

**REPORT NUMBER KAR21040-01**

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

**FORD MOTOR CORPORATION  
2001 FORD F150 XLT SUPERCREW  
4 DOOR PICKUP  
NHTSA NUMBER: FOR001**

**PREPARED BY:  
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**JUNE 4, 2001**

**FINAL REPORT**

**PREPARED FOR:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
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## Technical Report Documentation Page

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                               |                                                                                                                                                                                                                       |            |
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| 15. Supplementary Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                               |                                                                                                                                                                                                                       |            |
| 16. Abstract<br><br>A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2001 Ford F150 XLT Supercrew 4 Door Pickup at KARCO Engineering on 5/8/01. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.80 km/h. The ambient temperature at the barrier face at the time of impact is 32.2 degrees Celcius. The vehicle's maximum post test static crush is 722 mm located 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 |
| Head Injury Criteria (HIC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N/A                                                           | 1000                                                                                                                                                                                                                  | 439.2      |
| Max. Thorax Accel. (3 msec Clip)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | G's                                                           | 60                                                                                                                                                                                                                    | 41.5       |
| Left Femur force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Newtons                                                       | 10009                                                                                                                                                                                                                 | -4121.2    |
| Right Femur Force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Newtons                                                       | 10009                                                                                                                                                                                                                 | -4304.3    |
| 17. Key Words<br><br>56.3 km/h NCAP Frontal Barrier Impact Test<br>New Car Assessment Program (NCAP)<br>2001 Ford F150 XLT Supercrew 4 Door Pickup<br>NHTSA No. FOR001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                               | 18. Distribution Statement<br><br>Copies of this report are available from:<br>NHTSA Technical Reference Division<br>National Highway Traffic Safety Admin.<br>400 Seventh St., SW, Room 5108<br>Washington, DC 20590 |            |
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## **SECTION 1**

### **PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST FOR001**

#### **1.1 PURPOSE**

The purpose of this 35 mph (56.3 km/h) frontal barrier impact test is to obtain vehicle crashworthiness, occupant restraint system performance, and lower ~~eg~~ data for frontal barrier impacts. The impact velocity used in this test is in excess of the current 30 mph (48.3 km/h) FMVSS 208/212/219/301 requirements.

#### **1.2 TEST PROCEDURE**

This 56.3-km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated 01 October 1996 and the corresponding KARCO Engineering Test Procedure KTP-001, dated October 18, 1996. Data was obtained indicant of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301 "Fuel System Integrity" performance. Procedures for receiving, inspection testing and reporting of test results are described in the test procedures and are not repeated in this report.

The test was conducted at KARCO Engineering on May 8, 2001 at a speed of 55.80 km/h. The test vehicle was instrumented with eight (8) accelerometers to measure longitudinal axis accelerations. The driver and passenger's restraint systems were instrumented with four (4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 55.5 to 57.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and fourteen (14) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The test vehicle contained two (2) part 572E 50th percentile adult male anthropomorphic test devices (ATDs). Both ATDs were instrumented with head, chest, and pelvic tri-axial accelerometers, left and right femur load cells, upper and lower tibia sensors, and foot accelerometers. In addition, chest displacement and upper neck six-axis force and moment sensors were utilized. The ATDs were positioned in the front outboard seating positions according to the dummy placement procedures specified in the Laboratory Indicant Test Procedure. Ninety-six (96) channels of data were recorded with a PC based (TDAS) on-board data acquisition system. The data was digitally sampled at 10,000 samples per second and processed per section IP11 of the Laboratory Indicant Test Procedure.

The Driver ATD (Serial No. 34) and the right-front passenger ATD (Serial No. 35) were re-calibrated prior to this test. FMVSS 208 "Occupant Crash Protection" injury criteria were not exceeded by either ATD during this frontal barrier impact test.

### **1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST**

A rigid load cell barrier was impacted by a 2001 Ford F150 XLT Supercrew 4 Door Pickup at a velocity of 55.80 km/h. The test vehicle weight is 2388 kilograms with two (2) part 572E 50th percentile adult male ATDs. Twenty-four (24) load cell barrier data channels were obtained in conducting the May 8, 2001 NCAP test. The test vehicle is a gasoline vehicle, equipped with a longitudinally mounted, 8-cylinder engine and a 3-speed automatic transmission.

The driver Head Injury Criteria (HIC) is 439.2. The maximum resultant chest deceleration over three (3) milliseconds is 41.5 g's. The left and right femur loads are -4121.2 and -4304.3 Newton's, respectively. Chest deflection for the driver ATD peaked at -27.3 mm. The driver ATD head contacted the airbag/headrest, its chest contacted the airbag/belt, the abdomen contacted the belt, with both knees contacting the knee bolster.

The right front passenger's HIC is 558.7. The maximum resultant chest deceleration over three (3) milliseconds is 36.2 g's. The left and right femur loads are -2345.2 and -3274.9 Newton's respectively. Chest deflection for the passenger ATD peaked at -24.6 mm. The passenger ATD head contacted the airbag and headrest, the chest and abdomen contacted the airbag/belt, the left knee and the right knee contacted the glove box.

Maximum shoulder belt spool out as measured by on-board potentiometers is 123.0 mm for the driver ATD and 69.1 mm for the passenger ATD. Shoulder belt stretch is not measured with pretensioners.

There was 100 percent windshield retention (minimum 50 percent required for passive restraint systems). No intrusion occurred into the protected or unprotected zone of the windshield. No Stoddard solvent leakage occurred after impact or during any phase of the rollover.

The test vehicle sustained a maximum static crush of 722 mm located at the vehicle centerline. Both the driver and passenger side doors opened without the aid of tools.

### **1.4 GENERAL COMMENTS**

The 2001 Ford F150 XLT Supercrew 4 Door Pickup passed the requirements of FMVSS 208, FMVSS 212, FMVSS 219 and FMVSS 301-75. Data pertaining to these standards are presented in the data sheets.

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. Appendix B contains the dummy and vehicle 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 seating and restraint systems.

**SECTION 2**  
**OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

**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 <sup>2</sup> | 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: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
Test Date: 05/08/01

**PRIMARY IMPACT DATA**

| Measured Parameter   | Units   | Value |
|----------------------|---------|-------|
| Velocity at Impact   | km/h    | 55.8  |
| Test Weight          | kg      | 2388  |
| Impact Angle         | degrees | 0     |
| Average Rebound      | mm      | 575   |
| Maximum Static Crush | mm      | 722   |

**DOOR OPENING AND SEAT TRACK INFORMATION**

| Description           | Driver | Passenger |
|-----------------------|--------|-----------|
| Front Door Opening    | Opened | Opened    |
| Rear Door Opening     | Opened | Opened    |
| 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. 34 | 50% Male Hybrid III / No. 35 |
| Head Contact            | Airbag/Headrest              | Airbag/Headrest              |
| Chest Contact           | Airbag/Belt                  | Airbag/Belt                  |
| Abdomen Contact         | Belt                         | Airbag/Belt                  |
| Left Knee Contact       | Knee Bolster                 | Glove Box                    |
| Right Knee Contact      | Knee Bolster                 | Glove Box                    |

**16mm MOVIE COVERAGE**

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

**DATA CHANNELS**

|                                  |     |
|----------------------------------|-----|
| Driver ATD Sensors               | 40  |
| Passenger ATD Sensors            | 40  |
| Belt Assessment Sensors          | 6   |
| Vehicle Structure Accelerometers | 8   |
| Rigid Barrier Load Cells         | 24  |
| Total                            | 118 |

**DATA SHEET NO. 2**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 05/08/01

**TEST VEHICLE INFORMATION**

|                         |                     |
|-------------------------|---------------------|
| Make                    | Ford                |
| Model                   | F-150 XLT Supercrew |
| Body Style              | 4 Door Pickup       |
| NHTSA NO.               | FOR001              |
| VIN                     | 1FTRW07W01KA41203   |
| Color                   | Beige               |
| Delivery Date           | 4/12/01             |
| Odometer Reading (mile) | 18                  |
| Dealer                  | Sunland Ford        |
| Transmission            | 3-Speed Automatic   |
| Final Drive             | Rear                |
| Number of Cylinders     | 8                   |
| Engine Displacement (L) | 4.6                 |
| Engine Placement        | Longitudinal        |

**TEST VEHICLE OPTIONS**

|                    |     |
|--------------------|-----|
| Driver Airbag      | Yes |
| Passenger Airbag   | Yes |
| Power Windows      | No  |
| Power Steering     | Yes |
| Power Door Locks   | Yes |
| Tilt Wheel         | Yes |
| Air Conditioning   | Yes |
| Power Brakes       | Yes |
| Disc Brakes, Front | Yes |
| Disc Brakes, Rear  | Yes |
| Anti-lock Brakes   | Yes |
| AM/FM/Cassette     | Yes |
| Anti-Theft System  | No  |
| Cruise Control     | Yes |

**DATA FROM CERTIFICATION LABEL**

|                     |                    |                 |      |
|---------------------|--------------------|-----------------|------|
| Manufactured By     | Ford Motor Company | GVWR (kg)       | 1406 |
| Date of Manufacture | February-01        | GAWR Front (kg) | 1660 |
|                     |                    | GAWR Rear (kg)  | 2880 |

**DATA FROM TIRE PLACARD**

| Measured Parameter          | Front      | Rear       |
|-----------------------------|------------|------------|
| Maximum Tire Pressure (kPa) | 210        | 245        |
| Cold Pressure (kPa)         | 210        | 245        |
| Recommend Tire Size         | P255/70R16 | P255/70R16 |
| Tire Size on Vehicle        | P255/70R16 | P255/70R16 |
| Tire Manufacturer           | Firestone  | Firestone  |

**VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION**

| Measured Parameter       | Front       | Rear  | Third | Total |
|--------------------------|-------------|-------|-------|-------|
| Type of Seats            | Split Bench | Bench | None  |       |
| Number of Occupants      | 3           | 3     | 0     | 6     |
| Capacity Wt. (VCW) (kg)  |             |       |       | 771   |
| Cargo Weight (RCLW) (kg) |             |       |       | 136   |

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

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
 Test Date: 05/08/01

**TEST VEHICLE WEIGHTS**

|        | Units | As Delivered (UVW) |           |       | As Tested (ATW) |           |       |
|--------|-------|--------------------|-----------|-------|-----------------|-----------|-------|
|        |       | Front Axle         | Rear Axle | Total | Front Axle      | Rear Axle | Total |
| Left   | kg    | 608                | 464       |       | 672             | 548       |       |
| Right  | kg    | 577                | 461       |       | 623             | 545       |       |
| Ratio  | %     | 56.2               | 43.8      |       | 54.2            | 45.8      |       |
| Totals | kg    | 1185               | 925       | 2110  | 1295            | 1093      | 2388  |

**TARGET TEST WEIGHT CALCULATION**

| Measured Parameter                      | Units | Value |
|-----------------------------------------|-------|-------|
| Total Delivered Weight (UVW)            | kg    | 2109  |
| Weight of 2 P572 ATD's                  | kg    | 152   |
| Rated Cargo/Luggage Weight (RCLW)       | kg    | 136   |
| Calculated Vehicle Target Weight (TVTW) | kg    | 2397  |

**TEST VEHICLE ATTITUDE AND CG**

|              | Units | LF  | RF  | LR  | RR  | CG (aft of front axle) |
|--------------|-------|-----|-----|-----|-----|------------------------|
| As Delivered | mm    | 861 | 862 | 915 | 924 | 1548                   |
| As Tested    | mm    | 842 | 847 | 890 | 906 | 1619                   |

Vehicle Wheel base (mm): 3535  
 Weight of Ballast secured in cargo area (kg): 68  
 Vehicle Components Removed: Side mirrors, jack, tools, spare tire and paneling.  
 \* Ballast weight does not include cameras, instrumentation, and brake abort system.

**FUEL SYSTEM DATA**

Fuel System Capacity From Owner's Manual (L): 94.6  
 Usable Capacity Figure Furnished by COTR (L): N/A  
 Actual Test Volume with entire fuel System Filled (L): 88.0  
 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: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
Test Date: 05/08/01

**SPEED TRAP DATA**

| Measured Parameter              | Units | Requirement    | Value |
|---------------------------------|-------|----------------|-------|
| Trap No. 1 Velocity (Primary)   | km/h  | 55.51 to 57.12 | 55.8  |
| 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 | 56.11 |
| 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    | 5418     | 4874      | -544       |
| Center             | mm    | 5740     | 5018      | -722       |
| Right Side         | mm    | 5418     | 4945      | -473       |

**VEHICLE REBOUND FROM BARRIER**

| Measured Parameter | Units | Value |
|--------------------|-------|-------|
| Left Side          | mm    | 680   |
| Center             | mm    | 510   |
| Right Side         | mm    | 535   |
| Average            | mm    | 575   |

**DATA SHEET NO. 4**  
**TEST VEHICLE INFORMATION**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

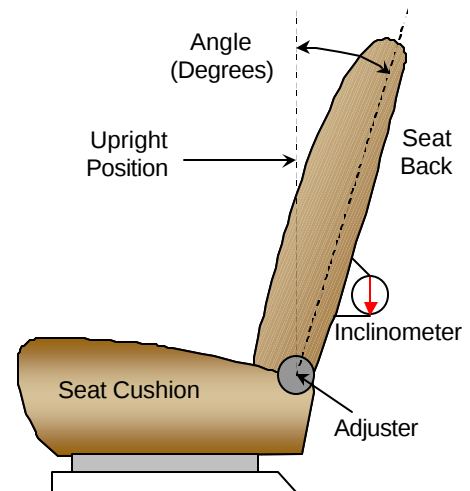
Test Date: 5/8/01

**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: 21.4° with a seated dummy

Passenger seat back angle: 21.4° with a seated dummy



*FRONT SEAT ASSEMBLY*

**SEAT FORE/AFT POSITIONS**

The driver seat has 23 detents and the passenger seat has 19 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: 23 seating positions or detents

Passenger seat fore/aft total travel: 19 seating positions or detents

Driver seat fore/aft position: 12th detent from forward most

Passenger seat fore/aft position: 10th detent from forward most

**SEAT BELT UPPER ANCHORAGE**

Both driver and passenger seat positions are equipped with adjustable anchorages. Of five positions, both are set in the third position from the top.

## DATA SHEET NO. 4...(continued)

### TEST VEHICLE INFORMATION

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

### FUEL TANK CAPACITY DATA

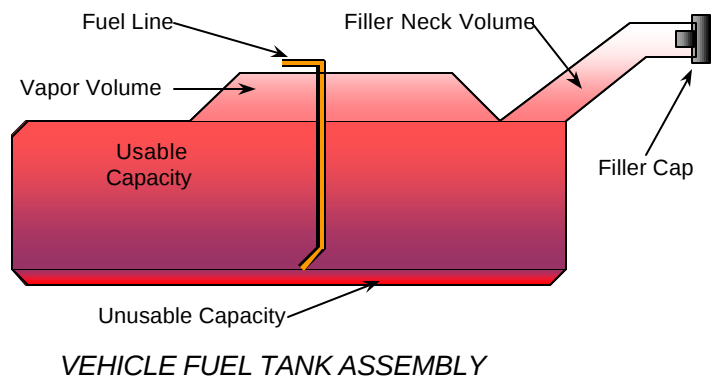
The "Usable Capacity" of the standard equipment fuel tank is: 94.6 liters

The "Usable Capacity" of any optional equipment fuel tank is: N/A liters

"Usable Capacity" used for certification tests FMVSS 301 requirements: 87.0 to 88.9 liters

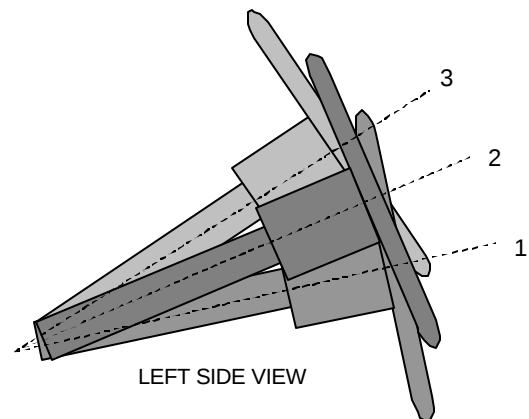
Actual amount of Stoddard solvent added to vehicle for certification test: 88.0 liters

The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed to 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 along the right side of the body to the engine compartment.



### 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 it is moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed onto the plate and the angle is measured. The tested vehicle has its steering column set to the geometric center, or position 2.



STEERING COLUMN ASSEMBLY

Lowermost, position 1: 14.0°

Geometric center, position 2: 21.5°

Uppermost, position 3: 29.0°

# DATA SHEET NO. 5

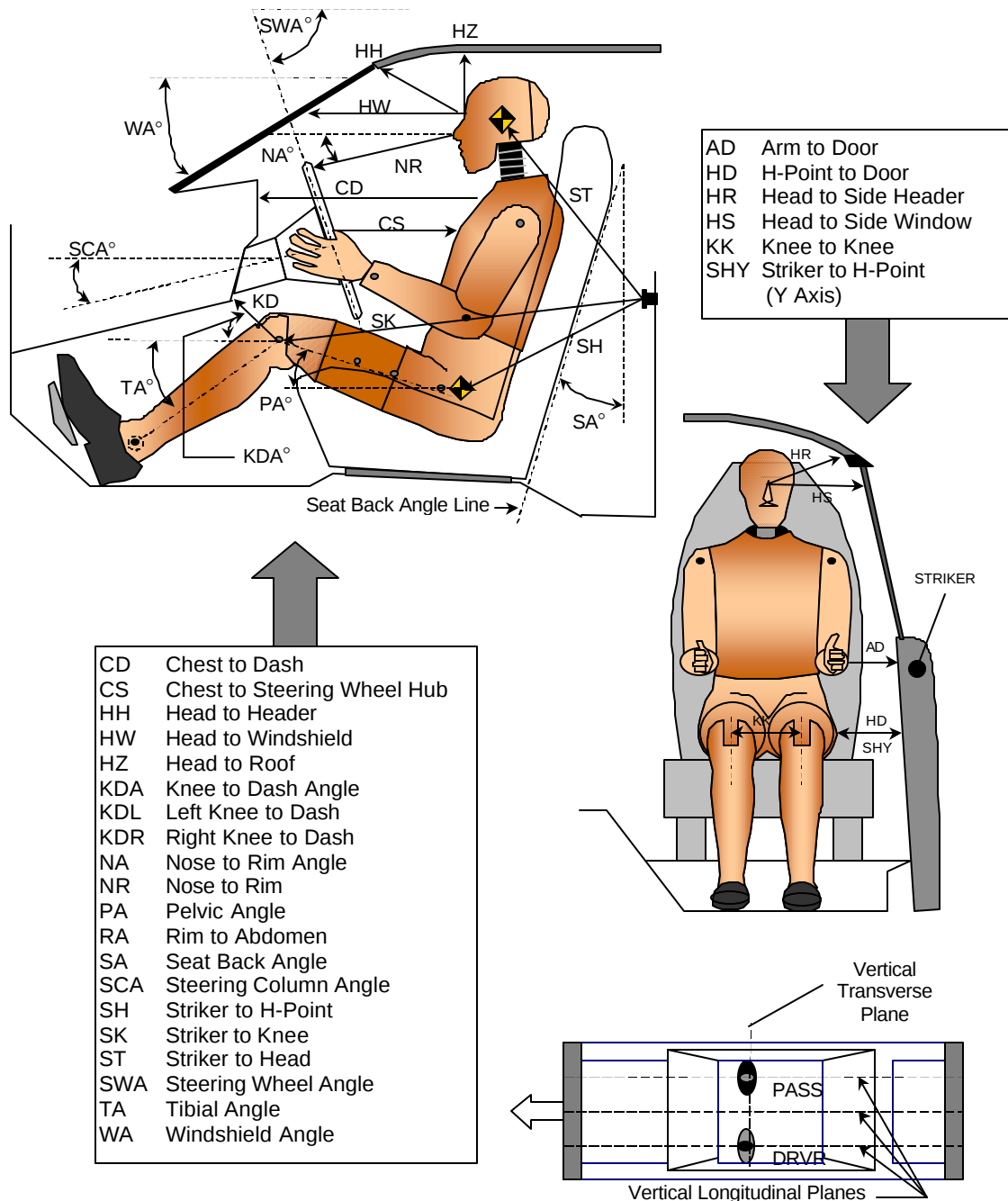
## DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

**DATA SHEET NO. 5...(continued)**  
**DUMMY POSITIONING IN VEHICLE**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
 Test Date: 05/08/01

**TEST DUMMY POSITION MEASUREMENTS**

| Code | Measurement Description | Driver      |           | Passenger   |           |
|------|-------------------------|-------------|-----------|-------------|-----------|
|      |                         | Length (mm) | Angle (°) | Length (mm) | Angle (°) |
| WA   | Windshield Angle        |             | 35        |             |           |
| SWA  | Steering Wheel Angle    |             | 69        |             |           |
| SCA  | Steering Column Angle   |             | 21        |             |           |
| SA   | Seat Back Angle         |             | 21        |             | 21        |
| HZ   | Head to Roof (Z)        | 245         | 90        | 245         | 90        |
| HH   | Head to Header          | 410         | 0         | 408         | 0         |
| HW   | Head to Windshield      | 650         | 0         | 651         | 0         |
| HR   | Head to Side Header (Y) | 245         |           | 257         |           |
| NR   | Nose to Rim             | 425         | 13        |             |           |
| CD   | Chest to Dash           | 600         |           | 576         |           |
| CS   | Chest to Steering Hub   | 345         | 0         |             |           |
| RA   | Rim to Abdomen          | 225         | 0         |             |           |
| KDL  | Left Knee to Dash       | 165         | 27        | 180         |           |
| KDR  | Right Knee to Dash      | 175         |           | 170         | 23        |
| PA   | Pelvic Angle            |             | 24        |             | 24        |
| TA   | Tibia Angle             |             | 48        |             | 46        |
| KK   | Knee to Knee (Y)        | 265         |           | 200         |           |
| SK   | Striker to Head         | 622         | 5         | 635         | 4         |
| ST   | Striker to Knee         | 665         | 5         | 665         | 2         |
| SH   | Striker to H-Point      | 210         | 2         | 240         | 2         |
| SHY  | Striker to H-Point (Y)  | 260         |           | 249         |           |
| HS   | Head to Side Window     | 315         |           | 325         |           |
| HD   | H-Point to Door (Y)     | 190         |           | 180         |           |
| AD   | Arm to Door (Y)         | 82          |           | 60          |           |

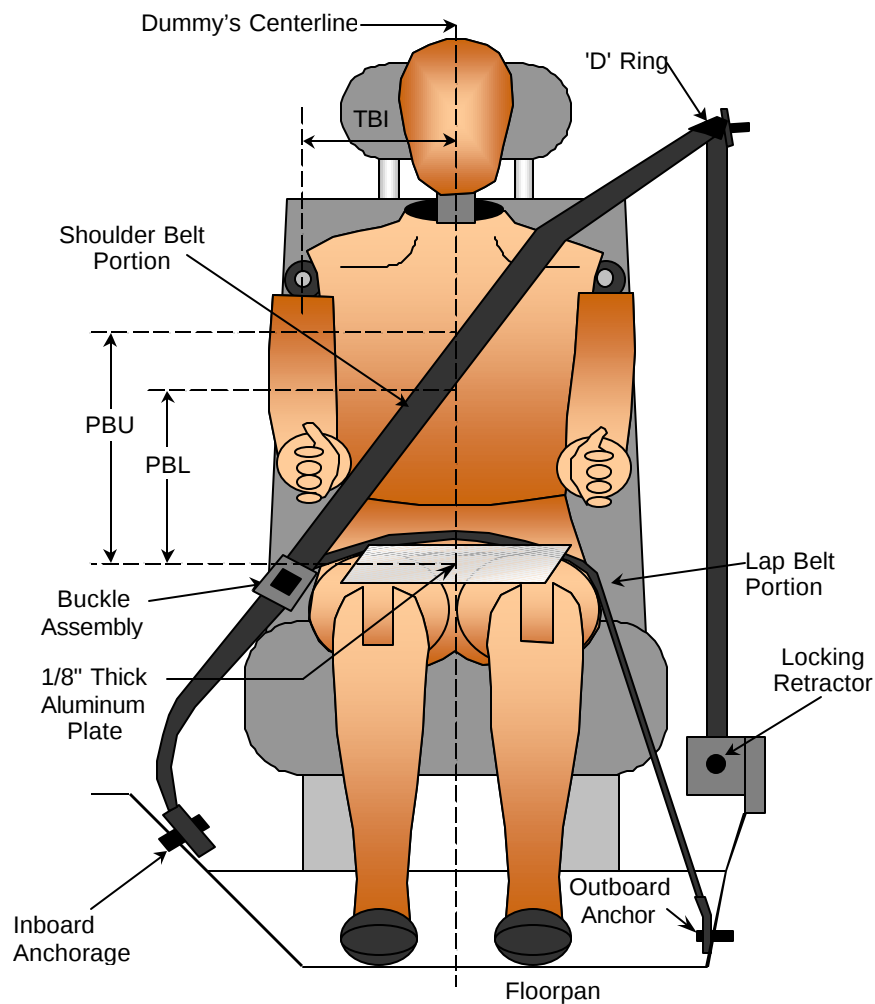
# **DATA SHEET NO. 6** **SEAT BELT POSITIONING DATA**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01



## **SEAT BELT POSITIONING MEASUREMENTS**

| Measurement Description                           | Units    | Driver    | Passenger |
|---------------------------------------------------|----------|-----------|-----------|
| TBI - Dummy CL to Lap/Shoulder Belt Intersect     | mm       | 180       | 180       |
| PBU - Top surface of reference to belt upper edge | mm       | 340       | 340       |
| PBL - Top surface of reference to belt lower edge | mm       | 260       | 255       |
| 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: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 5/8/01

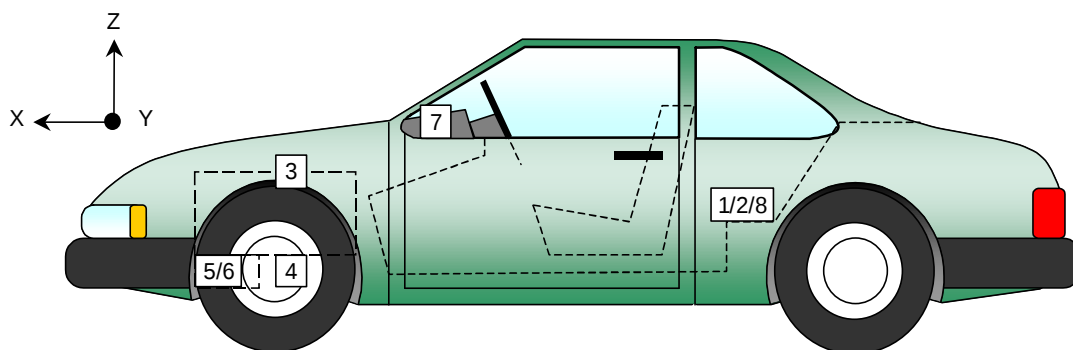
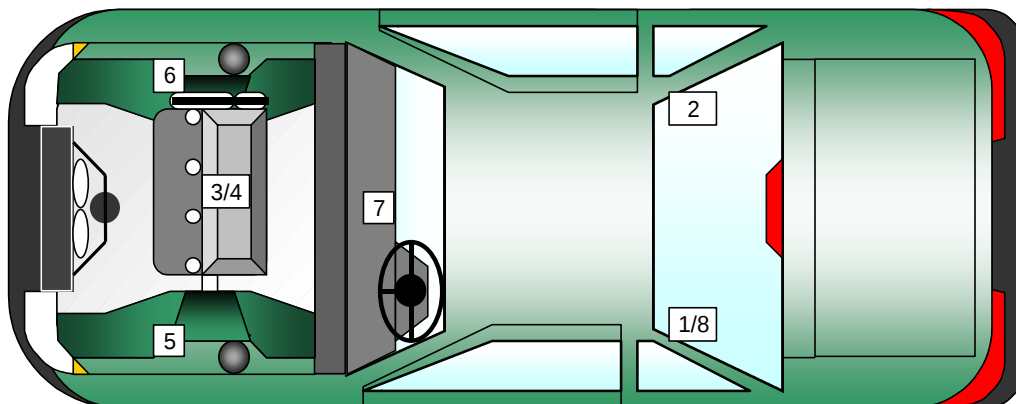
## VEHICLE X-AXIS ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

| No. | Accelerometer Location      | Measurements (mm) |      |      | Peak Values |      |       |       |      |
|-----|-----------------------------|-------------------|------|------|-------------|------|-------|-------|------|
|     |                             | X                 | Y    | Z    | Units       | Max  | Time  | Min   | Time |
| 1   | Left Rear X-Member (Pri.)   | 2905              | -700 | 560  | G's         | 3.1  | 127.1 | -29.1 | 71.8 |
| 2   | Right Rear X-Member (Pri.)  | 2905              | 700  | 560  | G's         | 2.6  | 148.4 | -27.2 | 72.8 |
| 3   | Engine Top                  | 4835              | -300 | 880  | G's         | 0.0  | 44.9  | -49.7 | 42.0 |
| 4   | Engine Bottom               | 4560              | 0    | 235  | G's         | 11.6 | 113.2 | -61.1 | 52.7 |
| 5   | Left Brake Caliper          | 4810              | -795 | 325  | G's         | 36.6 | 71.1  | -90.9 | 47.4 |
| 6   | Right Brake Caliper         | 4810              | 795  | 325  | G's         | 33.1 | 26.4  | -91.8 | 31.3 |
| 7   | Instrument Panel            | 3935              | 0    | 1235 | G's         | 0.0  | 0.0   | 0.0   | 0.0  |
| 8   | Left Rear X-Member (Rednt.) | 2905              | -620 | 560  | G's         | 4.1  | 112.8 | -30.0 | 15.1 |

Reference Points X - From Rear Surface of Vehicle Y - Vehicle Centerline Z - Ground Plane

\* Channel failed at 44.9 Msec., no peak data

\*\* Not installed, per manufacturers request.



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

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 5/8/01

## HEAD PRIMARY PEAK ACCELERATIONS

| Location          | Axis | Units | Driver |       |       |       | Passenger |       |       |       |
|-------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
|                   |      |       | Max    | Time  | Min   | Time  | Max       | Time  | Min   | Time  |
| Head CG           | X    | G's   | 28.0   | 232.1 | -46.8 | 87.7  | 22.8      | 237.4 | -57.7 | 87.6  |
| Head CG           | Y    | G's   | 4.1    | 176.1 | -21.0 | 99.3  | 10.5      | 233.0 | -7.6  | 106.7 |
| Head CG           | Z    | G's   | 27.4   | 83.3  | -6.1  | 140.2 | 27.0      | 73.3  | -10.4 | 123.4 |
| Head CG Resultant | N/A  | G's   | 55.9   | 86.9  |       |       | 60.1      | 87.9  |       |       |

## CHEST PRIMARY PEAK ACCELERATIONS

| Location           | Axis | Units | Driver |       |       |       | Passenger |       |       |       |
|--------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
|                    |      |       | Max    | Time  | Min   | Time  | Max       | Time  | Min   | Time  |
| Chest CG           | X    | G's   | 5.8    | 187.1 | -41.1 | 92.0  | 5.8       | 192.4 | -37.5 | 82.2  |
| Chest CG           | Y    | G's   | 3.2    | 119.1 | -3.6  | 81.3  | 6.0       | 83.7  | -5.0  | 115.8 |
| Chest CG           | Z    | G's   | 13.8   | 87.5  | -8.6  | 138.6 | 12.5      | 72.4  | -12.3 | 126.2 |
| Chest CG Resultant | N/A  | G's   | 42.5   | 91.7  |       |       | 38.6      | 82.2  |       |       |

## FEMUR PEAK FORCES

| Location    | Axis | Units   | Driver |      |         |      | Passenger |      |         |      |
|-------------|------|---------|--------|------|---------|------|-----------|------|---------|------|
|             |      |         | Max    | Time | Min     | Time | Max       | Time | Min     | Time |
| Left Femur  | Z    | Newtons | 902.8  | 45.6 | -4121.2 | 55.7 | 370.9     | 48.5 | -2345.2 | 65.2 |
| Right Femur | Z    | Newtons | 966.8  | 48.5 | -4304.3 | 77.8 | 319.1     | 37.9 | -3274.9 | 58.5 |

## SEAT BELT SENSOR PEAK VALUES

| Location              | Axis | Units   | Driver |       |       |       | Passenger |      |       |       |
|-----------------------|------|---------|--------|-------|-------|-------|-----------|------|-------|-------|
|                       |      |         | Max    | Time  | Min   | Time  | Max       | Time | Min   | Time  |
| Lap Belt Force        | N/A  | Newtons | 5759.8 | 55.0  | -11.2 | 137.2 | 5413.5    | 57.0 | -17.2 | 142.3 |
| Shoulder Belt Force   | N/A  | Newtons | 4500.0 | 54.6  | -87.8 | 175.7 | 4668.9    | 56.6 | -41.4 | 174.0 |
| Shoulder Belt Pullout | N/A  | MM      | 123.0  | 107.9 | -28.7 | 35.5  | 69.1      | 83.3 | -25.3 | 34.3  |
| Shoulder Belt Stretch | N/A  | MM/CM   | 0.000  | 0.0   | 0.000 | 0.0   | 0.000     | 0.0  | 0.000 | 0.0   |

\* Passenger side failed at 86.3 Msec., no peak data.

\*\* Not used with pre-tensioners.

## HEAD INJURY CRITERIA (HIC)

| Location        | Driver |       |                |                | Passenger |       |                |                |
|-----------------|--------|-------|----------------|----------------|-----------|-------|----------------|----------------|
|                 | HIC    | Avg G | T <sup>1</sup> | T <sup>2</sup> | HIC       | Avg G | T <sup>1</sup> | T <sup>2</sup> |
| Head CG Primary | 439.2  | 43.4  | 71.0           | 106.4          | 558.7     | 47.5  | 70.6           | 106.5          |

## CHEST CLIP (3MSEC)

| Location         | Driver |                |                | Passenger |                |                |
|------------------|--------|----------------|----------------|-----------|----------------|----------------|
|                  | CLIP   | T <sup>1</sup> | T <sup>2</sup> | CLIP      | T <sup>1</sup> | T <sup>2</sup> |
| Chest CG Primary | 41.5   | 90.8           | 93.8           | 36.2      | 89.7           | 92.7           |

**DATA SHEET NO. 8...(continued)**Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door PickupNHTSA No.: FOR001Test Program: 2001 NHTSA 35mph NCAPTest Date: 5/8/01**PELVIC PEAK ACCELERATIONS**

| Location | Axis | Units | Driver |       |       |      | Passenger |       |       |       |
|----------|------|-------|--------|-------|-------|------|-----------|-------|-------|-------|
|          |      |       | Max    | Time  | Min   | Time | Max       | Time  | Min   | Time  |
| Pelvis   | X    | G's   | 6.2    | 151.3 | -55.1 | 54.9 | 6.7       | 155.5 | -54.2 | 54.0  |
| Pelvis   | Y    | G's   | 7.5    | 90.6  | -10.9 | 65.4 | 4.9       | 60.9  | -6.8  | 93.9  |
| Pelvis   | Z    | G's   | 2.9    | 263.6 | -12.4 | 66.1 | 4.1       | 272.7 | -15.0 | 122.0 |

**UPPER NECK PEAK FORCES AND MOMENTS**

| Location    | Axis | Units   | Driver |       |        |       | Passenger |       |        |       |
|-------------|------|---------|--------|-------|--------|-------|-----------|-------|--------|-------|
|             |      |         | Max    | Time  | Min    | Time  | Max       | Time  | Min    | Time  |
| Neck Force  | X    | Newtons | 724.5  | 91.8  | -496.8 | 161.3 | 299.7     | 92.9  | -341.0 | 169.2 |
| Neck Force  | Y    | Newtons | 231.4  | 89.4  | -199.8 | 124.3 | 191.0     | 62.0  | -265.3 | 167.3 |
| Neck Force  | Z    | Newtons | 1164.5 | 75.9  | -795.8 | 263.0 | 1706.4    | 81.9  | -700.1 | 269.8 |
| Neck Moment | X    | N•m     | 11.4   | 167.9 | -19.3  | 127.8 | 24.7      | 99.6  | -13.2  | 180.2 |
| Neck Moment | Y    | N•m     | 57.4   | 91.9  | -48.6  | 268.5 | 27.9      | 169.3 | -29.8  | 269.5 |
| Neck Moment | Z    | N•m     | 32.0   | 106.1 | -11.7  | 162.4 | 14.3      | 104.9 | -4.4   | 185.4 |

**FOOT PEAK ACCELERATIONS**

| Location        | Axis | Units | Driver |       |        |      | Passenger |       |       |      |
|-----------------|------|-------|--------|-------|--------|------|-----------|-------|-------|------|
|                 |      |       | Max    | Time  | Min    | Time | Max       | Time  | Min   | Time |
| Left Foot Aft   | X    | G's   | 5.5    | 112.8 | -70.4  | 61.3 | 11.1      | 103.0 | -45.5 | 44.2 |
| Left Foot Aft   | Z    | G's   | 25.7   | 84.6  | -29.3  | 53.8 | 13.6      | 72.2  | -53.2 | 64.7 |
| Left Foot Fore  | Z    | G's   | 93.2   | 61.1  | -31.2  | 40.4 | 34.2      | 72.1  | -67.3 | 64.4 |
| Right Foot Aft  | X    | G's   | 38.7   | 73.7  | -158.0 | 55.6 | 12.6      | 97.2  | -47.9 | 43.7 |
| Right Foot Aft  | Z    | G's   | 7.0    | 83.7  | -99.7  | 54.8 | 4.1       | 254.8 | -49.2 | 57.3 |
| Right Foot Fore | Z    | G's   | 44.3   | 76.0  | -191.9 | 54.9 | 27.8      | 53.6  | -68.2 | 44.0 |

**UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS**

| Location           | Axis | Units   | Driver |       |         |       | Passenger |       |         |       |
|--------------------|------|---------|--------|-------|---------|-------|-----------|-------|---------|-------|
|                    |      |         | Max    | Time  | Min     | Time  | Max       | Time  | Min     | Time  |
| Left Lower Moment  | X    | N•m     | 15.2   | 61.9  | -10.0   | 128.2 | 16.3      | 106.8 | -15.8   | 55.4  |
| Left Lower Moment  | Y    | N•m     | 18.0   | 75.5  | -68.8   | 49.7  | 49.3      | 74.0  | -17.4   | 64.2  |
| Left Lower Force   | Z    | Newtons | 178.2  | 133.2 | -1470.0 | 57.2  | 149.8     | 208.0 | -1871.4 | 66.6  |
| Left Upper Moment  | X    | N•m     | 47.7   | 64.1  | -28.9   | 94.8  | 8.7       | 134.1 | -41.6   | 57.5  |
| Left Upper Moment  | Y    | N•m     | 19.8   | 129.8 | -82.5   | 58.2  | 21.0      | 153.4 | -108.3  | 63.1  |
| Right Lower Moment | X    | N•m     | 37.7   | 56.5  | -108.7  | 64.0  | 11.4      | 124.2 | -9.1    | 46.1  |
| Right Lower Moment | Y    | N•m     | 192.8  | 69.3  | -78.1   | 55.2  | 160.2     | 52.4  | -10.8   | 37.2  |
| Right Lower Force  | Z    | Newtons | 558.5  | 51.0  | -1974.6 | 65.3  | 421.9     | 49.1  | -1759.7 | 103.5 |
| Right Upper Moment | X    | N•m     | 84.3   | 57.4  | -55.5   | 64.0  | 17.4      | 129.1 | -34.6   | 62.1  |
| Right Upper Moment | Y    | N•m     | 54.0   | 53.3  | -82.0   | 63.9  | 209.3     | 50.6  | -26.2   | 105.8 |

**DATA SHEET NO. 8...(continued)**Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door PickupNHTSA No.: FOR001Test Program: 2001 NHTSA 35mph NCAPTest Date: 5/8/01**CHEST PEAK DISPLACEMENTS**

| Location | Axis | Units | Driver |       |       |      | Passenger |      |       |      |
|----------|------|-------|--------|-------|-------|------|-----------|------|-------|------|
|          |      |       | Max    | Time  | Min   | Time | Max       | Time | Min   | Time |
| Chest CG | X    | MM    | 0.3    | 238.1 | -27.3 | 84.6 | 0.3       | 3.7  | -24.6 | 92.4 |

**HEAD REDUNDANT PEAK ACCELERATIONS**

| Location          | Axis | Units | Driver |       |       |       | Passenger |       |       |       |
|-------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
|                   |      |       | Max    | Time  | Min   | Time  | Max       | Time  | Min   | Time  |
| Head CG           | X    | G's   | 27.2   | 232.0 | -46.8 | 86.5  | 23.5      | 237.2 | -58.3 | 88.6  |
| Head CG           | Y    | G's   | 4.4    | 171.6 | -20.9 | 97.0  | 10.0      | 232.1 | -7.6  | 107.6 |
| Head CG           | Z    | G's   | 27.5   | 83.1  | -7.0  | 126.1 | 27.0      | 73.1  | -11.1 | 123.9 |
| Head CG Resultant | N/A  | G's   | 56.3   | 88.7  |       |       | 60.6      | 88.6  |       |       |

**CHEST REDUNDANT PEAK ACCELERATIONS**

| Location           | Axis | Units | Driver |       |       |       | Passenger |       |       |       |
|--------------------|------|-------|--------|-------|-------|-------|-----------|-------|-------|-------|
|                    |      |       | Max    | Time  | Min   | Time  | Max       | Time  | Min   | Time  |
| Chest CG           | X    | G's   | 6.6    | 187.2 | -41.2 | 92.1  | 5.8       | 192.7 | -37.5 | 82.1  |
| Chest CG           | Y    | G's   | 2.2    | 103.5 | -4.5  | 80.8  | 8.7       | 83.6  | -4.2  | 119.1 |
| Chest CG           | Z    | G's   | 14.2   | 87.7  | -8.7  | 138.8 | 13.0      | 72.3  | -10.9 | 126.0 |
| Chest CG Resultant | N/A  | G's   | 42.9   | 91.8  |       |       | 39.2      | 82.1  |       |       |

**REDUNDANT HEAD INJURY CRITERA (HIC)**

| Location          | Driver |       |                |                | Passenger |       |                |                |
|-------------------|--------|-------|----------------|----------------|-----------|-------|----------------|----------------|
|                   | HIC    | Avg G | T <sup>1</sup> | T <sup>2</sup> | HIC       | Avg G | T <sup>1</sup> | T <sup>2</sup> |
| Head CG Redundant | 441.0  | 43.4  | 70.6           | 106.0          | 570.4     | 47.9  | 70.9           | 106.8          |

**REDUNDANT CHEST CLIP (3MSEC)**

| Location           | Driver |                |                | Passenger |                |                |
|--------------------|--------|----------------|----------------|-----------|----------------|----------------|
|                    | CLIP   | T <sup>1</sup> | T <sup>2</sup> | CLIP      | T <sup>1</sup> | T <sup>2</sup> |
| Chest CG Redundant | 41.8   | 90.8           | 93.8           | 36.7      | 90.0           | 93.0           |

**DATA SHEET NO. 9**  
**SEAT BELT PERFORMANCE ASSESSMENT TEST DATA**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

**SEAT BELT PLACEMENT MEASUREMENTS**

| Measurement Description                           | Units    | Driver    | Passenger |
|---------------------------------------------------|----------|-----------|-----------|
| TCI - Dummy CL to Lap/Shoulder Belt Intersect     | mm       | 180       | 180       |
| PBU -Top surface of reference to belt upper edge  | mm       | 340       | 340       |
| PBL - Top surface of reference to belt lower edge | mm       | 260       | 255       |
| 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    | 800    | 800       |
| Shoulder belt length as measured on ATD          | mm    | 810    | 800       |
| Lap belt length as measured on ATD               | mm    | 800    | 780       |
| Remainder of belt on reel                        | mm    | 850    | 880       |
| Total belt length for continuous webbing systems | mm    | 3260   | 3260      |

**SHOULDER BELT SPOOL-OFF DATA**

| Measurement Description      | Units | Driver | Passenger |
|------------------------------|-------|--------|-----------|
| As determined mechanically   | mm    | 440.0  | 415.0     |
| As determined electronically | mm    | 123.0  | 69.1*     |

\* Passenger side failed at 86.3 Msec.

**BELT STRETCH DATA**

| Measurement Description                                  | Units | Driver | Passenger |
|----------------------------------------------------------|-------|--------|-----------|
| Electronically from shoulder belt load cell and "D" ring | mm/cm | N/A    | N/A       |
| Mechanically                                             | mm/cm | N/A    | N/A       |

\*Not used with shoulder belt pre-tensioner systems.

**DATA SHEET NO. 10**  
**SUMMARY OF FMVSS 212 DATA**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

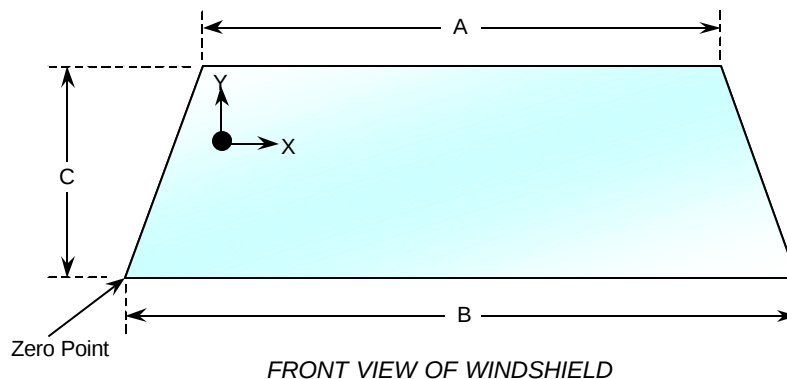
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. There is no molding that covers the windshield periphery at any point.

The standard requires that the post test 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 which 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   | 2284.5       | 2284.5         | 100            |
| Right Side  | 2284.5       | 2284.5         | 100            |
| Total       | 4569.0       | 4569.0         | 100            |



**WINDSHIELD DIMENSIONS**

| Item | Units | Segment Length | Molding Width |
|------|-------|----------------|---------------|
| A    | mm    | 1361           | 27            |
| B    | mm    | 1746           | 14            |
| C    | mm    | 731            | 25            |

## DATA SHEET NO. 11

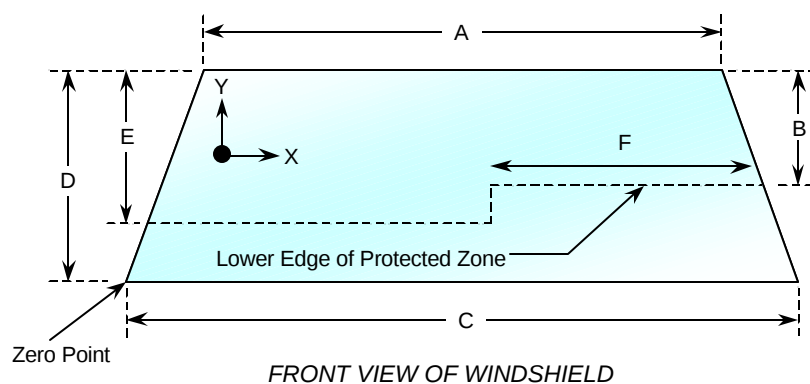
### WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01



#### WINDSHIELD AND PROTECTED ZONE

| Item | Units | Value |
|------|-------|-------|
| A    | mm    | 1361  |
| B    | mm    | 422   |
| C    | mm    | 1746  |
| D    | mm    | 731   |
| E    | mm    | 502   |
| F    | mm    | 885   |

#### AREA 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: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

Test Time: 12:04 PM

Temperature at Time of Impact: 32.2 °C

**STODDARD SOLVENT SPILLAGE MEASUREMENT**

- 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 Details: No leakage occurred

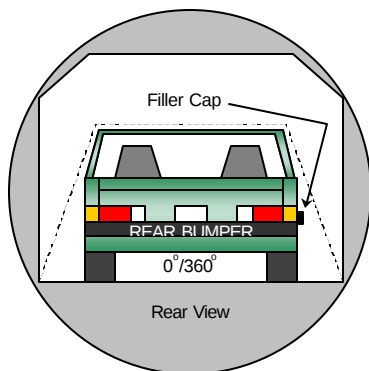
**DATA SHEET NO. 13**  
**FMVSS 301 STATIC ROLLOVER DATA SHEET**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

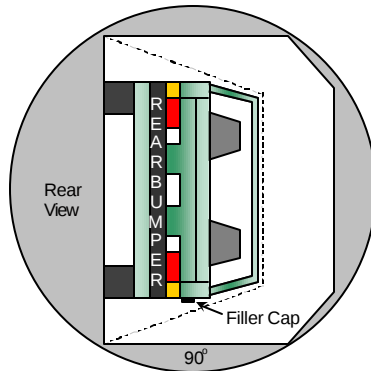
NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

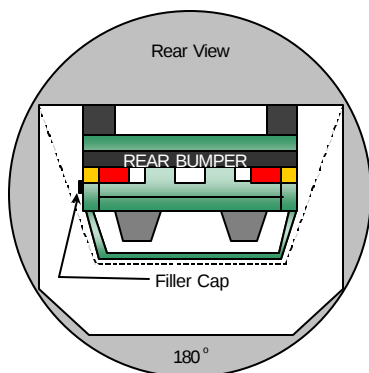
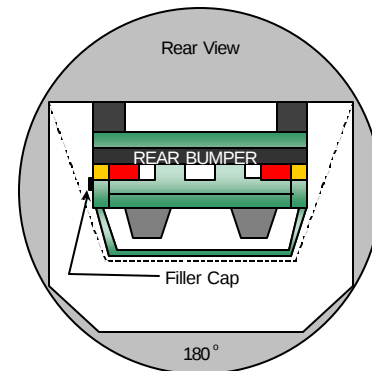
Test Date: 5/8/01



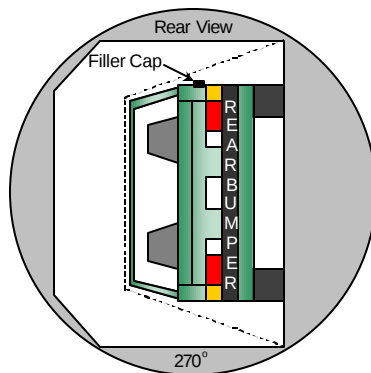
**0° TO 90°**



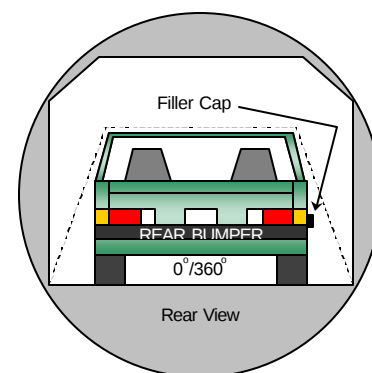
**90° TO 180°**



**180° TO 270°**



**270° TO 360°**



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°    | 80                   | 300              | 0.0            |
| 90° TO 180°  | 82                   | 300              | 0.0            |
| 180° TO 270° | 76                   | 300              | 0.0            |
| 270° TO 360° | 82                   | 300              | 0.0            |

**DATA SHEET NO. 14**  
**VEHICLE MEASUREMENTS**

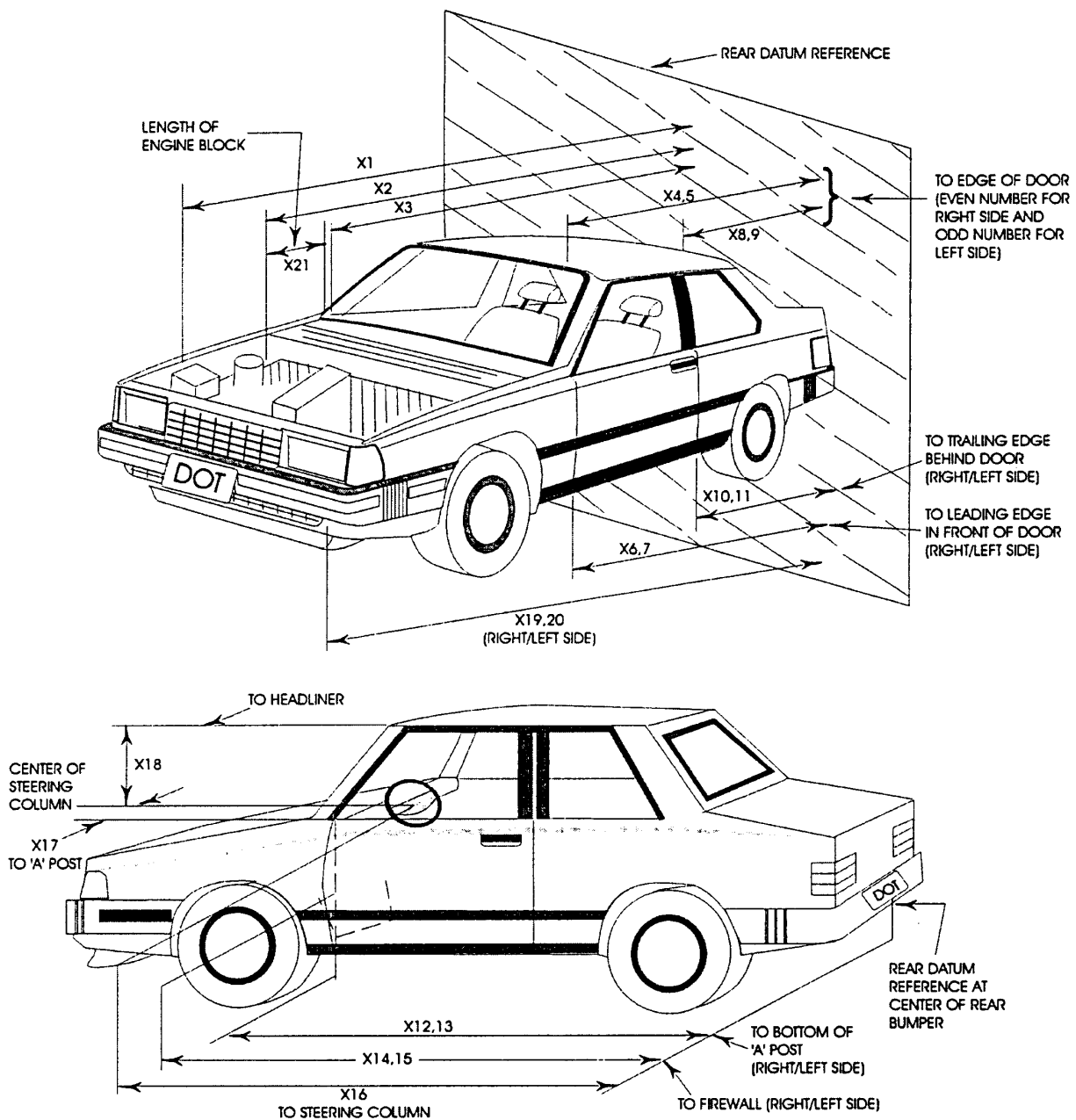
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

| No. | Measurement Description                      | Units | Pre-Test | Post-Test | Difference |
|-----|----------------------------------------------|-------|----------|-----------|------------|
| 1   | Total length of vehicle at centerline        | mm    | 5740     | 5018      | -722       |
| 2   | RSOV to front of engine                      | mm    | 4940     | 4758      | -182       |
| 3   | RSOV to firewall centerline                  | mm    | 4550     | 4480      | -70        |
| 4   | RSOV to leading edge of right door           | mm    | 4172     | 4180      | 8          |
| 5   | RSOV to leading edge of left door            | mm    | 4173     | 4178      | 5          |
| 6   | RSOV to lower leading edge of right door     | mm    | 4075     | 4065      | -10        |
| 7   | RSOV to lower leading edge of left door      | mm    | 4079     | 4060      | -19        |
| 8   | RSOV to upper trailing edge of right door    | mm    | 3040     | 3045      | 5          |
| 9   | RSOV to upper trailing edge of left door     | mm    | 3070     | 3041      | -29        |
| 10  | RSOV to lower trailing edge of right door    | mm    | 3011     | 3000      | -11        |
| 11  | RSOV to lower trailing edge of left door     | mm    | 3009     | 2998      | -11        |
| 12  | RSOV to bottom of right 'A' pillar           | mm    | 4148     | 4134      | -14        |
| 13  | RSOV to bottom of left 'A' pillar            | mm    | 4149     | 4133      | -16        |
| 14  | RSOV to firewall on right side               | mm    | 3674     | 4490      | 816        |
| 15  | RSOV to firewall of left side                | mm    | 4530     | 4490      | -40        |
| 16  | RSOV to steering column                      | mm    | 3674     | 3685      | 11         |
| 17  | Center of steering column to left 'A' pillar | mm    | 420      | 355       | -65        |
| 18  | Center of steering column to headlining      | mm    | 480      | 440       | -40        |
| 19  | RSOV to right side of front bumper           | mm    | 5418     | 4945      | -473       |
| 20  | RSOV to left side of front bumper            | mm    | 5418     | 4874      | -544       |
| 21  | Length of engine block                       | mm    | 530      | 530       | 0          |
| RD  | RSOV to right side of dash panel             | mm    | 3959     | 3885      | -74        |
| CD  | RSOV to center of dash panel                 | mm    | 3876     | 3799      | -77        |
| LD  | RSOV to left side of dash panel              | mm    | 3834     | 3767      | -67        |



**DATA SHEET NO. 15**  
**CAMERA LOCATIONS**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

| No. | Camera View           | Location (mm) |        |       | Angle<br>(Deg.) | Film<br>Plane to<br>Head | Lens<br>(mm) | Speed<br>(fps) |
|-----|-----------------------|---------------|--------|-------|-----------------|--------------------------|--------------|----------------|
|     |                       | X             | Y      | Z     |                 |                          |              |                |
| 1   | Right Side, Real Time | 3454          | 10973  | 1245  | 0               | 1651                     | Zoom         | 24             |
| 2   | Left Side, No. 1      | 1960          | -8250  | 880   | 1               | 8220                     | 13           | 1050           |
| 3   | Left Side, No. 2      | 1460          | -8250  | 1460  | 4               | 7890                     | 35           | 1010           |
| 4   | Left Side, No. 3      | 6500          | -10580 | 4640  | 16              | 11320                    | 65           | 1000           |
| 5   | Left Side, No. 4      | 1460          | -8250  | 3100  | 16              | 8030                     | 19           | 990            |
| 6   | Left Side, No. 5      | 1460          | -8250  | 2700  | 13              | 7960                     | 19           | 970            |
| 7   | Right Side, No. 1     | Did Not Run   |        |       |                 |                          |              |                |
| 8   | Right Side, No. 2     | 1660          | 8150   | 1450  | 4               | 7770                     | 35           | N/A            |
| 9   | Right Side, No. 3     | 7860          | 8900   | 2800  | 9               | 10100                    | 80           | 980            |
| 10  | Right Side, No. 4     | 2750          | 9600   | 1500  | 2               | 9170                     | 13           | 1070           |
| 11  | Overhead Overall      | 250           | 0      | 4460  | 86              | n/a                      | 13           | 1030           |
| 12  | Front View, Driver    | -530          | -380   | 2590  | 43              | n/a                      | 12           | 950            |
| 13  | Front View, Passenger | -530          | 380    | 2590  | 55              | n/a                      | 13           | 1100           |
| 14  | Pit Camera, Engine    | 580           | 0      | -1360 | 90              | n/a                      | 13           | N/A            |
| 15  | Pit Camera, Fuel Tank | 4700          | 0      | -1680 | 55              | n/a                      | 13           | N/A            |
| 16  | Driver Belt           | 3000          | -610   | 1520  | 23              | 520                      | 13           | 970            |
| 17  | Passenger Belt        | 3000          | 550    | 1520  | 23              | 503                      | 13           | 880            |
| 18  | Left Side Extra       | 470           | -6810  | 1440  | 2               | 6700                     | 50           | N/A            |

X - Barrier Face   Y - Monorail Centerline   Z - Ground

# **DATA SHEET NO. 16** **PHOTOGRAPHIC REFERENCE TARGET LOCATIONS**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

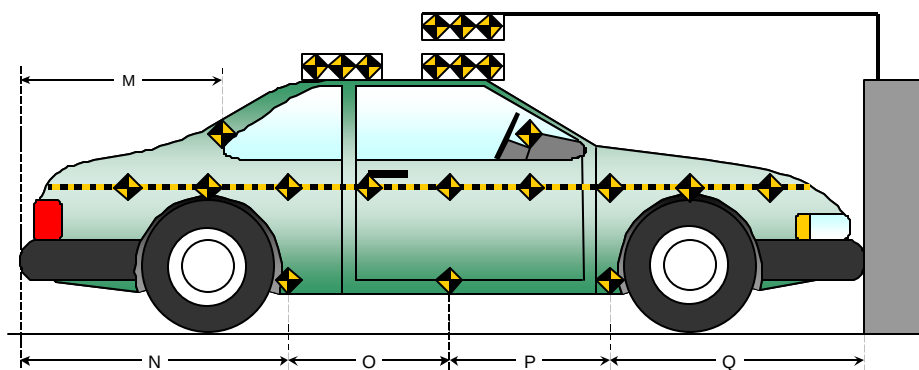
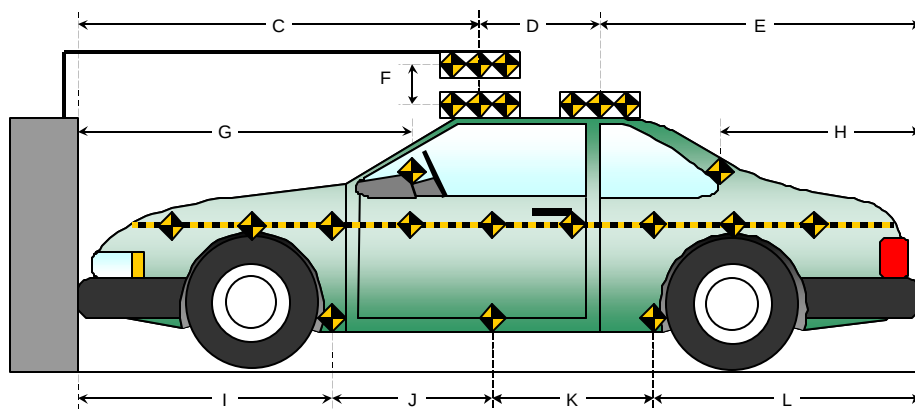
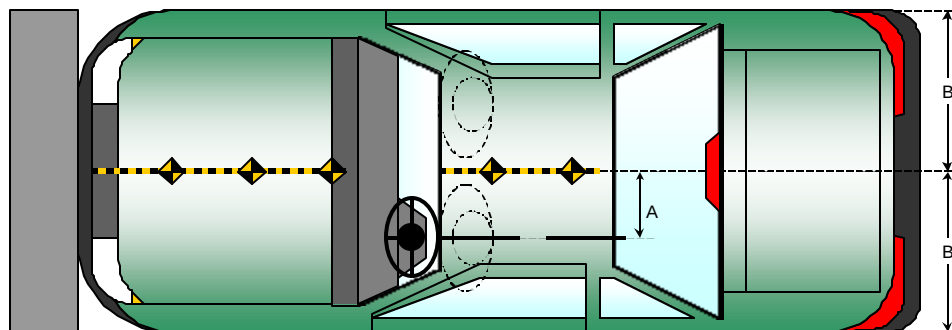
NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

All Dimensions  
in mm

| Item | Value  |
|------|--------|
| A    | 425    |
| B    | 1002.5 |
| C    | 2290   |
| D    | 6      |
| E    | 2860   |
| F    | 155    |
| G    | 1925   |
| H    | 2090   |
| I    | 1540   |
| J    | 1219.5 |
| K    | 1219.5 |
| L    | 1762   |
| M    | 2092   |
| N    | 1764   |
| O    | 1219.5 |
| P    | 1219.5 |
| Q    | 1539   |



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

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

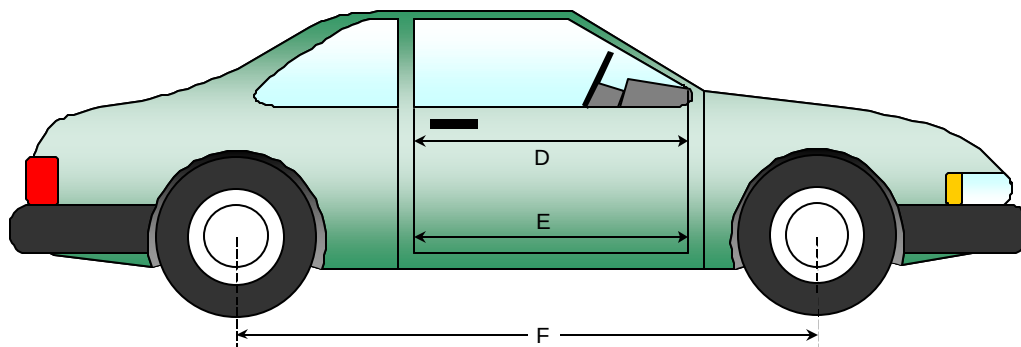
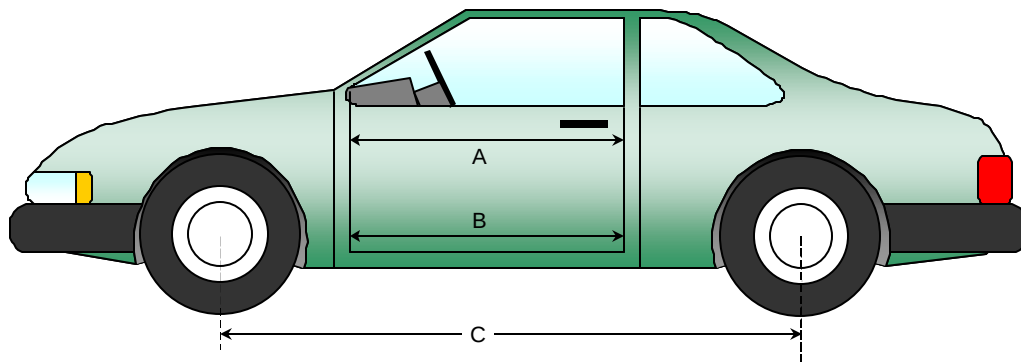
Test Date: 5/8/01

**DOOR OPENING WIDTH**

| Item | Description      | Units | Pre-Test | Post-Test | Difference |
|------|------------------|-------|----------|-----------|------------|
| A    | Left Side Upper  | mm    | 1028     | 1014      | -14        |
| B    | Left Side Lower  | mm    | 977      | 971       | -6         |
| D    | Right Side Upper | mm    | 1020     | 1006      | -14        |
| E    | Right Side Lower | mm    | 976      | 968       | -8         |

**WHEELBASE MEASUREMENTS**

| Item | Description           | Units | Pre-Test | Post-Test | Difference |
|------|-----------------------|-------|----------|-----------|------------|
| C    | Left Side Wheel base  | mm    | 3535     | 3405      | -130       |
| F    | Right Side Wheel base | mm    | 3535     | 3400      | -135       |



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

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

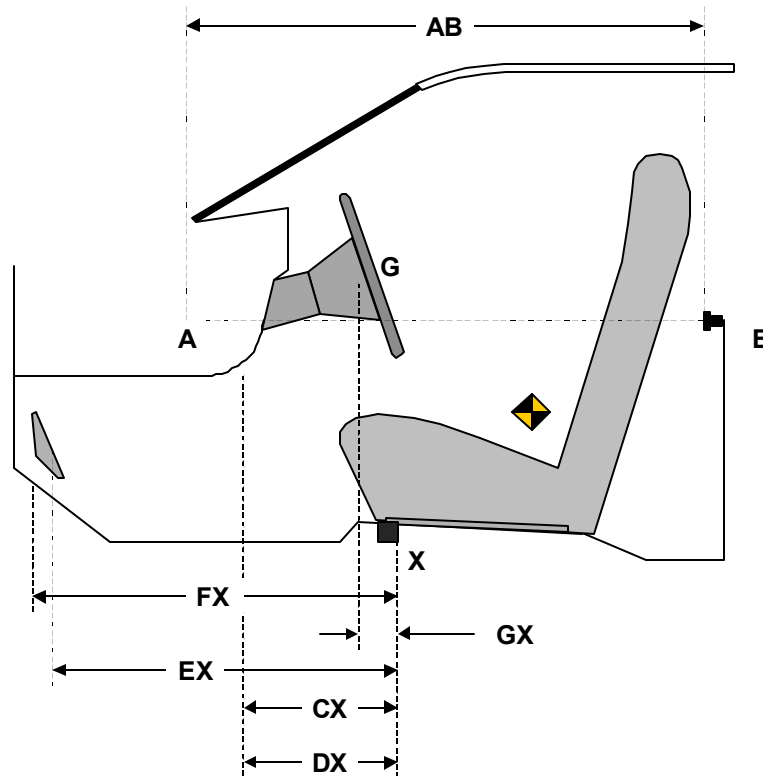
Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01

**DRIVER COMPARTMENT INTRUSION**

| Item | Description                       | Units | Pre-Test | Post-Test | Difference |
|------|-----------------------------------|-------|----------|-----------|------------|
| AB   | Door Opening (Inside window jam)  | mm    | 1028     | 1014      | -14        |
| CX   | Left Knee Bolster to X            | mm    | 282      | 275       | -7         |
| DX   | Right Knee Bolster to X           | mm    | 288      | 295       | 7          |
| EX   | Brake Pedal to X                  | mm    | 570      | 463       | -107       |
| FX   | Foot Rest to X                    | mm    | 566      | 545       | -21        |
| GX   | Center of Steering Wheel Hub to X | mm    | 97       | 85        | -12        |

X = Left Front Seat Outboard Anchor Bolt Head



**DRIVER COMPARTMENT**

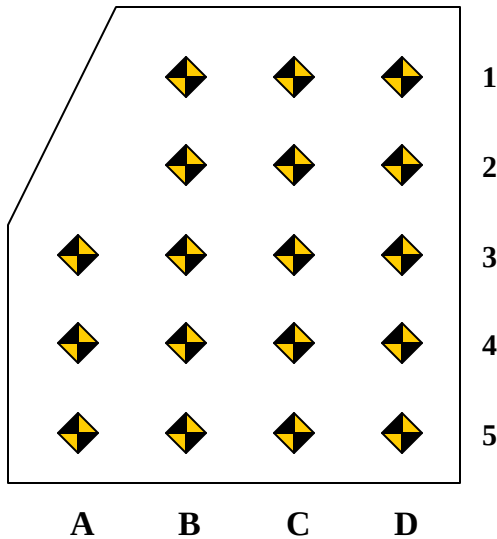
**DATA SHEET NO. 17...(CONTINUED)**  
**VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 5/8/01



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 |          | 718 | 711 | 705 |           | 673 | 663 | 661 |            | -45 | -48 | -44 |
| 2 |          | 621 | 613 | 605 |           | 598 | 595 | 571 |            | -23 | -18 | -34 |
| 3 | 510      | 510 | 512 | 506 | 504       | 498 | 491 | 483 | -6         | -12 | -21 | -23 |
| 4 | 415      | 411 | 413 | 406 | 412       | 403 | 388 | 386 | -3         | -8  | -25 | -20 |
| 5 | 315      | 310 | 309 | 306 | 303       | 298 | 293 | 284 | -12        | -12 | -16 | -22 |

**DRIVER FLOOR PAN Z-AXIS**

|   | Pre-Test |     |     |     | Post-Test |     |     |     | Difference |     |     |     |
|---|----------|-----|-----|-----|-----------|-----|-----|-----|------------|-----|-----|-----|
|   | A        | B   | C   | D   | A         | B   | C   | D   | A          | B   | C   | D   |
| 1 |          | 6   | 6   | 2   |           | 6   | 13  | 12  |            | 0   | 7   | 10  |
| 2 |          | -35 | -21 | -35 |           | -40 | -42 | -35 |            | -5  | -21 | 0   |
| 3 | -66      | -66 | -66 | -69 | -80       | -80 | -75 | -83 | -14        | -14 | -9  | -14 |
| 4 | -65      | -62 | -62 | -65 | -88       | -85 | -80 | -88 | -23        | -23 | -18 | -23 |
| 5 | -60      | -61 | -56 | -65 | -86       | -80 | -82 | -92 | -26        | -19 | -26 | -27 |

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

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35 mph NCAP

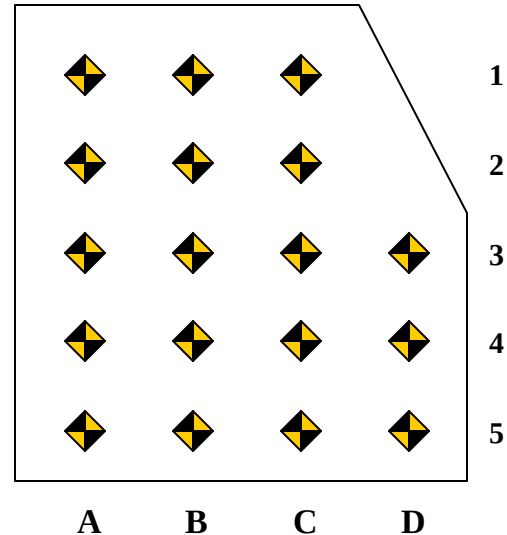
Test Date: 5/8/01

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 | 624      | 611 | 615 |     | 568       | 579 | 590 |     | -56        | -32 | -25  |     |
| 2 | 531      | 521 | 525 |     | 478       | 488 | 500 |     | -53        | -33 | -25  |     |
| 3 | 433      | 421 | 425 | 428 | 390       | 393 | 399 | 403 | -43        | -28 | -26  | -25 |
| 4 | 334      | 323 | 326 | 328 | 291       | 293 | 301 | 407 | -43        | -30 | -25  | 79  |
| 5 | 234      | 222 | 225 | 228 | 191       | 196 | 20  | 203 | -43        | -26 | -205 | -25 |

**PASSENGER FLOOR PAN Z-AXIS**

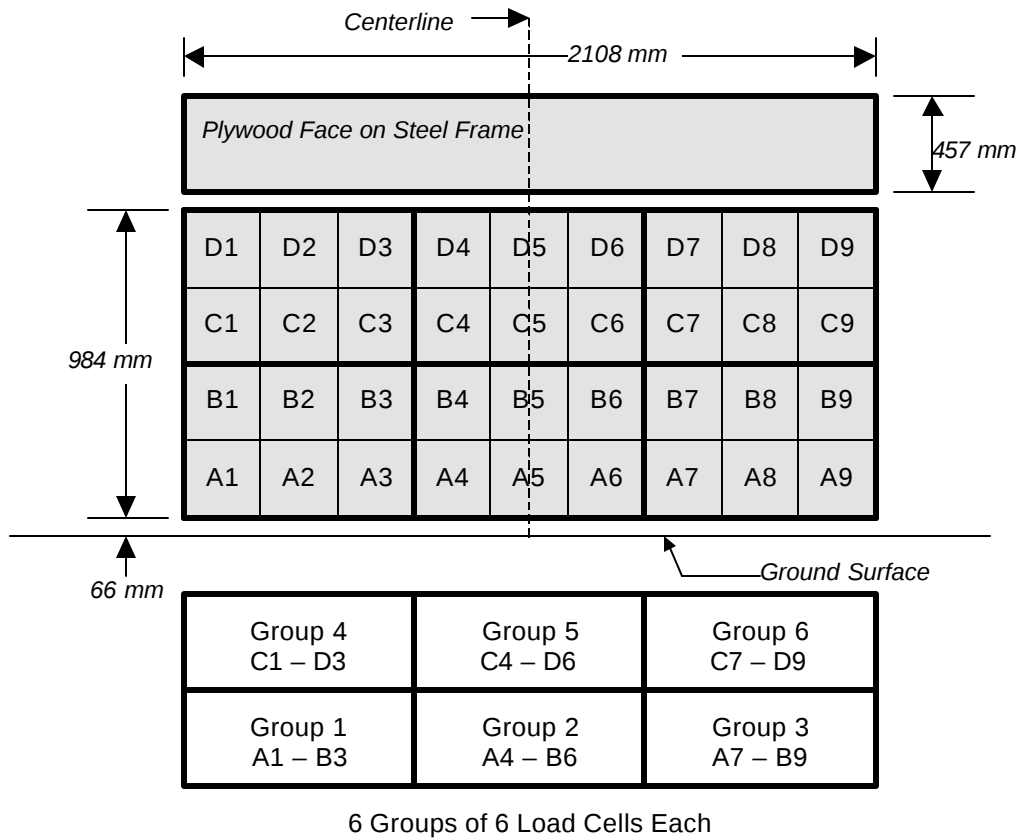
|   | Pre-Test |     |     |     | Post-Test |     |     |     | Difference |     |     |    |
|---|----------|-----|-----|-----|-----------|-----|-----|-----|------------|-----|-----|----|
|   | A        | B   | C   | D   | A         | B   | C   | D   | A          | B   | C   | D  |
| 1 | -30      | -30 | -32 |     | 7         | -6  | -41 |     | 37         | 24  | -9  |    |
| 2 | -70      | -73 | -70 |     | -55       | -66 | -72 |     | 15         | 7   | -2  |    |
| 3 | -72      | -70 | -70 | -73 | -78       | -81 | -70 | -78 | -6         | -11 | 0   | -5 |
| 4 | -73      | -70 | -68 | -70 | -83       | -68 | -78 | -73 | -10        | 2   | -10 | -3 |
| 5 | -72      | -70 | -68 | -71 | -88       | -75 | -66 | -62 | -16        | -5  | 2   | 9  |

**DATA SHEET NO. 18**  
**FIXED BARRIER TYPE**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
 Test Date: 5/8/01

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



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 DATA**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
Test Date: 05/08/01

**VEHICLE INFORMATION**

VIN: 1FTRW07W01KA41203  
Vehicle Size Category: 4 Door Pickup

Wheel base (mm): 3535  
Test Weight (kg): 2388

**ACCELEROMETER DATA**

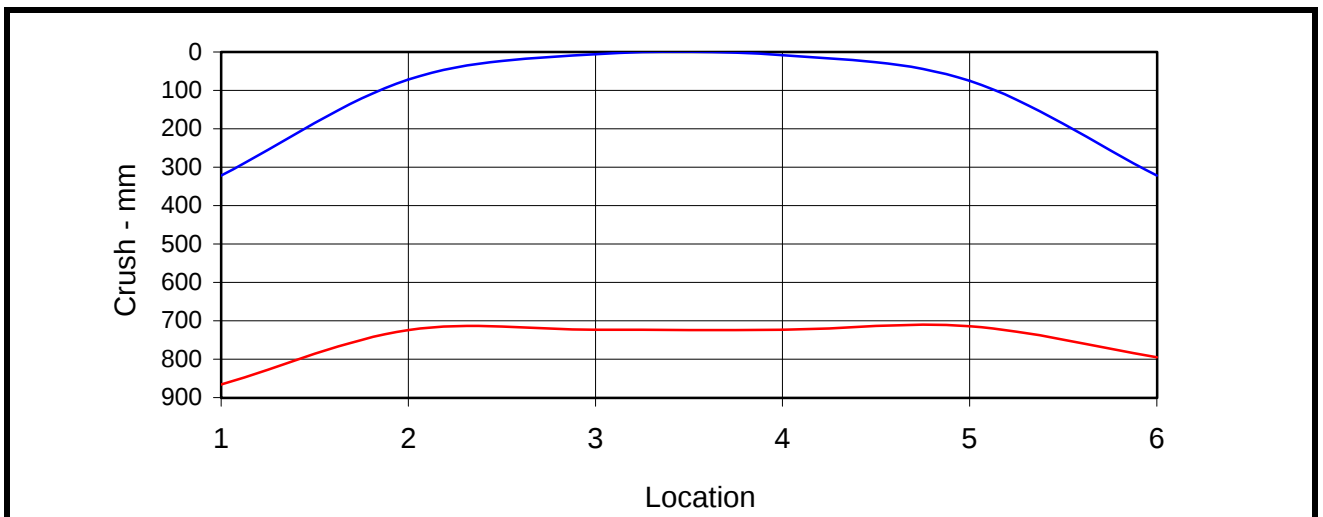
Accelerometer Location: Left rear floor pan  
Cal. Procedure/Interval: 6 months / drop test  
Integration Algorithm: NHTSA Standard  
Impact Velocity (km/h): 55.8  
Velocity Change (km/h): 63.71

Linearity: Good  
Time of Separation (msec): 85.7

**CRUSH PROFILE**

Collision Deformation Classification: 12FDEW6 ; Midpoint of Damage: Vehicle Centerline  
Damage Region Length (mm): 1621 ; Impact Mode: Full Frontal

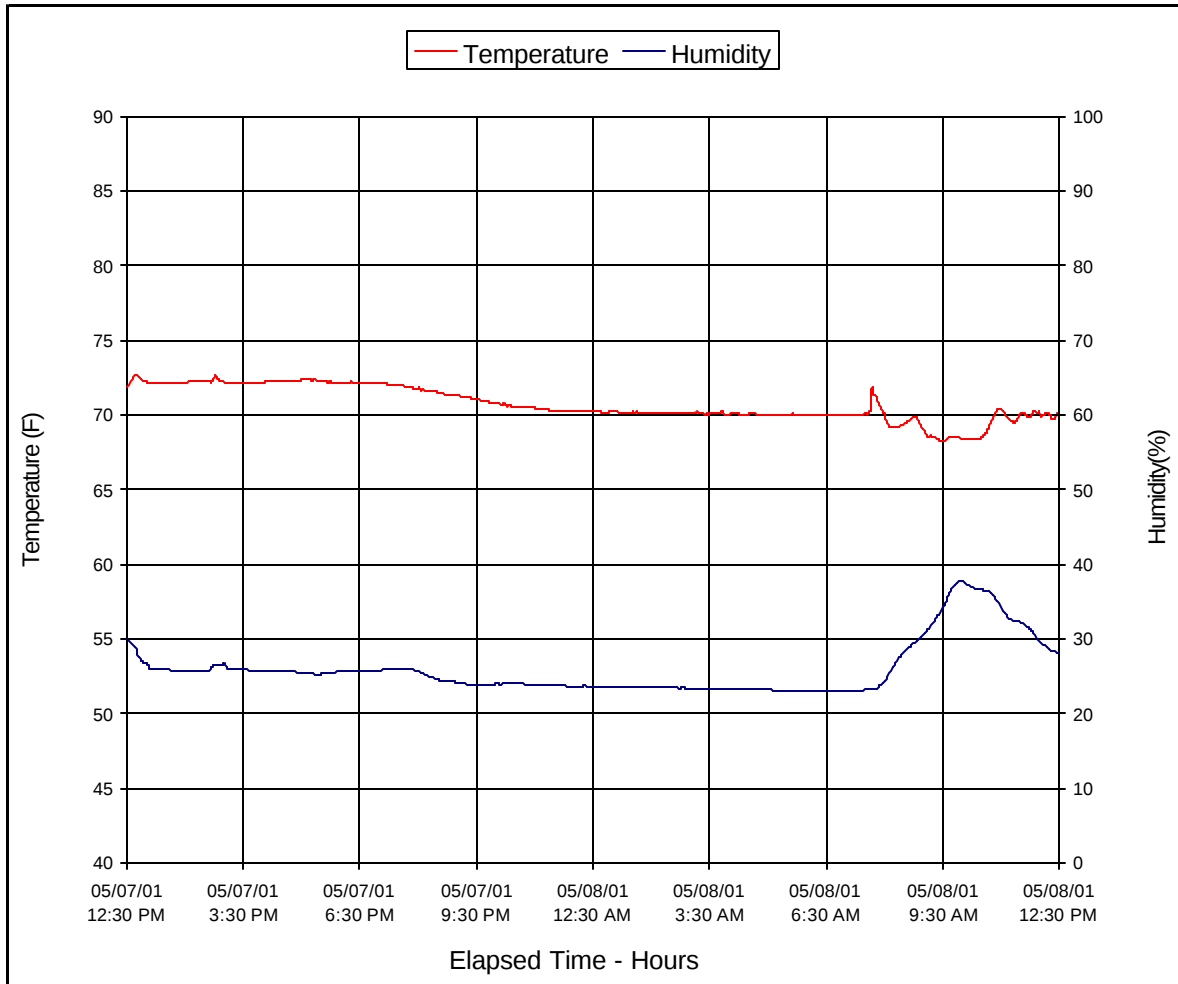
| No. | Measurement Description    | Units | Pre-Test | Post-Test | Difference |
|-----|----------------------------|-------|----------|-----------|------------|
| C1  | Crush zone 1 at left side  | mm    | 322      | 866       | -544       |
| C2  | Crush zone 2 on left side  | mm    | 72       | 724       | -652       |
| C3  | Crush zone 3 on left side  | mm    | 6        | 723       | -717       |
| C4  | Crush zone 4 on right side | mm    | 8        | 723       | -715       |
| C5  | Crush zone 5 on right side | mm    | 75       | 714       | -639       |
| C6  | Crush zone 6 at right side | mm    | 322      | 795       | -473       |



**DATA SHEET NO. 20**  
**DUMMY/ VEHICLE TEMPERATURE STABILIZATION**

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup  
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: FOR001  
Test Date: 5/8/01



**APPENDIX A**  
**PHOTOGRAPHS**

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| A-48   | Post-test Passenger Dummy (90° to Vehicle)              | A-48 |
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| A-50   | Post-test Driver Passenger Feet and Contact Point       | A-50 |
| A-51   | Pre-test Passenger Side Floor Pan                       | A-51 |
| A-52   | Post-test Passenger Side Floor Pan                      | A-52 |
| A-53   | Pre-test Passenger Side Knee Bolster                    | A-53 |
| A-54   | Post-test Passenger Side Knee Bolster and Dummy Contact | A-54 |
| A-55   | Post-test Passenger Head                                | A-55 |
| A-56   | Post-test Passenger Dummy Contact                       | A-56 |
| A-57   | Vehicle on Rollover Device                              | A-57 |
| A-58   | Vehicle During Impact                                   | A-58 |



Figure A-1: Right Front, as Received



Figure A-2: Left Rear, as Received

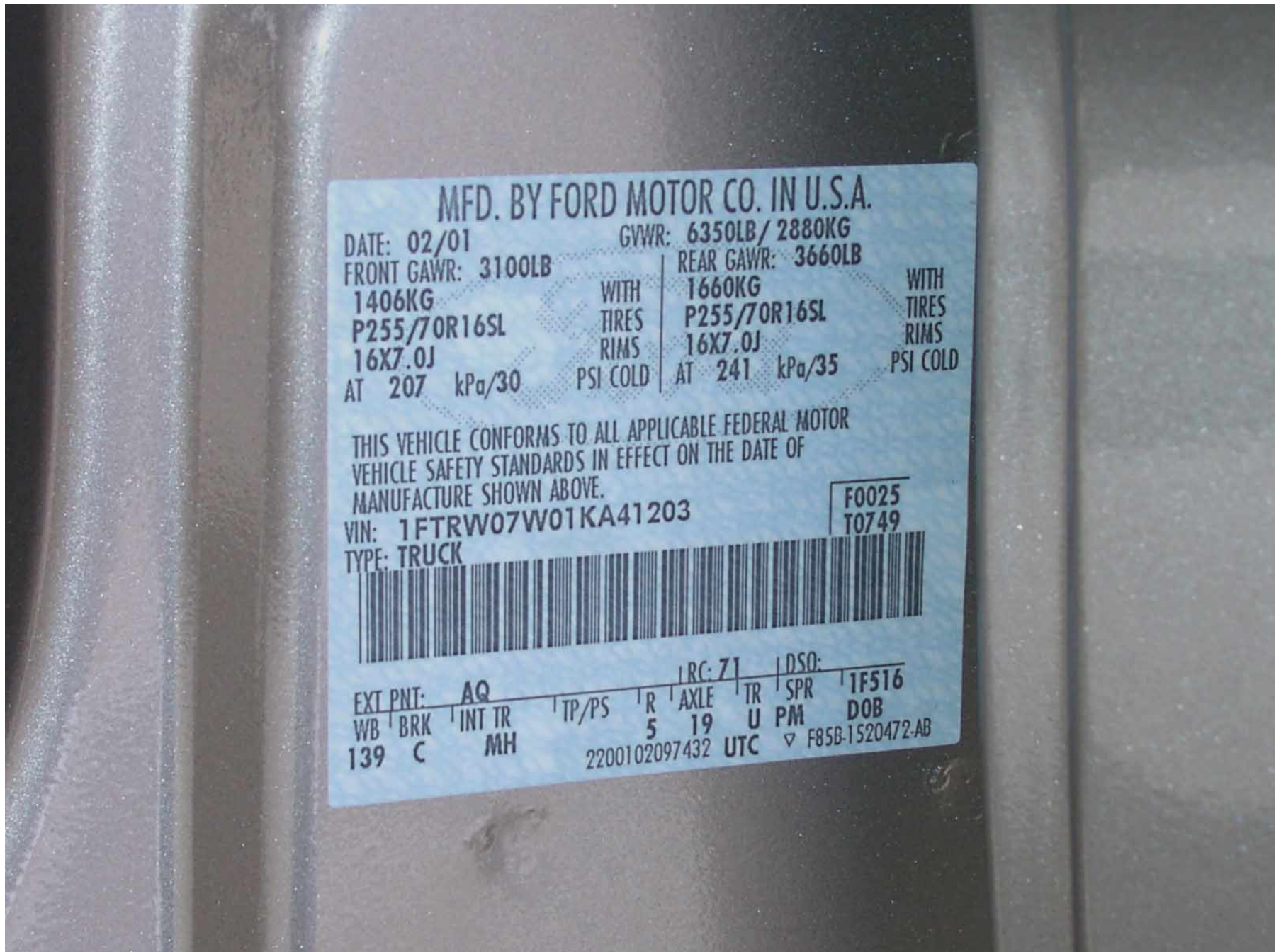


Figure A-3: Vehicle Certification Label



Figure A-4: Vehicle Tire Label

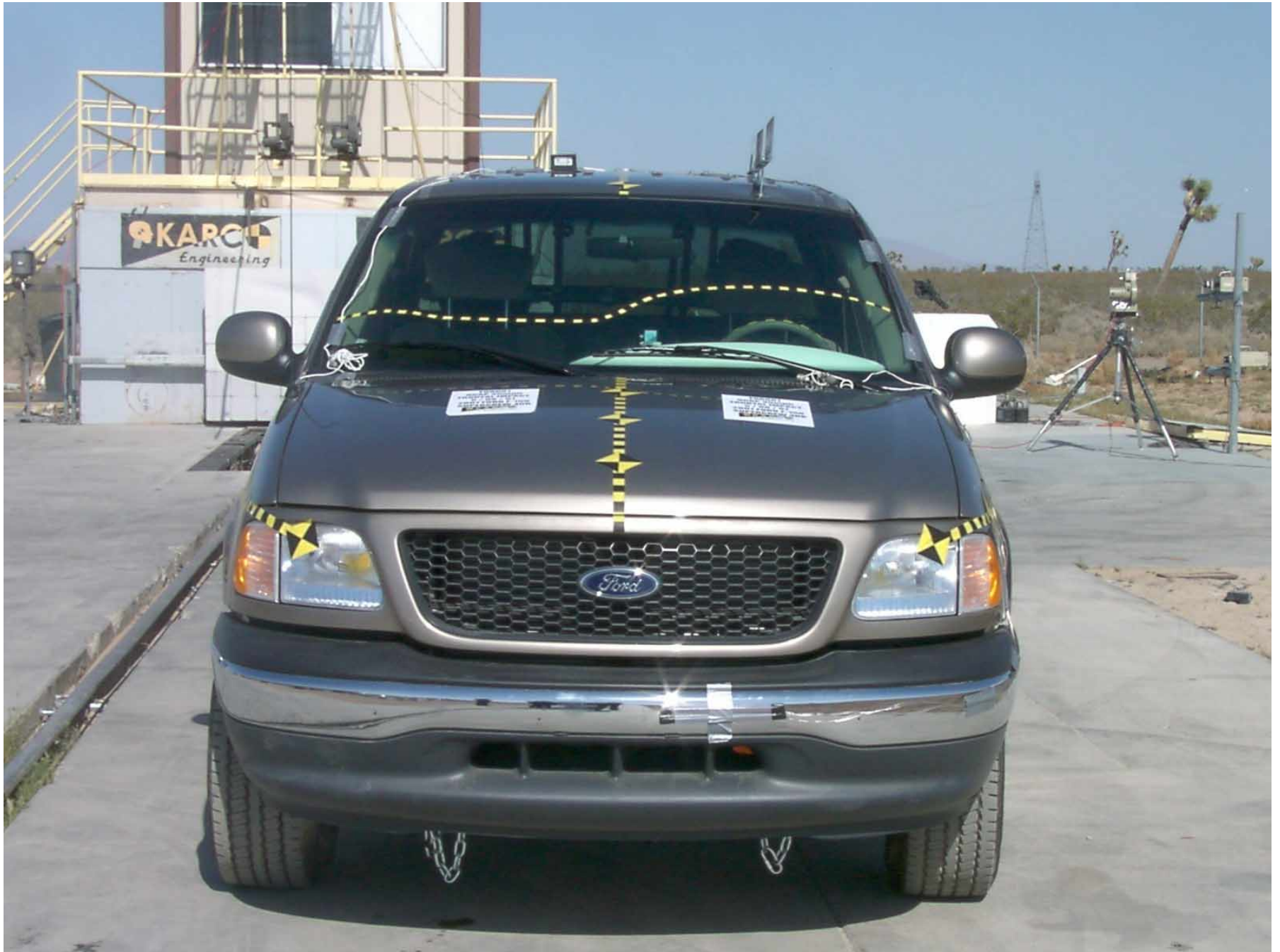


Figure A-5: Front View, Pre-Test



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



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

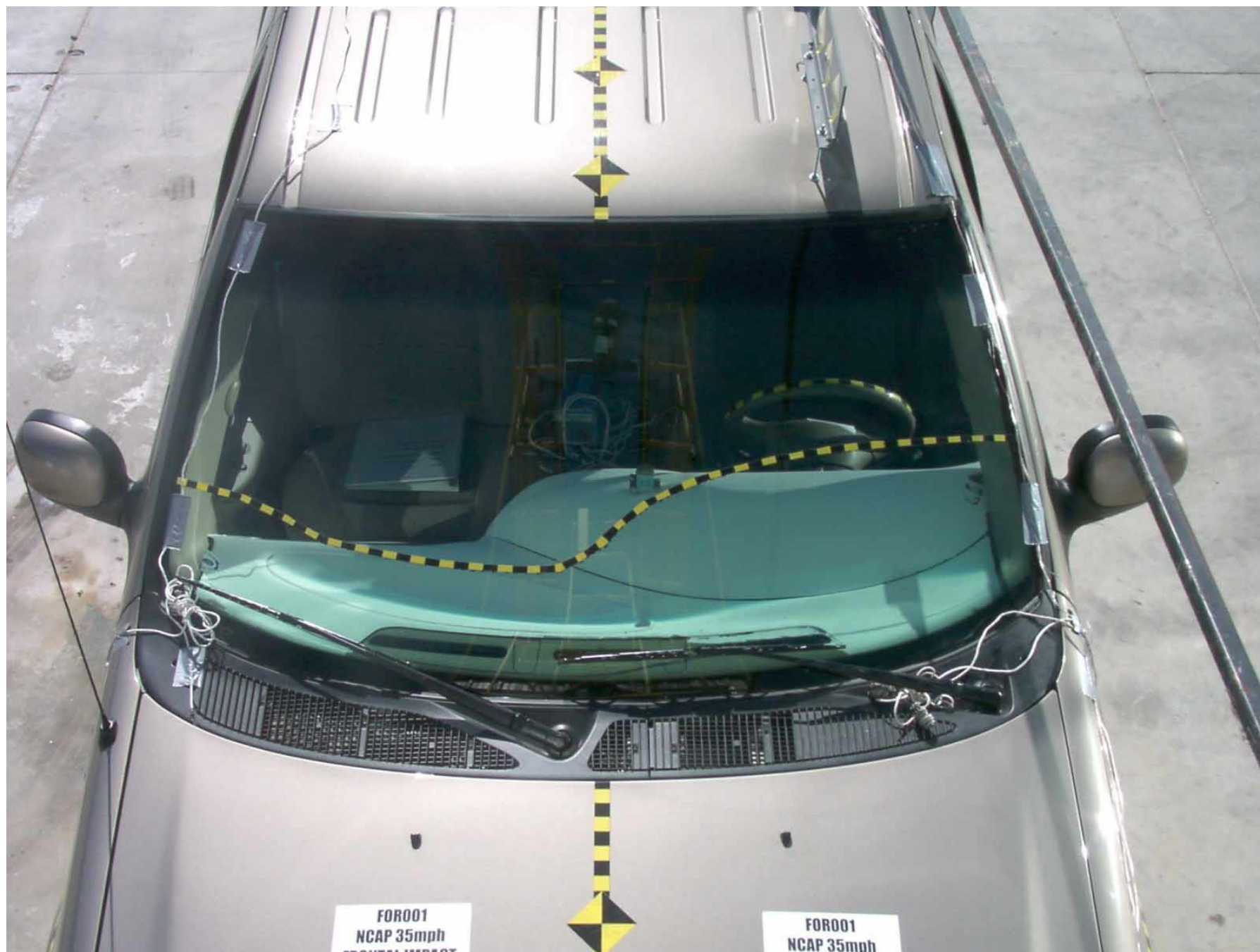


Figure A-15: Windshield, Pre-Test

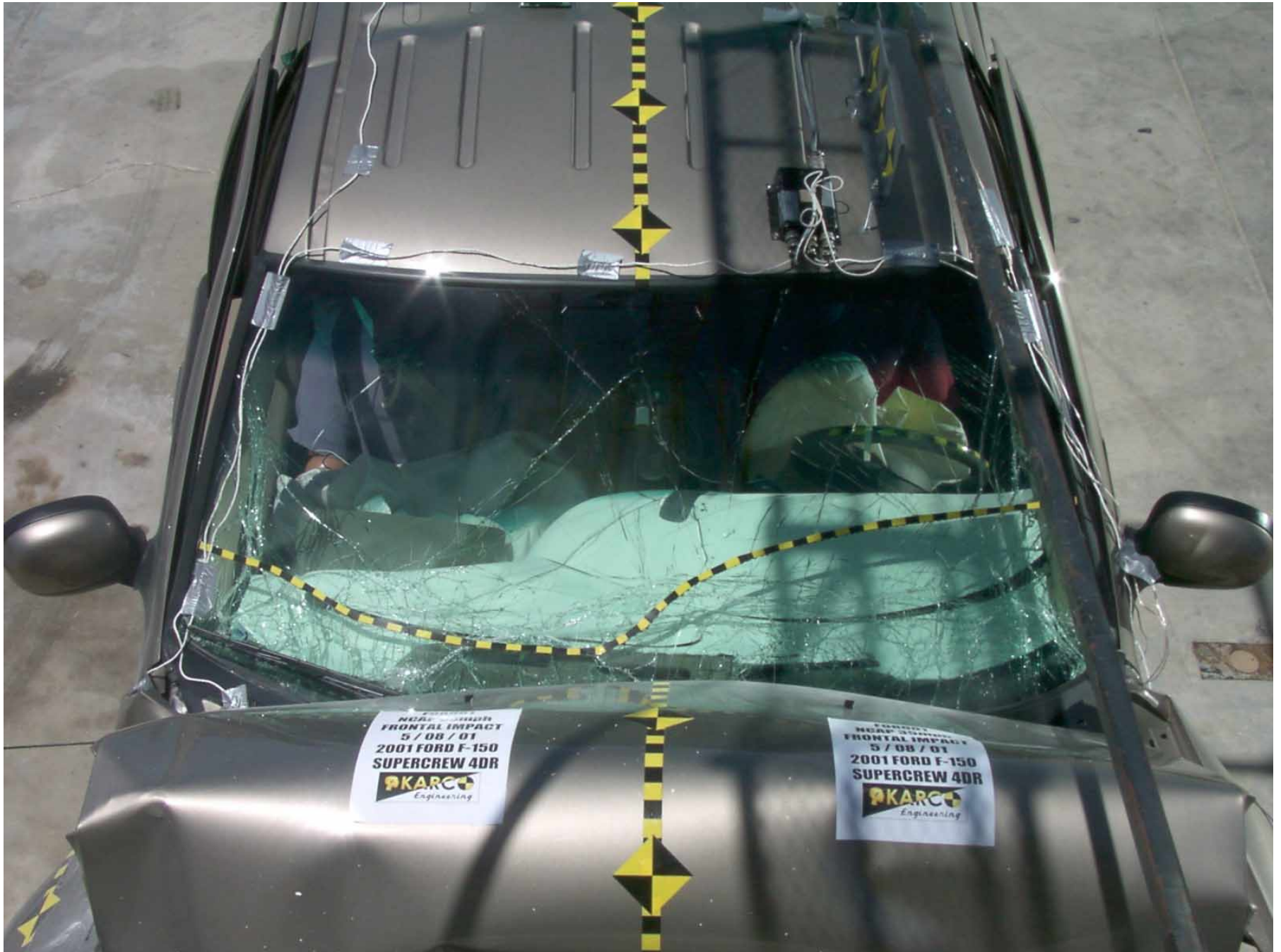


Figure A-16: Windshield, Post-Test



Figure A-17: Engine Compartment, Pre-Test

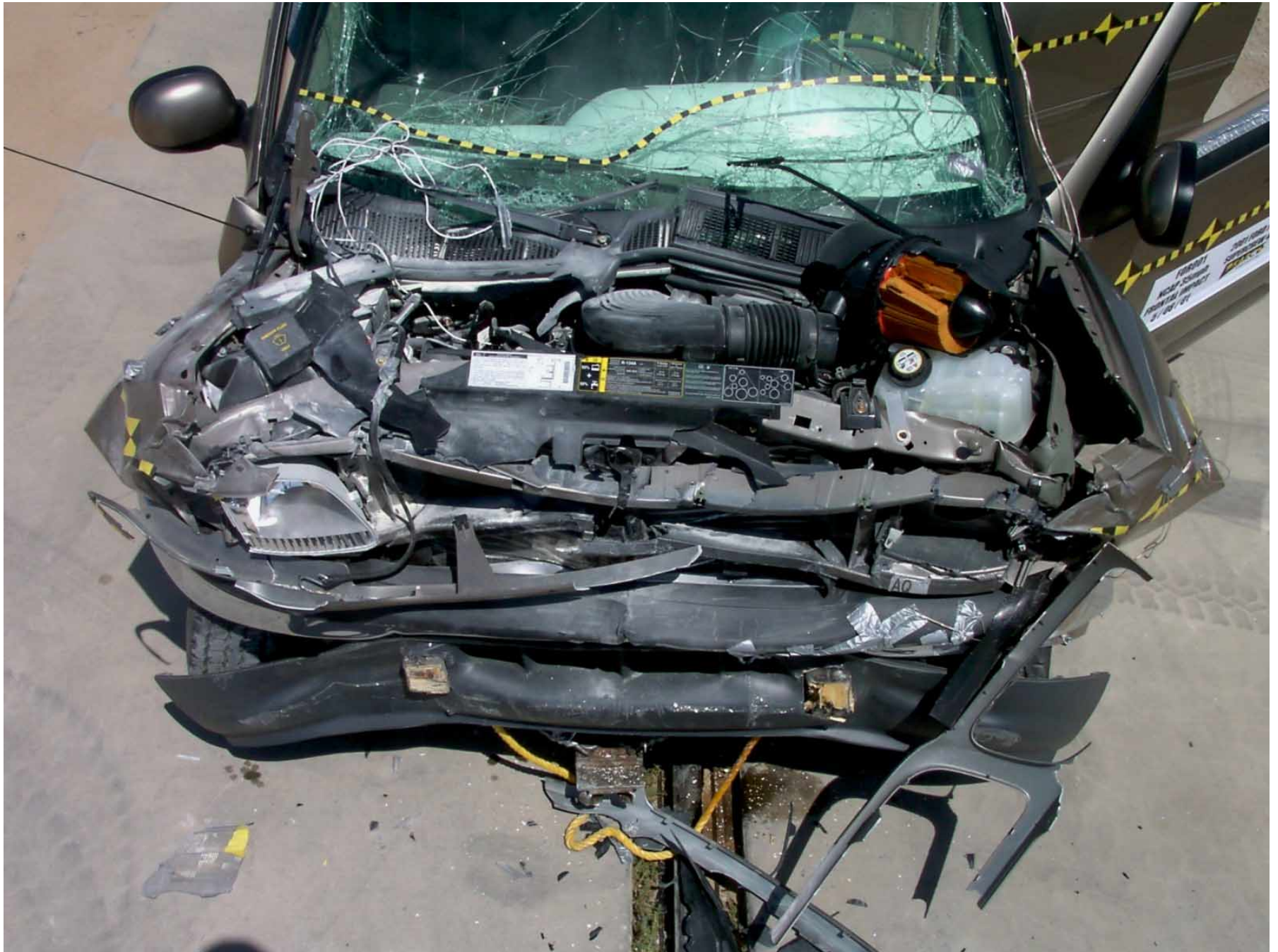


Figure A-18: Engine Compartment, Post-Test



Figure A-19: Fuel Cap, Pre-test



Figure A-20: Fuel Cap, Post-Test

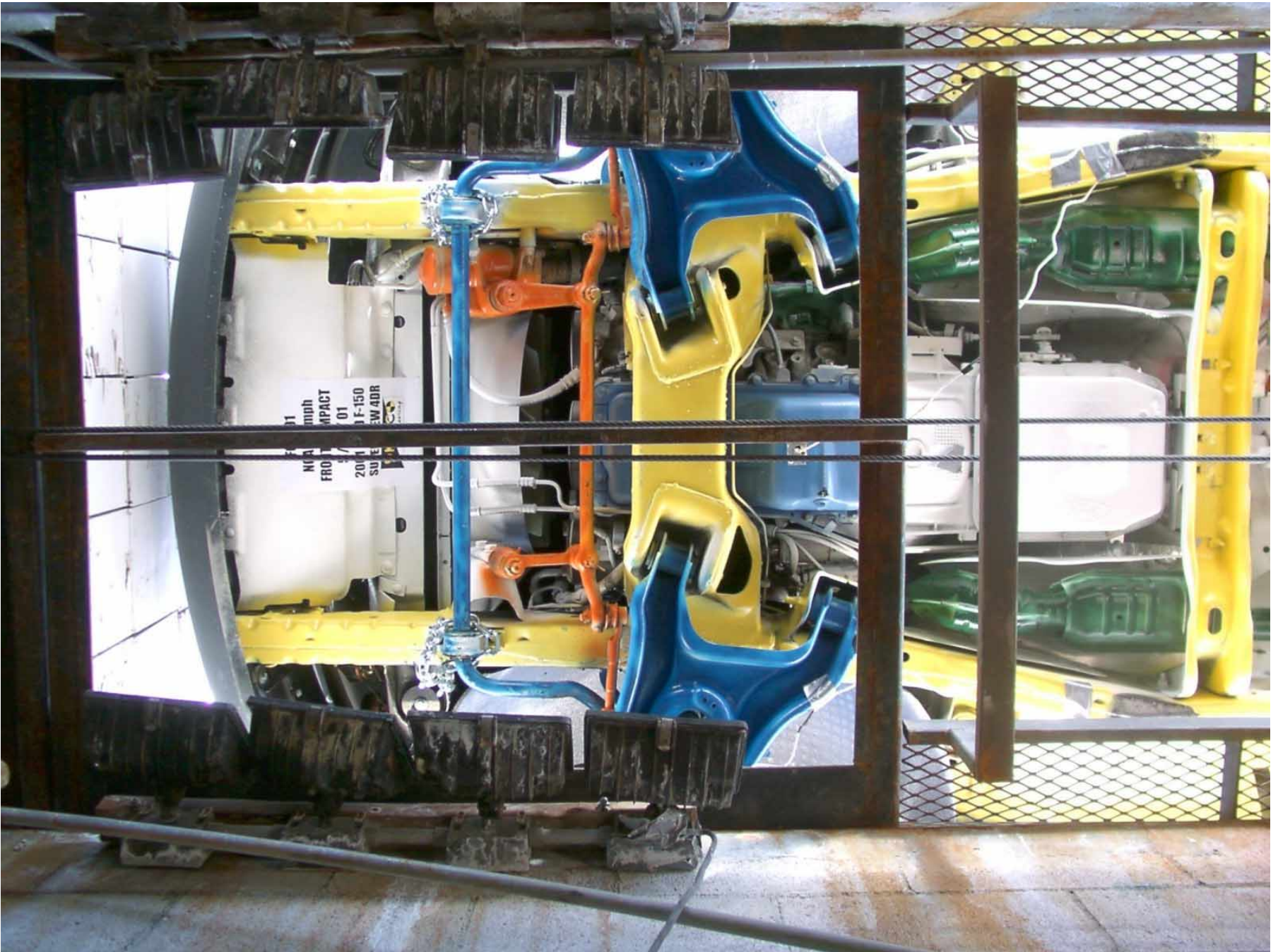


Figure A-21: Front Underside, Pre-Test

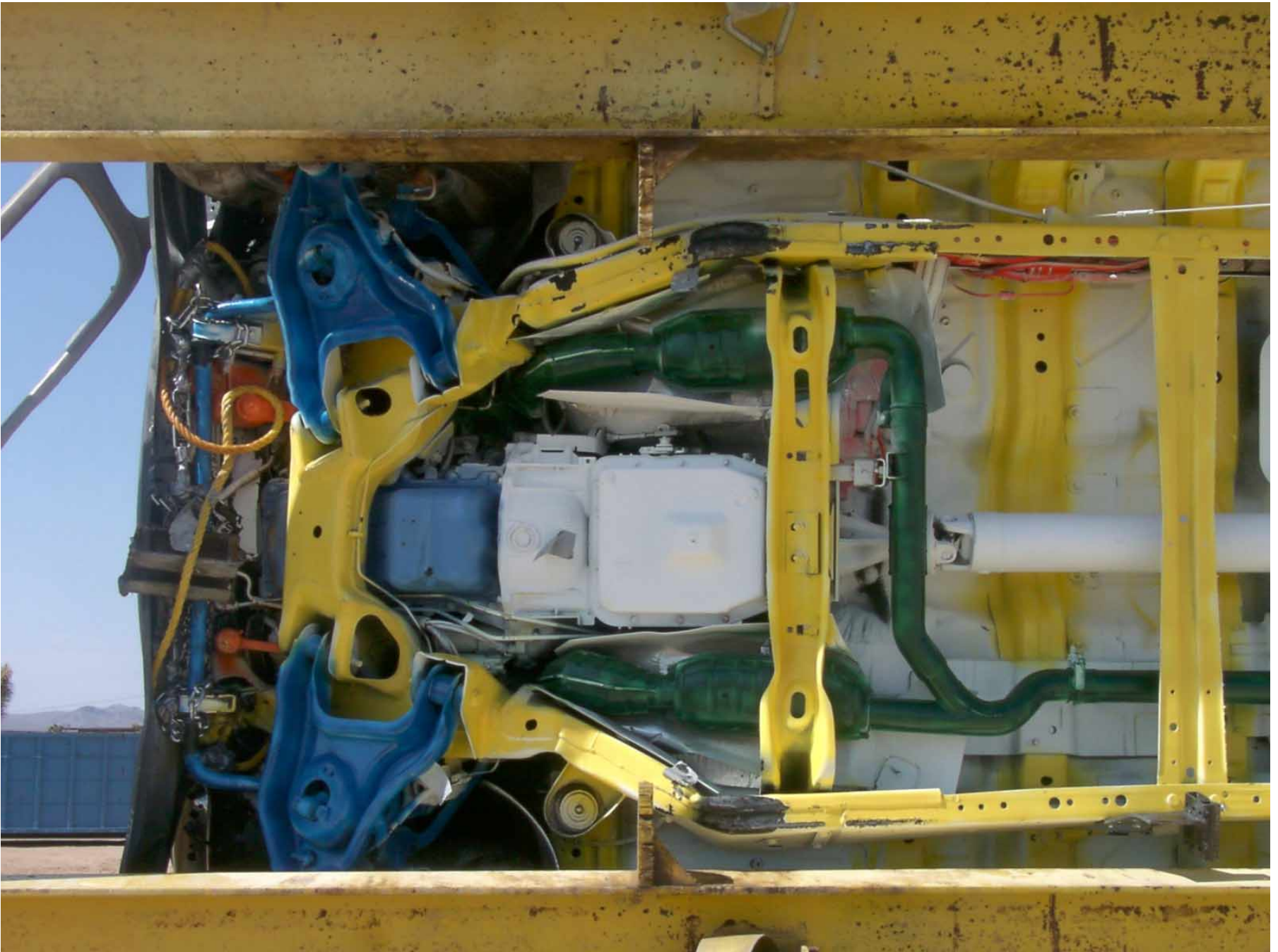


Figure A-22: Front Underside, Post-Test

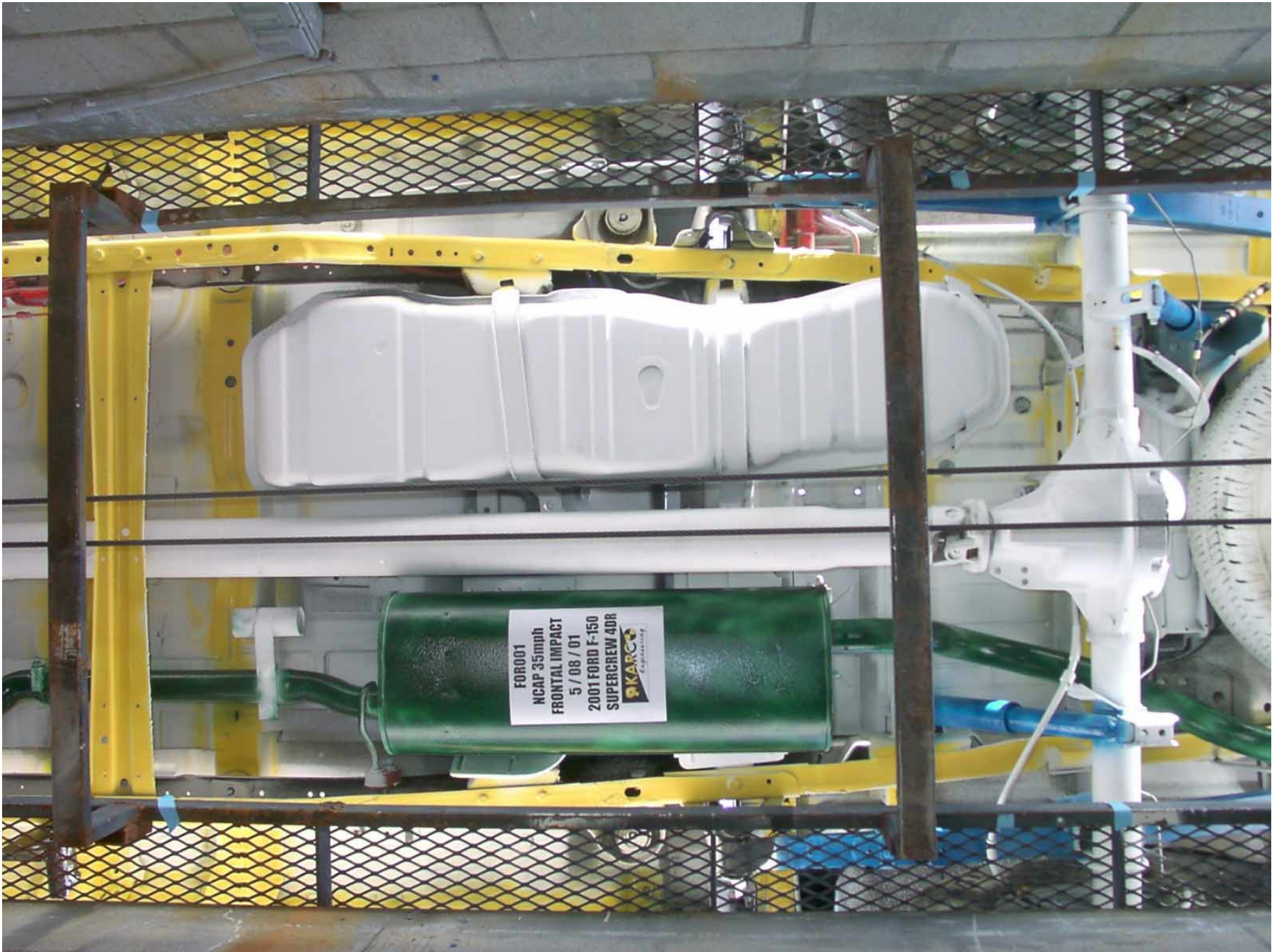


Figure A-23: Rear Underside, Pre-Test

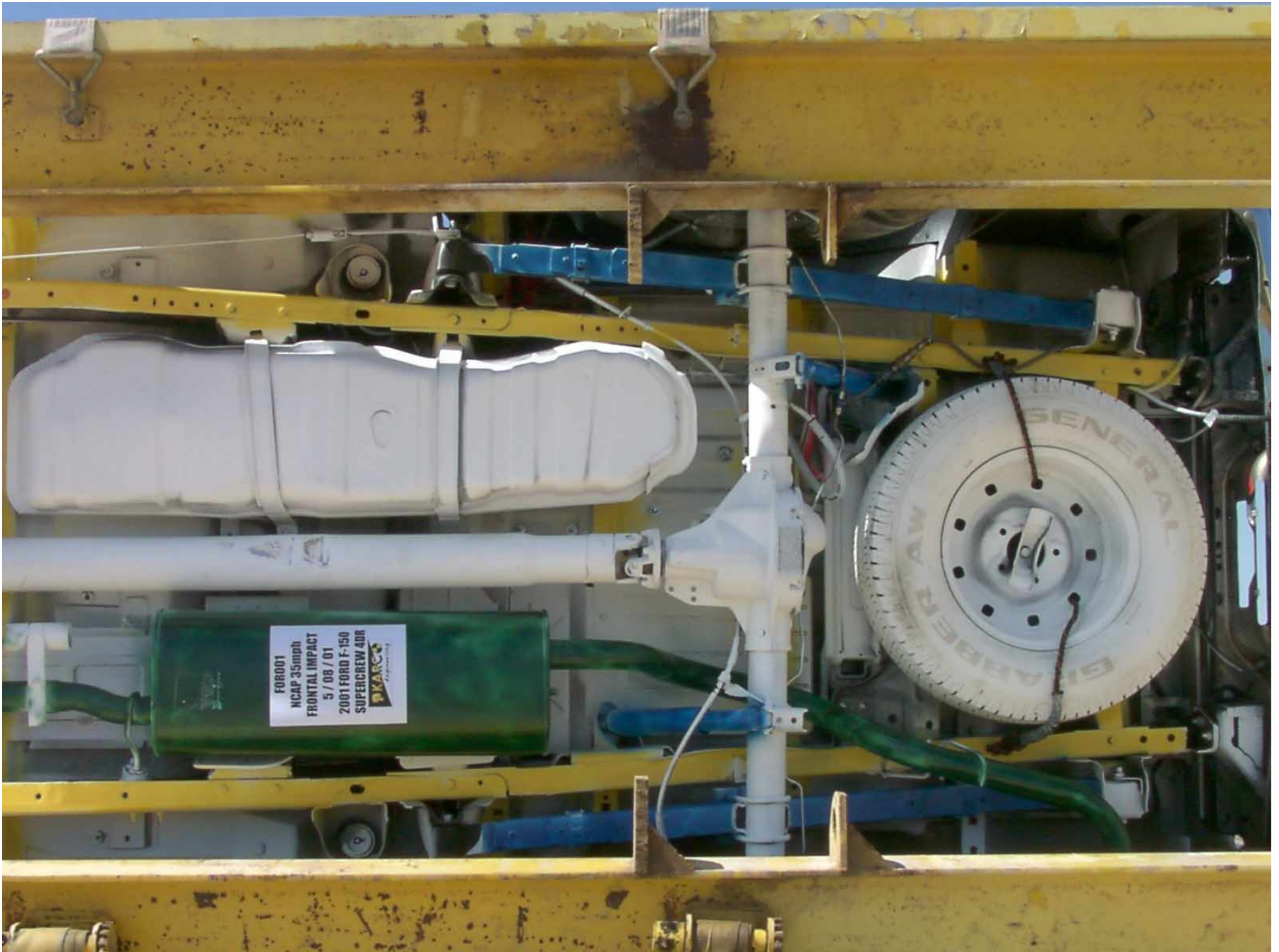


Figure A-24: Rear Underside, Post-Test



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



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

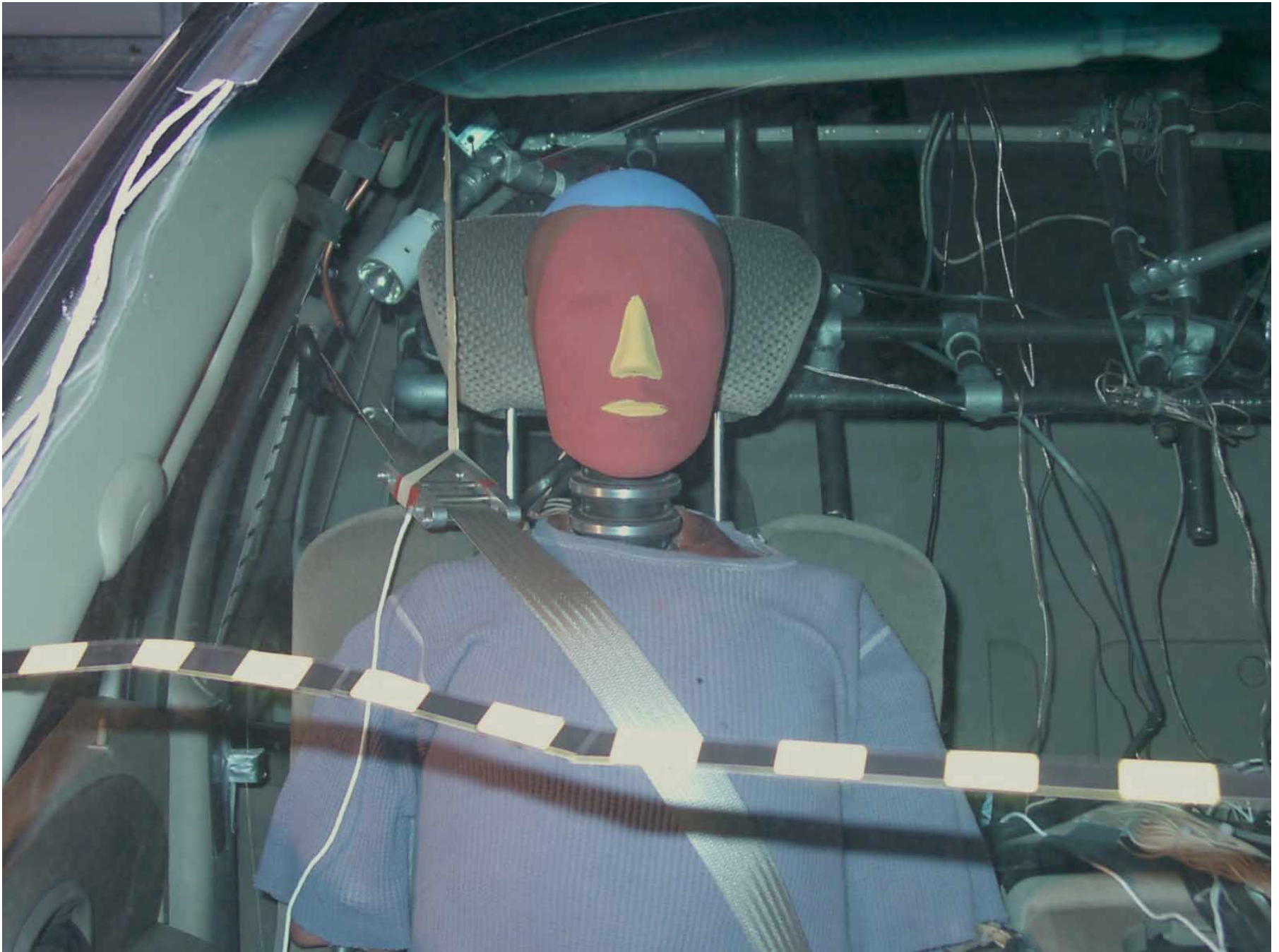


Figure A-41: Passenger Dummy Front View, Pre-Test



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

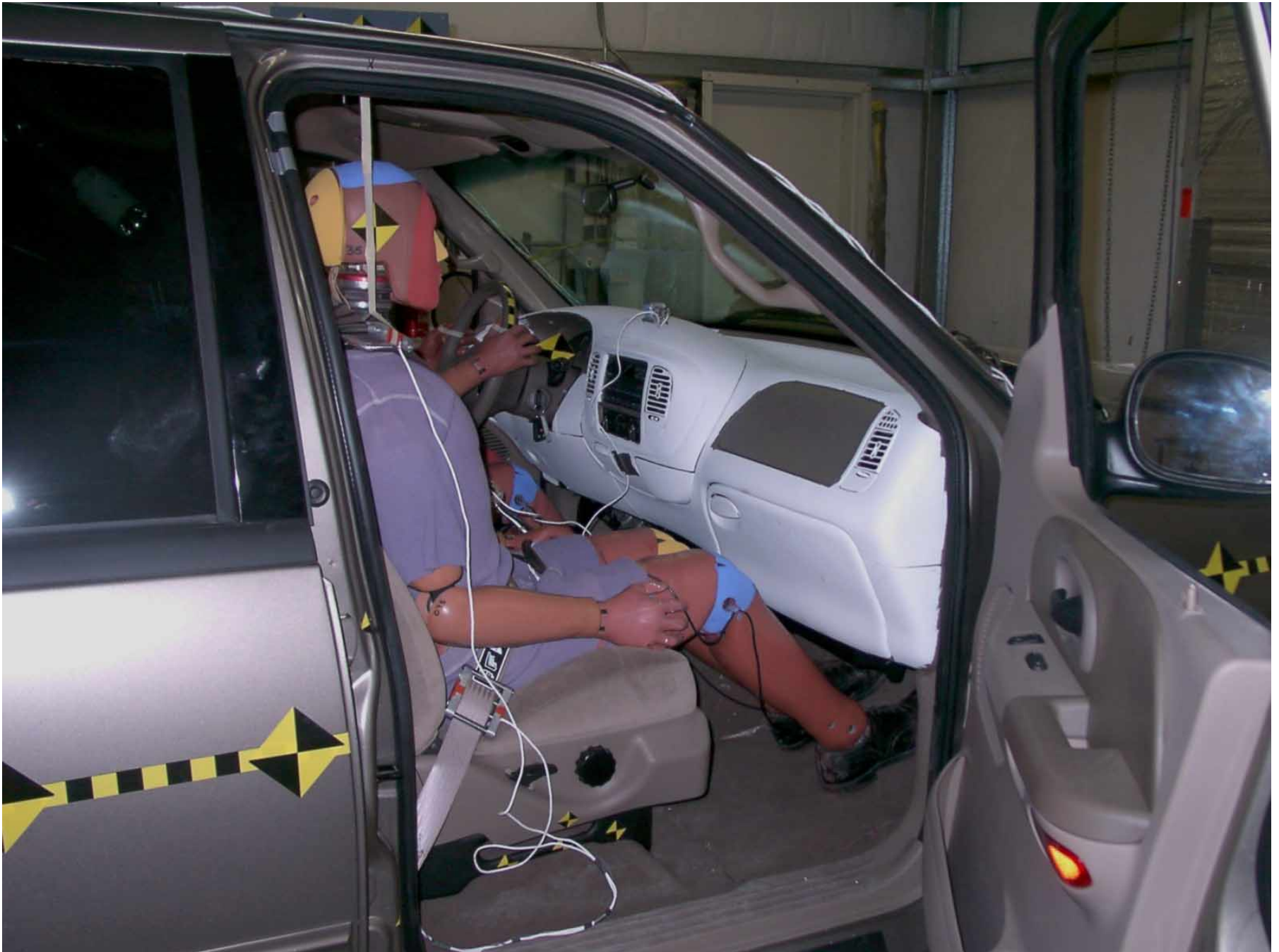


Figure A-45: Passenger Dummy Door Open, Pre-Test



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



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

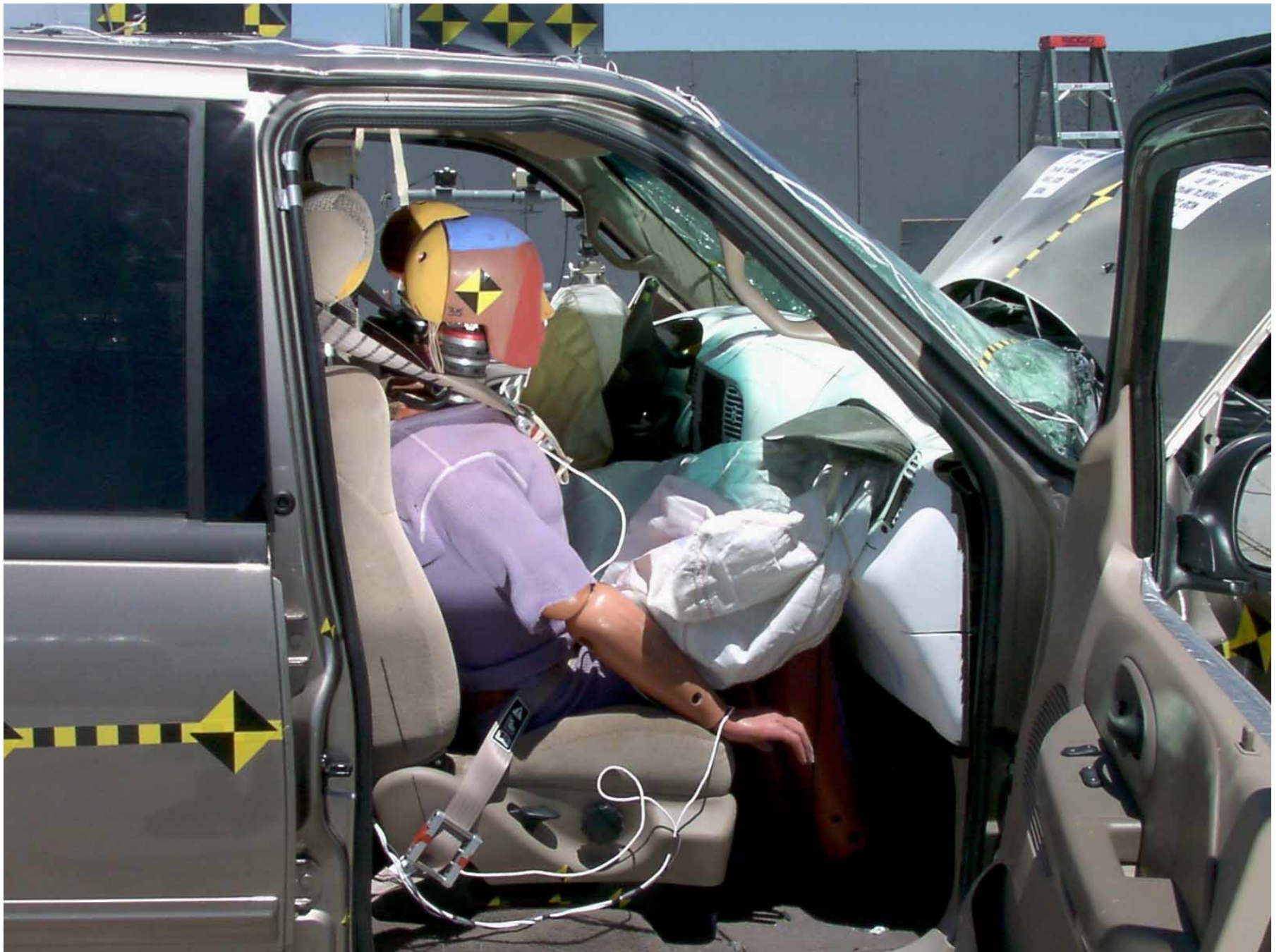


Figure A-48: Passenger Dummy 90° To Vehicle, Post-Test



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: Vehicle on Rollover Device



