

REPORT NUMBER KAR22001-04

**NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST**

**FORD MOTOR COMPANY
2002 FORD EXPLORER SPORT
2-DOOR 4WD SUV**

NHTSA NUMBER: M20208

**PREPARED BY:
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APRIL 29, 2002

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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WASHINGTON, D.C. 20590**

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Technical Report Documentation Page

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| 16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2002 Ford Explorer Sport 2-Dr 4WD SUV at KARCO Engineering, LLC on 4/16/02. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.6 km/h. The ambient temperature at the barrier face at the time of impact is 18.8 degrees Celcius. The vehicle's maximum post test static crush is 382 mm at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows: | | | | | |
| Measurement Description | | Units | Threshold | Driver ATD | Passenger ATD |
| Head Injury Criteria (HIC) | | N/A | 1000 | 583.6 | 533.0 |
| Max. Thorax Accel. (3 msec Clip) | | G's | 60 | 42.0 | 44.9 |
| Left Femur force | | Newtons | 10000 | -4986.8 | -3589.1 |
| Right Femur Force | | Newtons | 10000 | -4530.7 | -3748.1 |
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SECTION 1
PURPOSE AND SUMMARY OF TEST M20208

1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-01-D-02005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 30 mph (48.3 km/h) requirements.

The 35 mph (56.3 km/h) frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Test procedure.

1.2 SUMMARY

A load cell barrier consisting of 24 load cells was impacted by a 2002 Ford Explorer Sport 2 Door 4WD SUV at a velocity of 55.62 km/h. The test was performed at Karco Engineering, LLC on April 16, 2002. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time and 16 high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

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

Both ATDs were fully instrumented with nine accelerometer array head, chest and pelvis triaxial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 35) and the right-front passenger (position 2) ATD (Serial No. 34) were calibrated one test prior to this test.

One Hundred and Fifteen (115) channels of data were recorded using an on-board data acquisition system. Appendix B contains the vehicle and dummy response data traces. Appendix C contains Load Cell Barrier information. Appendix D contains the Instrumentation Data Channel assignments. Appendix E contains the Dummy Calibration data and Appendix F contains the owner's manual instructions for the occupant and restraint systems. Appendix G contains the Nine Accelerometer Head Array data.

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the impact event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 382 mm and both the driver and the passenger side doors remained closed and latched during the impact event and were operable without the aid of tools after the impact.

The driver’s visible contact points were as follows: The driver ATD head contacted the airbag, its chest contacted the airbag, no visible contact on the abdomen, and both knees contacted the knee bolster.

The passenger’s visible contact points were as follows: The passenger ATD head contacted the airbag. The chest and abdomen contacted the airbag. Both knees contacted the glove box/dash.

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

| ATD Position | HIC | Clip (g) | Chest Disp (mm) | Left Femur (N) | Right Femur (N) | Belt Spool (mm) |
|--------------|-------|----------|-----------------|----------------|-----------------|-----------------|
| Driver | 583.6 | 42.0 | -28.9 | -4986.8 | -4530.7 | 179.9 |
| Passenger | 533.0 | 44.9 | -31.4 | -3589.1 | -3748.1 | 183.2 |

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

CONVERSION FACTORS USED IN THIS REPORT*

| Quantity | Typical Application | Std Units | Metric Unit | Multiply By |
|--------------------|---------------------|---------------------|-------------|---------------|
| Mass | Vehicle Weight | lb | kg | 0.4536 |
| Linear Velocity | Impact Velocity | mile/h | km/h | 1.609 |
| Length or Distance | Measurements | in | mm | 25.4 |
| Volume | Fuel Systems | gal | liter | 3.785 |
| Volume | Small Fluids | oz | mL | 29.573 |
| Pressure | Tire Pressures | lbf/in ² | kPa | 7.0 |
| Volume | Liquid | gal | liter | 3.785 |
| Temperature | General Use | °F | °C | =(tf -32)/1.8 |
| Force | Dynamic Forces | lbf | N | 4.448 |
| Moment | Torque | lbf/ft | Nm | 1.355 |

* Based on the Recommended Practice in SAE J916, May 85

**DATA SHEET NO. 1
CRASH TEST SUMMARY**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

PRIMARY IMPACT DATA

| Measured Parameter | Units | Value |
|----------------------|---------|-------|
| Velocity at Impact | km/h | 55.62 |
| Test Weight | kg | 2074 |
| Impact Angle | degrees | 0 |
| Average Rebound | mm | 672 |
| Maximum Static Crush | mm | 380 |

DOOR OPENING AND SEAT TRACK INFORMATION

| Description | Driver | Passenger |
|-----------------------|--|--|
| Front Door Opening | Remained closed & latched, opened w/o the aid of tools | Remained closed & latched, opened w/o the aid of tools |
| Rear Door Opening | Remained closed & latched, opened w/o the aid of tools | Remained closed & latched, opened w/o the aid of tools |
| Seat Track Shift (mm) | None | None |
| Seat Back Failure | None | None |

TEST DUMMY INFORMATION

| Description | Driver | Passenger |
|-------------------------|------------------------------|------------------------------|
| Dummy Type / Serial No. | 50% Male Hybrid III / No. 35 | 50% Male Hybrid III / No. 34 |
| Head Contact | Airbag | Airbag |
| Chest Contact | Airbag | Airbag |
| Abdomen Contact | None | Airbag |
| Left Knee Contact | Knee Bolster | Glove Box/Dash |
| Right Knee Contact | Knee Bolster | Glove Box/Dash |

16mm MOVIE COVERAGE

| | |
|------------|----|
| High Speed | 16 |
| Real Time | 1 |
| Total | 17 |

DATA CHANNELS

| | |
|----------------------------------|-----|
| Driver ATD Sensors | 49 |
| Passenger ATD Sensors | 49 |
| Belt Assessment Sensors | 8 |
| Vehicle Structure Accelerometers | 9 |
| Rigid Barrier Load Cells | 24 |
| Total | 139 |

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

TEST VEHICLE INFORMATION

| | |
|-------------------------|-------------------|
| Make | Ford |
| Model | Explorer |
| Body Style | 2-Door |
| NHTSA No. | M20208 |
| VIN | 1FMYU70E12UB64019 |
| Color | Harvest Gold |
| Delivery Date | 4/8/02 |
| Odometer Reading (mi.) | 202 |
| Dealer | Soutar's |
| Transmission | 5-Speed Manual |
| Final Drive | 4WD Rear |
| Type/No. Cylinders | V-6 |
| Engine Displacement (L) | 4.0 |
| Engine Placement | Longitudinal |
| Front Seat Side Airbag | No |

TEST VEHICLE OPTIONS

| | |
|---------------------|-----|
| Driver Front Airbag | Yes |
| Pass. Front Airbag | Yes |
| Power Windows | Yes |
| Pre-Tensioners | Yes |
| Power Door Locks | Yes |
| Tilt Wheel | No |
| Air Conditioning | Yes |
| Power Brakes | Yes |
| Disc Brakes, Front | Yes |
| Disc Brakes, Rear | Yes |
| Anti-lock Brakes | Yes |
| Head Airbag | No |
| Load Limiter | Yes |
| Cruise Control | Yes |
| Bucket Seats | Yes |

DATA FROM CERTIFICATION LABEL

| | | | |
|---------------------|--------------------|-----------------|------|
| Manufactured By | Ford Motor Company | GWR (kg) | 2232 |
| Date of Manufacture | November-01 | GAWR Front (kg) | 1188 |
| | | GAWR Rear (kg) | 1202 |

DATA FROM TIRE PLACARD

| Measured Parameter | Front | Rear |
|--------------------------|------------|------------|
| Max. Tire Pressure (kPa) | 210 | 245 |
| Cold Pressure (kPa) | 210 | 245 |
| Recommend Tire Size | P235/70R16 | P235/70R16 |
| Tire Size on Vehicle | P235/70R16 | P235/70R16 |
| Tire Manufacturer | Michelin | Michelin |

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

| Measured Parameter | Front | Rear | Third | Total |
|--------------------------|--------|-------|-------|-------|
| Type of Seats | Bucket | Bench | None | |
| Number of Occupants | 2 | 2 | | 4 |
| Capacity Wt. (VCW) (kg) | | | | 437 |
| Cargo Weight (RCLW) (kg) | | | | 136 |

DATA SHEET NO. 2...(CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

TEST VEHICLE WEIGHTS

| | Units | As Delivered (UVW) | | | As Tested (ATW) | | |
|--------|-------|--------------------|-----------|-------|-----------------|-----------|-------|
| | | Front Axle | Rear Axle | Total | Front Axle | Rear Axle | Total |
| Left | kg | 509 | 417 | | 531 | 495 | |
| Right | kg | 463 | 406 | | 511 | 537 | |
| Ratio | % | 54.1 | 45.9 | | 50.2 | 49.8 | |
| Totals | kg | 972 | 823 | 1794 | 1041 | 1032 | 2074 |

TARGET TEST WEIGHT CALCULATION

| Measured Parameter | Units | Value |
|---|-------|-------|
| Total Delivered Weight (UVW) | kg | 1794 |
| Weight of 2 P572 ATD's | kg | 152 |
| Rated Cargo/Luggage Weight (RCLW) | kg | 136 |
| Calculated Vehicle Target Weight (TVTW) | kg | 2083 |

TEST VEHICLE ATTITUDE AND CG

| | Units | LF | RF | LR | RR | CG (aft of front axle) |
|--------------|-------|-----|-----|-----|-----|------------------------|
| As Delivered | mm | 863 | 875 | 850 | 857 | 1192 |
| As Tested | mm | 858 | 865 | 811 | 822 | 1294 |

Vehicle Wheel base (mm): 2598

Weight of Ballast secured in cargo area (kg): 22

Vehicle Components Removed: _____

* Ballast weight does not include cameras, instrumentation, and brake abort system.

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 66.2

Usable Capacity Figure Furnished by COTR (L): 66.2

Actual Test Volume with entire fuel System Filled (L): 61.6

Test Fluid Type: Stoddard Solvent ; Specific Gravity: 0.764

Kinematic Viscosity: as per ASTM Standard D484-71 ; Color: Red

Is Vehicle Fuel Pump Electric or Mechanical?: Electric

If electric, does pump operate with ignition switch "ON" & engine "OFF"? Yes

Fuel System Particulars: Driver side filler door, tank mounted at rear.

**DATA SHEET NO. 3
POST IMPACT DATA**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

NHTSA No.: M20208

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 04/16/02

SPEED TRAP DATA

| Measured Parameter | Units | Requirement | Value |
|---------------------------------|-------|----------------|-------|
| Trap No. 1 Velocity (Primary) | km/h | 55.51 to 57.12 | 55.62 |
| Trap No. 1 Entry Distance | mm | < 1524 | 1524 |
| Trap No. 1 Exit Distance | mm | < 1524 | 305 |
| Trap No. 2 Velocity (Redundant) | km/h | 55.51 to 57.12 | 55.65 |
| Trap No. 2 Entry Distance | mm | < 1524 | 1524 |
| Trap No. 2 Exit Distance | mm | < 1524 | 305 |

VEHICLE STATIC CRUSH

| Measured Parameter | Units | Pre-Test | Post-Test | Difference |
|--------------------|-------|----------|-----------|------------|
| Left Side | mm | 4500 | 4142 | -358 |
| Center | mm | 4572 | 4190 | -382 |
| Right Side | mm | 4500 | 4146 | -354 |

VEHICLE REBOUND FROM BARRIER

| Measured Parameter | Units | Value |
|--------------------|-------|-------|
| Left Side | mm | 650 |
| Center | mm | 635 |
| Right Side | mm | 730 |
| Average | mm | 672 |

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

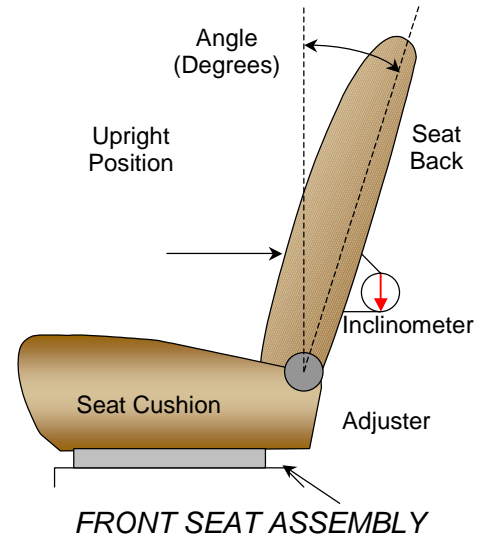
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
Test Date: 04/16/02

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturers designated angle. The procedure is as follows: A special application tool with pointed probes is inserted through the fabric to make contact with the rigid portion of the lower seat frame assembly, approximately 13 inches above the pivot point of the seat back. An inclinometer is placed against the flat surface of the tool and the seat back angle is measured directly from the dial face.

Driver seat back angle: 21.5° with a seated dummy
Passenger seat back angle: 21.5° with a seated dummy



SEAT FORE/AFT POSITIONS

Both driver and passenger seats have 15 positions or detents. The first or forward most position is counted as number one (1). The fore/aft position is set aft of the middle position for both driver and passenger.

Driver seat fore/aft total travel: 15 seating positions or detents
Driver seat fore/aft position: 8th detent from forward most
Passenger seat fore/aft total travel: 15 seating positions or detents
Passenger seat fore/aft position: 8th detent from forward most

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable anchorages for both driver and passenger seat positions. There are 5 positions or detents. Both the driver and the passenger anchorages are placed in the 3rd position from the uppermost.

DATA SHEET NO. 4...(CONTINUED)
TEST VEHICLE INFORMATION

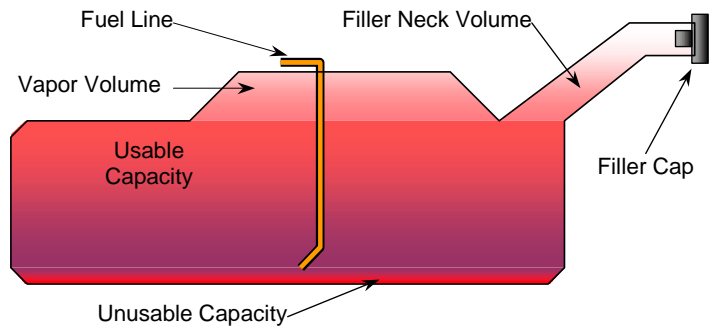
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

FUEL TANK CAPACITY DATA

The "Usable Capacity" of the standard equipment fuel tank is: 66.2 liters
 The "Usable Capacity" of any optional equipment fuel tank is: N/A liters
 "Usable Capacity" used for certification tests FMVSS 301 requirements: 60.9 to 62.3 liters
 Actual amount of Stoddard solvent added to vehicle for certification test: 61.6 liters

The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat. Fuel lines run inside the right frame rail to the engine compartment.

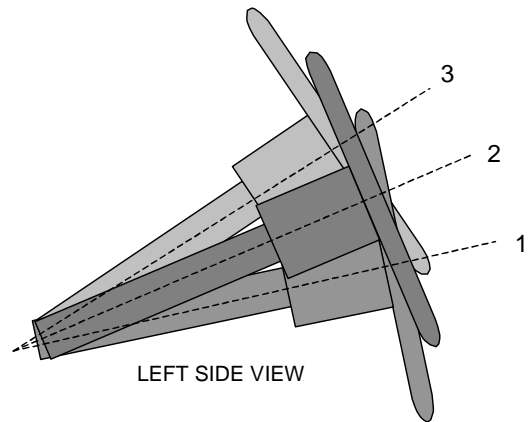


VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.

NOTE: STEERING COLUMN IS FIXED ON THIS VEHICLE



LEFT SIDE VIEW
 STEERING COLUMN ASSEMBLY

Lowermost; position 1: N/A
 Geometric center; position 2: 69°
 Uppermost position 3: N/A

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
Test Date: 04/16/02

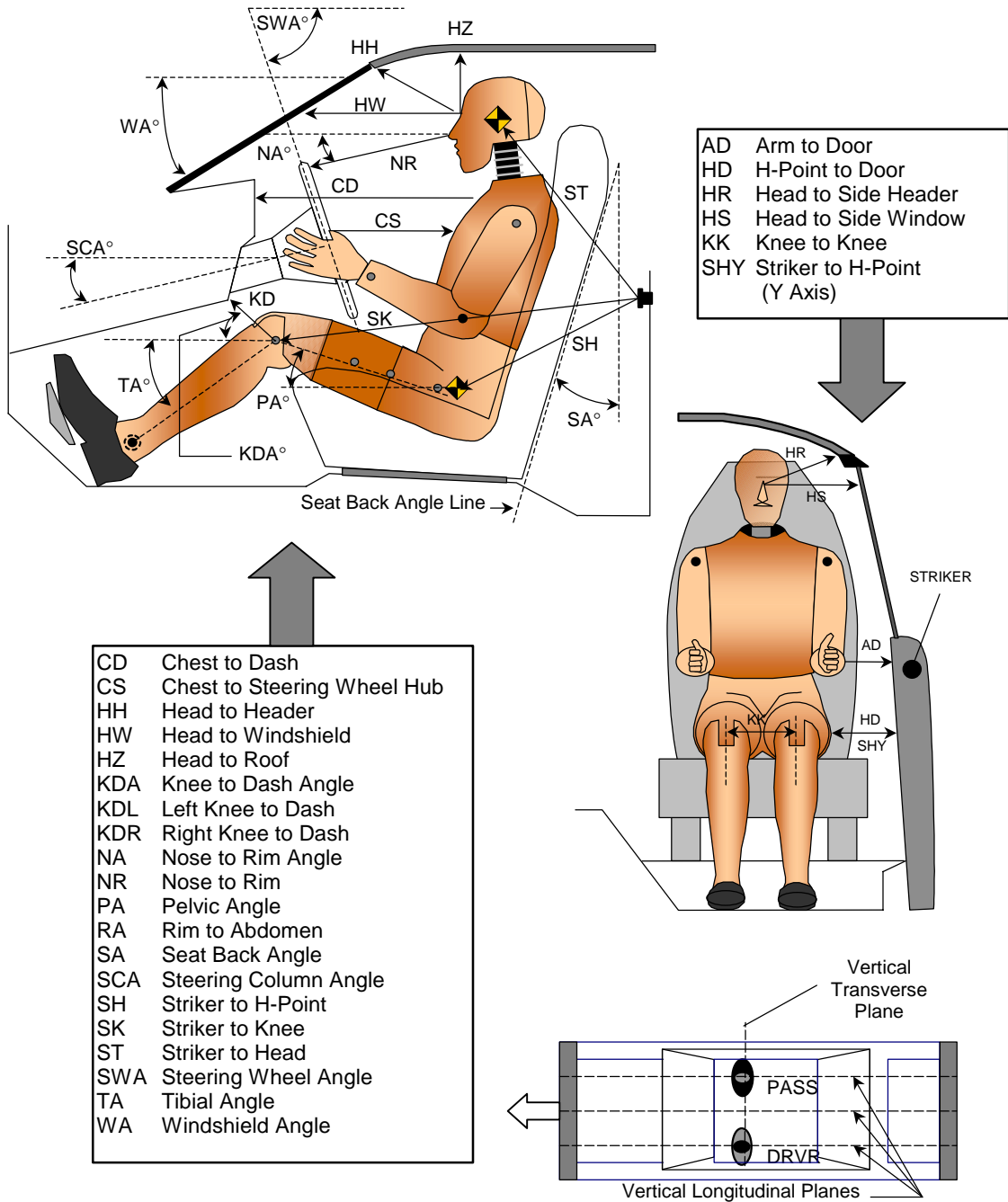
TEST DUMMY POSITION MEASUREMENTS

| Code | Measurement Description | Driver | | Passenger | |
|------|-------------------------|-------------|-----------|-------------|-----------|
| | | Length (mm) | Angle (°) | Length (mm) | Angle (°) |
| WA | Windshield Angle | | 38 | | |
| SWA | Steering Wheel Angle | | 21 | | |
| SCA | Steering Column Angle | | 69 | | |
| SA | Seat Back Angle | | 22 | | 22 |
| HZ | Head to Roof (Z) | 210 | 90 | 207 | 23 |
| HH | Head to Header | 378 | | 375 | |
| HW | Head to Windshield | 572 | | 578 | |
| HR | Head to Side Header (Y) | 290 | | 266 | |
| NR | Nose to Rim | 334 | 16 | | |
| CD | Chest to Dash | 502 | | 590 | |
| CS | Chest to Steering Hub | 287 | | | |
| RA | Rim to Abdomen | 148 | | | |
| KDL | Left Knee to Dash | 115 | 12 | 116 | |
| KDR | Right Knee to Dash | 135 | | 131 | 36 |
| PA | Pelvic Angle | | 24 | | 23 |
| TA | Tibia Angle | | 48 | | 48 |
| KK | Knee to Knee (Y) | 293 | | 266 | |
| ST | Striker to Head | 788 | 1 | 781 | 3 |
| SK | Striker to Knee | 639 | 59 | 620 | 64 |
| SH | Striker to H-Point | 406 | | 381 | |
| SHY | Striker to H-Point (Y) | 235 | | 242 | |
| HS | Head to Side Window | 350 | | 313 | |
| HD | H-Point to Door (Y) | 138 | | 131 | |
| AD | Arm to Door (Y) | 100 | | 12 | |

DATA SHEET NO. 5...(CONTINUED)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



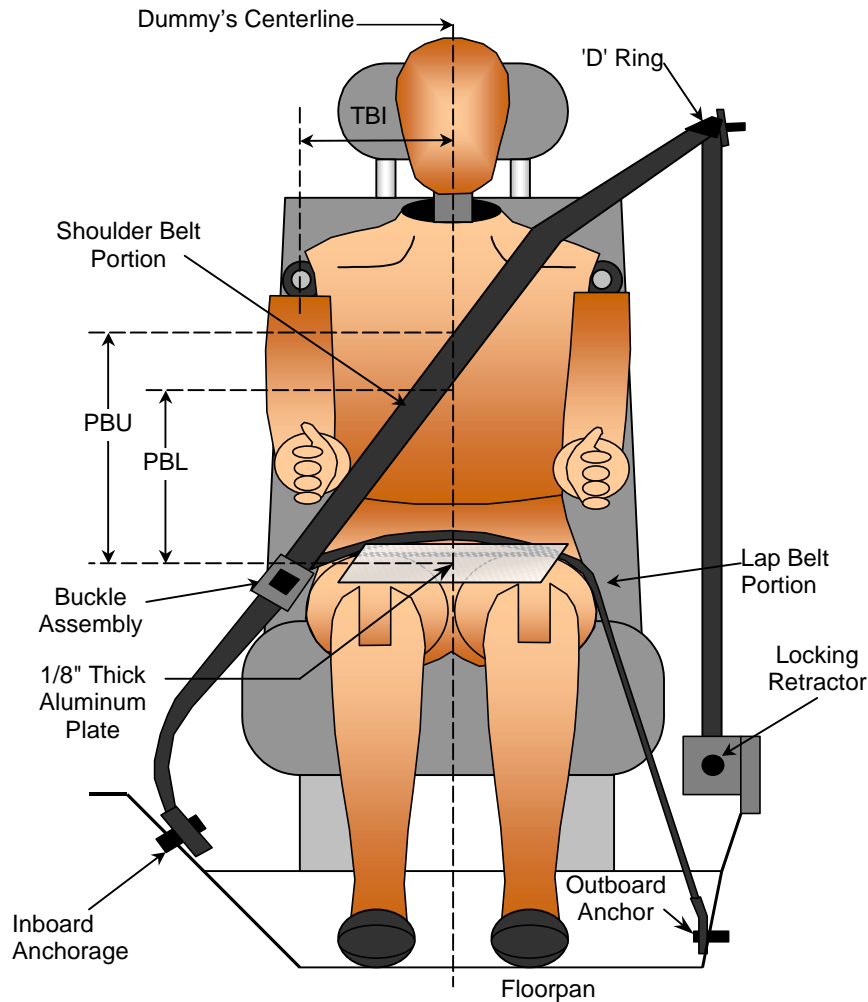
- CD Chest to Dash
- CS Chest to Steering Wheel Hub
- HH Head to Header
- HW Head to Windshield
- HZ Head to Roof
- KDA Knee to Dash Angle
- KDL Left Knee to Dash
- KDR Right Knee to Dash
- NA Nose to Rim Angle
- NR Nose to Rim
- PA Pelvic Angle
- RA Rim to Abdomen
- SA Seat Back Angle
- SCA Steering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

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

**DATA SHEET NO. 6
SEATBELT POSITIONING DATA**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



SEAT BELT POSITIONING MEASUREMENTS

| Measurement Description | Units | Driver | Passenger |
|---|----------|-----------|-----------|
| TBI - Dummy C/L to Lap/Shoulder Belt Intersect | mm | 230 | 191 |
| PBU - Top surface of reference to belt upper edge | mm | 280 | 304 |
| PBL - Top surface of reference to belt lower edge | mm | 200 | 213 |
| Lap Belt tension | Newton's | 10 | 10 |
| Shoulder Belt tension | N/A | Retractor | Retractor |

DATA SHEET NO. 7 - VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

NHTSA No.: M20208

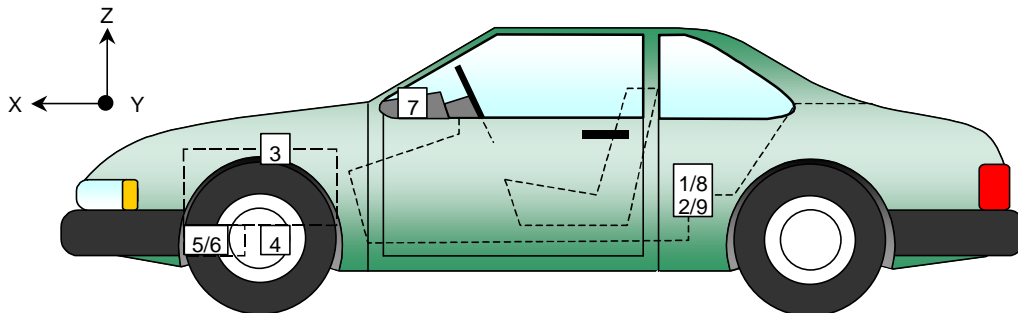
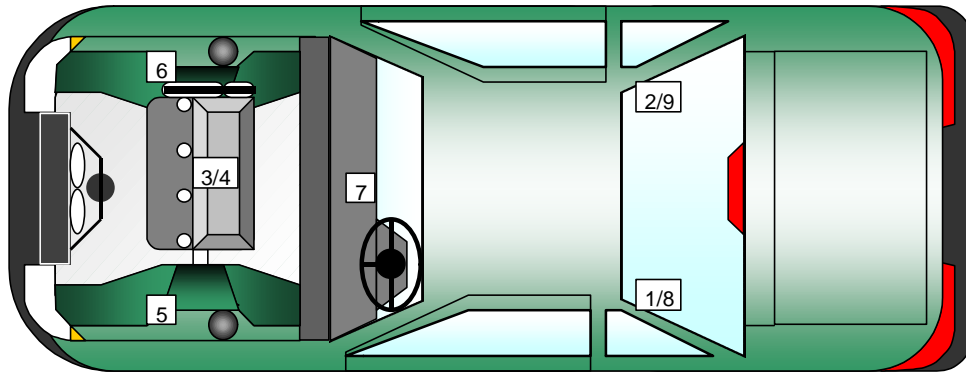
Test Program: 2002 NHTSA 35mph NCAP

Test Date: 4/16/02

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

| No. | Accelerometer Location | Measurements (mm) | | | Peak Values | | | | |
|-----|------------------------------|-------------------|------|------|-------------|------|-------|-------|------|
| | | X | Y | Z | Units | Max | Time | Min | Time |
| 1 | Left Rear X-Member | 1875 | -550 | 535 | G's | 2.2 | 182.8 | -34.1 | 17.8 |
| 2 | Right Rear X-Member | 1850 | 440 | 535 | G's | 2.4 | 176.5 | -31.9 | 55.4 |
| 3 | Engine Top | 3650 | 220 | 1015 | G's | 27.0 | 54.6 | -92.9 | 40.2 |
| 4 | Engine Bottom | 3630 | -50 | 380 | G's | 44.7 | 53.5 | -79.7 | 37.7 |
| 5 | Left Brake Caliper | 3495 | -710 | 300 | G's | 24.7 | 22.5 | -73.5 | 12.5 |
| 6 | Right Brake Caliper | 3495 | 710 | 300 | G's | 10.7 | 77.8 | -57.6 | 45.6 |
| 7 | Instrument Panel | 2900 | 0 | 1330 | G's | 17.4 | 112.2 | -90.1 | 25.4 |
| 8 | Left Rear X-Member (Z-Axis) | 1930 | -550 | 535 | G's | 13.0 | 36.2 | -12.7 | 17.8 |
| 9 | Right Rear X-Member (Z-Axis) | 1850 | 530 | 535 | G's | 12.8 | 22.9 | -13.7 | 56.3 |

Reference Planes: X=From Rear Surface of Vehicle, Y=Vehicle Centerline, Z=Ground Plane



DATA SHEET NO. 8 - HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

NHTSA No.: M20208

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 4/16/02

HEAD PRIMARY PEAK ACCELERATIONS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|-------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Head CG | X | G's | 17.8 | 221.5 | -59.1 | 75.1 | 20.1 | 213.6 | -51.8 | 80.5 |
| Head CG | Y | G's | 7.2 | 162.8 | -13.7 | 220.7 | 7.5 | 69.6 | -5.1 | 45.6 |
| Head CG | Z | G's | 33.6 | 66.4 | -11.3 | 121.3 | 34.0 | 79.3 | -3.9 | 136.2 |
| Head CG Resultant | N/A | G's | 64.9 | 75.1 | | | 61.1 | 80.5 | | |

CHEST PRIMARY PEAK ACCELERATIONS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|--------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Chest CG | X | G's | 4.5 | 161.9 | -39.5 | 77.2 | 3.8 | 184.9 | -44.9 | 73.4 |
| Chest CG | Y | G's | 3.8 | 69.1 | -1.9 | 40.2 | 5.4 | 91.7 | -3.3 | 76.6 |
| Chest CG | Z | G's | 16.4 | 75.5 | -13.1 | 122.4 | 13.6 | 80.6 | -9.3 | 121.4 |
| Chest CG Resultant | N/A | G's | 42.5 | 76.9 | | | 45.6 | 73.6 | | |

FEMUR PEAK FORCES

| Location | Axis | Units | Driver | | | | Passenger | | | |
|-------------|------|---------|--------|------|---------|------|-----------|-------|---------|------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Left Femur | Z | Newtons | 153.5 | 20.8 | -4986.8 | 42.7 | 115.6 | 257.2 | -3589.1 | 46.5 |
| Right Femur | Z | Newtons | 249.7 | 31.3 | -4530.7 | 38.2 | 225.8 | 103.4 | -3748.1 | 53.9 |

SEAT BELT SENSOR PEAK VALUES

| Location | Axis | Units | Driver | | | | Passenger | | | |
|-----------------------|------|---------|--------|------|-------|-------|-----------|------|-------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Shoulder Belt Pullout | N/A | MM | 179.9 | 96.3 | -8.3 | 282.9 | 183.2 | 96.7 | -0.3 | 2.0 |
| Shoulder Belt Stretch | N/A | MM/CM | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0* |
| Lap Belt Force | N/A | Newtons | 3709.4 | 72.0 | -47.0 | 138.5 | 5772.9 | 73.6 | -22.8 | 151.9 |
| Shoulder Belt Force | N/A | Newtons | 4279.6 | 76.0 | -75.0 | 145.1 | 4589.3 | 68.1 | -29.1 | 182.0 |

* Not used with pre-tensioner

PRIMARY HEAD INJURY CRITERIA (HIC)

| Location | Driver | | | | Passenger | | | |
|-----------------|--------|----------------|----------------|-------|-----------|----------------|----------------|-------|
| | HIC | T ¹ | T ² | Avg G | HIC | T ¹ | T ² | Avg G |
| Head CG Primary | 583.6 | 56.7 | 92.6 | 48.3 | 533.0 | 62.5 | 98.4 | 46.6 |

PRIMARY CHEST CLIP (3MSEC)

| Location | Driver | | | Passenger | | |
|------------------|--------|----------------|----------------|-----------|----------------|----------------|
| | CLIP | T ¹ | T ² | CLIP | T ¹ | T ² |
| Chest CG Primary | 42.0 | 75.9 | 78.9 | 44.9 | 72.2 | 75.2 |

DATA SHEET NO. 8...(continued)

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

NHTSA No.: M20208

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 4/16/02

PELVIC PEAK ACCELERATIONS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Pelvis | X | G's | 7.8 | 120.5 | -48.3 | 38.0 | 7.3 | 124.9 | -46.6 | 53.2 |
| Pelvis | Y | G's | 7.3 | 108.5 | -3.9 | 80.3 | 6.1 | 37.4 | -6.4 | 94.6 |
| Pelvis | Z | G's | 2.9 | 243.8 | -15.8 | 119.5 | 2.8 | 267.1 | -17.8 | 67.6 |
| Pelvis Resultant | N/A | G's | 48.6 | 38.0 | | | 47.6 | 53.2 | | |

UPPER NECK PEAK FORCES AND MOMENTS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|-----------------------|------|---------|--------|-------|--------|-------|-----------|-------|--------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Neck Force | X | Newtons | 414.0 | 80.2 | -424.4 | 139.8 | 214.7 | 36.8 | -669.6 | 140.3 |
| Neck Force | Y | Newtons | 243.7 | 253.4 | -95.4 | 76.0 | 219.8 | 66.9 | -177.9 | 37.9 |
| Neck Force | Z | Newtons | 1755.7 | 74.8 | -570.6 | 120.2 | 1691.9 | 65.4 | -519.1 | 258.2 |
| Neck Force Resultant | N/A | Newtons | 1784.8 | 74.8 | | | 1739.2 | 65.4 | | |
| Neck Moment | X | N•m | 12.0 | 164.3 | -6.9 | 96.4 | 10.9 | 77.8 | -10.2 | 53.7 |
| Neck Moment | Y | N•m | 41.6 | 156.9 | -19.5 | 249.7 | 42.6 | 154.4 | -35.3 | 255.0 |
| Neck Moment | Z | N•m | 10.0 | 99.3 | -3.7 | 299.4 | 15.4 | 88.0 | -6.0 | 132.0 |
| Neck Moment Resultant | N/A | N•m | 42.9 | 156.9 | | | 42.9 | 154.4 | | |

FOOT PEAK ACCELERATIONS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|-----------------|------|-------|--------|-------|-------|------|-----------|------|-------|------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Left Foot Aft | X | G's | 9.7 | 94.5 | -27.0 | 36.4 | 16.8 | 98.2 | -66.1 | 33.2 |
| Left Foot Aft | Z | G's | 2.8 | 206.8 | -34.8 | 39.3 | 26.4 | 43.6 | -46.4 | 50.0 |
| Left Foot Fore | Z | G's | 19.9 | 35.2 | -60.7 | 27.9 | 33.8 | 44.2 | -59.7 | 52.5 |
| Right Foot Aft | X | G's | 15.8 | 97.5 | -86.0 | 49.1 | 21.8 | 93.4 | -64.0 | 35.1 |
| Right Foot Aft | Z | G's | 7.2 | 55.1 | -75.1 | 49.2 | 6.0 | 47.2 | -39.4 | 37.5 |
| Right Foot Fore | Z | G's | 35.5 | 57.3 | -94.9 | 38.6 | 19.2 | 47.7 | -38.1 | 37.5 |

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|--------------------|------|---------|--------|-------|---------|------|-----------|-------|---------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Left Upper Moment | X | N•m | 17.2 | 153.7 | -33.3 | 87.4 | 22.0 | 37.8 | -21.1 | 105.3 |
| Left Upper Moment | Y | N•m | 20.6 | 125.9 | -144.1 | 39.1 | 22.6 | 131.5 | -70.1 | 34.1 |
| Right Upper Moment | X | N•m | 30.5 | 45.4 | -28.1 | 79.9 | 27.4 | 93.6 | -13.1 | 115.5 |
| Right Upper Moment | Y | N•m | 21.6 | 141.8 | -198.7 | 50.6 | 20.5 | 129.2 | -72.0 | 36.4 |
| Left Lower Moment | X | N•m | 10.4 | 38.1 | -5.9 | 97.0 | 6.6 | 50.5 | -6.7 | 66.8 |
| Left Lower Moment | Y | N•m | 16.7 | 96.2 | -21.1 | 29.6 | 28.9 | 50.5 | -18.0 | 66.9 |
| Left Lower Force | Z | Newtons | 90.7 | 156.7 | -3690.8 | 38.5 | 394.9 | 66.9 | -2477.1 | 36.6 |
| Right Lower Moment | X | N•m | 7.4 | 45.0 | -80.3 | 49.8 | 6.2 | 54.6 | -4.9 | 116.2 |
| Right Lower Moment | Y | N•m | 52.2 | 55.4 | -48.6 | 40.0 | 25.0 | 90.4 | -24.9 | 58.0 |
| Right Lower Force | Z | Newtons | 185.8 | 136.2 | -4020.9 | 48.6 | 173.7 | 136.3 | -2117.9 | 36.7 |

DATA SHEET NO. 8...(continued)

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

NHTSA No.: M20208

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 4/16/02

CHEST PEAK DISPLACEMENTS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|----------|------|-------|--------|------|-------|------|-----------|------|-------|------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Chest CG | X | MM | 0.2 | 10.8 | -28.9 | 79.7 | 0.3 | 5.4 | -31.4 | 80.5 |

HEAD REDUNDANT PEAK ACCELERATIONS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|-------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Head CG | X | G's | 17.1 | 221.1 | -58.8 | 75.8 | 20.7 | 214.5 | -51.4 | 80.5 |
| Head CG | Y | G's | 7.5 | 162.3 | -11.8 | 221.0 | 7.3 | 69.5 | -4.7 | 66.3 |
| Head CG | Z | G's | 24.9 | 74.7 | -11.1 | 120.7 | 34.1 | 79.3 | -3.2 | 117.1 |
| Head CG Resultant | N/A | G's | 63.4 | 75.5 | | | 60.9 | 80.5 | | |

CHEST REDUNDANT PEAK ACCELERATIONS

| Location | Axis | Units | Driver | | | | Passenger | | | |
|--------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
| | | | Max | Time | Min | Time | Max | Time | Min | Time |
| Chest CG | X | G's | 4.8 | 161.8 | -39.5 | 76.8 | 3.6 | 186.1 | -45.3 | 73.0 |
| Chest CG | Y | G's | 3.7 | 68.4 | -1.8 | 39.9 | 5.6 | 91.2 | -2.7 | 76.5 |
| Chest CG | Z | G's | 15.9 | 76.3 | -13.1 | 122.1 | 13.7 | 80.1 | -9.4 | 120.7 |
| Chest CG Resultant | N/A | G's | 42.6 | 76.7 | | | 45.9 | 73.1 | | |

REDUNDANT HEAD INJURY CRITERIA (HIC)

| Location | Driver | | | | Passenger | | | |
|-------------------|--------|----------------|----------------|-------|-----------|----------------|----------------|-------|
| | HIC | T ¹ | T ² | Avg G | HIC | T ¹ | T ² | Avg G |
| Head CG Redundant | 570.0 | 56.8 | 92.7 | 47.9 | 528.9 | 62.5 | 98.4 | 46.4 |

REDUNDANT CHEST CLIP (3MSEC)

| Location | Driver | | | Passenger | | |
|--------------------|--------|----------------|----------------|-----------|----------------|----------------|
| | CLIP | T ¹ | T ² | CLIP | T ¹ | T ² |
| Chest CG Redundant | 41.9 | 75.4 | 78.4 | 45.1 | 71.9 | 74.9 |

**DATA SHEET NO. 9
SEATBELT ASSESSMENT TEST DATA**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

SEAT BELT PLACEMENT MEASUREMENTS

| Measurement Description | Units | Driver | Passenger |
|---|----------|-----------|-----------|
| TBI - Dummy C/L to Lap/Shoulder Belt Intersect | mm | 230 | 191 |
| PBU - Top surface of reference to belt upper edge | mm | 280 | 304 |
| PBL - Top surface of reference to belt lower edge | mm | 200 | 213 |
| Lap Belt tension | Newton's | 10 | 10 |
| Shoulder Belt tension | N/A | Retractor | Retractor |

BELT LENGTH DATA

| Measurement Description | Units | Driver | Passenger |
|--|-------|--------|-----------|
| Retractor reel to 'D' ring | mm | 720 | 720 |
| Shoulder belt length as measured on ATD | mm | 940 | 975 |
| Lap belt length as measured on ATD | mm | 950 | 945 |
| Remainder of belt on reel | mm | 738 | 700 |
| Total belt length for continuous webbing systems | mm | 3348 | 3340 |

SHOULDER BELT SPOOL-OFF DATA

| Measurement Description | Units | Driver | Passenger |
|------------------------------|-------|--------|-----------|
| As determined mechanically | mm | Broken | 178.0 |
| As determined electronically | mm | 179.9 | 183.2 |
| As determined by photography | mm | | |

BELT STRETCH DATA

| Measurement Description | Units | Driver | Passenger |
|---|-------|--------|-----------|
| Electronically between shoulder belt load cell and "D" ring | mm/cm | * | * |
| Mechanically | mm/cm | None | None |

*Not used with shoulder belt pre-tensioner systems.

DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

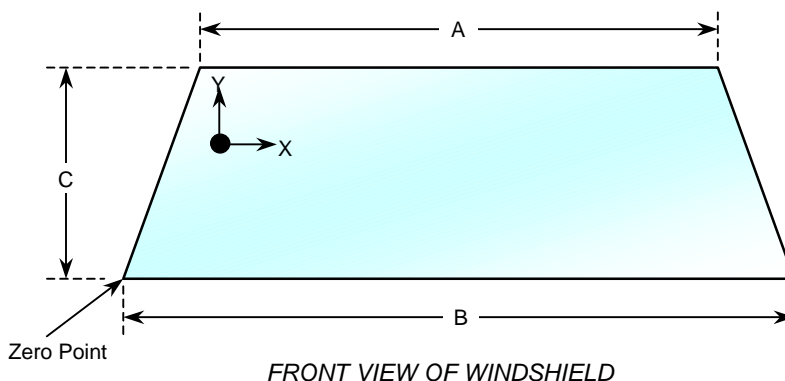
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

The standard requires that the posttest retention measurement be a minimum of 75 percent of the pretest total periphery measurement for vehicles not equipped with occupant passive restraints and 50 percent for each side of the windshield for vehicles that are equipped with occupant passive restraints.

Temperature of windshield molding during test: 21.1 °C

WINDSHIELD PERIPHERY MEASUREMENTS

| Measurement | Pre-Test(mm) | Post-Test (mm) | % of Retention |
|-------------|--------------|----------------|----------------|
| Left Side | 2036 | 2036 | 100 |
| Right Side | 2036 | 2036 | 100 |
| Total | 4071 | 4071 | 100 |



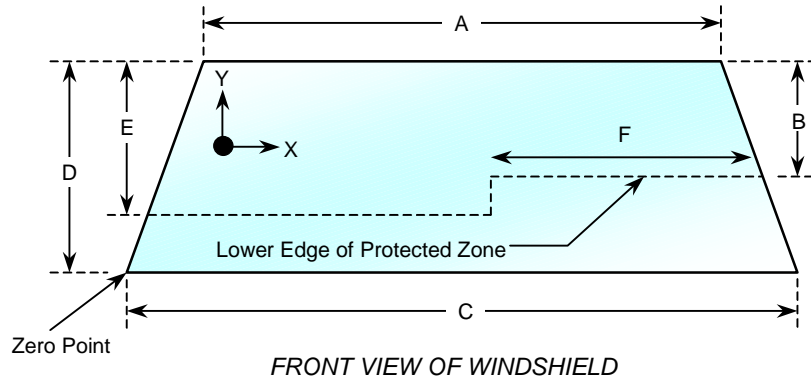
WINDSHIELD DIMENSIONS

| Item | Units | Segment Length | Molding Width |
|------|-------|----------------|---------------|
| A | mm | 1253 | 19 |
| B | mm | 1538 | 0 |
| C | mm | 640 | 19 |

DATA SHEET NO. 11
WINDSHIELD ZONE INTRUSION FMVSS 219 DATA (PARTIAL)

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



**WINDSHIELD AND
 PROTECTED ZONE**

| Item | Units | Value |
|------|-------|-------|
| A | mm | 1253 |
| B | mm | 286 |
| C | mm | 1538 |
| D | mm | 640 |
| E | mm | 437 |
| F | mm | 610 |

A OF PROTECTED ZONE FAILURES

- A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 in. by a vehicle component other than one that is normally in contact with the windshield.

| X | Y |
|-----|-----|
| N/A | N/A |
| N/A | N/A |
| N/A | N/A |
| N/A | N/A |

- B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

| X | Y |
|-----|-----|
| N/A | N/A |
| N/A | N/A |
| N/A | N/A |
| N/A | N/A |

DATA SHEET NO. 12
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
Test Date: 04/16/02

Test Time: 11:53 A.M.

Temperature at Time of Impact 36.1Deg. C

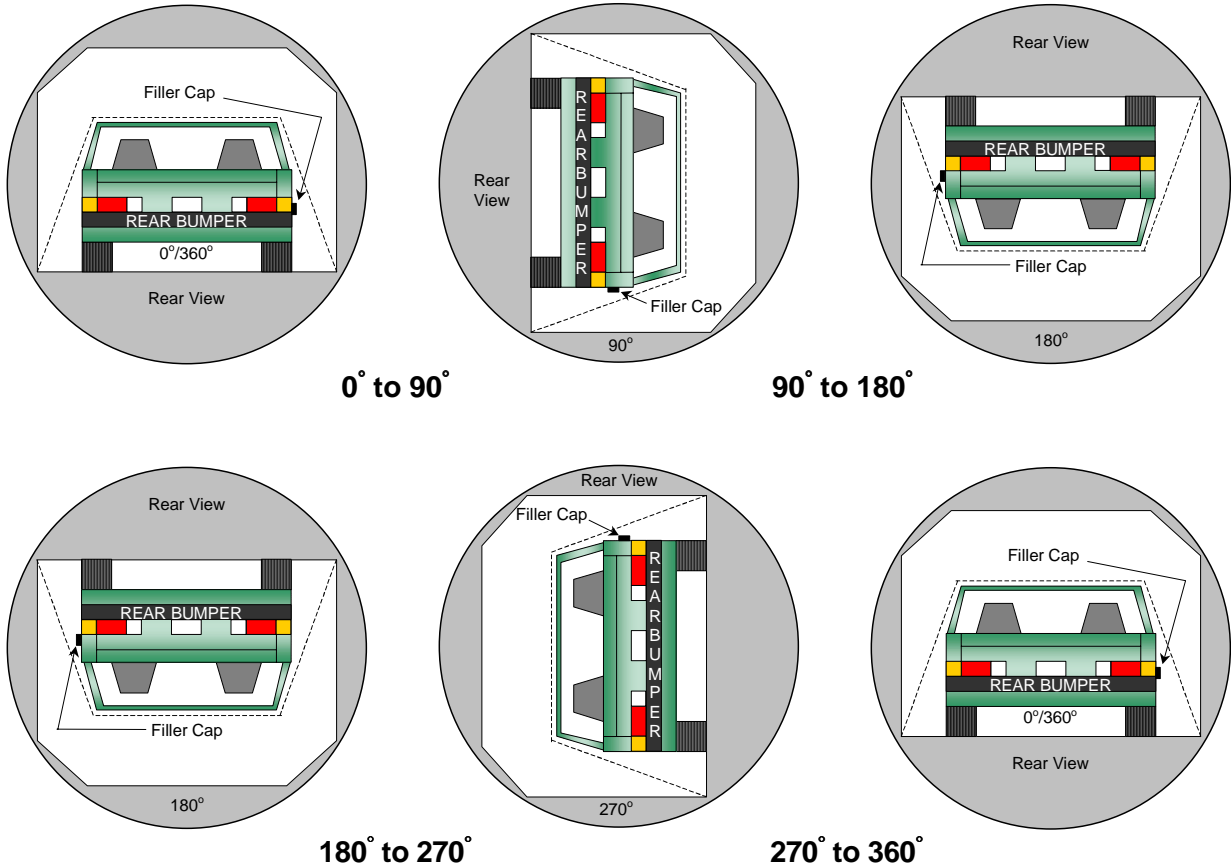
STODDARD SOLVENT SPILLAGE MEASUREMENTS

- A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)
- D. Spillage Location Details: No leakage occurred

DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. No solvent leakage occurred during rollover.

| Test Phase | Rotation Time (sec.) | Hold Time (sec.) | Spillage (oz.) |
|--------------|----------------------|------------------|----------------|
| 0° to 90° | 79 | 300 | 0 |
| 90° to 180° | 81 | 300 | 0 |
| 180° to 270° | 79 | 300 | 0 |
| 270° to 360° | 78 | 300 | 0 |

DATA SHEET NO. 14
VEHICLE MEASUREMENTS

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

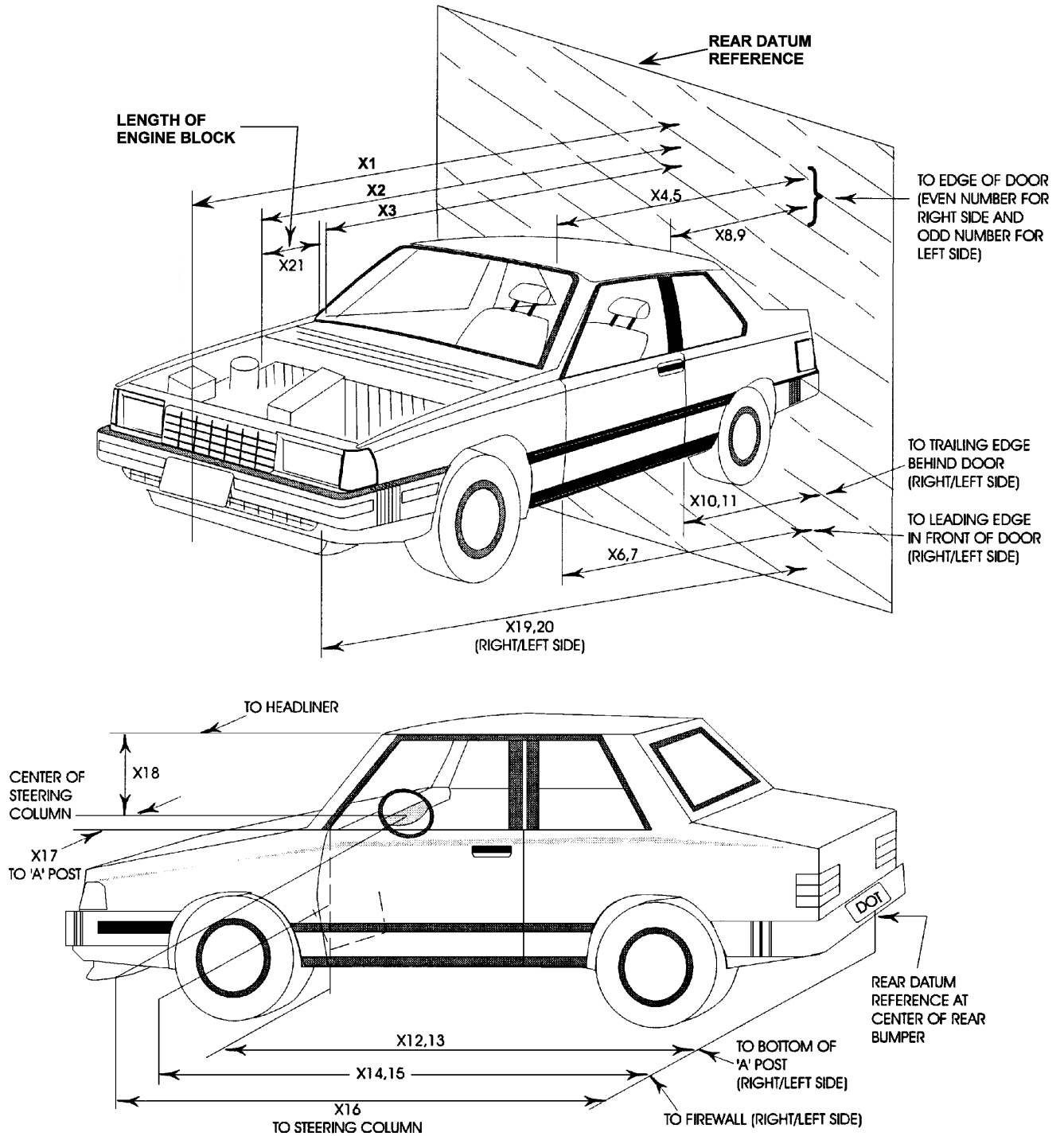
NHTSA No.: M20208
Test Date: 04/16/02

| No. | Measurement Description | Units | Pre-Test | Post-Test | Difference |
|-----|--|-------|----------|-----------|------------|
| 1 | Total length of vehicle at centerline | mm | 4572 | 4190 | -382 |
| 2 | RSOV to front of engine | mm | 3957 | 3783 | -174 |
| 3 | RSOV to firewall centerline | mm | 3397 | 3366 | -31 |
| 4 | RSOV to leading edge of right door | mm | 3123 | 3126 | 3 |
| 5 | RSOV to leading edge of left door | mm | 3128 | 3152 | 24 |
| 6 | RSOV to lower leading edge of right door | mm | 3050 | 3063 | 13 |
| 7 | RSOV to lower leading edge of left door | mm | 3053 | 3061 | 8 |
| 8 | RSOV to upper trailing edge of right door | mm | 1905 | 1932 | 27 |
| 9 | RSOV to upper trailing edge of left door | mm | 1910 | 1946 | 36 |
| 10 | RSOV to lower trailing edge of right door | mm | 1895 | 1911 | 16 |
| 11 | RSOV to lower trailing edge of left door | mm | 1900 | 1912 | 12 |
| 12 | RSOV to bottom of right 'A' pillar | mm | 3061 | 3079 | 18 |
| 13 | RSOV to bottom of left 'A' pillar | mm | 3066 | 3098 | 32 |
| 14 | RSOV to firewall on right side | mm | 3342 | 3363 | 21 |
| 15 | RSOV to firewall of left side | mm | 3362 | 3373 | 11 |
| 16 | RSOV to steering column | mm | 2679 | 2686 | 7 |
| 17 | Center of steering column to left 'A' pillar | mm | 390 | 355 | -35 |
| 18 | Center of steering column to headlining | mm | 430 | 425 | -5 |
| 19 | RSOV to right side of front bumper | mm | 4500 | 4146 | -354 |
| 20 | RSOV to left side of front bumper | mm | 4500 | 4142 | -358 |
| 21 | Length of engine block | mm | 580 | 580 | 0 |
| RD | RSOV to right side of dash panel | mm | 2881 | 2925 | 44 |
| CD | RSOV to center of dash panel | mm | 2854 | 2866 | 12 |
| LD | RSOV to left side of dash panel | mm | 2896 | 2908 | 12 |

DATA SHEET NO. 14...(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



**DATA SHEET NO. 15
CAMERA LOCATIONS**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

| No. | Camera View | Location (mm) | | | Angle (Deg.) | Film Plane to Head | Lens (mm) | Speed (fps) |
|-----|-----------------------|---------------|--------|-------|--------------|--------------------|-----------|-------------|
| | | X | Y | Z | | | | |
| 1 | Right Side, Real Time | 3454 | 10973 | 1245 | 0 | 1651 | Zoom | 24 |
| 2 | Left Side, No. 1 | 2000 | -8250 | 1270 | 0 | 7897 | 13 | 1030 |
| 3 | Left Side, No. 2 | 1060 | -6370 | 1470 | -2 | 6139 | 25 | 1010 |
| 4 | Left Side, No. 3 | 6500 | -10580 | 4640 | -16 | 11511 | 65 | 1000 |
| 5 | Left Side, No. 4 | 1460 | -8250 | 3340 | -17 | 8169 | 19 | 1000 |
| 6 | Left Side, No. 5 | 1460 | -8250 | 2970 | -16 | 8089 | 19 | 980 |
| 7 | Right Side, No. 1 | 2400 | 8150 | 1410 | -3 | 7791 | 15 | * |
| 8 | Right Side, No. 2 | 1000 | 7180 | 1410 | -3 | 6945 | 35 | Failed |
| 9 | Right Side, No. 3 | 7860 | 8900 | 2800 | -9 | 10281 | 80 | 950 |
| 10 | Right Side, No. 4 | 2750 | 9600 | 1500 | -2 | 9251 | 50 | 1000 |
| 11 | Overhead Overall | 250 | 0 | 4460 | -86 | N/A | 13 | 1100 |
| 12 | Front View, Driver | 2970 | -380 | 1330 | -43 | N/A | 12 | 970 |
| 13 | Front View, Passenger | 2970 | 380 | 1330 | -55 | N/A | 13 | 1010 |
| 14 | Pit Camera, Engine | 650 | 0 | -1360 | -90 | N/A | 10 | * |
| 15 | Pit Camera, Fuel Tank | 3760 | 0 | -1680 | -55 | N/A | 10 | 1000 |
| 16 | Driver Belt | 3120 | -330 | 1450 | -6 | N/A | 13 | Failed |
| 17 | Passenger Belt | 3120 | 330 | 1450 | -6 | N/A | 13 | 720 |
| 18 | Left Side Extra | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

X - Barrier Face Y - Monorail Centerline Z - Ground

* No Timing Marks

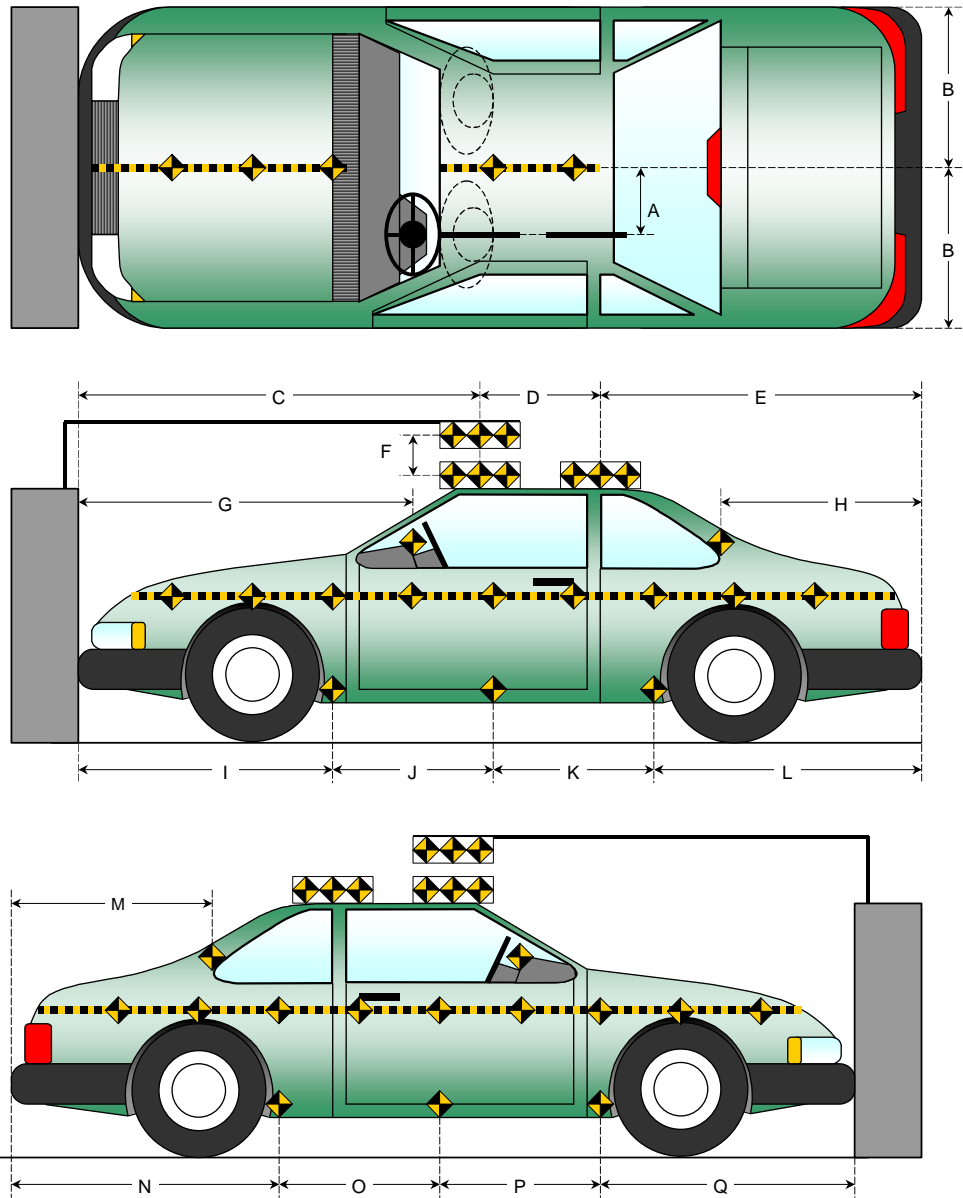
DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

All Dimensions
 in mm

| Item | Value |
|------|-------|
| A | 390 |
| B | 913 |
| C | 2238 |
| D | 605 |
| E | 1732 |
| F | 155 |
| G | 1696 |
| H | 1339 |
| I | 1400 |
| J | 763 |
| K | 763 |
| L | 1654 |
| M | 1334 |
| N | 1651 |
| O | 765 |
| P | 765 |
| Q | 1402 |



**DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

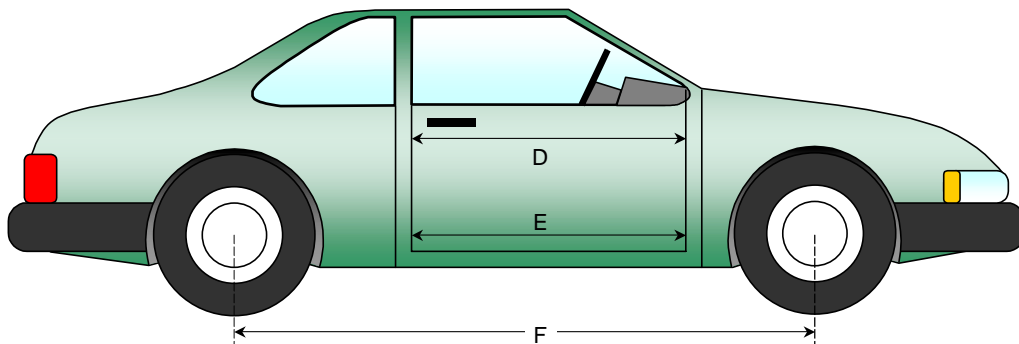
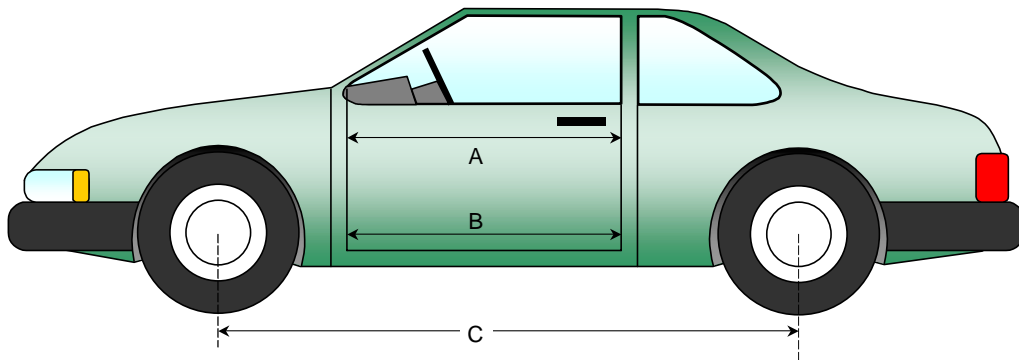
NHTSA No.: M20208
 Test Date: 04/16/02

DOOR OPENING WIDTH

| Item | Description | Units | Pre-Test | Post-Test | Difference |
|------|------------------|-------|----------|-----------|------------|
| A | Left Side Upper | mm | 1092 | 1079 | -13 |
| B | Left Side Lower | mm | 1132 | 1128 | -4 |
| D | Right Side Upper | mm | 1091 | 1079 | -12 |
| E | Right Side Lower | mm | 1131 | 1129 | -2 |

WHEELBASE MEASUREMENTS

| Item | Description | Units | Pre-Test | Post-Test | Difference |
|------|-----------------------|-------|----------|-----------|------------|
| C | Left Side Wheel base | mm | 2598 | 2552 | -46 |
| F | Right Side Wheel base | mm | 2598 | 2568 | -30 |



DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

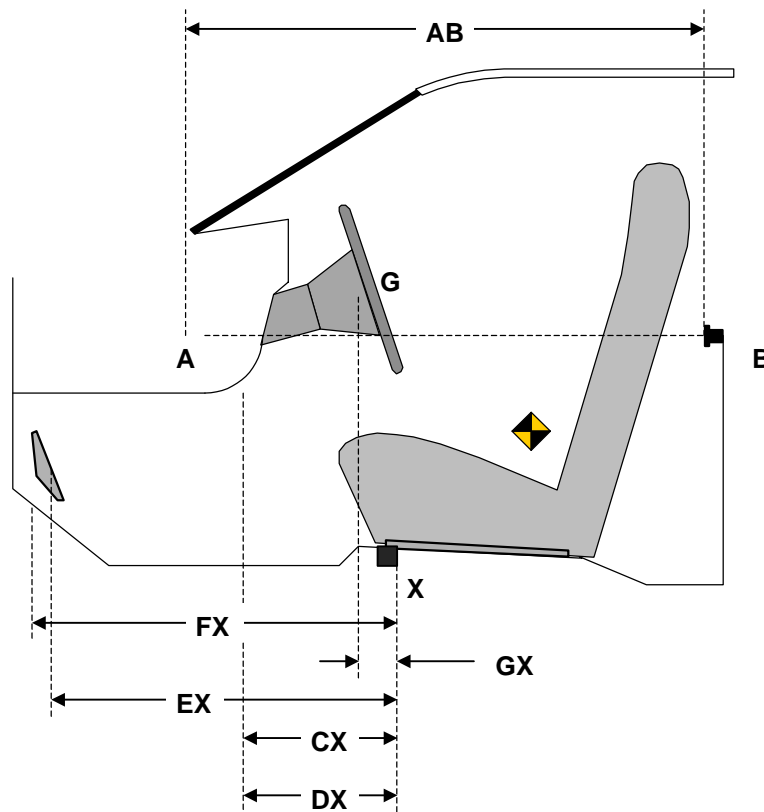
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

DRIVER COMPARTMENT INTRUSION

| Item | Description | Units | Pre-Test | Post-Test | Difference |
|------|-----------------------------------|-------|----------|-----------|------------|
| AB | Door Opening (Inside window jam) | mm | 1092 | 1079 | -13 |
| CX | Left Knee Bolster to X | mm | 241 | 250 | 9 |
| DX | Right Knee Bolster to X | mm | 236 | 245 | 9 |
| EX | Brake Pedal to X | mm | 530 | 562 | 32 |
| FX | Foot Rest to X | mm | 587 | 627 | 40 |
| GX | Center of Steering Wheel Hub to X | mm | 27 | 31 | 4 |

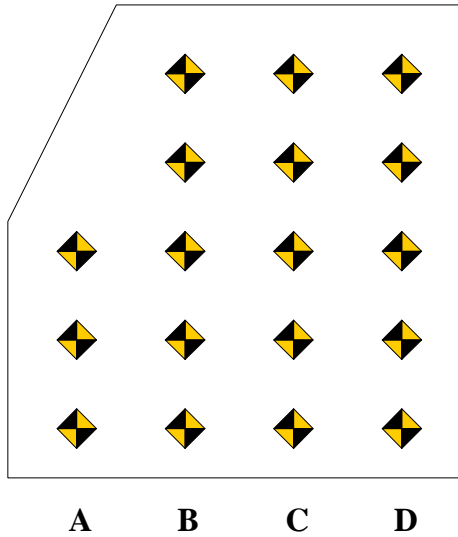
X = Left Front Seat Outboard Anchor Bolt Head



DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



Measurement reference point for X and Z-axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3,4 and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.

DRIVER FLOOR PAN X-AXIS

| | Pre-Test | | | | Post-Test | | | | Difference | | | |
|---|----------|-----|-----|-----|-----------|-----|-----|-----|------------|-----|-----|-----|
| | A | B | C | D | A | B | C | D | A | B | C | D |
| 1 | | 664 | 649 | 636 | | 643 | 621 | 597 | | -21 | -28 | -39 |
| 2 | | 579 | 569 | 558 | | 566 | 559 | 542 | | -13 | -10 | -16 |
| 3 | 482 | 474 | 464 | 458 | 479 | 469 | 464 | 452 | -3 | -5 | 0 | -6 |
| 4 | 383 | 375 | 364 | 358 | 380 | 369 | 364 | 352 | -3 | -6 | 0 | -6 |
| 5 | 285 | 275 | 264 | 256 | 281 | 269 | 264 | 250 | -4 | -6 | 0 | -6 |

DRIVER FLOOR PAN Z-AXIS

| | Pre-Test | | | | Post-Test | | | | Difference | | | |
|---|----------|-----|-----|-----|-----------|-----|-----|-----|------------|----|----|-----|
| | A | B | C | D | A | B | C | D | A | B | C | D |
| 1 | | 42 | 33 | 40 | | 90 | 96 | 90 | | 48 | 63 | 50 |
| 2 | | -8 | -12 | -8 | | 31 | 24 | 21 | | 39 | 36 | 29 |
| 3 | -40 | -40 | -43 | -40 | -6 | 0 | -2 | -19 | 34 | 40 | 41 | 21 |
| 4 | -57 | -53 | -53 | -5 | -23 | -15 | -16 | -36 | 34 | 38 | 37 | -31 |
| 5 | -60 | -55 | -60 | -54 | -24 | -22 | -30 | -48 | 36 | 33 | 30 | 6 |

**DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

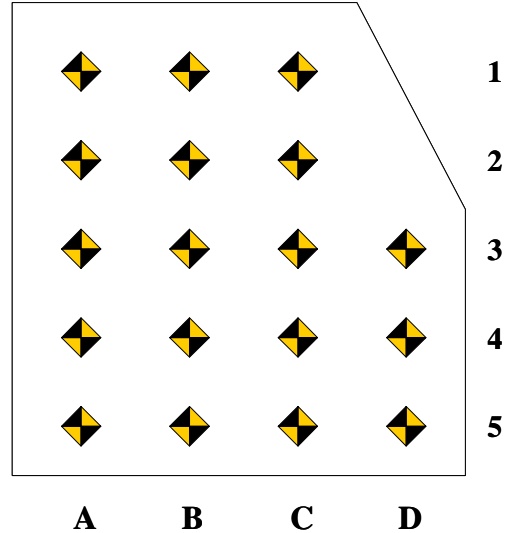
NHTSA No.: M20208
 Test Date: 04/16/02

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3,4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



PASSENGER FLOOR PAN X-AXIS

| | Pre-Test | | | | Post-Test | | | | Difference | | | |
|---|----------|-----|-----|-----|-----------|-----|-----|-----|------------|----|-----|---|
| | A | B | C | D | A | B | C | D | A | B | C | D |
| 1 | 609 | 606 | 603 | | 599 | 601 | 599 | | -10 | -5 | -4 | |
| 2 | 536 | 535 | 533 | | 533 | 535 | 532 | | -3 | 0 | -1 | |
| 3 | 436 | 436 | 334 | 436 | 441 | 440 | 439 | 436 | 5 | 4 | 105 | 0 |
| 4 | 336 | 336 | 233 | 338 | 343 | 341 | 340 | 338 | 7 | 5 | 107 | 0 |
| 5 | 236 | 236 | 283 | 236 | 242 | 241 | 239 | 236 | 6 | 5 | -44 | 0 |

PASSENGER FLOOR PAN Z-AXIS

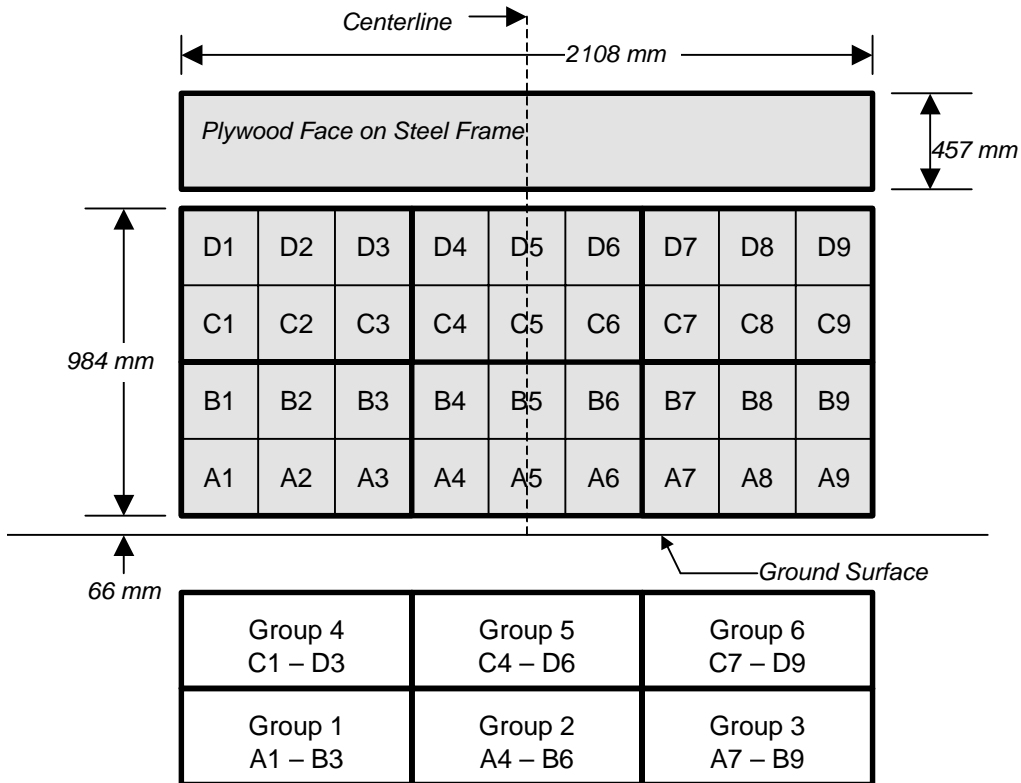
| | Pre-Test | | | | Post-Test | | | | Difference | | | |
|---|----------|-----|-----|-----|-----------|-----|-----|-----|------------|----|----|----|
| | A | B | C | D | A | B | C | D | A | B | C | D |
| 1 | 55 | 64 | 67 | | 91 | 88 | 89 | | 36 | 24 | 22 | |
| 2 | -17 | -8 | -6 | | 12 | 10 | 21 | | 29 | 18 | 27 | |
| 3 | -58 | -54 | -52 | -52 | -35 | -31 | -23 | -14 | 23 | 23 | 29 | 38 |
| 4 | -58 | -59 | -57 | -58 | -44 | -41 | -33 | -28 | 14 | 18 | 24 | 30 |
| 5 | -68 | -64 | -65 | -58 | -45 | -46 | -43 | -37 | 23 | 18 | 22 | 21 |

DATA SHEET NO. 18
FIXED BARRIER TYPE LOAD CELL LOCATIONS

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

36 Load Cell Rigid Barrier (NHTSA Standard)
Load Cell Locations on Fixed Barrier



6 Groups of 6 Load Cells Each

The Data is presented in Appendix C with the following requirements:

- 1.) Data from 36 individual load cells
- 2.) Sum data from 6 groupings shown above (6 cells/group)
- 3.) Total or sum of all 36 individual load cells
- 4.) Sum of all 36 individual load cells vs. vehicle dynamic crush

DATA SHEET NO. 19
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02

VEHICLE INFORMATION

VIN: 1FMYU70E12UB64019
 Vehicle Size Category: 2-Door

Wheel base (mm): 2598
 Test Weight (kg): 2074

ACCELEROMETER DATA

Accelerometer Location: Left rear floor pan
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 55.62
 Velocity Change (km/h): 63.7

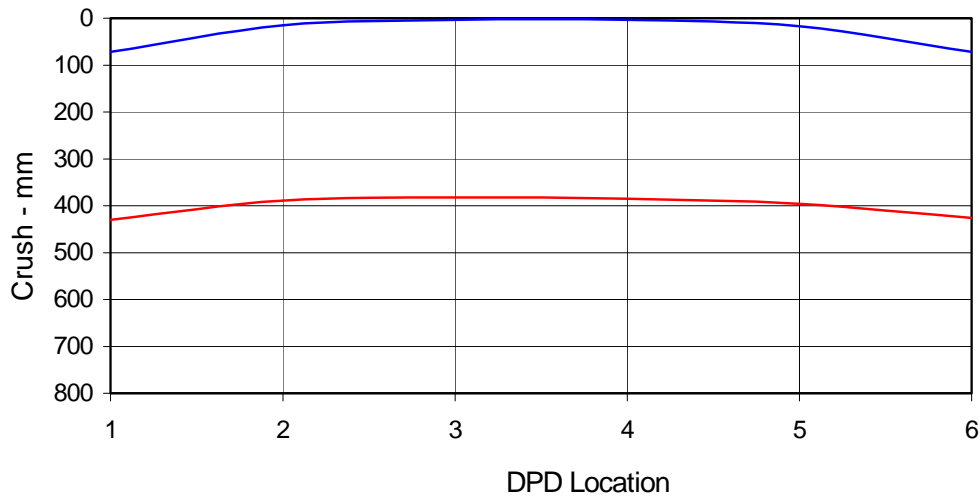
Linearity: Good

Time of Separation (msec): 72.0

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1245 Impact Mode: Full Frontal

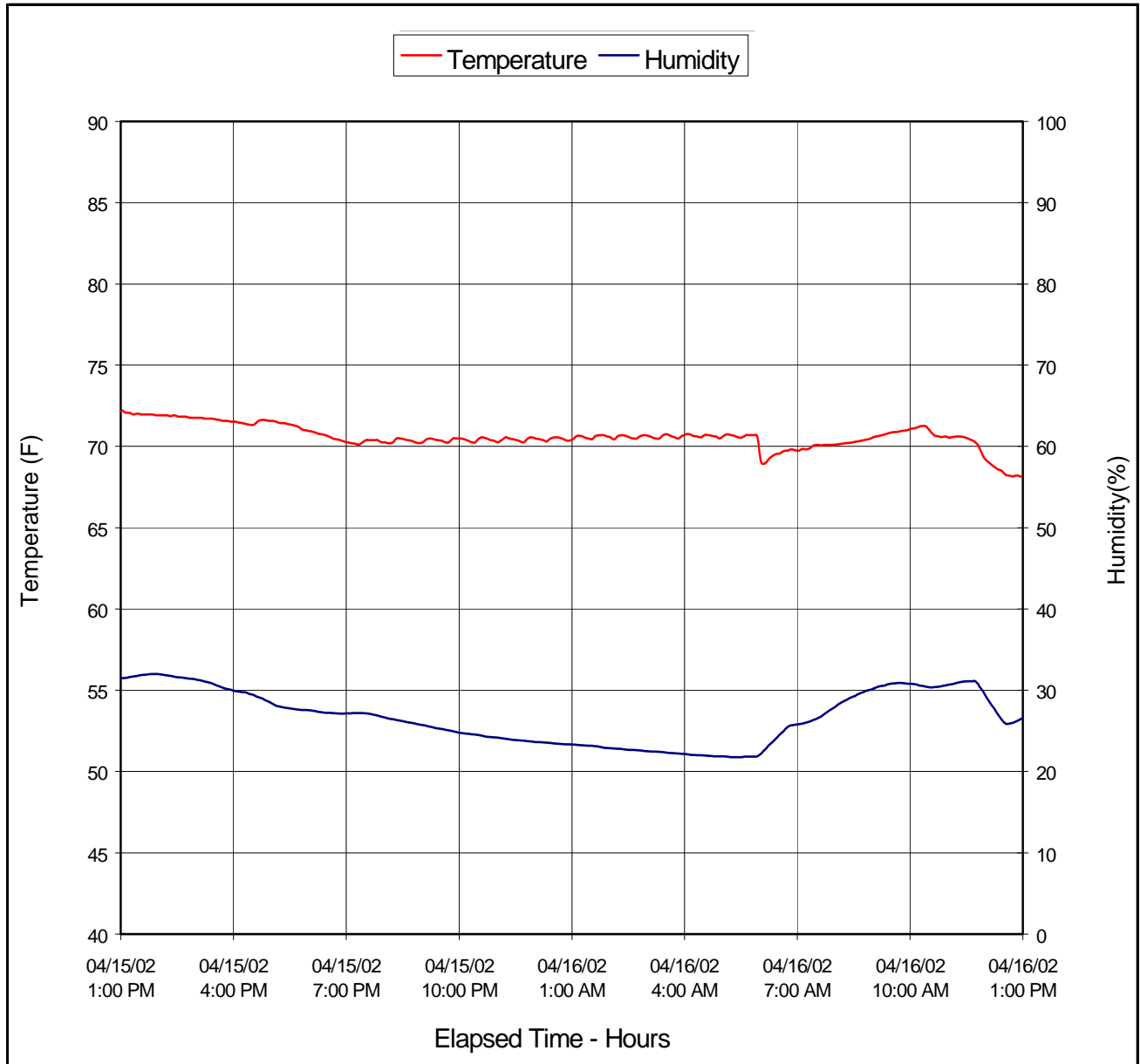
| No. | Measurement Description | Units | Pre-Test | Post-Test | Difference |
|-----|----------------------------|-------|----------|-----------|------------|
| C1 | Crush zone 1 at left side | mm | 72 | 430 | -358 |
| C2 | Crush zone 2 on left side | mm | 15 | 389 | -374 |
| C3 | Crush zone 3 on left side | mm | 3 | 382 | -379 |
| C4 | Crush zone 4 on right side | mm | 3 | 385 | -382 |
| C5 | Crush zone 5 on right side | mm | 17 | 396 | -379 |
| C6 | Crush zone 6 at right side | mm | 72 | 426 | -354 |



DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208
 Test Date: 04/16/02



APPENDIX A

PHOTOGRAPHS

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Figure A-1: Right Front, as Received



Figure A-2: Left Rear, as Received

MFD. BY FORD MOTOR CO. IN U.S.A.

| | |
|--------------------|---------------------|
| DATE: 11/01 | GWWR: 4920LB/2231KG |
| FRONT GAWR: 2620LB | REAR GAWR: 2650LB |
| 1188KG | 1202KG |
| P235/70R16SL | P235/70R16SL |
| 16X7.0J | 16X7.0J |
| AT 207 kPa/30 | AT 241 kPa/35 |
| PSI COLD | PSI COLD |

WITH TIRES RIMS | WITH TIRES RIMS

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

VIN: 1FMYU70E12UB64019
TYPE: MPV

F0277
T0272



| | | | | | | | | |
|----------|-----|--------|-------|---|------|----|-----|-----------------|
| EXT PNT: | B2 | RC: 71 | DSO: | | | | | |
| WB | BRK | INT TR | TP/PS | R | AXLE | TR | SPR | 1U72A |
| 102 | 4 | RX | | K | D4 | J | D3 | G05 |
| UTC | | | | | | | ▽ | 2U5A-1520472-AA |

Figure A-3: Vehicle Certification Label

MFD. BY FORD MOTOR CO. IN U.S.A

| | | |
|------------------------------|--|------------------------|
| DATE: 11/01 | GWWR: 4920LB/2231KG | |
| FRONT GAWR: 2620LB 1188KG | REAR GAWR: 2650LB 1202KG | |
| P235/70R16SL 16X7.0J | WITH TIRES RIMS P235/70R16SL 16X7.0J | WITH TIRES RIMS |
| AT 207 kPa/30 PSI COLD | AT 241 kPa/35 PSI COLD | AT 241 kPa/35 PSI COLD |

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

VIN: 1FMYU70E12UB64019
TYPE: MPV

F0277
T0272



| | | |
|---|--------|-------------------|
| EXT PNT: B2 | RC: 71 | DSO: |
| WB BRK INT TR TP/PS R AXLE TR SPR 1U72A | | |
| 102 4 RX K D4 J D3 G05 | | |
| | UTC | ▽ 2U5A-1520472-AA |

Figure A-4: Vehicle Tire Label



Figure A-5: Front View, Pre-Test



Figure A-6: Front View, Post-Test



Figure A-7: Left Side View, Pre-Test



Figure A-8: Left Side View, Post-Test



Figure A-9: Right Side View, Pre-Test



A-10

KAR22001-04

Figure A-10: Right Side View, Post-Test



Figure A-11: Right Front View, Pre-Test



Figure A-12: Right Front View, Post-Test



Figure A-13: Left Rear View, Pre-Test



Figure A-14: Left Rear View, Post-Test

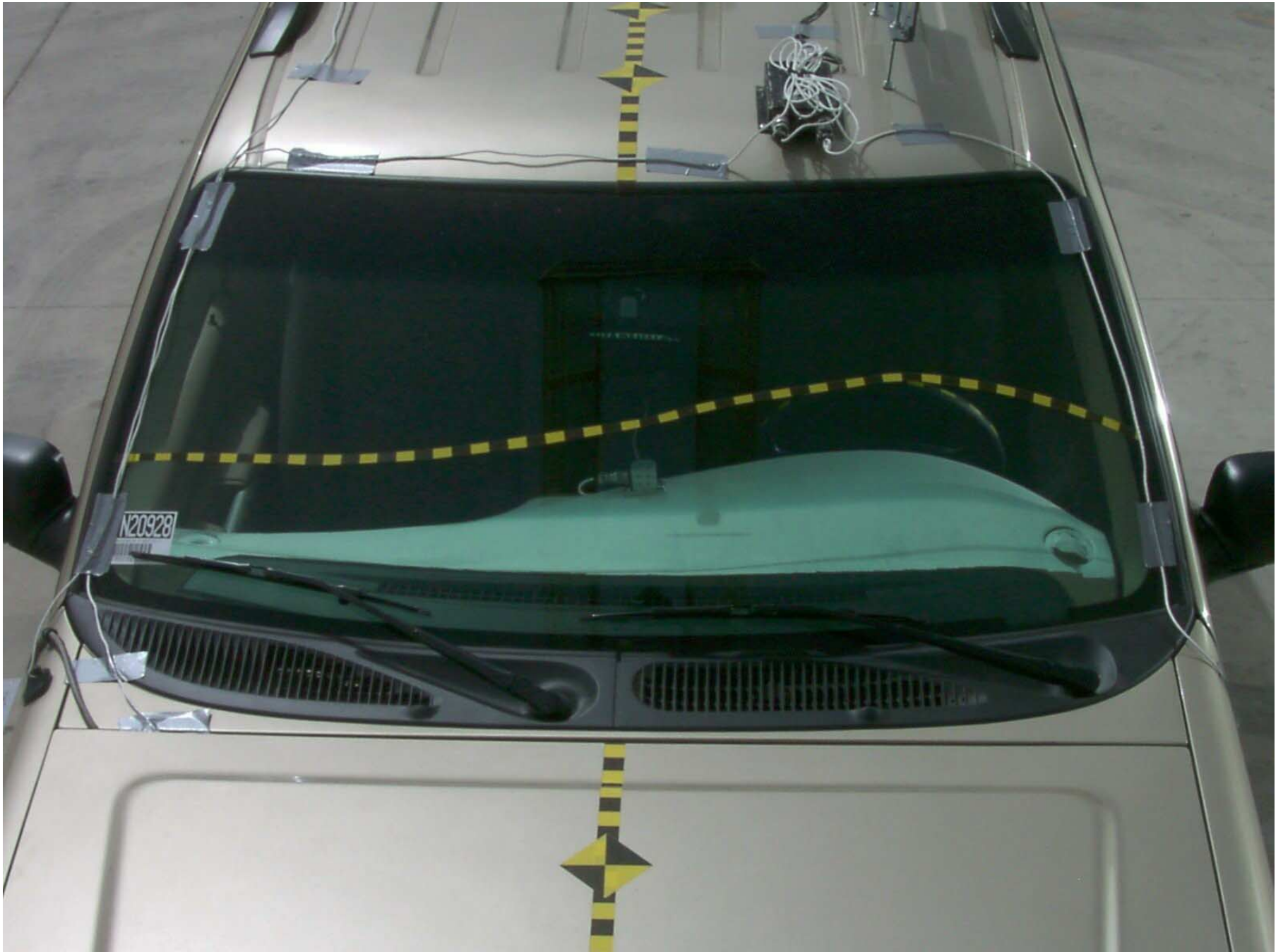


Figure A-15: Windshield, Pre-Test



Figure A-16: Windshield, Post-Test



Figure A-17: Engine Compartment, Pre-Test

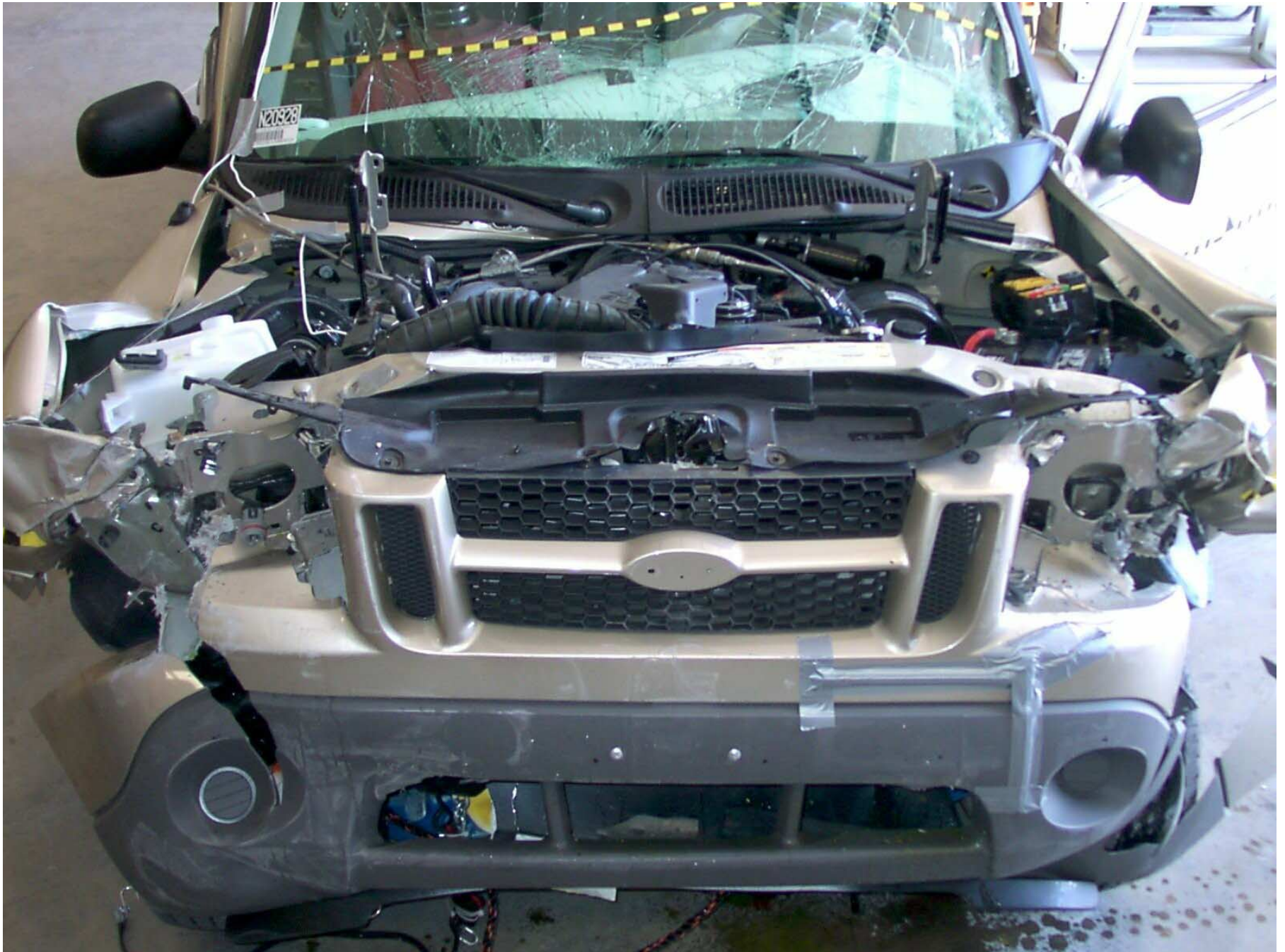


Figure A-18: Engine Compartment, Post-Test



Figure A-19: Fuel Cap, Pre-test



Figure A-20: Fuel Cap, Post-Test

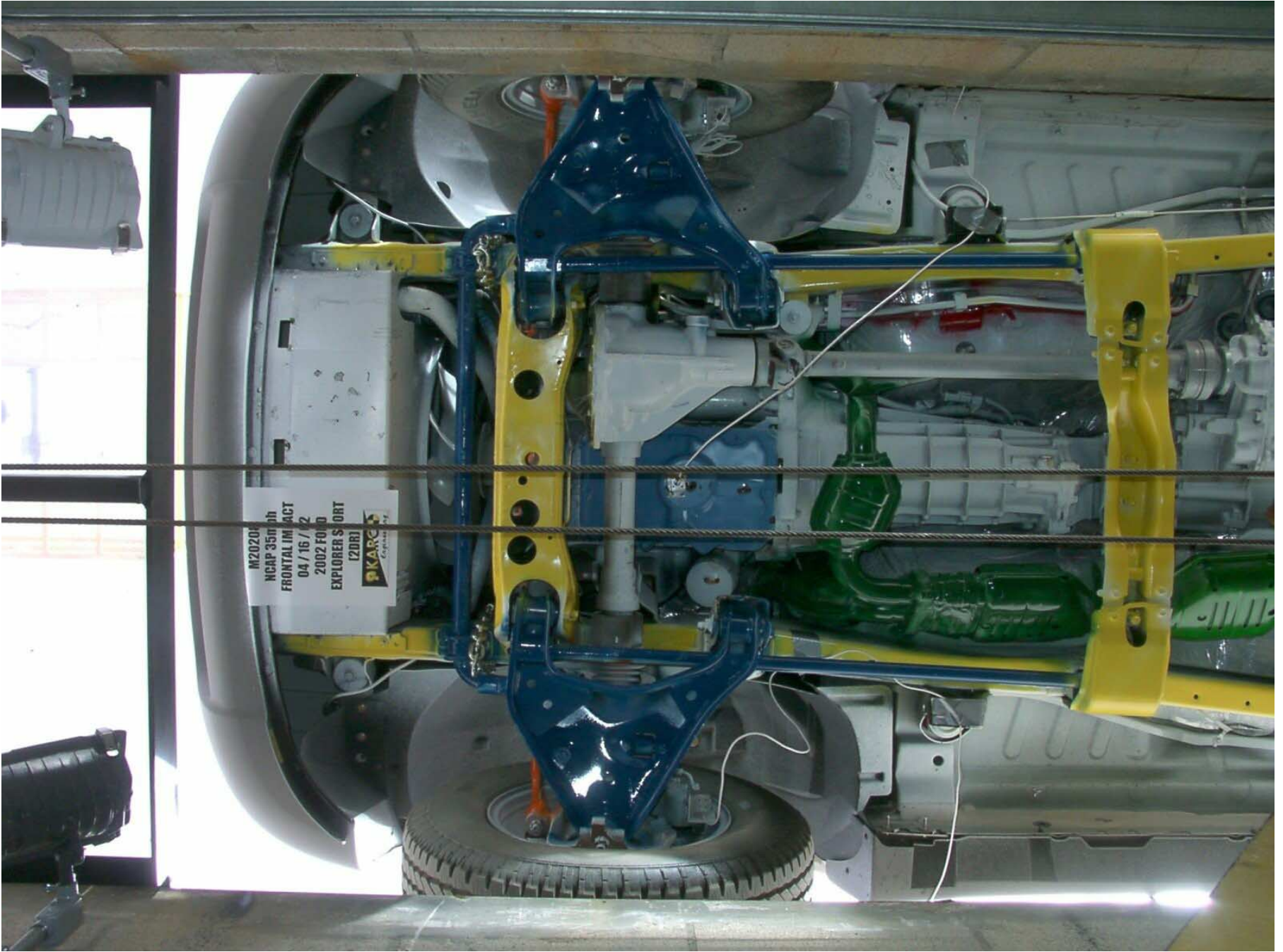


Figure A-21: Front Underside, Pre-Test

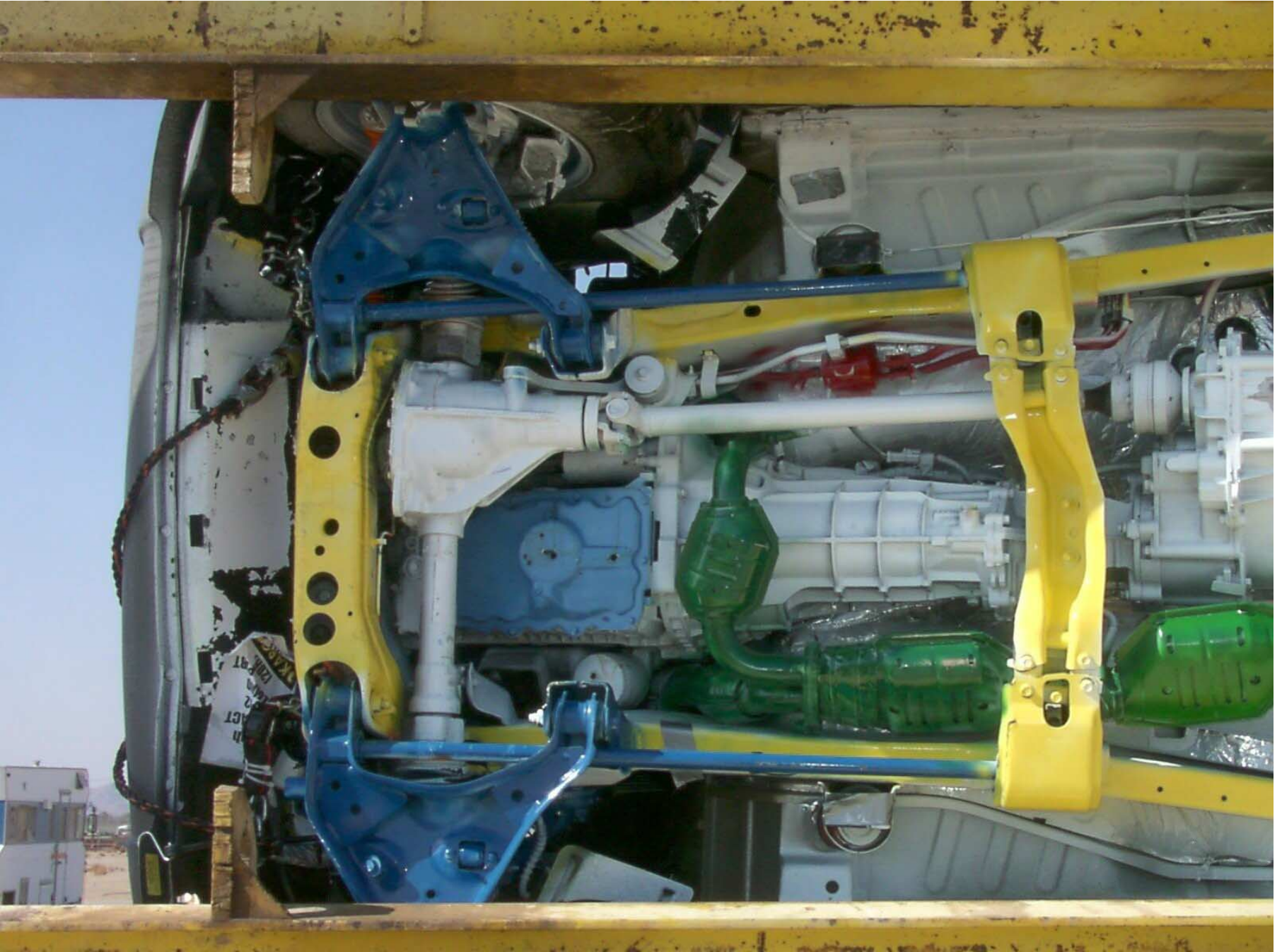


Figure A-22: Front Underside, Post-Test

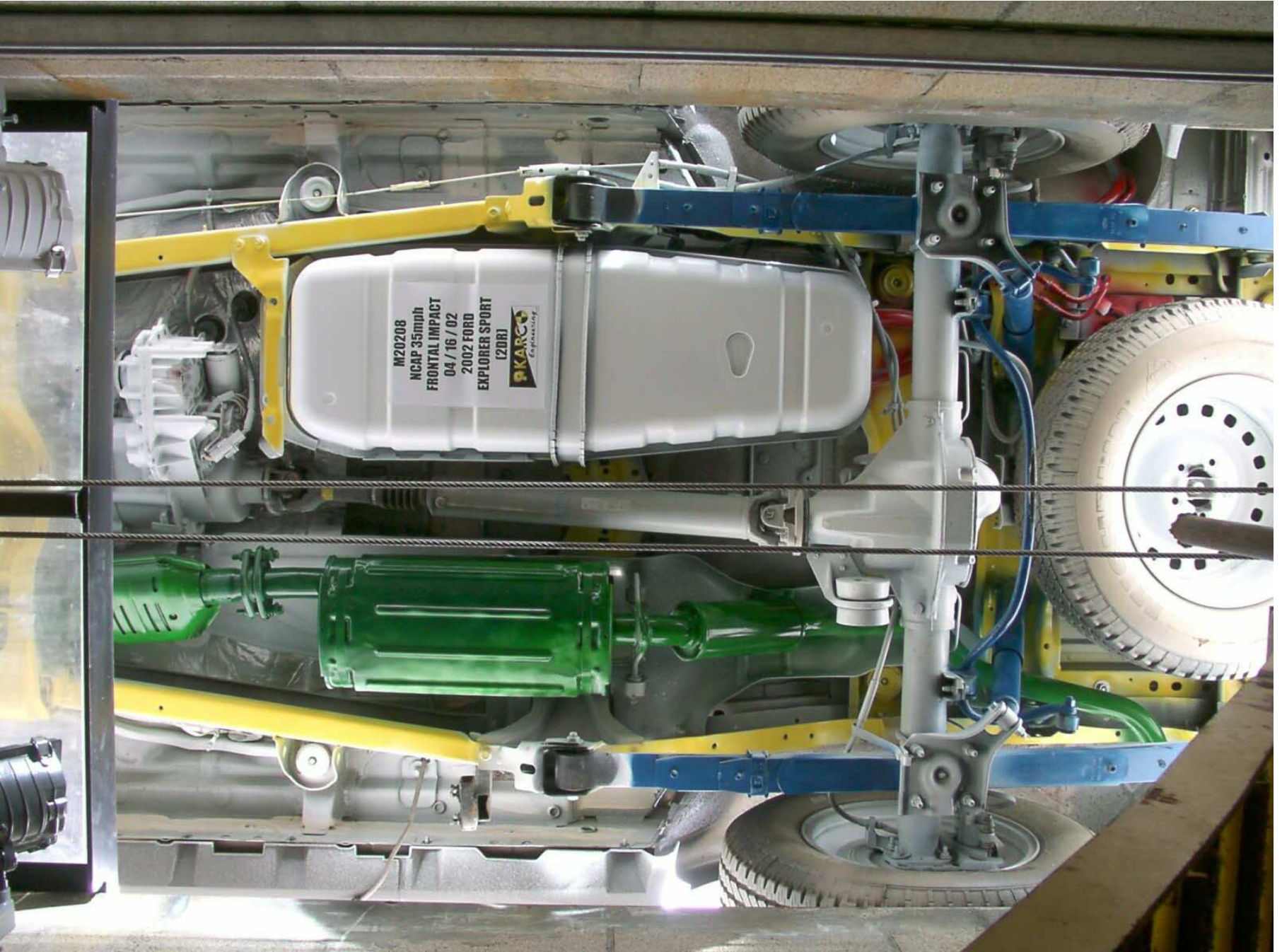


Figure A-23: Rear Underside, Pre-Test

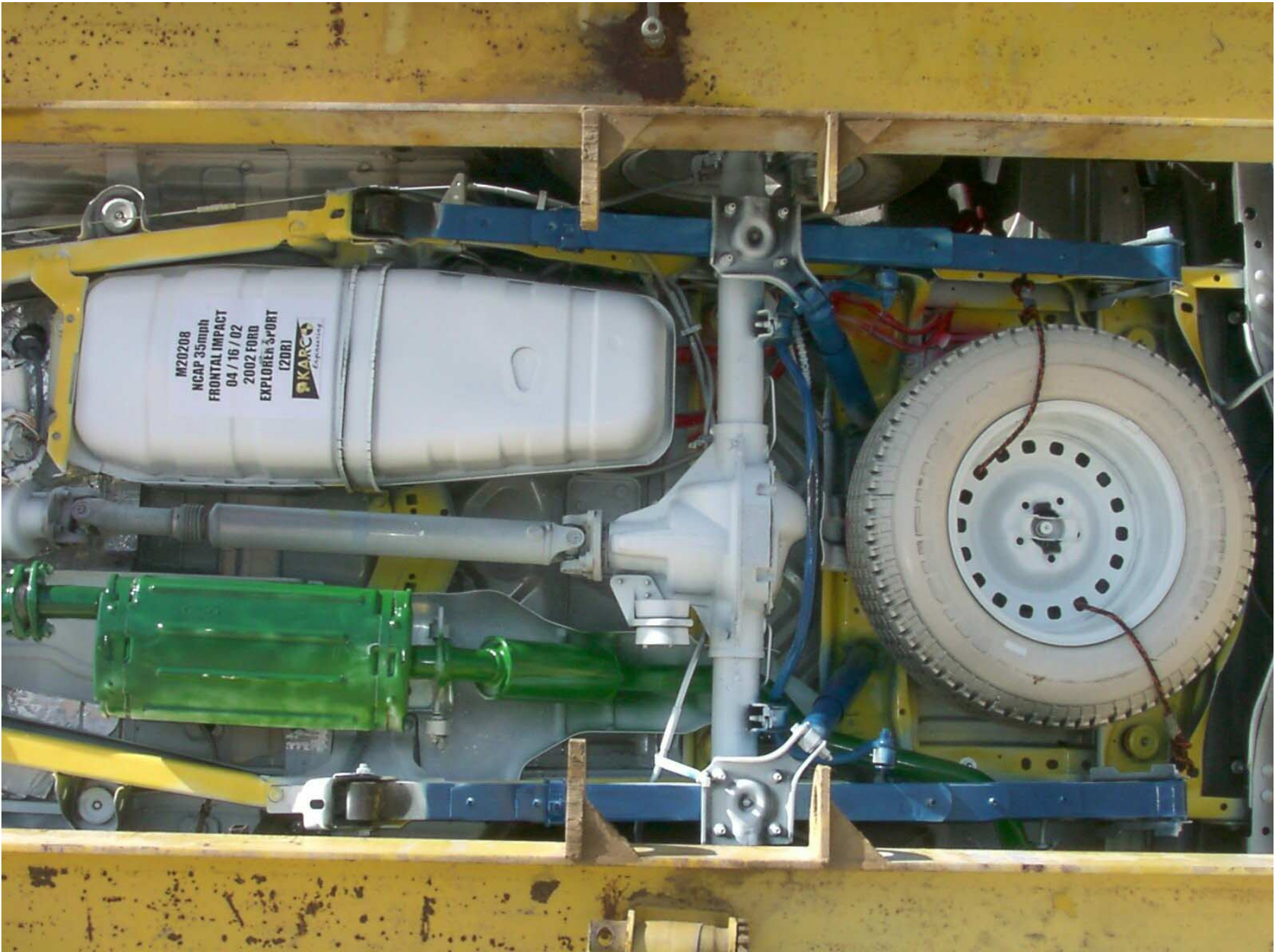
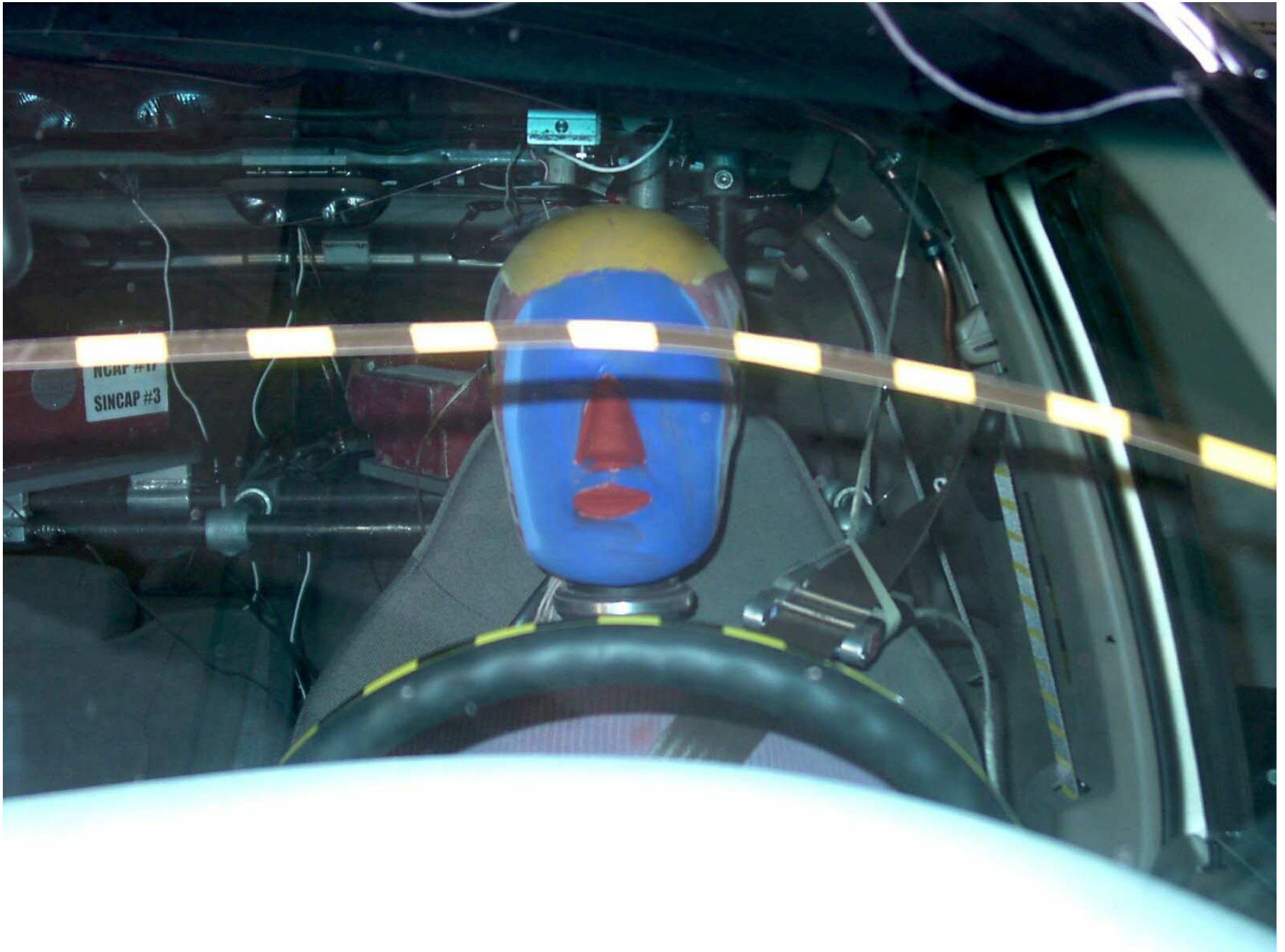


Figure A-24: Rear Underside, Post-Test



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KAR22001-04

Figure A-25: Driver Dummy Front View, Pre-Test



A-26

KAR22001-04

Figure A-26: Driver Dummy Front View, Post-Test



Figure A-27: Driver Dummy Through Window, Pre-Test



Figure A-28: Driver Dummy Through Window, Post-Test



Figure A-29: Driver Dummy Door Open, Pre-Test

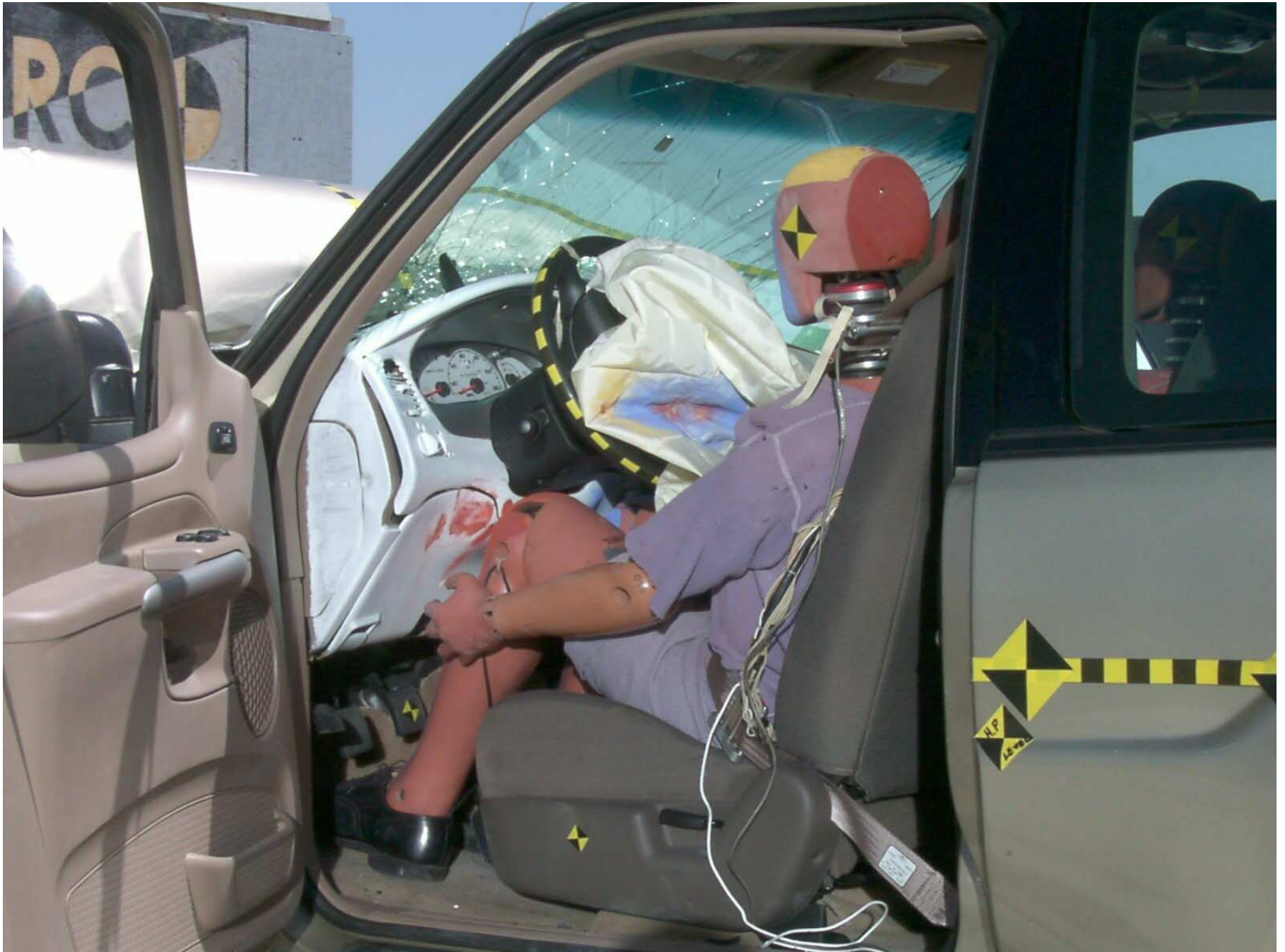


Figure A-30: Driver Dummy Door Open, Post-Test



Figure A-31: Driver Dummy 90° To Vehicle, Pre-Test



Figure A-32: Driver Dummy 90° To Vehicle, Post-Test



Figure A-33: Driver Dummy Feet, Pre-Test



Figure A-34: Driver Dummy Feet and Knee Contact, Post-Test



Figure A-35: Driver Side Knee Bolster, Pre-Test



Figure A-36: Driver Side Knee Bolster, Post-Test



Figure A-37: Driver Side Floor Pan, Pre-Test



Figure A-38: Driver Side Floor Pan, Post-Test

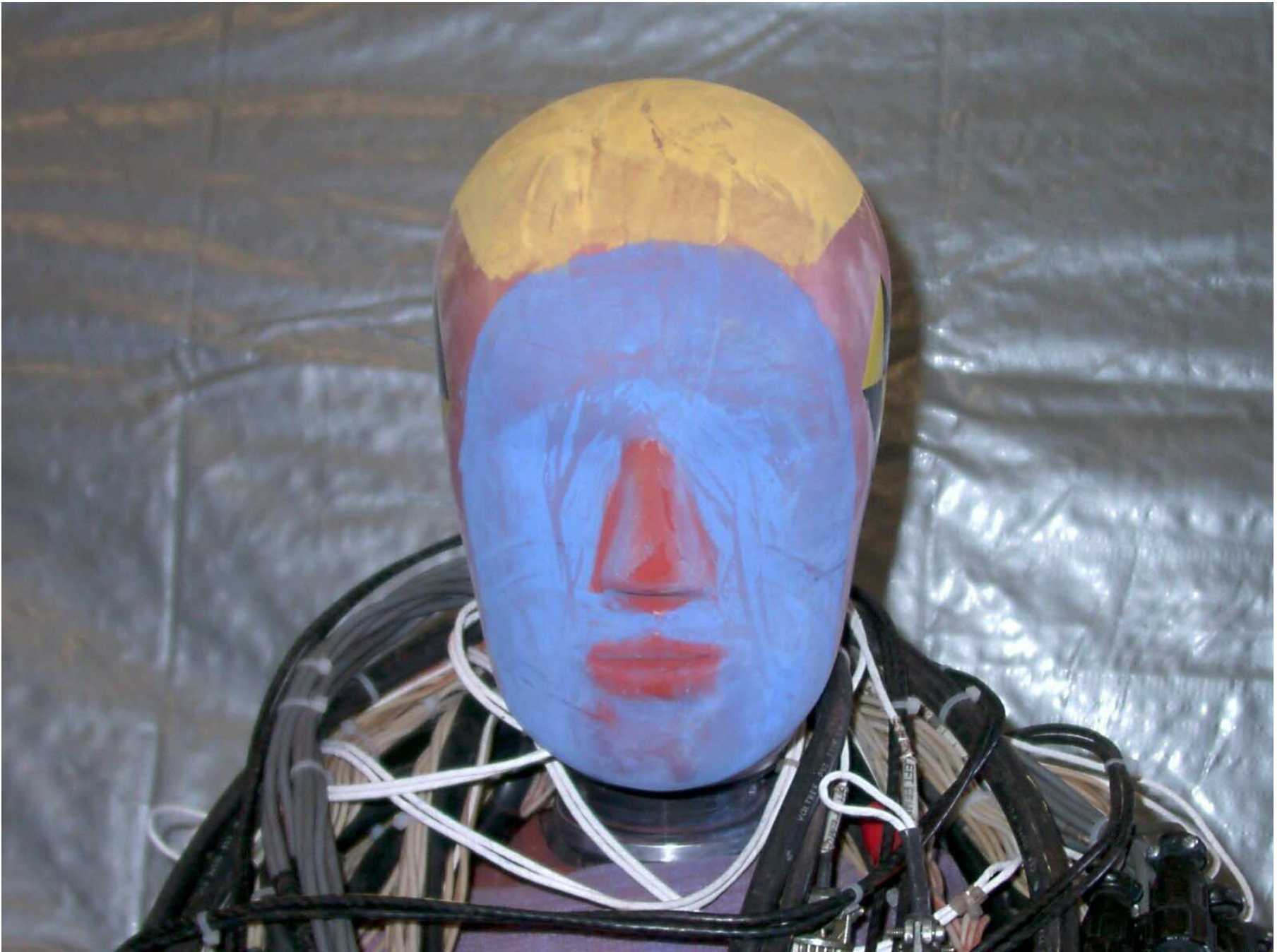


Figure A-39: Driver Dummy Head, Post-Test



Figure A-40: Driver Dummy Contact, Post-Test



Figure A-41: Passenger Dummy Front View, Pre-Test



A-42

KAR22001-04

Figure A-42: Passenger Dummy Front View, Post-Test



Figure A-43: Passenger Dummy Through Window, Pre-Test



Figure A-44: Passenger Dummy Through Window, Post-Test



Figure A-45: Passenger Dummy Door Open, Pre-Test



Figure A-46: Passenger Dummy Door Open, Post-Test



Figure A-47: Passenger Dummy 90° To Vehicle, Pre-Test



Figure A-48: Passenger Dummy 90° To Vehicle, Post-Test



Figure A-49: Passenger Dummy Feet, Pre-Test



Figure A-50: Passenger Dummy Feet and Knee Contact, Post-Test



Figure A-51: Passenger Side Floor Pan, Pre-Test



Figure A-52: Passenger Side Floor Pan, Post-Test



Figure A-53: Passenger Side Knee Bolster, Pre-Test



Figure A-54: Passenger Side Knee Bolster, Post-Test

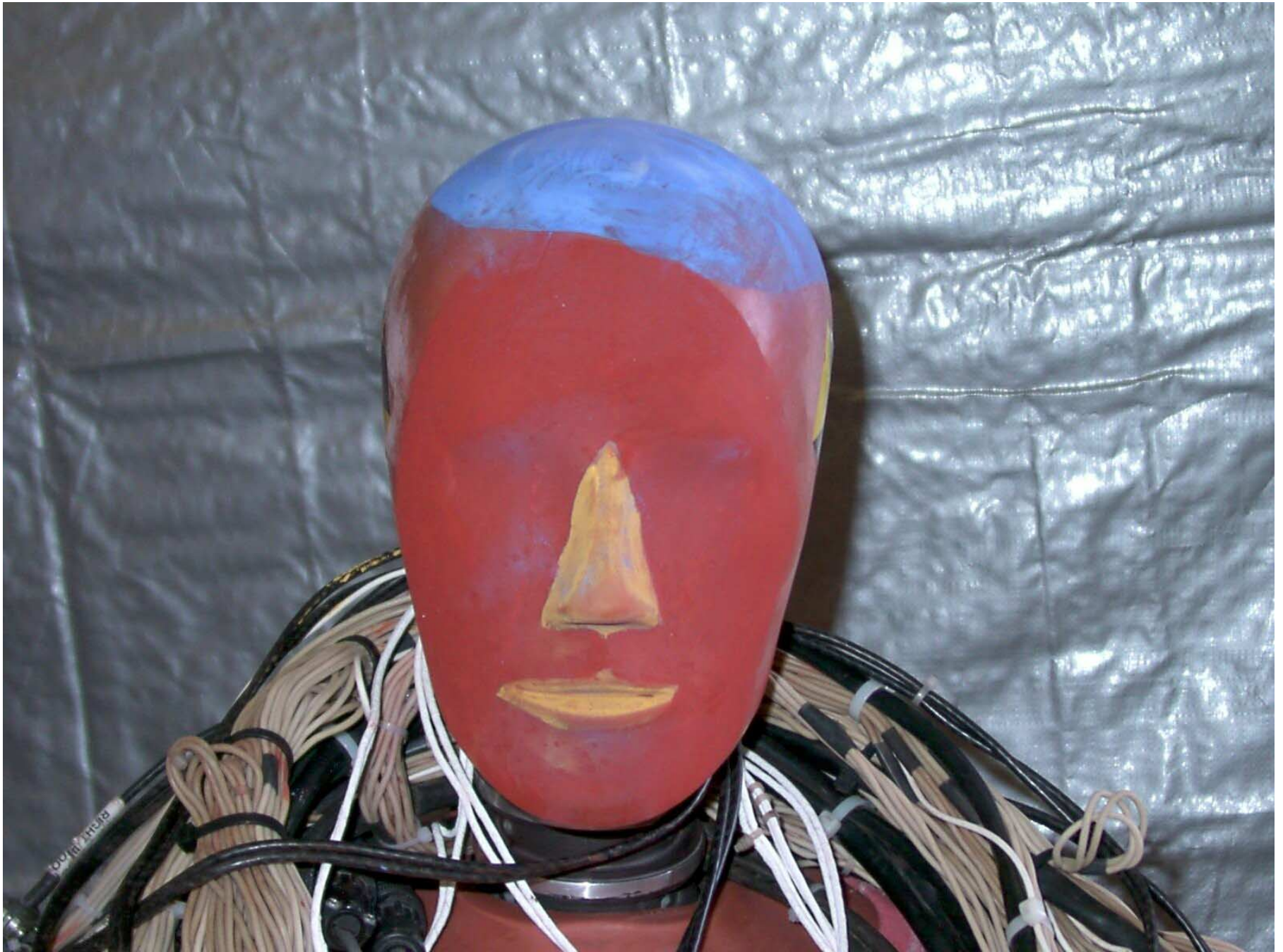


Figure A-55: Passenger Head, Post-Test



Figure A-56: Passenger Dummy Contact, Post-Test



Figure A-57: ¾ Left Rear View of Doors Closed After Impact



Figure A-58: ³/₄Right Rear View of Doors Closed After Impact



Figure A-59: Vehicle on Rollover Device

**Photograph Not
Available**

Figure A-60: Vehicle During Impact

APPENDIX B

DATA PLOTS

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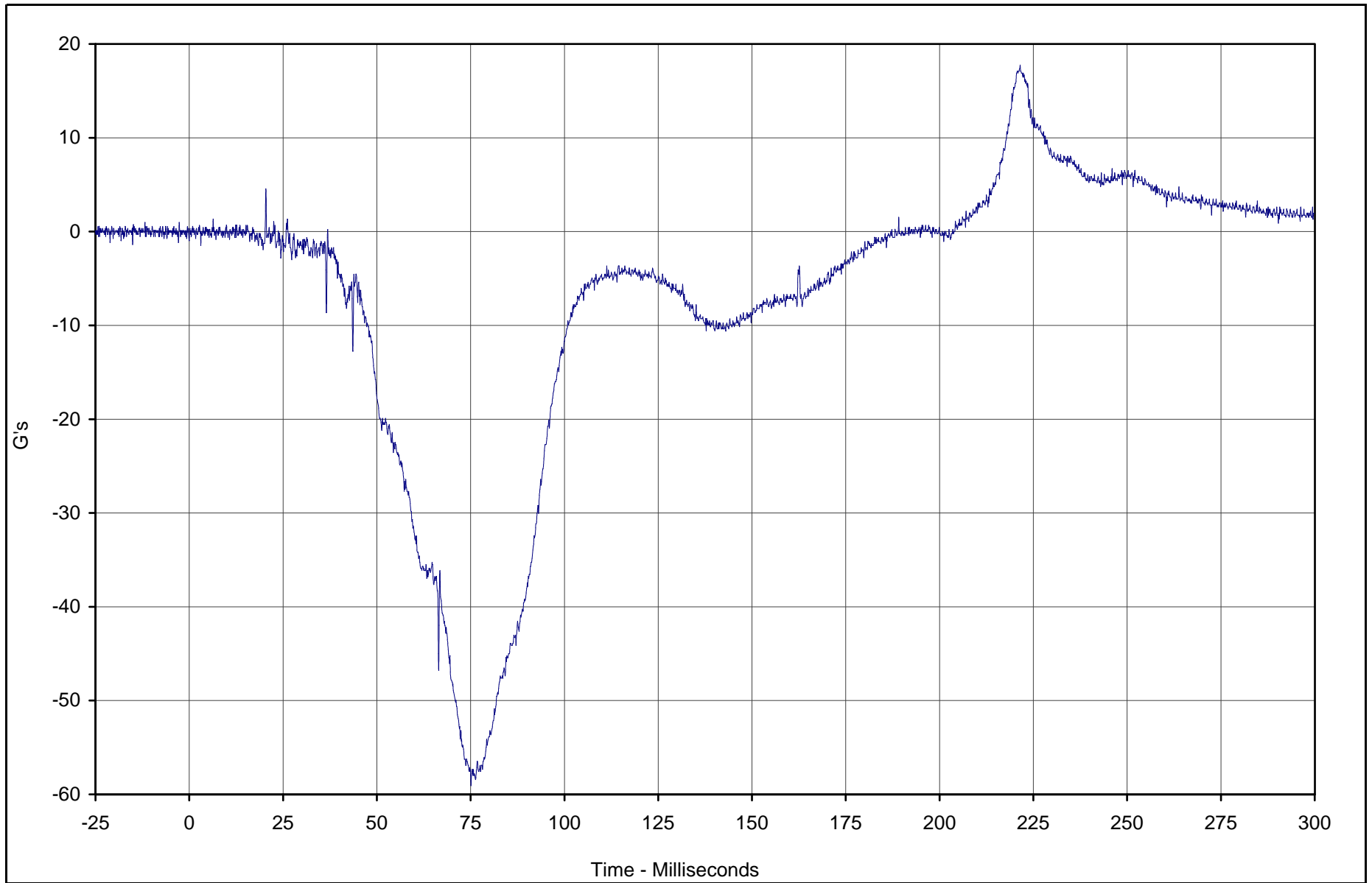
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B-1



