

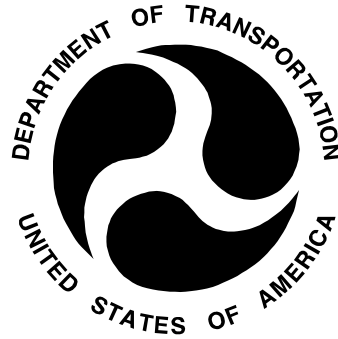
**REPORT NO. NCAP-MGA-2001-006**

**NEW CAR ASSESSMENT PROGRAM (NCAP)**

**FRONTAL BARRIER IMPACT TEST**

Toyota Motor Corporation  
2001 Lexus RX300 4-Door SUV  
NHTSA No. M15104

MGA PROVING GROUNDS  
5000 WARREN ROAD  
BURLINGTON, WI 53105



Test Date: November 21, 2000

Report Date: November 27, 2000

**FINAL REPORT**

Prepared For:

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

## TECHNICAL REPORT STANDARD TITLE PAGE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      |                                                                                                                                                                                             |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. Report No.<br>NCAP-MGA-2001-006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2. Government Accession No.                          | 3. Recipient's Catalog No.                                                                                                                                                                  |           |
| 4. Title and Subtitle<br>NHTSA New Car Assessment Program (NCAP) Testing<br>of a 2001 Lexus RX300 4-Door SUV<br>NHTSA No. M15104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                      | 5. Report Date<br>November 27, 2000                                                                                                                                                         |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      | 6. Performing Organization Code<br>MGA                                                                                                                                                      |           |
| 7. Author(s)<br>Chris Havens                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                      | 8. Performing Organization Report No.<br>NCAP-MGA-2001-006                                                                                                                                  |           |
| 9. Performing Organization Name and Address<br>MGA Research Corporation<br>5000 Warren Road<br>Burlington, WI 53105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                      | 10. Work Unit No.                                                                                                                                                                           |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      | 11. Contract or Grant No.<br>DTNH22-01-D-12005                                                                                                                                              |           |
| 12. Sponsoring Agency Name and Address<br>U.S. Department of Transportation<br>National Highway Traffic Safety Administration<br>Office of Crashworthiness Standards (Mail Code: NPS-10)<br>400 Seventh St., S.W., Room 5313<br>Washington, D.C. 20590                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                      | 13. Type of Report and Period Covered<br>Final Report                                                                                                                                       |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      | 14. Sponsoring Agency Code                                                                                                                                                                  |           |
| 15. Supplementary Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                      |                                                                                                                                                                                             |           |
| <p>16. Abstract</p> <p>A 56 kph (35 mph) frontal barrier impact using a rigid barrier was conducted on a 2001 Lexus RX300 4-Door SUV in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure No. TP-NCAP120199 for the determination of vehicle crashworthiness on November 21, 2000.</p> <p>The barrier impact velocity was 56.8 kph (35.3 mph), and the ambient temperature at the time of impact was 21.1°C. The post-test maximum static crush was 506 mm.</p> <p>The test vehicle appeared to comply with the requirements of the following Federal Motor Vehicle Safety Standards:</p> <ul style="list-style-type: none"> <li>1. FMVSS 212, "Windshield Mounting"</li> <li>2. FMVSS 219 (partial), "Windshield Zone Intrusion"</li> <li>3. FMVSS 301, "Fuel System Integrity"</li> </ul> <p>With regard to "Occupant Crash Protection" injury criteria, the driver's HIC was 562 and the 3 msec. Clip (Chest g's) was 48.5 g's. The left and right femur loads for the driver were -6923 and -8684 Newtons, respectively. The passenger's HIC was 378 and the 3 msec Clip was 40.8 g's. The left and right femur maximum loads were -4592 and -2282 Newtons respectively.</p> |                                                      |                                                                                                                                                                                             |           |
| 17. Key Words<br>35 mph Frontal Barrier Impact Test<br>New Car Assessment Program (NCAP)<br>FMVSS 212 Indicant Testing<br>FMVSS 219 (partial) Indicant Testing<br>FMVSS 301 Indicant Testing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                      | 18. Distribution Statement<br>Copies of this report are available from: Technical Ref. Division,<br>NHTSA, NASSIF Building,<br>Room 5108 400 Seventh Street, S.W.<br>Washington, D.C. 20590 |           |
| 19. Security Classif. (of this report)<br>Unclassified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20. Security Classif. (of this page)<br>Unclassified | 21. No. of Pages<br>322                                                                                                                                                                     | 22. Price |

Form DOT F 1700.7 (8-69)

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-01-D-12005. This document is disseminated under the sponsorship of the U.S. Dept. of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

PREPARED BY: \_\_\_\_\_  
Chris Havens, Project Engineer  
MGA Research Corporation

APPROVED BY: \_\_\_\_\_  
Dave Winkelbauer, Facility Director  
MGA Research Corporation

APPROVAL DATE: \_\_\_\_\_

TEST TECHNICIANS: Erik Nelson  
Wayne Dahlke  
Chris Novak  
Seth Burns  
Carl Ford  
John Wistert

CALIBRATION/INSTRUMENTATION: Tim Michnay

PHOTOGRAPHIC: Chris Kulis  
Tammy Bausch

SECRETARY: Danielle Rames

FINAL REPORT ACCEPTED BY:

\_\_\_\_\_  
Manager, New Car Assess. Program (NCAP)

\_\_\_\_\_  
Date of Report Acceptance

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

\_\_\_\_\_  
Date of Report Acceptance

## TABLE OF CONTENTS

| <u>SECTION</u> | <u>DESCRIPTION</u>                                        | <u>PAGE NO.</u> |
|----------------|-----------------------------------------------------------|-----------------|
| 1              | Purpose and Summary of NCAP Test                          | 1-1             |
| 2              | Occupant and Vehicle Information/Data Sheets              | 2-1             |
| APPENDIX A     | Photographs                                               |                 |
| APPENDIX B     | Vehicle and Dummy Response Data                           |                 |
| APPENDIX C     | Dummy Configuration & Performance Verification Data       |                 |
| APPENDIX D     | Test Equipment and Instrumentation Calibration            |                 |
| APPENDIX E     | Vehicle Owner's Occupant Restraint<br>System Instructions |                 |



## DATA SHEET LISTING

| <u>DATA SHEET NO.</u> | <u>DESCRIPTION</u>                              | <u>PAGE NO.</u> |
|-----------------------|-------------------------------------------------|-----------------|
| 1                     | Crash Test Summary                              | 2-1             |
| 2                     | General Test and Vehicle Parameter Data         | 2-2             |
| 3                     | Post Impact Data                                | 2-5             |
| 4                     | Test Vehicle Information                        | 2-6             |
| 5                     | Summary of FMVSS 212 Data                       | 2-7             |
| 6                     | Windshield Zone Intrusion FMVSS 219 Data        | 2-8             |
| 7                     | FMVSS 301 Fuel System Integrity Data            | 2-9             |
| 8                     | FMVSS 301 Rollover Data                         | 2-10            |
| 9                     | Dummy Injury Criteria Values                    | 2-14            |
| 10                    | Dummy Positioning in Vehicle                    | 2-17            |
| 11                    | Seat Belt Positioning Data                      | 2-20            |
| 12                    | Seat Belt Performance Data                      | 2-21            |
| 13                    | Camera Data                                     | 2-22            |
| 14                    | Vehicle Target Locations                        | 2-24            |
| 15                    | Vehicle Accelerometer Location and Data Summary | 2-25            |
| 16                    | Post Test Air Bag Data                          | 2-26            |
| 17                    | Test Vehicle Measurements                       | 2-27            |
| 18                    | Accident Investigation Division Data            | 2-34            |

## SECTION 1

### PURPOSE AND SUMMARY OF NCAP TEST

This 35 mph frontal barrier impact test is part of the Composite FY'01 Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-01-D-12005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48 kph (30 mph) FMVSS 208/212/219/301-75 requirements.

The 56 kph (35 mph) frontal barrier impact test was conducted in accordance with the National Highway Traffic Safety Administration (NHTSA) Indicant Test Procedure for New Car Assessment Program (NCAP) dated December 1, 1999. Data for FMVSS No. 212, "Windshield Mounting", FMVSS No. 219 (Partial), "Windshield Zone Intrusion", FMVSS No. 301-75, "Fuel System Integrity," as well as occupant performance data are provided herein.

A flat concrete barrier covered with 3/4" plywood was impacted by a 2001 Lexus RX300 4-Door SUV at a velocity of 56.8 kph (35.3 mph). The test was performed at the MGA Proving Grounds and Crash Test Center on November 21, 2000. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by one (1) real-time camera and 16 (sixteen) high speed cameras. Camera locations and other pertinent camera information can be found in this report.

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

Both ATDs were instrumented with head and chest primary and redundant triaxial accelerometers, pelvis triaxial accelerometers, a chest displacement transducer, a six axis neck load cell, right/left femur load cells, right/left lower leg sensors, and right/left foot accelerometers. Seat belt load cells were also on the driver and passenger shoulder and lap

belts to measure dummy torso and pelvic section loading. Calibrated ATDs, driver (Serial No. 065), and the right front passenger (Serial No. 066), were used for this test. Certification details, along with instrumentation calibration data, are found in Appendices C and D.

The 97 channels of data were recorded on four (4) computers. Appendix B contains the vehicle and dummy response data traces.

The driver's head struck the inflated airbag. The driver HIC was 562 and the maximum chest (CLIP) deceleration over 3 milliseconds was 48.5 g's. The maximum chest compression was 30 mm. The left and right femur loads were -6923 and -8684 Newtons respectively.

The right front passenger's head struck the inflated airbag. The passenger HIC was 378 and maximum chest (CLIP) deceleration over 3 milliseconds was 40.8 g's. The maximum chest compression was 27 mm. The left and right femur loads were -4592 and -2282 Newtons respectively.

SECTION 2  
OCCUPANT AND VEHICLE  
INFORMATION/DATA SHEETS

DATA SHEET NO. 1  
CRASH TEST SUMMARY

Vehicle Yr/Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV

NHTSA No.: M15104 VIN.: JTJHF10V510172453

Vehicle Test Weight: 1984.5 kgs.

Impact Velocity: 56.8 kph

Maximum Static Crush: 506 mm

Vehicle Rebound: 890 mm

| DUMMIES:           | DRIVER               | PASSENGER            |
|--------------------|----------------------|----------------------|
| Serial Number:     | <u>065</u>           | <u>066</u>           |
| Restraint System:  | <u>Type II Belts</u> | <u>Type II Belts</u> |
| No. Data Channels: | <u>42</u>            | <u>42</u>            |

Number of Cameras: 1 Real Time  
16 High Speed

Door Opening Data: LF yes RF yes LR yes RR yes  
(without use of tools)

| FRONT SEAT(S) DATA  | DRIVER               | PASSENGER           |
|---------------------|----------------------|---------------------|
| Seat Shift:         | <u>0</u> mm forward; | <u>3</u> mm forward |
| Seat Back Movement: | <u>0</u>             | <u>0</u>            |

VISIBLE DUMMY

| CONTACT POINTS: | DRIVER              | PASSENGER           |
|-----------------|---------------------|---------------------|
| Head            | <u>Air Bag</u>      | <u>Air Bag</u>      |
| Chest           | <u>Air Bag</u>      | <u>Air Bag</u>      |
| Left Knee       | <u>Knee Bolster</u> | <u>Knee Bolster</u> |
| Right Knee      | <u>Knee Bolster</u> | <u>Knee Bolster</u> |

DATA SHEET NO. 2  
GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

Vehicle Yr/Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV

NHTSA No.: M15104

VIN.: JTJHF10V510172453

Body color: Green

Date of Manufacture: 8/00

Engine: 6 Cylinders;     C.I.D.; 3.0 Liters;  
X Gas;     Diesel;     Turbocharged  
    Longitudinal; X Transverse

Transmission: 4 Speed;     Manual; X Automatic;     Overdrive

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

Odometer Reading: 59 miles

Major Option:

X A/C; X P/S;     P/B; X P/wdo;  
X P/locks; X Tilt Wheel; X Cruise Control;     ABS  
Other: \_\_\_\_\_

DATA RECORDED FROM VEHICLE'S TIRE PLACARD:

Tire Pressure (at capacity): Front 206 kPa ( 30 psi) Rear 206 kPa (30 psi)

Recommended Tire Size: P225/70R16

Recommended Cold Tire Pressure: Front 206 kPa (30 psi) Rear 206 kPa (30 psi)

Tires on Vehicle: P225/70R16 Manufacturer: Goodyear

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

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

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

Vehicle Capacity Weight (VCW) = 381.0 kg. (A)

No. of Occupants x 68.0 kg. = 340.2 kg. (B)

Rated Cargo Weight (RCW) A-B = 40.8 kg.

GVWR 2245.3 kg. GAWR: Front 1378.9 kg.; Rear 1152.1 kg.

## GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

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

|                                         |               |    |                     |              |                  |
|-----------------------------------------|---------------|----|---------------------|--------------|------------------|
| Right Front =                           | <u>522.5</u>  | kg | Right Rear =        | <u>372.0</u> | kg               |
| Left Front =                            | <u>524.4</u>  | kg | Left Rear =         | <u>377.8</u> | kg               |
| TOTAL FRONT =                           | <u>1046.9</u> | kg | TOTAL REAR =        | <u>749.8</u> | kg               |
| % of Total Weight =                     | <u>58.3</u>   | %  | % of Total Weight = | <u>41.7</u>  | %                |
| TOTAL UNLOADED DELIVERED WEIGHT (UDW) = |               |    |                     |              | <u>1796.7</u> kg |

### CALCULATION FOR TARGET TEST WEIGHT:

UDW = Unloaded Delivered Weight      1796.7 kg  
 VCW = Vehicle Capacity Weight      381.0 kg  
 DSC = Designated Seating Capacity      5  
 RCW = VCW - 68 (DSC) = 40.8 kg\*  
 Target Test Weight = UDW + RCW + (2 dummies x 78.0 kg/dummy)  
 Target Test Weight = 1993.5 kg

### WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO:

|                                                                                                             |               |    |                     |              |                  |
|-------------------------------------------------------------------------------------------------------------|---------------|----|---------------------|--------------|------------------|
| Right Front =                                                                                               | <u>556.6</u>  | kg | Right Rear =        | <u>422.3</u> | kg               |
| Left Front =                                                                                                | <u>573.8</u>  | kg | Left Rear =         | <u>431.8</u> | kg               |
| TOTAL FRONT =                                                                                               | <u>1130.4</u> | kg | TOTAL REAR =        | <u>854.1</u> | kg               |
| % of Total Weight =                                                                                         | <u>57.0</u>   | %  | % of Total Weight = | <u>43.0</u>  | %                |
| TOTAL WEIGHT =                                                                                              |               |    |                     |              | <u>1984.5</u> kg |
| Weight of ballast secured in vehicle trunk area = <u>12.7</u> kg                                            |               |    |                     |              |                  |
| Vehicle components removed to meet target weight: <u>Rear seat cushions, trunk interior, Driver Mirror.</u> |               |    |                     |              |                  |

### VEHICLE ATTITUDE (all dimensions in mm):

Delivered Attitude: RF 801    LF 802    RR 822    LR 816  
 Test Attitude: RF 792    LF 790    RR 803    LR 799  
 Post Test RF 803    LF 846    RR 780    LR 810

Wheel Base: 2620 mm; C.G. = 1128 mm rearward of front wheel C/L

Remarks: \_\_\_\_\_

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

## GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

### FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 75.0 liters

Usable Capacity Figure Furnished by COTR = 75.0 liters

Test Volume Range (92 to 94% of Usable Capacity) = 69.0 to 70.5 liters

ACTUAL TEST VOLUME = 69.6 liters

Test Fluid Type: Stoddard Solvent; Spec. Grav. = 0.77

Kinematic Viscosity = 1.788 centistrokes; Color = Purple

Type of Fuel Pump; Electric X; Mechanical     

Does Electric Pump operate with ignition switch "ON" & engine "Off"?

Yes X No



DATA SHEET NO. 3  
POST-IMPACT DATA

Vehicle Yr/Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV

NHTSA No.: M15104 VIN.: JTJHF10V510172453

Type of Test: 35 mph Frontal Impact Impact Angle: 0E

Date of Test: November 21, 2000 Time of Test: 1:07 p.m.

Ambient Temperature: 21.1 °C (70°F) (Spec. Range = 18.8 to 25.6°C)

Temperature in Occupant Compartment: 21.1° C (70°F)

Windshield Molding Temperature: 21.1° C (70°F)

Required Impact Velocity Range: 55.5 to 57.1 kph

Impact Velocity: primary = 56.8 kph; secondary = 56.7 kph

Distance From Front Bumper to Barrier Face When

Entering Speed Trap: 1300 mm

Exiting Speed Trap: 300 mm

VEHICLE REBOUND AND CRUSH (mm):

Vehicle Length: Pre-test = Right 4350 C/L 4548 Left 4358

Post-test = Right 3934 C/L 4074 Left 4026

Crush = Right 416 C/L 474 Left 332

Distance from front of test vehicle to point of impact (rebound):

Right 950 mm C/L 830 mm Left 890 mm

Average = 890 mm

DATA SHEET NO. 4  
TEST VEHICLE INFORMATION

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

|                      | <u>Front</u>        |                     | <u>Rear</u> |              |
|----------------------|---------------------|---------------------|-------------|--------------|
| <u>Seat Movement</u> | <u>Left</u>         | <u>Right</u>        | <u>Left</u> | <u>Right</u> |
| Seat Back Movement   | <u>none</u>         | <u>none</u>         | <u>N/A</u>  | <u>N/A</u>   |
| Seat Shift (mm)      | <u>0 mm forward</u> | <u>3 mm forward</u> | <u>N/A</u>  | <u>N/A</u>   |

Glazing Damage

Backlight/Windshield Windshield Cracked

Other Notable Impact Effects: Gas Door opened, Muffler Impacted Fuel Tank

DATA SHEET 5  
FMVSS NO. 212, "WINDSHIELD MOUNTING", DATA SHEET

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

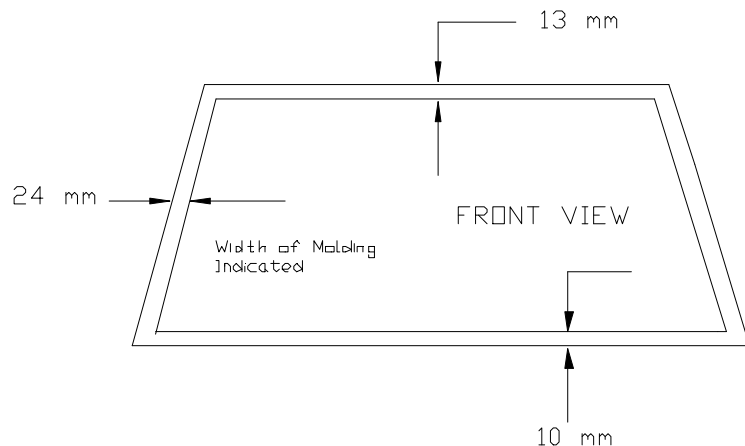
Windshield set in rubber molding with glue

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

FMVSS 212 TEST DATA:

|            | WINDSHIELD PERIPHERY |                | PERCENT RETENTION |
|------------|----------------------|----------------|-------------------|
|            | PRE-TEST (mm)        | POST-TEST (mm) |                   |
| RIGHT SIDE | 2202                 | 2202           | 100%              |
| LEFT SIDE  | 2222                 | 2222           | 100%              |
| TOTAL      | 4424                 | 4424           | 100%              |

AREA OF RETENTION FAILURE: None



FAILURE DETAILS: None

## DATA SHEET 6

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

#### PROTECTED ZONE LOWER EDGE REQUIREMENT:

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

#### FMVSS 219 TEST DATA:

A= 1185 mm

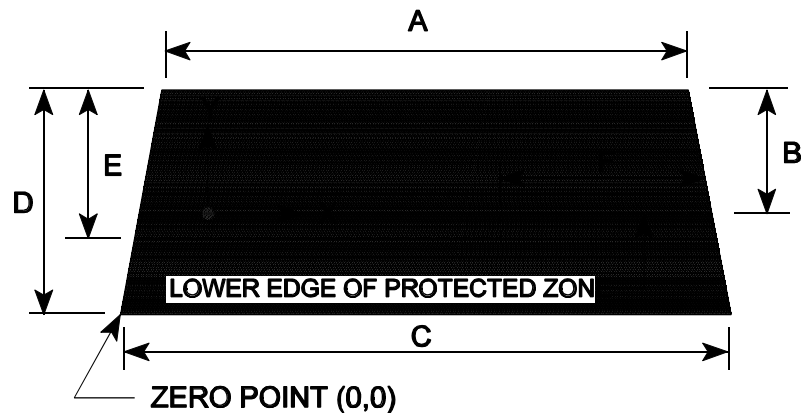
B= 605 mm

C= 1485 mm

D= 876 mm

E= 537 mm

F= 470 mm



DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4": None

(Show location of penetration)

FMVSS NO. 301-75, FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

Test Vehicle NHTSA No.: M15104      Test Date: November 21, 2000

Usable Capacity of Vehicle's Fuel Tank: 75.0 Liters  
(figure furnished by vehicle manufacturer)

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

69.6 Liters which is 93 % of the stated USABLE CAPACITY.

\_\_\_ Oblique (30 mph) with \_\_\_° barrier face first  
contacting (driver/passenger) side

\_\_\_ Rear Moving Barrier (30 mph)

\_\_\_ Side Impact MDB (33.2 mph)

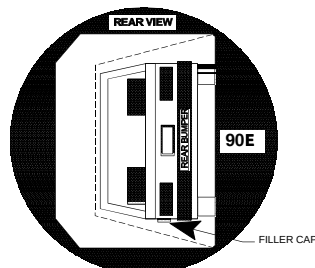
1. From impact until vehicle motion ceases
2. For 5 minute period after vehicle motion ceases
3. For next 25 minutes

SOLVENT SPILLAGE DETAILS: None

DATA SHEET 8  
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 0° - 90°

Vehicle NHTSA No.: M15104



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90<sup>B</sup> Rotation Time      2 minutes 43 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time +      5 minutes 0 seconds

TOTAL      7 minutes 43 seconds

Next whole minute interval      8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

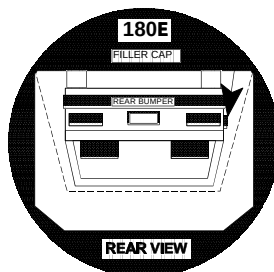
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATIONS(S): None

DATA SHEET 8  
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (Cont'd)

TEST PHASE: 90°- 180°

Vehicle NHTSA No.: M15104



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90<sup>B</sup> Rotation Time      2 minutes 31 seconds  
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time +      5 minutes 0 seconds  
TOTAL      7 minutes 31 seconds

Next whole minute interval      8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

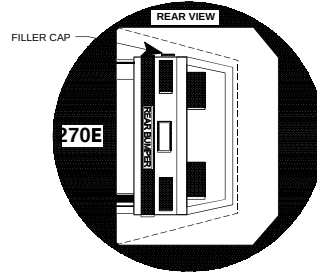
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATIONS(S): None

DATA SHEET 8  
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (Cont'd)

TEST PHASE: 180° - 270°

Vehicle NHTSA No.: M15104



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90<sup>B</sup> Rotation Time      2 minutes 12 seconds  
(Spec. Range = 1 to 3 minutes)  
FMVSS 301 Position Hold Time +      5 minutes 0 seconds  
TOTAL      7 minutes 12 seconds  
Next whole minute interval      8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATIONS(S): None



DATA SHEET 8  
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (Cont'd)

TEST PHASE: 270E - 360E

Vehicle NHTSA No.: M15104



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90<sup>8</sup> Rotation Time      2 minutes 40 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time +      5 minutes 0 seconds

TOTAL      7 minutes 40 seconds

Next whole minute interval      8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATIONS(S): None

# DATA SHEET 9

## DUMMY INJURY CRITERIA VALUES DATA SHEET

Vehicle Year/Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV

Vehicle NHTSA No.: M15104 Test Date: November 21, 2000

| DESCRIPTION               | UNIT | MAXIMUM VALUE |       |        |       |
|---------------------------|------|---------------|-------|--------|-------|
|                           |      | pos.          | msec. | neg.   | msec. |
| Pos. 1 Head X             | G    | 1.8           | 200   | 54.8   | 75    |
| Pos. 1 Head Y             | G    | 13.2          | 94    | 10.0   | 94    |
| Pos. 1 Head Z             | G    | 23.9          | 66    | 3.3    | 121   |
| Pos. 1 Head Resultant     | G    | 57.6          | 75    | --     | --    |
| Pos. 2 Head X             | G    | 0.3           | 16    | 46.0   | 78    |
| Pos. 2 Head Y             | G    | 5.3           | 45    | 4.2    | 37    |
| Pos. 2 Head Z             | G    | 27.3          | 78    | 0.8    | 131   |
| Pos. 2 Head Resultant     | G    | 53.3          | 78    | --     | --    |
| Pos. 1 Chest X            | G    | 2.0           | 142   | 52.2   | 82    |
| Pos. 1 Chest Y            | G    | 6.3           | 91    | 8.4    | 55    |
| Pos. 1 Chest Z            | G    | 7.0           | 27    | 9.6    | 96    |
| Pos. 1 Chest Resultant    | G    | 52.5          | 82    | --     | --    |
| Pos. 1 Chest Displacement | mm   | --            | --    | 30.0   | 71    |
| Pos. 2 Chest X            | G    | 1.9           | 157   | 43.0   | 71    |
| Pos. 2 Chest Y            | G    | 8.1           | 50    | 4.3    | 84    |
| Pos. 2 Chest Z            | G    | 11.3          | 85    | 6.7    | 111   |
| Pos. 2 Chest Resultant    | G    | 43.1          | 71    | --     | --    |
| Pos. 2 Chest Displacement | mm   | --            | --    | 27.7   | 73    |
| Pos. 1 Left Femur         | N    | 511.5         | 40    | 6923.3 | 49    |
| Pos. 1 Right Femur        | N    | 333.3         | 112   | 8684.0 | 53    |
| Pos. 2 Left Femur         | N    | 364.5         | 26    | 4591.7 | 49    |
| Pos. 2 Right Femur        | N    | 458.2         | 75    | 2281.9 | 50    |

# DATA SHEET 9

## DUMMY INJURY CRITERIA VALUES DATA SHEET (Cont'd)

| DESCRIPTION                 | UNIT | MAXIMUM VALUE |       |       |       |
|-----------------------------|------|---------------|-------|-------|-------|
|                             |      | pos.          | msec. | neg.  | msec. |
| Pos. 1 Lap Belt Load        | N    | 6266.8        | 55    | --    | --    |
| Pos. 1 Torso Belt Load      | N    | 5061.0        | 62    | --    | --    |
| Pos. 2 Lap Belt Load        | N    | 6883.7        | 63    | --    | --    |
| Pos. 2 Torso Belt Load      | N    | 5099.3        | 68    | --    | --    |
| Pos. 1 Upper Neck Fx        | N    | 717.2         | 78    | 415.3 | 47    |
| Pos. 1 Upper Neck Fy        | N    | 107.5         | 150   | 108.1 | 79    |
| Pos. 1 Upper Neck Fz        | N    | 1263.7        | 67    | 366.7 | 18    |
| Pos. 1 Neck Force Resultant | N    | 1279.6        | 67    | --    | --    |
| Pos. 1 Upper Neck Mx        | N•m  | 6.7           | 53    | 10.0  | 102   |
| Pos. 1 Upper Neck My        | N•m  | 41.8          | 79    | 14.8  | 45    |
| Pos. 1 Upper Neck Mz        | N•m  | 5.2           | 87    | 5.6   | 116   |
| Pos. 1 Neck Moment Result   | N•m  | 41.9          | 79    | --    | --    |
| Pos. 2 Upper Neck Fx        | N    | 157.3         | 88    | 466.6 | 132   |
| Pos. 2 Upper Neck Fy        | N    | 243.9         | 81    | 106.4 | 123   |
| Pos. 2 Upper Neck Fz        | N    | 1578.0        | 67    | 111.7 | 146   |
| Pos. 2 Neck Force Result    | N    | 1617          | 67    | --    | --    |
| Pos. 2 Upper Neck Mx        | N•m  | 6.6           | 51    | 10.3  | 80    |
| Pos. 2 Upper Neck My        | N•m  | 37.6          | 133   | 27.9  | 73    |
| Pos. 2 Upper Neck Mz        | N•m  | 6.3           | 47    | 4.3   | 151   |
| Pos. 2 Neck Moment Result   | N•m  | 37.8          | 133   | --    | --    |
| Pos. 1 Pelvic (X)           | G    | 2.7           | 140   | 136.7 | 49    |
| Pos. 1 Pelvic (Y)           | G    | 32.3          | 49    | 17.8  | 52    |
| Pos. 1 Pelvic (Z)           | G    | 2.6           | 152   | 36.9  | 53    |
| Pos. 1 Pelvic Resultant     | G    | 140.3         | 49    | --    | --    |

DATA SHEET 9

DUMMY INJURY CRITERIA VALUES DATA SHEET (Cont'd)

| DESCRIPTION                 | UNIT | MAXIMUM VALUE |       |        |       |
|-----------------------------|------|---------------|-------|--------|-------|
|                             |      | pos.          | msec. | neg.   | msec. |
| Pos. 2 Pelvic (X)           | G    | 4.4           | 124   | 52.2   | 49    |
| Pos. 2 Pelvic (Y)           | G    | 8.5           | 37    | 6.2    | 34    |
| Pos. 2 Pelvic (Z)           | G    | 2.7           | 30    | 22.8   | 74    |
| Pos. 2 Pelvic Resultant     | G    | 54.6          | 51    | --     | --    |
| Pos. 1 Left Upper Tibia Mx  | N•m  | 16.2          | 200   | 76.9   | 51    |
| Pos. 1 Left Upper Tibia My  | N•m  | 20.2          | 143   | 151.7  | 51    |
| Pos. 1 Left Upper Tibia Fz  | N    | 1935.6        | 50    | 200.5  | 138   |
| Pos. 1 Left Lower Tibia Mx  | N•m  | 4.2           | 177   | 51.0   | 52    |
| Pos. 1 Left Lower Tibia My  | N•m  | 42.3          | 87    | 26.9   | 49    |
| Pos. 1 Left Lower Tibia Fz  | N    | 1934.0        | 49    | 193.4  | 146   |
| Pos. 1 Right Upper Tibia Mx | N•m  | 106.7         | 52    | 12.7   | 172   |
| Pos. 1 Right Upper Tibia My | N•m  | 25.0          | 141   | 204.9  | 61    |
| Pos. 1 Right Upper Tibia Fz | N    | 6090.7        | 55    | 218.2  | 155   |
| Pos. 1 Right Lower Tibia Mx | N•m  | 14.3          | 35    | 53.0   | 63    |
| Pos. 1 Right Lower Tibia My | N•m  | 80.4          | 54    | 60.4   | 45    |
| Pos. 1 Right Lower Tibia Fz | N    | 5379.5        | 58    | 186.0  | 150   |
| Pos. 2 Left Upper Tibia Mx  | N•m  | 31.5          | 54    | 68.8   | 46    |
| Pos. 2 Left Upper Tibia My  | N•m  | 32.4          | 137   | 192.1  | 50    |
| Pos. 2 Left Lower Tibia Fz  | N    | 5087.5        | 48    | 1028.5 | 183   |
| Pos. 2 Left Lower Tibia Mx  | N•m  | 118.6         | 55    | 30.4   | 44    |
| Pos. 2 Left Lower Tibia My  | N•m  | 76.0          | 57    | 13.6   | 37    |
| Pos. 2 Left Lower Tibia Fz  | N    | 5721.6        | 48    | 1156.3 | 156   |
| Pos. 2 Right Upper Tibia Mx | N•m  | 40.5          | 60    | 64.5   | 34    |
| Pos. 2 Right Upper Tibia My | N•m  | 21.5          | 126   | 114.5  | 32    |
| Pos. 2 Right Upper Tibia Fz | N    | 2136.0        | 32    | 183.1  | 138   |
| Pos. 2 Right Lower Tibia Mx | N•m  | 59.3          | 50    | 39.9   | 34    |
| Pos. 2 Right Lower Tibia My | N•m  | 221.0         | 64    | 40.6   | 32    |
| Pos. 2 Right Lower Tibia Fz | N    | 2855.8        | 33    | 131.0  | 122   |

DATA SHEET 10  
DUMMY POSITIONING IN VEHICLE

Vehicle NHTSA No.: M15104      Vehicle: 2001/Lexus/RX300/4 door/SUV

SEAT TYPE:

☐ Bench  
☒ Bucket  
☐ Split Bench

ADJUSTER TYPE:

Driver: ☐ Manual  
☒ Power  
  
Passenger: ☐ Manual  
☒ Power

BUCKET SEAT BACK TYPE:

☐ Fixed  
☒ Adjustable Reclining  
  
☐ Fixed  
☒ Adjustable Reclining

DRIVER SEAT POSITION

120mm rearward of 240 mm

Seat back angle 3.2° (ref. sill)\*

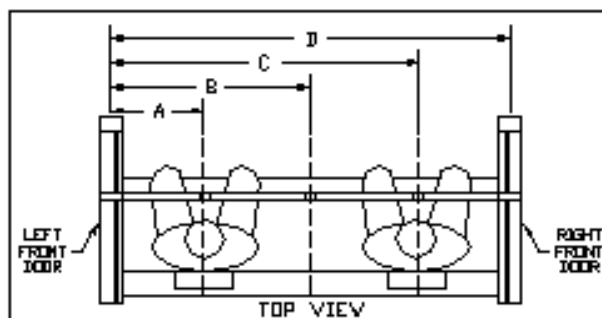
Steering column set to mid position.

PASSENGER SEAT POSITION

120mm rearward of 240 mm

Seat back angle 3.2° (ref. sill)\*

Steering column angle 28.0°  
3<sup>rd</sup> notch of 5 from bottom



065 DUMMY ID 066

|                                              |                |
|----------------------------------------------|----------------|
| A = Left Door to Driver Centerline           | <u>429</u> mm  |
| B = Left Door to Center Passenger Centerline | <u>799</u> mm  |
| C = Left Door to Right Passenger Centerline  | <u>1176</u> mm |
| D = Left Door to Right Door                  | <u>1598</u> mm |

DATA SHEET 10  
DUMMY POSITIONING IN VEHICLE (Cont'd)

Units (mm)

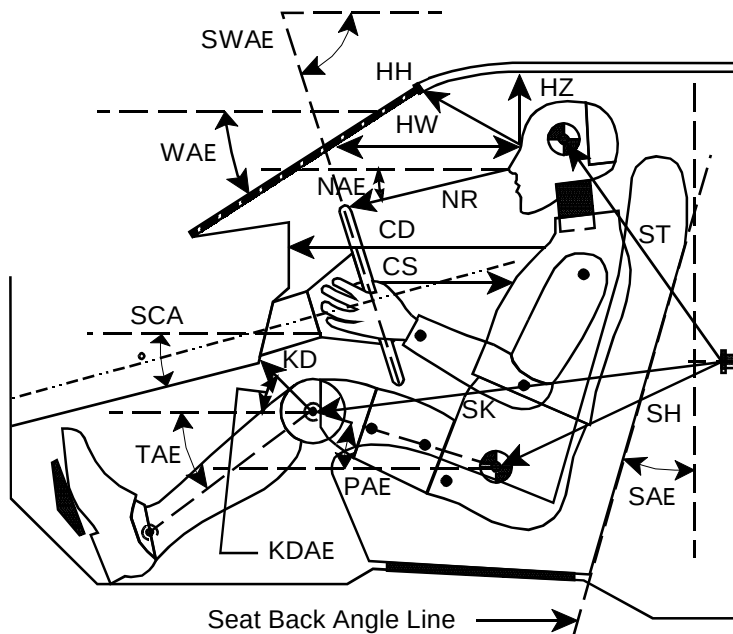
|      | DRIVER (Serial #065) | PASSENGER (Serial #066) |
|------|----------------------|-------------------------|
| WA°  | 29.0°                |                         |
| SWA° | 60.9°                | N/A                     |
| SCA° | 28.7°                | N/A                     |
| SA°  | 3.2°                 | 3.2°                    |
| HZ   | 208                  | 196                     |
| HH   | 379                  | 343                     |
| HW   | 366                  | 552                     |
| HR   | 228                  | 217                     |
| NR   | 442 Angle 17.4°      | N/A                     |
| CD   | 553                  | 536                     |
| CS   | 347                  | N/A                     |
| RA   | 95                   | N/A                     |
| KDL  | 158 Angle (KDA) 0.0° | 97                      |
| KDR  | 150                  | 122 Angle 0.0°          |
| PAE  | 24.1°                | 23.3°                   |
| TAE  | 47.3°                | 48.2°                   |
| KK   | 357                  | 205                     |
| ST*  | 511 Angle 9.0°       | 565 Angle 8.7°          |
| SK*  | 581 Angle 95.5°      | 620 Angle 91.3°         |
| SH*  | 218 Angle 36.2°      | 245 Angle 28.9°         |
| SHY  | 259                  | 260                     |
| HS   | 316                  | 304                     |
| HD   | 135                  | 115                     |
| AD   | 109                  | 118                     |

N/A = Not Applicable

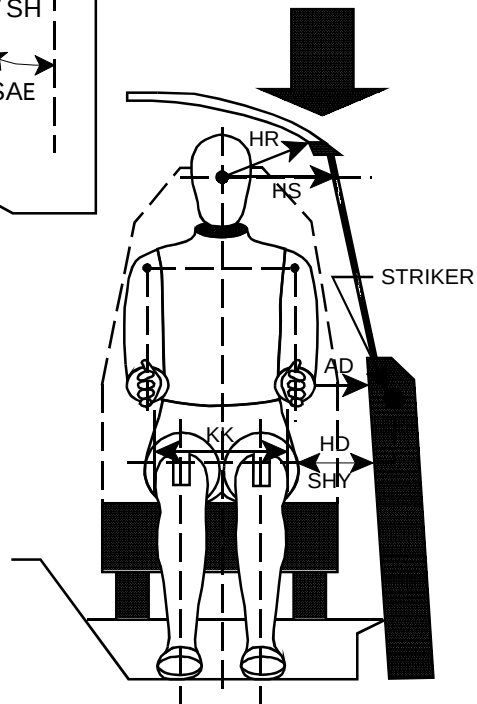
\* angle measured with respect to vertical

\*\* measured on headrest posts

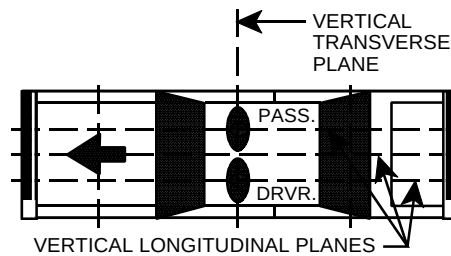
## FRONT SEAT MEASUREMENTS



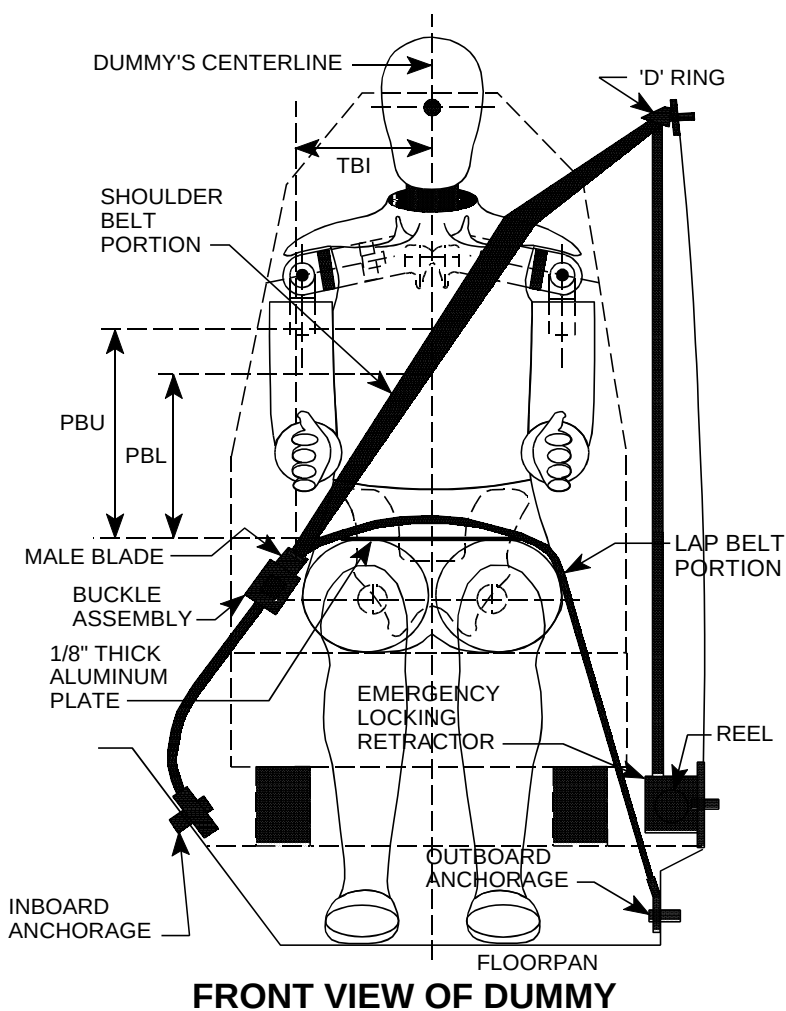
AD - Arm to Door  
 HD - H-Point to Door  
 HR - Head to Side Header  
 HS - Head to Side Window  
 KK - Knee to Knee  
 SHY - Striker to H-Point (Y Direction)



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



DATA SHEET 11  
SEAT BELT POSITIONING DATA



(illustration)

| Dimension = mm                                              |              |                 |
|-------------------------------------------------------------|--------------|-----------------|
|                                                             | DRIVER DUMMY | PASSENGER DUMMY |
| <u>PBU</u> – Top surface of alum. plate to upper edge       | 336          | 333             |
| <u>PBL</u> -- Top surface of alum. plate to belt lower edge | 263          | 250             |



DATA SHEET 12  
SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

| <u>BELT LENGTH DATA:</u>                                                  | <u>Driver</u>       | <u>Passenger</u>    |
|---------------------------------------------------------------------------|---------------------|---------------------|
| Length from trim above retractor reel to "D" ring as measured on dummy.   | <u>187 mm</u>       | <u>185 mm</u>       |
| Shoulder belt length as measured on Part 572 Dummy.                       | <u>880 mm</u>       | <u>877 mm</u>       |
| Lap belt length as measured on Part 572 Dummy.                            | <u>943 mm</u>       | <u>962 mm</u>       |
| <u>SHOULDER BELT SPOOL-OFF DATA:</u>                                      |                     |                     |
| As determined by film analysis                                            | <u>190 mm</u>       | <u>190 mm</u>       |
| <u>BELT STRETCH DATA:</u>                                                 |                     |                     |
| Measured electronically between shoulder belt load cell and the "D" ring. | <u>Not Recorded</u> | <u>Not Recorded</u> |
| Measured mechanically                                                     | <u>Not Recorded</u> | <u>Not Recorded</u> |
| <u>RETRACTOR LOCK-UP TIME:</u>                                            |                     |                     |
| As determined by shoulder belt spool-off observed in on-board cameras     | <u>84 msec.</u>     | <u>85 msec.</u>     |

DATA SHEET 13  
CAMERA LOCATIONS

Veh. NHTSA No.: M15104 Test Date: November 21, 2000

VehicleYear/Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV

| CAMERA<br>POSITION<br>NO. | VIEW                        | CAMERA POSITIONS<br>(mm.)* |        |       | LENS<br>(mm) | SPEED<br>(fps) |
|---------------------------|-----------------------------|----------------------------|--------|-------|--------------|----------------|
|                           |                             | X                          | Y      | Z     |              |                |
| 1                         | Real-Time<br>Left Side View | -                          | -      | -     | 18           | 32             |
| 2                         | Left Front View             | 1080                       | -7670  | 1530  | 25           | 1005           |
| 3                         | Steering Column<br>Top      | 2000                       | -7840  | 1560  | 25           | 1026           |
| 4                         | Steering Column<br>Bottom   | 2000                       | -7840  | 1030  | 25           | 1005           |
| 5                         | Driver Close-up             | 1450                       | -10000 | 1440  | 25           | 1000           |
| 6                         | Driver Angle                | 4560                       | -5250  | 2030  | 50           | 1015           |
| 7                         | Onboard Driver              | --                         | --     | --    | 35           | 1000           |
| 8                         | Onboard<br>Passenger        | --                         | --     | --    | 35           | 1015           |
| 9                         | Right Overall               | 2000                       | 6580   | 1350  | 13           | 1010           |
| 10                        | Right Passenger<br>Half     | 1000                       | 2620   | 1290  | 25           | 1015           |
| 11                        | Right Close-up              | 1430                       | 10220  | 1360  | 75           | 1053           |
| 12                        | Right Angle                 | 4900                       | 5520   | 2130  | 50           | **             |
| 13                        | Windshield                  | -450                       | 0      | 2710  | 13           | 1015           |
| 14                        | Top Driver                  | 70                         | -440   | 1780  | 13           | 1020           |
| 15                        | Top Passenger               | 80                         | 400    | 1770  | 13           | 1010           |
| 16                        | Pit Front                   | 1020                       | 0      | -3580 | 13           | 985            |
| 17                        | Pit Rear                    | 2410                       | 0      | -3580 | 13           | 1015           |

\* COORDINATES:

+X = film plane rearward of barrier

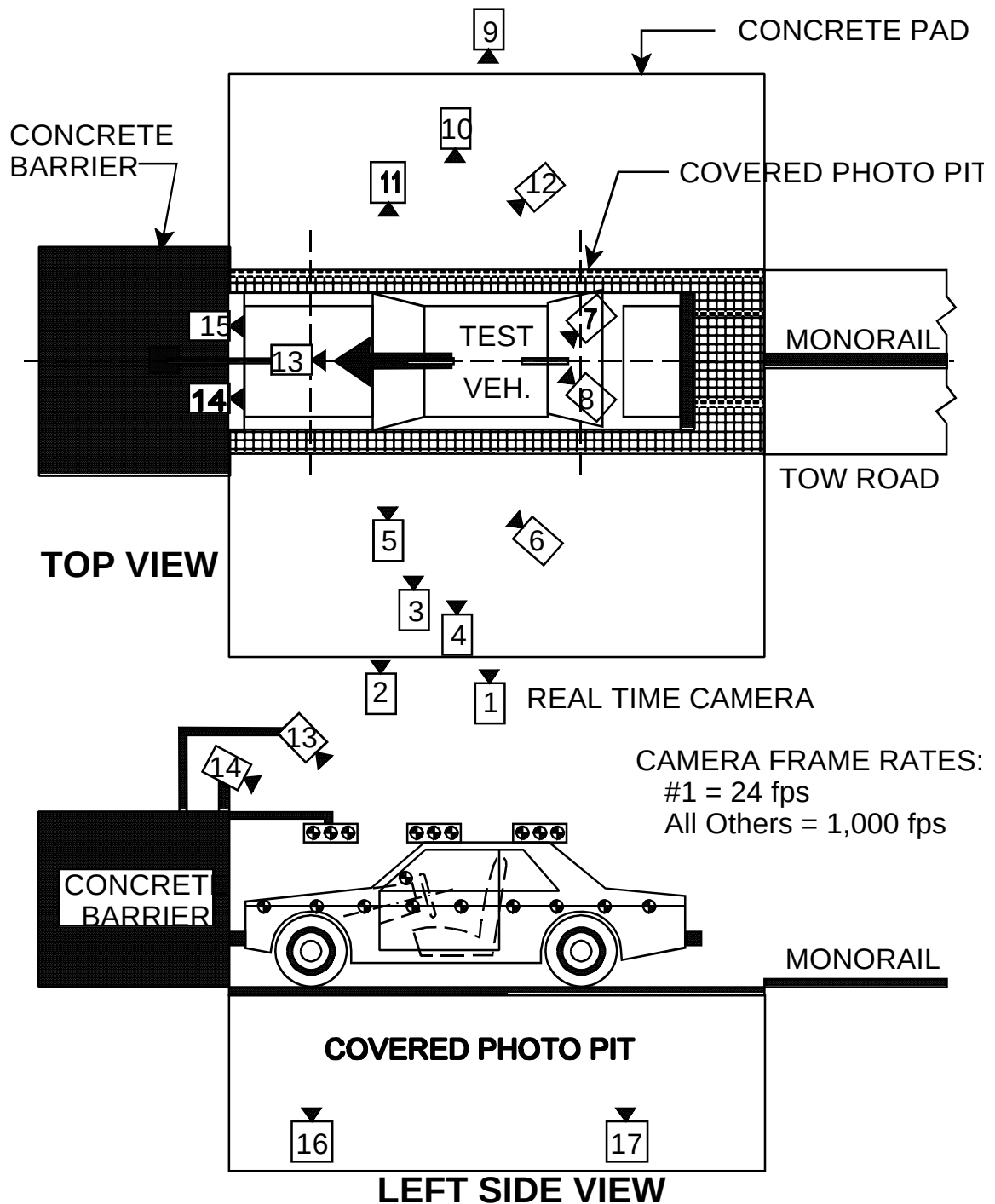
+Y = film plane to right of monorail centerline

+Z = film plane to above ground level

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

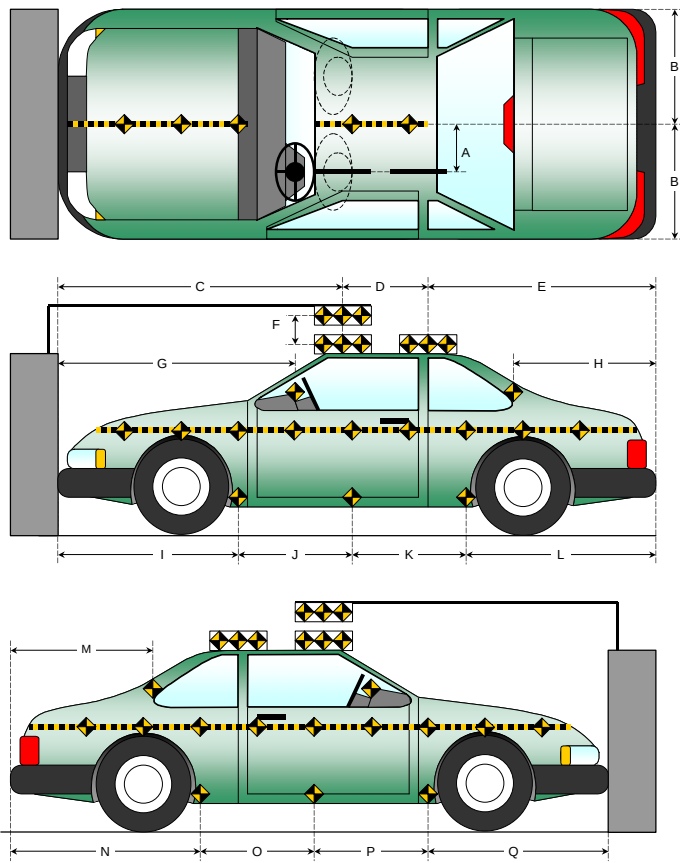
\*\* No timing marks

## CAMERA POSITIONS FOR FRONTAL IMPACTS



# DATA SHEET 14 VEHICLE TARGET LOCATIONS

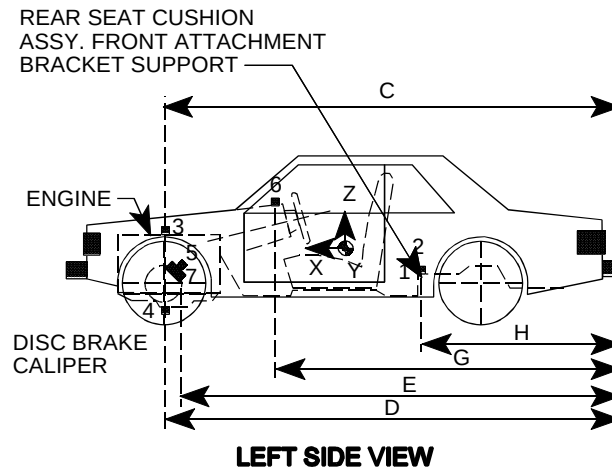
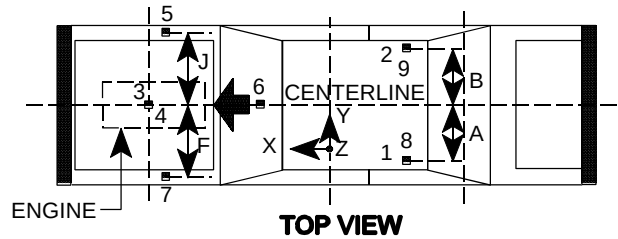
Veh. NHTSA No.: M15104      Test Date: November 21, 2000  
 VehicleYear/Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV



All Dimensions  
in mm

| Item | Value |
|------|-------|
| A    | 364   |
| B    | 903   |
| C    | 2174  |
| D    | 609   |
| E    | 1765  |
| F    | 235   |
| G    | 1069  |
| H    | 1338  |
| I    | 1524  |
| J    | 760   |
| K    | 510   |
| L    | 1754  |
| M    | 1334  |
| N    | 1749  |
| O    | 509   |
| P    | 763   |
| Q    | 1527  |

DATA SHEET 15  
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



Units: (mm)

| Dimension | Length | ACCEL. NO. | ACCELEROMETER               | DIRECTION |
|-----------|--------|------------|-----------------------------|-----------|
| A         | 420    | 1 and 8    | Left Rear Seat Crossmember  | X         |
| B         | 420    | 2 and 9    | Right Rear Seat Crossmember | X         |
| C         | 3836   | 3          | Top of Engine               | X         |
| D         | 3800   | 4          | Bottom of Engine            | X         |
| E         | 3740   | 5          | Right Side Brake Caliper    | X         |
| F         | 650    | 6          | Instrument Panel            | X         |
| G         | 2872   | 7          | Left Side Brake Caliper     | X         |
| H         | 1696   |            |                             |           |
| J         | 650    |            |                             |           |

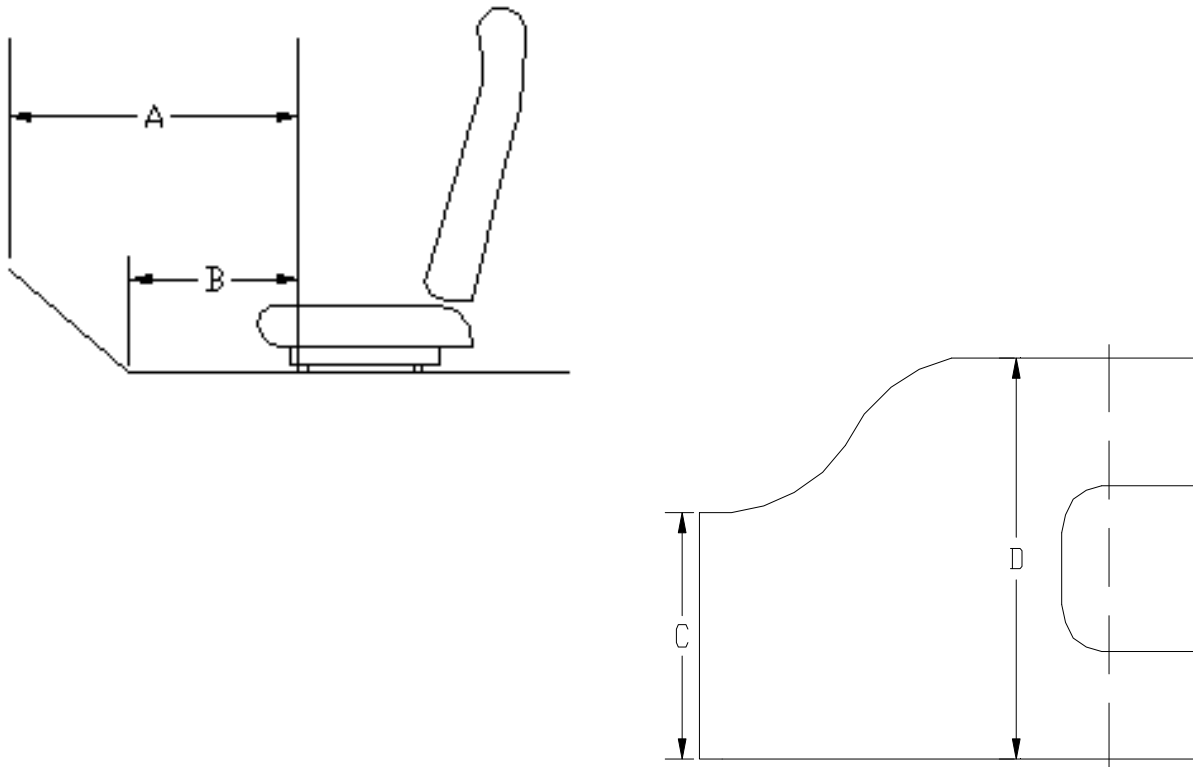
DATA SHEET 16  
POST TEST AIRBAG DATA

- A. Number of Vent Holes: Driver 2; Passenger 2
- B. Size of Vent Holes: Driver 38 mm dia; Passenger 64 mm dia;
- C. Total Vent Area; Driver 22.8 cm<sup>2</sup> Passenger 63.3 cm<sup>2</sup>
- D. Deflated Airbag Length and Width Dimensions or, if Round, Diameter  
Driver; Length 572 mm, Width 648 mm, Diameter \_\_\_\_\_ mm  
Passenger; Length 648 mm, Width 775 mm, Diameter \_\_\_\_\_ mm
- E. Is the Airbag Tethered?  
Driver; X Yes; \_\_\_ No; If yes, record length of tether 254 mm  
Passenger; \_\_\_ Yes; X No, If yes, record length of tether \_\_\_\_\_ mm

DATA SHEET 17  
TEST VEHICLE MEASUREMENTS

STATIC FOOTWELL DEFORMATION

Driver's Side



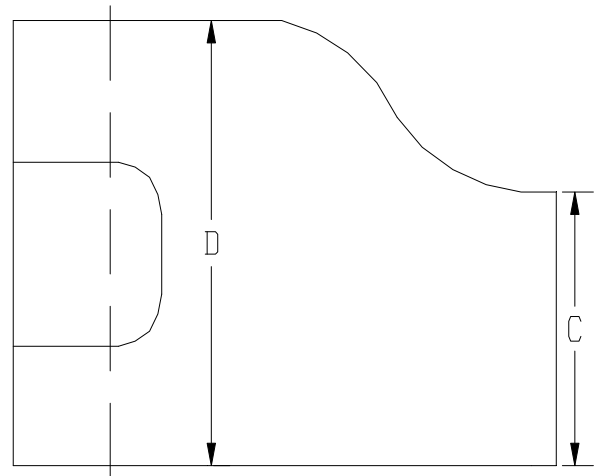
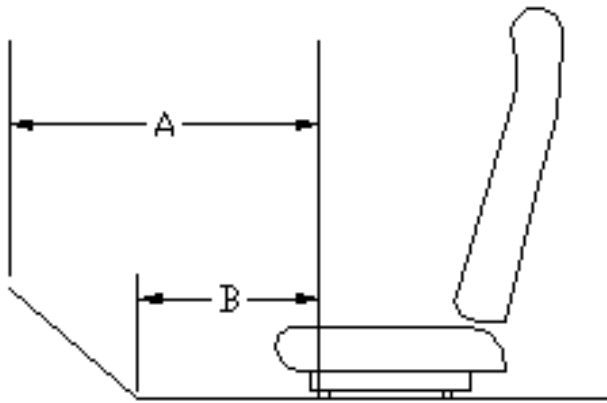
Units = mm

| MEASUREMENT | PRE TEST | POST TEST | DIFFERENCE |
|-------------|----------|-----------|------------|
| A           | 794      | 750       | 44         |
| B           | 625      | 592       | 33         |
| C           | 340      | 323       | 17         |
| D           | 460      | 465       | -5         |

DATA SHEET 17  
TEST VEHICLE MEASUREMENTS (Cont'd)

STATIC FOOTWELL DEFORMATION

Passenger's Side



Units = mm

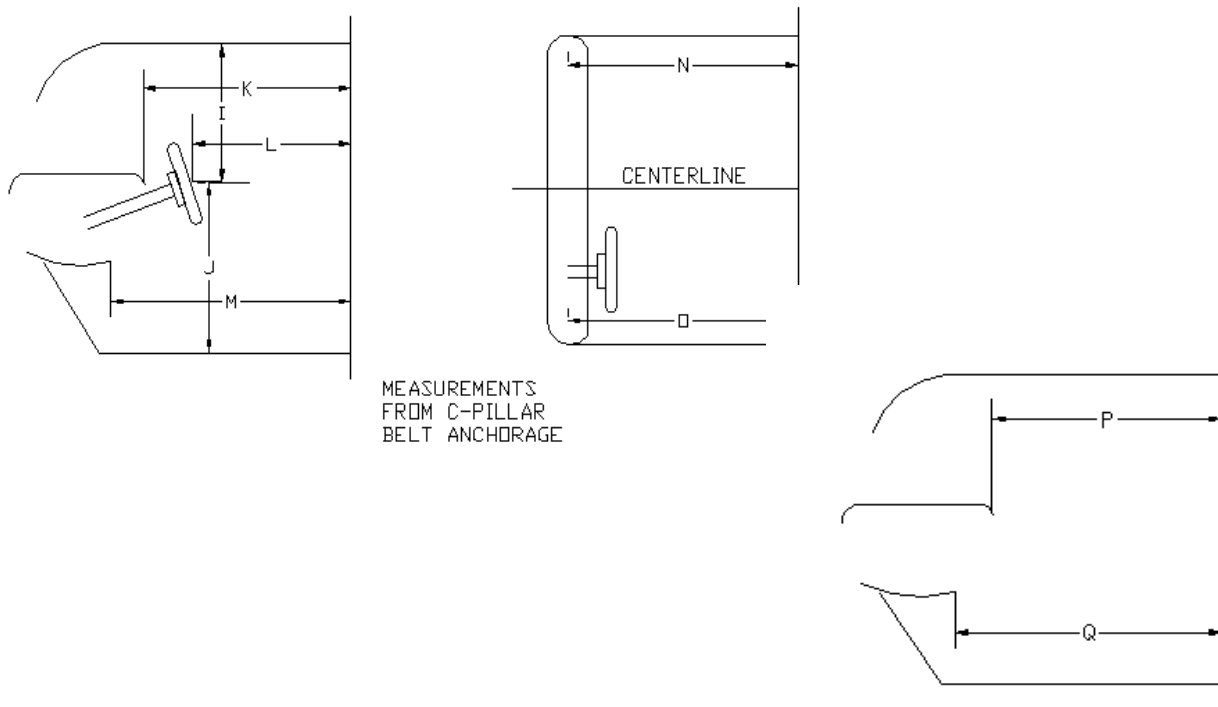
| MEASUREMENT | PRE TEST | POST TEST | DIFFERENCE |
|-------------|----------|-----------|------------|
| A           | 792      | 690       | 102        |
| B           | 620      | 605       | 15         |
| C           | 264      | 263       | 1          |
| D           | 464      | 462       | 2          |



DATA SHEET 17

TEST VEHICLE MEASUREMENTS (Cont'd)

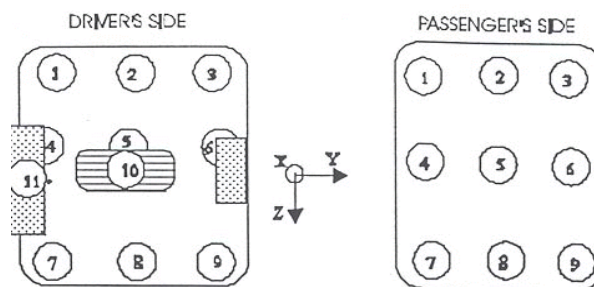
STATIC PASSENGER COMPARTMENT INTRUSION



Units = mm

| MEASUREMENT | PRE TEST | POST TEST | DIFFERENCE |
|-------------|----------|-----------|------------|
| I           | 430      | 410       | 20         |
| J           | 707      | 725       | -18        |
| K           | 1870     | 1897      | -27        |
| L           | 1673     | 1667      | 6          |
| M           | 2008     | 1997      | 11         |
| N           | 2305     | 2313      | -8         |
| O           | 2315     | 2313      | 2          |
| P           | 1865     | 1862      | 3          |
| Q           | 1999     | 1997      | 2          |

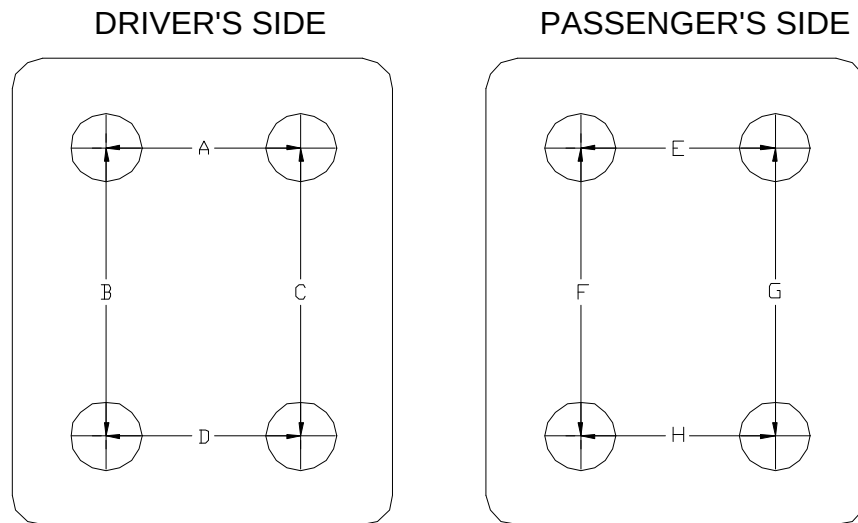
DATA SHEET 17  
TEST VEHICLE MEASUREMENTS (Cont'd)  
TOE PAN MEASUREMENTS



| Driver    |          |           |      |          |           |      |
|-----------|----------|-----------|------|----------|-----------|------|
| Location  | X        |           |      | Z        |           |      |
|           | Pre-Test | Post-Test | Def. | Pre-Test | Post-Test | Def. |
| 1         | 742      | 665       | 77   | 137      | 160       | -23  |
| 2         | 772      | 715       | 57   | 182      | 147       | 35   |
| 3         | 767      | 715       | 52   | 162      | 122       | 40   |
| 4         | 614      | 595       | 19   | 78       | 72        | 6    |
| 5         | 695      | 670       | 25   | 80       | 42        | 38   |
| 6         | 718      | 690       | 28   | 92       | 32        | 60   |
| 7         | 593      | 555       | 38   | -28      | 2         | -30  |
| 8         | 637      | 595       | 42   | -41      | 2         | -43  |
| 9         | 634      | 607       | 27   | -36      | -48       | 12   |
| 10        | 554      | 540       | 14   | 125      | 172       | -47  |
| 11        | 556      | 555       | 1    | 98       | 78        | 20   |
| Passenger |          |           |      |          |           |      |
| Location  | X        |           |      | Z        |           |      |
|           | Pre-Test | Post-Test | Def. | Pre-Test | Post-Test | Def. |
| 1         | 785      | 672       | 113  | 100      | 122       | -22  |
| 2         | 792      | 664       | 128  | 124      | 141       | -17  |
| 3         | 785      | 640       | 145  | 125      | 166       | -41  |
| 4         | 743      | 680       | 63   | 8        | 30        | -22  |
| 5         | 773      | 700       | 73   | 30       | 56        | -26  |
| 6         | 776      | 695       | 81   | 45       | 66        | -21  |
| 7         | 652      | 600       | 52   | -56      | 53        | -109 |
| 8         | 664      | 625       | 39   | -43      | 22        | -65  |
| 9         | 664      | 620       | 44   | -23      | 9         | -32  |

DATA SHEET 17  
TEST VEHICLE MEASUREMENTS (Cont'd)

UNDERBODY FLOORBOARD DEFORMATION

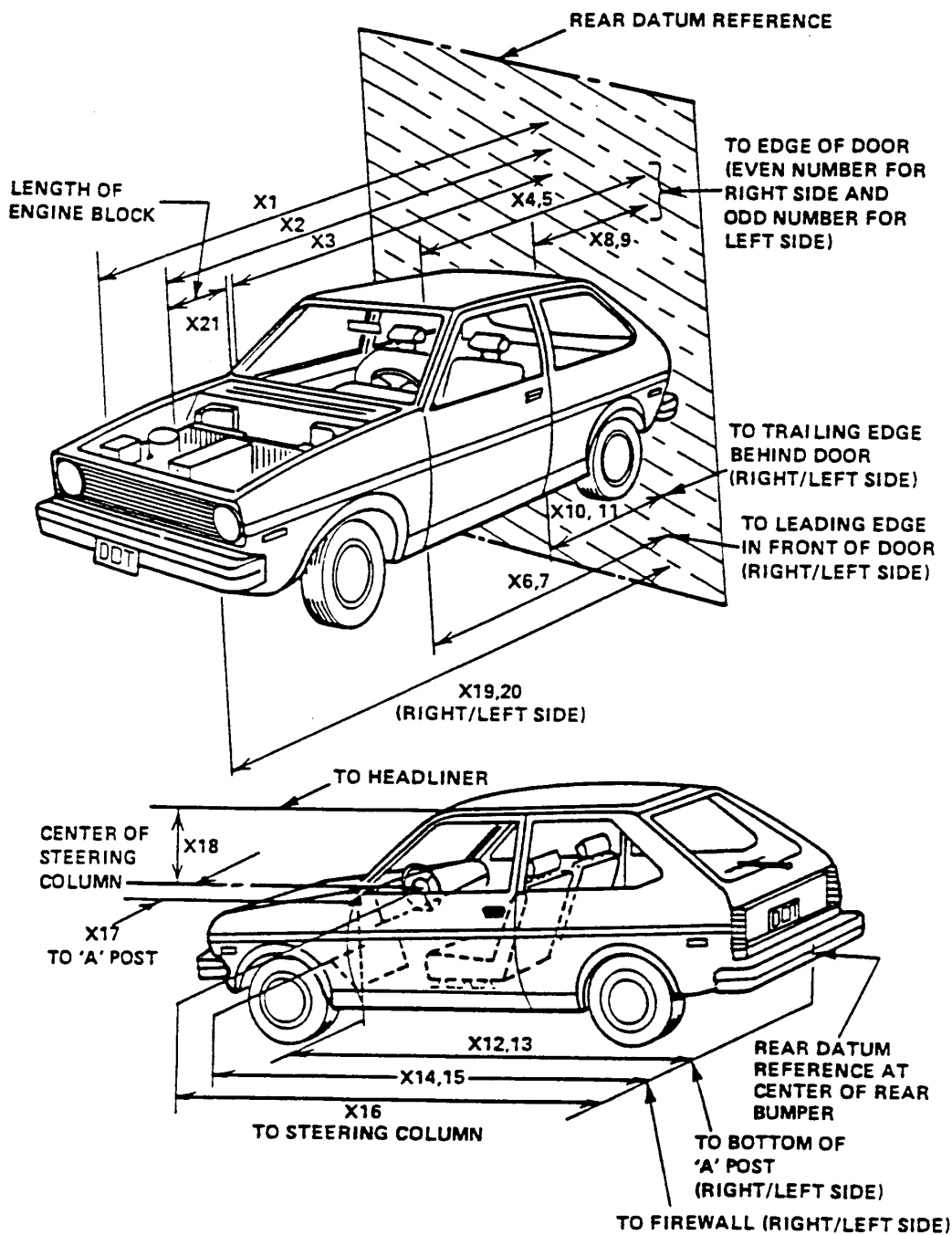


| MEASUREMENT | PRE TEST | POST TEST | DIFFERENCE |
|-------------|----------|-----------|------------|
| A           | 370      | 350       | 20         |
| B           | 304      | 305       | -1         |
| C           | 450      | 434       | 16         |
| D           | 226      | 225       | 1          |
| E           | 402      | 420       | -18        |
| F           | 446      | 402       | 44         |
| G           | 280      | 280       | 0          |
| H           | 381      | 386       | -5         |

DATA SHEET 17  
TEST VEHICLE MEASUREMENTS (Cont'd)

| No. | MEASUREMENT DESCRIPTION:                        | Pre-Test<br>(mm) | Post-Test<br>(mm) | Diff.<br>(mm) |
|-----|-------------------------------------------------|------------------|-------------------|---------------|
| X1  | Total Length of Test Vehicle at Centerline      | 4548             | 4074              | 474           |
| X2  | Rear Surface of Vehicle to Front of Engine      | 4056             | 3691              | 365           |
| X3  | Rear Surface of Vehicle to Firewall             | 3696             | 3580              | 116           |
| X4  | Rear Surface to Upr. Leading Edge of Rt. Door   | 3039             | 3047              | -8            |
| X5  | Rear Surface to Upr. Leading Edge of Left Door  | 3041             | 3046              | -5            |
| X6  | Rear Surface to Lwr. Leading Edge of Rt. Door   | 3002             | 2992              | 10            |
| X7  | Rear Surface to Lwr. Leading Edge of Left Door  | 3004             | 3001              | 3             |
| X8  | Rear Surface to Upr. Trailing Edge of Rt. Door  | 2053             | 2071              | -18           |
| X9  | Rear Surface to Upr. Trailing Edge of Left Door | 2056             | 2064              | -8            |
| X10 | Rear Surface to Lwr. Trailing Edge of Rt. Door  | 2018             | 2019              | -1            |
| X11 | Rear Surface to Lwr. Trailing Edge of Left Door | 2020             | 2019              | 1             |
| X12 | Rear Surface to Bottom of A-Post on Rt. Side    | 2941             | 2927              | 14            |
| X13 | Rear Surface to Bottom of A-Post on Left Side   | 2943             | 2938              | 5             |
| X14 | Rear Surface to Firewall on Right Side          | 3504             | 3442              | 62            |
| X15 | Rear Surface to Firewall on Left Side           | 3529             | 3506              | 23            |
| X16 | Rear Surface to Steering Column                 | 2638             | 2656              | -18           |
| X17 | Center of Steering Column to A-Post             | 308              | 356               | -48           |
| X18 | Center of Steering Column to Headlining         | 430              | 460               | -30           |
| X19 | Rear Surface to Right Side of Front Bumper      | 4350             | 3934              | 416           |
| X20 | Rear Surface to Left Side of Front Bumper       | 4358             | 4026              | 332           |
| X21 | Length of Engine Block                          | 518              | 518               | 0             |

DATA SHEET 17  
TEST VEHICLE MEASUREMENTS (Cont'd)



DATA SHEET 18  
ACCIDENT INVESTIGATION DIVISION DATA  
FOR 35 MPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: 2001/Lexus/RX300/4 door/SUV

VIN: JTJHF10V510172453

Model Year: 2001; Build Date: 8/00; Test Date: November 21, 2000

Veh. Size Category: SUV; TEST WEIGHT: 1984.5 kg

Veh. Wheelbase: 2620 mm; Front Overhang: 912 mm; Overall Width: 1806 mm

ACCELEROMETER DATA:

Location: As per measurements on pages 2-25

Calibration Procedure: As per MGA Calibration Procedure

Linearity: >99.9%; Integration Algorithm: Trapezoidal

Veh: Impact Speed: 56.8 kph; Time Of Separation: 102 msec

Velocity Change: 64.7 kph

Collision Deformation Classification (CDC) Code: F (Frontal)

Crush Depth C1 = 332 mm

Dimensions\*: C2 = 408 mm

C3 = 450 mm

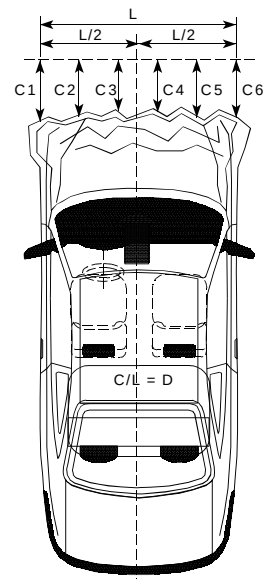
C4 = 506 mm

C5 = 484 mm

C6 = 416 mm

Midpoint Of Damage: D = Vehicle Centerline (Longitudinal)

Length Of Damaged Region: L = 1636 mm



APPENDIX A  
PHOTOGRAPHS

## TABLE OF PHOTOGRAPHS

|                                                                             | <u>Page No.</u> |
|-----------------------------------------------------------------------------|-----------------|
| Photo No. A-1 - Pre-Test Front View of Test Vehicle                         | A-1             |
| Photo No. A-2 - Post-Test Front View of Test Vehicle                        | A-2             |
| Photo No. A-3 - Pre-Test Rear View of Test Vehicle                          | A-3             |
| Photo No. A-4 - Post-Test Rear View of Test Vehicle                         | A-4             |
| Photo No. A-5 - Pre-Test Left Side View of Test Vehicle                     | A-5             |
| Photo No. A-6 - Post-Test Left Side View of Test Vehicle                    | A-6             |
| Photo No. A-7 - Pre-Test Left Rear Three-Quarter View of Test Vehicle       | A-7             |
| Photo No. A-8 - Post-Test Left Rear Three-Quarter View of Test Vehicle      | A-8             |
| Photo No. A-9 - Pre-Test Right Side View of Test Vehicle                    | A-9             |
| Photo No. A-10 - Post-Test Right Side View of Test Vehicle                  | A-10            |
| Photo No. A-11 - Pre-Test Right Front Three-Quarter View of Test Vehicle    | A-11            |
| Photo No. A-12 - Post-Test Right Front Three-Quarter View of Test Vehicle   | A-12            |
| Photo No. A-13 - Pre-Test Fuel Filler Cap View                              | A-13            |
| Photo No. A-14 - Pre-Test Engine Compartment View                           | A-14            |
| Photo No. A-15 - Post-Test Engine Compartment View                          | A-15            |
| Photo No. A-16 - Pre-Test Front Underbody View                              | A-16            |
| Photo No. A-17 - Post-Test Front Underbody View                             | A-17            |
| Photo No. A-18 - Pre-Test Rear Underbody View                               | A-18            |
| Photo No. A-19 - Post-Test Rear Underbody View                              | A-19            |
| Photo No. A-20 - Pre-Test Windshield View                                   | A-20            |
| Photo No. A-21 - Post-Test Windshield View                                  | A-21            |
| Photo No. A-22 - Pre-Test Driver Dummy Position Left Side View              | A-22            |
| Photo No. A-23 - Post-Test Driver Dummy Position Left Side View             | A-23            |
| Photo No. A-24 - Pre-Test Driver Dummy Position Left Side View (Door Open)  | A-24            |
| Photo No. A-25 - Post-Test Driver Dummy Position Left Side View (Door Open) | A-25            |
| Photo No. A-26 - Pre-Test Driver Seat Position View                         | A-26            |
| Photo No. A-27 - Post-Test Driver Seat Position View                        | A-27            |
| Photo No. A-28 - Pre-Test Driver Dummy Knee Position                        | A-28            |
| Photo No. A-29 - Post-Test Driver Dummy Knee Position                       | A-29            |



## TABLE OF PHOTOGRAPHS (Cont'd)

|                                                                             | <u>Page No.</u> |
|-----------------------------------------------------------------------------|-----------------|
| Photo No. A-30 - Post-Test Driver Airbag Contact                            | A-30            |
| Photo No. A-31 - Post-Test Driver Knee Contact View                         | A-31            |
| Photo No. A-32 - Pre-Test Driver Windshield View                            | A-32            |
| Photo No. A-33 - Post-Test Driver Windshield View                           | A-33            |
| Photo No. A-34 - Pre-Test Passenger Dummy Position Right Side View          | A-34            |
| Photo No. A-35 - Post-Test Passenger Dummy Position Right Side View         | A-35            |
| Photo No. A-36 - Pre-Test Pass. Dummy Position Right Side View (Door Open)  | A-36            |
| Photo No. A-37 - Post-Test Pass. Dummy Position Right Side View (Door Open) | A-37            |
| Photo No. A-38 - Pre-Test Passenger Seat Position View                      | A-38            |
| Photo No. A-39 - Post-Test Passenger Seat Position View                     | A-39            |
| Photo No. A-40 - Pre-Test Passenger Dummy Knee Position                     | A-40            |
| Photo No. A-41 - Post-Test Passenger Dummy Knee Position                    | A-41            |
| Photo No. A-42 - Post-Test Passenger Airbag Contact                         | A-42            |
| Photo No. A-43 - Post-Test Passenger Knee Contact View                      | A-43            |
| Photo No. A-44 - Pre-Test Passenger Windshield View                         | A-44            |
| Photo No. A-45 - Post-Test Passenger Windshield View                        | A-45            |
| Photo No. A-46 - Vehicle Certification Label                                | A-46            |
| Photo No. A-47 - Tire Placard                                               | A-47            |
| Photo No. A-48 - Vehicle Impact                                             | A-48            |
| Photo No. A-49 - Rollover 90E                                               | A-49            |
| Photo No. A-50 - Rollover 180E                                              | A-50            |
| Photo No. A-51 - Rollover 270E                                              | A-51            |
| Photo No. A-52 - Rollover 360E                                              | A-52            |



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



A-2



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



A-3



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





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



A-5



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



A-6



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





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





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





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





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



A-11



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





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



mga research corp. atc

**PRE-TEST**

**NCAP 35 MPH FRONTAL  
LEXUS RX 300**

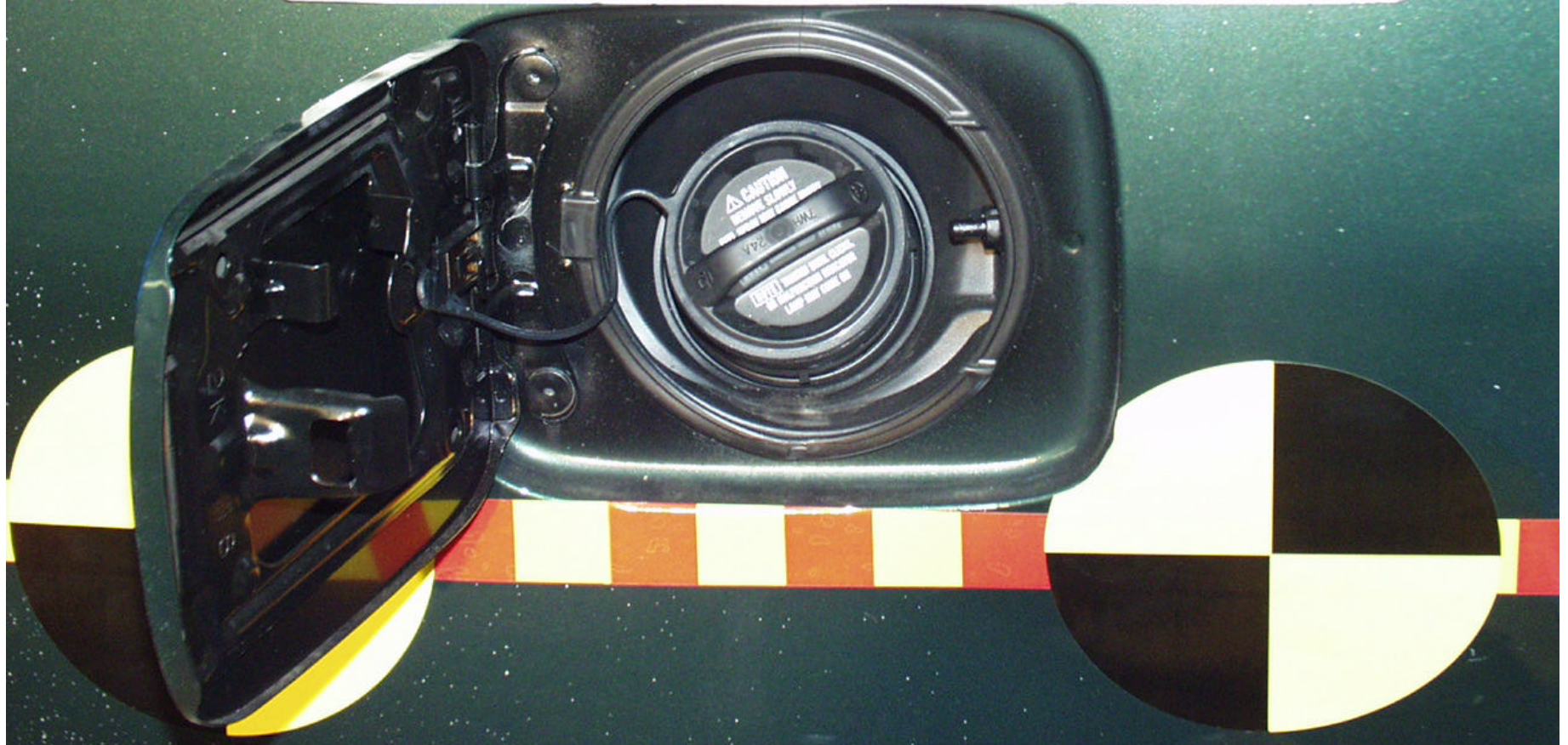


Photo No. A-13 - Pre-Test Fuel Filler Cap View



A-14



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



A-15



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



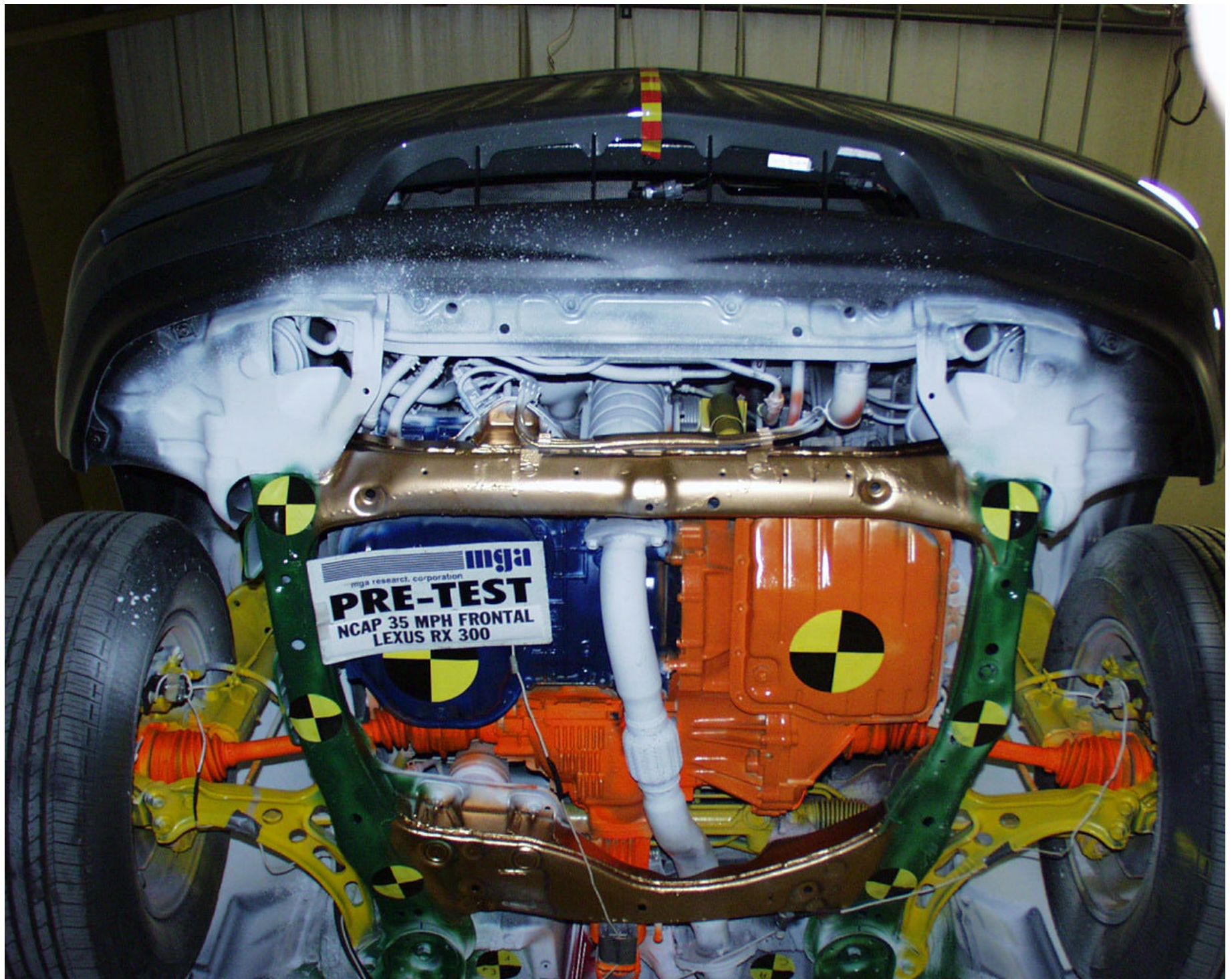


Photo No. A-16 - Pre-Test Front Underbody View





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



A-18

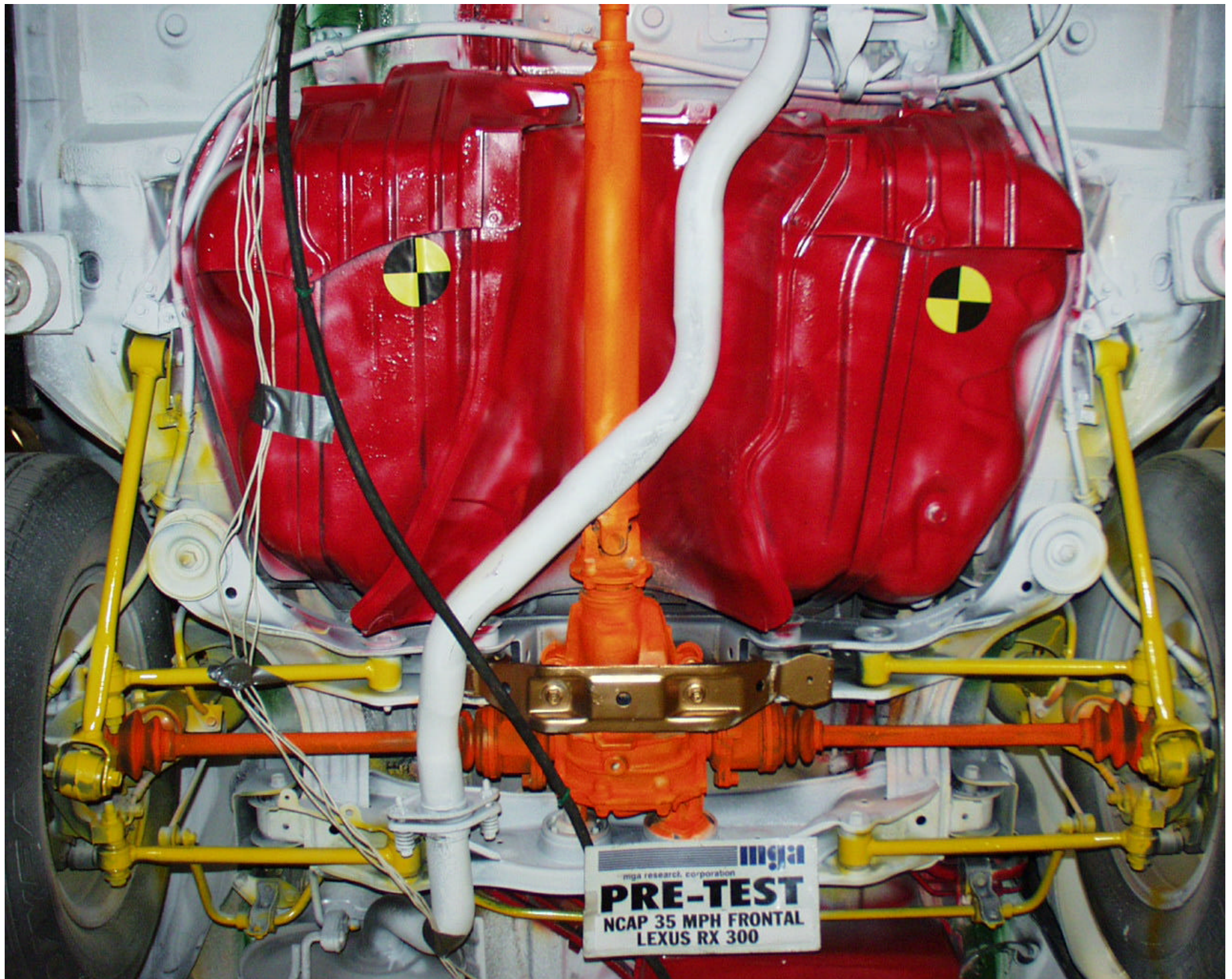


Photo No. A-18 - Pre-Test Rear Underbody View



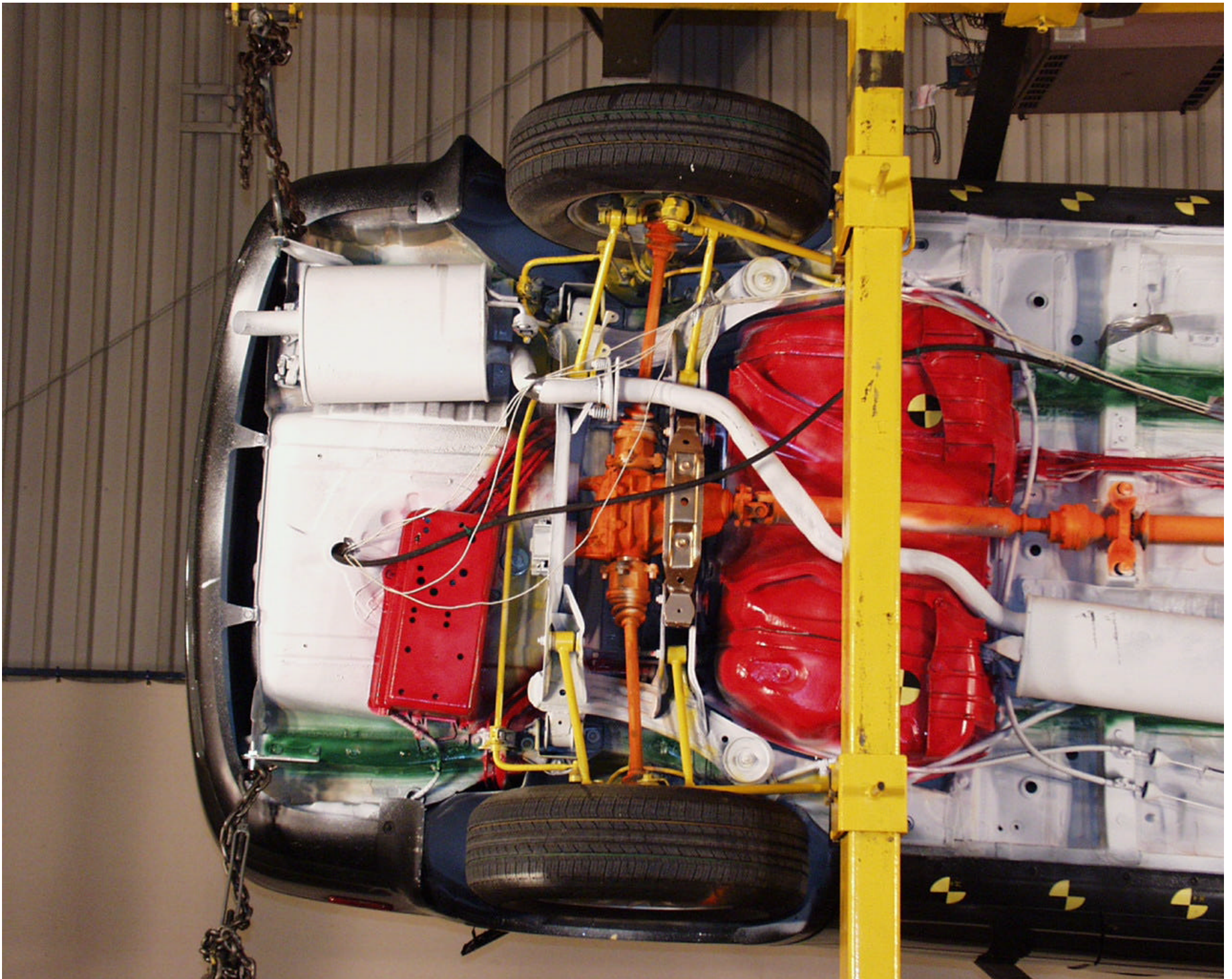


Photo No. A-19 - Post-Test Rear Underbody View



A-20

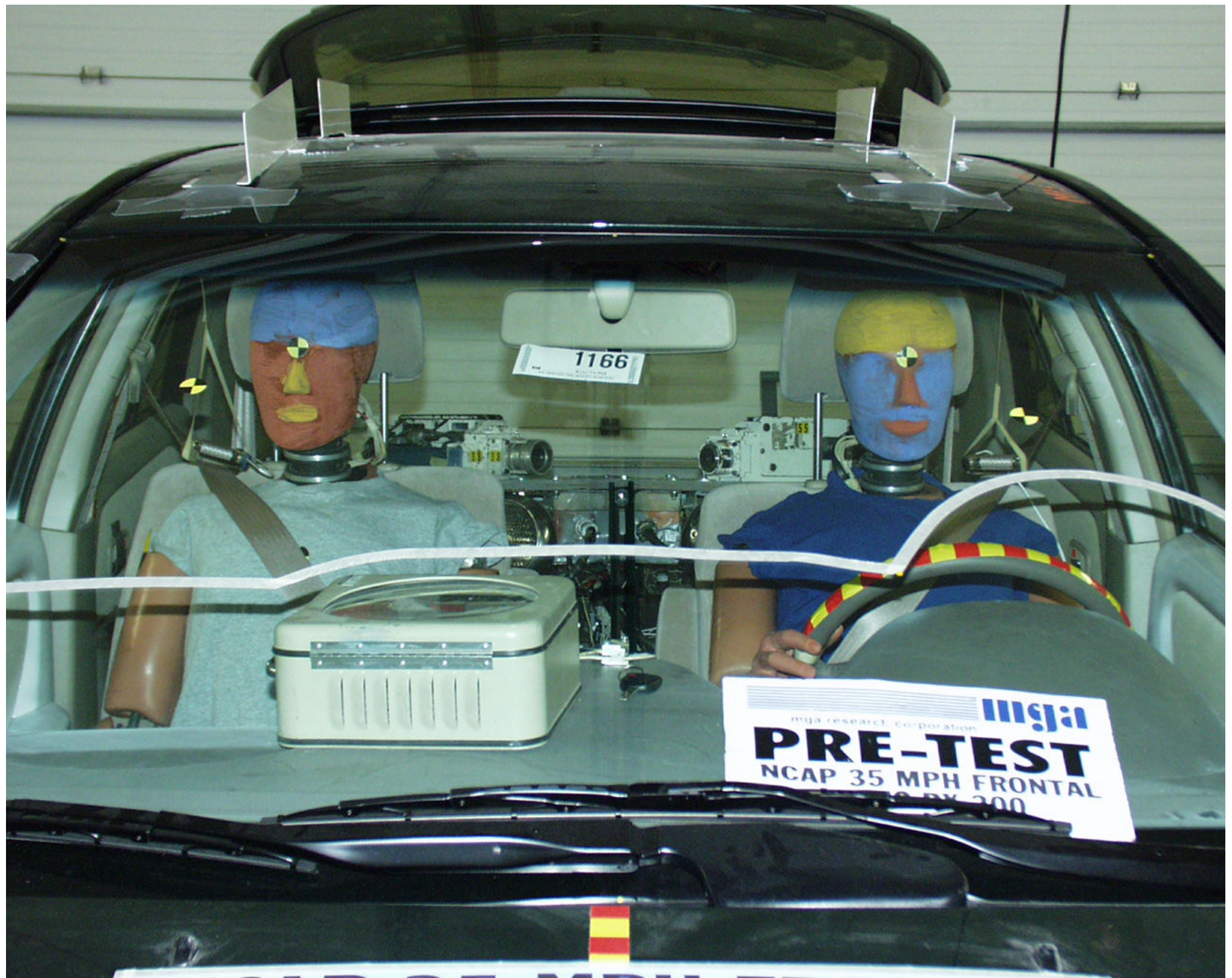


Photo No. A-20 - Pre-Test Windshield View



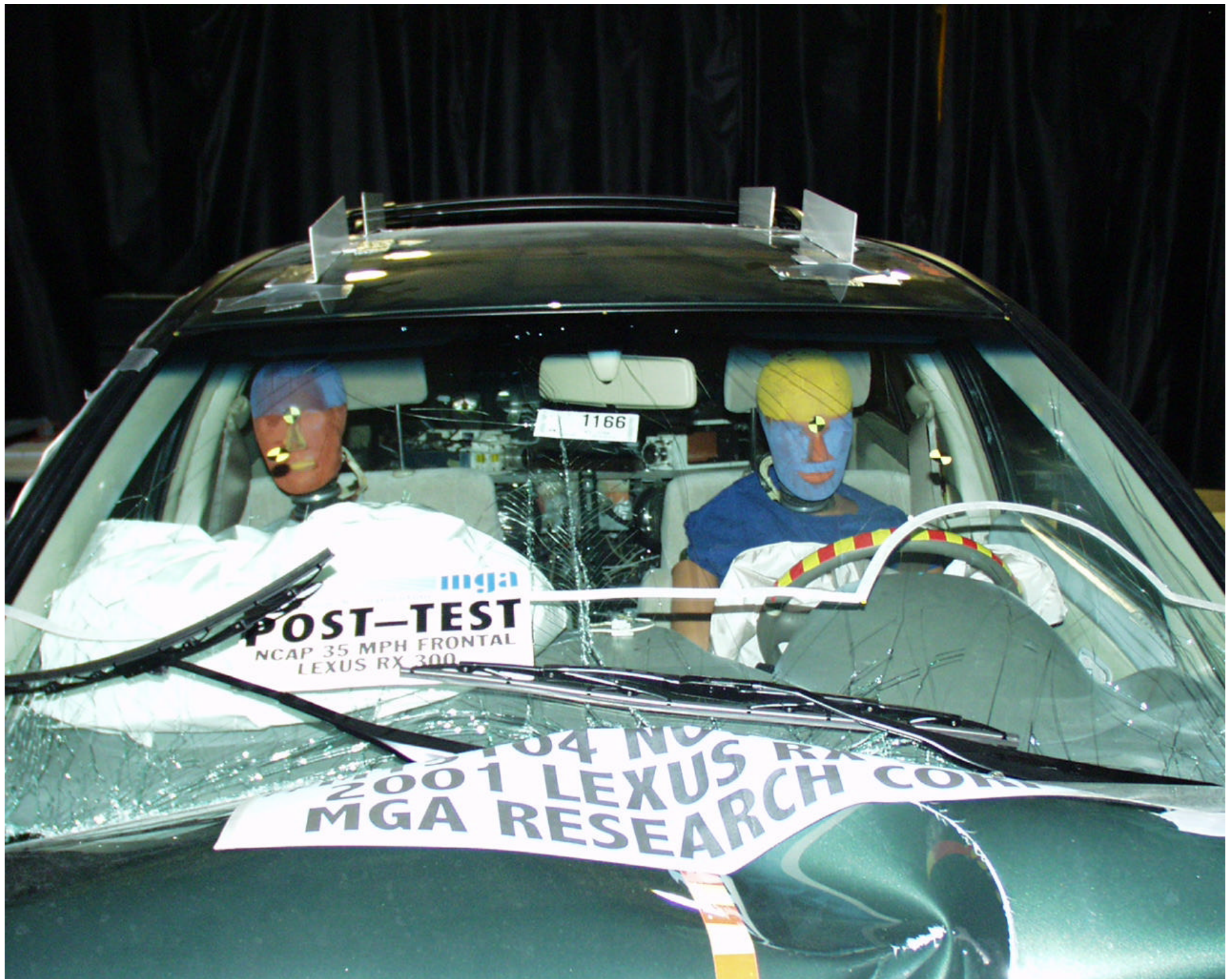


Photo No. A-21 - Post-Test Windshield View





Photo No. A-22 - Pre-Test Driver Dummy Position Left Side View



A-23



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



Photo No. A-24 - Pre-Test Driver Dummy Position Left Side View (Door Open)