Figure A-58: Vehicle During Impact

**APPENDIX B**

**DUMMY AND VEHICLE RESPONSE DATA TRACES**

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| B-3       | Driver Head Primary X Displacement    | B-3  |
| B-4       | Driver Head Primary Y                 | B-4  |
| B-5       | Driver Head Primary Z                 | B-5  |
| B-6       | Driver Head Resultant Primary         | B-6  |
| B-7       | Driver Head Redundant X               | B-7  |
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| B-10      | Driver Head Redundant Y               | B-10 |
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| B-39 Driver Pelvis Resultant           | B-39 |
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| B-41 Driver Right Femur Force          | B-41 |
| B-42 Driver Left Upper Tibia Moment X  | B-42 |
| B-43 Driver Left Upper Tibia Moment Y  | B-43 |
| B-44 Driver Right Upper Tibia Moment X | B-44 |
| B-45 Driver Right Upper Tibia Moment Y | B-45 |
| B-46 Driver Left Lower Tibia Moment X  | B-46 |
| B-47 Driver Left Lower Tibia Moment Y  | B-47 |
| B-48 Driver Left Lower Tibia Force Z   | B-48 |
| B-49 Driver Right Lower Tibia Moment X | B-49 |
| B-50 Driver Right Lower Tibia Moment Y | B-50 |
| B-51 Driver Right Lower Tibia Force Z  | B-51 |
| B-52 Driver Left Foot Aft X            | B-52 |
| B-53 Driver Left Foot Aft Z            | B-53 |
| B-54 Driver Left Foot Fore Z           | B-54 |
| B-55 Driver Right Foot Aft X           | B-55 |
| B-56 Driver Right Foot Aft Z           | B-56 |
| B-57 Driver Right Foot Fore Z          | B-57 |
| B-58 Driver Lap Belt Force             | B-58 |
| B-59 Driver Shoulder Belt Force        | B-59 |
| B-60 Driver Shoulder Belt Pullout      | B-60 |
| B-61 Driver Shoulder Belt Elongation   | B-61 |

# LIST OF DATA PLOTS...(Continued)

| Data Plot |                                          | Page |
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| B-64      | Passenger Head Primary X Displacement    | B-64 |
| B-65      | Passenger Head Primary Y                 | B-65 |
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| B-67      | Passenger Head Resultant Primary         | B-67 |
| B-68      | Passenger Head Redundant X               | B-68 |
| B-69      | Passenger Head Redundant X Velocity      | B-69 |
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| B-71      | Passenger Head Redundant Y               | B-71 |
| B-72      | Passenger Head Redundant Z               | B-72 |
| B-73      | Passenger Head Resultant Redundant       | B-73 |
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| B-78      | Passenger Neck Moment X                  | B-78 |
| B-79      | Passenger Neck Moment Y                  | B-79 |
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| B-82      | Passenger Chest Primary X                | B-82 |
| B-83      | Passenger Chest Primary X Velocity       | B-83 |
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| B-92      | Passenger Chest Redundant Z              | B-92 |
| B-93      | Passenger Chest Redundant Resultant      | B-93 |
| B-94      | Passenger Chest Displacement X           | B-94 |

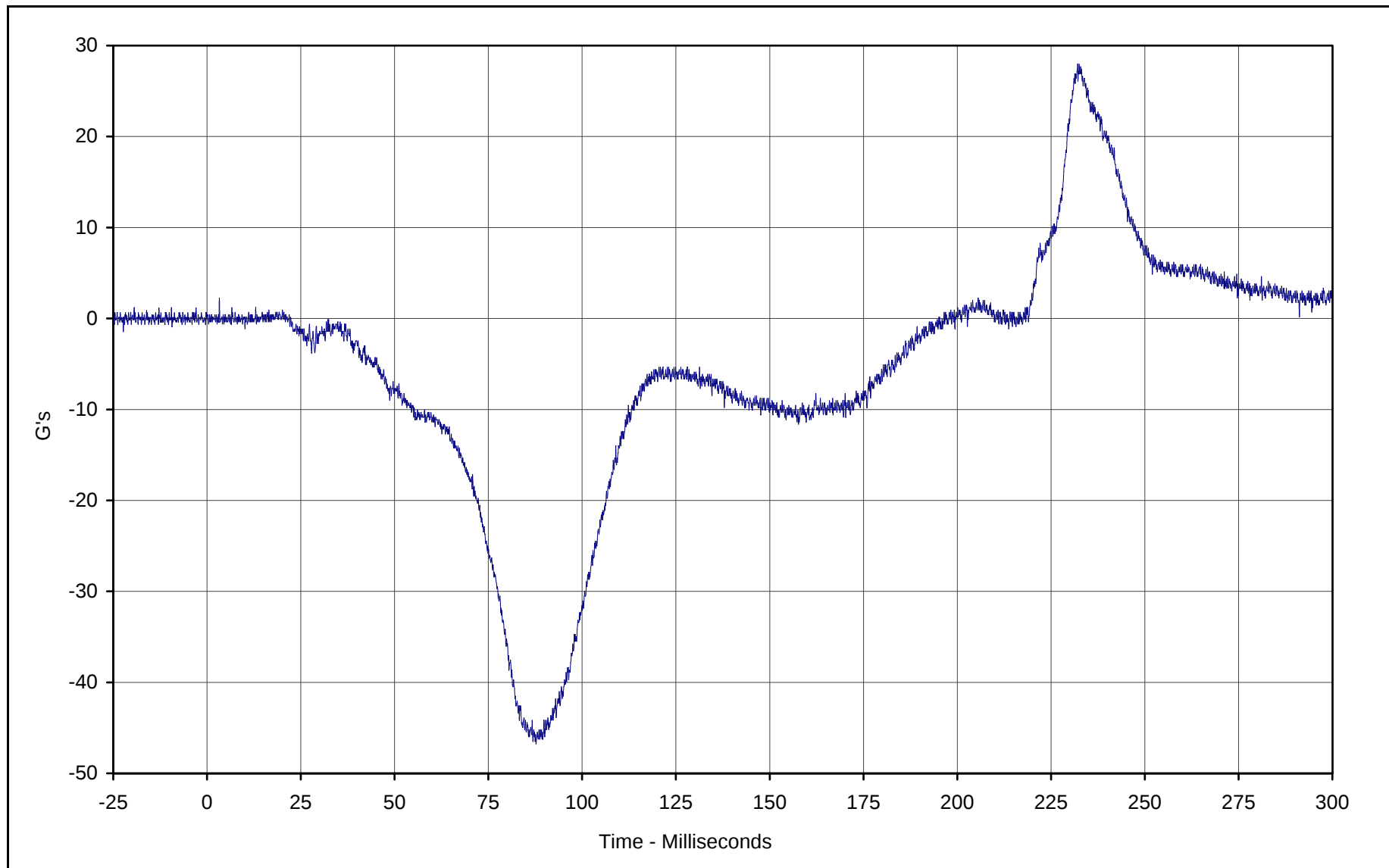
# LIST OF DATA PLOTS...(Continued)

| Data Plot |                                      | Page  |
|-----------|--------------------------------------|-------|
| B-95      | Passenger Pelvis X                   | B-95  |
| B-96      | Passenger Pelvis X Velocity          | B-96  |
| B-97      | Passenger Pelvis X Displacement      | B-97  |
| B-98      | Passenger Pelvis Y                   | B-98  |
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| B-100     | Passenger Pelvis Resultant           | B-100 |
| B-101     | Passenger Left Femur Force           | B-101 |
| B-102     | Passenger Right Femur Force          | B-102 |
| B-103     | Passenger Left Upper Tibia Moment X  | B-103 |
| B-104     | Passenger Left Upper Tibia Moment Y  | B-104 |
| B-105     | Passenger Right Upper Tibia Moment X | B-105 |
| B-106     | Passenger Right Upper Tibia Moment Y | B-106 |
| B-107     | Passenger Left Lower Tibia Moment X  | B-107 |
| B-108     | Passenger Left Lower Tibia Moment Y  | B-108 |
| B-109     | Passenger Left Lower Tibia Force Z   | B-109 |
| B-110     | Passenger Right Lower Tibia Moment X | B-110 |
| B-111     | Passenger Right Lower Tibia Moment Y | B-111 |
| B-112     | Passenger Right Lower Tibia Force Z  | B-112 |
| B-113     | Passenger Left Foot Aft X            | B-113 |
| B-114     | Passenger Left Foot Aft Z            | B-114 |
| B-115     | Passenger Left Foot Fore Z           | B-115 |
| B-116     | Passenger Right Foot Aft X           | B-116 |
| B-117     | Passenger Right Foot Aft Z           | B-117 |
| B-118     | Passenger Right Foot Fore Z          | B-118 |
| B-119     | Passenger Lap Belt Force             | B-119 |
| B-120     | Passenger Shoulder Belt Force        | B-120 |
| B-121     | Passenger Shoulder Belt Pullout      | B-121 |
| B-122     | Passenger Shoulder Belt Elongation   | B-122 |

# LIST OF DATA PLOTS...(Continued)

| Data Plot |                                          | Page  |
|-----------|------------------------------------------|-------|
| B-123     | Vehicle Left Rear Primary                | B-123 |
| B-124     | Vehicle Left Rear Primary Velocity       | B-124 |
| B-125     | Vehicle Left Rear Primary Displacement   | B-125 |
| B-126     | Vehicle Right Rear Primary               | B-126 |
| B-127     | Vehicle Right Rear Primary Velocity      | B-127 |
| B-128     | Vehicle Right Rear Primary Displacement  | B-128 |
| B-129     | Vehicle Engine Top                       | B-129 |
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| B-136     | Vehicle Left Brake Caliper Velocity      | B-136 |
| B-137     | Vehicle Left Brake Caliper Displacement  | B-137 |
| B-138     | Vehicle Right Brake Caliper              | B-138 |
| B-139     | Vehicle Right Brake Caliper Velocity     | B-139 |
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| B-141     | Vehicle Instrument Panel                 | B-141 |
| B-142     | Vehicle Instrument Panel Velocity        | B-142 |
| B-143     | Vehicle Instrument Panel Displacement    | B-143 |
| B-144     | Vehicle Left Rear Redundant              | B-144 |
| B-145     | Vehicle Left Rear Redundant Velocity     | B-145 |
| B-146     | Vehicle Left Rear Redundant Displacement | B-146 |

B-1



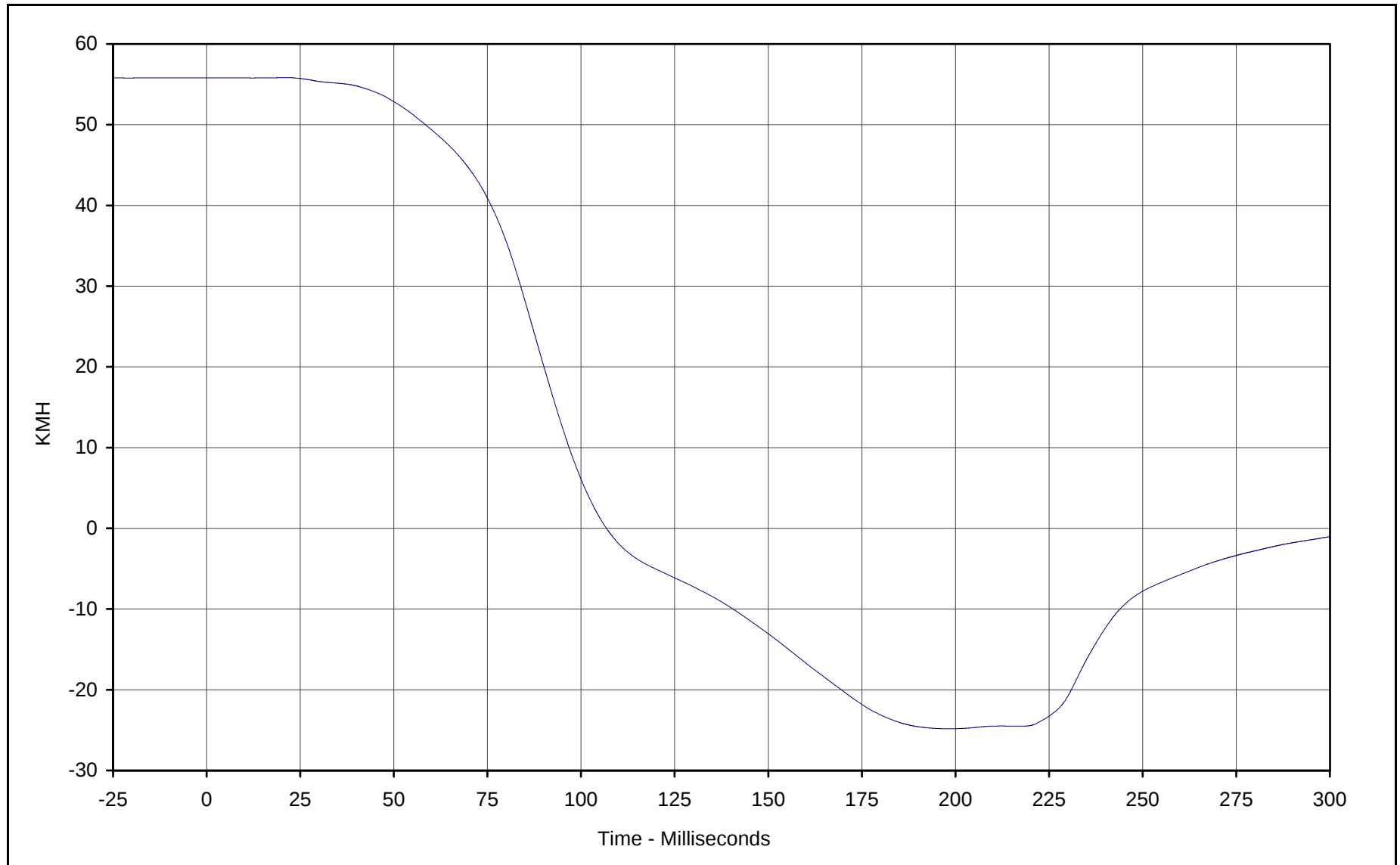
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Date of Test: 5/8/01  
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Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

B-2

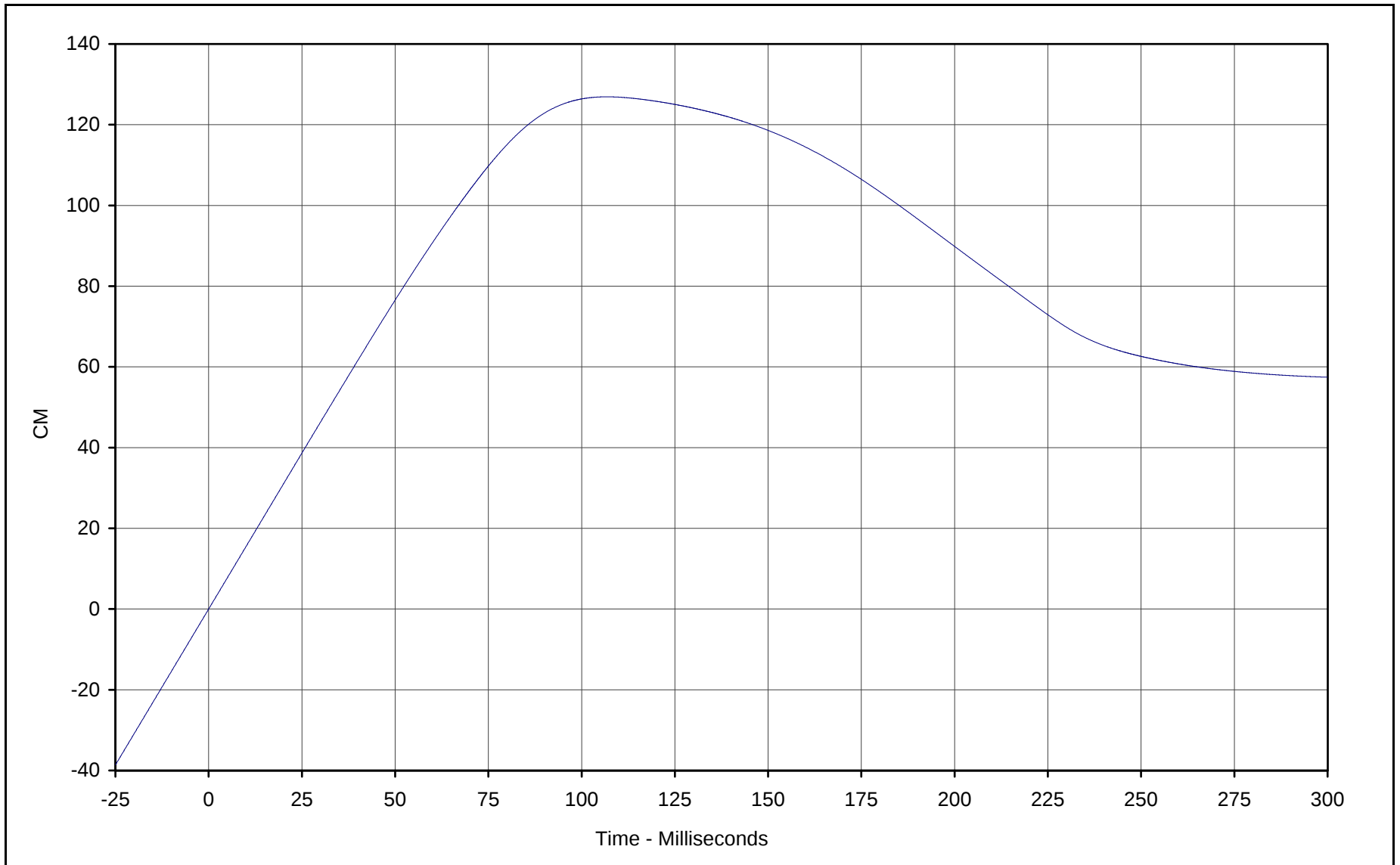


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Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



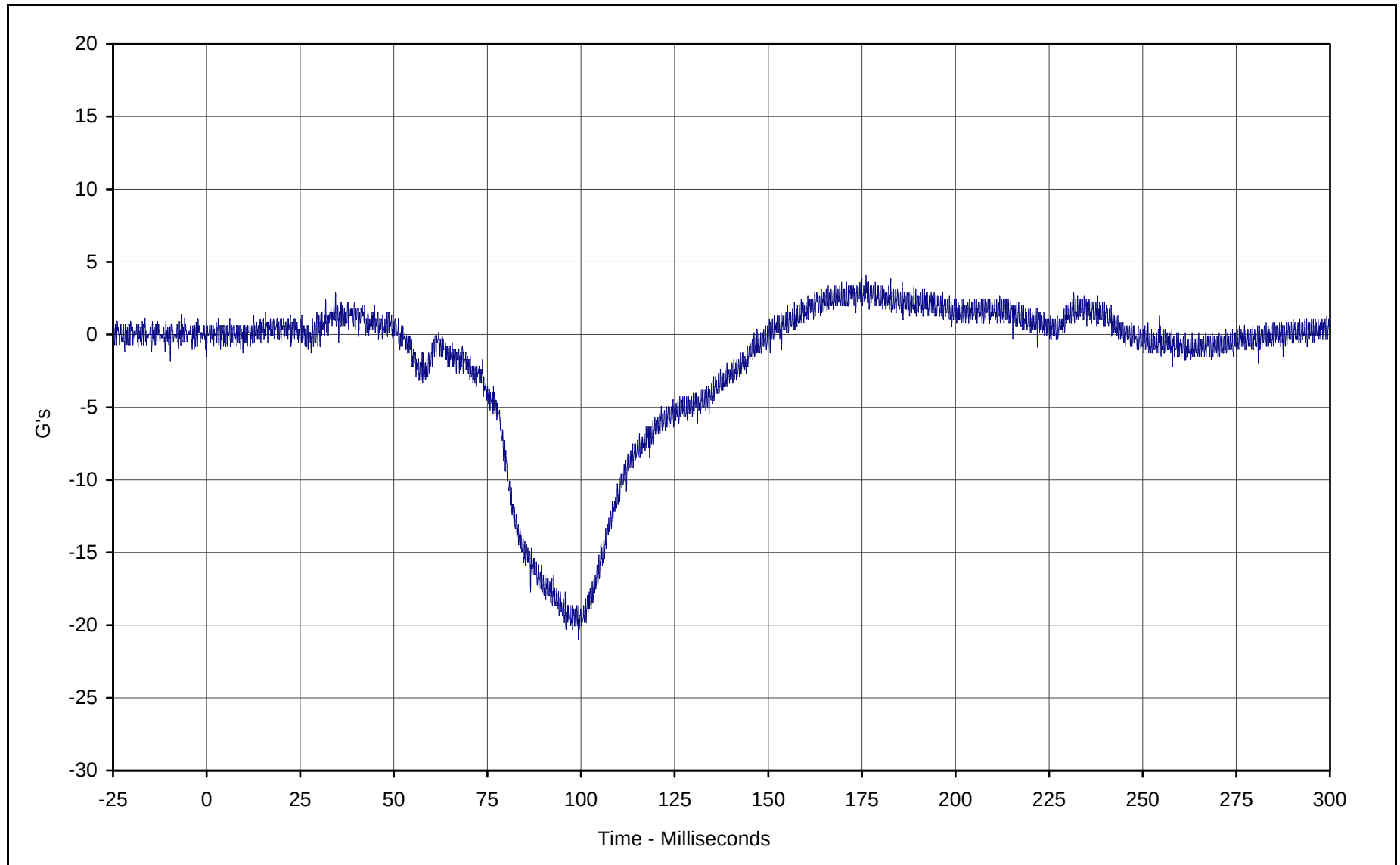
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Curve Description: Driver Head Primary X Displ.  
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Minimum Value: 0.0 at 0.0 Milliseconds  
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Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



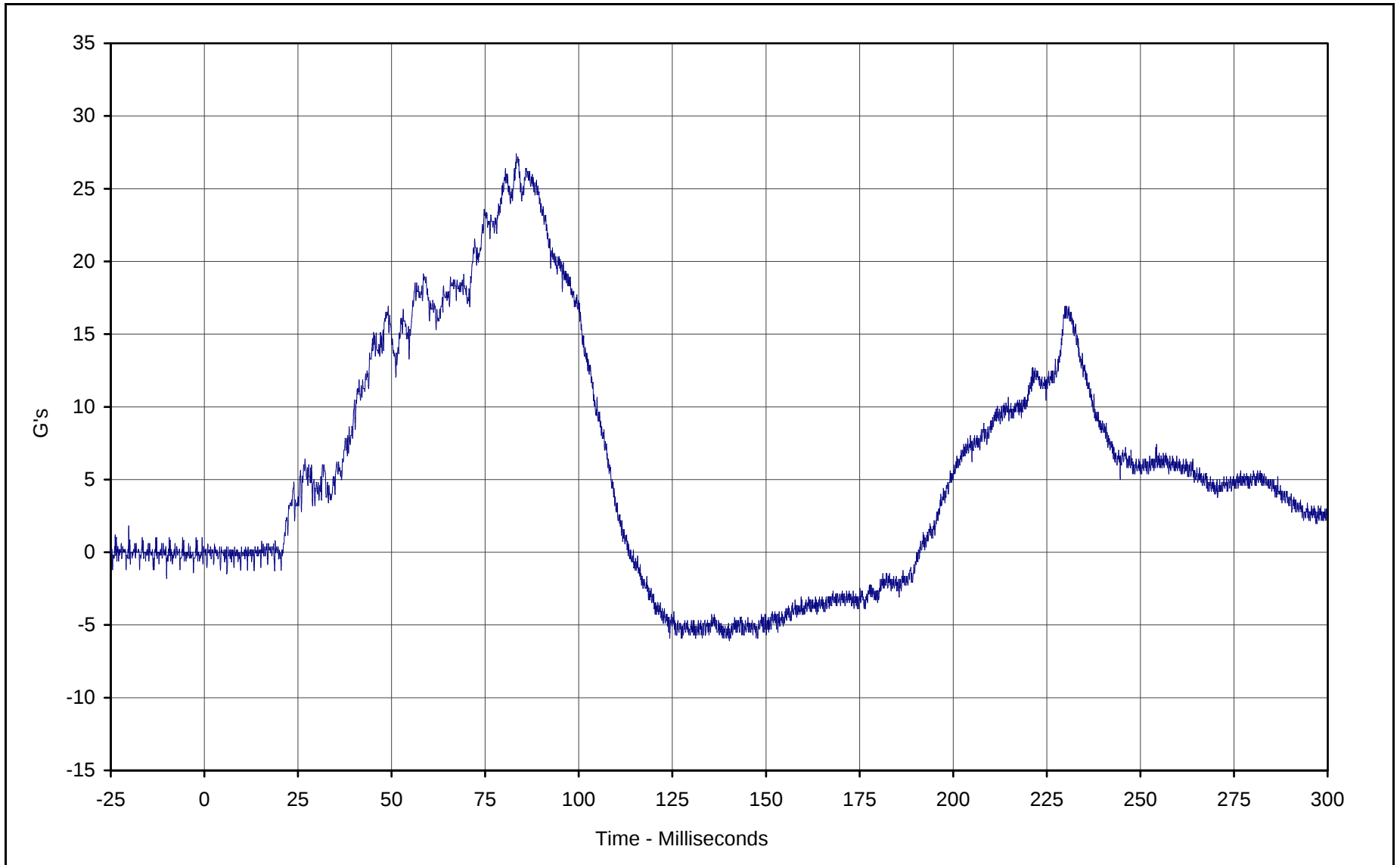


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Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



B-5

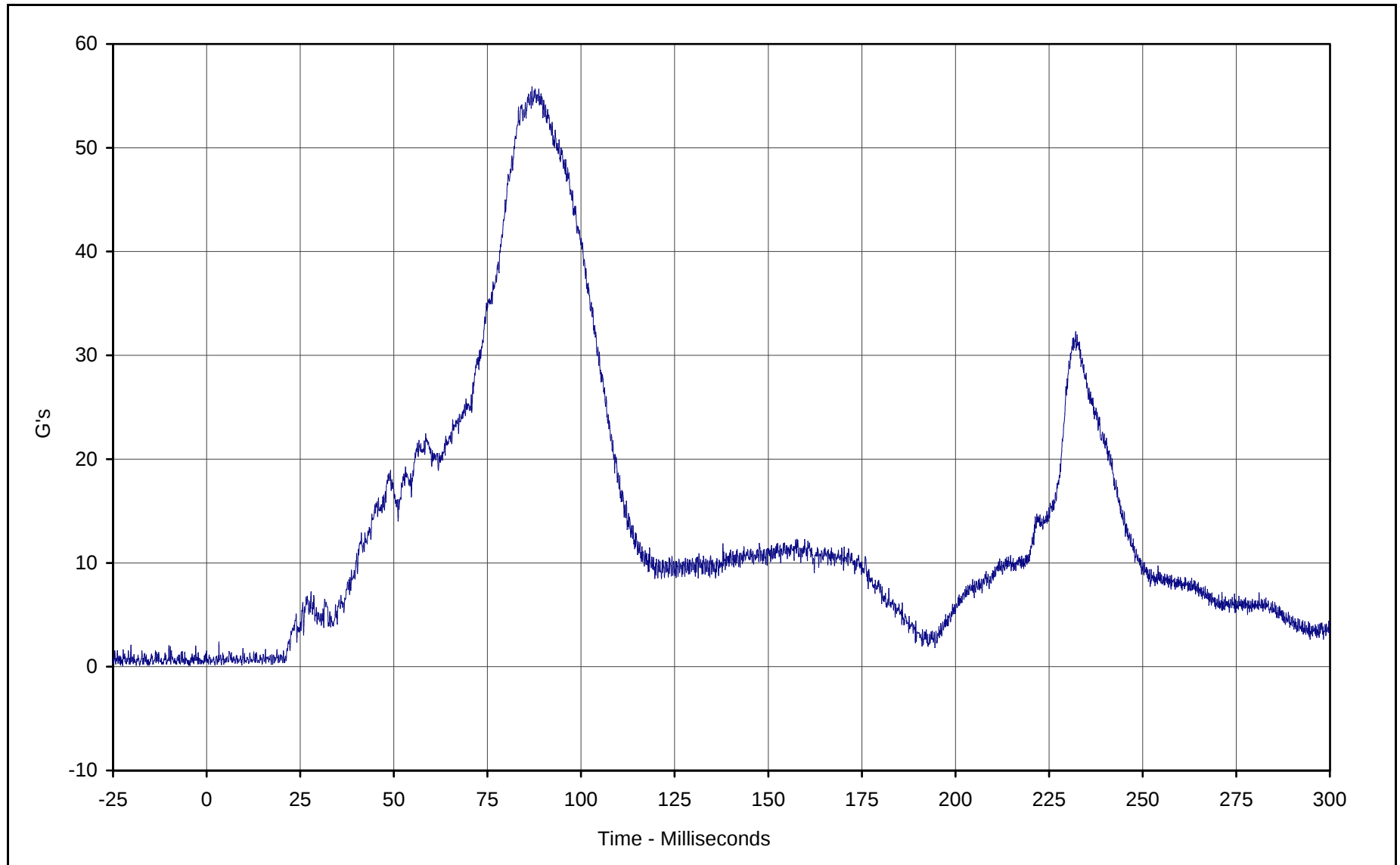


Curve Description: Driver Head Primary Z  
Maximum Value: 27.4 at 83.3 Milliseconds  
Minimum Value: -6.1 at 140.2 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
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Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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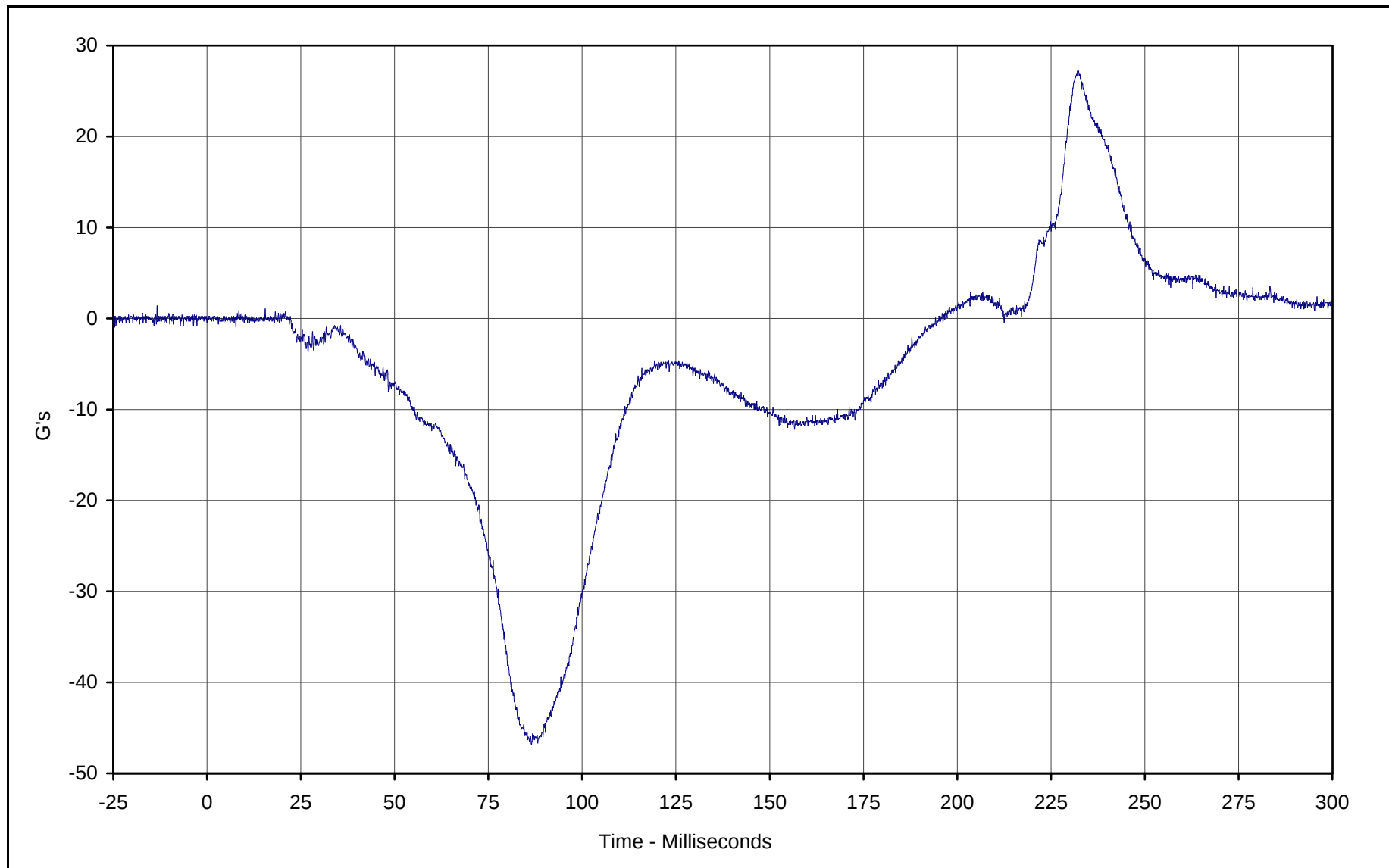


Curve Description: Driver Head Resultant Primary  
Maximum Value: 55.9 at 86.9 Milliseconds  
Minimum Value: 0.2 at 2.2 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-001

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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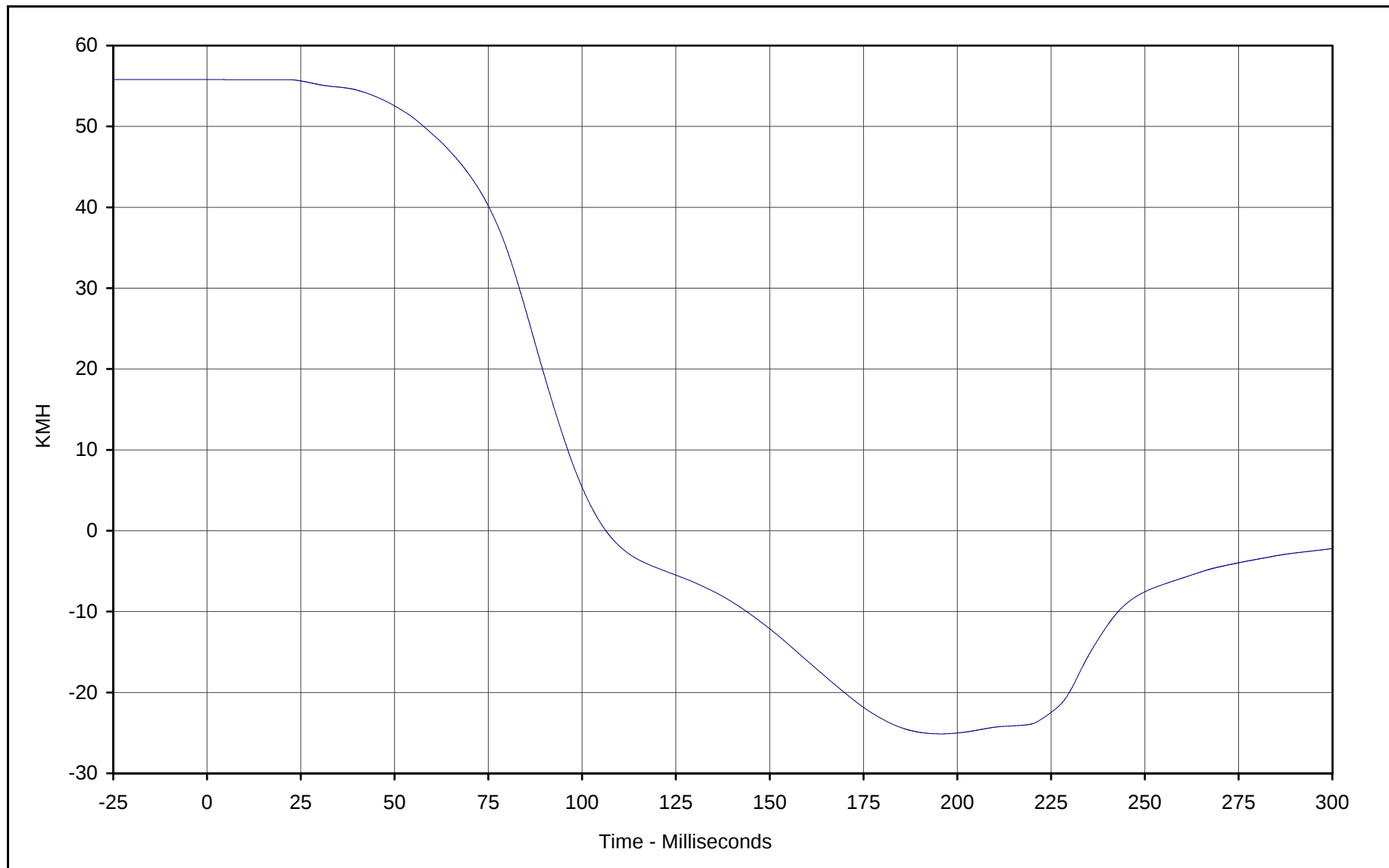
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Maximum Value: 27.2 at 232.0 Milliseconds  
Minimum Value: -46.8 at 86.5 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-004

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

B-8

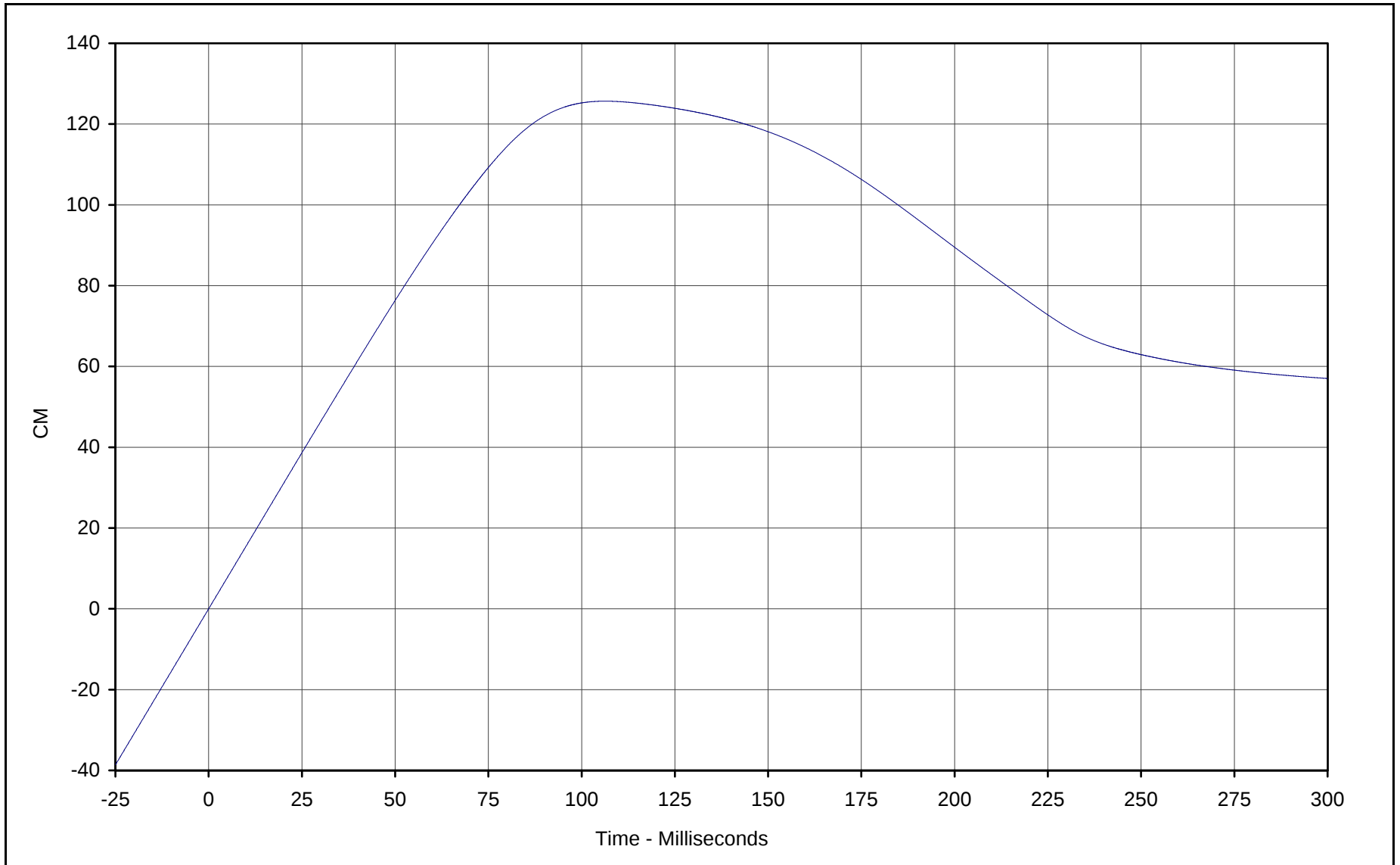


Curve Description: Driver Head Redundant X Velocity  
Maximum Value: 55.8 at 2.1 Milliseconds  
Minimum Value: -25.1 at 195.6 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-004

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

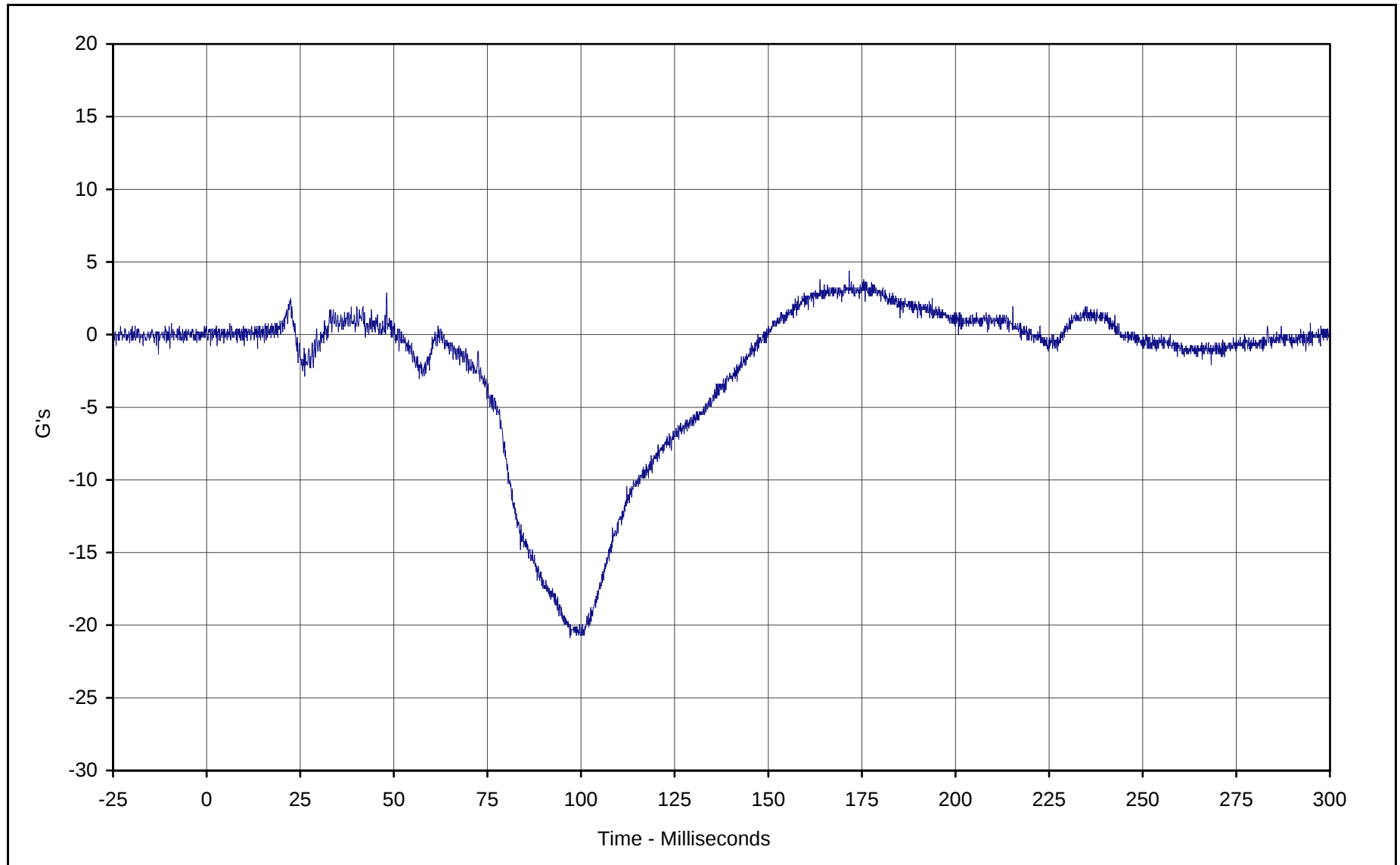


Curve Description: Driver Head Redundant X Displ.  
Maximum Value: 125.7 at 106.3 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
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Date of Test: 5/8/01  
Curve Number: IN2-004

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



B-10

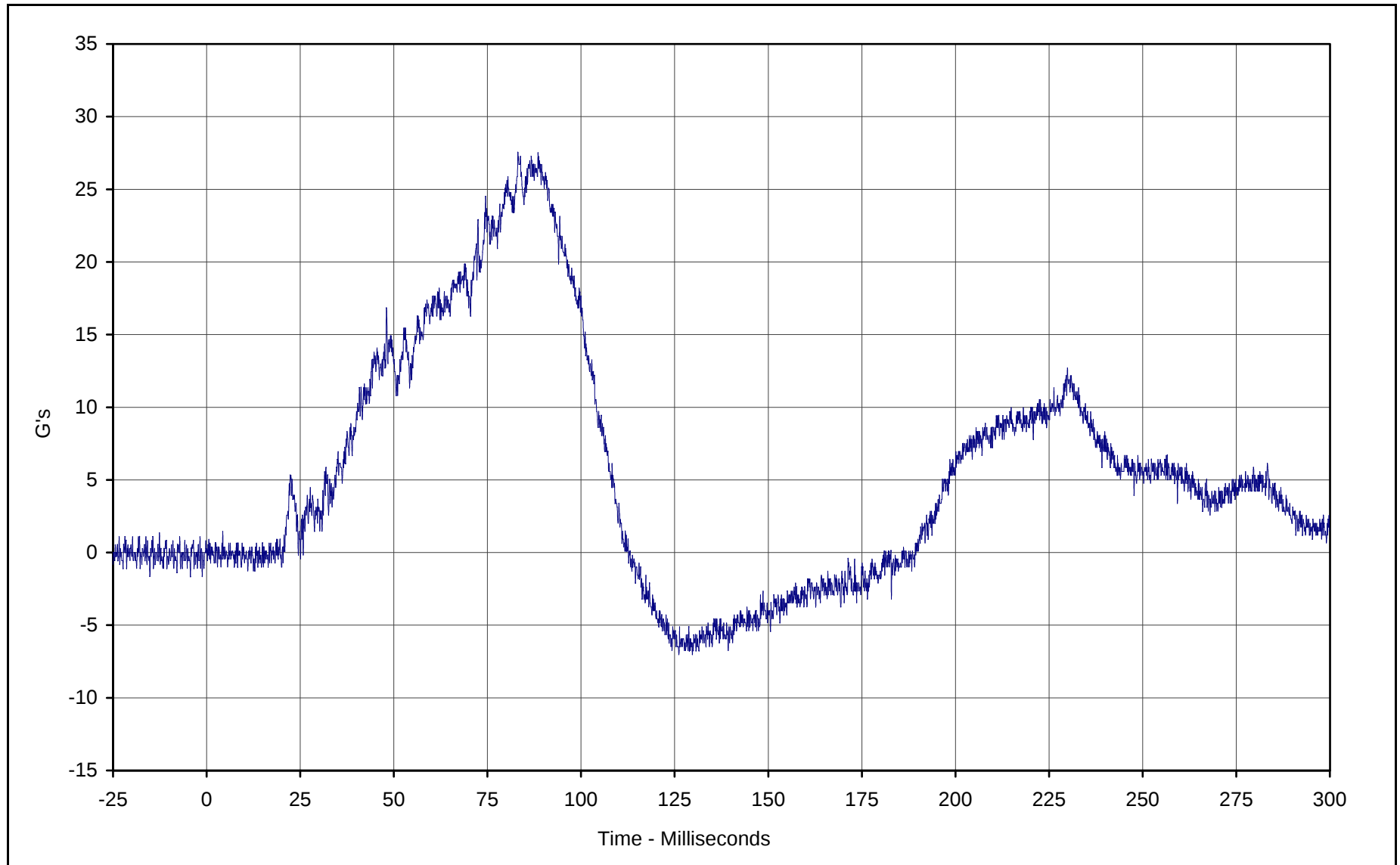


Curve Description: Driver Head Redundant Y  
Maximum Value: 4.4 at 171.6 Milliseconds  
Minimum Value: -20.9 at 97.0 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-005

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

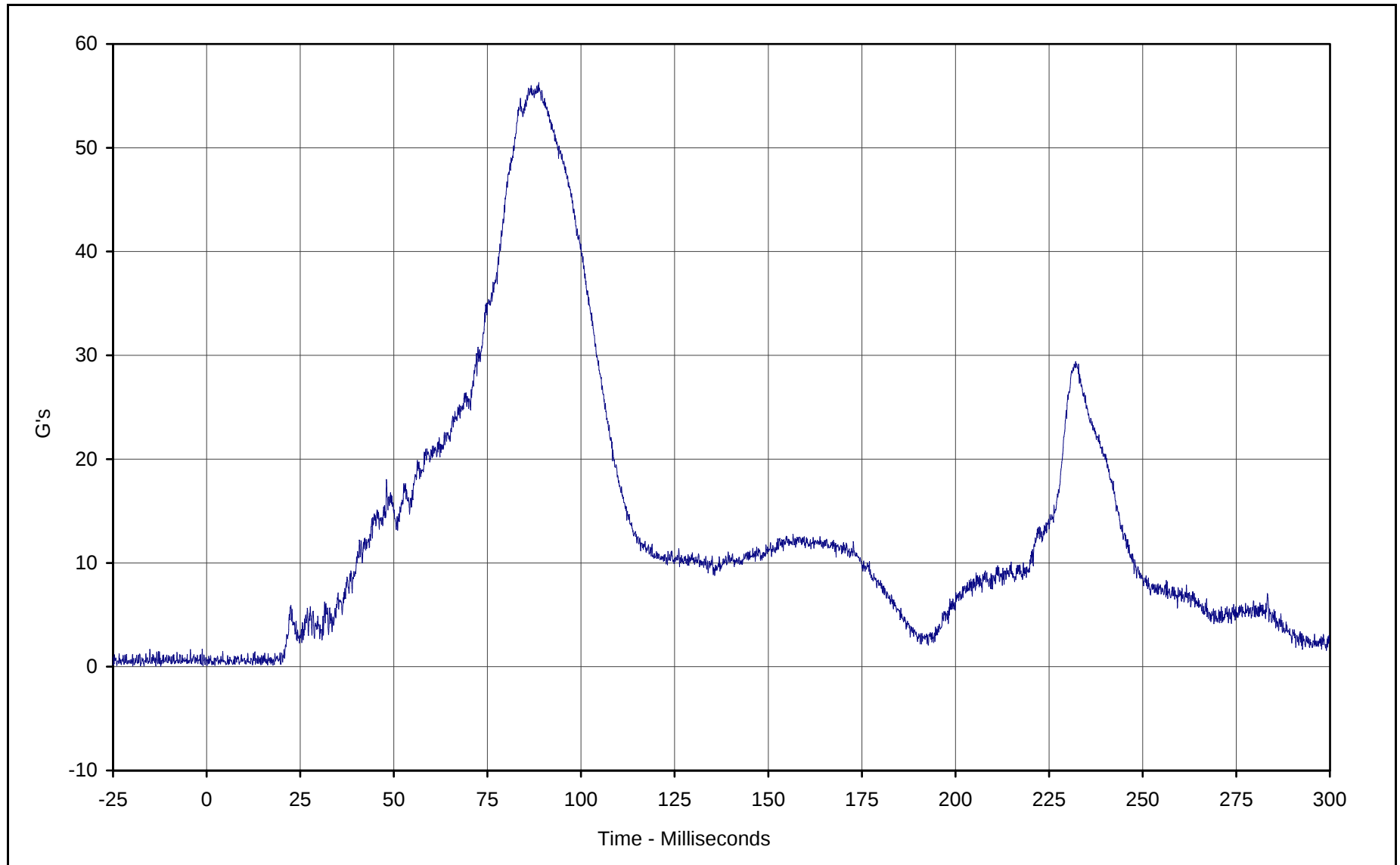


Curve Description: Driver Head Redundant Z  
Maximum Value: 27.5 at 83.1 Milliseconds  
Minimum Value: -7.0 at 126.1 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-006

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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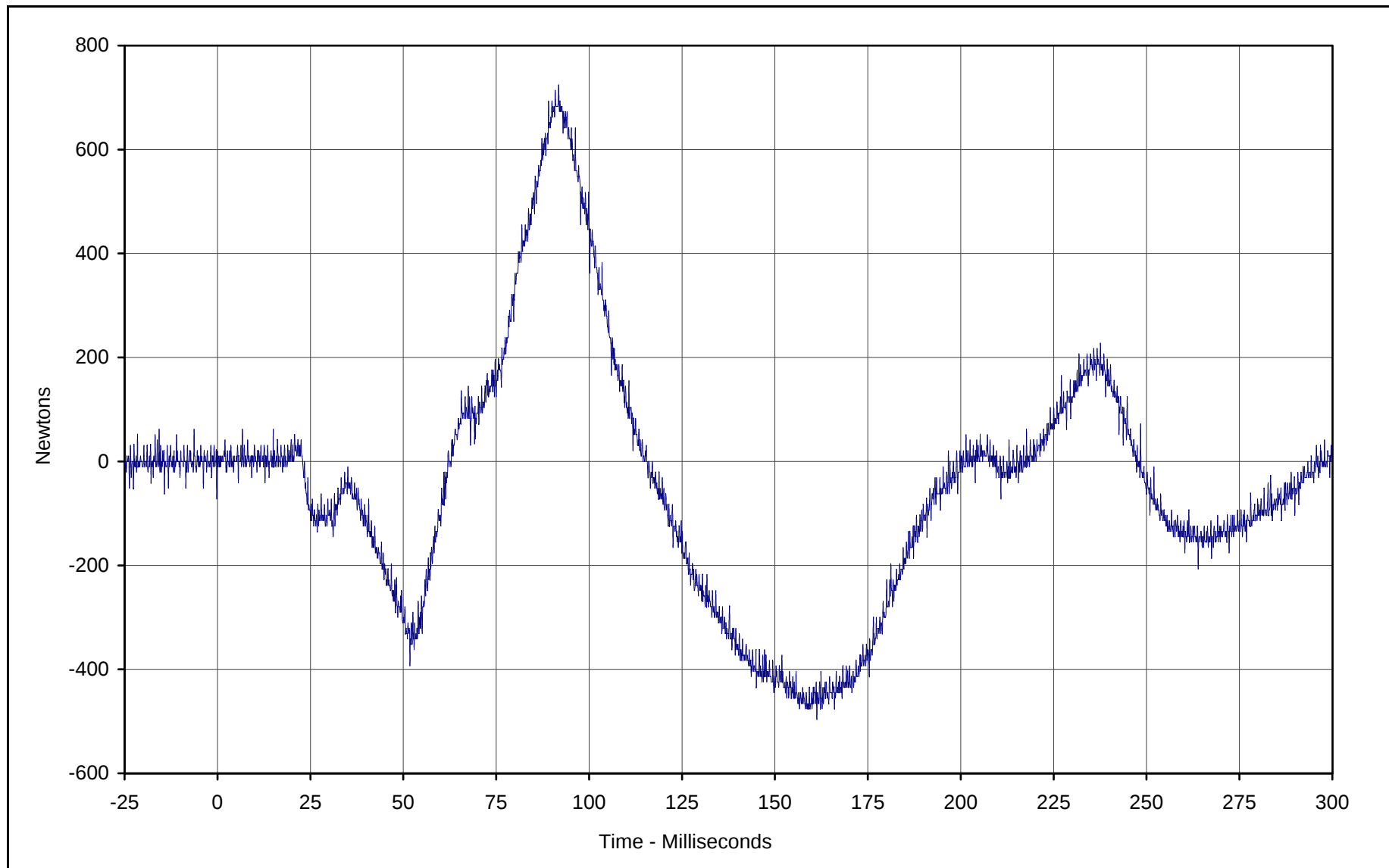


Curve Description: Driver Head Resultant Redundant  
Maximum Value: 56.3 at 88.7 Milliseconds  
Minimum Value: 0.1 at 0.1 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-004

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



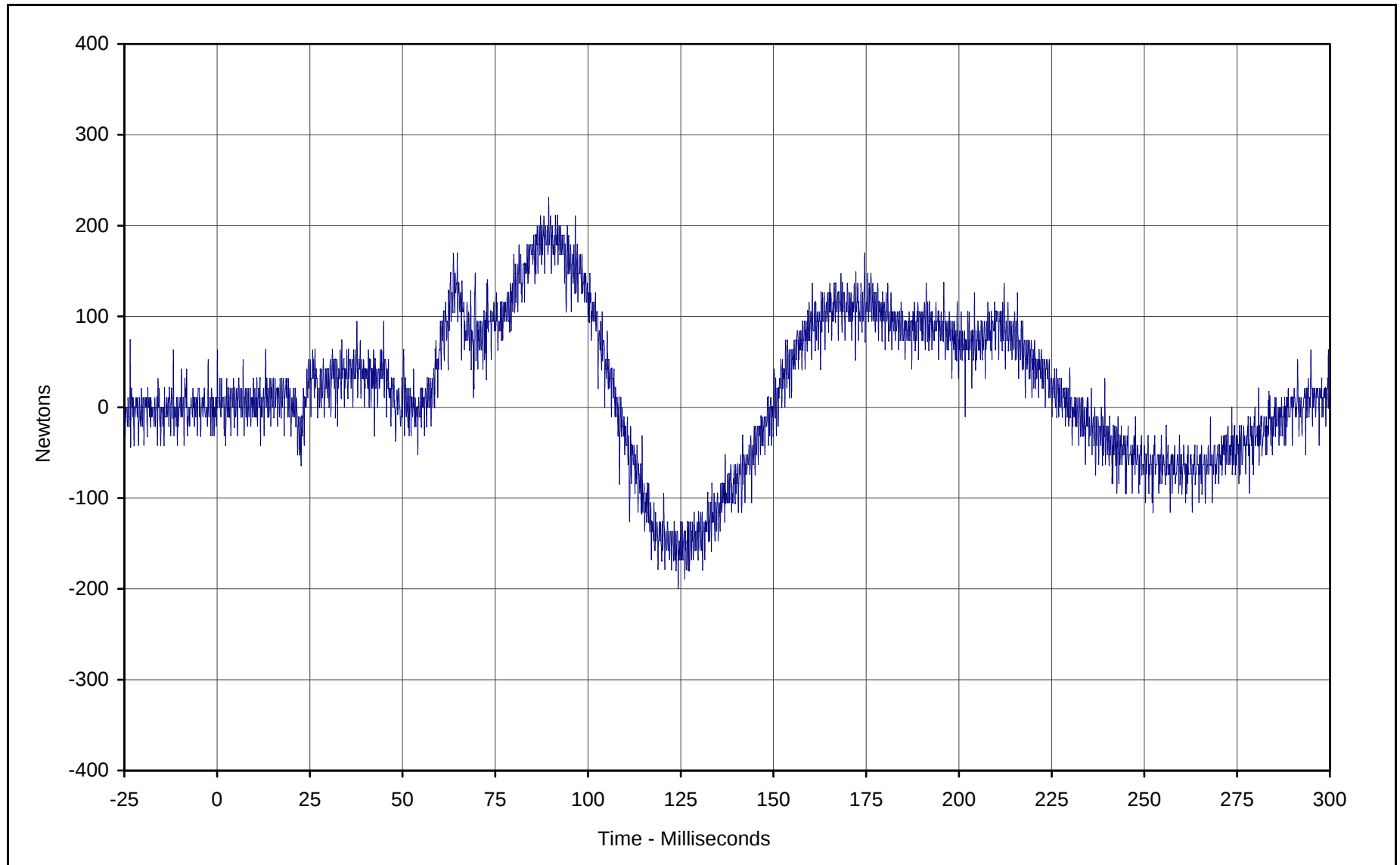
KAR21040-01



Curve Description: Driver Neck Force X  
Maximum Value: 724.5 at 91.8 Milliseconds  
Minimum Value: -496.8 at 161.3 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-007

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

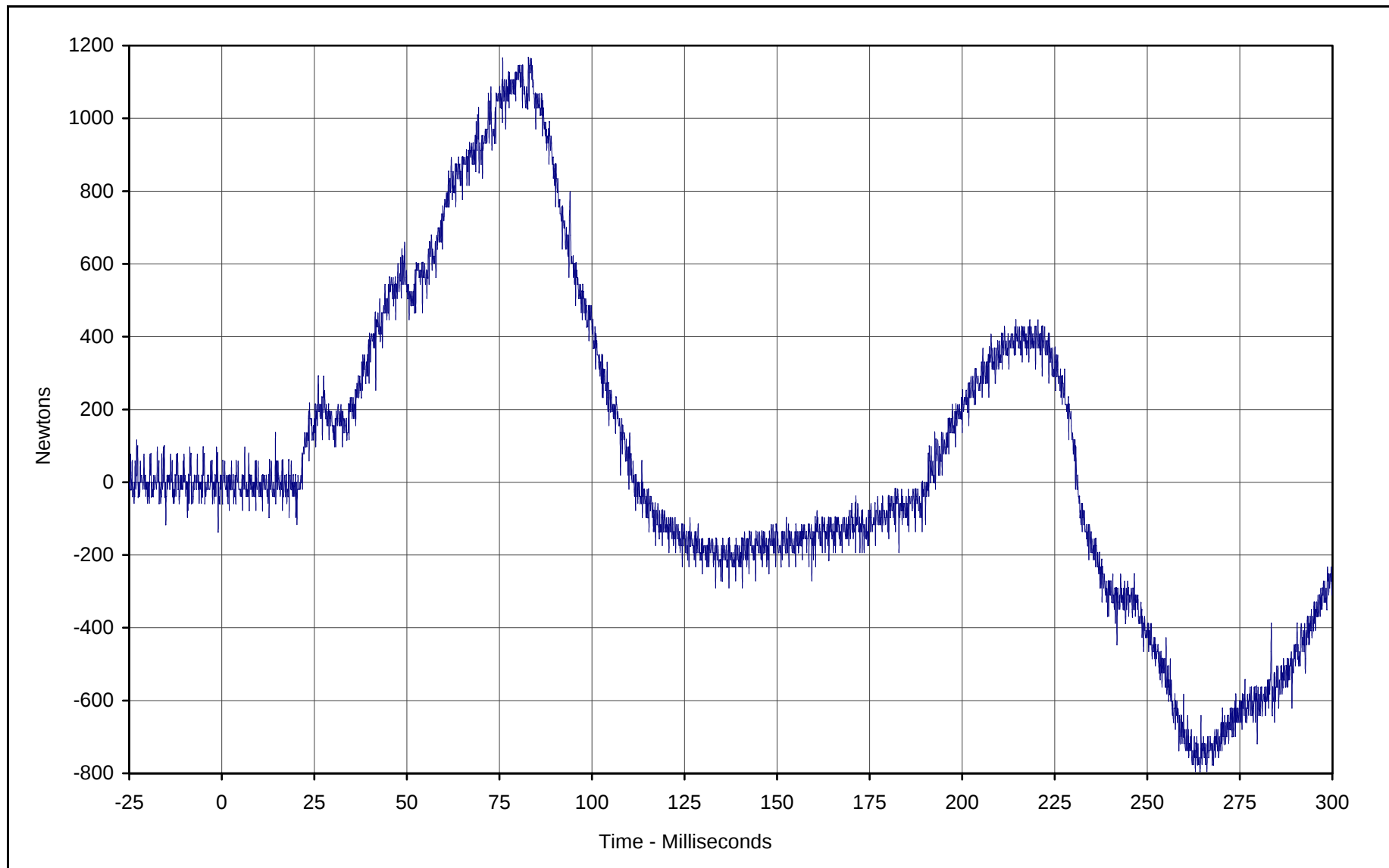




Curve Description: Driver Neck Force Y  
Maximum Value: 231.4 at 89.4 Milliseconds  
Minimum Value: -199.8 at 124.3 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
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Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

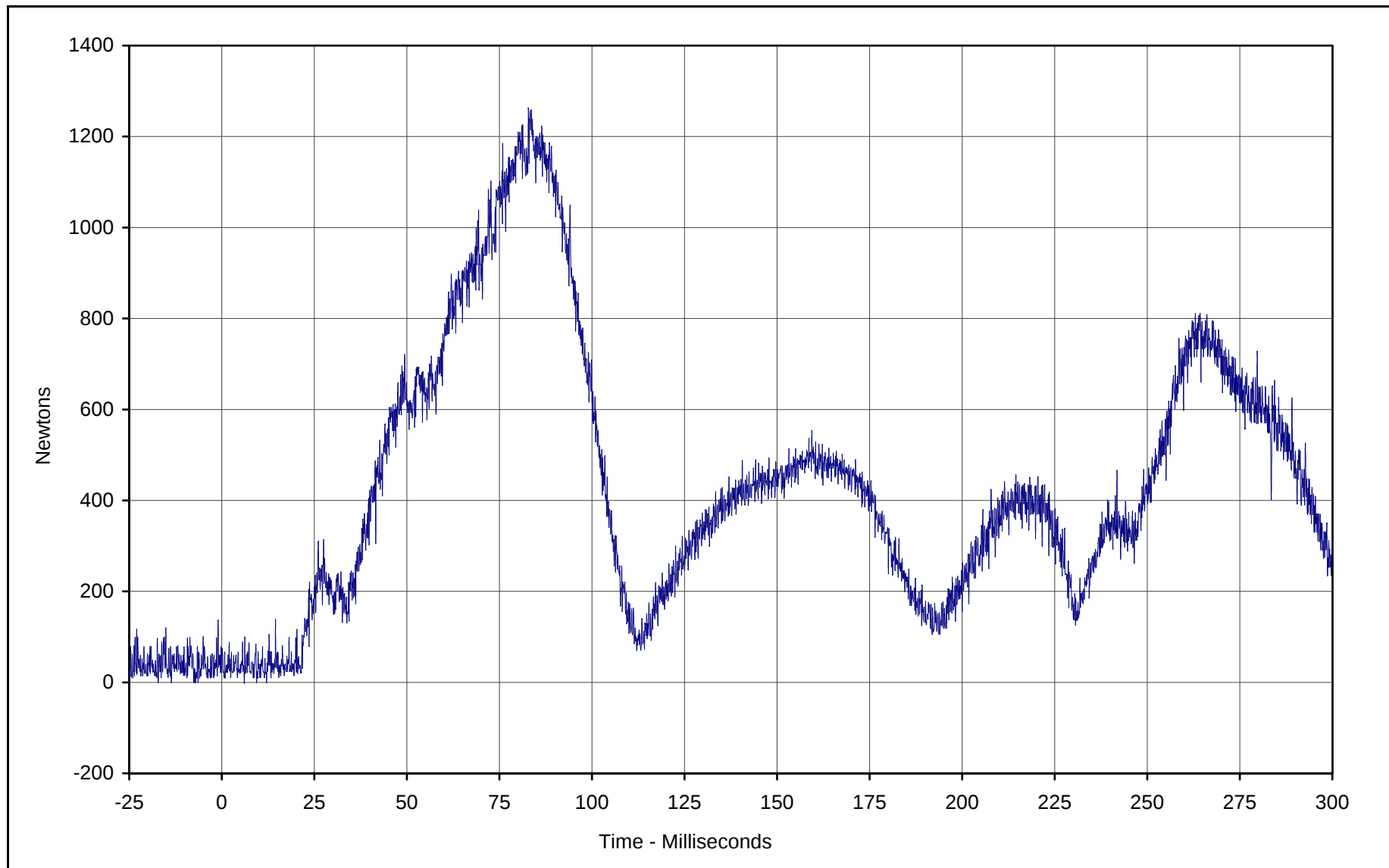




Curve Description: Driver Neck Force Z  
Maximum Value: 1164.5 at 75.9 Milliseconds  
Minimum Value: -795.8 at 263.0 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-009

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

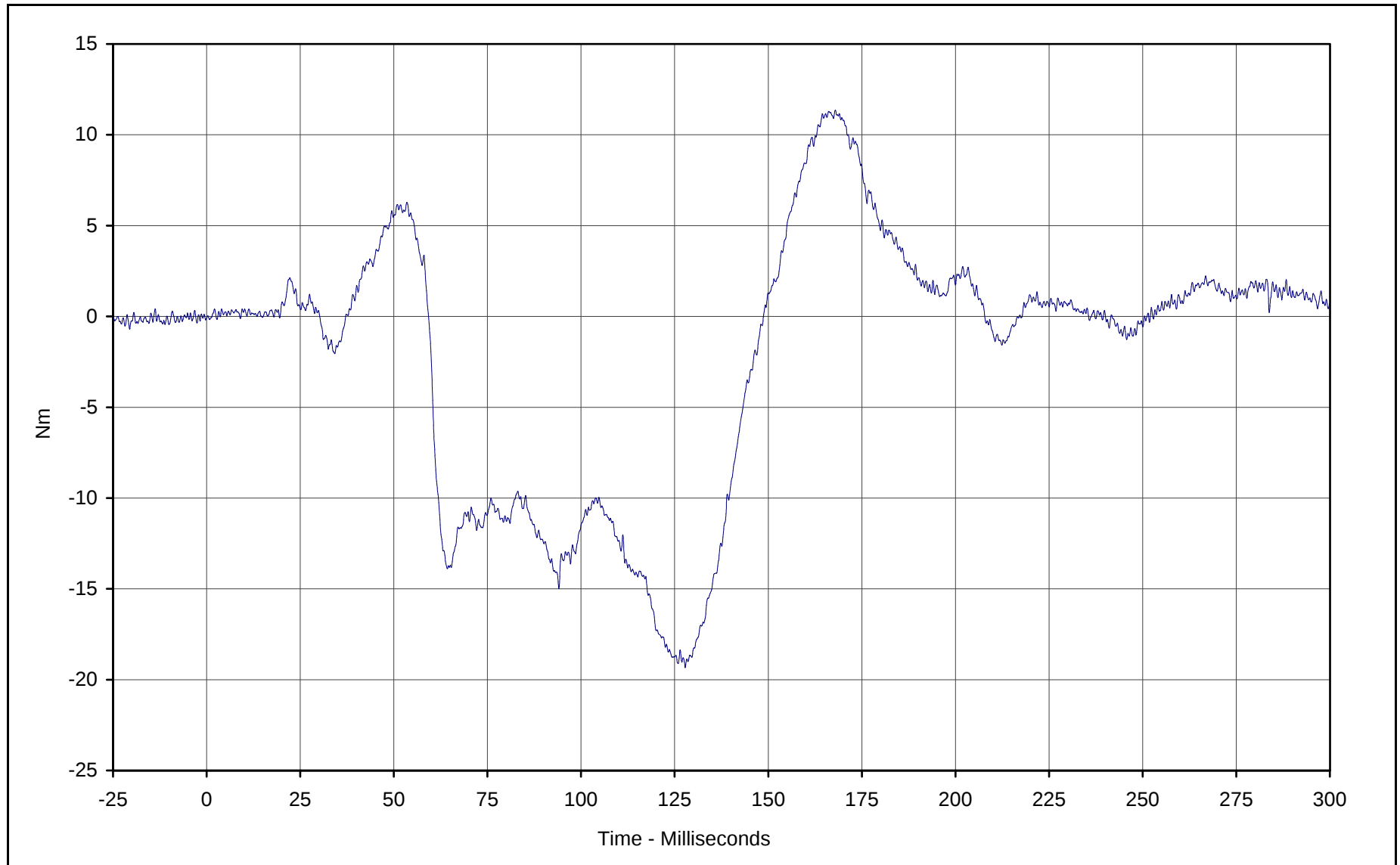




Curve Description: Driver Neck Force Resultant  
Maximum Value: 1260.3 at 82.8 Milliseconds  
Minimum Value: 0.0 at 6.1 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-007

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

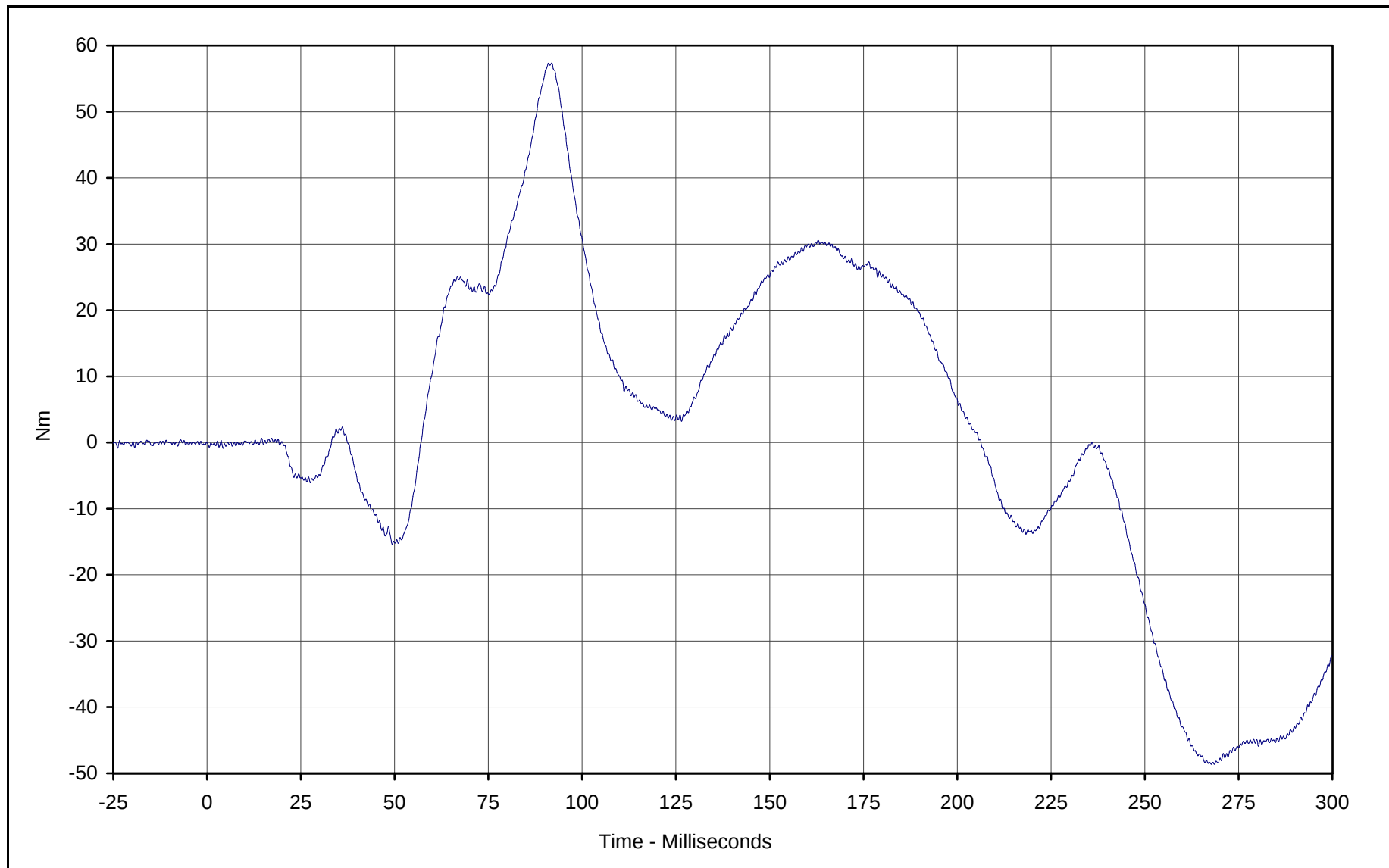




Curve Description: Driver Neck Moment X  
Maximum Value: 11.4 at 167.9 Milliseconds  
Minimum Value: -19.3 at 127.8 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-010

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

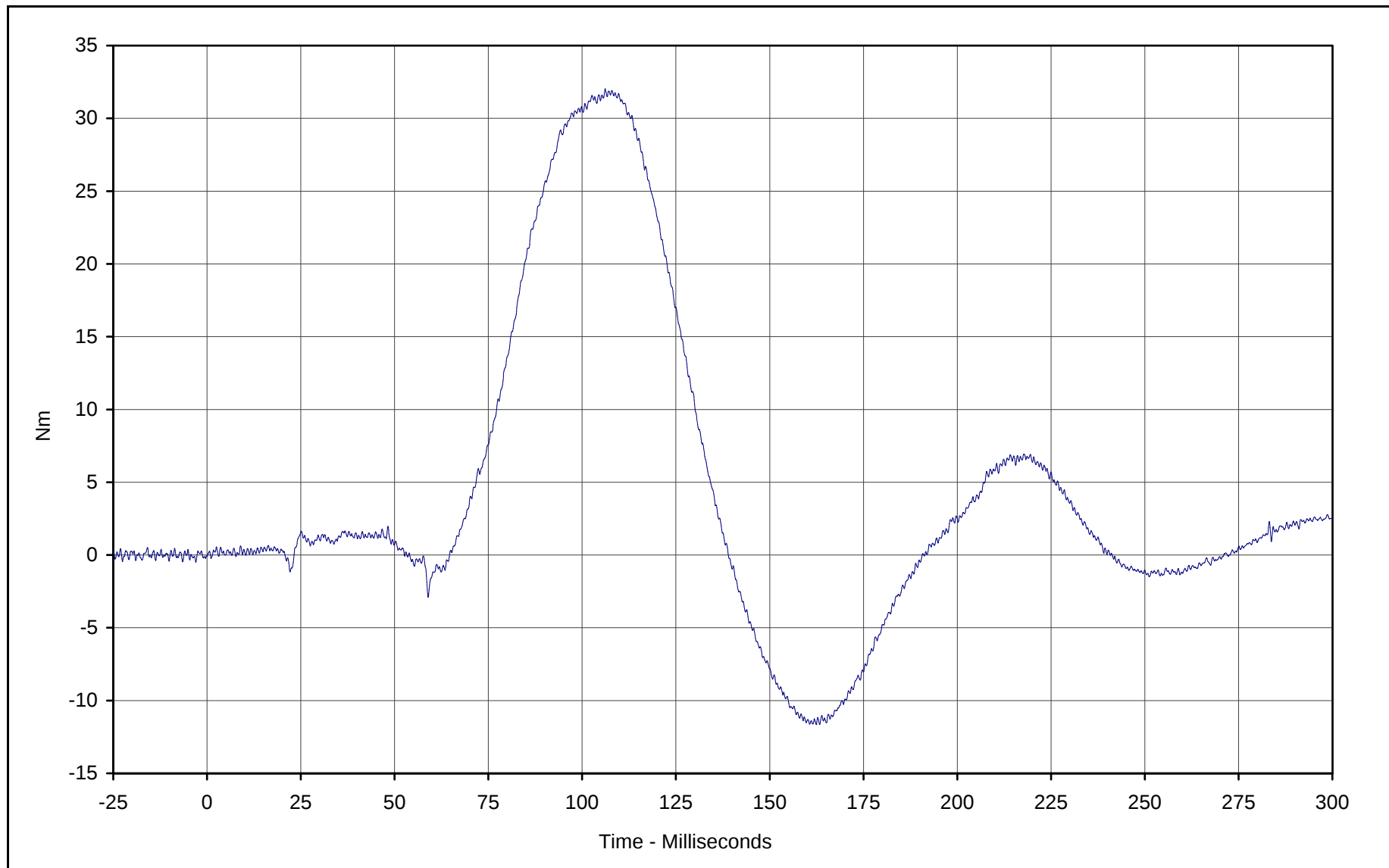




Curve Description: Driver Neck Moment Y  
Maximum Value: 57.4 at 91.9 Milliseconds  
Minimum Value: -48.6 at 268.5 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-011

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



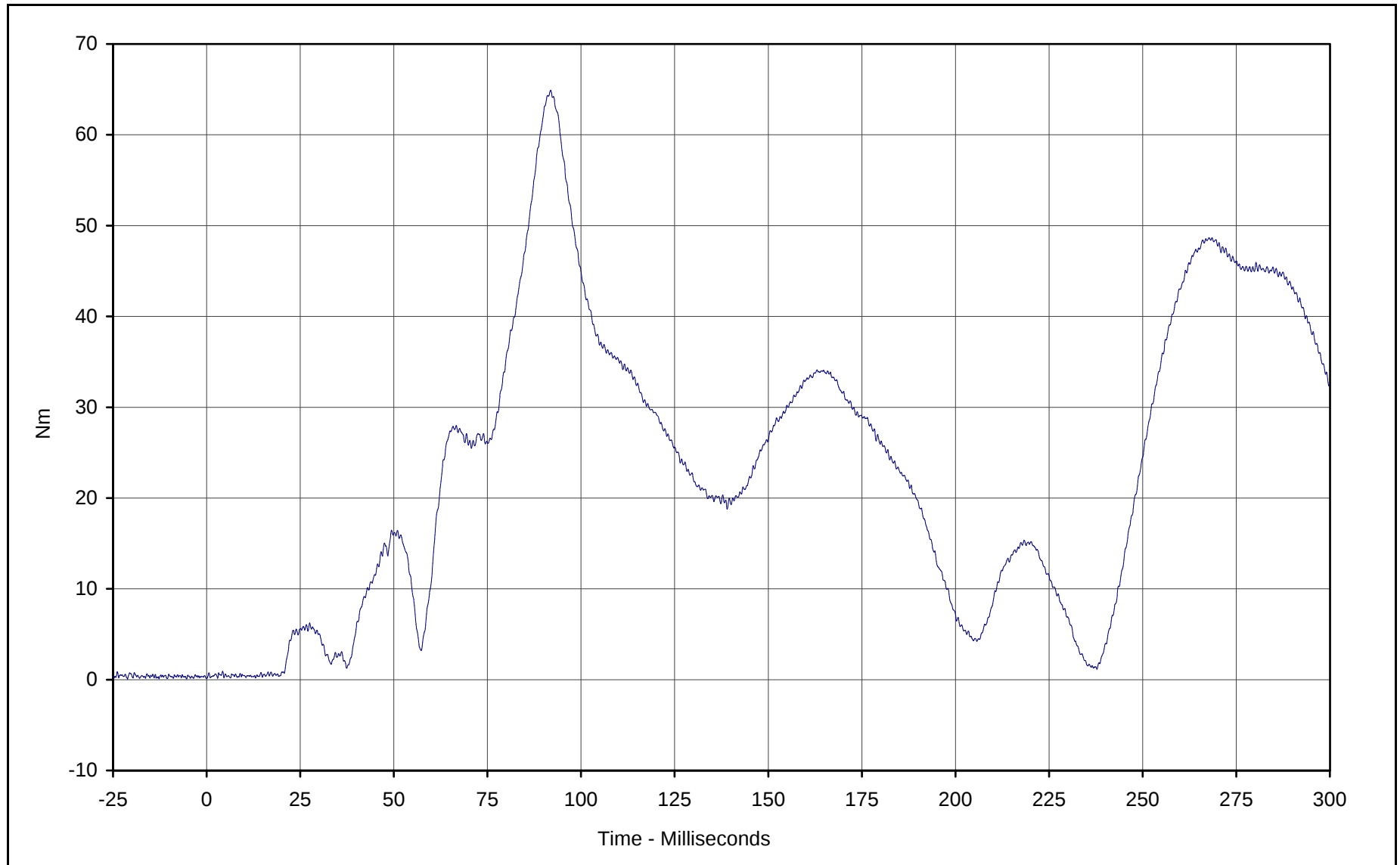


Curve Description: Driver Neck Moment Z  
Maximum Value: 32.0 at 106.1 Milliseconds  
Minimum Value: -11.7 at 162.4 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-012

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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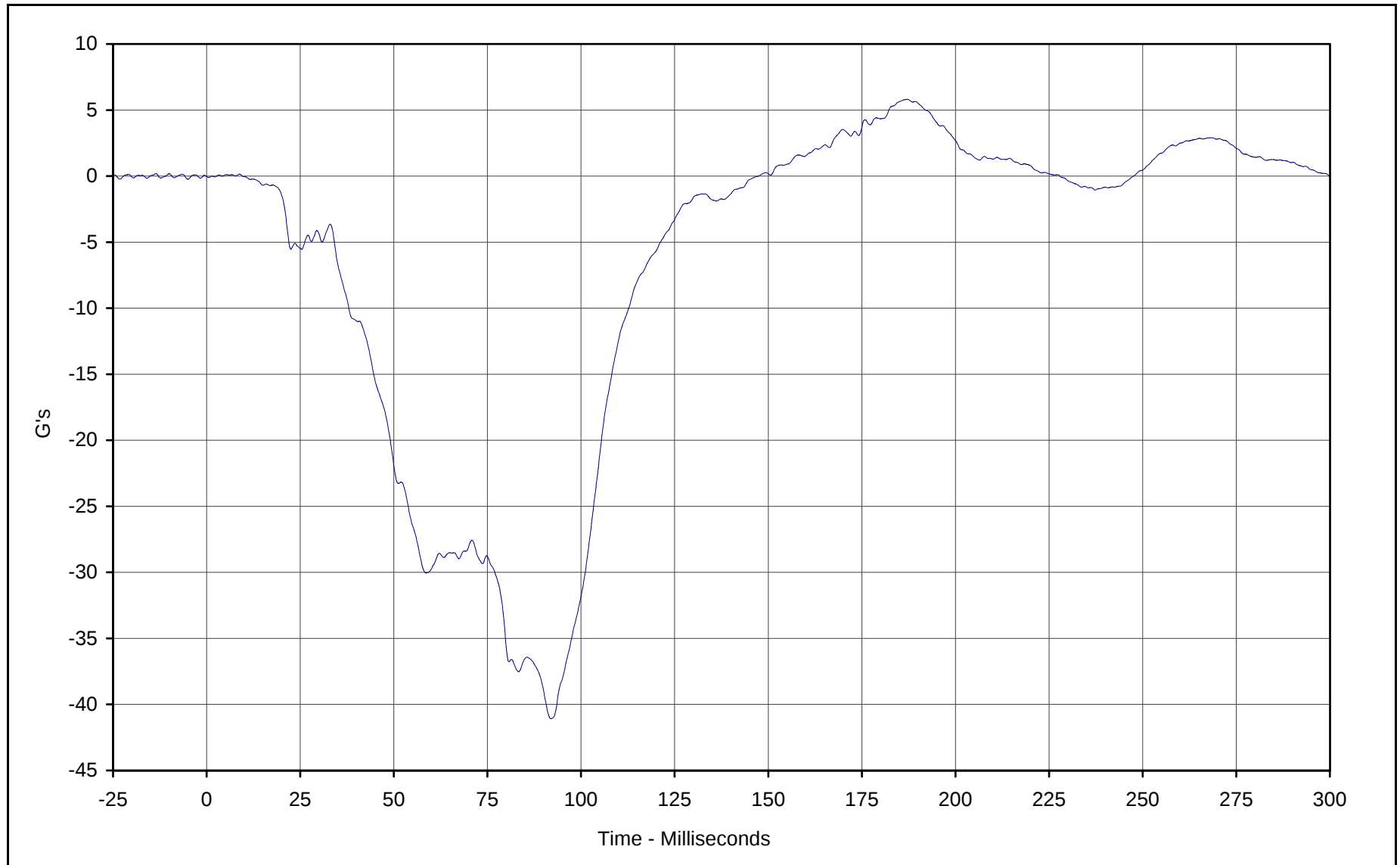
Curve Description: Driver Neck Moment Resultant  
Maximum Value: 64.9 at 91.9 Milliseconds  
Minimum Value: 0.2 at 0.0 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: RES-010

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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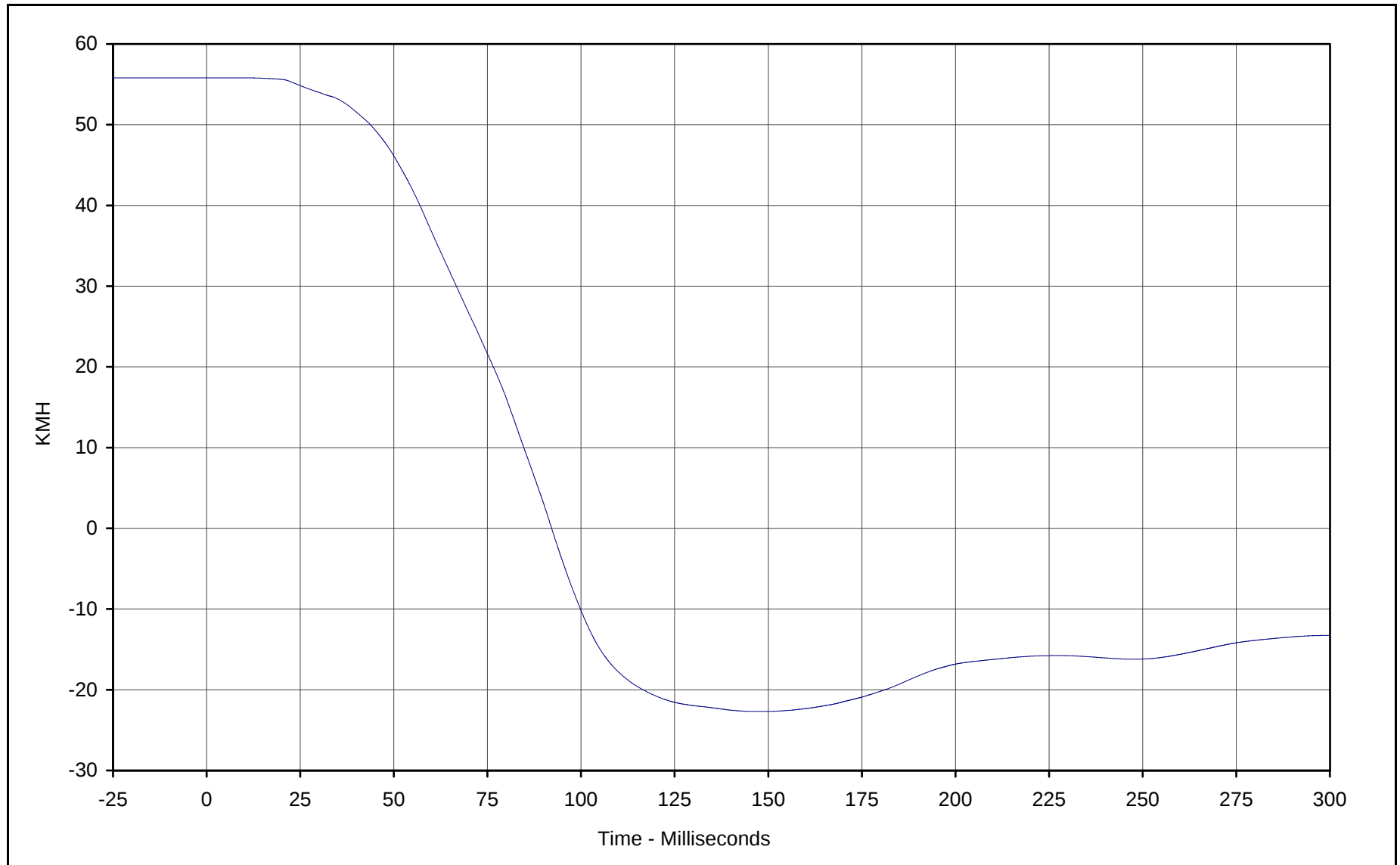
Curve Description: Driver Chest Primary X  
Maximum Value: 5.8 at 187.1 Milliseconds  
Minimum Value: -41.1 at 92.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-013

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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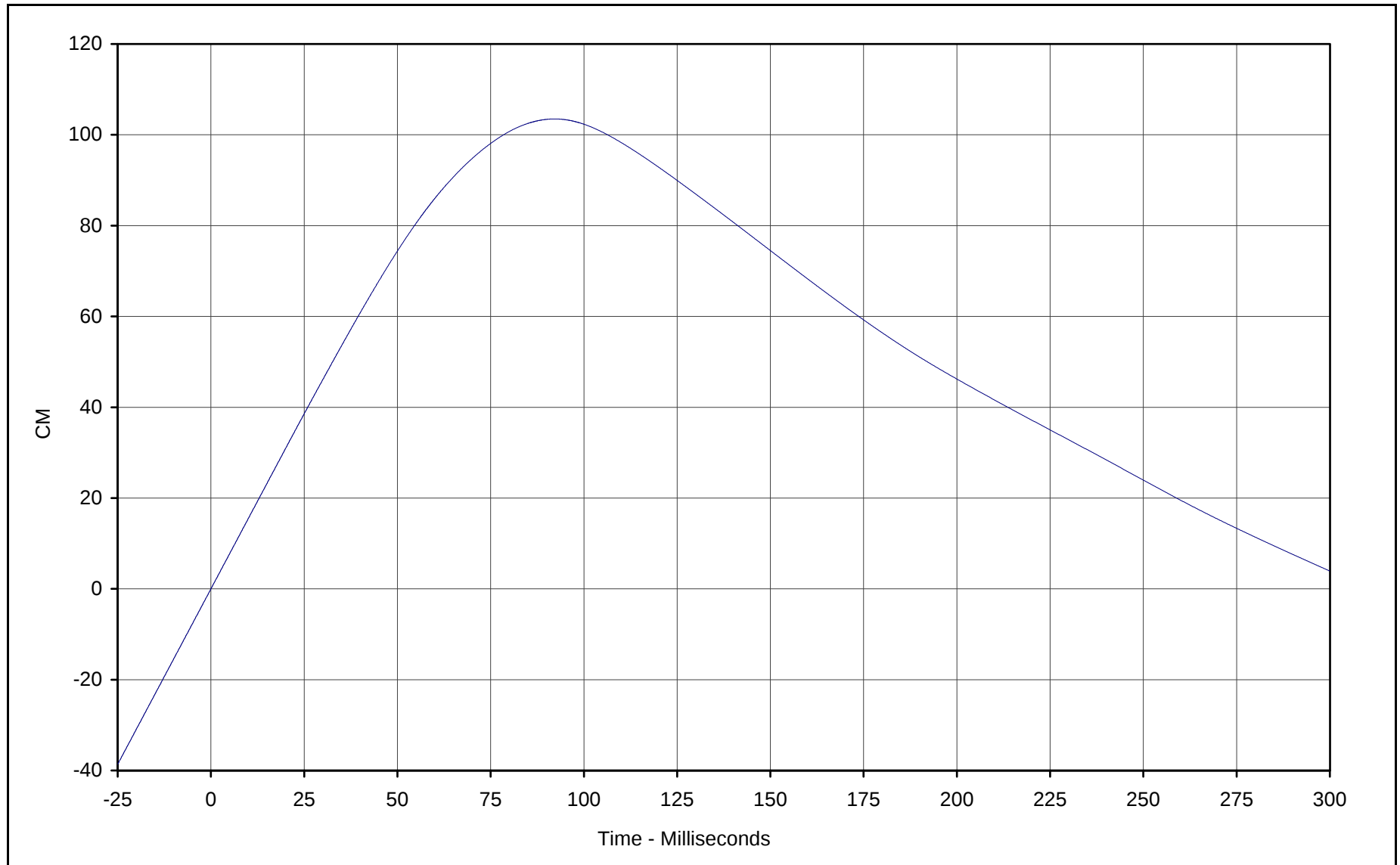
Curve Description: Driver Chest Primary X Velocity  
Maximum Value: 55.8 at 9.6 Milliseconds  
Minimum Value: -22.7 at 147.4 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-013

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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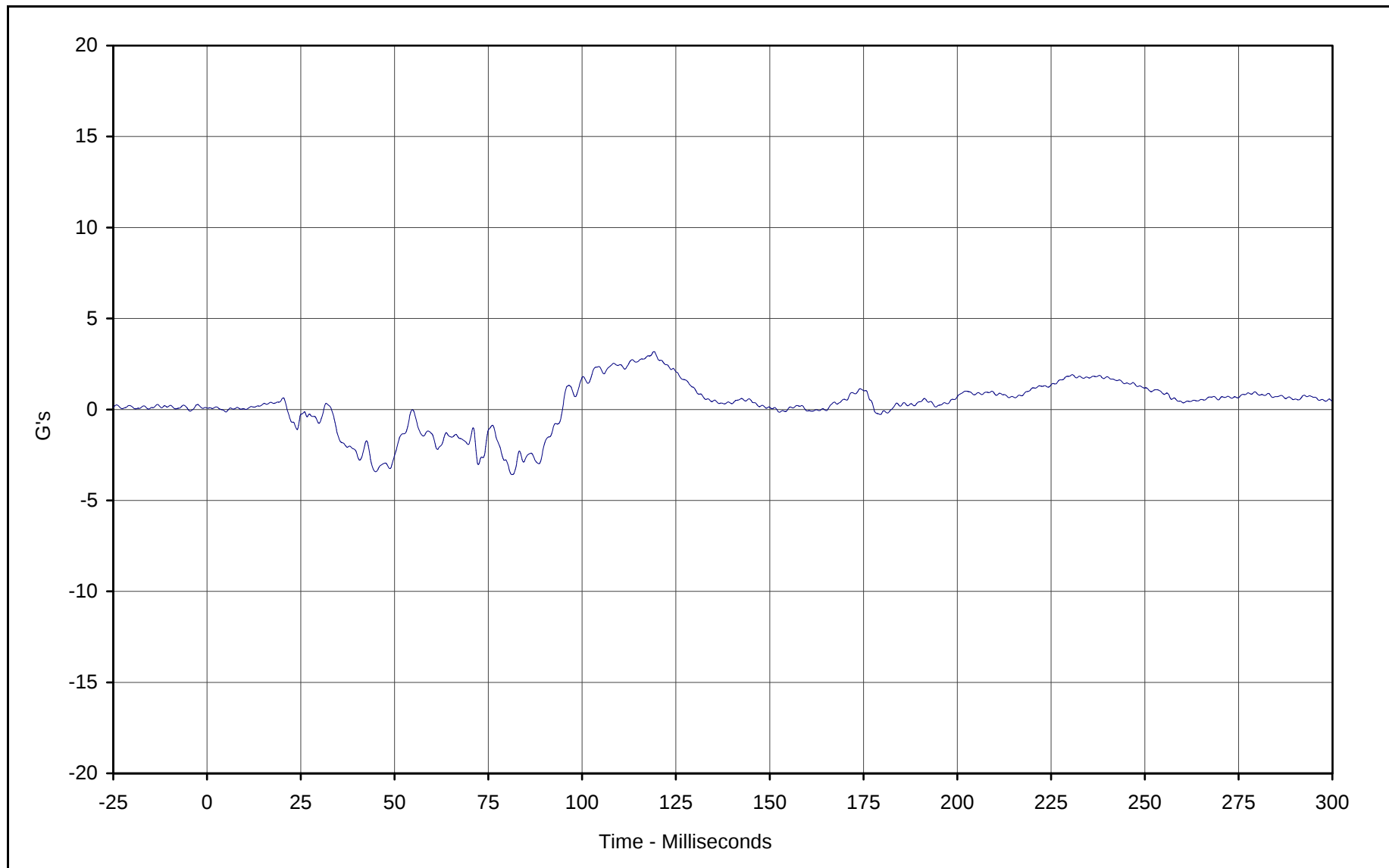


Curve Description: Driver Chest Primary X Displ.  
Maximum Value: 103.5 at 92.1 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-013

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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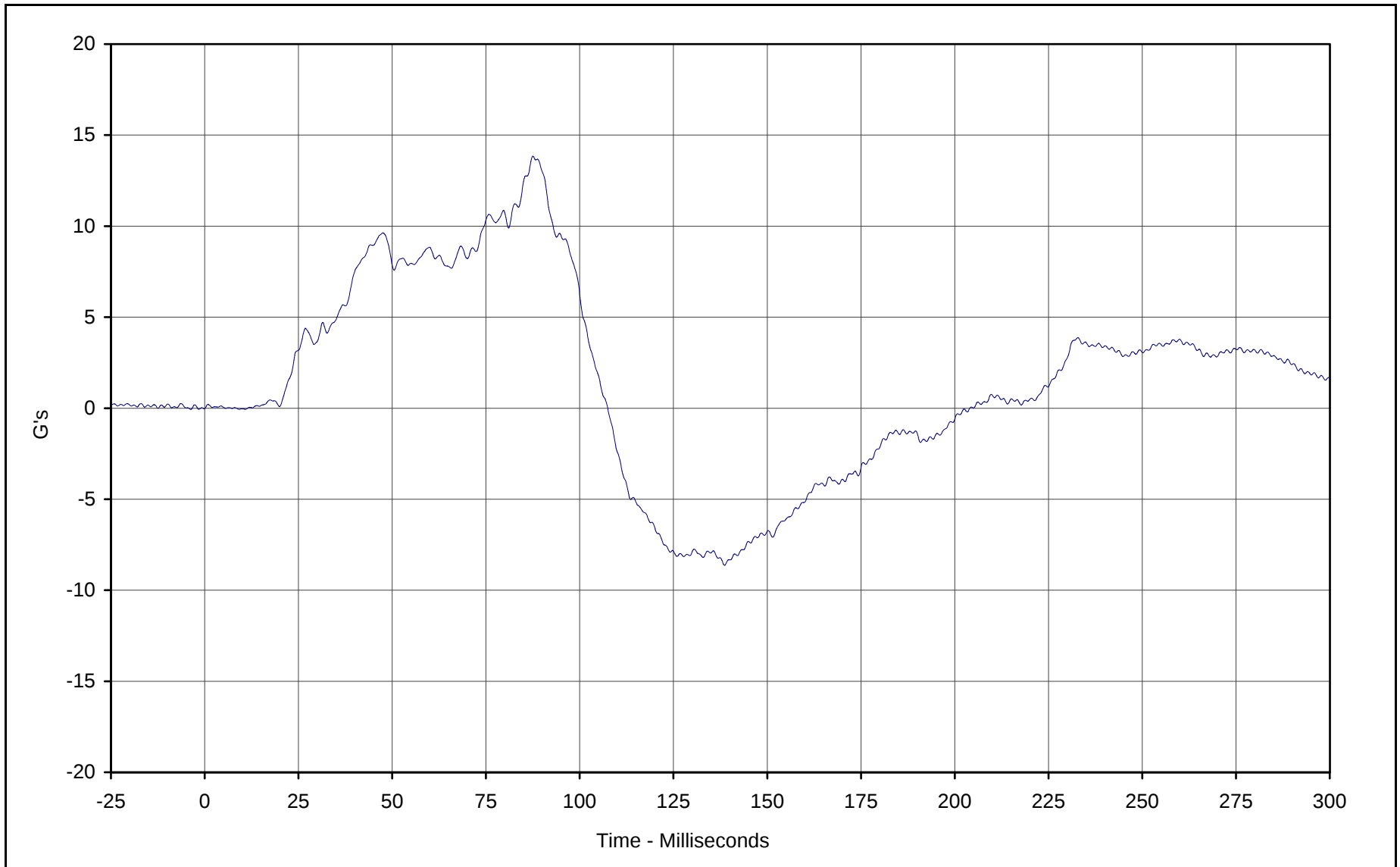


Curve Description: Driver Chest Primary Y  
Maximum Value: 3.2 at 119.1 Milliseconds  
Minimum Value: -3.6 at 81.3 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-014

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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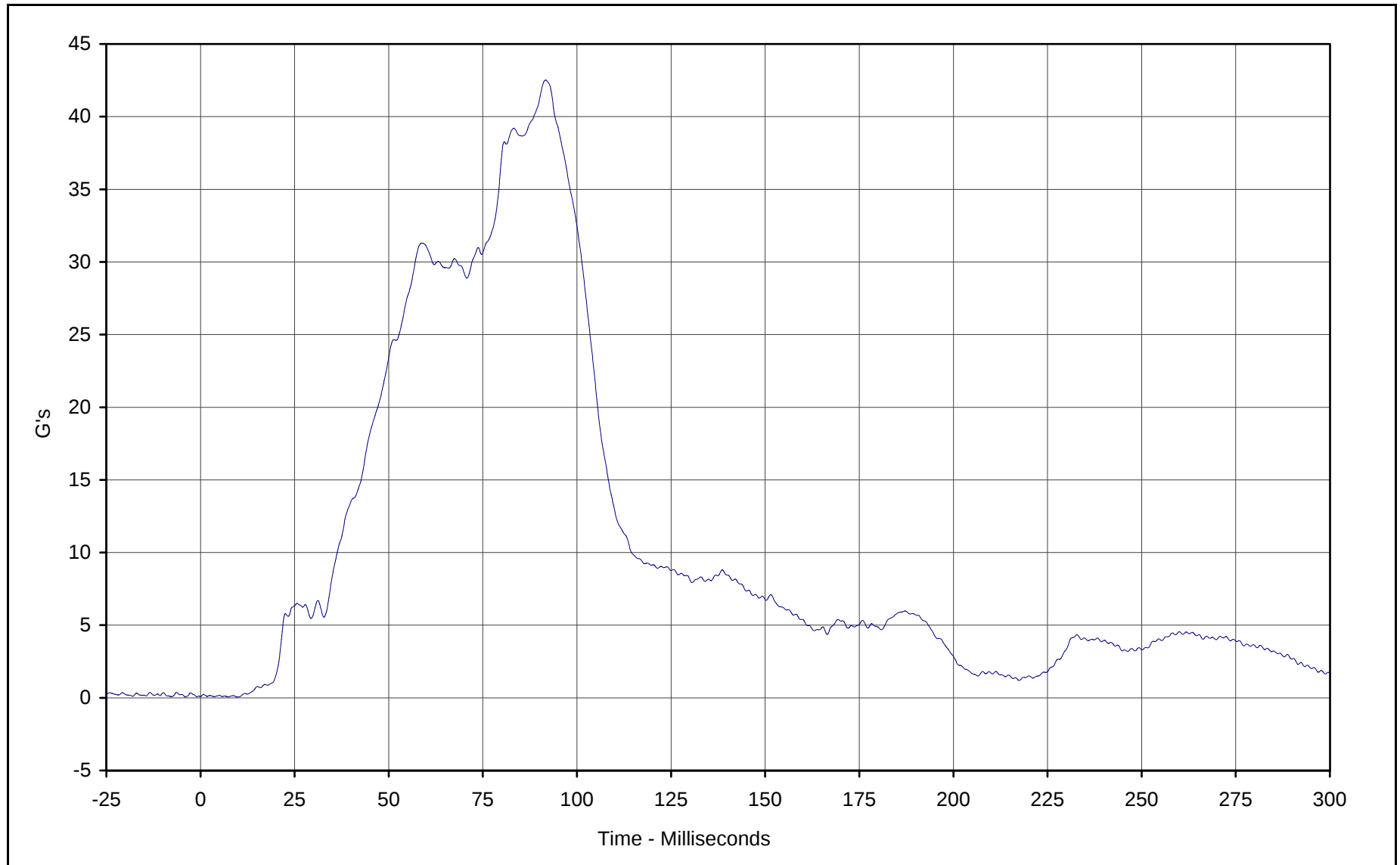


Curve Description: Driver Chest Primary Z  
Maximum Value: 13.8 at 87.5 Milliseconds  
Minimum Value: -8.6 at 138.6 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-015

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



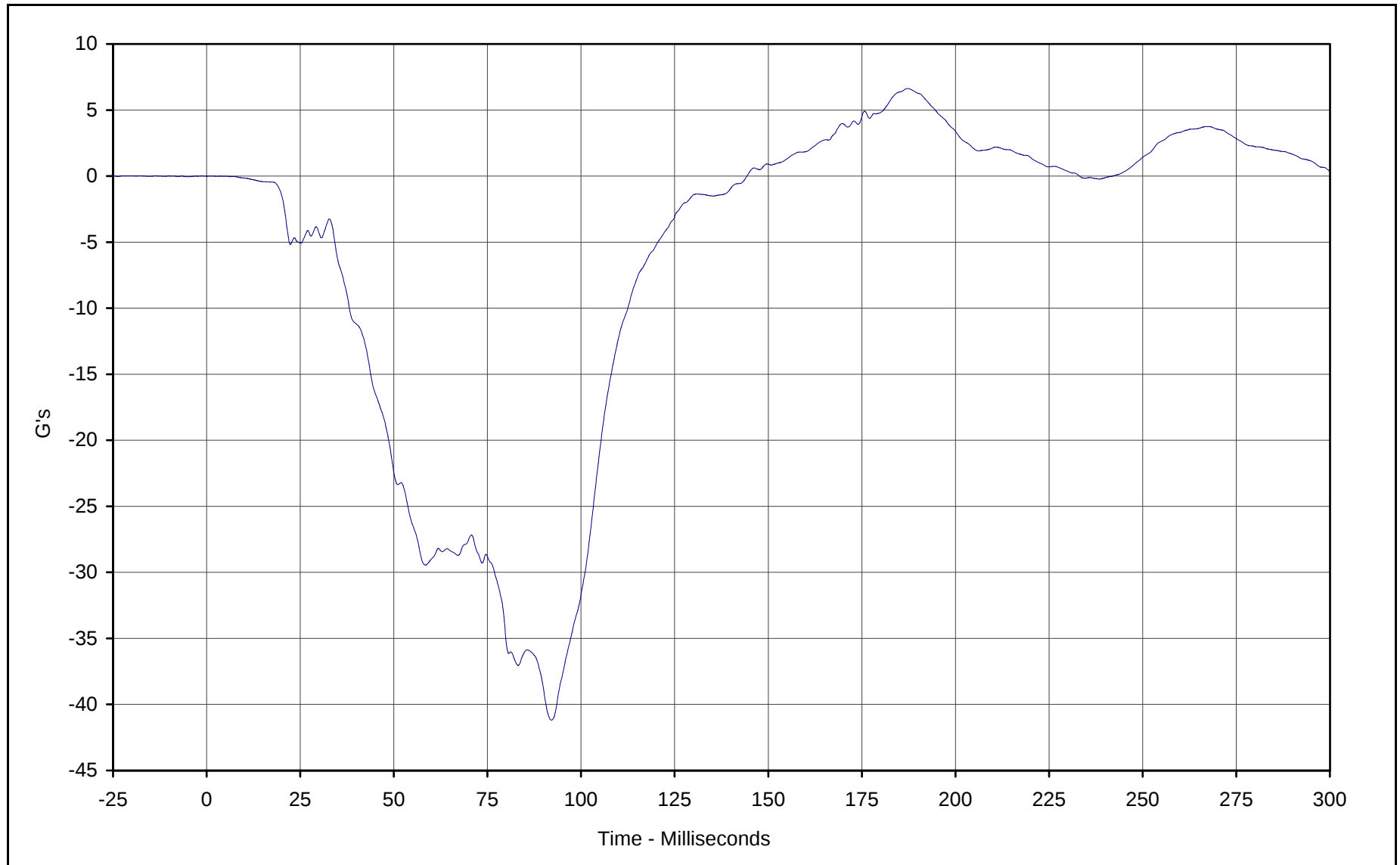
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Curve Description: Driver Chest Resultant Primary  
Maximum Value: 42.5 at 91.7 Milliseconds  
Minimum Value: 0.1 at 9.6 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: RES-013

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



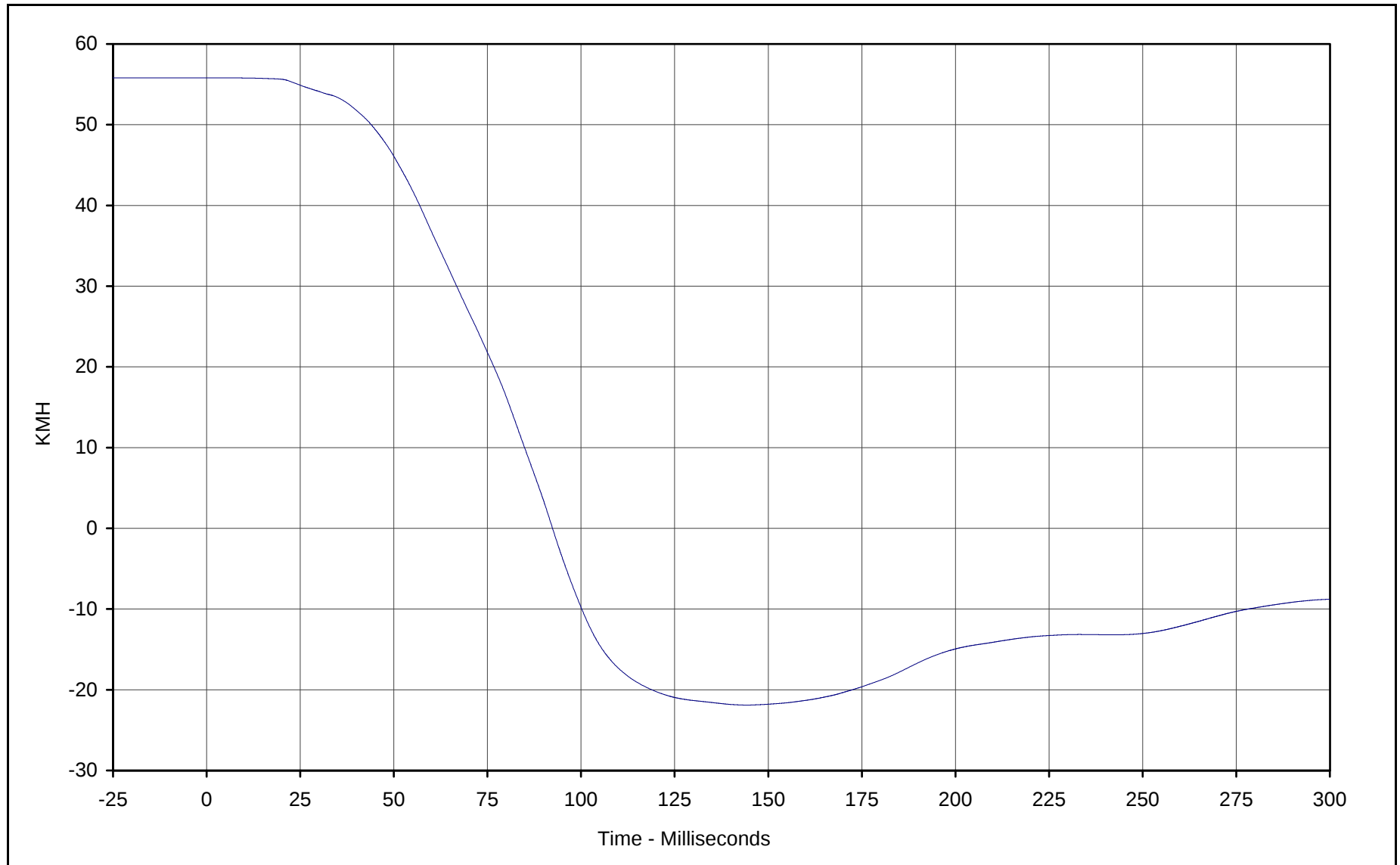


Curve Description: Driver Chest Redundant X  
Maximum Value: 6.6 at 187.2 Milliseconds  
Minimum Value: -41.2 at 92.1 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-016