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|------|-------|-------|------|-----------|
| Driver Head Primary X | 001 | FIL | G's | 17.8 | 221.5 | -59.1 | 75.1 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

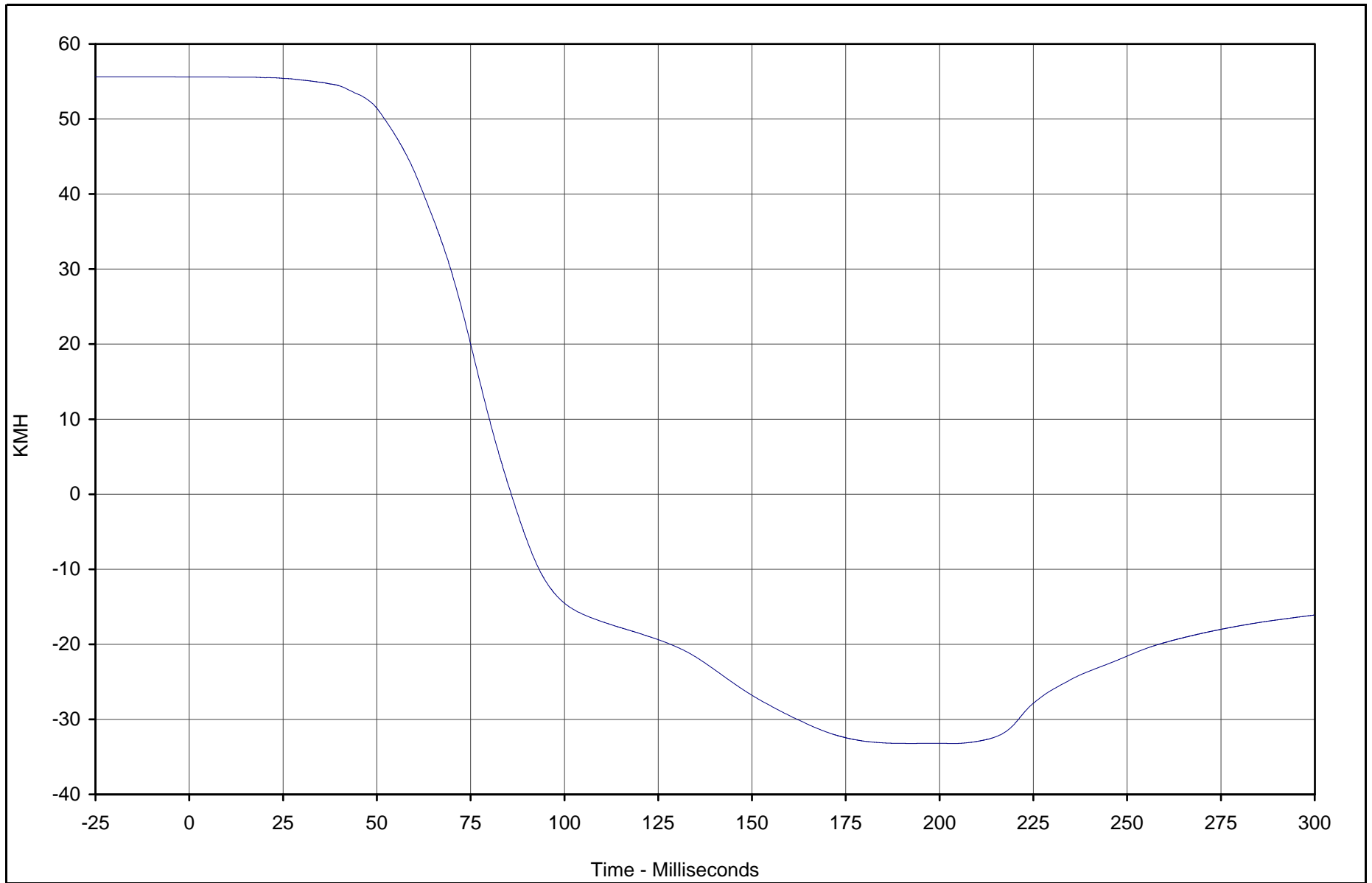
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Head Primary X Velocity | 001 | IN1 | KMH | 55.6 | 0.0 | -33.2 | 203.7 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

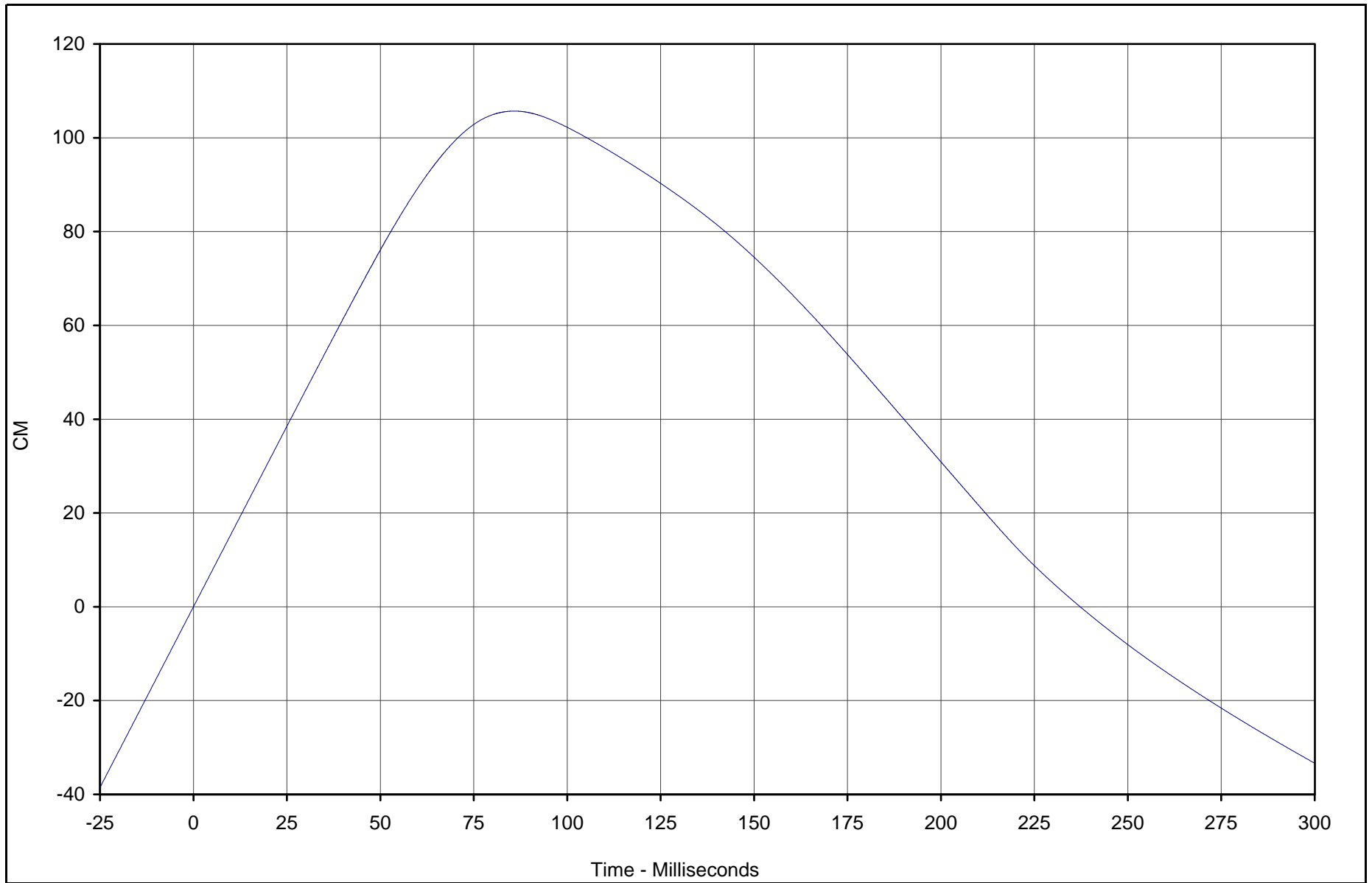
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-3



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------|-------|------|-------|-------|------|-------|-------|-----------|
| Driver Head Primary X Displ. | 001 | IN2 | CM | 105.7 | 85.8 | -33.3 | 299.9 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

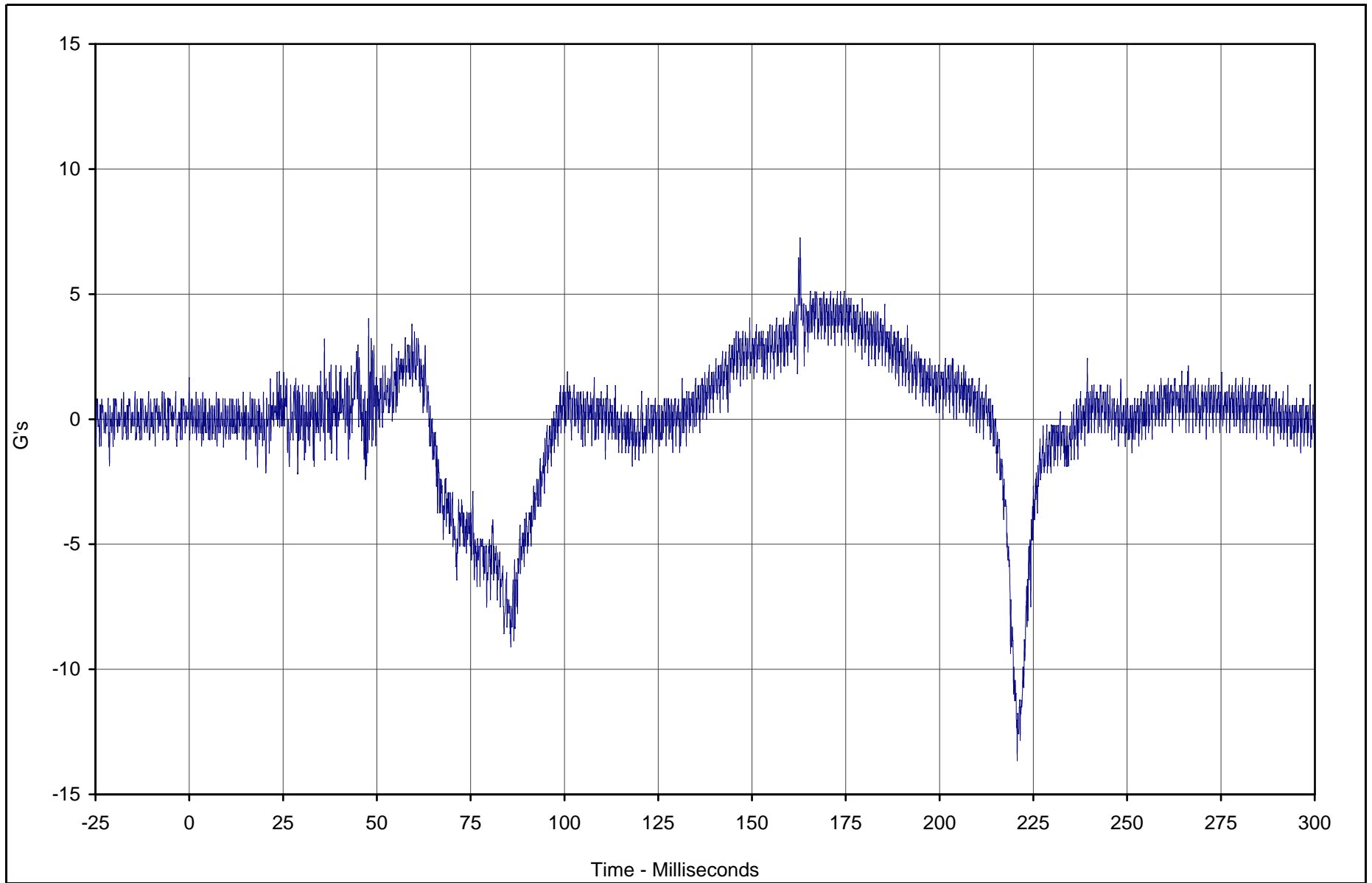
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-4



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|-----|-------|-------|-------|-----------|
| Driver Head Primary Y | 002 | FIL | G's | 7.2 | 162.8 | -13.7 | 220.7 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

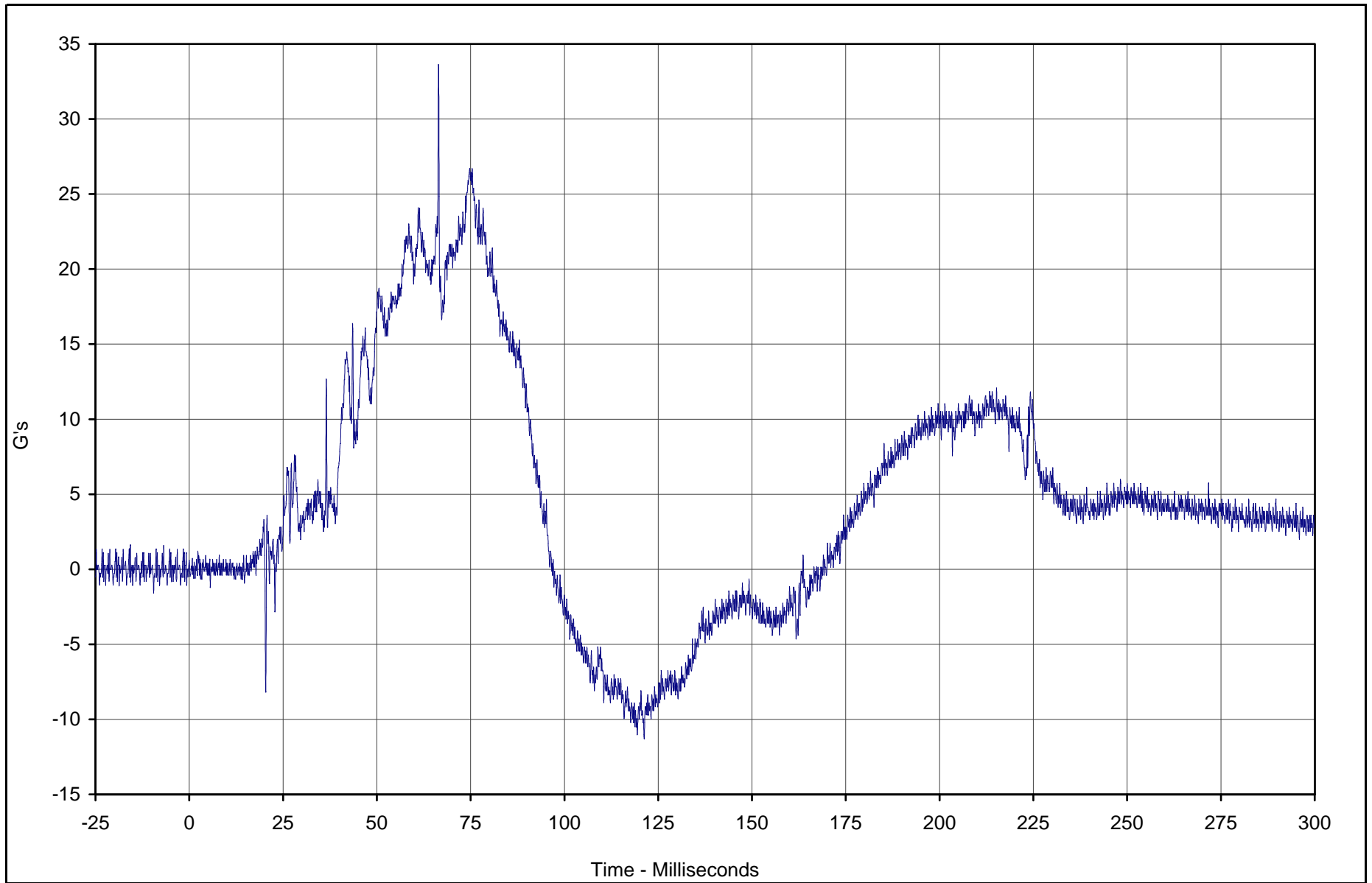
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-5



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Head Primary Z | 003 | FIL | G's | 33.6 | 66.4 | -11.3 | 121.3 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

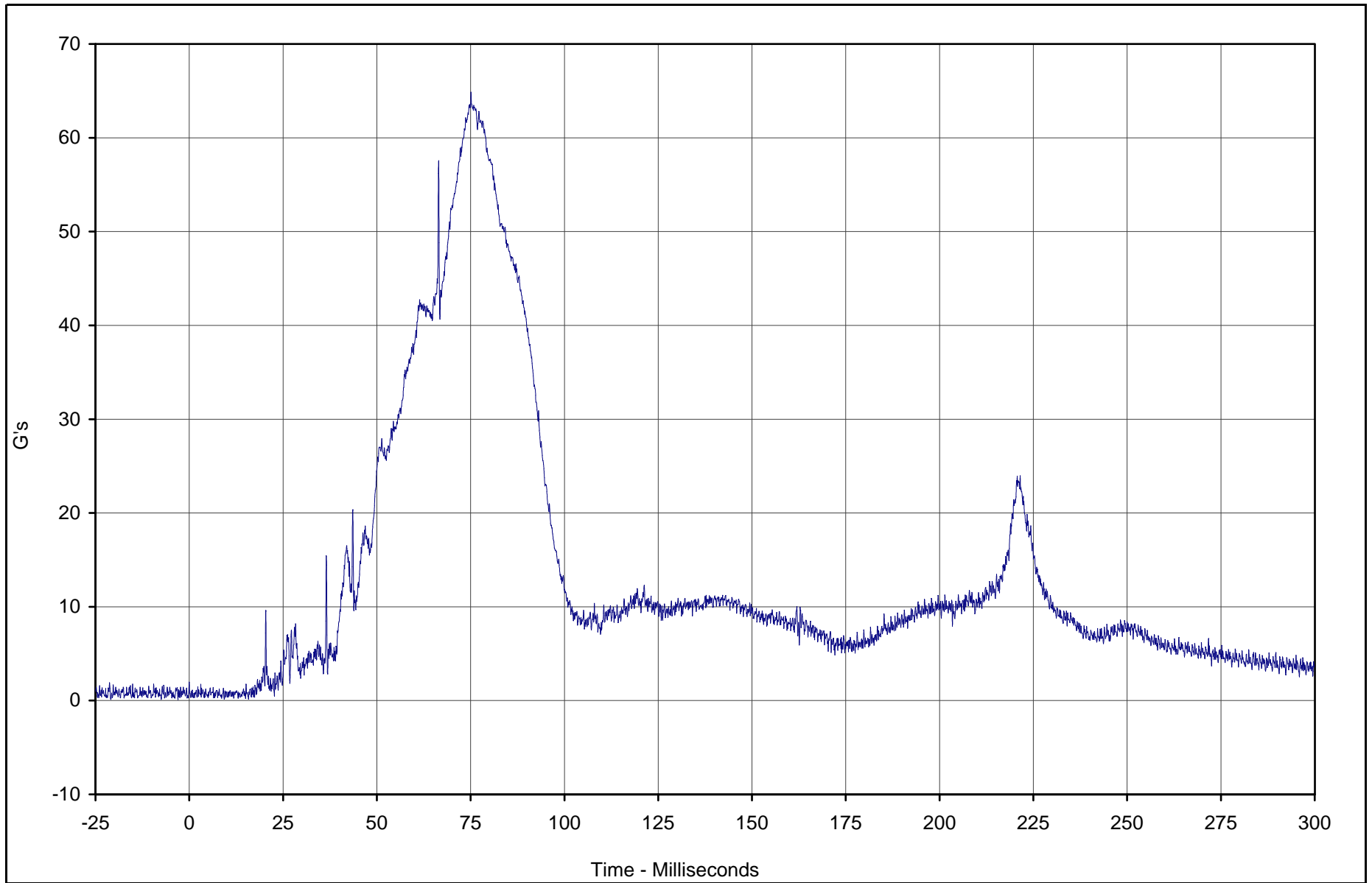
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-6



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Head Resultant Primary | 001 | RES | G's | 64.9 | 75.1 | 0.1 | 9.3 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

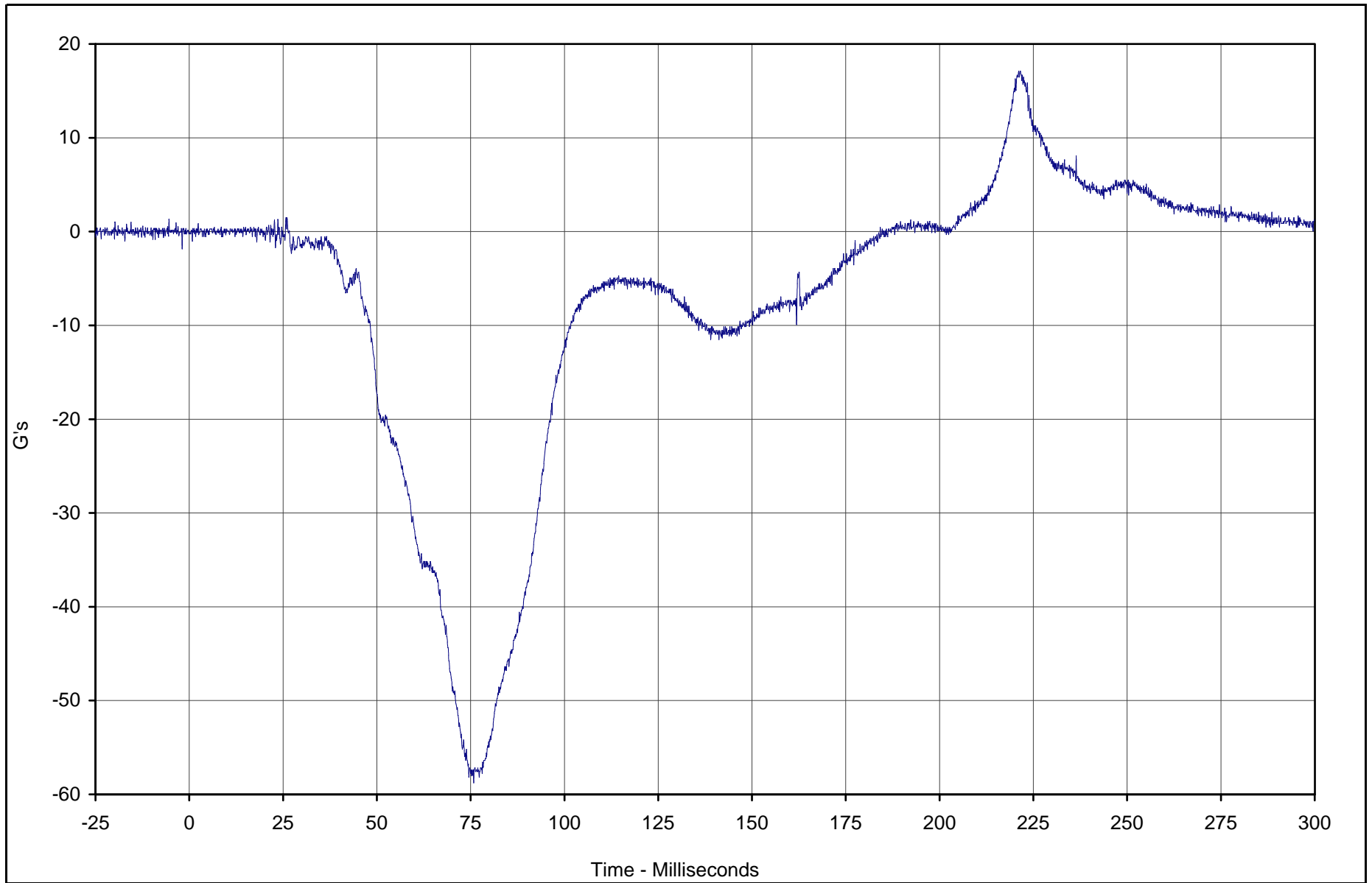
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-7



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Driver Head Redundant X | 004 | FIL | G's | 17.1 | 221.1 | -58.8 | 75.8 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

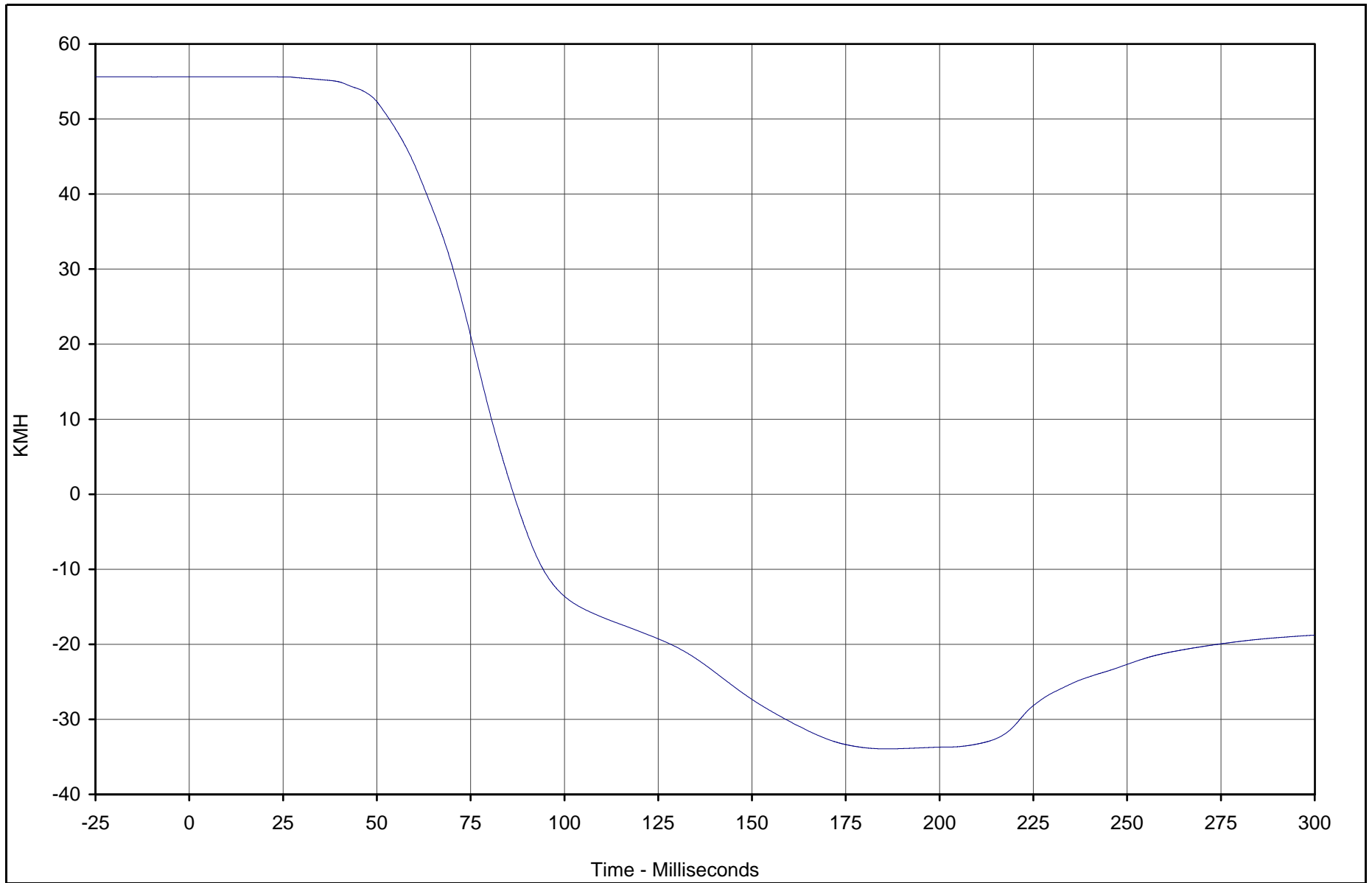
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-8



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Head Redundant X Velocity | 004 | IN1 | KMH | 55.6 | 17.5 | -33.9 | 186.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

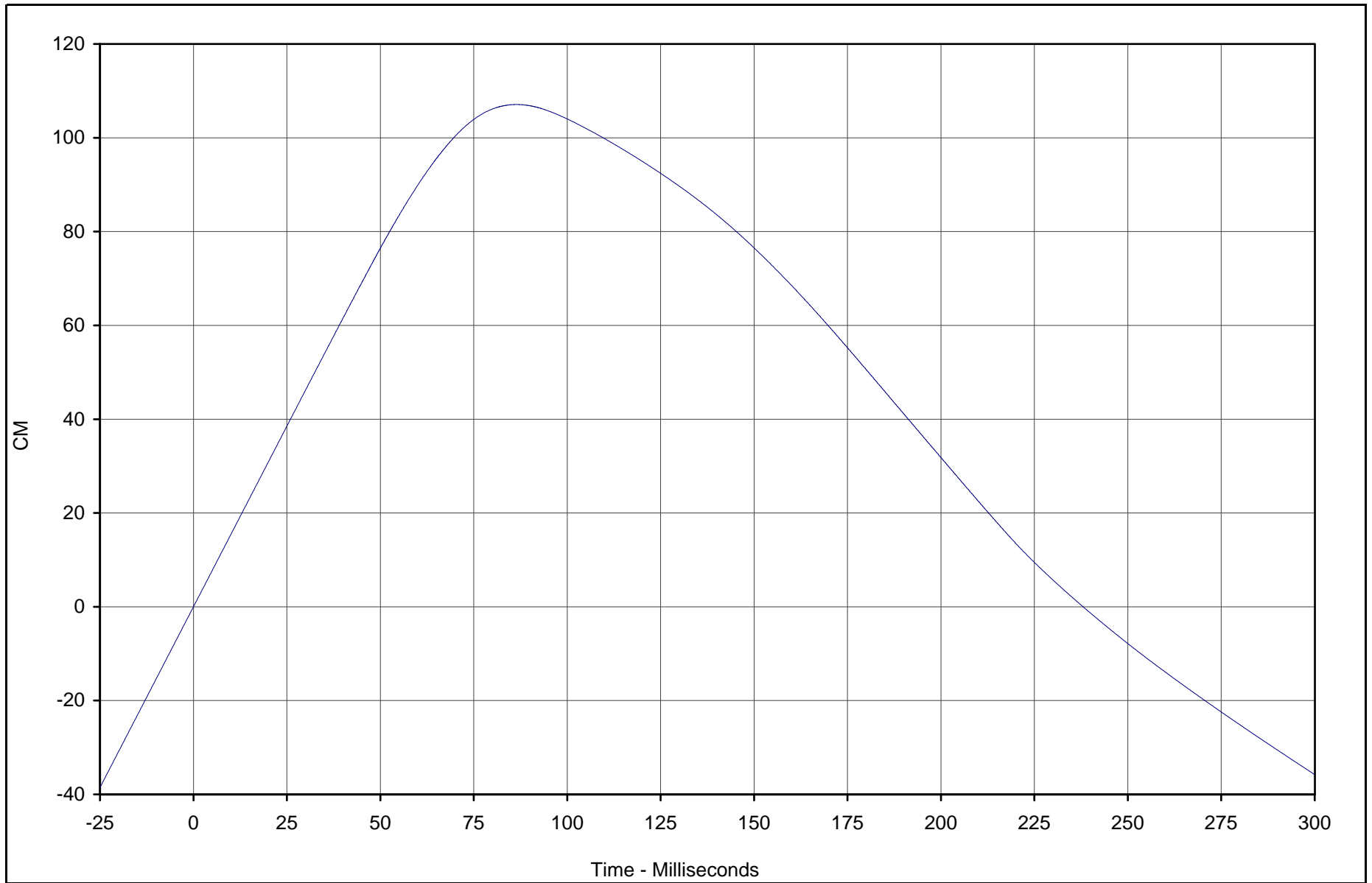
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-9



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------|-------|------|-------|-------|------|-------|-------|-----------|
| Driver Head Redundant X Displ. | 004 | IN2 | CM | 107.1 | 86.5 | -35.7 | 299.9 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

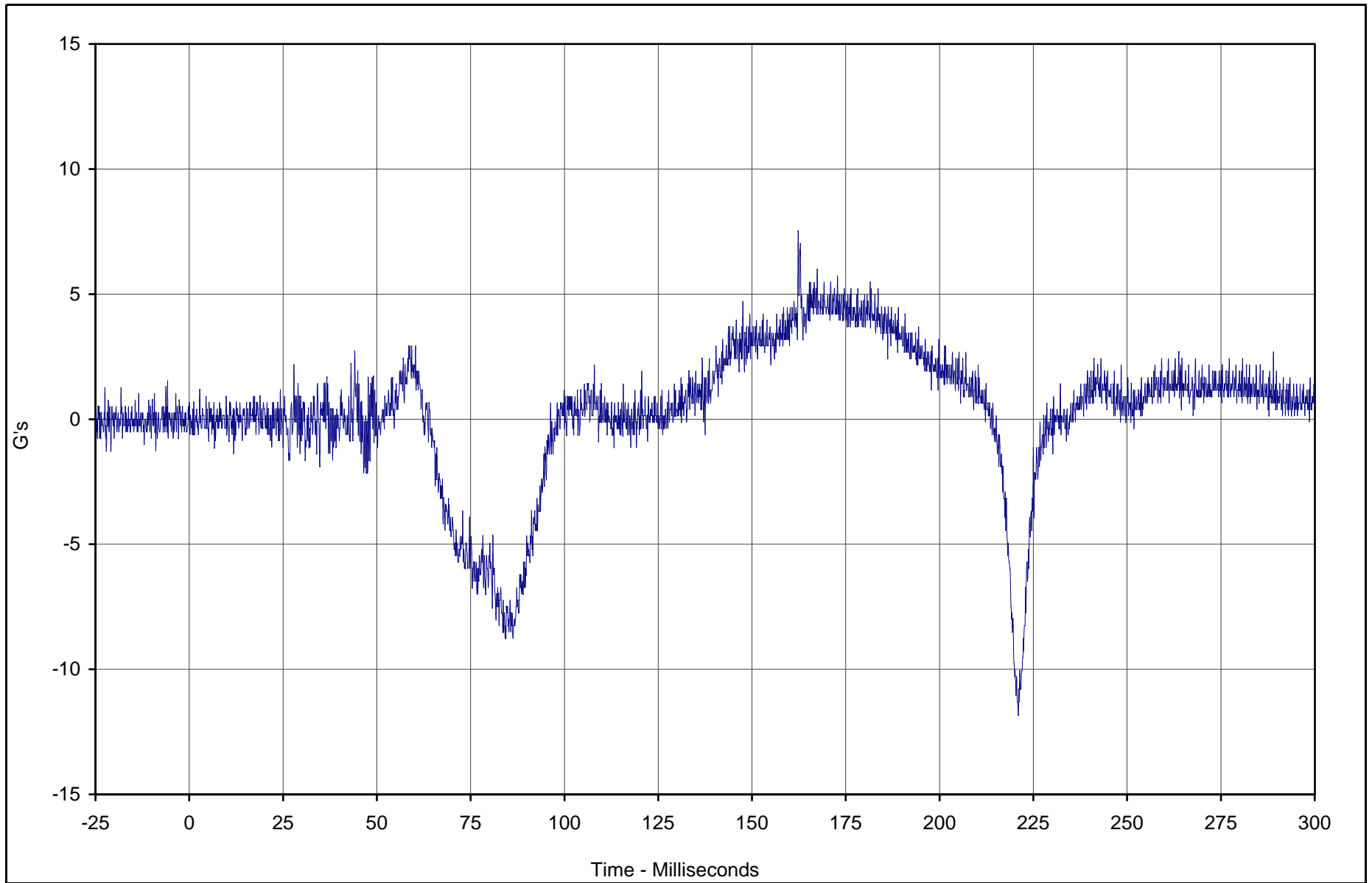
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-10



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|-----|-------|-------|-------|-----------|
| Driver Head Redundant Y | 005 | FIL | G's | 7.5 | 162.3 | -11.8 | 221.0 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

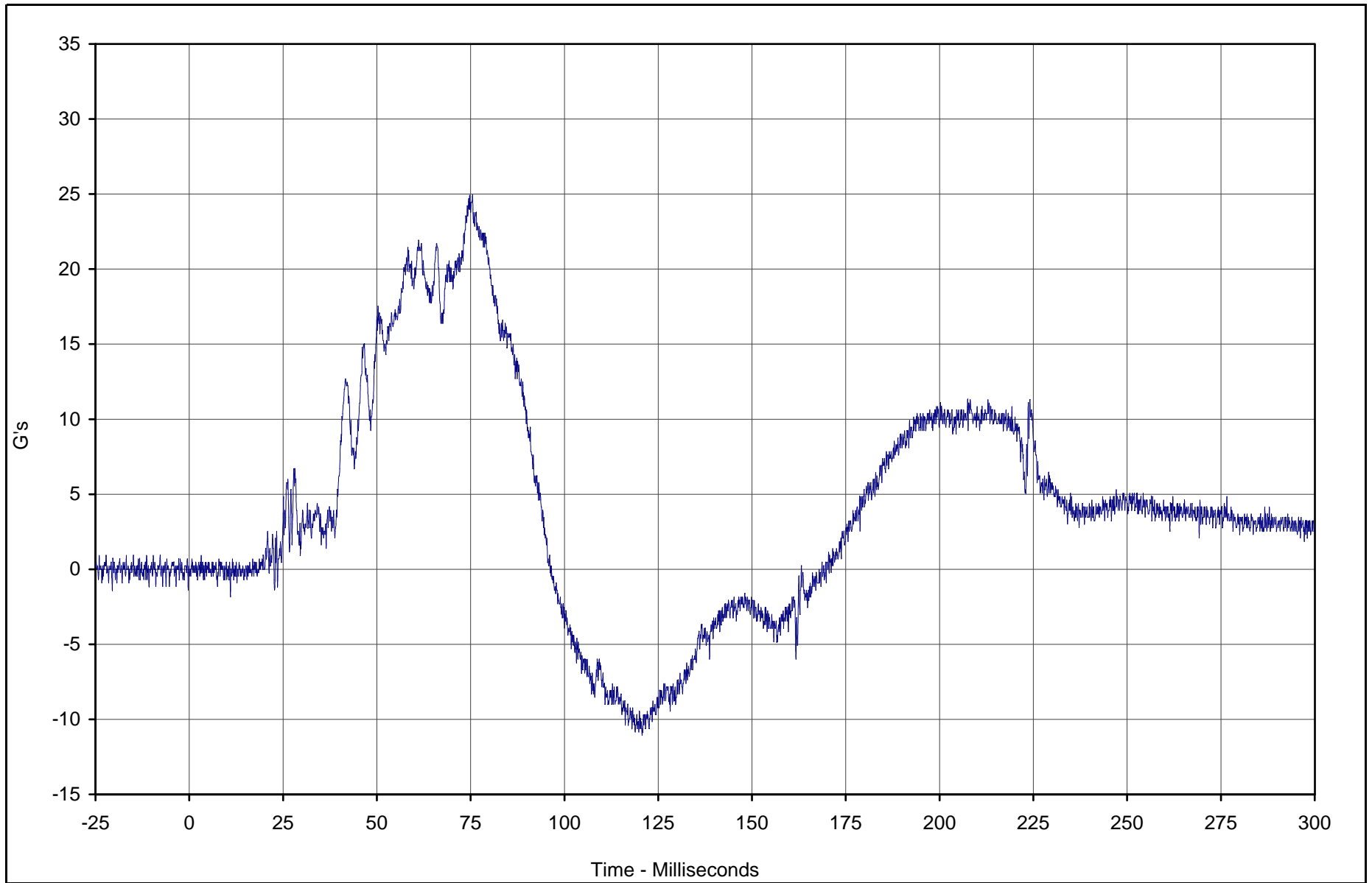
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-11



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Head Redundant Z | 006 | FIL | G's | 24.9 | 74.7 | -11.1 | 120.7 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

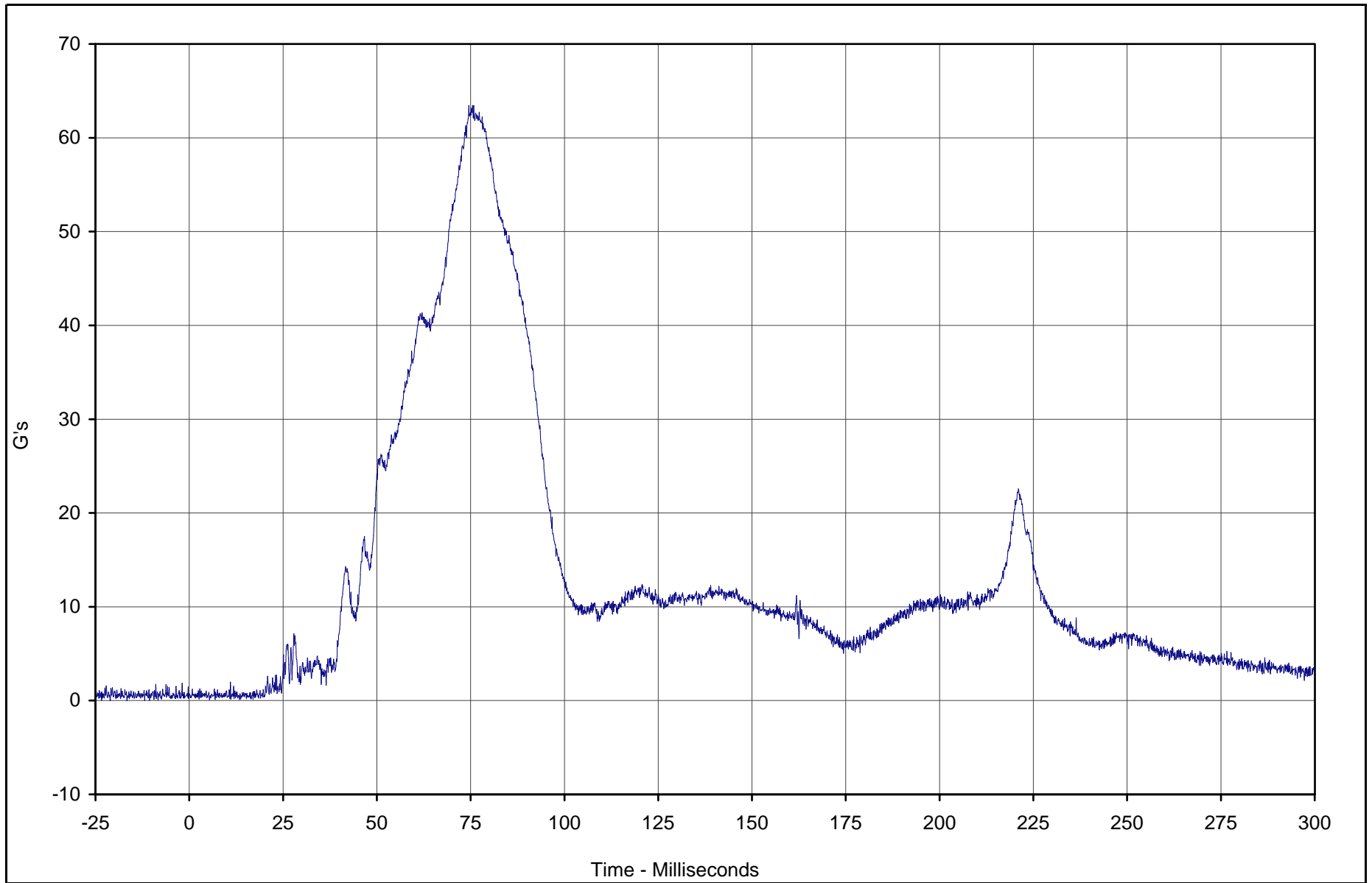
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Head Resultant Redundant | 004 | RES | G's | 63.4 | 75.5 | 0.1 | 5.4 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

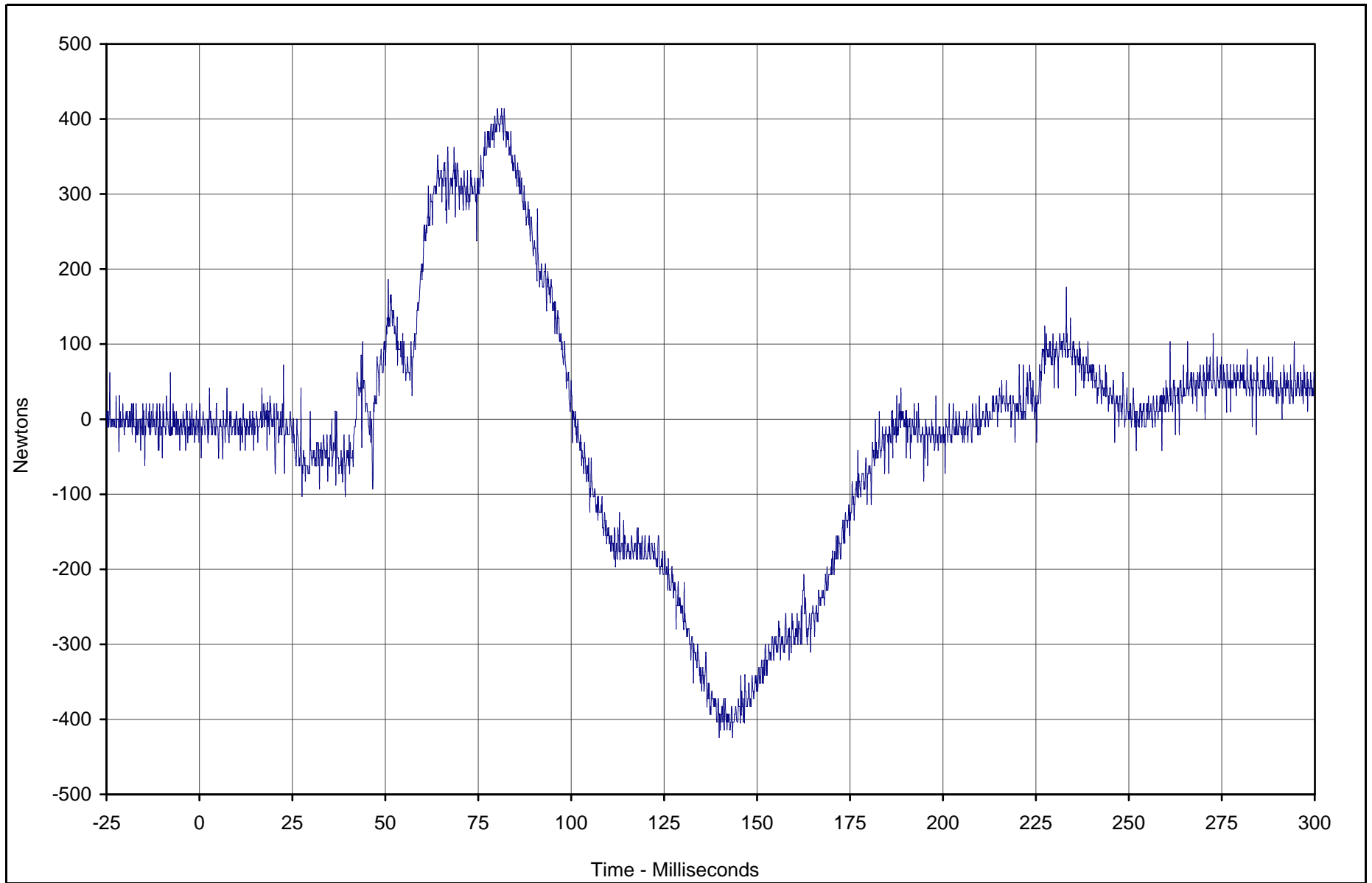
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-13



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------|-------|------|---------|-------|------|--------|-------|-----------|
| Driver Neck Force X | 007 | FIL | Newtons | 414.0 | 80.2 | -424.4 | 139.8 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

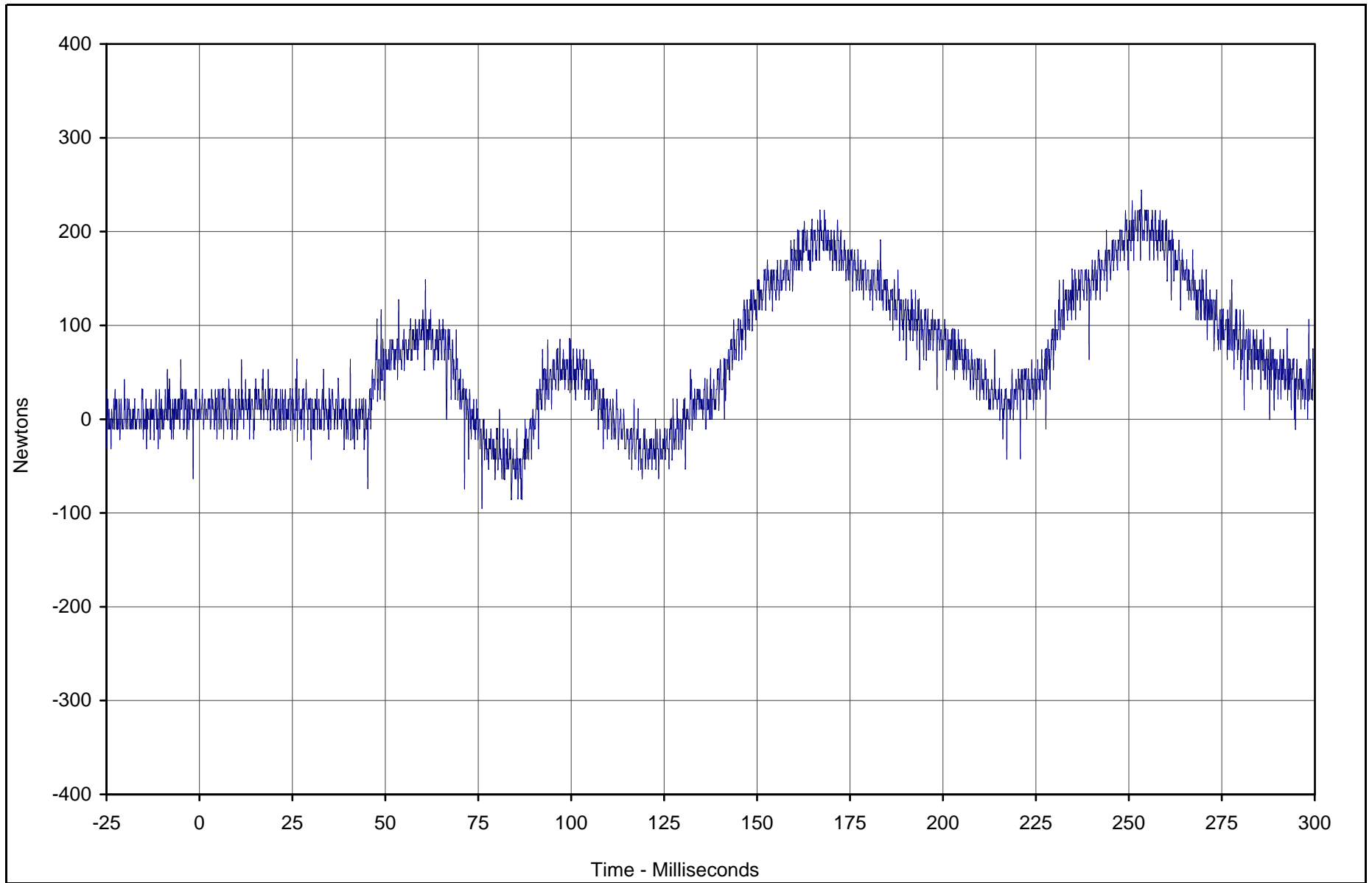
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-14



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------|-------|------|---------|-------|-------|-------|------|-----------|
| Driver Neck Force Y | 008 | FIL | Newtons | 243.7 | 253.4 | -95.4 | 76.0 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

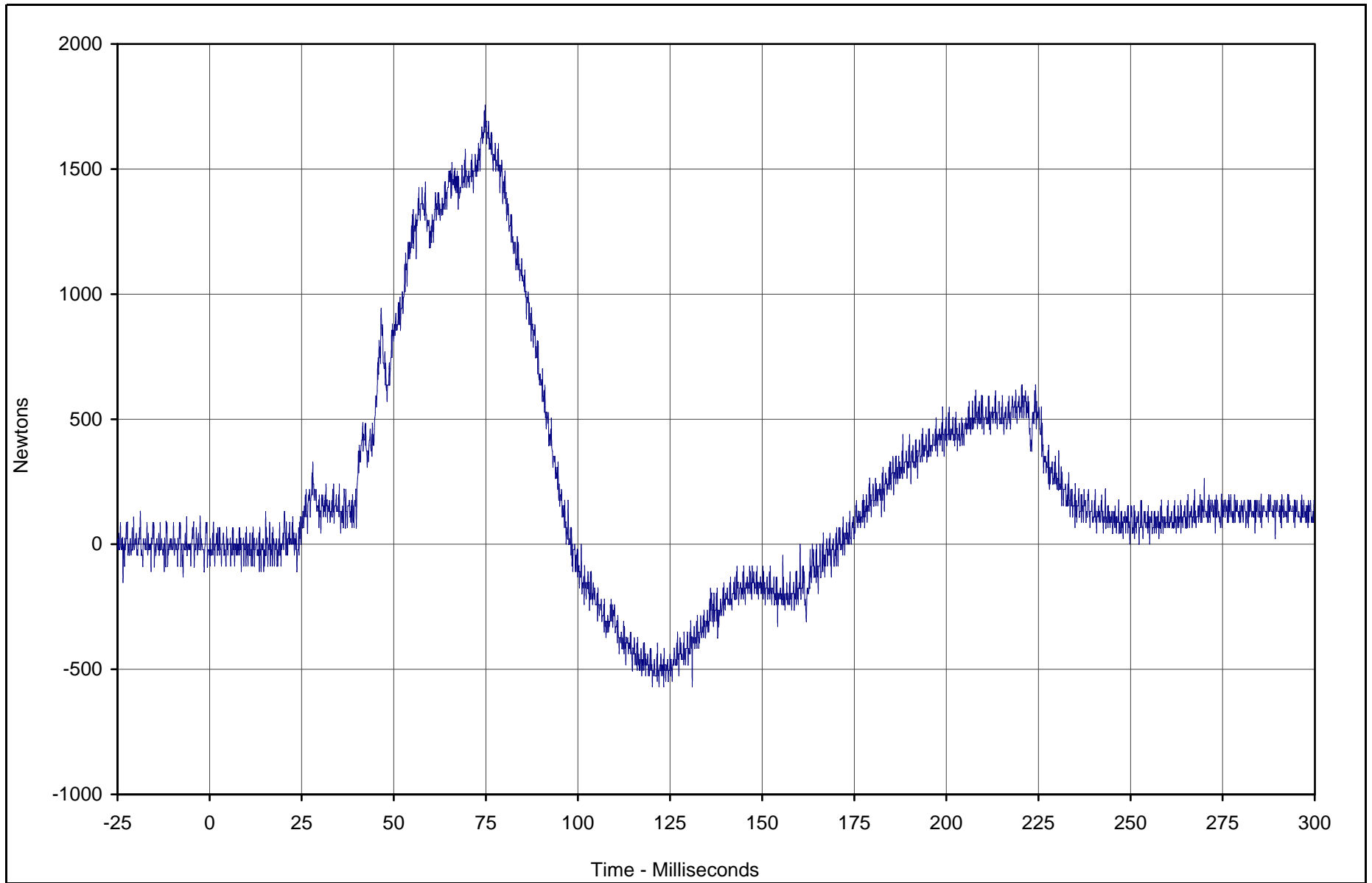
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-15



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------|-------|------|---------|--------|------|--------|-------|-----------|
| Driver Neck Force Z | 009 | FIL | Newtons | 1755.7 | 74.8 | -570.6 | 120.2 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

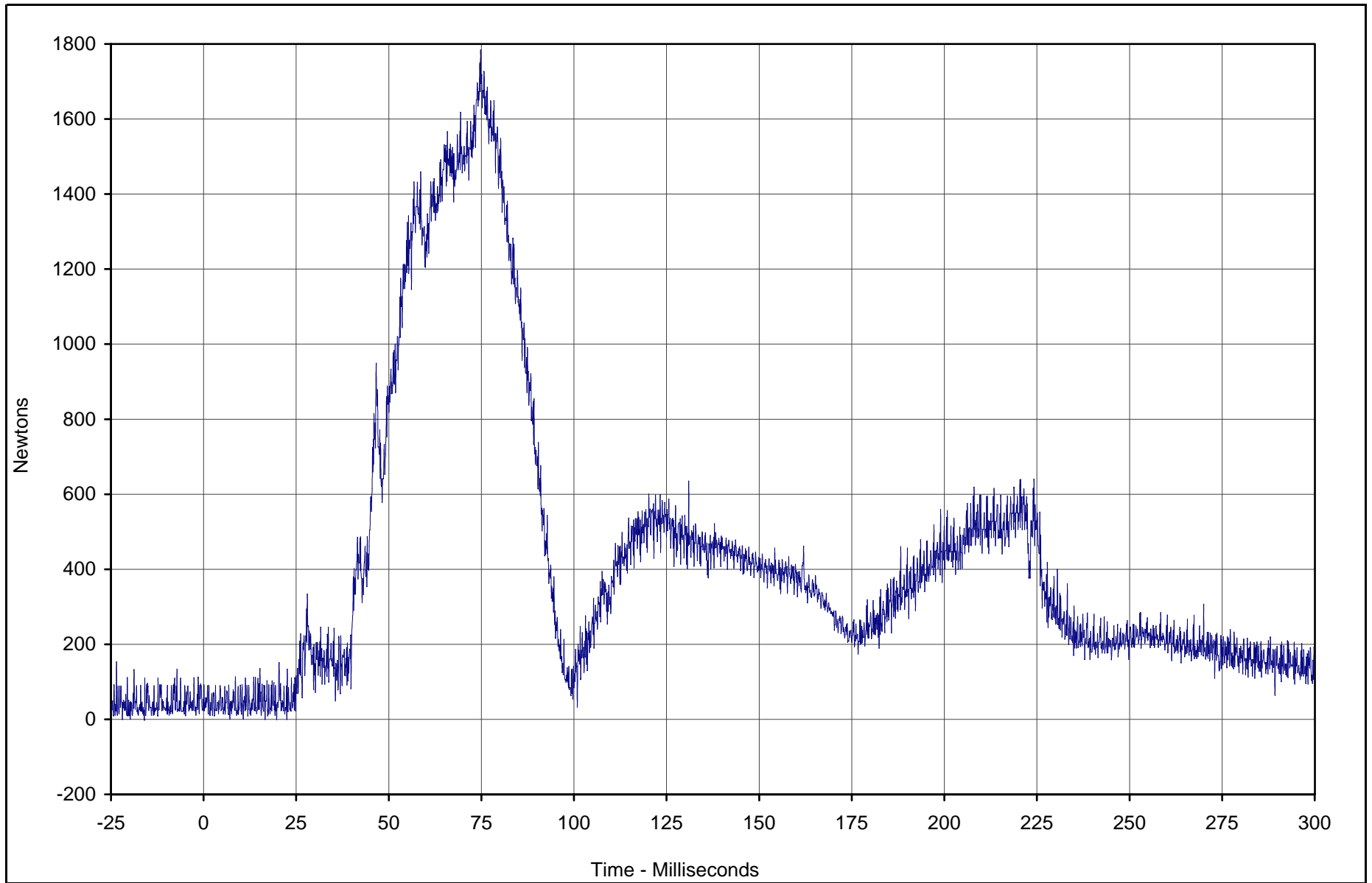
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-16



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|---------|--------|------|-----|------|-----------|
| Driver Neck Force Resultant | 007 | RES | Newtons | 1784.8 | 74.8 | 0.0 | 7.1 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

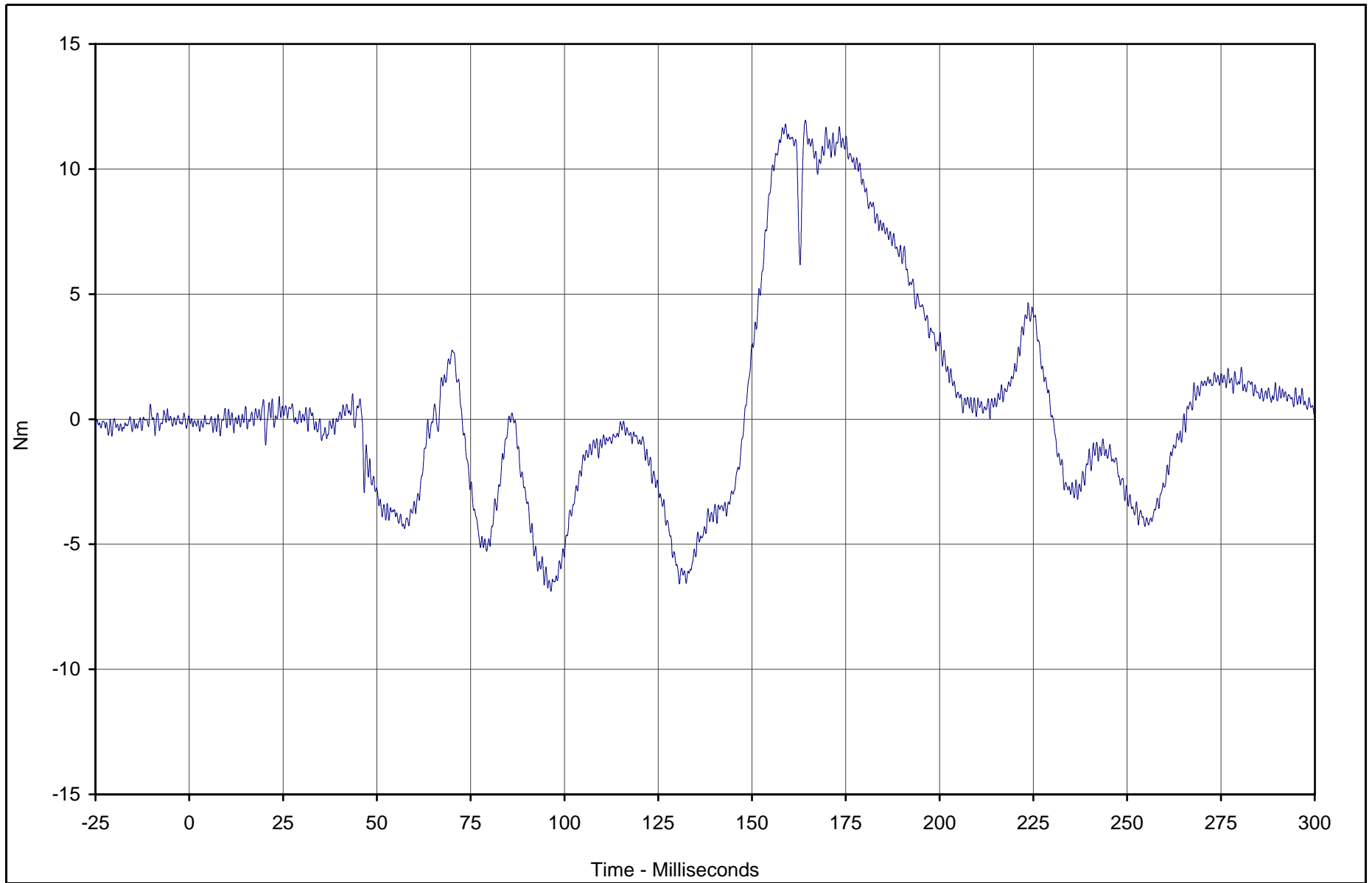
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-17



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------|-------|------|-------|------|-------|------|------|-----------|
| Driver Neck Moment X | 010 | FIL | Nm | 12.0 | 164.3 | -6.9 | 96.4 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

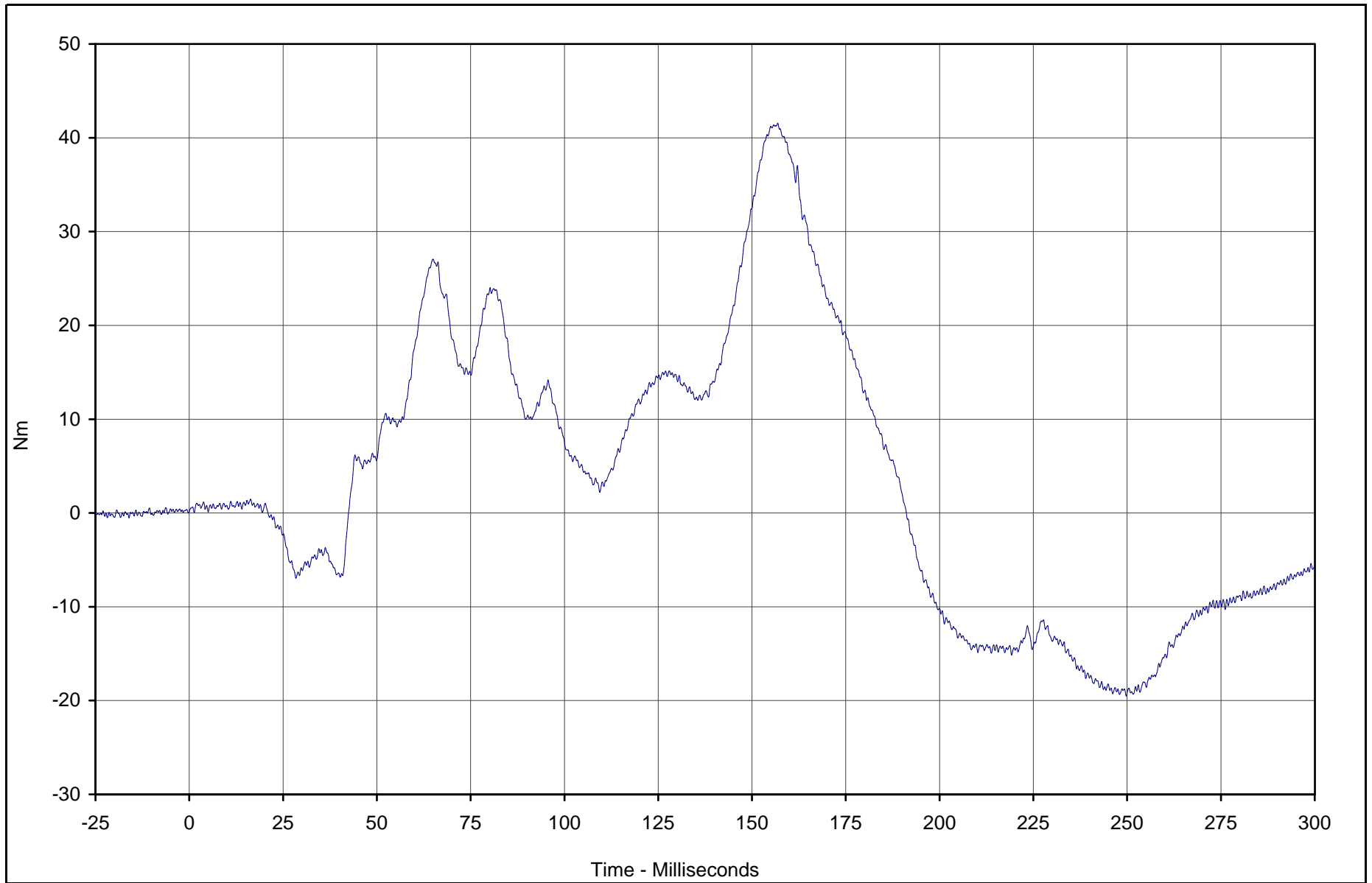
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-18



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------|-------|------|-------|------|-------|-------|-------|-----------|
| Driver Neck Moment Y | 011 | FIL | Nm | 41.6 | 156.9 | -19.5 | 249.7 | 600 |



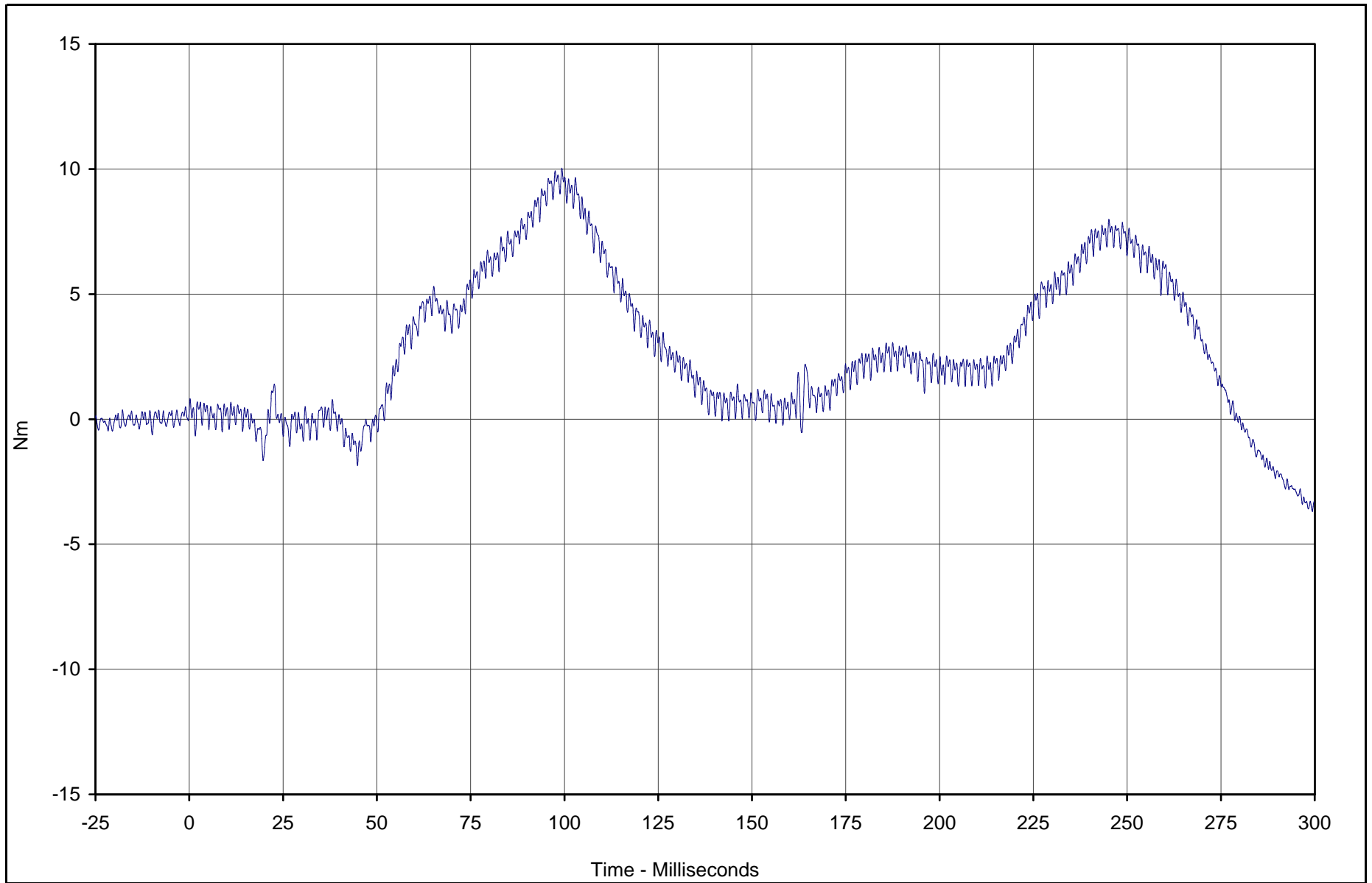
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-19



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------|-------|------|-------|------|------|------|-------|-----------|
| Driver Neck Moment Z | 012 | FIL | Nm | 10.0 | 99.3 | -3.7 | 299.4 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

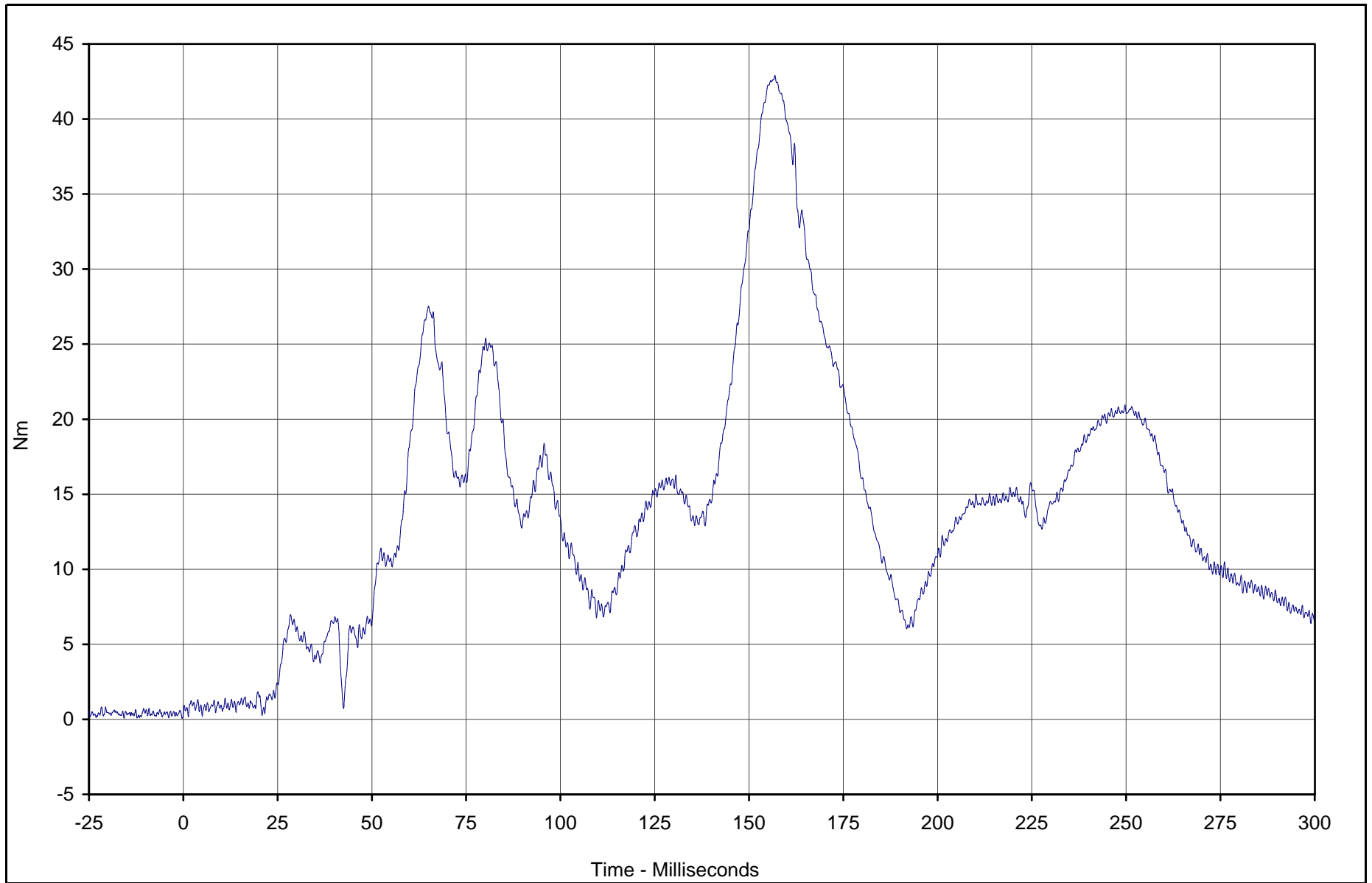
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-20



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------|-------|------|-------|------|-------|-----|------|-----------|
| Driver Neck Moment Resultant | 010 | RES | Nm | 42.9 | 156.9 | 0.2 | 1.3 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

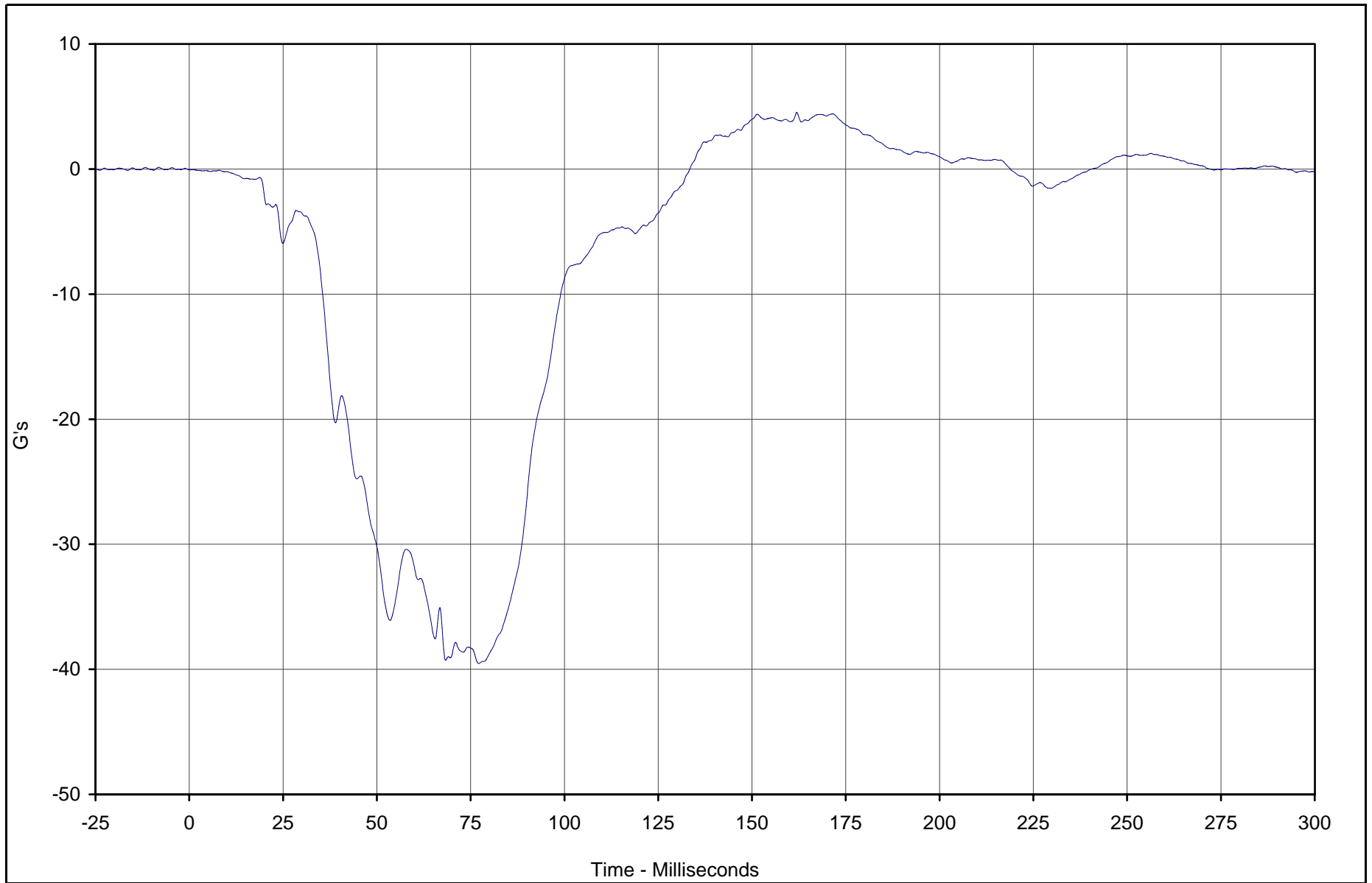
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-21



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Driver Chest Primary X | 013 | FIL | G's | 4.5 | 161.9 | -39.5 | 77.2 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

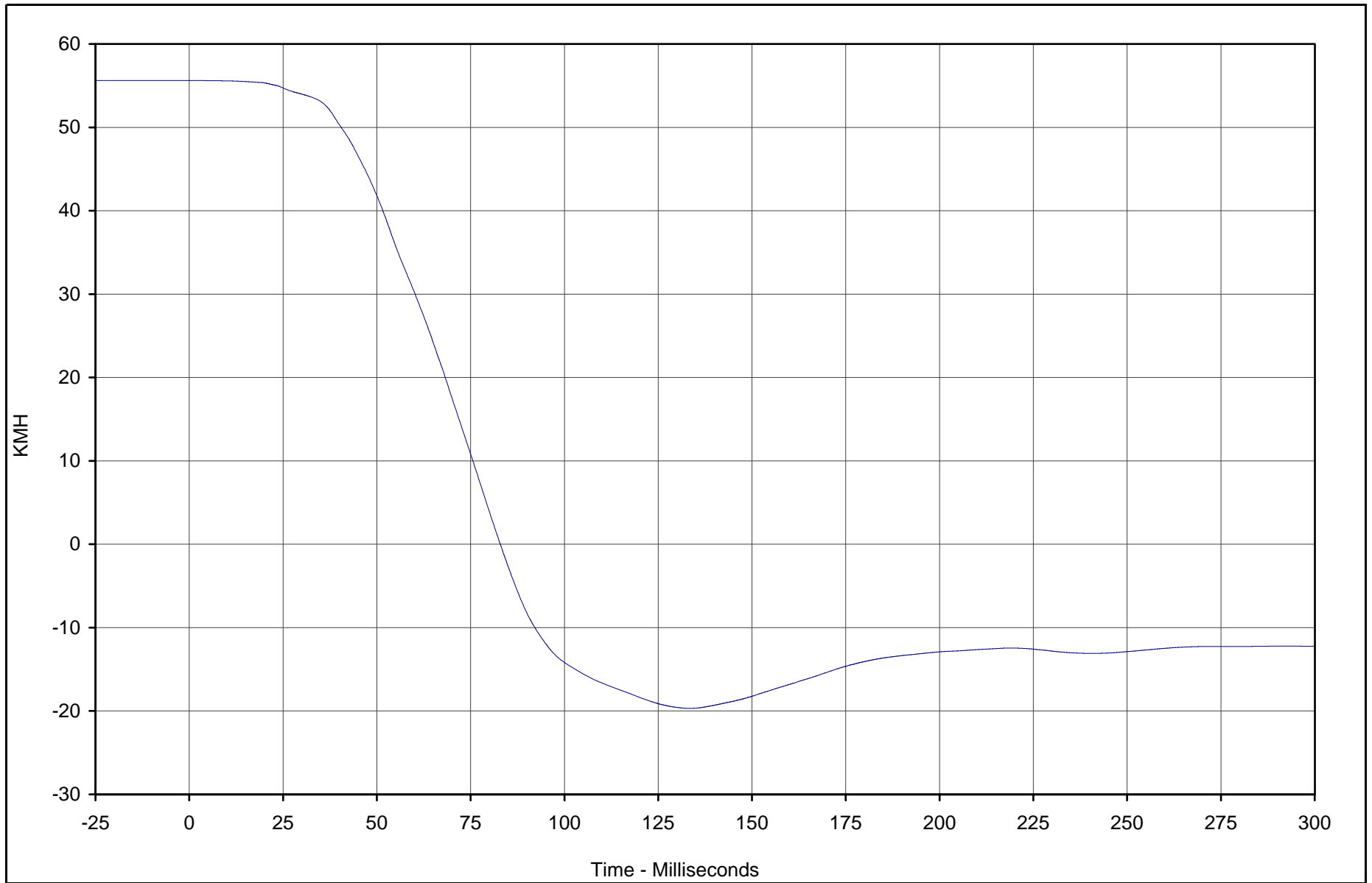
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-22



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Chest Primary X Velocity | 013 | IN1 | KMH | 55.6 | 0.0 | -19.7 | 133.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

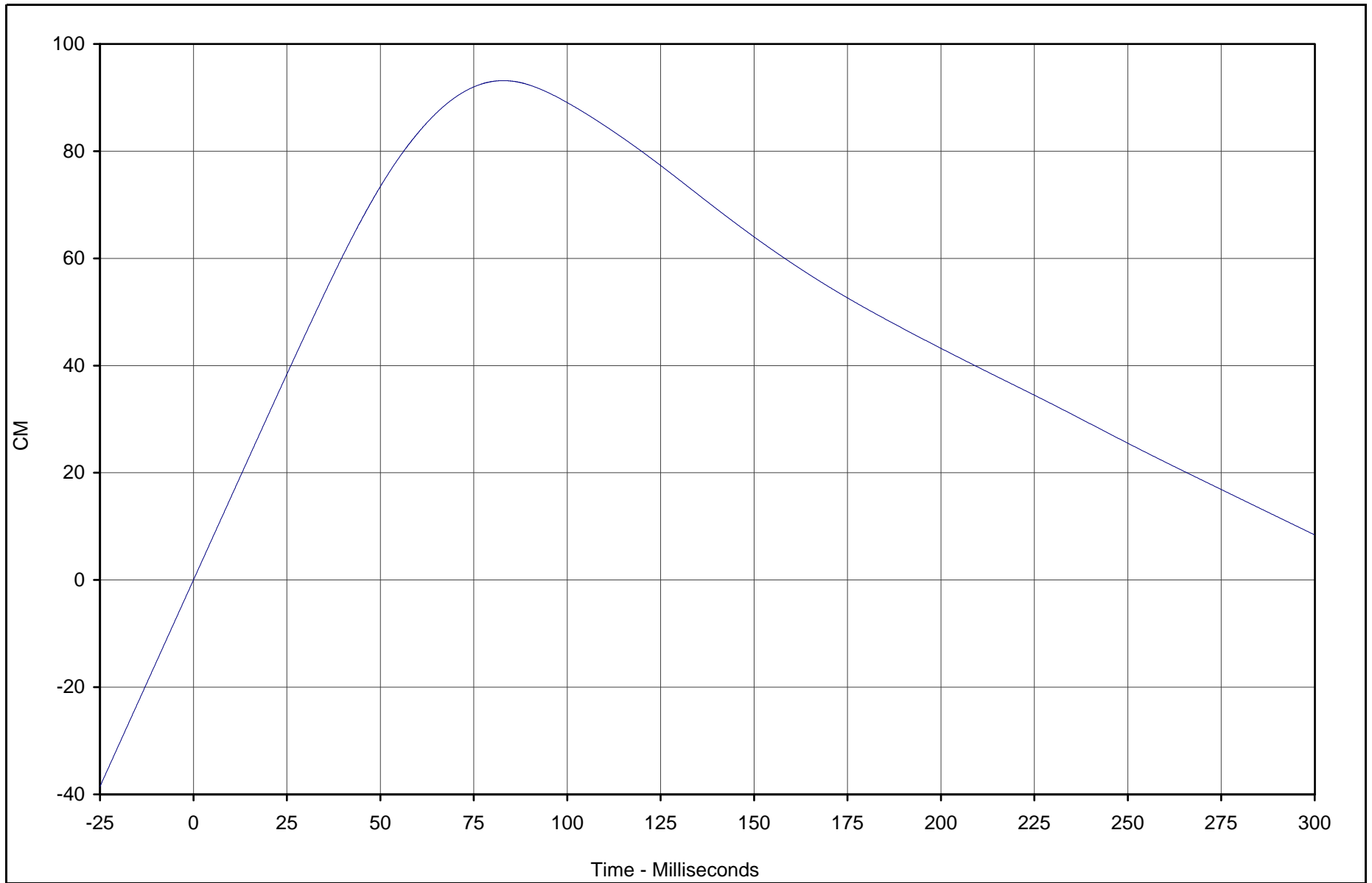
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-23



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Chest Primary X Displ. | 013 | IN2 | CM | 93.2 | 82.9 | 0.0 | 0.0 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

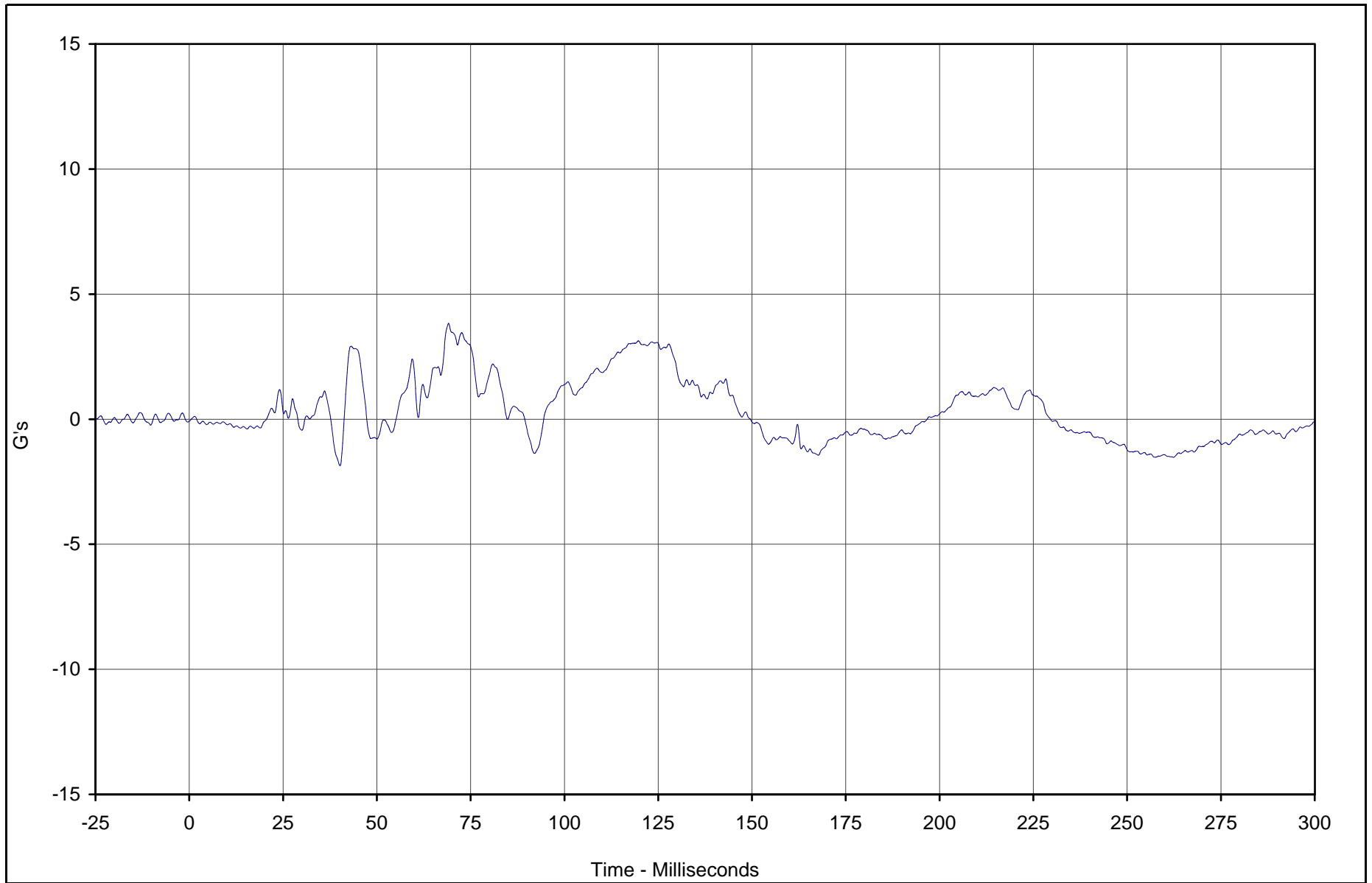
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-24



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|-------|-----|------|------|------|-----------|
| Driver Chest Primary Y | 014 | FIL | G's | 3.8 | 69.1 | -1.9 | 40.2 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

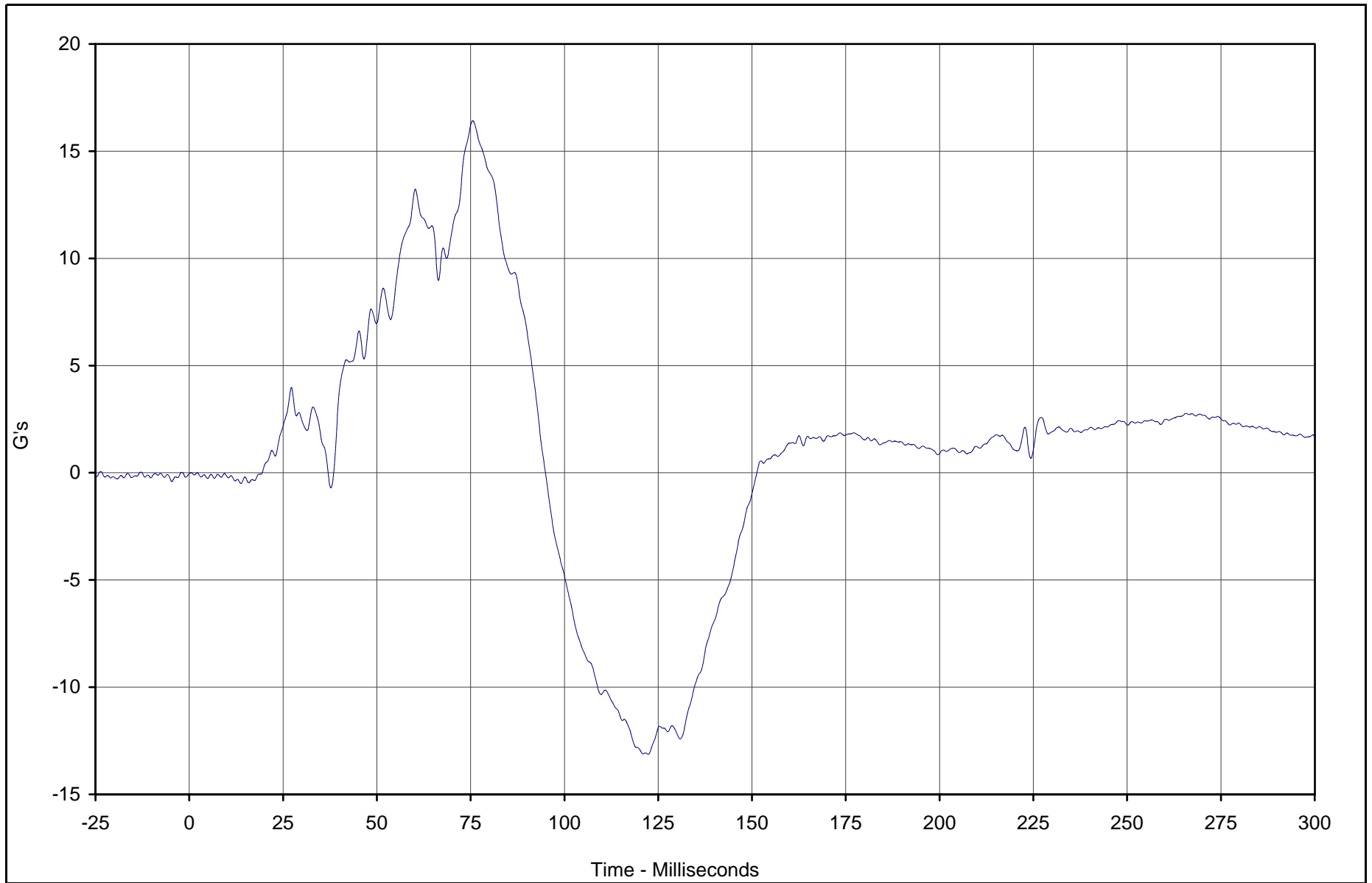
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-25



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Chest Primary Z | 015 | FIL | G's | 16.4 | 75.5 | -13.1 | 122.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

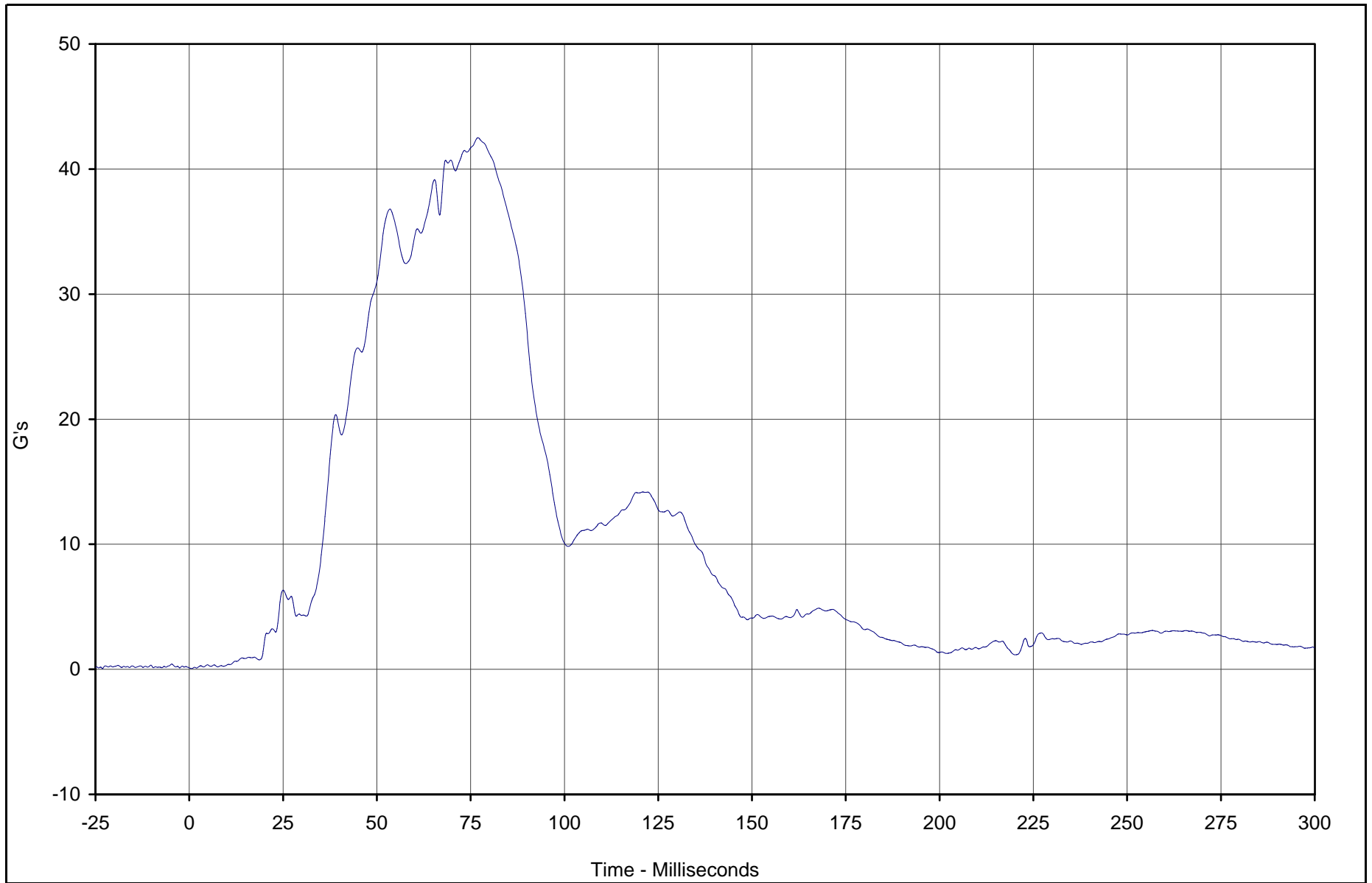
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-26



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Chest Resultant Primary | 013 | RES | G's | 42.5 | 76.9 | 0.1 | 0.6 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

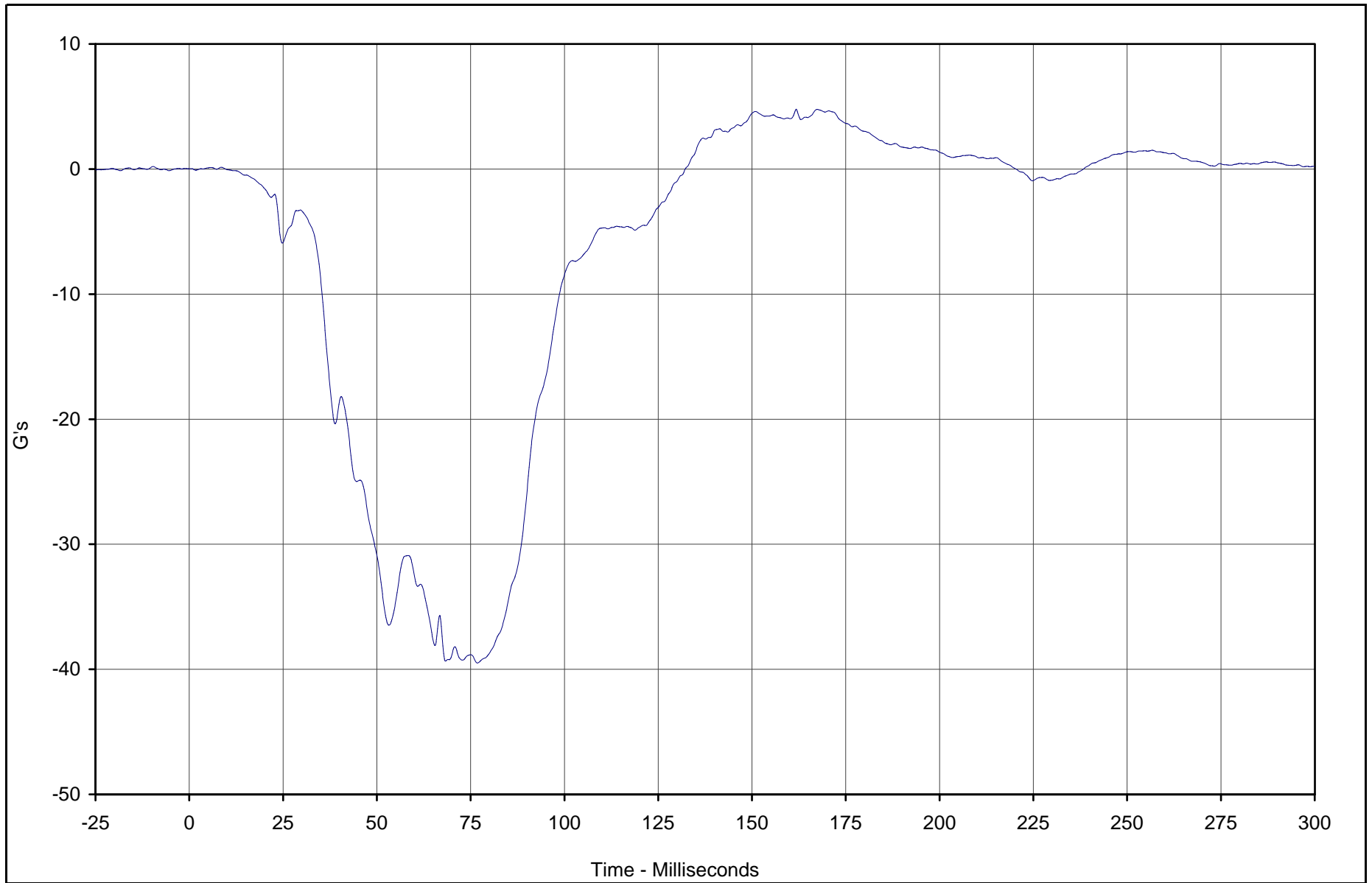
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-27



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Driver Chest Redundant X | 016 | FIL | G's | 4.8 | 161.8 | -39.5 | 76.8 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

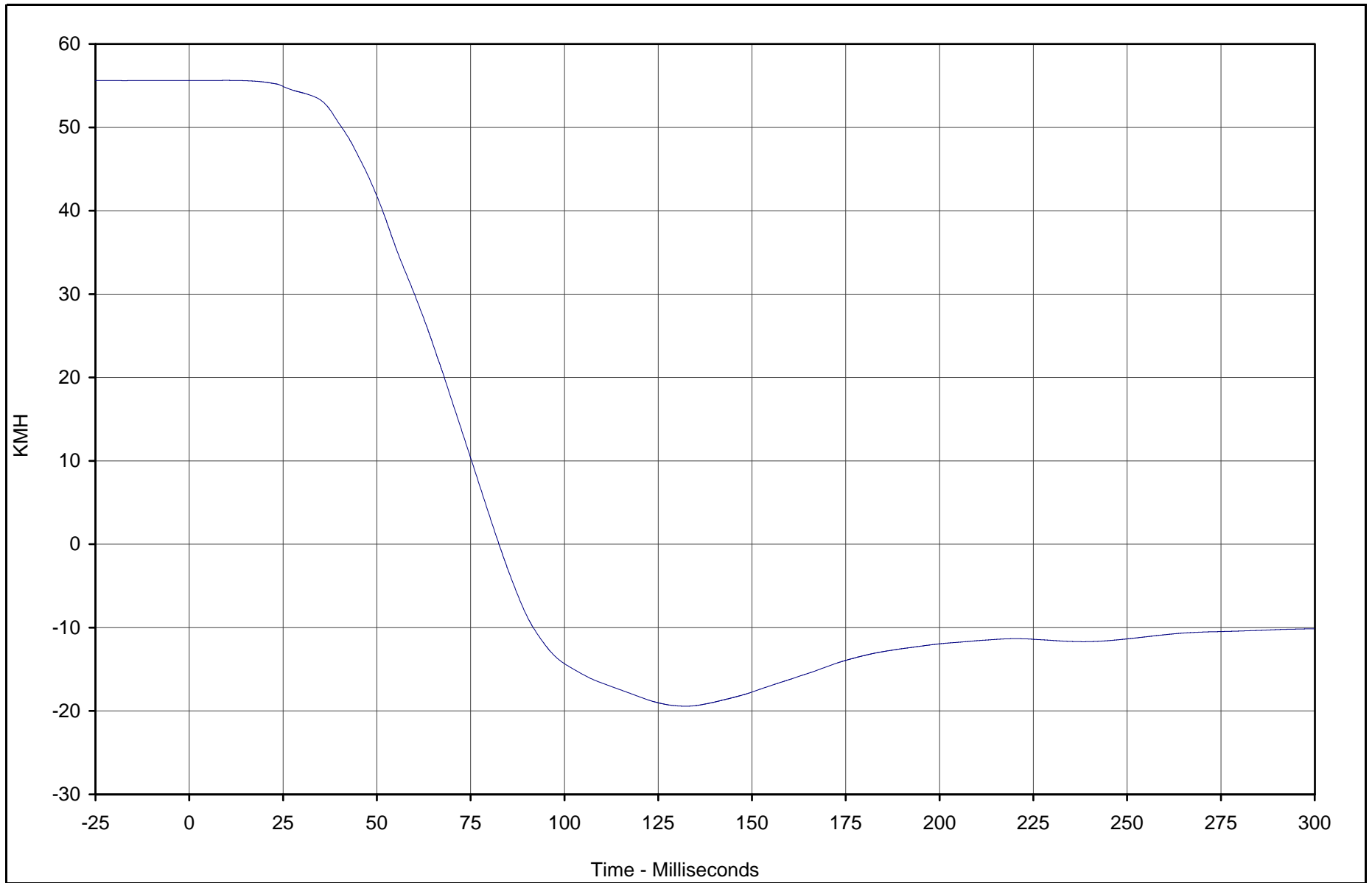
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-28



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Chest Redundant X Velocity | 016 | IN1 | KMH | 55.6 | 9.7 | -19.4 | 132.2 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

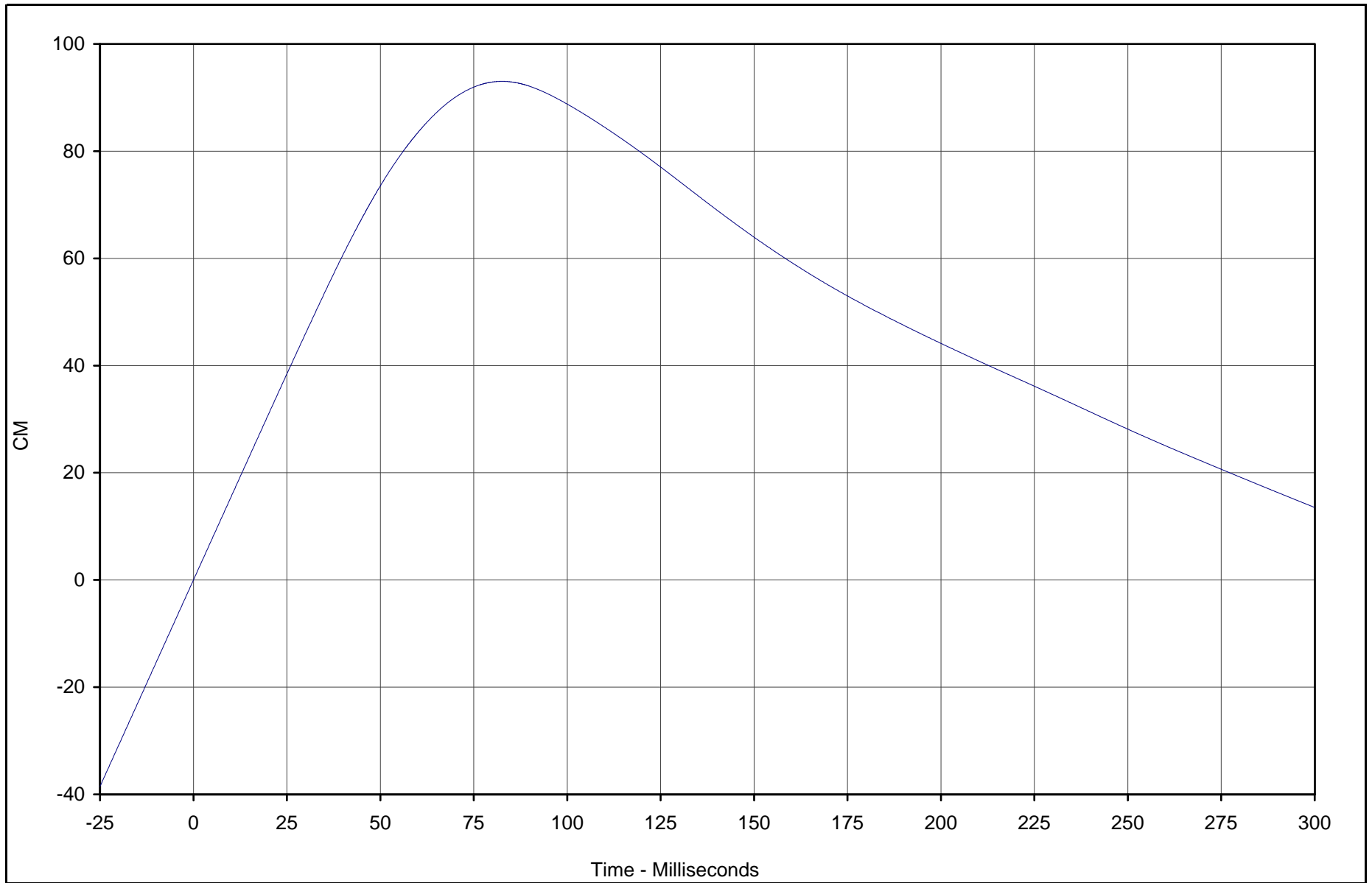
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

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B-29



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Chest Redundant X Displ. | 016 | IN2 | CM | 93.0 | 82.6 | 0.0 | 0.0 | 180 |



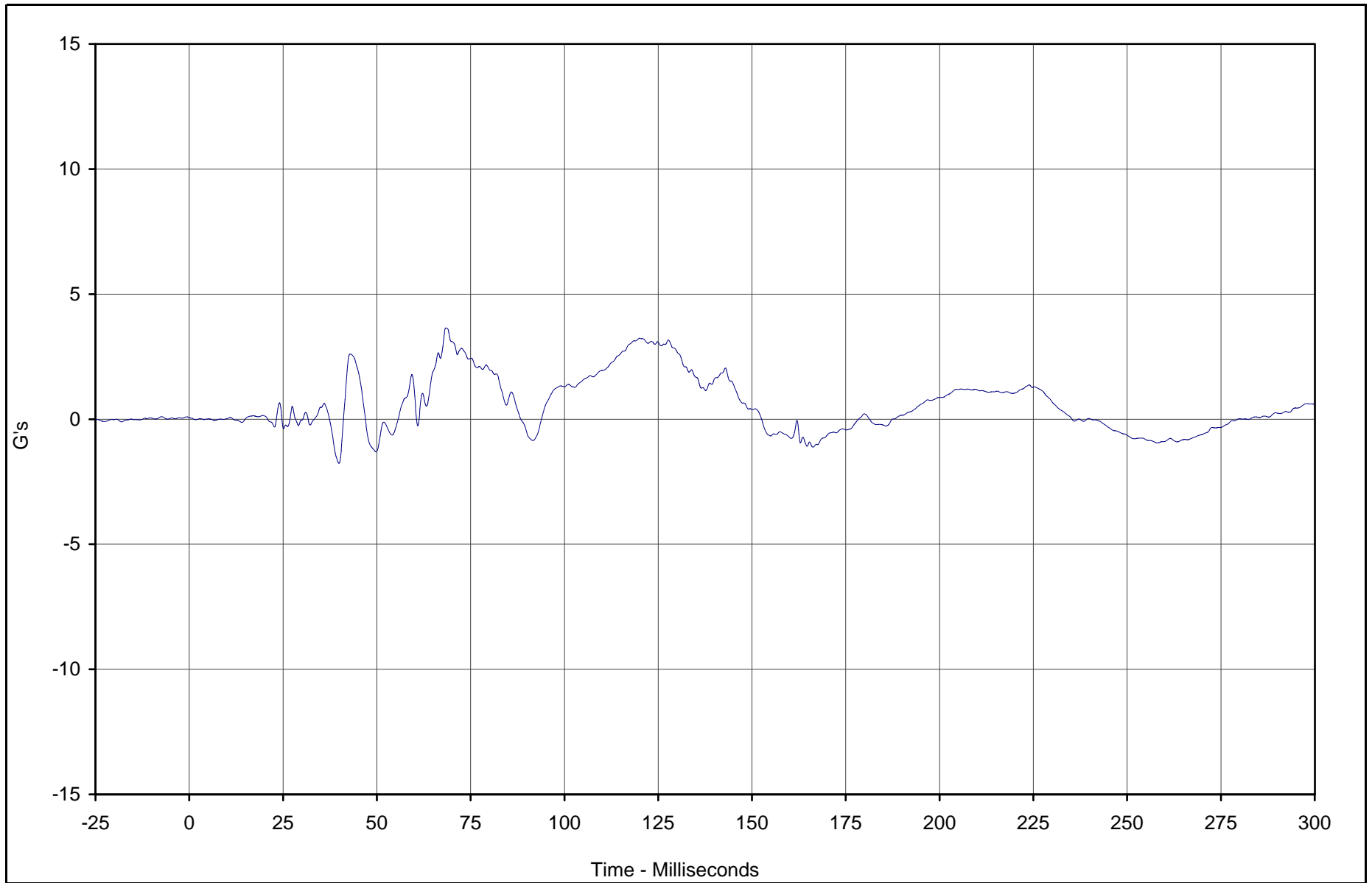
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-30



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|-----|------|------|------|-----------|
| Driver Chest Redundant Y | 017 | FIL | G's | 3.7 | 68.4 | -1.8 | 39.9 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

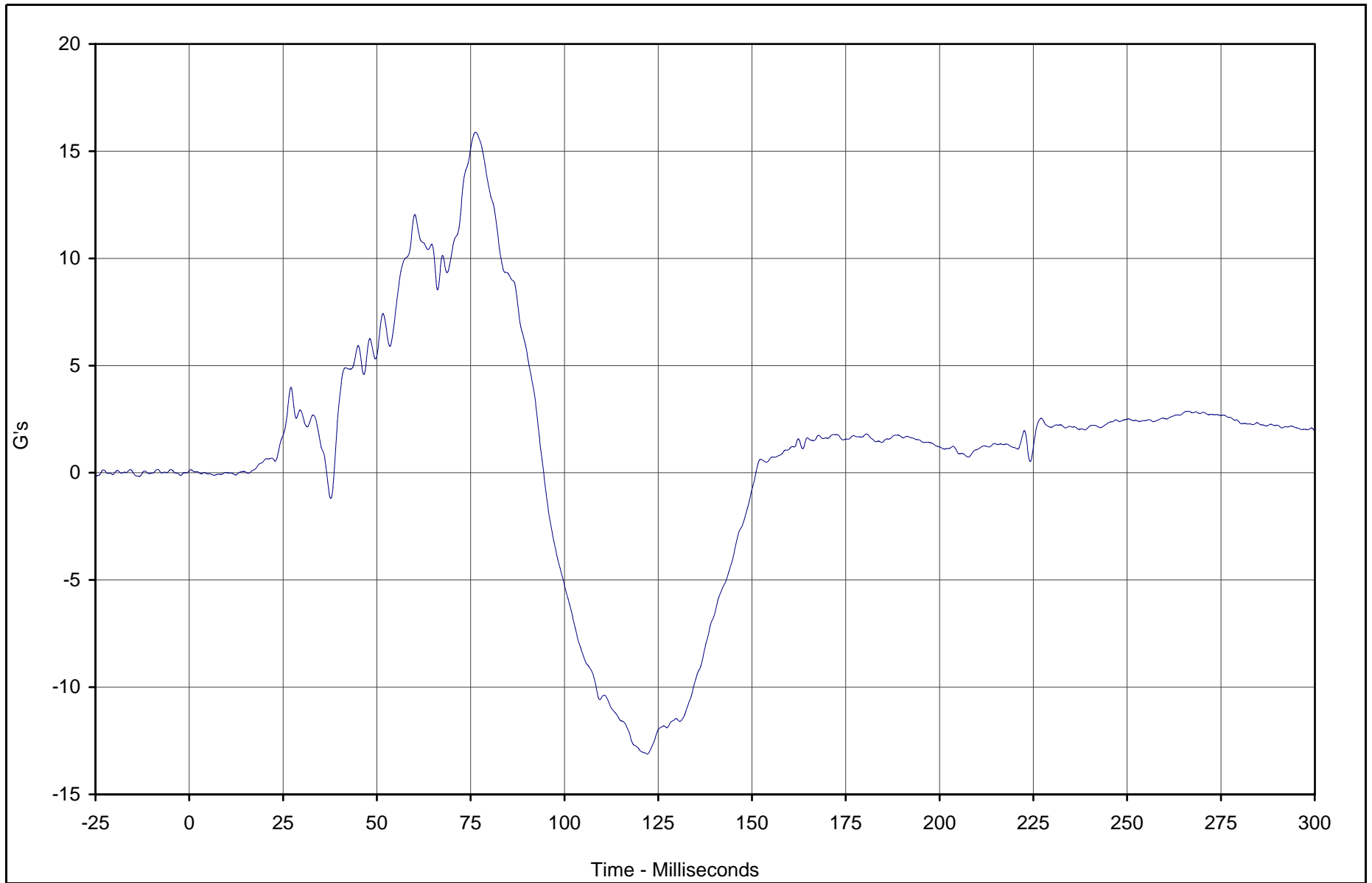
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-31



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Chest Redundant Z | 018 | FIL | G's | 15.9 | 76.3 | -13.1 | 122.1 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

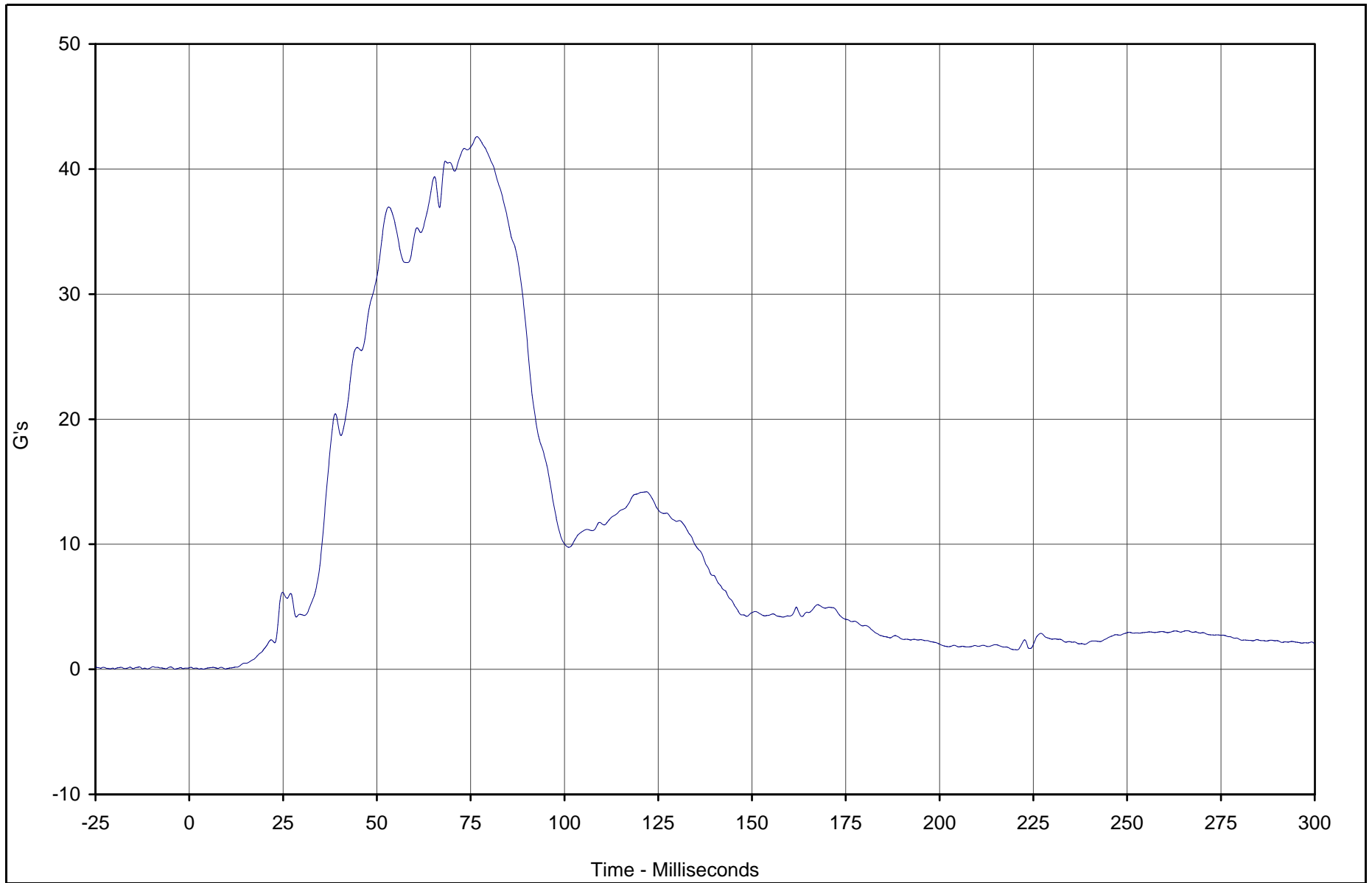
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-32



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Chest Resultant Redundant | 016 | RES | G's | 42.6 | 76.7 | 0.0 | 3.7 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

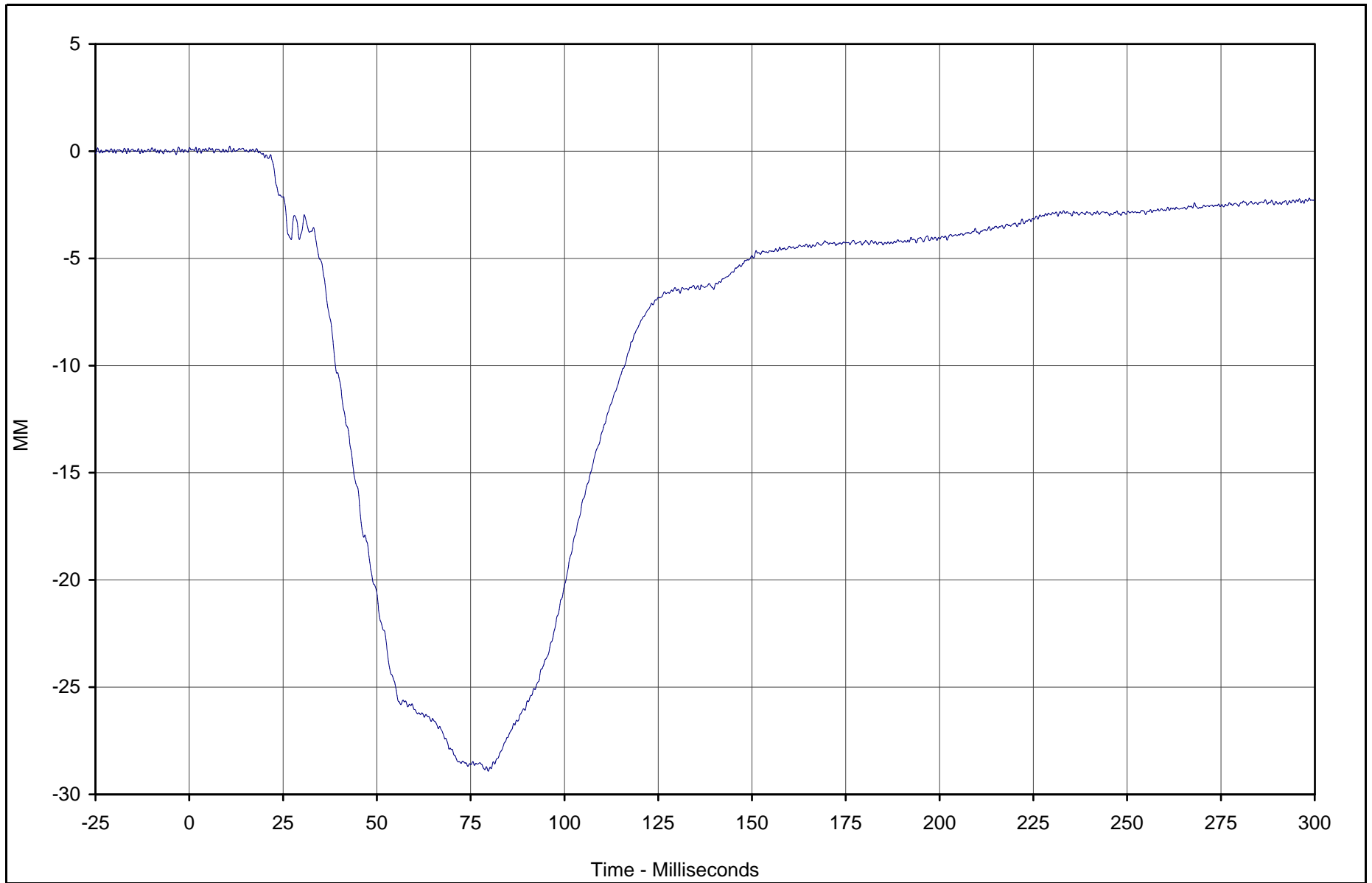
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-33



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|-----|------|-------|------|-----------|
| Driver Chest Displacement X | 019 | FIL | MM | 0.2 | 10.8 | -28.9 | 79.7 | 600 |