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



mga research corporation

# PRE-TEST

## NCAP 35 MPH FRONTAL LEXUS RX 300

A-26



Photo No. A-26 - Pre-Test Driver Seat Position View





Photo No. A-27 - Post-Test Driver Seat Position View



A-28



Photo No. A-28 - Pre-Test Driver Dummy Knee Position





Photo No. A-29 - Post-Test Driver Dummy Knee Position



A-30



Photo No. A-30 - Post-Test Driver Airbag Contact



A-31



Photo No. A-31 - Post-Test Driver Knee Contact View





Photo No. A-32 - Pre-Test Driver Windshield View



A-33

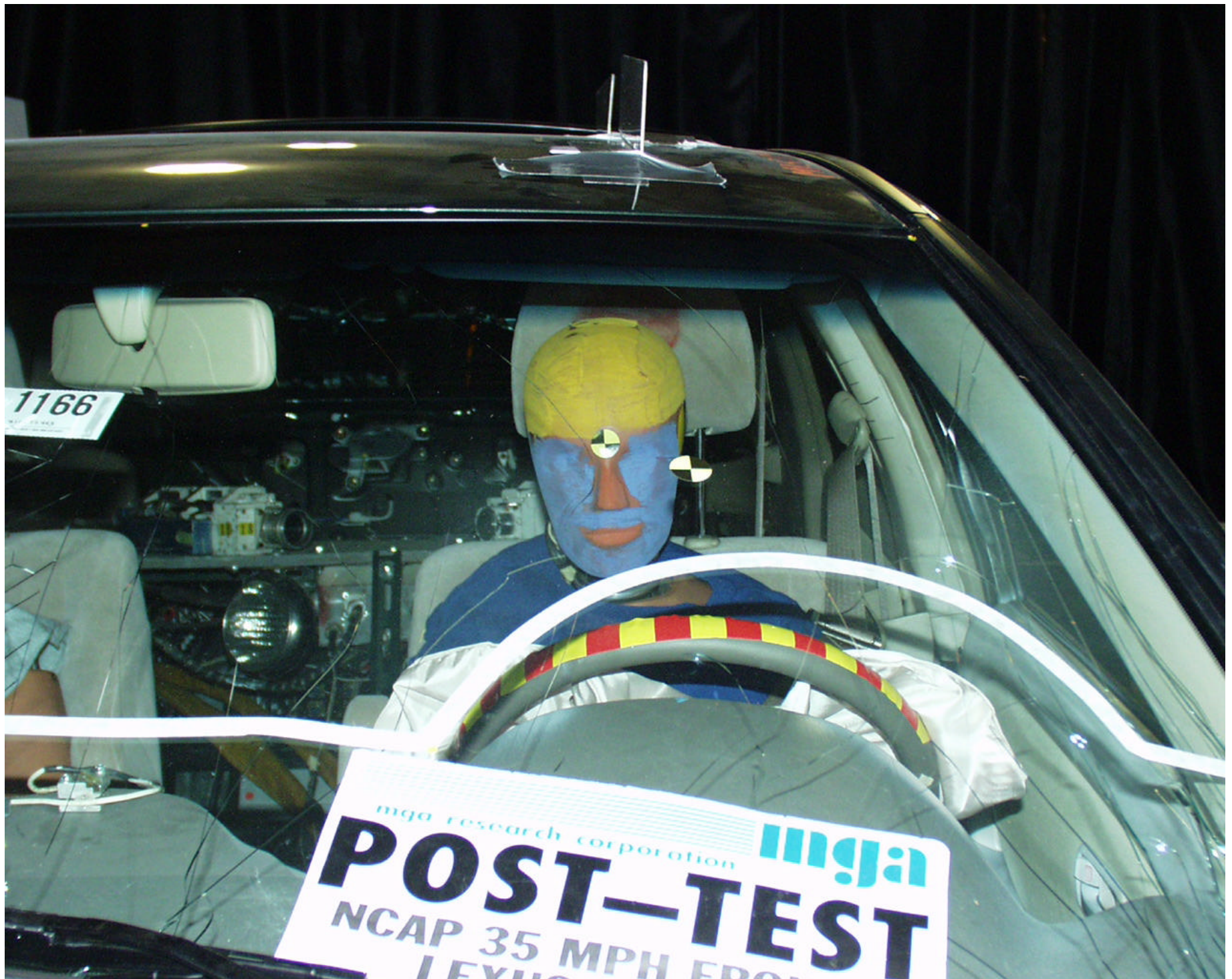


Photo No. A-33 - Post-Test Driver Windshield View





Photo No. A-34 - Pre-Test Passenger Dummy Position Right Side View



A-35



Photo No. A-35 - Post-Test Passenger Dummy Position Right Side View





Photo No. A-36 - Pre-Test Pass. Dummy Position Right Side View (Door Open)





Photo No. A-37 - Post-Test Pass. Dummy Position Right Side View (Door Open)





Photo No. A-38 - Pre-Test Passenger Seat Position View



mga research corporation

**POST-TEST**

**NCAP 35 MPH FRONTAL  
LEXUS RX 300**

A-39



Photo No. A-39 - Post-Test Passenger Seat Position View



A-40



Photo No. A-40 - Pre-Test Passenger Dummy Knee Position



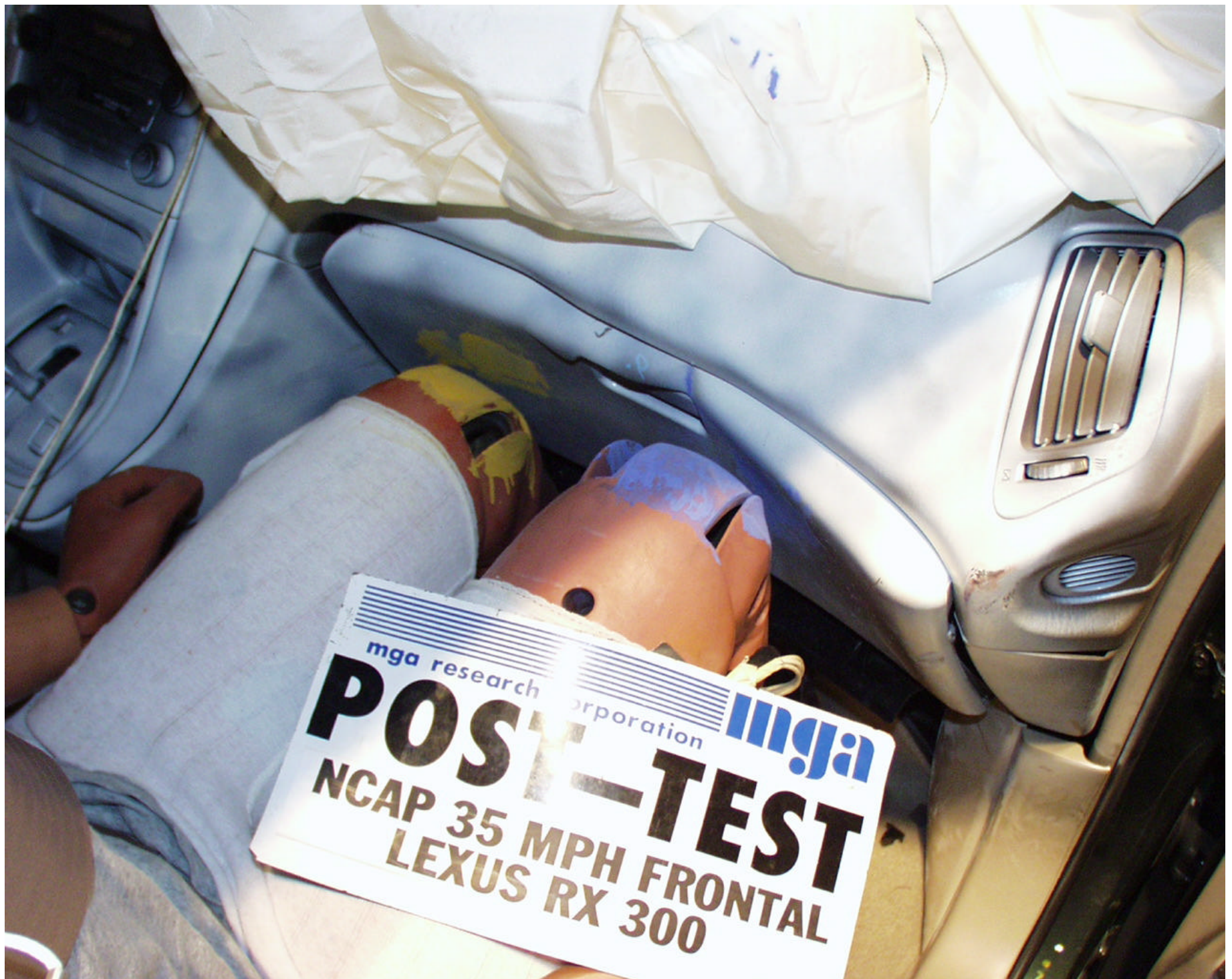


Photo No. A-41 - Post-Test Passenger Dummy Knee Position



A-42



Photo No. A-42 - Post-Test Passenger Airbag Contact



A-43



Photo No. A-43 - Post-Test Passenger Knee Contact View



A-44

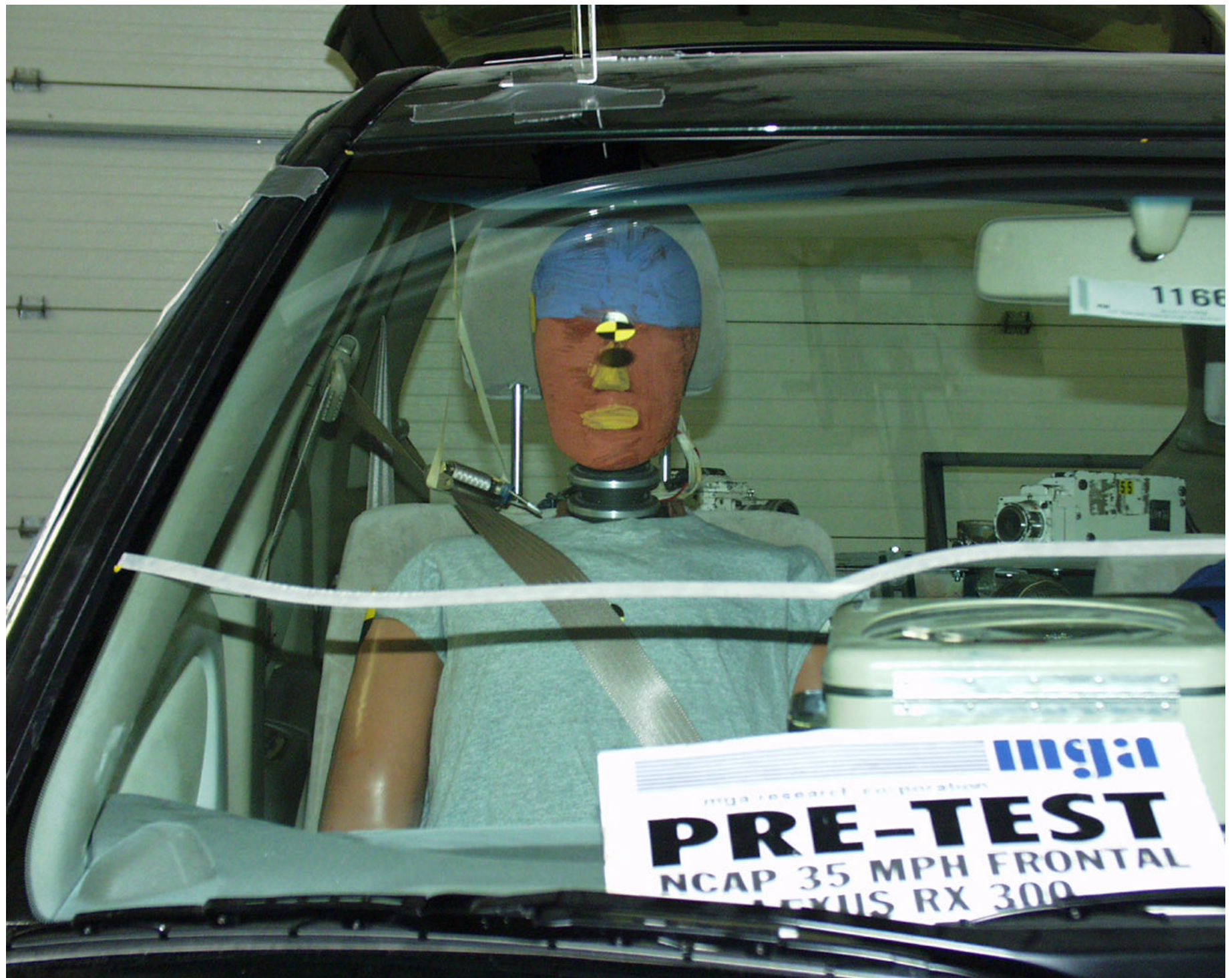


Photo No. A-44 - Pre-Test Passenger Windshield View



A-45

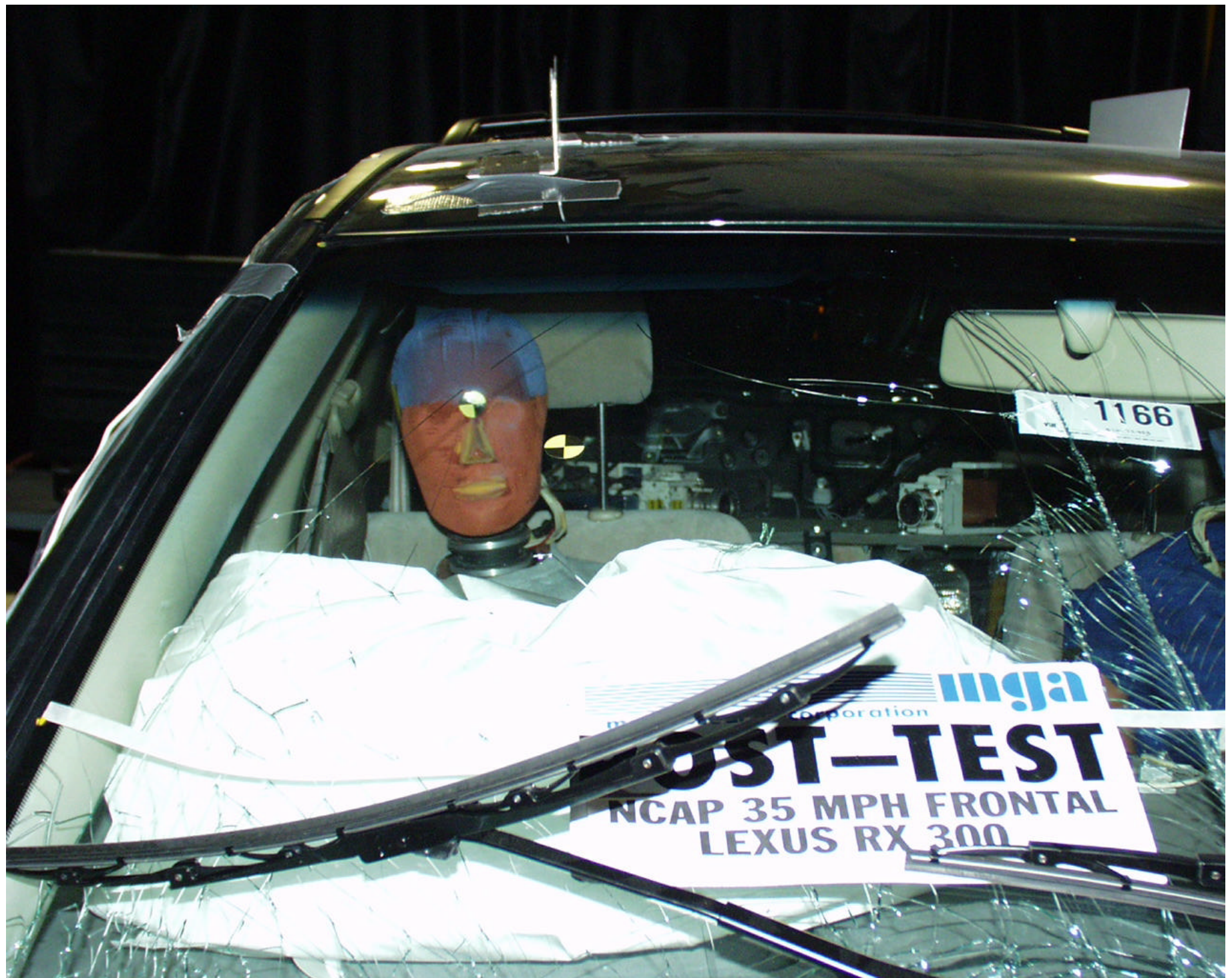


Photo No. A-45 - Post-Test Passenger Windshield View



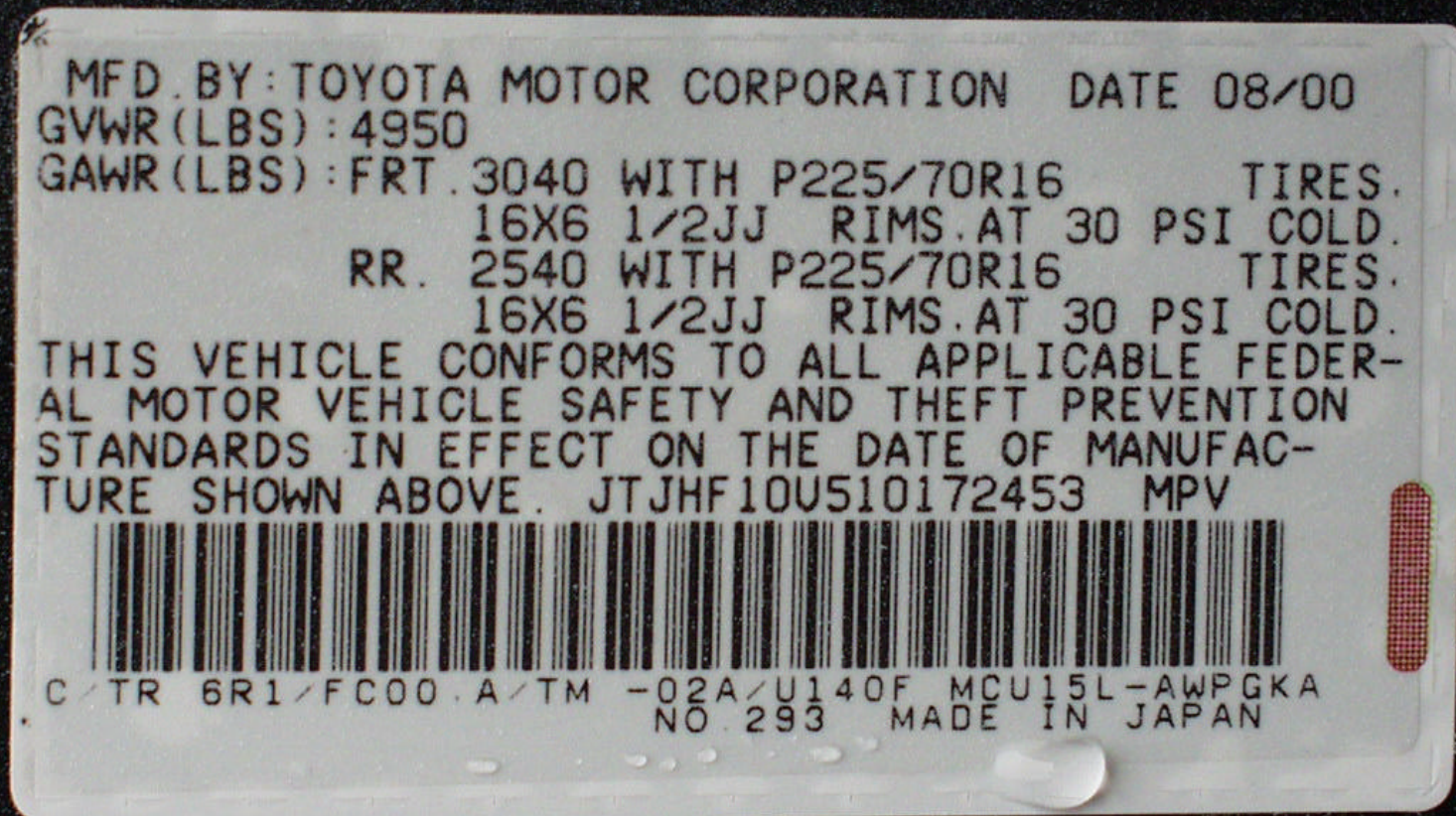


Photo No. A-46 - Vehicle Certification Label



## TIRE-LOADING INFORMATION

- CHARGE MAXIMALE DU VEHICULE  
380kg (840 LIVRES)
- PERSONNES AVANT 2 ARRIERE 3 TOTAL 5
- DIMENSION DES PNEUS P225/70R16 101S
- PRESSION DE PNEUS (kPa (LB/PO<sup>2</sup>))  
AU POIDS MAXIMAL DU VEHICULE CHARGE  
AVANT 210 (30) ARRIERE 210 (30)  
POUR DE PLUS AMPLES DETAILS,  
VOIR LE MANUEL DU PROPRIETAIRE

48060

- VEHICLE CAPACITY WEIGHT  
380kg (840 lbs)
- OCCUPANTS FRT. 2 RR. 3 TOTAL 5
- TIRE SIZE P225/70R16 101S
- COLD TIRE PRESSURE (kPa (psi))  
UP TO VEHICLE CAPACITY WEIGHT  
FRT. 210 (30) RR. 210 (30)  
SEE OWNER'S MANUAL FOR  
ADDITIONAL INFORMATION

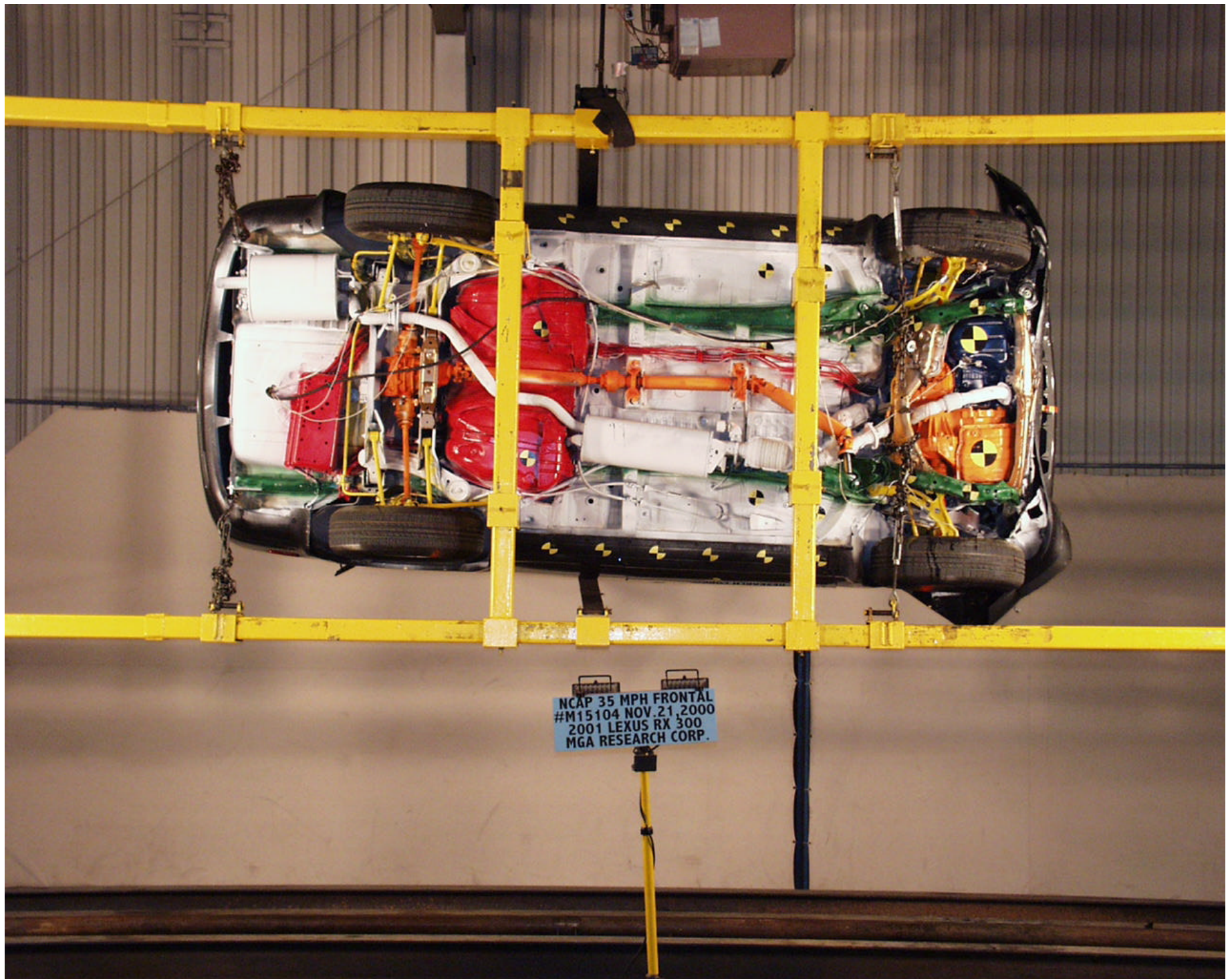
0 S





Photo No. A-48 - Vehicle Impact





A-49

Photo No. A-49 - Rollover 90E





A-50

Photo No. A-50 - Rollover 180E



A-51



Photo No. A-51 - Rollover 270E





Photo No. A-52 - Rollover 360E



APPENDIX B  
VEHICLE, LOAD CELL BARRIER AND DUMMY RESPONSE DATA

2001 Lexus RX300 4-Door SUV

VEHICLE DATA FILTER CHANNEL CLASS

Head Accelerations 1000 (1650 Hz)

Chest Accelerations 180 (300 Hz)

Vehicle Accelerations 60 (100 Hz)

Barrier Load Cells 60 (100 Hz)

Femur Load Cells 600 (1000 Hz)

Lap and Torso Belts 60 (100 Hz)

Occupant Data

Page No.

|                                                                    |      |
|--------------------------------------------------------------------|------|
| Figure B-1 - Driver Head X Acceleration vs. Time                   | B-1  |
| Figure B-2 - Driver Head Y Acceleration vs. Time                   | B-2  |
| Figure B-3 - Driver Head Z Acceleration vs. Time                   | B-3  |
| Figure B-4 - Driver Head Resultant Acceleration vs. Time           | B-4  |
| Figure B-5 - Driver Head X Velocity vs. Time                       | B-5  |
| Figure B-6 - Driver Head Redundant X Acceleration vs. Time         | B-6  |
| Figure B-7 - Driver Head Redundant Y Acceleration vs. Time         | B-7  |
| Figure B-8 - Driver Head Redundant Z Acceleration vs. Time         | B-8  |
| Figure B-9 - Driver Head Redundant Resultant Acceleration vs. Time | B-9  |
| Figure B-10 - Driver Head Redundant X Velocity vs. Time            | B-10 |
| Figure B-11 - Driver Neck Force X vs. Time                         | B-11 |
| Figure B-12 - Driver Neck Force Y vs. Time                         | B-12 |
| Figure B-13 - Driver Neck Force Z vs. Time                         | B-13 |
| Figure B-14 - Driver Neck Force Resultant vs. Time                 | B-14 |
| Figure B-15 - Driver Neck Moment X vs. Time                        | B-15 |
| Figure B-16 - Driver Neck Moment Y vs. Time                        | B-16 |
| Figure B-17 - Driver Neck Moment Z vs. Time                        | B-17 |
| Figure B-18 - Driver Neck Moment Resultant vs. Time                | B-18 |
| Figure B-19 - Driver Chest X Acceleration vs. Time                 | B-19 |
| Figure B-20 - Driver Chest Y Acceleration vs. Time                 | B-20 |
| Figure B-21 - Driver Chest Z Acceleration vs. Time                 | B-21 |
| Figure B-22 - Driver Chest Resultant Acceleration vs. Time         | B-22 |
| Figure B-23 - Driver Chest X Velocity vs. Time                     | B-23 |
| Figure B-24 - Driver Chest Redundant X Acceleration vs. Time       | B-24 |



Occupant Data: (Cont'd)Page No.

|                                                                      |      |
|----------------------------------------------------------------------|------|
| Figure B-25 - Driver Chest Redundant Y Acceleration vs. Time         | B-25 |
| Figure B-26 - Driver Chest Redundant Z Acceleration vs. Time         | B-26 |
| Figure B-27 - Driver Chest Redundant Resultant Acceleration vs. Time | B-27 |
| Figure B-28 - Driver Chest Redundant X Velocity vs. Time             | B-28 |
| Figure B-29 - Driver Chest Compression vs. Time                      | B-29 |
| Figure B-30 - Driver Pelvis X Acceleration vs. Time                  | B-30 |
| Figure B-31 - Driver Pelvis Y Acceleration vs. Time                  | B-31 |
| Figure B-32 - Driver Pelvis Z Acceleration vs. Time                  | B-32 |
| Figure B-33 - Driver Pelvis Resultant Acceleration vs. Time          | B-33 |
| Figure B-34 - Driver Pelvis X Velocity vs. Time                      | B-34 |
| Figure B-35 - Driver Left Femur Force vs. Time                       | B-35 |
| Figure B-36 - Driver Right Femur Force vs. Time                      | B-36 |
| Figure B-37 - Driver Left Upper Tibia Moment X vs. Time              | B-37 |
| Figure B-38 - Driver Left Upper Tibia Moment Y vs. Time              | B-38 |
| Figure B-39 - Driver Left Upper Tibia Force Z vs. Time               | B-39 |
| Figure B-40 - Driver Left Lower Tibia Moment X vs. Time              | B-40 |
| Figure B-41 - Driver Left Lower Tibia Moment Y vs. Time              | B-41 |
| Figure B-42 - Driver Left Lower Tibia Force Z vs. Time               | B-42 |
| Figure B-43 - Driver Right Upper Tibia Moment X vs. Time             | B-43 |
| Figure B-44 - Driver Right Upper Tibia Moment Y vs. Time             | B-44 |
| Figure B-45 - Driver Right Upper Tibia Force Z vs. Time              | B-45 |
| Figure B-46 - Driver Right Lower Tibia Moment X vs. Time             | B-46 |
| Figure B-47 - Driver Right Lower Tibia Moment Y vs. Time             | B-47 |
| Figure B-48 - Driver Right Lower Tibia Force Z vs. Time              | B-48 |
| Figure B-49 - Driver Left Foot Ball Z Acceleration vs. Time          | B-49 |
| Figure B-50 - Driver Left Heel X Acceleration vs. Time               | B-50 |
| Figure B-51 - Driver Left Heel Z Acceleration vs. Time               | B-51 |
| Figure B-52 - Driver Right Foot Ball Z Acceleration vs. Time         | B-52 |
| Figure B-53 - Driver Right Heel X Acceleration vs. Time              | B-53 |
| Figure B-54 - Driver Right Heel Z Acceleration vs. Time              | B-54 |
| Figure B-55 - Driver Shoulder Belt Force vs. Time                    | B-55 |
| Figure B-56 - Driver Lap Belt Force vs. Time                         | B-56 |

Occupant Data: (Cont'd)Page No.

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Figure B-57 - Passenger Head X Acceleration vs. Time                    | B-57 |
| Figure B-58 - Passenger Head Y Acceleration vs. Time                    | B-58 |
| Figure B-59 - Passenger Head Z Acceleration vs. Time                    | B-59 |
| Figure B-60 - Passenger Head Resultant Acceleration vs. Time            | B-60 |
| Figure B-61 - Passenger Head X Velocity vs. Time                        | B-61 |
| Figure B-62 - Passenger Head Redundant X Acceleration vs. Time          | B-62 |
| Figure B-63 - Passenger Head Redundant Y Acceleration vs. Time          | B-63 |
| Figure B-64 - Passenger Head Redundant Z Acceleration vs. Time          | B-64 |
| Figure B-65 - Passenger Head Redundant Resultant Acceleration vs. Time  | B-65 |
| Figure B-66 - Passenger Head Redundant X Velocity vs. Time              | B-66 |
| Figure B-67 - Passenger Neck Force X vs. Time                           | B-67 |
| Figure B-68 - Passenger Neck Force Y vs. Time                           | B-68 |
| Figure B-69 - Passenger Neck Force Z vs. Time                           | B-69 |
| Figure B-70 - Passenger Neck Force Resultant vs. Time                   | B-70 |
| Figure B-71 - Passenger Neck Moment X vs. Time                          | B-71 |
| Figure B-72 - Passenger Neck Moment Y vs. Time                          | B-72 |
| Figure B-73 - Passenger Neck Moment Z vs. Time                          | B-73 |
| Figure B-74 - Passenger Neck Moment Resultant vs. Time                  | B-74 |
| Figure B-75 - Passenger Chest X Acceleration vs. Time                   | B-75 |
| Figure B-76 - Passenger Chest Y Acceleration vs. Time                   | B-76 |
| Figure B-77 - Passenger Chest Z Acceleration vs. Time                   | B-77 |
| Figure B-78 - Passenger Chest Resultant Acceleration vs. Time           | B-78 |
| Figure B-79 - Passenger Chest X Velocity vs. Time                       | B-79 |
| Figure B-80 - Passenger Chest Redundant X Acceleration vs. Time         | B-80 |
| Figure B-81 - Passenger Chest Redundant Y Acceleration vs. Time         | B-81 |
| Figure B-82 - Passenger Chest Redundant Z Acceleration vs. Time         | B-82 |
| Figure B-83 - Passenger Chest Redundant Resultant Acceleration vs. Time | B-83 |
| Figure B-84 - Passenger Chest Redundant X Velocity vs. Time             | B-84 |
| Figure B-85 - Passenger Chest Compression vs. Time                      | B-85 |
| Figure B-86 - Passenger Pelvis X Acceleration vs. Time                  | B-86 |
| Figure B-87 - Passenger Pelvis Y Acceleration vs. Time                  | B-87 |
| Figure B-88 - Passenger Pelvis Z Acceleration vs. Time                  | B-88 |



Occupant Data: (Cont'd)Page No.

|                                                                  |       |
|------------------------------------------------------------------|-------|
| Figure B-89 - Passenger Pelvis Resultant Acceleration vs. Time   | B-89  |
| Figure B-90 - Passenger Pelvis X Velocity vs. Time               | B-90  |
| Figure B-91 - Passenger Left Femur Force vs. Time                | B-91  |
| Figure B-92 - Passenger Right Femur Force vs. Time               | B-92  |
| Figure B-93 - Passenger Left Upper Tibia Moment X vs. Time       | B-93  |
| Figure B-94 - Passenger Left Upper Tibia Moment Y vs. Time       | B-94  |
| Figure B-95 - Passenger Left Upper Tibia Force Z vs. Time        | B-95  |
| Figure B-96 - Passenger Left Lower Tibia Moment X vs. Time       | B-96  |
| Figure B-97 - Passenger Left Lower Tibia Moment Y vs. Time       | B-97  |
| Figure B-98 - Passenger Left Lower Tibia Force Z vs. Time        | B-98  |
| Figure B-99 - Passenger Right Upper Tibia Moment X vs. Time      | B-99  |
| Figure B-100 - Passenger Right Upper Tibia Moment Y vs. Time     | B-100 |
| Figure B-101 - Passenger Right Upper Tibia Force Z vs. Time      | B-101 |
| Figure B-102 - Passenger Right Lower Tibia Moment X vs. Time     | B-102 |
| Figure B-103 - Passenger Right Lower Tibia Moment Y vs. Time     | B-103 |
| Figure B-104 - Passenger Right Lower Tibia Force Z vs. Time      | B-104 |
| Figure B-105 - Passenger Left Foot Ball Z Acceleration vs. Time  | B-105 |
| Figure B-106 - Passenger Left Heel X Acceleration vs. Time       | B-106 |
| Figure B-107 - Passenger Left Heel Z Acceleration vs. Time       | B-107 |
| Figure B-108 - Passenger Right Foot Ball Z Acceleration vs. Time | B-108 |
| Figure B-109 - Passenger Right Heel X Acceleration vs. Time      | B-109 |
| Figure B-110 - Passenger Right Heel Z Acceleration vs. Time      | B-110 |
| Figure B-111 - Passenger Shoulder Belt Force vs. Time            | B-111 |
| Figure B-112 - Passenger Lap Belt Force vs. Time                 | B-112 |

Vehicle and Barrier Data:

|                                                                    |       |
|--------------------------------------------------------------------|-------|
| Figure B-113 - Left Rear Seat Crossmember X Acceleration vs. Time  | B-113 |
| Figure B-114 - Left Rear Seat Crossmember X Velocity vs. Time      | B-114 |
| Figure B-115 - Left Rear Seat Crossmember X Displacement vs. Time  | B-115 |
| Figure B-116 - Right Rear Seat Crossmember X Acceleration vs. Time | B-116 |
| Figure B-117 - Right Rear Seat Crossmember X Velocity vs. Time     | B-117 |
| Figure B-118 - Right Rear Seat Crossmember X Displacement vs. Time | B-118 |

| <u>Vehicle and Barrier Data:</u>                                             | <u>Page No.</u> |
|------------------------------------------------------------------------------|-----------------|
| Figure B-119 - Top of Engine Block X Acceleration vs. Time                   | B-119           |
| Figure B-120 - Top of Engine Block X Velocity vs. Time                       | B-120           |
| Figure B-121 - Top of Engine Block X Displacement vs. Time                   | B-121           |
| Figure B-122 - Bottom of Engine X Acceleration vs. Time                      | B-122           |
| Figure B-123 - Bottom of Engine X Velocity vs. Time                          | B-123           |
| Figure B-124 - Bottom of Engine X Displacement vs. Time                      | B-124           |
| Figure B-125 - Left Front Brake Caliper X Acceleration vs. Time              | B-125           |
| Figure B-126 - Left Front Brake Caliper X Velocity vs. Time                  | B-126           |
| Figure B-127 - Left Front Brake Caliper X Displacement vs. Time              | B-127           |
| Figure B-128 - Right Front Brake Caliper X Acceleration vs. Time             | B-128           |
| Figure B-129 - Right Front Brake Caliper X Velocity vs. Time                 | B-129           |
| Figure B-130 - Right Front Brake Caliper X Displacement vs. Time             | B-130           |
| Figure B-131 - Instrument Panel X Acceleration vs. Time                      | B-131           |
| Figure B-132 - Instrument Panel X Velocity vs. Time                          | B-132           |
| Figure B-133 - Instrument Panel X Displacement vs. Time                      | B-133           |
| Figure B-134 - Left Rear Seat Crossmember Redundant X Acceleration vs. Time  | B-134           |
| Figure B-135 - Left Rear Seat Crossmember Redundant X Velocity vs. Time      | B-135           |
| Figure B-136 - Left Rear Seat Crossmember Redundant X Displacement vs. Time  | B-136           |
| Figure B-137 - Right Rear Seat Crossmember Redundant X Acceleration vs. Time | B-137           |
| Figure B-138 - Right Rear Seat Crossmember Redundant X Velocity vs. Time     | B-138           |
| Figure B-139 - Right Rear Seat Crossmember Redundant X Displacement vs. Time | B-139           |
| Figure B-140 - Upper Left Barrier Force vs. Time                             | B-140           |
| Figure B-141 - Upper Center Barrier Force vs. Time                           | B-141           |
| Figure B-142 - Upper Right Barrier Force vs. Time                            | B-142           |
| Figure B-143 - Lower Left Barrier Force vs. Time                             | B-143           |
| Figure B-144 - Lower Center Barrier Force vs. Time                           | B-144           |
| Figure B-145 - Lower Right Barrier Force vs. Time                            | B-145           |
| Figure B-146 - Sum of Left Barrier Forces vs. Time                           | B-146           |
| Figure B-147 - Sum of Center Barrier Forces vs. Time                         | B-147           |
| Figure B-148 - Sum of Right Barrier Forces vs. Time                          | B-148           |
| Figure B-149 - Sum of Barrier Forces vs. Time                                | B-149           |





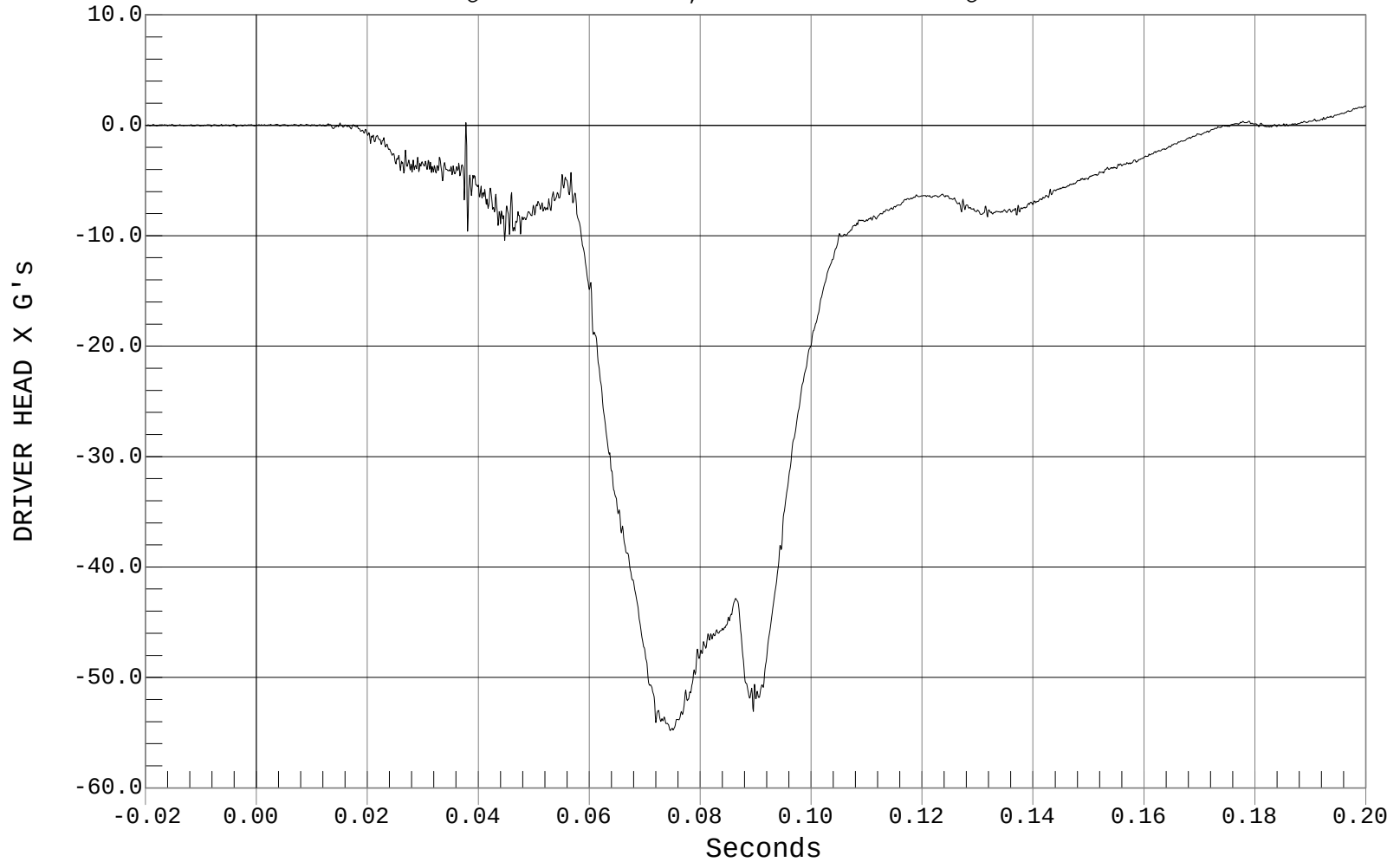
# DRIVER HEAD X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD X, b00097AT.A01

Ymin = -54.82 G's @ 0.0746 Seconds, Ymax = 1.77 G's @ 0.2001 Seconds





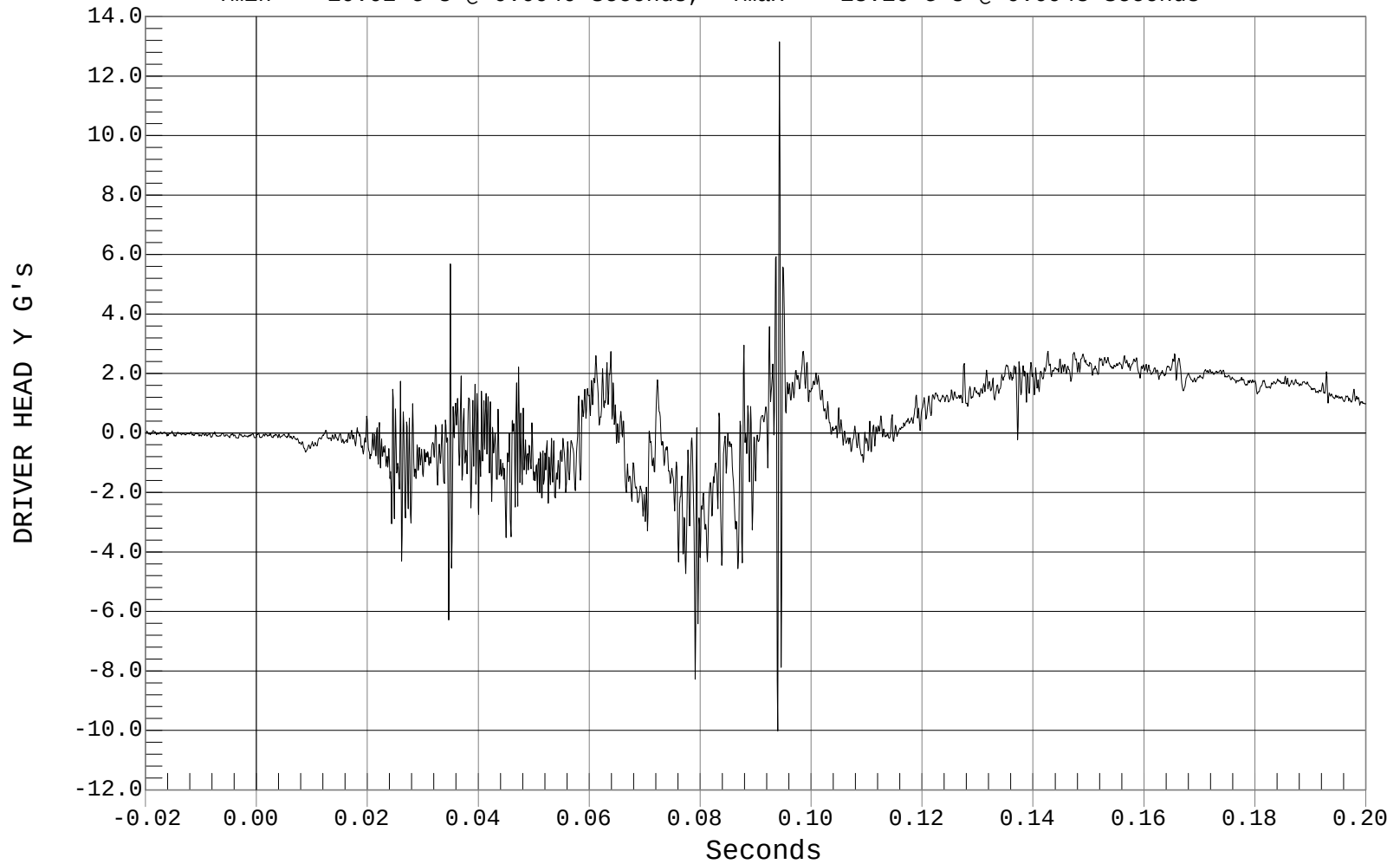
# DRIVER HEAD Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Y, b00097AT.A02

Ymin = -10.02 G's @ 0.0940 Seconds, Ymax = 13.16 G's @ 0.0943 Seconds







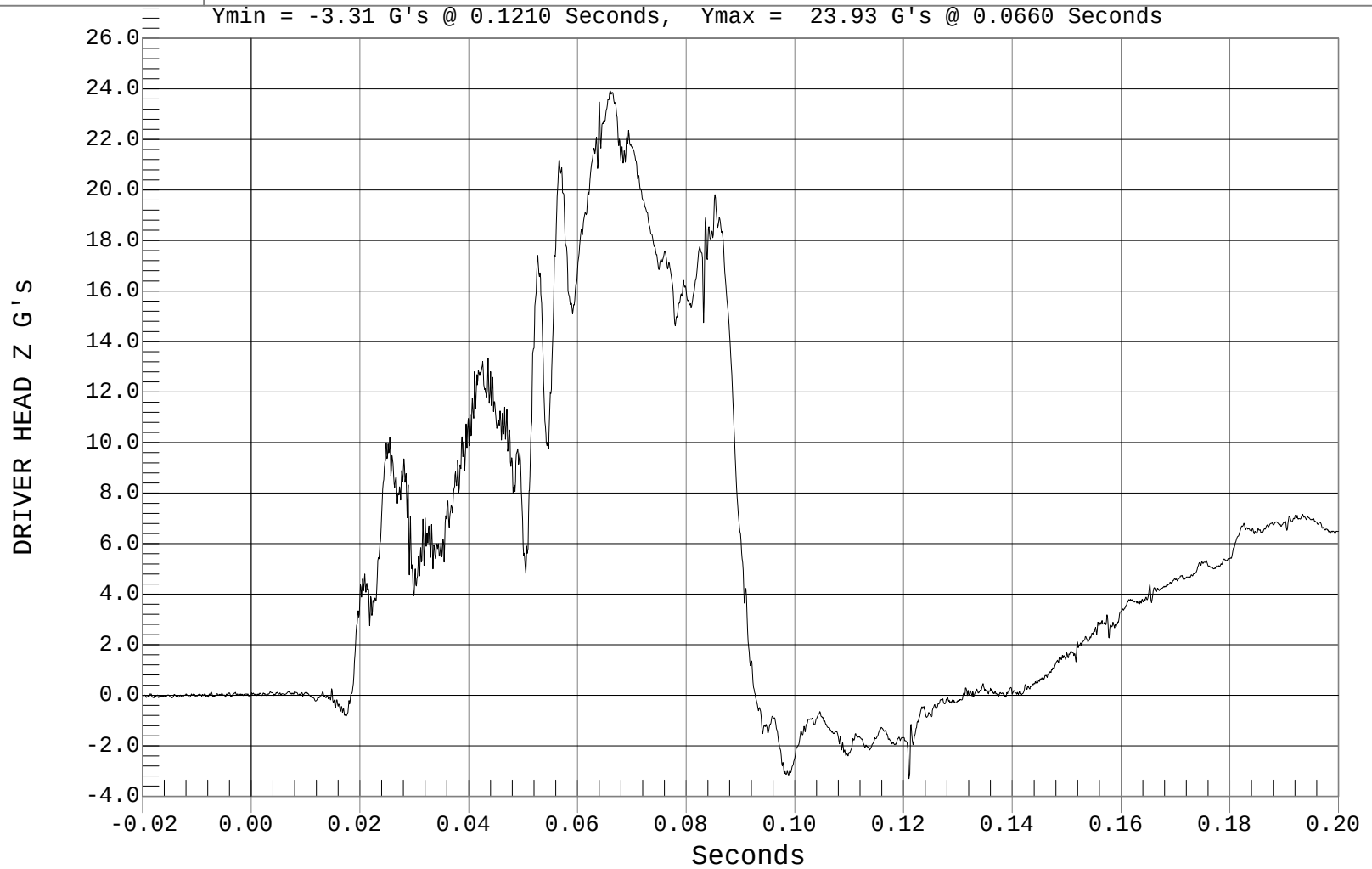
# DRIVER HEAD Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Z, b00097AT.A03

Ymin = -3.31 G's @ 0.1210 Seconds, Ymax = 23.93 G's @ 0.0660 Seconds





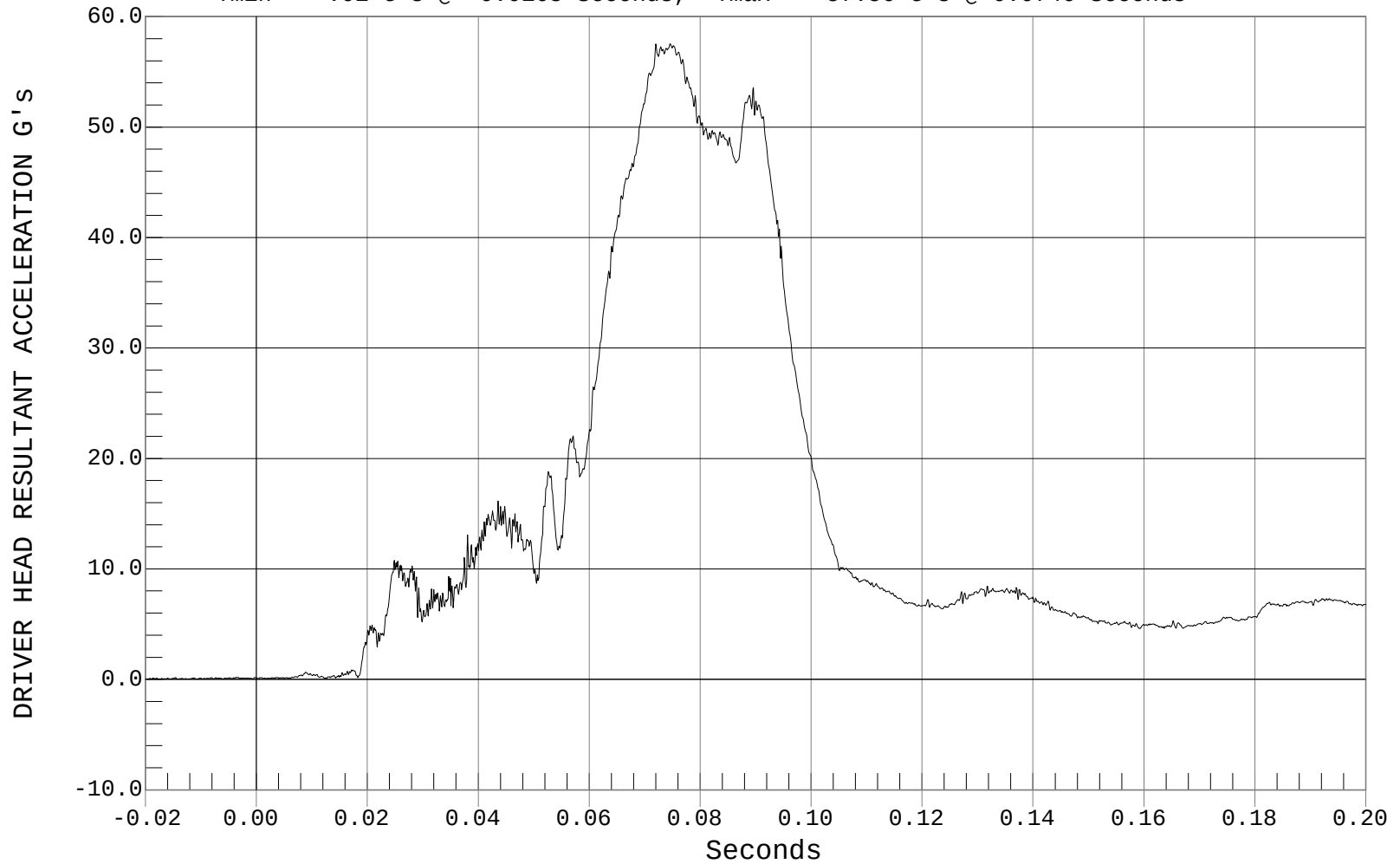
# DRIVER HEAD RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD RESULTANT ACCELERATION, b00097AV.A01

Ymin = .01 G's @ -0.0168 Seconds, Ymax = 57.56 G's @ 0.0746 Seconds





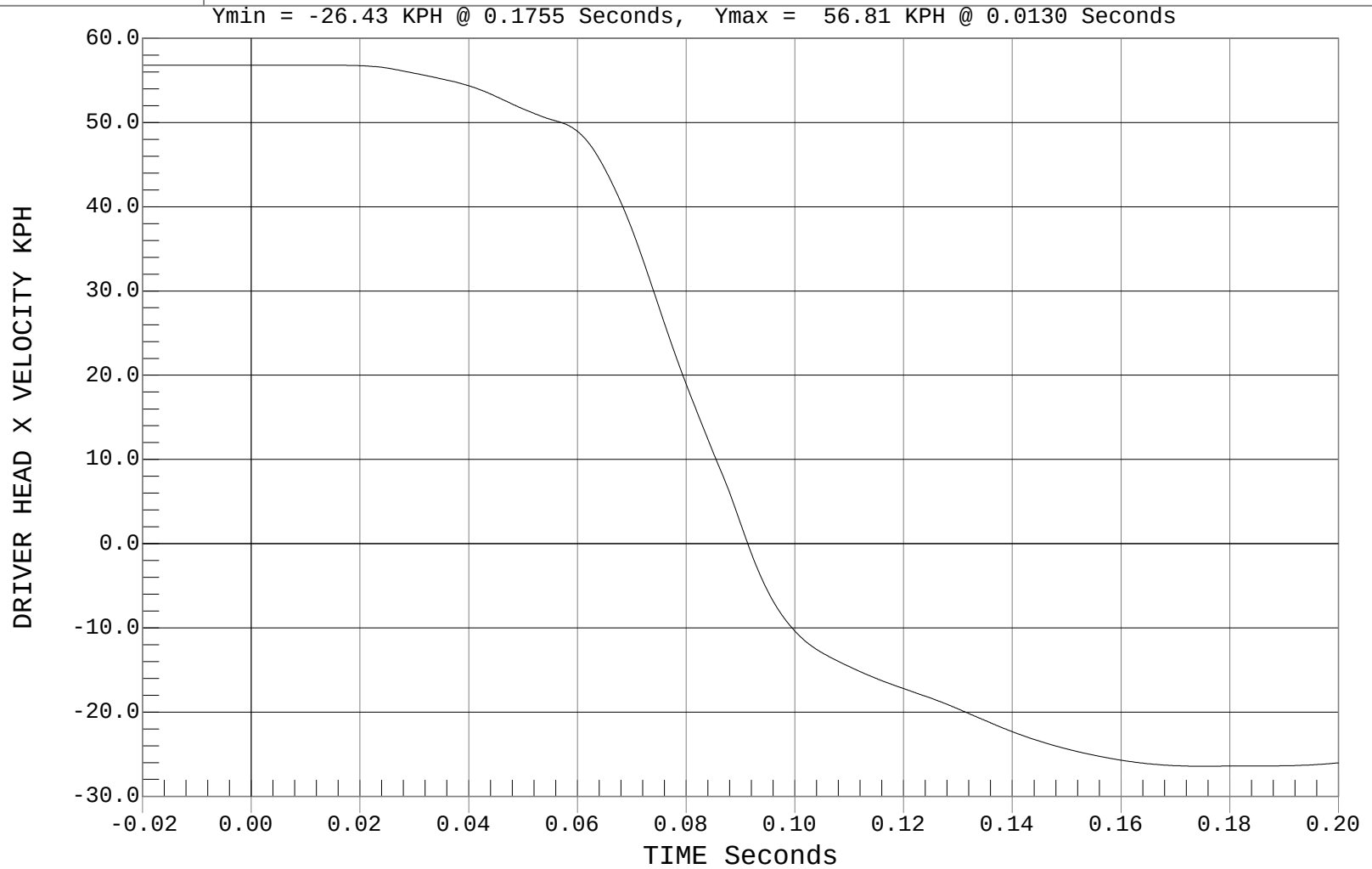


## DRIVER HEAD X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER HEAD X VELOCITY, b00097AI.V01





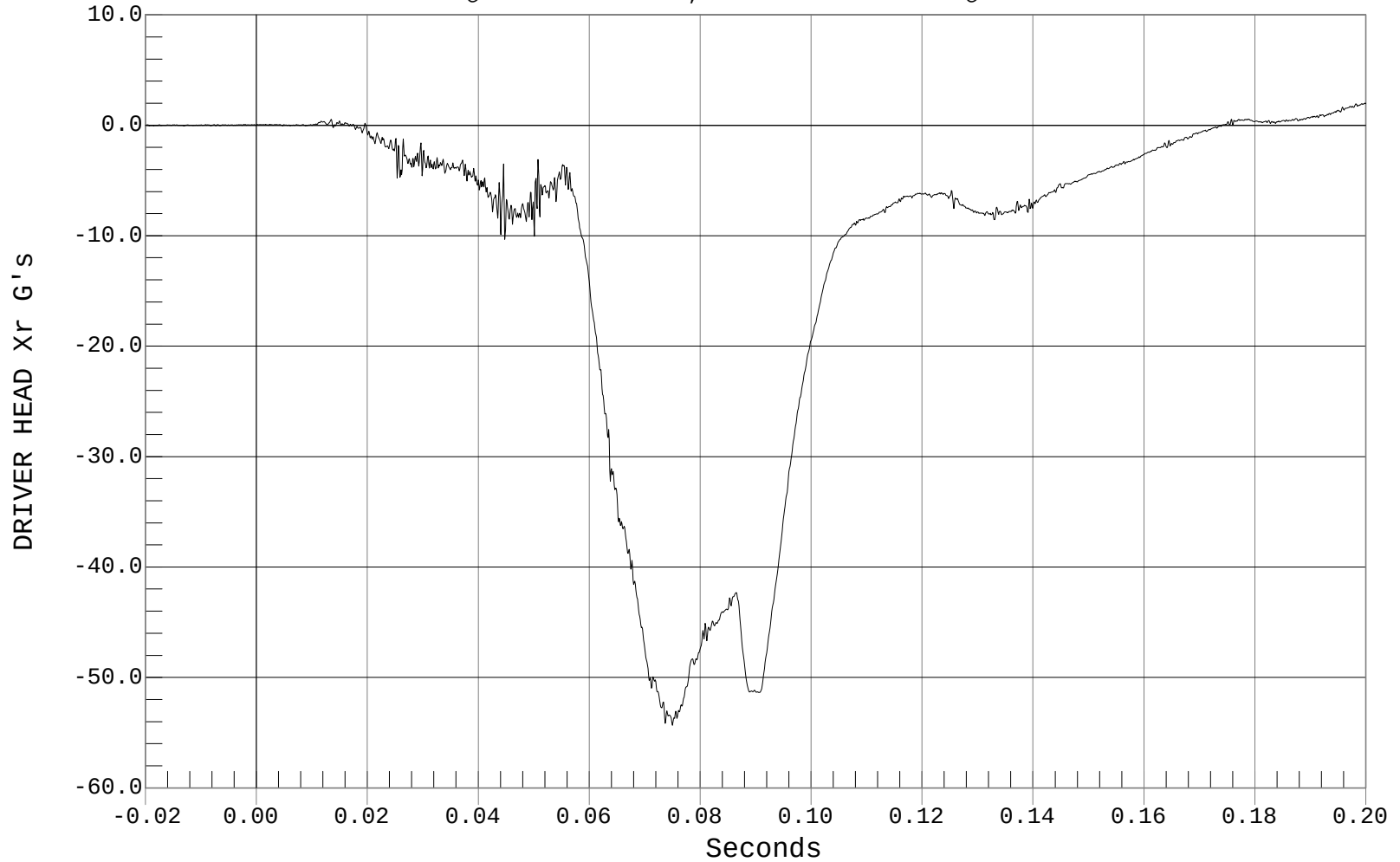
# DRIVER HEAD REDUNDANT X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Xr, b00097AT.A33

Ymin = -54.33 G's @ 0.0750 Seconds, Ymax = 2.02 G's @ 0.1999 Seconds







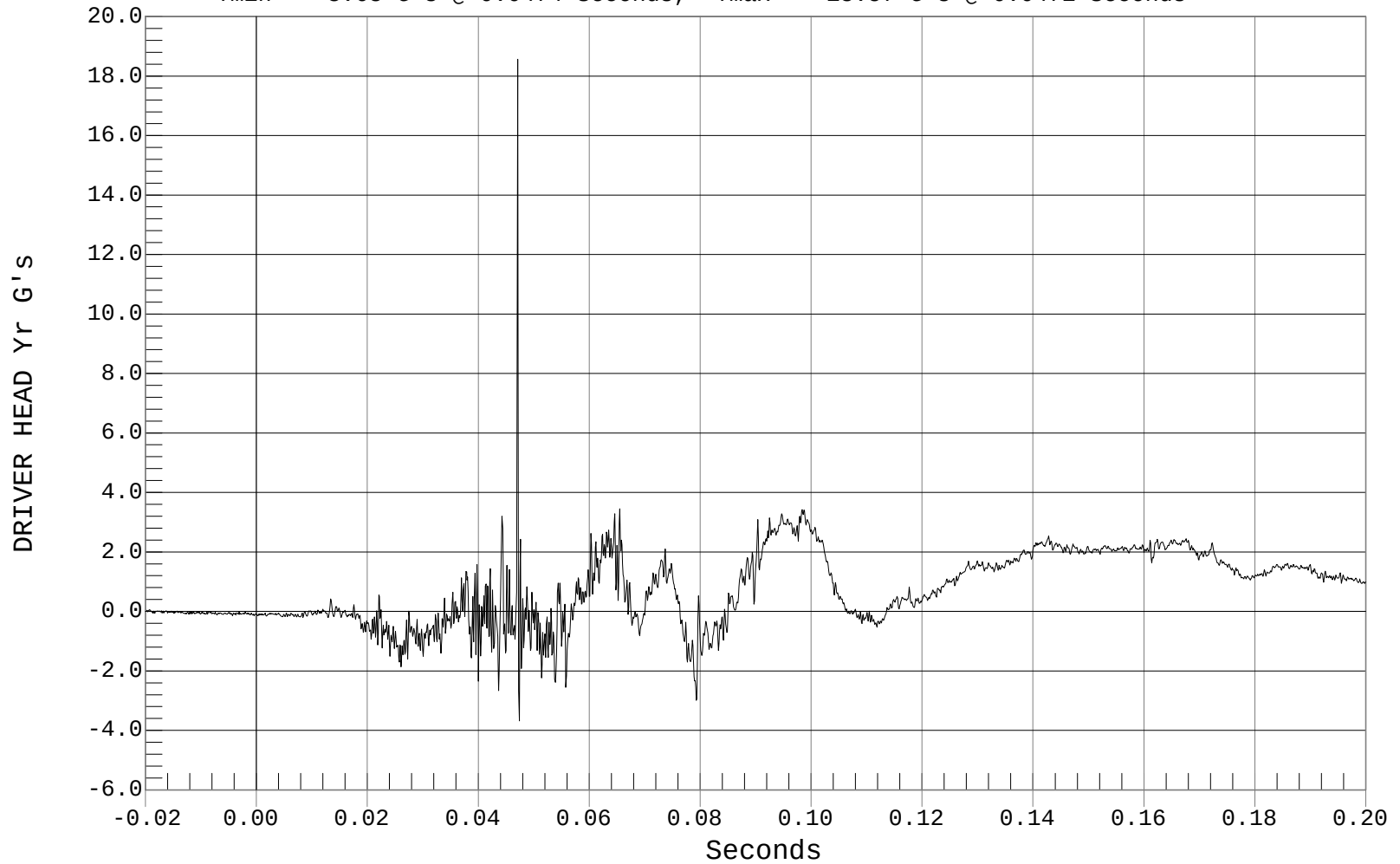
# DRIVER HEAD REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Yr, b00097AT.A34

Ymin = -3.68 G's @ 0.0474 Seconds, Ymax = 18.57 G's @ 0.0471 Seconds





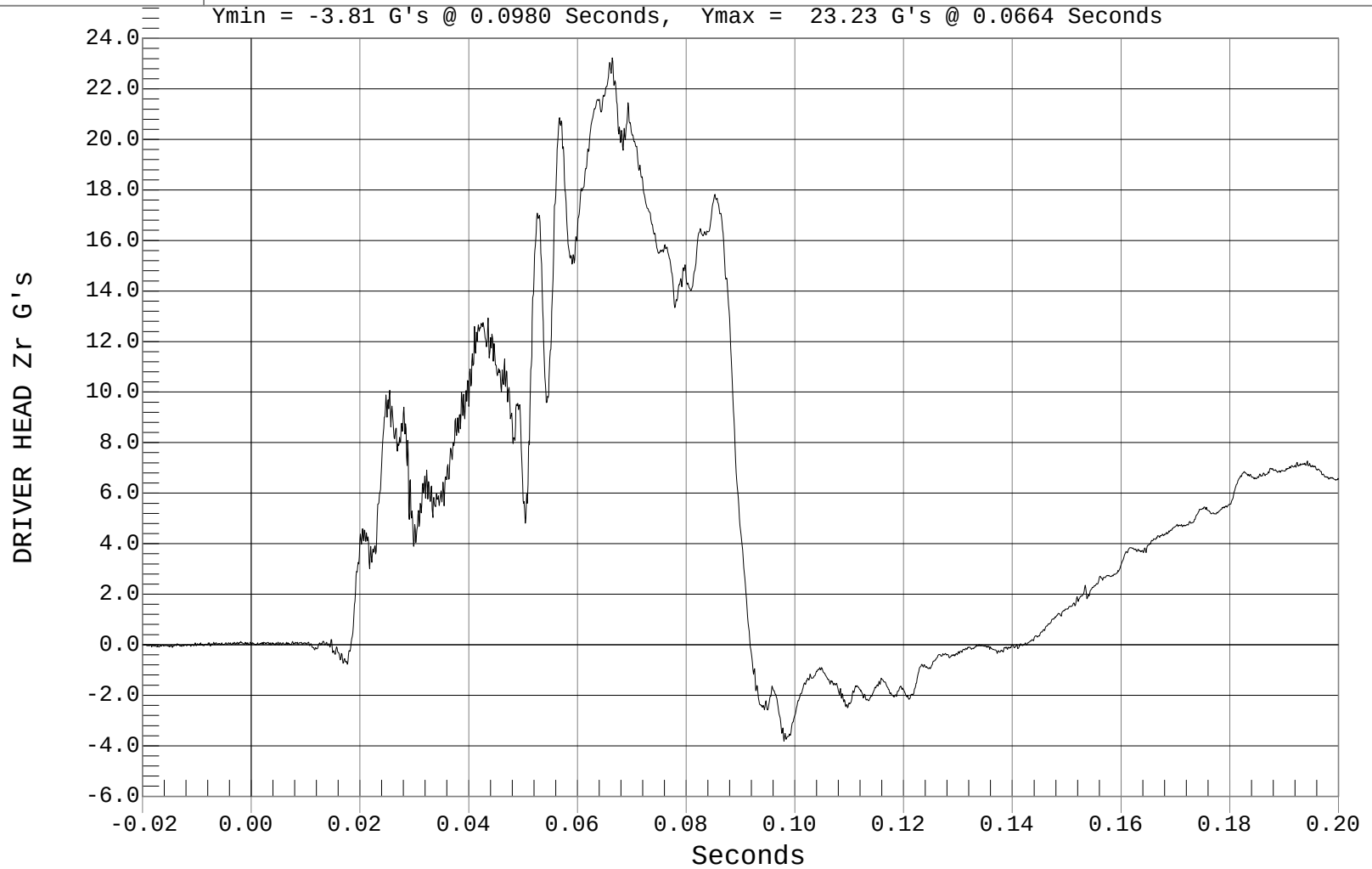
# DRIVER HEAD REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Zr, b00097AT.A35

Ymin = -3.81 G's @ 0.0980 Seconds, Ymax = 23.23 G's @ 0.0664 Seconds







## DRIVER HEAD REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT

Test Date: 11-21-00

Component: 2001 LEXUS RX300 4-DOOR SUV

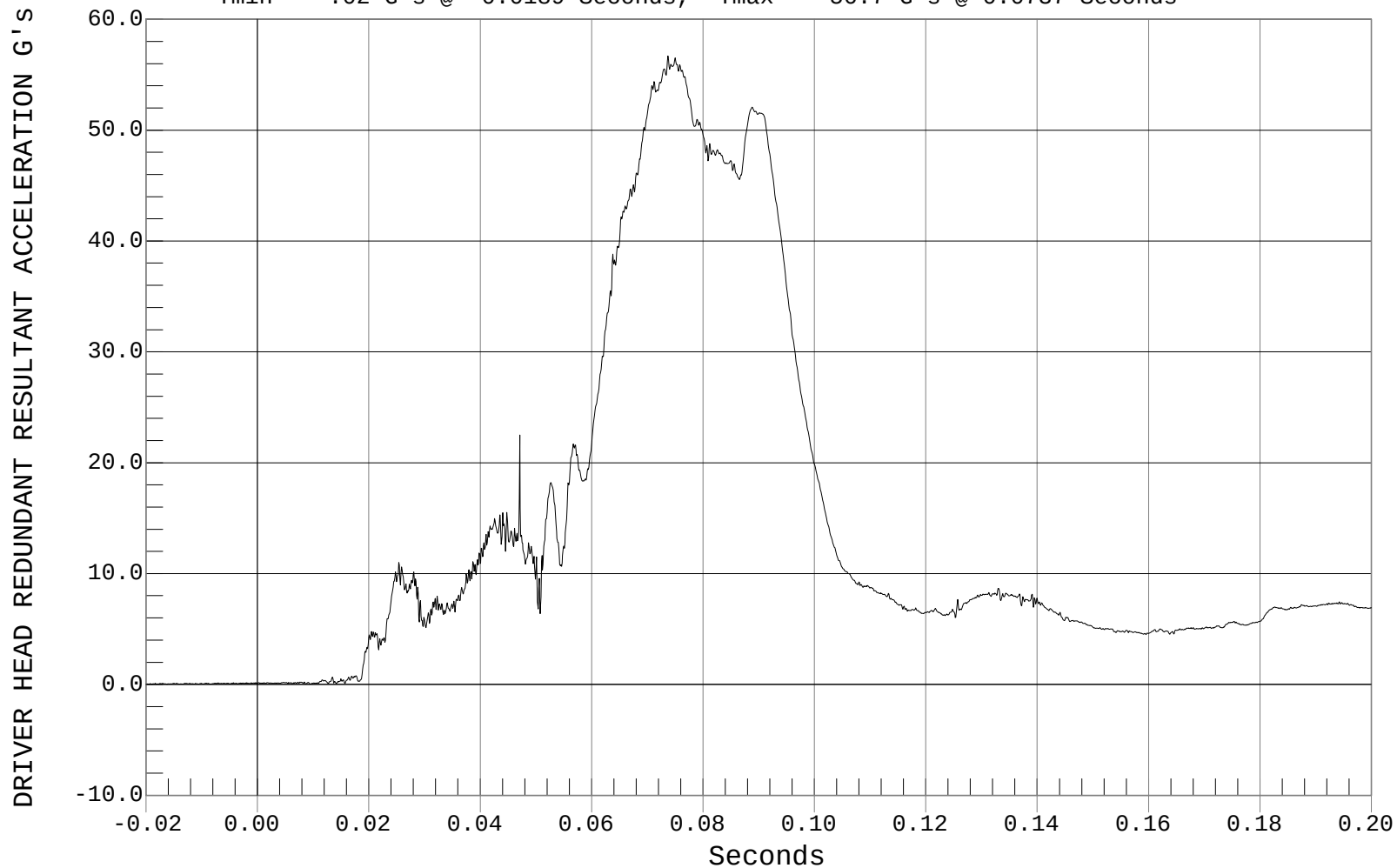
Speed: 35.3 MPH, 56.8 KPH

Other Info:

Filter Class: 1000

— 1 DRIVER HEAD REDUNDANT RESULTANT ACCELERATION, b00097AV.A33

Ymin = .02 G's @ -0.0189 Seconds, Ymax = 56.7 G's @ 0.0737 Seconds





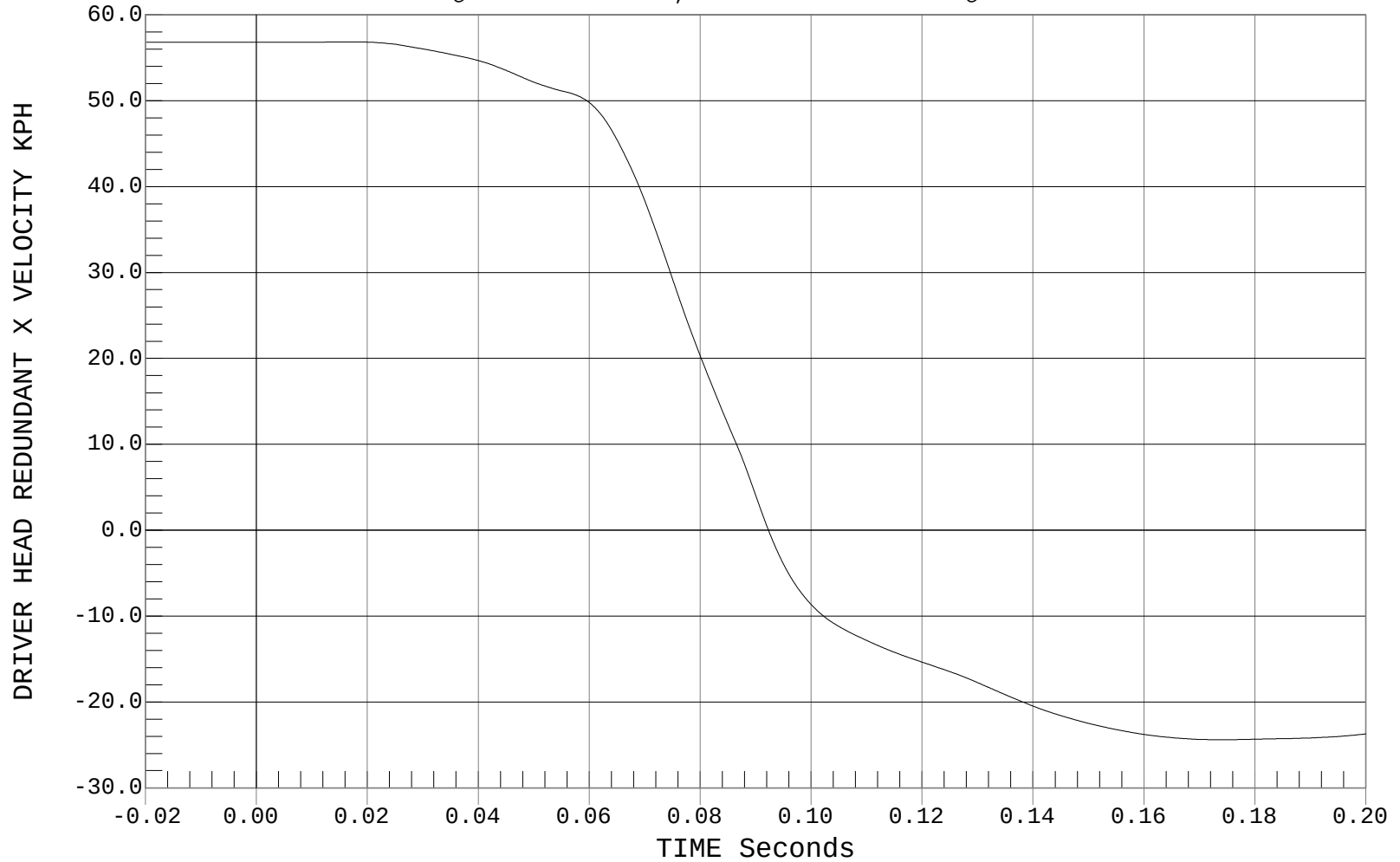
# DRIVER HEAD REDUNDANT X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
 Component: 2001 LEXUS RX300 4-DOOR SUV  
 Other Info:

Test Date: 11-21-00  
 Speed: 35.3 MPH, 56.8 KPH  
 Filter Class: 180

— 1 DRIVER HEAD REDUNDANT X VELOCITY, b00097A1.V33

Ymin = -24.4 KPH @ 0.1741 Seconds, Ymax = 56.86 KPH @ 0.0171 Seconds







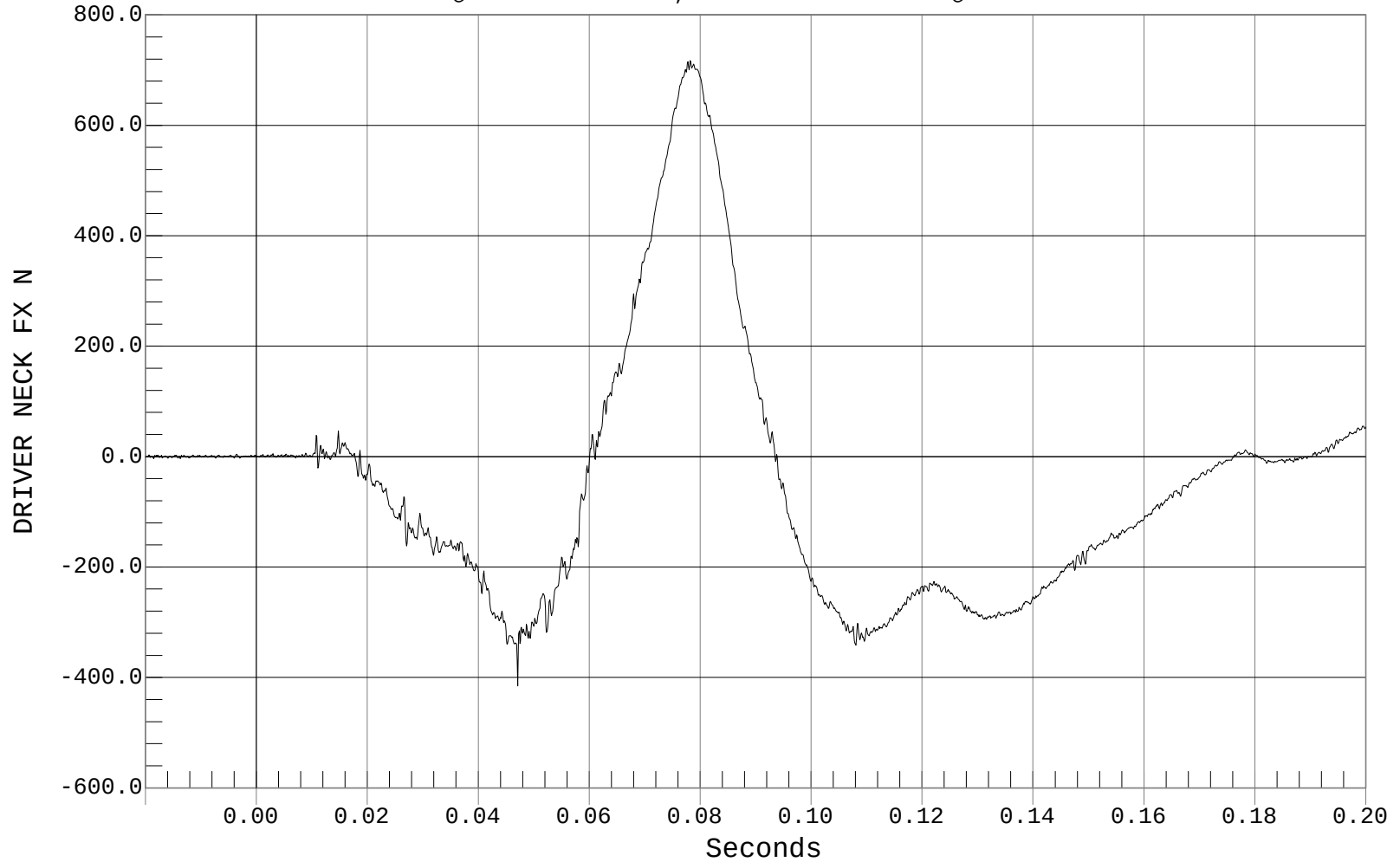
# DRIVER NECK FORCE X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER NECK FX, b00097FT.F04

Ymin = -415.25 N @ 0.0471 Seconds, Ymax = 717.19 N @ 0.0782 Seconds





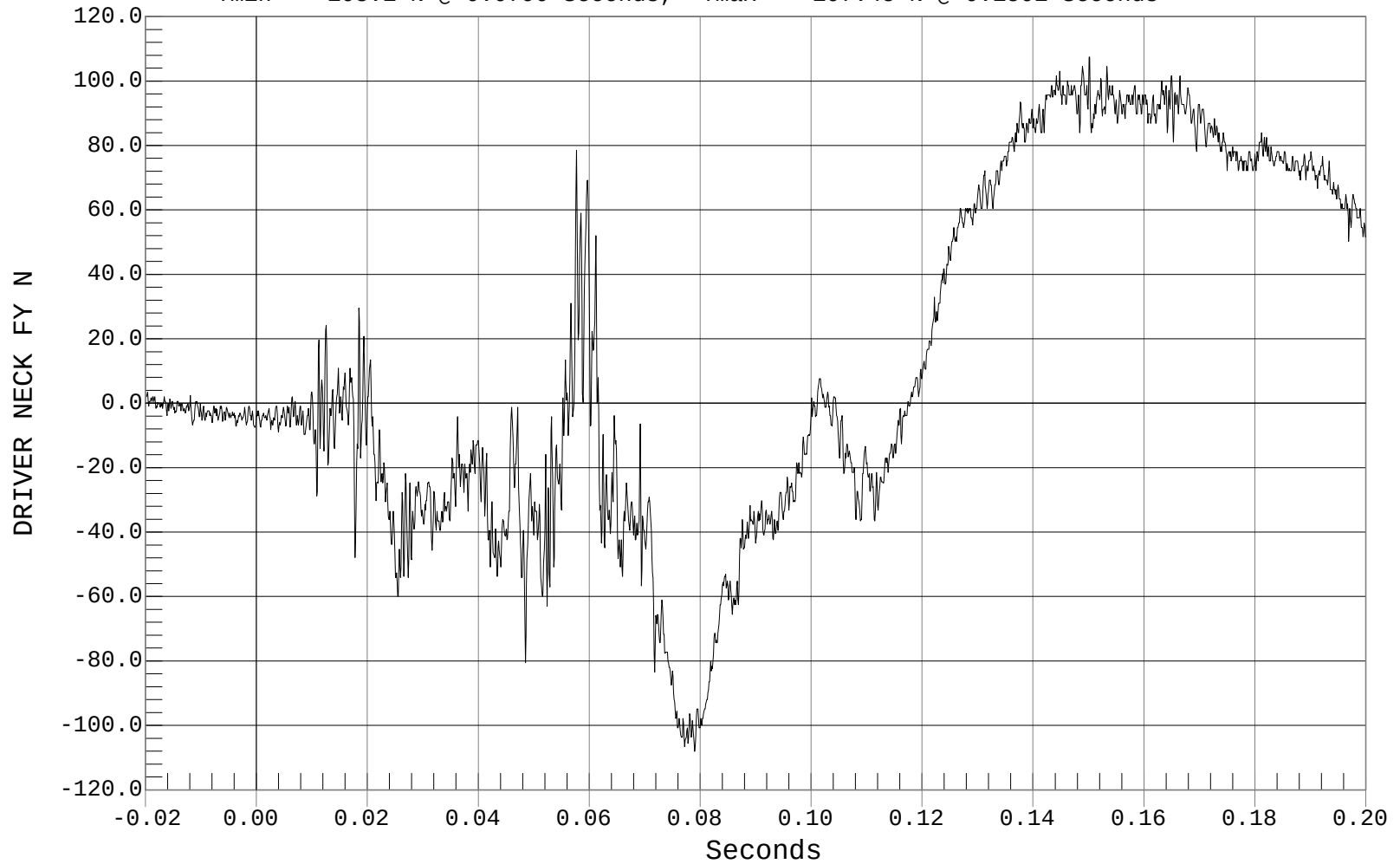
# DRIVER NECK FORCE Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER NECK FY, b00097FT.F05

Ymin = -108.1 N @ 0.0790 Seconds, Ymax = 107.45 N @ 0.1501 Seconds







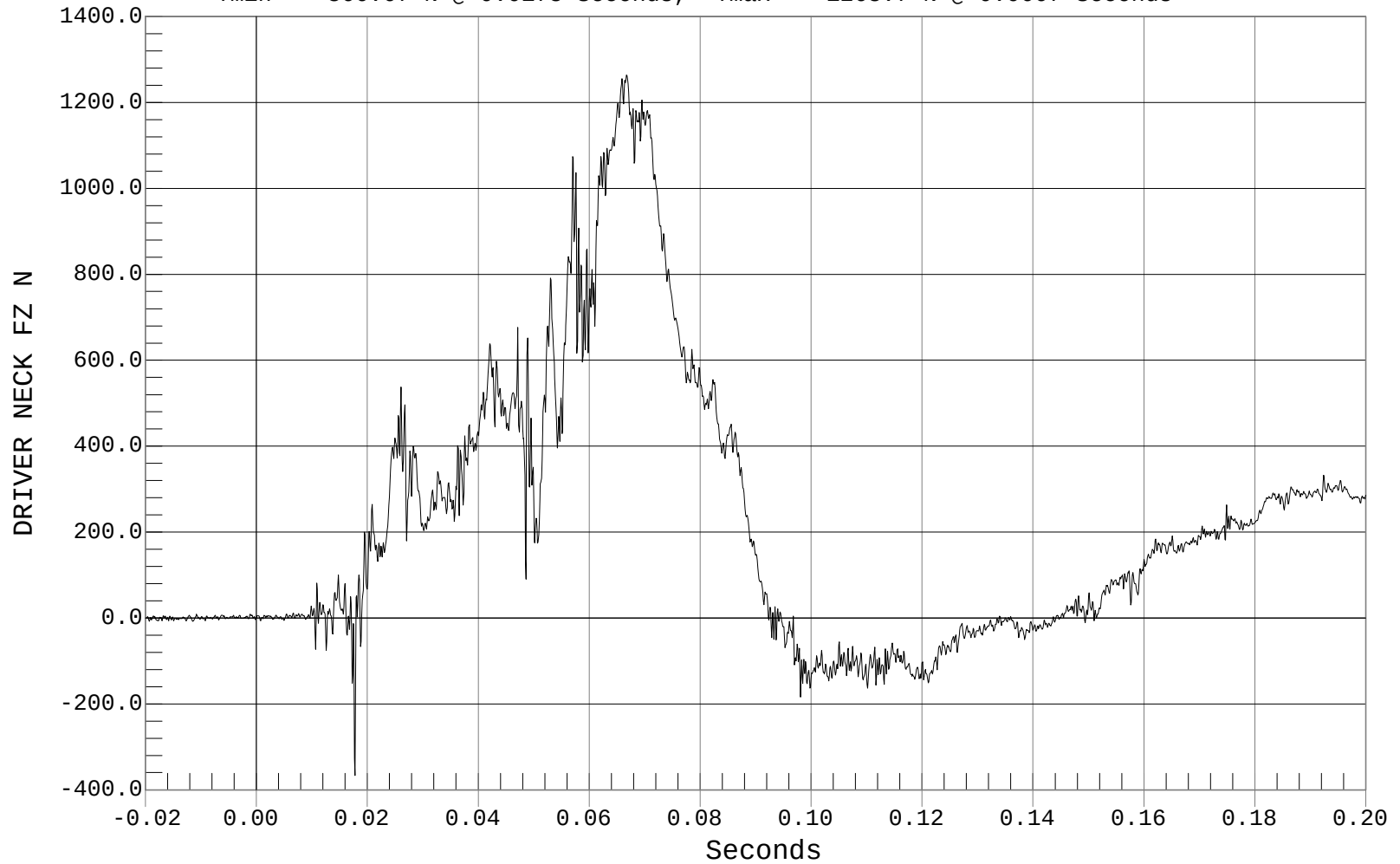
# DRIVER NECK FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER NECK FZ, b00097FT.F06

Ymin = -366.67 N @ 0.0178 Seconds, Ymax = 1263.7 N @ 0.0667 Seconds





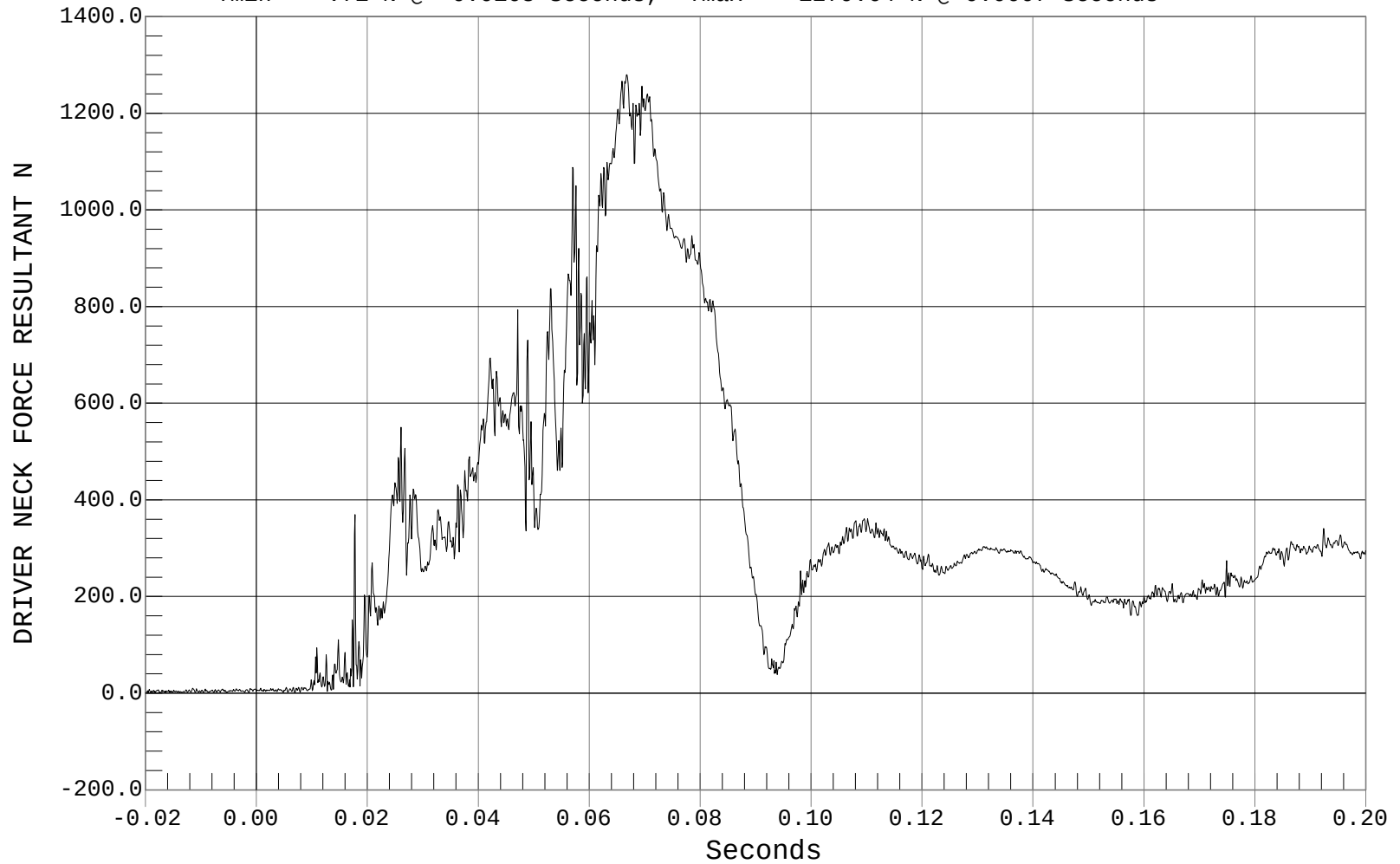
## DRIVER NECK FORCE RESULTANT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER NECK FORCE RESULTANT, b00097FV.F04

Ymin = .71 N @ -0.0163 Seconds, Ymax = 1279.64 N @ 0.0667 Seconds







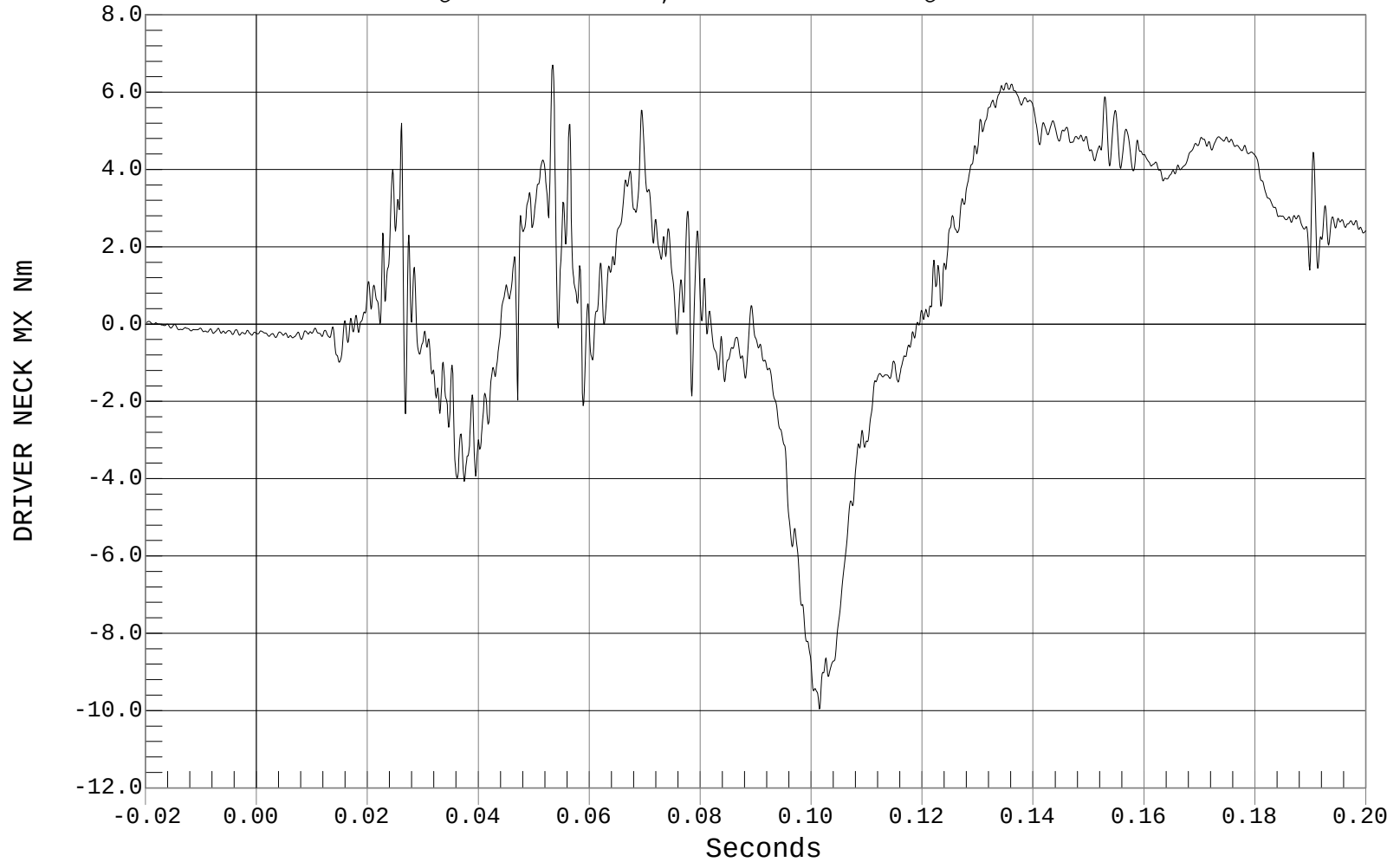
## DRIVER NECK MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER NECK MX, b00097MF.M07

Ymin = -9.96 Nm @ 0.1015 Seconds, Ymax = 6.71 Nm @ 0.0534 Seconds





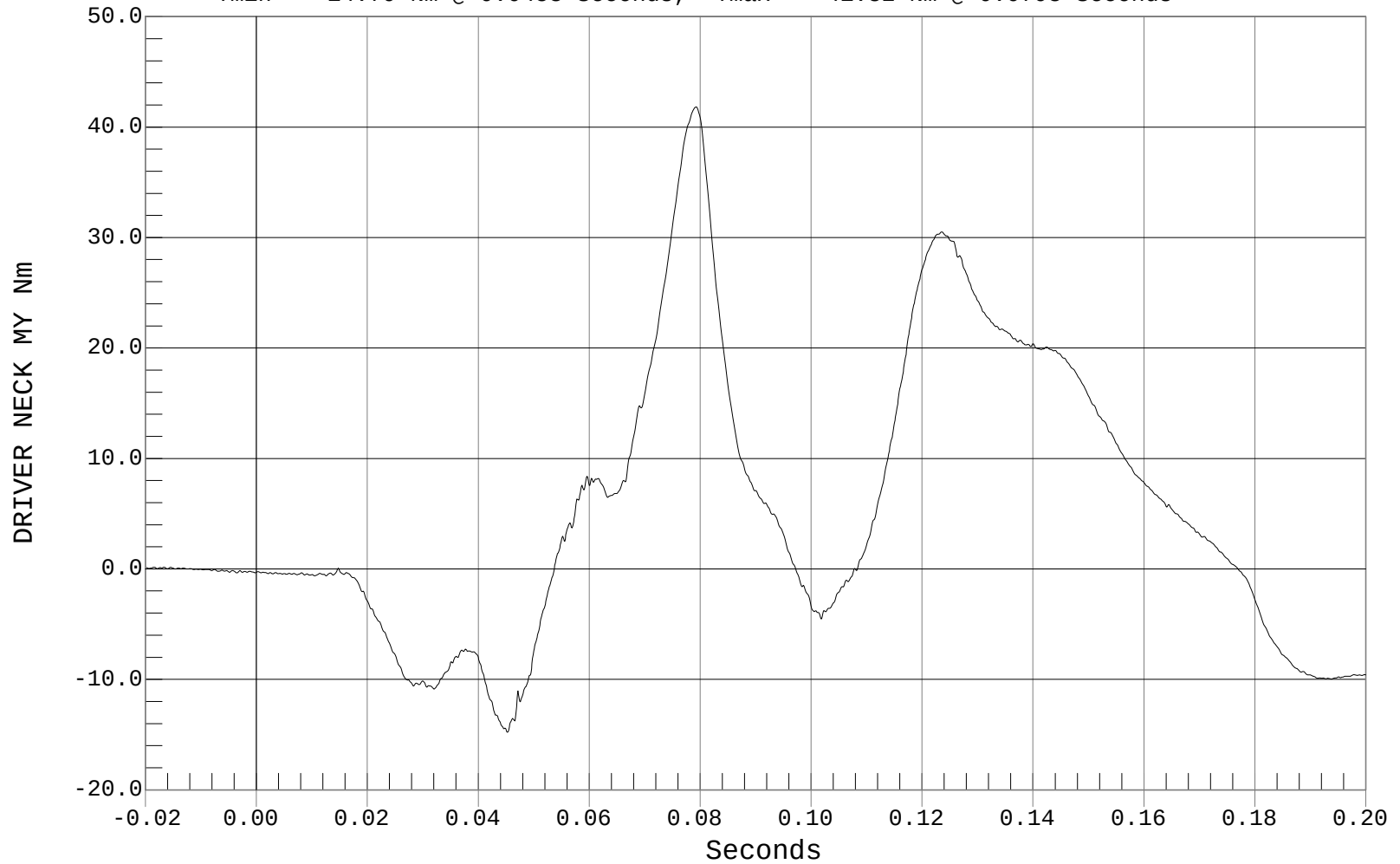
# DRIVER NECK MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER NECK MY, b00097MF.M08