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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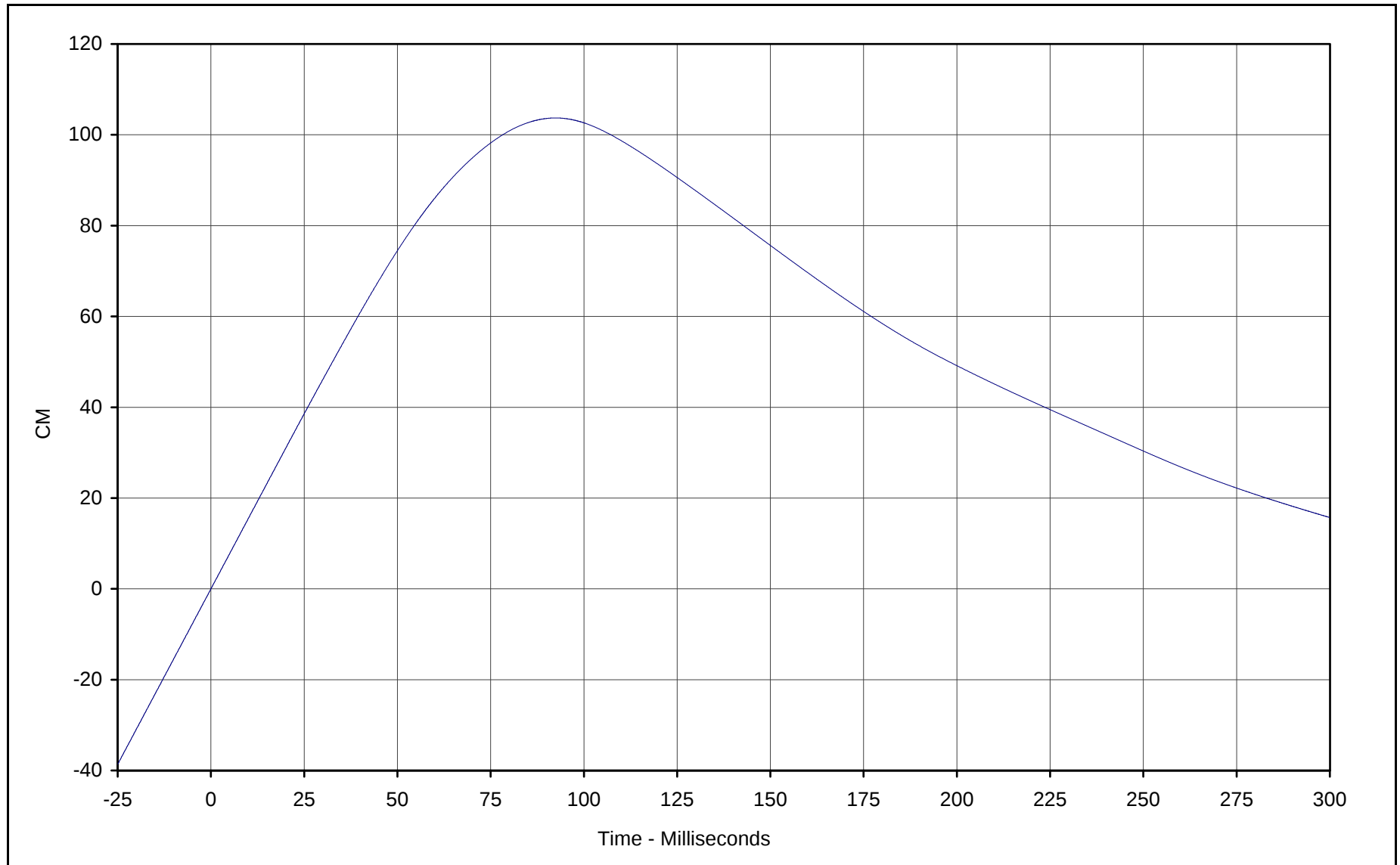


Curve Description: Driver Chest Redundant X Velocity  
Maximum Value: 55.8 at 0.0 Milliseconds  
Minimum Value: -21.9 at 144.3 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-016

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

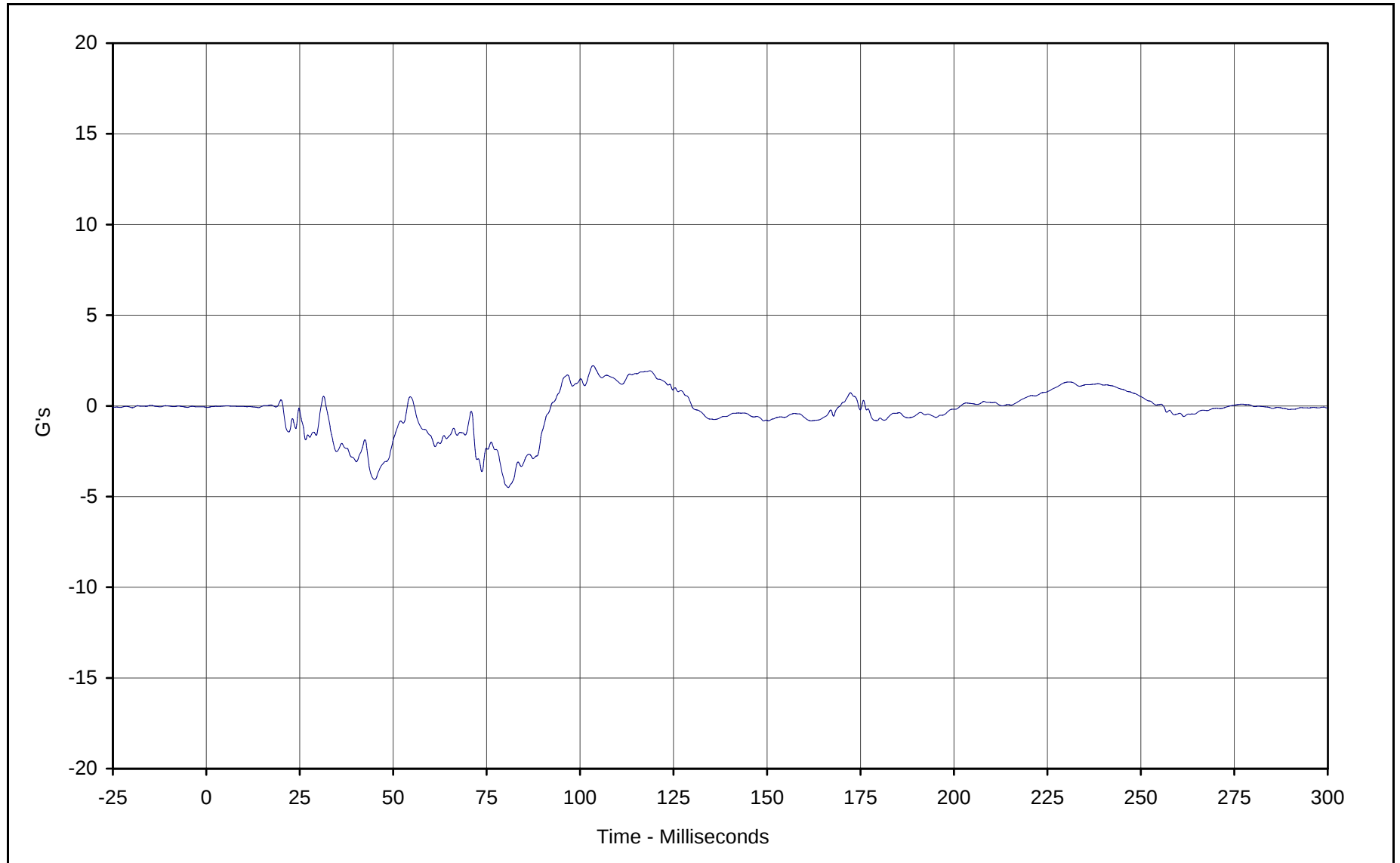


Curve Description: Driver Chest Redundant X Displ.  
Maximum Value: 103.7 at 92.4 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-016

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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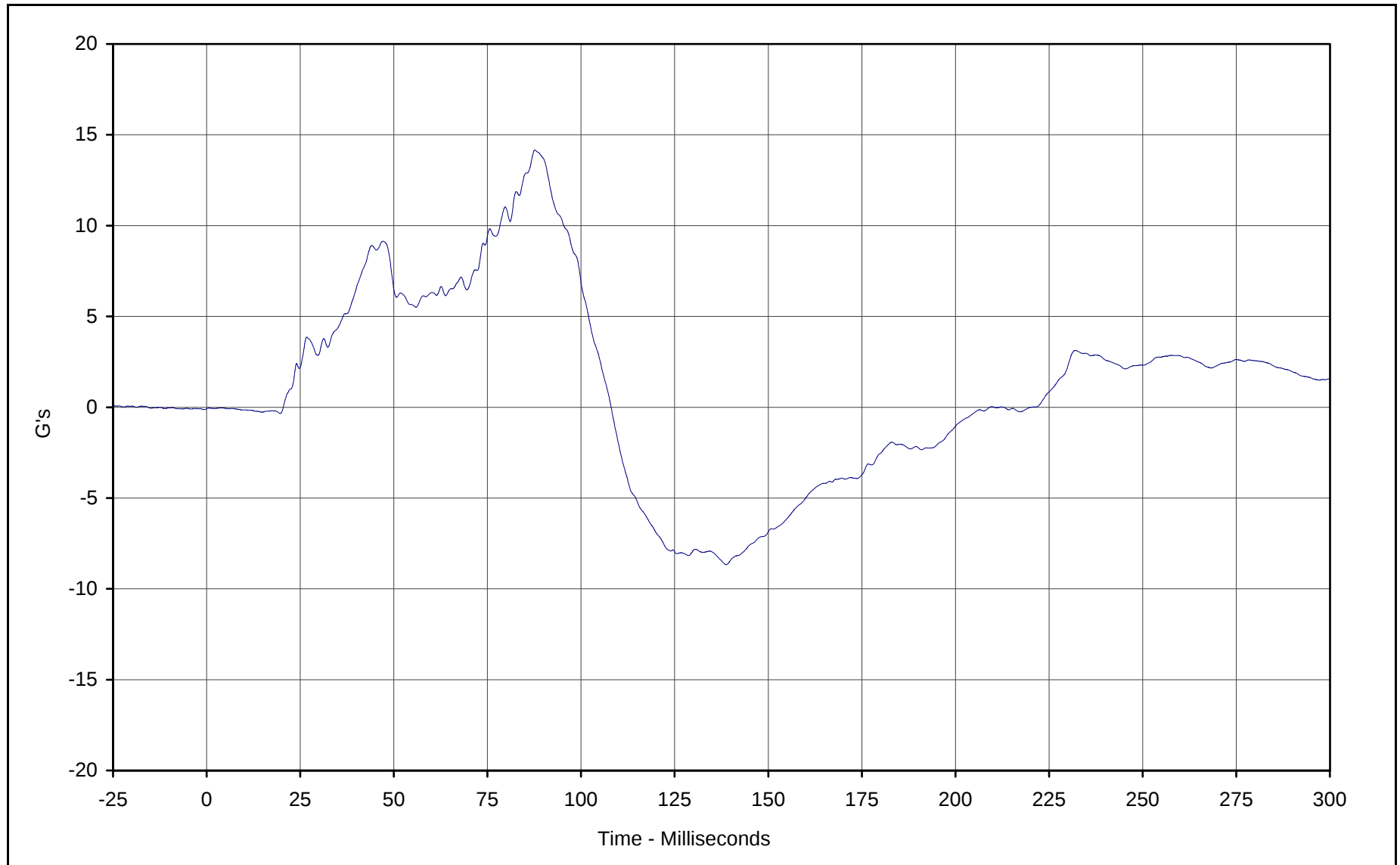


Curve Description: Driver Chest Redundant Y  
Maximum Value: 2.2 at 103.5 Milliseconds  
Minimum Value: -4.5 at 80.8 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-017

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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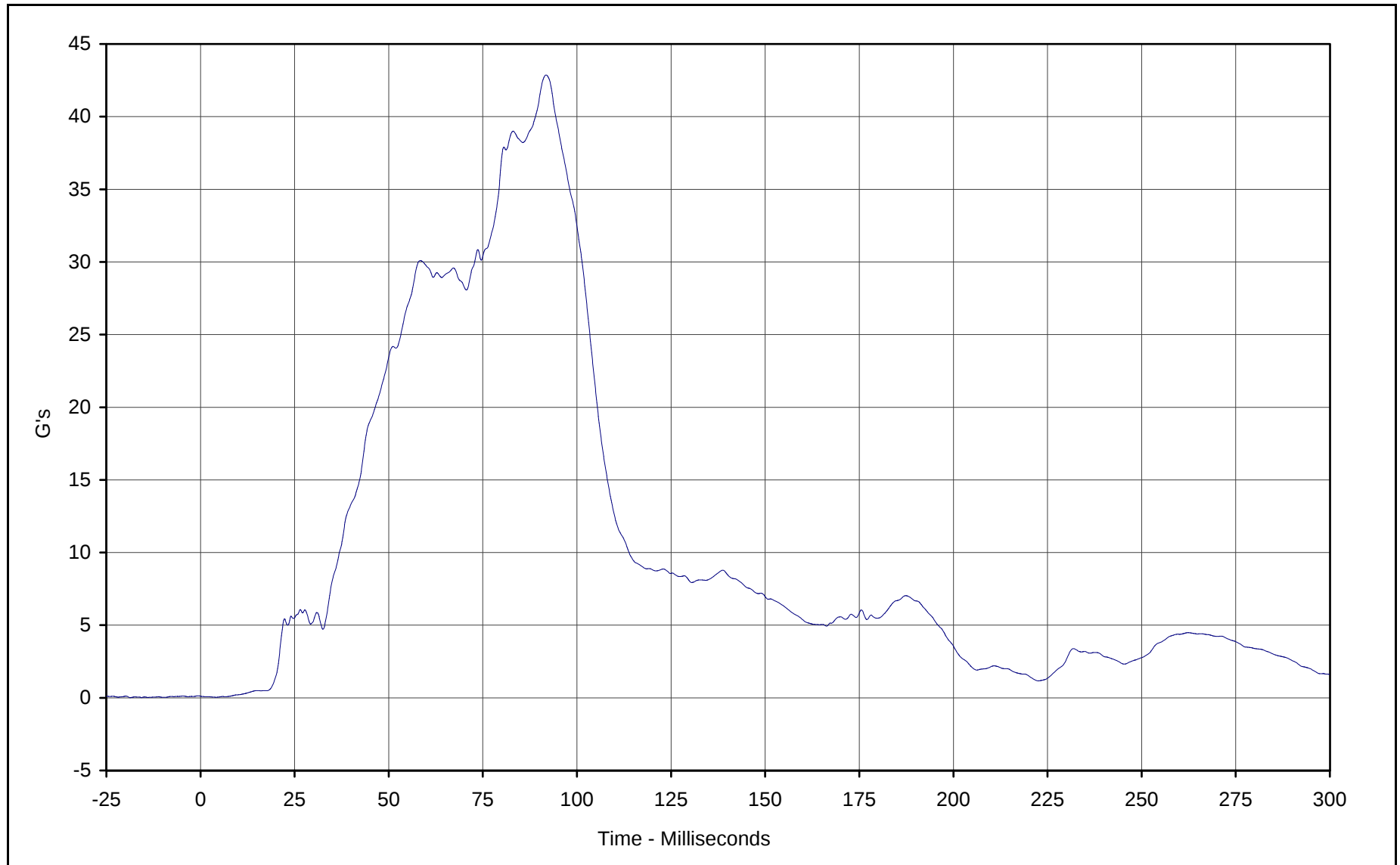


Curve Description: Driver Chest Redundant Z  
Maximum Value: 14.2 at 87.7 Milliseconds  
Minimum Value: -8.7 at 138.8 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-018

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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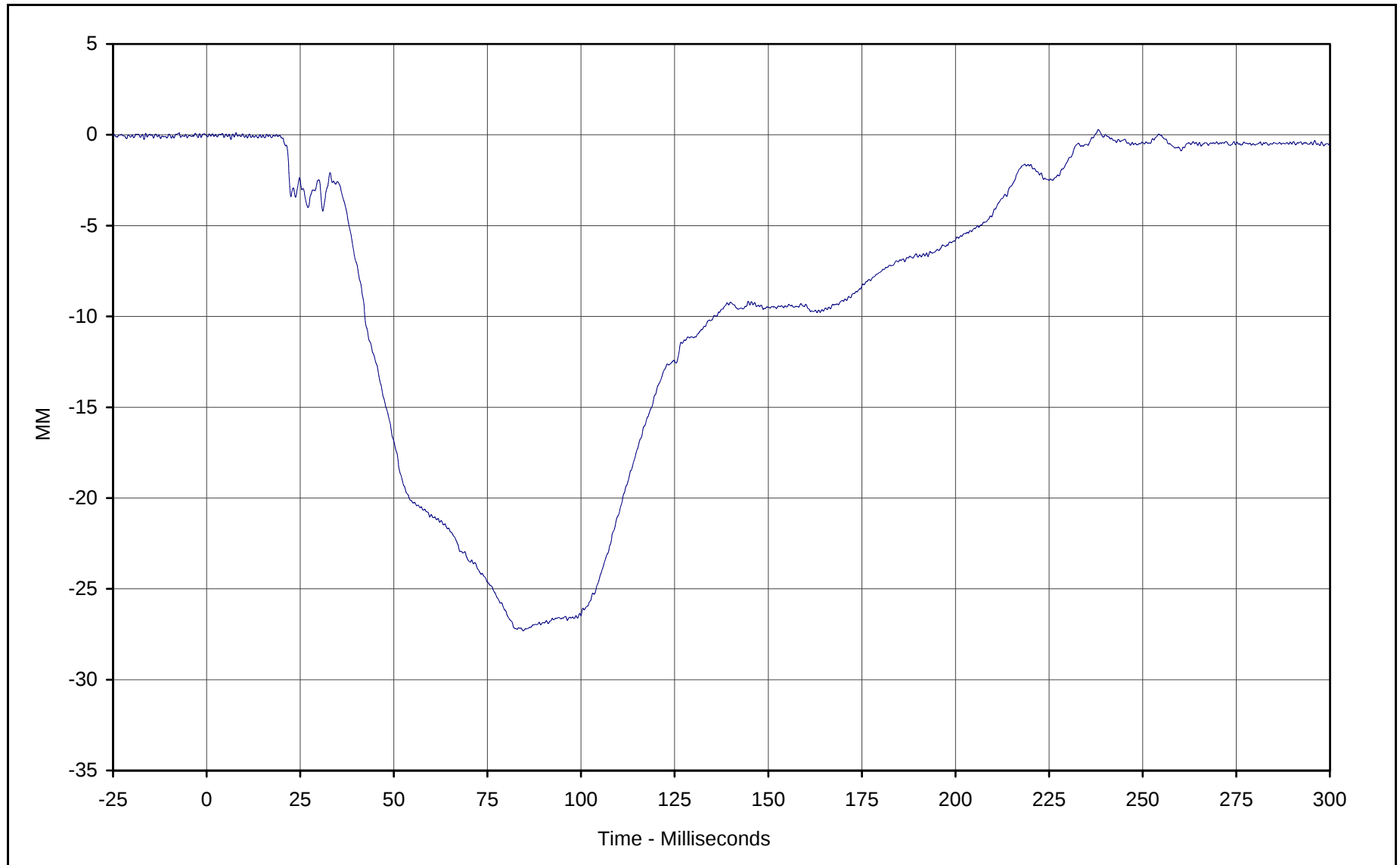
Curve Description: Driver Chest Resultant Redundant  
 Maximum Value: 42.9 at 91.8 Milliseconds  
 Minimum Value: 0.0 at 4.2 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 5/8/01  
 Curve Number: RES-016

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
 Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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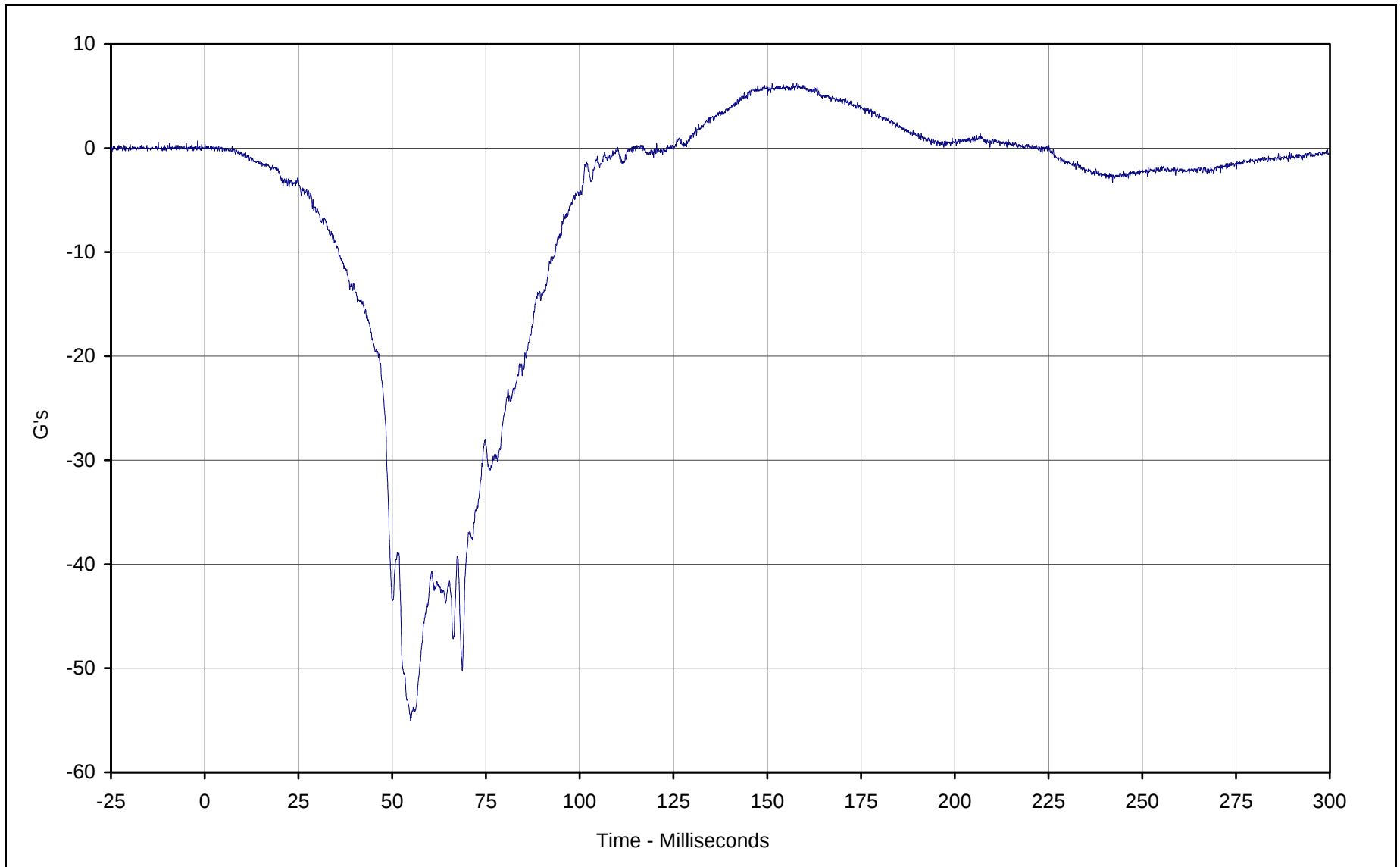


Curve Description: Driver Chest Displacement X  
Maximum Value: 0.3 at 238.1 Milliseconds  
Minimum Value: -27.3 at 84.6 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-019

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Driver Pelvis X

Maximum Value: 6.2 at 151.3 Milliseconds

Minimum Value: -55.1 at 54.9 Milliseconds

SAE Filter Class: 1000

Date of Test: 5/8/01

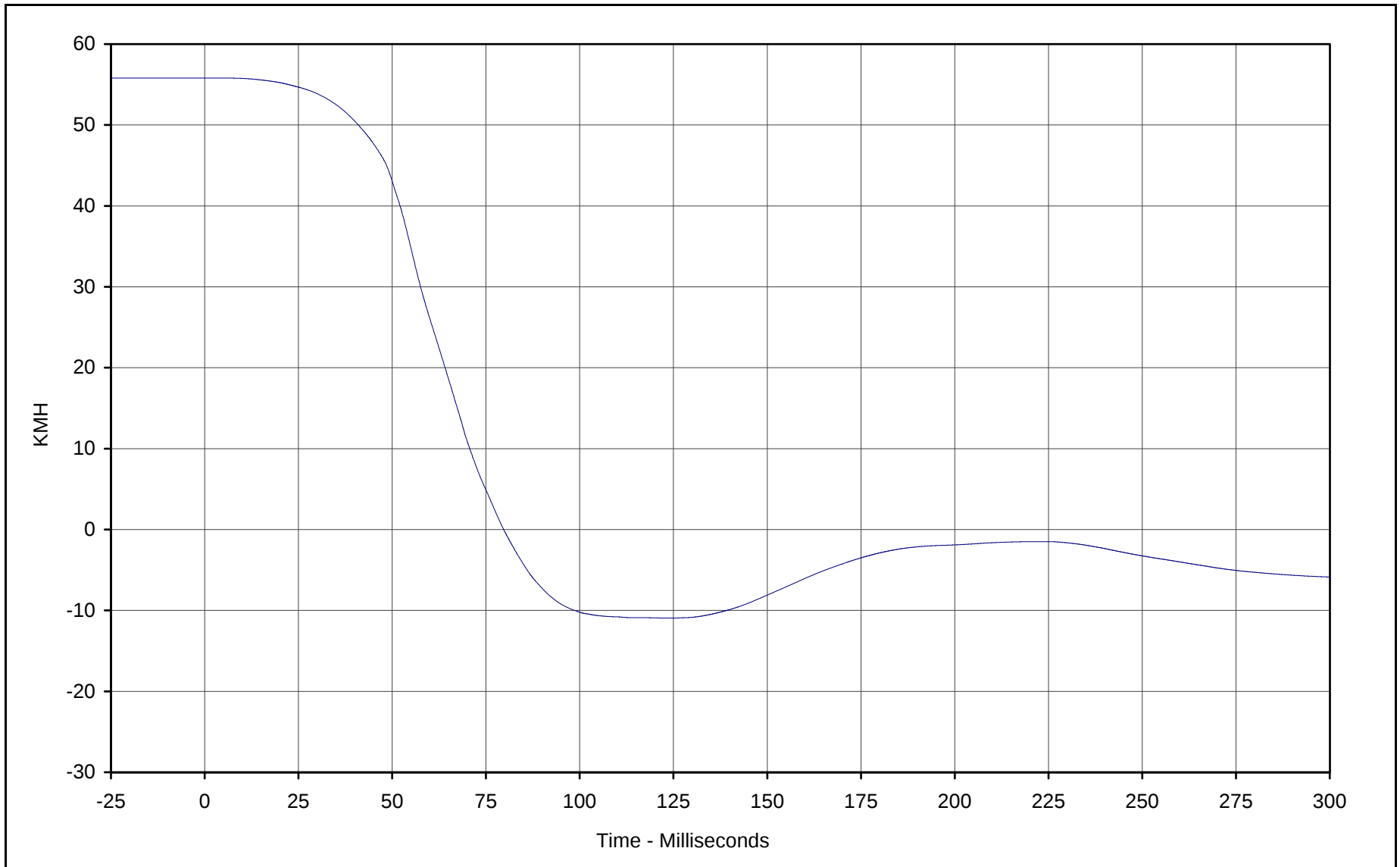
Curve Number: FIL-020

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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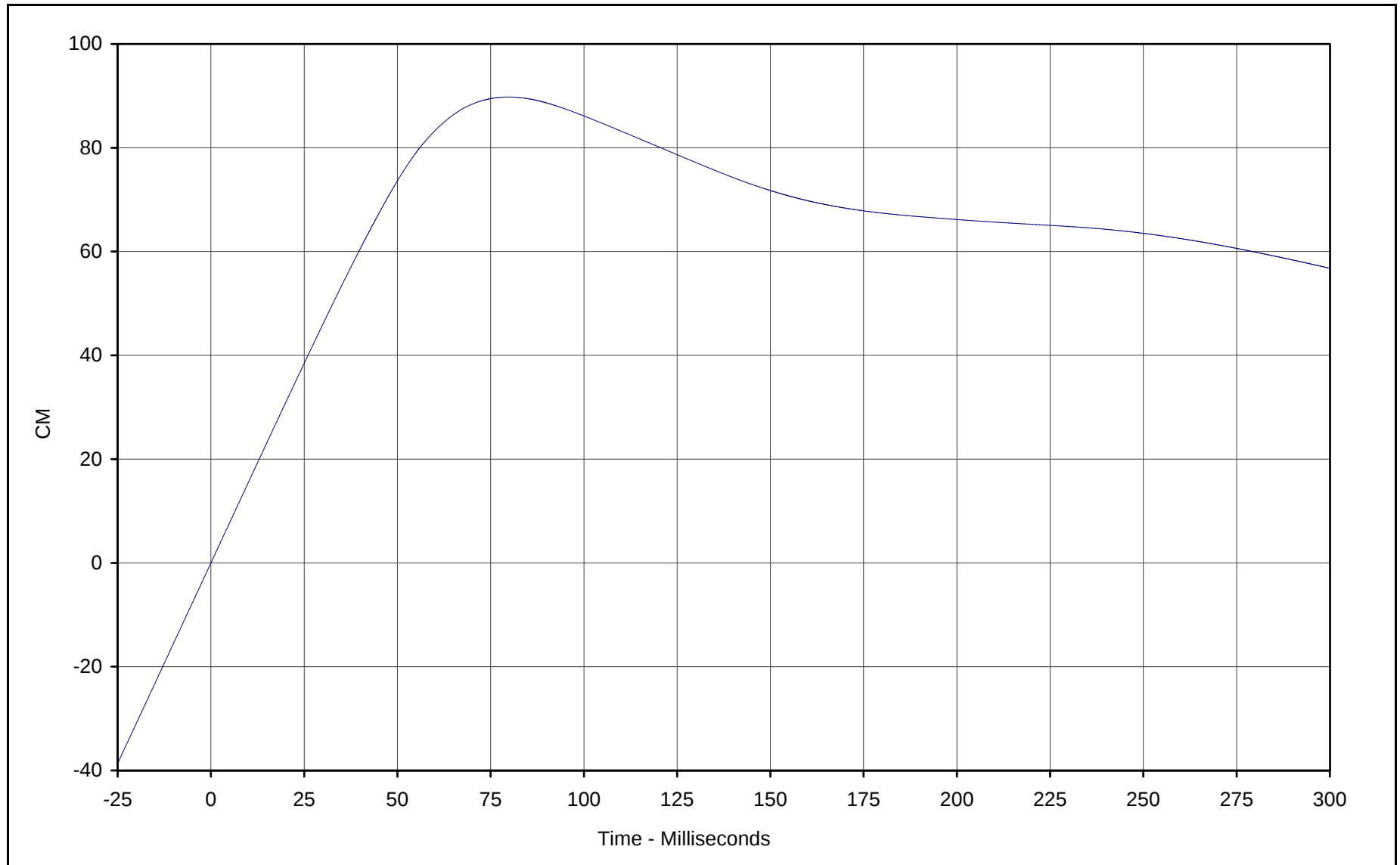


Curve Description: Driver Pelvis X Velocity  
Maximum Value: 55.8 at 2.8 Milliseconds  
Minimum Value: -11.0 at 123.7 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-020

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



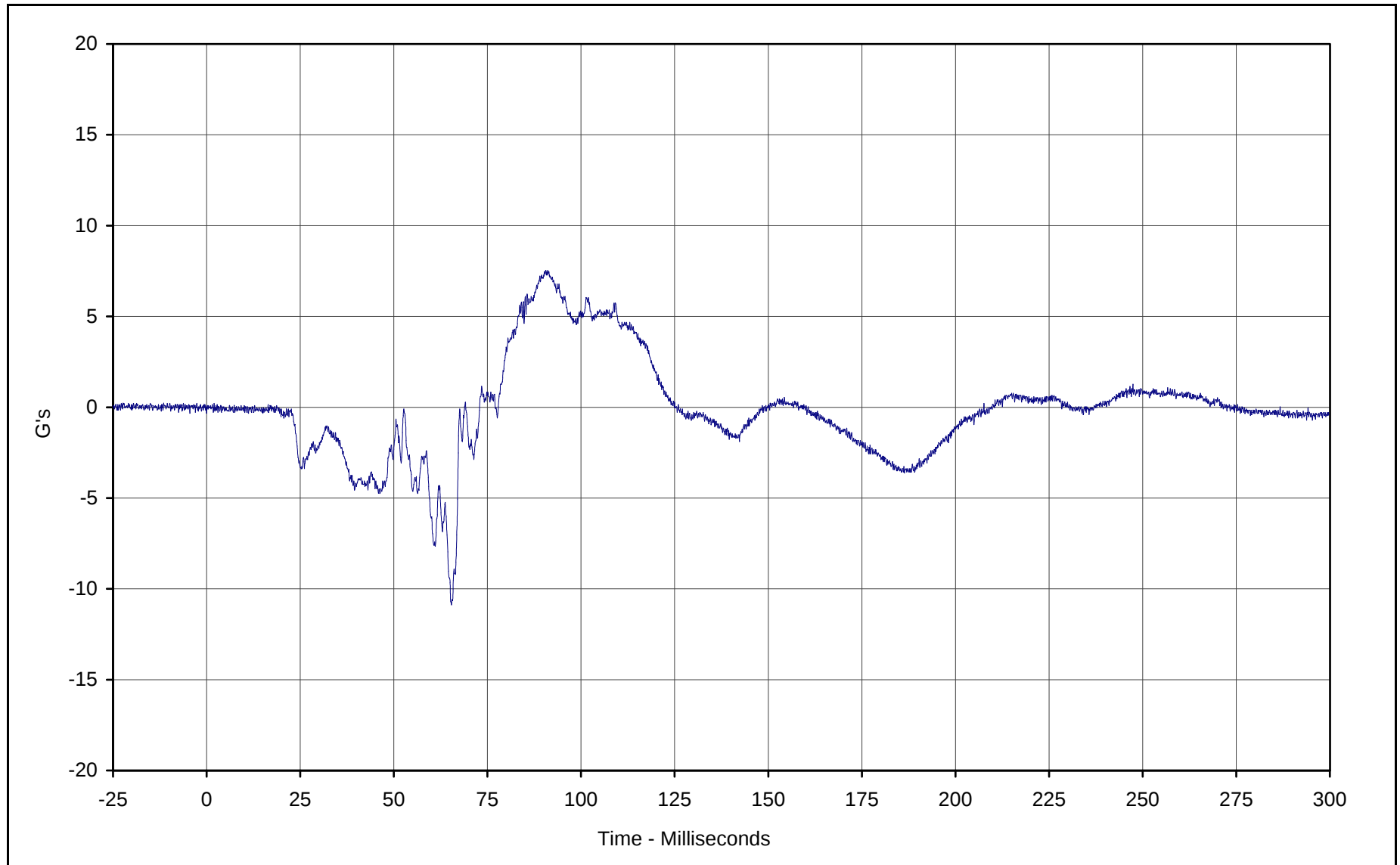
KAR21040-01



Curve Description: Driver Pelvis X Displ.  
Maximum Value: 89.8 at 79.7 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-020

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

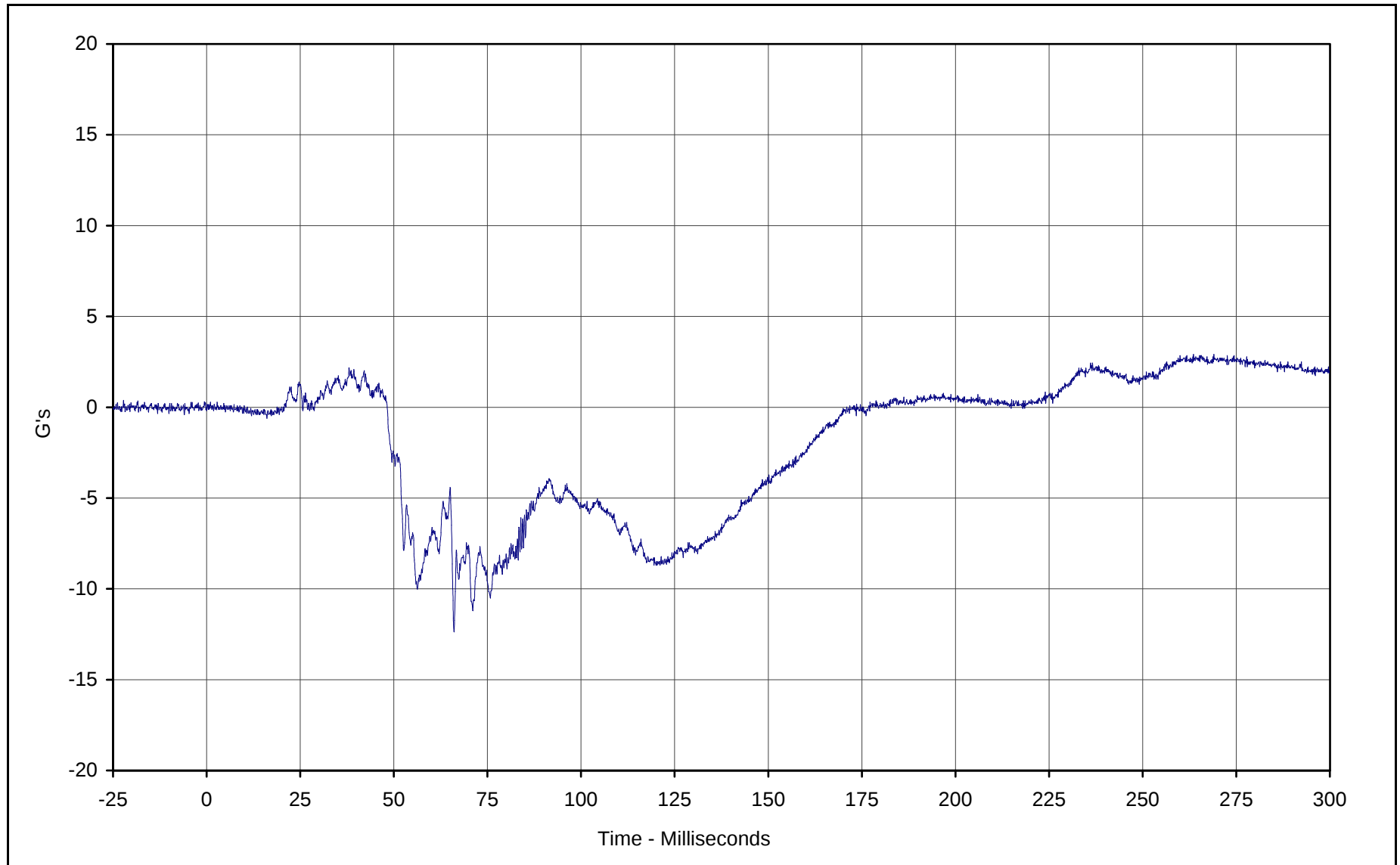




Curve Description: Driver Pelvis Y  
Maximum Value: 7.5 at 90.6 Milliseconds  
Minimum Value: -10.9 at 65.4 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-021

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

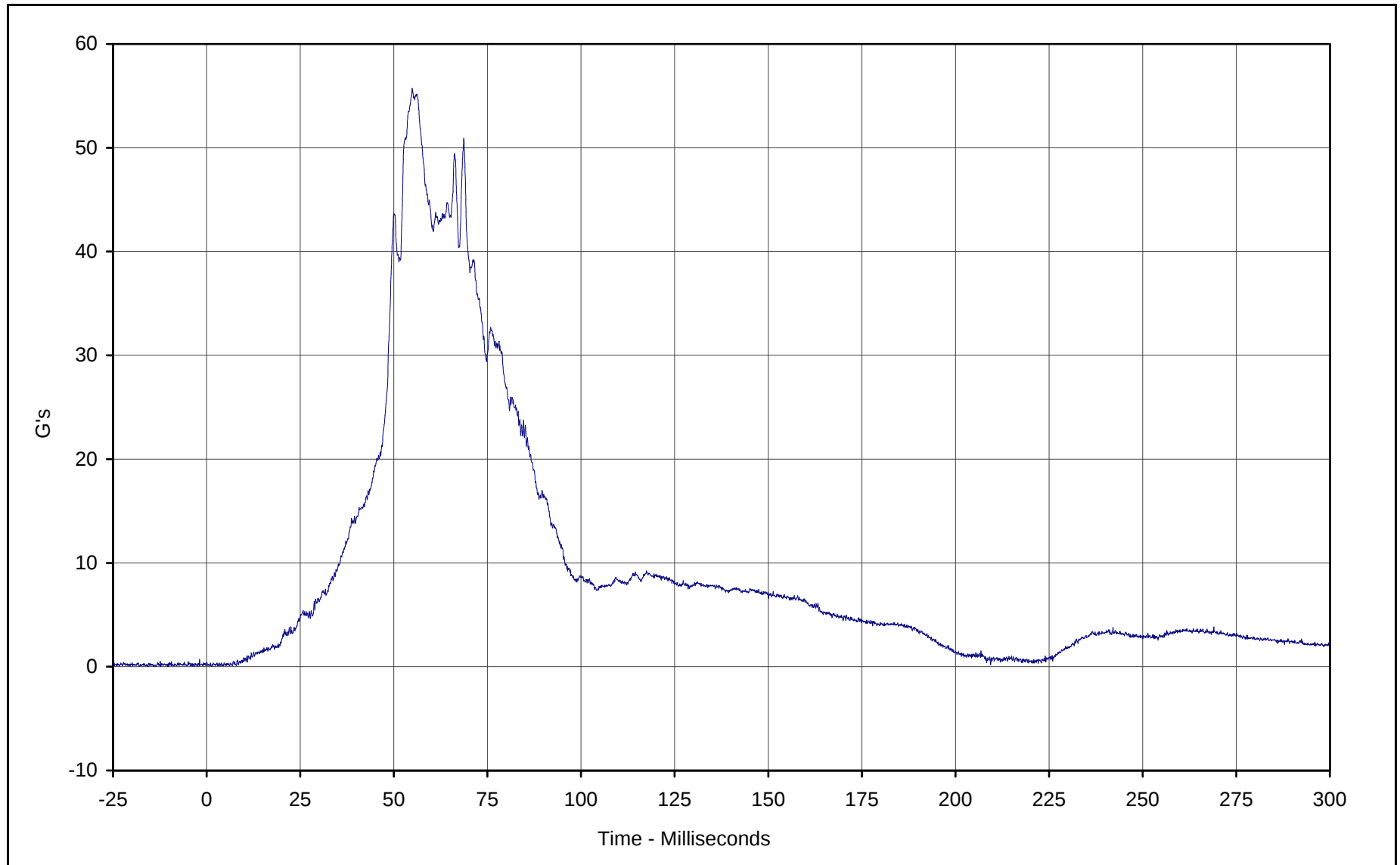




Curve Description: Driver Pelvis Z  
Maximum Value: 2.9 at 263.6 Milliseconds  
Minimum Value: -12.4 at 66.1 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-022

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



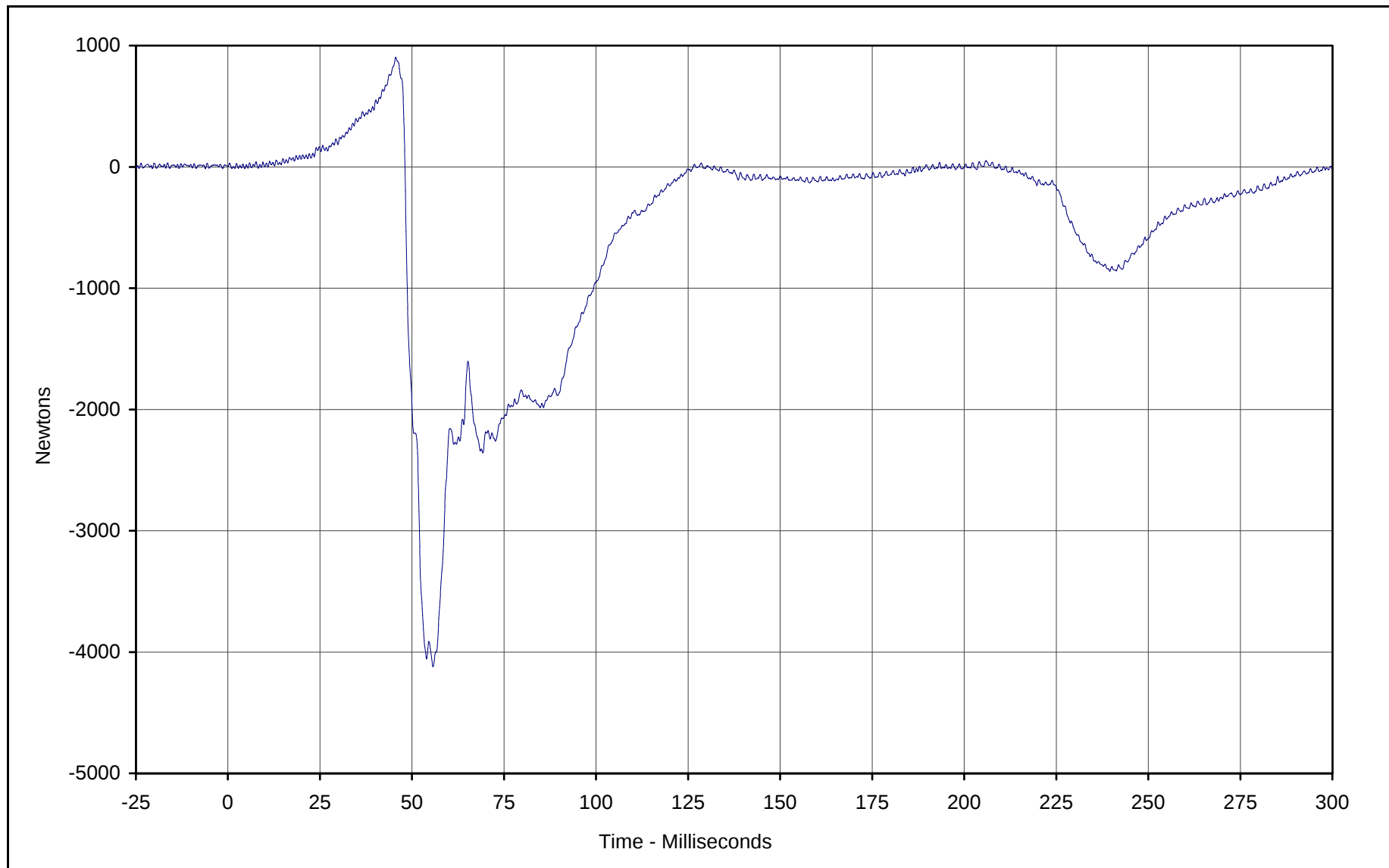


Curve Description: Driver Pelvis Resultant  
Maximum Value: 55.7 at 54.9 Milliseconds  
Minimum Value: 0.0 at 1.3 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-020

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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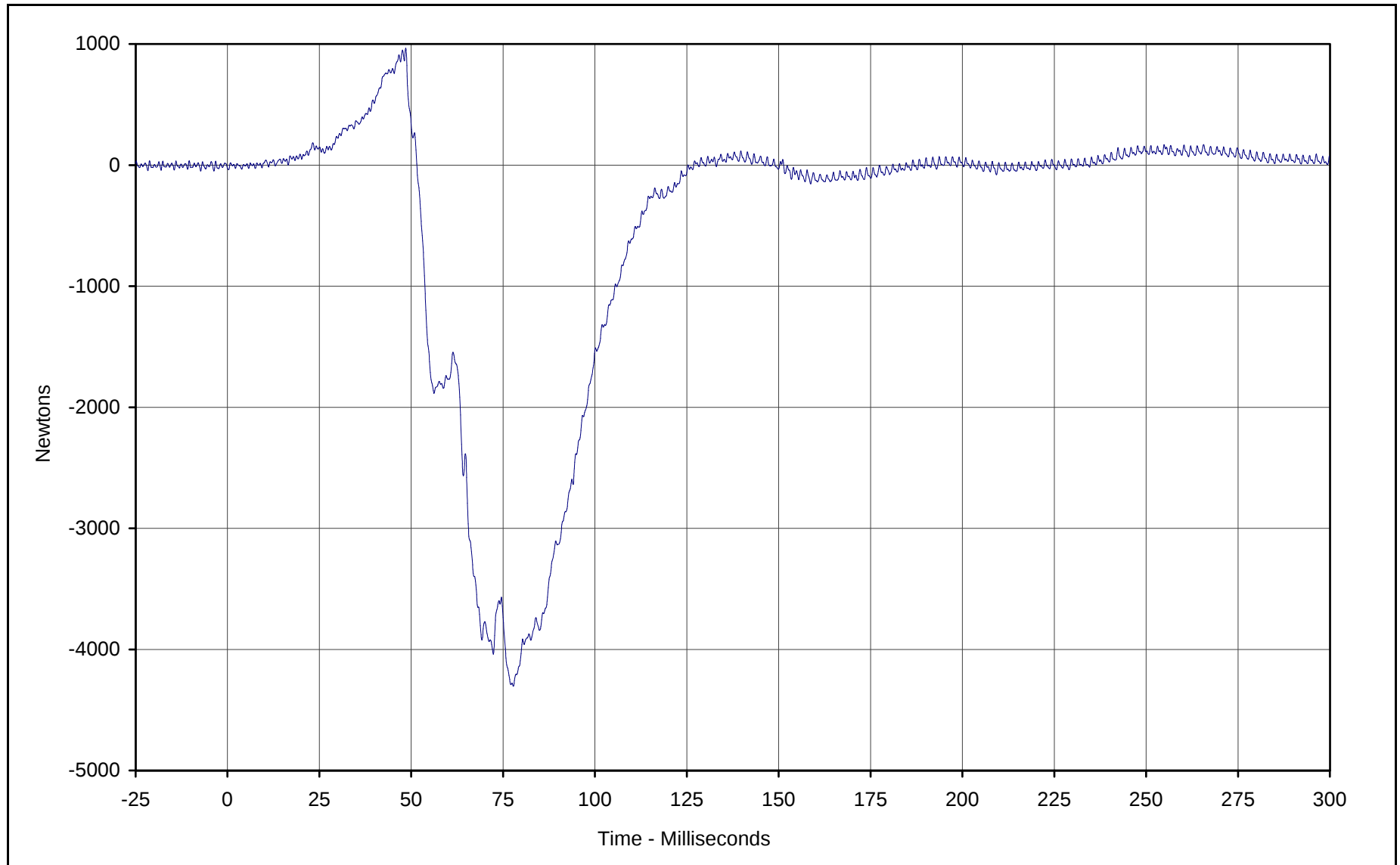
Curve Description: Driver Left Femur Force  
Maximum Value: 902.8 at 45.6 Milliseconds  
Minimum Value: -4121.2 at 55.7 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-023

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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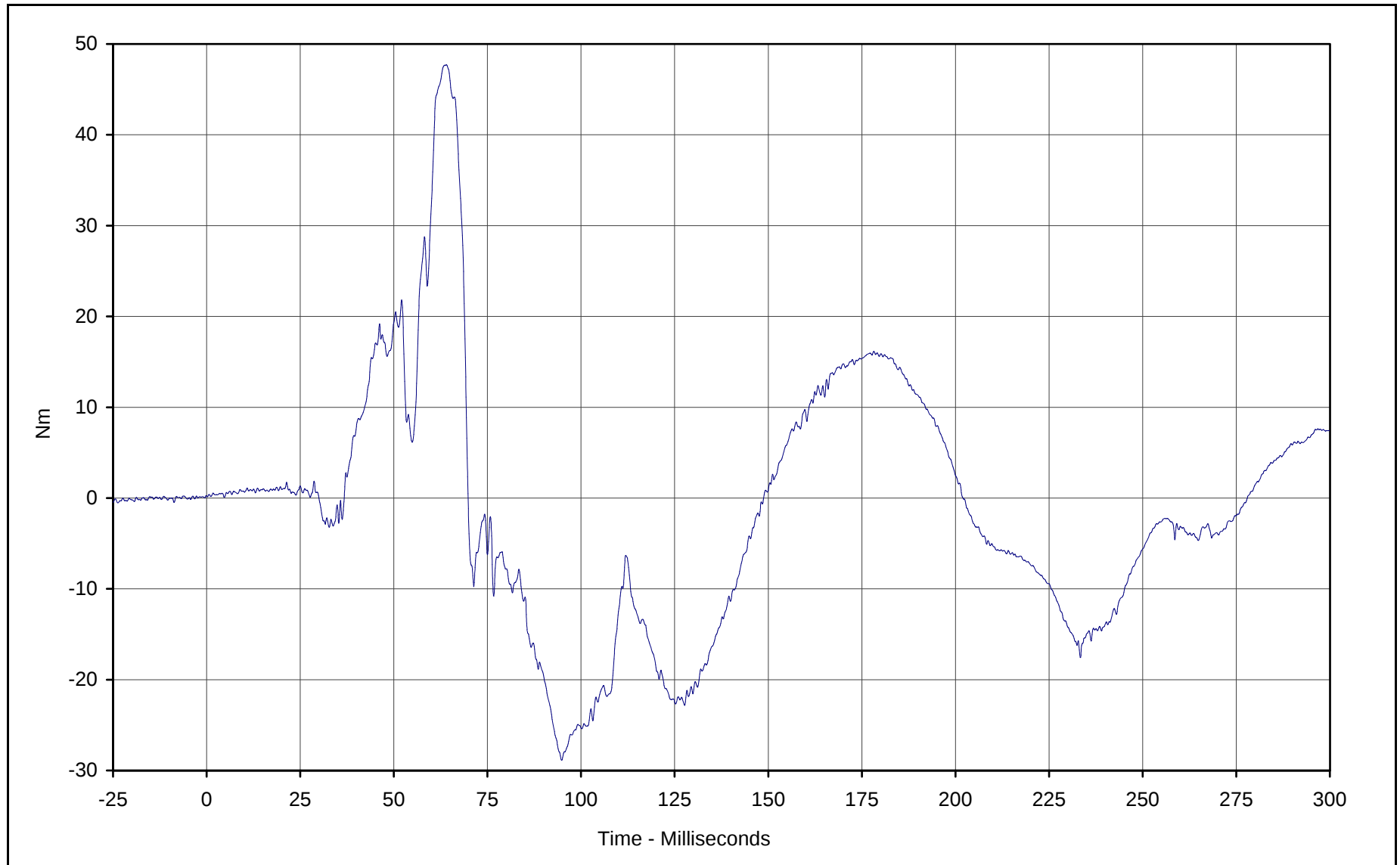
Curve Description: Driver Right Femur Force  
Maximum Value: 966.8 at 48.5 Milliseconds  
Minimum Value: -4304.3 at 77.8 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-024

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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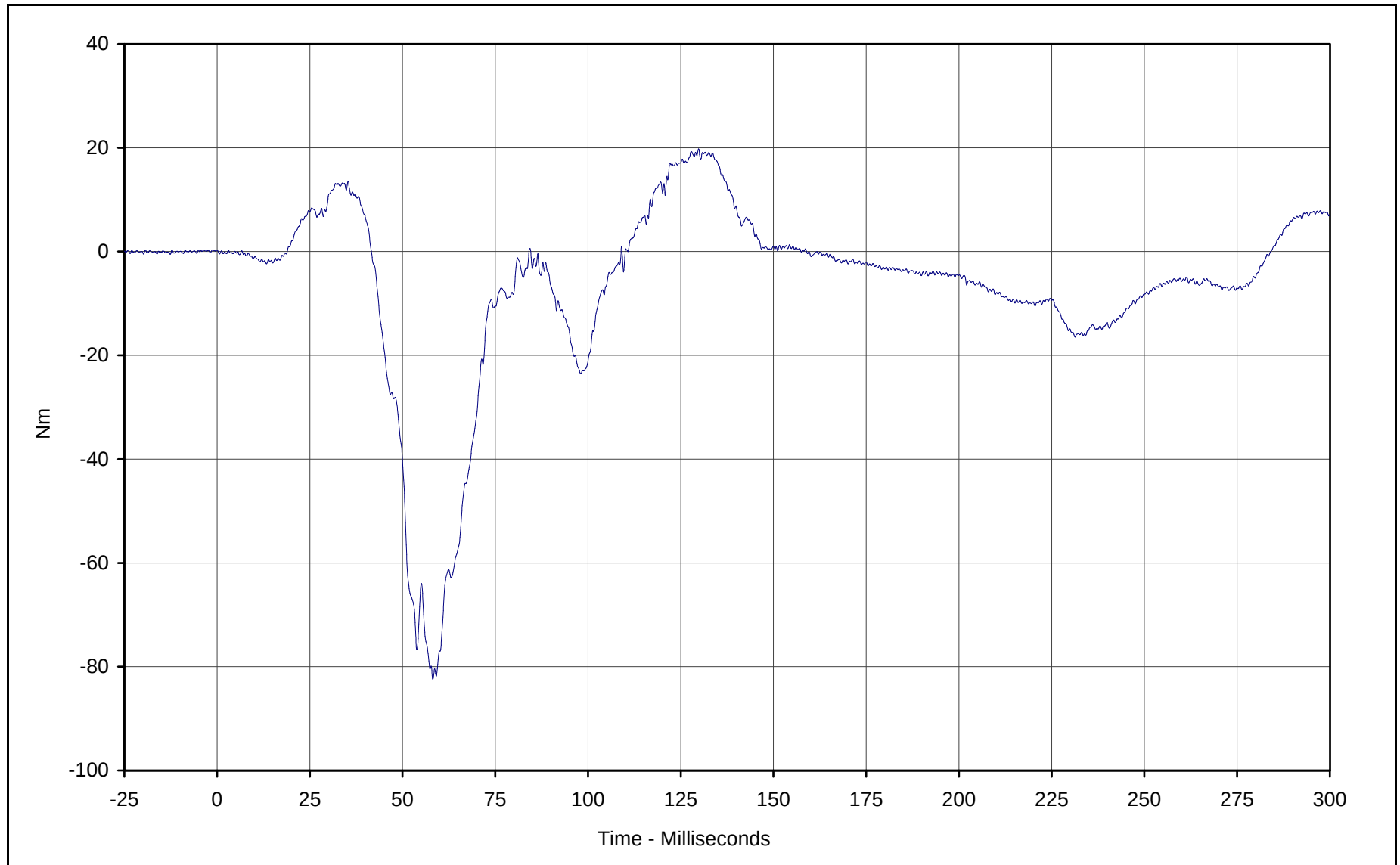
Curve Description: Driver Left Upper Tibia Moment X  
Maximum Value: 47.7 at 64.1 Milliseconds  
Minimum Value: -28.9 at 94.8 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-025

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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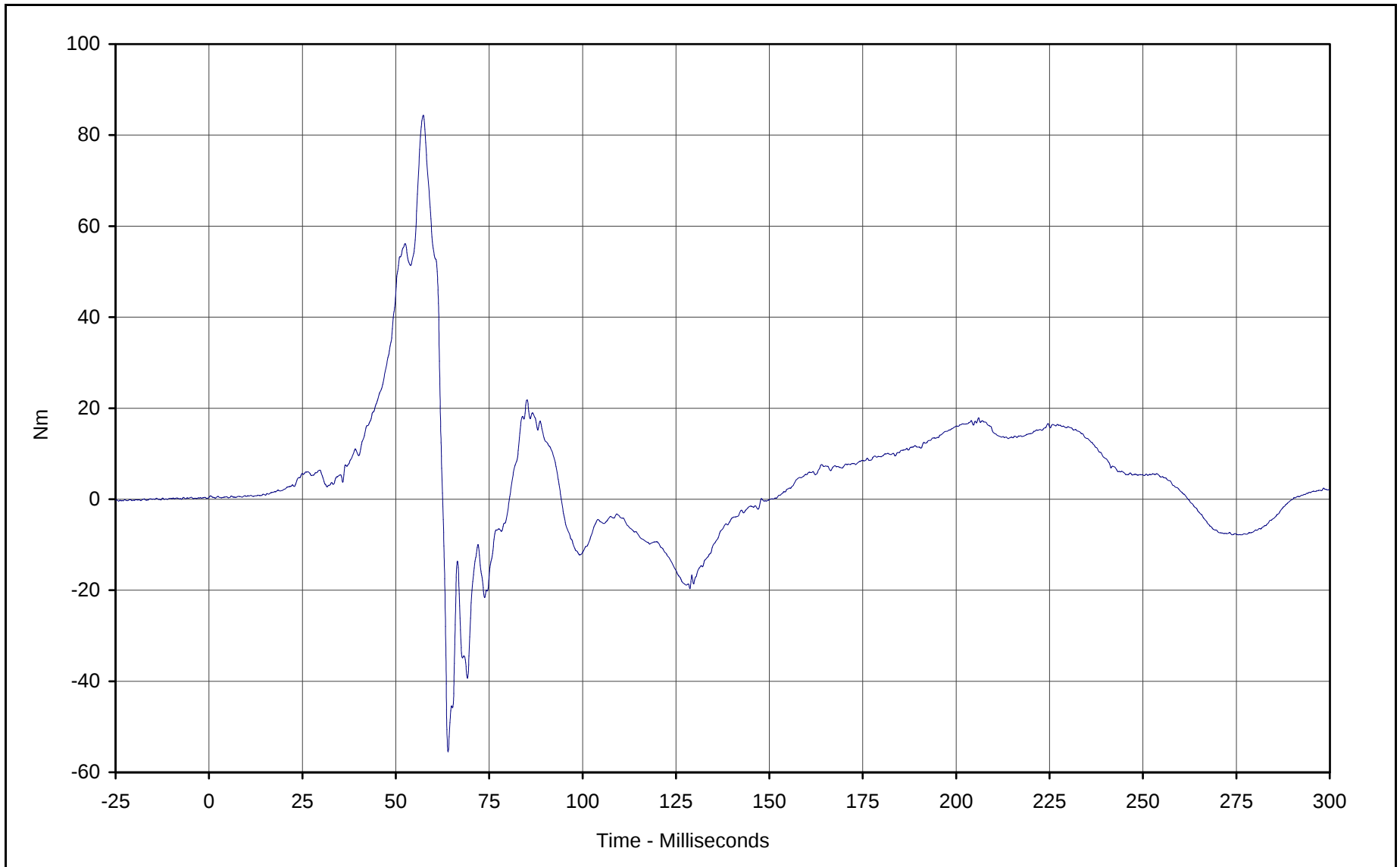


Curve Description: Driver Left Upper Tibia Moment Y  
Maximum Value: 19.8 at 129.8 Milliseconds  
Minimum Value: -82.5 at 58.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-026

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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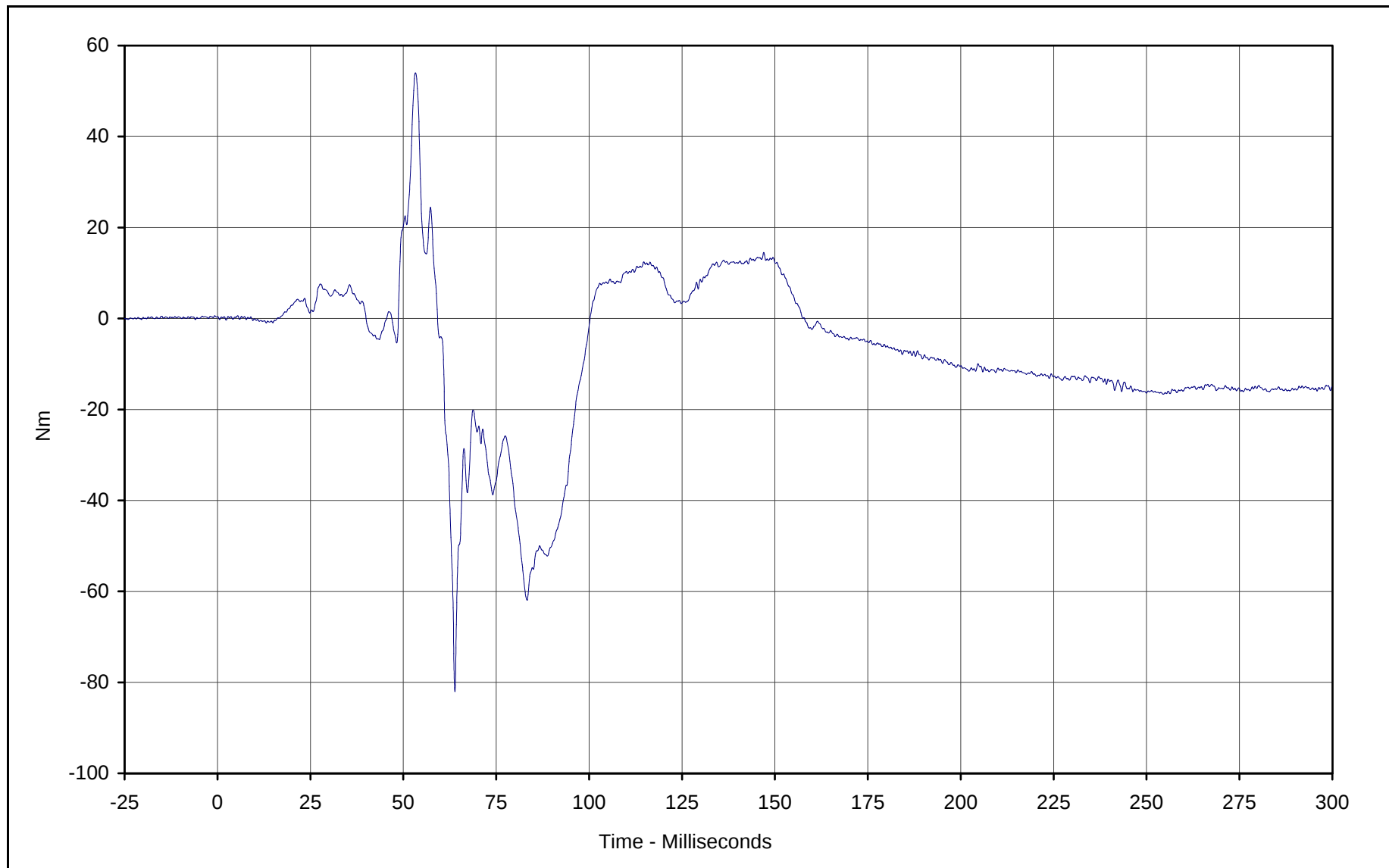


Curve Description: Driver Right Upper Tibia Moment X  
Maximum Value: 84.3 at 57.4 Milliseconds  
Minimum Value: -55.5 at 64.0 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-027

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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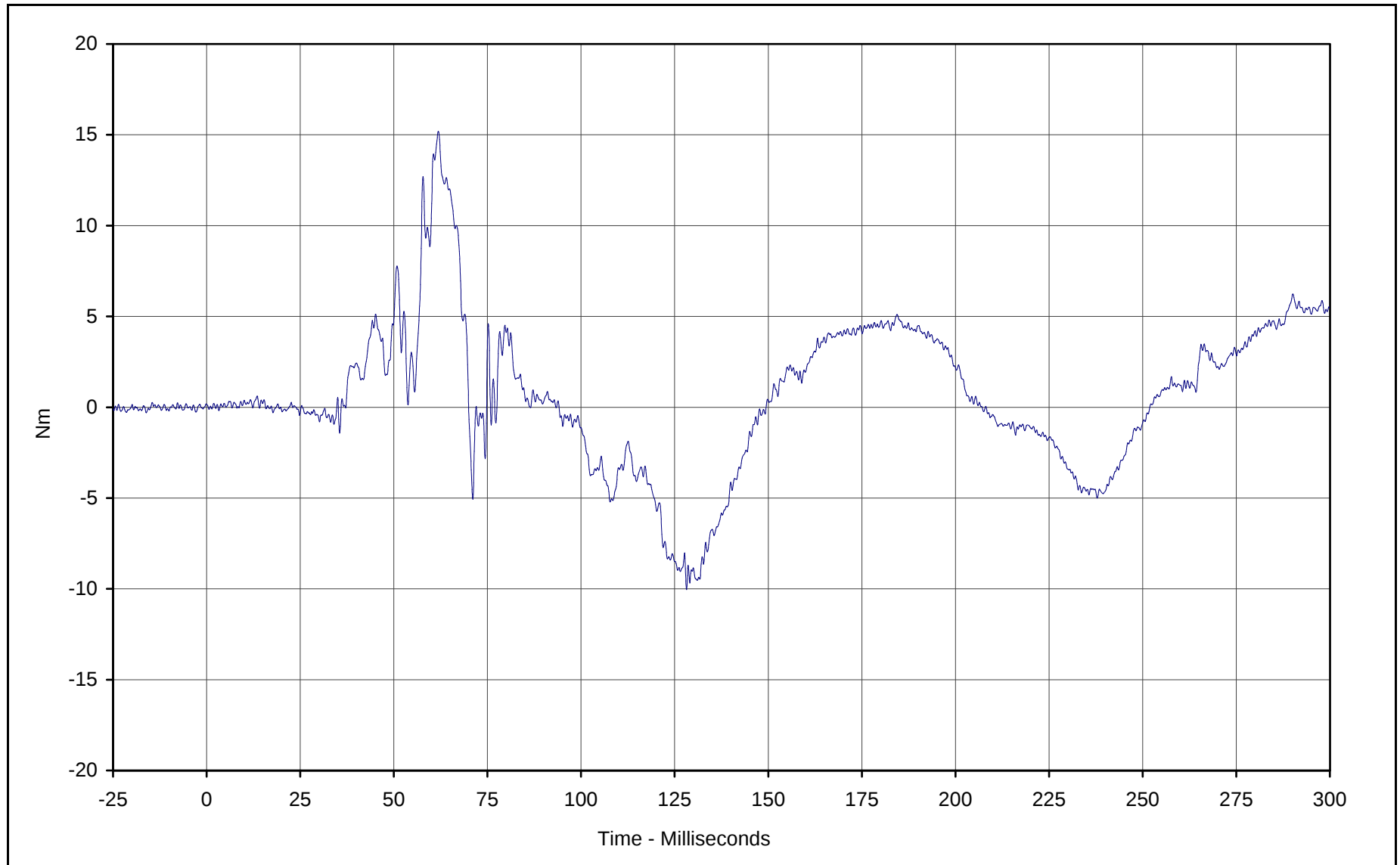


Curve Description: Driver Right Upper Tibia Moment Y  
Maximum Value: 54.0 at 53.3 Milliseconds  
Minimum Value: -82.0 at 63.9 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-028

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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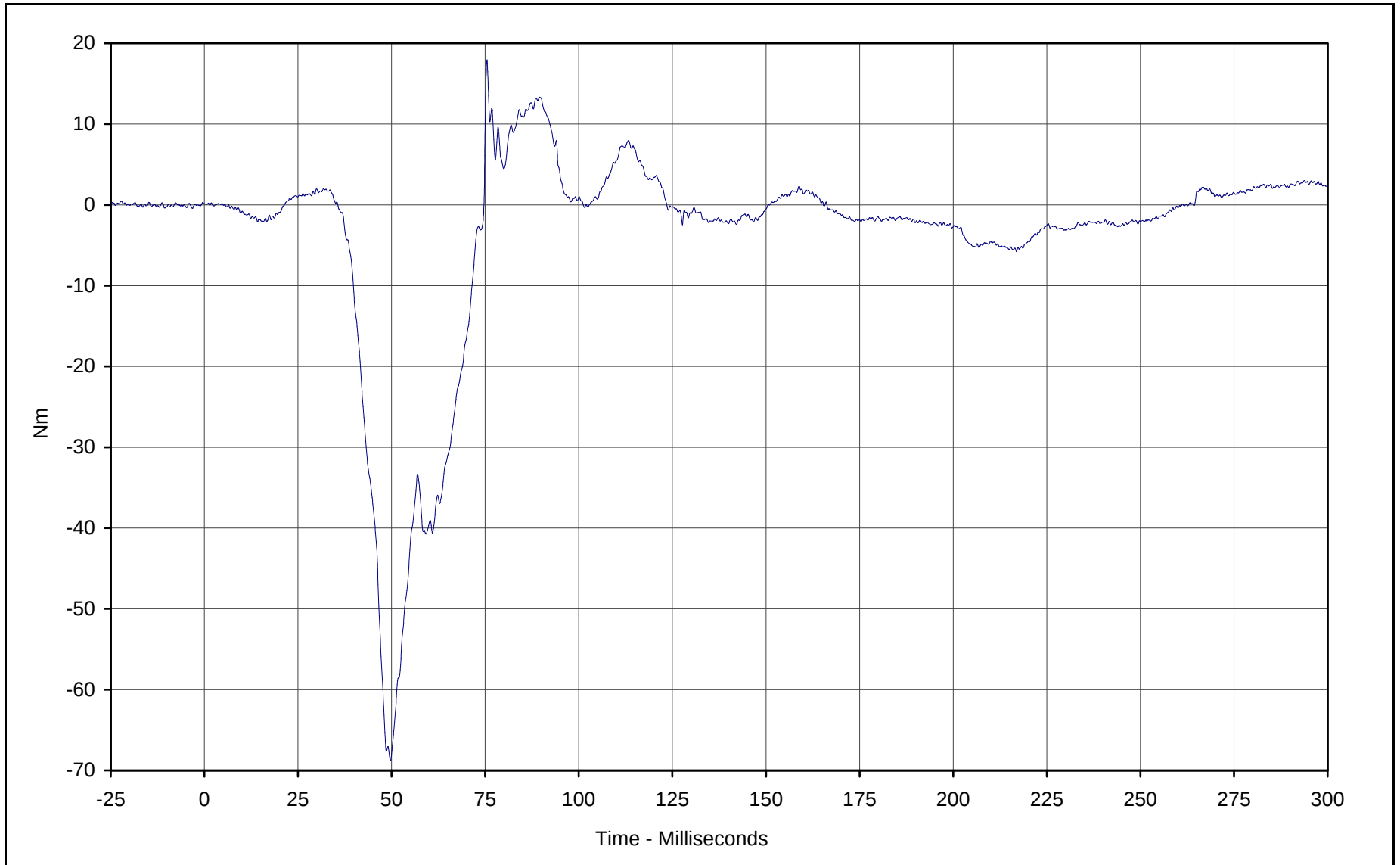


Curve Description: Driver Left Lower Tibia Moment X  
Maximum Value: 15.2 at 61.9 Milliseconds  
Minimum Value: -10.0 at 128.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-029

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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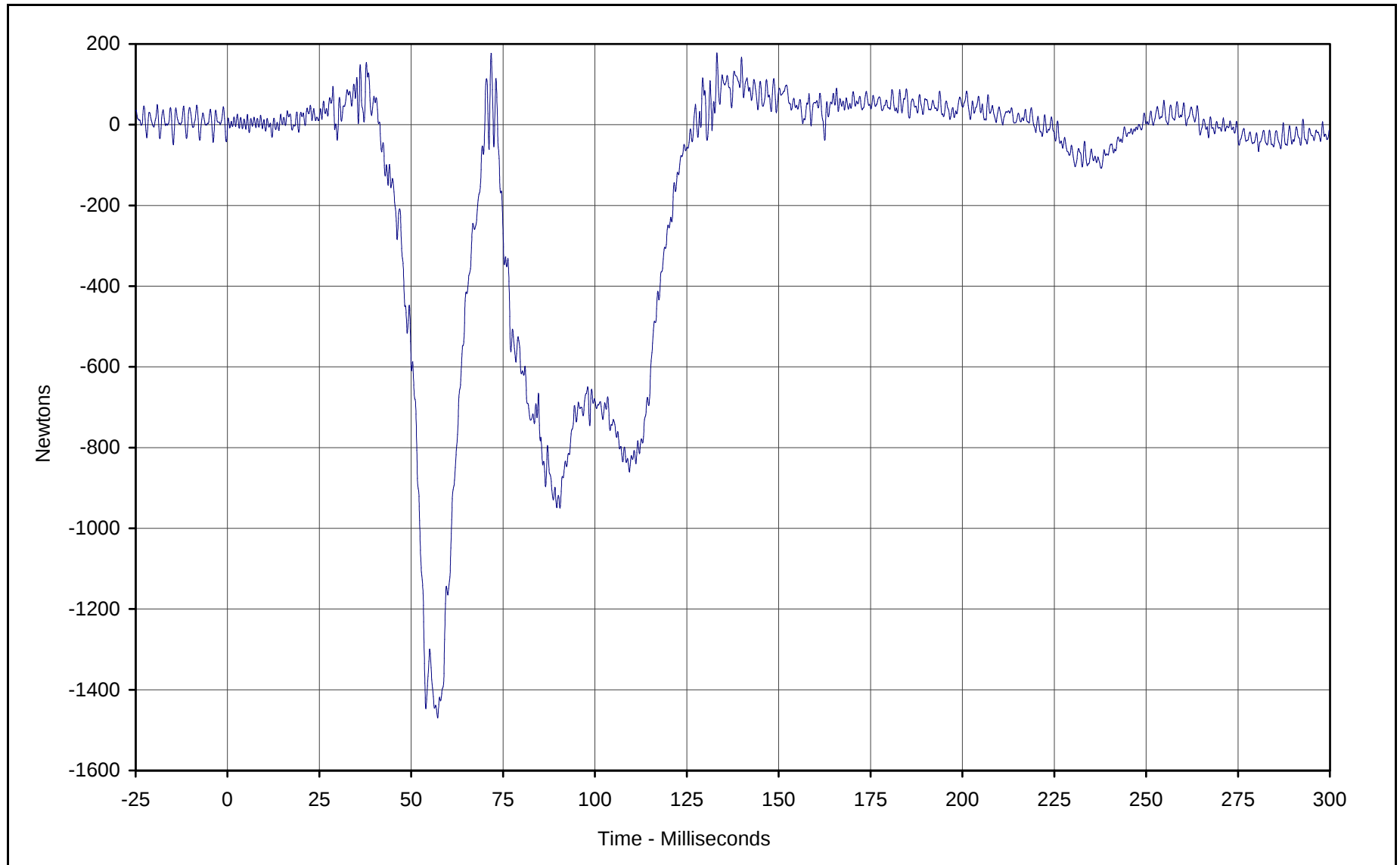


Curve Description: Driver Left Lower Tibia Moment Y  
Maximum Value: 18.0 at 75.5 Milliseconds  
Minimum Value: -68.8 at 49.7 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-030

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



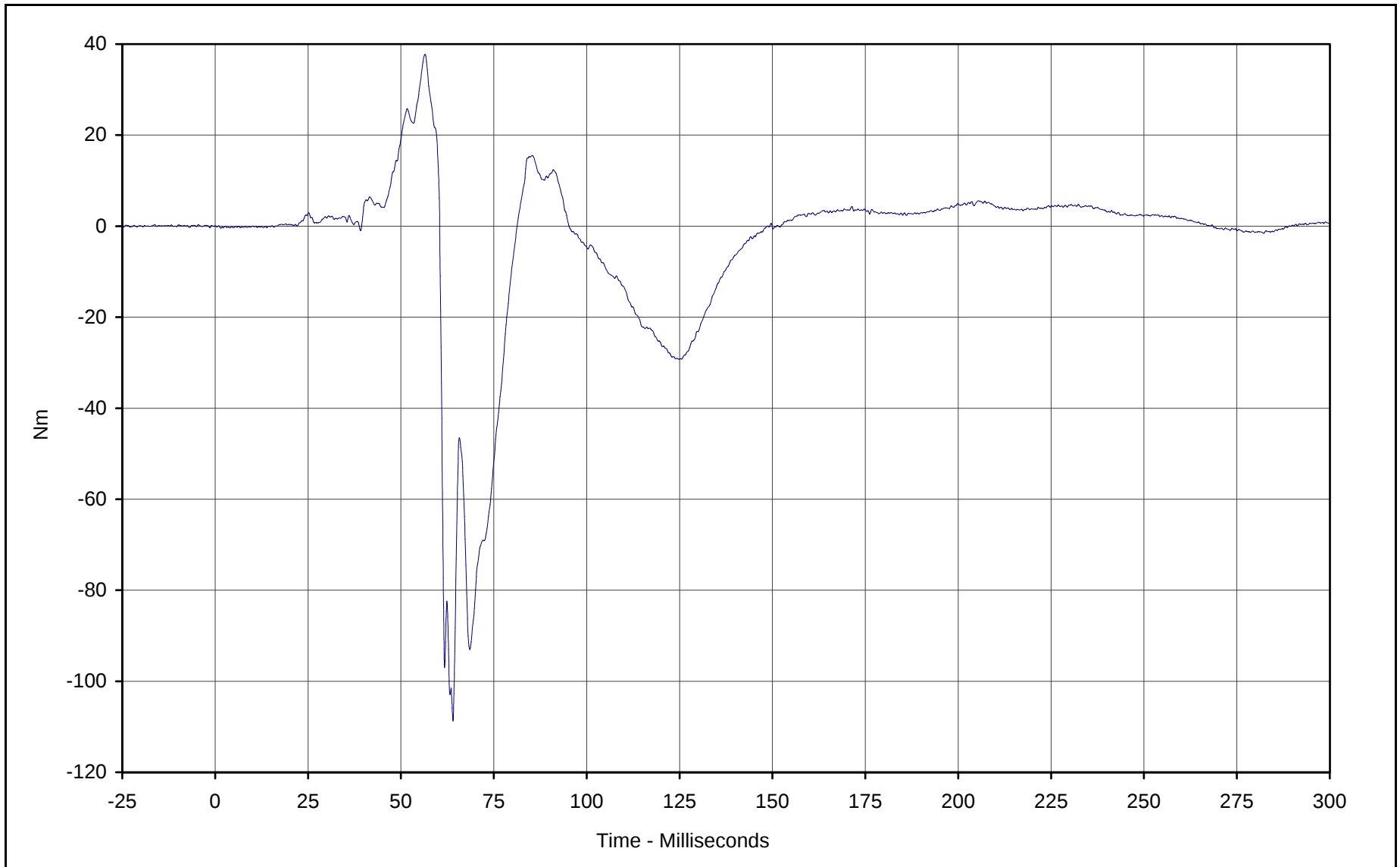
KAR21040-01



Curve Description: Driver Left Lower Tibia Force Z  
Maximum Value: 178.2 at 133.2 Milliseconds  
Minimum Value: -1470.0 at 57.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-031

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



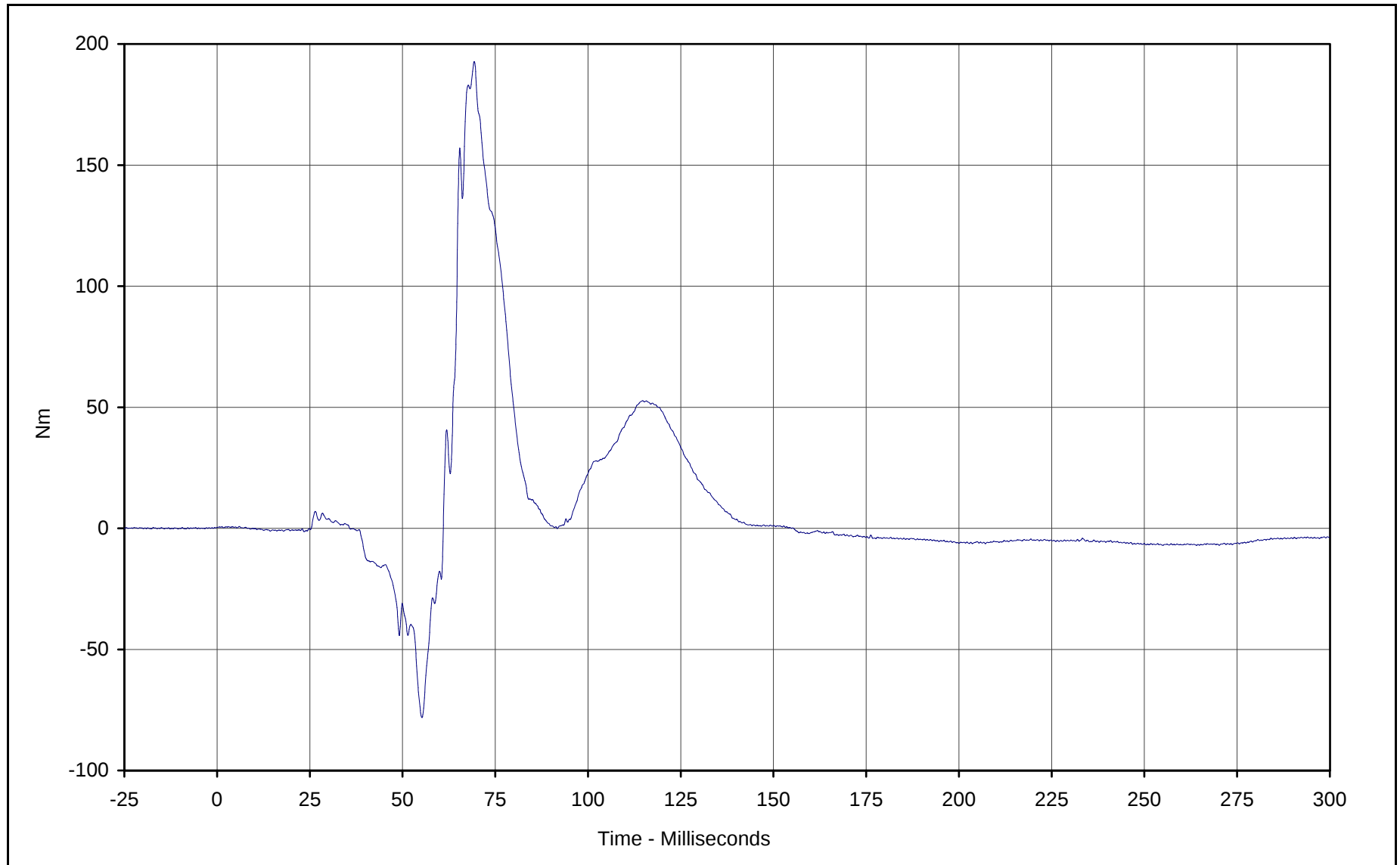


Curve Description: Driver Right Lower Tibia Moment X  
Maximum Value: 37.7 at 56.5 Milliseconds  
Minimum Value: -108.7 at 64.0 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-032

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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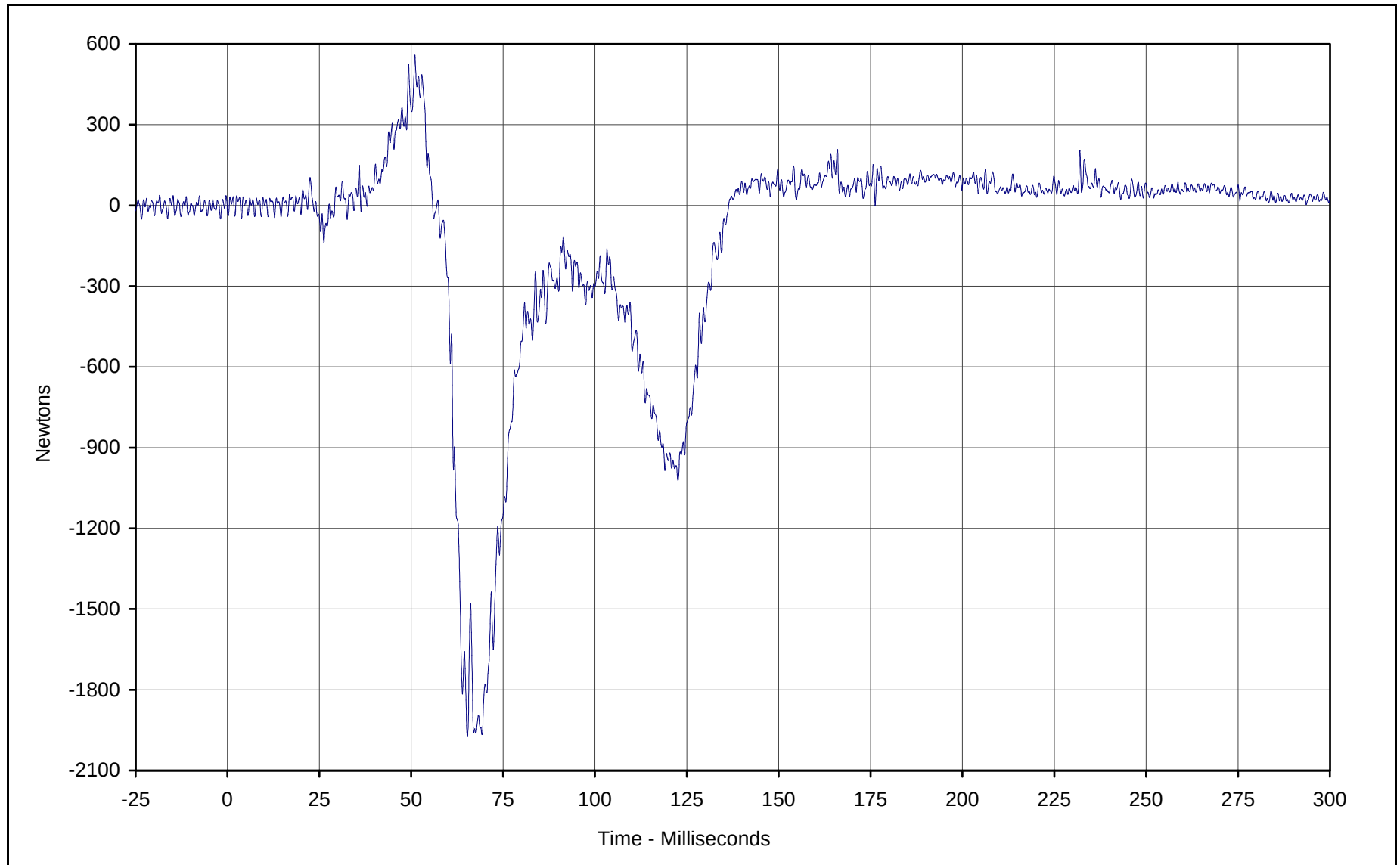


Curve Description: Driver Right Lower Tibia Moment Y  
Maximum Value: 192.8 at 69.3 Milliseconds  
Minimum Value: -78.1 at 55.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-033

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

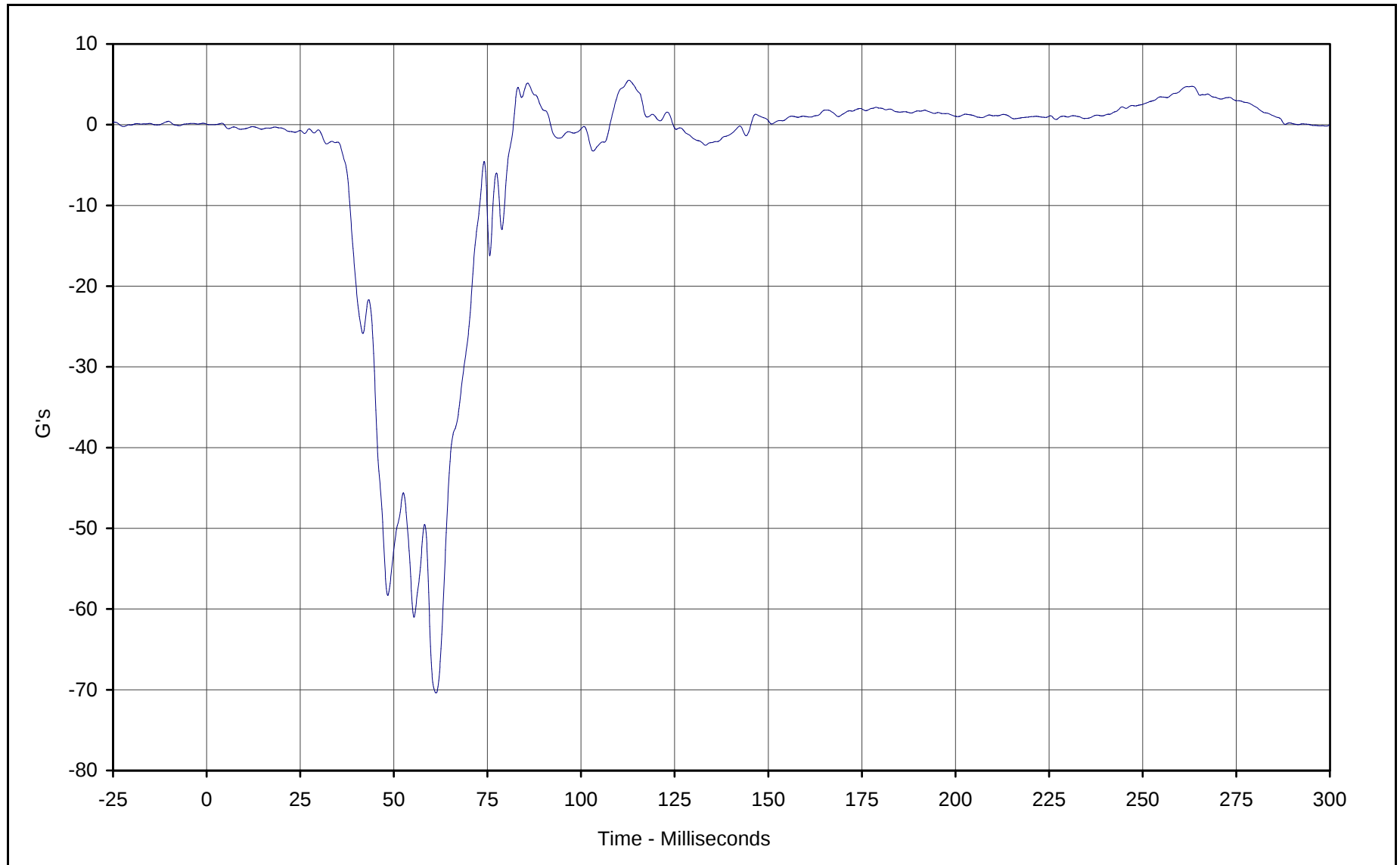


Curve Description: Driver Right Lower Tibia Force Z  
Maximum Value: 558.5 at 51.0 Milliseconds  
Minimum Value: -1974.6 at 65.3 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-034

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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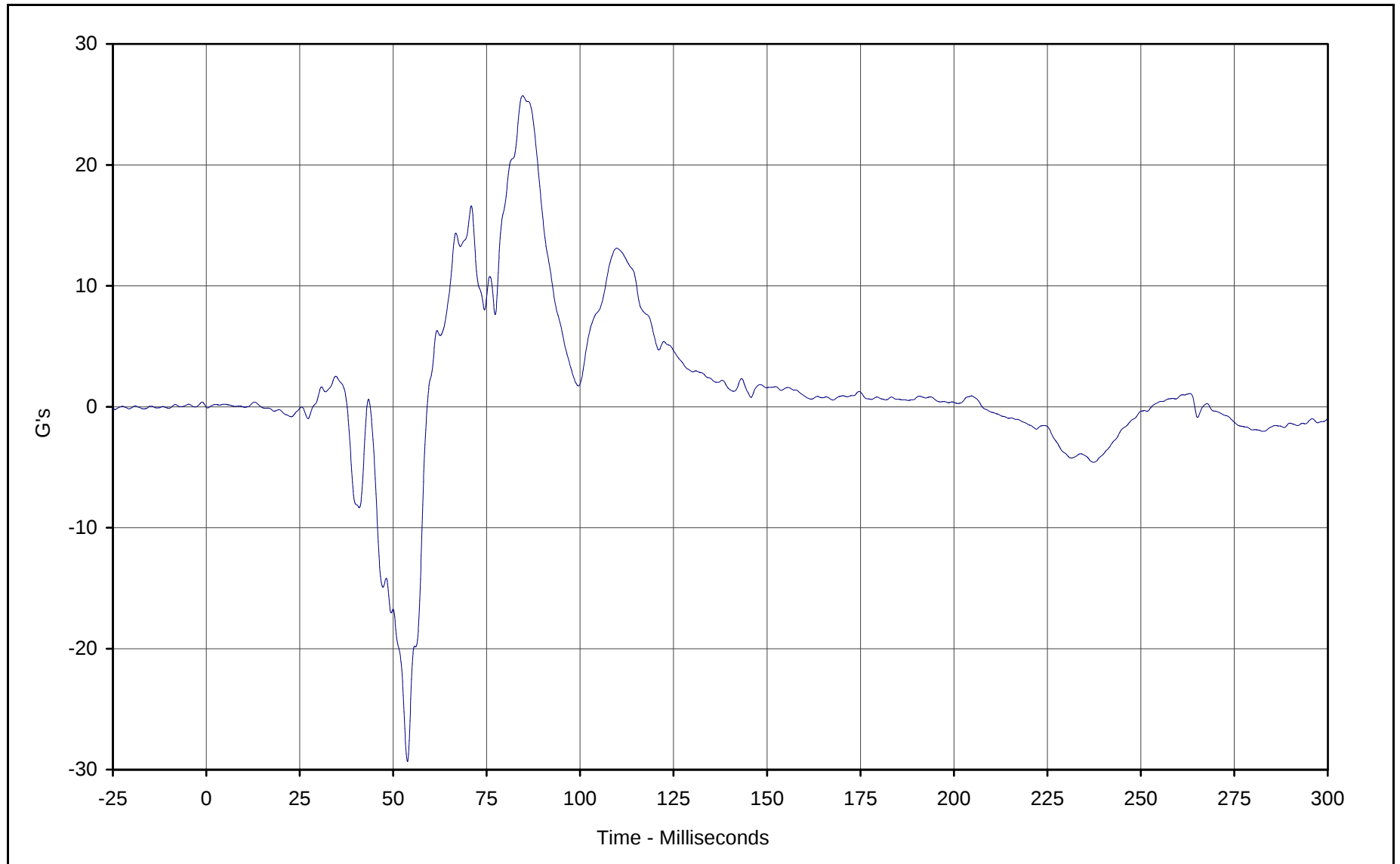
Curve Description: Driver Left Foot Aft X  
Maximum Value: 5.5 at 112.8 Milliseconds  
Minimum Value: -70.4 at 61.3 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-035

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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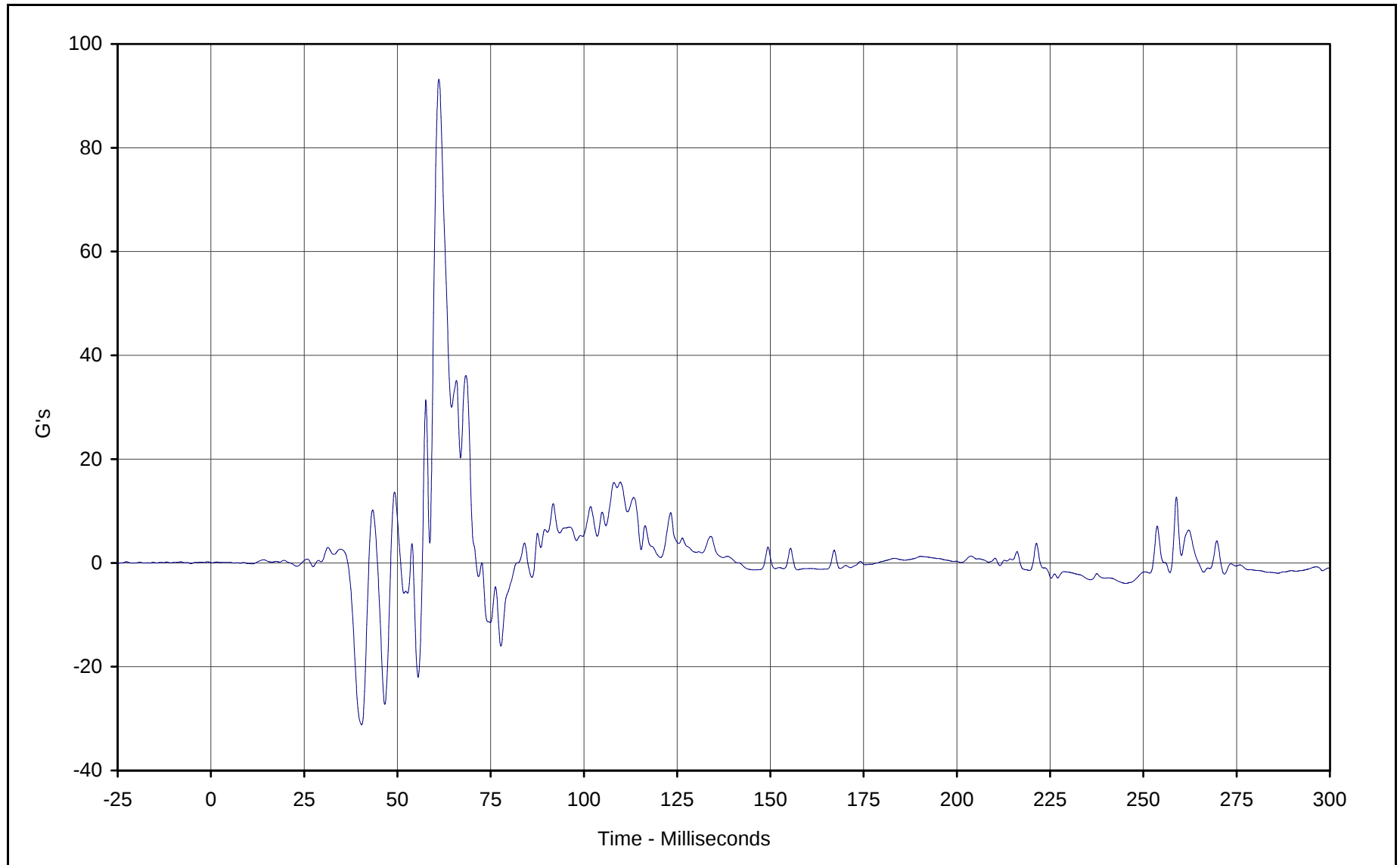
Curve Description: Driver Left Foot Aft Z  
Maximum Value: 25.7 at 84.6 Milliseconds  
Minimum Value: -29.3 at 53.8 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-036

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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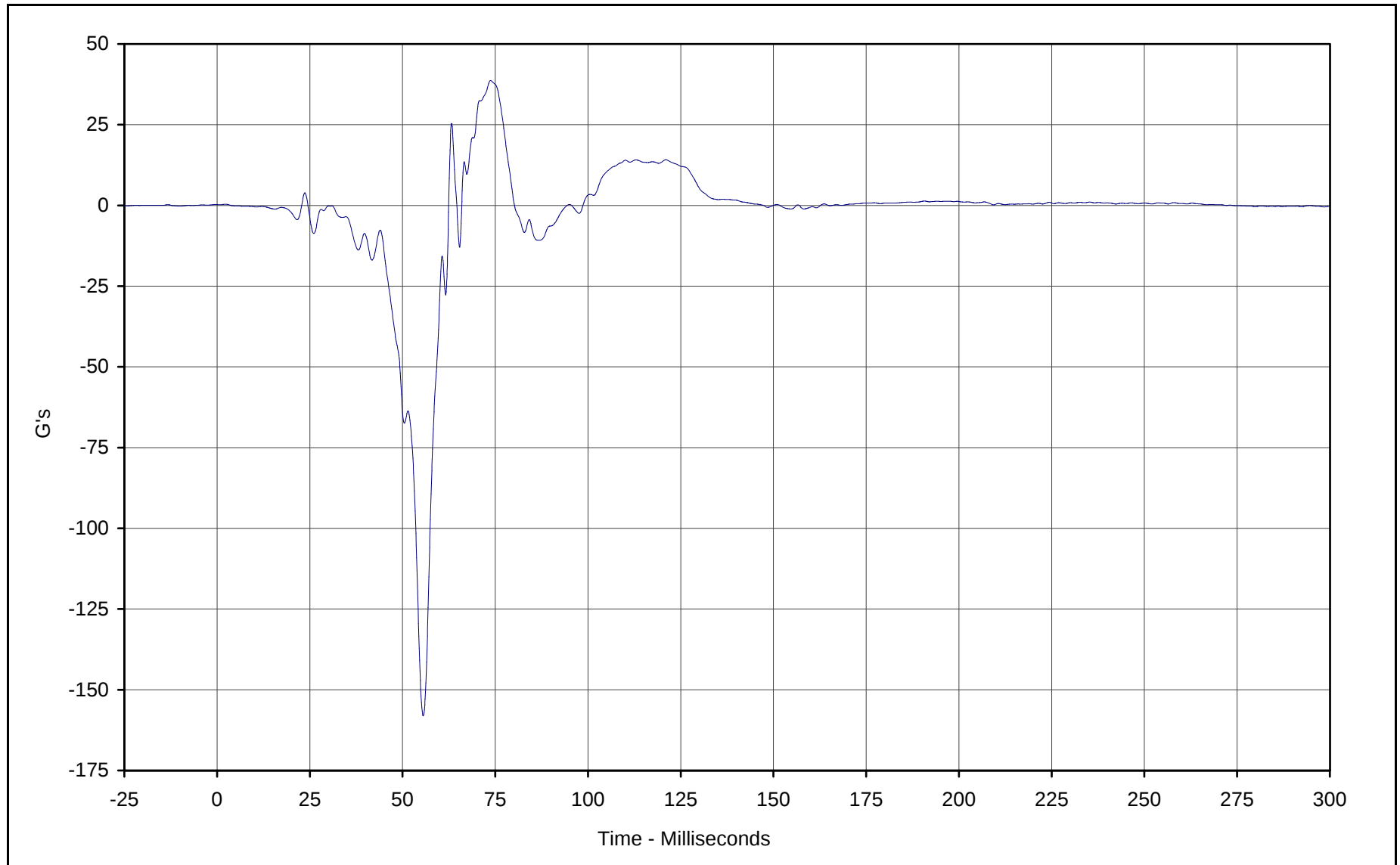
Curve Description: Driver Left Foot Fore Z  
Maximum Value: 93.2 at 61.1 Milliseconds  
Minimum Value: -31.2 at 40.4 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-037

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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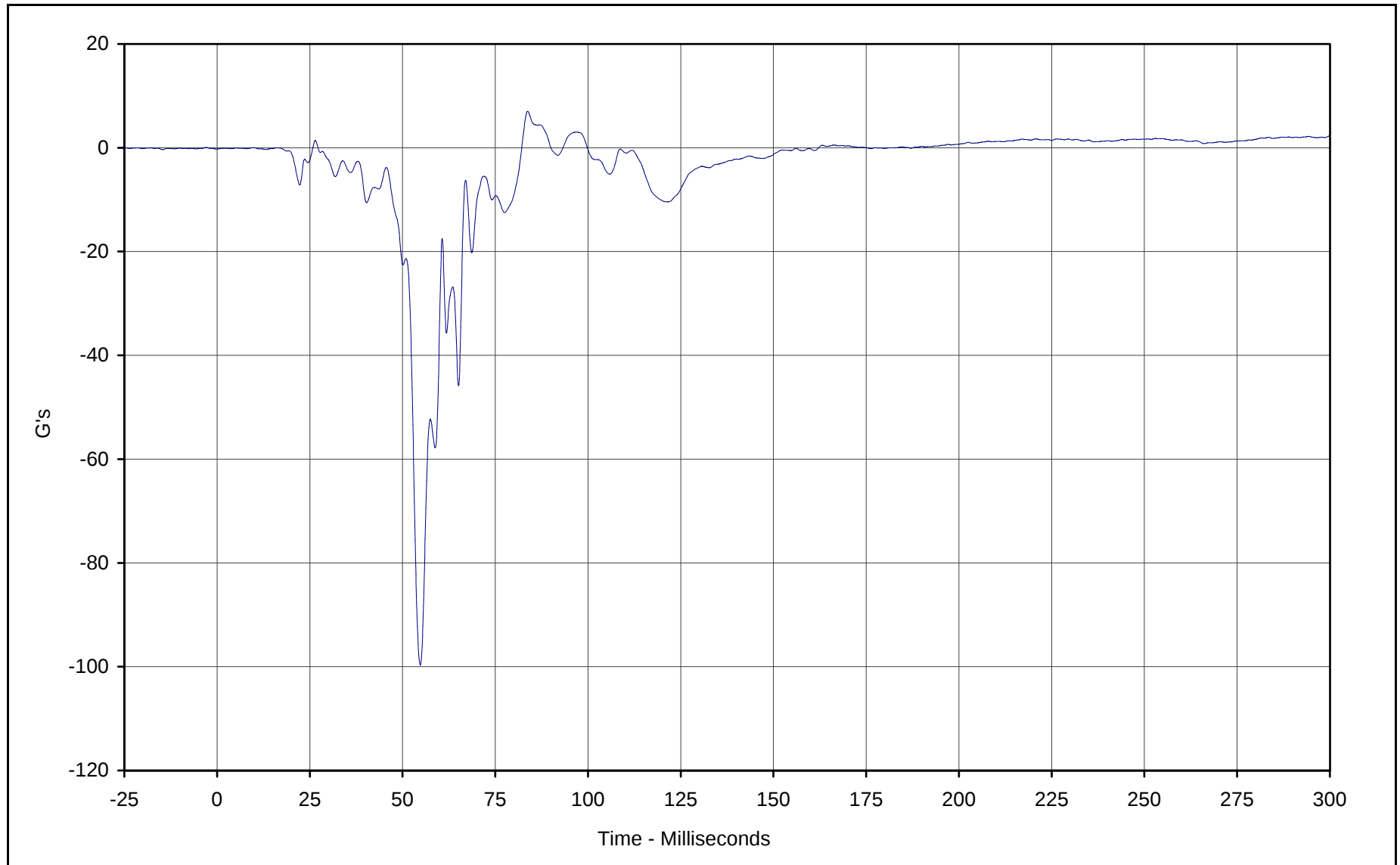


Curve Description: Driver Right Foot Aft X  
Maximum Value: 38.7 at 73.7 Milliseconds  
Minimum Value: -158.0 at 55.6 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-038

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



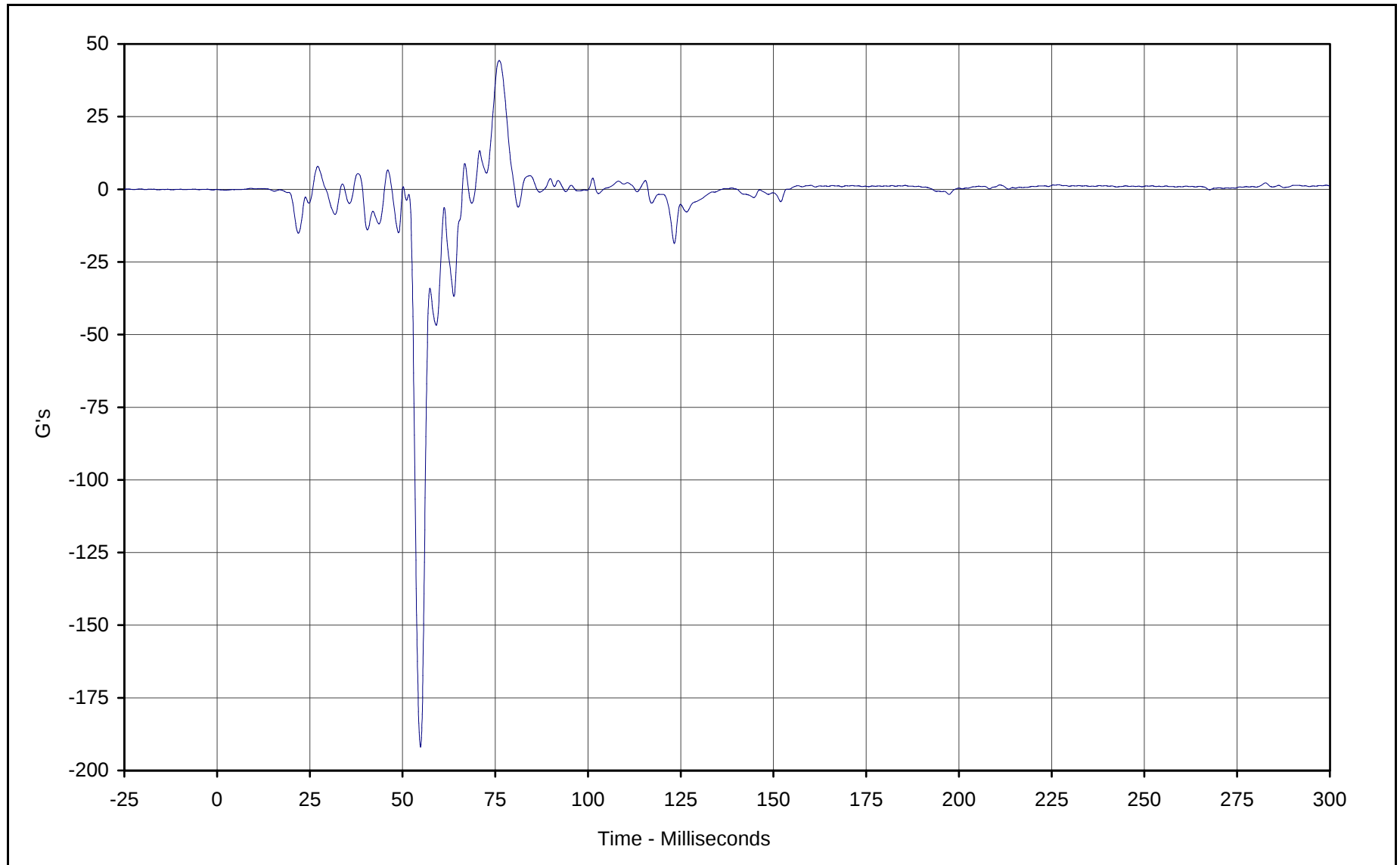
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Curve Description: Driver Right Foot Aft Z  
Maximum Value: 7.0 at 83.7 Milliseconds  
Minimum Value: -99.7 at 54.8 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-039

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



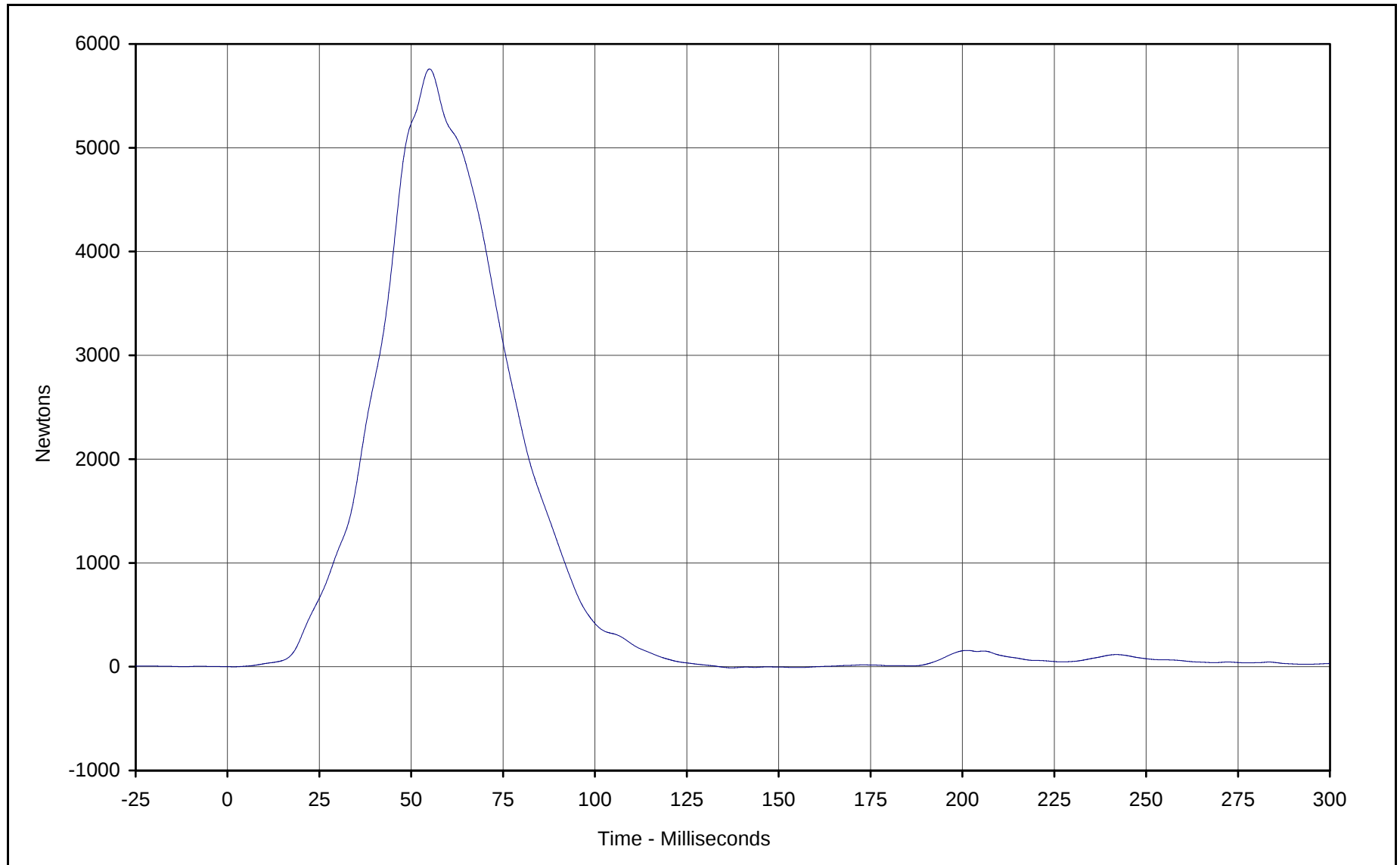


Curve Description: Driver Right Foot Fore Z  
Maximum Value: 44.3 at 76.0 Milliseconds  
Minimum Value: -191.9 at 54.9 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-040

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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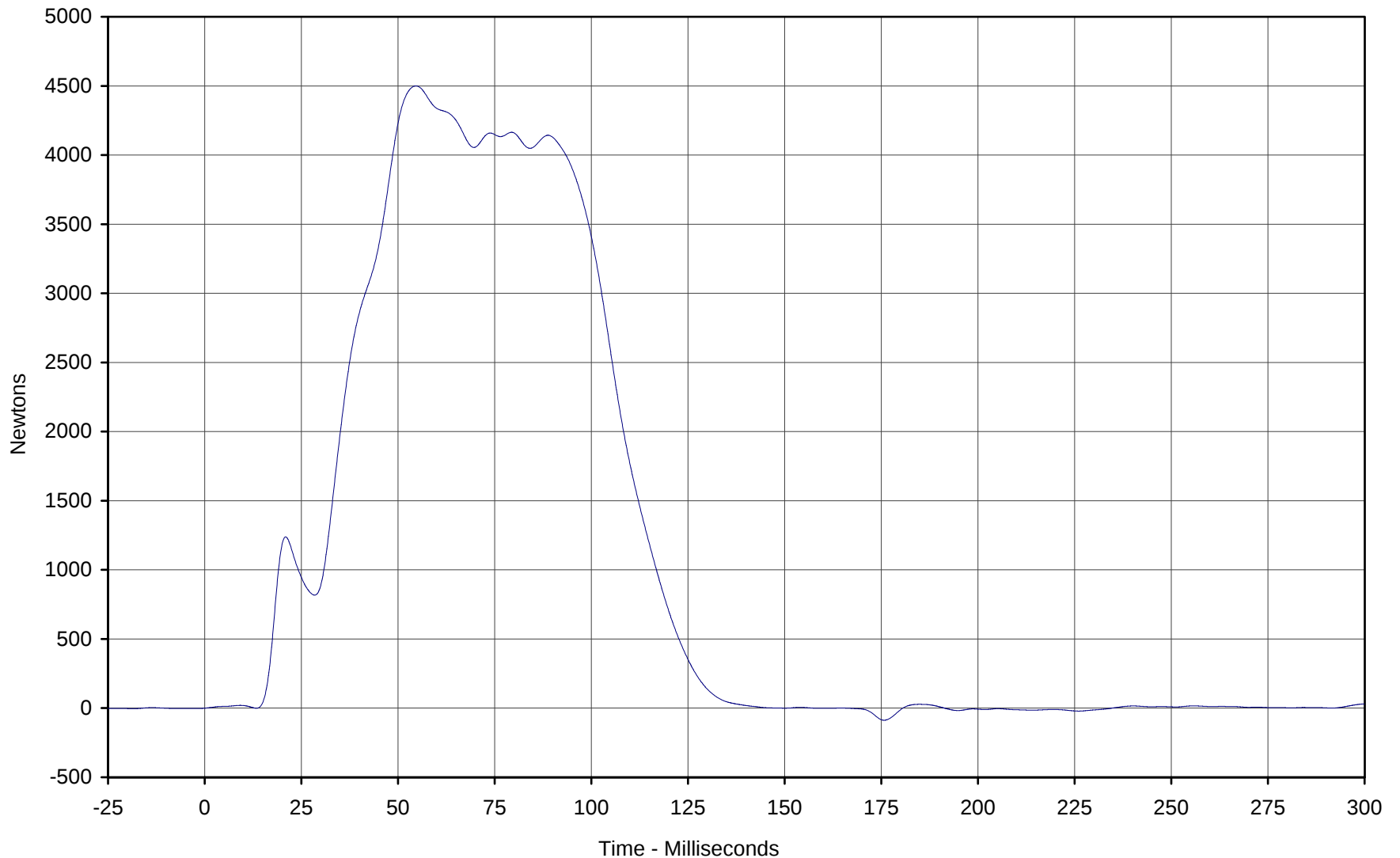
Curve Description: Driver Lap Belt Force  
Maximum Value: 5759.8 at 55.0 Milliseconds  
Minimum Value: -11.2 at 137.2 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-041

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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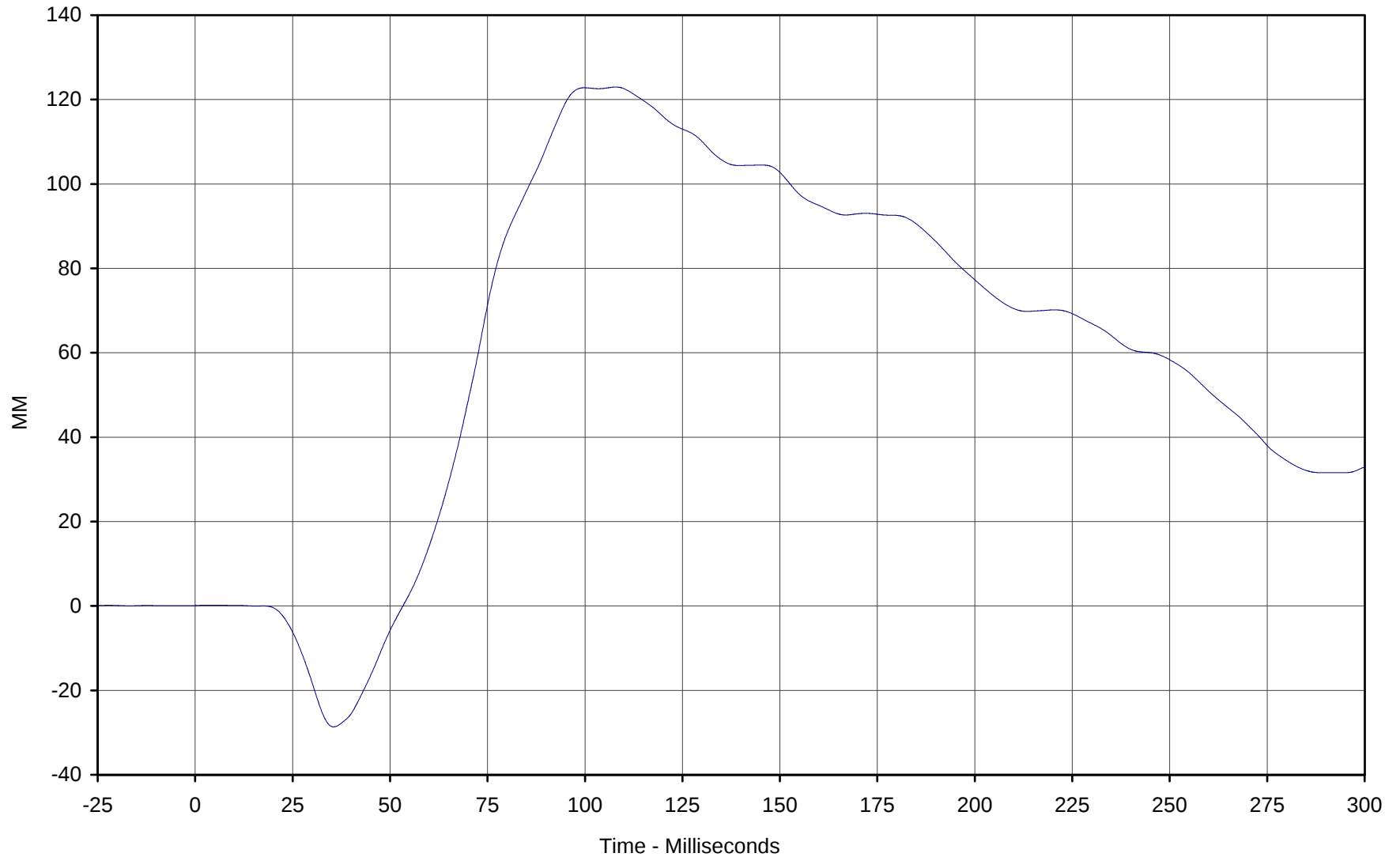
Curve Description: Driver Shoulder Belt Force  
Maximum Value: 4500.0 at 54.6 Milliseconds  
Minimum Value: -87.8 at 175.7 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-042