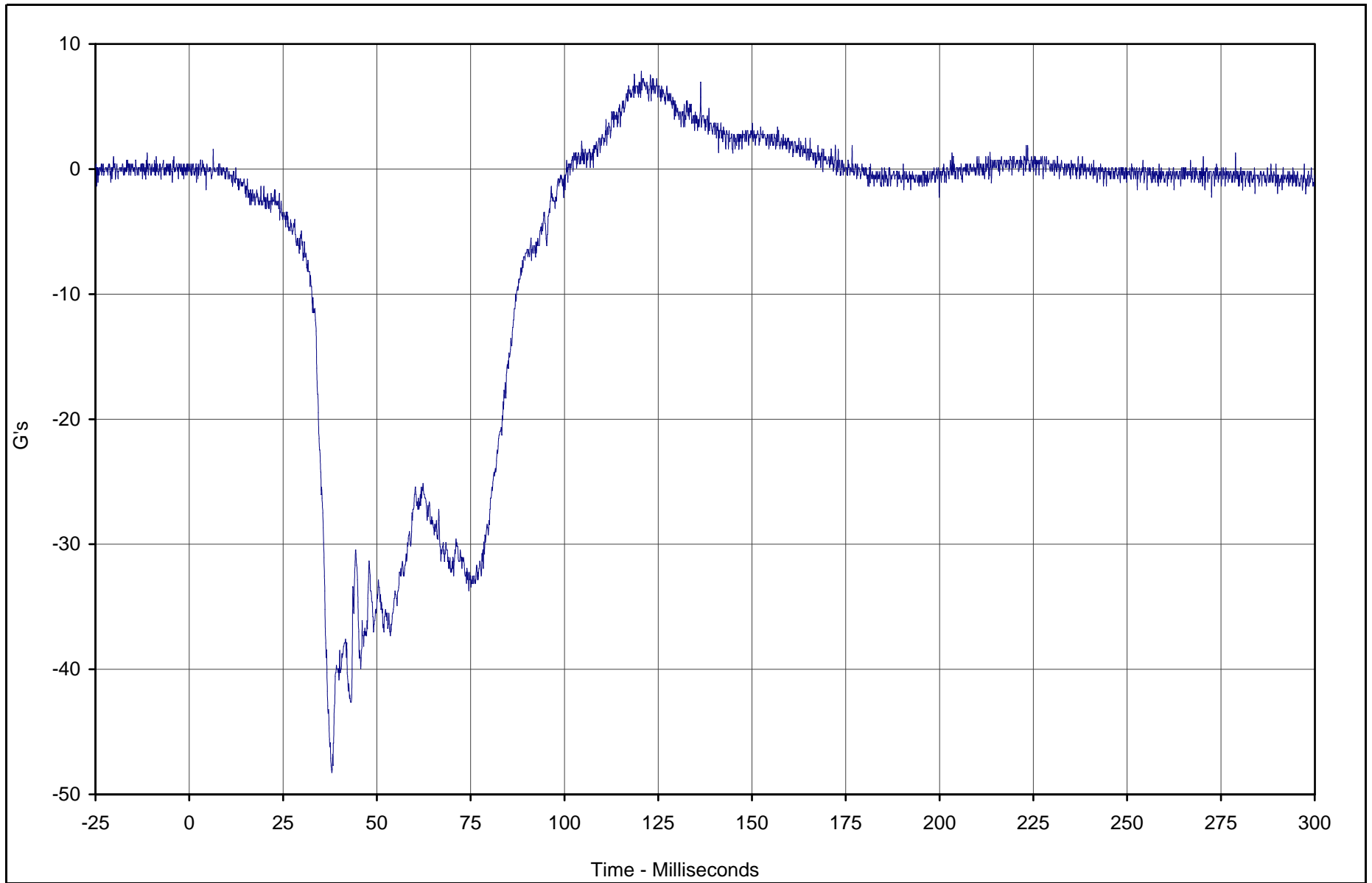
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-34



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Driver Pelvis X | 020 | FIL | G's | 7.8 | 120.5 | -48.3 | 38.0 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

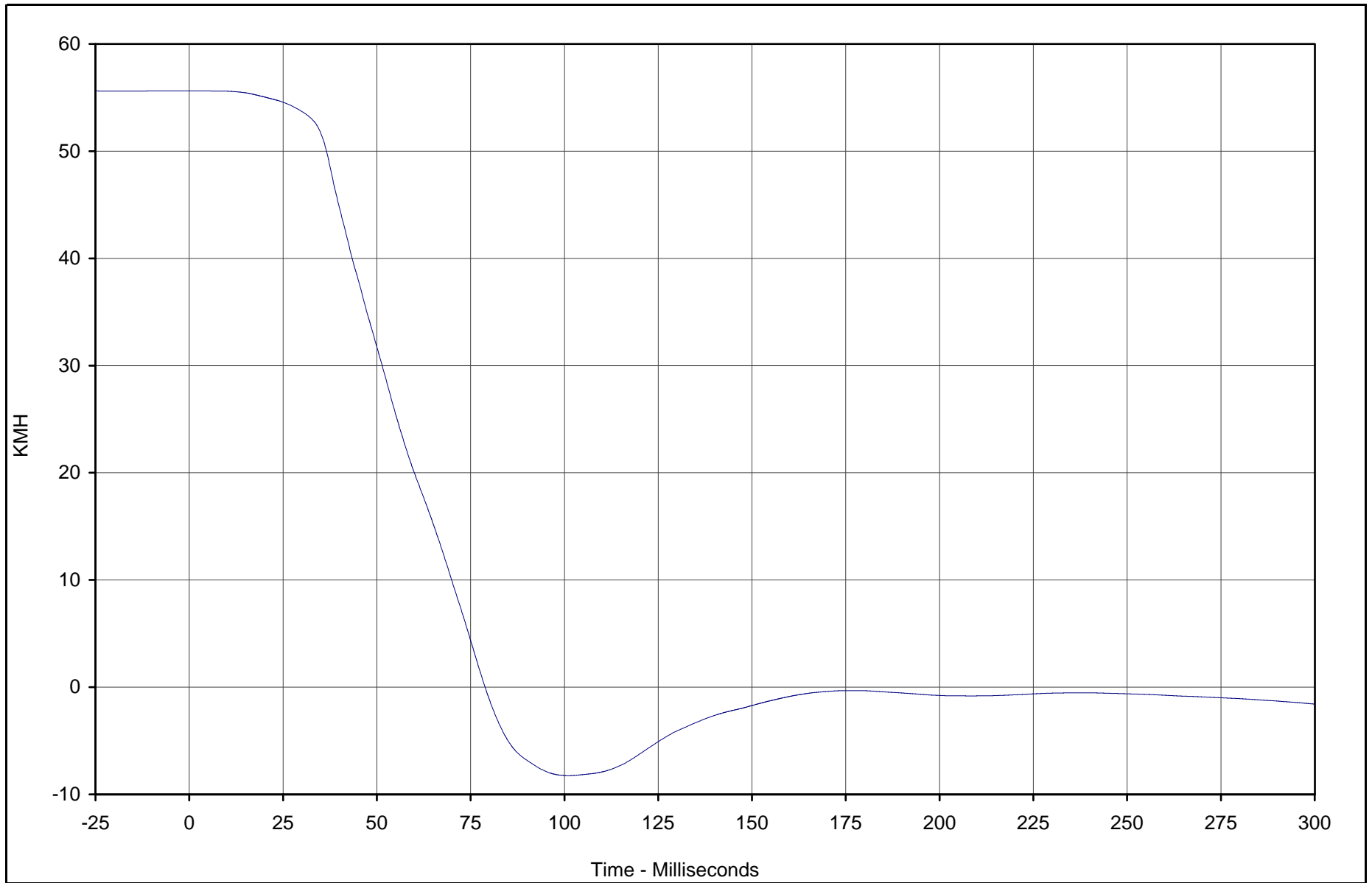
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-35



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|------|------|-------|-----------|
| Driver Pelvis X Velocity | 020 | IN1 | KMH | 55.6 | 0.5 | -8.3 | 101.0 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

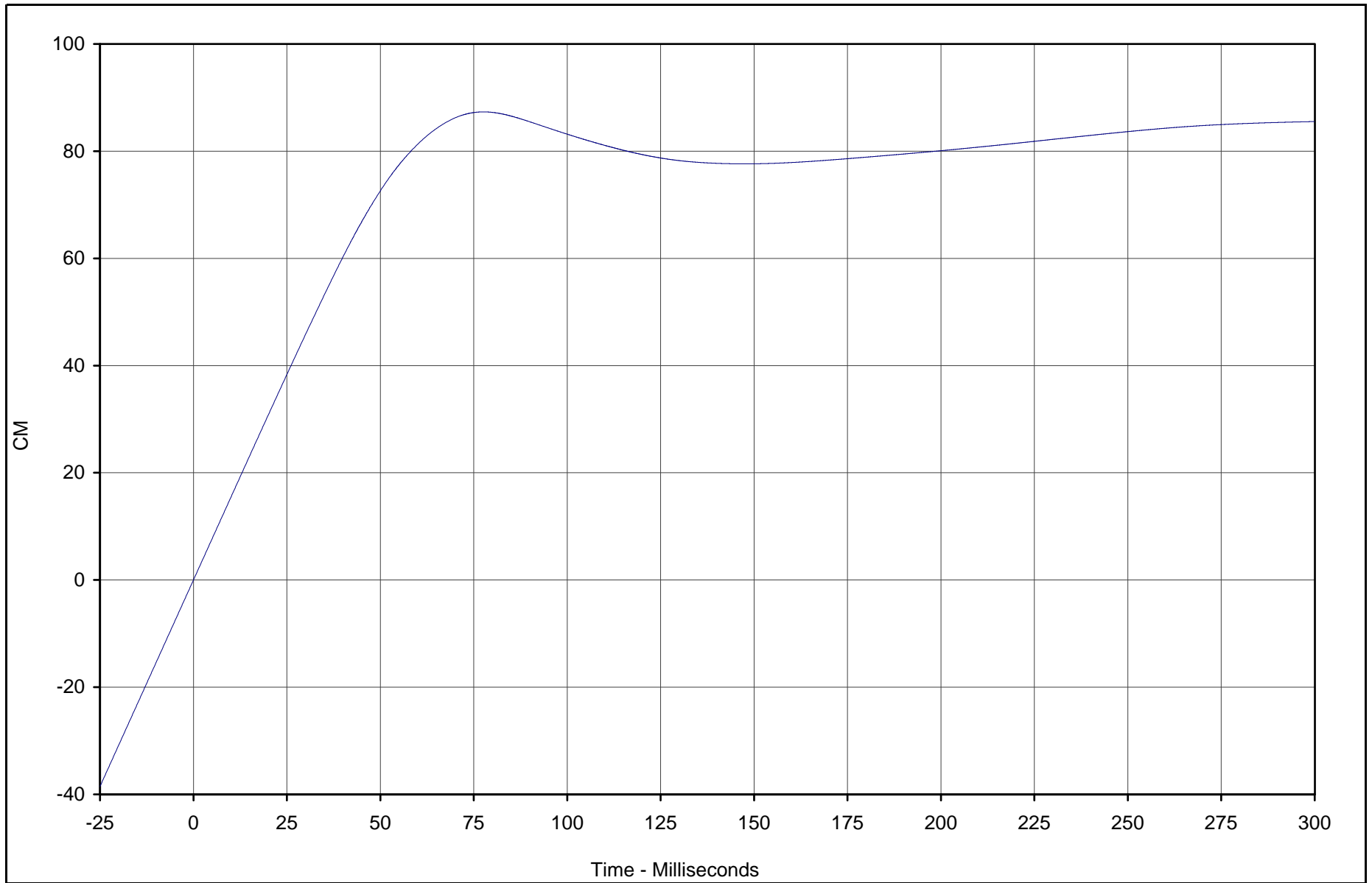
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-36



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Pelvis X Displ. | 020 | IN2 | CM | 87.3 | 77.6 | 0.0 | 0.0 | 180 |



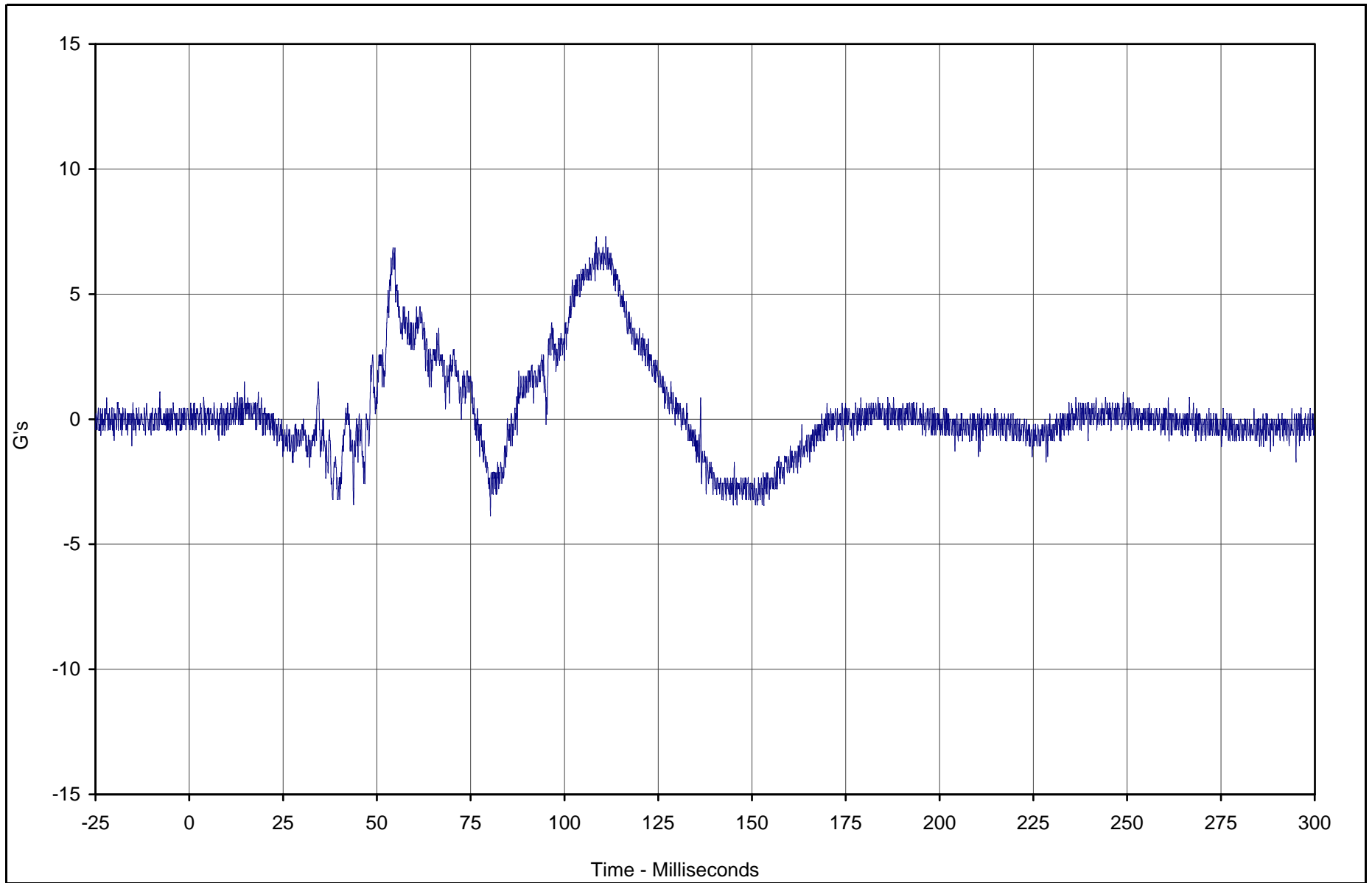
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-37



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------|-------|------|-------|-----|-------|------|------|-----------|
| Driver Pelvis Y | 021 | FIL | G's | 7.3 | 108.5 | -3.9 | 80.3 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

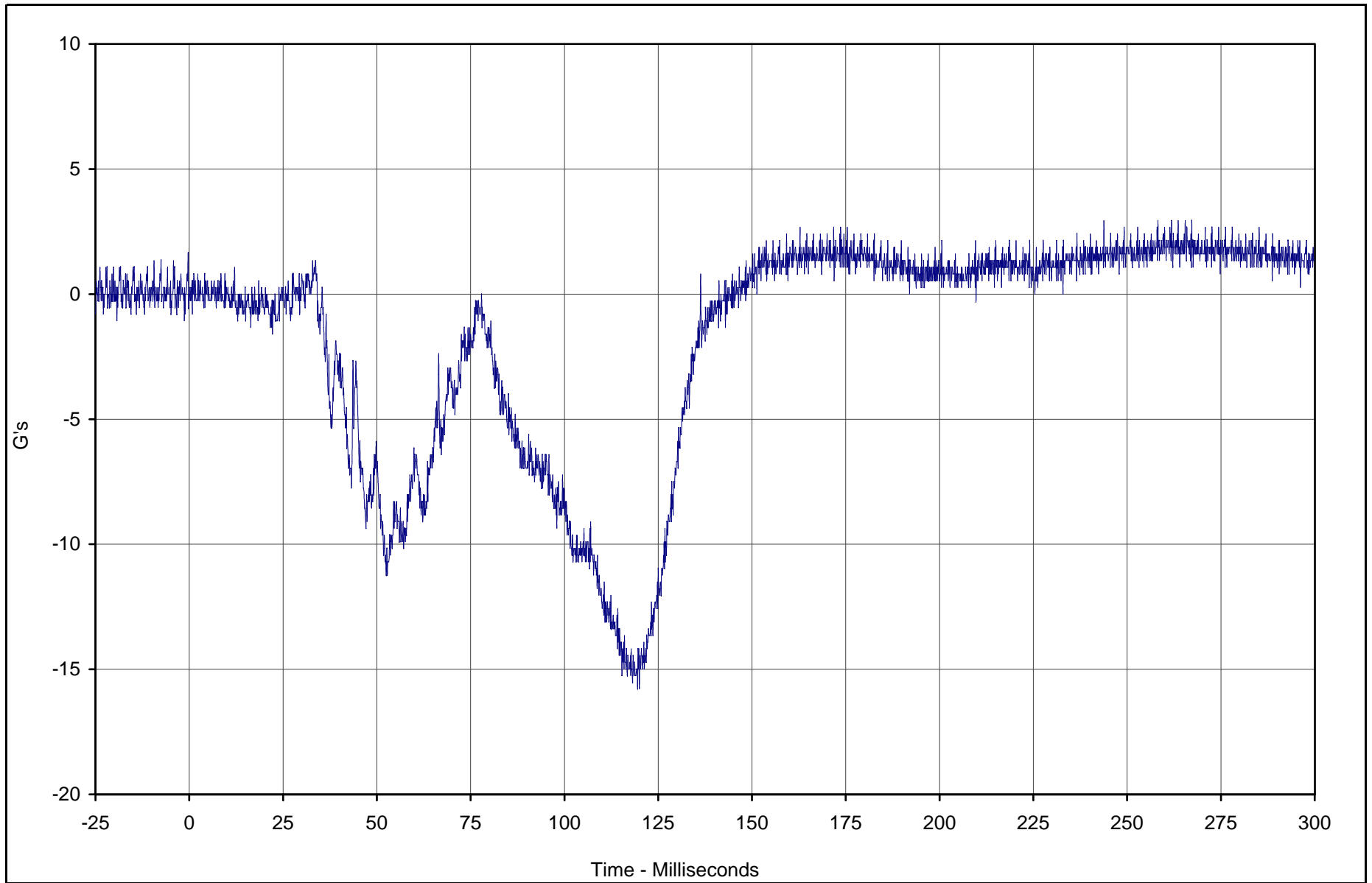
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-38



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------|-------|------|-------|-----|-------|-------|-------|-----------|
| Driver Pelvis Z | 022 | FIL | G's | 2.9 | 243.8 | -15.8 | 119.5 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

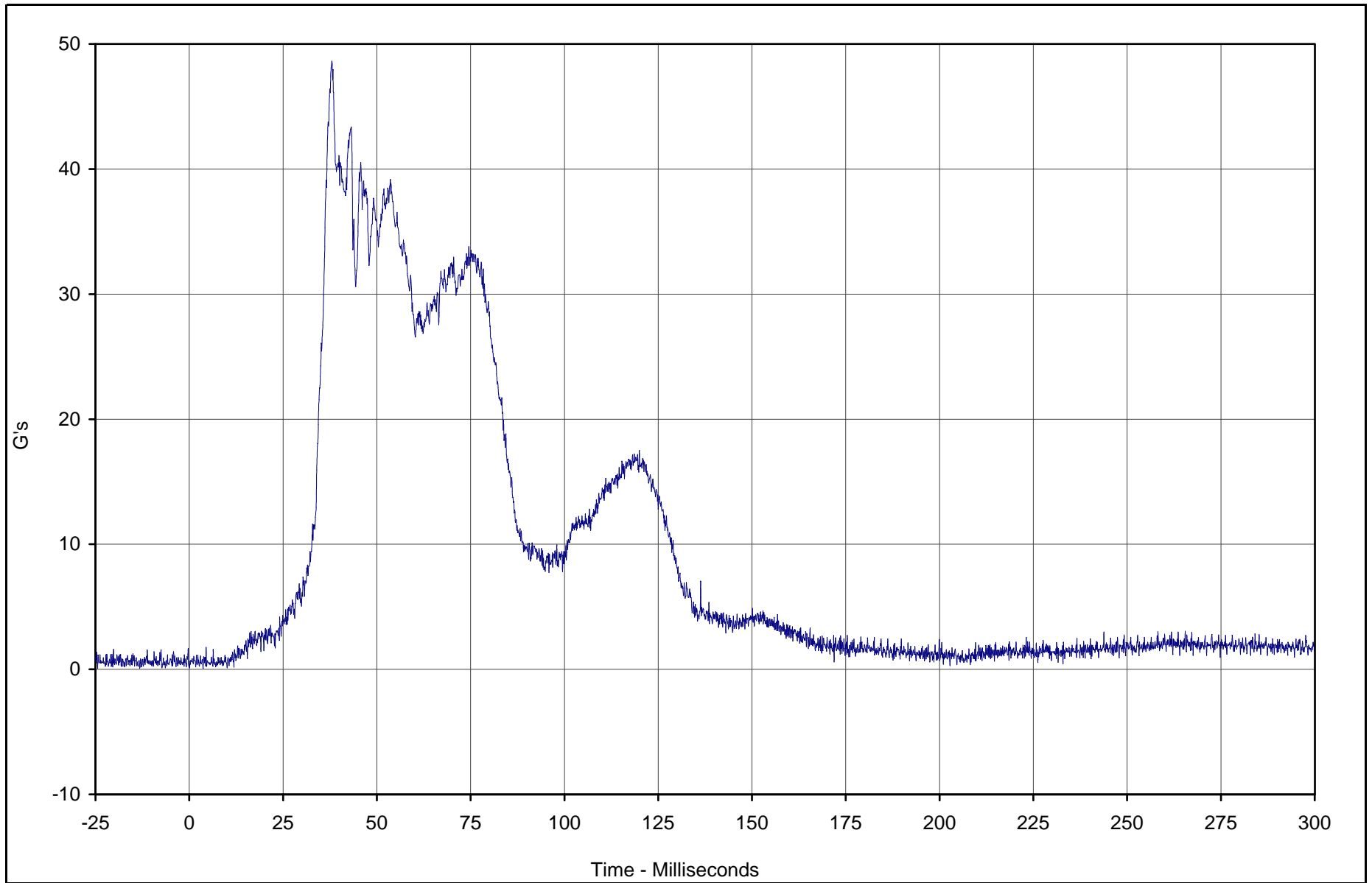
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-39



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|------|-----|------|-----------|
| Driver Pelvis Resultant | 023 | RES | G's | 48.6 | 38.0 | 0.1 | 0.1 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

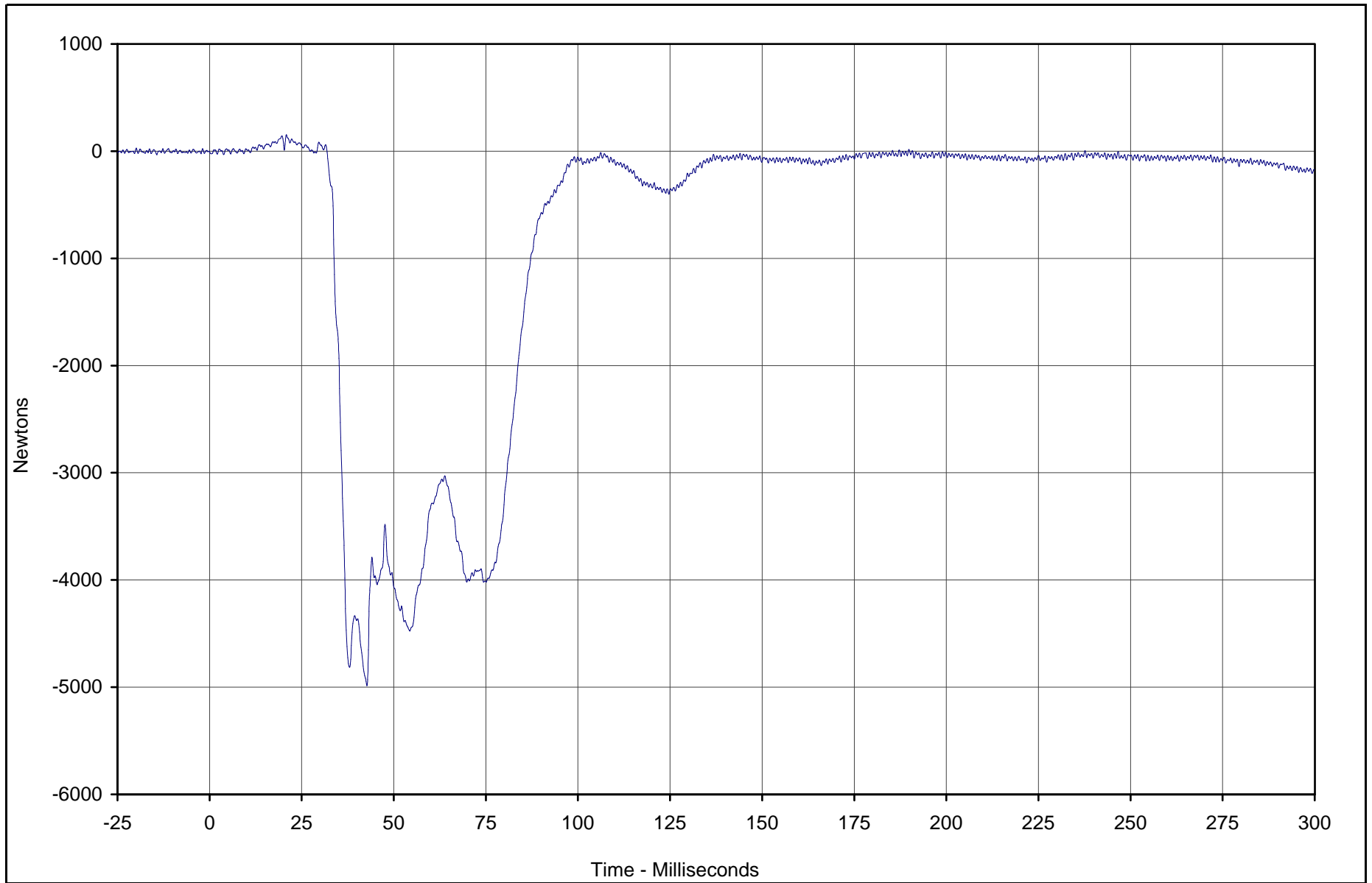
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-40



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|-------|------|---------|------|-----------|
| Driver Left Femur Force | 023 | FIL | Newtons | 153.5 | 20.8 | -4986.8 | 42.7 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

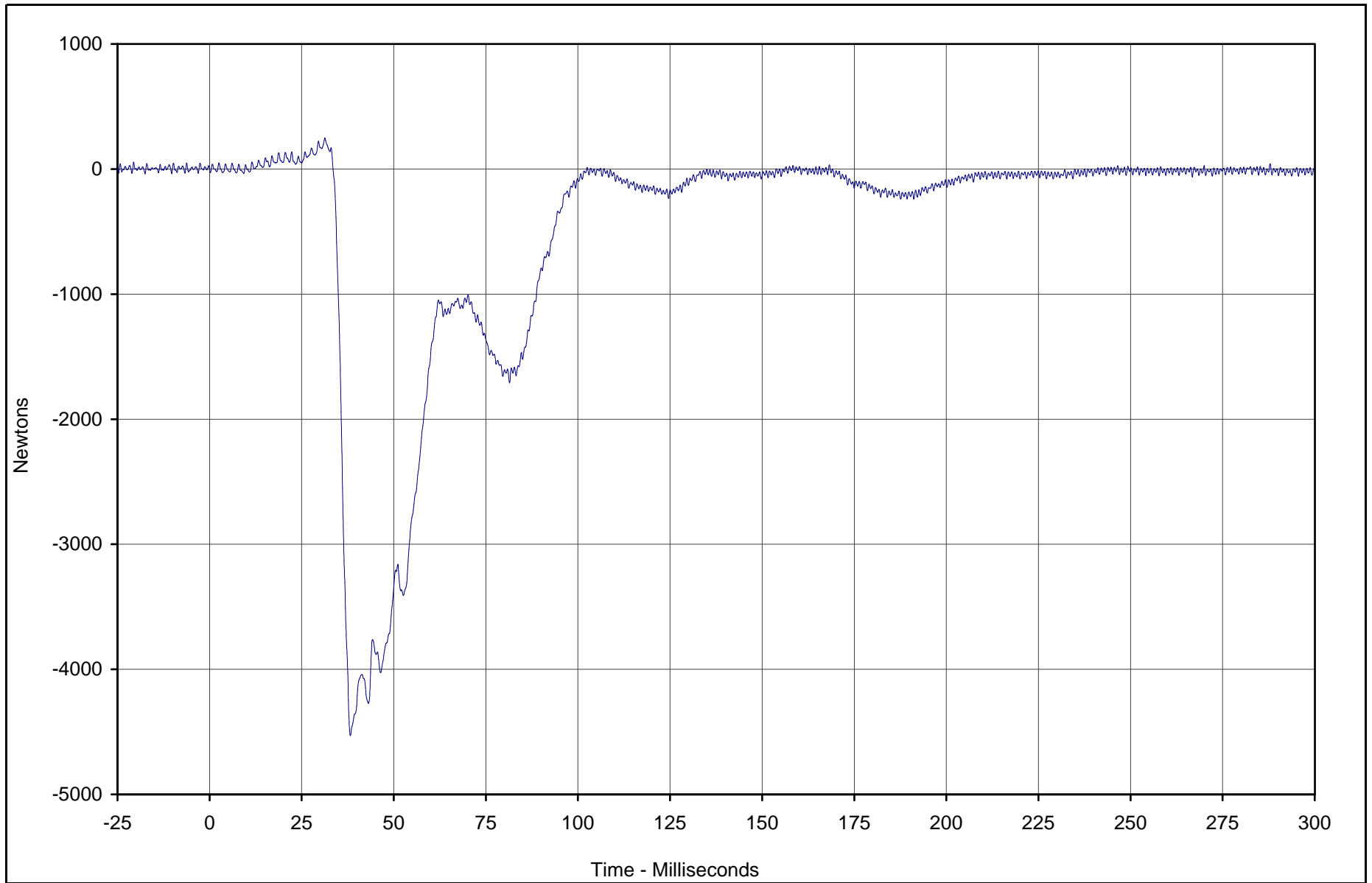
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-41



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|---------|-------|------|---------|------|-----------|
| Driver Right Femur Force | 024 | FIL | Newtons | 249.7 | 31.3 | -4530.7 | 38.2 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

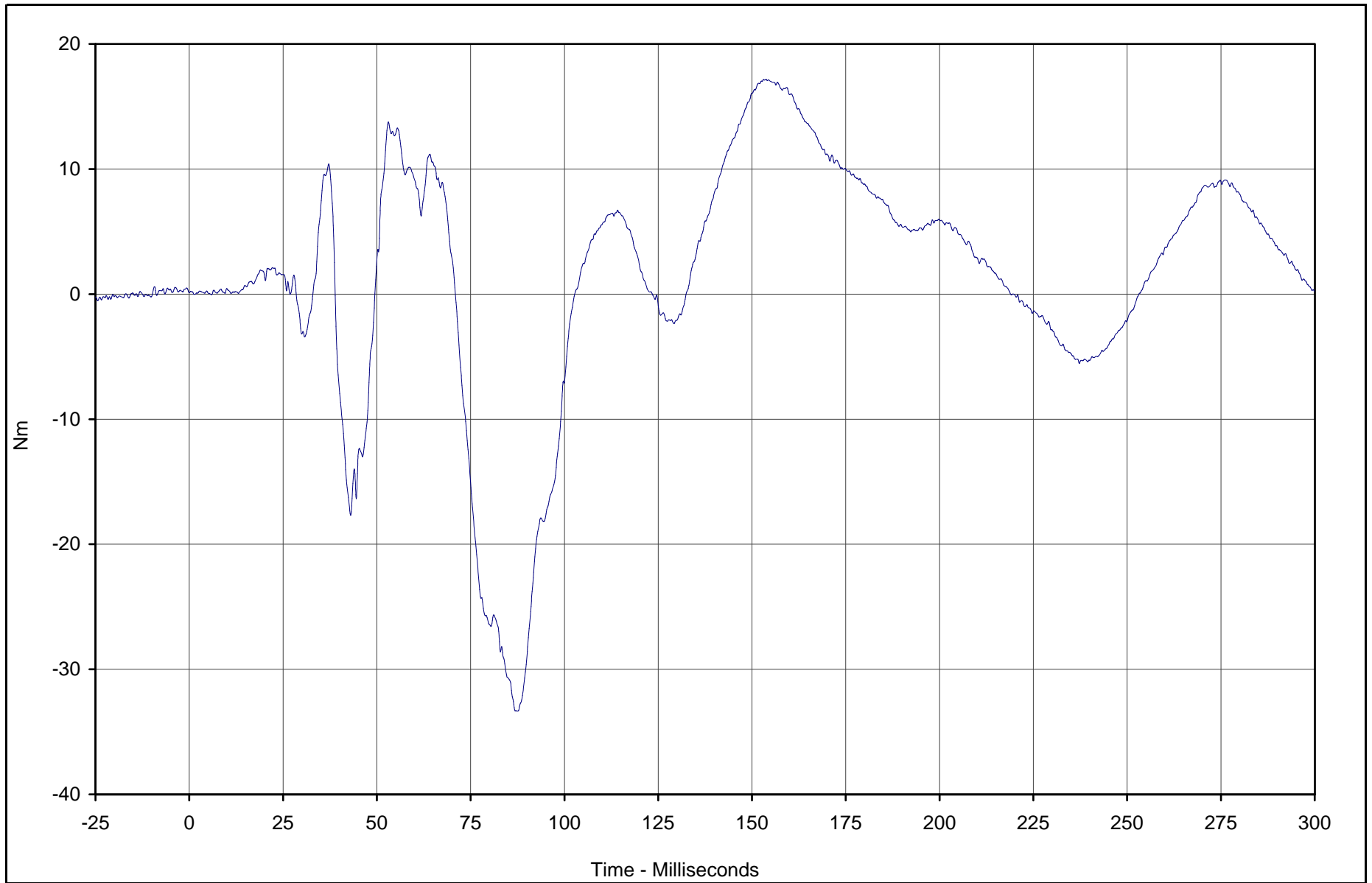
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-42



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Driver Left Upper Tibia Moment X | 025 | FIL | Nm | 17.2 | 153.7 | -33.3 | 87.4 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

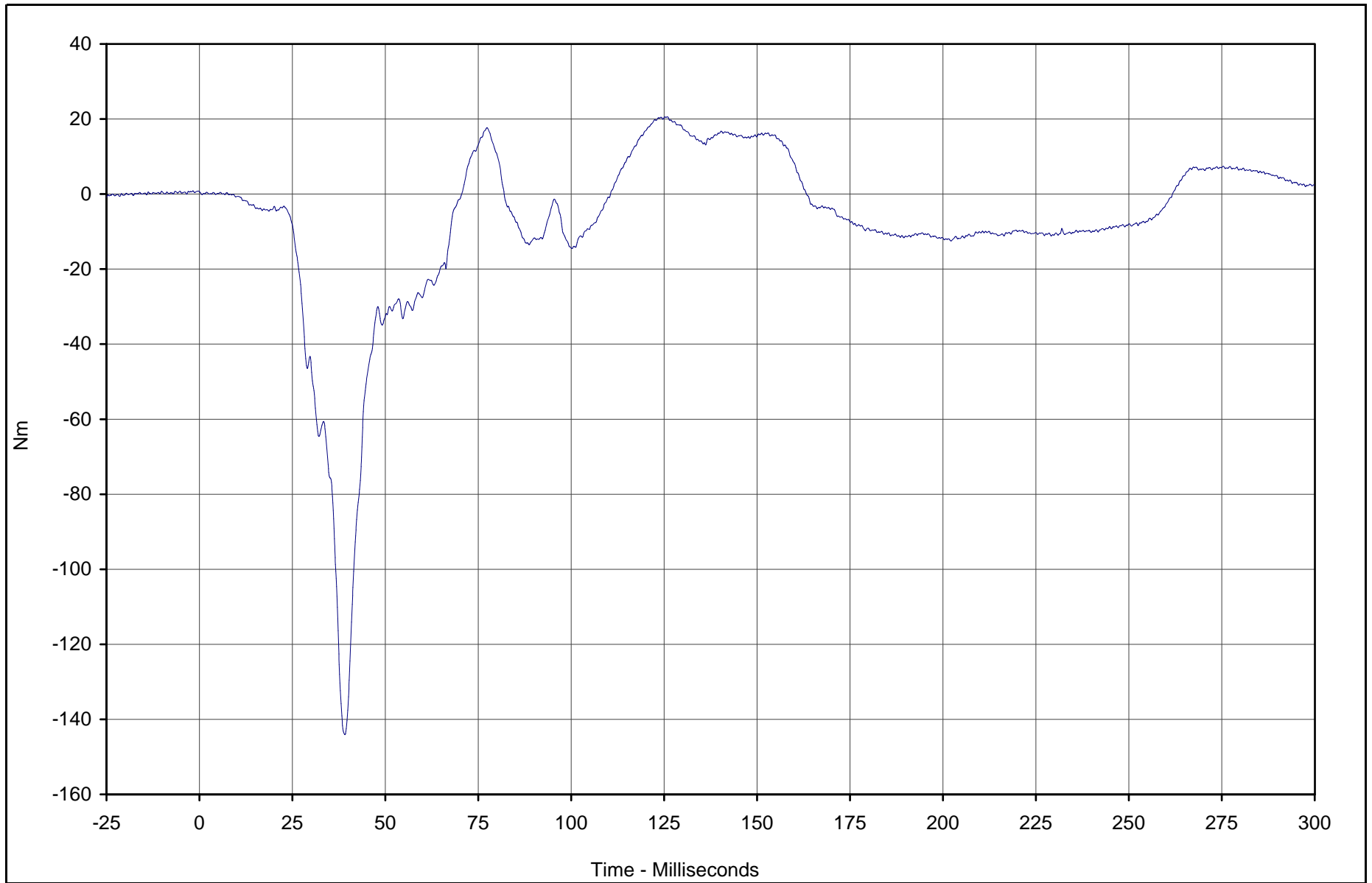
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-43



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|-------|--------|------|-----------|
| Driver Left Upper Tibia Moment Y | 026 | FIL | Nm | 20.6 | 125.9 | -144.1 | 39.1 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

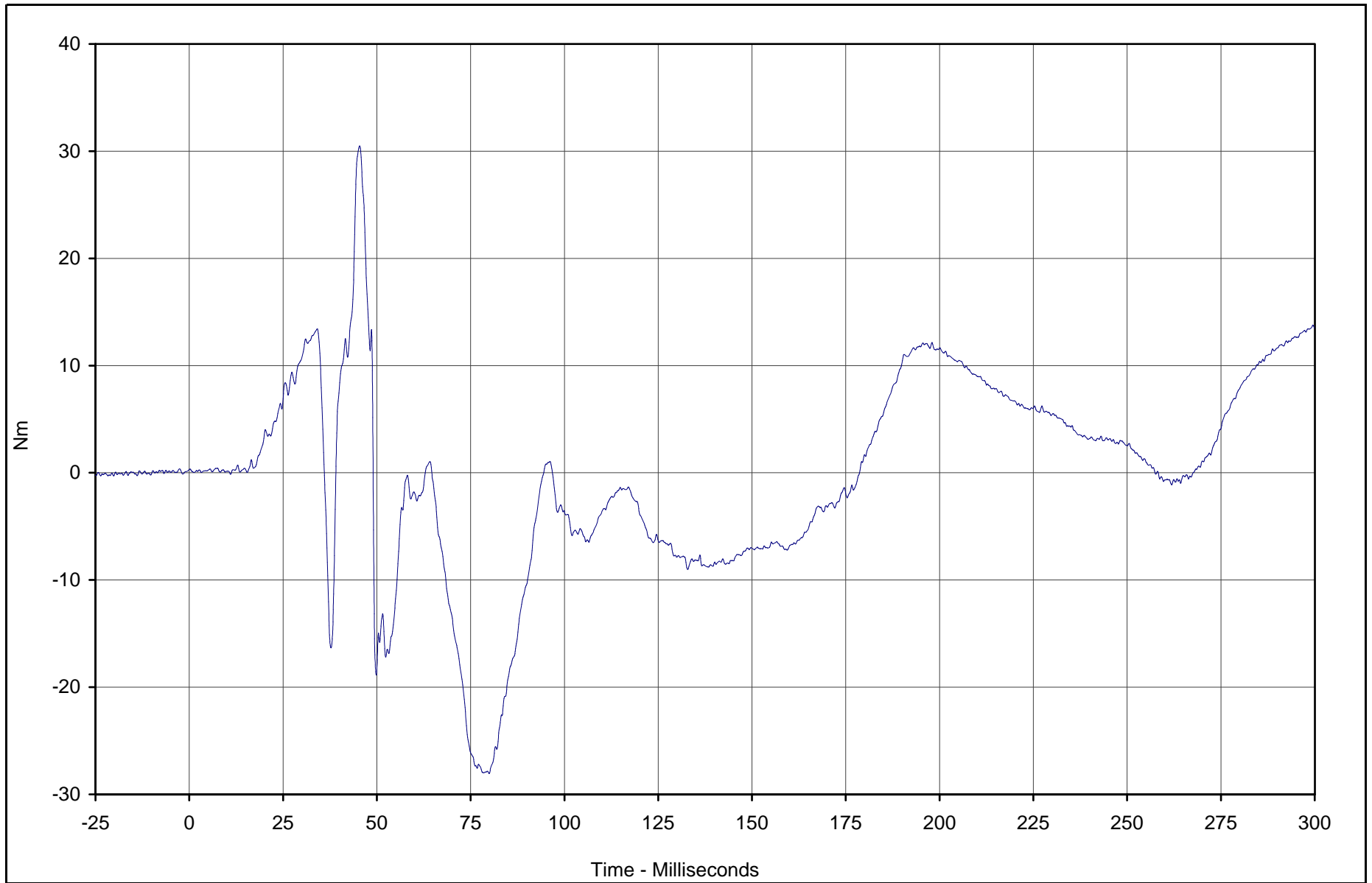
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-44



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|-------|------|-----------|
| Driver Right Upper Tibia Moment X | 027 | FIL | Nm | 30.5 | 45.4 | -28.1 | 79.9 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

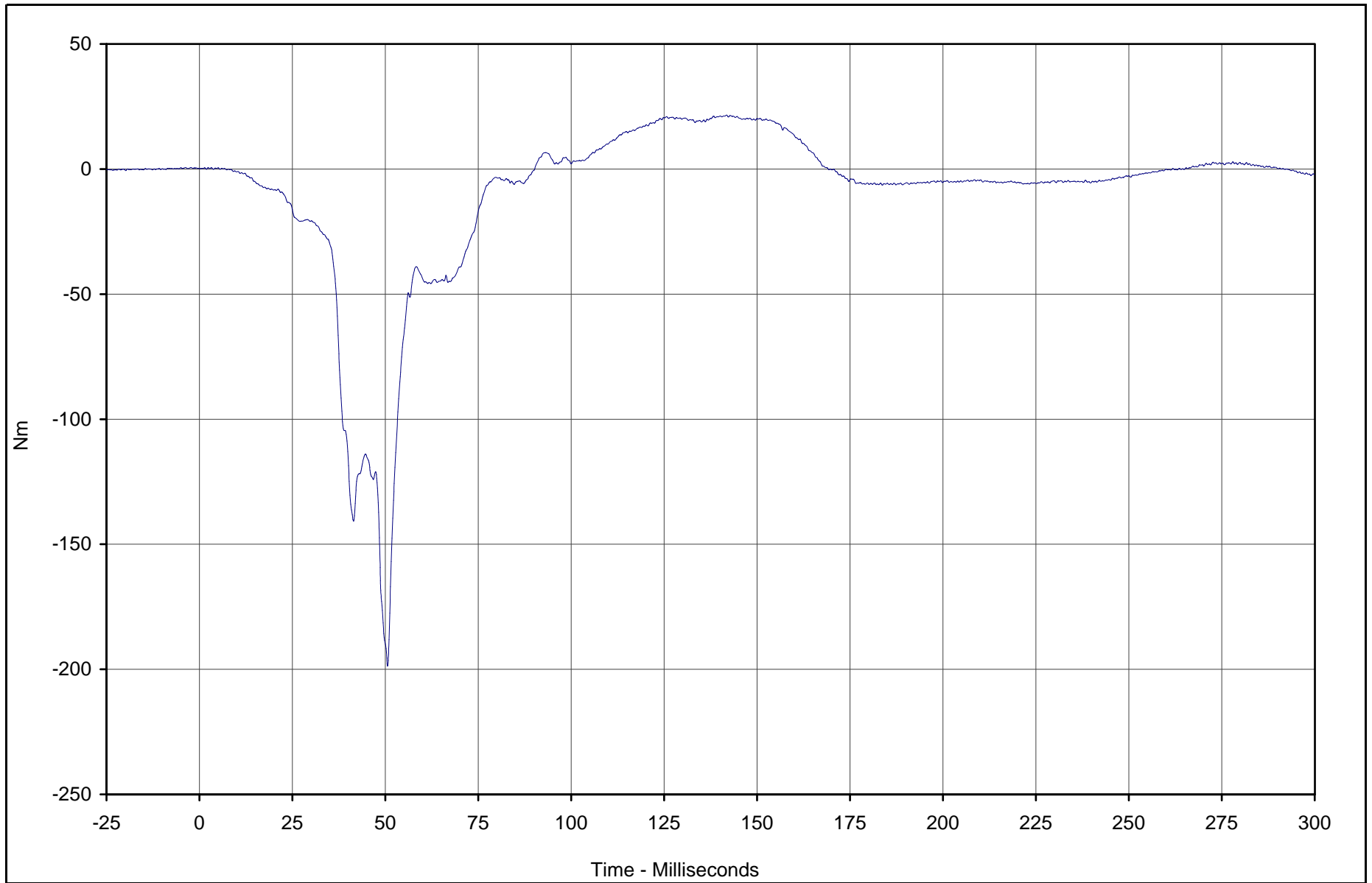
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-45



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|-------|--------|------|-----------|
| Driver Right Upper Tibia Moment Y | 028 | FIL | Nm | 21.6 | 141.8 | -198.7 | 50.6 | 600 |



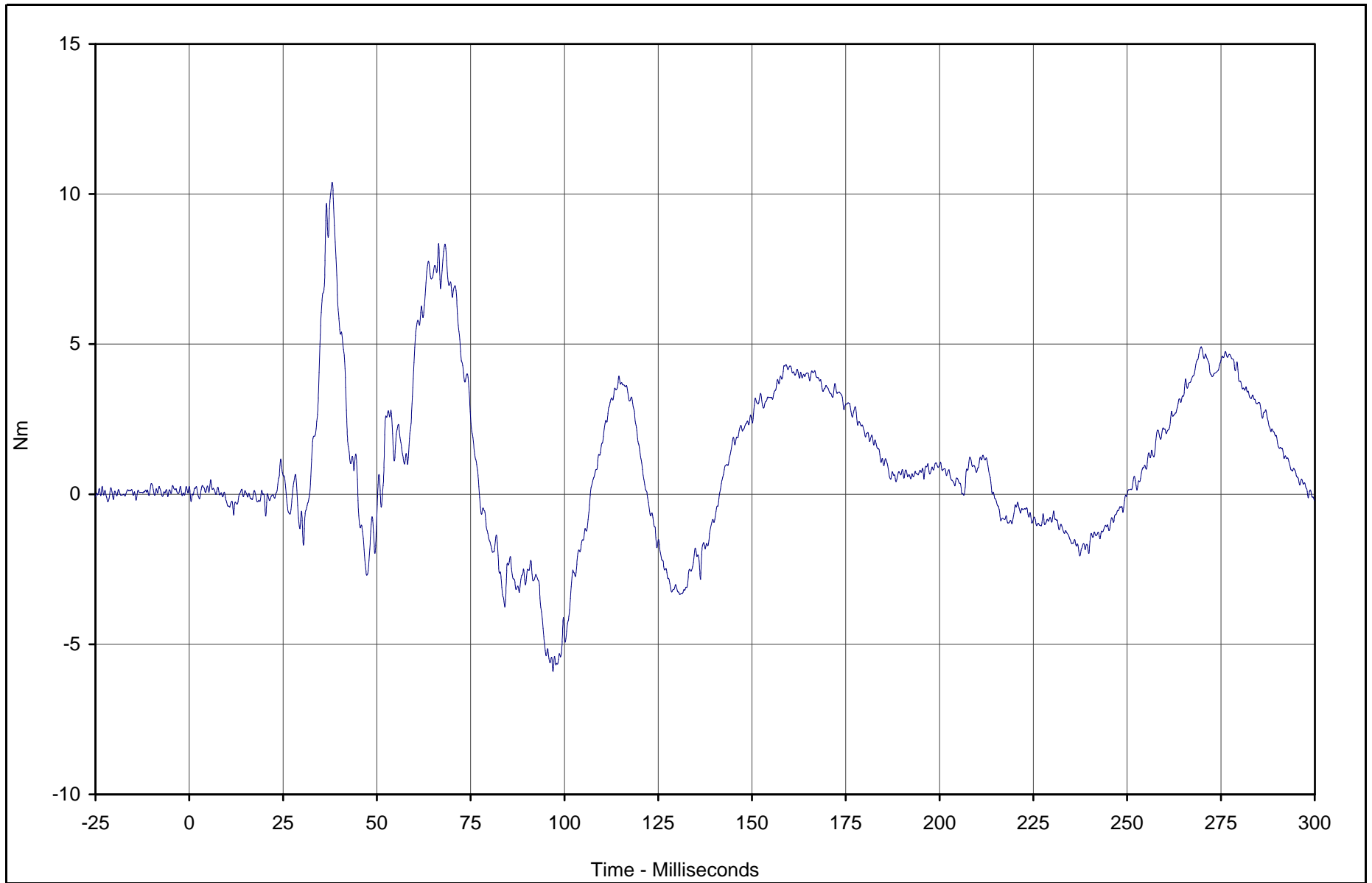
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-46



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|------|------|------|-----------|
| Driver Left Lower Tibia Moment X | 029 | FIL | Nm | 10.4 | 38.1 | -5.9 | 97.0 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

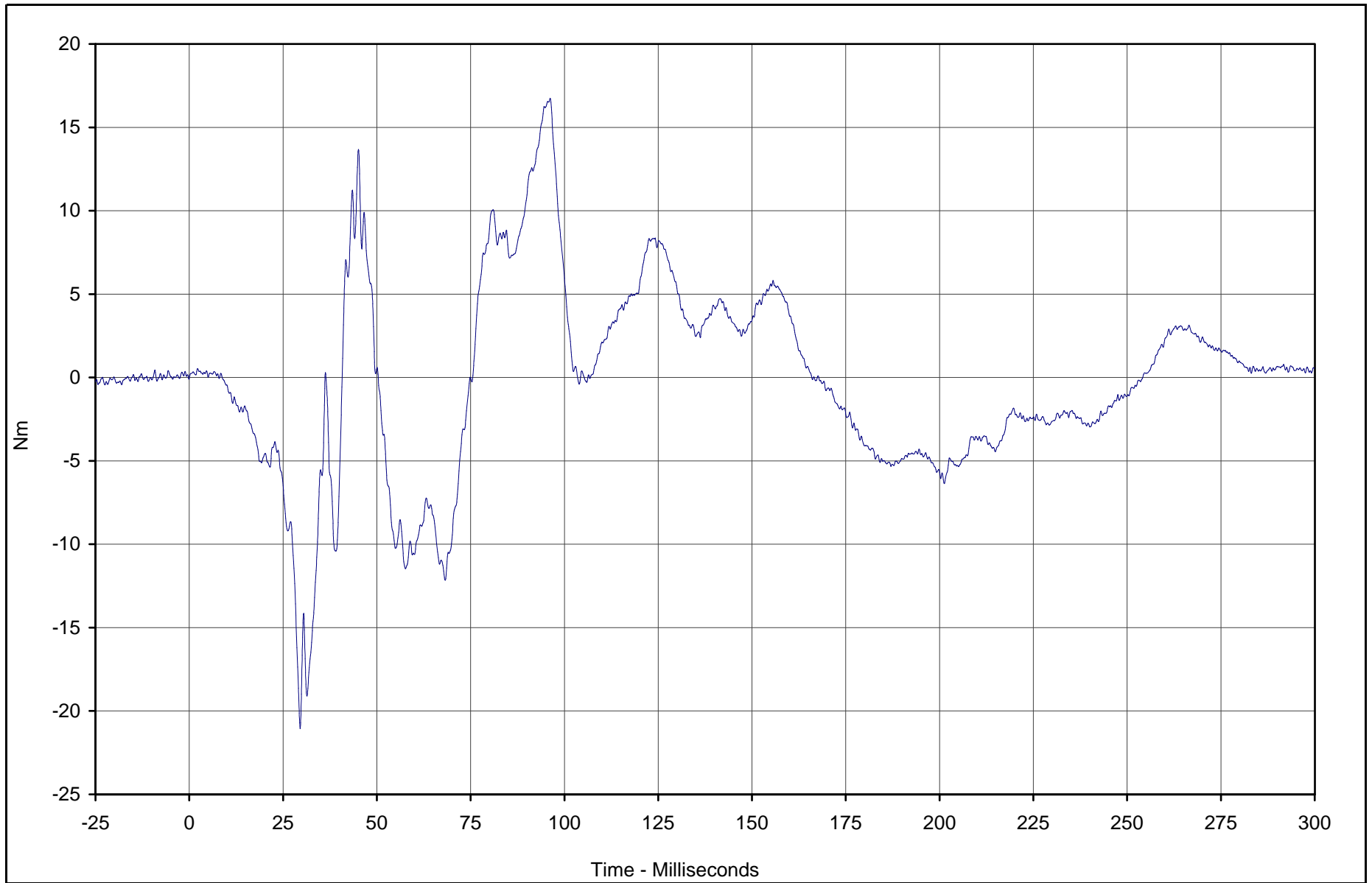
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-47



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|------|-------|------|-----------|
| Driver Left Lower Tibia Moment Y | 030 | FIL | Nm | 16.7 | 96.2 | -21.1 | 29.6 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

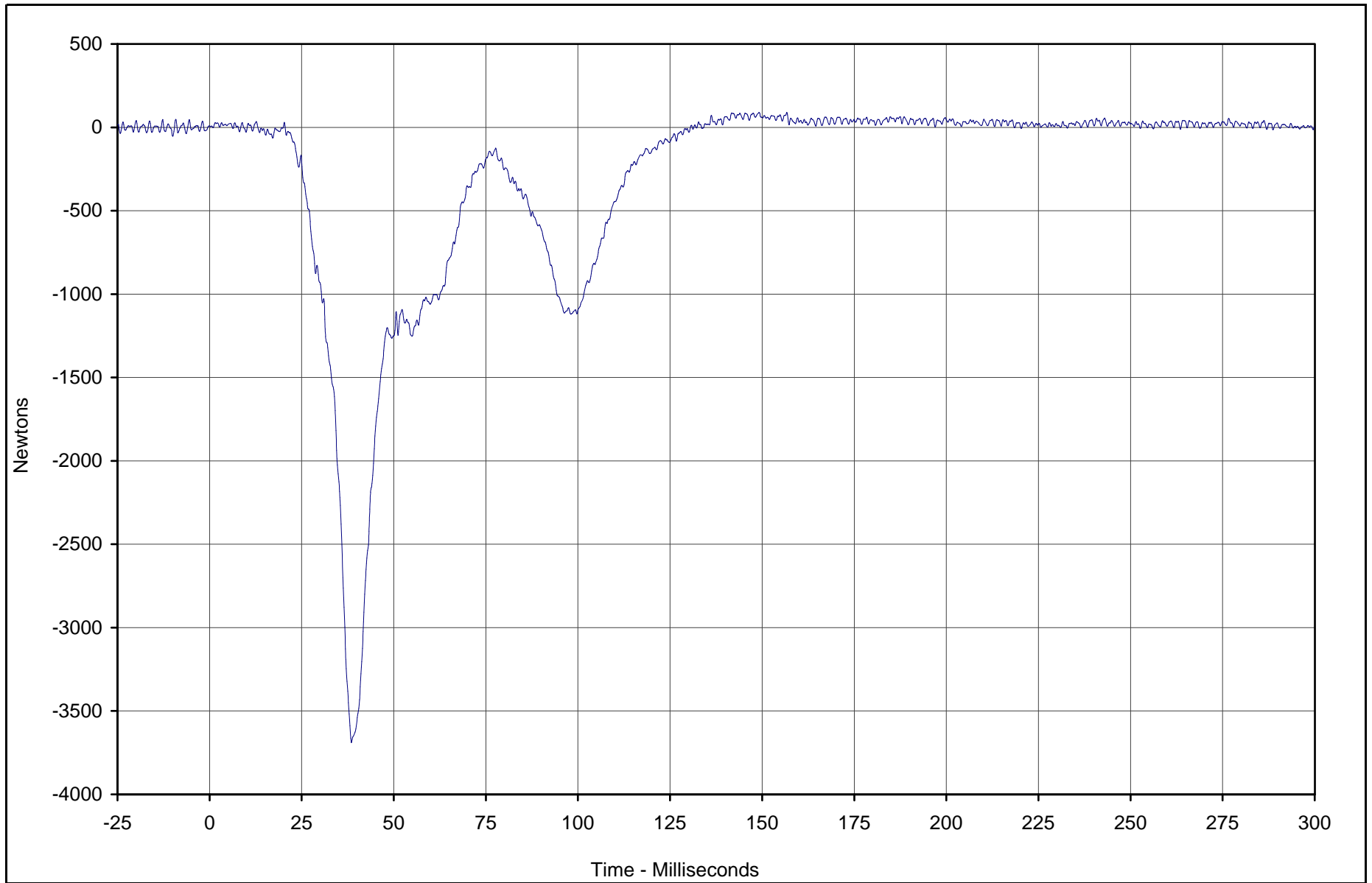
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-48



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|---------|------|-------|---------|------|-----------|
| Driver Left Lower Tibia Force Z | 031 | FIL | Newtons | 90.7 | 156.7 | -3690.8 | 38.5 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

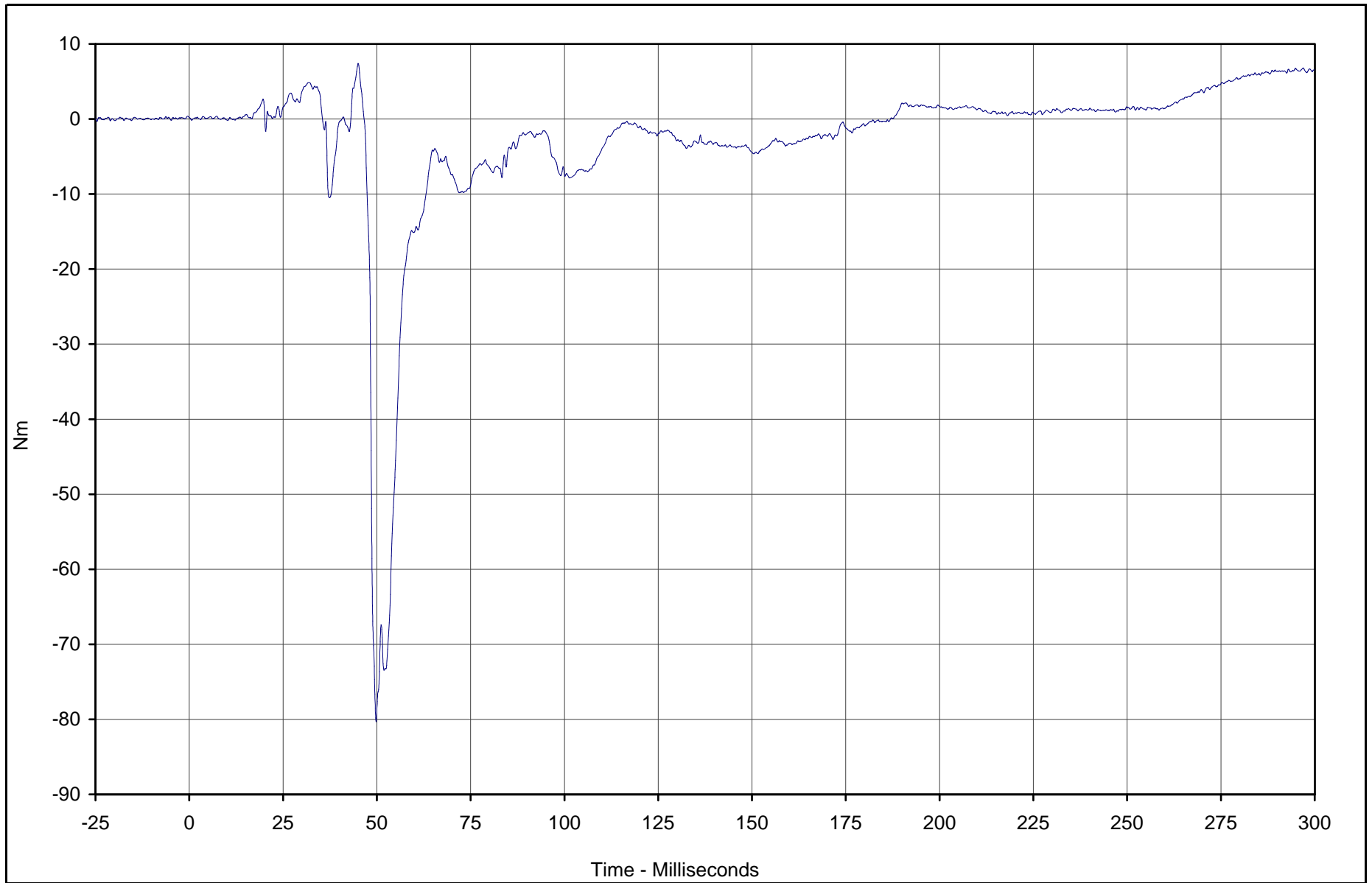
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-49



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|-----|------|-------|------|-----------|
| Driver Right Lower Tibia Moment X | 032 | FIL | Nm | 7.4 | 45.0 | -80.3 | 49.8 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

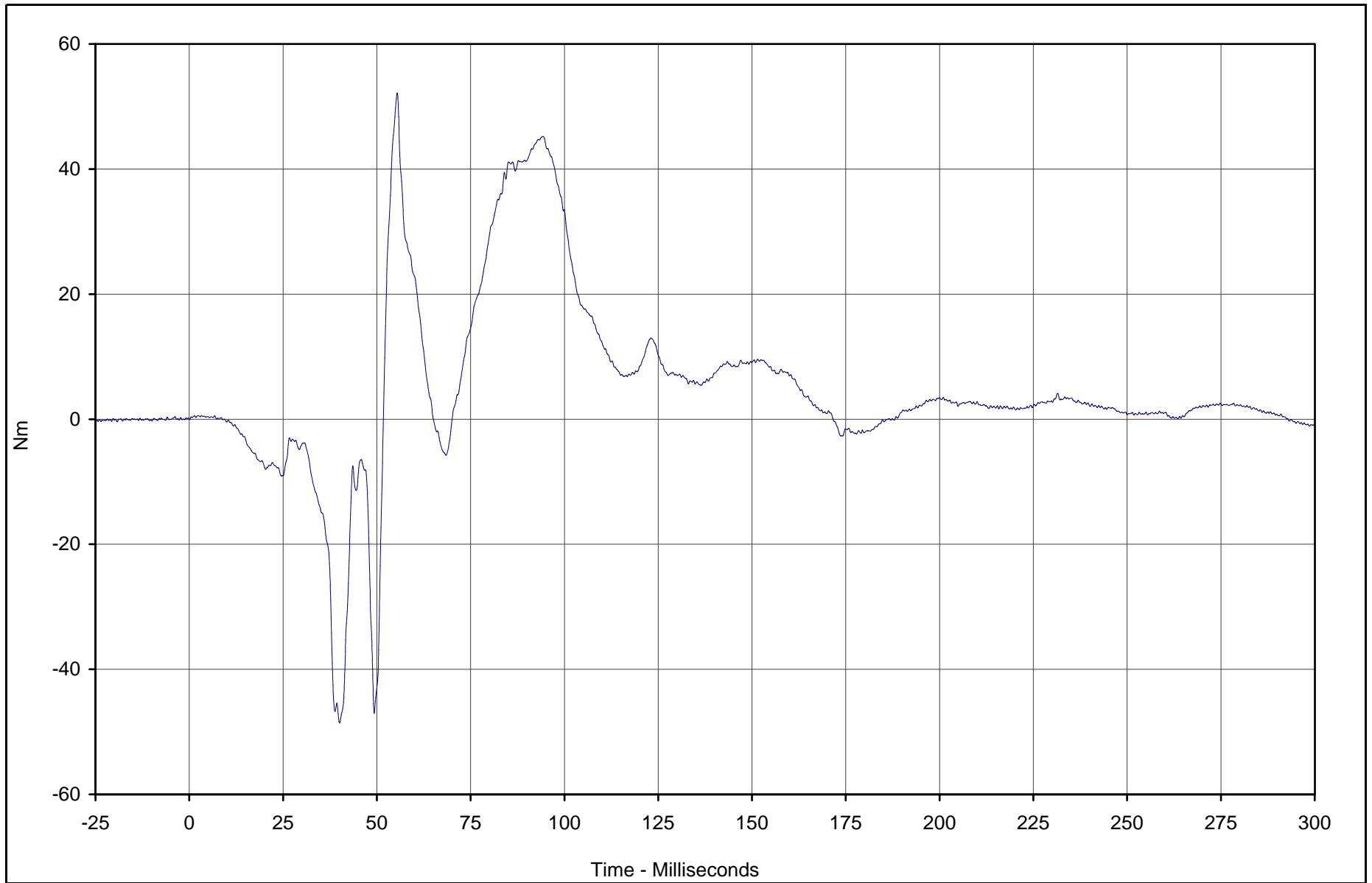
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-50



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|-------|------|-----------|
| Driver Right Lower Tibia Moment Y | 033 | FIL | Nm | 52.2 | 55.4 | -48.6 | 40.0 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

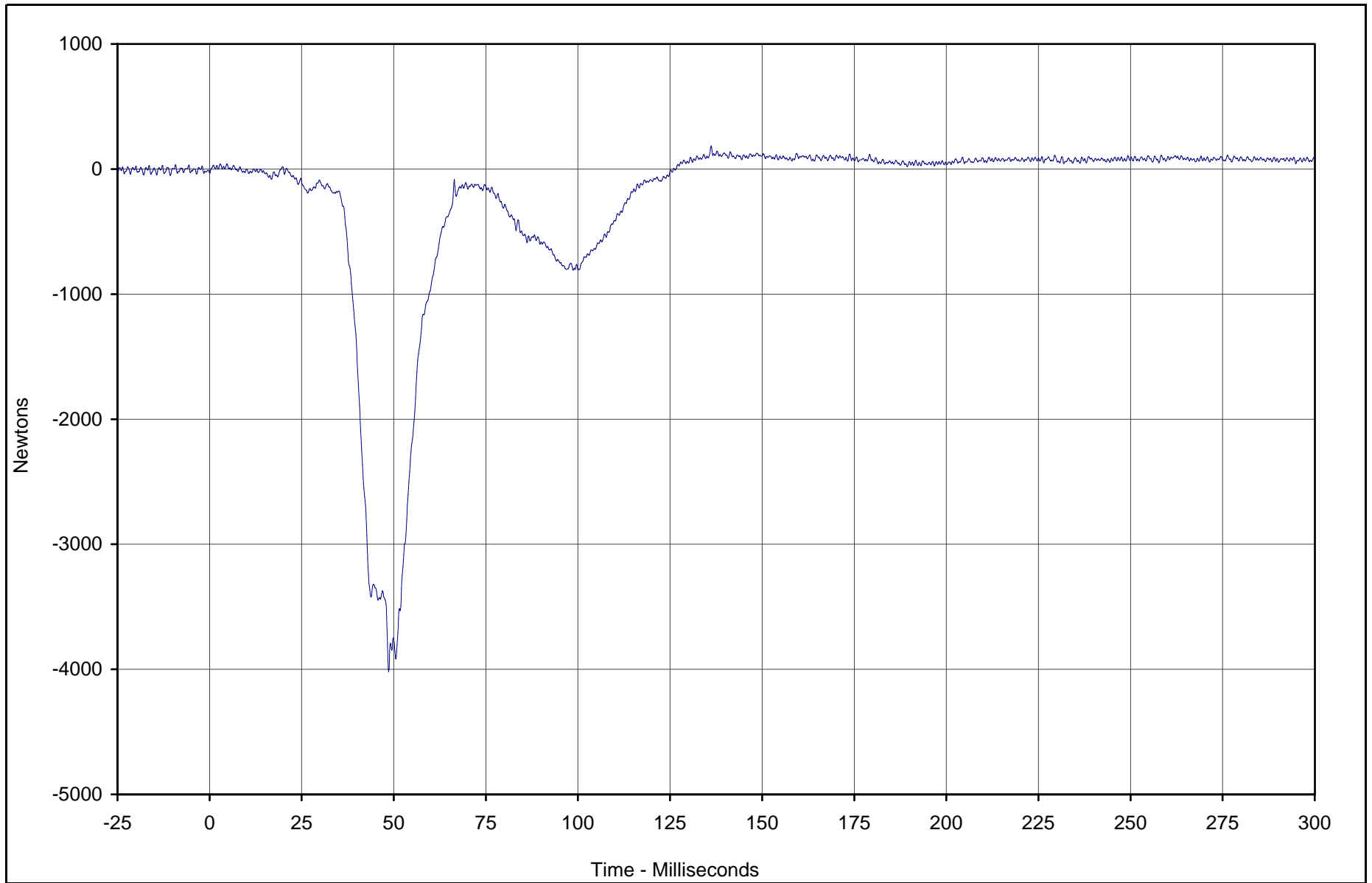
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-51



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|---------|-------|-------|---------|------|-----------|
| Driver Right Lower Tibia Force Z | 034 | FIL | Newtons | 185.8 | 136.2 | -4020.9 | 48.6 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

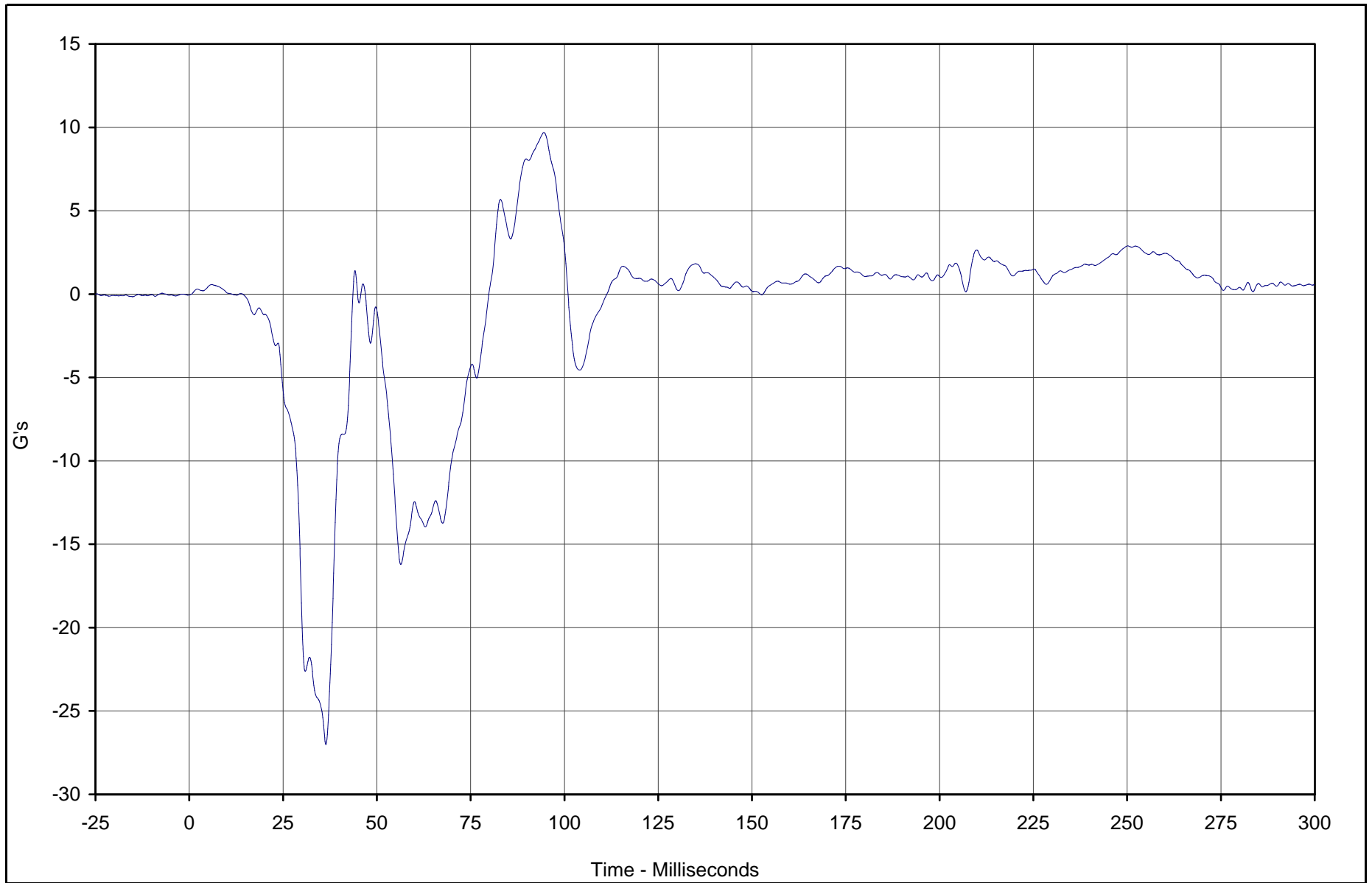
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-52



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|-------|-----|------|-------|------|-----------|
| Driver Left Foot Aft X | 035 | FIL | G's | 9.7 | 94.5 | -27.0 | 36.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

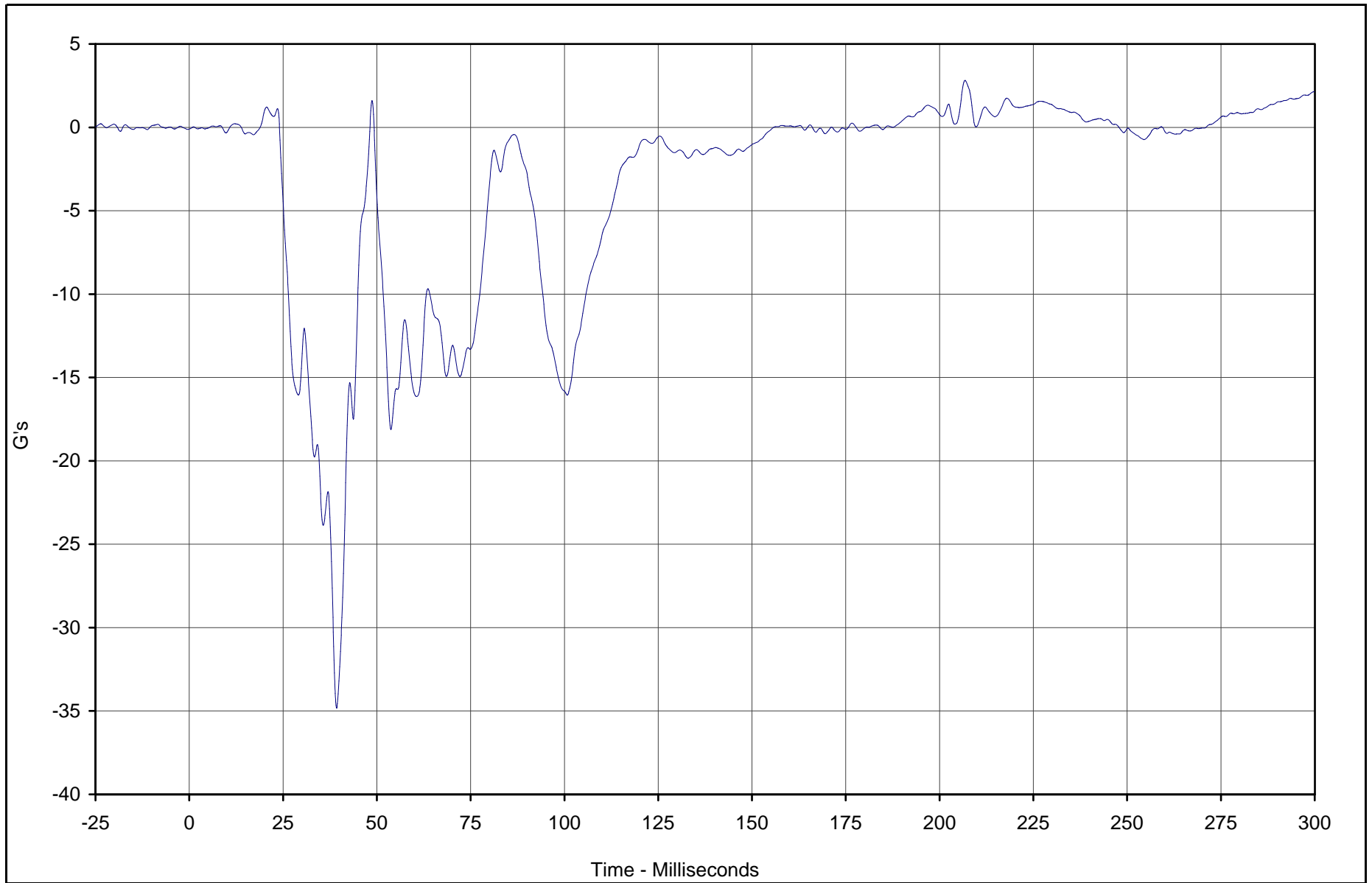
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-53



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Driver Left Foot Aft Z | 036 | FIL | G's | 2.8 | 206.8 | -34.8 | 39.3 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

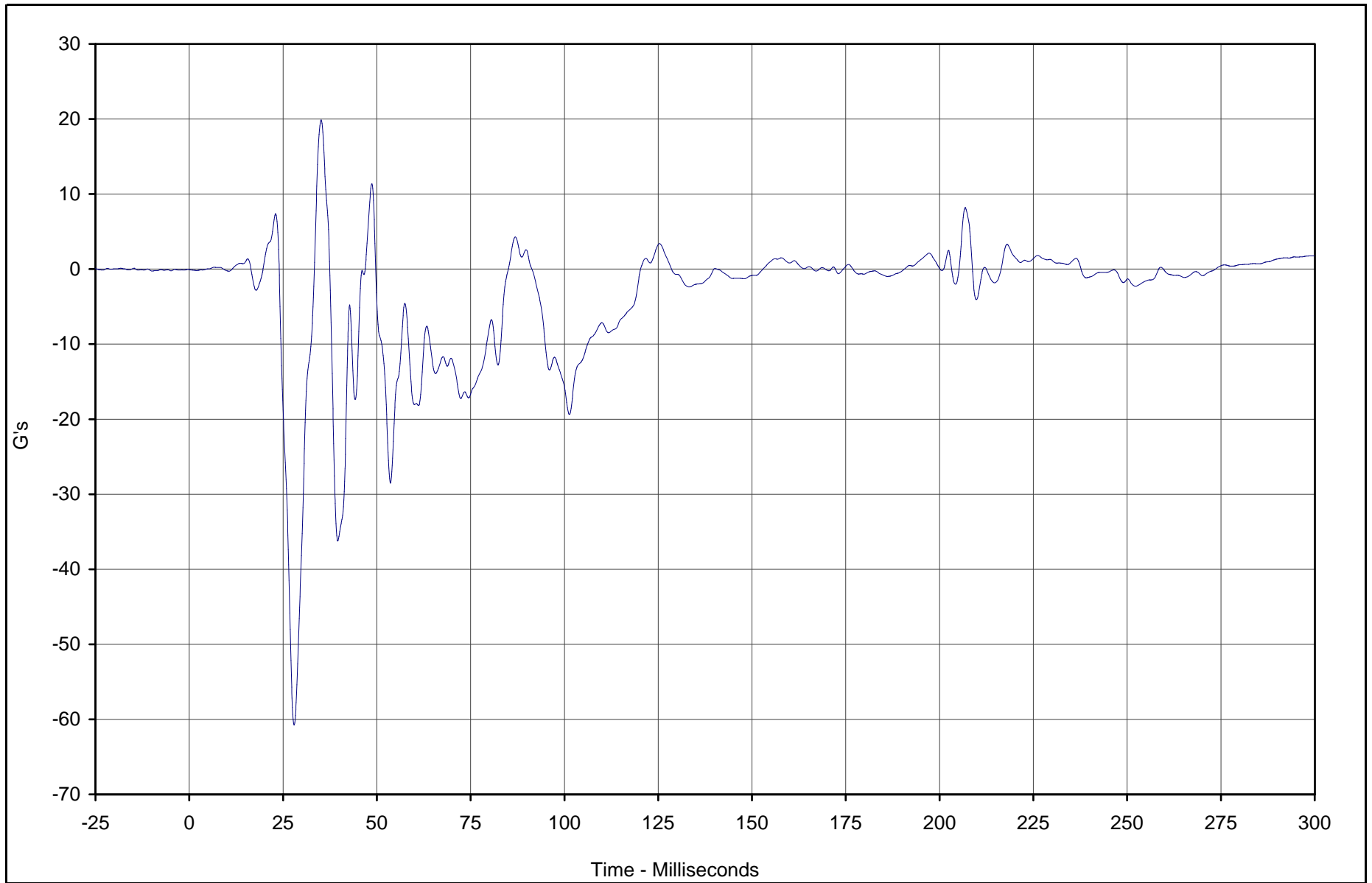
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-54



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|------|-------|------|-----------|
| Driver Left Foot Fore Z | 037 | FIL | G's | 19.9 | 35.2 | -60.7 | 27.9 | 180 |



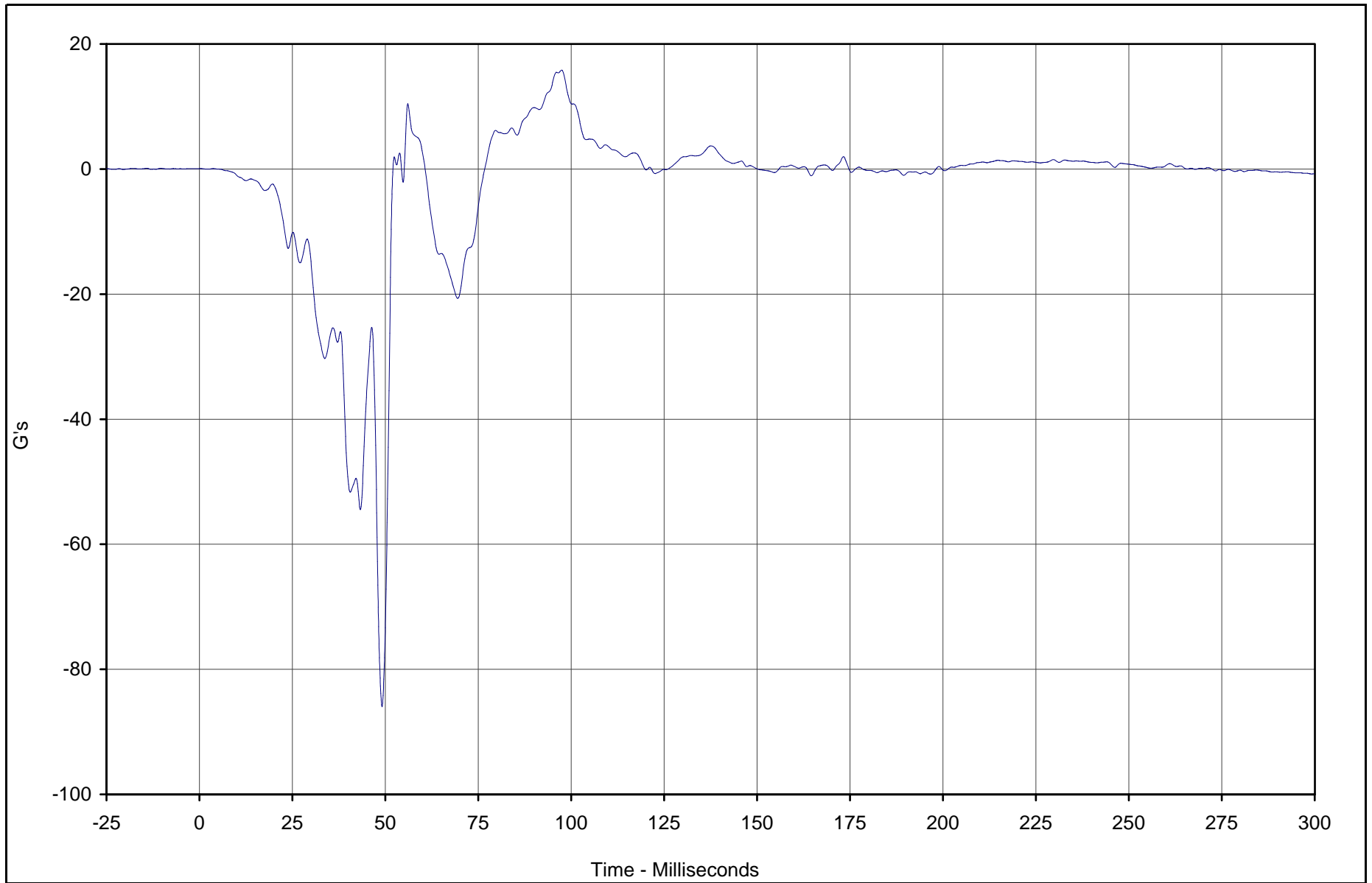
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-55



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|------|-------|------|-----------|
| Driver Right Foot Aft X | 038 | FIL | G's | 15.8 | 97.5 | -86.0 | 49.1 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

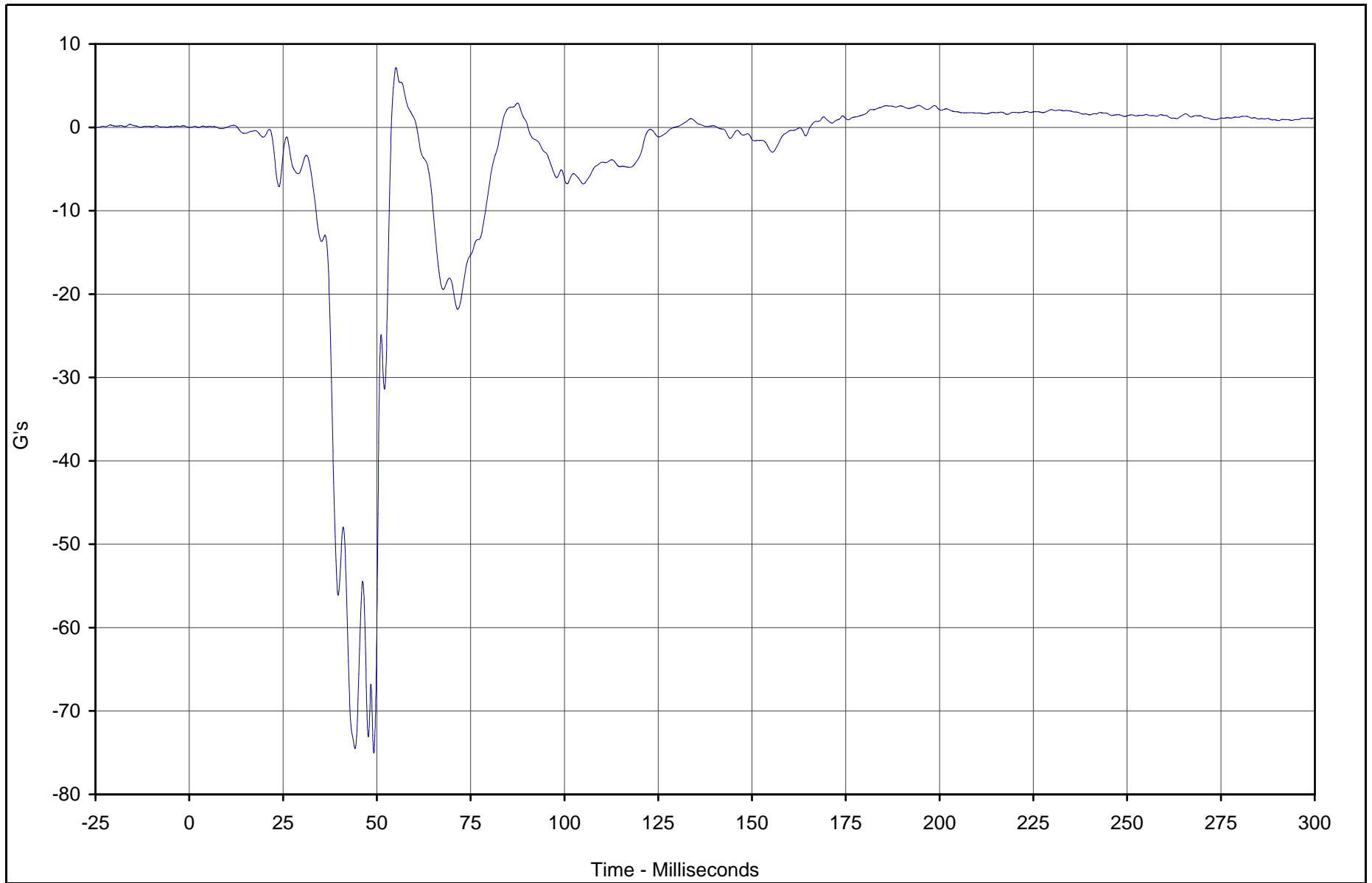
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-56



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|-----|------|-------|------|-----------|
| Driver Right Foot Aft Z | 039 | FIL | G's | 7.2 | 55.1 | -75.1 | 49.2 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

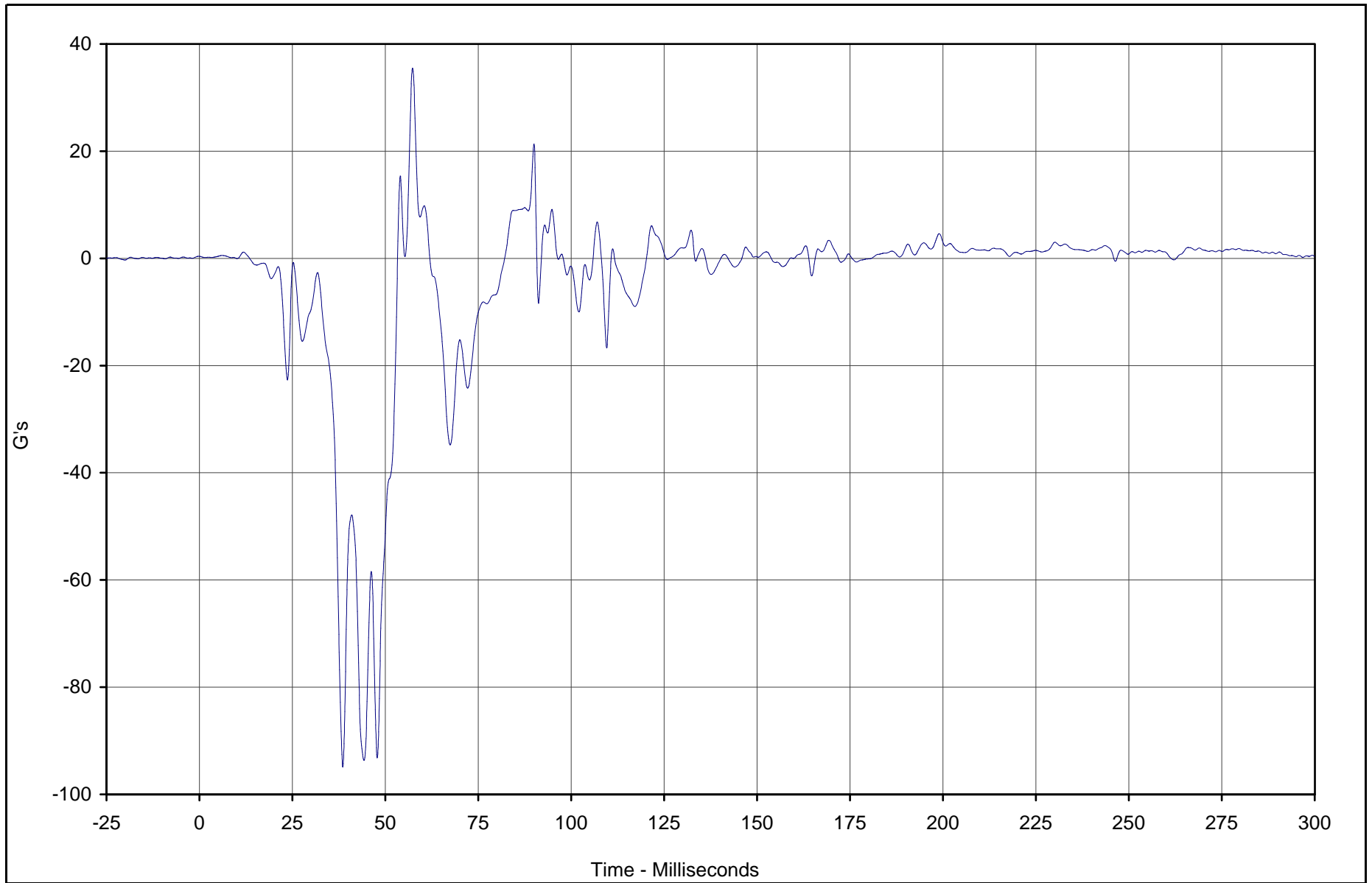
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-57



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|------|-------|------|-----------|
| Driver Right Foot Fore Z | 040 | FIL | G's | 35.5 | 57.3 | -94.9 | 38.6 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

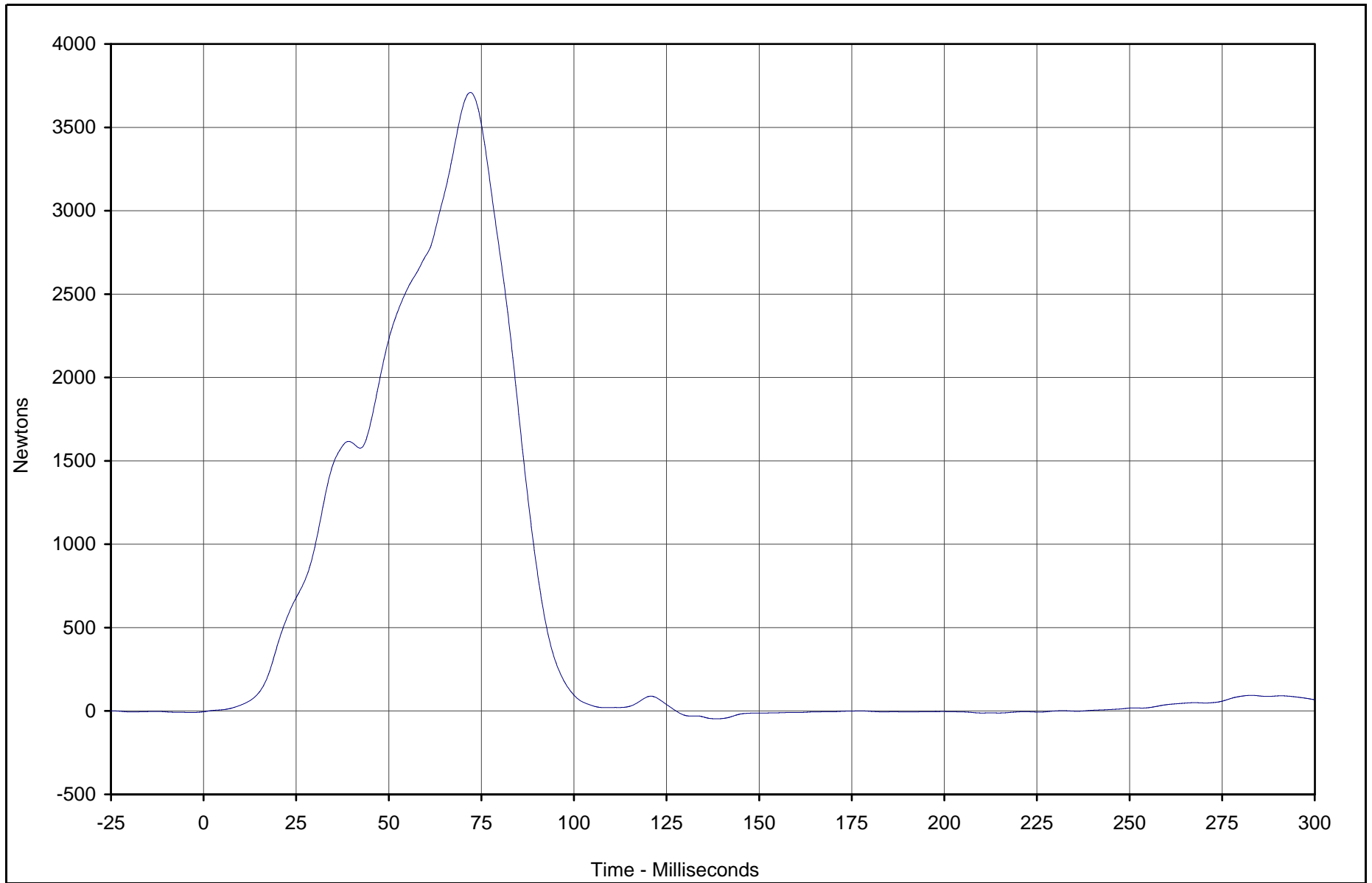
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-58



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|---------|--------|------|-------|-------|-----------|
| Driver Lap Belt Force | 041 | FIL | Newtons | 3709.4 | 72.0 | -47.0 | 138.5 | 60 |



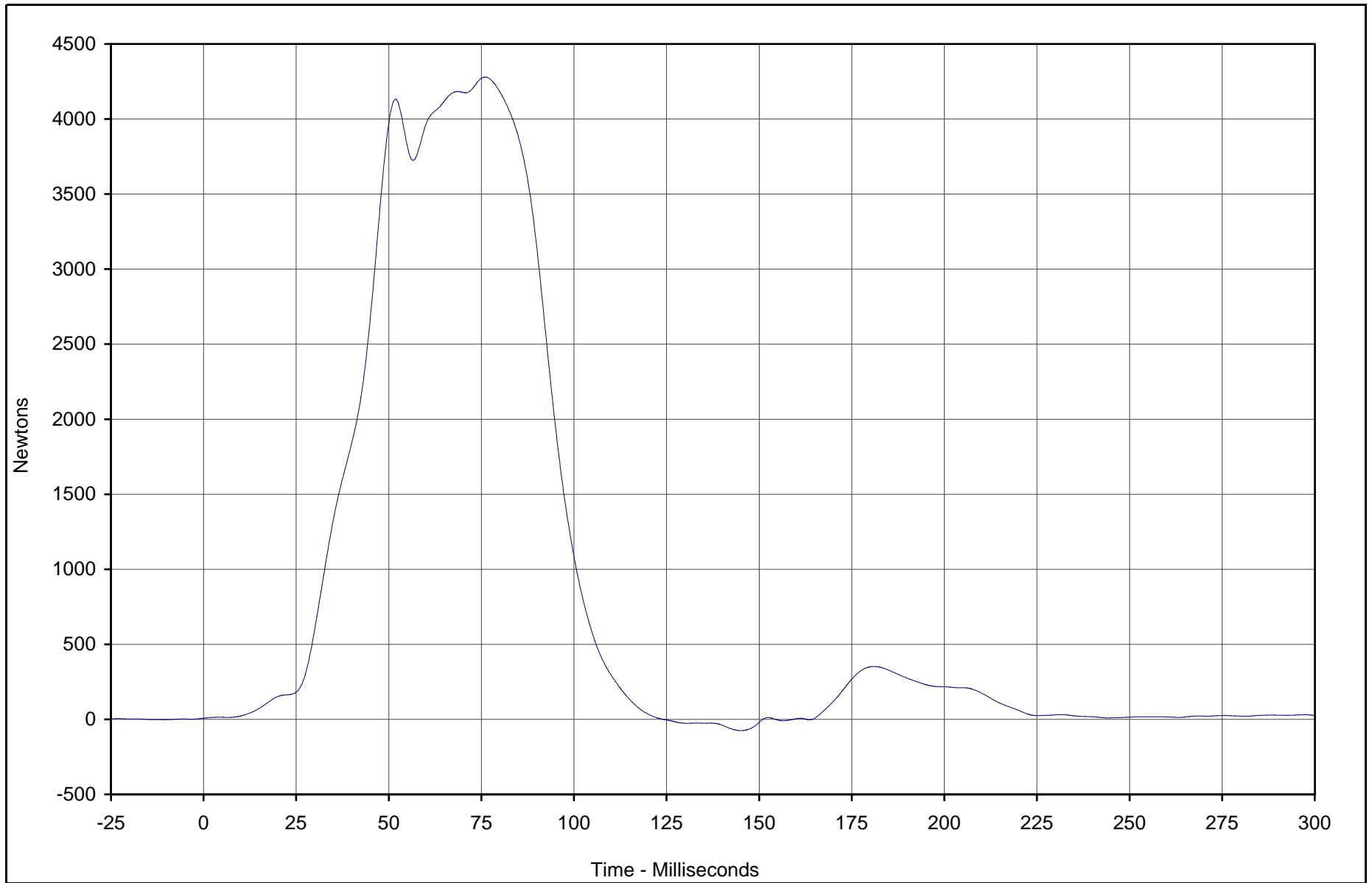
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-59



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|---------|--------|------|-------|-------|-----------|
| Driver Shoulder Belt Force | 042 | FIL | Newtons | 4279.6 | 76.0 | -75.0 | 145.1 | 60 |



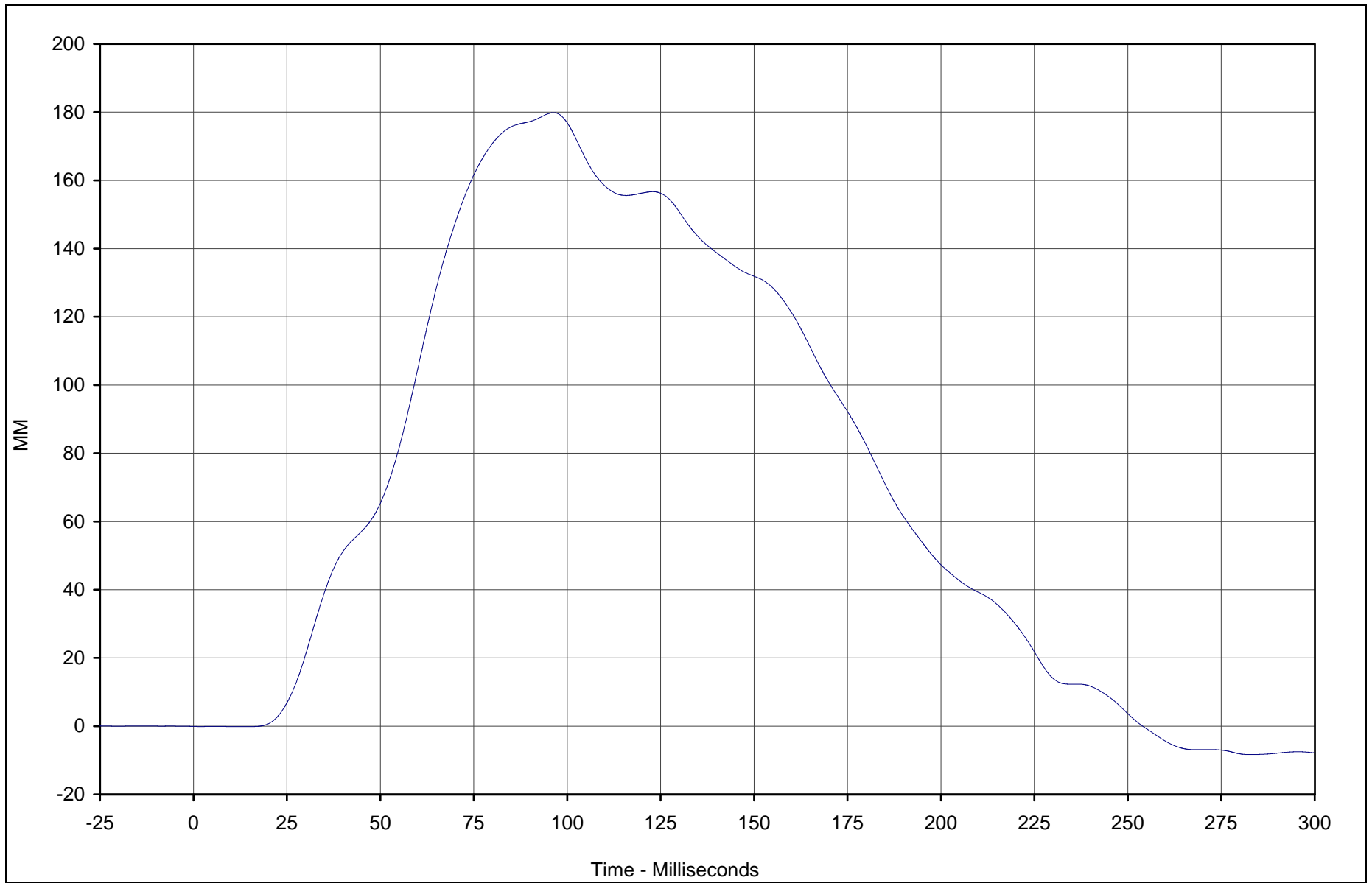
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-60



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------|-------|------|-------|-------|------|------|-------|-----------|
| Driver Shoulder Belt Pullout | 043 | FIL | MM | 179.9 | 96.3 | -8.3 | 282.9 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

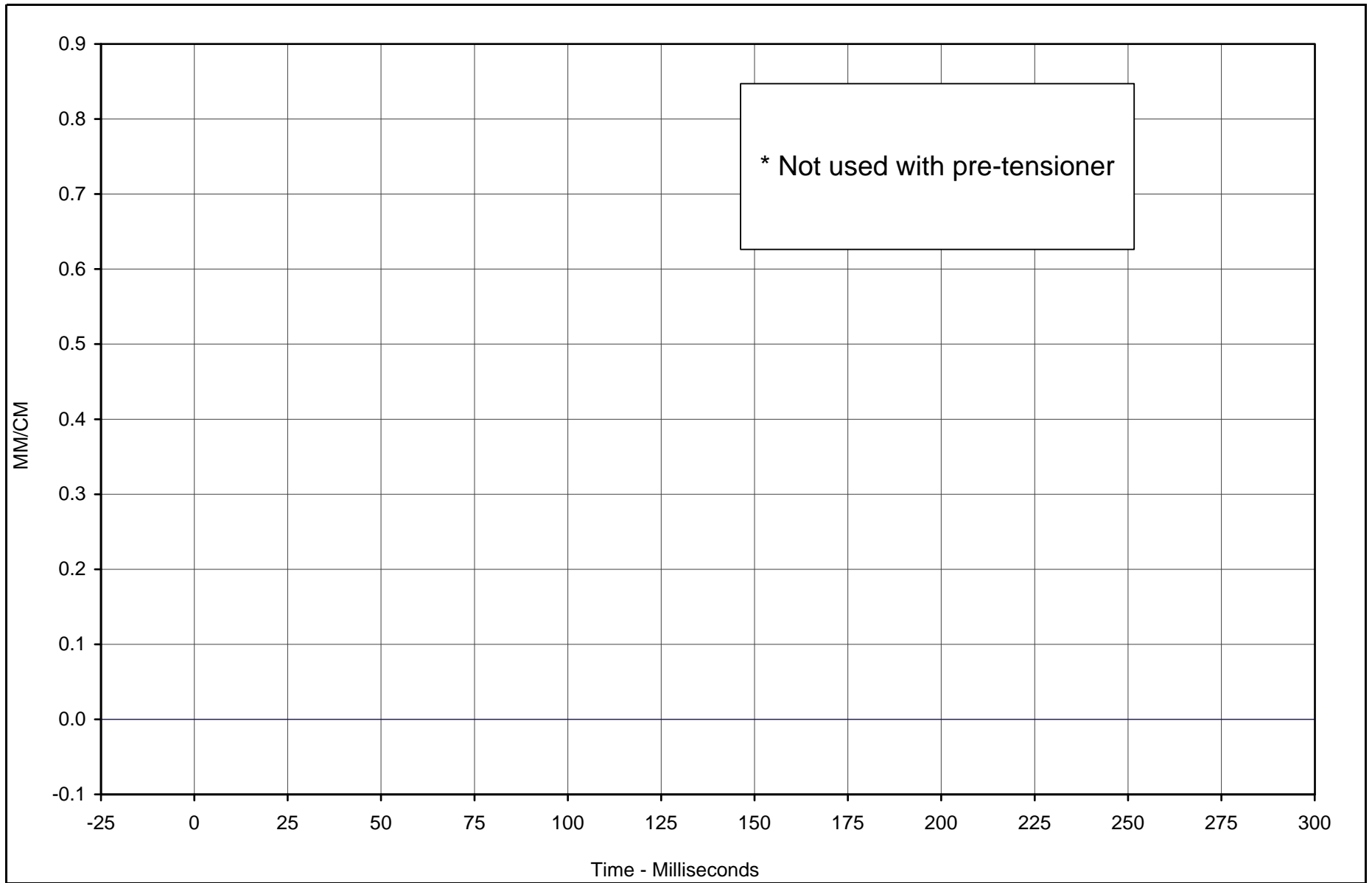
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-61



* Not used with pre-tensioner

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|------|------|------|------|-----------|
| Driver Shoulder Belt Elongation | 044 | FIL | MM/CM | 0.00 | 0.0 | 0.00 | 0.0 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

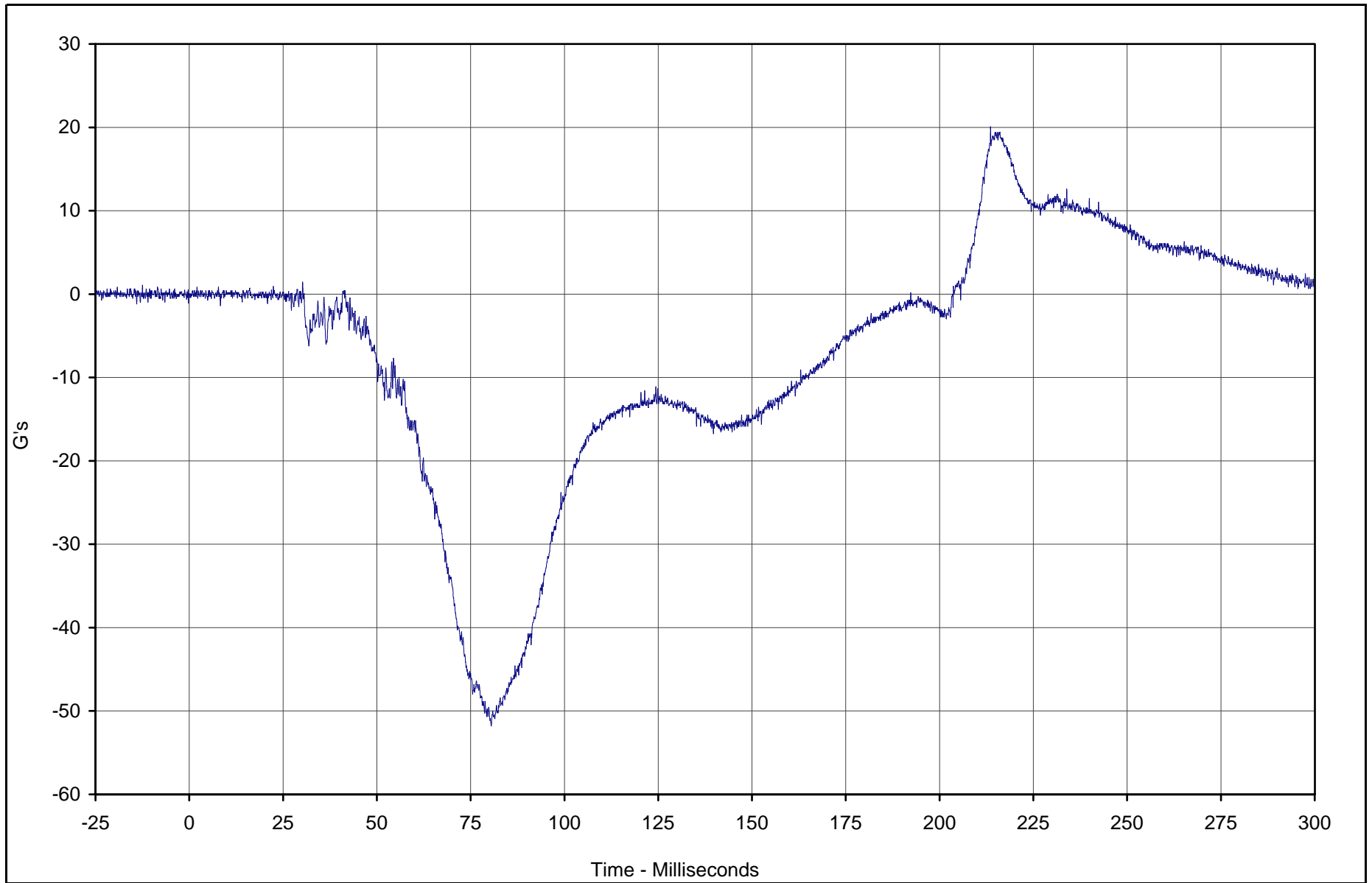
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-62



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Passenger Head Primary X | 045 | FIL | G's | 20.1 | 213.6 | -51.8 | 80.5 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

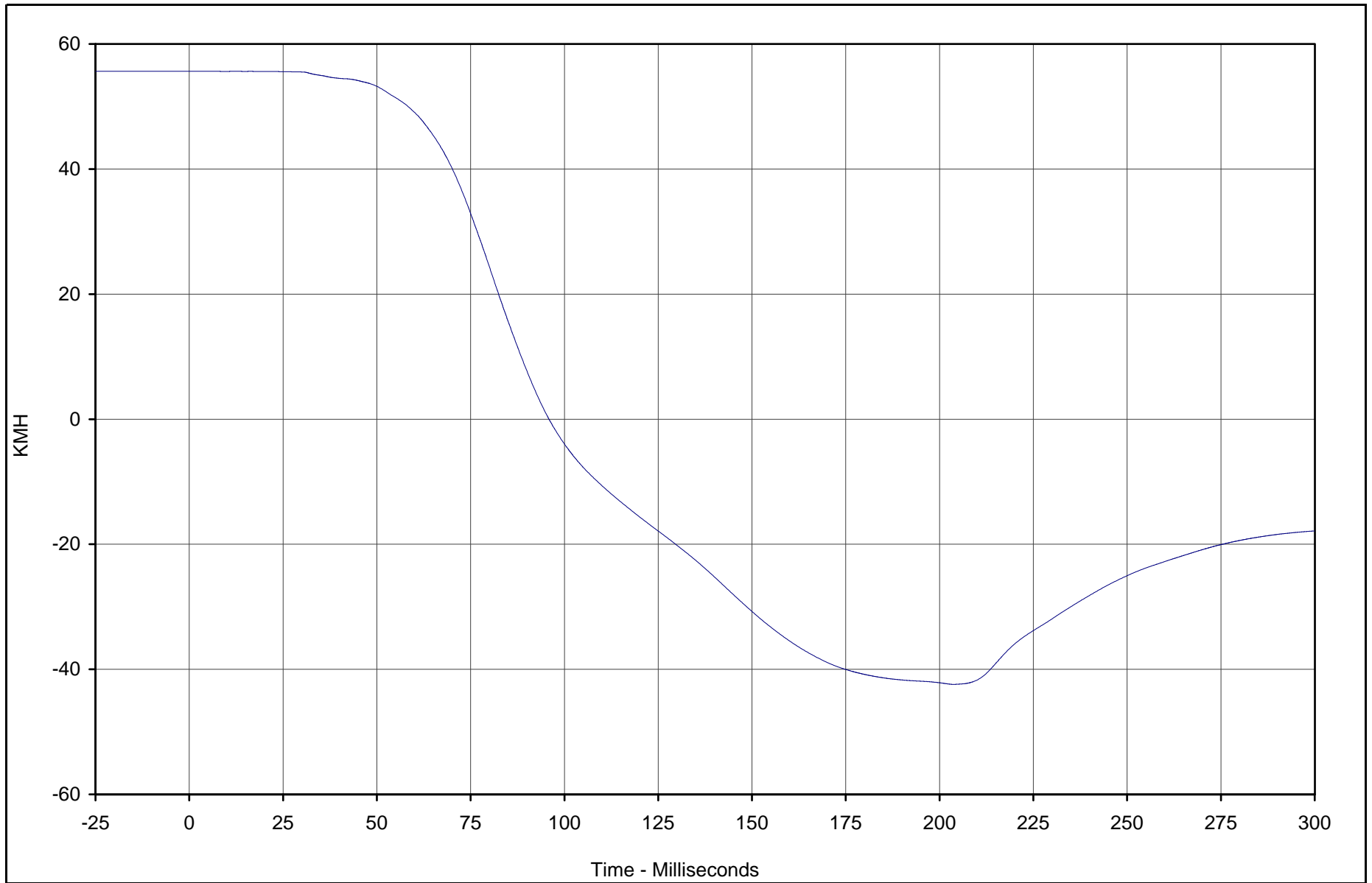
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-63



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Passenger Head Primary X Velocity | 045 | IN1 | KMH | 55.6 | 3.7 | -42.4 | 203.7 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

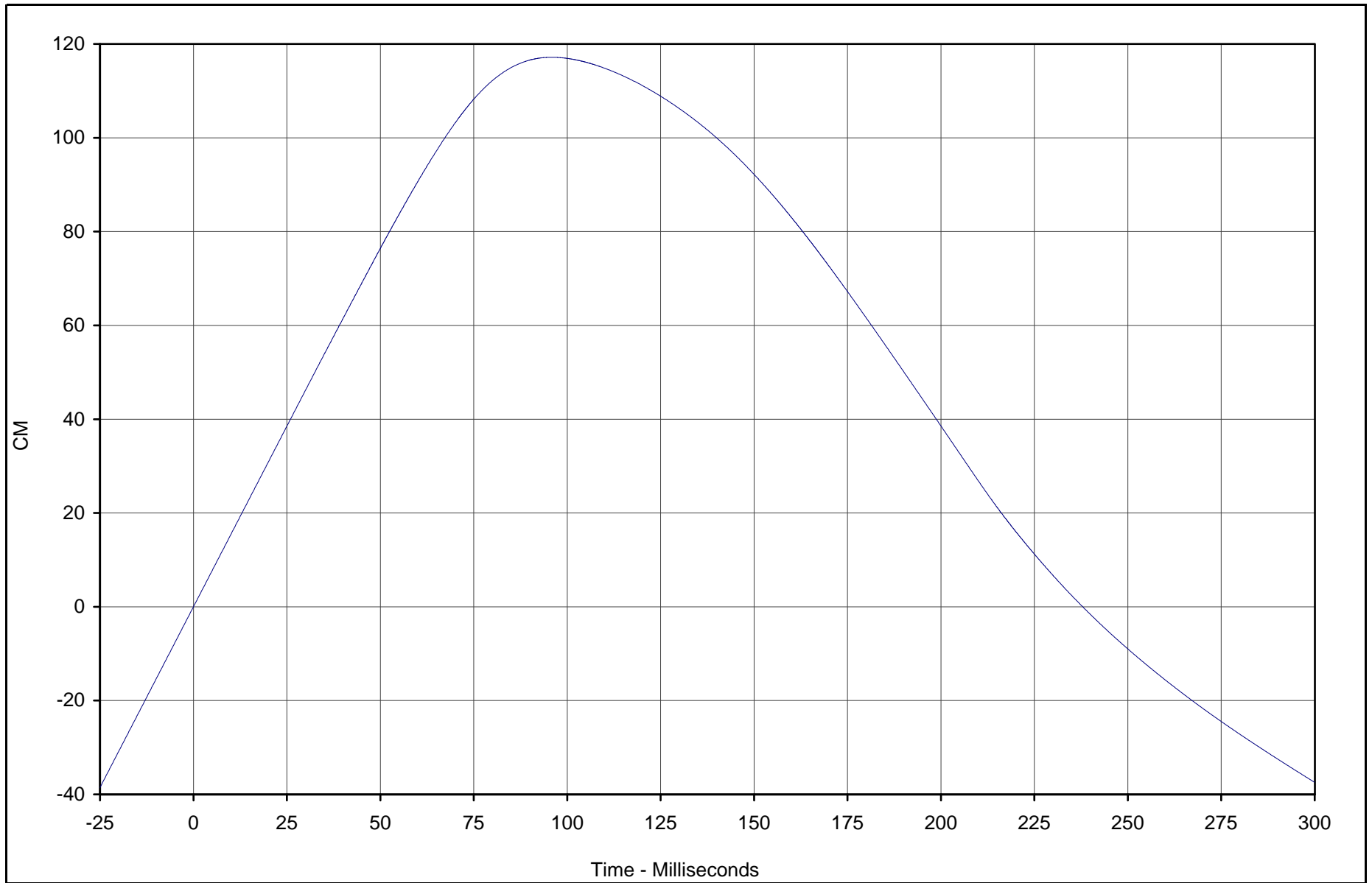
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-64



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|-------|------|-------|-------|-----------|
| Passenger Head Primary X Displ. | 045 | IN2 | CM | 117.2 | 95.9 | -37.4 | 299.9 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

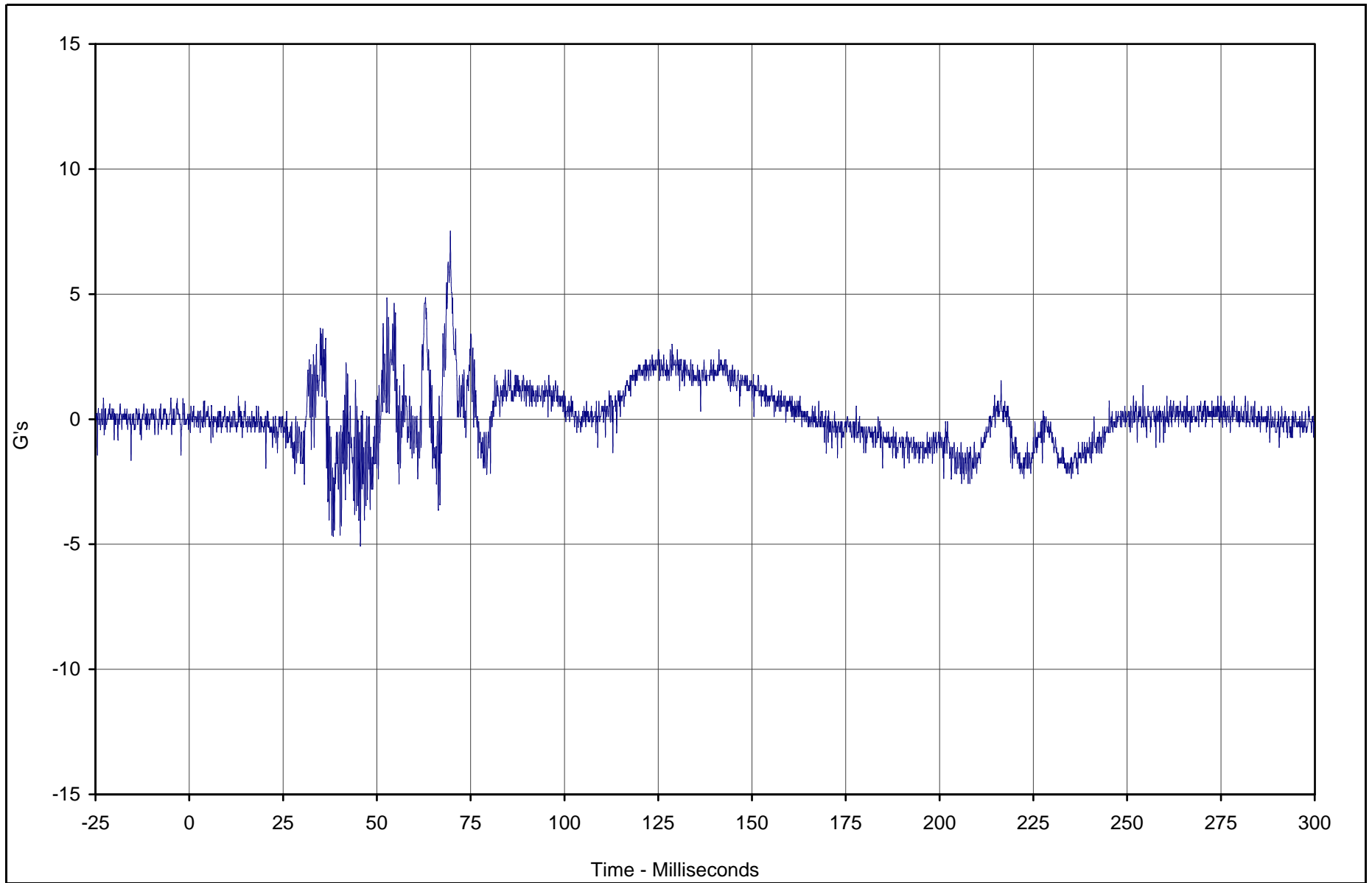
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-65



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|-----|------|------|------|-----------|
| Passenger Head Primary Y | 046 | FIL | G's | 7.5 | 69.6 | -5.1 | 45.6 | 1000 |