Ymin = -14.79 Nm @ 0.0453 Seconds, Ymax = 41.82 Nm @ 0.0793 Seconds







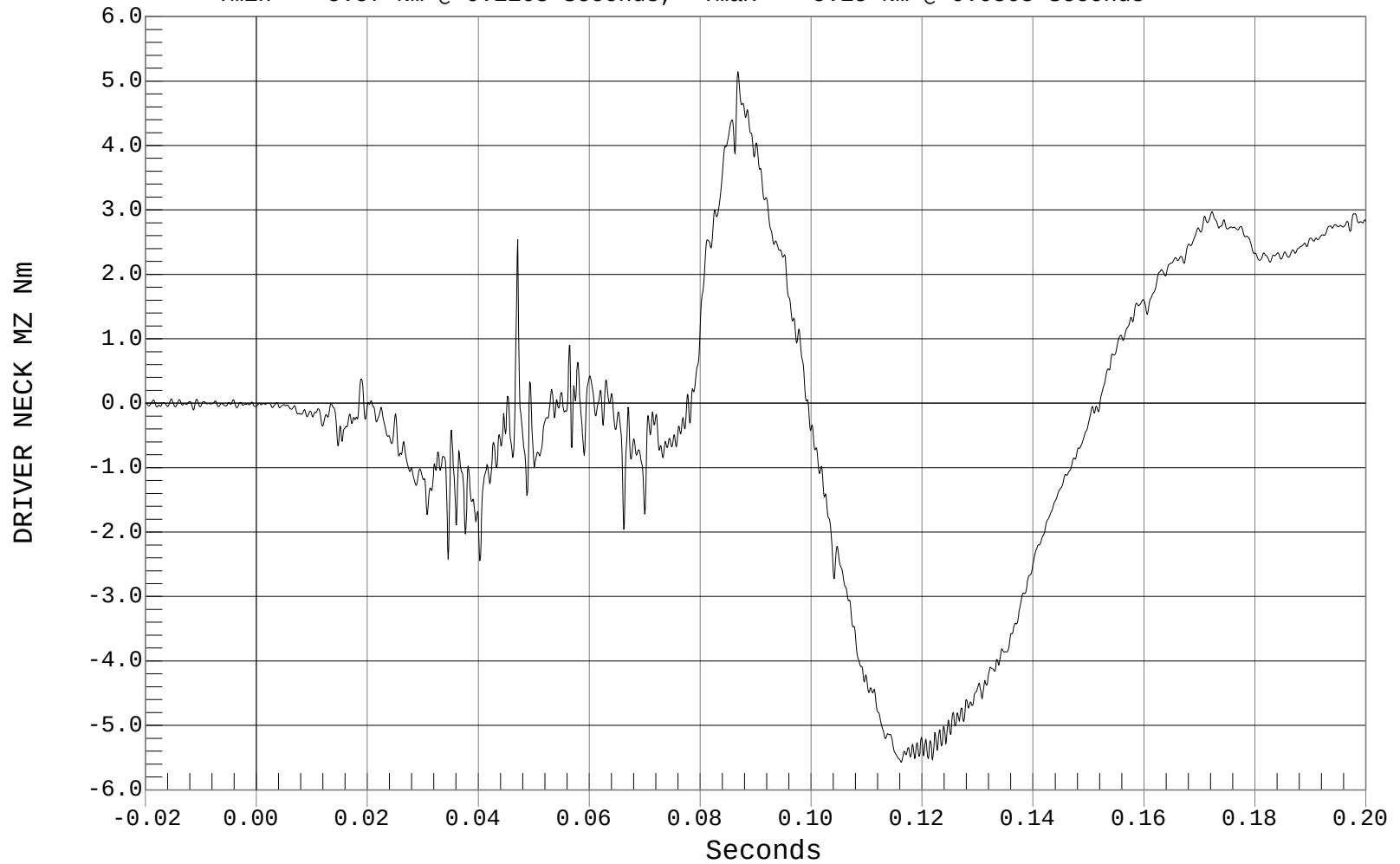
# DRIVER NECK MOMENT Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER NECK MZ, b00097MF.M09

Ymin = -5.57 Nm @ 0.1163 Seconds, Ymax = 5.15 Nm @ 0.0868 Seconds





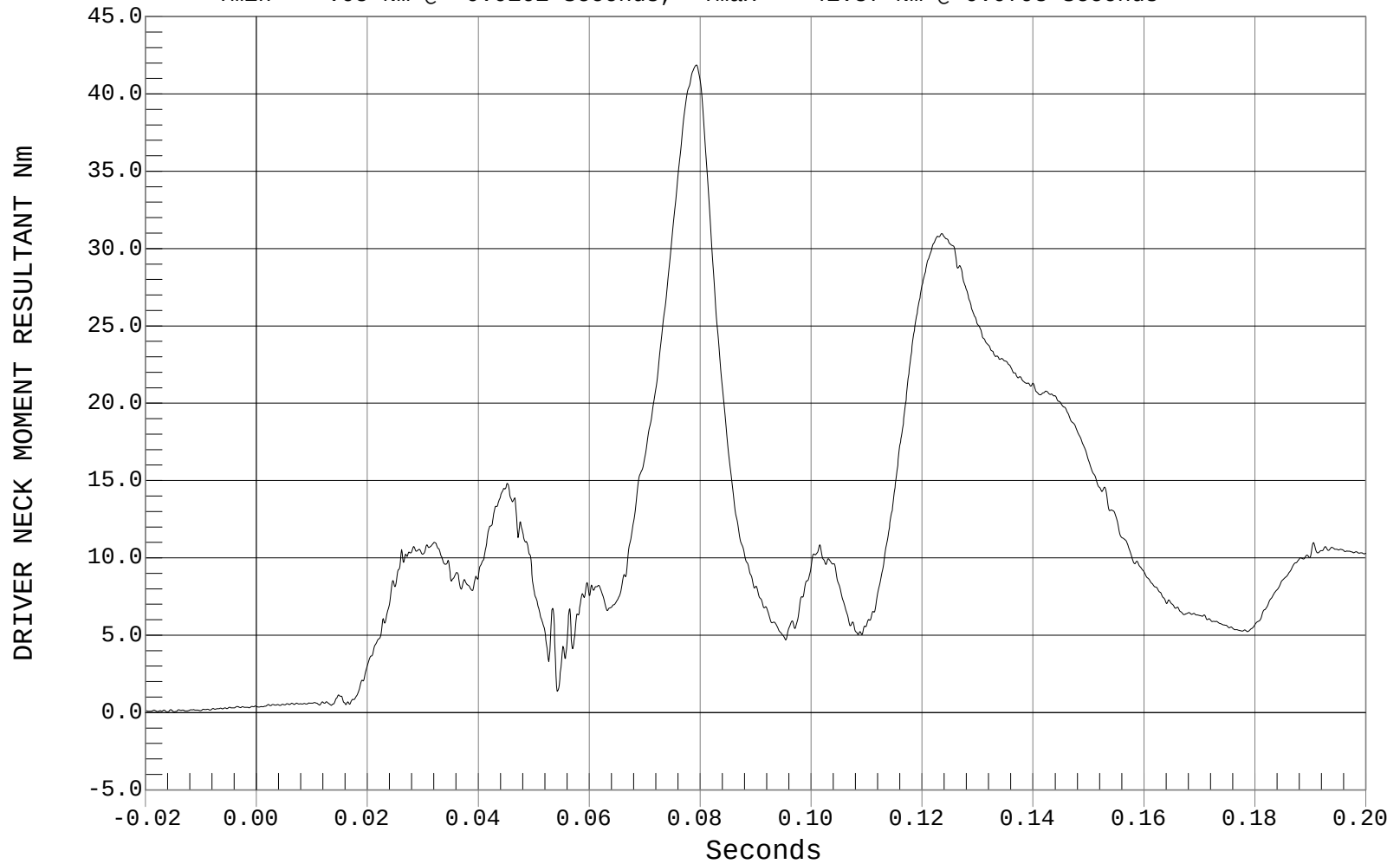
## DRIVER NECK MOMENT RESULTANT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER NECK MOMENT RESULTANT, b00097MV.M07

Ymin = .05 Nm @ -0.0161 Seconds, Ymax = 41.87 Nm @ 0.0793 Seconds







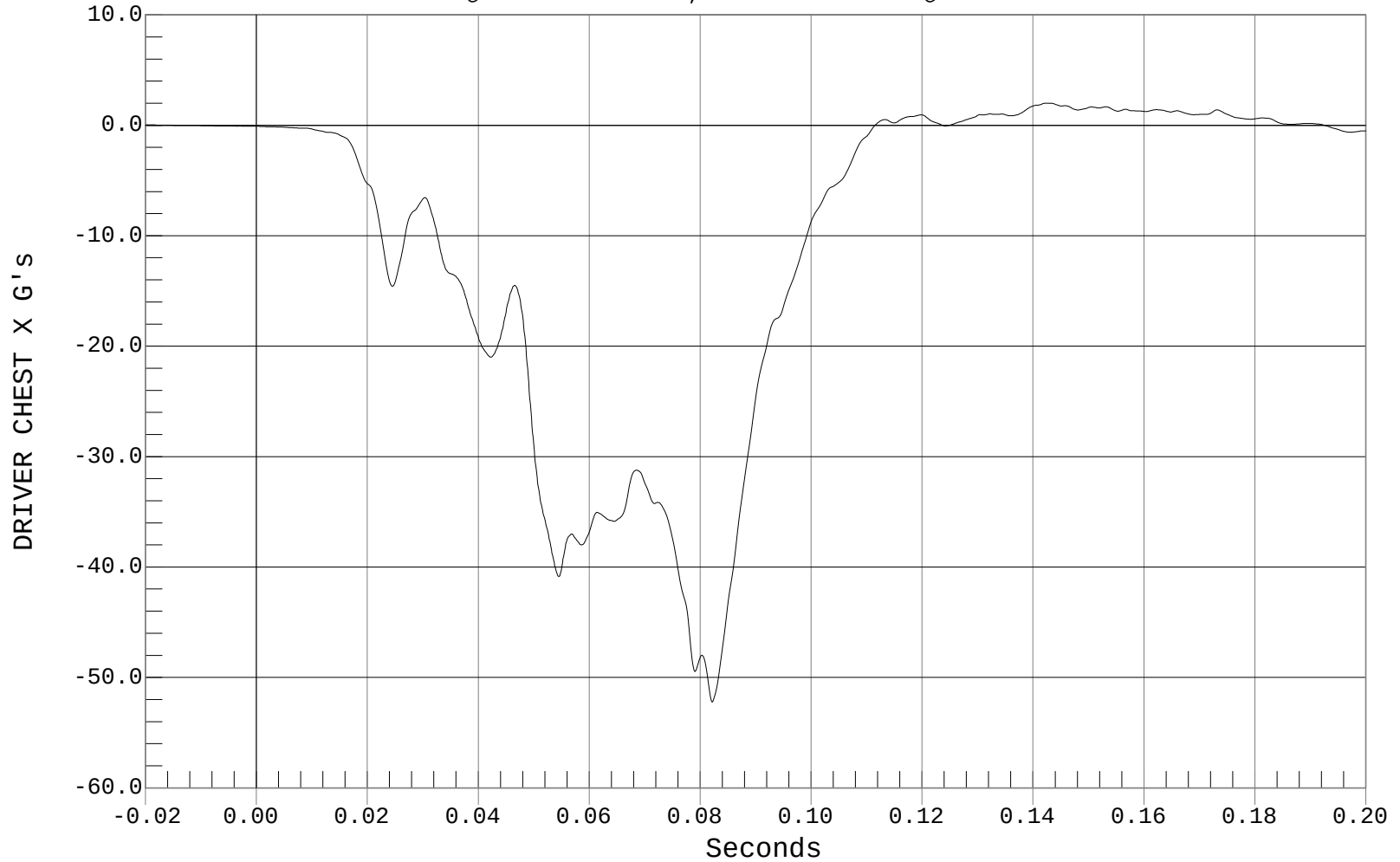
## DRIVER CHEST X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST X, b00097AF.A10

Ymin = -52.21 G's @ 0.0822 Seconds, Ymax = 2 G's @ 0.1423 Seconds





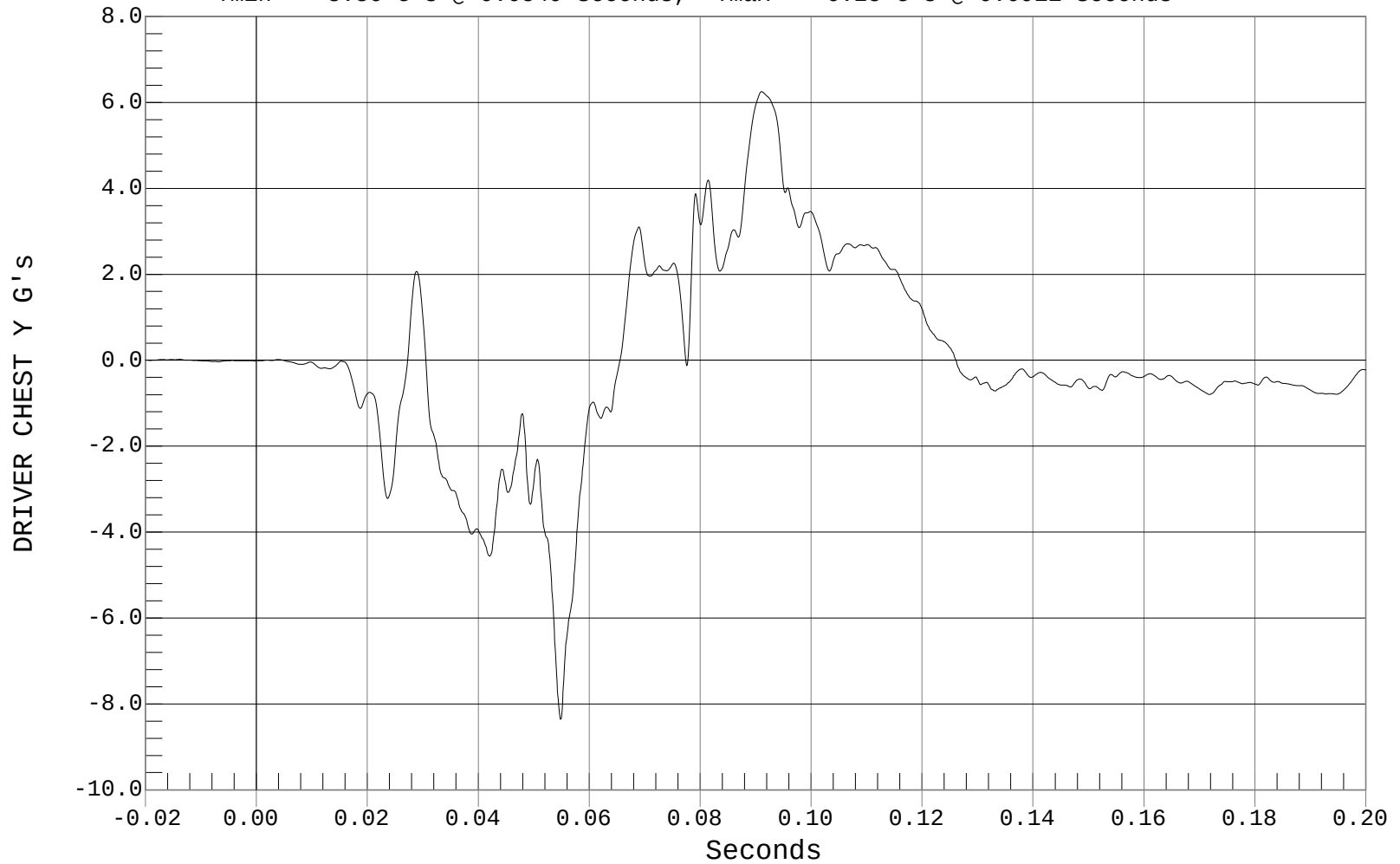
## DRIVER CHEST Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST Y, b00097AF.A11

Ymin = -8.36 G's @ 0.0549 Seconds, Ymax = 6.25 G's @ 0.0911 Seconds







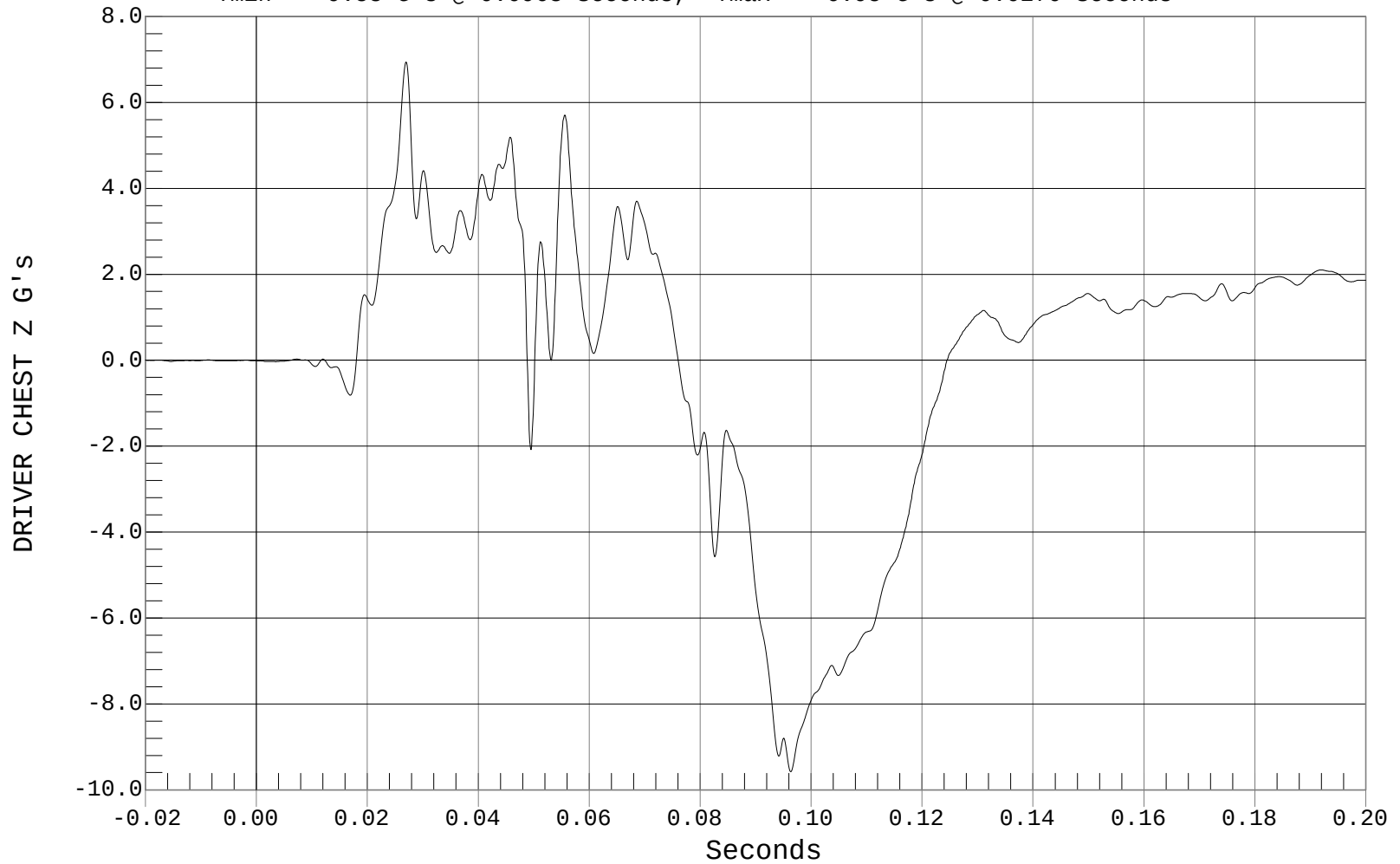
## DRIVER CHEST Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST Z, b00097AF.A12

Ymin = -9.58 G's @ 0.0963 Seconds, Ymax = 6.95 G's @ 0.0270 Seconds





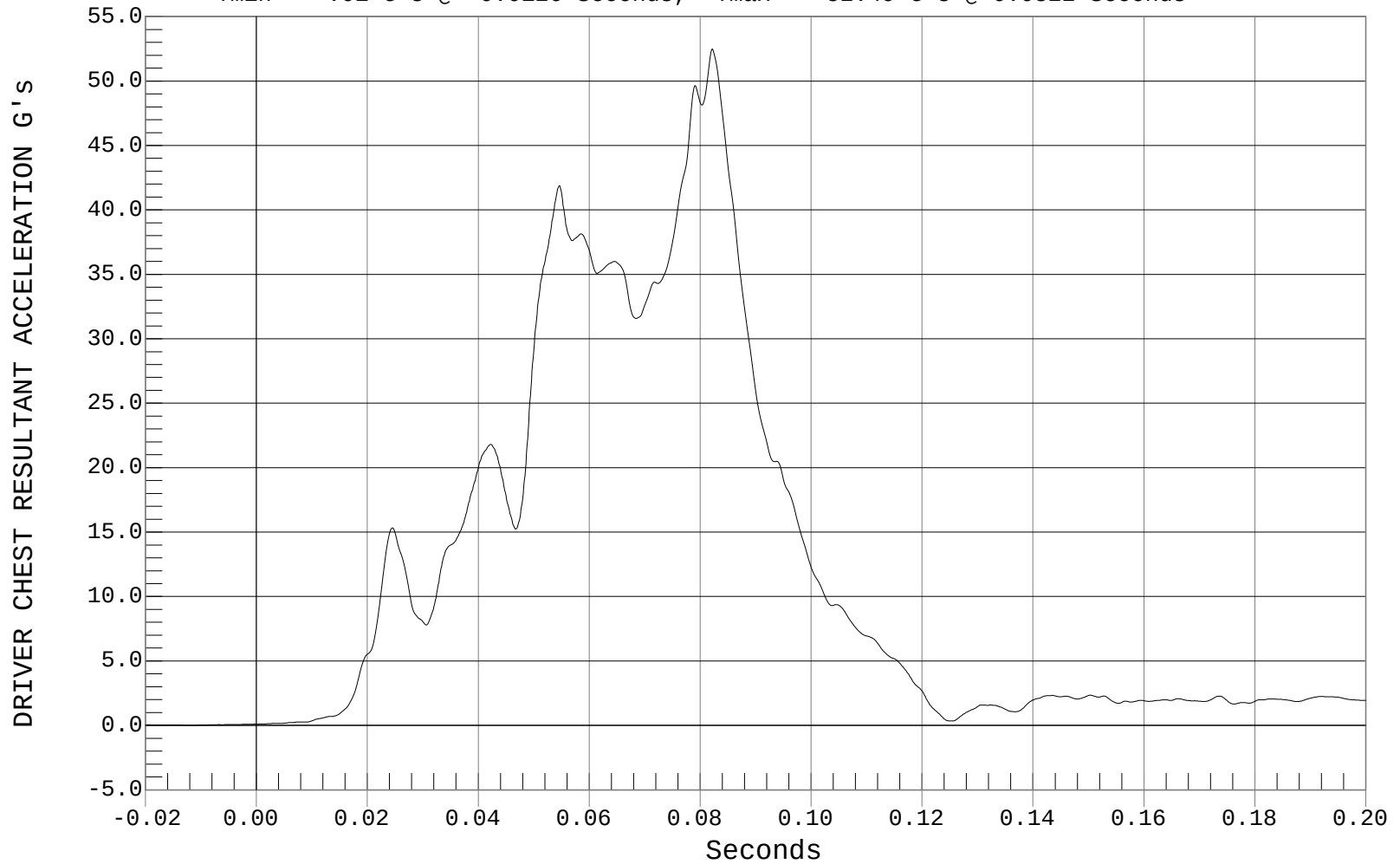
## DRIVER CHEST RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST RESULTANT ACCELERATION, b00097AV.A10

Ymin = .01 G's @ -0.0126 Seconds, Ymax = 52.49 G's @ 0.0822 Seconds





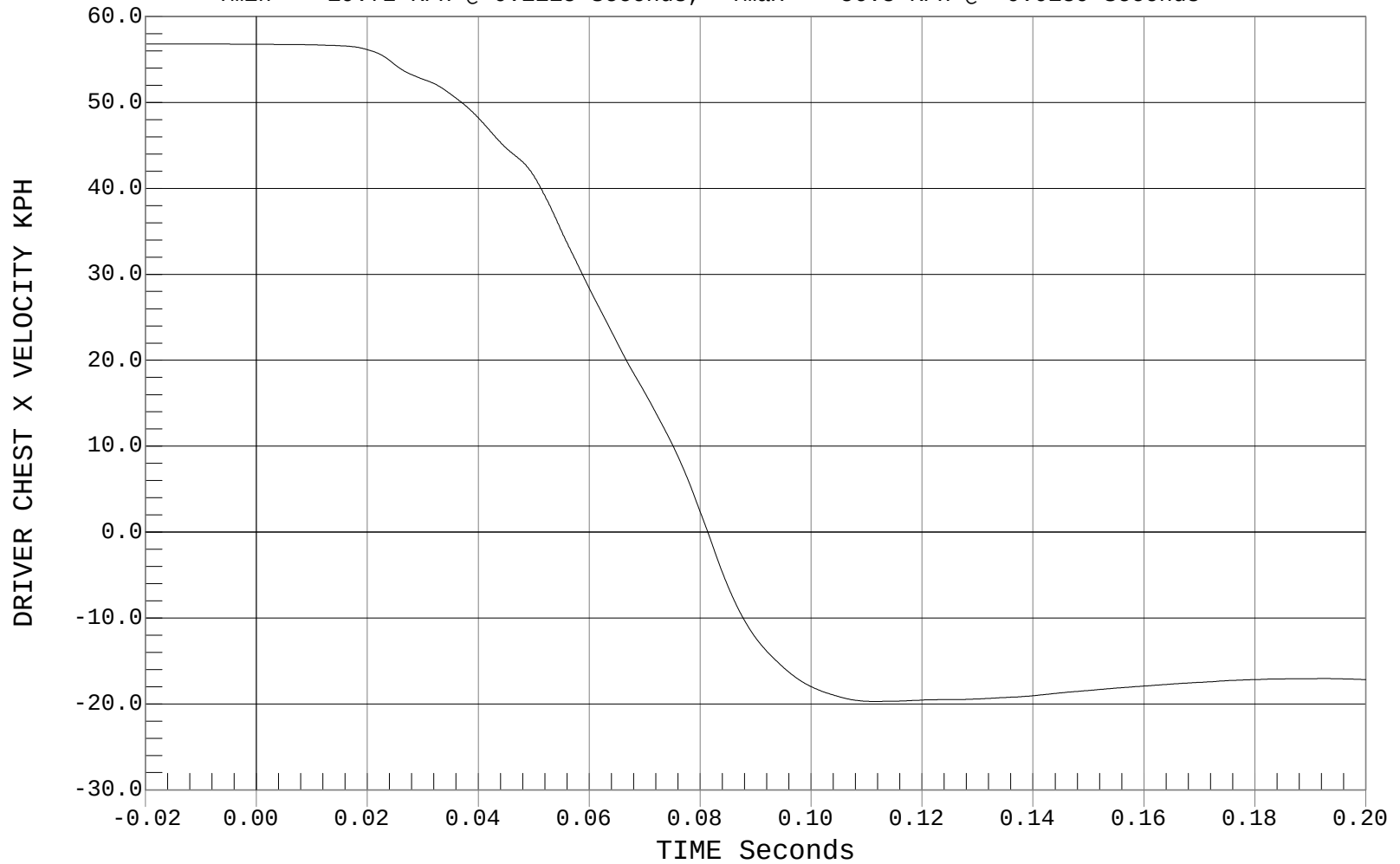
## DRIVER CHEST X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST X VELOCITY, b00097AI.V10

Ymin = -19.72 KPH @ 0.1115 Seconds, Ymax = 56.8 KPH @ -0.00139 Seconds







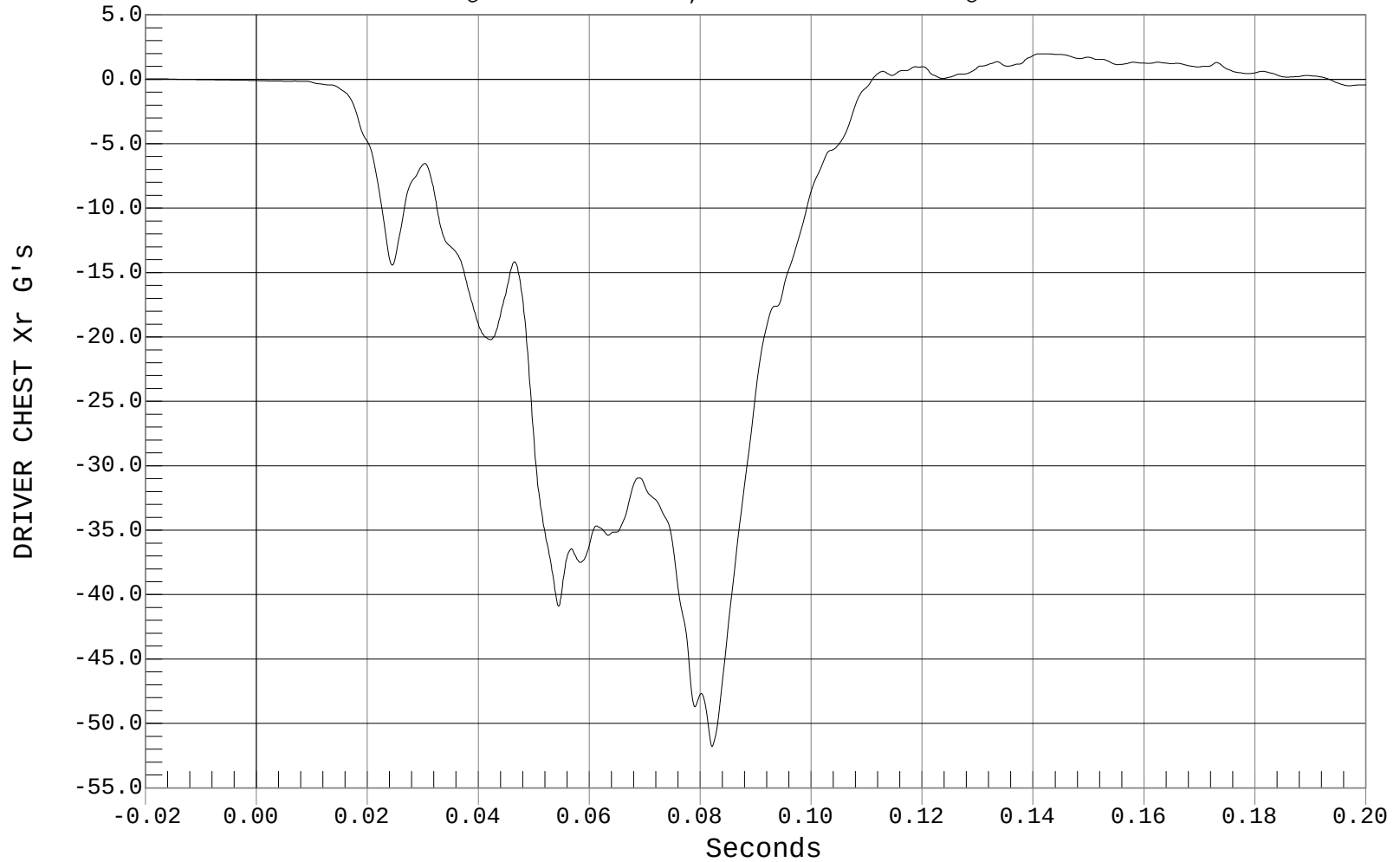
# DRIVER CHEST REDUNDANT X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST Xr, b00097AF.A36

Ymin = -51.78 G's @ 0.0821 Seconds, Ymax = 1.98 G's @ 0.1426 Seconds





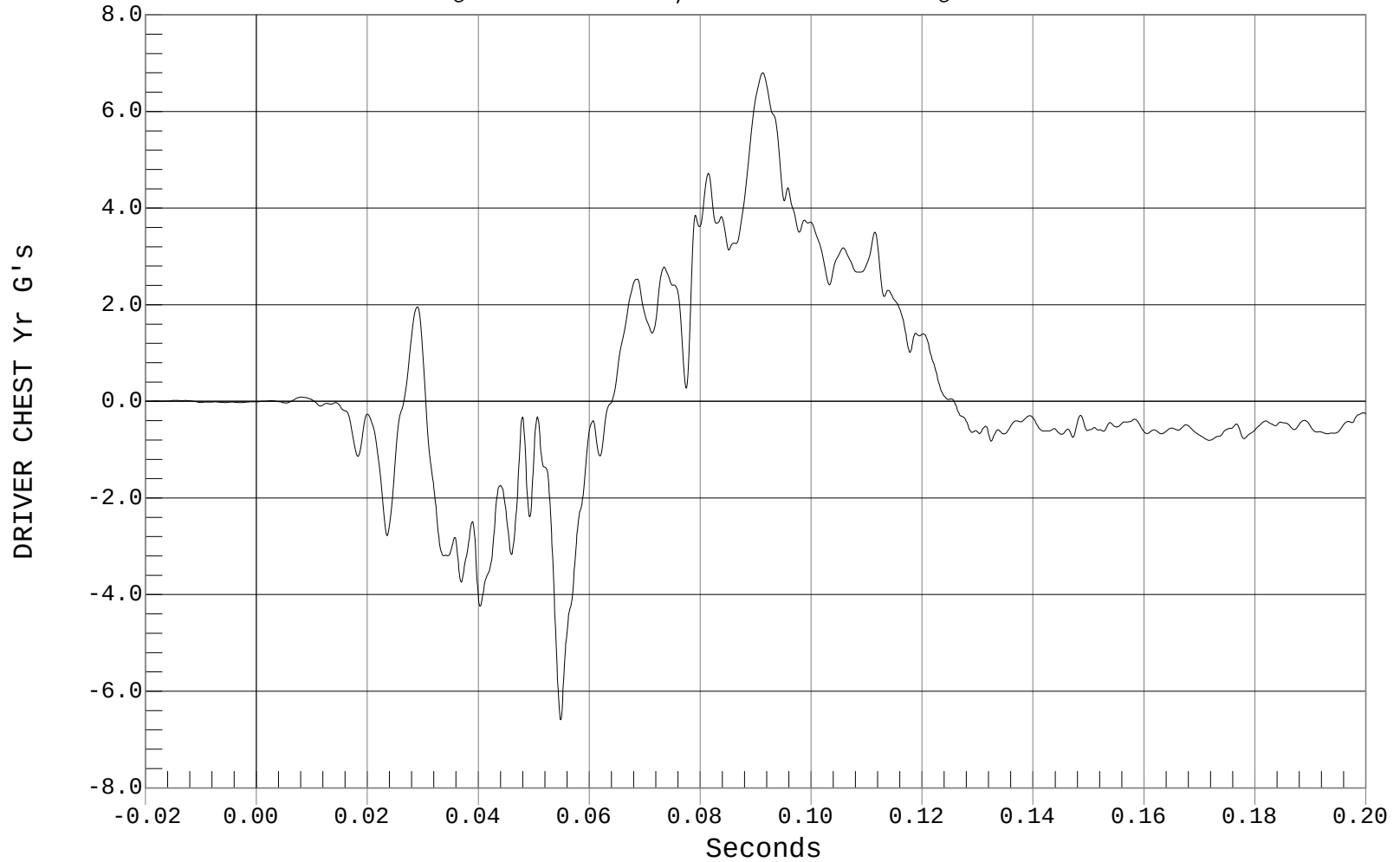
# DRIVER CHEST REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST Yr, b00097AF.A37

Ymin = -6.59 G's @ 0.0549 Seconds, Ymax = 6.8 G's @ 0.0913 Seconds





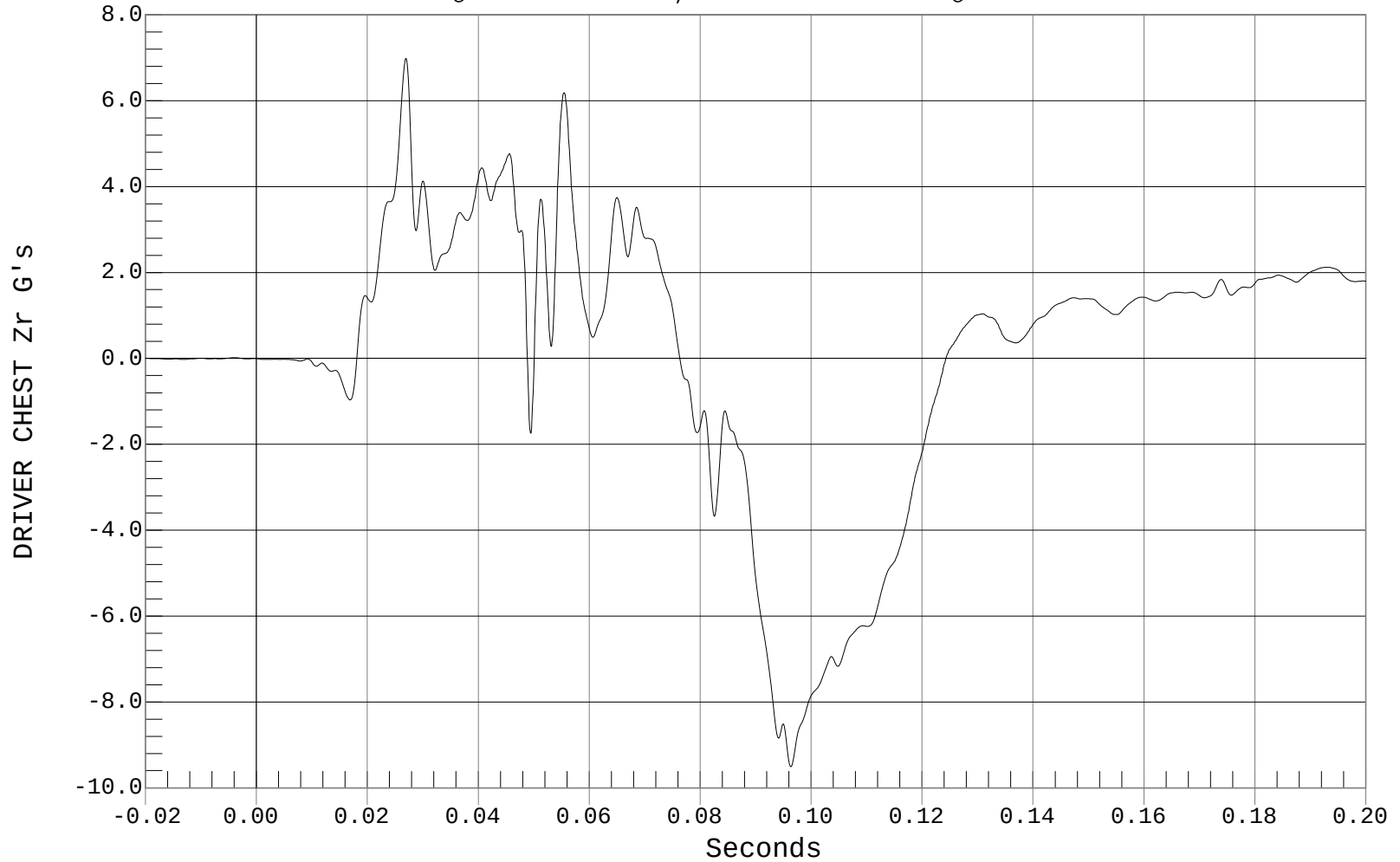
# DRIVER CHEST REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST Zr, b00097AF.A38

Ymin = -9.51 G's @ 0.0964 Seconds, Ymax = 6.99 G's @ 0.0270 Seconds







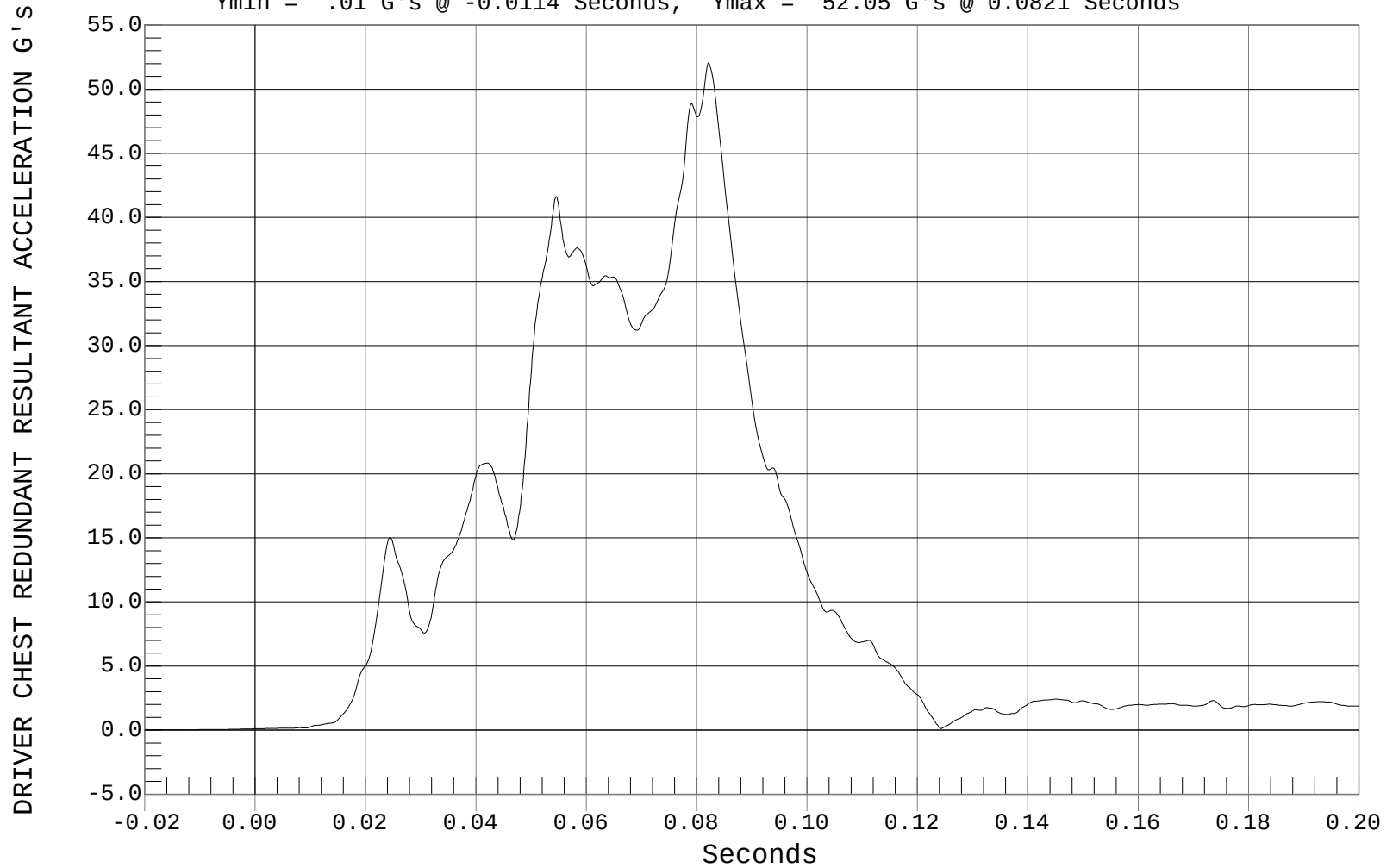
# DRIVER CHEST REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST REDUNDANT RESULTANT ACCELERATION, b00097AV.A36

Ymin = .01 G's @ -0.0114 Seconds, Ymax = 52.05 G's @ 0.0821 Seconds





# DRIVER CHEST REDUNDANT X VELOCITY

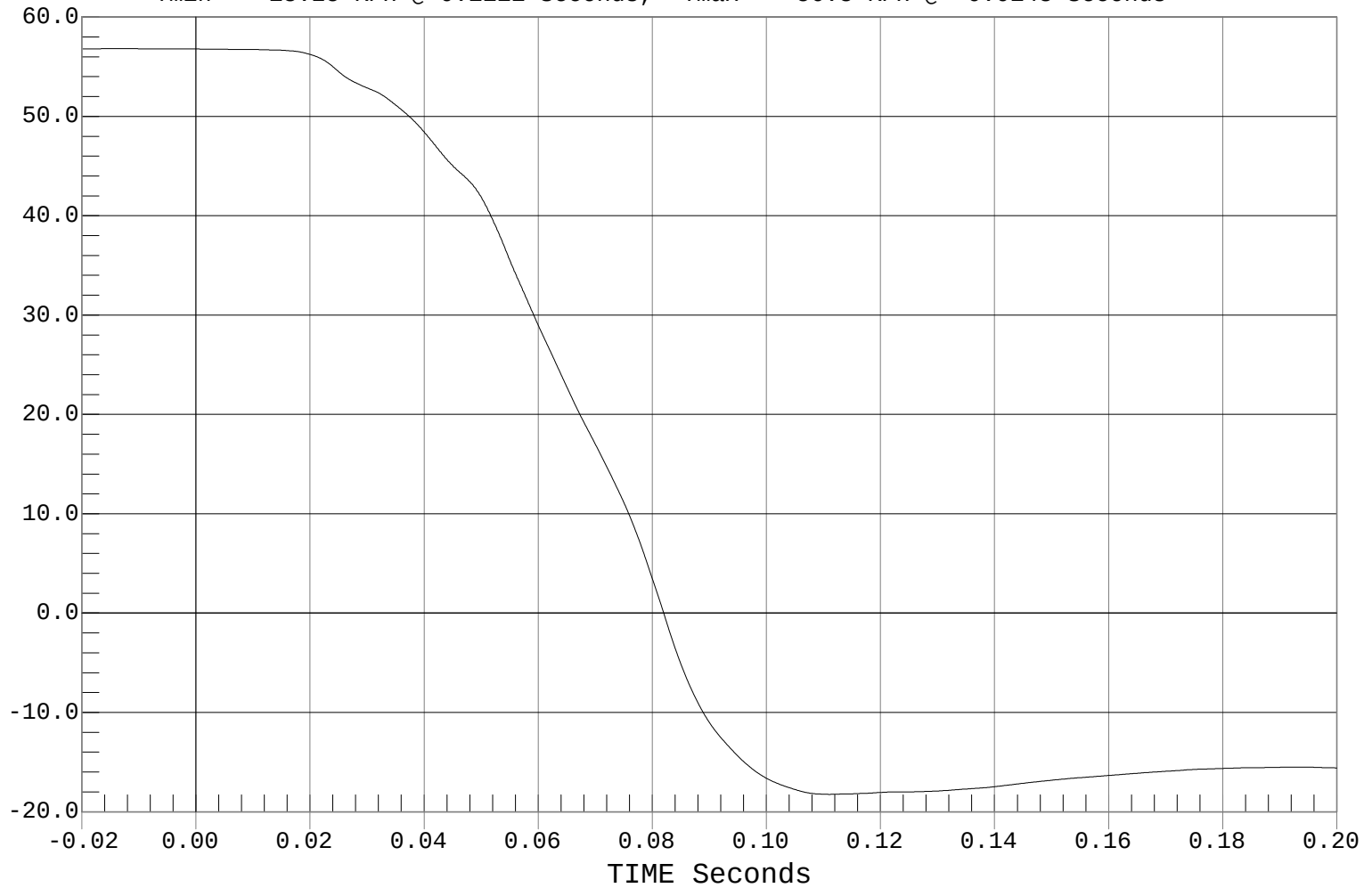
Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER CHEST REDUNDANT X VELOCITY, b00097A1.V36

Ymin = -18.25 KPH @ 0.1111 Seconds, Ymax = 56.8 KPH @ -0.0143 Seconds

DRIVER CHEST REDUNDANT X VELOCITY KPH





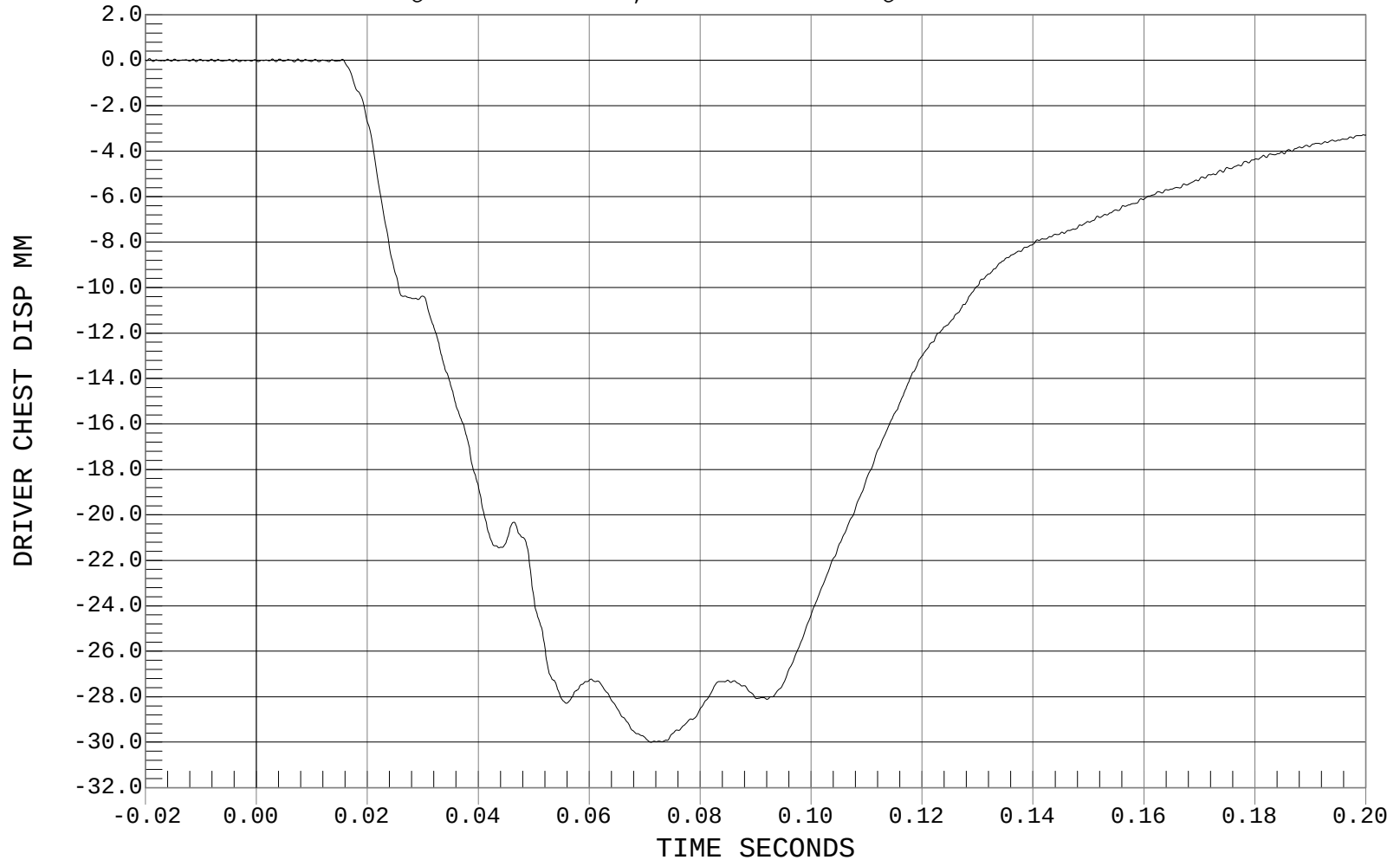
## DRIVER CHEST COMPRESSION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER CHEST DISP, b00097DF.D13

Ymin = -30 MM @ 0.0711 SECONDS, Ymax = .08 MM @ -0.0193 SECONDS







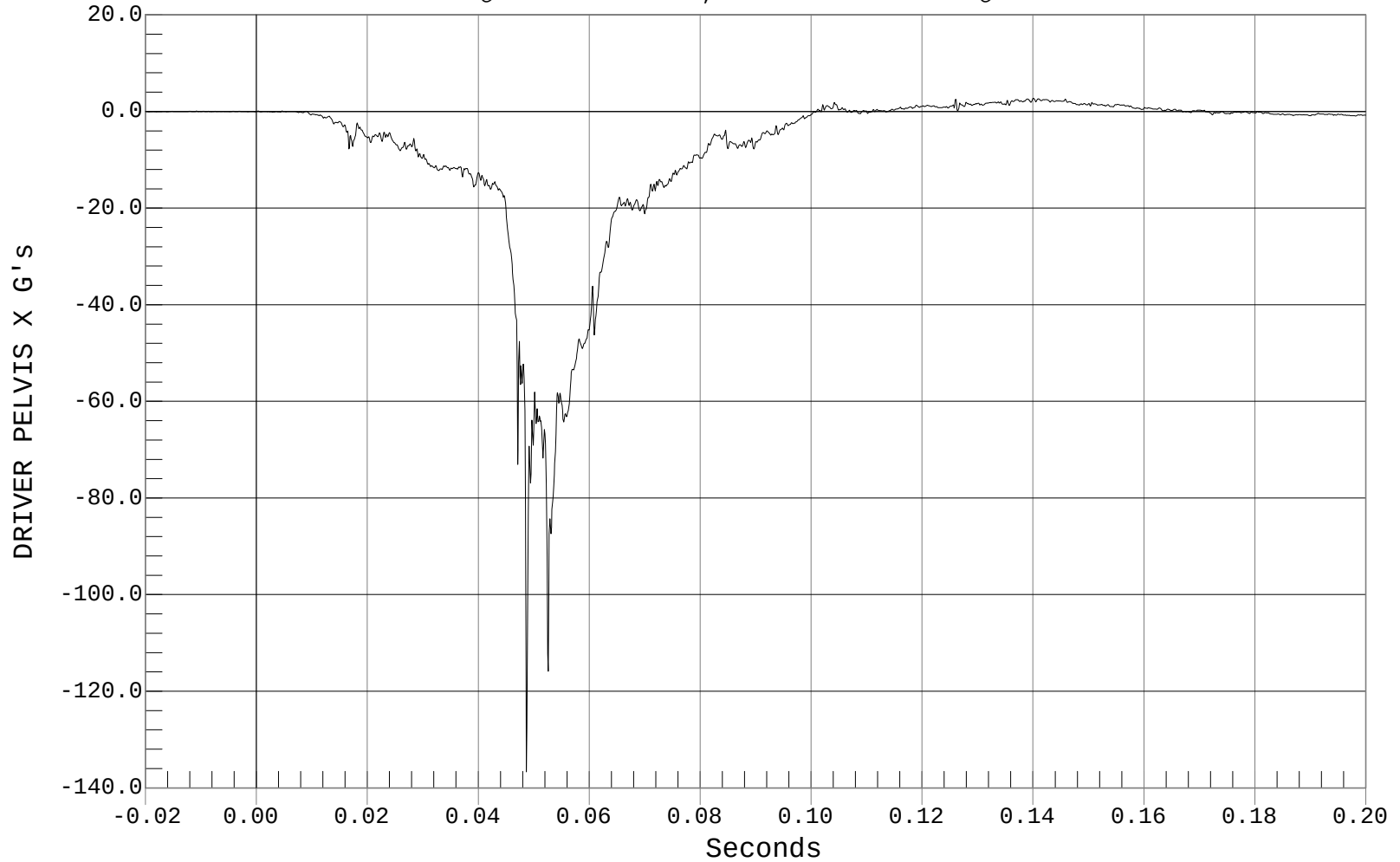
# DRIVER PELVIS X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER PELVIS X, b00097AT.A14

Ymin = -136.67 G's @ 0.0487 Seconds, Ymax = 2.72 G's @ 0.1401 Seconds





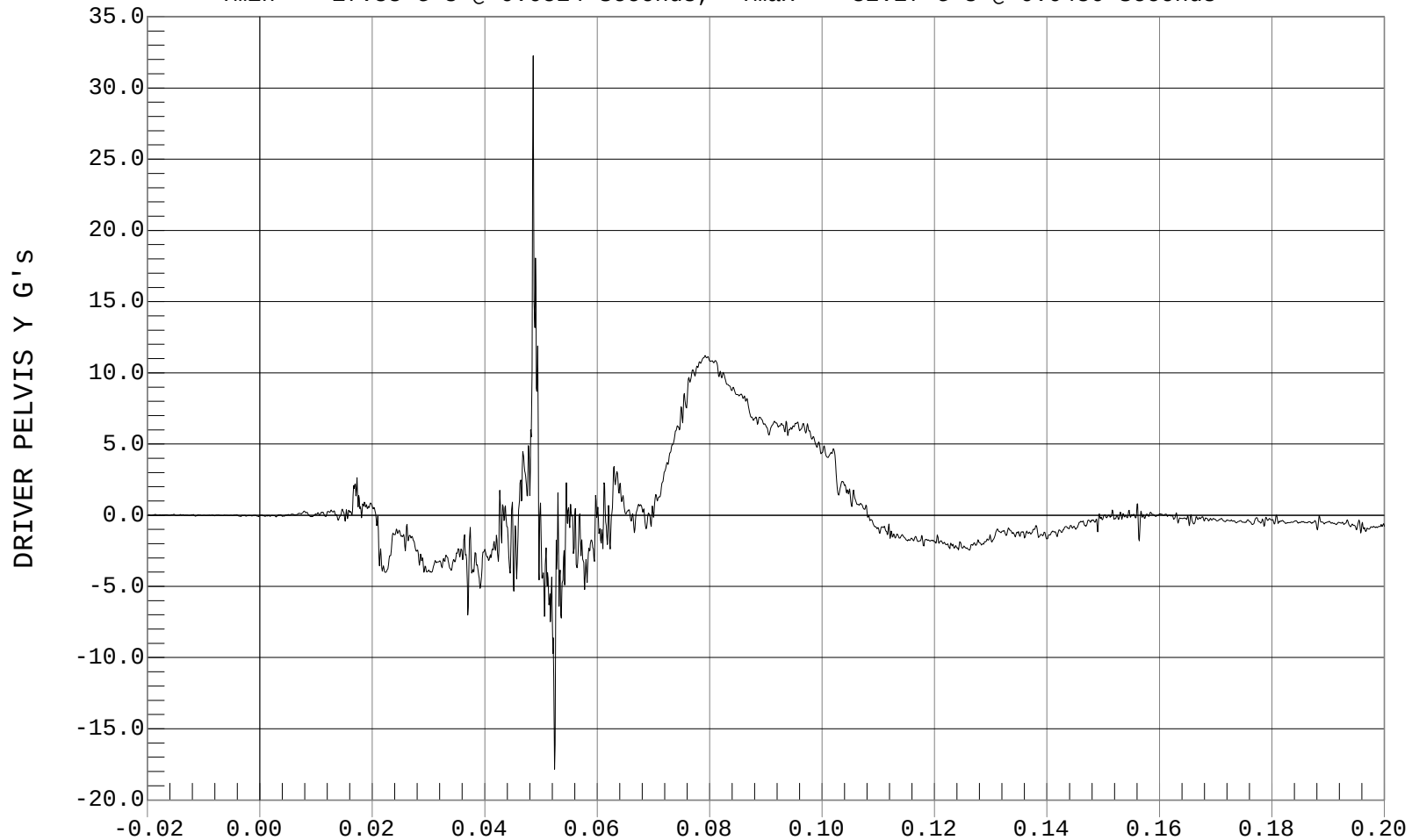
# DRIVER PELVIS Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER PELVIS Y, b00097AT.A15

Ymin = -17.83 G's @ 0.0524 Seconds, Ymax = 32.27 G's @ 0.0486 Seconds





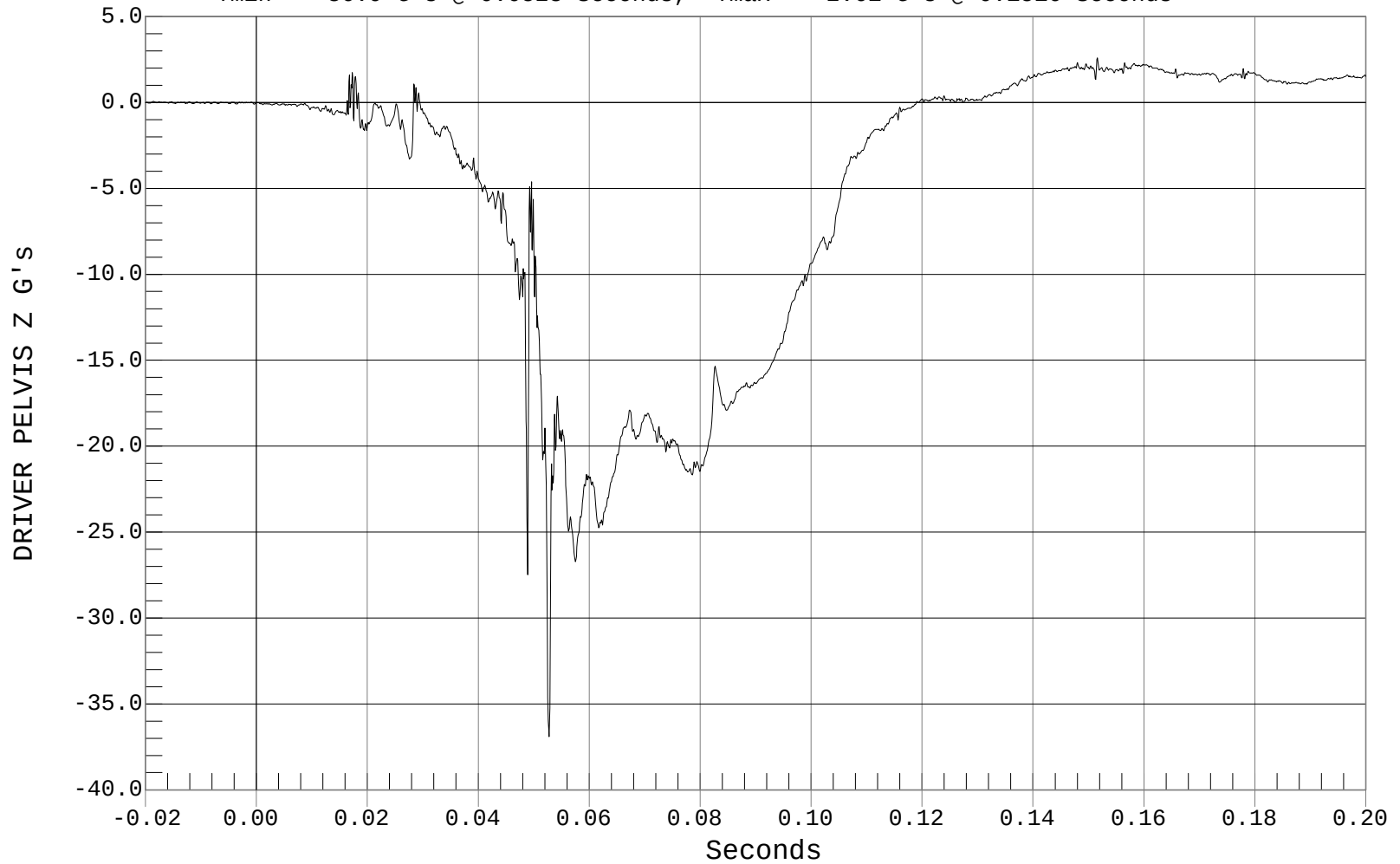
# DRIVER PELVIS Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER PELVIS Z, b00097AT.A16

Ymin = -36.9 G's @ 0.0528 Seconds, Ymax = 2.61 G's @ 0.1516 Seconds







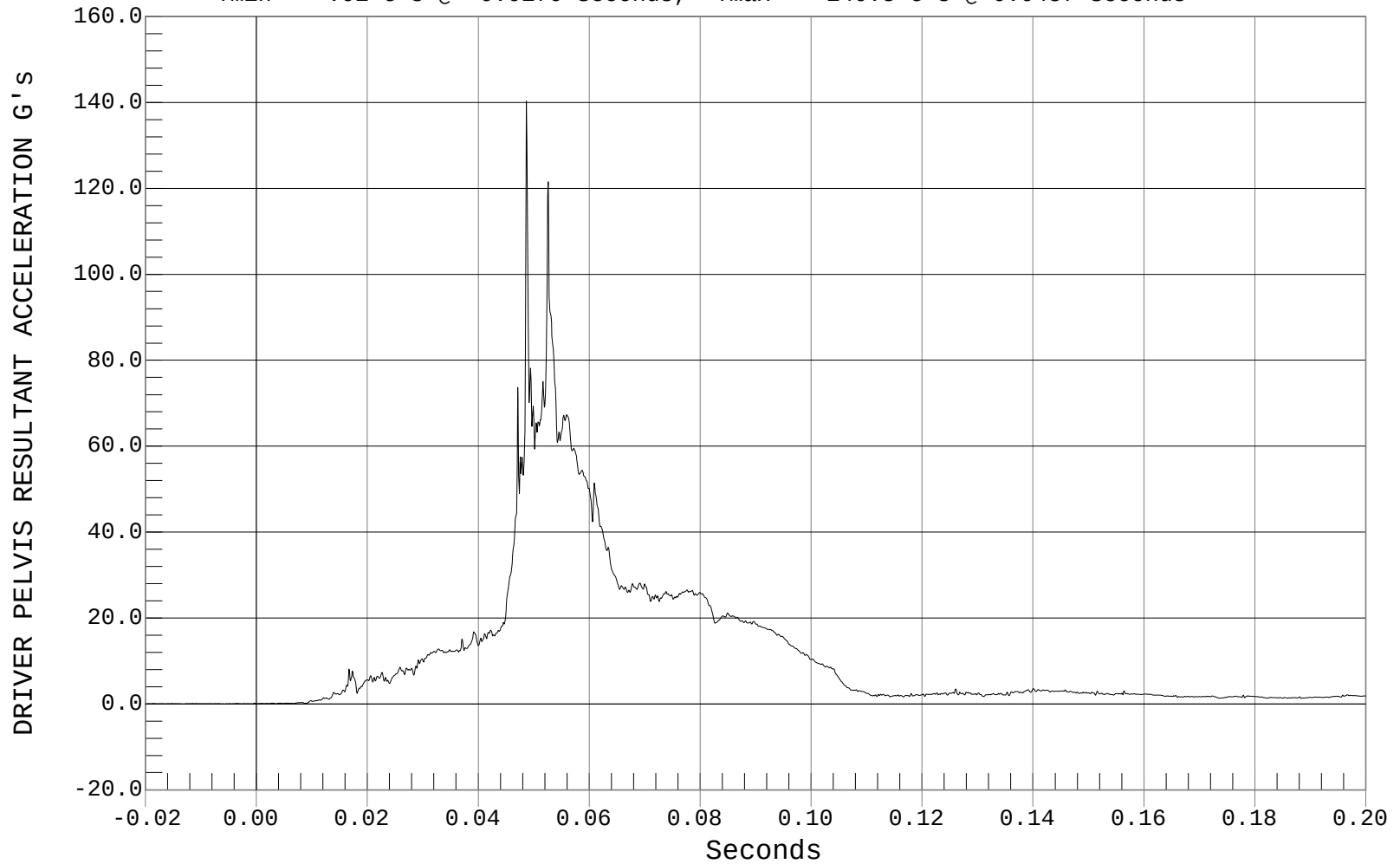
# DRIVER PELVIS RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 DRIVER PELVIS RESULTANT ACCELERATION, b00097AV.A14

Ymin = .01 G's @ -0.0170 Seconds, Ymax = 140.3 G's @ 0.0487 Seconds





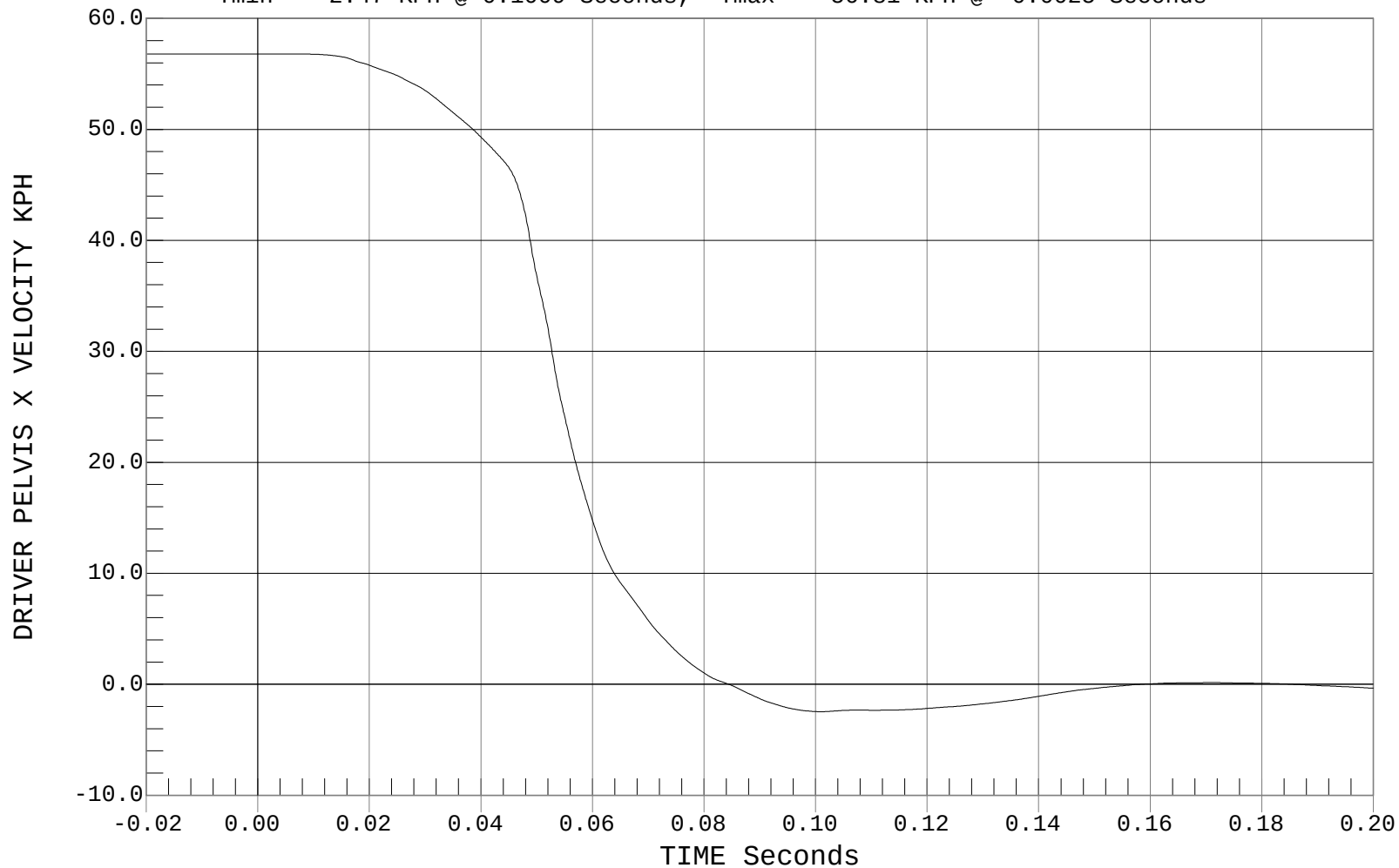
# DRIVER PELVIS X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER PELVIS X VELOCITY, b00097AI.V14

Ymin = -2.47 KPH @ 0.1009 Seconds, Ymax = 56.81 KPH @ -0.0025 Seconds





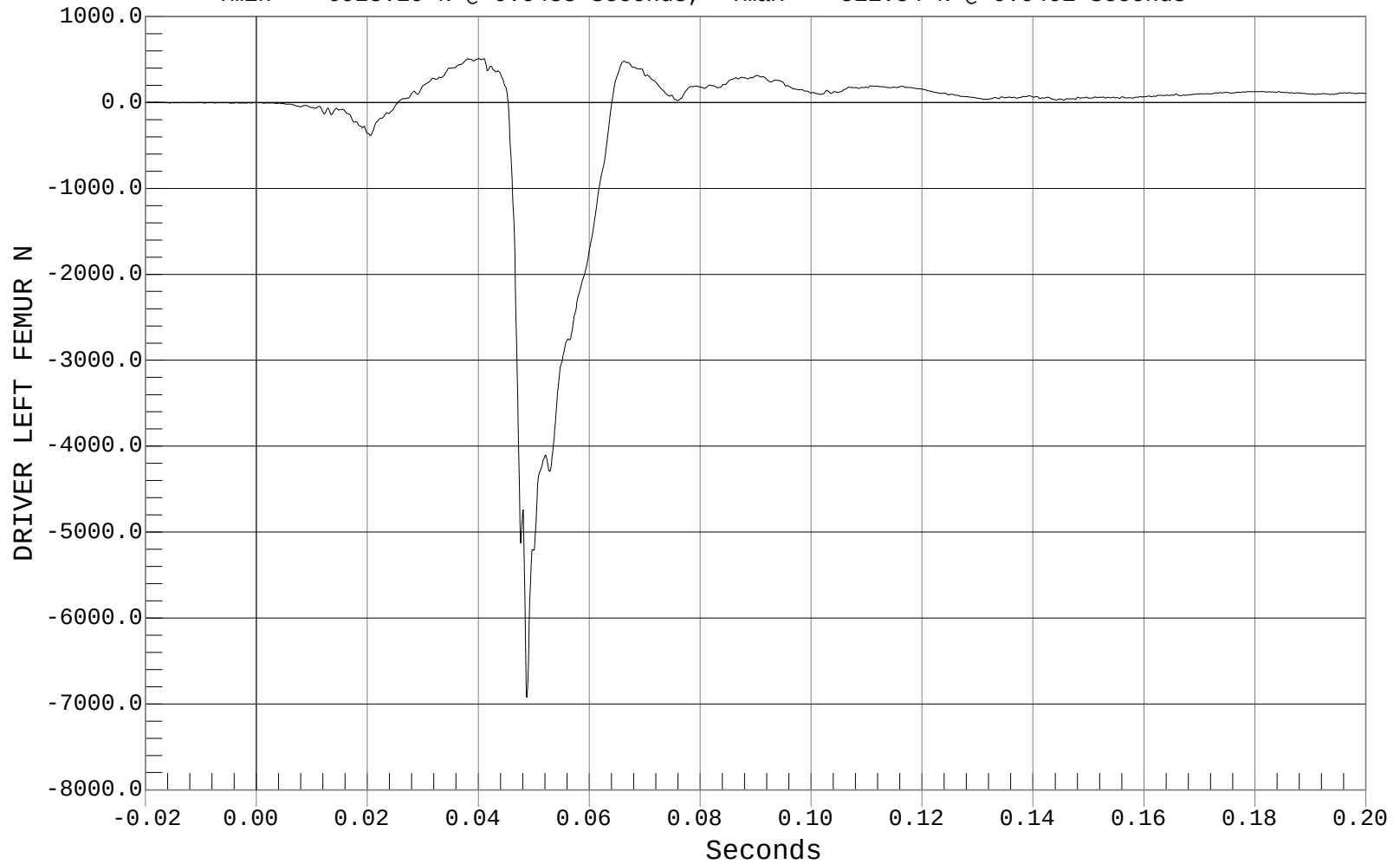
## DRIVER LEFT FEMUR FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT FEMUR, b00097FF.F18

Ymin = -6923.29 N @ 0.0488 Seconds, Ymax = 511.54 N @ 0.0401 Seconds







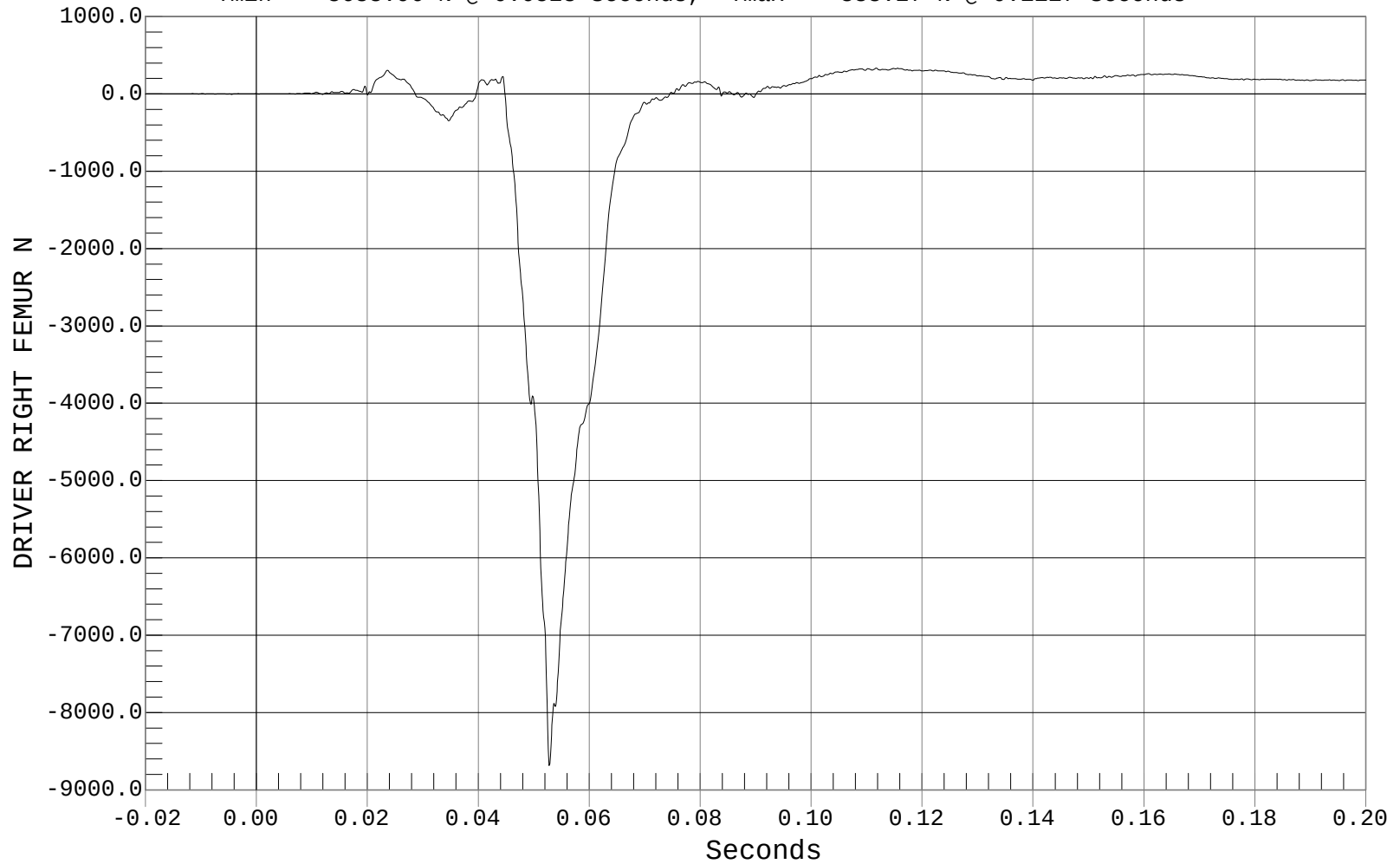
# DRIVER RIGHT FEMUR FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT FEMUR, b00097FF.F17

Ymin = -8683.96 N @ 0.0528 Seconds, Ymax = 333.27 N @ 0.1117 Seconds





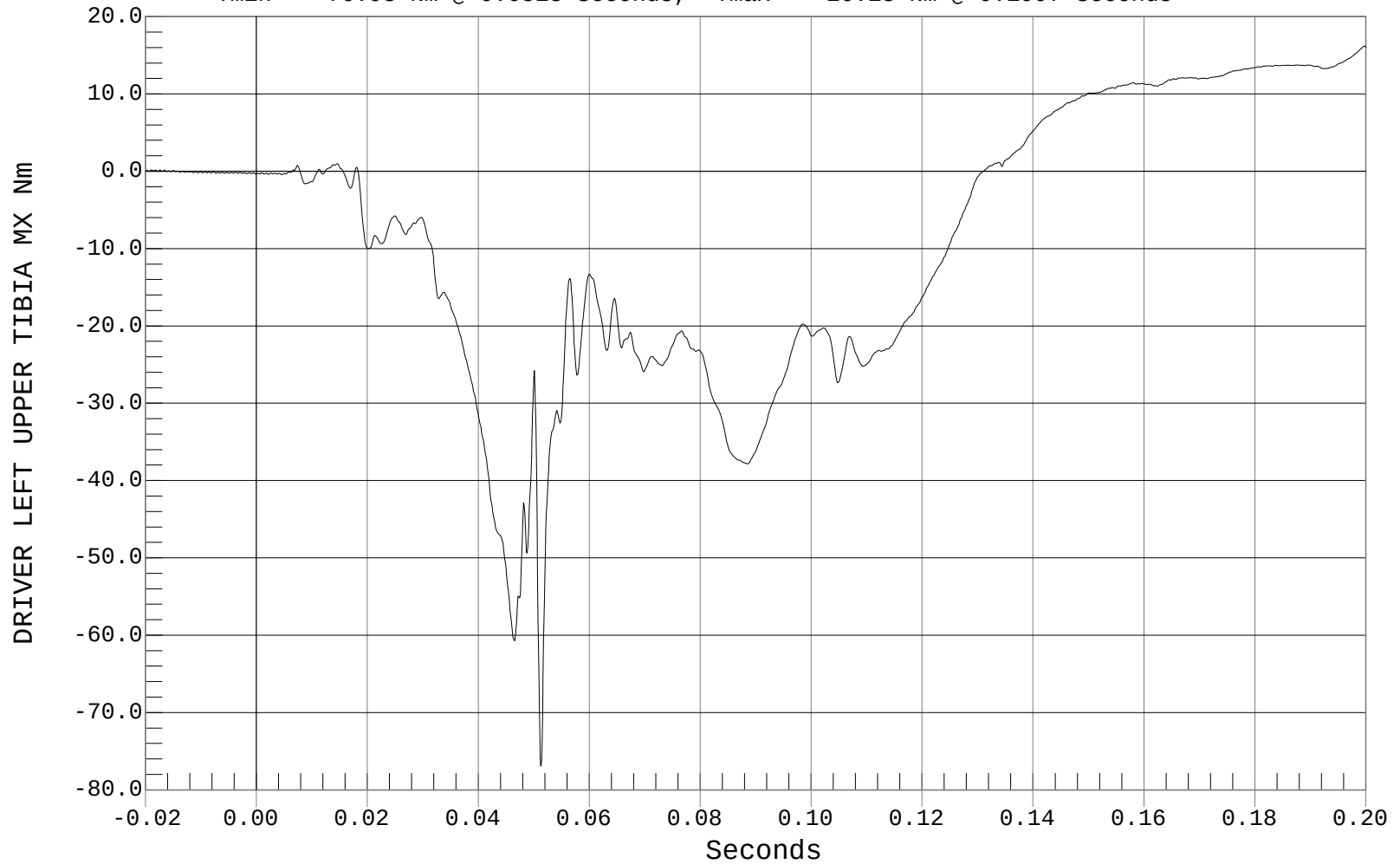
# DRIVER LEFT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT UPPER TIBIA MX, b00097MF.M75

Ymin = -76.93 Nm @ 0.0513 Seconds, Ymax = 16.18 Nm @ 0.1997 Seconds





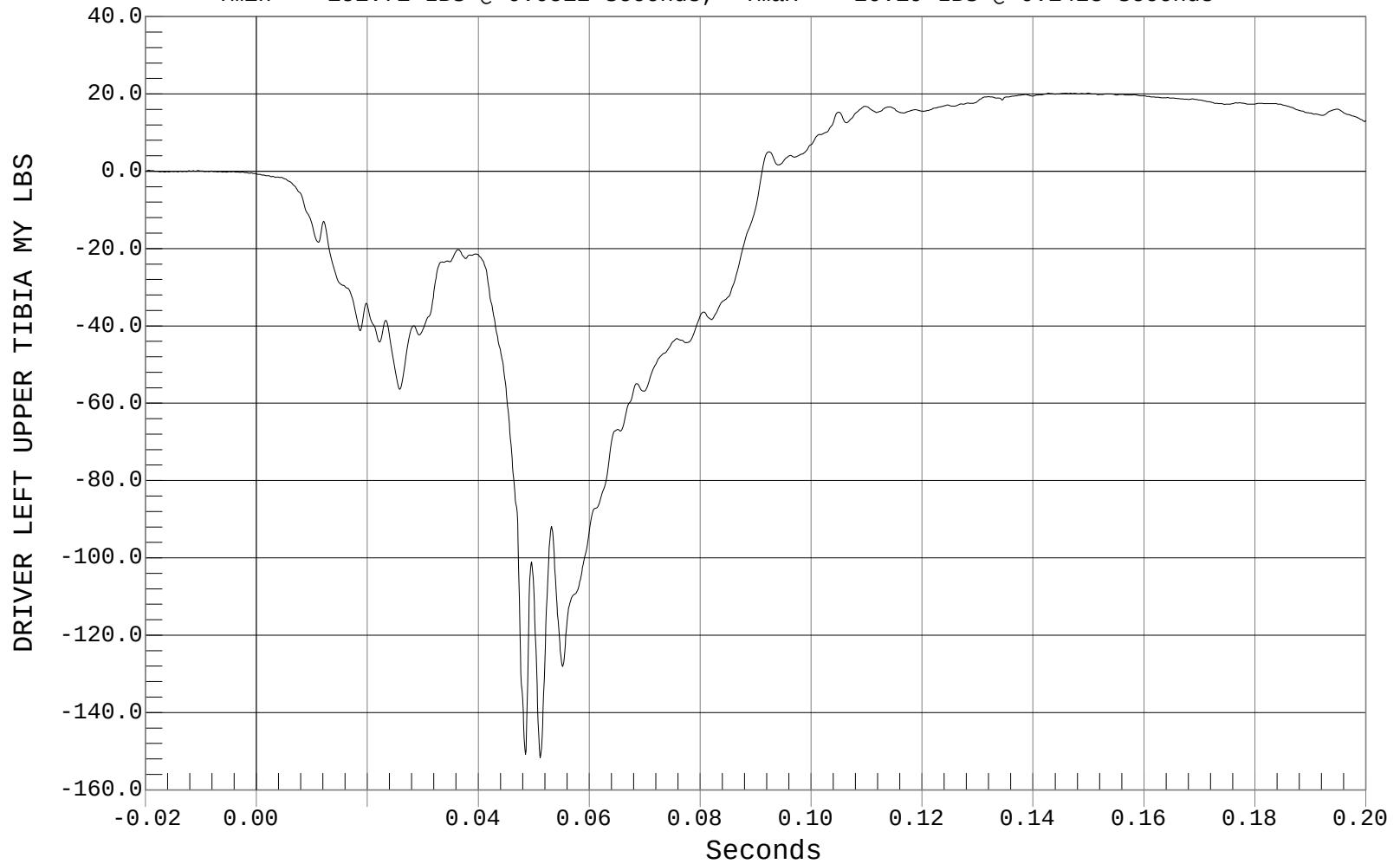
# DRIVER LEFT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT UPPER TIBIA MY, b00097MF.M76

Ymin = -151.71 LBS @ 0.0512 Seconds, Ymax = 20.19 LBS @ 0.1428 Seconds







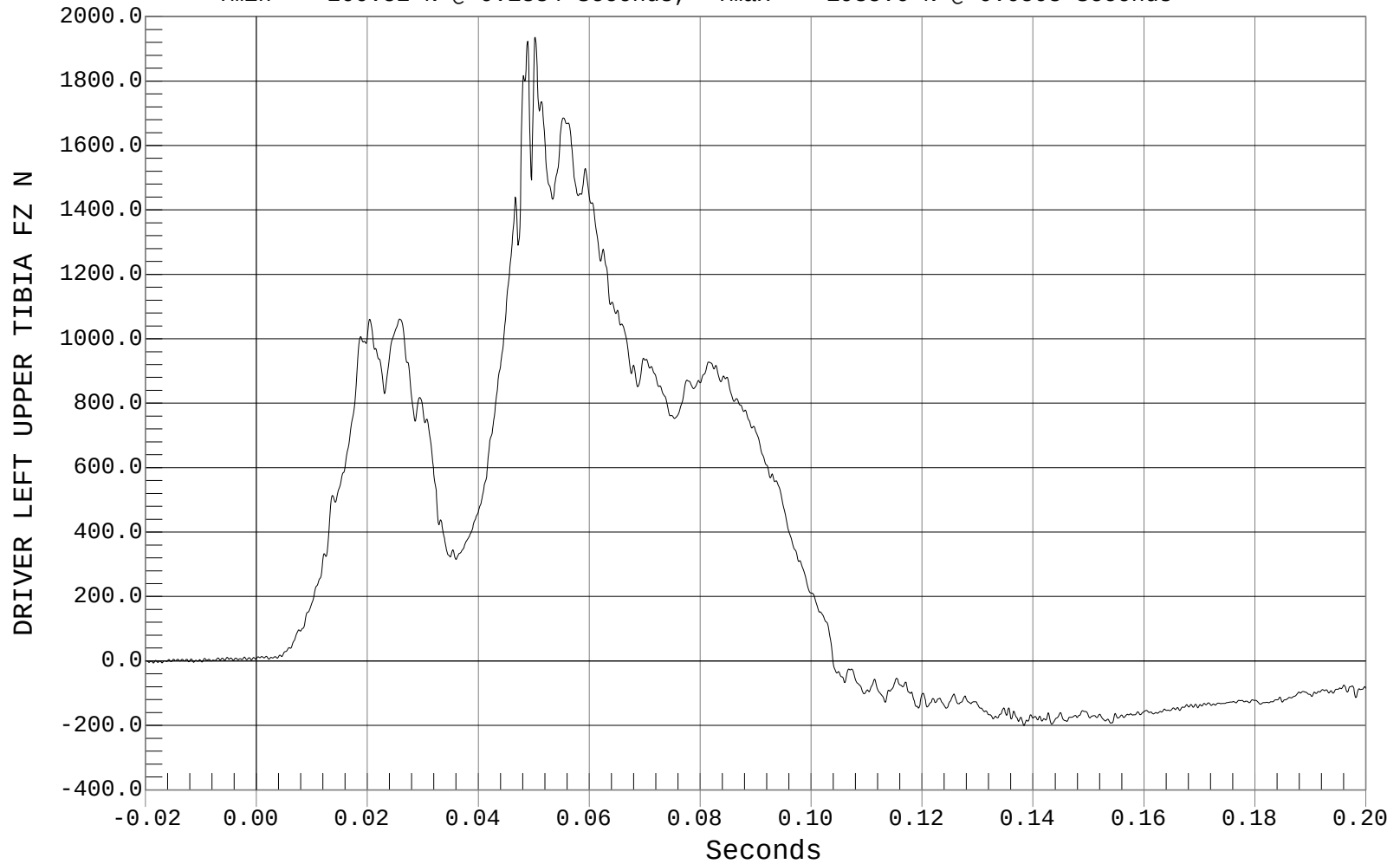
# DRIVER LEFT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT UPPER TIBIA FZ, b00097FF.F77

Ymin = -200.52 N @ 0.1384 Seconds, Ymax = 1935.6 N @ 0.0503 Seconds





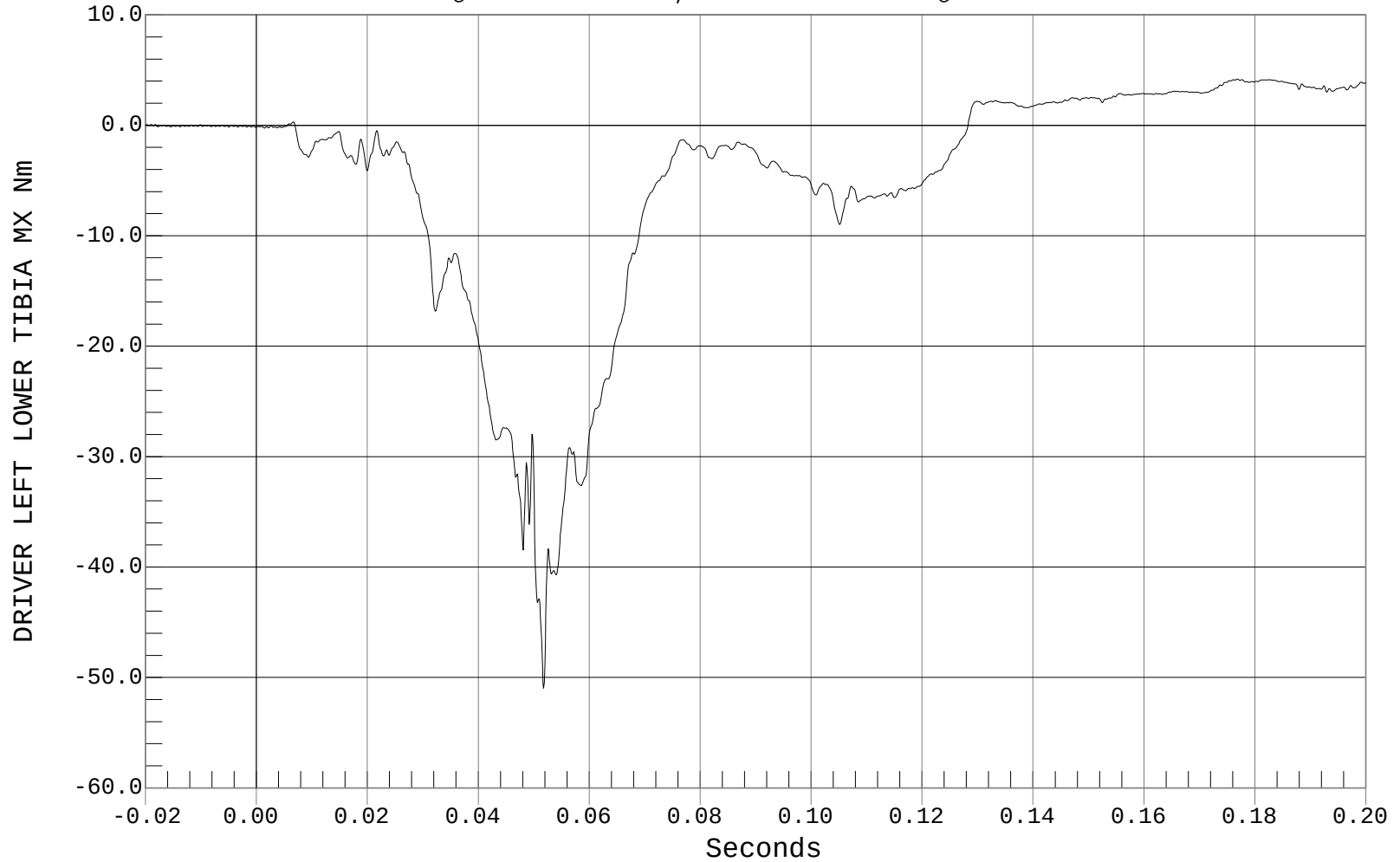
# DRIVER LEFT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT LOWER TIBIA MX, b00097MF.M78

Ymin = -50.96 Nm @ 0.0518 Seconds, Ymax = 4.18 Nm @ 0.1768 Seconds





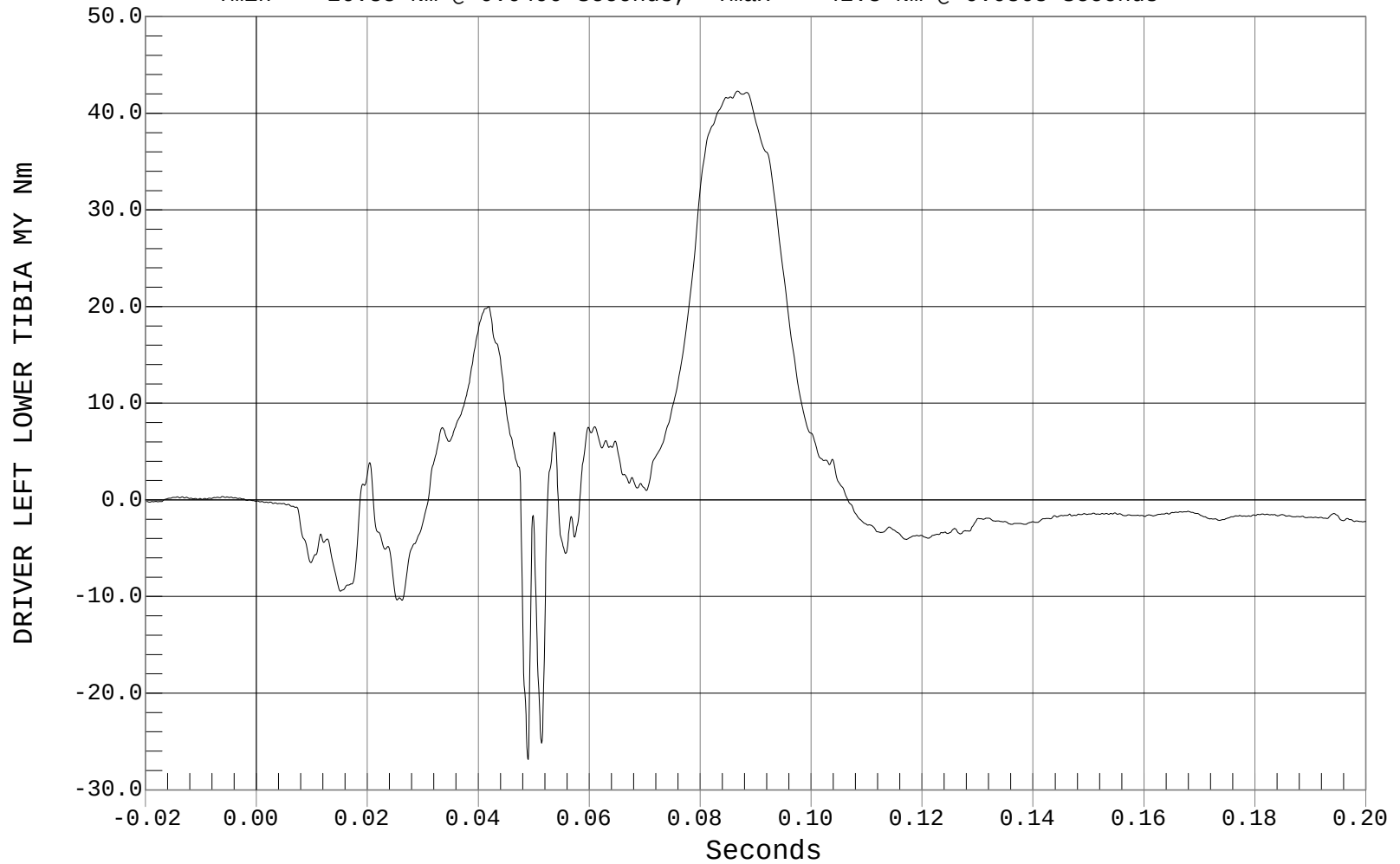
# DRIVER LEFT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT LOWER TIBIA MY, b00097MF.M79

Ymin = -26.85 Nm @ 0.0490 Seconds, Ymax = 42.3 Nm @ 0.0868 Seconds







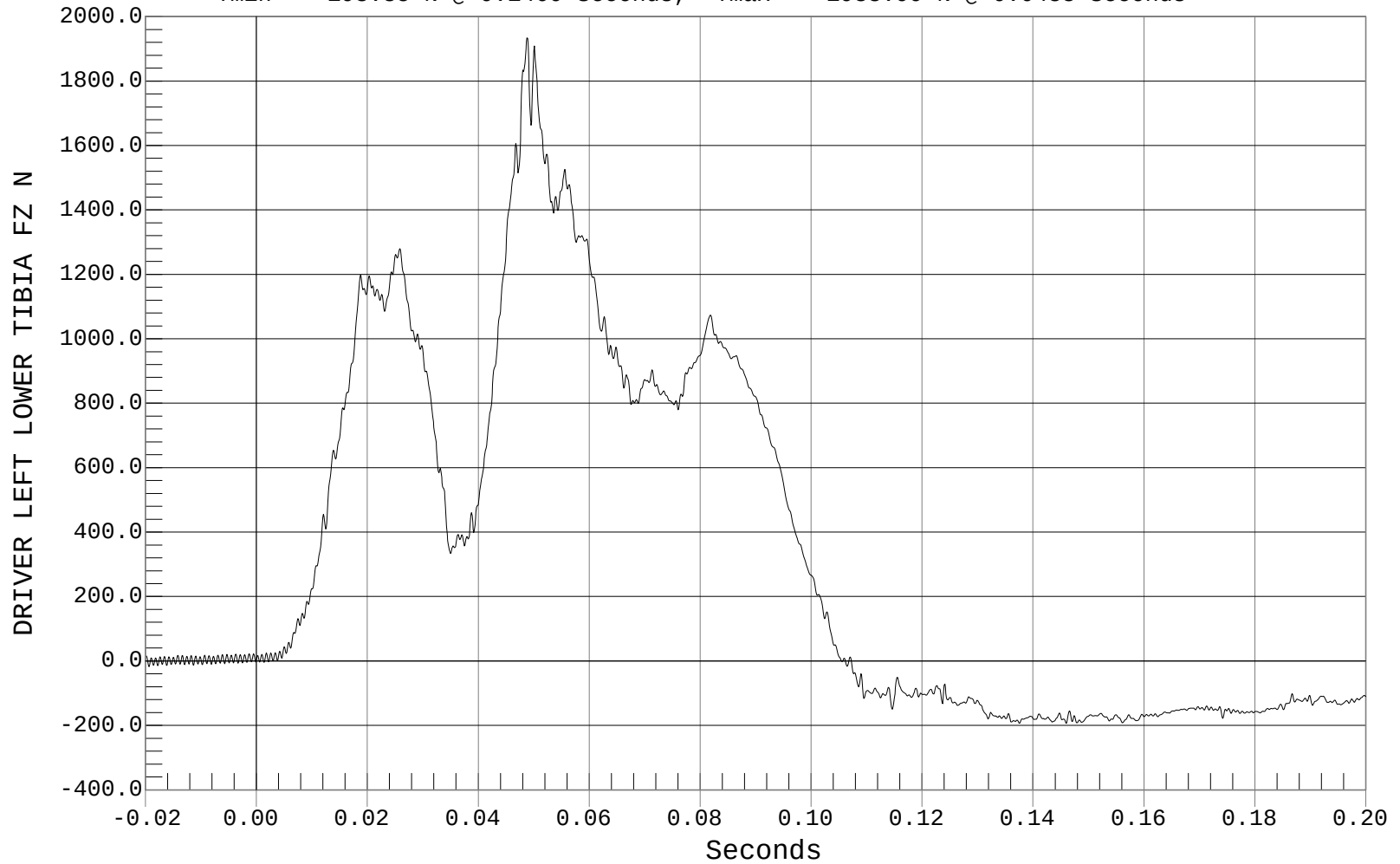
# DRIVER LEFT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER LEFT LOWER TIBIA FZ, b00097FF.F80