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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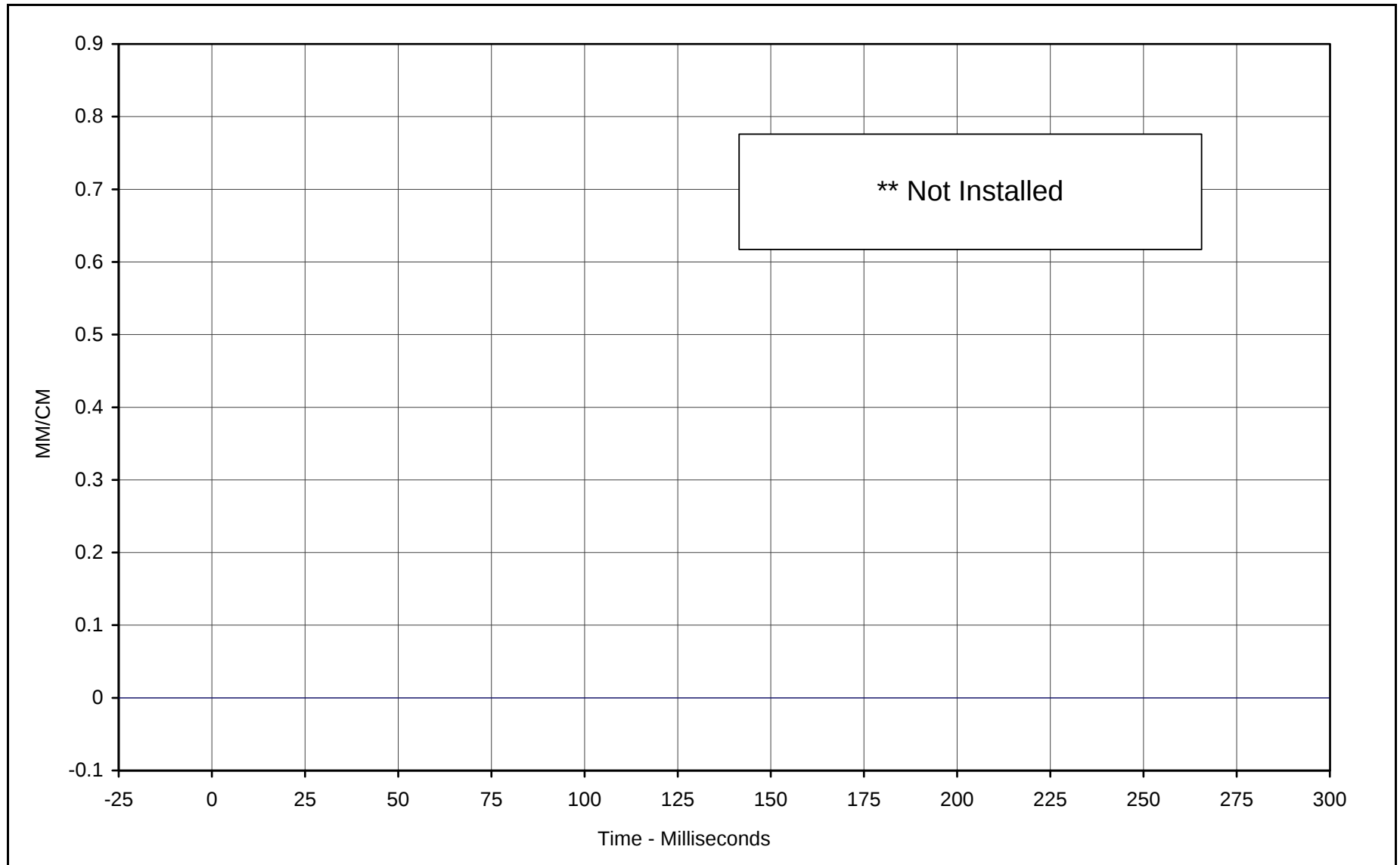


Curve Description: Driver Shoulder Belt Pullout  
Maximum Value: 123.0 at 107.9 Milliseconds  
Minimum Value: -28.7 at 35.5 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-043

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Driver Shoulder Belt Elongation \*\*

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-044

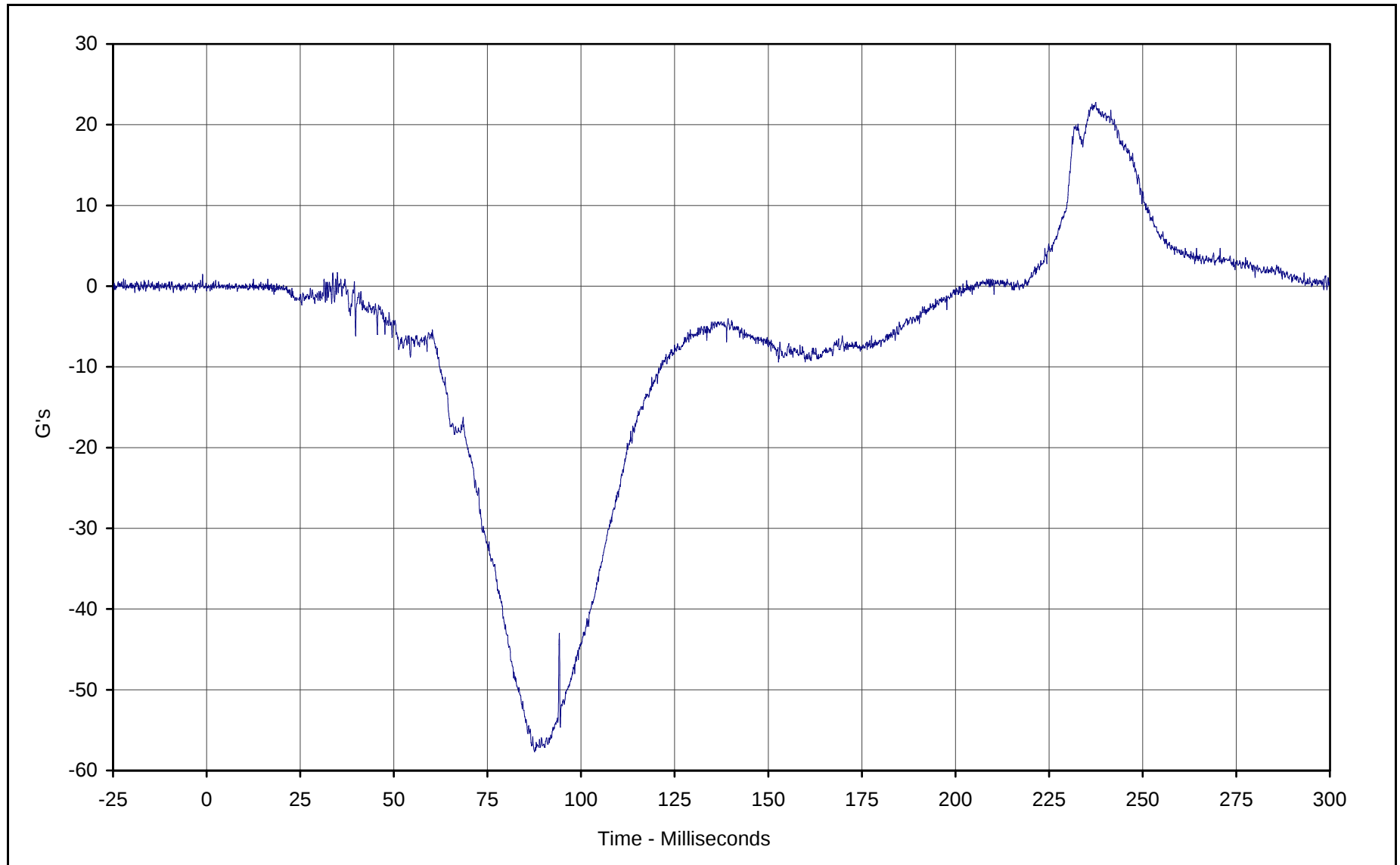
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\*\* Not installed



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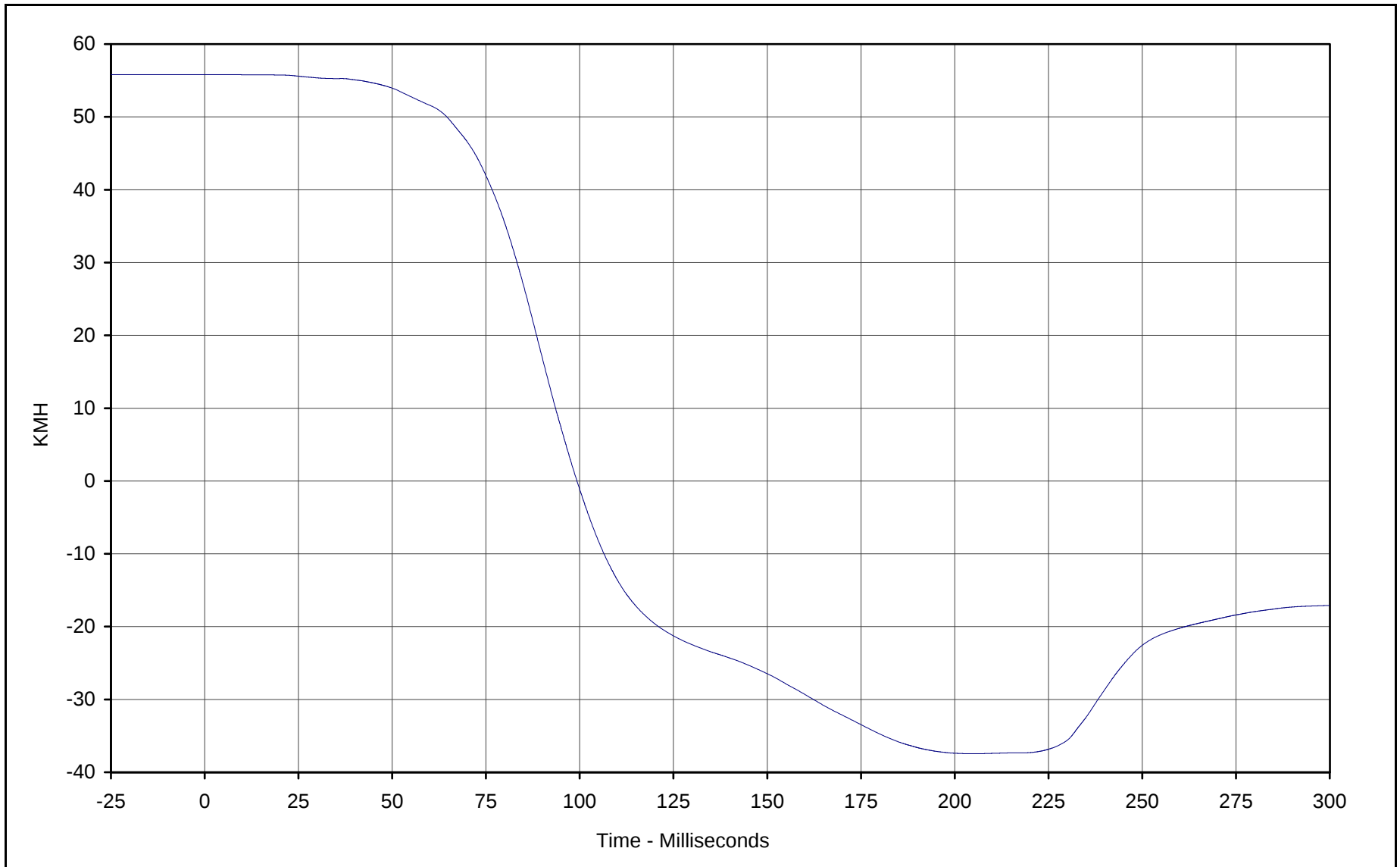
Curve Description: Passenger Head Primary X  
Maximum Value: 22.8 at 237.4 Milliseconds  
Minimum Value: -57.7 at 87.6 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-045

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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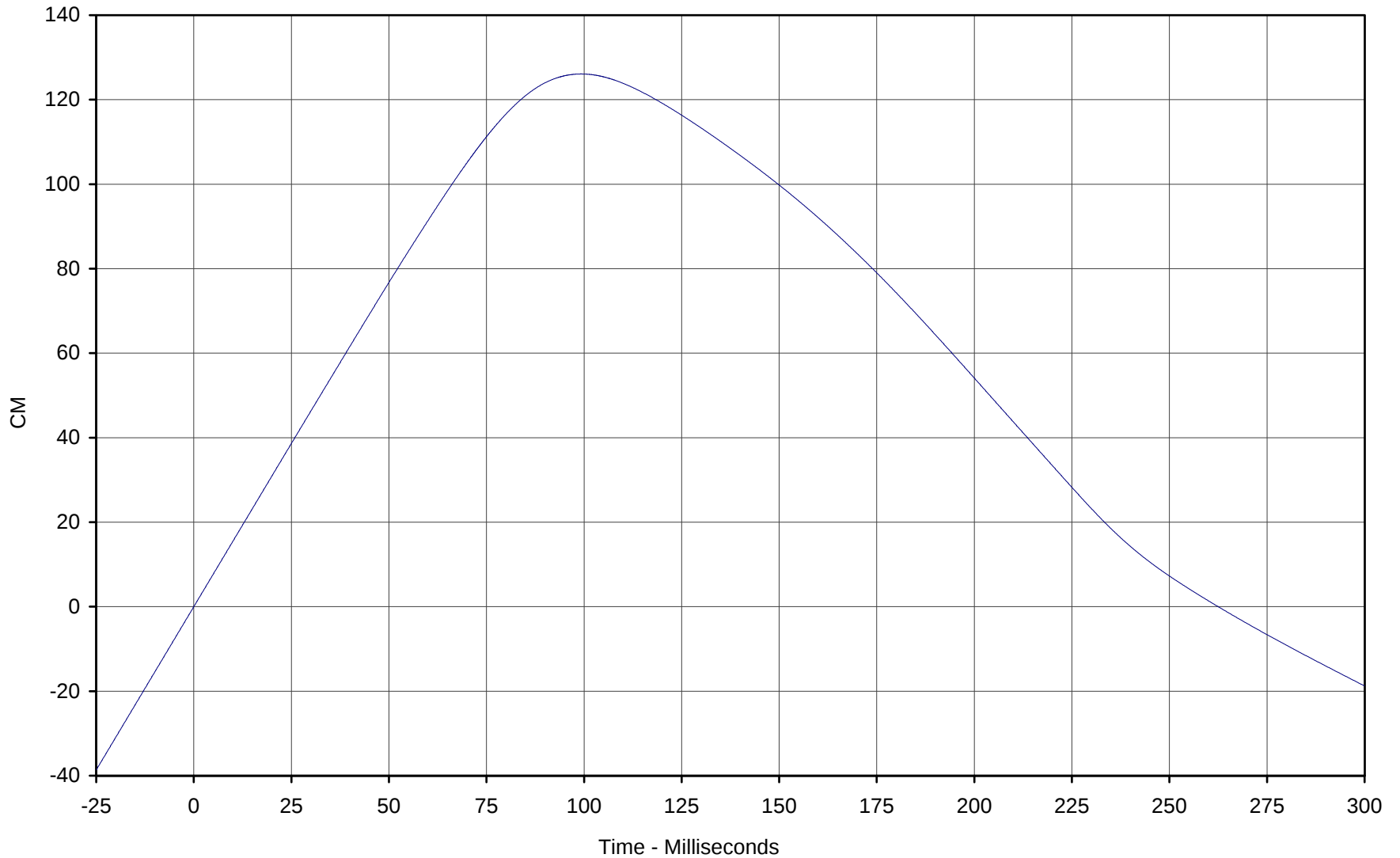
Curve Description: Passenger Head Primary X Velocity  
Maximum Value: 55.8 at 3.5 Milliseconds  
Minimum Value: -37.5 at 205.2 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-045

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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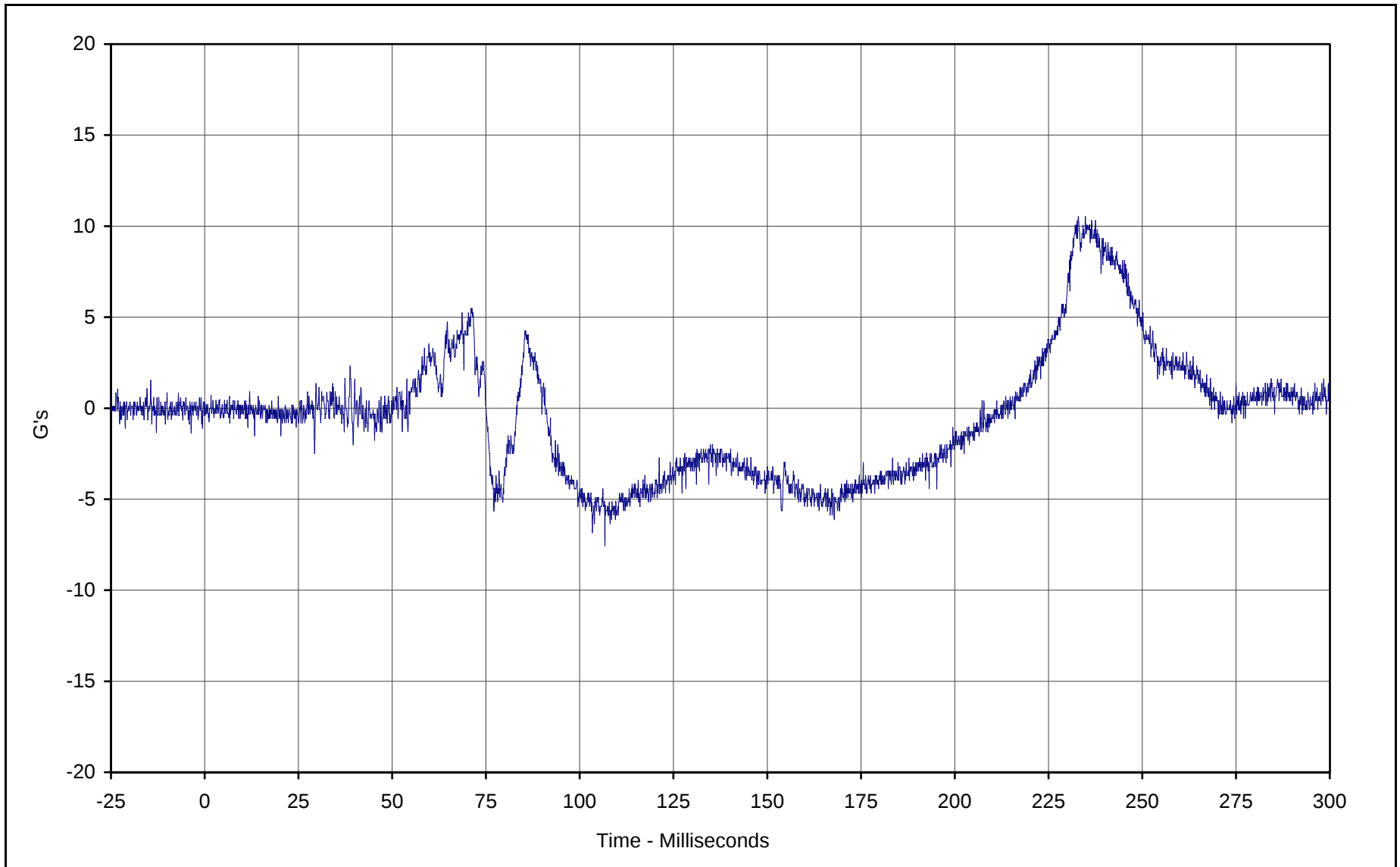
Curve Description: Passenger Head Primary X Displ.  
Maximum Value: 126.1 at 99.3 Milliseconds  
Minimum Value: -18.7 at 299.9 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-045

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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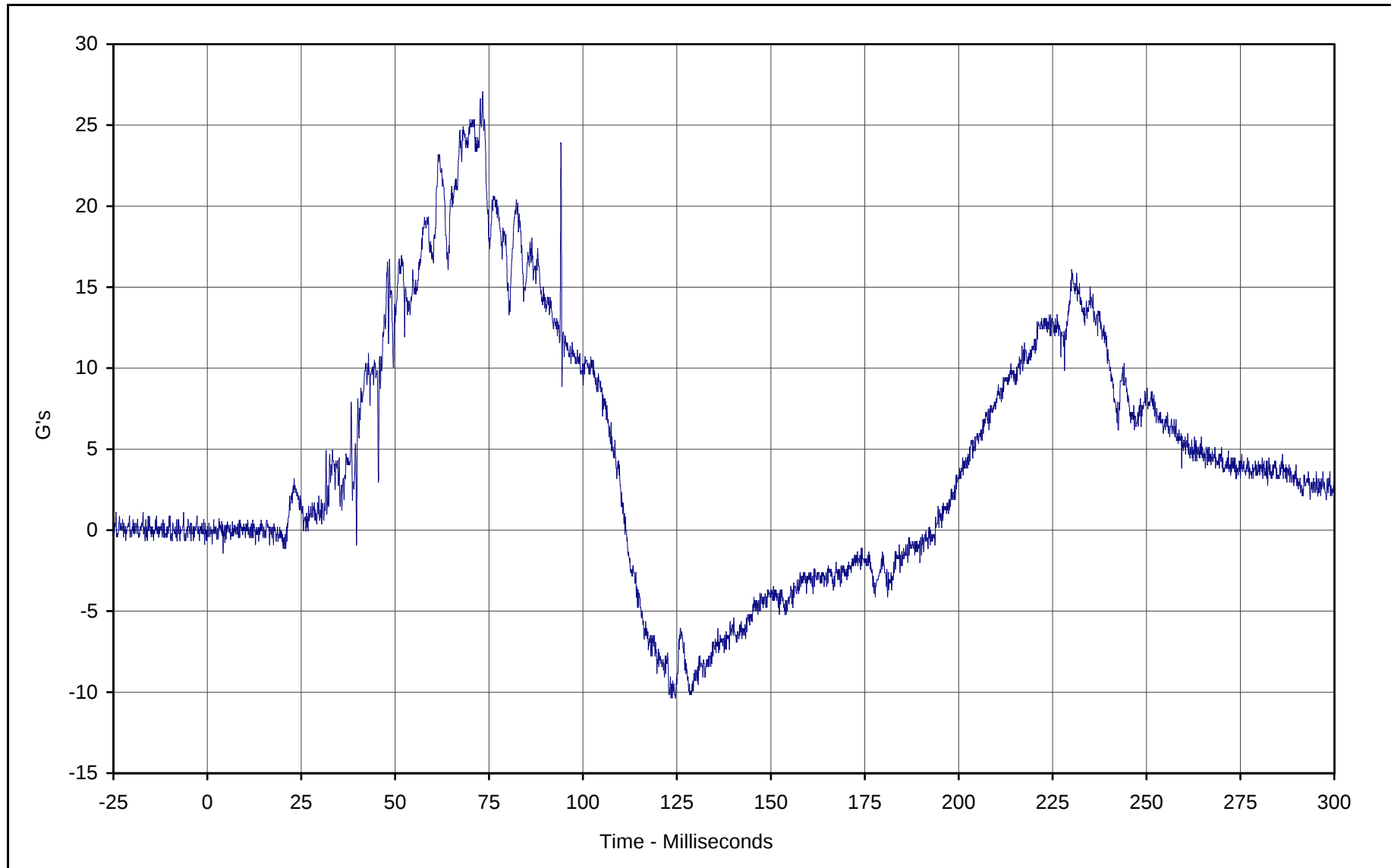
Curve Description: Passenger Head Primary Y  
Maximum Value: 10.5 at 233.0 Milliseconds  
Minimum Value: -7.6 at 106.7 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-046

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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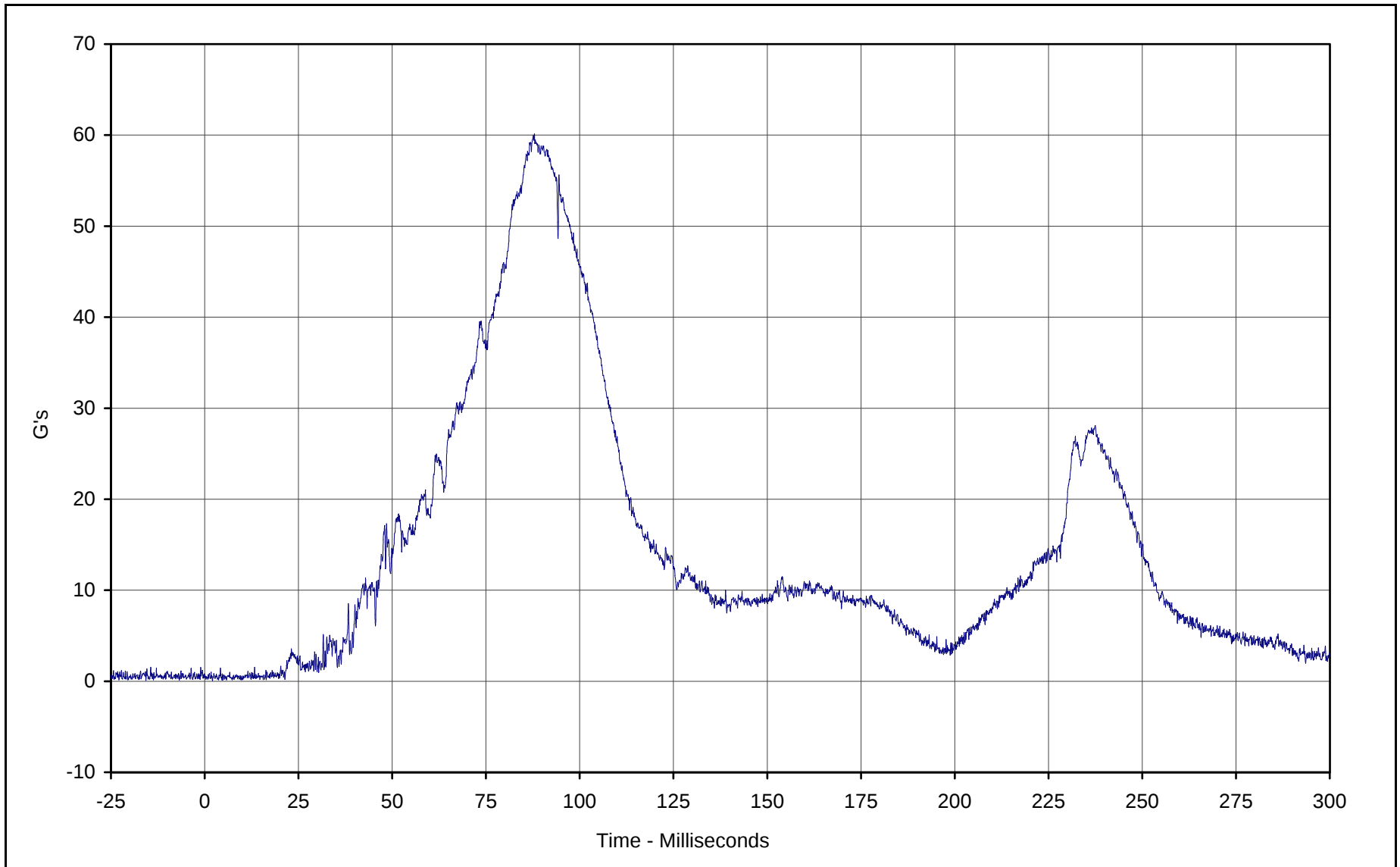
Curve Description: Passenger Head Primary Z  
Maximum Value: 27.0 at 73.3 Milliseconds  
Minimum Value: -10.4 at 123.4 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-047

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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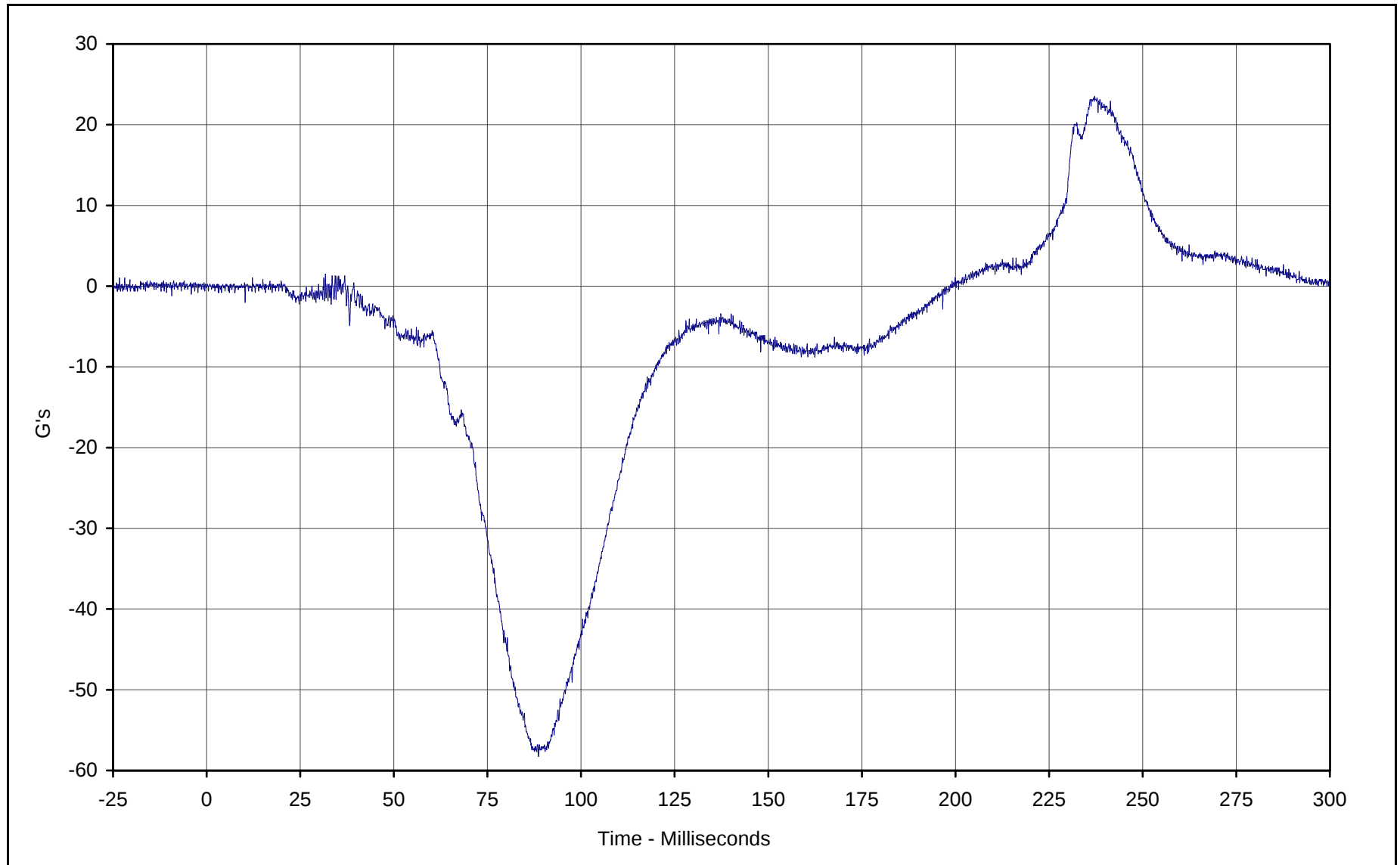
Curve Description: Passenger Head Resultant Primary  
Maximum Value: 60.1 at 87.9 Milliseconds  
Minimum Value: 0.1 at 2.1 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-045

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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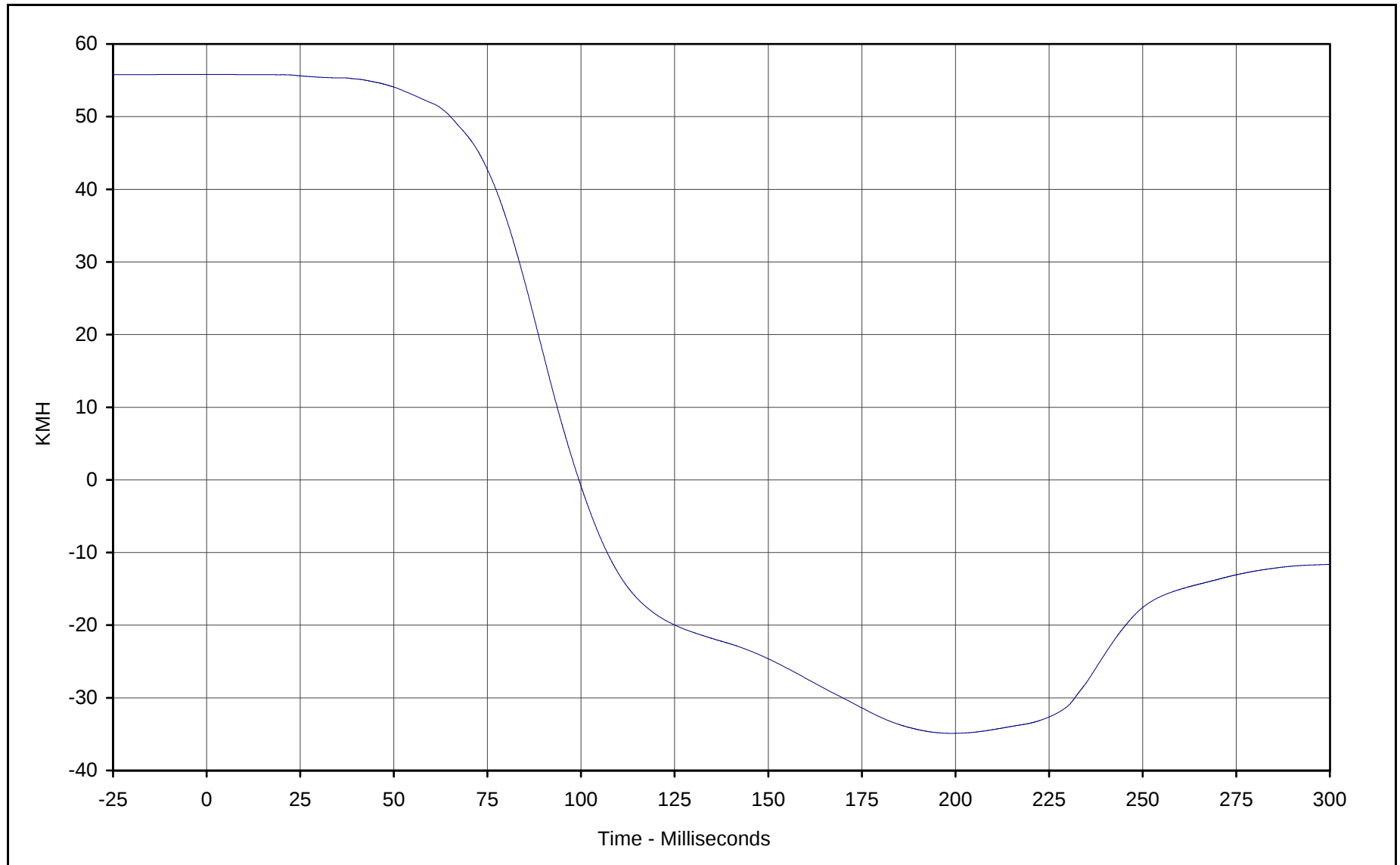


Curve Description: Passenger Head Redundant X  
Maximum Value: 23.5 at 237.2 Milliseconds  
Minimum Value: -58.3 at 88.6 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-048

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Head Redundant X Velocity

Maximum Value: 55.8 at 0.2 Milliseconds

Minimum Value: -34.9 at 198.9 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

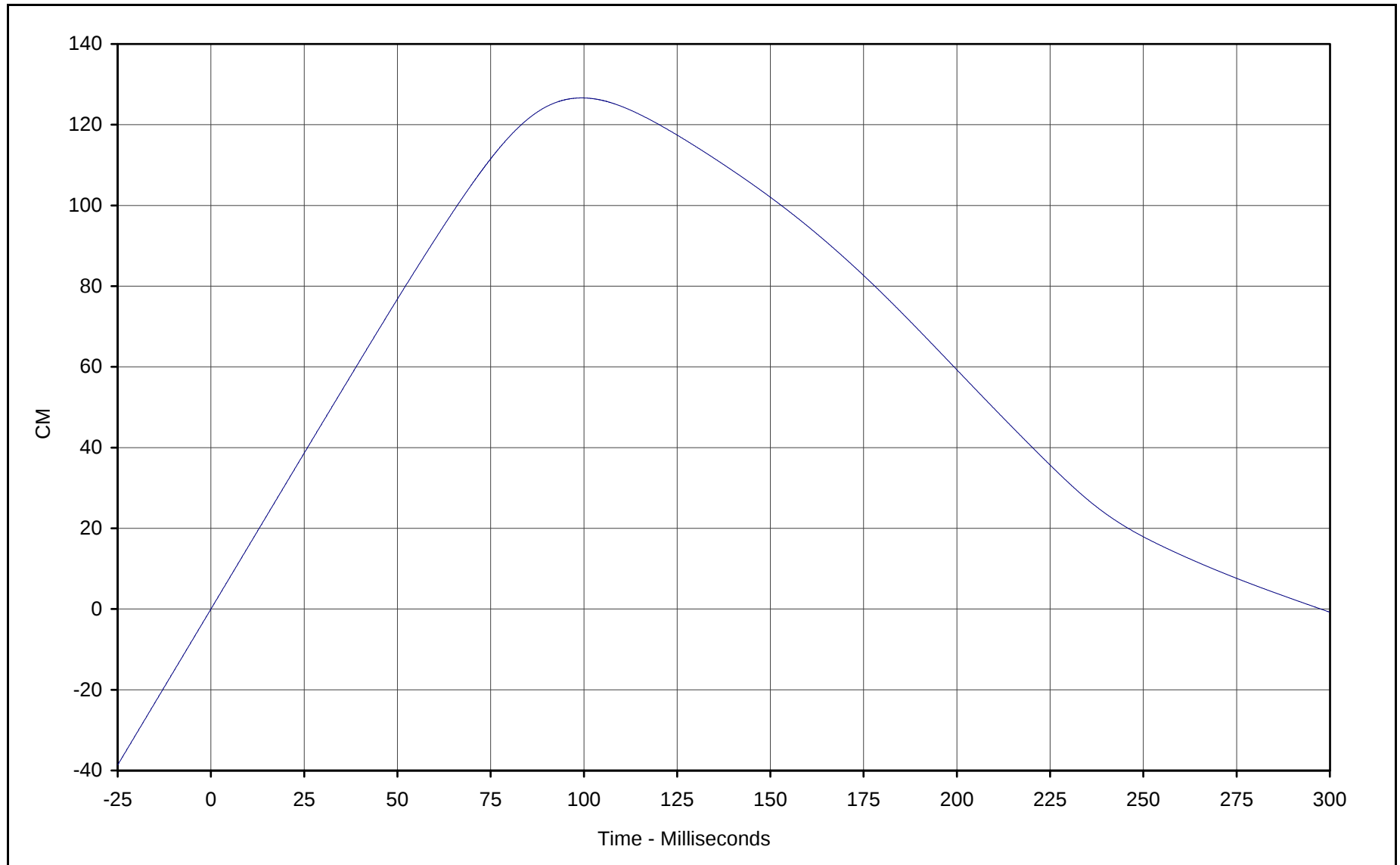
Curve Number: IN1-048

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Head Redundant X Displ.

Maximum Value: 126.6 at 99.4 Milliseconds

Minimum Value: -0.8 at 299.9 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN2-048

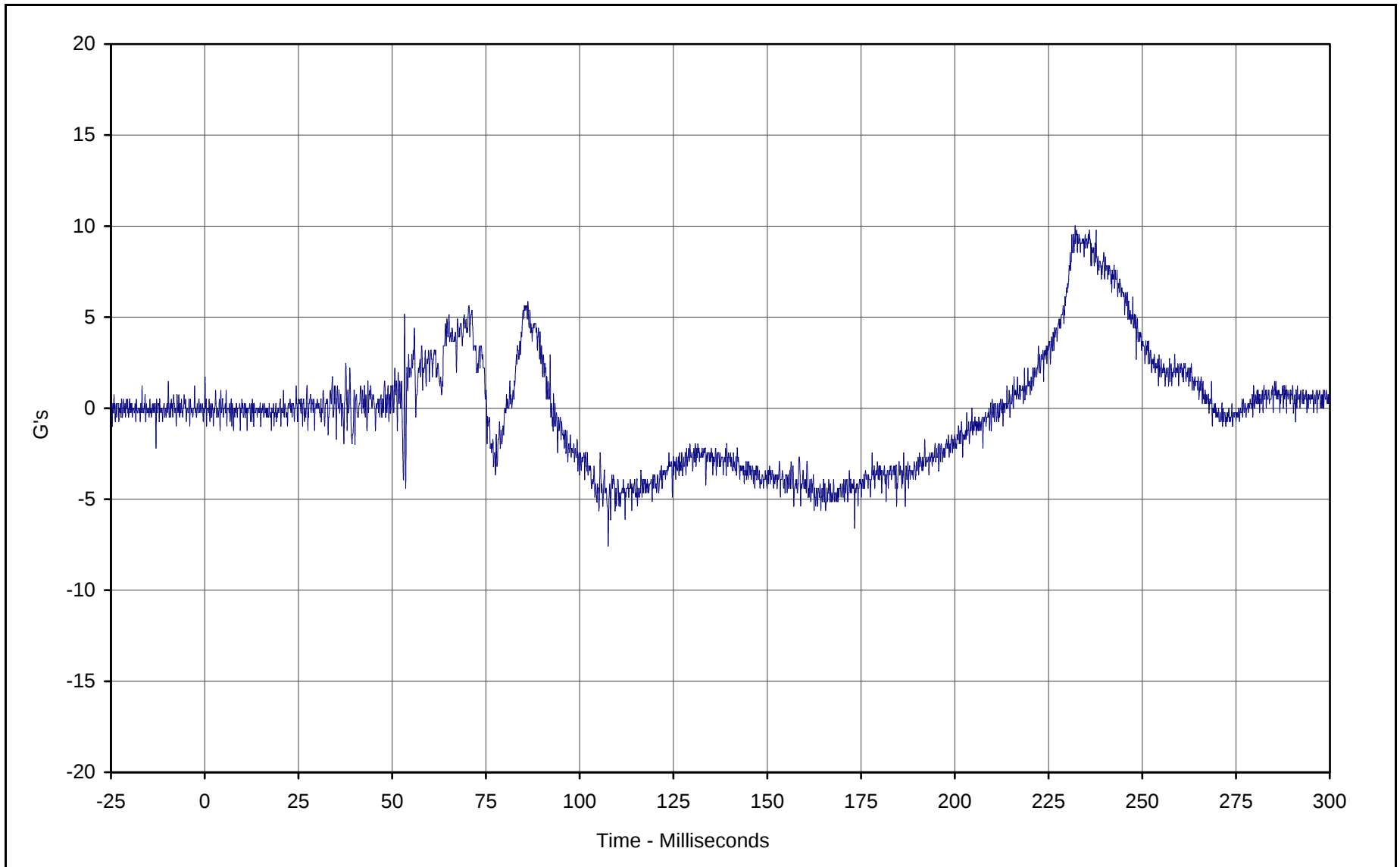
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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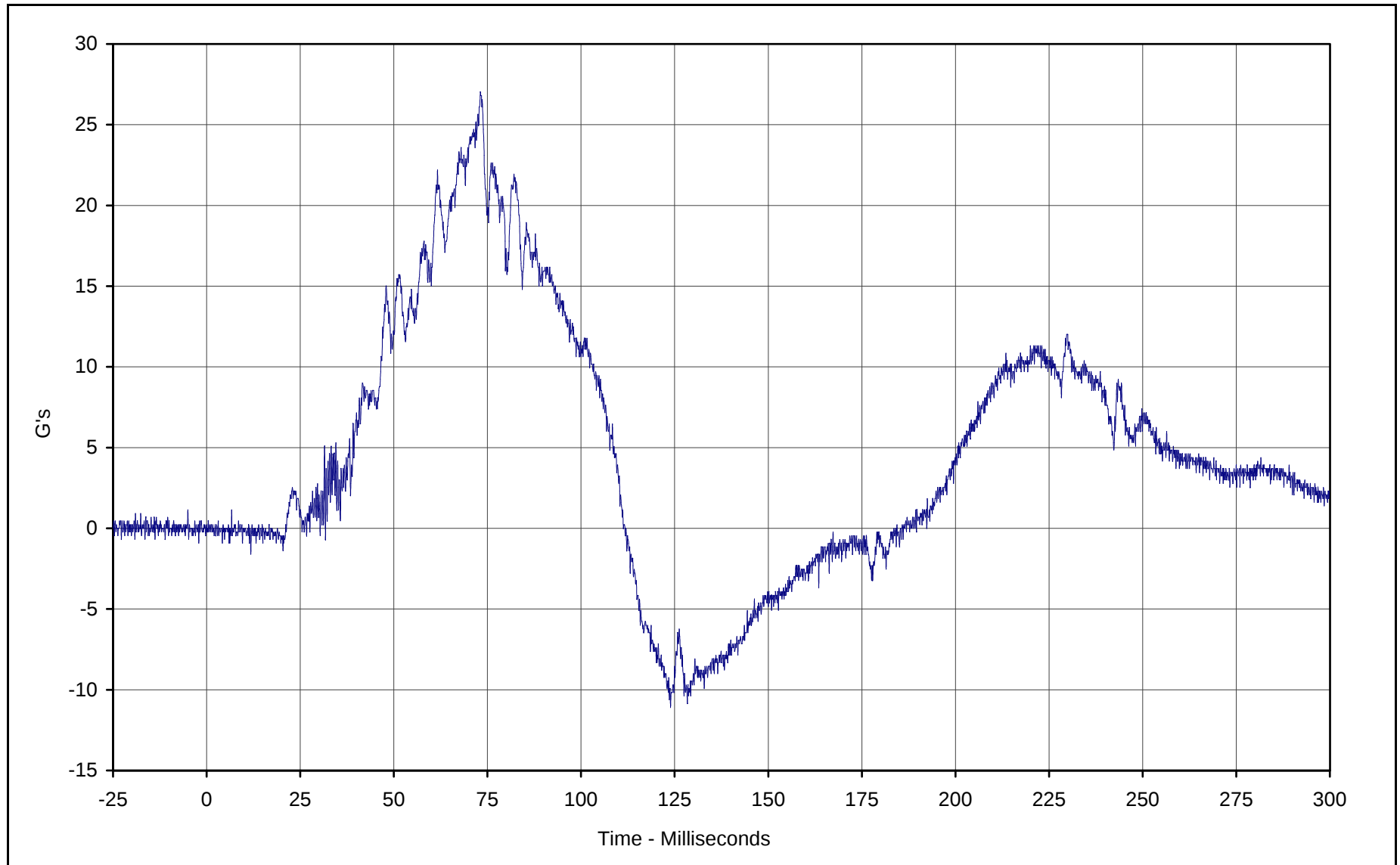


Curve Description: Passenger Head Redundant Y  
Maximum Value: 10.0 at 232.1 Milliseconds  
Minimum Value: -7.6 at 107.6 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-049

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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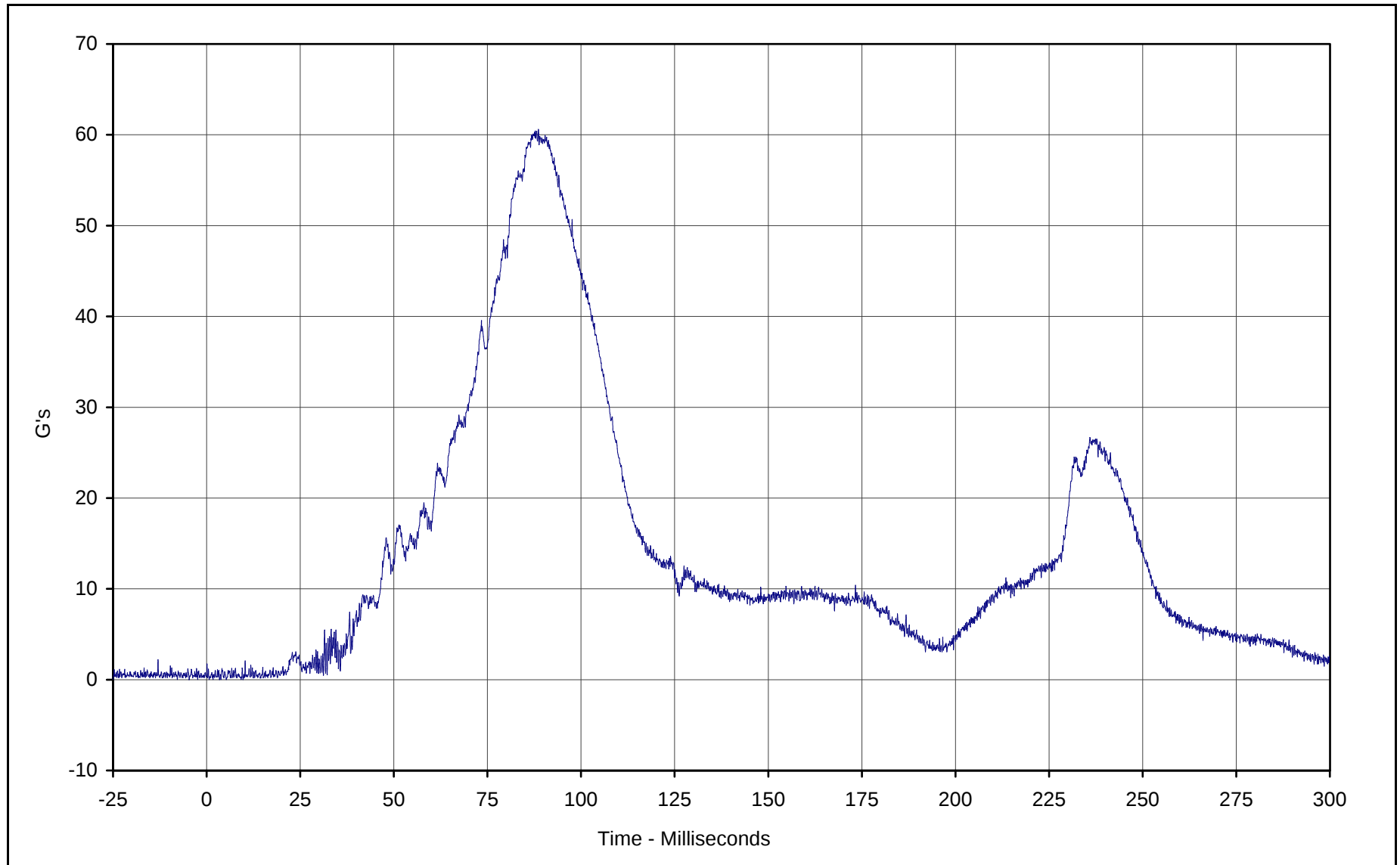


Curve Description: Passenger Head Redundant Z  
Maximum Value: 27.0 at 73.1 Milliseconds  
Minimum Value: -11.1 at 123.9 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-050

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Head Resultant Redundant

Maximum Value: 60.6 at 88.6 Milliseconds

Minimum Value: 0.0 at 0.7 Milliseconds

SAE Filter Class: 1000

Date of Test: 5/8/01

Curve Number: RES-048

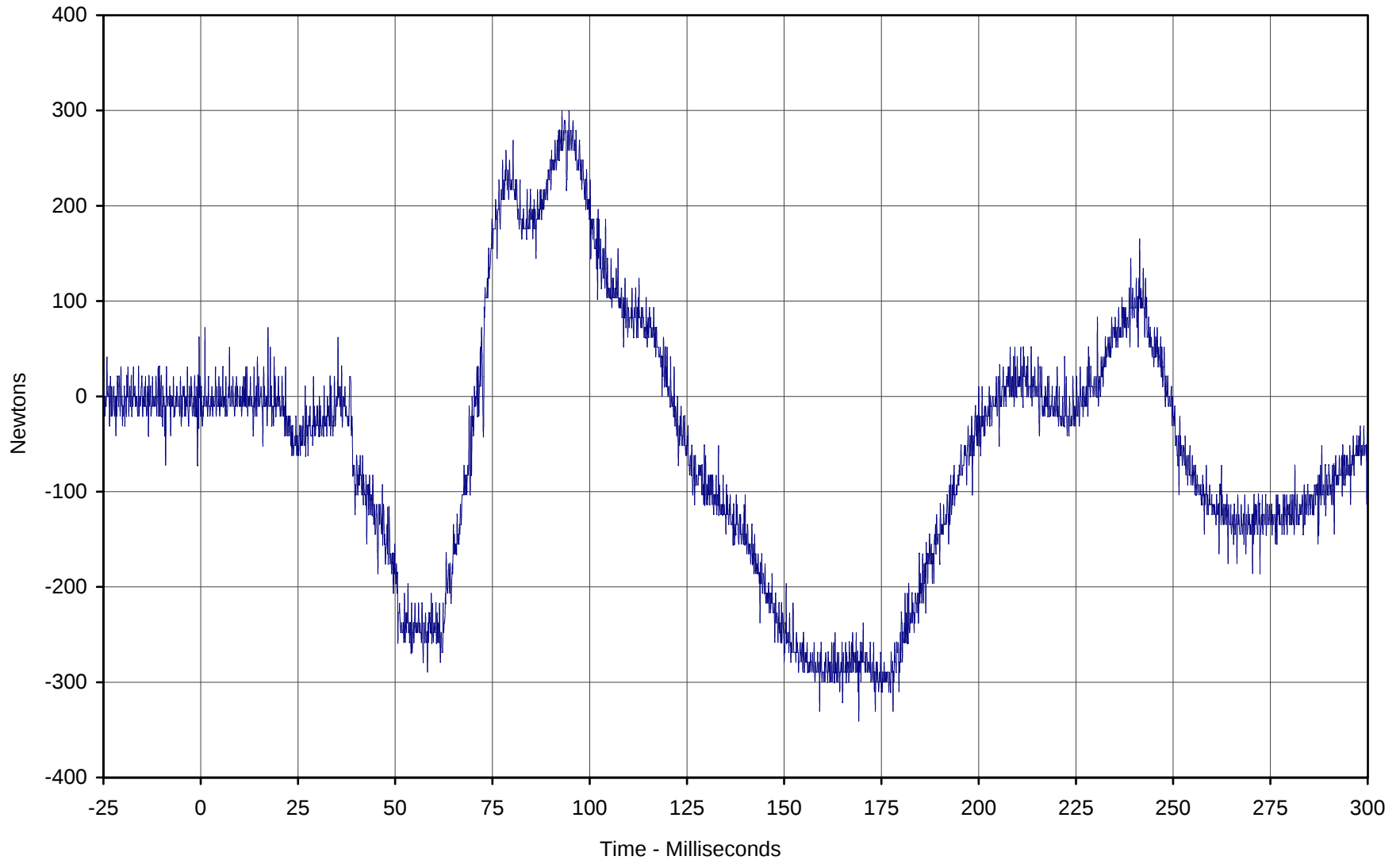
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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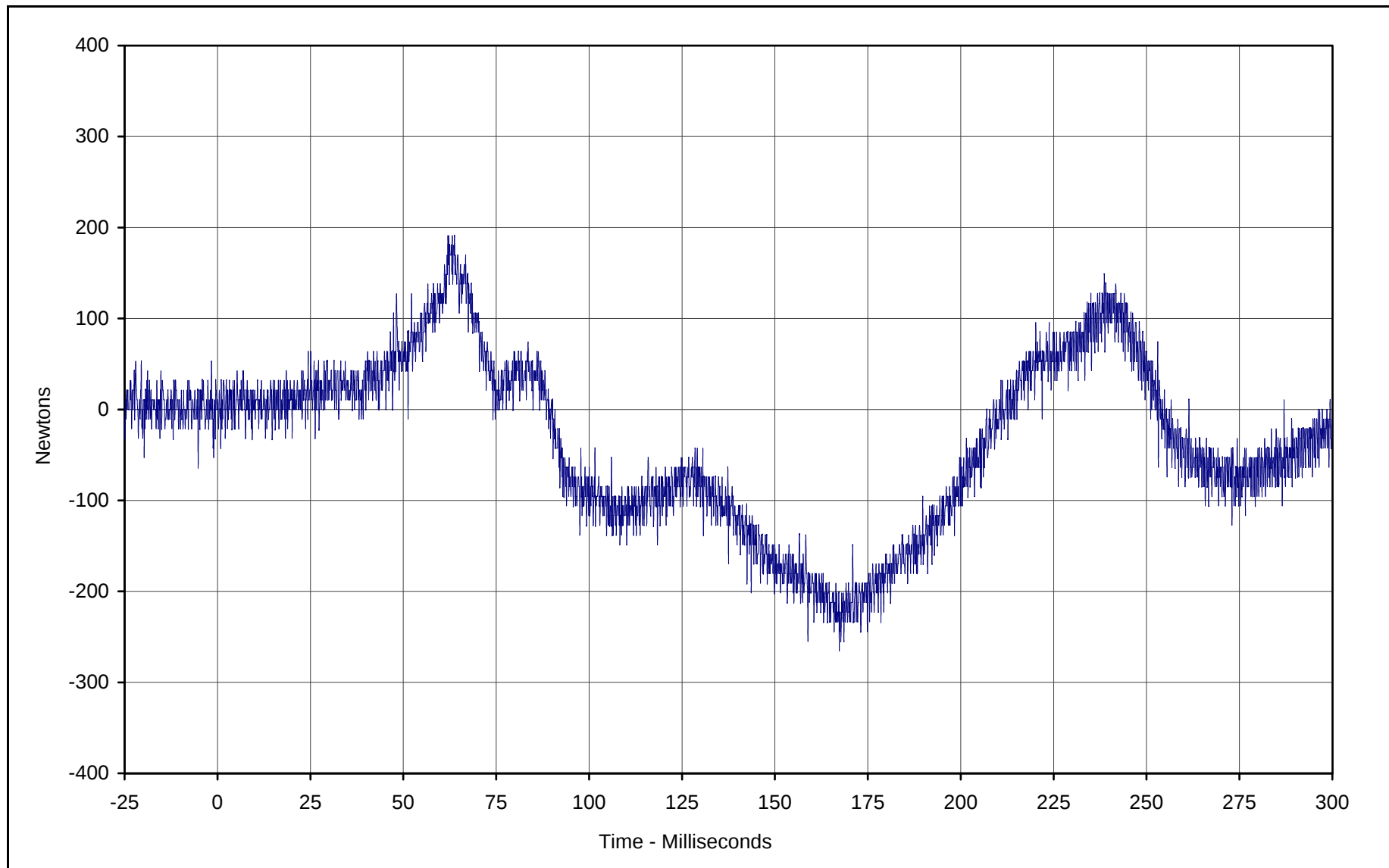
Curve Description: Passenger Neck Force X  
Maximum Value: 299.7 at 92.9 Milliseconds  
Minimum Value: -341.0 at 169.2 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-051

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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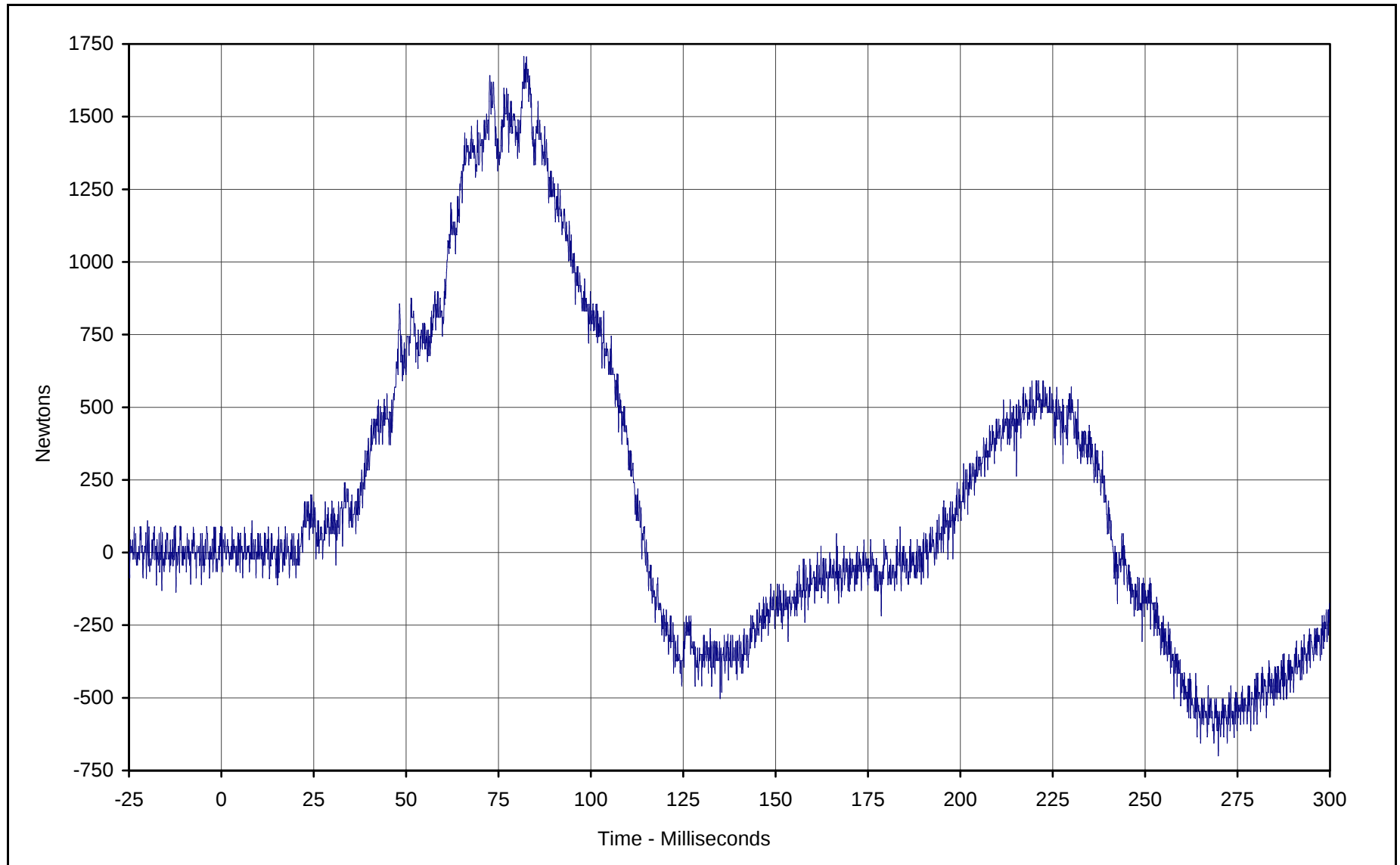


Curve Description: Passenger Neck Force Y  
Maximum Value: 191.0 at 62.0 Milliseconds  
Minimum Value: -265.3 at 167.3 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-052

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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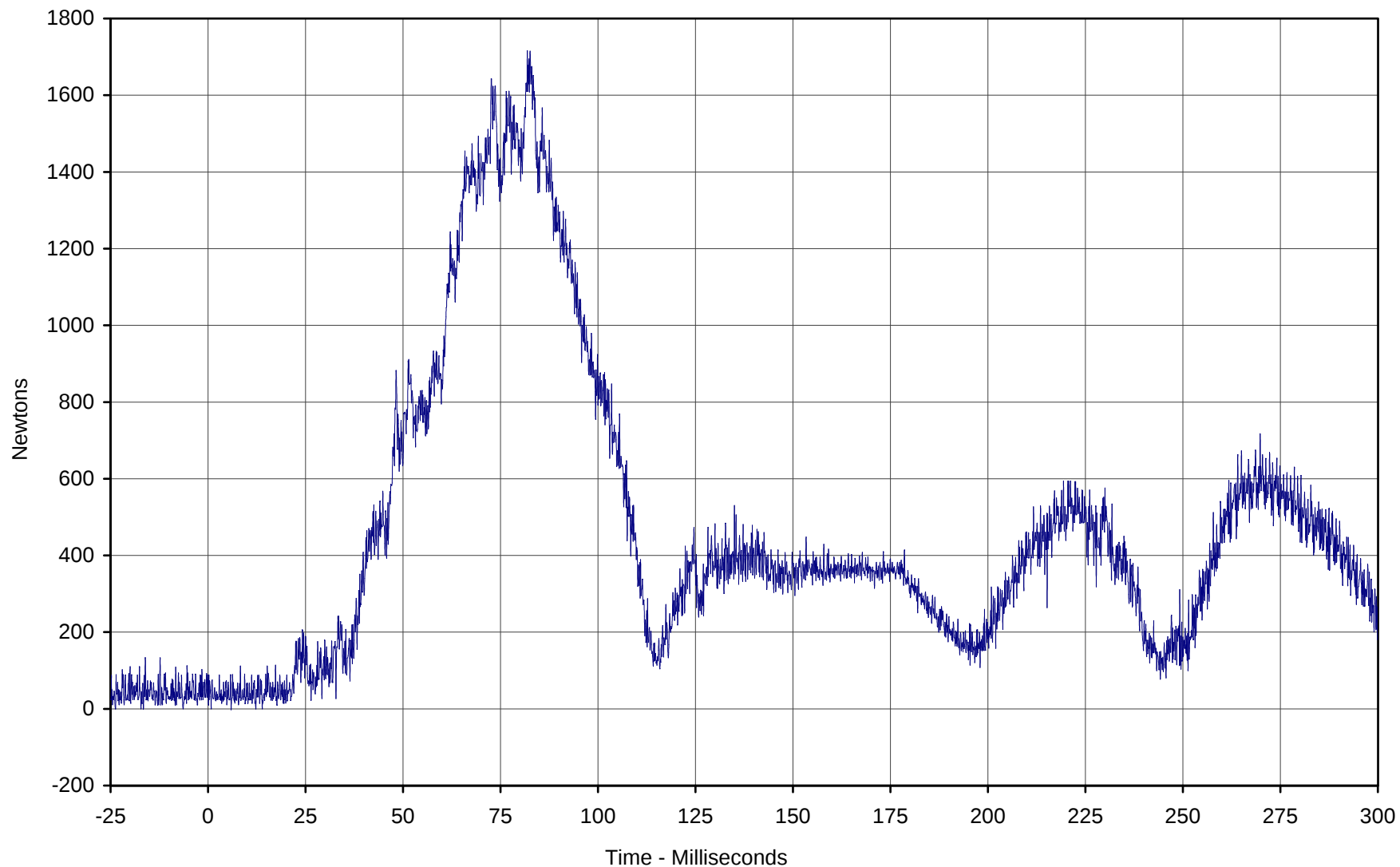


Curve Description: Passenger Neck Force Z  
Maximum Value: 1706.4 at 81.9 Milliseconds  
Minimum Value: -700.1 at 269.8 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-053

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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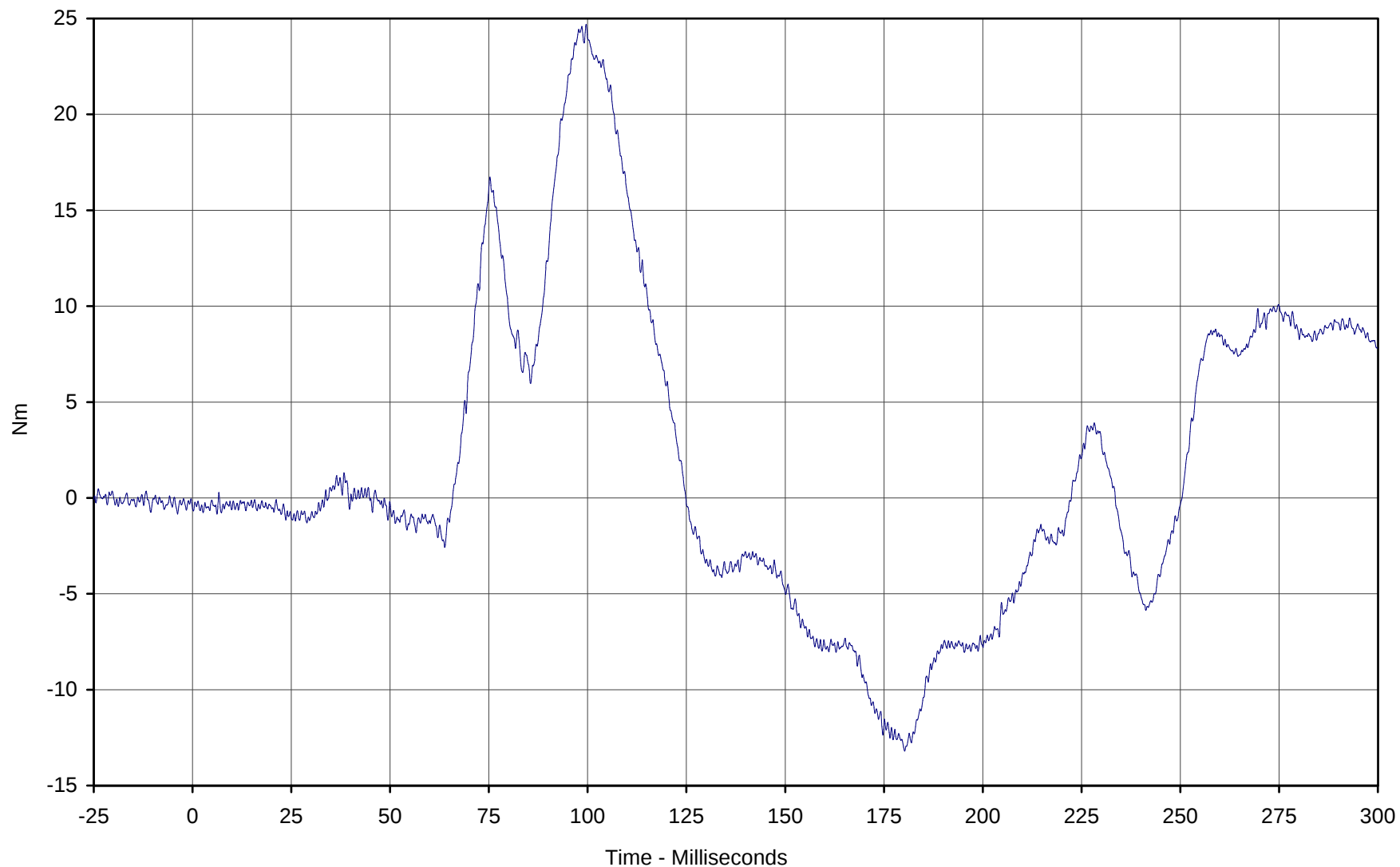
Curve Description: Passenger Neck Force Resultant  
Maximum Value: 1715.6 at 81.9 Milliseconds  
Minimum Value: 0.0 at 0.8 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-051

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Neck Moment X  
Maximum Value: 24.7 at 99.6 Milliseconds  
Minimum Value: -13.2 at 180.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-054

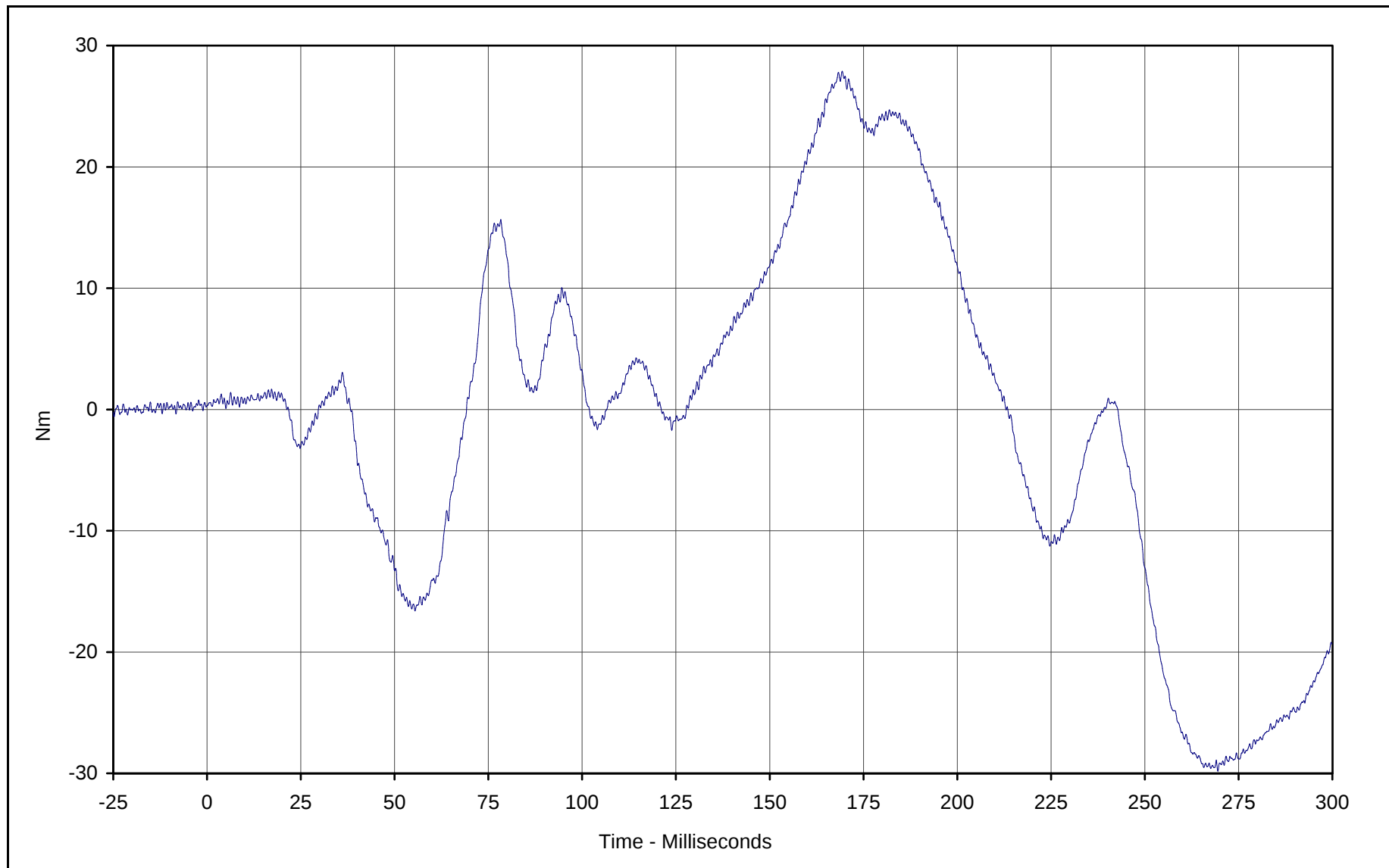
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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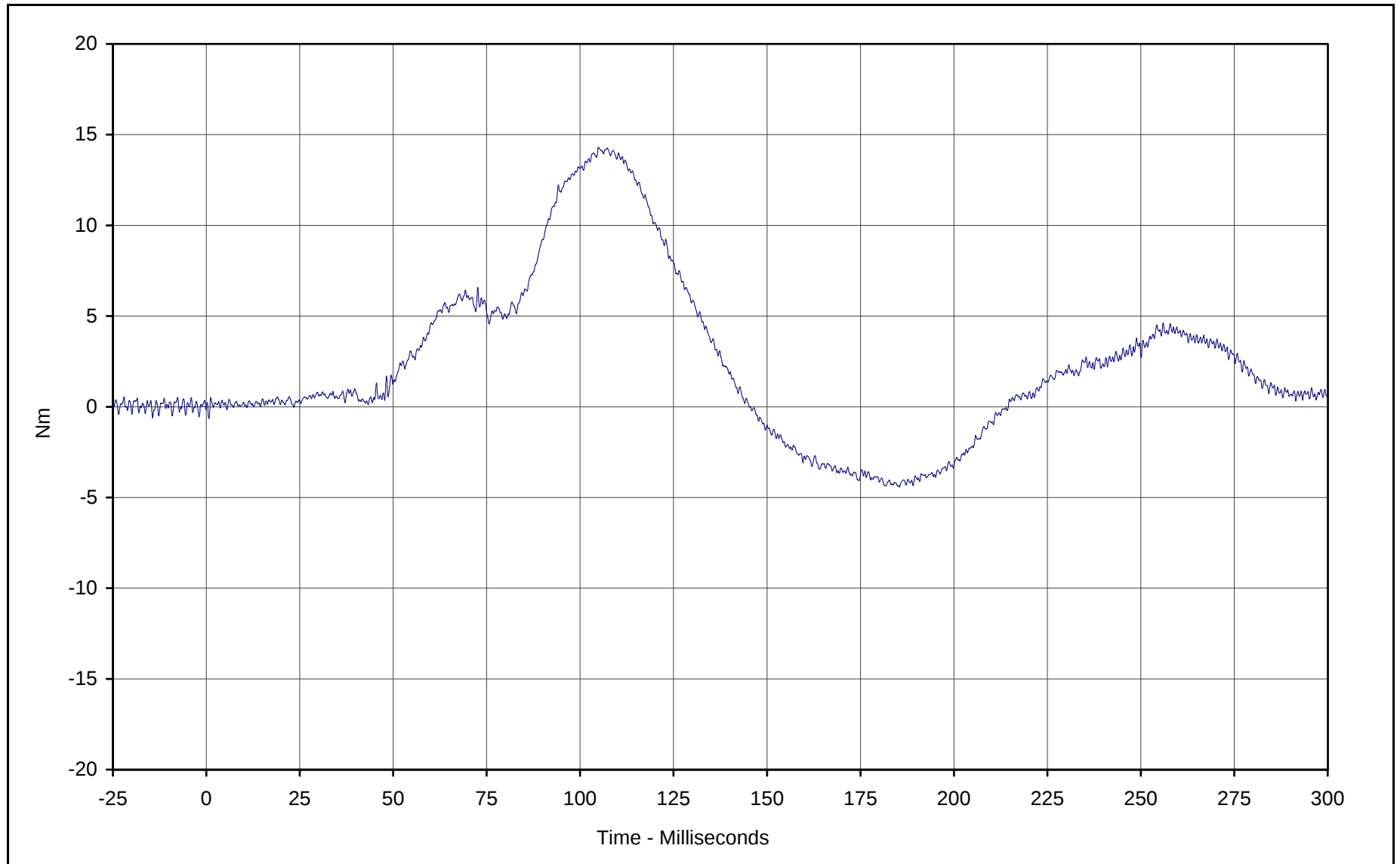
Curve Description: Passenger Neck Moment Y  
Maximum Value: 27.9 at 169.3 Milliseconds  
Minimum Value: -29.8 at 269.5 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-055

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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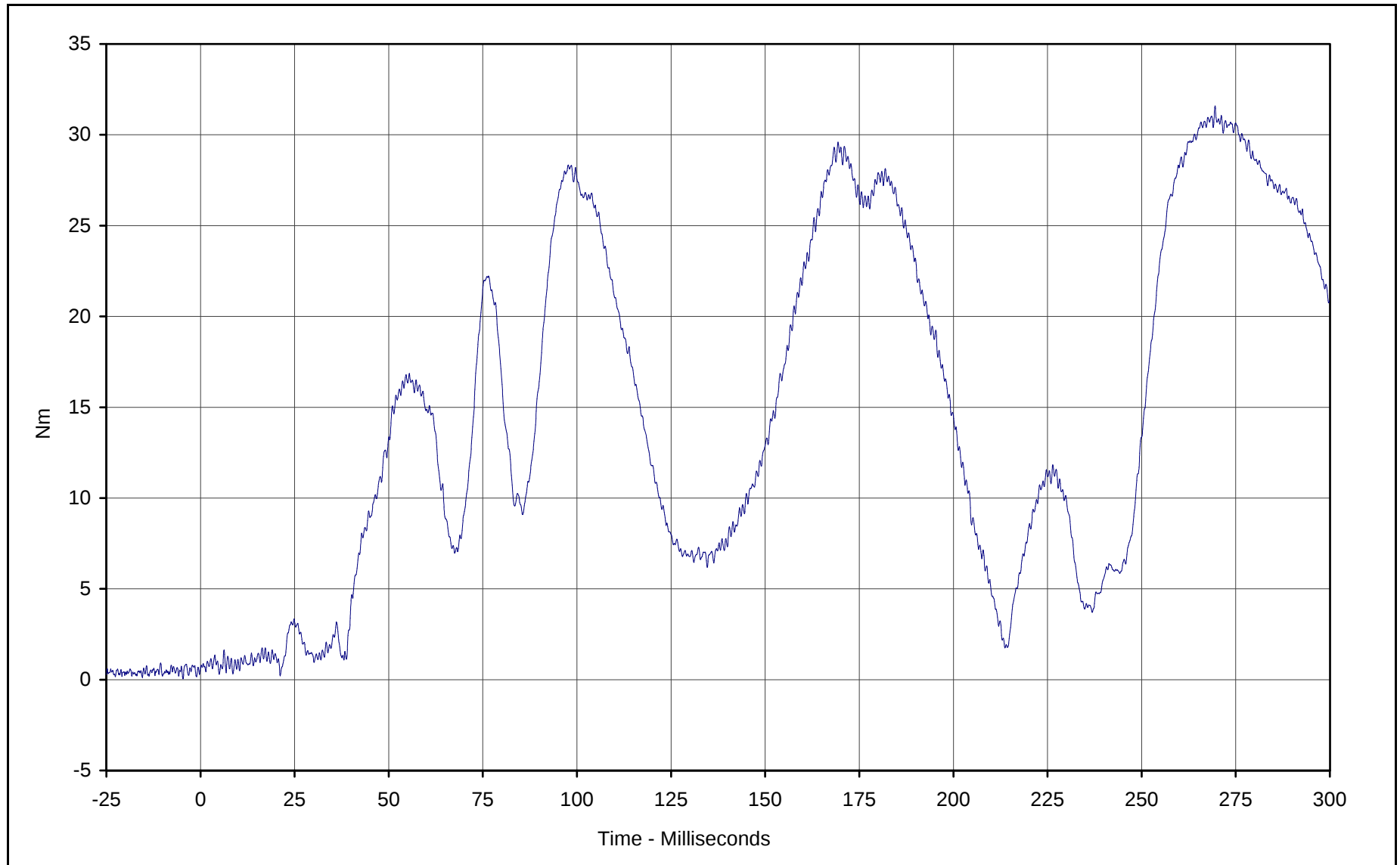
KAR21040-01



Curve Description: Passenger Neck Moment Z  
Maximum Value: 14.3 at 104.9 Milliseconds  
Minimum Value: -4.4 at 185.4 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-056

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



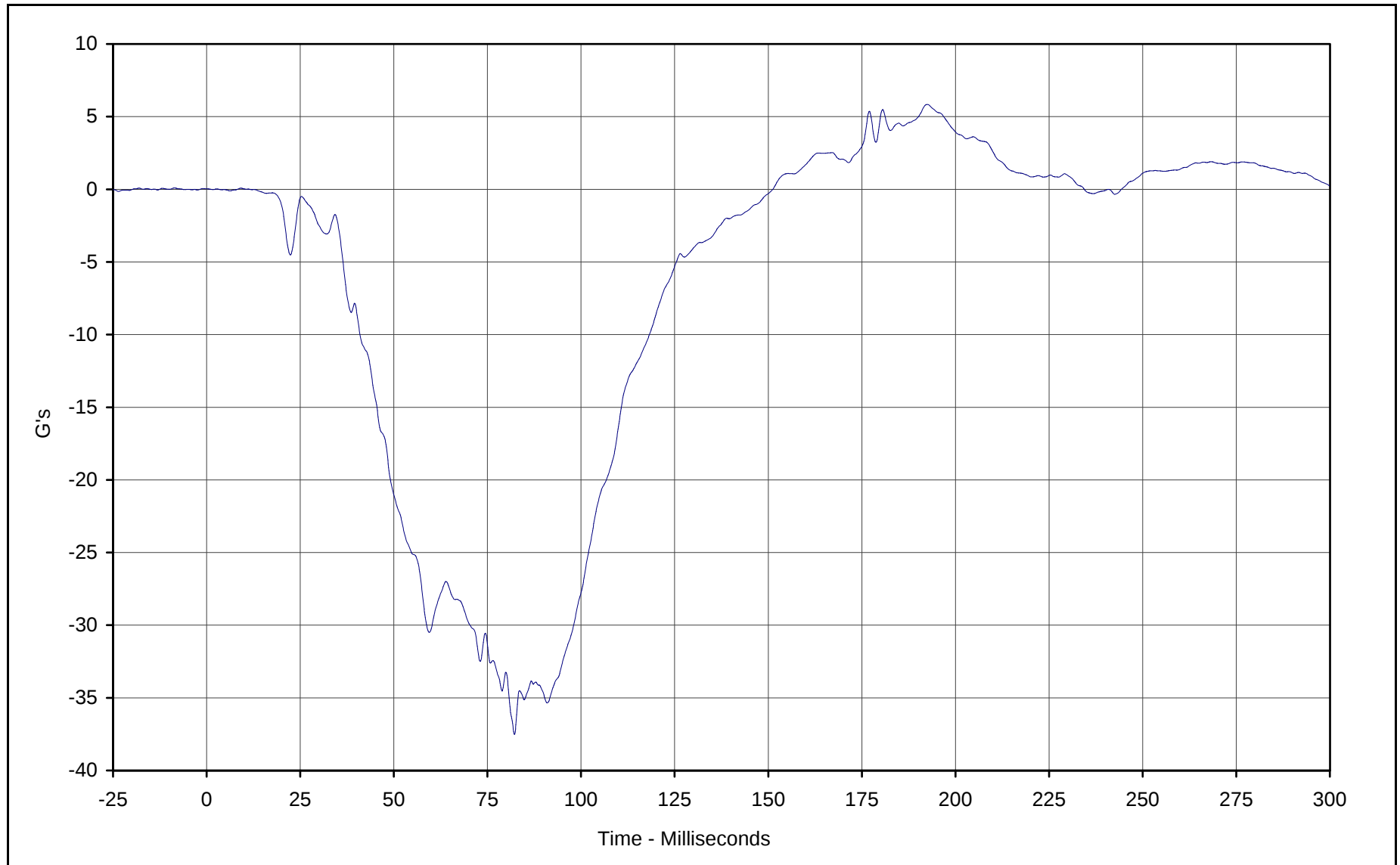


Curve Description: Passenger Neck Moment Resultant  
Maximum Value: 31.6 at 269.5 Milliseconds  
Minimum Value: 0.2 at 21.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: RES-054

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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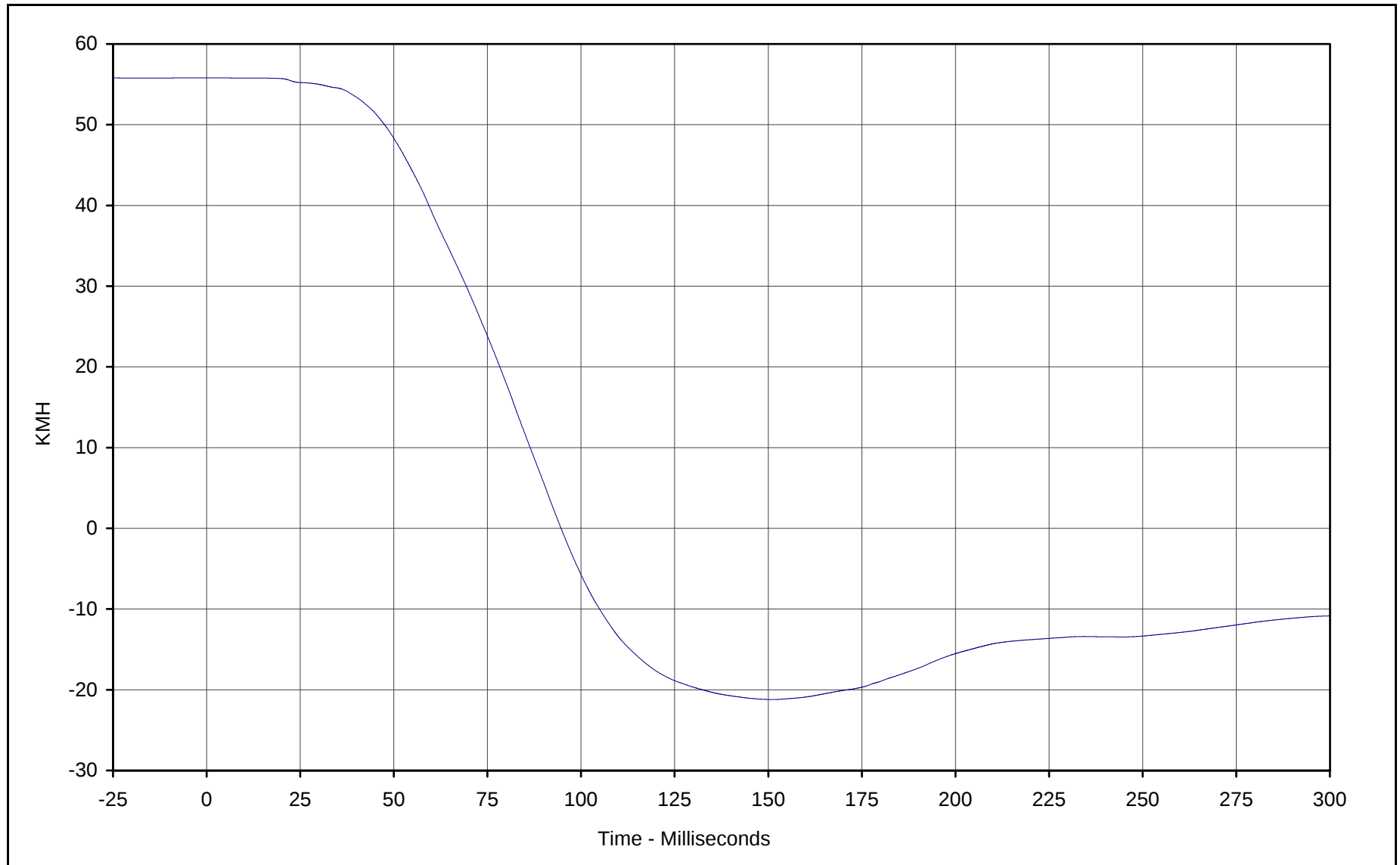
Curve Description: Passenger Chest Primary X  
Maximum Value: 5.8 at 192.4 Milliseconds  
Minimum Value: -37.5 at 82.2 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-057

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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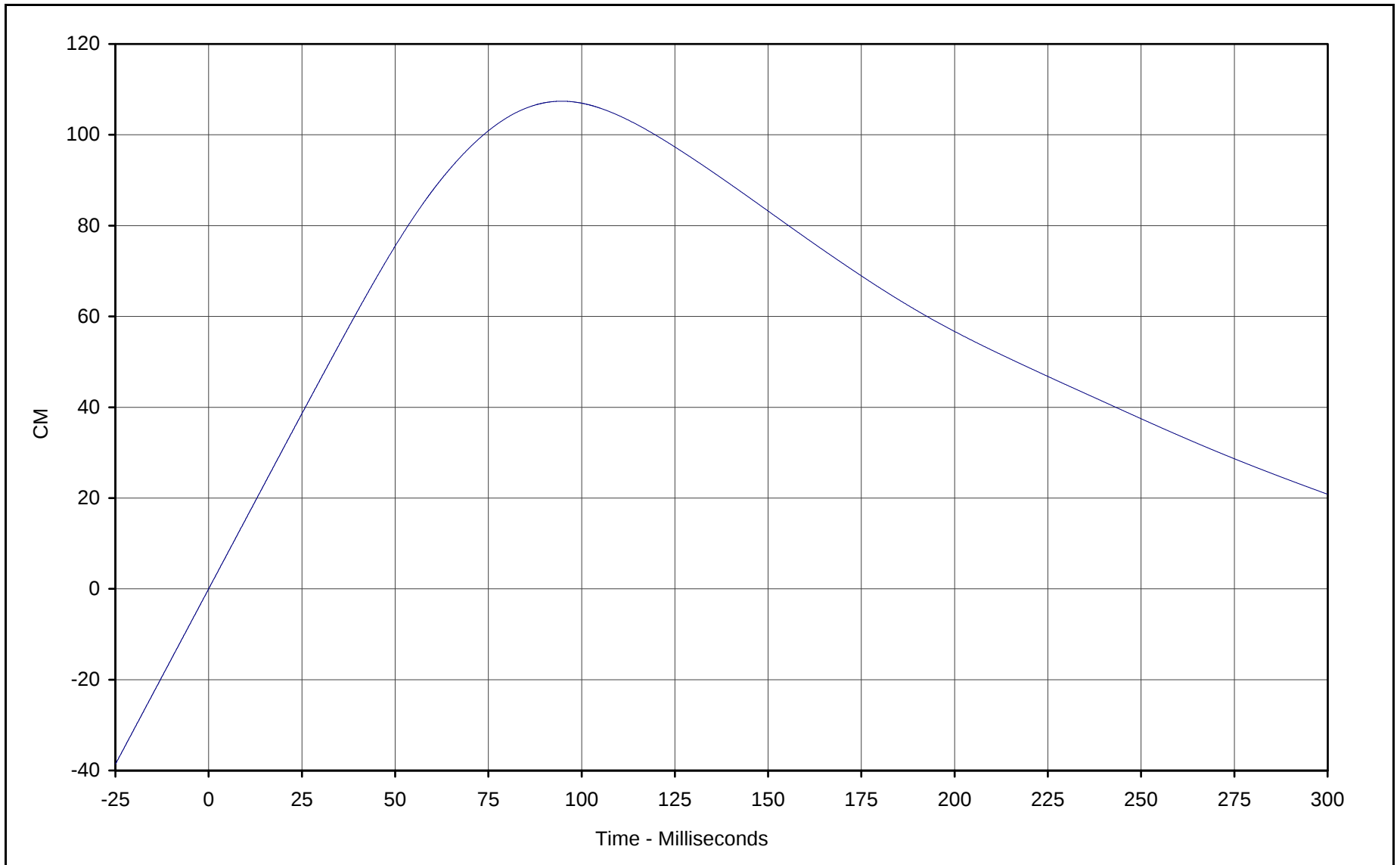
Curve Description: Passenger Chest Primary X Velocity  
Maximum Value: 55.8 at 1.0 Milliseconds  
Minimum Value: -21.2 at 151.2 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-057

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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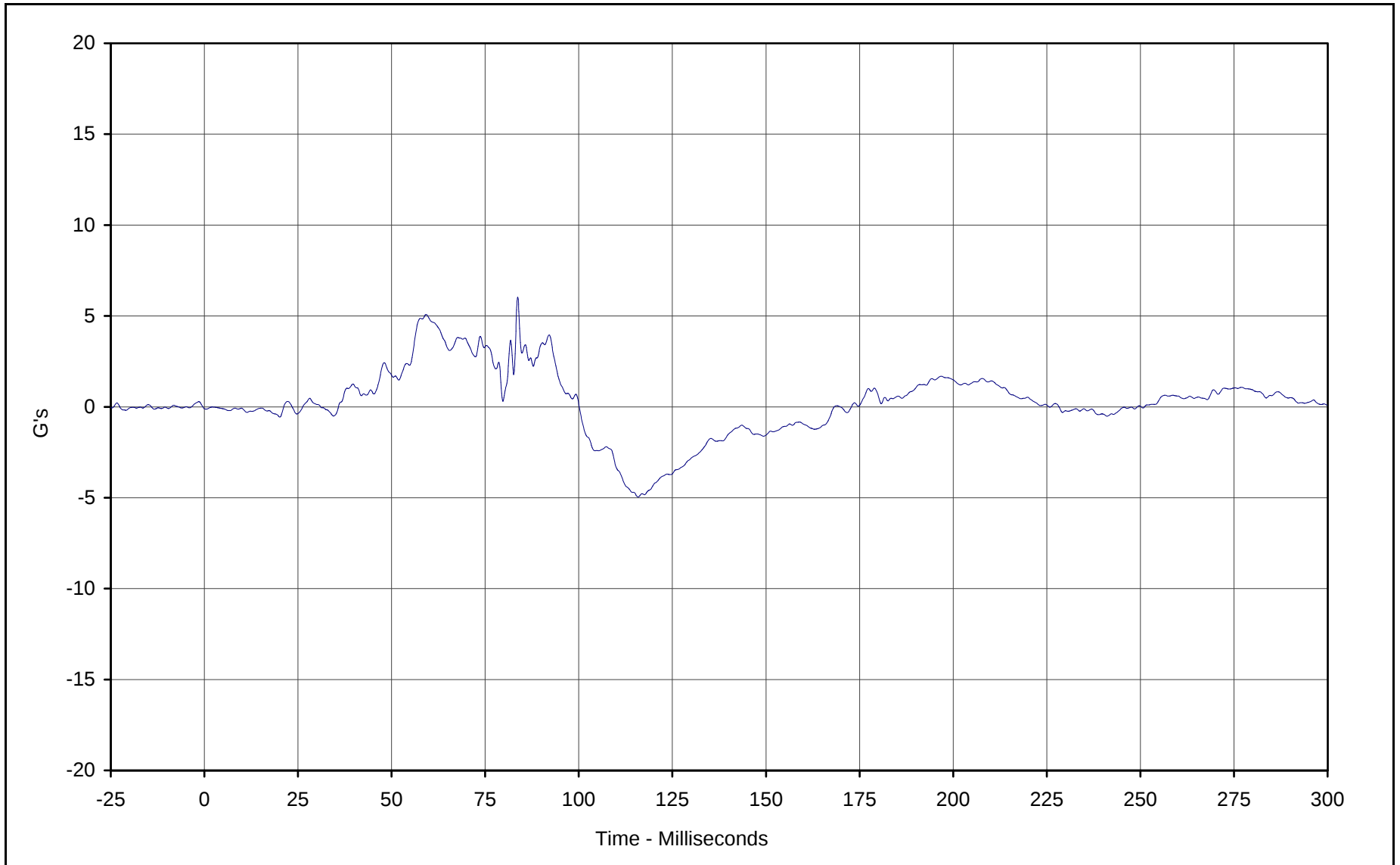
Curve Description: Passenger Chest Primary X Displ.  
Maximum Value: 107.4 at 94.7 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-057

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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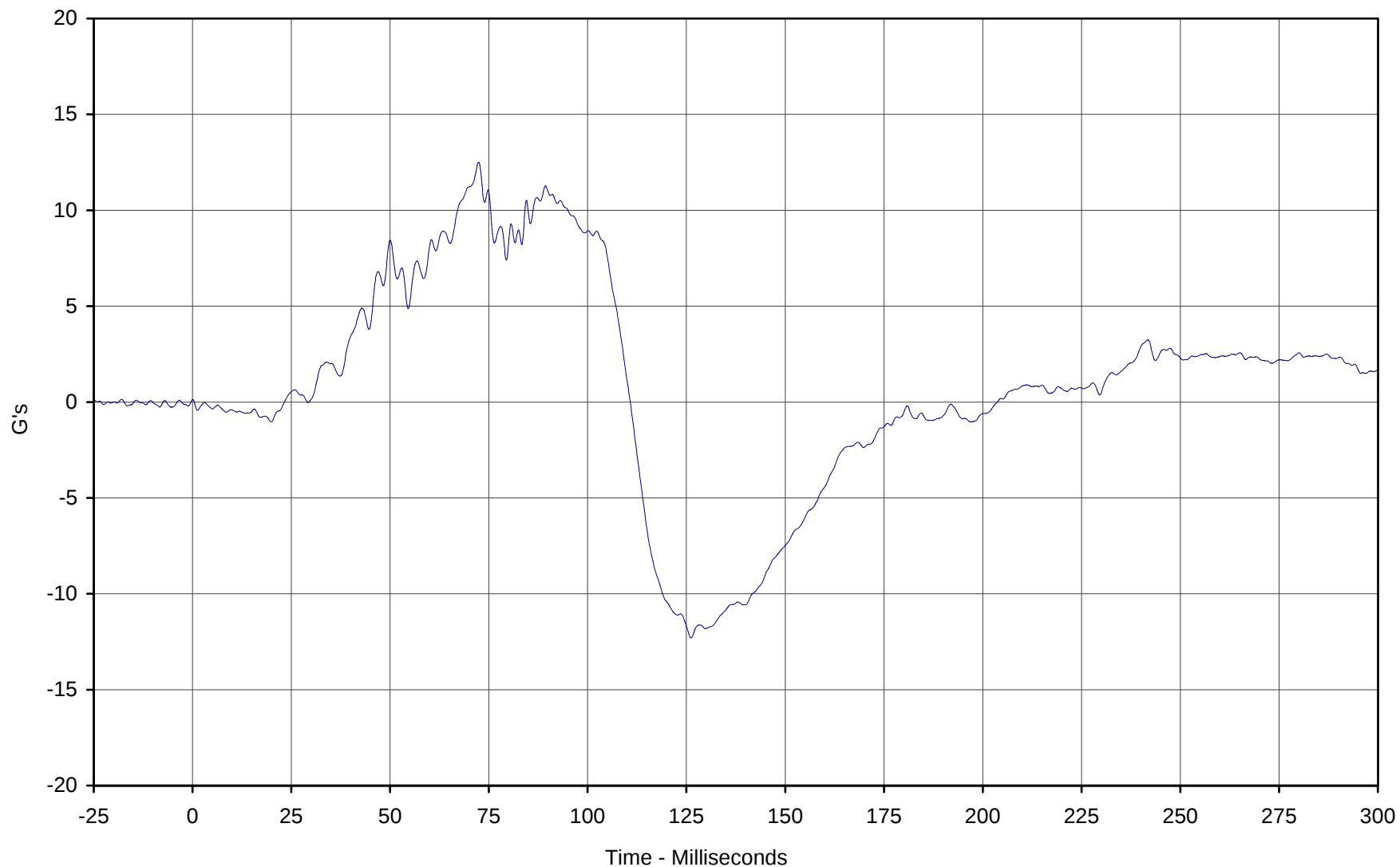


Curve Description: Passenger Chest Primary Y  
Maximum Value: 6.0 at 83.7 Milliseconds  
Minimum Value: -5.0 at 115.8 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-058

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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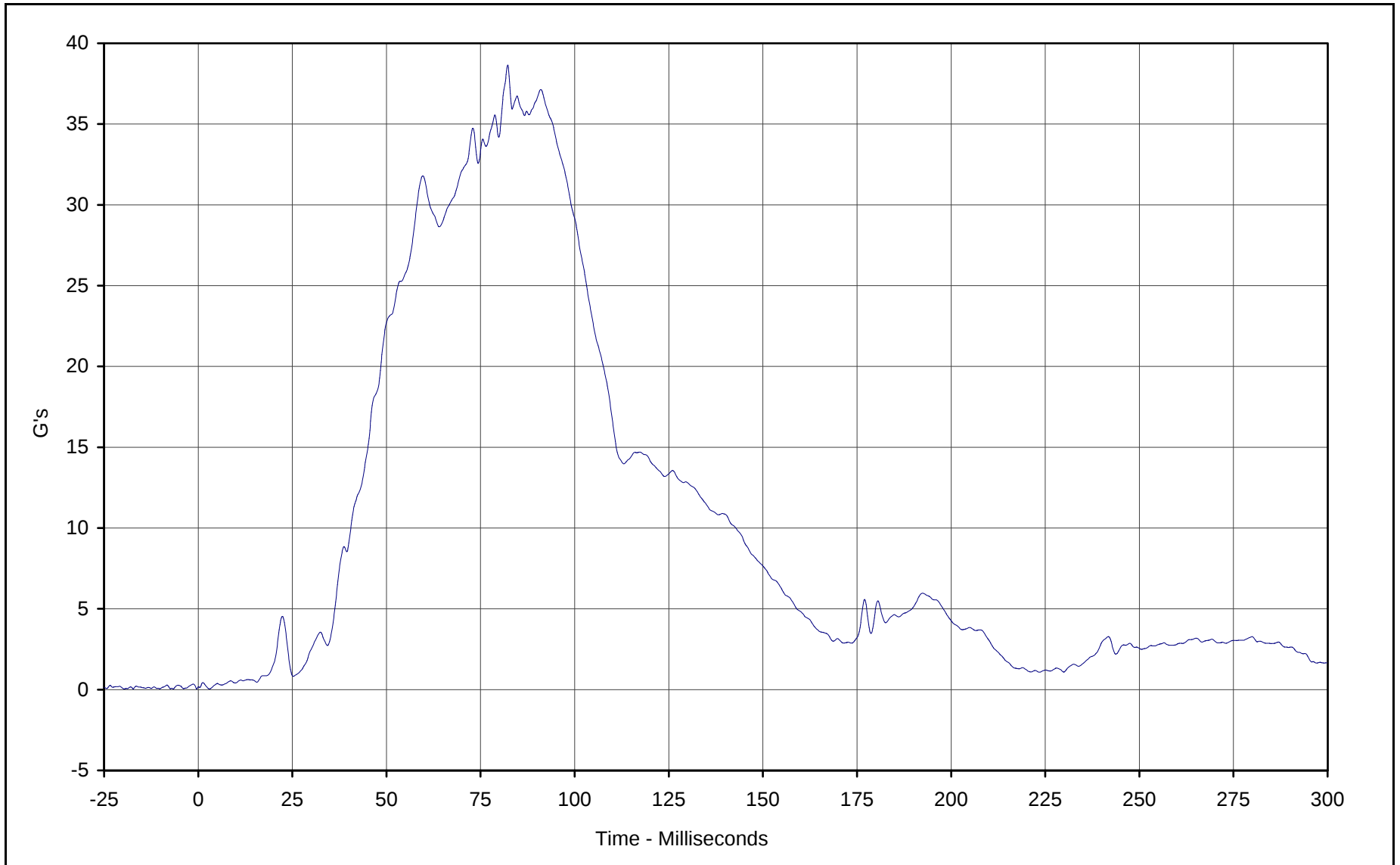


Curve Description: Passenger Chest Primary Z  
Maximum Value: 12.5 at 72.4 Milliseconds  
Minimum Value: -12.3 at 126.2 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-059

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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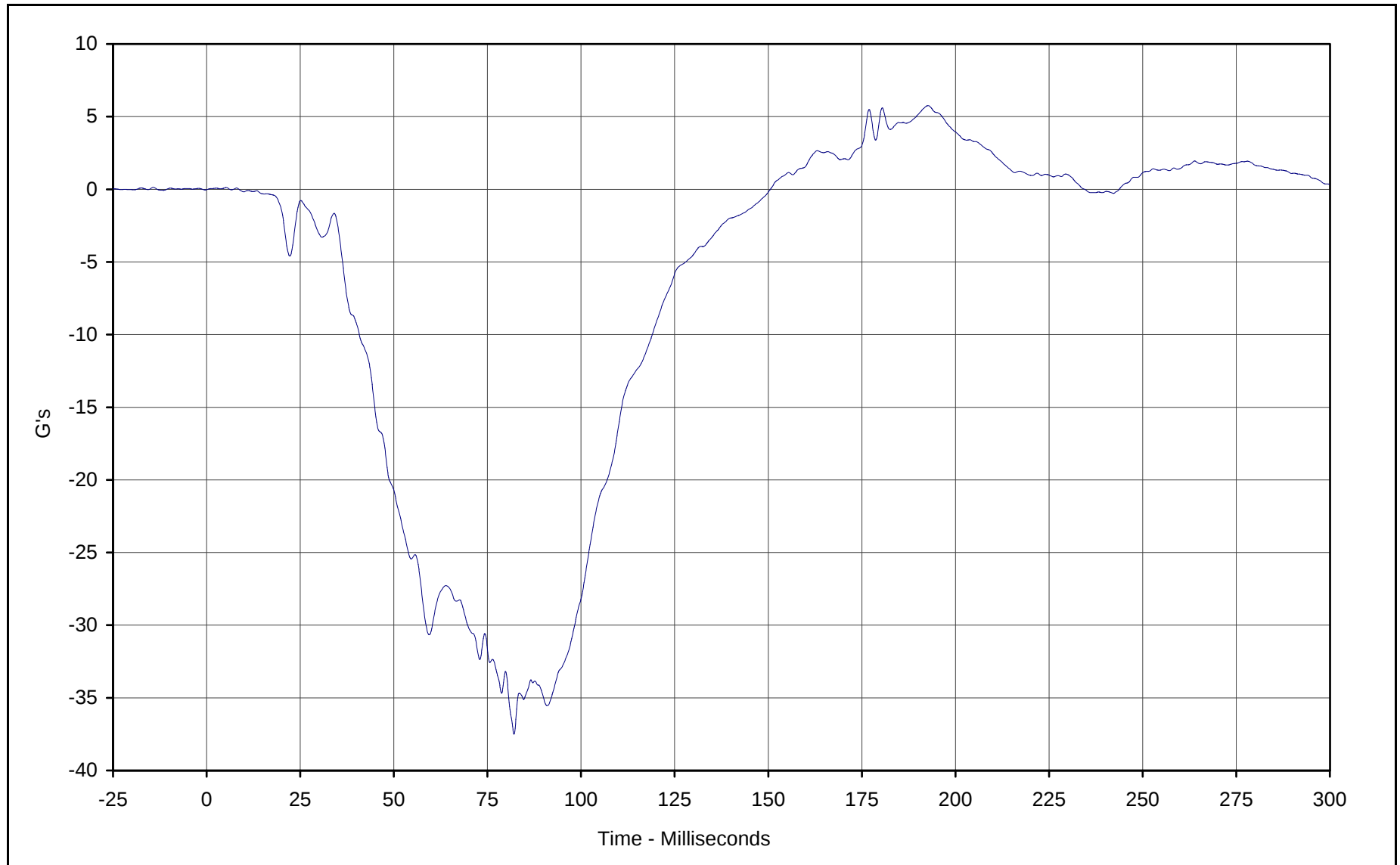
Curve Description: Passenger Chest Resultant Primary  
Maximum Value: 38.6 at 82.2 Milliseconds  
Minimum Value: 0.0 at 3.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: RES-057

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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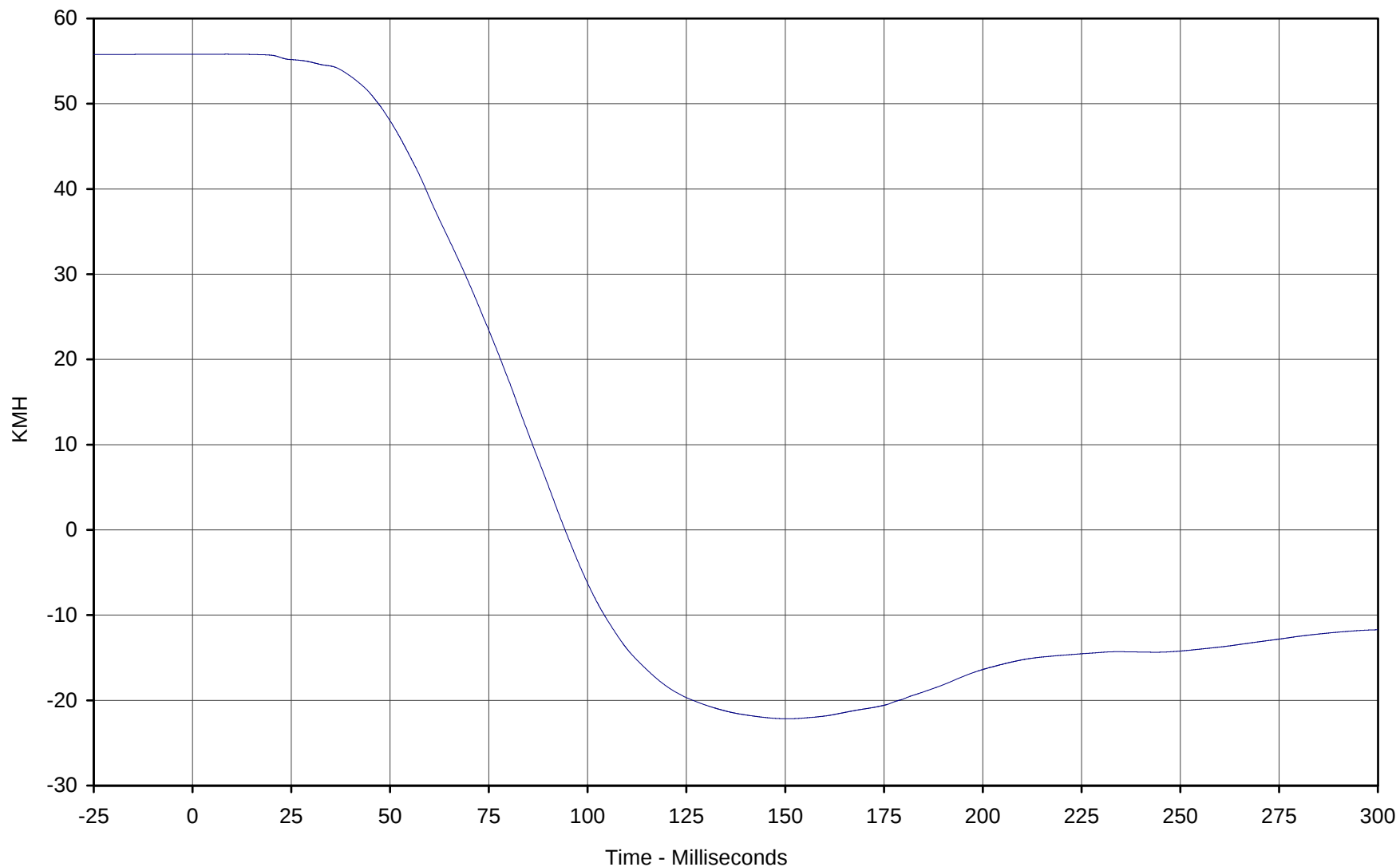
Curve Description: Passenger Chest Redundant X  
Maximum Value: 5.8 at 192.7 Milliseconds  
Minimum Value: -37.5 at 82.1 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-060

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Chest Redundant X Velocity

Maximum Value: 55.8 at 8.6 Milliseconds

Minimum Value: -22.2 at 150.6 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN1-060

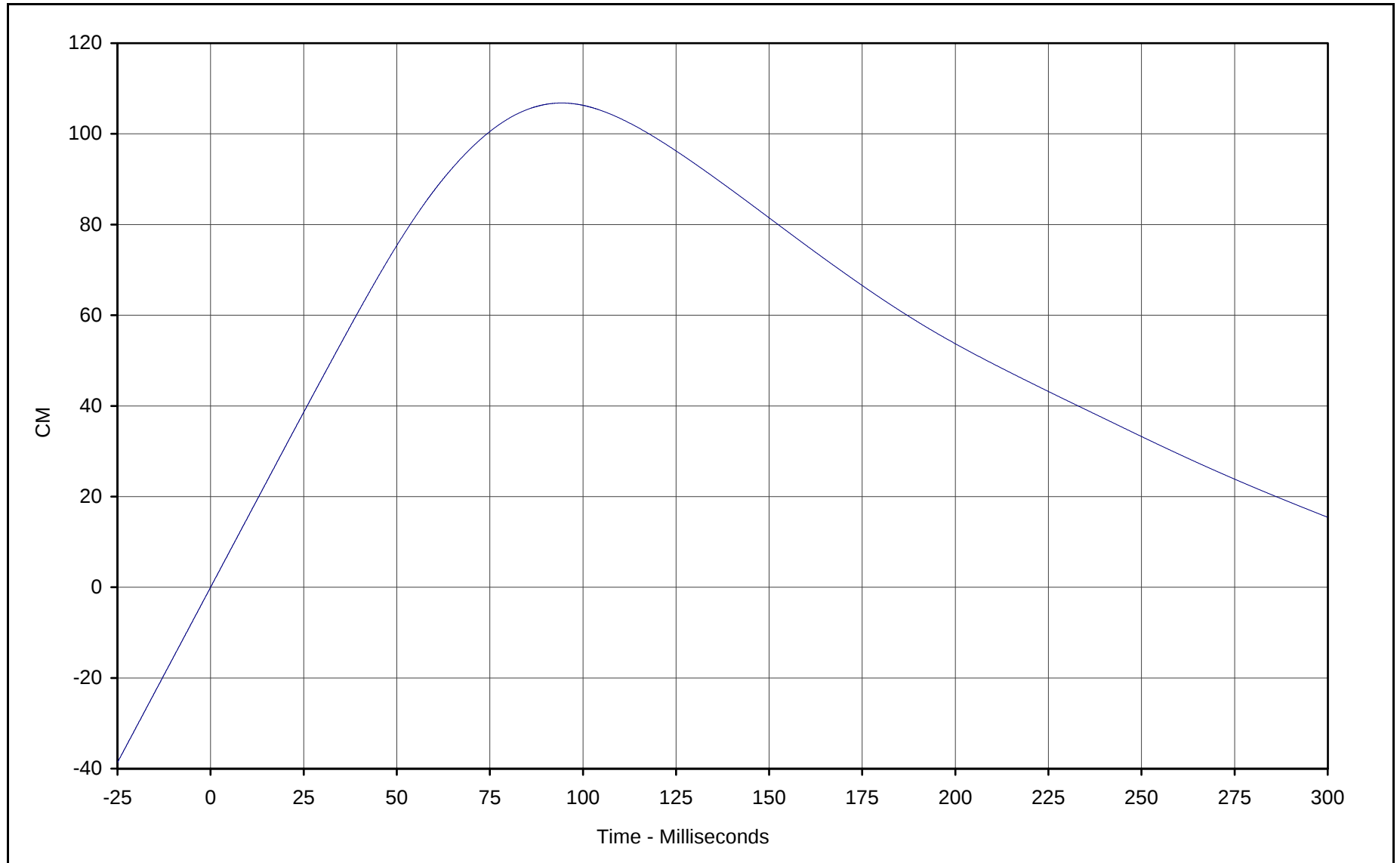
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Chest Redundant X Displ.