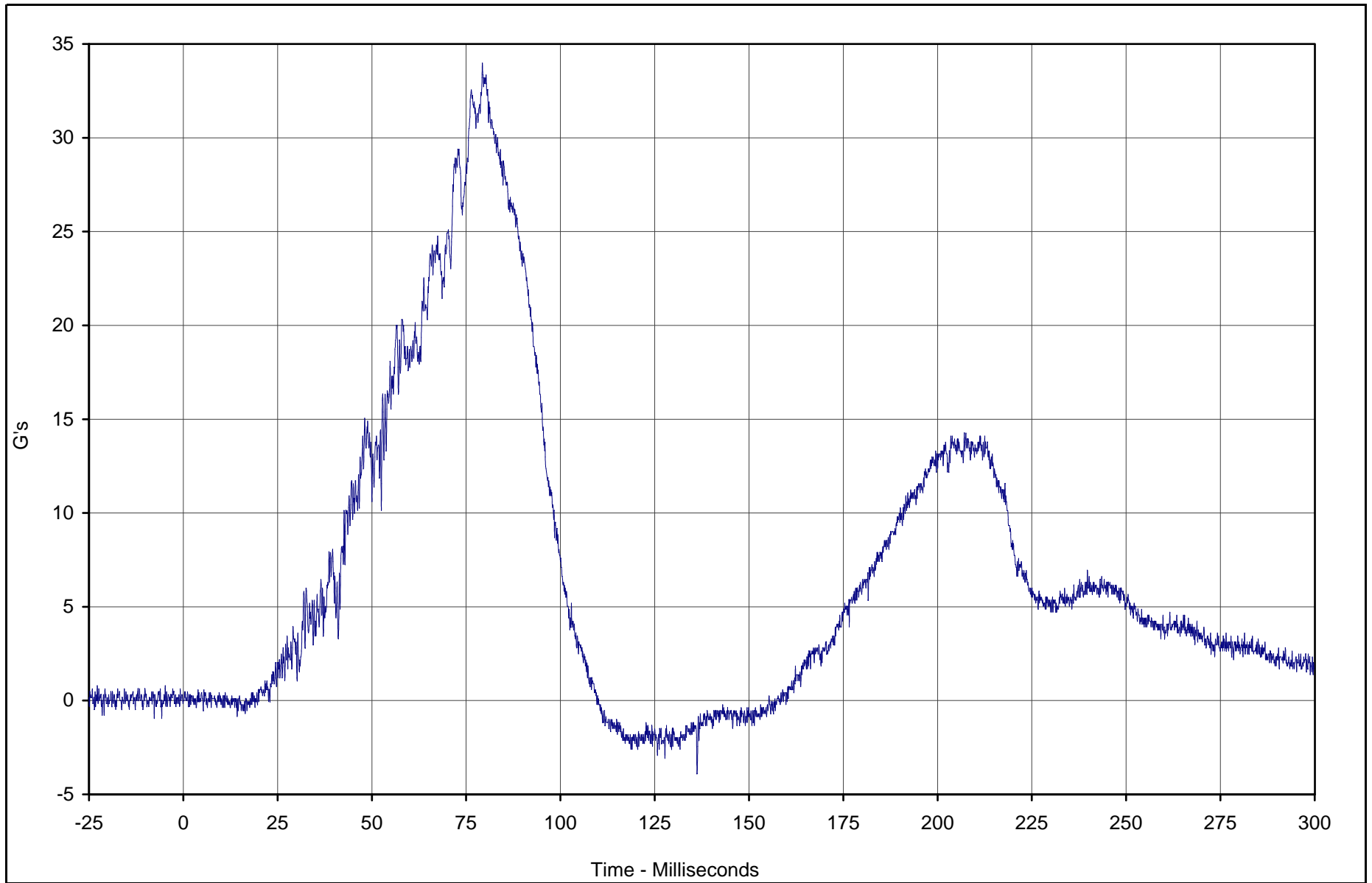
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-66



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|------|------|-------|-----------|
| Passenger Head Primary Z | 047 | FIL | G's | 34.0 | 79.3 | -3.9 | 136.2 | 1000 |



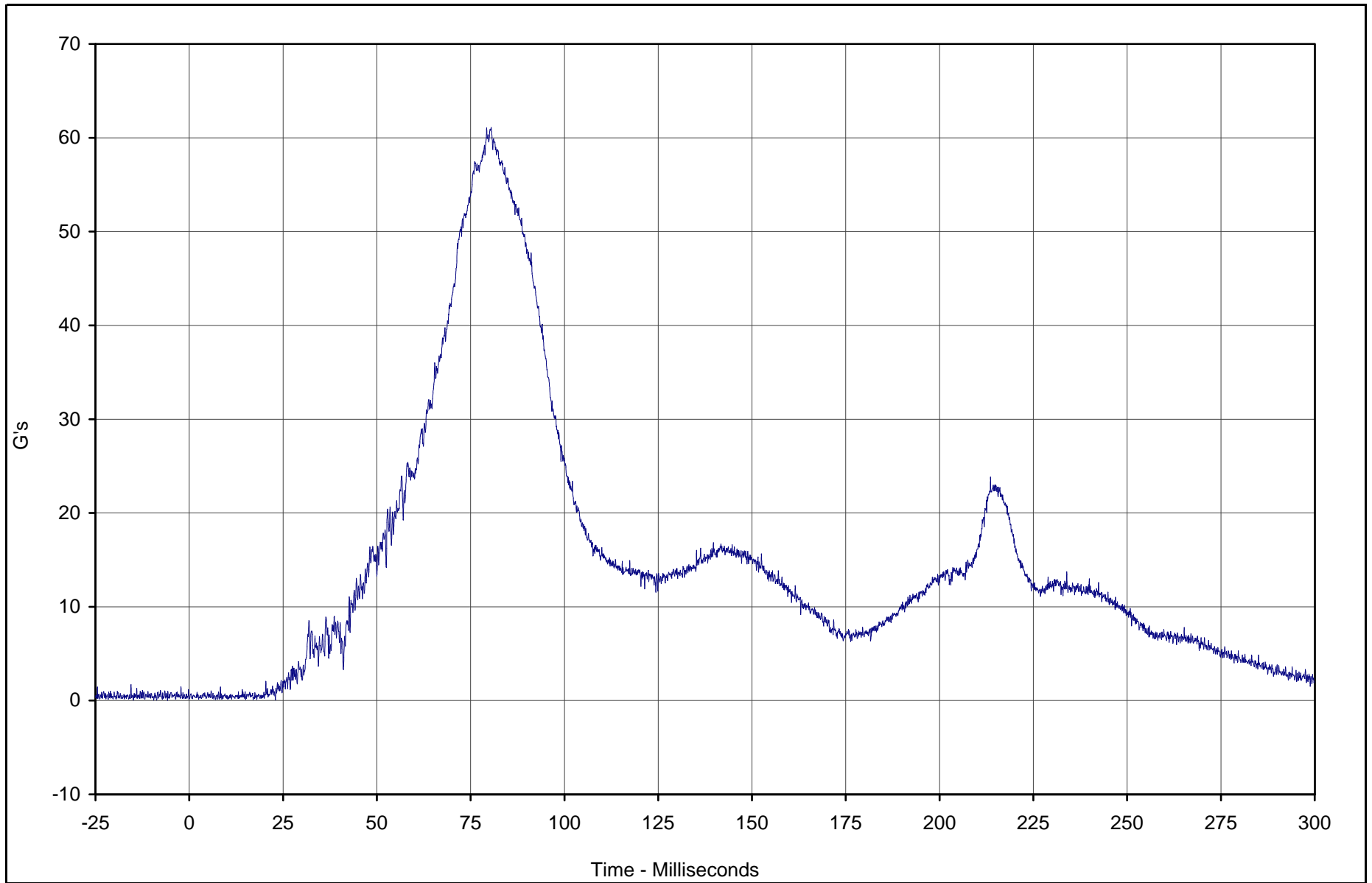
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-67



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Head Resultant Primary | 045 | RES | G's | 61.1 | 80.5 | 0.1 | 17.0 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

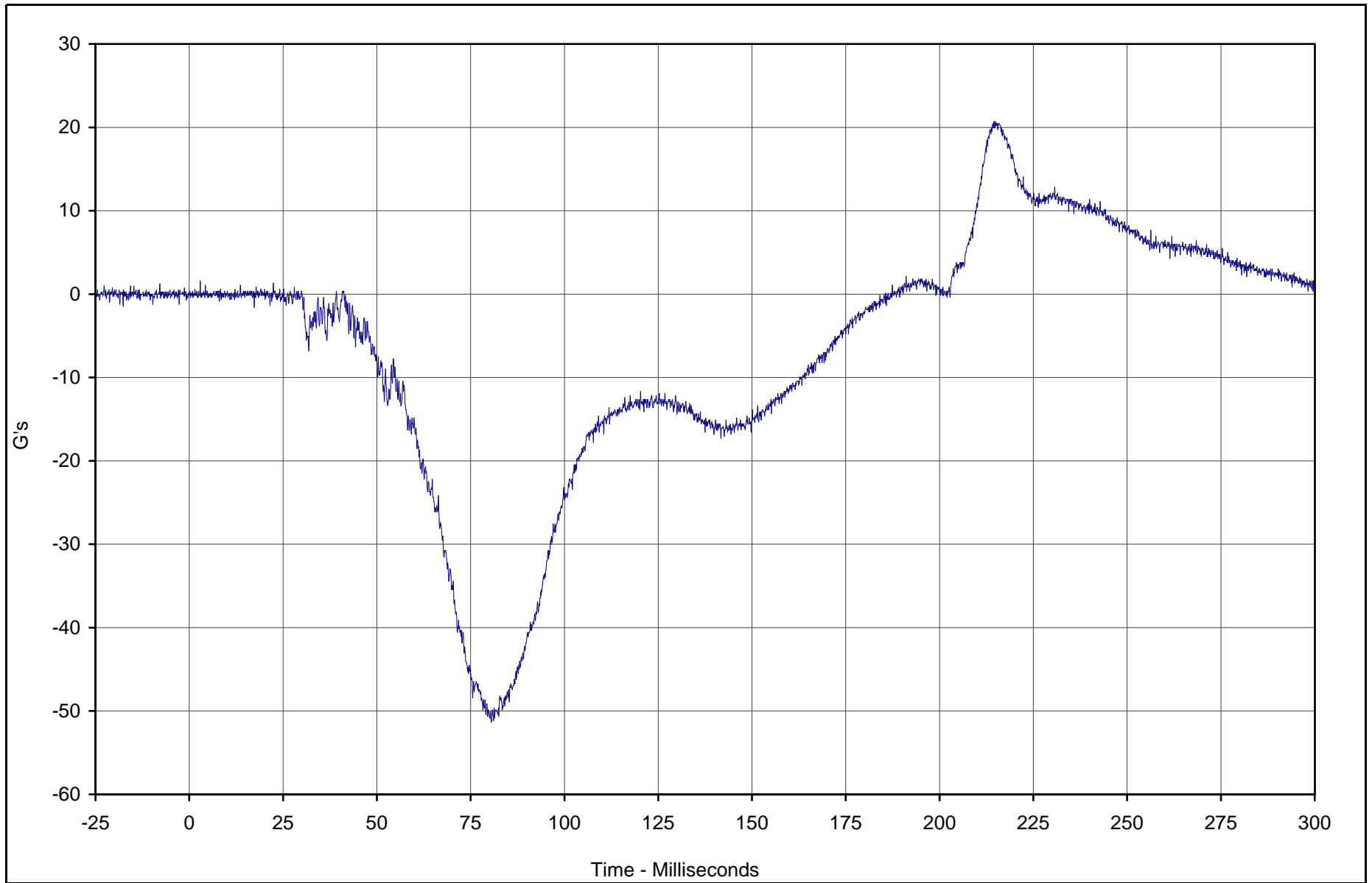
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-68



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Passenger Head Redundant X | 048 | FIL | G's | 20.7 | 214.5 | -51.4 | 80.5 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

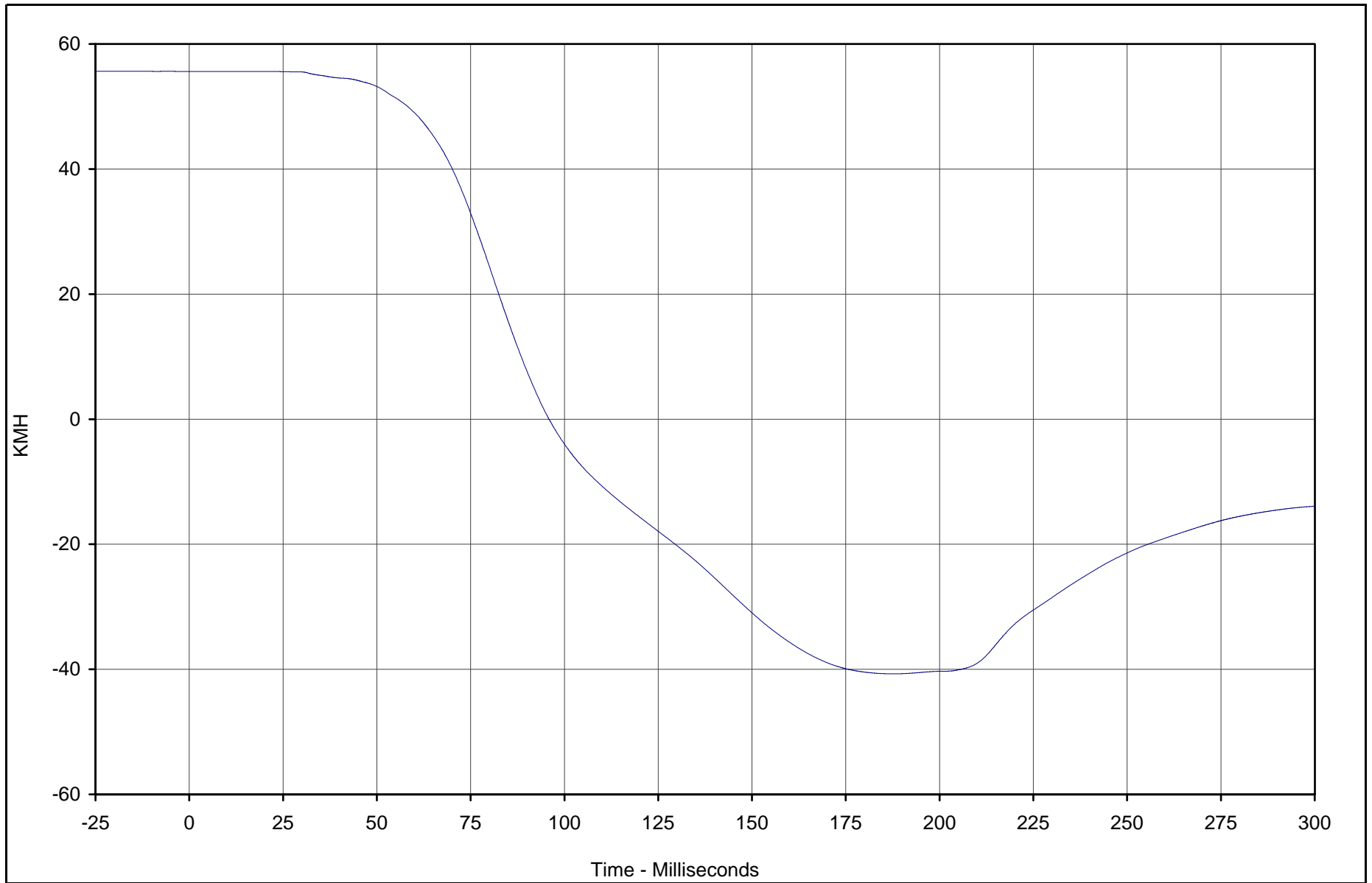
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-69



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Passenger Head Redundant X Velocity | 048 | IN1 | KMH | 55.6 | 4.9 | -40.7 | 187.3 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

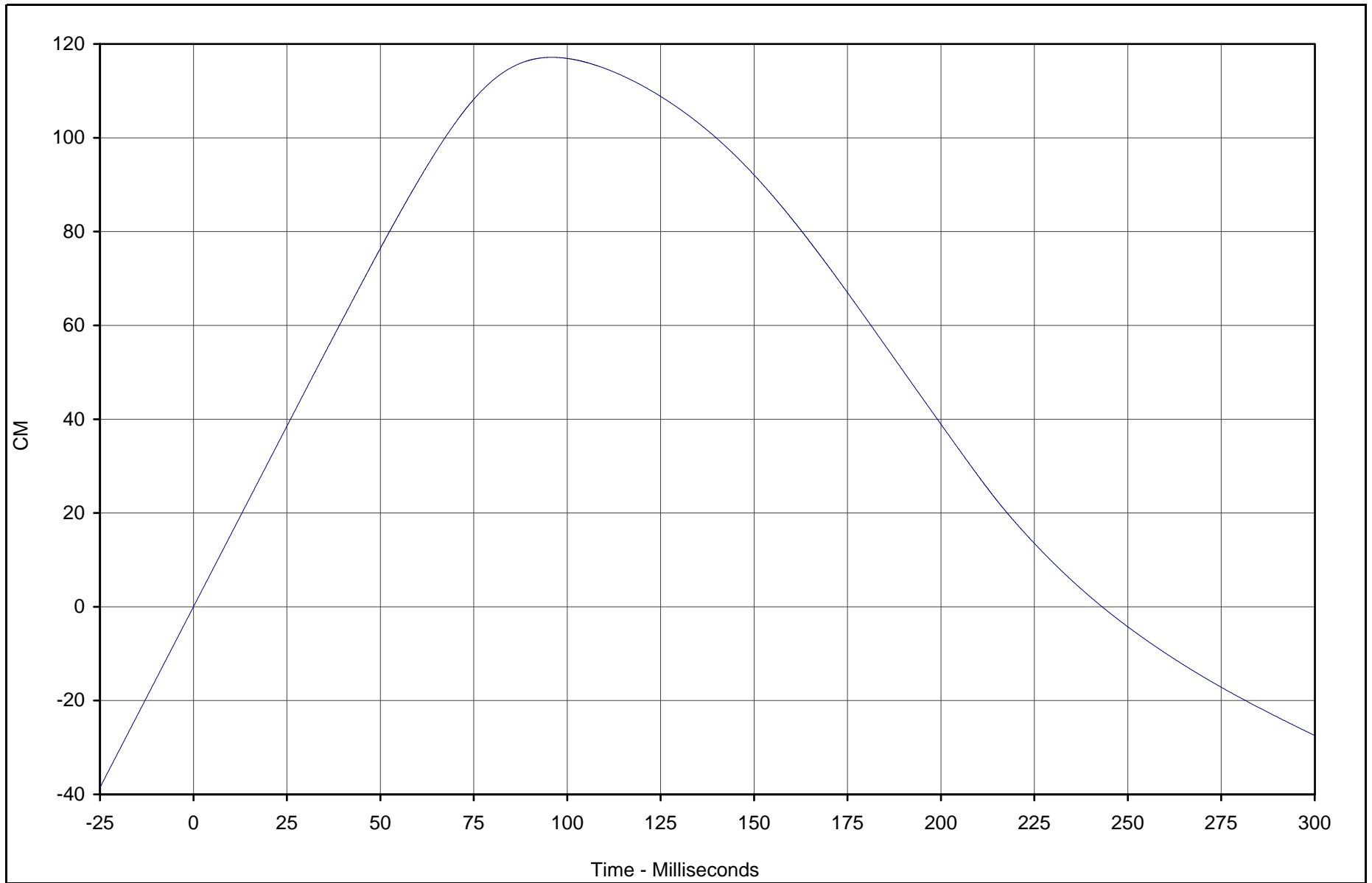
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-70



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|-------|------|-------|-------|-----------|
| Passenger Head Redundant X Displ. | 048 | IN2 | CM | 117.2 | 95.9 | -27.4 | 299.9 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

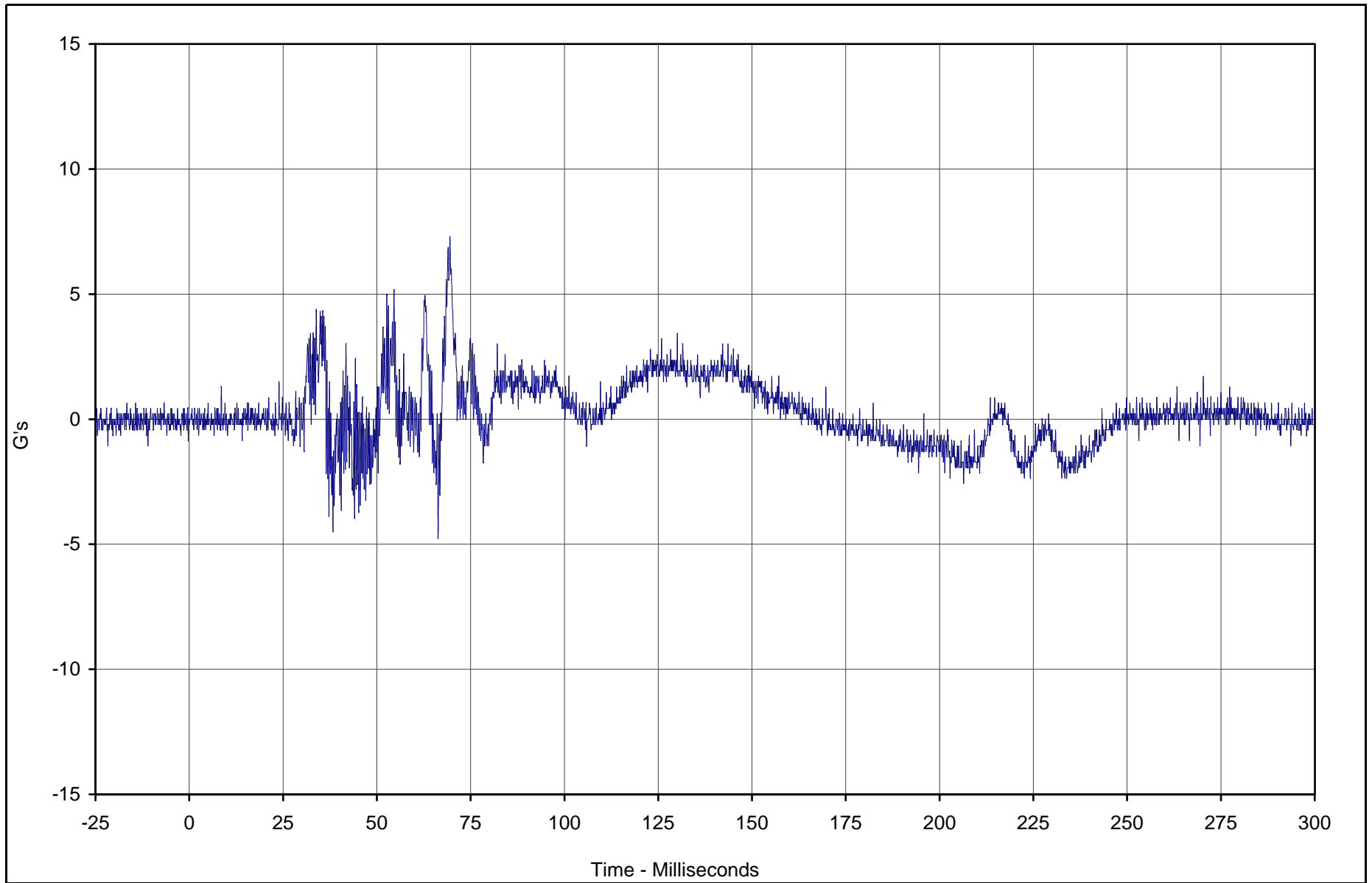
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-71



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|-----|------|------|------|-----------|
| Passenger Head Redundant Y | 049 | FIL | G's | 7.3 | 69.5 | -4.7 | 66.3 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

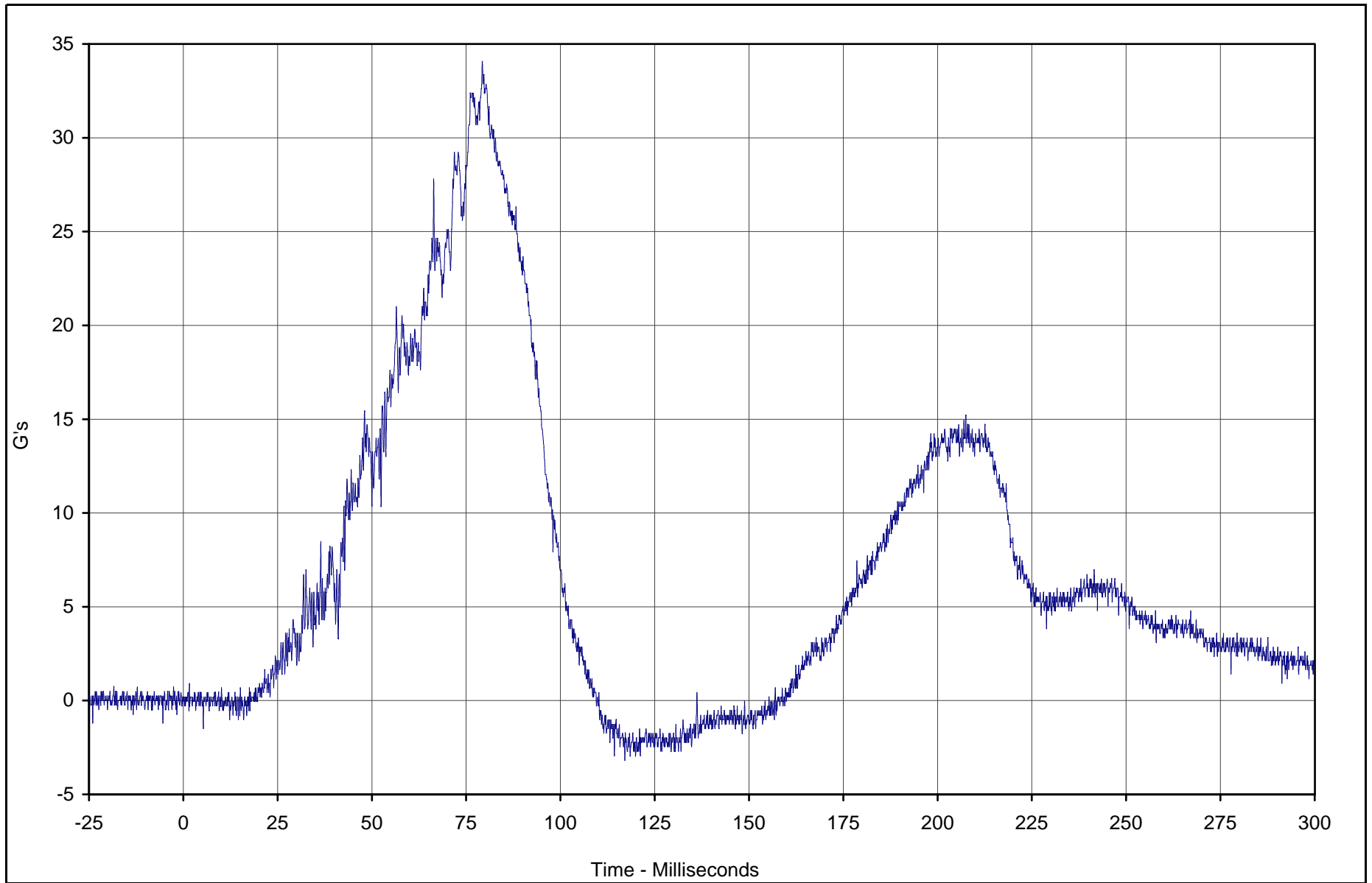
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-72



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|------|------|-------|-----------|
| Passenger Head Redundant Z | 050 | FIL | G's | 34.1 | 79.3 | -3.2 | 117.1 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

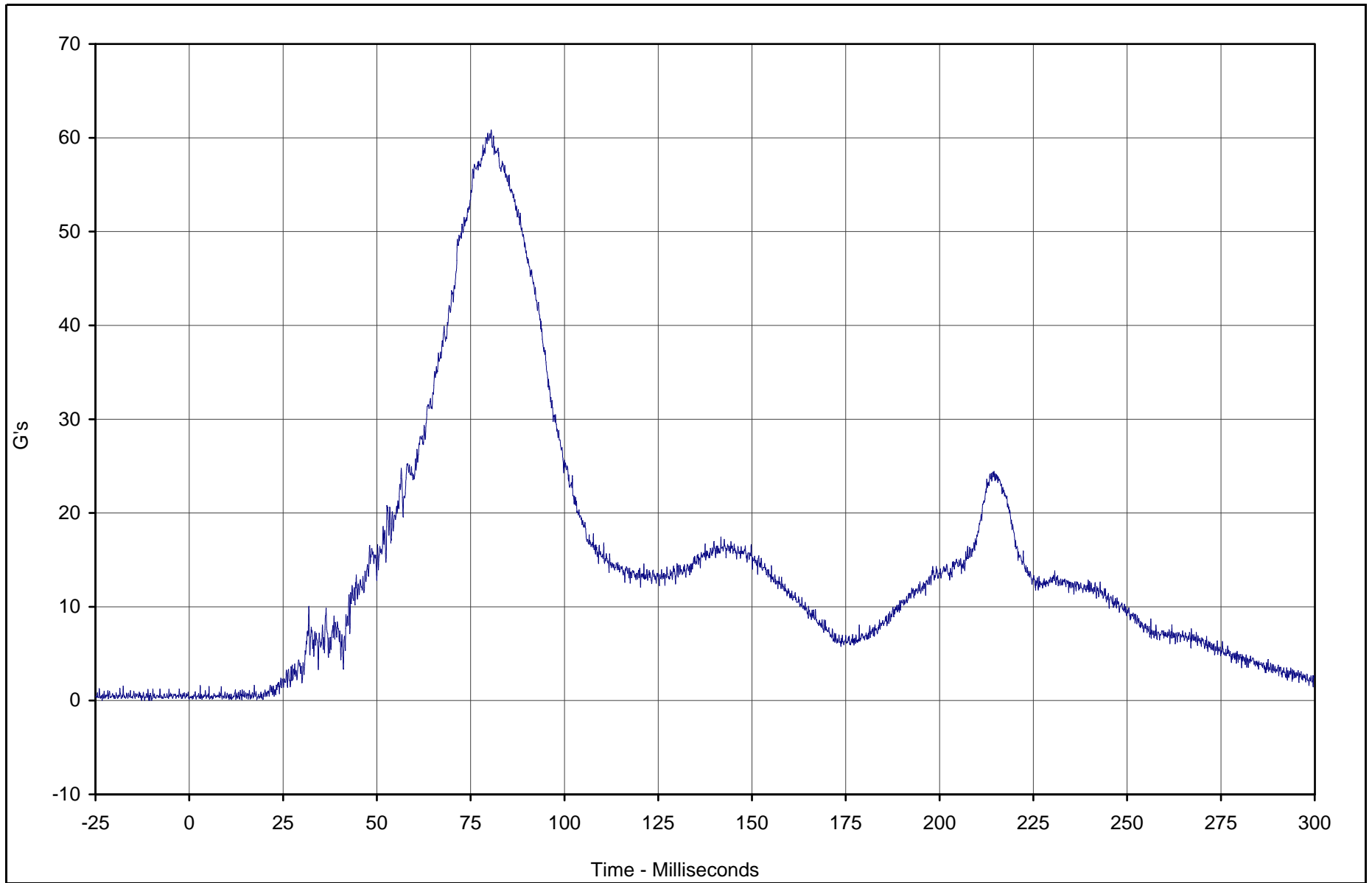
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-73



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Head Resultant Redundant | 048 | RES | G's | 60.9 | 80.5 | 0.1 | 10.6 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

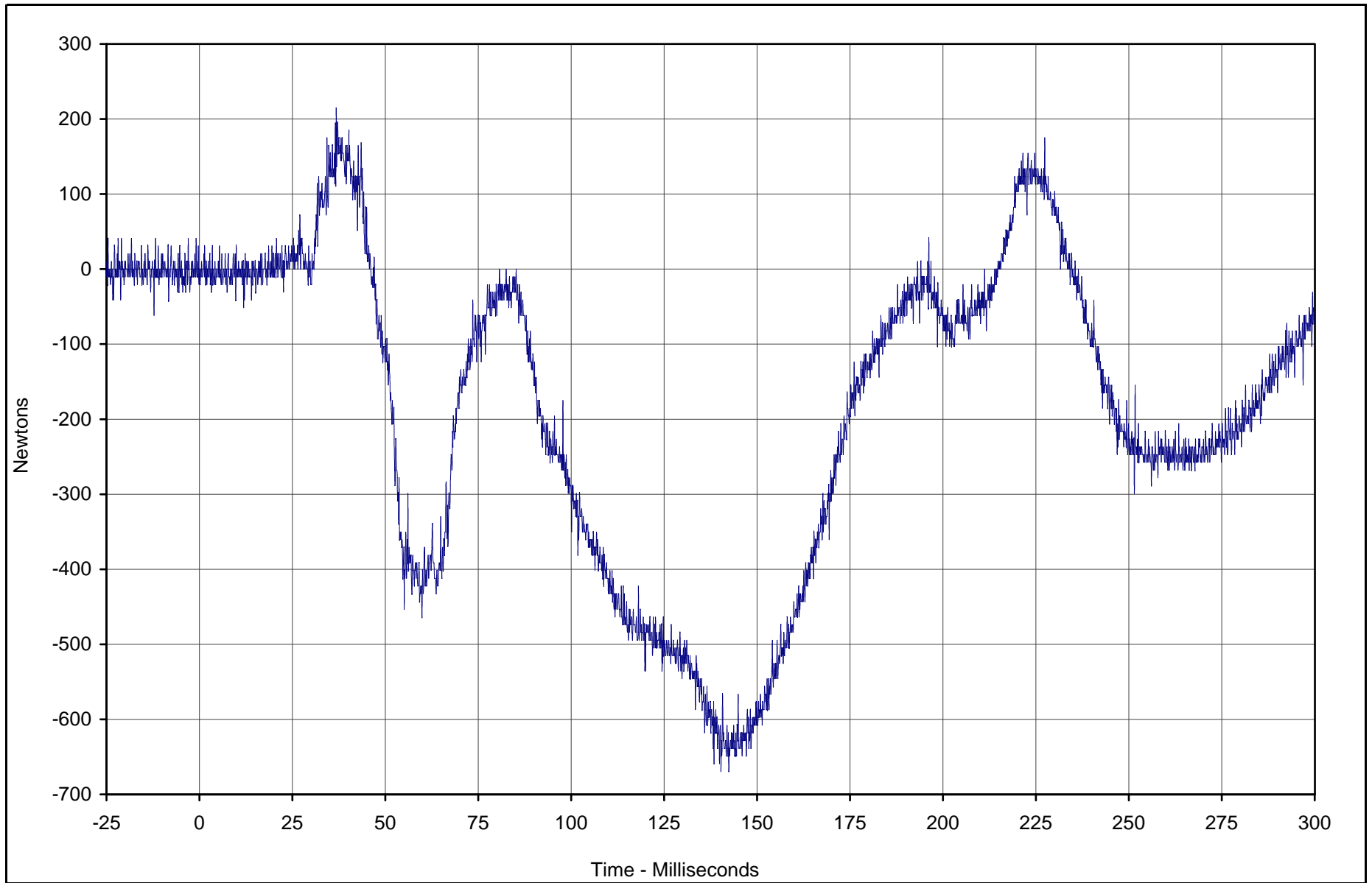
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-74



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|---------|-------|------|--------|-------|-----------|
| Passenger Neck Force X | 051 | FIL | Newtons | 214.7 | 36.8 | -669.6 | 140.3 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

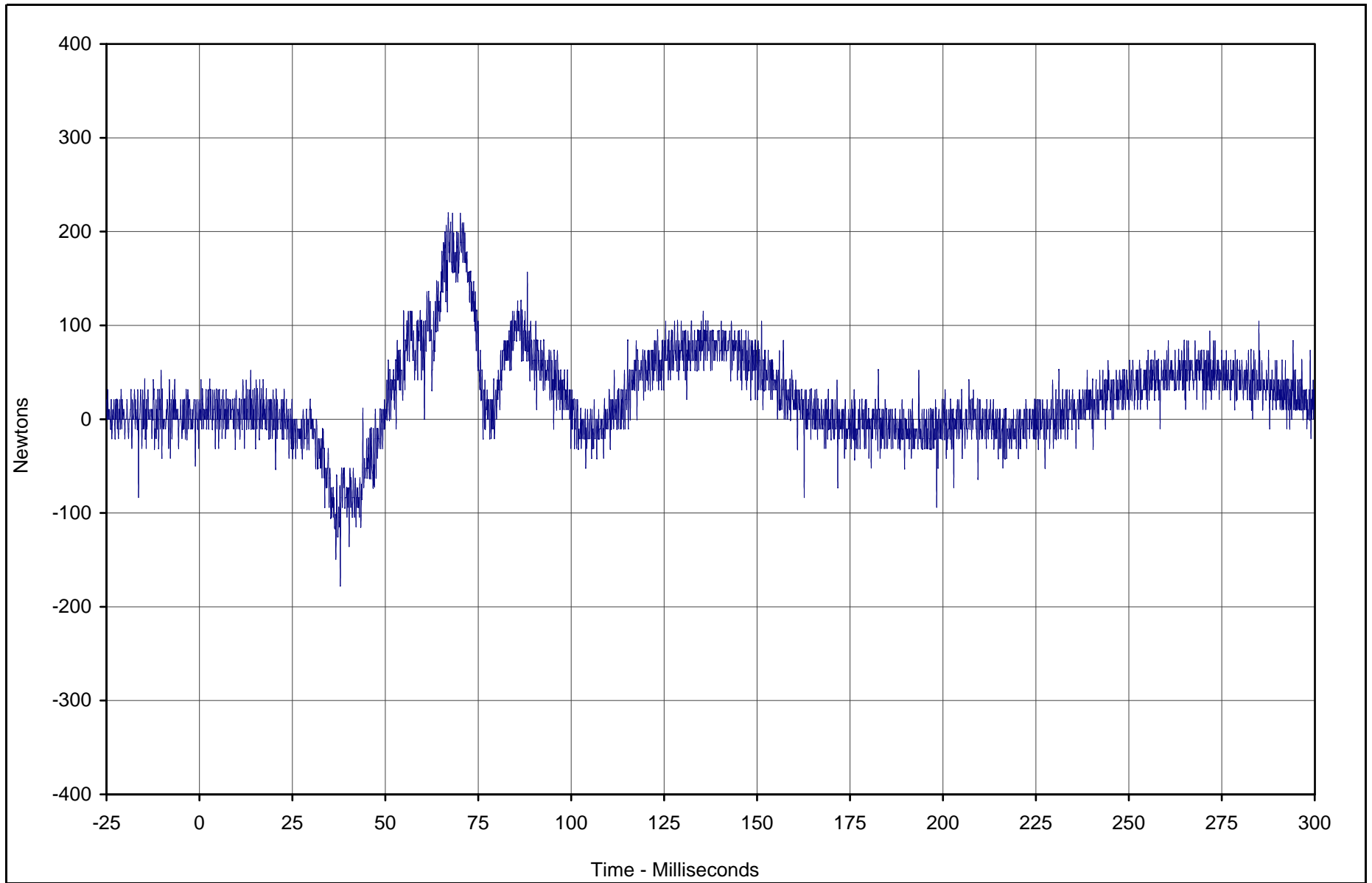
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-75



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|---------|-------|------|--------|------|-----------|
| Passenger Neck Force Y | 052 | FIL | Newtons | 219.8 | 66.9 | -177.9 | 37.9 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

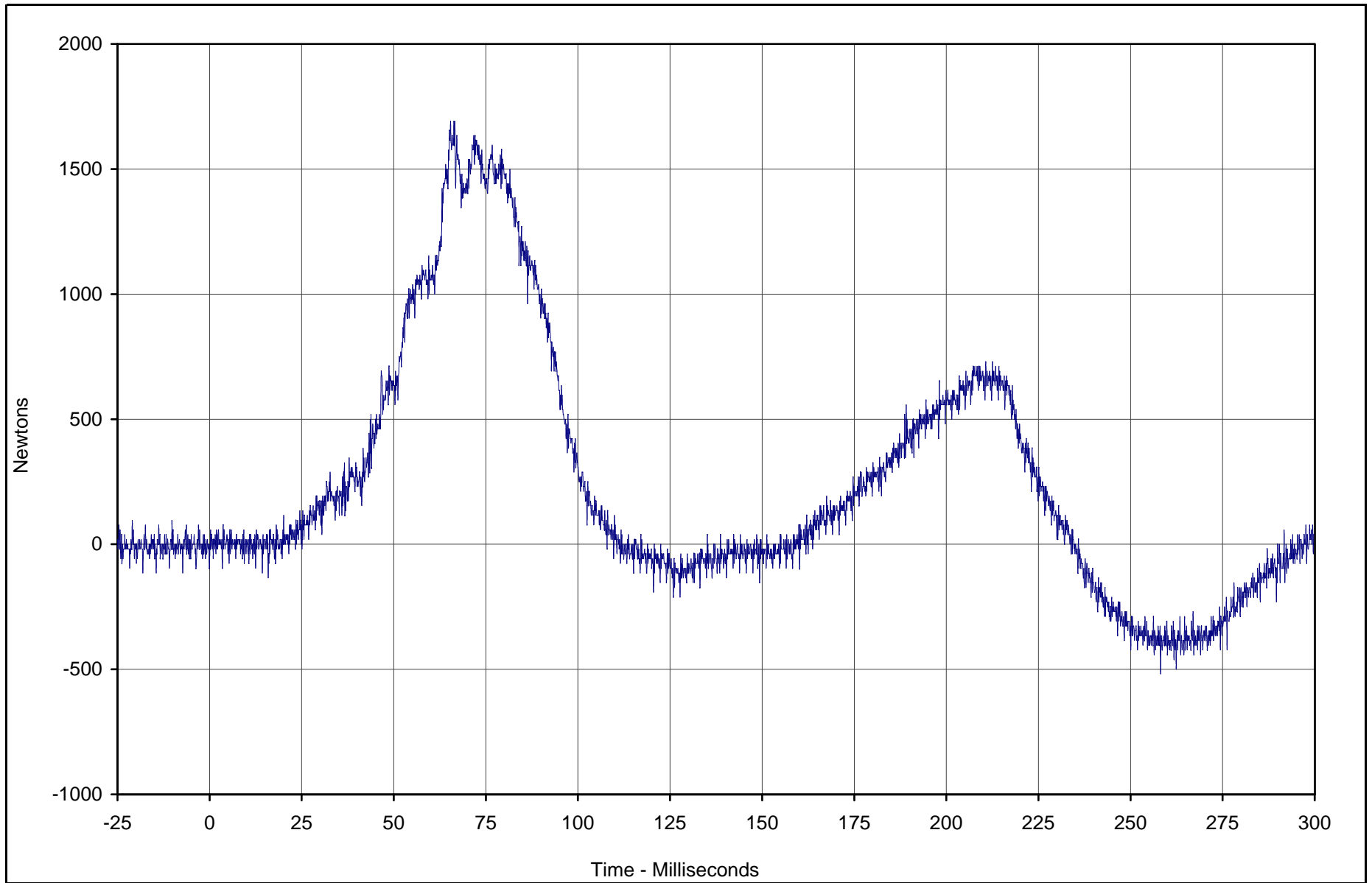
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-76



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------|-------|------|---------|--------|------|--------|-------|-----------|
| Passenger Neck Force Z | 053 | FIL | Newtons | 1691.9 | 65.4 | -519.1 | 258.2 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

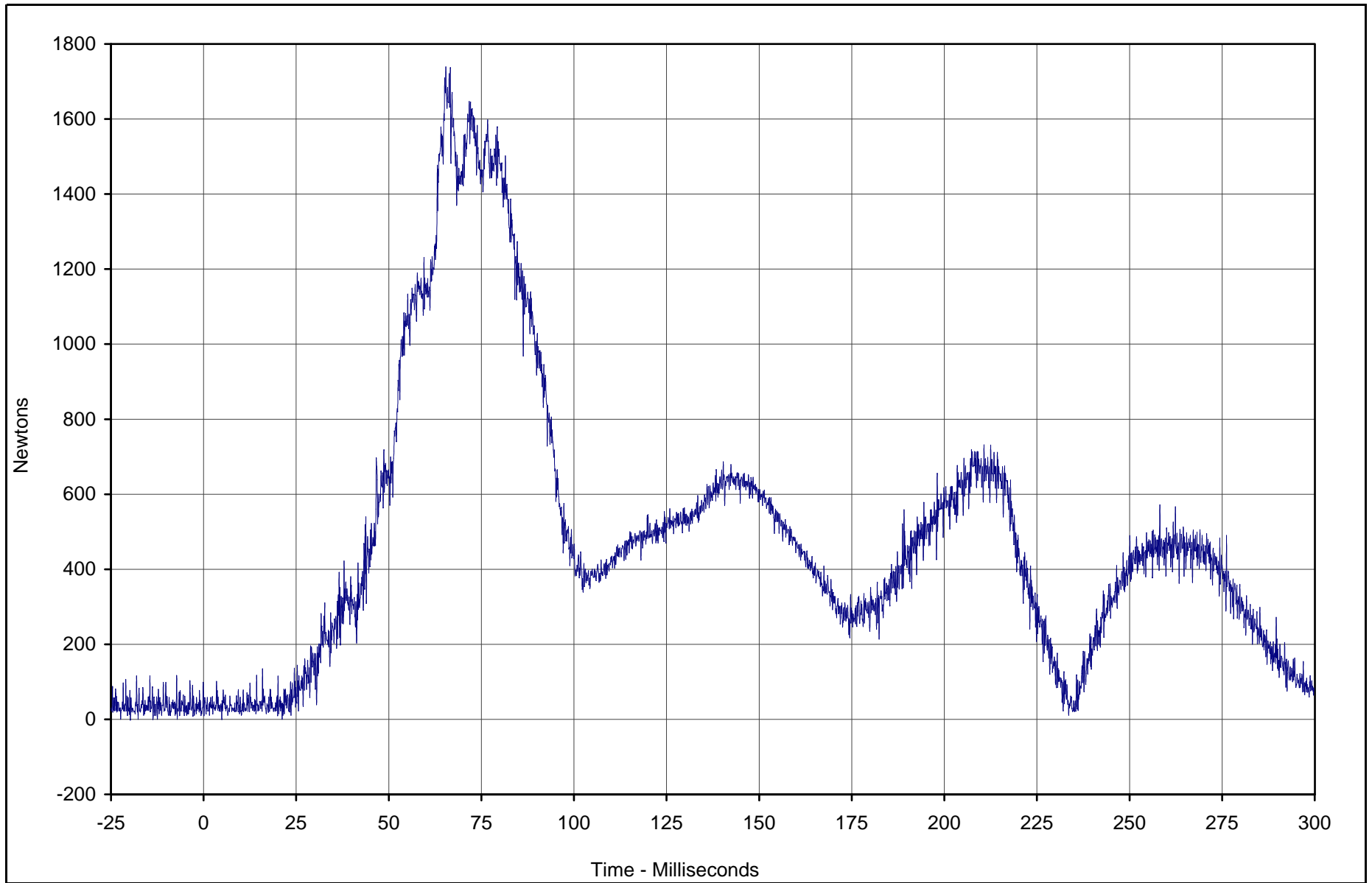
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-77



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------|-------|------|---------|--------|------|-----|------|-----------|
| Passenger Neck Force Resultant | 051 | RES | Newtons | 1739.2 | 65.4 | 0.0 | 4.9 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

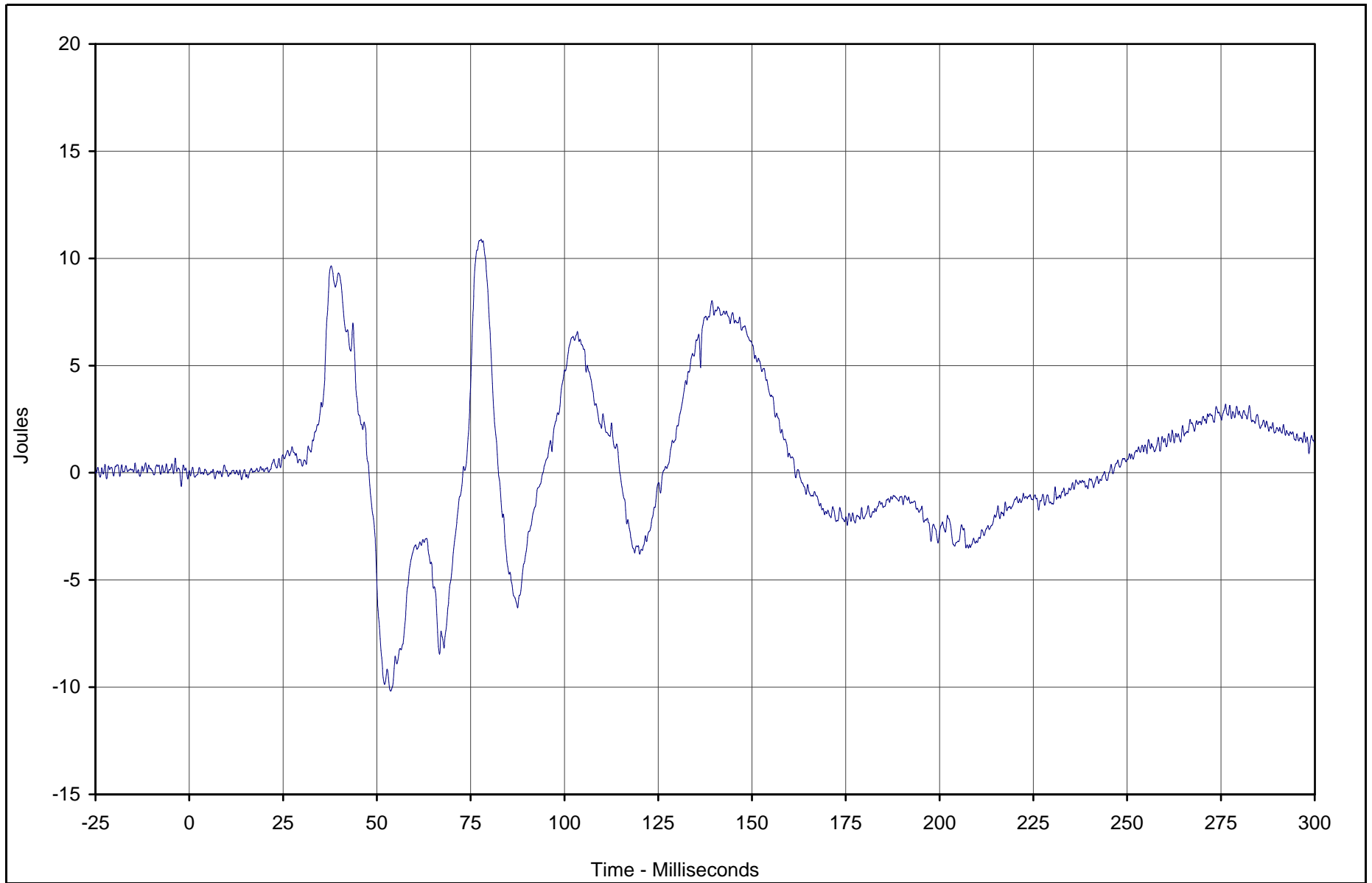
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-78



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|--------|------|------|-------|------|-----------|
| Passenger Neck Moment X | 054 | FIL | Joules | 10.9 | 77.8 | -10.2 | 53.7 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

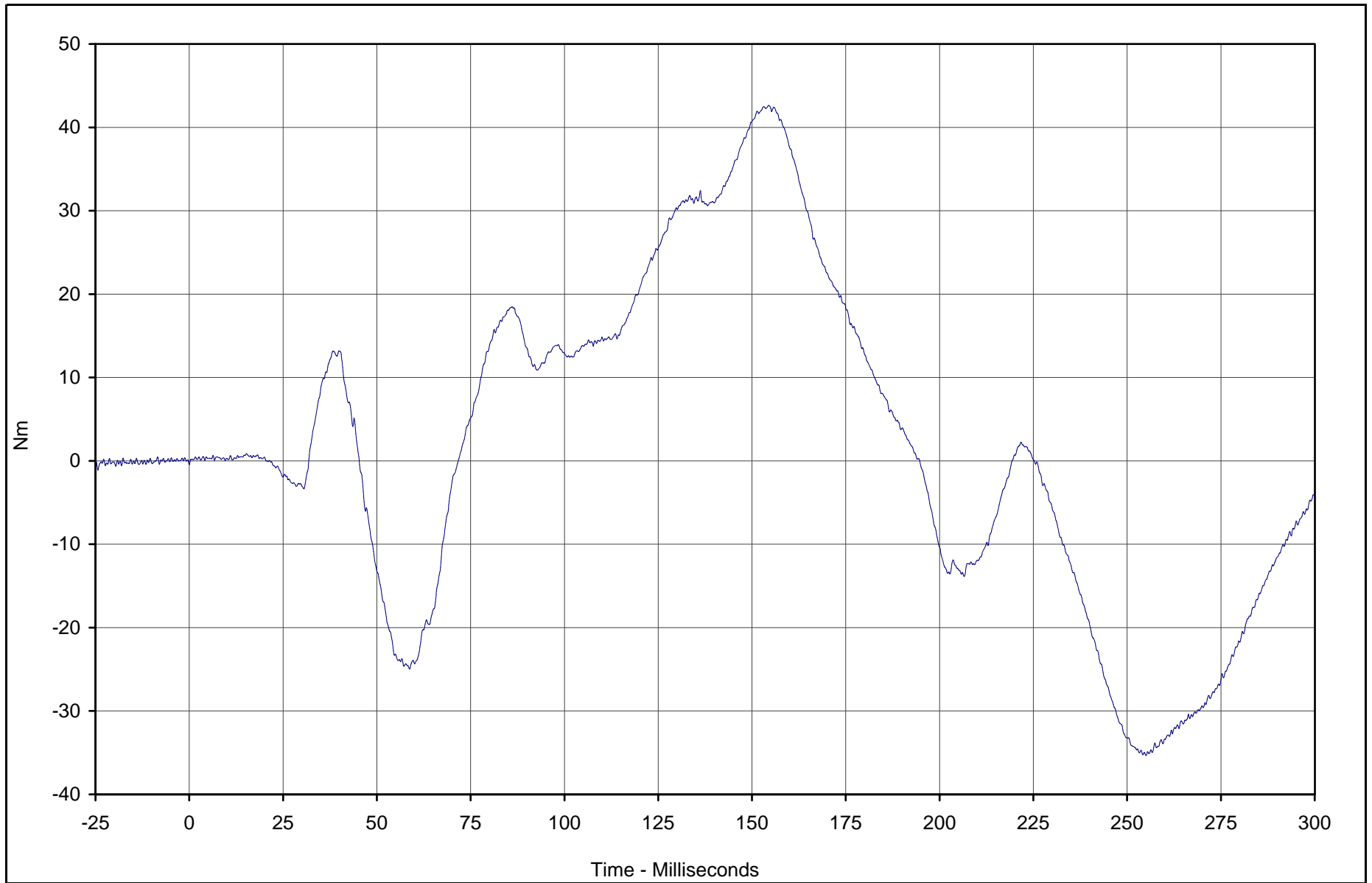
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-79



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|-------|-------|-------|-----------|
| Passenger Neck Moment Y | 055 | FIL | Nm | 42.6 | 154.4 | -35.3 | 255.0 | 600 |



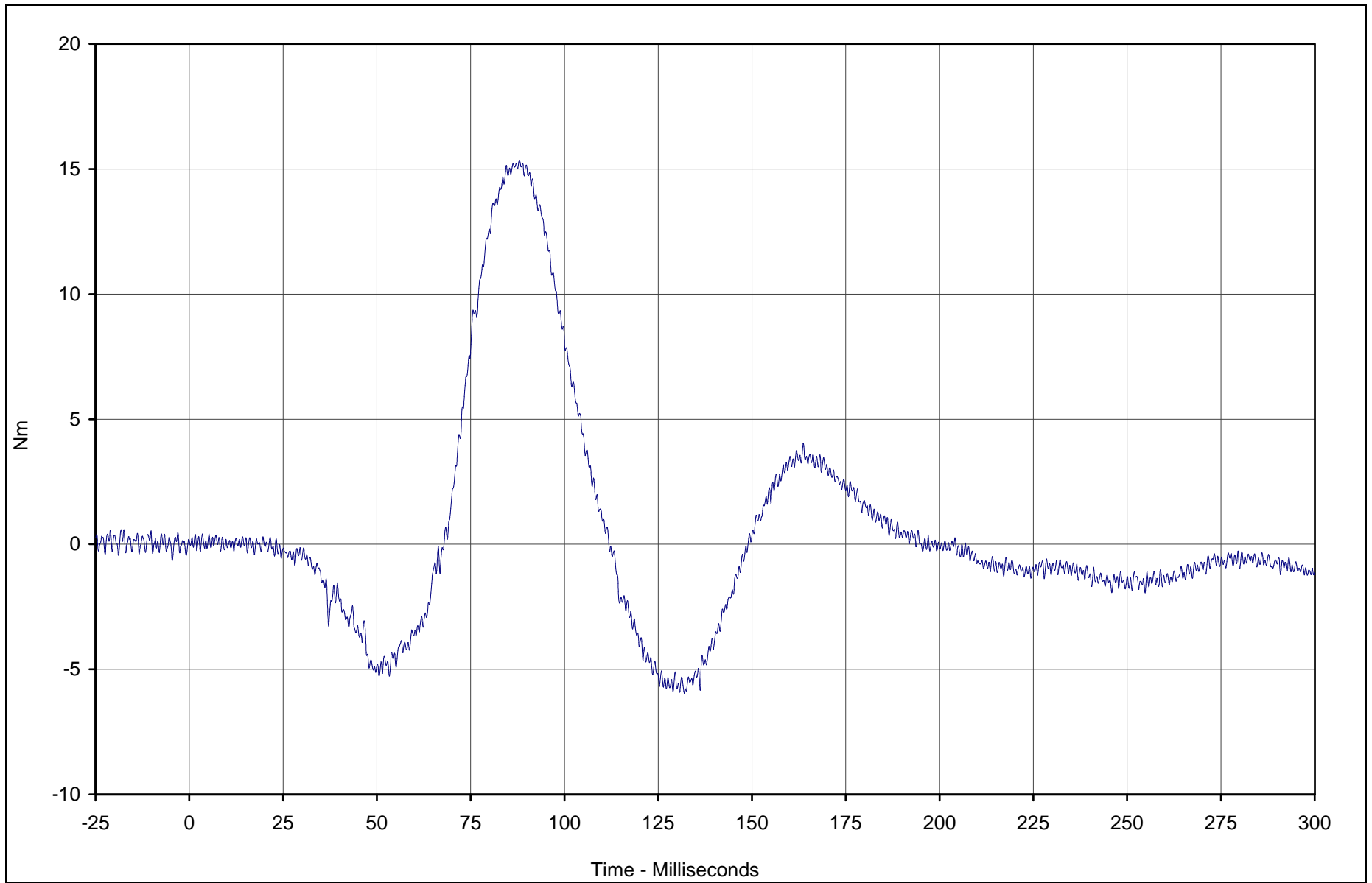
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-80



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|-------|------|------|------|-------|-----------|
| Passenger Neck Moment Z | 056 | FIL | Nm | 15.4 | 88.0 | -6.0 | 132.0 | 600 |



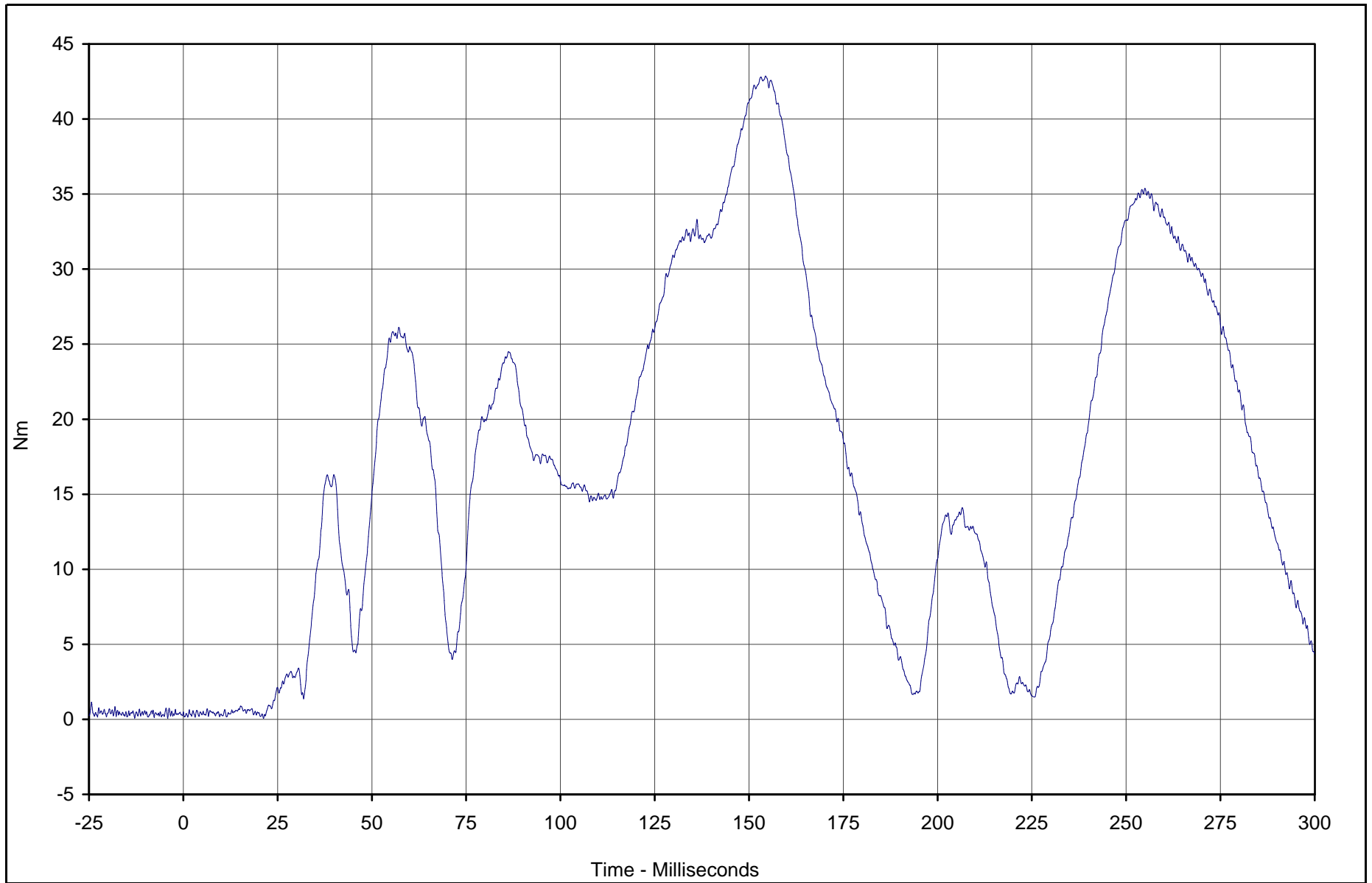
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-81



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|------|-------|-----|------|-----------|
| Passenger Neck Moment Resultant | 054 | RES | Nm | 42.9 | 154.4 | 0.1 | 21.2 | 600 |



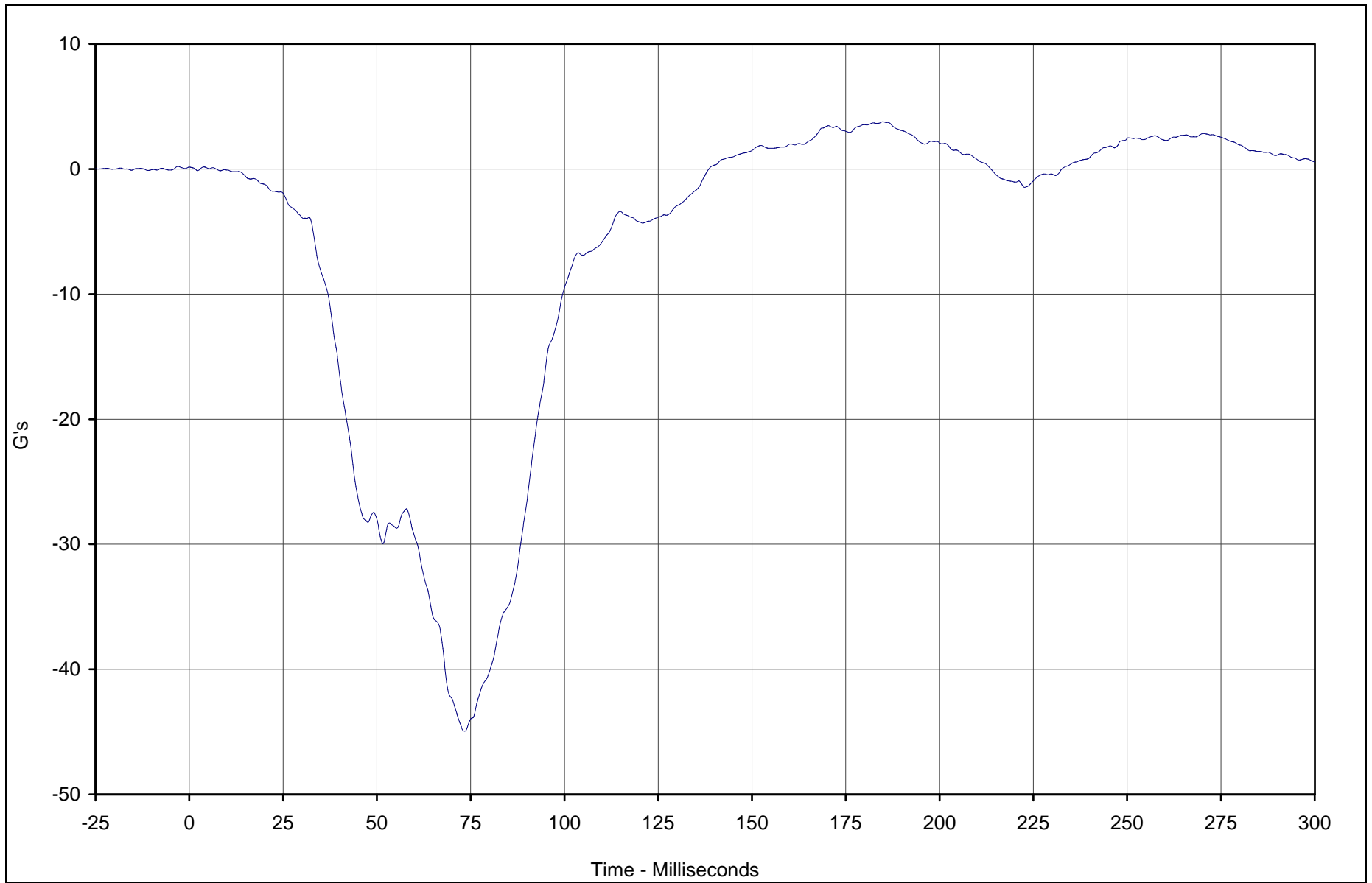
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-82



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Passenger Chest Primary X | 057 | FIL | G's | 3.8 | 184.9 | -44.9 | 73.4 | 180 |



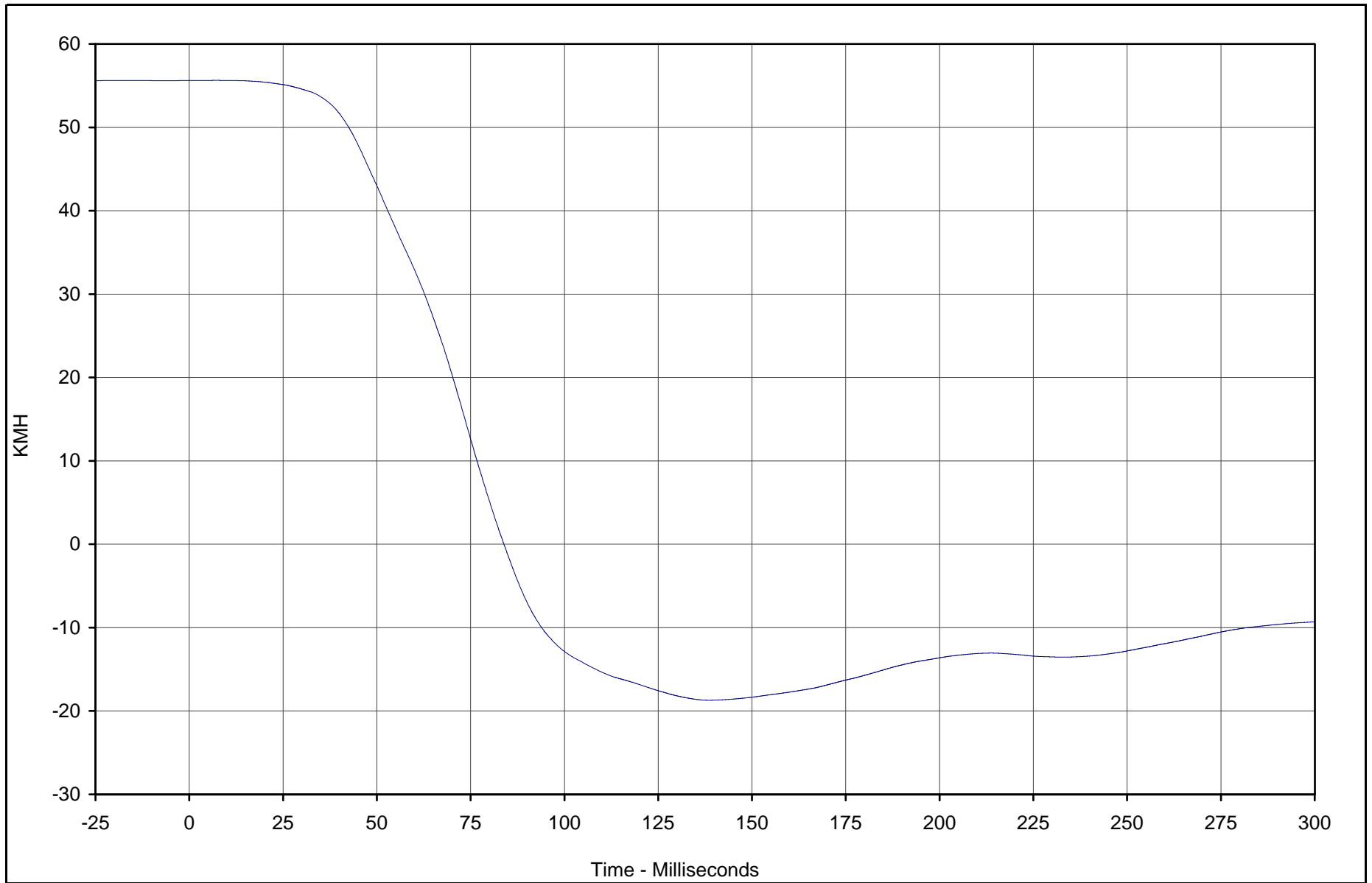
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-83



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Passenger Chest Primary X Velocity | 057 | IN1 | KMH | 55.6 | 7.2 | -18.7 | 138.5 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

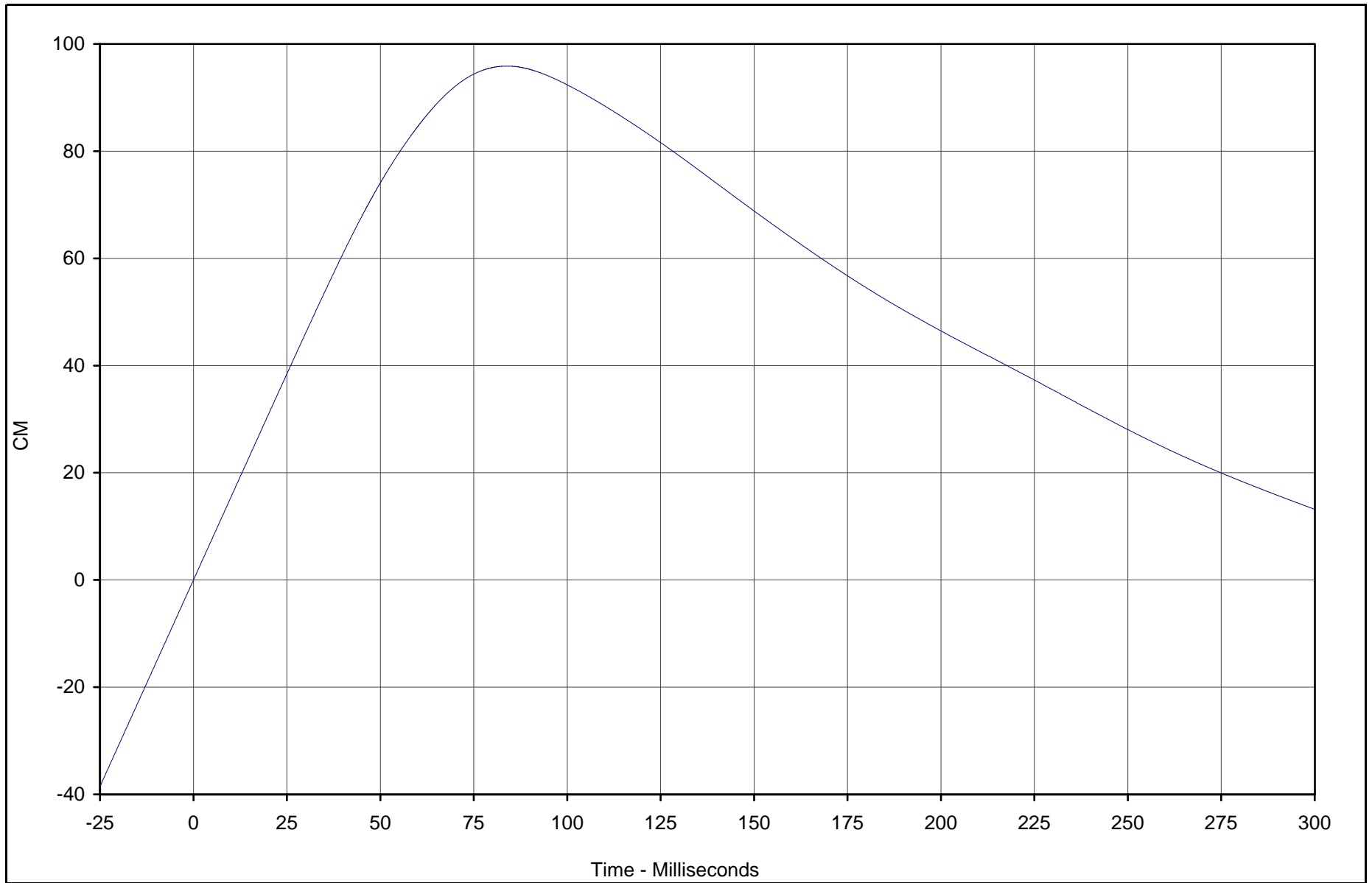
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-84



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Chest Primary X Displ. | 057 | IN2 | CM | 95.9 | 83.9 | 0.0 | 0.0 | 180 |



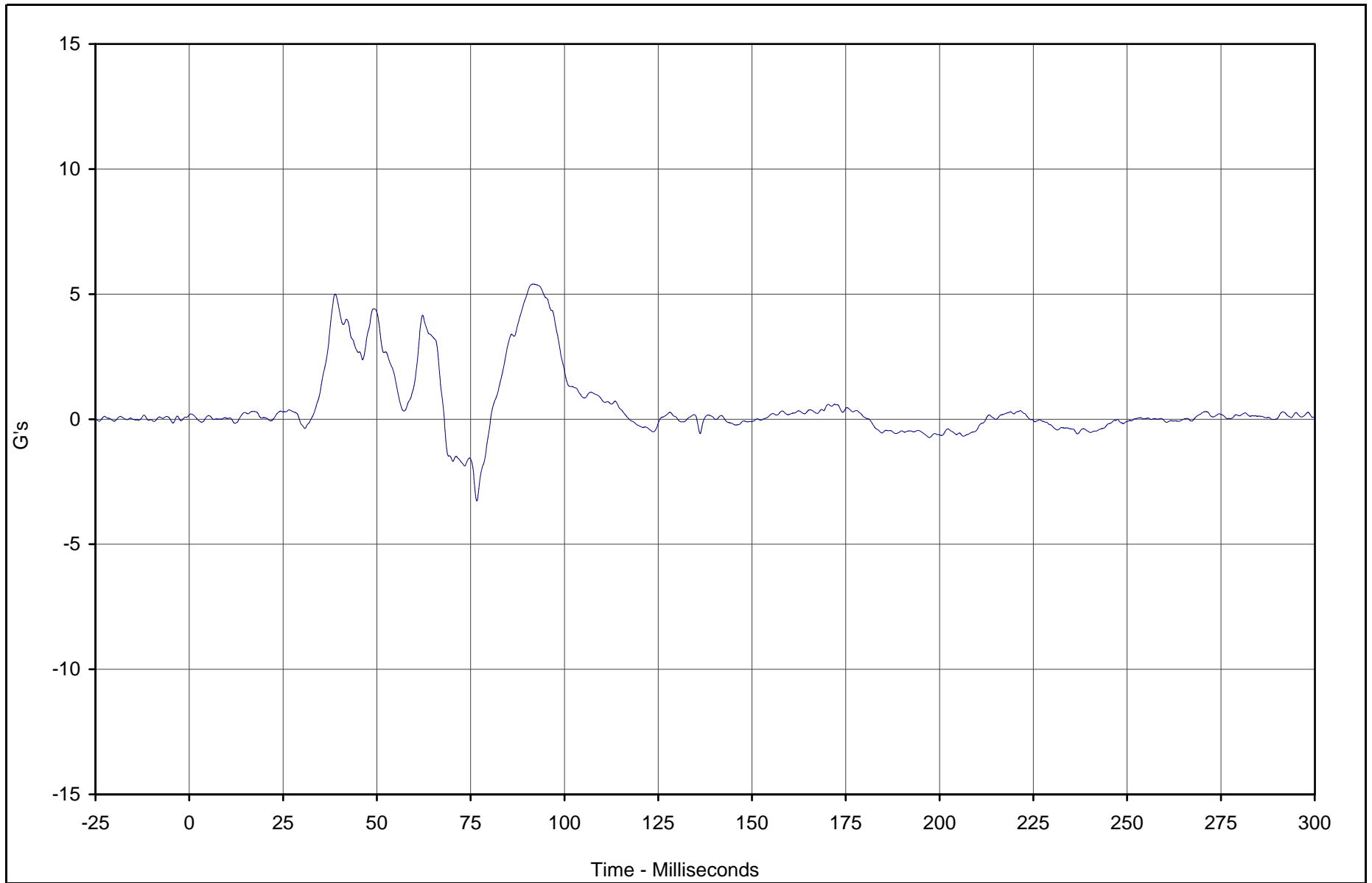
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-85



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|-------|-----|------|------|------|-----------|
| Passenger Chest Primary Y | 058 | FIL | G's | 5.4 | 91.7 | -3.3 | 76.6 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

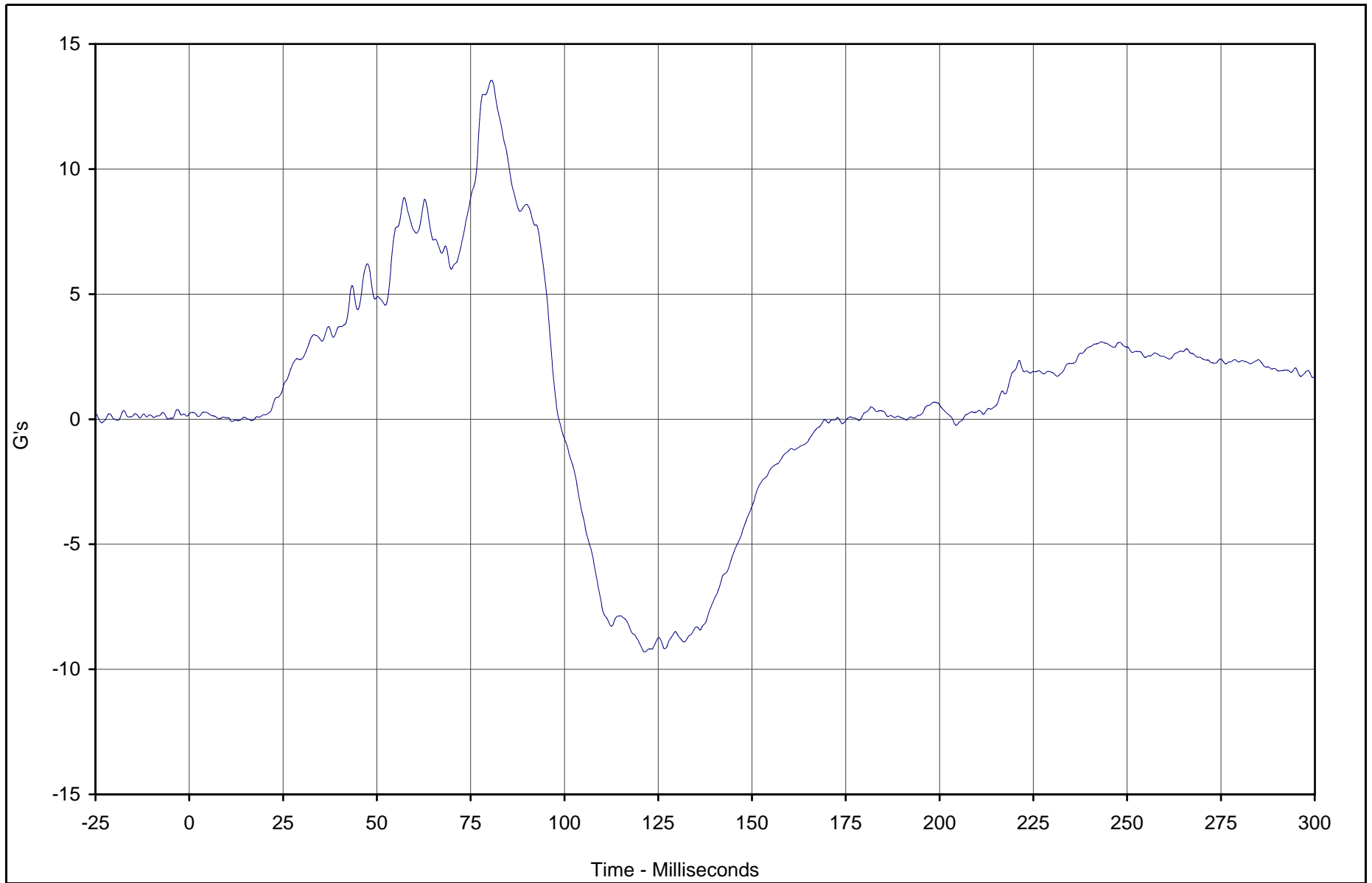
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-86



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|-------|------|------|------|-------|-----------|
| Passenger Chest Primary Z | 059 | FIL | G's | 13.6 | 80.6 | -9.3 | 121.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

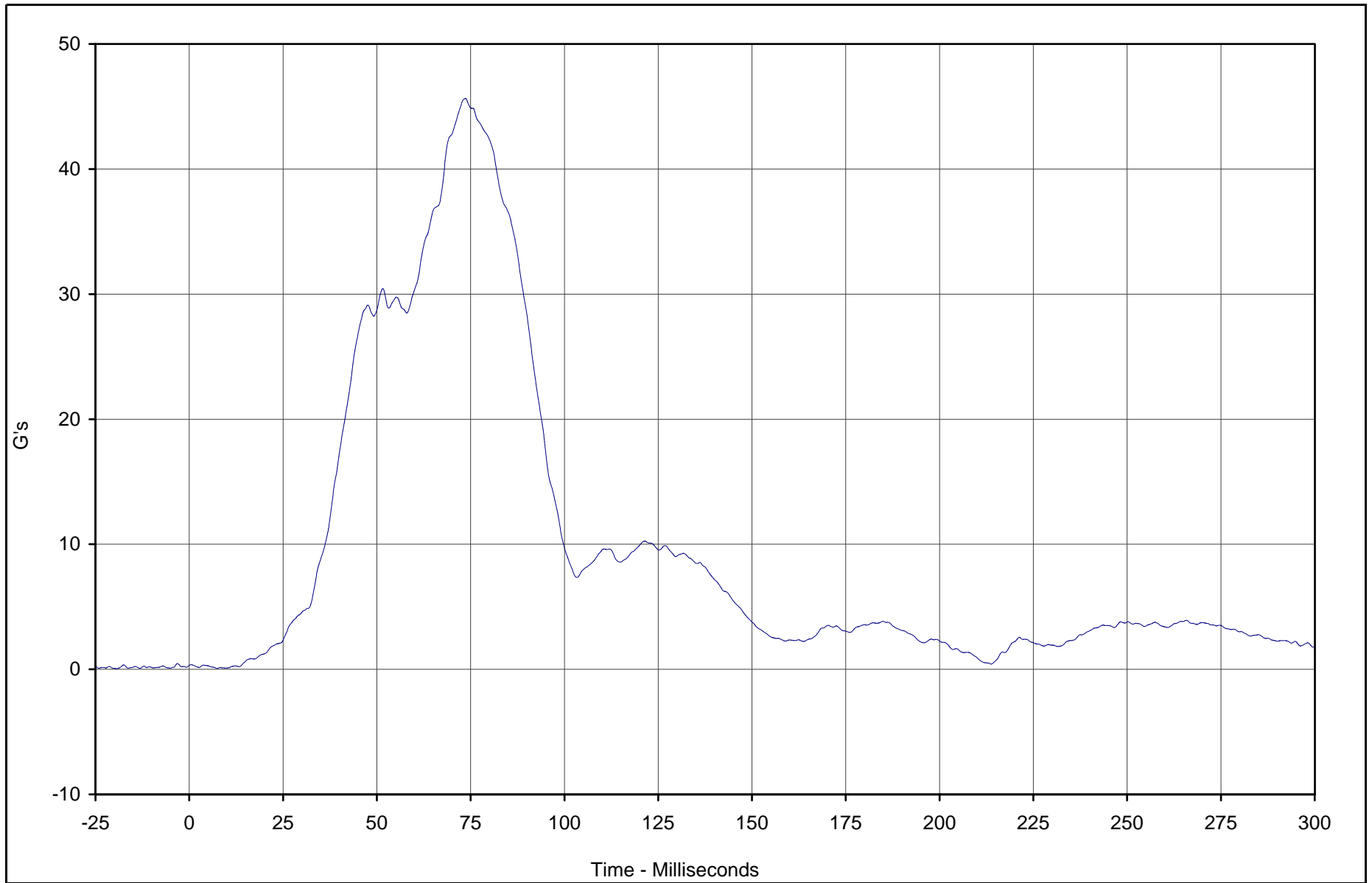
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-87



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Chest Resultant Primary | 057 | RES | G's | 45.6 | 73.6 | 0.1 | 7.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

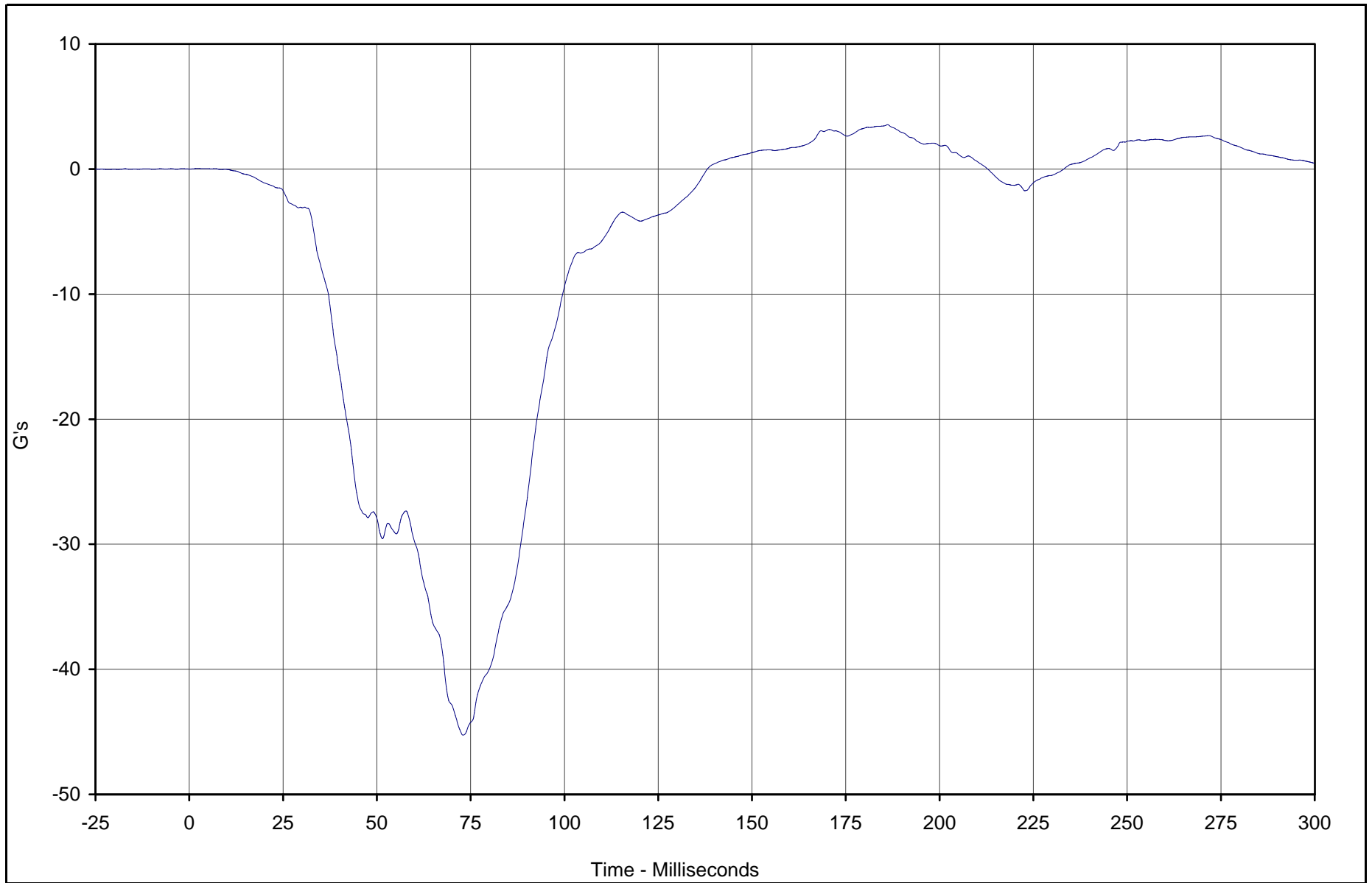
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-88



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Passenger Chest Redundant X | 060 | FIL | G's | 3.6 | 186.1 | -45.3 | 73.0 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

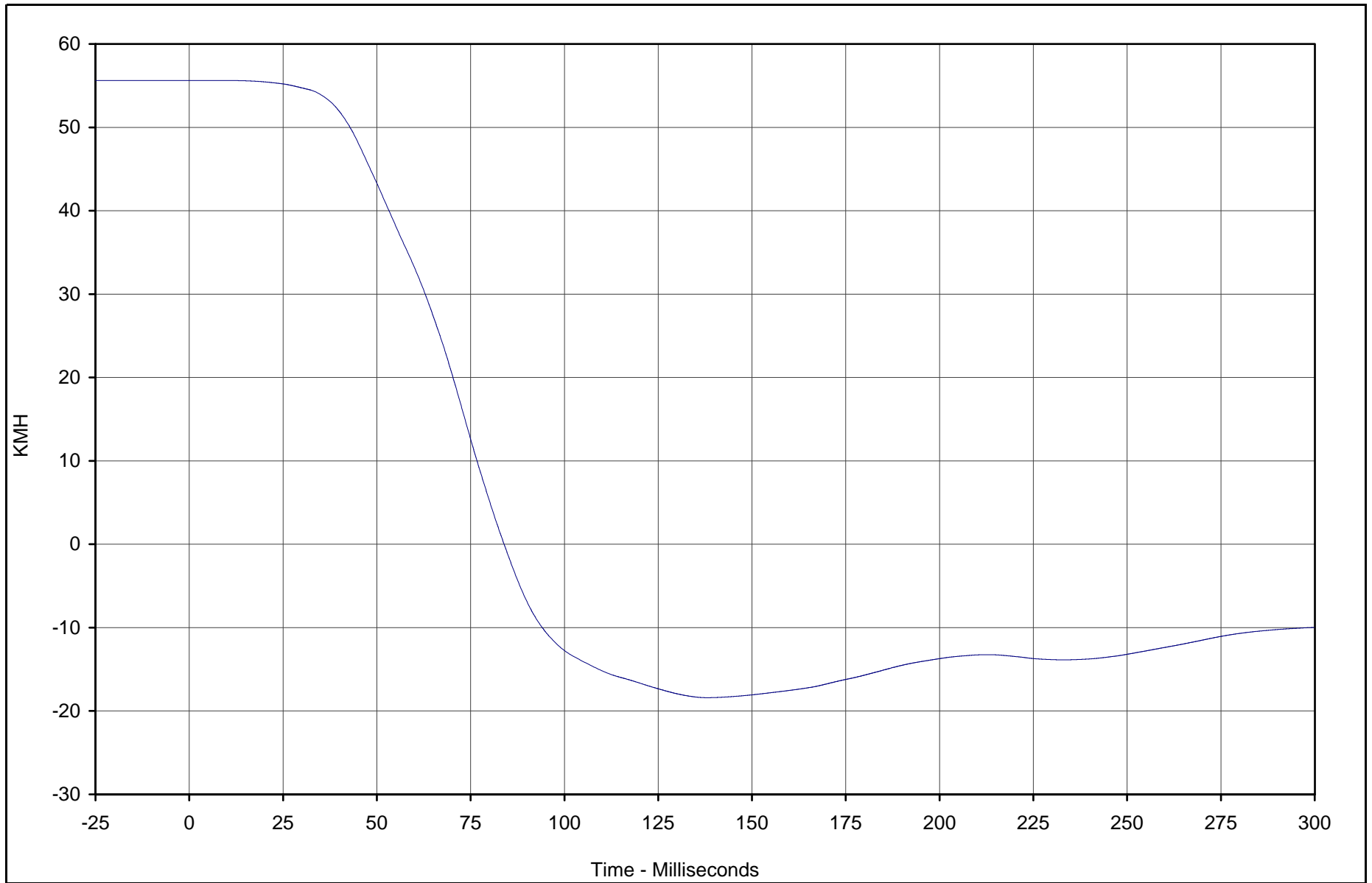
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-89



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Passenger Chest Redundant X Velocity | 060 | IN1 | KMH | 55.6 | 7.6 | -18.4 | 138.1 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

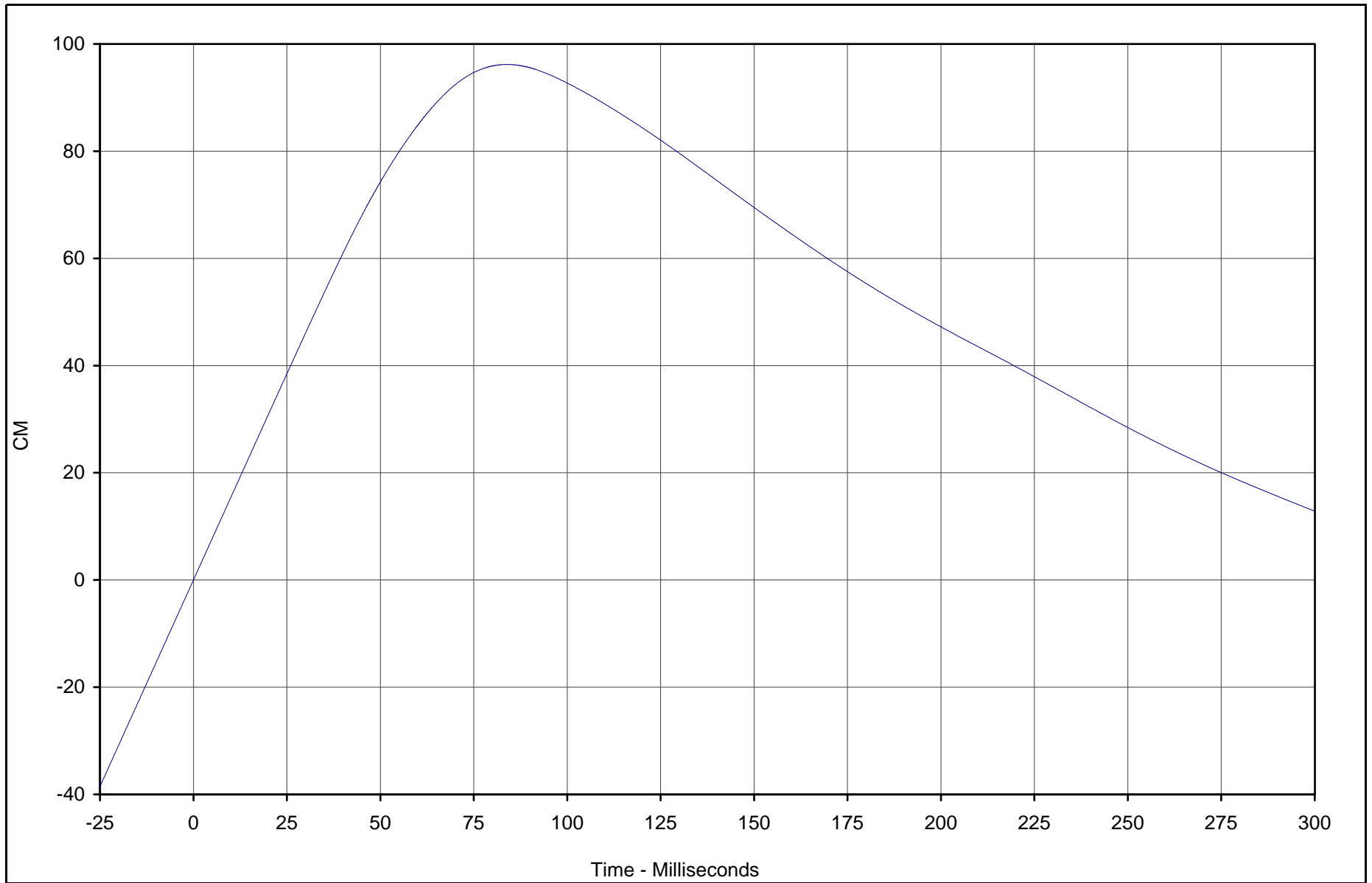
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-90



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Chest Redundant X Displ. | 060 | IN2 | CM | 96.2 | 83.9 | 0.0 | 0.0 | 180 |



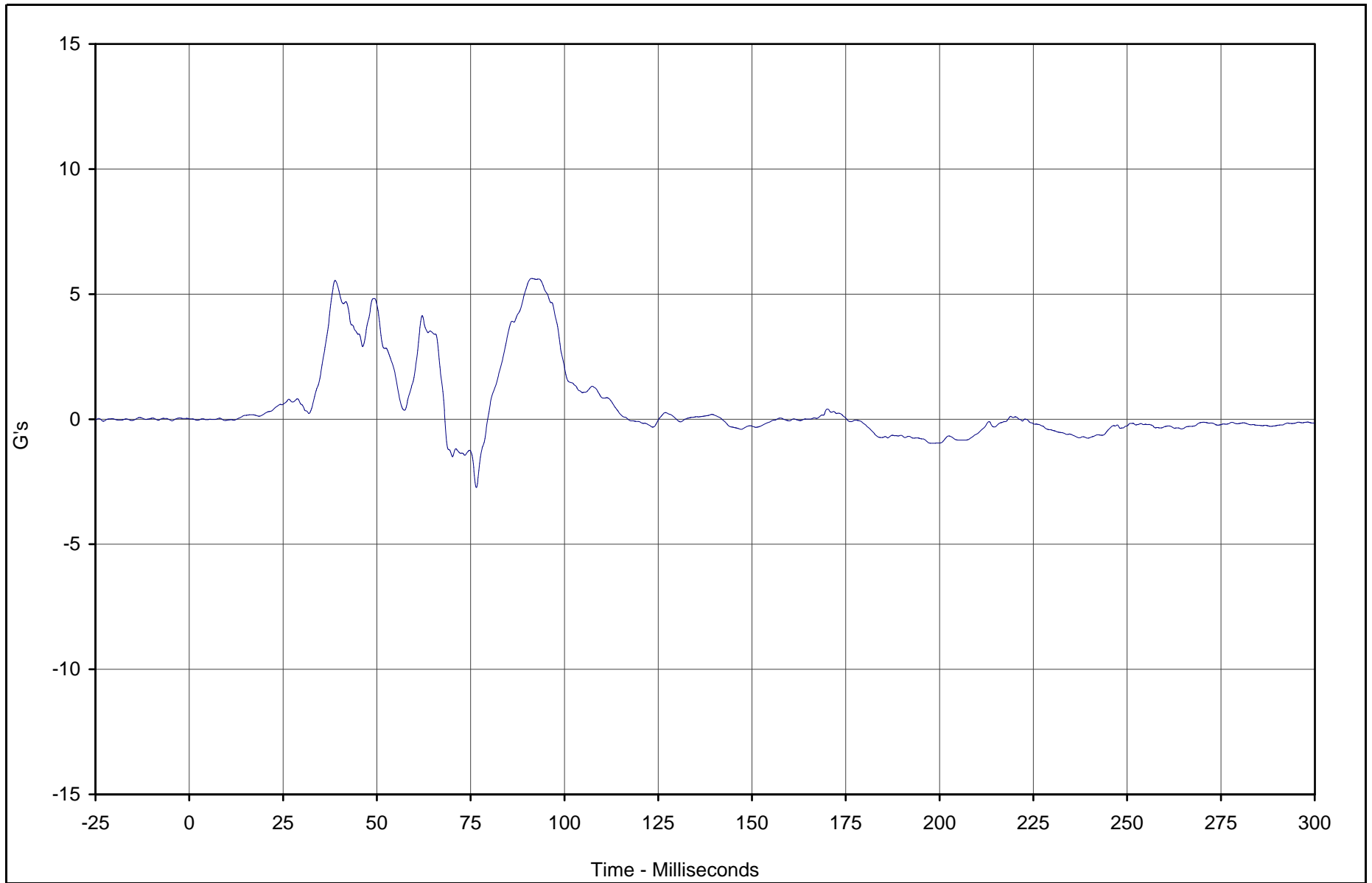
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-91



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|-----|------|------|------|-----------|
| Passenger Chest Redundant Y | 061 | FIL | G's | 5.6 | 91.2 | -2.7 | 76.5 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

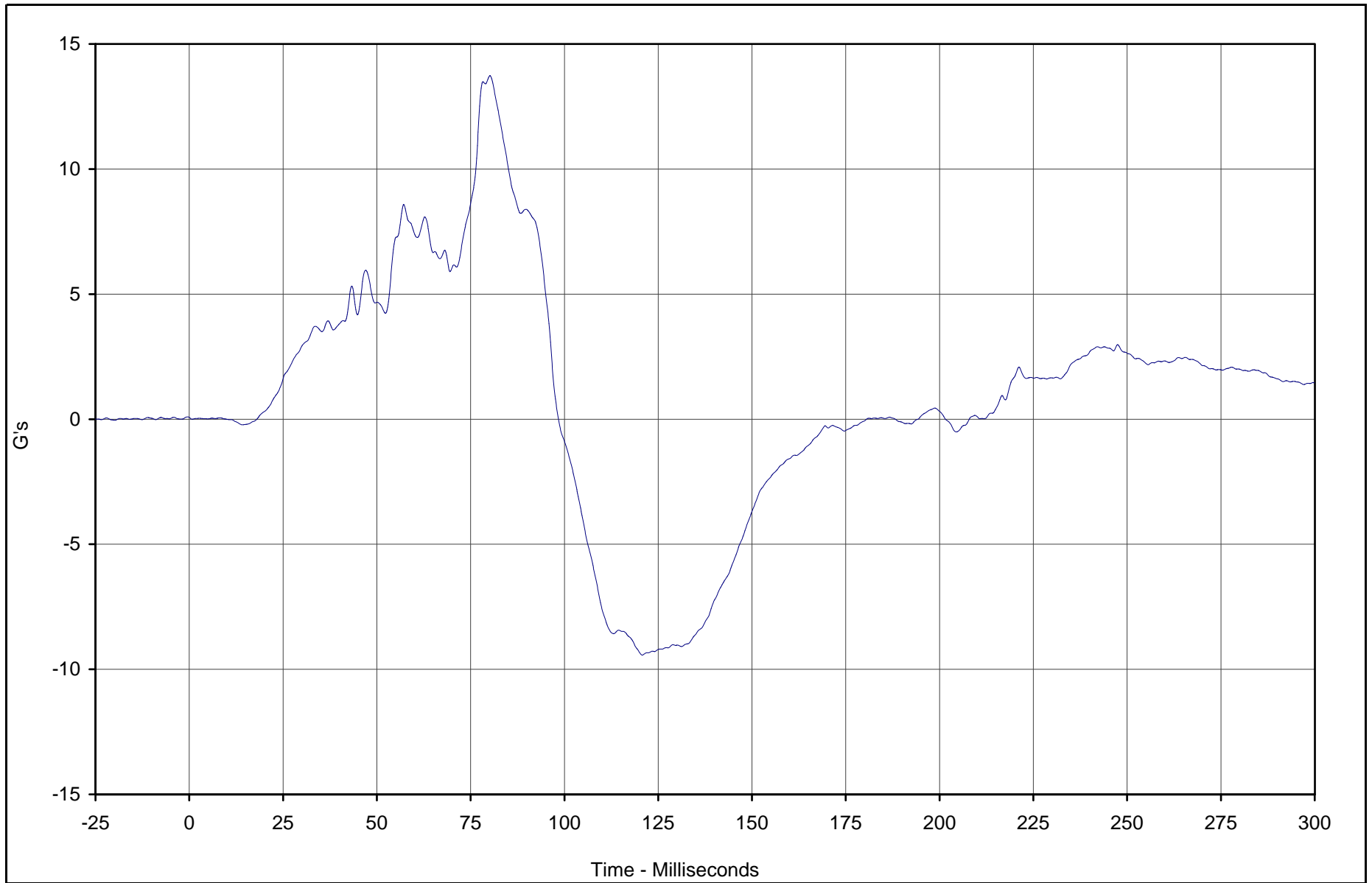
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-92



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|------|------|------|-------|-----------|
| Passenger Chest Redundant Z | 062 | FIL | G's | 13.7 | 80.1 | -9.4 | 120.7 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

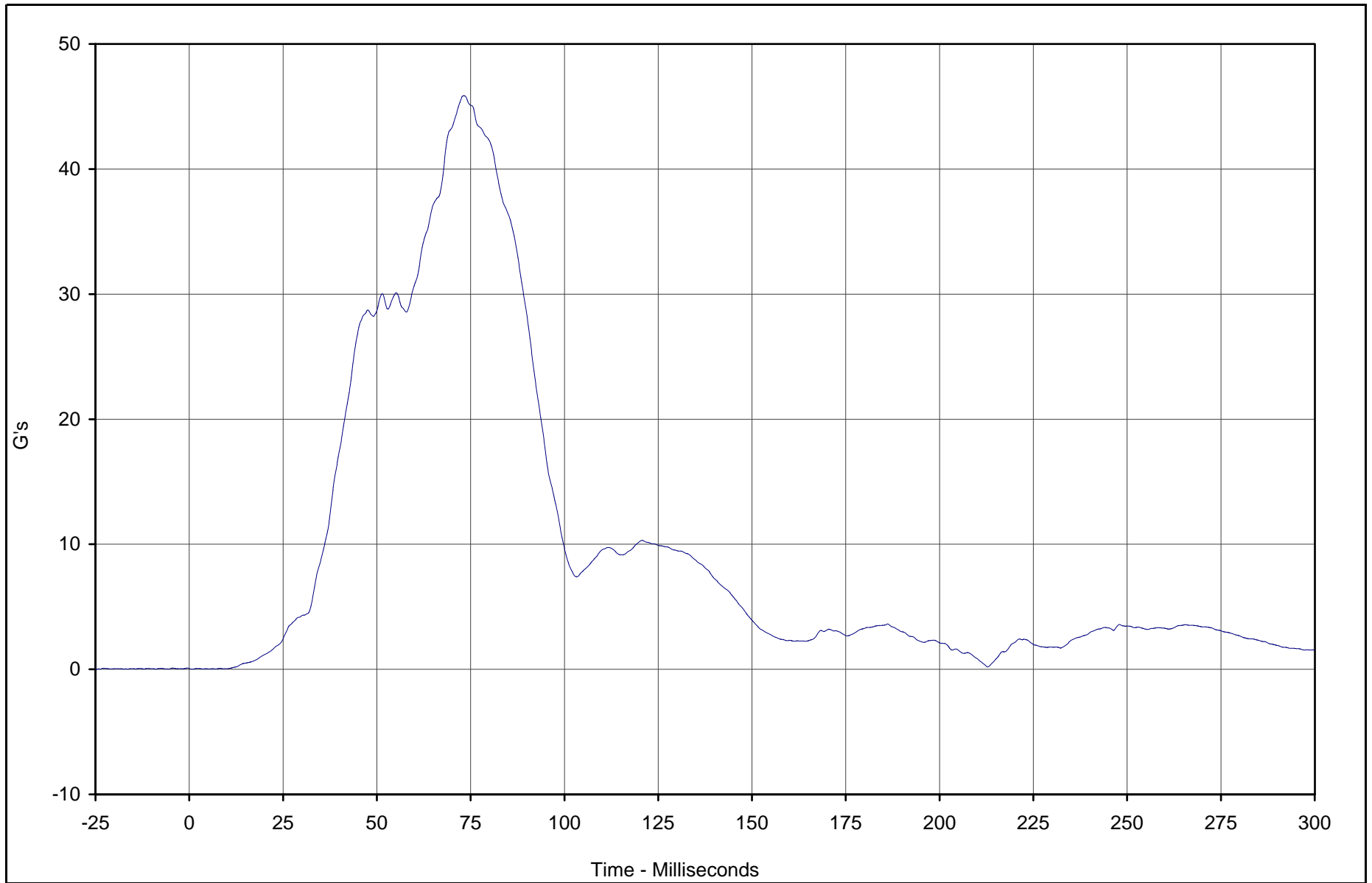
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-93



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Chest Resultant Redundant | 060 | RES | G's | 45.9 | 73.1 | 0.0 | 1.0 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

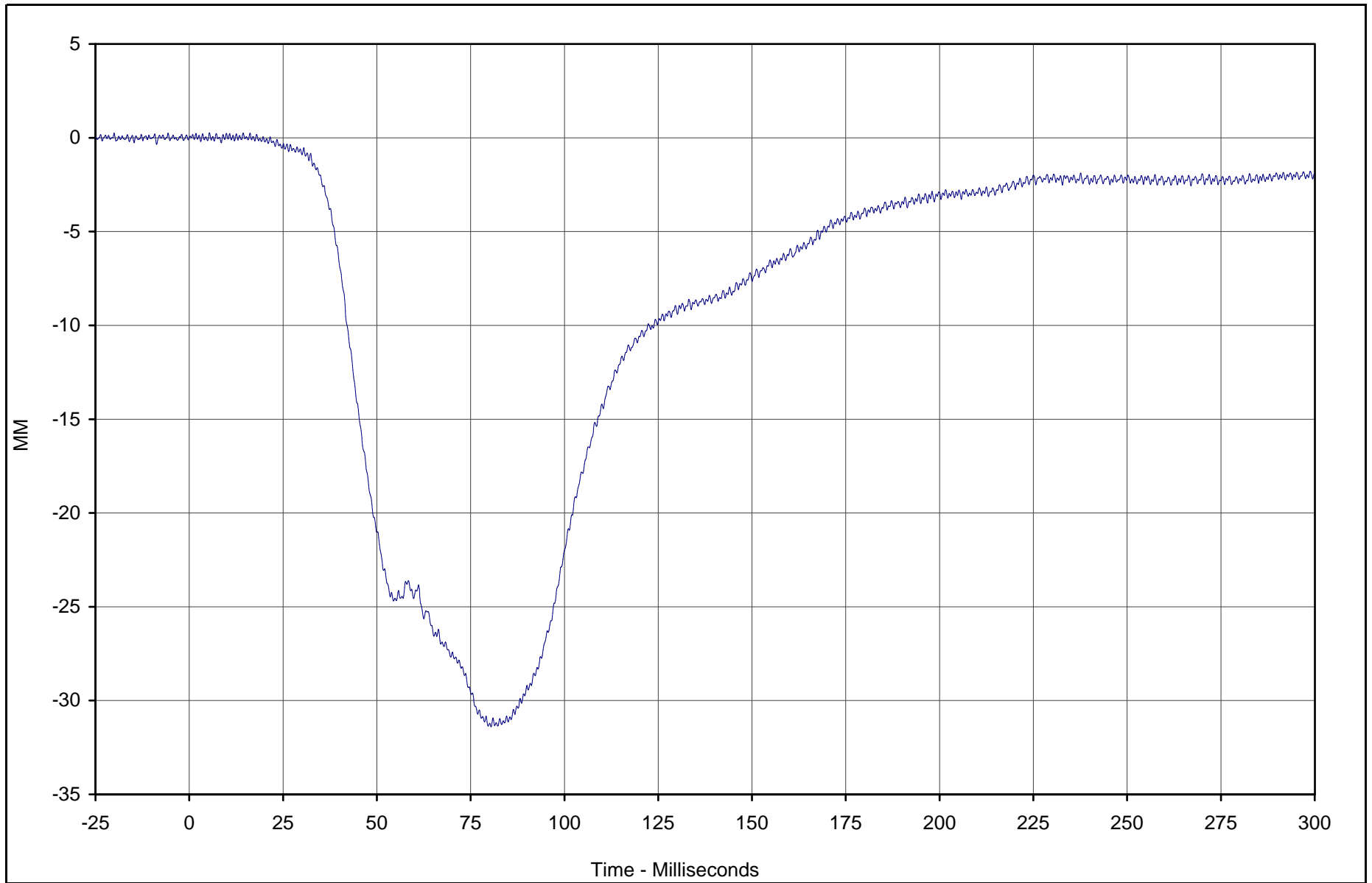
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-94



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------|-------|------|-------|-----|------|-------|------|-----------|
| Passenger Chest Displacement X | 063 | FIL | MM | 0.3 | 5.4 | -31.4 | 80.5 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

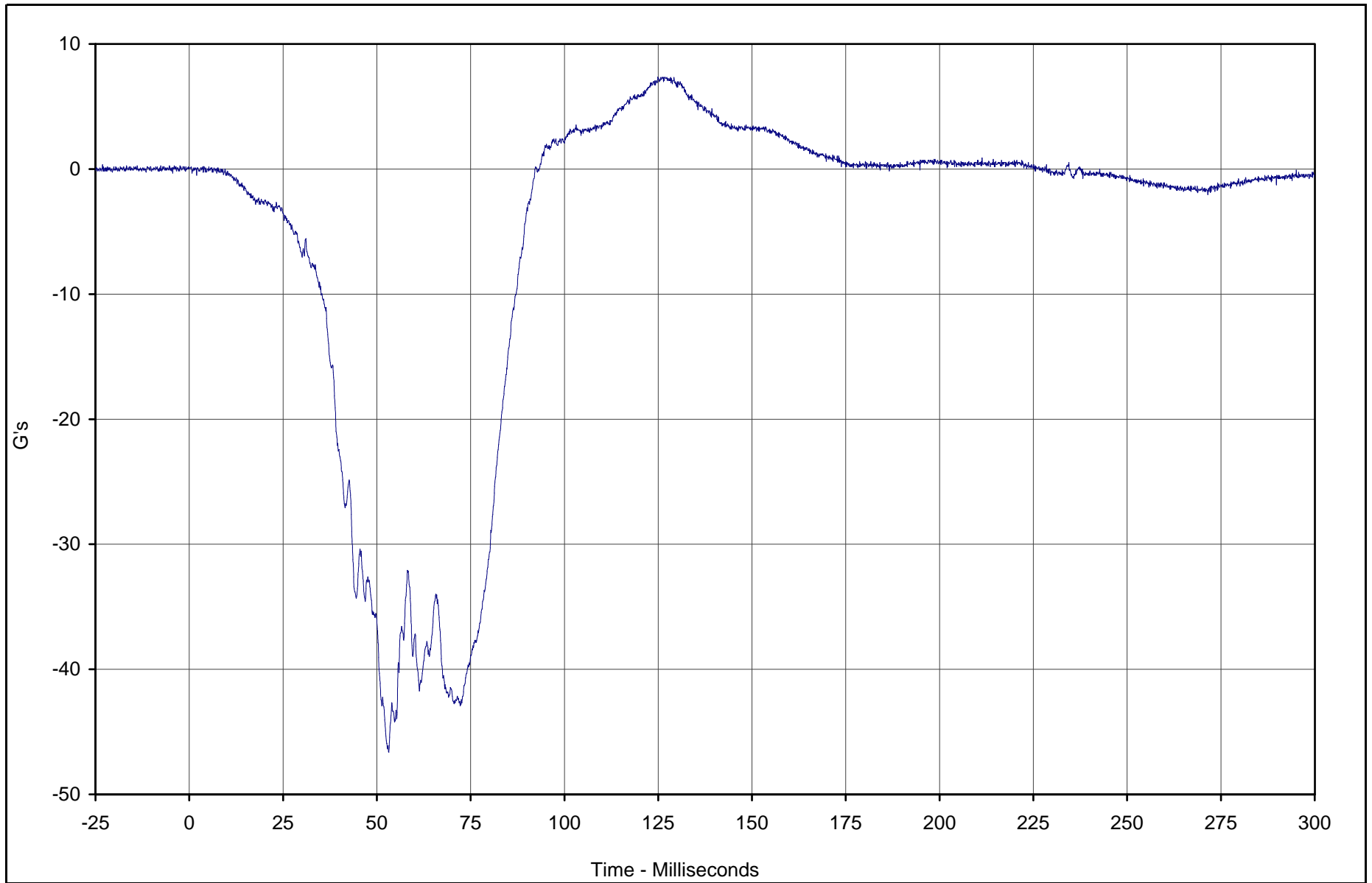
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-95



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Passenger Pelvis X | 064 | FIL | G's | 7.3 | 124.9 | -46.6 | 53.2 | 1000 |



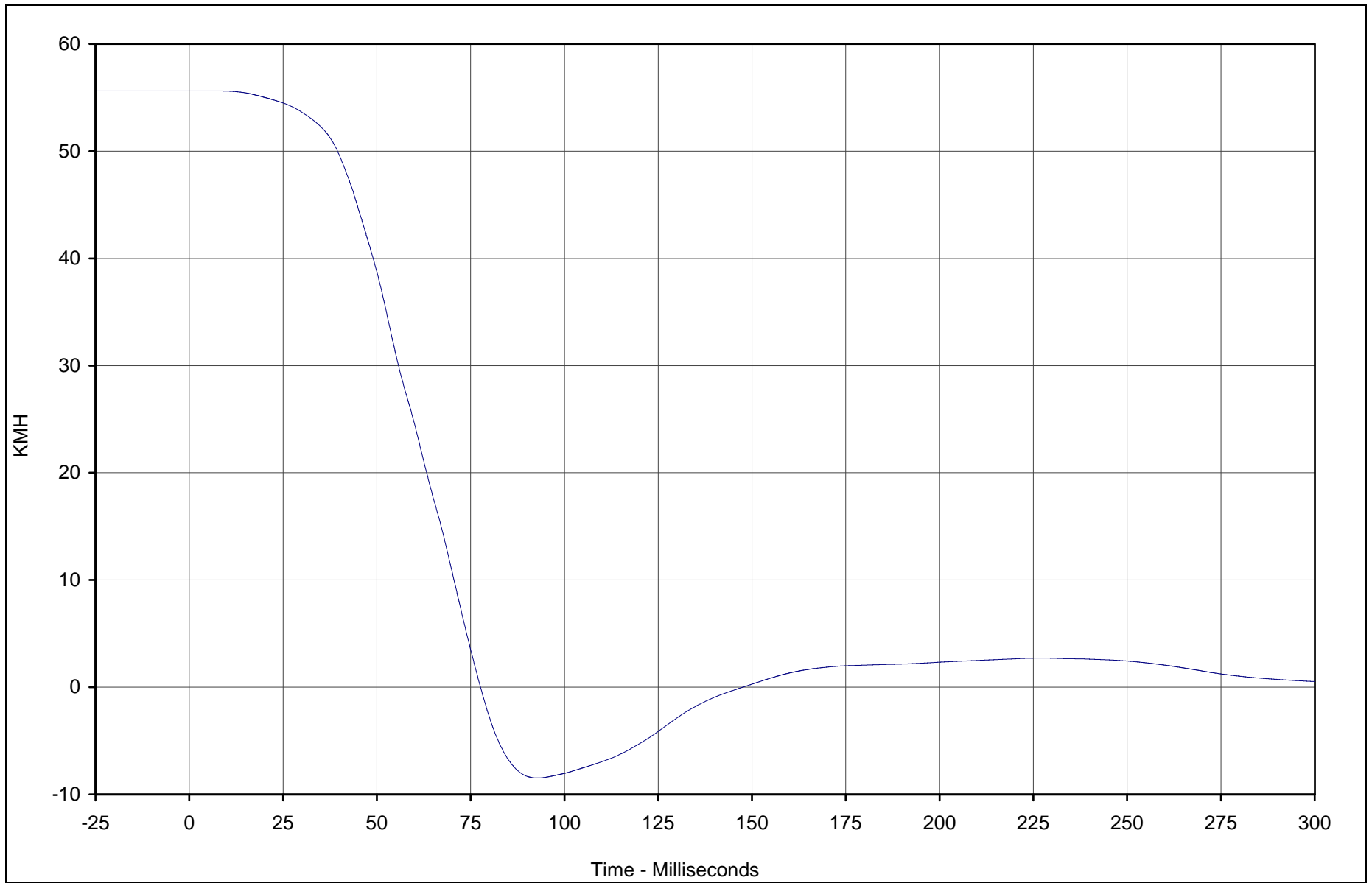
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-96



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|------|------|------|------|-----------|
| Passenger Pelvis X Velocity | 064 | IN1 | KMH | 55.6 | 0.7 | -8.5 | 92.8 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

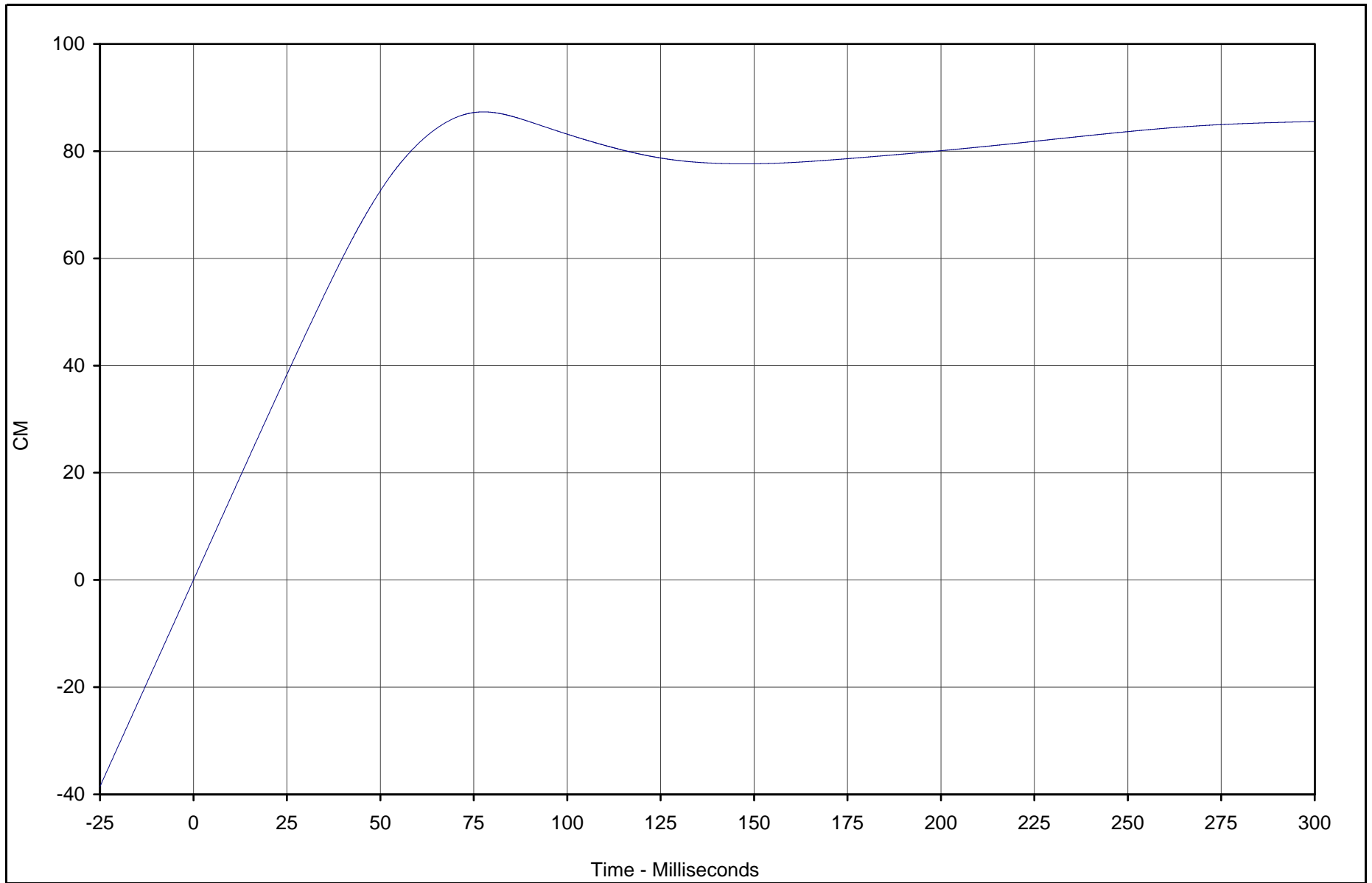
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-97



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Pelvis X Displ. | 064 | IN2 | CM | 87.3 | 77.6 | 0.0 | 0.0 | 180 |



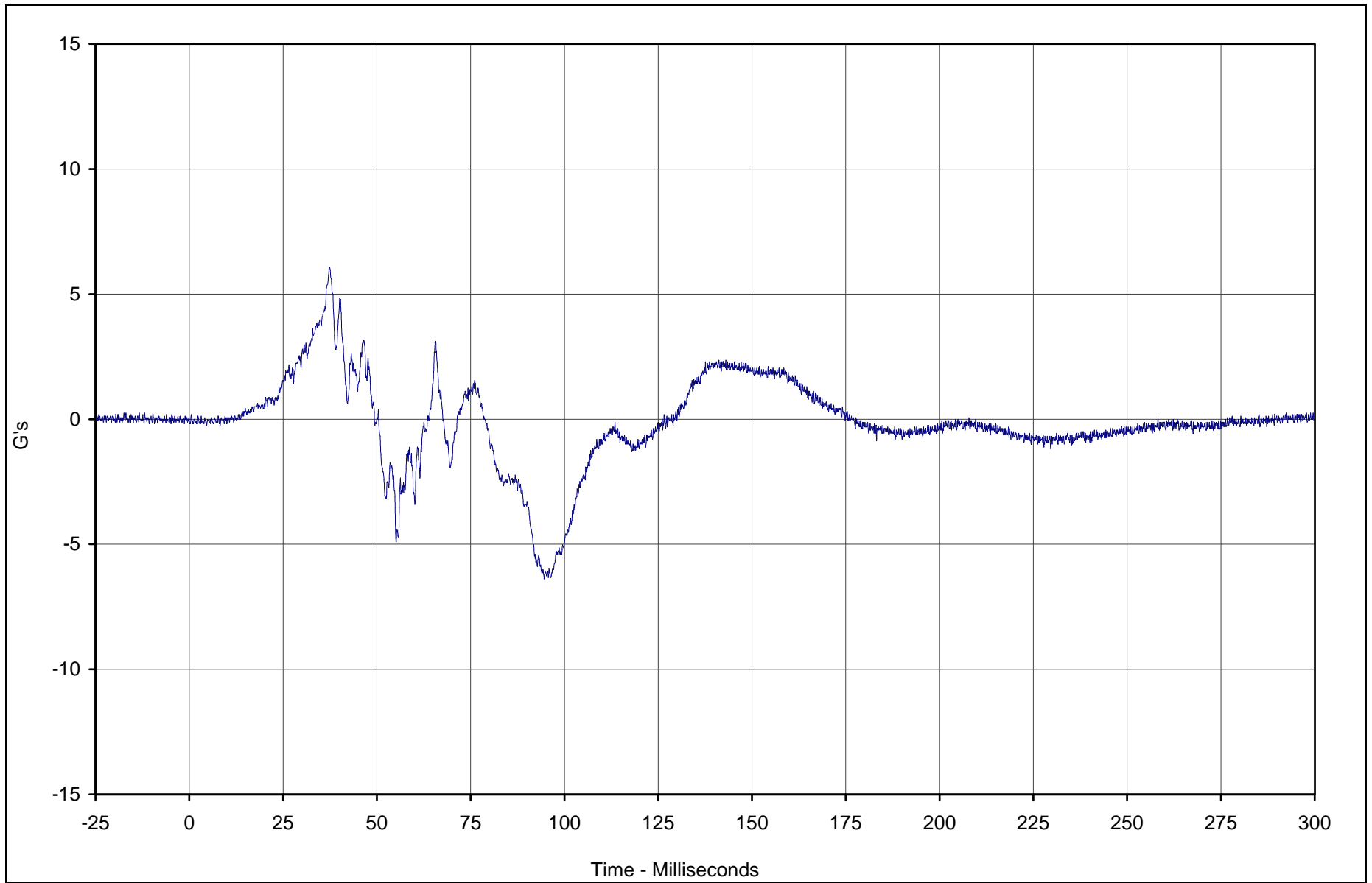
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-98