Ymin = -193.35 N @ 0.1460 Seconds, Ymax = 1933.99 N @ 0.0488 Seconds





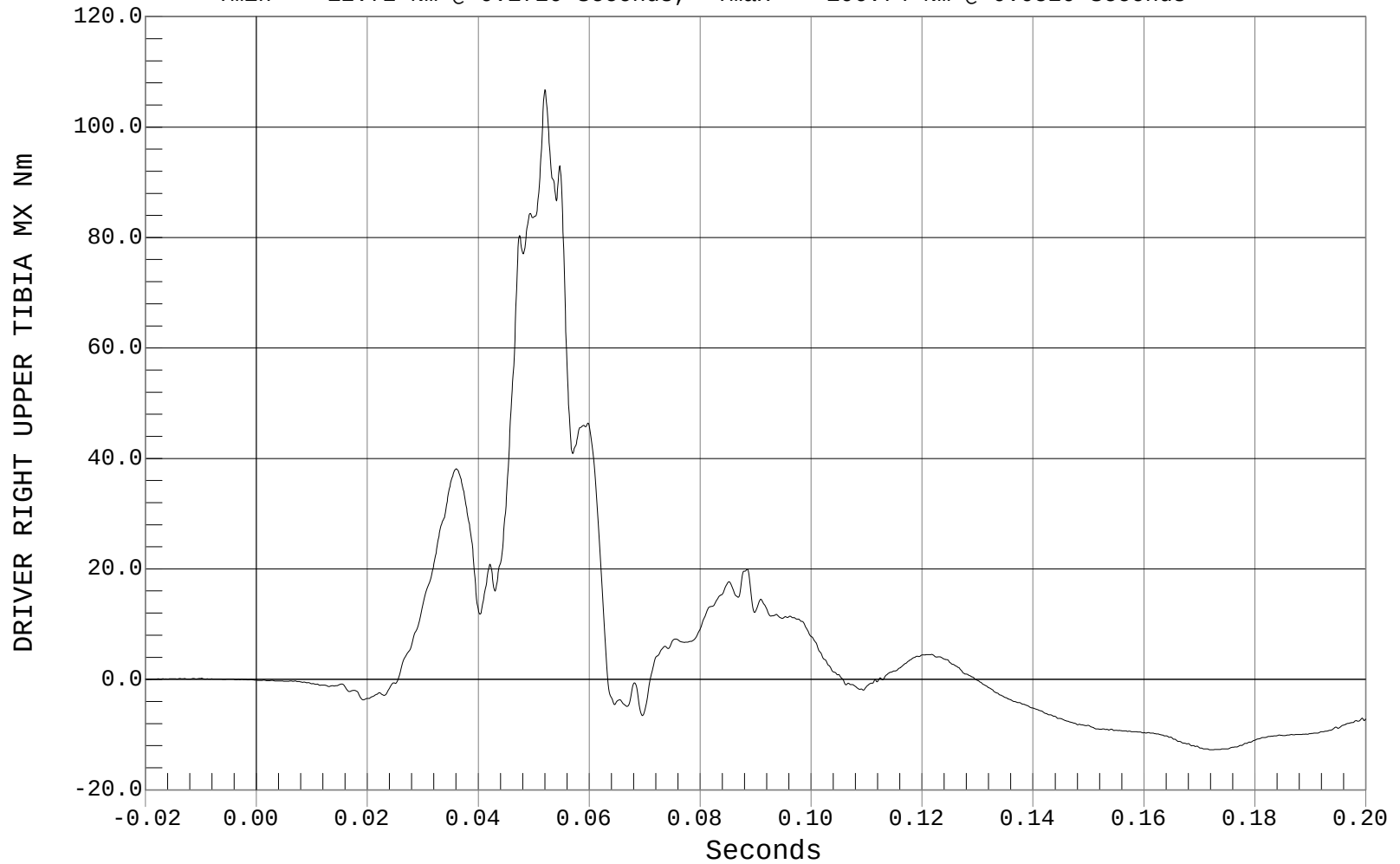
# DRIVER RIGHT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT UPPER TIBIA MX, b00097MF.M69

Ymin = -12.72 Nm @ 0.1720 Seconds, Ymax = 106.74 Nm @ 0.0520 Seconds





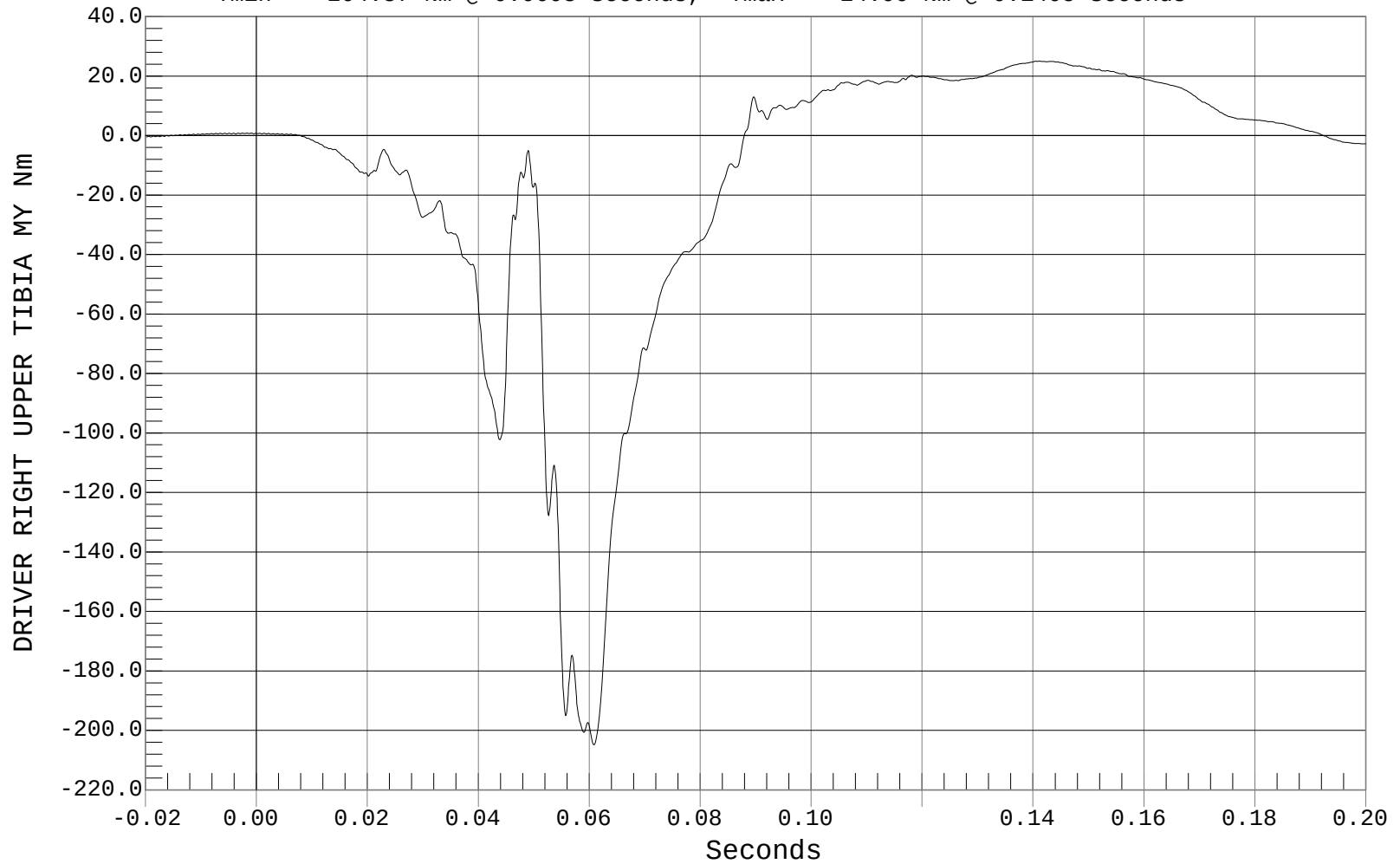
# DRIVER RIGHT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT UPPER TIBIA MY, b00097MF.M70

Ymin = -204.87 Nm @ 0.0608 Seconds, Ymax = 24.99 Nm @ 0.1405 Seconds







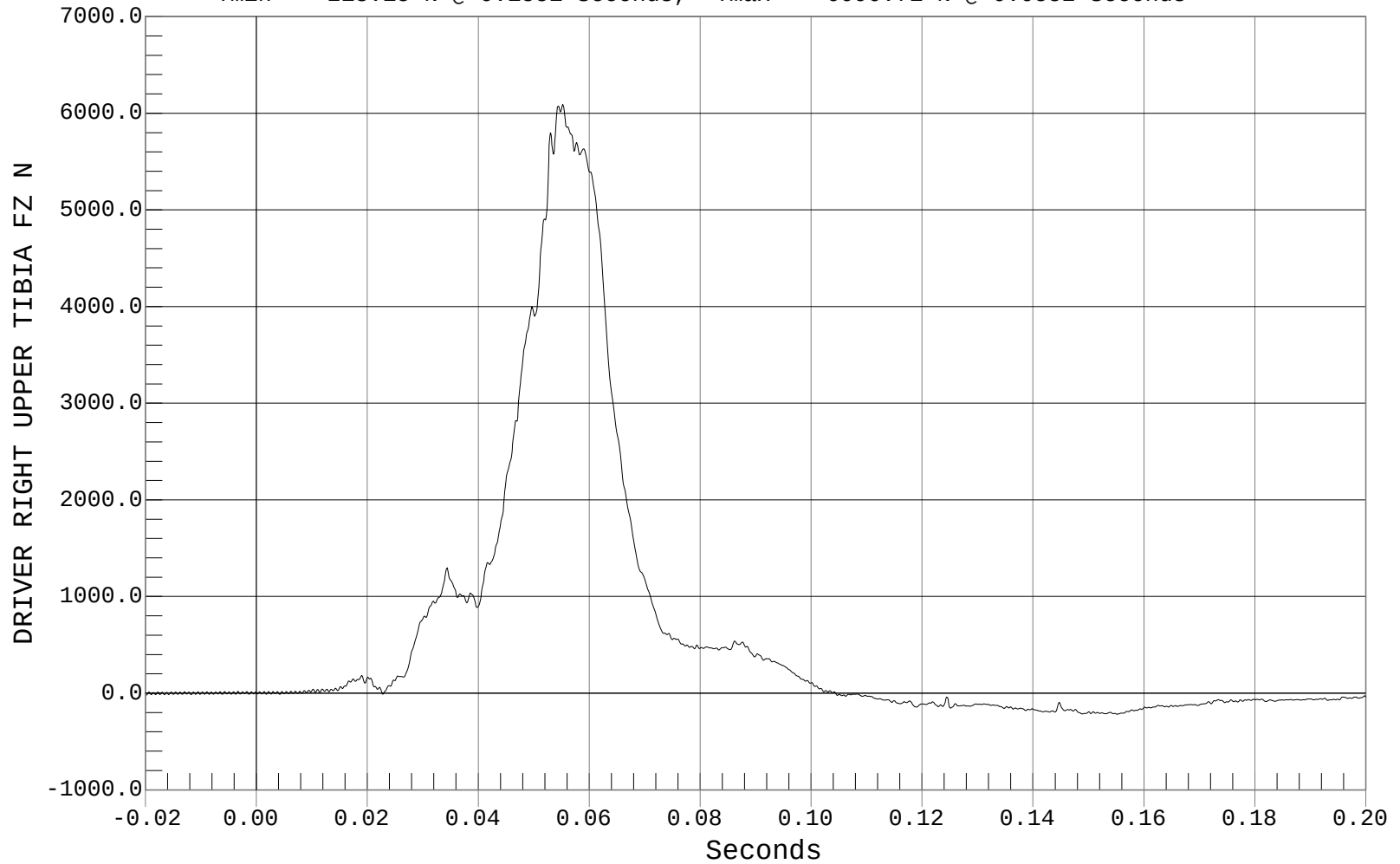
# DRIVER RIGHT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT UPPER TIBIA FZ, b00097FF.F71

Ymin = -218.15 N @ 0.1551 Seconds, Ymax = 6090.71 N @ 0.0552 Seconds





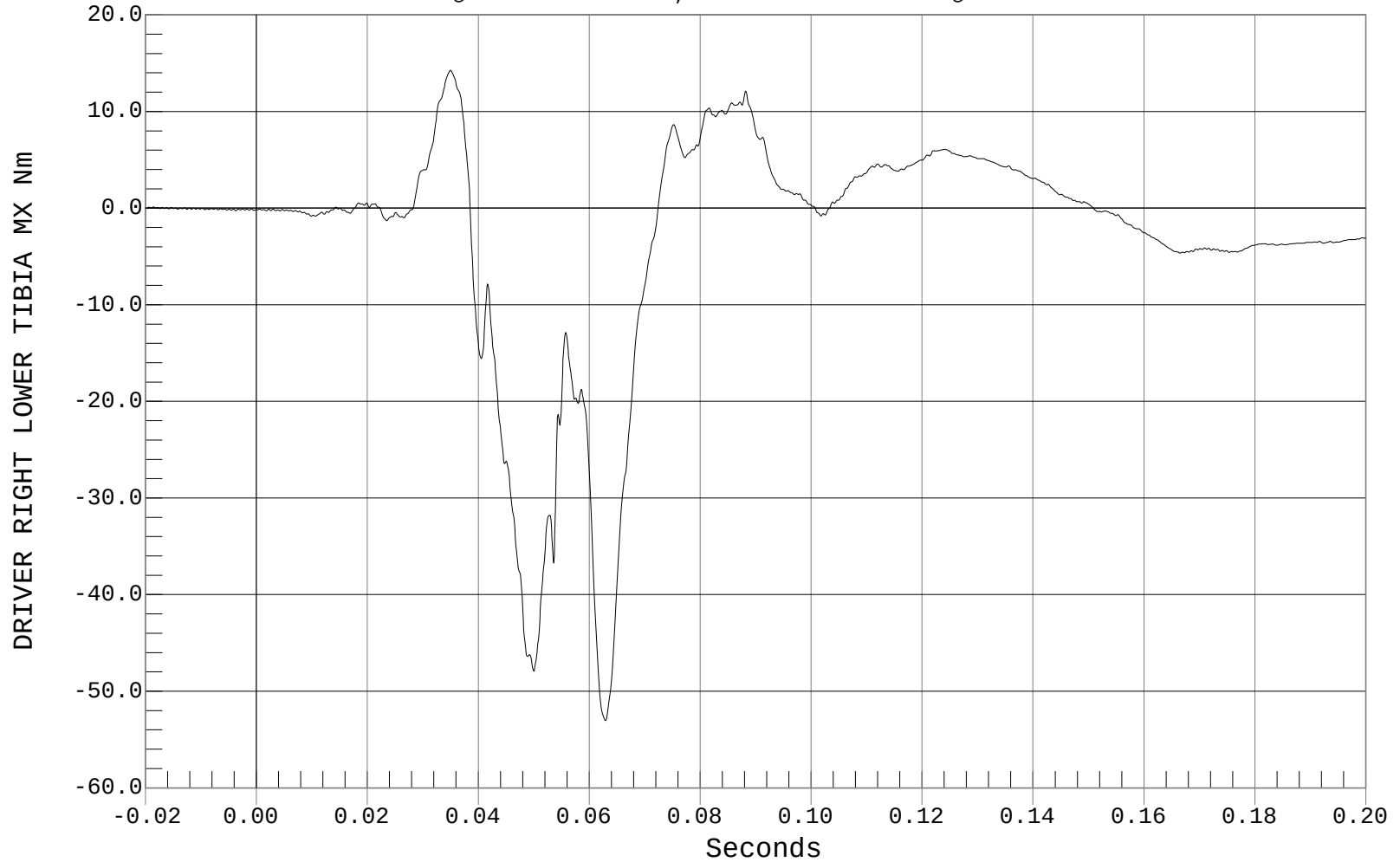
# DRIVER RIGHT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT LOWER TIBIA MX, b00097MF.M72

Ymin = -53.04 Nm @ 0.0629 Seconds, Ymax = 14.28 Nm @ 0.0350 Seconds





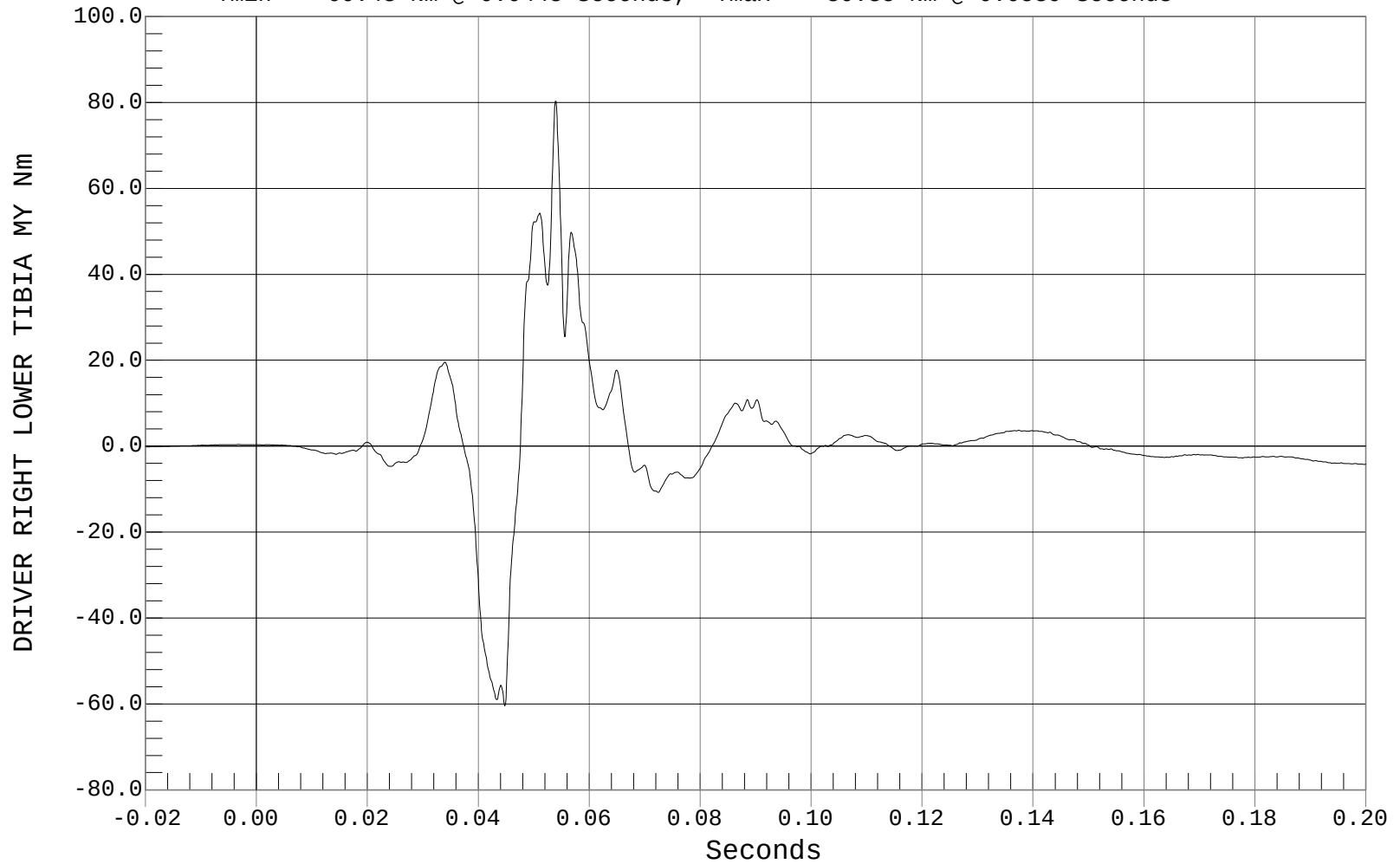
# DRIVER RIGHT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT LOWER TIBIA MY, b00097MF.M73

Ymin = -60.43 Nm @ 0.0448 Seconds, Ymax = 80.35 Nm @ 0.0539 Seconds







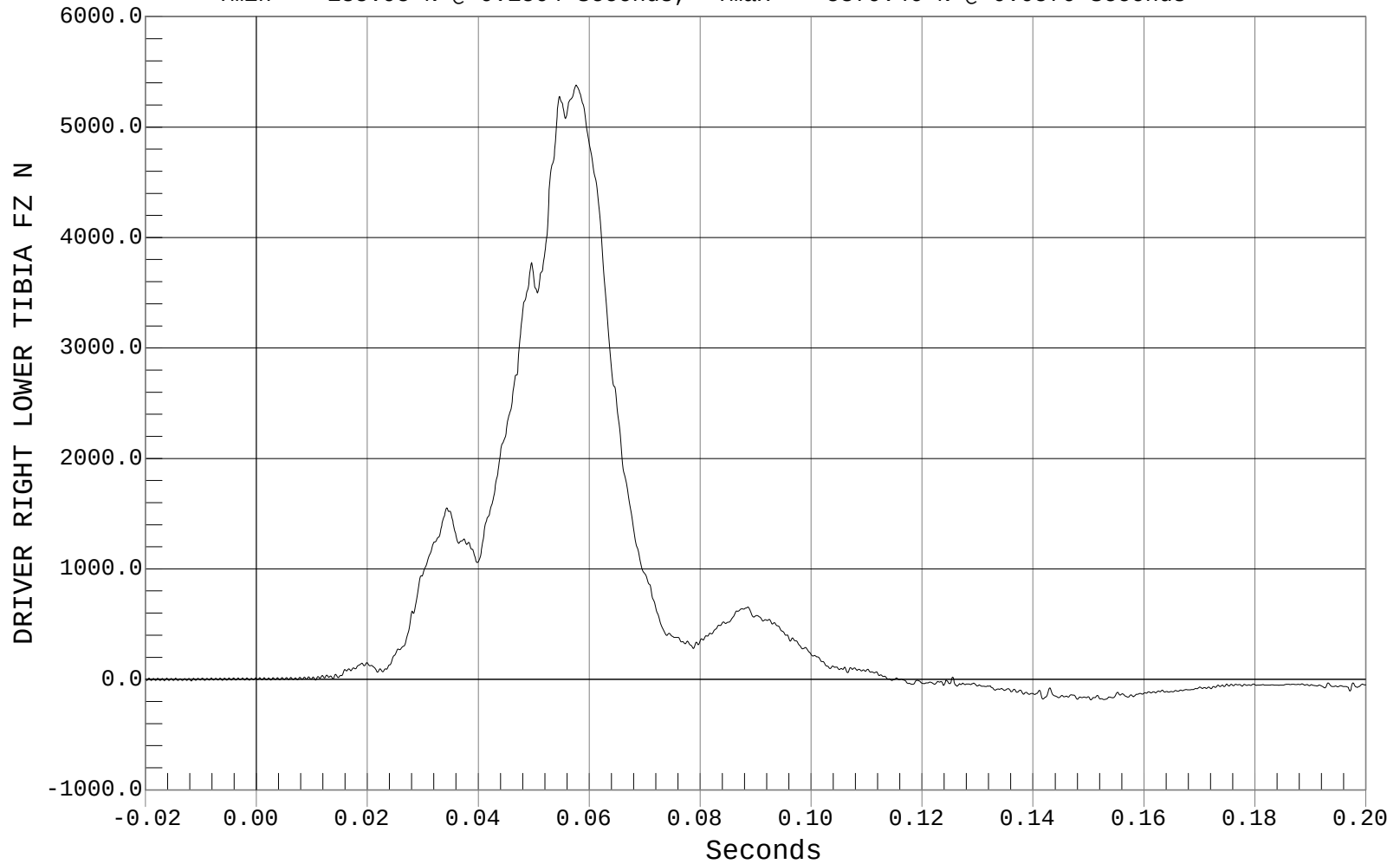
# DRIVER RIGHT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 DRIVER RIGHT LOWER TIBIA FZ, b00097FF.F74

Ymin = -185.95 N @ 0.1504 Seconds, Ymax = 5379.46 N @ 0.0576 Seconds





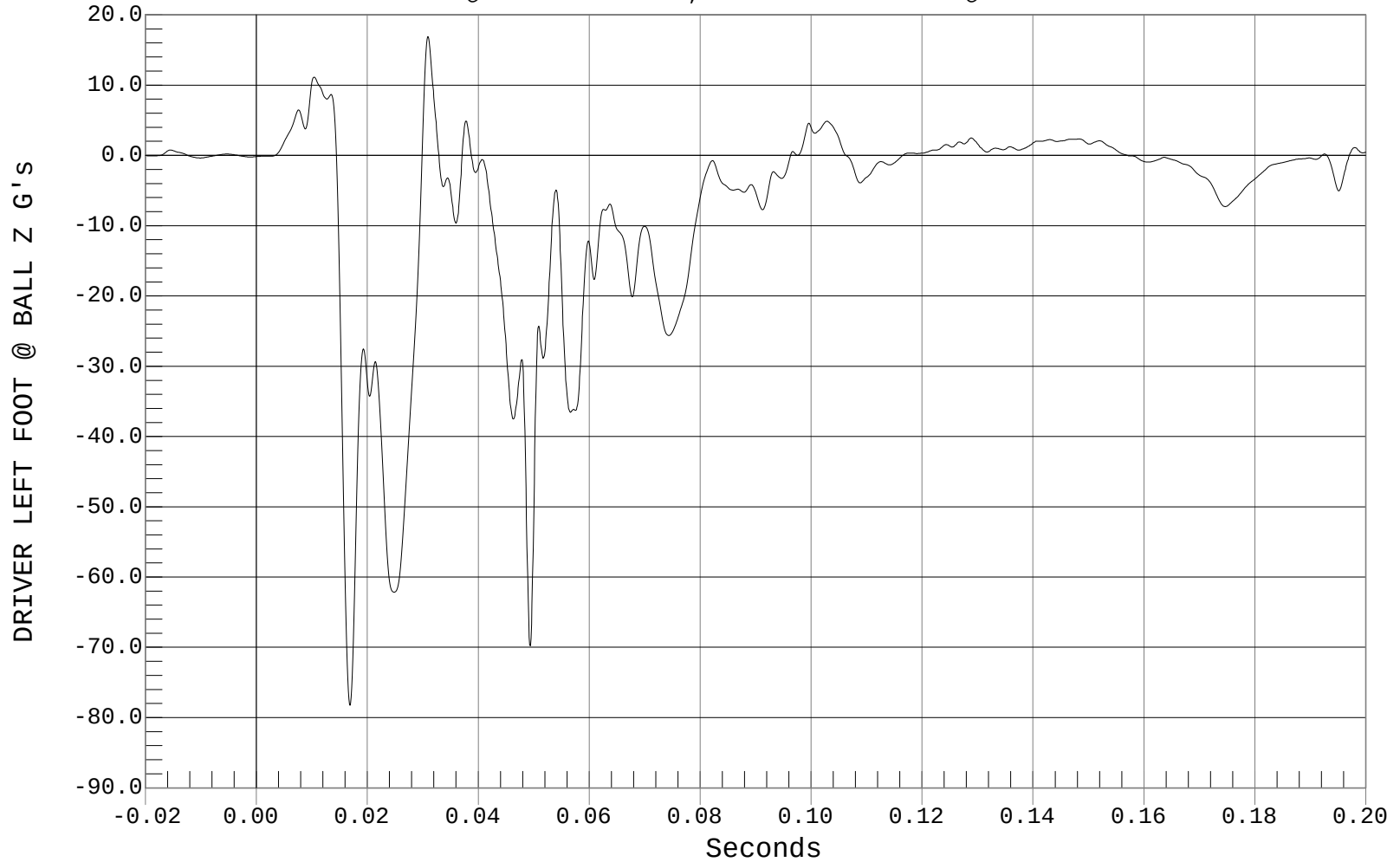
# DRIVER LEFT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER LEFT FOOT @ BALL Z, c00097AF.A12

Ymin = -78.24 G's @ 0.0169 Seconds, Ymax = 16.9 G's @ 0.0310 Seconds





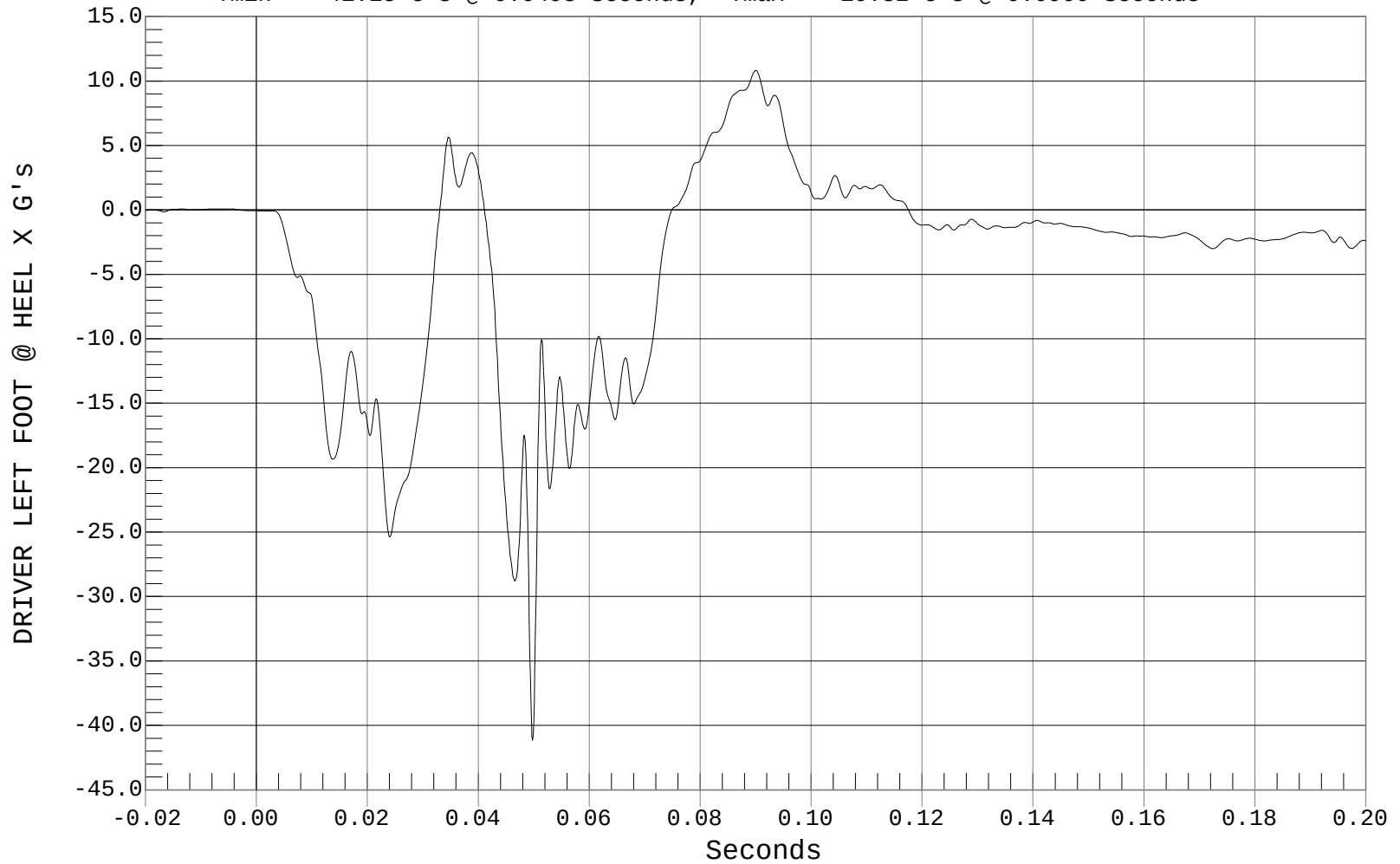
# DRIVER LEFT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER LEFT FOOT @ HEEL X, c00097AF.A10

Ymin = -41.15 G's @ 0.0498 Seconds, Ymax = 10.82 G's @ 0.0900 Seconds







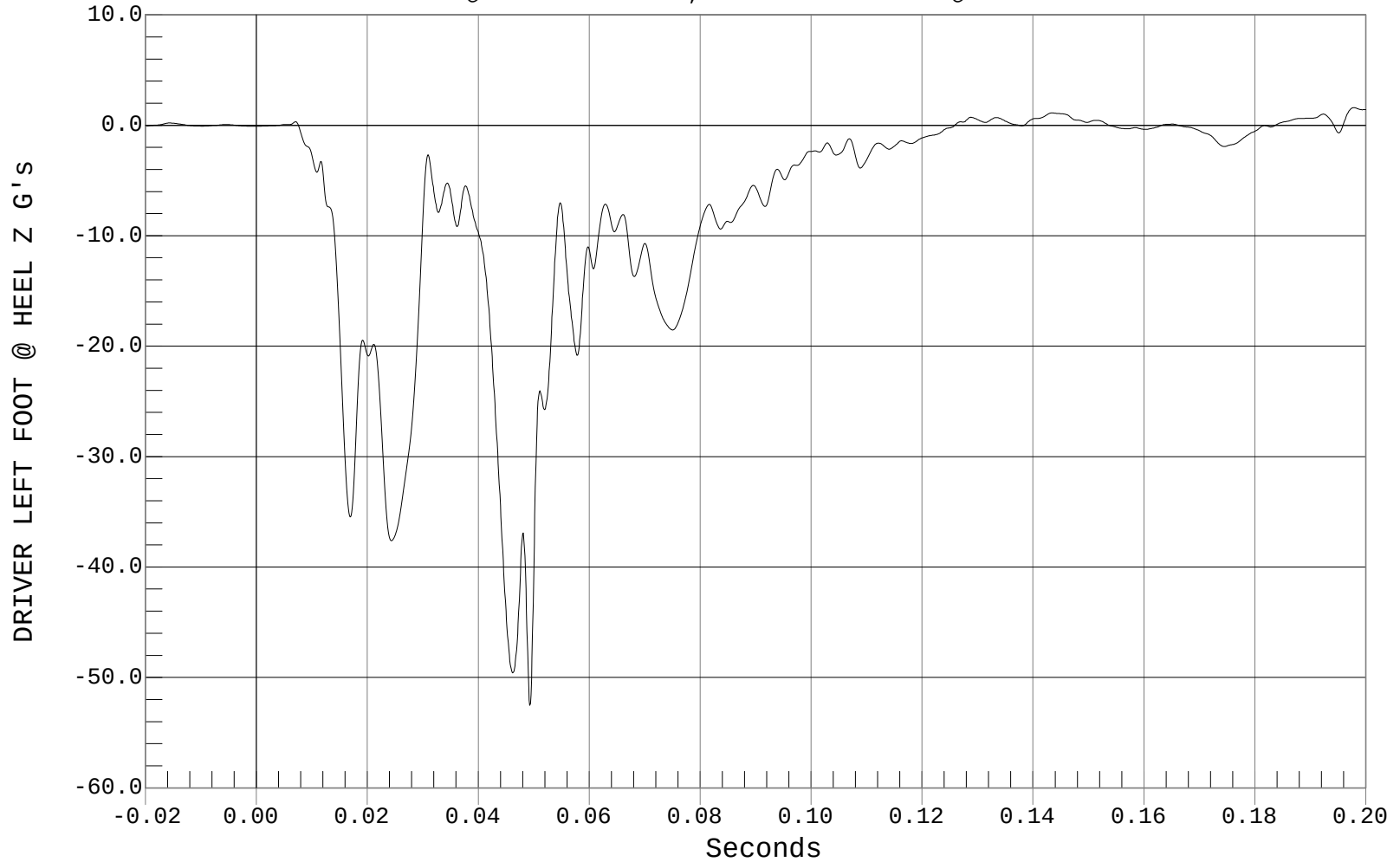
# DRIVER LEFT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER LEFT FOOT @ HEEL Z, c00097AF.A11

Ymin = -52.53 G's @ 0.0493 Seconds, Ymax = 1.6 G's @ 0.1979 Seconds





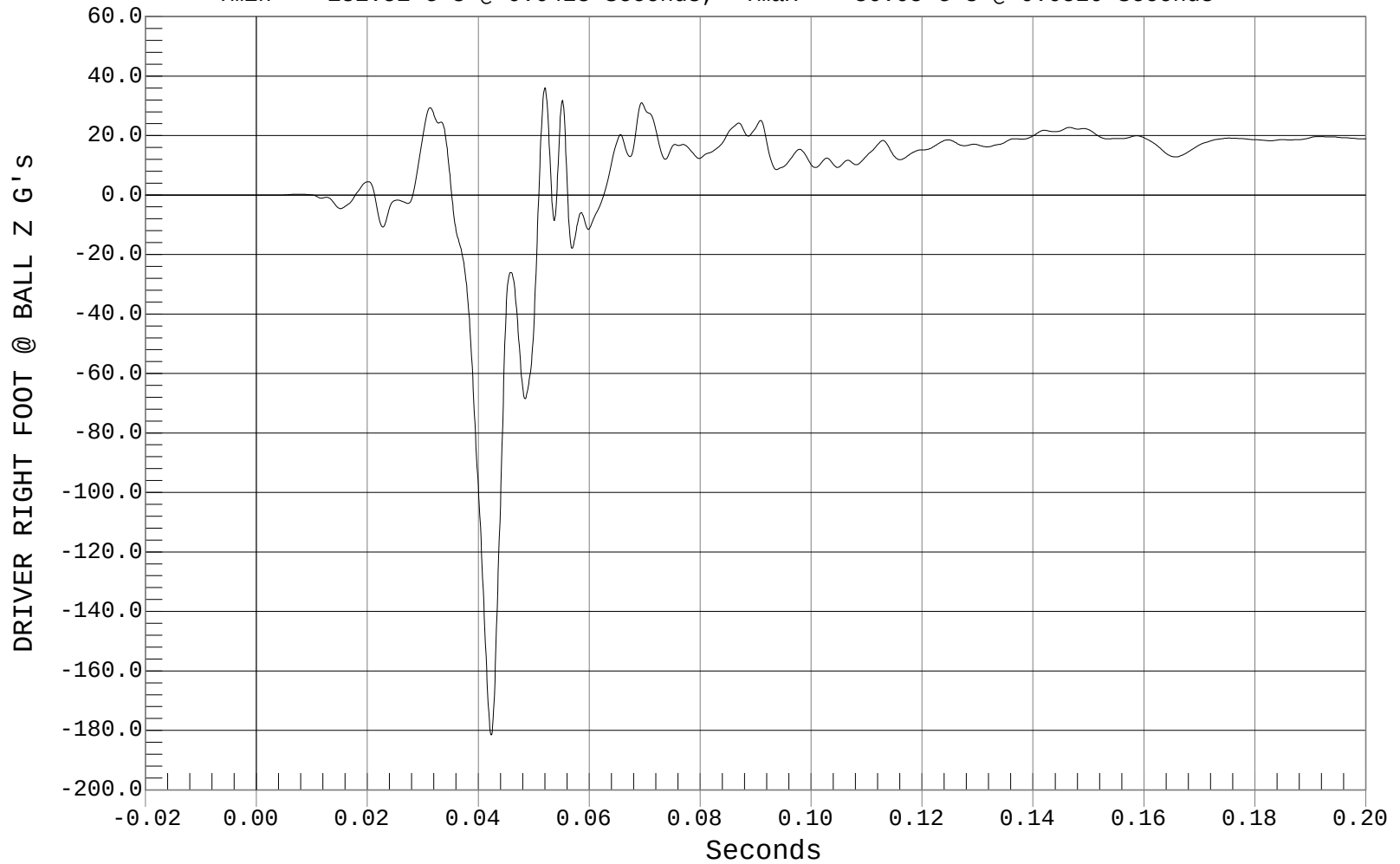
# DRIVER RIGHT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER RIGHT FOOT @ BALL Z, b00097AF.A95

Ymin = -181.51 G's @ 0.0423 Seconds, Ymax = 36.05 G's @ 0.0520 Seconds





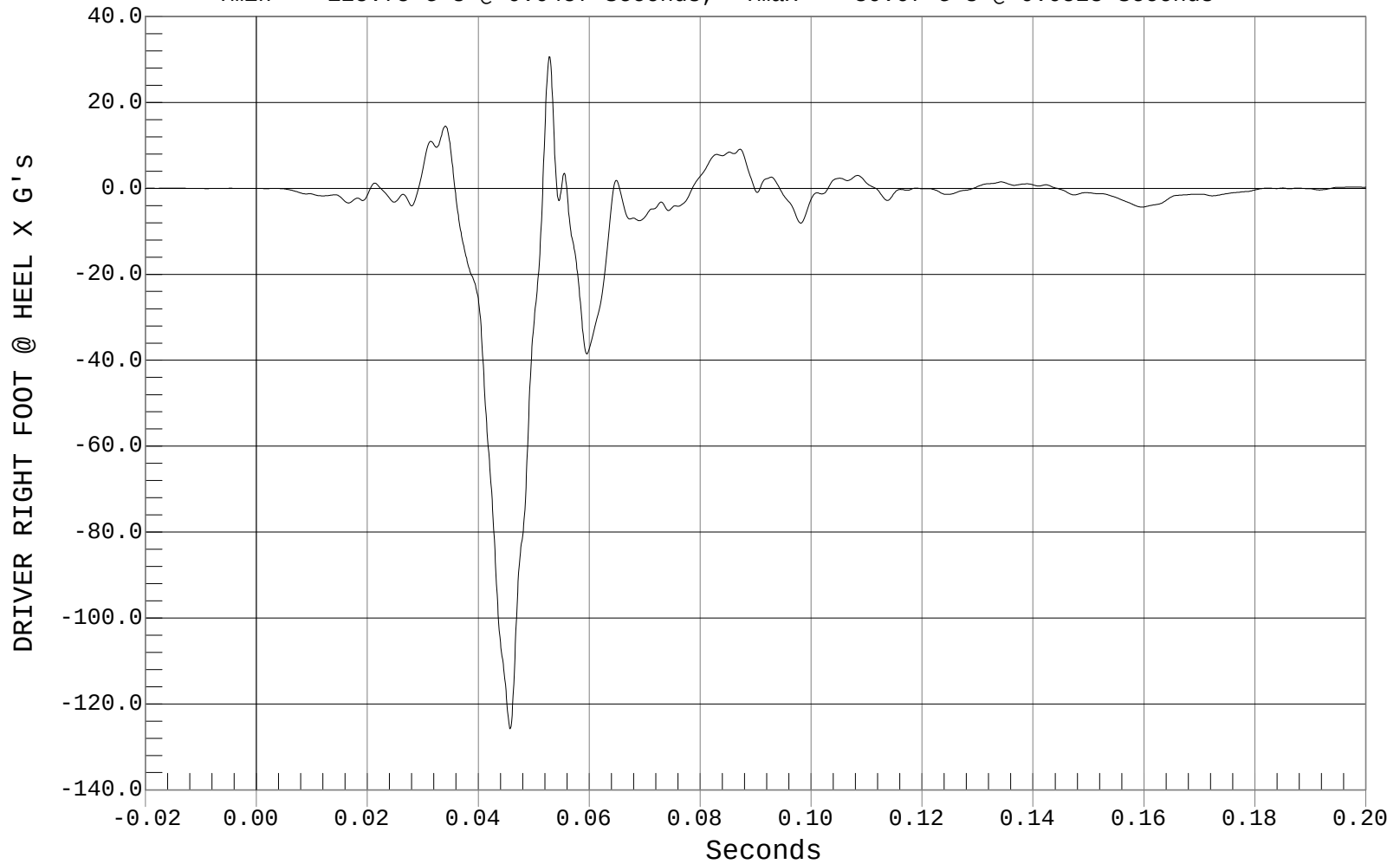
# DRIVER RIGHT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER RIGHT FOOT @ HEEL X, b00097AF.A93

Ymin = -125.75 G's @ 0.0457 Seconds, Ymax = 30.67 G's @ 0.0528 Seconds







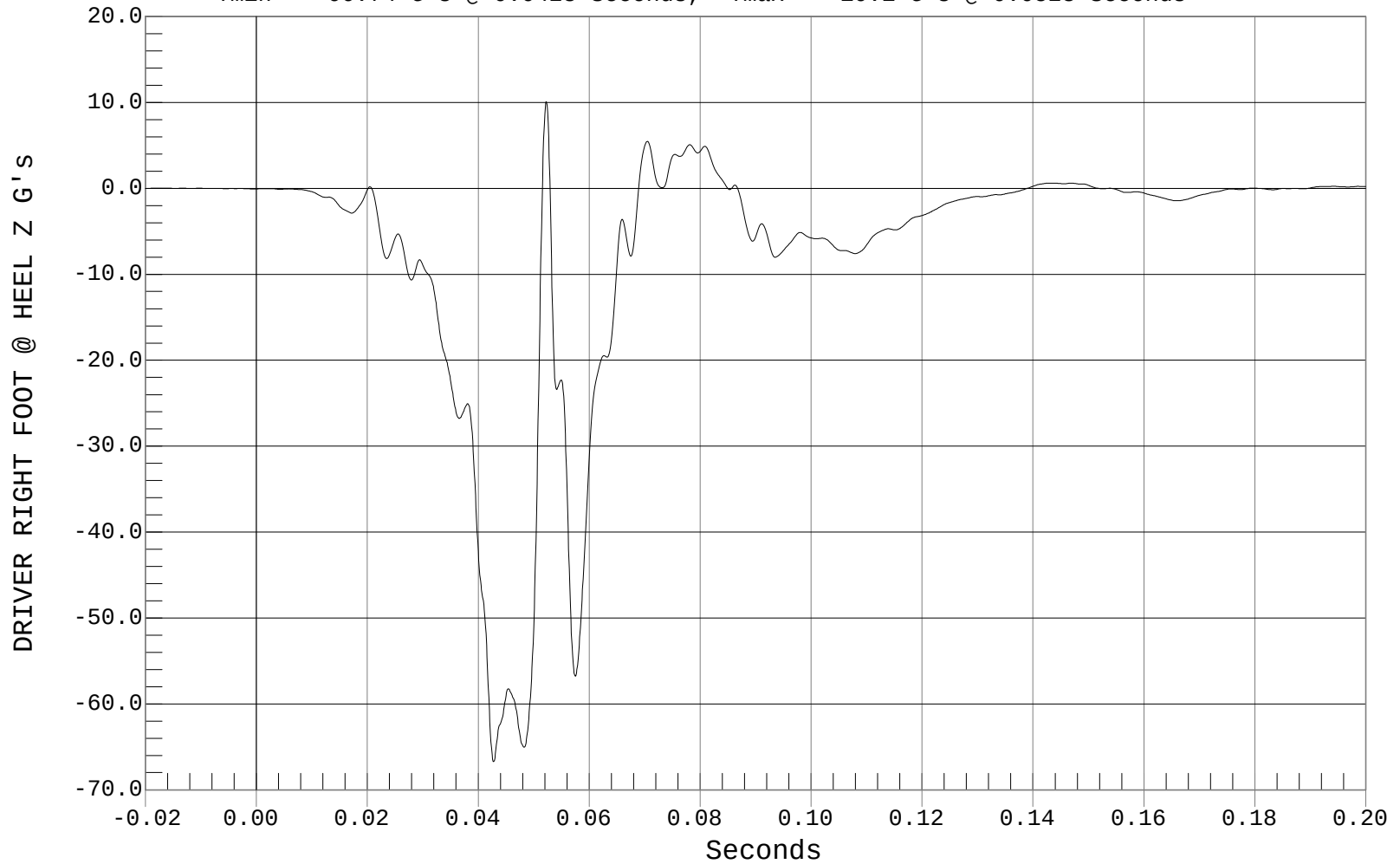
# DRIVER RIGHT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 DRIVER RIGHT FOOT @ HEEL Z, b00097AF.A94

Ymin = -66.74 G's @ 0.0428 Seconds, Ymax = 10.1 G's @ 0.0523 Seconds





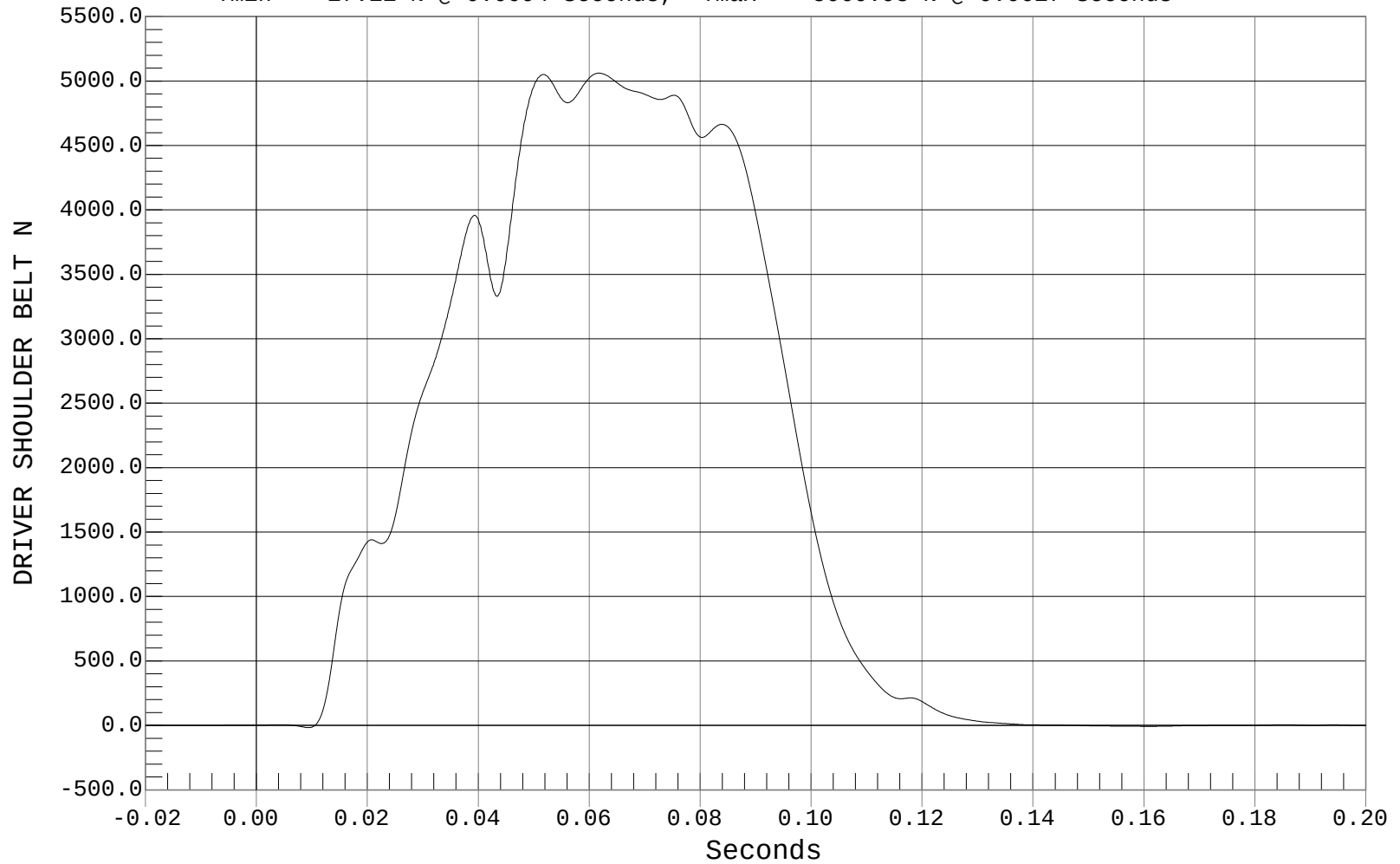
## DRIVER SHOULDER BELT FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 DRIVER SHOULDER BELT, b00097FF.F65

Ymin = -17.11 N @ 0.0094 Seconds, Ymax = 5060.98 N @ 0.0617 Seconds





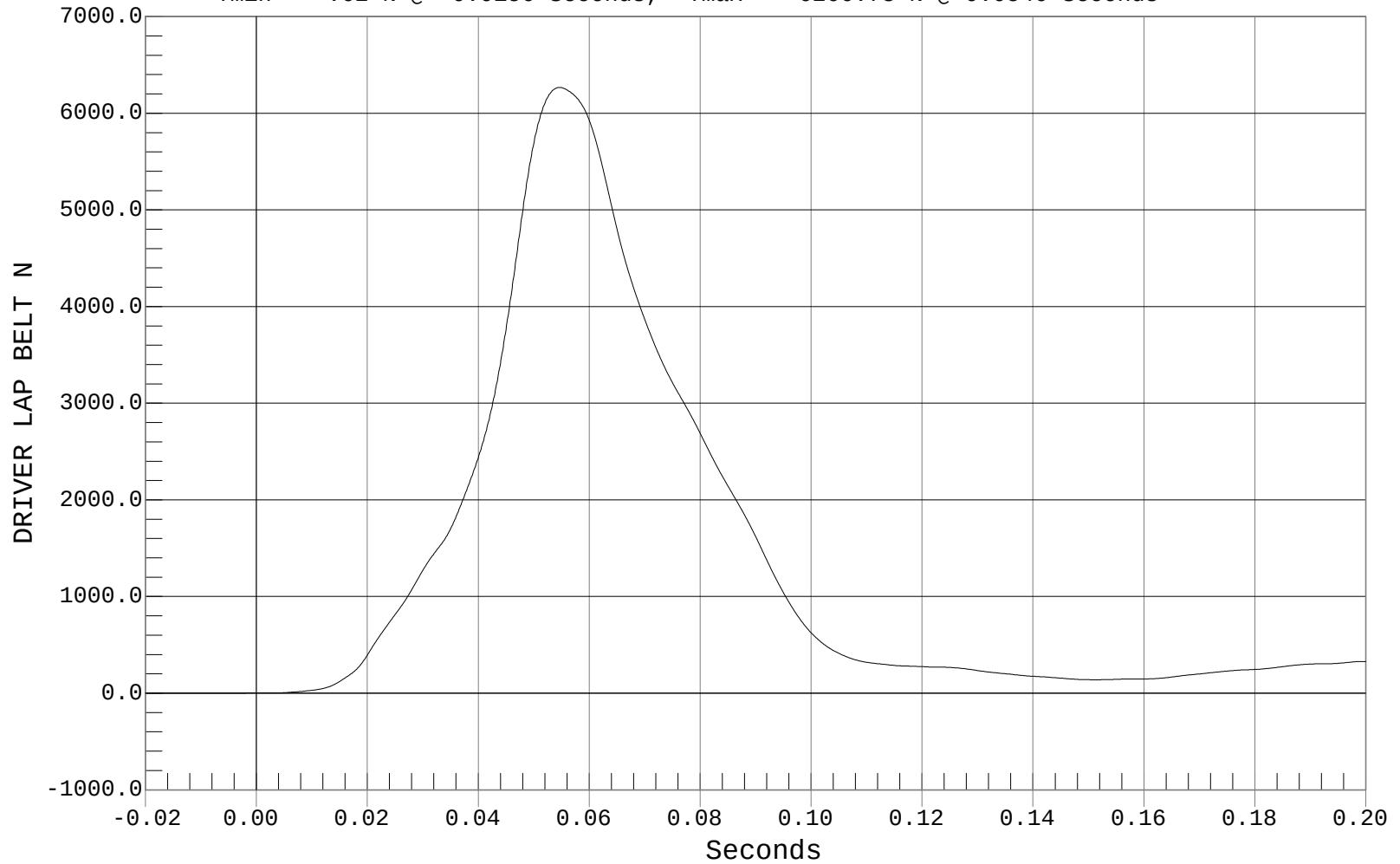
## DRIVER LAP BELT FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 DRIVER LAP BELT, b00097FF.F66

Ymin = -.62 N @ -0.0156 Seconds, Ymax = 6266.78 N @ 0.0546 Seconds







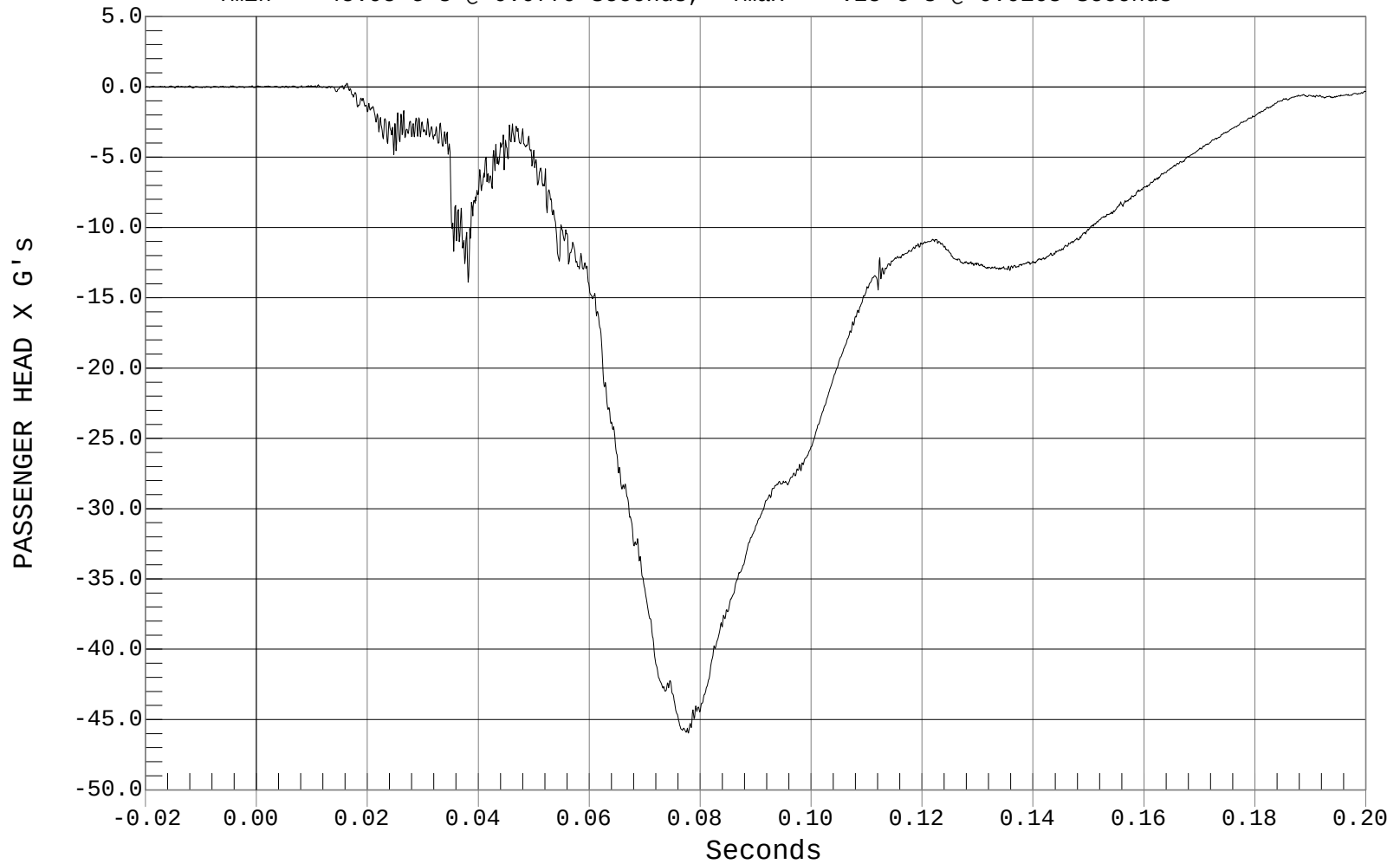
# PASSENGER HEAD X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD X, b00097AT.A19

Ymin = -45.95 G's @ 0.0779 Seconds, Ymax = .25 G's @ 0.0163 Seconds





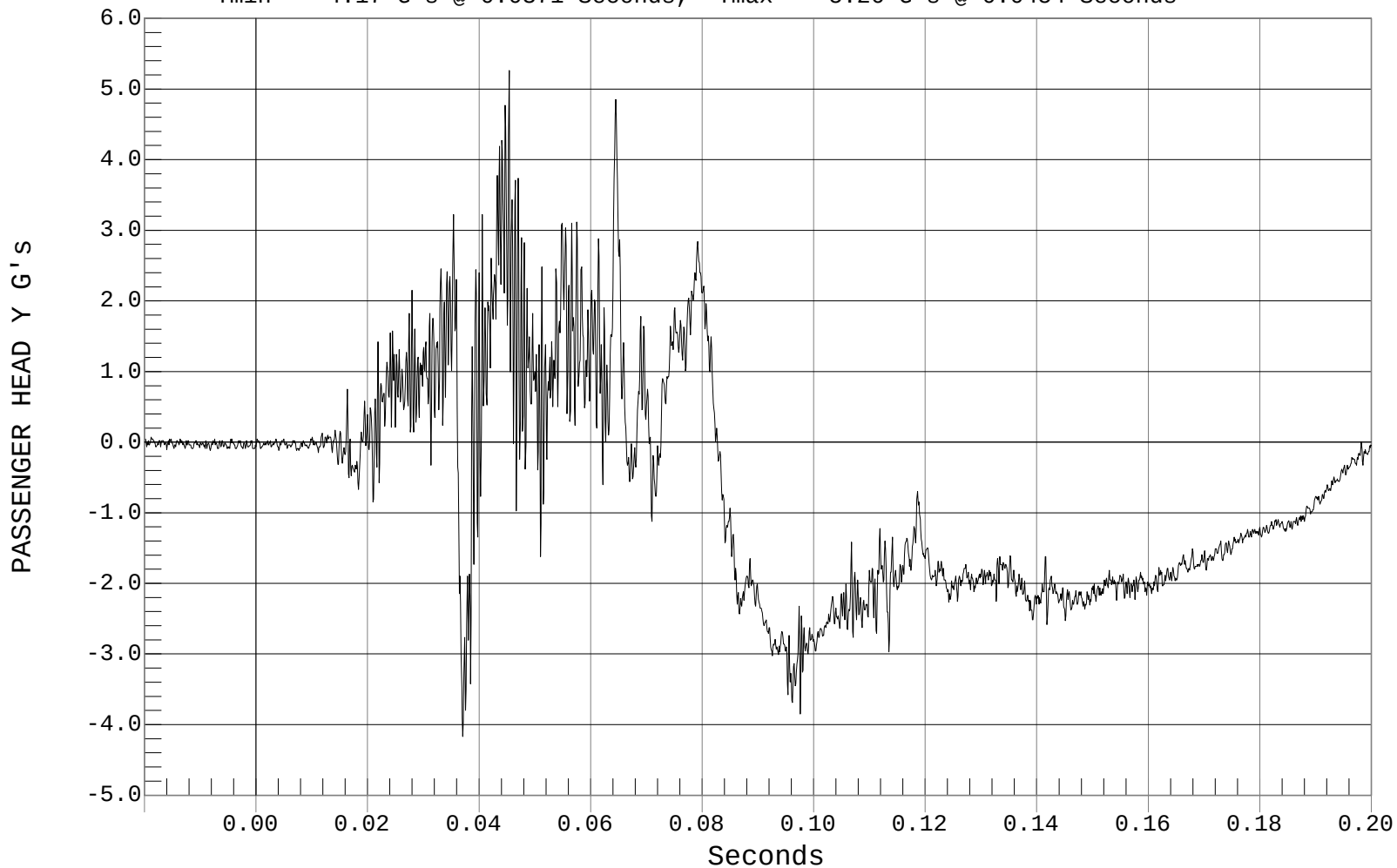
## PASSENGER HEAD Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD Y, b00097AT.A20

Ymin = -4.17 G's @ 0.0371 Seconds, Ymax = 5.26 G's @ 0.0454 Seconds





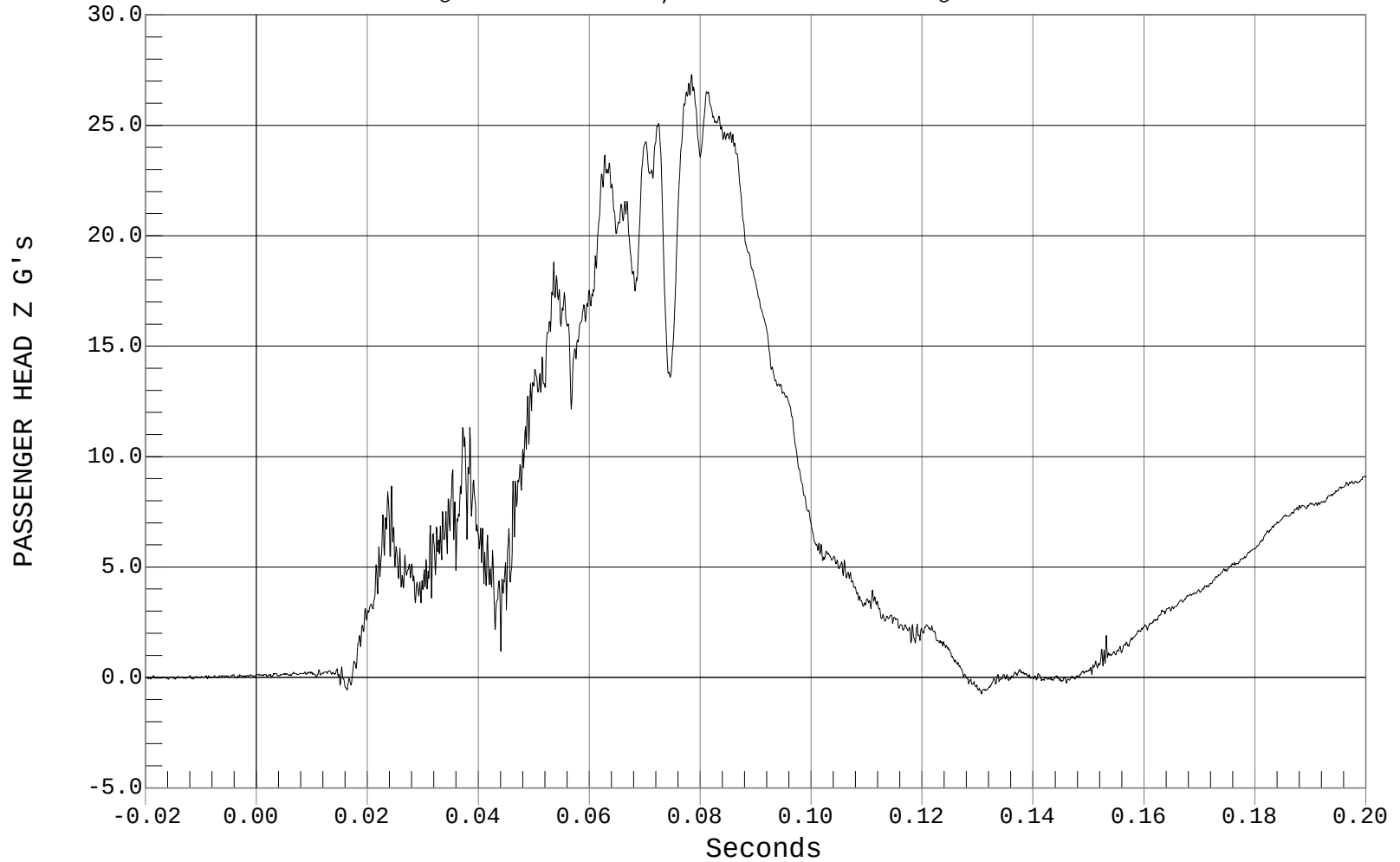
# PASSENGER HEAD Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD Z, b00097AT.A21

Ymin =  $-0.75$  G's @ 0.1307 Seconds, Ymax =  $27.3$  G's @ 0.0784 Seconds







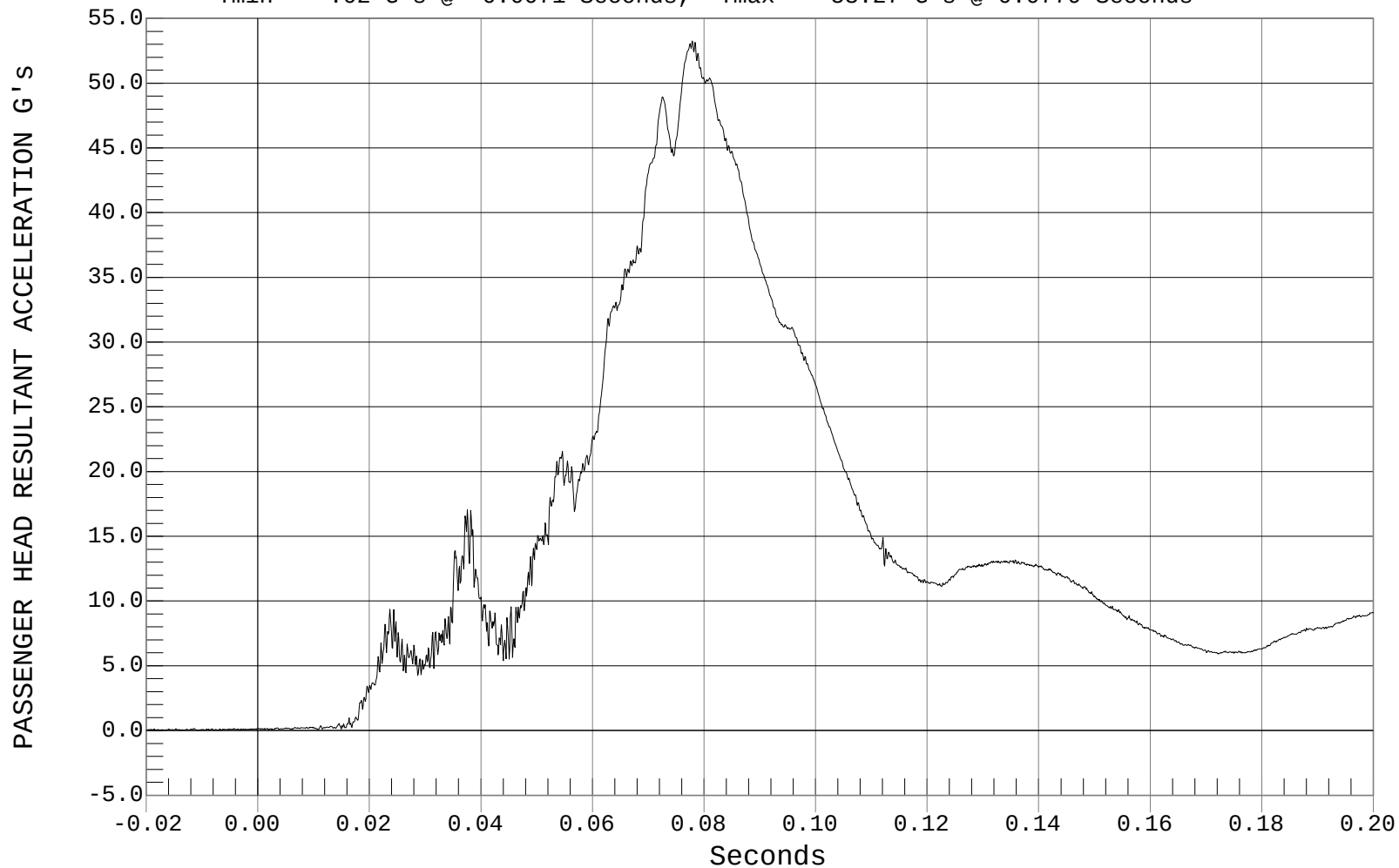
## PASSENGER HEAD RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD RESULTANT ACCELERATION, b00097AV.A19

Ymin = .02 G's @ -0.0071 Seconds, Ymax = 53.27 G's @ 0.0779 Seconds





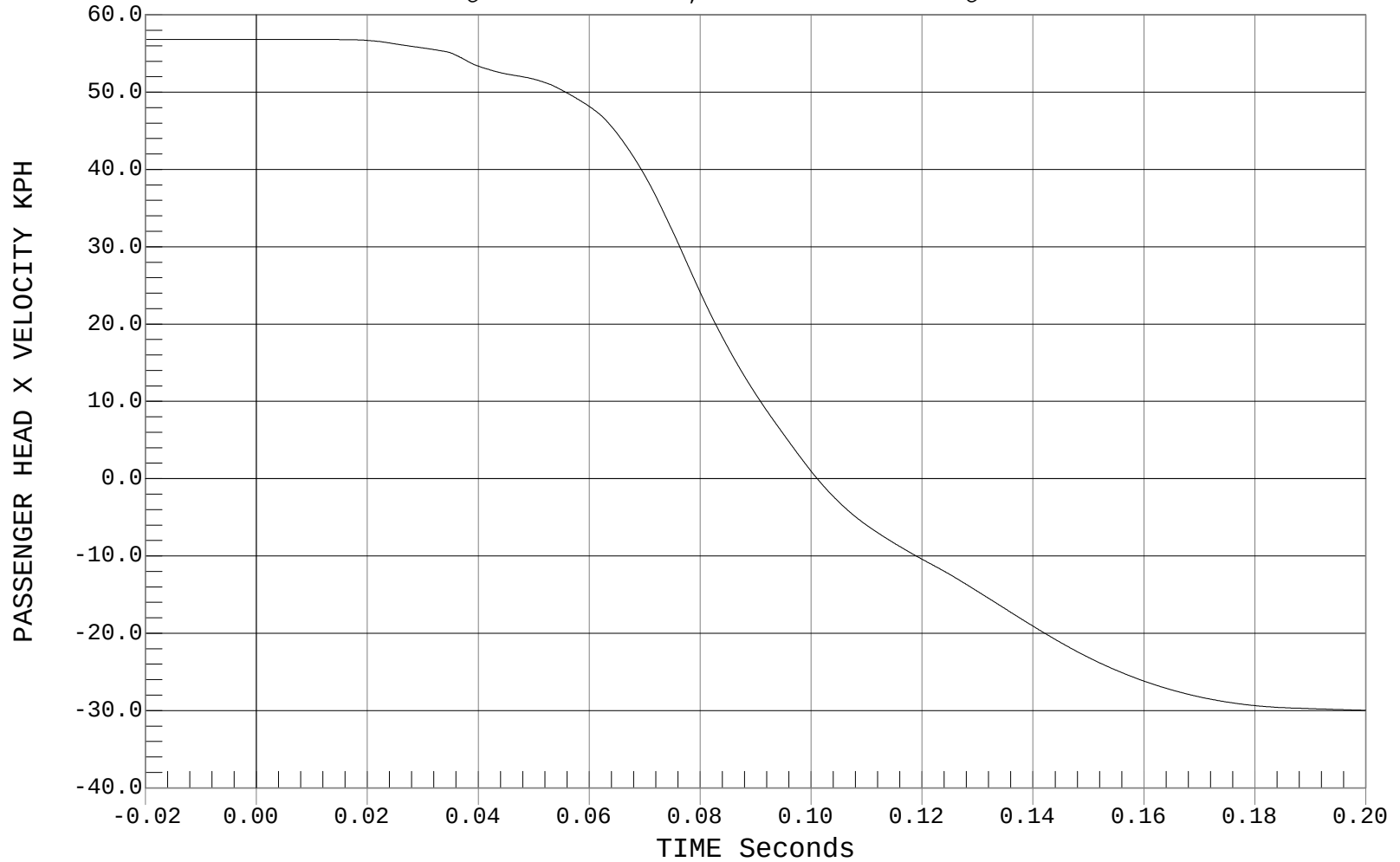
# PASSENGER HEAD X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER HEAD X VELOCITY, b00097AI.V19

Ymin = -29.96 KPH @ 0.2001 Seconds, Ymax = 56.8 KPH @ 0.0118 Seconds





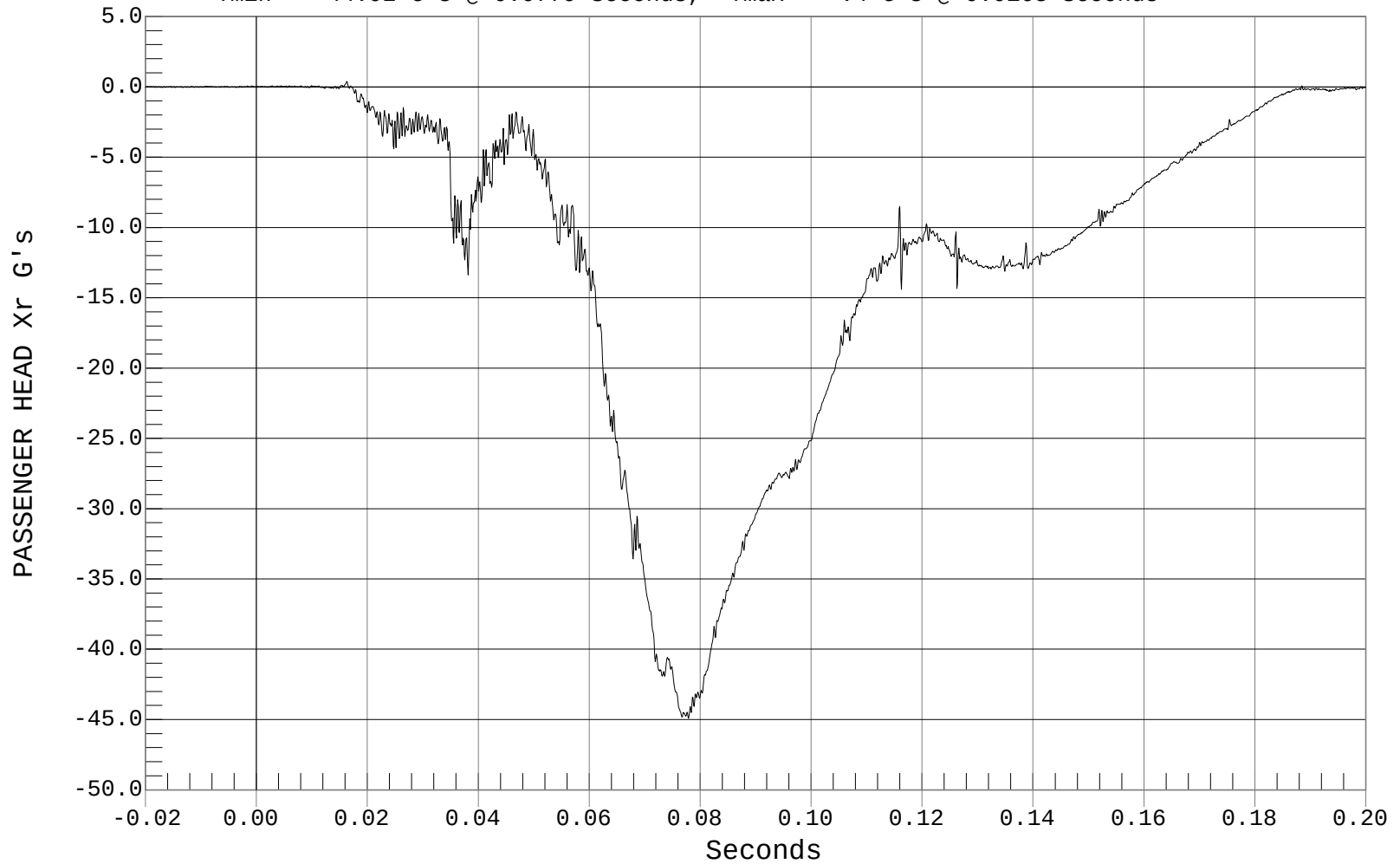
# PASSENGER HEAD REDUNDANT X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD Xr, b00097AT.A41

Ymin = -44.92 G's @ 0.0779 Seconds, Ymax = .4 G's @ 0.0163 Seconds







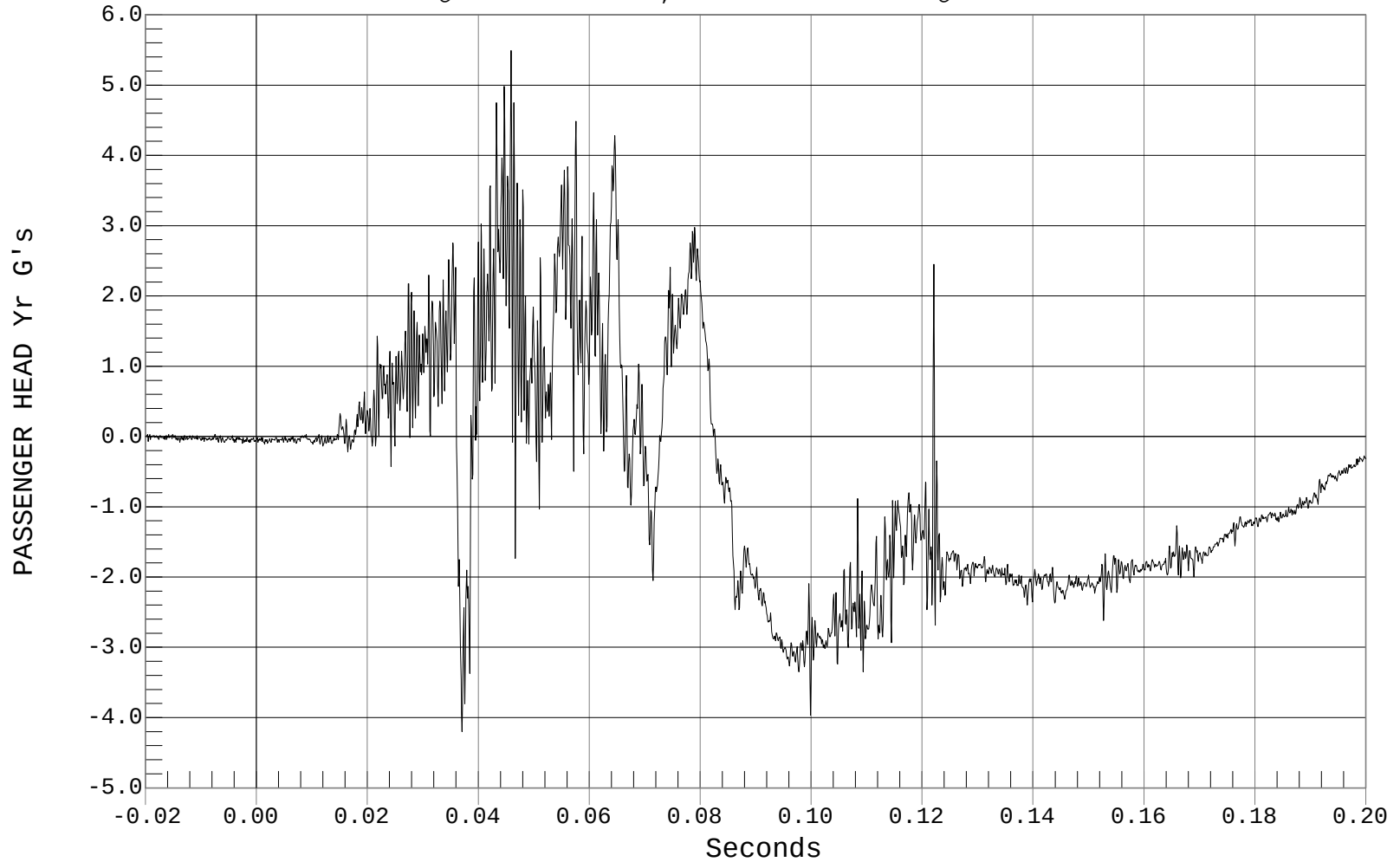
# PASSENGER HEAD REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD Yr, b00097AT.A42

Ymin = -4.2 G's @ 0.0371 Seconds, Ymax = 5.49 G's @ 0.0459 Seconds





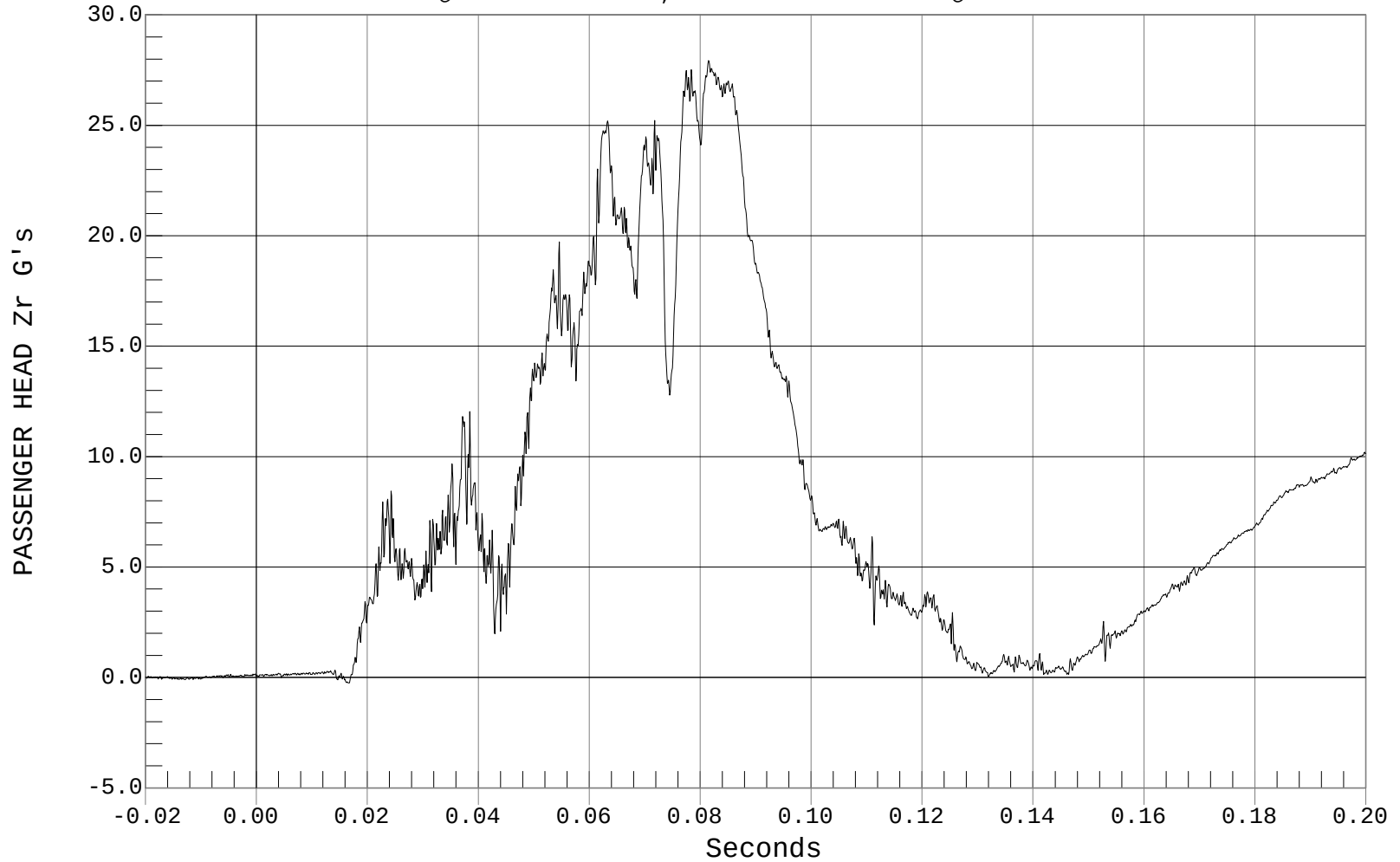
# PASSENGER HEAD REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD Zr, b00097AT.A43

Ymin = -.25 G's @ 0.0166 Seconds, Ymax = 27.93 G's @ 0.0815 Seconds





## PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION

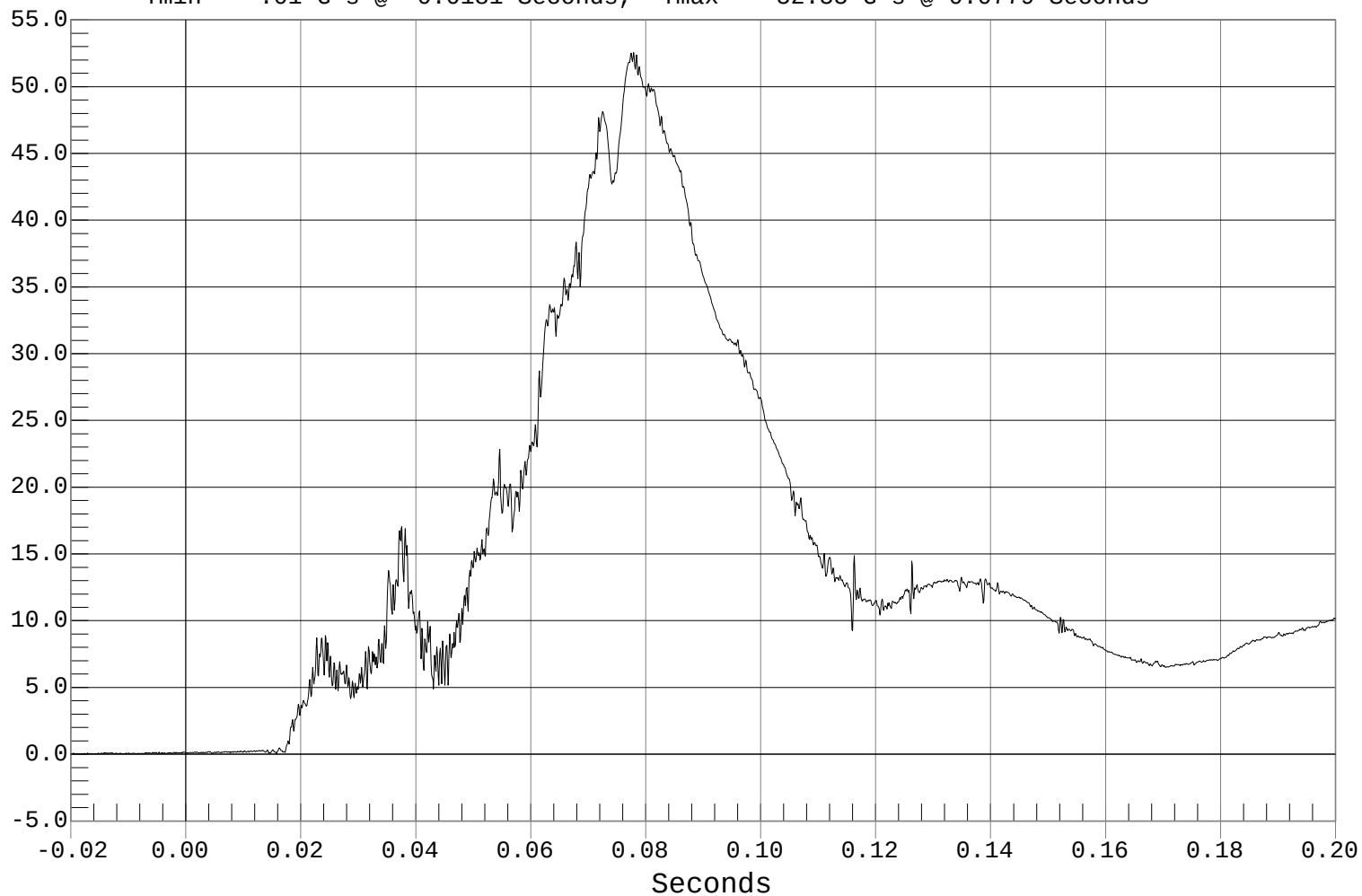
Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION, b00097AV.A41

PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION G'S

Ymin = .01 G's @ -0.0181 Seconds, Ymax = 52.55 G's @ 0.0779 Seconds





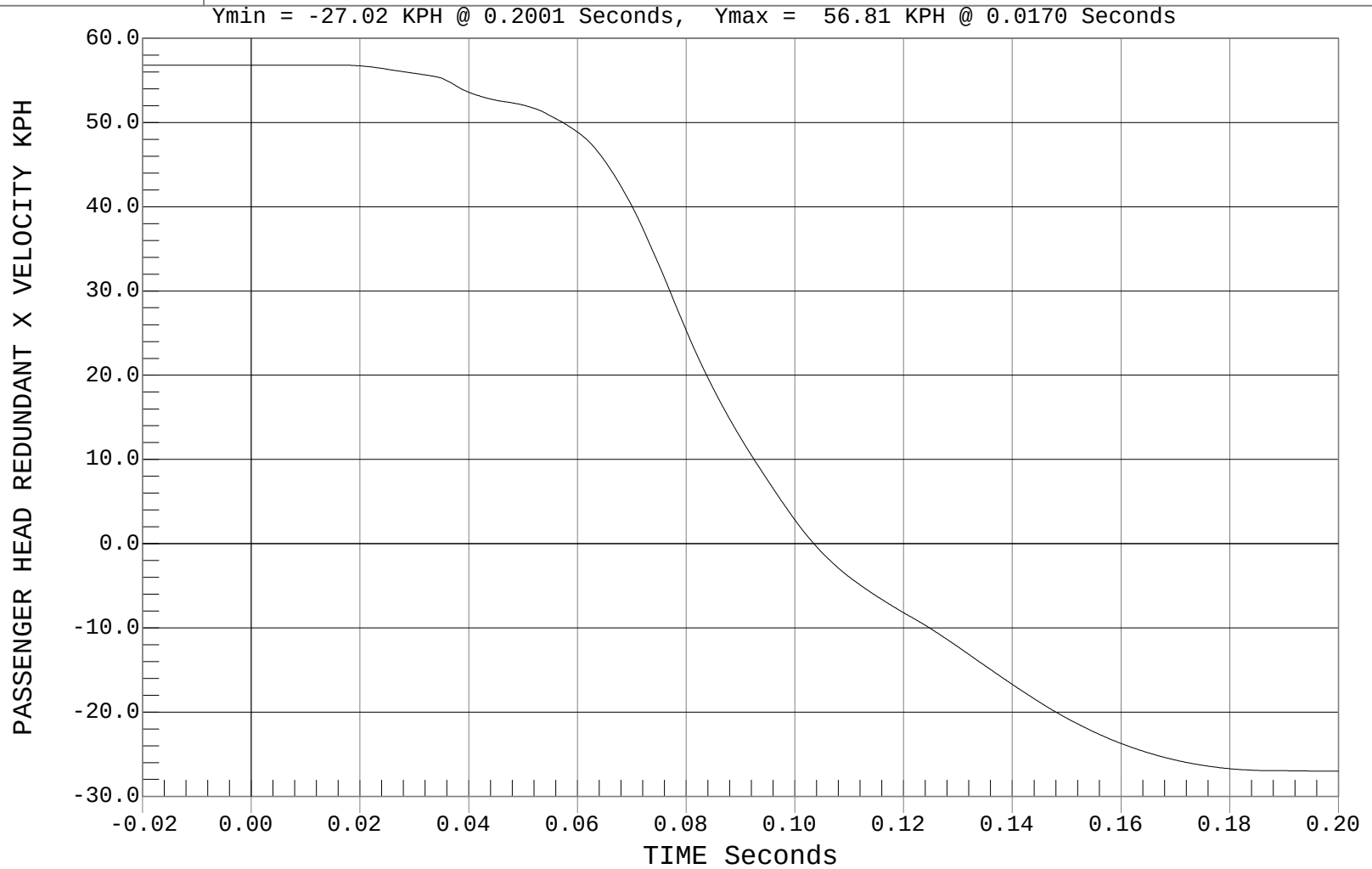


## PASSENGER HEAD REDUNDANT X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER HEAD REDUNDANT X VELOCITY, b00097AI.V41





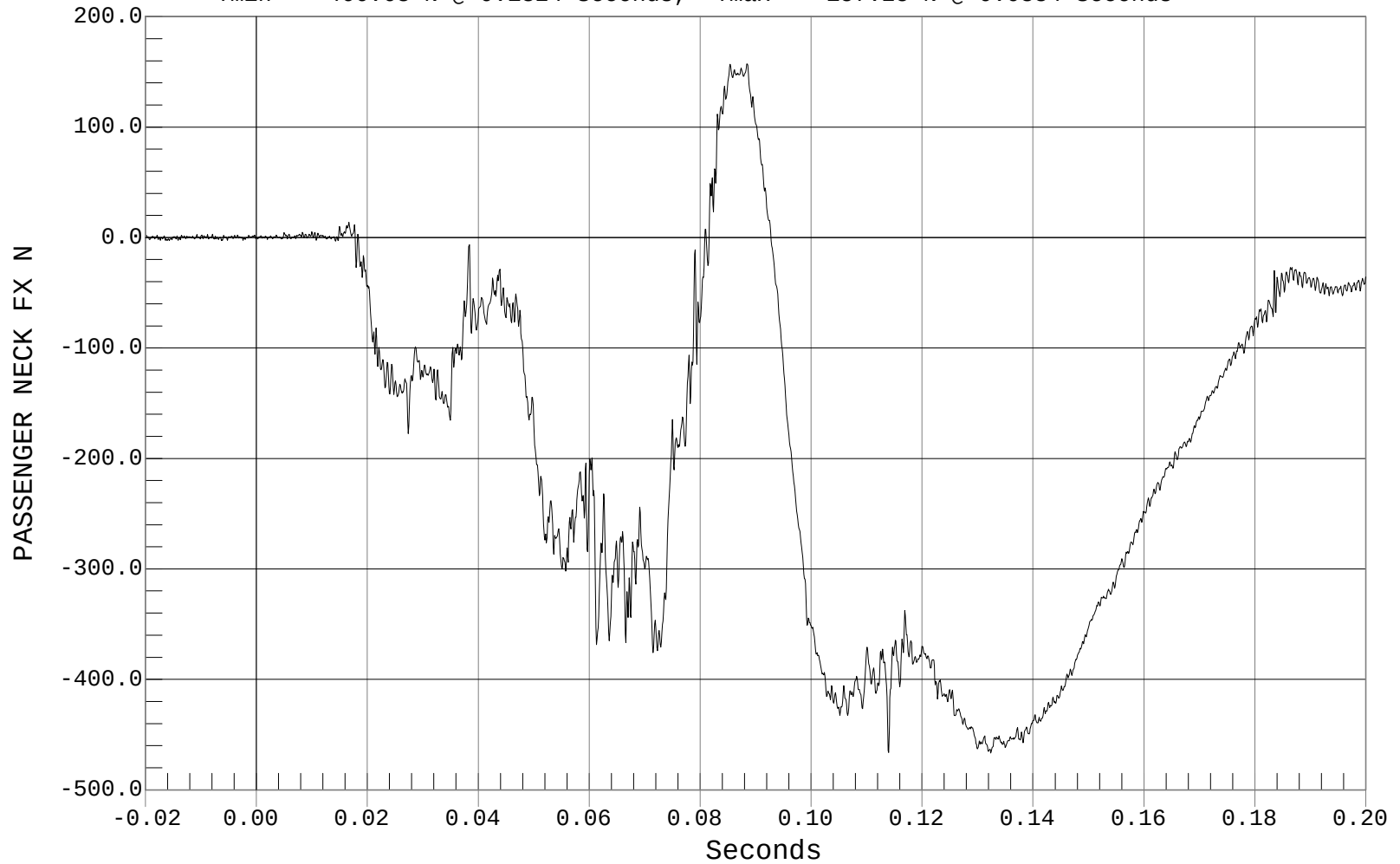
# PASSENGER NECK FORCE X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER NECK FX, b00097FT.F44

Ymin = -466.63 N @ 0.1324 Seconds, Ymax = 157.25 N @ 0.0884 Seconds





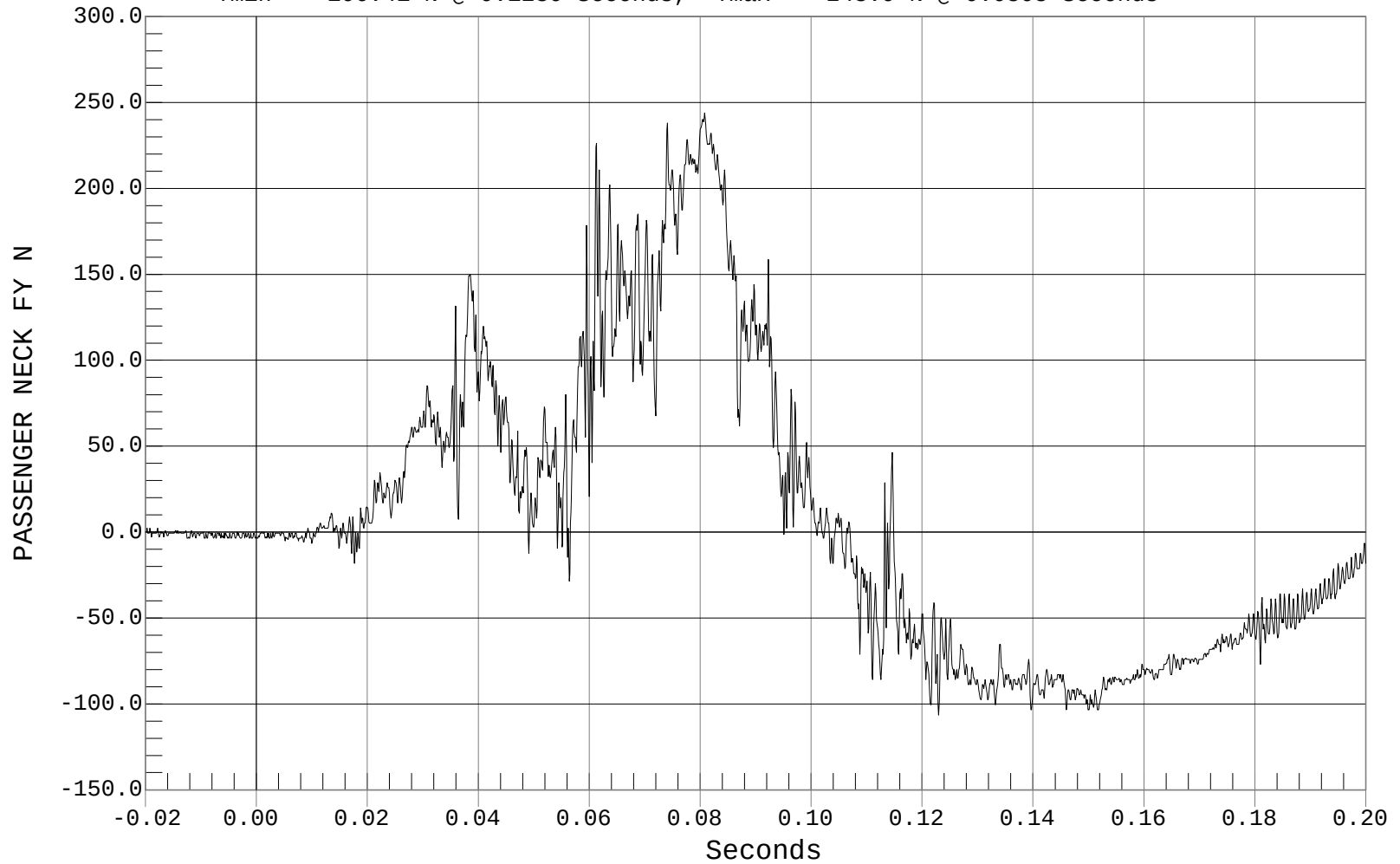
# PASSENGER NECK FORCE Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER NECK FY, b00097FT.F45