Maximum Value: 106.8 at 94.3 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN2-060

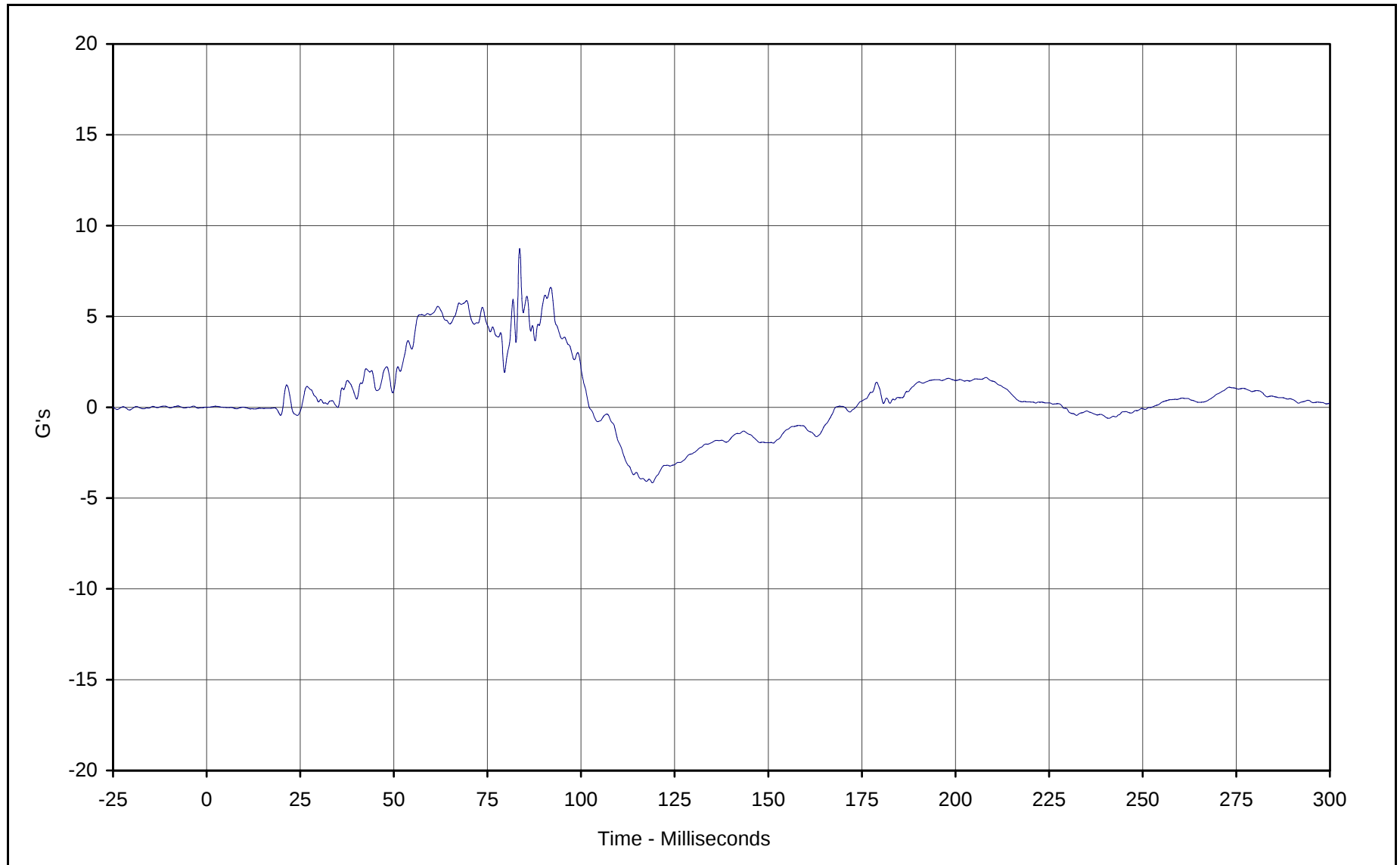
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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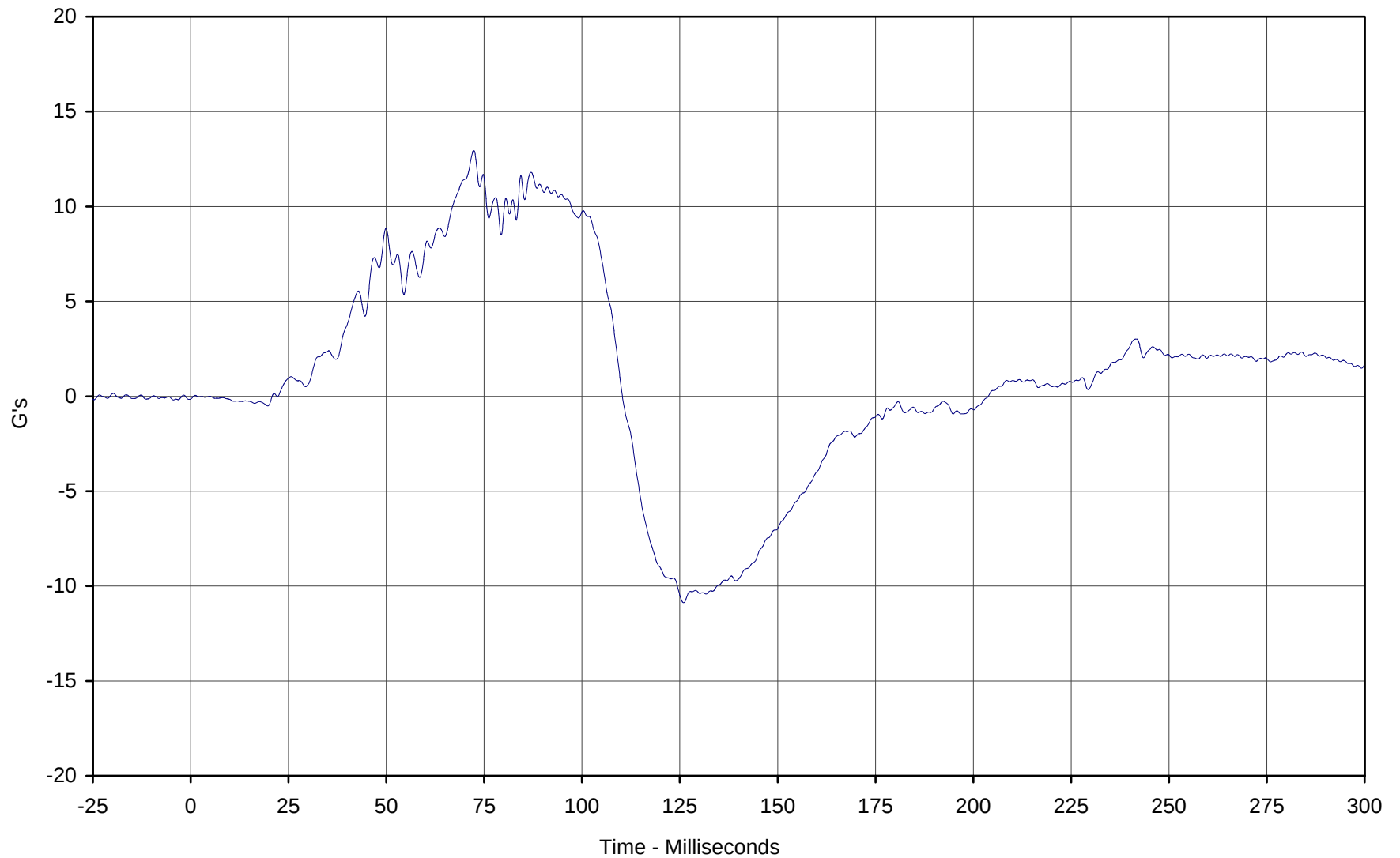
Curve Description: Passenger Chest Redundant Y  
Maximum Value: 8.7 at 83.6 Milliseconds  
Minimum Value: -4.2 at 119.1 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-061

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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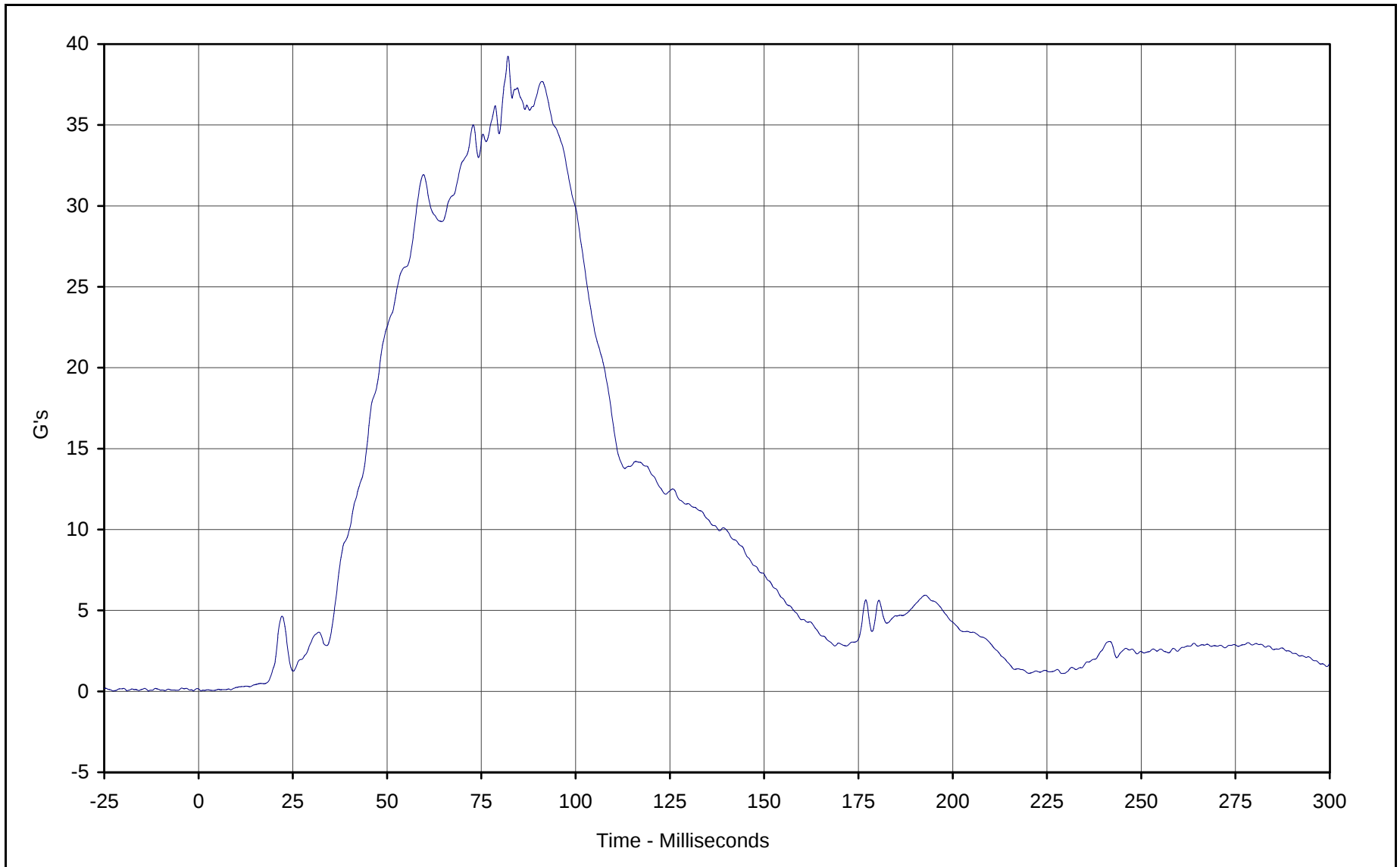
Curve Description: Passenger Chest Redundant Z  
Maximum Value: 13.0 at 72.3 Milliseconds  
Minimum Value: -10.9 at 126.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-062

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Chest Resultant Redundant

Maximum Value: 39.2 at 82.1 Milliseconds

Minimum Value: 0.0 at 0.7 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: RES-060

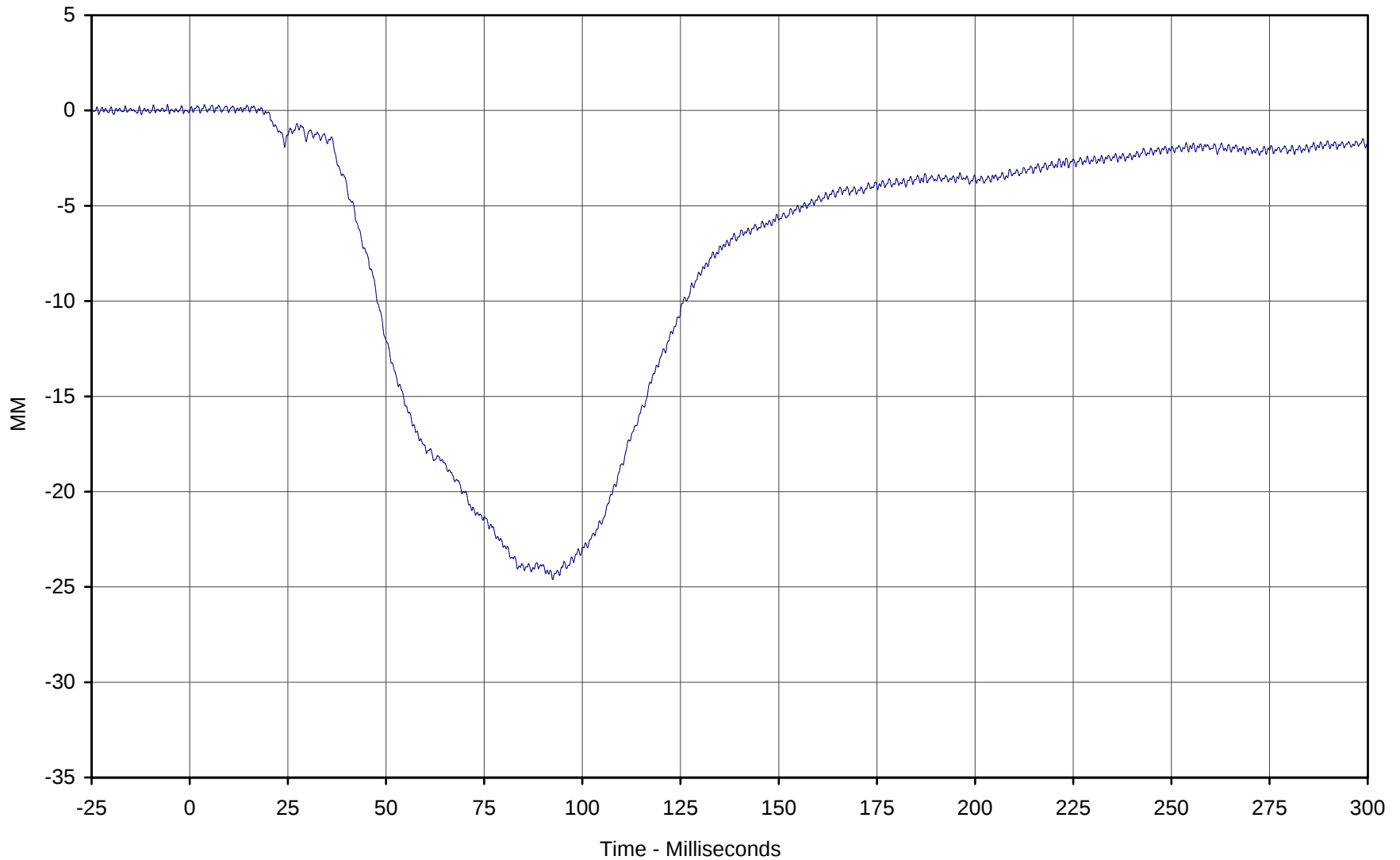
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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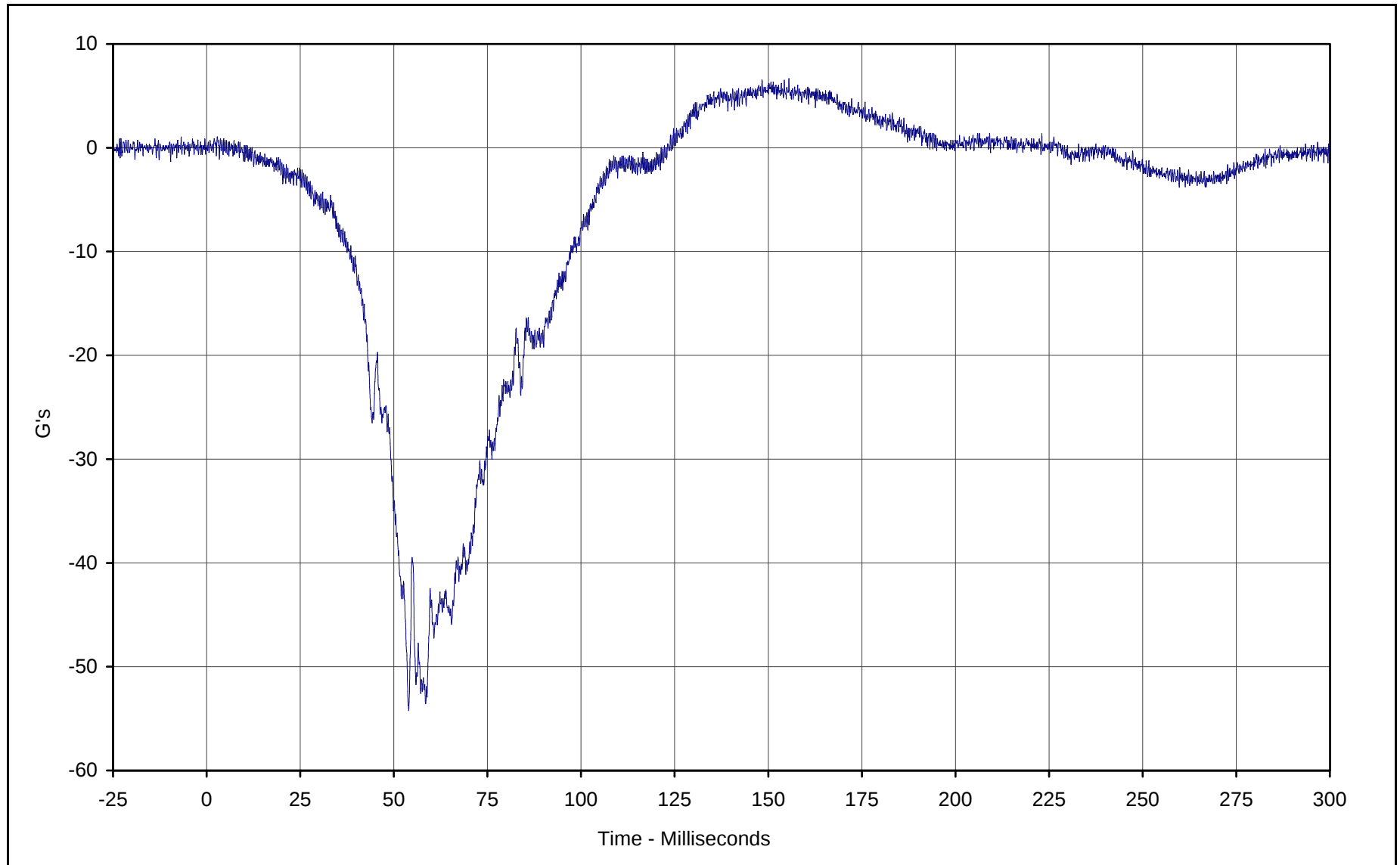
Curve Description: Passenger Chest Displacement X  
Maximum Value: 0.3 at 3.7 Milliseconds  
Minimum Value: -24.6 at 92.4 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-063

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-95



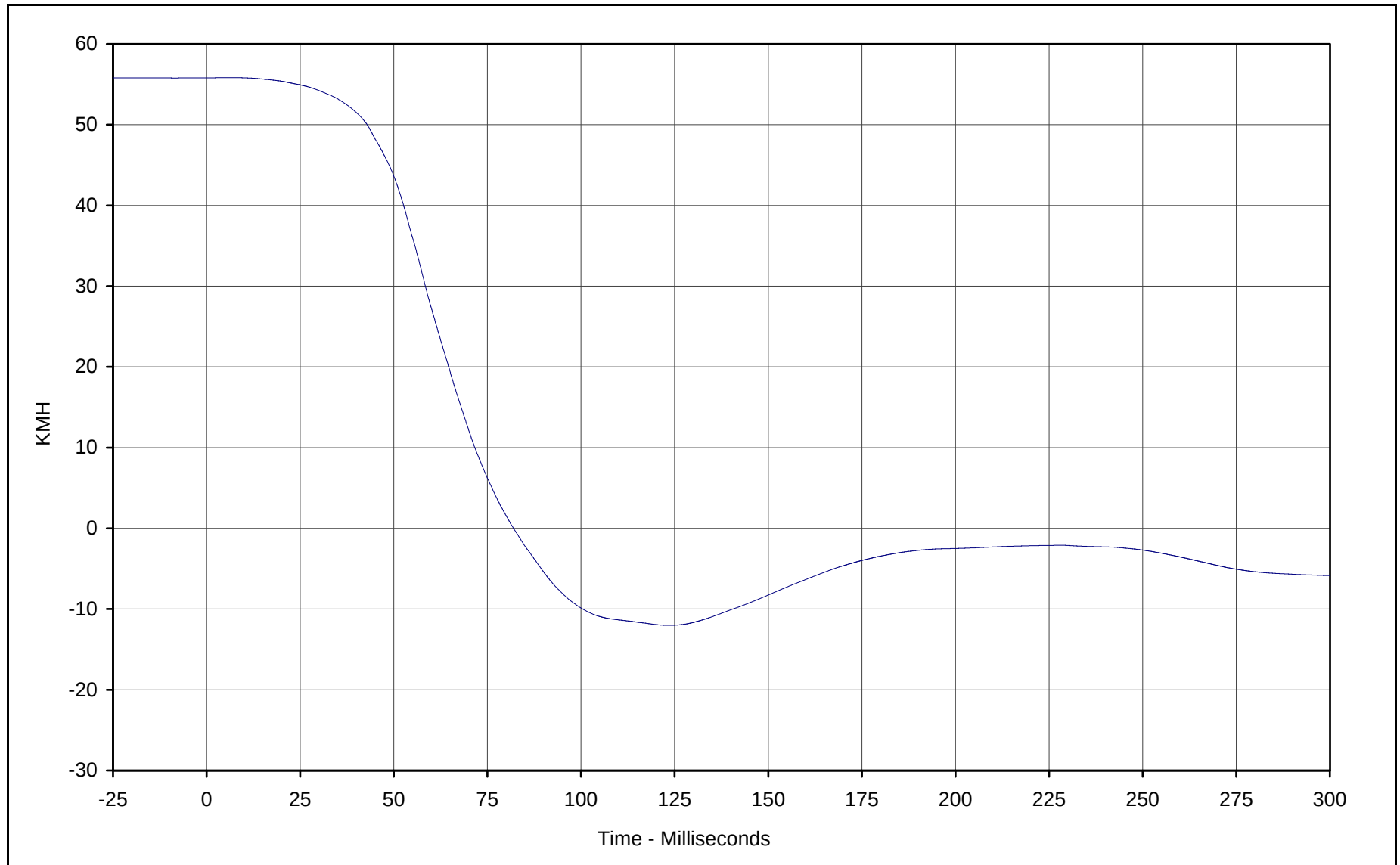
Curve Description: Passenger Pelvis X  
Maximum Value: 6.7 at 155.5 Milliseconds  
Minimum Value: -54.2 at 54.0 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-064

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-96



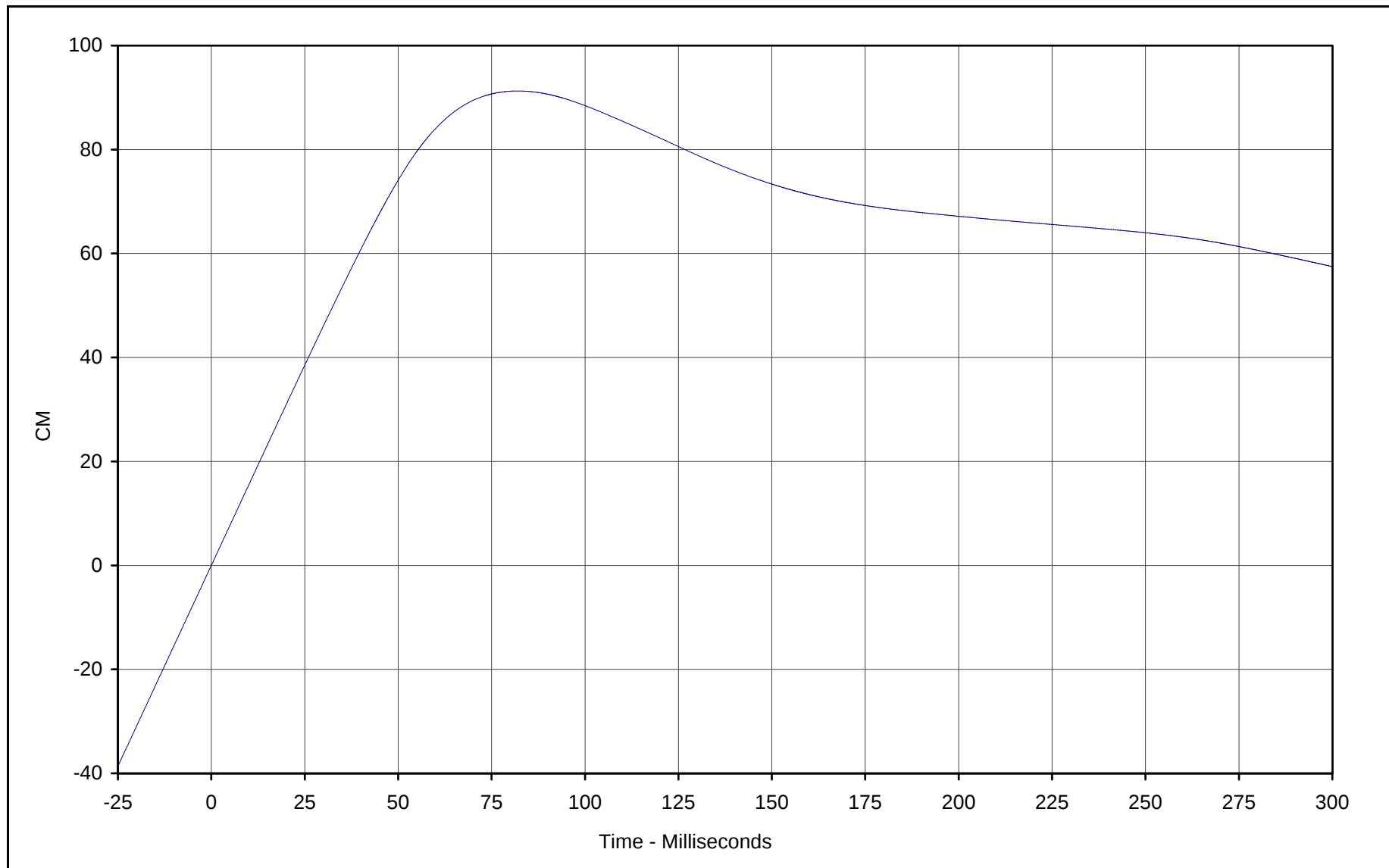
Curve Description: Passenger Pelvis X Velocity  
Maximum Value: 55.8 at 5.2 Milliseconds  
Minimum Value: -12.0 at 123.5 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-064

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-97



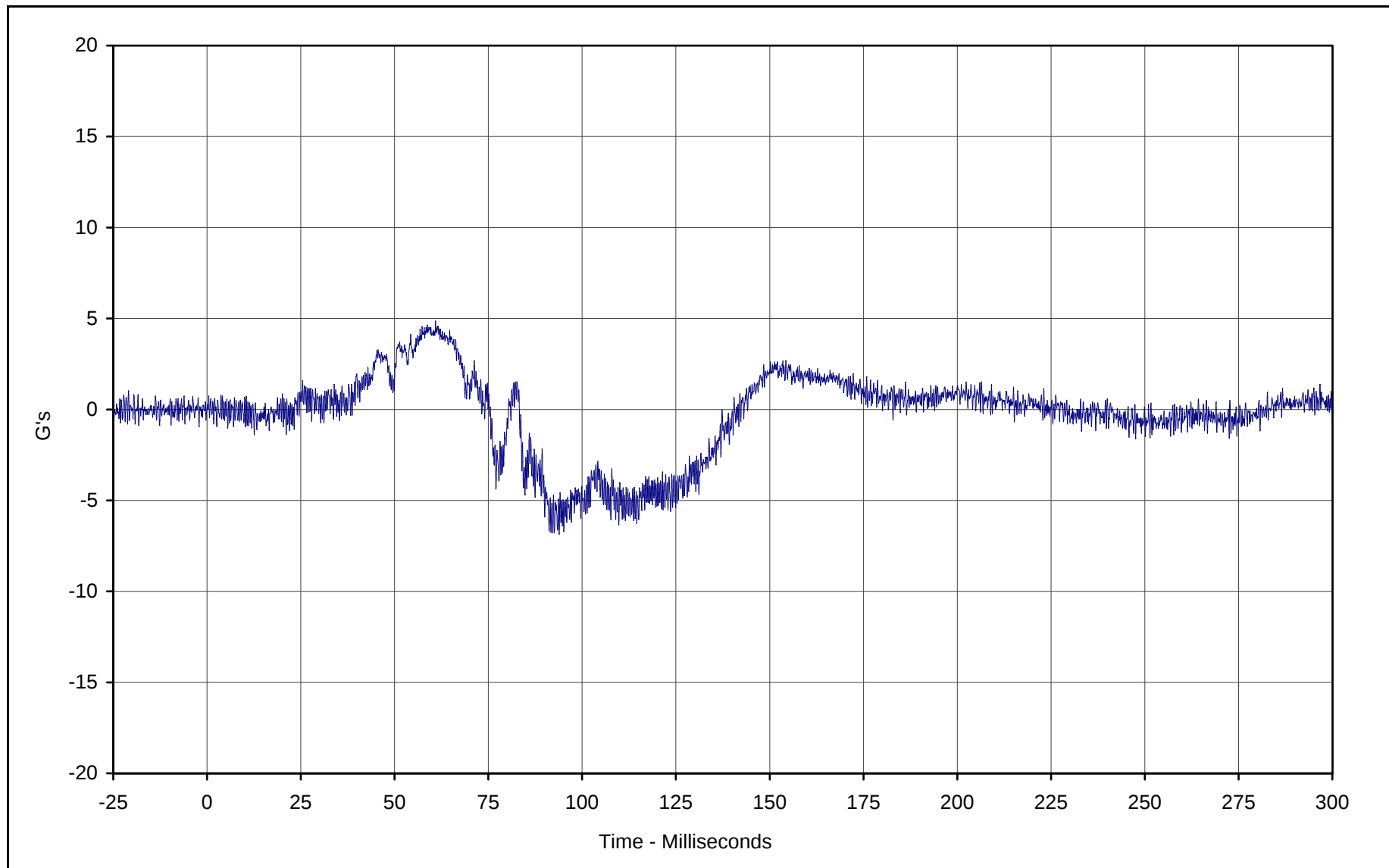
Curve Description: Passenger Pelvis X Displ.  
Maximum Value: 91.3 at 82.0 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-064

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-98



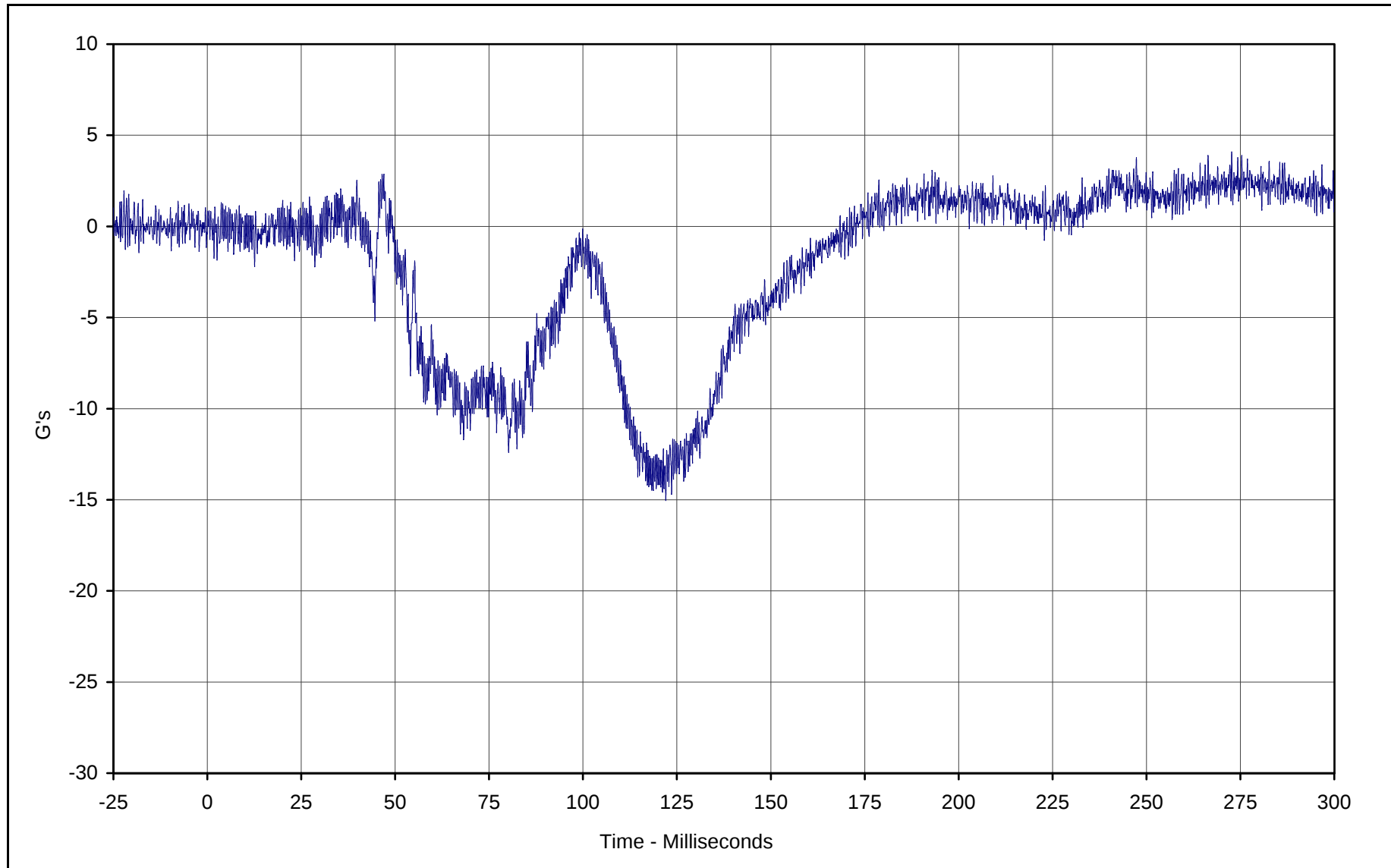
Curve Description: Passenger Pelvis Y  
Maximum Value: 4.9 at 60.9 Milliseconds  
Minimum Value: -6.8 at 93.9 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-065

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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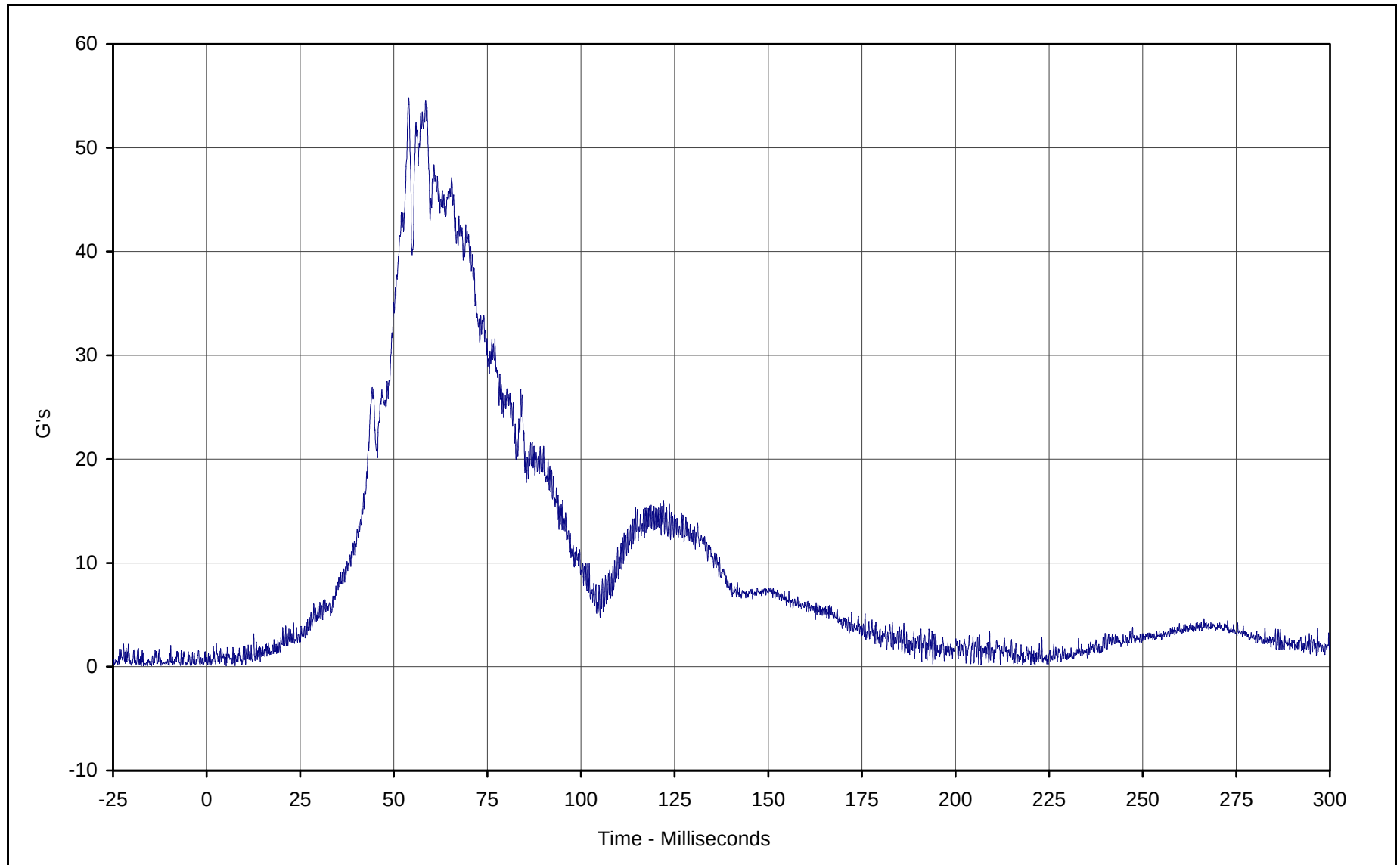
Curve Description: Passenger Pelvis Z  
Maximum Value: 4.1 at 272.7 Milliseconds  
Minimum Value: -15.0 at 122.0 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: FIL-066

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-100



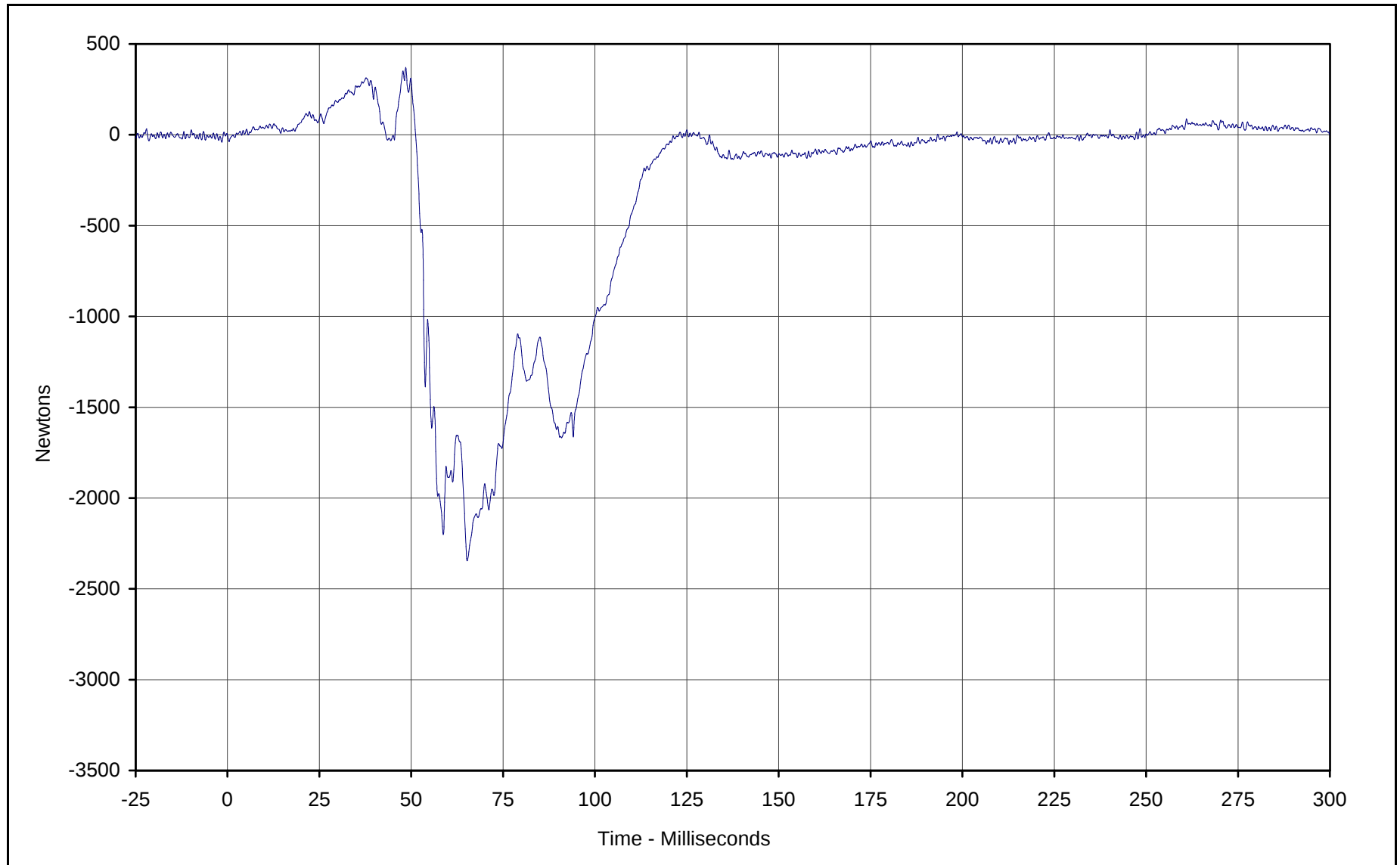
Curve Description: Passenger Pelvis Resultant  
Maximum Value: 54.8 at 54.0 Milliseconds  
Minimum Value: 0.1 at 5.2 Milliseconds  
SAE Filter Class: 1000  
Date of Test: 5/8/01  
Curve Number: RES-064

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-101

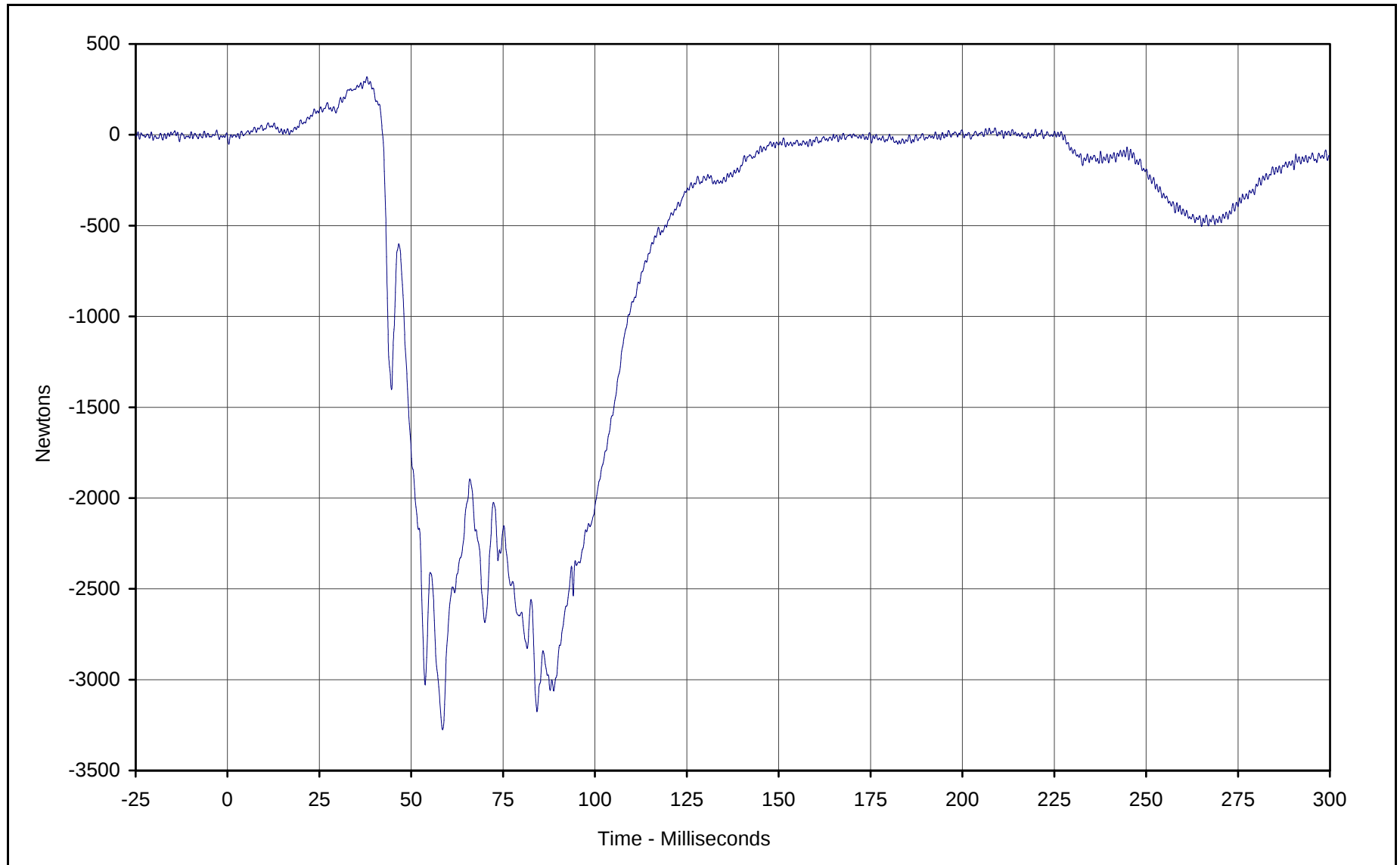


Curve Description: Passenger Left Femur Force  
Maximum Value: 370.9 at 48.5 Milliseconds  
Minimum Value: -2345.2 at 65.2 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-067

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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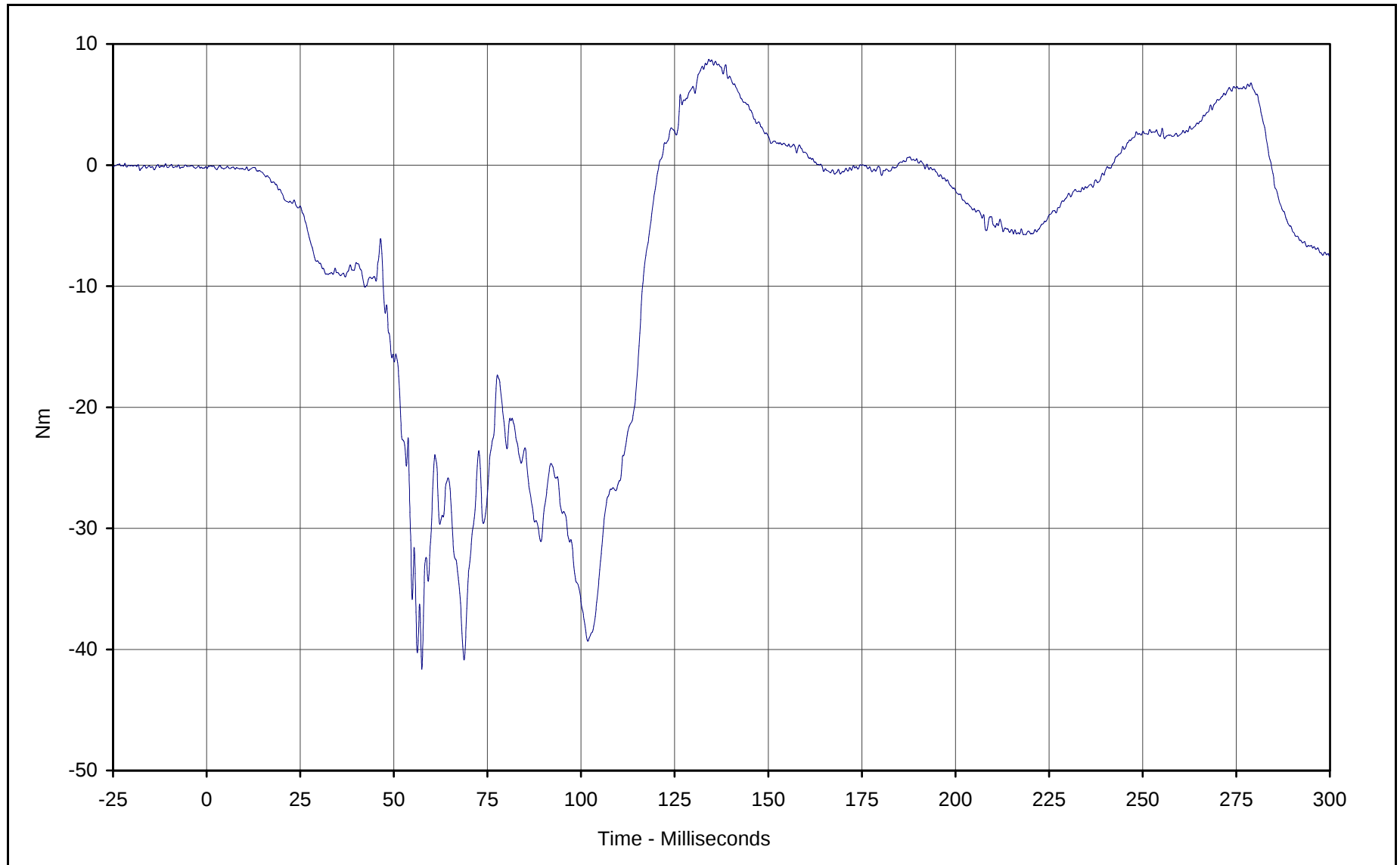


Curve Description: Passenger Right Femur Force  
Maximum Value: 319.1 at 37.9 Milliseconds  
Minimum Value: -3274.9 at 58.5 Milliseconds  
SAE Filter Class: 600  
Date of Test: 5/8/01  
Curve Number: FIL-068

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



B-103



Curve Description: Passenger Left Upper Tibia Moment X

Maximum Value: 8.7 at 134.1 Milliseconds

Minimum Value: -41.6 at 57.5 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

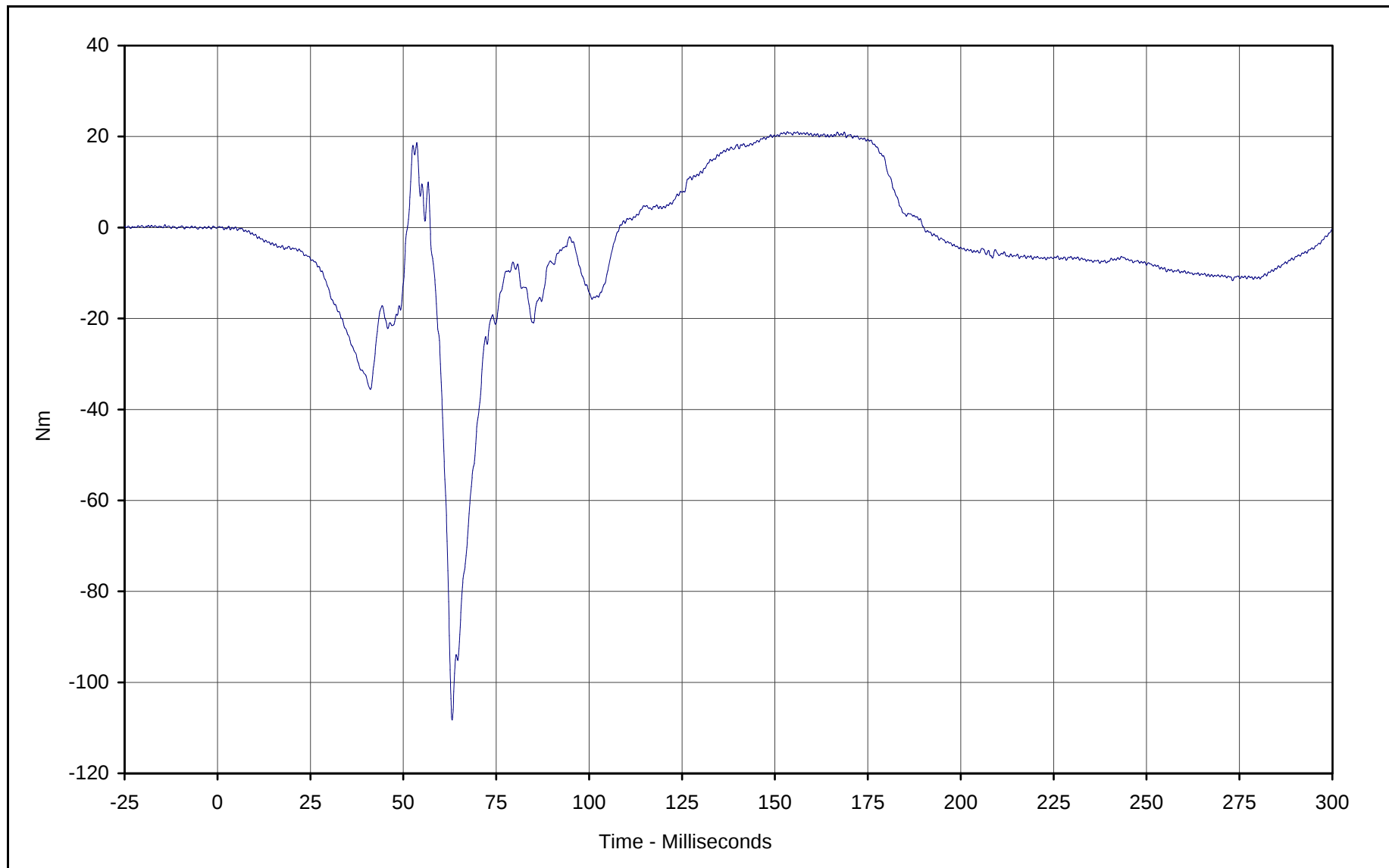
Curve Number: FIL-069

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Left Upper Tibia Moment Y

Maximum Value: 21.0 at 153.4 Milliseconds

Minimum Value: -108.3 at 63.1 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

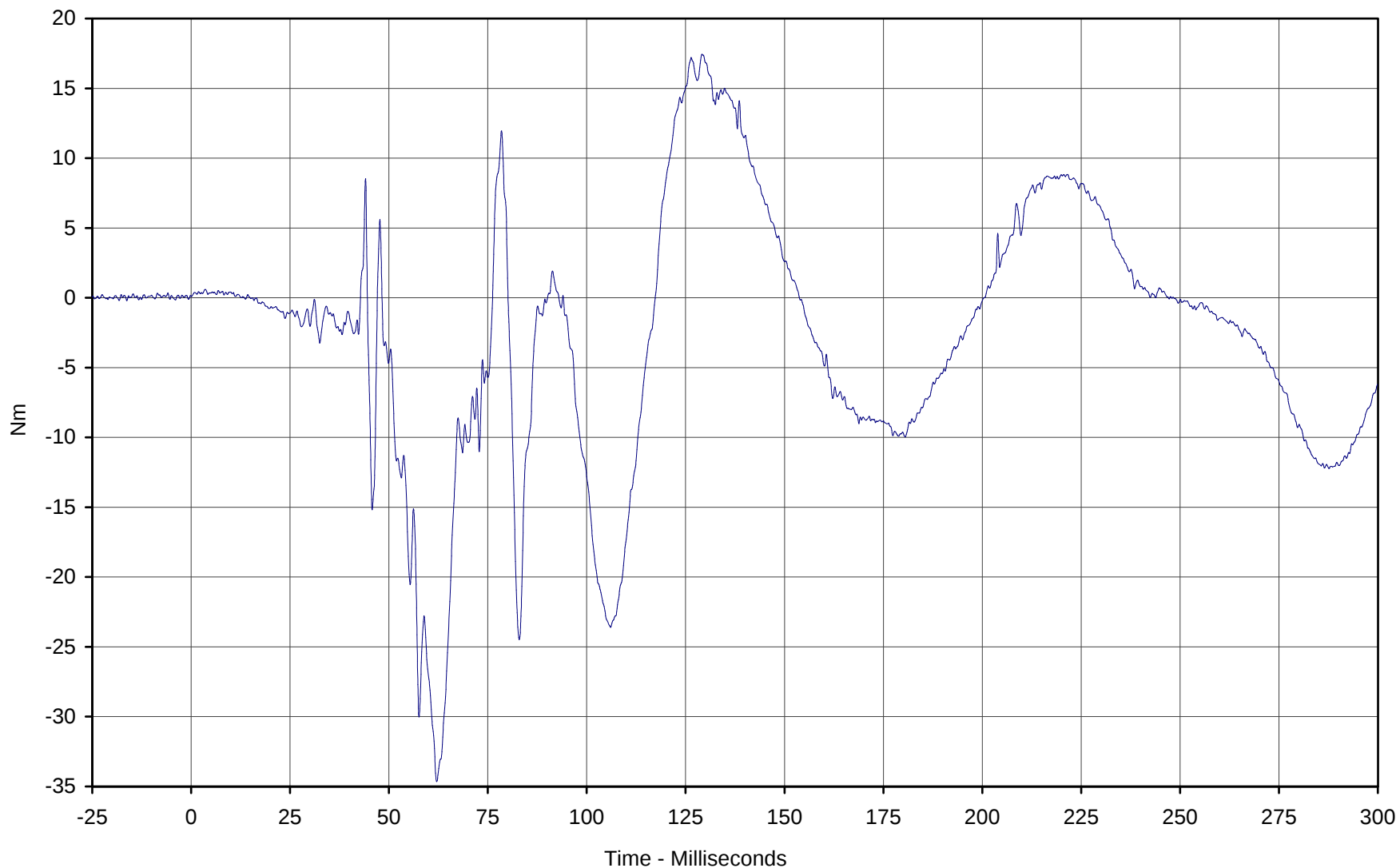
Curve Number: FIL-070

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



B-105



Curve Description: Passenger Right Upper Tibia Moment X

Maximum Value: 17.4 at 129.1 Milliseconds

Minimum Value: -34.6 at 62.1 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

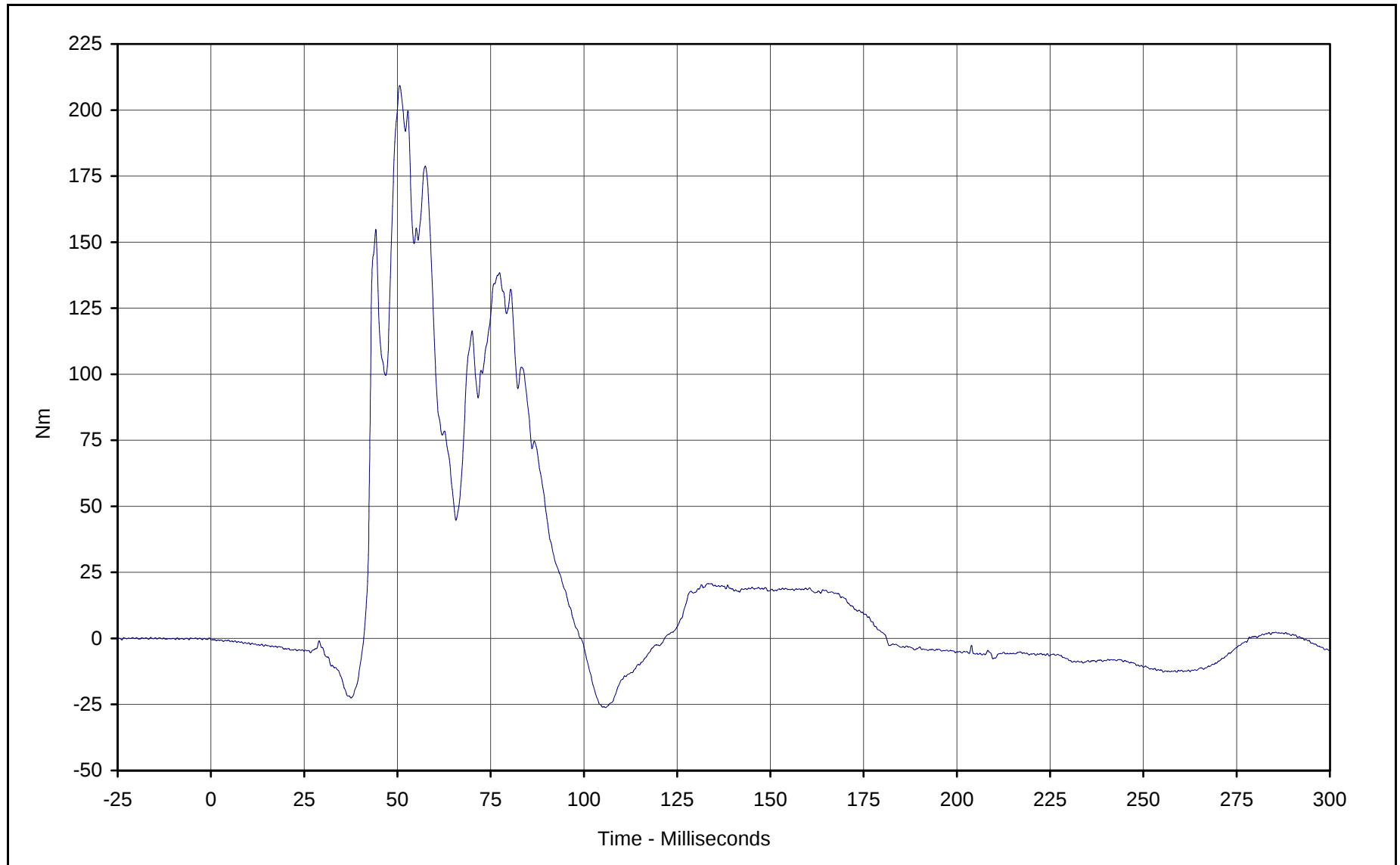
Curve Number: FIL-071

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 209.3 at 50.6 Milliseconds

Minimum Value: -26.2 at 105.8 Milliseconds

SAE Filter Class: 600

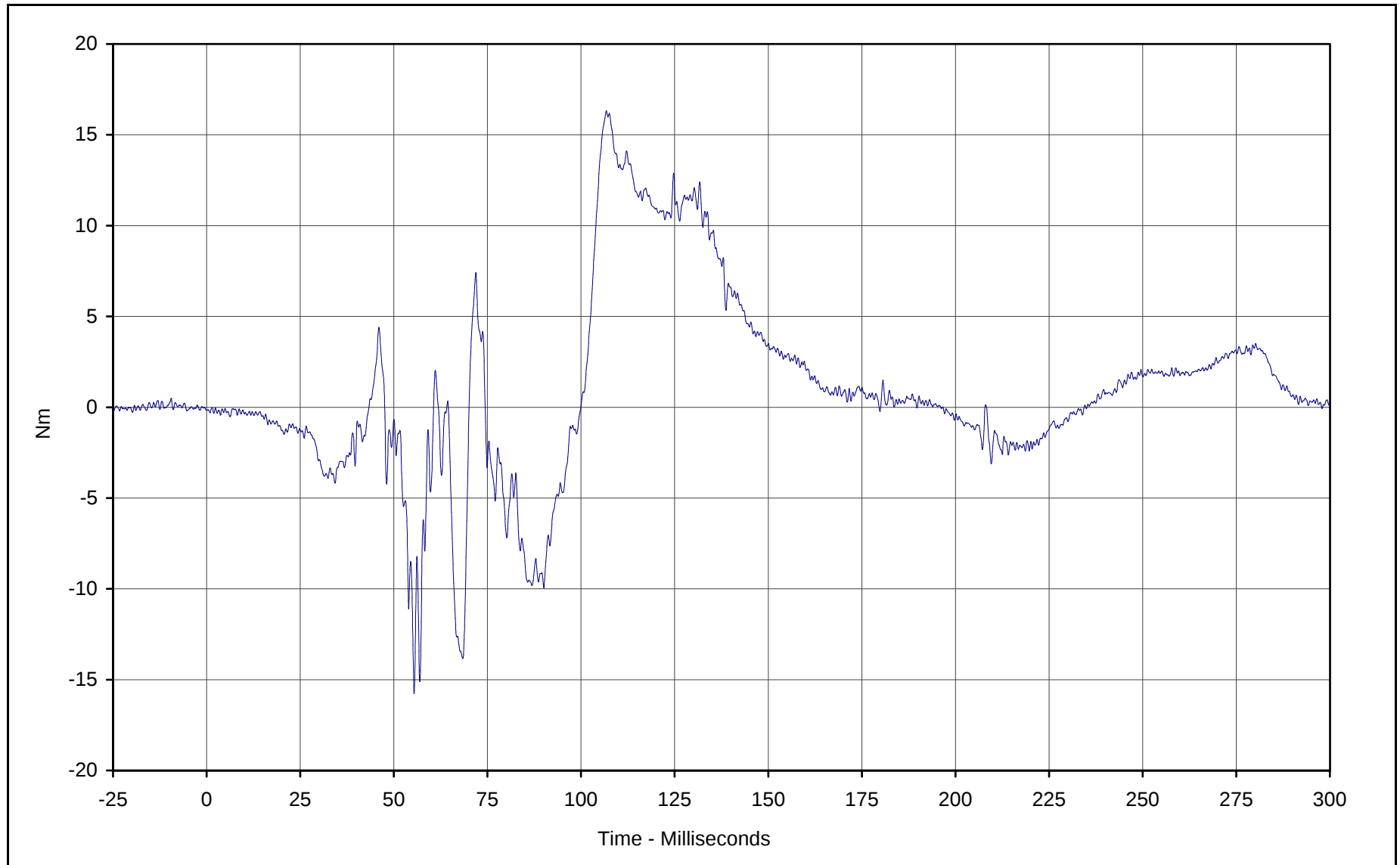
Date of Test: 5/8/01

Curve Number: FIL-072

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup





Curve Description: Passenger Left Lower Tibia Moment X

Maximum Value: 16.3 at 106.8 Milliseconds

Minimum Value: -15.8 at 55.4 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

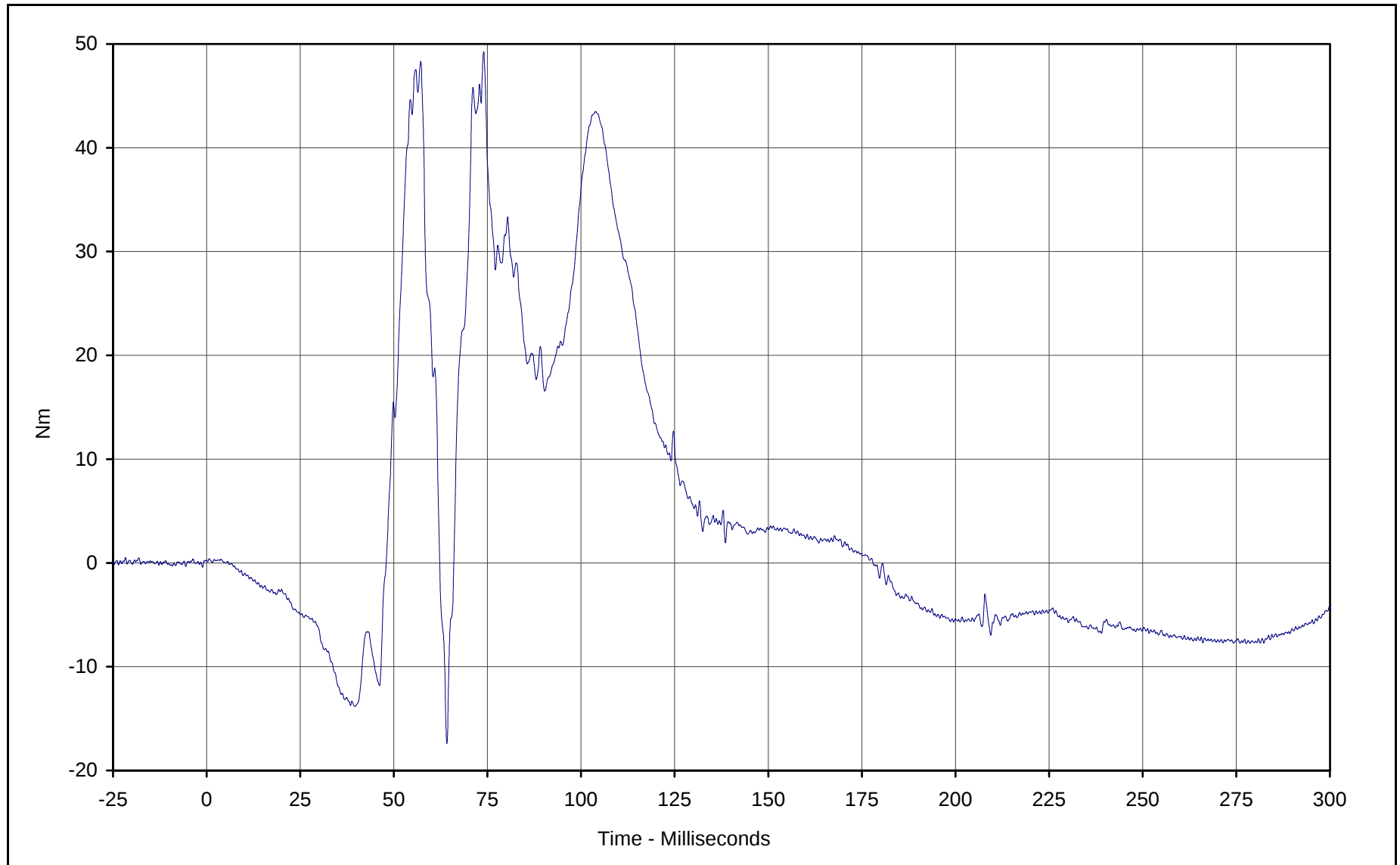
Curve Number: FIL-073

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



B-108



Curve Description: Passenger Left Lower Tibia Moment Y

Maximum Value: 49.3 at 74.0 Milliseconds

Minimum Value: -17.4 at 64.2 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

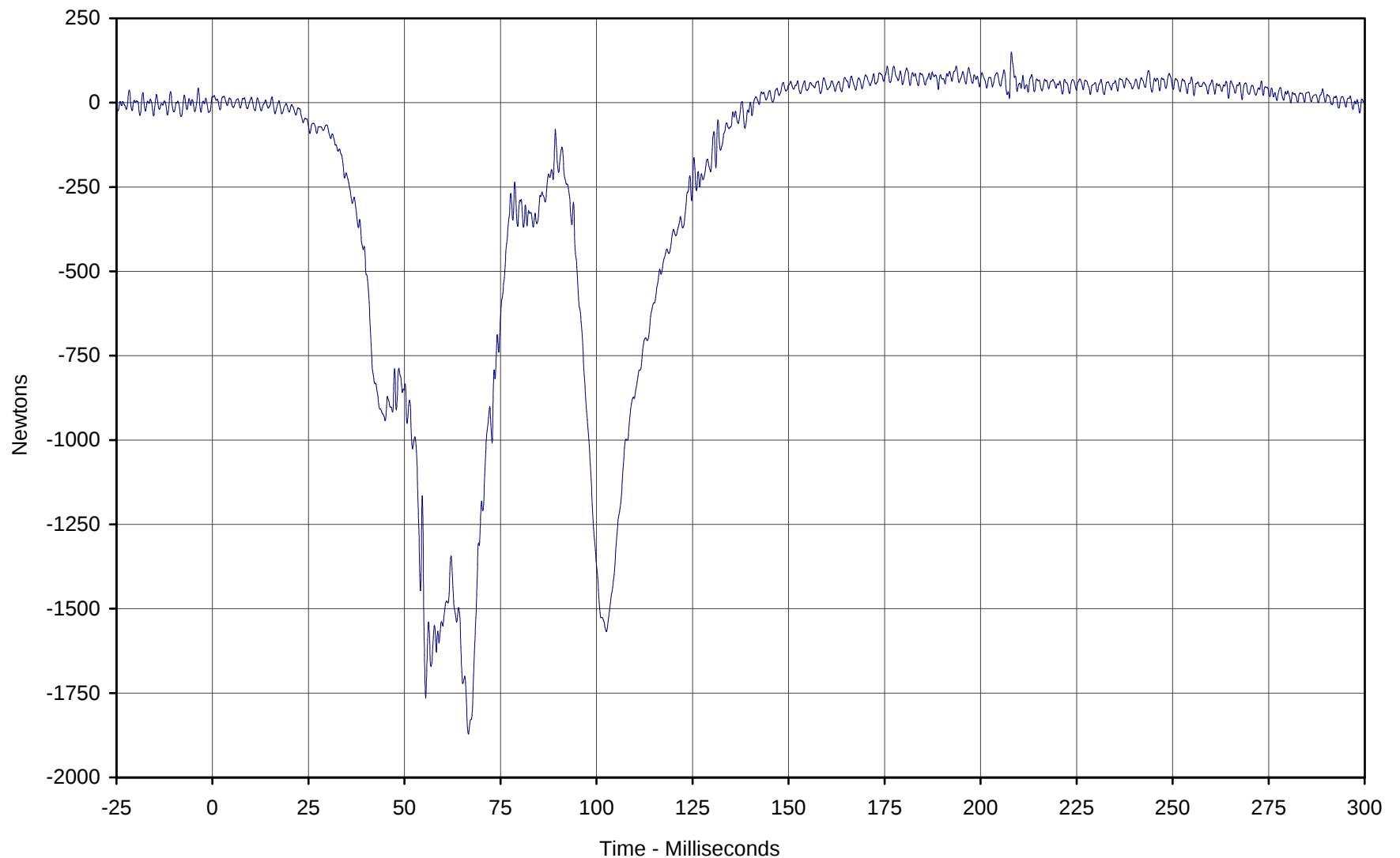
Curve Number: FIL-074

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Passenger Left Lower Tibia Force Z

Maximum Value: 149.8 at 208.0 Milliseconds

Minimum Value: -1871.4 at 66.6 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

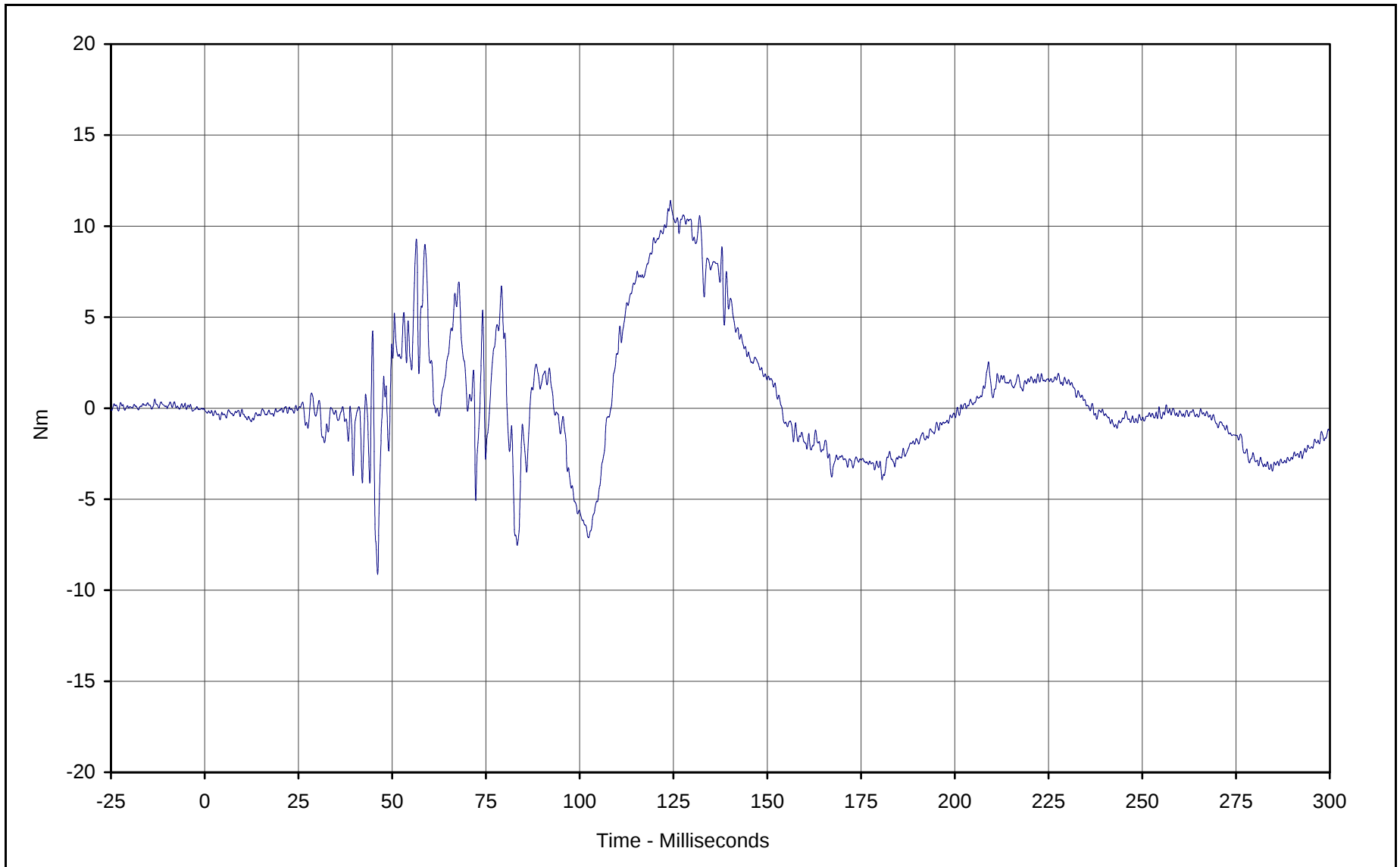
Curve Number: FIL-075

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



B-110



Curve Description: Passenger Right Lower Tibia Moment X

Maximum Value: 11.4 at 124.2 Milliseconds

Minimum Value: -9.1 at 46.1 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

Curve Number: FIL-076

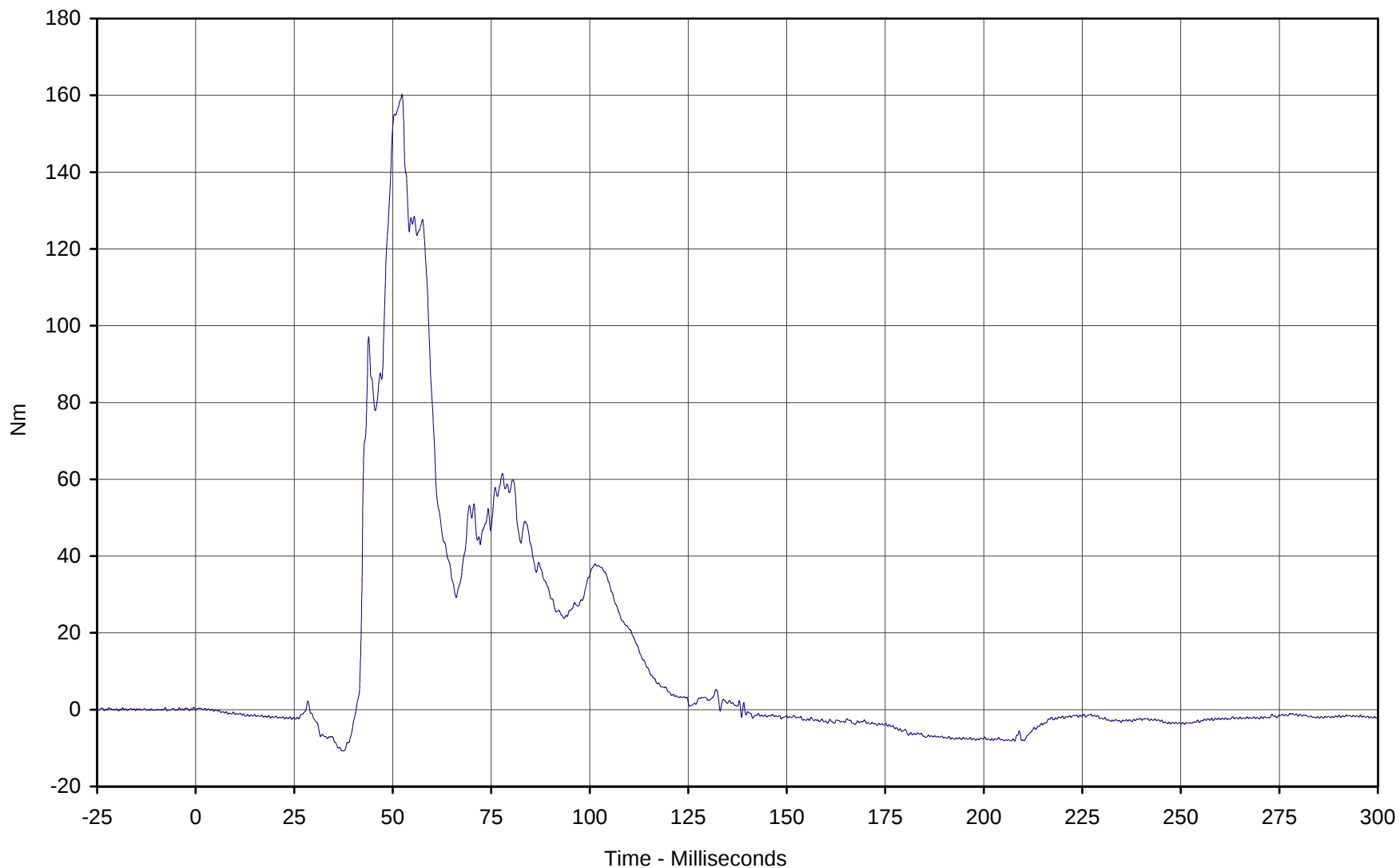
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-111



Curve Description: Passenger Right Lower Tibia Moment Y

Maximum Value: 160.2 at 52.4 Milliseconds

Minimum Value: -10.8 at 37.2 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

Curve Number: FIL-077

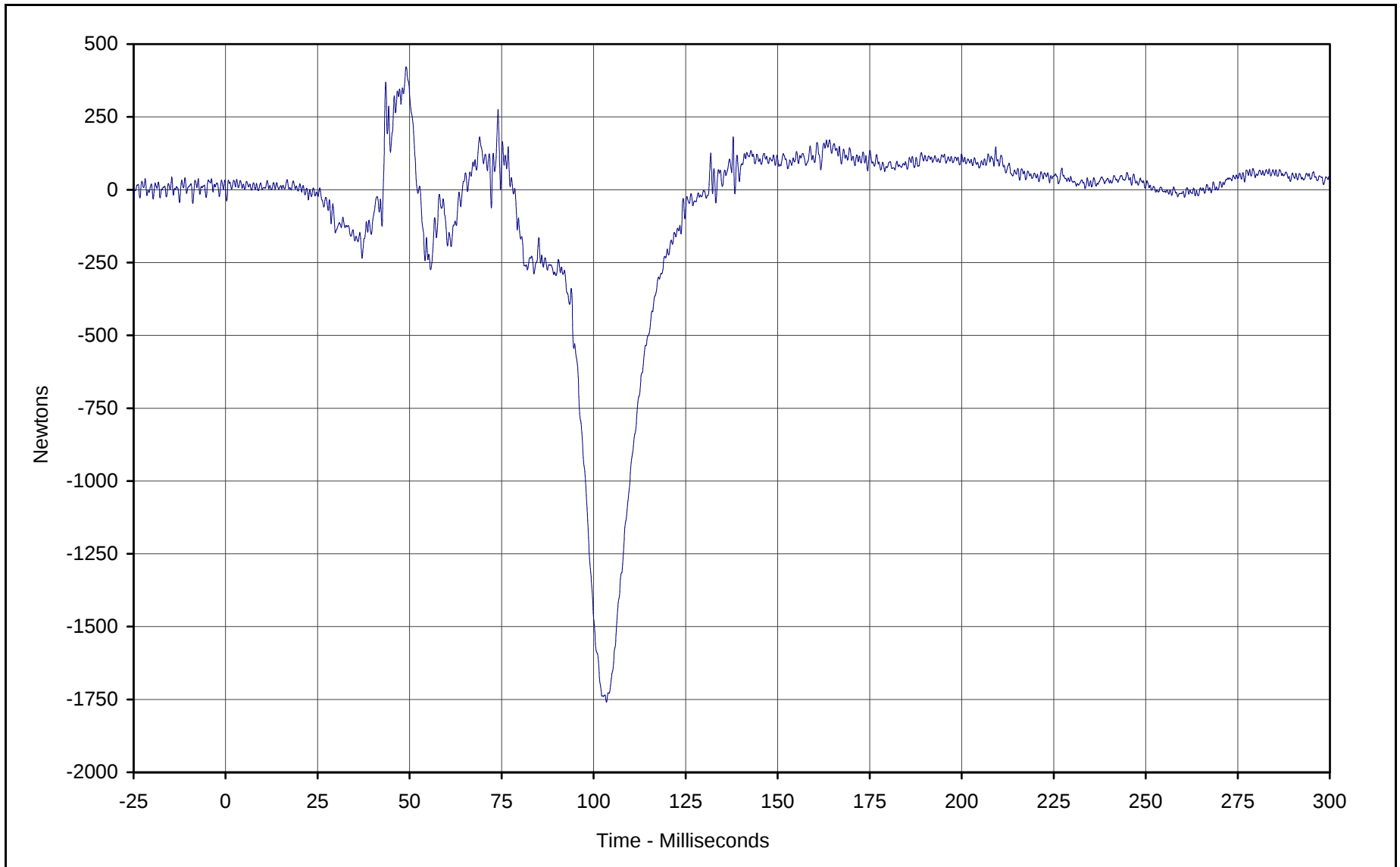
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-112



Curve Description: Passenger Right lower Tibia Force Z

Maximum Value: 421.9 at 49.1 Milliseconds

Minimum Value: -1759.7 at 103.5 Milliseconds

SAE Filter Class: 600

Date of Test: 5/8/01

Curve Number: FIL-078

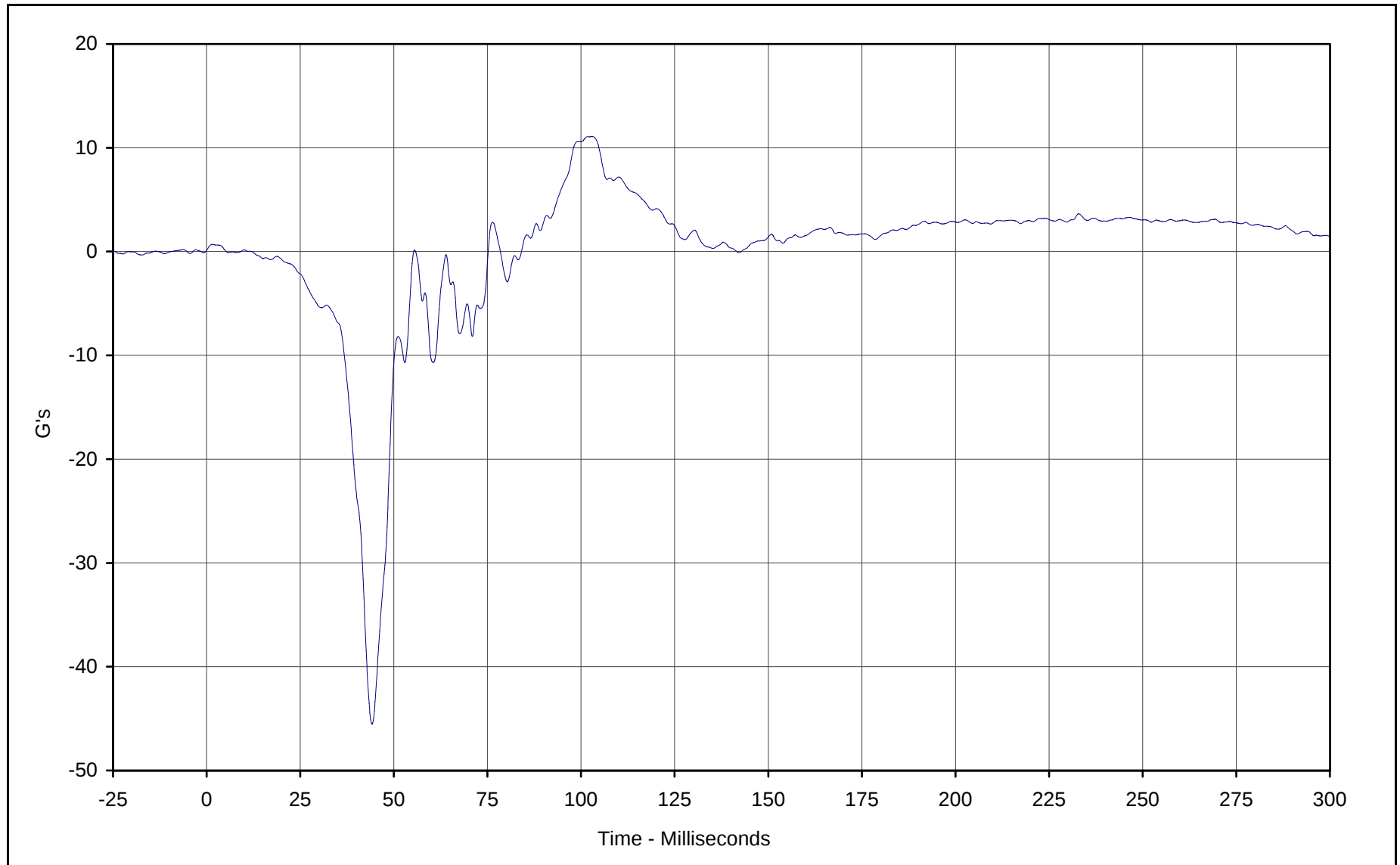
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-113



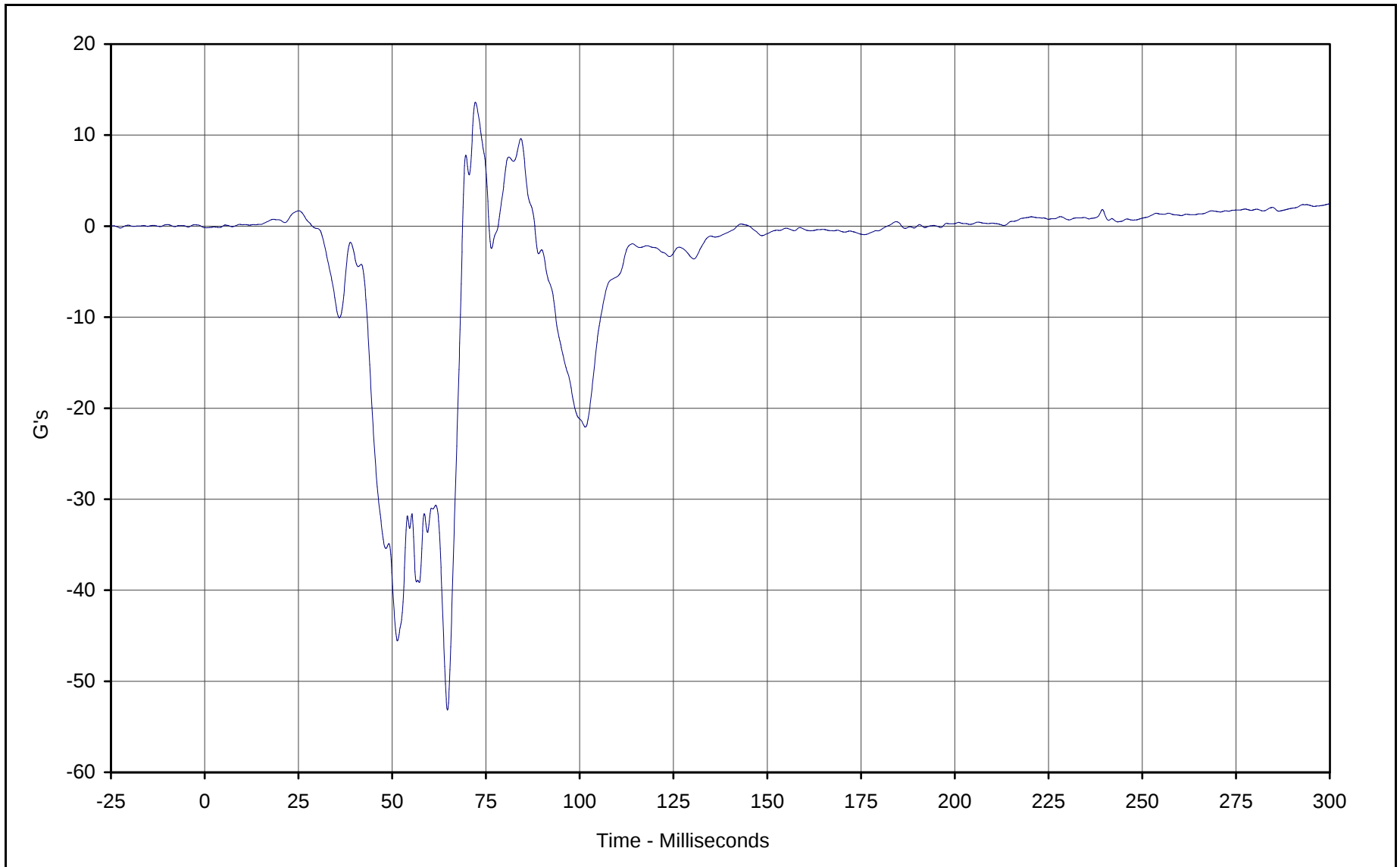
Curve Description: Passenger Left Foot Aft X  
Maximum Value: 11.1 at 103.0 Milliseconds  
Minimum Value: -45.5 at 44.2 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-079

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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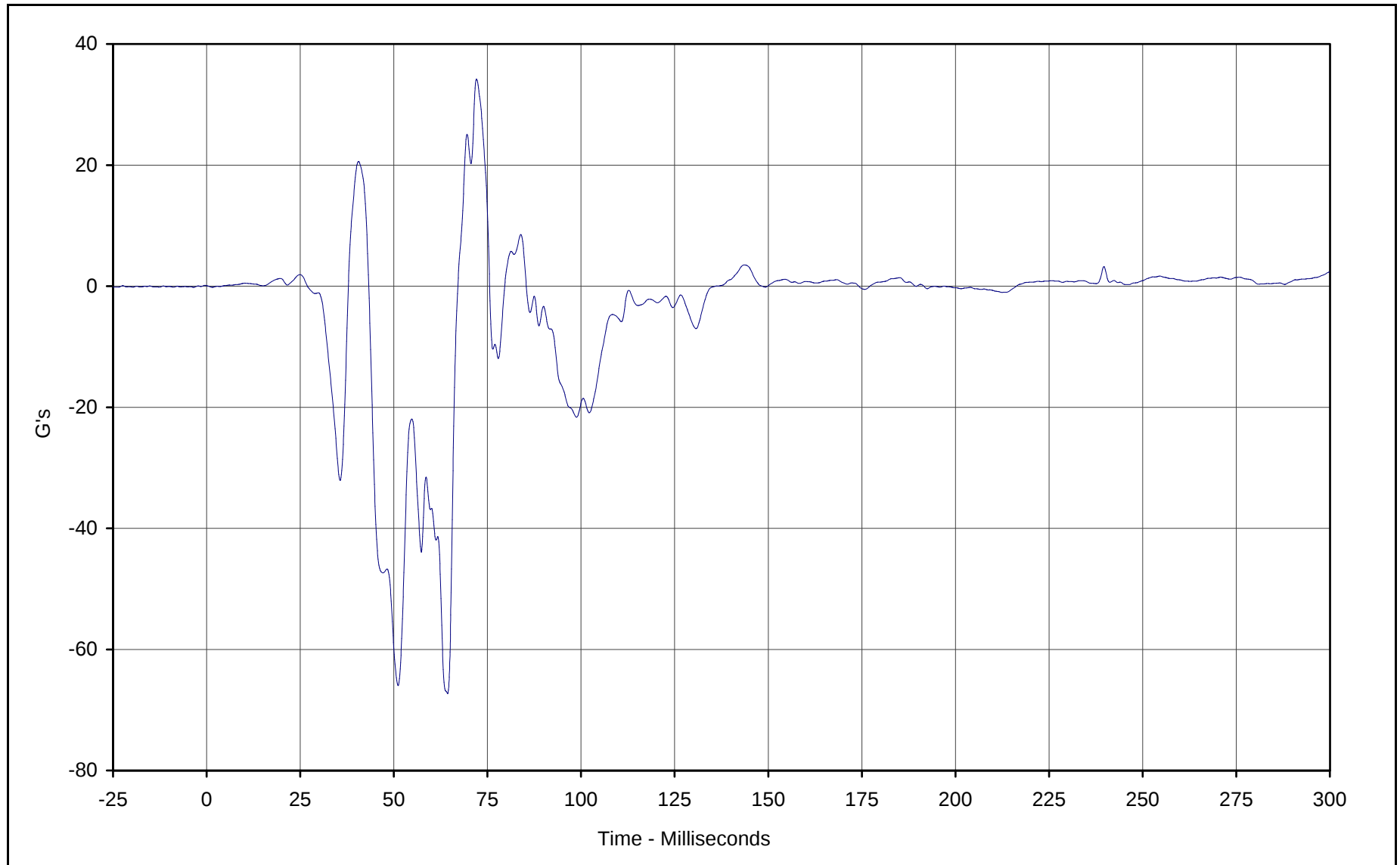
Curve Description: Passenger Left Foot Aft Z  
Maximum Value: 13.6 at 72.2 Milliseconds  
Minimum Value: -53.2 at 64.7 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-080

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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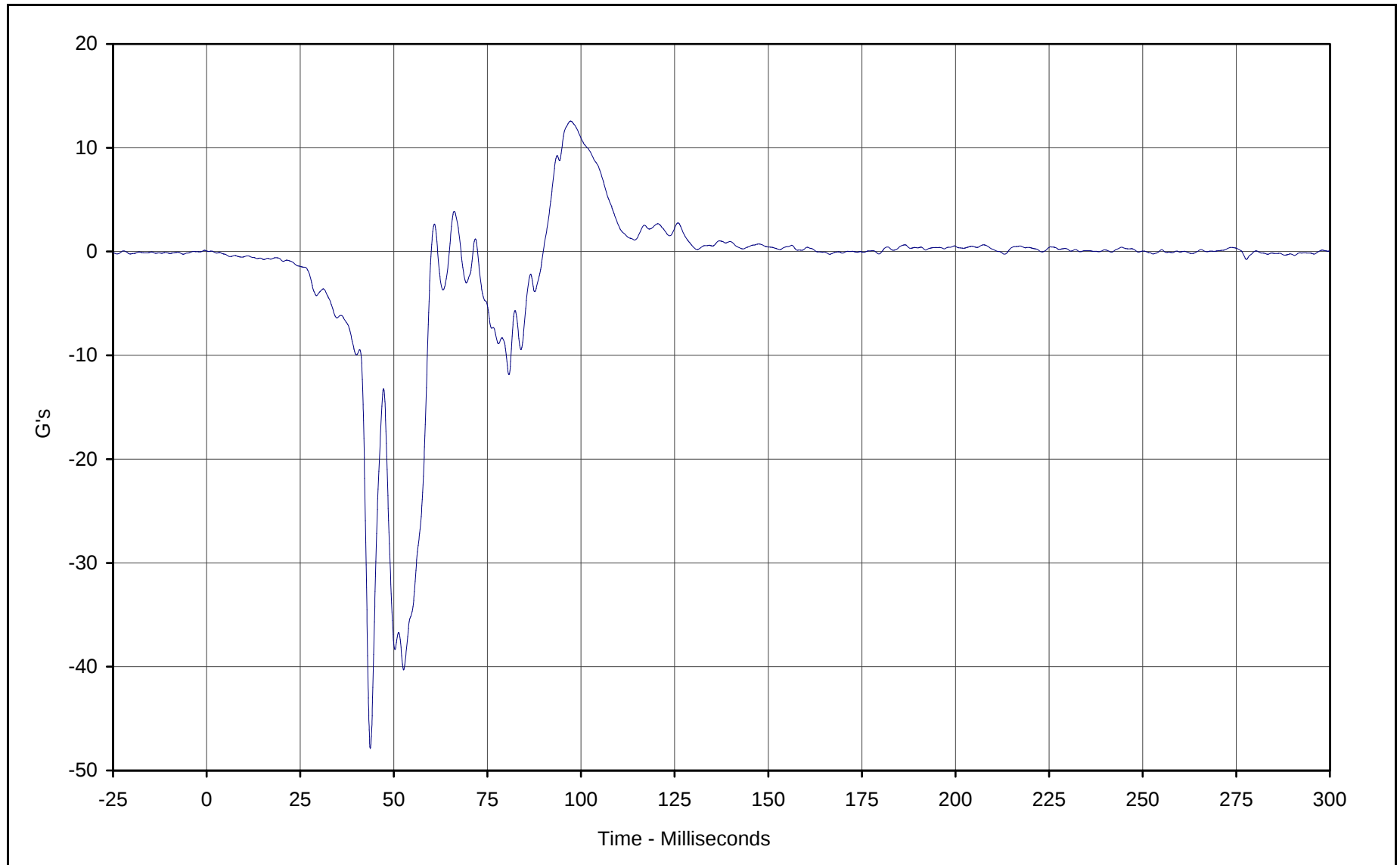
Curve Description: Passenger Left Foot Fore Z  
Maximum Value: 34.2 at 72.1 Milliseconds  
Minimum Value: -67.3 at 64.4 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-081

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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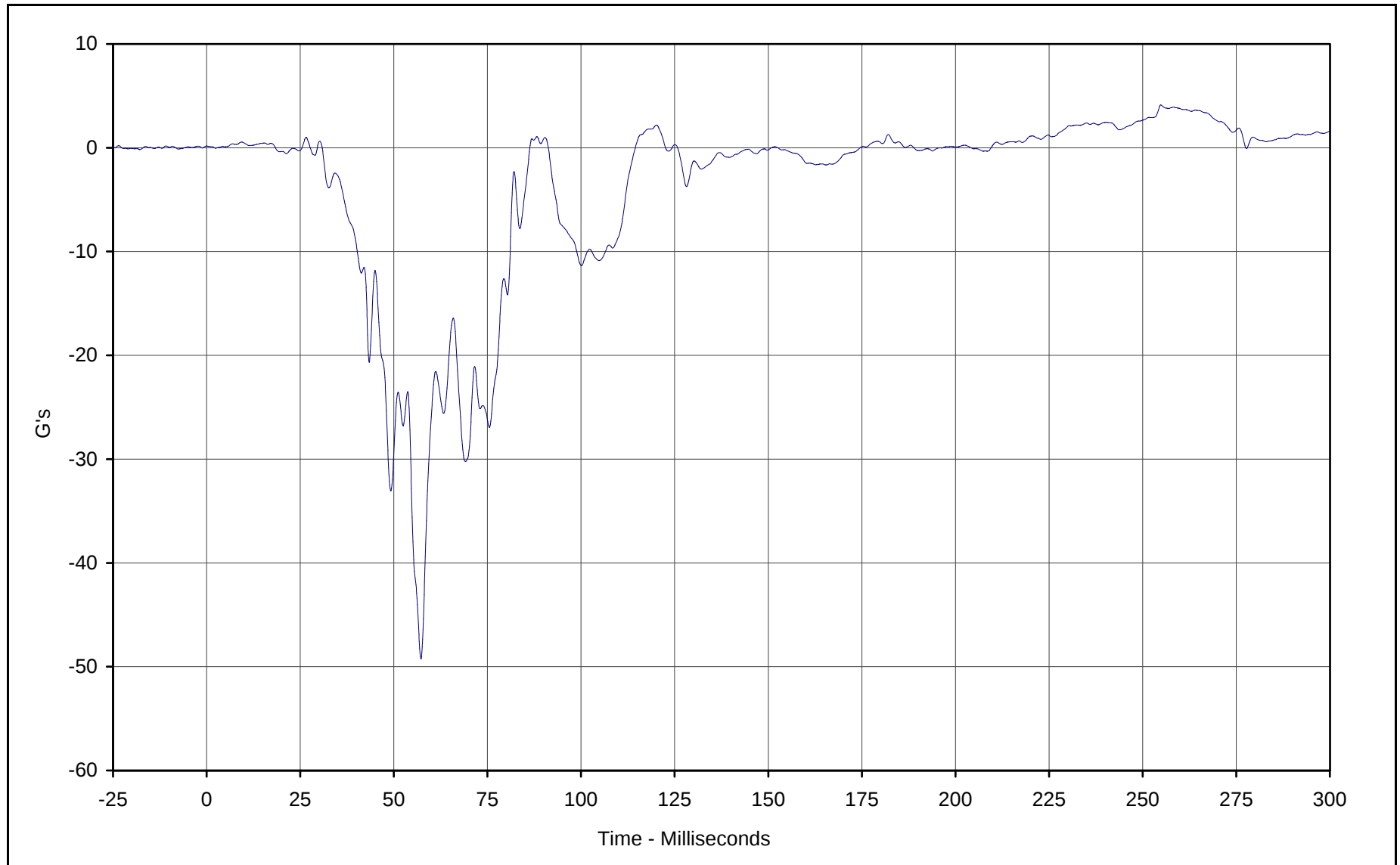
Curve Description: Passenger Right Foot Aft X  
Maximum Value: 12.6 at 97.2 Milliseconds  
Minimum Value: -47.9 at 43.7 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-082

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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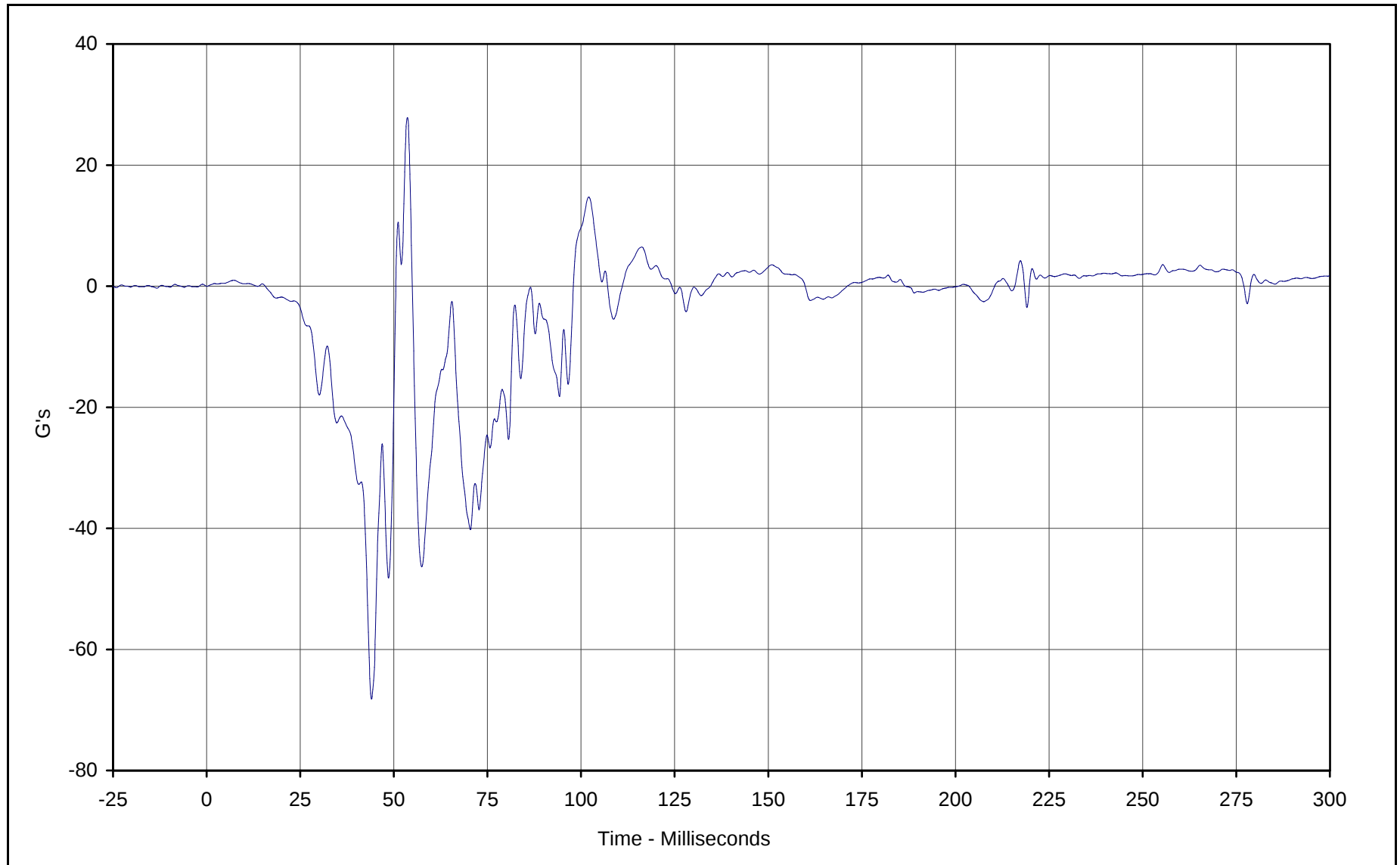
Curve Description: Passenger Right Foot Aft Z  
Maximum Value: 4.1 at 254.8 Milliseconds  
Minimum Value: -49.2 at 57.3 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-083

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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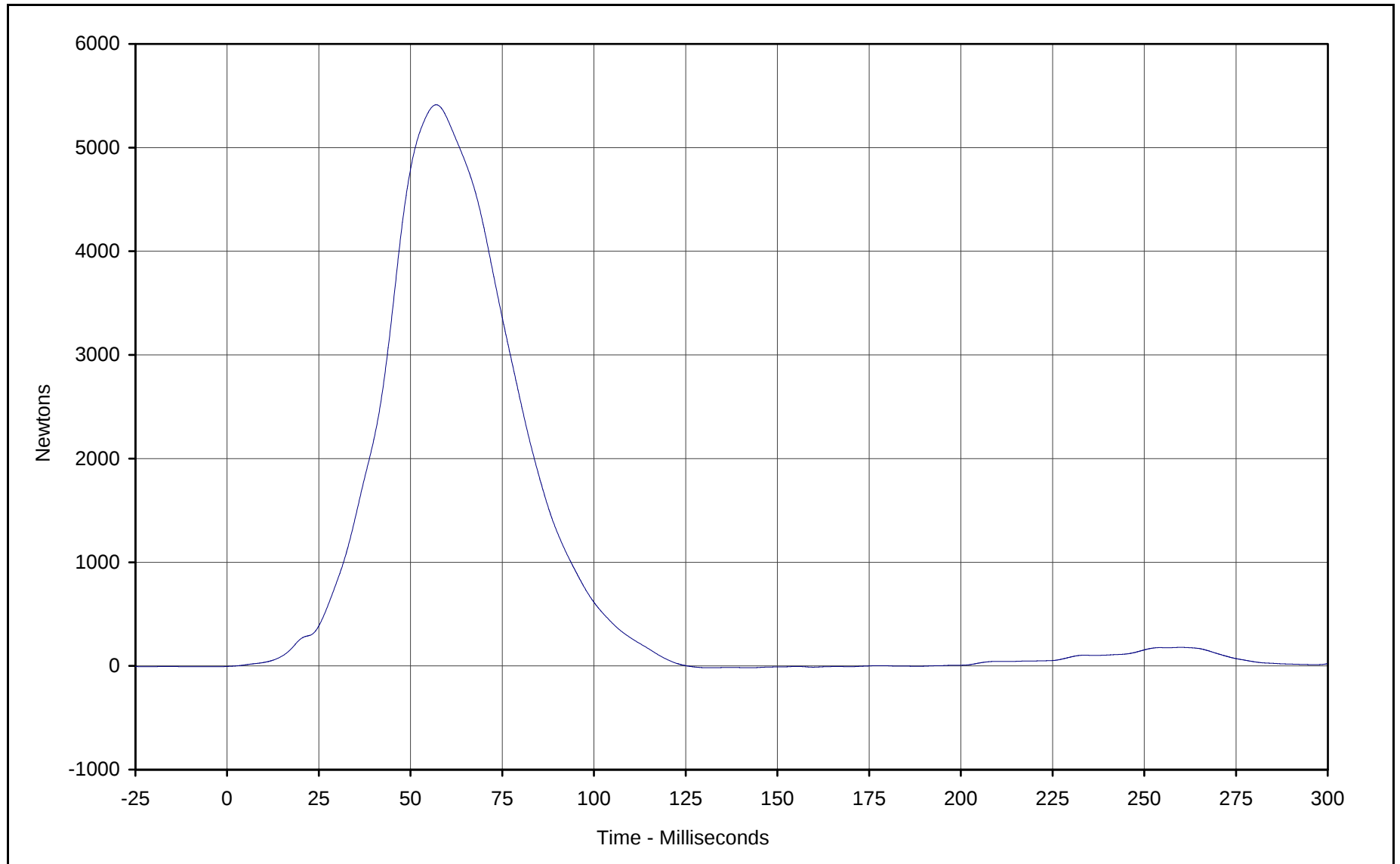
Curve Description: Passenger Right Foot Fore Z  
Maximum Value: 27.8 at 53.6 Milliseconds  
Minimum Value: -68.2 at 44.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: FIL-084

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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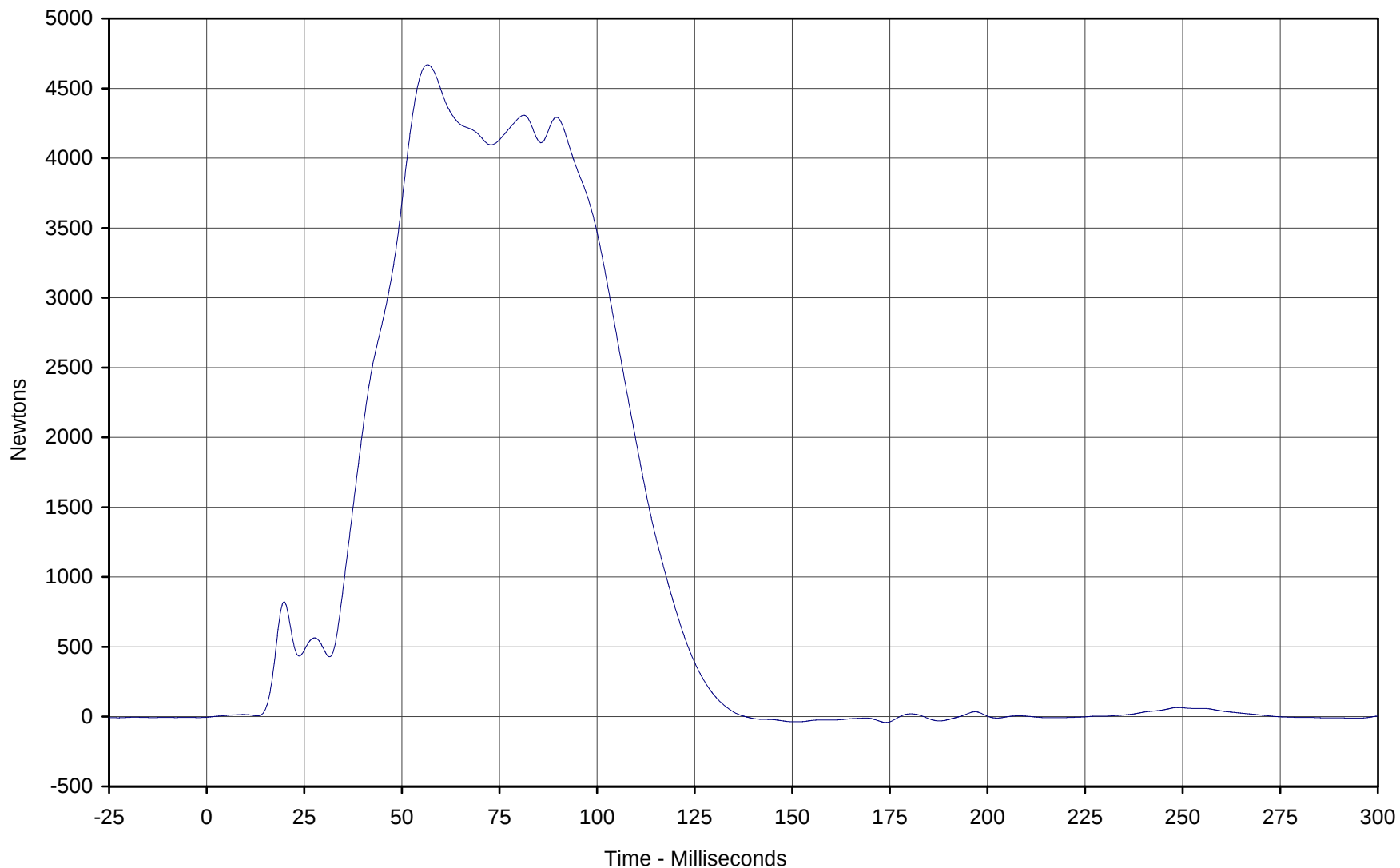
Curve Description: Passenger Lap Belt Force  
Maximum Value: 5413.5 at 57.0 Milliseconds  
Minimum Value: -17.2 at 142.3 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-085

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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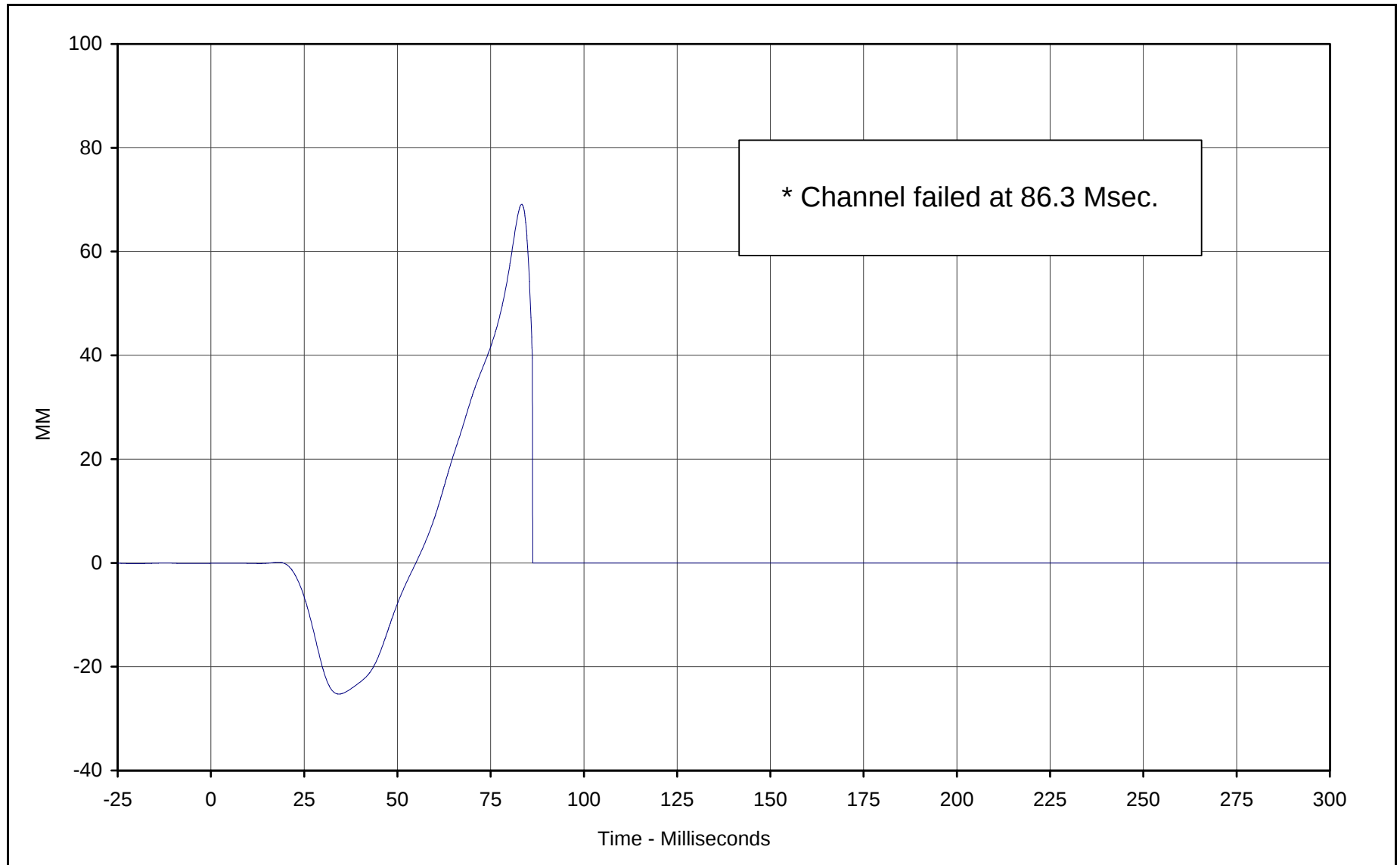
Curve Description: Passenger Shoulder Belt Force  
Maximum Value: 4668.9 at 56.6 Milliseconds  
Minimum Value: -41.4 at 174.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-086

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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B-121



Curve Description: Passenger Shoulder Belt Pullout \*

Maximum Value: 69.1 at 83.3 Milliseconds

Minimum Value: -25.3 at 34.3 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-087

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

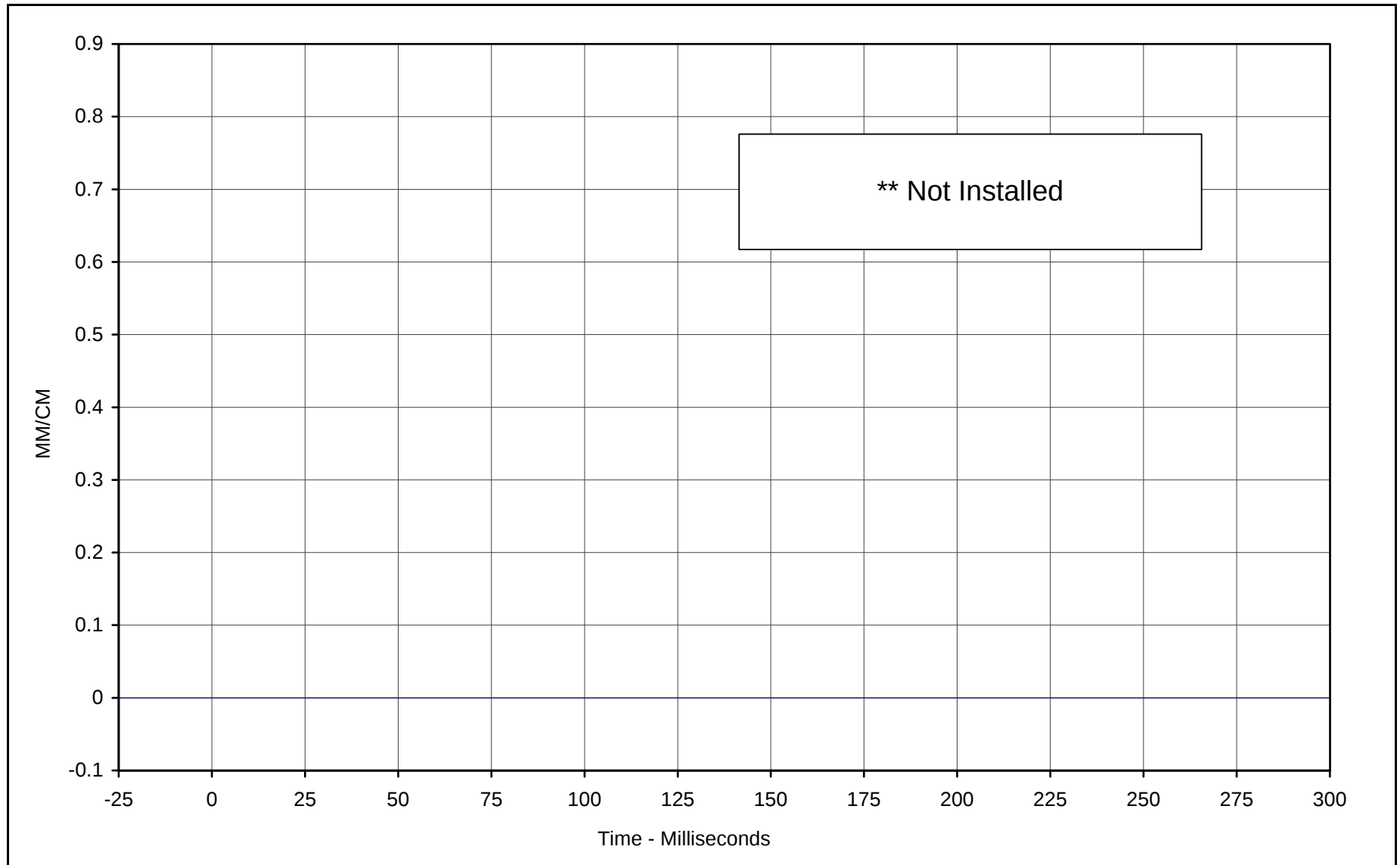
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\* Channel failed at 86.3 Msec.



