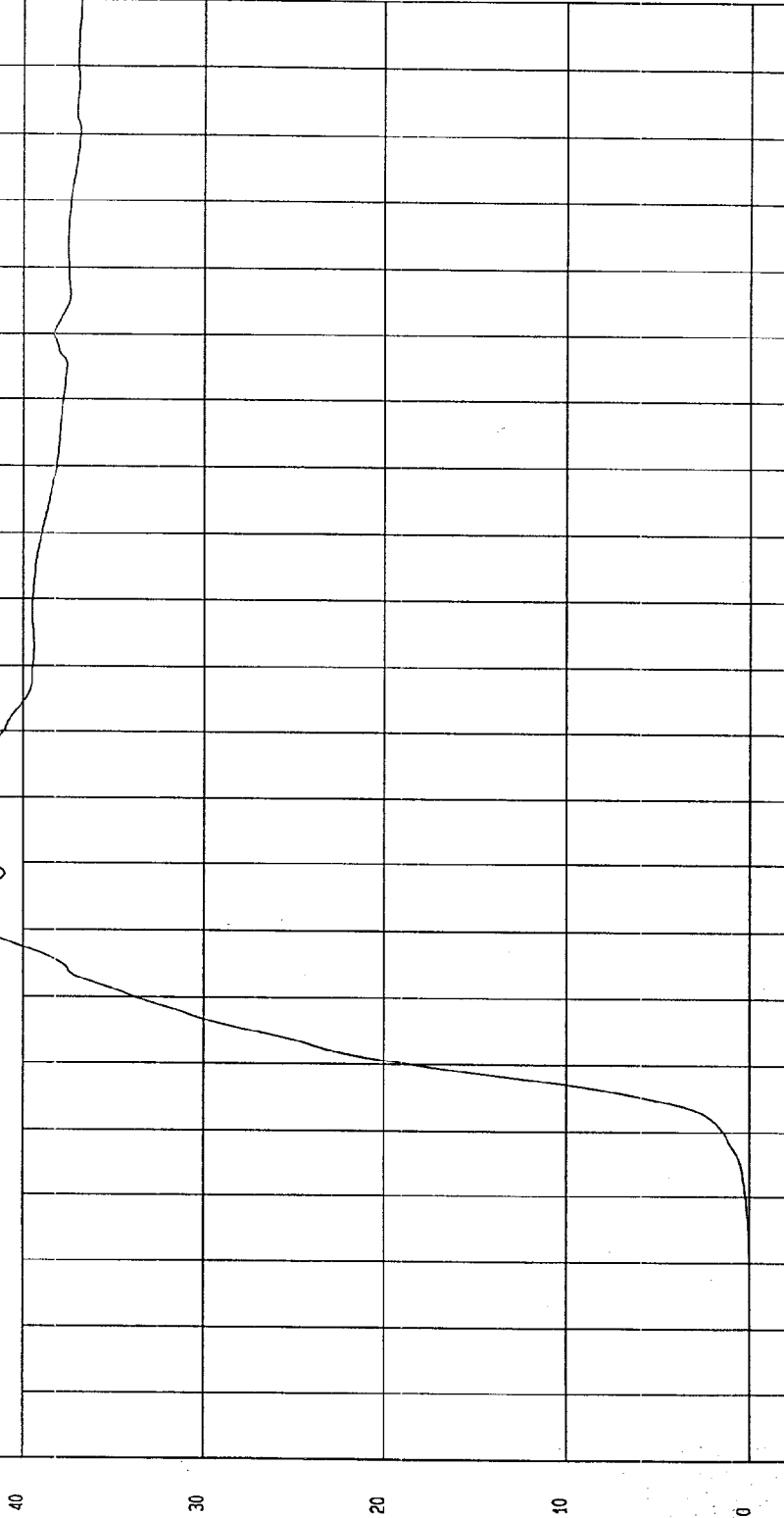
COMPONENT: 2000 FORD FOCUS (MY0205)

Minimum = -7.38E-04 KPH at -19 msec

Maximum = 43.55 KPH at 72 msec

REAR PASSENGER LOWER RIB Y VELOCITY

1 ——— .B00011A1.V25 FilterClass (180)



TIME Seconds

M&A Research  
02-10-2000 16:49

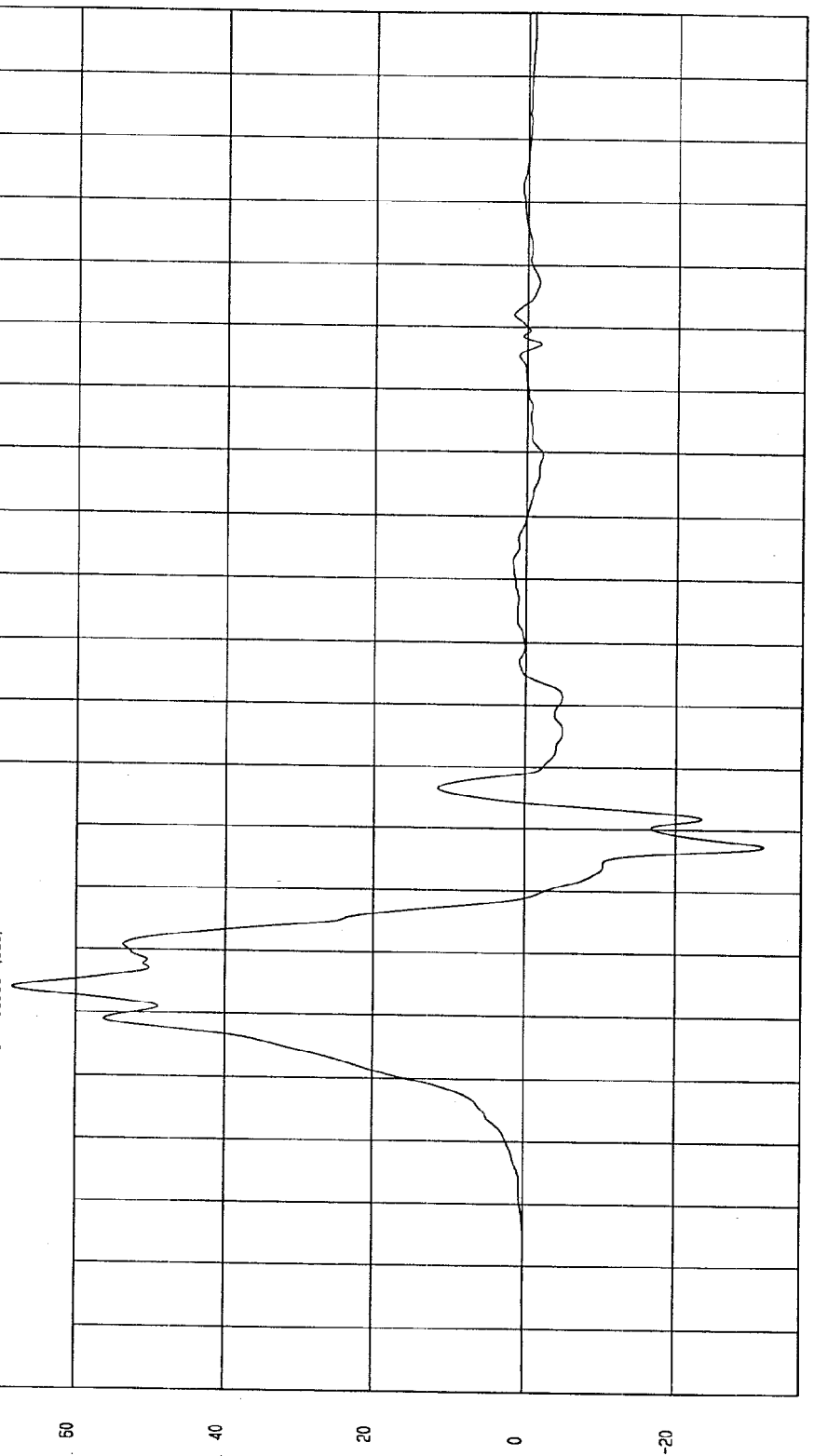
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -31.5 G'S at 67 msec  
Maximum = 68.55 G'S at 44 msec

REAR PASSENGER LOWER SPINE Y ACCELERATION

1 \_\_\_\_\_ B00011AF.A27 Filterclass (180)



MCA Research  
02-10-2000 16:49

TIME (SECONDS)

G.S

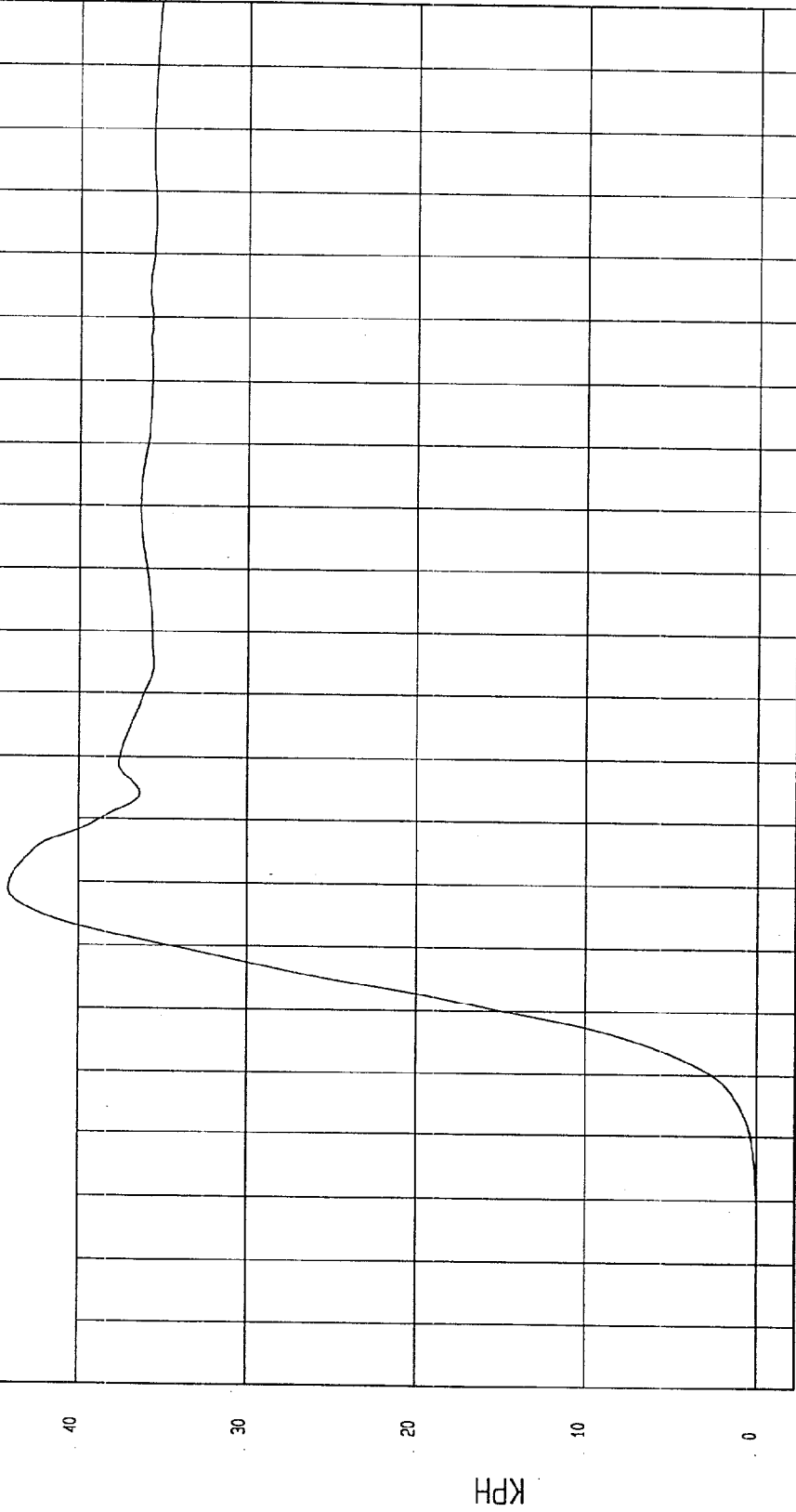
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -1.98E-02 KPH at 5 msec  
Maximum = 44.16 KPH at 59 msec

REAR PASSENGER LOWER SPINE Y VELOCITY

1 800011A1.Y27 Filterclass (180)



KPH

TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

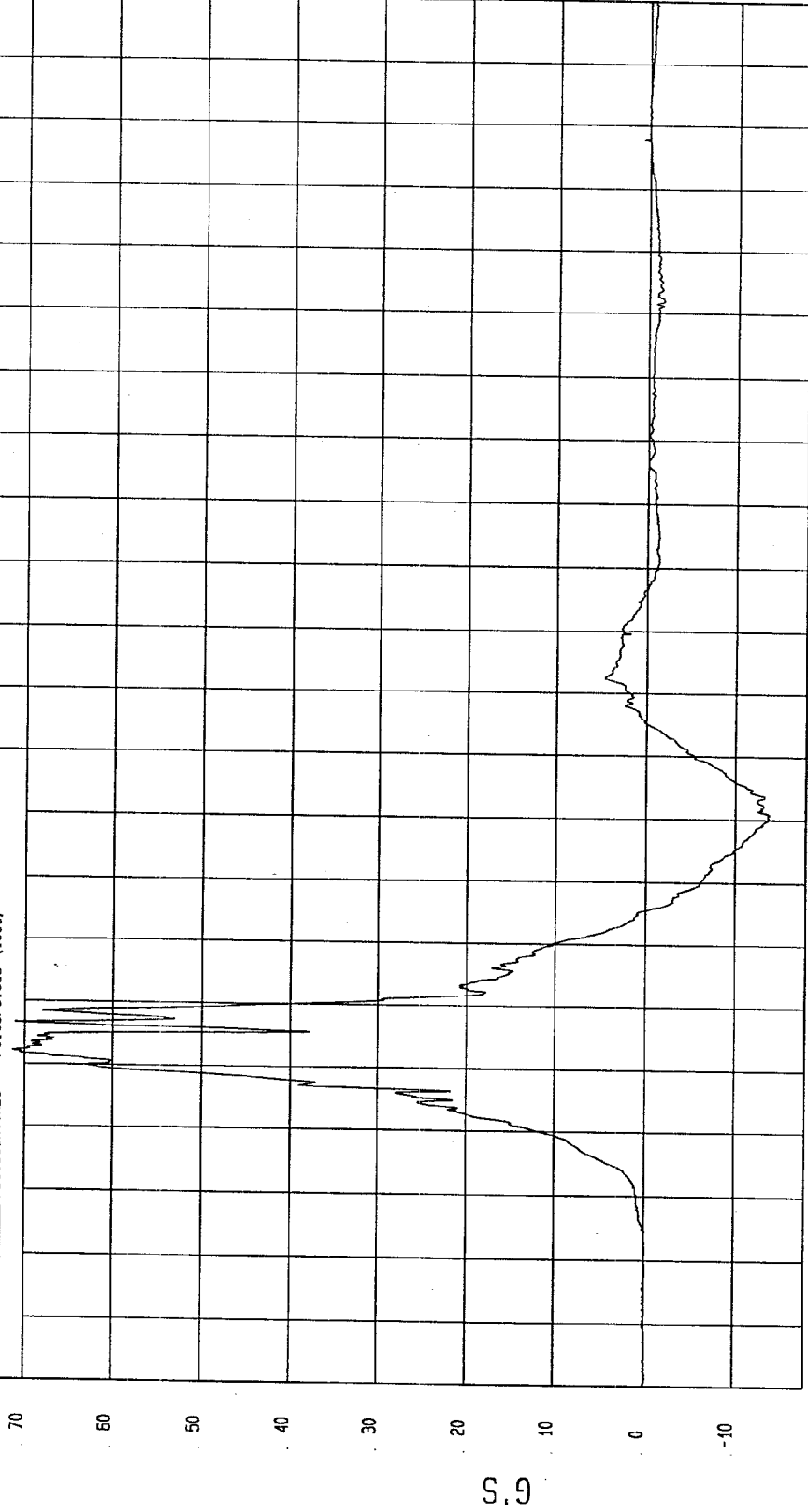
Speed: 38.65 MPH 62.2 KPH

Minimum = -13.72 G'S at 70 msec

Maximum = 71.39 G'S at 32 msec

REAR PASSENGER PELVIS Y ACCELERATION

1 .80001AT.A28 Filterclass (1000)



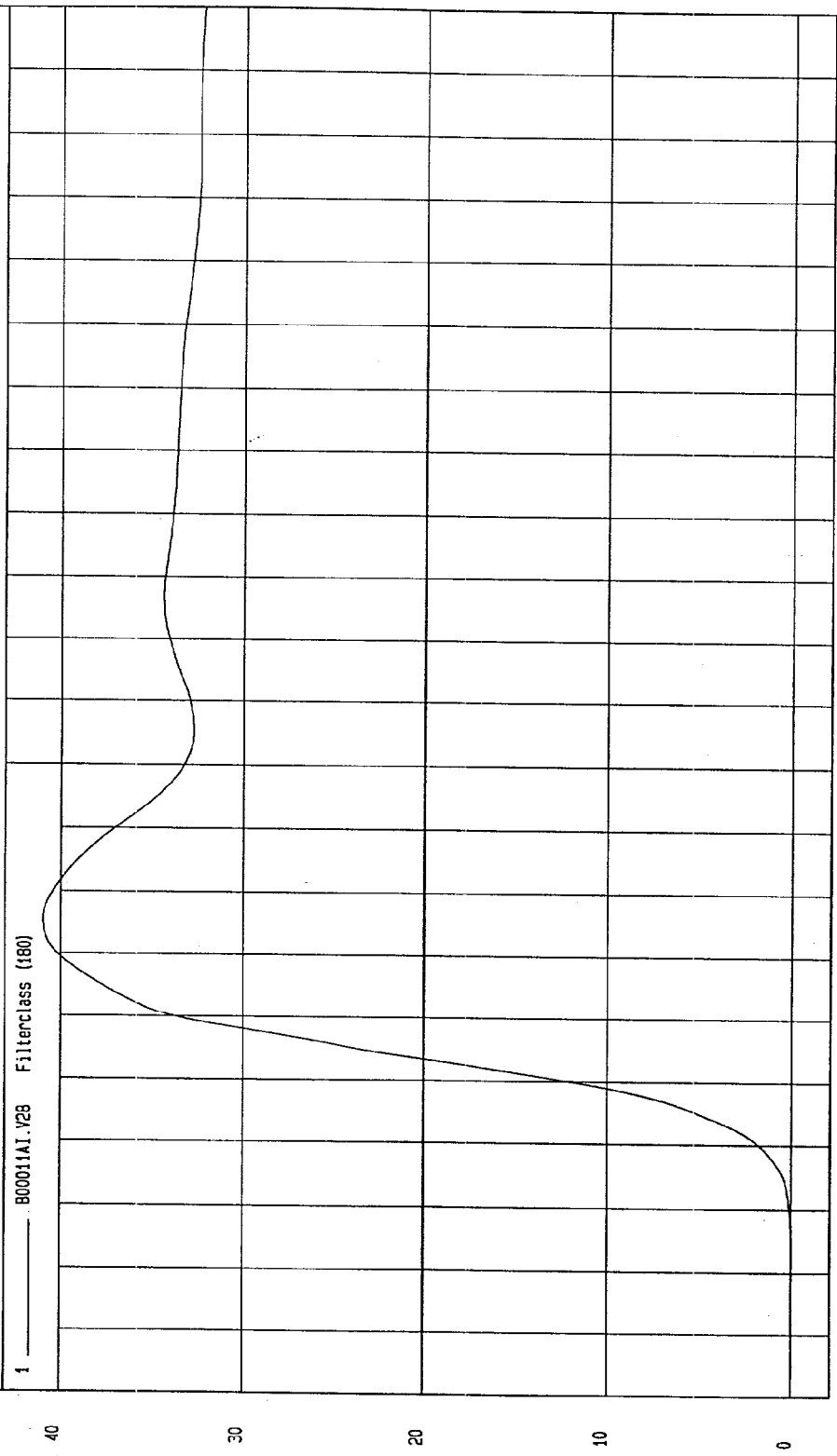
TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -1.88E-02 KPH at -11 msec  
Maximum = 40.57 KPH at 56 msec

REAR PASSENGER PELVIS Y VELOCITY

1 80001A1.V28 Filterclass (180)



KPH  
TIME Seconds

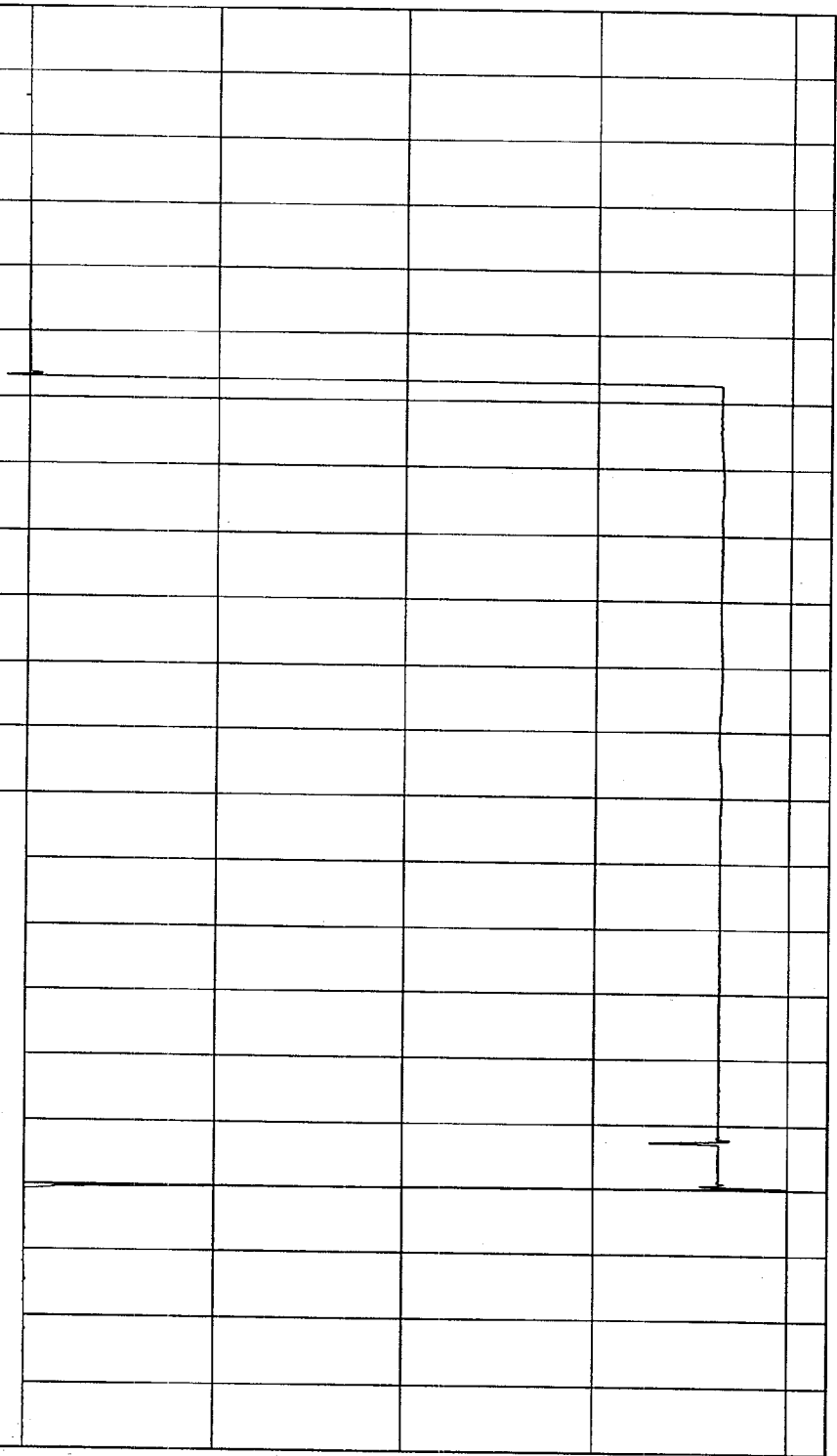
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -4 VOLTS at 20 msec Maximum = .12 VOLTS at 143 msec

REAR PASSENGER SHOULDER CONTACT

1 8000110T.060 Filterclass (1000)



MGA Research 02-14-2000 11:33

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

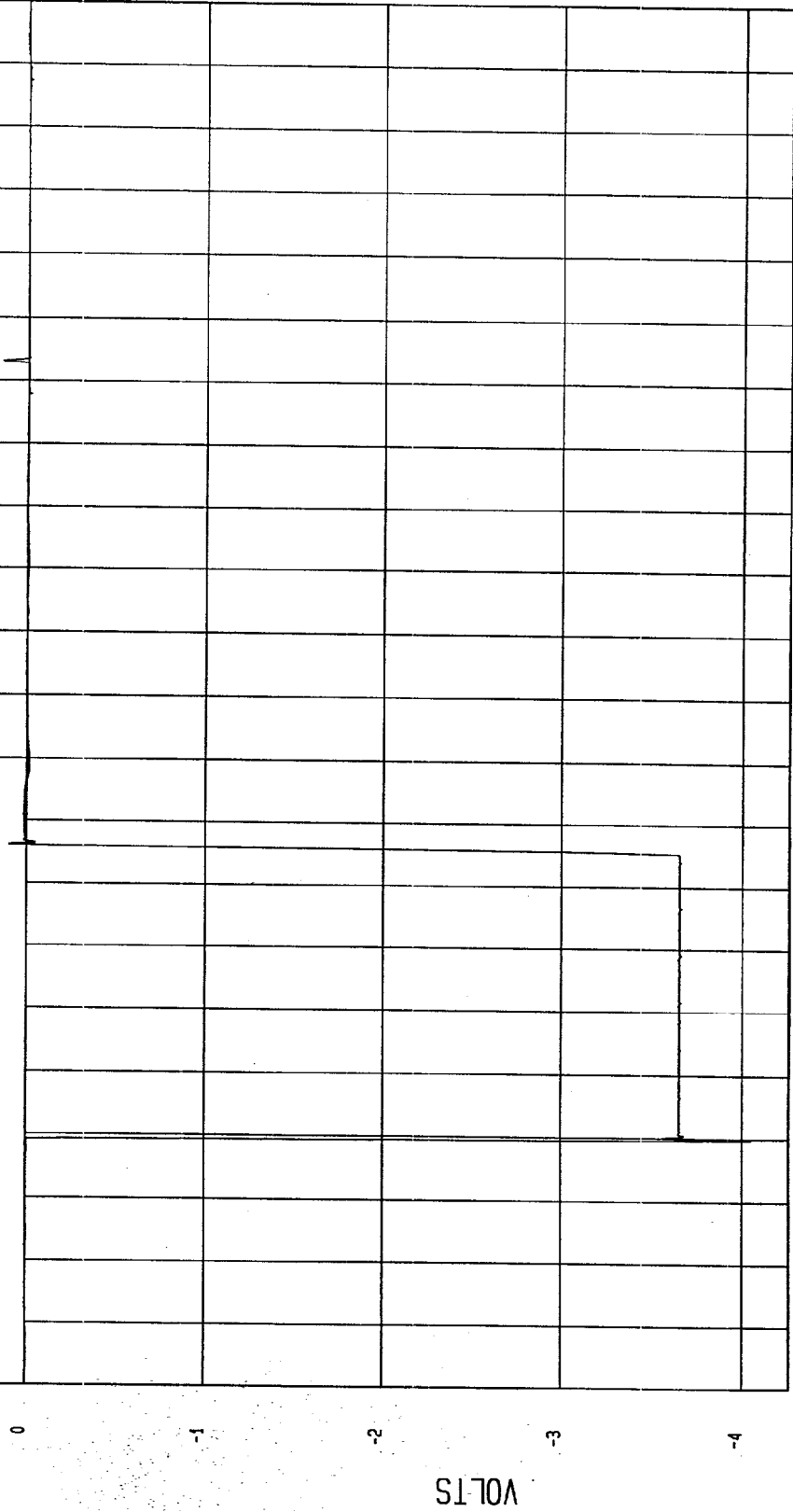
Speed: 38.65 MPH 62.2 KPH

Minimum = -4.05 VOLTS at 20 msec

Maximum = .14 VOLTS at 143 msec

REAR PASSENGER PELVIS CONTACT

1 8000110T.051 Filterclass (1000)



TIME (SECONDS)

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

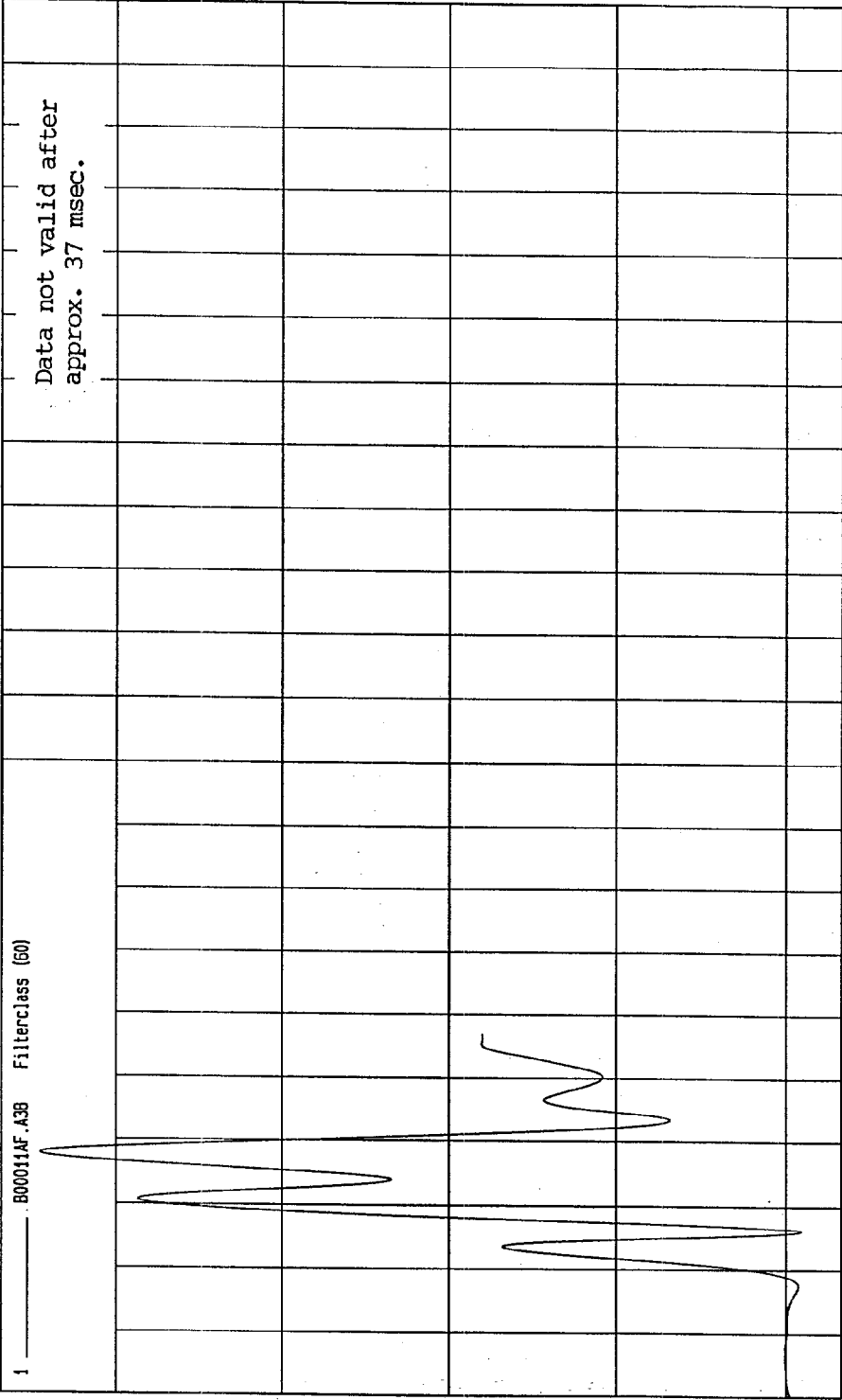
MSA Research  
02-14-2000 11:33

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -.89 G'S at 6 msec Maximum = 44.51 G'S at 18 msec

LEFT SIDE SILL AT FRONT SEAT Y ACCELERATION



40  
30  
20  
10  
0  
-10  
-20

G.S

TIME (SECONDS)

0.19  
0.18  
0.17  
0.16  
0.15  
0.14  
0.13  
0.12  
0.11  
0.1  
0.09  
0.08  
0.07  
0.06  
0.05  
0.04  
0.03  
0.02  
0.01  
0  
-0.01  
-0.20

MGA Research  
02-1A-2000 11:32

TEST: NCAP SIDE IMPACT

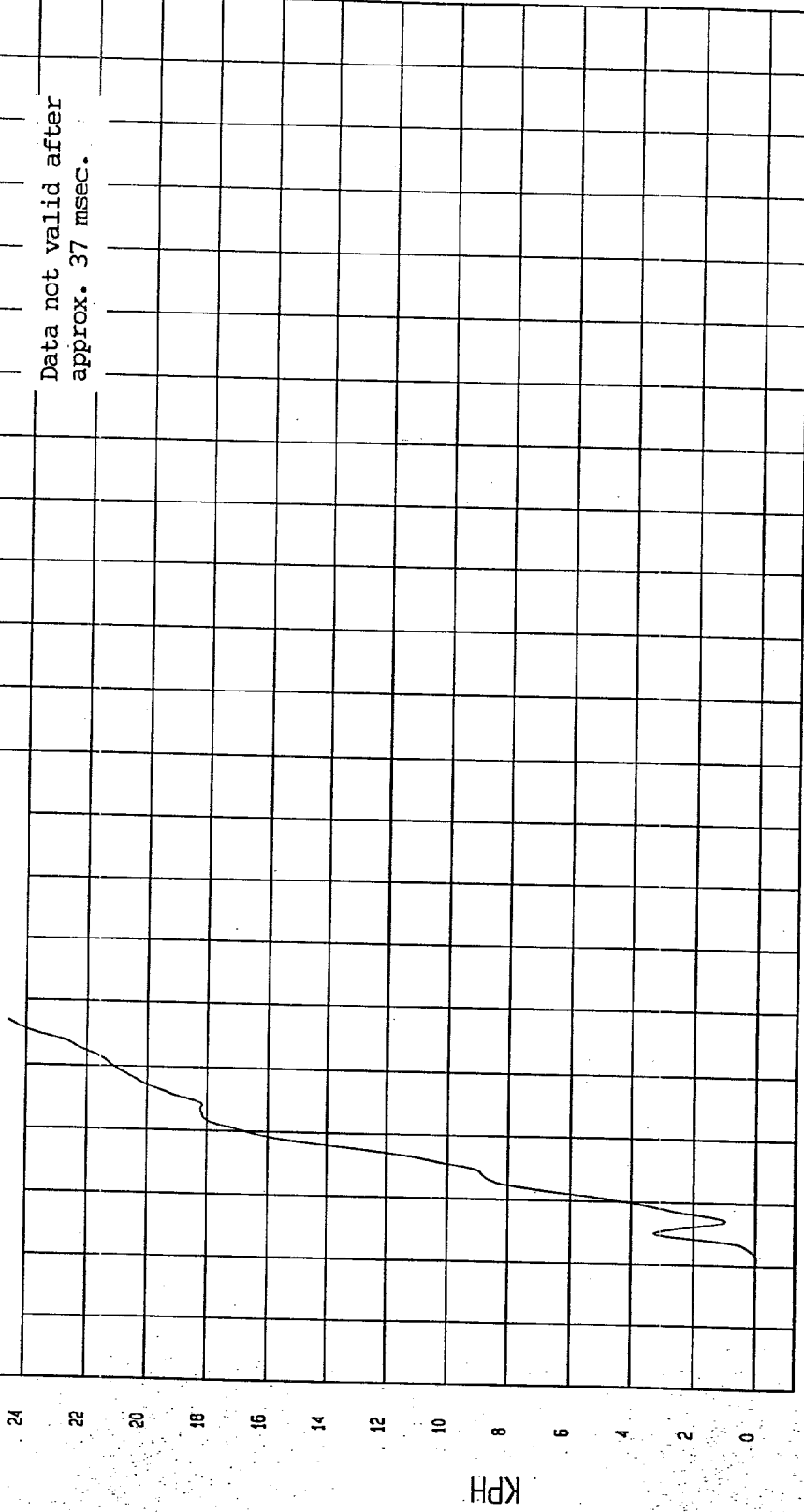
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)

Speed: 38.55 MPH 62.2 KPH

Minimum = -2.47E-02 KPH at 1 msec  
Maximum = 24.61 KPH at 37 msec

LEFT SIDE SILL AT FRONT SEAT Y VELOCITY

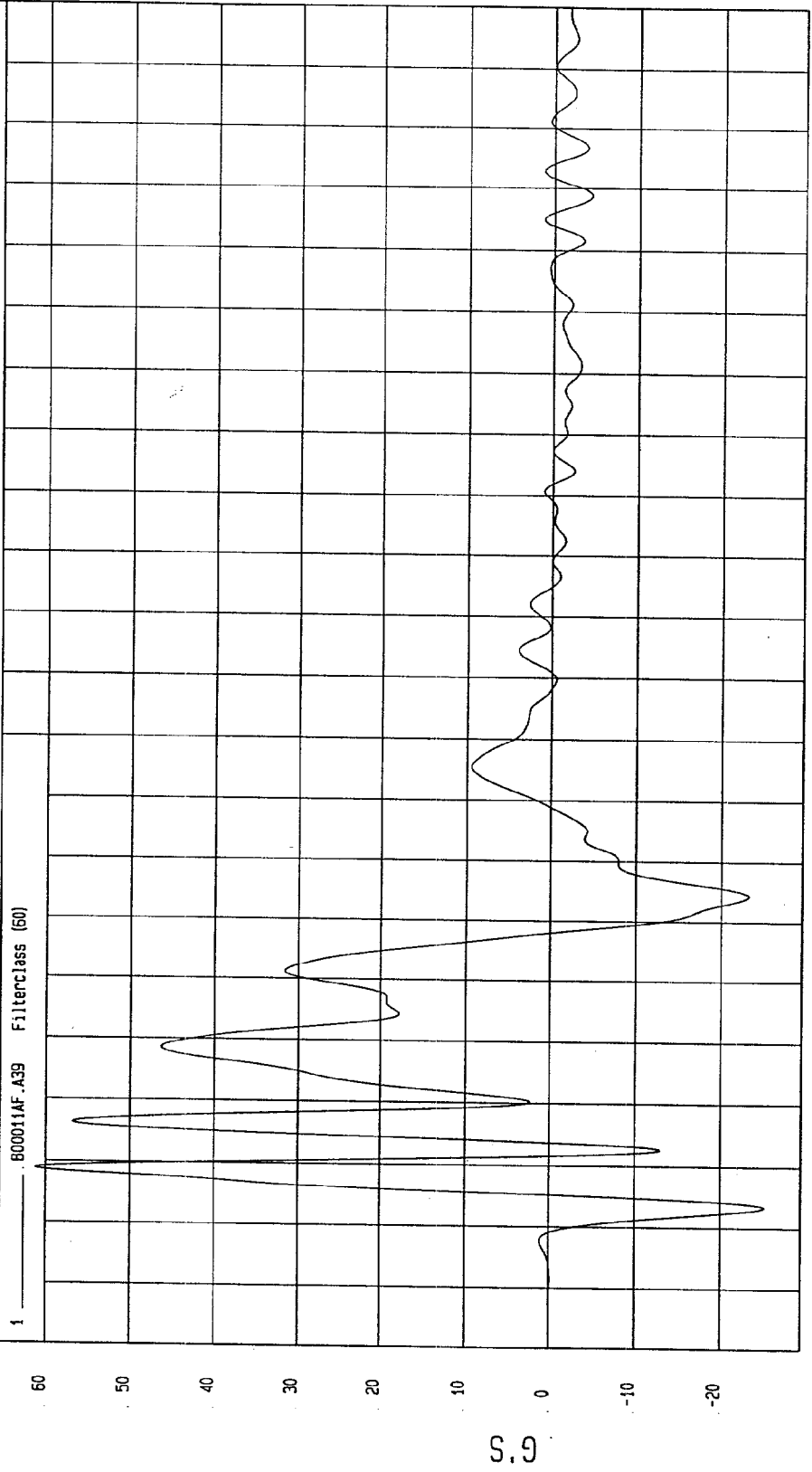
1 ——— 80001A1.V38 Filterclass (180)



Data not valid after approx. 37 msec.

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH  
Minimum = -25.21 G'S at 3 msec  
Maximum = 61.23 G'S at 9 msec

LEFT SIDE SILL AT REAR SEAT Y ACCELERATION



MSA Research  
02-10-2000 16:45

TIME (SECONDS)

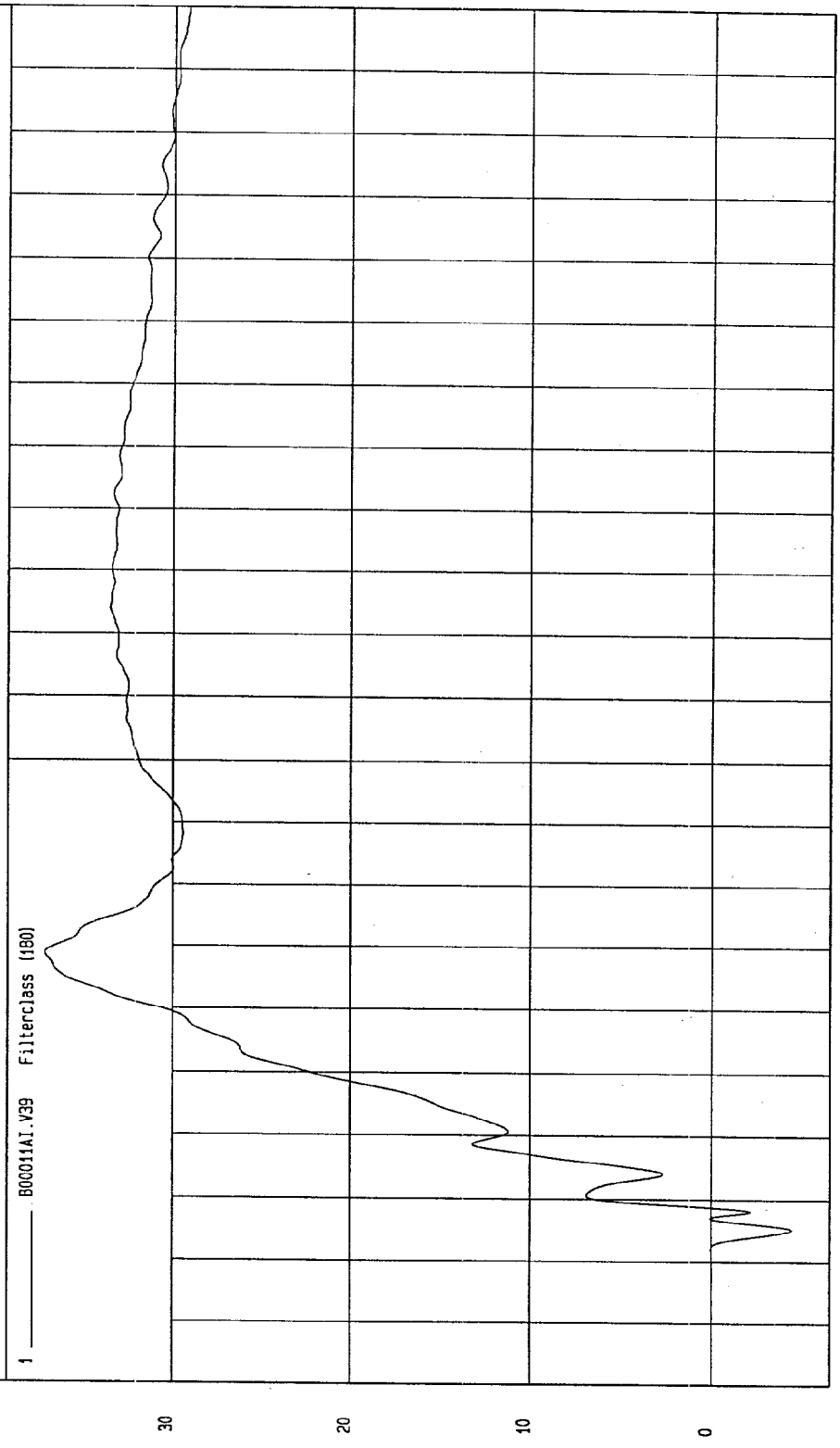
G'S

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -4.37 KPH at 5 msec Maximum = 37.06 KPH at 49 msec

LEFT SIDE SILL AT REAR SEAT Y VELOCITY

1 B00011A1.V39 FilterClass (180)



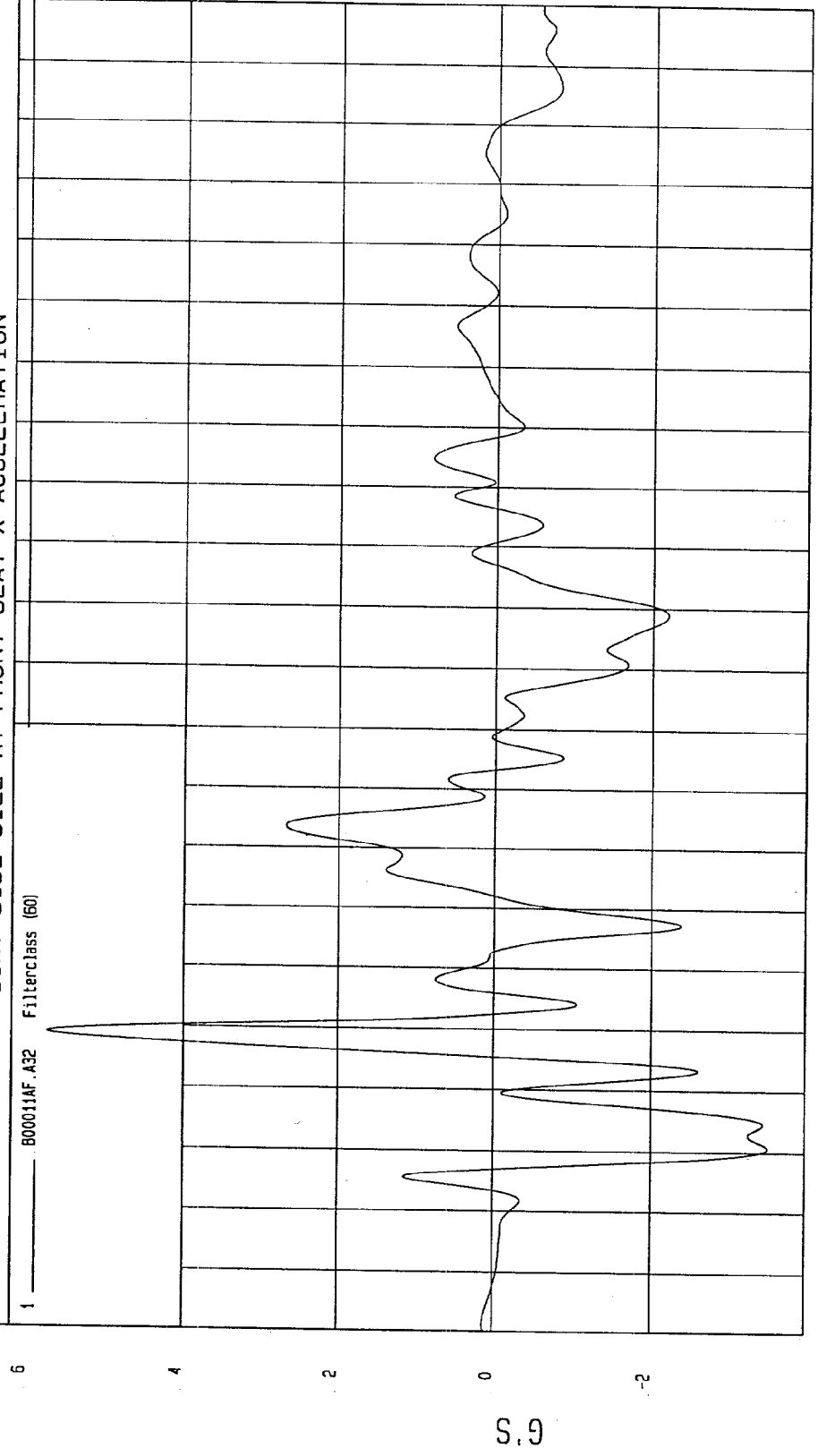
TIME Seconds

TEST: NCAP SIDE IMPACT      TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)      Speed: 38.65 MPH 62.2 KPH

Minimum = -3.48 G'S at 11 msec      Maximum = 5.74 G'S at 29 msec

RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION

1 ——— 800011AF.A32 Filterclass (60)



6  
4  
2  
0  
-2  
G.S

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

MSA Research  
02-10-2000 16:45

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

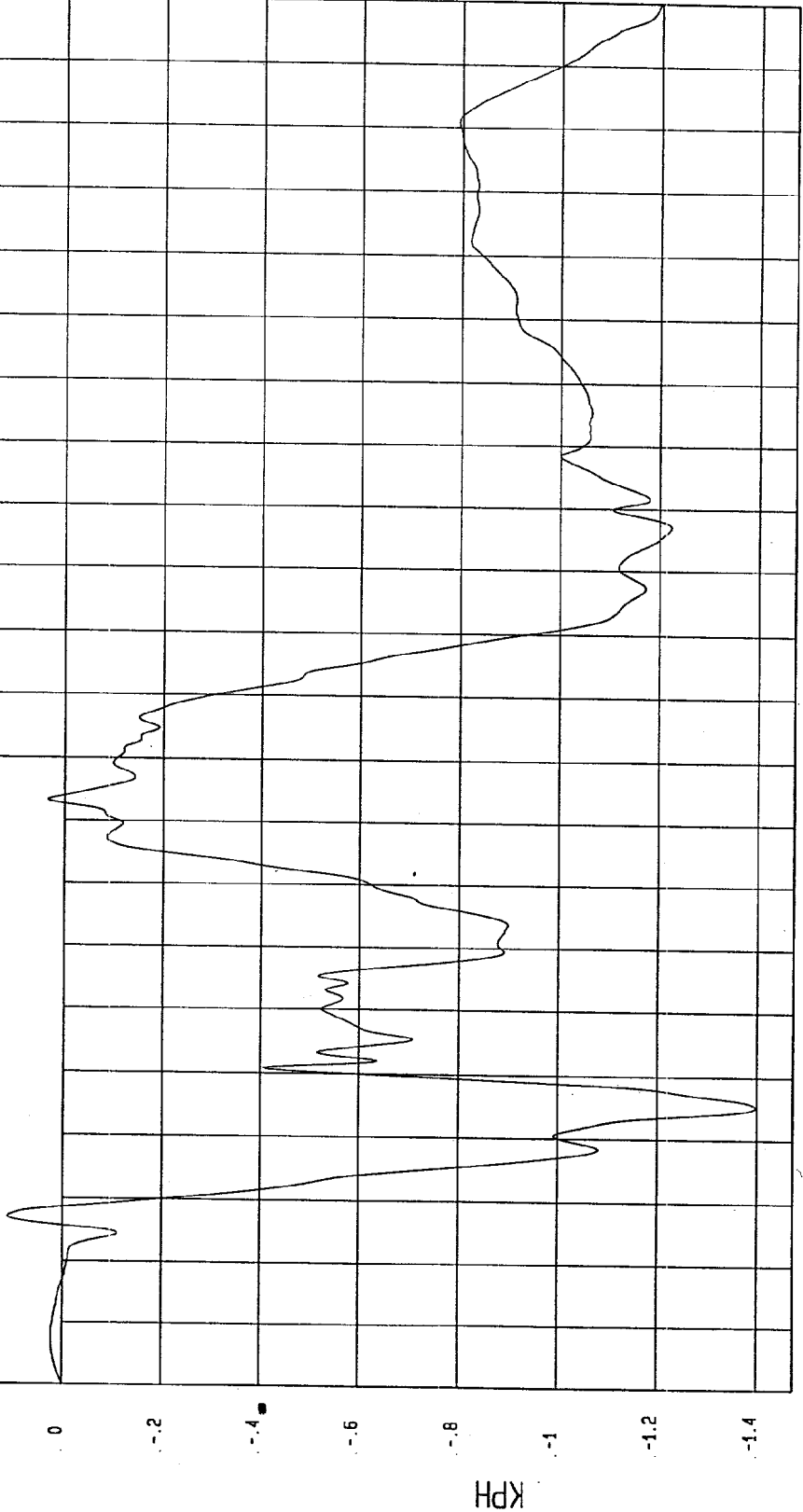
Speed: 38.65 MPH 62.2 KPH

Minimum = -1.4 KPH at 25 msec

Maximum = .11 KPH at 7 msec

RIGHT SIDE SILL AT FRONT SEAT X VELOCITY

1 ——— B00011A1.V32 Filterclass (180)



TIME Seconds

MCA Research  
02-10-2000 16:45

TEST: NCAP SIDE IMPACT

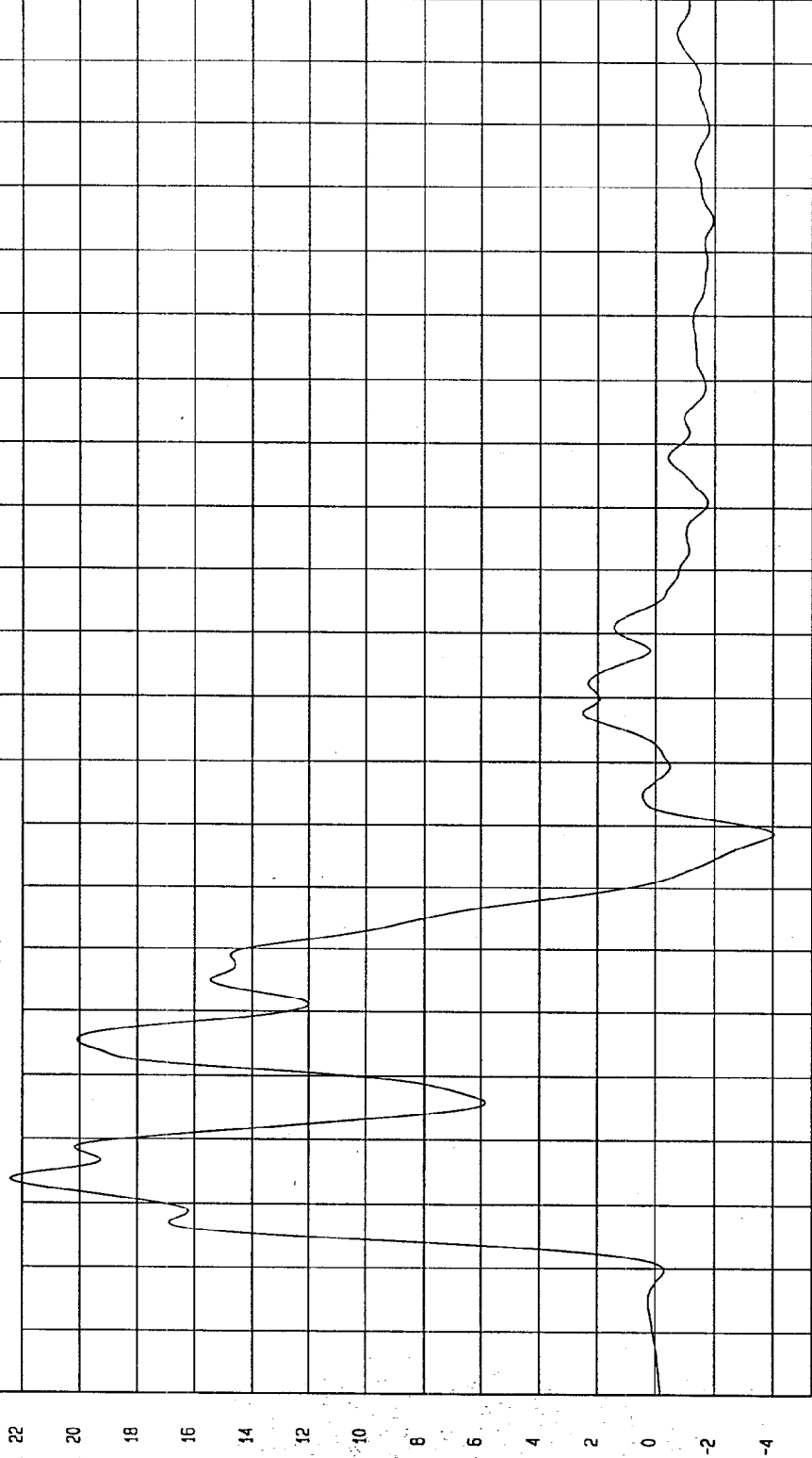
TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

Minimum = -4.03 G'S at 69 msec

RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION

1 - 800011AF.A33 Filterclass (60)



WCA Research  
02-10-2000 16:46

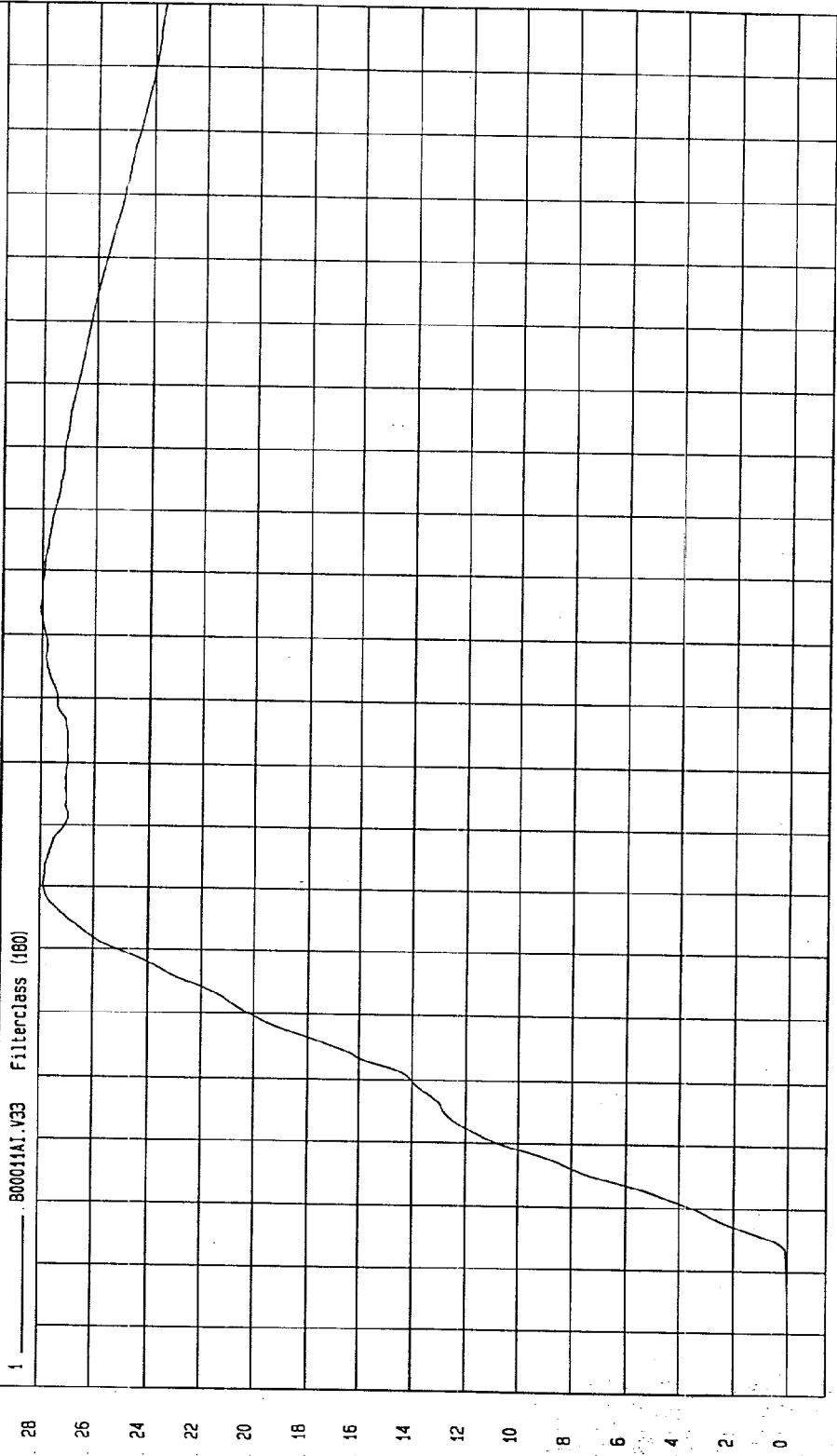
TIME (SECONDS)

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -2.74E-02 KPH at -12 msec  
Maximum = 28.05 KPH at 104 msec

RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY



MSA Research  
02-10-2000 16:46

TIME Seconds

KPH

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

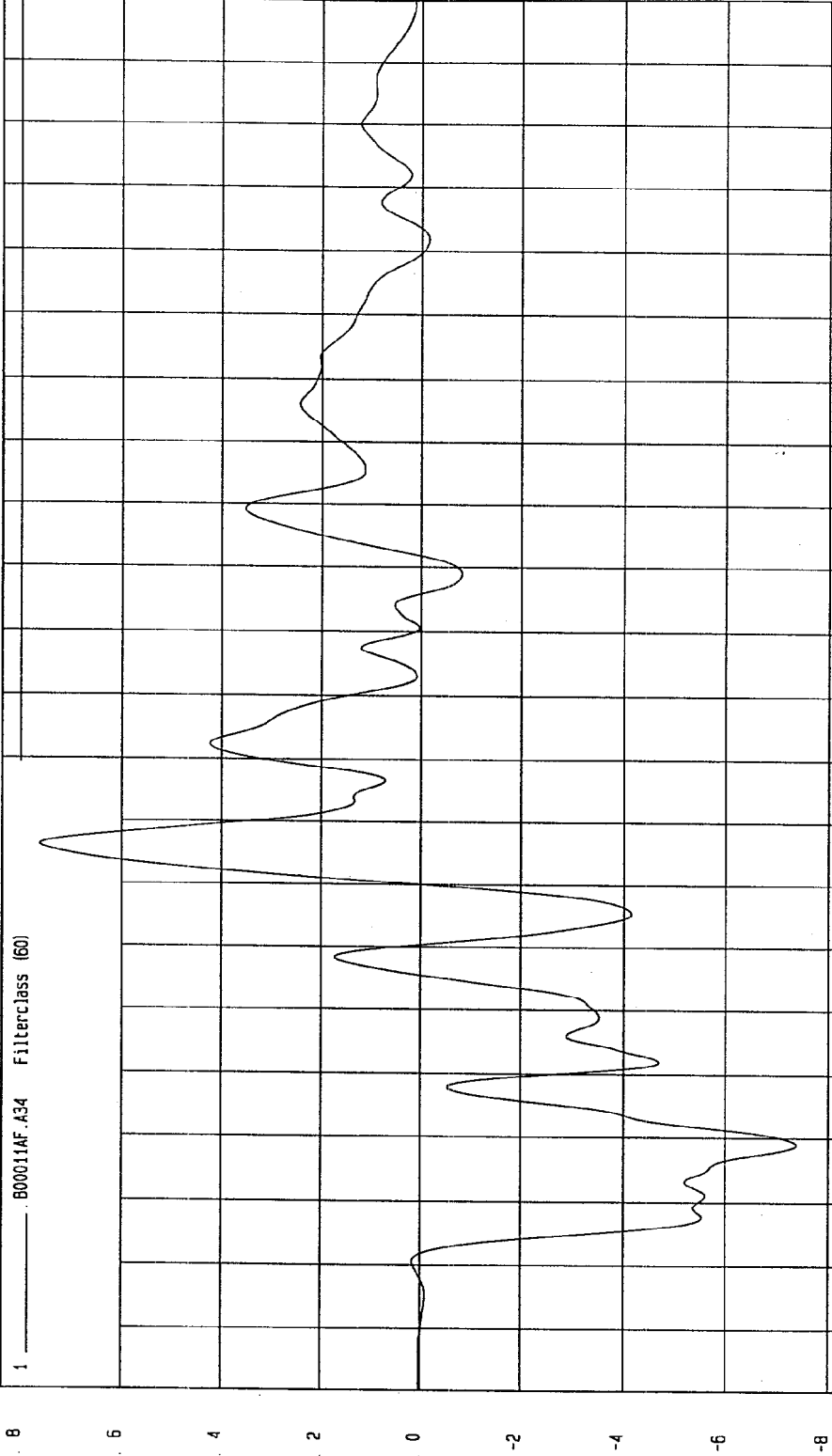
Speed: 38.65 MPH 62.2 KPH

Minimum = -7.37 G'S at 19 msec

Maximum = 7.62 G'S at 56 msec

RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION

1 \_\_\_\_\_ 800011AF.A34 Filterclass (60)



TIME (SECONDS)

MSA Research  
02-10-2000 16:46

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

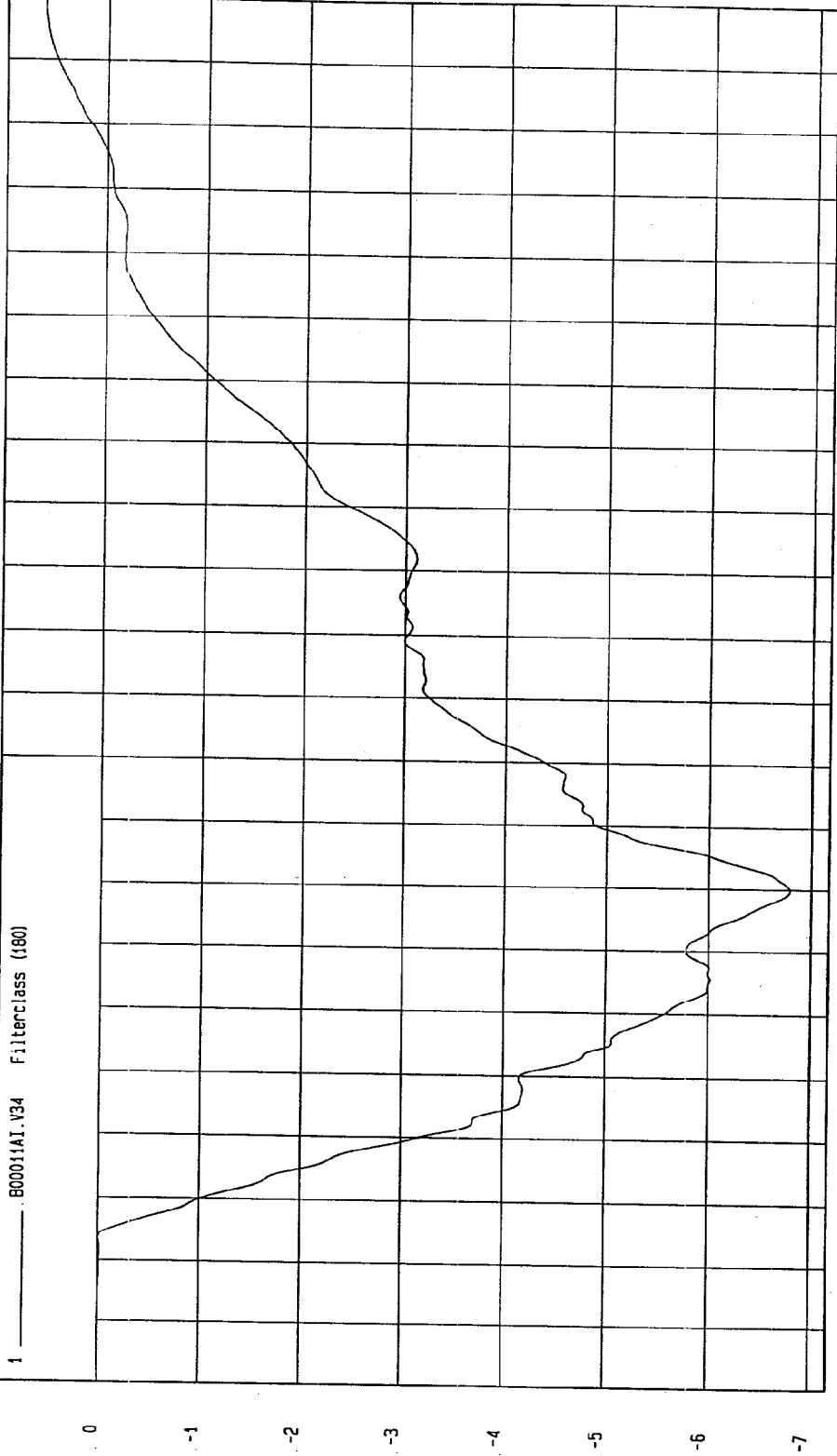
Speed: 38.65 MPH 62.2 KPH

Minimum = -6.8 KPH at 60 msec

Maximum = .62 KPH at 198 msec

RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY

1 ——— 800011A1.V34 Filterclass (180)



KPH

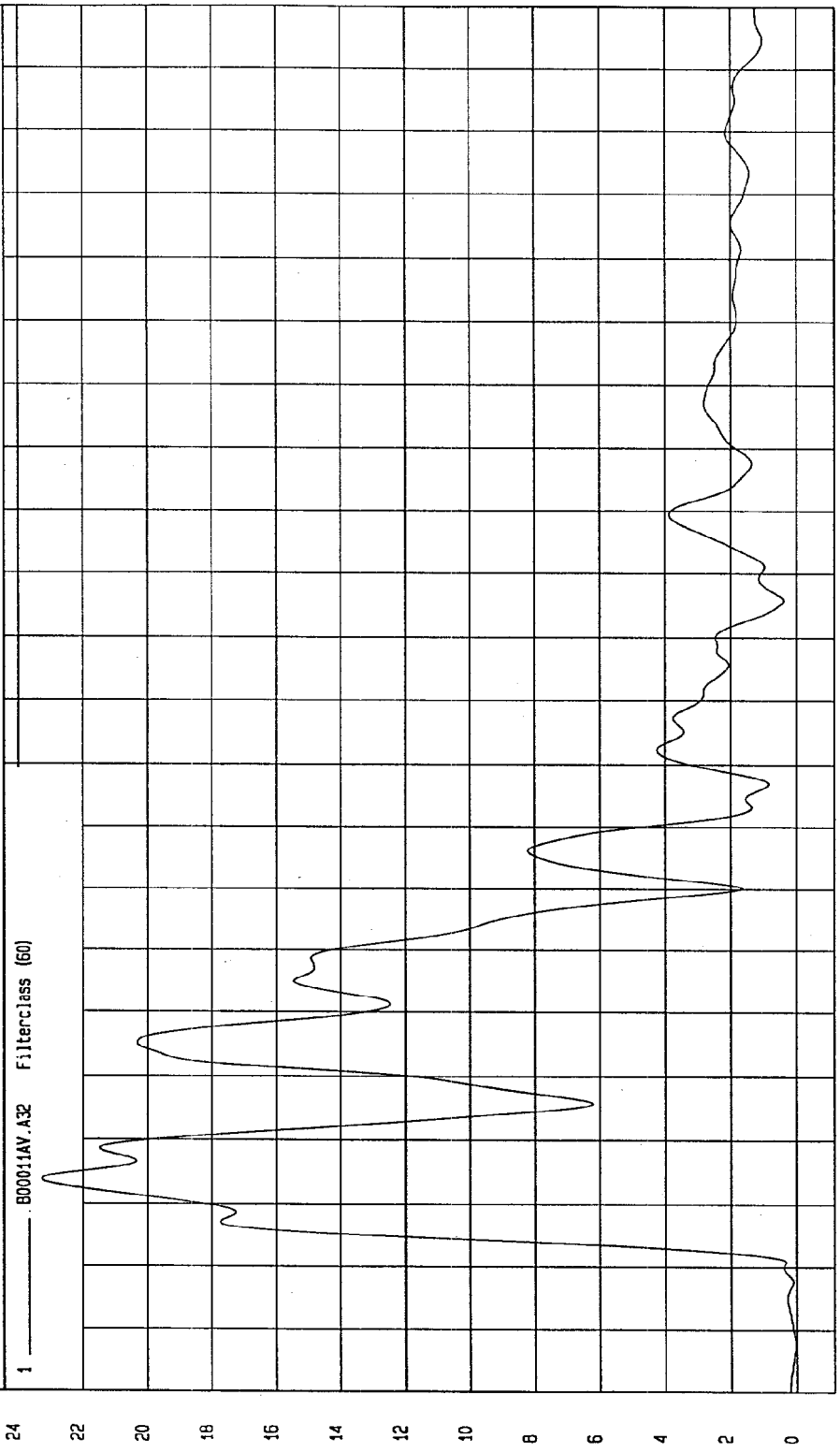
TIME Seconds

MGA Research  
02-10-2000 16:46

TEST: NCAP SIDE IMPACT      TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)      Speed: 38.65 MPH 62.2 KPH