Ymin = -106.41 N @ 0.1230 Seconds, Ymax = 243.9 N @ 0.0808 Seconds







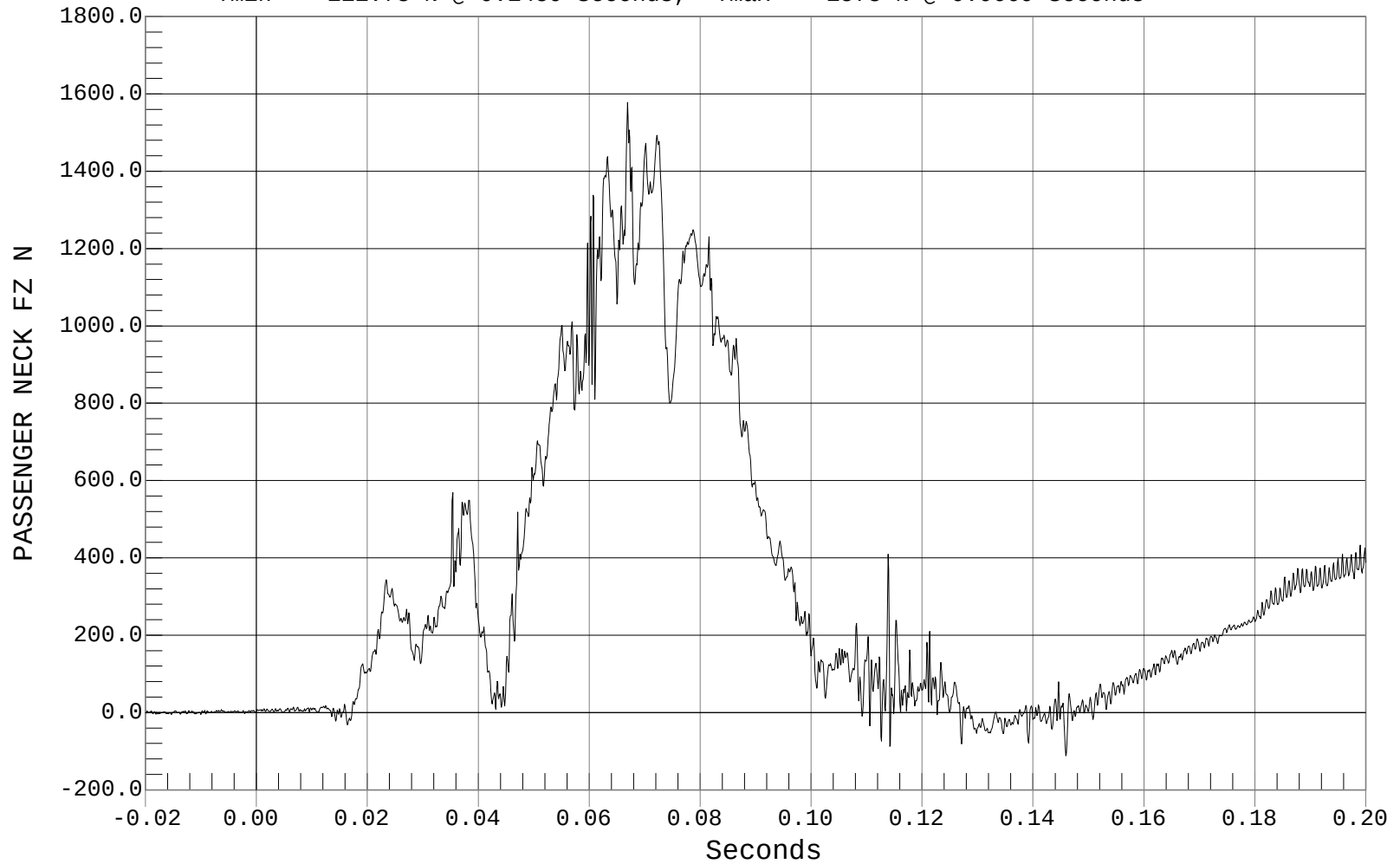
# PASSENGER NECK FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER NECK FZ, b00097FT.F46

Ymin = -111.73 N @ 0.1459 Seconds, Ymax = 1578 N @ 0.0669 Seconds





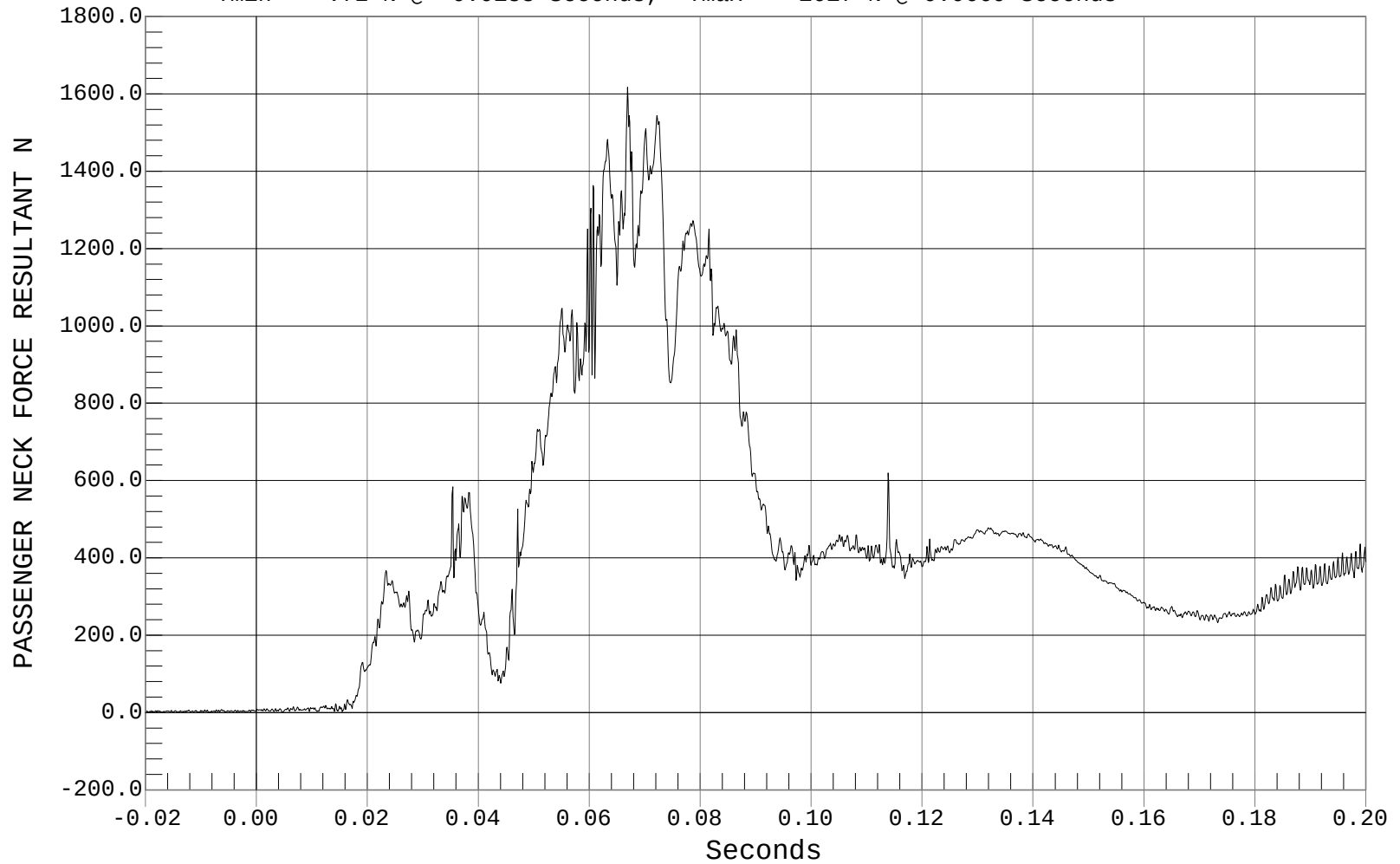
## PASSENGER NECK FORCE RESULTANT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER NECK FORCE RESULTANT, b00097FV.F44

Ymin = .72 N @ -0.0188 Seconds, Ymax = 1617 N @ 0.0669 Seconds





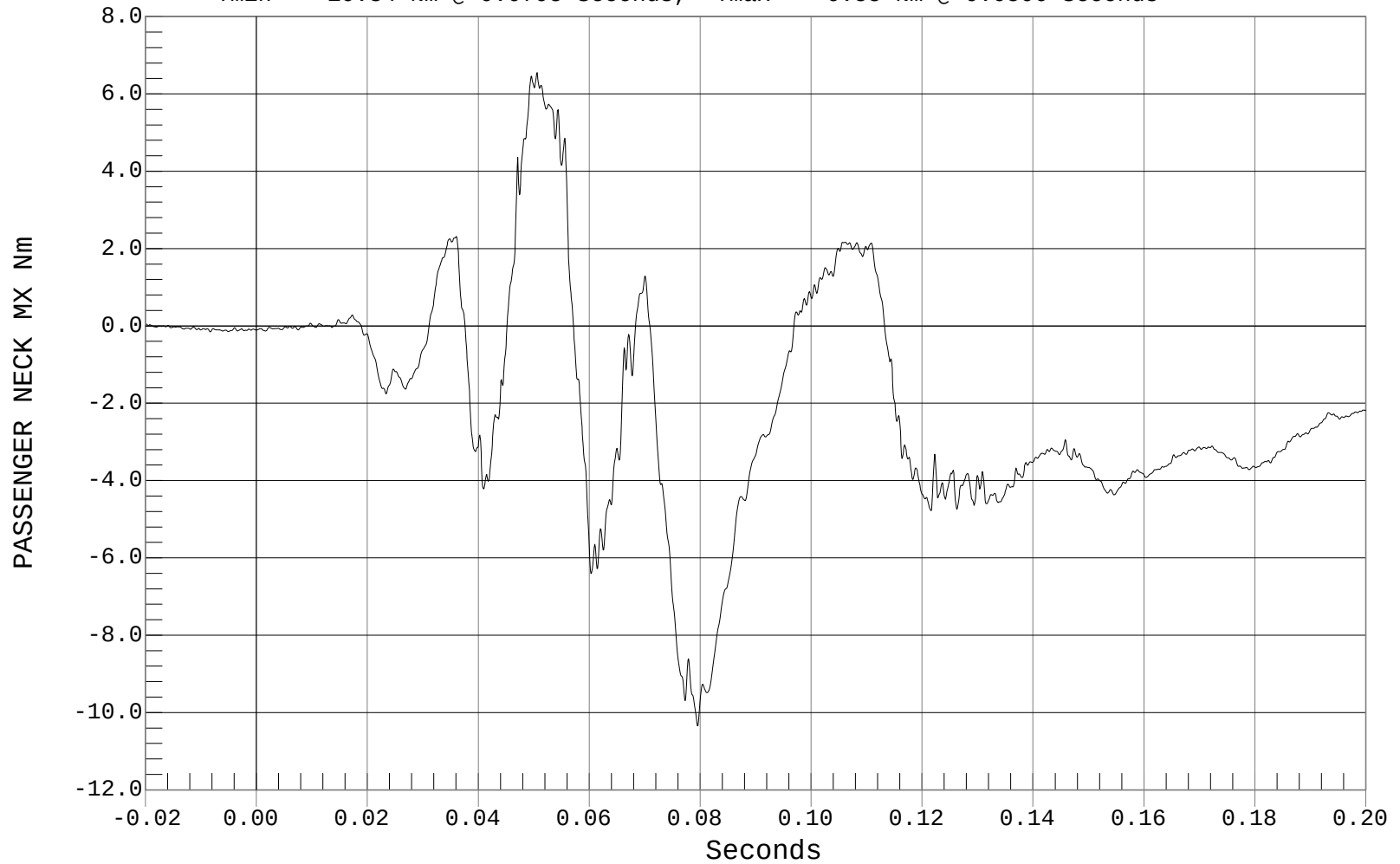
# PASSENGER NECK MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER NECK MX, b00097MF.M47

Ymin = -10.34 Nm @ 0.0795 Seconds, Ymax = 6.55 Nm @ 0.0506 Seconds







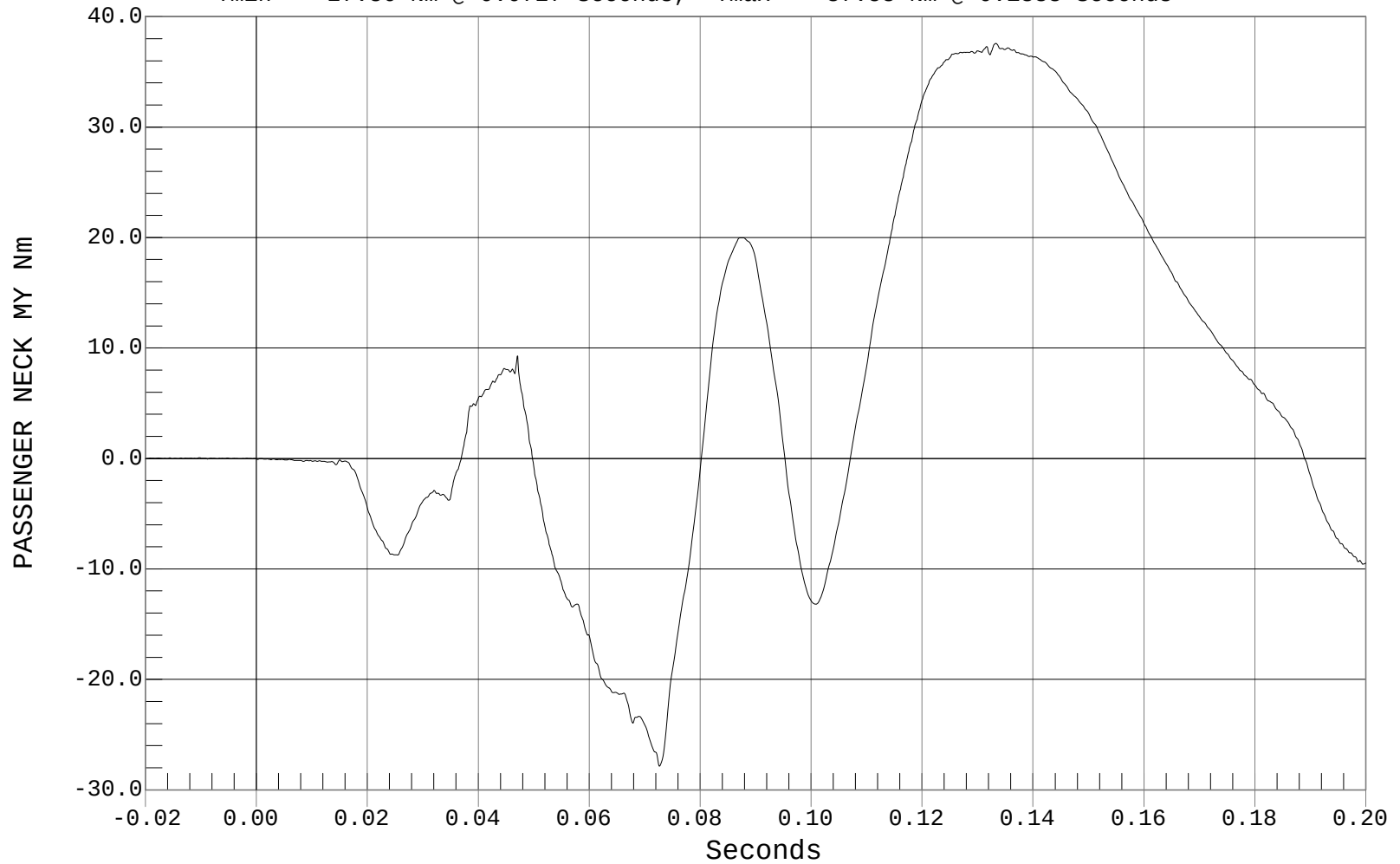
# PASSENGER NECK MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER NECK MY, b00097MF.M48

Ymin = -27.86 Nm @ 0.0727 Seconds, Ymax = 37.58 Nm @ 0.1333 Seconds





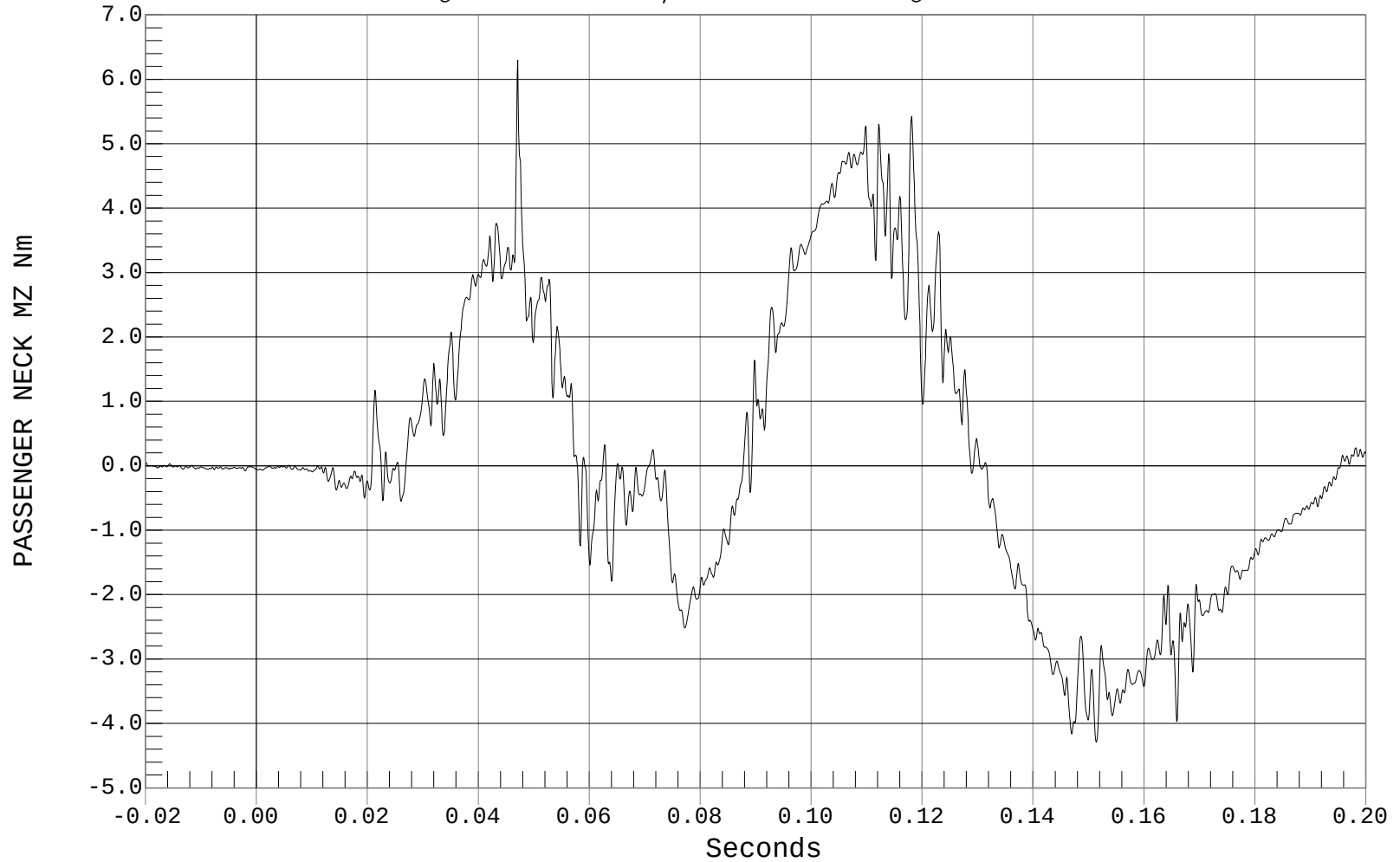
# PASSENGER NECK MOMENT Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER NECK MZ, b00097MF.M49

Ymin = -4.29 Nm @ 0.1514 Seconds, Ymax = 6.3 Nm @ 0.0471 Seconds





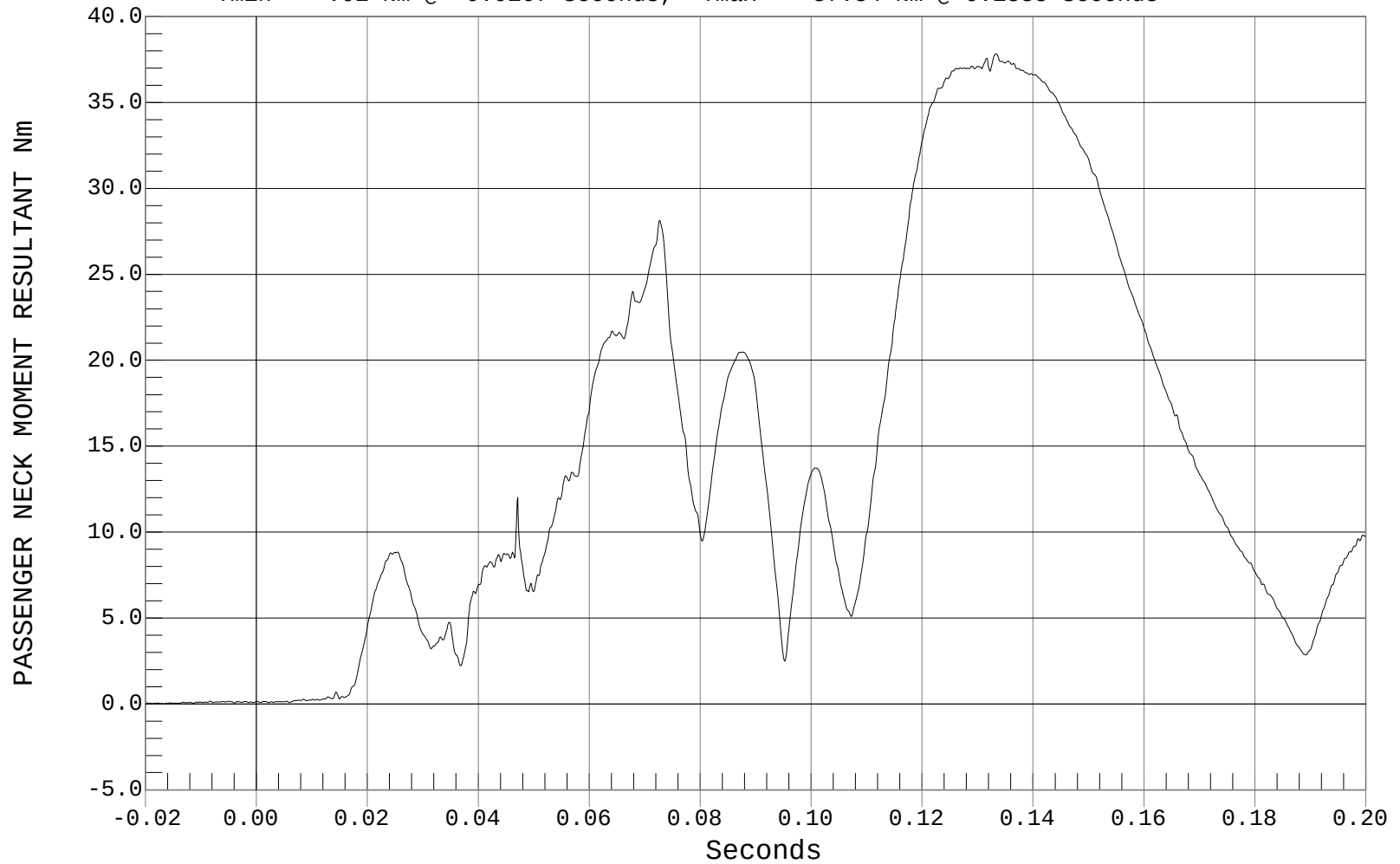
# PASSENGER NECK MOMENT RESULTANT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER NECK MOMENT RESULTANT, b00097MV.M47

Ymin = .01 Nm @ -0.0167 Seconds, Ymax = 37.84 Nm @ 0.1333 Seconds





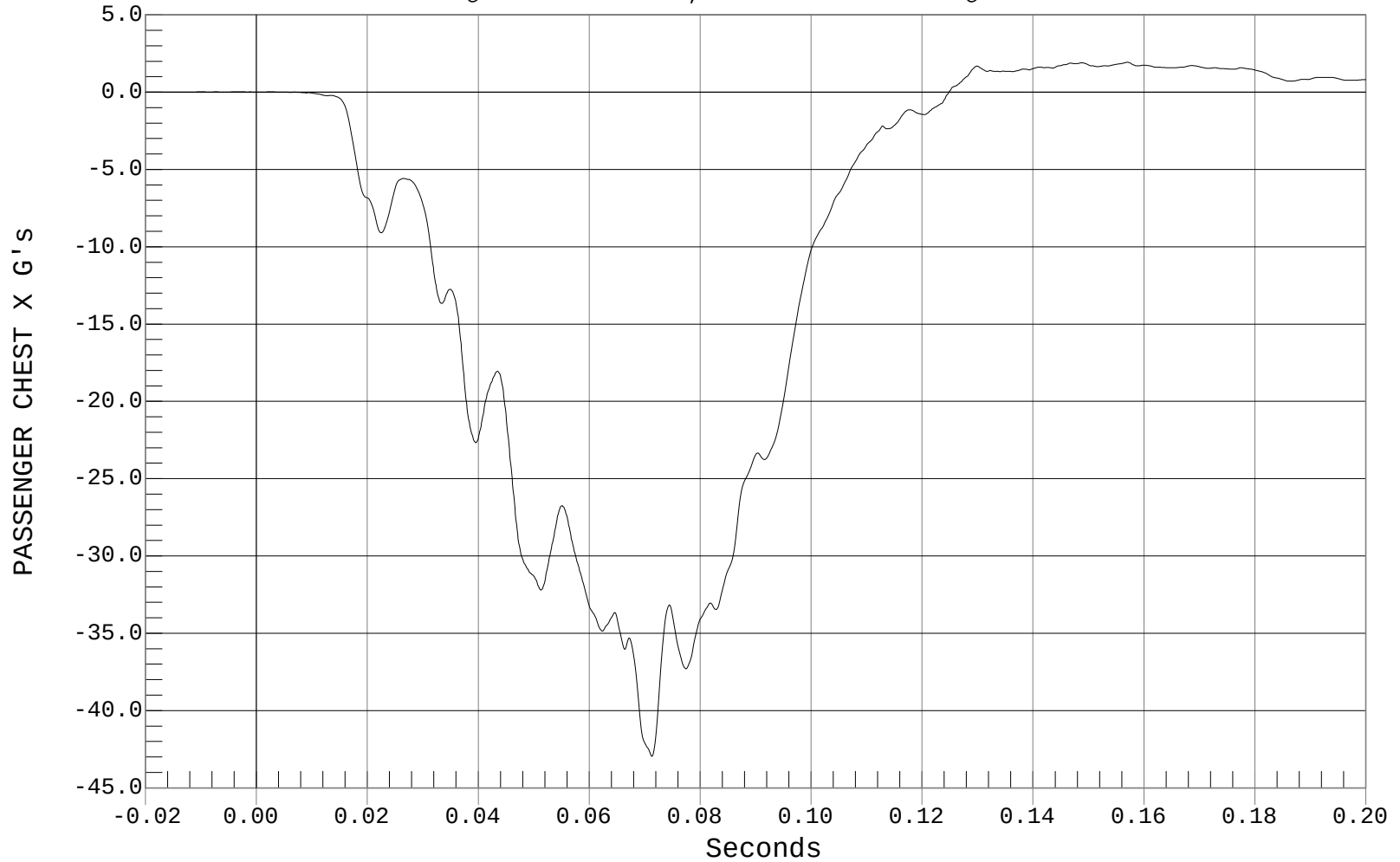
# PASSENGER CHEST X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST X, b00097AF.A22

Ymin = -42.96 G's @ 0.0713 Seconds, Ymax = 1.93 G's @ 0.1570 Seconds







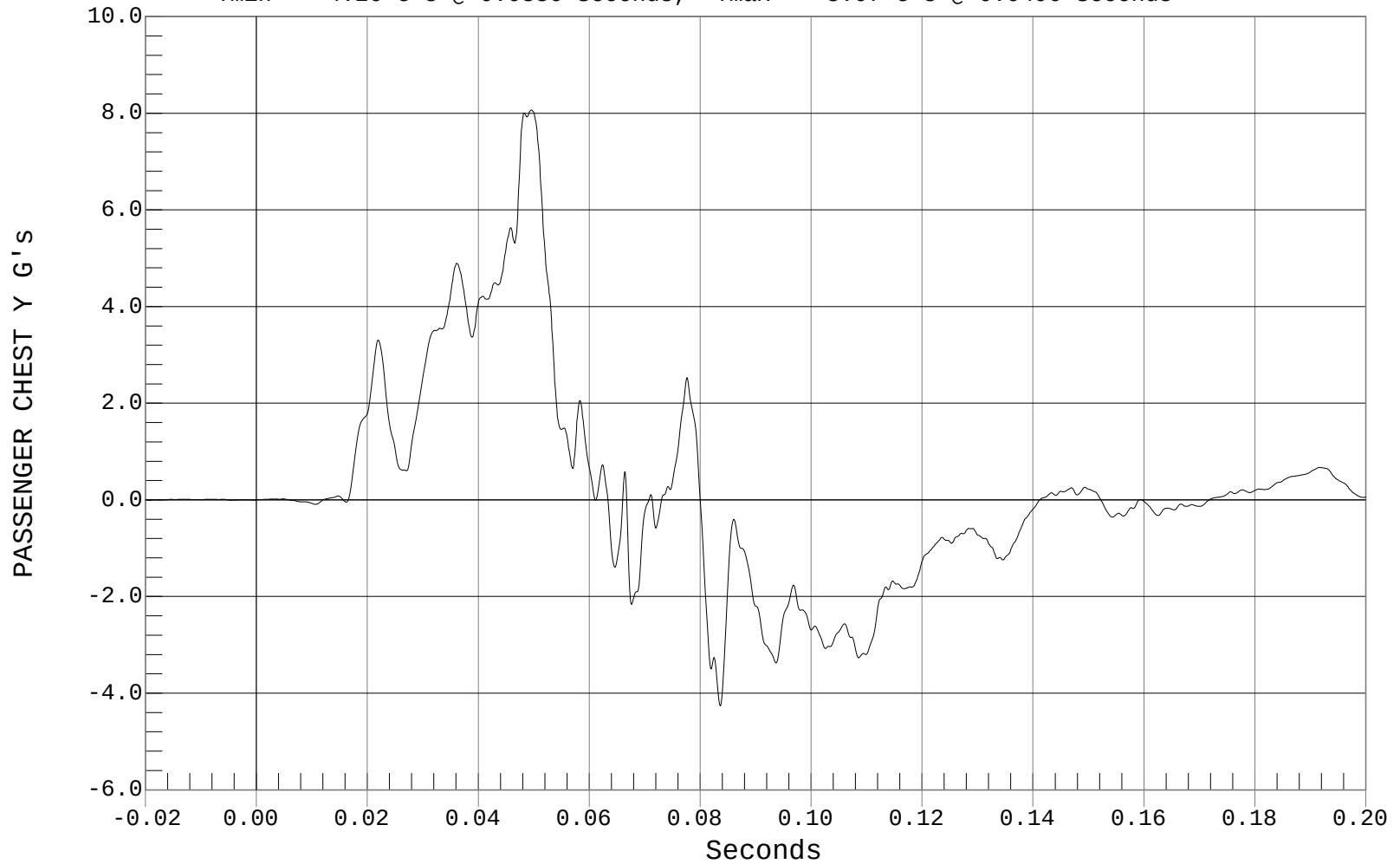
# PASSENGER CHEST Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST Y, b00097AF.A23

Ymin = -4.26 G's @ 0.0836 Seconds, Ymax = 8.07 G's @ 0.0496 Seconds





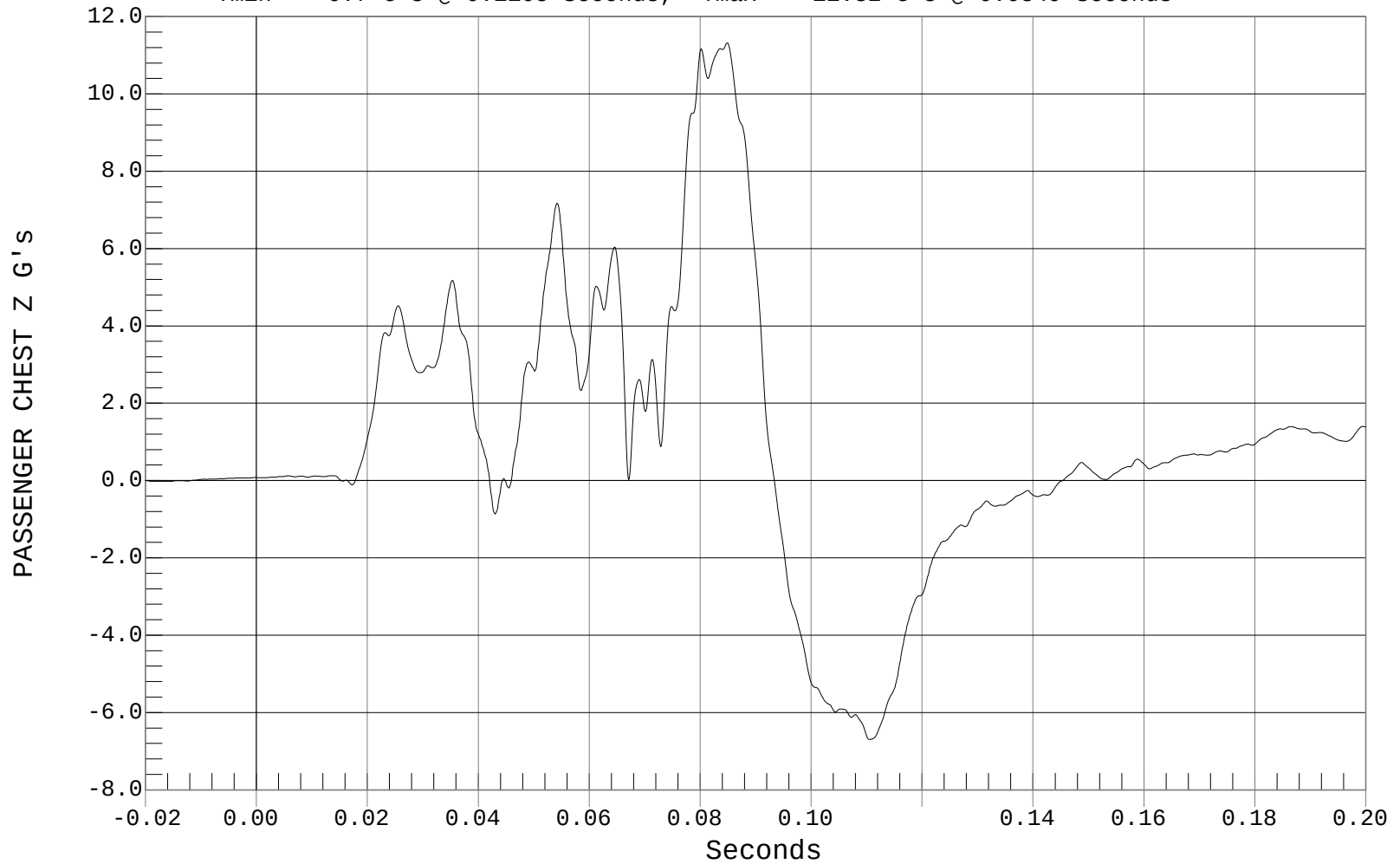
# PASSENGER CHEST Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST Z, b00097AF.A24

Ymin = -6.7 G's @ 0.1105 Seconds, Ymax = 11.32 G's @ 0.0849 Seconds





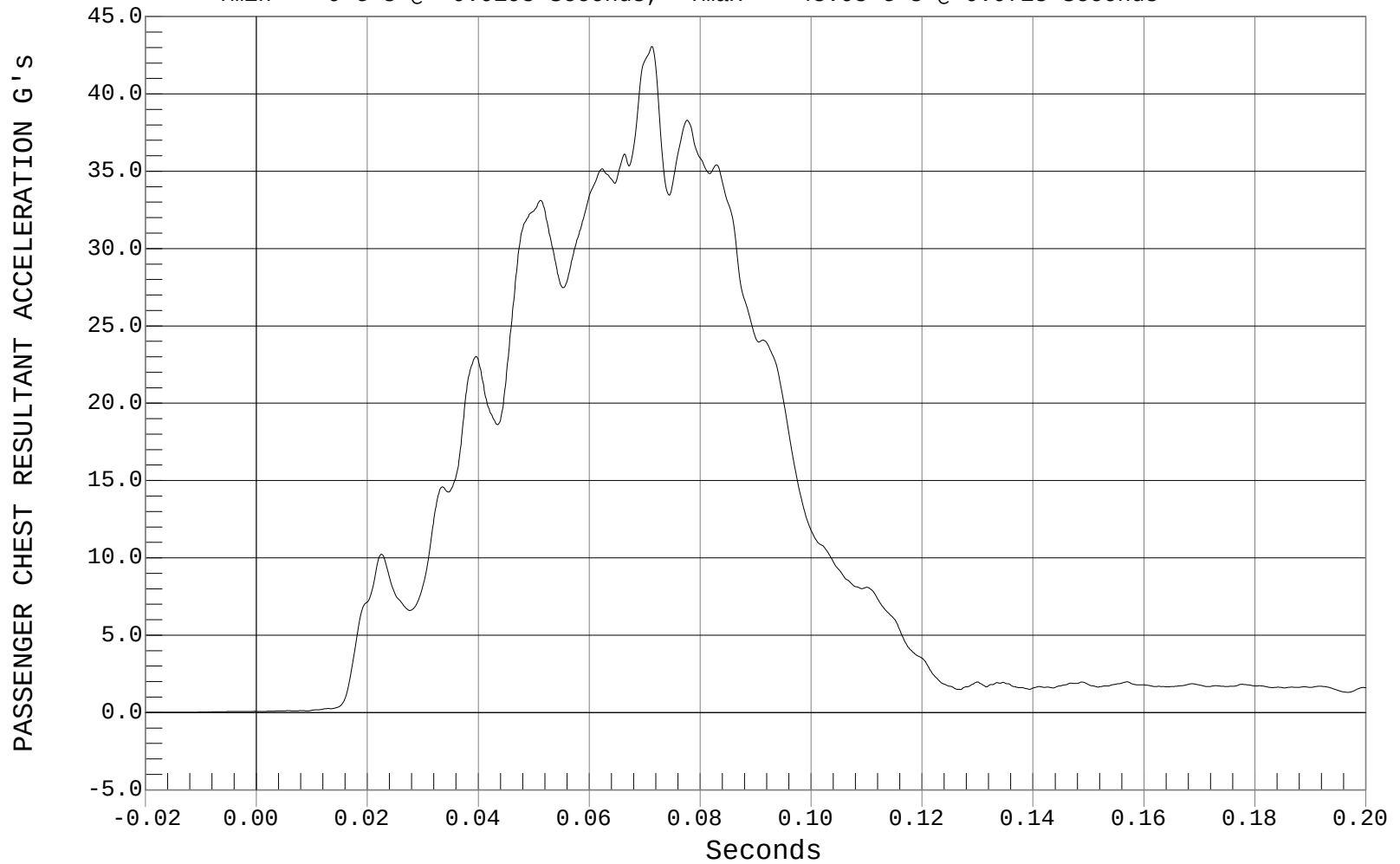
## PASSENGER CHEST RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST RESULTANT ACCELERATION, b00097AV.A22

Ymin = 0 G's @ -0.0198 Seconds, Ymax = 43.08 G's @ 0.0713 Seconds





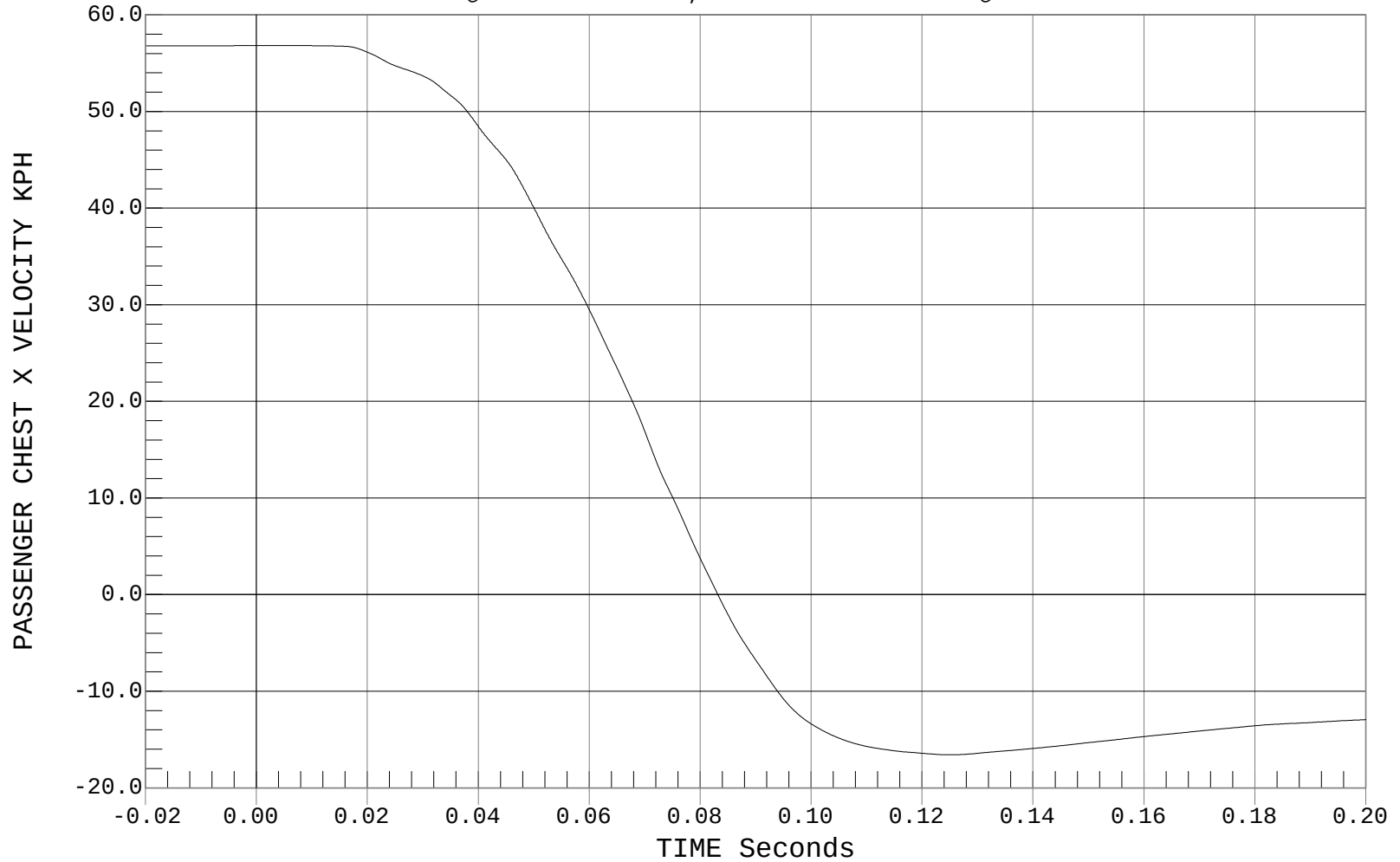
## PASSENGER CHEST X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST X VELOCITY, b00097A1.V22

Ymin = -16.58 KPH @ 0.1249 Seconds, Ymax = 56.81 KPH @ 0.0054 Seconds







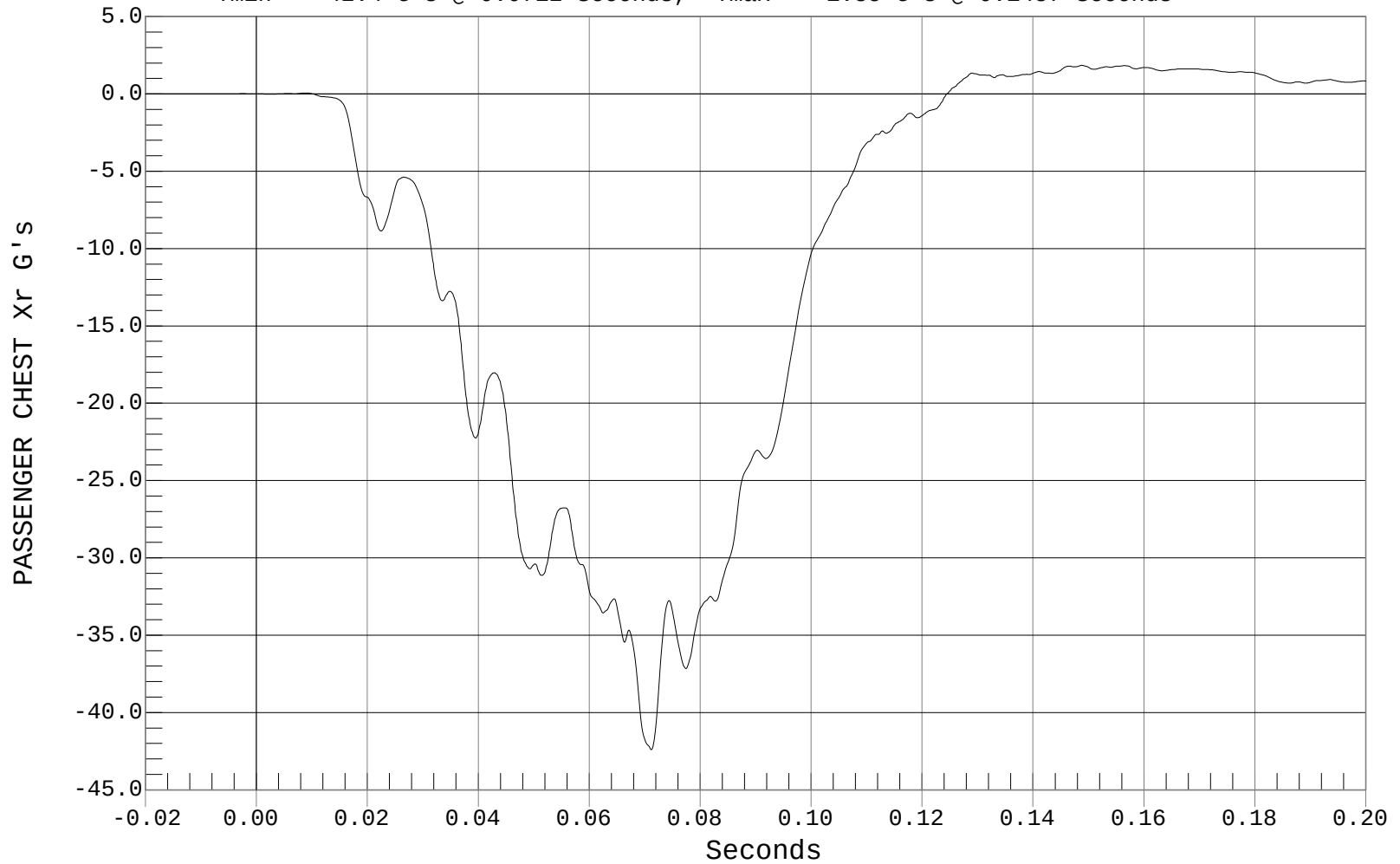
# PASSENGER CHEST REDUNDANT X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST Xr, b00097AF.A50

Ymin = -42.4 G's @ 0.0712 Seconds, Ymax = 1.85 G's @ 0.1487 Seconds





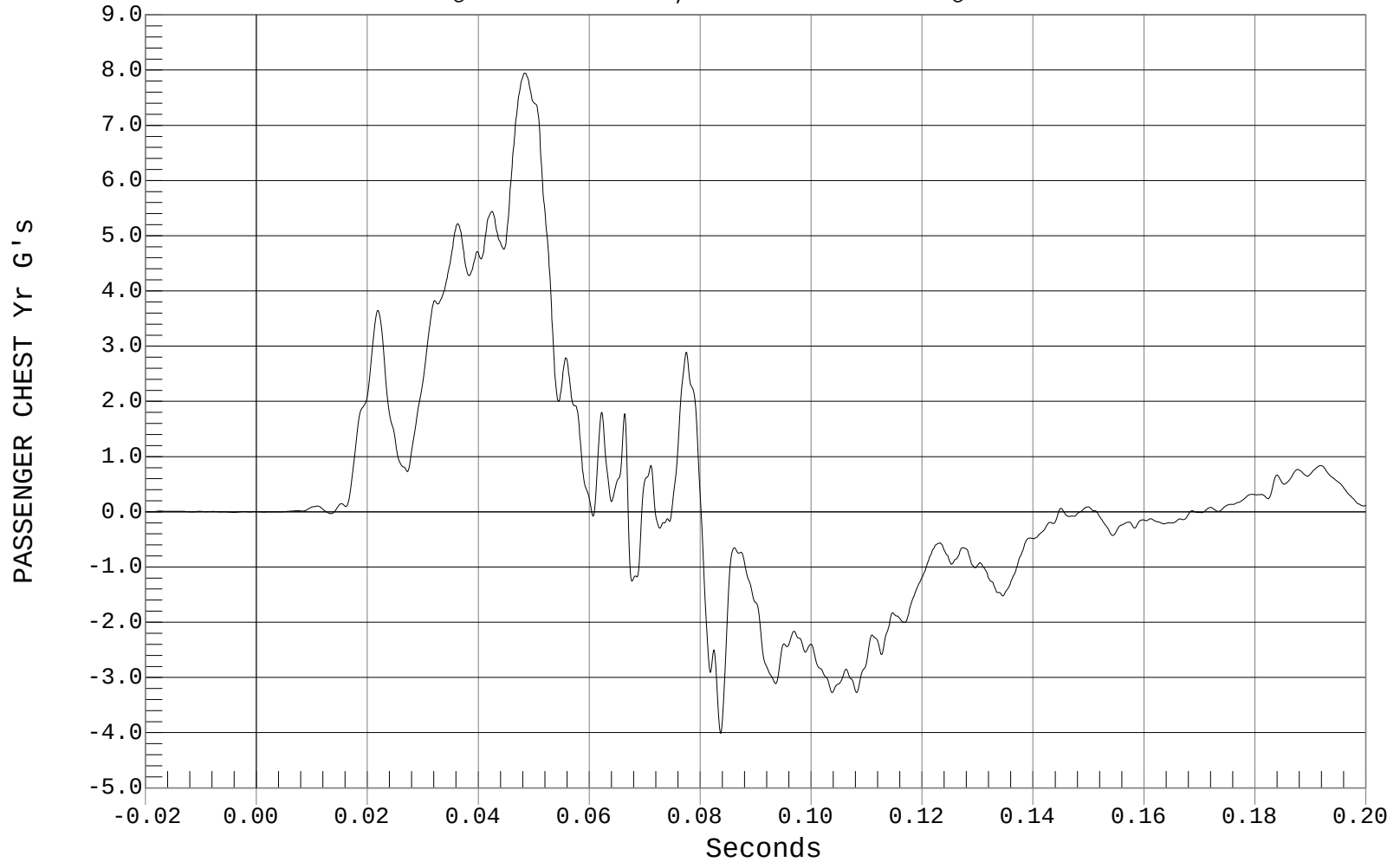
# PASSENGER CHEST REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST Yr, b00097AF.A51

Ymin = -4.01 G's @ 0.0837 Seconds, Ymax = 7.95 G's @ 0.0484 Seconds



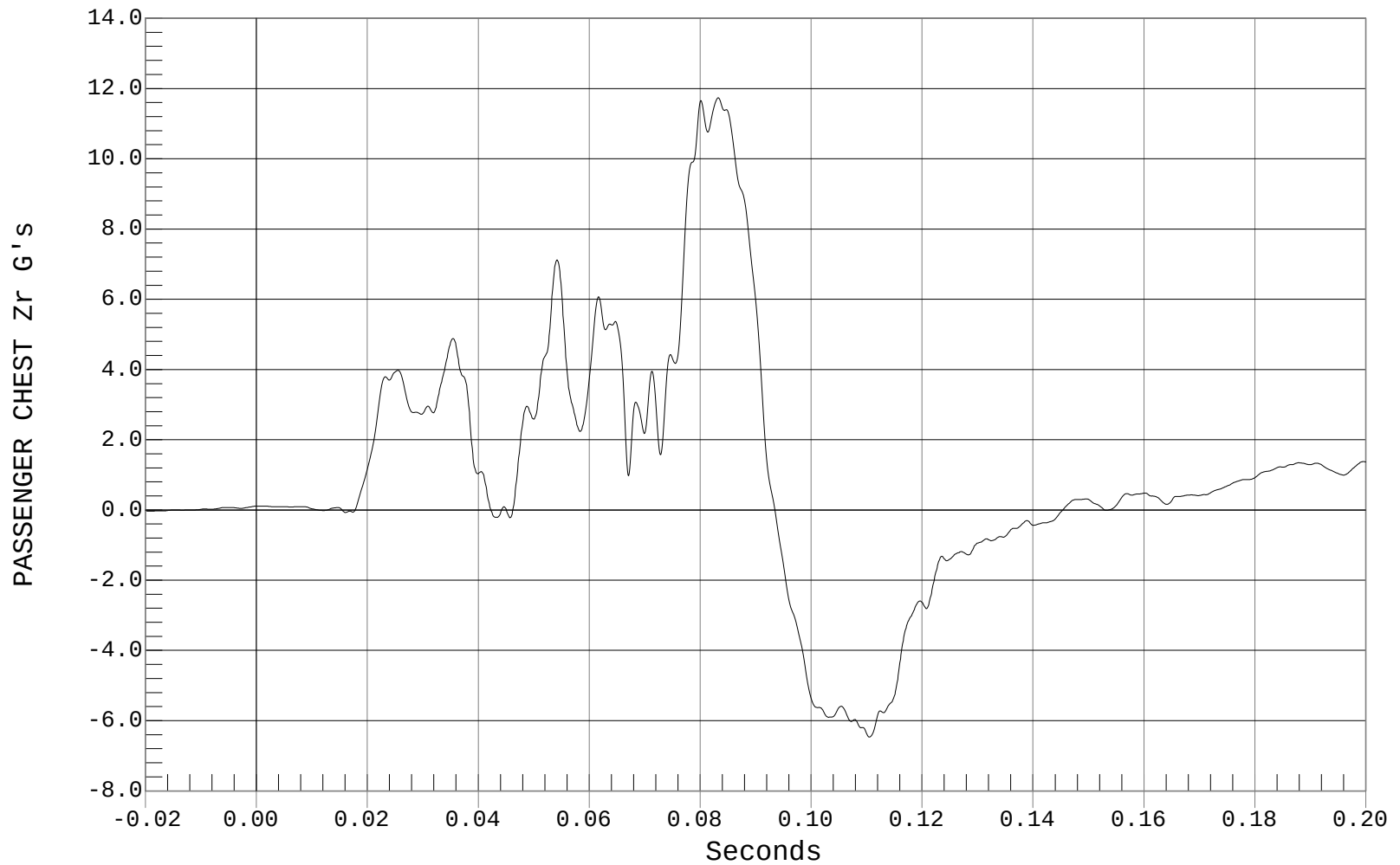


# PASSENGER CHEST REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST Zr, b00097AF.A52





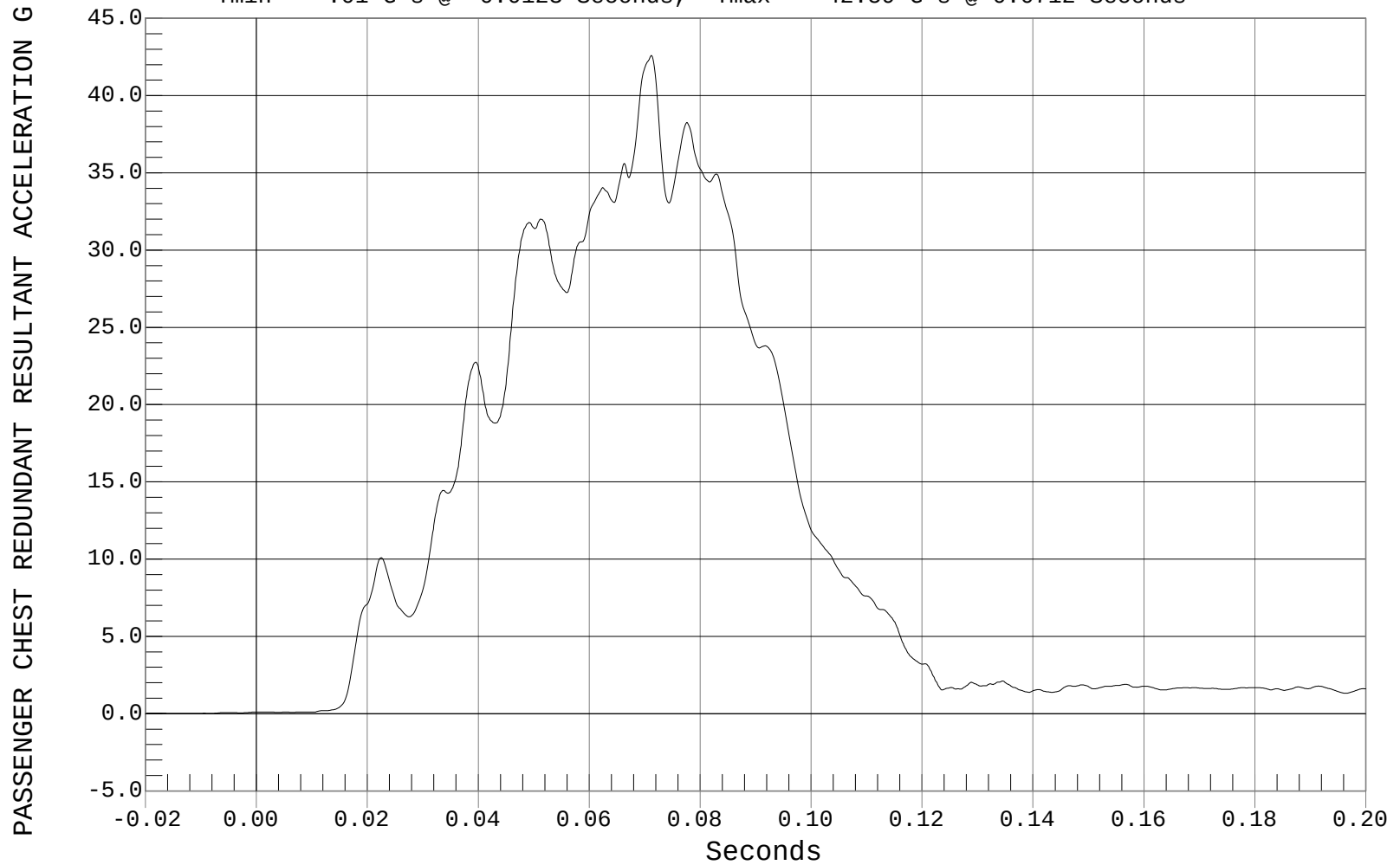
# PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION, b00097AV.A50

Ymin = .01 G's @ -0.0123 Seconds, Ymax = 42.59 G's @ 0.0712 Seconds







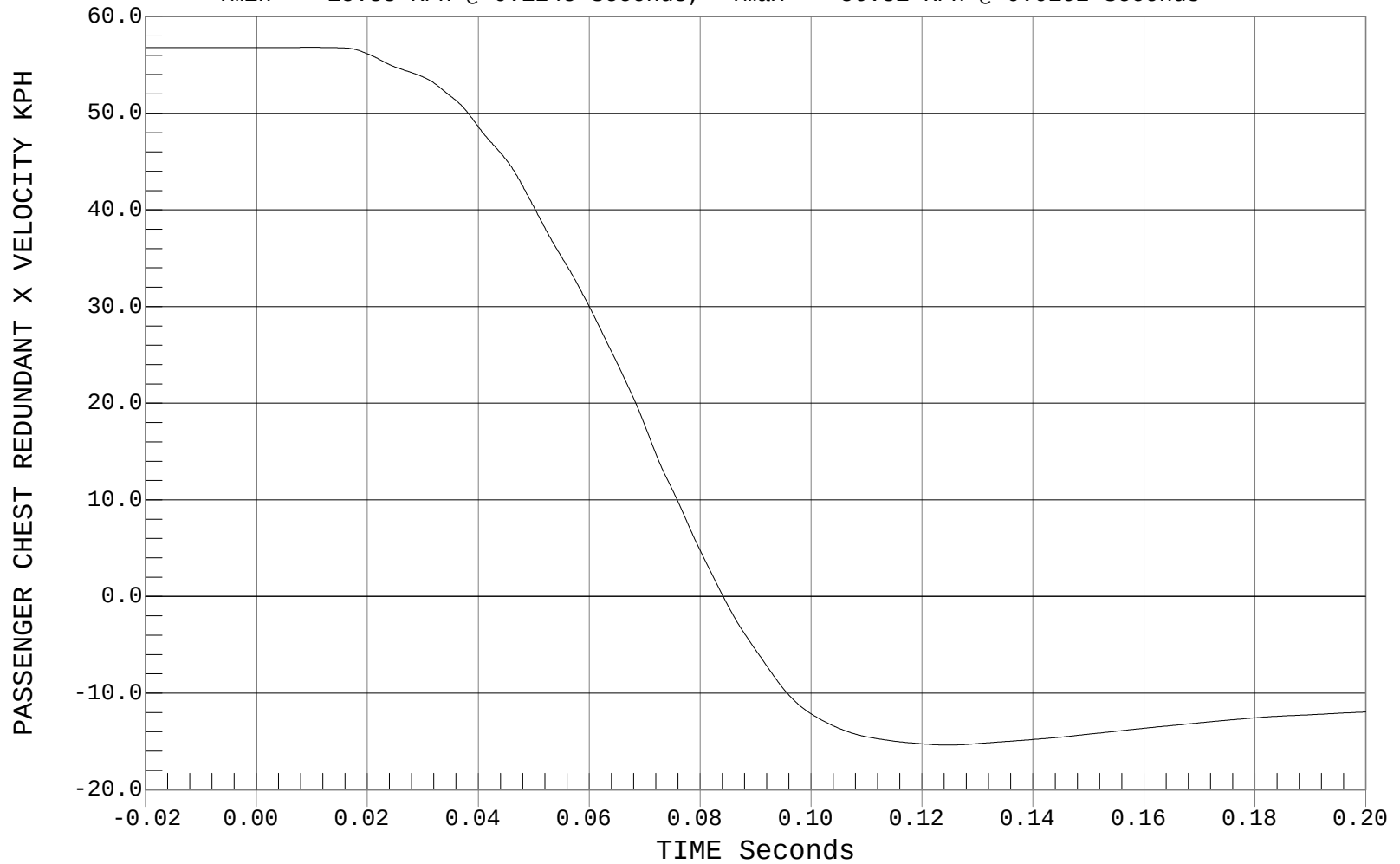
# PASSENGER CHEST REDUNDANT X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER CHEST REDUNDANT X VELOCITY, b00097AI.V50

Ymin = -15.38 KPH @ 0.1245 Seconds, Ymax = 56.81 KPH @ 0.0102 Seconds





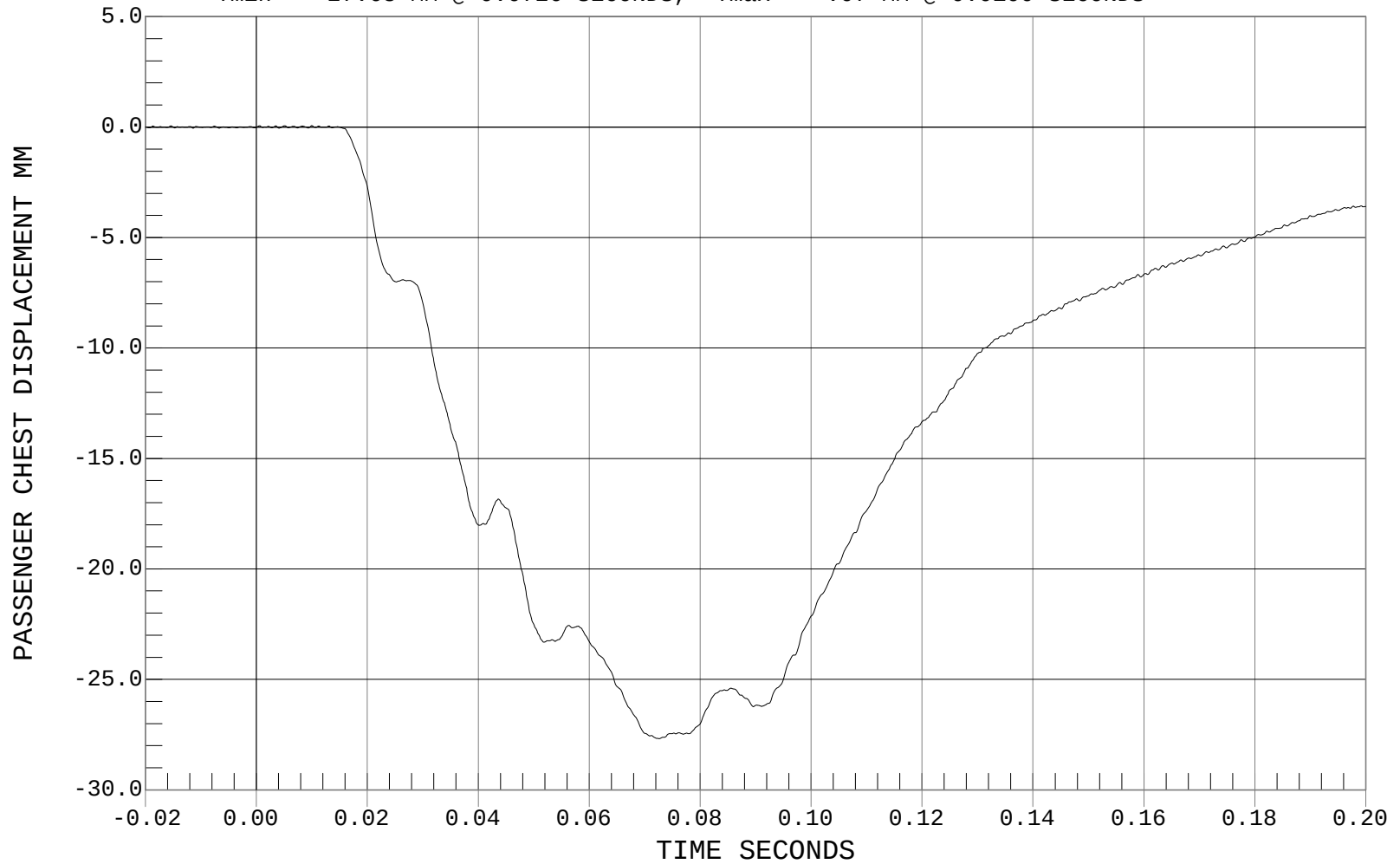
## PASSENGER CHEST COMPRESSION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER CHEST DISPLACEMENT, b00097DF.D25

Ymin = -27.68 MM @ 0.0726 SECONDS, Ymax = .07 MM @ 0.0100 SECONDS





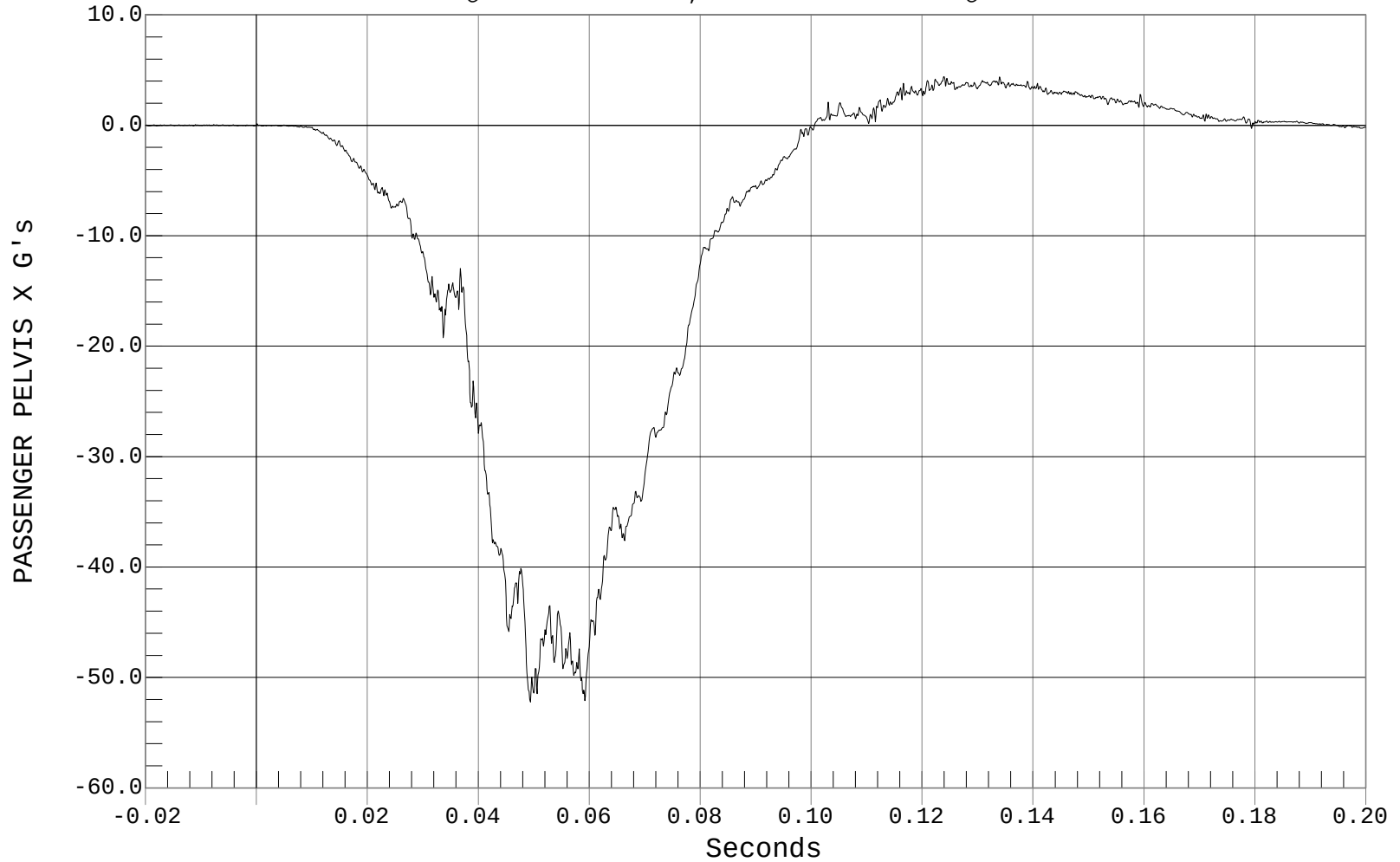
# PASSENGER PELVIS X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER PELVIS X, b00097AT.A26

Ymin = -52.24 G's @ 0.0494 Seconds, Ymax = 4.41 G's @ 0.1240 Seconds





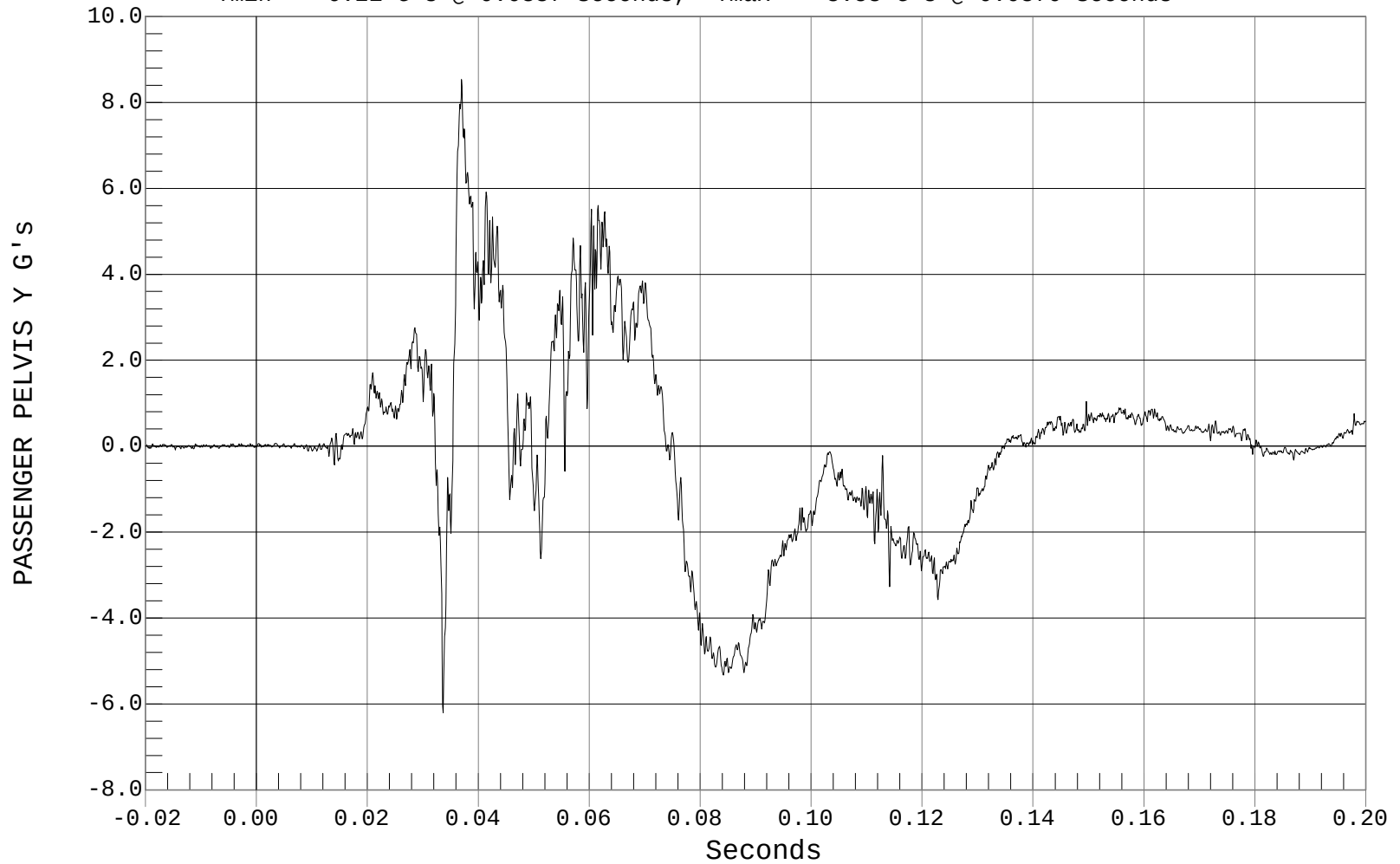
# PASSENGER PELVIS Y ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER PELVIS Y, b00097AT.A27

Ymin = -6.21 G's @ 0.0337 Seconds, Ymax = 8.53 G's @ 0.0370 Seconds







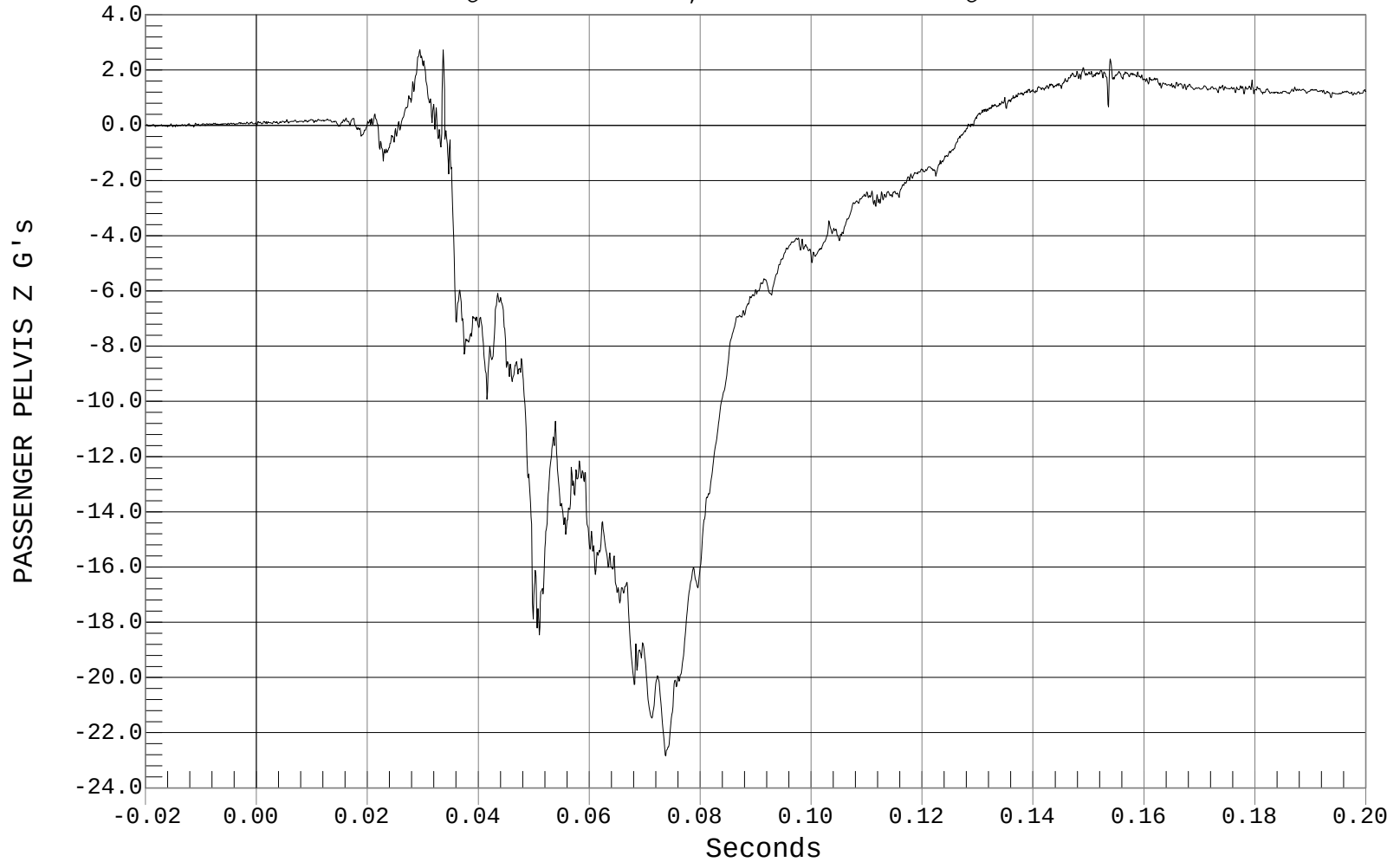
# PASSENGER PELVIS Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER PELVIS Z, b00097AT.A28

Ymin = -22.83 G's @ 0.0738 Seconds, Ymax = 2.74 G's @ 0.0295 Seconds





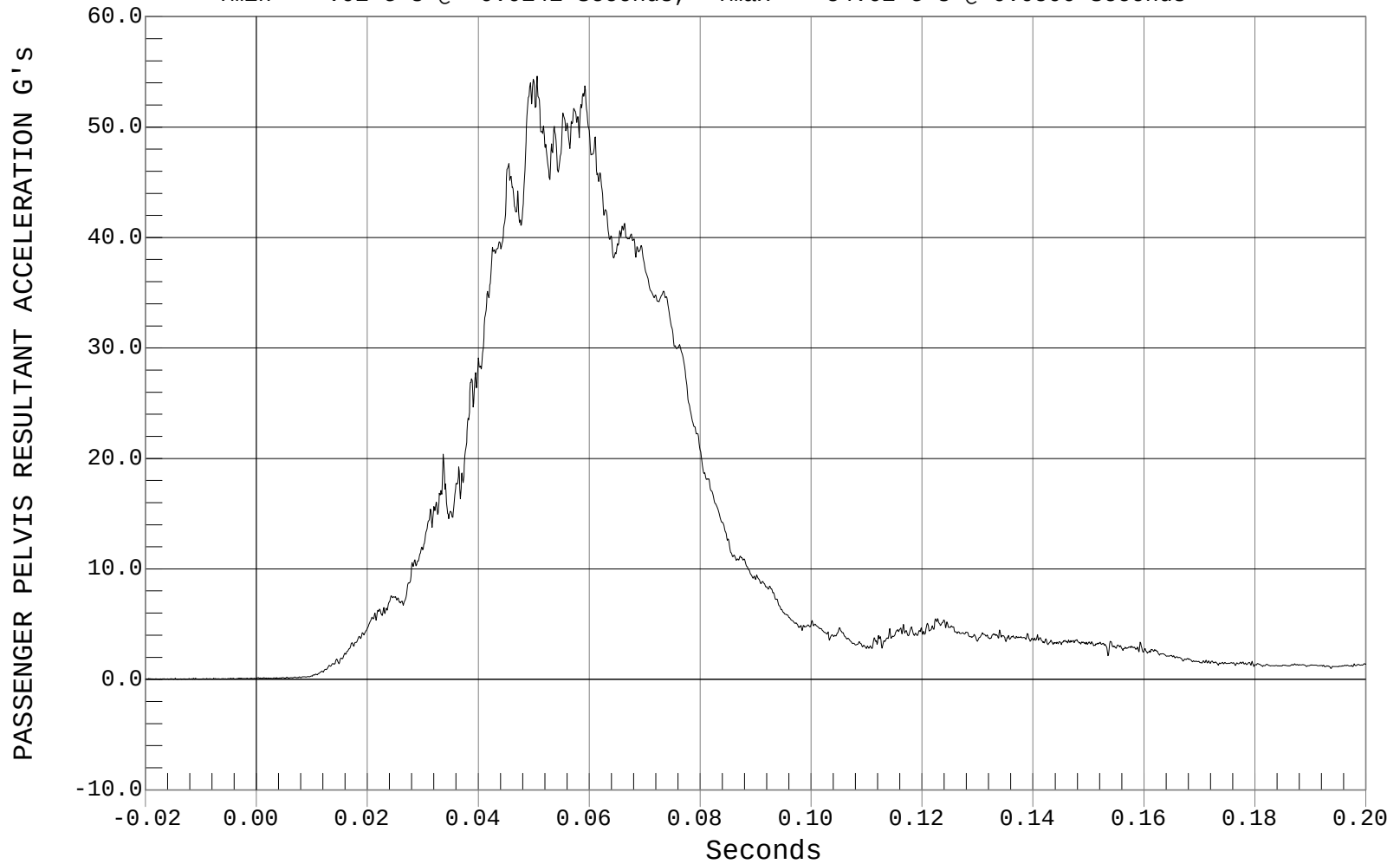
# PASSENGER PELVIS RESULTANT ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 1000

— 1 PASSENGER PELVIS RESULTANT ACCELERATION, b00097AV.A26

Ymin = .01 G's @ -0.0141 Seconds, Ymax = 54.61 G's @ 0.0506 Seconds



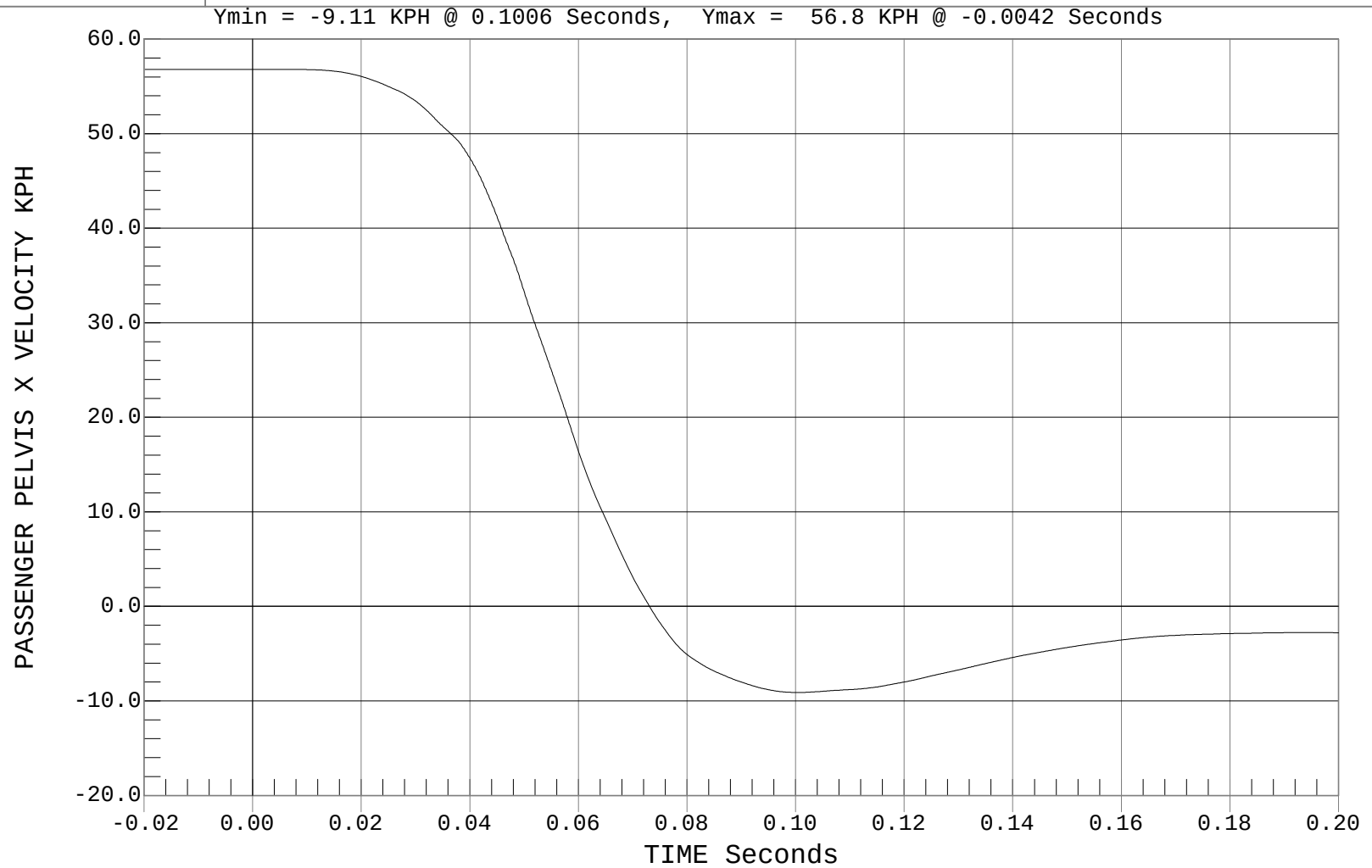


## PASSENGER PELVIS X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER PELVIS X VELOCITY, b00097AI.V26





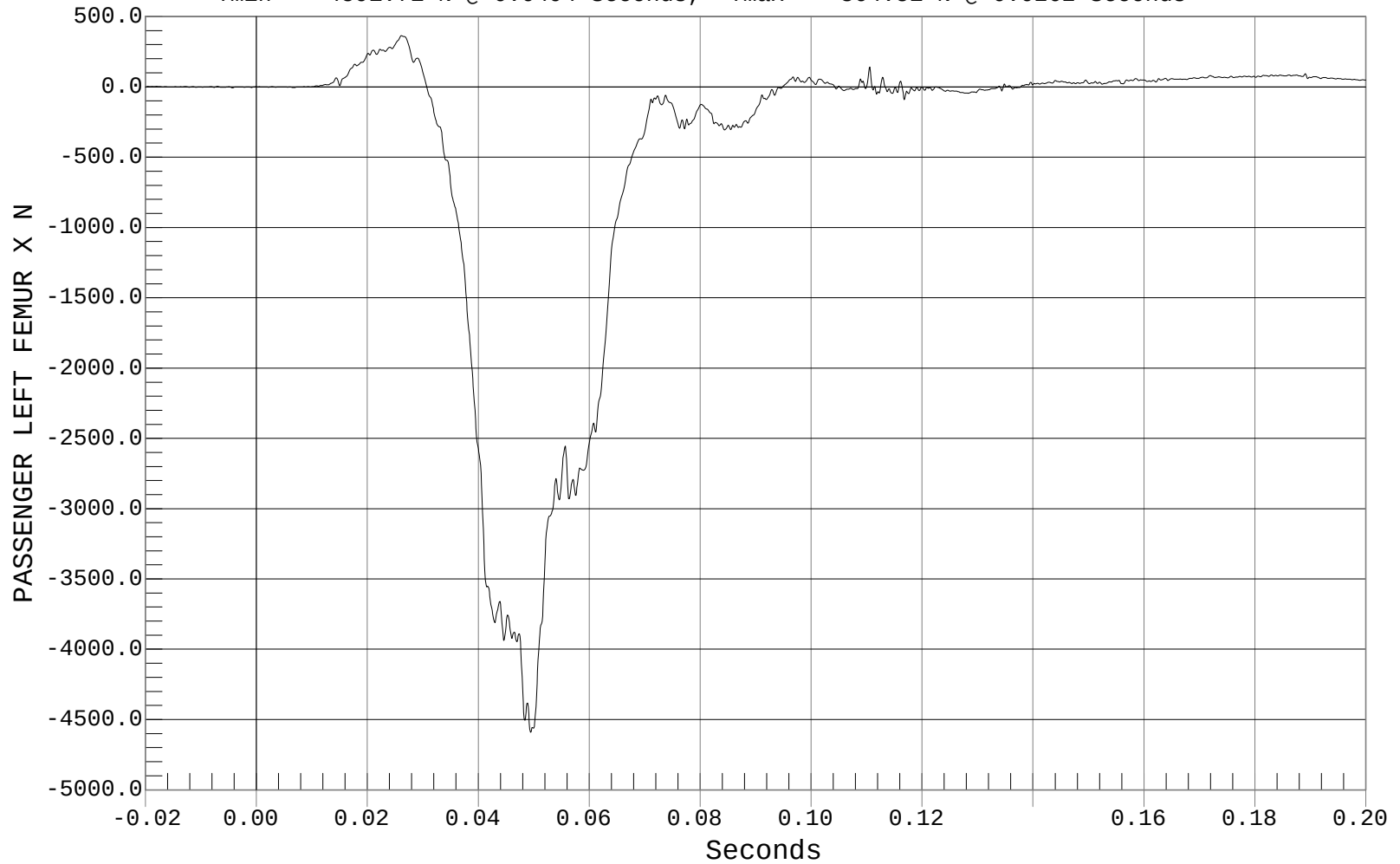
# PASSENGER LEFT FEMUR FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER LEFT FEMUR X, b00097FF.F30

Ymin = -4591.71 N @ 0.0494 Seconds, Ymax = 364.51 N @ 0.0262 Seconds







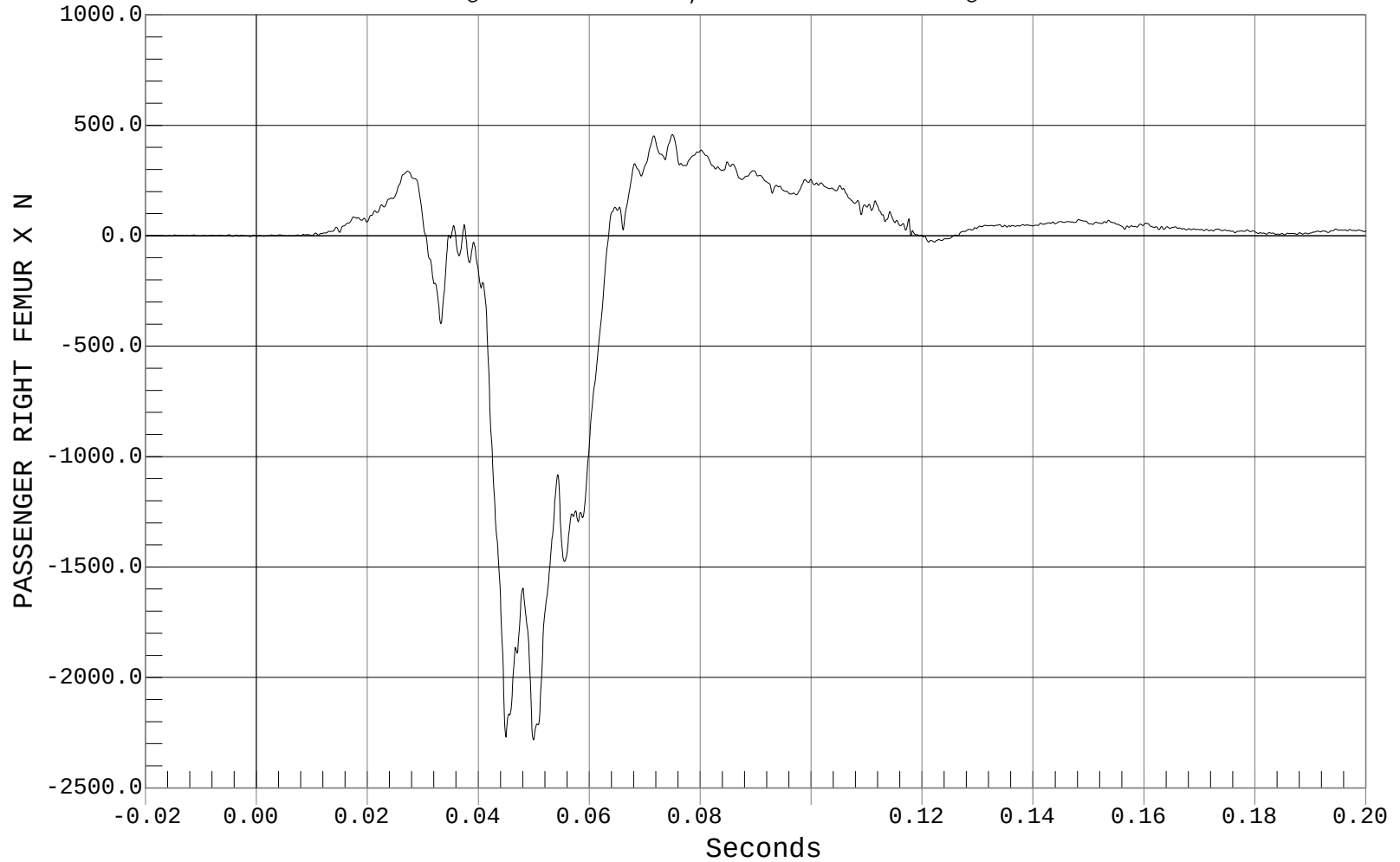
# PASSENGER RIGHT FEMUR FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT FEMUR X, b00097FF.F29

Ymin = -2281.85 N @ 0.0500 Seconds, Ymax = 458.16 N @ 0.0750 Seconds





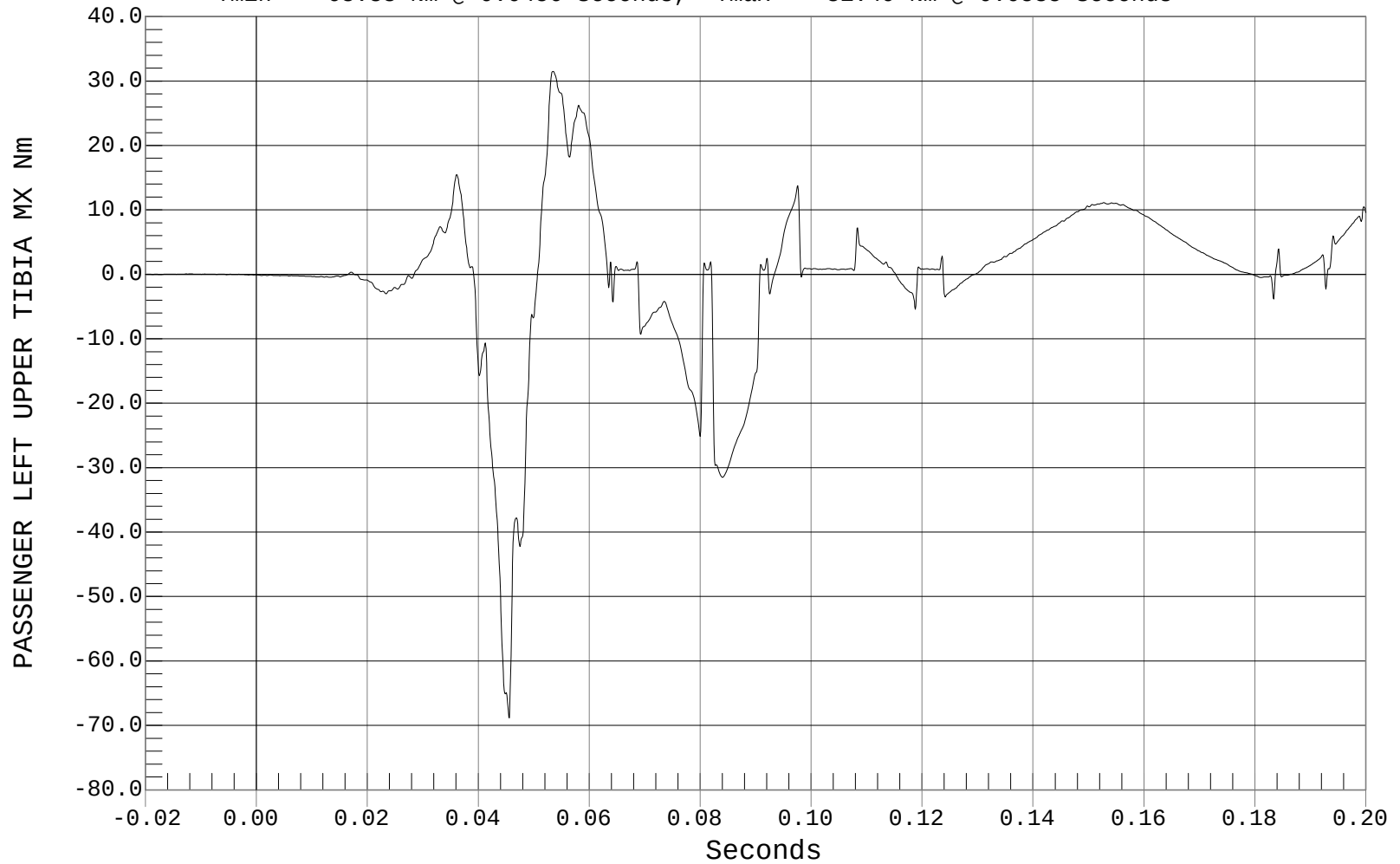
# PASSENGER LEFT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER LEFT UPPER TIBIA MX, b00097MF.M87

Ymin = -68.83 Nm @ 0.0456 Seconds, Ymax = 31.49 Nm @ 0.0535 Seconds





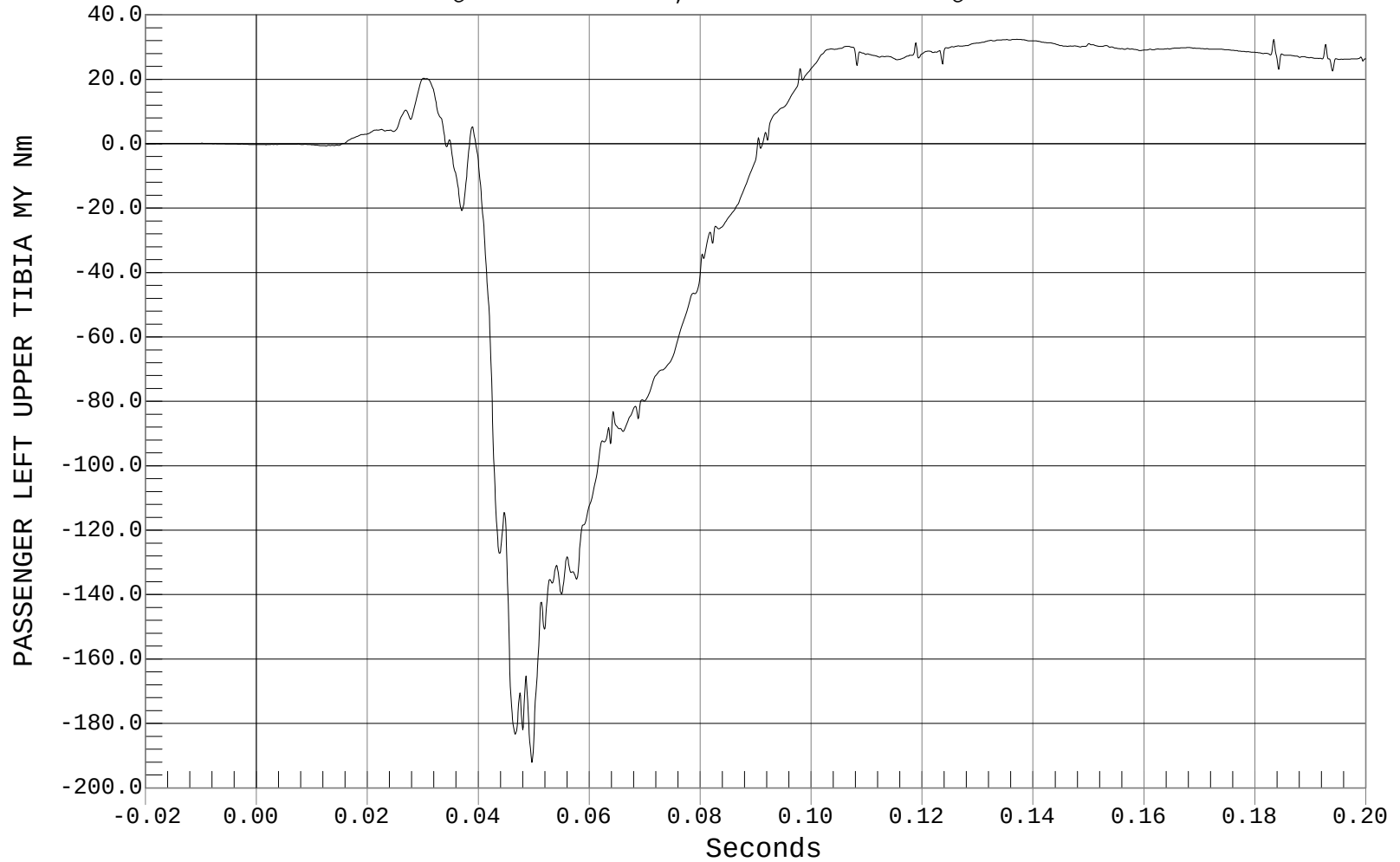
# PASSENGER LEFT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER LEFT UPPER TIBIA MY, b00097MF.M88