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------|-------|------|-------|-----|------|------|------|-----------|
| Passenger Pelvis Y | 065 | FIL | G's | 6.1 | 37.4 | -6.4 | 94.6 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

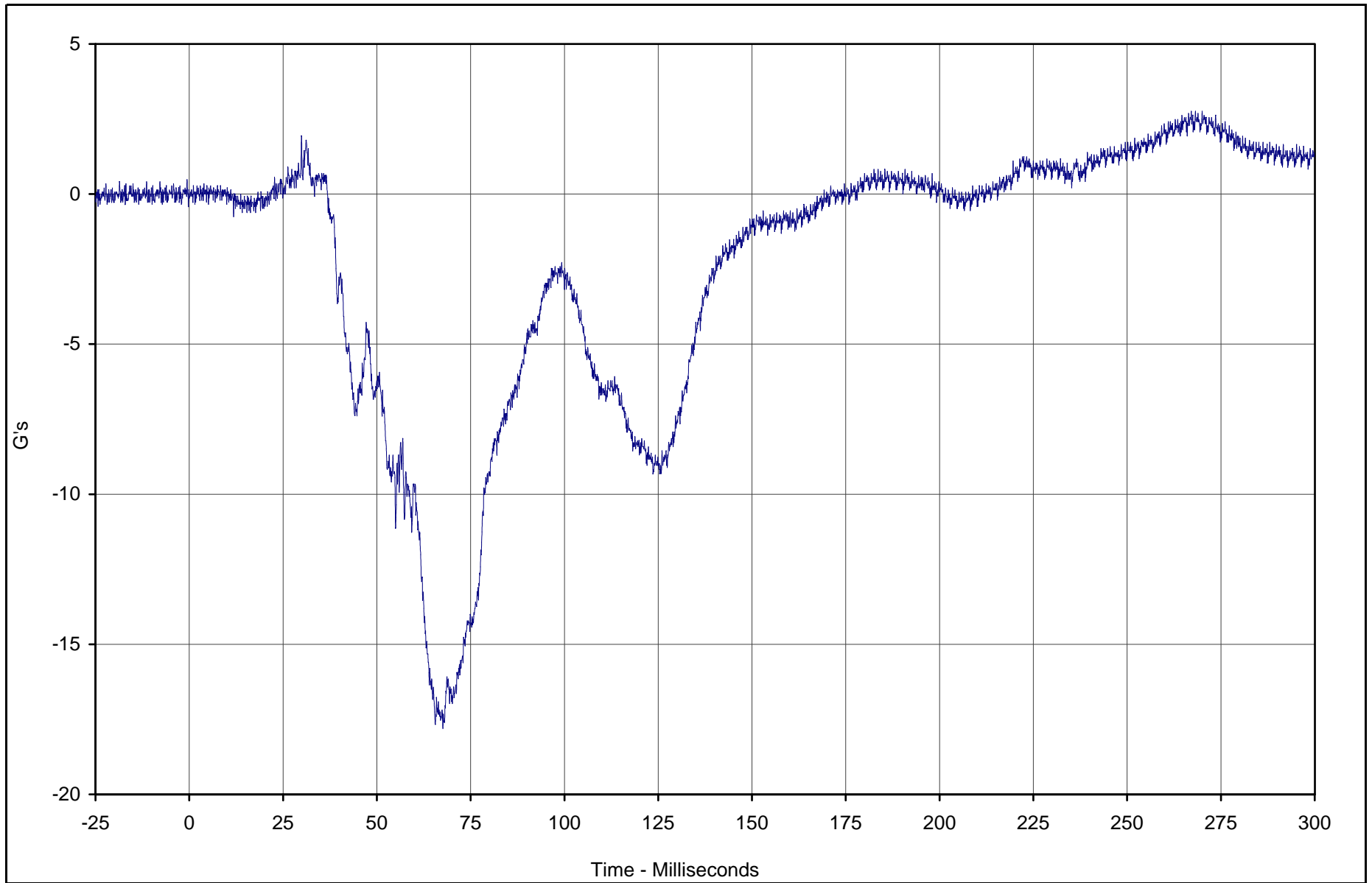
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-99



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Passenger Pelvis Z | 066 | FIL | G's | 2.8 | 267.1 | -17.8 | 67.6 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

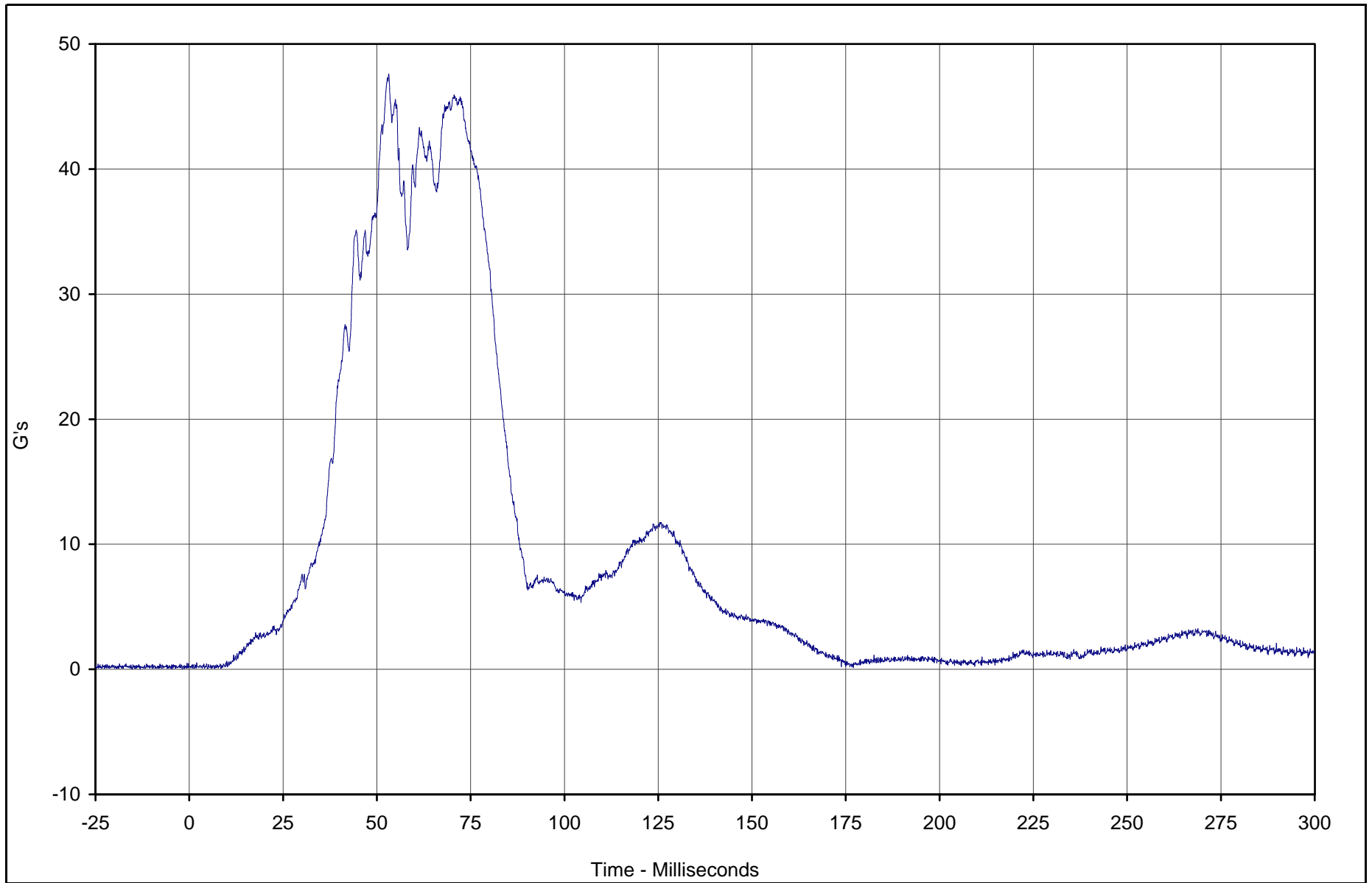
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-100



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|------|-----|------|-----------|
| Passenger Pelvis Resultant | 066 | RES | G's | 47.6 | 53.2 | 0.1 | 4.8 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

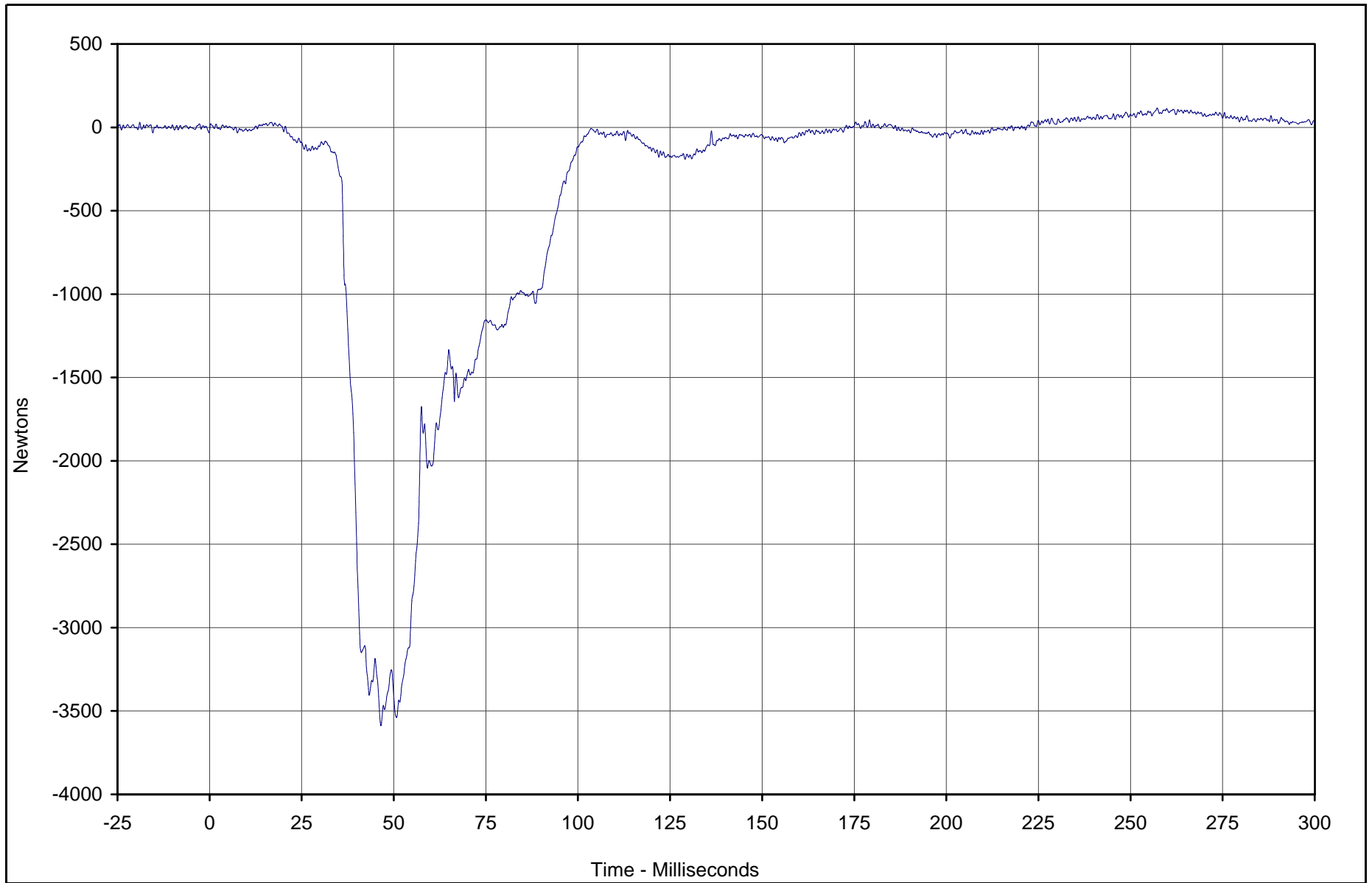
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-101



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|---------|-------|-------|---------|------|-----------|
| Passenger Left Femur Force | 067 | FIL | Newtons | 115.6 | 257.2 | -3589.1 | 46.5 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

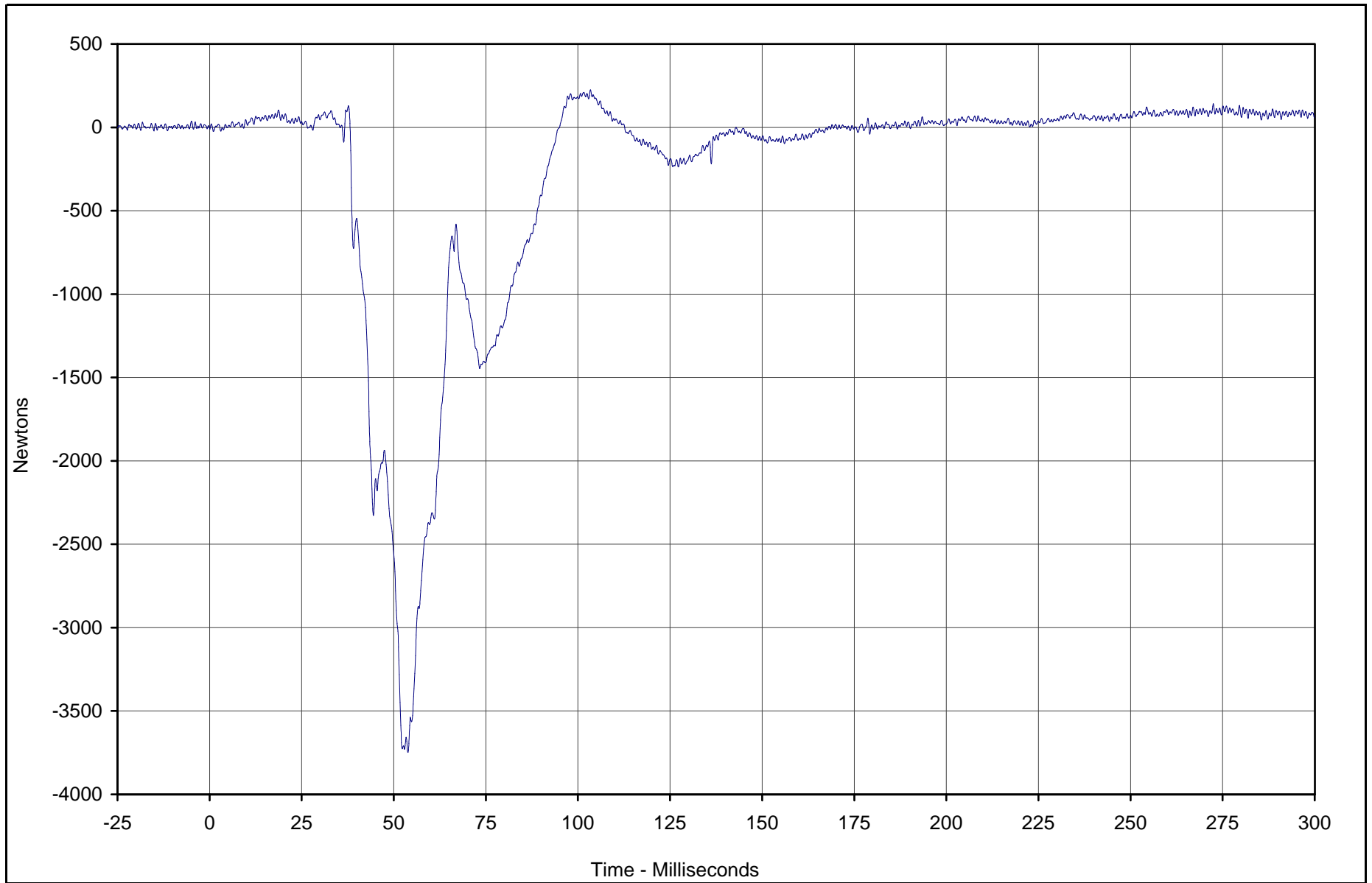
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-102



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|---------|-------|-------|---------|------|-----------|
| Passenger Right Femur Force | 068 | FIL | Newtons | 225.8 | 103.4 | -3748.1 | 53.9 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

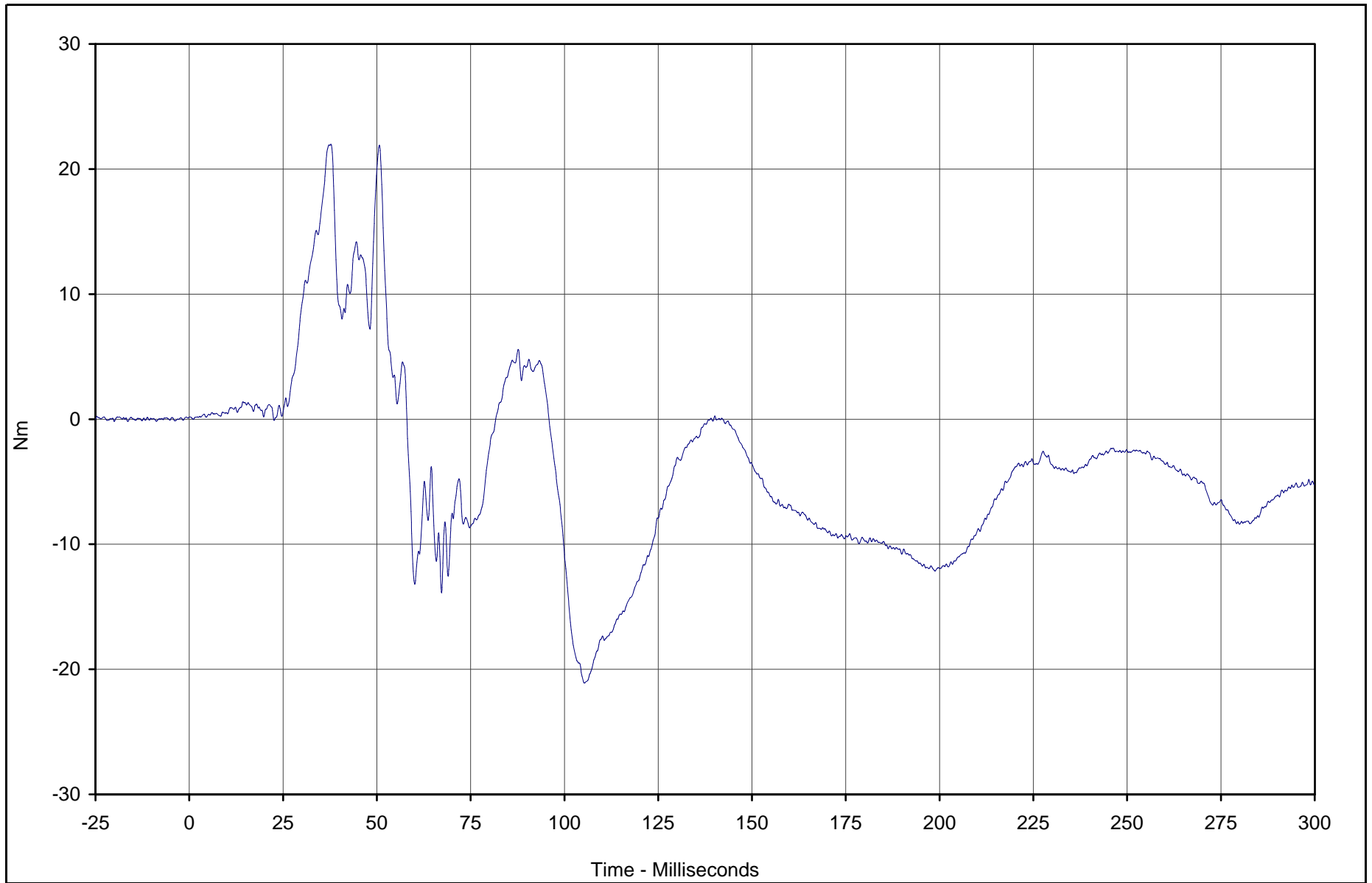
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-103



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Passenger Left Upper Tibia Moment X | 069 | FIL | Nm | 22.0 | 37.8 | -21.1 | 105.3 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

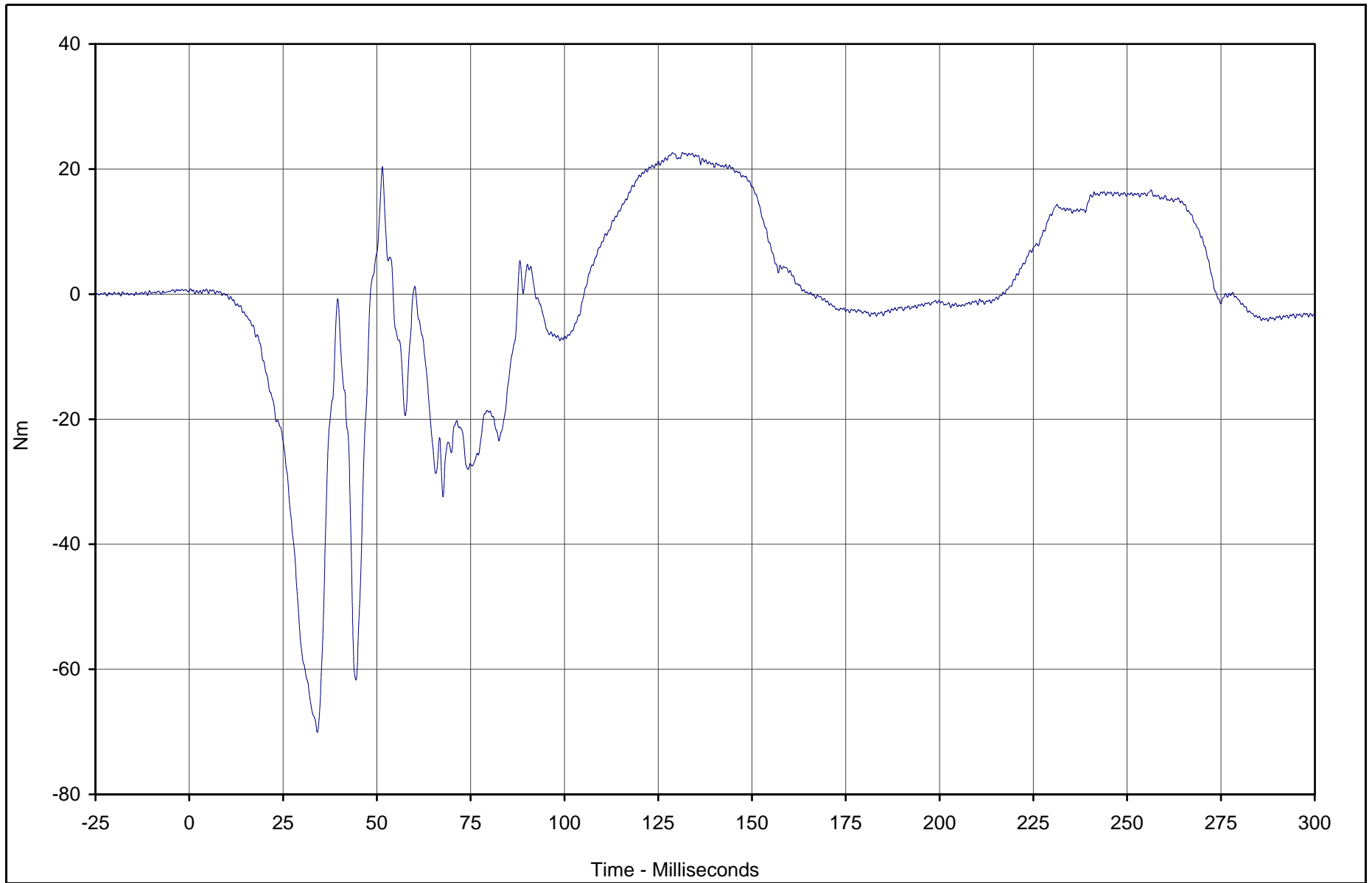
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-104



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Passenger Left Upper Tibia Moment Y | 070 | FIL | Nm | 22.6 | 131.5 | -70.1 | 34.1 | 600 |



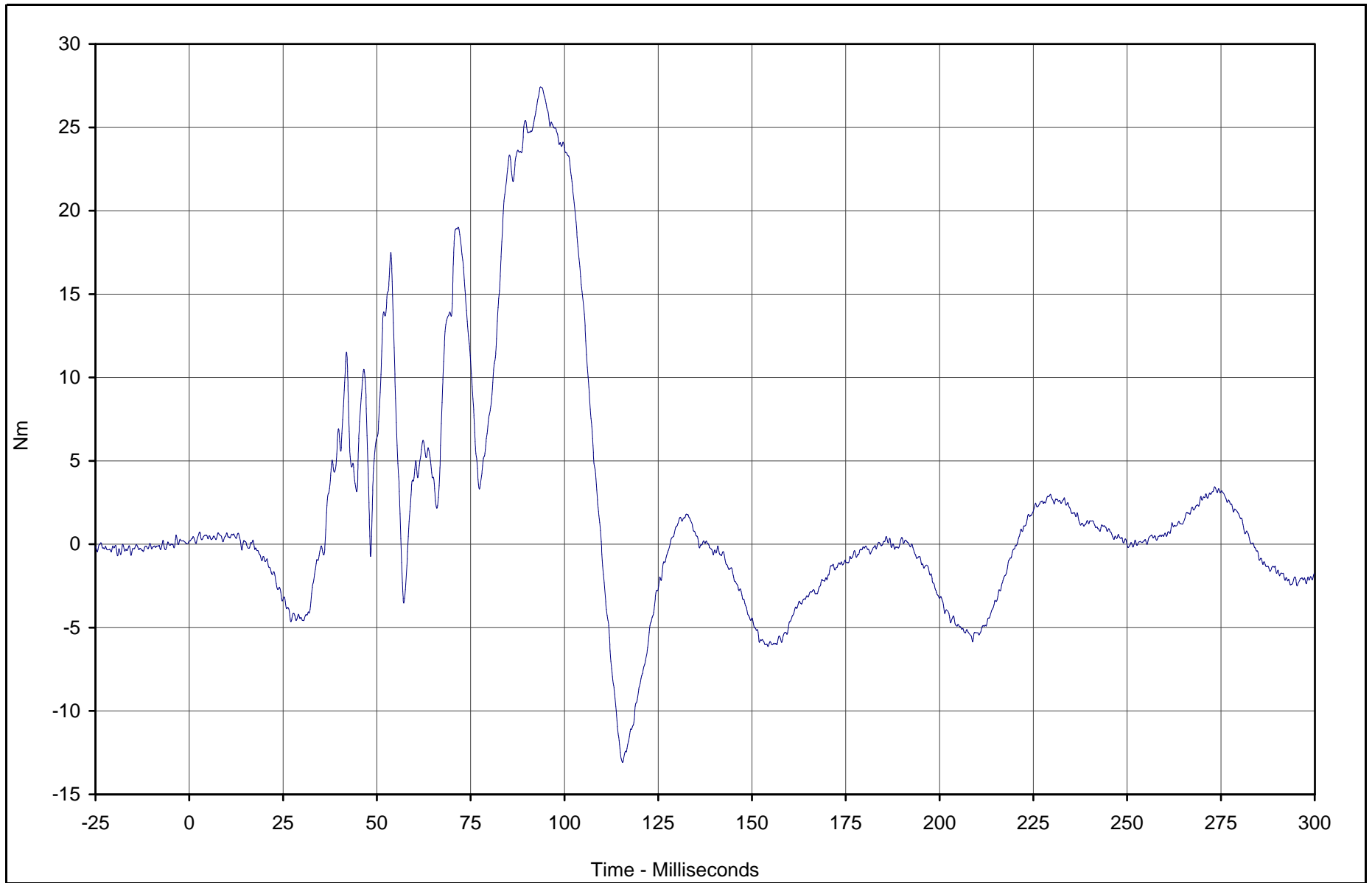
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-105



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------------|-------|------|-------|------|------|-------|-------|-----------|
| Passenger Right Upper Tibia Moment X | 071 | FIL | Nm | 27.4 | 93.6 | -13.1 | 115.5 | 600 |



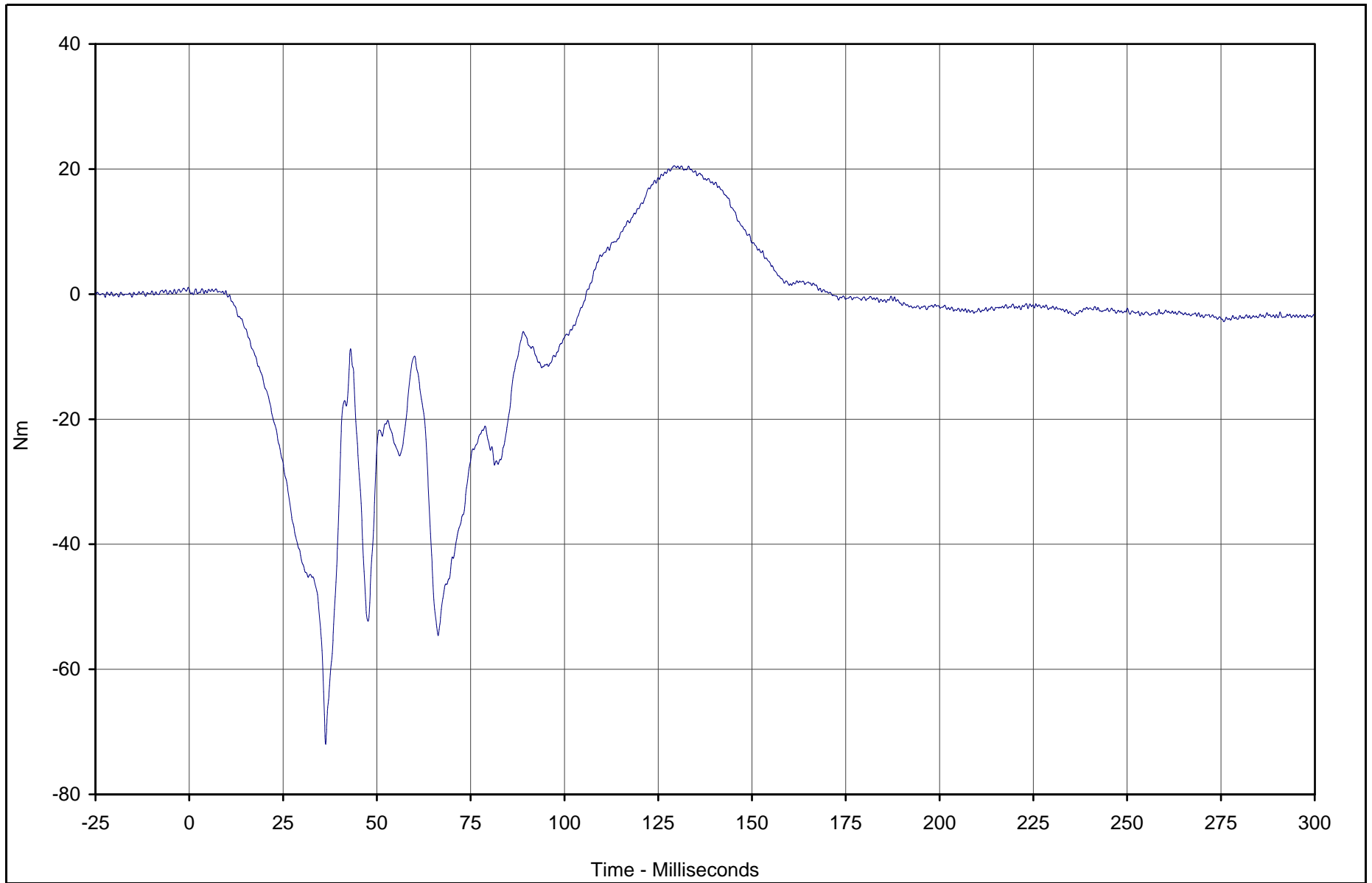
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-106



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Passenger Right Upper Tibia Moment Y | 072 | FIL | Nm | 20.5 | 129.2 | -72.0 | 36.4 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

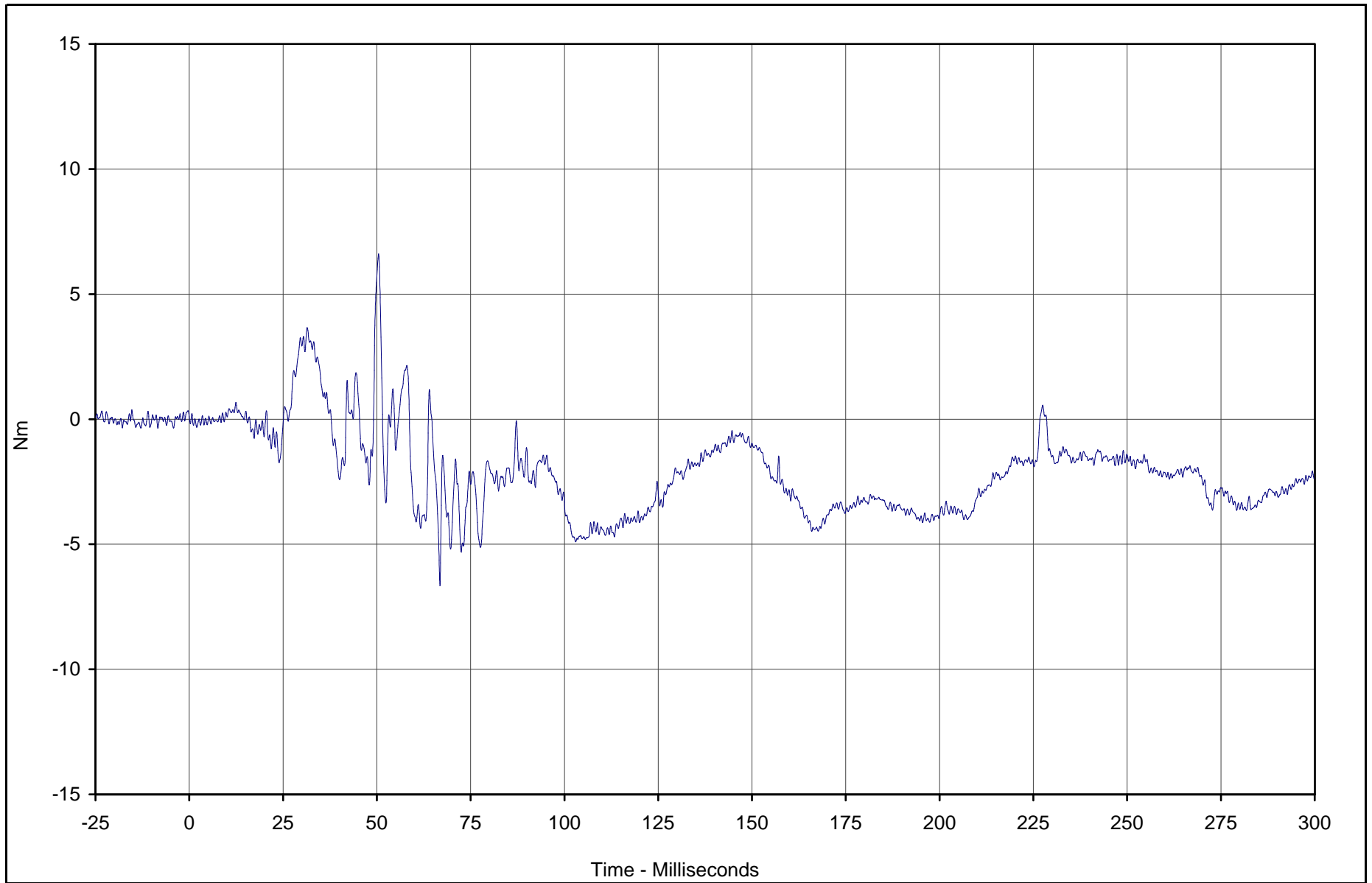
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-107



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|-----|------|------|------|-----------|
| Passenger Left Lower Tibia Moment X | 073 | FIL | Nm | 6.6 | 50.5 | -6.7 | 66.8 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

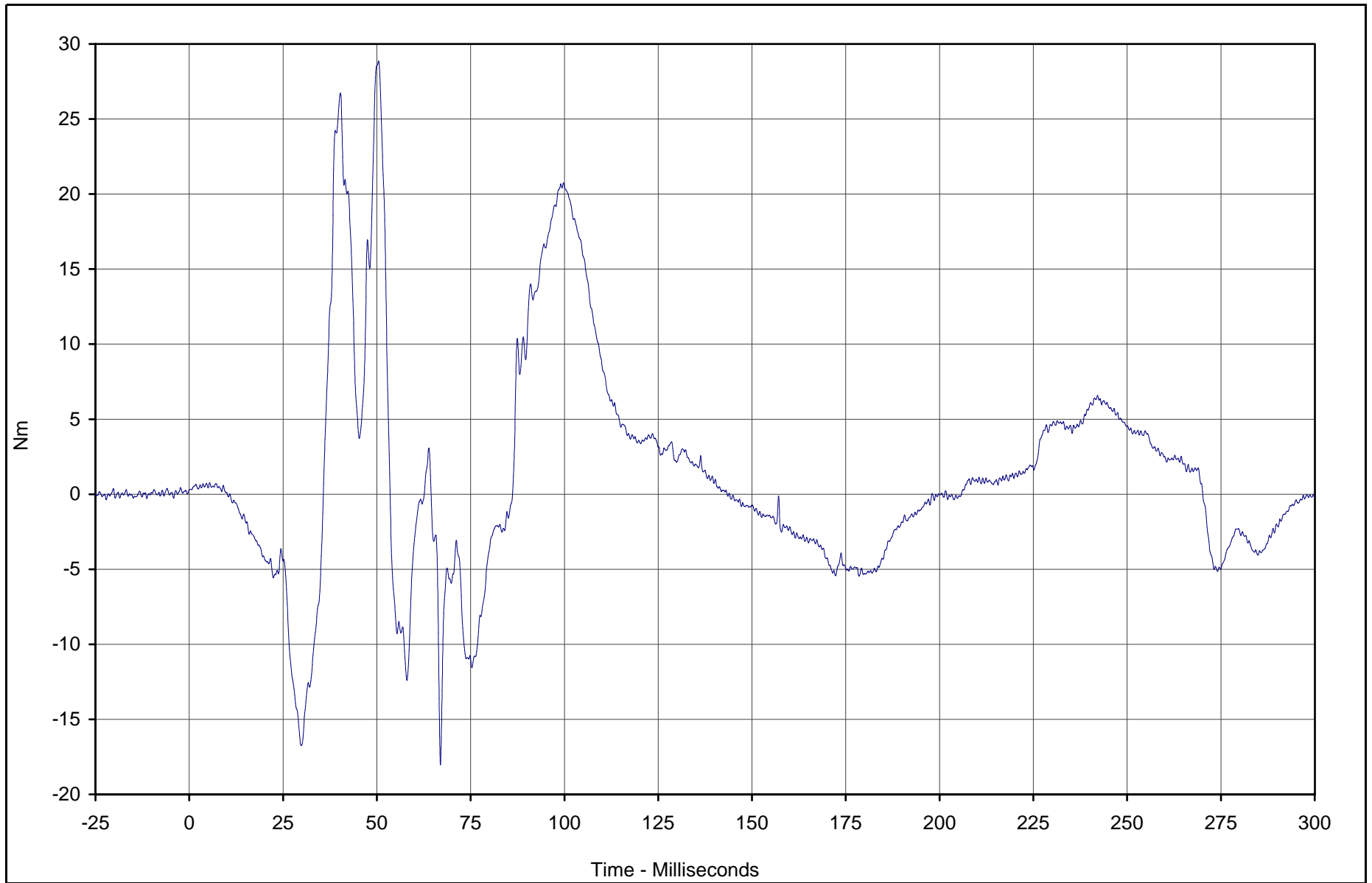
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-108



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Left Lower Tibia Moment Y | 074 | FIL | Nm | 28.9 | 50.5 | -18.0 | 66.9 | 600 |



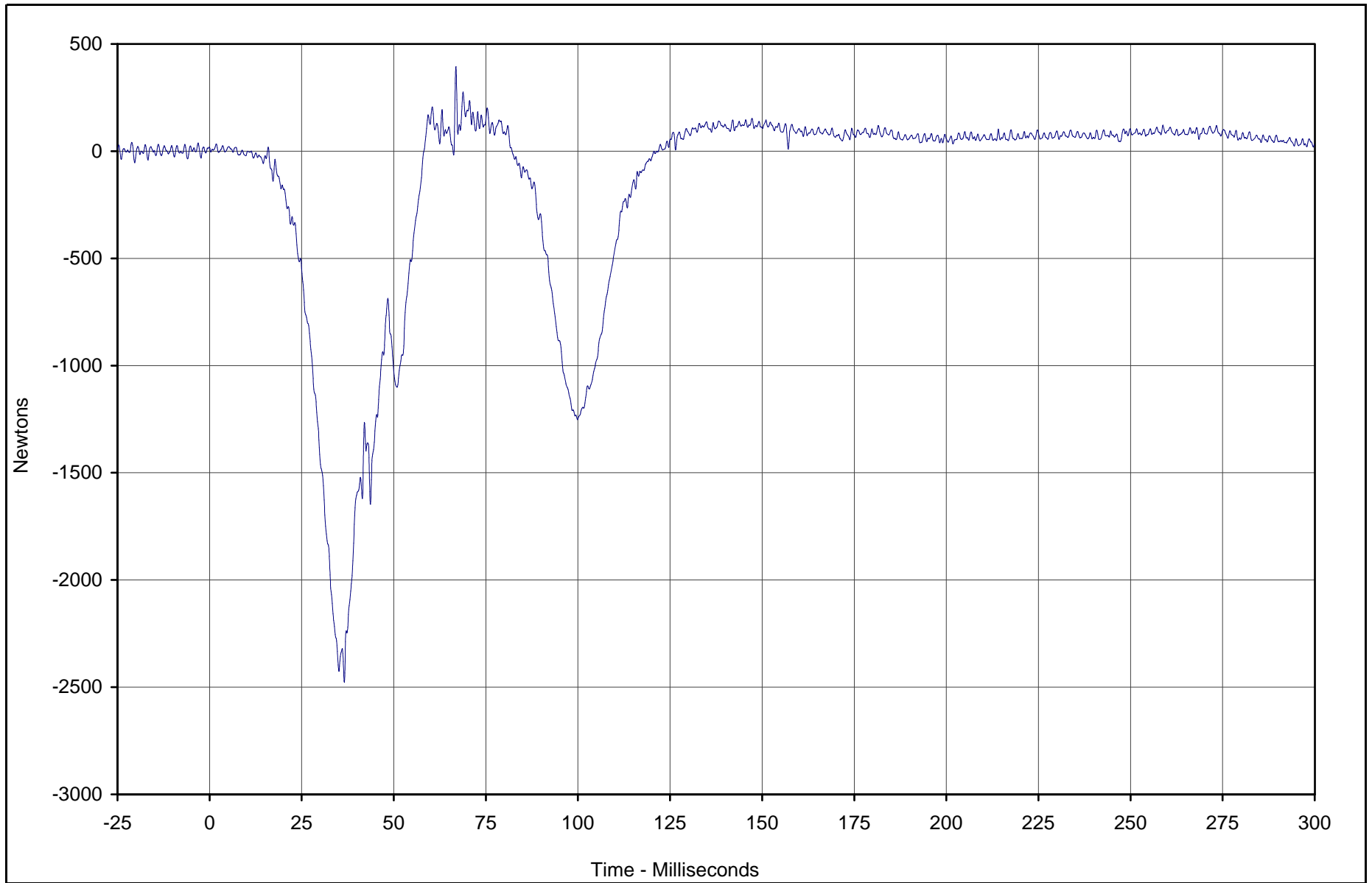
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-109



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|---------|-------|------|---------|------|-----------|
| Passenger Left Lower Tibia Force Z | 075 | FIL | Newtons | 394.9 | 66.9 | -2477.1 | 36.6 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

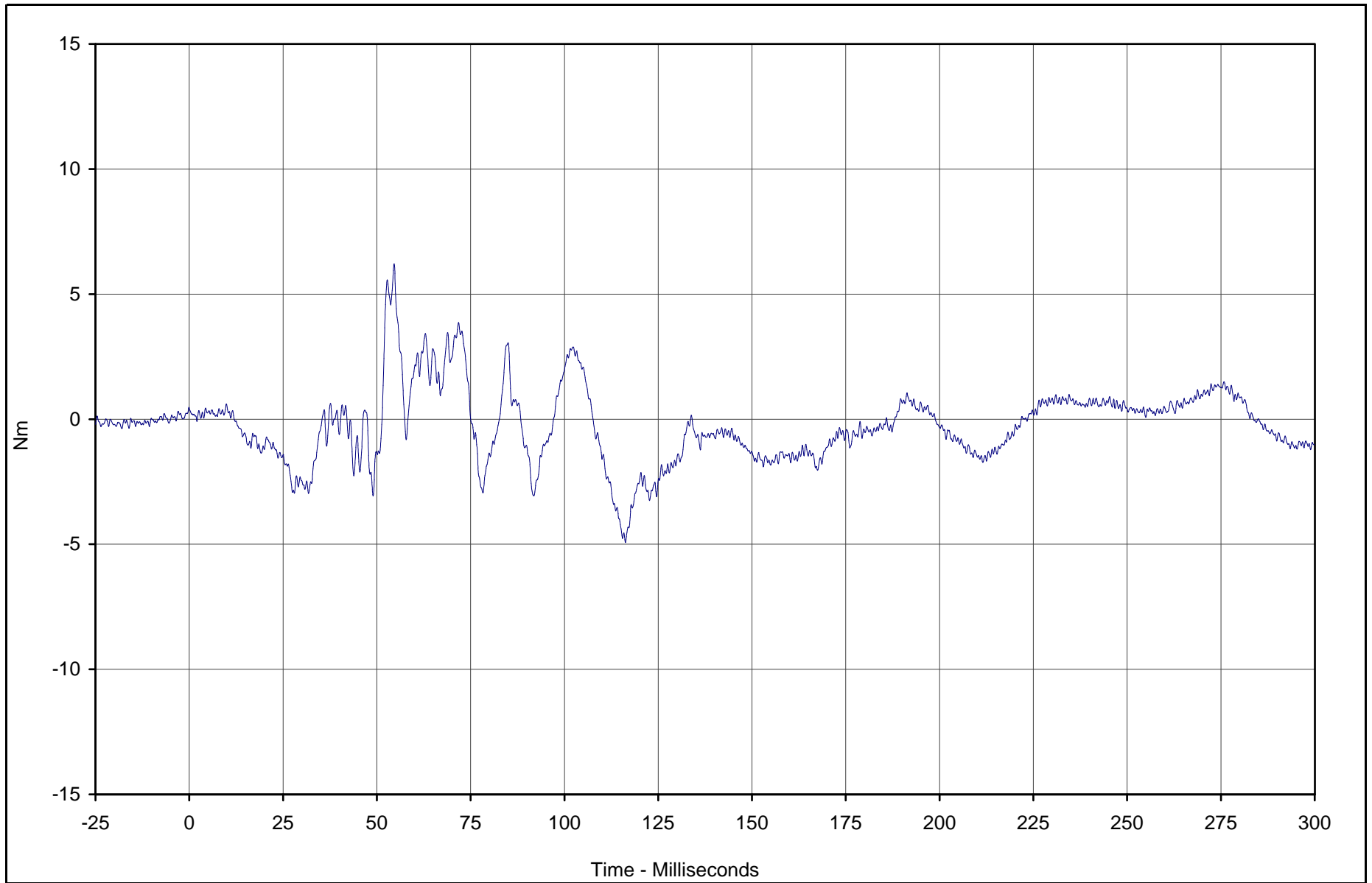
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-110



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------------|-------|------|-------|-----|------|------|-------|-----------|
| Passenger Right Lower Tibia Moment X | 076 | FIL | Nm | 6.2 | 54.6 | -4.9 | 116.2 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

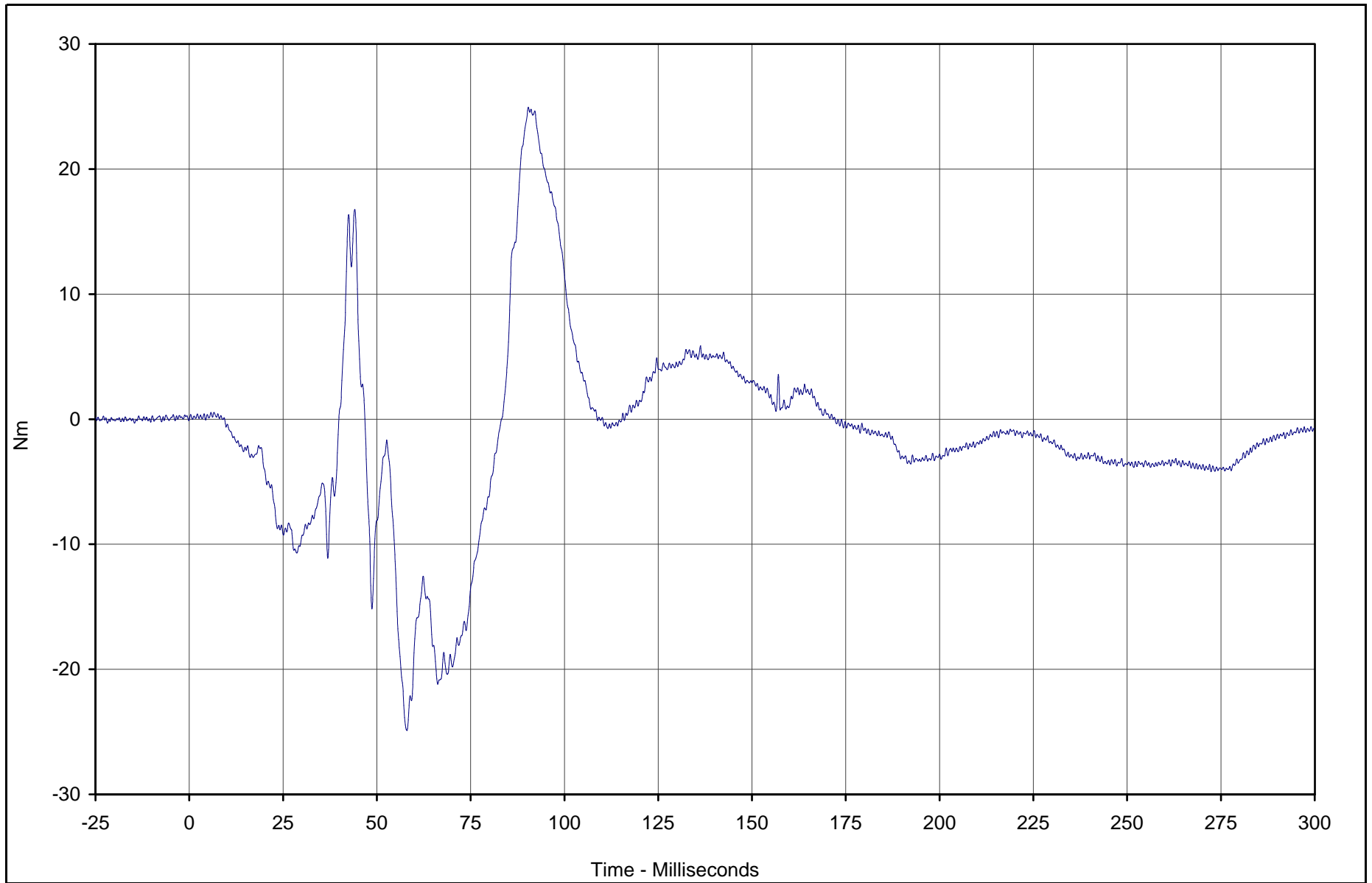
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-111



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Right Lower Tibia Moment Y | 077 | FIL | Nm | 25.0 | 90.4 | -24.9 | 58.0 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

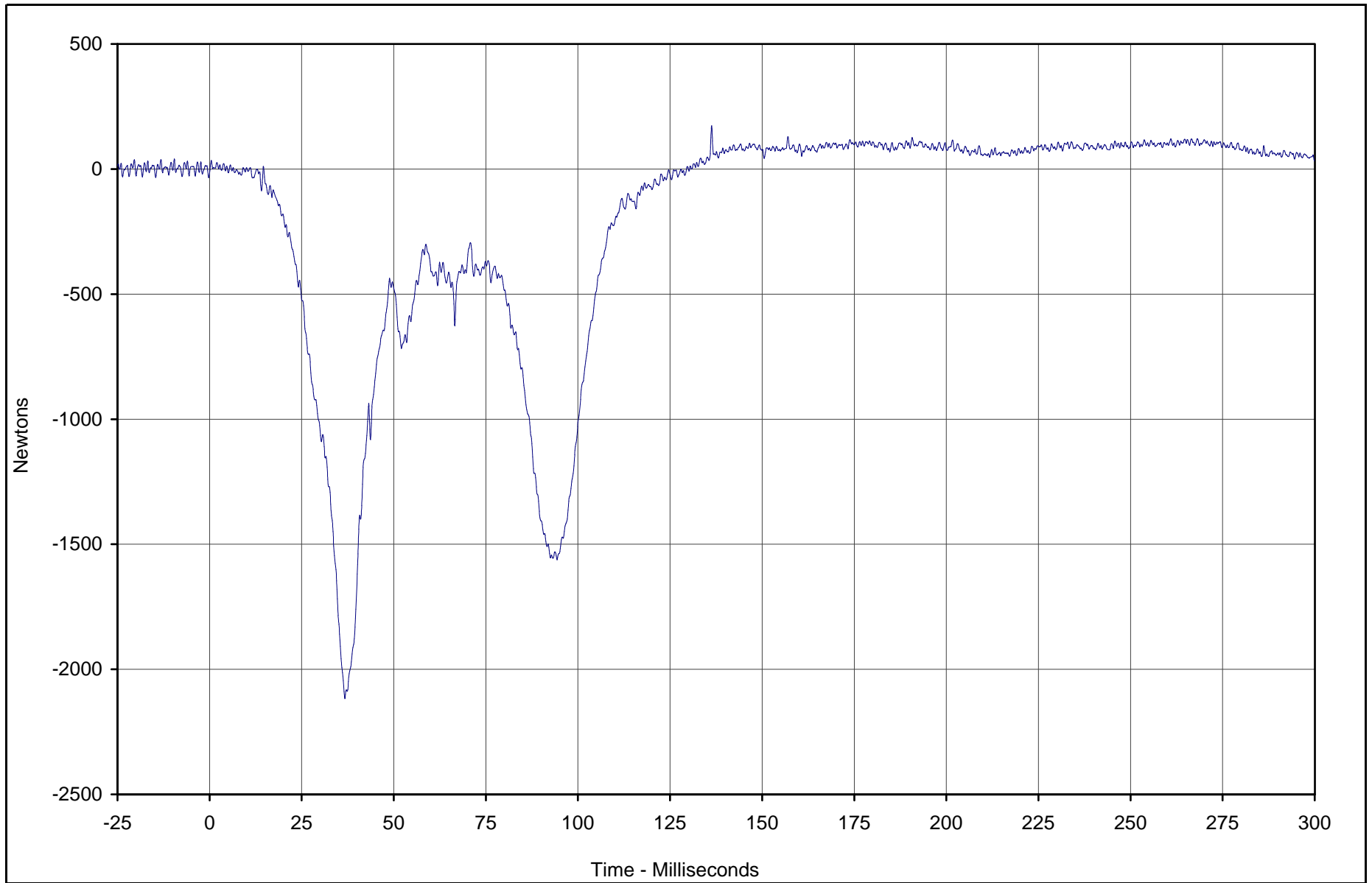
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-112



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|---------|-------|-------|---------|------|-----------|
| Passenger Right lower Tibia Force Z | 078 | FIL | Newtons | 173.7 | 136.3 | -2117.9 | 36.7 | 600 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

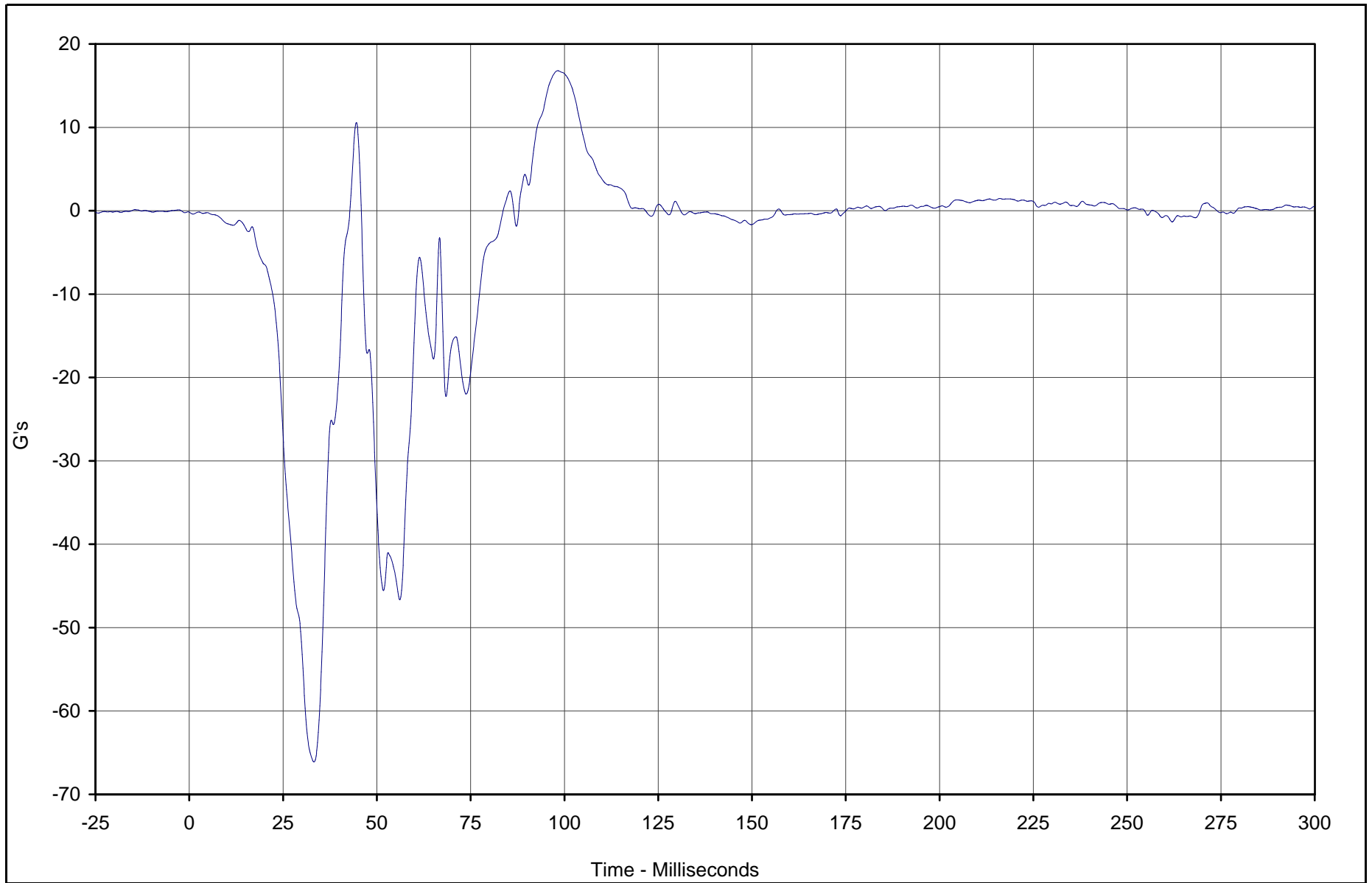
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-113



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Left Foot Aft X | 079 | FIL | G's | 16.8 | 98.2 | -66.1 | 33.2 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

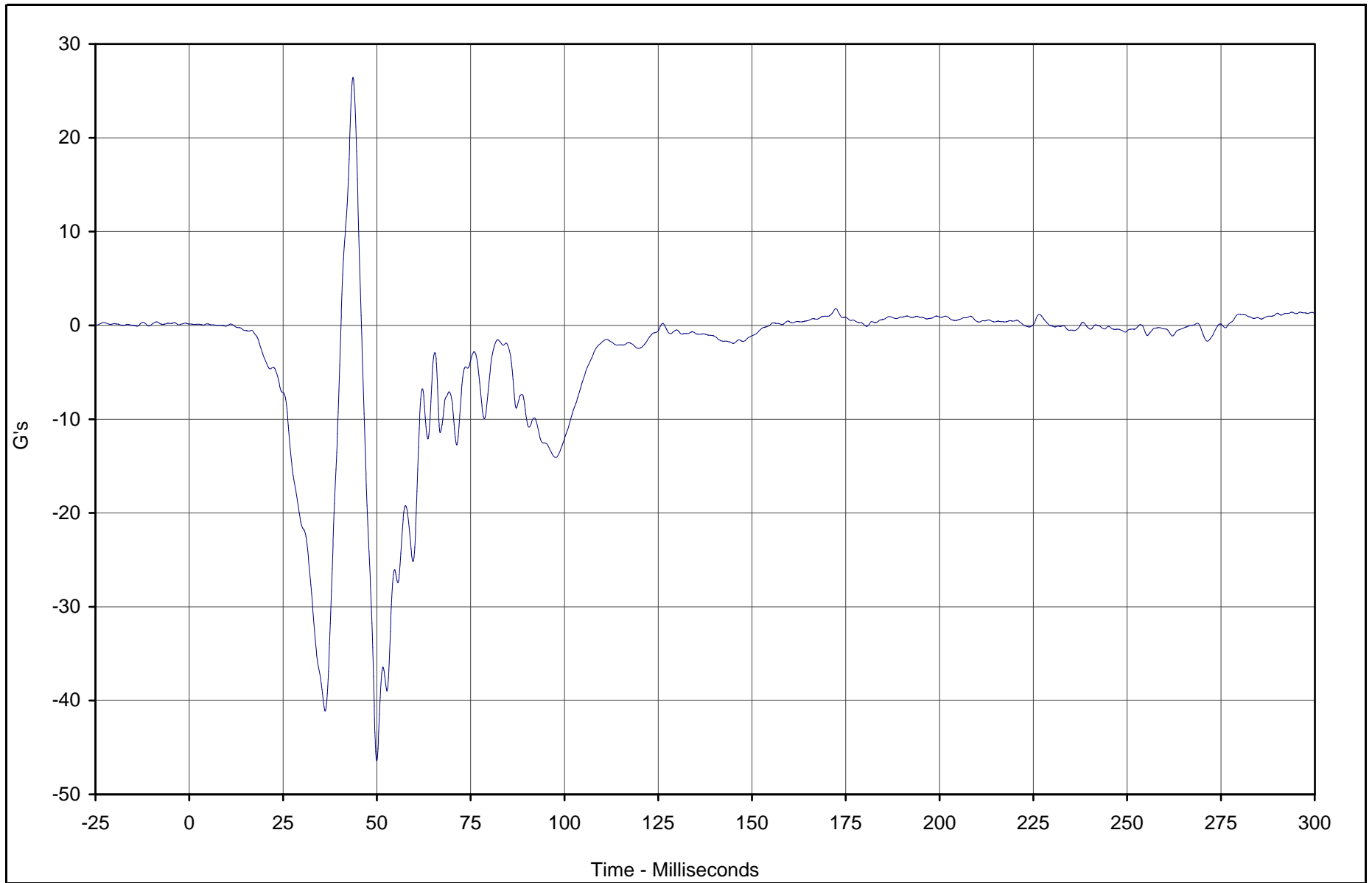
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-114



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Left Foot Aft Z | 080 | FIL | G's | 26.4 | 43.6 | -46.4 | 50.0 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

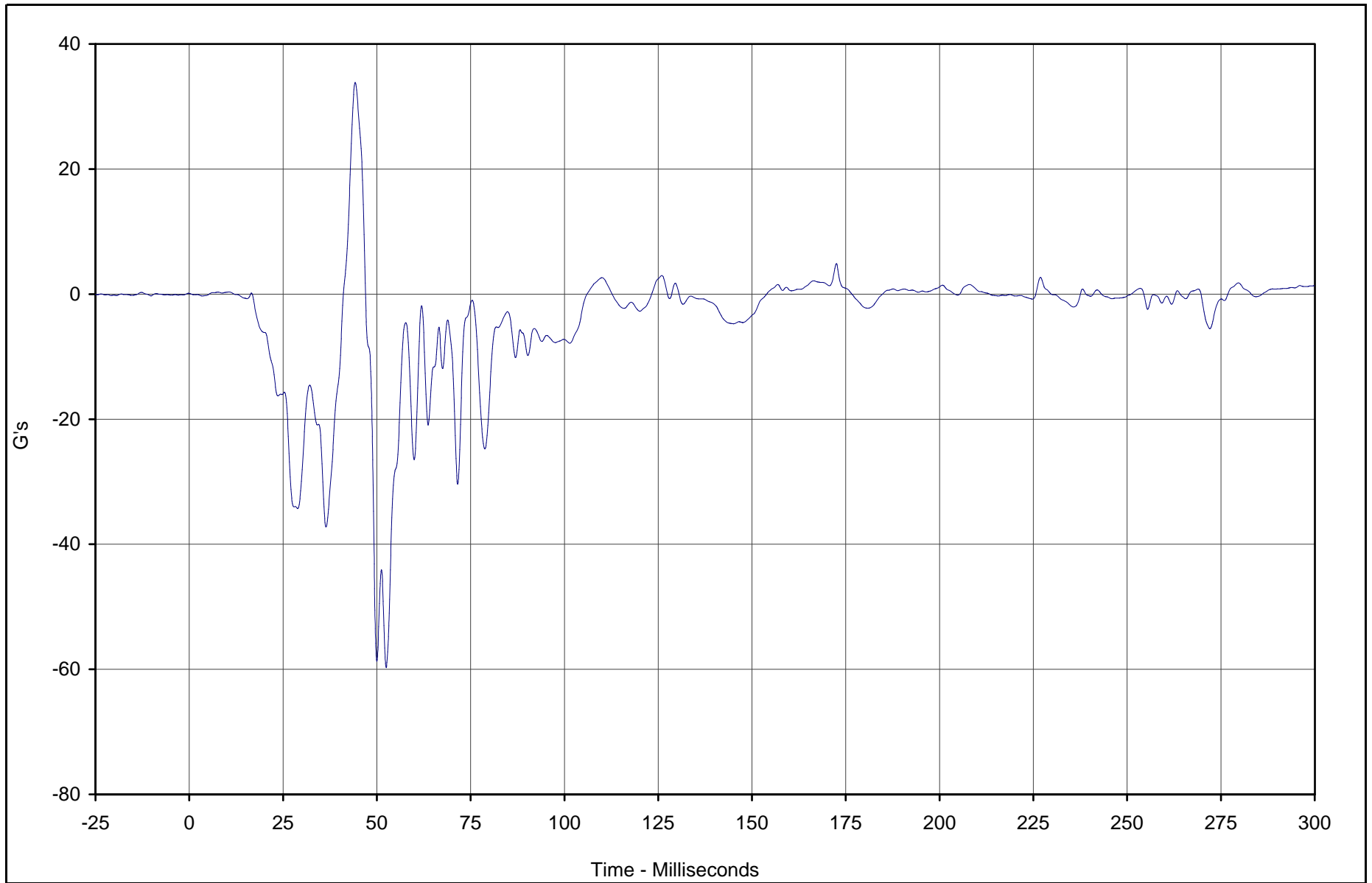
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-115



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Left Foot Fore Z | 081 | FIL | G's | 33.8 | 44.2 | -59.7 | 52.5 | 180 |



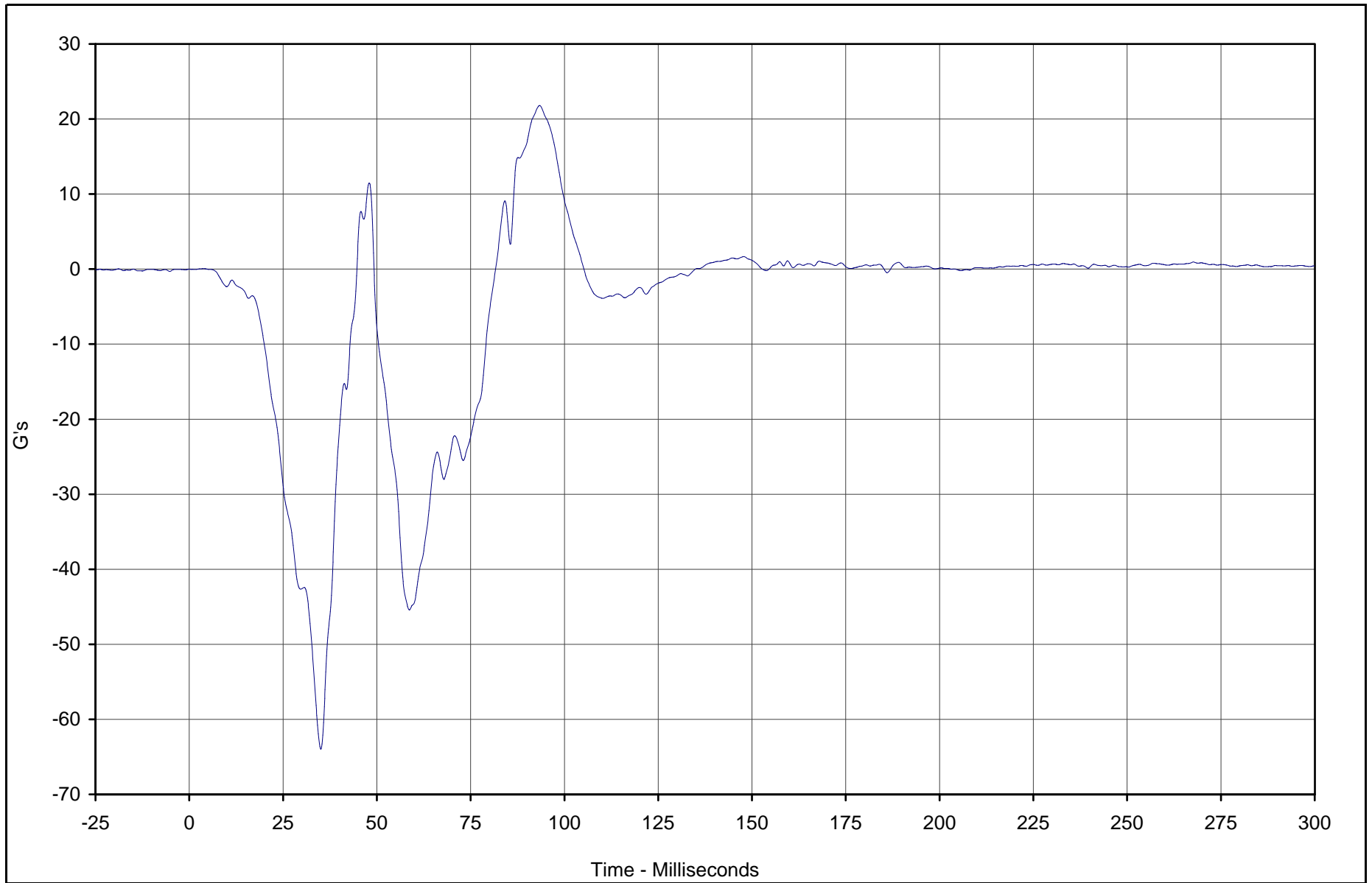
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-116



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Right Foot Aft X | 082 | FIL | G's | 21.8 | 93.4 | -64.0 | 35.1 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

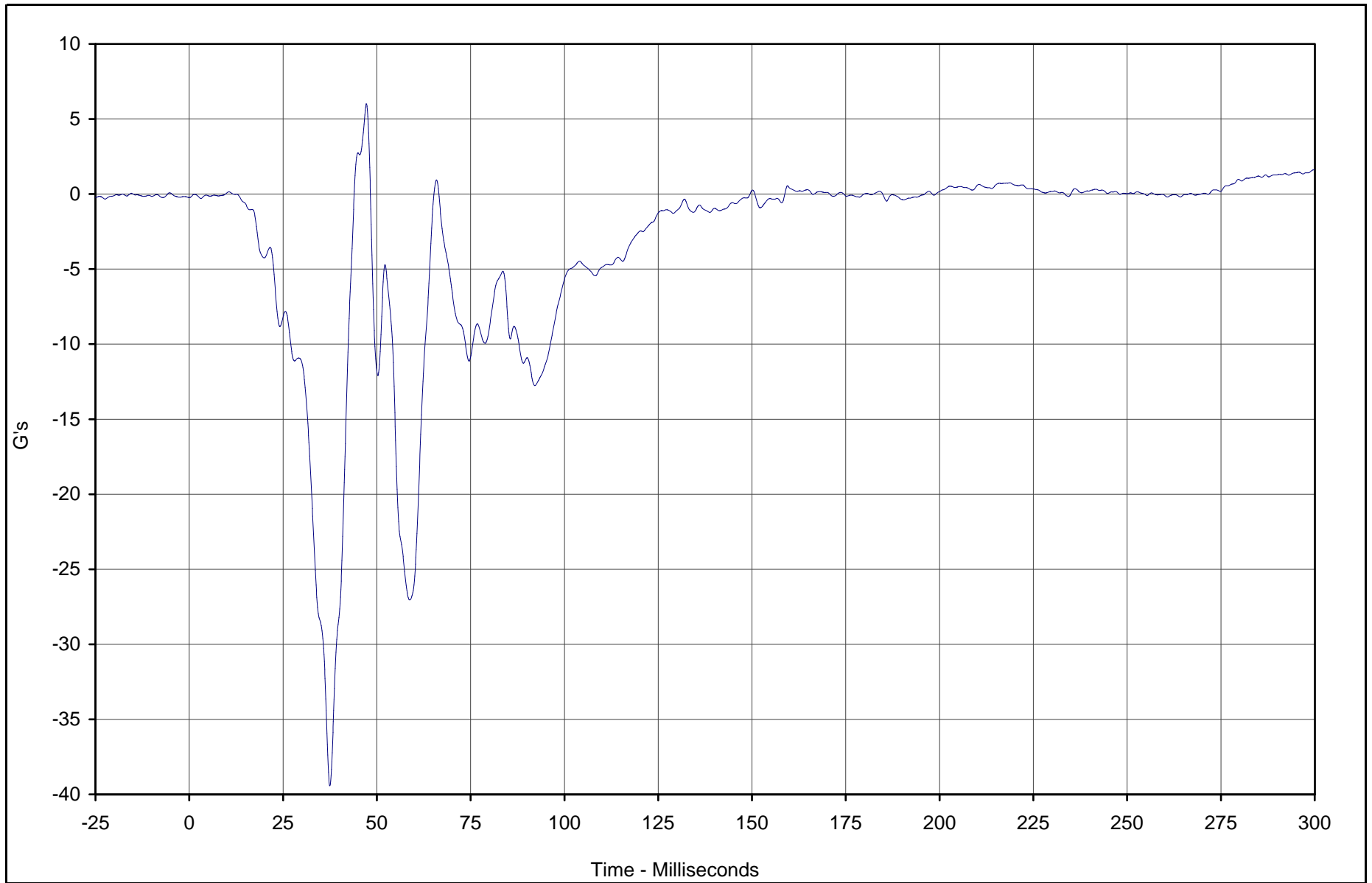
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-117



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|-----|------|-------|------|-----------|
| Passenger Right Foot Aft Z | 083 | FIL | G's | 6.0 | 47.2 | -39.4 | 37.5 | 180 |



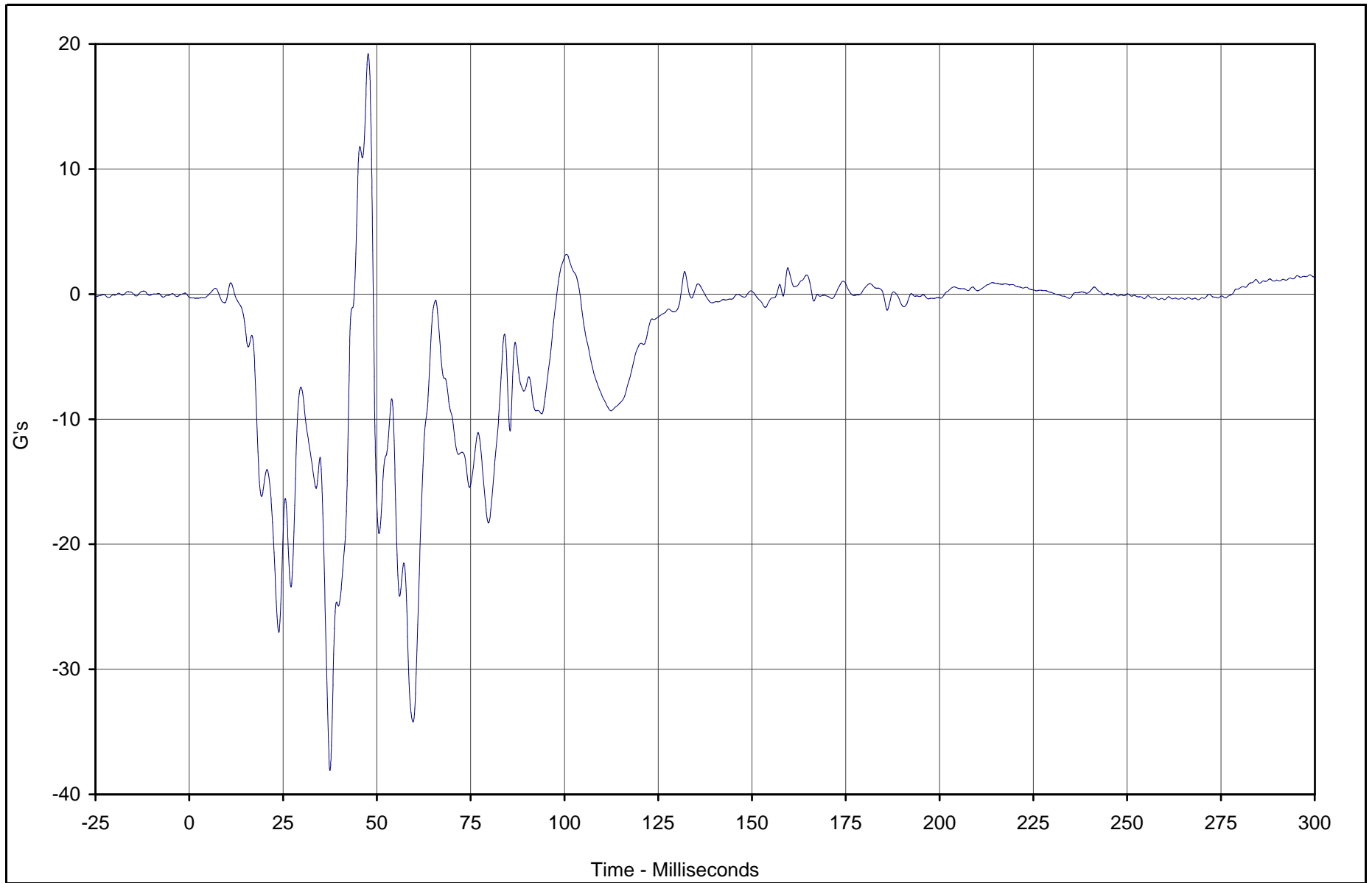
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-118



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Right Foot Fore Z | 084 | FIL | G's | 19.2 | 47.7 | -38.1 | 37.5 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

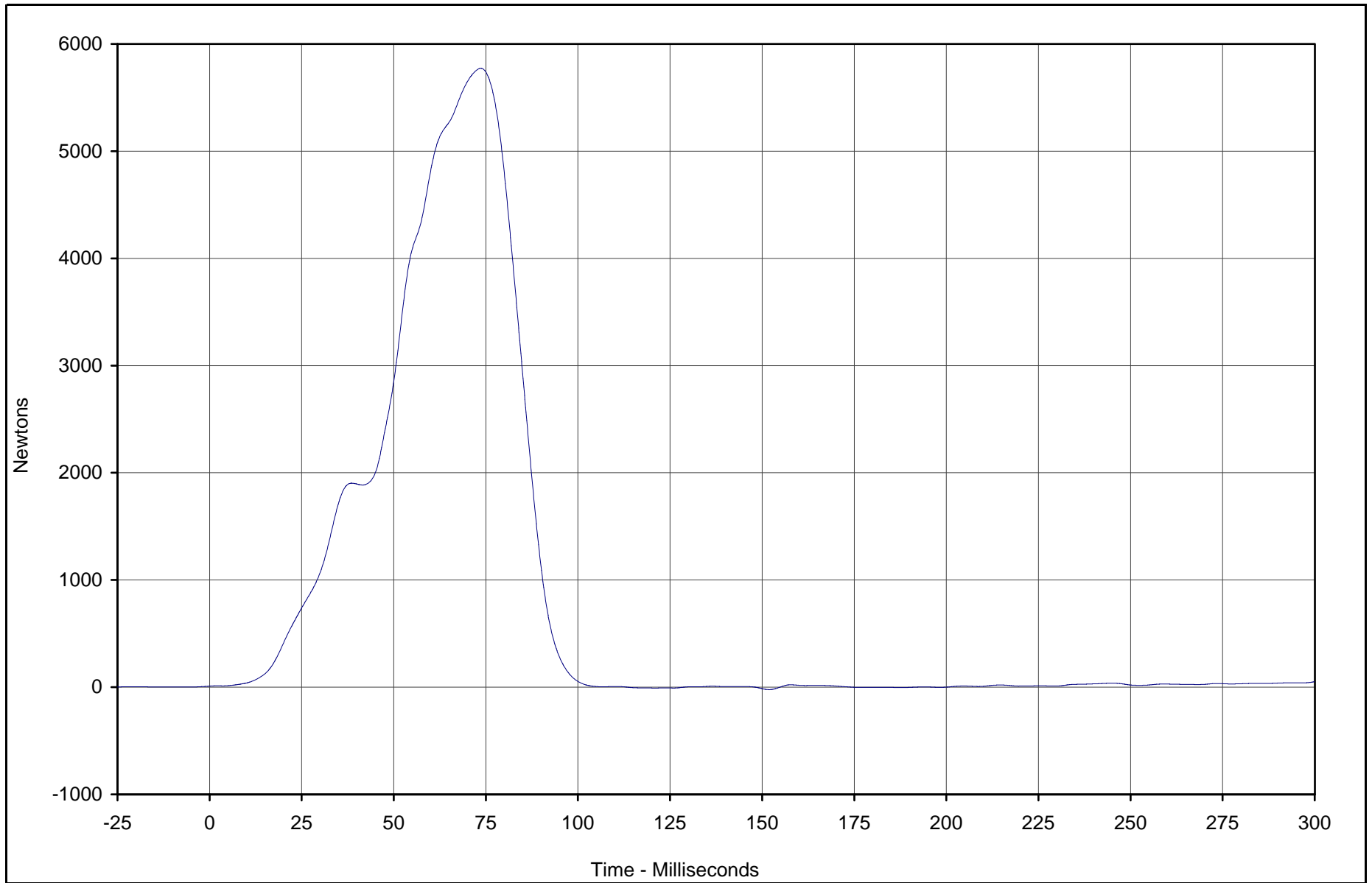
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-119



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|---------|--------|------|-------|-------|-----------|
| Passenger Lap Belt Force | 085 | FIL | Newtons | 5772.9 | 73.6 | -22.8 | 151.9 | 60 |



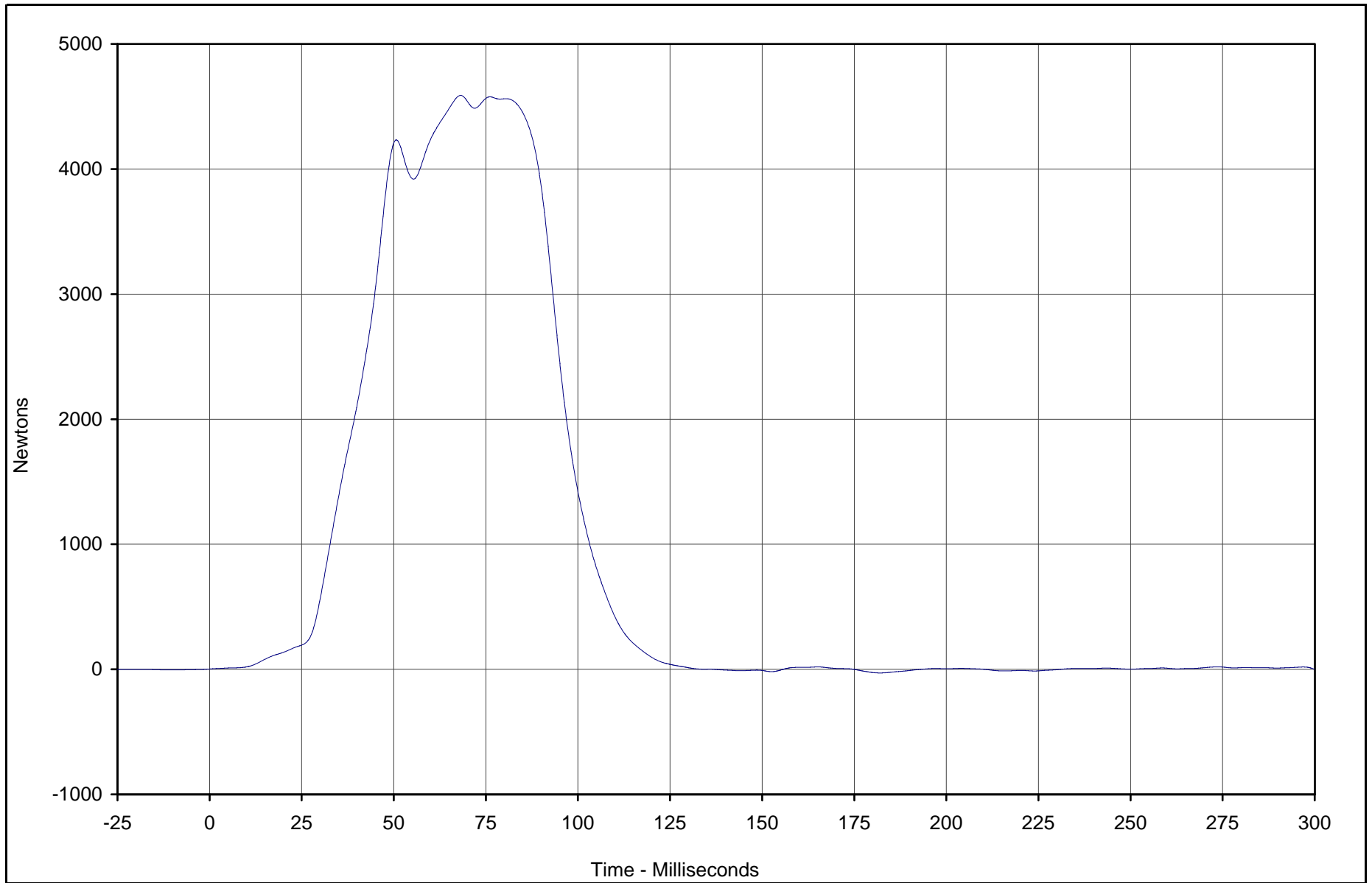
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-120



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------|-------|------|---------|--------|------|-------|-------|-----------|
| Passenger Shoulder Belt Force | 086 | FIL | Newtons | 4589.3 | 68.1 | -29.1 | 182.0 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

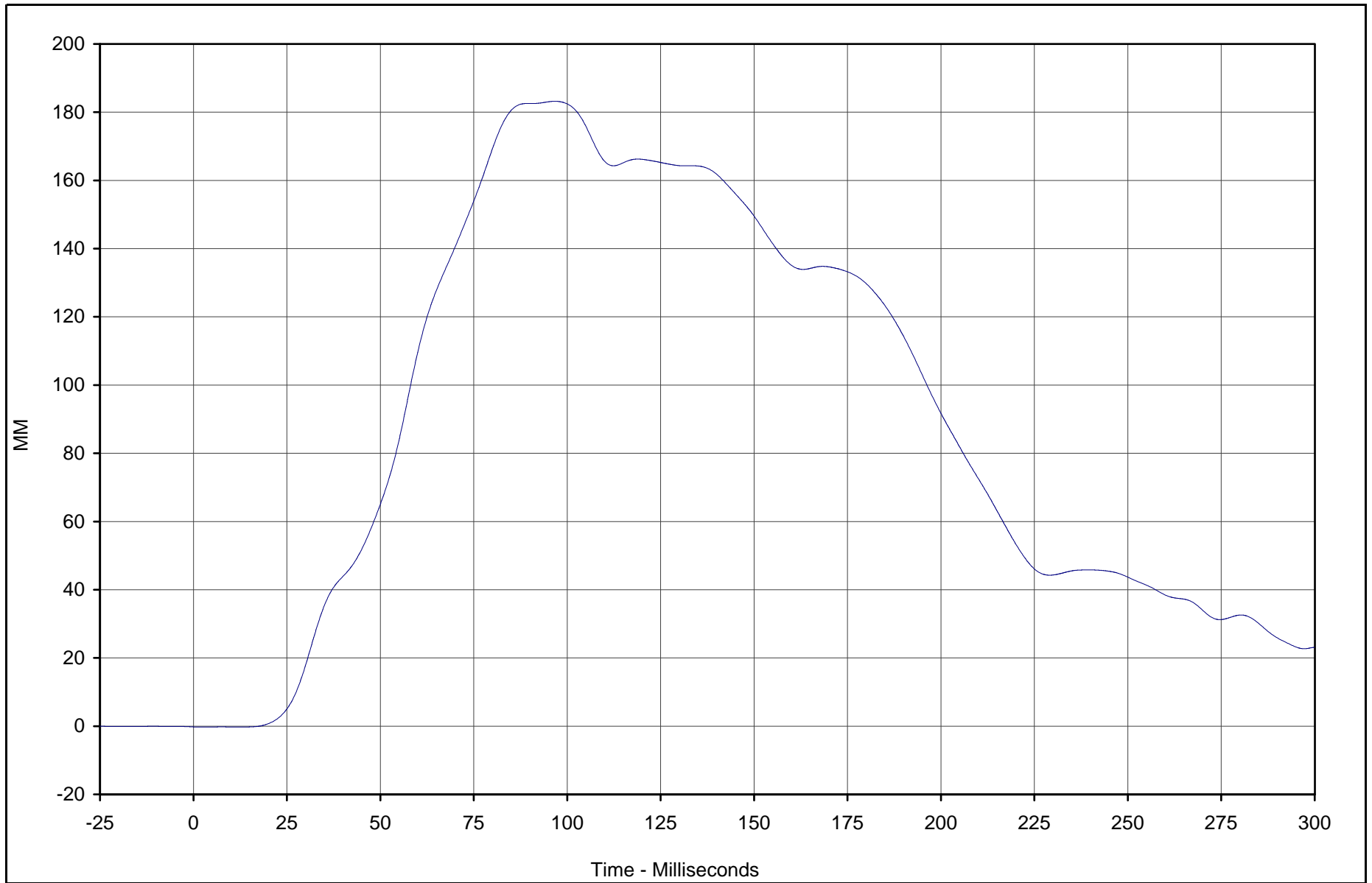
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-121



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|-------|------|------|------|-----------|
| Passenger Shoulder Belt Pullout | 087 | FIL | MM | 183.2 | 96.7 | -0.3 | 2.0 | 60 |



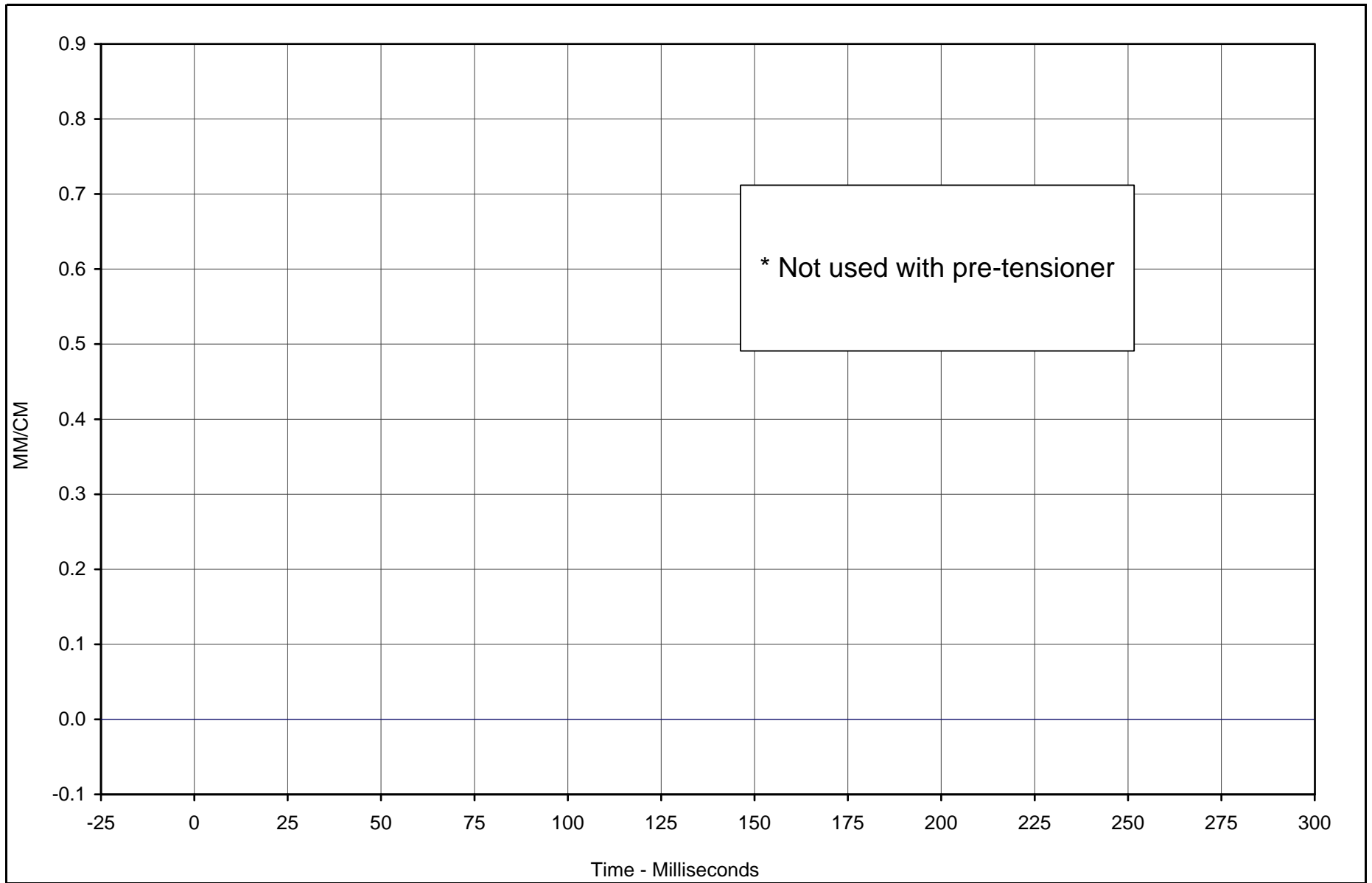
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-122



* Not used with pre-tensioner

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|-------|------|------|------|------|-----------|
| Passenger Shoulder Belt Elongation | 088 | FIL | MM/CM | 0.00 | 0.0 | 0.00 | 0.0 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

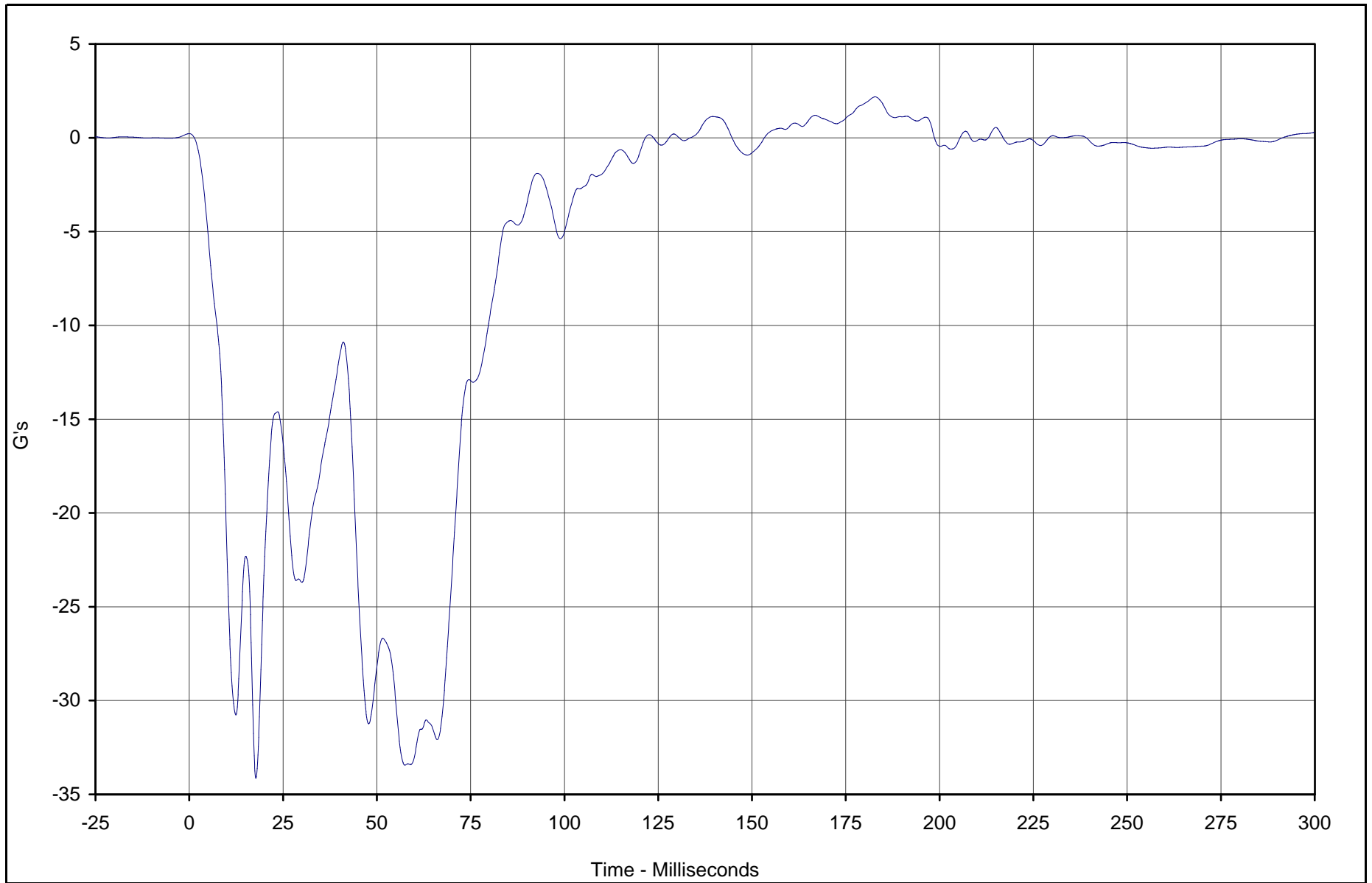
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-123



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Vehicle Left Rear X | 089 | FIL | G's | 2.2 | 182.8 | -34.1 | 17.8 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

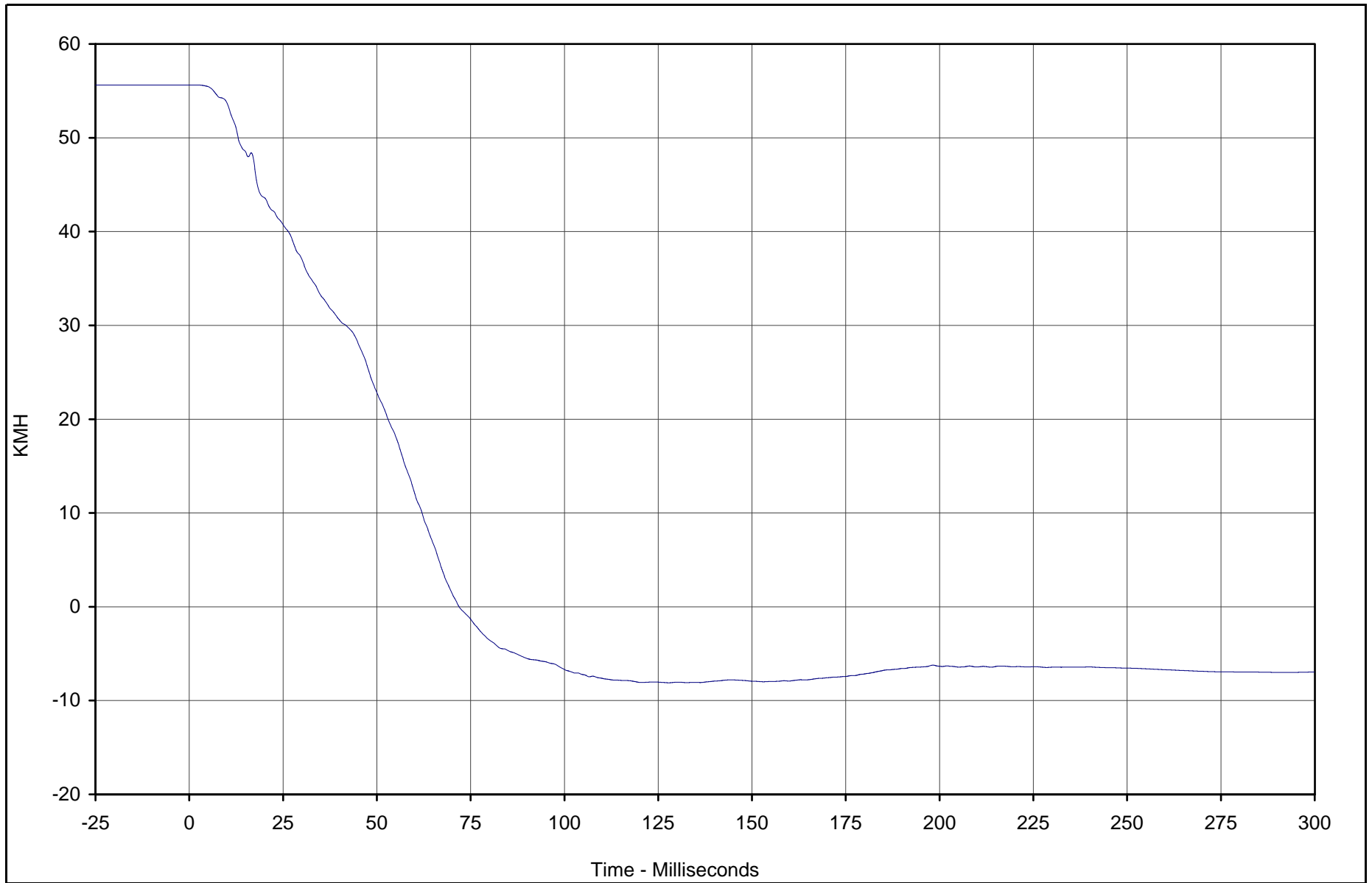
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-124



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------|-------|------|-------|------|------|------|-------|-----------|
| Vehicle Left Rear X Velocity | 089 | IN1 | KMH | 55.6 | 2.0 | -8.1 | 127.8 | 180 |



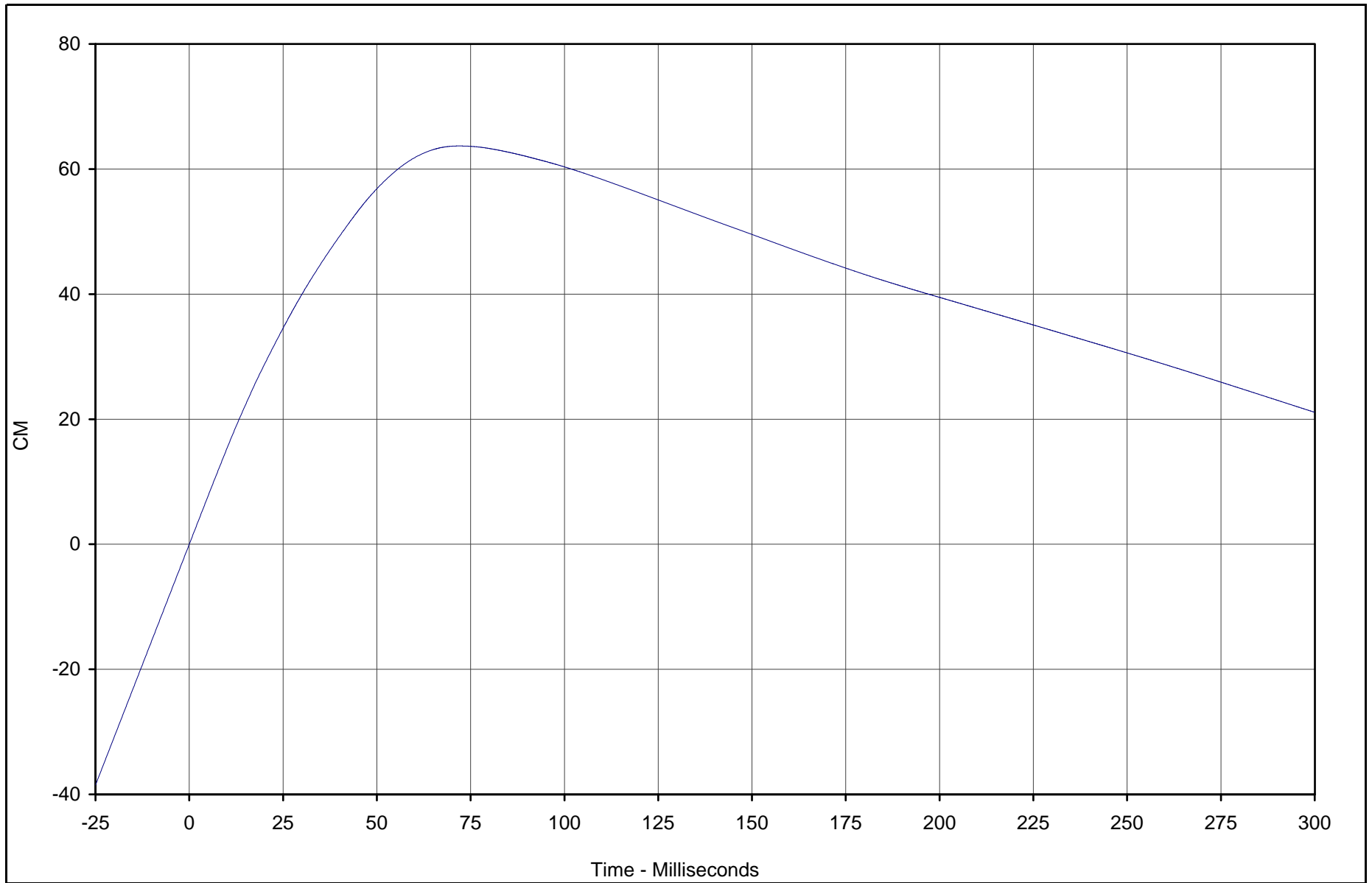
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-125



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Left Rear X Displ. | 089 | IN2 | CM | 63.7 | 71.9 | 0.0 | 0.0 | 180 |



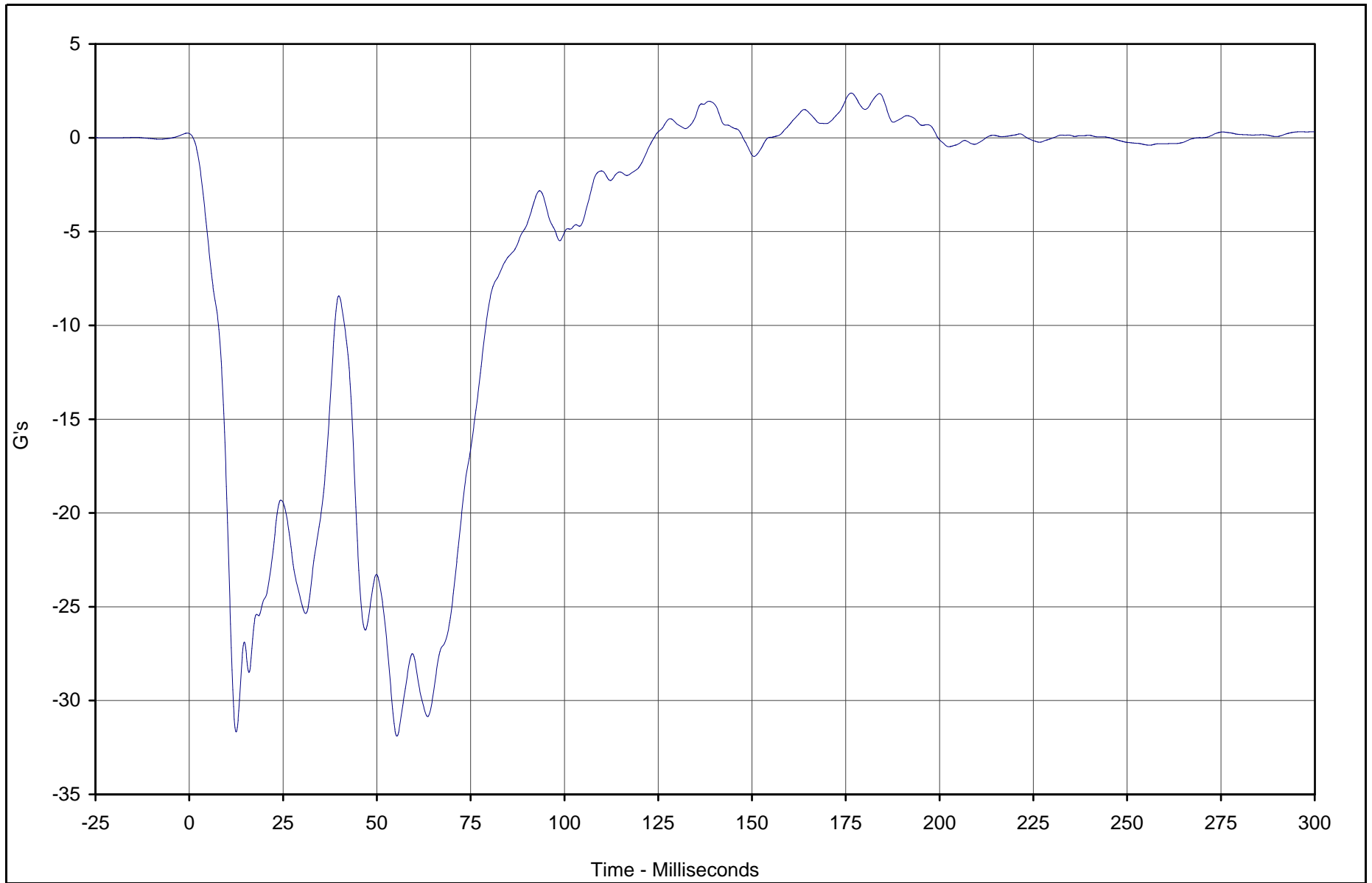
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-126



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------|-------|------|-------|-----|-------|-------|------|-----------|
| Vehicle Right Rear X | 090 | FIL | G's | 2.4 | 176.5 | -31.9 | 55.4 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

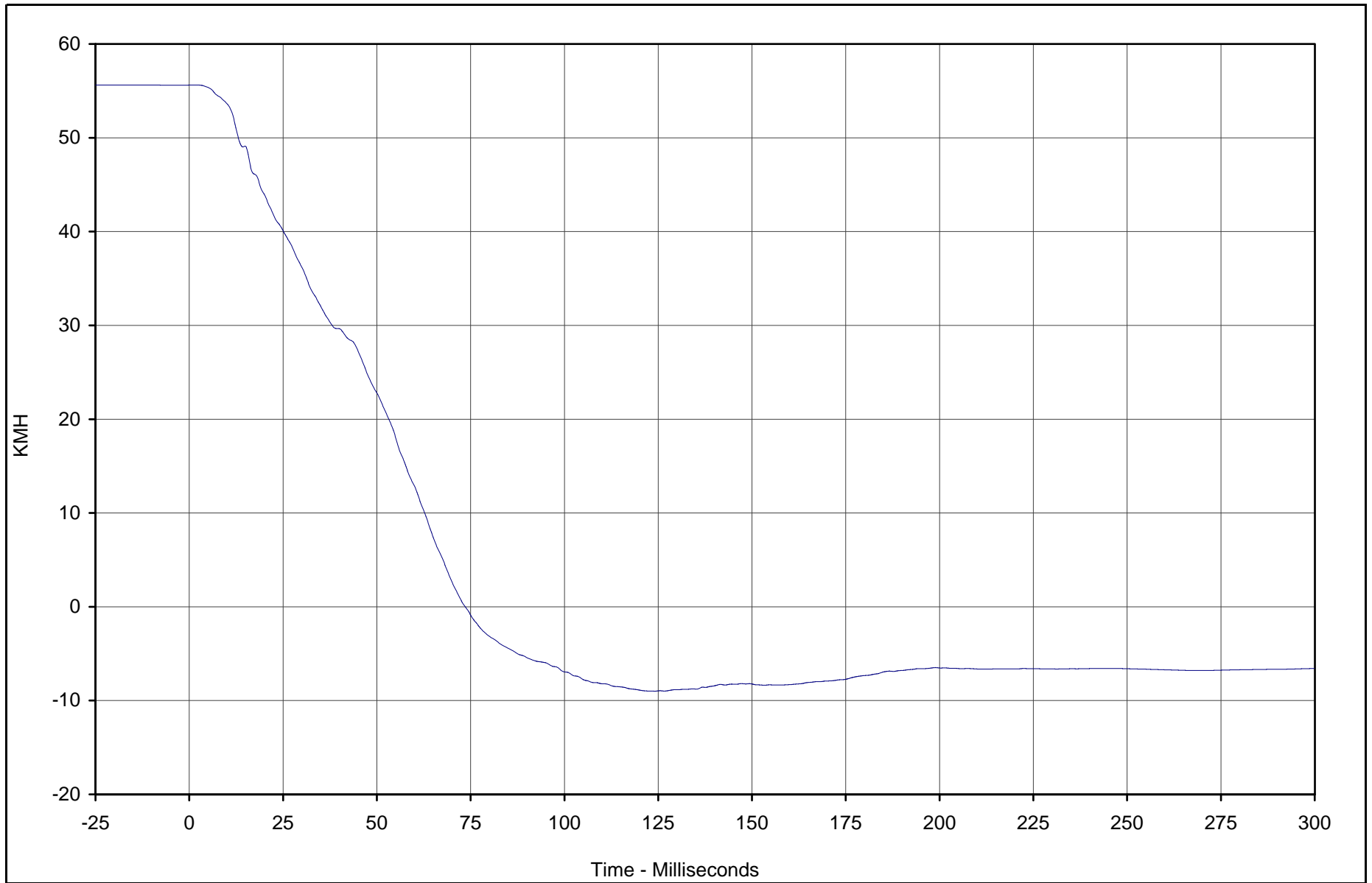
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-127



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------|-------|------|-------|------|------|------|-------|-----------|
| Vehicle Right Rear X Velocity | 090 | IN1 | KMH | 55.6 | 2.3 | -9.0 | 124.1 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

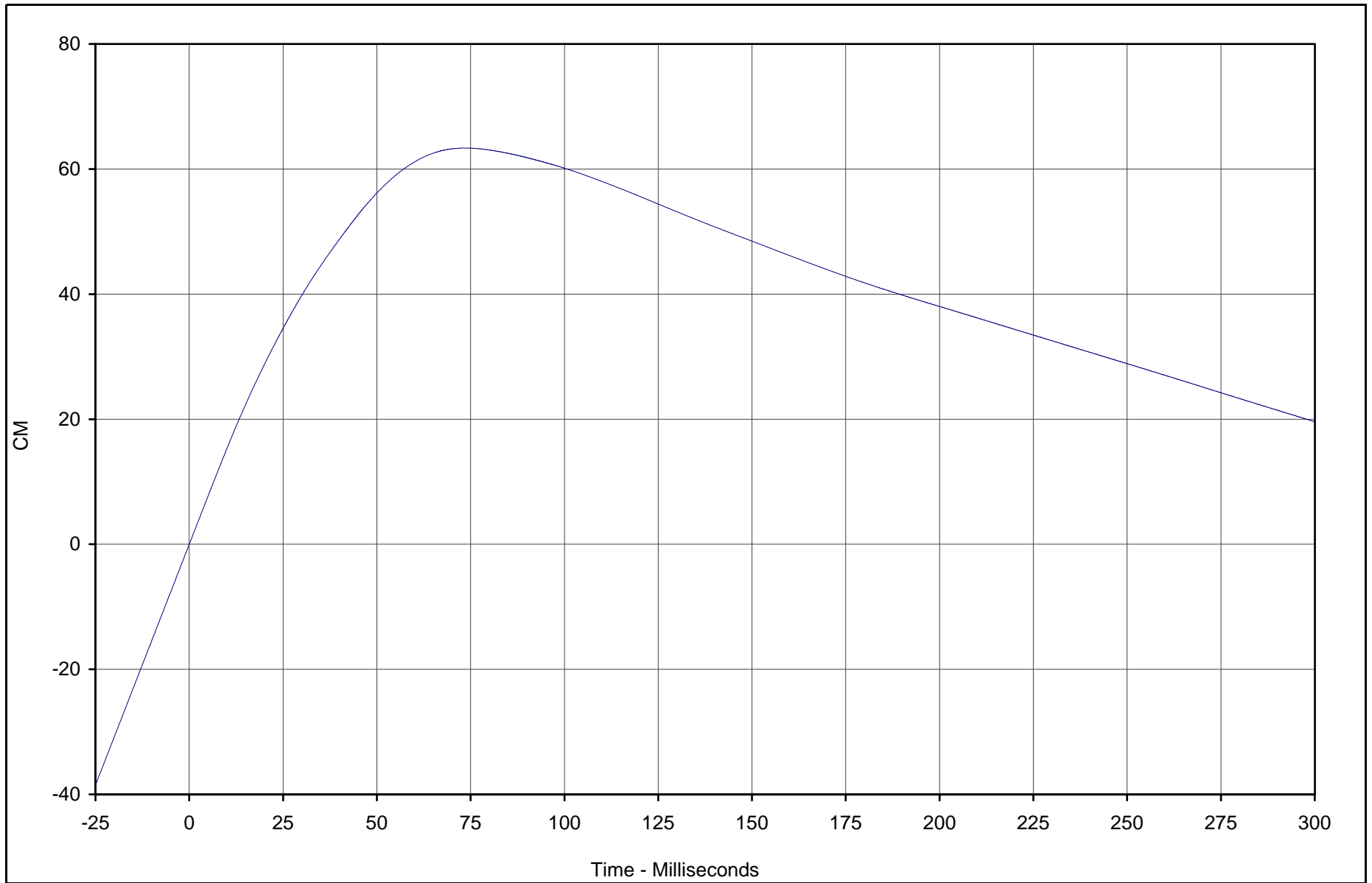
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-128



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Right Rear X Displ. | 090 | IN2 | CM | 63.4 | 73.5 | 0.0 | 0.0 | 180 |



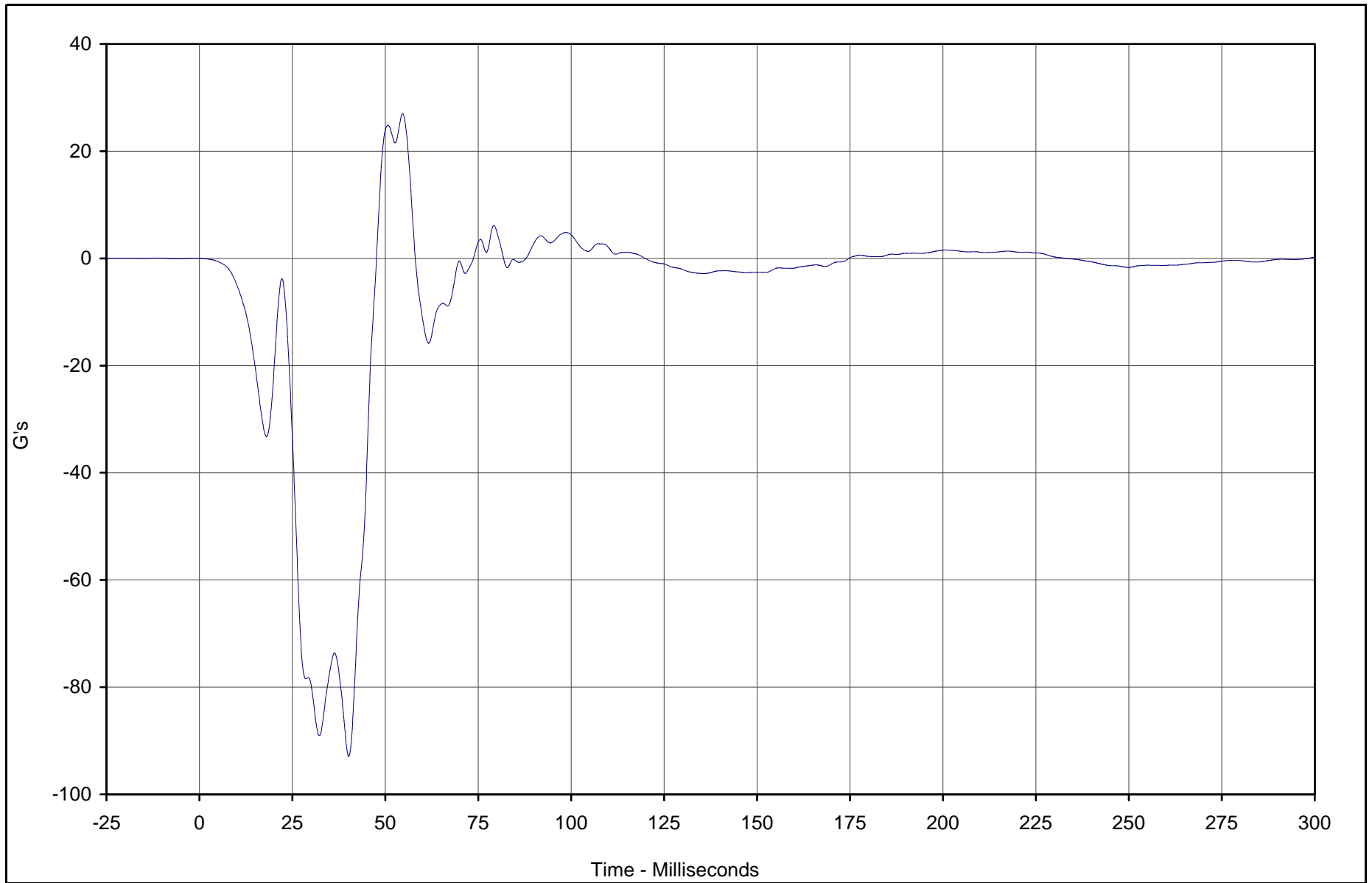
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-129



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------|-------|------|-------|------|------|-------|------|-----------|
| Vehicle Engine Top | 091 | FIL | G's | 27.0 | 54.6 | -92.9 | 40.2 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

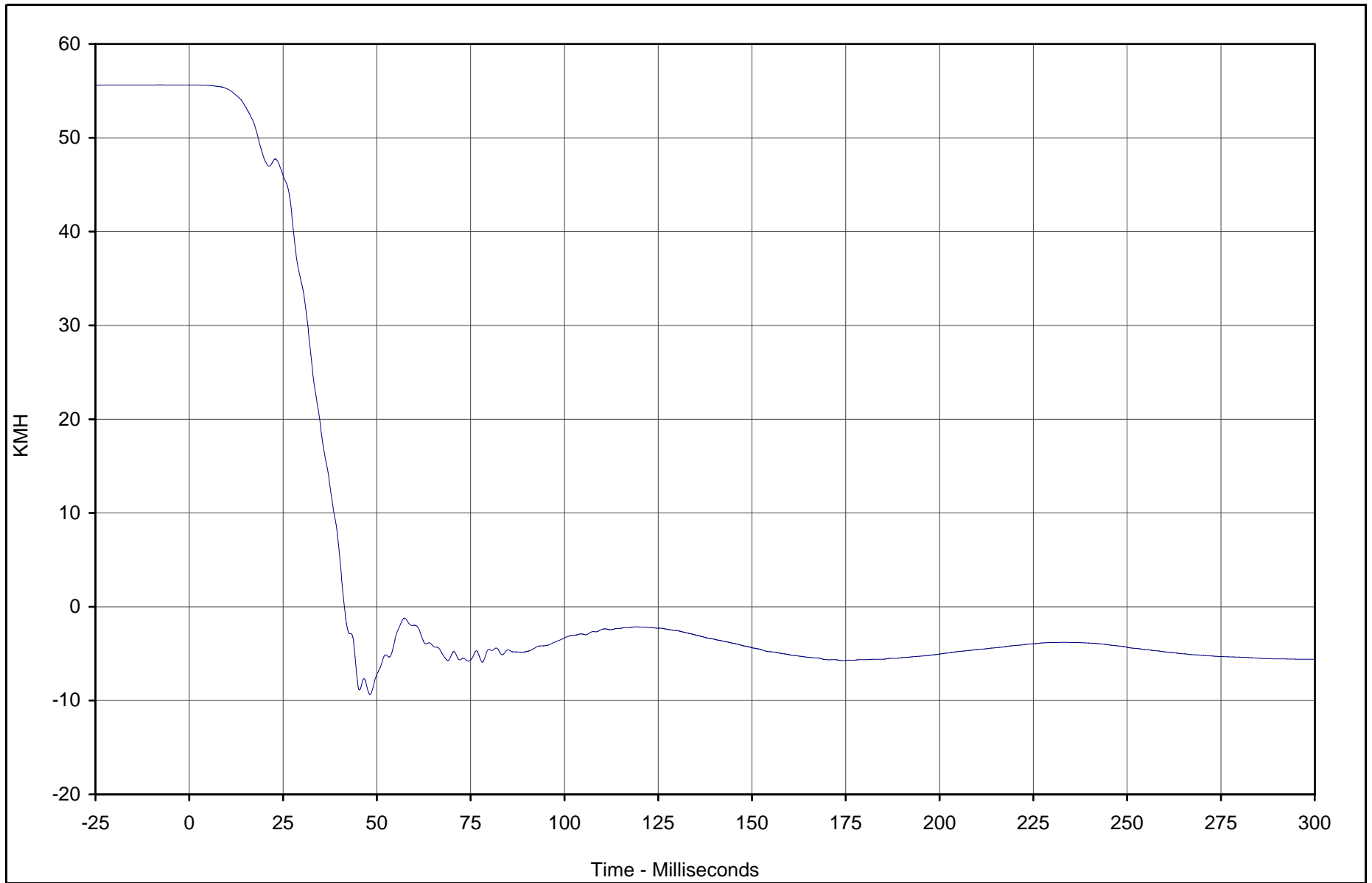
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-130