Minimum = .03 G'S at -12 msec      Maximum = 23.28 G'S at 14 msec

RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION



TIME (SECONDS)

NCA Research  
02-10-2000 16:45

G'S

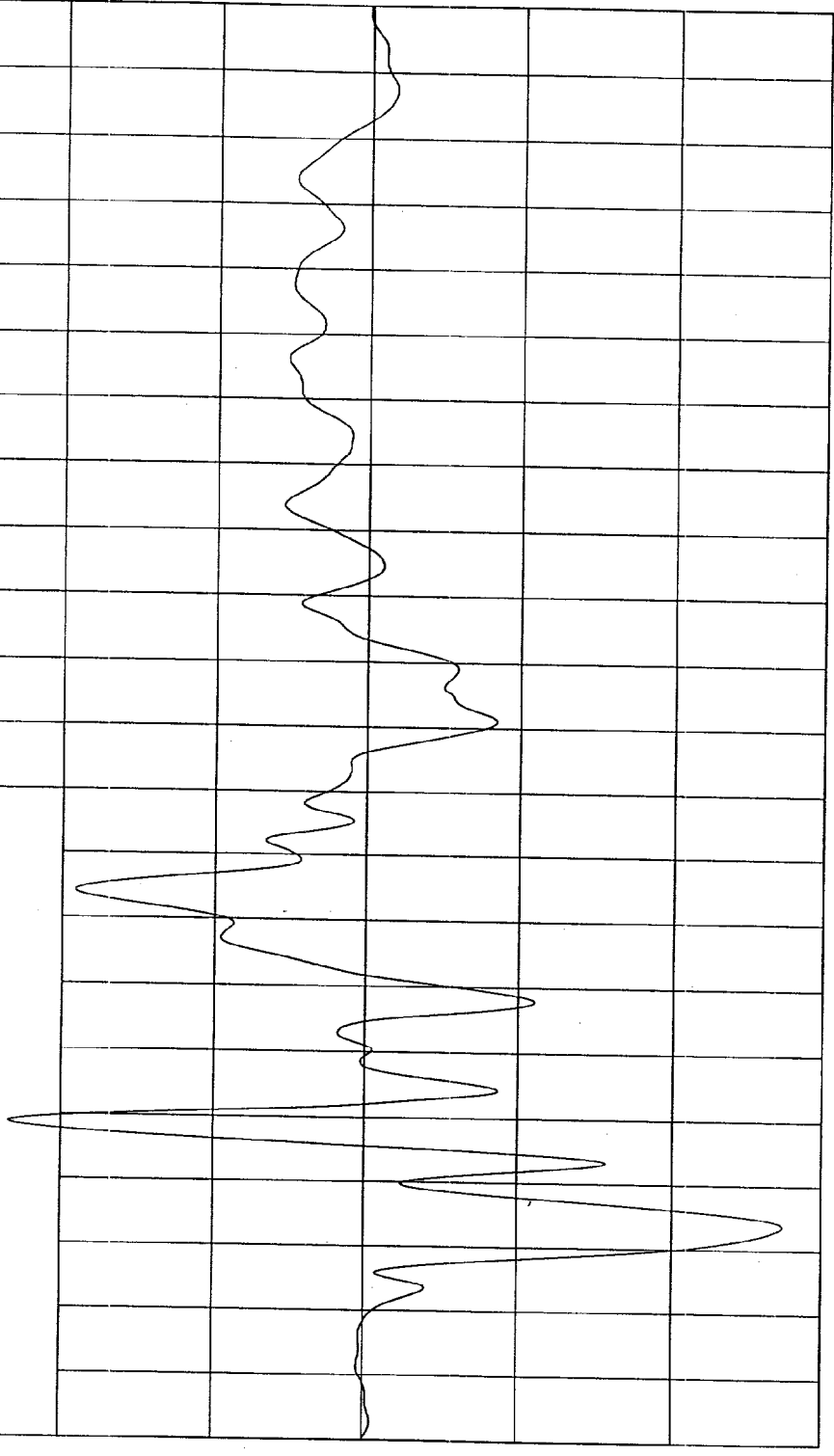
TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -5.42 G'S at 14 msec  
Maximum = 4.69 G'S at 29 msec

RIGHT SIDE SILL AT REAR SEAT X ACCELERATION

1 .B00011AF.A35 Filterclass (60)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

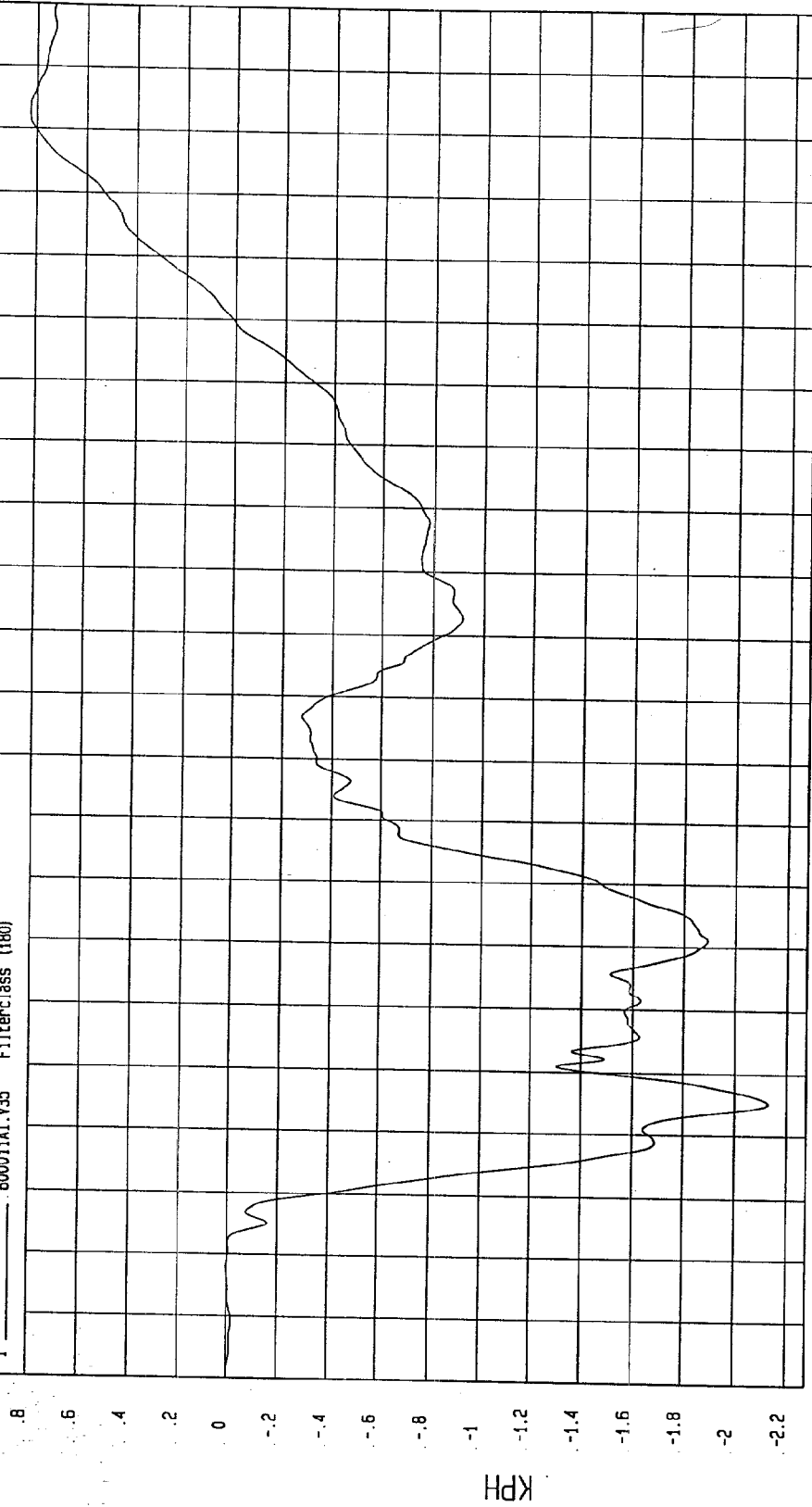
Speed: 38.65 MPH 62.2 KPH

Minimum = -2.13 KPH at 25 msec

Maximum = .82 KPH at 182 msec

RIGHT SIDE SILL AT REAR SEAT X VELOCITY

1 ——— 8000141.V35 Filterclass (180)



TIME Seconds

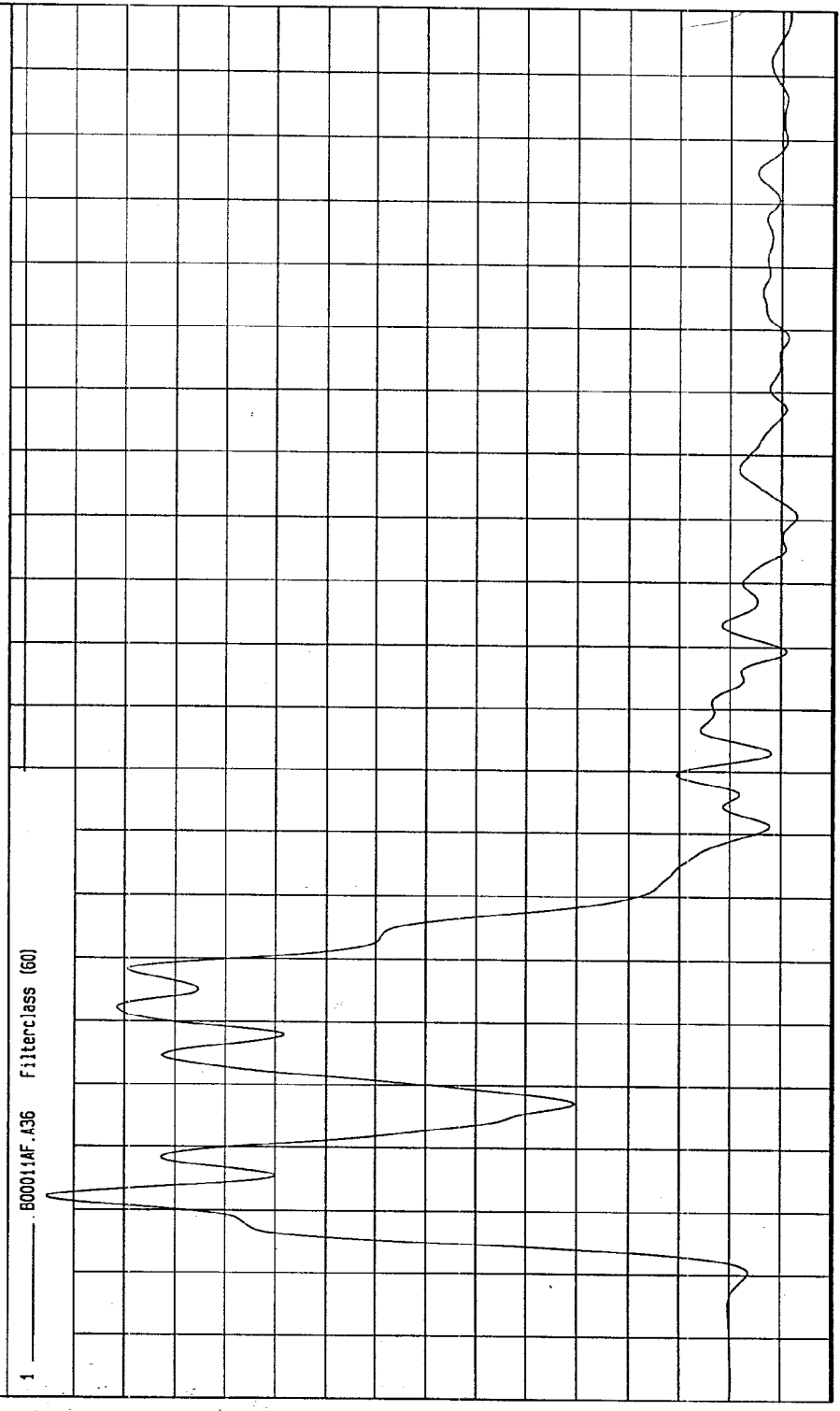
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -2.6 G'S at 121 msec Maximum = 27.11 G'S at 12 msec

RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION

1 B00011AF.A36 Filterclass (60)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

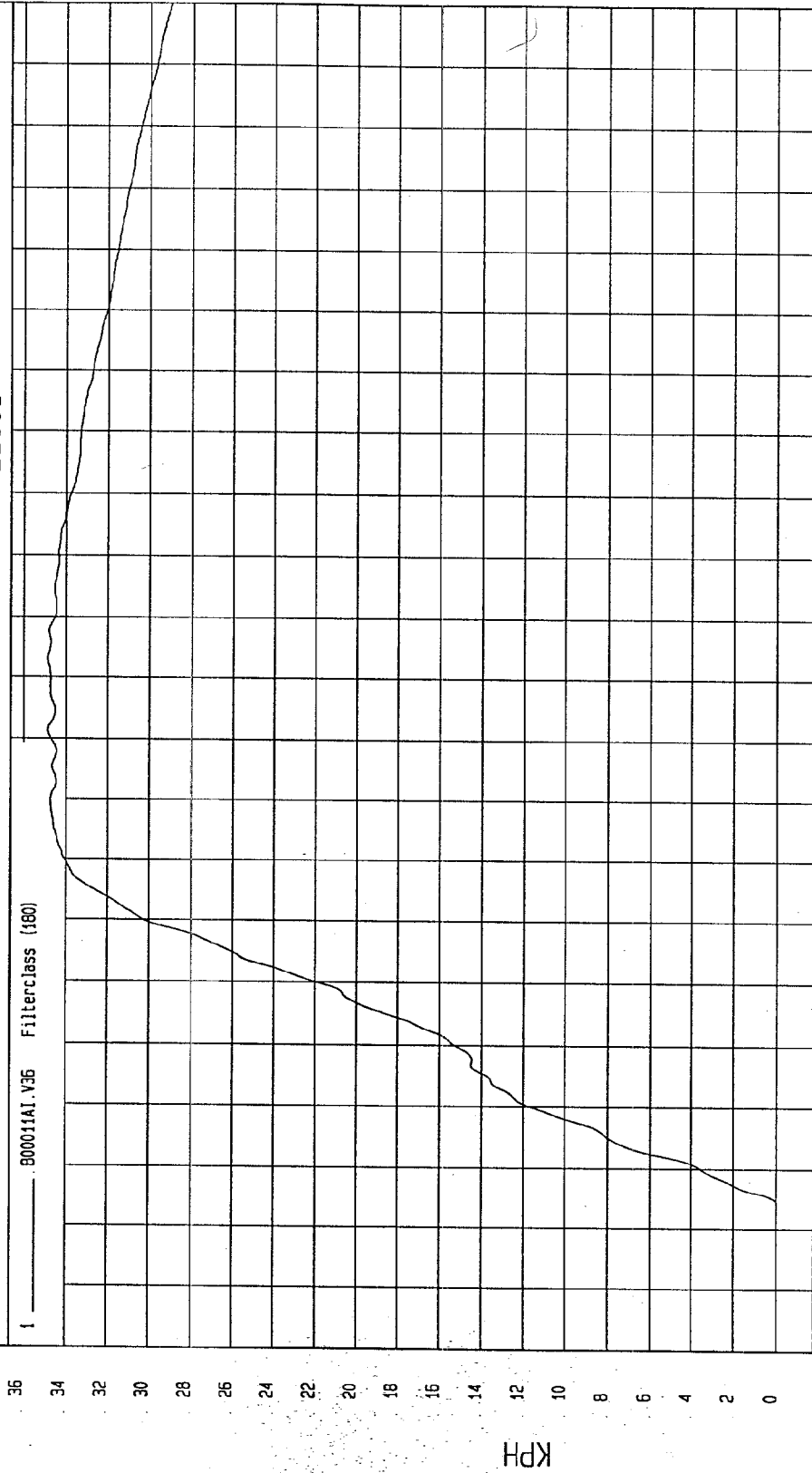
Speed: 38.65 MPH 62.2 KPH

Minimum = -1.93E-02 KPH at 4 msec

Maximum = 34.88 KPH at 93 msec

RIGHT SIDE SILL AT REAR SEAT Y VELOCITY

1 \_\_\_\_\_ 800011A1.V36 Filterclass (160)



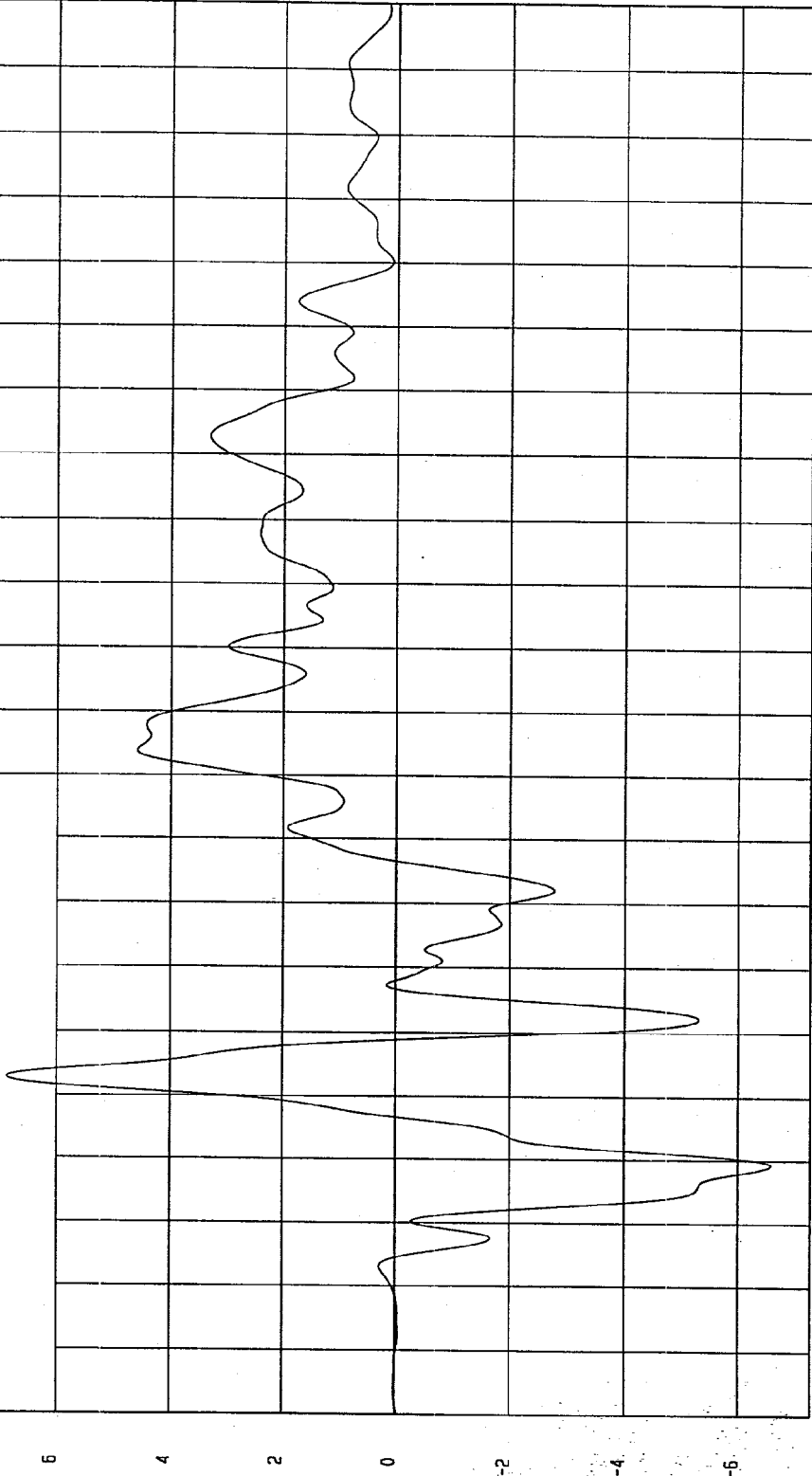
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -6.56 G'S at 19 msec  
Maximum = 6.89 G'S at 33 msec

RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION

1 ——— BC0011AF.A37 Filterclass (60)



TIME (SECONDS)

MCA Research  
02-10-2000 16.46

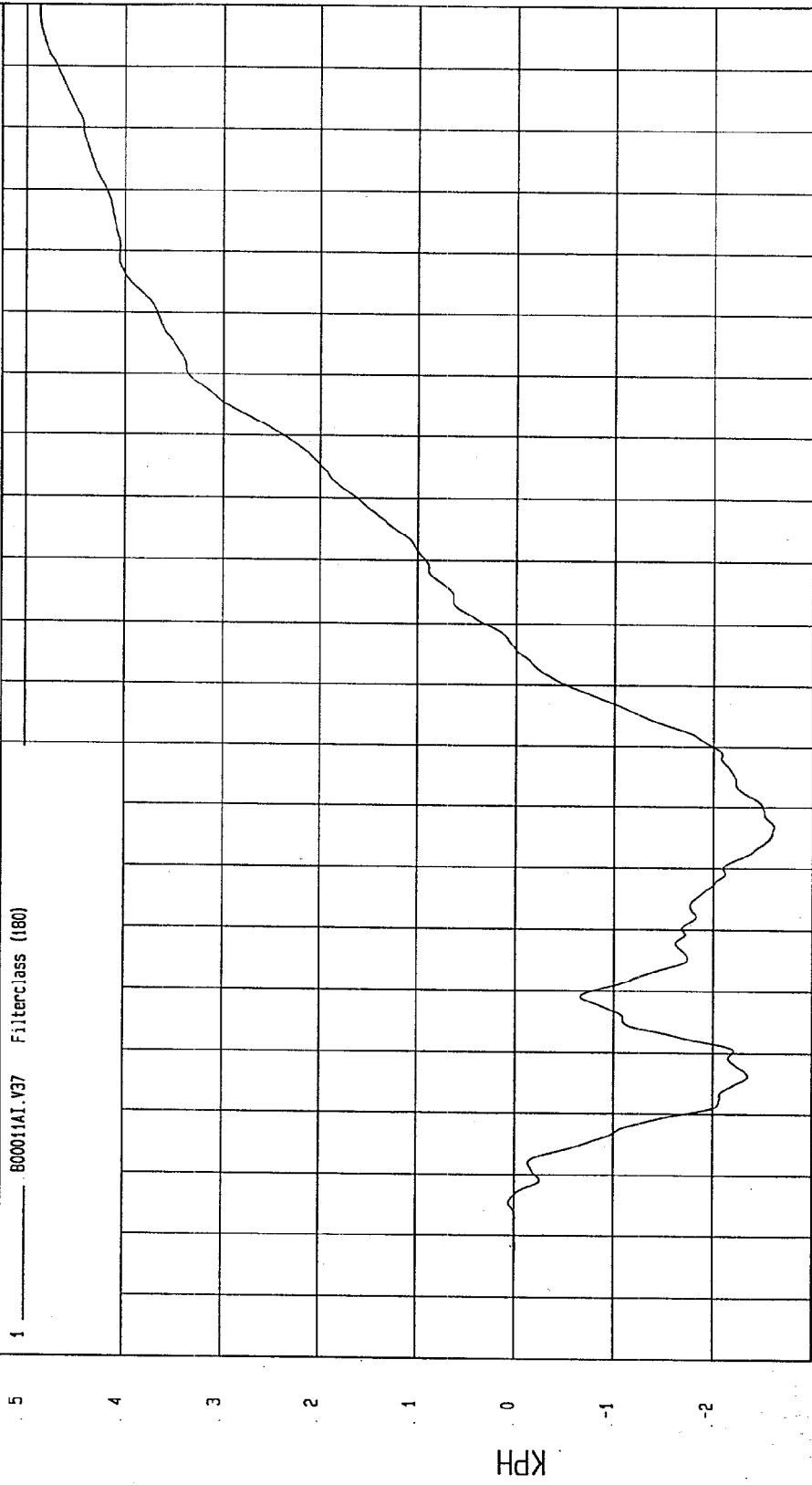
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -2.61 KPH at 67 msec  
Maximum = 4.87 KPH at 200 msec

RIGHT SIDE SILL AT REAR SEAT Z VELOCITY

1 80001A1.V37 Filterclass (180)



MGA Research  
02-10-2000 16:46

TIME Seconds

KPH

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

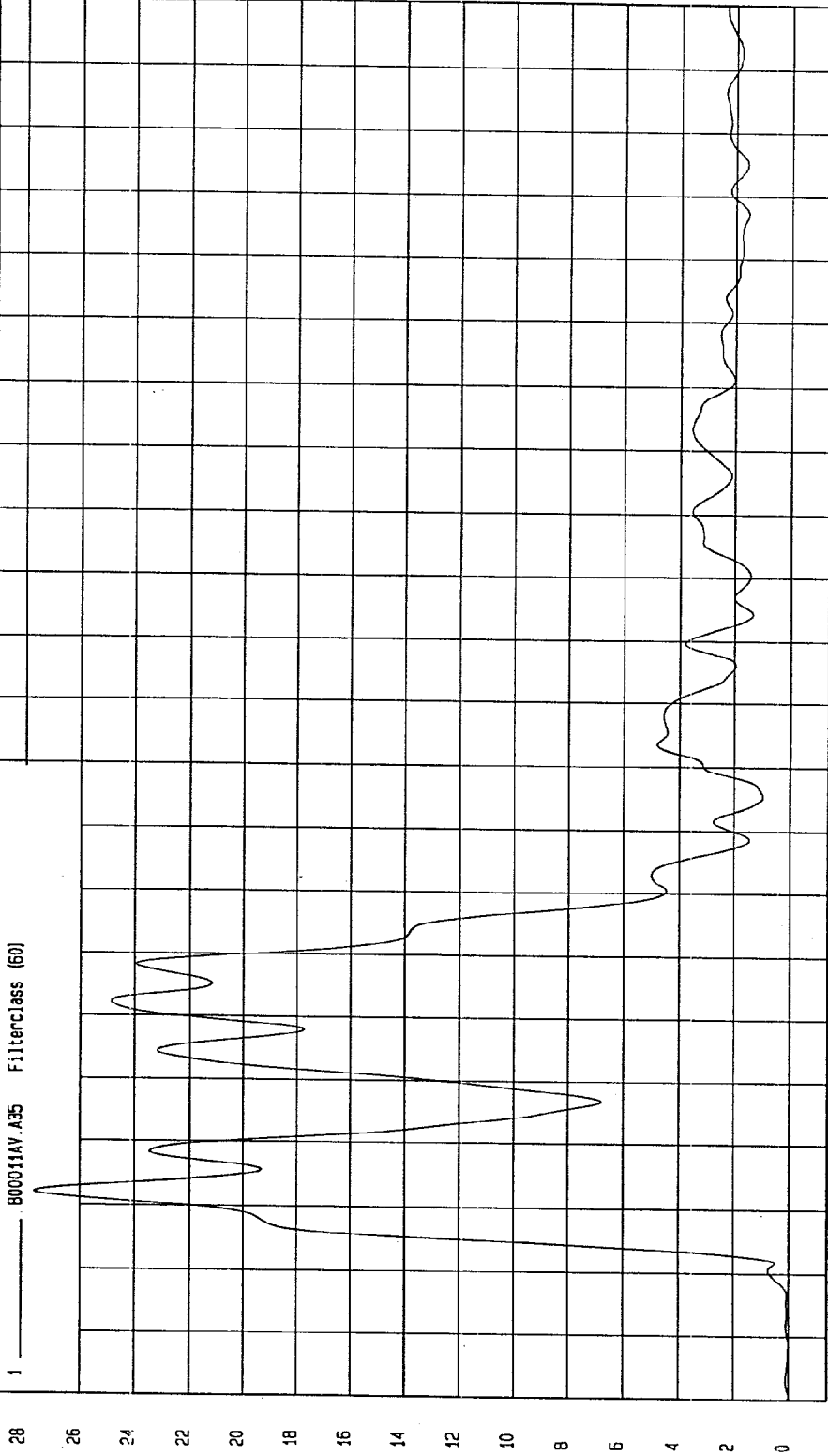
Speed: 38.65 MPH 62.2 KPH

Minimum = 1.72E-02 G'S at -11 msec

Maximum = 27.67 G'S at 12 msec

RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

1 800011AV.A35 Filterclass (60)



MCA Research  
02-10-2000 16:46

G.S

TIME (SECONDS)

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
Speed: 38.65 MPH 62.2 KPH

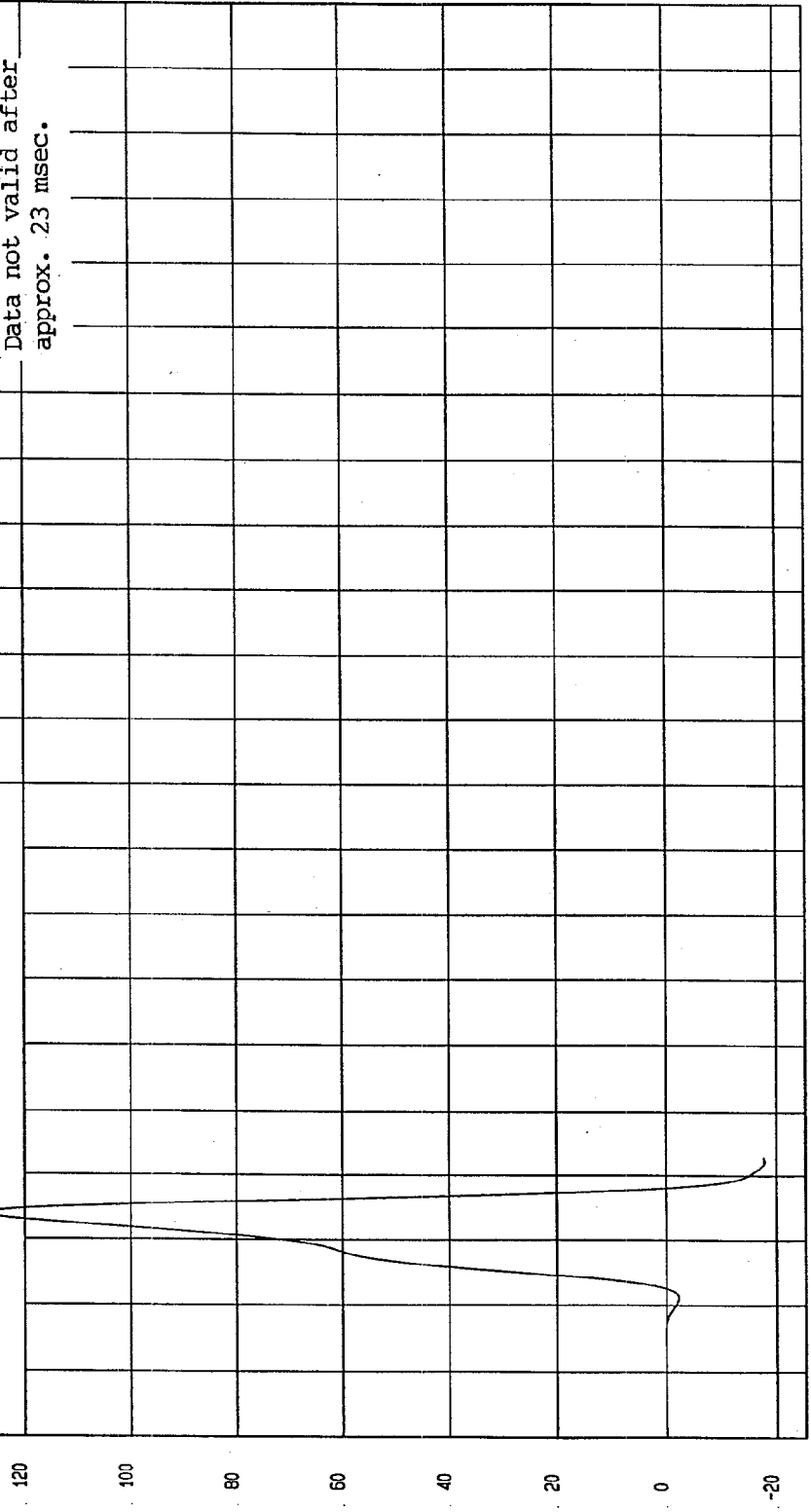
COMPONENT: 2000 FORD FOCUS (MY0205)

Minimum = -17.92 G'S at 22 msec  
Maximum = 127.58 G'S at 14 msec

DRIVER SEAT TRACK Y ACCELERATION

1 800011AF.A40 Filterclass (60)

Data not valid after  
approx. 23 msec.



MCA Research  
02-14-2000 11:32

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

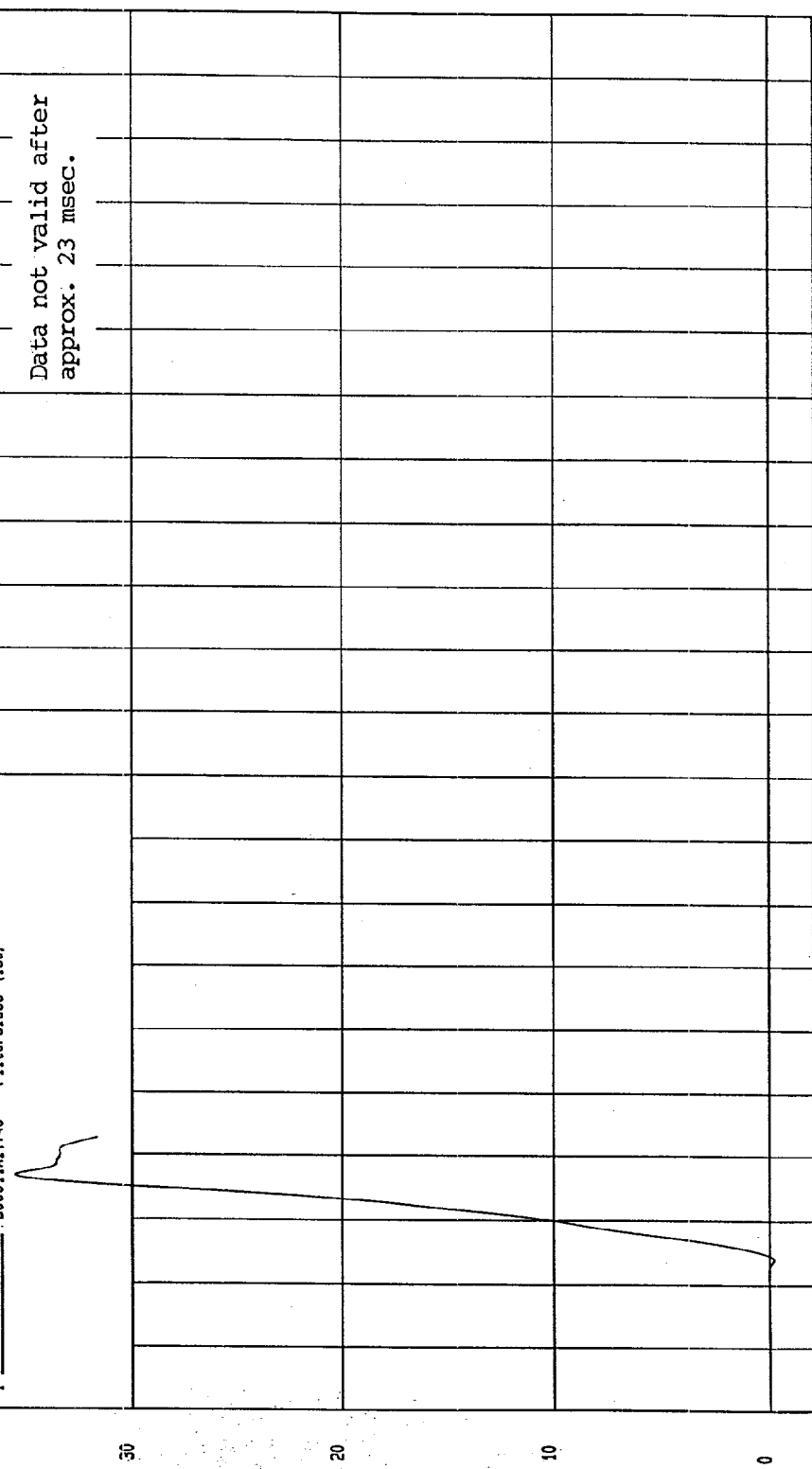
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -.22 KPH at 4 msec  
Maximum = 35.61 KPH at .17 msec

DRIVER SEAT TRACK Y VELOCITY

1 ——— .B00011A1.V40 FilterClass (180)

Data not valid after  
approx. 23 msec.



MGA Research  
02-14-2000 11:33

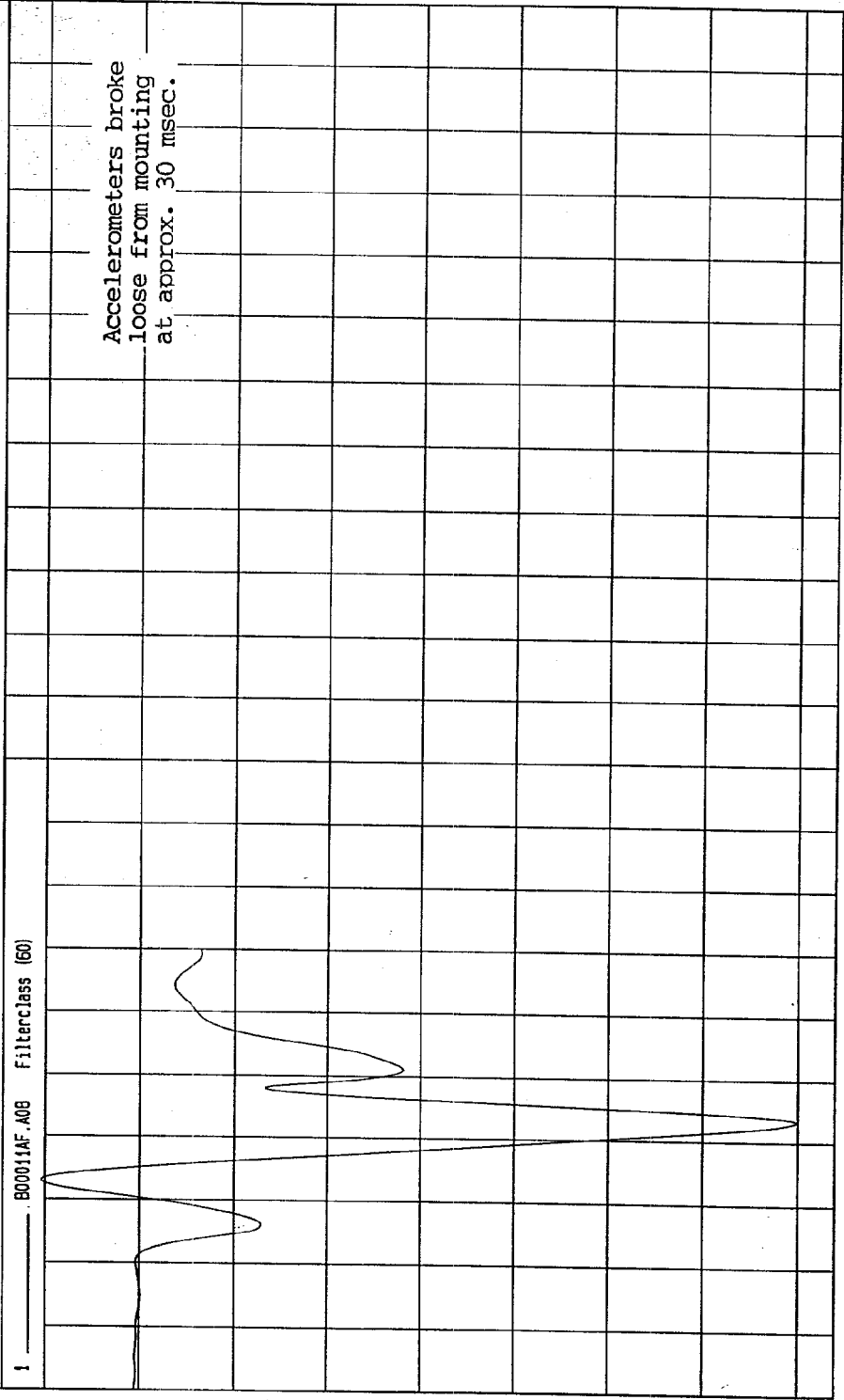
TIME Seconds

KPH

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
 COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -13.97 G'S at 23 msec Maximum = 2.08 G'S at 13 msec

REAR FLOORPAN ABOVE AXLE X ACCELERATION



TIME (SECONDS)

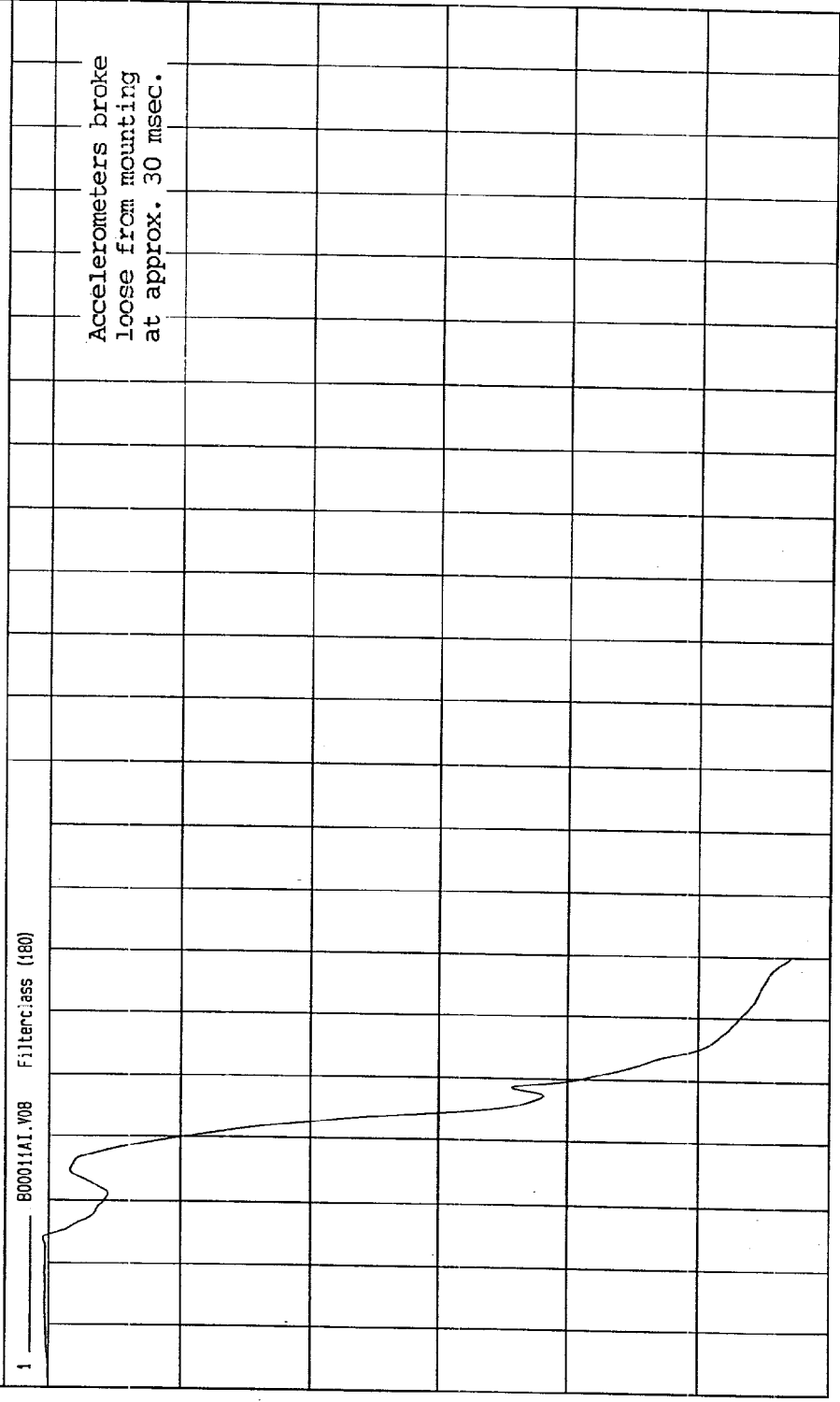
MSA Research  
 02-14-2000 11:33

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -5.71 KPH at 50 msec  
Maximum = 4.48E-02 KPH at 4 msec

REAR FLOORPAN ABOVE AXLE X VELOCITY



1 ——— B00011A1.V08 Filterc:ass (180)

TIME Seconds

02-10-2000 11:33  
MGA Research

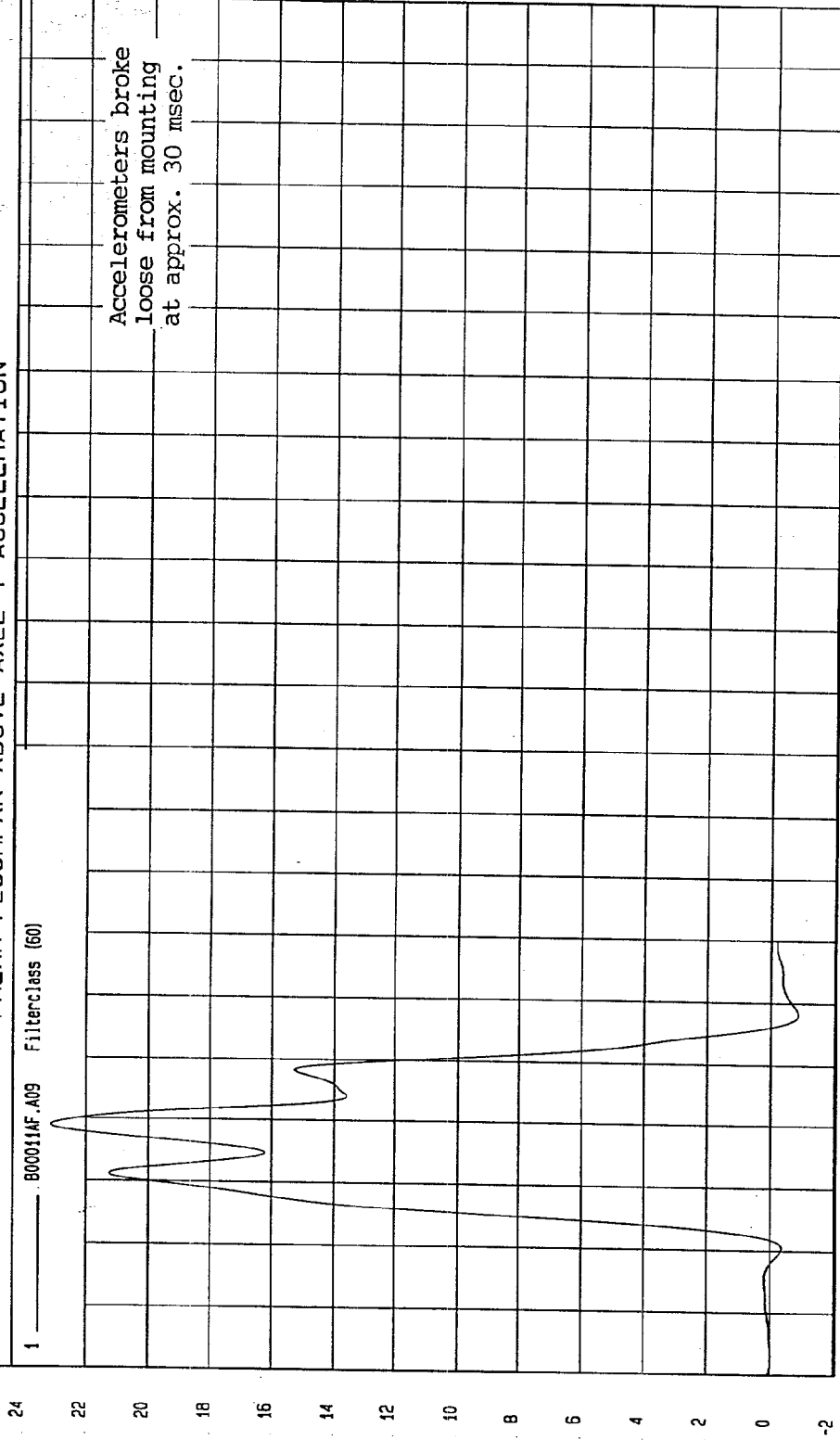
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -.86 G'S at .38 msec Maximum = 23.13 G'S at .19 msec

REAR FLOORPAN ABOVE AXLE Y ACCELERATION

1 .800011AF.A09 Filterclass (60)



Accelerometers broke loose from mounting at approx. 30 msec.

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

COMPONENT: 2000 FORD FOCUS (MY0205)

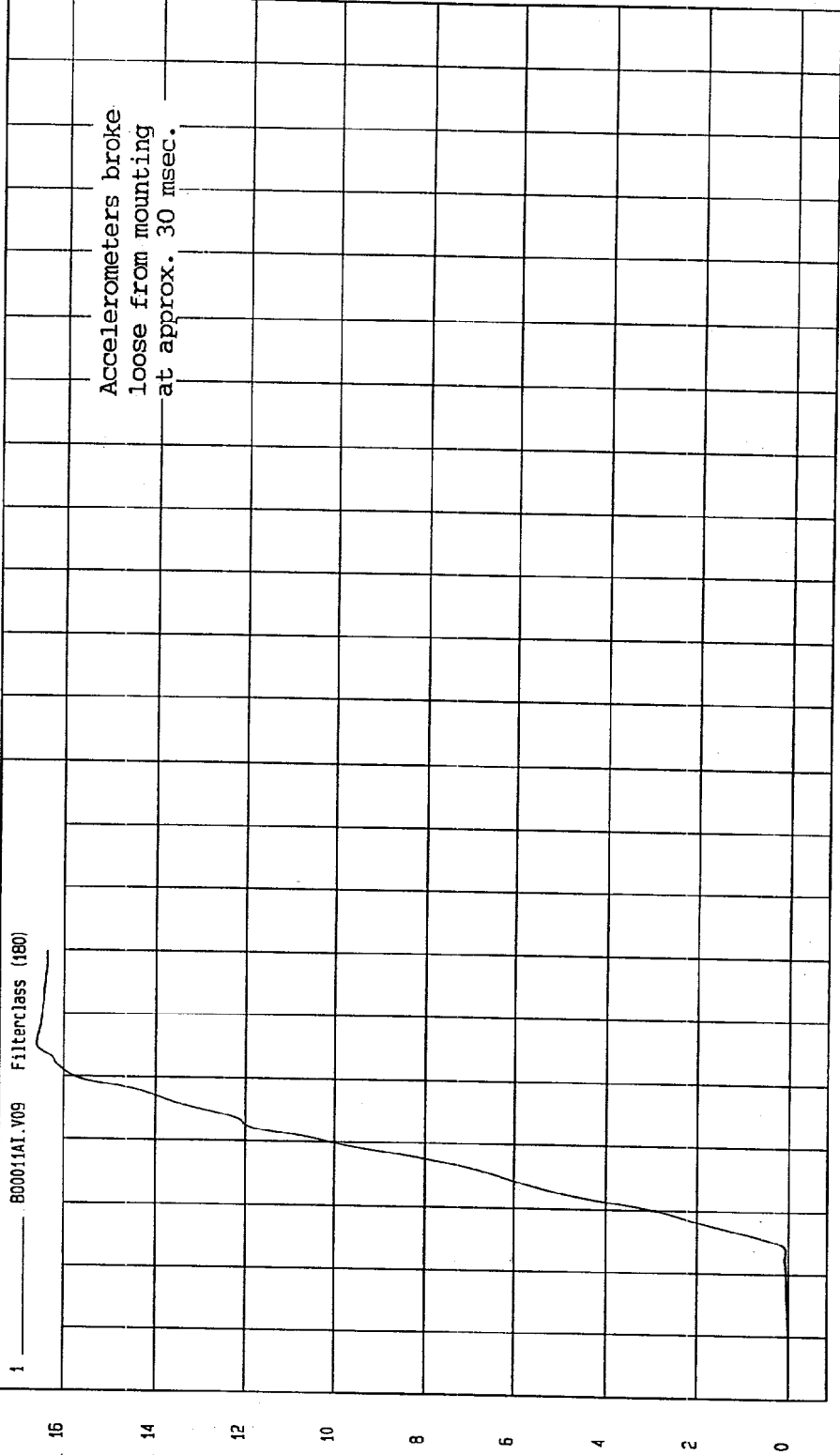
Minimum = -3.91E-03 KPH at -16 msec

Maximum = 15.61 KPH at 35 msec

REAR FLOORPAN ABOVE AXLE Y VELOCITY

1 ——— 800011A1.Y09 Filterclass (180)

Accelerometers broke loose from mounting at approx. 30 msec.



TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

Speed: 38.65 MPH 62.2 KPH

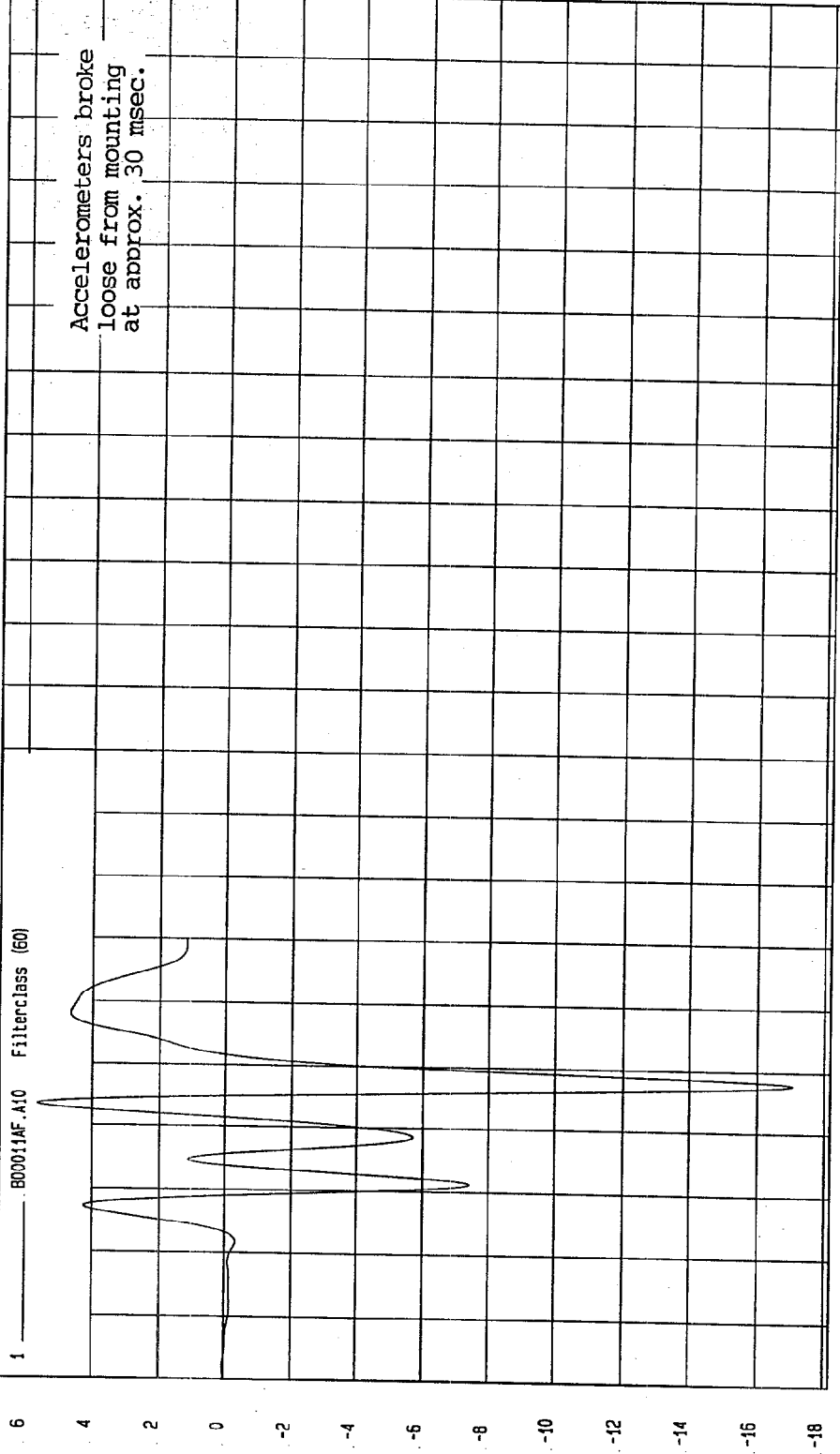
Minimum = -17.05 G'S at 28 msec

Maximum = 5.65 G'S at 24 msec

REAR FLOORPAN ABOVE AXLE Z ACCELERATION

1 B00011AF.A10 Filterclass (60)

Accelerometers broke loose from mounting at approx. 30 msec.



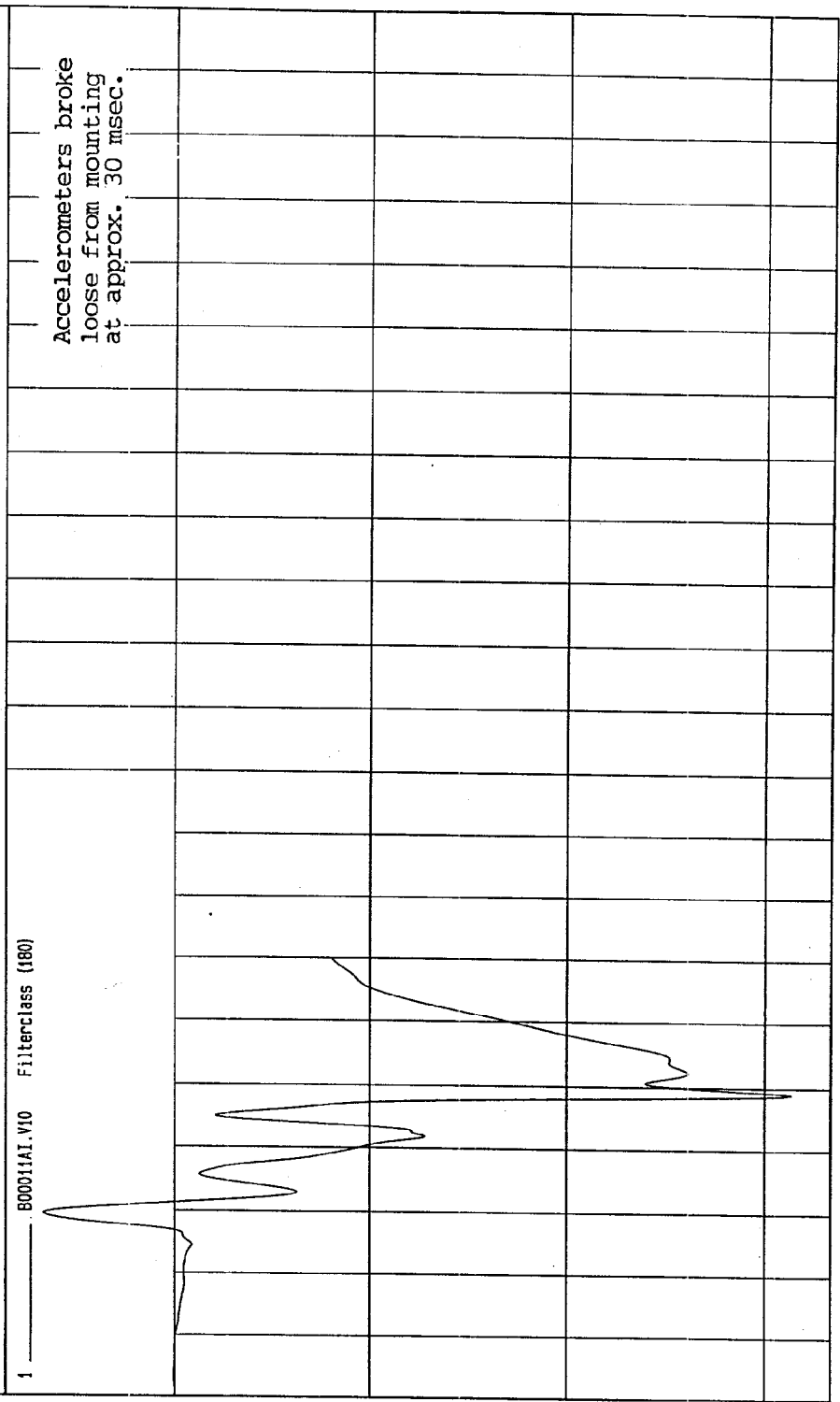
TIME (SECONDS)

MEA Research  
02-14-2000 11:33

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
 COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -3.43 KPH at 29 msec Maximum = .66 KPH at 10 msec

REAR FLOORPAN ABOVE AXLE Z VELOCITY



1 ——— B00011A1.V10 Filterclass (180)

TIME Seconds

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

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

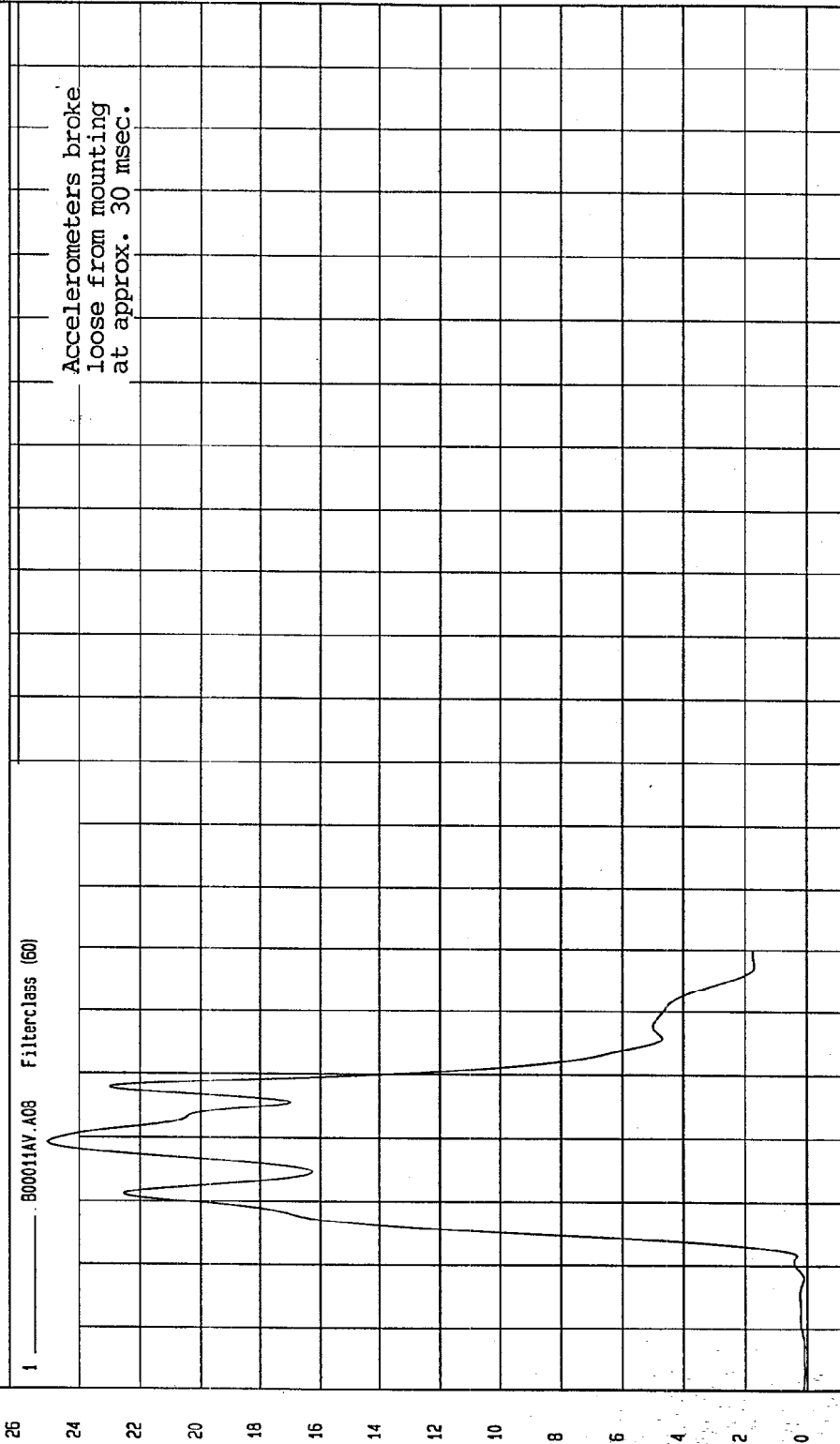
TEST: NCAP SIDE IMPACT

COMPONENT: 2000 FORD FOCUS (MY0205)

Maximum = 25.04 G'S at 19 msec

Minimum = 7.94E-02 G'S at -17 msec

REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION



TIME (SECONDS)

MOA Research  
02-14-2000 11:33

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

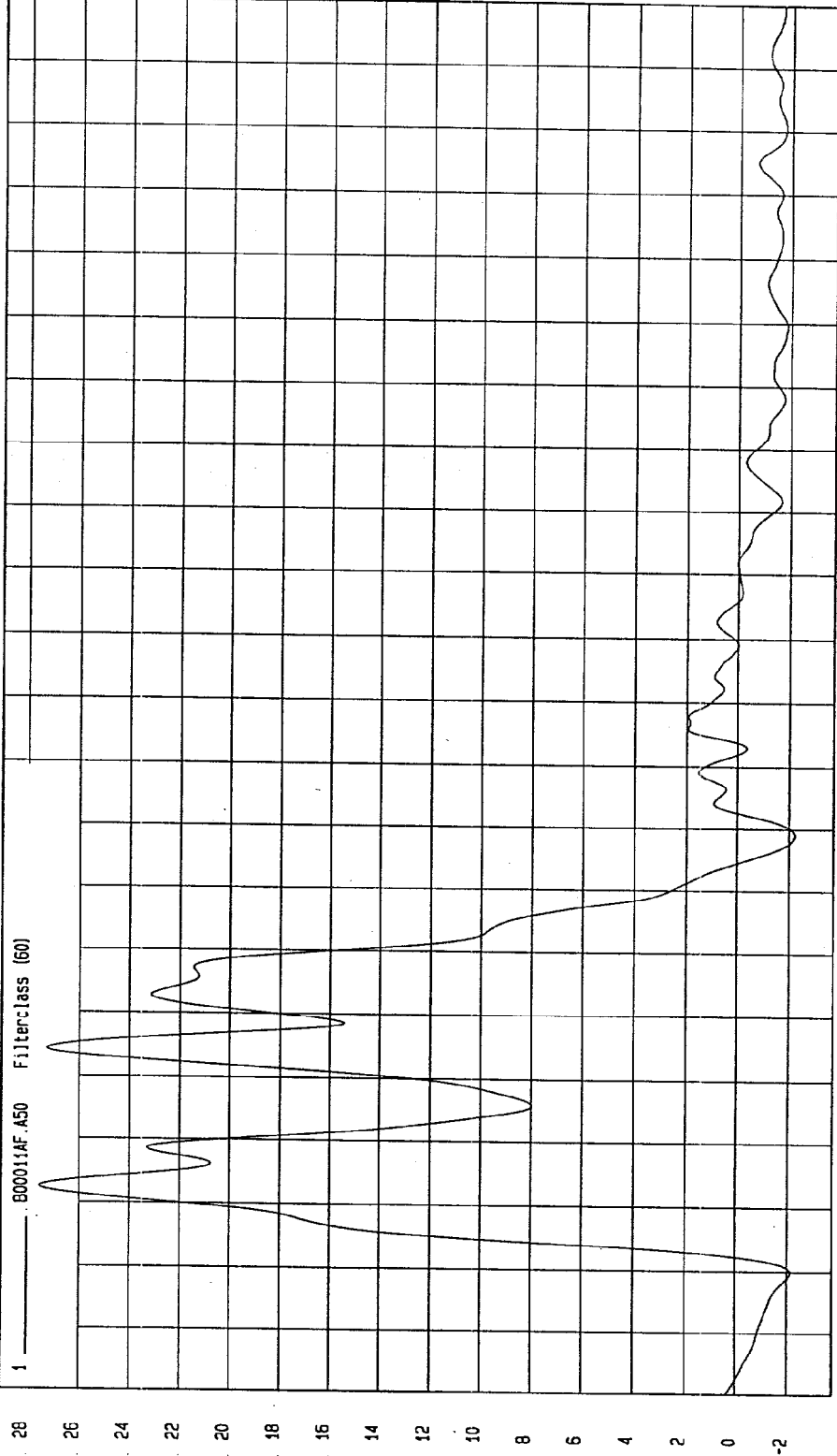
Speed: 38.65 MPH 62.2 KPH

Minimum = -2.23 G'S at 69 msec

Maximum = 27.55 G'S at 12 msec

RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION

1 ——— 800011AF.A50 Filterclass (60)