Ymin = -192.1 Nm @ 0.0497 Seconds, Ymax = 32.42 Nm @ 0.1371 Seconds





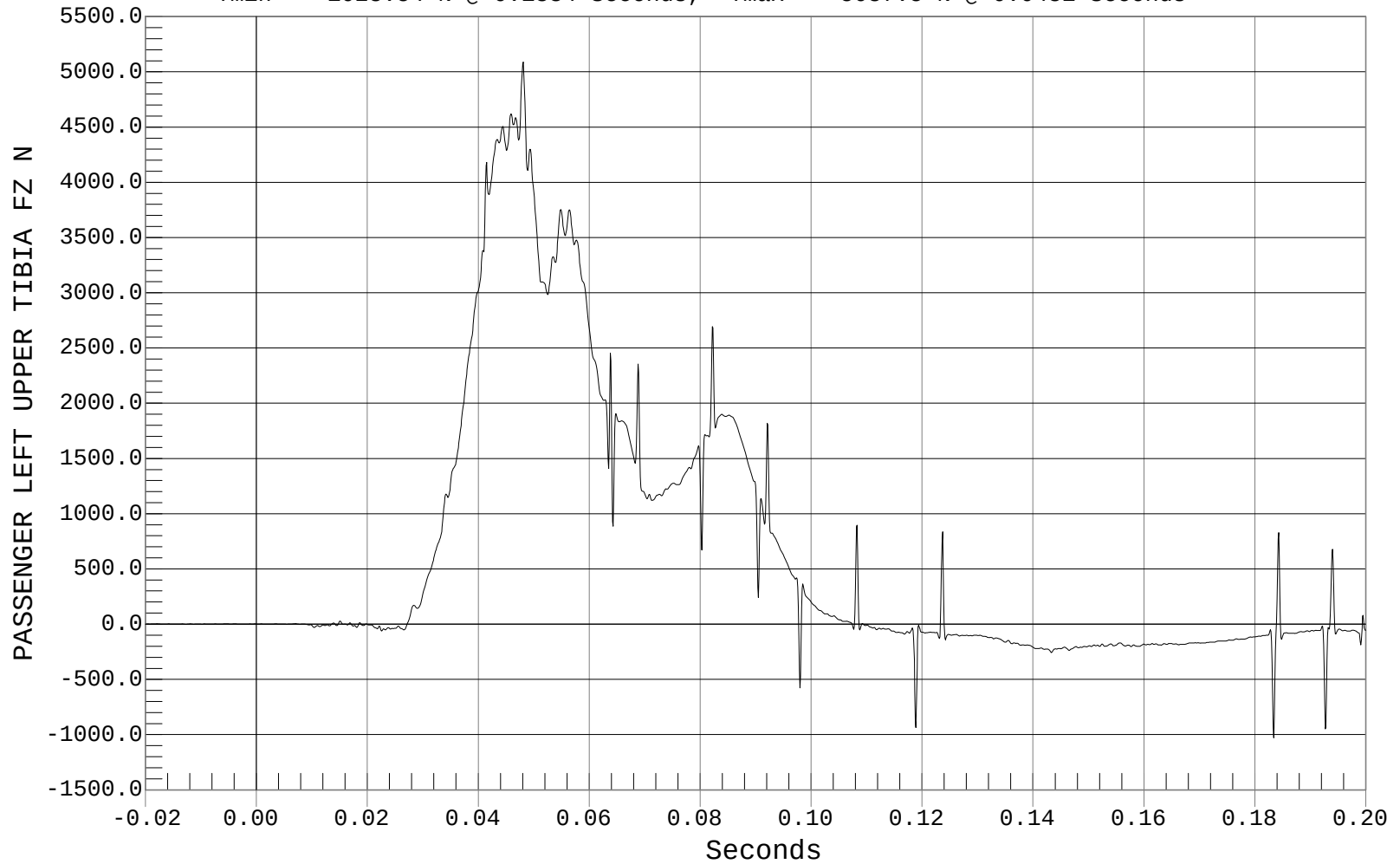
# PASSENGER LEFT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER LEFT UPPER TIBIA FZ, b00097FF.F89

Ymin = -1028.54 N @ 0.1834 Seconds, Ymax = 5087.5 N @ 0.0481 Seconds







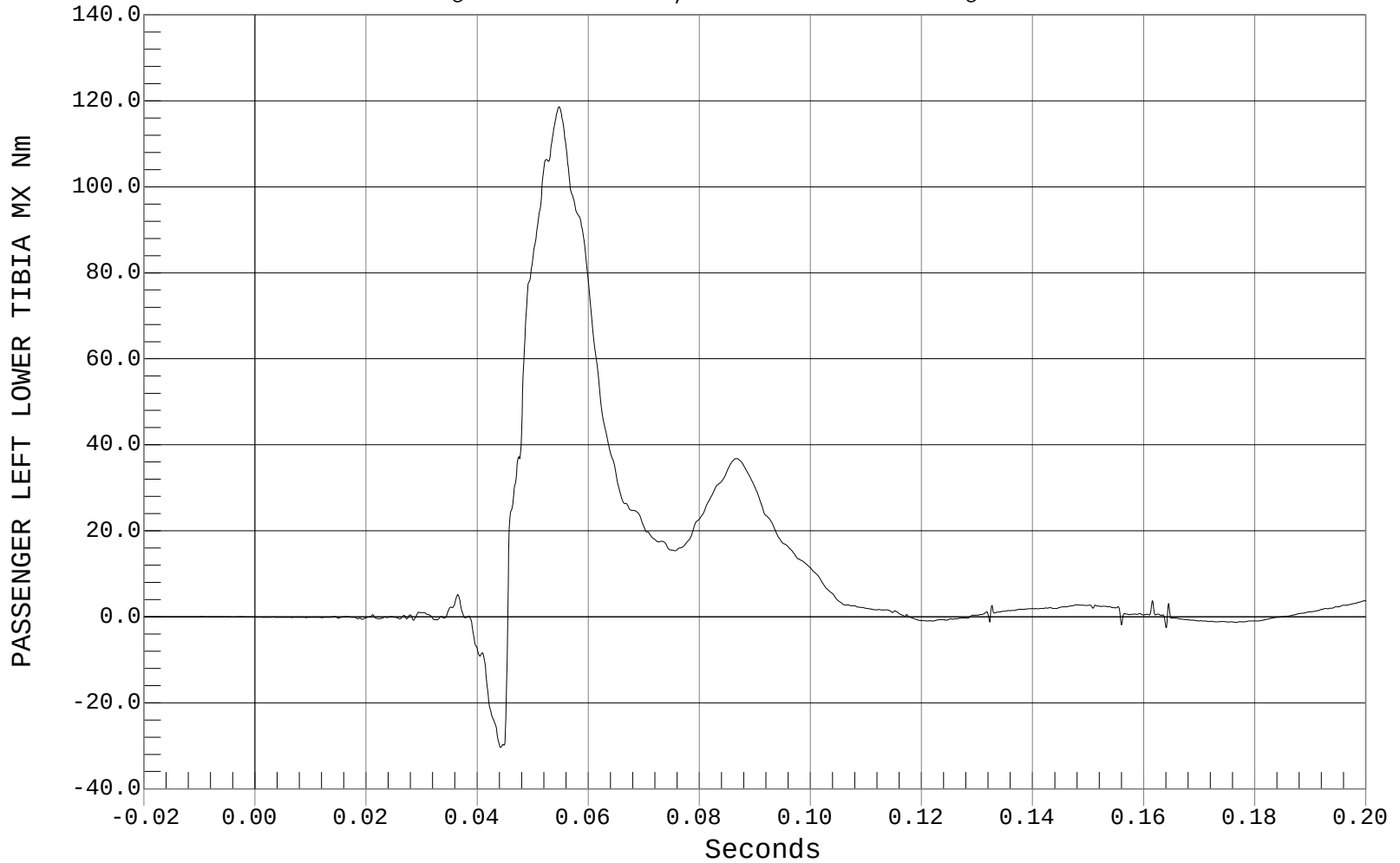
# PASSENGER LEFT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
 Component: 2001 LEXUS RX300 4-DOOR SUV  
 Other Info:

Test Date: 11-21-00  
 Speed: 35.3 MPH, 56.8 KPH  
 Filter Class: 600

— 1 PASSENGER LEFT LOWER TIBIA MX, b00097MF.M90

Ymin = -30.35 Nm @ 0.0442 Seconds, Ymax = 118.61 Nm @ 0.0547 Seconds





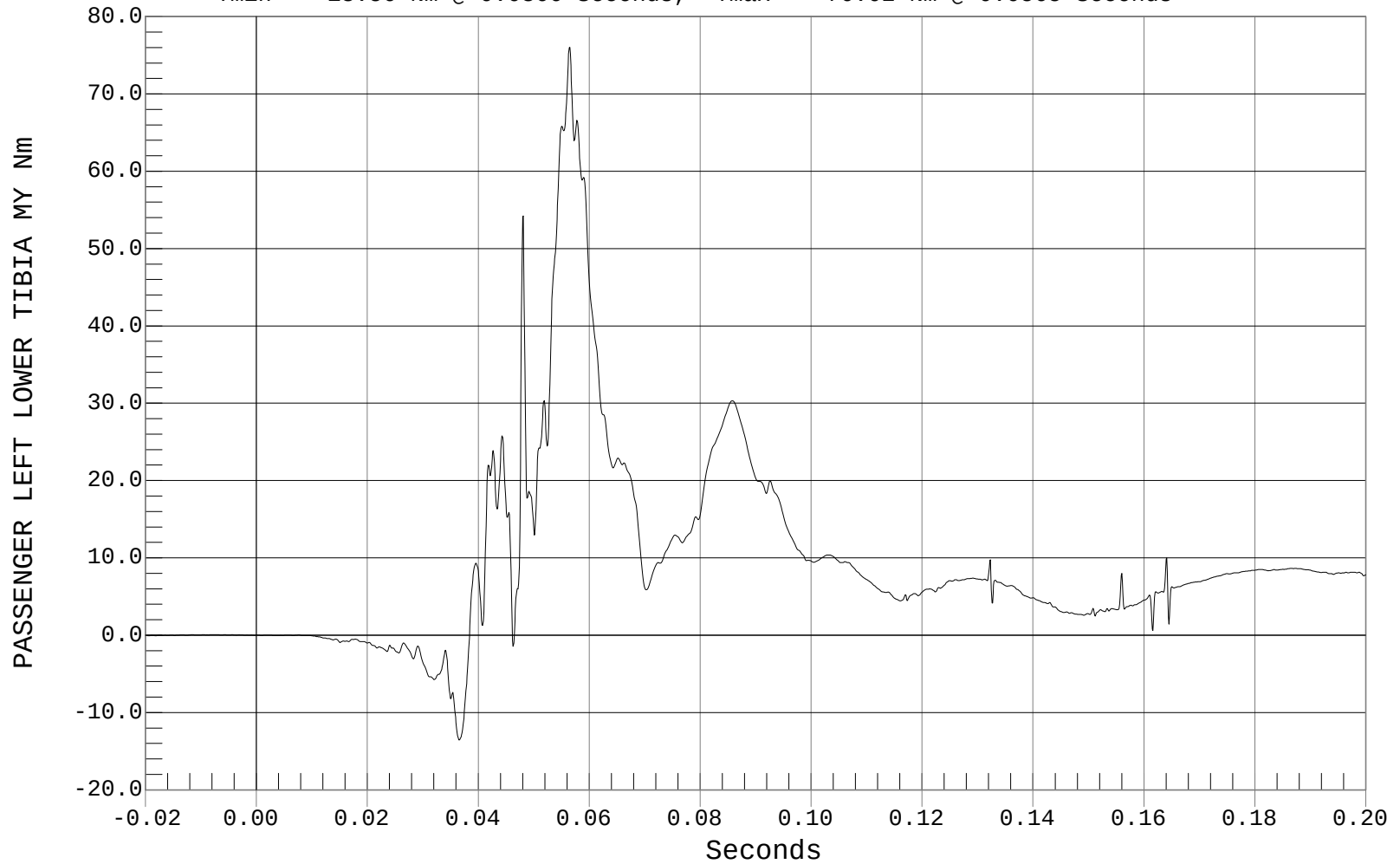
# PASSENGER LEFT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER LEFT LOWER TIBIA MY, b00097MF.M91

Ymin = -13.56 Nm @ 0.0366 Seconds, Ymax = 76.02 Nm @ 0.0565 Seconds





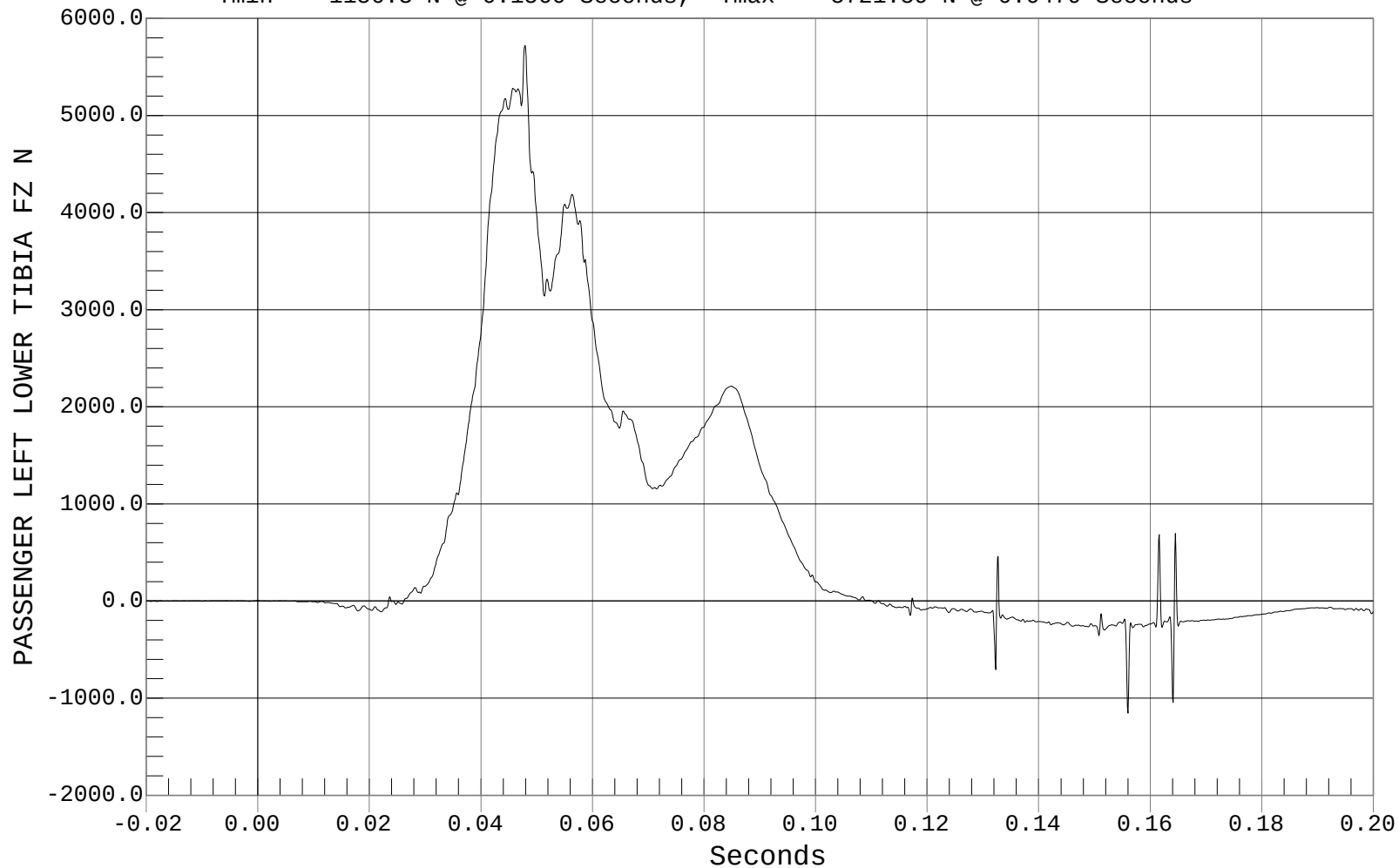
## PASSENGER LEFT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER LEFT LOWER TIBIA FZ, b00097FF.F92

Ymin = -1156.3 N @ 0.1560 Seconds, Ymax = 5721.59 N @ 0.0479 Seconds





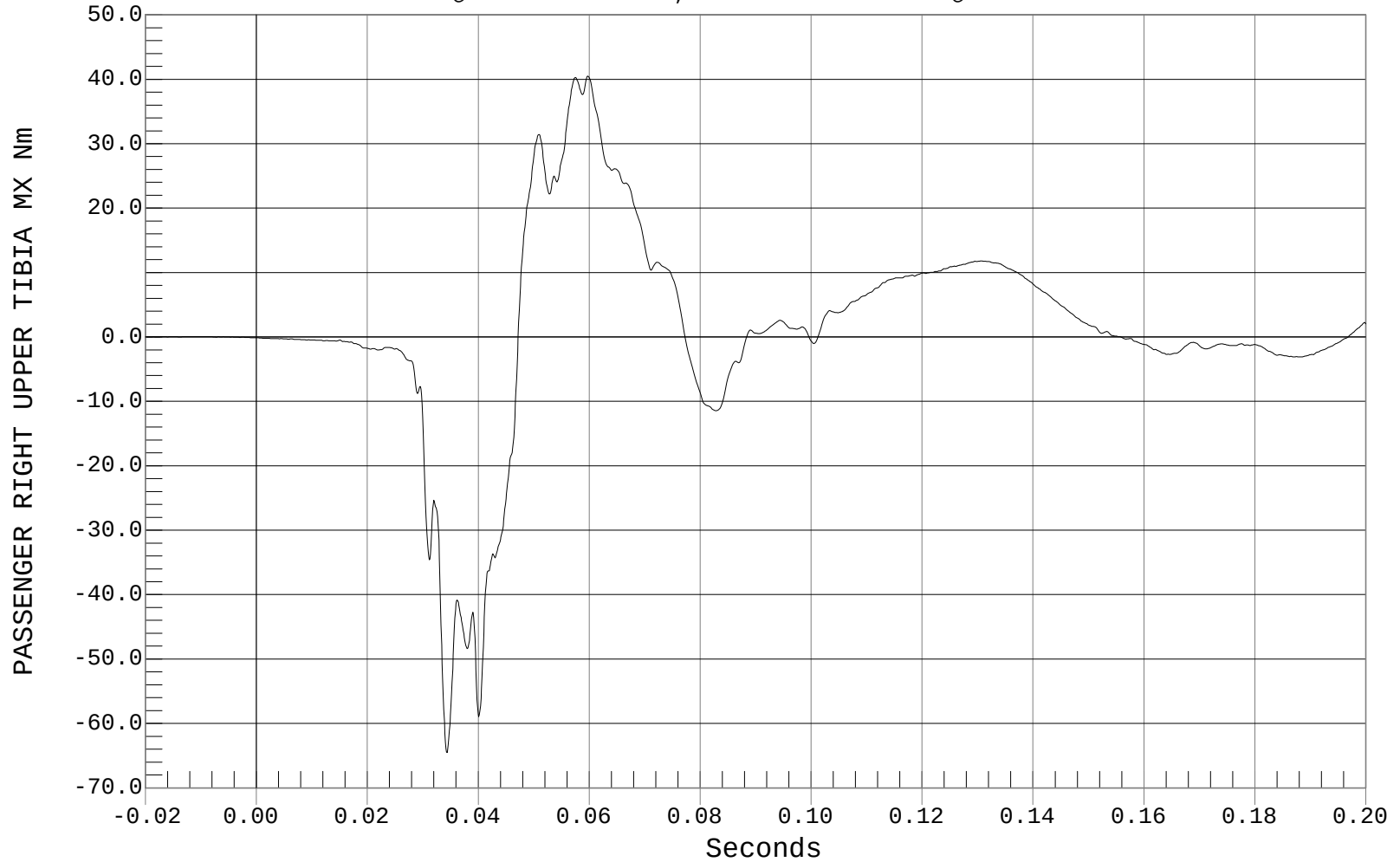
## PASSENGER RIGHT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT UPPER TIBIA MX, b00097MF.M81

Ymin = -64.52 Nm @ 0.0344 Seconds, Ymax = 40.49 Nm @ 0.0597 Seconds







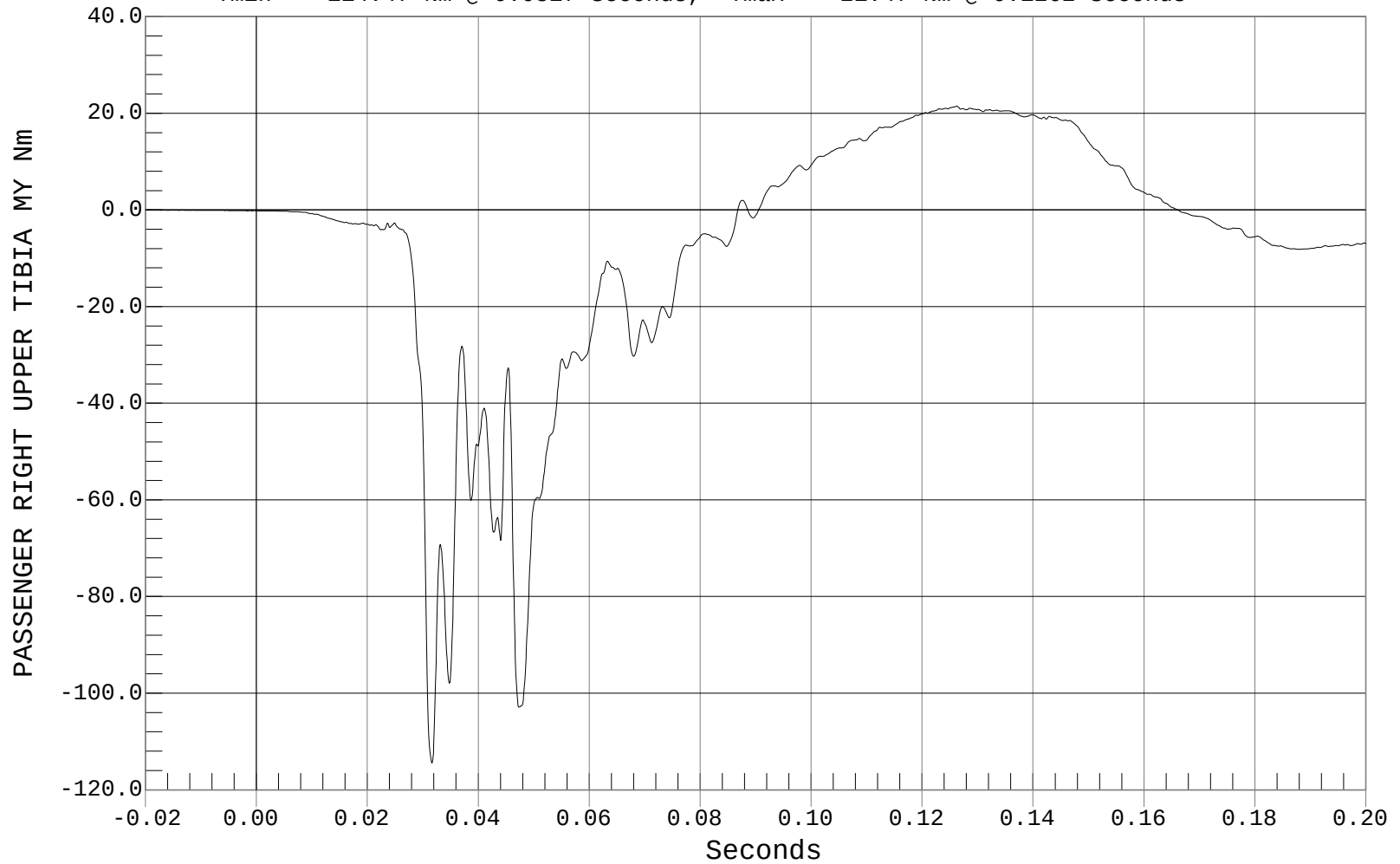
# PASSENGER RIGHT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT UPPER TIBIA MY, b00097MF.M82

Ymin = -114.47 Nm @ 0.0317 Seconds, Ymax = 21.47 Nm @ 0.1262 Seconds





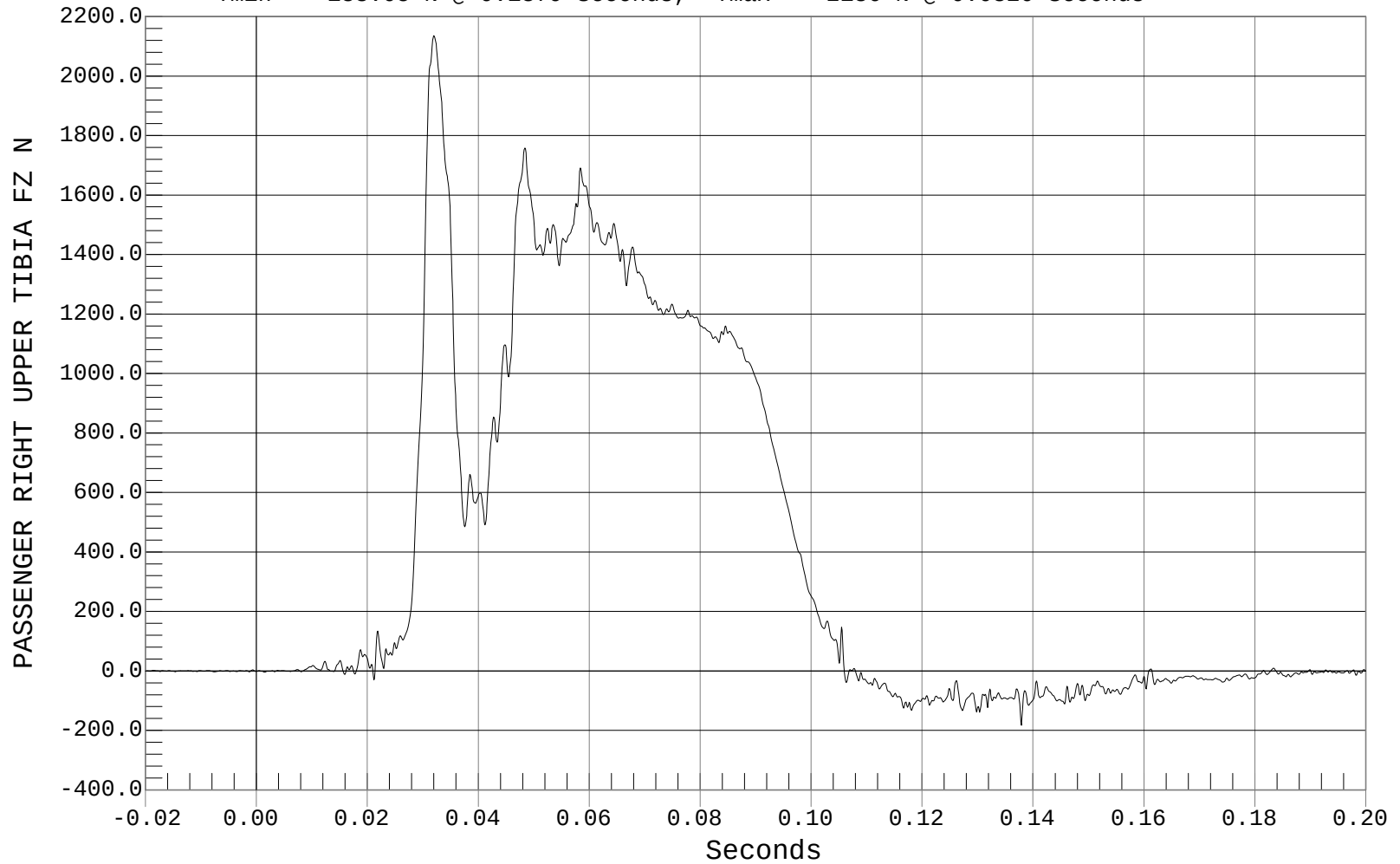
# PASSENGER RIGHT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT UPPER TIBIA FZ, b00097FF.F83

Ymin = -183.05 N @ 0.1379 Seconds, Ymax = 2136 N @ 0.0320 Seconds





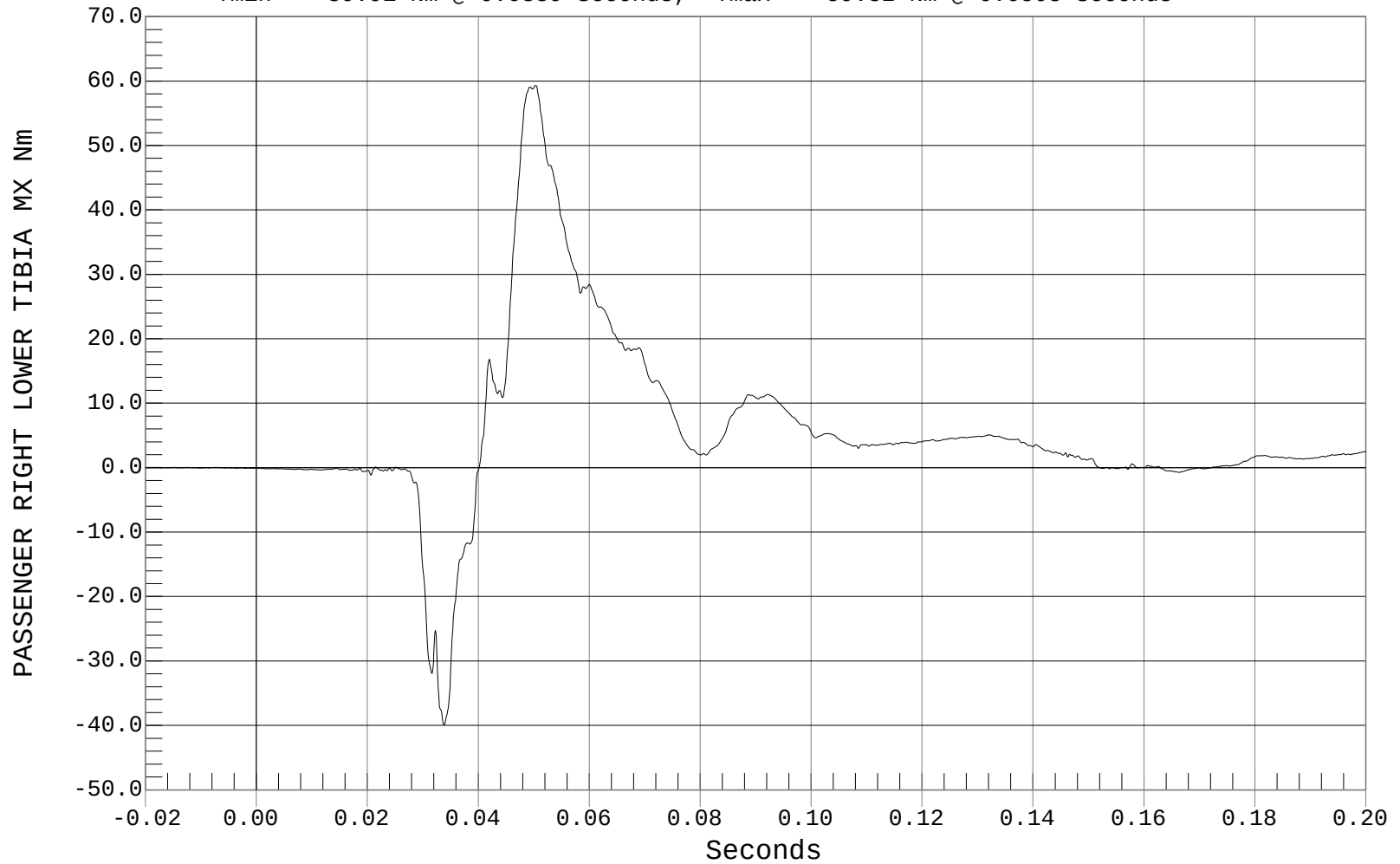
# PASSENGER RIGHT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT LOWER TIBIA MX, b00097MF.M84

Ymin = -39.91 Nm @ 0.0339 Seconds, Ymax = 59.32 Nm @ 0.0503 Seconds





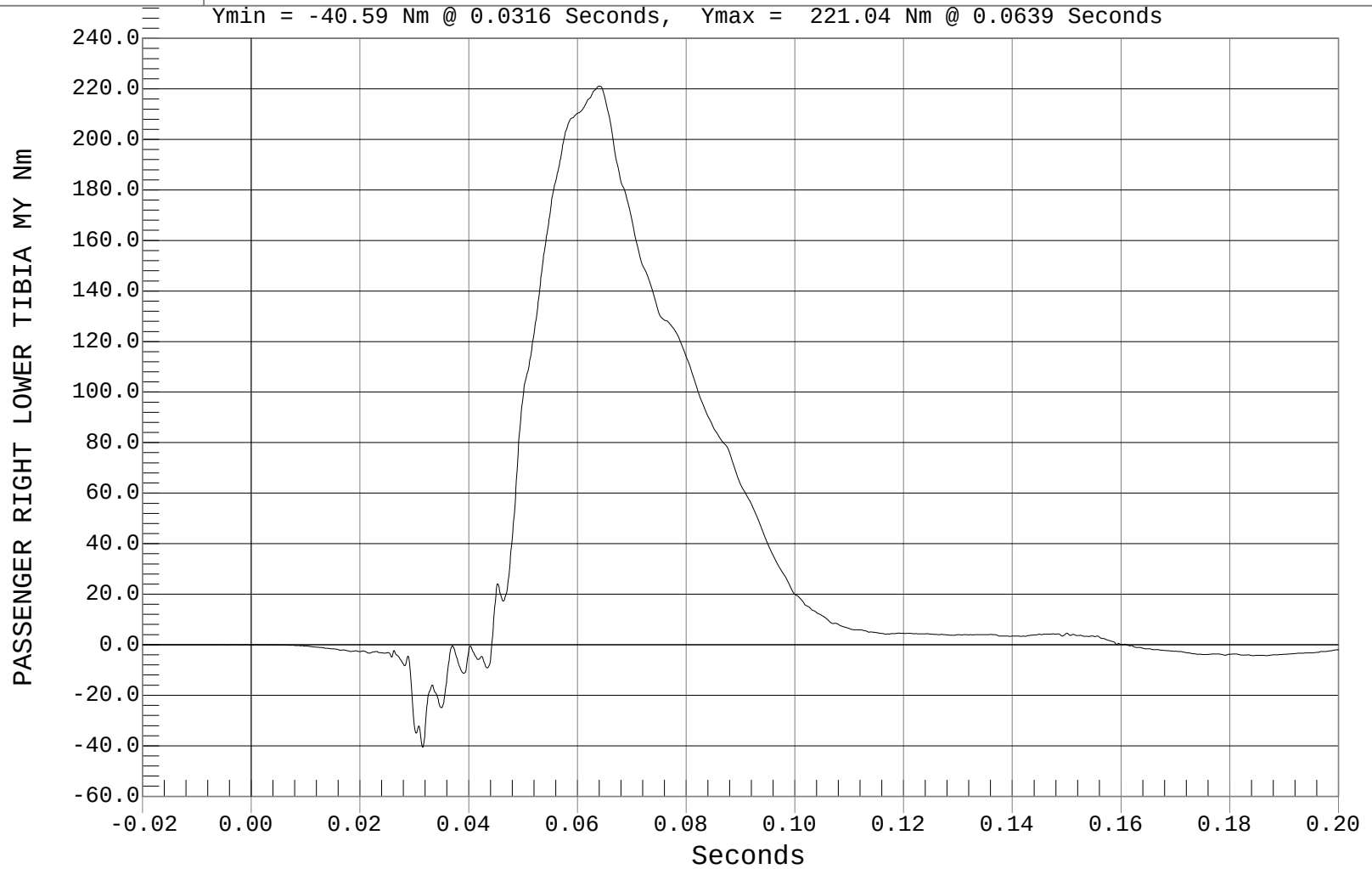
# PASSENGER RIGHT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT LOWER TIBIA MY, b00097MF.M85

Ymin = -40.59 Nm @ 0.0316 Seconds, Ymax = 221.04 Nm @ 0.0639 Seconds







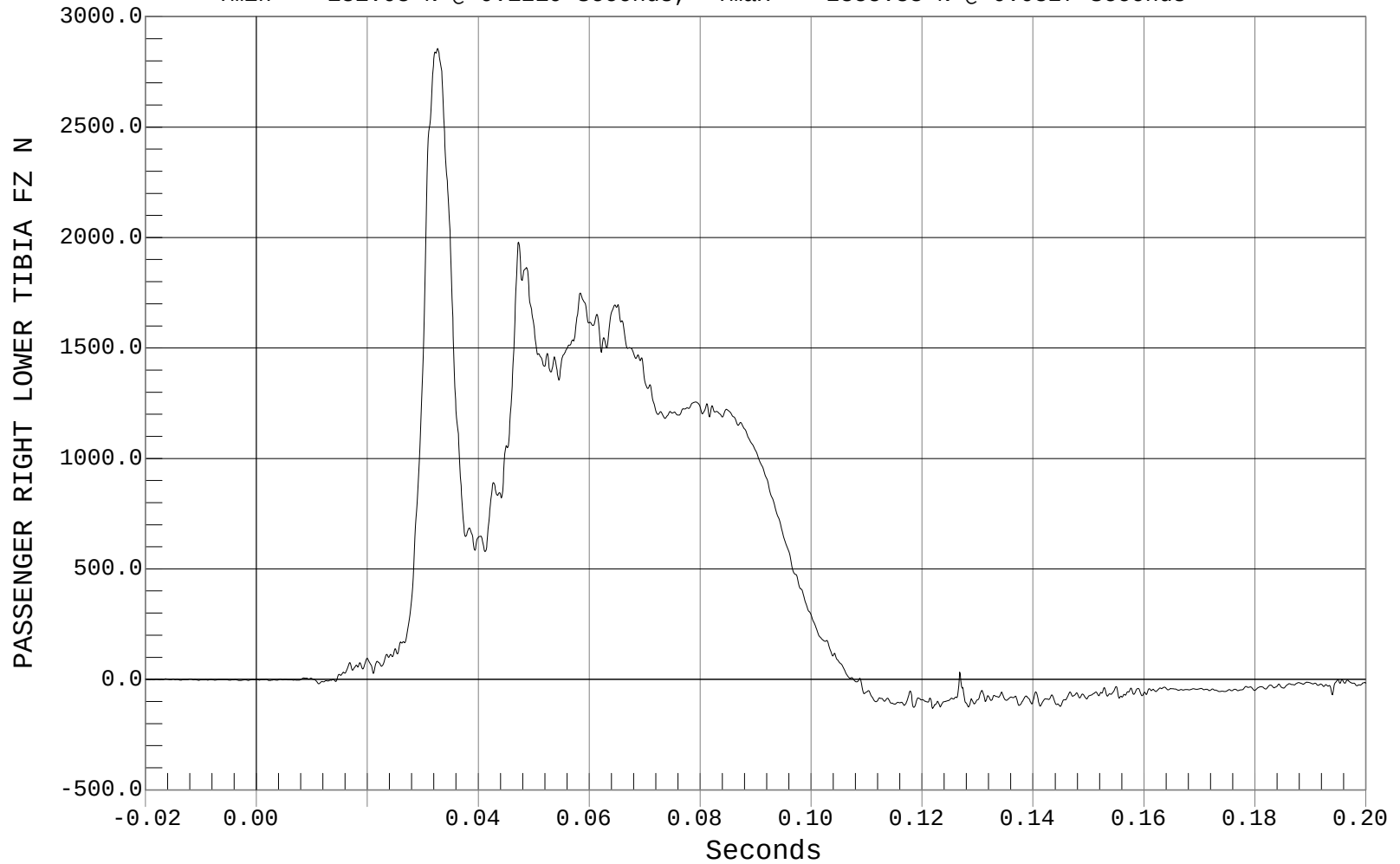
# PASSENGER RIGHT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 600

— 1 PASSENGER RIGHT LOWER TIBIA FZ, b00097FF.F86

Ymin = -131.03 N @ 0.1219 Seconds, Ymax = 2855.83 N @ 0.0327 Seconds



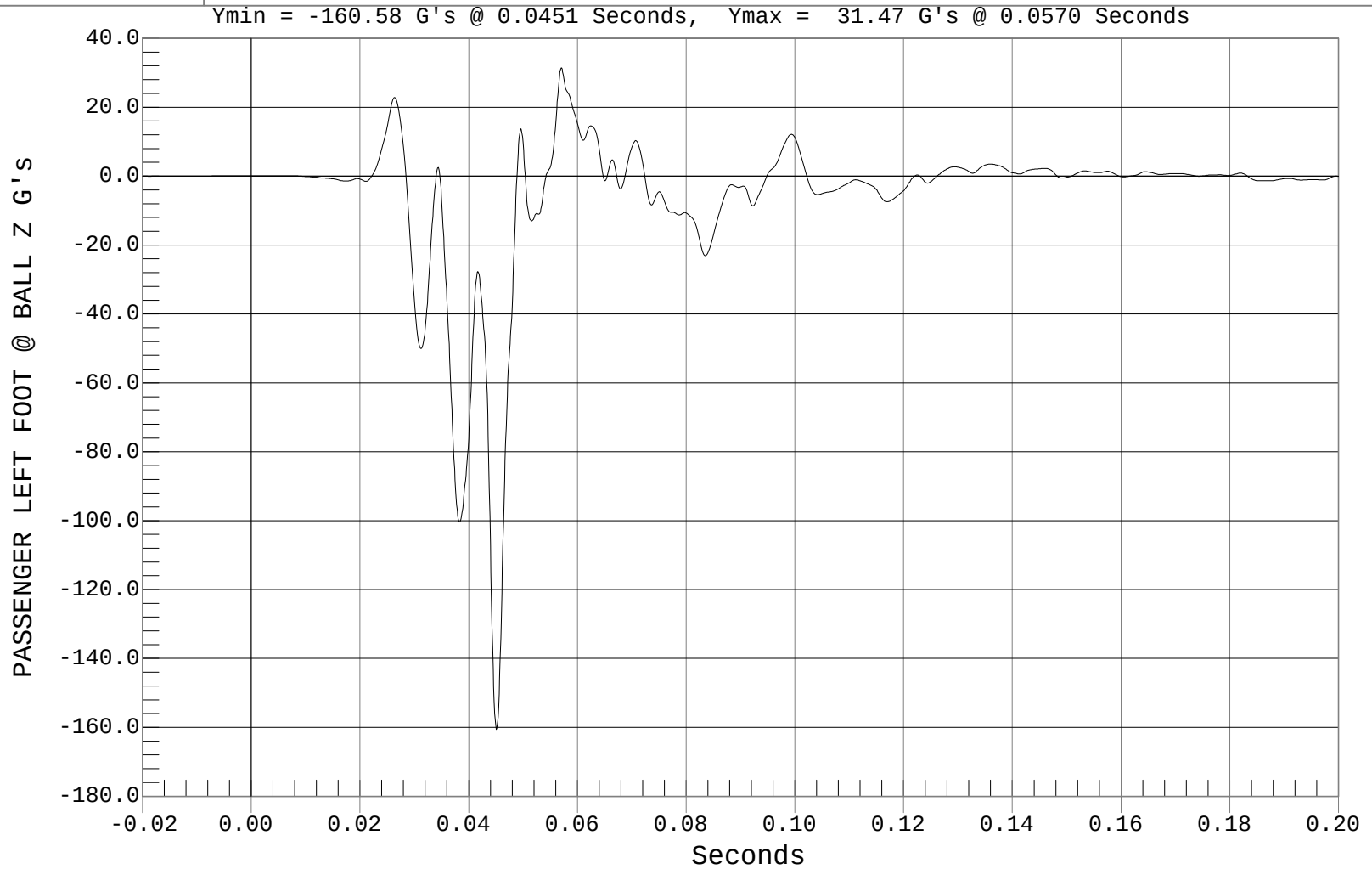


## PASSENGER LEFT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER LEFT FOOT @ BALL Z, c00097AF.A09





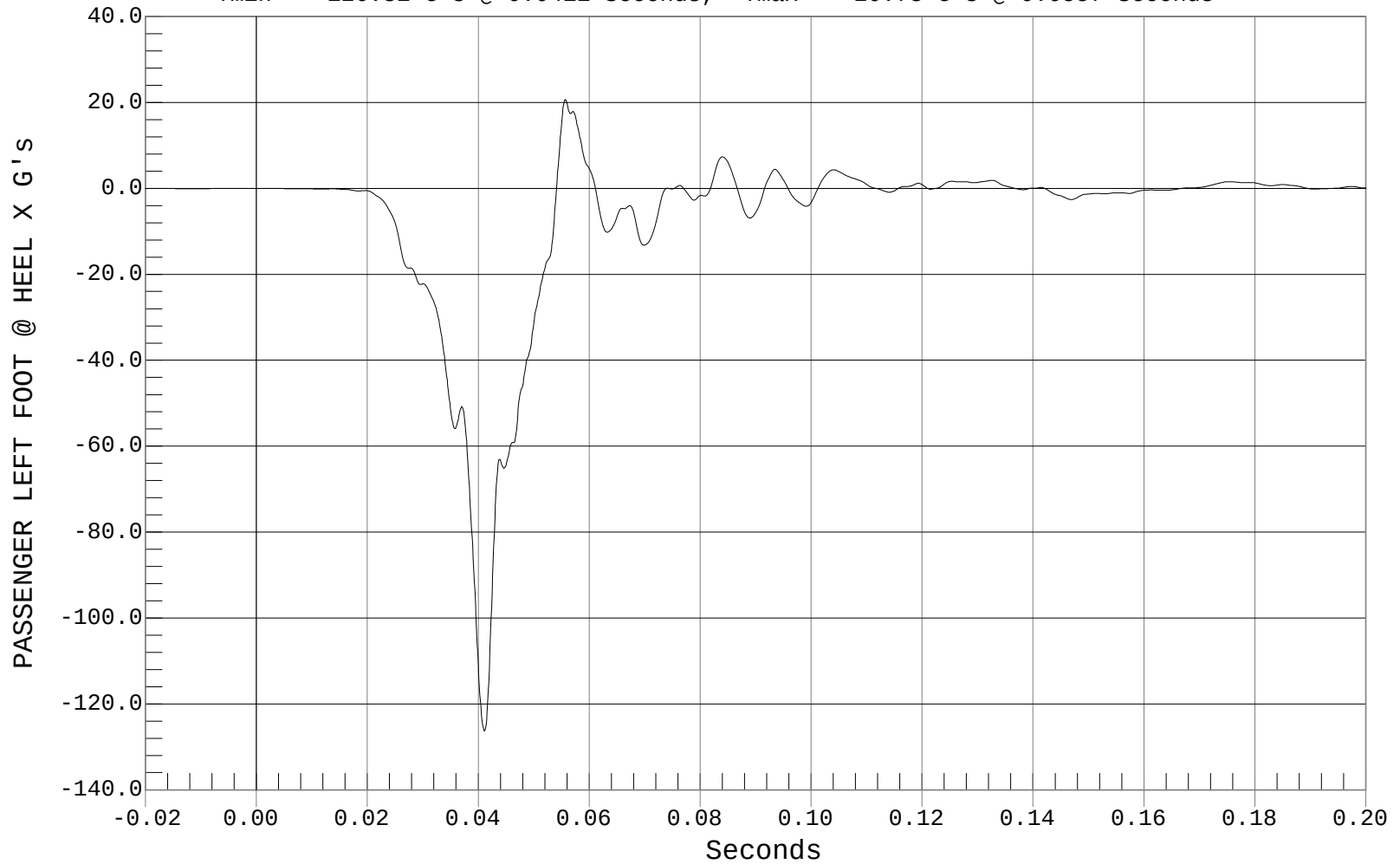
# PASSENGER LEFT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER LEFT FOOT @ HEEL X, c00097AF.A07

Ymin = -126.31 G's @ 0.0411 Seconds, Ymax = 20.73 G's @ 0.0557 Seconds





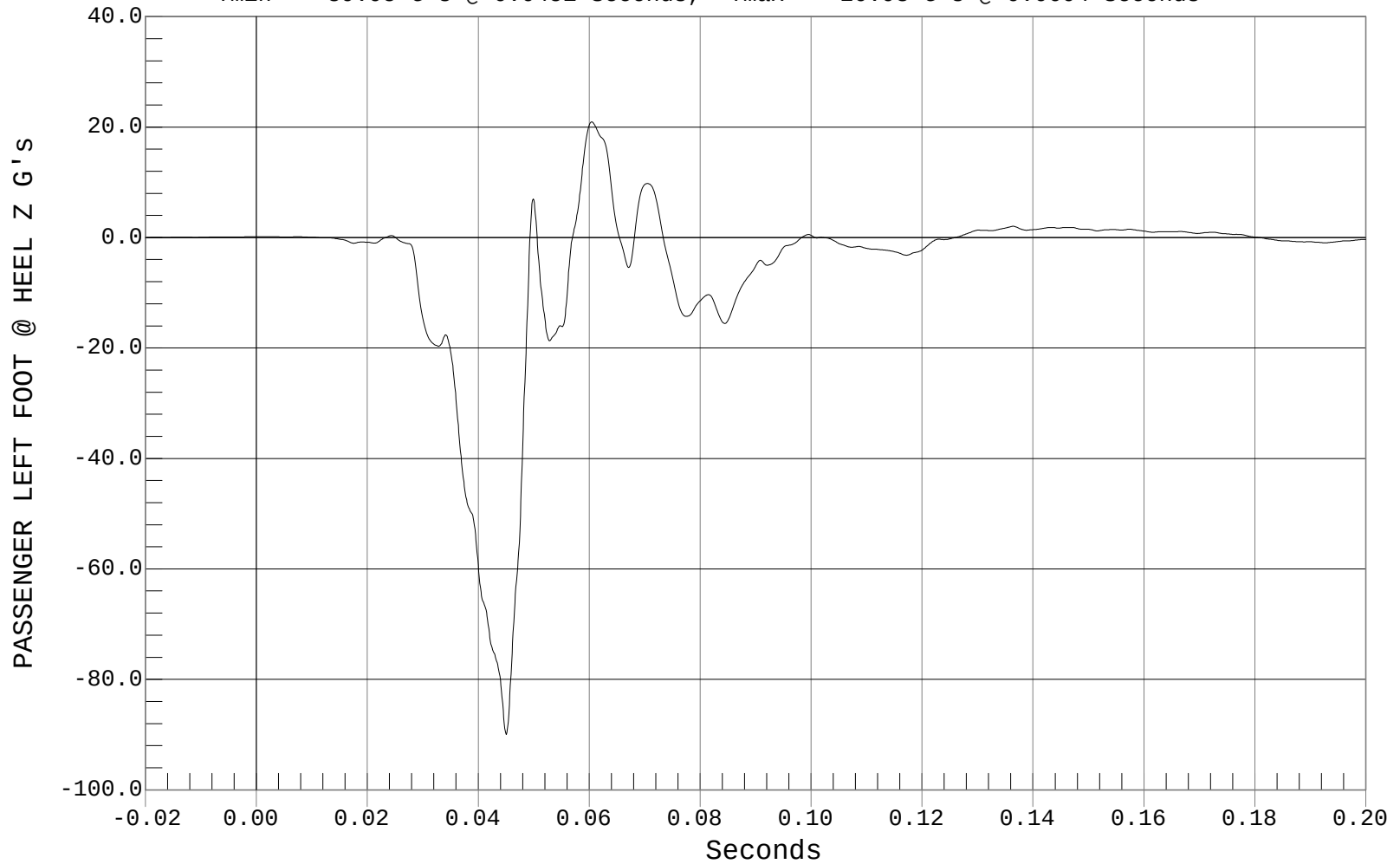
# PASSENGER LEFT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER LEFT FOOT @ HEEL Z, c00097AF.A08

Ymin = -89.95 G's @ 0.0451 Seconds, Ymax = 20.93 G's @ 0.0604 Seconds





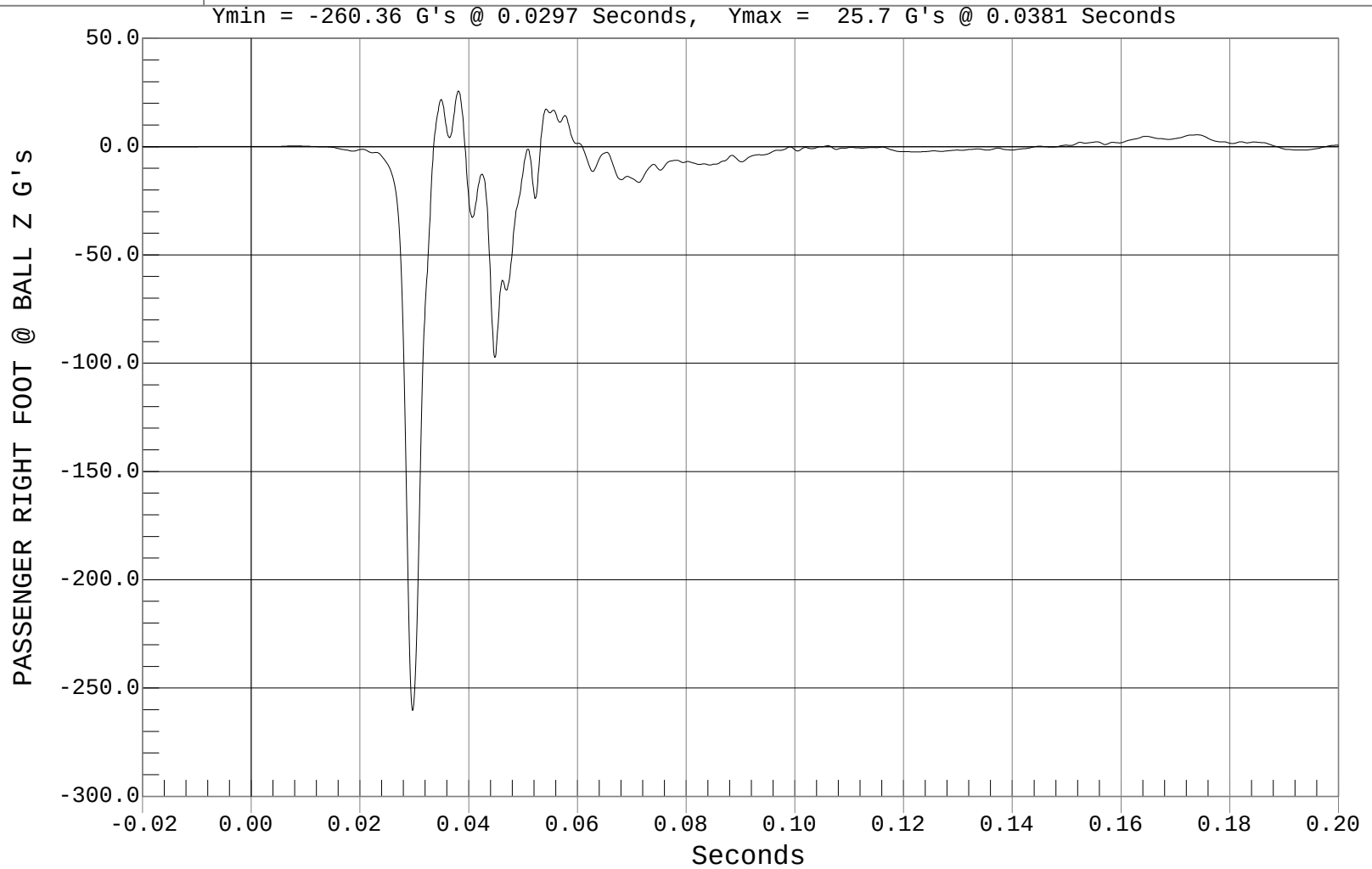


## PASSENGER RIGHT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER RIGHT FOOT @ BALL Z, c00097AF.A06





## PASSENGER RIGHT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT

Test Date: 11-21-00

Component: 2001 LEXUS RX300 4-DOOR SUV

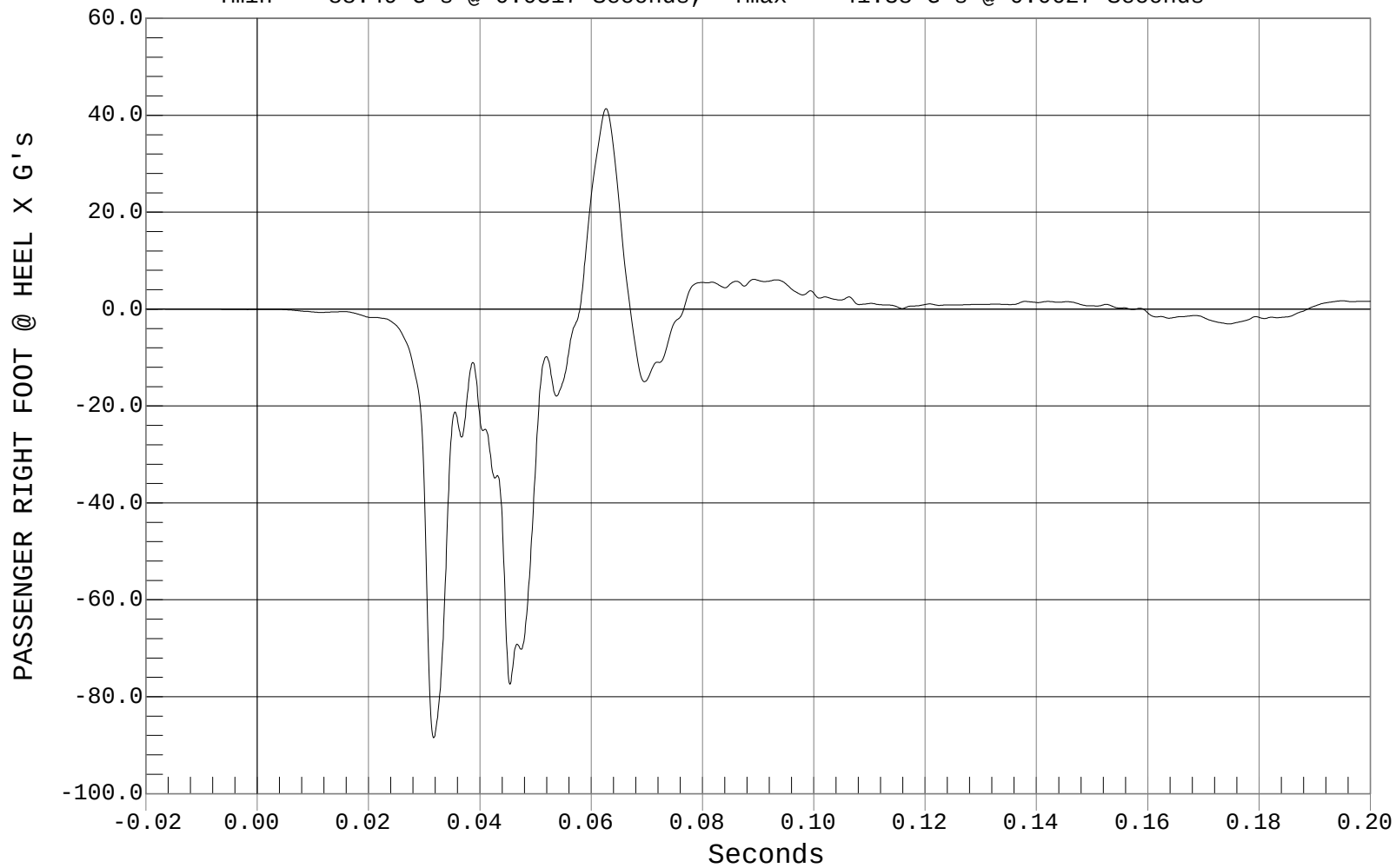
Speed: 35.3 MPH, 56.8 KPH

Other Info:

Filter Class: 180

— 1 PASSENGER RIGHT FOOT @ HEEL X, c00097AF.A04

Ymin = -88.49 G's @ 0.0317 Seconds, Ymax = 41.38 G's @ 0.0627 Seconds





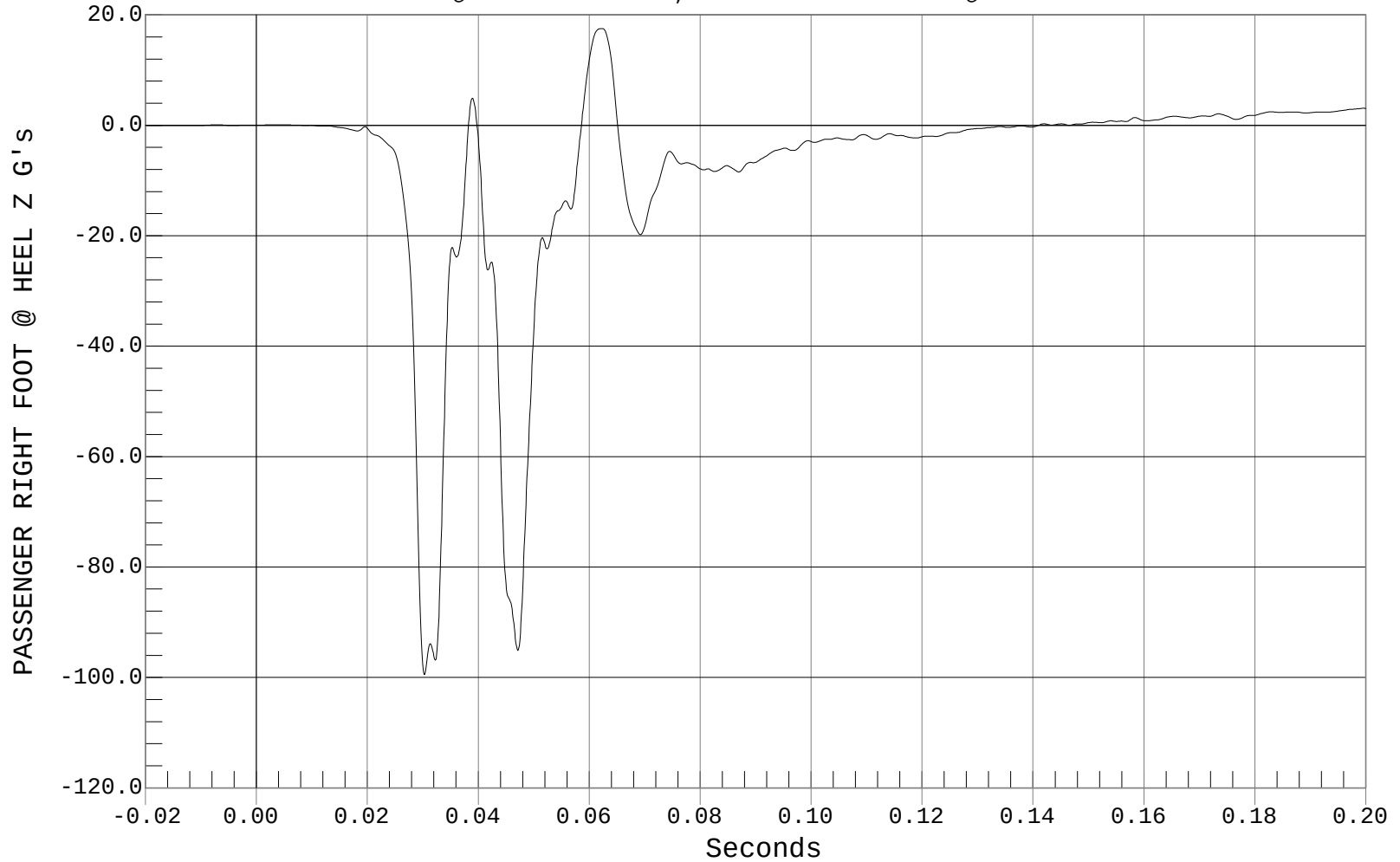
# PASSENGER RIGHT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 PASSENGER RIGHT FOOT @ HEEL Z, c00097AF.A05

Ymin = -99.5 G's @ 0.0303 Seconds, Ymax = 17.52 G's @ 0.0623 Seconds





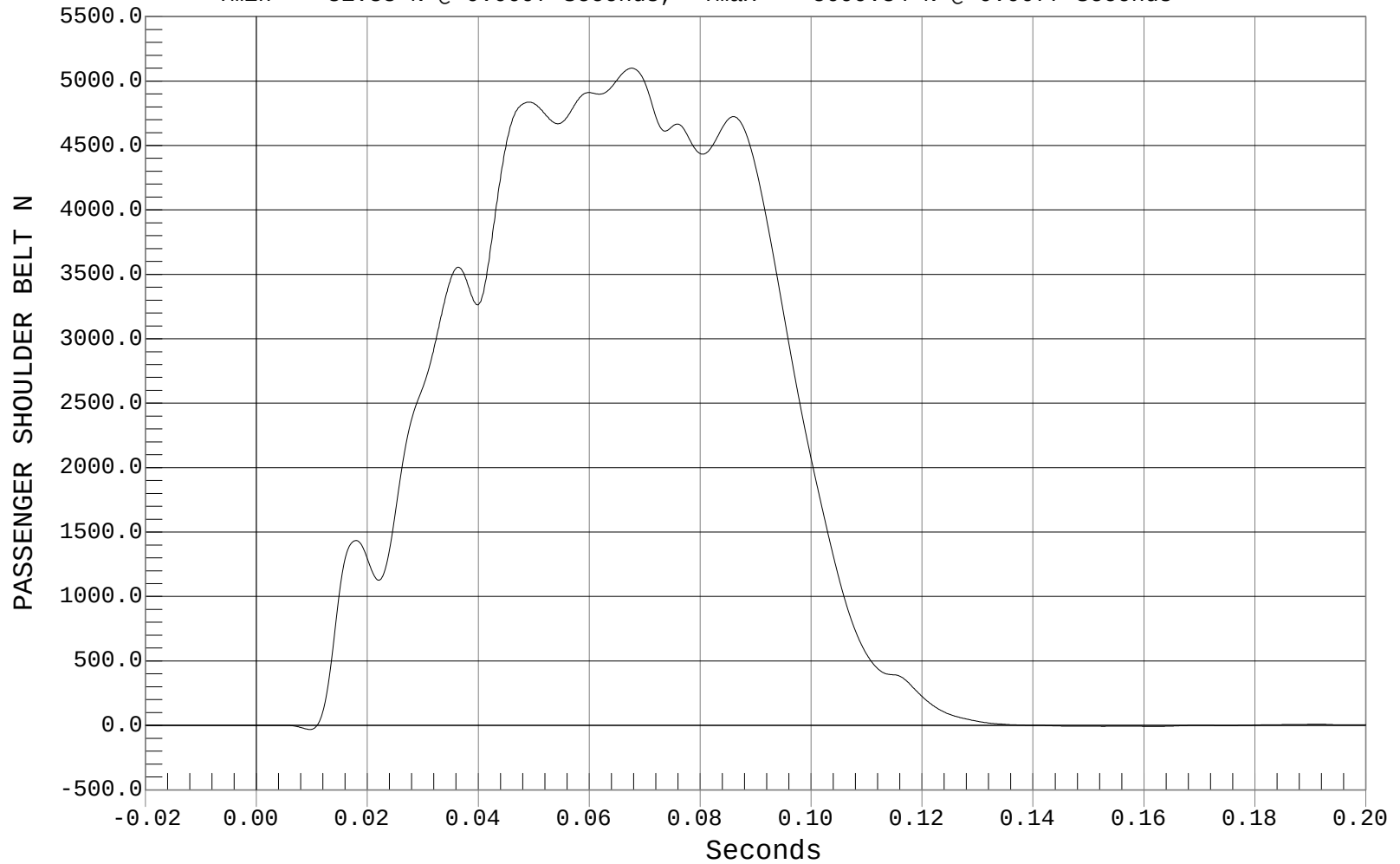
## PASSENGER SHOULDER BELT FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 PASSENGER SHOULDER BELT, b00097FF.F67

Ymin = -31.33 N @ 0.0097 Seconds, Ymax = 5099.34 N @ 0.0677 Seconds







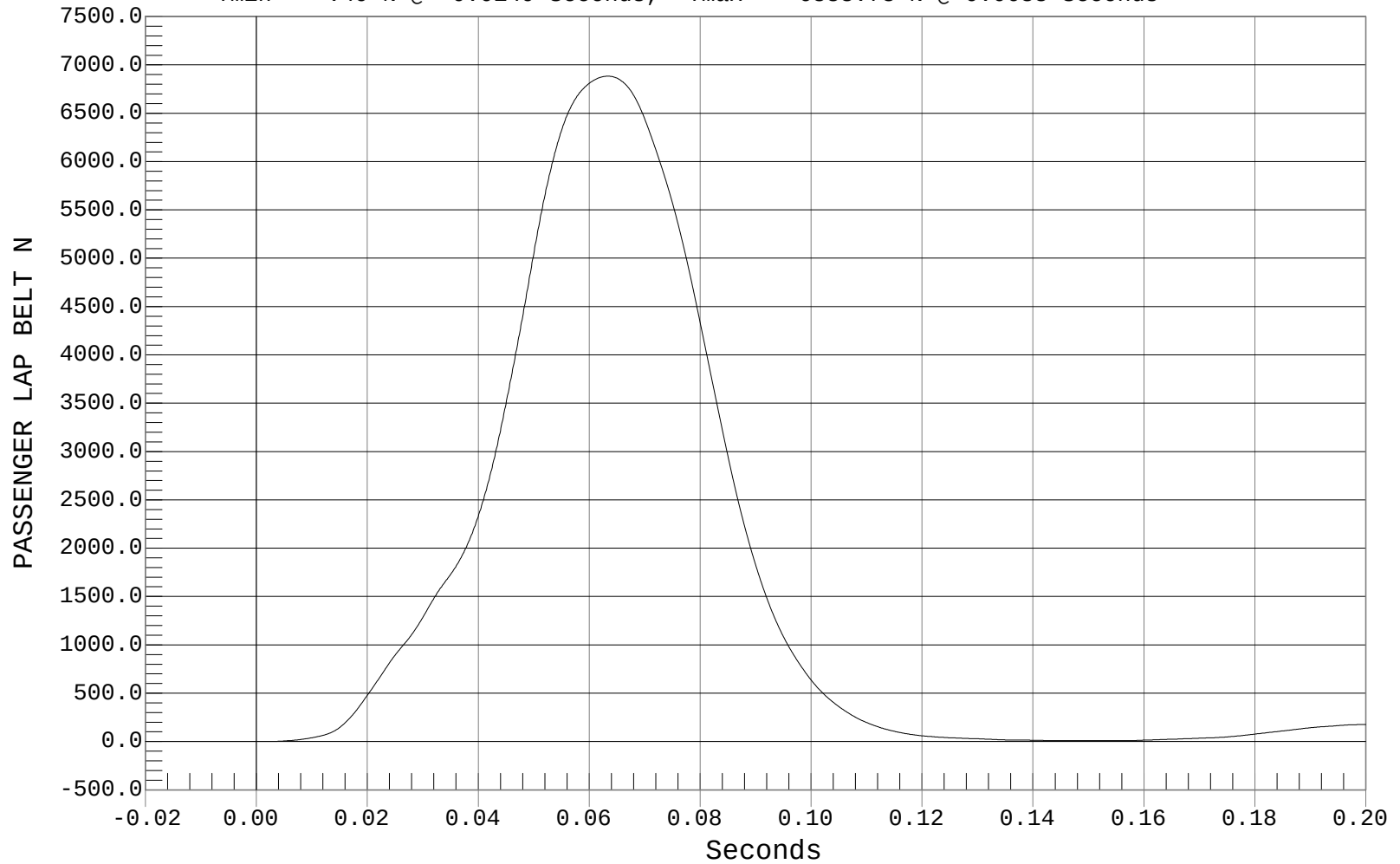
## PASSENGER LAP BELT FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 PASSENGER LAP BELT, b00097FF.F68

Ymin = -.49 N @ -0.0149 Seconds, Ymax = 6883.73 N @ 0.0633 Seconds





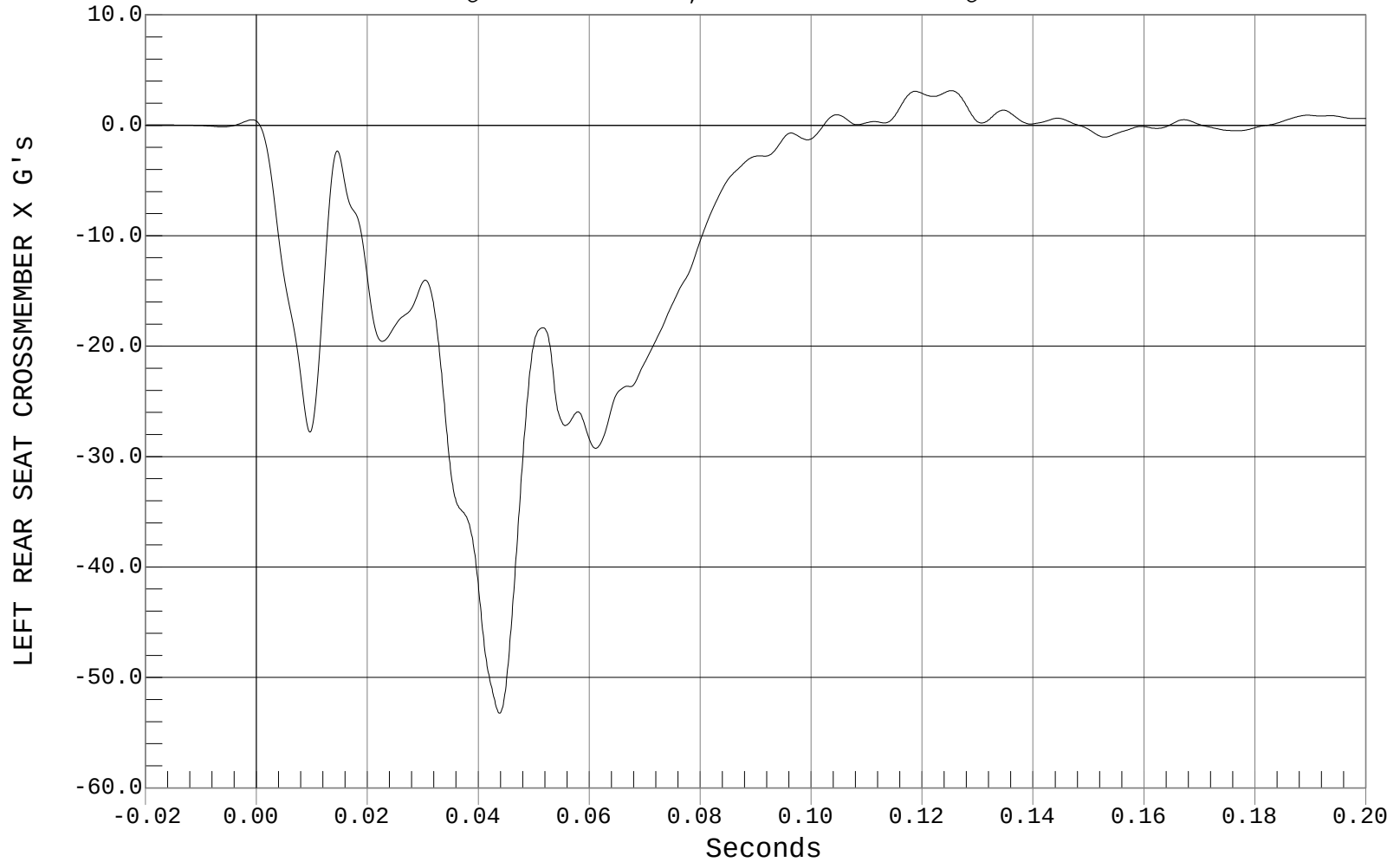
# LEFT REAR SEAT CROSSMEMBER X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 LEFT REAR SEAT CROSSMEMBER X, b00097AF.A59

Ymin = -53.24 G's @ 0.0438 Seconds, Ymax = 3.13 G's @ 0.1253 Seconds





# LEFT REAR SEAT CROSSMEMBER X VELOCITY

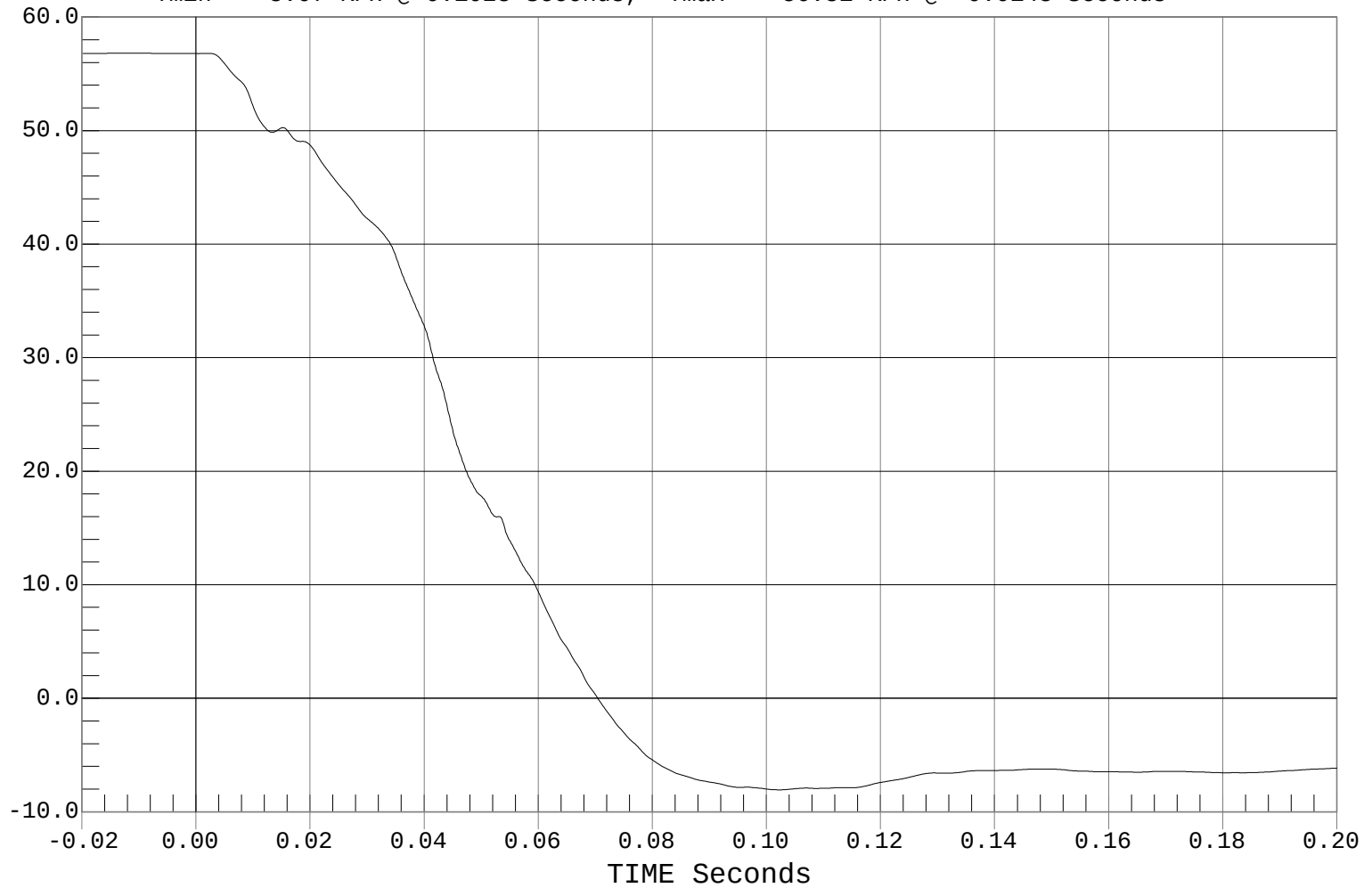
Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 LEFT REAR SEAT CROSSMEMBER X VELOCITY, b00097AI.V59

Ymin = -8.07 KPH @ 0.1023 Seconds, Ymax = 56.81 KPH @ -0.0143 Seconds

LEFT REAR SEAT CROSSMEMBER X VELOCITY KPH





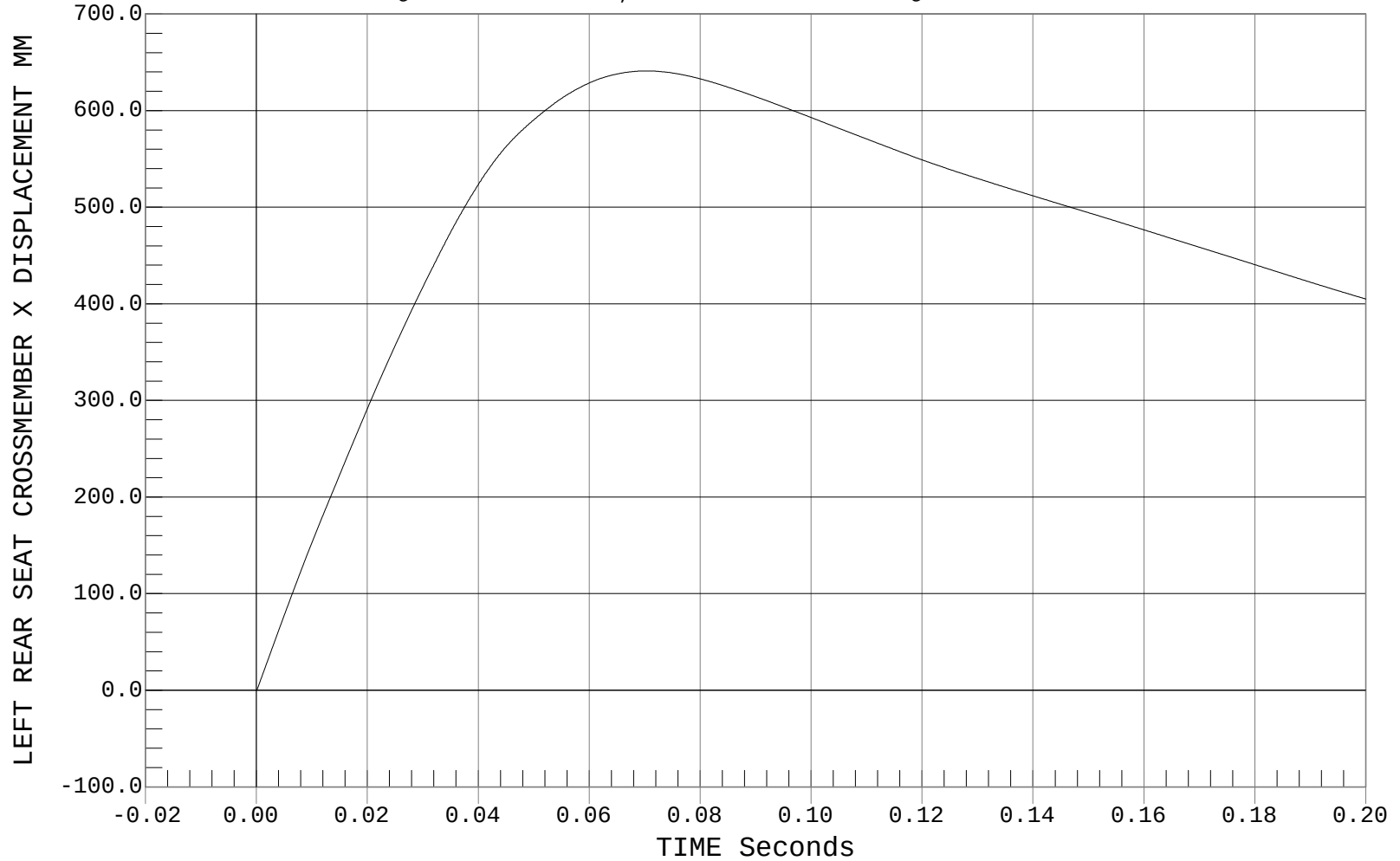
# LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT, b00097AI.D59

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 641.04 MM @ 0.0703 Seconds







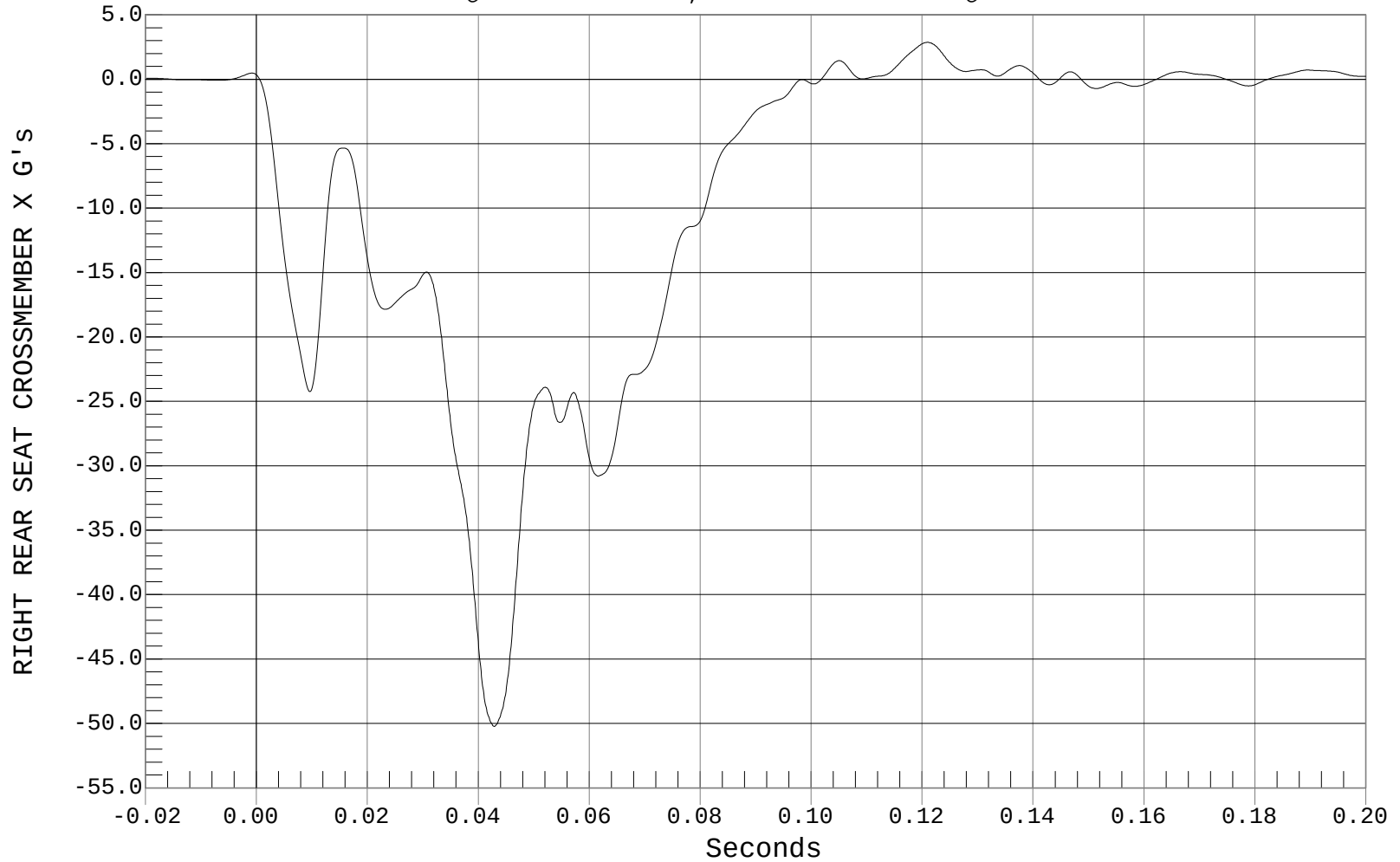
# RIGHT REAR SEAT CROSSMEMBER X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 RIGHT REAR SEAT CROSSMEMBER X, b00097AF.A58

Ymin = -50.23 G's @ 0.0429 Seconds, Ymax = 2.87 G's @ 0.1210 Seconds





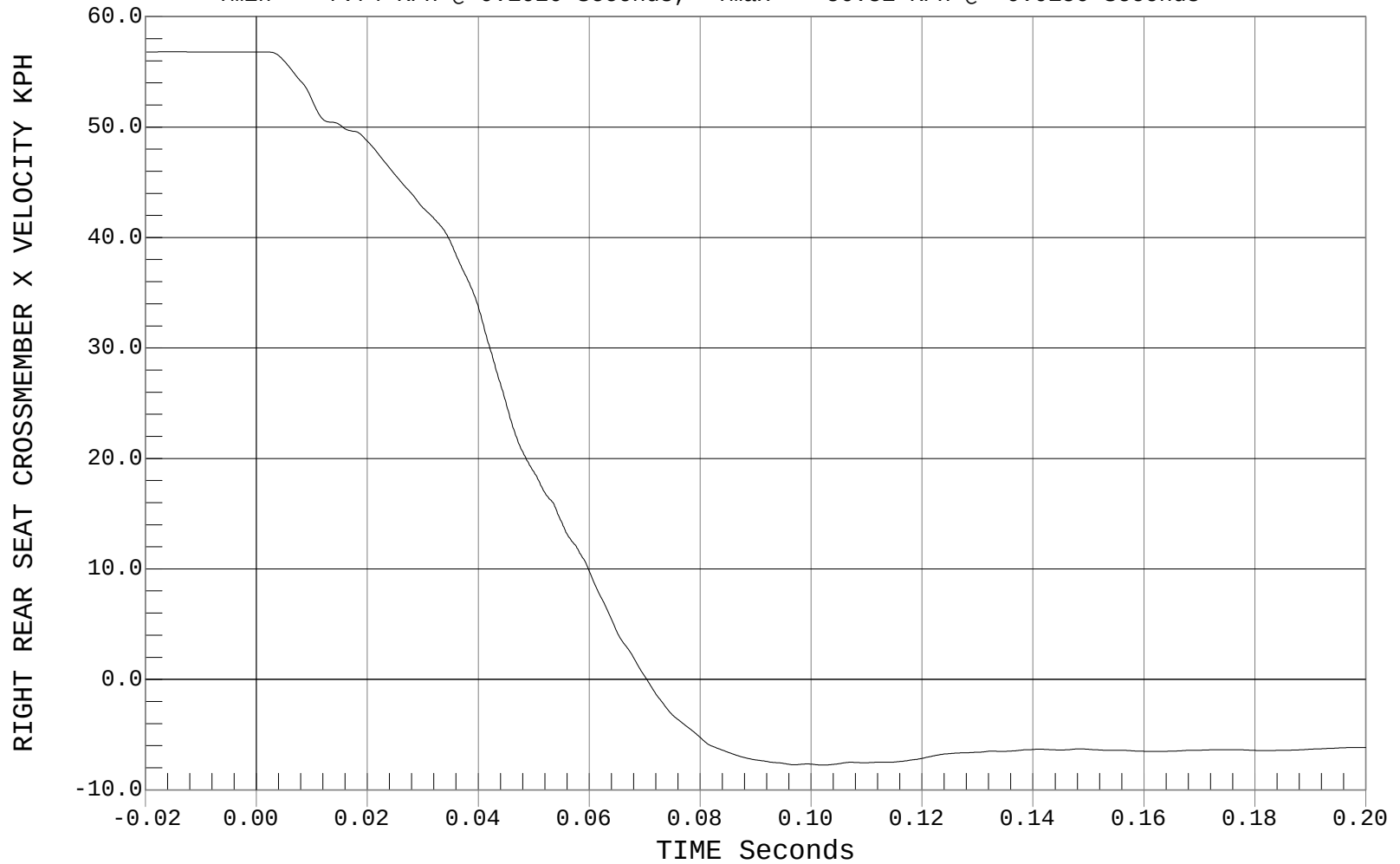
## RIGHT REAR SEAT CROSSMEMBER X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 RIGHT REAR SEAT CROSSMEMBER X VELOCITY, b00097A1.V58

Ymin = -7.74 KPH @ 0.1020 Seconds, Ymax = 56.81 KPH @ -0.0150 Seconds





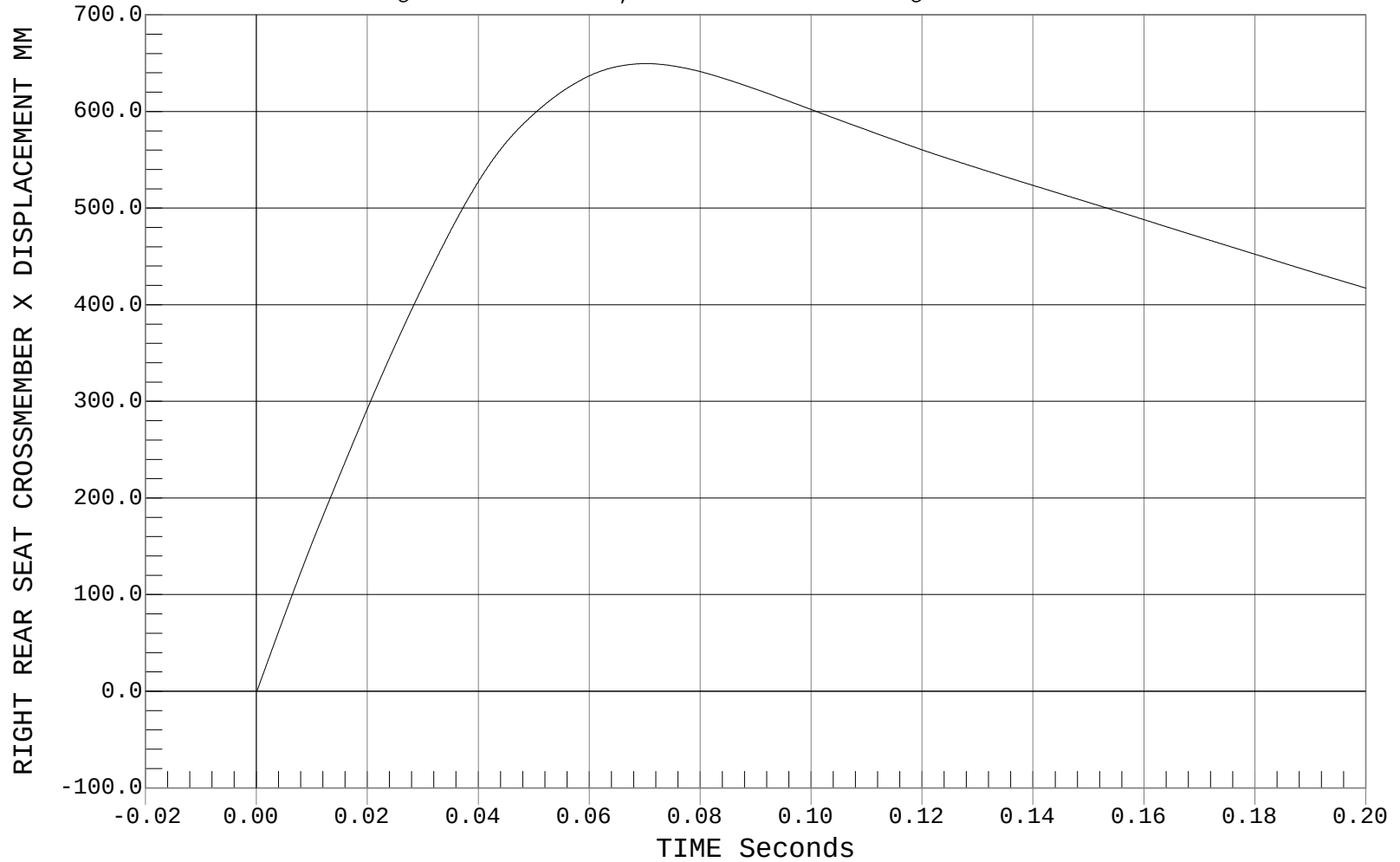
## RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT, b00097AI.D58

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 649.54 MM @ 0.0703 Seconds





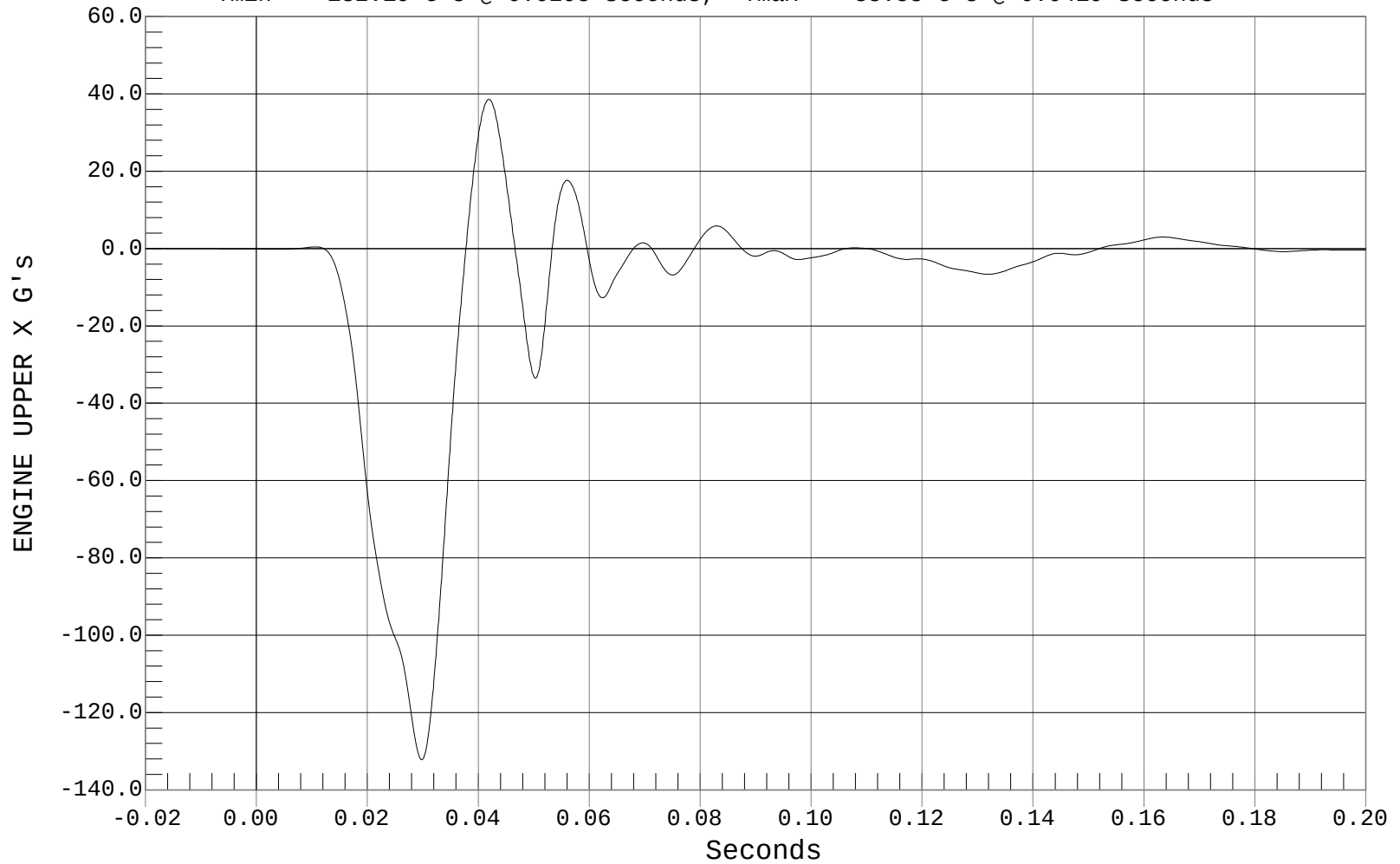
## UPPER ENGINE X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 ENGINE UPPER X, b00097AF.A55

Ymin = -132.19 G's @ 0.0298 Seconds, Ymax = 38.58 G's @ 0.0419 Seconds







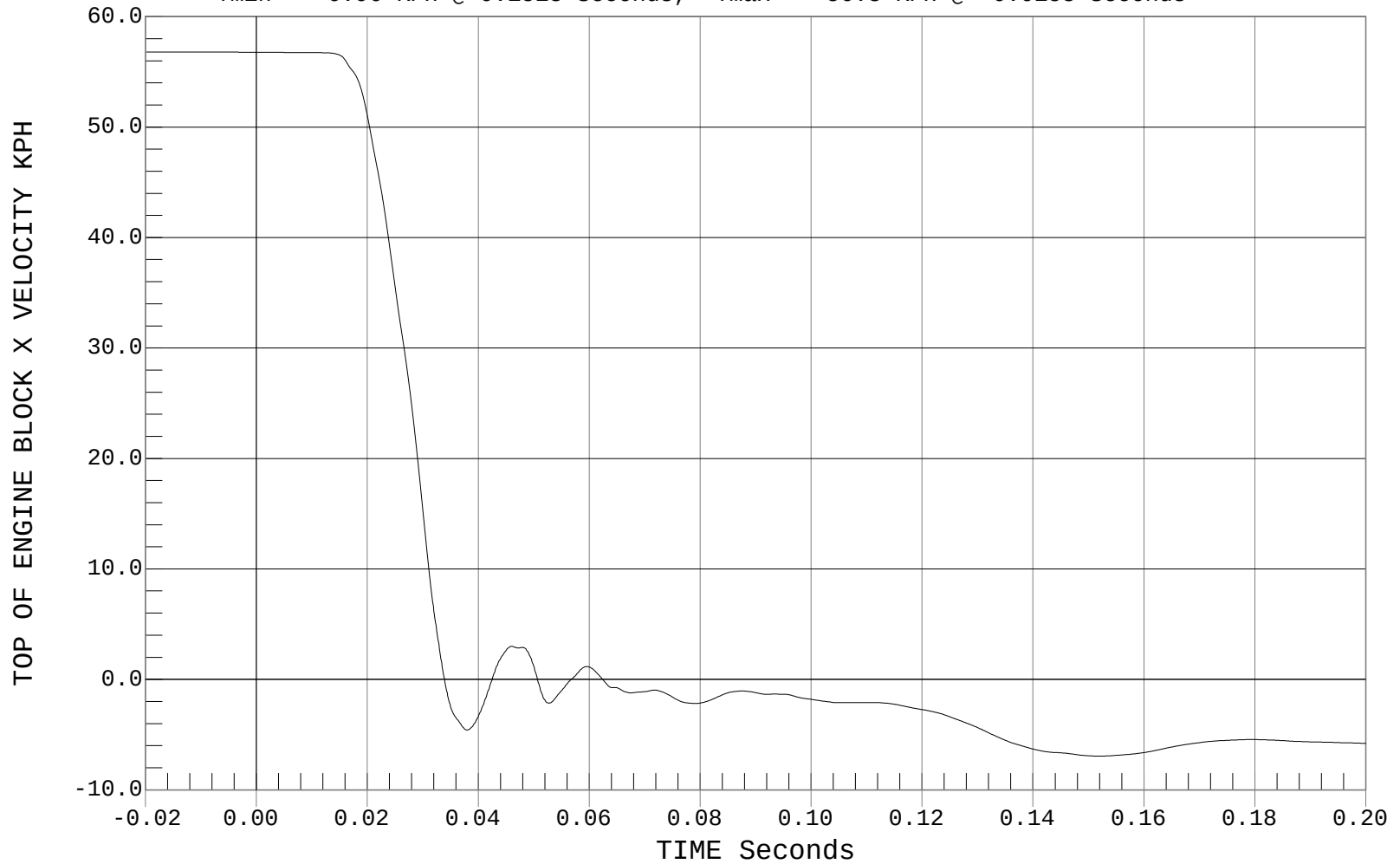
## UPPER ENGINE X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 TOP OF ENGINE BLOCK X VELOCITY, b00097AI.V55