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|------|------|------|------|-----------|
| Vehicle Engine Top Velocity | 091 | IN1 | KMH | 55.6 | 0.0 | -9.4 | 48.2 | 180 |



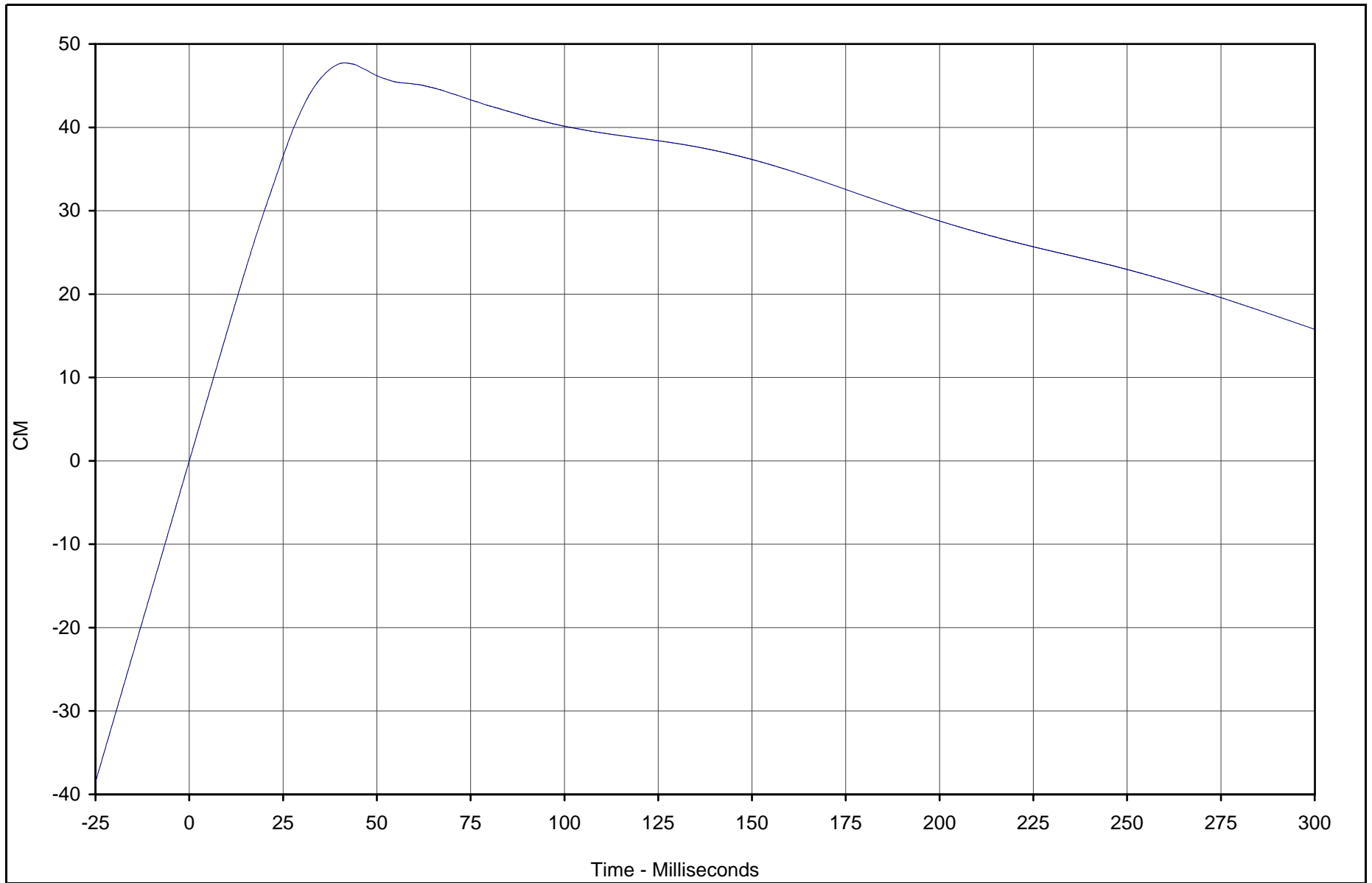
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-131



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Engine Top Displacement | 091 | IN2 | CM | 47.7 | 41.3 | 0.0 | 0.0 | 180 |



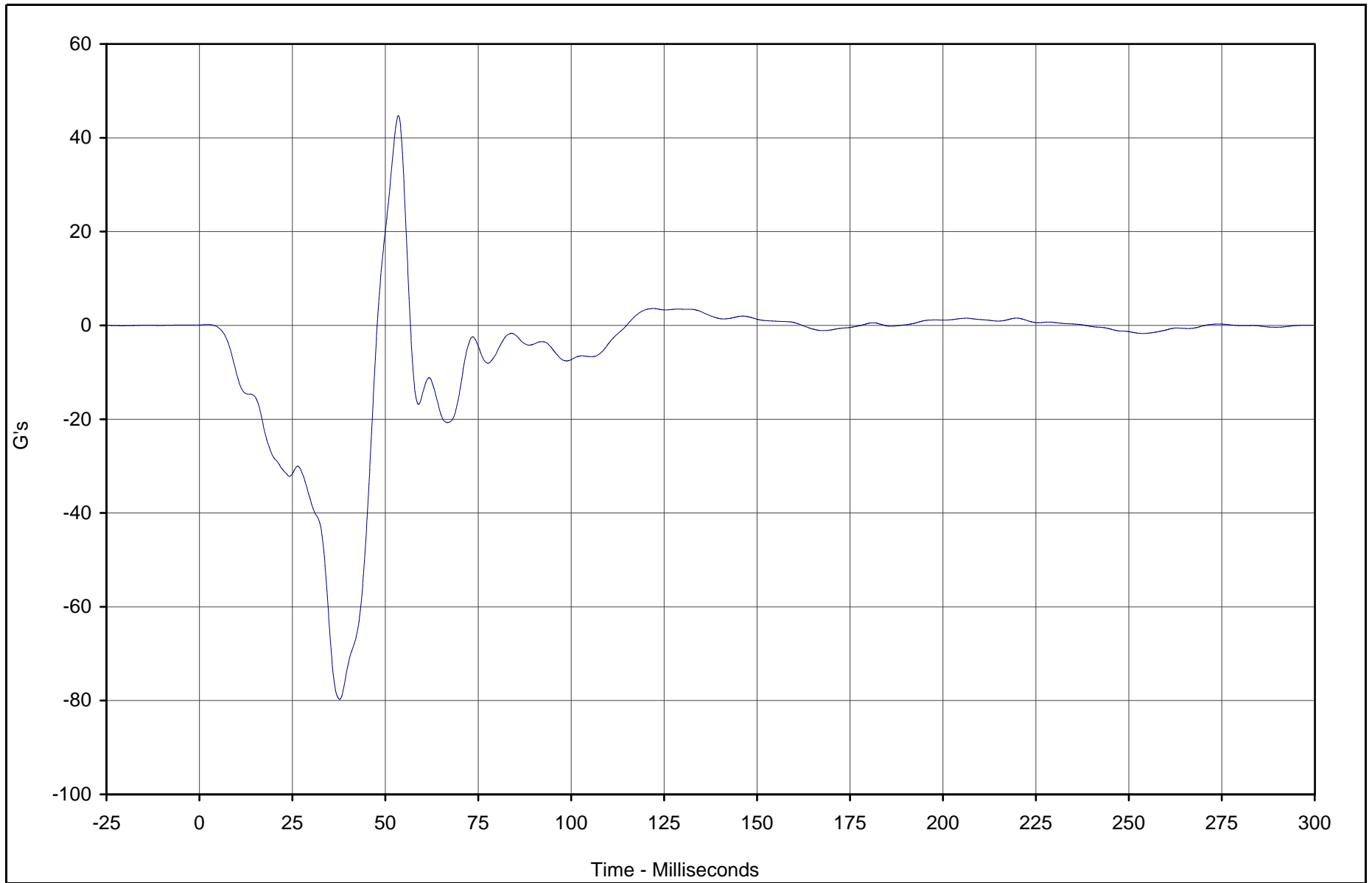
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-132



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|------|------|-------|------|-----------|
| Vehicle Engine Bottom | 092 | FIL | G's | 44.7 | 53.5 | -79.7 | 37.7 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

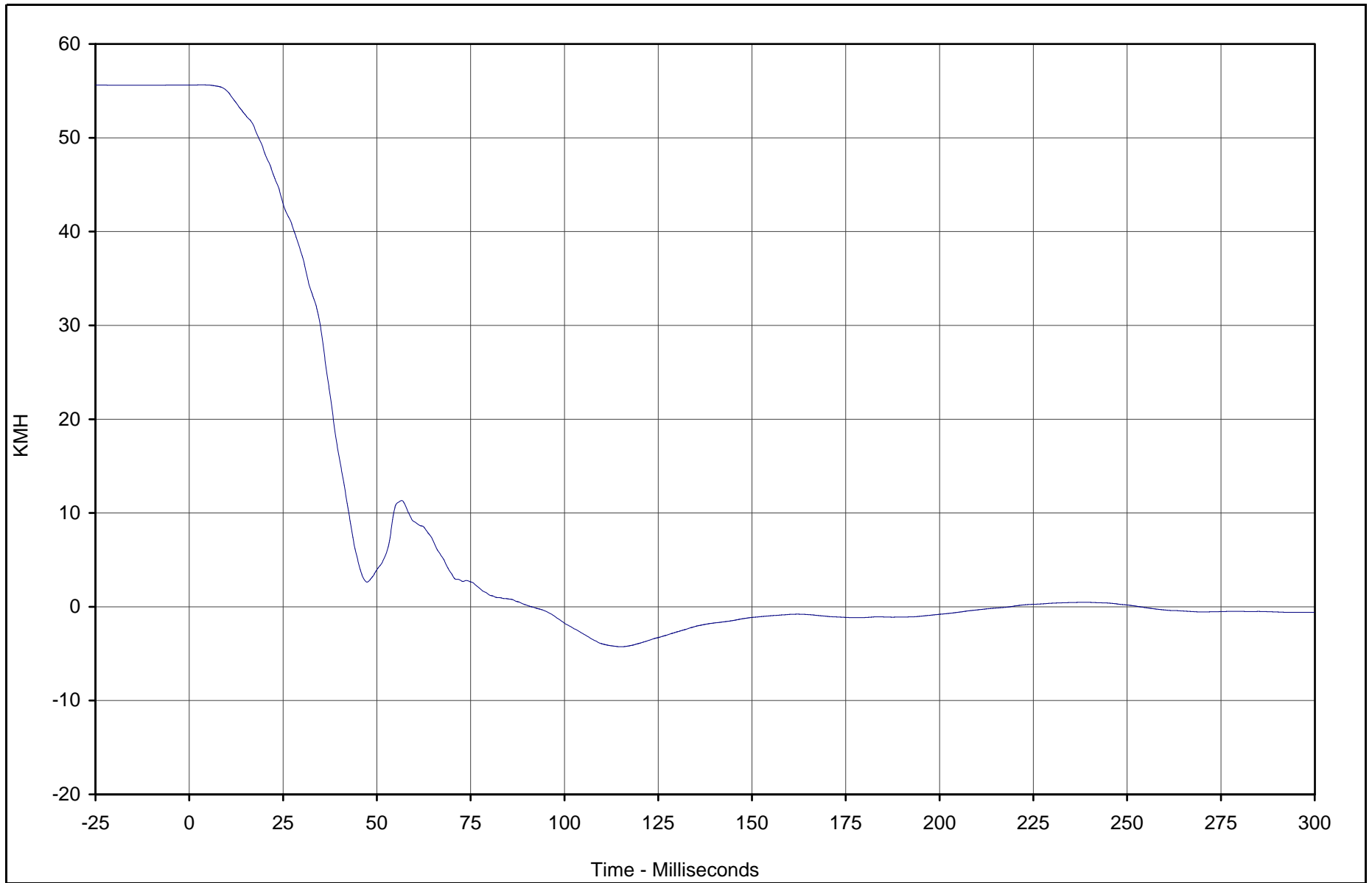
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-133



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------|-------|------|-------|------|------|------|-------|-----------|
| Vehicle Engine Bottom Velocity | 092 | IN1 | KMH | 55.6 | 3.3 | -4.3 | 114.9 | 180 |



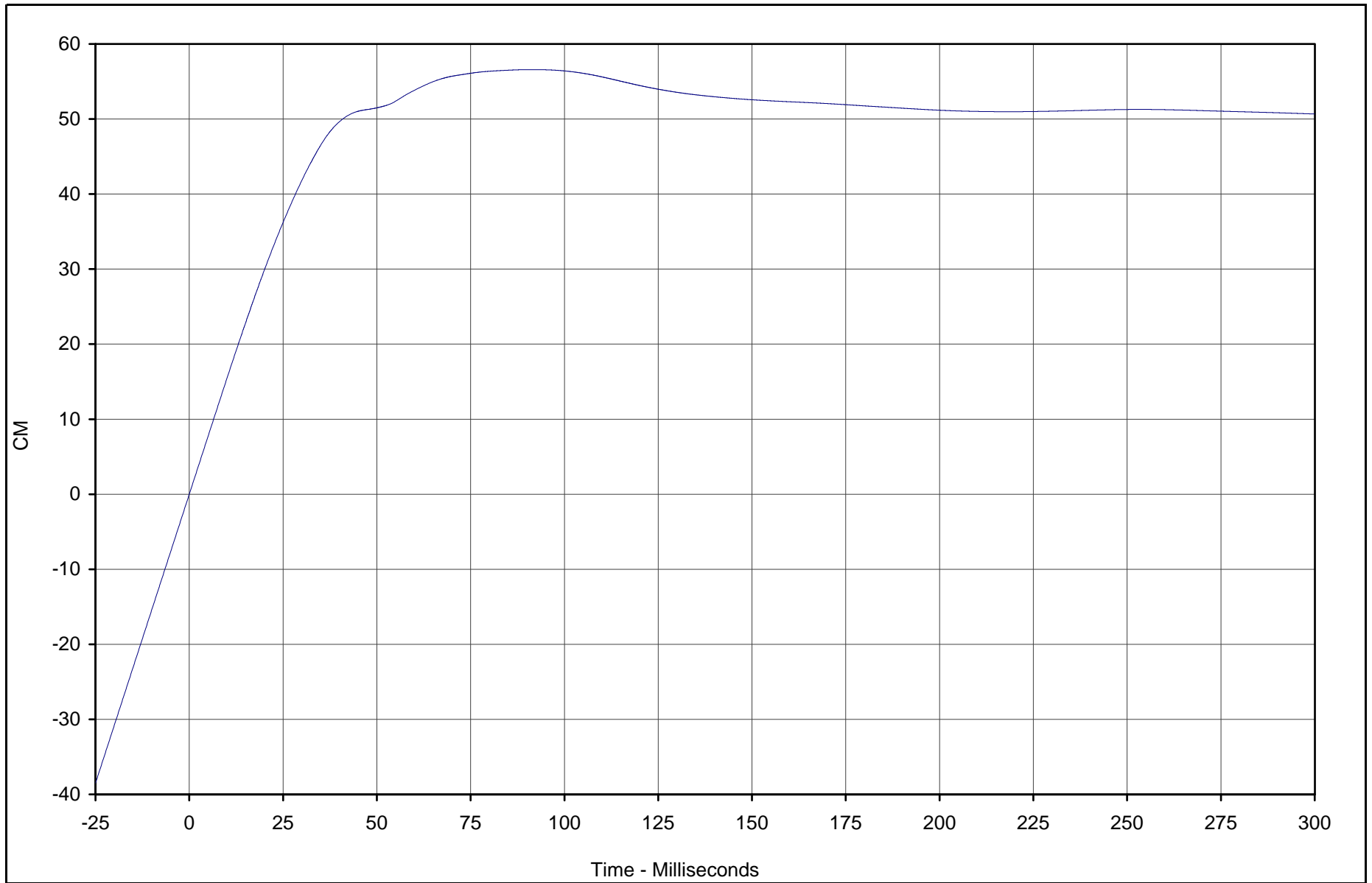
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-134



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Engine Bottom Displacement | 092 | IN2 | CM | 56.6 | 91.2 | 0.0 | 0.0 | 180 |



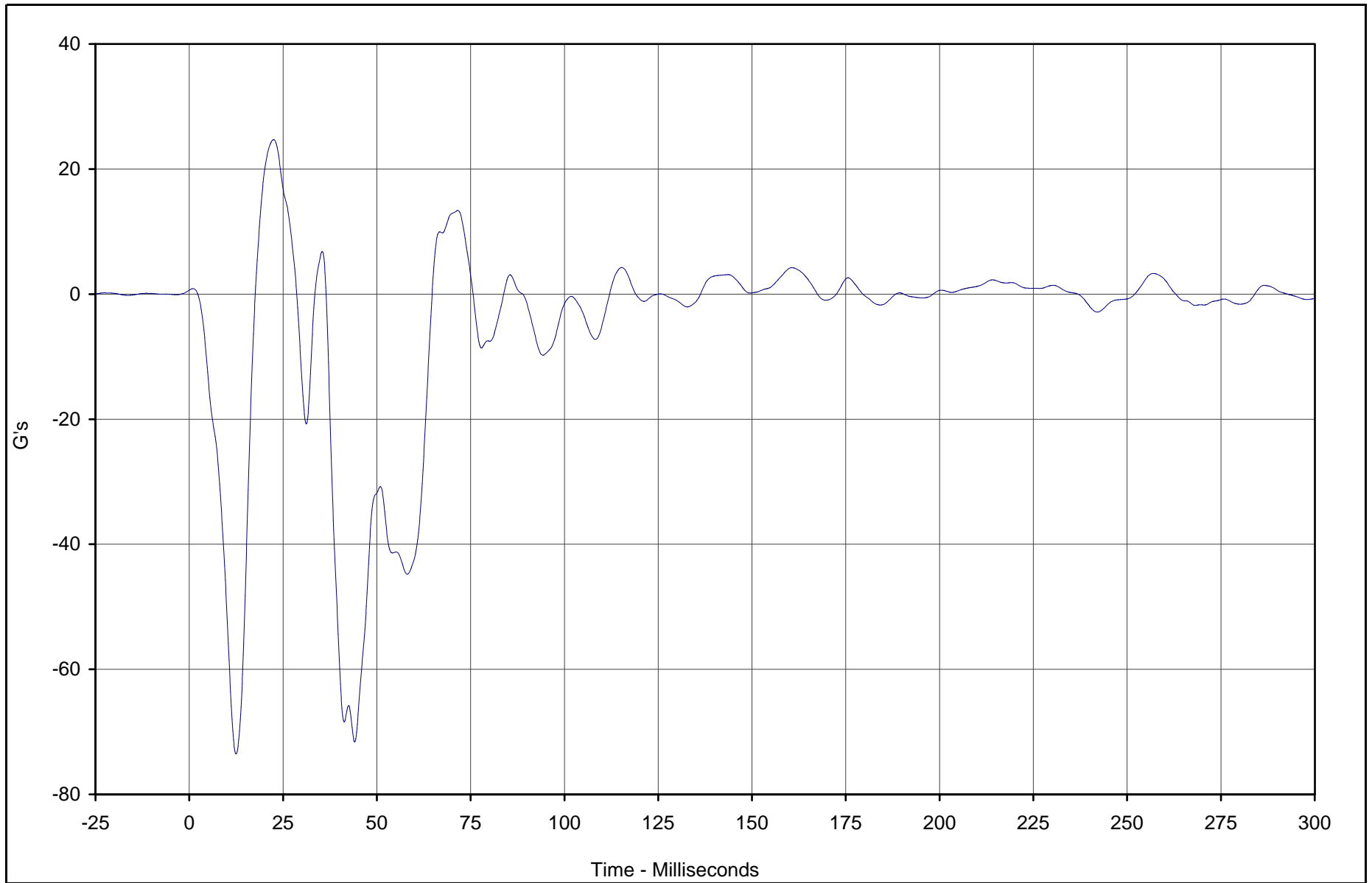
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-135



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|------|------|-------|------|-----------|
| Vehicle Left Brake Caliper | 093 | FIL | G's | 24.7 | 22.5 | -73.5 | 12.5 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

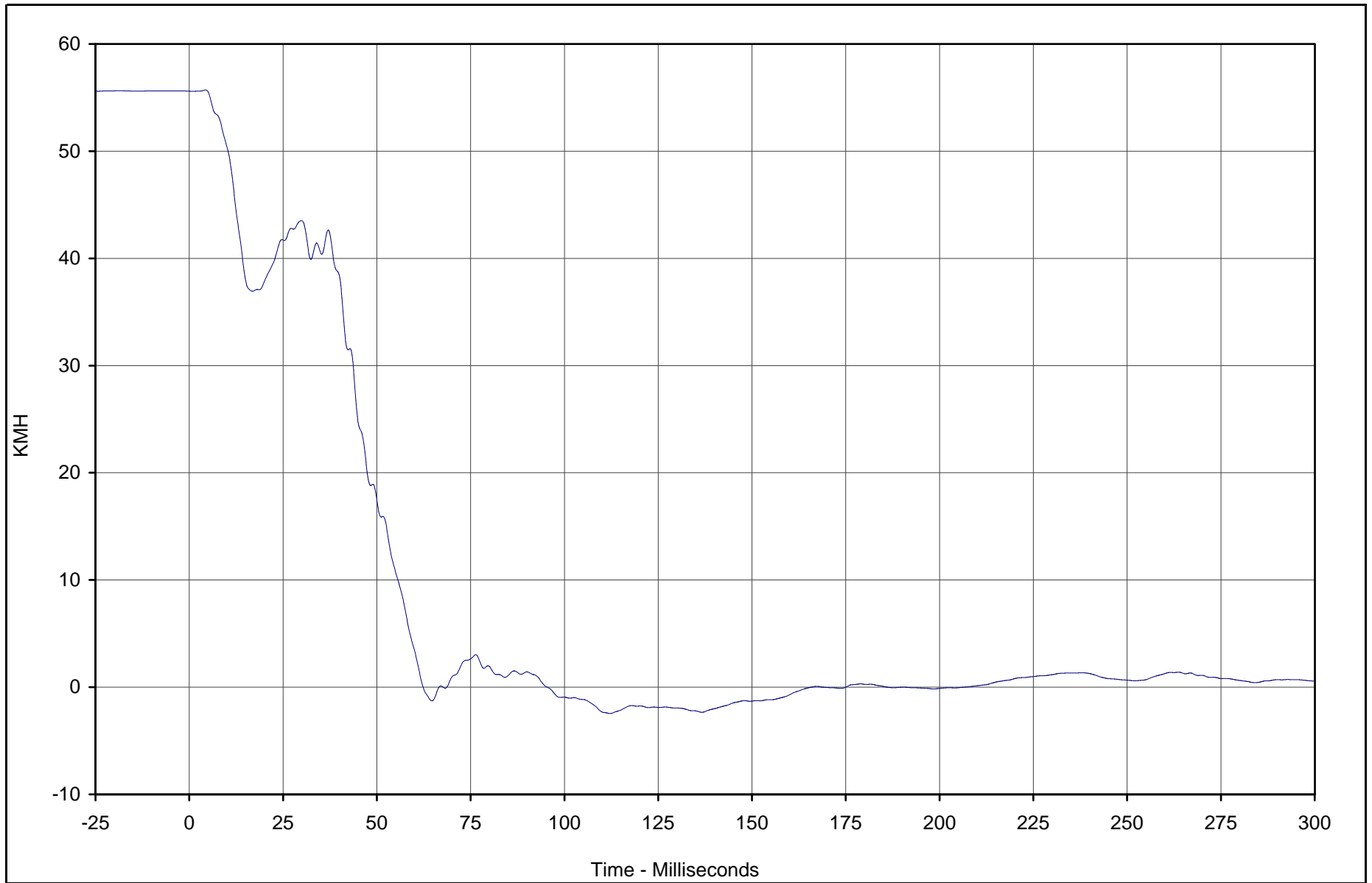
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-136



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------------|-------|------|-------|------|------|------|-------|-----------|
| Vehicle Left Brake Caliper Velocity | 093 | IN1 | KMH | 55.7 | 4.4 | -2.5 | 112.2 | 180 |



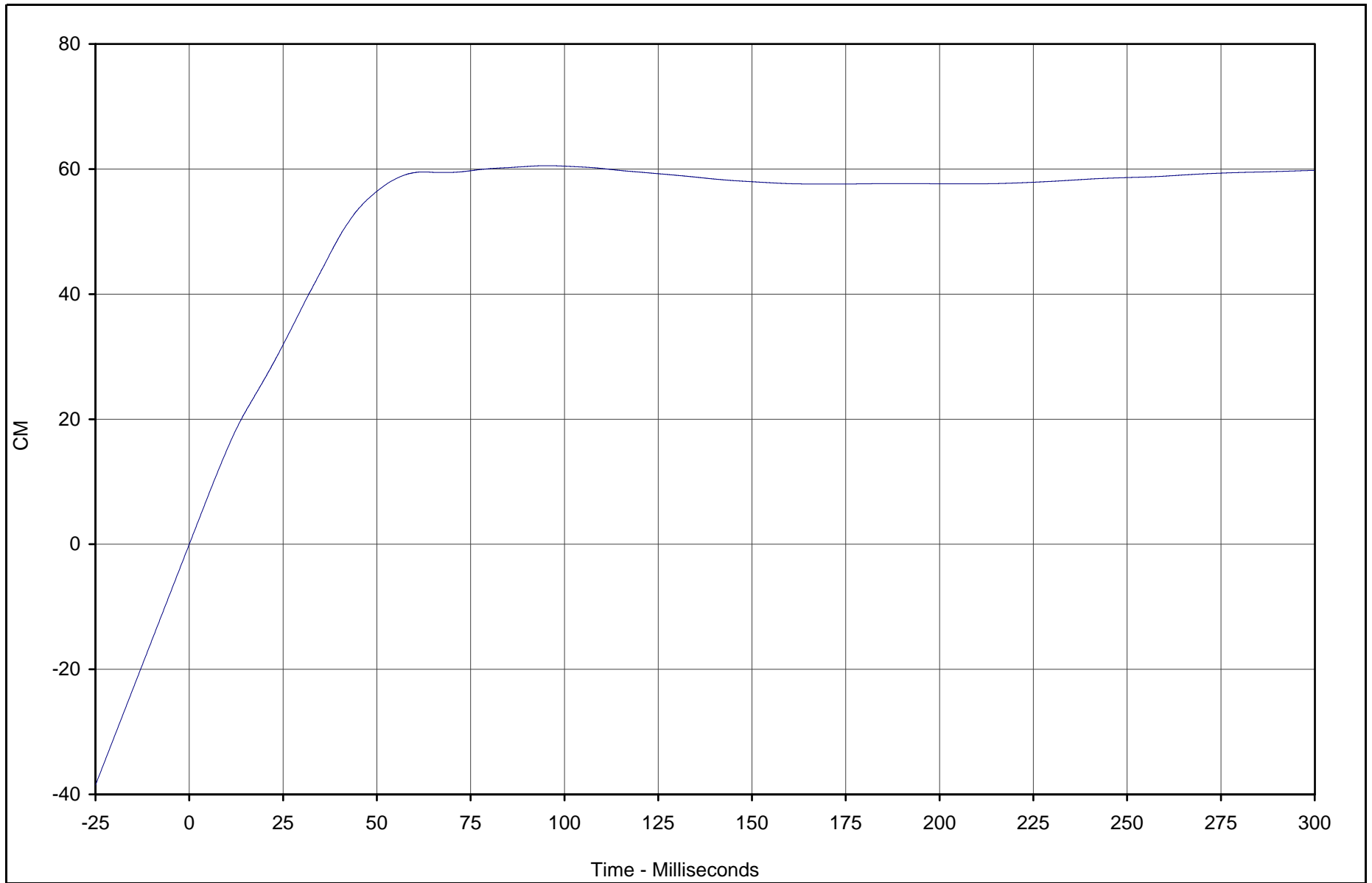
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-137



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Left Brake Caliper Displ. | 093 | IN2 | CM | 60.5 | 95.4 | 0.0 | 0.0 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

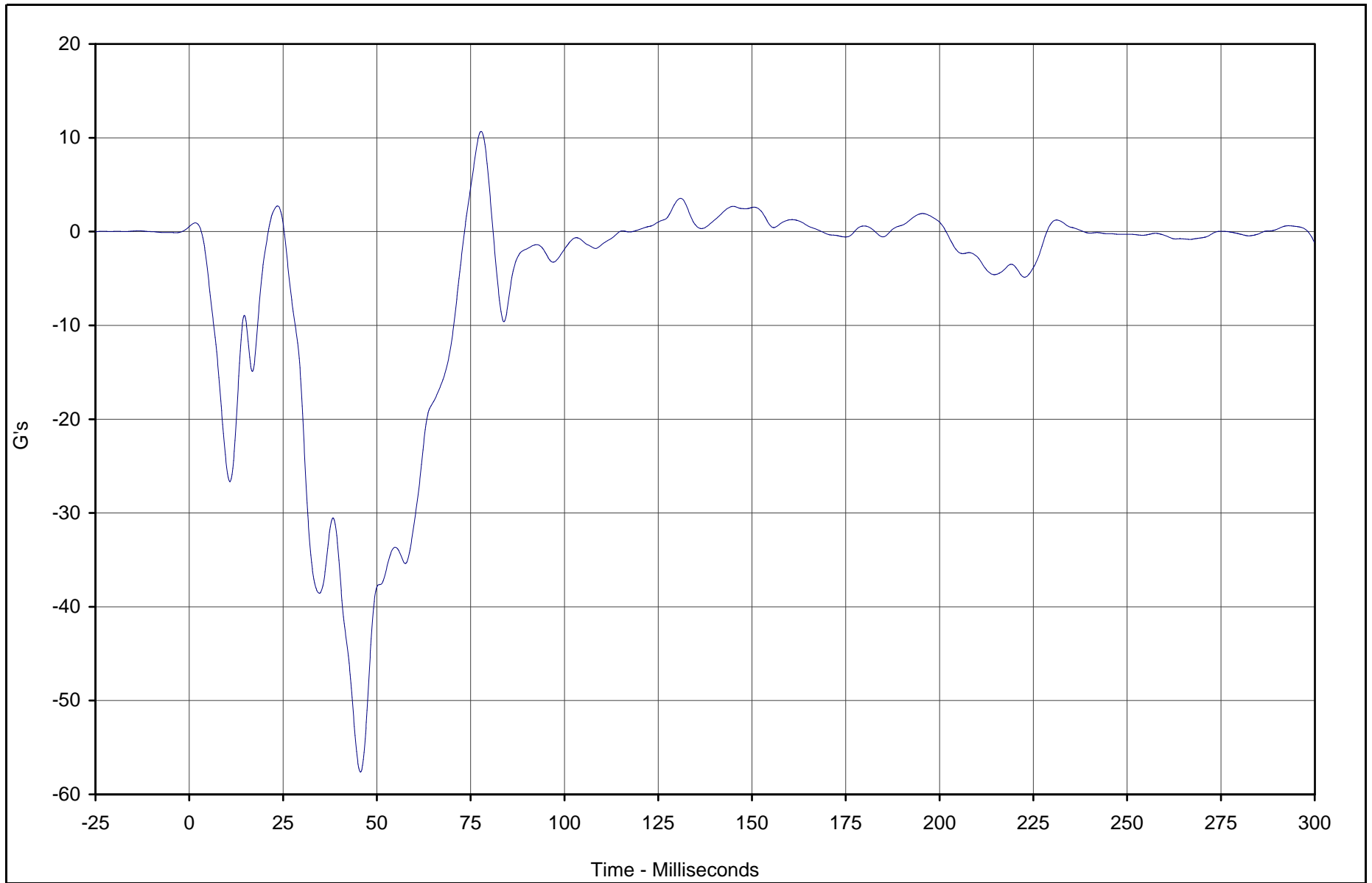
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-138



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|------|------|-------|------|-----------|
| Vehicle Right Brake Caliper | 094 | FIL | G's | 10.7 | 77.8 | -57.6 | 45.6 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

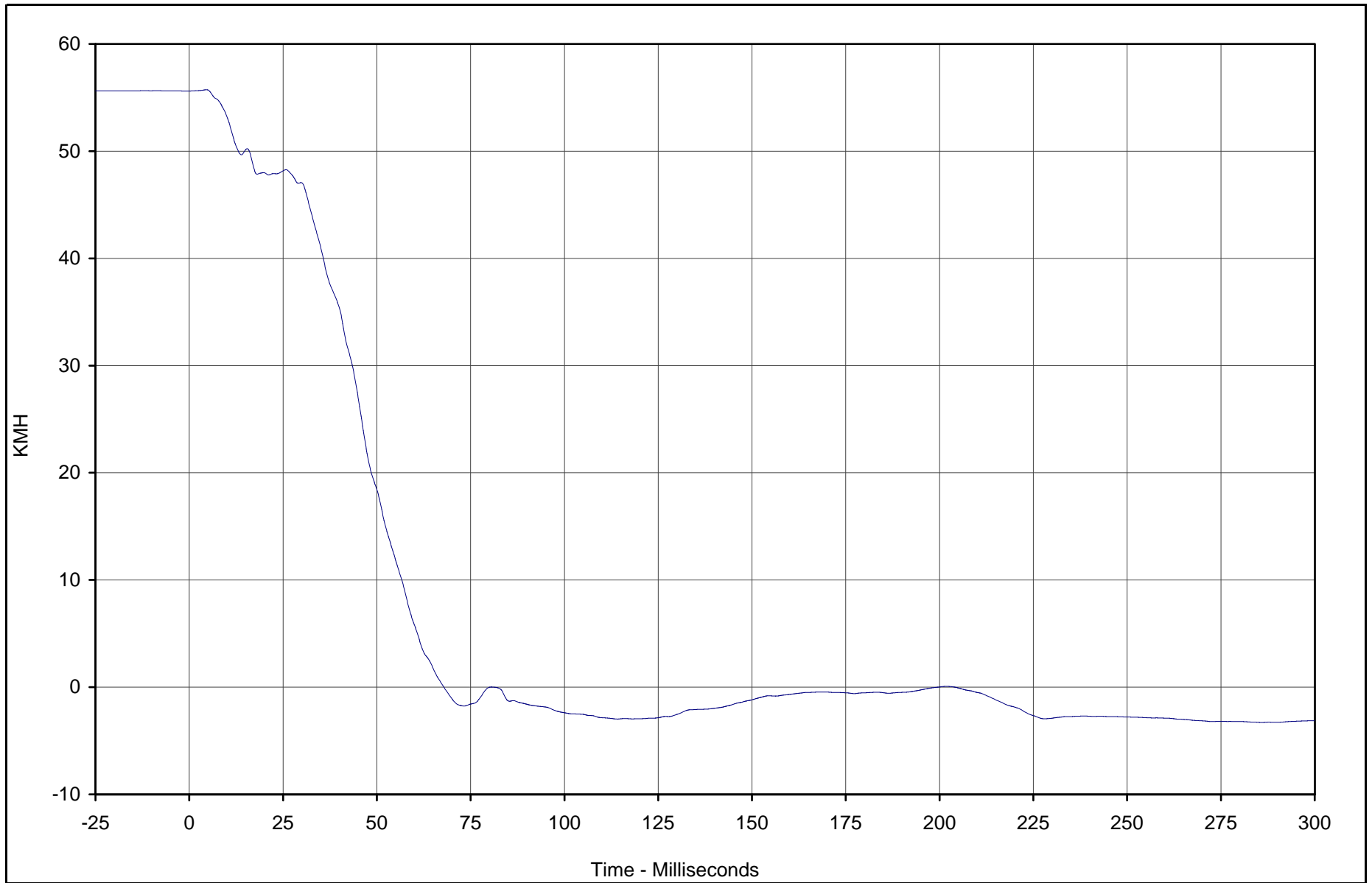
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-139



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------------------|-------|------|-------|------|------|------|-------|-----------|
| Vehicle Right Brake Caliper Velocity | 094 | IN1 | KMH | 55.7 | 4.6 | -3.3 | 285.9 | 180 |



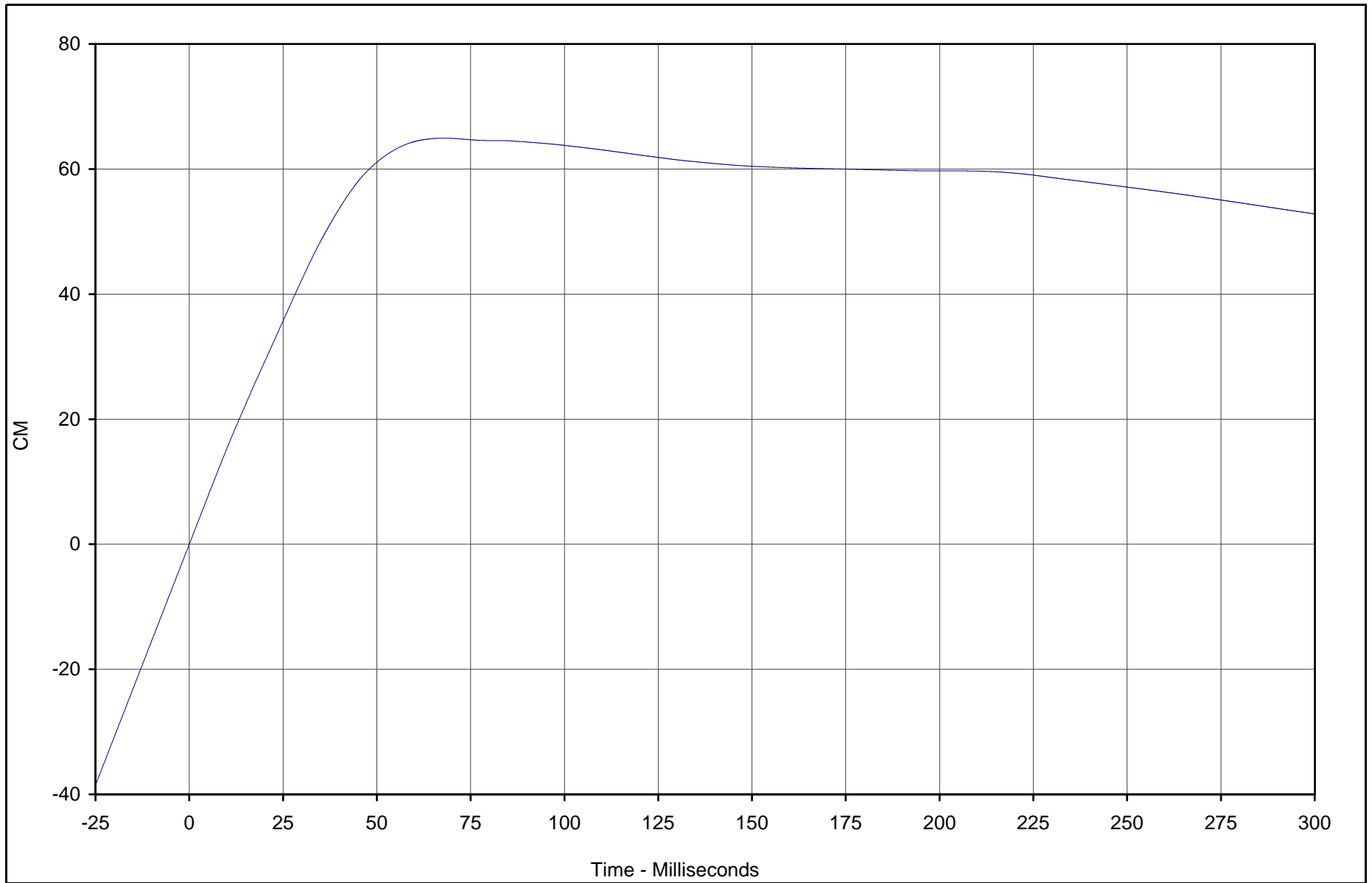
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-140



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Right Brake Caliper Displ. | 094 | IN2 | CM | 64.9 | 67.9 | 0.0 | 0.0 | 180 |



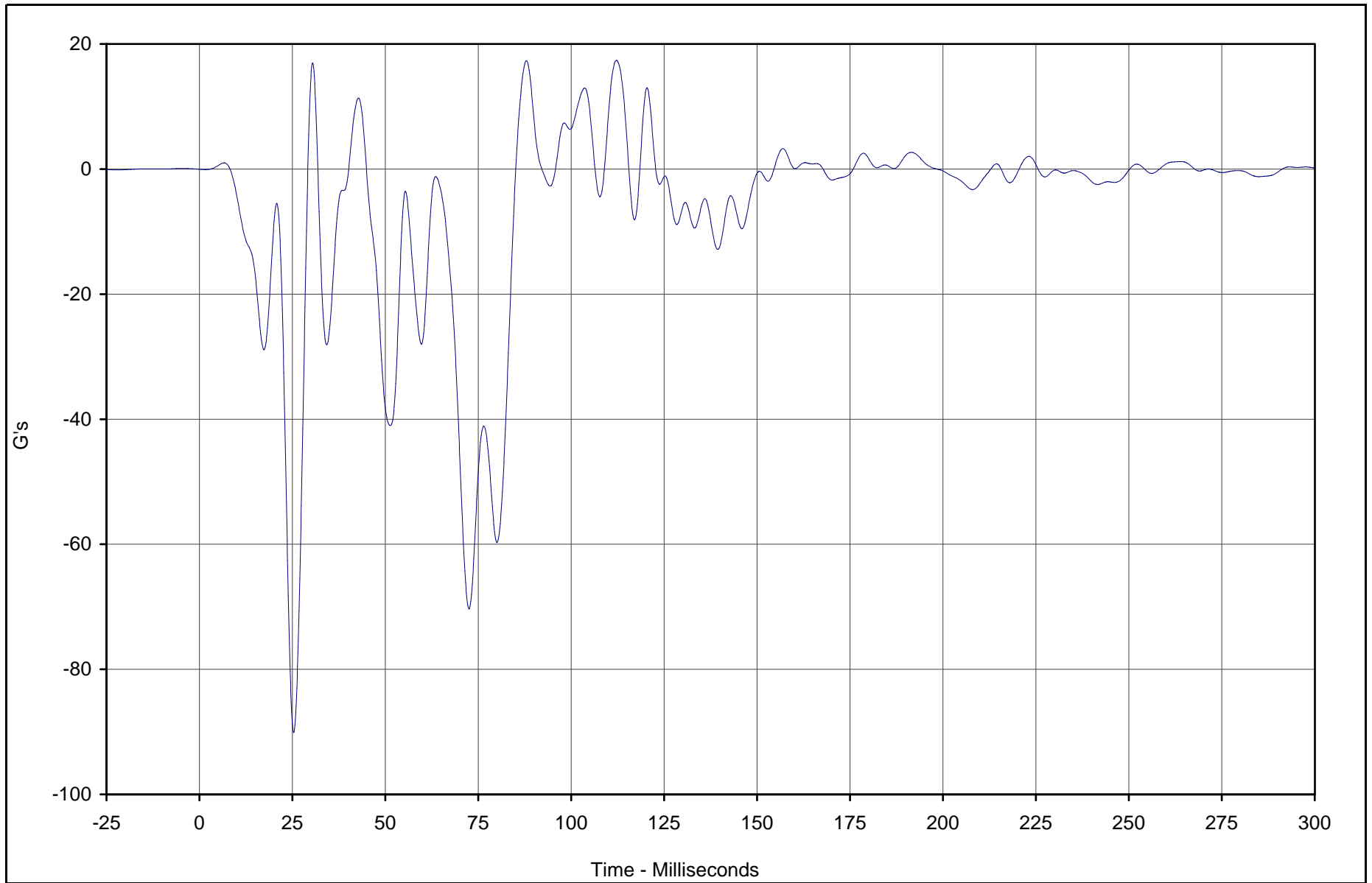
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-141



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Vehicle Instrument Panel | 095 | FIL | G's | 17.4 | 112.2 | -90.1 | 25.4 | 60 |



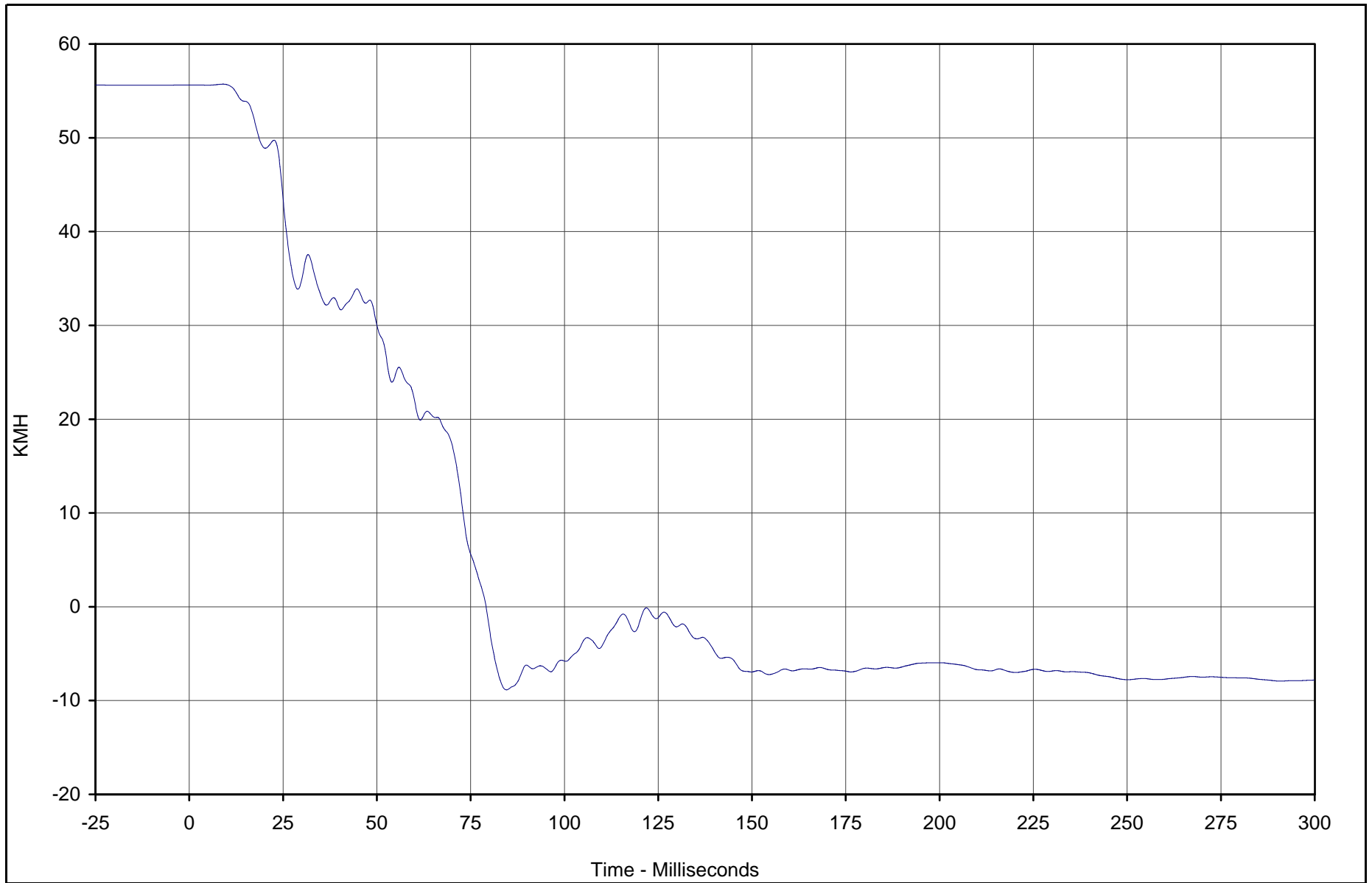
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-142



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------------|-------|------|-------|------|------|------|------|-----------|
| Vehicle Instrument Panel Velocity | 095 | IN1 | KMH | 55.7 | 9.0 | -8.9 | 84.6 | 180 |



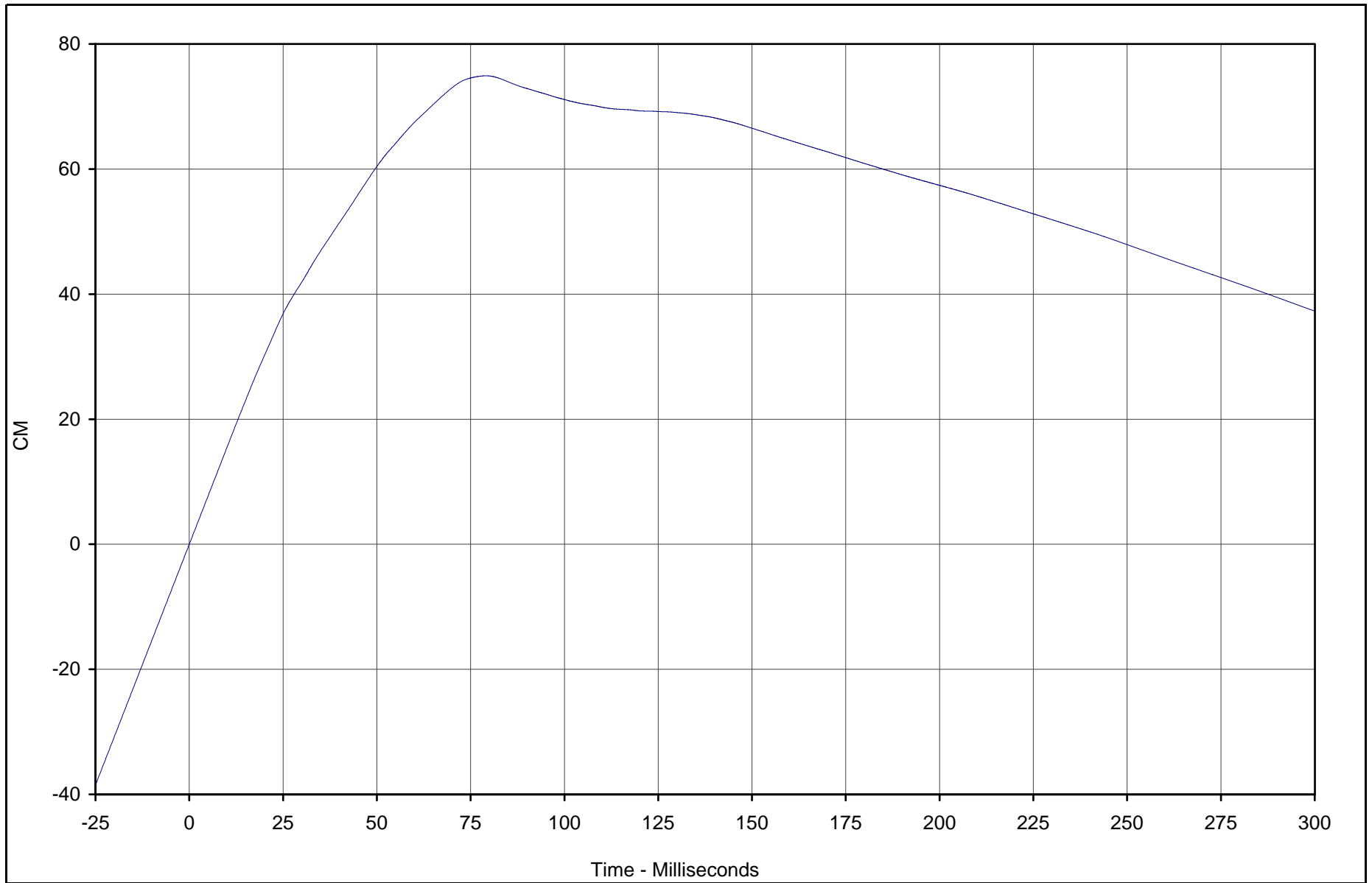
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-143



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------------------|-------|------|-------|------|------|-----|------|-----------|
| Vehicle Instrument Panel Displacement | 095 | IN2 | CM | 74.9 | 79.1 | 0.0 | 0.0 | 180 |



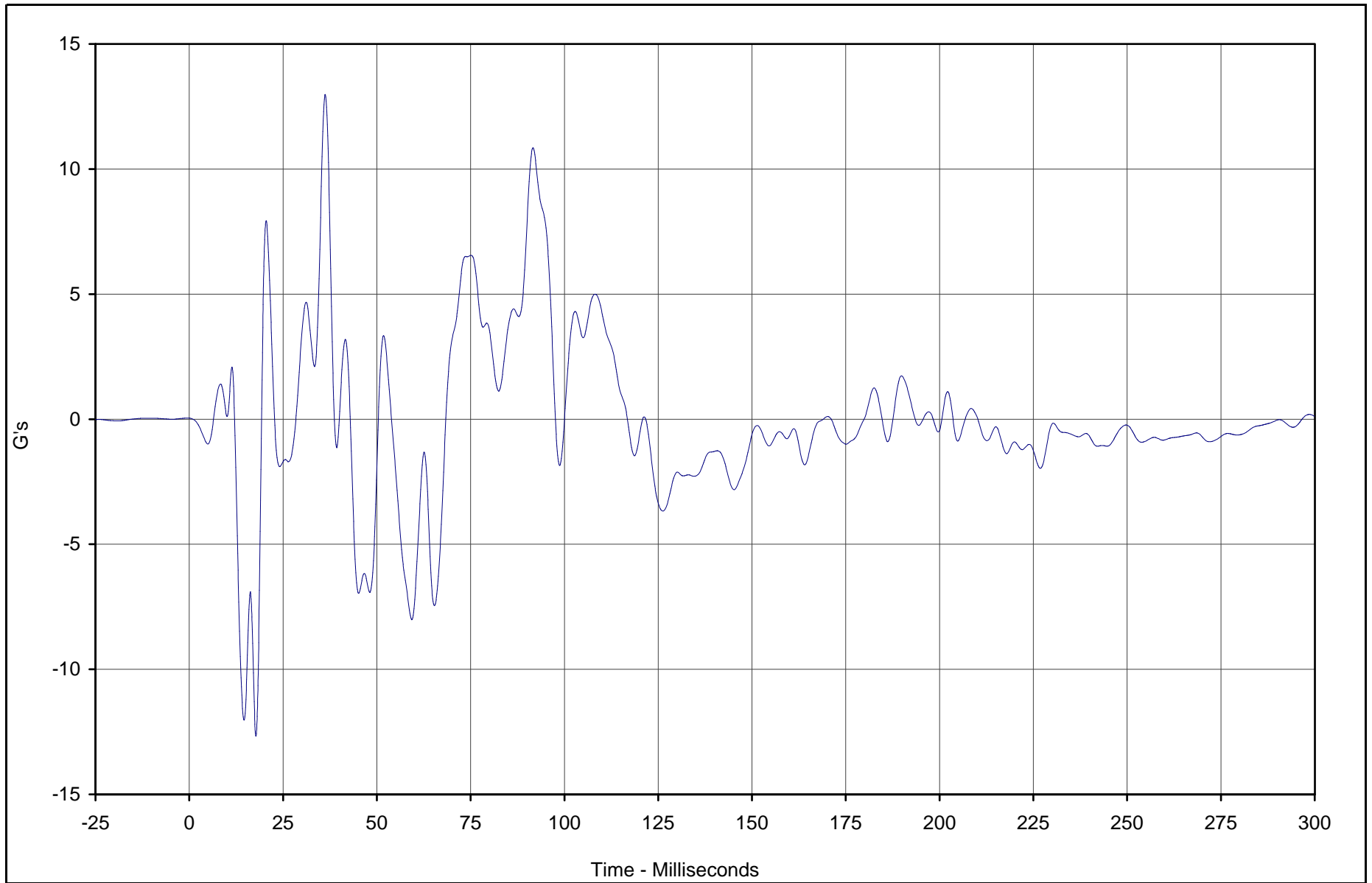
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-144



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------|-------|------|-------|------|------|-------|------|-----------|
| Vehicle Left Rear Z | 096 | FIL | G's | 13.0 | 36.2 | -12.7 | 17.8 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

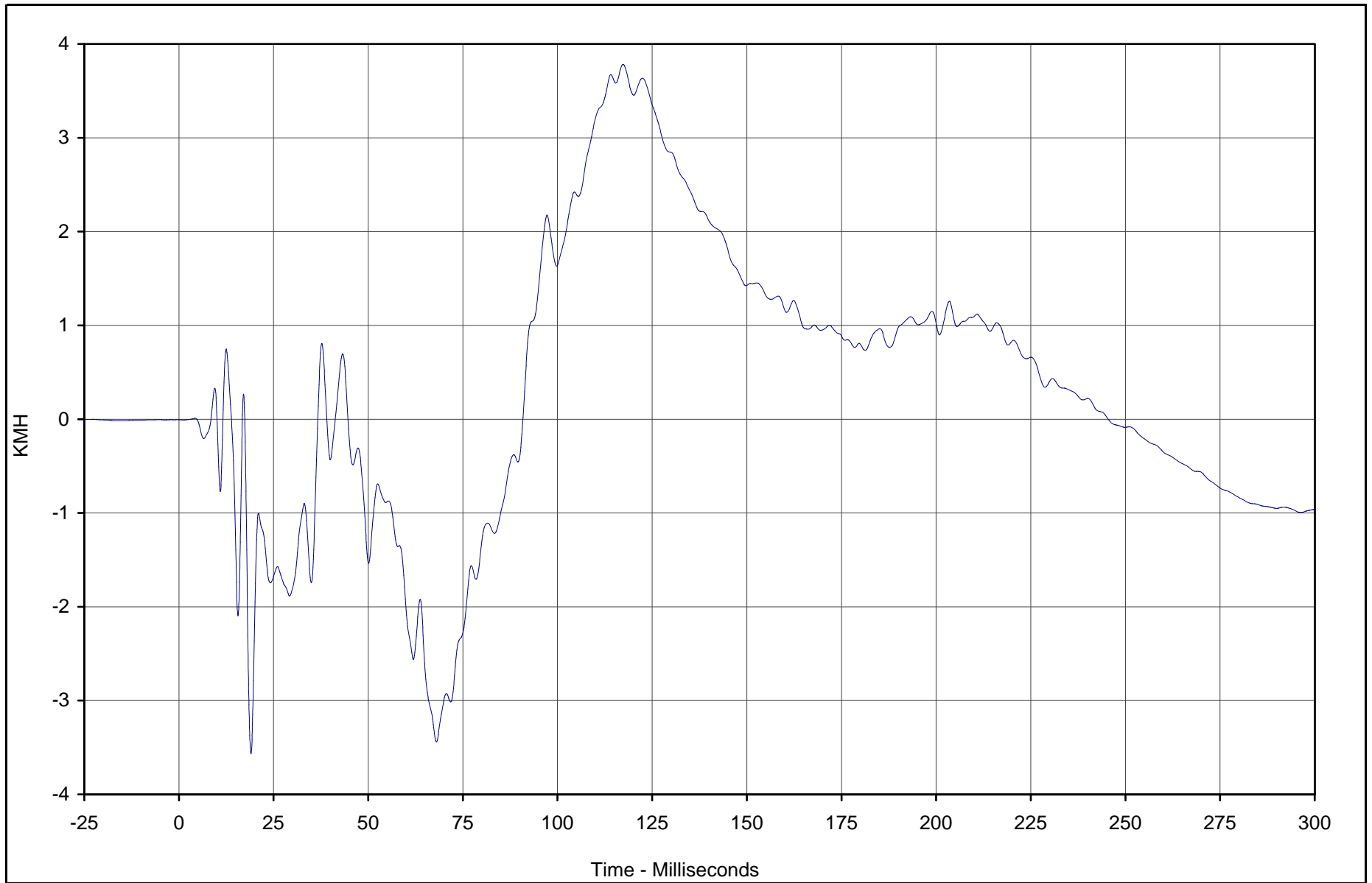
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-145



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|------------------------------|-------|------|-------|-----|-------|------|------|-----------|
| Vehicle Left Rear Z Velocity | 096 | IN1 | KMH | 3.8 | 117.3 | -3.6 | 19.0 | 180 |



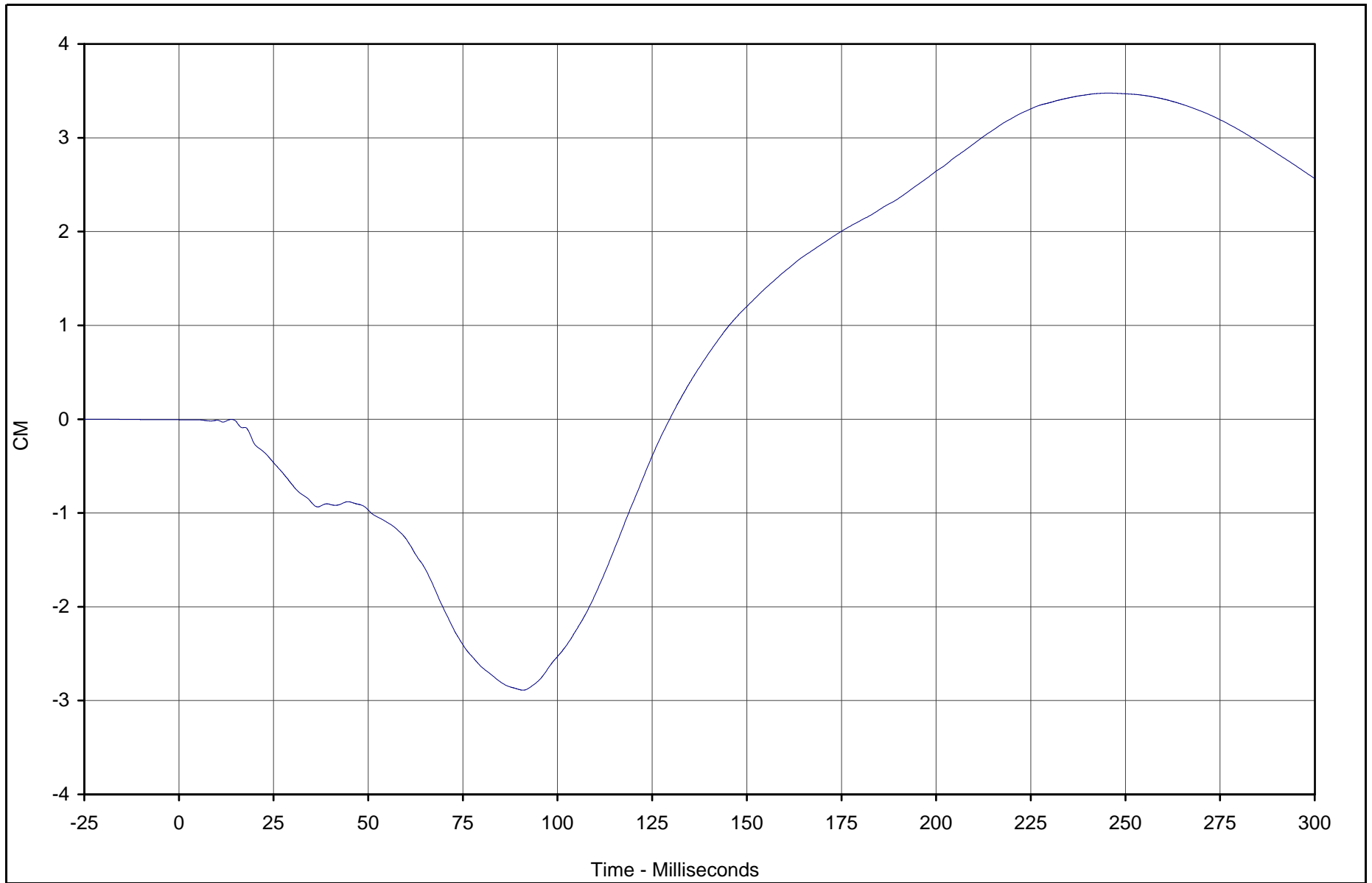
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-146



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------------|-------|------|-------|-----|-------|------|------|-----------|
| Vehicle Left Rear Z Displ. | 096 | IN2 | CM | 3.5 | 245.4 | -2.9 | 90.9 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

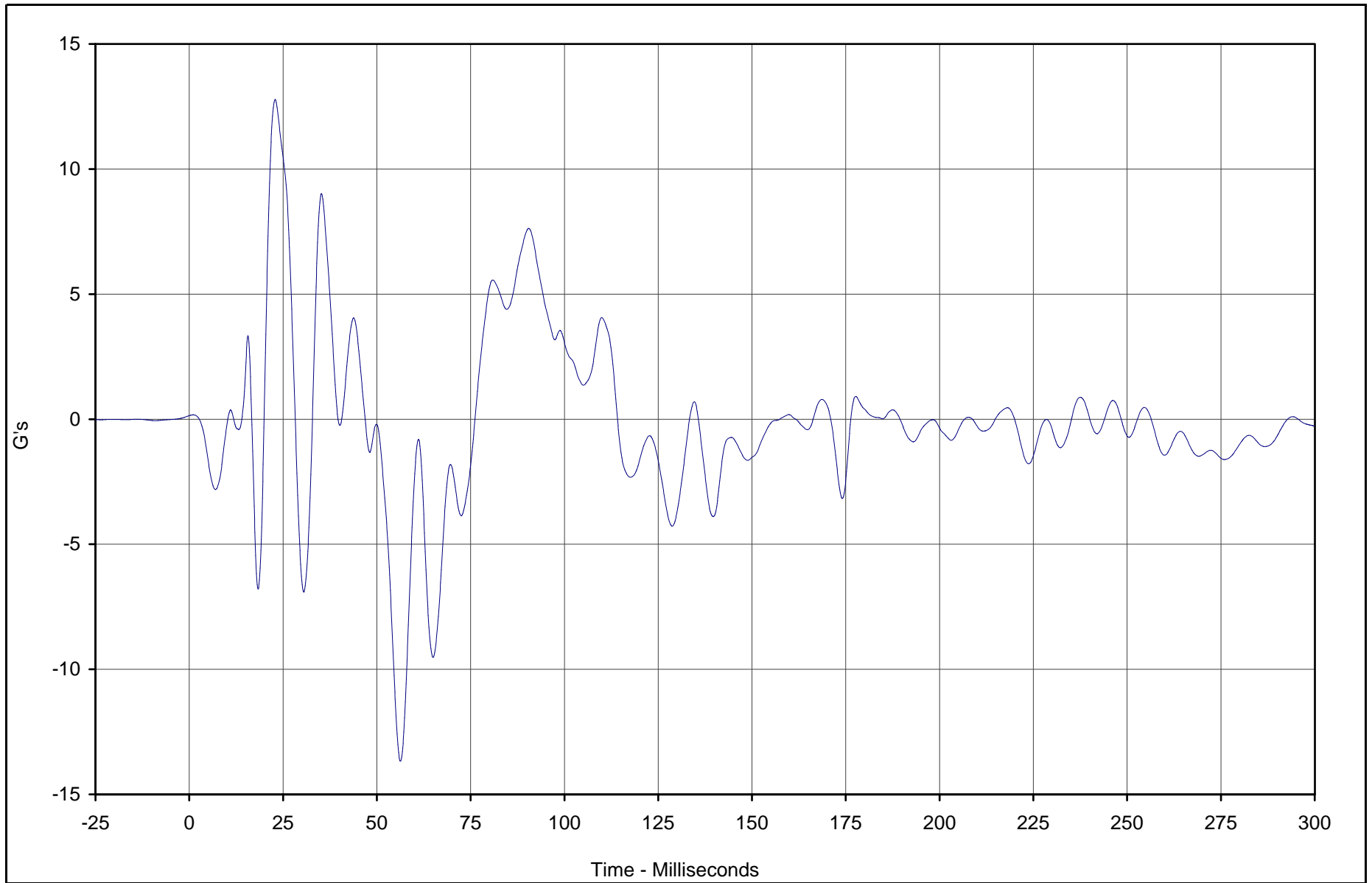
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-147



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|----------------------|-------|------|-------|------|------|-------|------|-----------|
| Vehicle Right Rear Z | 097 | FIL | G's | 12.8 | 22.9 | -13.7 | 56.3 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

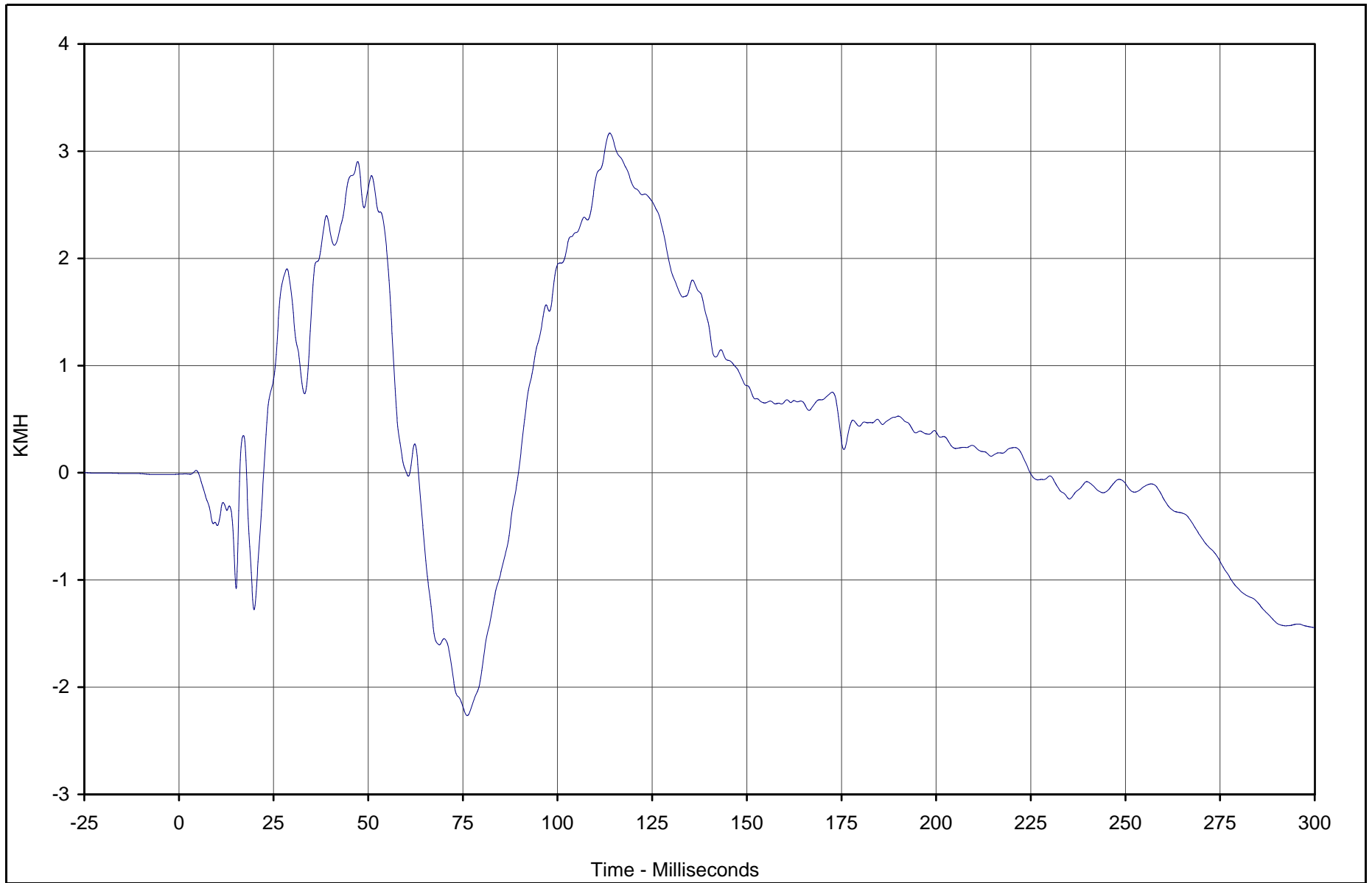
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

B-148



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------------|-------|------|-------|-----|-------|------|------|-----------|
| Vehicle Right Rear Z Velocity | 097 | IN1 | KMH | 3.2 | 113.8 | -2.3 | 76.1 | 180 |



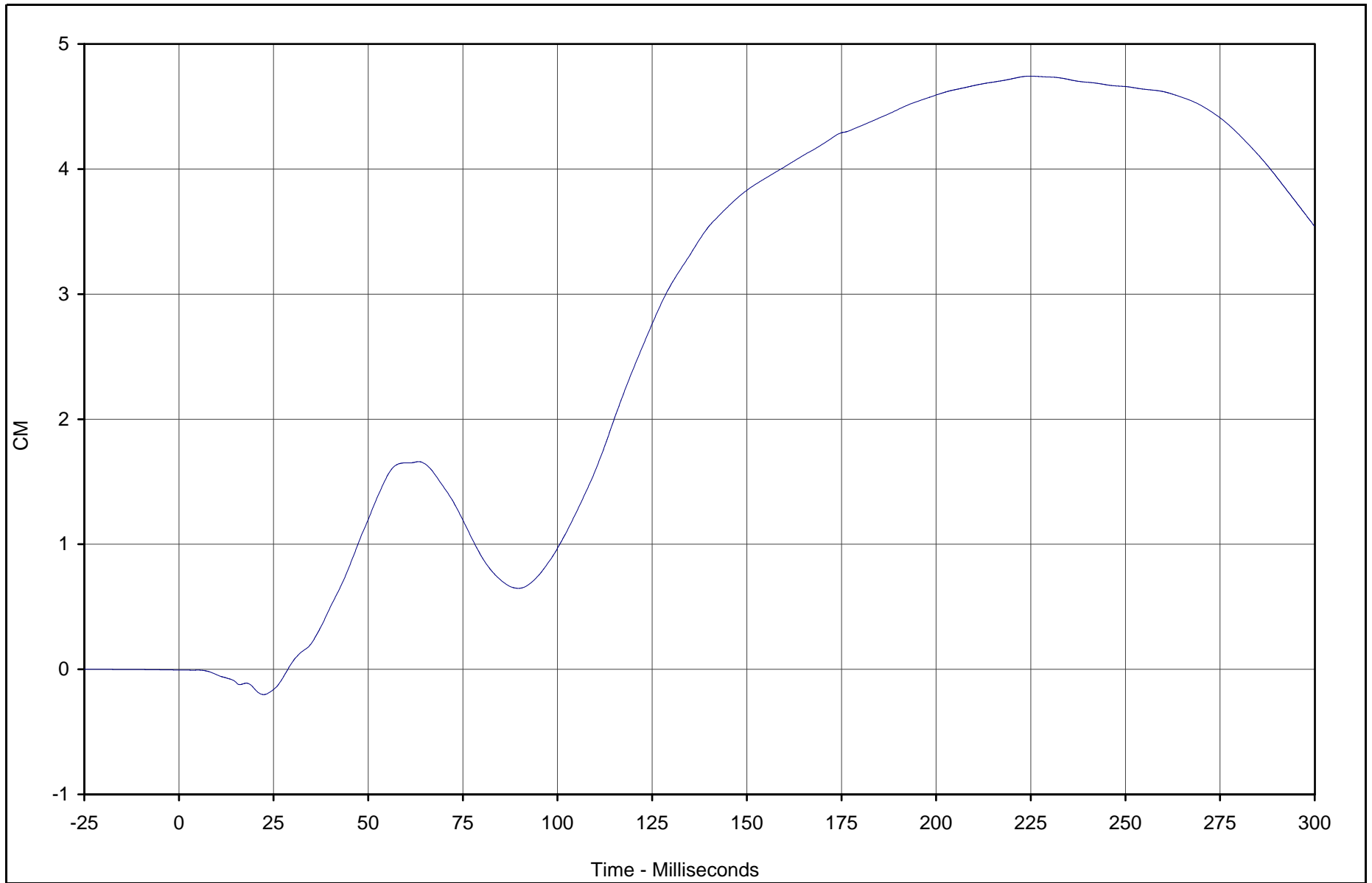
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

B-149



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------------|-------|------|-------|-----|-------|------|------|-----------|
| Vehicle Right Rear Z Displ. | 097 | IN2 | CM | 4.7 | 224.8 | -0.2 | 22.4 | 180 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

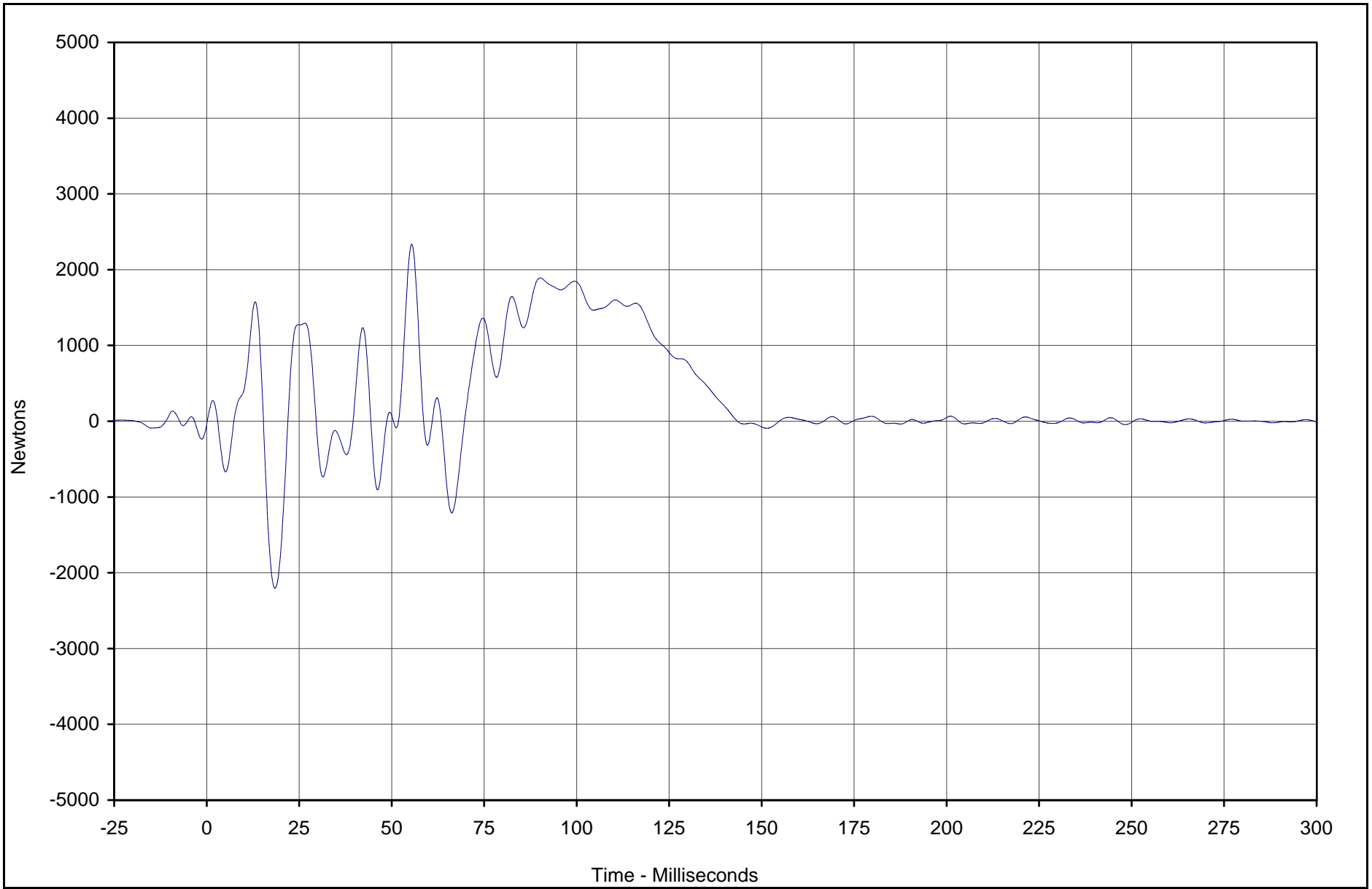
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

APPENDIX C

LOAD CELL BARRIER DATA PLOTS

C-1



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A2 | 099 | FIL | Newtons | 2336.6 | 55.4 | -2206.1 | 18.5 | 60 |



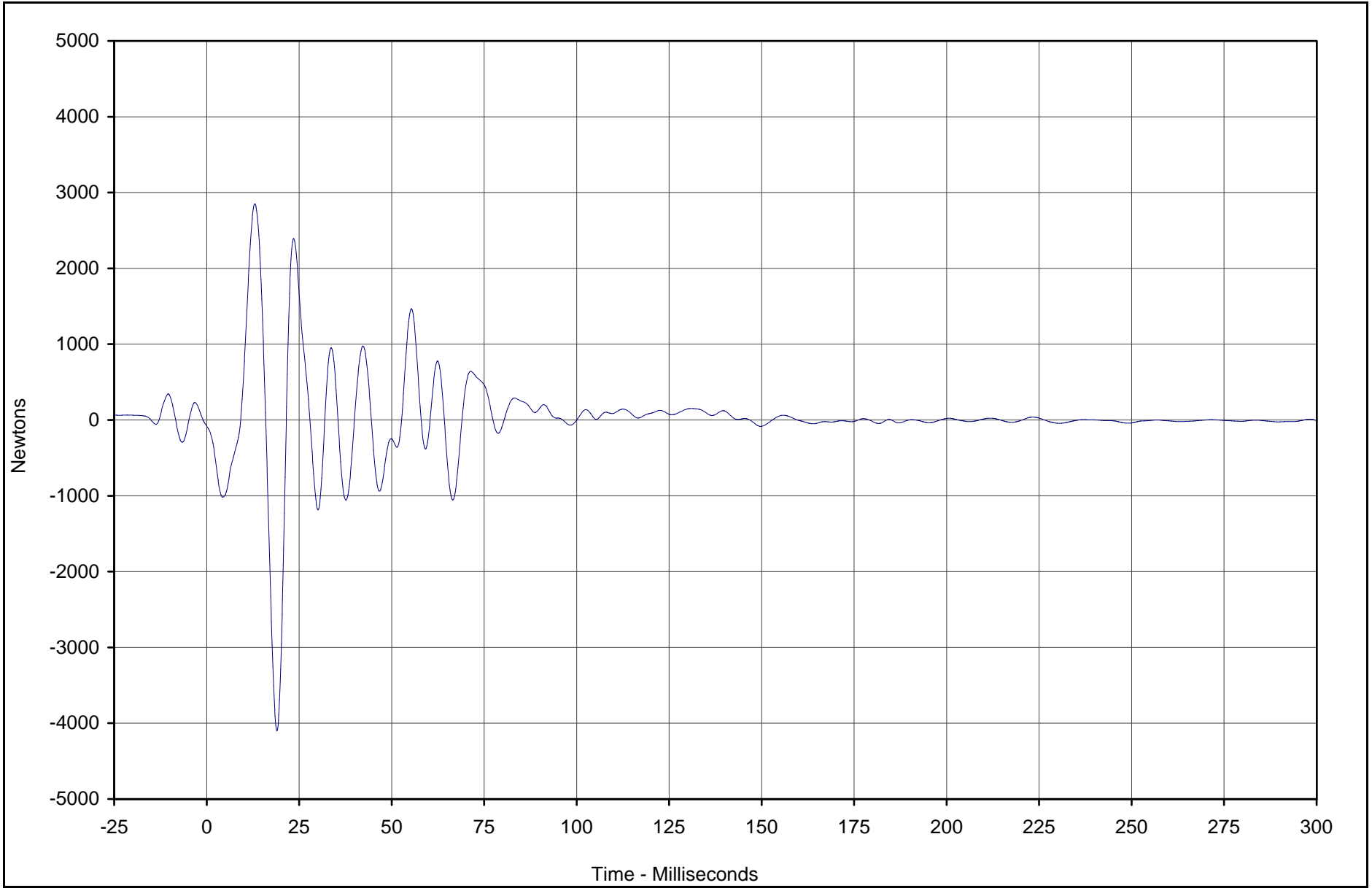
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-2



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A3 | 100 | FIL | Newtons | 2852.2 | 13.0 | -4101.0 | 19.0 | 60 |



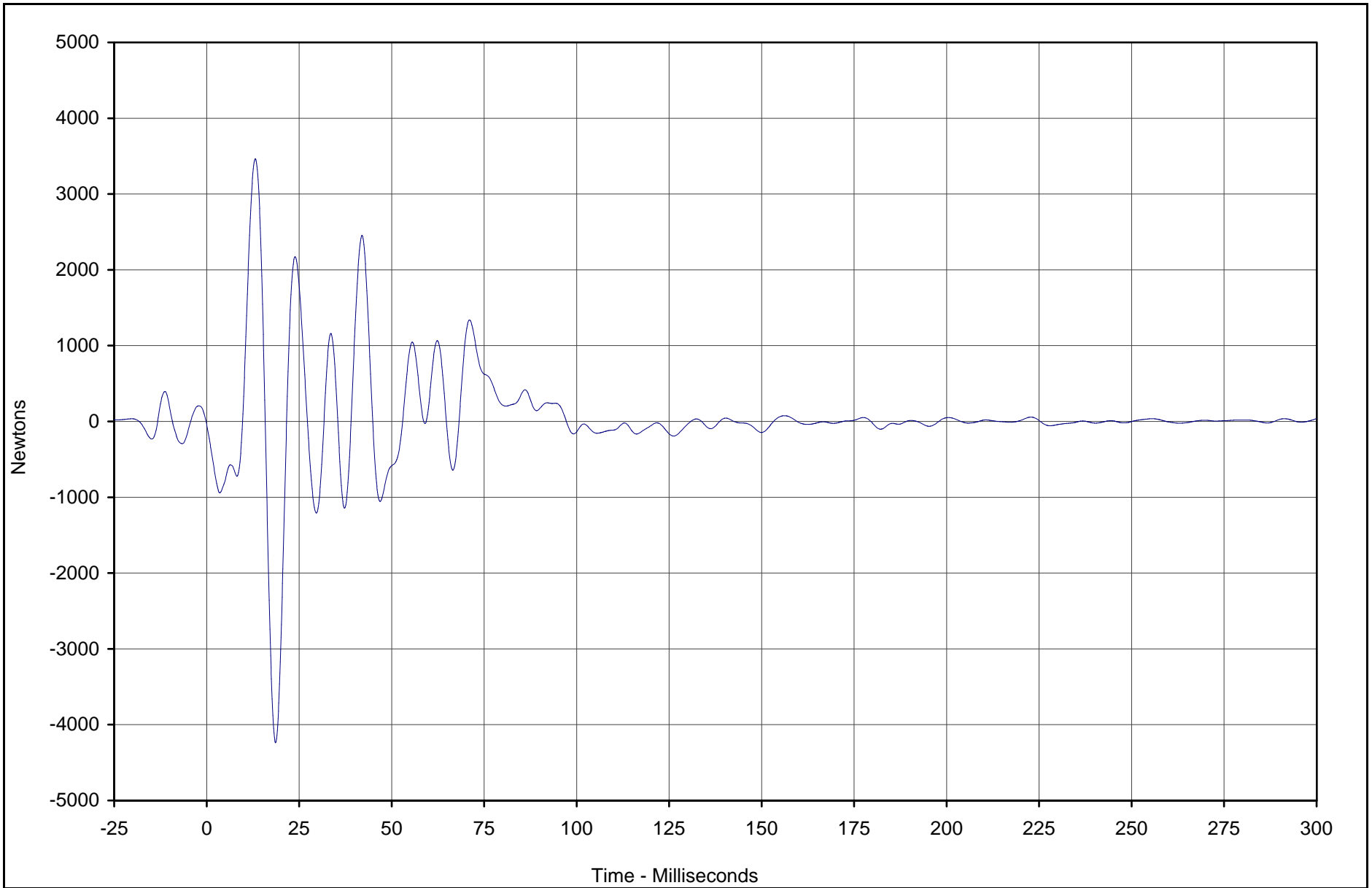
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-3



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A4 | 101 | FIL | Newtons | 3464.0 | 13.1 | -4238.0 | 18.6 | 60 |



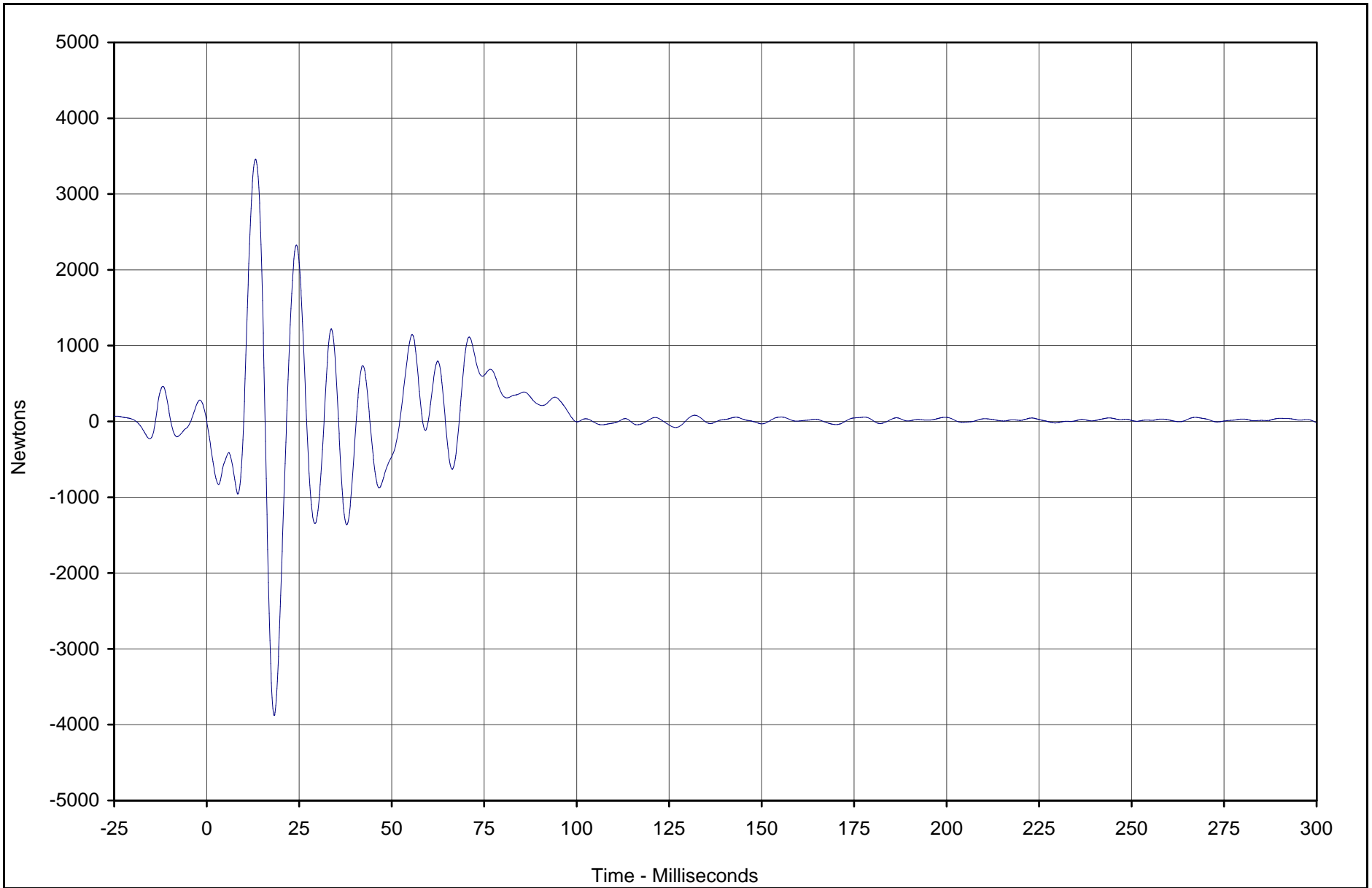
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-4



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A5 | 102 | FIL | Newtons | 3460.1 | 13.2 | -3878.0 | 18.3 | 60 |



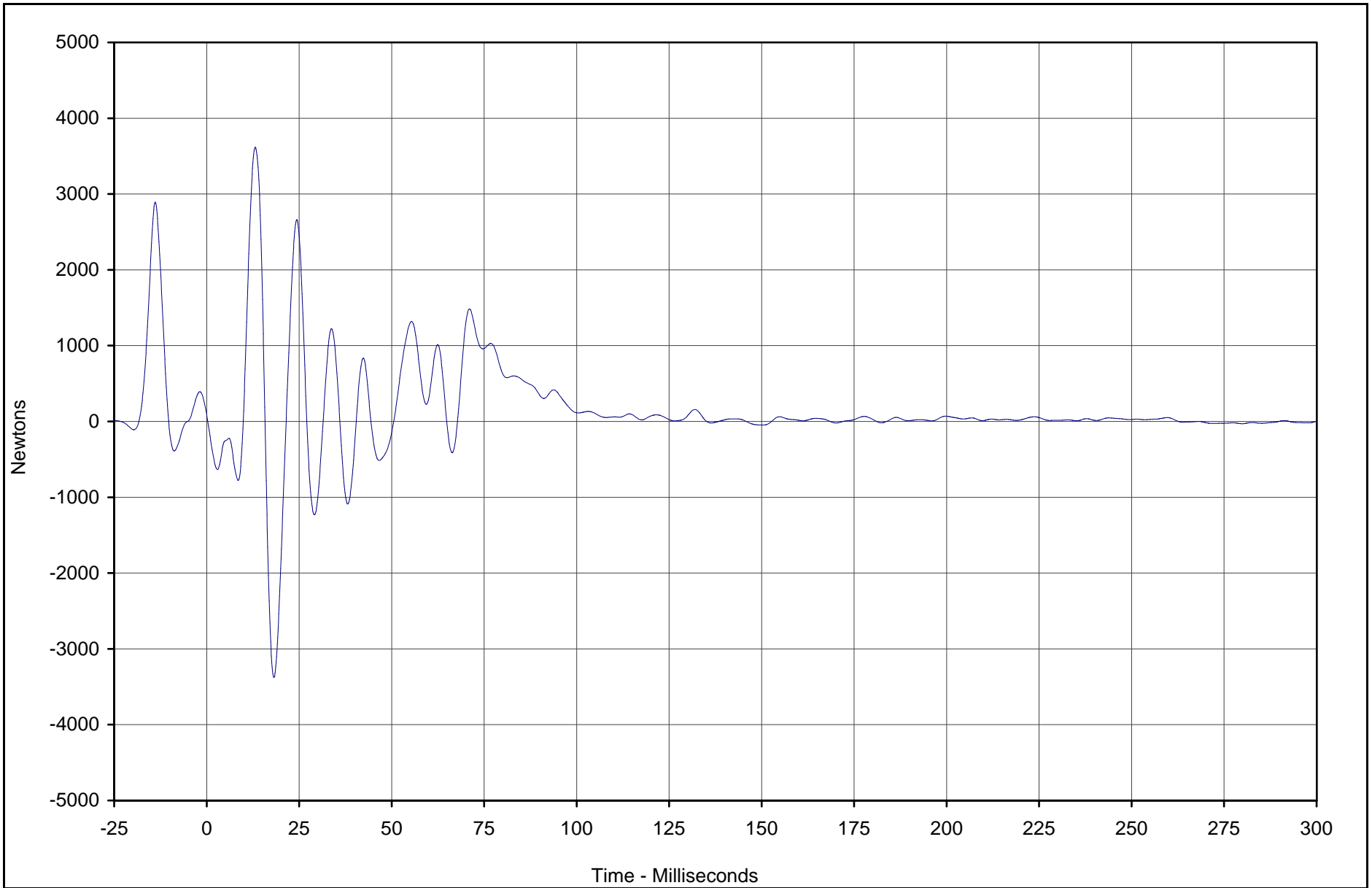
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-5



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A6 | 103 | FIL | Newtons | 3616.4 | 13.1 | -3377.2 | 18.2 | 60 |



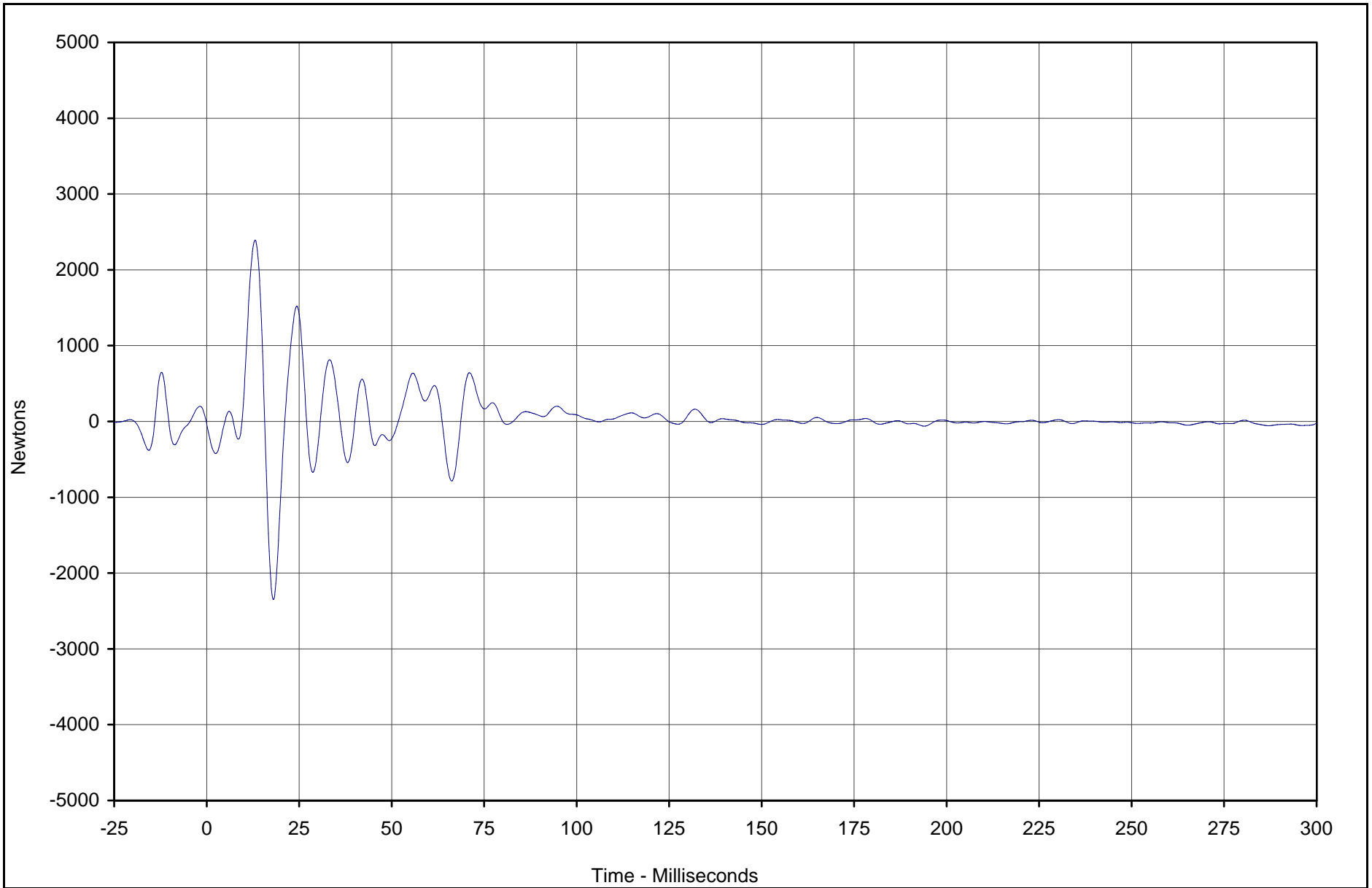
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-6



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A7 | 104 | FIL | Newtons | 2391.8 | 13.1 | -2349.0 | 18.0 | 60 |



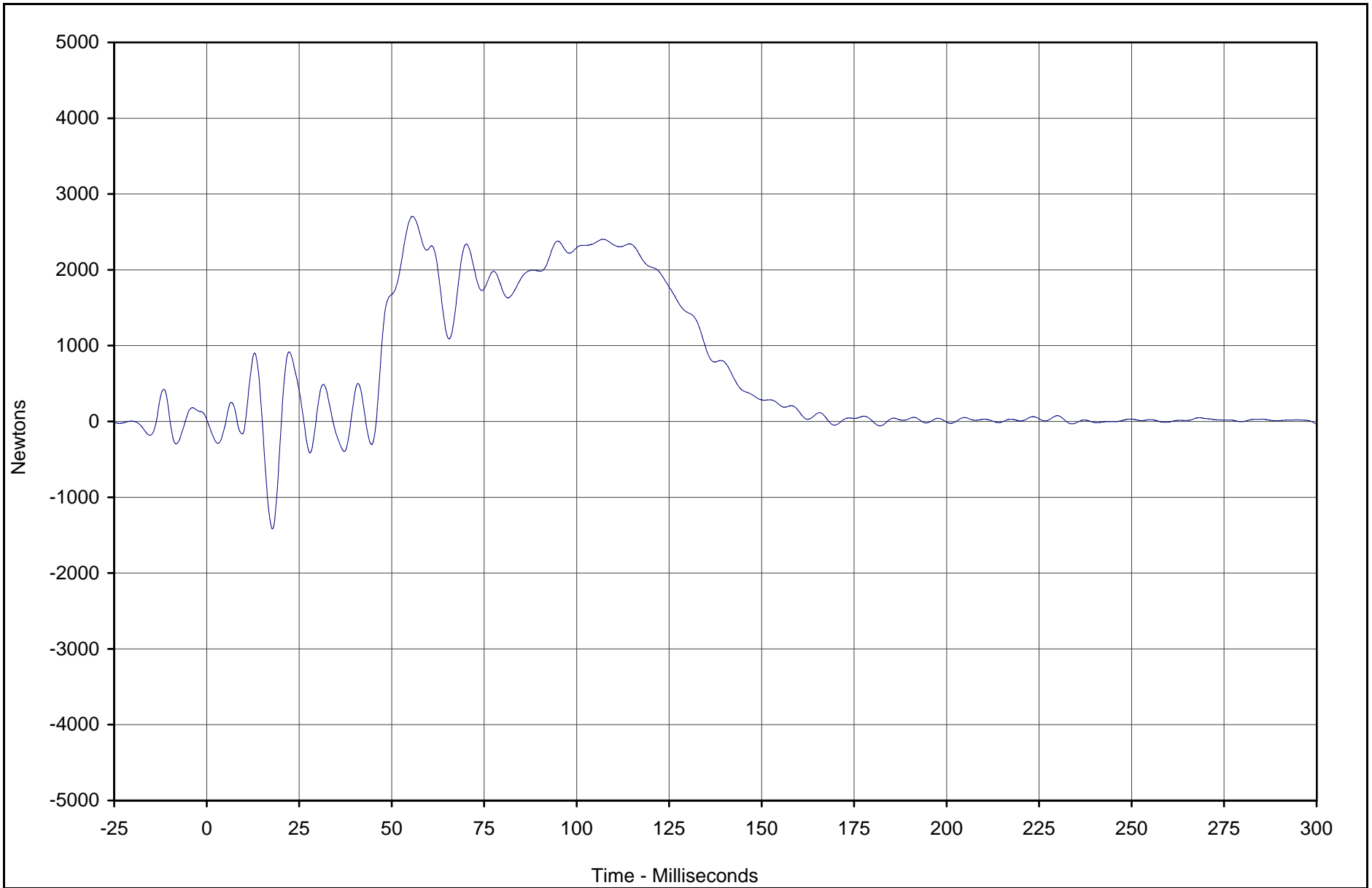
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-7



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A8 | 105 | FIL | Newtons | 2705.7 | 55.6 | -1417.5 | 17.8 | 60 |



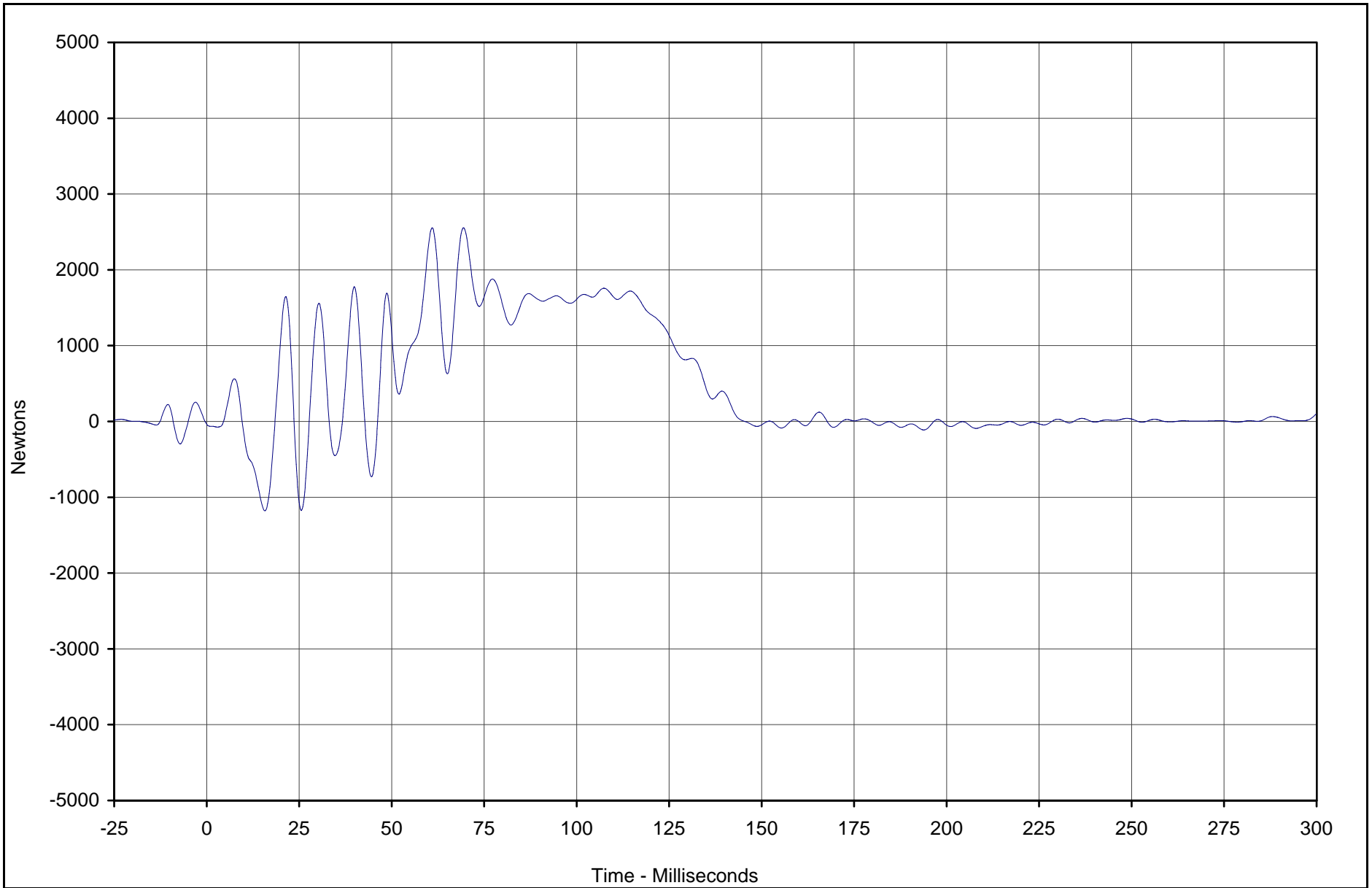
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-8



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force A9 | 106 | FIL | Newtons | 2555.0 | 69.4 | -1177.9 | 15.7 | 60 |



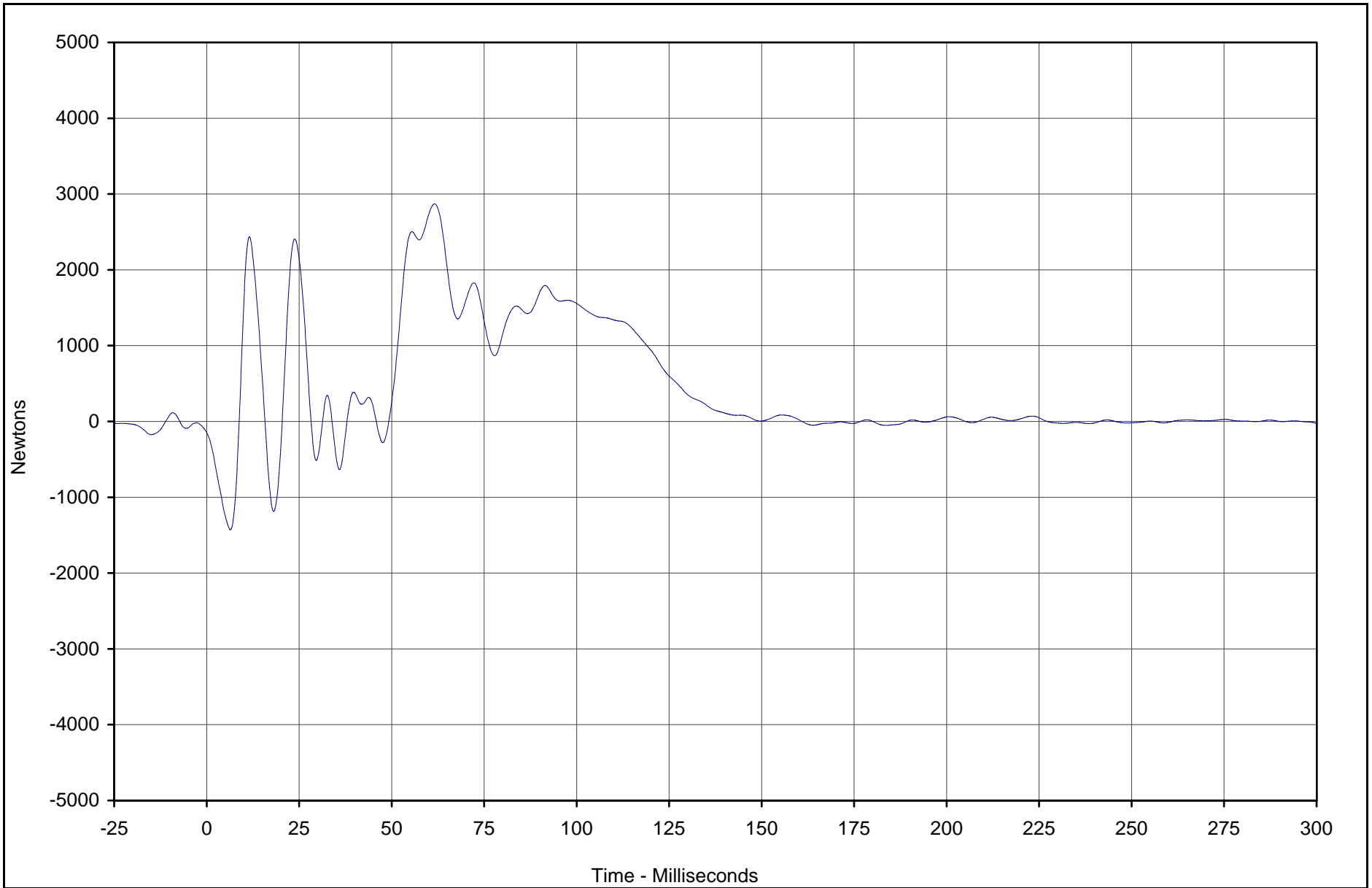
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-9



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force B2 | 108 | FIL | Newtons | 2870.1 | 61.6 | -1428.3 | 6.4 | 60 |



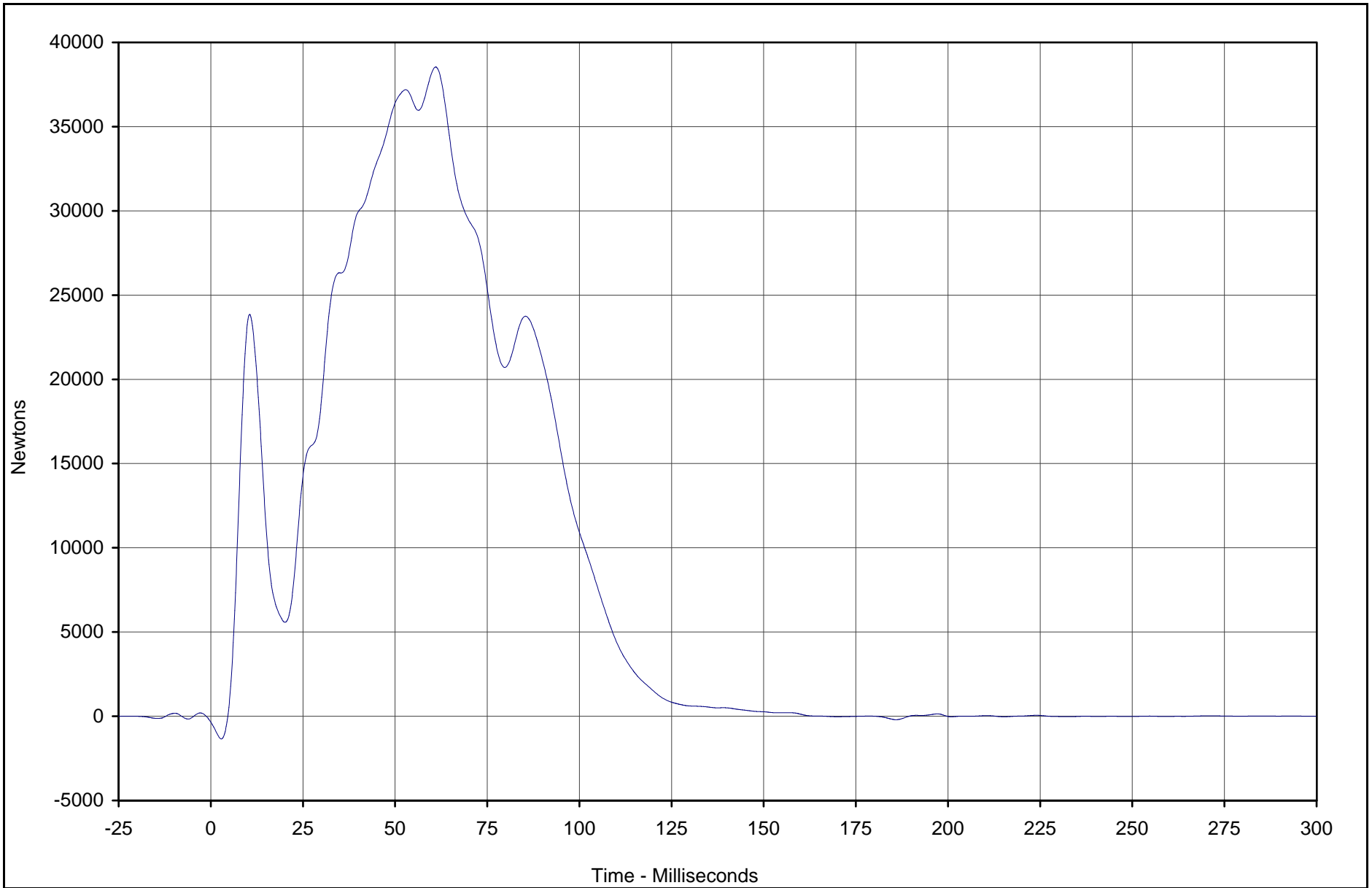
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-10



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|---------|------|-----------|
| Driver Barrier Force B3 | 109 | FIL | Newtons | 38541.0 | 61.0 | -1349.3 | 2.9 | 60 |



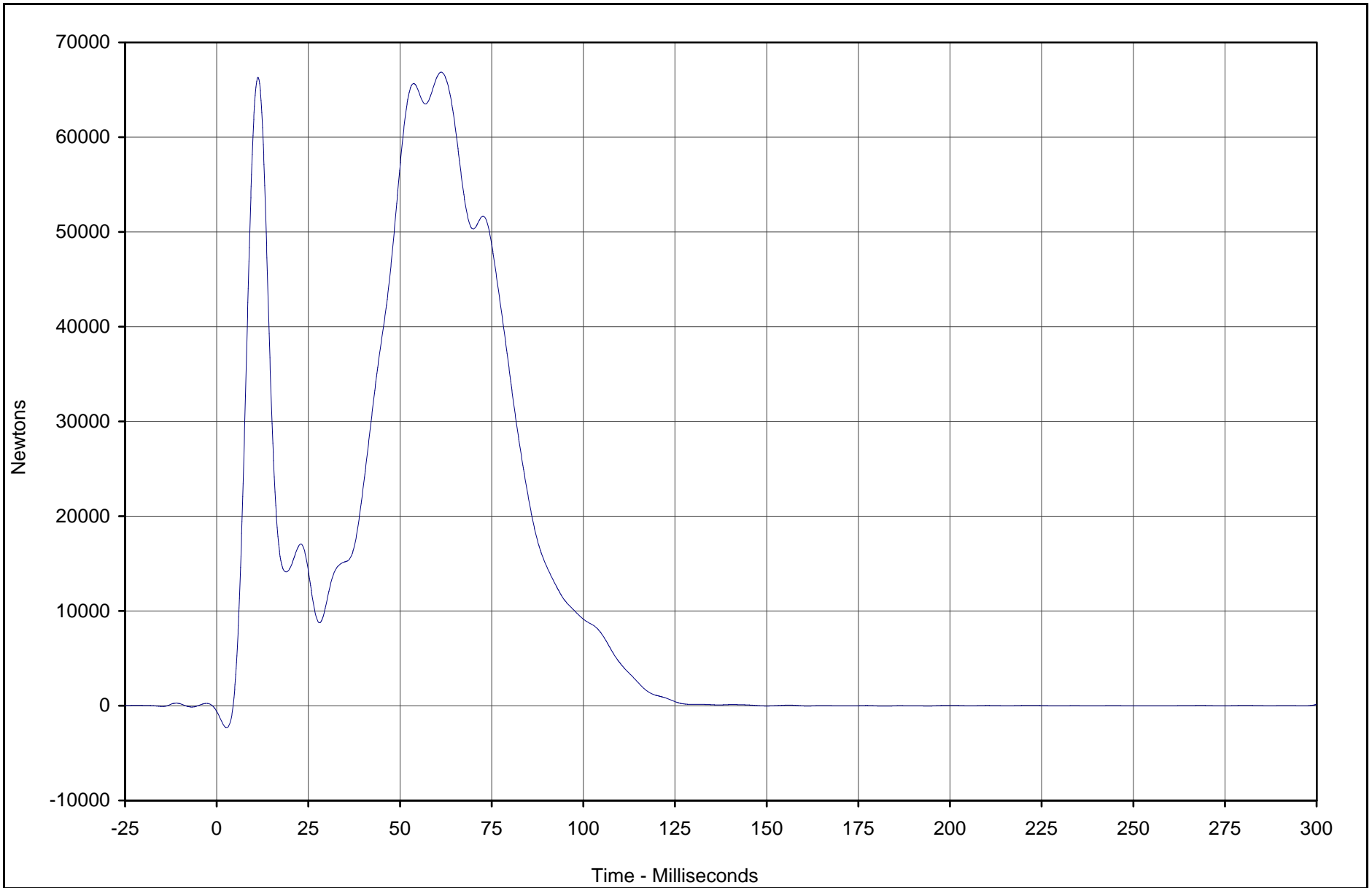
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-11



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|---------|------|-----------|
| Driver Barrier Force B4 | 110 | FIL | Newtons | 66852.8 | 61.2 | -2327.5 | 2.7 | 60 |



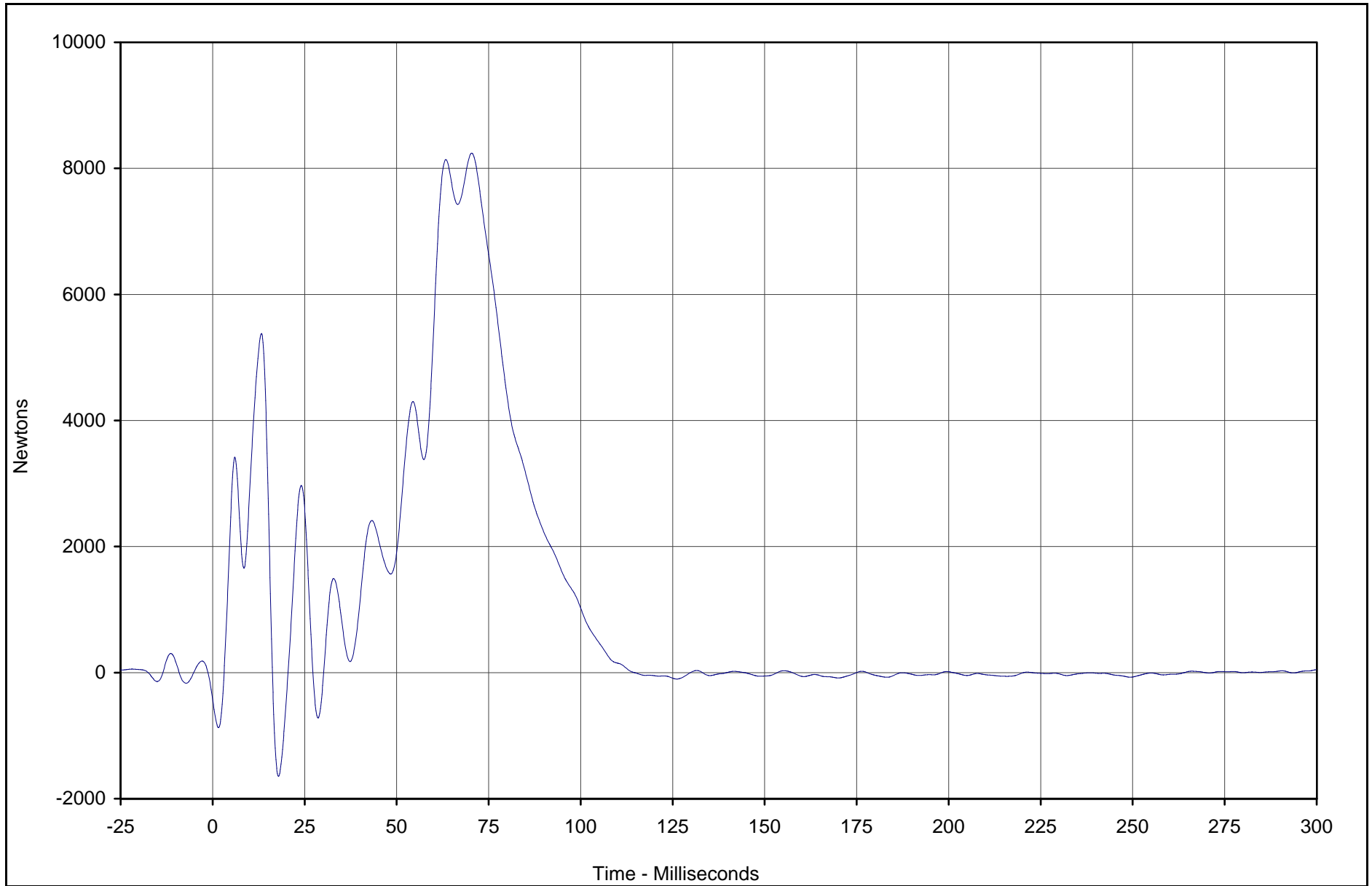
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-12



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force B5 | 111 | FIL | Newtons | 8242.4 | 70.4 | -1644.4 | 17.9 | 60 |



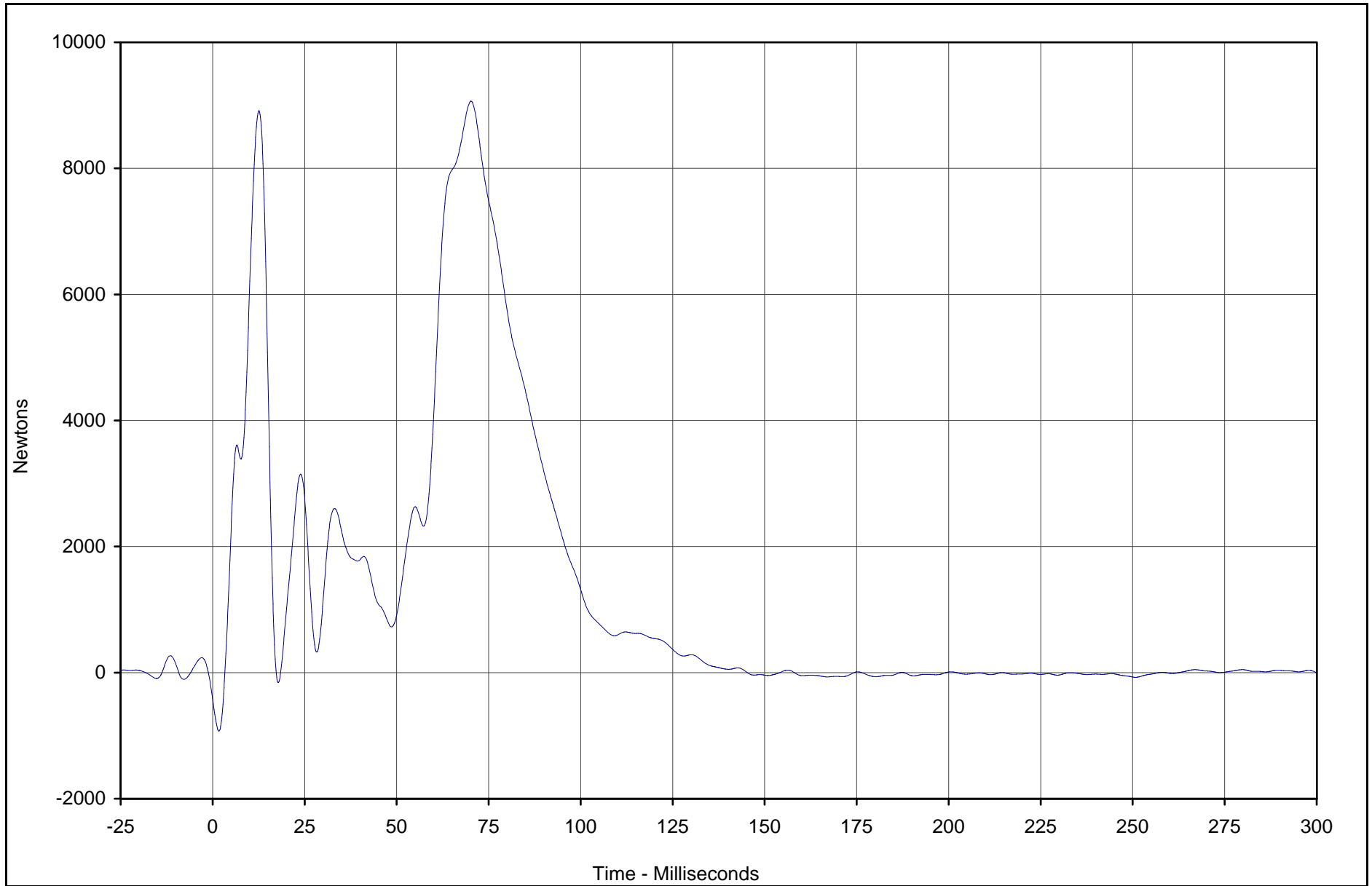
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-13



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|--------|------|-----------|
| Driver Barrier Force B6 | 112 | FIL | Newtons | 9066.0 | 70.2 | -928.4 | 1.7 | 60 |