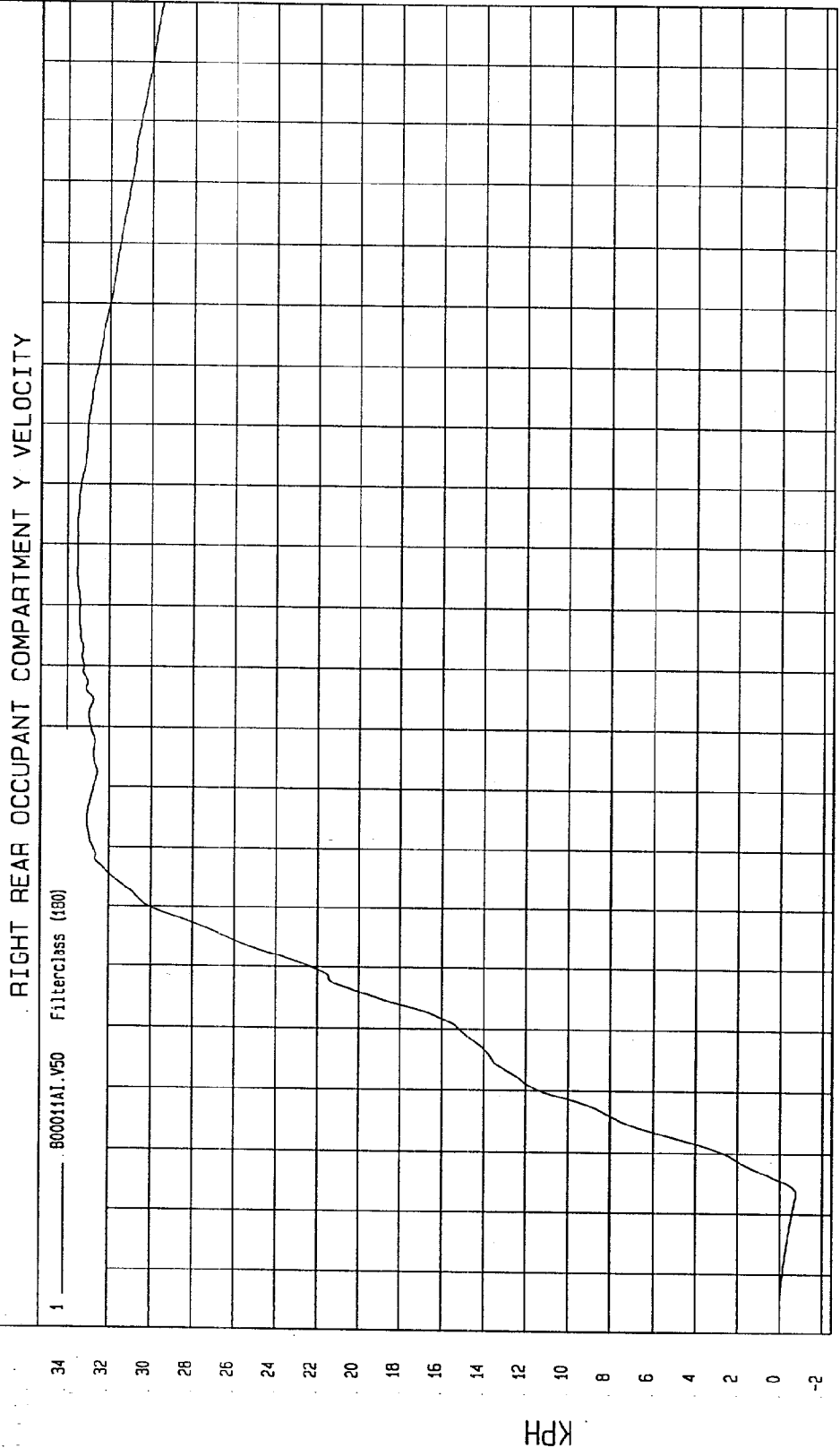


MGA Research  
02-10-2000 16:46

TIME (SECONDS)

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -74 KPH at 3 msec  
Maximum = 33.54 KPH at 105 msec



KPH

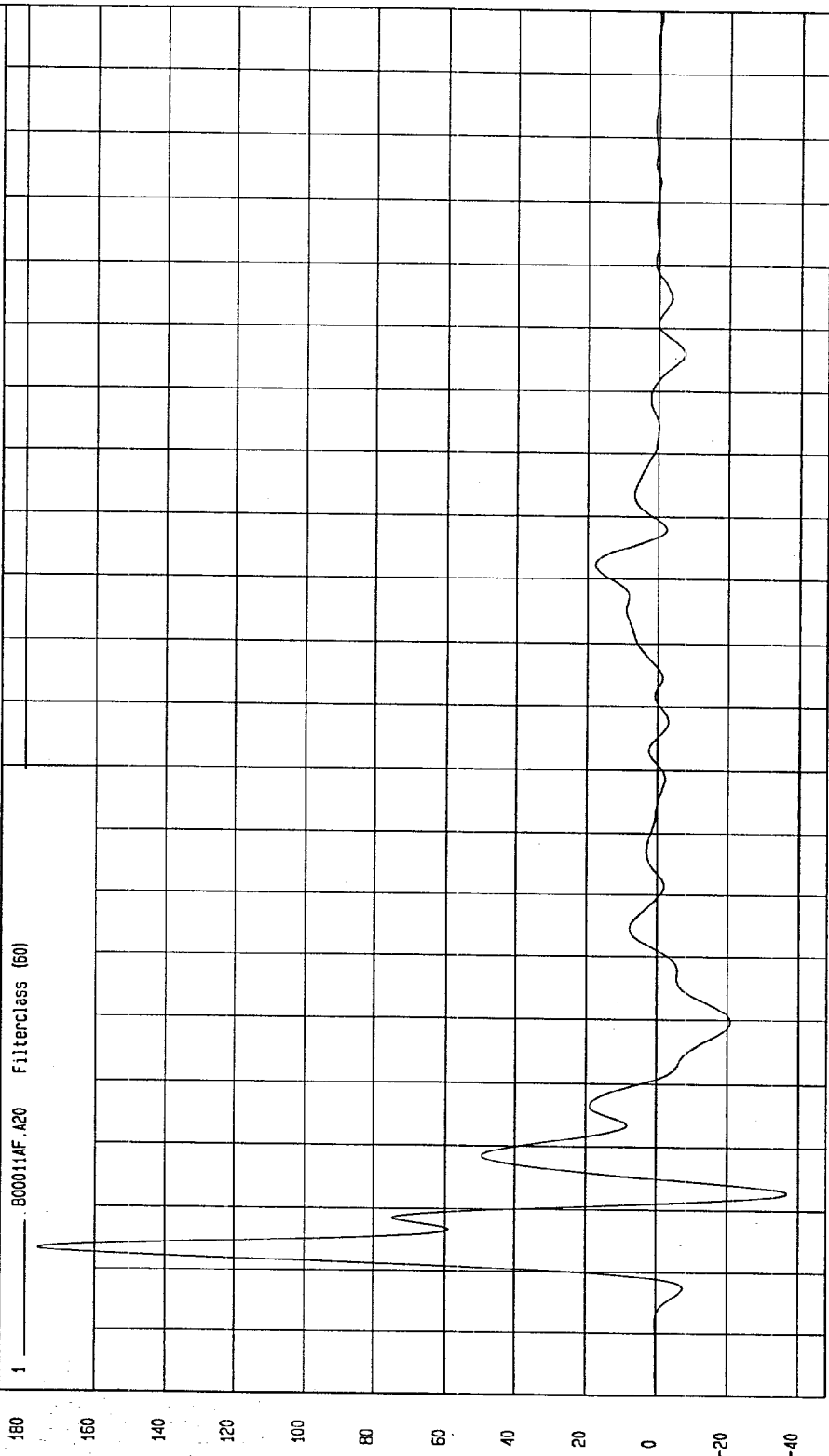
TIME Seconds

MSA Research  
02-10-2000 16:46

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH  
Minimum = -36.9 G'S at 13 msec Maximum = 176.12 G'S at 3 msec

LEFT LOWER A-POST Y ACCELERATION

1 800011AF.A20 Filterclass (60)



TIME (SECONDS)

MEA Research  
02-10-2000 16:47

G.S

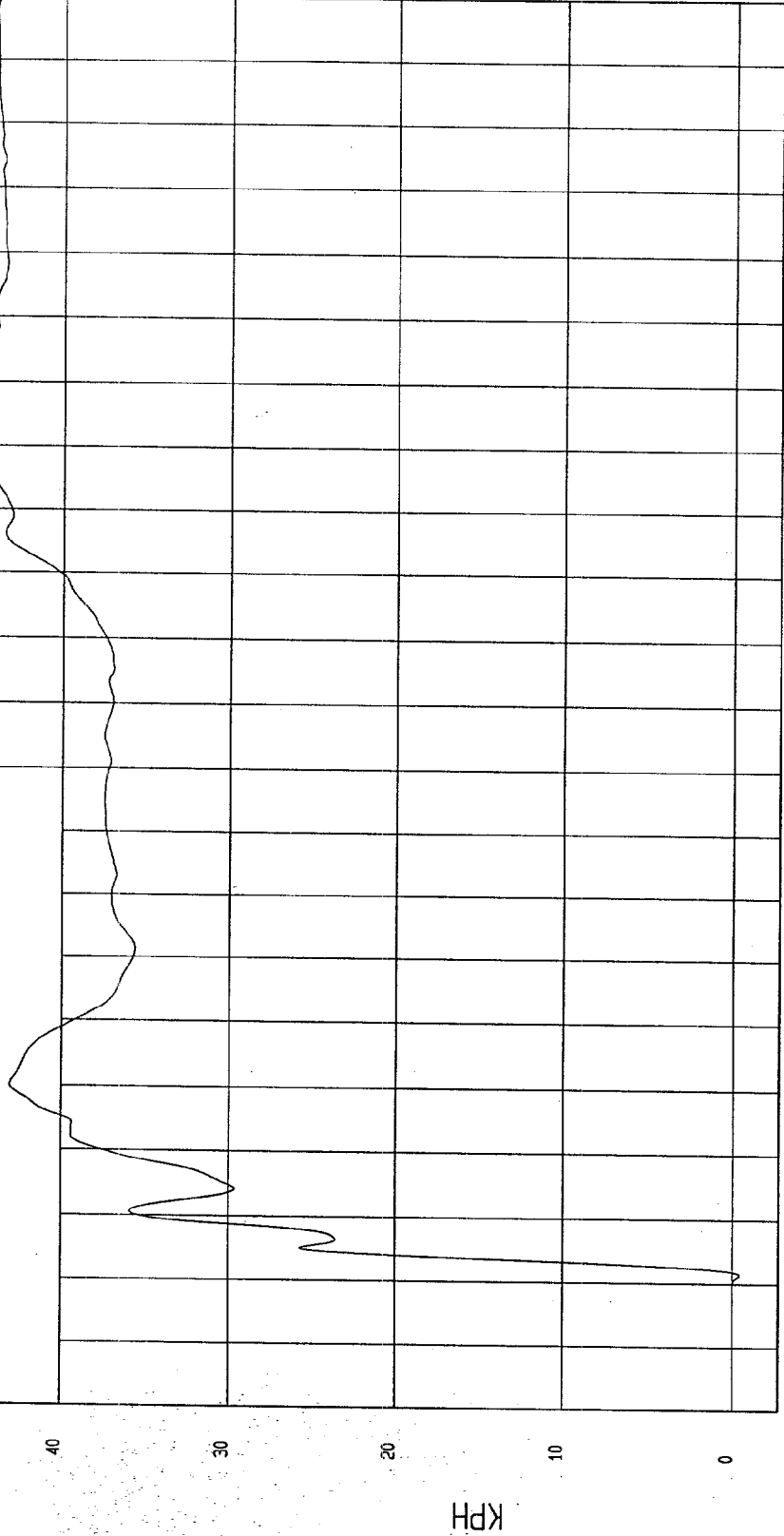
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -39 KPH at 1 msec  
Maximum = 45.08 KPH at 142 msec

LEFT LOWER A-POST Y VELOCITY

1 ——— 800011A1.V20 Filterclass (480)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

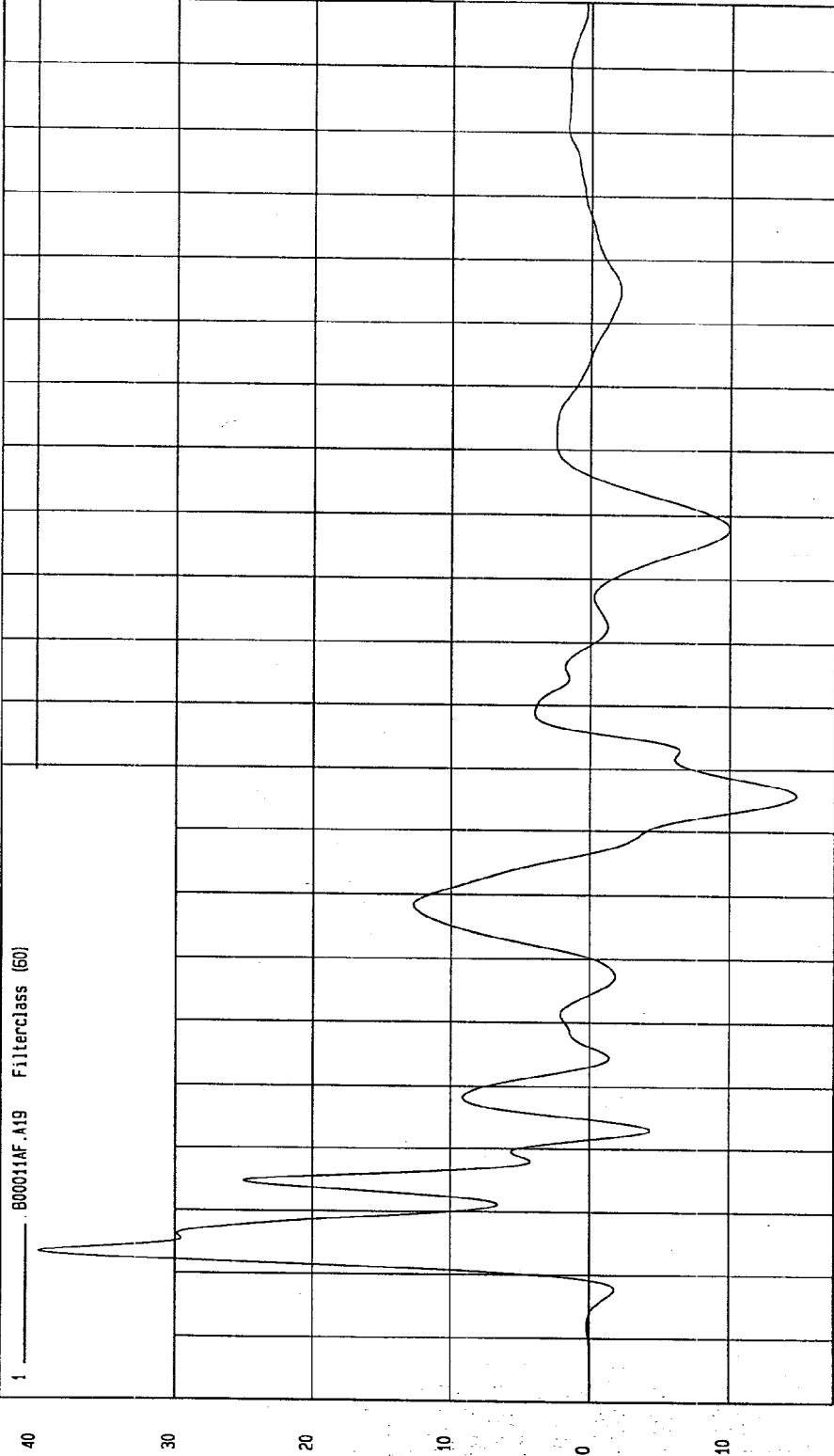
Speed: 38.65 MPH 62.2 KPH

Minimum = -14.66 G'S at 76 msec

Maximum = 39.8 G'S at 3 msec

LEFT MID A-POST Y ACCELERATION

1 800011AF.A19 Filterclass (60)



TIME (SECONDS)

MGA Research  
02-10-2000 16:47

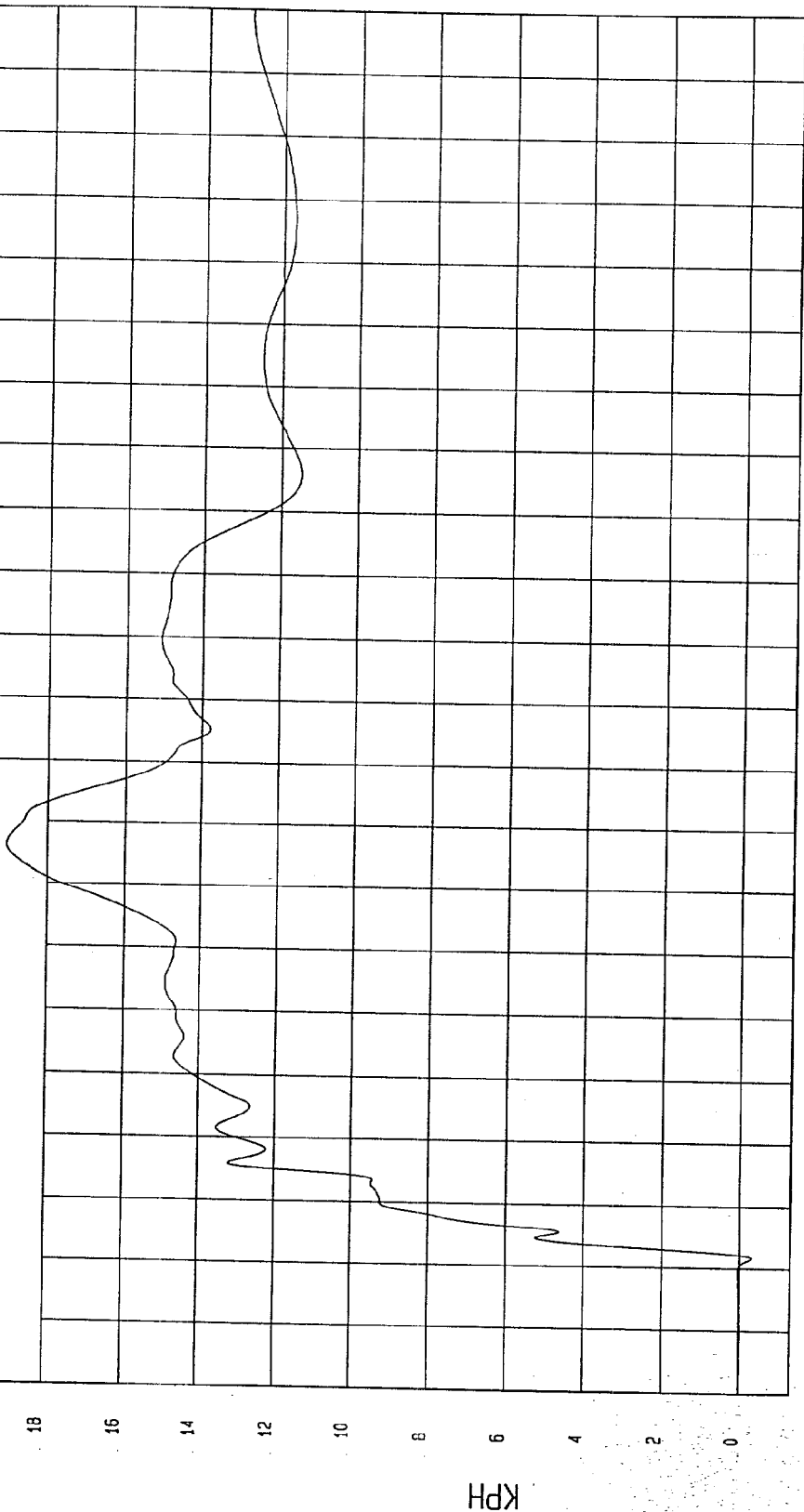
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -.33 KPH at 2 msec  
Maximum = 19.05 KPH at 66 msec

LEFT MID A-POST Y VELOCITY

1 800011A1.V19 Filterclass (180)



TIME Seconds  
MGA Research  
02-10-2000 16:47

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

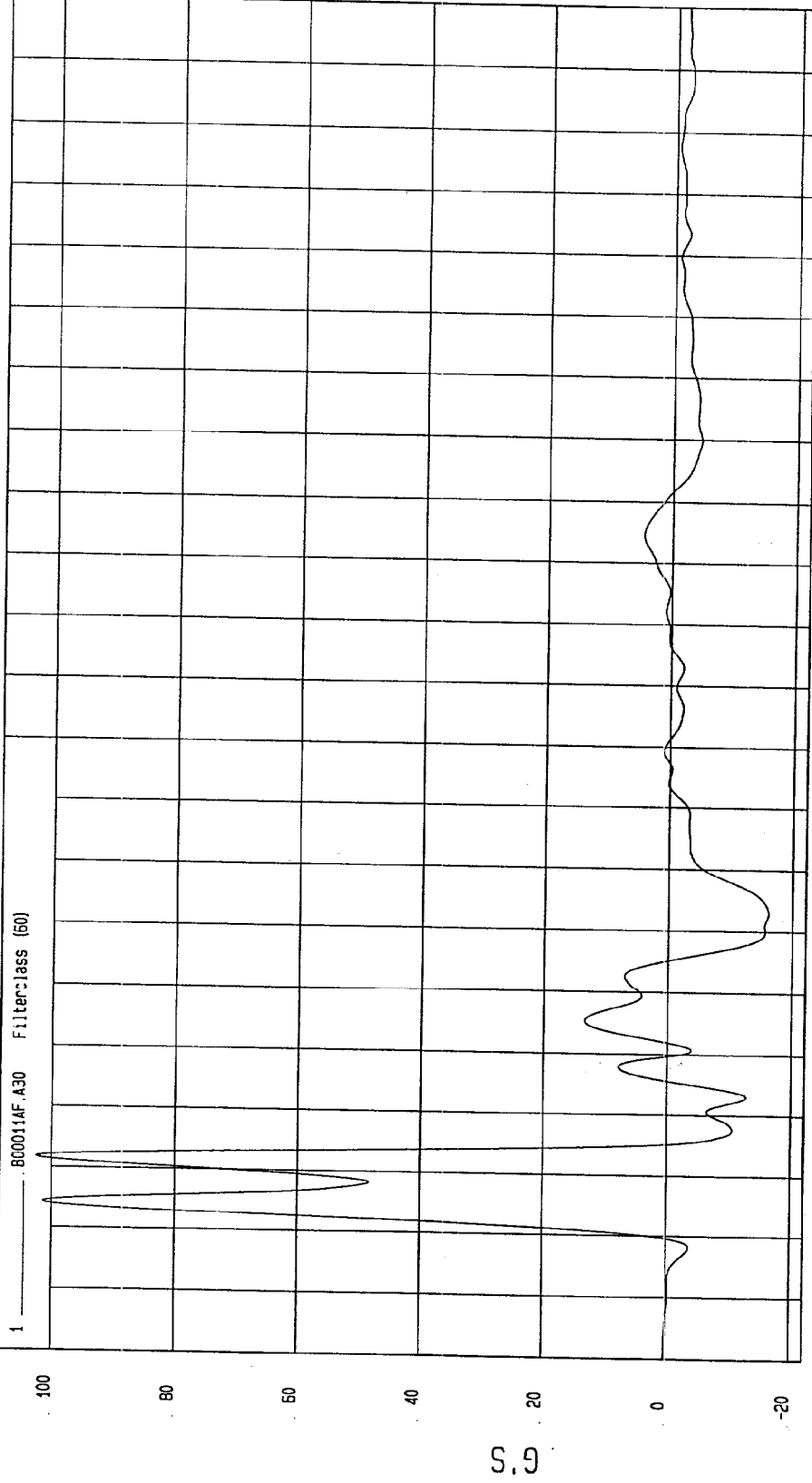
Speed: 38.65 MPH 62.2 KPH

Minimum = -16.16 G'S at 53 msec

Maximum = 102.53 G'S at 12 msec

LEFT LOWER B-POST Y ACCELERATION

1 ——— .BC0011AF.A30 Filterclass (50)



TIME (SECONDS)

MECA Research  
02-10-2000 16:47

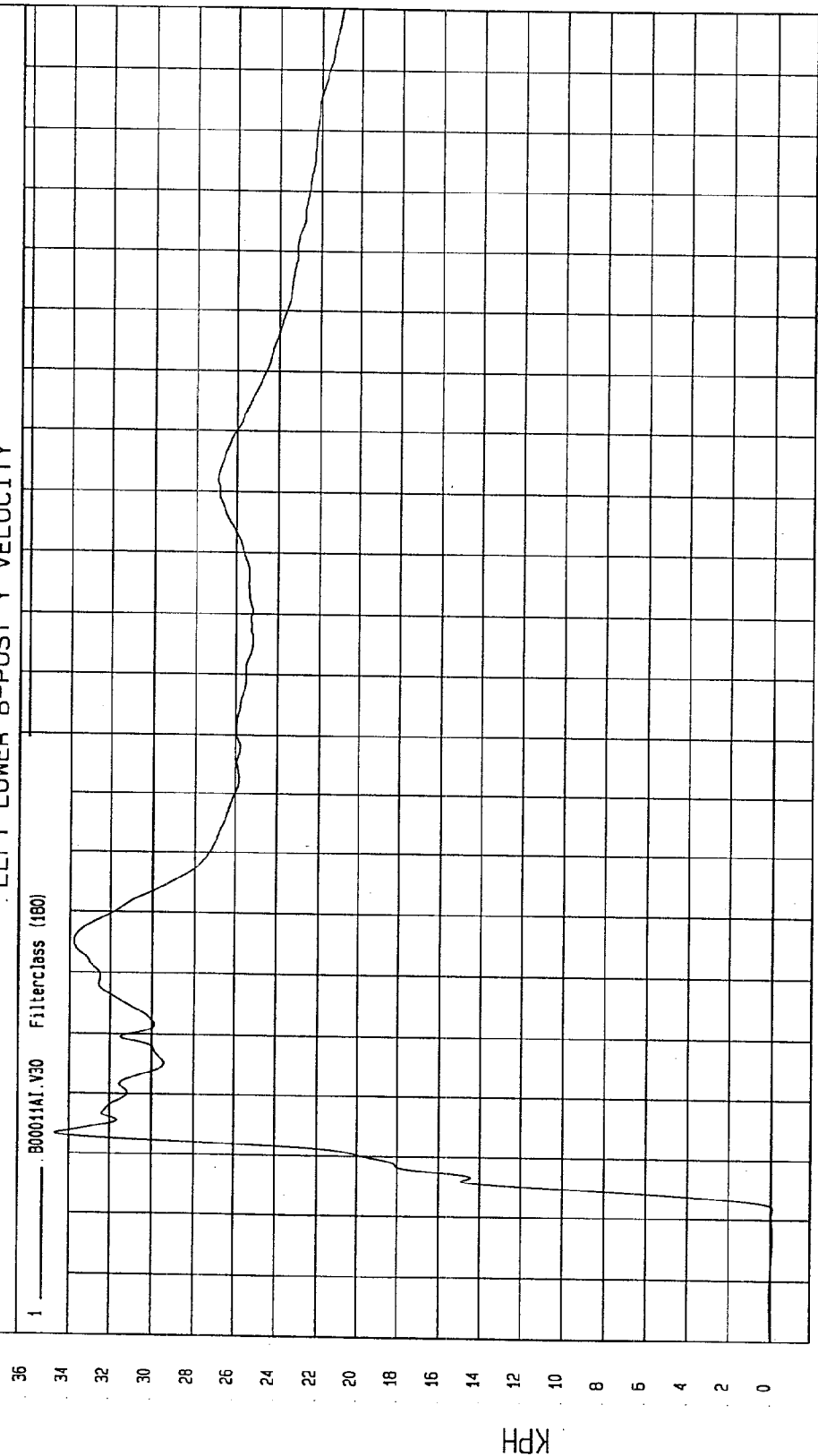
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -8.46E-02 KPH at 2 msec  
Maximum = 34.72 KPH at 13 msec

LEFT LOWER B-POST Y VELOCITY

1 ——— 800011A1.V30 Filterclass (160)



MGA Research CT  
02-10-2000 16:47

TIME Seconds

KPH

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

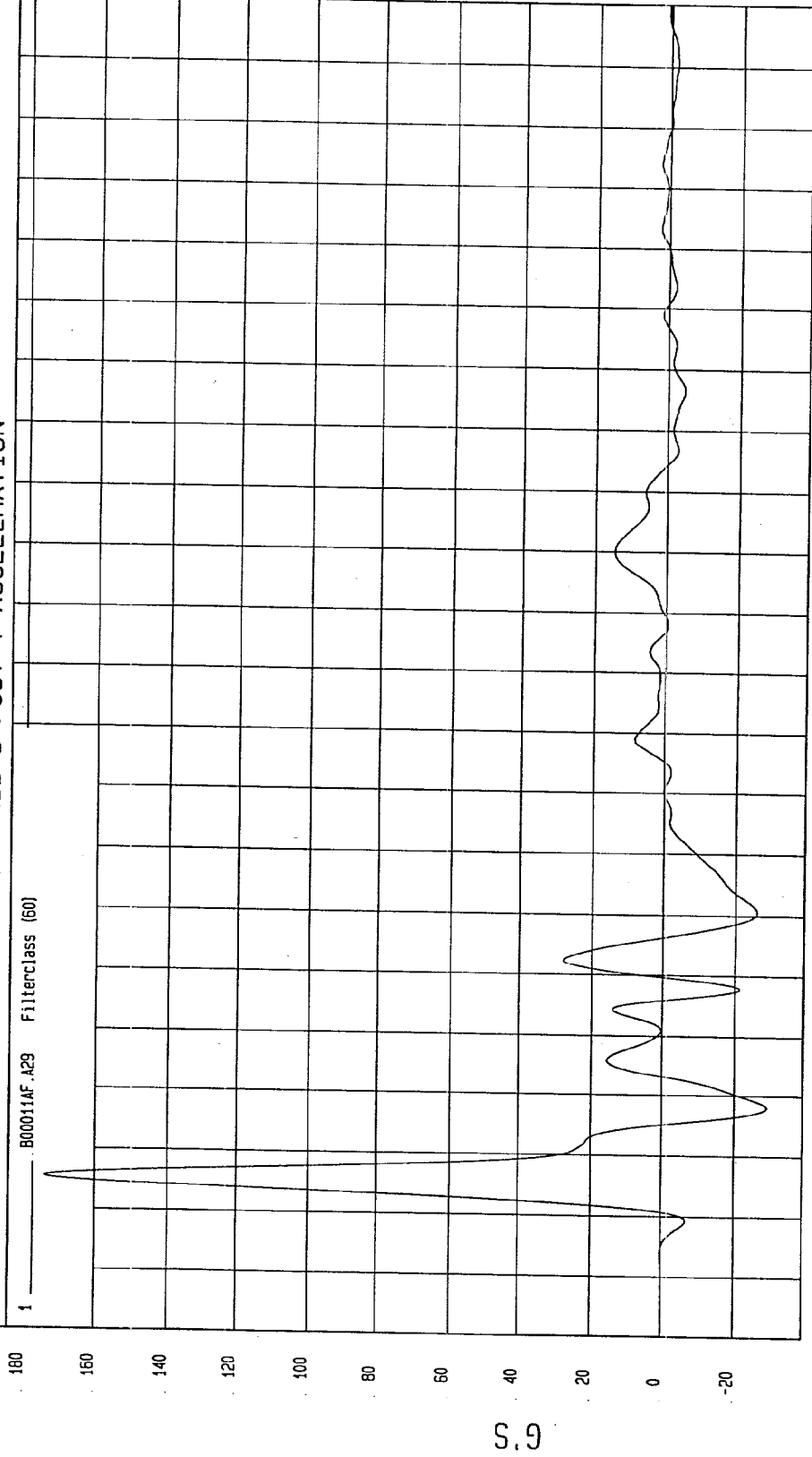
Speed: 38.65 MPH 62.2 KPH

Minimum = -29.2 G'S at 18 msec

Maximum = 174.2 G'S at 5 msec

LEFT MID B-POST Y ACCELERATION

1 B00011AF.A29 Filterclass (60)



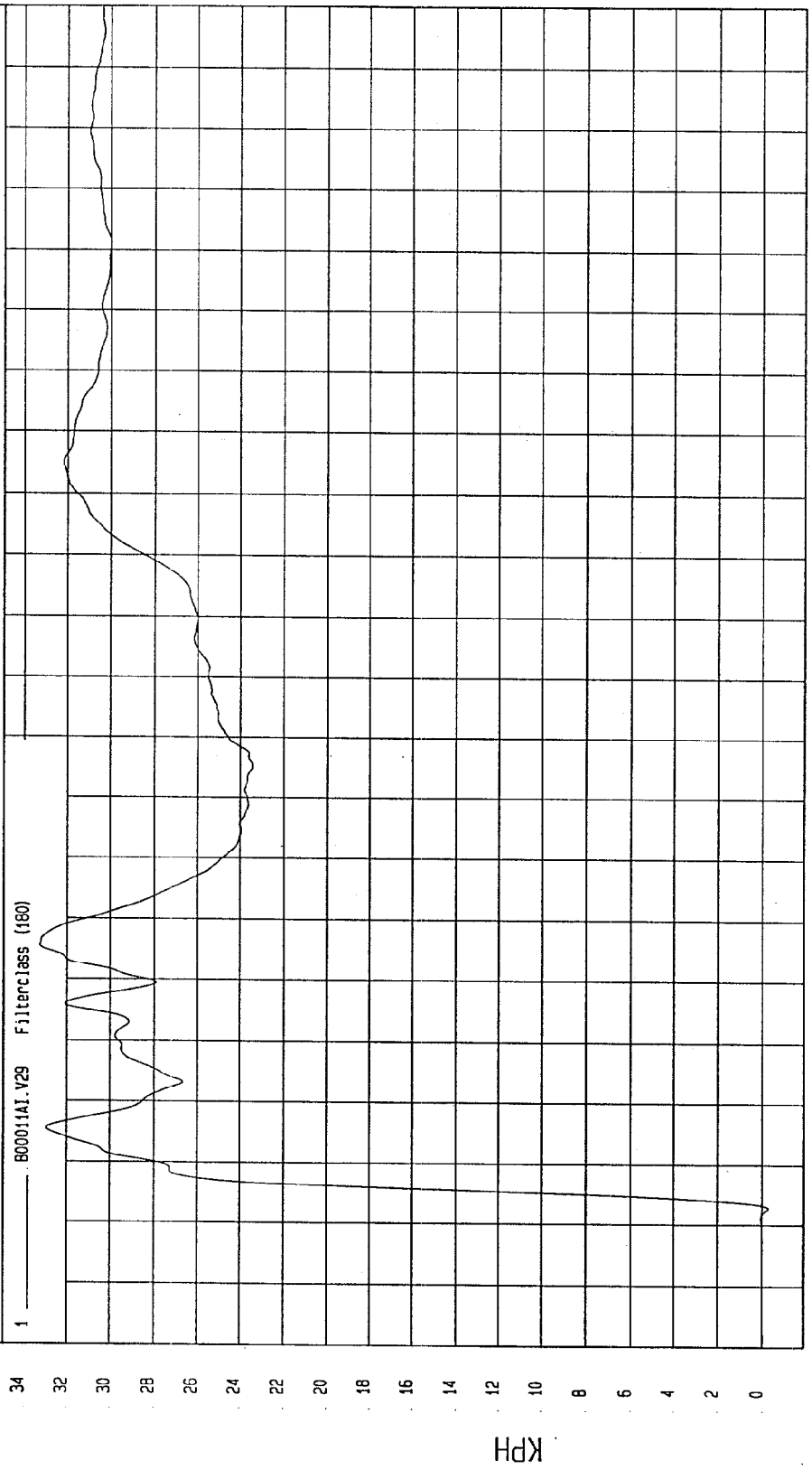
180  
160  
140  
120  
100  
80  
60  
40  
20  
0  
-20  
G'S

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

MGA Research  
02-10-2000 16.47

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH  
Minimum = -28 KPH at 3 msec Maximum = 33.25 KPH at 46 msec

LEFT MID B-POST Y VELOCITY



KPH

TIME Seconds

NSA Research  
02-10-2000 16:47

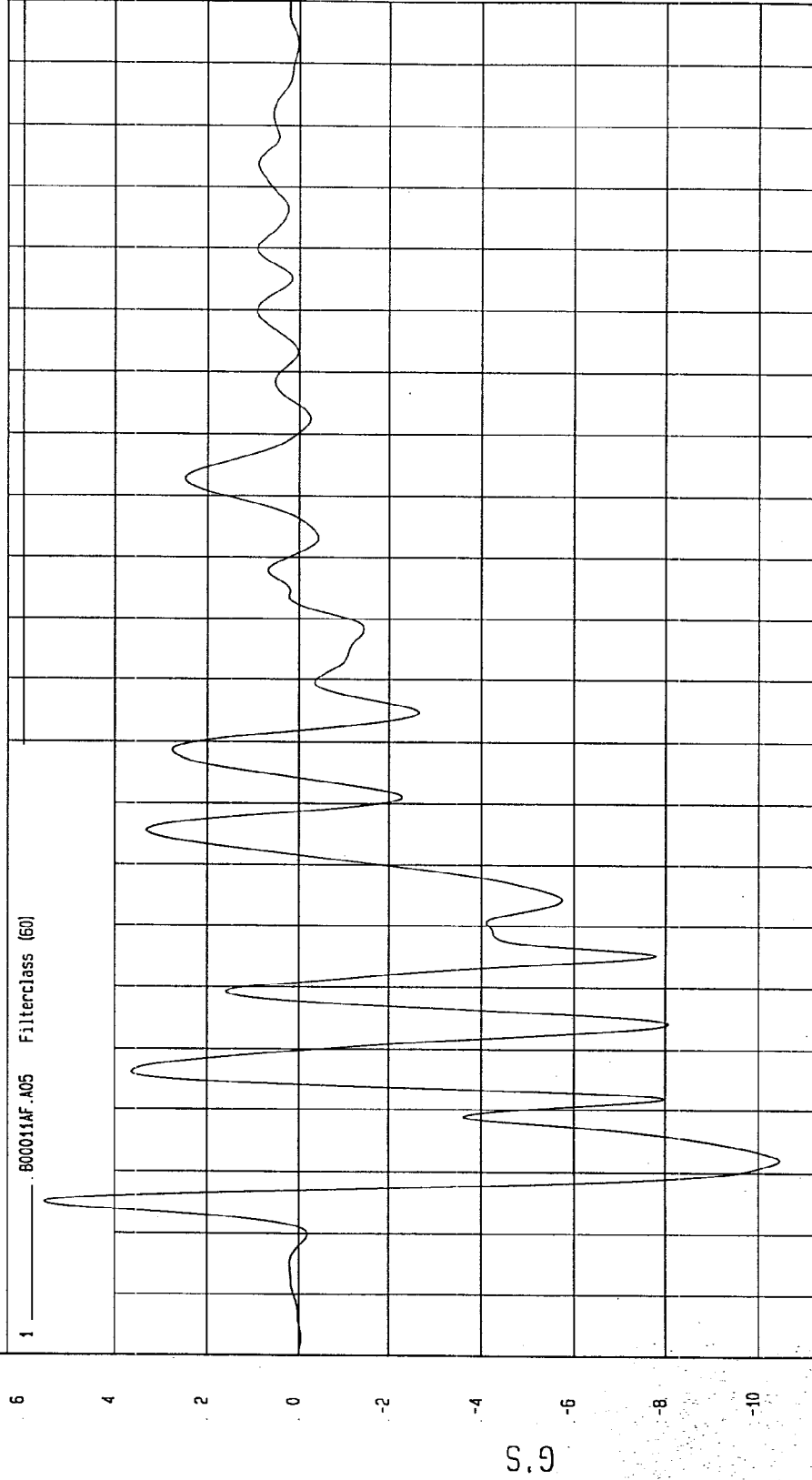
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -10.46 G'S at 12 msec  
Maximum = 5.54 G'S at 5 msec

VEHICLE CG X ACCELERATION

1 .800011AF.A05 Filterclass (60)



TIME (SECONDS)

WEA Research  
02-10-2000 16:47

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

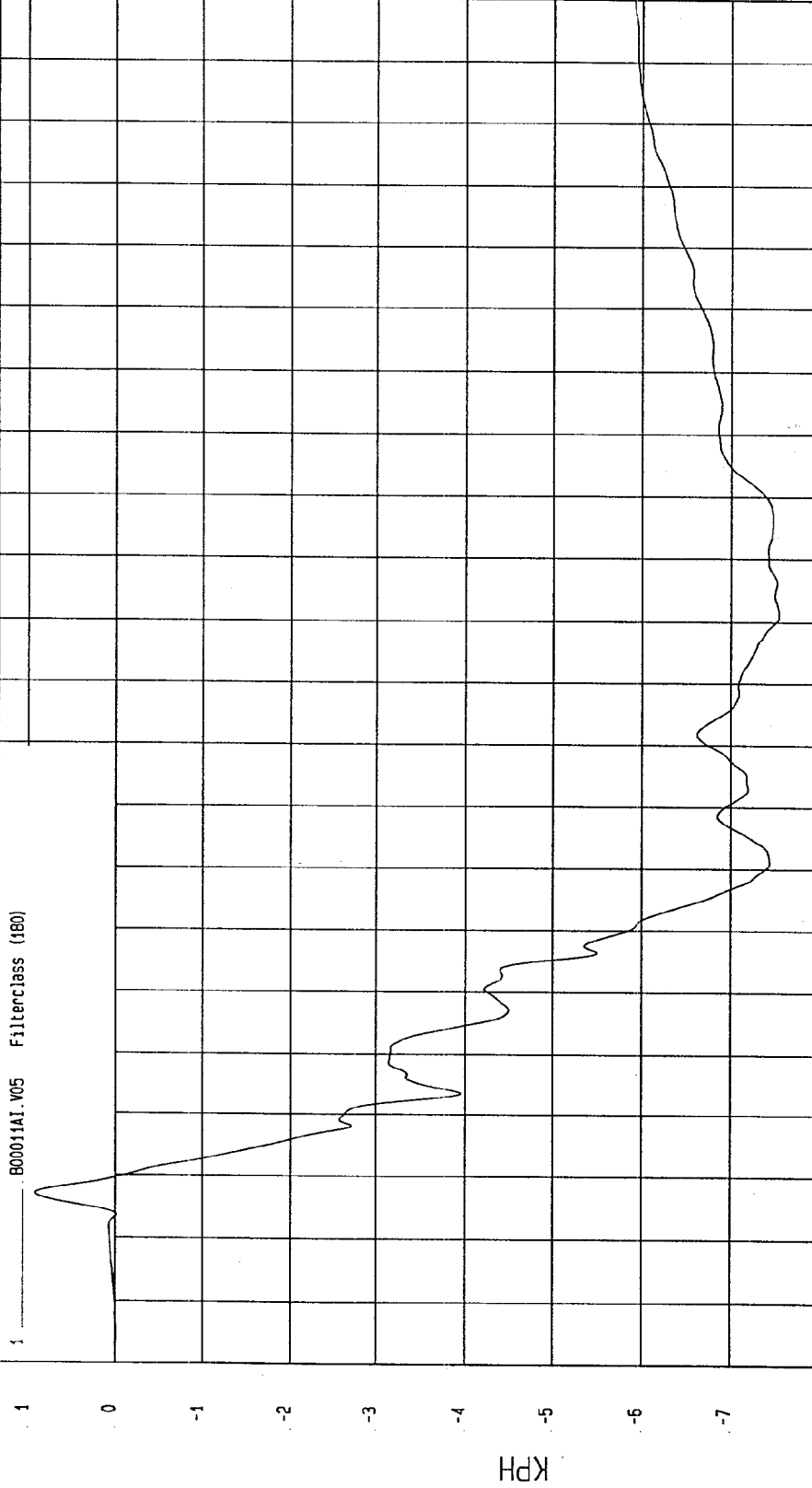
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -7.54 KPH at 101 msec

Maximum = .92 KPH at 7 msec

1 800011A1.V05 Filterclass (180)

VEHICLE CG X VELOCITY



NGA Research  
02-10-2000 16:47

TIME Seconds

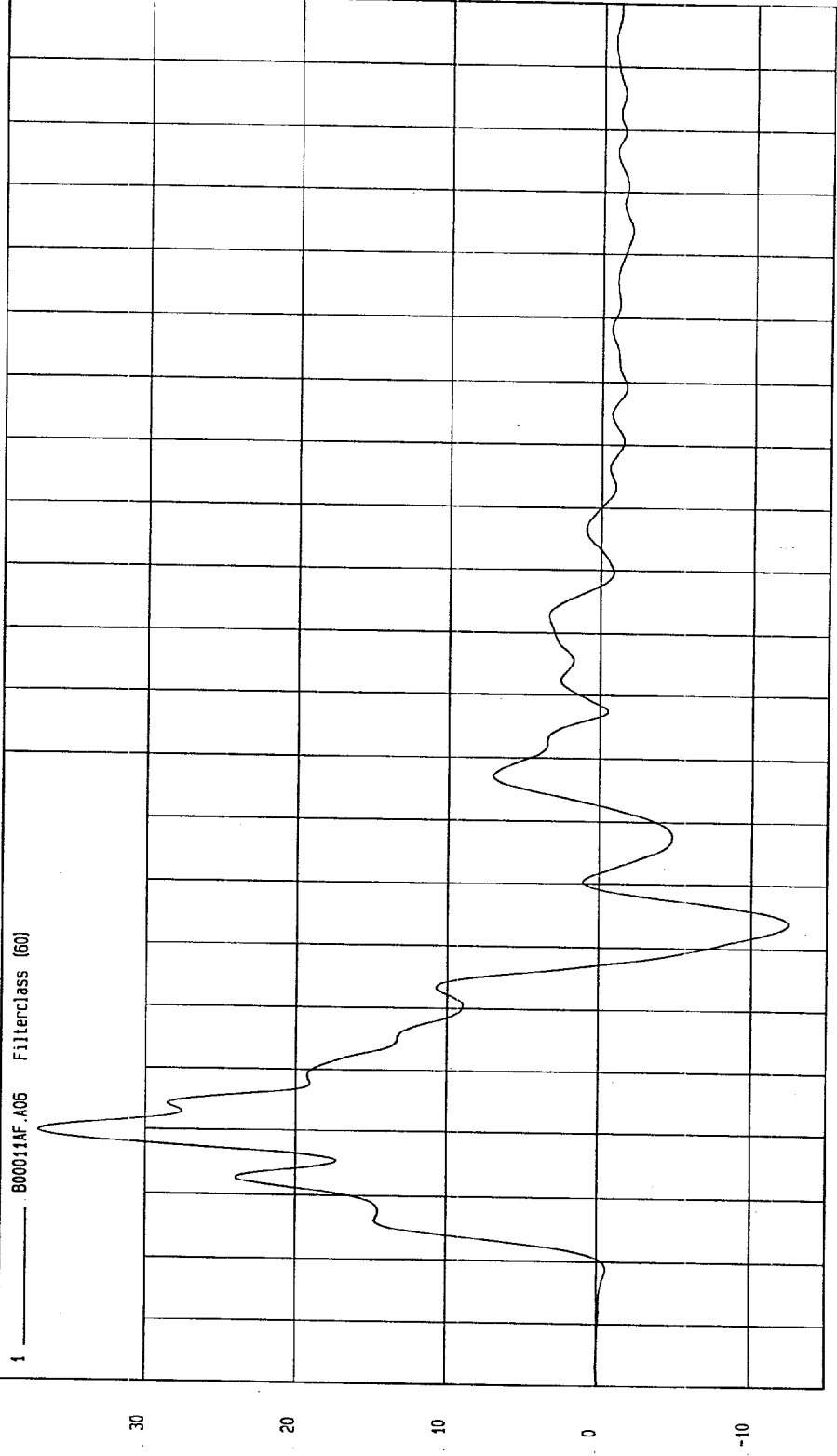
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -12.42 G'S at 54 msec Maximum = 37.07 G'S at 20 msec

VEHICLE CG Y ACCELERATION

1 ——— B00011AF.A06 Filterclass (60)



G.S

TIME (SECONDS)

NSA Research  
02-10-2000 16:47

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

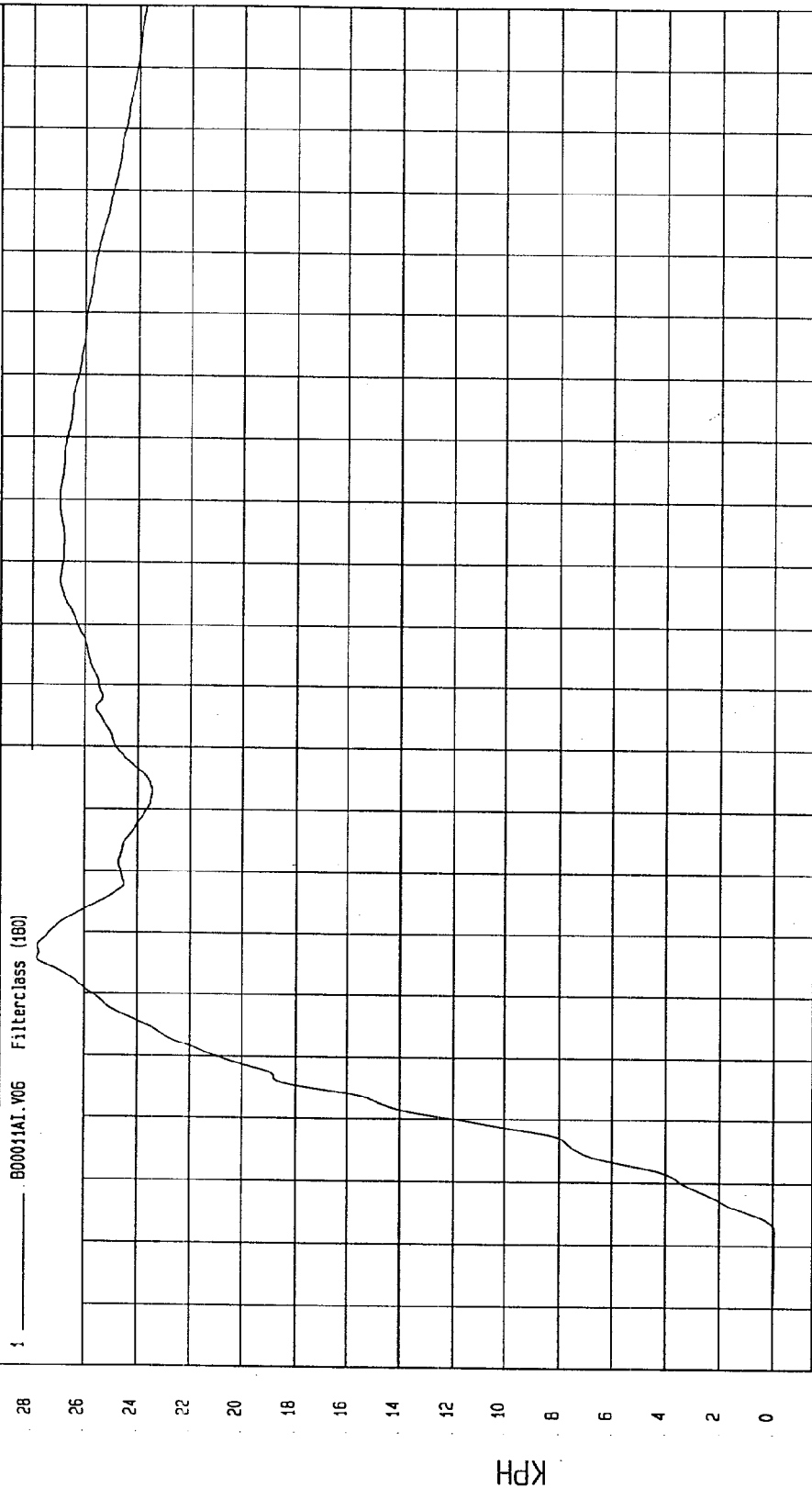
Speed: 38.65 MPH 62.2 KPH

Minimum = -6.84E-02 KPH at 2 msec

Maximum = 27.8 KPH at 46 msec

VEHICLE CG Y VELOCITY

1 ——— B00001A1.V06 Filterclass (480)



WCA Research  
02-10-2000 16:47

TIME Seconds

28  
26  
24  
22  
20  
18  
16  
14  
12  
10  
8  
6  
4  
2  
0

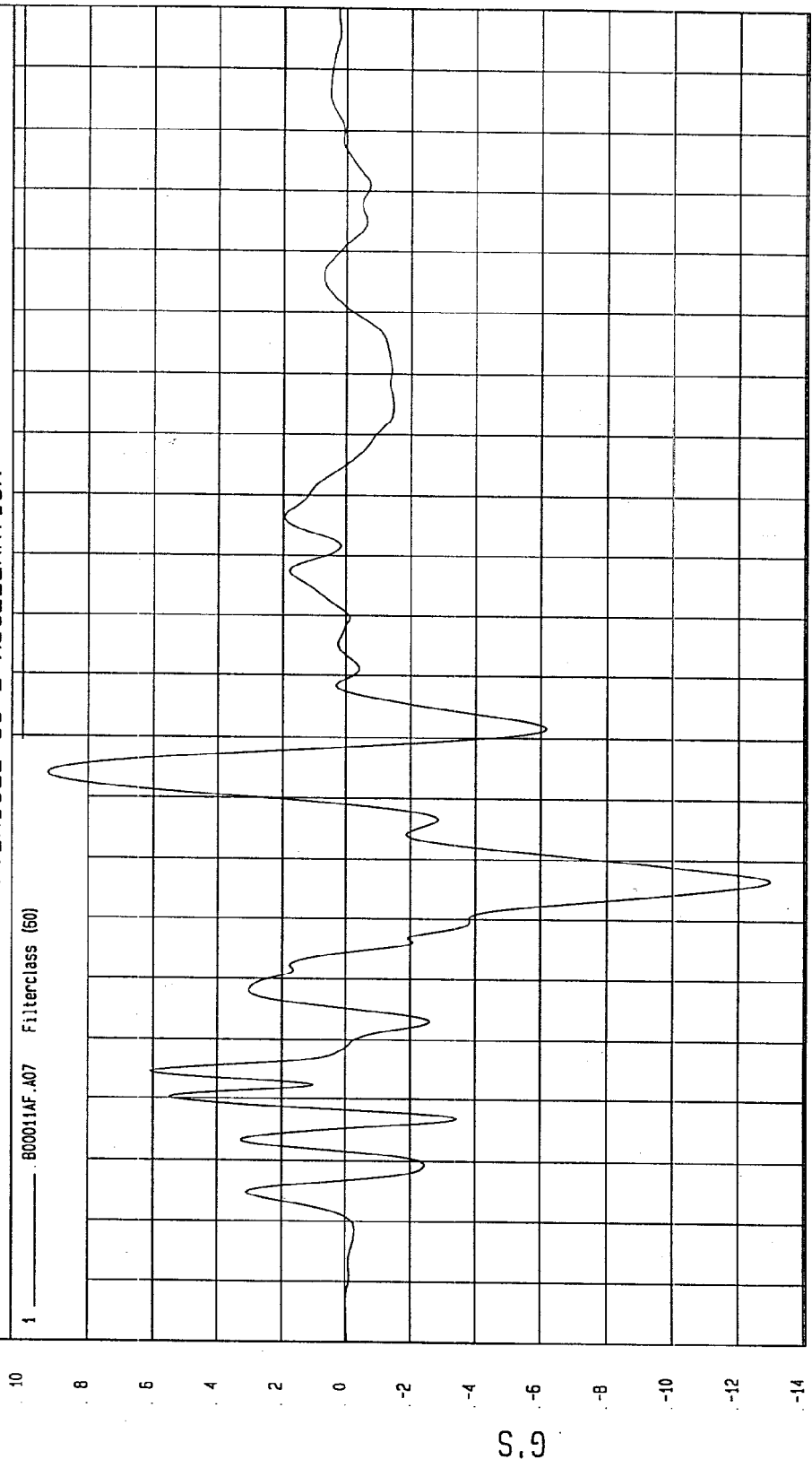
KPH

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
 COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -12.96 G'S at 57 msec Maximum = 9.24 G'S at 74 msec

VEHICLE CG Z ACCELERATION

1 800011AF.A07 Filterclass (50)



TIME (SECONDS)

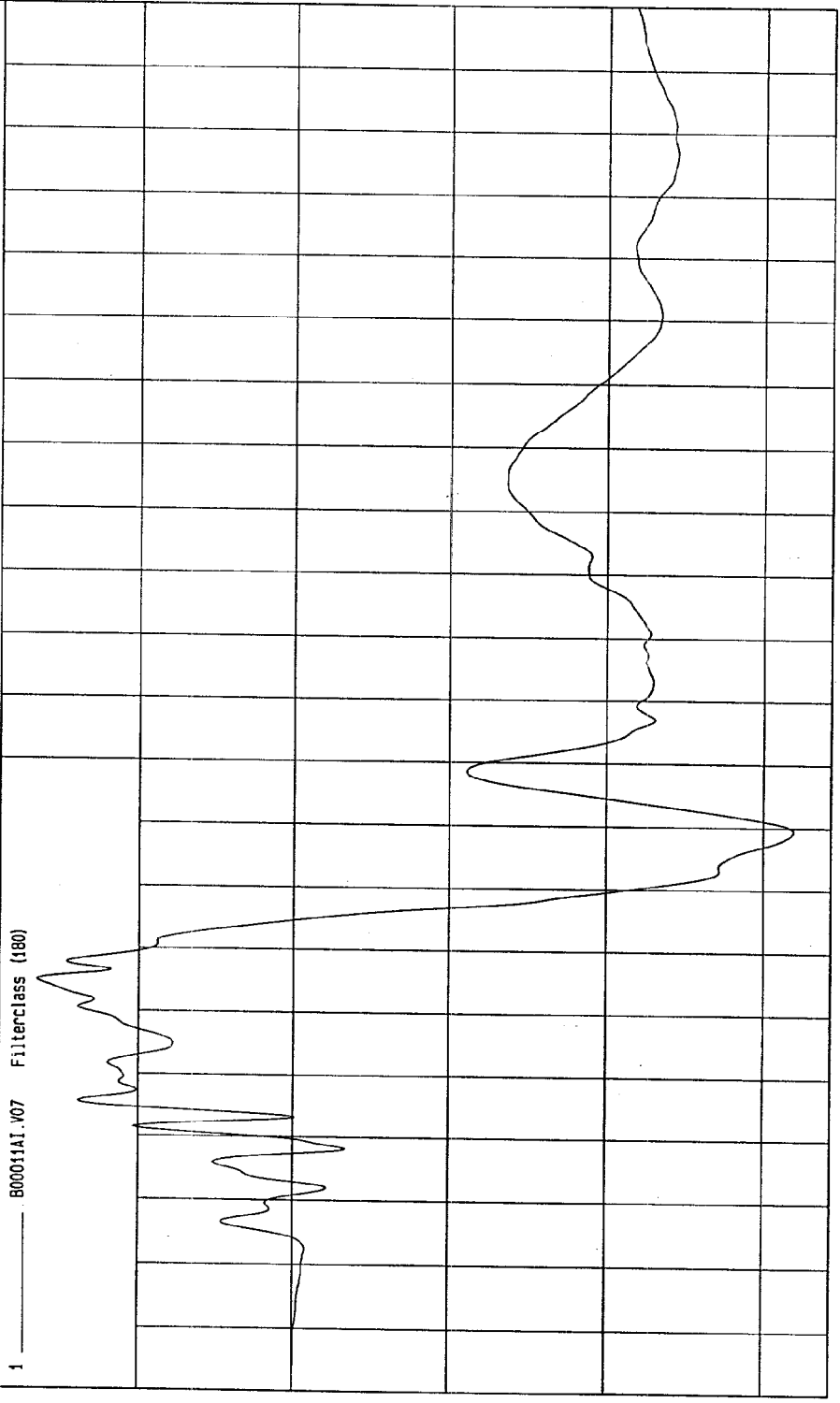
MEA Research  
02-10-2000 16:47

G.S

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -3.19 KPH at 70 msec Maximum = 1.65 KPH at 45 msec

VEHICLE CG Z VELOCITY



KPH

TIME Seconds

NGA Research  
02-10-2000 16:47

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

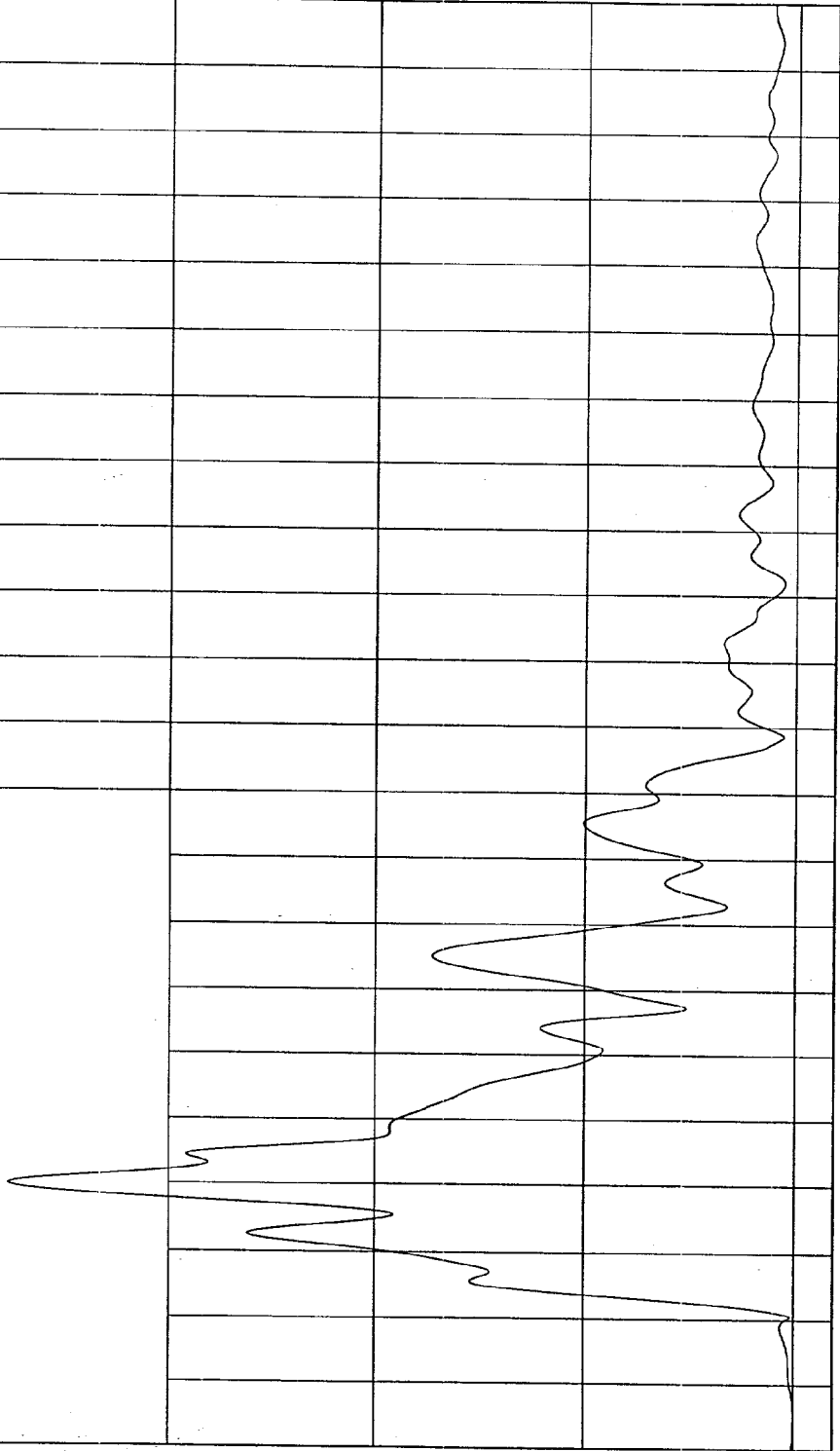
Speed: 38.65 MPH 62.2 KPH

Minimum = 2.18E-02 G'S at -15 msec

Maximum = 37.69 G'S at 20 msec

VEHICLE CG RESULTANT ACCELERATION

1 — .800011AV.A05 Filterclass (50)



G.S

TIME (SECONDS)

NSA Research  
02-10-2000 16: 47

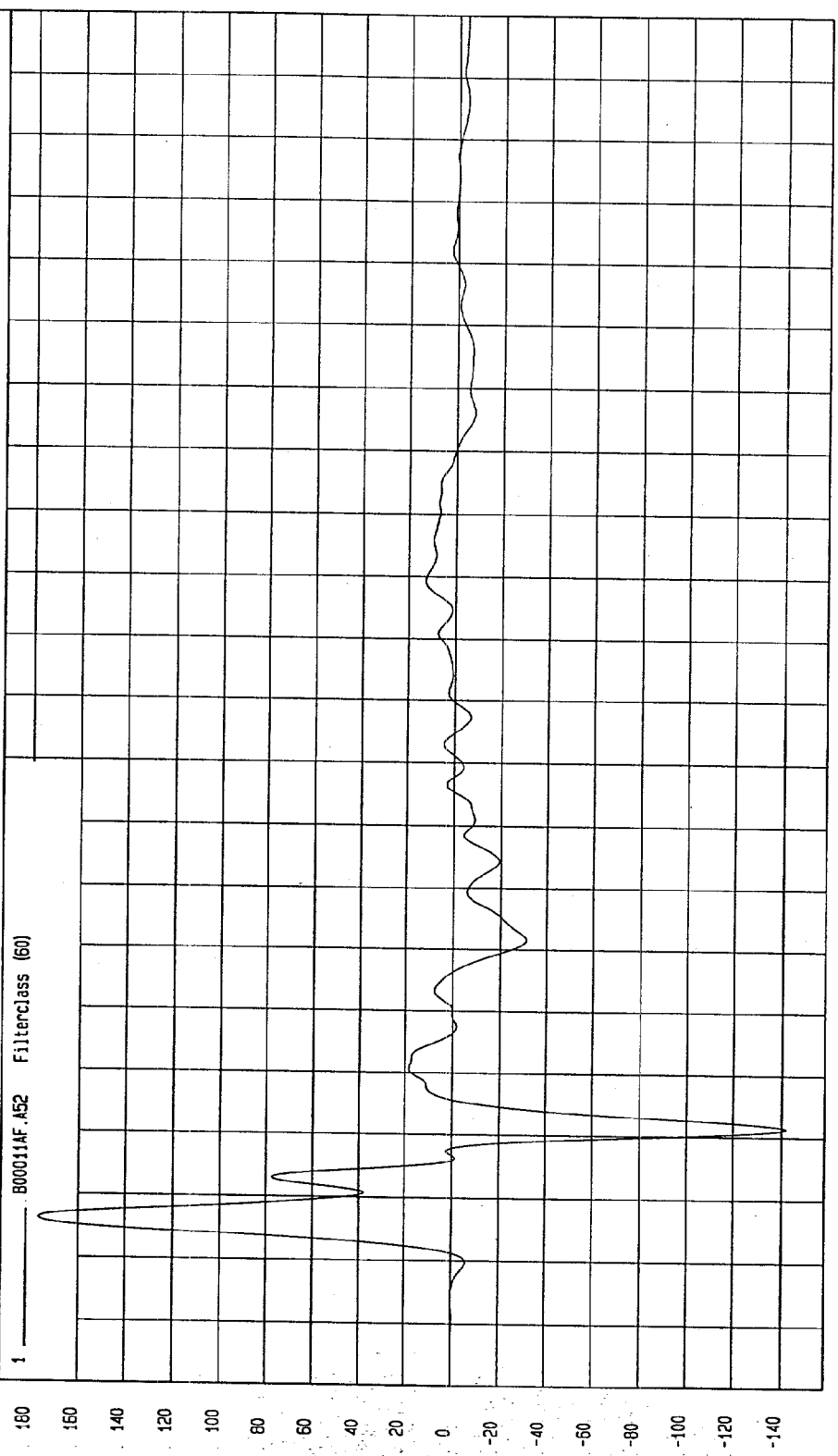
TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -141.6 G'S at 21 msec  
Maximum = 176.67 G'S at 6 msec

LEFT FRONT DOOR MIDREAR Y ACCELERATION

1 B00011AF.A52 Filterclass (60)



160  
150  
140  
120  
100  
80  
60  
40  
20  
0  
-20  
-40  
-60  
-80  
-100  
-120  
-140

TIME (SECONDS)

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

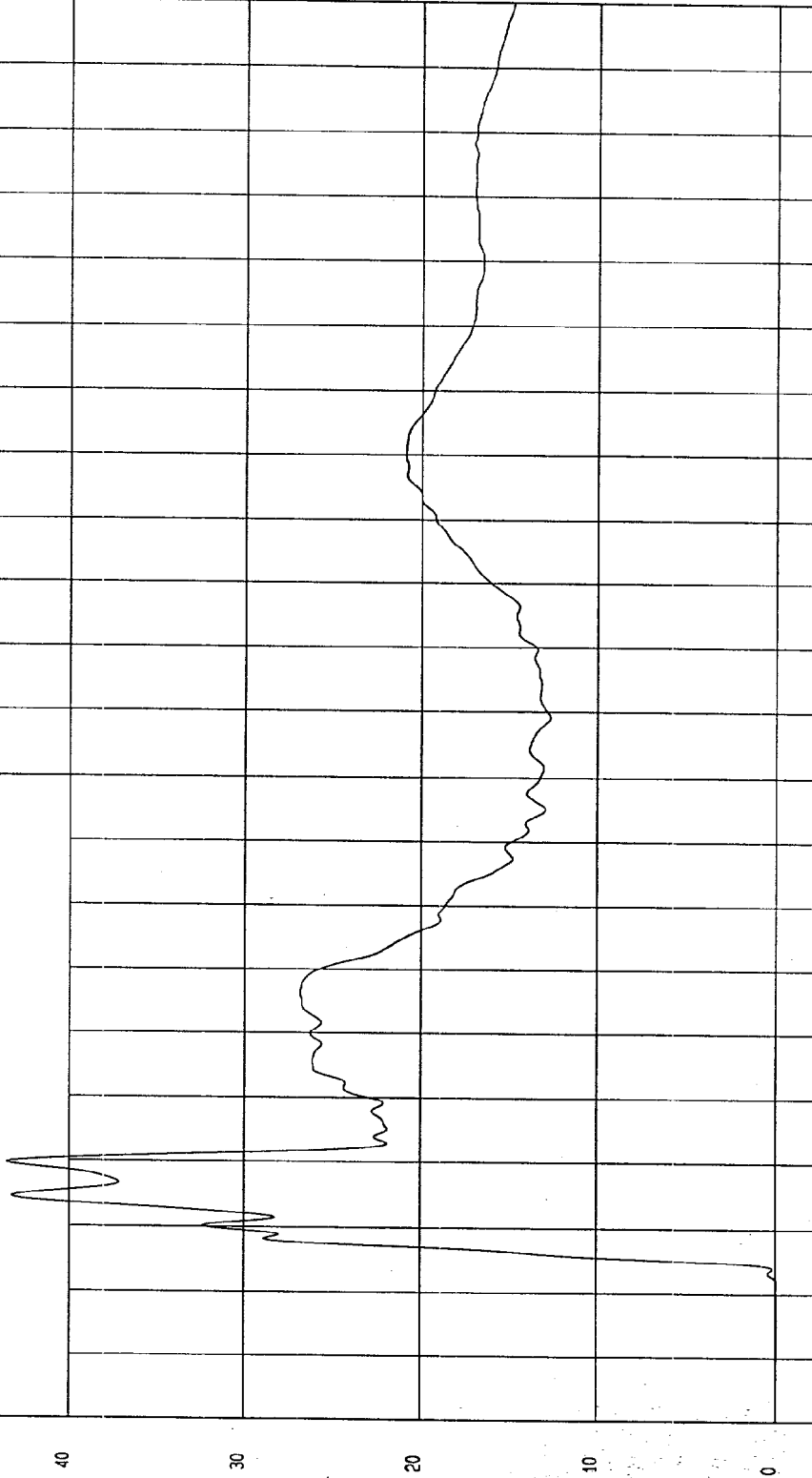
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -8.65E-02 KPH at -3 msec  
Maximum = 43.57 KPH at 20 msec