Ymin = -6.96 KPH @ 0.1518 Seconds, Ymax = 56.8 KPH @ -0.0158 Seconds





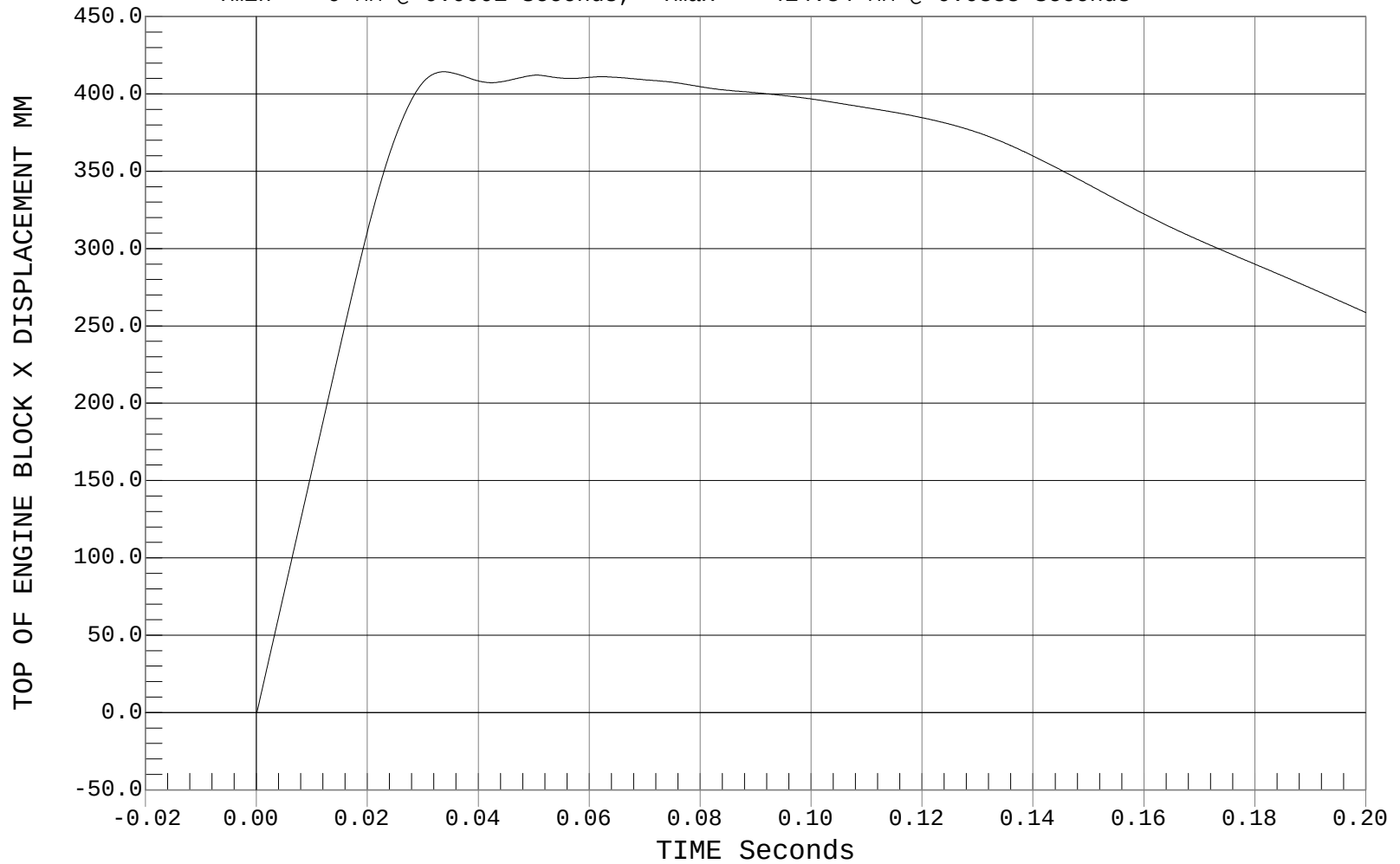
## UPPER ENGINE X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 TOP OF ENGINE BLOCK X DISPLACEMENT, b00097AI.D55

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 414.34 MM @ 0.0338 Seconds





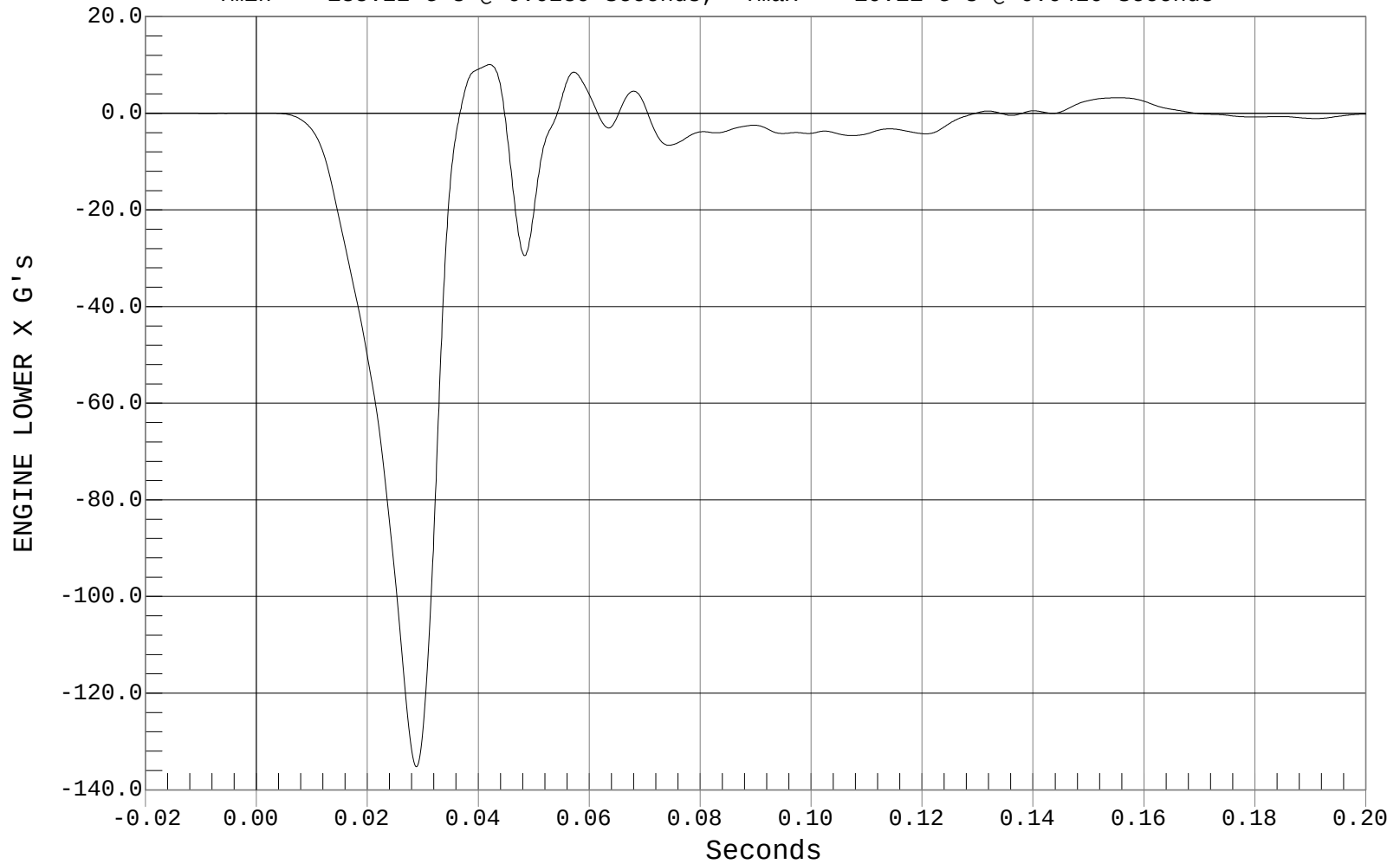
## LOWER ENGINE X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 ENGINE LOWER X, b00097AF.A56

Ymin = -135.22 G's @ 0.0289 Seconds, Ymax = 10.11 G's @ 0.0420 Seconds





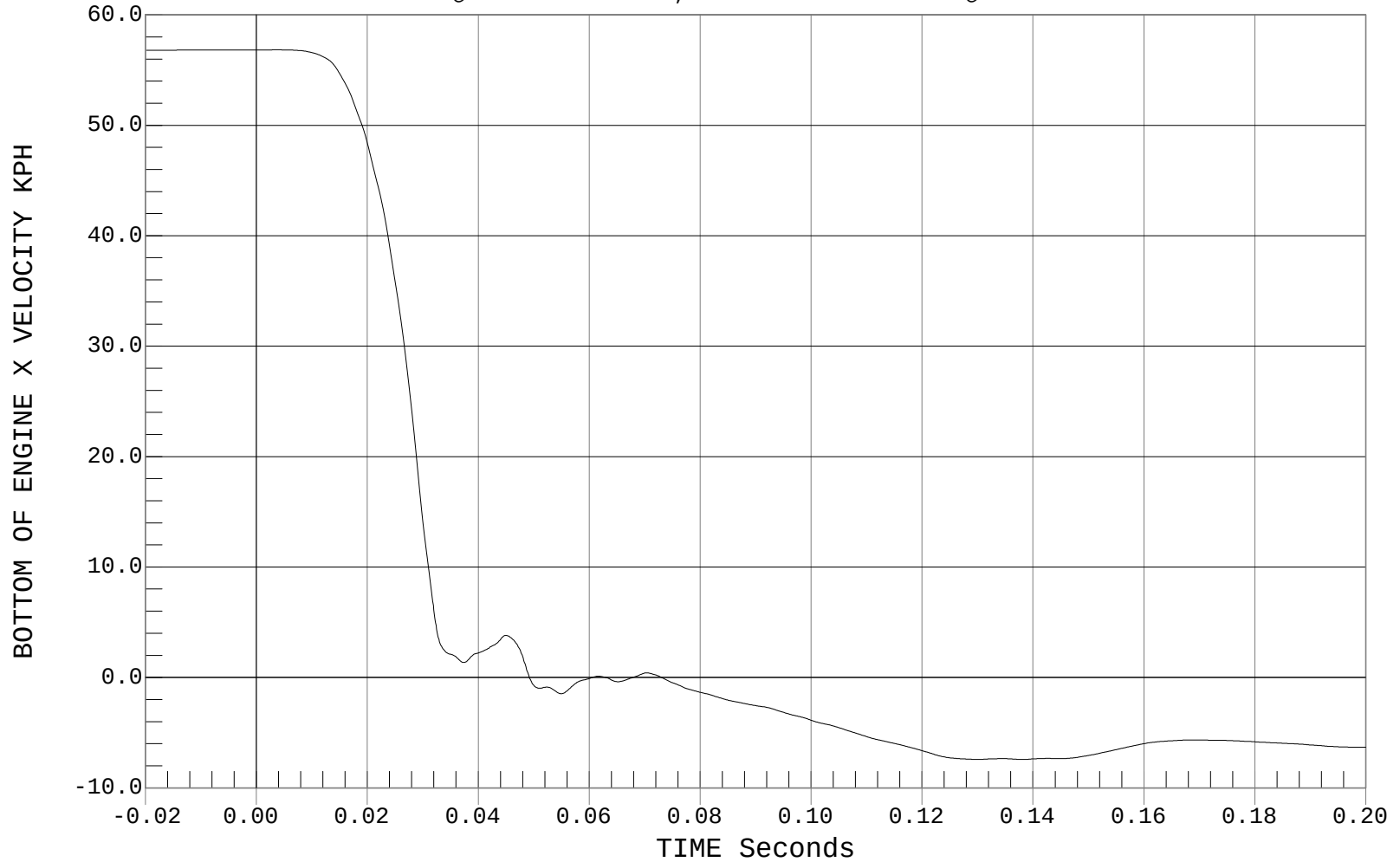
## LOWER ENGINE X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 BOTTOM OF ENGINE X VELOCITY, b00097AI.V56

Ymin = -7.43 KPH @ 0.1383 Seconds, Ymax = 56.83 KPH @ 0.0039 Seconds







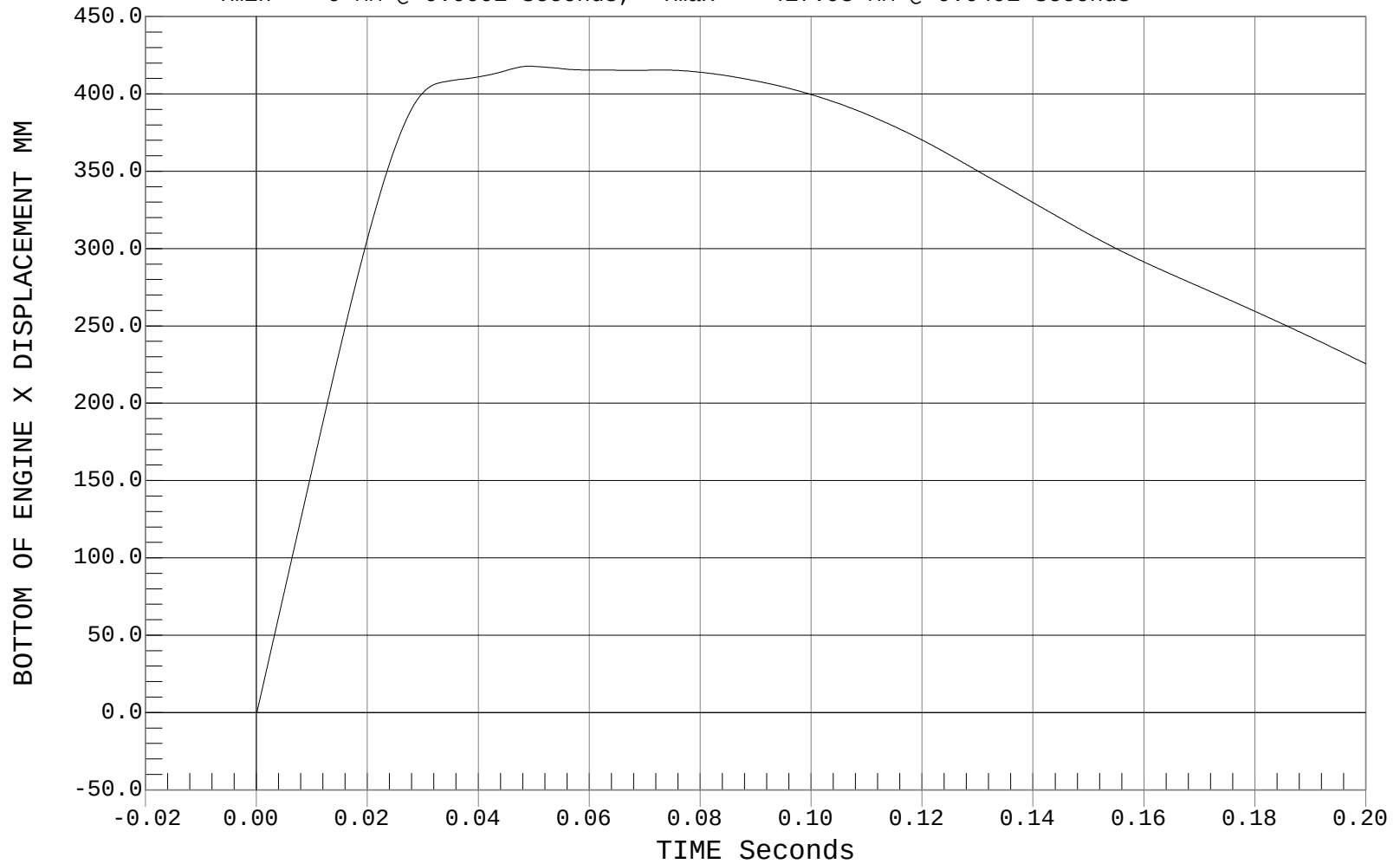
## LOWER ENGINE X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 BOTTOM OF ENGINE X DISPLACEMENT, b00097AI.D56

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 417.93 MM @ 0.0491 Seconds





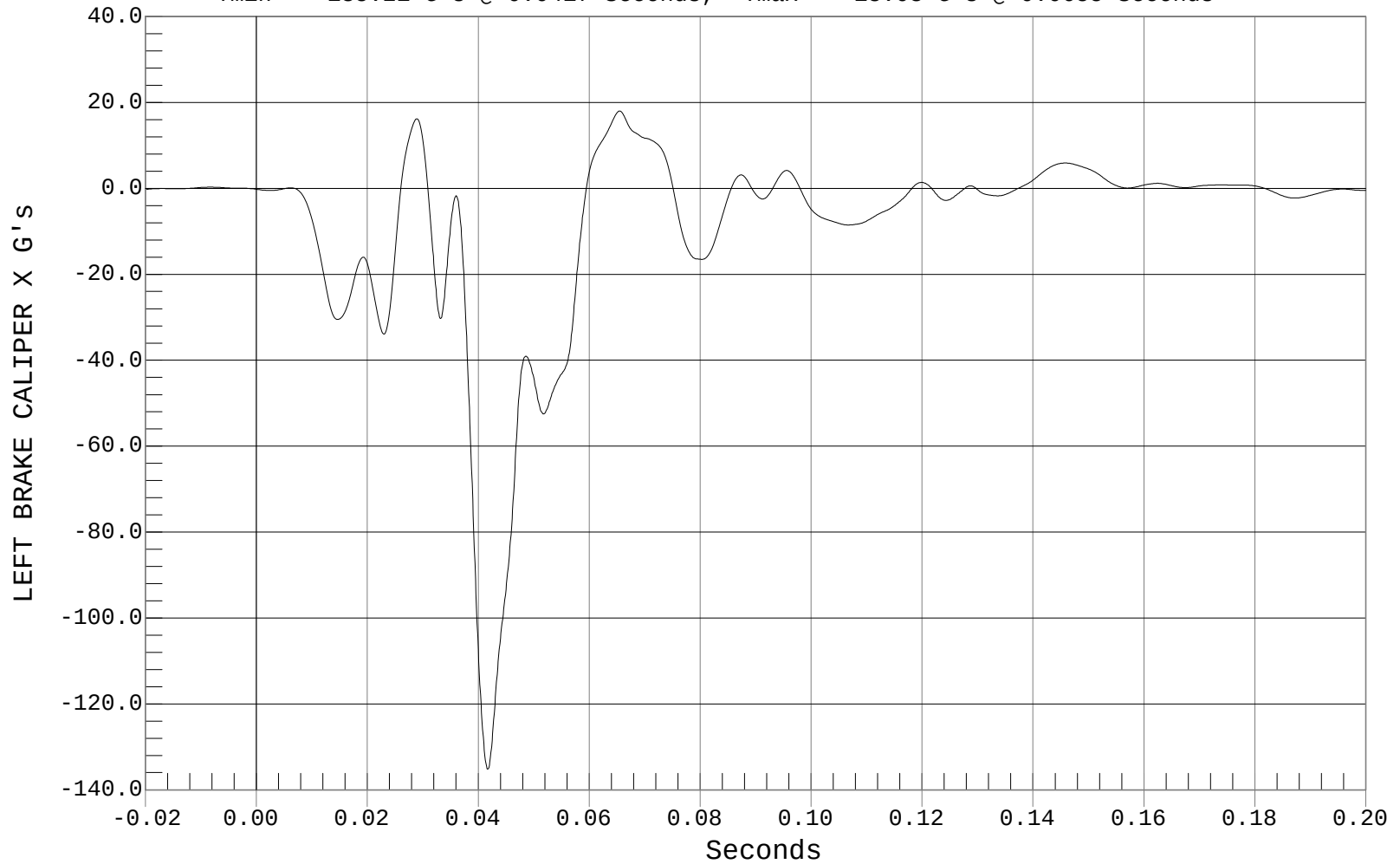
# LEFT BRAKE CALIPER X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 LEFT BRAKE CALIPER X, b00097AF.A61

Ymin = -135.21 G's @ 0.0417 Seconds, Ymax = 18.03 G's @ 0.0655 Seconds





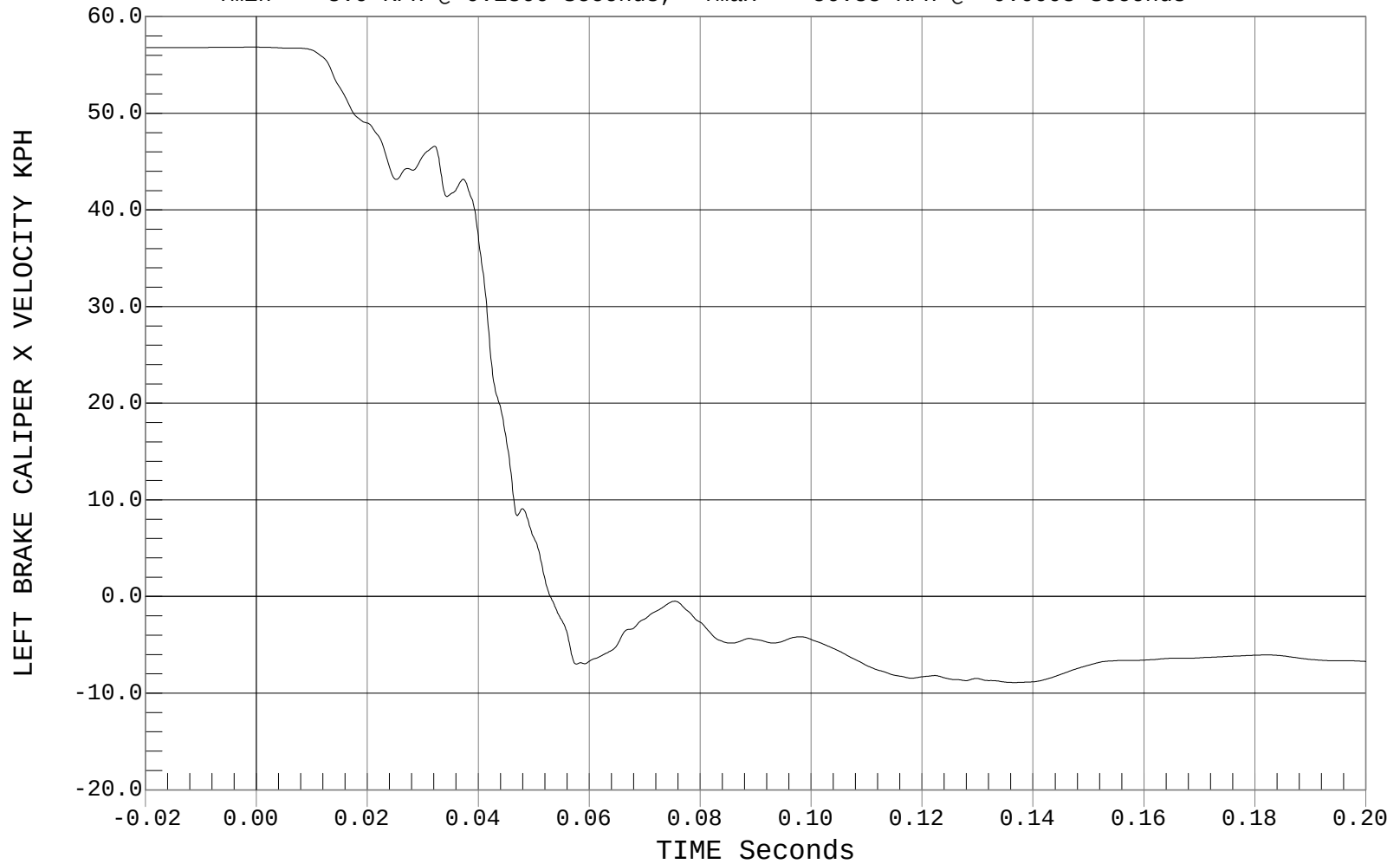
# LEFT BRAKE CALIPER X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 LEFT BRAKE CALIPER X VELOCITY, b00097AI.V61

Ymin = -8.9 KPH @ 0.1366 Seconds, Ymax = 56.85 KPH @ -0.0003 Seconds





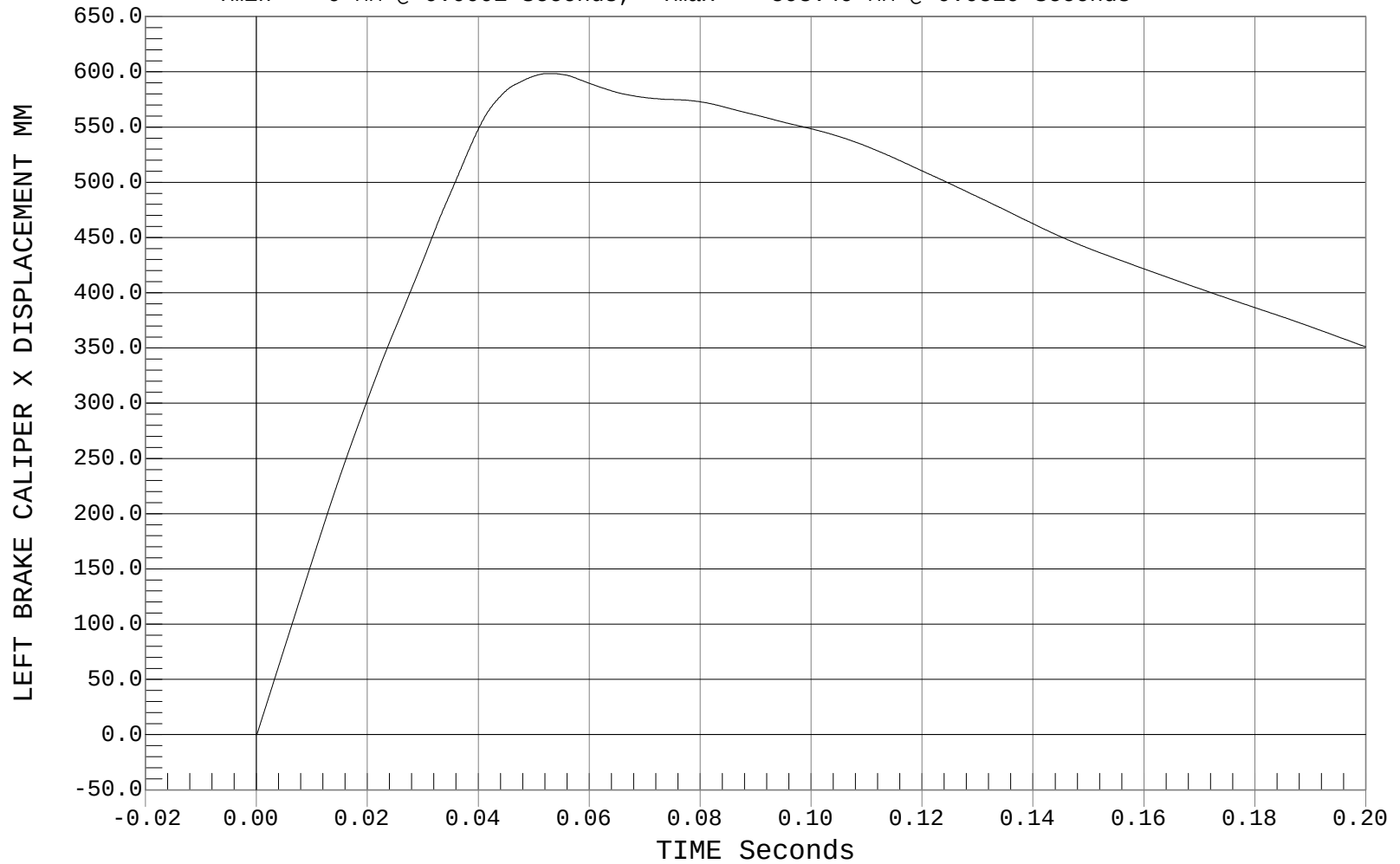
## LEFT BRAKE CALIPER X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 LEFT BRAKE CALIPER X DISPLACEMENT, b00097AI.D61

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 598.49 MM @ 0.0529 Seconds





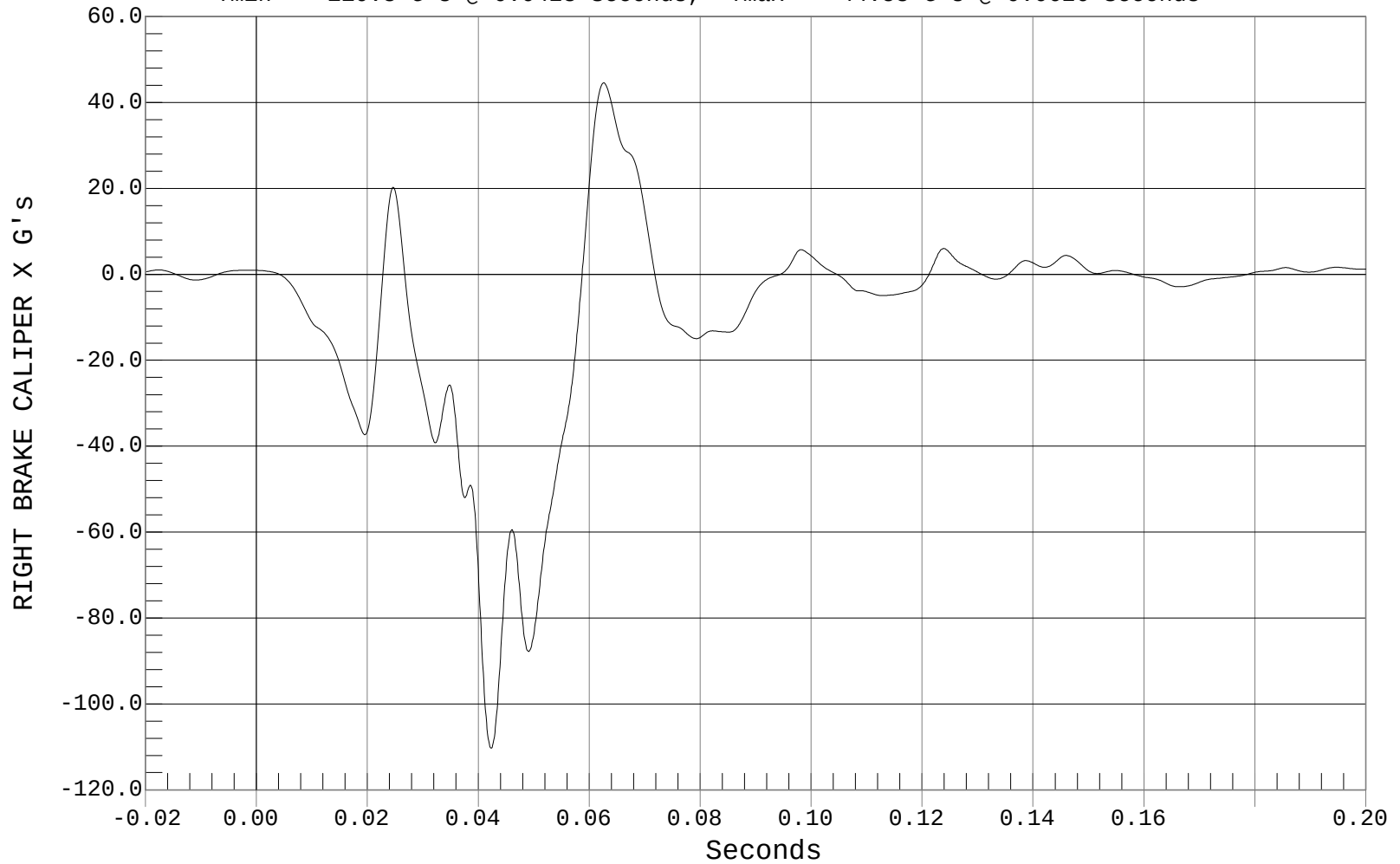
## RIGHT BRAKE CALIPER X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 RIGHT BRAKE CALIPER X, b00097AF.A60

Ymin = -110.3 G's @ 0.0423 Seconds, Ymax = 44.58 G's @ 0.0626 Seconds







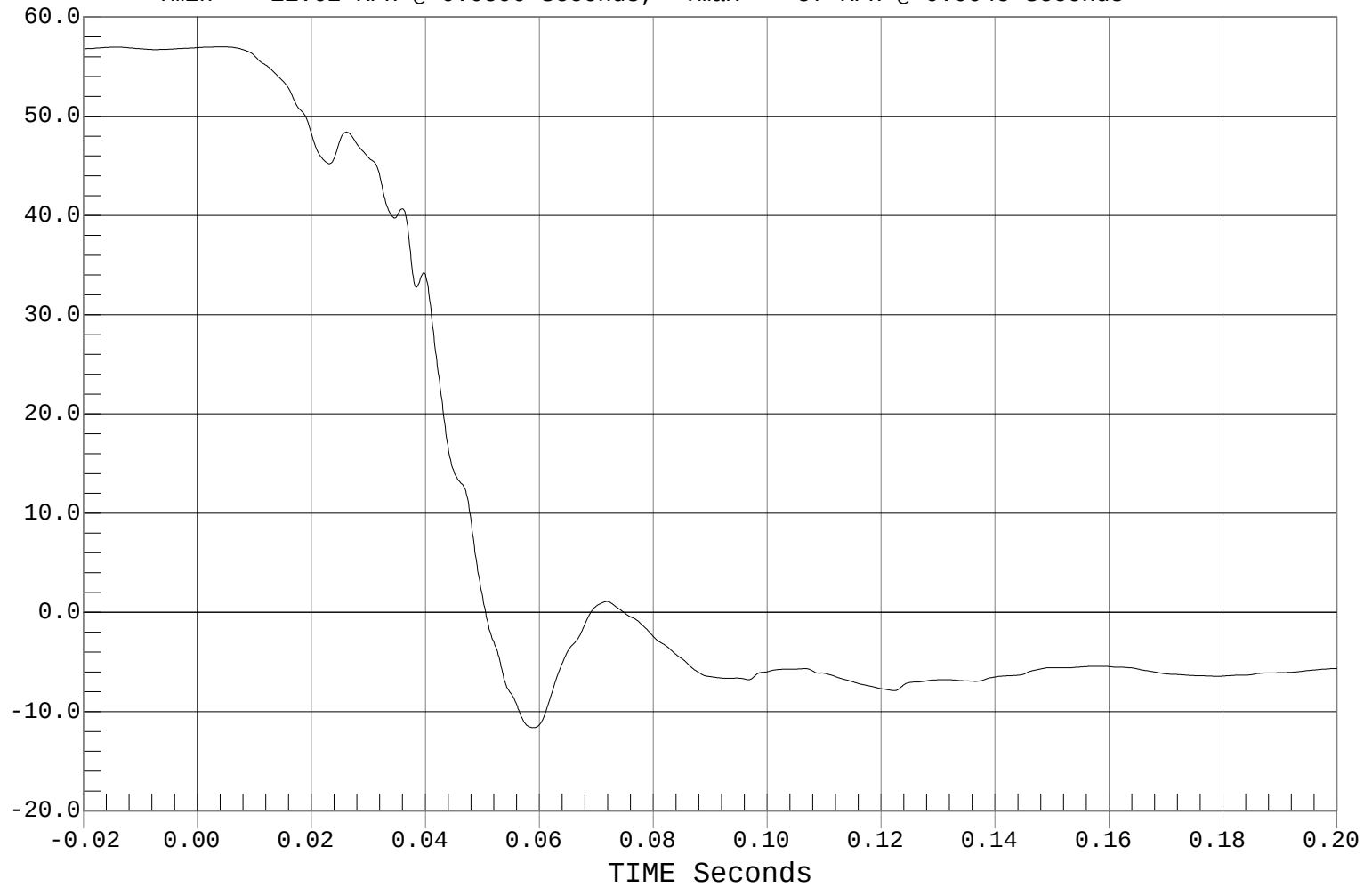
## RIGHT BRAKE CALIPER X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 RIGHT BRAKE CALIPER X VELOCITY, b00097AI.V60

Ymin = -11.62 KPH @ 0.0590 Seconds, Ymax = 57 KPH @ 0.0045 Seconds





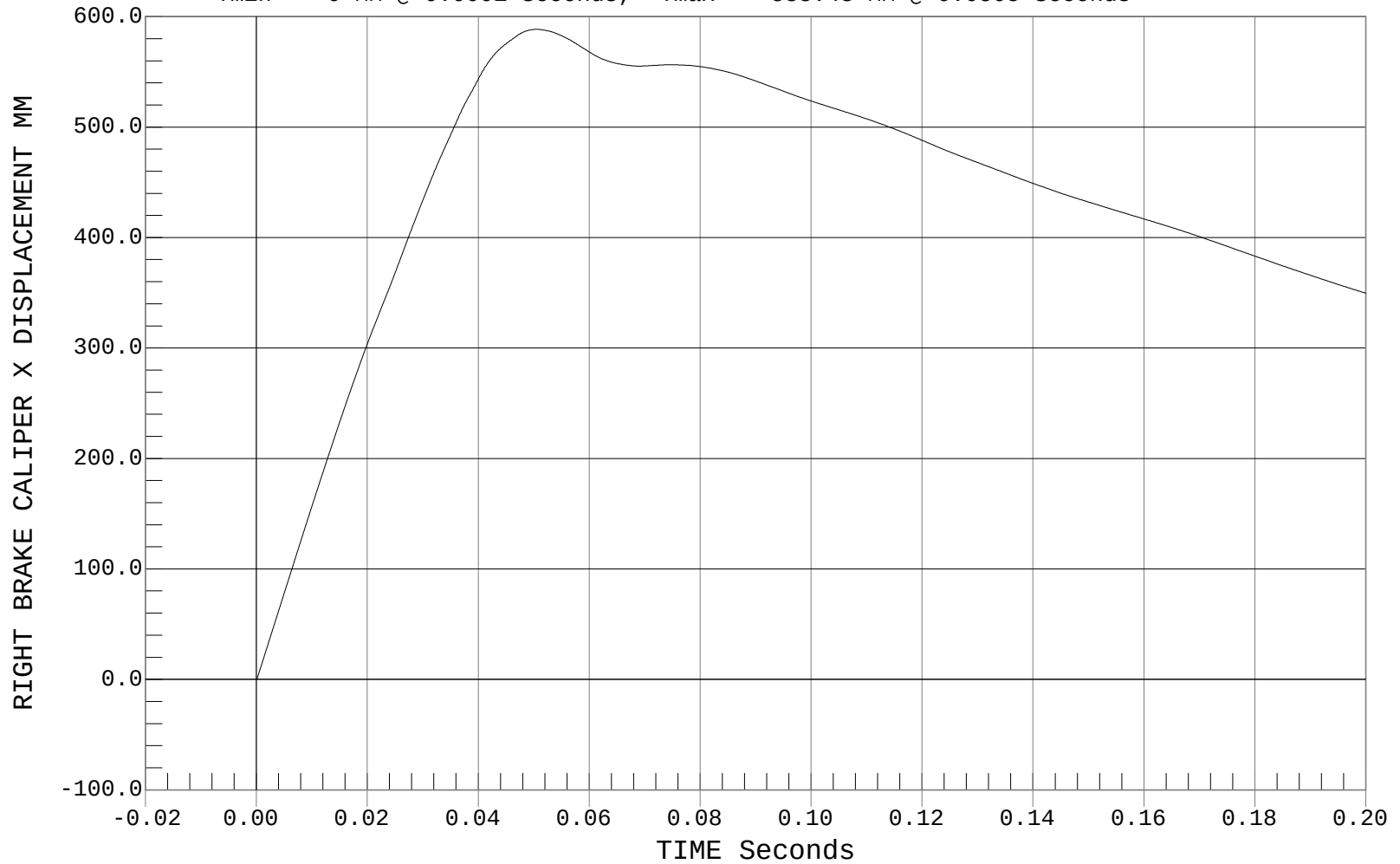
## RIGHT BRAKE CALIPER X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 RIGHT BRAKE CALIPER X DISPLACEMENT, b00097AI.D60

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 588.43 MM @ 0.0505 Seconds





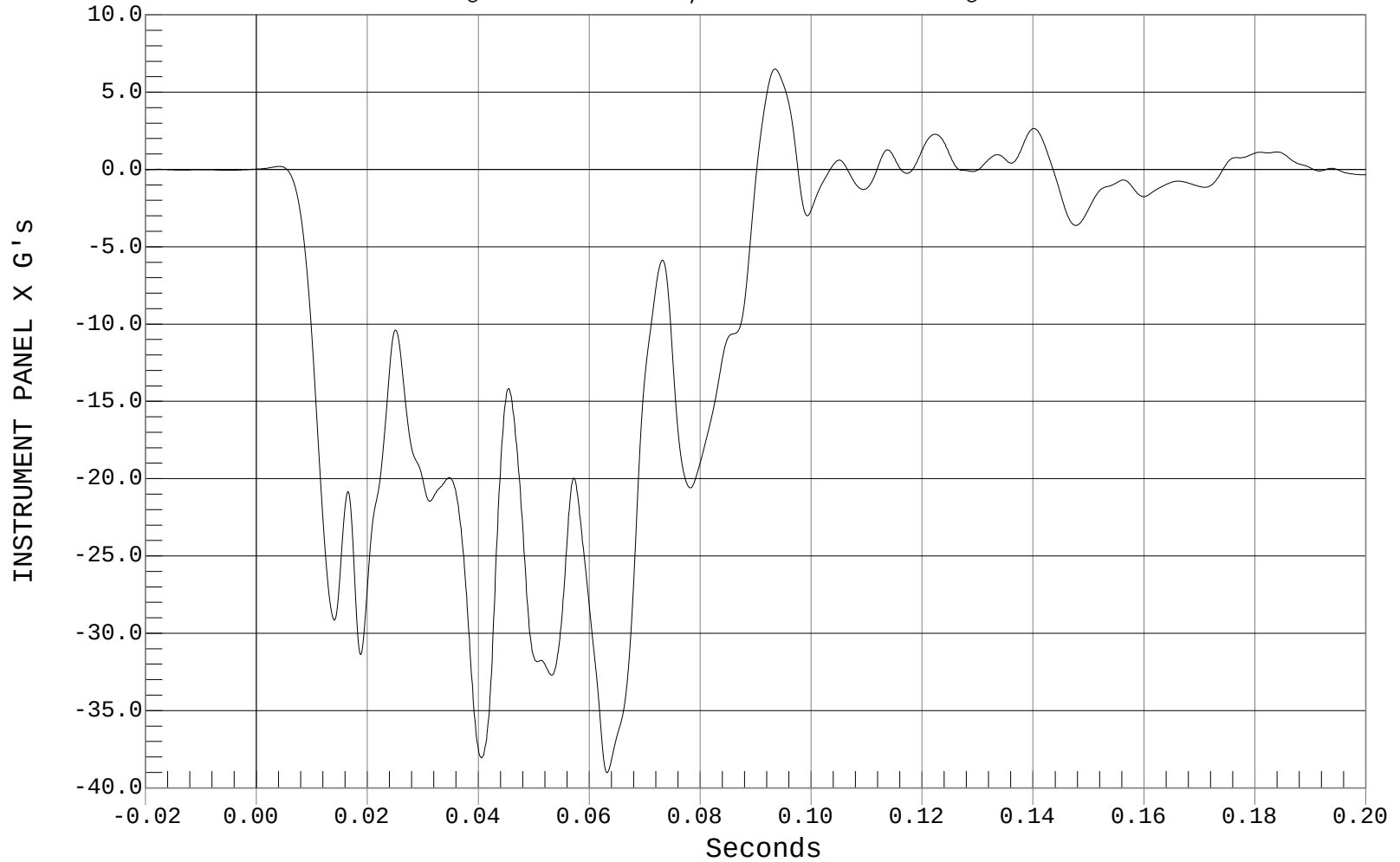
# INSTRUMENT PANEL X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 INSTRUMENT PANEL X, b00097AF.A57

Ymin = -39.01 G's @ 0.0632 Seconds, Ymax = 6.51 G's @ 0.0935 Seconds





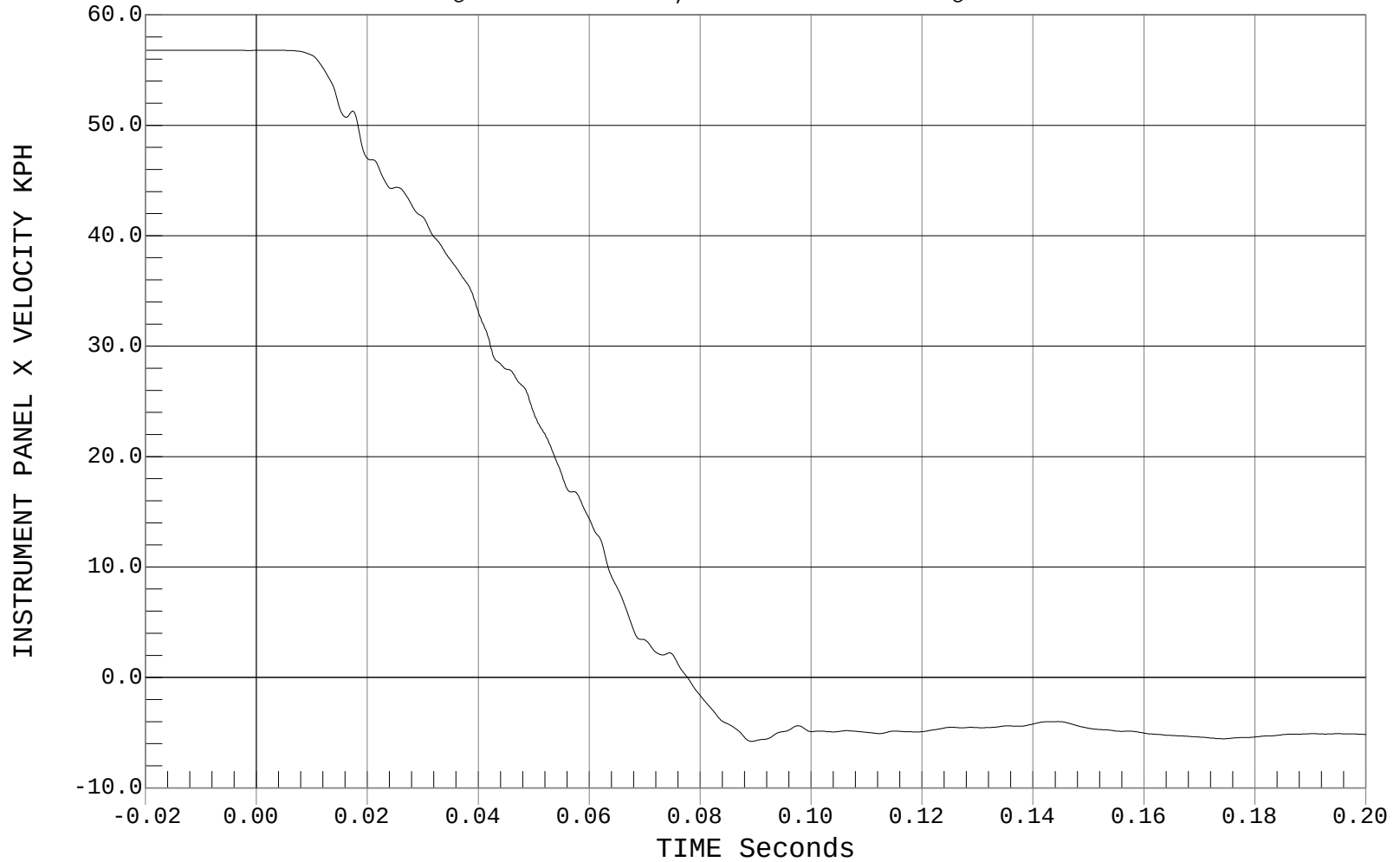
## INSTRUMENT PANEL X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 INSTRUMENT PANEL X VELOCITY, b00097AI.V57

Ymin = -5.79 KPH @ 0.0893 Seconds, Ymax = 56.8 KPH @ -0.0160 Seconds





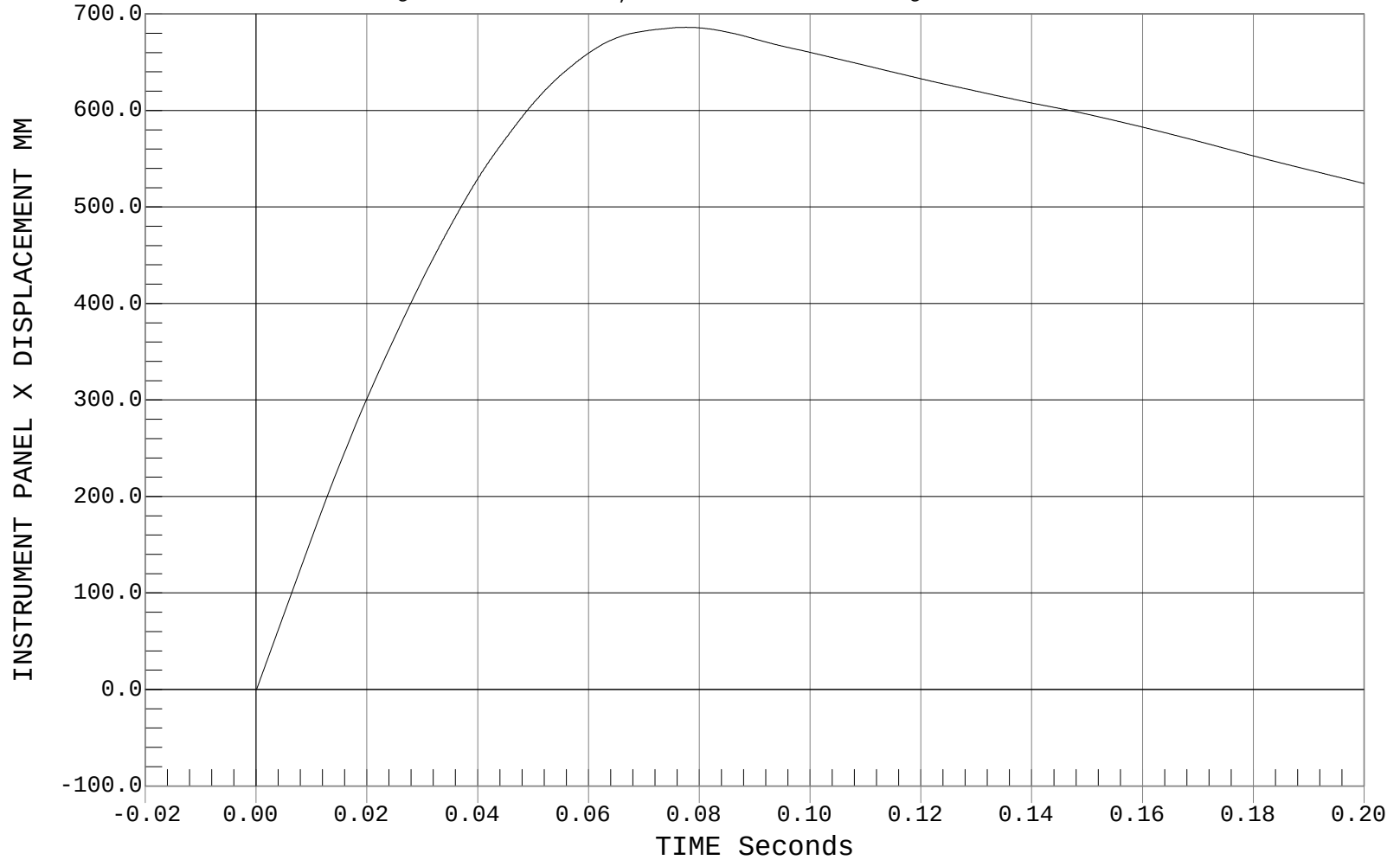
# INSTRUMENT PANEL X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 INSTRUMENT PANEL X DISPLACEMENT, b00097AI.D57

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 686.21 MM @ 0.0776 Seconds







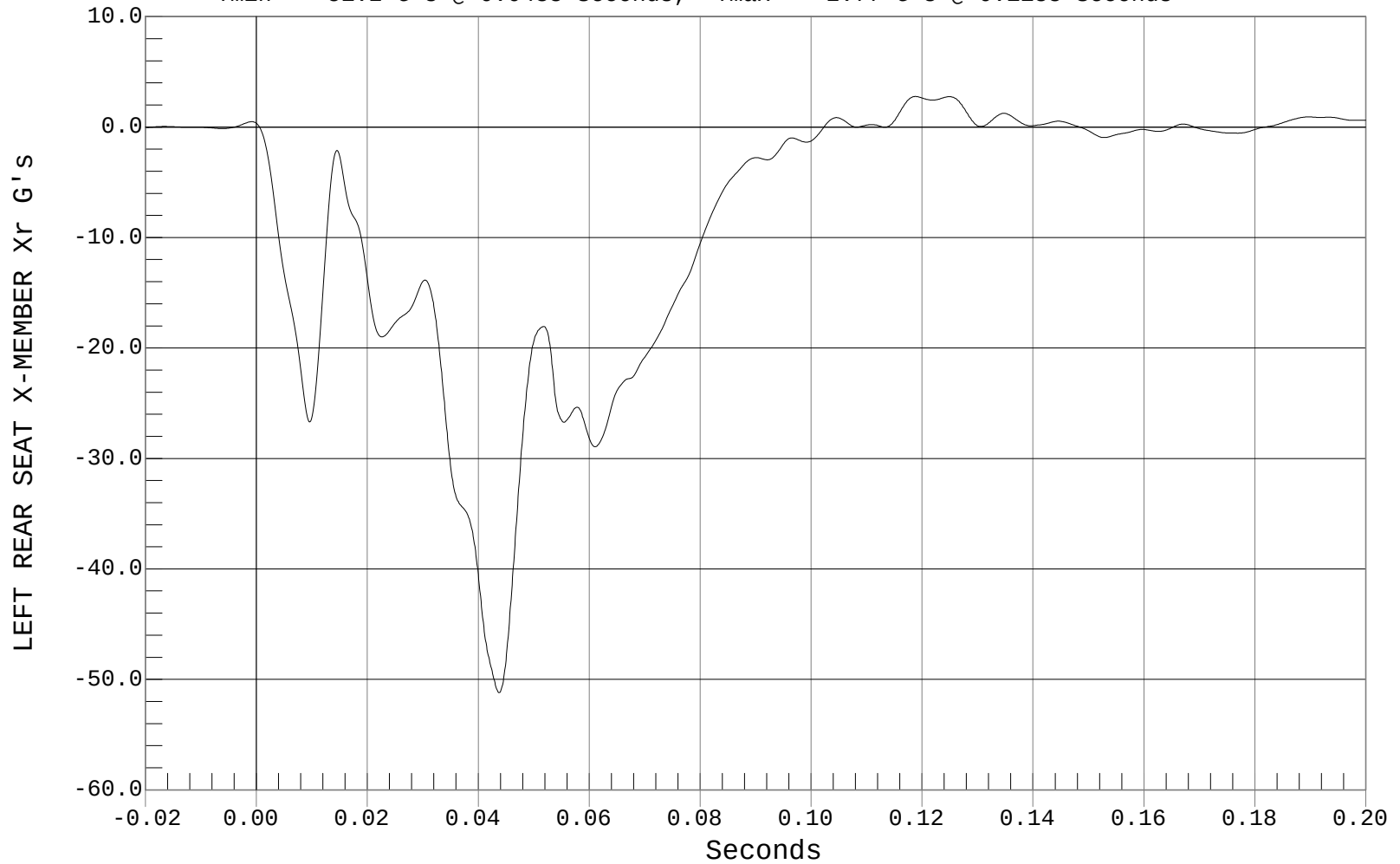
# LEFT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 LEFT REAR SEAT X-MEMBER Xr, c00097AF.A03

Ymin = -51.2 G's @ 0.0438 Seconds, Ymax = 2.77 G's @ 0.1188 Seconds





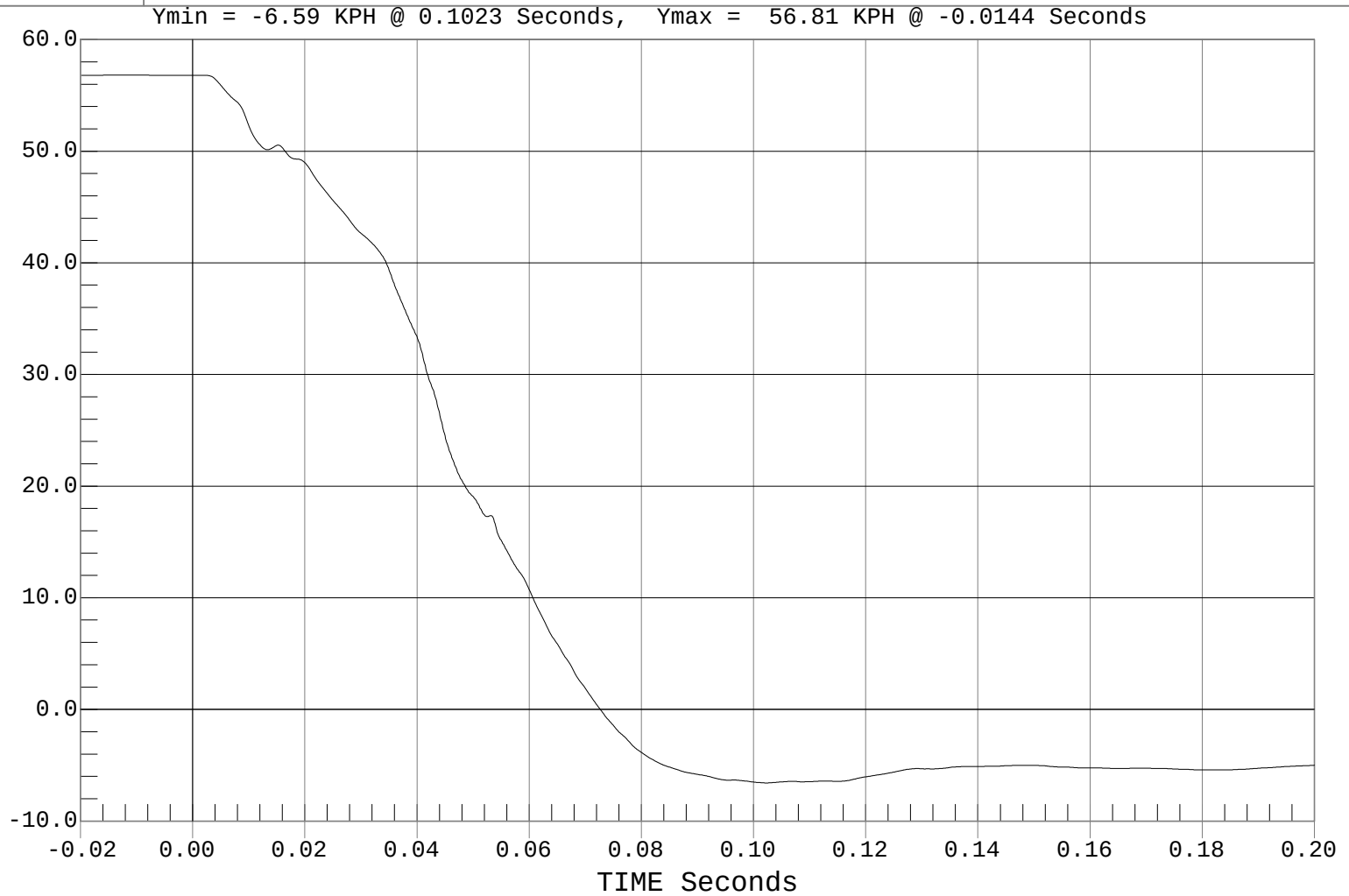
# LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY, c00097AI.V03

LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY KPH





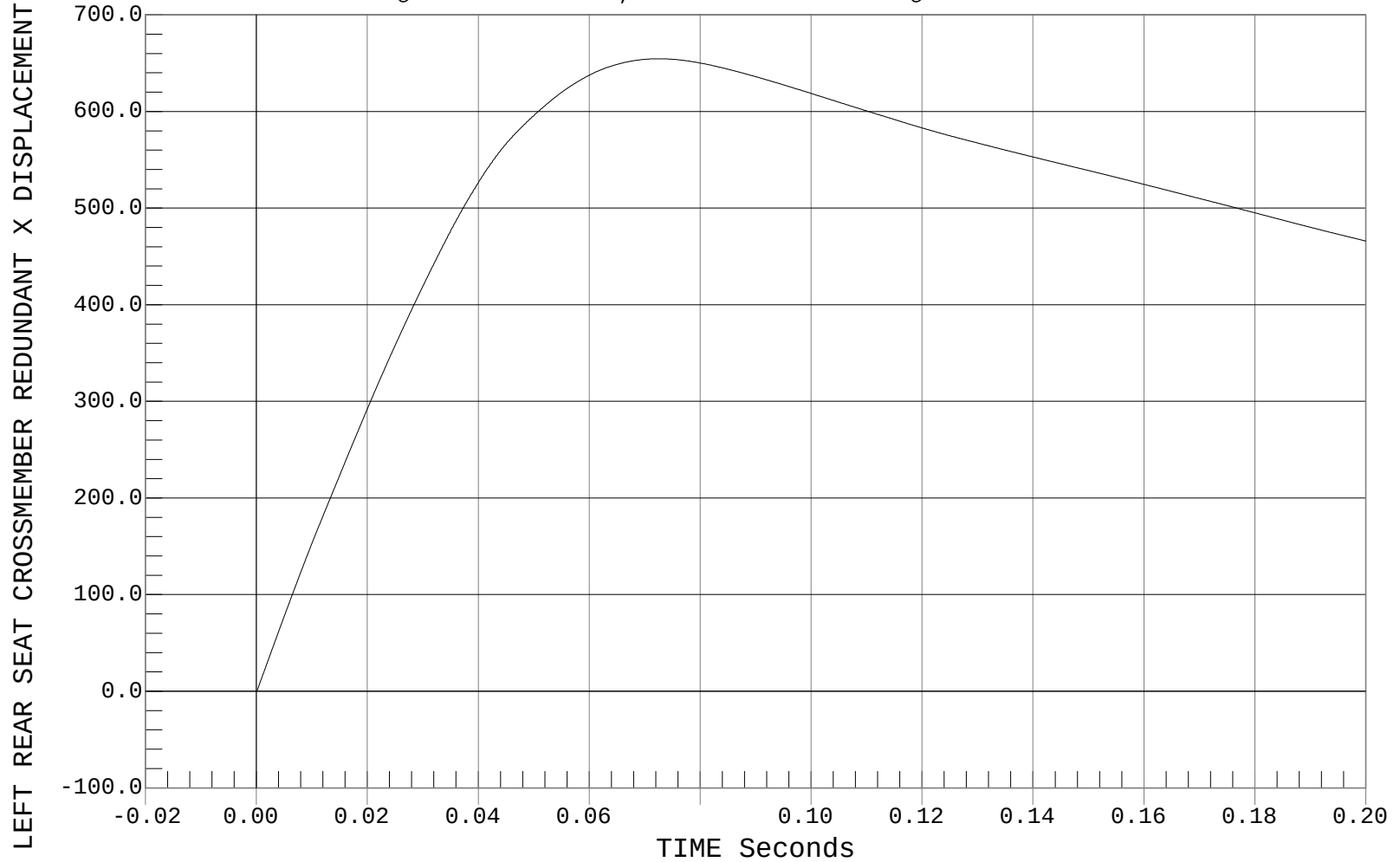
# LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT, c00097AI.D03

Ymin = 0 MM @ 0.0001 Seconds, Ymax = 654.55 MM @ 0.0726 Seconds





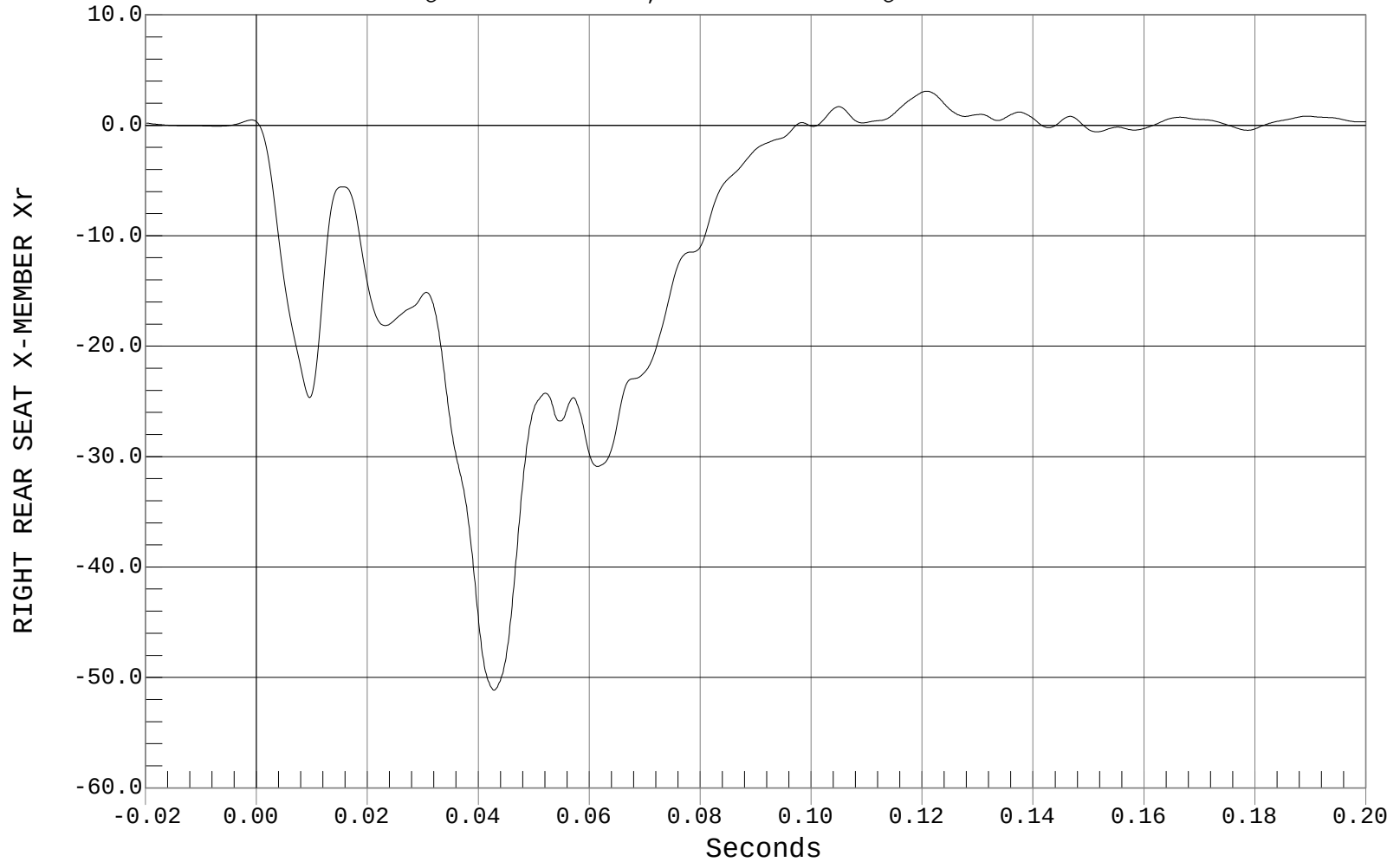
# RIGHT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 RIGHT REAR SEAT X-MEMBER Xr, c00097AF.A02

Ymin = -51.14 @ 0.0429 Seconds, Ymax = 3.08 @ 0.1209 Seconds





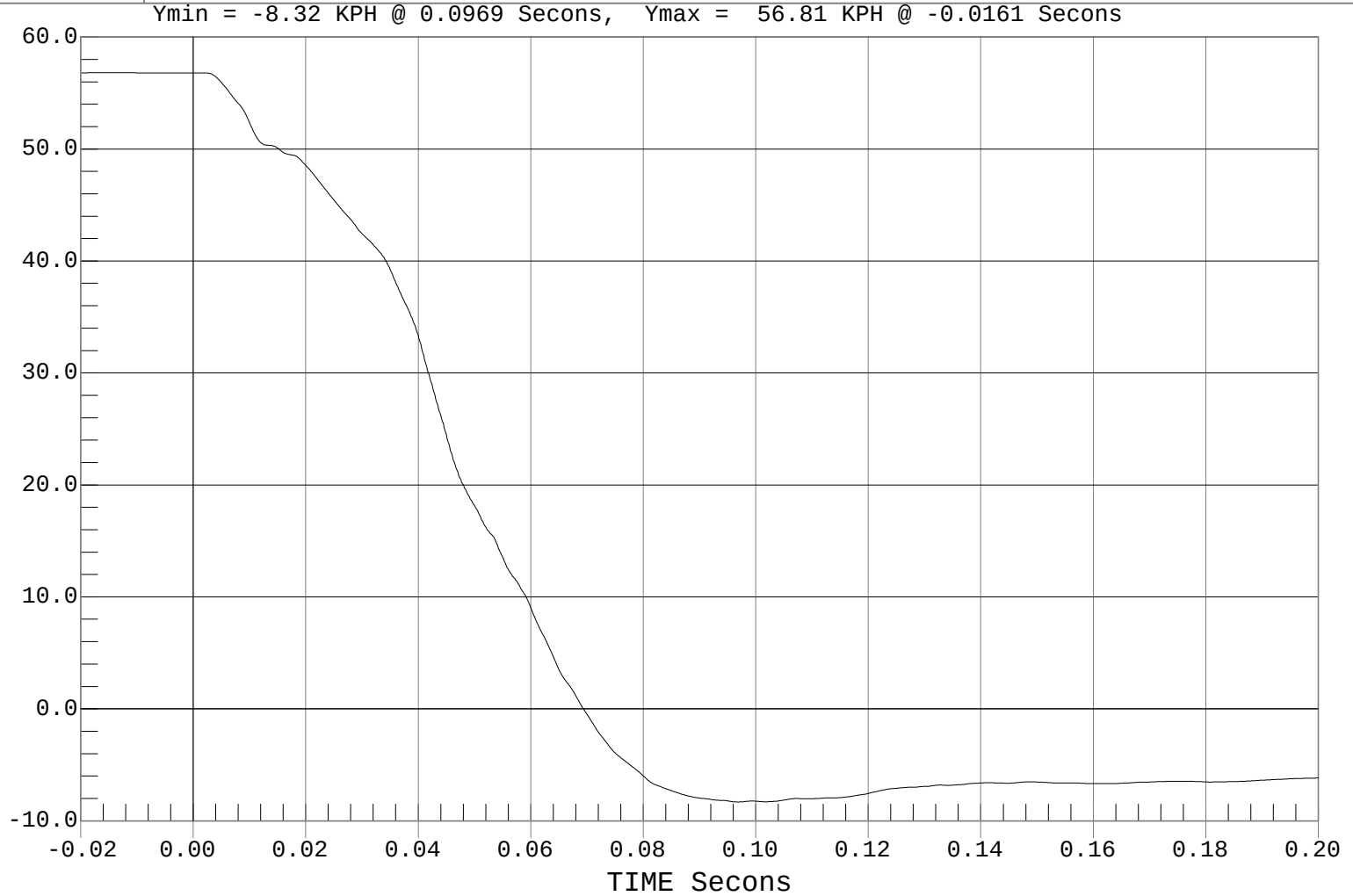
# RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY, c00097AI.V02

RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY KPH







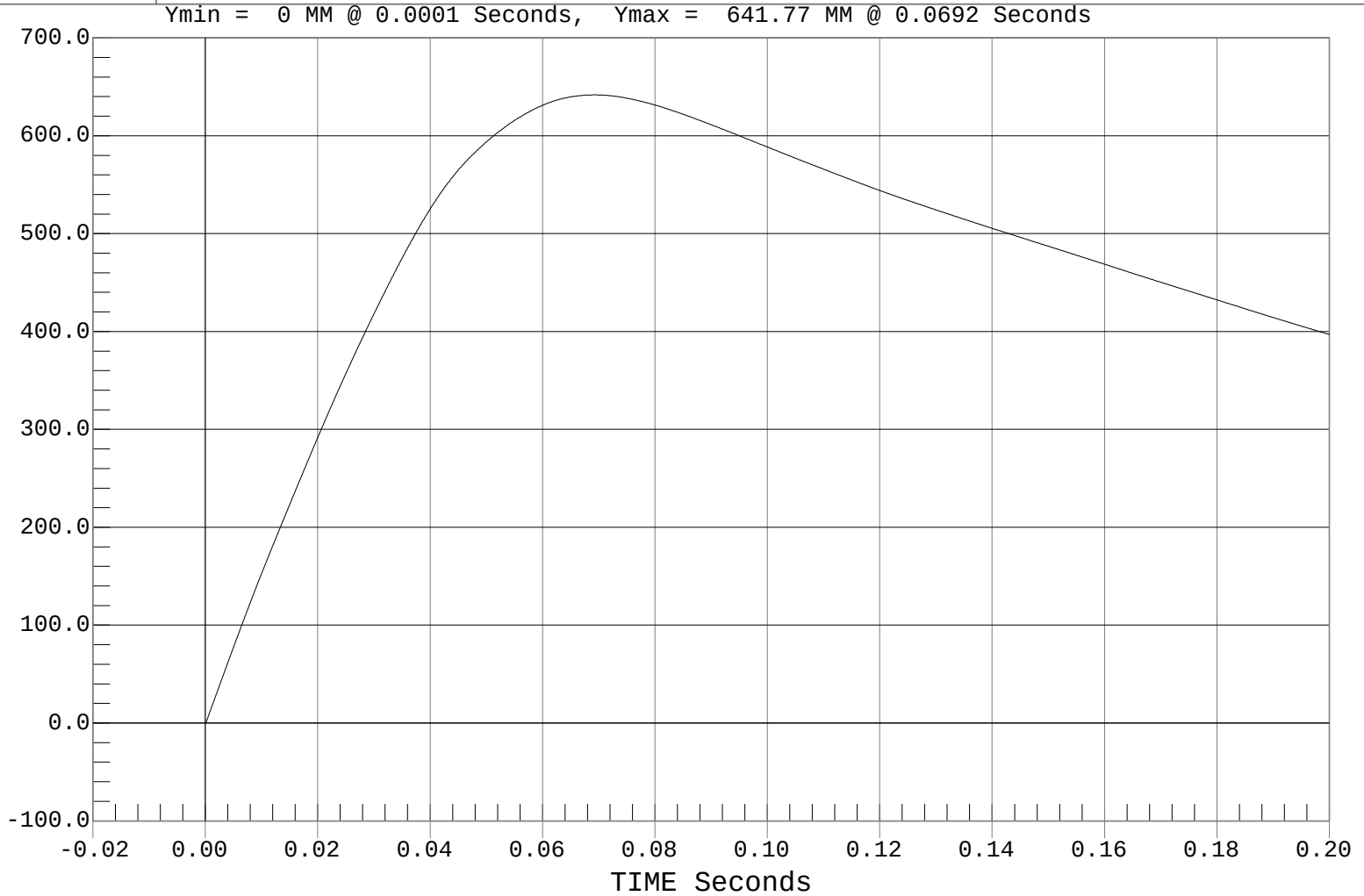
# RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 180

— 1 RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT, c00097AI.D02

RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT MM





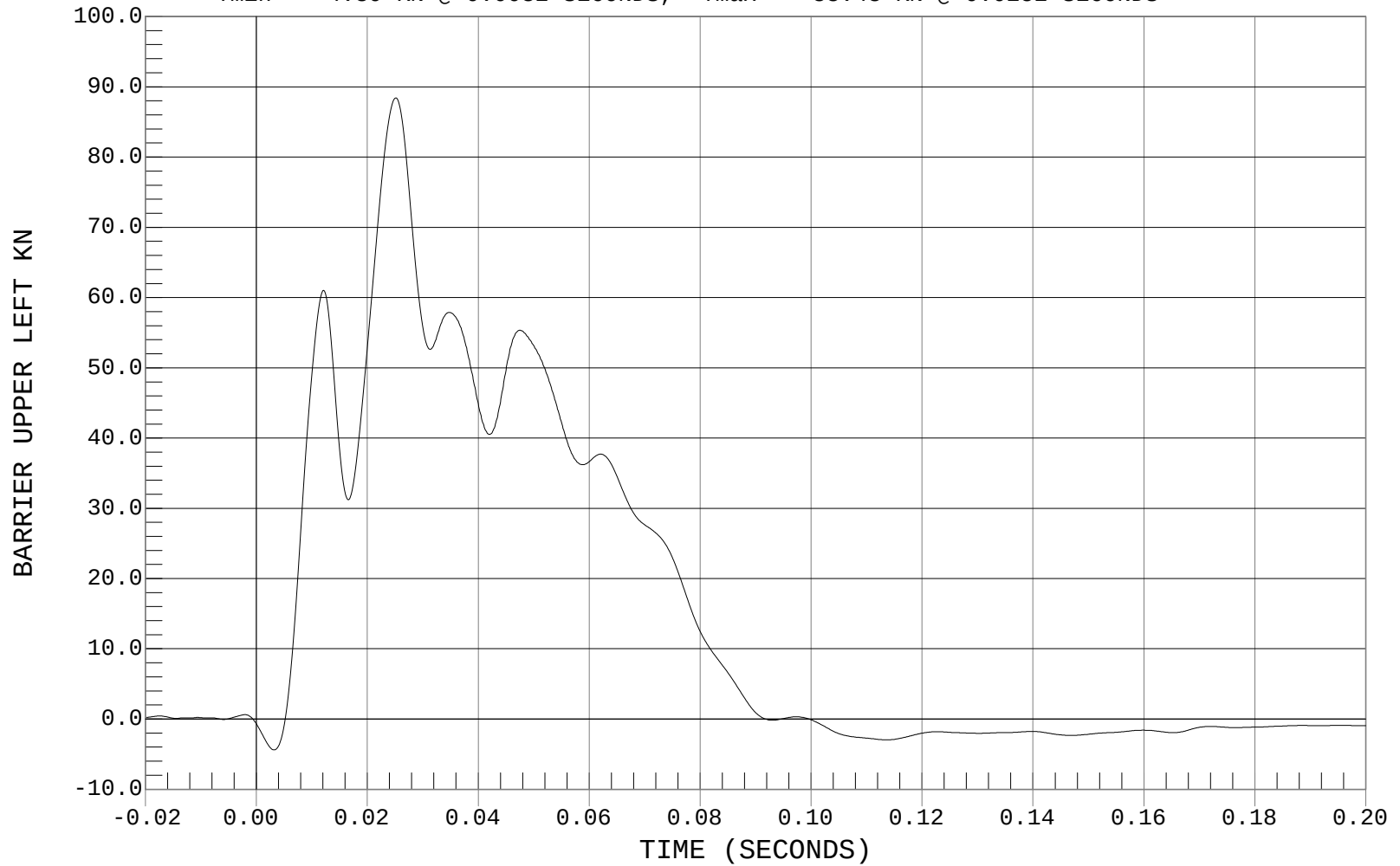
## UPPER LEFT BARRIER FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-D00R SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 BARRIER UPPER LEFT, c00097FF.F94

Ymin = -4.39 KN @ 0.0032 SECONDS, Ymax = 88.43 KN @ 0.0252 SECONDS





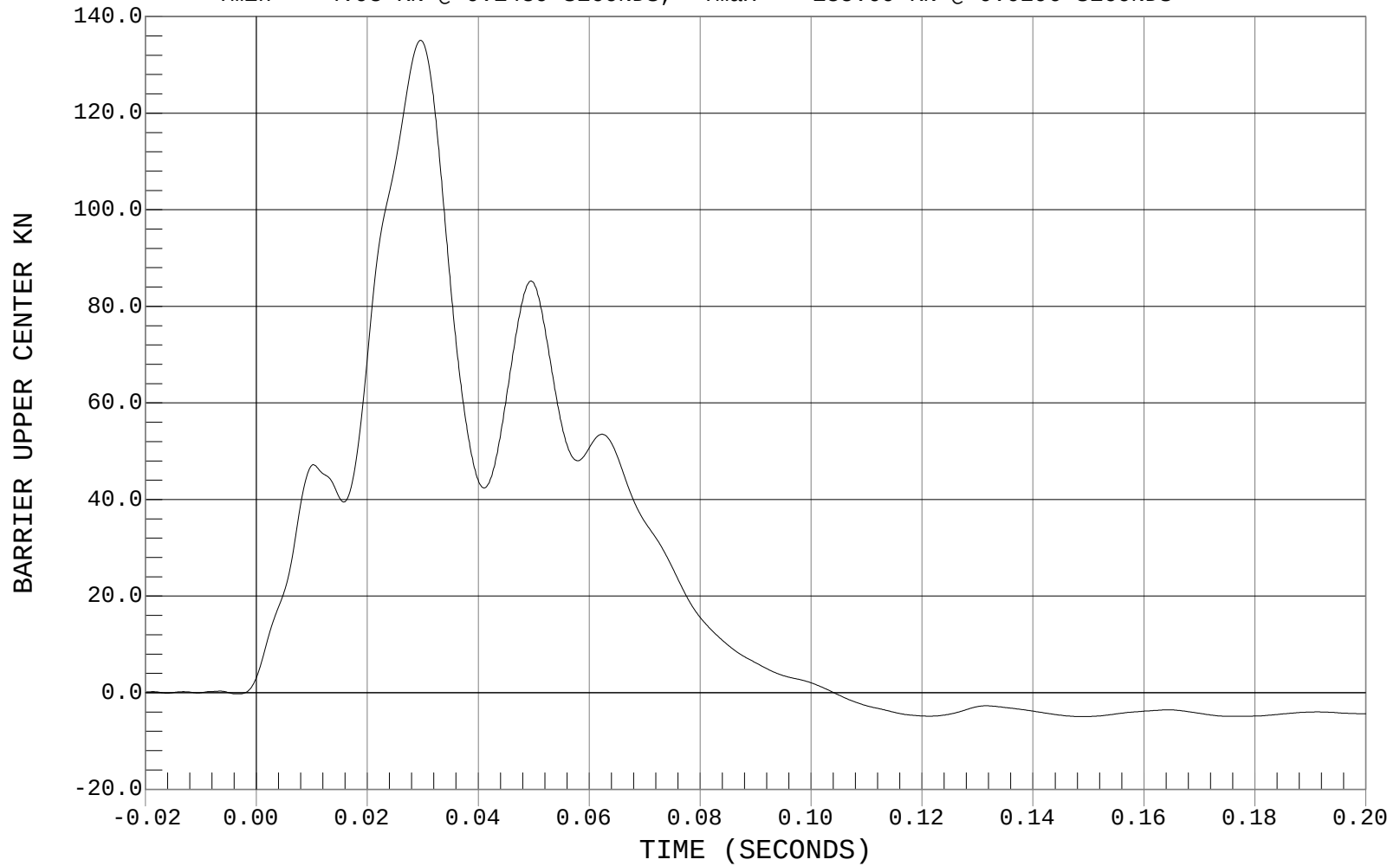
# UPPER CENTER BARRIER FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 BARRIER UPPER CENTER, c00097FF.F95

Ymin = -4.93 KN @ 0.1489 SECONDS, Ymax = 135.09 KN @ 0.0296 SECONDS





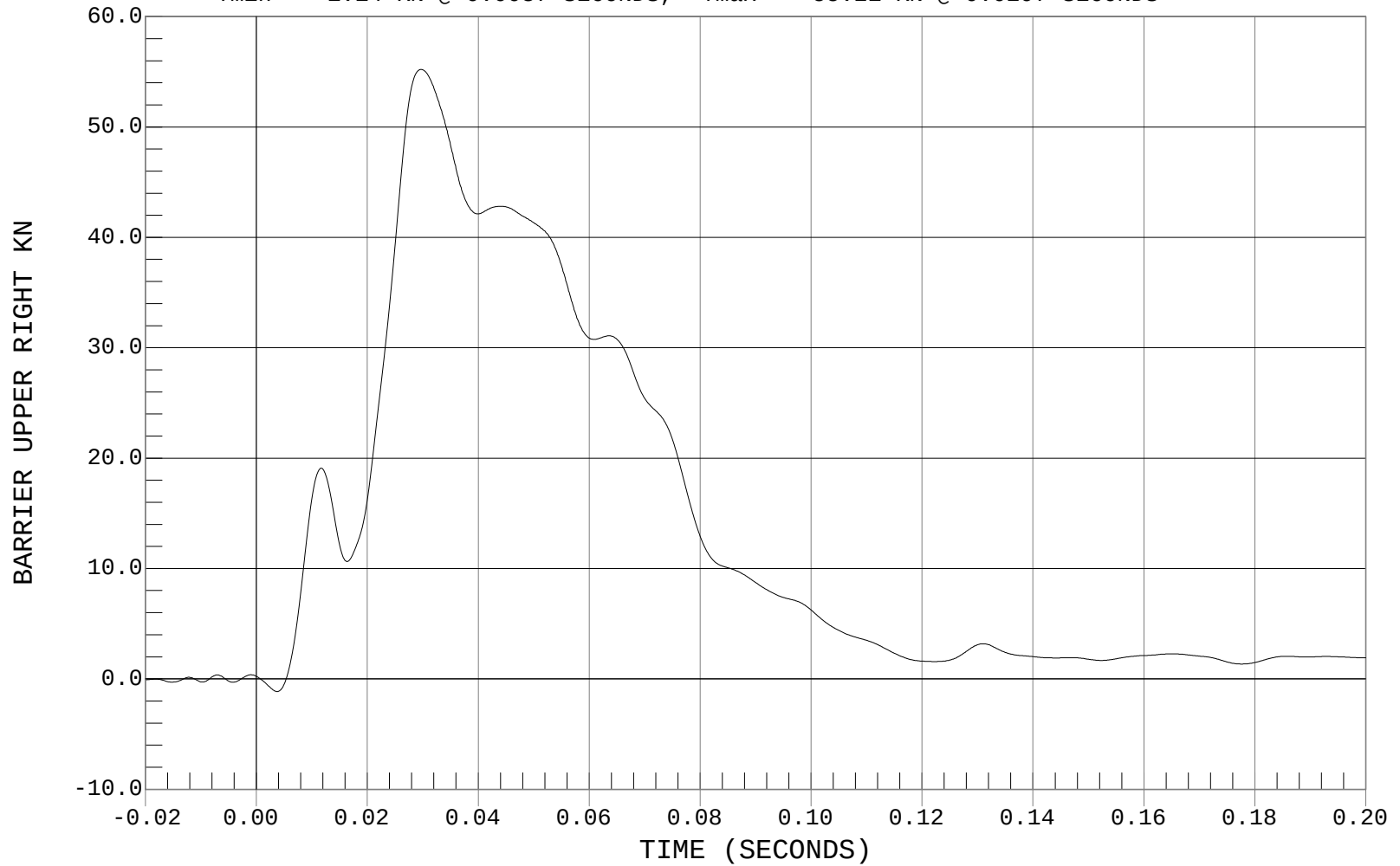
## UPPER RIGHT BARRIER FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 BARRIER UPPER RIGHT, c00097FF.F96

Ymin = -1.14 KN @ 0.0037 SECONDS, Ymax = 55.21 KN @ 0.0297 SECONDS





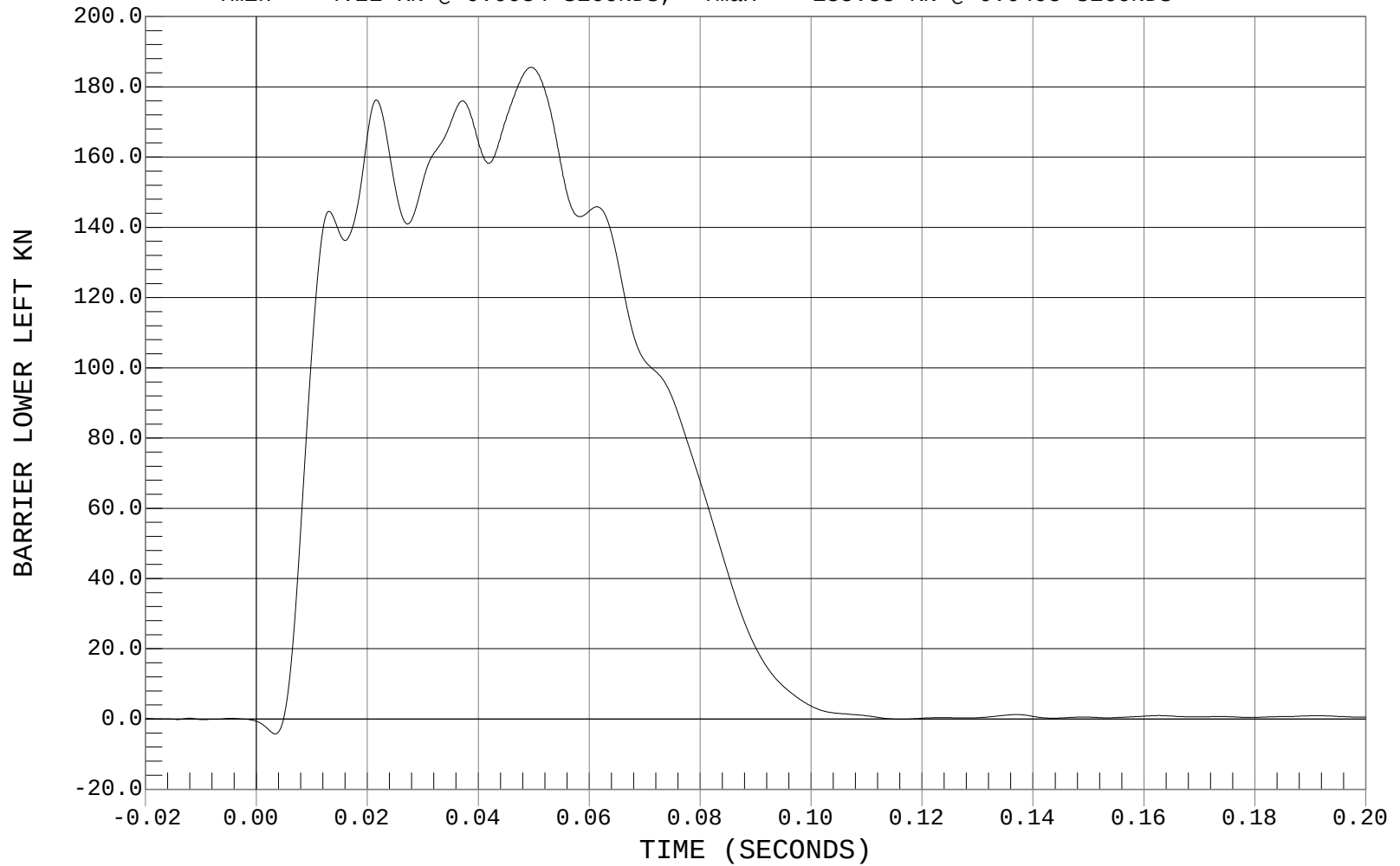
## LOWER LEFT BARRIER FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 BARRIER LOWER LEFT, c00097FF.F97

Ymin = -4.21 KN @ 0.0034 SECONDS, Ymax = 185.58 KN @ 0.0495 SECONDS







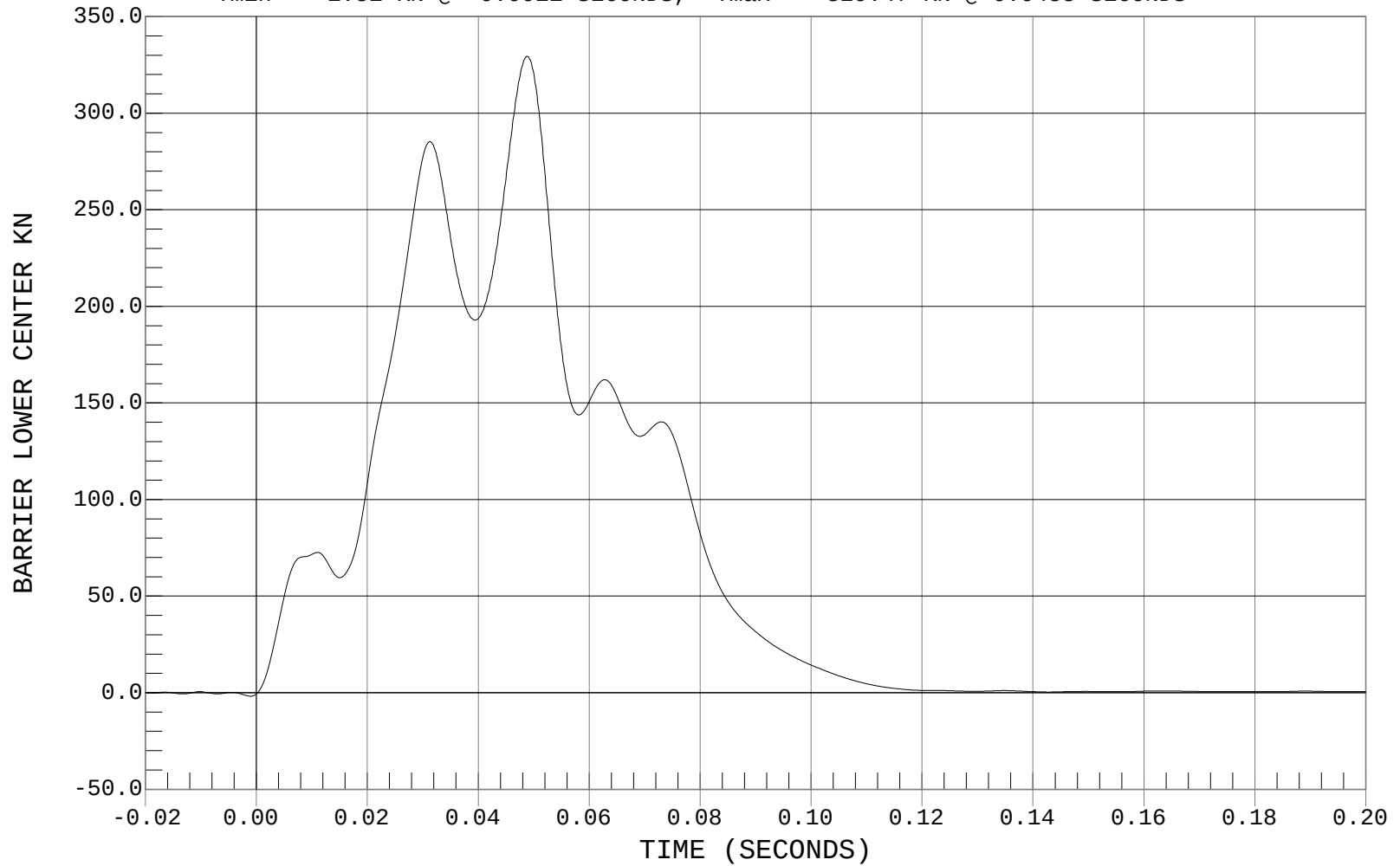
## LOWER CENTER BARRIER FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 BARRIER LOWER CENTER, c00097FF.F98

Ymin = -1.81 KN @ -0.0011 SECONDS, Ymax = 329.47 KN @ 0.0488 SECONDS





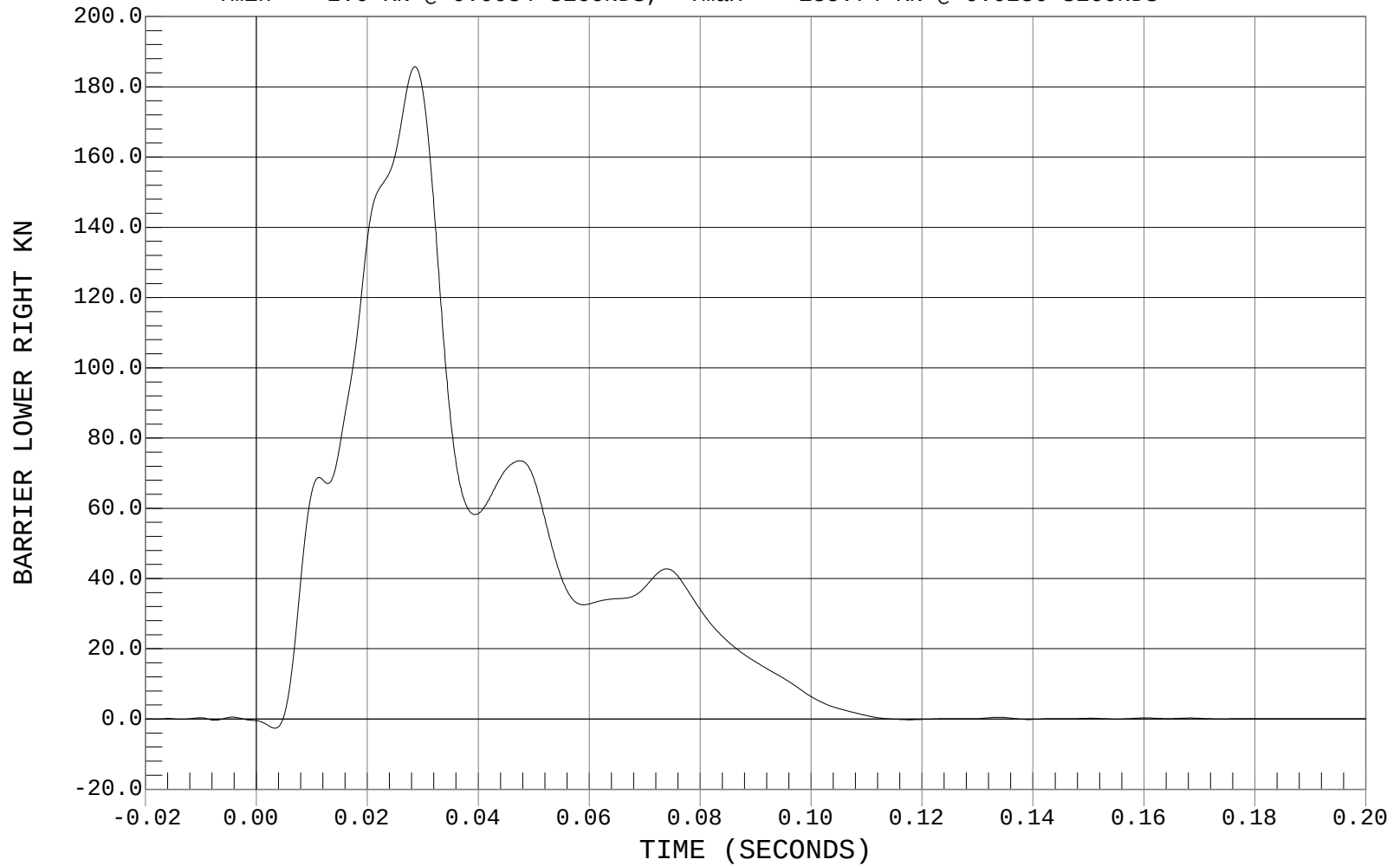
## LOWER RIGHT BARRIER FORCE

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 BARRIER LOWER RIGHT, c00097FF.F99

Ymin = -2.6 KN @ 0.0034 SECONDS, Ymax = 185.74 KN @ 0.0286 SECONDS





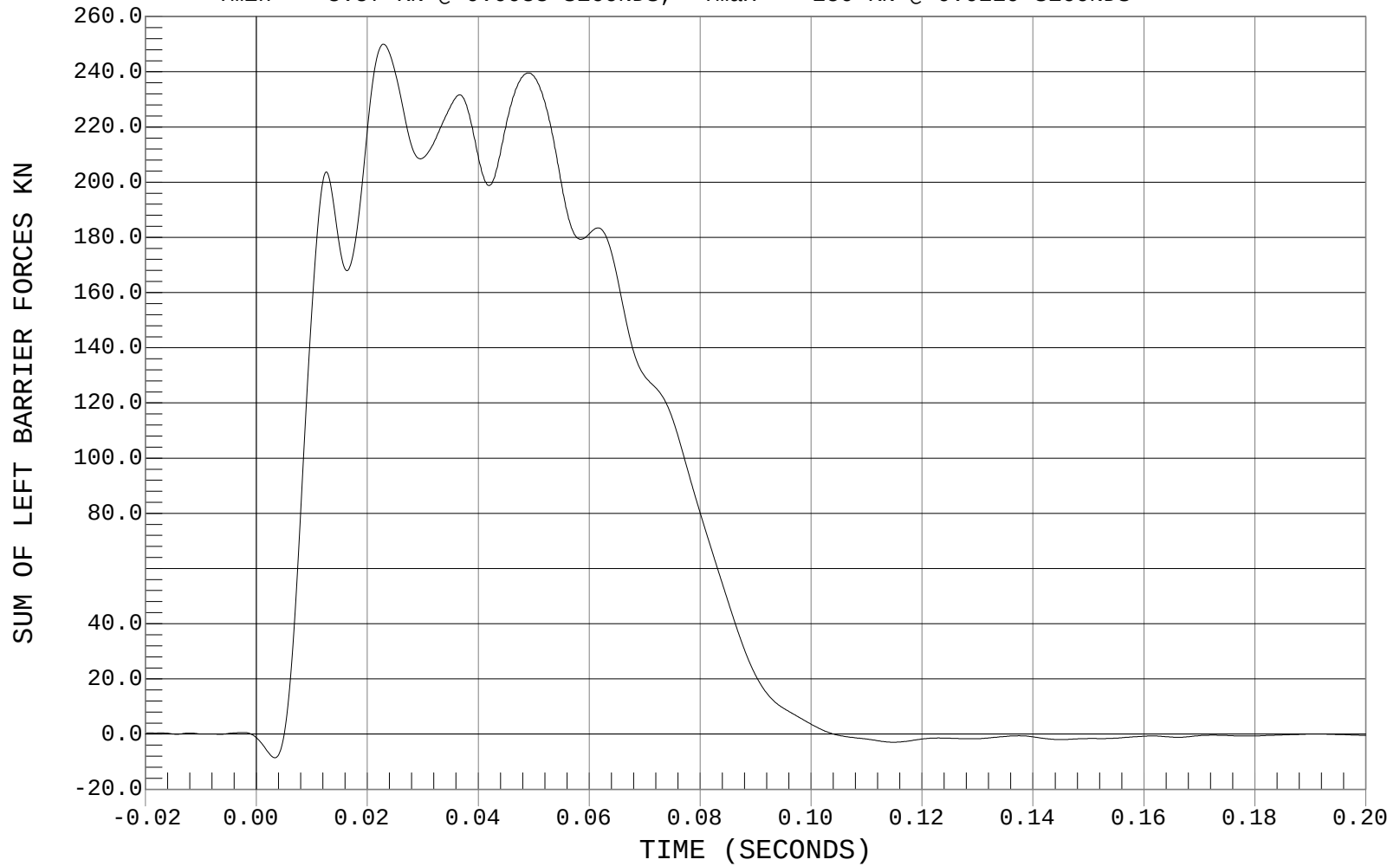
## SUM OF LEFT BARRIER FORCES

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 SUM OF LEFT BARRIER FORCES, c00097FU.F94