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Curve Description: Passenger Shoulder Belt Elongation \*\*

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Maximum Value: 0.0 at 0.0 Milliseconds

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

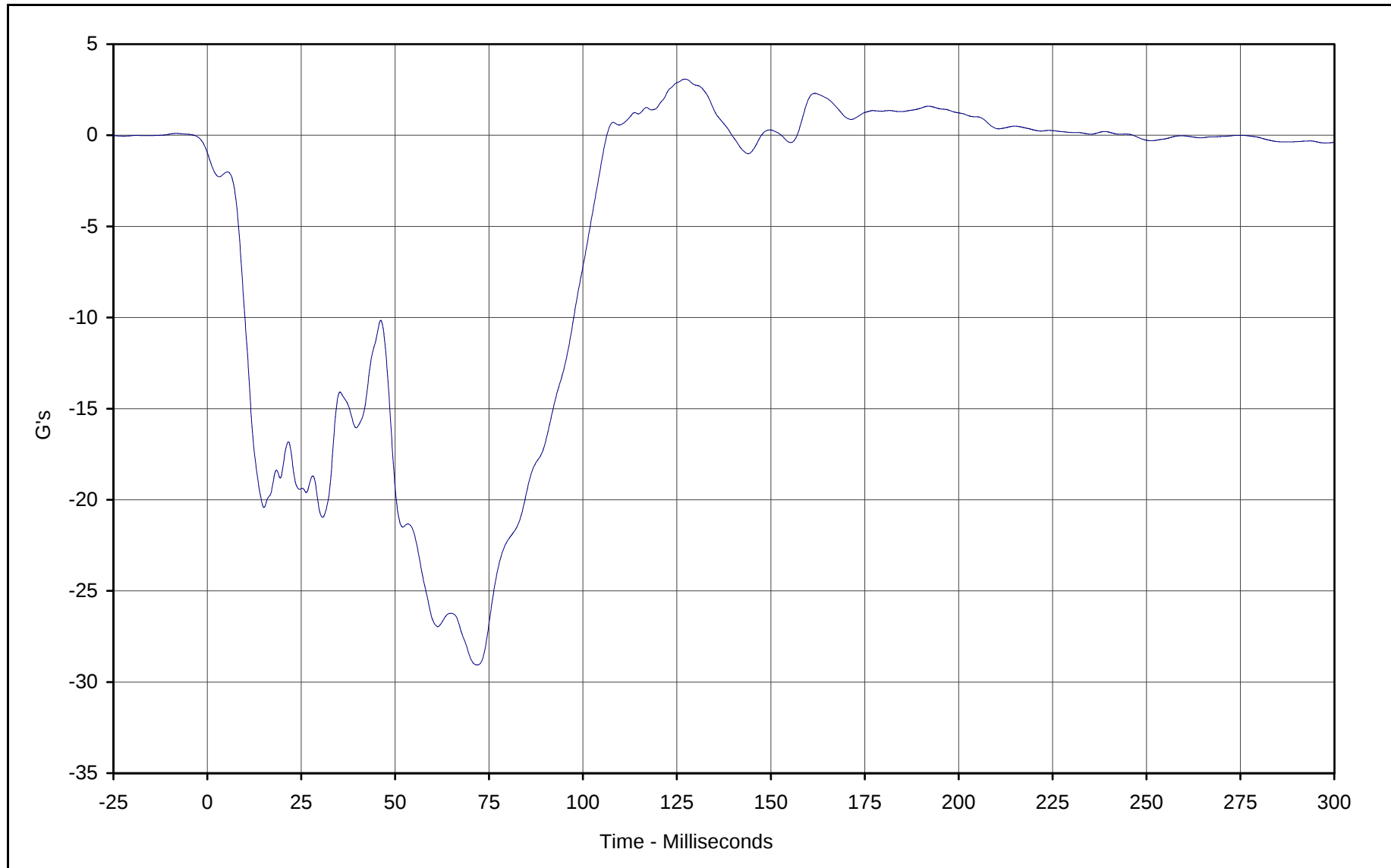
Curve Number: FIL-088

\*\* Not installed



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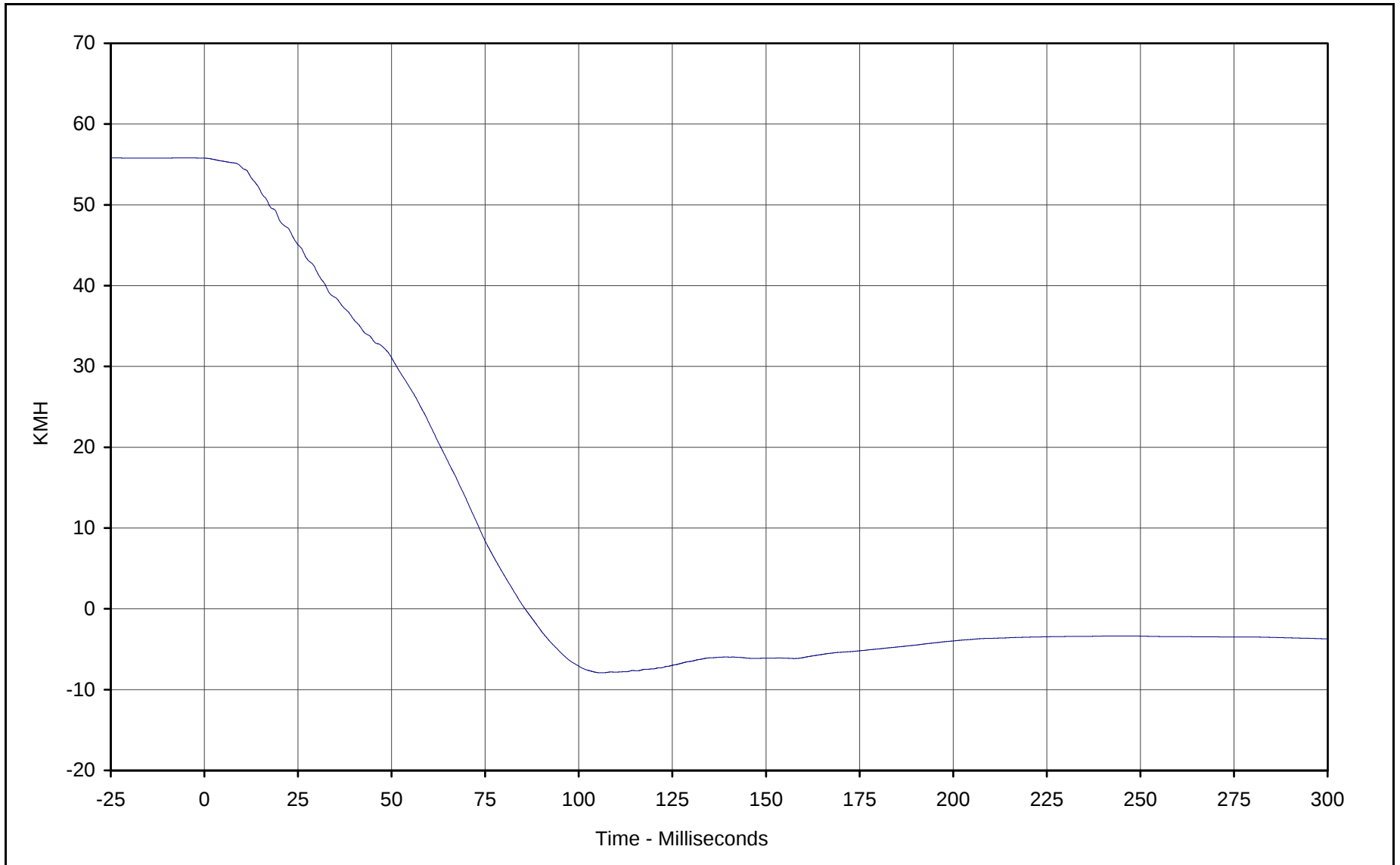
Curve Description: Vehicle Left Rear Primary  
Maximum Value: 3.1 at 127.1 Milliseconds  
Minimum Value: -29.1 at 71.8 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-089

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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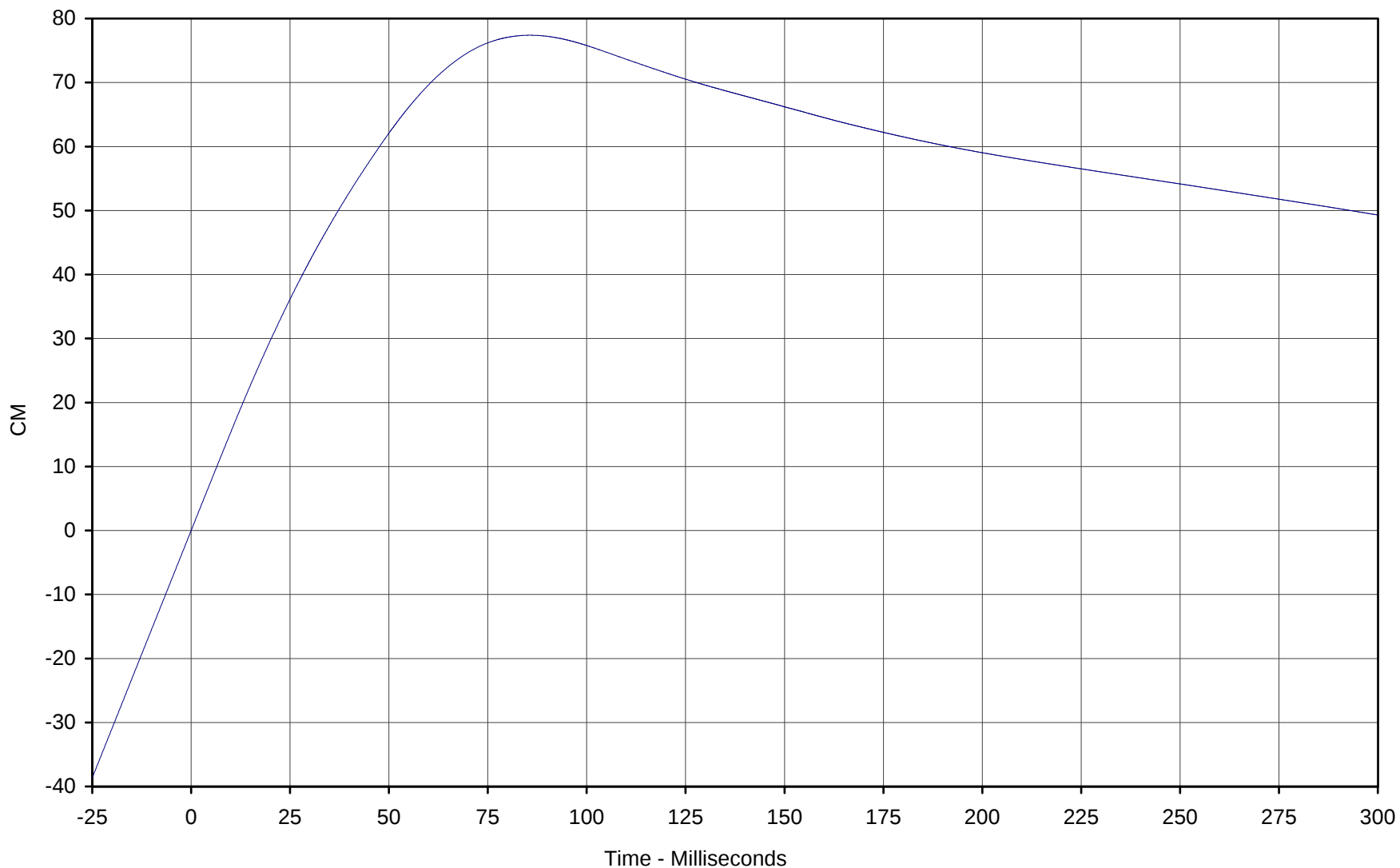
Curve Description: Vehicle Left Rear Primary Velocity  
Maximum Value: 55.8 at 0.0 Milliseconds  
Minimum Value: -7.9 at 106.1 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-089

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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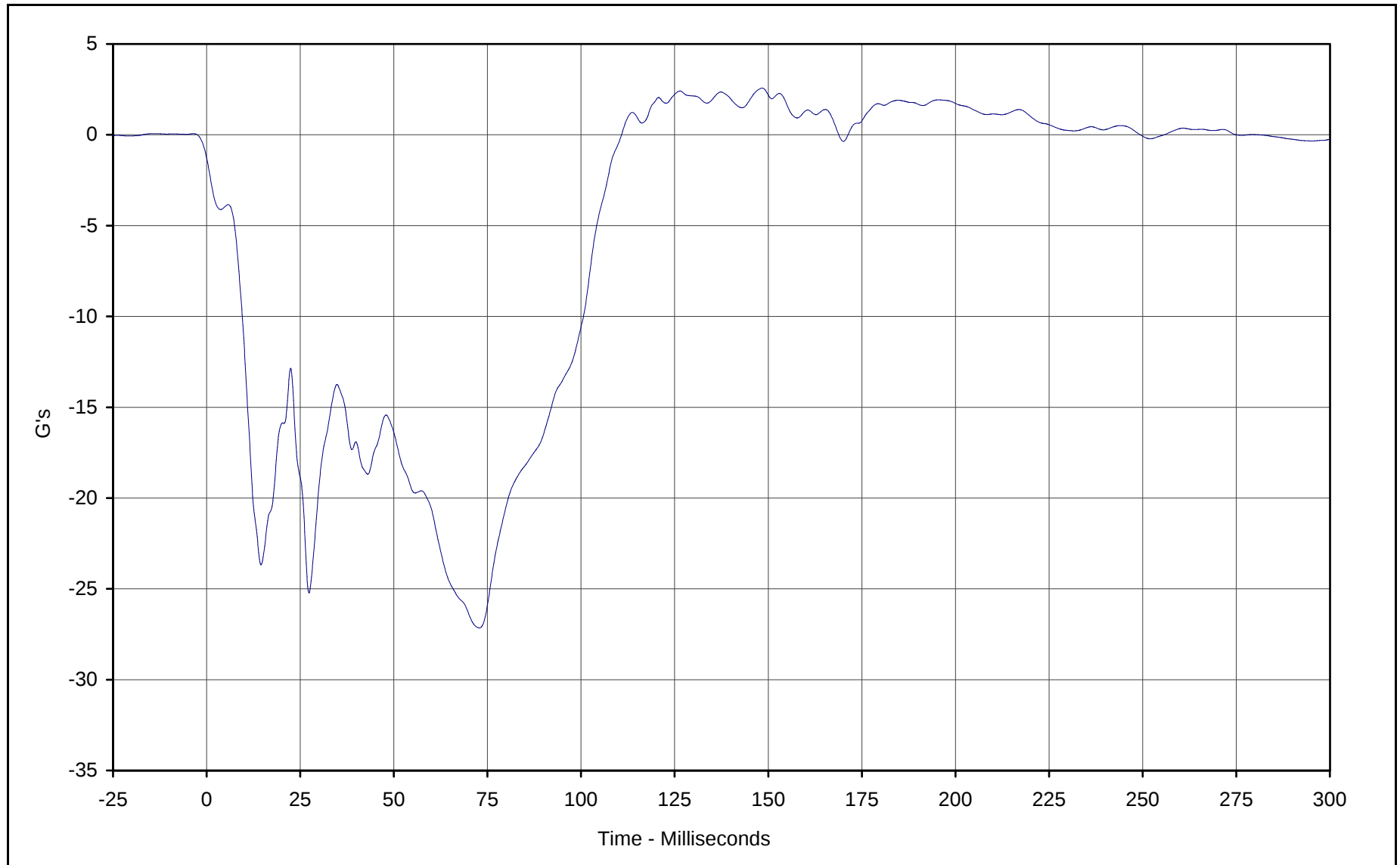
Curve Description: Vehicle Left Rear Primary Displ.  
Maximum Value: 77.4 at 85.6 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-089

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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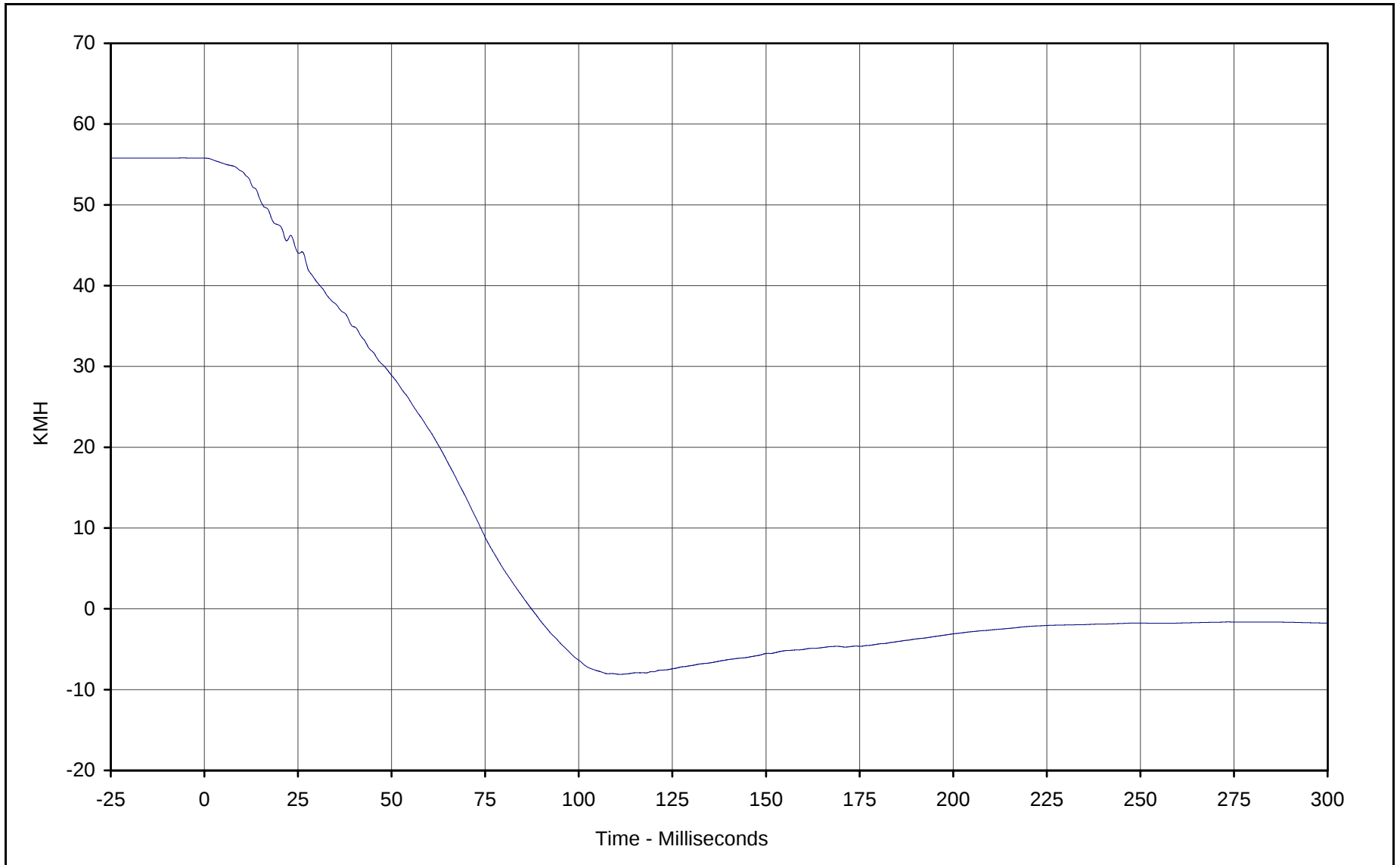
Curve Description: Vehicle Right Rear Primary  
Maximum Value: 2.6 at 148.4 Milliseconds  
Minimum Value: -27.2 at 72.8 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-090

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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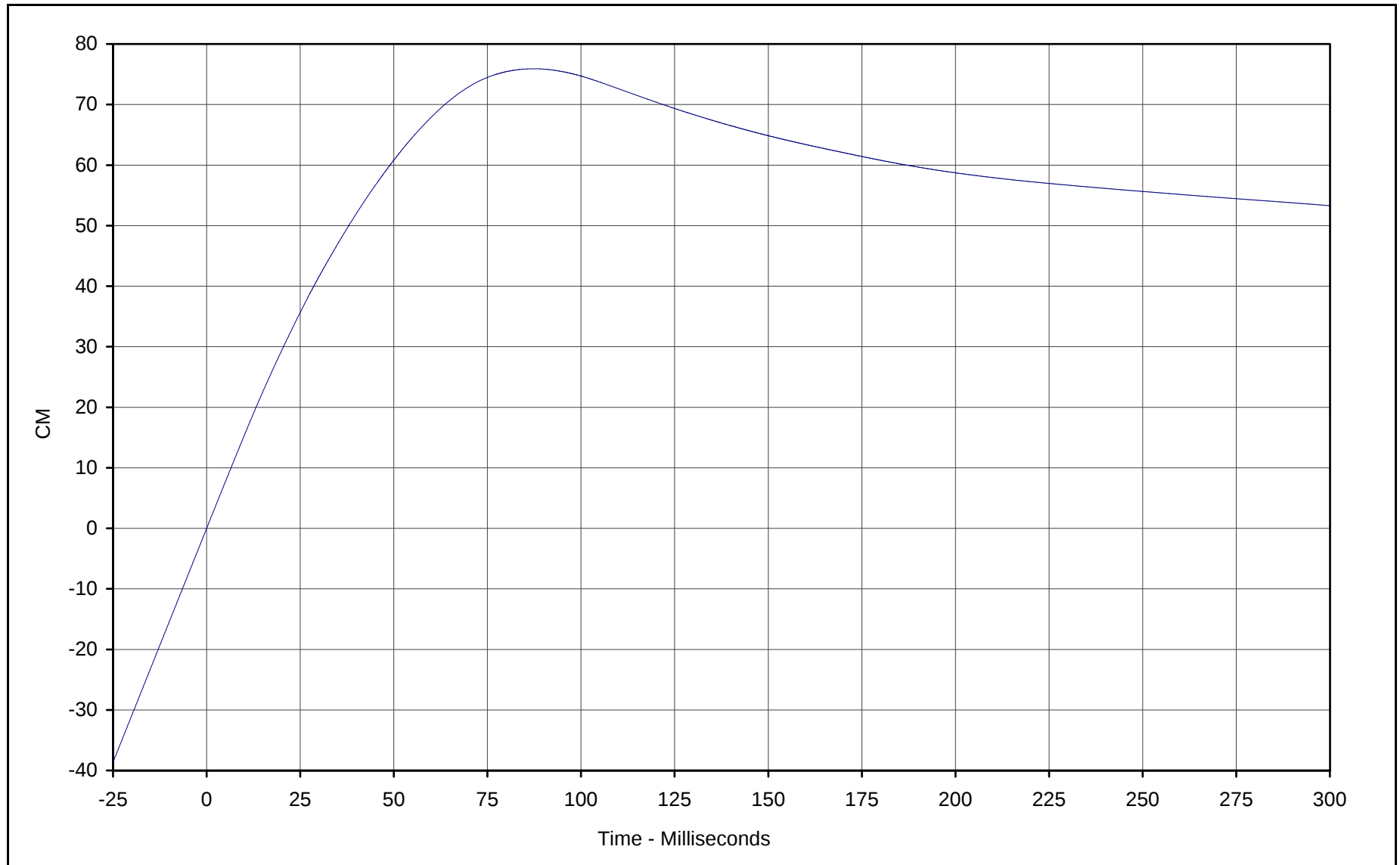
Curve Description: Vehicle Right Rear Primary Velocity  
Maximum Value: 55.8 at 0.0 Milliseconds  
Minimum Value: -8.1 at 111.1 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-090

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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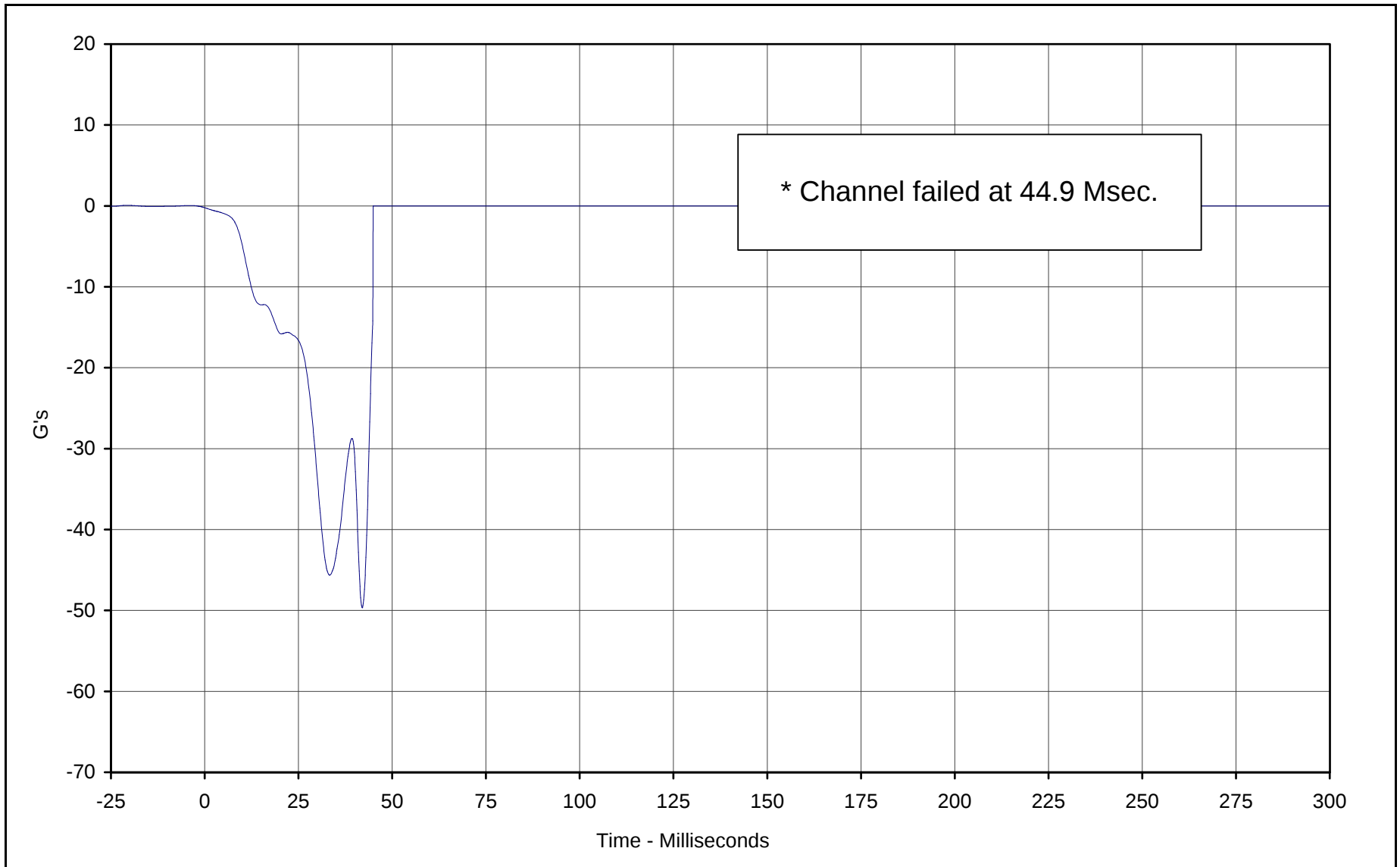


Curve Description: Vehicle Right Rear Primary Displ.  
Maximum Value: 75.9 at 87.3 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-090

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Vehicle Engine Top \*

Maximum Value: 0.0 at 44.9 Milliseconds

Minimum Value: -49.7 at 42.0 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

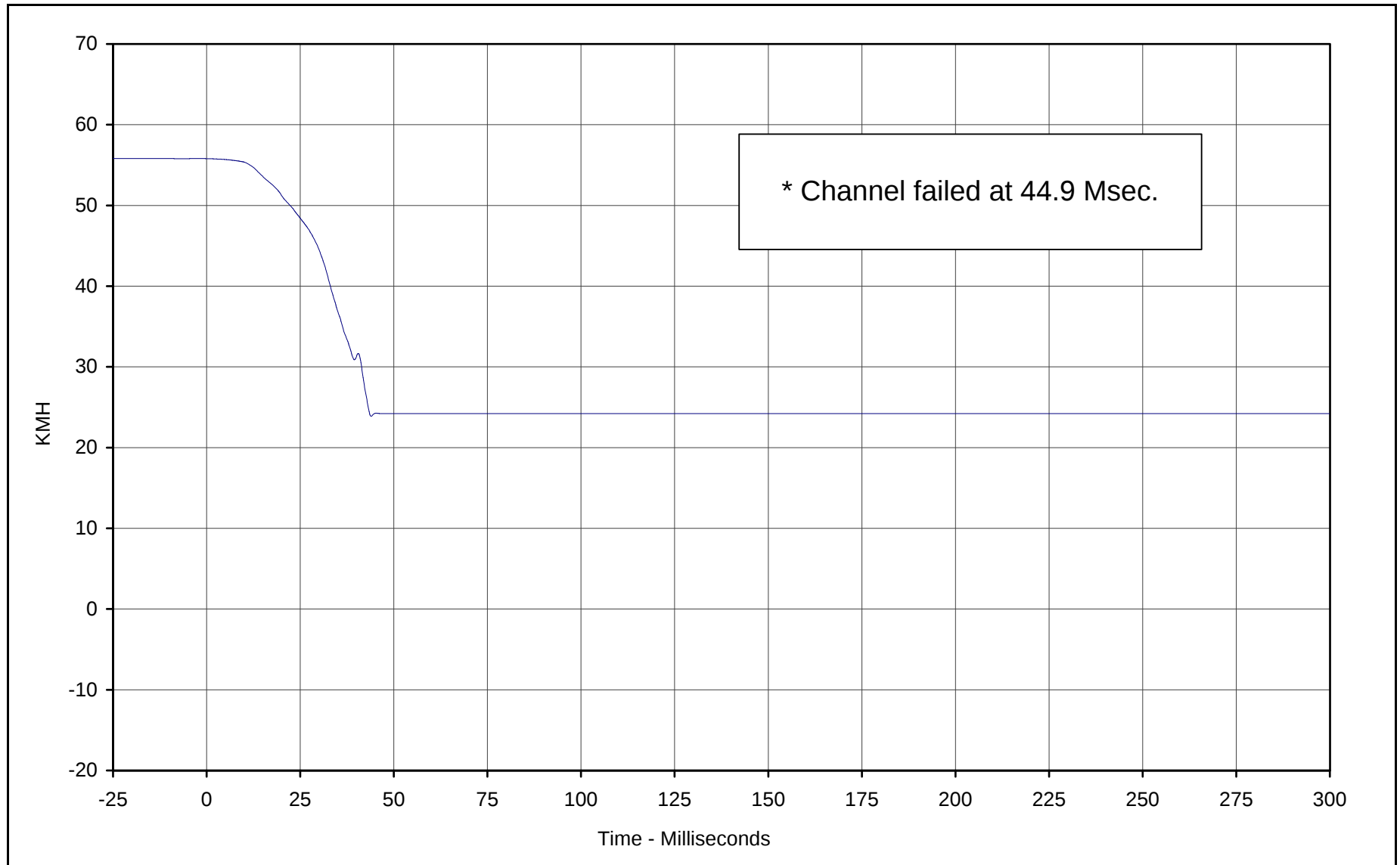
Curve Number: FIL-091

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\* Channel failed at 44.9 Msec.





Curve Description: Vehicle Engine Top Velocity \*

Maximum Value: 55.8 at 0.0 Milliseconds

Minimum Value: 23.9 at 43.9 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN1-091

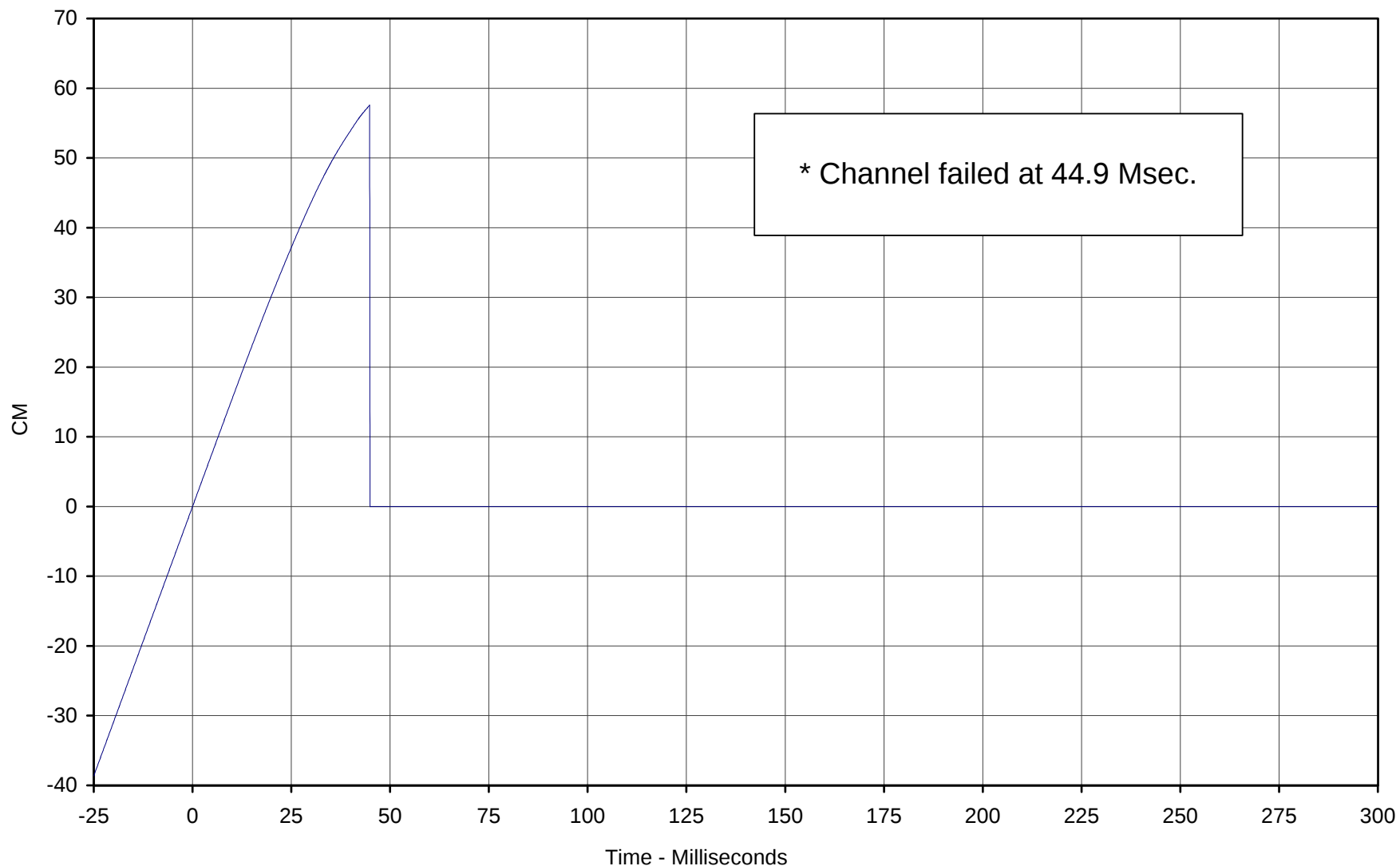
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\* Channel failed at 44.9 Msec.



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Curve Description: Vehicle Engine Top Displacement \*

Maximum Value: 57.6 at 44.8 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN2-091

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

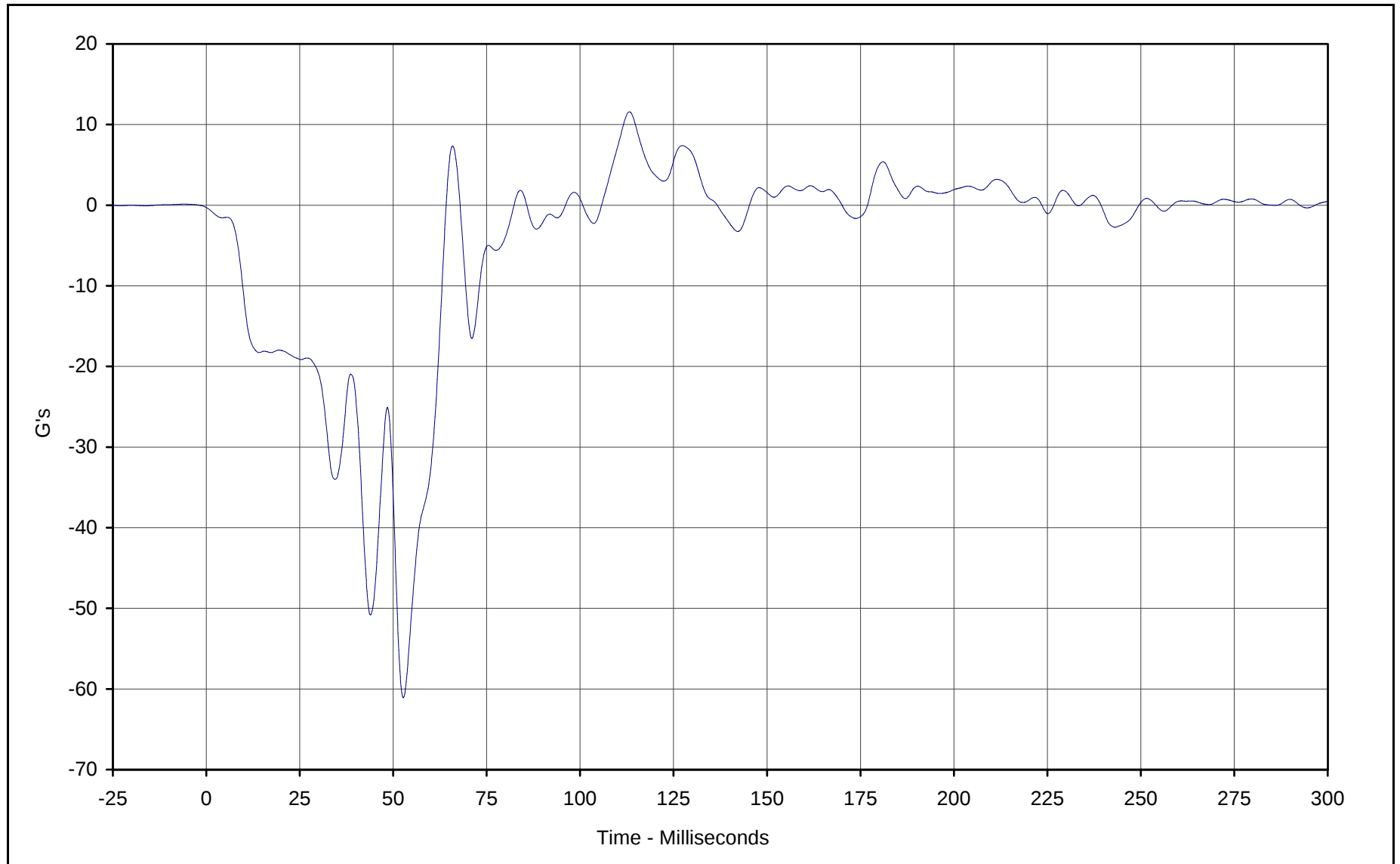
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\* Channel failed at 44.9 Msec.



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B-132



Curve Description: Vehicle Engine Bottom

Maximum Value: 11.6 at 113.2 Milliseconds

Minimum Value: -61.1 at 52.7 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-092

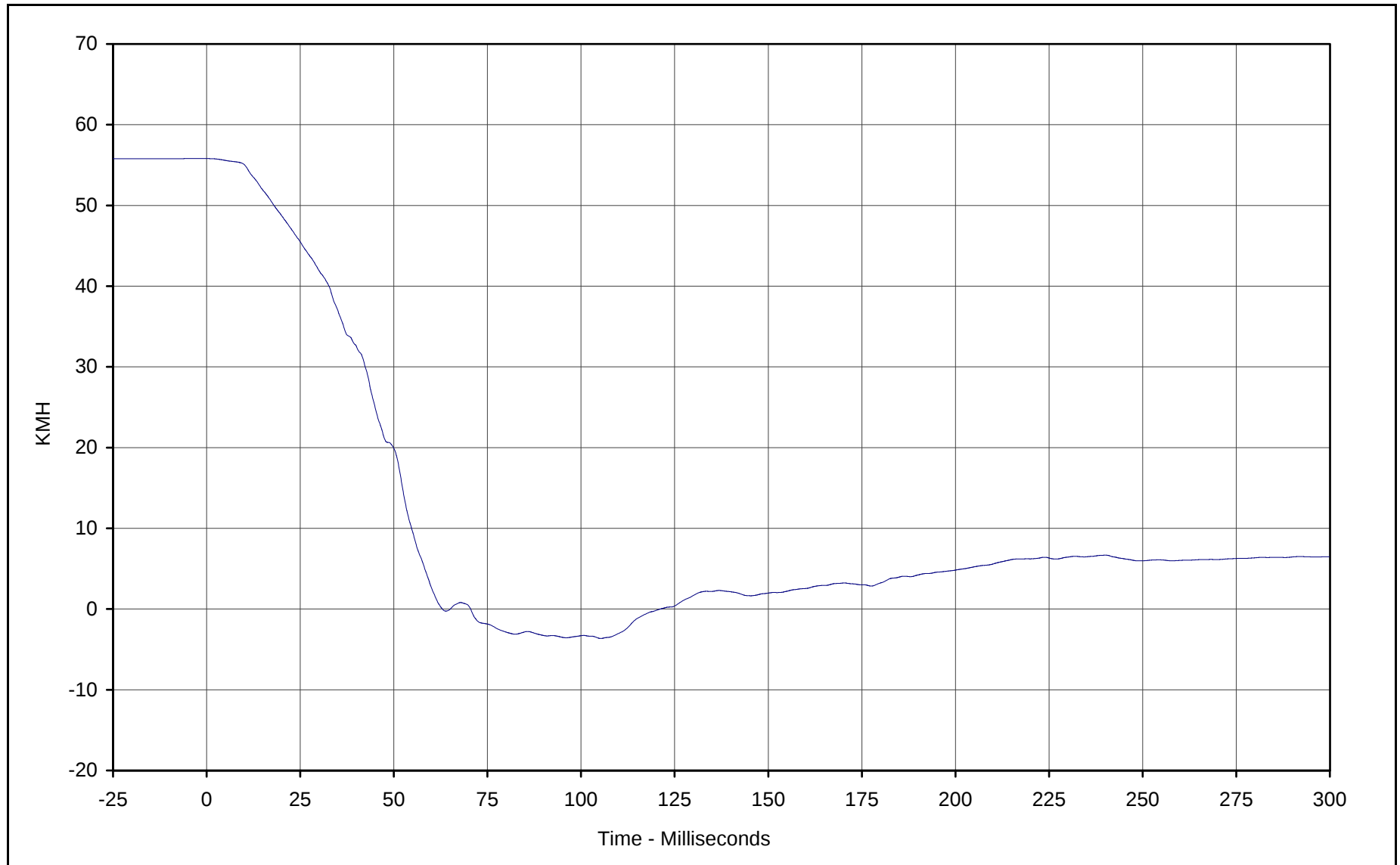
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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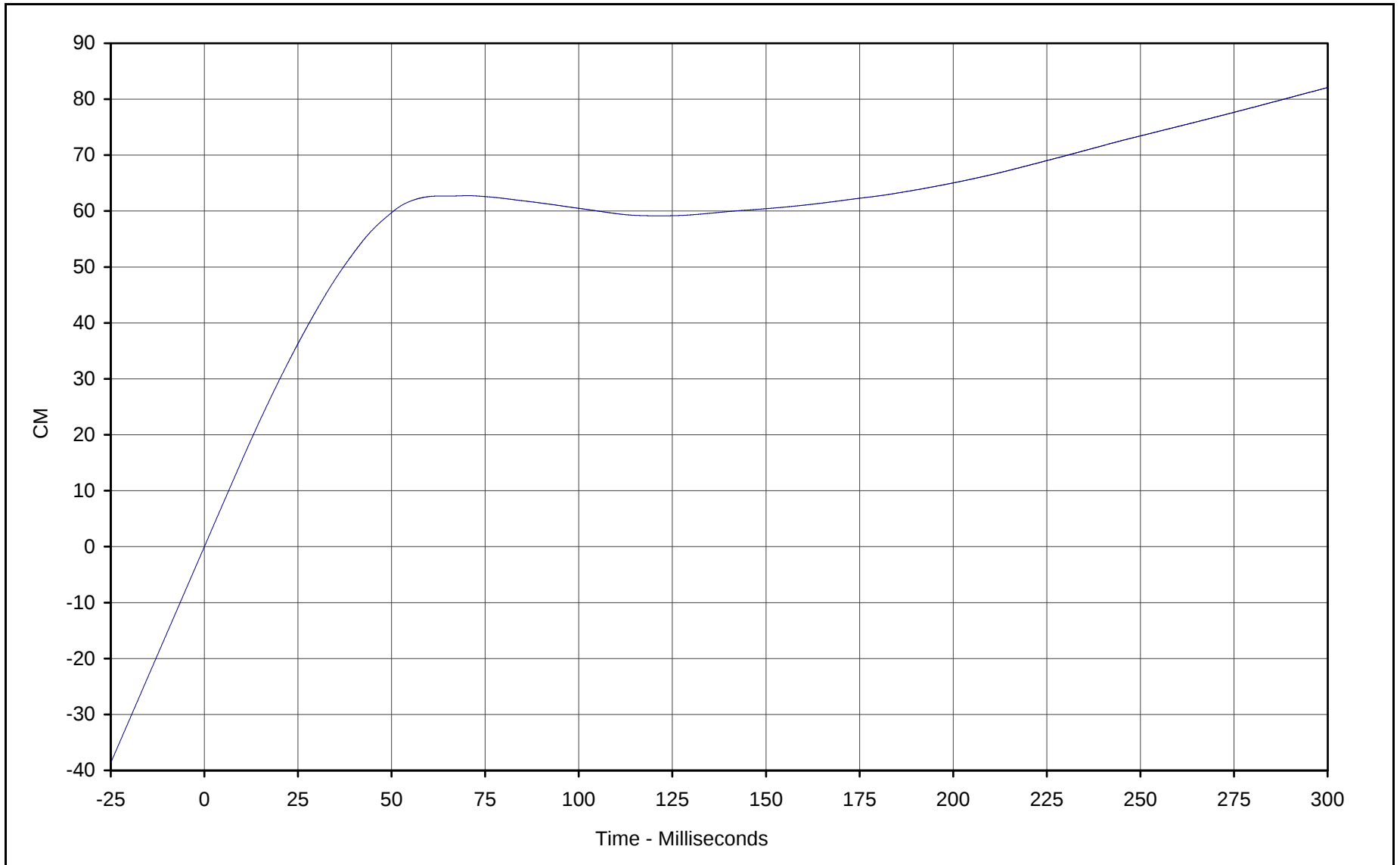
Curve Description: Vehicle Engine Bottom Velocity  
Maximum Value: 55.8 at 0.0 Milliseconds  
Minimum Value: -3.6 at 105.3 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-092

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Vehicle Engine Bottom Displacement

Maximum Value: 82.1 at 299.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN2-092

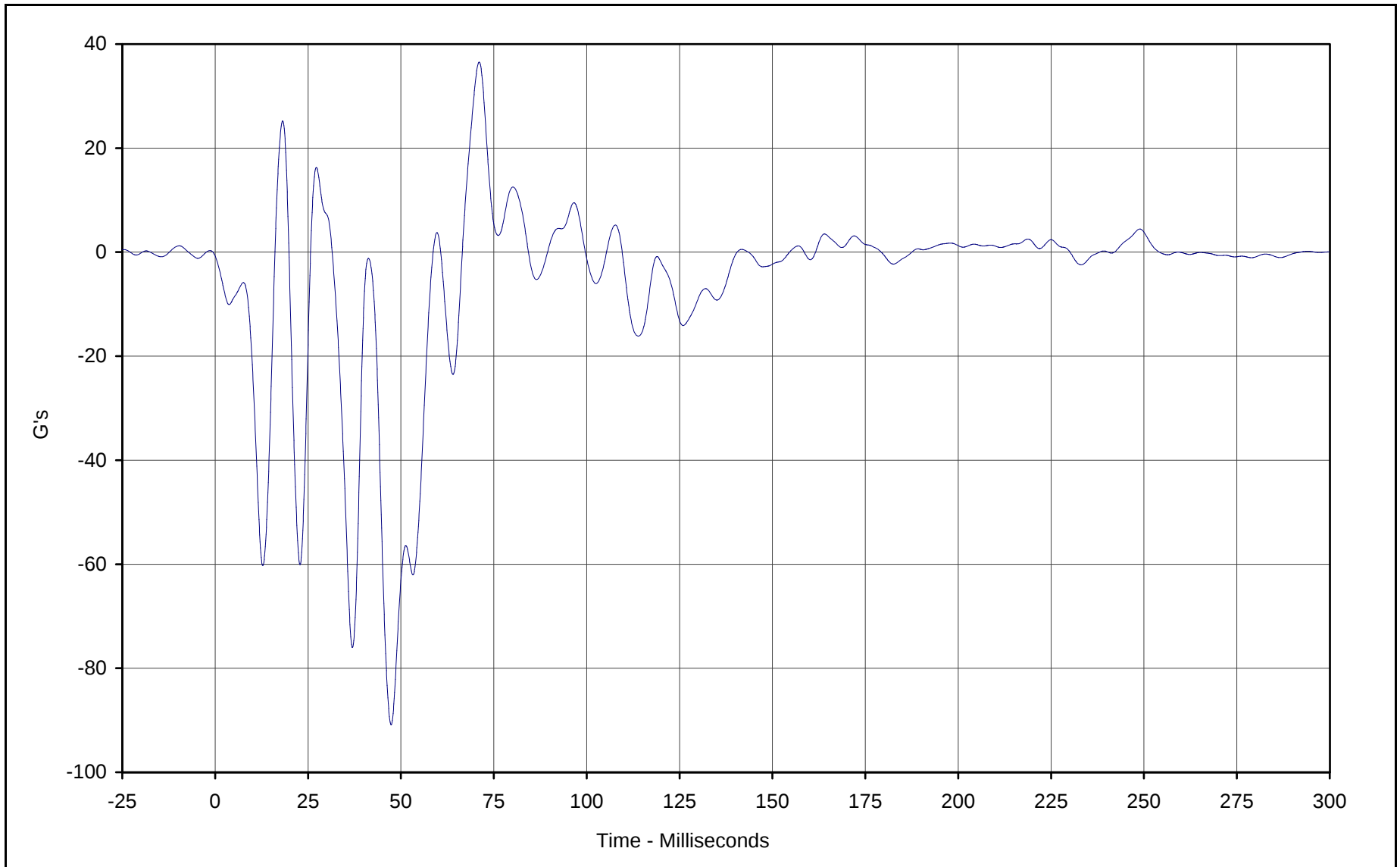
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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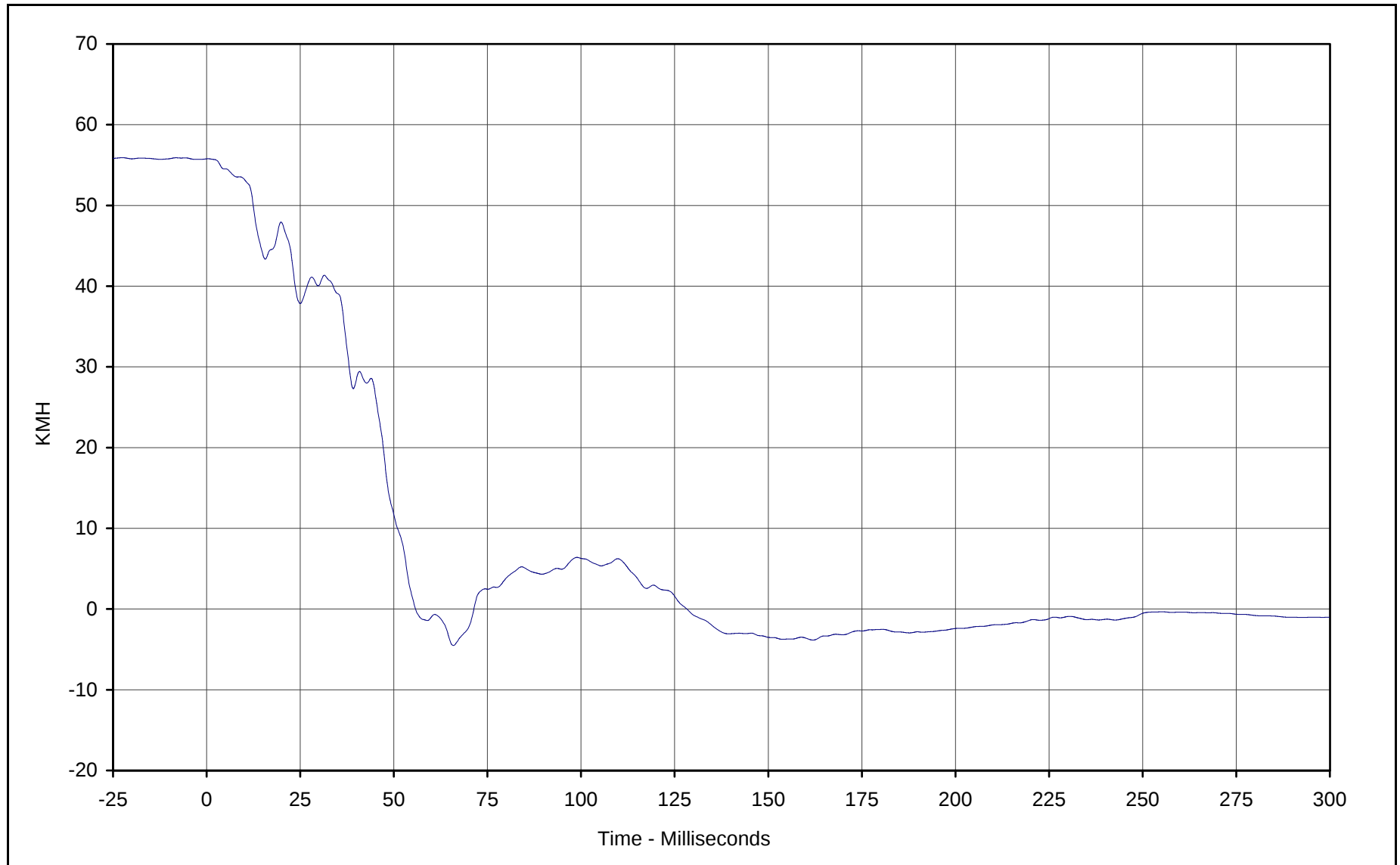
Curve Description: Vehicle Left Brake Caliper  
Maximum Value: 36.6 at 71.1 Milliseconds  
Minimum Value: -90.9 at 47.4 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-093

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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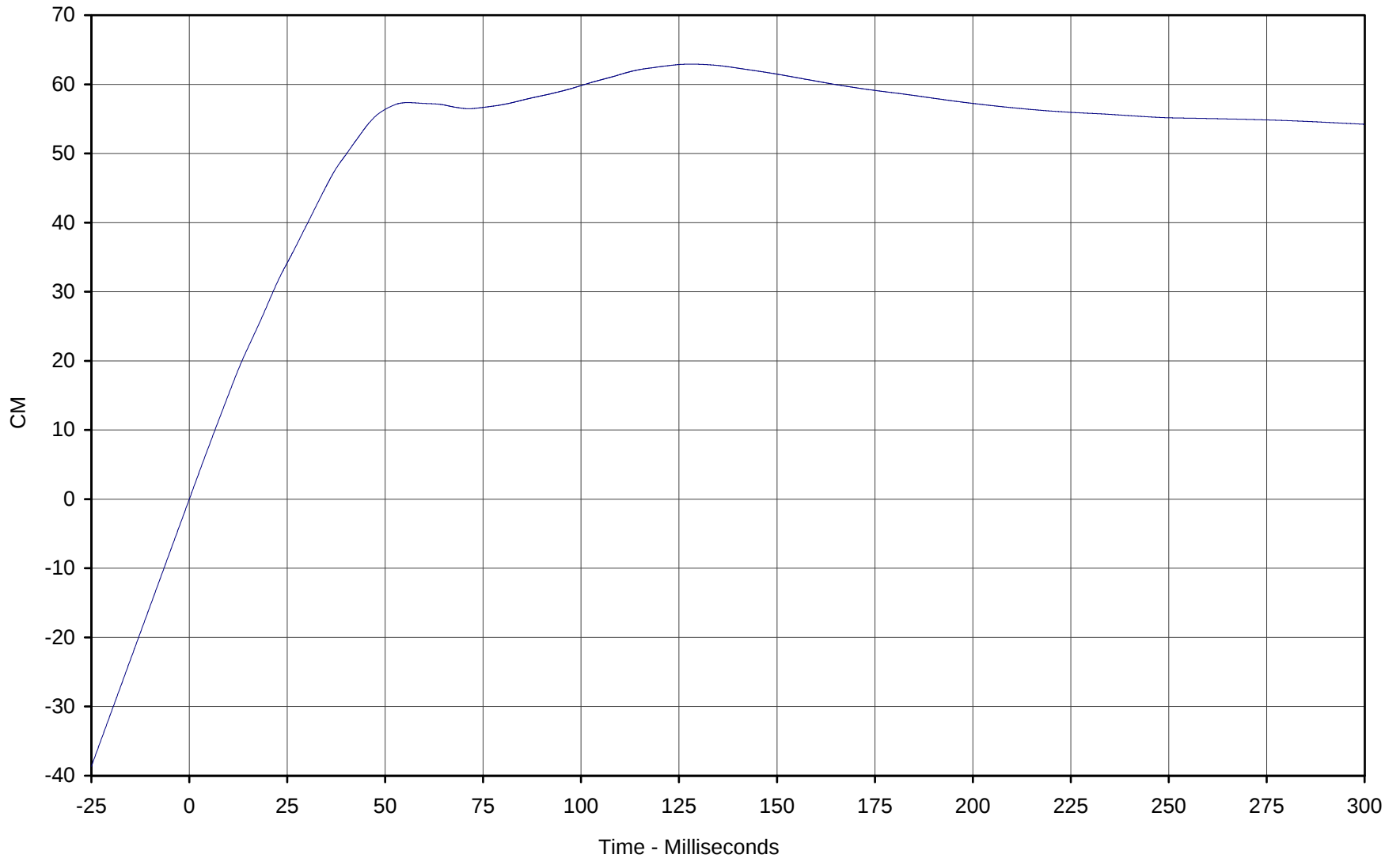
Curve Description: Vehicle Left Brake Caliper Velocity  
Maximum Value: 55.8 at 0.4 Milliseconds  
Minimum Value: -4.5 at 65.9 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-093

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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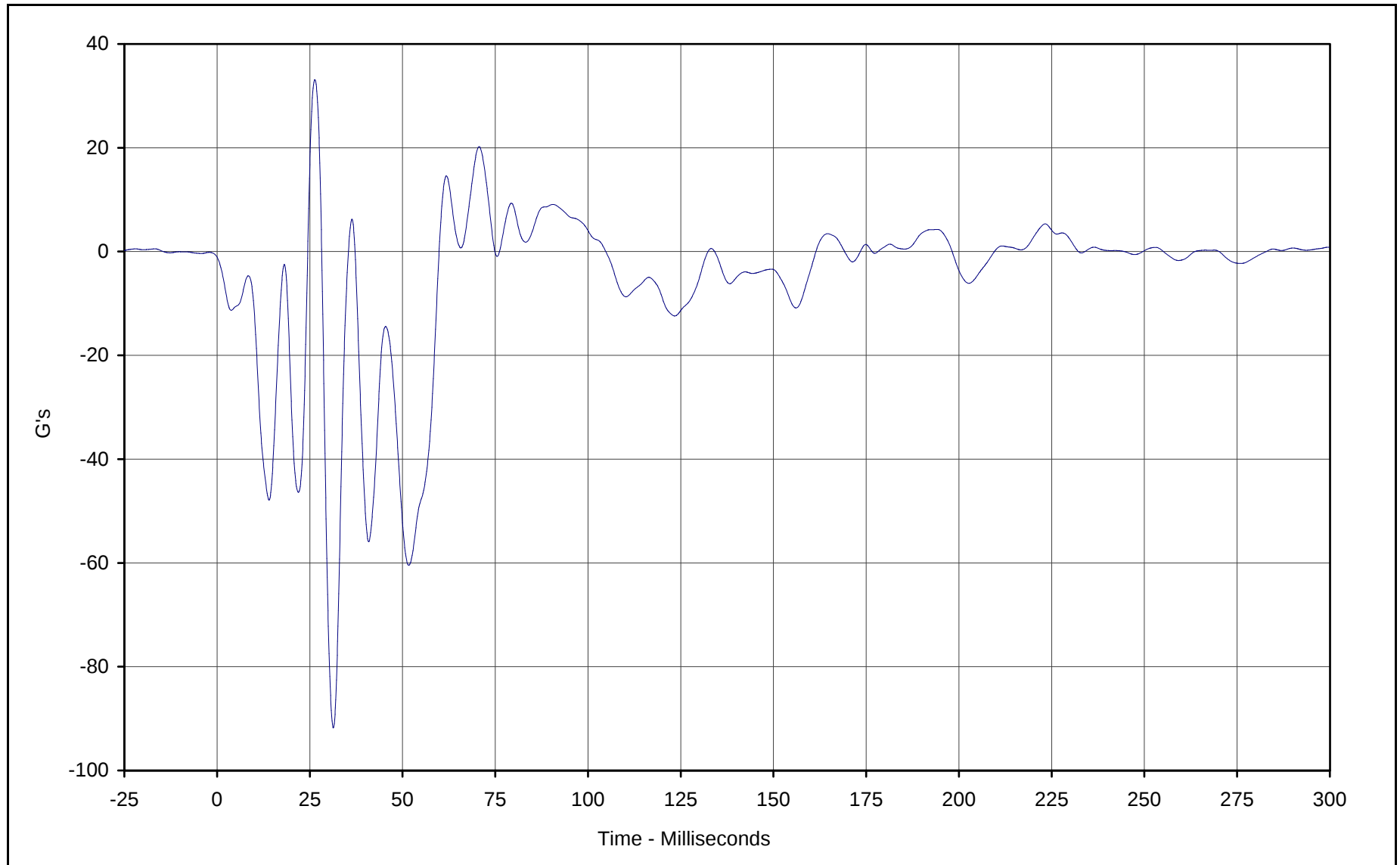
Curve Description: Vehicle Left Brake Caliper Displ.  
Maximum Value: 62.9 at 128.3 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-093

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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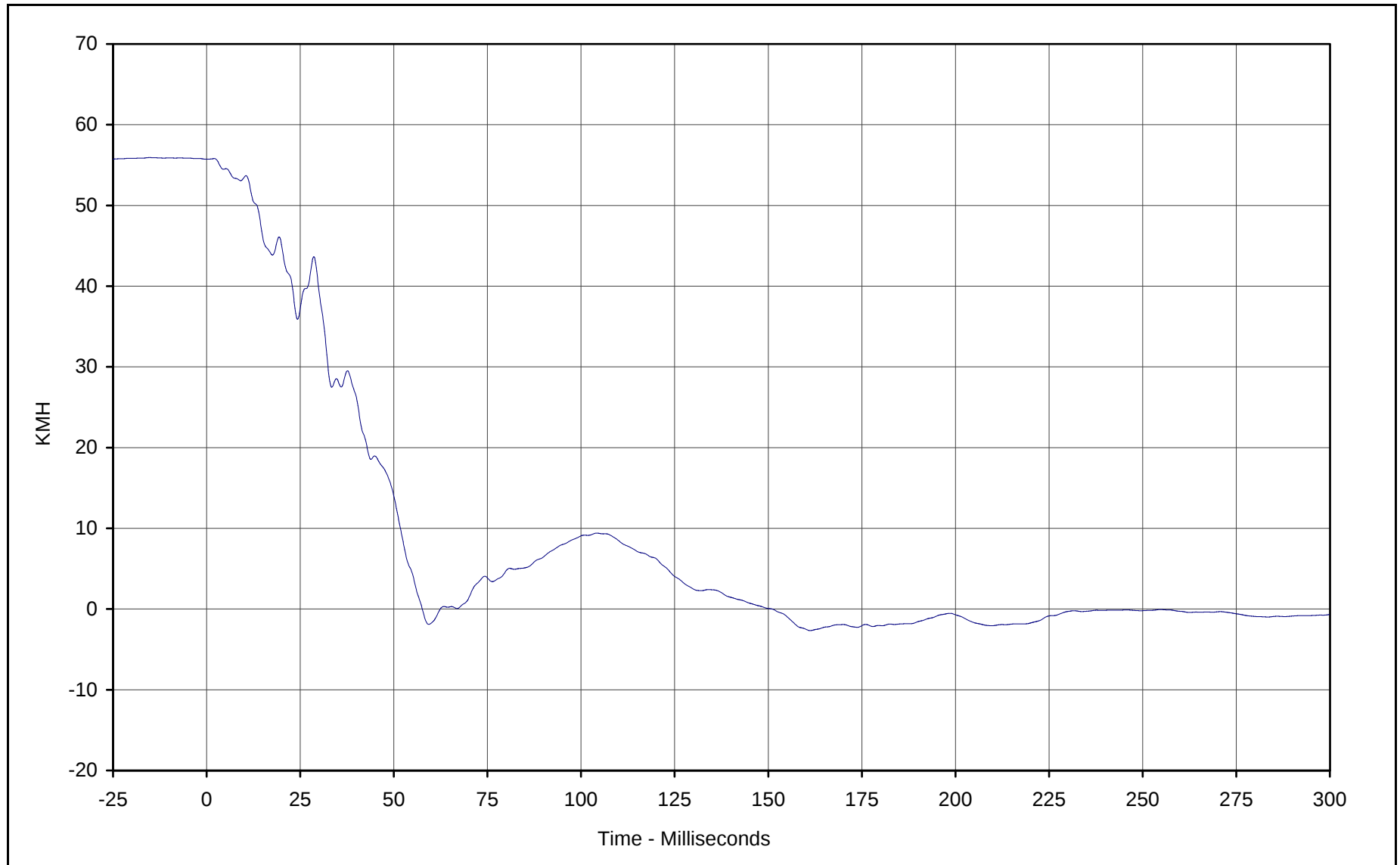
Curve Description: Vehicle Right Brake Caliper  
Maximum Value: 33.1 at 26.4 Milliseconds  
Minimum Value: -91.8 at 31.3 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-094

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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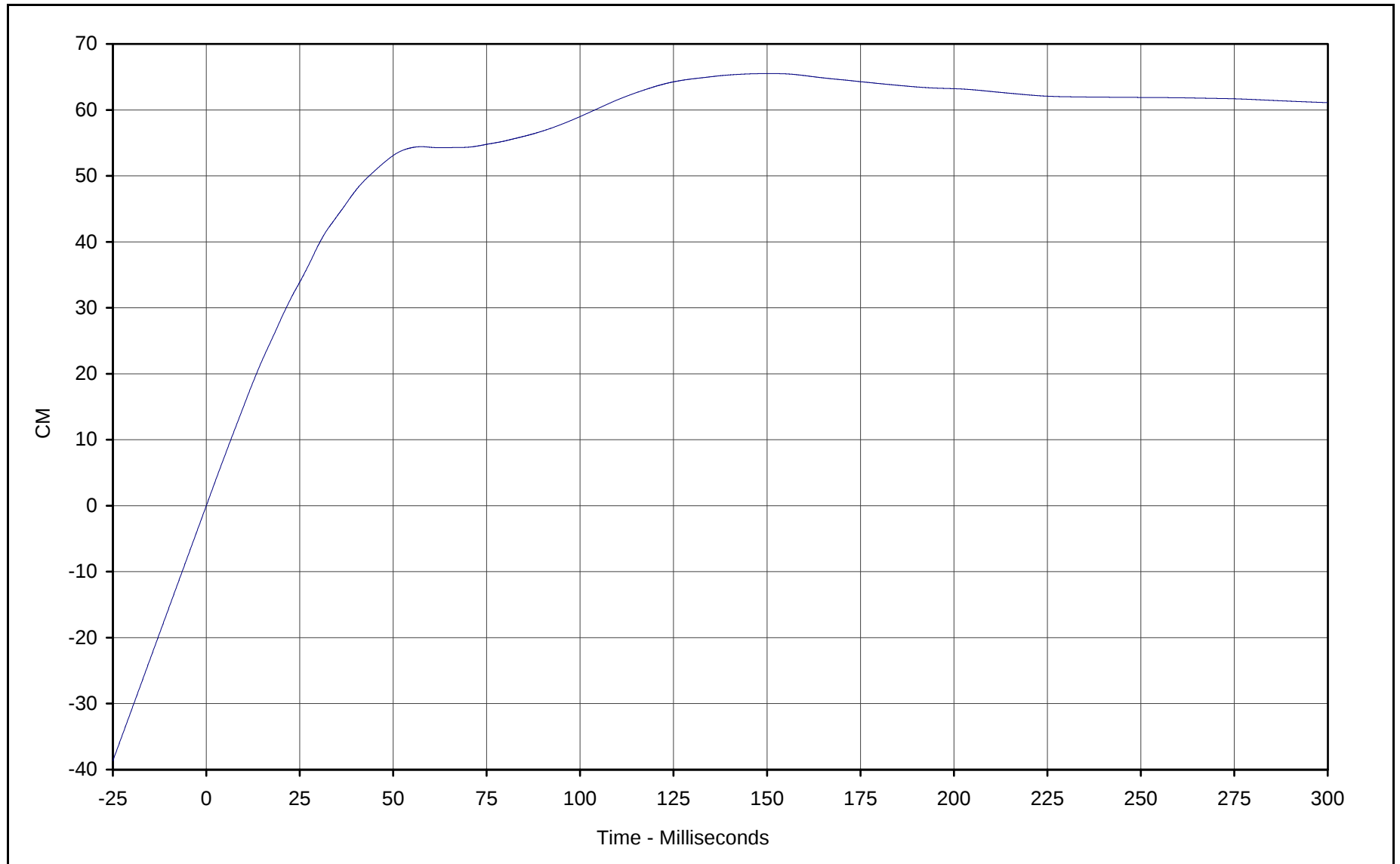
Curve Description: Vehicle Right Brake Caliper Velocity  
Maximum Value: 55.8 at 2.1 Milliseconds  
Minimum Value: -2.7 at 161.2 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN1-094

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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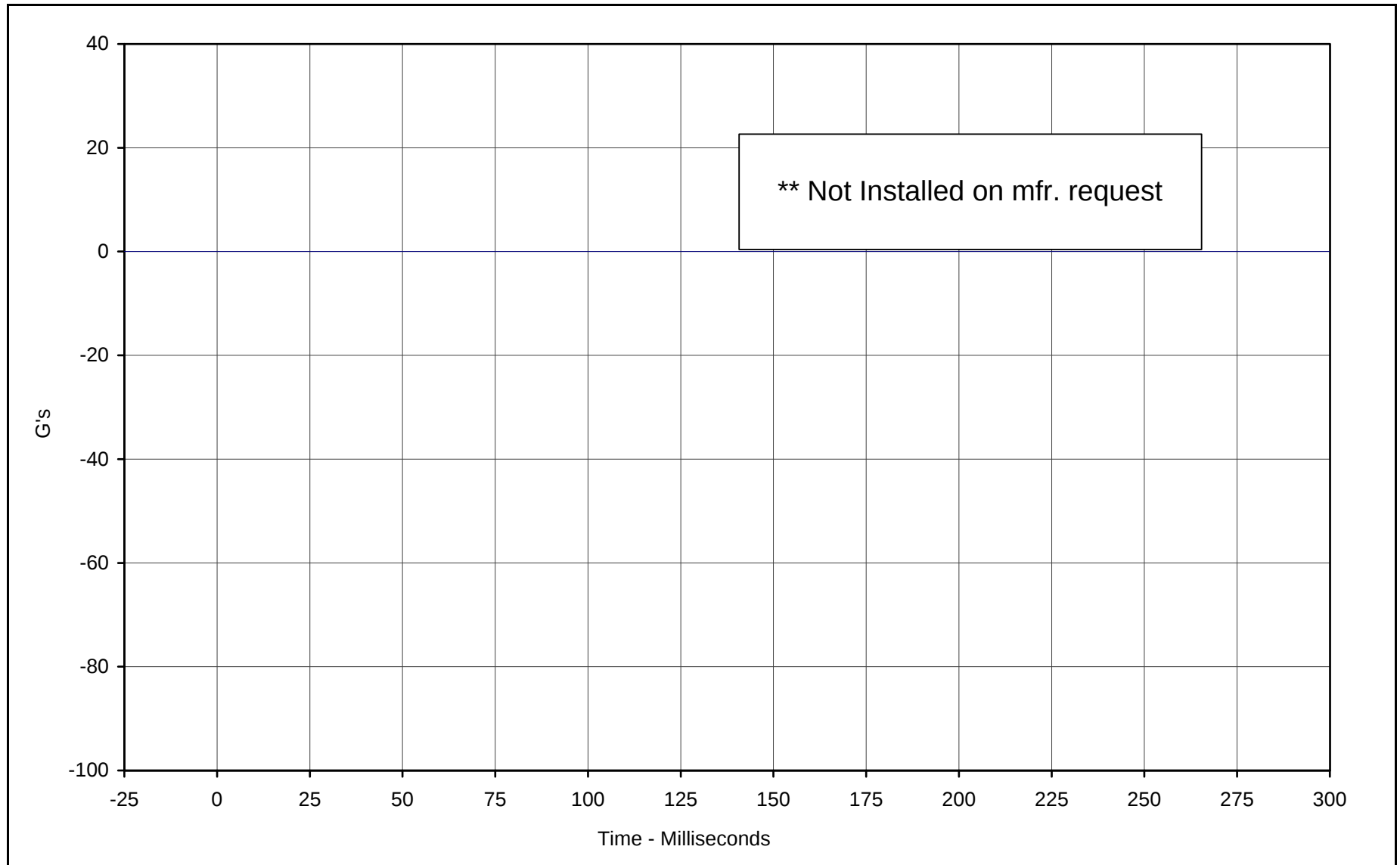
Curve Description: Vehicle Right Brake Caliper Displ.  
Maximum Value: 65.5 at 151.0 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 180  
Date of Test: 5/8/01  
Curve Number: IN2-094

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Vehicle Instrument Panel \*\*  
Maximum Value: 0.0 at 0.0 Milliseconds  
Minimum Value: 0.0 at 0.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-095

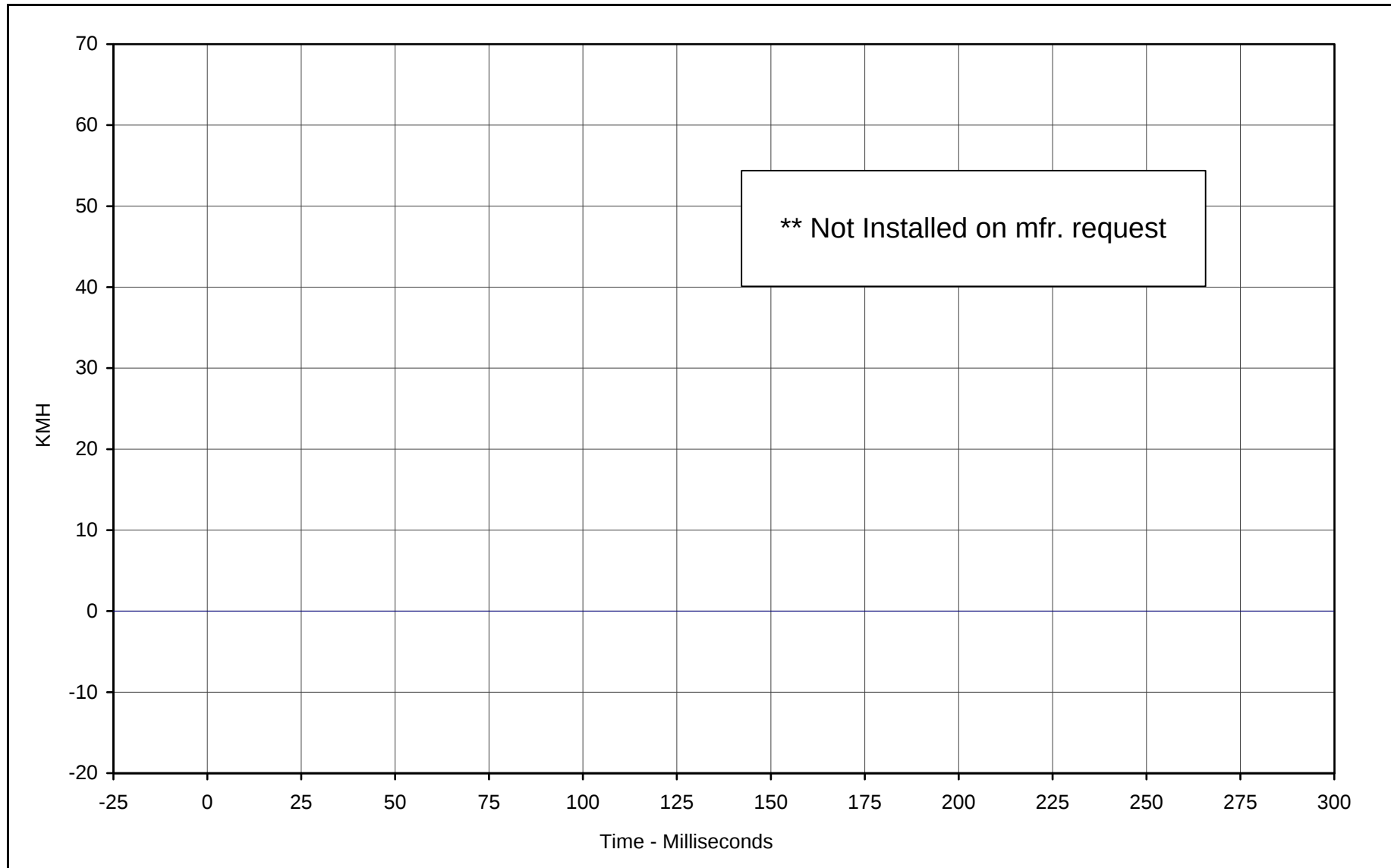
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\*\* Not installed on mfr. Request



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B-142



Curve Description: Vehicle Instrument Panel Velocity \*\*

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN1-095

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

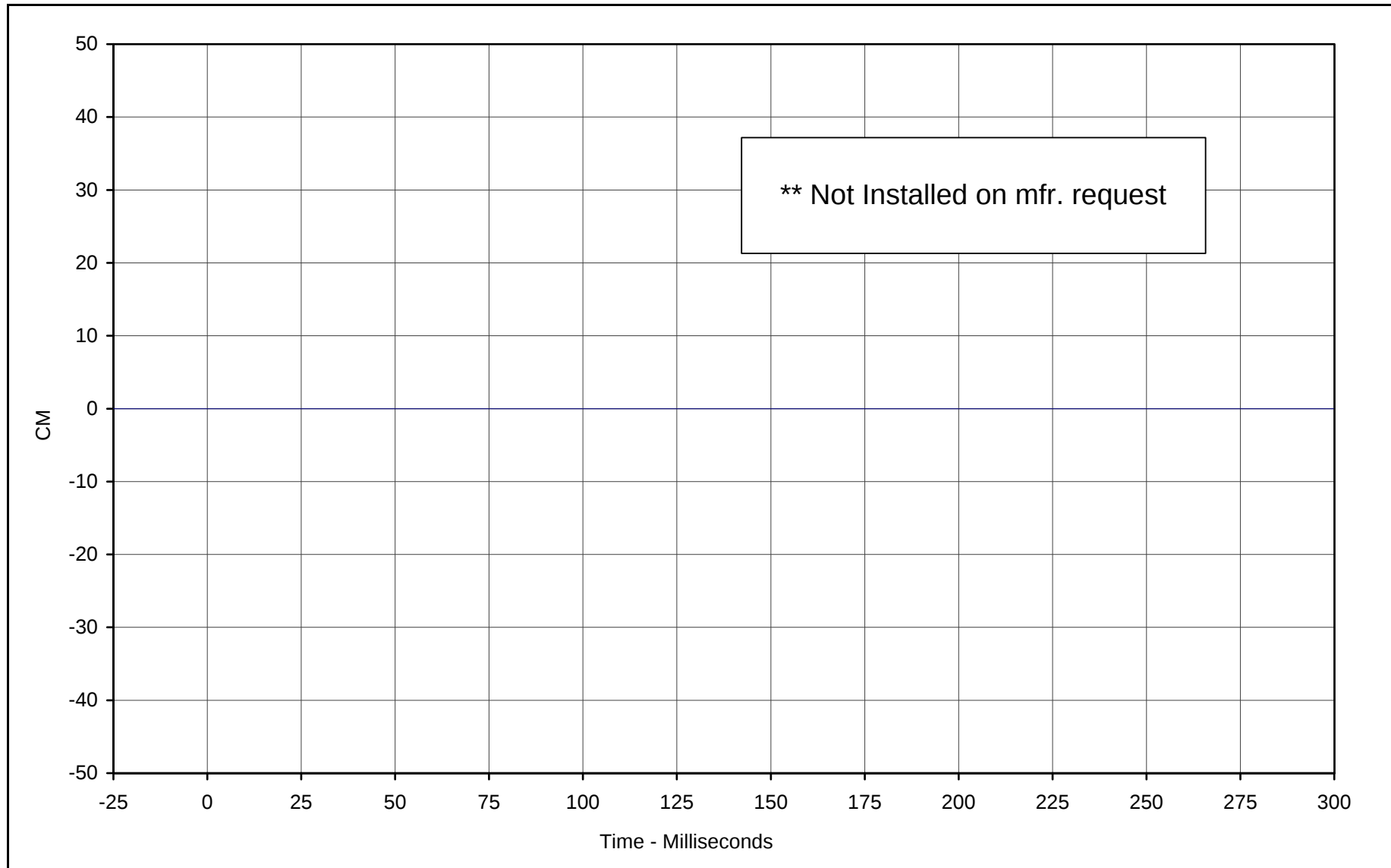
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\*\* Not installed on mfr. Request



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B-143



Curve Description: Vehicle Instrument Panel Displacement \*\*

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN2-095

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

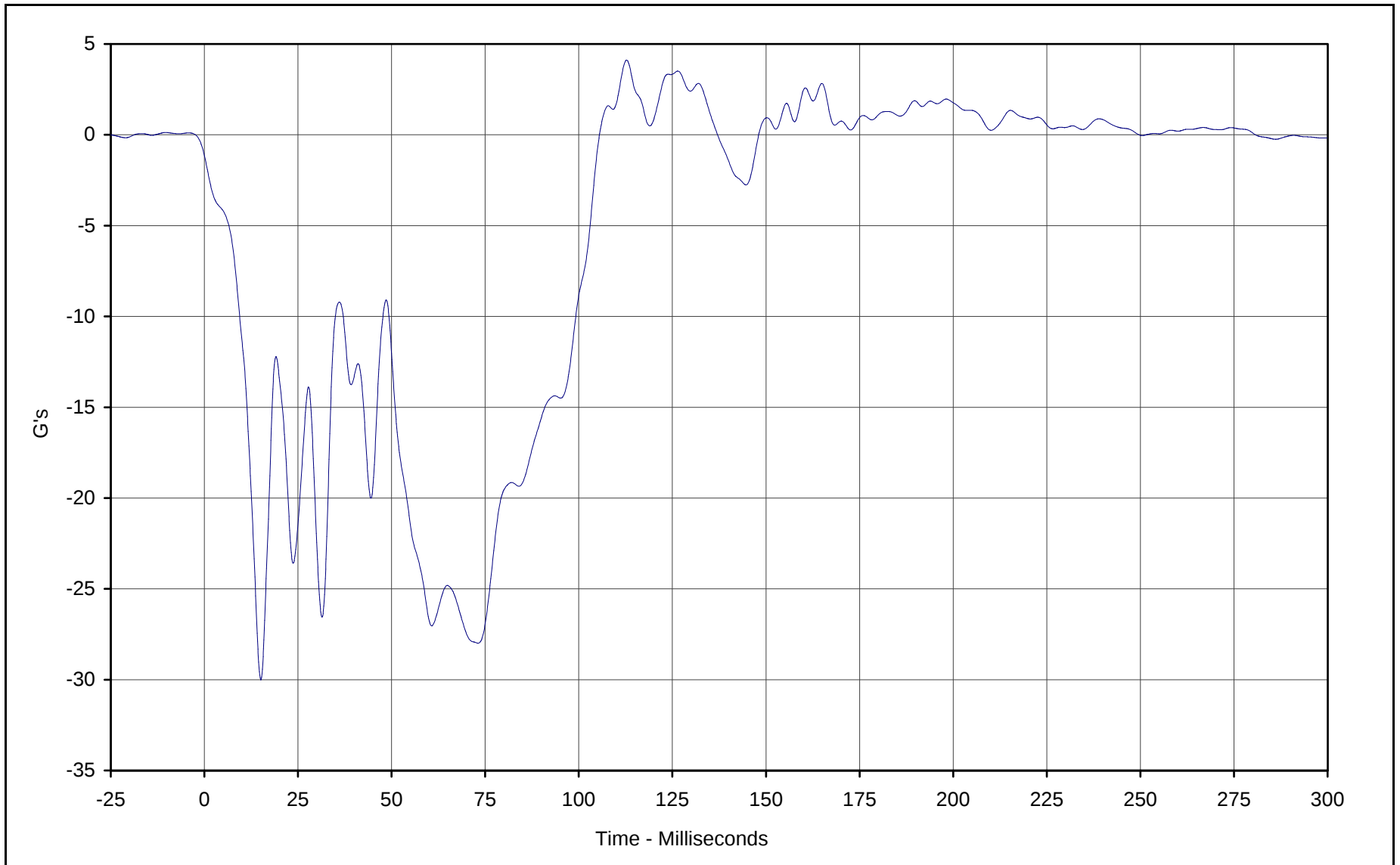
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

\*\* Not installed on mfr. Request



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B-144



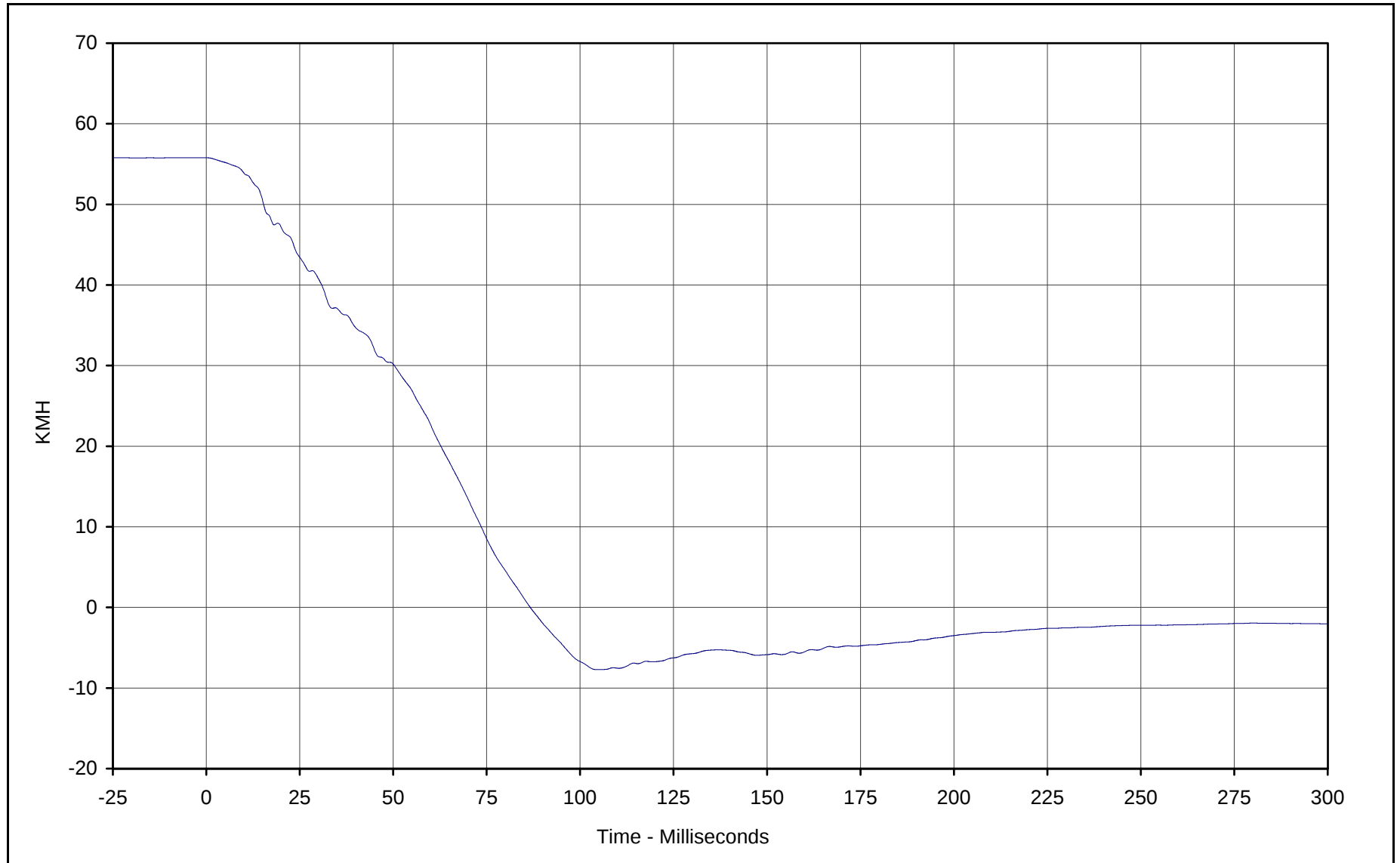
Curve Description: Vehicle Left Rear Redundant  
Maximum Value: 4.1 at 112.8 Milliseconds  
Minimum Value: -30.0 at 15.1 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-096

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Vehicle Left Rear Redundant Velocity

Maximum Value: 55.8 at 0.0 Milliseconds

Minimum Value: -7.7 at 104.4 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

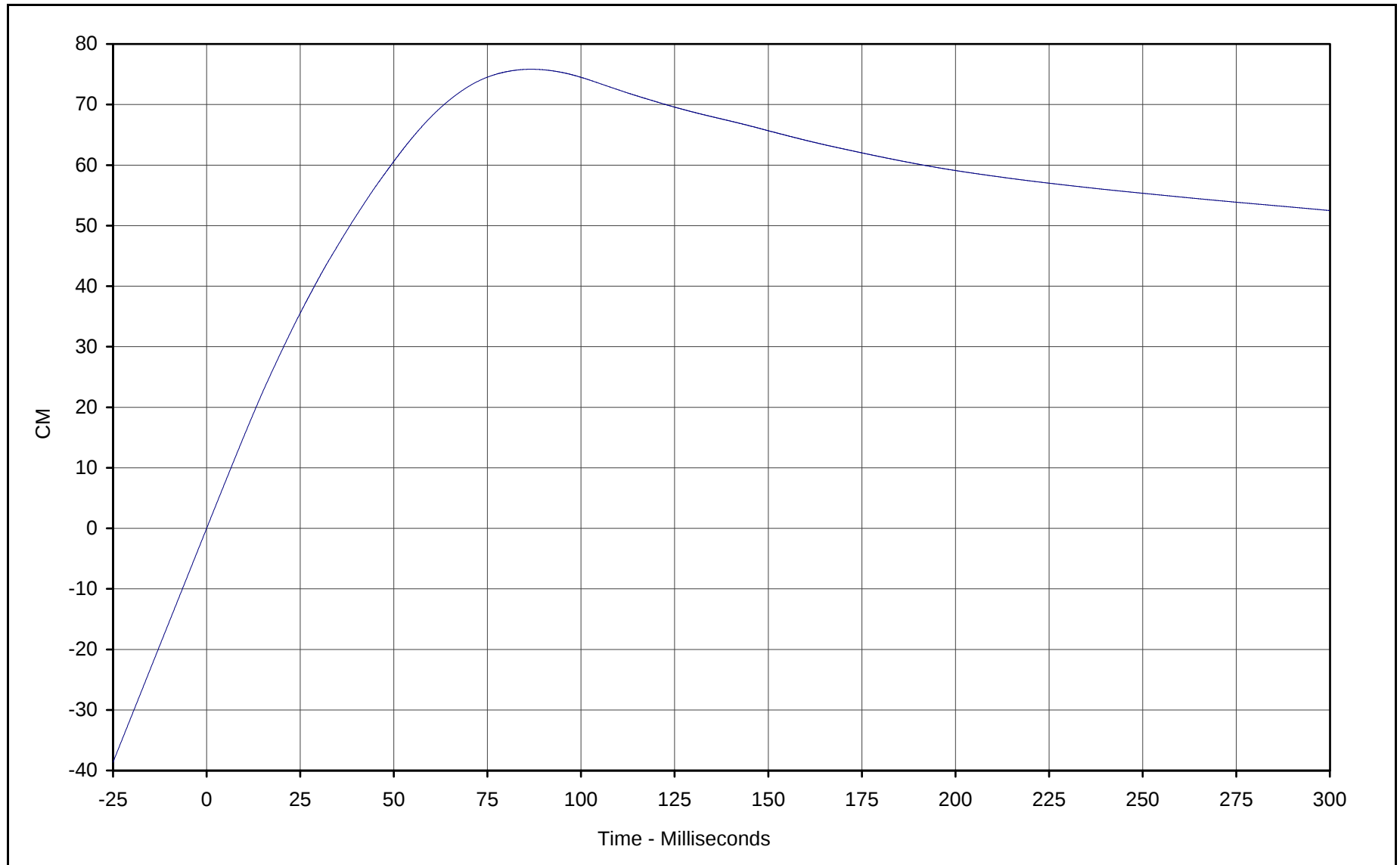
Curve Number: IN1-096

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Vehicle Left Rear Redundant Displ.

Maximum Value: 75.8 at 86.7 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 5/8/01

Curve Number: IN2-096

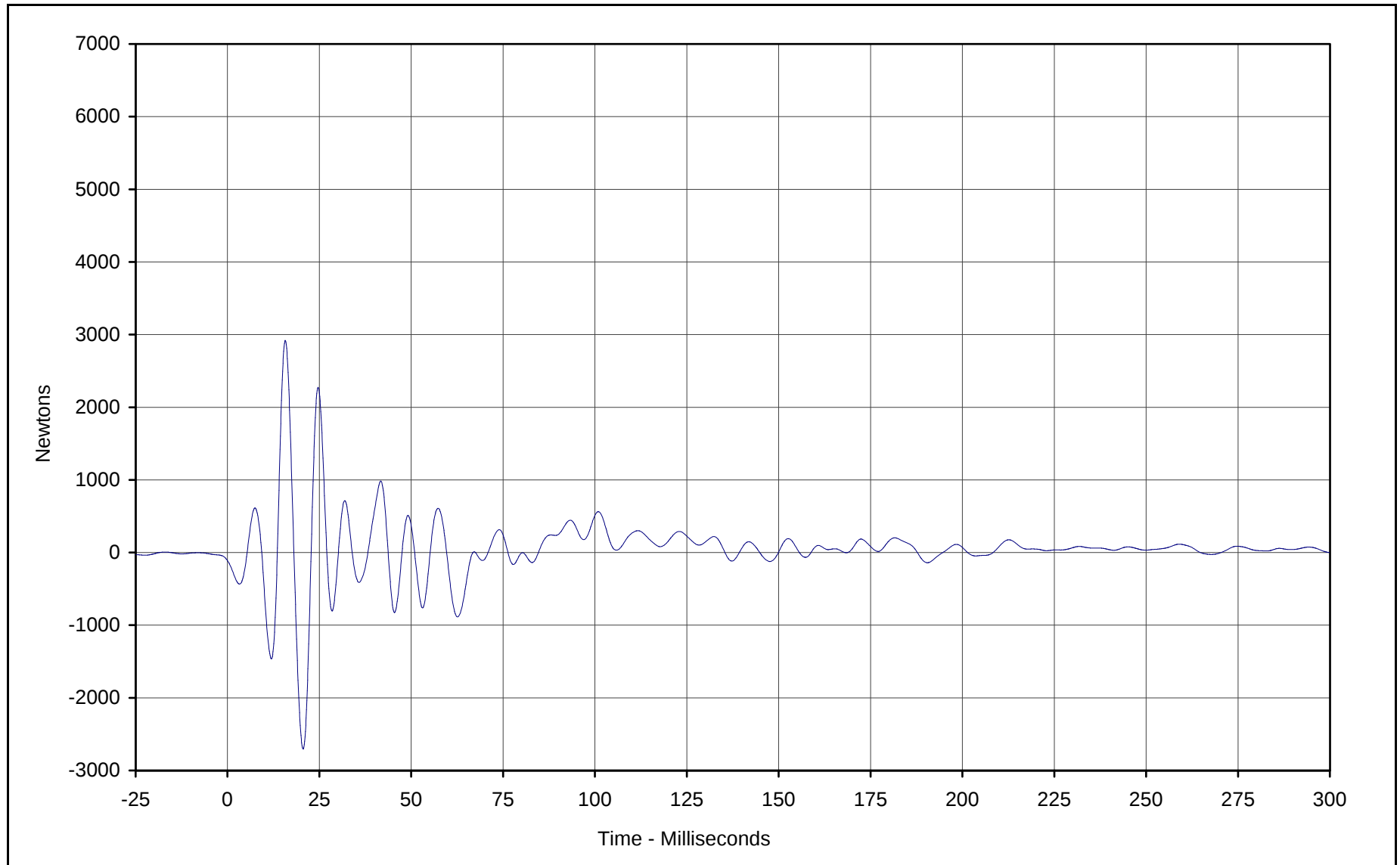
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



**APPENDIX C**  
**LOAD CELL BARRIER INFORMATION**

C-1



Curve Description: Barrier Force A2

|                   |                |    |             |              |
|-------------------|----------------|----|-------------|--------------|
| Maximum Value:    | <u>2919.1</u>  | at | <u>15.7</u> | Milliseconds |
| Minimum Value:    | <u>-2705.3</u> | at | <u>20.6</u> | Milliseconds |
| SAE Filter Class: | <u>60</u>      |    |             |              |
| Date of Test:     | <u>5/8/01</u>  |    |             |              |
| Curve Number:     | <u>FIL-099</u> |    |             |              |

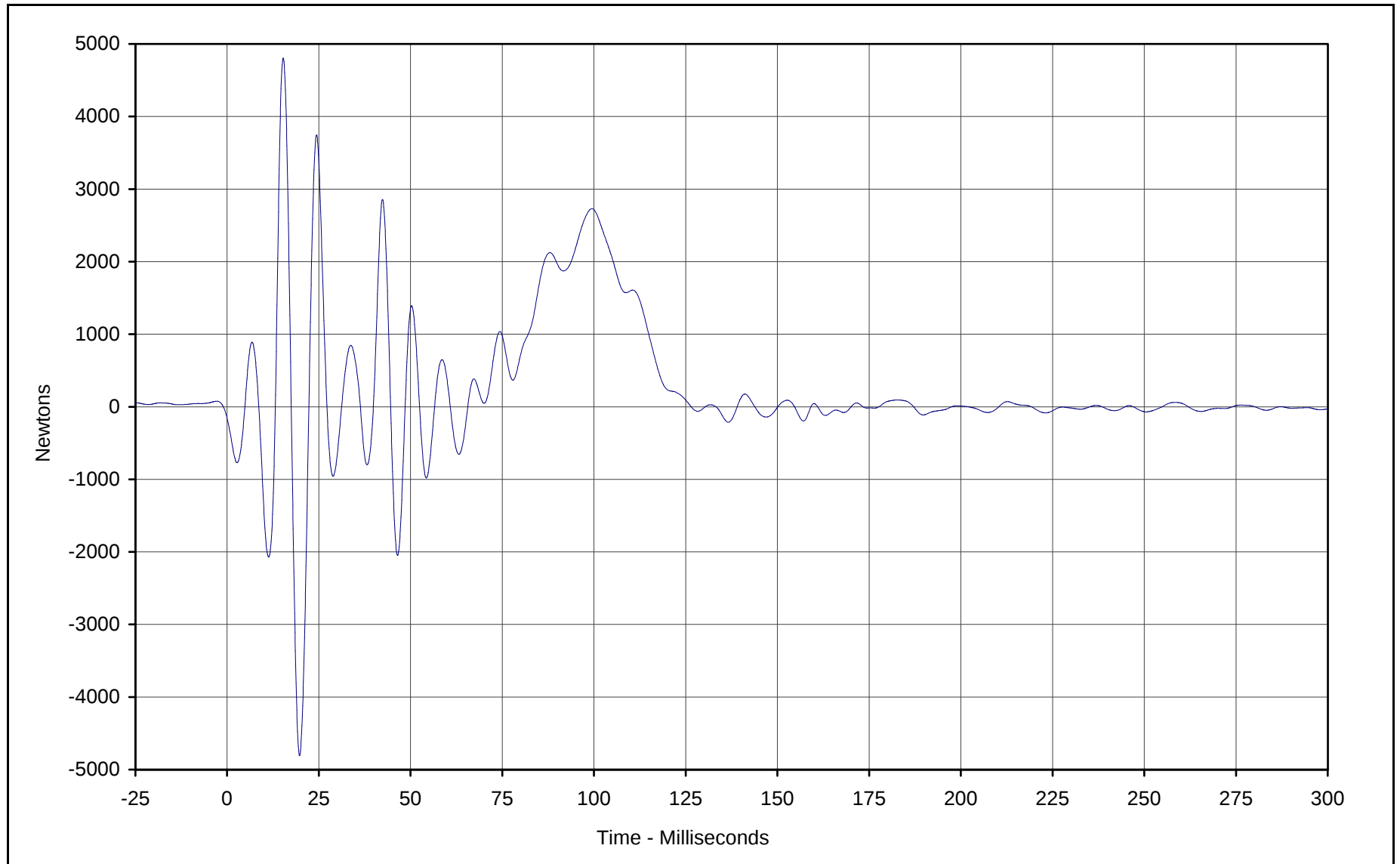
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-2



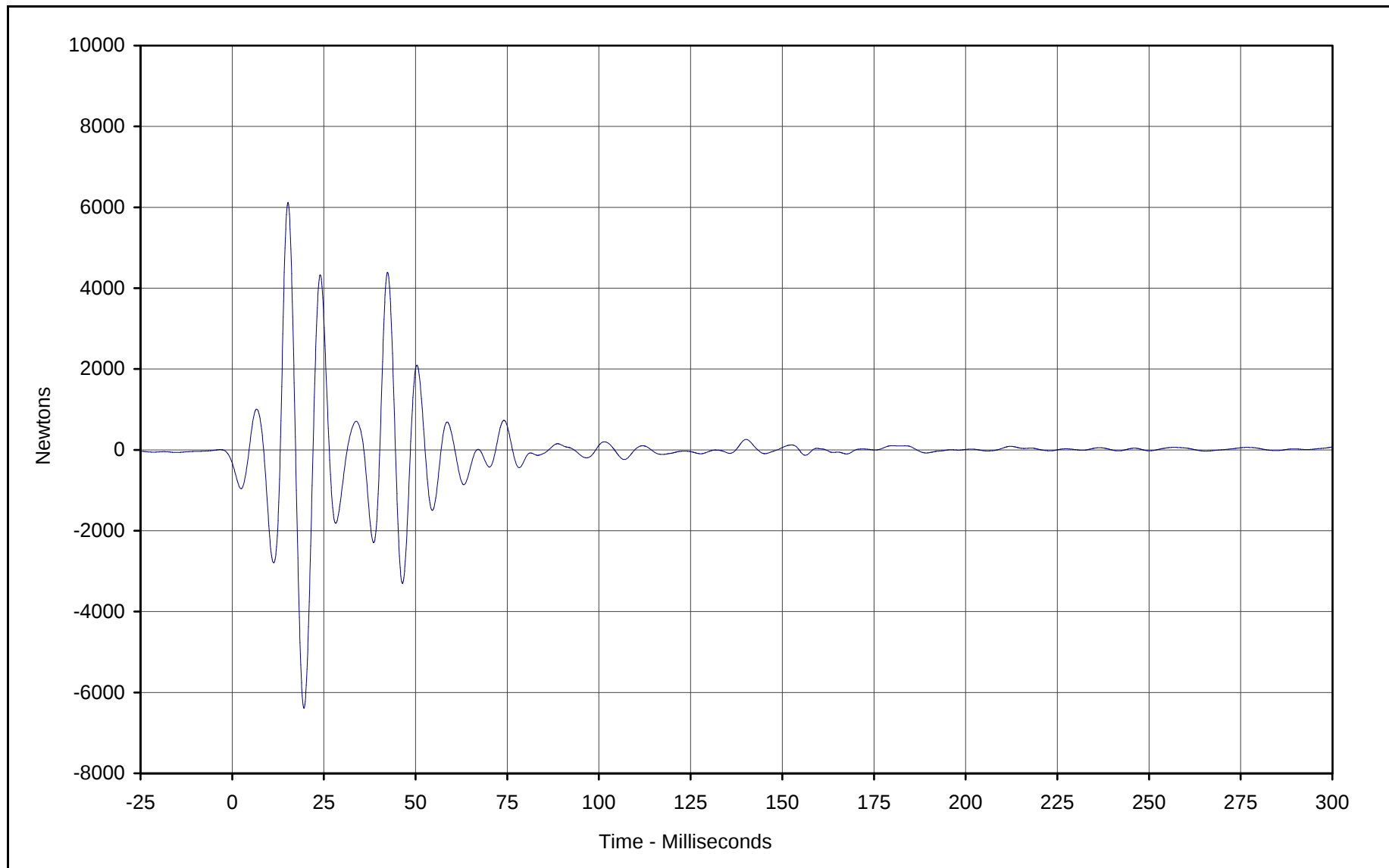
Curve Description: Barrier Force A3  
Maximum Value: 4806.3 at 15.3 Milliseconds  
Minimum Value: -4808.5 at 19.7 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-100

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-3



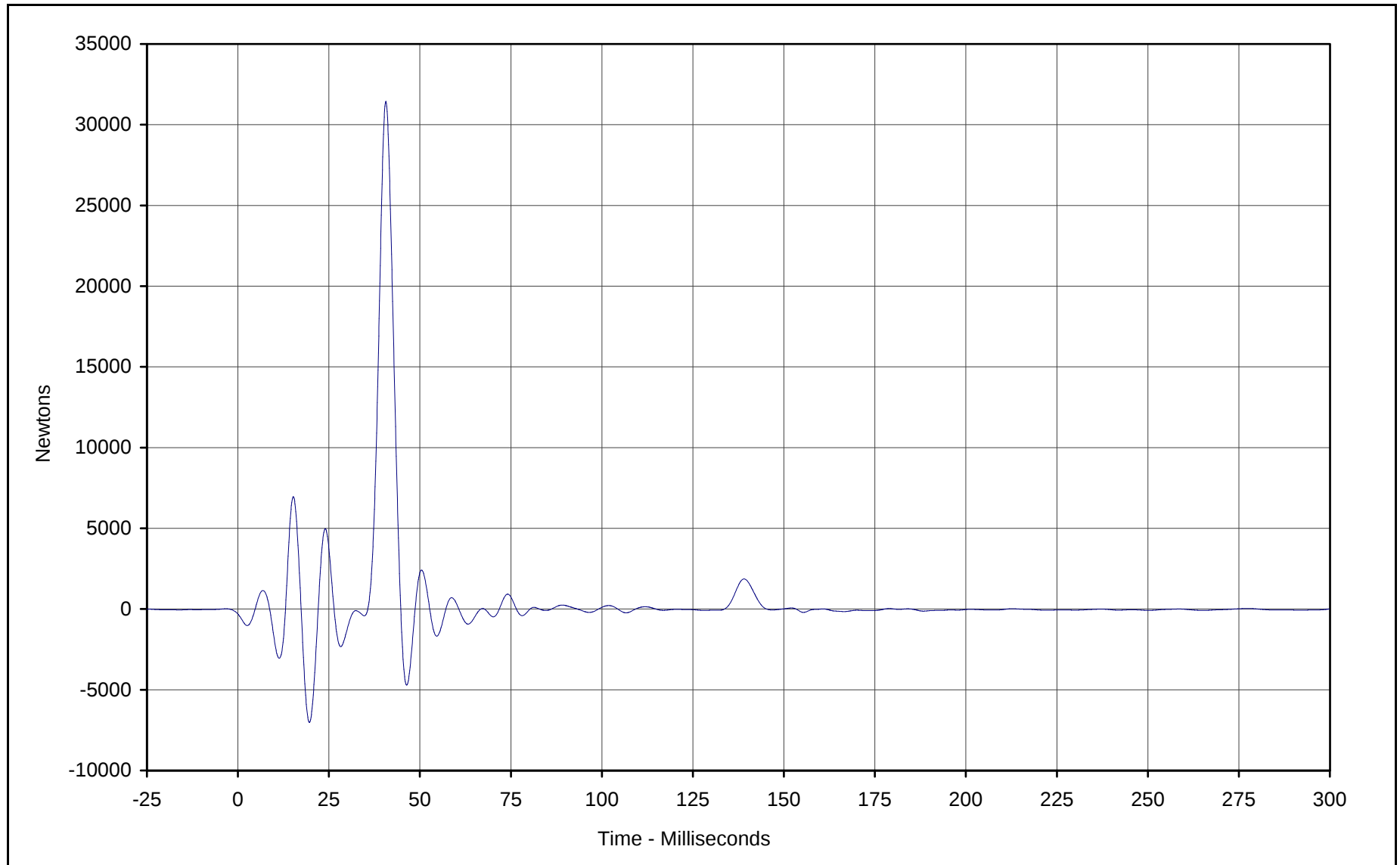
Curve Description: Barrier Force A4  
Maximum Value: 6123.2 at 15.2 Milliseconds  
Minimum Value: -6389.2 at 19.6 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-101

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-4



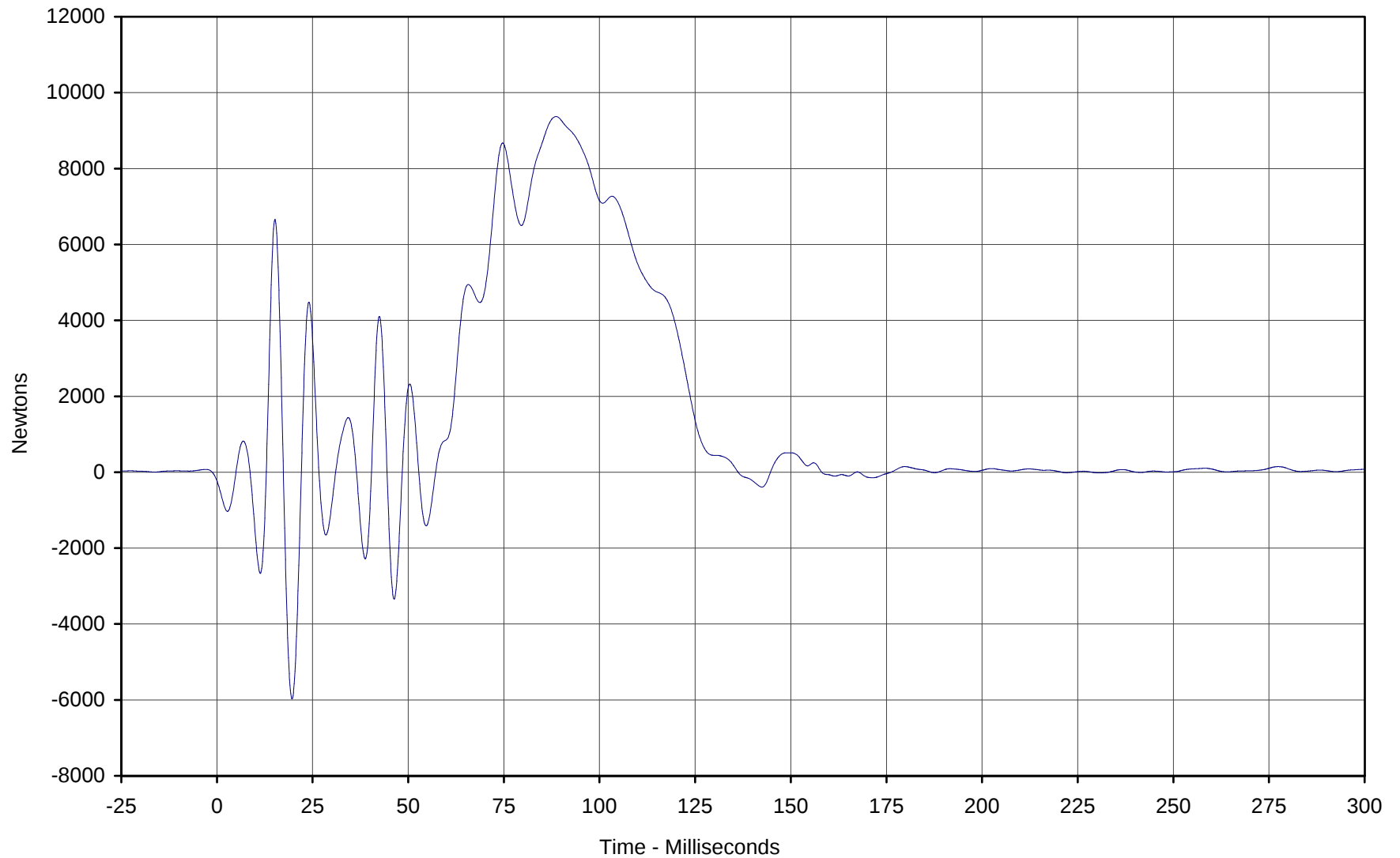
Curve Description: Barrier Force A5  
Maximum Value: 31441.1 at 40.6 Milliseconds  
Minimum Value: -7023.6 at 19.6 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-102

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-5



Curve Description: Barrier Force A6

Maximum Value: 9370.9 at 88.6 Milliseconds

Minimum Value: -5972.0 at 19.6 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-103

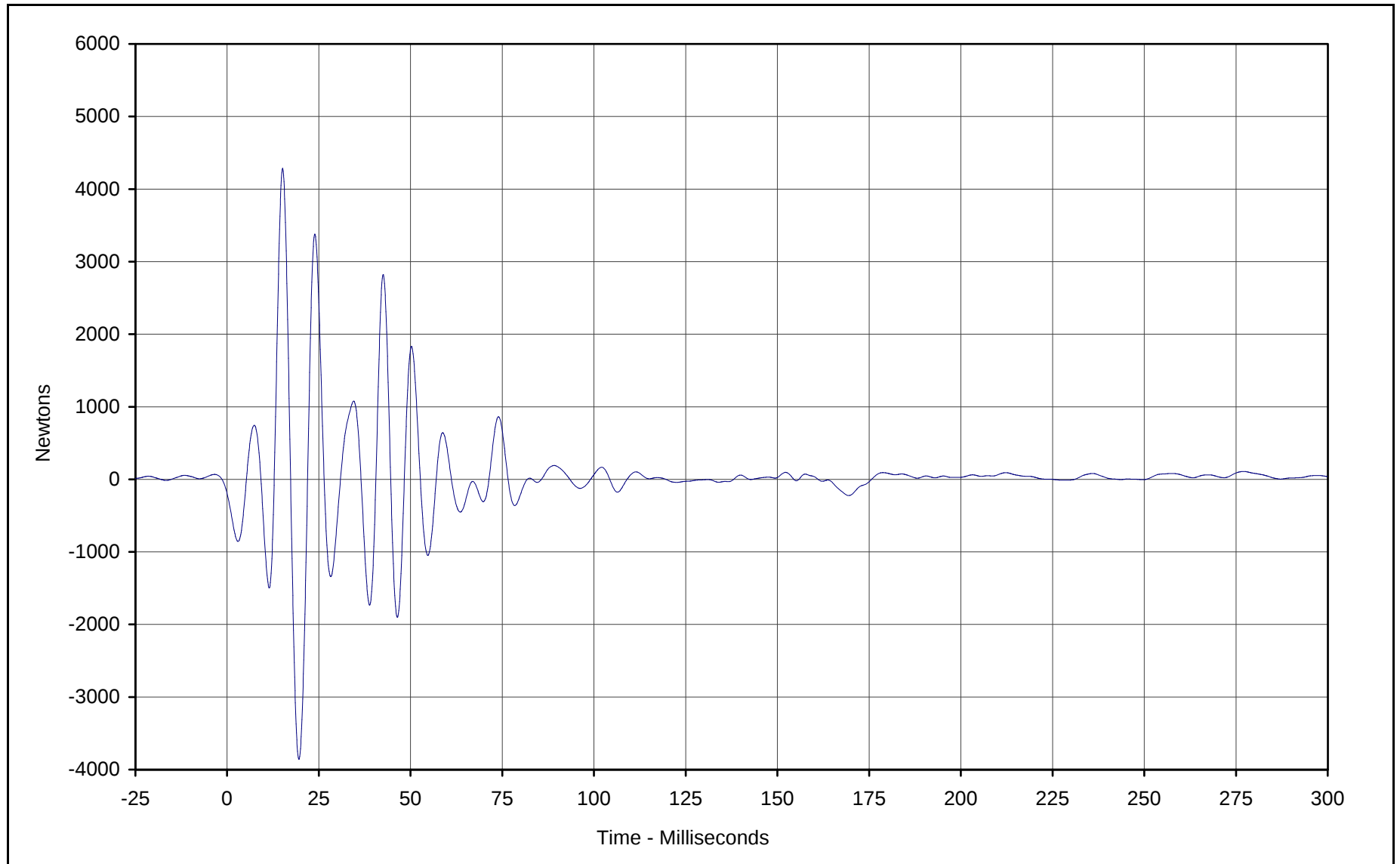
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-6



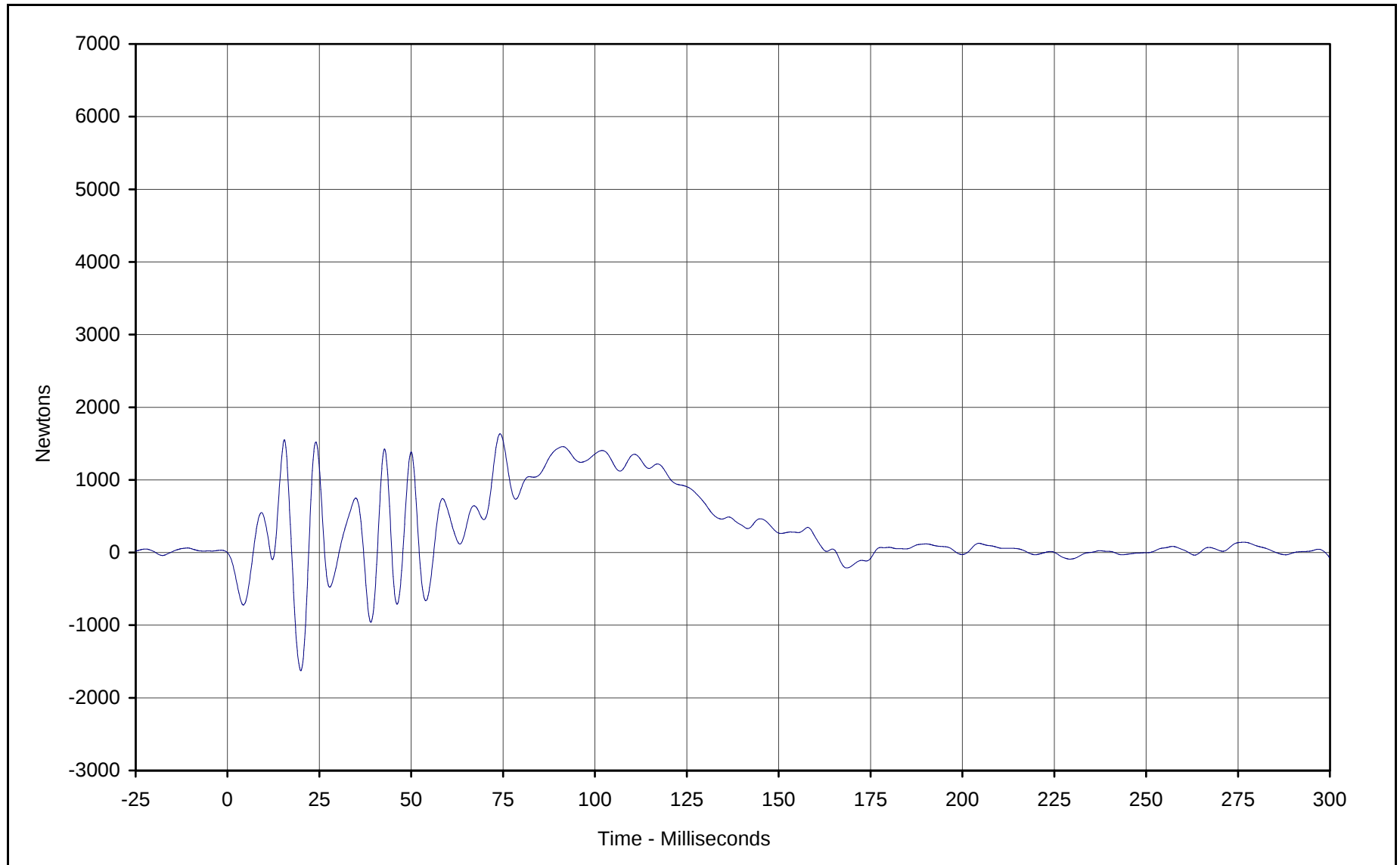
Curve Description: Barrier Force A7  
Maximum Value: 4288.6 at 15.1 Milliseconds  
Minimum Value: -3859.0 at 19.6 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-104

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-7



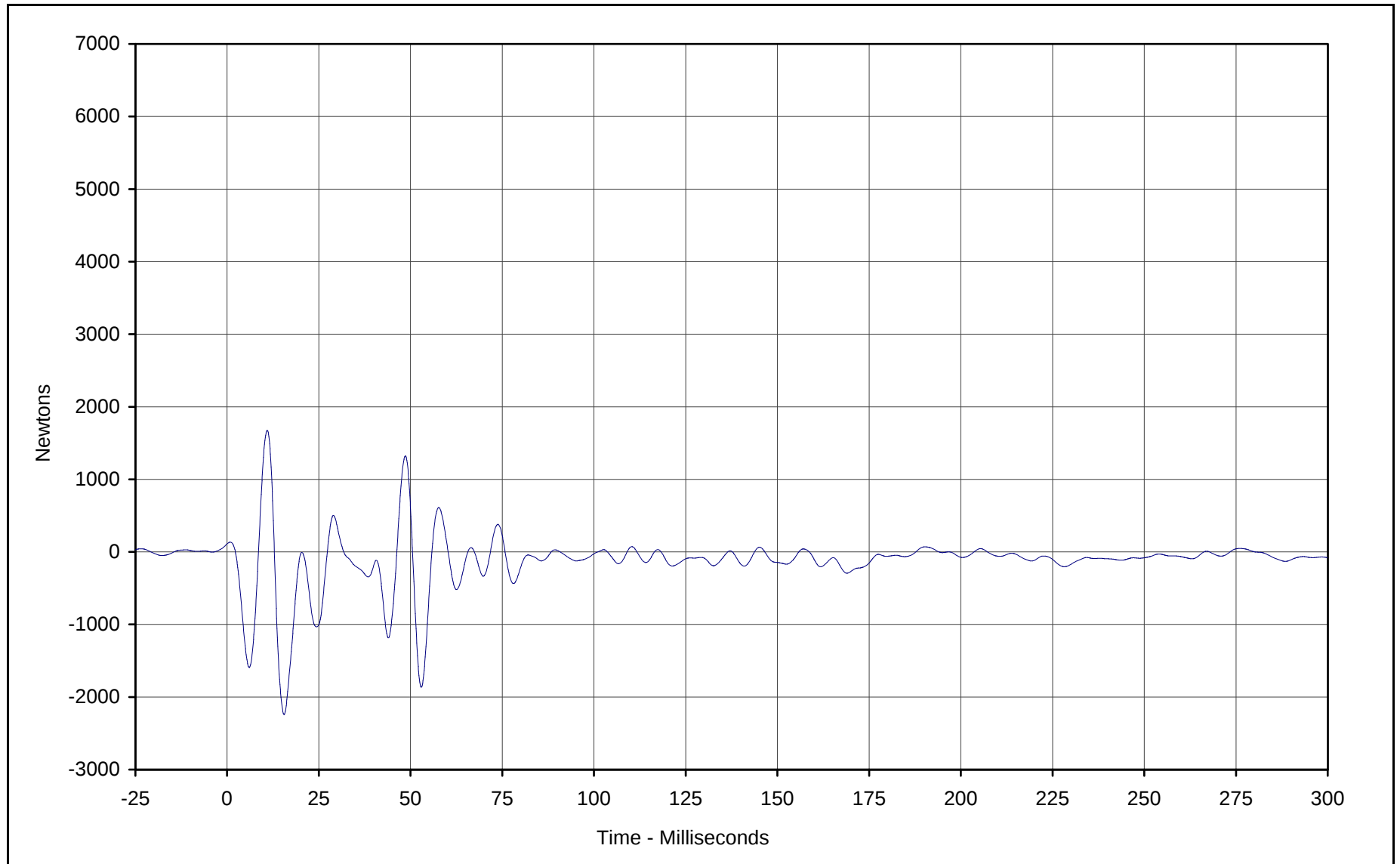
Curve Description: Barrier Force A8  
Maximum Value: 1634.6 at 74.2 Milliseconds  
Minimum Value: -1625.0 at 20.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-105

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-8



Curve Description: Barrier Force A9

Maximum Value: 1673.6 at 10.9 Milliseconds

Minimum Value: -2241.8 at 15.5 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-106

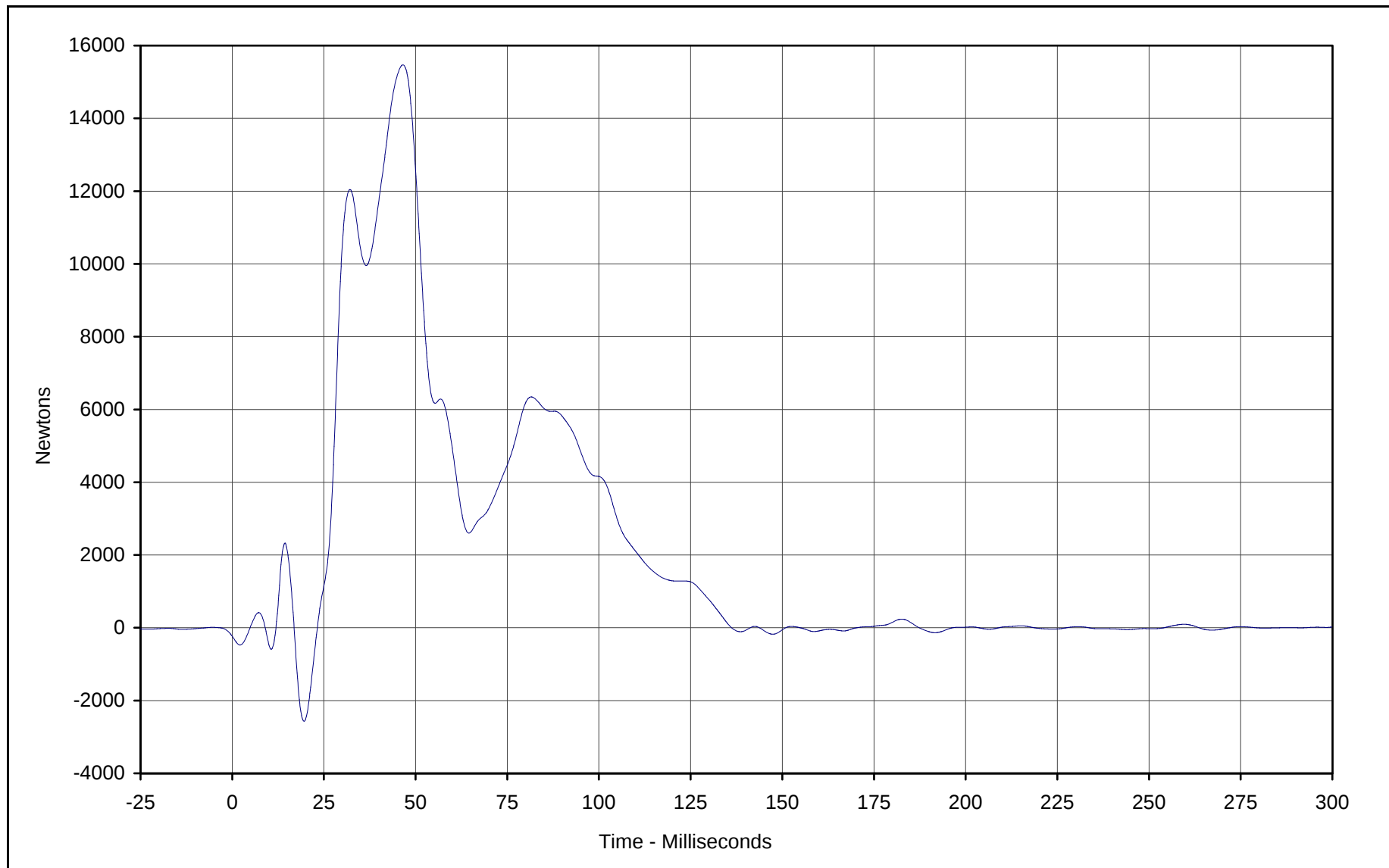
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-9