LEFT FRONT DOOR MIDREAR Y VELOCITY

1 ——— .800011A1.V52 Filterclass (180)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

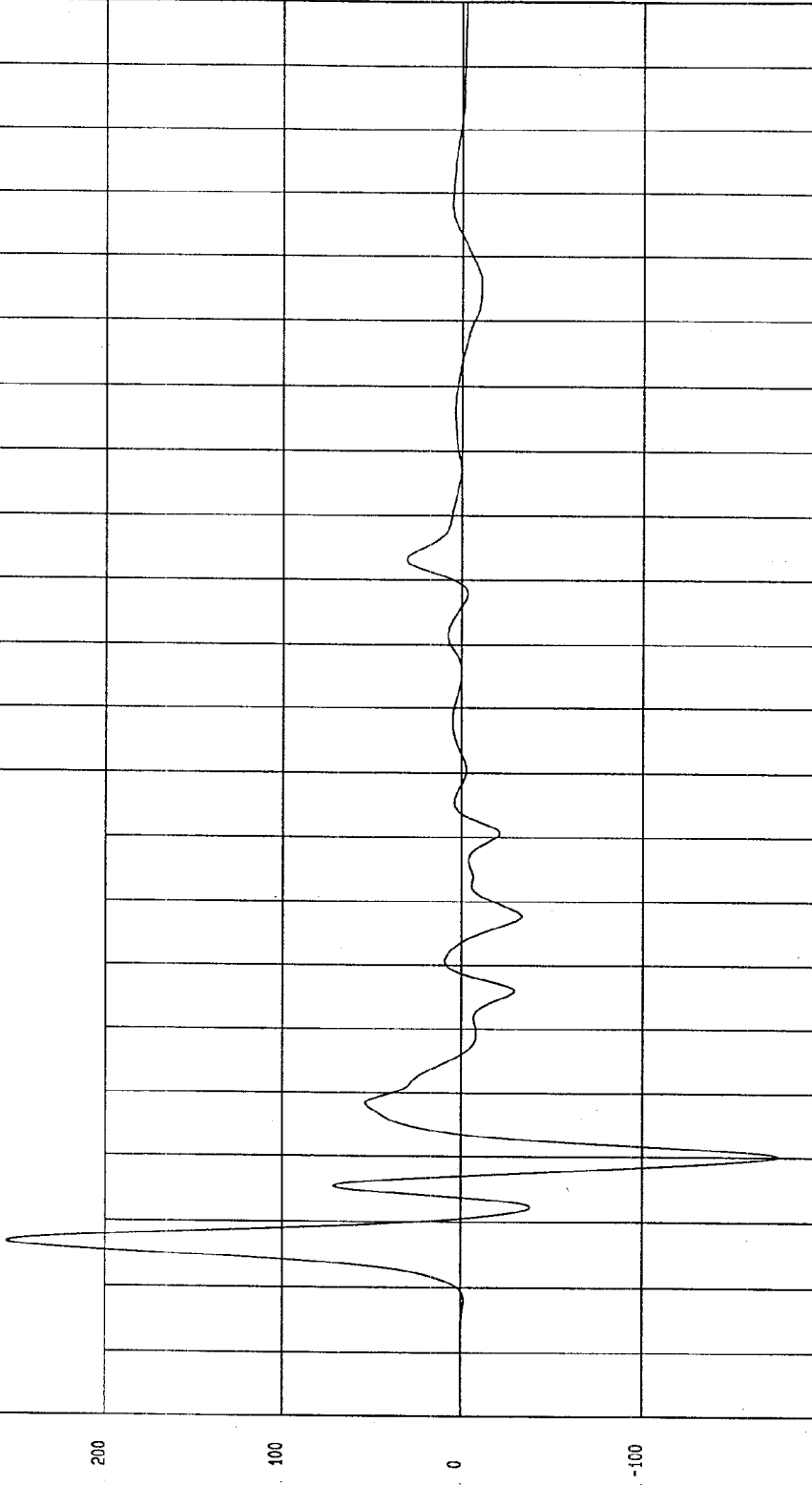
Speed: 38.65 MPH 62.2 KPH

Minimum = -174.44 G'S at 20 msec

Maximum = 255.01 G'S at 7 msec

LEFT FRONT DOOR CENTERLINE Y ACCELERATION

1 B00011AF.A51 Filterclass (60)



MECA Research  
02-10-2000 15:47

TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

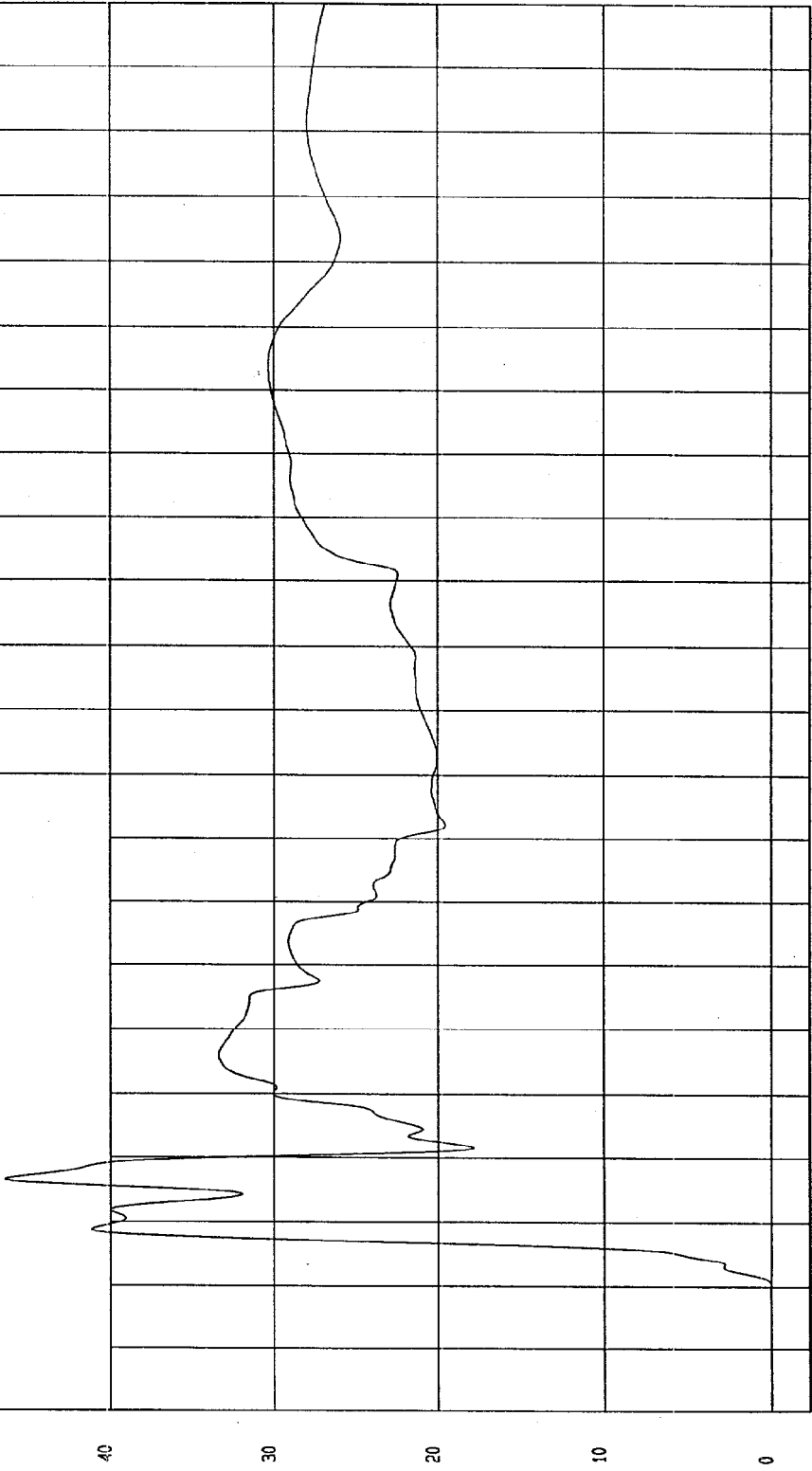
COMPONENT: 2000 FORD FOCUS (MY0205)

Minimum = -8.95E-03 KPH at -19 msec

Maximum = 46.35 KPH at 15 msec

LEFT FRONT DOOR CENTERLINE Y VELOCITY

1 .800011A1.V51 FilterClass (180)



KPH

TIME Seconds

0 10 20 30 40

-0.02 -0.01 0 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10 0.11 0.12 0.13 0.14 0.15 0.16 0.17 0.18 0.19

NGA Research  
02-10-2000 16:41

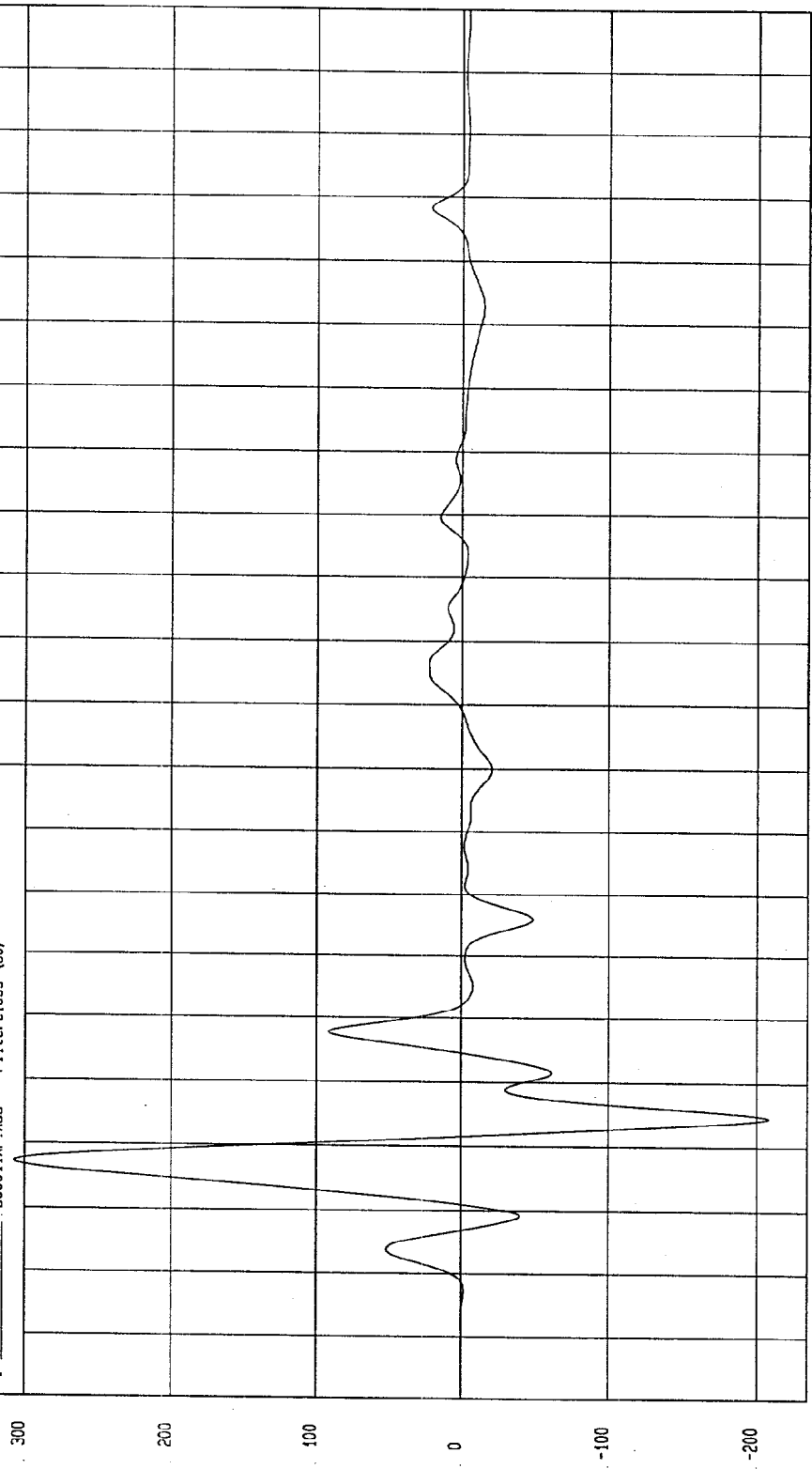
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -207.75 G'S at 25 msec  
Maximum = 307.3 G'S at 17 msec

LEFT FRONT DOOR UPPER CENTERLINE Y ACCELERATION

1 B00011AF.A53 FilterClass (60)



MOA Report CT  
02-10-2000 16:47

TIME (SECONDS)

G.S

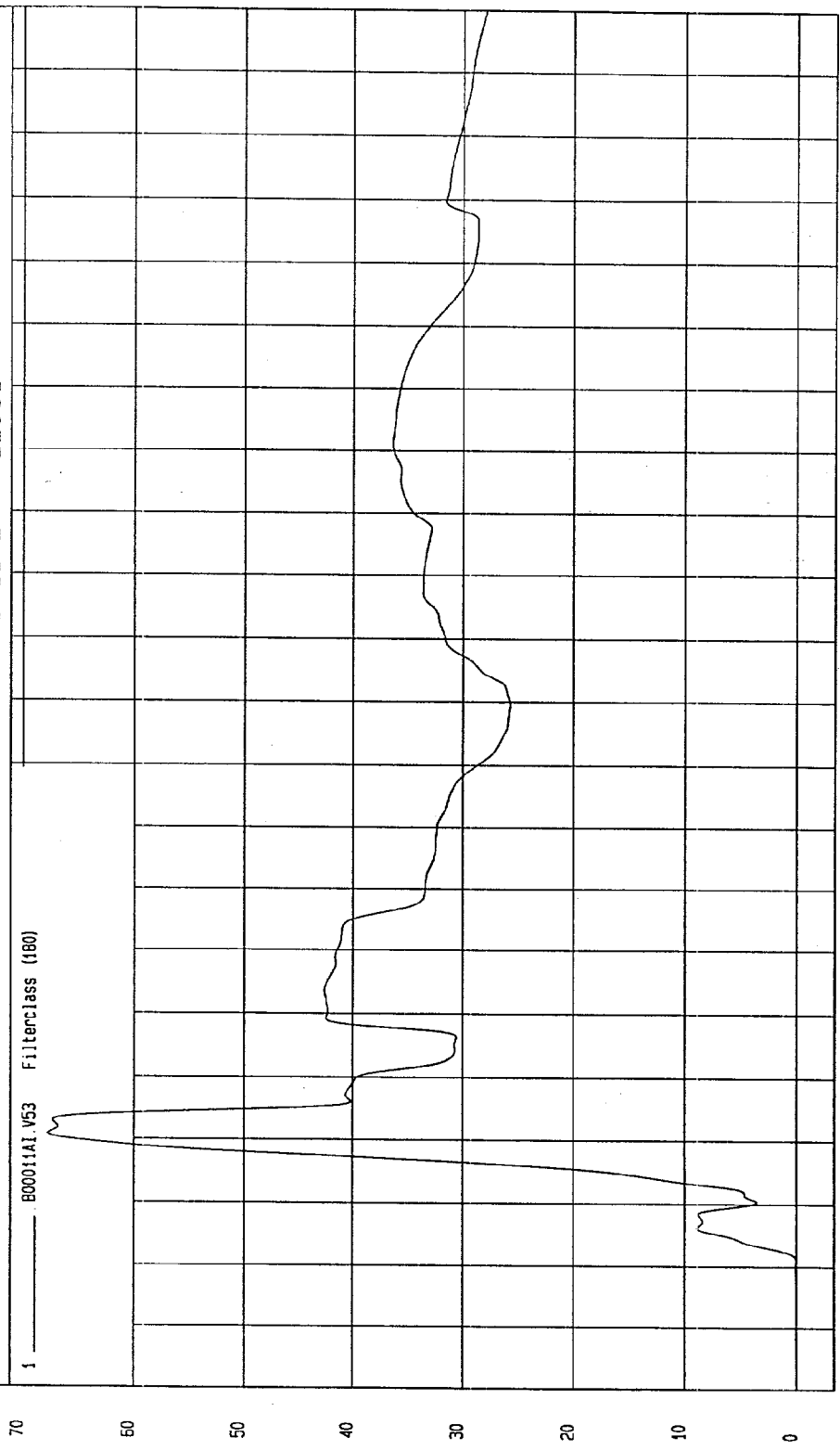
TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -4.73E-05 KPH at -20 msec  
Maximum = 67.79 KPH at 21 msec

LEFT FRONT DOOR UPPER CENTERLINE Y VELOCITY

1 ——— B00011A1.V53 Filterclass (180)



TIME Seconds  
MGA Research  
02-10-2000 16:47

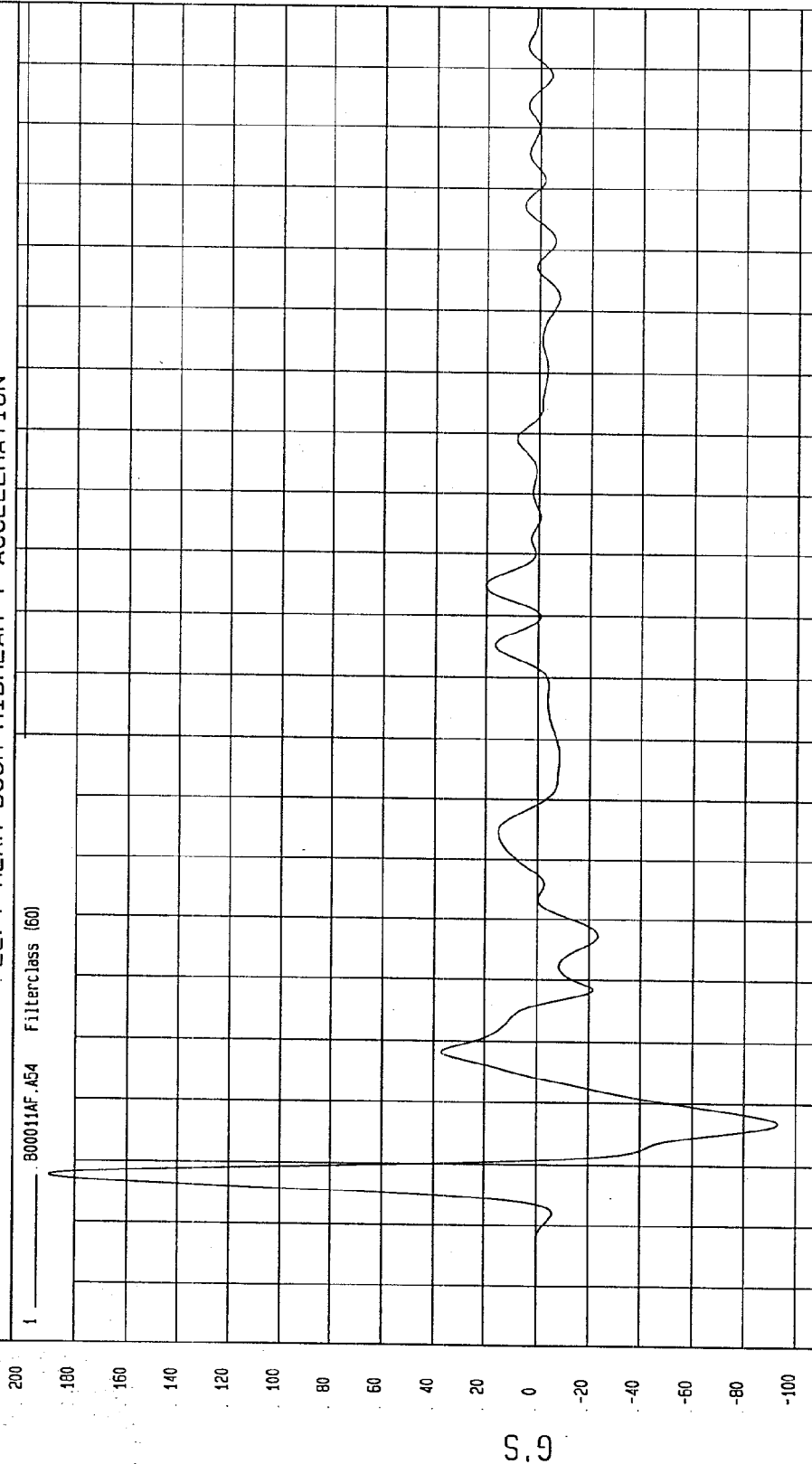
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -93.11 G'S at 17 msec Maximum = 189.92 G'S at 8 msec

LEFT REAR DOOR MIDREAR Y ACCELERATION

1 800011AF.A54 FilterClass (60)



MSA Research  
02-10-2000 16:47

TIME (SECONDS)

G'S

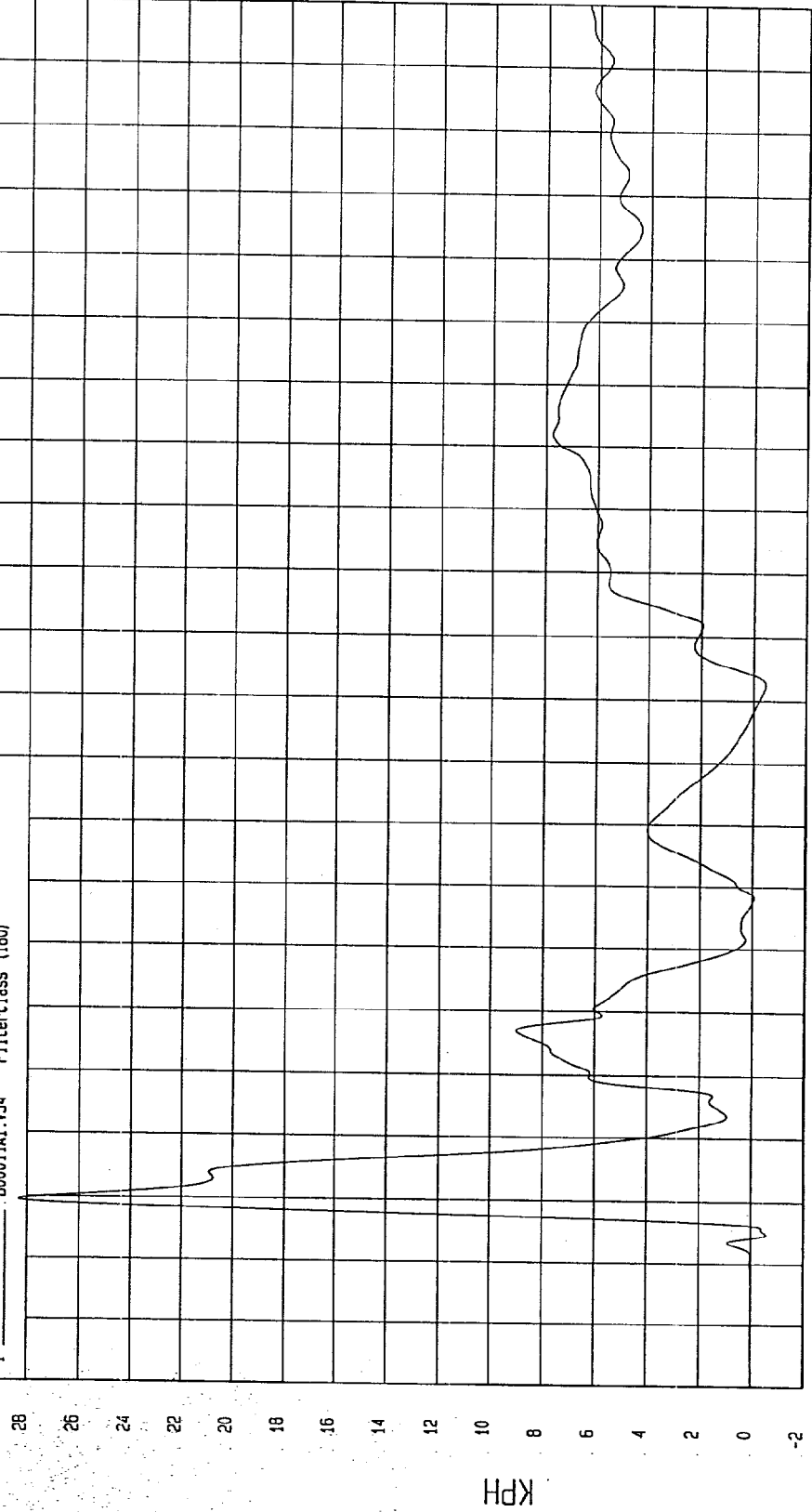
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -.57 KPH at 5 msec  
Maximum = 28.37 KPH at 10 msec

LEFT REAR DOOR MIDREAR Y VELOCITY

1 - B00011A1.V54 Filterclass (160)

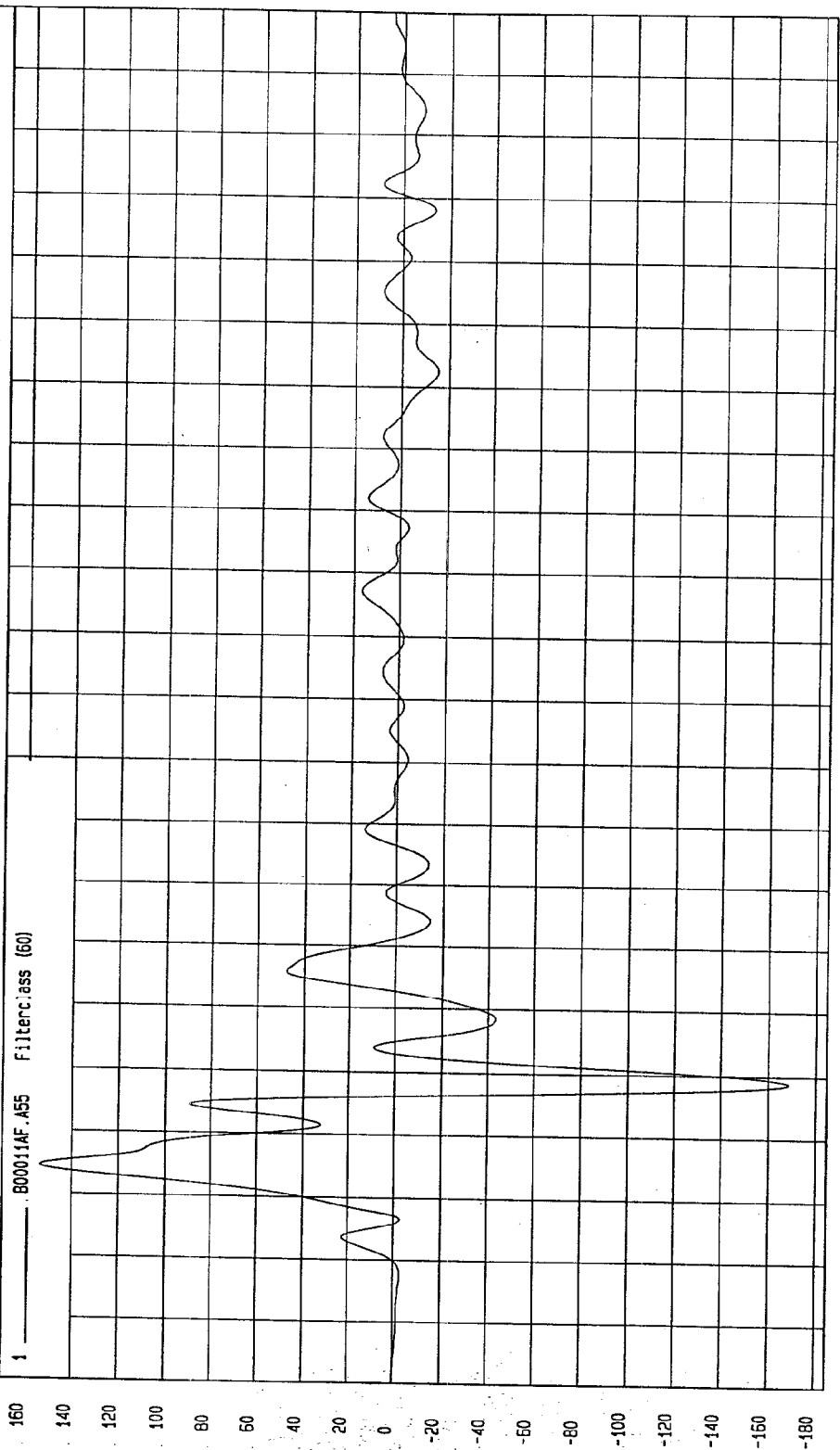


TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -168.66 G'S at 29 msec Maximum = 153.8 G'S at 15 msec

LEFT REAR DOOR UPPER CENTERLINE Y ACCELERATION

1 800011AF.A55 Filterc:ass (60)



TIME (SECONDS)

MSA Research  
02-10-2000 16:41

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

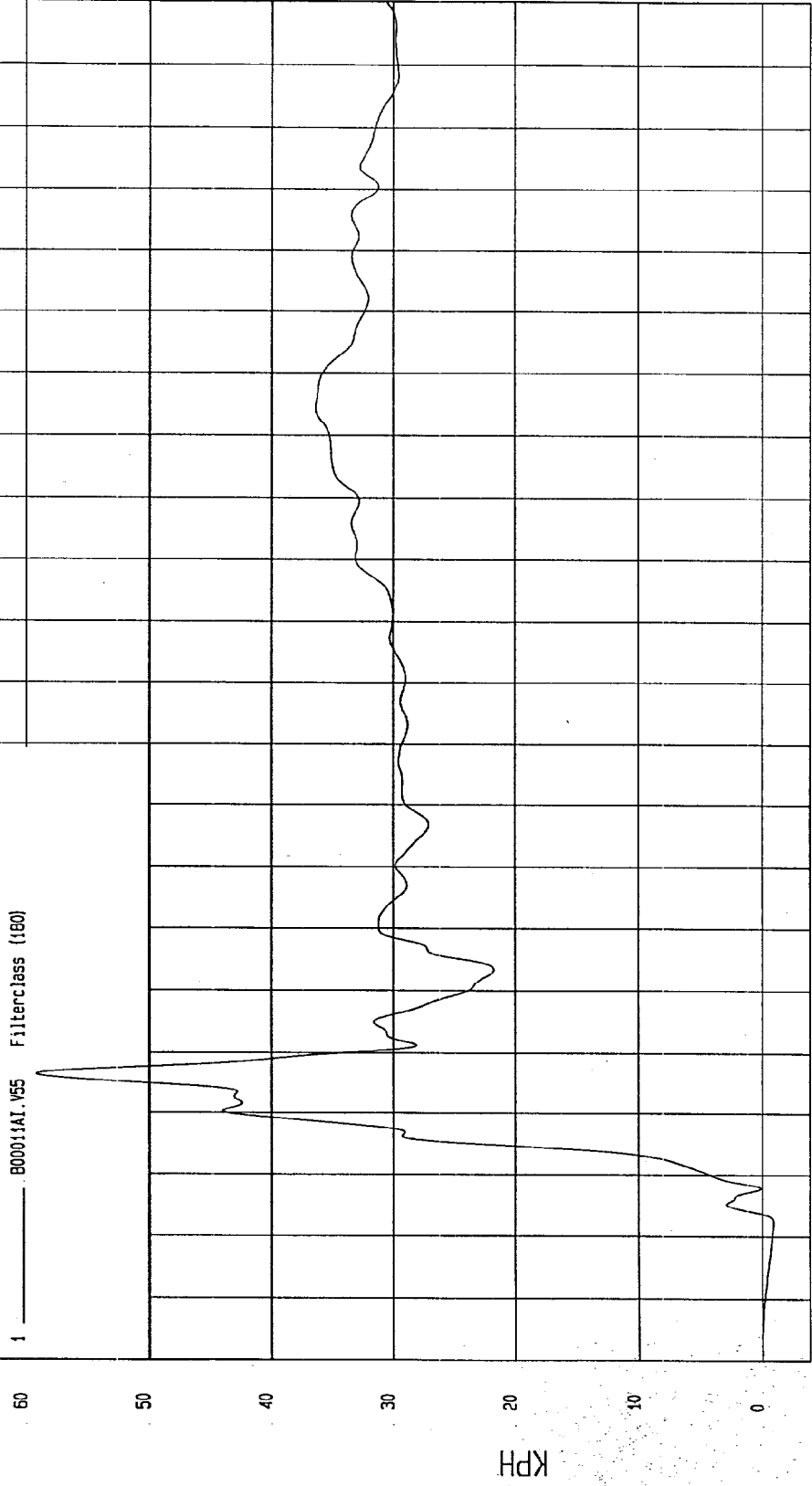
Speed: 38.65 MPH 62.2 KPH

Minimum = -9 KPH at 2 msec

Maximum = 59.24 KPH at 26 msec

LEFT REAR DOOR UPPER CENTERLINE Y VELOCITY

1 B00011A1.V55 Filterclass (180)



TIME Seconds

NSA Research  
02-10-2000 16:47

TEST: NCAP SIDE IMPACT

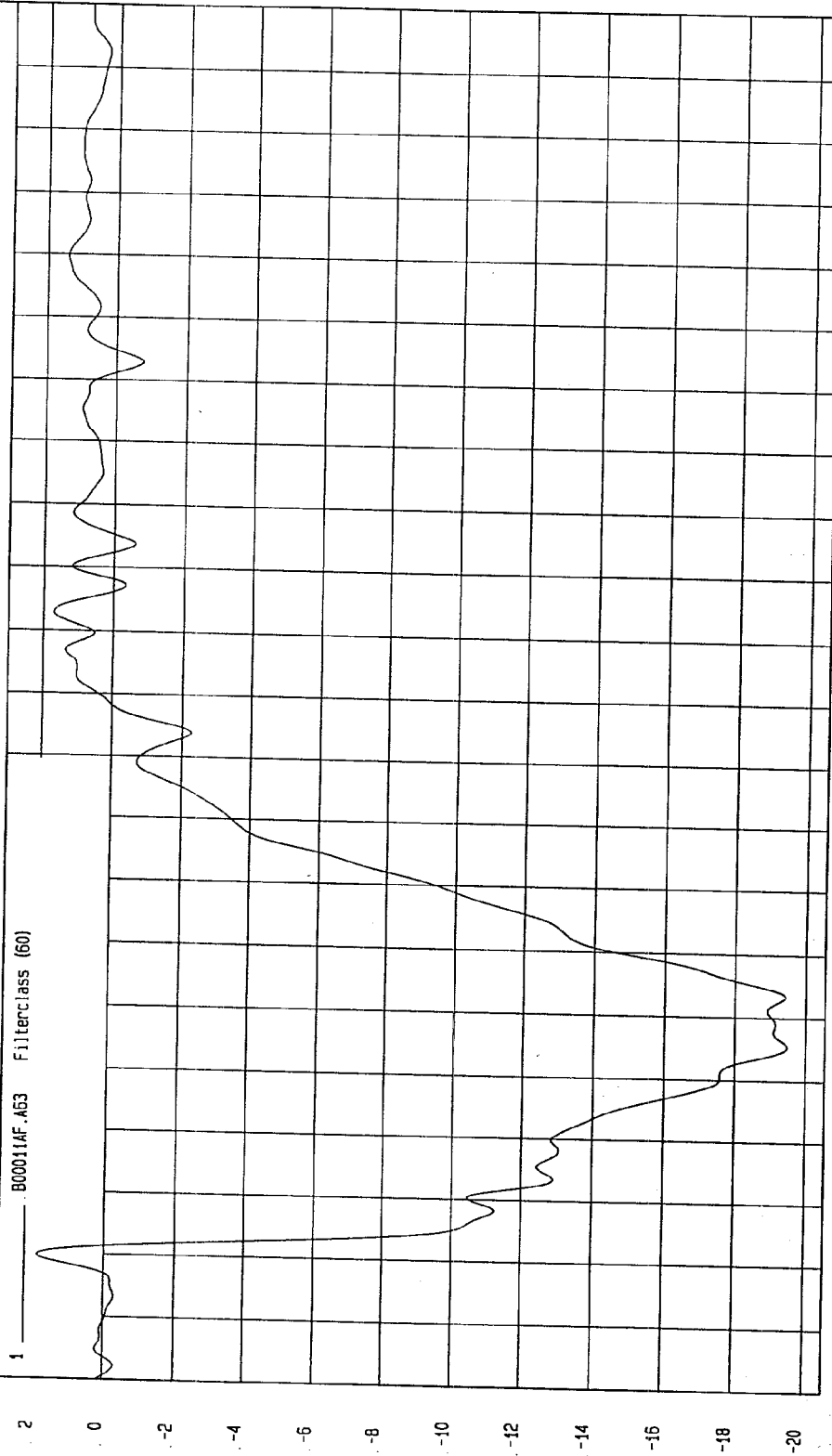
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)

Speed: 38.65 MPH 62.2 KPH

Minimum = -19.48 G'S at 35 msec  
Maximum = 1.92 G'S at 0 msec

MOVING BARRIER CG X ACCELERATION

1 B00011AF.A63 Filterclass (60)



TIME (SECONDS)

MSA Research  
02-10-2000 16.48

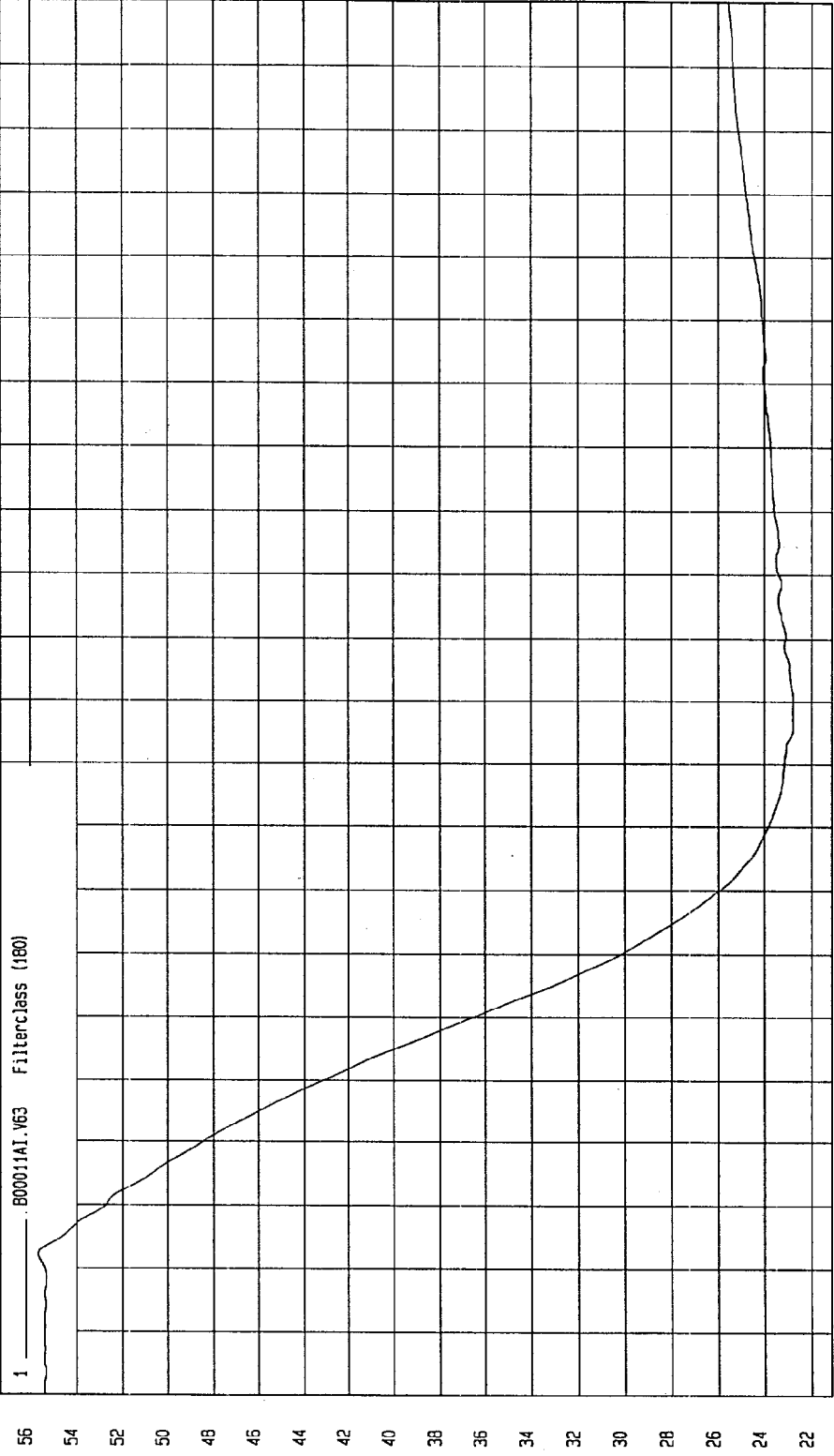
G'S

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
 COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = 22.77 KPH at 86 msec Maximum = 55.67 KPH at 2 msec

MOVING BARRIER CG X VELOCITY

1 B00011A1.V63 Filterclass (160)



MECA Research  
02-10-2000 15:48

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

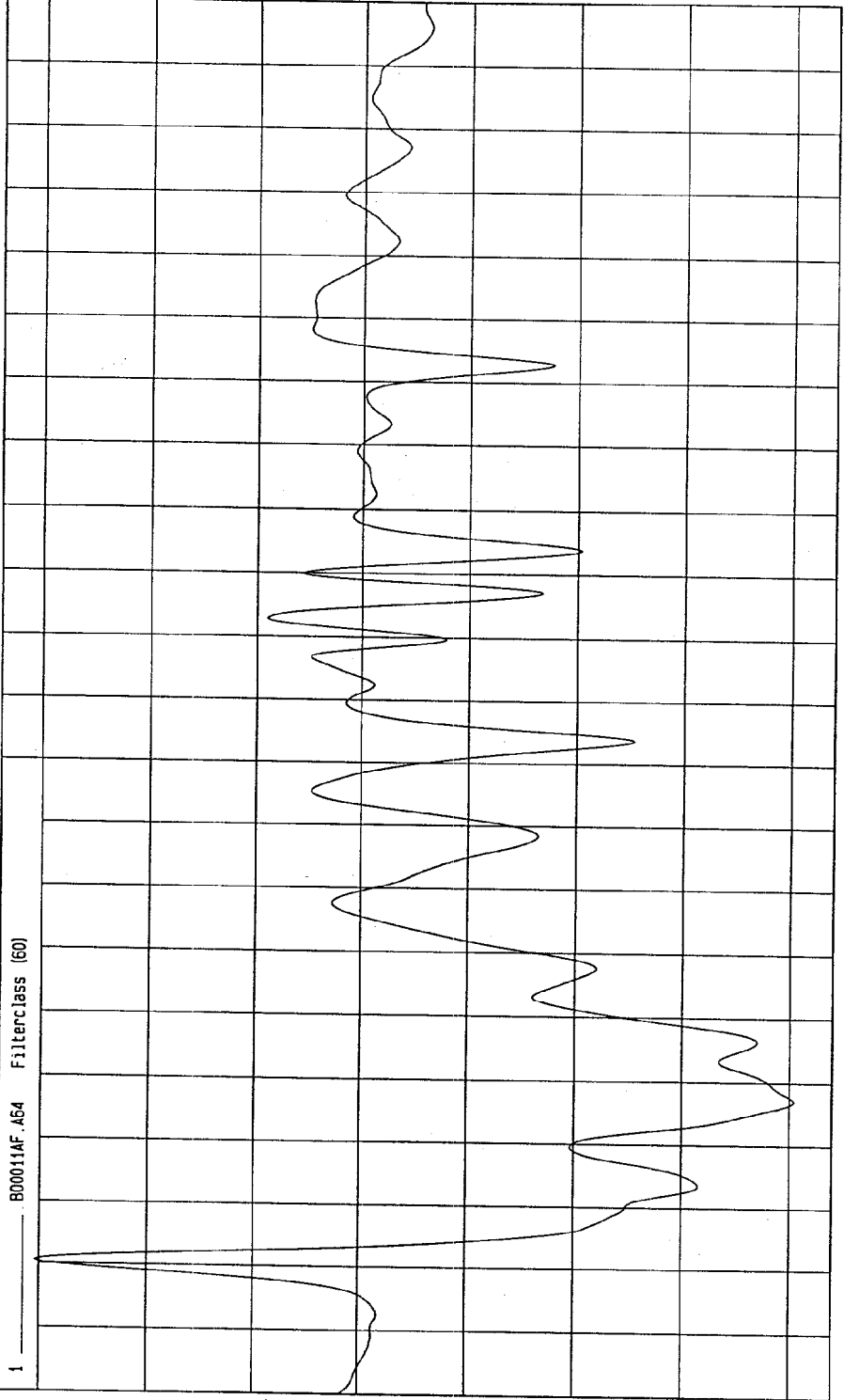
Speed: 38.65 MPH 62.2 KPH

Minimum = -8.08 G'S at 27 msec

Component: 2000 FORD FOCUS (MY0205)

Maximum = 6.07 G'S at 0 msec

MOVING BARRIER CG Y ACCELERATION



1 800011AF.A64 Filterclass (60)

TIME (SECONDS)

NSA Research  
02-10-2000 16:48

G.S

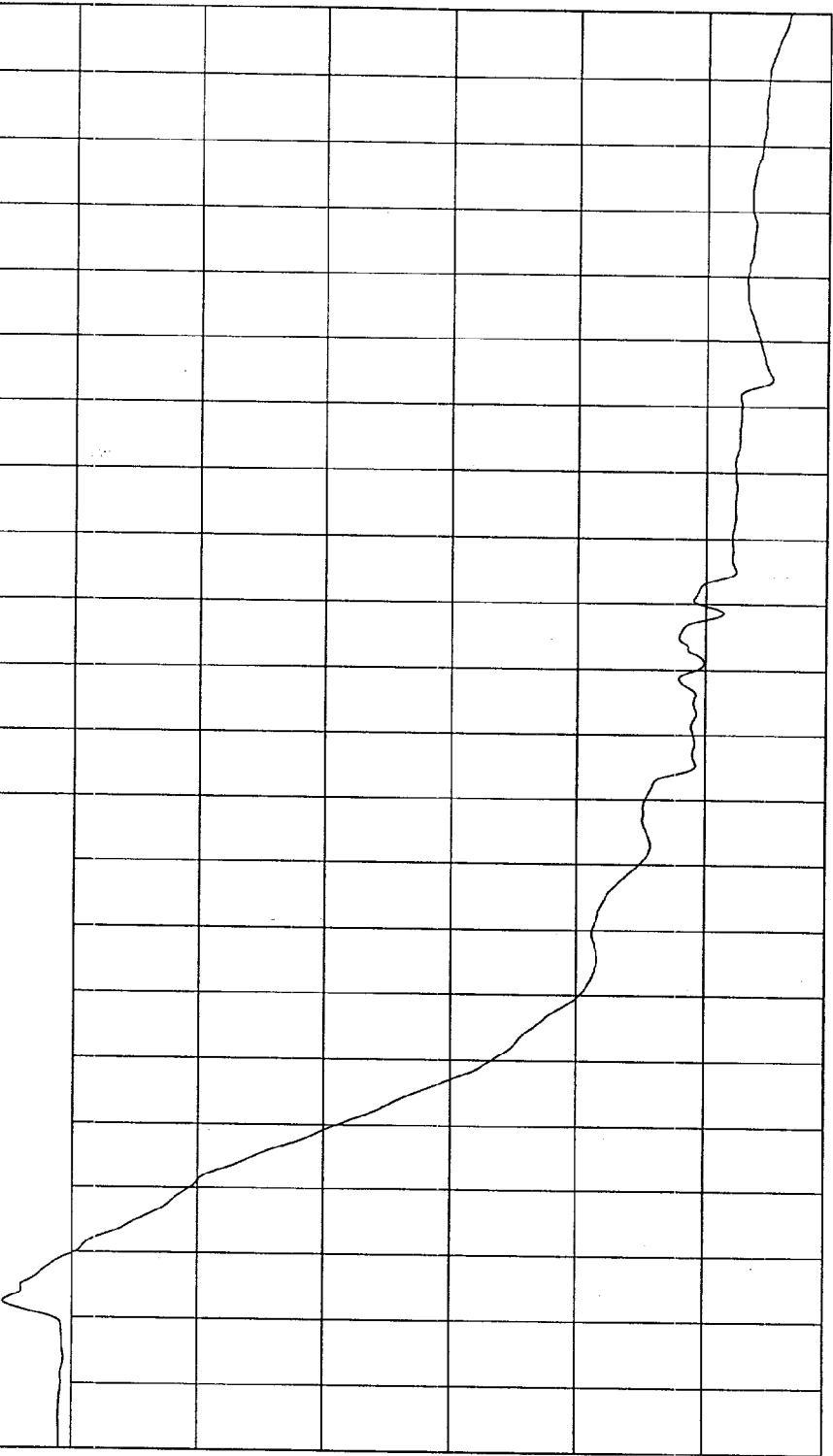
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = 16.72 KPH at 200 msec Maximum = 29.1 KPH at 2 msec

MOVING BARRIER CG Y VELOCITY

1 800011A1.V64 Filterclass (180)



TIME Seconds

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

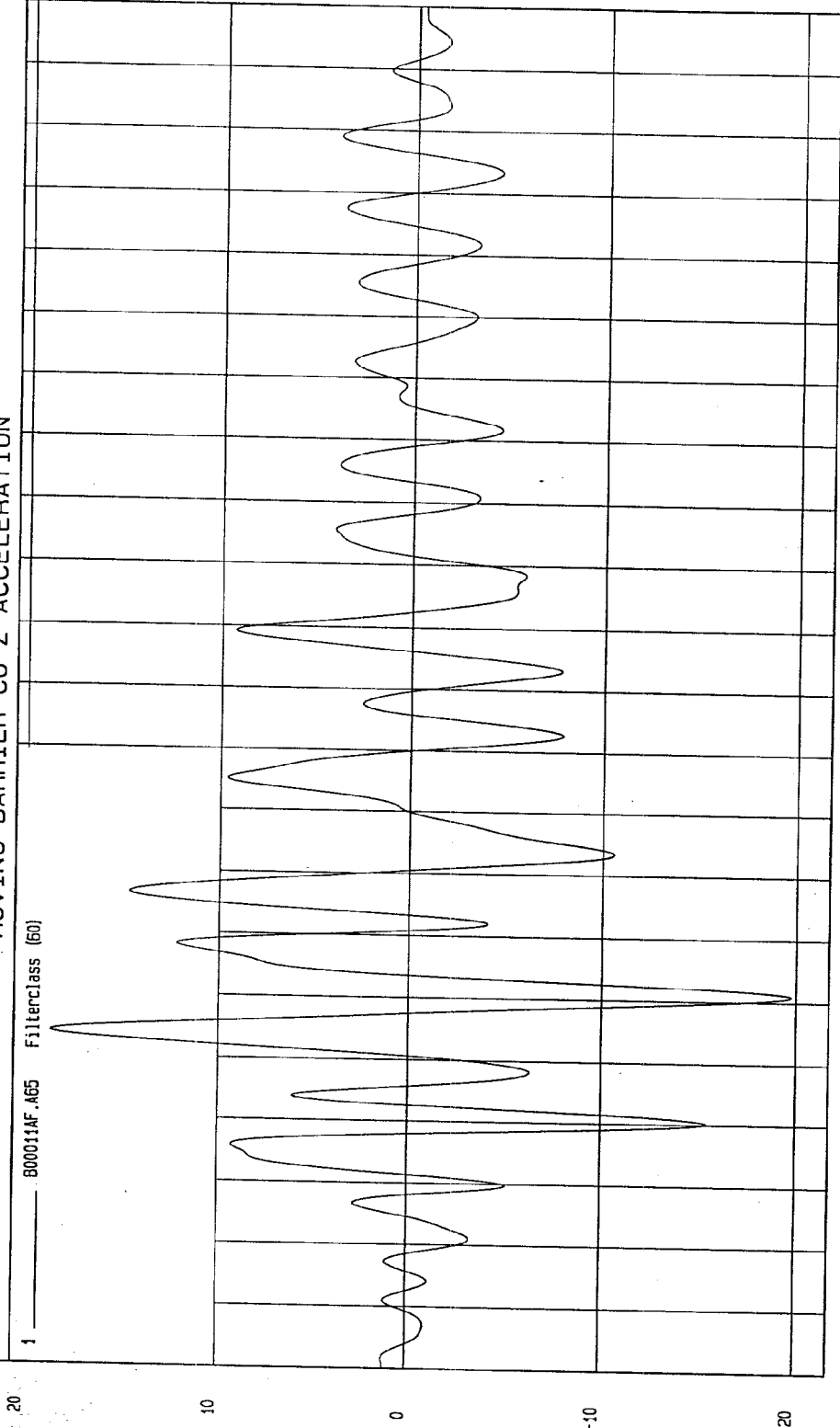
Speed: 38.65 MPH 62.2 KPH

Minimum = -19.77 G'S at 41 msec

Maximum = 18.68 G'S at 34 msec

MOVING BARRIER CG Z ACCELERATION

1 800011AF.A65 Filterclass (60)



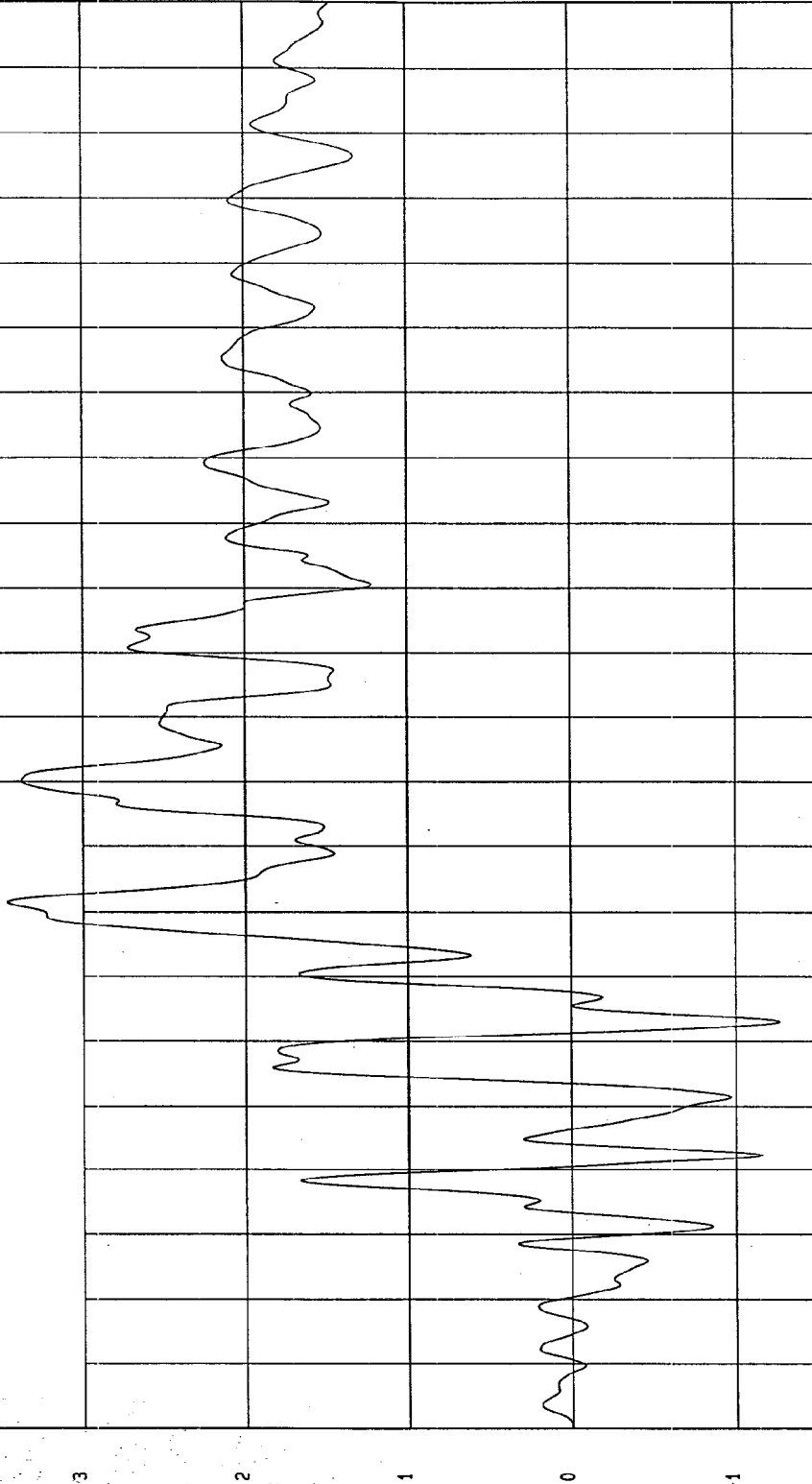
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -1.27 KPH at 43 msec  
Maximum = 3.47 KPH at 62 msec

MOVING BARRIER CG Z VELOCITY

1 ——— .B00011A1.V65 Filterc.ass (180)



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

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

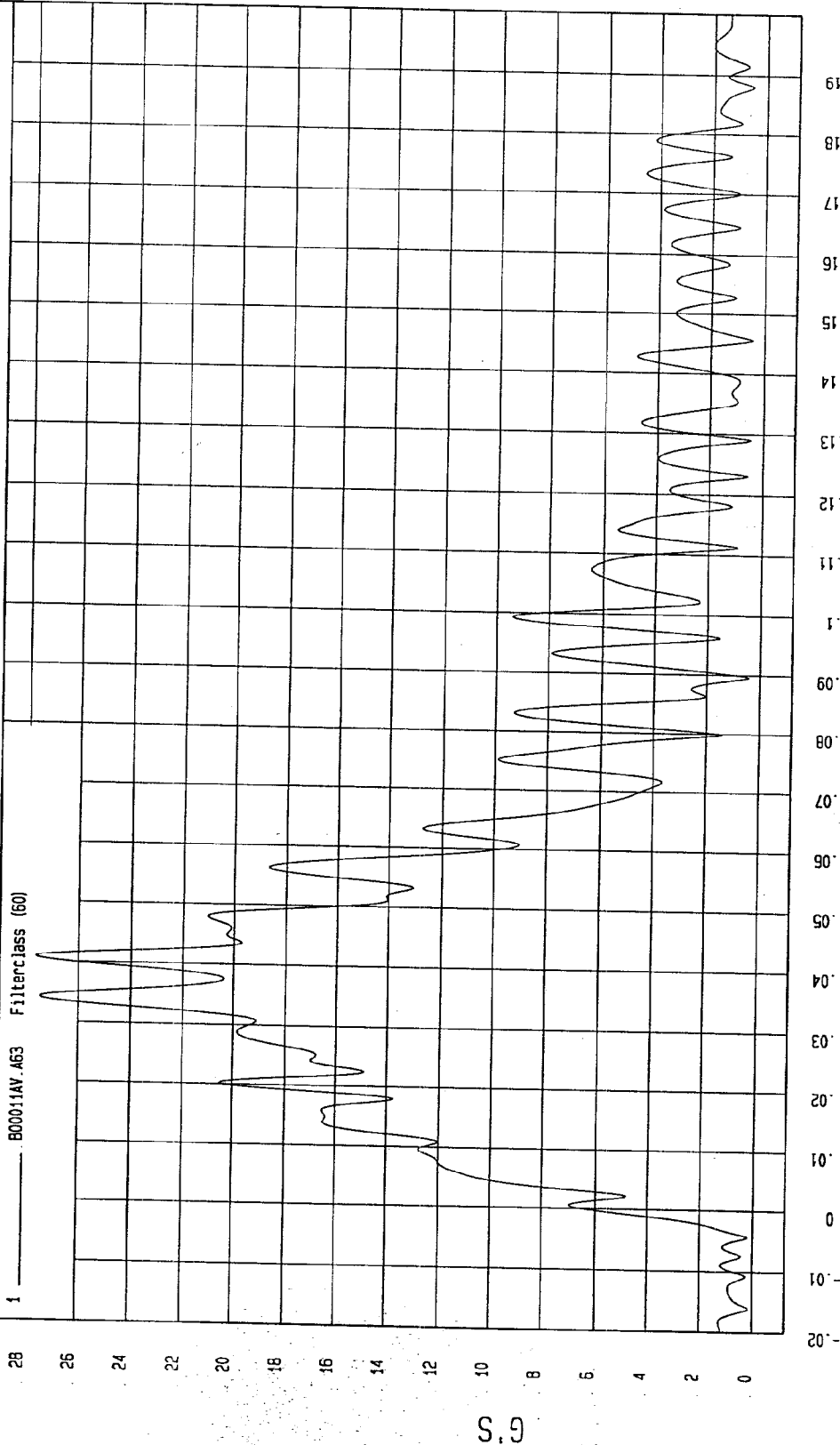
Speed: 38.65 MPH 62.2 KPH

Minimum = .13 G'S at -16 msec

Maximum = 27.68 G'S at 41 msec

MOVING BARRIER CG RESULTANT ACCELERATION

1 B00011AV.A63 Filterclass (60)



TIME (SECONDS)

M&A Research  
02-10-2000 16:46

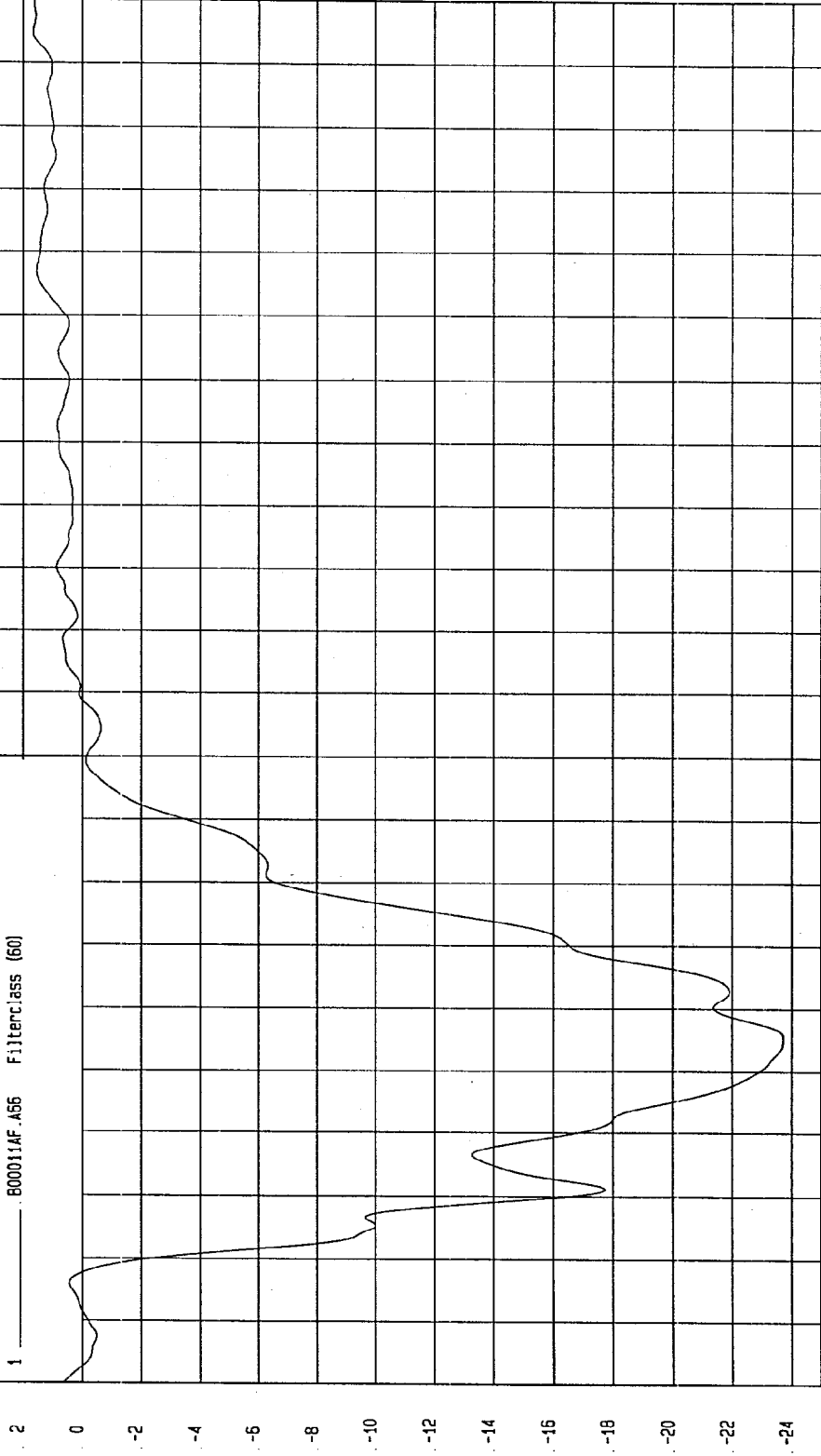
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -23.72 G'S at 35 msec

MOVING BARRIER REAR AXLE X ACCELERATION

1 800011AF.A66 Filterclass (60)



2  
0  
-2  
-4  
-6  
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-12  
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-16  
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-22  
-24

TIME (SECONDS)

19  
18  
17  
16  
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3  
2  
1  
0  
-1  
-2

MEA Research  
02-10-2000 16:48

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

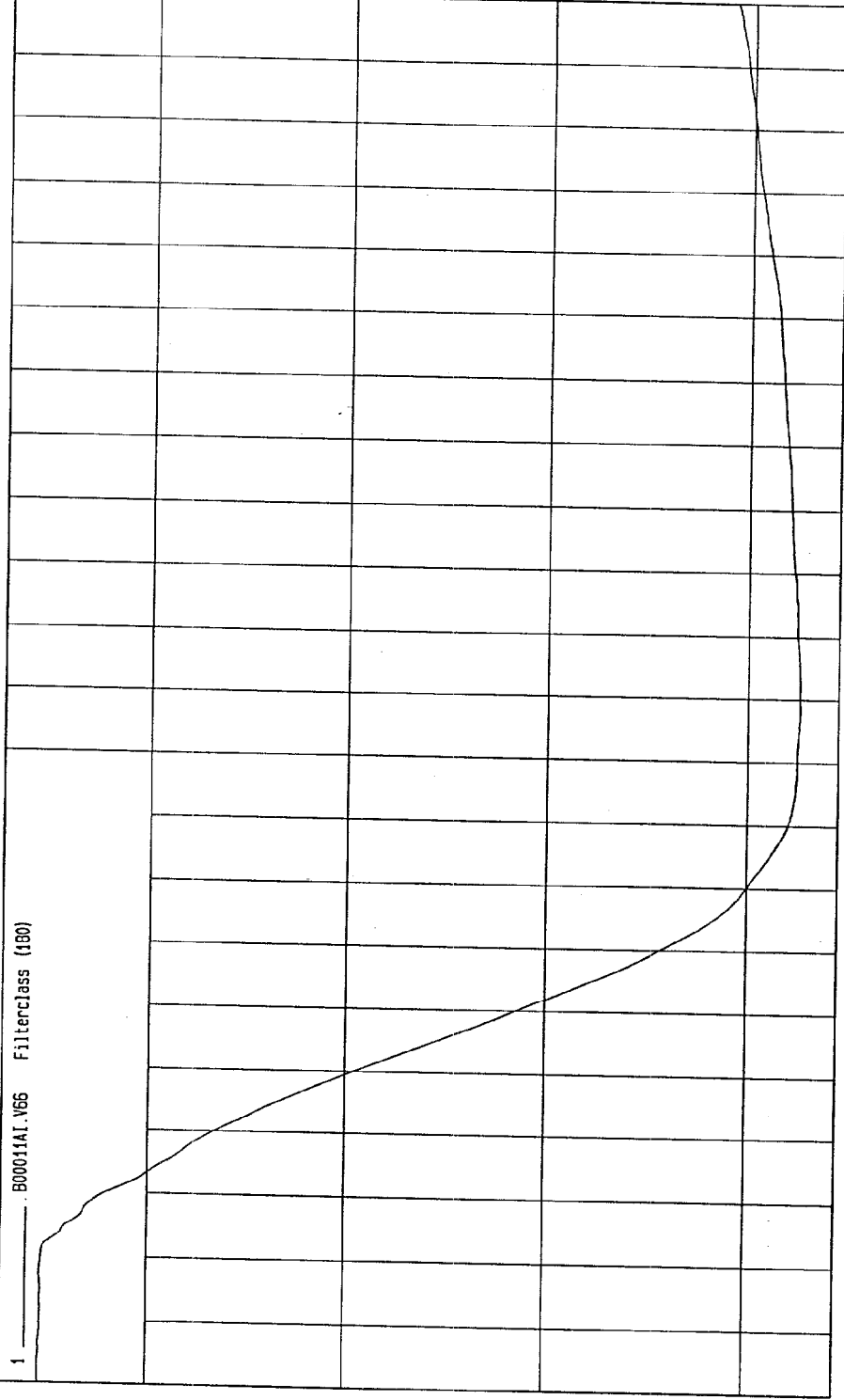
Speed: 38.65 MPH 62.2 KPH

Minimum = 17.47 KPH at 88 msec

Maximum = 55.44 KPH at -17 msec

MOVING BARRIER REAR AXLE X VELOCITY

1 ——— .B00011A1.V66 Filterclass (180)