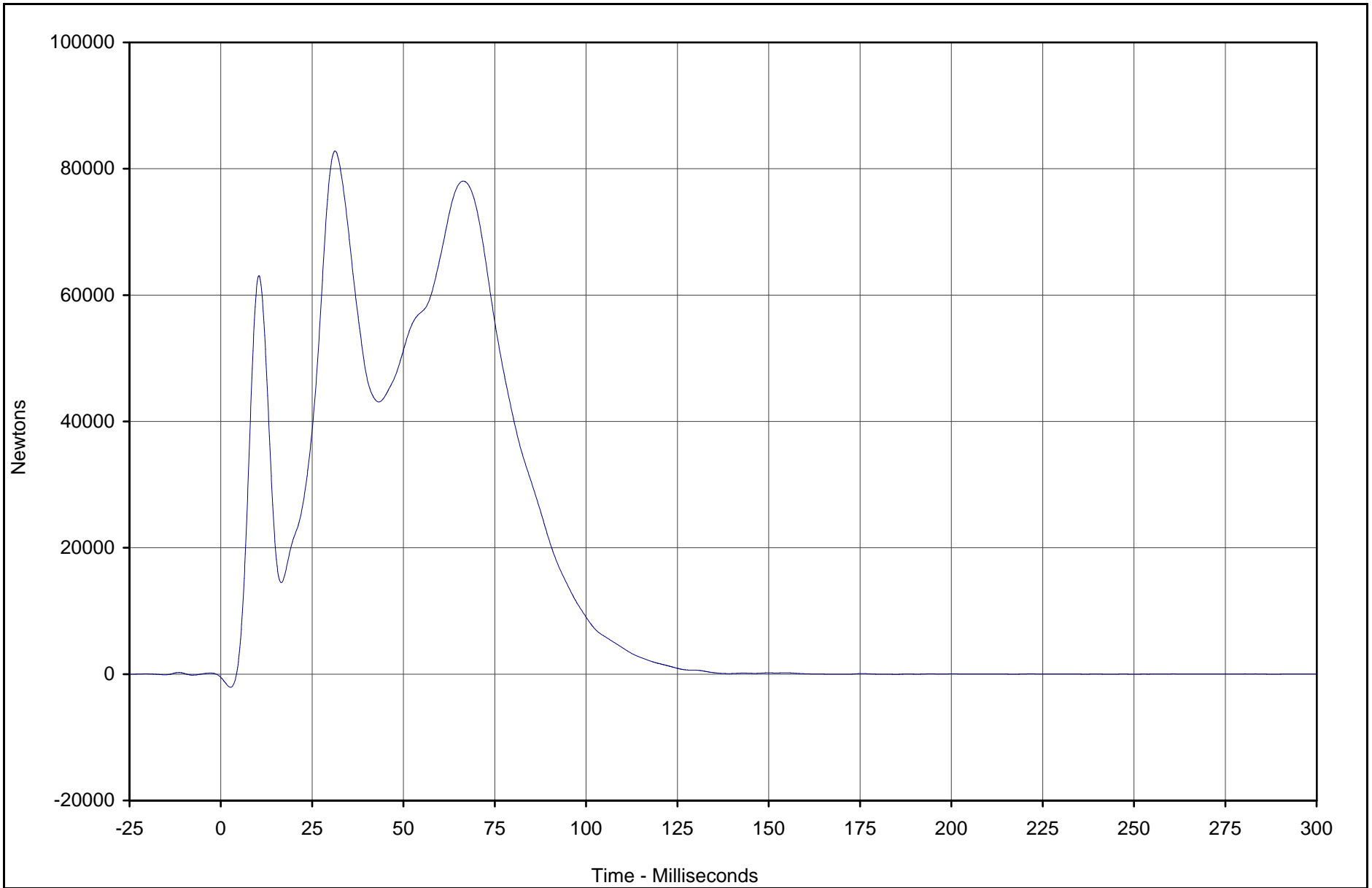
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-14



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|---------|------|-----------|
| Driver Barrier Force B7 | 113 | FIL | Newtons | 82816.9 | 31.3 | -2080.8 | 2.6 | 60 |



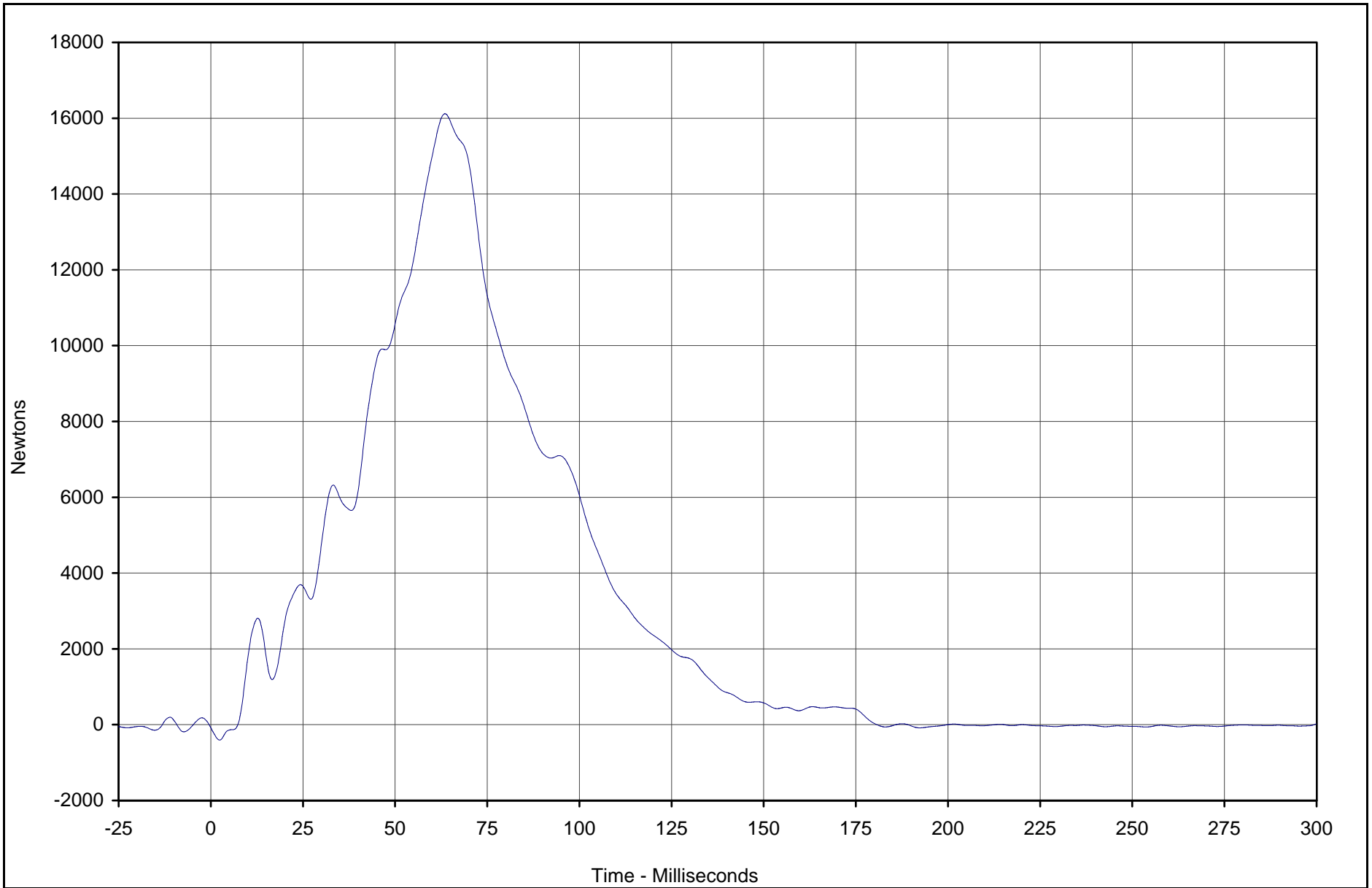
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-15



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|--------|------|-----------|
| Driver Barrier Force B8 | 114 | FIL | Newtons | 16118.9 | 63.5 | -406.0 | 2.4 | 60 |



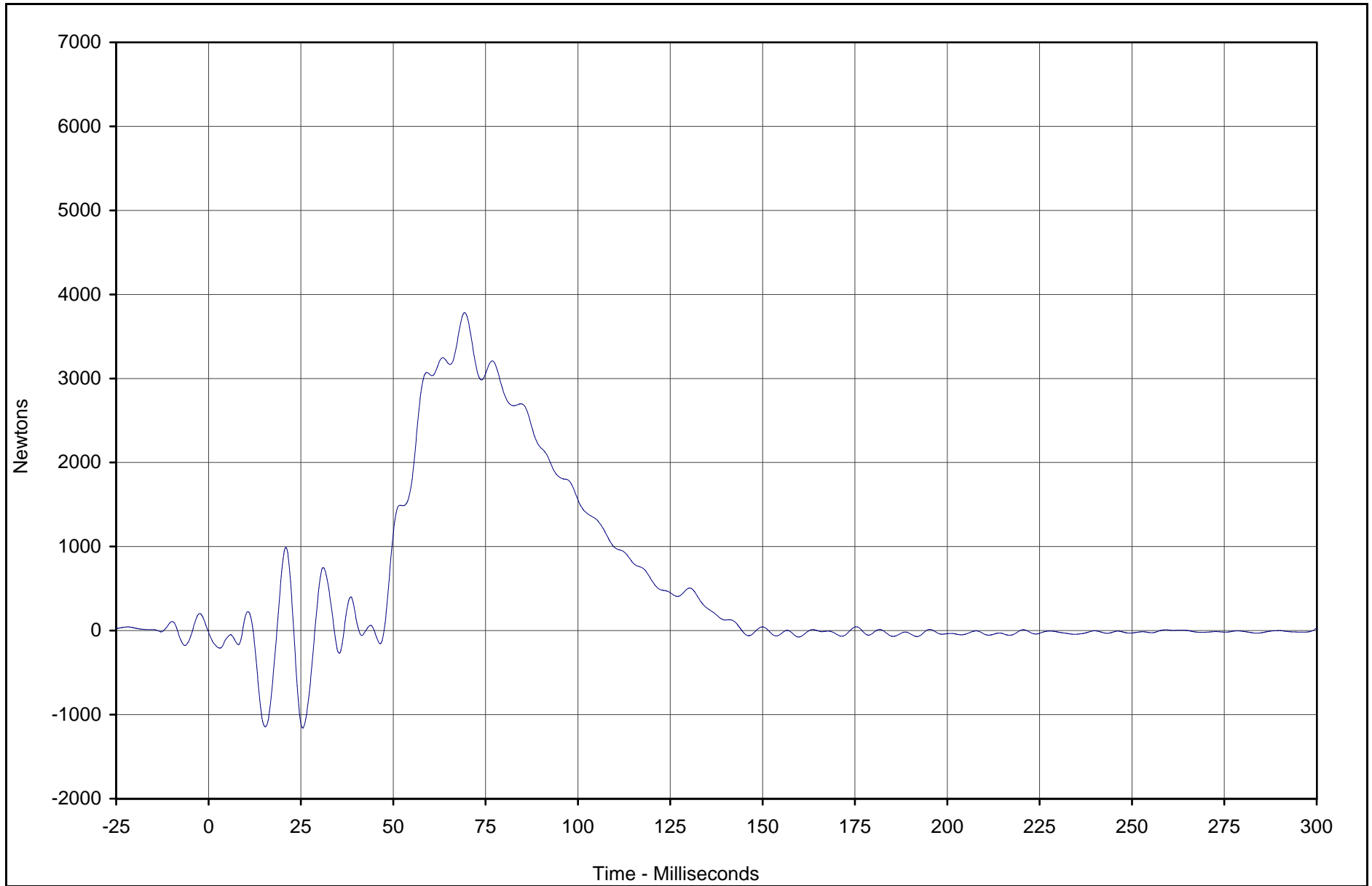
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-16



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force B9 | 115 | FIL | Newtons | 3783.0 | 69.3 | -1160.0 | 25.5 | 60 |



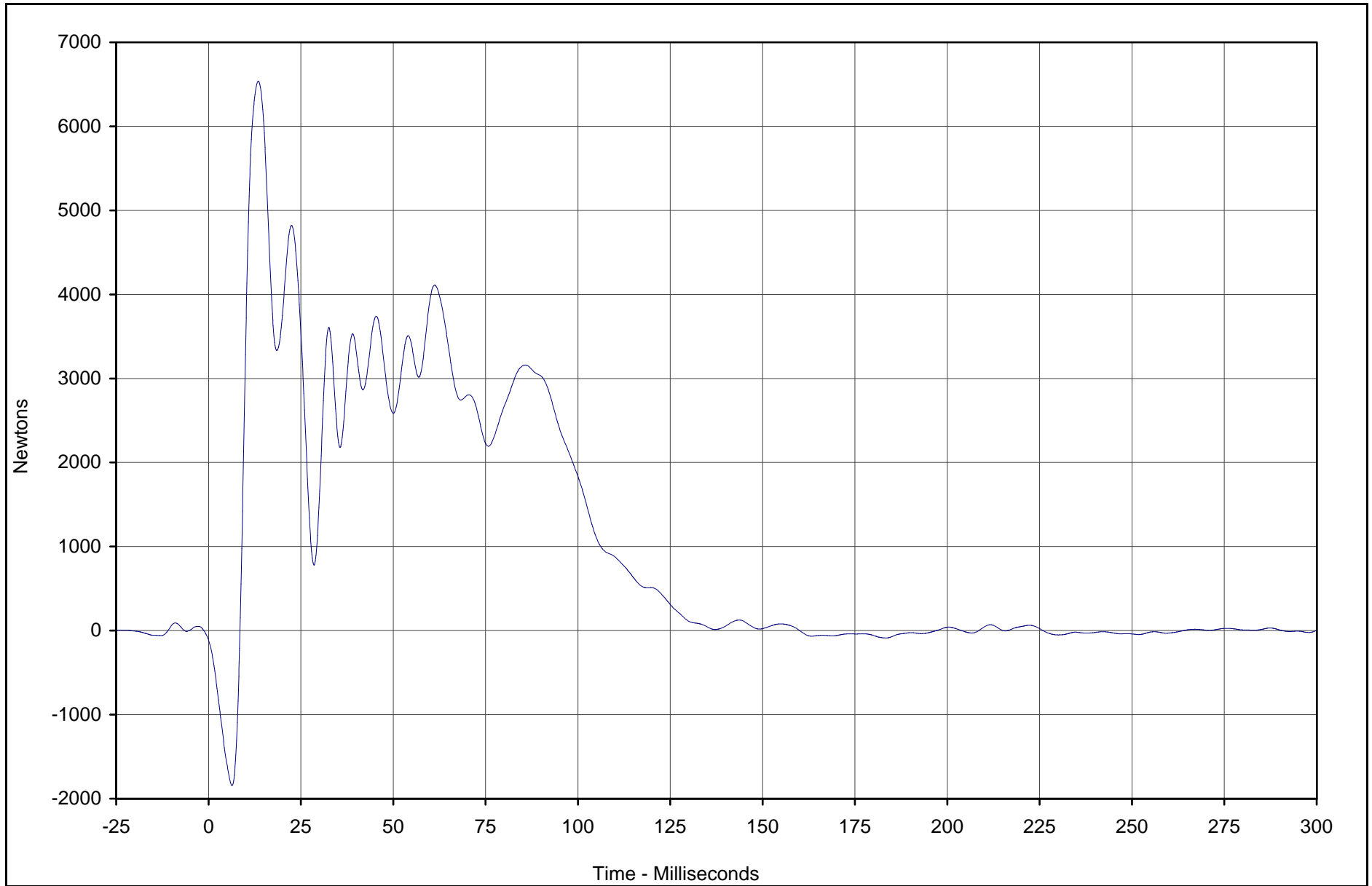
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-17



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force C2 | 117 | FIL | Newtons | 6538.6 | 13.5 | -1843.2 | 6.4 | 60 |



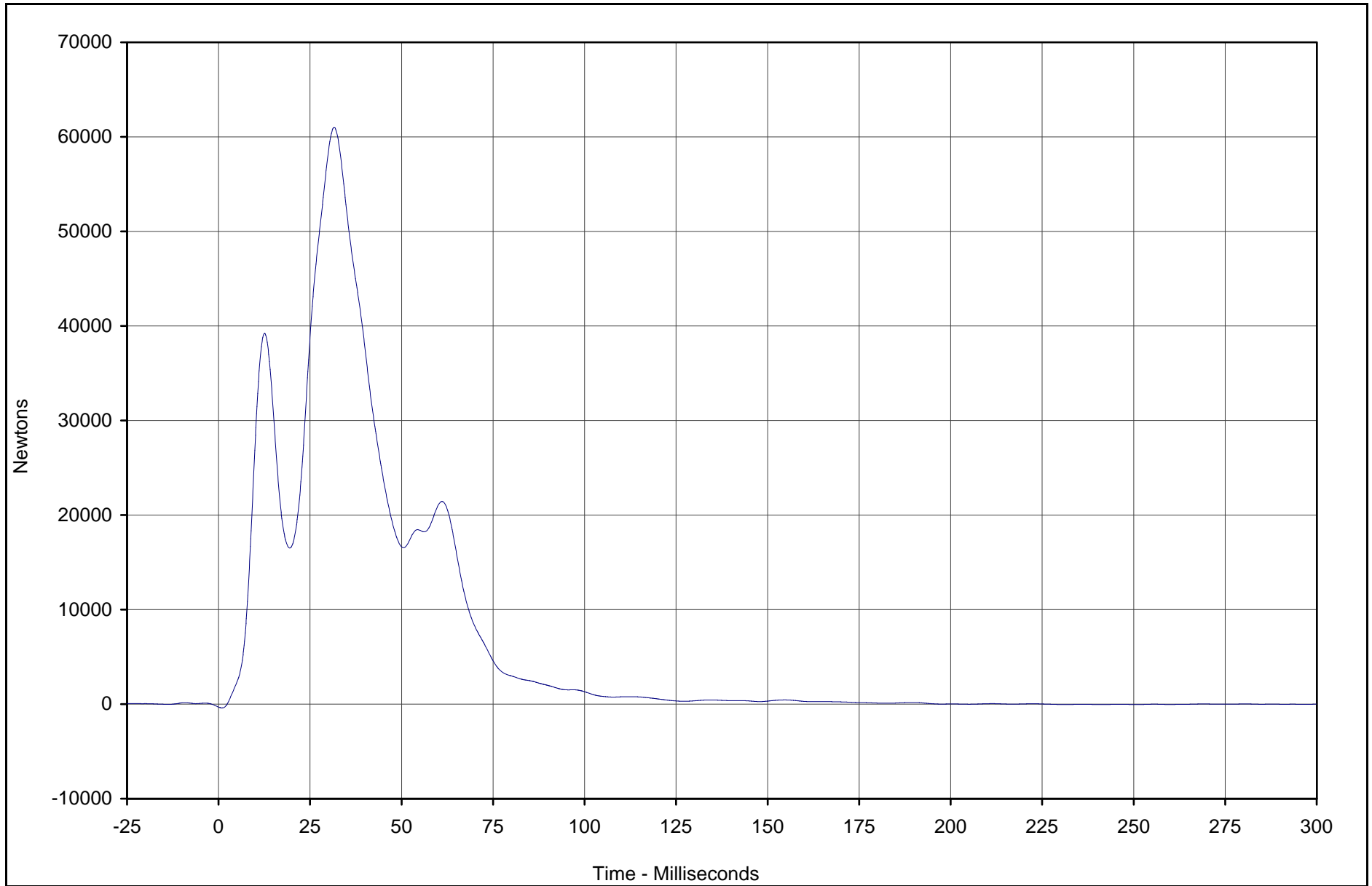
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-18



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|--------|------|-----------|
| Driver Barrier Force C3 | 118 | FIL | Newtons | 60991.2 | 31.6 | -403.1 | 0.9 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

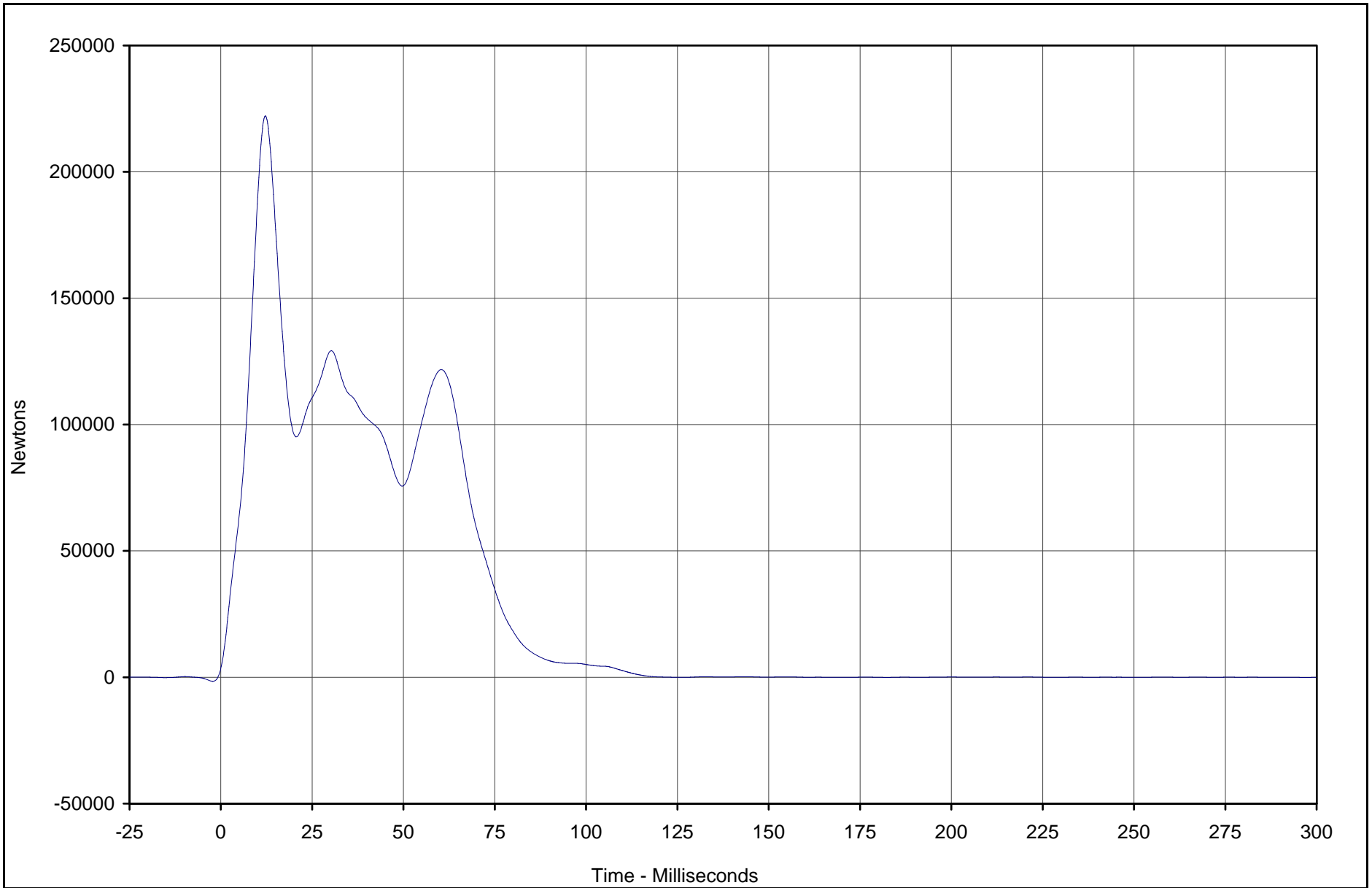
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

C-19



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|----------|------|-------|-------|-----------|
| Driver Barrier Force C4 | 119 | FIL | Newtons | 222163.1 | 12.2 | -79.2 | 297.1 | 60 |



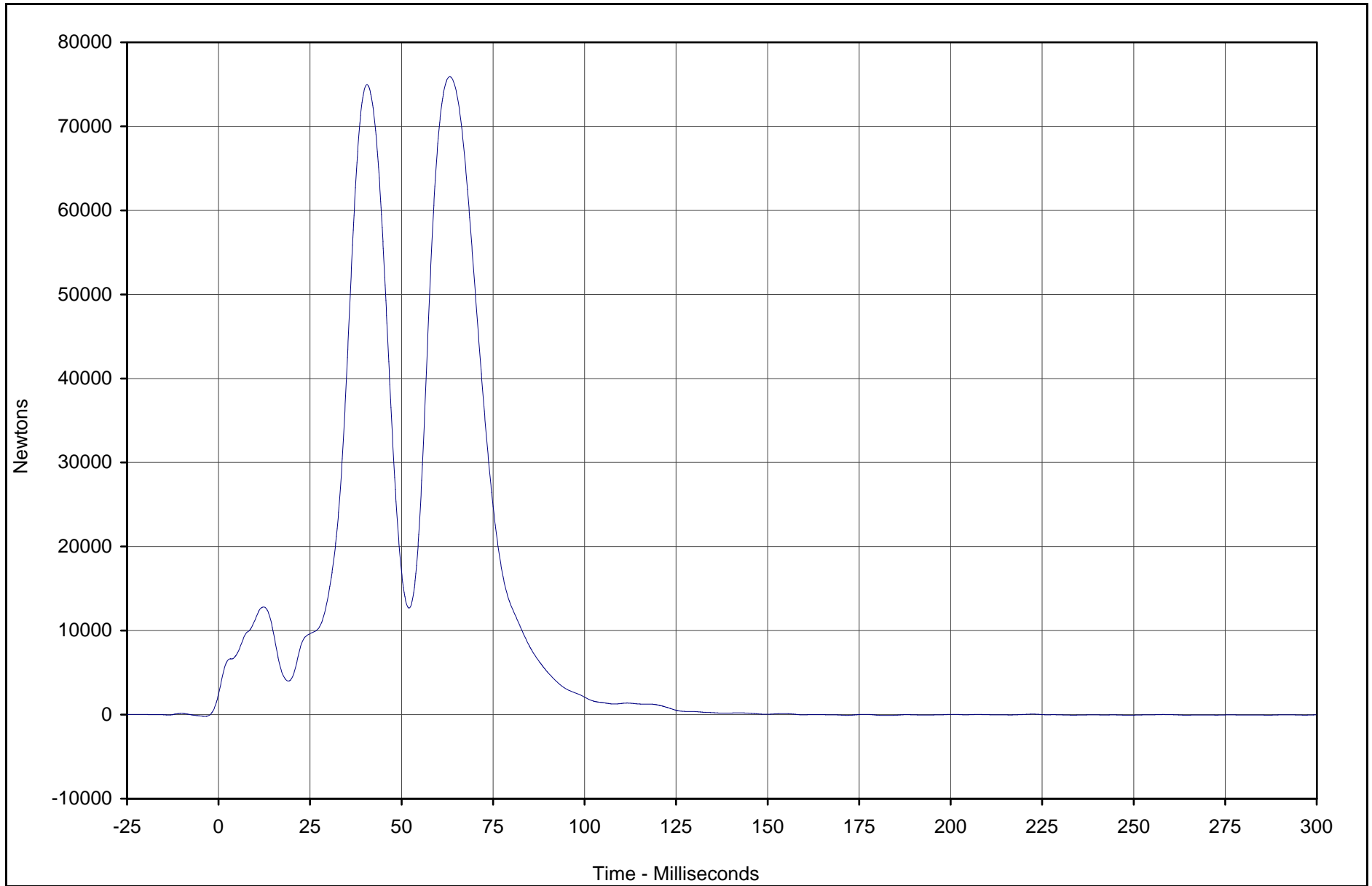
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-20



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|-------|-------|-----------|
| Driver Barrier Force C5 | 120 | FIL | Newtons | 75908.4 | 63.2 | -89.7 | 181.7 | 60 |



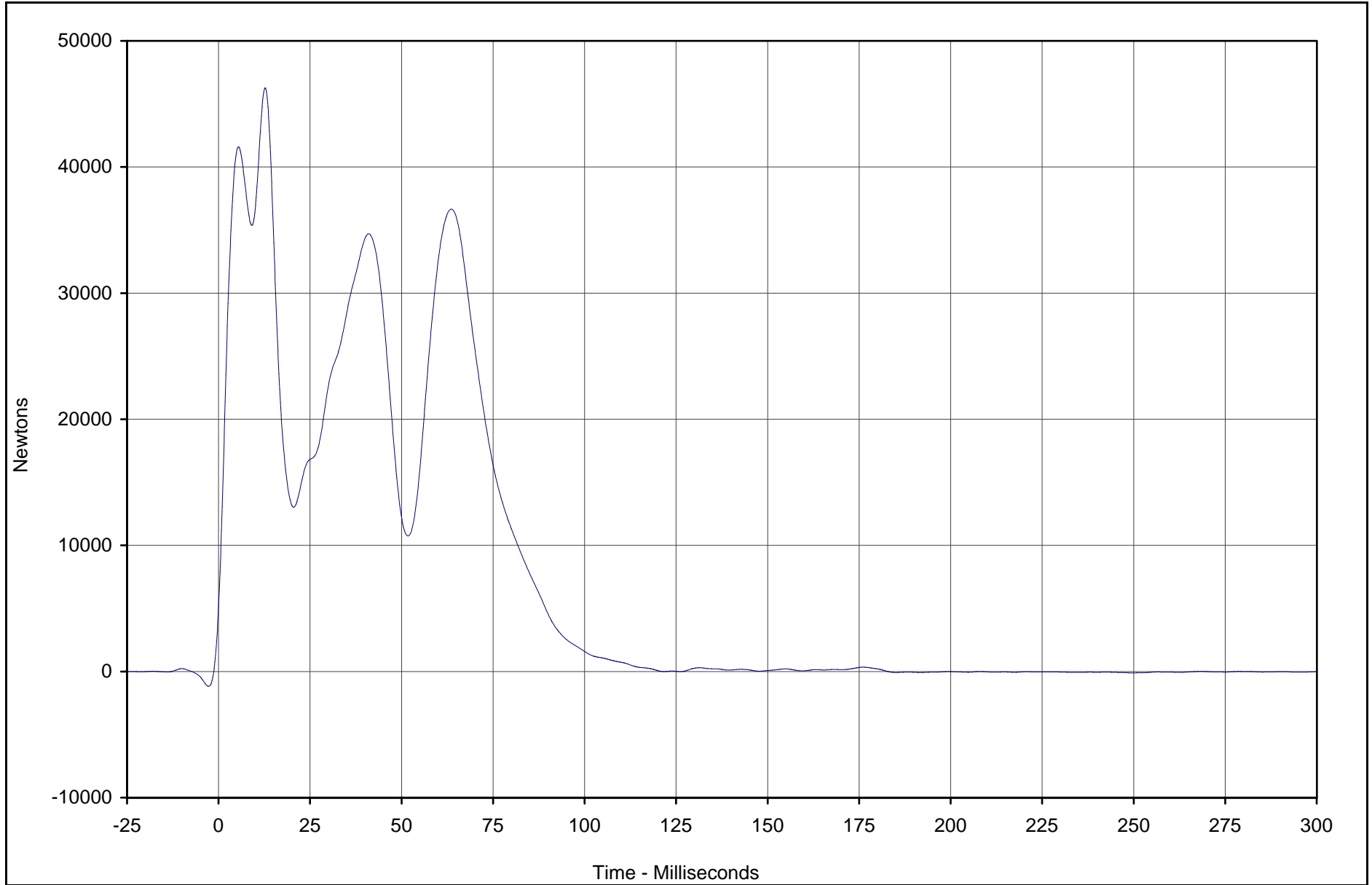
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-21



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|---------|------|--------|-------|-----------|
| Driver Barrier Force C6 | 121 | FIL | Newtons | 46280.8 | 12.7 | -109.6 | 249.6 | 60 |



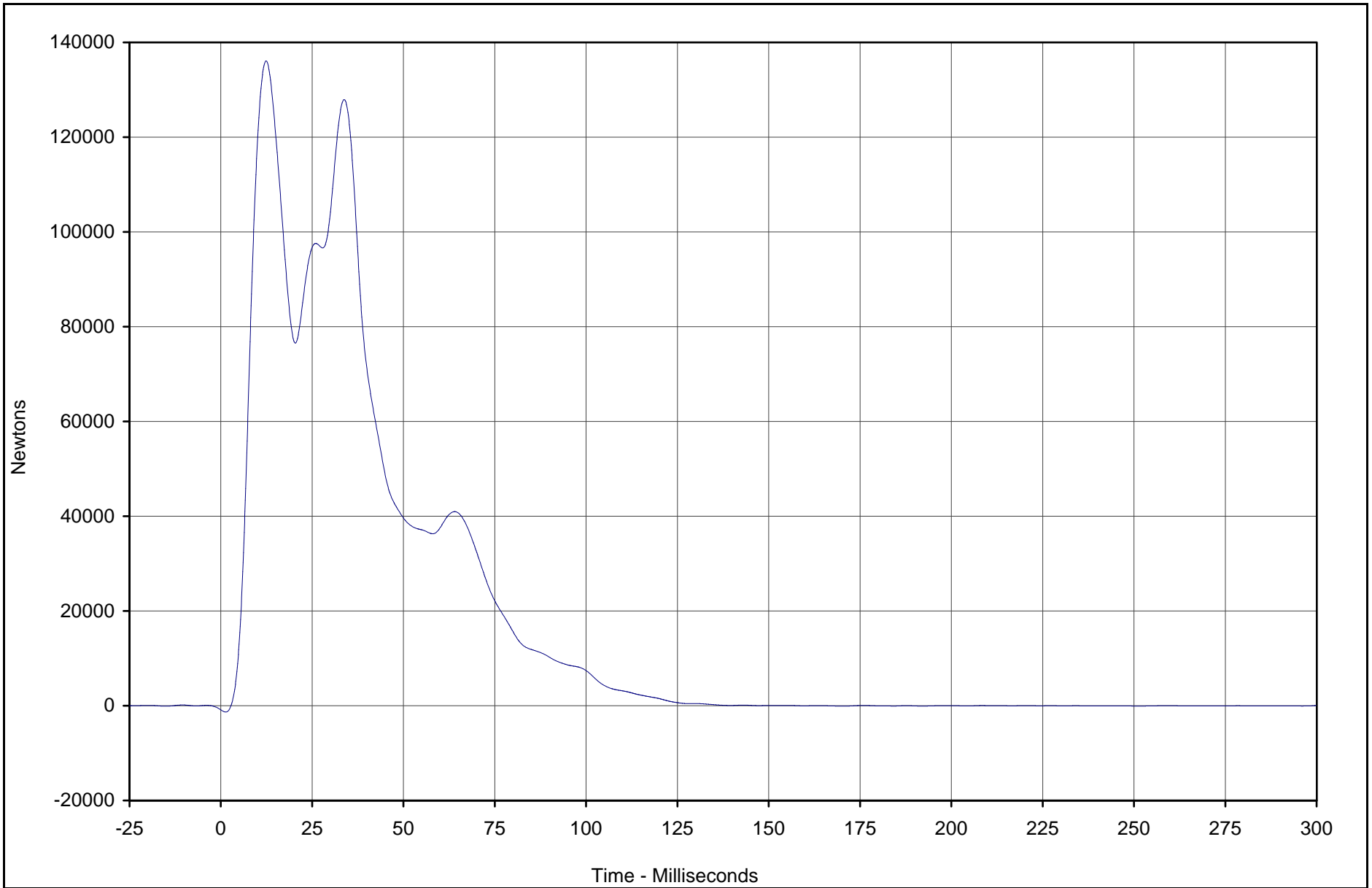
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-22



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|----------|------|---------|------|-----------|
| Driver Barrier Force C7 | 122 | FIL | Newtons | 136099.8 | 12.4 | -1329.8 | 1.3 | 60 |



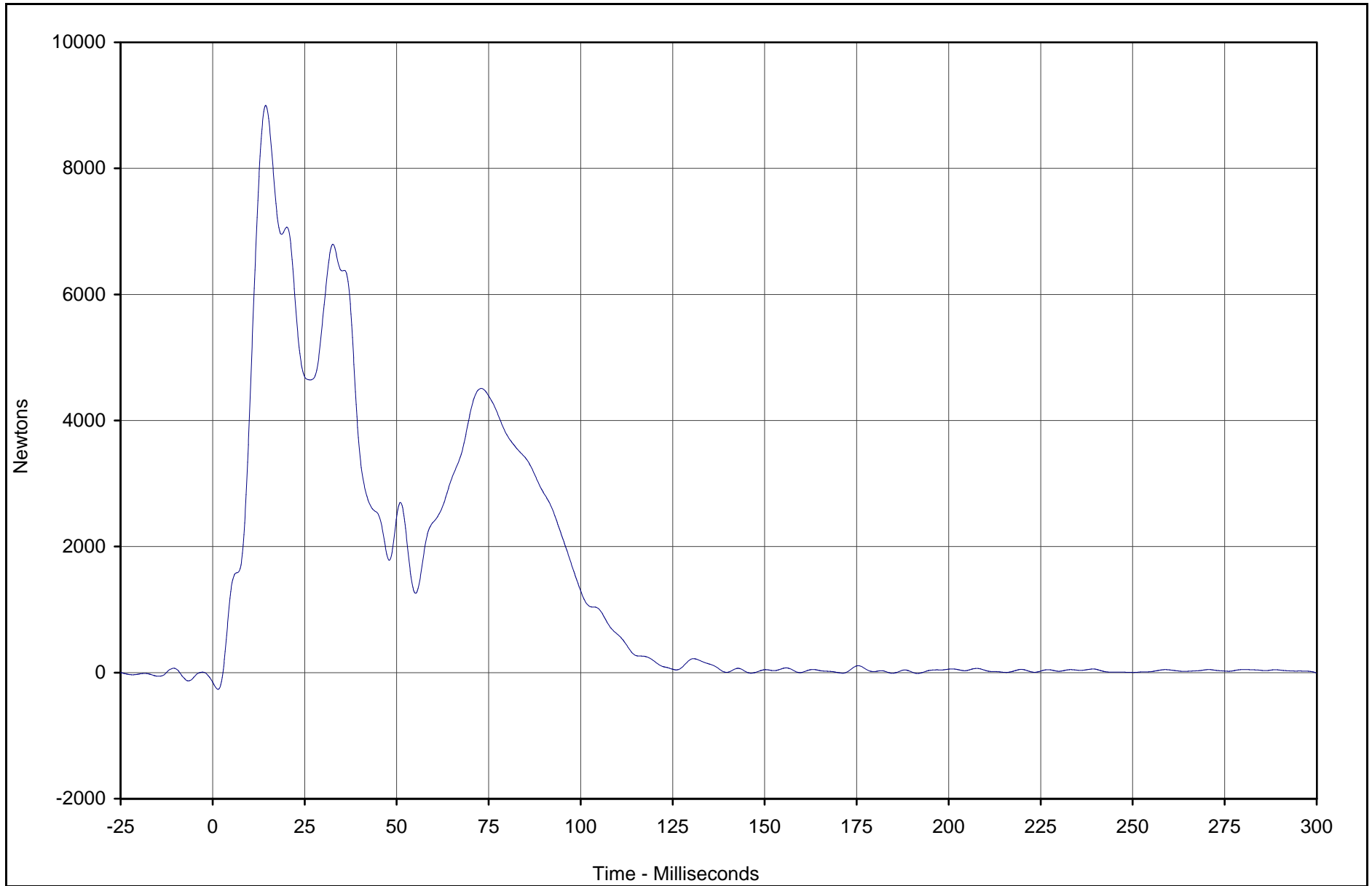
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-23



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|--------|------|-----------|
| Driver Barrier Force C8 | 123 | FIL | Newtons | 8999.7 | 14.4 | -265.5 | 1.4 | 60 |



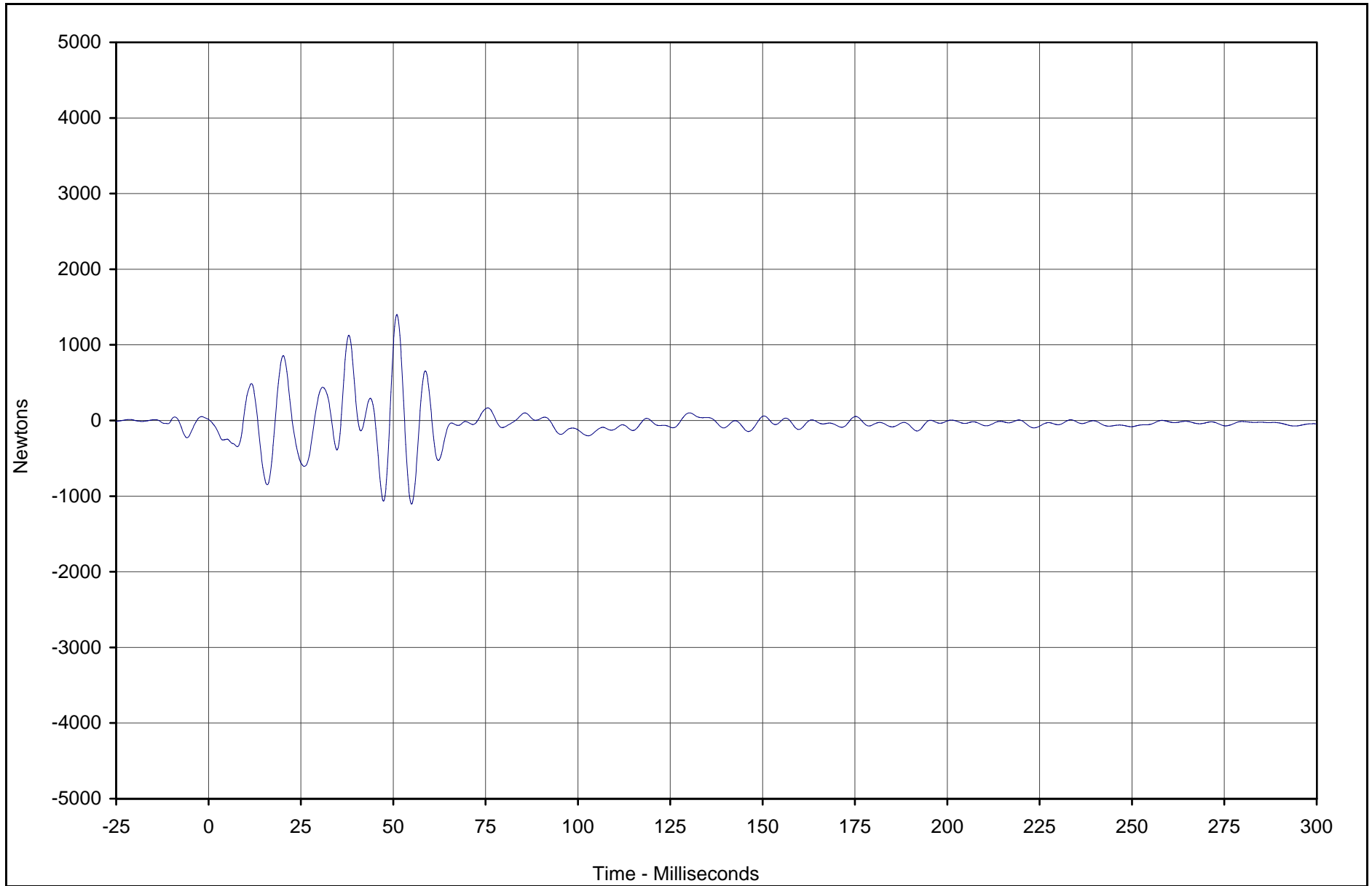
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-24



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|--------|------|---------|------|-----------|
| Driver Barrier Force C9 | 124 | FIL | Newtons | 1401.9 | 51.0 | -1104.2 | 55.0 | 60 |



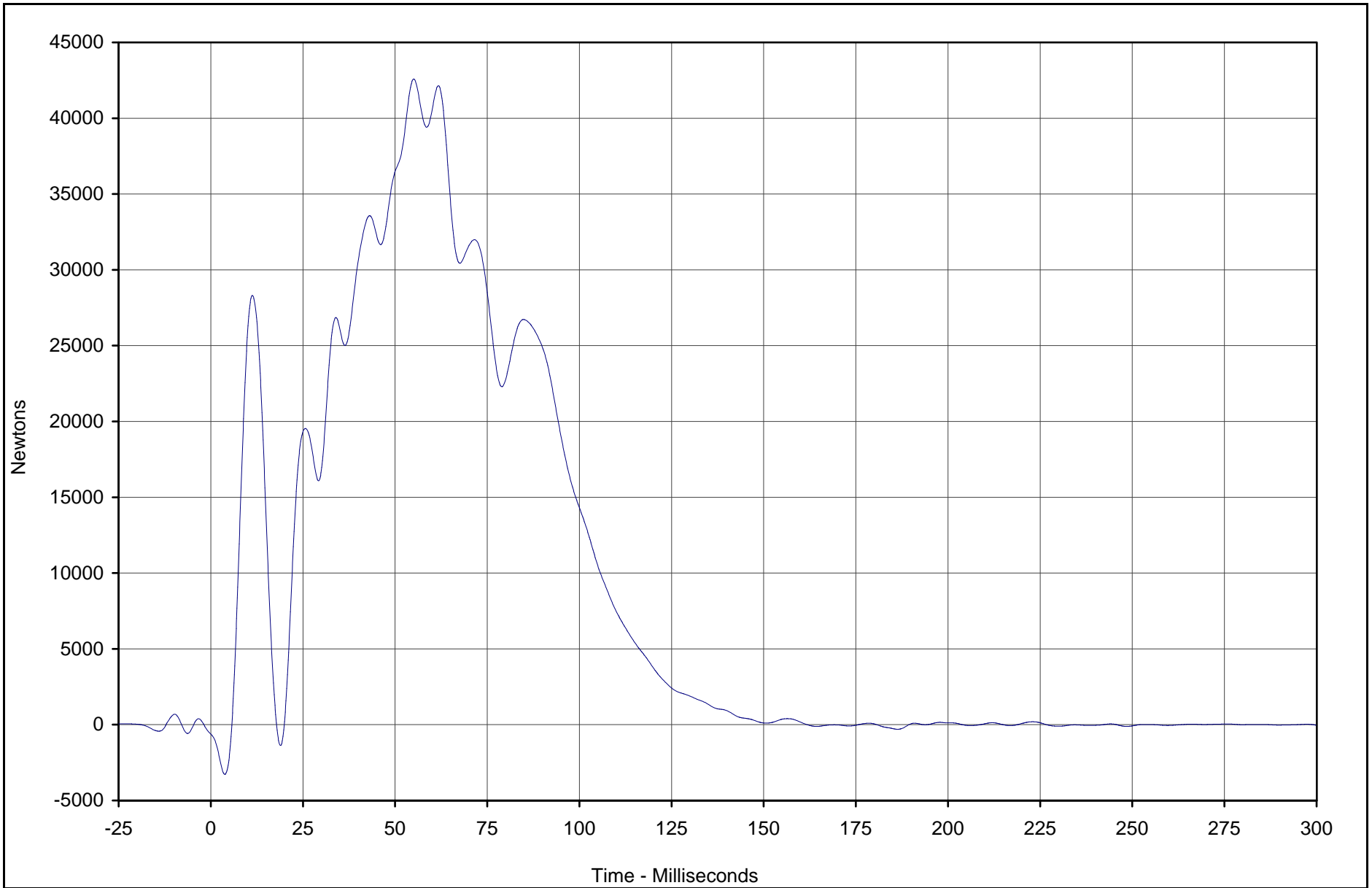
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-25



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|---------|---------|------|---------|------|-----------|
| Barrier Force Sum Group 1 | 001 | SUM | Newtons | 42582.8 | 55.1 | -3275.0 | 3.8 | 60 |



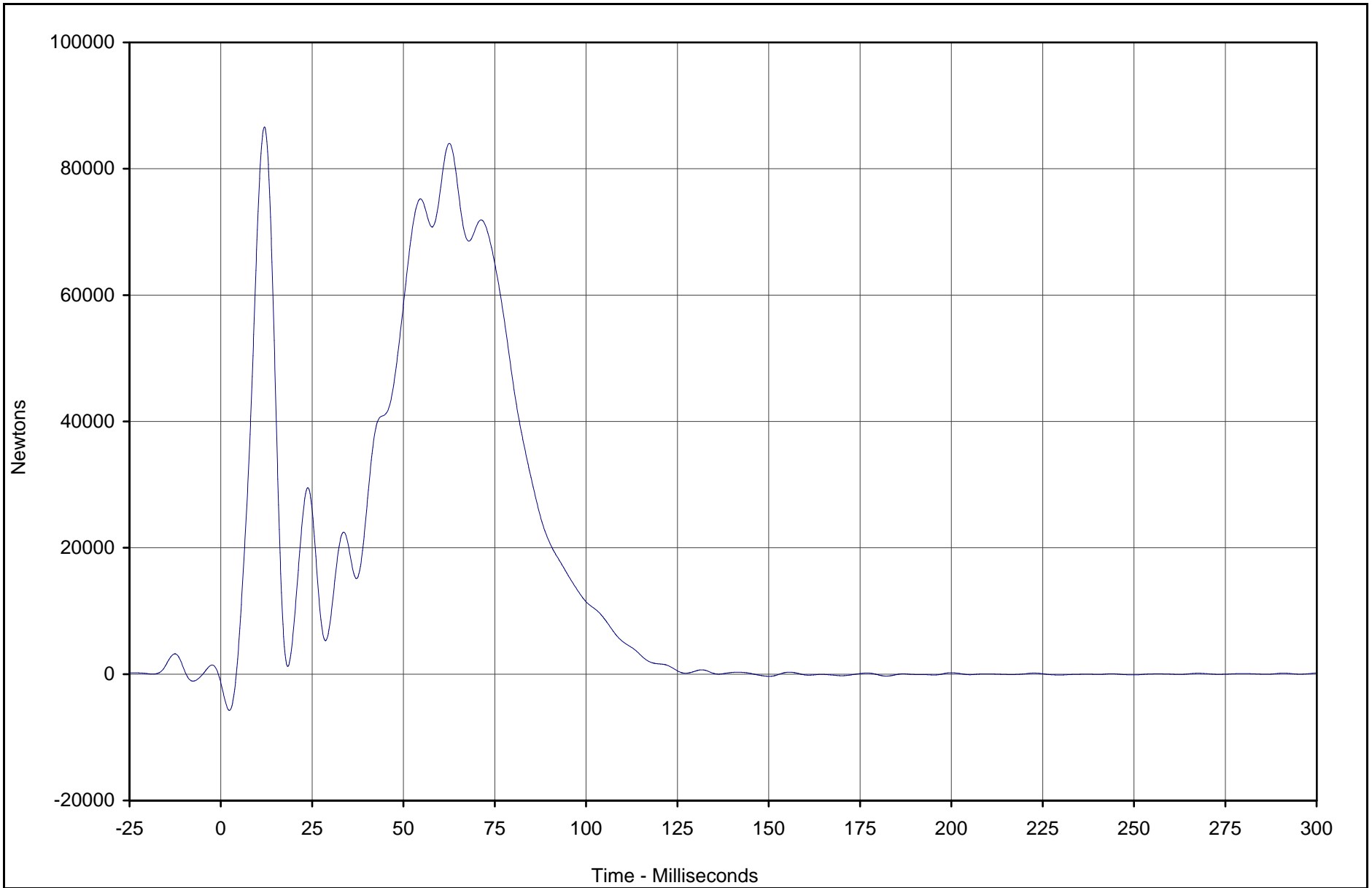
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-26



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|---------|---------|------|---------|------|-----------|
| Barrier Force Sum Group 2 | 002 | SUM | Newtons | 86612.6 | 11.9 | -5748.1 | 2.3 | 60 |



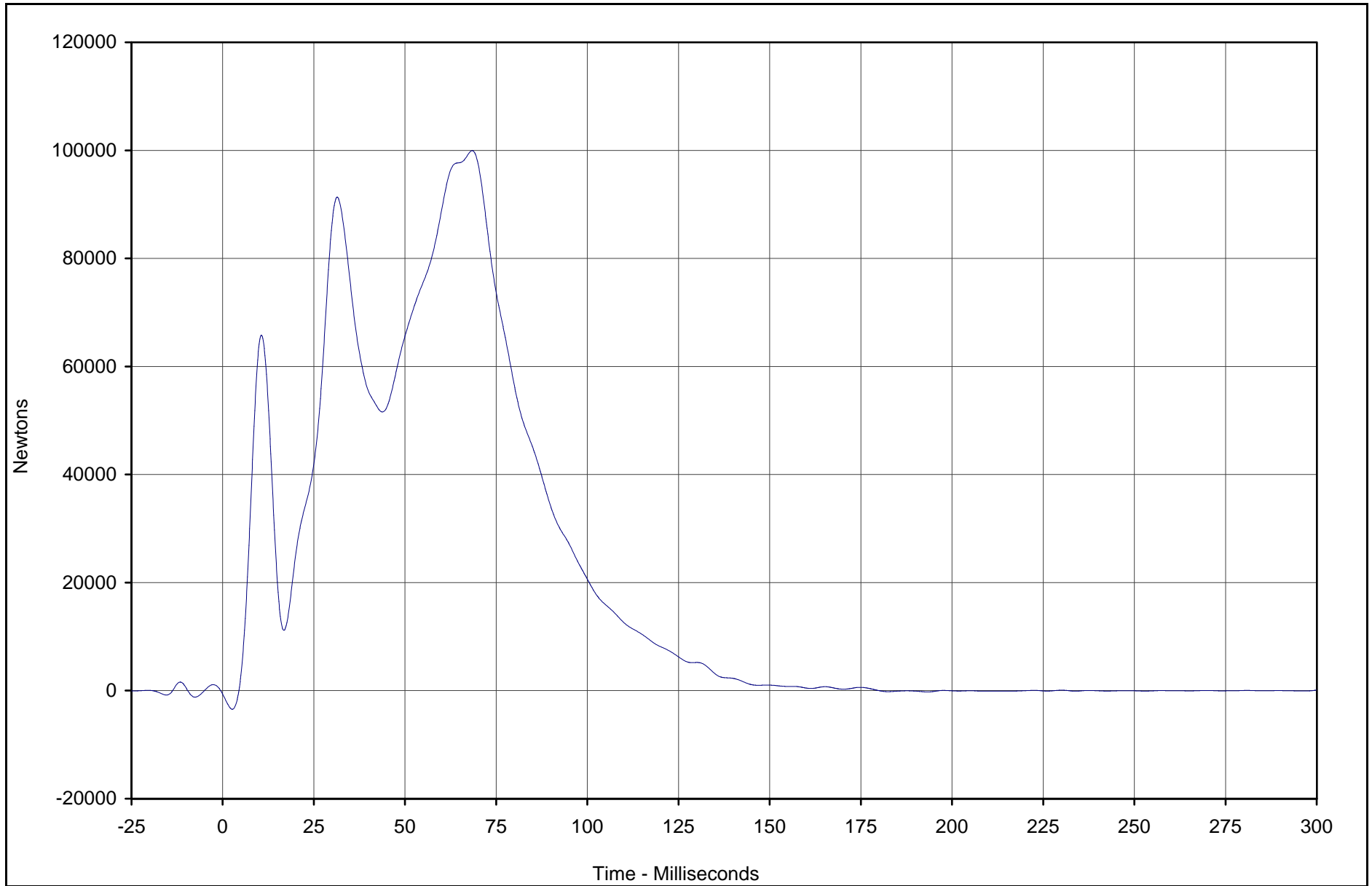
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-27



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|---------|---------|------|---------|------|-----------|
| Barrier Force Sum Group 3 | 003 | SUM | Newtons | 99954.9 | 68.4 | -3453.0 | 2.6 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

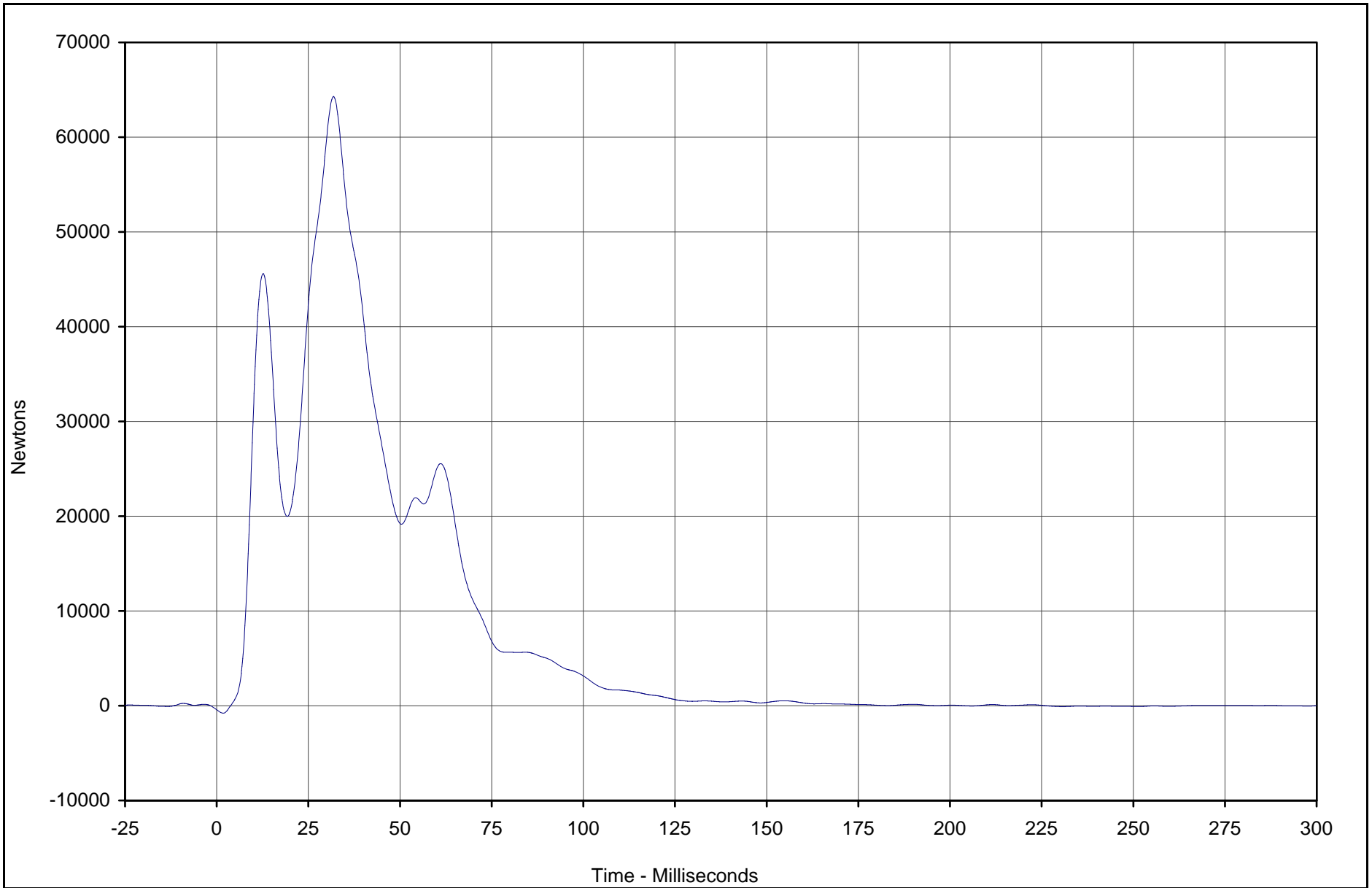
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KARR22001-04

C-28



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|---------|---------|------|--------|------|-----------|
| Barrier Force Sum Group 4 | 004 | SUM | Newtons | 64282.7 | 31.9 | -783.8 | 1.7 | 60 |



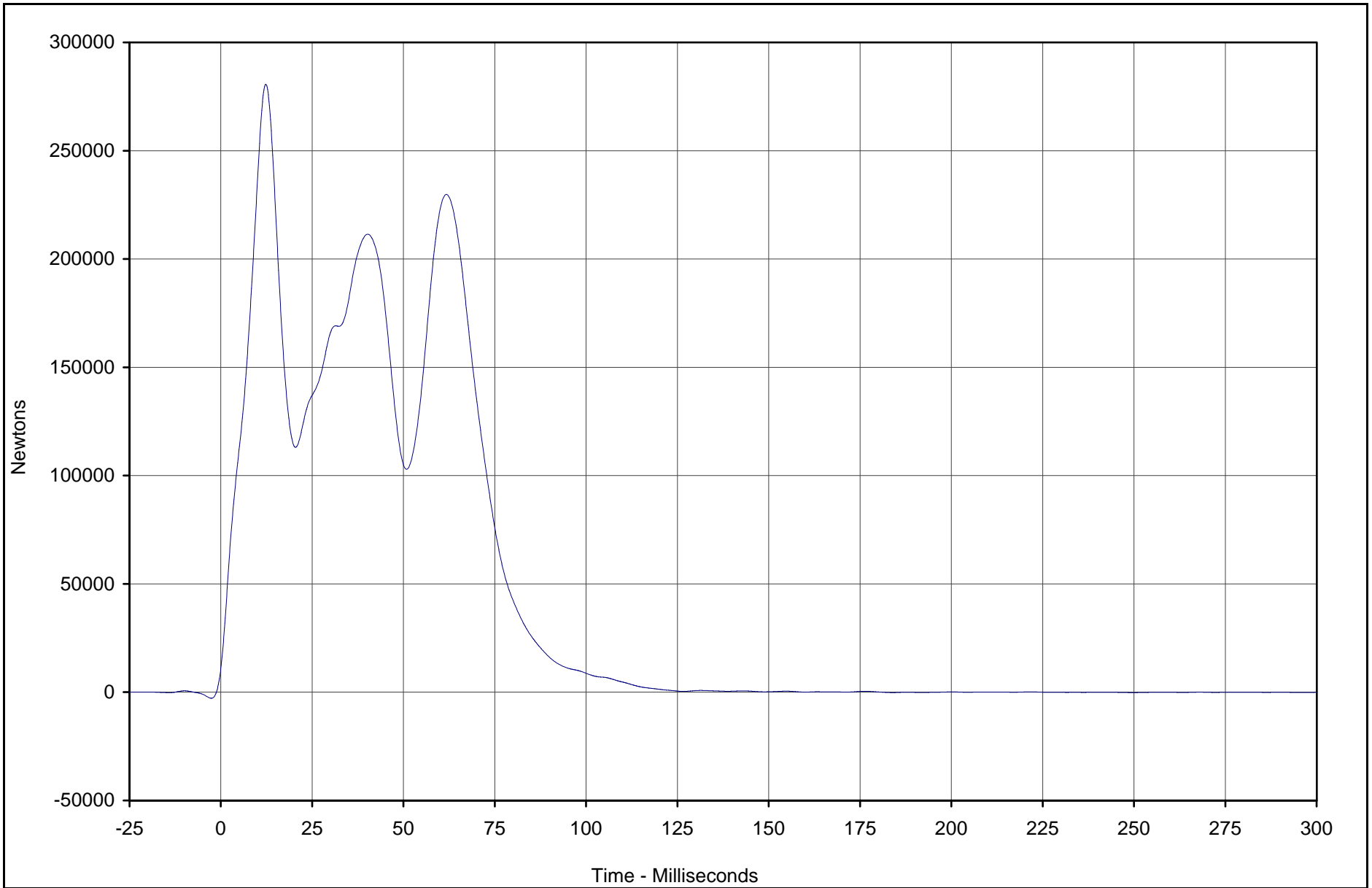
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-29



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|---------|----------|------|--------|-------|-----------|
| Barrier Force Sum Group 5 | 005 | SUM | Newtons | 280723.3 | 12.3 | -207.8 | 249.5 | 60 |



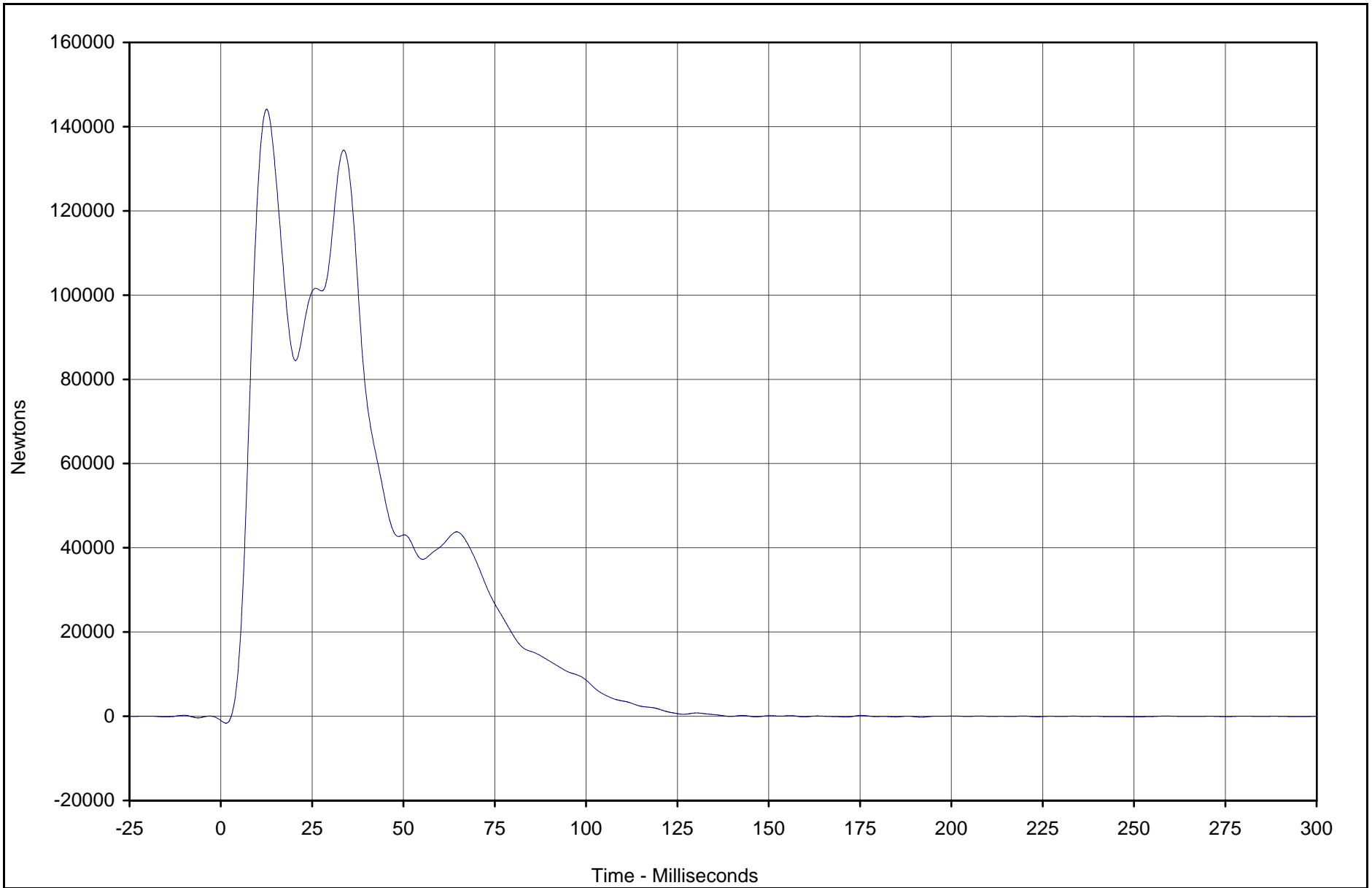
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-30



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|---------------------------|-------|------|---------|----------|------|---------|------|-----------|
| Barrier Force Sum Group 6 | 006 | SUM | Newtons | 144132.5 | 12.5 | -1650.3 | 1.4 | 60 |



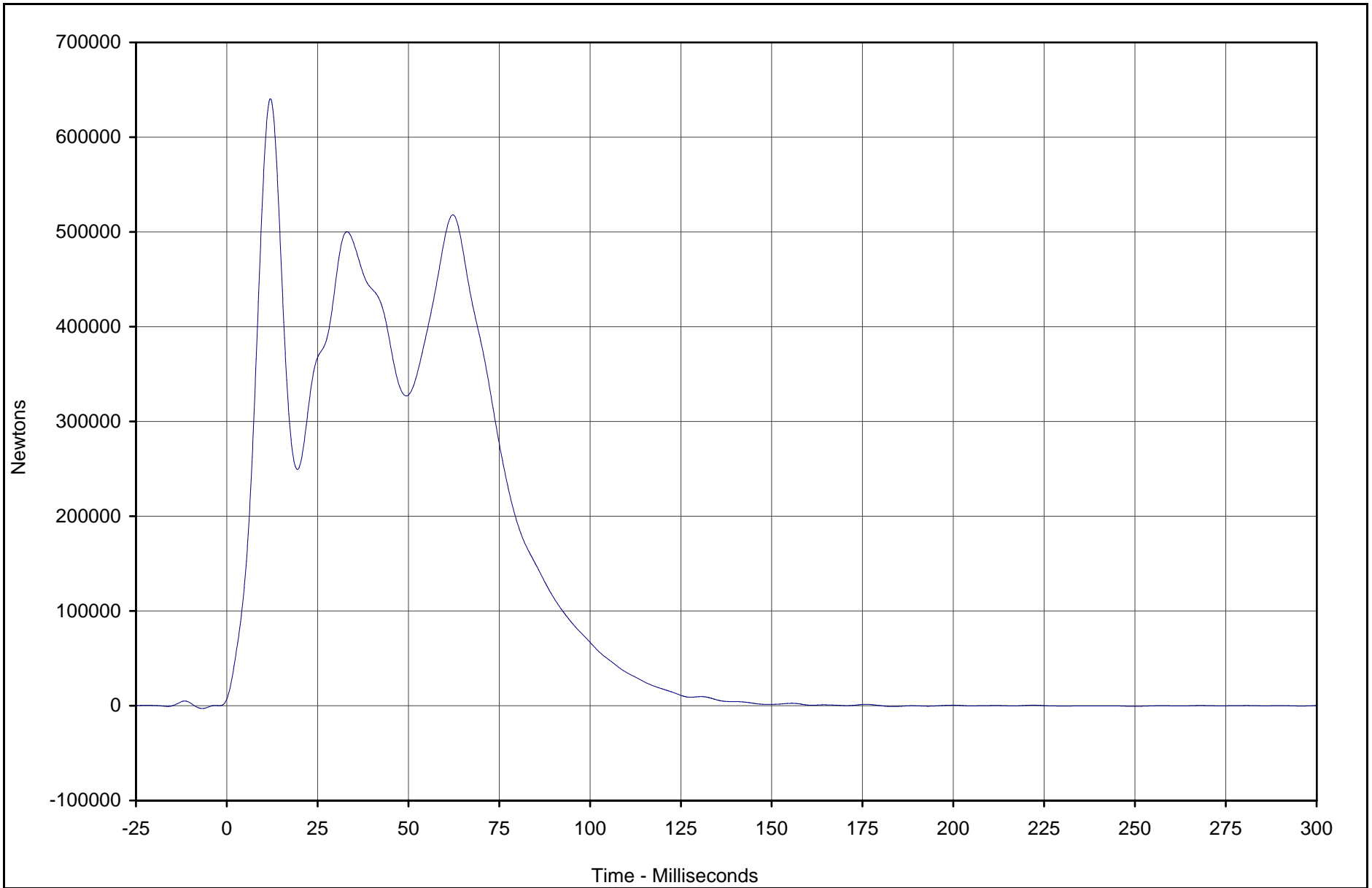
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-31



KARR22001-04

| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-------------------------|-------|------|---------|----------|------|--------|-------|-----------|
| Barrier Force Total Sum | 007 | SUM | Newtons | 640544.2 | 12.0 | -902.6 | 183.4 | 60 |



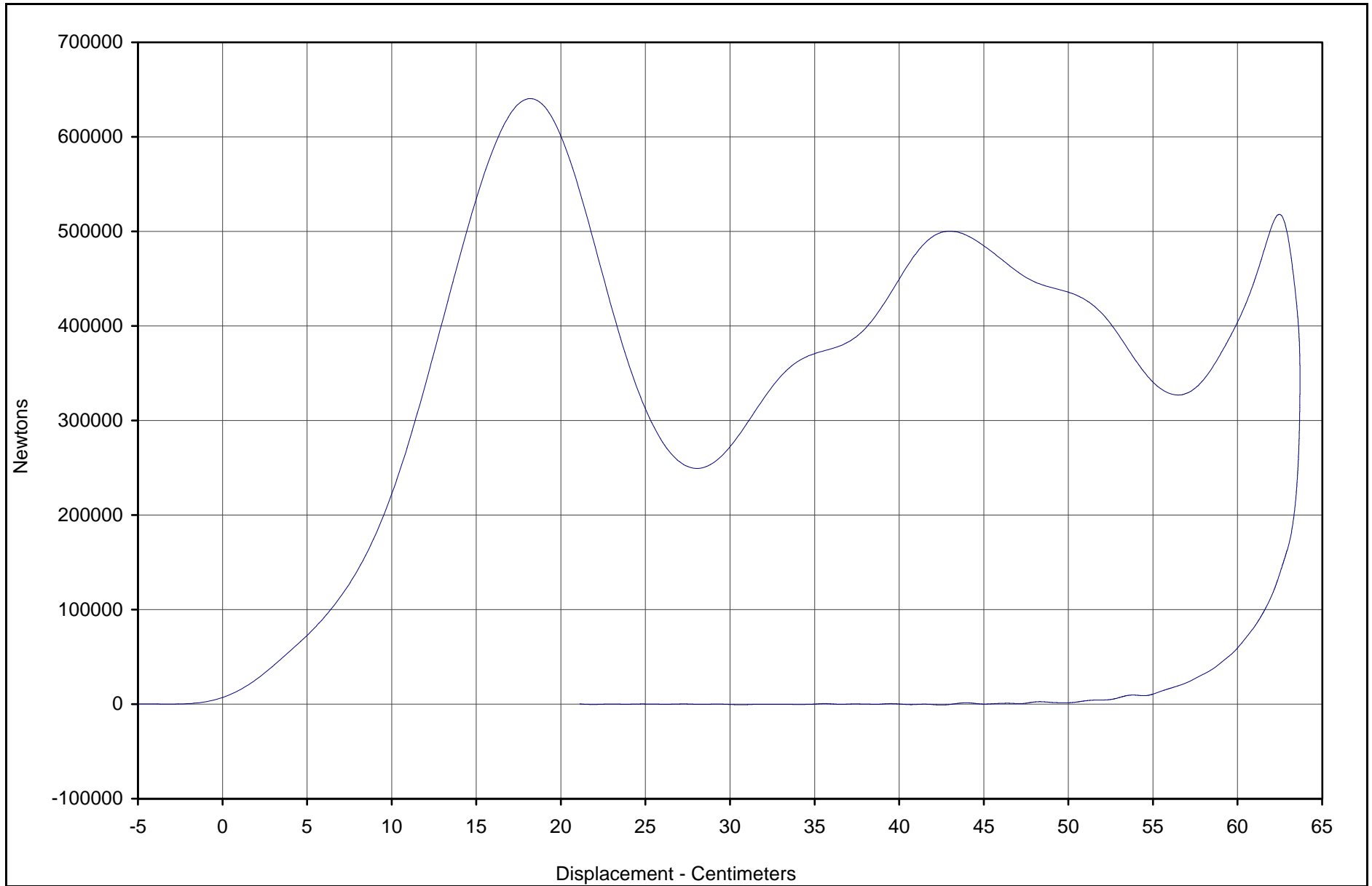
Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

C-32



KAR22001-04

| Curve Description | CURNO | Type | Units | Max | CM | Energy (Joules) | SAE Class |
|------------------------------------|-------|------|---------|----------|------|-----------------|-----------|
| Barrier Force Total Sum vs. Displ. | 001 | XVY | Newtons | 640544.2 | 18.2 | 225501.5 | 60 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

NHTSA No.: M20208

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 4/16/02

| Location | Max | Time | Min | Time |
|---------------------------|----------|------|---------|-------|
| Driver Barrier Force A2 | 2336.6 | 55.4 | -2206.1 | 18.5 |
| Driver Barrier Force A3 | 2852.2 | 13.0 | -4101.0 | 19.0 |
| Driver Barrier Force A4 | 3464.0 | 13.1 | -4238.0 | 18.6 |
| Driver Barrier Force A5 | 3460.1 | 13.2 | -3878.0 | 18.3 |
| Driver Barrier Force A6 | 3616.4 | 13.1 | -3377.2 | 18.2 |
| Driver Barrier Force A7 | 2391.8 | 13.1 | -2349.0 | 18.0 |
| Driver Barrier Force A8 | 2705.7 | 55.6 | -1417.5 | 17.8 |
| Driver Barrier Force A9 | 2555.0 | 69.4 | -1177.9 | 15.7 |
| Driver Barrier Force B2 | 2870.1 | 61.6 | -1428.3 | 6.4 |
| Driver Barrier Force B3 | 38541.0 | 61.0 | -1349.3 | 2.9 |
| Driver Barrier Force B4 | 66852.8 | 61.2 | -2327.5 | 2.7 |
| Driver Barrier Force B5 | 8242.4 | 70.4 | -1644.4 | 17.9 |
| Driver Barrier Force B6 | 9066.0 | 70.2 | -928.4 | 1.7 |
| Driver Barrier Force B7 | 82816.9 | 31.3 | -2080.8 | 2.6 |
| Driver Barrier Force B8 | 16118.9 | 63.5 | -406.0 | 2.4 |
| Driver Barrier Force B9 | 3783.0 | 69.3 | -1160.0 | 25.5 |
| Driver Barrier Force C2 | 6538.6 | 13.5 | -1843.2 | 6.4 |
| Driver Barrier Force C3 | 60991.2 | 31.6 | -403.1 | 0.9 |
| Driver Barrier Force C4 | 222163.1 | 12.2 | -79.2 | 297.1 |
| Driver Barrier Force C5 | 75908.4 | 63.2 | -89.7 | 181.7 |
| Driver Barrier Force C6 | 46280.8 | 12.7 | -109.6 | 249.6 |
| Driver Barrier Force C7 | 136099.8 | 12.4 | -1329.8 | 1.3 |
| Driver Barrier Force C8 | 8999.7 | 14.4 | -265.5 | 1.4 |
| Driver Barrier Force C9 | 1401.9 | 51.0 | -1104.2 | 55.0 |
| Barrier Force Sum Group 1 | 42582.8 | 55.1 | -3275.0 | 3.8 |
| Barrier Force Sum Group 2 | 86612.6 | 11.9 | -5748.1 | 2.3 |
| Barrier Force Sum Group 3 | 99954.9 | 68.4 | -3453.0 | 2.6 |
| Barrier Force Sum Group 4 | 64282.7 | 31.9 | -783.8 | 1.7 |
| Barrier Force Sum Group 5 | 280723.3 | 12.3 | -207.8 | 249.5 |
| Barrier Force Sum Group 6 | 144132.5 | 12.5 | -1650.3 | 1.4 |
| Barrier Force Total Sum | 640544.2 | 12.0 | -902.6 | 183.4 |

Locations A1,B1,C1, and D1 through D9 (12 locations) were not recorded.

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|--------------------|------|------------|--------------------------|--------------|-----------|-------|
| 1 | HEAD, PRIMARY | X | GPAC027 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 2 | HEAD, PRIMARY | Y | GPAC002 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 3 | HEAD, PRIMARY | Z | GPAC003 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 4 | HEAD, REDUNDANT | X | GPAC032 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 5 | HEAD, REDUNDANT | Y | GPAC021 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 6 | HEAD, REDUNDANT | Z | GPAC026 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 7 | NECK FORCE | X | GPUN01FX | Load cell, six axis neck | R. A. Denton | 1716A | N |
| 8 | NECK FORCE | Y | GPUN01FY | Load cell, six axis neck | R. A. Denton | 1716A | N |
| 9 | NECK FORCE | Z | GPUN01FZ | Load cell, six axis neck | R. A. Denton | 1716A | N |
| 10 | NECK MOMENT | X | GPUN01MX | Load cell, six axis neck | R. A. Denton | 1716A | Nm |
| 11 | NECK MOMENT | Y | GPUN01MY | Load cell, six axis neck | R. A. Denton | 1716A | Nm |
| 12 | NECK MOMENT | Z | GPUN01MZ | Load cell, six axis neck | R. A. Denton | 1716A | Nm |
| 13 | CHEST , PRIMARY | X | GPAC005 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 14 | CHEST , PRIMARY | Y | GPAC011 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 15 | CHEST , PRIMARY | Z | GPAC010 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 16 | CHEST , REDUNDANT | X | GPAC034 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 17 | CHEST , REDUNDANT | Y | GPAC023 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 18 | CHEST , REDUNDANT | Z | GPAC020 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 19 | CHEST DISPLACEMENT | X | GPCP002 | Rotary Pot Chest | Servo | 14CBI | MM |
| 20 | PELVIS, PRIMARY | X | GPAC025 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 21 | PELVIS, PRIMARY | Y | GPAC022 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 22 | PELVIS, PRIMARY | Z | GPAC019 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 23 | LEFT FEMUR FORCE | Z | KEFF003 | Load cell, Femur | R.A. Denton | 2121 | N |
| 24 | RIGHT FEMUR FORCE | Z | KEFF004 | Load cell, Femur | R.A. Denton | 2121 | N |

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|------------------------|------|------------|---------------------------|--------------|-------------|-------|
| 25 | UP. TIBIA LEFT MOM. | X | GPUT09MX | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 26 | UP. TIBIA LEFT MOM. | Y | GPUT09MY | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 27 | UP. TIBIA RIGHT MOM. | X | GPUT09MX | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 28 | UP. TIBIA RIGHT MOM. | Y | GPUT09MY | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 29 | LWR. TIBIA LEFT MOM. | X | GPLT09MX | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 30 | LWR. TIBIA LEFT MOM. | Y | GPLT09MY | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 31 | LWR. TIBIA LEFT FORCE | Z | GPLT09FZ | 3 ch., lower tibia gage | R. A. Denton | 3093 | N |
| 32 | LWR. TIBIA RIGHT MOM. | X | GPLT09MX | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 33 | LWR. TIBIA RIGHT MOM. | Y | GPLT09MY | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 34 | LWR. TIBIA RIGHT FORCE | Z | GPLT09FZ | 3 ch., lower tibia gage | R. A. Denton | 3093 | N |
| 35 | FOOT LEFT, AFT | X | KEIC002X | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 36 | FOOT LEFT, AFT | Z | KEIC002Y | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 37 | FOOT LEFT, FORE | Z | KEIC002Z | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 38 | FOOT RIGHT, AFT | X | KEIC001X | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 39 | FOOT RIGHT, AFT | Z | KEIC001Y | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 40 | FOOT RIGHT, FORE | Z | KEIC001Z | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 41 | LAP BELT FORCE | X | KELC001 | Load cell, Seat belt | Lebow | 3371 | N |
| 42 | SHOULDER BELT FORCE | X | KELC002 | Load cell, Seat belt | Lebow | 3371 | N |
| 43 | SHOULDER BELT SPOOL | X | KEPP001 | Pullout pot | Celesco | PTX101-0030 | CM |
| 44 | SHOULDER BELT ELONG. | X | KEEP001 | Linear pot., belt stretch | E.T.I. | LCP8-10 10K | MM/CM |

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|--------------------|------|------------|--------------------------|--------------|-----------|-------|
| 45 | HEAD, PRIMARY | X | KEAC039 | Accel.,1/2 bridge | Endevco | 7264-2000 | G |
| 46 | HEAD, PRIMARY | Y | KEAC038 | Accel.,1/2 bridge | Endevco | 7264-2000 | G |
| 47 | HEAD, PRIMARY | Z | KEAC027 | Accel.,1/2 bridge | Endevco | 7264-2000 | G |
| 48 | HEAD, REDUNDANT | X | KEAC031 | Accel.,1/2 bridge | Endevco | 7264-2000 | G |
| 49 | HEAD, REDUNDANT | Y | KEAC032 | Accel.,1/2 bridge | Endevco | 7264-2000 | G |
| 50 | HEAD, REDUNDANT | Z | KEAC026 | Accel.,1/2 bridge | Endevco | 7264-2000 | G |
| 51 | NECK FORCE | X | GPUN02FX | Load cell, six axis neck | R. A. Denton | 1716A | N |
| 52 | NECK FORCE | Y | GPUN02FY | Load cell, six axis neck | R. A. Denton | 1716A | N |
| 53 | NECK FORCE | Z | GPUN02FZ | Load cell, six axis neck | R. A. Denton | 1716A | N |
| 54 | NECK MOMENT | X | GPUN02MX | Load cell, six axis neck | R. A. Denton | 1716A | Nm |
| 55 | NECK MOMENT | Y | GPUN02MY | Load cell, six axis neck | R. A. Denton | 1716A | Nm |
| 56 | NECK MOMENT | Z | GPUN02MZ | Load cell, six axis neck | R. A. Denton | 1716A | Nm |
| 57 | CHEST , PRIMARY | X | GPAC031 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 58 | CHEST , PRIMARY | Y | GPAC024 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 59 | CHEST , PRIMARY | Z | GPAC029 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 60 | CHEST , REDUNDANT | X | KEAC023 | Accel.,1/2 bridge | Endevco | 7264-200 | G |
| 61 | CHEST , REDUNDANT | Y | KEAC022 | Accel.,1/2 bridge | Endevco | 7264-200 | G |
| 62 | CHEST , REDUNDANT | Z | KEAC024 | Accel.,1/2 bridge | Endevco | 7264-200 | G |
| 63 | CHEST DISPLACEMENT | X | GPCP001 | Rotary Pot Chest | Servo | 14CBI | MM |
| 64 | PELVIS, PRIMARY | X | KEAC019 | Accel.,1/2 bridge | Endevco | 7264-200 | G |
| 65 | PELVIS, PRIMARY | Y | KEAC020 | Accel.,1/2 bridge | Endevco | 7264-200 | G |
| 66 | PELVIS, PRIMARY | Z | KEAC021 | Accel.,1/2 bridge | Endevco | 7264-200 | G |
| 67 | LEFT FEMUR FORCE | Z | KEFF001 | Load cell, Femur | R.A. Denton | 2121 | N |
| 68 | RIGHT FEMUR FORCE | Z | KEFF002 | Load cell, Femur | R.A. Denton | 2121 | N |

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|------------------------|------|------------|---------------------------|--------------|-------------|-------|
| 69 | UP. TIBIA LEFT MOM. | X | GPUT09MX | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 70 | UP. TIBIA LEFT MOM. | Y | GPUT09MY | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 71 | UP. TIBIA RIGHT MOM. | X | GPUT09MX | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 72 | UP. TIBIA RIGHT MOM. | Y | GPUT09MY | 2 ch., Upper tibia gage | R. A. Denton | 1583 | Nm |
| 73 | LWR. TIBIA LEFT MOM. | X | GPLT09MX | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 74 | LWR. TIBIA LEFT MOM. | Y | GPLT09MY | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 75 | LWR. TIBIA LEFT FORCE | Z | GPLT09FZ | 3 ch., lower tibia gage | R. A. Denton | 3093 | N |
| 76 | LWR. TIBIA RIGHT MOM. | X | GPLT09MX | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 77 | LWR. TIBIA RIGHT MOM. | Y | GPLT09MY | 3 ch., lower tibia gage | R. A. Denton | 3093 | Nm |
| 78 | LWR. TIBIA RIGHT FORCE | Z | GPLT09FZ | 3 ch., lower tibia gage | R. A. Denton | 3093 | N |
| 79 | FOOT LEFT, AFT | X | KEIC003X | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 80 | FOOT LEFT, AFT | Z | KEIC003Y | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 81 | FOOT LEFT, FORE | Z | KEIC003Z | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 82 | FOOT RIGHT, AFT | X | KEIC004X | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 83 | FOOT RIGHT, AFT | Z | KEIC004Y | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 84 | FOOT RIGHT, FORE | Z | KEIC004Z | Accel., Foot Triax | I.C. Sensor | 3031-500 | G |
| 85 | LAP BELT FORCE | X | KELC003 | Load cell, Seat belt | Lebow | 3371 | N |
| 86 | SHOULDER BELT FORCE | X | KELC004 | Load cell, Seat belt | Lebow | 3371 | N |
| 87 | SHOULDER BELT SPOOL | X | KEPP001 | Pullout pot | Celesco | PTX101-0030 | MM |
| 88 | SHOULDER BELT ELONG. | X | KEEP001 | Linear pot., belt stretch | E.T.I. | LCP8-10 10K | MM/CM |

D-4

KAR22001-04

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|---------------------|------|------------|-----------------------|-------------|----------|-------|
| 89 | Left Rear | X | KEVA005 | Accel., Vehicle block | I.C. Sensor | 3031-500 | G |
| 90 | Right Rear | X | KEVA002 | Accel., Pre-Amp | I.C.S/Karco | 3031-500 | G |
| 91 | Engine Top | X | KEVA012 | Accel., Vehicle block | I.C. Sensor | 3031-500 | G |
| 92 | Engine Bottom | X | KEVA008 | Accel., Vehicle block | I.C. Sensor | 3031-500 | G |
| 93 | Left Brake Caliper | X | KEVA007 | Accel., Vehicle block | I.C. Sensor | 3031-500 | G |
| 94 | Right Brake Caliper | X | KEVA001 | Accel., Vehicle block | I.C. Sensor | 3031-500 | G |
| 95 | Instrument Panel | X | KEVA011 | Accel., Vehicle block | I.C. Sensor | 3031-200 | G |
| 96 | Left Rear | Z | KEVA010 | Accel., Vehicle block | I.C. Sensor | 3031-200 | G |
| 97 | Right Rear | Z | KEVA006 | Accel., Vehicle block | I.C. Sensor | 3031-200 | G |

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|------------------|------|------------|----------------|-------|---------|-------|
| 98 | BARRIER FORCE A1 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 99 | BARRIER FORCE A2 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 100 | BARRIER FORCE A3 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 101 | BARRIER FORCE A4 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 102 | BARRIER FORCE A5 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 103 | BARRIER FORCE A6 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 104 | BARRIER FORCE A7 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 105 | BARRIER FORCE A8 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 106 | BARRIER FORCE A9 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 107 | BARRIER FORCE B1 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 108 | BARRIER FORCE B2 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 109 | BARRIER FORCE B3 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 110 | BARRIER FORCE B4 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 111 | BARRIER FORCE B5 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 112 | BARRIER FORCE B6 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 113 | BARRIER FORCE B7 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 114 | BARRIER FORCE B8 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 115 | BARRIER FORCE B9 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|------------------|------|------------|----------------|-------|---------|-------|
| 116 | BARRIER FORCE C1 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 117 | BARRIER FORCE C2 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 118 | BARRIER FORCE C3 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 119 | BARRIER FORCE C4 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 120 | BARRIER FORCE C5 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 121 | BARRIER FORCE C6 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 122 | BARRIER FORCE C7 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 123 | BARRIER FORCE C8 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 124 | BARRIER FORCE C9 | X | BARRIER | Load Cell, LCB | Lebow | 1220-FS | N |
| 125 | BARRIER FORCE D1 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 126 | BARRIER FORCE D2 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 127 | BARRIER FORCE D3 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 128 | BARRIER FORCE D4 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 129 | BARRIER FORCE D5 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 130 | BARRIER FORCE D6 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 131 | BARRIER FORCE D7 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 132 | BARRIER FORCE D8 | X | BARRIER | Not Used | N/A | N/A | N/A |
| 133 | BARRIER FORCE D9 | X | BARRIER | Not Used | N/A | N/A | N/A |

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Nine Accelerometer Head Array Channels
4/16/02
2002 Ford Explorer Sport 2 Door 4WD SUV**

| CH. | LOCATION | AXIS | IDENT. NO. | DESCRIPTION | MFR | MODEL | UNITS |
|-----|-------------------|------|------------|--------------------|---------|-----------|-------|
| 134 | Driver Head CG | X | KEAC039 | Accel., 1/2 bridge | Endevco | 7264-2000 | G * |
| 135 | Driver Head CG | Y | KEAC038 | Accel., 1/2 bridge | Endevco | 7264-2000 | G * |
| 136 | Driver Head CG | Z | KEAC027 | Accel., 1/2 bridge | Endevco | 7264-2000 | G * |
| 137 | Driver Y-arm | Z | GPAC016 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 138 | Driver Y-arm | X | GPAC015 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 139 | Driver X-arm | Z | GPAC004 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 140 | Driver X-arm | Y | GPAC018 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 141 | Driver Z-arm | X | GPAC006 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 142 | Driver Z-arm | Y | GPAC007 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 143 | Passenger Head CG | X | GPAC027 | Accel., 1/2 bridge | Endevco | 7264-2000 | G * |
| 144 | Passenger Head CG | Y | GPAC002 | Accel., 1/2 bridge | Endevco | 7264-2000 | G * |
| 145 | Passenger Head CG | Z | GPAC003 | Accel., 1/2 bridge | Endevco | 7264-2000 | G * |
| 146 | Passenger Y-arm | Z | GPAC012 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 147 | Passenger Y-arm | X | GPAC001 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 148 | Passenger X-arm | Z | GPAC036 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 149 | Passenger X-arm | Y | GPAC014 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 150 | Passenger Z-arm | X | GPAC030 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |
| 151 | Passenger Z-arm | Y | GPAC037 | Accel., 1/2 bridge | Endevco | 7264-2000 | G |

* Duplicate of Head CG Primary Channels

APPENDIX E

DUMMY CALIBRATION DATA



Hybrid III Calibration Data Sheet

Hybrid III 50th Percentile Male Knee Impact Test

ATD Serial No.: 034

Location: Left Knee

Test I.D.: LK01A

| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|---------------|--------|-----------|
| Laboratory Temperature | °C | 18.9 to 25.5 | 21.1 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | m/sec | 2.07 to 2.13 | 2.12 | Pass |
| Peak Probe Force | N | 4715 to 5782 | 5431 | Pass |
| Overall Test Results | | | | Pass |

E-1

ATD Serial No.: 034

Location: Right Knee

Test I.D.: RK01A

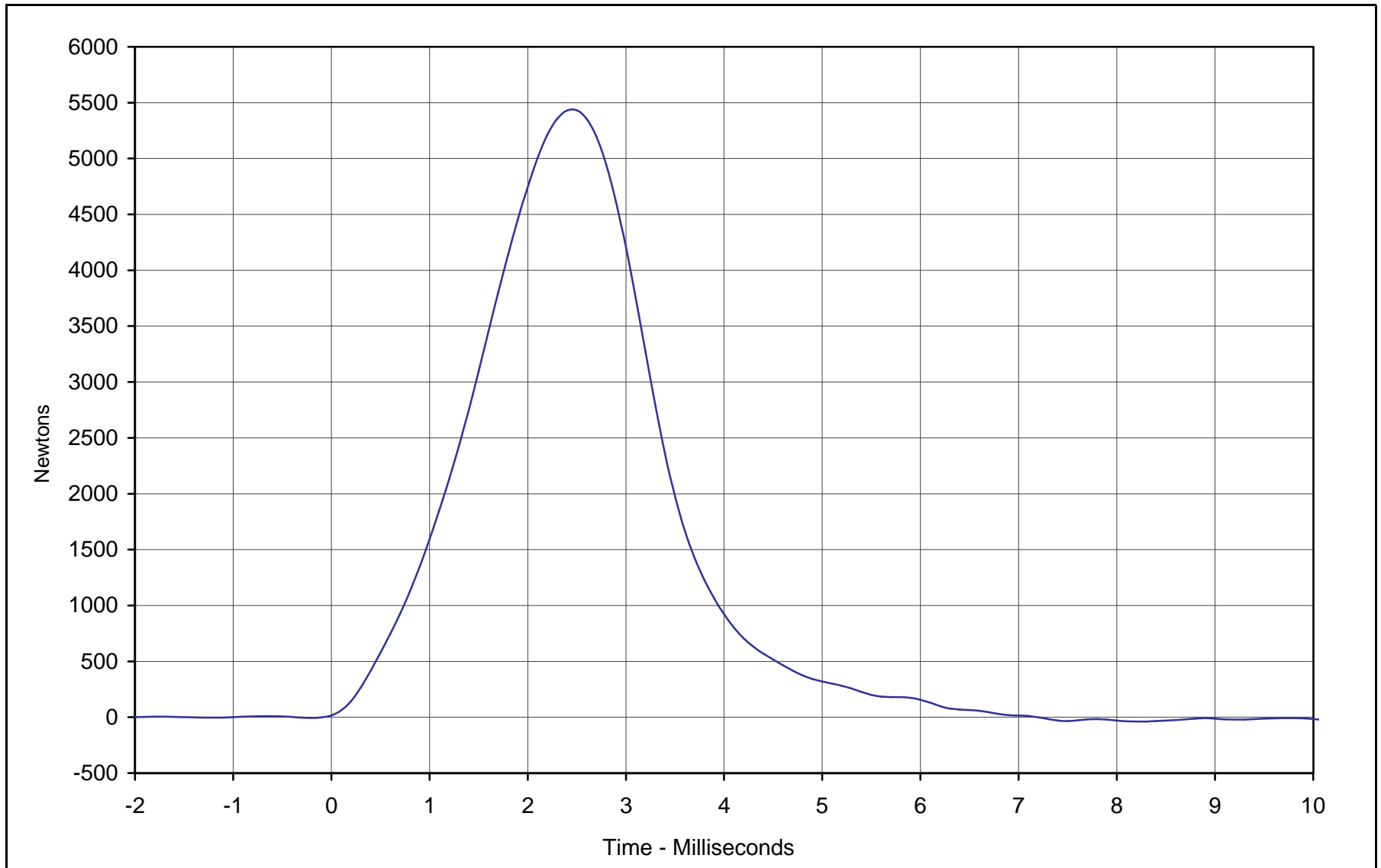
| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|---------------|--------|-----------|
| Laboratory Temperature | °C | 18.9 to 25.5 | 21.1 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | m/sec | 2.07 to 2.13 | 2.10 | Pass |
| Peak Probe Force | N | 4715 to 5782 | 5695 | Pass |
| Overall Test Results | | | | Pass |

KAR22001-04

Laboratory Technician

April 1, 2002

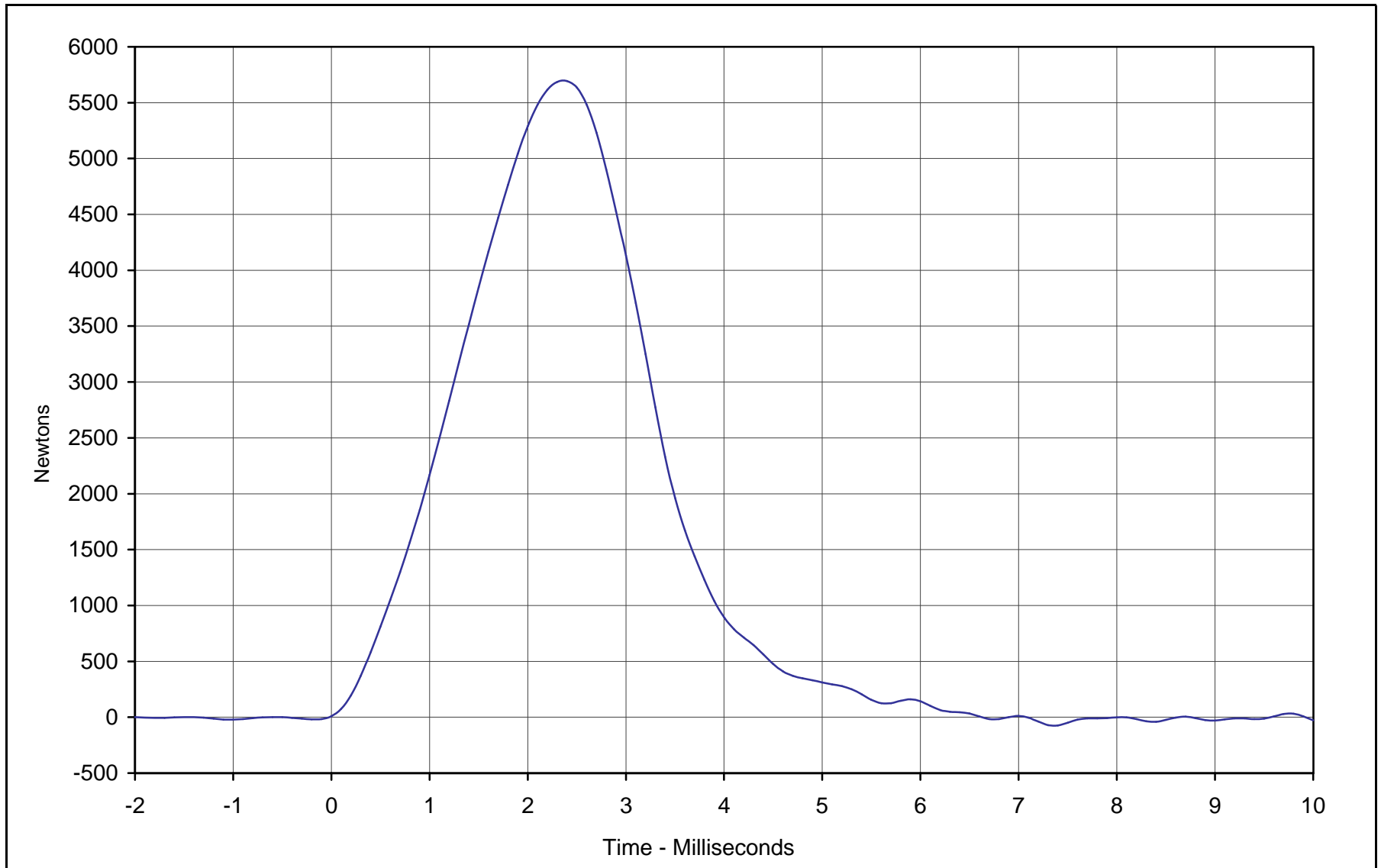
Test Date



Curve Description: Probe Force
Maximum Value: 5431.0 at 2.5 Milliseconds
Minimum Value: -33.5 at 7.5 Milliseconds
SAE Filter Class: 600
Date of Test: 4/1/02
ATD Serial No.: 034

Test Program: Hybrid III Knee Impact Test
Test Information: Location: Left Knee Test I.D.: LK01A





Curve Description: Probe Force
Maximum Value: 5694.7 at 2.4 Milliseconds
Minimum Value: -72.8 at 7.4 Milliseconds
SAE Filter Class: 600
Date of Test: 4/1/02
ATD Serial No.: 034

Test Program: Hybrid III Knee Impact Test
Test Information: Location: Right Knee Test I.D.: RK01A





Hybrid III Calibration Data Sheet

Hybrid III 50th Percentile Male Knee Slider Test

ATD Serial No.: 034

Location: Left Knee

Test I.D.: KS001

| Tested Parameter | | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|-------|---------------|--------|-----------|
| Laboratory Temperature | | °C | 20.6 to 22.2 | 21.1 | Pass |
| Laboratory Relative Humidity | | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | | m/sec | 2.70 to 2.80 | 2.77 | Pass |
| Impact Force at: | 10 mm | kN | 1.26 to 1.72 | 1.68 | Pass |
| | 18 mm | kN | 2.27 to 3.096 | 2.98 | Pass |
| Overall Test Results | | | | | Pass |

ATD Serial No.: 034

Location: Right Knee

Test I.D.: KS002

| Tested Parameter | | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|-------|---------------|--------|-----------|
| Laboratory Temperature | | °C | 20.6 to 22.2 | 21.1 | Pass |
| Laboratory Relative Humidity | | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | | m/sec | 2.70 to 2.80 | 2.71 | Pass |
| Impact Force at: | 10 mm | kN | 1.26 to 1.72 | 1.55 | Pass |
| | 18 mm | kN | 2.27 to 3.096 | 2.94 | Pass |
| Overall Test Results | | | | | Pass |

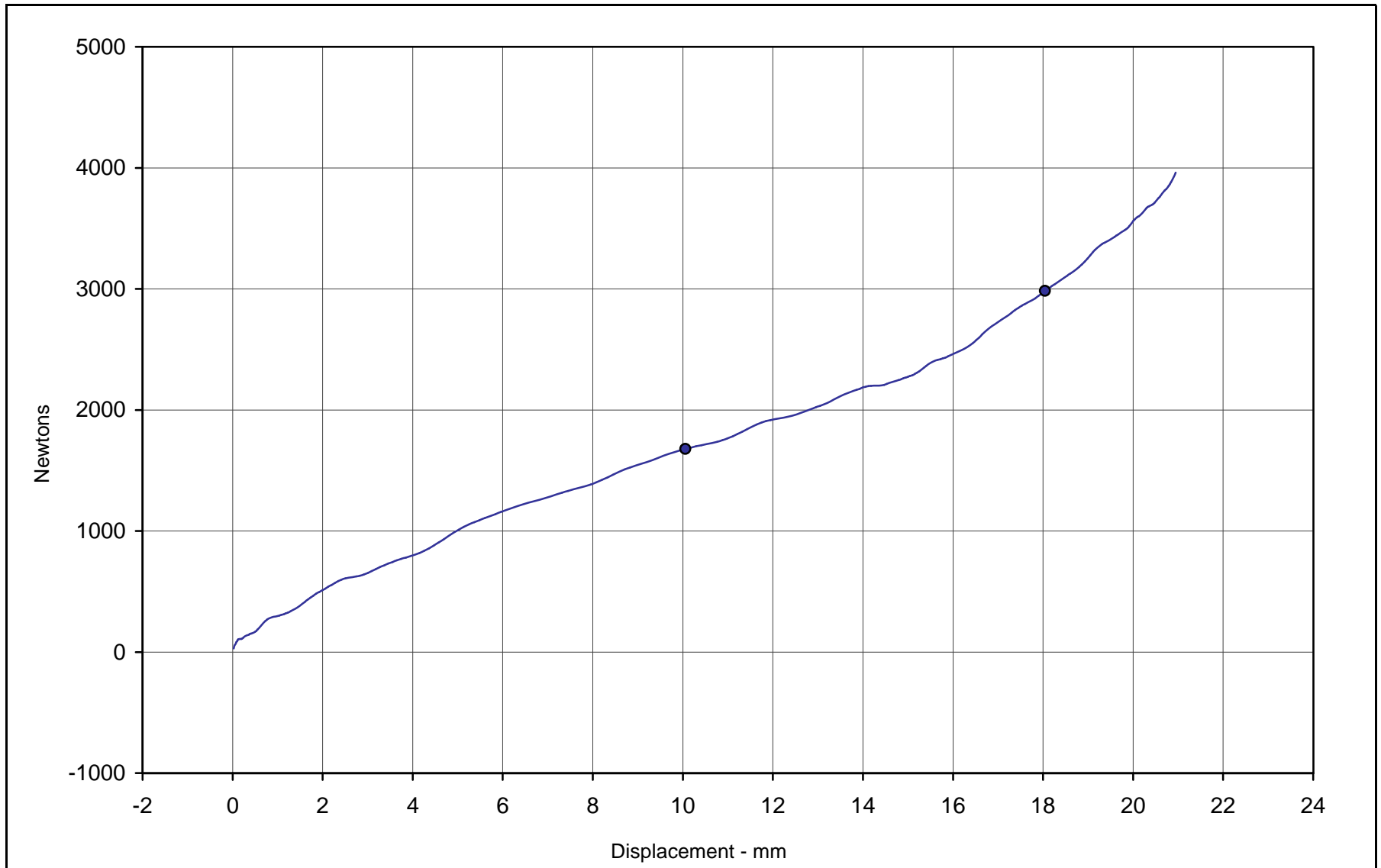
Laboratory Technician

April 1, 2002

Test Date

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KAR22001-04



Curve Description: Femur Force vs. Knee Displacement

Test Program: Hybrid III Knee Shear Test

Femur Force: 1677 at 10.0 mm

Test Information: Location: Left Knee Test I.D.: KS001

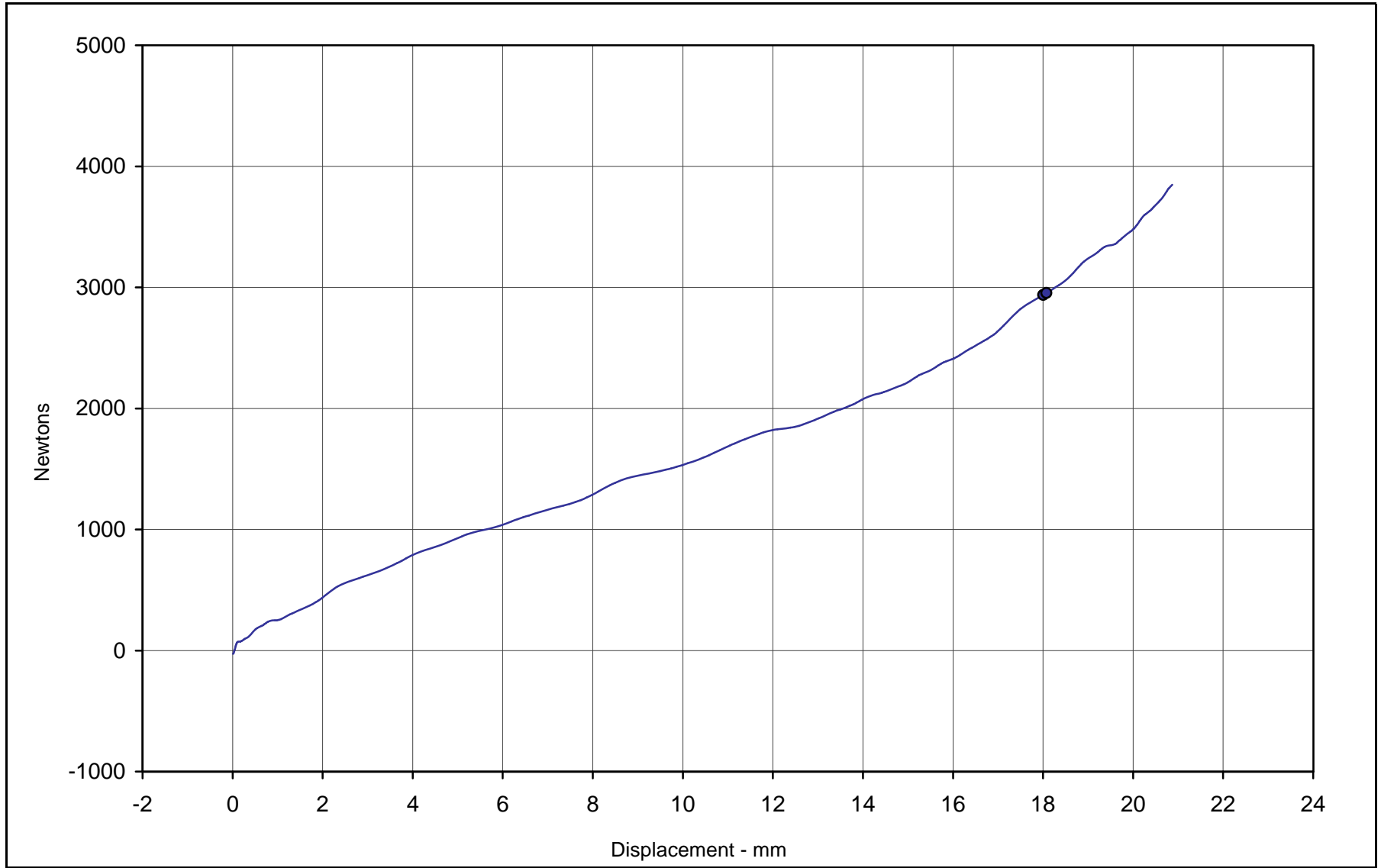
Femur Force: 2983 at 18.0 mm

SAE Filter Class: 600

Date of Test: 4/1/02

ATD Serial No.: 034





Curve Description: Femur Force vs. Knee Displacement

Test Program: Hybrid III Knee Shear Test

Femur Force: 1546 at 10.0 mm

Test Information: Location: Right Knee Test I.D.: KS002

Femur Force: 2938 at 18.0 mm

SAE Filter Class: 600

Date of Test: 4/1/02

ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: N/A

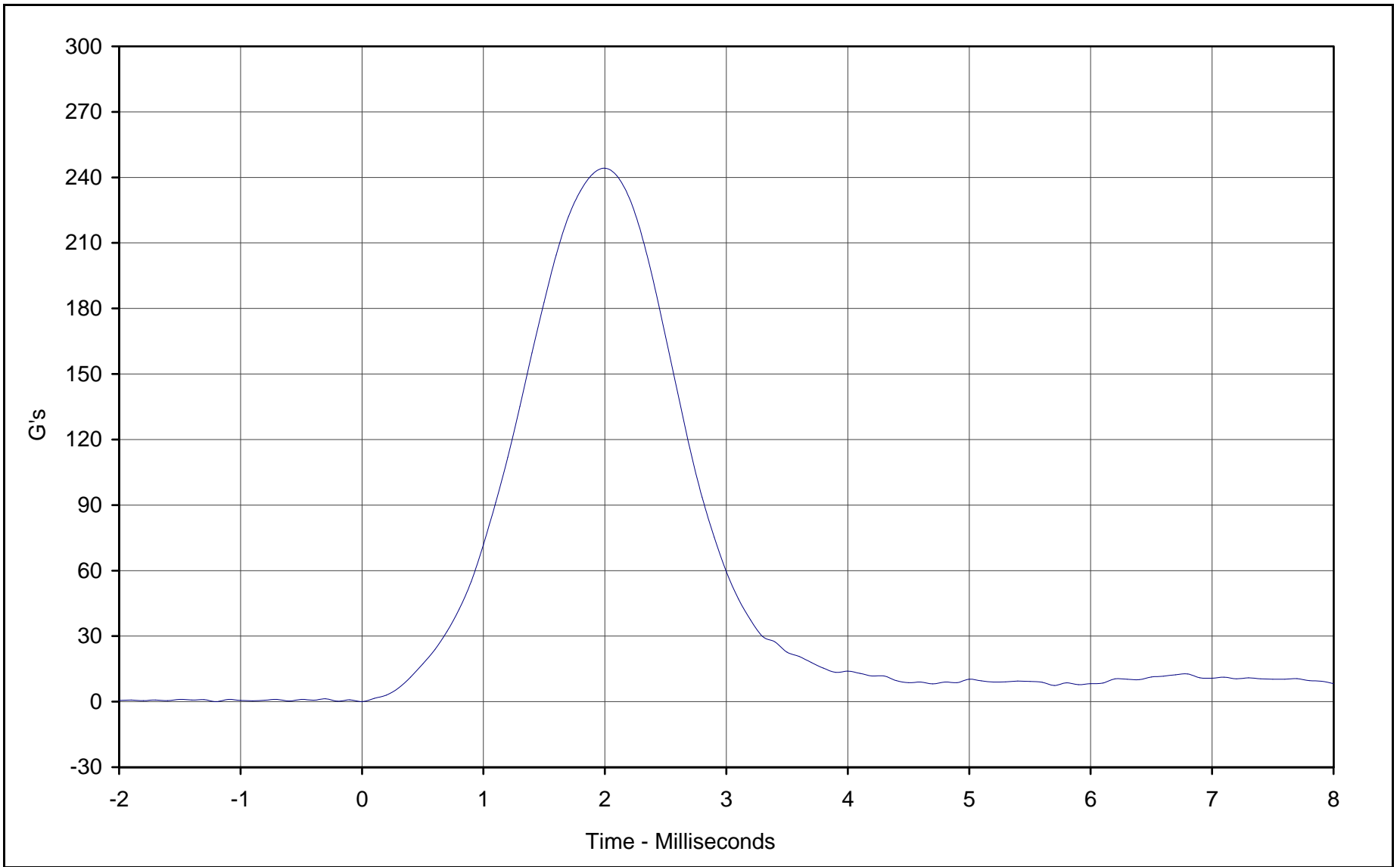
Test I.D.: HD01A

| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|--------|----------------|--------|-----------|
| Laboratory Temperature | °C | 18.9 to 25.6 | 21.1 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Peak Resultant Acceleration | G's | 225.0 to 275.0 | 244.3 | Pass |
| Peak Lateral Acceleration | G's | ≤15.0 | 2.0 | Pass |
| Is Acceleration Unimodal? | Yes/No | Yes | Yes | Pass |
| Overall Test Results | | | | Pass |

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April 1, 2002
Test Date

E-8



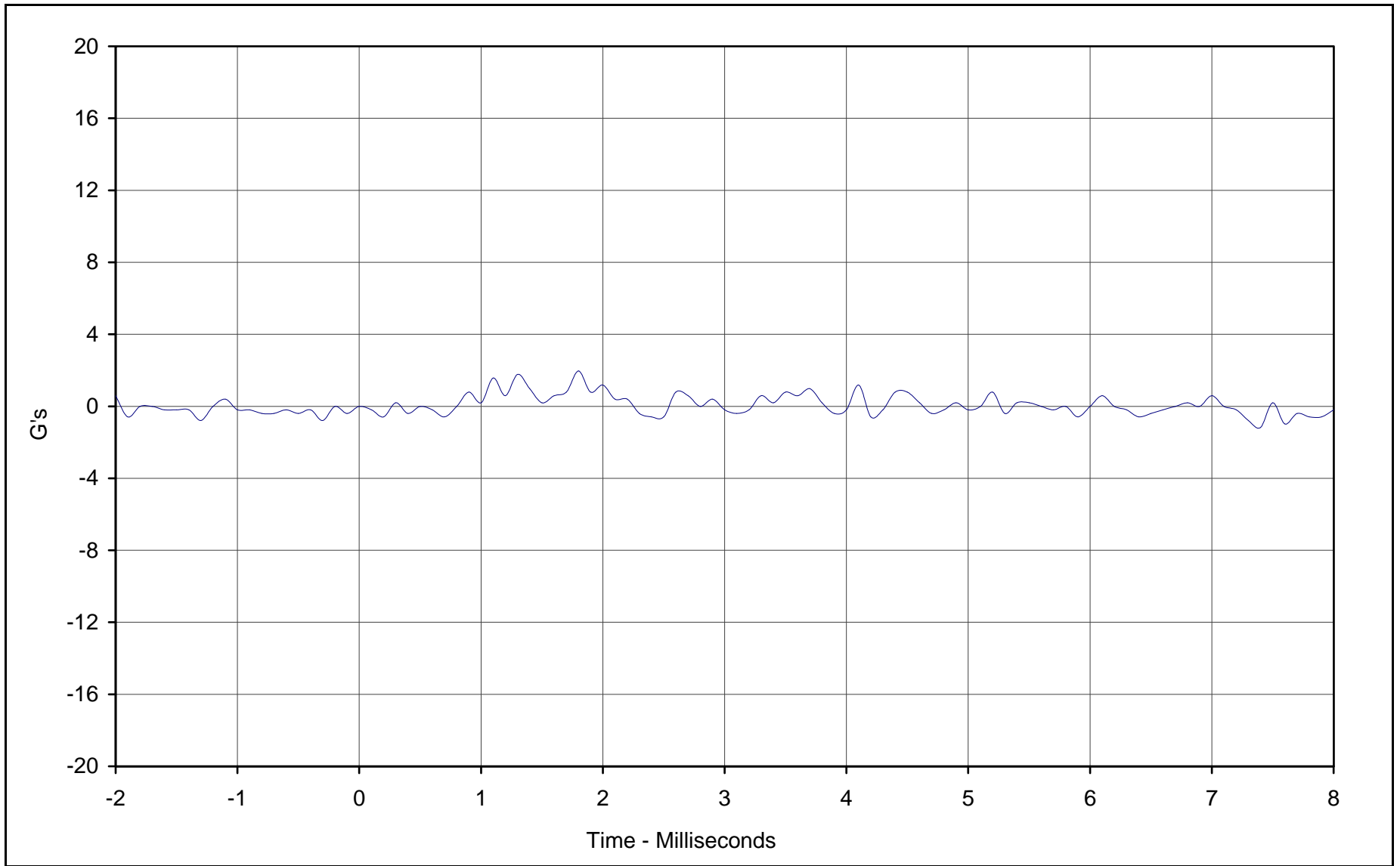
Curve Description: Head Resultant Acceleration
Maximum Value: 244.3 at 2.0 Milliseconds
Minimum Value: 0.0 at -1.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 4/1/02
ATD Serial No.: 034

Testing Program: Hybrid III Head Drop Calibration (Male)
Test Information: S/N of Part: N/A Test I.D.: HD01A



KARR22001-04

E-9



Curve Description: Head Acceleration Y Axis

Maximum Value: 2.0 at 1.8 Milliseconds

Minimum Value: -1.2 at 7.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 4/1/02

ATD Serial No.: 034

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD01A



KARR22001-04



Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CH01A

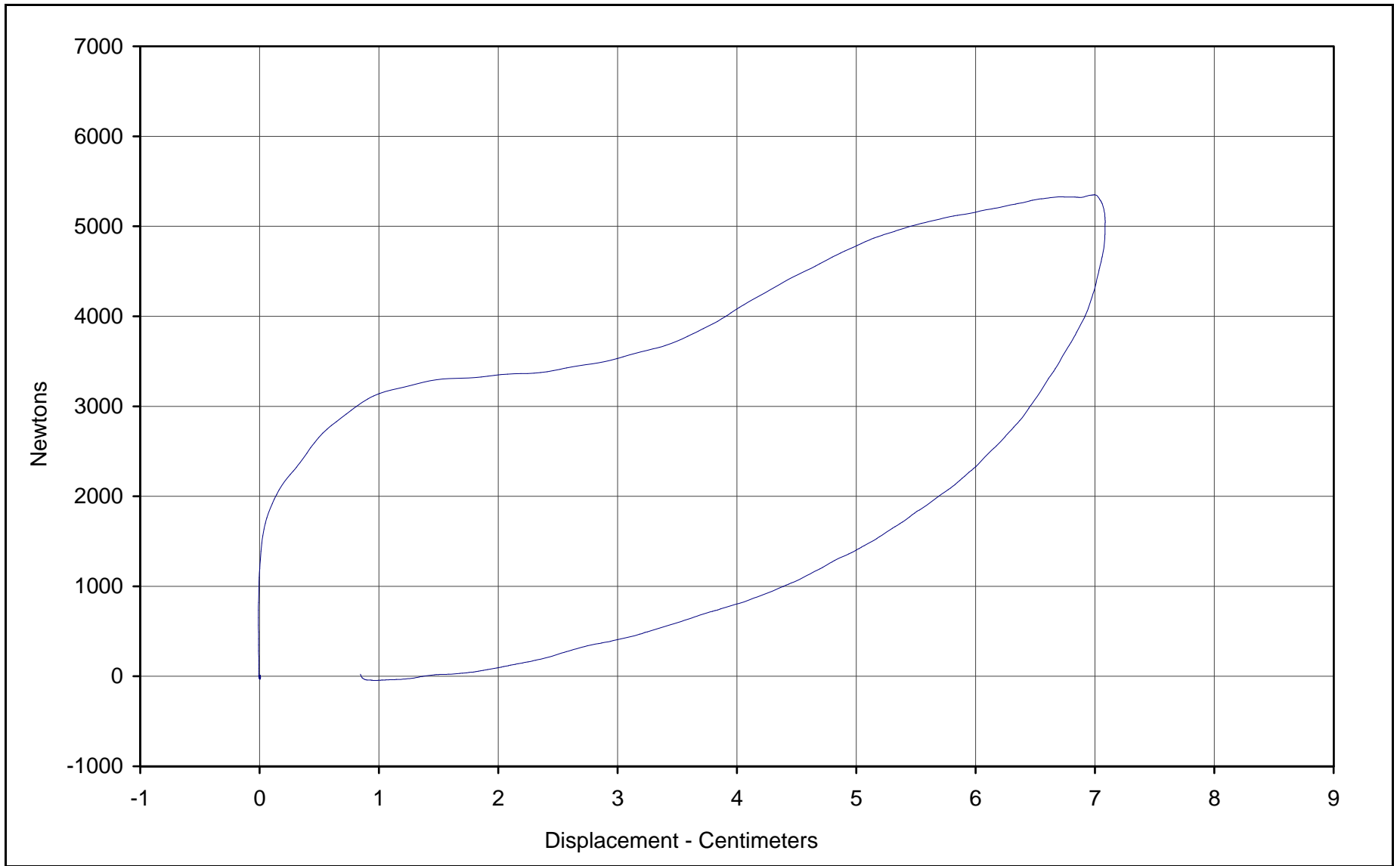
| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|---------|---------------|--------|-----------|
| Laboratory Temperature | °C | 20.6 to 22.2 | 21.2 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Probe Velocity | m/s | 6.58 to 6.82 | 6.68 | Pass |
| Peak Probe Force | Newtons | 5159 to 5893 | 5349 | Pass |
| Peak Sternum Displacement | CM | 6.35 to 7.26 | 7.09 | Pass |
| Internal Hysteresis | % | 69 to 85 | 74.0 | Pass |
| Overall Test Results | | | | Pass |

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Test Date

E-11



Curve Description: Probe Force vs. Chest Displacement

Testing Program: Hybrid III Thorax Impact Test

Probe Force: 5348.9 Newtons

Test Information: S/N of Part: N/A Test I.D.: CH01A

Chest Displ.: 7.09 Centimeters

SAE Filter Class: 180

Date of Test: 4/2/02

ATD Serial No.: 034



KARR22001-04



Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 034

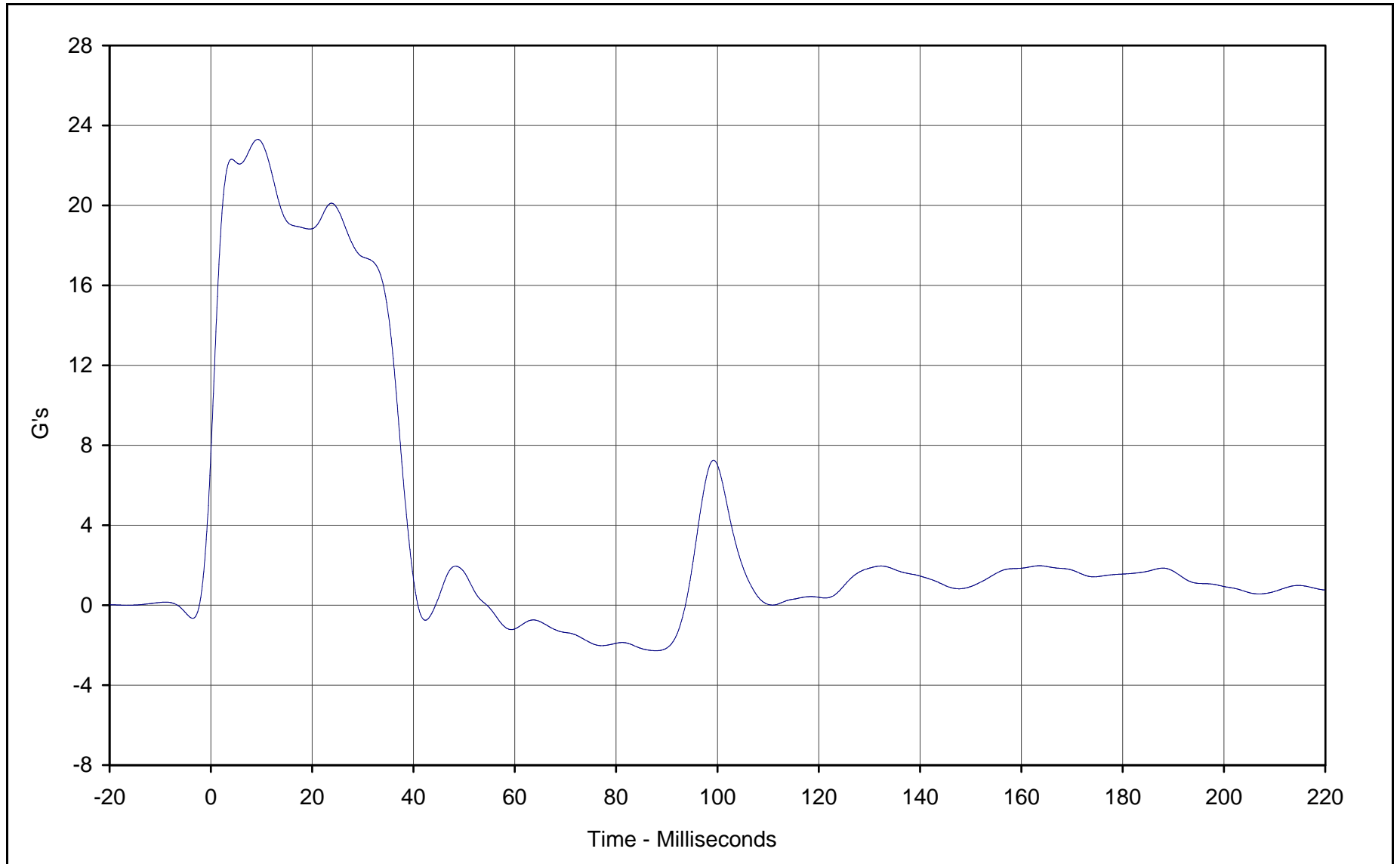
Part Serial No.: N/A

Test I.D.: NF02A

| Tested Parameter | Units | Specification | Result | Pass/Fail | |
|---|----------|----------------|---------------|-----------|------|
| Laboratory Temperature | °C | 20.6 to 22.2 | 21.1 | Pass | |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass | |
| Pendulum Velocity | m/s | 6.89 to 7.13 | 7.04 | Pass | |
| Pendulum Deceleration | 10 Msec. | G's | 22.5 to 27.5 | 23.2 | Pass |
| | 20 Msec. | G's | 17.6 to 22.6 | 18.8 | Pass |
| | 30 Msec. | G's | 12.5 to 18.5 | 17.4 | Pass |
| Peak Pendulum Decel. after 30 Msec. | G's | ≤ 29.0 | 17.4 | Pass | |
| Deceleration Decay, Time to Cross 5 G's | Msec. | 34.0 to 42.0 | 38.5 | Pass | |
| Maximum "D" Plane Rotation | Maximum | Degrees | 64.0 to 78.0 | 72.0 | Pass |
| | Time | Msec. | 57.0 to 64.0 | 60.6 | Pass |
| "D" Plane Rotation Decay, Time To Zero Crossing | Msec. | 113.0 to 128.0 | 118.6 | Pass | |
| Moment About Occipital Condyle | Maximum | N·m | 84.1 to 108.5 | 88.8 | Pass |
| | Time | Msec. | 47.0 to 58.0 | 56.3 | Pass |
| Positive Moment Decay, Time To Zero Crossing | Msec. | 97.0 to 107.0 | 101.8 | Pass | |
| Overall Test Results | | | | Pass | |