Curve Description: Barrier Force B2

Maximum Value: 15469.8 at 46.5 Milliseconds

Minimum Value: -2572.7 at 19.6 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-108

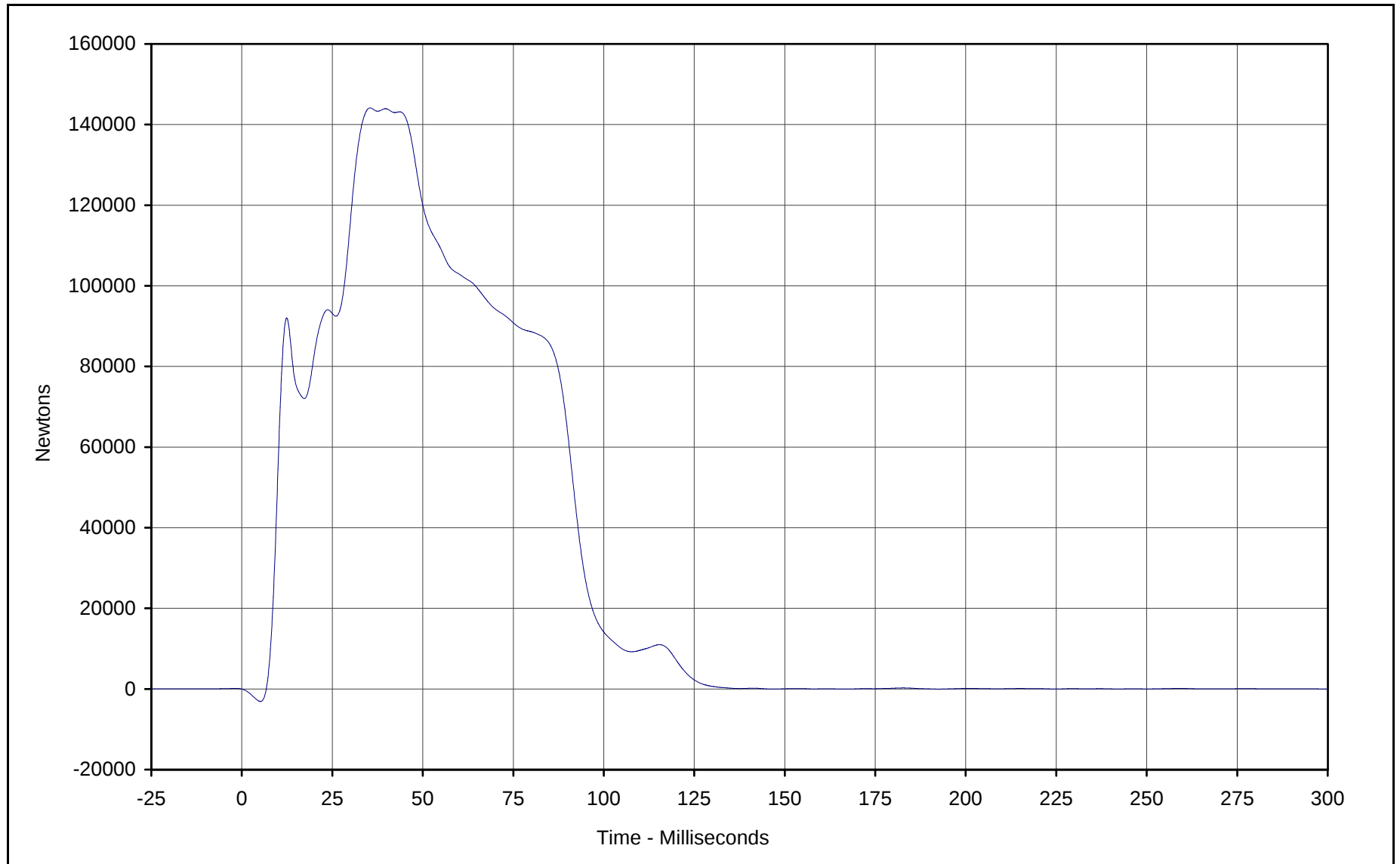
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-10



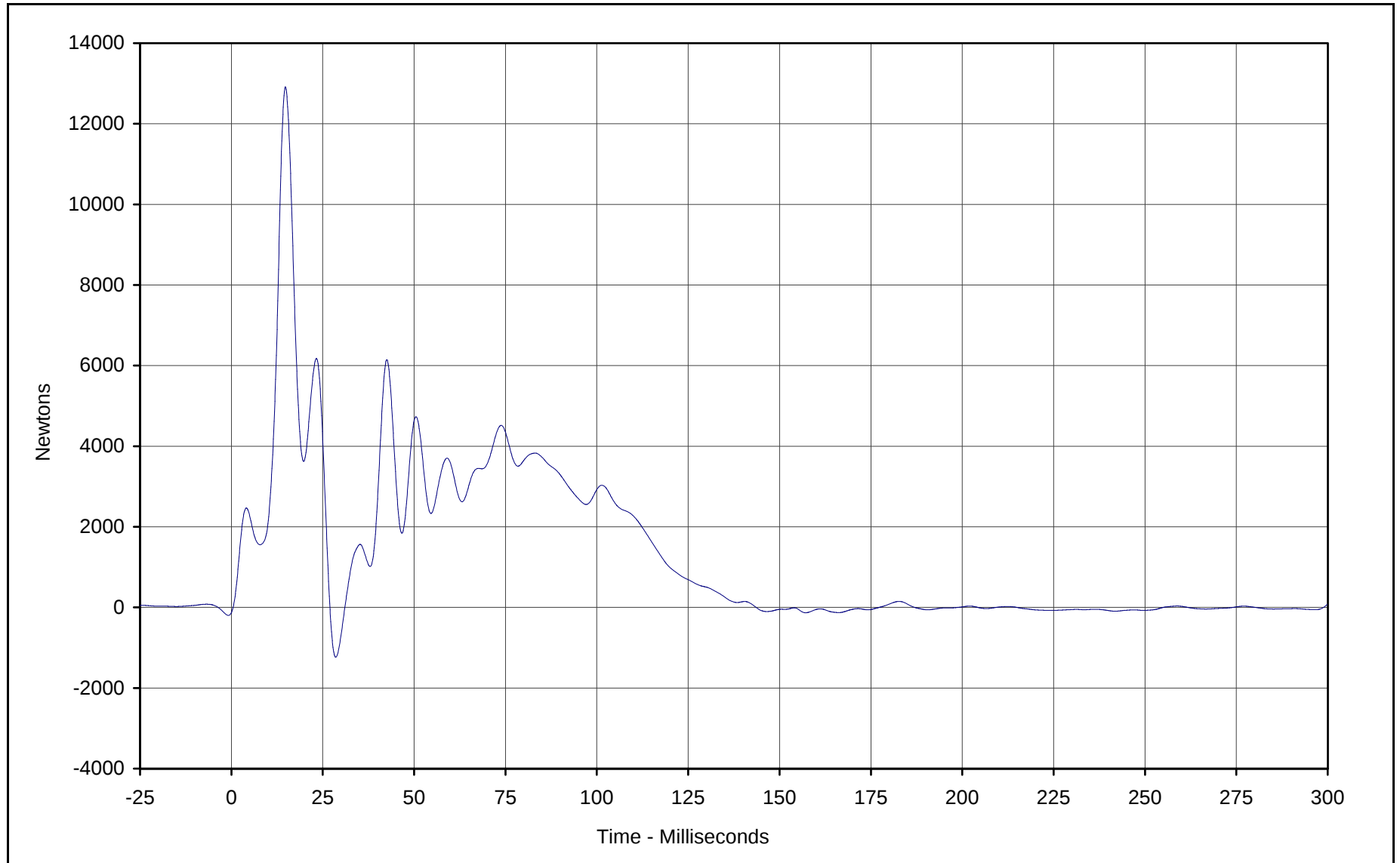
Curve Description: Barrier Force B3  
Maximum Value: 144136.9 at 35.5 Milliseconds  
Minimum Value: -3093.1 at 5.2 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-109

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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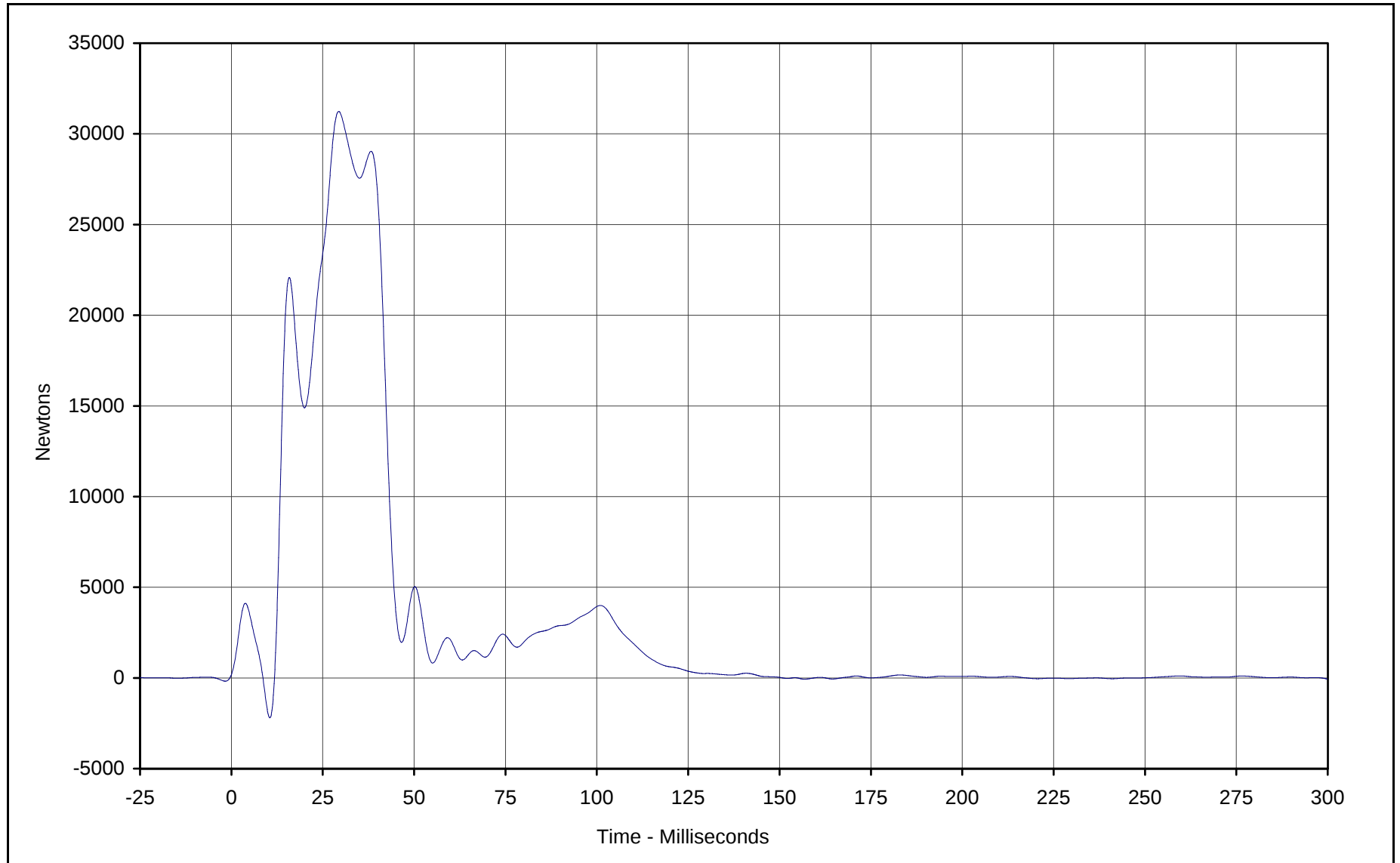
Curve Description: Barrier Force B4  
Maximum Value: 12917.6 at 14.8 Milliseconds  
Minimum Value: -1234.0 at 28.6 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-110

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-12



Curve Description: Barrier Force B5

Maximum Value: 31239.8 at 29.4 Milliseconds

Minimum Value: -2199.5 at 10.5 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

Curve Number: FIL-111

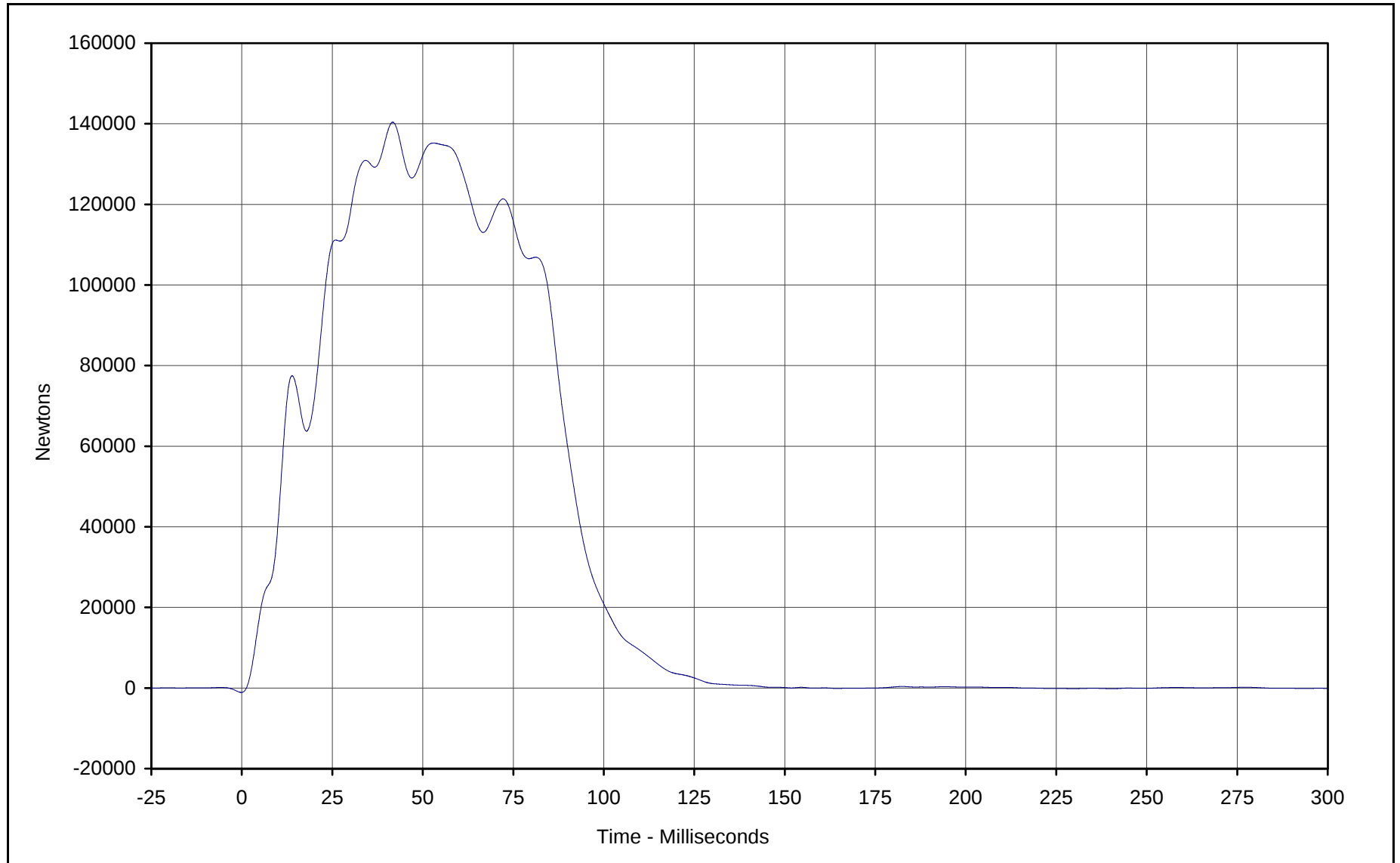
Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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C-13



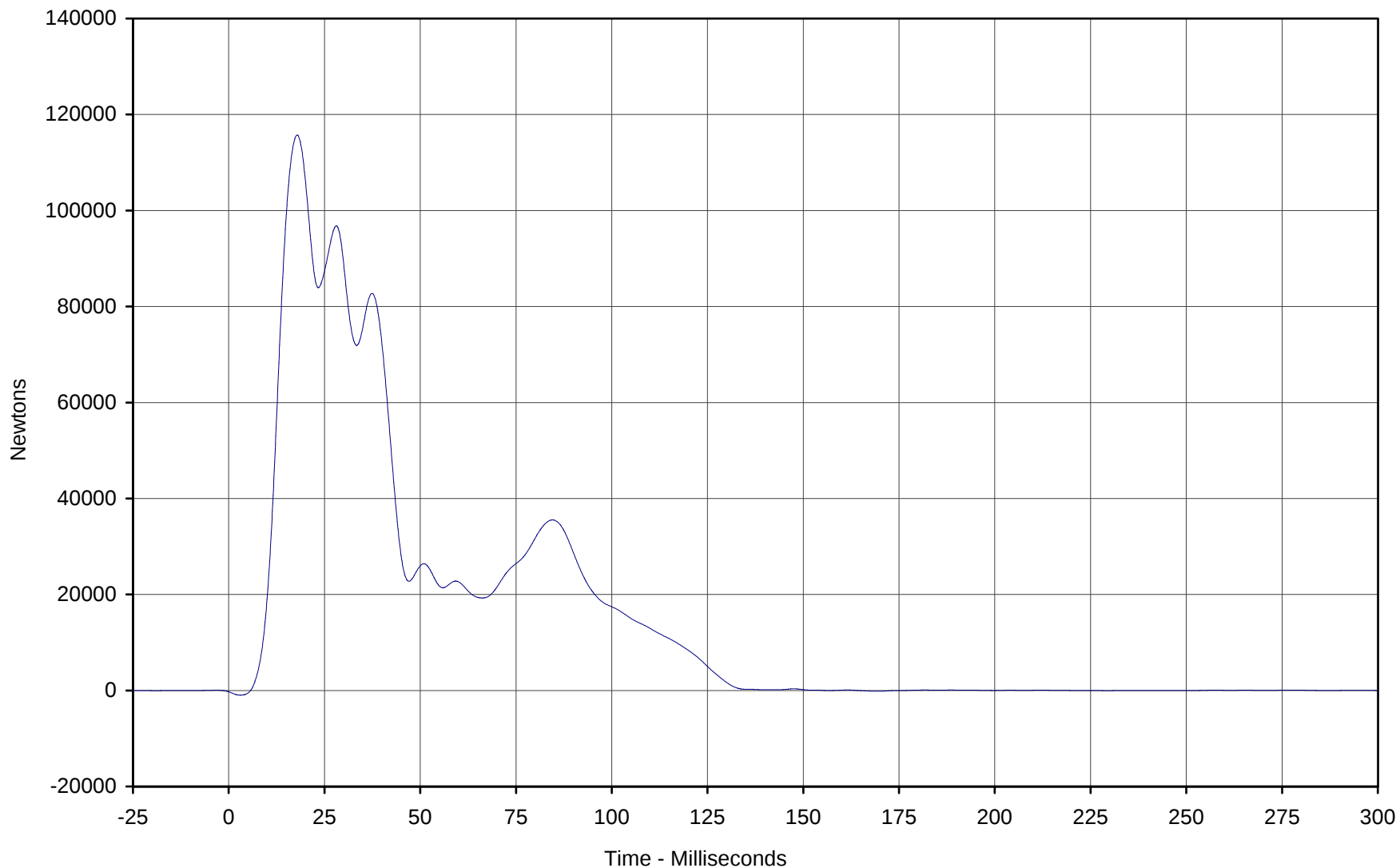
Curve Description: Barrier Force B6  
Maximum Value: 140396.7 at 41.7 Milliseconds  
Minimum Value: -1095.8 at 0.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-112

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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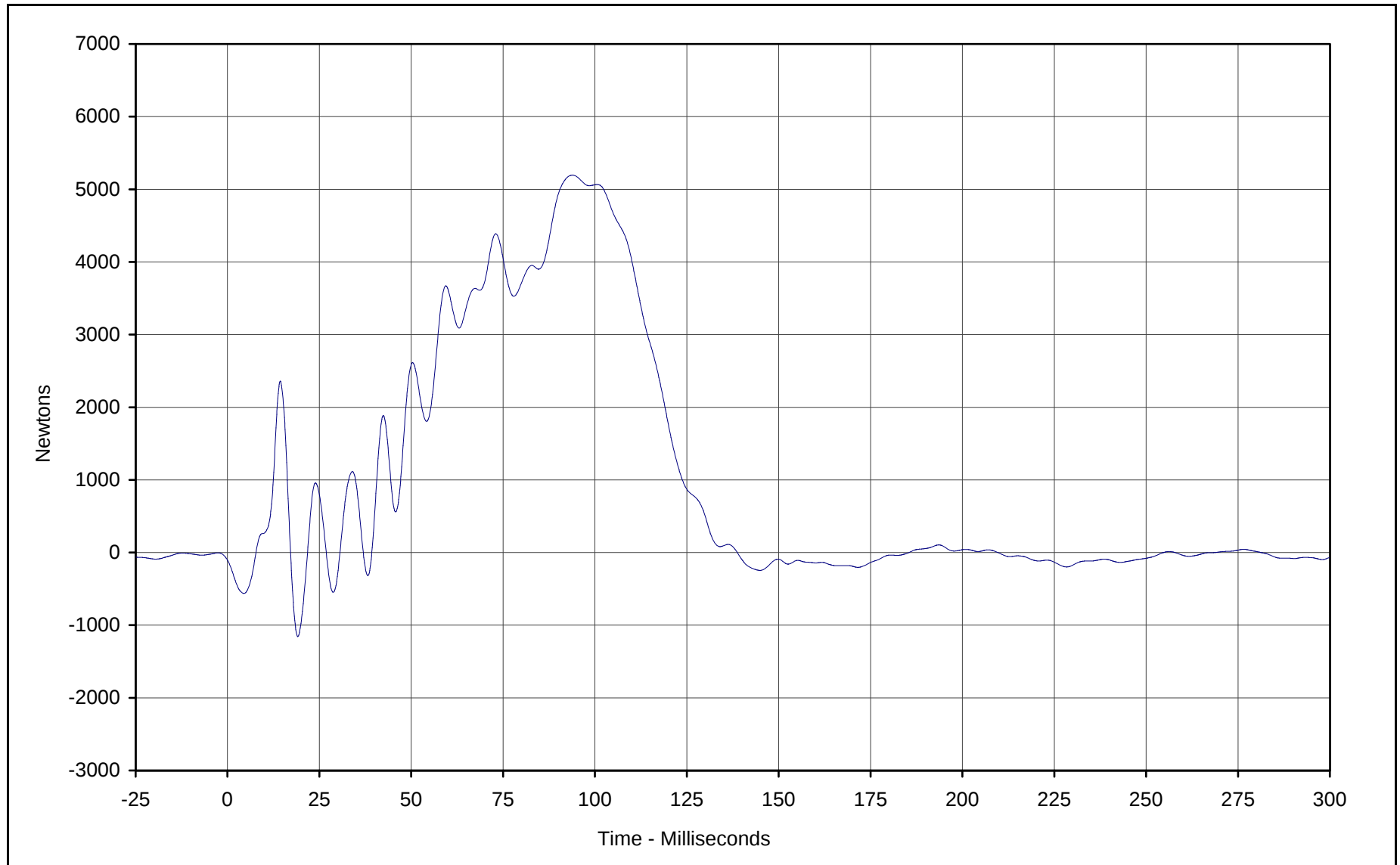
Curve Description: Barrier Force B7  
Maximum Value: 115730.7 at 17.9 Milliseconds  
Minimum Value: -974.6 at 3.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-113

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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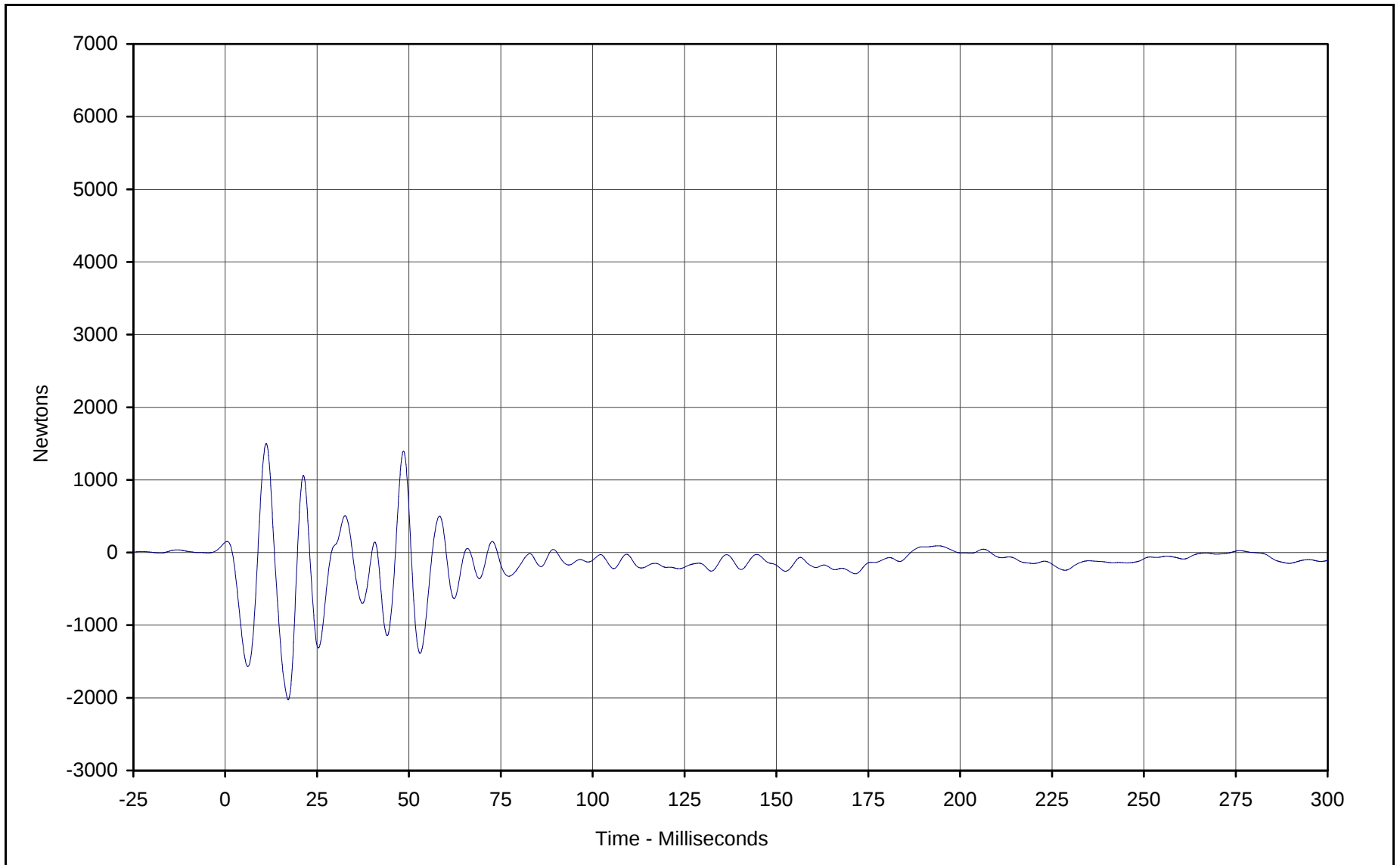
Curve Description: Barrier Force B8  
Maximum Value: 5194.8 at 93.9 Milliseconds  
Minimum Value: -1156.0 at 19.1 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-114

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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Curve Description: Barrier Force B9

Maximum Value: 1501.6 at 11.2 Milliseconds

Minimum Value: -2027.3 at 17.1 Milliseconds

SAE Filter Class: 60

Date of Test: 5/8/01

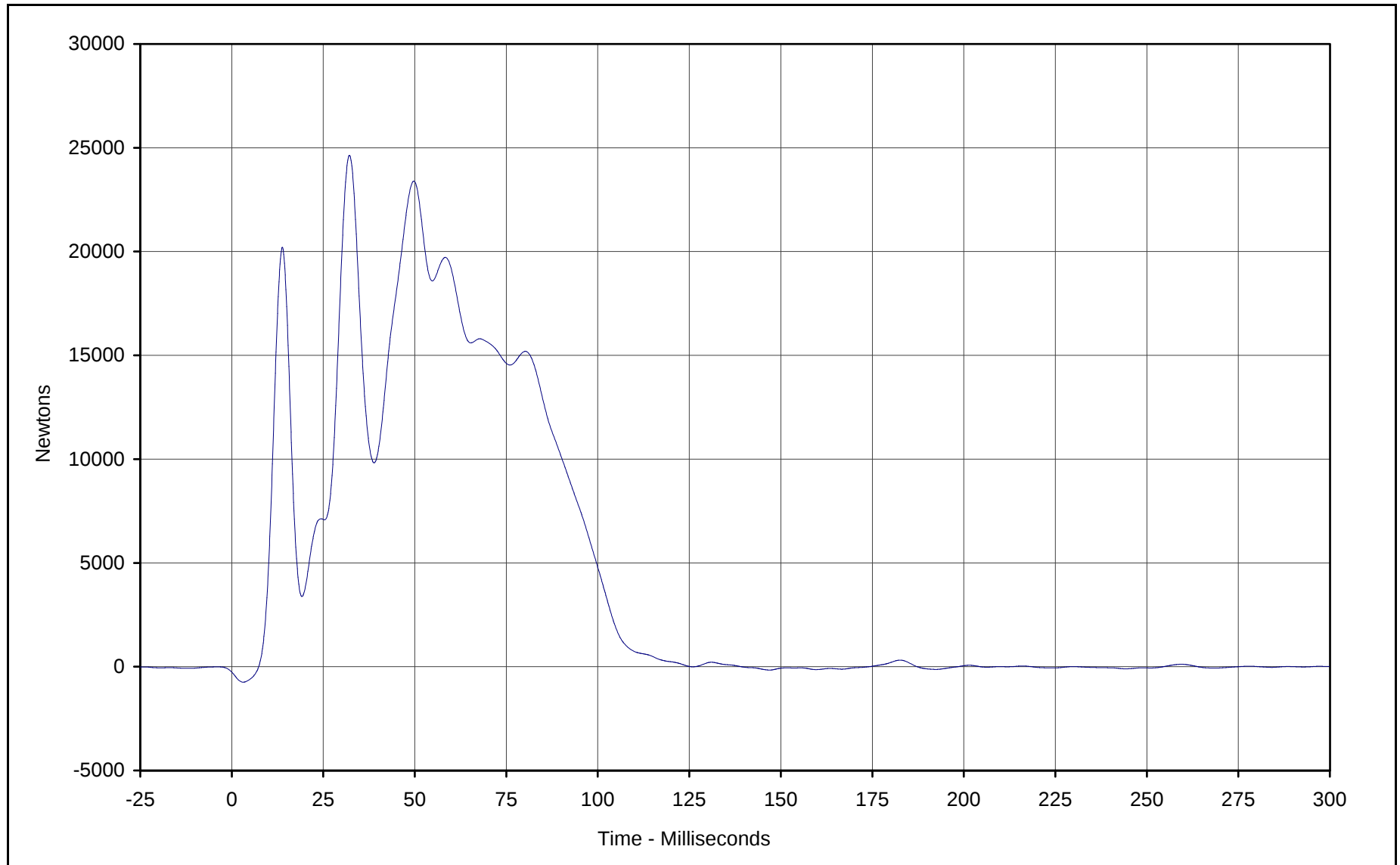
Curve Number: FIL-115

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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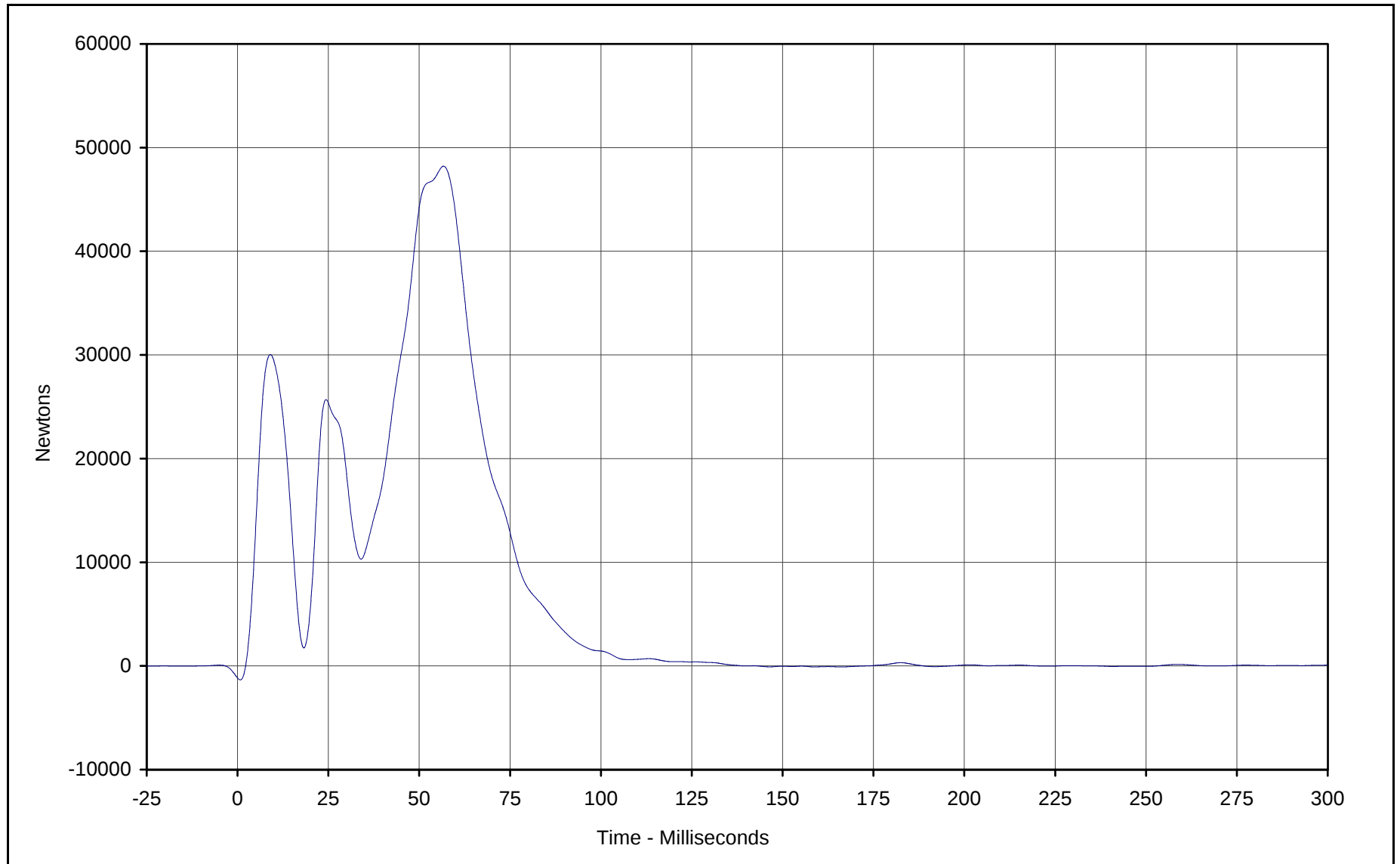


Curve Description: Barrier Force C2  
Maximum Value: 24638.5 at 32.1 Milliseconds  
Minimum Value: -748.7 at 3.1 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-117

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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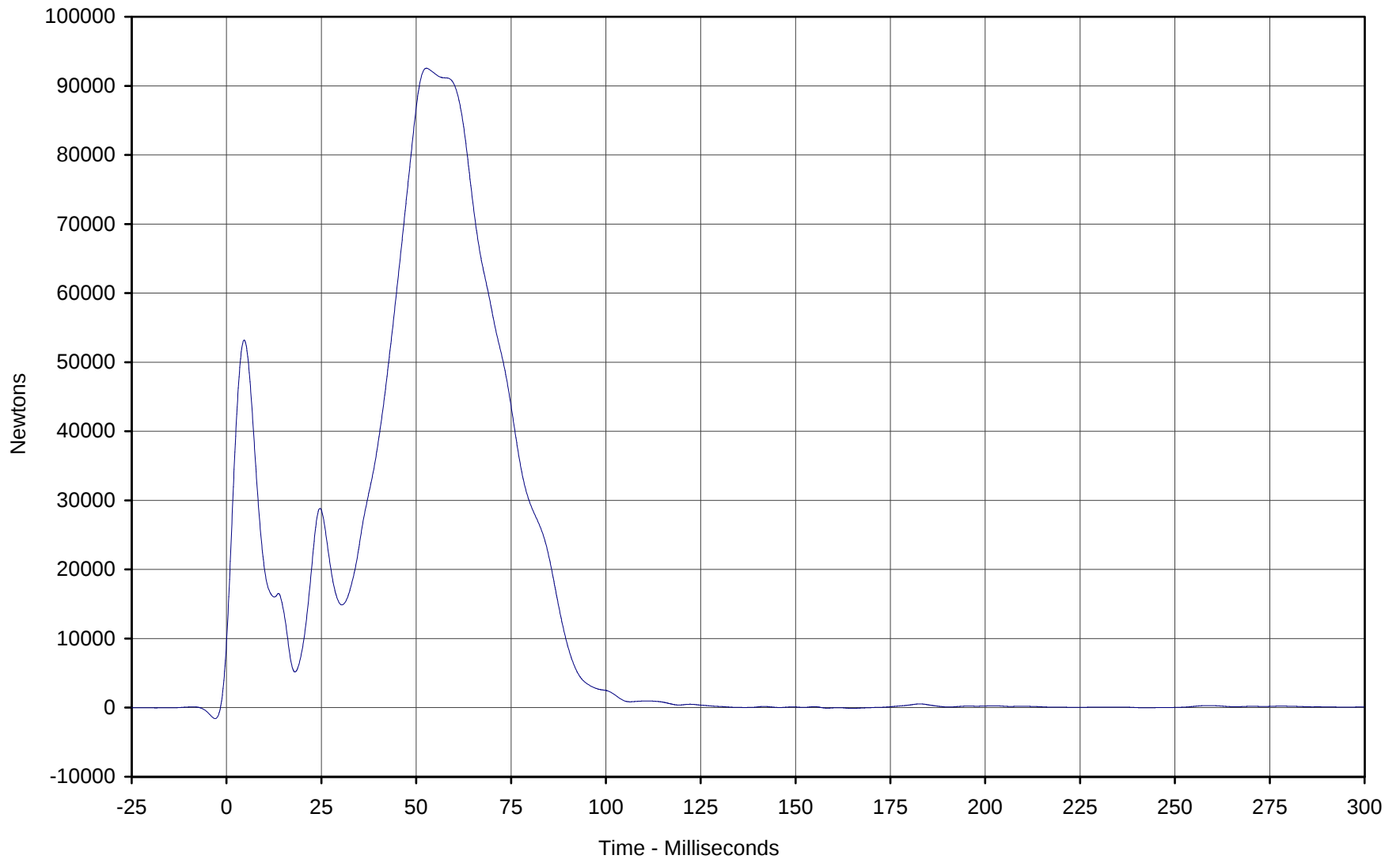
Curve Description: Barrier Force C3  
Maximum Value: 48207.3 at 56.7 Milliseconds  
Minimum Value: -1346.3 at 0.8 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-118

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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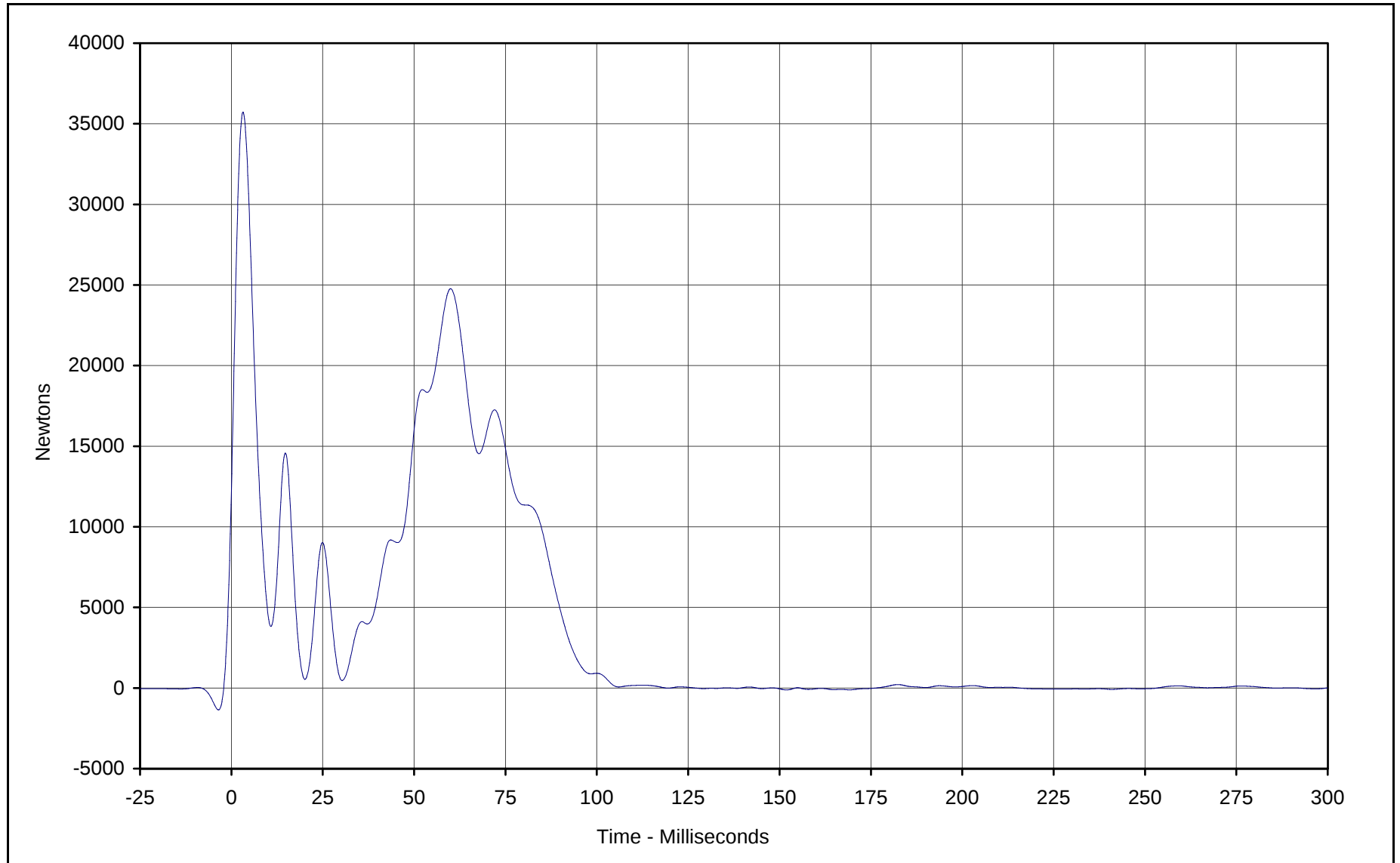
Curve Description: Barrier Force C4  
Maximum Value: 92546.7 at 52.7 Milliseconds  
Minimum Value: -115.0 at 164.9 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-119

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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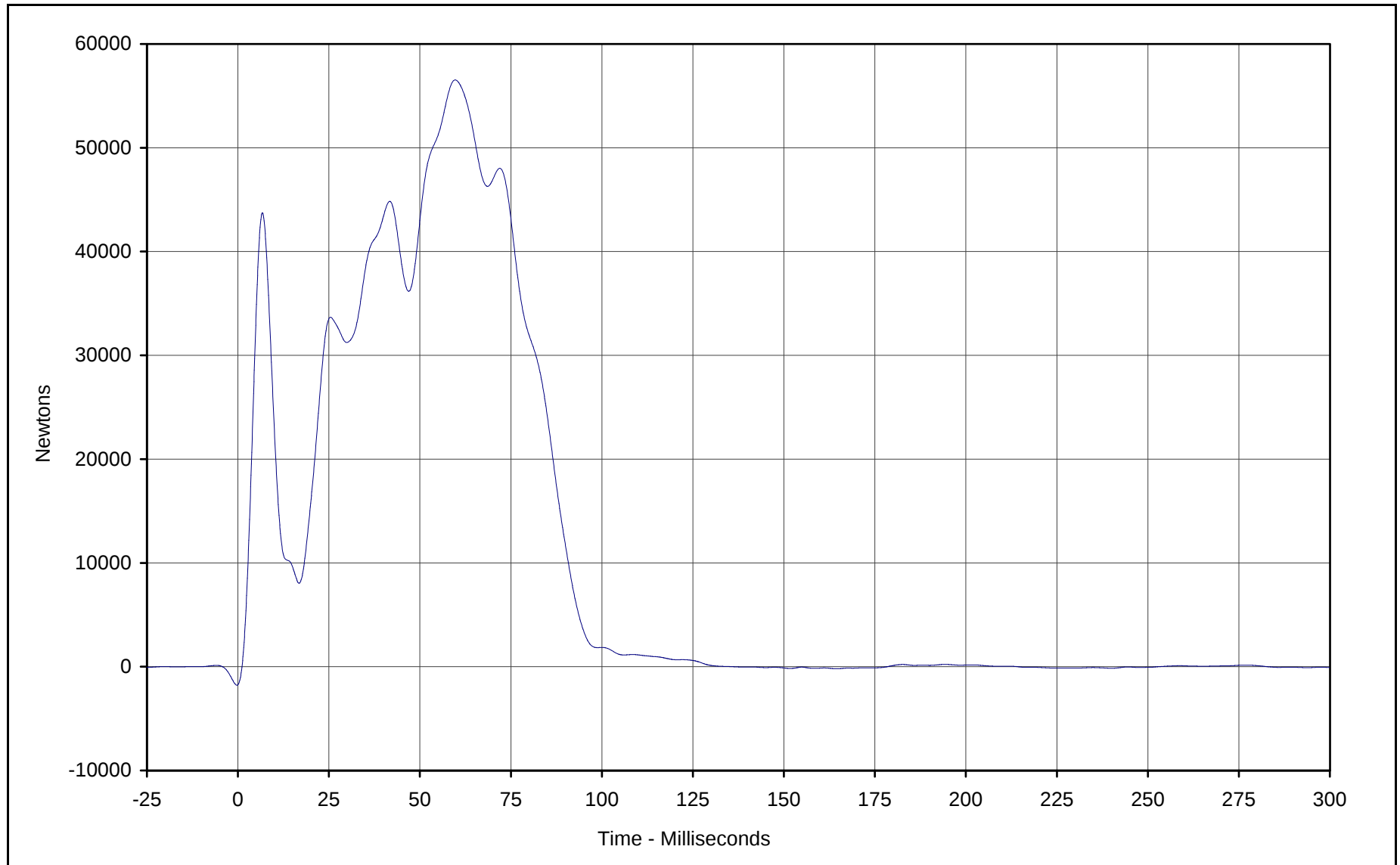
Curve Description: Barrier Force C5  
Maximum Value: 35726.1 at 3.2 Milliseconds  
Minimum Value: -119.0 at 151.9 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-120

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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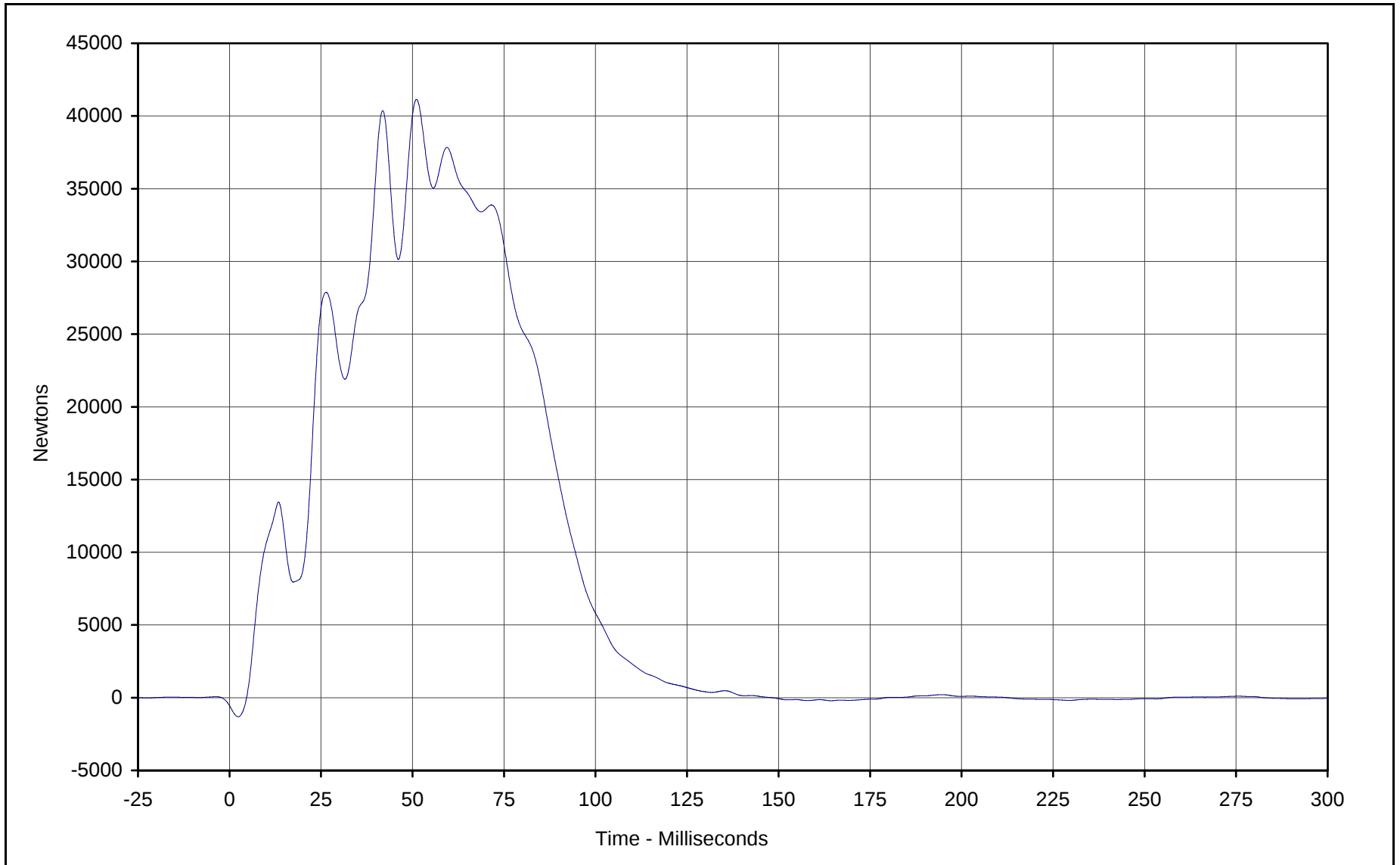
Curve Description: Barrier Force C6  
Maximum Value: 56539.9 at 59.7 Milliseconds  
Minimum Value: -1733.3 at 0.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-121

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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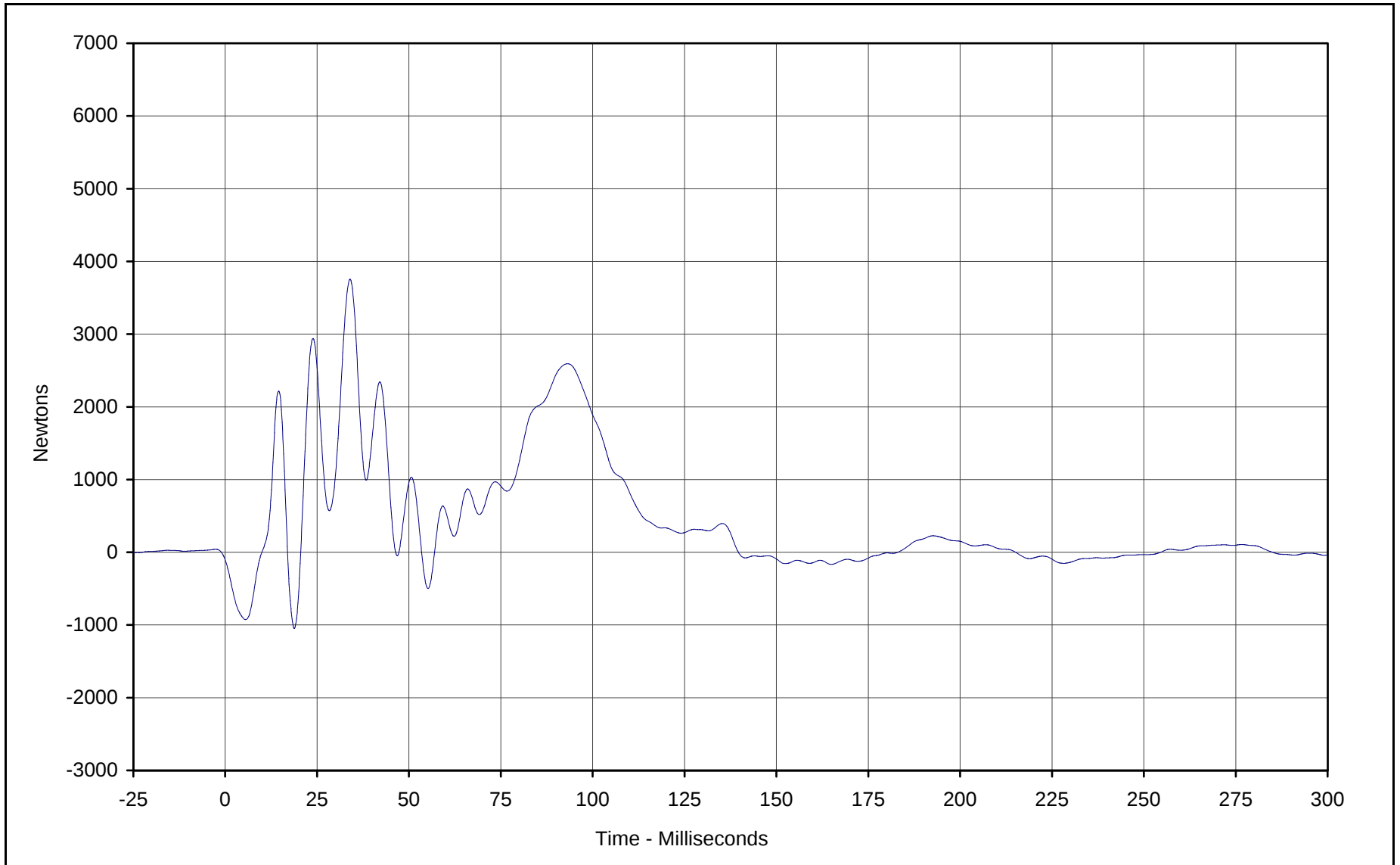
Curve Description: Barrier Force C7  
Maximum Value: 41145.1 at 51.1 Milliseconds  
Minimum Value: -1315.2 at 2.4 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-122

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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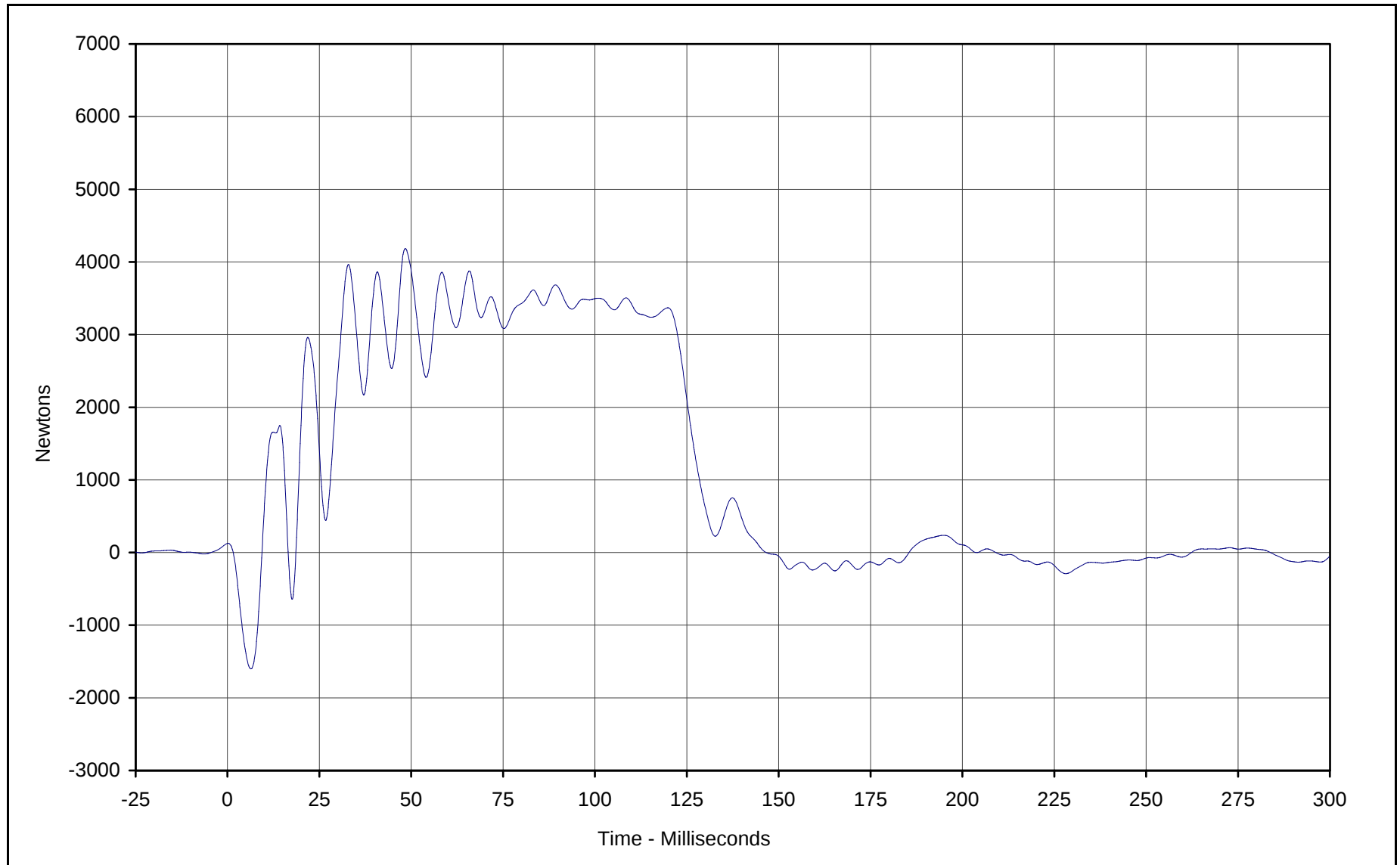
Curve Description: Barrier Force C8  
Maximum Value: 3756.3 at 34.0 Milliseconds  
Minimum Value: -1049.0 at 18.8 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-123

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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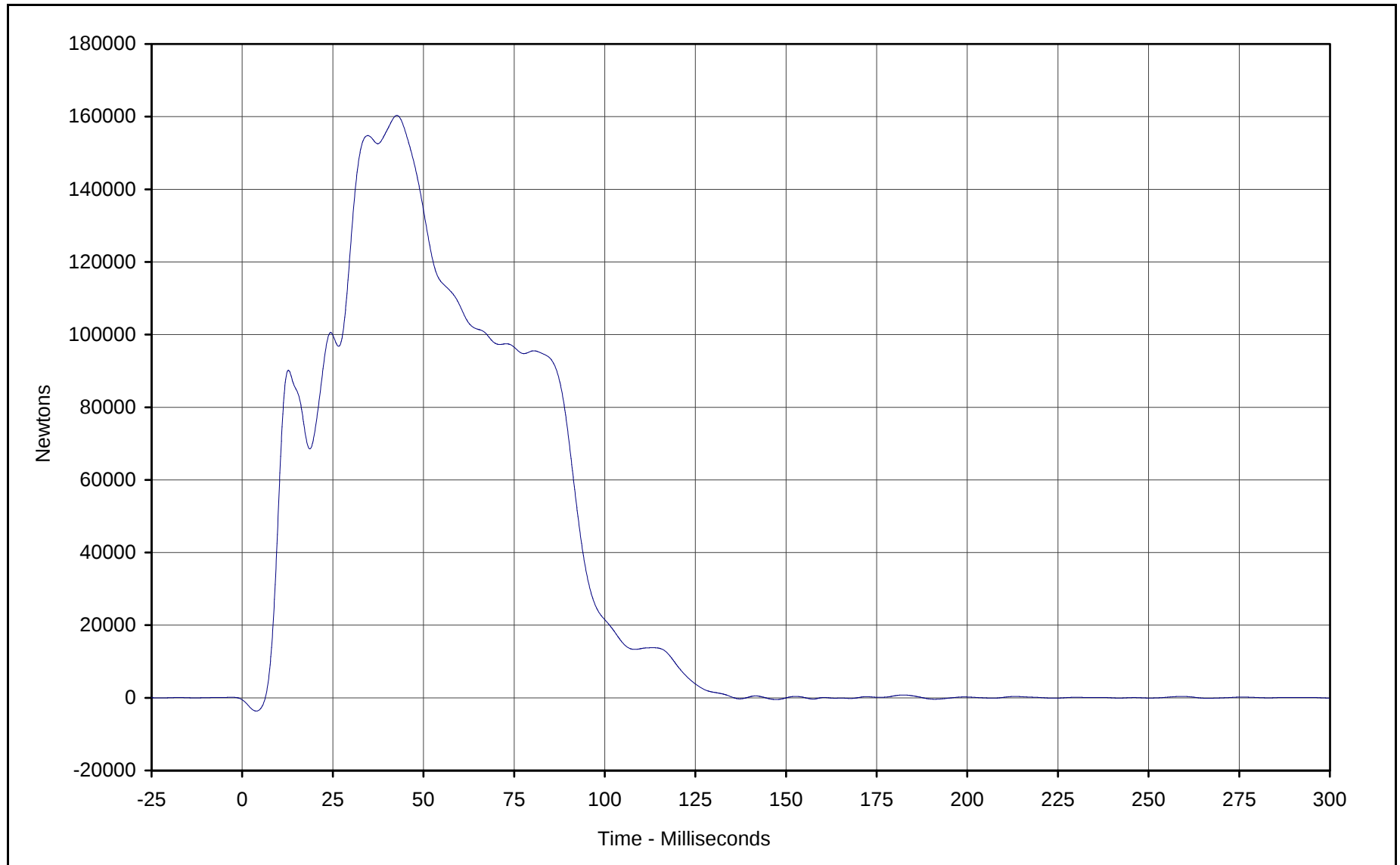
Curve Description: Barrier Force C9  
Maximum Value: 4184.9 at 48.4 Milliseconds  
Minimum Value: -1601.8 at 6.4 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: FIL-124

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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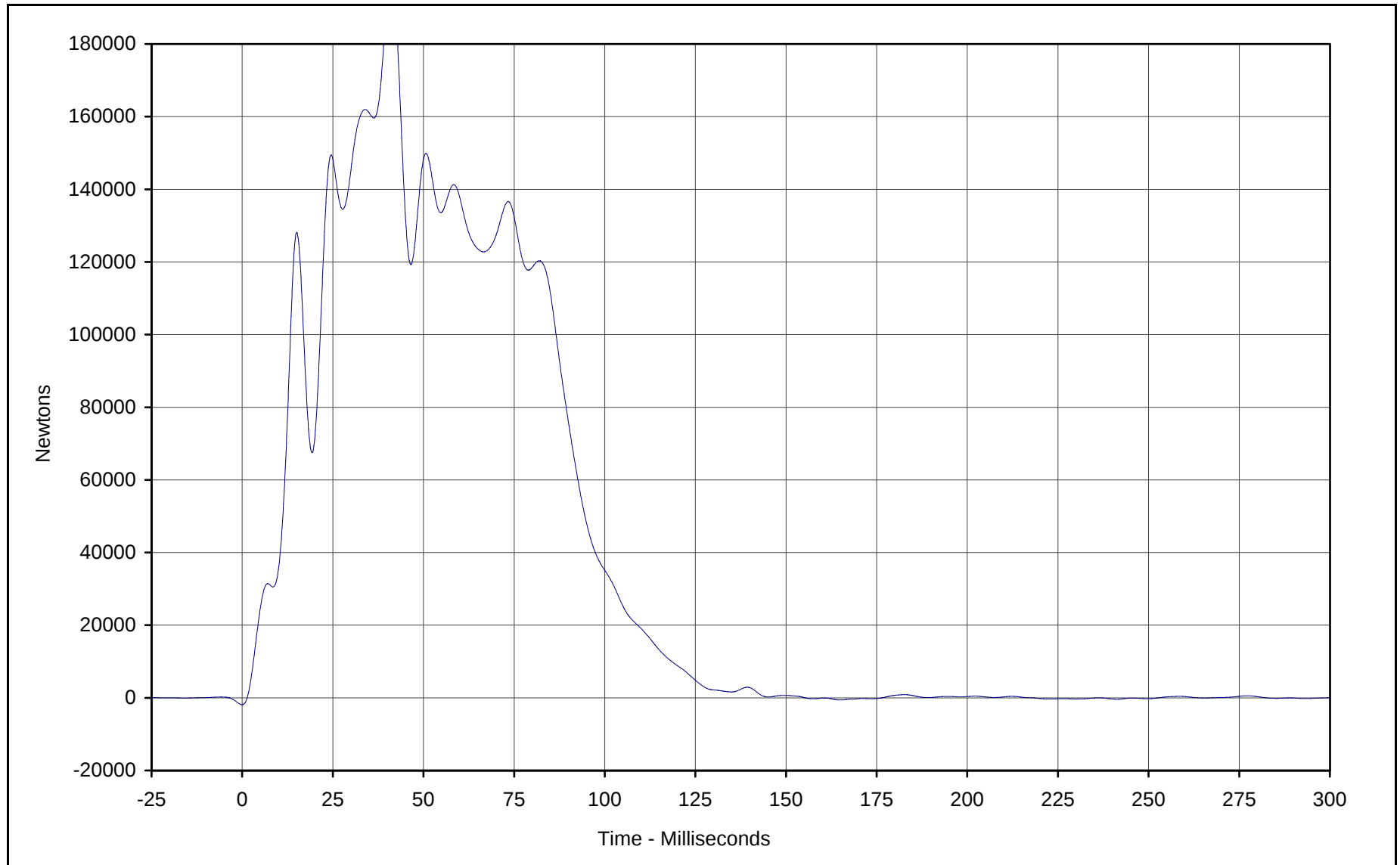


Curve Description: Barrier Force Sum Group 1  
Maximum Value: 160348.5 at 42.6 Milliseconds  
Minimum Value: -3647.9 at 3.9 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: SUM-001

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



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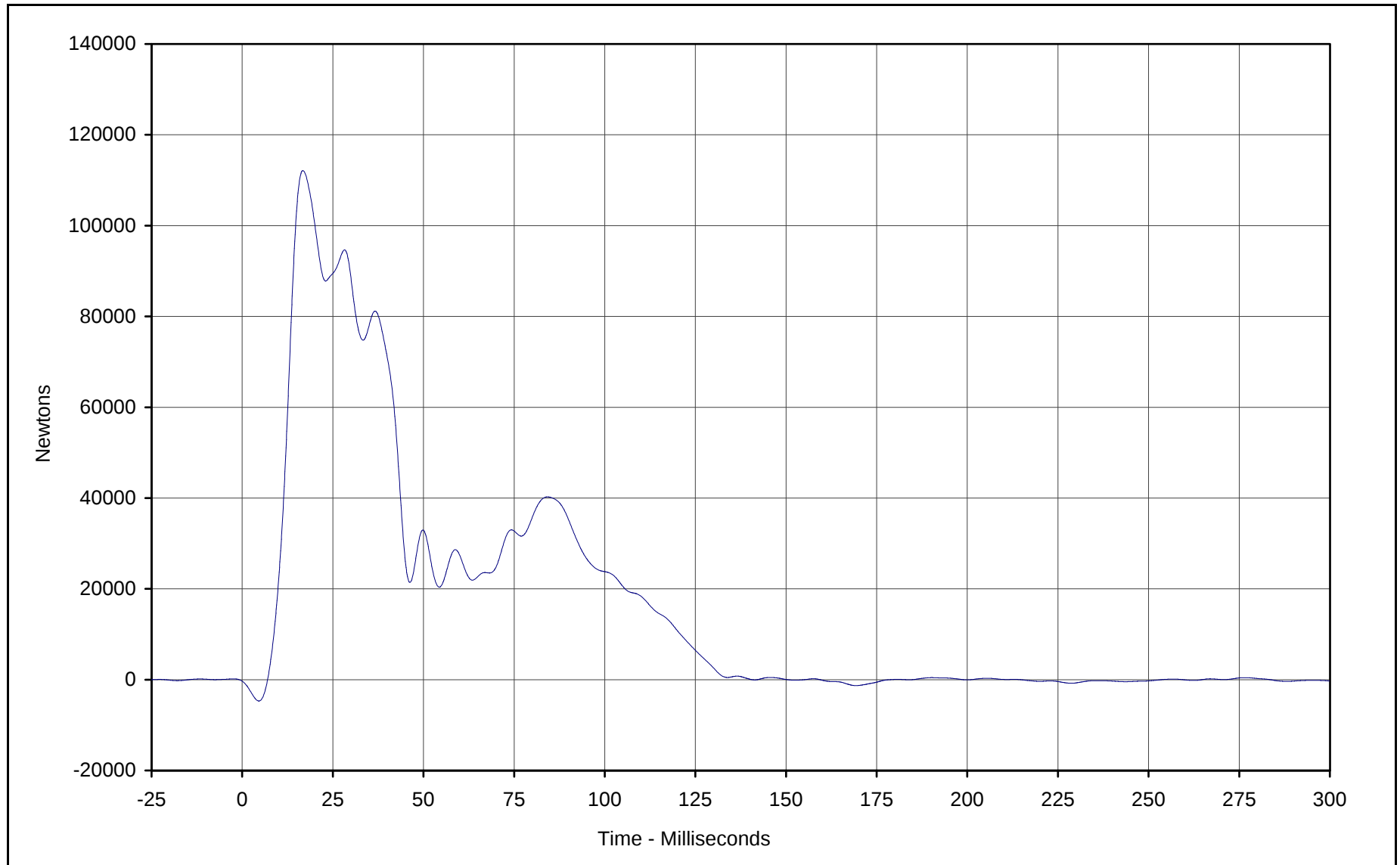


Curve Description: Barrier Force Sum Group 2  
Maximum Value: 201616.6 at 41.1 Milliseconds  
Minimum Value: -1904.2 at 0.0 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: SUM-002

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



C-27

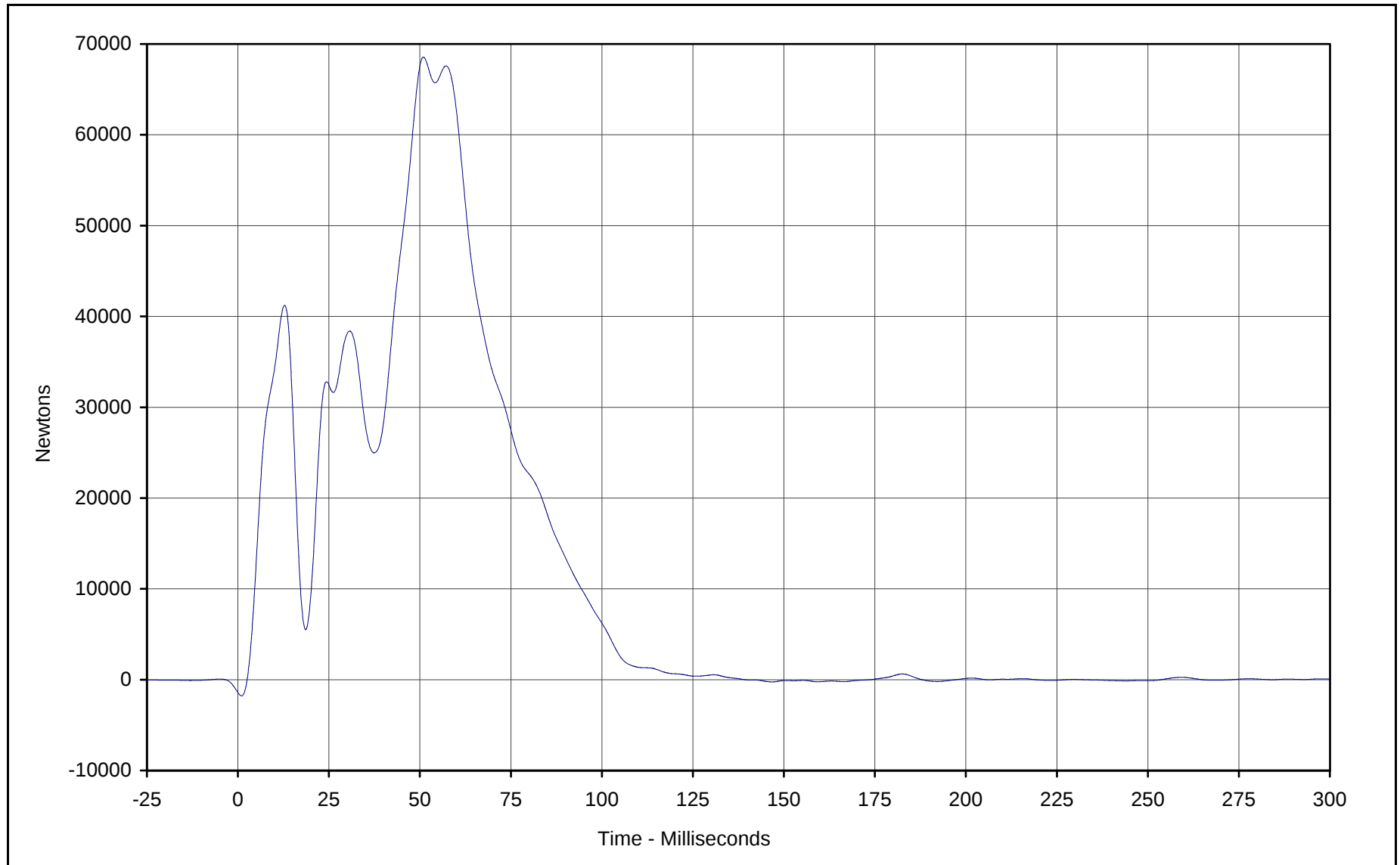


Curve Description: Barrier Force Sum Group 3  
Maximum Value: 112119.0 at 16.7 Milliseconds  
Minimum Value: -4702.6 at 4.6 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: SUM-003

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



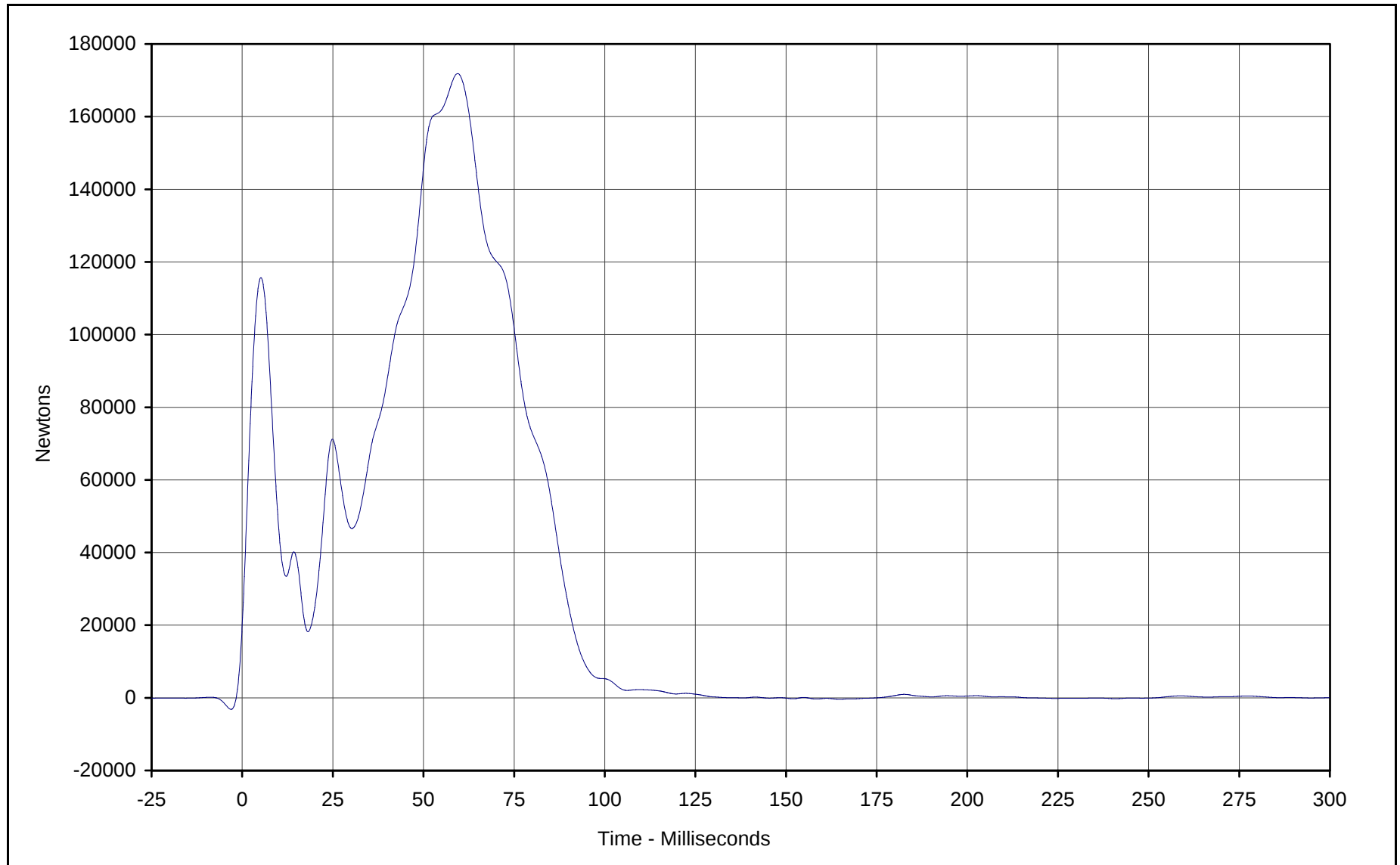
KAR21040-01



Curve Description: Barrier Force Sum Group 4  
 Maximum Value: 68559.1 at 50.9 Milliseconds  
 Minimum Value: -1792.8 at 1.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 5/8/01  
 Curve Number: SUM-004

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
 Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



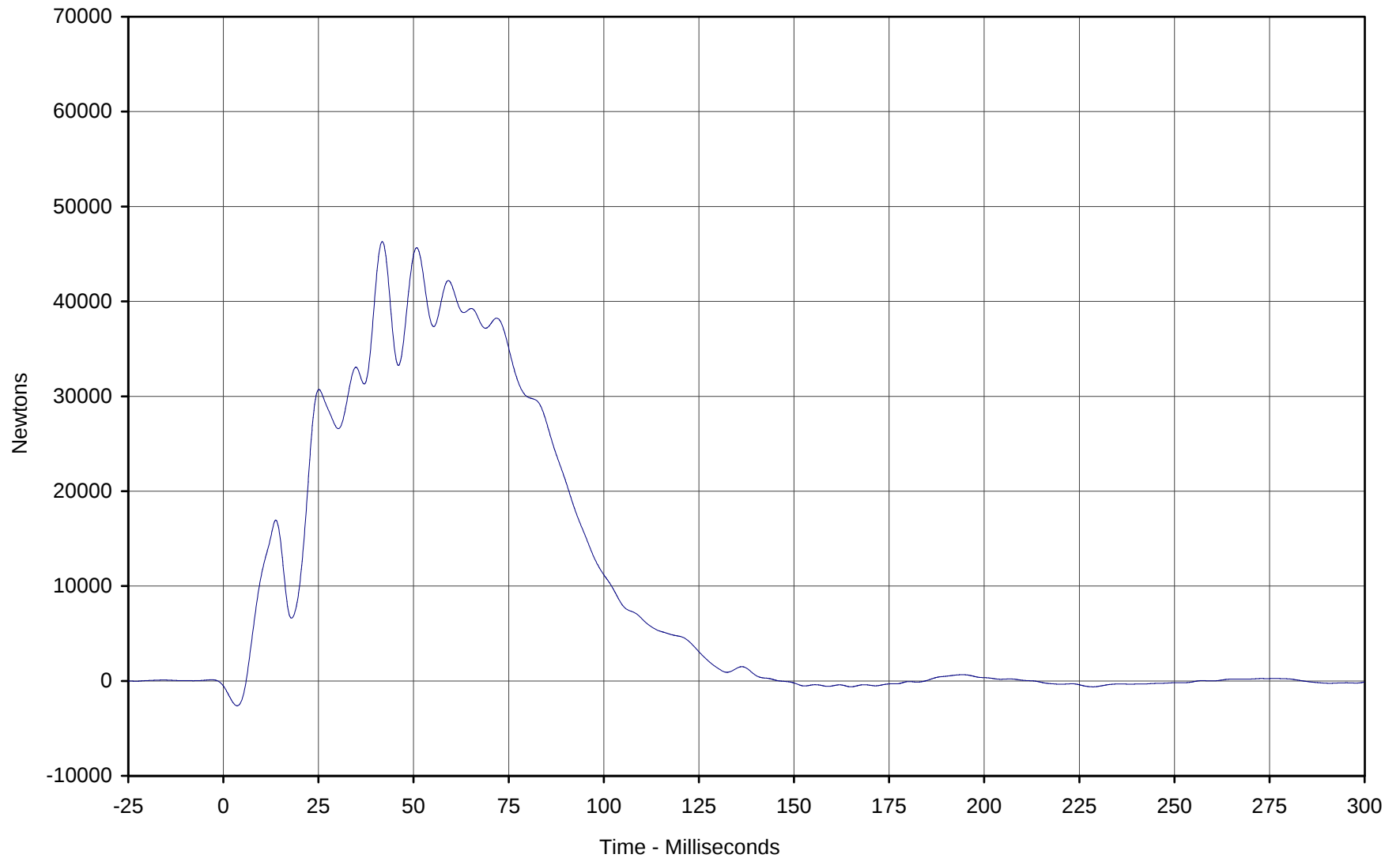


Curve Description: Barrier Force Sum Group 5  
Maximum Value: 171867.1 at 59.4 Milliseconds  
Minimum Value: -416.6 at 164.7 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: SUM-005

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



C-30



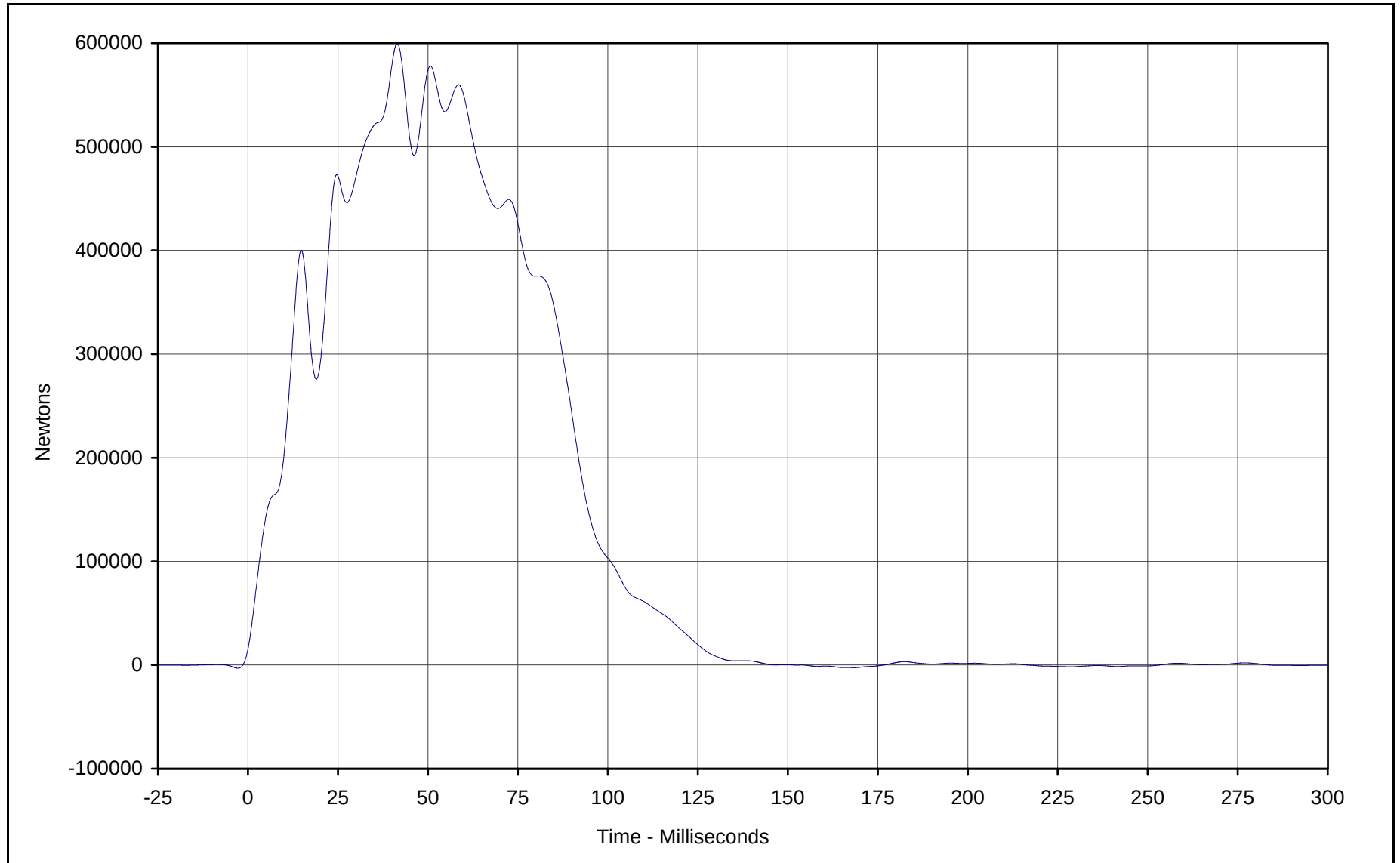
Curve Description: Barrier Force Sum Group 6  
Maximum Value: 46302.3 at 41.8 Milliseconds  
Minimum Value: -2617.4 at 3.6 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: SUM-006

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

C-31



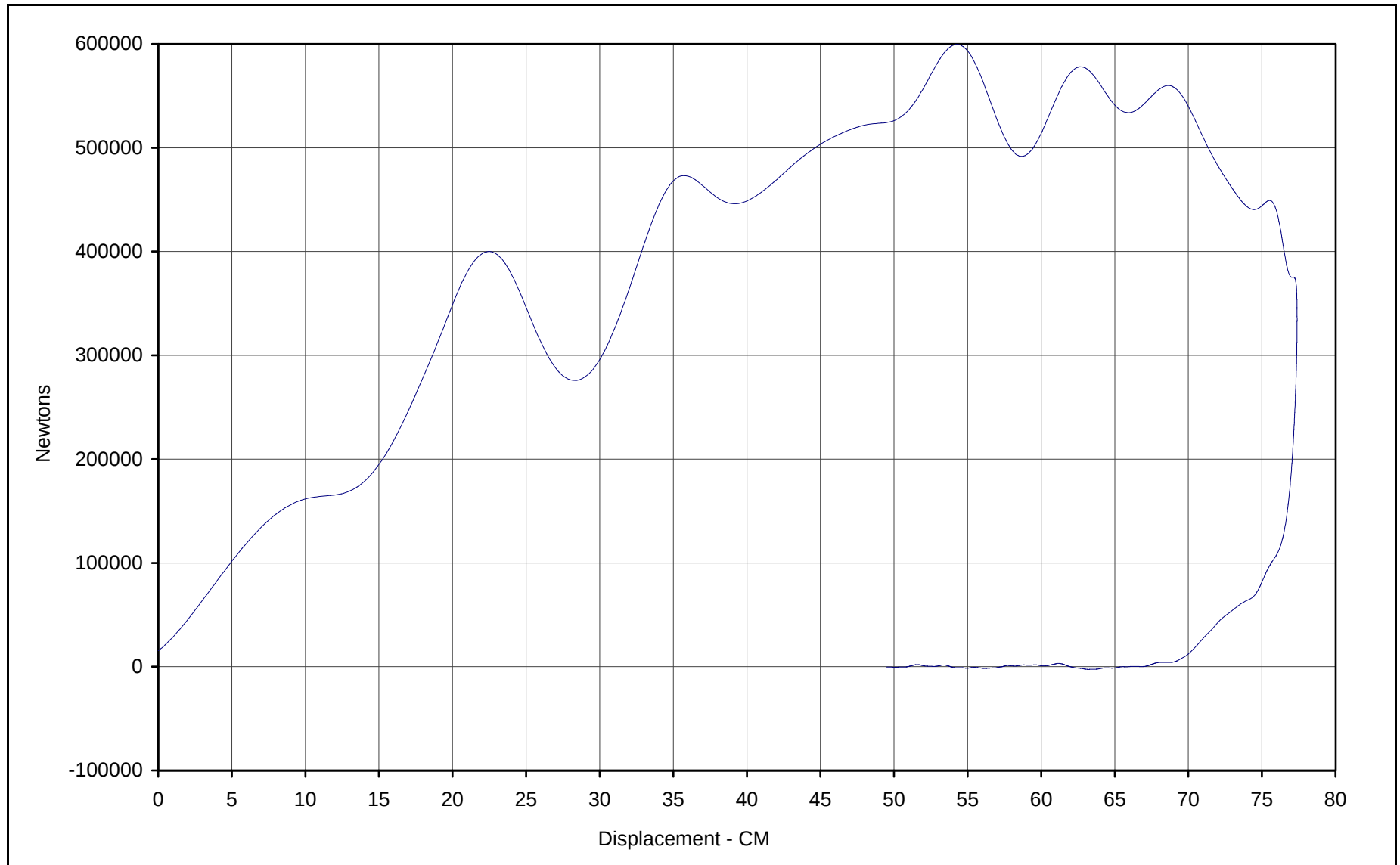
Curve Description: Barrier Force Sum Total  
Maximum Value: 599583.5 at 41.5 Milliseconds  
Minimum Value: -2589.2 at 168.3 Milliseconds  
SAE Filter Class: 60  
Date of Test: 5/8/01  
Curve Number: SUM-007

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001  
Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

C-32



Curve Description: Sum Force Total vs. Dynamic Crush

Maximum Displ.: 77.4 at 85.6 Milliseconds

Maximum Force: 599,584 at 41.5 Milliseconds

Measured Energy: 295,275 joules

Date of Test: 5/8/01

Curve Number: XVY-001

Test Program: 2001 NHTSA 35mph NCAP No.: FOR001

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup



KAR21040-01

## BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2001 Ford F150 XLT Supercrew 4 Door Pickup

NHTSA No.: FOR001

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 5/8/01

### BARRIER LOAD CELL PEAK FORCES

| Location                  | Units   | Max      | Time | Min     | Time  |
|---------------------------|---------|----------|------|---------|-------|
| Barrier Force A2          | Newtons | 2919.1   | 15.7 | -2705.3 | 20.6  |
| Barrier Force A3          | Newtons | 4806.3   | 15.3 | -4808.5 | 19.7  |
| Barrier Force A4          | Newtons | 6123.2   | 15.2 | -6389.2 | 19.6  |
| Barrier Force A5          | Newtons | 31441.1  | 40.6 | -7023.6 | 19.6  |
| Barrier Force A6          | Newtons | 9370.9   | 88.6 | -5972.0 | 19.6  |
| Barrier Force A7          | Newtons | 4288.6   | 15.1 | -3859.0 | 19.6  |
| Barrier Force A8          | Newtons | 1634.6   | 74.2 | -1625.0 | 20.0  |
| Barrier Force A9          | Newtons | 1673.6   | 10.9 | -2241.8 | 15.5  |
| Barrier Force B2          | Newtons | 15469.8  | 46.5 | -2572.7 | 19.6  |
| Barrier Force B3          | Newtons | 144136.9 | 35.5 | -3093.1 | 5.2   |
| Barrier Force B4          | Newtons | 12917.6  | 14.8 | -1234.0 | 28.6  |
| Barrier Force B5          | Newtons | 31239.8  | 29.4 | -2199.5 | 10.5  |
| Barrier Force B6          | Newtons | 140396.7 | 41.7 | -1095.8 | 0.0   |
| Barrier Force B7          | Newtons | 115730.7 | 17.9 | -974.6  | 3.0   |
| Barrier Force B8          | Newtons | 5194.8   | 93.9 | -1156.0 | 19.1  |
| Barrier Force B9          | Newtons | 1501.6   | 11.2 | -2027.3 | 17.1  |
| Barrier Force C2          | Newtons | 24638.5  | 32.1 | -748.7  | 3.1   |
| Barrier Force C3          | Newtons | 48207.3  | 56.7 | -1346.3 | 0.8   |
| Barrier Force C4          | Newtons | 92546.7  | 52.7 | -115.0  | 164.9 |
| Barrier Force C5          | Newtons | 35726.1  | 3.2  | -119.0  | 151.9 |
| Barrier Force C6          | Newtons | 56539.9  | 59.7 | -1733.3 | 0.0   |
| Barrier Force C7          | Newtons | 41145.1  | 51.1 | -1315.2 | 2.4   |
| Barrier Force C8          | Newtons | 3756.3   | 34.0 | -1049.0 | 18.8  |
| Barrier Force C9          | Newtons | 4184.9   | 48.4 | -1601.8 | 6.4   |
| Barrier Force Sum Group 1 | Newtons | 160348.5 | 42.6 | -3647.9 | 3.9   |
| Barrier Force Sum Group 2 | Newtons | 201616.6 | 41.1 | -1904.2 | 0.0   |
| Barrier Force Sum Group 3 | Newtons | 112119.0 | 16.7 | -4702.6 | 4.6   |
| Barrier Force Sum Group 4 | Newtons | 68559.1  | 50.9 | -1792.8 | 1.0   |
| Barrier Force Sum Group 5 | Newtons | 171867.1 | 59.4 | -416.6  | 164.7 |
| Barrier Force Sum Group 6 | Newtons | 46302.3  | 41.8 | -2617.4 | 3.6   |
| Barrier Force Sum Total   | Newtons | 599583.5 | 41.5 | -2589.2 | 168.3 |

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

**APPENDIX D**

**INSTRUMENTATION DATA CHANNEL ASSIGNMENTS**

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Driver A.T.D. Serial Number 34**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| 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     |

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Driver A.T.D. Serial Number 34**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| CH. | LOCATION               | AXIS | IDENT. NO. | DESCRIPTION               | MFR          | MODEL       | UNITS |
|-----|------------------------|------|------------|---------------------------|--------------|-------------|-------|
| 25  | UP. TIBIA LEFT MOM.    | X    | GPOT09MX   | 2 ch., Upper tibia gage   | R. A. Denton | 1583        | Nm    |
| 26  | UP. TIBIA LEFT MOM.    | Y    | GPOT09MY   | 2 ch., Upper tibia gage   | R. A. Denton | 1583        | Nm    |
| 27  | UP. TIBIA RIGHT MOM.   | X    | GPOT09MX   | 2 ch., Upper tibia gage   | R. A. Denton | 1583        | Nm    |
| 28  | UP. TIBIA RIGHT MOM.   | Y    | GPOT09MY   | 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              | X    | KEIC002X   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 36  | FOOT LEFT              | Y    | KEIC002Y   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 37  | FOOT LEFT              | Z    | KEIC002Z   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 38  | FOOT RIGHT             | X    | KEIC001X   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 39  | FOOT RIGHT             | Y    | KEIC001Y   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 40  | FOOT RIGHT             | Z    | KEIC001Z   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 41  | LAP BELT FORCE         | X    | KELC003    | Load cell, Seat belt      | Lebow        | 3371        | N     |
| 42  | SHOULDER BELT FORCE    | X    | KELC004    | Load cell, Seat belt      | Lebow        | 3371        | N     |
| 43  | SHOULDER BELT SPOOL    | X    | KEPP001    | Pullout pot               | Celesco      | PTX101-0030 | MM    |
| 44  | SHOULDER BELT ELONG.   | X    | KEEP001    | Linear pot., belt stretch | E.T.I.       | LCP8-10 10K | MM/CM |

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Passenger A.T.D. Serial Number 35**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| 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     |

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Passenger A.T.D. Serial Number 35**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| CH. | LOCATION               | AXIS | IDENT. NO. | DESCRIPTION               | MFR          | MODEL       | UNITS |
|-----|------------------------|------|------------|---------------------------|--------------|-------------|-------|
| 69  | UP. TIBIA LEFT MOM.    | X    | GPOT09MX   | 2 ch., Upper tibia gage   | R. A. Denton | 1583        | Nm    |
| 70  | UP. TIBIA LEFT MOM.    | Y    | GPOT09MY   | 2 ch., Upper tibia gage   | R. A. Denton | 1583        | Nm    |
| 71  | UP. TIBIA RIGHT MOM.   | X    | GPOT09MX   | 2 ch., Upper tibia gage   | R. A. Denton | 1583        | Nm    |
| 72  | UP. TIBIA RIGHT MOM.   | Y    | GPOT09MY   | 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              | X    | KEIC003X   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 80  | FOOT LEFT              | Y    | KEIC003Y   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 81  | FOOT LEFT              | Z    | KEIC003Z   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 82  | FOOT RIGHT             | X    | KEIC004X   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 83  | FOOT RIGHT             | Y    | KEIC004Y   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 84  | FOOT RIGHT             | Z    | KEIC004Z   | Accel., Foot Triax        | I.C. Sensor  | 3031-500    | G     |
| 85  | LAP BELT FORCE         | X    | KELC001    | Load cell, Seat belt      | Lebow        | 3371        | N     |
| 86  | SHOULDER BELT FORCE    | X    | KELC002    | Load cell, Seat belt      | Lebow        | 3371        | N     |
| 87  | SHOULDER BELT SPOOL    | X    | KEPP001    | Pullout pot               | Celesco      | PTX101-0030 | CM    |
| 88  | SHOULDER BELT ELONG.   | X    | KEEP001    | Linear pot., belt stretch | E.T.I.       | LCP8-10 10K | MM/CM |

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Vehicle Accelerometers and Reference Channel**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| CH. | LOCATION            | AXIS | IDENT. NO. | DESCRIPTION           | MFR         | MODEL    | UNITS |
|-----|---------------------|------|------------|-----------------------|-------------|----------|-------|
| 89  | Left Rear Primary   | X    | KEVA010    | Accel., Vehicle block | I.C. Sensor | 3031-200 | G     |
| 90  | Right Rear Primary  | Y    | KEVA006    | Accel., Vehicle block | I.C. Sensor | 3031-200 | G     |
| 91  | Engine Top          | X    | KEVA001    | Accel., Vehicle block | I.C. Sensor | 3031-500 | G     |
| 92  | Engine Bottom       | Y    | KEVA008    | Accel., Vehicle block | I.C. Sensor | 3031-500 | G     |
| 93  | Left Brake Caliper  | X    | KEVA004    | Accel., Vehicle block | I.C. Sensor | 3031-500 | G     |
| 94  | Right Brake Caliper | Y    | KEVA009    | Accel., Vehicle block | I.C. Sensor | 3031-500 | G     |
| 95  | Instrument Panel    | X    | KEVA003    | Accel., Vehicle block | I.C. Sensor | 3031-500 | G     |
| 96  | Left Rear Redundant | Y    | KEVA011    | Accel., Vehicle block | I.C. Sensor | 3031-200 | G     |
| 97  | Zero Reference      | N/A  | N/A        | N/A                   | N/A         | N/A      | N/A   |

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Rigid Load Cell Barrier**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| 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     |

**2001 NHTSA 35mph NCAP**  
**Instrumentation Data Channel Assignments**  
**Rigid Load Cell Barrier**  
**5/8/01**  
**2001 Ford F150 XLT Supercrew 4 Door Pickup**

| 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   |

**APPENDIX E**  
**DUMMY CALIBRATION DATA**



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Left Knee Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: LK05A

| 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      |
| Probe Velocity               | m/s     | 2.073 to 2.134 | 2.113  | Pass      |
| Peak Probe Force             | Newtons | 4715 to 5782   | 5430.7 | Pass      |
| Overall Test Results         |         |                |        | Pass      |

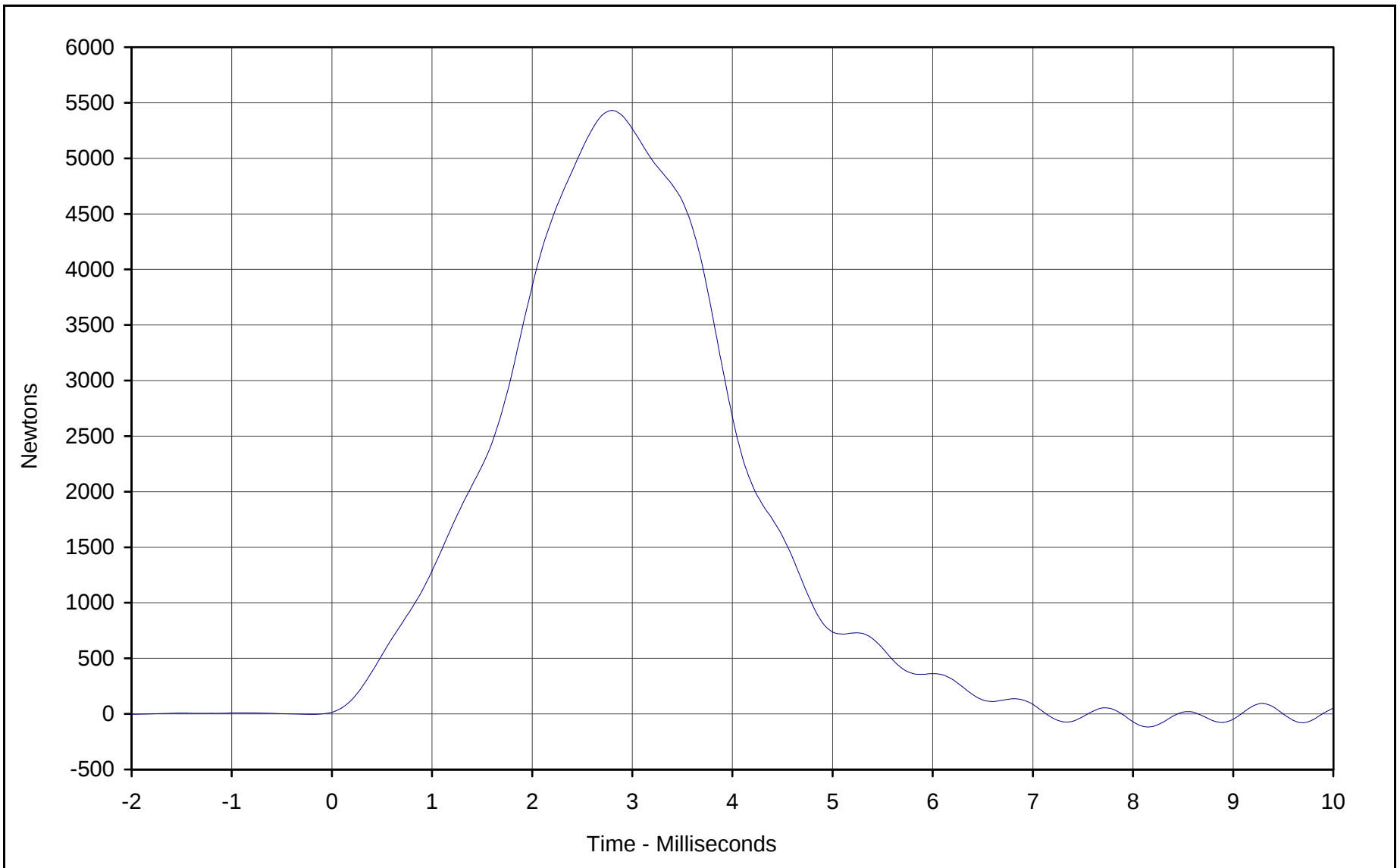
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 16, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-2



Curve Description: Probe Force

|                   |                |    |            |              |
|-------------------|----------------|----|------------|--------------|
| Maximum Value:    | <u>5430.7</u>  | at | <u>2.8</u> | Milliseconds |
| Minimum Value:    | <u>-70.9</u>   | at | <u>7.3</u> | Milliseconds |
| SAE Filter Class: | <u>600</u>     |    |            |              |
| Date of Test:     | <u>4/16/01</u> |    |            |              |
| ATD Serial No.:   | <u>034</u>     |    |            |              |

Testing Program: Hybrid III Left Knee Impact Test

Test Information: Part S/N: N/A Test I.D.: LK05A



KAR21040-01



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Right Knee Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: RK05A

| 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      |
| Probe Velocity               | m/s     | 2.073 to 2.134 | 2.113  | Pass      |
| Peak Probe Force             | Newtons | 4715 to 5782   | 5761.4 | Pass      |
| Overall Test Results         |         |                |        | Pass      |

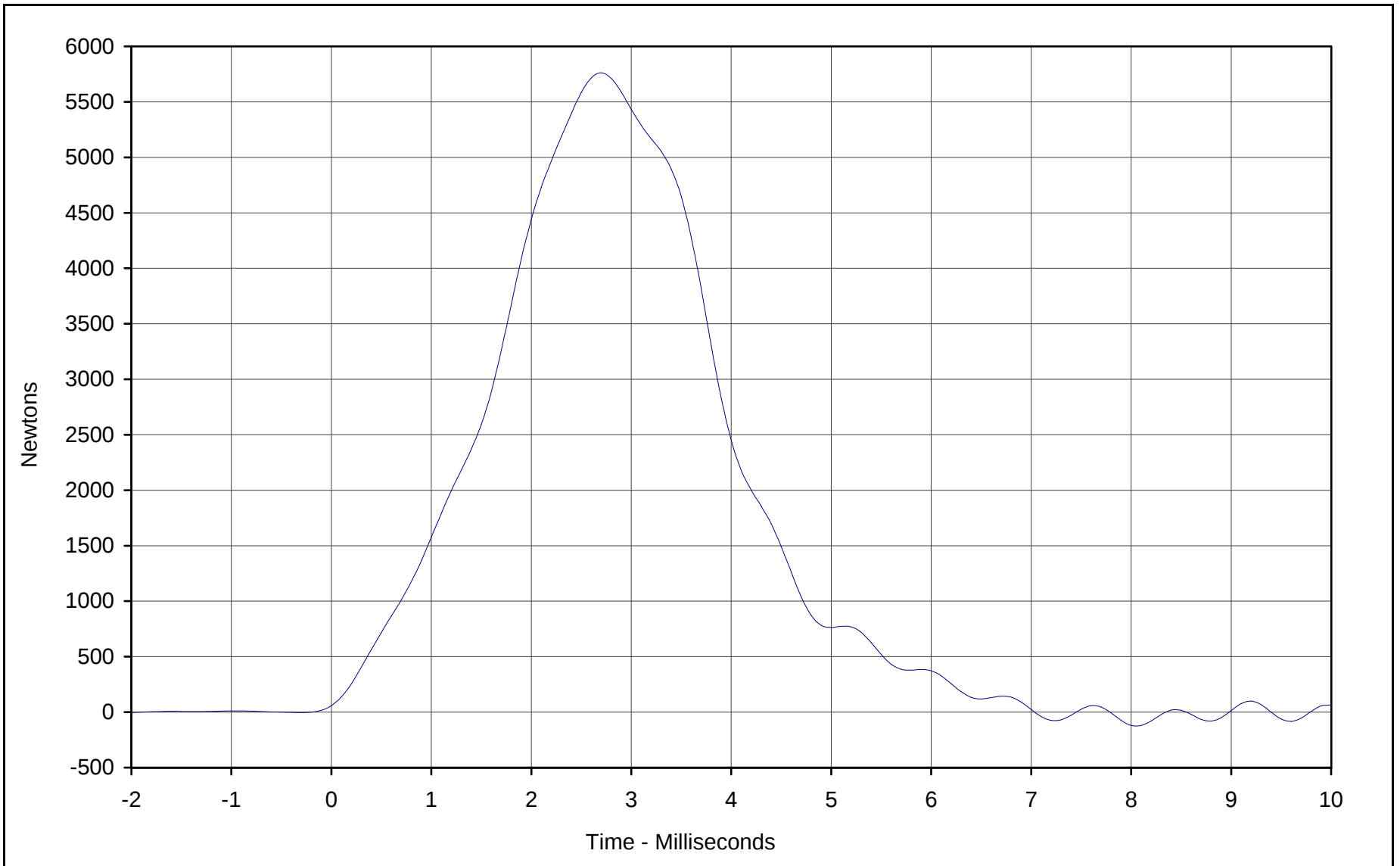
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 16, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-4



|                    |                            |
|--------------------|----------------------------|
| Curve Description: | Probe Force                |
| Maximum Value:     | 5761.4 at 2.7 Milliseconds |
| Minimum Value:     | -119.4 at 8.0 Milliseconds |
| SAE Filter Class:  | 600                        |
| Date of Test:      | 4/16/01                    |
| ATD Serial No.:    | 034                        |

|                   |                                   |
|-------------------|-----------------------------------|
| Testing Program:  | Hybrid III Right Knee Impact Test |
| Test Information: | Part S/N: N/A Test I.D.: RK05A    |



KAR21040-01



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: HD05A

| 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 | 254.7  | Pass      |
| Peak Lateral Acceleration    | G's    | ≤15.0          | 5.2    | Pass      |
| Is Acceleration Unimodal?    | Yes/No | Yes            | Yes    | Pass      |
| Overall Test Results         |        |                |        | Pass      |

\_\_\_\_\_  
Laboratory Technician

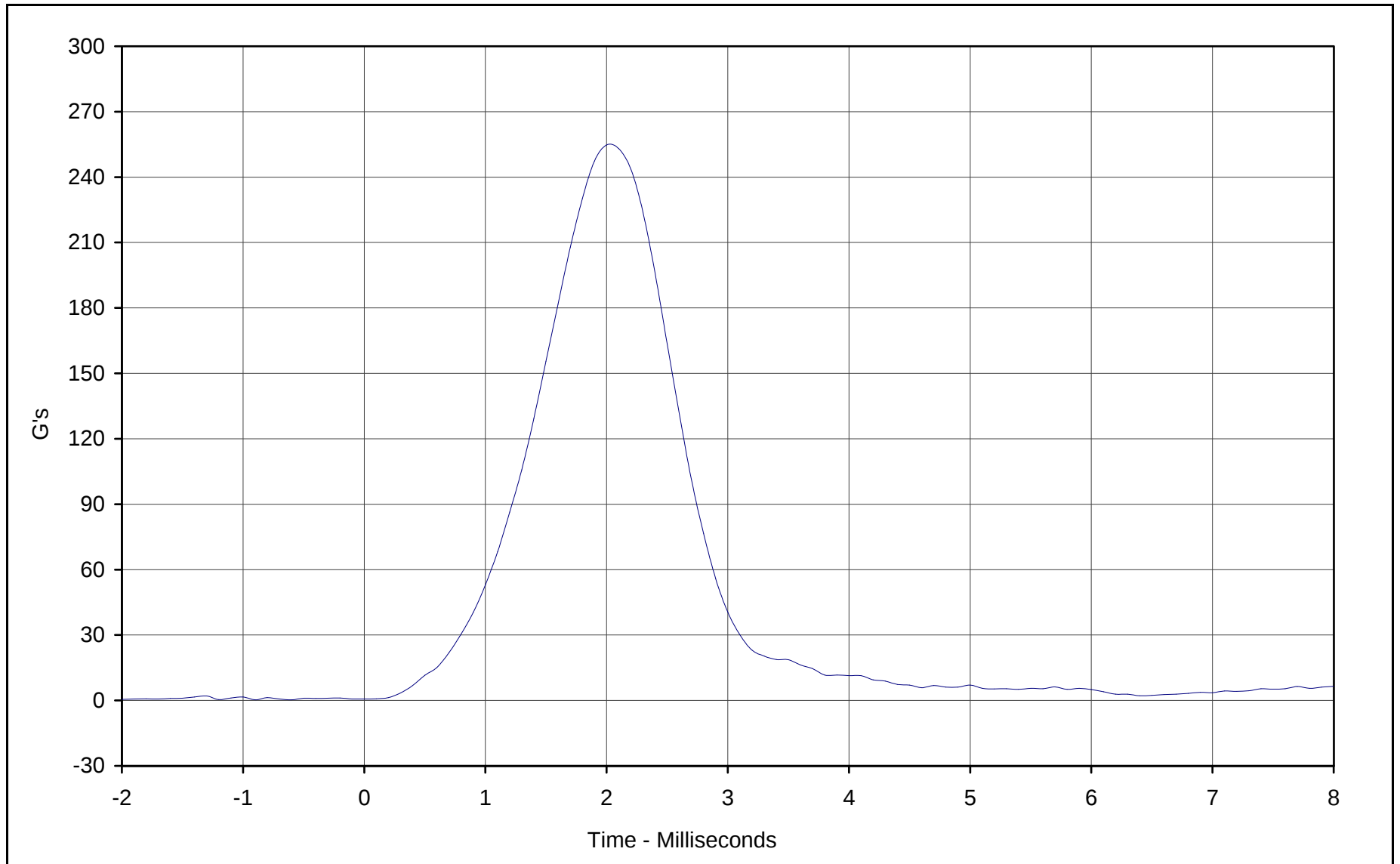
\_\_\_\_\_  
April 19, 2001

\_\_\_\_\_  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-6



Curve Description: Head Resultant Acceleration

|                   |                |    |             |              |
|-------------------|----------------|----|-------------|--------------|
| Maximum Value:    | <u>254.7</u>   | at | <u>2.0</u>  | Milliseconds |
| Minimum Value:    | <u>0.3</u>     | at | <u>-0.9</u> | Milliseconds |
| SAE Filter Class: | <u>1000</u>    |    |             |              |
| Date of Test:     | <u>4/19/01</u> |    |             |              |
| ATD Serial No.:   | <u>034</u>     |    |             |              |

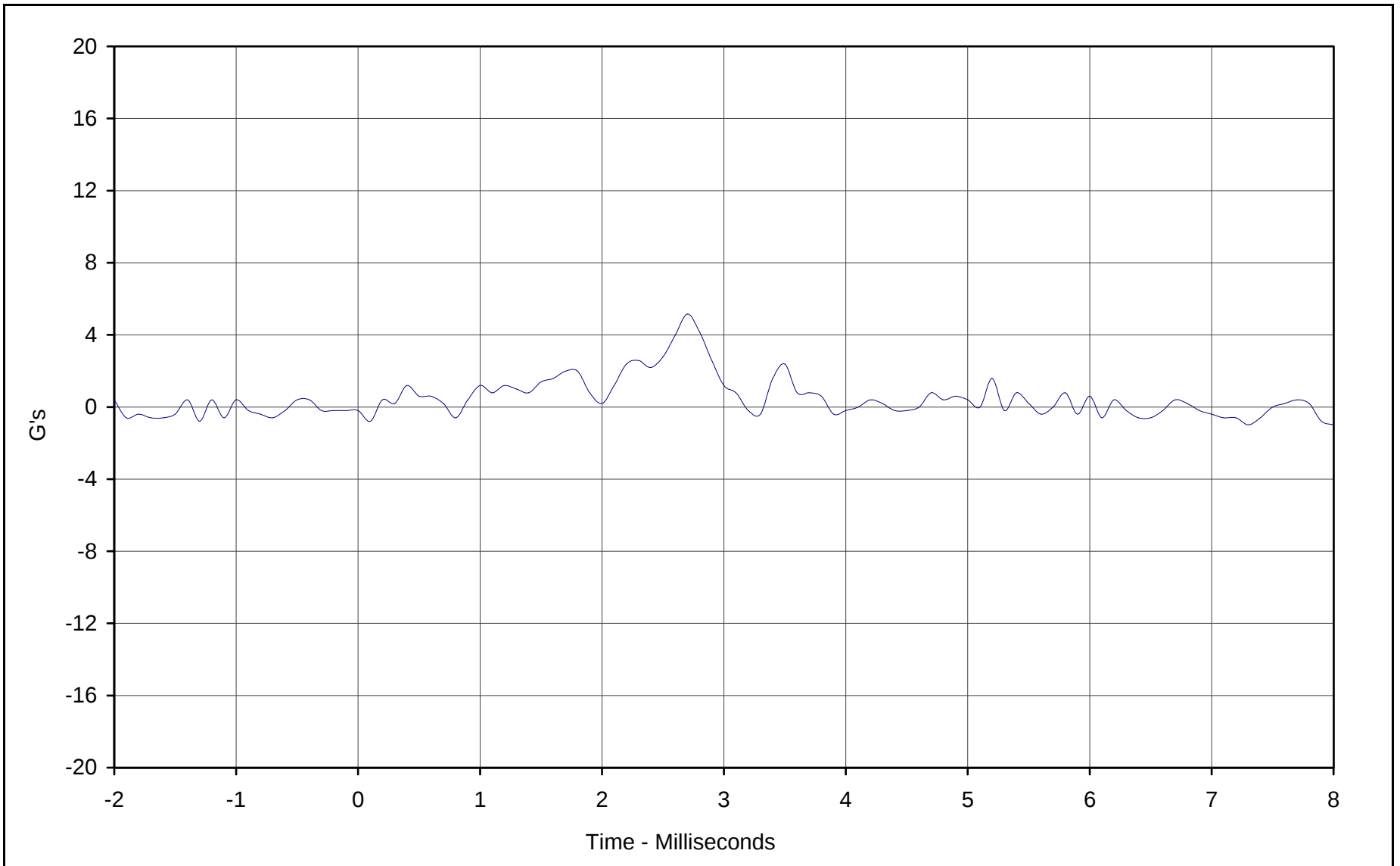
Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD05A



KAR21040-01

E-7



Curve Description: Head Acceleration Y Axis

|                   |         |    |     |              |
|-------------------|---------|----|-----|--------------|
| Maximum Value:    | 5.2     | at | 2.7 | Milliseconds |
| Minimum Value:    | -1.0    | at | 7.3 | Milliseconds |
| SAE Filter Class: | 1000    |    |     |              |
| Date of Test:     | 4/19/01 |    |     |              |
| ATD Serial No.:   | 034     |    |     |              |

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD05A



KAR21040-01



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CH05A

| 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  | 6.61   | Pass      |
| Peak Probe Force             | Newtons | 5159 to 5893  | 5273   | Pass      |
| Peak Sternum Displacement    | CM      | 6.35 to 7.26  | 7.03   | Pass      |
| Internal Hysteresis          | %       | 69 to 85      | 75.7   | Pass      |
| Overall Test Results         |         |               |        | Pass      |

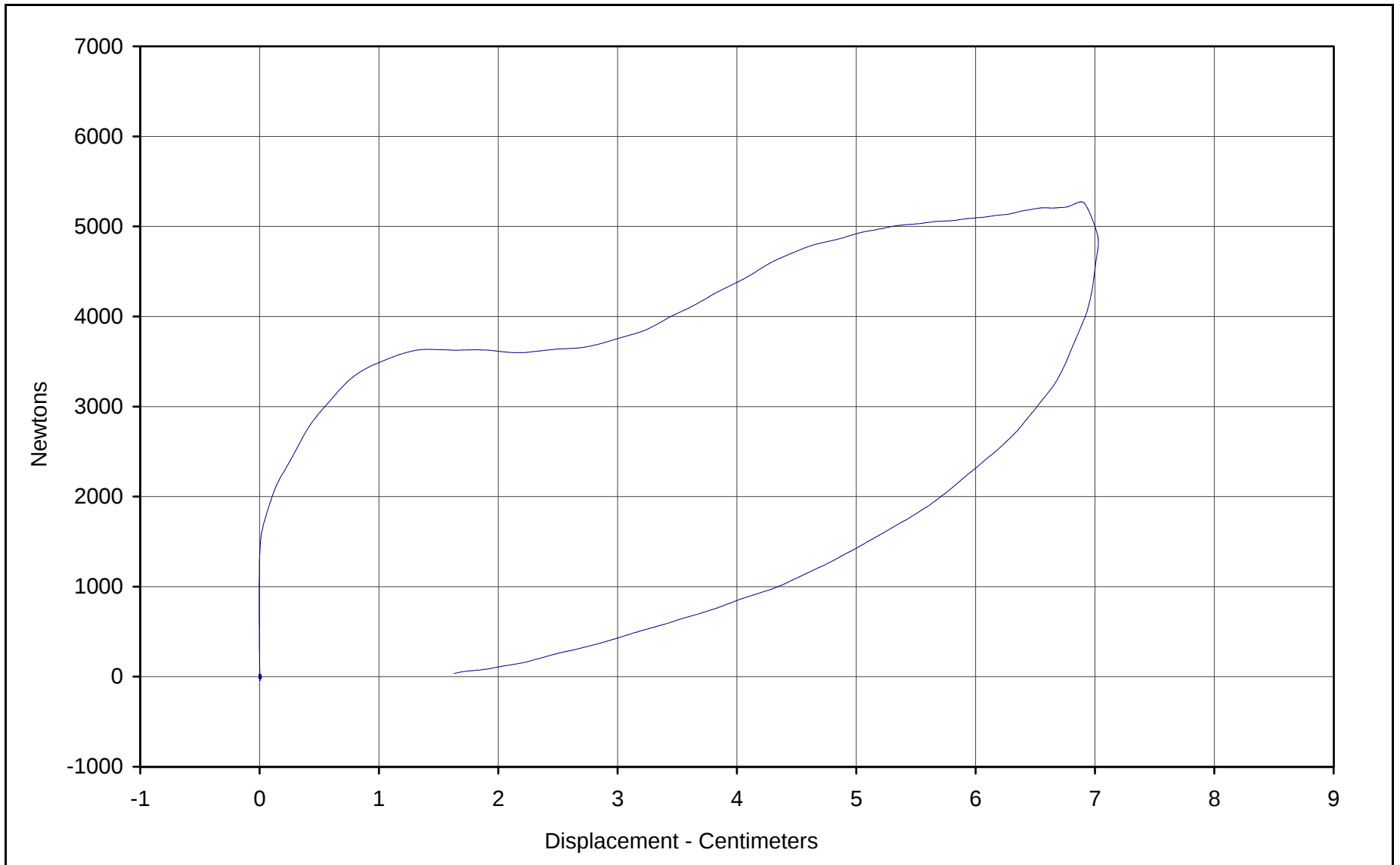
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 17, 2001

\_\_\_\_\_  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date



Curve Description: Probe Force vs. Chest Displacement

Probe Force: 5273.0 Newtons

Chest Displ.: 7.03 Centimeters

SAE Filter Class: 180

Date of Test: 4/17/01

ATD Serial No.: 034

Testing Program: Hybrid III Thorax Impact Test

Test Information: S/N of Part: N/A Test I.D.: CH05A





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Neck Flexion Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NF05A

| 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   | 6.91   | Pass      |
| Pendulum Deceleration                           | 10 Msec. | G's     | 22.5 to 27.5   | 23.8   | Pass      |
|                                                 | 20 Msec. | G's     | 17.6 to 22.6   | 21.1   | Pass      |
|                                                 | 30 Msec. | G's     | 12.5 to 18.5   | 18.3   | Pass      |
| Peak Pendulum Decel. after 30 Msec.             |          | G's     | ≤ 29.0         | 18.3   | Pass      |
| Deceleration Decay, Time to Cross 5 G's         |          | Msec.   | 34.0 to 42.0   | 37.0   | Pass      |
| Maximum "D" Plane Rotation                      | Maximum  | Degrees | 64.0 to 78.0   | 64.4   | Pass      |
|                                                 | Time     | Msec.   | 57.0 to 64.0   | 62.9   | Pass      |
| "D" Plane Rotation Decay, Time To Zero Crossing |          | Msec.   | 113.0 to 128.0 | 117.5  | Pass      |
| Moment About Occipital Condyle                  | Maximum  | N·m     | 84.1 to 108.5  | 88.7   | Pass      |
|                                                 | Time     | Msec.   | 47.0 to 58.0   | 55.0   | Pass      |
| Positive Moment Decay, Time To Zero Crossing    |          | Msec.   | 97.0 to 107.0  | 100.8  | Pass      |
| Overall Test Results                            |          |         |                |        | Pass      |