KPH

TIME Seconds

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

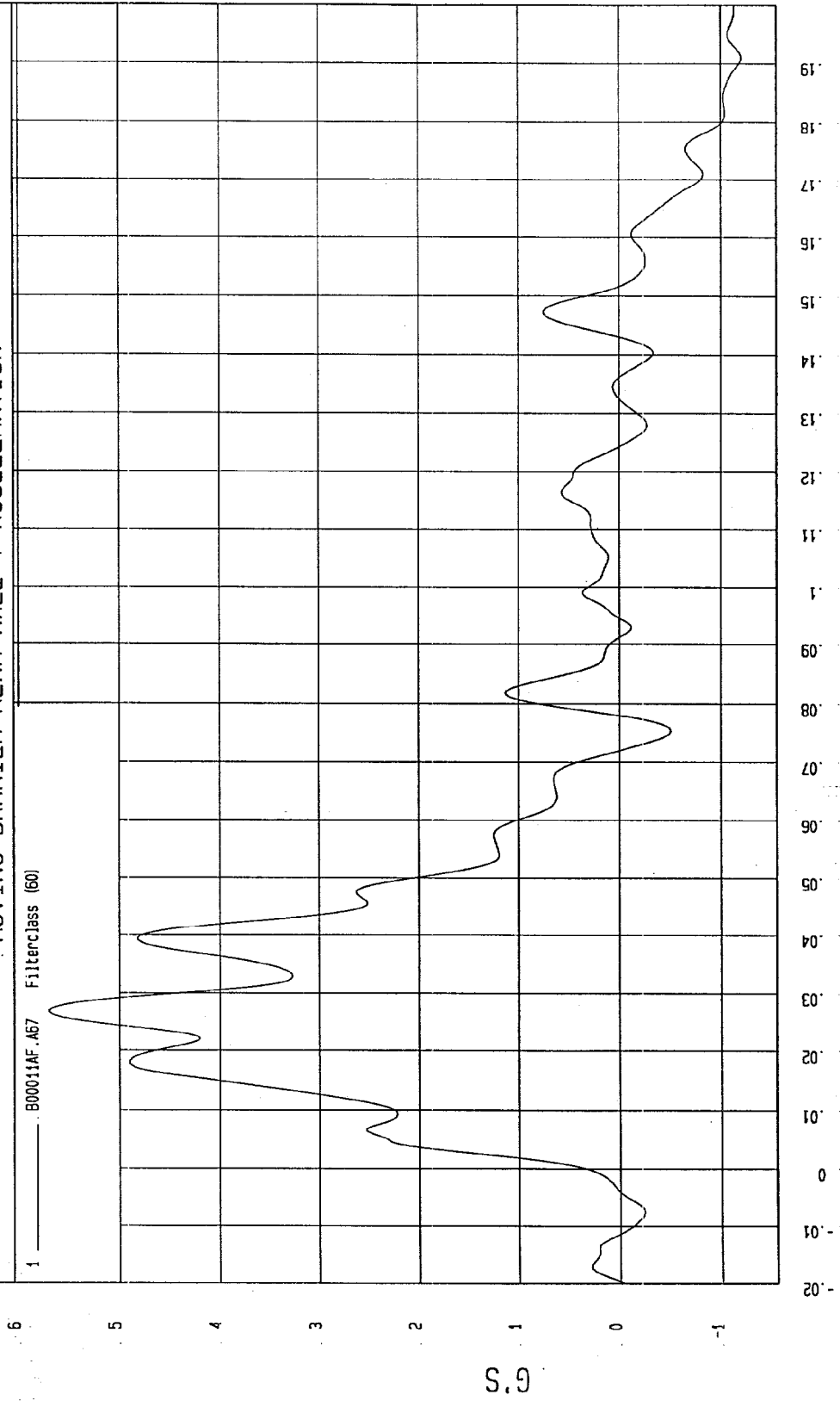
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -1.2 G'S at 191 msec

Maximum = 5.71 G'S at 27 msec

MOVING BARRIER REAR AXLE Y ACCELERATION

1 \_\_\_\_\_ B00011AF.A67 Filterclass (60)



MEA Research  
02-10-2000 18:48

TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

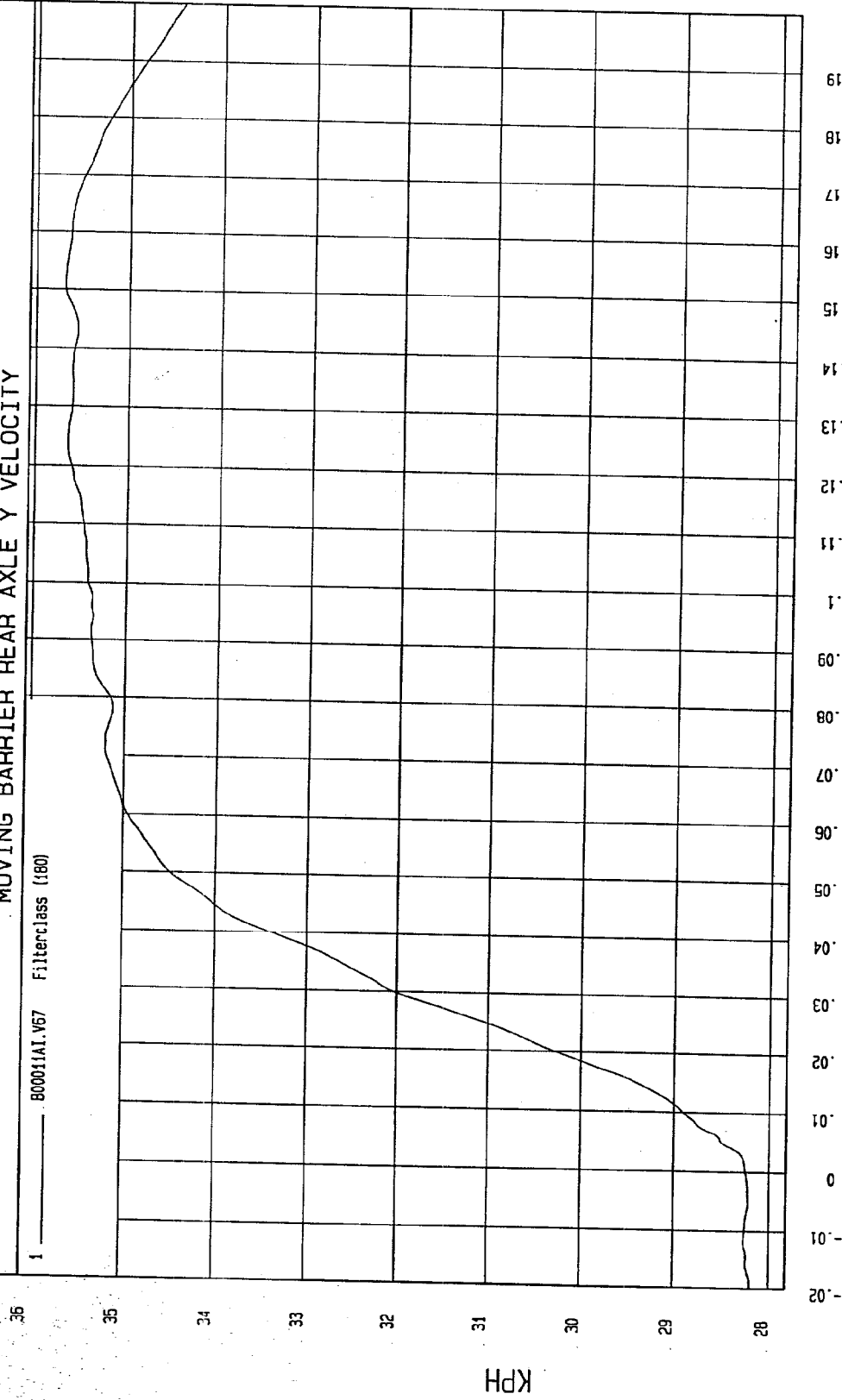
Speed: 38.65 MPH 62.2 KPH

Minimum = 28.2 KPH at -19 msec

Maximum = 35.59 KPH at 151 msec

MOVING BARRIER REAR AXLE Y VELOCITY

1 ——— B00011A1.V57 Filterclass (180)



TIME Seconds

M&A Research  
02-14-2000 11:33

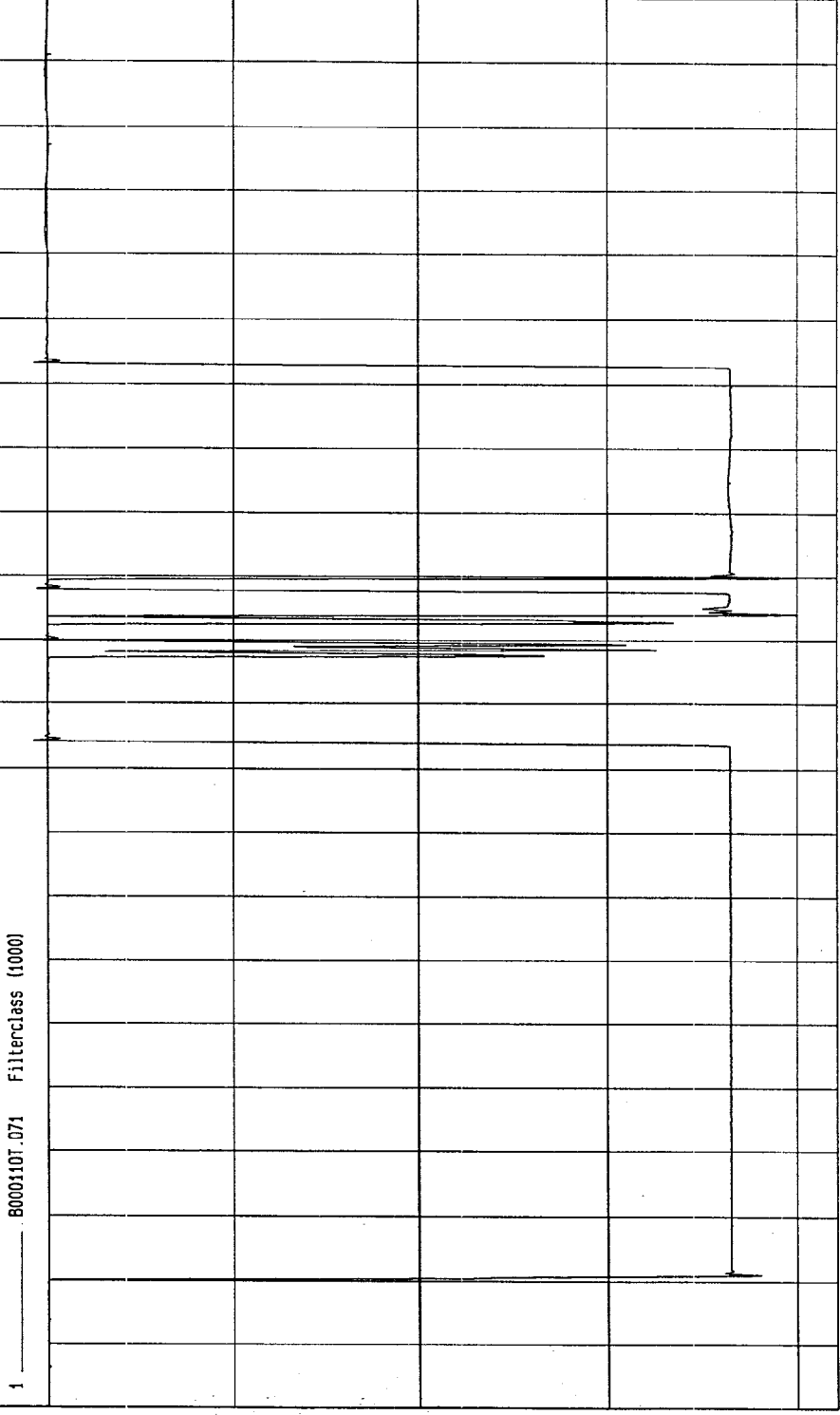
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -4.01 VOLTS at 104 msec  
Maximum = 7.49E-02 VOLTS at 84 msec

LEFT BARRIER CONTACT

1 800010T.071 Filterclass (1000)



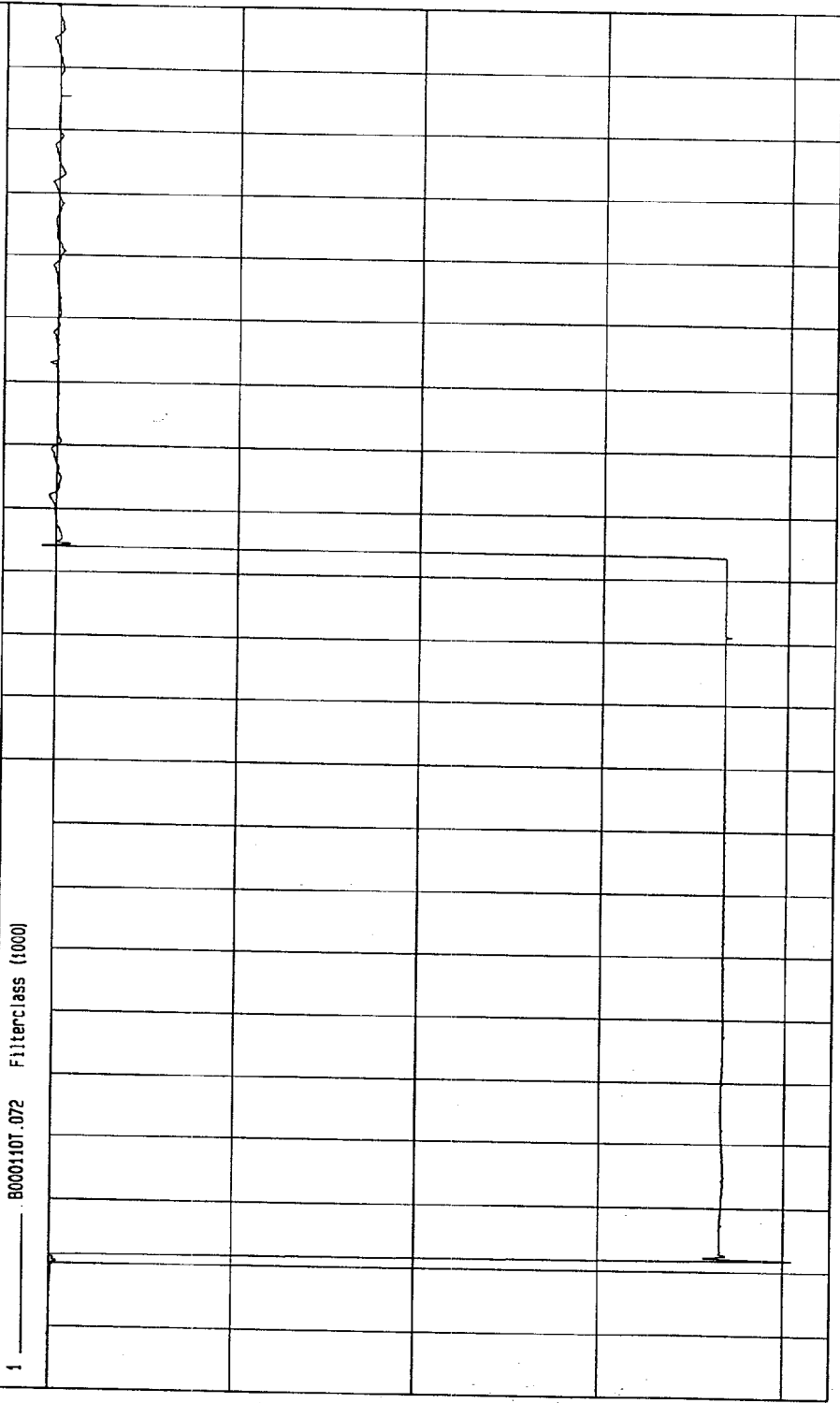
TIME (SECONDS) 0.19 0.18 0.17 0.16 0.15 0.14 0.13 0.12 0.11 0.1 0.09 0.08 0.07 0.06 0.05 0.04 0.03 0.02 0.01 0 -0.01 -0.02

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -4.04 VOLTS at 2 msec  
Maximum = .08 VOLTS at 114 msec

RIGHT BARRIER CONTACT



TIME (SECONDS)

MGA Research  
02-10-2000 16:48

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

TEST: NCAP SIDE IMPACT

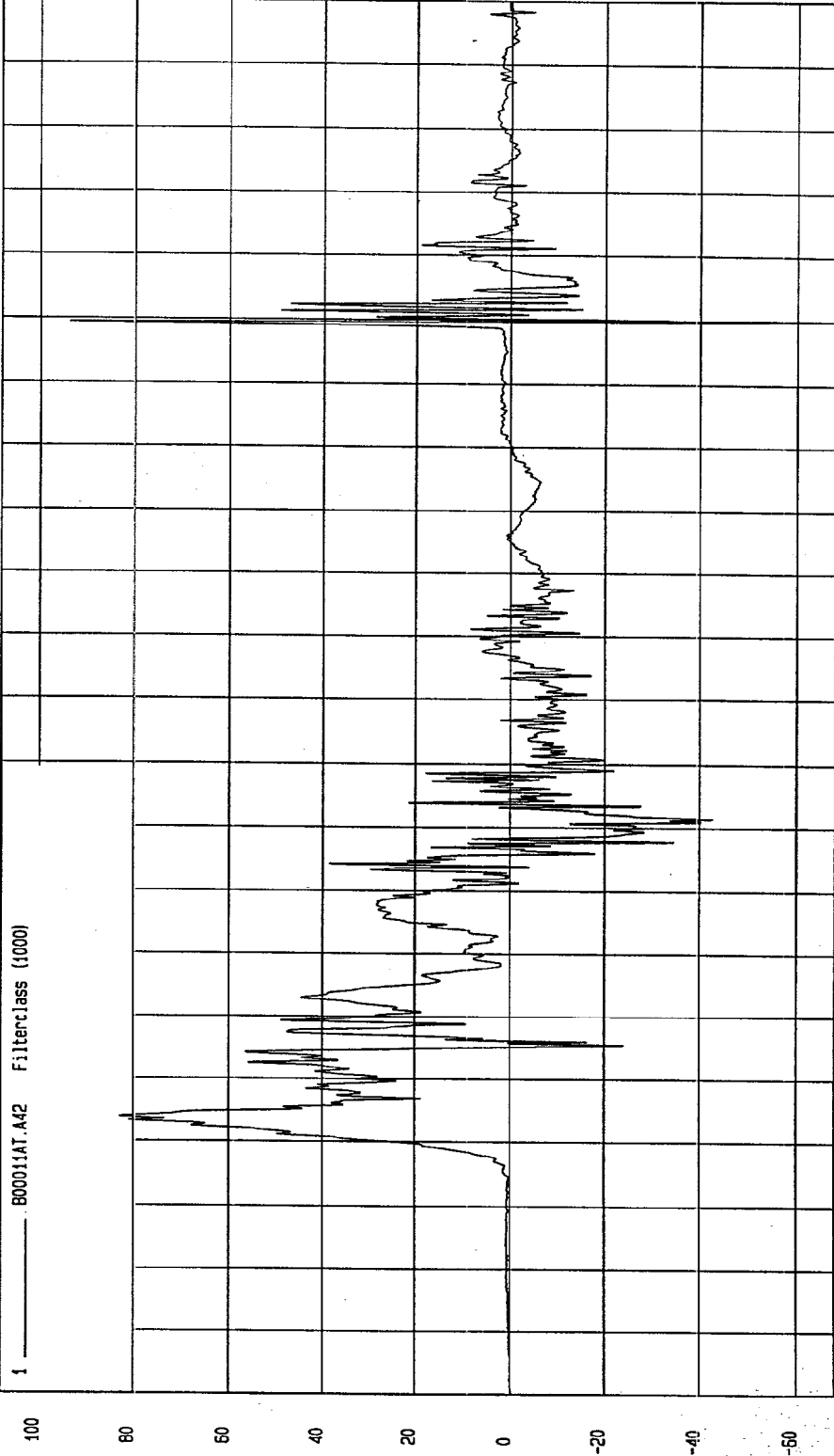
COMPONENT: 2000 FORD FOCUS (MY0205)

Maximum = 93.75 G'S at 150 msec

Minimum = -81.34 G'S at 150 msec

DRIVER UPPER RIB Y REDUNDANT ACCELERATION

1 800011AT.A42 Filterclass (1000)



TIME (SECONDS)

MCA Research  
02-14-2000 11:33

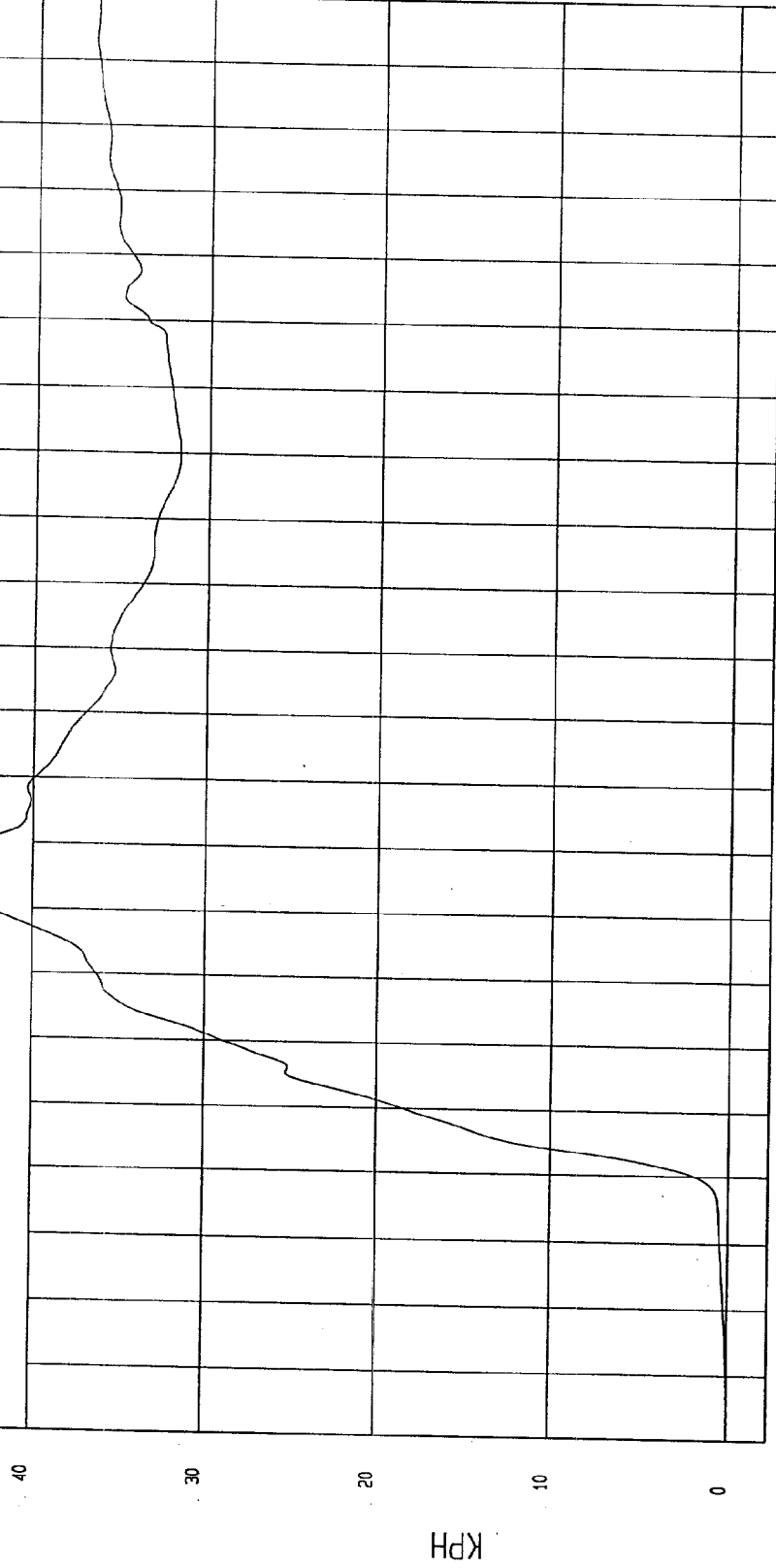
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = 0 KPH at -19 msec  
Maximum = 44.66 KPH at 66 msec

DRIVER UPPER RIB Y REDUNDANT VELOCITY

1 ——— 800011A1.V42 Filterclass (180)



MCA Research  
02-10-2000 16:50

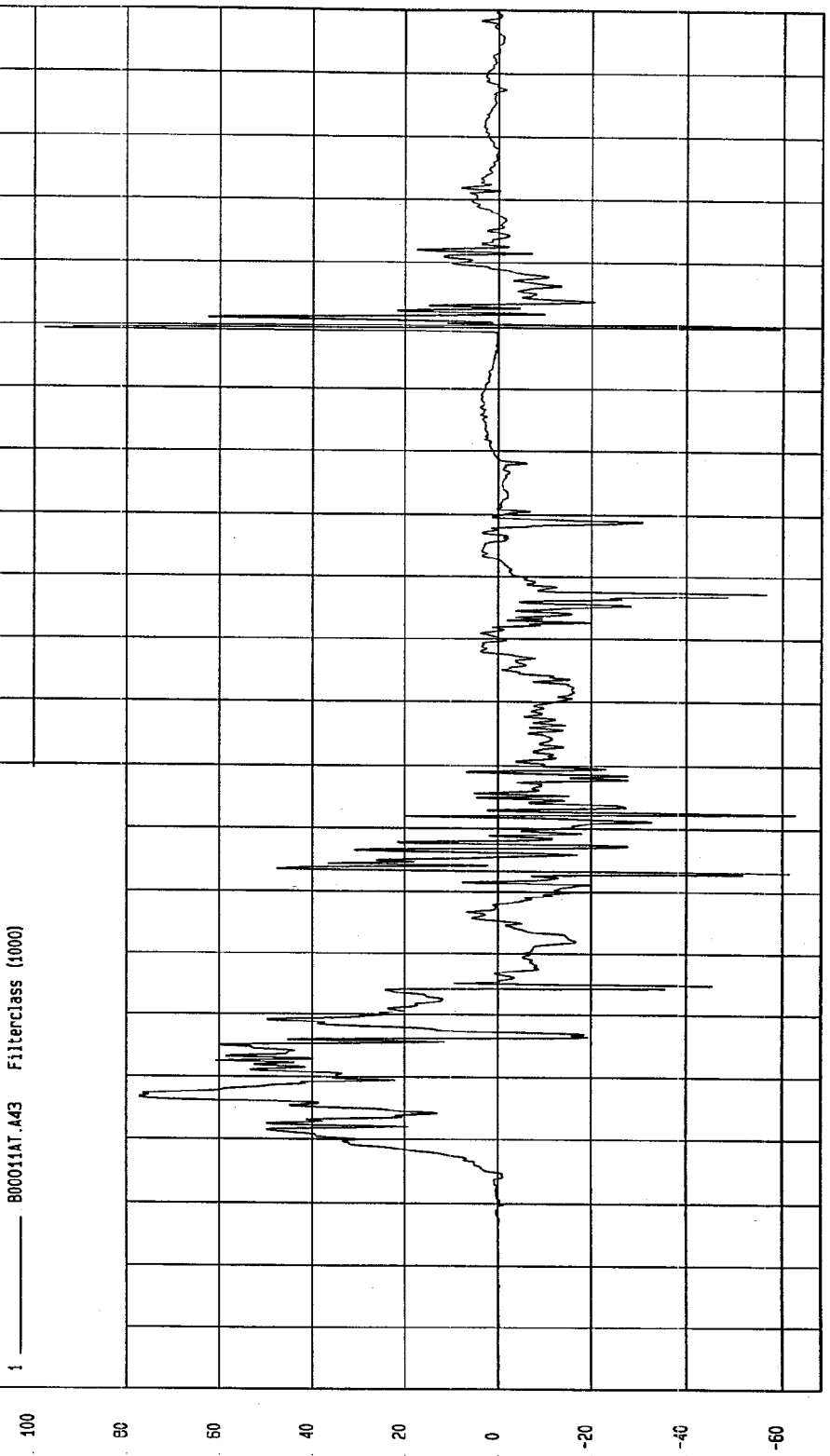
TIME Seconds

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -127.67 G'S at 107 msec Maximum = 141.69 G'S at 149 msec

DRIVER LOWER RIB Y REDUNDANT ACCELERATION

1 800011AT.A43 Filterclass (1000)



TIME (SECONDS)

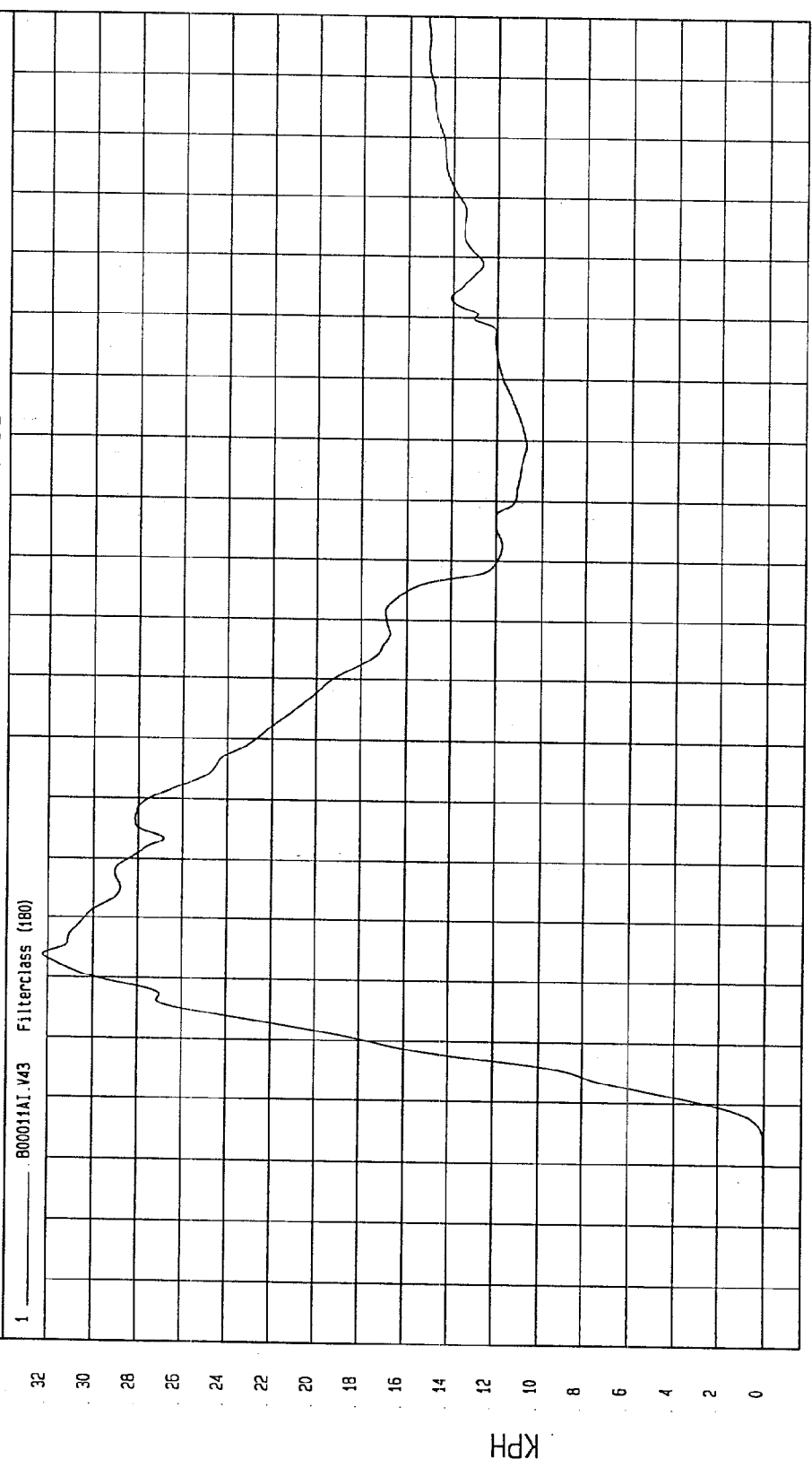
19  
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0  
-1  
-2

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -3.26E-03 KPH at -3 msec  
Maximum = 32.23 KPH at 44 msec

DRIVER LOWER RIB Y REDUNDANT VELOCITY



TIME Seconds

MCA Research  
02-10-2000 16:50

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

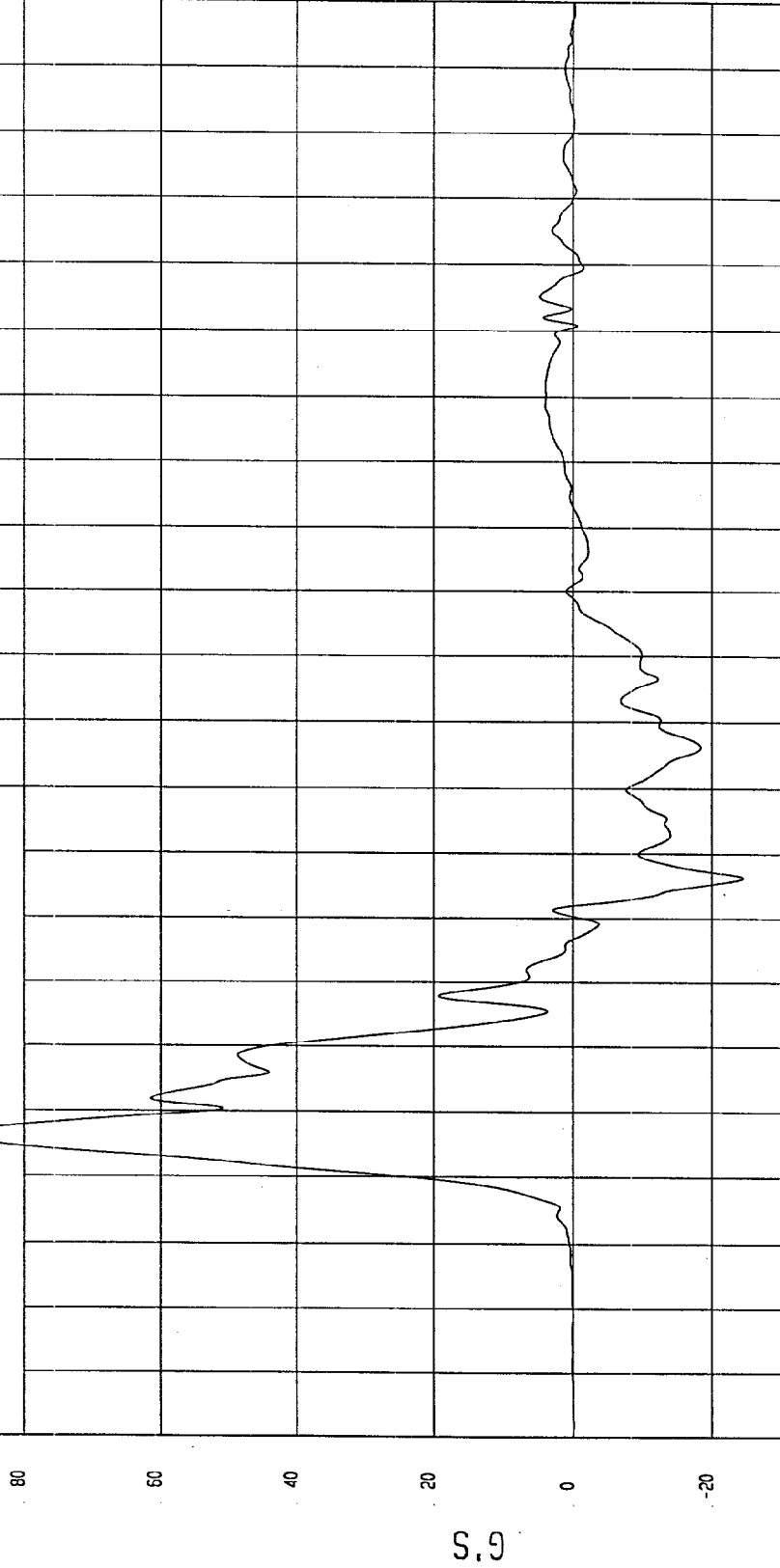
Speed: 38.65 MPH 62.2 KPH

Minimum = -24.5 G'S at 66 msec

Maximum = 88.6 G'S at 26 msec

DRIVER LOWER SPINE Y REDUNDANT ACCELERATION

1 \_\_\_\_\_ 800011AF.A44 Filterclass (180)



TIME (SECONDS)

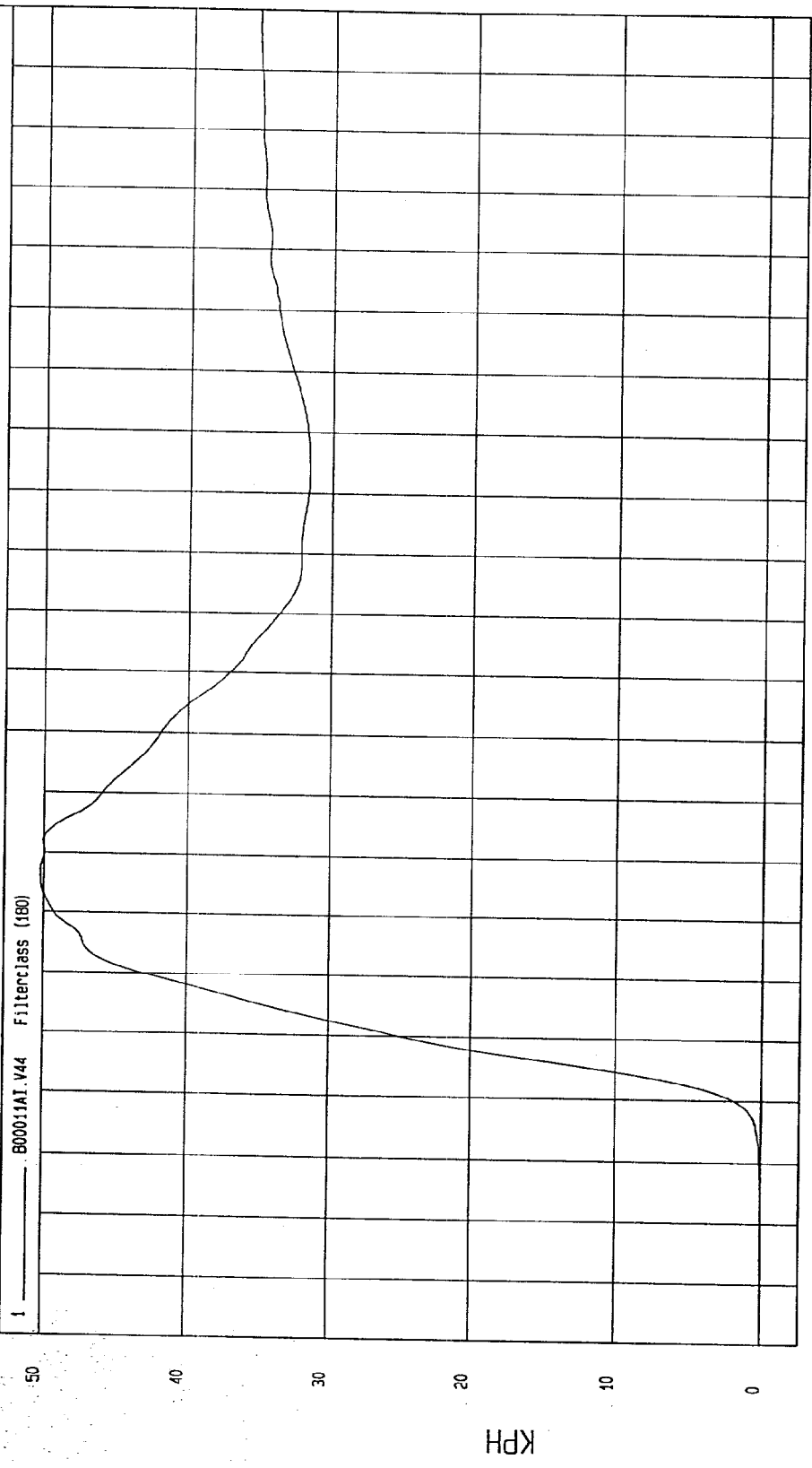
WCA Research  
02-10-2000 16:50

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -9.94E-03 KPH at -16 msec  
Maximum = 50.24 KPH at 57 msec

DRIVER LOWER SPINE Y REDUNDANT VELOCITY



KPH

TIME Seconds

MCA Research  
02-10-2000 16:50

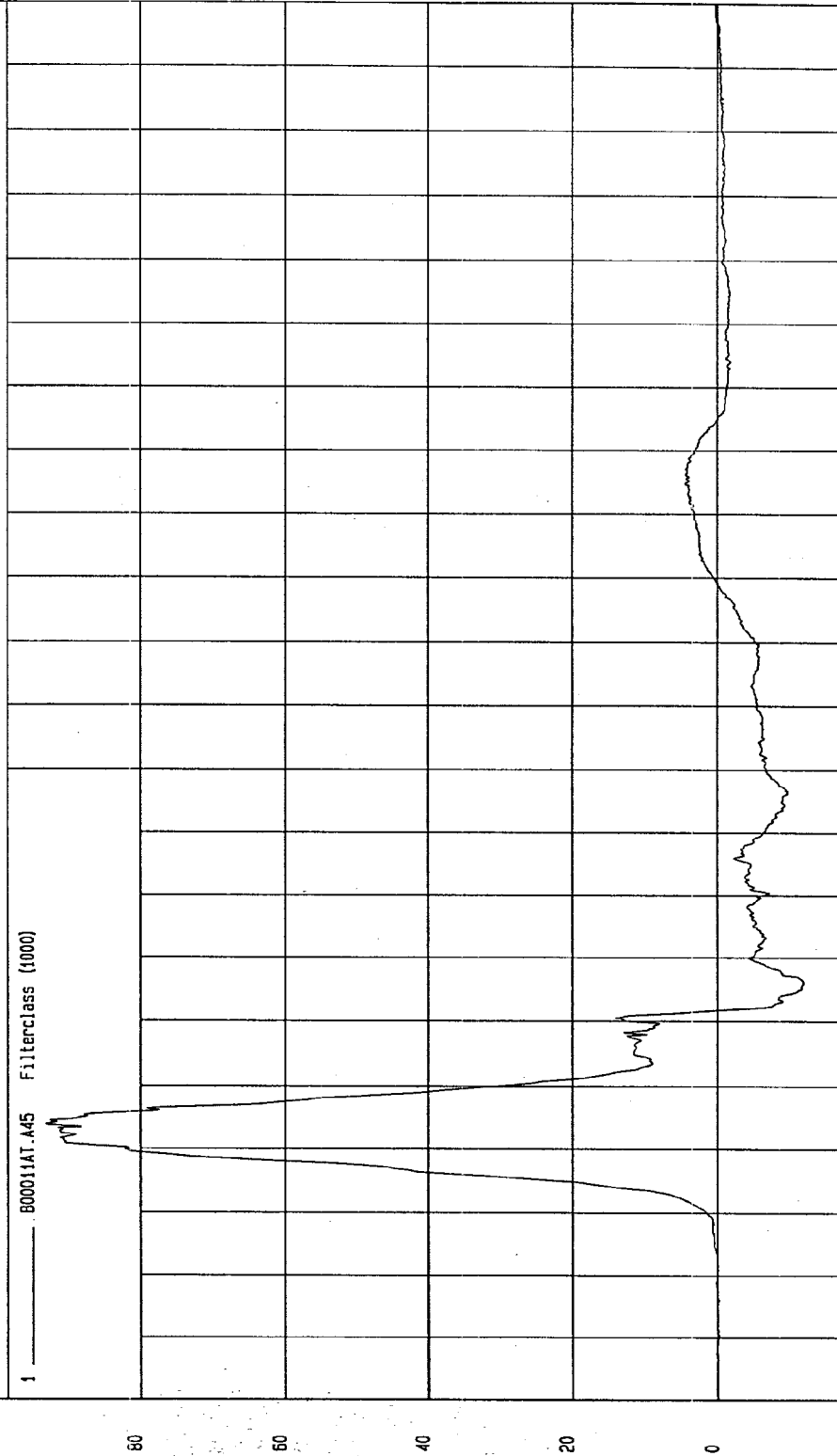
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -11.92 G'S at 46 msec

DRIVER PELVIS Y REDUNDANT ACCELERATION

1 800011AT.A45 Filterclass (1000)



MSA Research  
02-10-2000 16:50

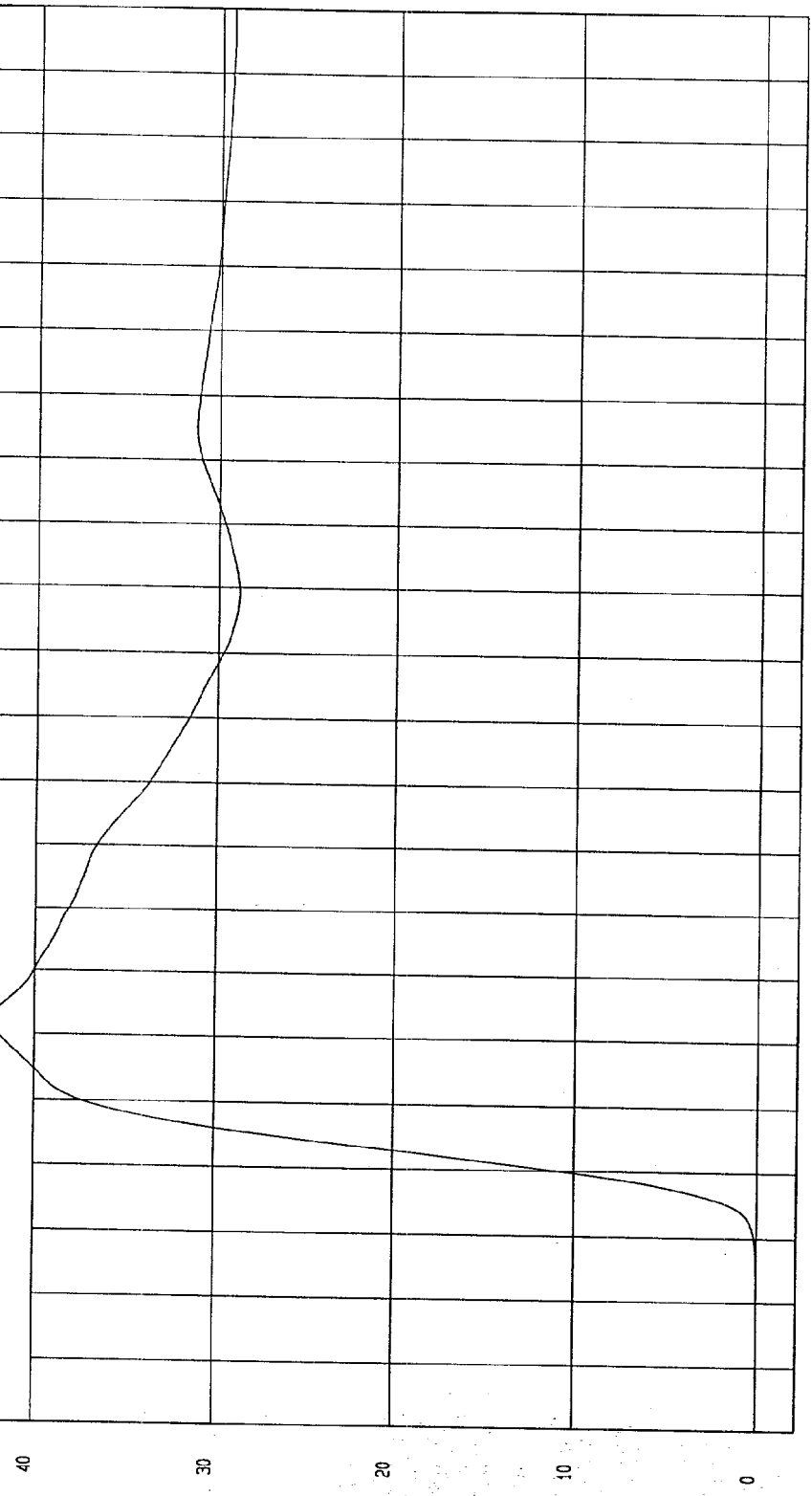
TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH  
Minimum = -2.61E-04 KPH at -20 msec  
Maximum = 42.55 KPH at 42 msec

DRIVER PELVIS Y REDUNDANT VELOCITY

1 ——— 800011A1.V45 Filterclass (180)



TIME Seconds  
MCA Research  
02-10-2000 16:50

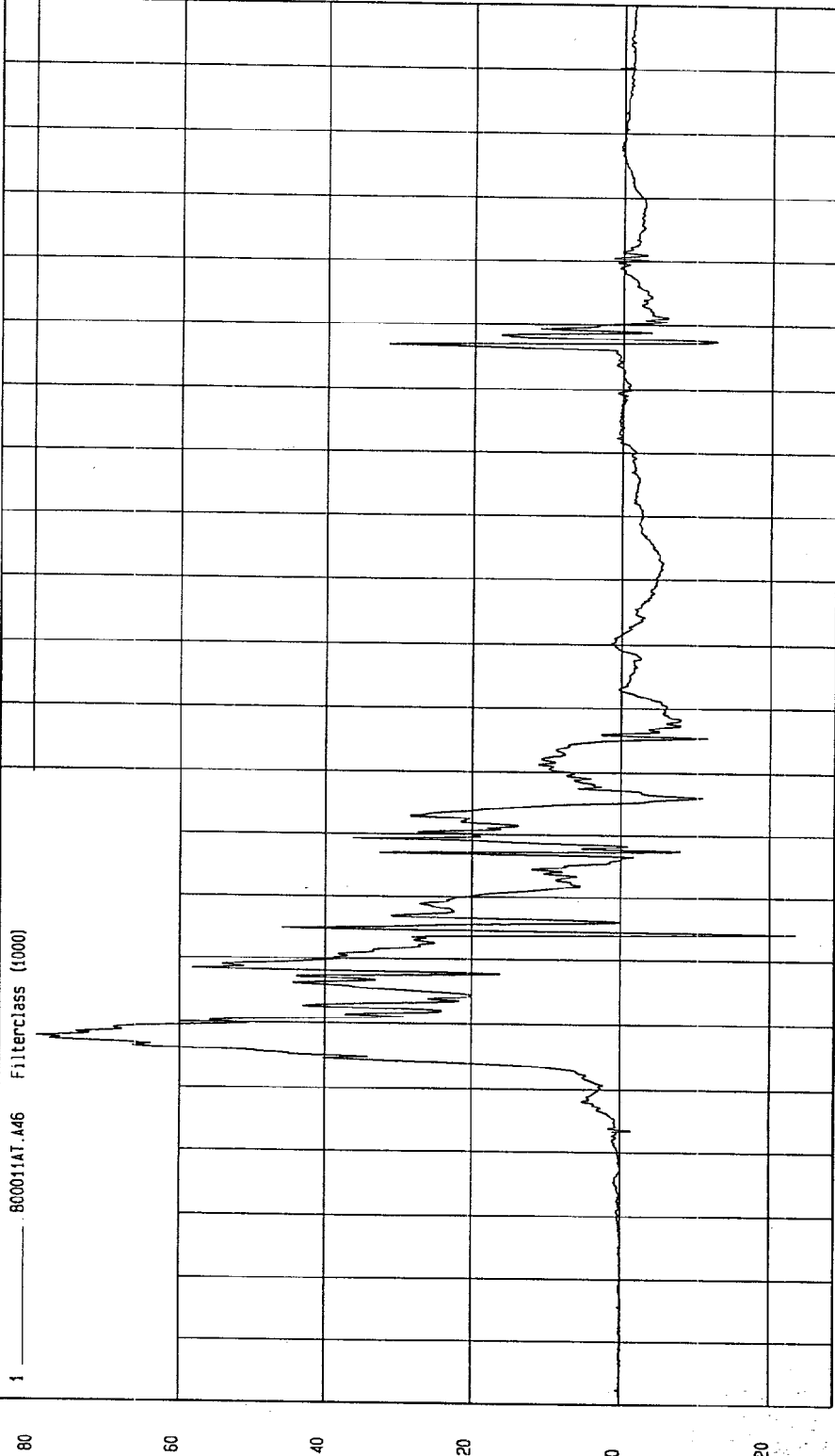
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -23.53 G'S at 54 msec  
Maximum = 79.5 G'S at 38 msec

REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION

1 800011AT.446 Filterclass (1000)



MEA Research  
02-10-2000 16:50

TIME (SECONDS)

G.S

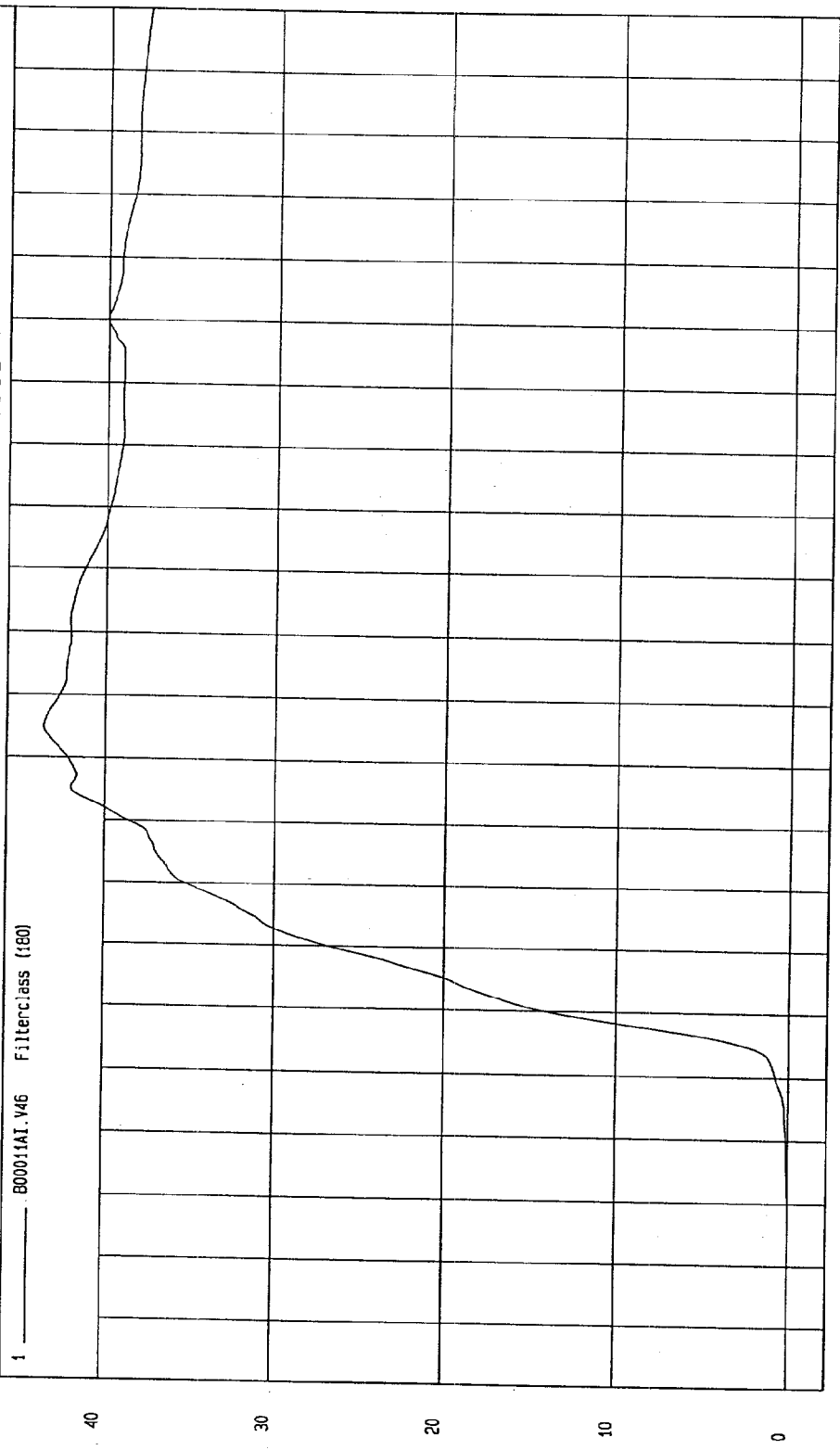
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -8.85E-06 KPH at -20 msec  
Maximum = 43.56 KPH at 85 msec

REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY

1 800011A1.V46 Filterclass (160)



WCA Research  
02-10-2000 16:50

TIME Seconds

KPH

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

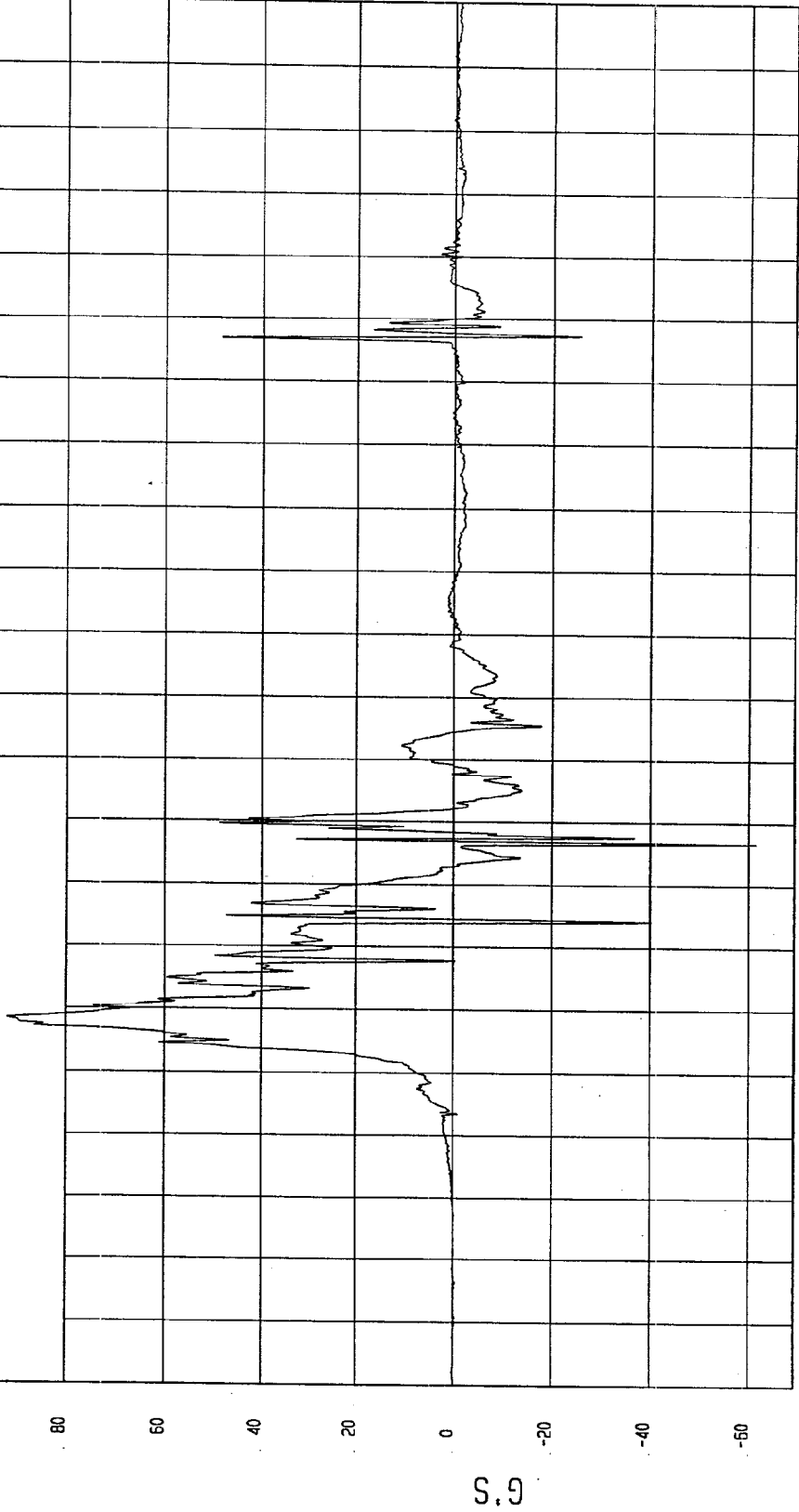
Speed: 38.65 MPH 62.2 KPH

Minimum = -61.39 G'S at 67 msec

Maximum = 92.12 G'S at 38 msec

REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION

1 800011AT.A47 Filterclass (1000)



MEA Research  
02-10-2000 16:50

TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

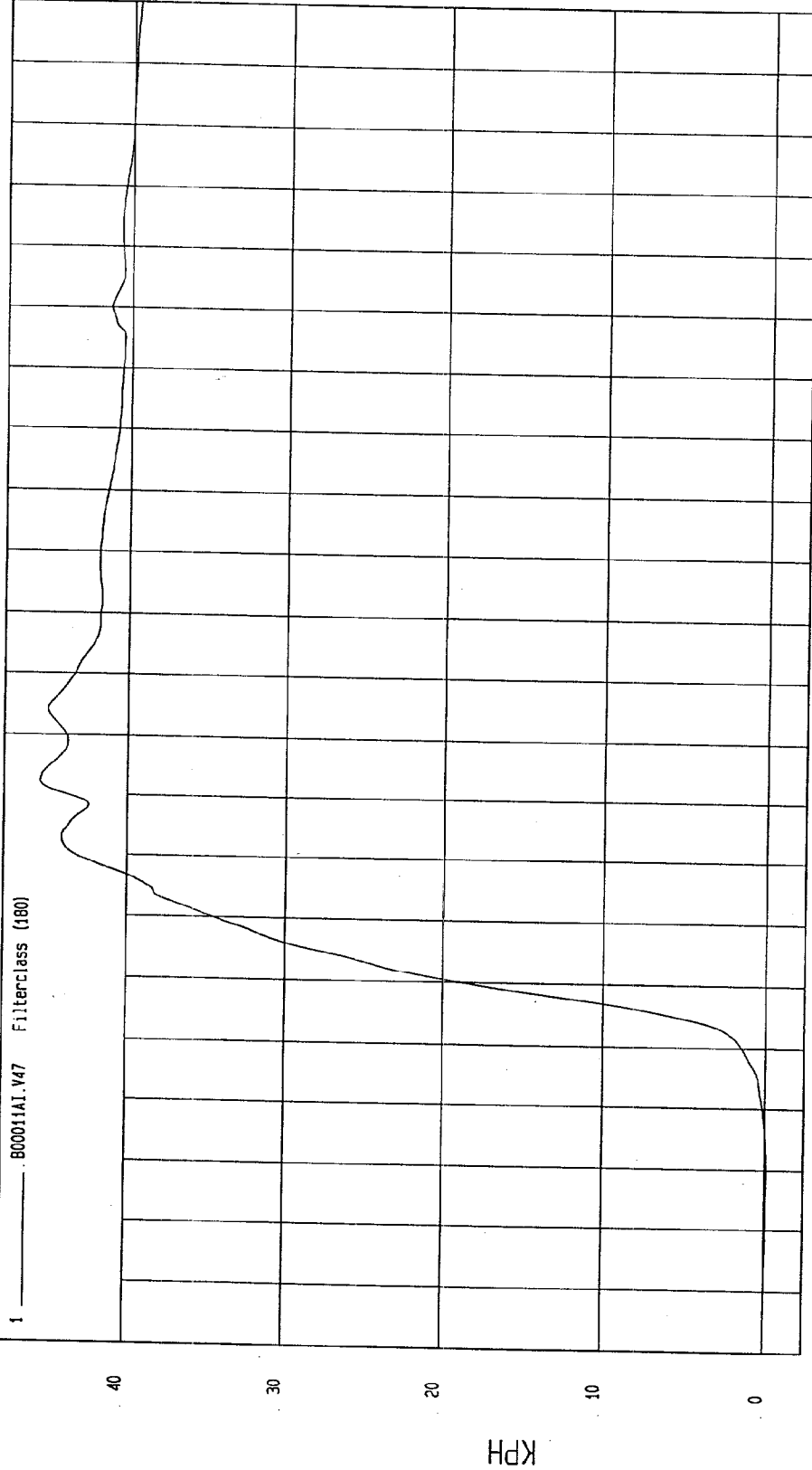
Speed: 38.65 MPH 62.2 KPH

Minimum = 11 KPH at 9 msec

Maximum = 45.35 KPH at 72 msec

REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY

1 80001A1.V47 Filterclass (180)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

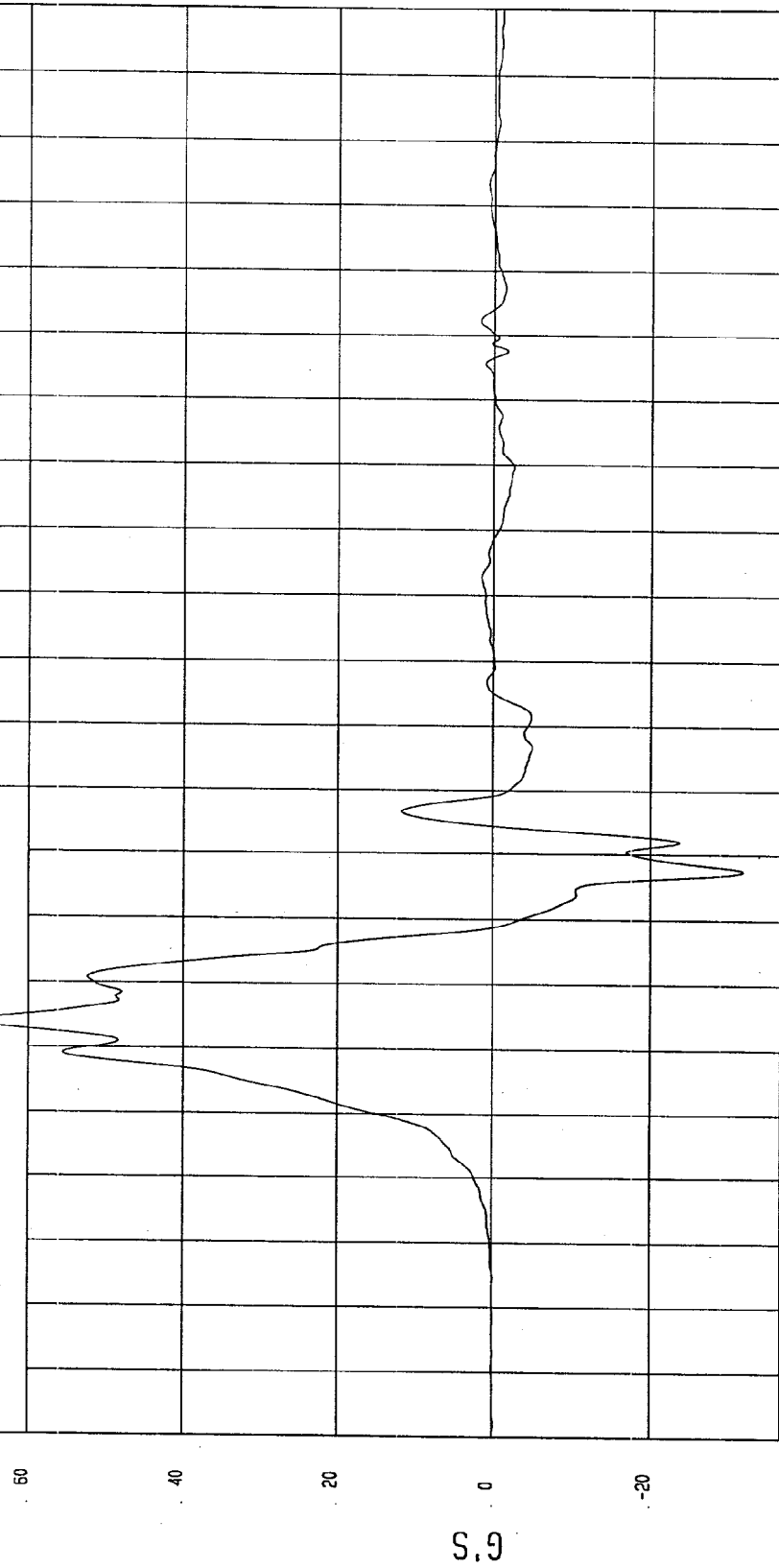
Speed: 38.65 MPH 62.2 KPH

Minimum = -31.75 G'S at 67 msec

Maximum = 67.4 G'S at 44 msec

REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION

1 .B00011AF.A48 FilterClass (180)



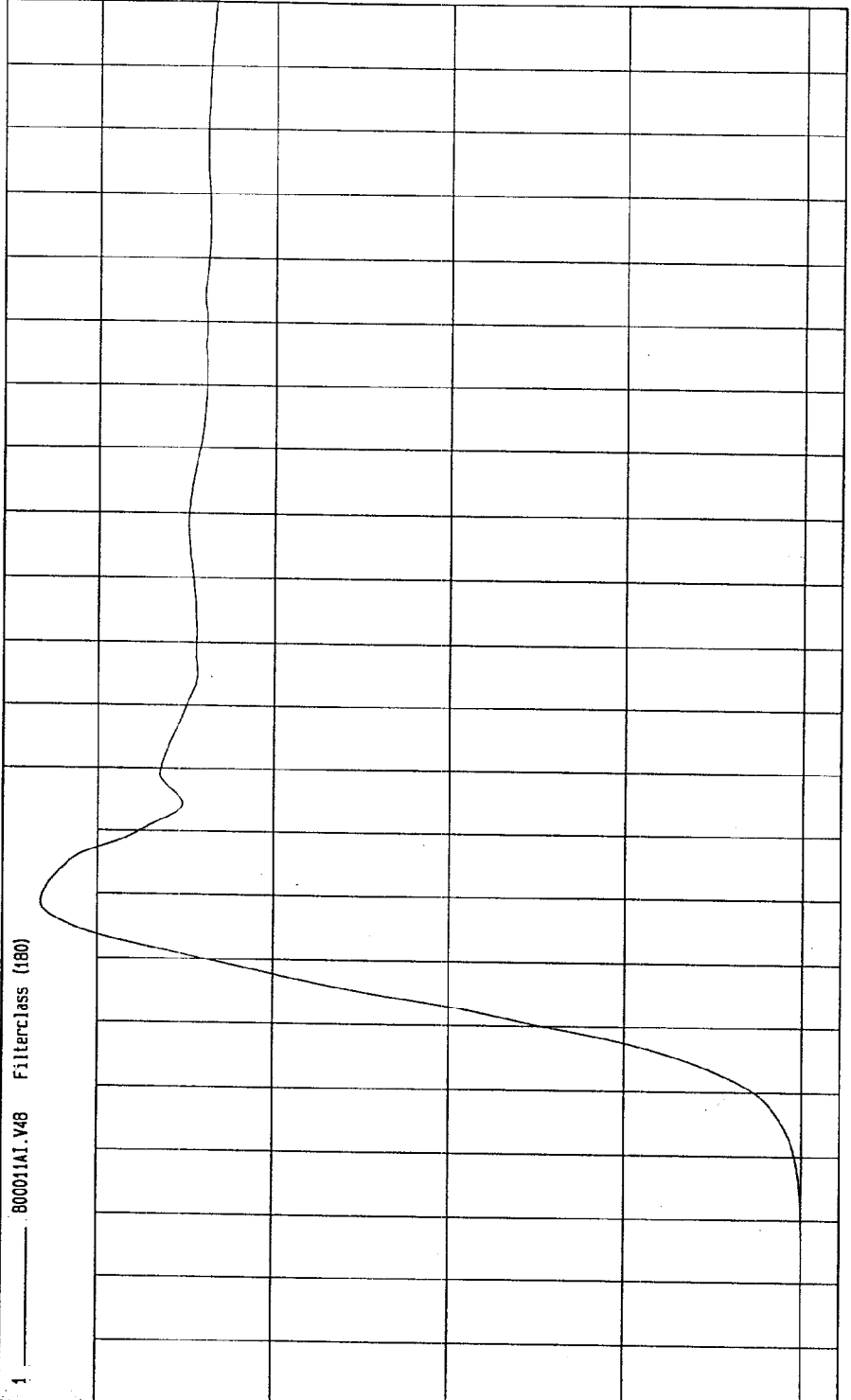
WEA Research  
02-10-2000 16:50

TIME (SECONDS)