Laboratory Technician

April 2, 2002
Test Date



Curve Description: Pendulum Deceleration

Maximum Value: 23.3 at 9.2 Milliseconds

Minimum Value: -2.3 at 87.9 Milliseconds

SAE Filter Class: 60

Date of Test: 4/2/02

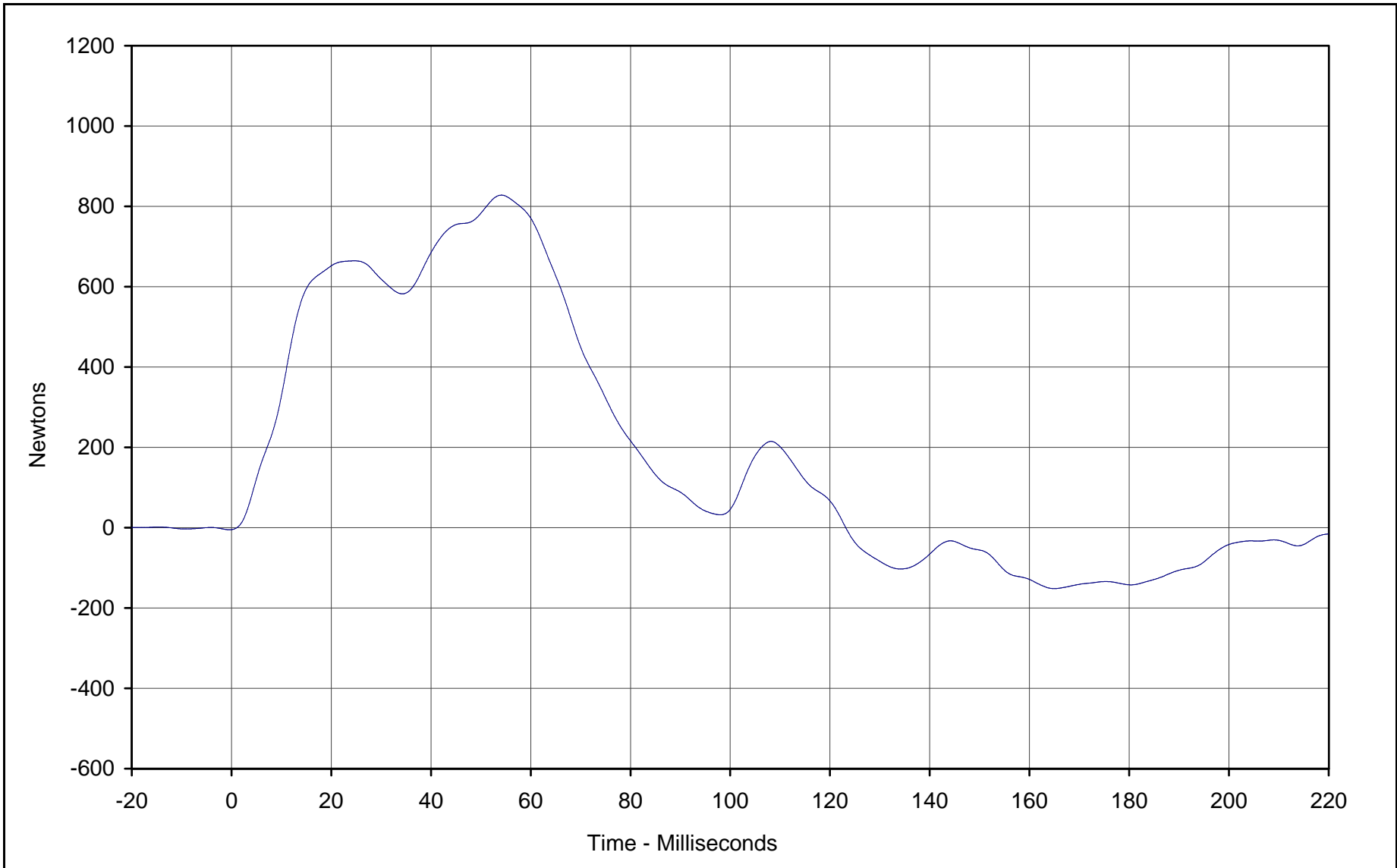
ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A



E-14

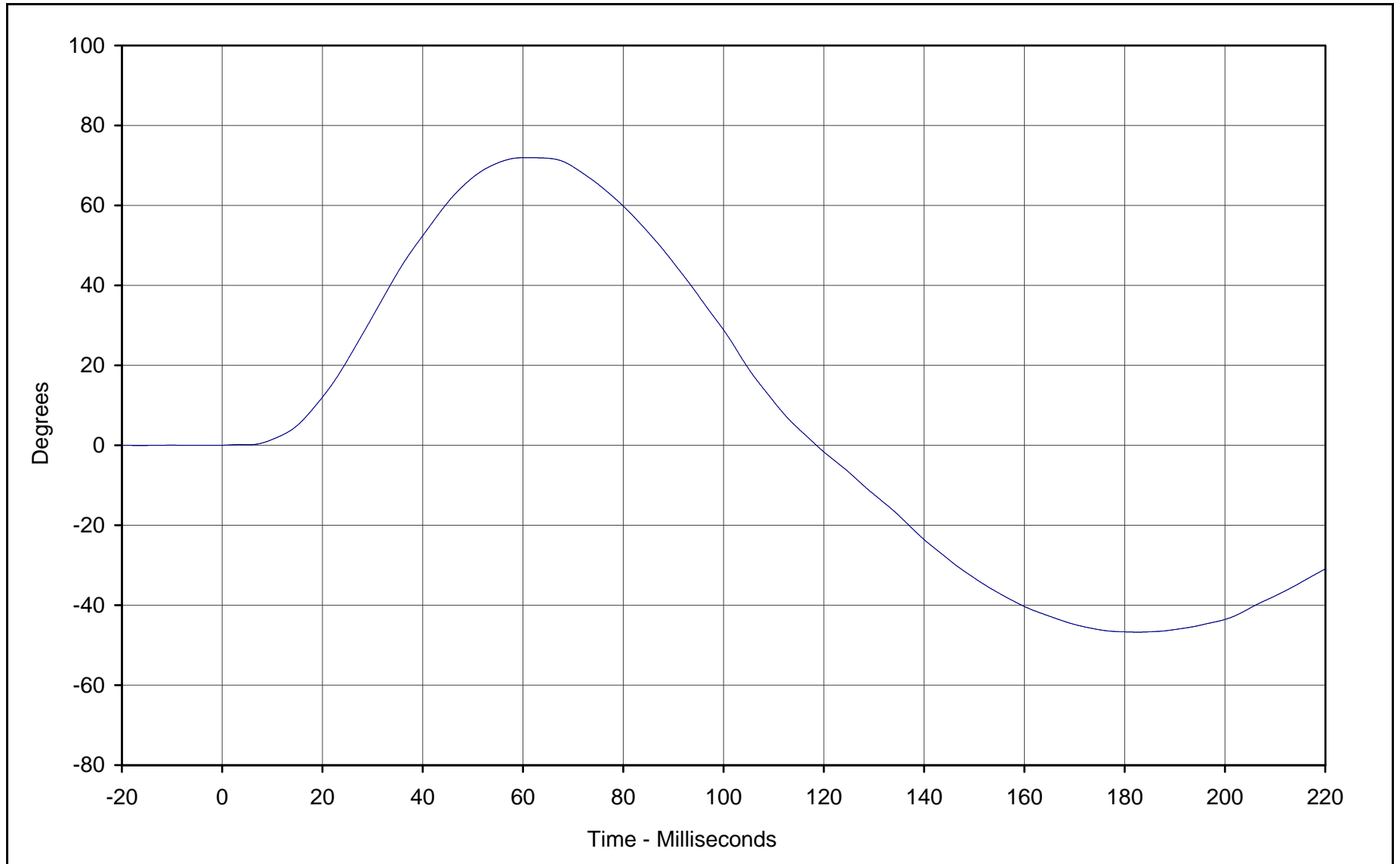


Curve Description: Neck Force X
Maximum Value: 828.0 at 54.1 Milliseconds
Minimum Value: -151.7 at 164.9 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NF02A



KARR22001-04

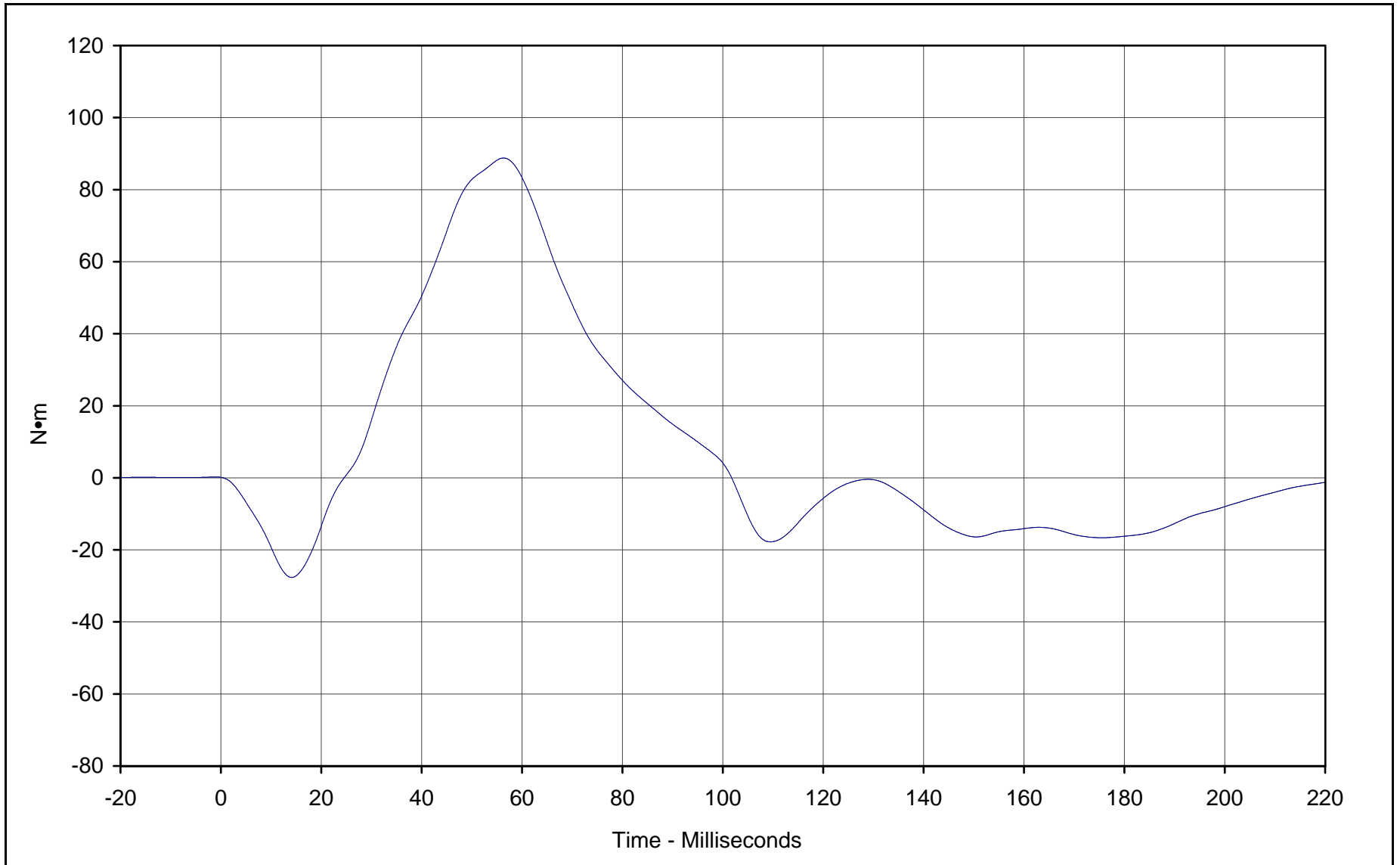


Curve Description: "D" Plane Rotation
 Maximum Value: 72.0 at 60.6 Milliseconds
 Minimum Value: -46.7 at 182.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 4/2/02
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A





Curve Description: Moment About Occipital Condyles
 Maximum Value: 88.8 at 56.3 Milliseconds
 Minimum Value: -27.6 at 14.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 4/2/02
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NE01C

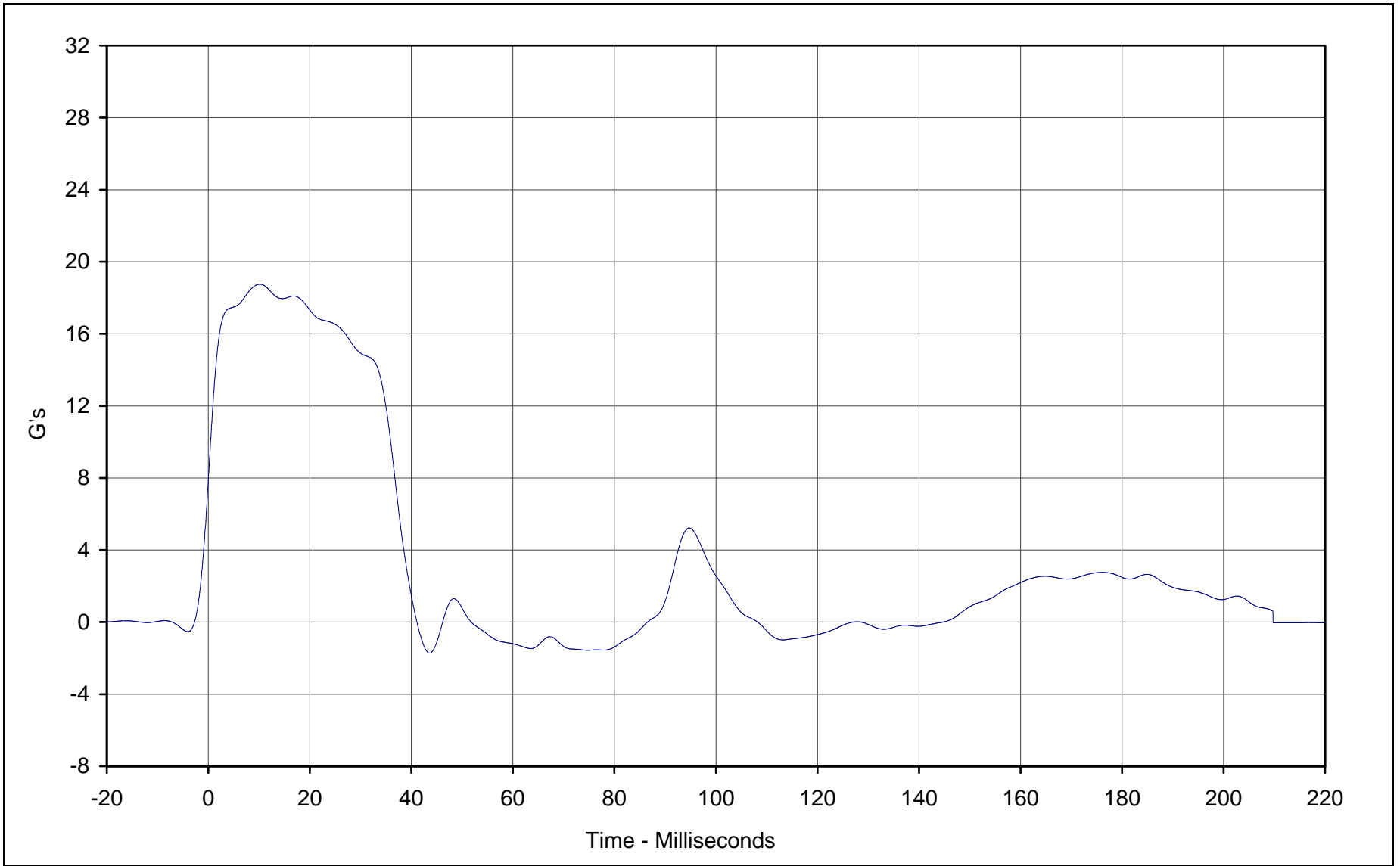
| Tested Parameter | Units | Specification | Result | Pass/Fail | |
|---|----------|----------------|----------------|-----------|------|
| Laboratory Temperature | °C | 20.6 to 22.2 | 21.1 | Pass | |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass | |
| Pendulum Velocity | m/s | 5.95 to 6.19 | 6.02 | Pass | |
| Pendulum Deceleration | 10 Msec. | G's | 17.2 to 21.2 | 18.8 | Pass |
| | 20 Msec. | G's | 14.0 to 19.0 | 17.3 | Pass |
| | 30 Msec. | G's | 11.0 to 16.0 | 14.9 | Pass |
| Peak Pendulum Decel. after 30 Msec. | G's | ≤ 22.0 | 14.9 | Pass | |
| Deceleration Decay, Time to Cross 5 G's | Msec. | 38.0 to 46.0 | 38.1 | Pass | |
| Maximum "D" Plane Rotation | Maximum | Degrees | 81.0 to 106.0 | 88.5 | Pass |
| | Time | Msec. | 72.0 to 82.0 | 78.8 | Pass |
| "D" Plane Rotation Decay, Time To Zero Crossing | Msec. | 147.0 to 174.0 | 148.3 | Pass | |
| Moment About Occipital Condyle | Maximum | N·m | -52.9 to- 79.9 | -74.2 | Pass |
| | Time | Msec. | 65.0 to 79.0 | 67.6 | Pass |
| Negative Moment Decay, Time To Zero Crossing | Msec. | 120.0 to 148.0 | 133.2 | Pass | |
| Overall Test Results | | | | Pass | |

Laboratory Technician

April 2, 2002

Test Date

E-18



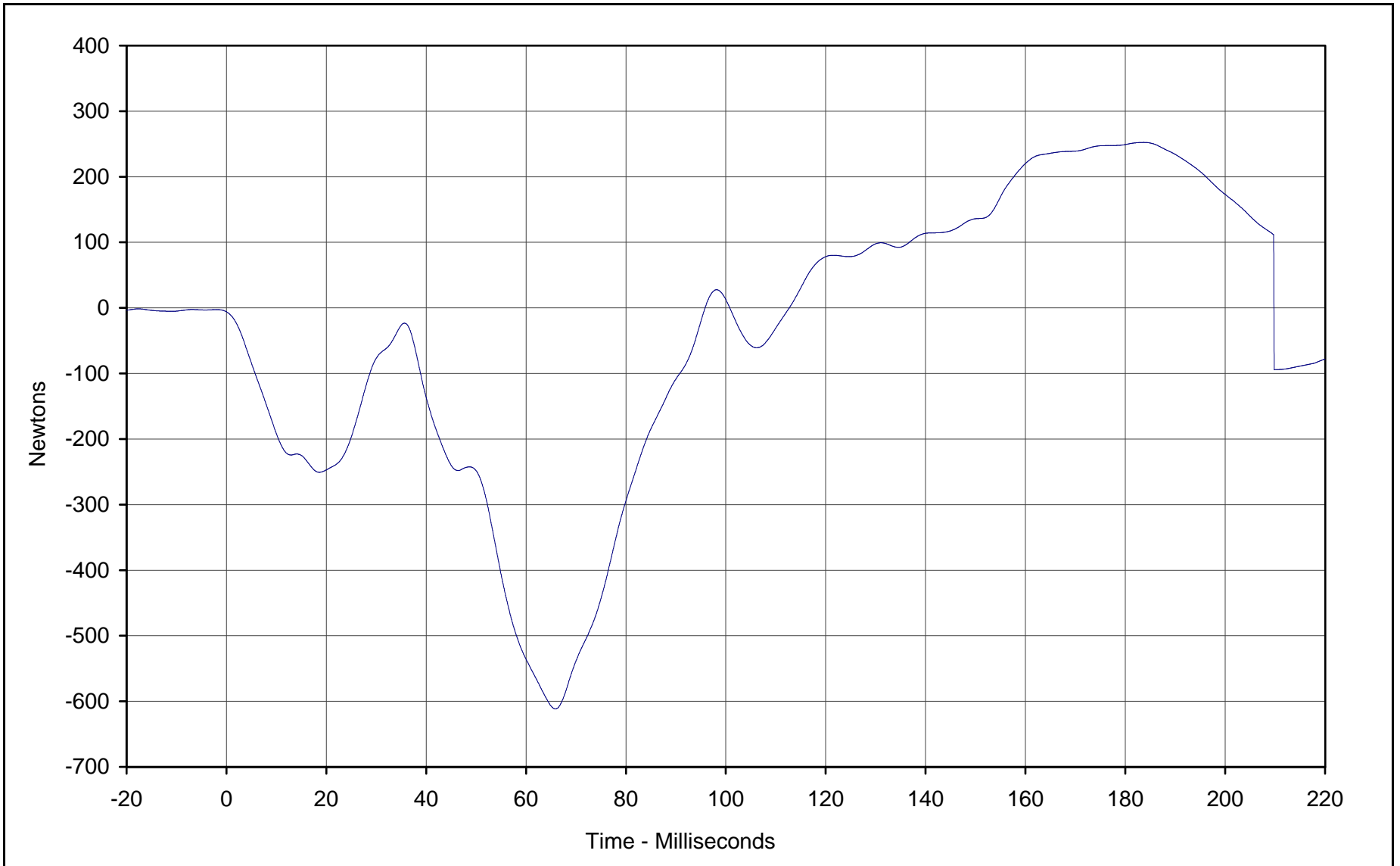
Curve Description: Pendulum Deceleration
Maximum Value: 18.8 at 10.2 Milliseconds
Minimum Value: -1.7 at 43.6 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NE01C



KARR22001-04

E-19

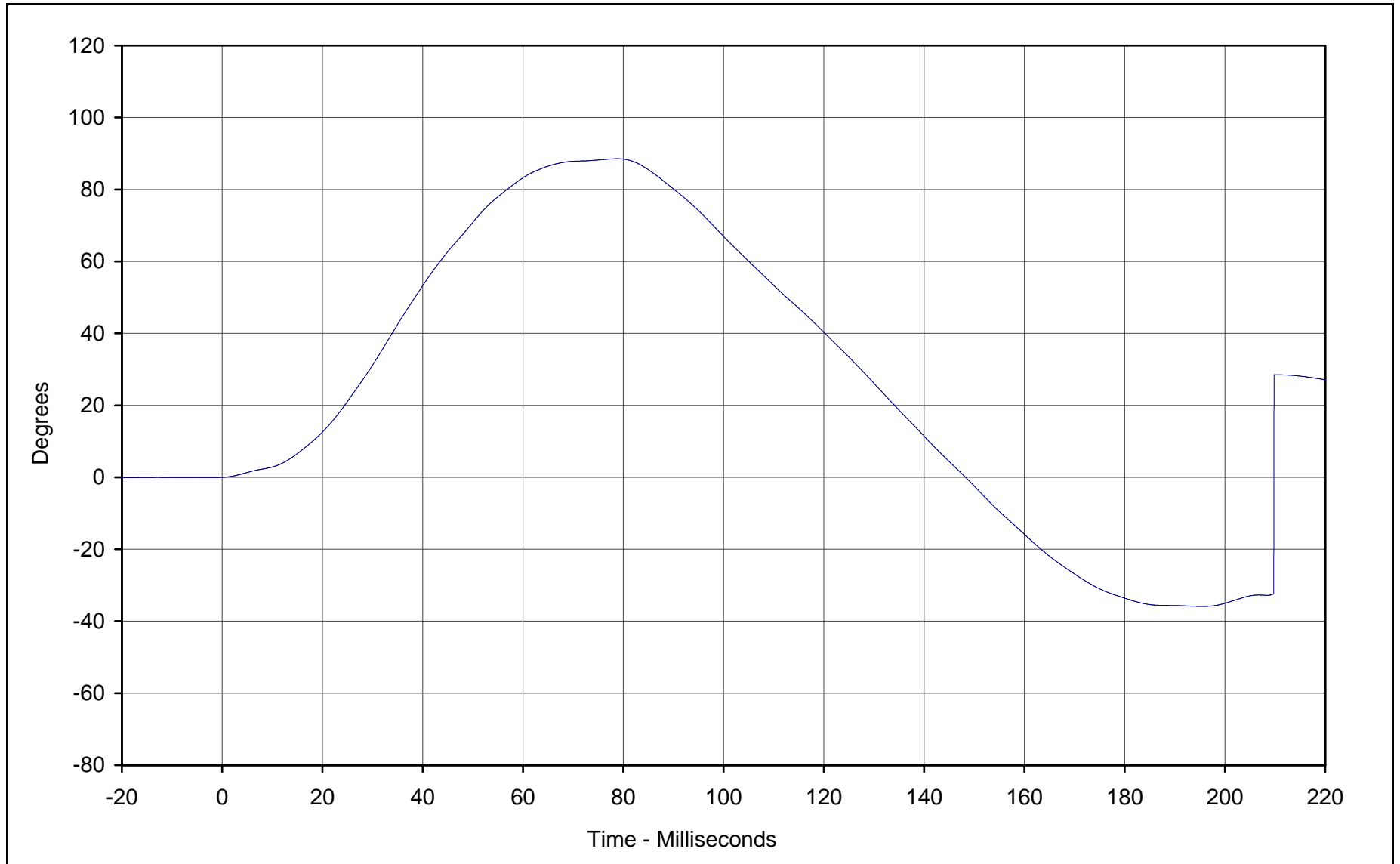


Curve Description: Neck Force X
Maximum Value: 252.4 at 183.7 Milliseconds
Minimum Value: -611.6 at 65.9 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NE01C



KARR22001-04

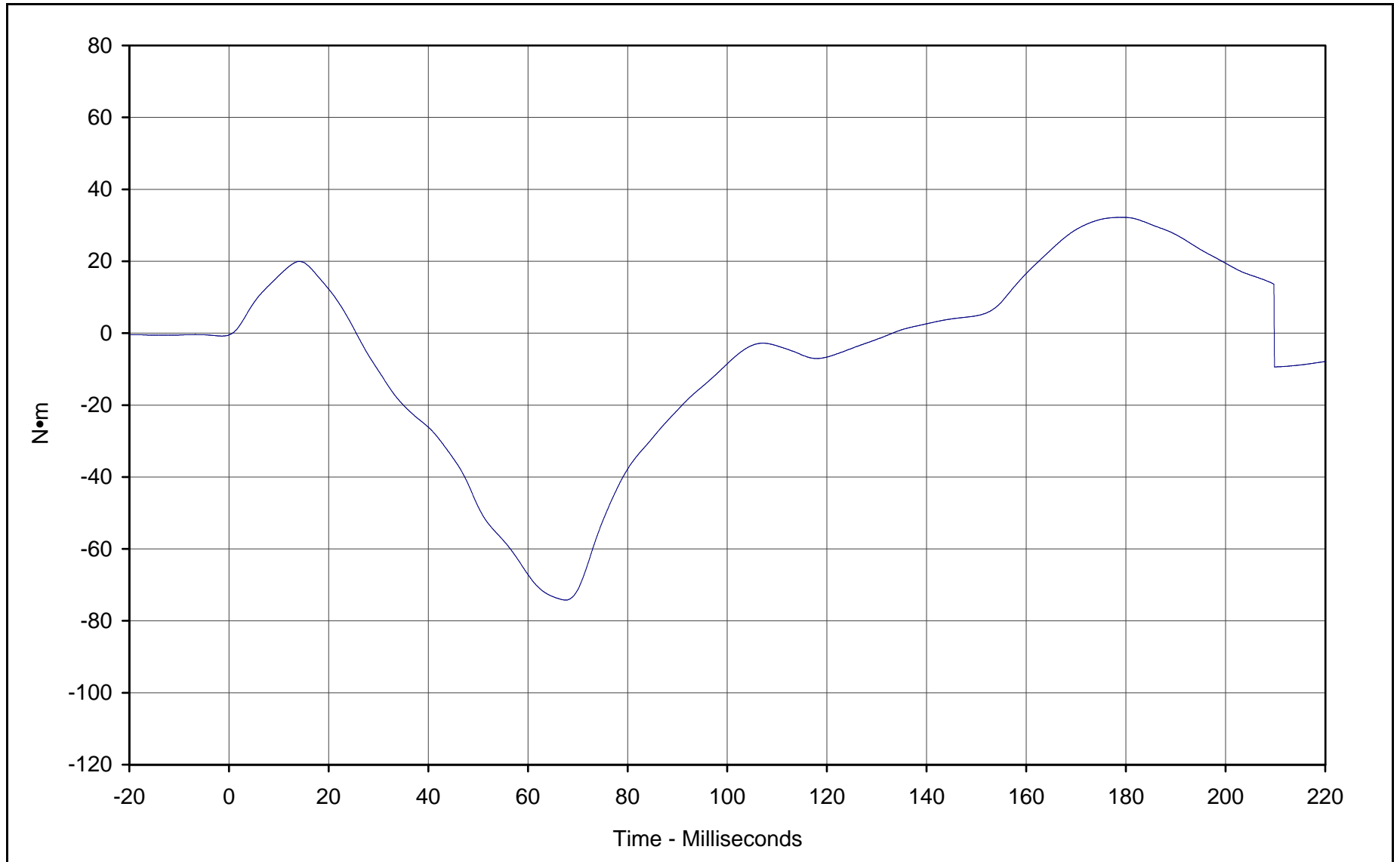


Curve Description: "D" Plane Rotation
 Maximum Value: 88.5 at 78.8 Milliseconds
 Minimum Value: -35.9 at 195.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 4/2/02
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE01C





Curve Description: Moment About Occipital Condyles
 Maximum Value: 32.2 at 179.2 Milliseconds
 Minimum Value: -74.2 at 67.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 4/2/02
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE01C





Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: N/A

| External Measurement Data | | | | |
|---------------------------------------|-------|---------------|--------|-----------|
| Tested Parameter | Units | Specification | Result | Pass/Fail |
| Laboratory temperature | °C | 20.4 to 22.1 | 20.9 | Pass |
| Laboratory relative humidity | % | 10 to 70 | 35 | Pass |
| A - Total sitting height | mm | 879 to 889 | 880 | Pass |
| B - Shoulder pivot height | mm | 505 to 521 | 520 | Pass |
| C - "H" point height | mm | 84 to 89 | 85 | Pass |
| D - "H" point from seat back | mm | 135 to 140 | 135 | Pass |
| E - Shoulder pivot from back | mm | 84 to 94 | 85 | Pass |
| F - Thigh clearance | mm | 140 to 155 | 150 | Pass |
| G - Elbow back to wrist pivot | mm | 290 to 305 | 295 | Pass |
| H - Skull cap to back line | mm | 41 to 46 | 45 | Pass |
| I - Shoulder to elbow length | mm | 330 to 345 | 335 | Pass |
| J - Elbow rest height | mm | 190 to 211 | 200 | Pass |
| K - Buttock to knee length | mm | 579 to 604 | 585 | Pass |
| L - Popliteal length | mm | 429 to 455 | 445 | Pass |
| M - Knee pivot height | mm | 485 to 500 | 490 | Pass |
| N - Buttock popliteal length | mm | 452 to 477 | 460 | Pass |
| O - Chest depth | mm | 213 to 229 | 220 | Pass |
| P - Foot length | mm | 251 to 267 | 260 | Pass |
| V - Shoulder breadth | mm | 422 to 437 | 430 | Pass |
| W - Foot breadth | mm | 91 to 107 | 95 | Pass |
| Y - Chest circumference | mm | 970 to 1001 | 995 | Pass |
| Z - Waist circumference | mm | 836 to 866 | 850 | Pass |
| AA - Location for chest circumference | mm | 429 to 434 | 430 | Pass |
| BB - Location for waist circumference | mm | 226 to 231 | 230 | Pass |
| Overall Test Results | | | | Pass |

Laboratory Technician

April 3, 2002
Test Date



Hybrid III Calibration Data Sheet

Hybrid III 50th Percentile Male Knee Impact Test

ATD Serial No.: 035

Location: Left Knee

Test I.D.: LK01B

| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|---------------|--------|-----------|
| Laboratory Temperature | °C | 18.9 to 25.5 | 21.1 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | m/sec | 2.07 to 2.13 | 2.10 | Pass |
| Peak Probe Force | N | 4715 to 5782 | 5561 | Pass |
| Overall Test Results | | | | Pass |

ATD Serial No.: 035

Location: Right Knee

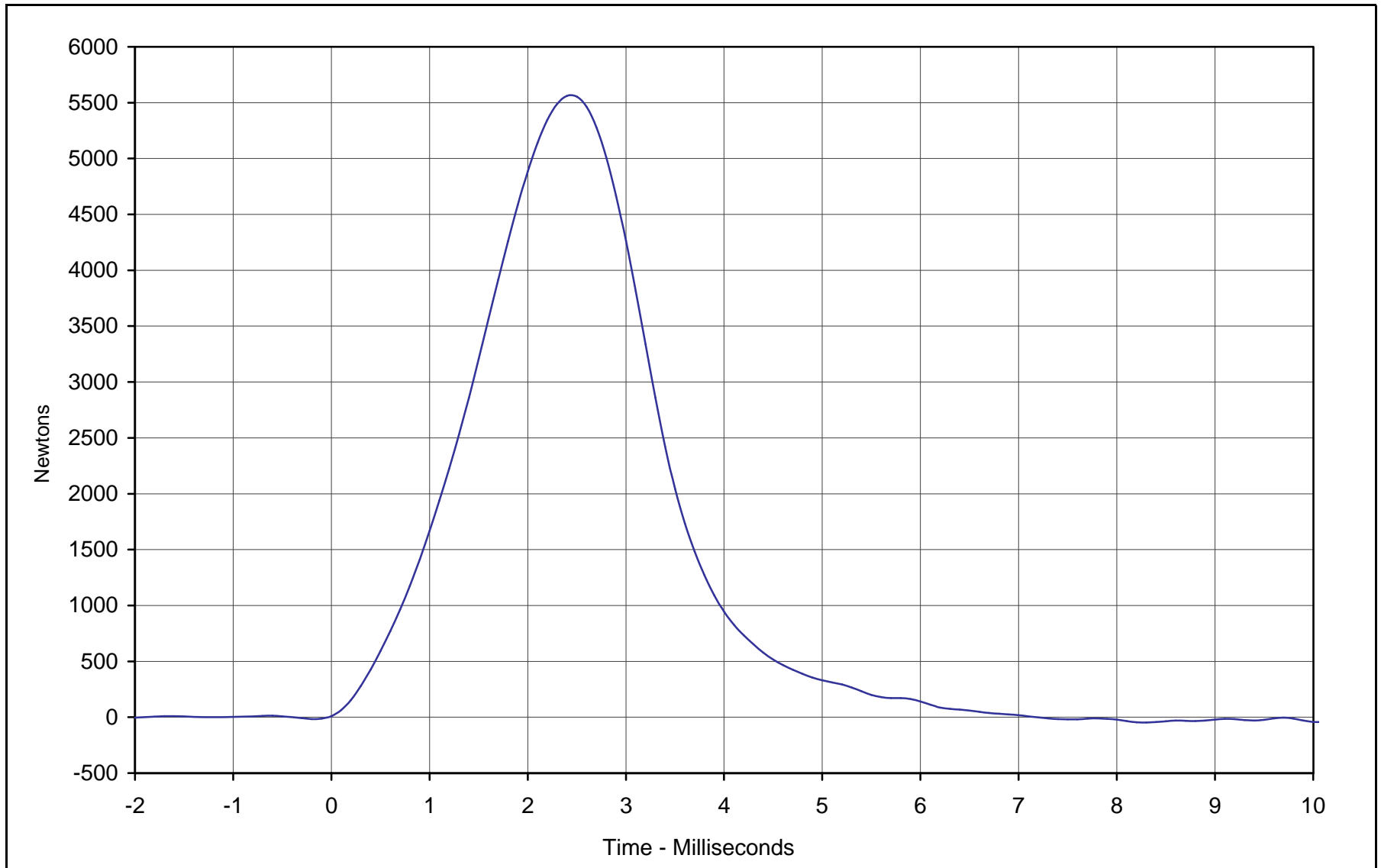
Test I.D.: RK01B

| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|---------------|--------|-----------|
| Laboratory Temperature | °C | 18.9 to 25.5 | 21.1 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | m/sec | 2.07 to 2.13 | 2.09 | Pass |
| Peak Probe Force | N | 4715 to 5782 | 5624 | Pass |
| Overall Test Results | | | | Pass |

Laboratory Technician

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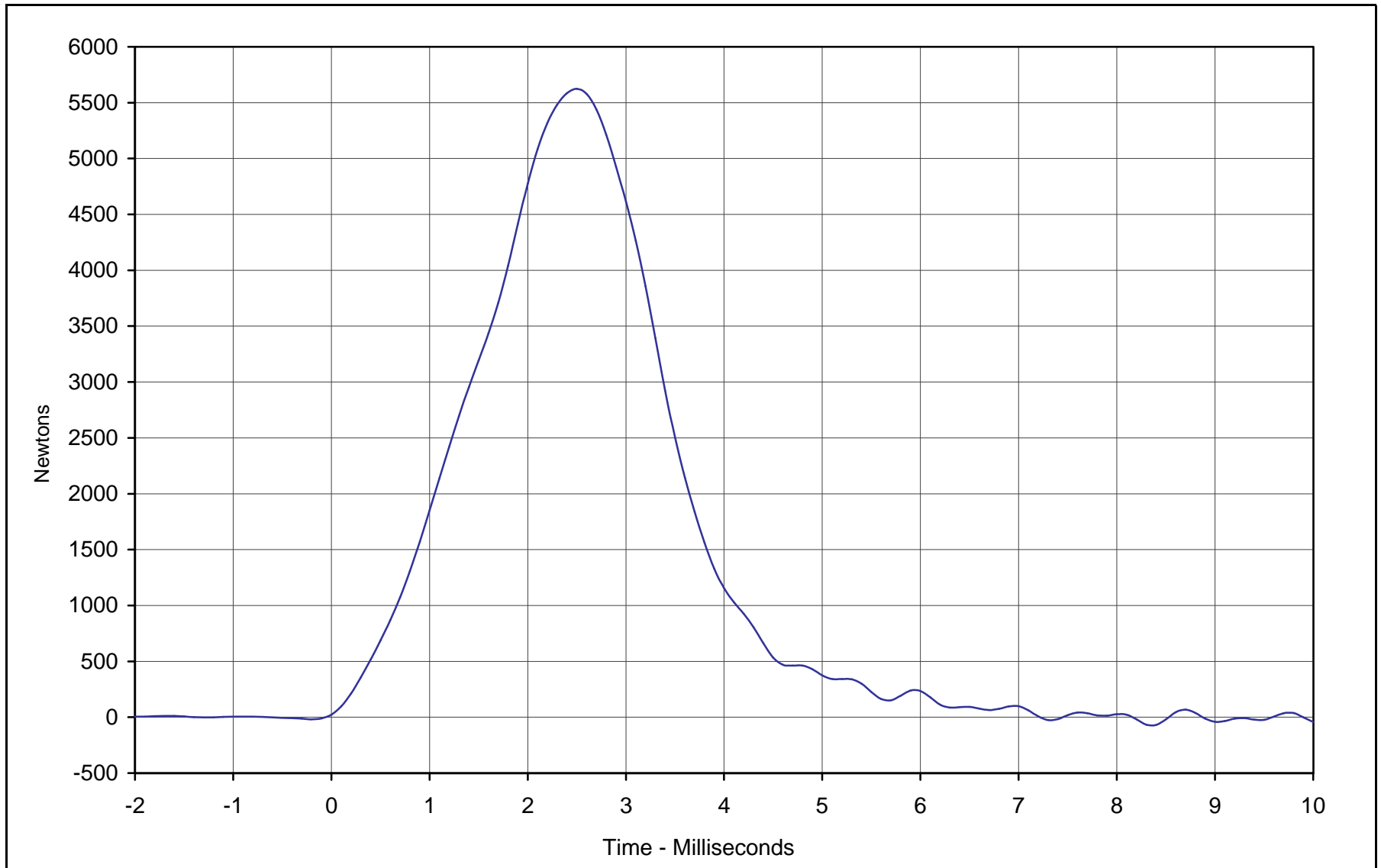
Test Date



Curve Description: Probe Force
Maximum Value: 5560.7 at 2.4 Milliseconds
Minimum Value: -22.1 at 8.0 Milliseconds
SAE Filter Class: 600
Date of Test: 4/1/02
ATD Serial No.: 035

Test Program: Hybrid III Knee Impact Test
Test Information: Location: Left Knee Test I.D.: LK01B





Curve Description: Probe Force
Maximum Value: 5623.6 at 2.5 Milliseconds
Minimum Value: -25.3 at 7.3 Milliseconds
SAE Filter Class: 600
Date of Test: 4/1/02
ATD Serial No.: 035

Test Program: Hybrid III Knee Impact Test
Test Information: Location: Right Knee Test I.D.: RK01B





Hybrid III Calibration Data Sheet Hybrid III 50th Percentile Male Knee Slider Test

ATD Serial No.: 035

Location: Left Knee

Test I.D.: KS003

| Tested Parameter | | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|-------|---------------|--------|-----------|
| Laboratory Temperature | | °C | 20.6 to 22.2 | 21.1 | Pass |
| Laboratory Relative Humidity | | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | | m/sec | 2.70 to 2.80 | 2.73 | Pass |
| Impact Force at: | 10 mm | kN | 1.26 to 1.72 | 1.69 | Pass |
| | 18 mm | kN | 2.27 to 3.096 | 2.98 | Pass |
| Overall Test Results | | | | | Pass |

E-26

ATD Serial No.: 035

Location: Right Knee

Test I.D.: KS004

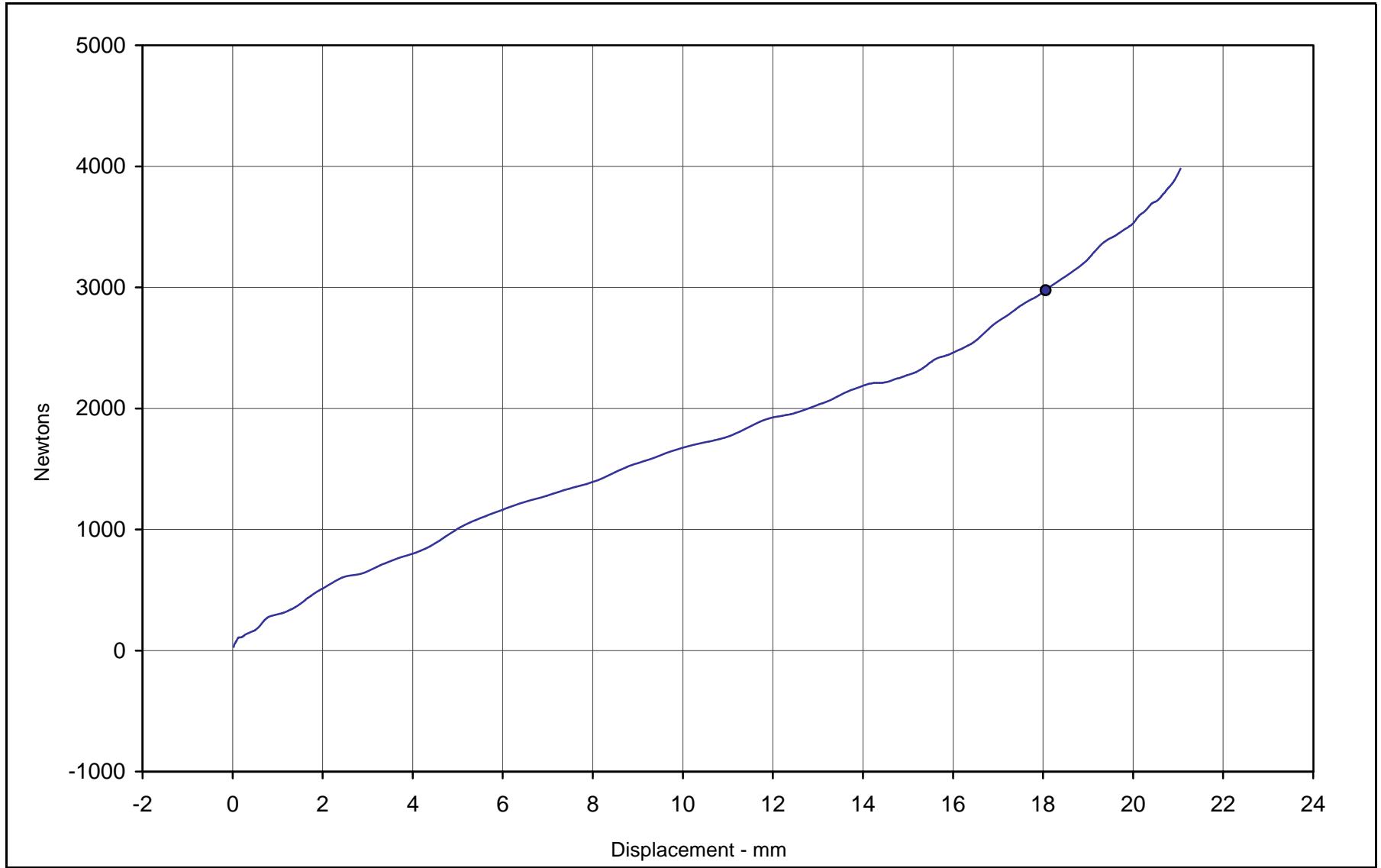
| Tested Parameter | | Units | Specification | Result | Pass/Fail |
|------------------------------|-------|-------|---------------|--------|-----------|
| Laboratory Temperature | | °C | 20.6 to 22.2 | 21.1 | Pass |
| Laboratory Relative Humidity | | % | 10 to 70 | 30 | Pass |
| Pendulum Velocity at T=0 | | m/sec | 2.70 to 2.80 | 2.78 | Pass |
| Impact Force at: | 10 mm | kN | 1.26 to 1.72 | 1.54 | Pass |
| | 18 mm | kN | 2.27 to 3.096 | 2.94 | Pass |
| Overall Test Results | | | | | Pass |

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April 1, 2002

Test Date



Curve Description: Femur Force vs. Knee Displacement

Test Program: Hybrid III Knee Shear Test

Femur Force: 1686 at 10.0 mm

Test Information: Location: Left Knee Test I.D.: KS003

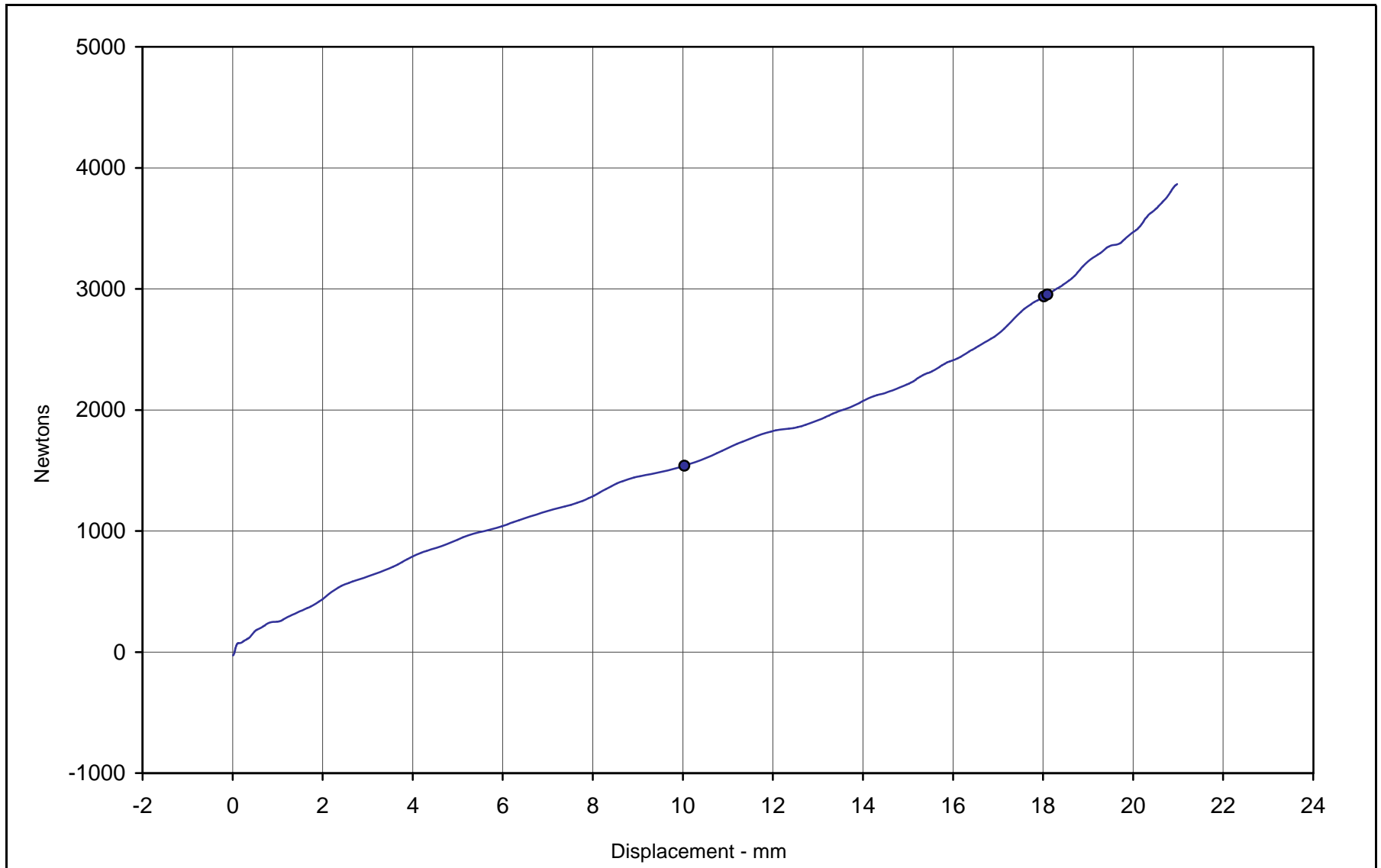
Femur Force: 2977 at 18.0 mm

SAE Filter Class: 600

Date of Test: 4/1/02

ATD Serial No.: 035





Curve Description: Femur Force vs. Knee Displacement

Test Program: Hybrid III Knee Shear Test

Femur Force: 1539 at 10.0 mm

Test Information: Location: Right Knee Test I.D.: KS004

Femur Force: 2937 at 18.0 mm

SAE Filter Class: 600

Date of Test: 4/1/02

ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: N/A

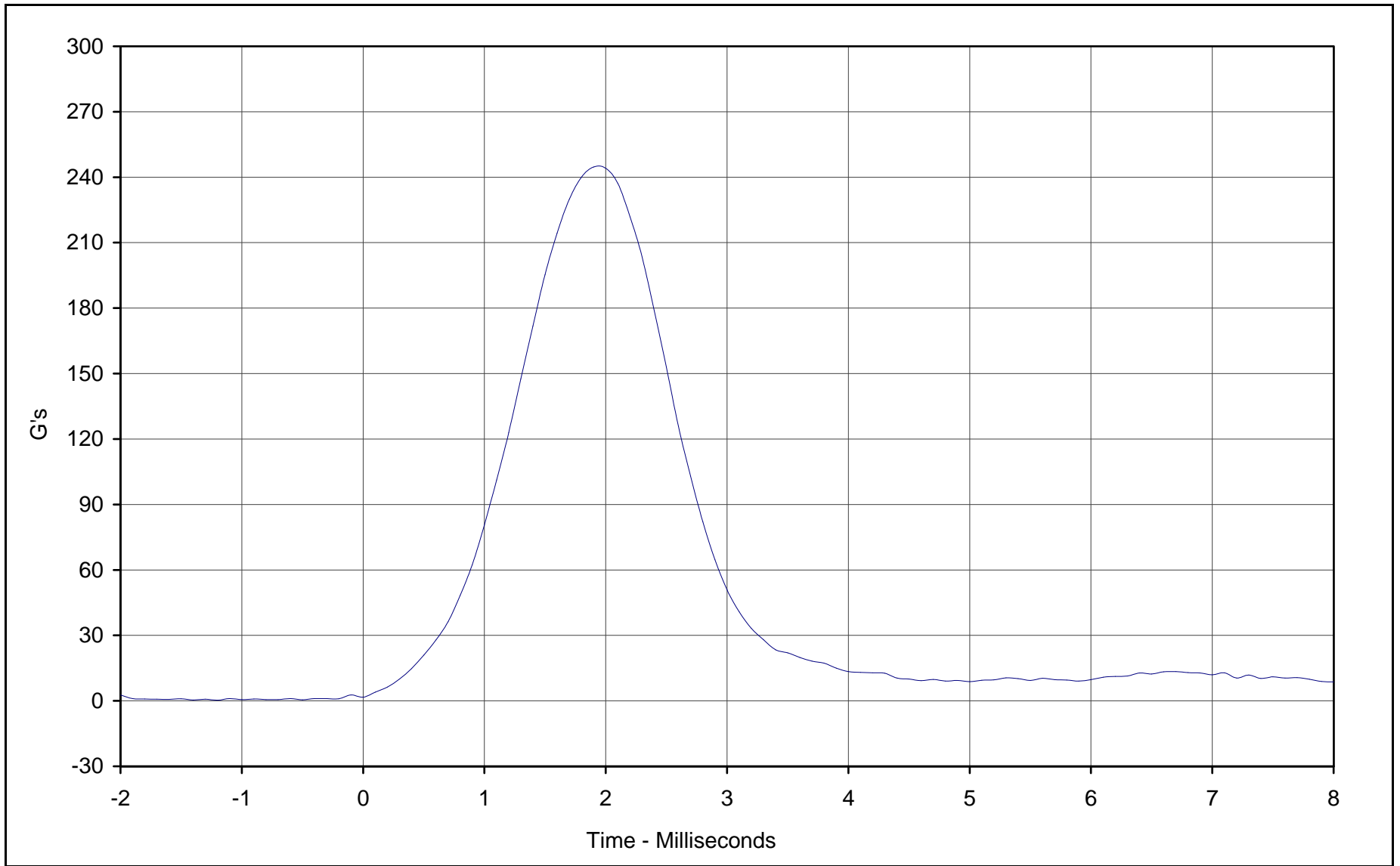
Test I.D.: HD01B

| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|--------|----------------|--------|-----------|
| Laboratory Temperature | °C | 18.9 to 25.6 | 21.1 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Peak Resultant Acceleration | G's | 225.0 to 275.0 | 244.7 | Pass |
| Peak Lateral Acceleration | G's | ≤15.0 | 1.4 | Pass |
| Is Acceleration Unimodal? | Yes/No | Yes | Yes | Pass |
| Overall Test Results | | | | Pass |

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April 1, 2002
Test Date

E-30



Curve Description: Head Resultant Acceleration

Maximum Value: 244.7 at 1.9 Milliseconds

Minimum Value: 0.3 at -1.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 4/1/02

ATD Serial No.: 035

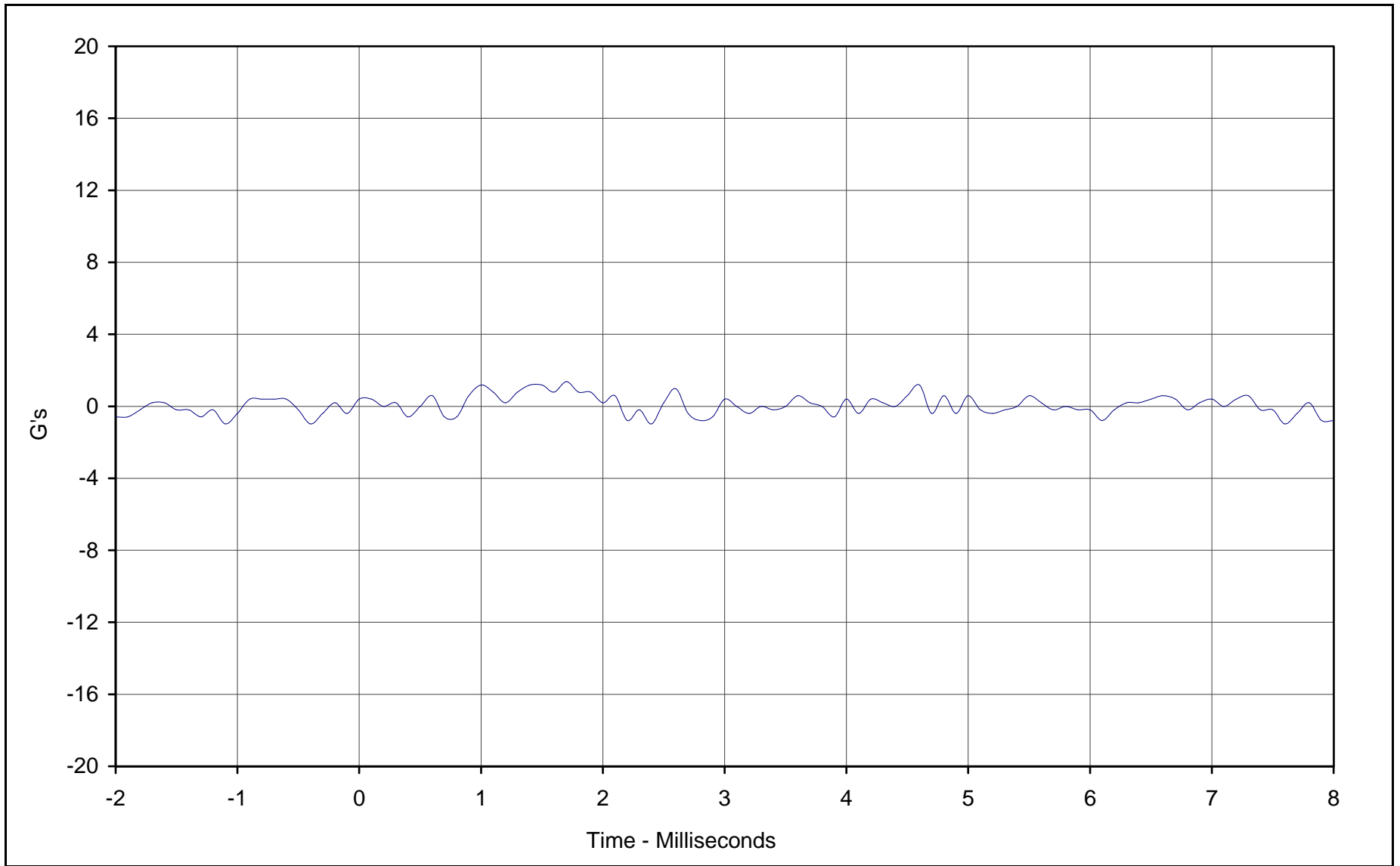
Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD01B



KARR22001-04

E-31



Curve Description: Head Acceleration Y Axis

Maximum Value: 1.4 at 1.7 Milliseconds

Minimum Value: -1.0 at -1.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 4/1/02

ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD01B



KARR22001-04



Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CH01B

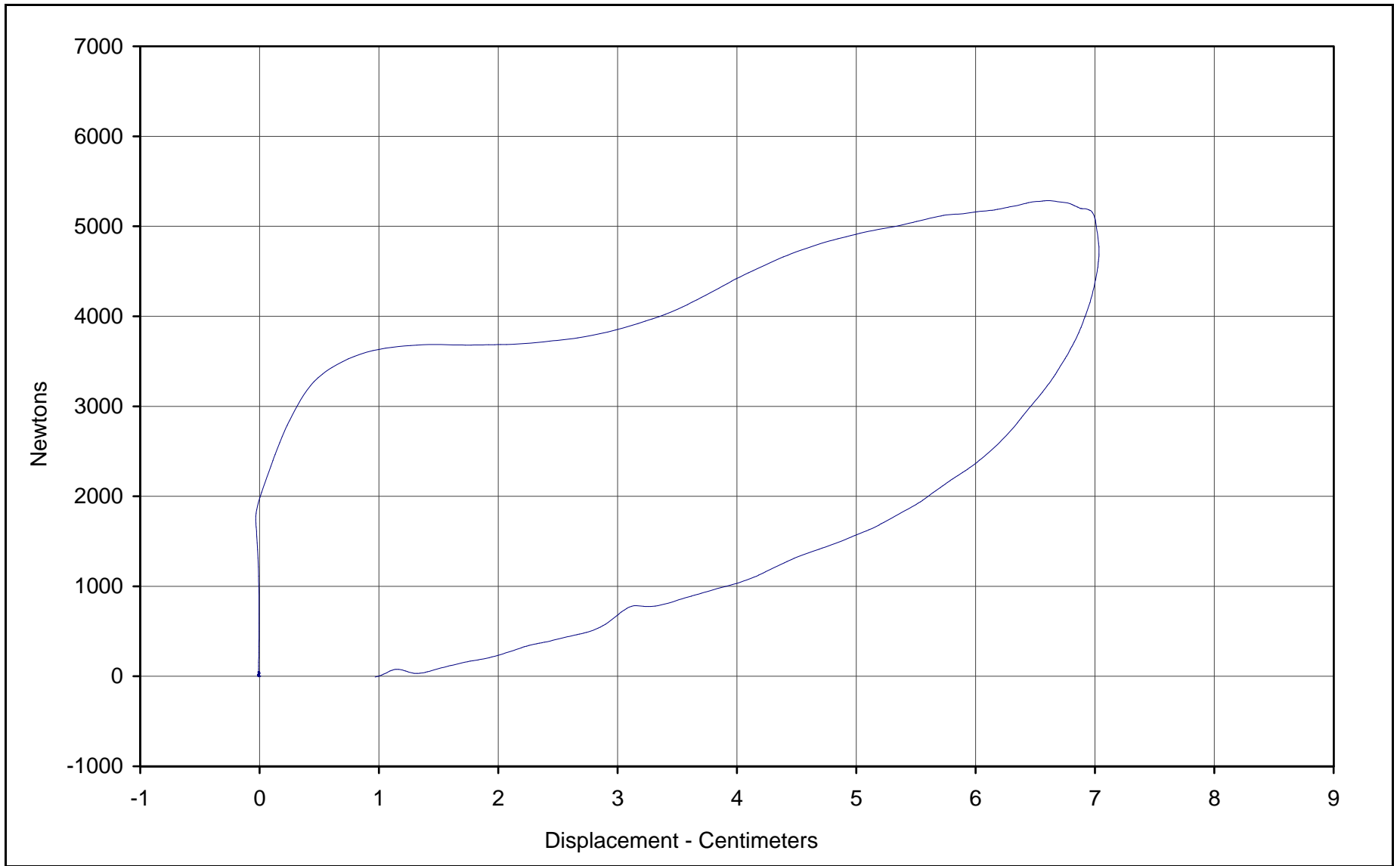
| Tested Parameter | Units | Specification | Result | Pass/Fail |
|------------------------------|---------|---------------|--------|-----------|
| Laboratory Temperature | °C | 20.6 to 22.2 | 21.2 | Pass |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass |
| Probe Velocity | m/s | 6.58 to 6.82 | 6.74 | Pass |
| Peak Probe Force | Newtons | 5159 to 5893 | 5285 | Pass |
| Peak Sternum Displacement | CM | 6.35 to 7.26 | 7.03 | Pass |
| Internal Hysteresis | % | 69 to 85 | 73.3 | Pass |
| Overall Test Results | | | | Pass |

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April 2, 2002

Test Date

E-33



Curve Description: Probe Force vs. Chest Displacement

Testing Program: Hybrid III Thorax Impact Test

Probe Force: 5285.3 Newtons

Test Information: S/N of Part: N/A Test I.D.: CH01B

Chest Displ.: 7.03 Centimeters

SAE Filter Class: none

Date of Test: 4/2/02

ATD Serial No.: 035



KARR22001-04



Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 035

Part Serial No.: N/A

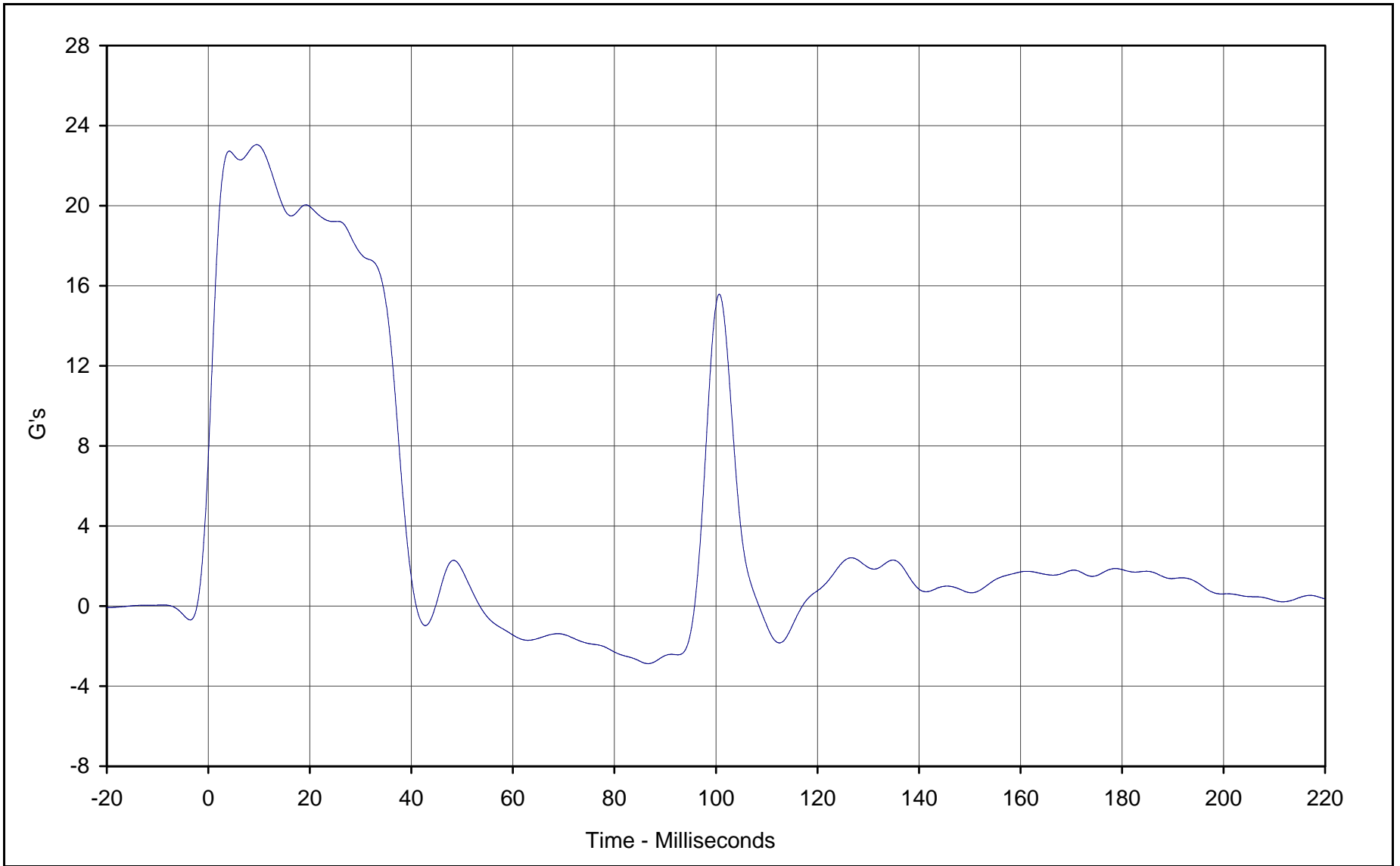
Test I.D.: NF02B

| Tested Parameter | Units | Specification | Result | Pass/Fail | |
|---|----------|----------------|---------------|-----------|------|
| Laboratory Temperature | °C | 20.6 to 22.2 | 21.1 | Pass | |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass | |
| Pendulum Velocity | m/s | 6.89 to 7.13 | 7.04 | Pass | |
| Pendulum Deceleration | 10 Msec. | G's | 22.5 to 27.5 | 23.0 | Pass |
| | 20 Msec. | G's | 17.6 to 22.6 | 20.0 | Pass |
| | 30 Msec. | G's | 12.5 to 18.5 | 17.6 | Pass |
| Peak Pendulum Decel. after 30 Msec. | G's | ≤ 29.0 | 17.6 | Pass | |
| Deceleration Decay, Time to Cross 5 G's | Msec. | 34.0 to 42.0 | 38.6 | Pass | |
| Maximum "D" Plane Rotation | Maximum | Degrees | 64.0 to 78.0 | 67.2 | Pass |
| | Time | Msec. | 57.0 to 64.0 | 60.5 | Pass |
| "D" Plane Rotation Decay, Time To Zero Crossing | Msec. | 113.0 to 128.0 | 116.7 | Pass | |
| Moment About Occipital Condyle | Maximum | N·m | 84.1 to 108.5 | 86.8 | Pass |
| | Time | Msec. | 47.0 to 58.0 | 52.5 | Pass |
| Positive Moment Decay, Time To Zero Crossing | Msec. | 97.0 to 107.0 | 101.0 | Pass | |
| Overall Test Results | | | | Pass | |

Laboratory Technician

April 2, 2002
Test Date

E-35

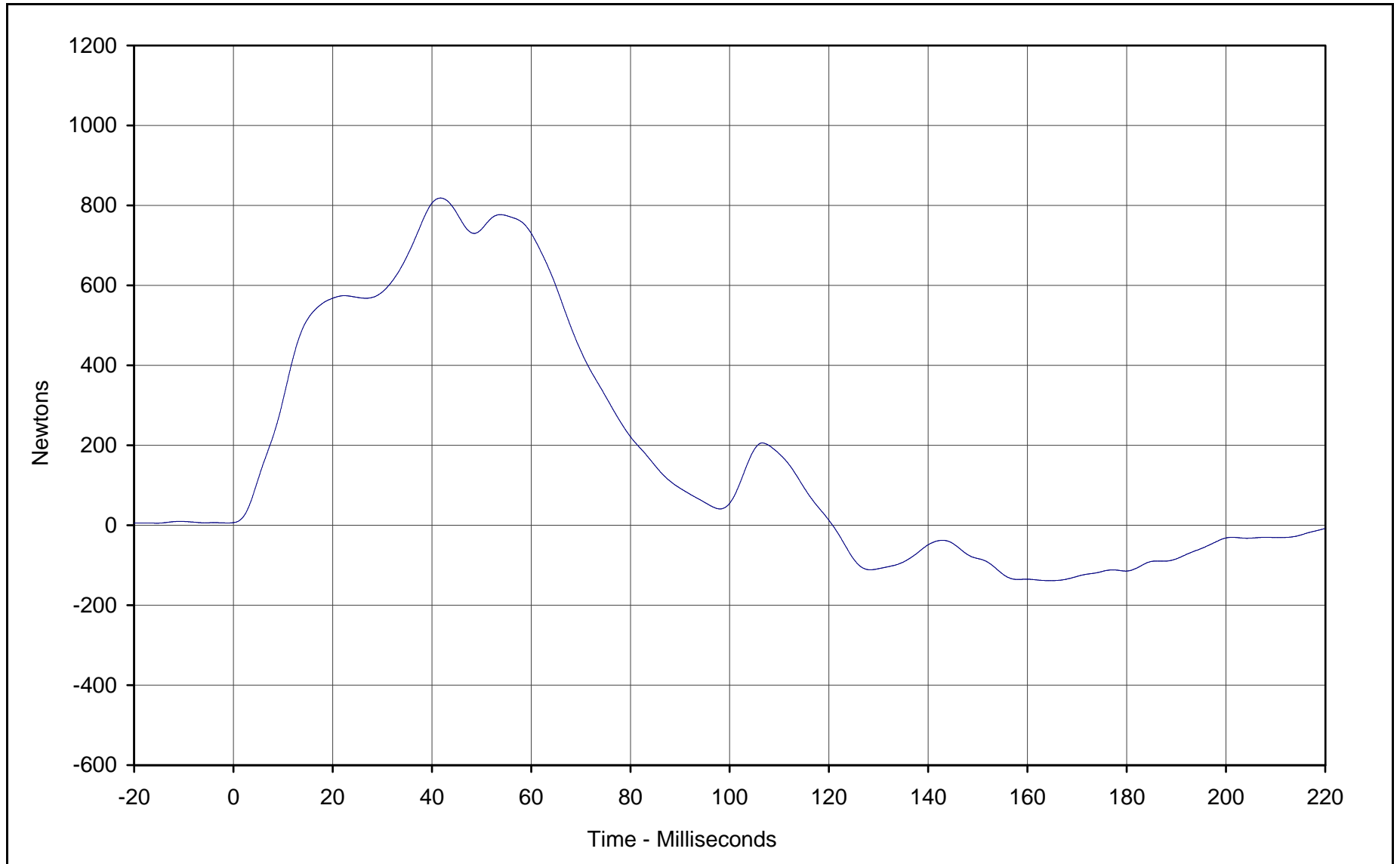


Curve Description: Pendulum Deceleration
Maximum Value: 23.0 at 9.5 Milliseconds
Minimum Value: -2.9 at 86.6 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NF02B



KARR22001-04

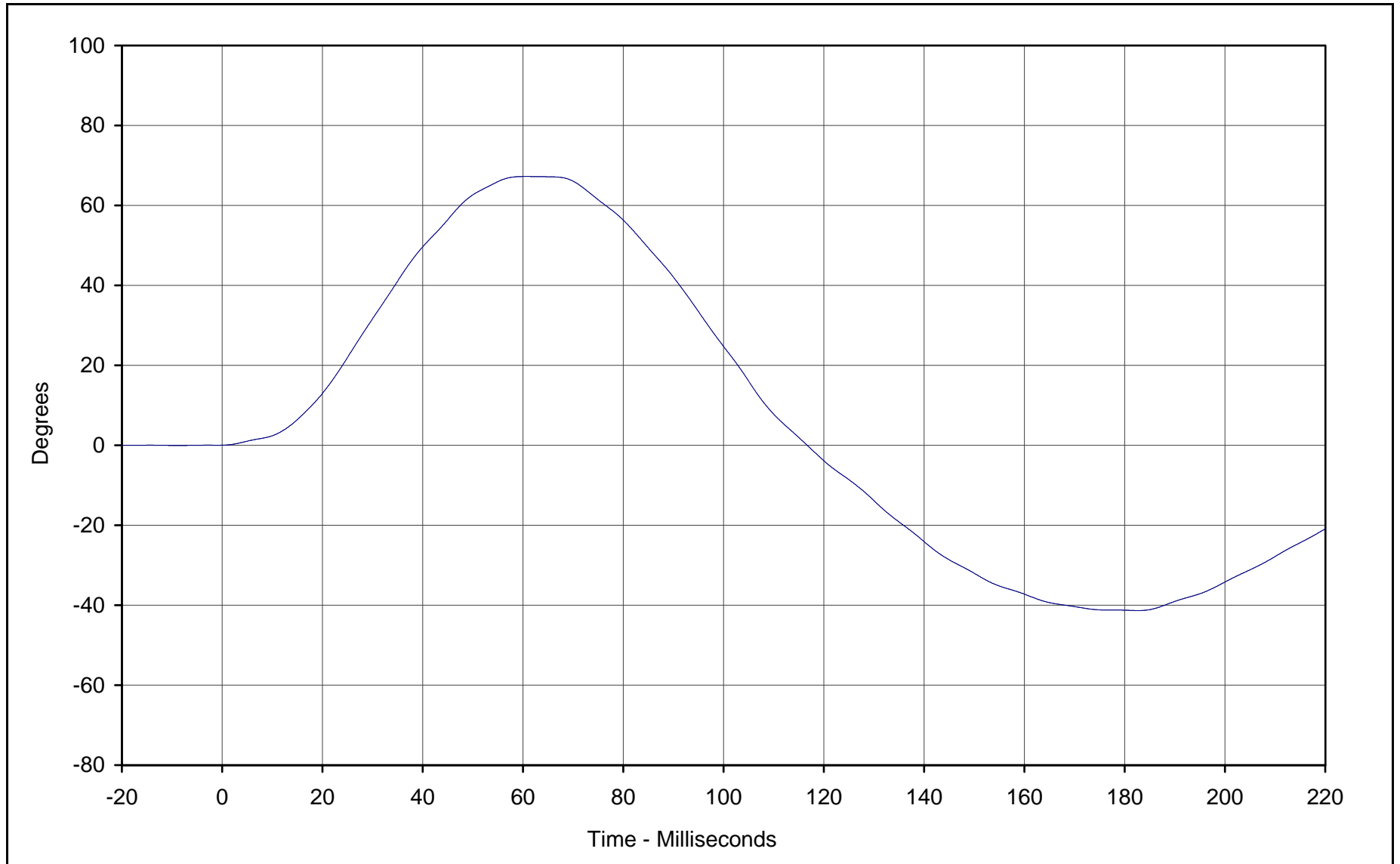


Curve Description: Neck Force X
 Maximum Value: 818.4 at 41.7 Milliseconds
 Minimum Value: -138.6 at 164.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 4/2/02
 ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02B



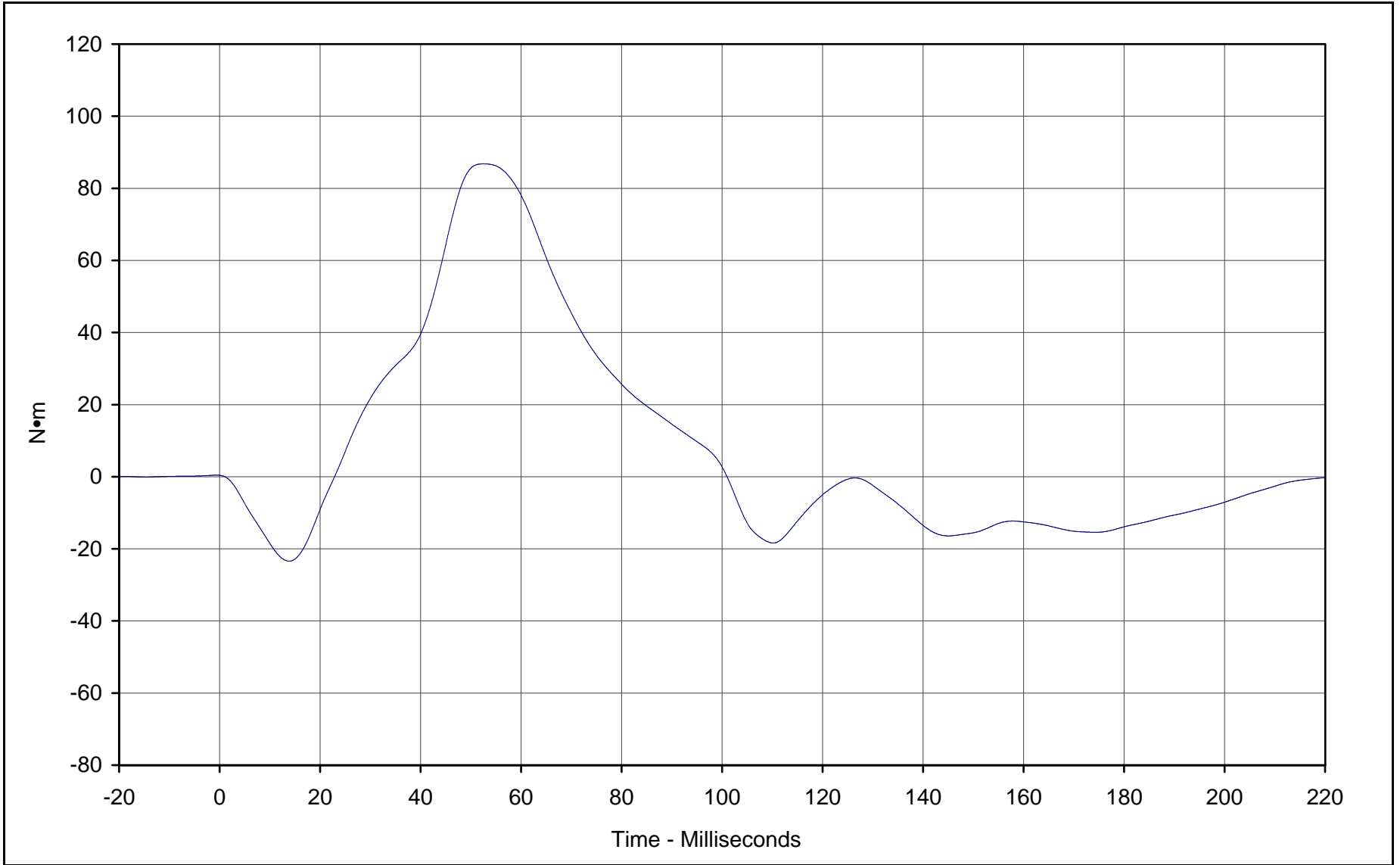


Curve Description: "D" Plane Rotation
 Maximum Value: 67.2 at 60.5 Milliseconds
 Minimum Value: -41.3 at 182.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 4/2/02
 ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02B





Curve Description: Moment About Occipital Condyles
Maximum Value: 86.8 at 52.5 Milliseconds
Minimum Value: -23.4 at 13.8 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NF02B





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NE01D

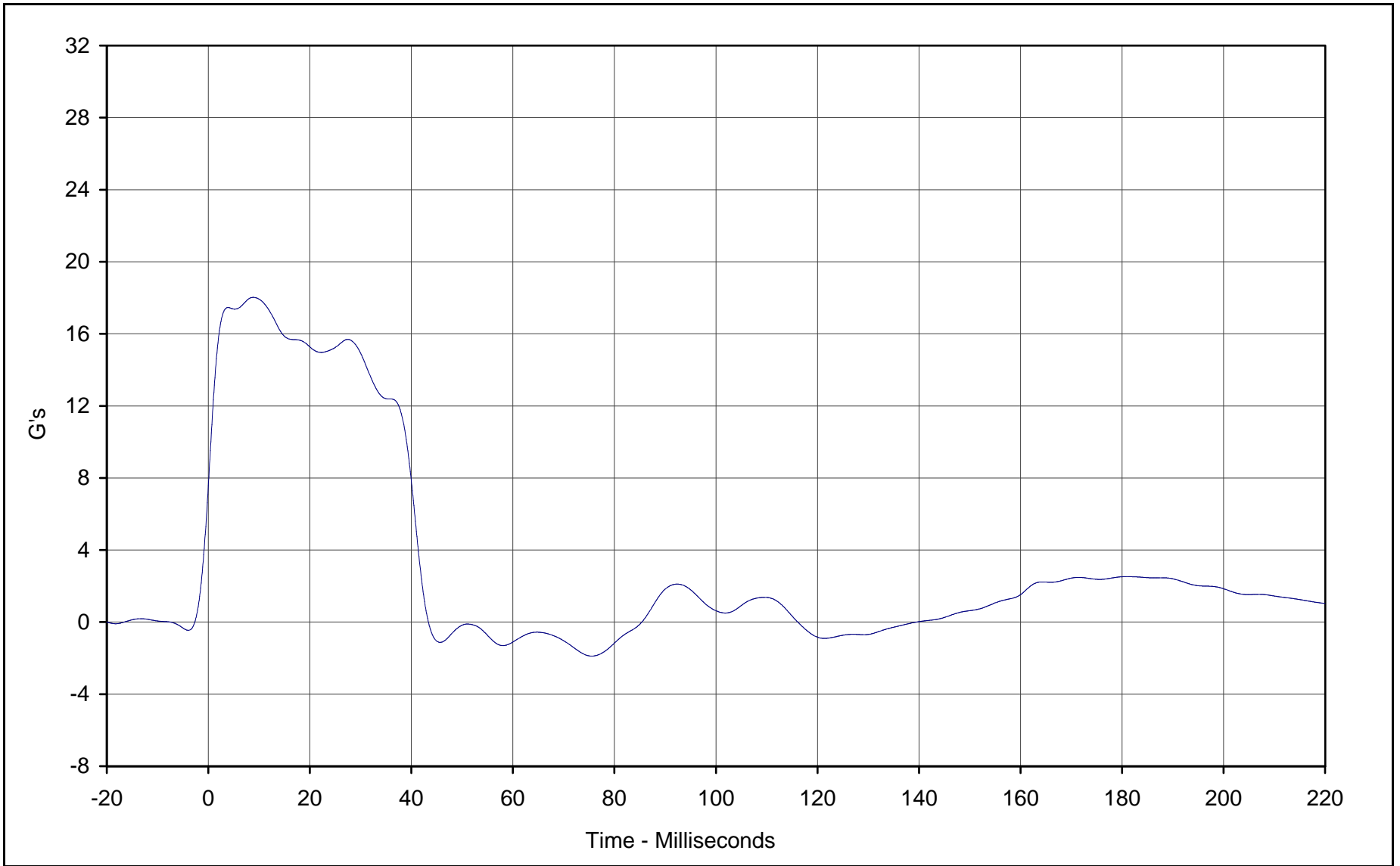
| Tested Parameter | Units | Specification | Result | Pass/Fail | |
|---|----------|----------------|----------------|-----------|------|
| Laboratory Temperature | °C | 20.6 to 22.2 | 21.1 | Pass | |
| Laboratory Relative Humidity | % | 10 to 70 | 30 | Pass | |
| Pendulum Velocity | m/s | 5.95 to 6.19 | 6.10 | Pass | |
| Pendulum Deceleration | 10 Msec. | G's | 17.2 to 21.2 | 17.9 | Pass |
| | 20 Msec. | G's | 14.0 to 19.0 | 15.3 | Pass |
| | 30 Msec. | G's | 11.0 to 16.0 | 14.9 | Pass |
| Peak Pendulum Decel. after 30 Msec. | G's | ≤ 22.0 | 14.9 | Pass | |
| Deceleration Decay, Time to Cross 5 G's | Msec. | 38.0 to 46.0 | 41.1 | Pass | |
| Maximum "D" Plane Rotation | Maximum | Degrees | 81.0 to 106.0 | 88.2 | Pass |
| | Time | Msec. | 72.0 to 82.0 | 76.9 | Pass |
| "D" Plane Rotation Decay, Time To Zero Crossing | Msec. | 147.0 to 174.0 | 152.8 | Pass | |
| Moment About Occipital Condyle | Maximum | N·m | -52.9 to- 79.9 | -71.4 | Pass |
| | Time | Msec. | 65.0 to 79.0 | 66.5 | Pass |
| Negative Moment Decay, Time To Zero Crossing | Msec. | 120.0 to 148.0 | 139.0 | Pass | |
| Overall Test Results | | | | Pass | |

Laboratory Technician

April 2, 2002

Test Date

E-40



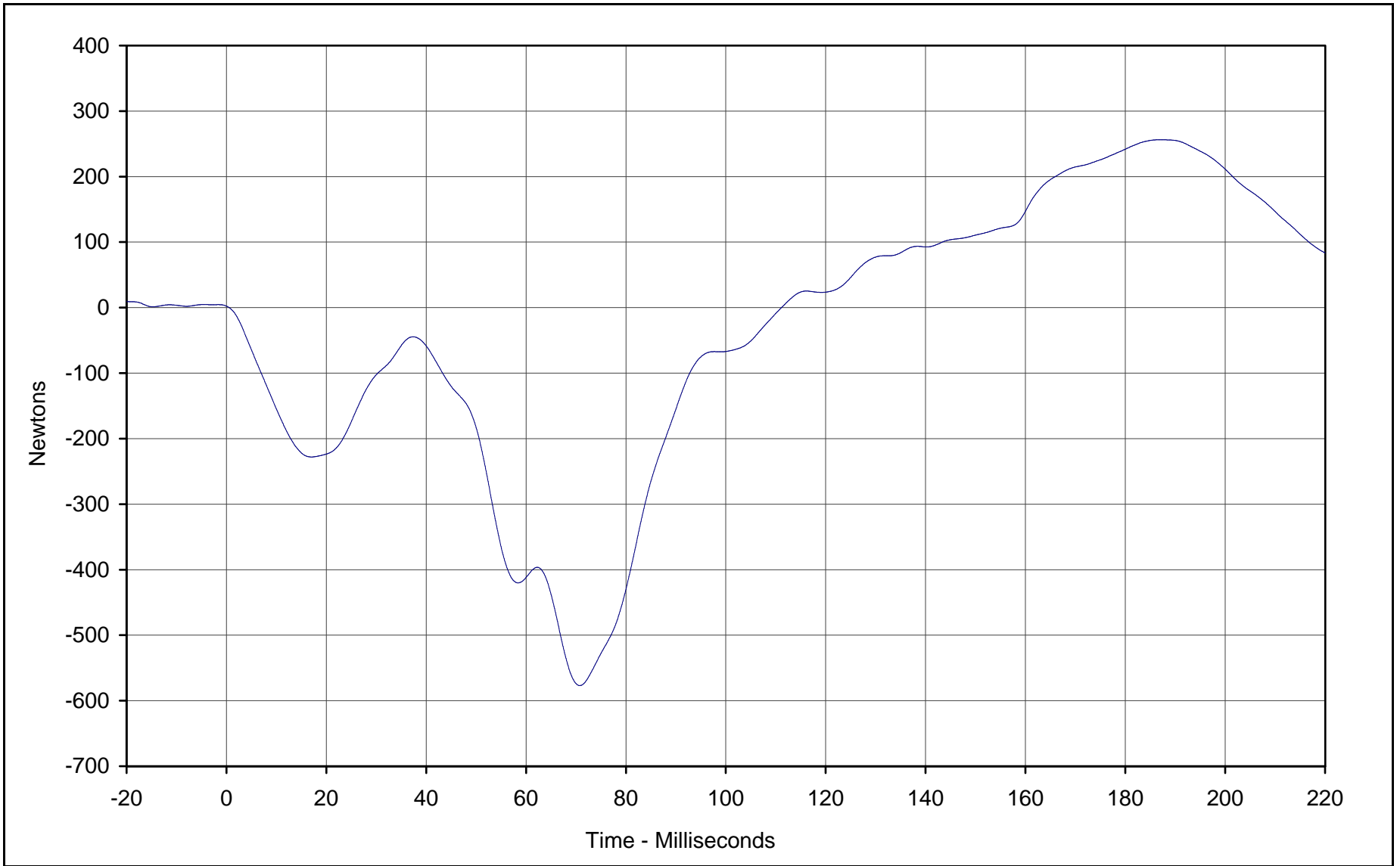
Curve Description: Pendulum Deceleration
Maximum Value: 18.0 at 8.9 Milliseconds
Minimum Value: -1.9 at 75.5 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NE01D



KARR22001-04

E-41

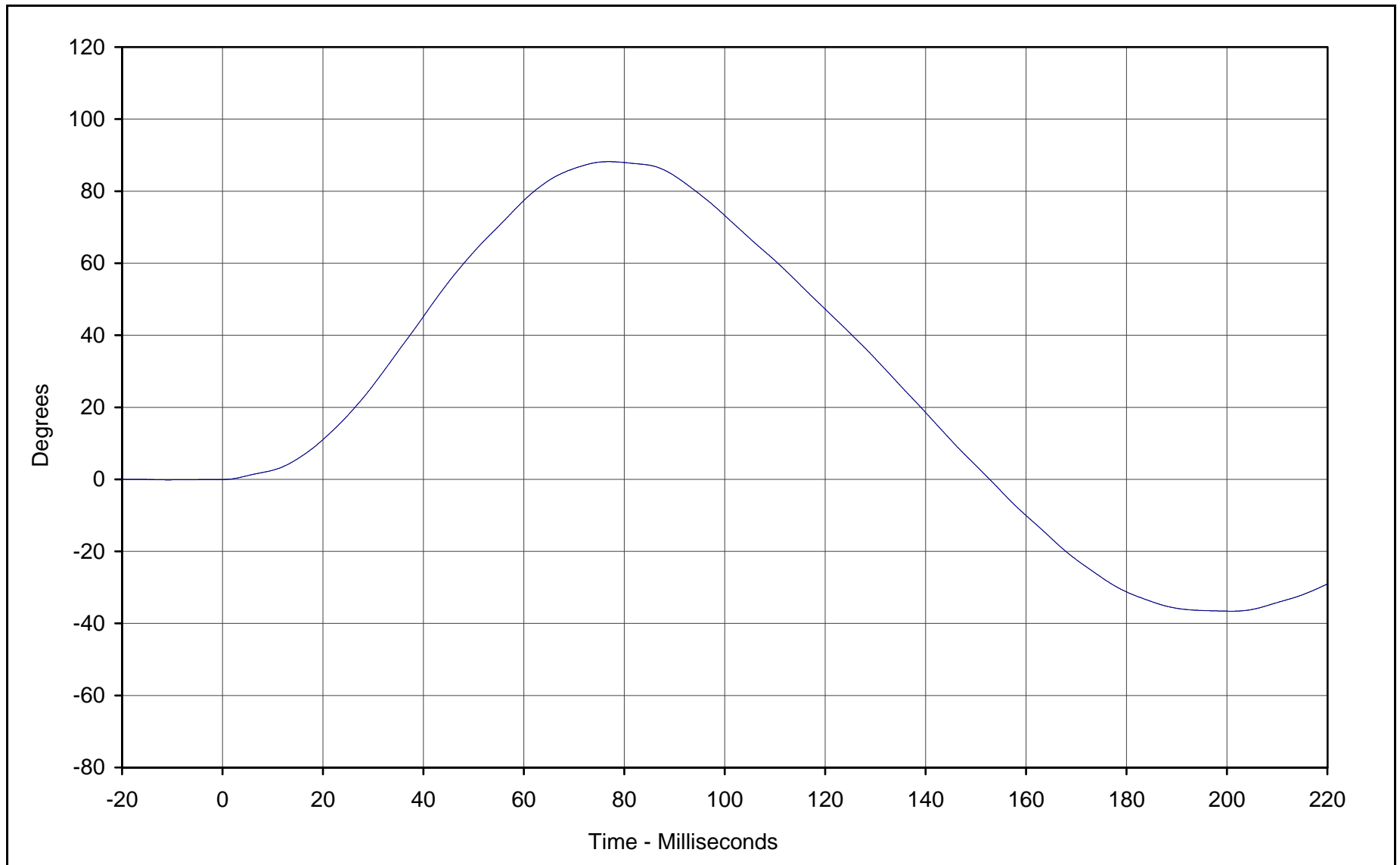


Curve Description: Neck Force X
Maximum Value: 256.2 at 186.9 Milliseconds
Minimum Value: -577.0 at 70.8 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NE01D



KARR22001-04



Curve Description: "D" Plane Rotation

Maximum Value: 88.2 at 76.9 Milliseconds

Minimum Value: -36.6 at 200.9 Milliseconds

SAE Filter Class: 60

Date of Test: 4/2/02

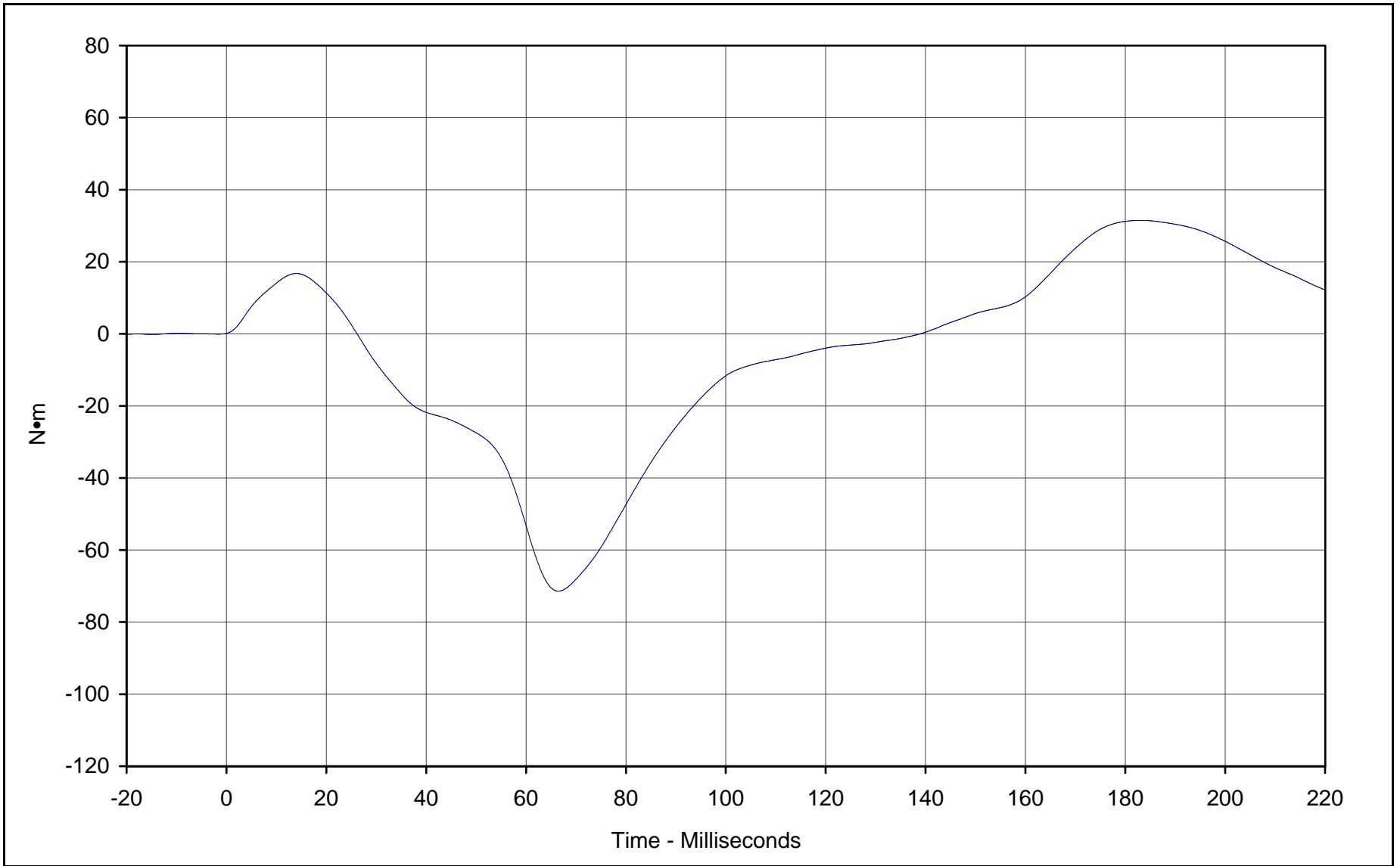
ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE01D



E-43



Curve Description: Moment About Occipital Condyles
Maximum Value: 31.5 at 183.2 Milliseconds
Minimum Value: -71.4 at 66.5 Milliseconds
SAE Filter Class: 60
Date of Test: 4/2/02
ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)
Test Information: S/N of Part: N/A Test I.D.: NE01D



KARR22001-04



Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: N/A

| External Measurement Data | | | | |
|---------------------------------------|-------|---------------|--------|-----------|
| Tested Parameter | Units | Specification | Result | Pass/Fail |
| Laboratory temperature | °C | 20.4 to 22.1 | 20.9 | Pass |
| Laboratory relative humidity | % | 10 to 70 | 35 | Pass |
| A - Total sitting height | mm | 879 to 889 | 885 | Pass |
| B - Shoulder pivot height | mm | 505 to 521 | 515 | Pass |
| C - "H" point height | mm | 84 to 89 | 85 | Pass |
| D - "H" point from seat back | mm | 135 to 140 | 135 | Pass |
| E - Shoulder pivot from back | mm | 84 to 94 | 90 | Pass |
| F - Thigh clearance | mm | 140 to 155 | 145 | Pass |
| G - Elbow back to wrist pivot | mm | 290 to 305 | 300 | Pass |
| H - Skull cap to back line | mm | 41 to 46 | 45 | Pass |
| I - Shoulder to elbow length | mm | 330 to 345 | 340 | Pass |
| J - Elbow rest height | mm | 190 to 211 | 195 | Pass |
| K - Buttock to knee length | mm | 579 to 604 | 600 | Pass |
| L - Popliteal length | mm | 429 to 455 | 440 | Pass |
| M - Knee pivot height | mm | 485 to 500 | 495 | Pass |
| N - Buttock popliteal length | mm | 452 to 477 | 470 | Pass |
| O - Chest depth | mm | 213 to 229 | 225 | Pass |
| P - Foot length | mm | 251 to 267 | 255 | Pass |
| V - Shoulder breadth | mm | 422 to 437 | 425 | Pass |
| W - Foot breadth | mm | 91 to 107 | 105 | Pass |
| Y - Chest circumference | mm | 970 to 1001 | 980 | Pass |
| Z - Waist circumference | mm | 836 to 866 | 860 | Pass |
| AA - Location for chest circumference | mm | 429 to 434 | 430 | Pass |
| BB - Location for waist circumference | mm | 226 to 231 | 230 | Pass |
| Overall Test Results | | | | Pass |

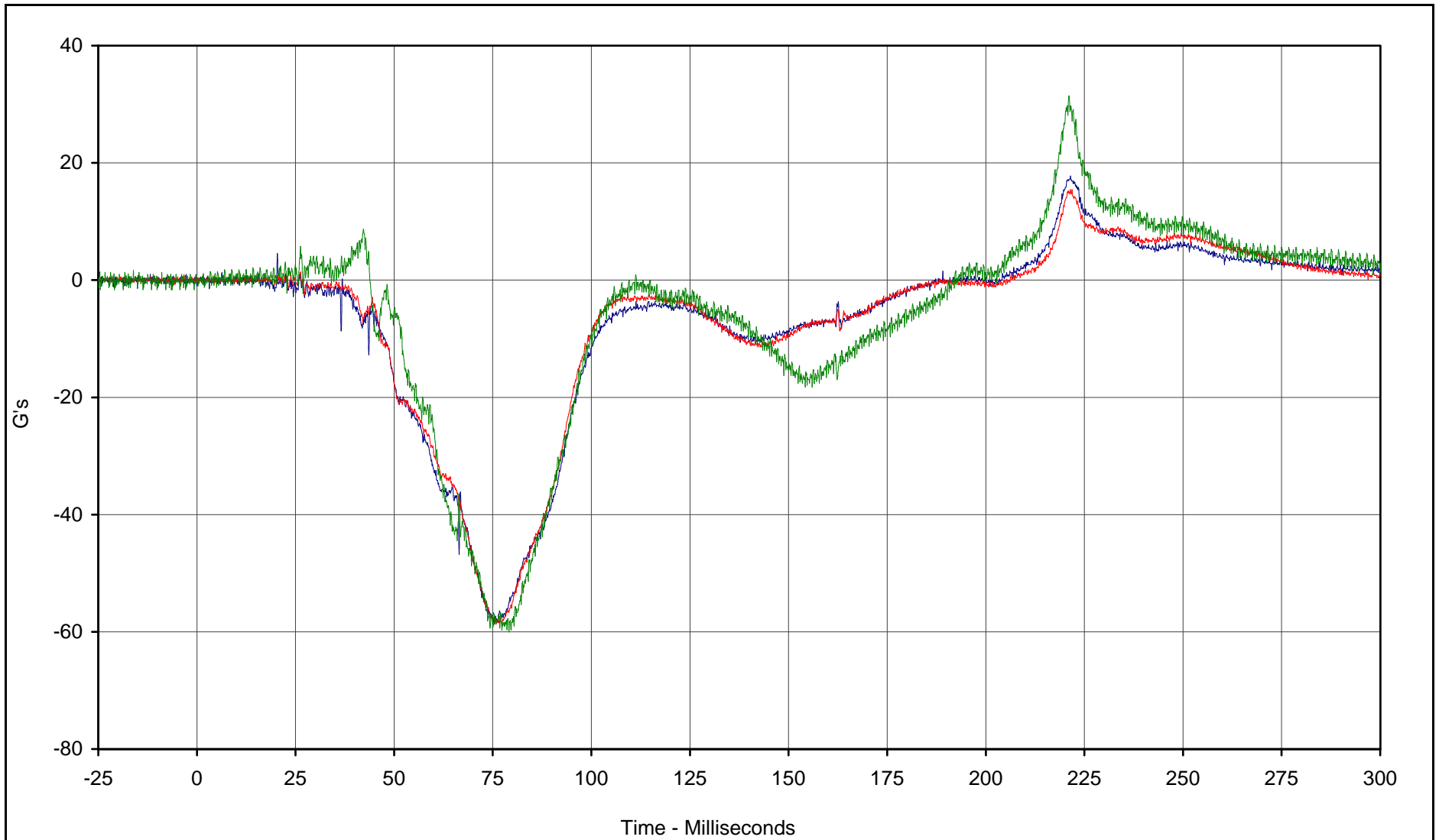
Laboratory Technician

April 3, 2002
Test Date

APPENDIX G

NINE ACCELEROMETER HEAD ARRAY DATA

G-1



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|------|-------|-------|------|-----------|
| Driver Head Primary X | 134 | FIL | G's | 17.8 | 221.5 | -59.1 | 75.1 | 1000 |
| Driver NAHA Yarm-X | 138 | FIL | G's | 15.4 | 221.5 | -58.7 | 75.5 | 1000 |
| Driver NAHA Zarm-X | 141 | FIL | G's | 31.4 | 221.0 | -60.0 | 79.1 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

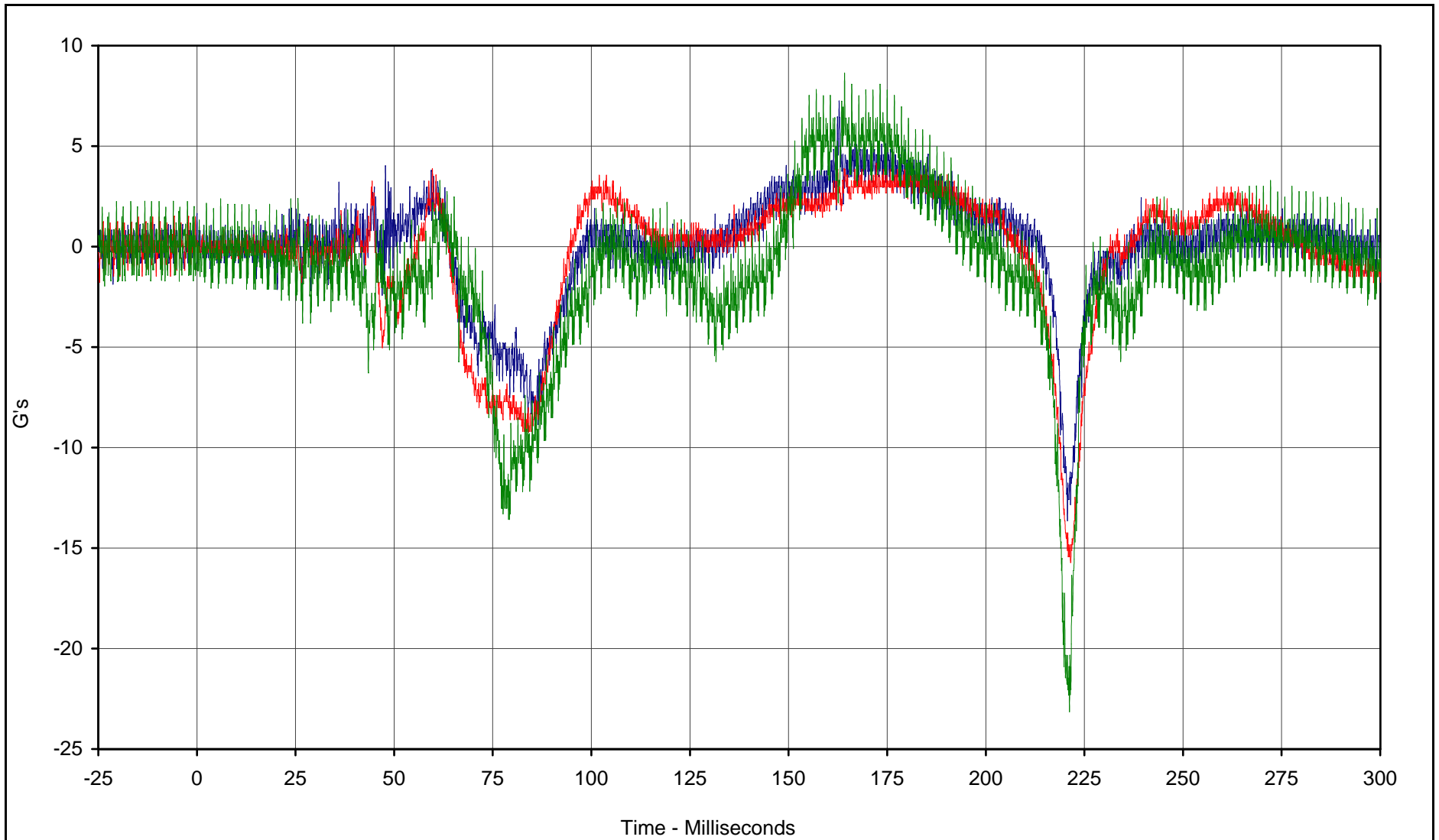
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

G-2



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|-----|-------|-------|-------|-----------|
| Driver Head Primary Y | 135 | FIL | G's | 7.2 | 162.8 | -13.7 | 220.7 | 1000 |
| Driver NAHA Xarm-Y | 140 | FIL | G's | 4.2 | 172.2 | -15.7 | 221.5 | 1000 |
| Driver NAHA Zarm-Y | 142 | FIL | G's | 8.6 | 164.2 | -23.1 | 221.2 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

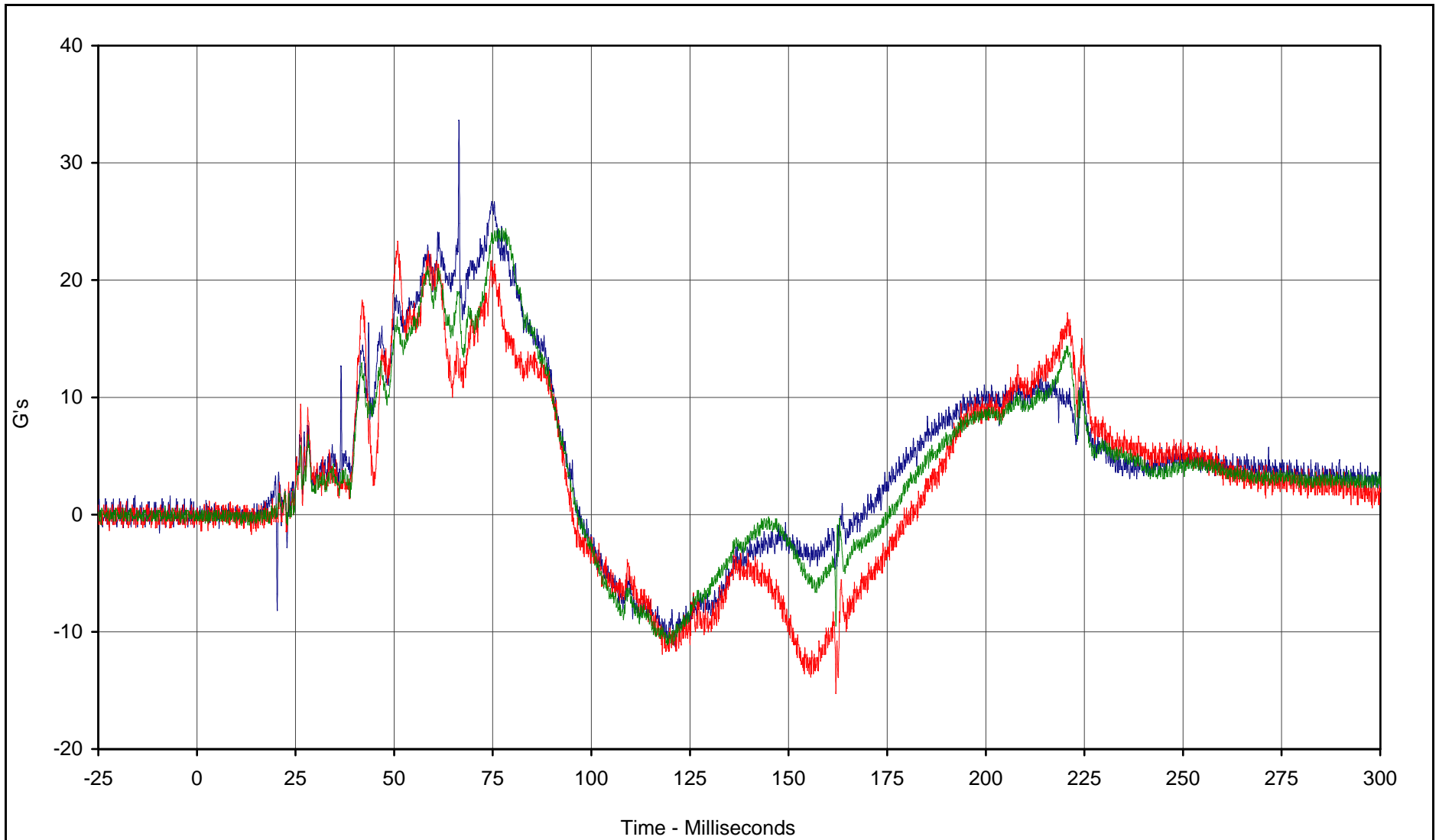
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

G-3



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|-----------------------|-------|------|-------|------|------|-------|-------|-----------|
| Driver Head Primary Z | 136 | FIL | G's | 33.6 | 66.4 | -11.3 | 121.3 | 1000 |
| Driver NAHA Xarm-Z | 139 | FIL | G's | 23.3 | 50.9 | -15.3 | 162.0 | 1000 |
| Driver NAHA Yarm-Z | 137 | FIL | G's | 24.4 | 76.5 | -11.1 | 119.3 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

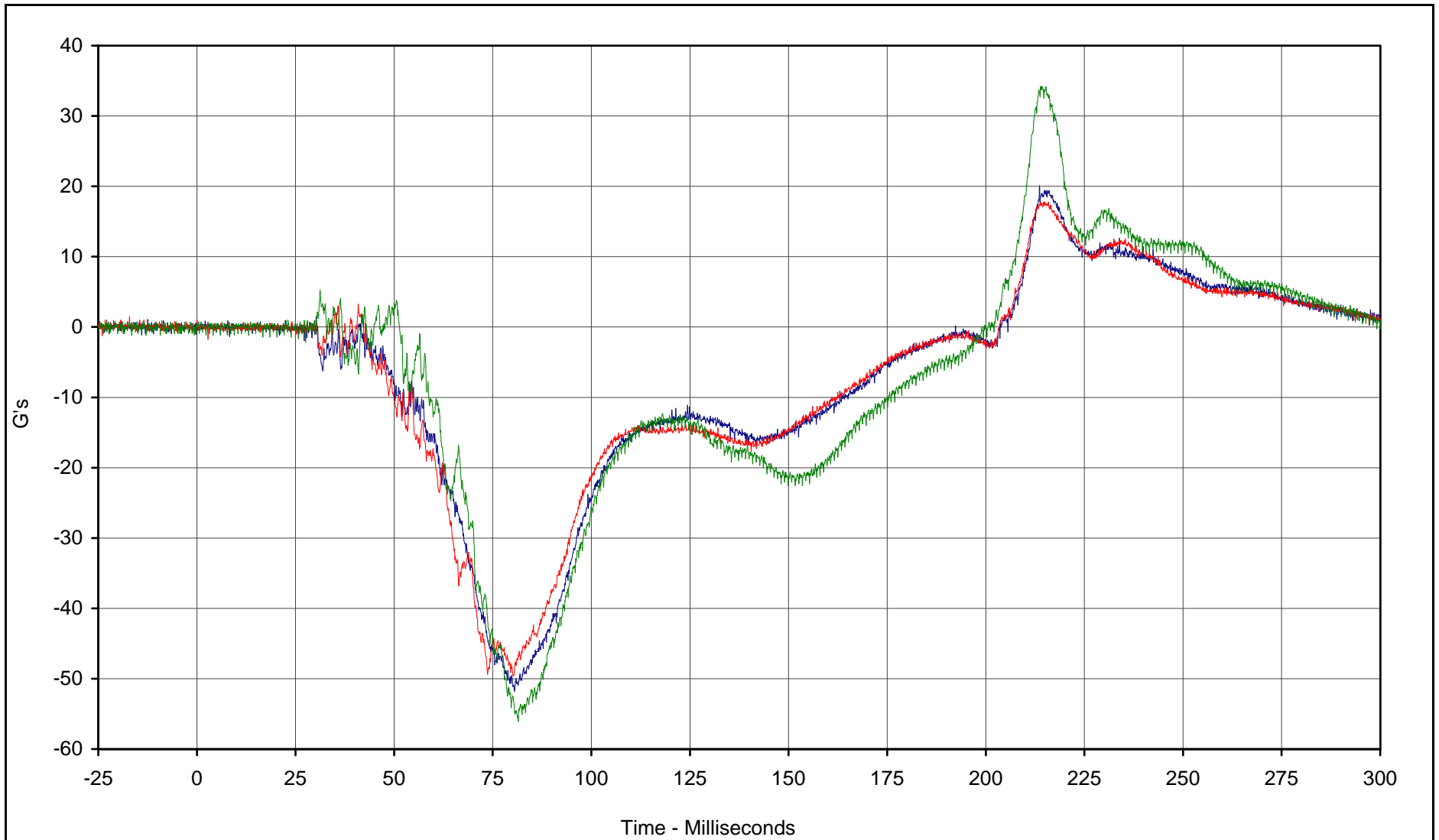
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

G-4



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|-------|-------|------|-----------|
| Passenger Head Primary X | 143 | FIL | G's | 20.1 | 213.6 | -51.8 | 80.5 | 1000 |
| Passenger NAHA Yarm-X | 147 | FIL | G's | 17.8 | 213.9 | -49.6 | 80.2 | 1000 |
| Passenger NAHA Zarm-X | 150 | FIL | G's | 34.2 | 213.9 | -56.0 | 81.5 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

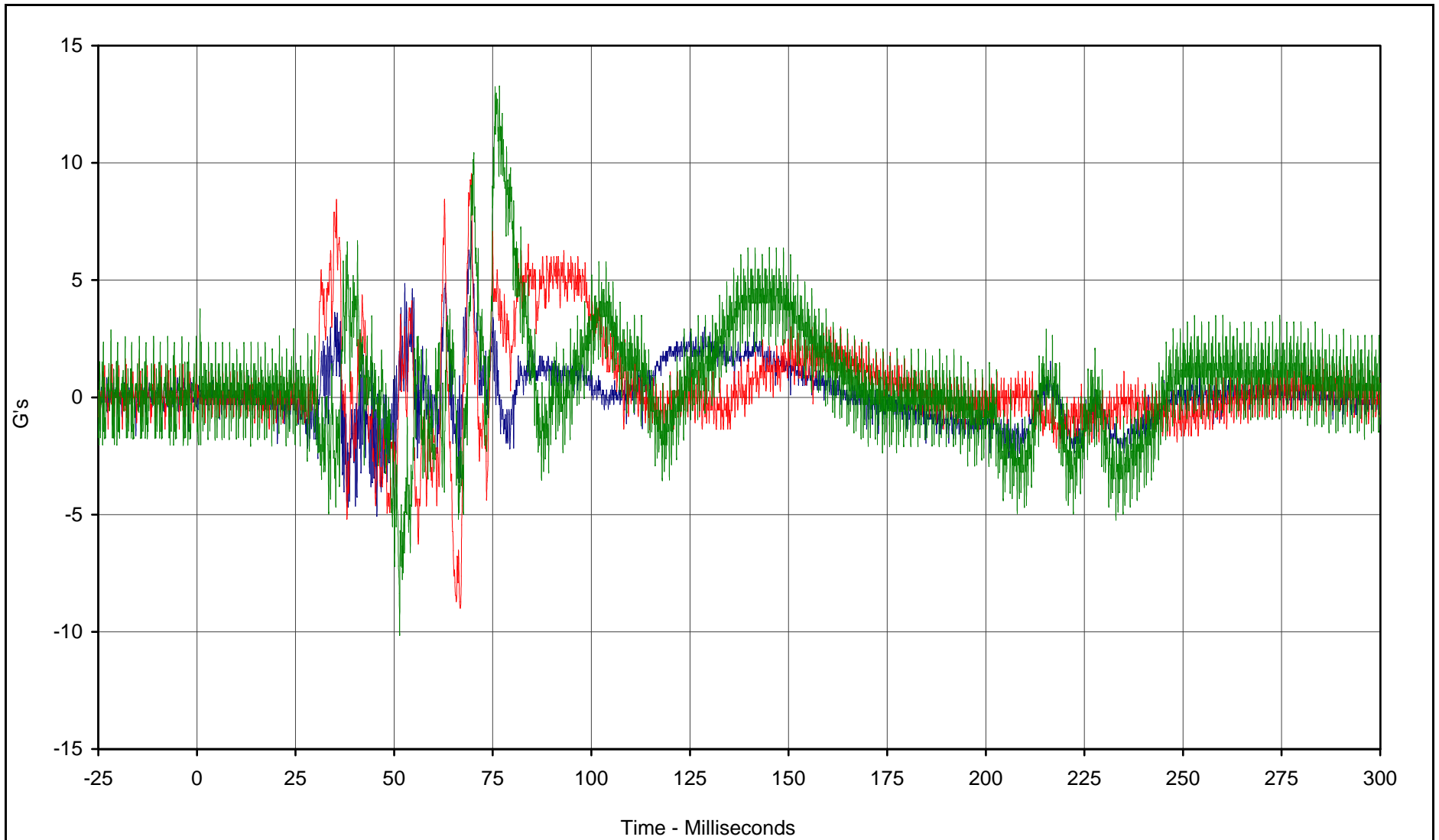
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

G-5



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|------|-------|------|-----------|
| Passenger Head Primary Y | 144 | FIL | G's | 7.5 | 69.6 | -5.1 | 45.6 | 1000 |
| Passenger NAHA Xarm-Y | 149 | FIL | G's | 9.5 | 69.6 | -9.0 | 66.7 | 1000 |
| Passenger NAHA Zarm-Y | 151 | FIL | G's | 13.3 | 75.6 | -10.1 | 51.4 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

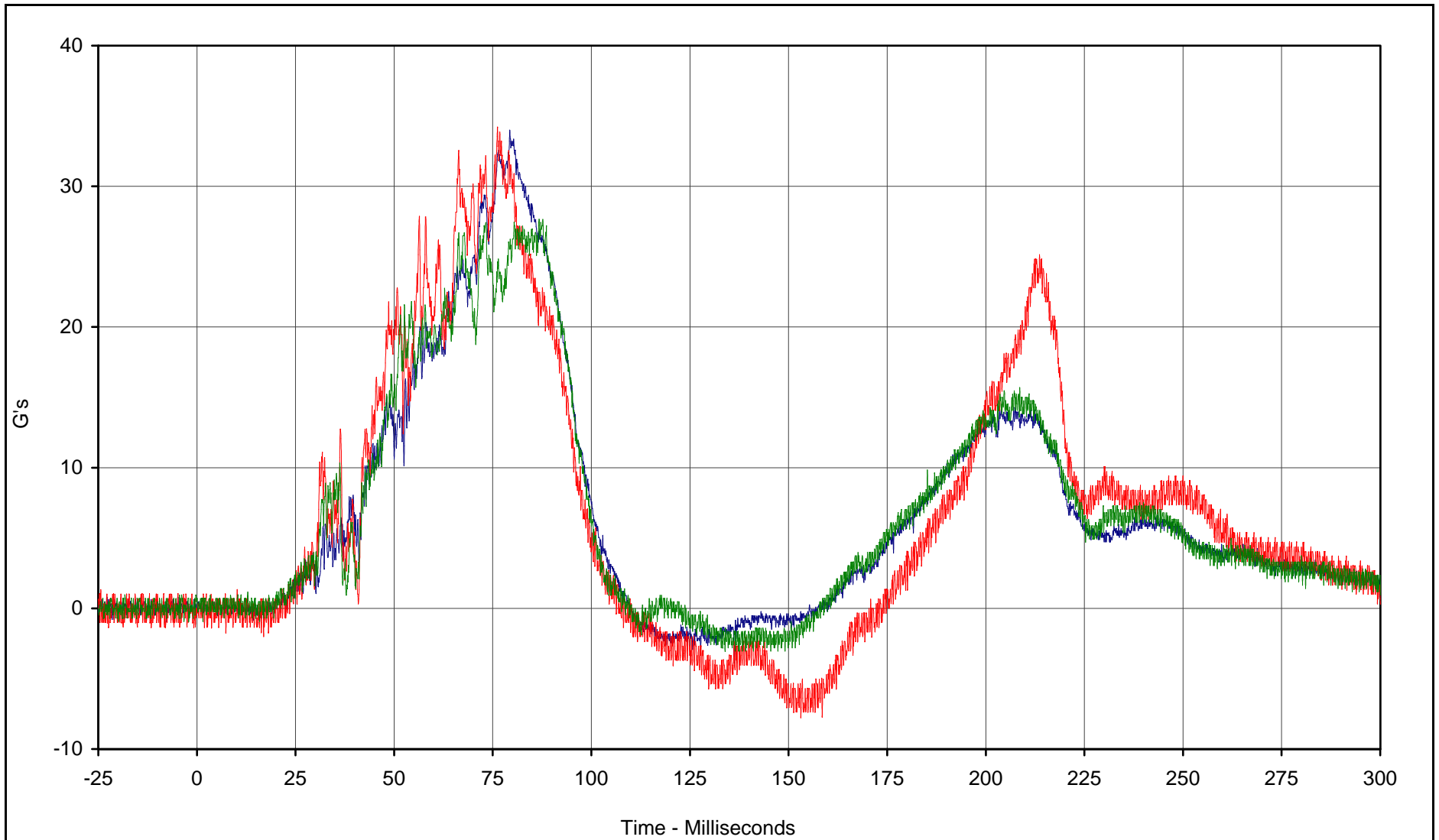
Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04

G-6



| Curve Description | CURNO | Type | Units | Max | Time | Min | Time | SAE Class |
|--------------------------|-------|------|-------|------|------|------|-------|-----------|
| Passenger Head Primary Z | 145 | FIL | G's | 34.0 | 79.3 | -3.9 | 136.2 | 1000 |
| Passenger NAHA Xarm-Z | 148 | FIL | G's | 34.2 | 76.2 | -7.7 | 153.1 | 1000 |
| Passenger NAHA Yarm-Z | 146 | FIL | G's | 27.7 | 86.7 | -3.0 | 133.9 | 1000 |



Test Vehicle: 2002 Ford Explorer Sport 2 Door 4WD SUV

Test Date: 4/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M20208

KAR22001-04