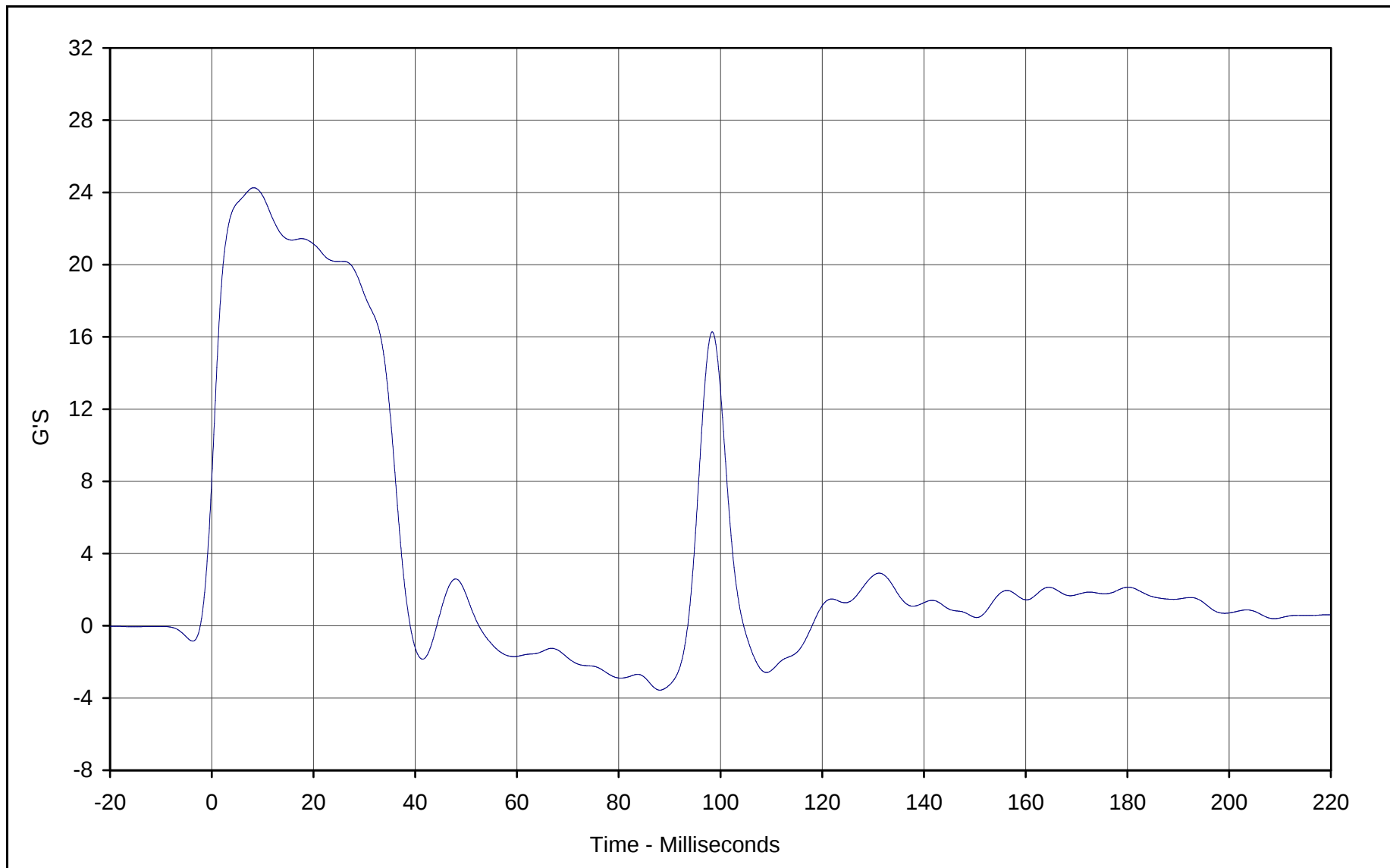
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 18, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-11



Curve Description: Pendulum Deceleration

|                   |                |    |             |              |
|-------------------|----------------|----|-------------|--------------|
| Maximum Value:    | <u>24.3</u>    | at | <u>8.2</u>  | Milliseconds |
| Minimum Value:    | <u>-3.6</u>    | at | <u>88.1</u> | Milliseconds |
| SAE Filter Class: | <u>60</u>      |    |             |              |
| Date of Test:     | <u>4/18/01</u> |    |             |              |
| ATD Serial No.:   | <u>034</u>     |    |             |              |

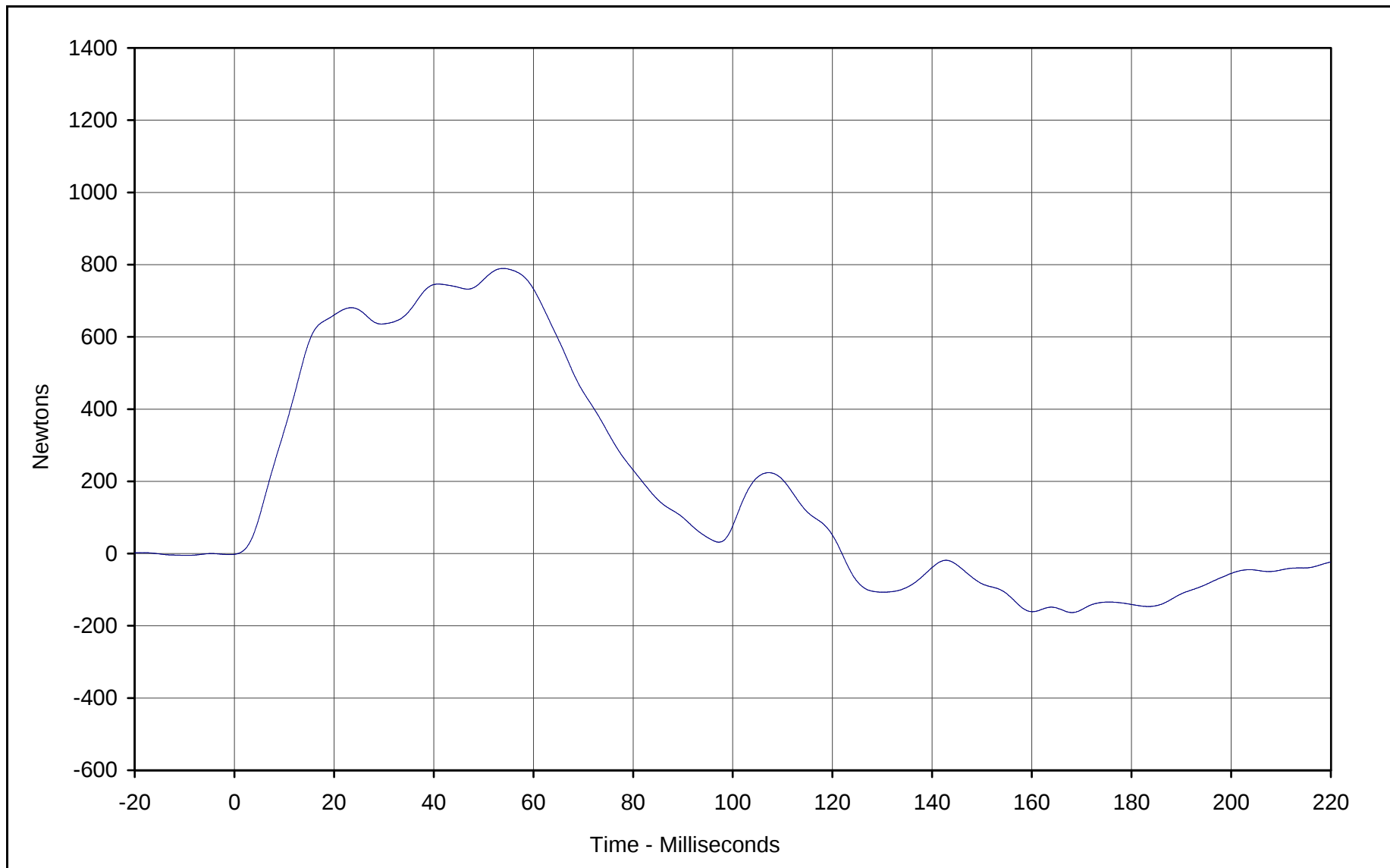
Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05A



KAR21040-01

E-12



Curve Description: Neck Force X

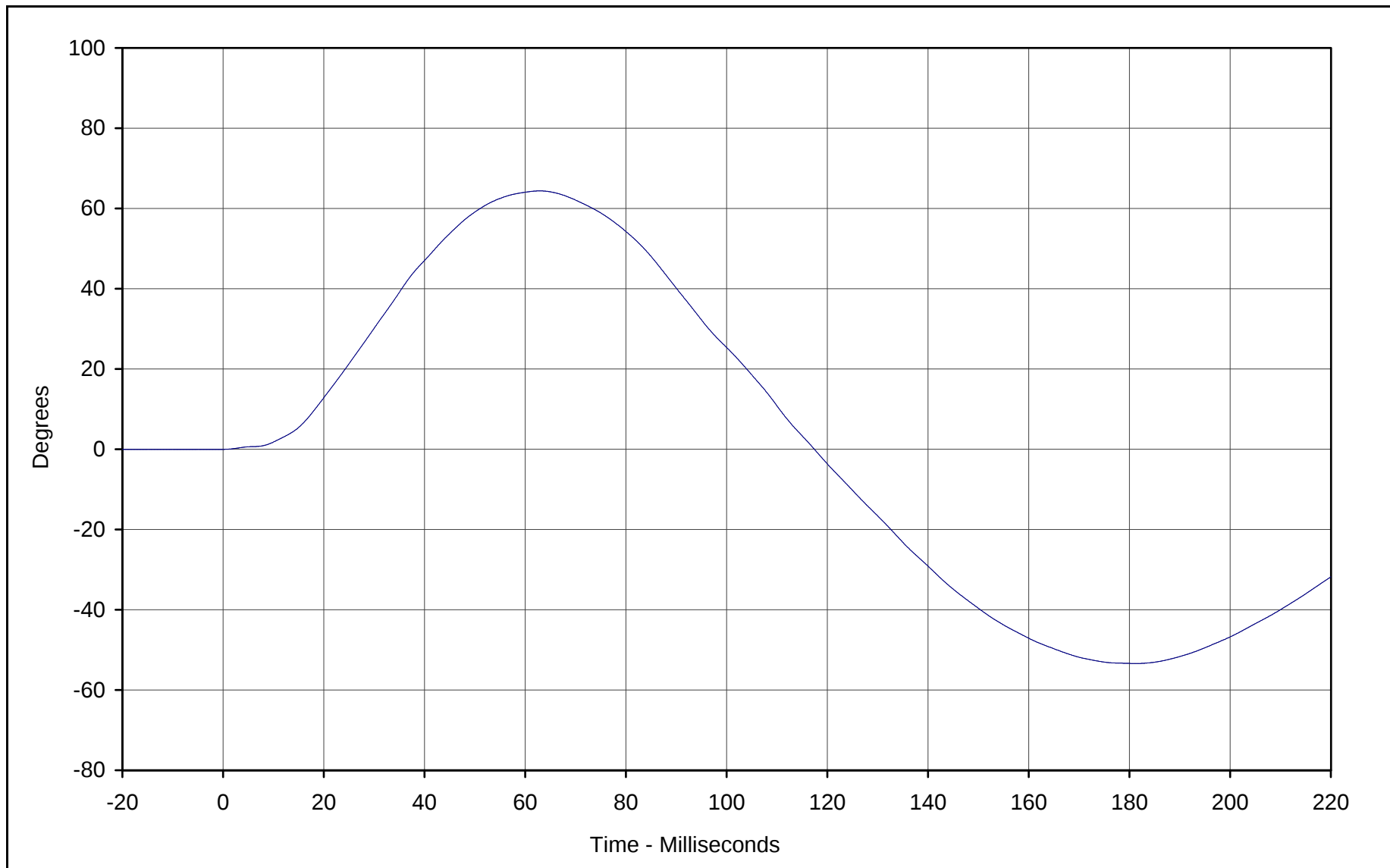
|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 789.5   | at | 53.9  | Milliseconds |
| Minimum Value:    | -163.3  | at | 168.0 | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 034     |    |       |              |

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05A



KAR21040-01



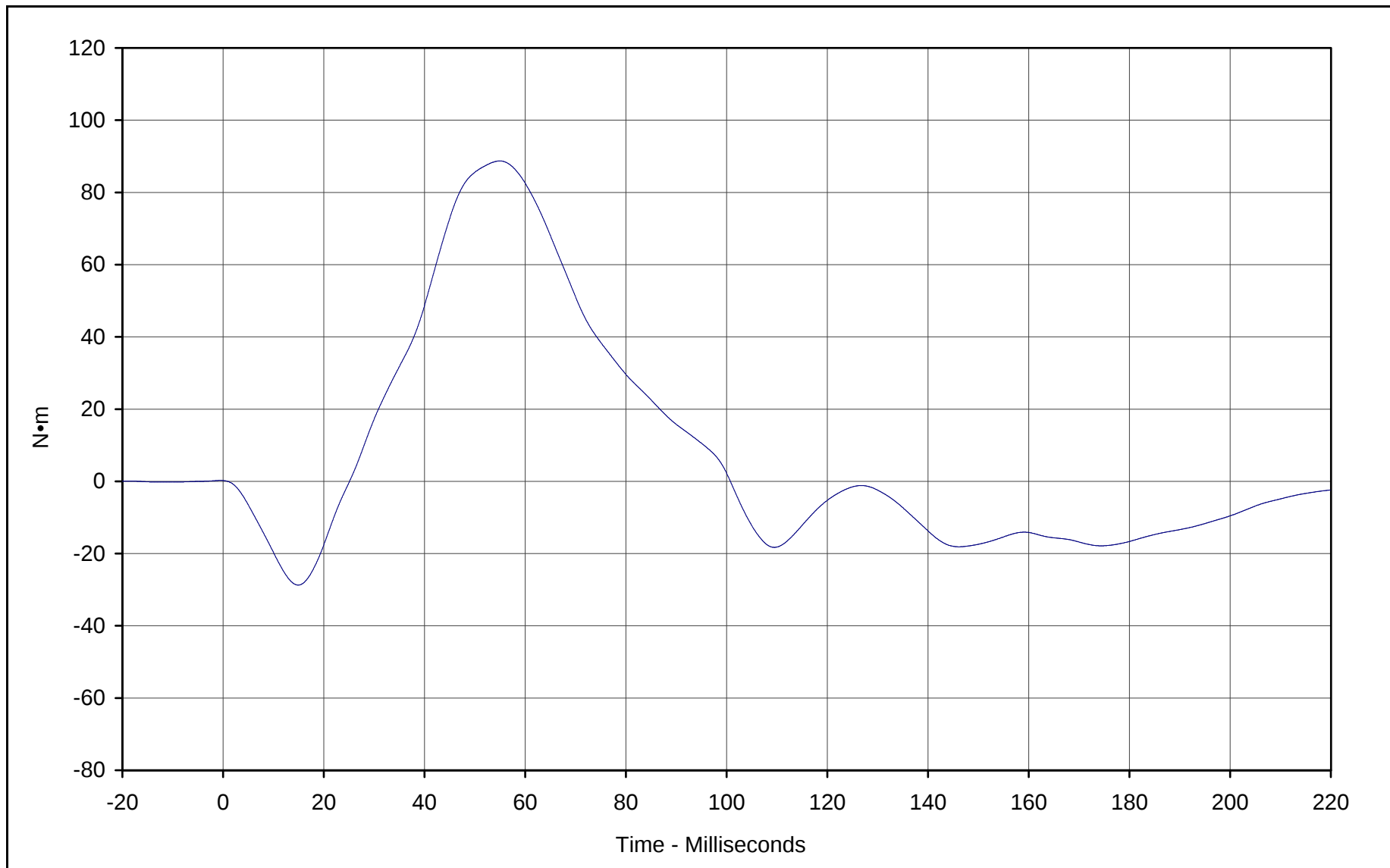
Curve Description: "D" Plane Rotation

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 64.4    | at | 62.9  | Milliseconds |
| Minimum Value:    | -53.4   | at | 181.3 | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 034     |    |       |              |

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05A





Curve Description: Moment About Occipital Condyles

Maximum Value: 88.7 at 55.0 Milliseconds

Minimum Value: -28.7 at 14.9 Milliseconds

SAE Filter Class: 60

Date of Test: 4/18/01

ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05A





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Neck Extension Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NE05A

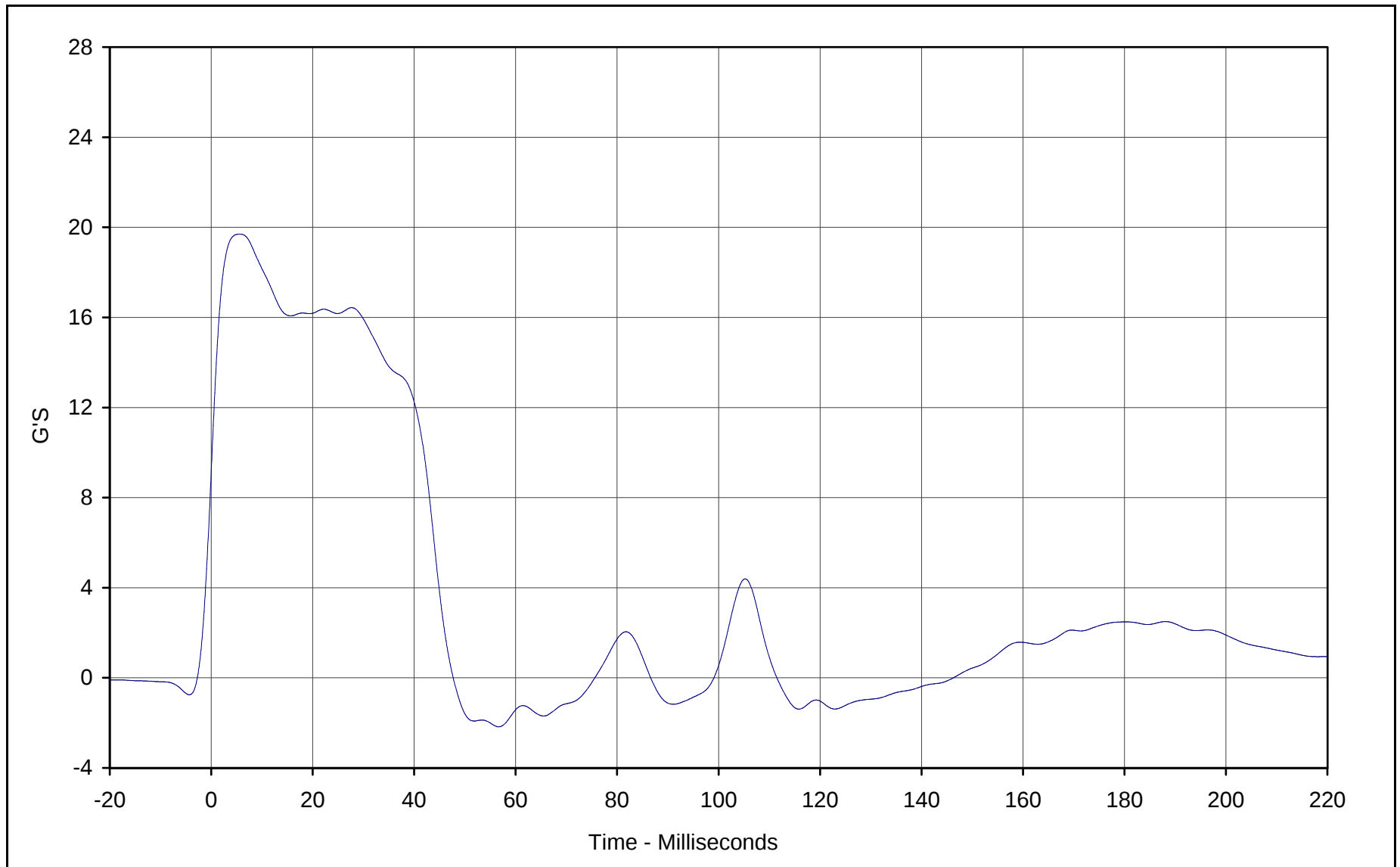
| Tested Parameter                                |          | Units   | Specification  | Result | Pass/Fail |
|-------------------------------------------------|----------|---------|----------------|--------|-----------|
| Laboratory Temperature                          |          | °C      | 20.6 to 22.2   | 21.1   | Pass      |
| Laboratory Relative Humidity                    |          | %       | 10 to 70       | 30     | Pass      |
| Pendulum Velocity                               |          | m/s     | 5.95 to 6.19   | 6.16   | Pass      |
| Pendulum Deceleration                           | 10 Msec. | G's     | 17.2 to 21.2   | 18.2   | Pass      |
|                                                 | 20 Msec. | G's     | 14.0 to 19.0   | 16.2   | Pass      |
|                                                 | 30 Msec. | G's     | 11.0 to 16.0   | 15.9   | Pass      |
| Peak Pendulum Decel. after 30 Msec.             |          | G's     | ≤ 22.0         | 15.9   | Pass      |
| Deceleration Decay, Time to Cross 5 G's         |          | Msec.   | 38.0 to 46.0   | 44.5   | Pass      |
| Maximum "D" Plane Rotation                      | Maximum  | Degrees | 81.0 to 106.0  | 100.2  | Pass      |
|                                                 | Time     | Msec.   | 72.0 to 82.0   | 79.9   | Pass      |
| "D" Plane Rotation Decay, Time To Zero Crossing |          | Msec.   | 147.0 to 174.0 | 160.1  | Pass      |
| Moment About Occipital Condyle                  | Maximum  | N•m     | -52.9 to- 79.9 | -68.5  | Pass      |
|                                                 | Time     | Msec.   | 65.0 to 79.0   | 71.5   | Pass      |
| Negative Moment Decay, Time To Zero Crossing    |          | Msec.   | 120.0 to 148.0 | 142.8  | Pass      |
| Overall Test Results                            |          |         |                |        | Pass      |

\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 18, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date



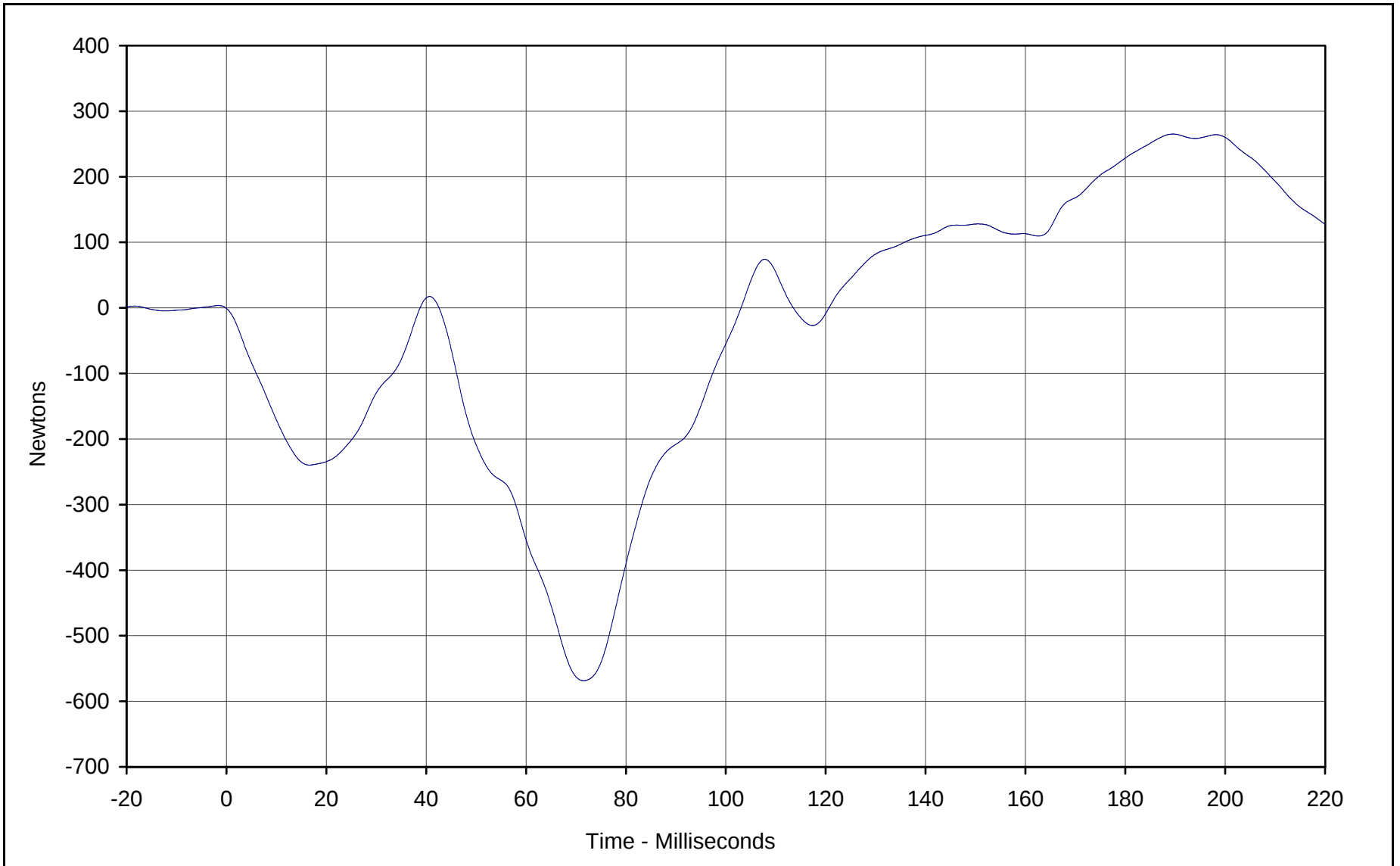
Curve Description: Pendulum Deceleration

|                   |                |    |             |              |
|-------------------|----------------|----|-------------|--------------|
| Maximum Value:    | <u>19.7</u>    | at | <u>5.6</u>  | Milliseconds |
| Minimum Value:    | <u>-2.2</u>    | at | <u>56.7</u> | Milliseconds |
| SAE Filter Class: | <u>60</u>      |    |             |              |
| Date of Test:     | <u>4/18/01</u> |    |             |              |
| ATD Serial No.:   | <u>034</u>     |    |             |              |

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05A





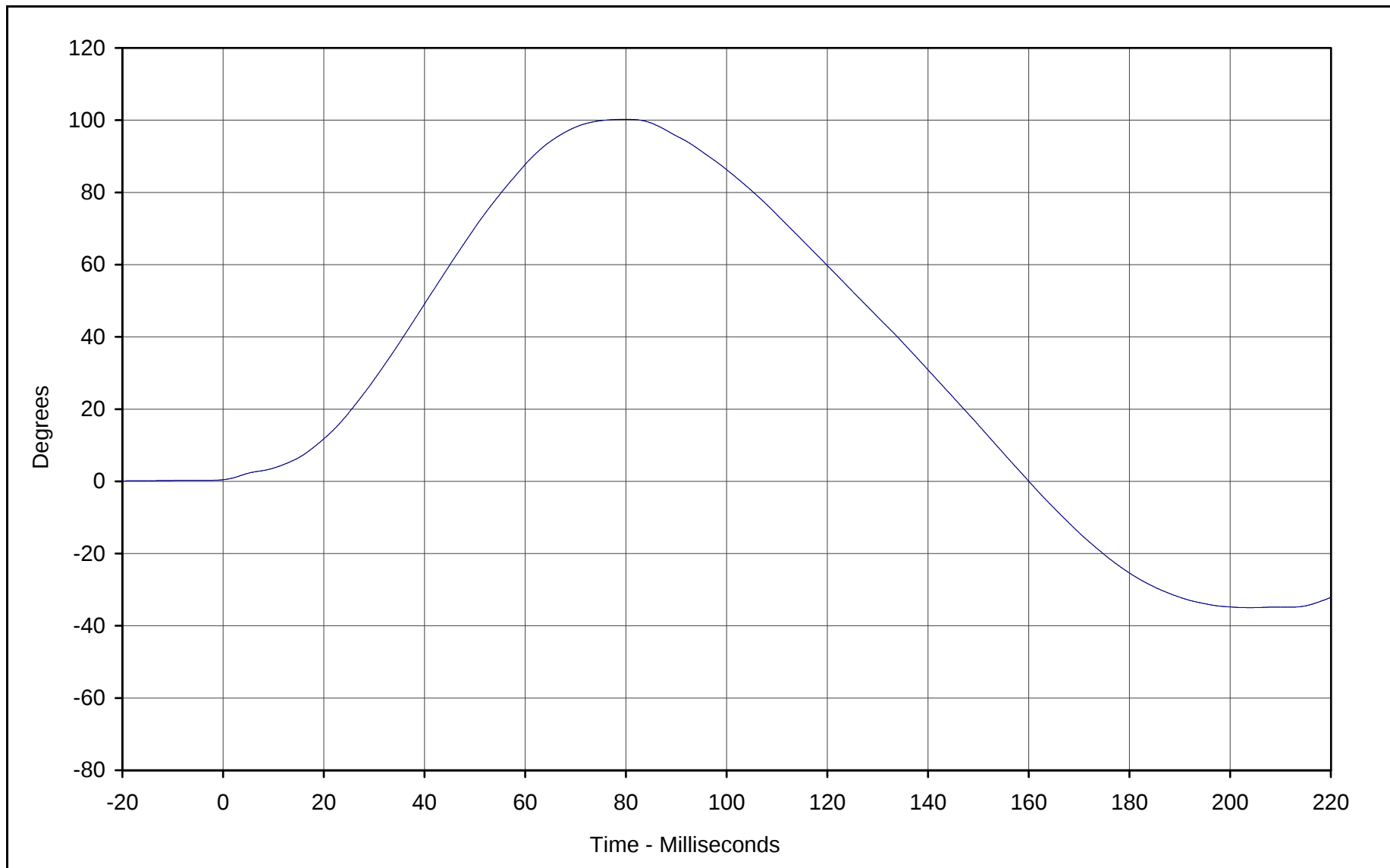
Curve Description: Neck Force X

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 265.1   | at | 189.6 | Milliseconds |
| Minimum Value:    | -568.5  | at | 71.5  | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 034     |    |       |              |

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05A





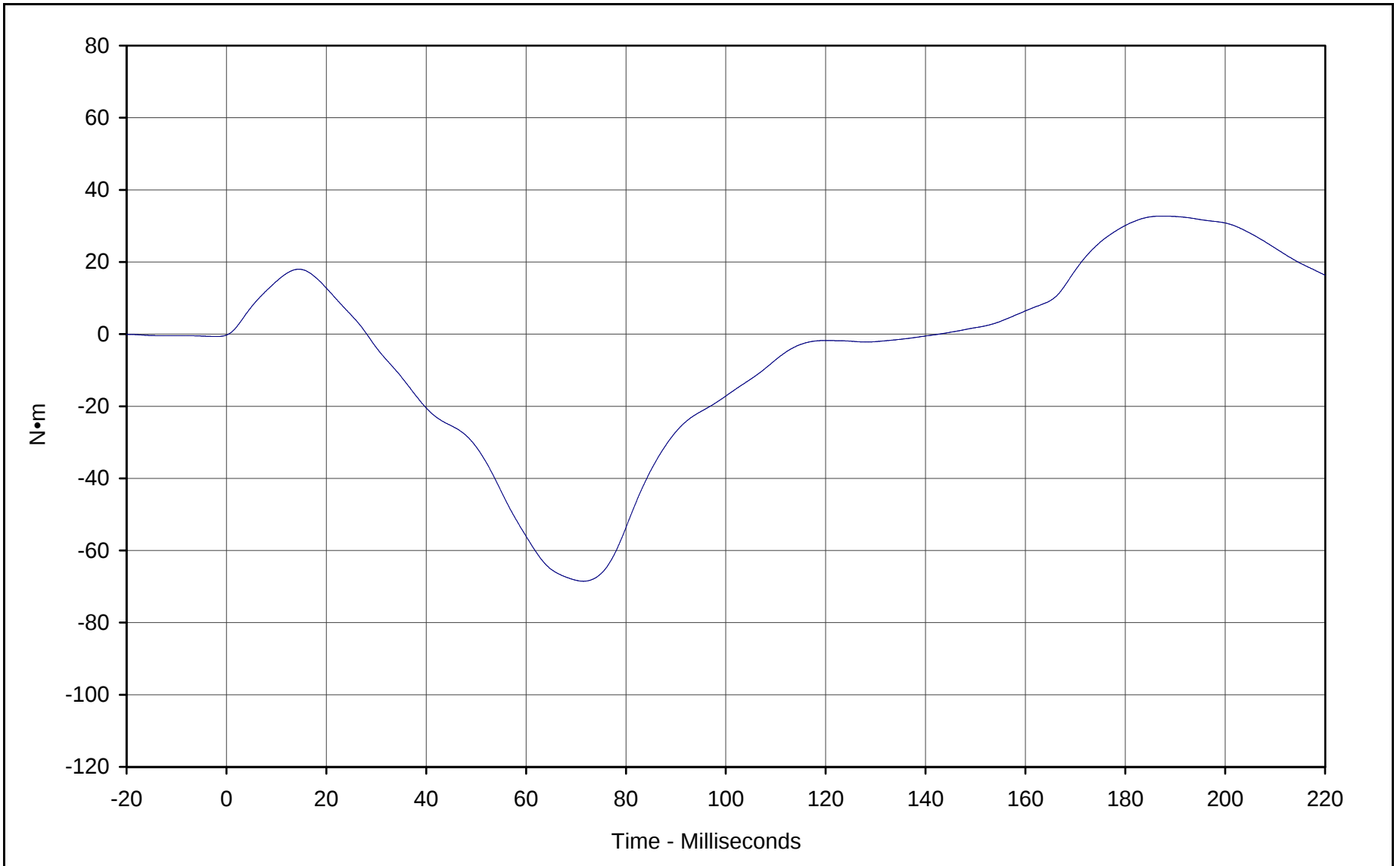
Curve Description: "D" Plane Rotation

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 100.2   | at | 79.9  | Milliseconds |
| Minimum Value:    | -35.0   | at | 204.0 | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 034     |    |       |              |

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05A





Curve Description: Moment About Occipital Condyles

Maximum Value: 32.7 at 187.5 Milliseconds

Minimum Value: -68.5 at 71.5 Milliseconds

SAE Filter Class: 60

Date of Test: 4/18/01

ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05A





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> 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      | 30     | 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    | 295    | 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    | 205    | Pass      |
| K - Buttock to knee length            | mm    | 579 to 604    | 590    | 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    | 465    | 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    | 430    | Pass      |
| W - Foot breadth                      | mm    | 91 to 107     | 95     | Pass      |
| Y - Chest circumference               | mm    | 970 to 1001   | 990    | Pass      |
| Z - Waist circumference               | mm    | 836 to 866    | 855    | 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 20, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Left Knee Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: LK05B

| 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      |
| Probe Velocity               | m/s     | 2.073 to 2.134 | 2.113  | Pass      |
| Peak Probe Force             | Newtons | 4715 to 5782   | 5589.8 | Pass      |
| Overall Test Results         |         |                | Pass   |           |

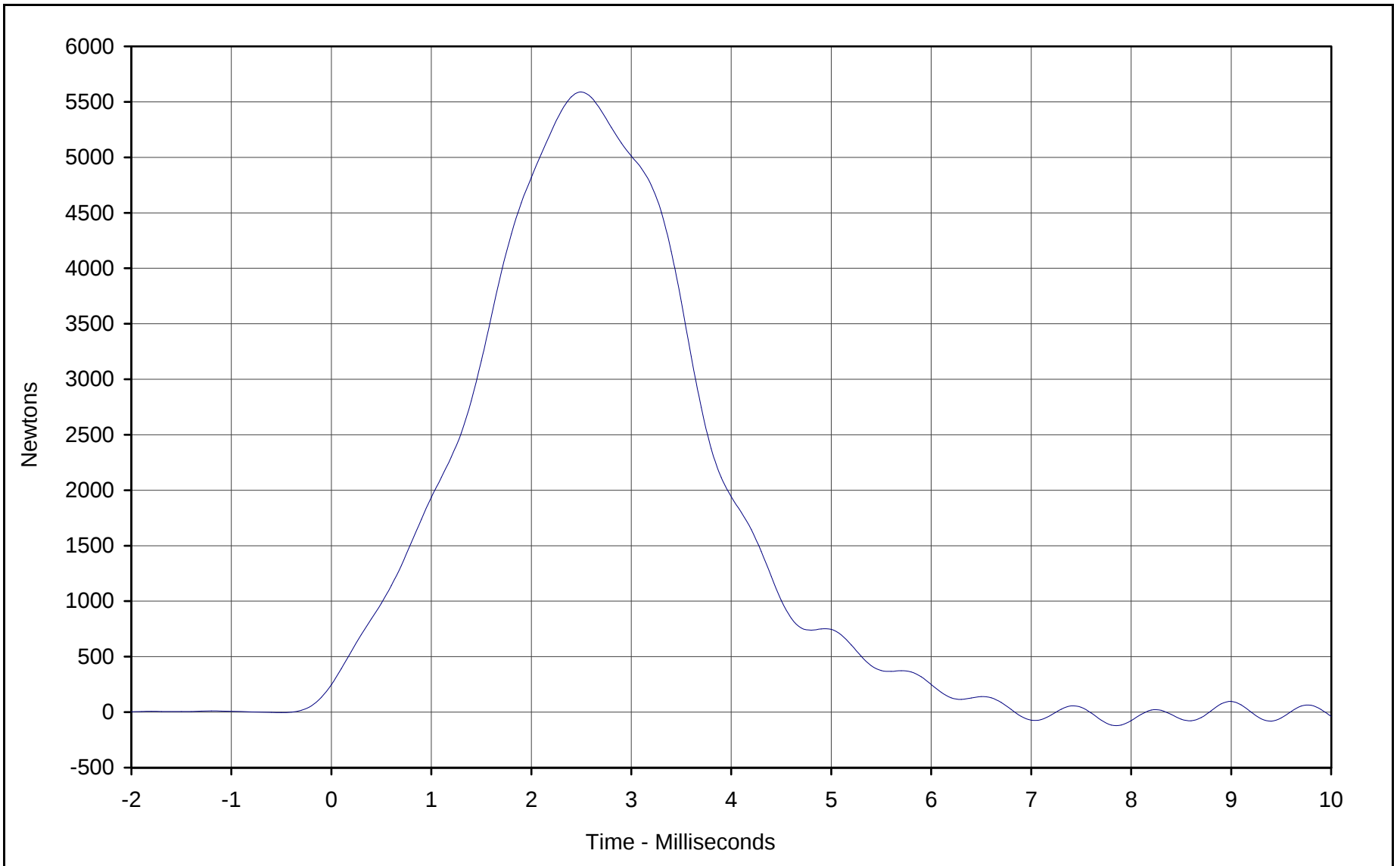
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 16, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-22



|                    |                            |
|--------------------|----------------------------|
| Curve Description: | Probe Force                |
| Maximum Value:     | 5589.8 at 2.5 Milliseconds |
| Minimum Value:     | -116.7 at 7.9 Milliseconds |
| SAE Filter Class:  | 600                        |
| Date of Test:      | 4/16/01                    |
| ATD Serial No.:    | 035                        |

|                   |                                  |
|-------------------|----------------------------------|
| Testing Program:  | Hybrid III Left Knee Impact Test |
| Test Information: | Part S/N: N/A Test I.D.: LK05B   |



KAR21040-01



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Right Knee Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: RK05B

| 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      |
| Probe Velocity               | m/s     | 2.073 to 2.134 | 2.113  | Pass      |
| Peak Probe Force             | Newtons | 4715 to 5782   | 5684.8 | Pass      |
| Overall Test Results         |         |                |        | Pass      |

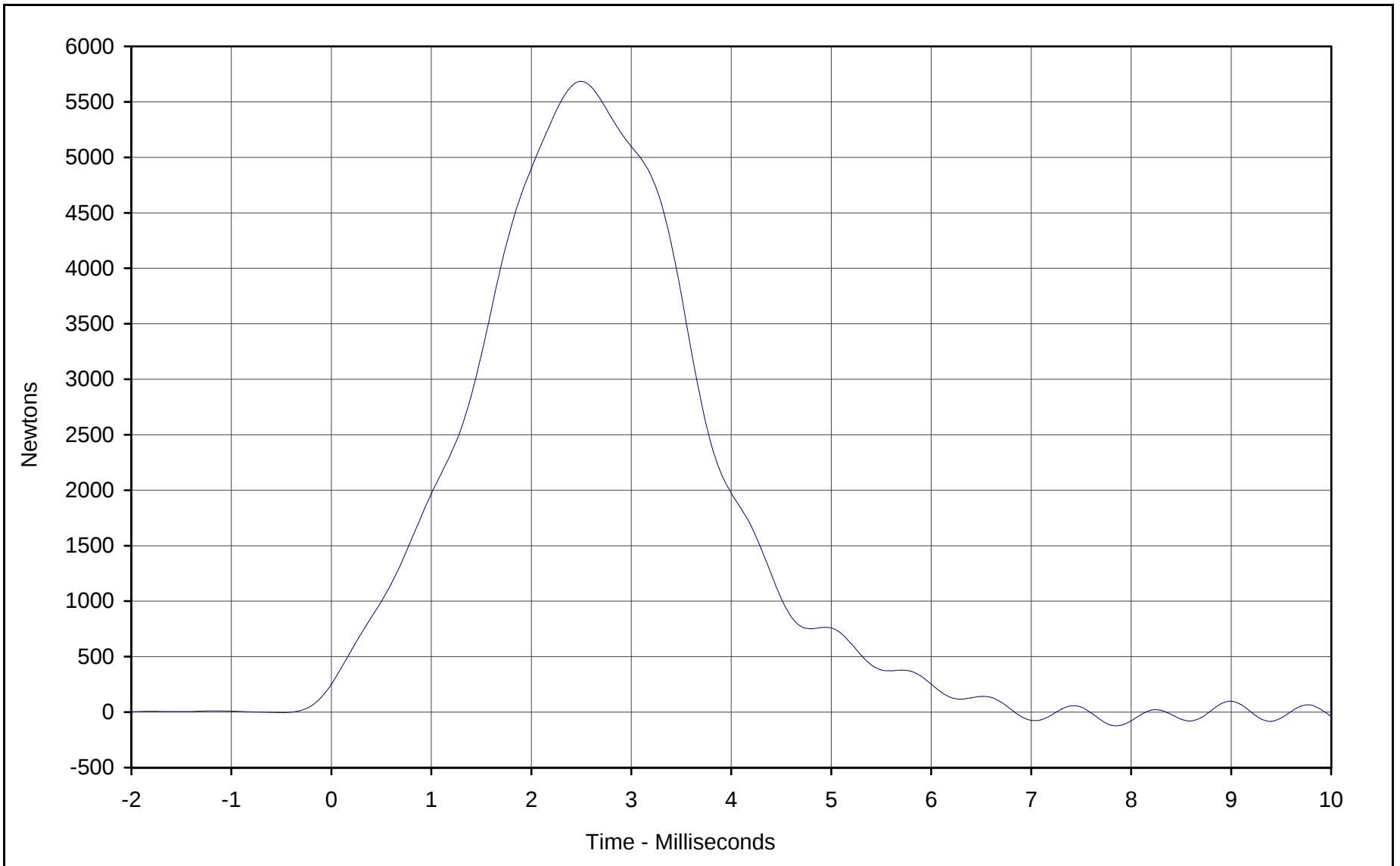
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 16, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-24



Curve Description: Probe Force

|                   |                |    |            |              |
|-------------------|----------------|----|------------|--------------|
| Maximum Value:    | <u>5684.8</u>  | at | <u>2.5</u> | Milliseconds |
| Minimum Value:    | <u>-118.6</u>  | at | <u>7.9</u> | Milliseconds |
| SAE Filter Class: | <u>600</u>     |    |            |              |
| Date of Test:     | <u>4/16/01</u> |    |            |              |
| ATD Serial No.:   | <u>035</u>     |    |            |              |

Testing Program: Hybrid III Right Knee Impact Test

Test Information: Part S/N: N/A Test I.D.: RK05B



KAR21040-01



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: HD05B

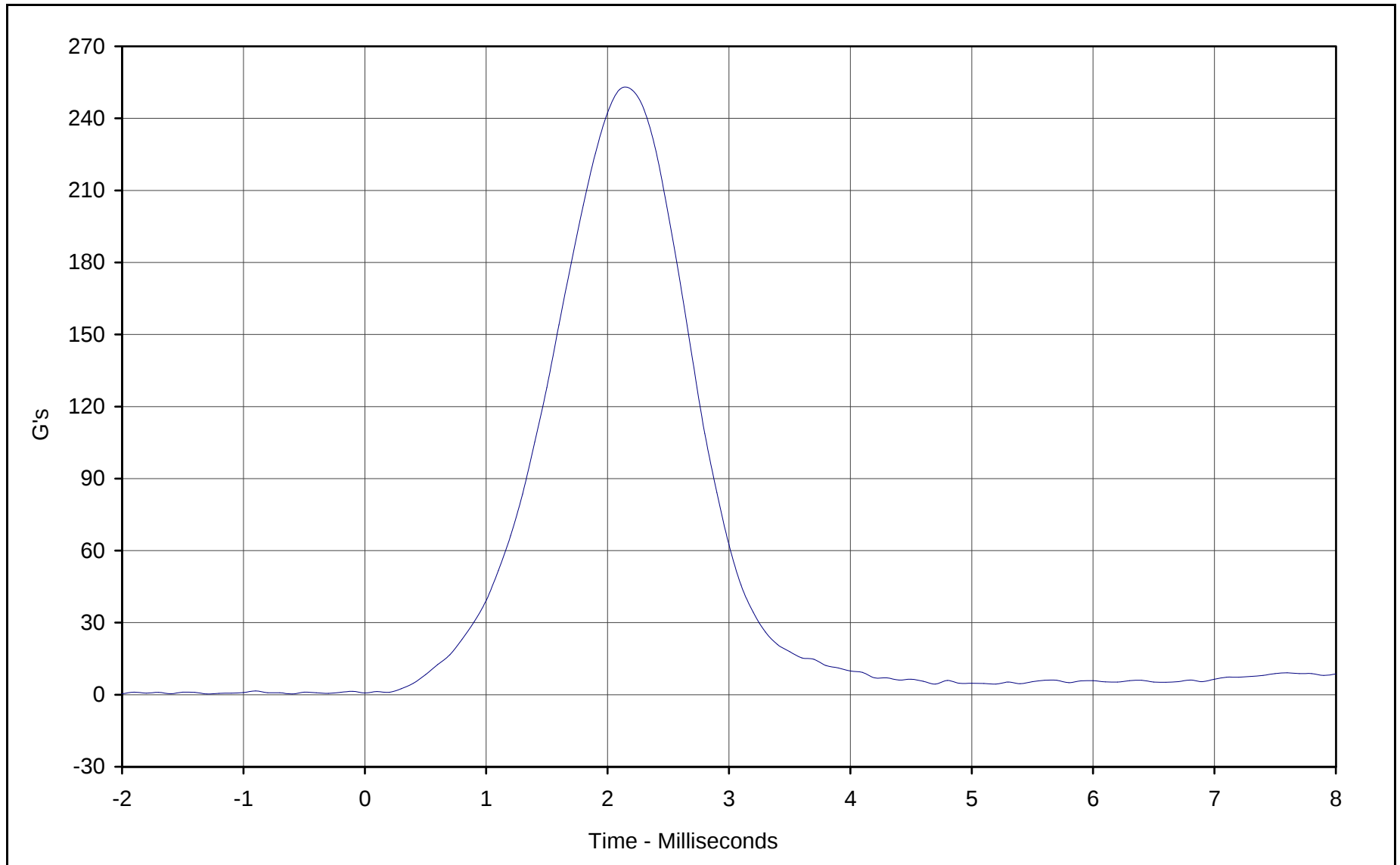
| Tested Parameter             | Units  | Specification  | Result | Pass/Fail |
|------------------------------|--------|----------------|--------|-----------|
| Laboratory Temperature       | °C     | 18.9 to 25.6   | 21.1   | Pass      |
| Laboratory Relative Humidity | %      | 10 to 70       | 30     | Pass      |
| Peak Resultant Acceleration  | G's    | 225.0 to 275.0 | 252.1  | Pass      |
| Peak Lateral Acceleration    | G's    | ≤15.0          | 2.4    | Pass      |
| Is Acceleration Unimodal?    | Yes/No | Yes            | Yes    | Pass      |
| Overall Test Results         |        |                |        | Pass      |

\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 19, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date



Curve Description: Head Resultant Acceleration

Maximum Value: 252.1 at 2.1 Milliseconds

Minimum Value: 0.3 at -1.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 4/19/01

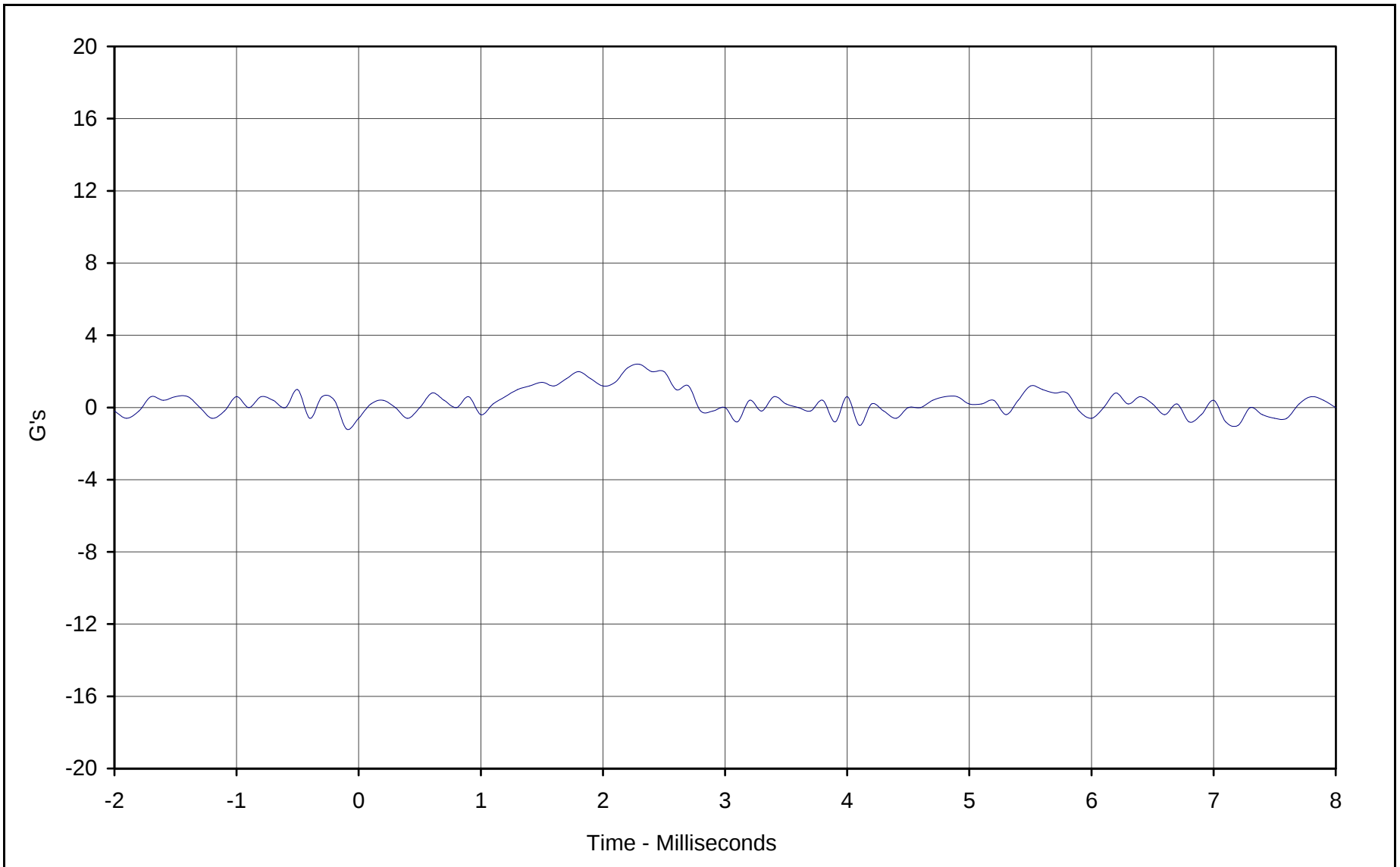
ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD05B



E-27



Curve Description: Head Acceleration Y Axis

Maximum Value: 2.4 at 2.3 Milliseconds

Minimum Value: -1.2 at -0.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 4/19/01

ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD05B



KAR21040-01



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Thorax Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CH05B

| 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  | 6.61   | Pass      |
| Peak Probe Force             | Newtons | 5159 to 5893  | 5668   | Pass      |
| Peak Sternum Displacement    | CM      | 6.35 to 7.26  | 6.76   | Pass      |
| Internal Hysteresis          | %       | 69 to 85      | 73.3   | Pass      |
| Overall Test Results         |         |               |        | Pass      |

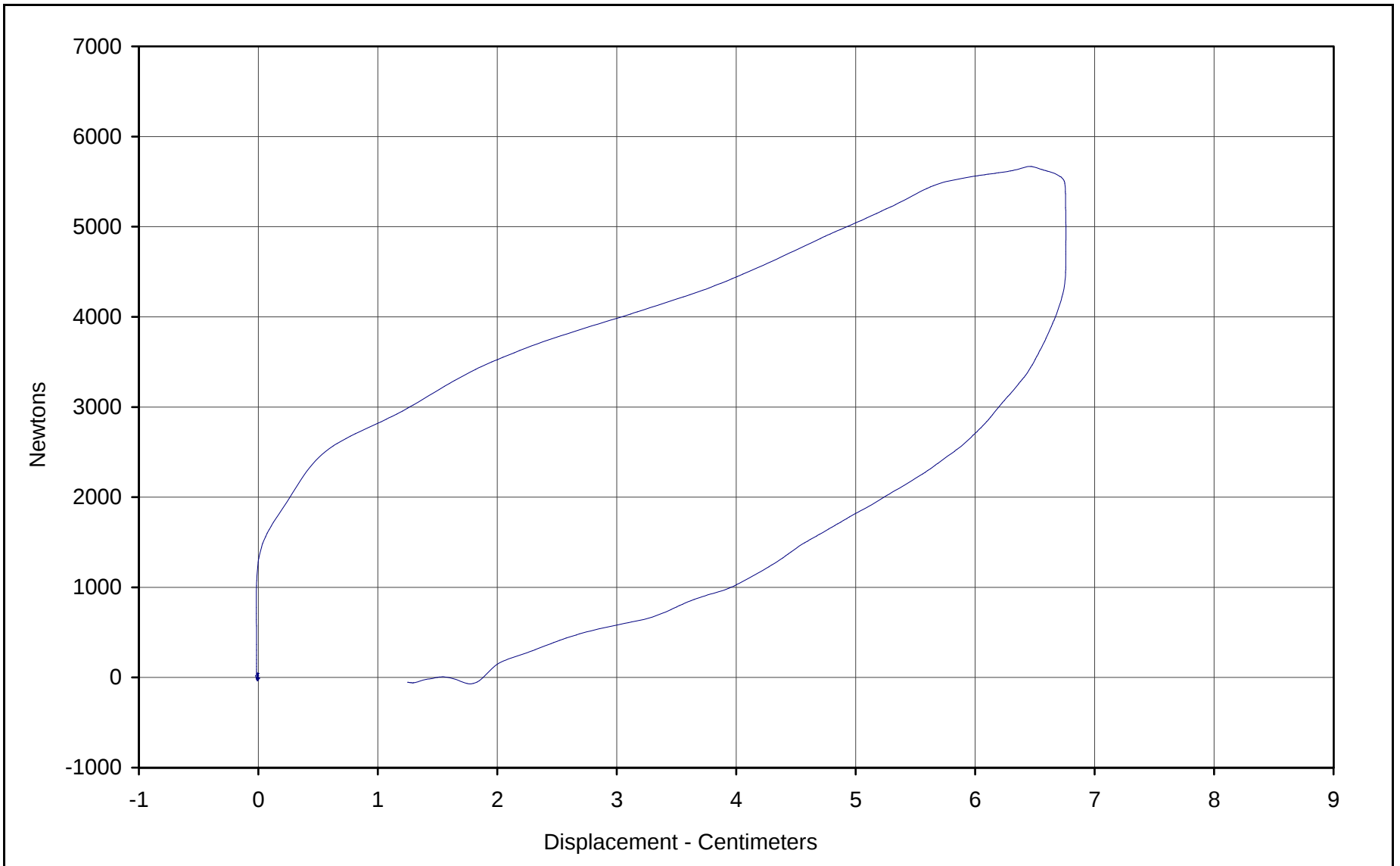
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 17, 2001

\_\_\_\_\_  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date



Curve Description: Probe Force vs. Chest Displacement

Probe Force: 5668.0 Newtons

Chest Displ.: 6.76 Centimeters

SAE Filter Class: 180

Date of Test: 4/17/01

ATD Serial No.: 035

Testing Program: Hybrid III Thorax Impact Test

Test Information: S/N of Part: N/A Test I.D.: CH05B





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Neck Flexion Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NF05B

| 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   | 6.91   | Pass      |
| Pendulum Deceleration                           | 10 Msec. | G's     | 22.5 to 27.5   | 23.6   | Pass      |
|                                                 | 20 Msec. | G's     | 17.6 to 22.6   | 21.0   | Pass      |
|                                                 | 30 Msec. | G's     | 12.5 to 18.5   | 18.2   | Pass      |
| Peak Pendulum Decel. after 30 Msec.             |          | G's     | ≤ 29.0         | 18.2   | Pass      |
| Deceleration Decay, Time to Cross 5 G's         |          | Msec.   | 34.0 to 42.0   | 37.0   | Pass      |
| Maximum "D" Plane Rotation                      | Maximum  | Degrees | 64.0 to 78.0   | 65.3   | Pass      |
|                                                 | Time     | Msec.   | 57.0 to 64.0   | 62.9   | Pass      |
| "D" Plane Rotation Decay, Time To Zero Crossing |          | Msec.   | 113.0 to 128.0 | 117.5  | Pass      |
| Moment About Occipital Condyle                  | Maximum  | N·m     | 84.1 to 108.5  | 97.6   | Pass      |
|                                                 | Time     | Msec.   | 47.0 to 58.0   | 55.0   | Pass      |
| Positive Moment Decay, Time To Zero Crossing    |          | Msec.   | 97.0 to 107.0  | 100.8  | Pass      |
| Overall Test Results                            |          |         |                |        | Pass      |

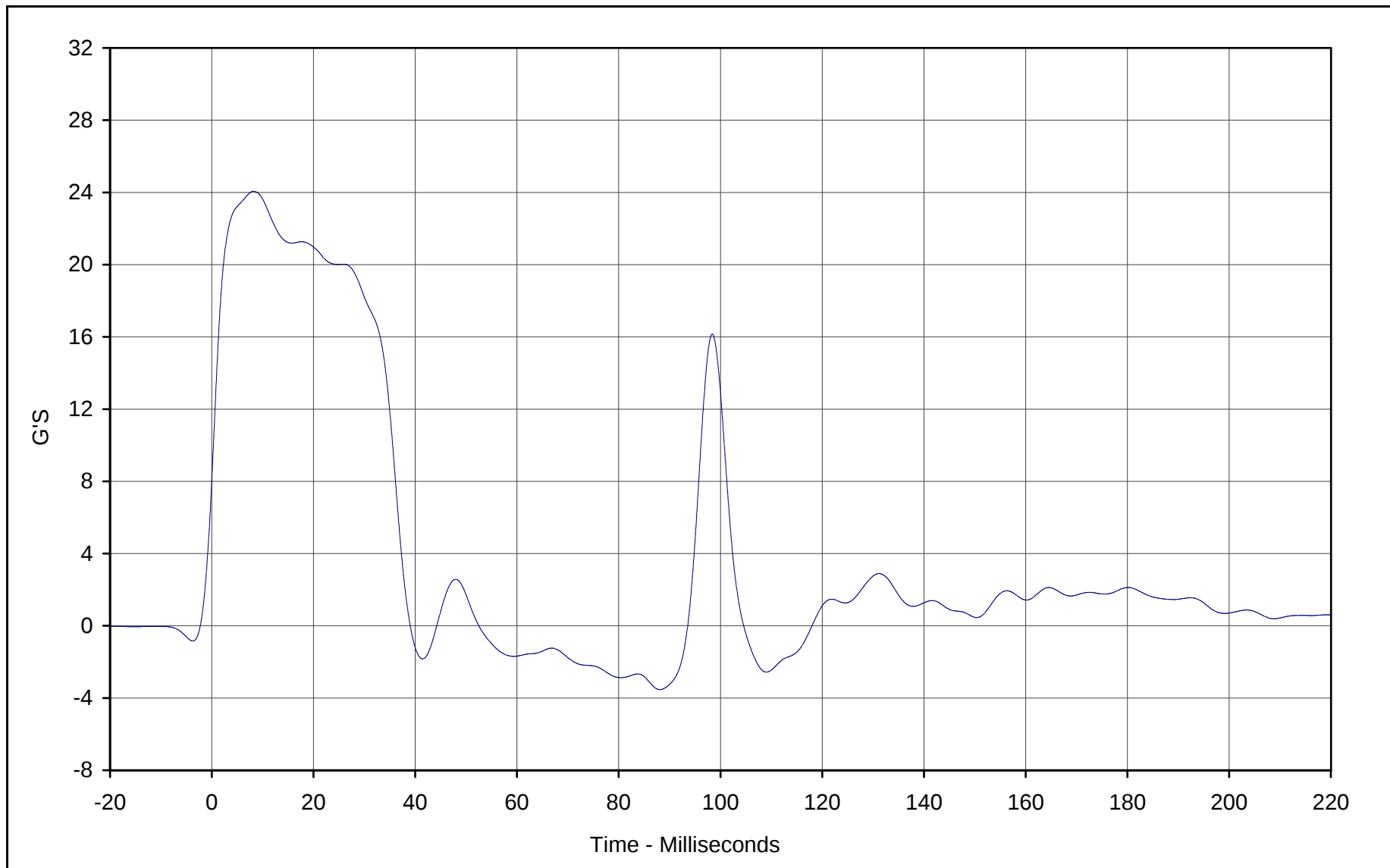
\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 18, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

E-31



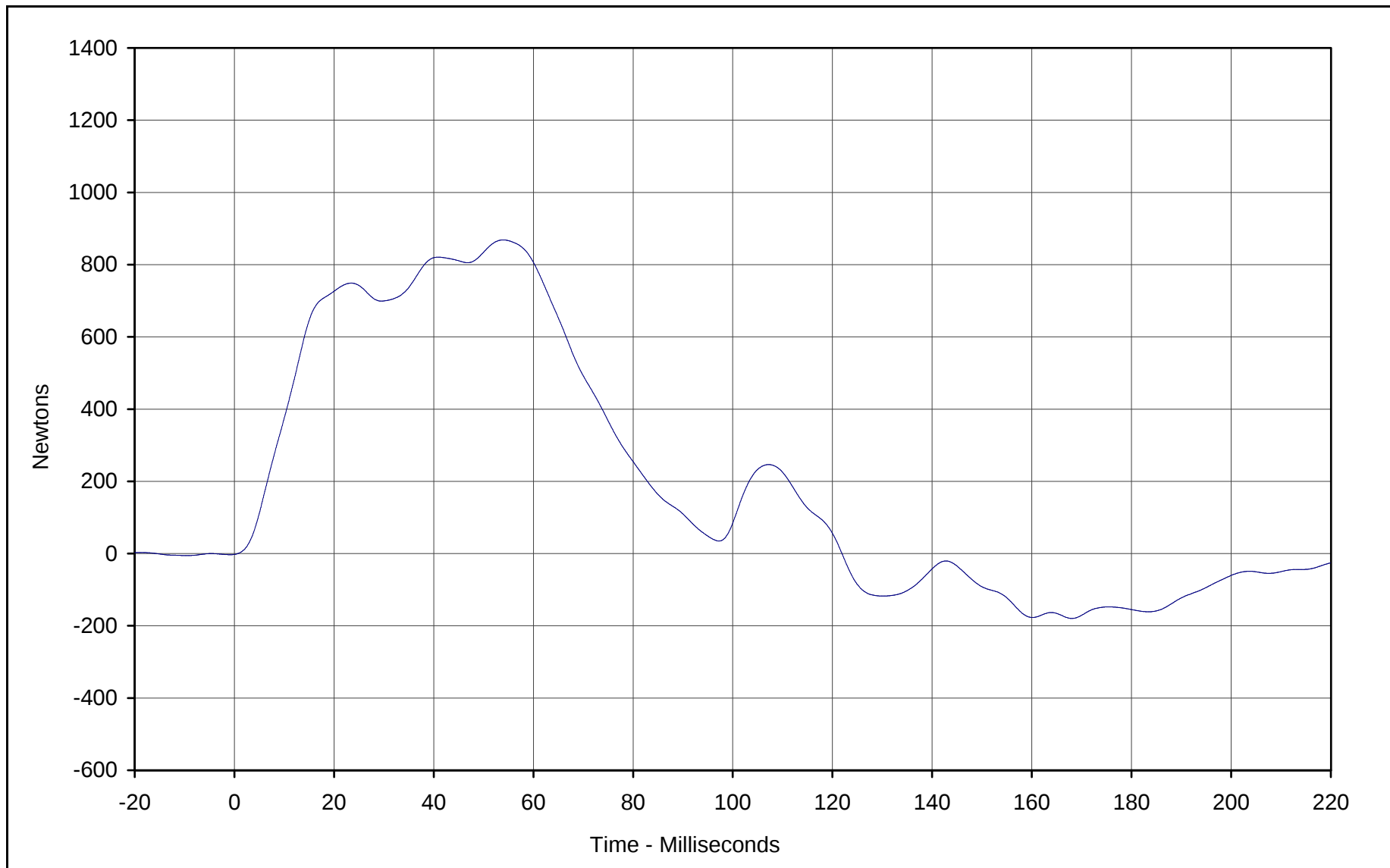
|                    |                       |    |                   |
|--------------------|-----------------------|----|-------------------|
| Curve Description: | Pendulum Deceleration |    |                   |
| Maximum Value:     | 24.1                  | at | 8.2 Milliseconds  |
| Minimum Value:     | -3.5                  | at | 88.1 Milliseconds |
| SAE Filter Class:  | 60                    |    |                   |
| Date of Test:      | 4/18/01               |    |                   |
| ATD Serial No.:    | 035                   |    |                   |

|                  |                                     |
|------------------|-------------------------------------|
| Testing Program: | Hybrid III Neck Flexion Test (Male) |
|------------------|-------------------------------------|

|                   |                                   |
|-------------------|-----------------------------------|
| Test Information: | S/N of Part: N/A Test I.D.: NF05B |
|-------------------|-----------------------------------|



KAR21040-01



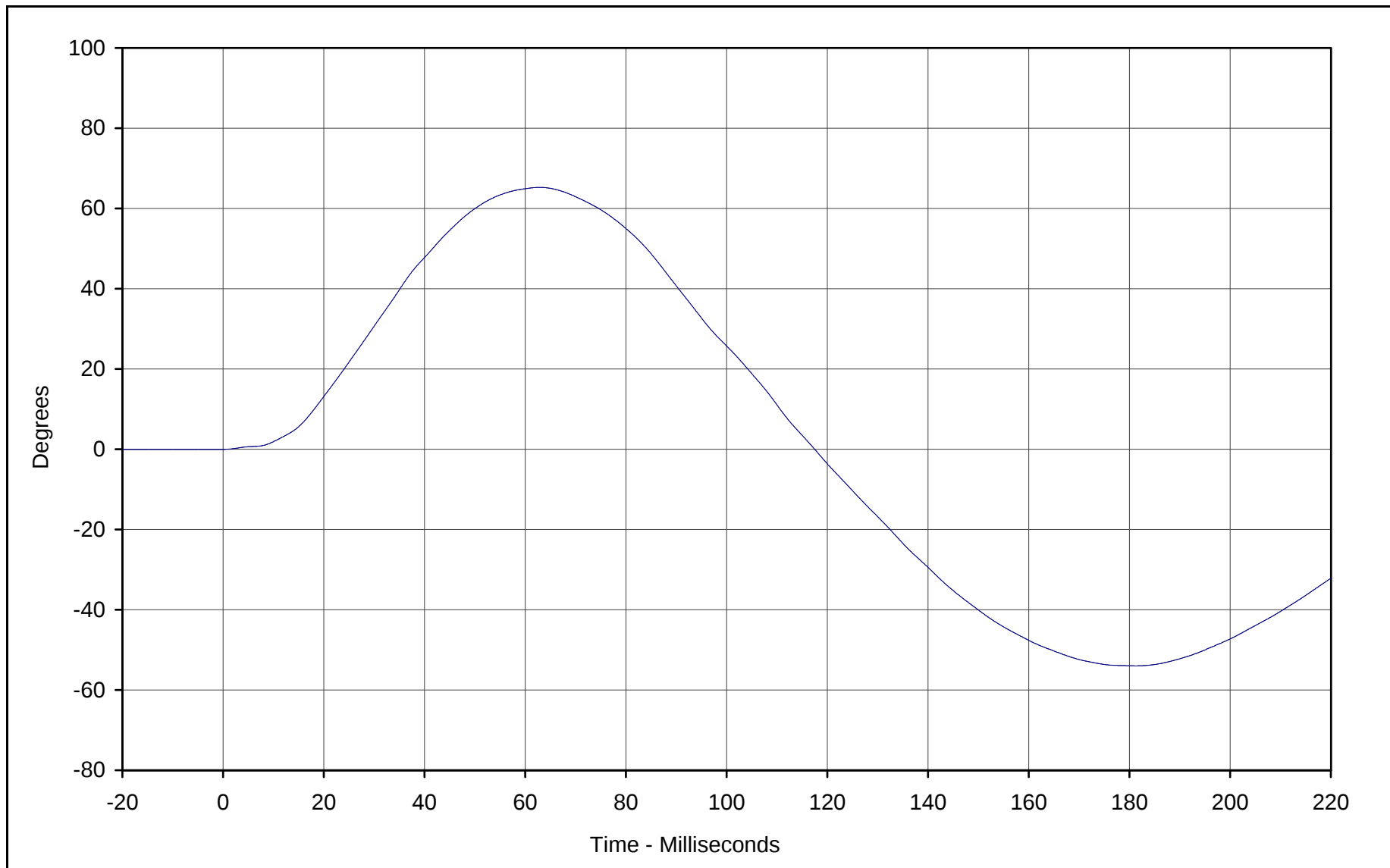
Curve Description: Neck Force X

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 868.5   | at | 53.9  | Milliseconds |
| Minimum Value:    | -179.7  | at | 168.0 | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 035     |    |       |              |

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05B





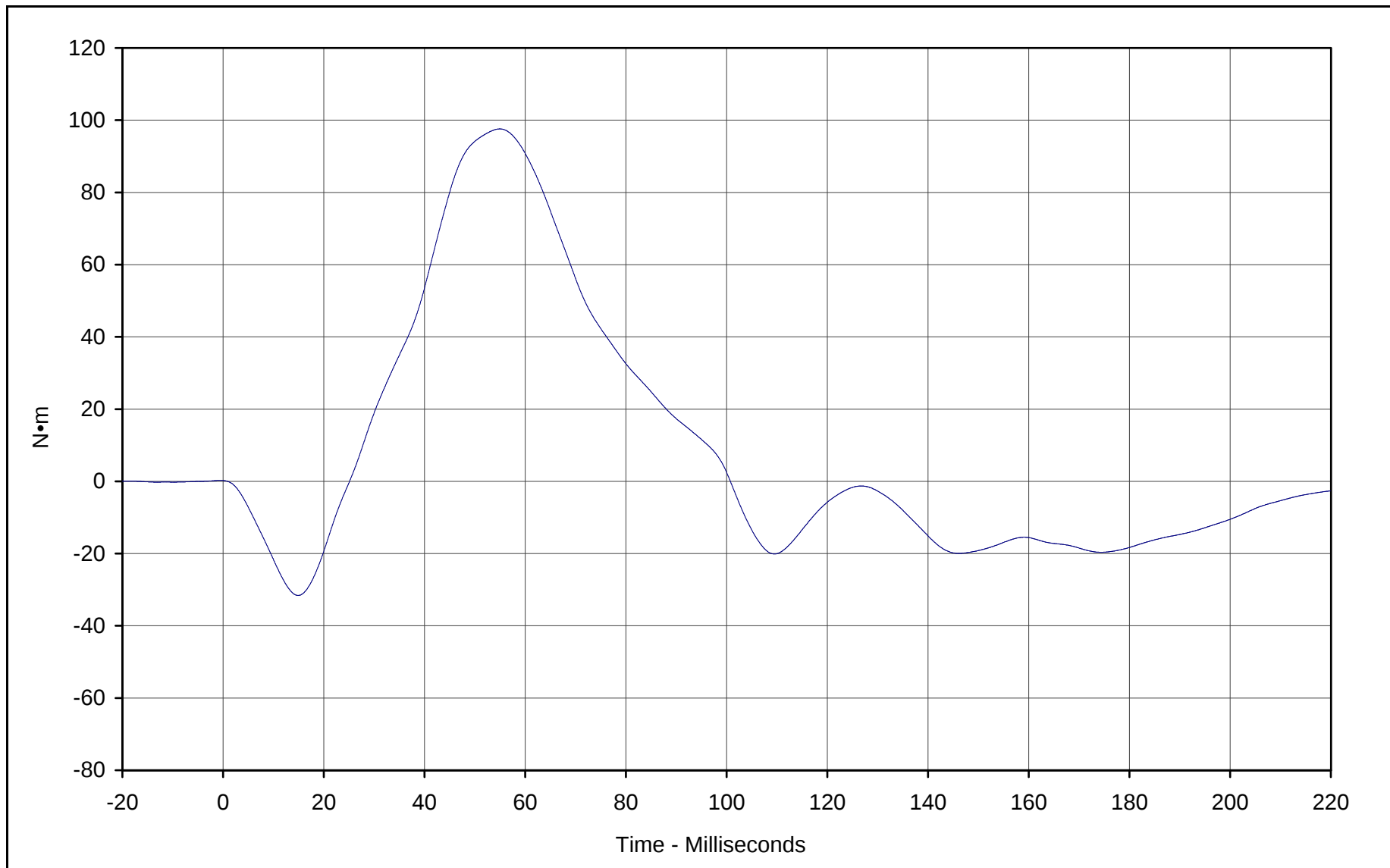
Curve Description: "D" Plane Rotation

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 65.3    | at | 62.9  | Milliseconds |
| Minimum Value:    | -54.0   | at | 181.3 | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 035     |    |       |              |

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05B





Curve Description: Moment About Occipital Condyles

Maximum Value: 97.6 at 55.0 Milliseconds

Minimum Value: -31.6 at 14.9 Milliseconds

SAE Filter Class: 60

Date of Test: 4/18/01

ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF05B





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Neck Extension Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NE05B

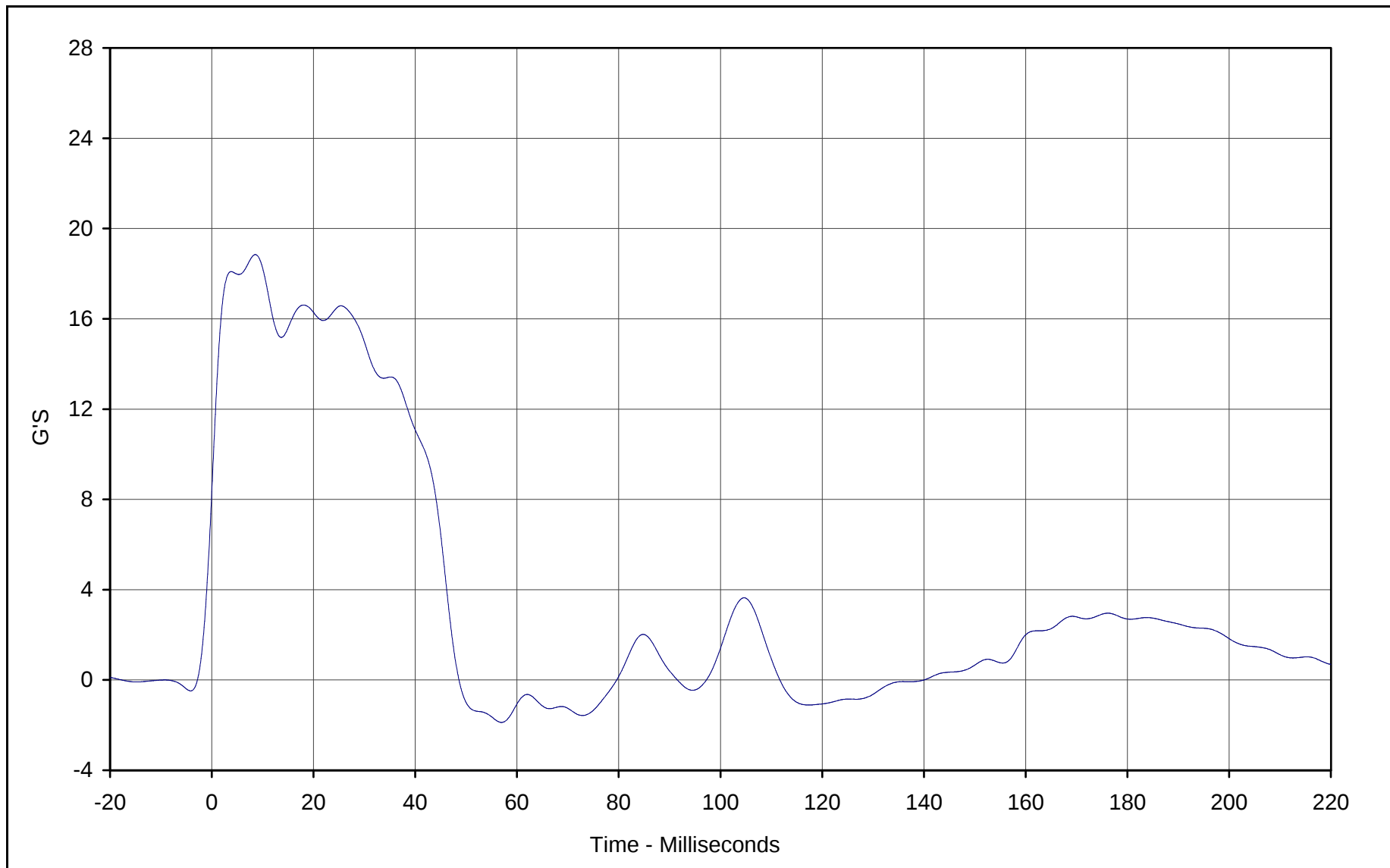
| Tested Parameter                                |          | Units   | Specification  | Result | Pass/Fail |
|-------------------------------------------------|----------|---------|----------------|--------|-----------|
| Laboratory Temperature                          |          | °C      | 20.6 to 22.2   | 21.1   | Pass      |
| Laboratory Relative Humidity                    |          | %       | 10 to 70       | 30     | Pass      |
| Pendulum Velocity                               |          | m/s     | 5.95 to 6.19   | 6.16   | Pass      |
| Pendulum Deceleration                           | 10 Msec. | G's     | 17.2 to 21.2   | 18.2   | Pass      |
|                                                 | 20 Msec. | G's     | 14.0 to 19.0   | 16.3   | Pass      |
|                                                 | 30 Msec. | G's     | 11.0 to 16.0   | 15.0   | Pass      |
| Peak Pendulum Decel. after 30 Msec.             |          | G's     | ≤ 22.0         | 15.0   | Pass      |
| Deceleration Decay, Time to Cross 5 G's         |          | Msec.   | 38.0 to 46.0   | 45.8   | Pass      |
| Maximum "D" Plane Rotation                      | Maximum  | Degrees | 81.0 to 106.0  | 91.8   | 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 | 151.3  | Pass      |
| Moment About Occipital Condyle                  | Maximum  | N•m     | -52.9 to- 79.9 | -68.8  | Pass      |
|                                                 | Time     | Msec.   | 65.0 to 79.0   | 65.4   | Pass      |
| Negative Moment Decay, Time To Zero Crossing    |          | Msec.   | 120.0 to 148.0 | 139.9  | Pass      |
| Overall Test Results                            |          |         |                |        | Pass      |

\_\_\_\_\_  
Laboratory Technician

\_\_\_\_\_  
April 18, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

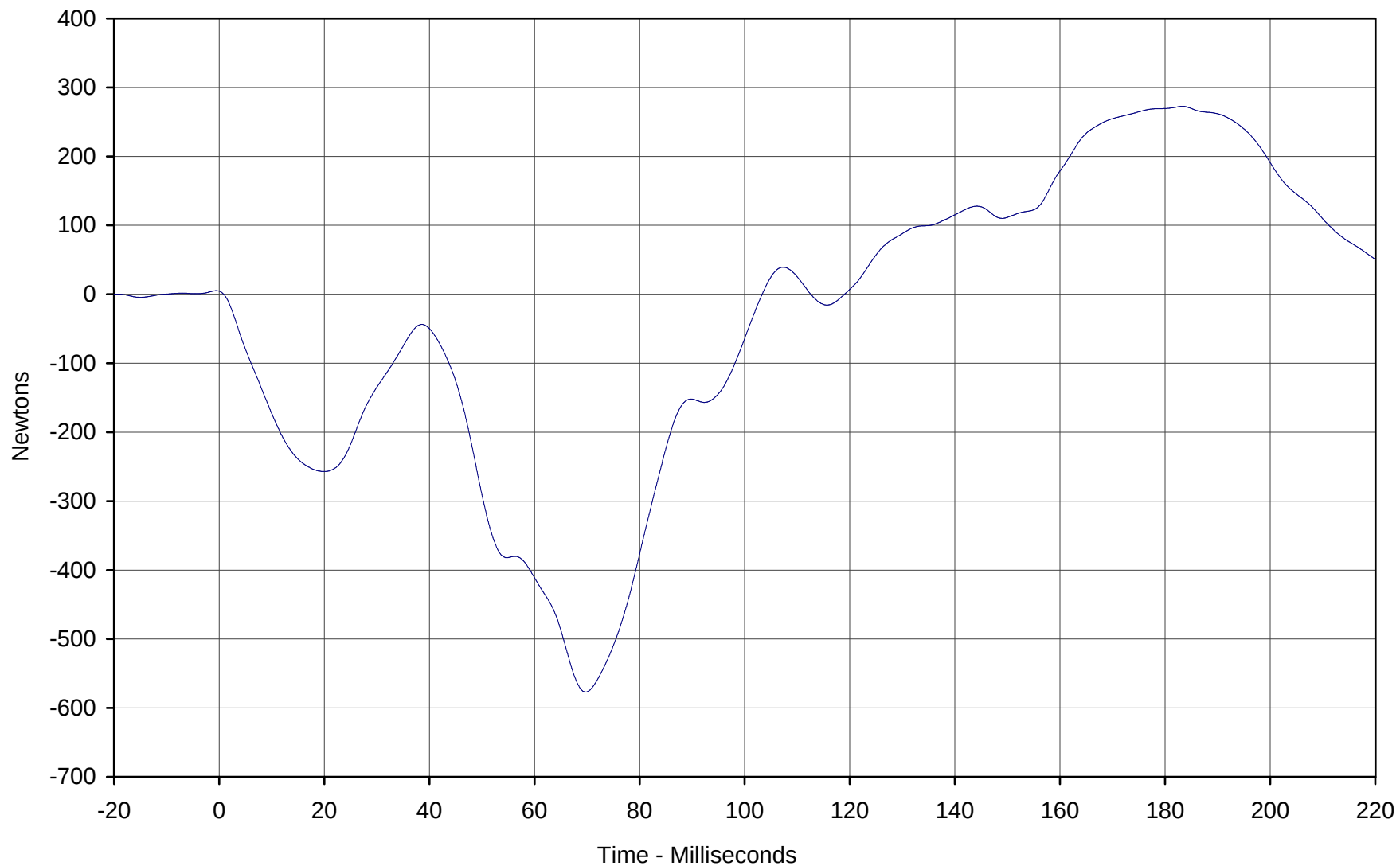


|                    |                       |    |                   |
|--------------------|-----------------------|----|-------------------|
| Curve Description: | Pendulum Deceleration |    |                   |
| Maximum Value:     | 18.8                  | at | 8.6 Milliseconds  |
| Minimum Value:     | -1.9                  | at | 57.0 Milliseconds |
| SAE Filter Class:  | 60                    |    |                   |
| Date of Test:      | 4/18/01               |    |                   |
| ATD Serial No.:    | 035                   |    |                   |

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05B





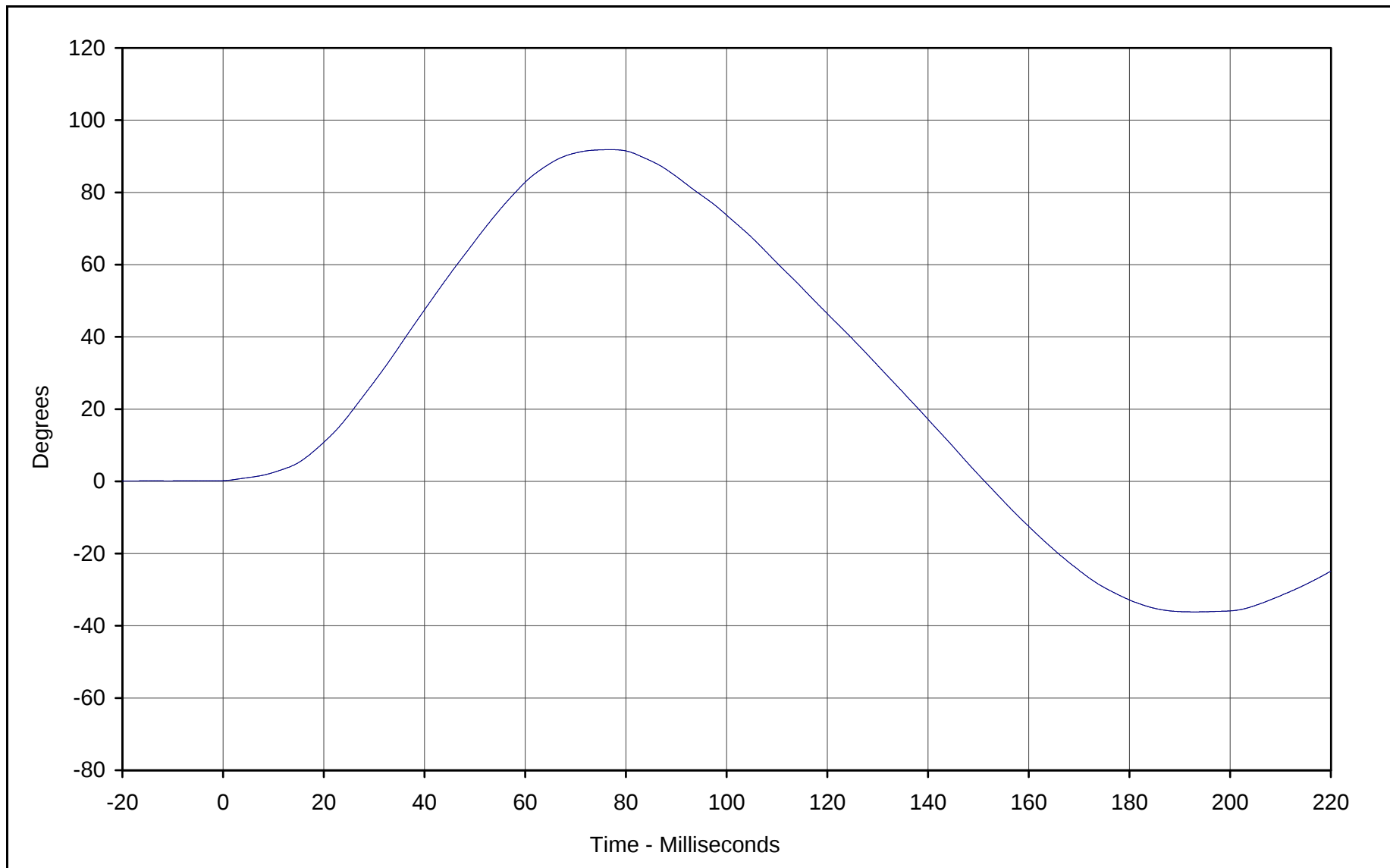
Curve Description: Neck Force X

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 272.6   | at | 183.3 | Milliseconds |
| Minimum Value:    | -576.9  | at | 69.7  | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 035     |    |       |              |

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05B





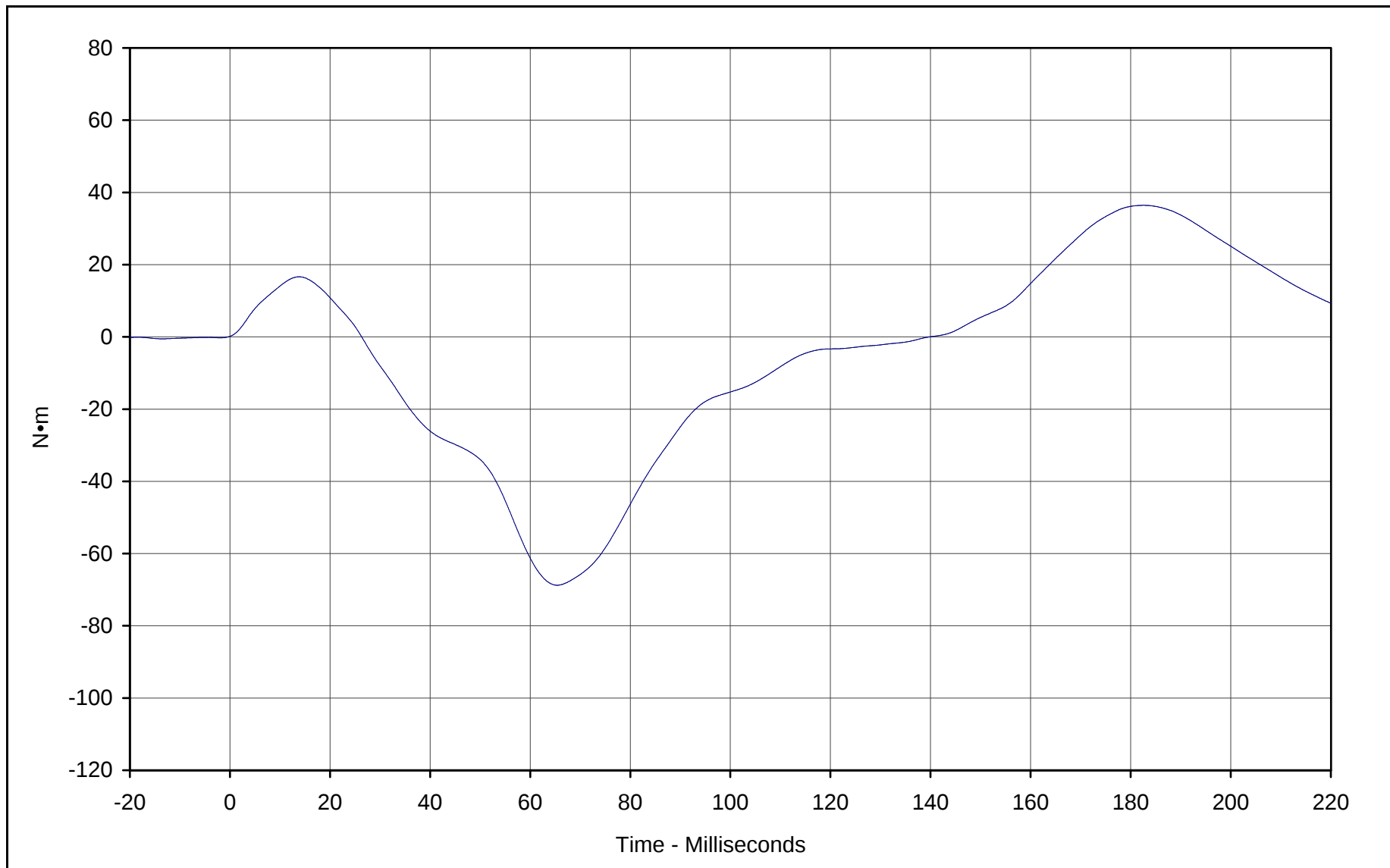
Curve Description: "D" Plane Rotation

|                   |         |    |       |              |
|-------------------|---------|----|-------|--------------|
| Maximum Value:    | 91.8    | at | 76.9  | Milliseconds |
| Minimum Value:    | -36.1   | at | 193.0 | Milliseconds |
| SAE Filter Class: | 60      |    |       |              |
| Date of Test:     | 4/18/01 |    |       |              |
| ATD Serial No.:   | 035     |    |       |              |

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05B





Curve Description: Moment About Occipital Condyles

Maximum Value: 36.4 at 182.6 Milliseconds

Minimum Value: -68.8 at 65.4 Milliseconds

SAE Filter Class: 60

Date of Test: 4/18/01

ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE05B





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> 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      | 43     | Pass      |
| A - Total sitting height              | mm    | 879 to 889    | 880    | 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      | 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    | 205    | Pass      |
| K - Buttock to knee length            | mm    | 579 to 604    | 590    | Pass      |
| L - Popliteal length                  | mm    | 429 to 455    | 445    | Pass      |
| M - Knee pivot height                 | mm    | 485 to 500    | 495    | Pass      |
| N - Buttock popliteal length          | mm    | 452 to 477    | 465    | 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    | 435    | Pass      |
| W - Foot breadth                      | mm    | 91 to 107     | 95     | Pass      |
| Y - Chest circumference               | mm    | 970 to 1001   | 985    | Pass      |
| Z - Waist circumference               | mm    | 836 to 866    | 855    | 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 20, 2001  
Test Date

\_\_\_\_\_  
Approved By

\_\_\_\_\_  
Date

**APPENDIX F**  
**VEHICLE OWNER'S MANUAL**  
**OCCUPANT RESTRAINT INSTRUCTIONS**

## Controls and features

### Unlocking the doors with the keyless entry system

To unlock the driver door, enter either the factory set code or the personal code (each digit must be pressed within five seconds of the prior digit). The interior lamps will also illuminate.

To unlock all doors, enter the factory set code or personal code (driver door unlocks) and press the 3/4 control within five seconds.

### Locking the doors with the keyless entry system

It is not necessary to enter the factory or personal code prior to locking all doors. To lock the doors:

- Press the 7/8 control and the 9/0 control at the same time.

### Activating/deactivating autolock with the keyless entry system

Before following the activation or deactivation procedures, make sure that the anti-theft system (if equipped) is not armed, ignition is off, and all vehicle doors and liftgate window are closed.

1. Enter 5 digit entry code
2. Press and hold 7/8 control
3. Press and release 3/4 control while holding 7/8 control
4. Release 7/8 control.

The horn will chirp once if autolock was deactivated or twice (one short and one long chirp) if autolock was activated.

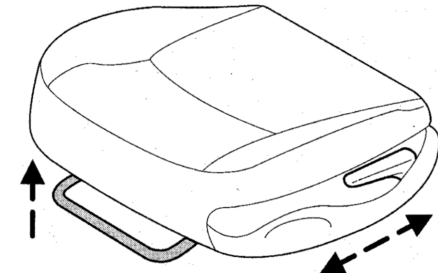
To reactivate autolock, repeat steps 1-4.

## Seating and safety restraints

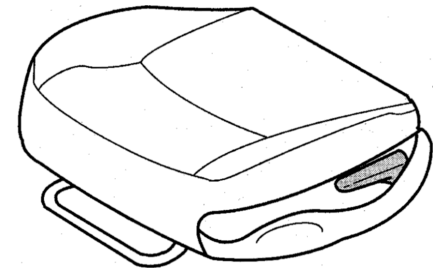


Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

Lift handle to move seat forward or backward.

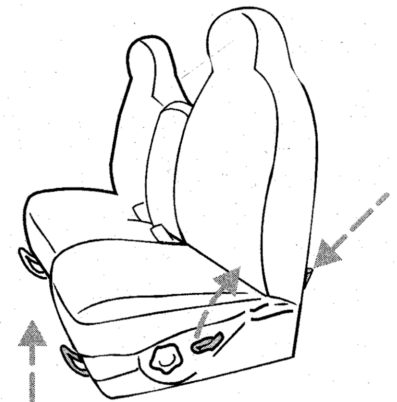


Pull lever up to adjust seatback.



### 60/40 split bench seat (if equipped)

- Lift the release bar to move the seat forward or backward. Ensure the seat is into place.
- Pull the seatback handle up to move the seat back forward or -backward.
- Push down the release lever (if equipped) located on the back of the seat to quickly fold the seatback forward.



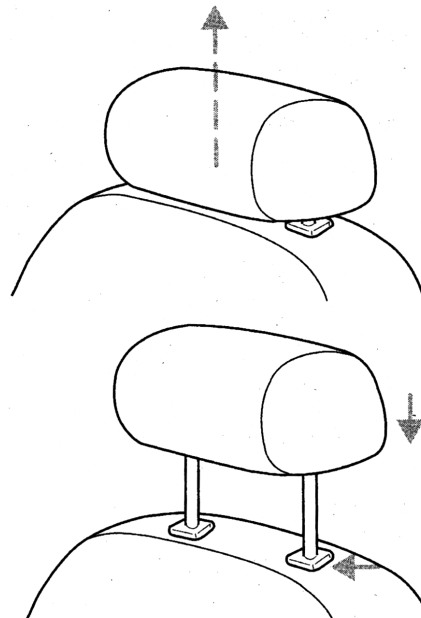
## Seating and safety restraints

### SEATING

#### Adjustable head restraints (if equipped)

Your vehicle's seats may be equipped with head restraints which are vertically adjustable. The purpose of these head restraints is to help limit head motion in the event of a rear collision. To properly adjust your head restraints, lift the head restraint so that it is located directly behind your head or as close to that position as possible. Refer to the following to raise and lower the head restraints.

The head restraints can be moved up and down.



Push control to lower head restraint.

#### Adjusting the front manual seat'



Never adjust the driver's seat or seatback when the vehicle is moving.



Do not pile cargo higher than the seatbacks to reduce the risk of injuring people in a collision or sudden stop.

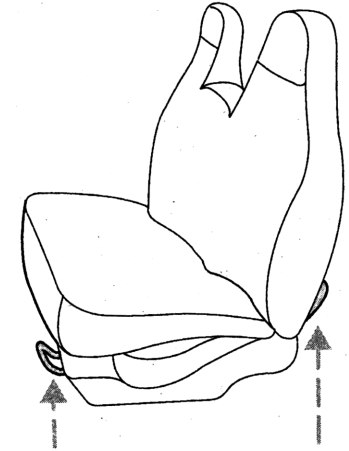


Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

## Seating and safety restraints

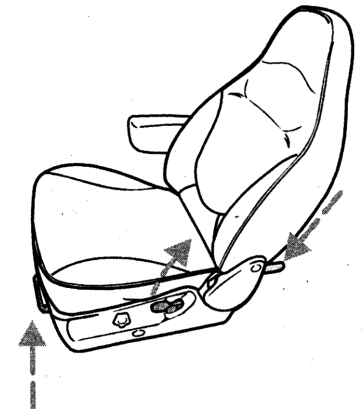
#### Full bench seat (if equipped)

- Lift the track release bar to move the seat forward or backward. Ensure that the seat is relatched into place.
- Pull up on the release lever located at the bottom of the seatback to quickly fold the seatback forward.



#### Captain's chair (If equipped)

- Lift the track release bar to move the seat forward or rearward. Make sure that the seat is relatched into place.
- Pull the release lever handle located on the side of the seat up to move the seat back forward or backward.
- Push down the release lever (if equipped) located at the bottom of the seatback to quickly fold the seatback forward.

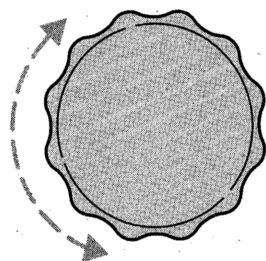


## Seating and safety restraints

### Using the manual lumbar support

Turn the lumbar support control toward the front of vehicle to move the lumbar support forward for more direct support.

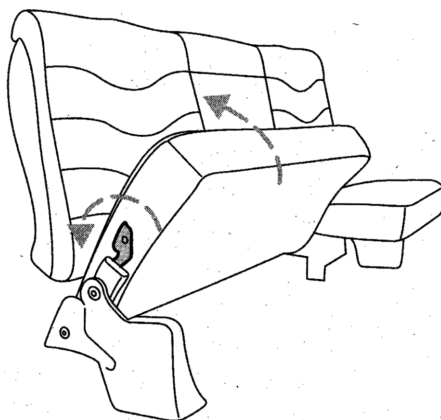
Turn the lumbar support control toward the rear of vehicle to move the lumbar support back for less, direct support.



### Folding up the rear seats (if equipped — SuperCab only)

The rear seatback has a split 60/40 seat. Each seat cushion can be flipped up into the seatback position.

1. Pull control to release seat cushion.
2. Rotate seat cushion up until it locks into vertical storage position.



### Returning the seat to seating position

Always be sure that the seat is in a latched position, whether the seat is occupied or empty. If not latched, the seat may cause injury during a sudden stop.

1. Pull control on the side of the seat to release seat cushion from storage position.
2. Push seat cushion down until it locks into horizontal position.

## Seating and safety restraints

### Adjusting the front power seat (if equipped)..

Never adjust the driver's seat or seatback when the vehicle is moving.

Do not pile cargo higher than the seatbacks to avoid injuring people in a collision or sudden stop.

Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

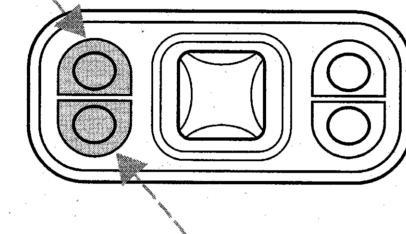
Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

The control is located on the outboard side of the seat cushion.

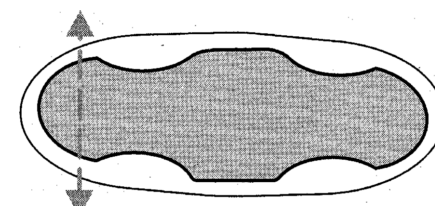
Your vehicle will only be equipped with one of the two controls shown.

Press to raise or lower the front portion of the seat cushion.

- Type A



- Type B

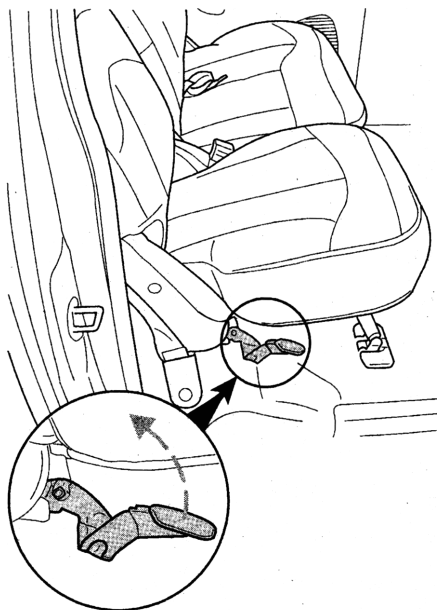


## Seating and safety restraints

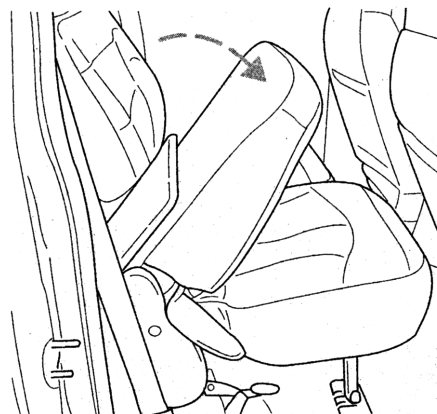
### Folding down the rear seats (SuperCrew Only)

The rear seatback has a split 60/40 seat. Each seat can be folded down into the load floor position.

1. Pull control to release seat.



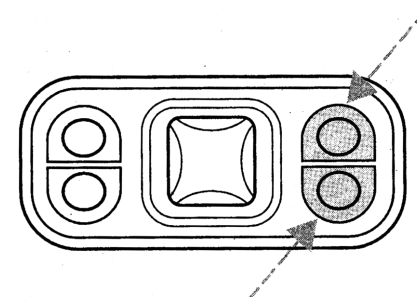
2. Pull seatback toward front seat and down into load floor position.



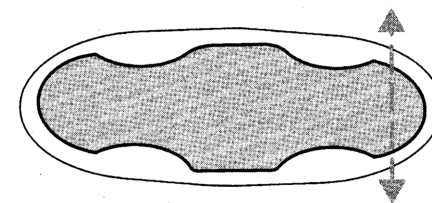
## Seating and safety restraints

Press to raise or lower the rear portion of the seat cushion.

• Type A

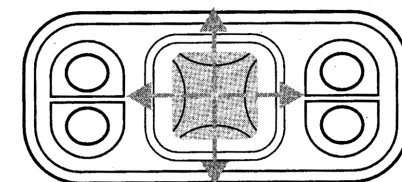


• Type B

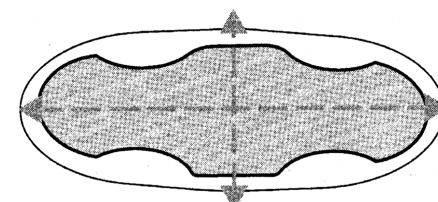


Press the control to move the seat forward, backward, up or down.

• Type A

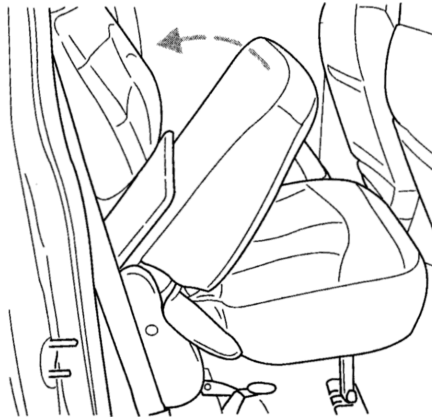


• Type B



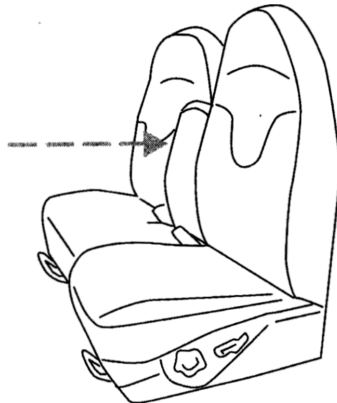
## Seating and safety restraints

2. Lift seatback up until it locks into vertical position.



### Using the armrest (if equipped)

Push the release control to move the armrest up or down.



## SAFETY RESTRAINTS

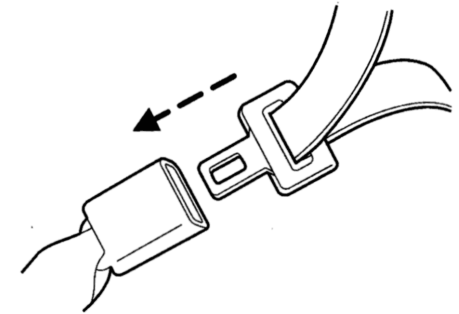
### Safety restraints precautions



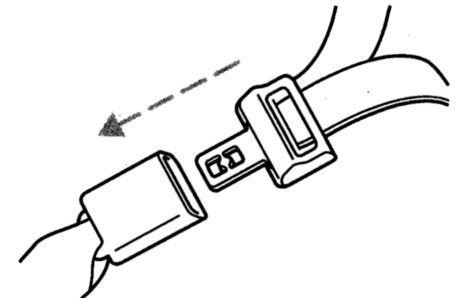
Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

## Seating and safety restraints

- Front seats

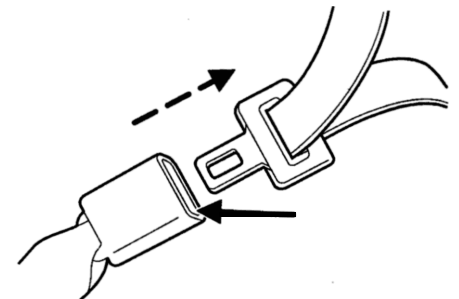


- Rear seats (if equipped)



2. To unfasten, push the release button and remove the tongue from the buckle.

- Front seats



## Seating and safety restraints

The safety belt pretensioners are designed to activate only during certain frontal or near-frontal collisions with sufficient longitudinal deceleration. A safety belt pretensioner is a device which tightens the webbing of the lap and shoulder belts in such a way that they fit more snugly against the body.

The driver and front outboard passenger safety belt system (including retractors, buckles and height adjusters) 'must be replaced if the vehicle is involved in a collision that results in the activation of the safety belt pretensioners. Refer to the **Safety belt maintenance** section in this chapter.



Failure to replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision.

### Front safety belt height adjustment (if equipped)

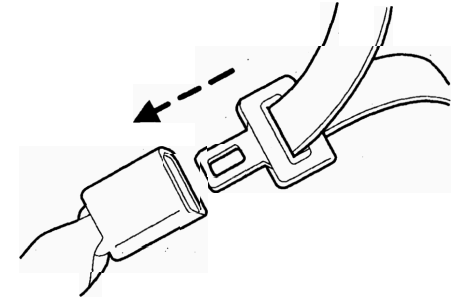
If your vehicle has seat integrated restraints you will not have a safety belt height adjuster.

Regular Cab and SuperCab vehicle has safety belt height adjustments for the driver and front passenger. SuperCrew vehicle has these adjustments for the driver, front passenger and rear outboard passengers. Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

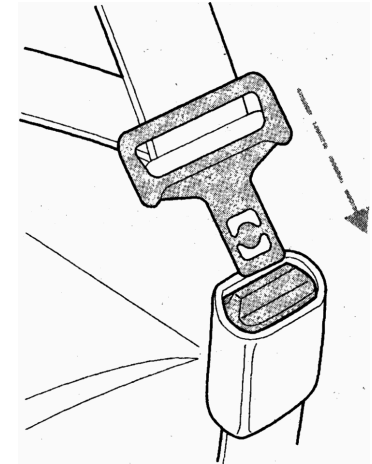
## Seating and safety restraints

### How to use the automatic locking mode .

1. Buckle the combination lap and shoulder belt.
- Front seats



- Rear seats (if equipped)

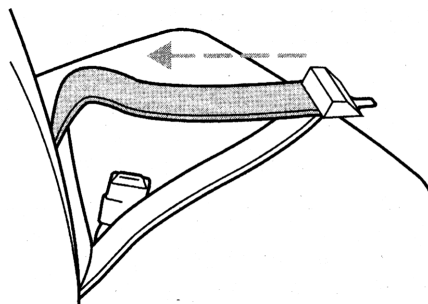


2. Grasp the shoulder portion and pull downward until the entire belt is extracted.



## Seating and safety restraints

Shorten and fasten the belt when not in use.



### • 2nd row center seating position (SuperCrew)

The lap belt will adjust automatically. To fasten, grasp the tongue, and with a continuous motion, pull out enough webbing to buckle the tongue into the correct buckle (the buckle closest to the direction the tongue is coming from). If you did not pull out enough webbing to reach the buckle, allow the tongue to retract fully before trying to pull it out again. The belt should fit snugly and as low as possible around your hips. Do not wear the lap belt around your waist.

### Safety belt extension assembly

If the safety belt assembly is too short for you, even when fully extended, 20 cm (8 inches) can be added to the safety belt assembly by adding a safety belt extension assembly (part number 61 1C22). Safety belt extension assemblies can be obtained from your dealer at no cost.

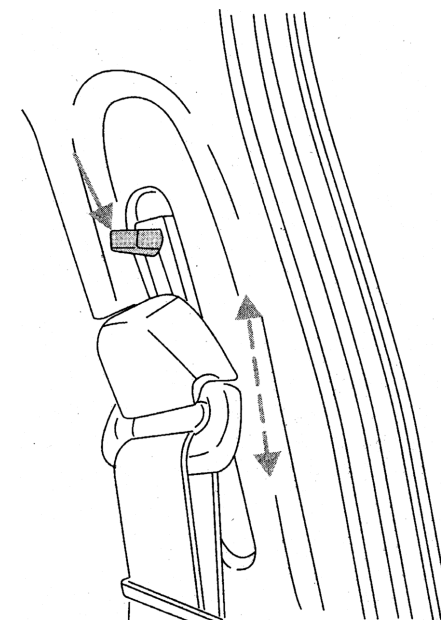
Use only extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on the label. Also, use the safety belt extension only if the safety belt is too short for you when fully extended. Do not use extensions to change the fit of the shoulder belt across the torso.

### Safety belt warning light and indicator chime

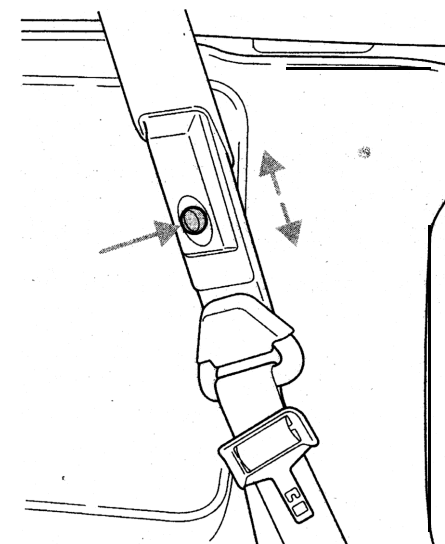
The seat belt warning light illuminates in the instrument cluster and a chime sounds to remind the occupants to fasten their safety belts.

## Seating and safety restraints

- Regular Cab/4-door SuperCrew



- 4-door SuperCab (Bench seats only)



## Seating and safety restraints

### Conditions of operation

| If...                                                                                                             | Then...                                                                                         |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| The driver's safety belt is not buckled before the ignition switch is turned to the ON position...                | The safety belt warning light illuminates 1-2 minutes and the warning chime sounds 4-8 seconds. |
| The driver's safety belt is buckled while the indicator light is illuminated and the warning chime is sounding... | The safety belt warning light and warning chime turn off.                                       |
| The driver's safety belt is buckled before the ignition switch is turned to the ON position...                    | The safety belt warning light and indicator chime remain off.                                   |

### Belt minder

The Belt Minder feature is a supplemental warning to the safety belt warning function. This feature provides additional reminders to the driver that the driver's safety belt is unbuckled by intermittently sounding a chime and illuminating the safety belt warning lamp in the instrument cluster.

| If...                                                                                                                                      | Then...                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The driver's safety belt is not buckled approximately 5 seconds after the safety belt warning light has turned off...                      | The Belt Minder feature is activated - the safety belt warning light illuminates and the warning chime sounds for 6 seconds every 30 seconds, repeating for approximately 5 minutes or until safety belt is buckled. |
| The driver's safety belt is buckled while the safety belt indicator light is illuminated and, the safety belt warning chime is sounding... | The Belt Minder feature will not activate.                                                                                                                                                                           |
| The driver's safety belt is buckled before the ignition switch is turned to the ON position...                                             | The Belt Minder feature will not activate.                                                                                                                                                                           |

The purpose of the Belt Minder is to remind occasional wearers to wear safety belts all of the time.

## Seating and safety restraints

To lower the shoulder belt height, push the button and slide the height adjuster down. To raise the height of the shoulder belt, slide the height adjuster up. Pull down on the height adjuster to make sure it is locked in place.

**!** Position the shoulder belt height adjusters so that the belt rests across the middle of your shoulder. Failure to adjust the safety belt properly could reduce the effectiveness of the seat belt and increase the risk of injury in a collision.

### Lap belts

#### Adjusting the lap belt

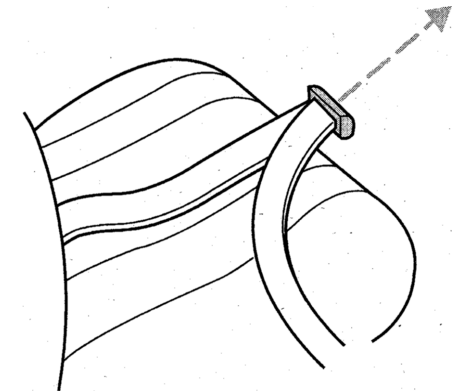
**!** The lap belt should fit snugly and as low as possible around the hips, not across the waist.

The lap belt tongues are designed to fit only in the correct buckle. The tongue will not securely latch when using any of the outboard seating positions buckle. To ensure that you have used the correct buckle you should hear a snap and feel it latch.

#### • 1st row center and 2nd row center (SuperCab) seating position

The lap-belt does not adjust automatically..

Insert the tongue into the correct buckle (the buckle closest to the direction the tongue is coming from). To lengthen the belt, turn the tongue at a right angle to the belt and pull across your lap until it reaches the buckle. To tighten the belt, pull the loose end of the belt through the tongue until it fits snugly across the hips.



## Seating and safety restraints

The following are reasons most often given for not wearing safety belts:  
(All statistics based on U.S. data)

| Reasons given...                       | Consider...                                                                                                                                                                                                             |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| "Crashes are rare events"              | 36,700 <b>crashes</b> occur every <b>day</b> . The more we drive, the more we are exposed to "rare" events, even for good drivers. <i>1 in 4 of us will be seriously injured in a crash during our lifetime.</i>        |
| "I'm not going far"                    | 3 of 4 fatal crashes occur within 25 miles of home.                                                                                                                                                                     |
| "Belts are uncomfortable"              | Ford designs its safety belts to enhance comfort. If you are uncomfortable - try different positions for the safety belt upper anchorage and seatback which should be as upright as possible; this can improve comfort. |
| "I was in a hurry"                     | <b>Prime time for an accident.</b> Belt Minder reminds us to take a few seconds to buckle up.                                                                                                                           |
| "Seat belts don't work"                | <b>Safety belts</b> , when used properly, <b>reduce risk of death</b> to front seat occupants by 45% in <b>cars</b> , and by 60% in <b>light trucks</b> .                                                               |
| "Traffic is light"                     | <b>Nearly- 1 of 2 deaths occur in single-vehicle crashes</b> , many when no other vehicles are around.                                                                                                                  |
| "Belts wrinkle my clothes"             | Possibly, - but a serious crash can do much more than wrinkle your clothes, particularly if you are unbelted.                                                                                                           |
| "The people I'm with don't wear belts" | Set the example, teen deaths occur 4 times more often in vehicles with TWO or MORE people. Children and younger brothers/sisters imitate behavior they see.                                                             |
| "I have an air bag"                    | Air bags offer greater protection when used with safety belts. Frontal airbags are not designed to inflate in rear and side crashes or rollovers.                                                                       |
| "I'd rather be thrown clear"           | Not a good idea. <b>People who are ejected are 40 times more likely to DIE.</b> Safety belts help prevent ejection, <b>WE CAN'T "PICK OUR CRASH"</b> .                                                                  |

 Do not sit on top of a buckled safety belt to avoid the Belt Minder chime. Sitting on the safety belt will increase the risk of injury in an accident. To disable (one-time) or deactivate the Belt Minder feature please follow the directions stated below.

## Seating and safety restraints

6. Within seven seconds of the safety belt warning light turning off, buckle then unbuckle the safety belt.

- This will disable Belt Minder if it is currently enabled, or enable Belt Minder if it is currently disabled.

7. Confirmation of disabling Belt Minder is provided by flashing the safety belt warning light four times per second for three seconds.

8. Confirmation of enabling Belt Minder is provided by flashing the safety belt warning light four times per second for three seconds, followed by three seconds with the safety belt warning light off, then followed by flashing the safety belt warning light four times per second for three seconds again.

9. After receiving confirmation, the deactivation/activation procedure is complete.

### Safety belt maintenance

Inspect the safety belt systems periodically to make sure they work properly and are not damaged. Inspect the safety belts to make sure there are no nicks, wears or cuts, replacing if necessary. All safety belt assemblies, including retractors, buckles, front seat belt buckle assemblies, buckle support assemblies (slide bar-if equipped), shoulder belt height adjusters (if equipped), shoulder belt guide on seatback (if equipped), child safety seat tether bracket assemblies (if equipped), and attaching hardware, should be inspected after a collision. Ford recommends that all safety belt assemblies used in vehicles involved in a collision be replaced. However, if the collision was minor and a qualified technician finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. Safety belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.

 Failure to inspect and if necessary replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision.

Refer to *Cleaning and maintaining the safety-belts in the Maintenance and care* section.

## Seating and safety restraints

### One time disable

Anytime the safety belt is buckled and then unbuckled during an ignition ON cycle, Belt Minder will be disabled for that ignition cycle only.

### Deactivating/activating the belt minder feature

Read steps 1 - 9 thoroughly before proceeding With the deactivation/activation programming procedure.

The Belt Minder feature can be deactivated/activated by performing the following procedure:

Before following the procedure, make sure that:

- the parking brake is set
- the gearshift is in P (Park) (automatic transmission) or the neutral position (manual transmission).
- the ignition switch is in the OFF position
- all vehicle doors are closed
- the driver's safety belt is unbuckled
- the pa&lamps/headlamps are in OFF position (If vehicle is equipped with Autolamps, this will not affect the procedure.)

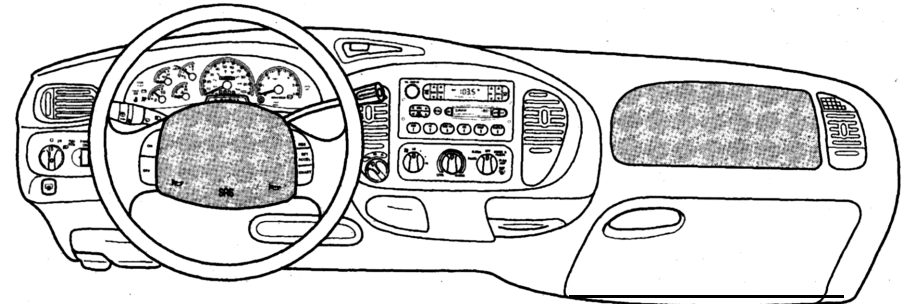


To reduce the risk of injury, do not deactivate/activate the Belt Minder feature while driving the vehicle.

1. Turn the ignition switch to the RUN (or ON) position. (DO NOT START THE ENGINE)
2. Wait until the safety belt warning light turns off. (Approximately 1-2 minutes)
  - Steps 3-5 must be completed within 60 seconds or the procedure will have to be repeated.
3. Buckle then unbuckle the safety belt three times, ending with the safety belt unbuckled. This can be done before or during Belt Minder warning activation.
4. Turn on the parklamps/headlamps, turn off the pa&lamps/headlamps.
5. Buckle then unbuckle the safety belt three times, ending with the safety belt unbuckled.
  - After step 5 the safety belt warning light will be turned on for three seconds.

## Seating and safety restraints

### AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

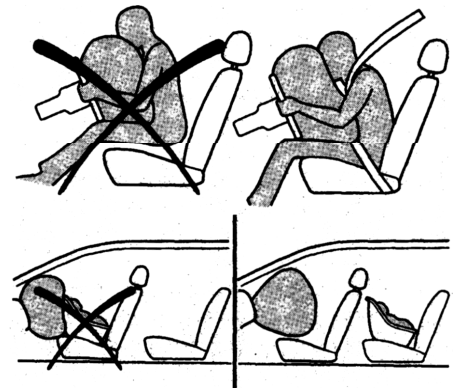


Your vehicle is equipped with a crash sensing and diagnostic module which records information about the air bag and sensor systems. In the event of a collision this module may save information related to the collision including information about the air bag system and impact severity. This information will assist Ford in the servicing of your vehicle and may help Ford better understand real world collisions and further improve the safety of future vehicles.

### Important supplemental restraint system (SRS) precautions

The supplemental restraint system is designed to work with the safety belt to help protect the driver and right front passenger from certain upper body injuries.

Air bags DO NOT inflate slowly or gently and the risk of injury from a deploying air bag is greatest close to the trim covering the air bag module.



All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag SRS is provided.