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -1.10E-02 KPH at -11 msec  
Maximum = 43.24 KPH at 59 msec

REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY



TIME Seconds  
MSA Research  
02-10-2000 16:50

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

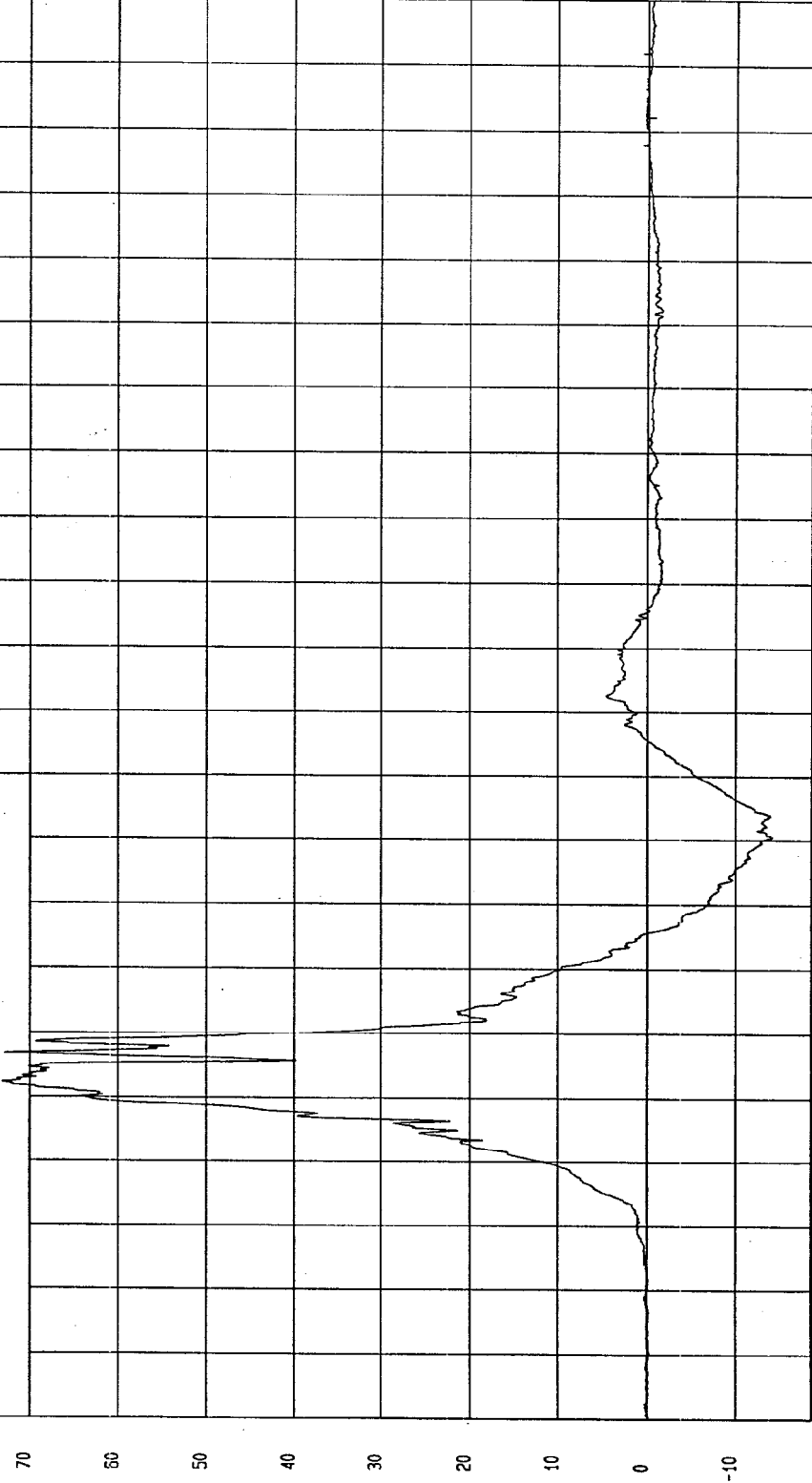
COMPONENT: 2000 FORD FOCUS (MY0205)

Maximum = 73.1 G'S at 32 msec

Minimum = -14.05 G'S at 70 msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION

1 B00011AT.A49 Filterclass (1000)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

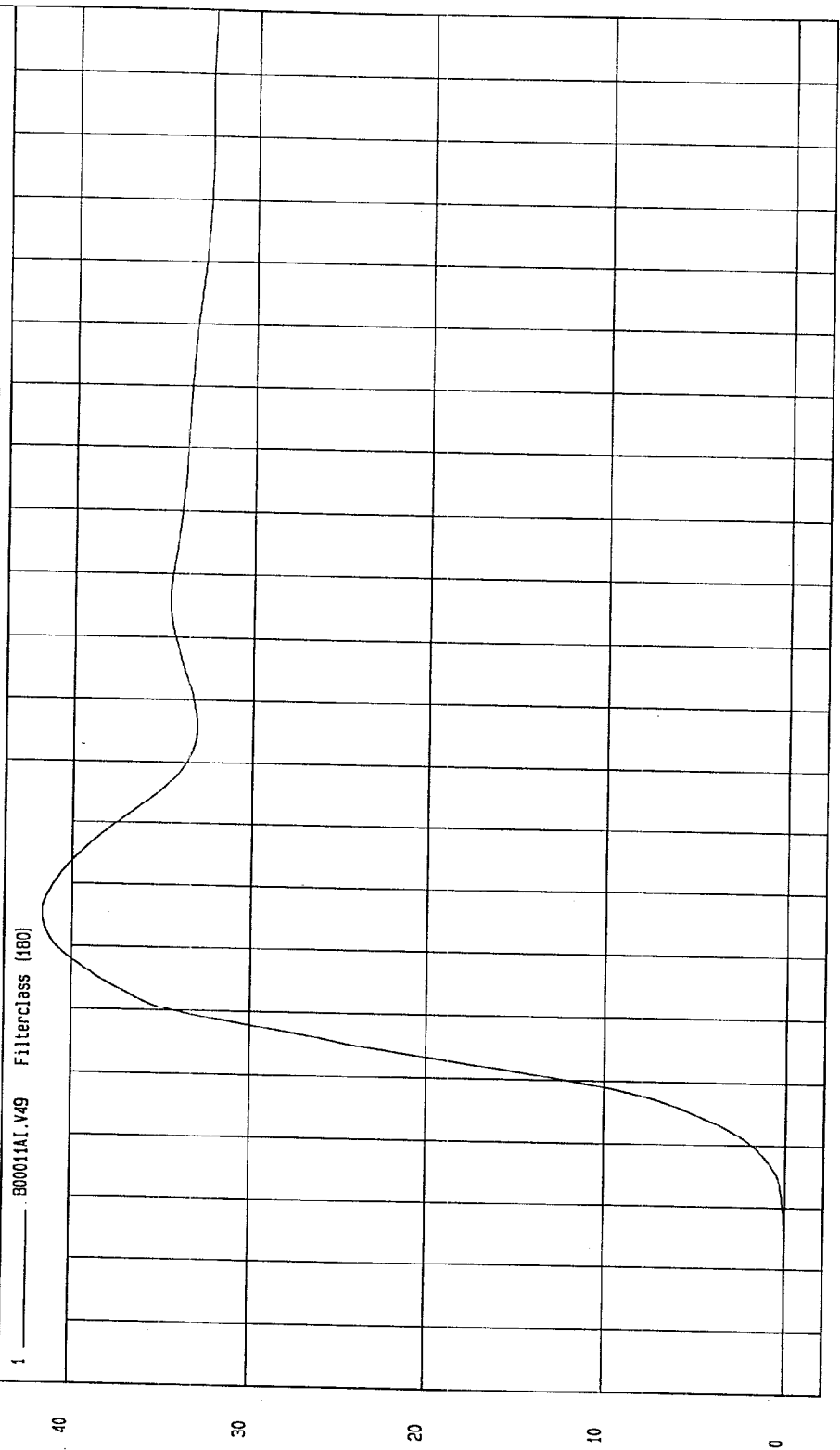
Speed: 38.65 MPH 62.2 KPH

Minimum = -5.69E-04 KPH at -20 msec

Maximum = 41.65 KPH at 55 msec

REAR PASSENGER PELVIS Y REDUNDANT VELOCITY

1 ——— 800011A1.V49 Filterclass (180)



KPH TIME Seconds

FINITE IMPULSE RESPONSE (FIR) FILTERED DATA

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

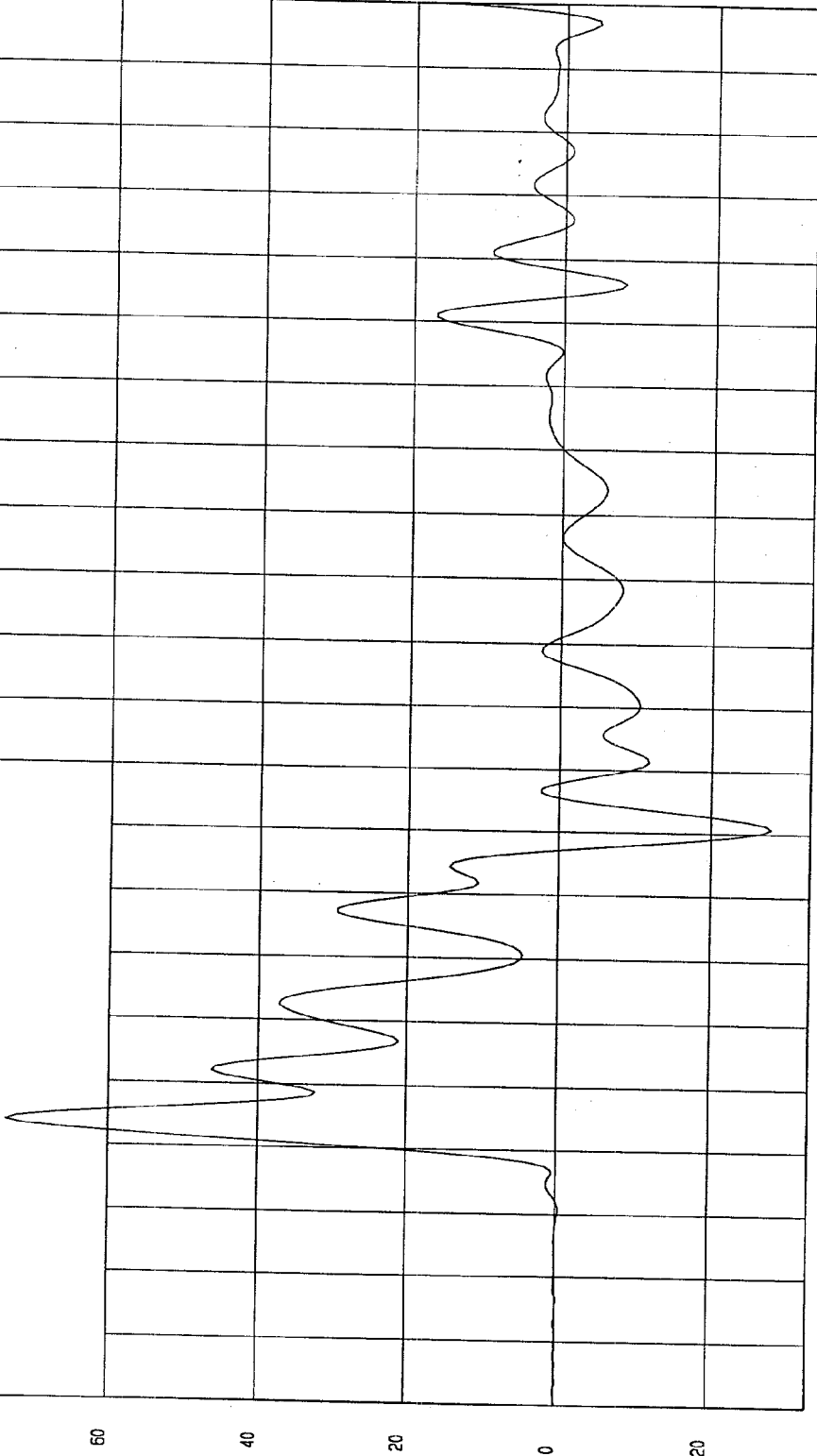
Speed: 38.65 MPH 62.2 KPH

Minimum = -27.81 G'S at 71 msec

Maximum = 73.6 G'S at 24 msec

DRIVER UPPER RIB Y ACCELERATION

1 ——— B00014FT.R15 Filterclass (FIR Filtered)



60  
40  
20  
0  
-20  
G.S

0  
.01  
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TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

Speed: 38.65 MPH 62.2 KPH

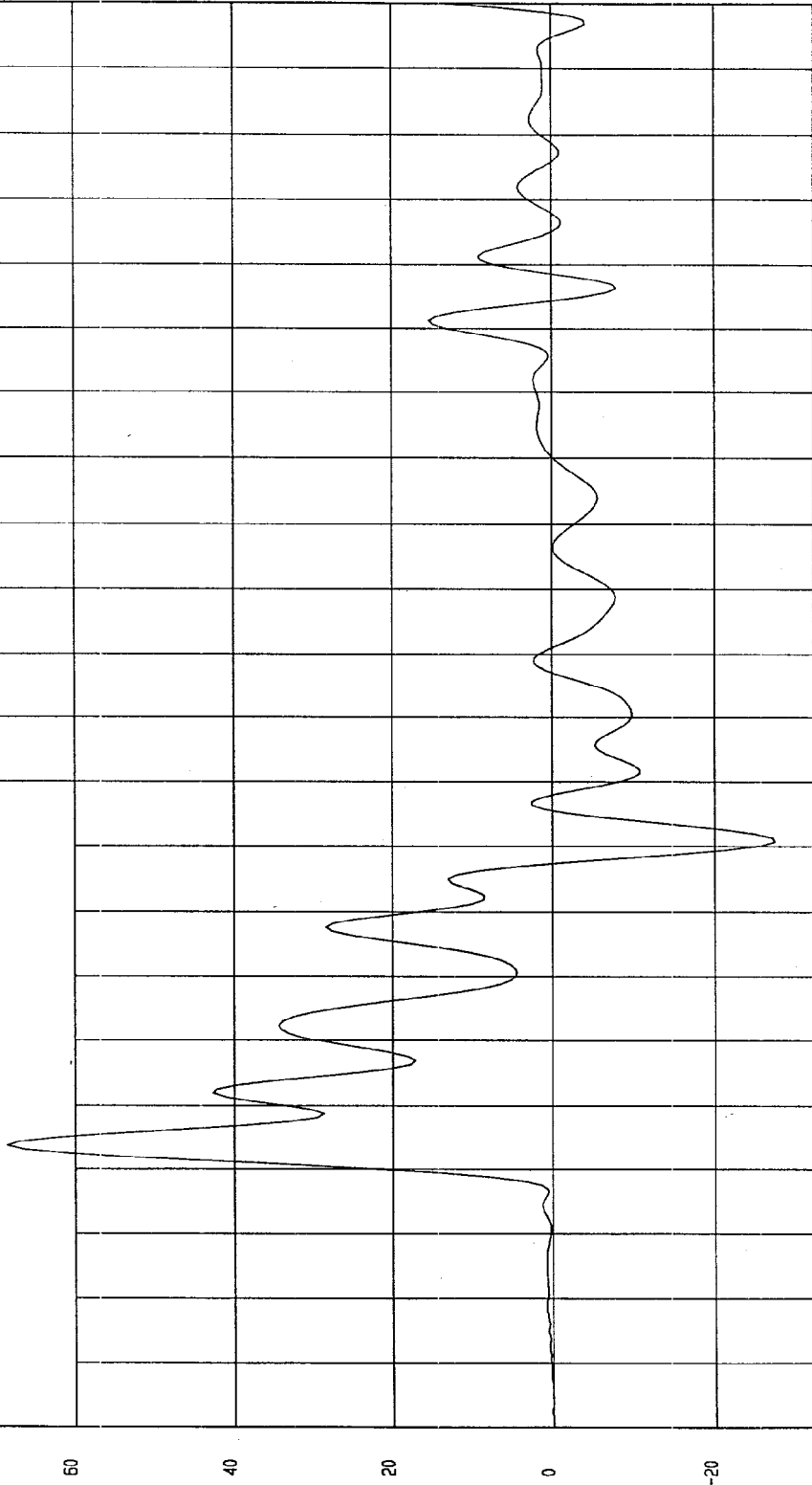
COMPONENT: 2000 FORD FOCUS (MY0205)

Minimum = -27.26 G'S at 71 msec

Maximum = 68.51 G'S at 24 msec

DRIVER UPPER RIB Y REDUNDANT ACCELERATION

1 ——— 80001FI.R42 Filterclass (FIR Filtered)



60  
40  
20  
0  
-20  
-0.20 -0.19 -0.18 -0.17 -0.16 -0.15 -0.14 -0.13 -0.12 -0.11 -0.1 -0.09 -0.08 -0.07 -0.06 -0.05 -0.04 -0.03 -0.02 -0.01 0

TIME (SECONDS)

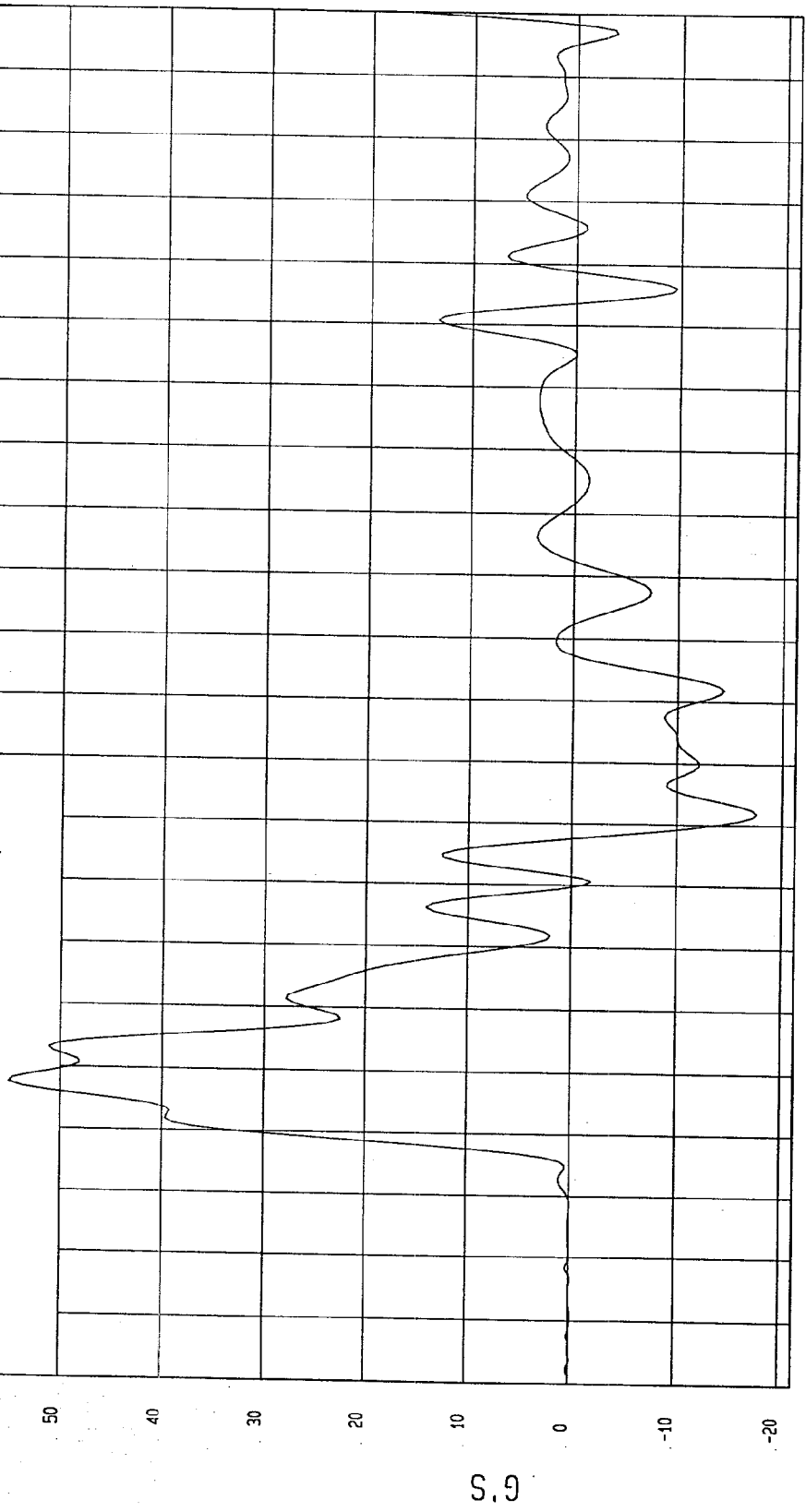
MCA Research  
02-10-2000 16.44

TEST: NCAP SIDE IMPACT  
TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205)  
Speed: 38.65 MPH 62.2 KPH

Minimum = -17.63 G'S at 72 msec  
Maximum = 54.92 G'S at 28 msec

DRIVER LOWER RIB Y ACCELERATION

1 ——— .80001FI.R16 Filterclass (FTR Filtered)



TIME (SECONDS)

MGA Research  
02-10-2000 16:44

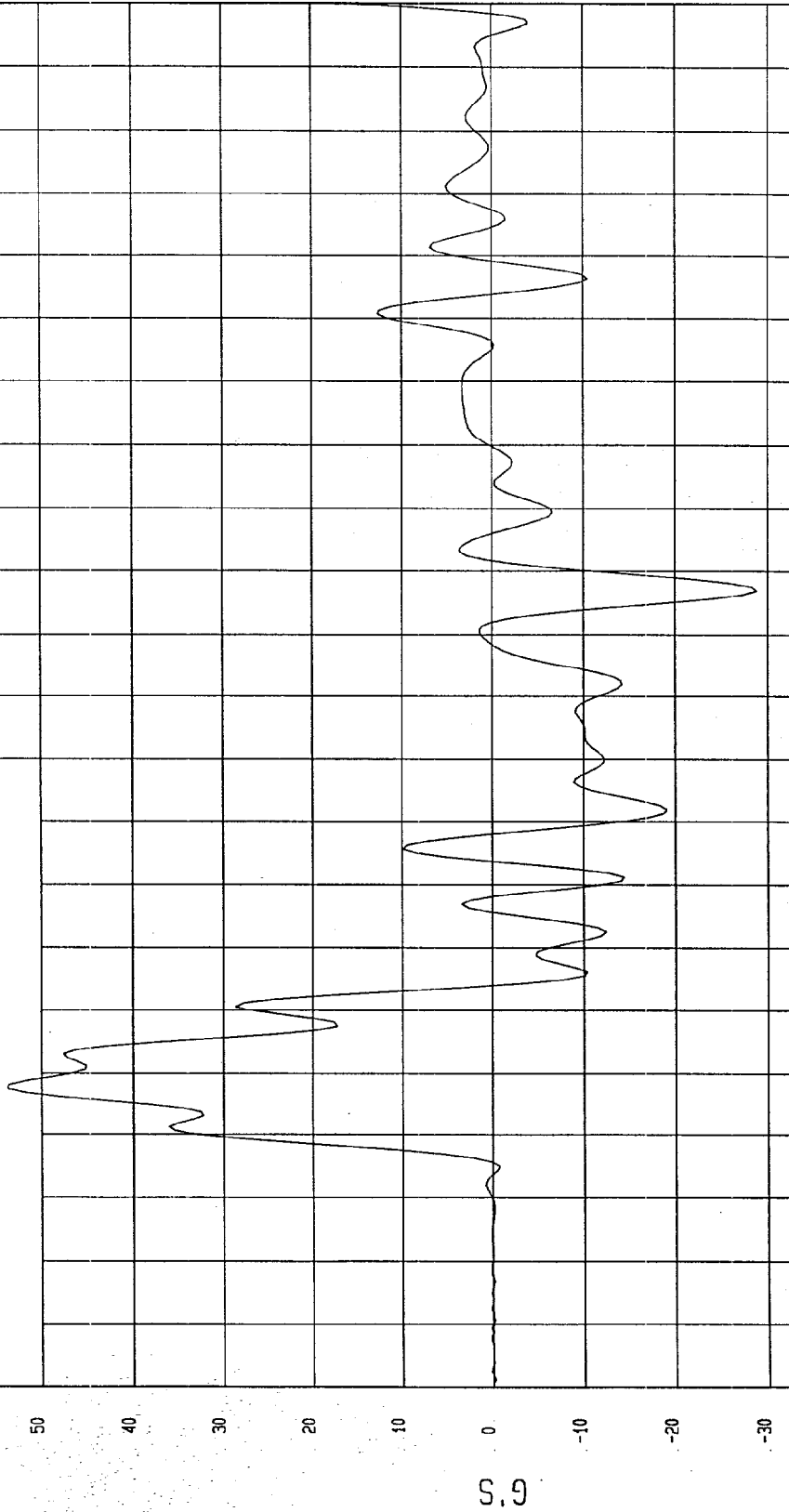
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -28.72 G'S at 107 msec  
Maximum = 53.78 G'S at 28 msec

DRIVER LOWER RIB Y REDUNDANT ACCELERATION

1 80001FI.R43 Filterclass (FIR Filtered)



TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

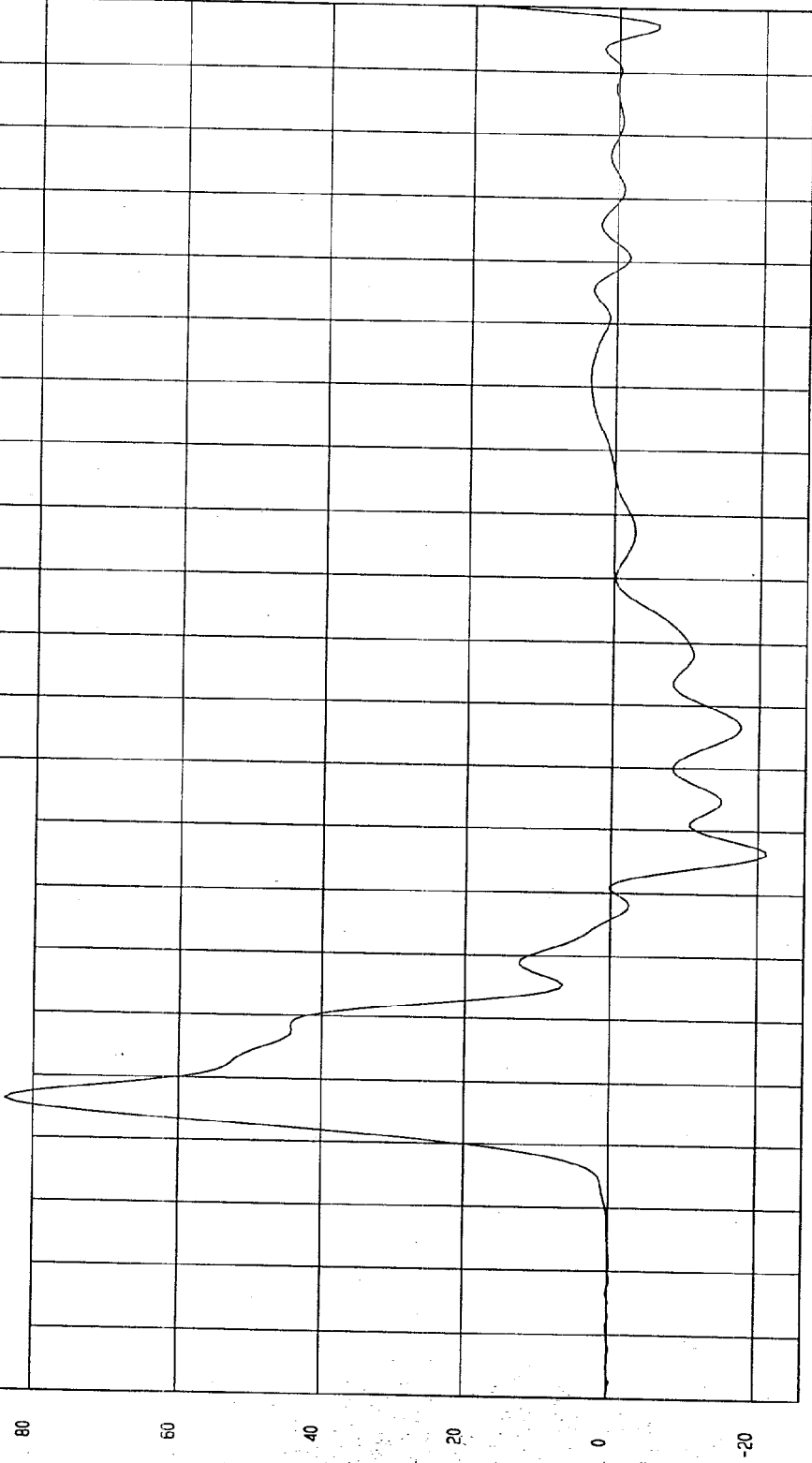
Speed: 38.65 MPH 62.2 KPH

Minimum = -21.13 G'S at 66 msec

Maximum = 83.66 G'S at 26 msec

DRIVER LOWER SPINE Y ACCELERATION

1 . . . . . B0001FI.R17 Filterclass (FIR Filtered)



TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

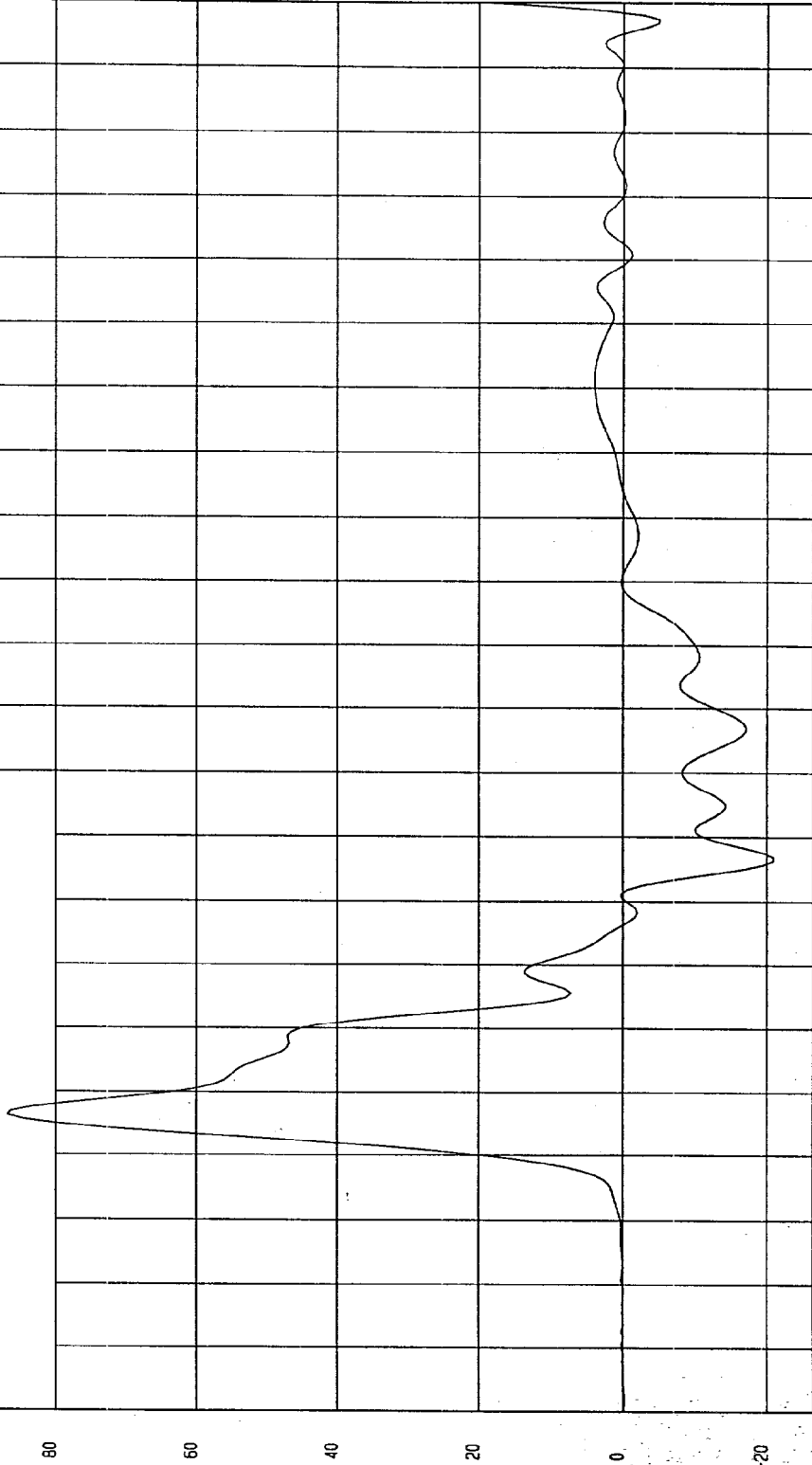
Speed: 38.65 MPH 62.2 KPH

Minimum = -20.86 G'S at 67 msec

Maximum = 86.8 G'S at 26 msec

DRIVER LOWER SPINE Y REDUNDANT ACCELERATION

1 8000\FI.R44 Filterclass (FIR Filtered)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

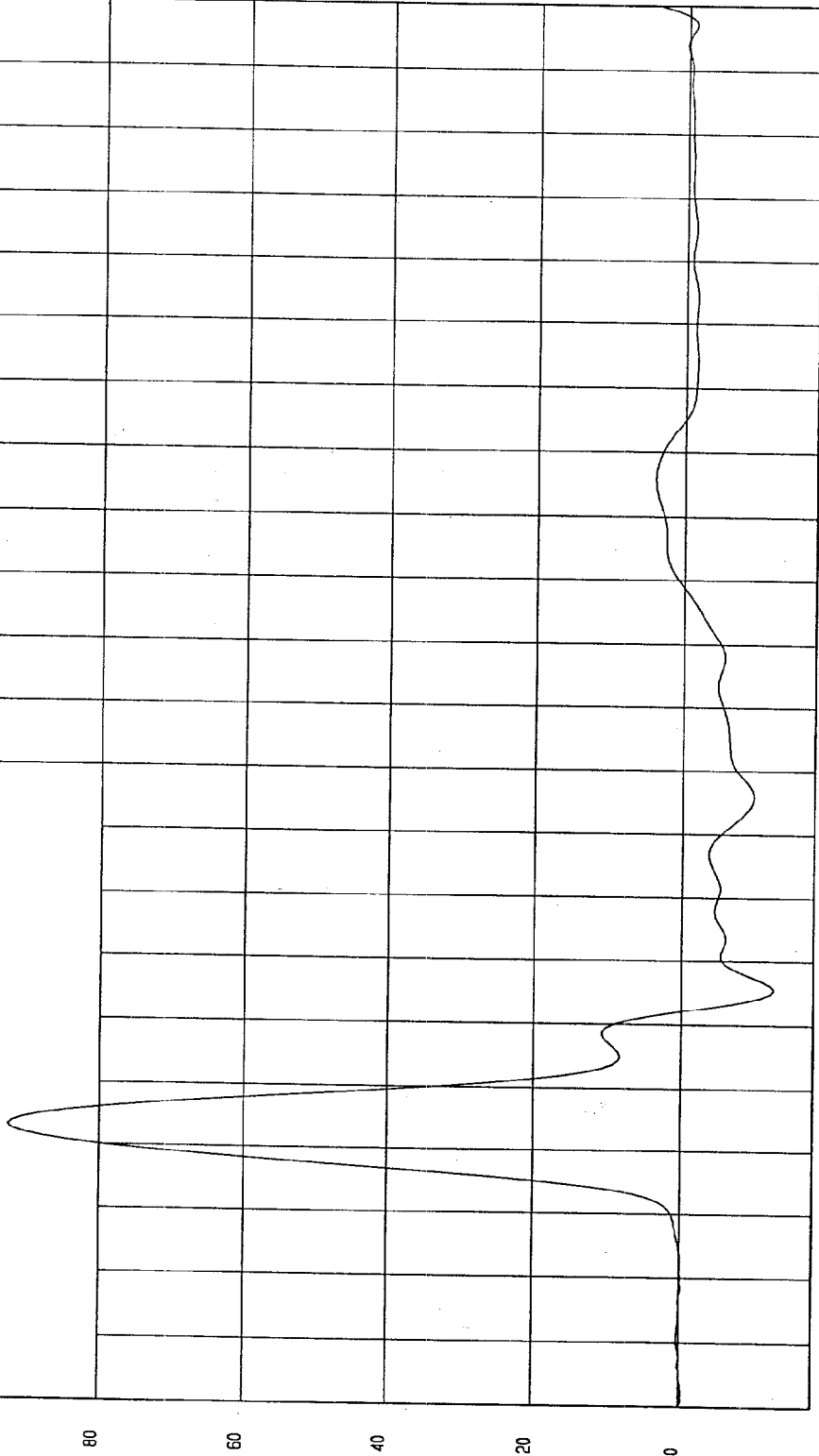
Speed: 38.65 MPH 62.2 KPH

Minimum = -12.61 G'S at 46 msec

Maximum = 92.48 G'S at 23 msec

DRIVER PELVIS Y ACCELERATION

1 80001FI.R18 Filterclass (FIR Filtered)



G.S

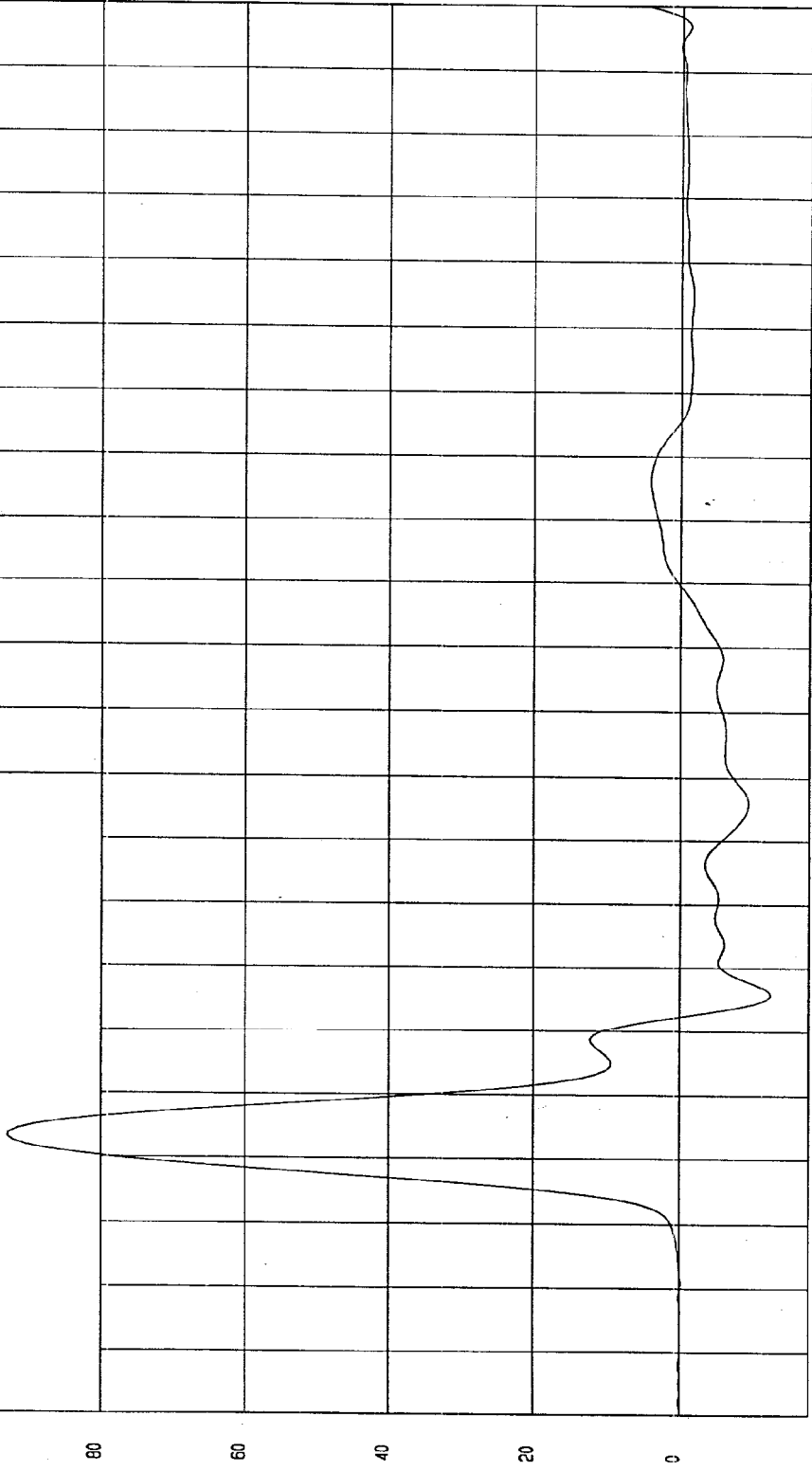
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -12.37 G'S at 46 msec  
Maximum = 92.81 G'S at 23 msec

DRIVER PELVIS Y REDUNDANT ACCELERATION

1 800011FT.R45 FilterClass (FIR Filtered)



G.S

TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

Speed: 38.65 MPH 62.2 KPH

Minimum = -6.95 G'S at 89 msec

Maximum = 72.6 G'S at 38 msec

REAR PASSENGER UPPER RIB Y ACCELERATION

1 80001F1.R25 Filterclass (FIR Filtered)

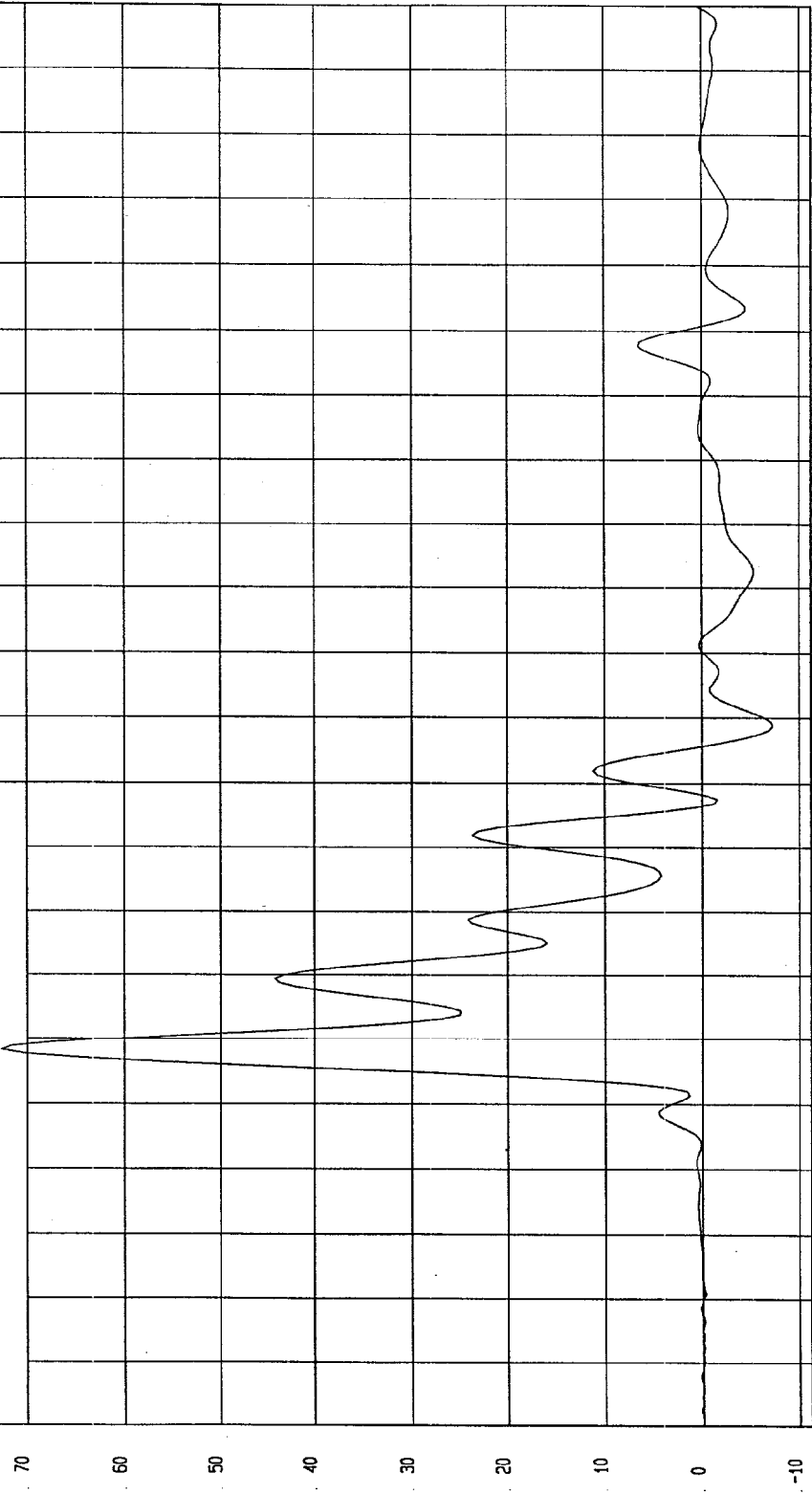


TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000  
COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -7.26 G'S at 89 msec Maximum = 72.65 G'S at 38 msec

REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION

1 80001FI.R46 Filterclass (FIR Filtered)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

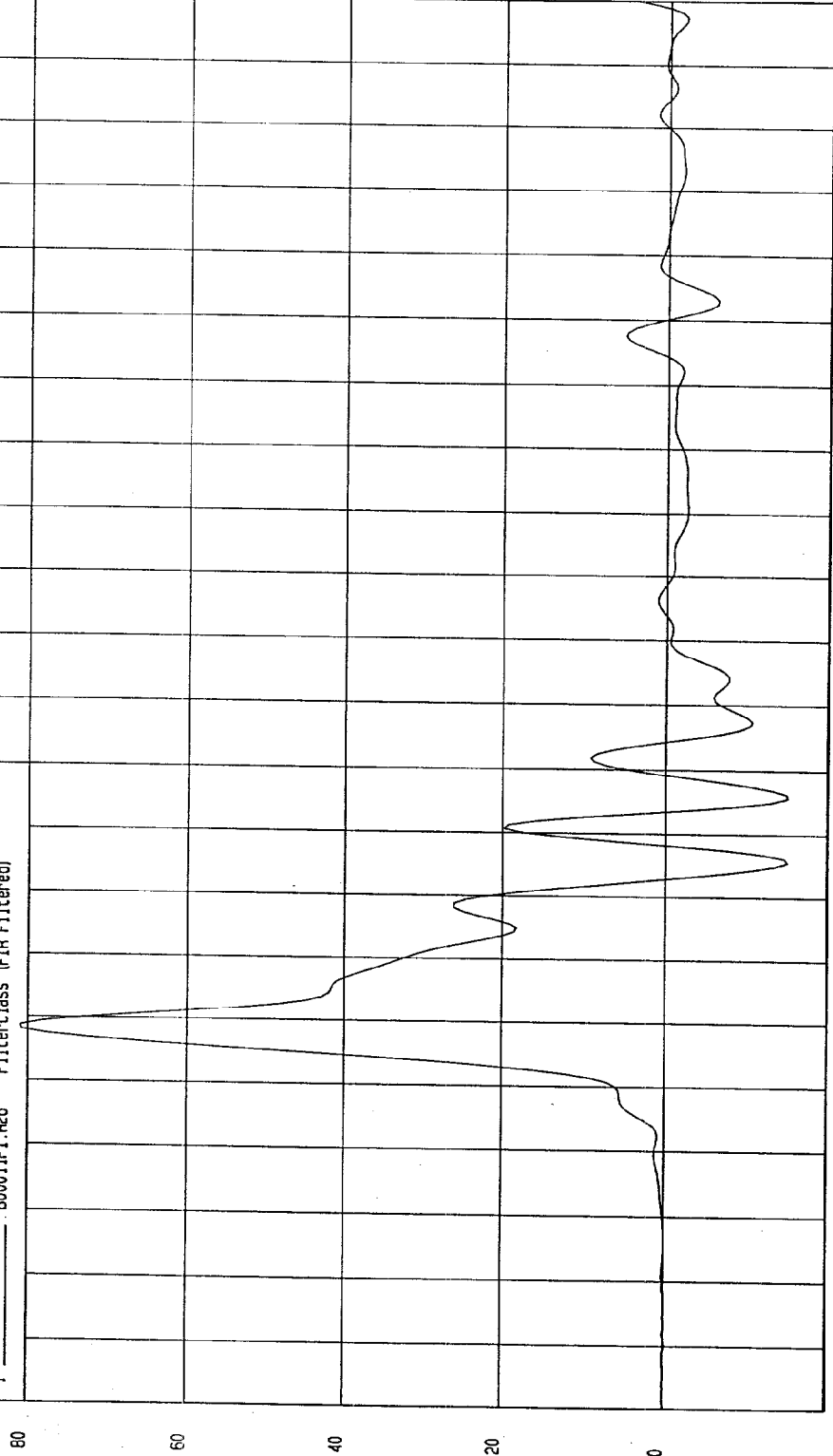
Speed: 38.65 MPH 62.2 KPH

Minimum = -15.13 G'S at 66 msec

Maximum = 80.94 G'S at 39 msec

REAR PASSENGER LOWER RIB Y ACCELERATION

1 800014FI.R26 Filterclass (FIR Filtered)



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TIME (SECONDS)

G.S

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

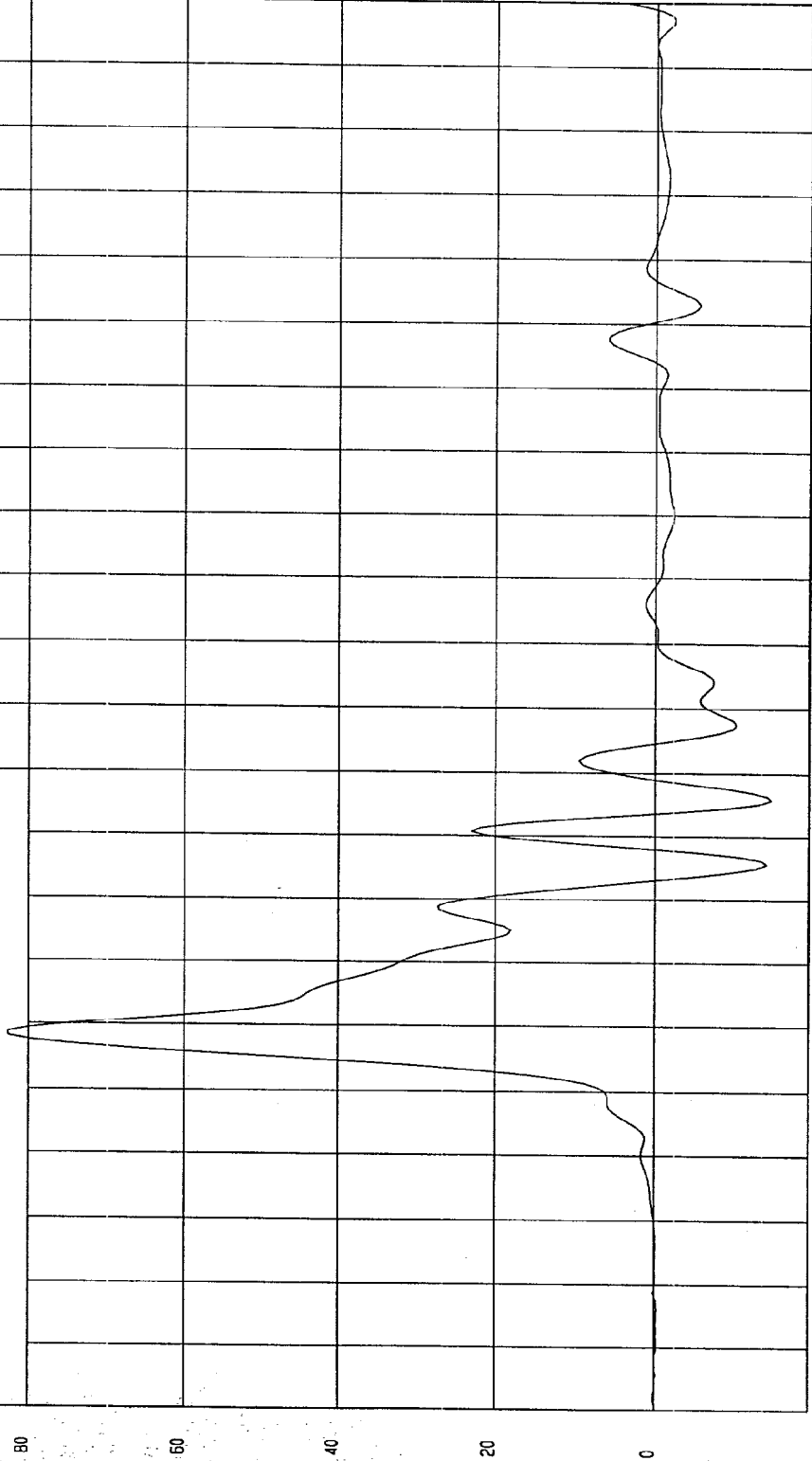
Speed: 38.65 MPH 62.2 KPH

Minimum = -14.65 G'S at 75 msec

Maximum = 82.68 G'S at 39 msec

REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION

1 800014FI.R47 Filterclass (FIR Filtered)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205)

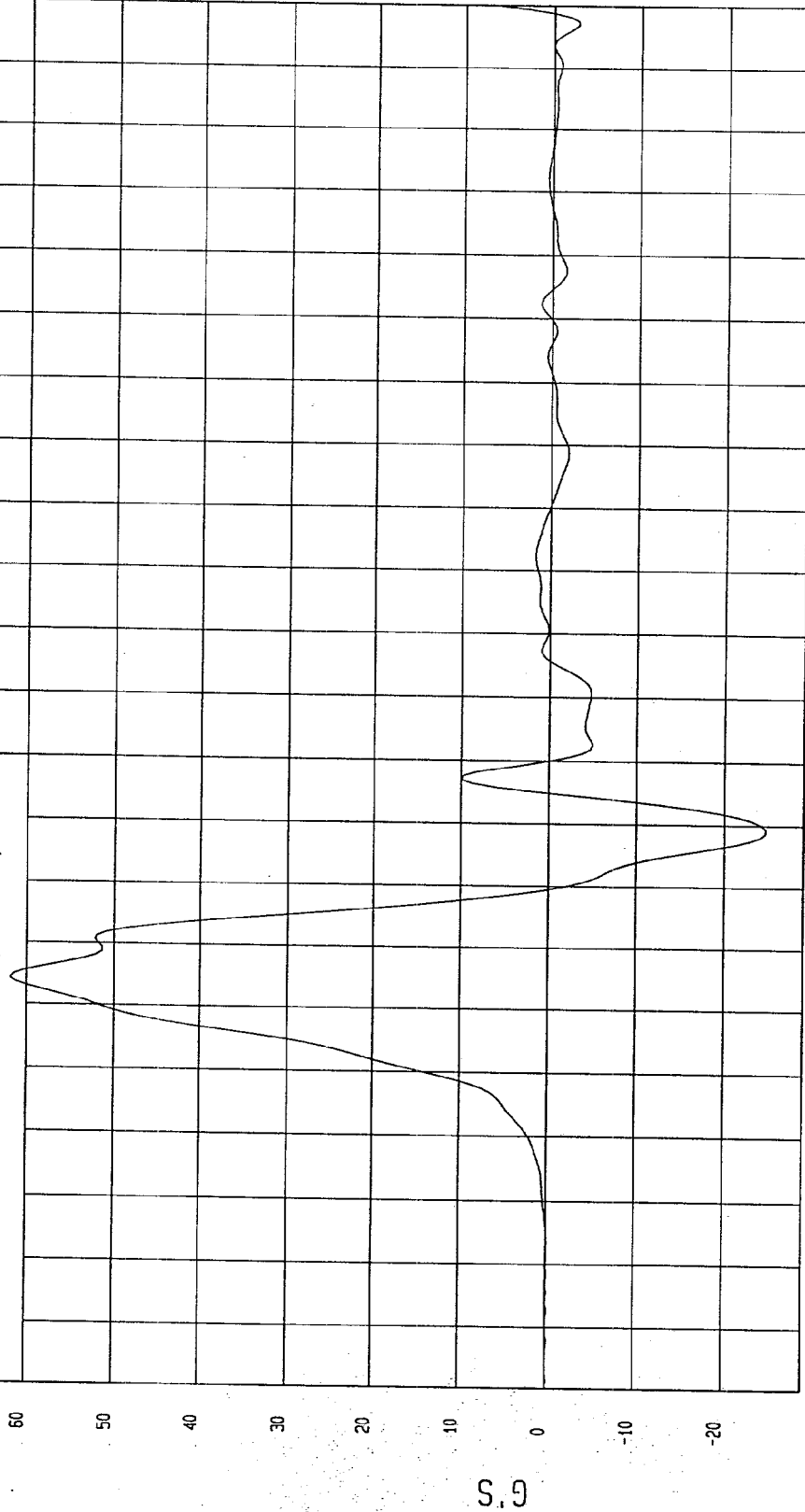
Speed: 38.65 MPH 62.2 KPH

Minimum = -24.67 G'S at 69 msec

Maximum = 61.87 G'S at 44 msec

REAR PASSENGER LOWER SPINE Y ACCELERATION

1 - .B0001FI.R27 FilterClass (FIR Filtered)



TIME (SECONDS)

TEST: NCAP SIDE IMPACT

TEST DATE: 02-10-2000

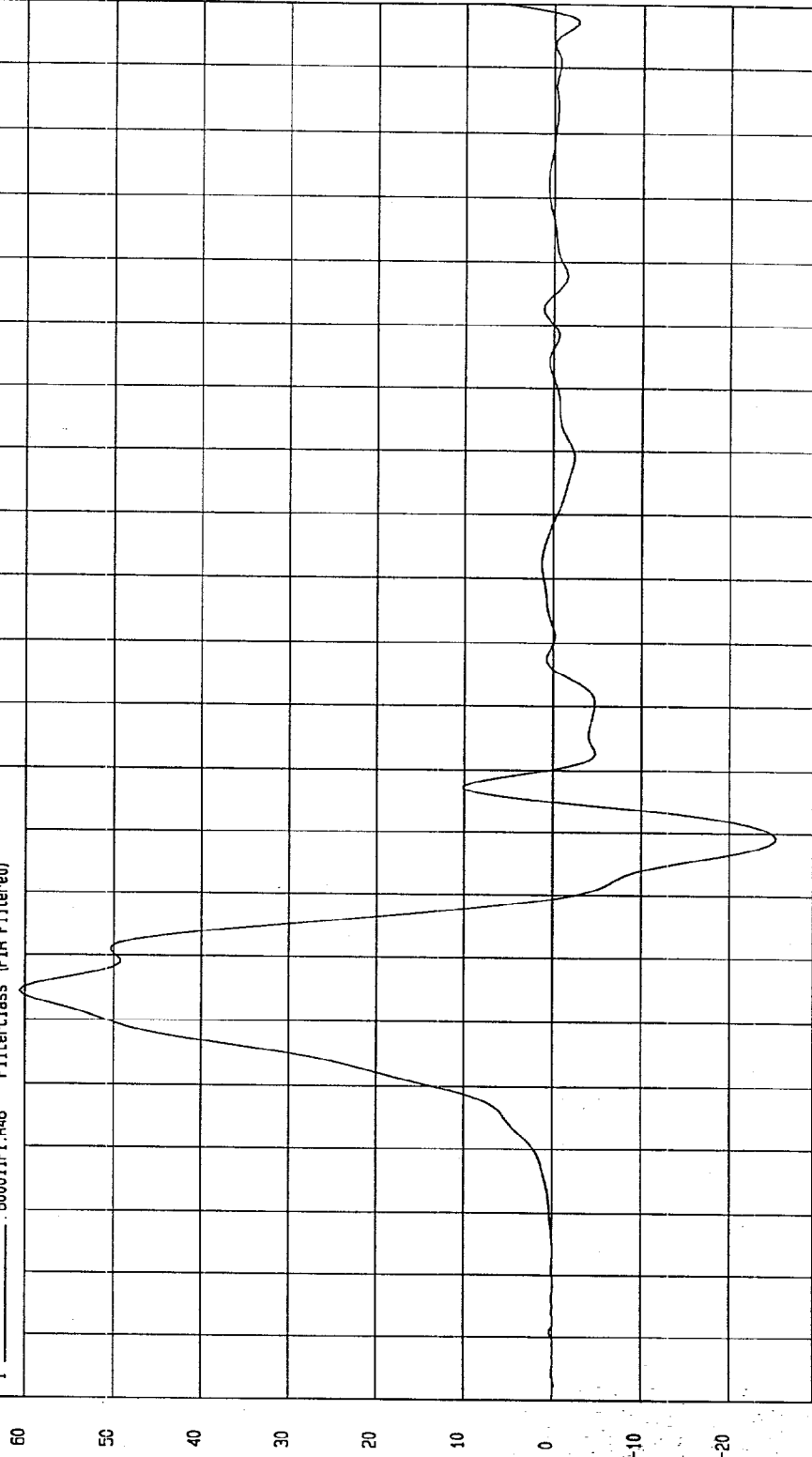
Speed: 38.65 MPH 62.2 KPH

Minimum = -25.17 G'S at 69 msec

Maximum = 60.73 G'S at 44 msec

REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION

1 80001FI.R48 Filterclass (FIR Filtered)



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TIME (SECONDS)

G.S

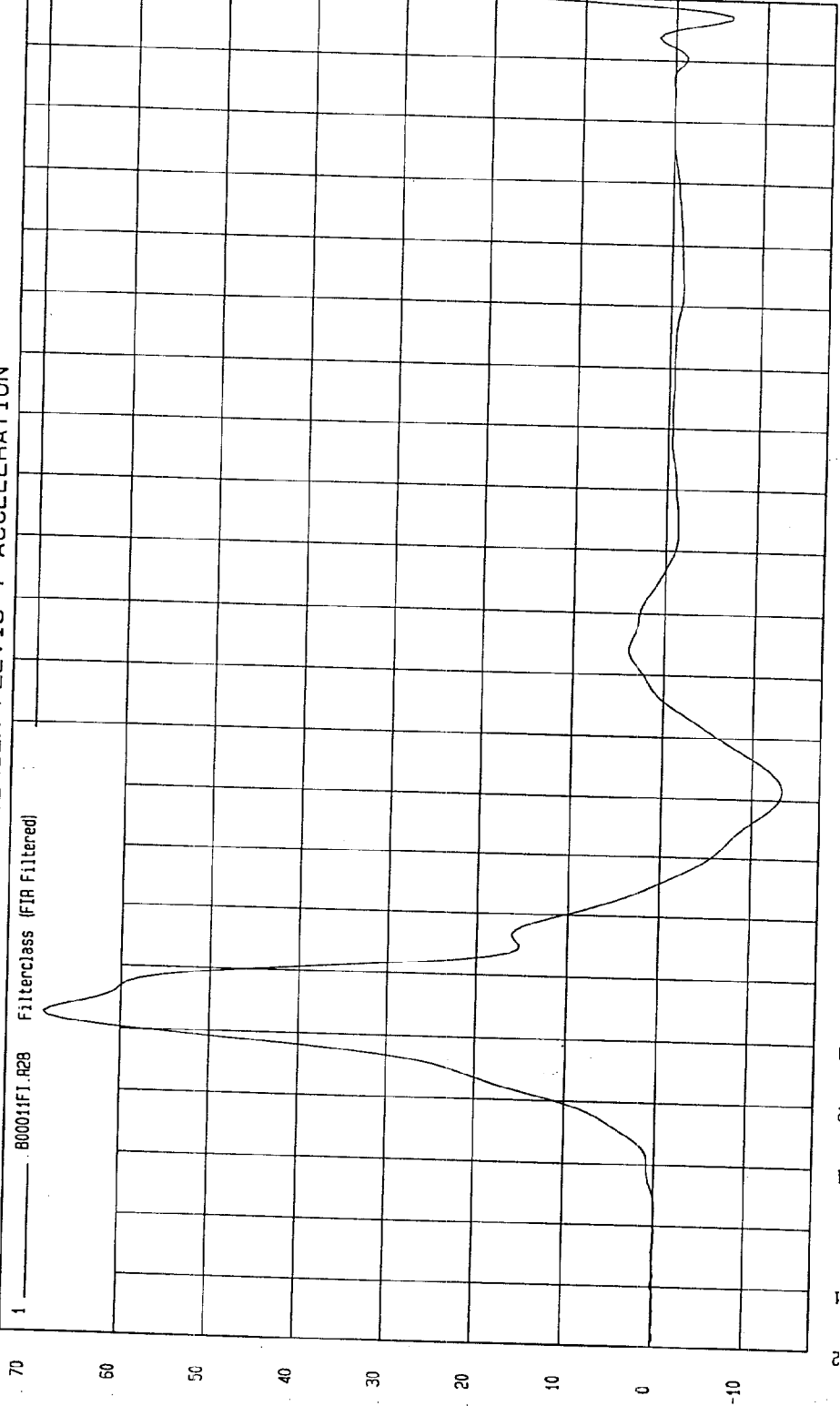
TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -13.3 G'S at 71 msec  
Maximum = 68.58 G'S at 32 msec

REAR PASSENGER PELVIS Y ACCELERATION

1 .8000\FI.R2B FilterClass (FIR Filtered)



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02-10-2000 16:44

TIME (SECONDS)

G'S

TEST: NCAP SIDE IMPACT TEST DATE: 02-10-2000

COMPONENT: 2000 FORD FOCUS (MY0205) Speed: 38.65 MPH 62.2 KPH

Minimum = -13.41 G'S at 72 msec  
Maximum = 70.13 G'S at 32 msec

REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION

1 80001FL.R49 Filterclass (FIR Filtered)

70

60

50

40

30

20

10

0

-10

G.S

0.19

0.18

0.17

0.16

0.15

0.14

0.13

0.12

0.11

0.1

0.09

0.08

0.07

0.06

0.05

0.04

0.03

0.02

0.01

0

-0.01

-0.02

TIME (SECONDS)

MCA Research  
02-10-2000 16:44

**APPENDIX C**  
**SID CONFIGURATION AND PERFORMANCE VERIFICATION**

PRE-TEST CERTIFICATION DATA

C-1

Driver Dummy Serial Number: 269

Calibration Test Results Summary

Driver Dummy Serial Number: 269

Pre-Test Calibration

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

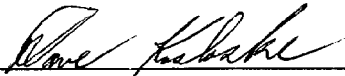
SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA **C-3**

DUMMY SERIAL NUMBER: 269

DATE OF VERIFICATION: January 18, 2000

| DESCRIPTION                         | SPECIFICATION | TEST RESULTS |
|-------------------------------------|---------------|--------------|
| SH - Seated Height (mm)             | 889 - 909     | 899          |
| RH - Rib Height (mm)                | 501 - 521     | 518          |
| HP - Hip Pivot Height (mm)          | 99 ref.       | 99           |
| RD - Rib From Back Line (mm)        | 229 - 241     | 231          |
| KV - Knee Pivot From Back Line (mm) | 511 - 526     | 520          |
| SW - Knee Pivot to Floor (mm)       | 490 - 505     | 495          |
| HW - Hip Width (mm)                 | 356 - 391     | 371          |

MEASUREMENTS BY: 

APPROVED BY: 

## HEAD DROP TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 18, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00101

| TEST PARAMETER              | SPECIFICATION   | TEST RESULTS |
|-----------------------------|-----------------|--------------|
| TEMPERATURE                 | 18.9° - 25.5° C | 21.0°        |
| RELATIVE HUMIDITY           | 10 - 70%        | 20%          |
| PEAK RESULTANT ACCELERATION | 210 - 260 g's   | 250          |
| PEAK LATERAL ACCELERATION   | <10 g's         | -10          |
| TIME ABOVE 100 G.           | 0.9 - 1.5 msec. | 1.2          |

TEST MEETS SPECIFICATIONS

TECHNICIAN: APPROVED BY: 

TEST: Dummy Calibration - Head Drop TEST DATE: 01-18-2000 - 08:46:02

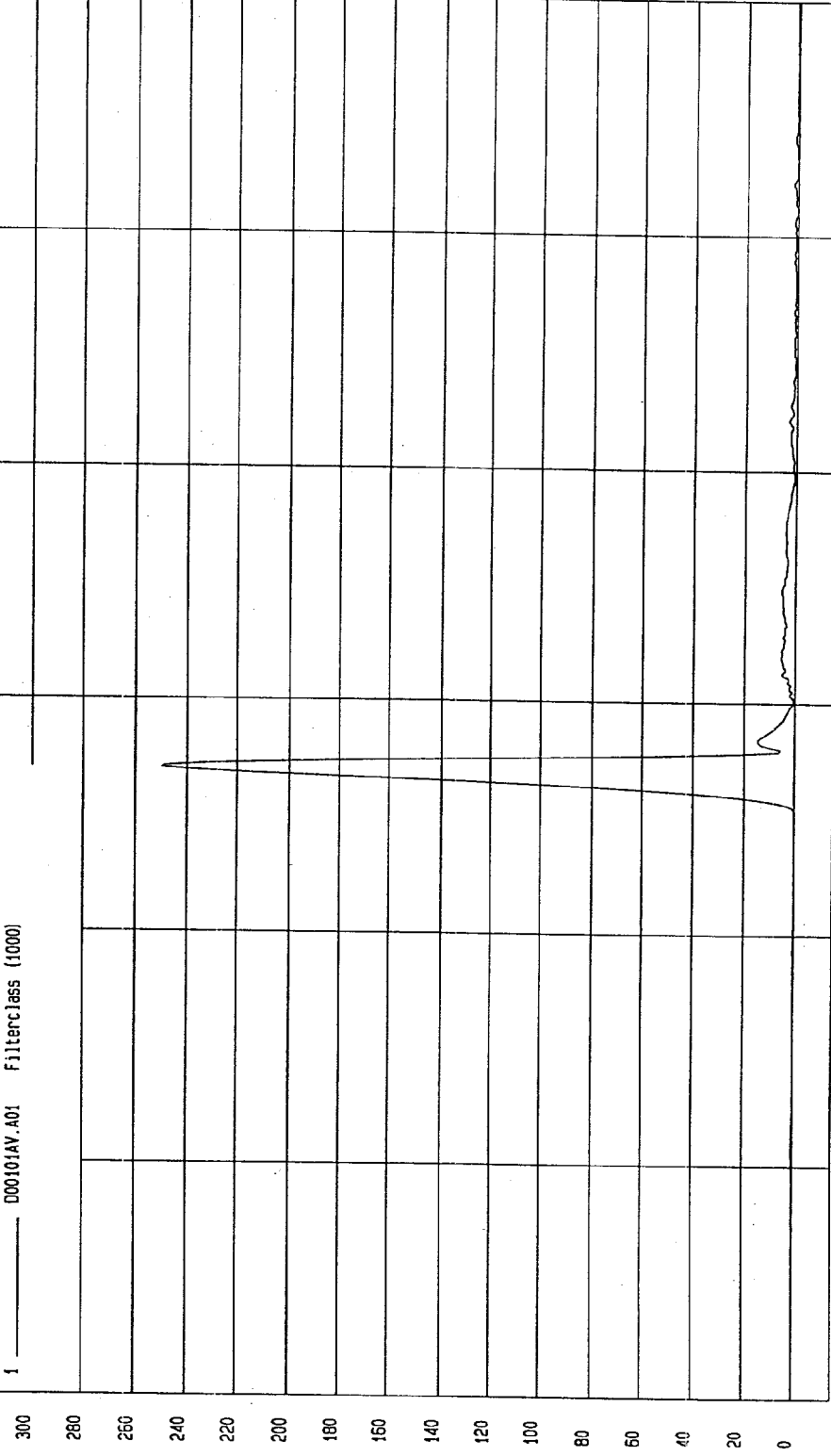
COMPONENT: Dummy # 269

Minimum = 3.67E-02 G'S at 1.2 msec

Maximum = 249.84 G'S at 27 msec

PEAK RESULTANT ACCELERATION

1 ——— D00101AV.A01 FilterClass (1000)



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01-18-2000 08:47

G.S

TEST: Dummy Calibration - Head Drop TEST DATE: 01-18-2000 - 08:46:02

COMPONENT: Dummy # 269

Minimum = -9.66 G'S at 27.2 msec

Maximum = 2.46 G'S at 28.2 msec

PEAK LATERAL ACCELERATION

1 \_\_\_\_\_ 000101AR.A02 Filterclass (1000)

16  
14  
12  
10  
8  
6  
4  
2  
0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16

0

0.10

0.20

0.30

0.40

0.50

TIME (sec.)

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01-18-2000 08:47

S.D

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

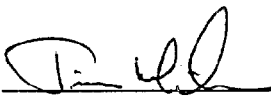
DATE: January 13, 2000

DUMMY SERIAL NUMBER: 269

TEST NUMBER: D00102

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 32%          |
| PROBE SPEED (m/s)     | 4.27 - 4.33   | 4.30         |
| UPPER RIB (g's)       | 37 - 46 g's   | 45           |
| LOWER RIB (g's)       | 37 - 46 g's   | 45           |
| LOWER SPINE (g's)     | 15 - 22 g's   | 20           |

TEST MEETS SPECIFICATIONS

TECHNICIAN 

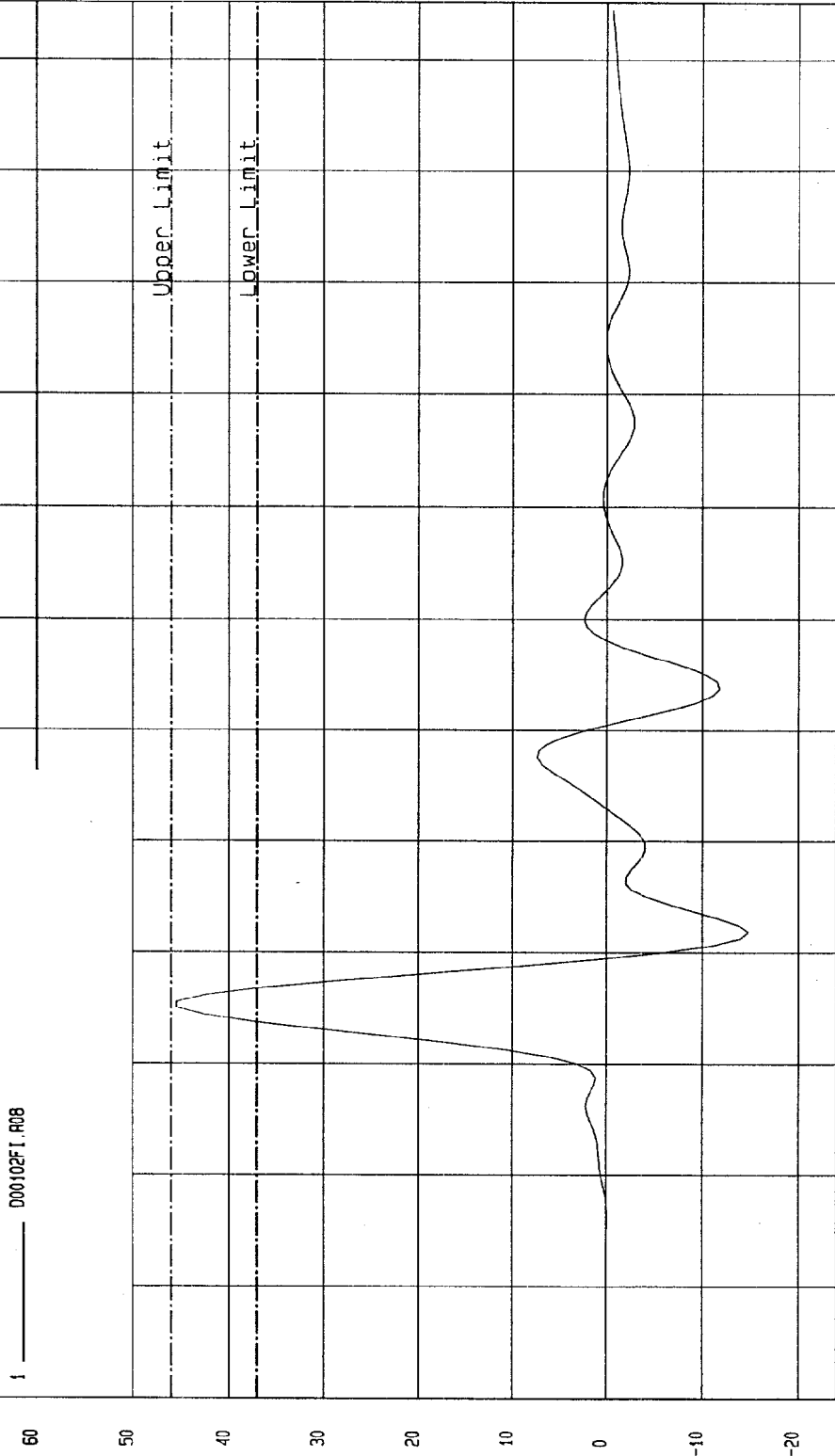
APPROVED BY 

TEST: Dummy Calibration - Thorax Impact      TEST DATE: 01-13-2000 - 11:22:28  
COMPONENT: Dummy # 269      Velocity: 14.099 FT/SEC 4.3 M/SEC

Minimum = -14.80 G'S at 41.8 msec      Maximum = 45.48 G'S at 35.6 msec

UPPER RIB ACCELERATION

1 ——— 000102FT.R08



TIME (SEC.)

MGA Research  
02-23-2000 16:58

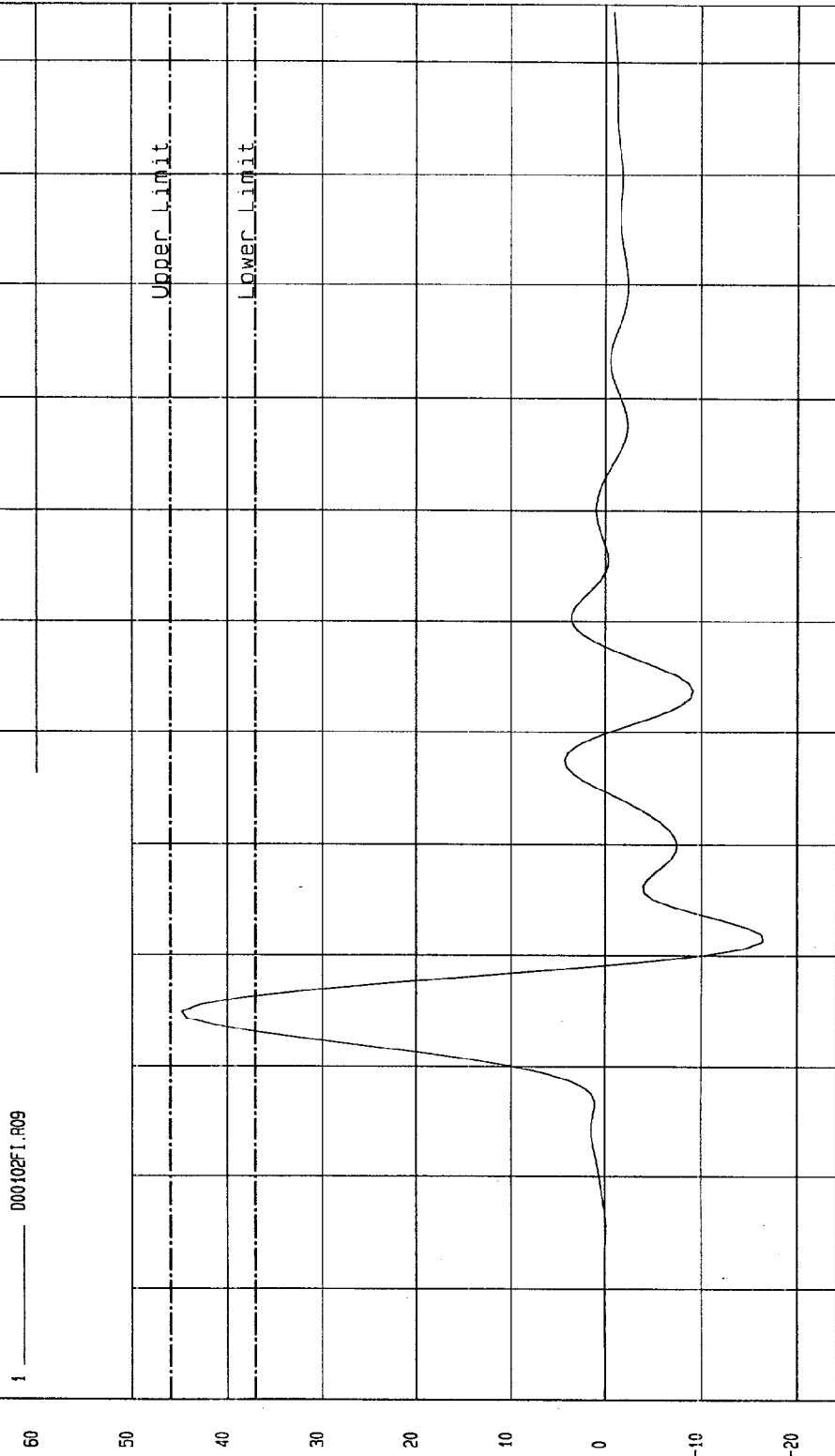
TEST: Dummy Calibration - Thorax Impact TEST DATE: 01-13-2000 - 11:19:48

COMPONENT: Dummy # 269 Velocity: 14.099 FT/SEC 4.3 M/SEC

Minimum = -16.48 G'S at 41.2 msec Maximum = 44.89 G'S at 35 msec

LOWER RIB ACCELERATION

1 000102FI.R09



TEST: Dummy Calibration - Thorax Impact TEST DATE: 01-13-2000 - 11:19:48

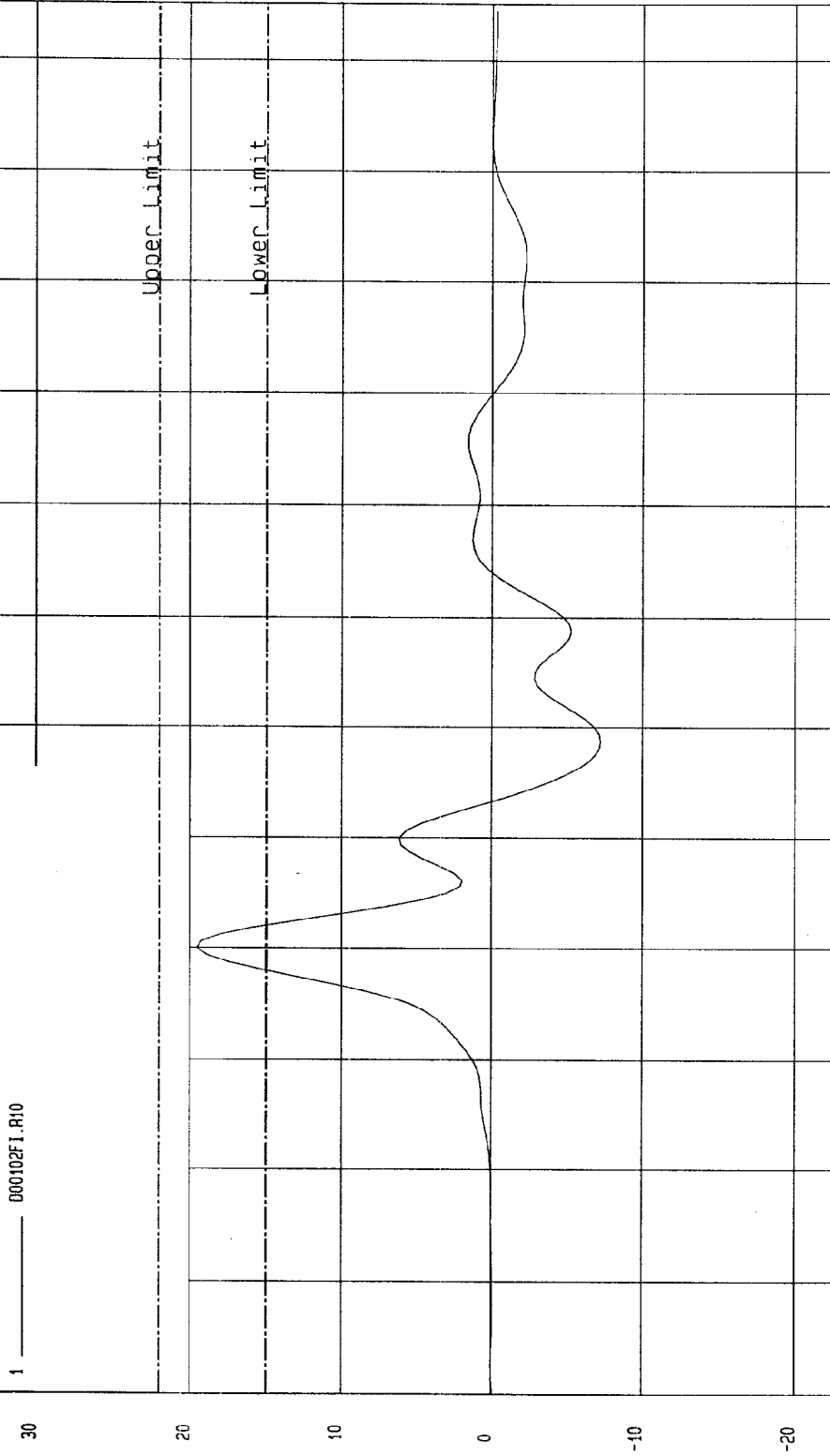
COMPONENT: Dummy # 269 Velocity: 14.099 FT/SEC 4.3 M/SEC

Minimum = -7.23 G'S at 58.7 msec

Maximum = 19.53 G'S at 40 msec

LOWER SPINE ACCELERATION

1 ——— 000102FI.R10



## PELVIS IMPACT TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 13, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00103

| TEST PARAMETER            | SPECIFICATION | TEST RESULTS |
|---------------------------|---------------|--------------|
| TEMPERATURE (°C)          | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%)     | 10 - 70       | 32%          |
| PROBE SPEED (m/s)         | 4.27 - 4.33   | 4.28         |
| PELVIS ACCELERATION (g's) | 40 - 60       | 49           |

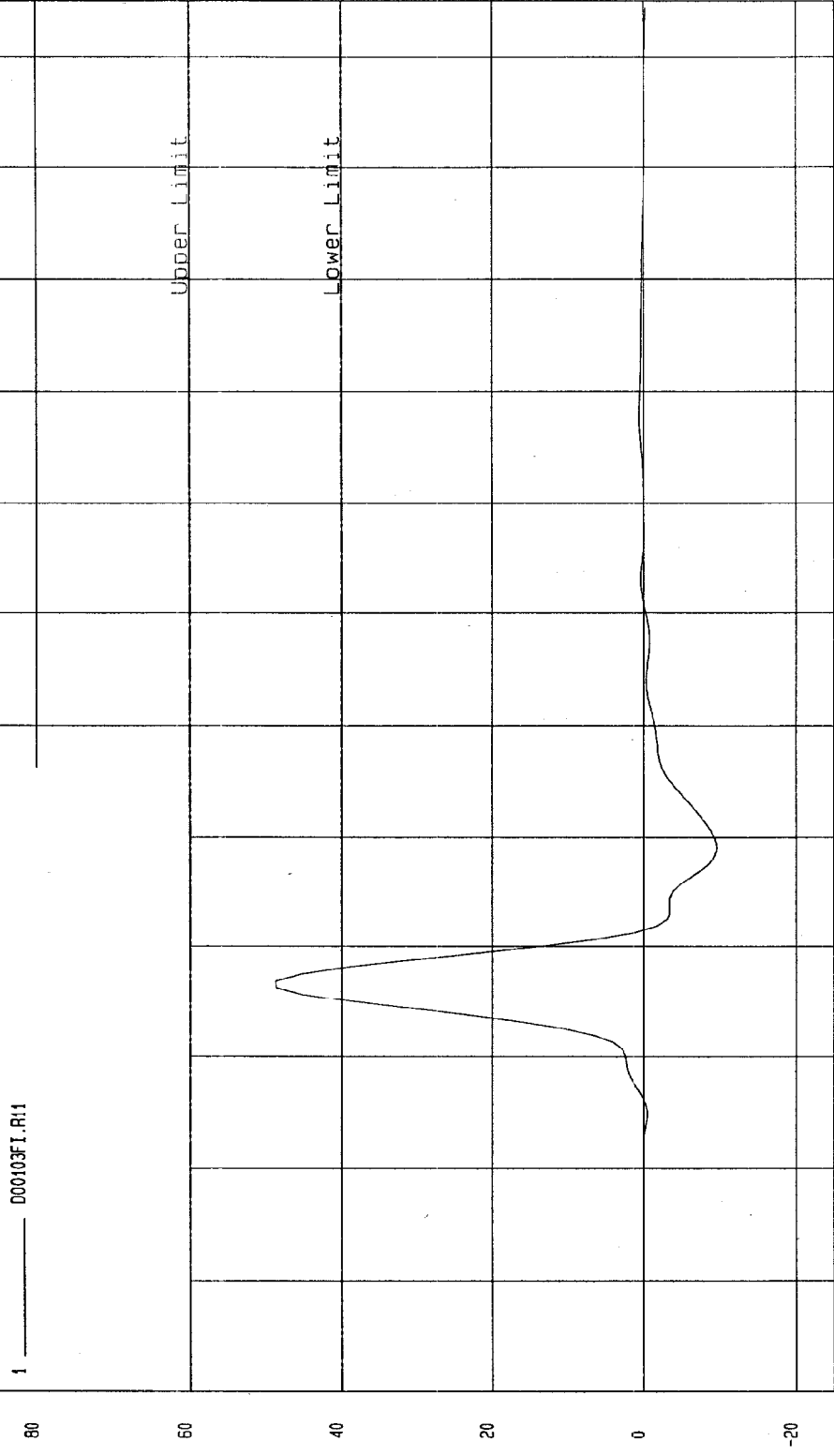
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: Dummy Calibration - Pelvis Impact      TEST DATE: 01-13-2000 - 11:34:27  
COMPONENT: Dummy # 269      Velocity: 14.037 FT/SEC 4.28 M/SEC

Minimum = -9.51 G'S at 48.7 msec  
Maximum = 48.78 G'S at 36.8 msec

PELVIS ACCELERATION



TIME (SEC.)

MCA Research  
02-23-2000 16:59

G.S

ABDOMINAL COMPRESSION TEST  
(PRELOAD = 10 LBS)

## SIDE IMPACT DUMMY (SID)

DATE: January 13, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00104

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 23%          |
| FORCE @ 12.7 mm       | 104 - 162     | 145          |
| FORCE @ 19.0 mm       | 163 - 222     | 200          |
| FORCE @ 25.4 mm       | 222 - 280     | 261          |
| FORCE @ 33 mm         | 325 - 391     | 347          |

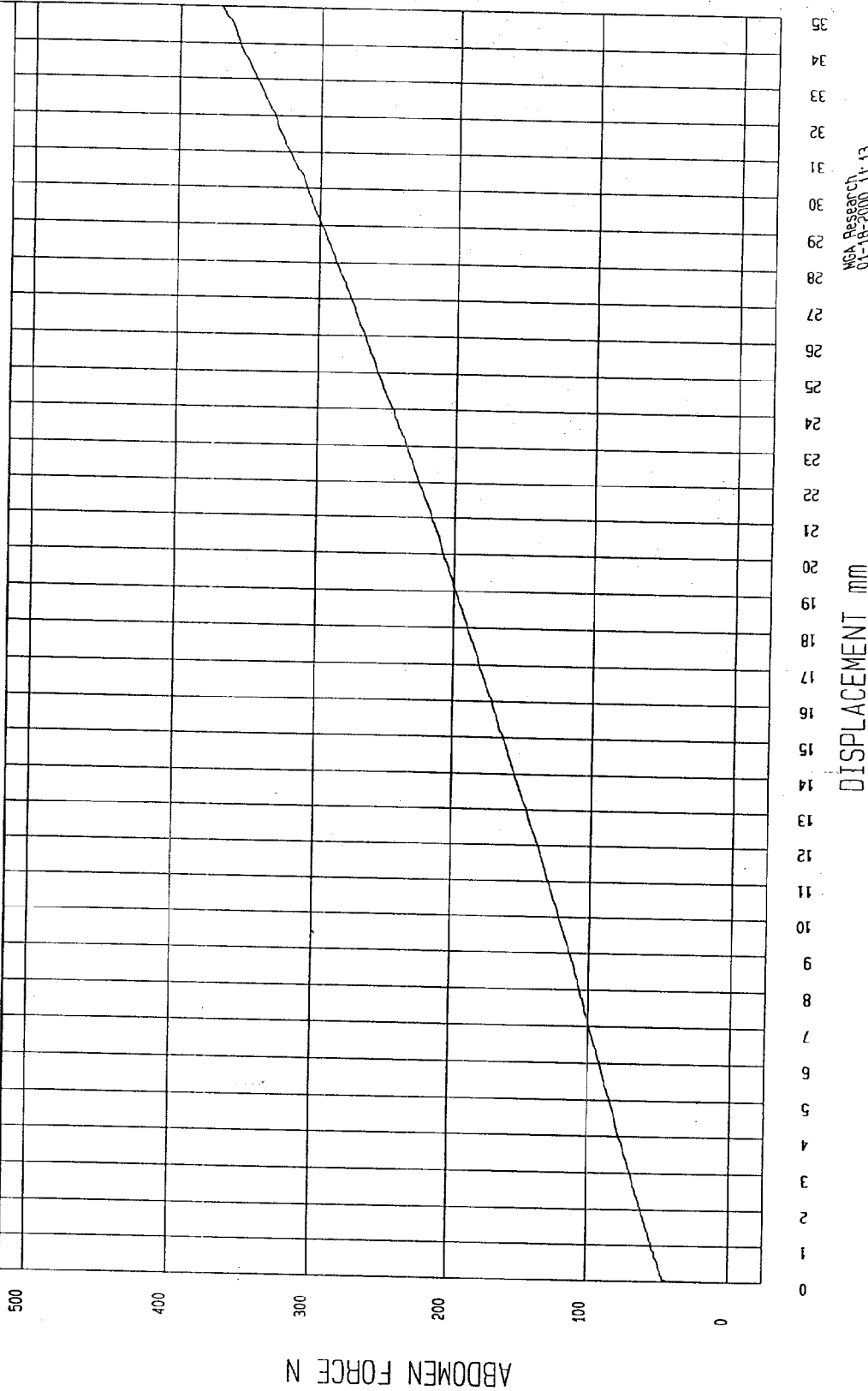
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 01-13-2000 - 15:34:28

COMPONENT: DUMMY # 269

ABDOMEN FORCE as a function of DISPLACEMENT



MGA Research  
01-18-2000 11:13

## LUMBAR FLEXION TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 14, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00105

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 28%          |
| FORCE @ 0°            | 0 - 26.7      | 0            |
| FORCE @ 20°           | 97.9 - 151.2  | 116.9        |
| FORCE @ 30°           | 151.2 - 204.6 | 161.5        |
| FORCE @ 40°           | 204.6 - 258.0 | 234.4        |
| RETURN ANGLE          | 12° maximum   | 2°           |

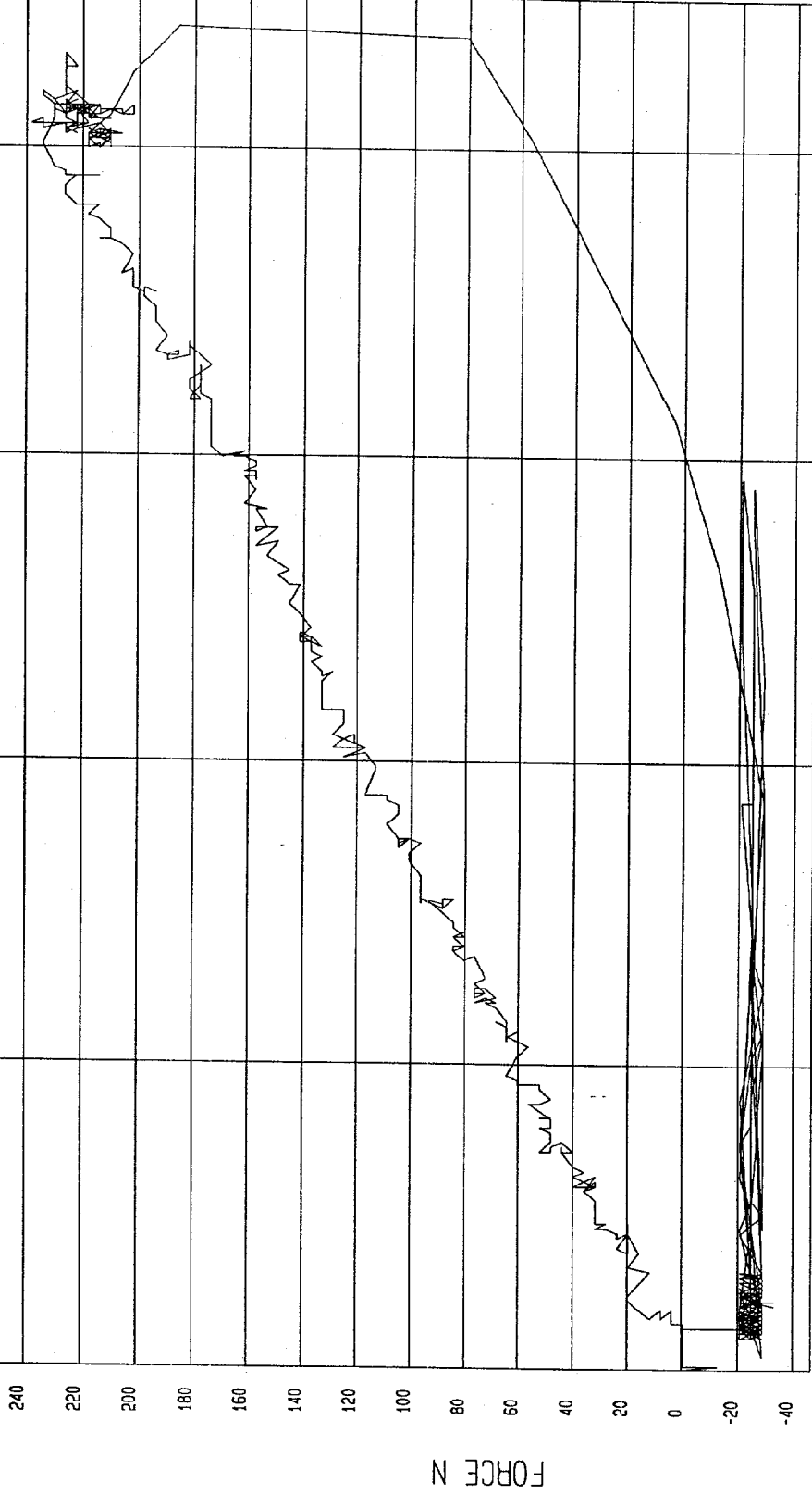
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 01-14-2000 - 13:07:28

COMPONENT: DUMMY # 269

FORCE as a function of TORSO ROTATION



MGA Research  
01-16-2000 11:19

PRE-TEST CERTIFICATION DATA

C-17

Passenger Dummy Serial Number: 270

Passenger Dummy Serial Number: 270

Pre-Test Calibration

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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA C-19

DUMMY SERIAL NUMBER: 270

DATE OF VERIFICATION: January 18, 2000

| DESCRIPTION                         | SPECIFICATION | TEST RESULTS |
|-------------------------------------|---------------|--------------|
| SH - Seated Height (mm)             | 889 - 909     | 898          |
| RH - Rib Height (mm)                | 501 - 521     | 503          |
| HP - Hip Pivot Height (mm)          | 99 ref.       | 99           |
| RD - Rib From Back Line (mm)        | 229 - 241     | 230          |
| KV - Knee Pivot From Back Line (mm) | 511 - 526     | 525          |
| SW - Knee Pivot to Floor (mm)       | 490 - 505     | 500          |
| HW - Hip Width (mm)                 | 356 - 391     | 368          |

MEASUREMENTS BY: 

APPROVED BY: 

## HEAD DROP TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 18, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00111

| TEST PARAMETER              | SPECIFICATION   | TEST RESULTS |
|-----------------------------|-----------------|--------------|
| TEMPERATURE                 | 18.9° - 25.5°   | 21.0°        |
| RELATIVE HUMIDITY           | 10 - 70%        | 22%          |
| PEAK RESULTANT ACCELERATION | 210 - 260 g's   | 239          |
| PEAK LATERAL ACCELERATION   | <10 G'S         | -5           |
| TIME ABOVE 100 G.           | 0.9 - 1.5 msec. | 1.2          |

TEST MEETS SPECIFICATIONS

TECHNICIAN: APPROVED BY: 

TEST: Dummy Calibration - Head Drop TEST DATE: 01-18-2000 - 08:53:01

COMPONENT: Dummy # 270

Minimum = 7.95E-02 G'S at 0 msec

Maximum = 299.11 G'S at 30.4 msec

PEAK RESULTANT ACCELERATION

1 \_\_\_\_\_ D00111AV.A01 Filterclass (1000)

300  
280  
260  
240  
220  
200  
180  
160  
140  
120  
100  
80  
60  
40  
20  
0

G.S

0 10 20 30 40 50 60 70 80 90 100

TIME (sec.)

MCA Research  
01-18-2000 08:54

TEST: Dummy Calibration - Head Drop TEST DATE: 01-18-2000 - 08:53:01

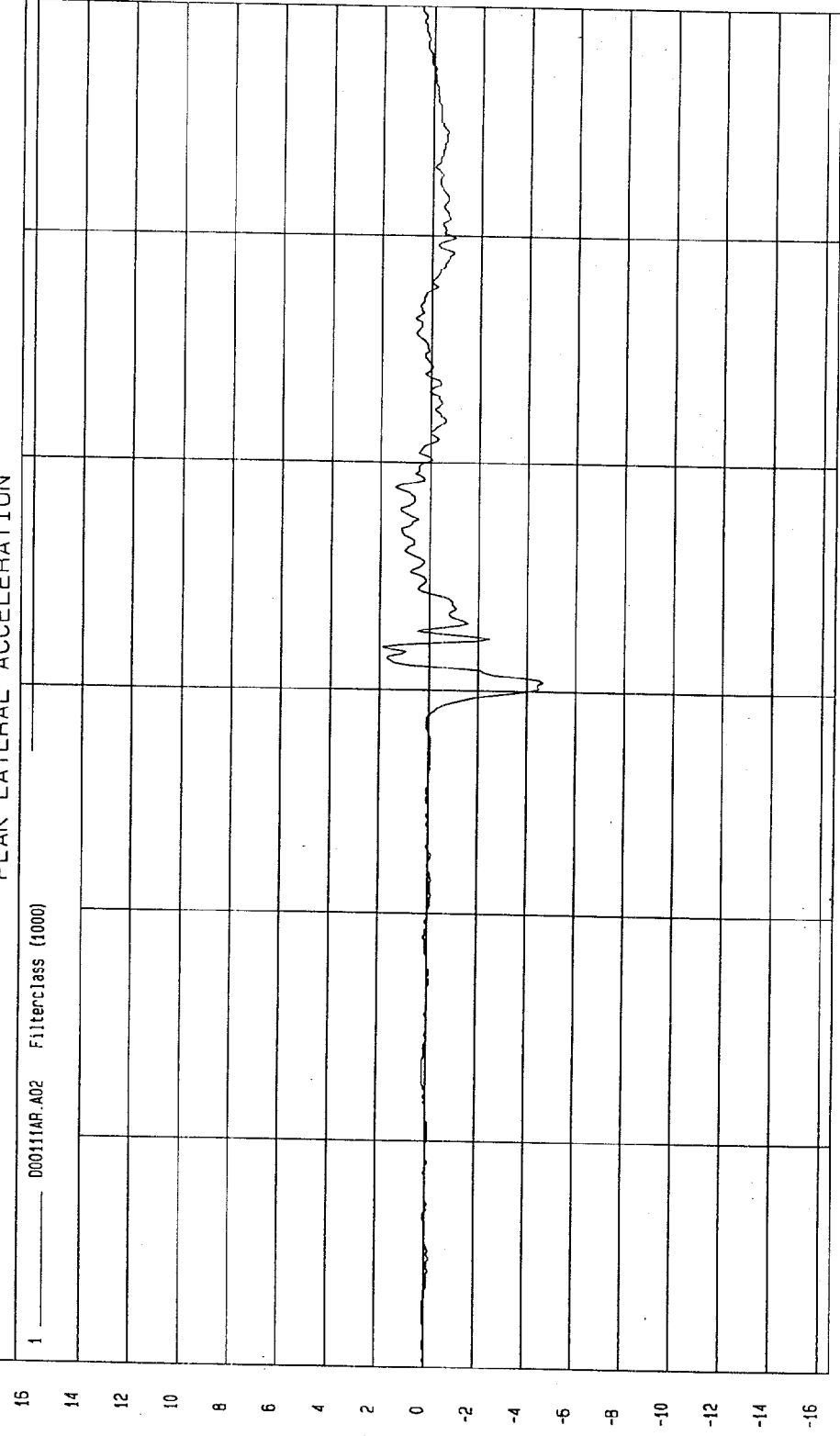
COMPONENT: Dummy # 270

Minimum = -4.66 G'S at 30.4 msec

Maximum = 1.87 G'S at 31.9 msec

PEAK LATERAL ACCELERATION

1 \_\_\_\_\_ 000111AR.A02 Filterclass (1000)



TIME (SEC.)

NGA Research  
01-18-2000 08:54

## THORAX IMPACT TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 13, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00112

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 32%          |
| PROBE SPEED (m/s)     | 4.27 - 4.33   | 4.28         |
| UPPER RIB (g's)       | 37 - 46 g's   | 42           |
| LOWER RIB (g's)       | 37 - 46 g's   | 44           |
| LOWER SPINE (g's)     | 15 - 22 g's   | 22           |

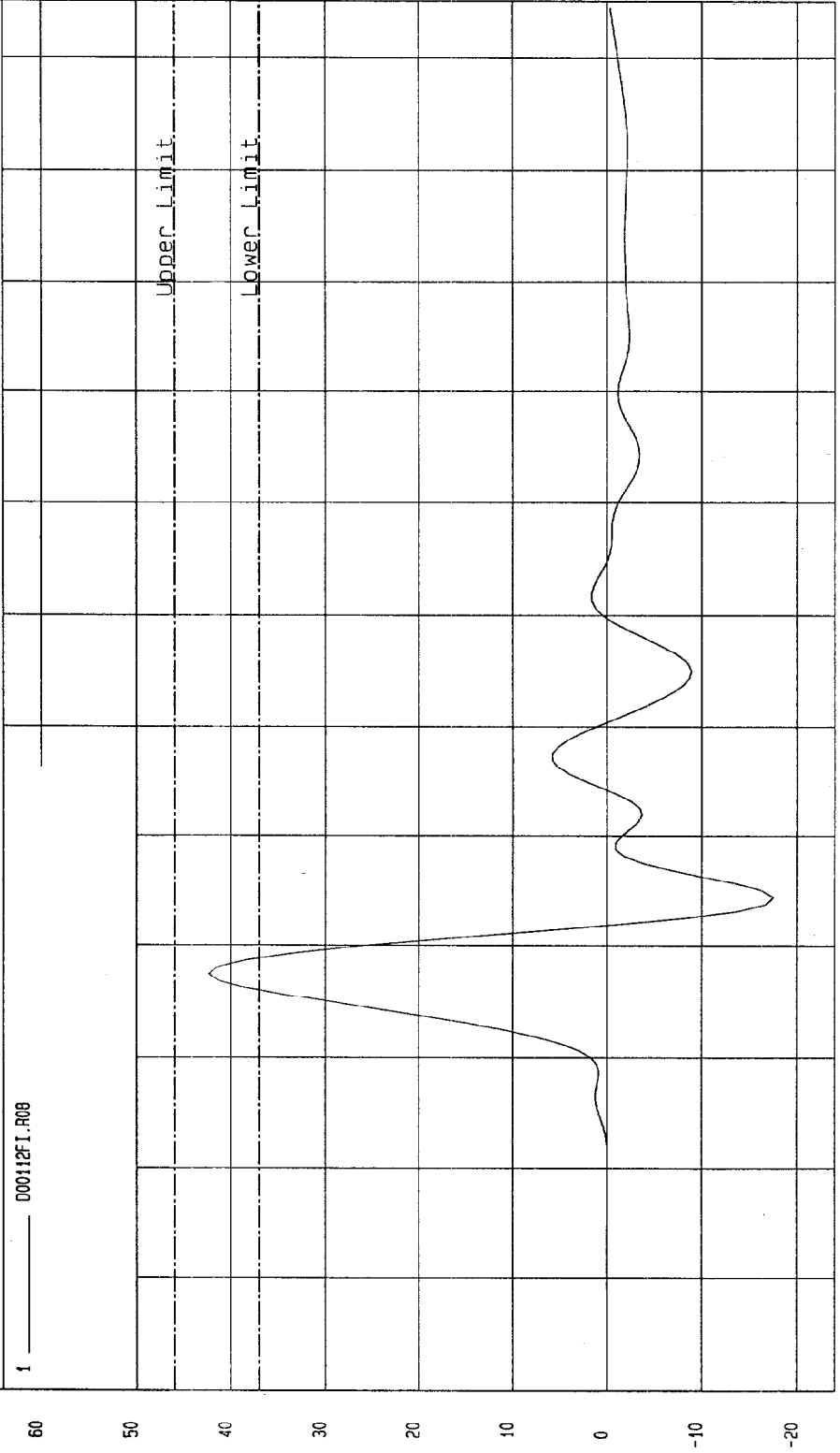
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: Dummy Calibration - Thorax Impact TEST DATE: 01-13-2000 - 12:09:14  
COMPONENT: Dummy # 270 Velocity: 14.052 FT/SEC 4.28 M/SEC

Minimum = -17.44 G'S at 44.3 msec Maximum = 42.35 G'S at 37.5 msec

UPPER RIB ACCELERATION



1 000112FI.R08

MCA Research  
02-23-2000 17:00

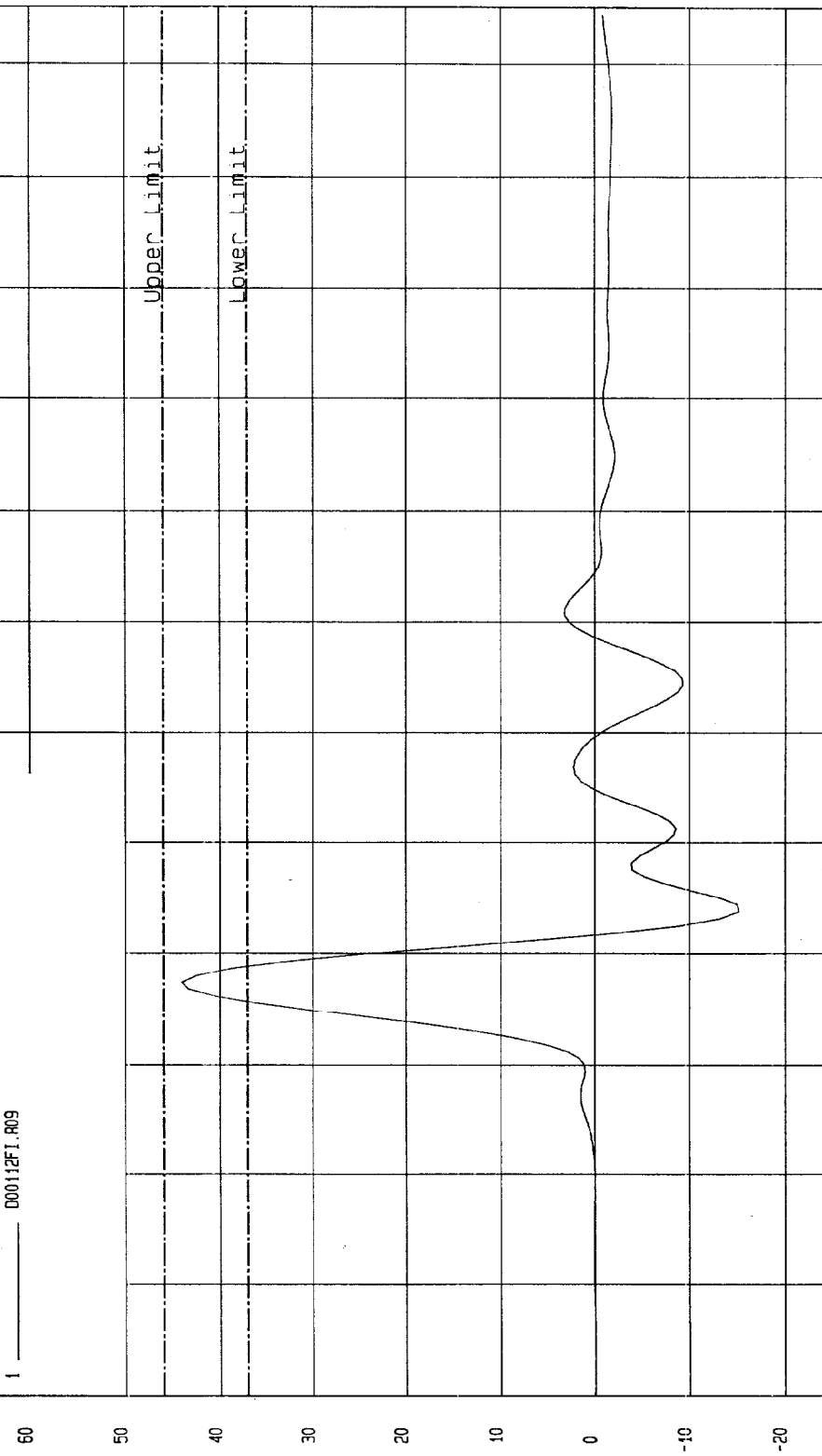
TEST: Dummy Calibration - Thorax Impact TEST DATE: 01-13-2000 - 12:09:14

COMPONENT: Dummy # 270 Velocity: 14.052 FT/SEC 4.28 M/SEC

Minimum = -15.19 G'S at 43.7 msec Maximum = 44.11 G'S at 37.5 msec

LOWER RIB ACCELERATION

1 000112FT.R09



TIME (sec.)

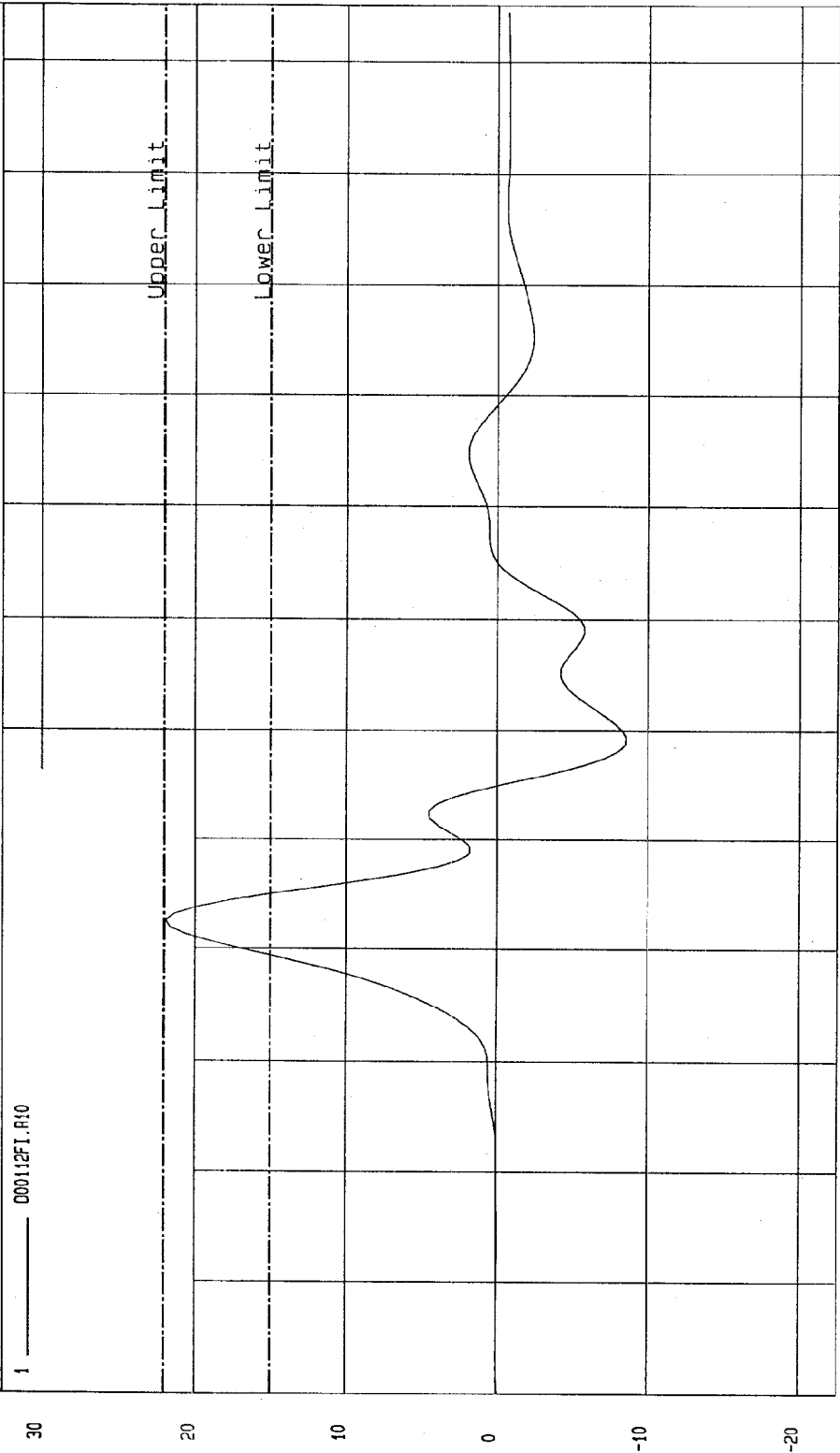
M&A Research  
02-23-2000 17:00

G.S

TEST: Dummy Calibration - Thorax Impact TEST DATE: 01-13-2000 - 12:11:26  
COMPONENT: Dummy # 270 Velocity: 14.052 FT/SEC 4.28 M/SEC

Minimum = -8.59 G's at 59.3 msec Maximum = 21.91 G's at 42.5 msec

LOWER SPINE ACCELERATION



1 \_\_\_\_\_ D00112FI.R10

TIME (SEC.)

NGA Research  
02-23-2000 11:00

G.S

## PELVIS IMPACT TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 13, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00113

| TEST PARAMETER            | SPECIFICATION | TEST RESULTS |
|---------------------------|---------------|--------------|
| TEMPERATURE (°C)          | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%)     | 10 - 70       | 32%          |
| PROBE SPEED (m/s)         | 4.27 - 4.33   | 4.28         |
| PELVIS ACCELERATION (g's) | 40 - 60       | 43           |

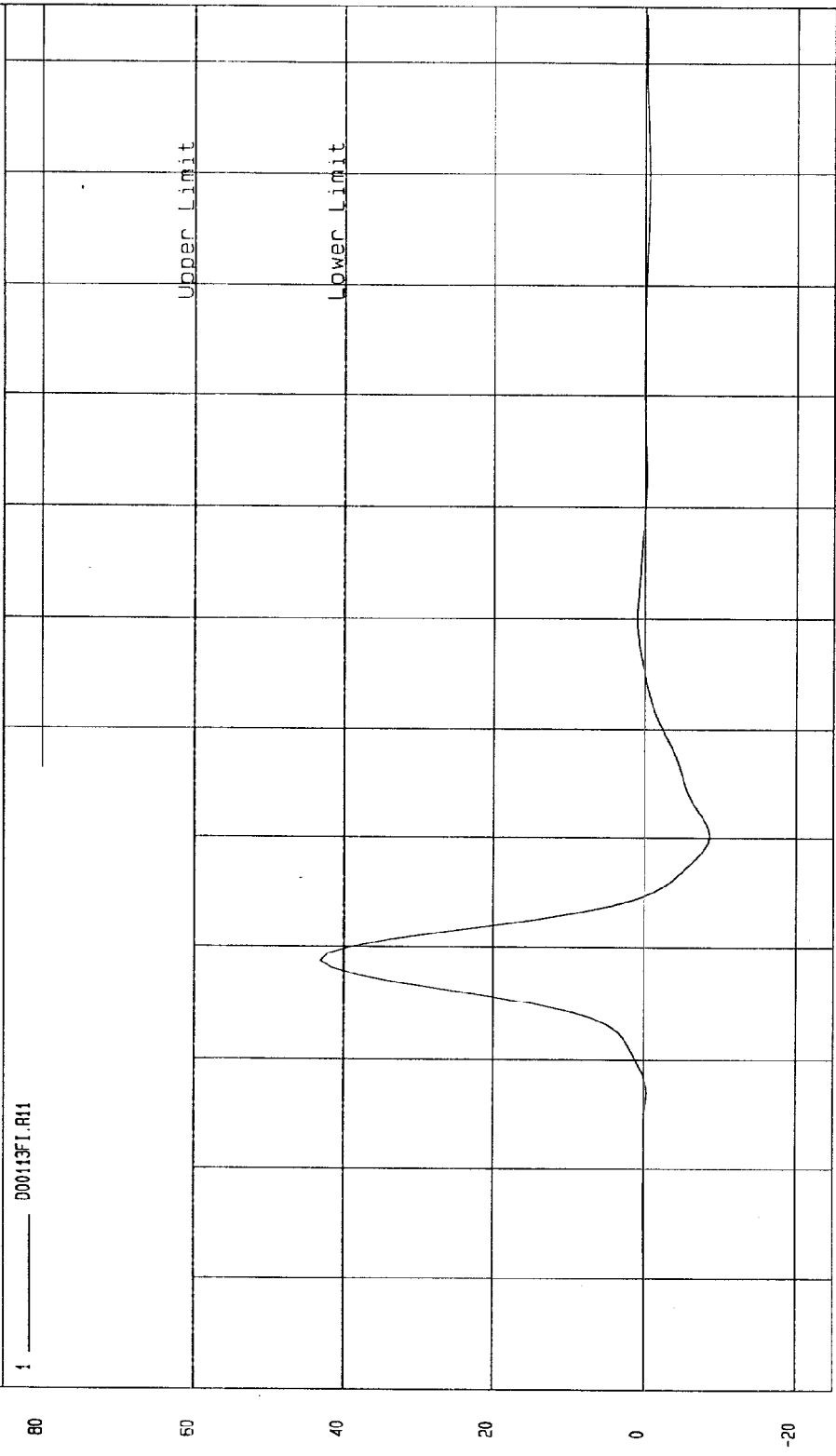
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: Dummy Calibration - Pelvis Impact      TEST DATE: 01-13-2000 - 12:43:32  
COMPONENT: Dummy # 270      Velocity: 14.047 FT/SEC 4.28 M/SEC

Minimum = -8.72 G's at 50 msec      Maximum = 43.14 G's at 38.7 msec

PELVIS ACCELERATION



TIME (sec.)

MGA Research  
02-23-2000 17:00

G.S.

ABDOMINAL COMPRESSION TEST  
(PRELOAD = 10 LBS)

## SIDE IMPACT DUMMY (SID)

DATE: January 13, 2000DUMMY SERIAL NUMBER: 270 TEST NUMBER: D00114

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 23%          |
| FORCE @ 12.7 mm       | 104 - 162     | 139          |
| FORCE @ 19.0 mm       | 163 - 222     | 188          |
| FORCE @ 25.4 mm       | 222 - 280     | 250          |
| FORCE @ 33 mm         | 325 - 391     | 338          |

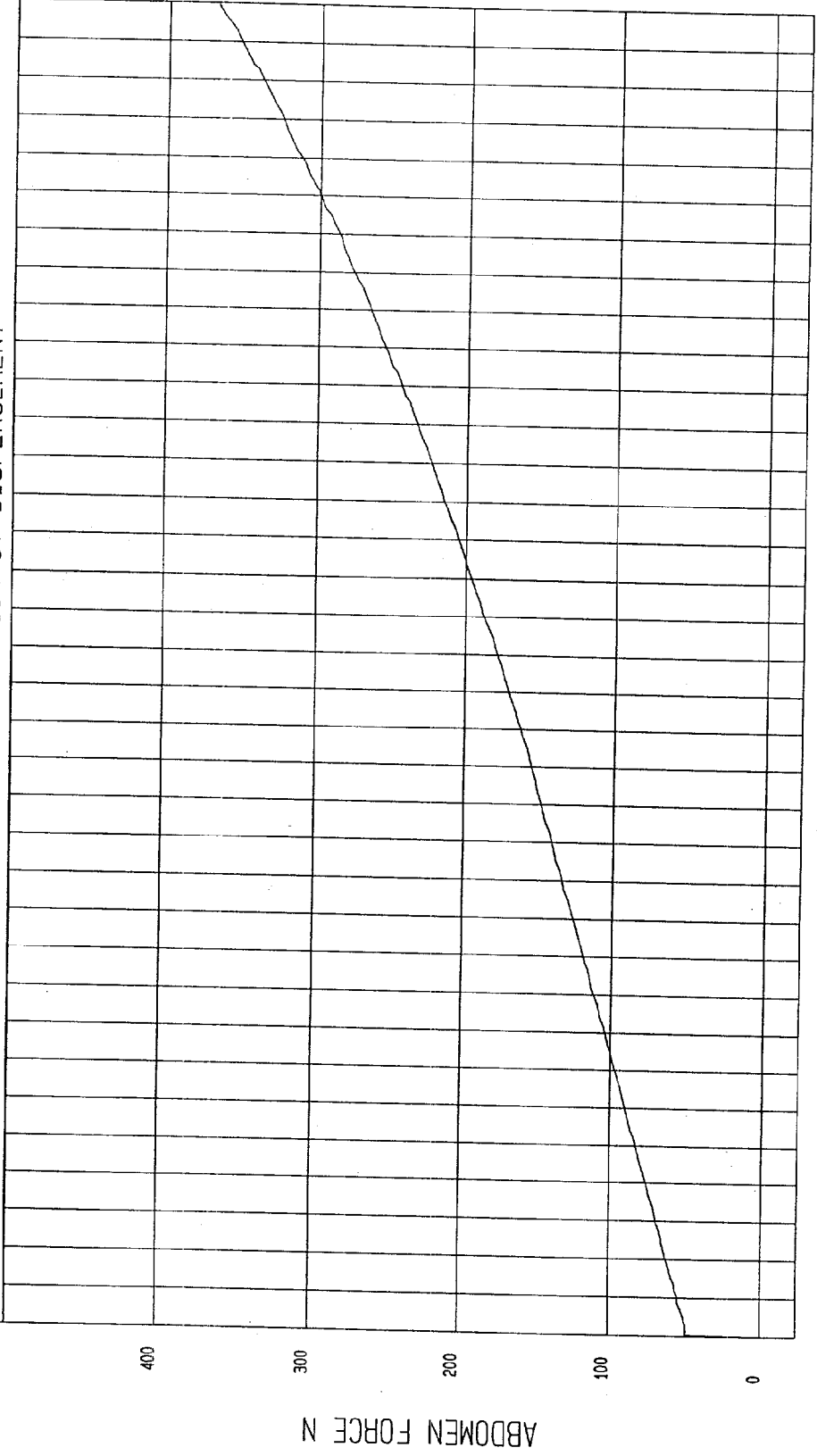
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 01-13-2000 - 16:06:47

COMPONENT: DUMMY # 270

ABDOMEN FORCE as a function of DISPLACEMENT



NEA Research  
01-13-2000 11:13

DISPLACEMENT mm

ABDOMEN FORCE N

## LUMBAR FLEXION TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 14, 2000DUMMY SERIAL NUMBER: 270 TEST NUMBER: D00115

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 28°          |
| FORCE @ 0°            | 0 - 26.7      | 0            |
| FORCE @ 20°           | 97.9 - 151.2  | 112.1        |
| FORCE @ 30°           | 151.2 - 204.6 | 172.9        |
| FORCE @ 40°           | 204.6 - 258.0 | 225.5        |
| RETURN ANGLE          | 12° maximum   | 6°           |

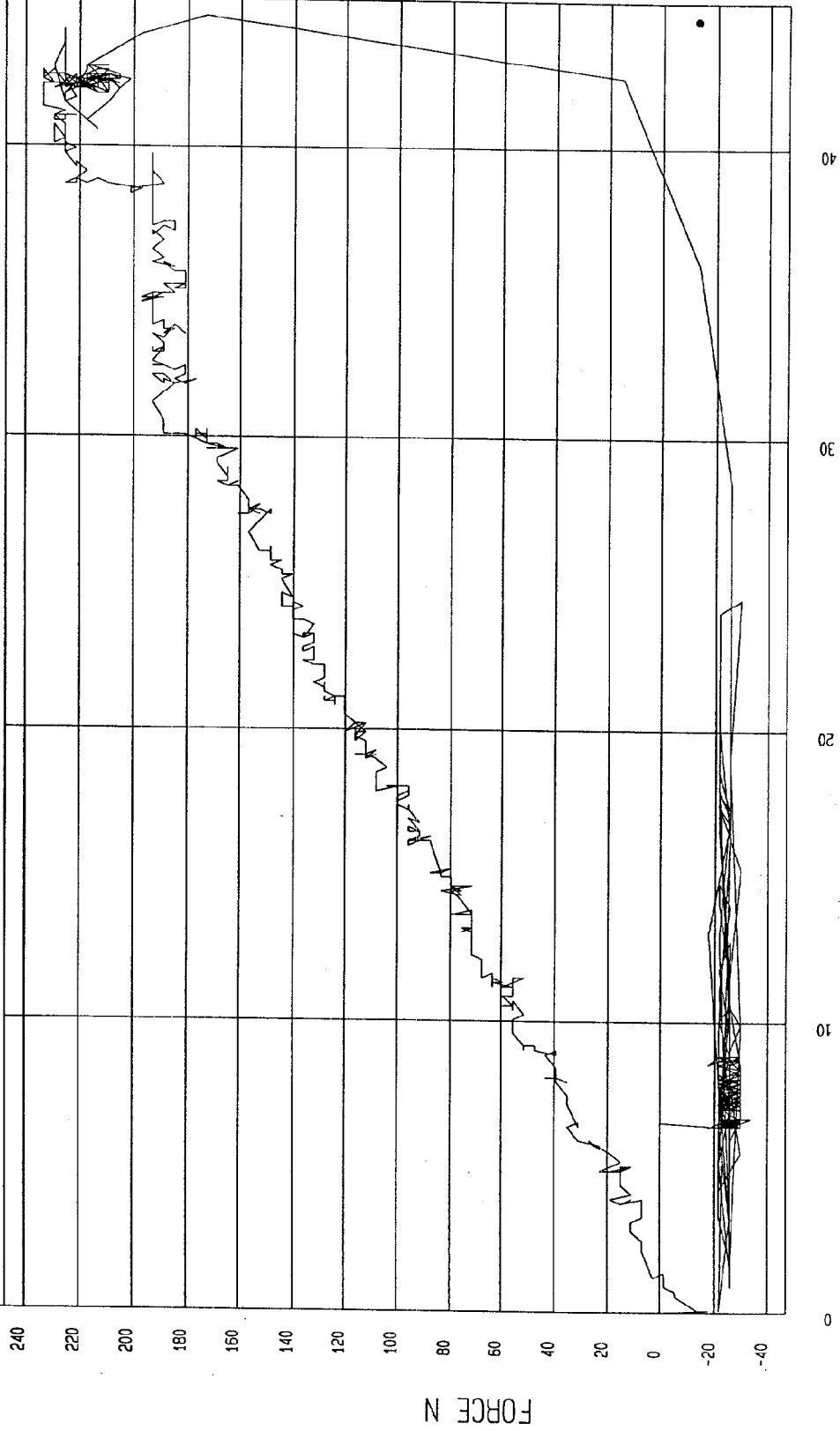
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 01-14-2000 - 13:31:23

COMPONENT: DUMMY # 270

FORCE as a function of TORSO ROTATION



M&A Research  
01-18-2000 11:19

POST-TEST CERTIFICATION DATA

C-33

Driver Dummy Serial Number: 269

Driver Dummy Serial Number: 269

Post-Test Calibration

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

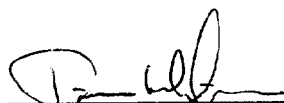
SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA C-35

DUMMY SERIAL NUMBER: 269

DATE OF VERIFICATION: February 18, 2000

| DESCRIPTION                         | SPECIFICATION | TEST RESULTS |
|-------------------------------------|---------------|--------------|
| SH - Seated Height (mm)             | 889 - 909     | 899          |
| RH - Rib Height (mm)                | 501 - 521     | 518          |
| HP - Hip Pivot Height (mm)          | 99 ref.       | 99           |
| RD - Rib From Back Line (mm)        | 229 - 241     | 231          |
| KV - Knee Pivot From Back Line (mm) | 511 - 526     | 520          |
| SW - Knee Pivot to Floor (mm)       | 490 - 505     | 495          |
| HW - Hip Width (mm)                 | 356 - 391     | 371          |

MEASUREMENTS BY: \_\_\_\_\_



APPROVED BY: \_\_\_\_\_



## HEAD DROP TEST

## SIDE IMPACT DUMMY (SID)

DATE: January 18, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00291

| TEST PARAMETER              | SPECIFICATION   | TEST RESULTS |
|-----------------------------|-----------------|--------------|
| TEMPERATURE                 | 18.9° - 25.5°C  | 21.0°        |
| RELATIVE HUMIDITY           | 10 - 70%        | 25%          |
| PEAK RESULTANT ACCELERATION | 210 - 260 g's   | 256          |
| PEAK LATERAL ACCELERATION   | <10 g's         | 5            |
| TIME ABOVE 100 G.           | 0.9 - 1.5 msec. | 1.1          |

TEST MEETS SPECIFICATIONS

TECHNICIAN: APPROVED BY: 

TEST: Dummy Calibration - Head Drop TEST DATE: 02-18-2000 - 09:17:09

COMPONENT: Dummy # 269

Minimum = 3.47E-02 G'S at 1.2 msec

Maximum = 255.68 G'S at 39.1 msec

PEAK RESULTANT ACCELERATION

1 \_\_\_\_\_ 000291AV.A01 Filterclass (1000)

300  
280  
260  
240  
220  
200  
180  
160  
140  
120  
100  
80  
60  
40  
20  
0

G.S

50'

40'

30'

20'

10'

0

TIME (sec.)

MSC Research  
02-18-2000 09:21

TEST: Dummy Calibration - Head Drop TEST DATE: 02-18-2000 - 09:17:09

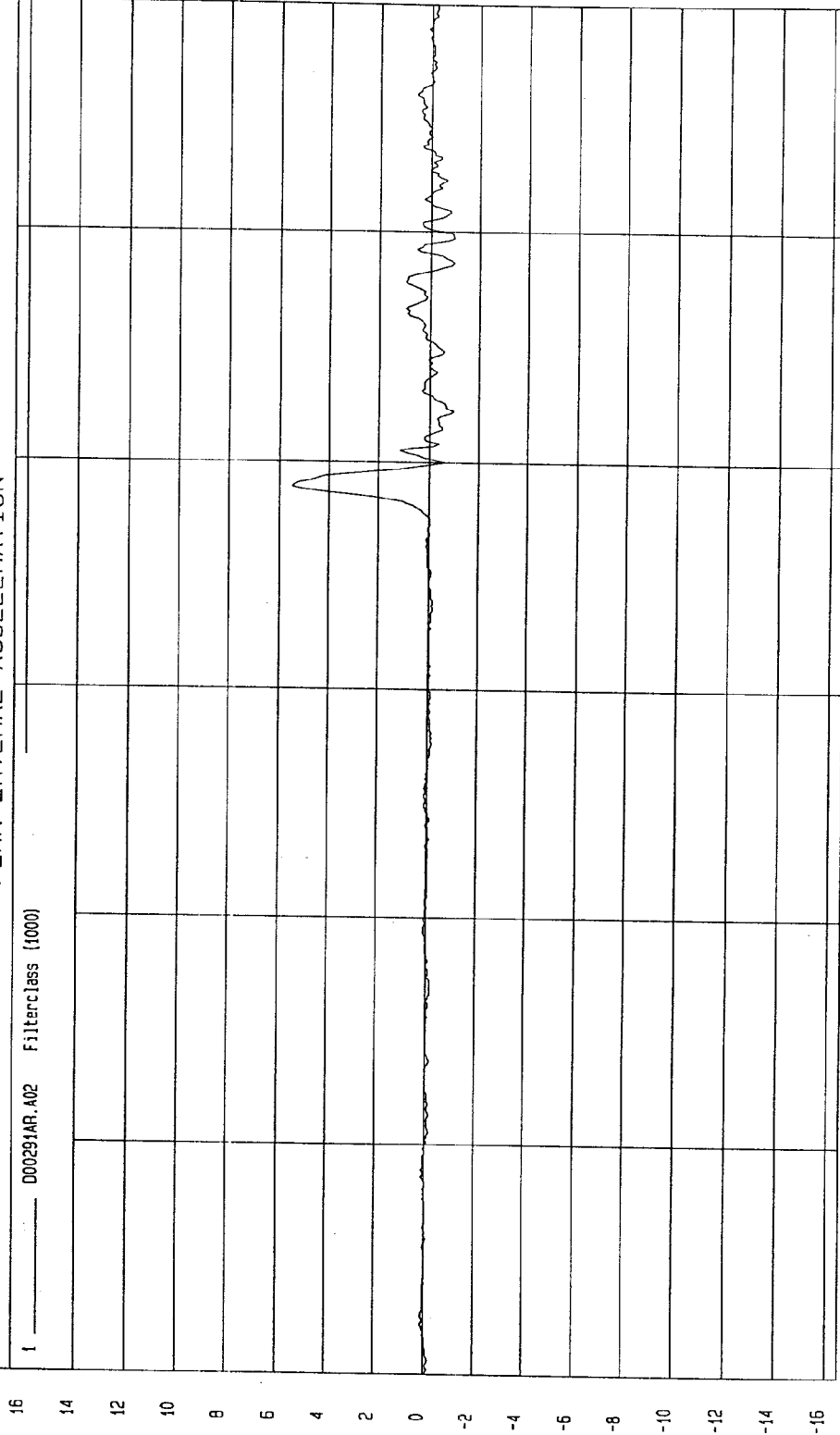
COMPONENT: Dummy # 269

Minimum = -1.76 G'S at 122 msec

Maximum = 5.49 G'S at 38.9 msec

### PEAK LATERAL ACCELERATION

1 \_\_\_\_\_ D00291AR.A02 Filterclass (1000)



05

04

03

02

01

0

TIME (sec.)

MCA Research  
02-18-2000 09:21

## THORAX IMPACT TEST

## SIDE IMPACT DUMMY (SID)

DATE: February 16, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00292

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 26%          |
| PROBE SPEED (m/s)     | 4.27 - 4.33   | 4.29         |
| UPPER RIB (g's)       | 37 - 46 g's   | 45           |
| LOWER RIB (g's)       | 37 - 46 g's   | 43           |
| LOWER SPINE (g's)     | 15 - 22 g's   | 20           |

TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

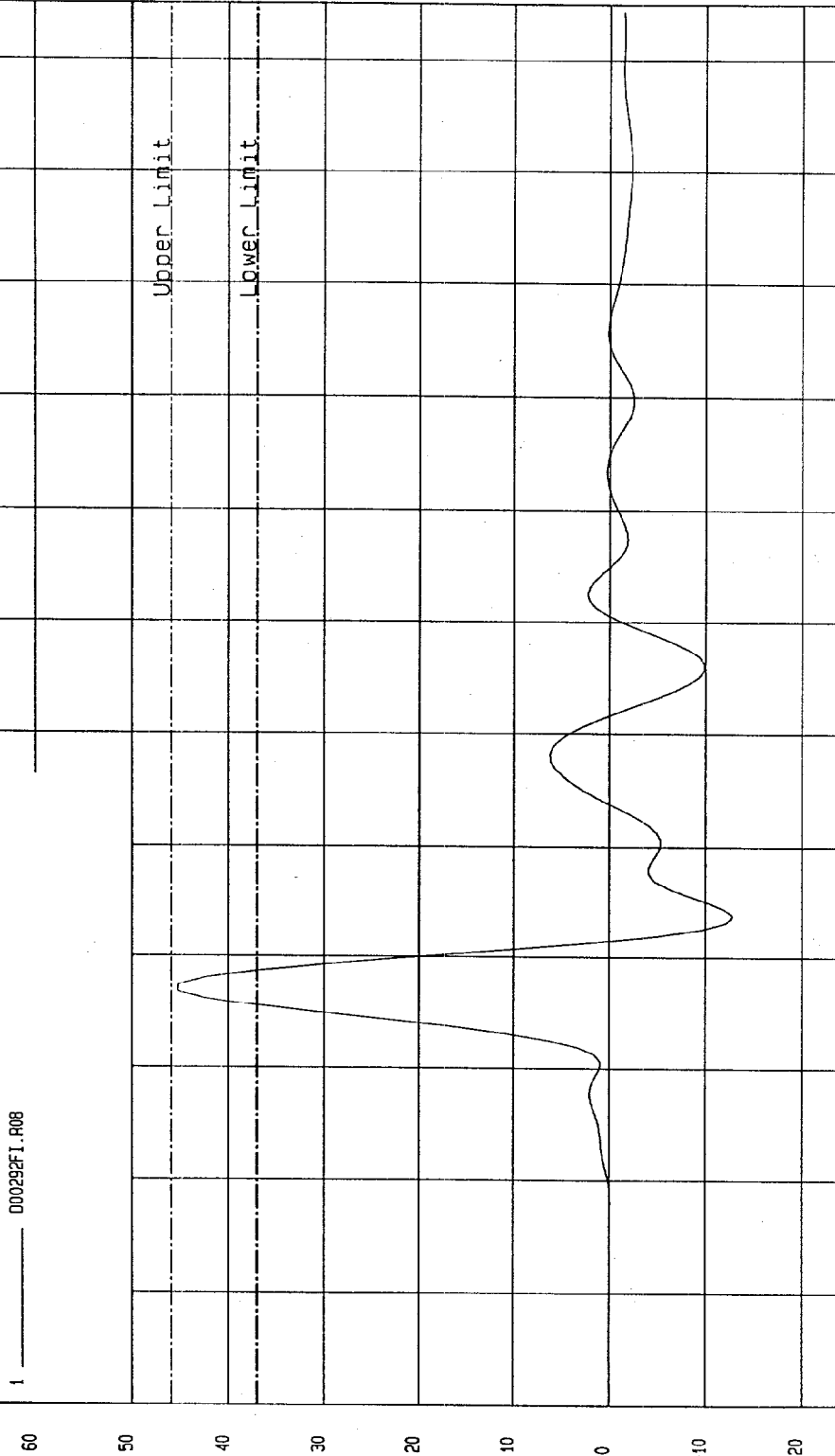
TEST: Dummy Calibration - Thorax Impact TEST DATE: 02-16-2000 - 10:54:37

COMPONENT: Dummy # 269 Velocity: 14.072 FT/SEC 4.29 M/SEC

Minimum = -12.84 G'S at 43.7 msec

Maximum = 45.34 G'S at 36.8 msec

UPPER RIB ACCELERATION



TIME (sec.)

MCA Research  
02-16-2000 11:03

G.S

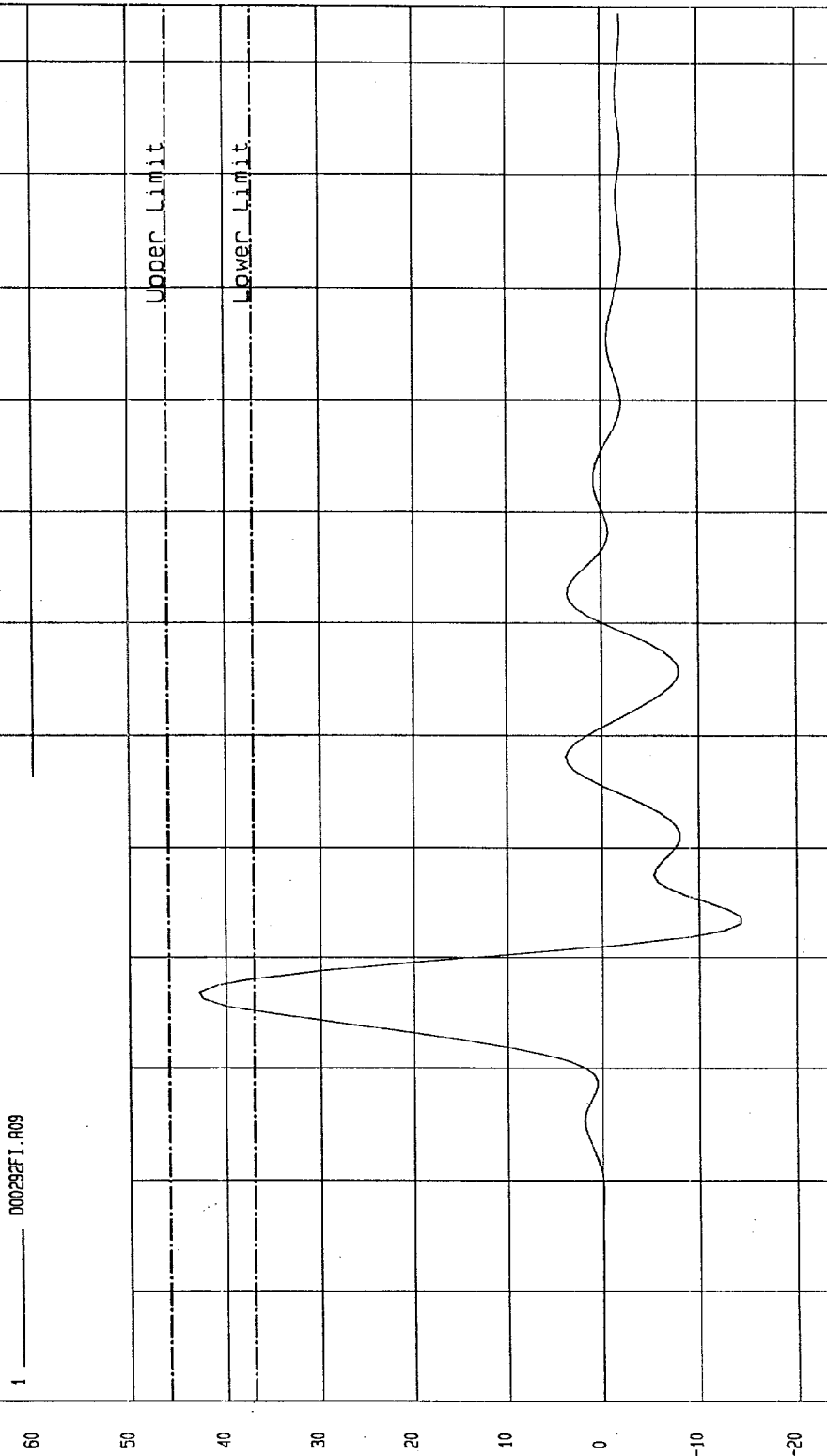
TEST: Dummy Calibration - Thorax Impact TEST DATE: 02-16-2000 - 10:54:37  
COMPONENT: Dummy # 269 Velocity: 14.072 FT/SEC 4.29 M/SEC

Minimum = -14.31 G'S at 43.1 msec

Maximum = 42.83 G'S at 36.8 msec

LOWER RIB ACCELERATION

1 D00292FI.R09



MCA Research  
02-16-2000 11:03

TIME (SEC.)

G.S.

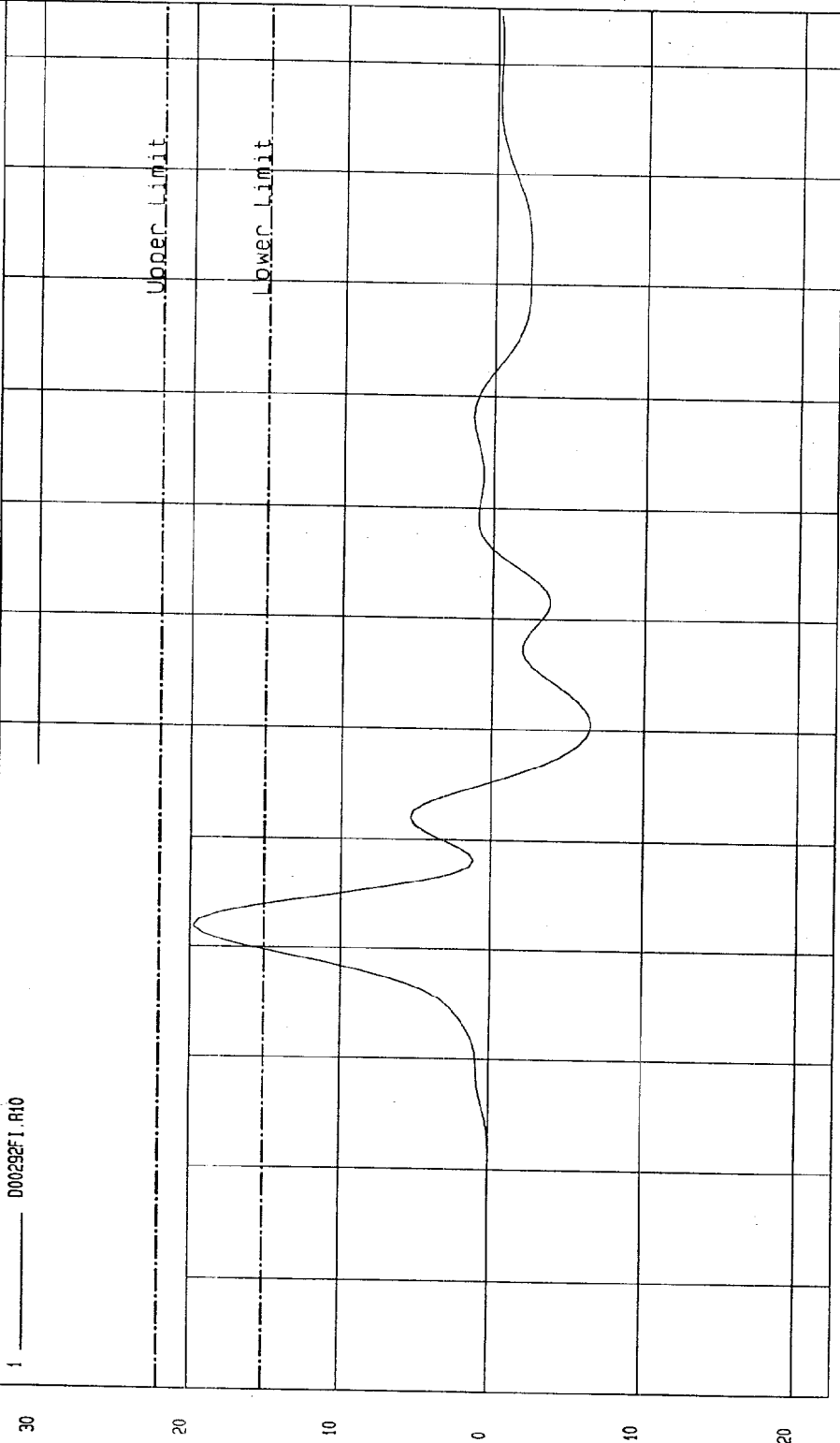
TEST: Dummy Calibration - Thorax Impact TEST DATE: 02-16-2000 - 10:54:37

COMPONENT: Dummy # 269 Velocity: 14.072 FT/SEC 4.29 M/SEC

Minimum = -6.55 G'S at 60.6 msec  
Maximum = 19.78 G'S at 41.8 msec

LOWER SPINE ACCELERATION

1 ——— D00292FT.R10



MCA Research  
02-16-2000 11:03

## PELVIS IMPACT TEST

## SIDE IMPACT DUMMY (SID)

DATE: February 16, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00293

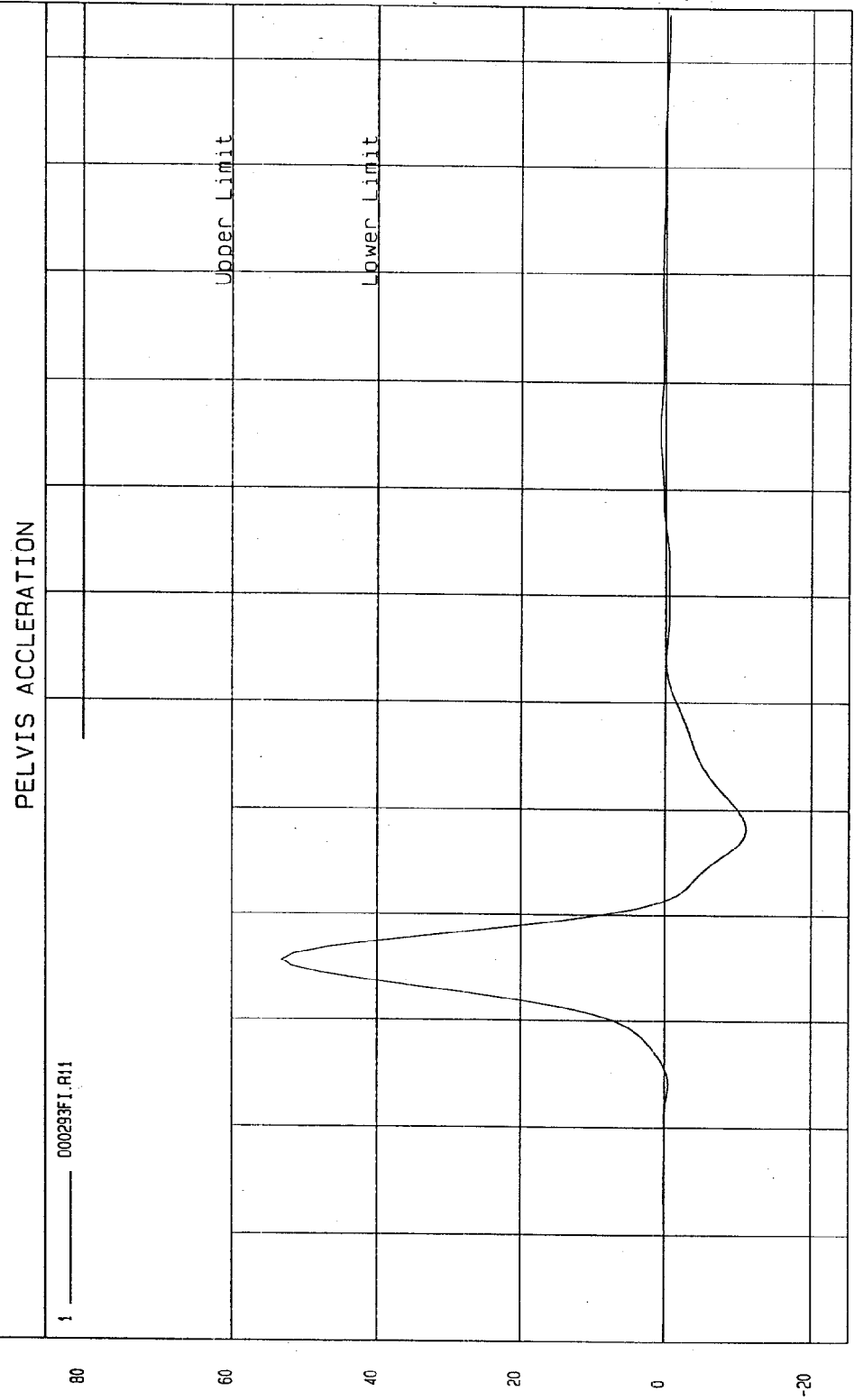
| TEST PARAMETER            | SPECIFICATION | TEST RESULTS |
|---------------------------|---------------|--------------|
| TEMPERATURE (°C)          | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%)     | 10 - 70       | 26%          |
| PROBE SPEED (m/s)         | 4.27 - 4.33   | 4.28         |
| PELVIS ACCELERATION (g's) | 40 - 60       | 53           |

TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: Dummy Calibration - Pelvis Impact TEST DATE: 02-16-2000 - 11:02:52  
COMPONENT: Dummy # 269 Velocity: 14.05 FT/SEC 4.28 M/SEC

Minimum = -11.05 G'S at 48.1 msec Maximum = 53.20 G'S at 35.6 msec



MEA Research  
02-16-2000 11:03

G.S

ABDOMINAL COMPRESSION TEST  
(PRELOAD = 10 LBS)

## SIDE IMPACT DUMMY (SID)

DATE: February 16, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00294

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 26%          |
| FORCE @ 12.7 mm       | 104 - 162     | 134          |
| FORCE @ 19.0 mm       | 163 - 222     | 185          |
| FORCE @ 25.4 mm       | 222 - 280     | 248          |
| FORCE @ 33 mm         | 325 - 391     | 334          |

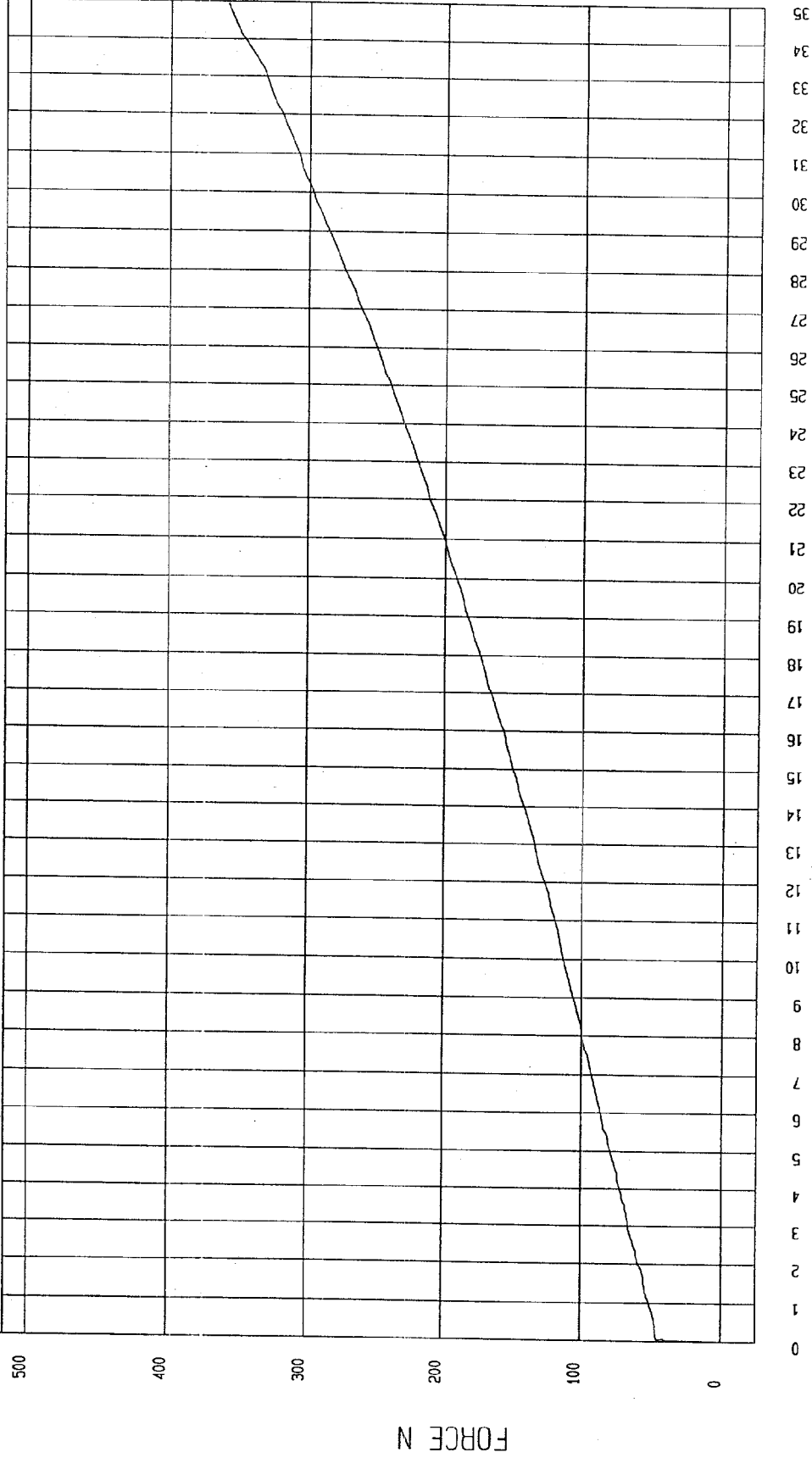
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 02-16-2000 - 15:24:25

COMPONENT: DUMMY # 269

FORCE as a function of DISPLACEMENT



MEA Research  
02-16-2000 01:58

DISPLACEMENT mm

FORCE N

## LUMBAR FLEXION TEST

## SIDE IMPACT DUMMY (SID)

DATE: February 18, 2000DUMMY SERIAL NUMBER: 269TEST NUMBER: D00295

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 25%          |
| FORCE @ 0°            | 0 - 26.7      | 0            |
| FORCE @ 20°           | 97.9 - 151.2  | 104.0        |
| FORCE @ 30°           | 151.2 - 204.6 | 172.9        |
| FORCE @ 40°           | 204.6 - 258.0 | 253.9        |
| RETURN ANGLE          | 12° maximum   | 2°           |

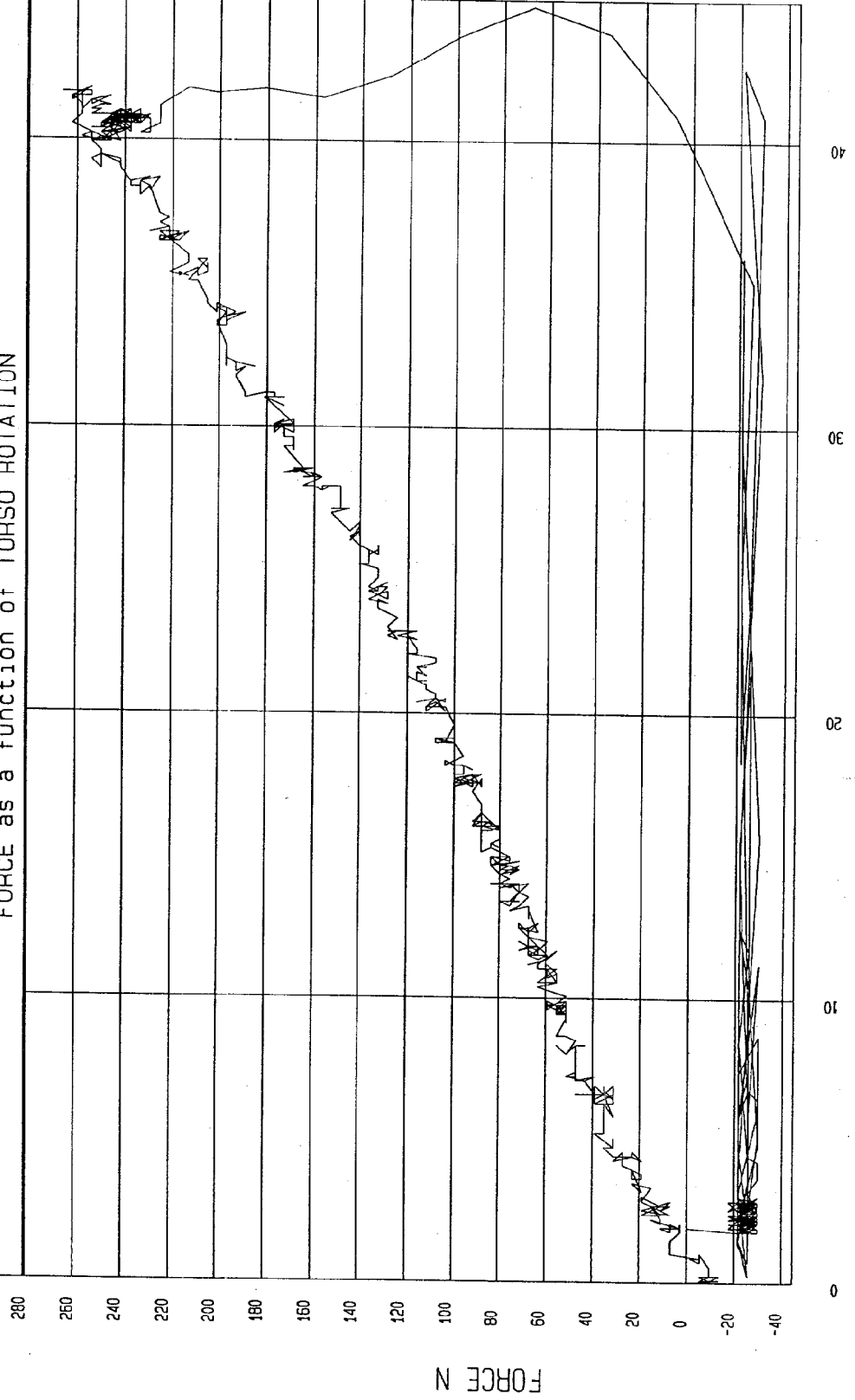
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 02-18-2000 - 07:31:24

COMPONENT: DUMMY # 269

FORCE as a function of TORSO ROTATION



MCA Research  
02-18-2000 07:59

TORSO ROTATION DEGREES

POST-TEST CERTIFICATION DATA

**C-49**

Passenger Dummy Serial Number: 270

Passenger Dummy Serial Number: 270

Post-Test Calibration

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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA C-51

DUMMY SERIAL NUMBER: 270

DATE OF VERIFICATION: February 18, 2000

| DESCRIPTION                         | SPECIFICATION | TEST RESULTS |
|-------------------------------------|---------------|--------------|
| SH - Seated Height (mm)             | 889 - 909     | 898          |
| RH - Rib Height (mm)                | 501 - 521     | 503          |
| HP - Hip Pivot Height (mm)          | 99 ref.       | 99           |
| RD - Rib From Back Line (mm)        | 229 - 241     | 230          |
| KV - Knee Pivot From Back Line (mm) | 511 - 526     | 525          |
| SW - Knee Pivot to Floor (mm)       | 490 - 505     | 500          |
| HW - Hip Width (mm)                 | 356 - 391     | 368          |

MEASUREMENTS BY: 

APPROVED BY: 

## HEAD DROP TEST

## SIDE IMPACT DUMMY (SID)

DATE: February 18, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00301

| TEST PARAMETER              | SPECIFICATION   | TEST RESULTS |
|-----------------------------|-----------------|--------------|
| TEMPERATURE (°C)            | 18.9° - 25.5° C | 21.0°        |
| RELATIVE HUMIDITY (%)       | 10 - 70%        | 25%          |
| PEAK RESULTANT ACCELERATION | 210 - 260 g's   | 210          |
| PEAK LATERAL ACCELERATION   | <10 g's         | 6            |
| TIME ABOVE 100 G.           | 0.9 - 1.5 msec. | 1.2          |

TEST MEETS SPECIFICATIONS

TECHNICIAN: APPROVED BY: 

TEST: Dummy Calibration - Head Drop TEST DATE: 02-18-2000 - 08:48:50

COMPONENT: Dummy # 270

Minimum = 7.30E-02 G'S at 2.9 msec Maximum = 210.13 G'S at 29.1 msec

PEAK RESULTANT ACCELERATION

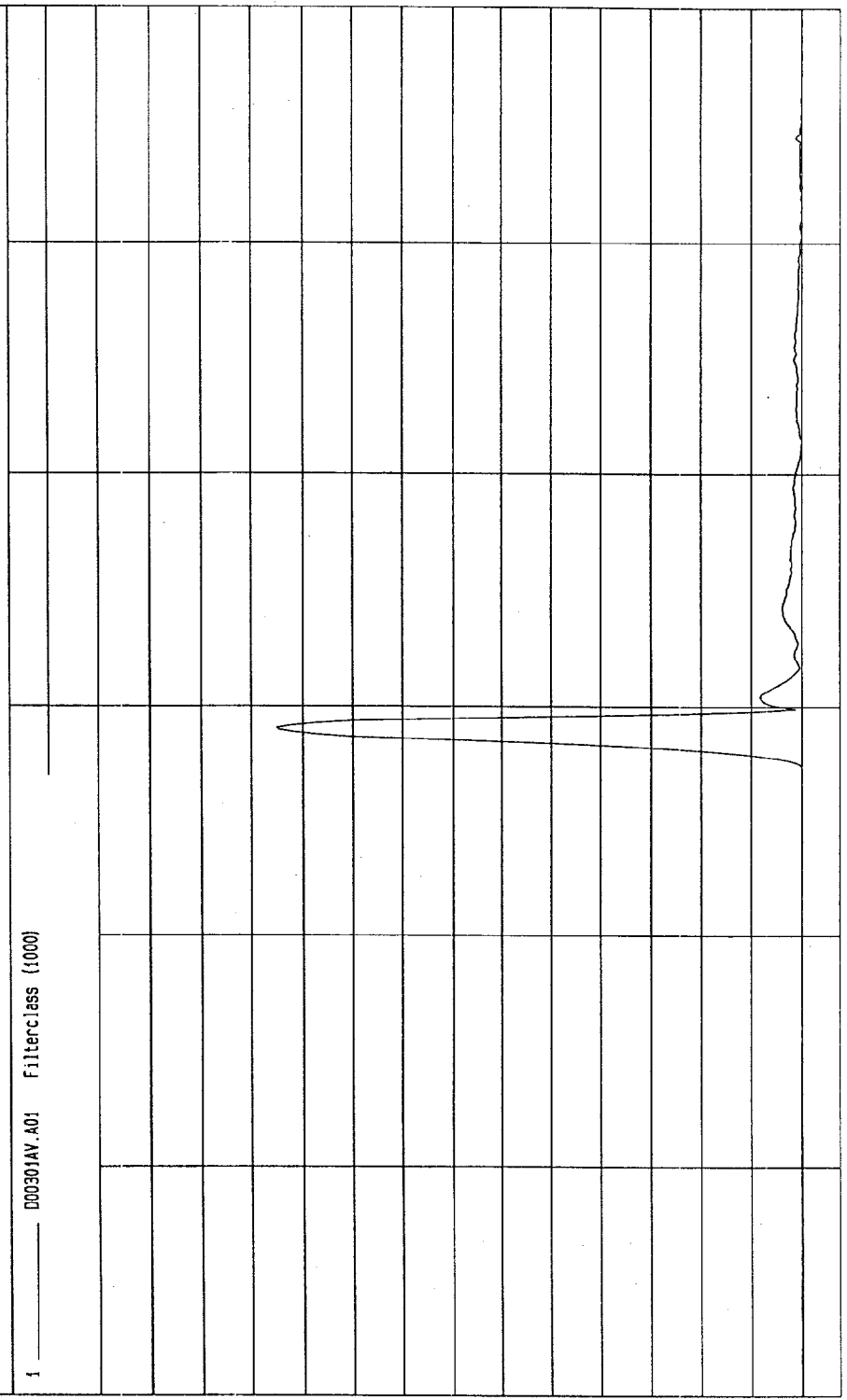
1 \_\_\_\_\_ D00301AV.A01 Filterclass (1000)

300  
280  
260  
240  
220  
200  
180  
160  
140  
120  
100  
80  
60  
40  
20  
0

G.S

TIME (SEC.)

WCA Research  
02-18-2000 08:55



TEST: Dummy Calibration - Head Drop TEST DATE: 02-18-2000 - 08:54:17

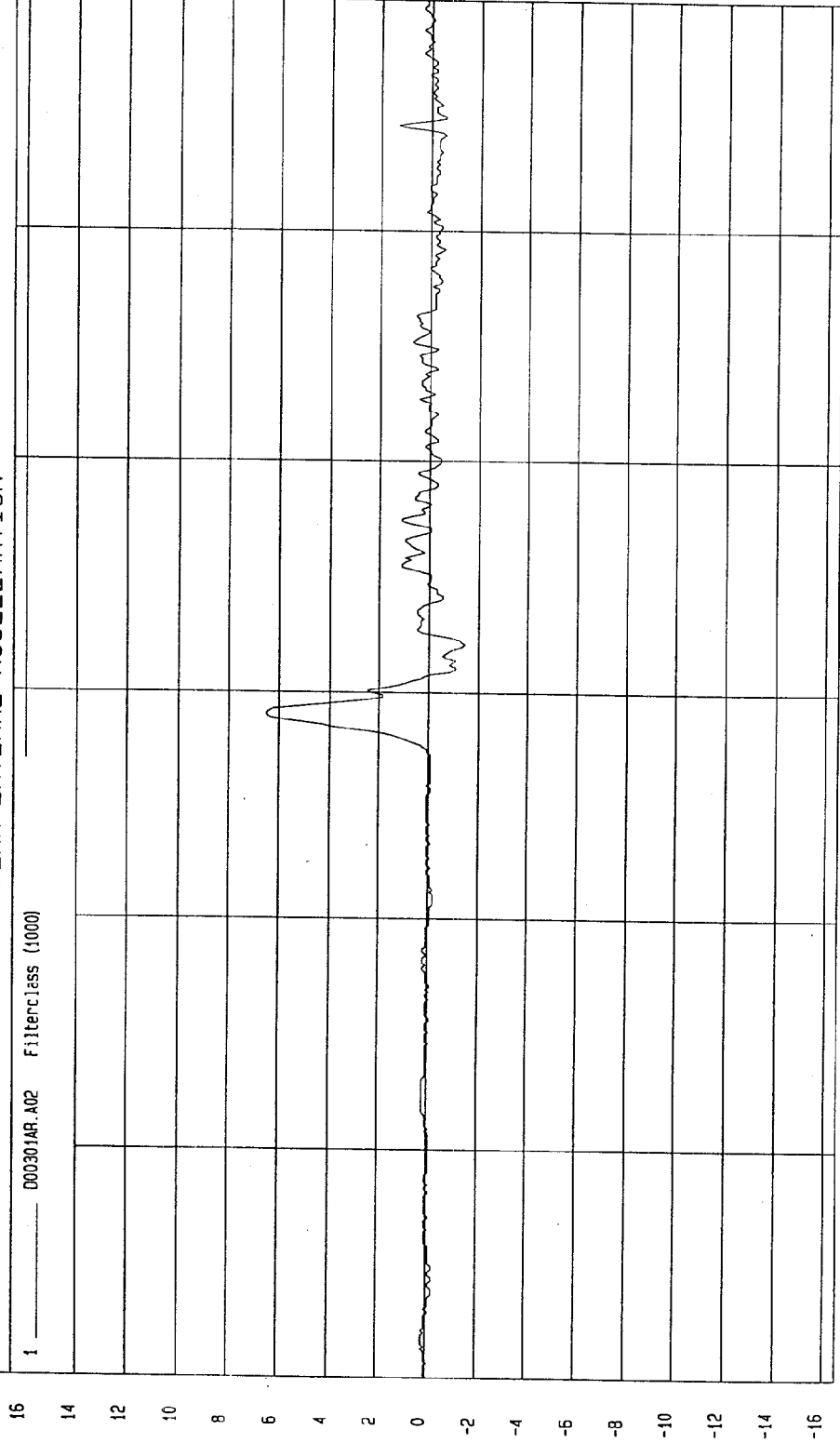
COMPONENT: Dummy # 270

Minimum = -1.44 G'S at 32.1 msec

Maximum = 6.48 G'S at 29 msec

PEAK LATERAL ACCELERATION

1 000301AR.A02 Filterclass (1000)



16  
14  
12  
10  
8  
6  
4  
2  
0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16

0 10 20 30 40 50 60

TIME (SEC.)

MGA Research  
02-18-2000 08:55

G.S

## THORAX IMPACT TEST

## SIDE IMPACT DUMMY (SID)

DATE: February 16, 2000DUMMY SERIAL NUMBER: 270 TEST NUMBER: D00302

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 27%          |
| PROBE SPEED (m/s)     | 4.27 - 4.33   | 4.29         |
| UPPER RIB (g's)       | 37 - 46 g's   | 42           |
| LOWER RIB (g's)       | 37 - 46 g's   | 43           |
| LOWER SPINE (g's)     | 15 - 22 g's   | 22           |

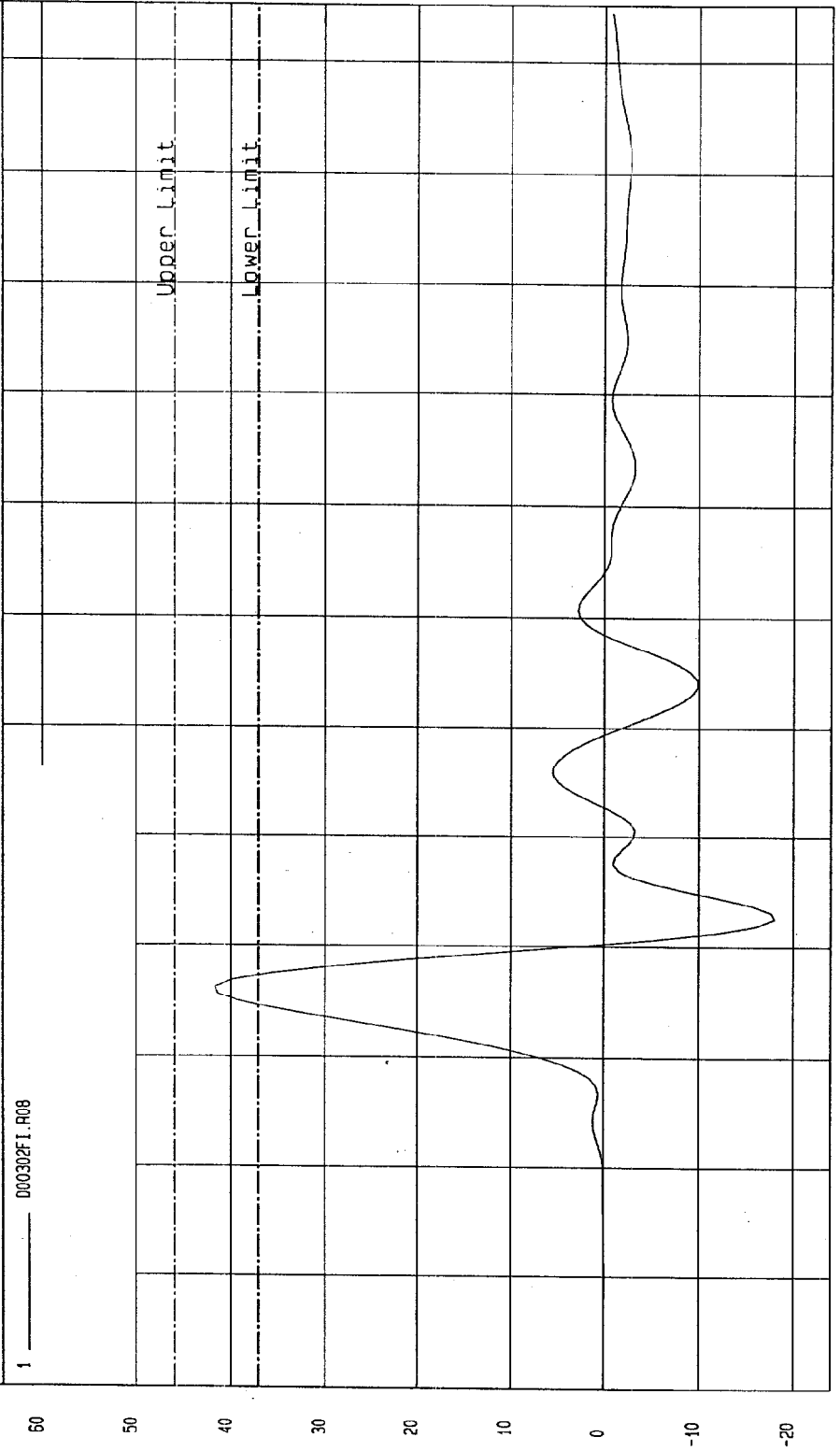
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: Dummy Calibration - Thorax Impact      TEST DATE: 02-16-2000 - 11:23:48  
COMPONENT: Dummy # 270      Velocity: 14.075 FT/SEC 4.29 M/SEC

Minimum = -17.96 G'S at 42.5 msec      Maximum = 41.76 G'S at 36.2 msec

UPPER RIB ACCELERATION



MCA Research  
02-16-2000 11:33

TEST: Dummy Calibration - Thorax Impact TEST DATE: 02-16-2000 - 11:23:48

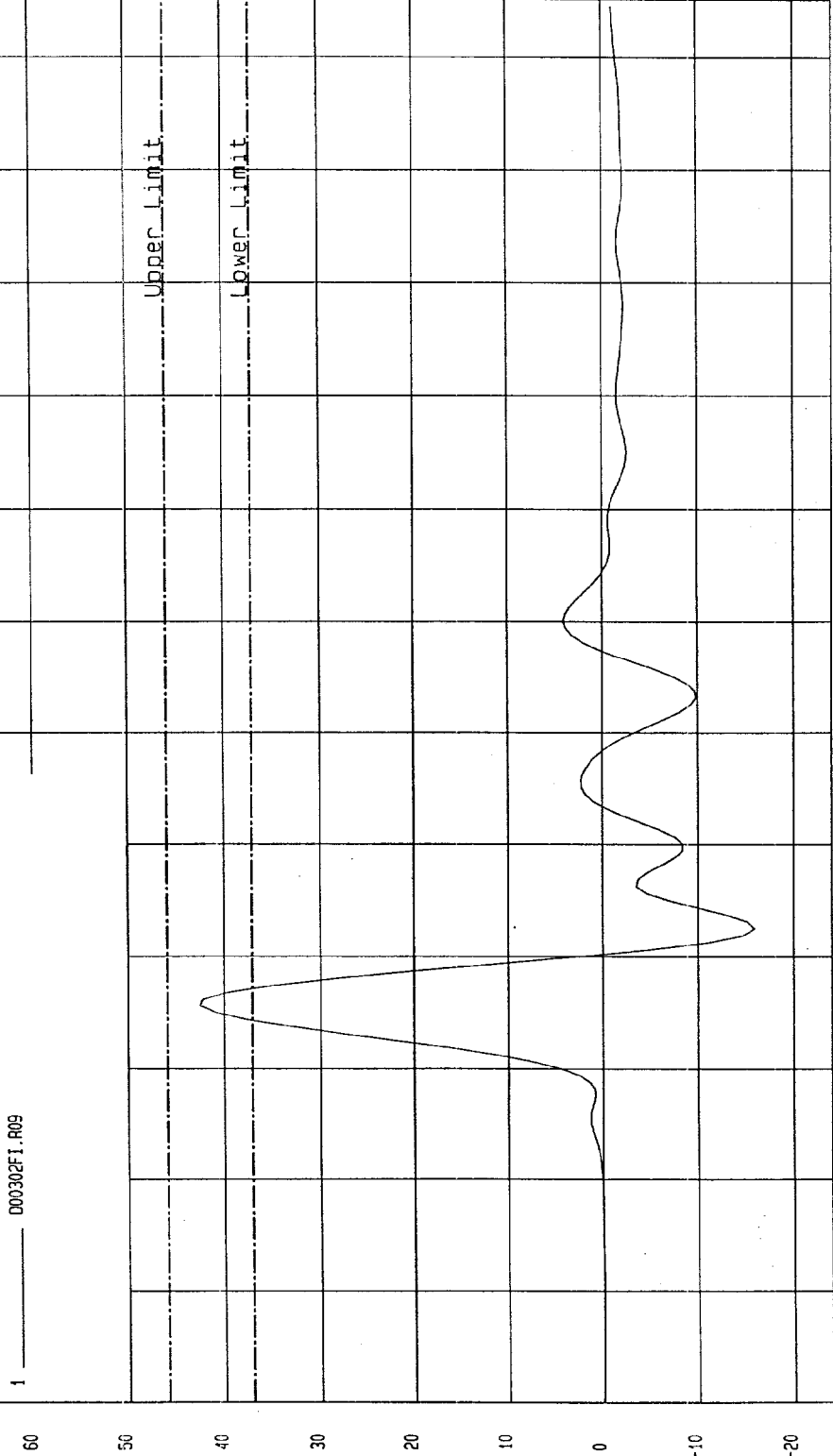
COMPONENT: Dummy # 270 Velocity: 14.075 FT/SEC 4.29 M/SEC

Minimum = -15.86 G'S at 42.5 msec

Maximum = 42.63 G'S at 35.6 msec

LOWER RIB ACCELERATION

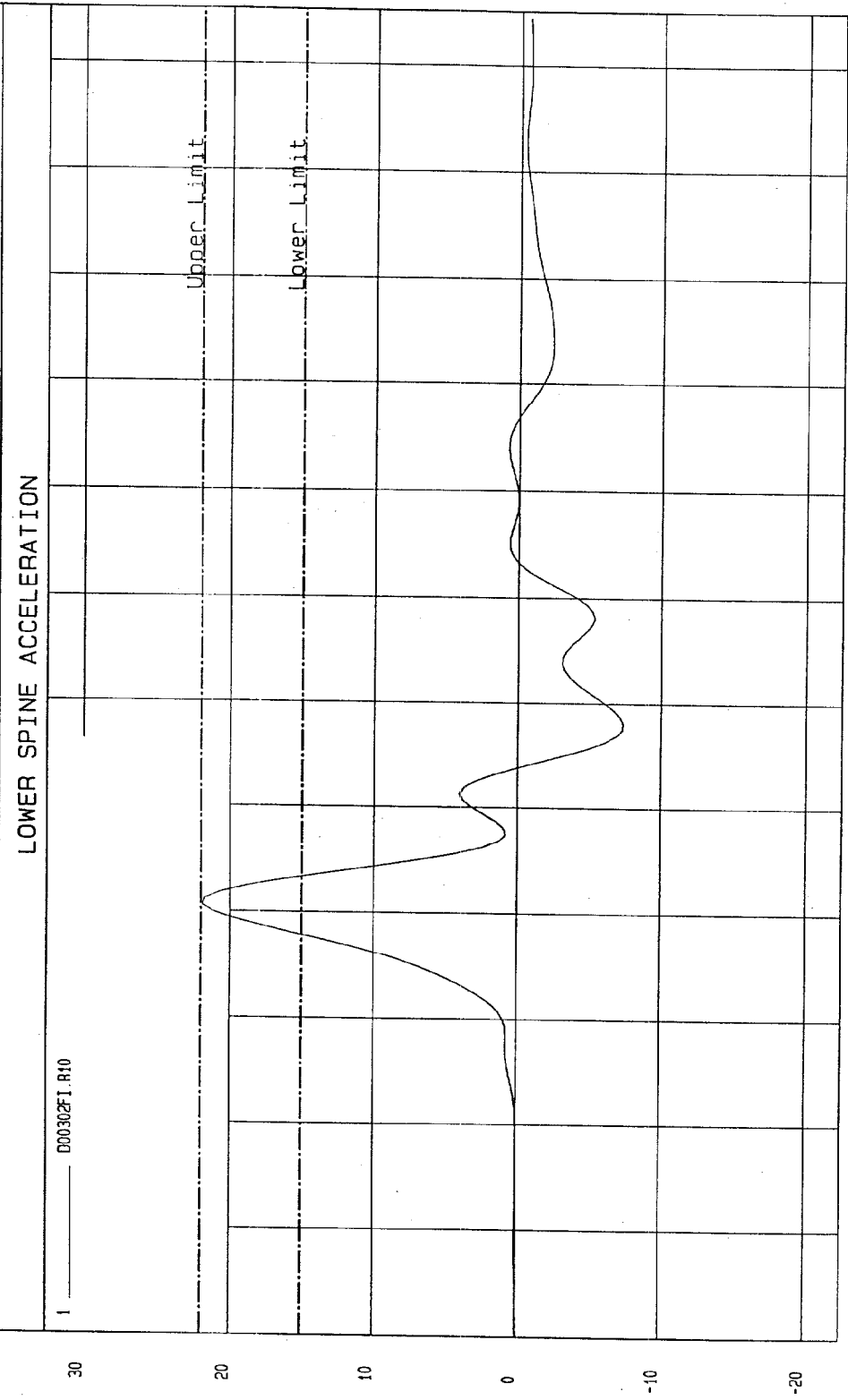
1 000302F1.R09



MCA Research  
02-16-2000 11:33

TEST: Dummy Calibration - Thorax Impact TEST DATE: 02-16-2000 - 11:26:51  
COMPONENT: Dummy # 270 Velocity: 14.075 FT/SEC 4.29 M/SEC

Minimum = -7.37 G'S at 58.1 msec Maximum = 21.88 G'S at 40.6 msec



MSA Research  
02-16-2000 11:33

## PELVIS IMPACT TEST

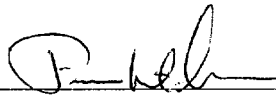
## SIDE IMPACT DUMMY (SID)

DATE: February 16, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00303

| TEST PARAMETER            | SPECIFICATION | TEST RESULTS |
|---------------------------|---------------|--------------|
| TEMPERATURE (°C)          | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%)     | 10 - 70       | 27%          |
| PROBE SPEED (m/s)         | 4.27 - 4.33   | 4.28         |
| PELVIS ACCELERATION (g's) | 40 - 60       | 43           |

TEST MEETS SPECIFICATIONS

TECHNICIAN

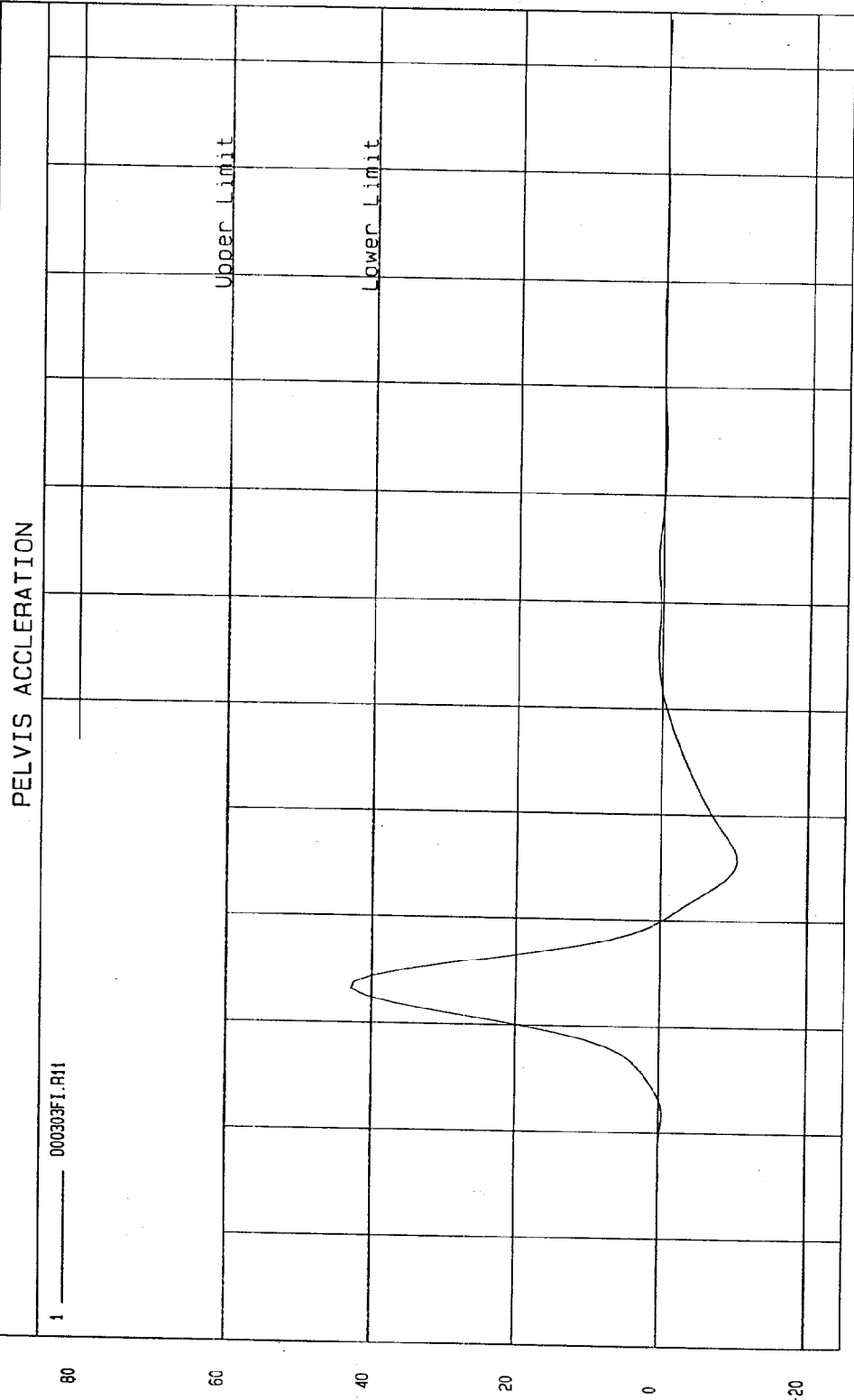


APPROVED BY



TEST: Dummy Calibration - Pelvis Impact TEST DATE: 02-16-2000 - 11:33:02  
COMPONENT: Dummy # 270 Velocity: 14.054 FT/SEC 4.28 M/SEC

Minimum = -10.47 G'S at 45.6 msec Maximum = 42.80 G'S at 33.1 msec



TIME (sec.)

MCA Research  
02-16-2000 11:33

G.S

ABDOMINAL COMPRESSION TEST  
(PRELOAD = 10 LBS)

## SIDE IMPACT DUMMY (SID)

DATE: February 17, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00304

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 26%          |
| FORCE @ 12.7 mm       | 104 - 162     | 142          |
| FORCE @ 19.0 mm       | 163 - 222     | 194          |
| FORCE @ 25.4 mm       | 222 - 280     | 250          |
| FORCE @ 33 mm         | 325 - 391     | 343          |

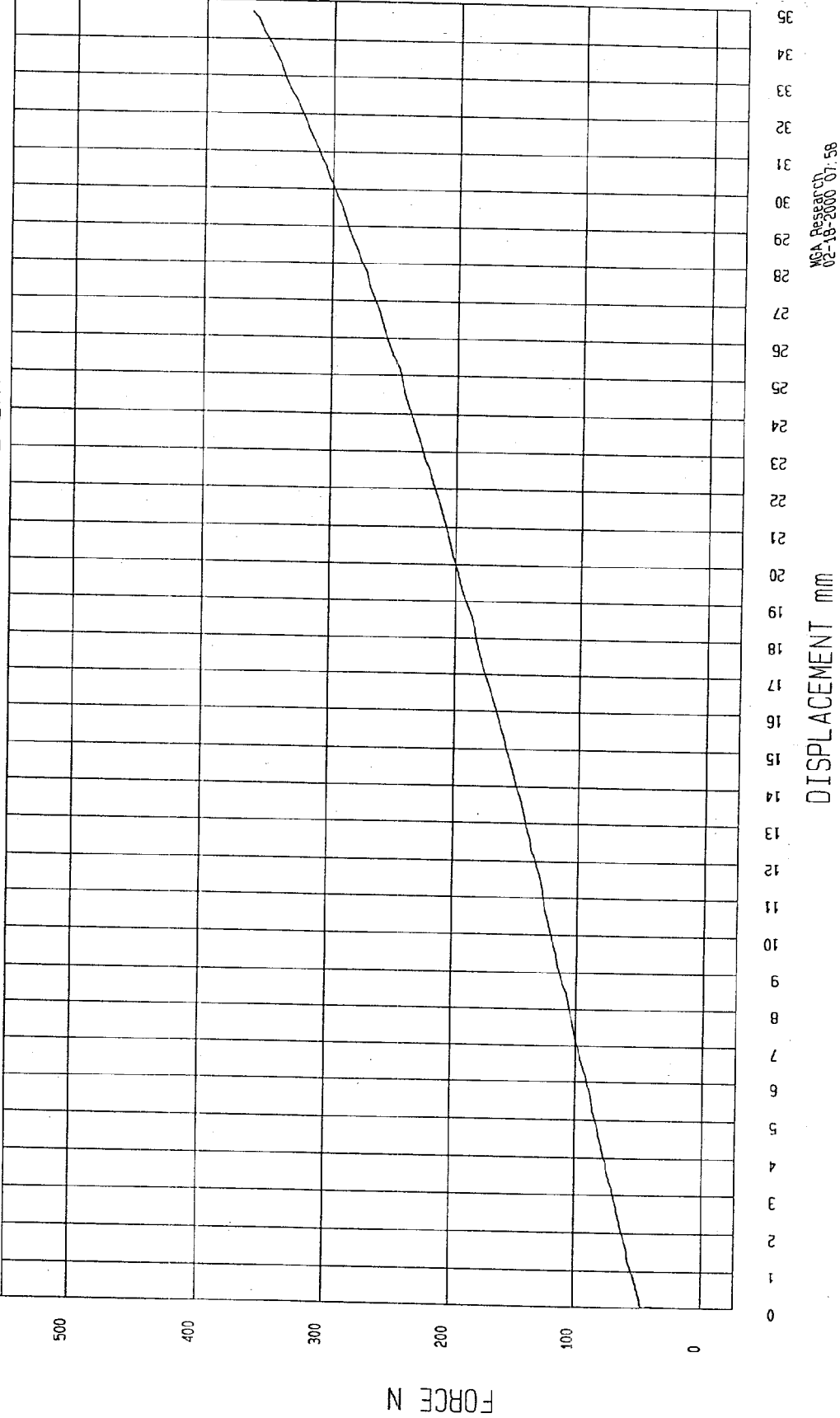
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSION TEST DATE: 02-17-2000 - 14:01:28

COMPONENT: DUMMY # 270

FORCE as a function of DISPLACEMENT



MSA Research  
02-18-2000 07:58

## LUMBAR FLEXION TEST

## SIDE IMPACT DUMMY (SID)

DATE: February 18, 2000DUMMY SERIAL NUMBER: 270TEST NUMBER: D00305

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| TEMPERATURE (°C)      | 18.9 - 25.5   | 21.0°        |
| RELATIVE HUMIDITY (%) | 10 - 70       | 25%          |
| FORCE @ 0°            | 0 - 26.7      | 0            |
| FORCE @ 20°           | 97.9 - 151.2  | 104.5        |
| FORCE @ 30°           | 151.2 - 204.6 | 153.1        |
| FORCE @ 40°           | 204.6 - 258.0 | 222.0        |
| RETURN ANGLE          | 12° maximum   | 2°           |

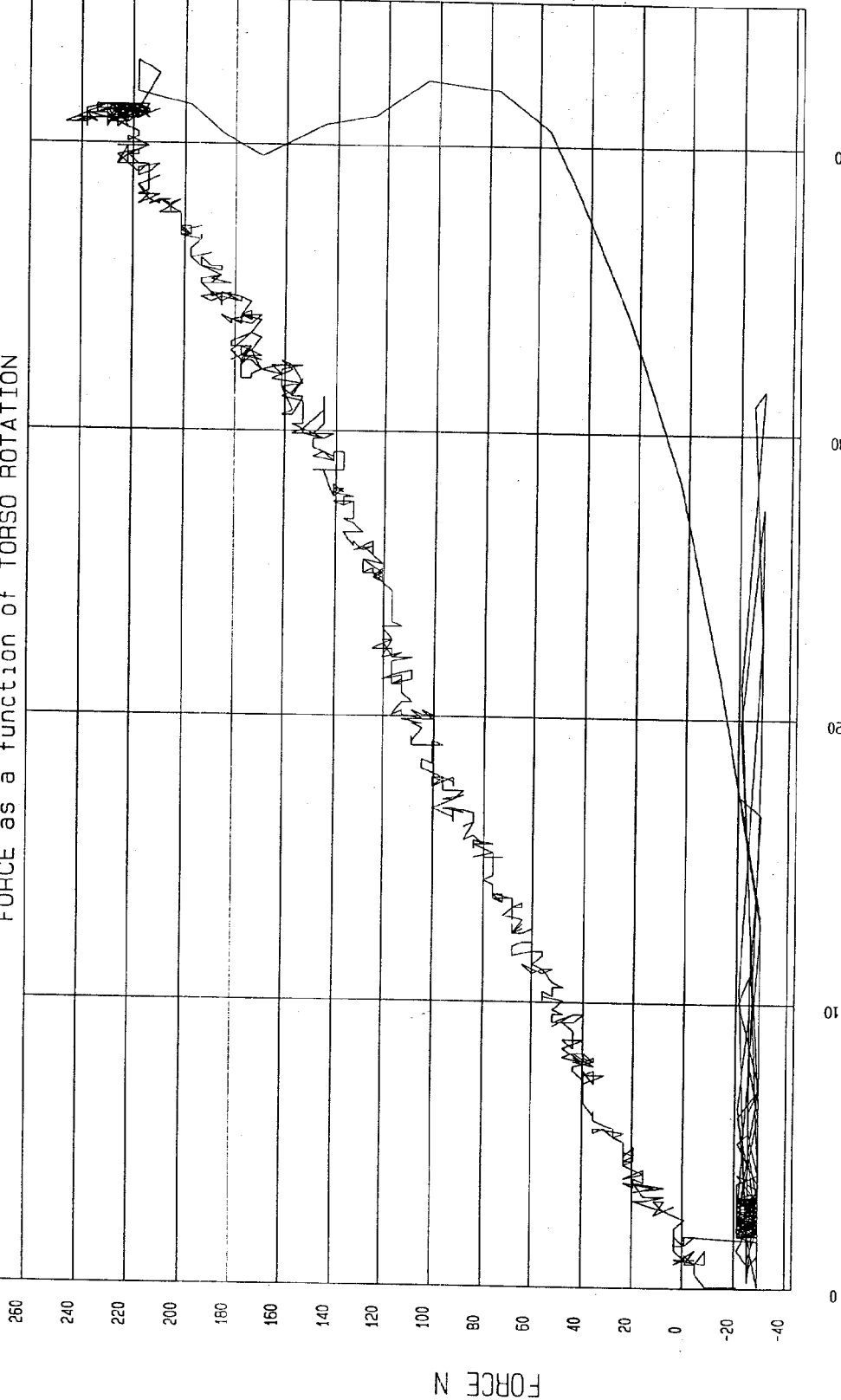
TEST MEETS SPECIFICATIONS

TECHNICIAN APPROVED BY 

TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 02-18-2000 - 07:51:22

COMPONENT: DUMMY # 270

FORCE as a function of TORSO ROTATION



MCA Research  
02-18-2000 07:59

POST-TEST DRIVER DUMMY INSPECTION CHECKLIST

C-65

Type: Side Impact Dummy

Serial Number: 269

Inspected By: Tim Michnay

Date: February 16, 2000

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

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

POST-TEST PASSENGER DUMMY INSPECTION CHECKLIST

C-66

Type: Side Impact Dummy

Serial Number: 270

Inspected By: Tim Michnay

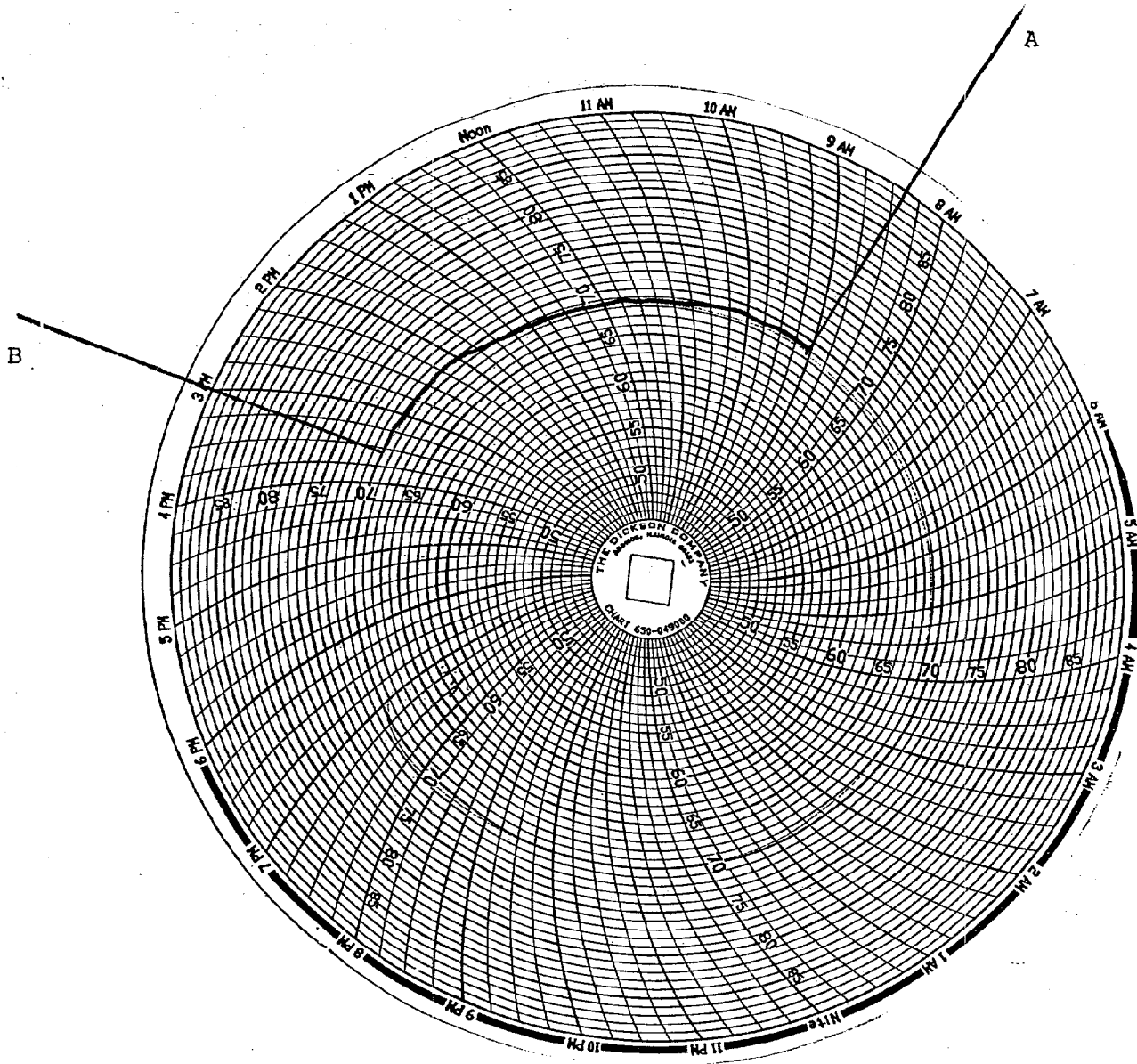
Date: February 16, 2000

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

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

VEHICLE AND DUMMY TEMPERATURE

C-67



A = dummies installed in vehicle  
B = test conducted

**APPENDIX D**  
**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

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

|                          | DRIVER     |              |                  |
|--------------------------|------------|--------------|------------------|
|                          | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Rib Y              | AP2D8      | Endevco      | November 8, 1999 |
| Lower Rib Y              | AJ411      | Endevco      | November 8, 1999 |
| Lower Spine Y            | AGTP7      | Endevco      | November 8, 1999 |
| Pelvis Y                 | J13851     | Endevco      | November 2, 1999 |
| Upper Rib Redundant Y    | AP2A4      | Endevco      | November 8, 1999 |
| Lower Rib Redundant Y    | AGTM8      | Endevco      | November 8, 1999 |
| Lower Spine Redundant Y  | AGT04      | Endevco      | November 8, 1999 |
| Pelvis Redundant Y       | J13658     | Endevco      | November 2, 1999 |
| Head Center of Gravity X | AJ9H0      | Endevco      | November 8, 1999 |
| Head Center of Gravity Y | ANAN3      | Endevco      | November 8, 1999 |
| Head Center of Gravity Z | ANAN6      | Endevco      | November 8, 1999 |

DUMMY AND VEHICLE CALIBRATION DATA  
INSTRUMENTS FOR PASSENGER DUMMY NO. 270

| LEFT REAR PASSENGER      |            |              |                  |
|--------------------------|------------|--------------|------------------|
|                          | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Rib Y              | J10195     | Endevco      | November 8, 1999 |
| Lower Rib Y              | AP170      | Endevco      | November 8, 1999 |
| Lower Spine Y            | ANAP1      | Endevco      | November 8, 1999 |
| Pelvis Y                 | AP1T8      | Endevco      | November 8, 1999 |
| Upper Rib Redundant Y    | J13942     | Endevco      | November 8, 1999 |
| Lower Rib Redundant Y    | AP2G9      | Endevco      | November 8, 1999 |
| Lower Spine Redundant Y  | ANAT6      | Endevco      | November 8, 1999 |
| Pelvis Redundant Y       | AP2D7      | Endevco      | November 8, 1999 |
| Head Center of Gravity X | AP120      | Endevco      | November 8, 1999 |
| Head Center of Gravity Y | ALEK9      | Endevco      | November 8, 1999 |
| Head Center of Gravity Z | AP042      | Endevco      | November 8, 1999 |

VEHICLE INSTRUMENT CALIBRATION

| VEHICLE ACCELEROMETERS          |              |                  |                    |
|---------------------------------|--------------|------------------|--------------------|
| SERIAL NO.                      | MANUFACTURER | CALIBRATION DATE |                    |
| Moving Barrier CG X             | J10-E05      | Entran           | August 17, 1999    |
| Moving Barrier CG Y             | J04-F10      | Entran           | August 17, 1999    |
| Moving Barrier CG Z             | I18-E18      | Entran           | August 17, 1999    |
| Moving Barrier Rear Axle X      | I25-J02      | Entran           | January 20, 2000   |
| Moving Barrier Rear Axle Y      | G13-B14      | Entran           | January 20, 2000   |
| Left Mid A-Post Y               | G08-B04      | Entran           | January 20, 2000   |
| Left Lower A-Post Y             | B12-G06      | Entran           | January 20, 2000   |
| Left Mid B-Post Y               | G13-B12      | Entran           | January 20, 2000   |
| Left Lower B-Post Y             | F18-G13      | Entran           | January 20, 2000   |
| Rear Floorpan Above Axle X      | G01-J04      | Entran           | December 8, 1999   |
| Rear Floorpan Above Axle Y      | B13-Z02      | Entran           | December 8, 1999   |
| Rear Floorpan Above Axle Z      | K16-X04      | Entran           | October 22, 1999   |
| Driver Seat Track Y             | I14-D13      | Entran           | August 17, 1999    |
| Right Side Sill at Front Seat X | K16-X06      | Entran           | January 21, 2000   |
| Right Side Sill at Front Seat Y | F20-G11      | Entran           | January 20, 2000   |
| Right Side Sill at Front Seat Z | G01-J05      | Entran           | January 21, 2000   |
| Right Side Sill at Rear Seat X  | I25-J10      | Entran           | September 24, 1999 |
| Right Side Sill at Rear Seat Y  | E25-G07      | Entran           | September 24, 1999 |
| Right Side Sill at Rear Seat Z  | F07-A20      | Entran           | November 22, 1999  |

VEHICLE INSTRUMENT CALIBRATION

| VEHICLE ACCELEROMETERS            |           |              |                   |
|-----------------------------------|-----------|--------------|-------------------|
|                                   | SERIAL NO | MANUFACTURER | CALIBRATION DATE  |
| Left Side Sill at Front Seat Y    | G01-J09   | Entran       | December 8, 1999  |
| Left Side Sill at Rear Seat Y     | H02-J15   | Entran       | January 21, 2000  |
| Right Rear Occupant Compartment Y | I14-D18   | Entran       | January 21, 2000  |
| Vehicle CG X                      | H02-J05   | Entran       | August 17, 1999   |
| Vehicle CG Y                      | K11-J18   | Entran       | January 20, 2000  |
| Vehicle CG Z                      | F12-G01   | Entran       | January 20, 2000  |
| Left Front Door on Centerline     | D05-R25   | Entran       | January 20, 2000  |
| Midrear of Left Front Door        | A09-G05   | Entran       | January 12, 2000  |
| Left Front Door Upper Centerline  | F18-G07   | Entran       | November 5, 1999  |
| Midrear of Left Rear Door         | G01-J19   | Entran       | January 20, 2000  |
| Left Rear Door Upper Centerline   | F20-G10   | Entran       | November 15, 1999 |

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