Ymin = -8.57 KN @ 0.0033 SECONDS, Ymax = 250 KN @ 0.0229 SECONDS





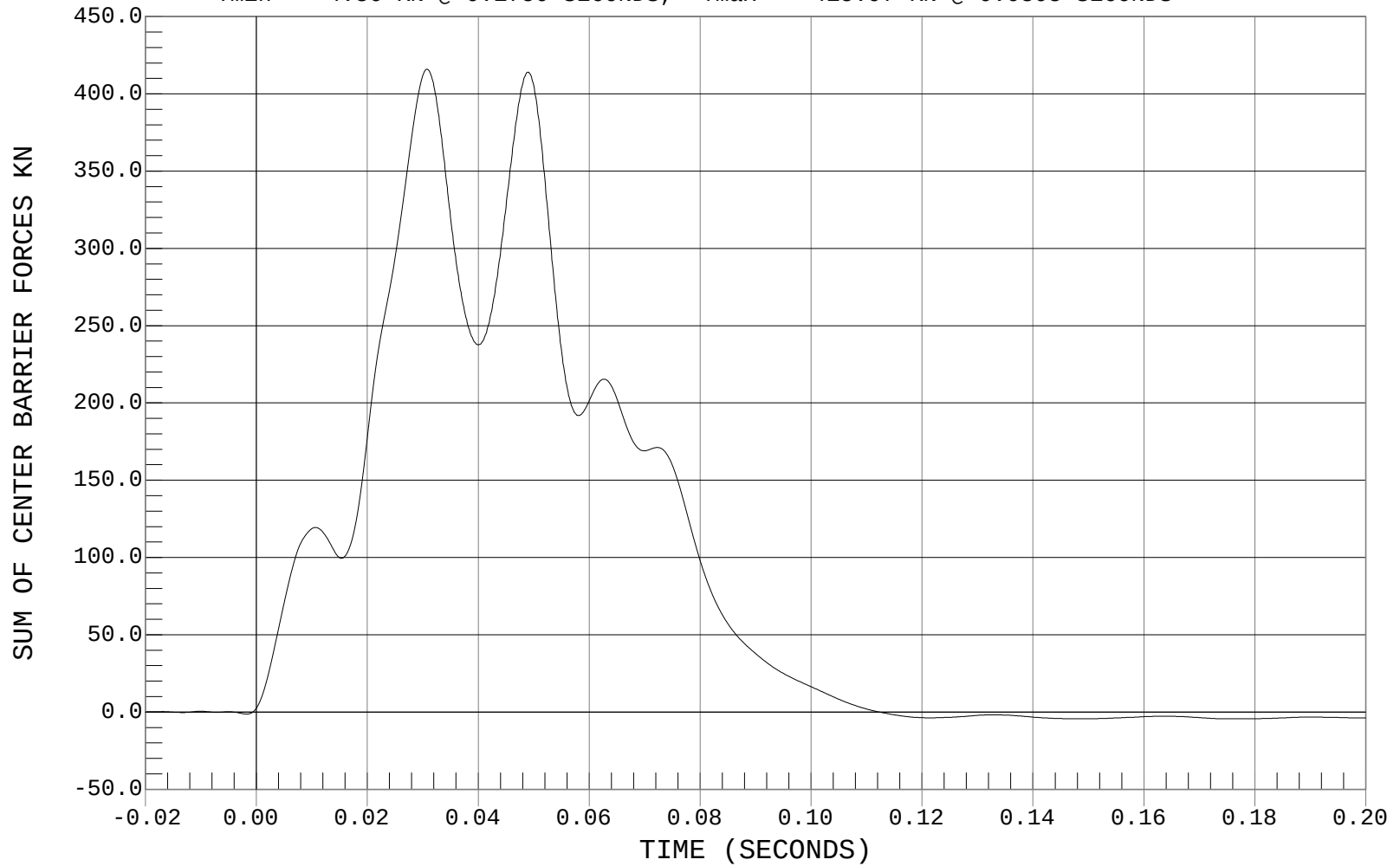
## SUM OF CENTER BARRIER FORCES

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 SUM OF CENTER BARRIER FORCES, c00097FU.F95

Ymin = -4.36 KN @ 0.1750 SECONDS, Ymax = 415.97 KN @ 0.0308 SECONDS



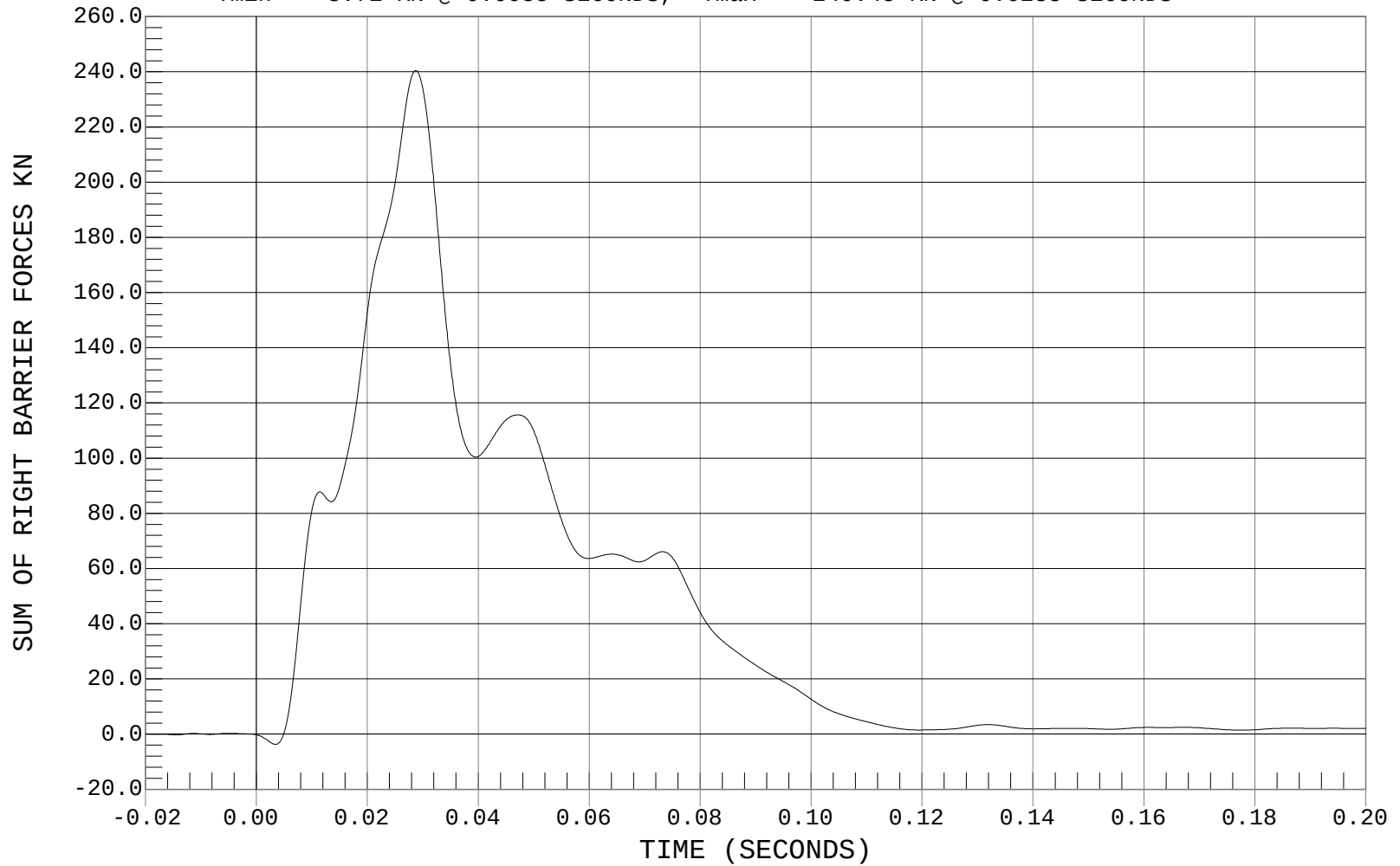


## SUM OF RIGHT BARRIER FORCES

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

Ymin = -3.71 KN @ 0.0035 SECONDS, Ymax = 240.48 KN @ 0.0288 SECONDS







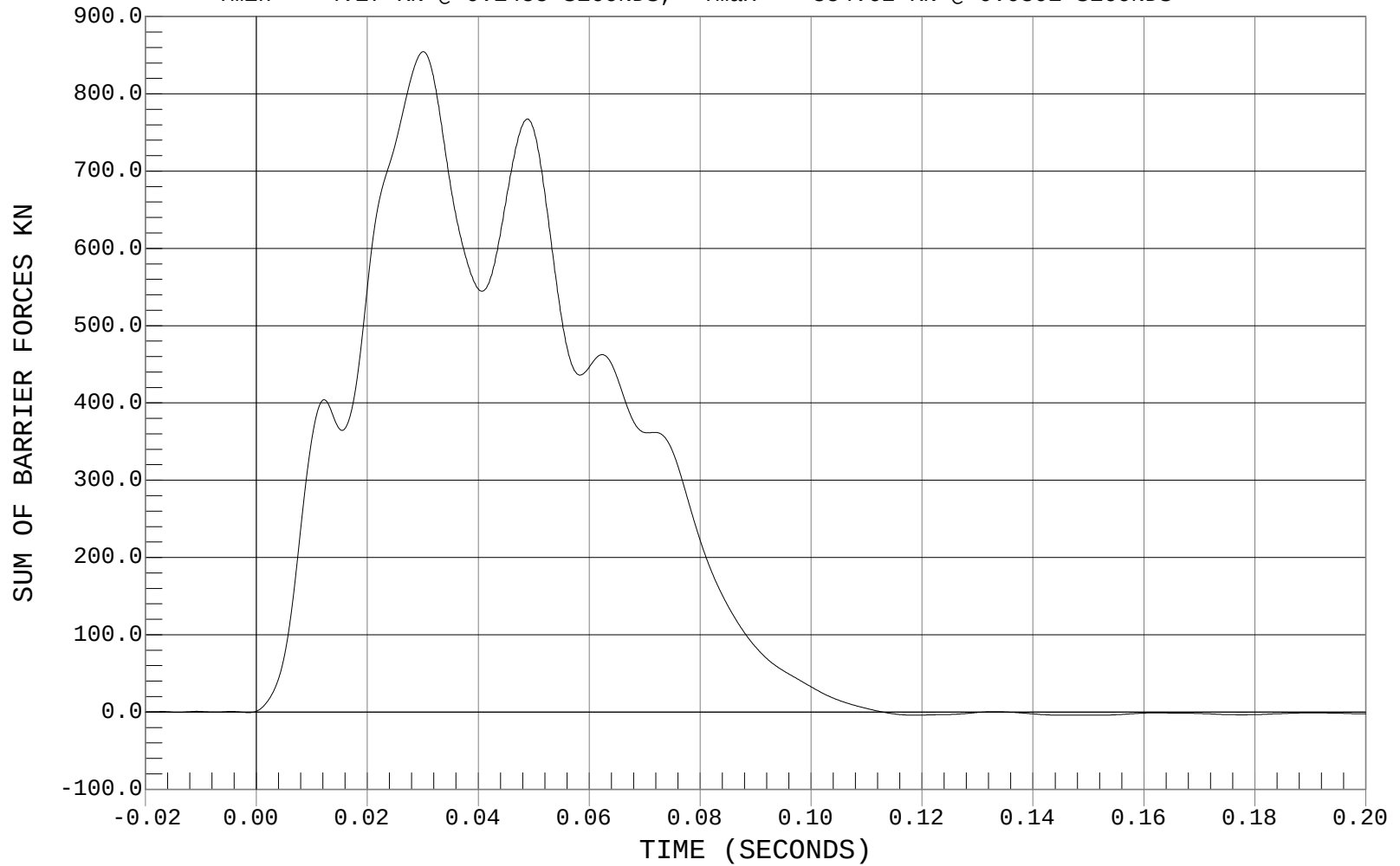
## SUM OF BARRIER FORCES

Test Desc.: 35 MPH NCAP FRONTAL BARRIER IMPACT  
Component: 2001 LEXUS RX300 4-DOOR SUV  
Other Info:

Test Date: 11-21-00  
Speed: 35.3 MPH, 56.8 KPH  
Filter Class: 60

— 1 SUM OF BARRIER FORCES, c00097FU.F97

Ymin = -4.17 KN @ 0.1455 SECONDS, Ymax = 854.62 KN @ 0.0301 SECONDS



APPENDIX C  
DUMMY CONFIGURATION & PERFORMANCE VERIFICATION DATA

CERTIFICATION DATA

Dummy Serial Number: 065

## Calibration Test Results Summary

Dummy Serial Number: 065

### Pre-Test Calibration

|                          |                                                       |
|--------------------------|-------------------------------------------------------|
| External Dimensions:     | The dummy passed all external dimension requirements. |
| Head Drop Test:          | The head passed all drop test requirements.           |
| Neck Flexion Test:       | The neck passed all flexion test requirements.        |
| Neck Extension Test:     | The neck passed all extension test requirements.      |
| Thorax Impact Test:      | The thorax passed all impact test requirements.       |
| Knee Impact Tests:       | Both knees passed all impact test requirements.       |
| Hip-Femur Flexion Tests: | Both femurs passed all flexion test requirements.     |

# HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 065

Date of Verification: 11/8/00

Test Number: D00139

| DESCRIPTION                            | SPECIFICATION | TEST RESULTS |
|----------------------------------------|---------------|--------------|
| Temperature (°F)                       | 69 – 72       | 70°          |
| Relative Humidity                      | 10 – 70       | 33%          |
| AA - Location for Chest Circumference  | 16.9" – 17.1" | 17.0         |
| BB - Location for Waist Circumference  | 8.9" – 9.1"   | 9.0          |
| A - Total Sitting Height               | 34.6" – 35.0" | 34.8         |
| B – Shoulder Pivot Height              | 19.9" – 20.5" | 20.2         |
| C – H Point Height                     | 3.3" – 3.5"   | 3.4          |
| D – H Point from Seat Back             | 5.3" – 5.5"   | 5.4          |
| E – Shoulder Pivot From Backline       | 3.3" – 3.7"   | 3.4          |
| F – Thigh Clearance                    | 5.5" – 6.1"   | 5.9          |
| G – Back of Elbow to Wrist Pivot       | 11.4" – 12.0" | 11.5         |
| H – Skull Cap Skin to Backline         | 1.6" – 1.8"   | 1.7          |
| I – Shoulder Elbow Length              | 13.0" – 13.6" | 13.2         |
| J – Elbow Rest Height                  | 7.5" – 8.3"   | 8.1          |
| K – Buttock Knee Length                | 22.8" – 23.8" | 23.5         |
| L – Popliteal Height                   | 16.9" – 17.9" | 17.8         |
| M – Knee Pivot Height                  | 19.1 – 19.9"  | 19.4         |
| N – Buttock Popliteal Length           | 17.8" – 18.8" | 18.6         |
| O – Chest Depth at 3 <sup>rd</sup> Rib | 8.4" – 9.0"   | 8.5          |
| P – Foot Length                        | 9.9" – 10.5"  | 10.4         |
| V – Shoulder Breadth                   | 16.6" – 17.2" | 17.1         |
| W – Foot Breadth                       | 3.5" – 4.2"   | 3.9          |
| Y – Chest Circumference                | 38.2" – 39.4" | 39.1         |
| Z – Waist Circumference                | 32.9" – 34.1" | 33.5         |

Technician: \_\_\_\_\_

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



MGA RESEARCH CORPORATION  
HEAD DROP TEST  
HYBRID III

Date: 11/6/00  
Dummy Serial Number: 065  
Test Number: D001391

| TEST PARAMETER                 | SPECIFICATION      | TEST RESULTS |
|--------------------------------|--------------------|--------------|
| Temperature (°F)               | 66 – 78            | 70°          |
| Relative Humidity (%)          | 10 – 70            | 33%          |
| Peak Resultant Acceleration    | 225 – 275 g's      | 260          |
| Peak Lateral Acceleration      | $\pm 15$ g's max.  | -8           |
| Is Acceleration Curve Unimodal | Within 10% of peak | Yes          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



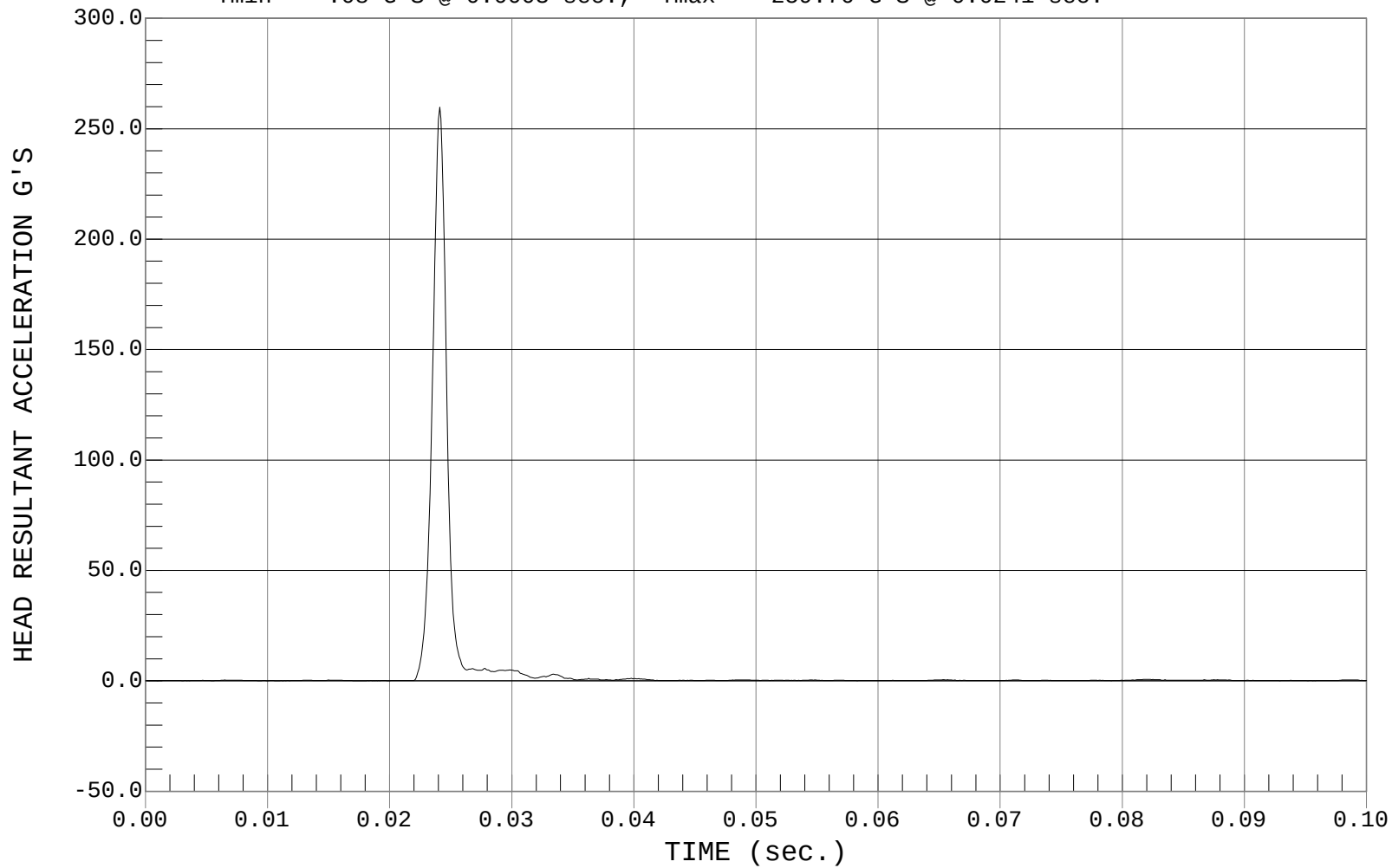
## PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #065

Test Date: 11-06-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT ACCELERATION, D00391av.a01

Ymin = .08 G'S @ 0.0003 sec., Ymax = 259.76 G'S @ 0.0241 sec.





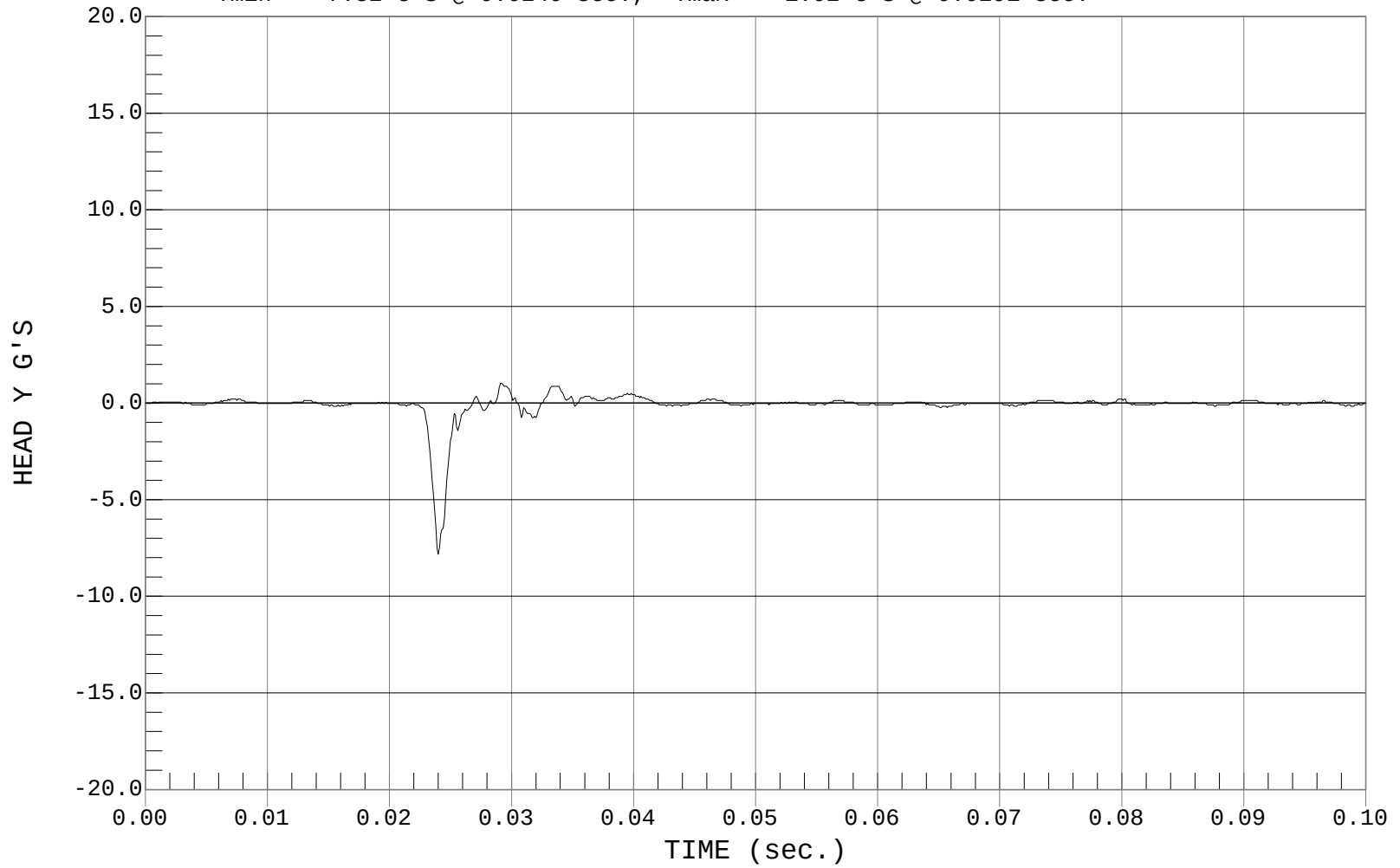
# PEAK LATERAL ACCELARATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #065

Test Date: 11-06-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD Y, D00391AR.A02

Ymin = -7.82 G'S @ 0.0240 sec., Ymax = 1.02 G'S @ 0.0291 sec.



MGA RESEARCH CORPORATION  
NECK FLEXION TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 065  
Test Number: D001392

| TEST PARAMETER                                     |       | SPECIFICATION      | TEST RESULTS |
|----------------------------------------------------|-------|--------------------|--------------|
| Temperature (°F)                                   |       | 69 - 72            | 70°          |
| Relative Humidity (%)                              |       | 10 – 70            | 39%          |
| Pendulum Speed                                     |       | 22.6 – 23.4 ft/sec | 23.3         |
| Pendulum<br>Deceleration                           | 10 ms | 22.50 – 27.50 g    | 23.17        |
|                                                    | 20 ms | 17.60 – 22.60 g    | 20.32        |
|                                                    | 30 ms | 12.50 – 18.50 g    | 15.63        |
| Max. Pendulum G Above 30 ms                        |       | 29.0 g max.        | 15.6         |
| Deceleration – Time Curve<br>Decay Time to 5 G     |       | 34 – 42 ms         | 37           |
| D Plane Rotation                                   | Max.  | 64 – 78 deg.       | 73           |
|                                                    | Time  | 57.- 64 ms         | 59           |
| Rotation Angle – Time Curve<br>Decay Time to Zero  |       | 113 – 128 ms       | 114          |
| Moment About<br>Occipital Condyle                  | Max.  | 65 – 80 ft-lbf     | 68           |
|                                                    | Time  | 47 – 58 ms         | 51           |
| Positive Moment – Time Curve<br>Decay Time to Zero |       | 97 – 107 ms        | 101          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



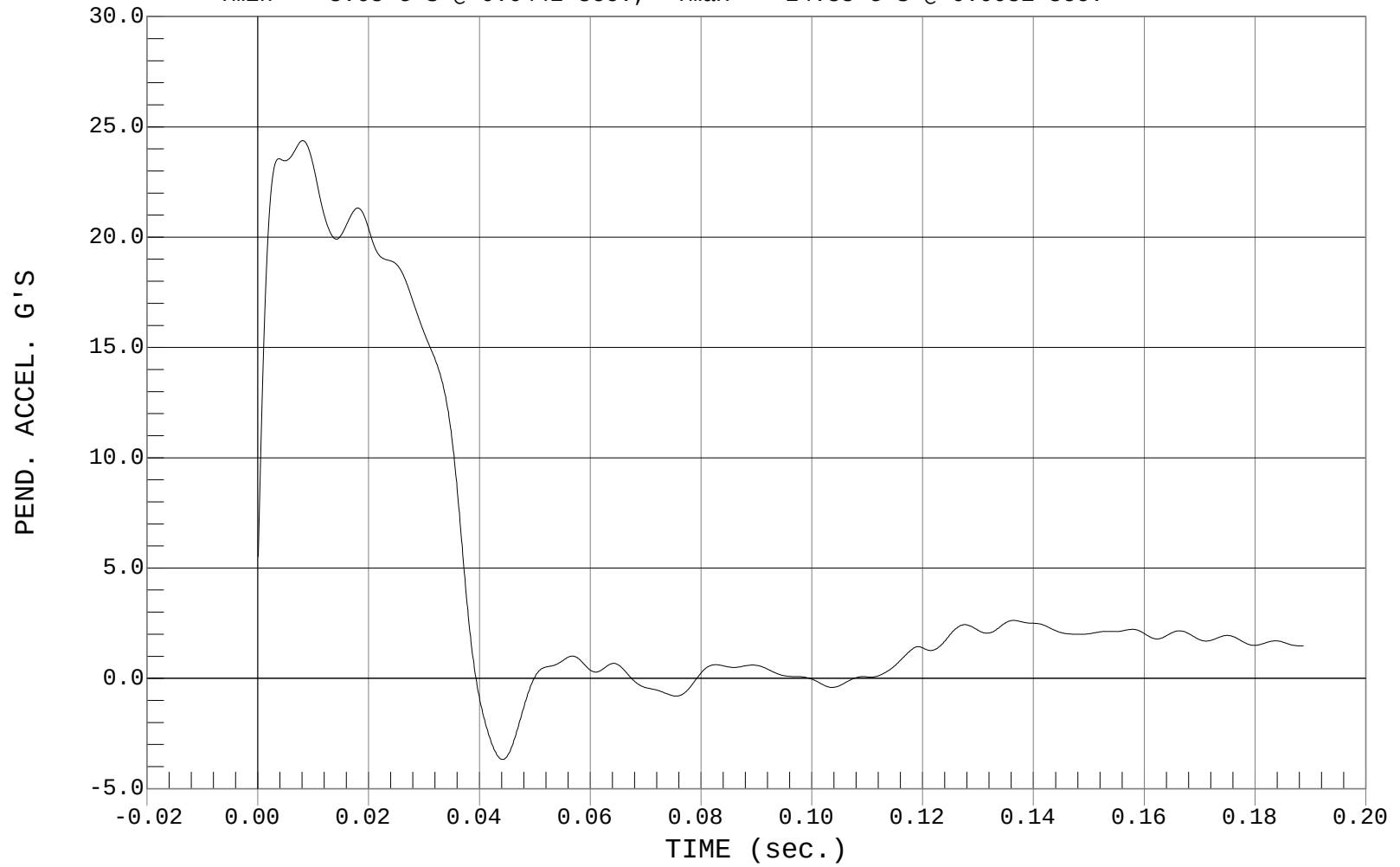
# PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Flexion  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 23.26 FT/SEC, 7.09 M/SEC

— 1 PEND. ACCEL., D00392AF.A04

Ymin = -3.68 G'S @ 0.0442 sec., Ymax = 24.38 G'S @ 0.0081 sec.







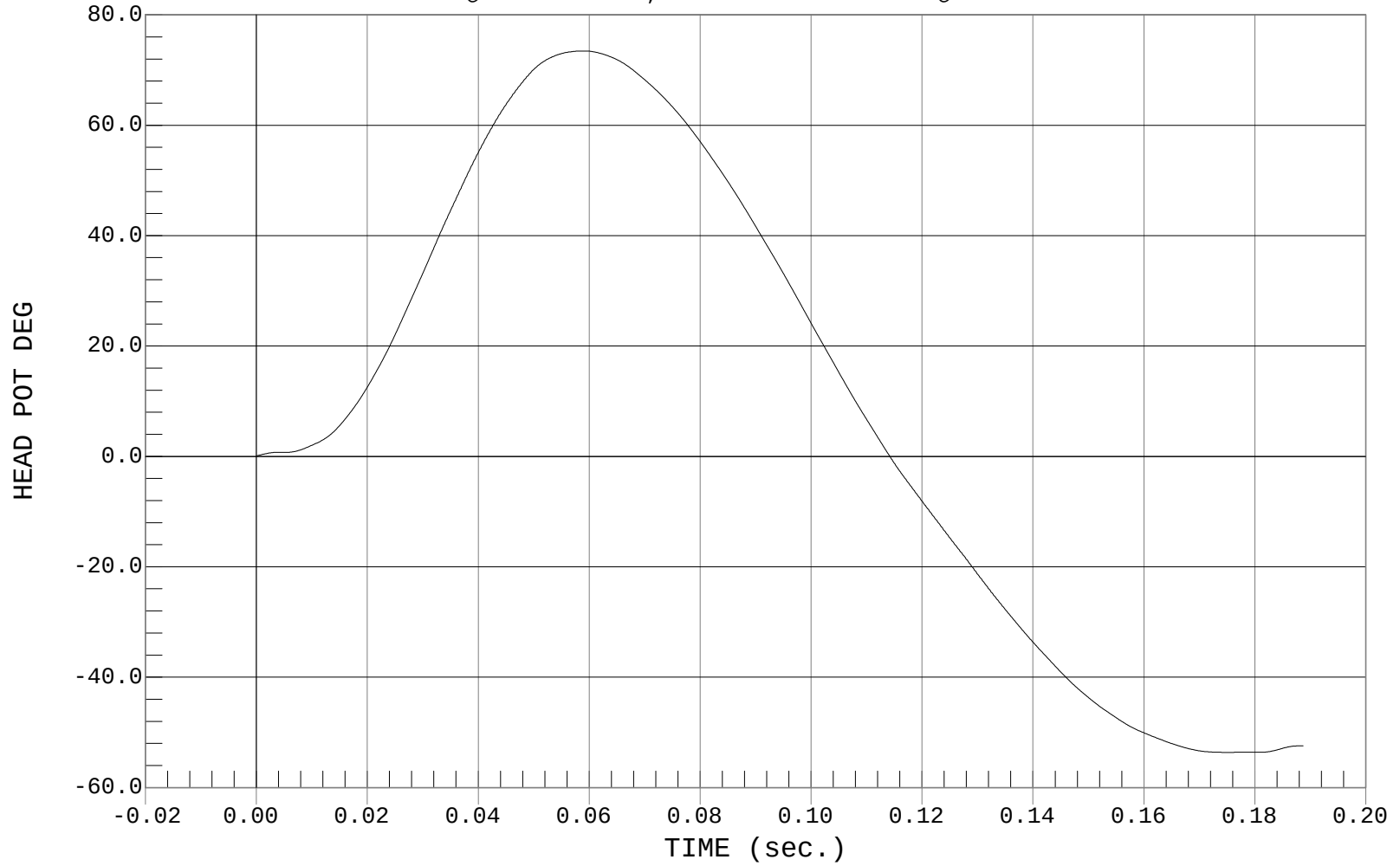
## NECK ROTATION

Test Desc.: Dummy Calibration - Neck Flexion  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 23.26 FT/SEC, 7.09 M/SEC

— 1 HEAD POT, D00392DU.D05

Ymin = -53.64 DEG @ 0.1751 sec., Ymax = 73.46 DEG @ 0.0589 sec.





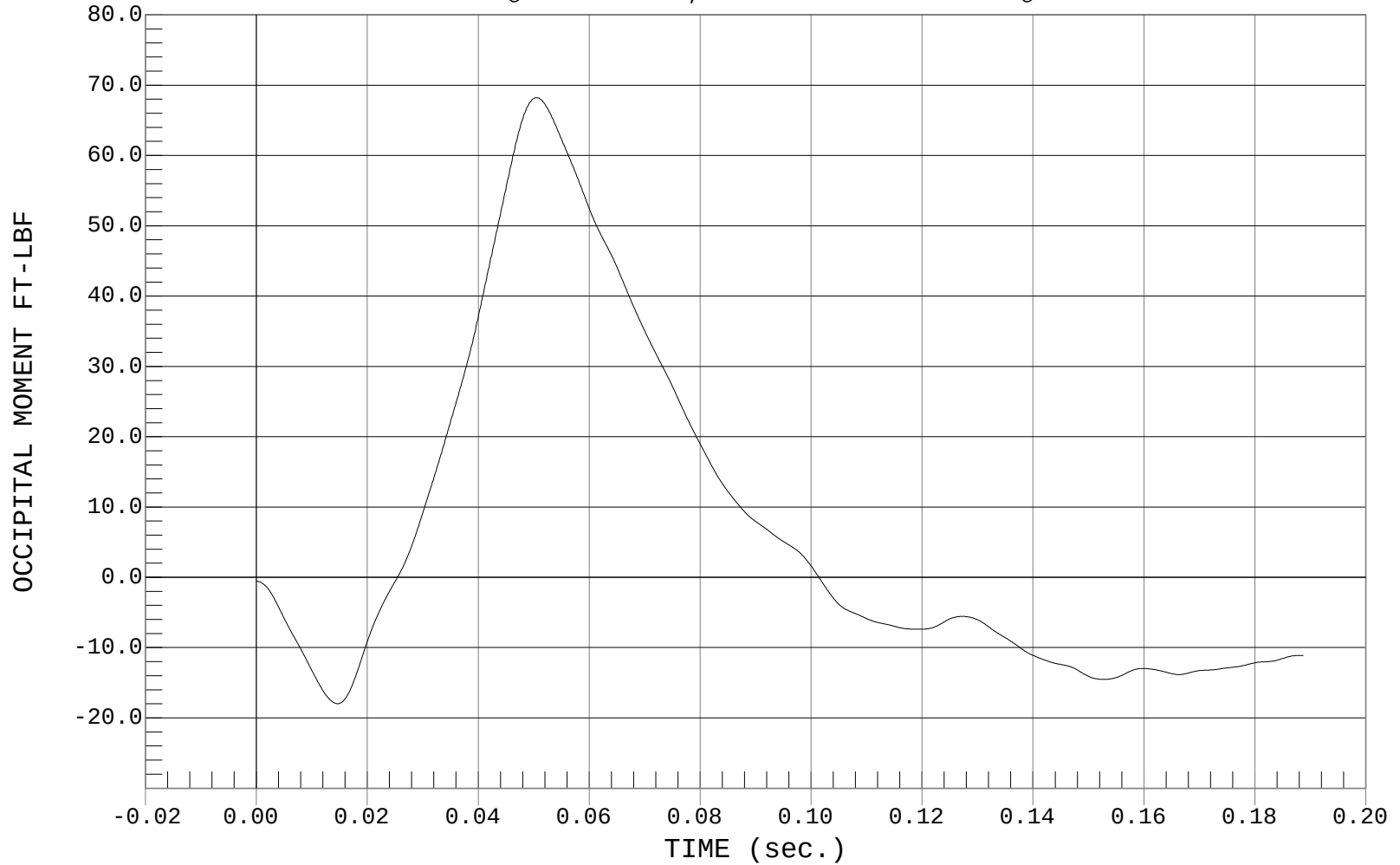
# OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Flexion  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 23.26 FT/SEC, 7.09 M/SEC

— 1 OCCIPITAL MOMENT, D00392NK.MNT

Ymin = -17.98 FT-LBF @ 0.0147 sec., Ymax = 68.23 FT-LBF @ 0.0505 sec.



MGA RESEARCH CORPORATION  
NECK EXTENSION TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 065  
Test Number: D001393

| TEST PARAMETER                                     |         | SPECIFICATION        | TEST RESULTS |
|----------------------------------------------------|---------|----------------------|--------------|
| Temperature (°F)                                   |         | 69 – 72              | 70°          |
| Relative Humidity (%)                              |         | 10 – 70              | 39%          |
| Pendulum Speed                                     |         | 19.50 – 20.30 ft/sec | 20.24        |
| Pendulum Deceleration                              | 10 msec | 17.20 – 21.20 g      | 19.05        |
|                                                    | 20 msec | 14.00 – 19.00 g      | 15.35        |
|                                                    | 30 msec | 11.00 – 16.00 g      | 14.82        |
| Max. Pendulum G Above 30 ms                        |         | 22 g max.            | 16           |
| Deceleration – Time Curve<br>Decay Time to 5 g     |         | 38 – 46 ms           | 39           |
| D Plane Rotation                                   | Max.    | 81 – 106 deg.        | 102          |
|                                                    | Time    | 72 – 82 ms           | 76           |
| Rotation Angle – Time Curve<br>Decay Time to Zero  |         | 147 – 174 ms         | 156          |
| Moment About<br>Occipital Condyle                  | Min.    | -59.0/-39.0 ft-lbf   | -47.9        |
|                                                    | Time    | 65 – 79 ms           | 73           |
| Positive Moment – Time Curve<br>Decay Time to Zero |         | 120 – 148 ms         | 148          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



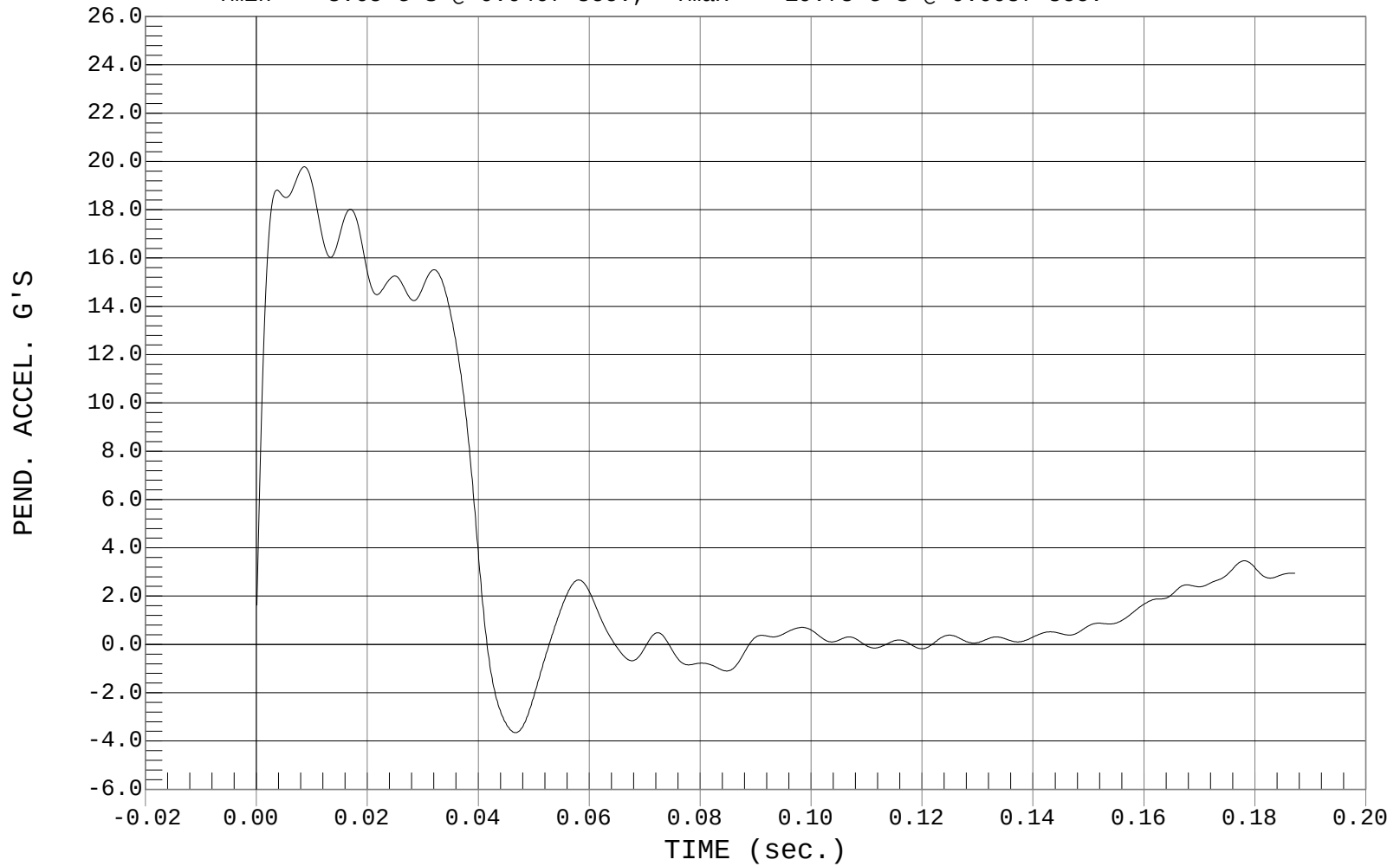
# PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Extension  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 20.24 FT/SEC, 6.17 M/SEC

— 1 PEND. ACCEL., D00393AF.A04

Ymin = -3.65 G'S @ 0.0467 sec., Ymax = 19.78 G'S @ 0.0087 sec.





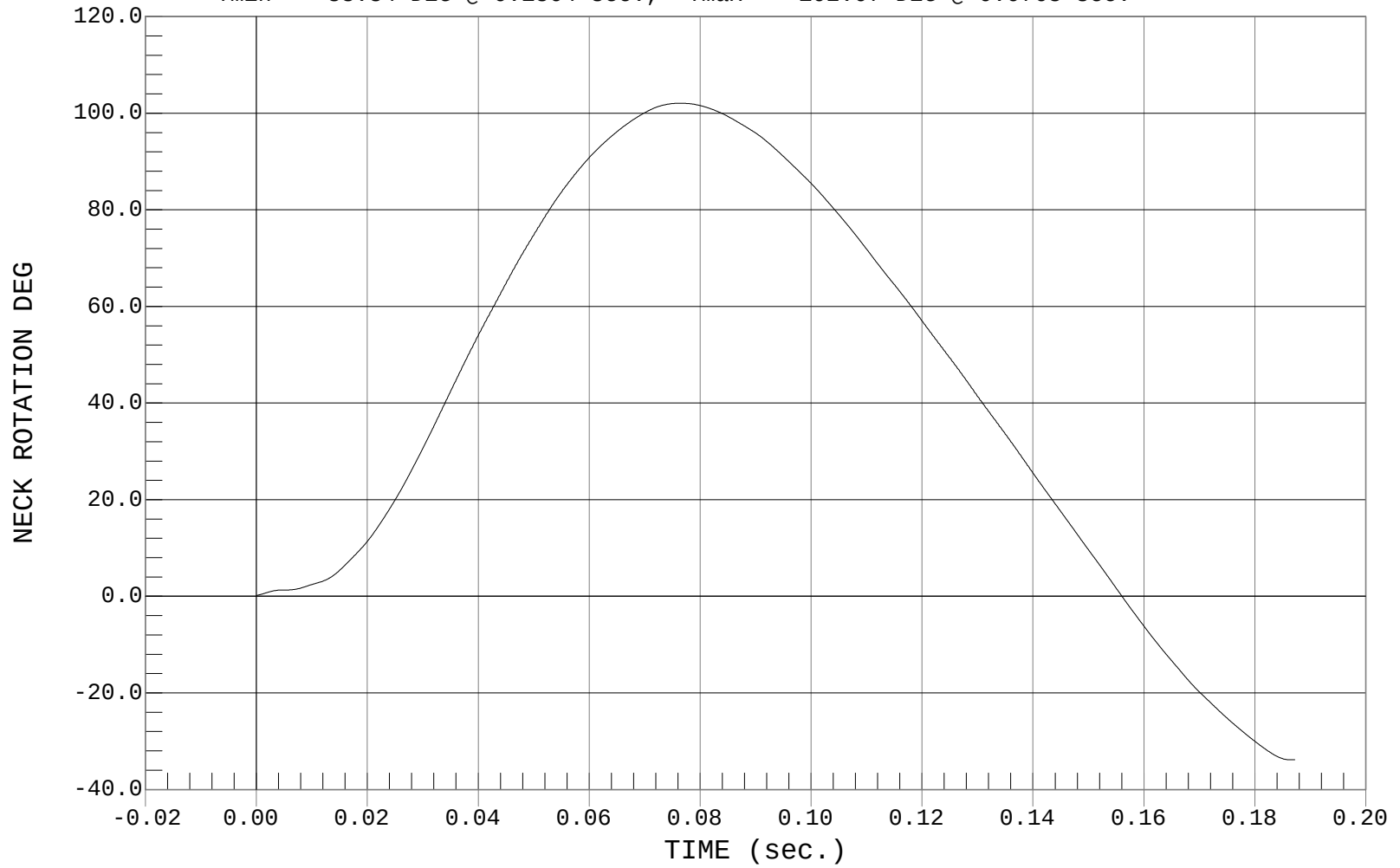
## NECK ROTATION

Test Desc.: Dummy Calibration - Neck Extension  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 20.24 FT/SEC, 6.17 M/SEC

— 1 NECK ROTATION, D00393DU.D05

Ymin = -33.84 DEG @ 0.1864 sec., Ymax = 102.07 DEG @ 0.0763 sec.







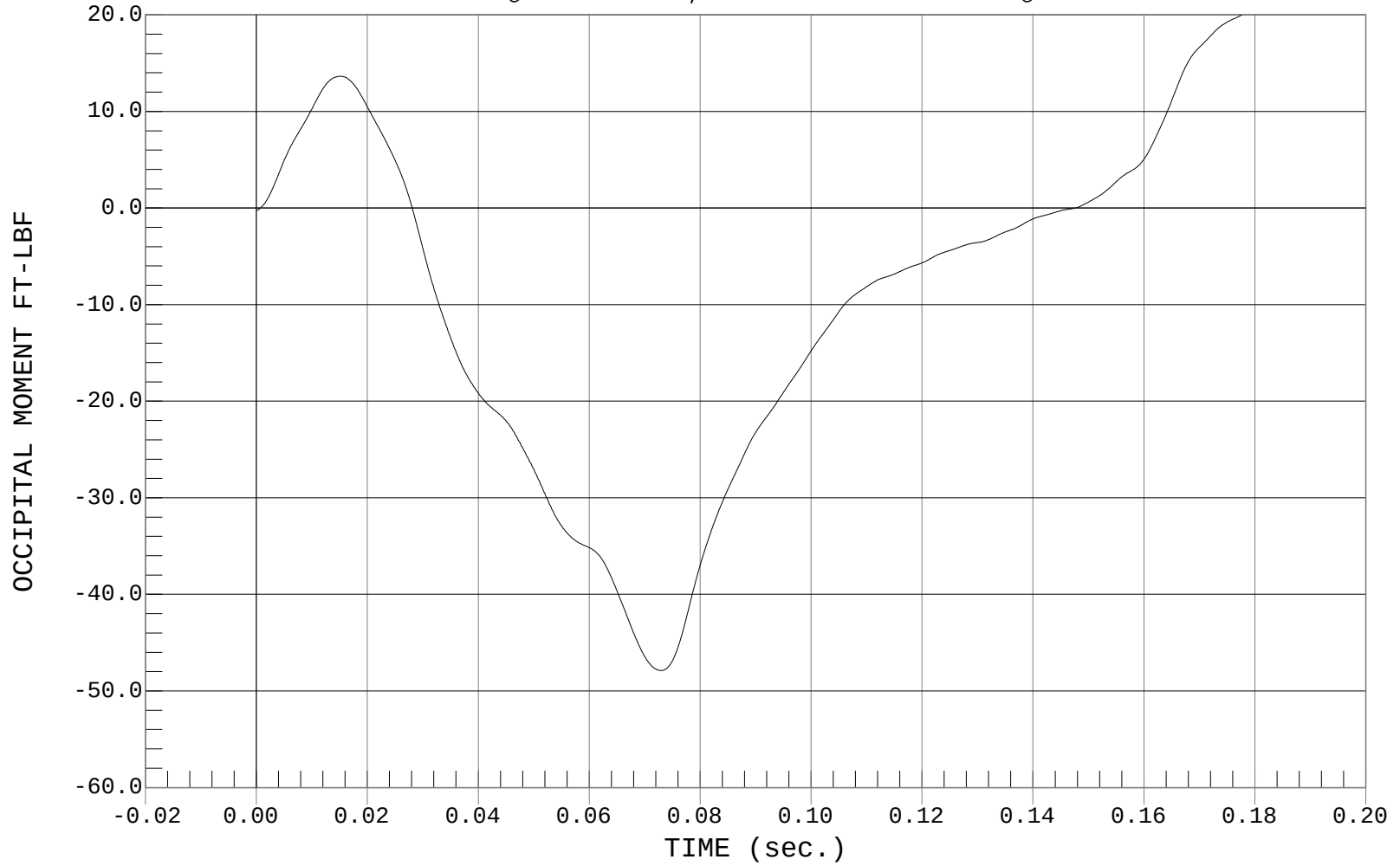
## OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Extension  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 20.24 FT/SEC, 6.17 M/SEC

— 1 OCCIPITAL MOMENT, D00393NK.MNT

Ymin = -47.88 FT-LBF @ 0.0729 sec., Ymax = 22.01 FT-LBF @ 0.1864 sec.



MGA RESEARCH CORPORATION  
THORAX IMPACT TEST  
HYBRID III

Date: 11/8/00  
Dummy Serial Number: 065  
Test Number: D001394

| TEST PARAMETER        | SPECIFICATION      | TEST RESULTS |
|-----------------------|--------------------|--------------|
| Temperature (°F)      | 69 – 72            | 70°          |
| Relative Humidity (%) | 10 – 70%           | 33%          |
| Probe Speed           | 21.6 – 22.4 ft/sec | 22.1         |
| Peak Deflection       | 2.50 – 2.86 in     | 2.81         |
| Peak Resistive Force  | 1160 – 1325 lbs    | 1289         |
| Internal Hysteresis   | 69 – 85%           | 70%          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



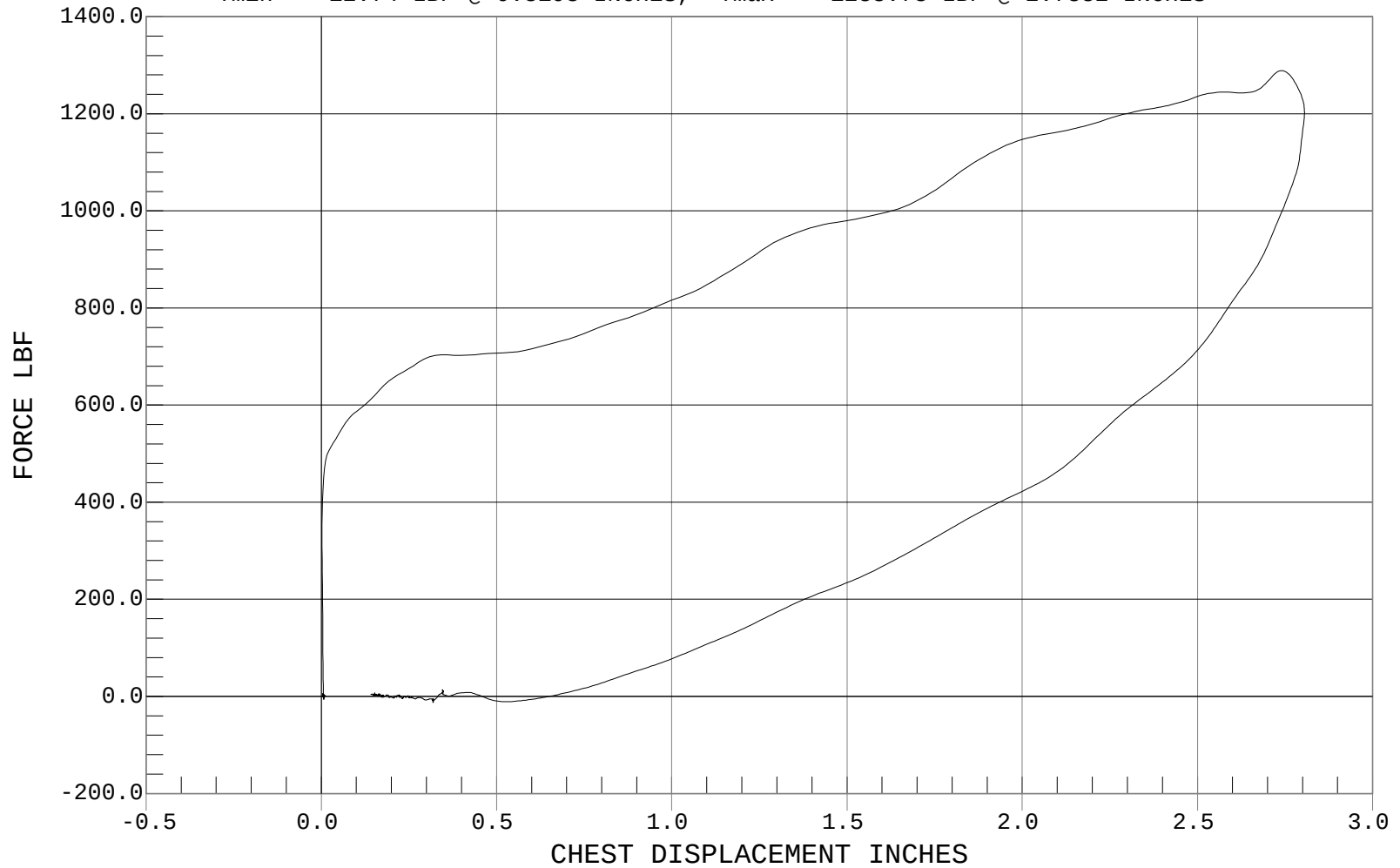
# THORAX IMPACT

Test Desc.: Dummy Calibration - Chest Impact  
Component: Dummy #065

Test Date: 11-08-00  
Speed: 22.10 FT/SEC, 6.74 M/SEC

1 FORCE, D00394CH.FVD

Ymin = -12.74 LBF @ 0.3193 INCHES, Ymax = 1288.73 LBF @ 2.7382 INCHES



MGA RESEARCH CORPORATION  
RIGHT KNEE IMPACT TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 065  
Test Number: D001395

| TEST PARAMETER        | SPECIFICATION    | TEST RESULTS |
|-----------------------|------------------|--------------|
| Temperature (°F)      | 66 – 78          | 69°          |
| Relative Humidity (%) | 10 – 70          | 45%          |
| Probe Speed           | 6.8 – 7.0 ft/sec | 6.9          |
| Maximum Force         | 1060 - 1300      | 1183         |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



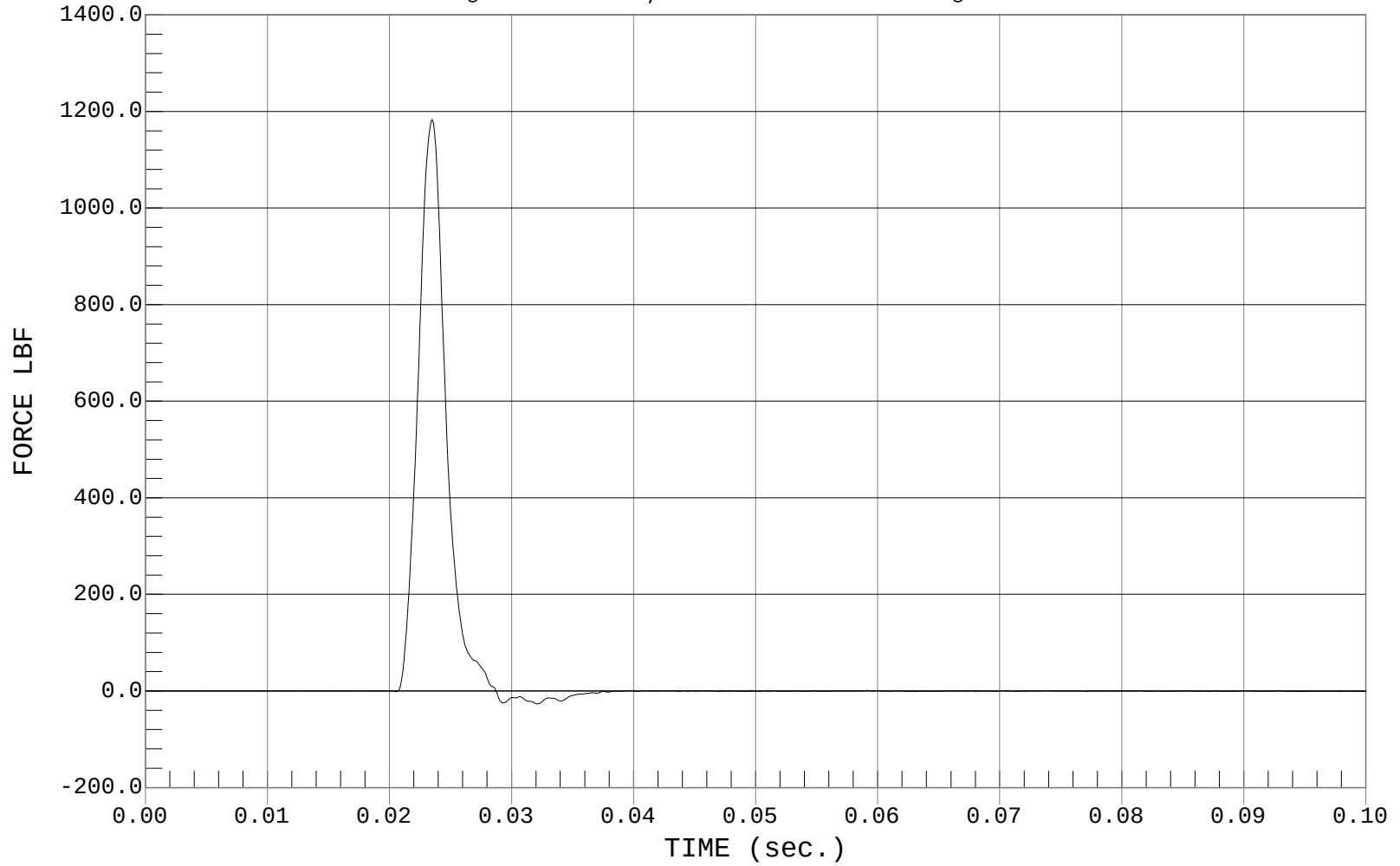
# KNEE IMPACT

Test Desc.: Dummy Calibration - Right Knee Impact  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 6.85 FT/SEC, 2.09 M/SEC

— 1 FORCE, D00395FF.F09

Ymin = -26.87 LBF @ 0.0321 sec., Ymax = 1183.4 LBF @ 0.0235 sec.





MGA RESEARCH CORPORATION  
LEFT KNEE IMPACT TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 065  
Test Number: D001396

| TEST PARAMETER        | SPECIFICATION    | TEST RESULTS |
|-----------------------|------------------|--------------|
| Temperature (°F)      | 66 – 78          | 69°          |
| Relative Humidity (%) | 10 – 70          | 45%          |
| Probe Speed           | 6.8 – 7.0 ft/sec | 6.9          |
| Maximum Force         | 1060 - 1300      | 1196         |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



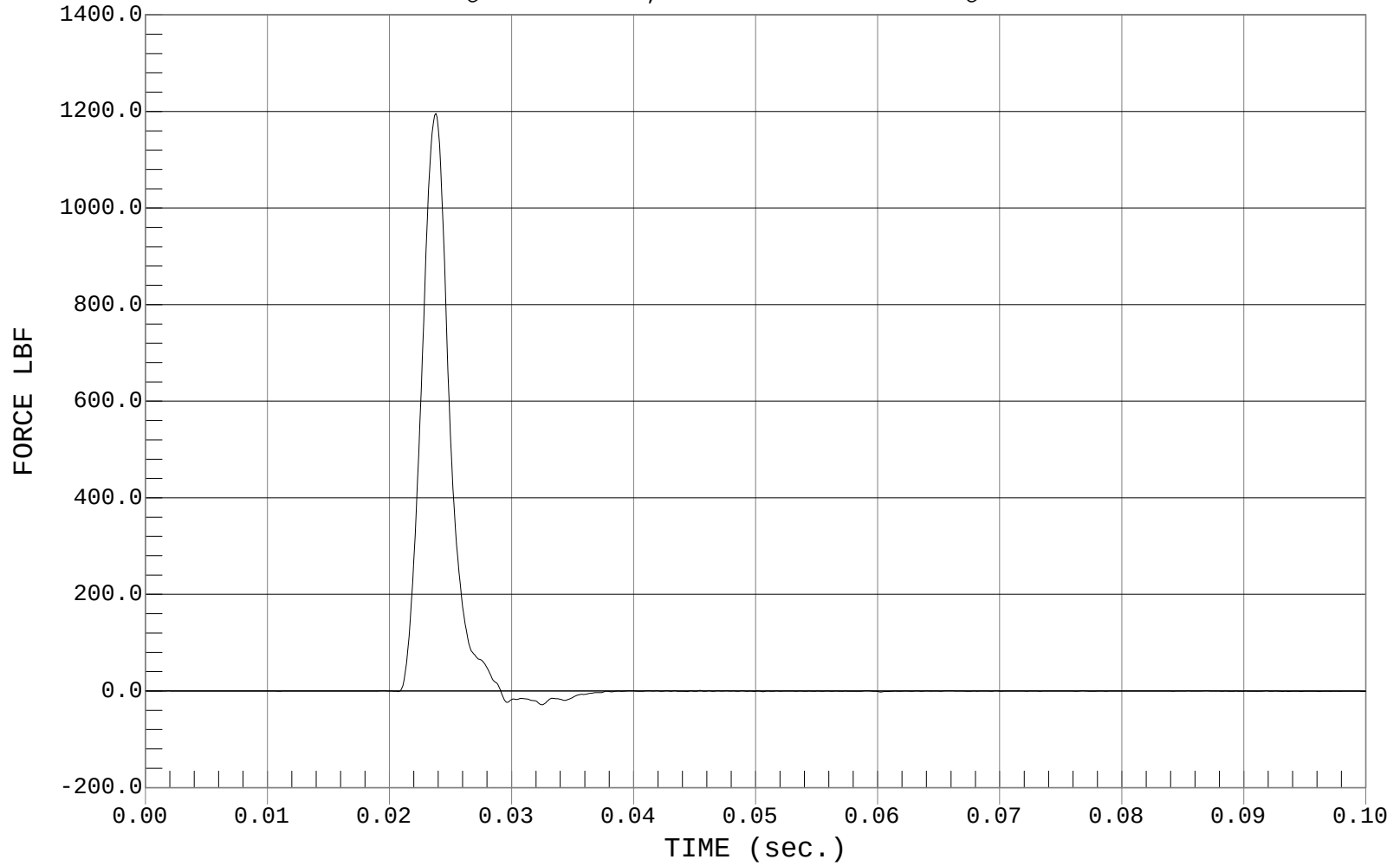
# KNEE IMPACT

Test Desc.: Dummy Calibration - Left Knee Impact  
Component: Dummy #065

Test Date: 11-07-00  
Speed: 6.86 FT/SEC, 2.09 M/SEC

— 1 FORCE, D00396FF.F09

Ymin = -28.82 LBF @ 0.0325 sec., Ymax = 1196.03 LBF @ 0.0238 sec.



MGA RESEARCH CORPORATION  
HIP-FEMUR FLEXION TEST  
HYBRID III

Date: 11/8/00  
Dummy Serial Number: 065  
Test Number: D001399/0

| TEST PARAMETER        | SPECIFICATION                    | TEST RESULTS |      |
|-----------------------|----------------------------------|--------------|------|
|                       |                                  | Right        | Left |
| Temperature (°F)      | 66 – 78                          | 70°          | 70°  |
| Relative Humidity (%) | 10 – 70                          | 36%          | 36%  |
| Rotation Rate         | 5-10 deg/sec                     | Yes          | Yes  |
| 30 Degrees            | 70 ft-lb maximum                 | 42           | 47   |
| 150 ft-lbf            | 40-50 degree maximum<br>rotation | 47°          | 46°  |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



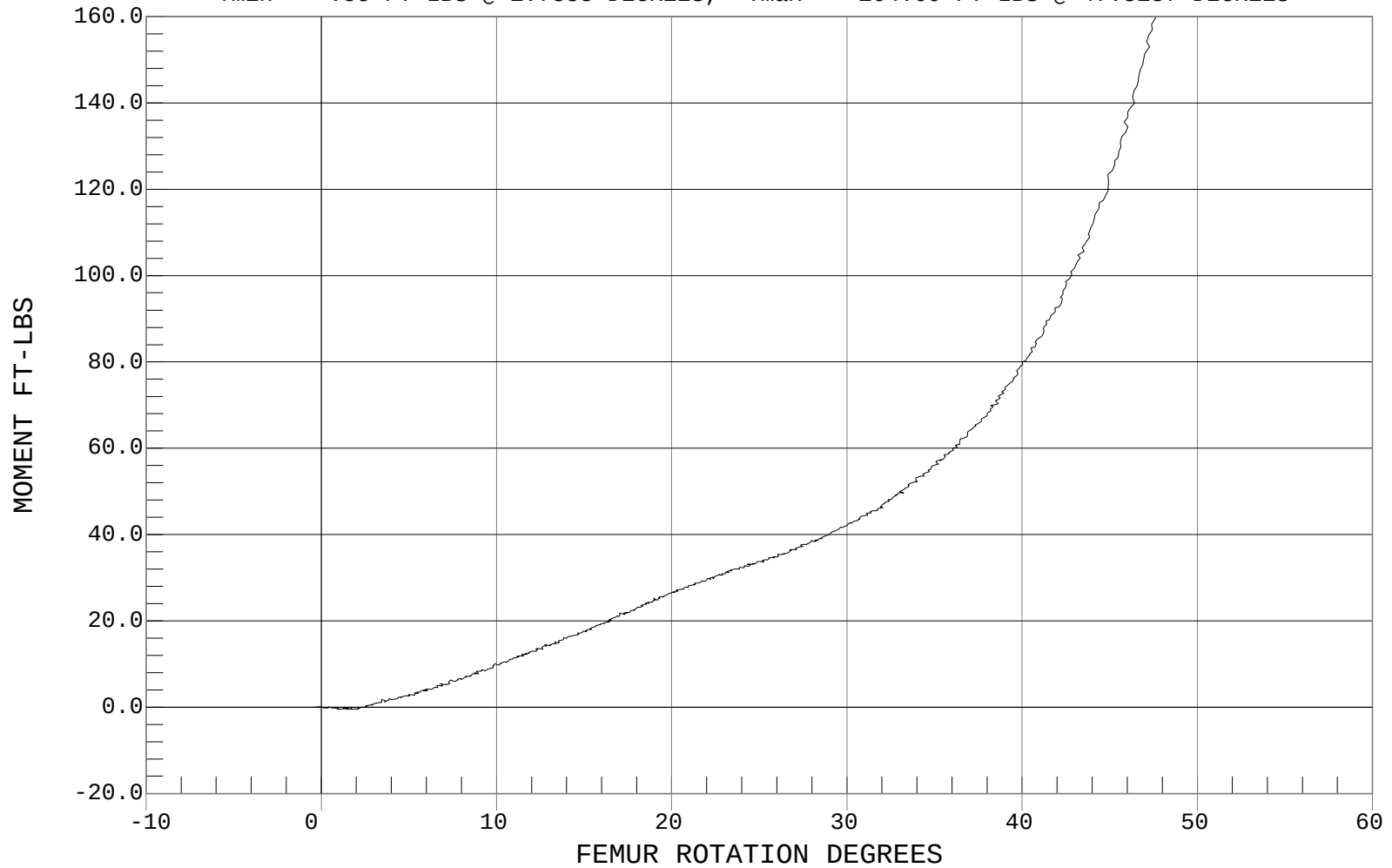
# HIP-FEMUR FLEXION

Test Desc.: DUMMY CALIBRATION - HIP-FEMUR FLEXION  
Component: DUMMY # 065

Test Date: 11-08-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 MOMENT, D00399FC.F14

Ymin = -.55 FT-LBS @ 1.7883 DEGREES, Ymax = 164.09 FT-LBS @ 47.8187 DEGREES





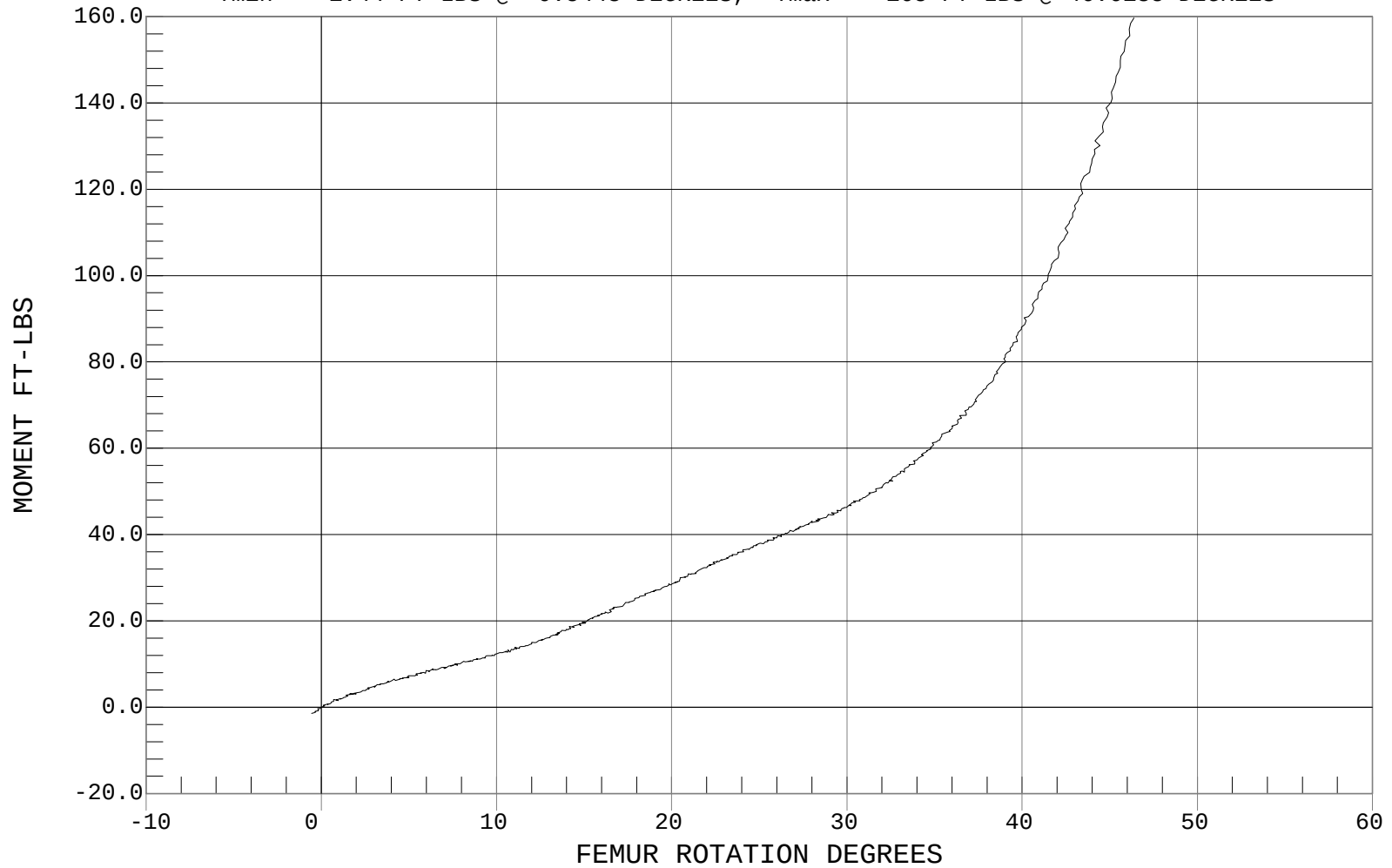
# HIP-FEMUR FLEXION

Test Desc.: DUMMY CALIBRATION - HIP-FEMUR FLEXION  
Component: DUMMY # 065 LEFT FEMUR

Test Date: 11-08-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 MOMENT, D00390FC.F14

Ymin = -1.44 FT-LBS @ -0.5443 DEGREES, Ymax = 165 FT-LBS @ 46.6135 DEGREES





## DUMMY INSPECTION CHECKLIST

Type: Hybrid III

Dummy Serial Number: 065

Inspected By: Tim Michnay

Date: 11/8/00

| <u>Part</u>  | <u>Items Checked</u>                           | <u>Comments</u> |
|--------------|------------------------------------------------|-----------------|
| Skin         | visual inspection                              | OK              |
| Head         | visual, ballast, accelerometer mount           | OK              |
| Neck         | visual, cable torque, nodding blocks           | OK              |
| Clavicles    | visual, bumpers, range of motion               | OK              |
| Arms/Hands   | visual, bumpers, range of motion               | OK              |
| Spine box    | visual, ballast, weldment, accelerometer mount | OK              |
| Rib cage     | visual, measure, stiffeners                    | OK              |
| Sternum      | visual, bumpers                                | OK              |
| Lumbar spine | visual, cable torque                           | OK              |
| Abdomen      | visual                                         | OK              |
| Pelvis       | visual, palpate, accelerometer mount           | OK              |
| Upper legs   | visual, load cell bolts                        | OK              |
| Knees        | visual, stops, inserts, sliders                | OK              |
| Lower legs   | visual, range of motion                        | OK              |
| Ankles       | visual, range of motion                        | OK              |
| Feet         | visual, range of motion                        | OK              |
| Joints       | 1 to 2 g range                                 | OK              |
| Other        |                                                |                 |

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

CERTIFICATION DATA

Dummy Serial Number: 066

## Calibration Test Results Summary

Dummy Serial Number: 066

### Pre-Test Calibration

|                          |                                                       |
|--------------------------|-------------------------------------------------------|
| External Dimensions:     | The dummy passed all external dimension requirements. |
| Head Drop Test:          | The head passed all drop test requirements.           |
| Neck Flexion Test:       | The neck passed all flexion test requirements.        |
| Neck Extension Test:     | The neck passed all extension test requirements.      |
| Thorax Impact Test:      | The thorax passed all impact test requirements.       |
| Knee Impact Tests:       | Both knees passed all impact test requirements.       |
| Hip-Femur Flexion Tests: | Both femurs passed all flexion test requirements.     |

# HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 066

Date of Verification: 11/8/00

Test Number: D00140

| DESCRIPTION                            | SPECIFICATION | TEST RESULTS |
|----------------------------------------|---------------|--------------|
| Temperature (°F)                       | 69 – 72       | 70°          |
| Relative Humidity                      | 10 – 70       | 33%          |
| AA - Location for Chest Circumference  | 16.9" – 17.1" | 17.0         |
| BB - Location for Waist Circumference  | 8.9" – 9.1"   | 9.0          |
| A - Total Sitting Height               | 34.6" – 35.0" | 34.7         |
| B – Shoulder Pivot Height              | 19.9" – 20.5" | 20.2         |
| C – H Point Height                     | 3.3" – 3.5"   | 3.4          |
| D – H Point from Seat Back             | 5.3" – 5.5"   | 5.5          |
| E – Shoulder Pivot From Backline       | 3.3" – 3.7"   | 3.5          |
| F – Thigh Clearance                    | 5.5" – 6.1"   | 5.7          |
| G – Back of Elbow to Wrist Pivot       | 11.4" – 12.0" | 11.6         |
| H – Skull Cap Skin to Backline         | 1.6" – 1.8"   | 1.7          |
| I – Shoulder Elbow Length              | 13.0" – 13.6" | 13.3         |
| J – Elbow Rest Height                  | 7.5" – 8.3"   | 7.6          |
| K – Buttock Knee Length                | 22.8" – 23.8" | 23.6         |
| L – Popliteal Height                   | 16.9" – 17.9" | 17.4         |
| M – Knee Pivot Height                  | 19.1 – 19.9"  | 19.5         |
| N – Buttock Popliteal Length           | 17.8" – 18.8" | 18.4         |
| O – Chest Depth at 3 <sup>rd</sup> Rib | 8.4" – 9.0"   | 8.7          |
| P – Foot Length                        | 9.9" – 10.5"  | 10.4         |
| V – Shoulder Breadth                   | 16.6" – 17.2" | 17.0         |
| W – Foot Breadth                       | 3.5" – 4.2"   | 4.0          |
| Y – Chest Circumference                | 38.2" – 39.4" | 39.2         |
| Z – Waist Circumference                | 32.9" – 34.1" | 33.8         |

Technician: \_\_\_\_\_

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

MGA RESEARCH CORPORATION  
HEAD DROP TEST  
HYBRID III

Date: 11/6/00  
Dummy Serial Number: 066  
Test Number: D001401

| TEST PARAMETER                 | SPECIFICATION      | TEST RESULTS |
|--------------------------------|--------------------|--------------|
| Temperature (°F)               | 66 – 78            | 70°          |
| Relative Humidity (%)          | 10 – 70            | 33%          |
| Peak Resultant Acceleration    | 225 – 275 g's      | 268          |
| Peak Lateral Acceleration      | $\pm 15$ g's max.  | 10           |
| Is Acceleration Curve Unimodal | Within 10% of peak | Yes          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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





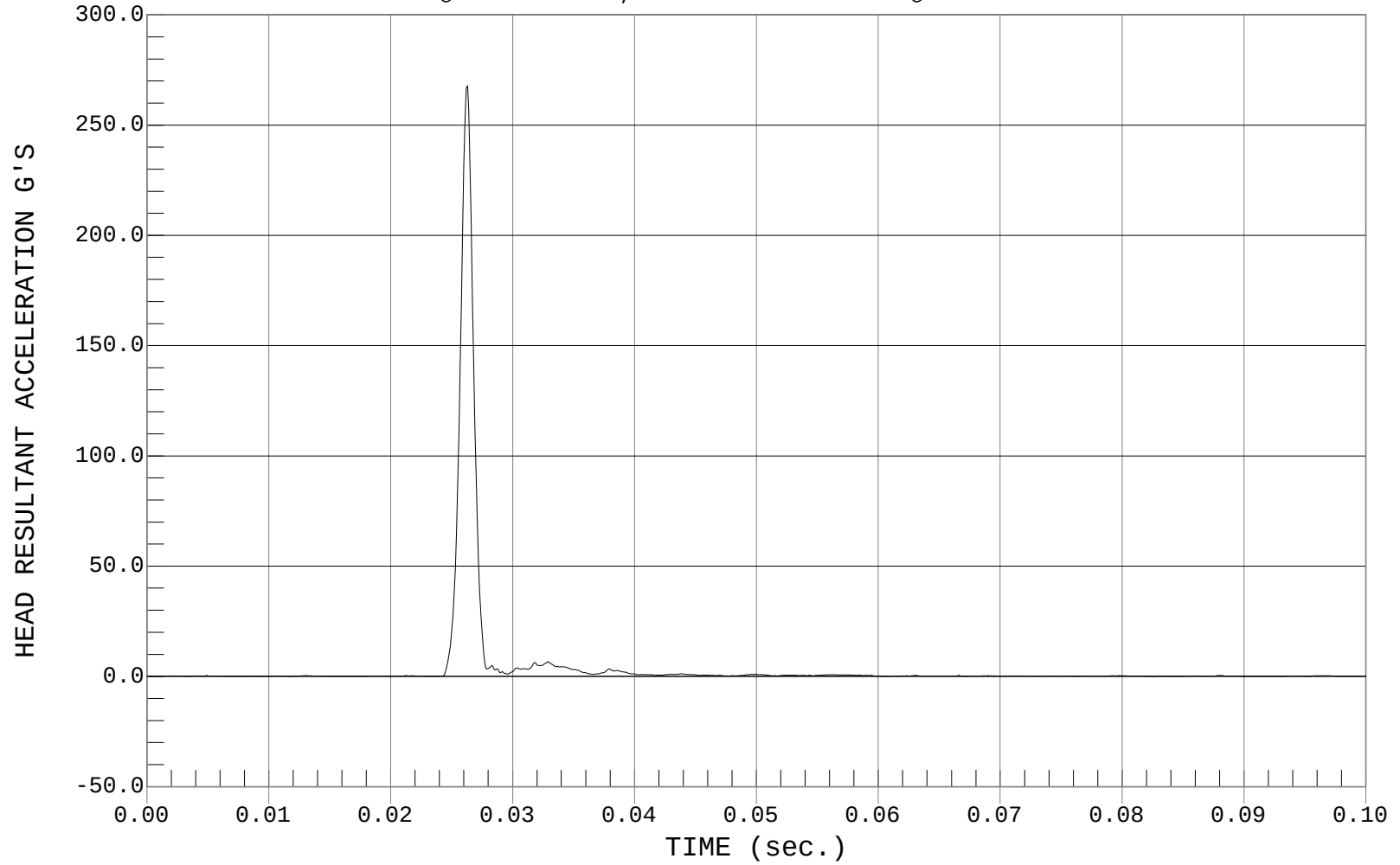
# PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #066

Test Date: 11-06-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT ACCELERATION, D00401av.a01

Ymin = .03 G'S @ 0.0001 sec., Ymax = 267.9 G'S @ 0.0263 sec.





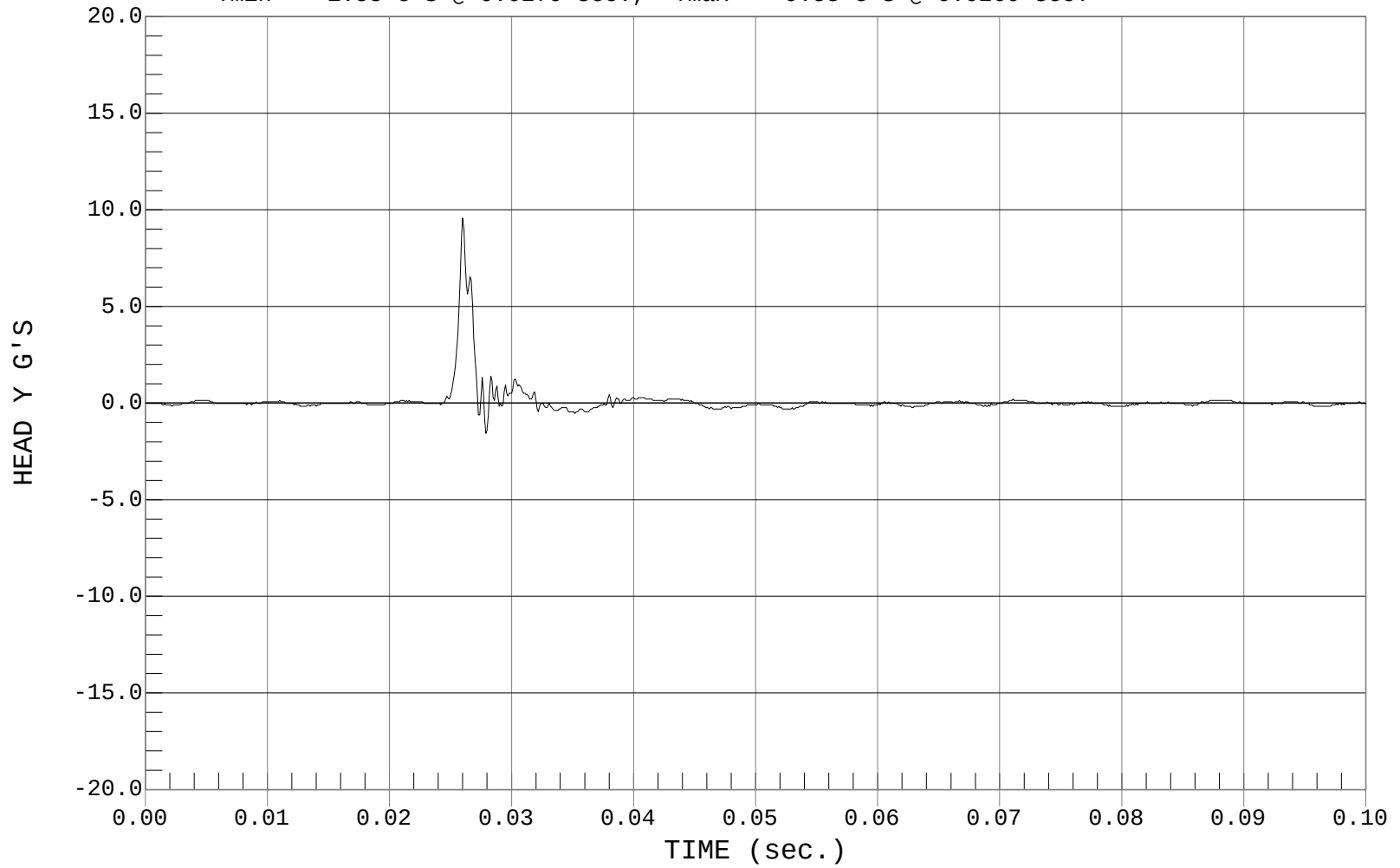
# PEAK LATERAL ACCELARATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #066

Test Date: 11-06-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD Y, D00401AR.A02

Ymin = -1.58 G'S @ 0.0279 sec., Ymax = 9.58 G'S @ 0.0260 sec.



MGA RESEARCH CORPORATION  
NECK FLEXION TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 066  
Test Number: D001402

| TEST PARAMETER                                     |       | SPECIFICATION      | TEST RESULTS |
|----------------------------------------------------|-------|--------------------|--------------|
| Temperature (°F)                                   |       | 69 - 72            | 70°          |
| Relative Humidity (%)                              |       | 10 – 70            | 39%          |
| Pendulum Speed                                     |       | 22.6 – 23.4 ft/sec | 23.1         |
| Pendulum<br>Deceleration                           | 10 ms | 22.50 – 27.50 g    | 24.84        |
|                                                    | 20 ms | 17.60 – 22.60 g    | 20.24        |
|                                                    | 30 ms | 12.50 – 18.50 g    | 15.08        |
| Max. Pendulum G Above 30 ms                        |       | 29.0 g max.        | 15.1         |
| Deceleration – Time Curve<br>Decay Time to 5 G     |       | 34 – 42 ms         | 35           |
| D Plane Rotation                                   | Max.  | 64 – 78 deg.       | 67           |
|                                                    | Time  | 57.- 64 ms         | 58           |
| Rotation Angle – Time Curve<br>Decay Time to Zero  |       | 113 – 128 ms       | 113          |
| Moment About<br>Occipital Condyle                  | Max.  | 65 – 80 ft-lbf     | 72           |
|                                                    | Time  | 47 – 58 ms         | 49           |
| Positive Moment – Time Curve<br>Decay Time to Zero |       | 97 – 107 ms        | 98           |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



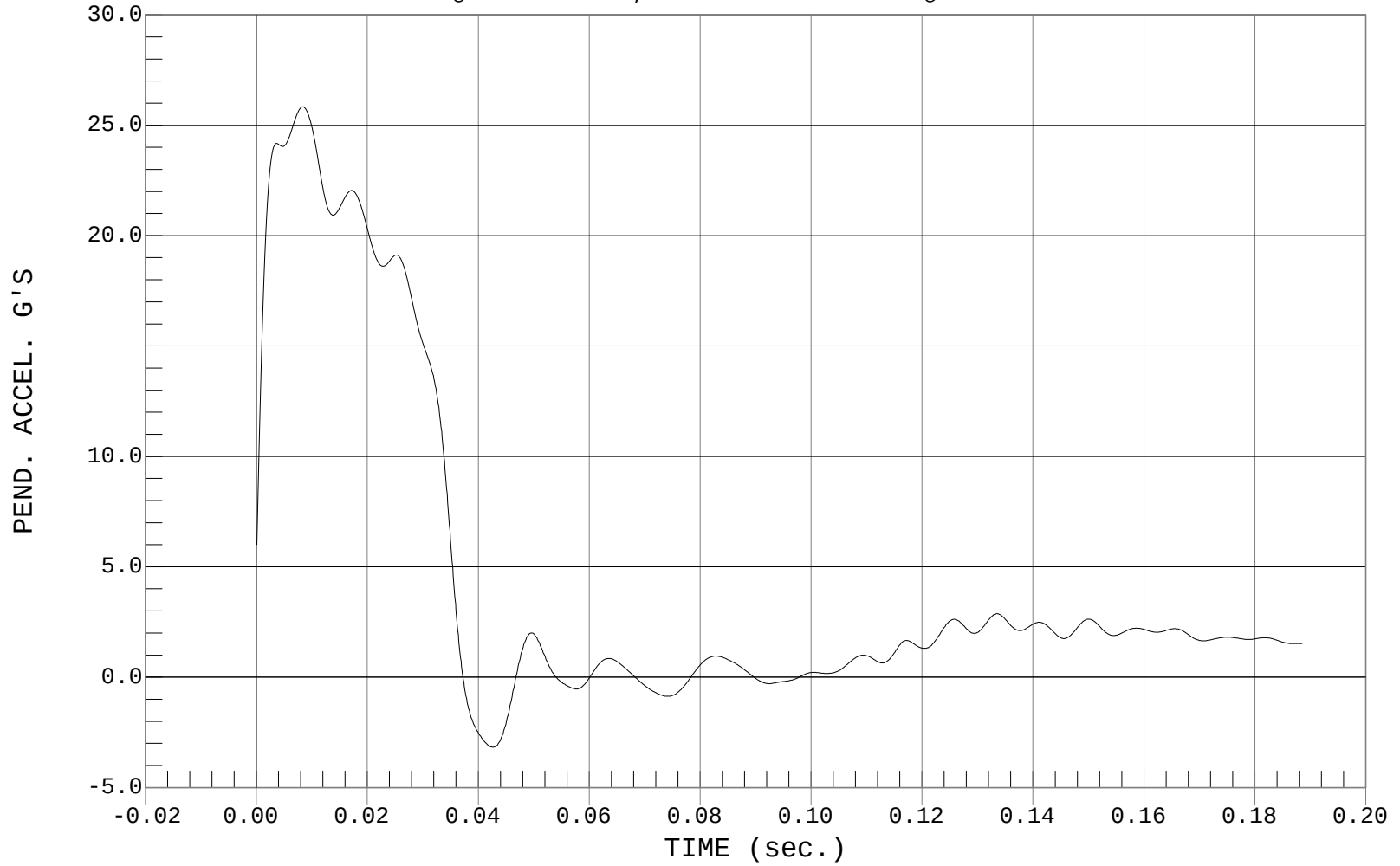
# PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Flexion  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 23.12 FT/SEC, 7.05 M/SEC

— 1 PEND. ACCEL., D00402AF.A04

Ymin = -3.17 G'S @ 0.0427 sec., Ymax = 25.84 G'S @ 0.0084 sec.





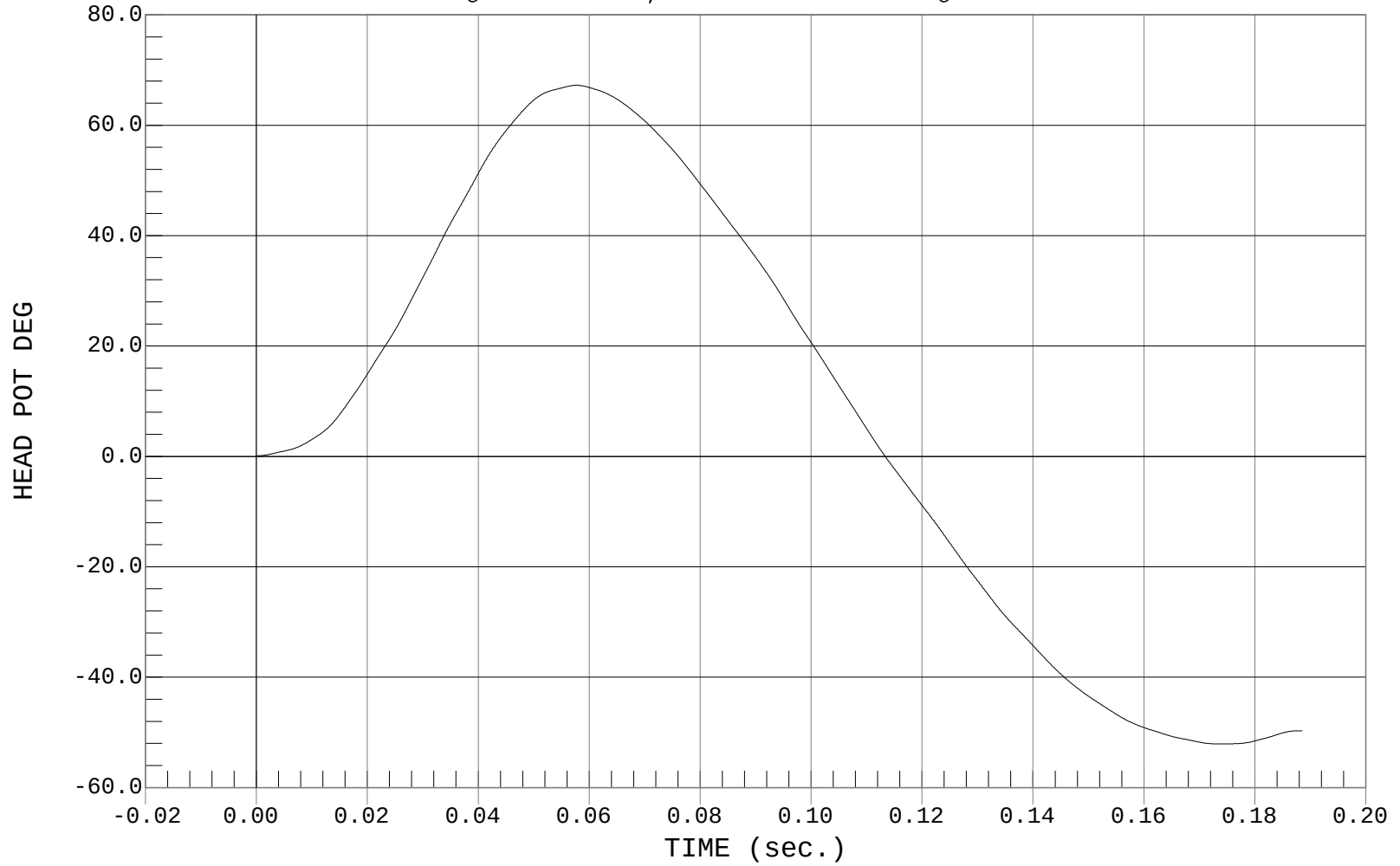
## NECK ROTATION

Test Desc.: Dummy Calibration - Neck Flexion  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 23.12 FT/SEC, 7.05 M/SEC

— 1 HEAD POT, D00402DU.D05

Ymin = -52.09 DEG @ 0.1736 sec., Ymax = 67.24 DEG @ 0.0577 sec.





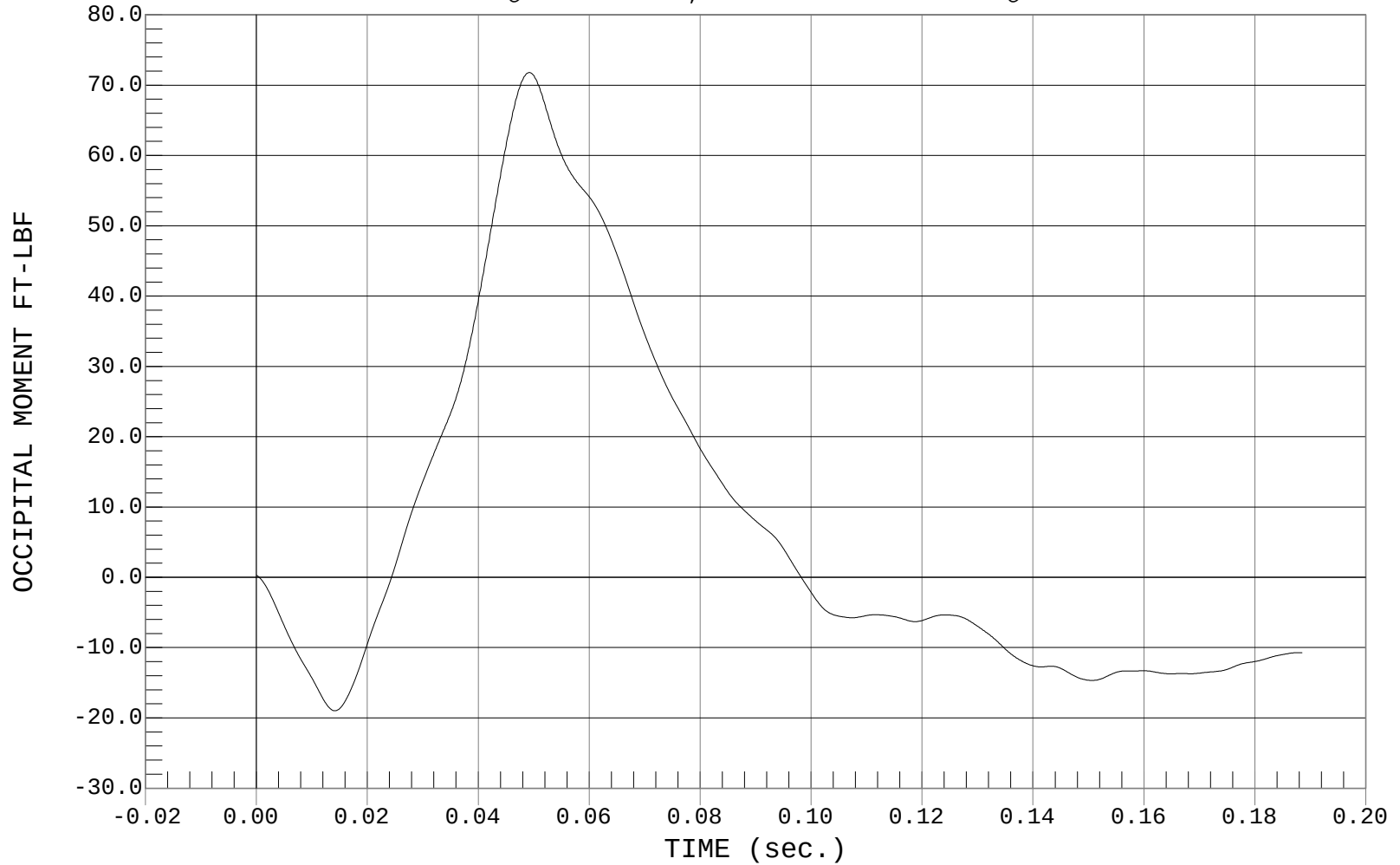
## OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Flexion  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 23.12 FT/SEC, 7.05 M/SEC

— 1 OCCIPITAL MOMENT, D00402NK.MNT

Ymin = -18.99 FT-LBF @ 0.0142 sec., Ymax = 71.8 FT-LBF @ 0.0492 sec.





MGA RESEARCH CORPORATION  
NECK EXTENSION TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 066  
Test Number: D001403

| TEST PARAMETER                                     |         | SPECIFICATION        | TEST RESULTS |
|----------------------------------------------------|---------|----------------------|--------------|
| Temperature (°F)                                   |         | 69 – 72              | 70°          |
| Relative Humidity (%)                              |         | 10 – 70              | 39%          |
| Pendulum Speed                                     |         | 19.50 – 20.30 ft/sec | 20.09        |
| Pendulum Deceleration                              | 10 msec | 17.20 – 21.20 g      | 19.13        |
|                                                    | 20 msec | 14.00 – 19.00 g      | 16.92        |
|                                                    | 30 msec | 11.00 – 16.00 g      | 13.92        |
| Max. Pendulum G Above 30 ms                        |         | 22 g max.            | 14           |
| Deceleration – Time Curve<br>Decay Time to 5 g     |         | 38 – 46 ms           | 38           |
| D Plane Rotation                                   | Max.    | 81 – 106 deg.        | 95           |
|                                                    | Time    | 72 – 82 ms           | 76           |
| Rotation Angle – Time Curve<br>Decay Time to Zero  |         | 147 – 174 ms         | 154          |
| Moment About<br>Occipital Condyle                  | Min.    | -59.0/-39.0 ft-lbf   | -48.3        |
|                                                    | Time    | 65 – 79 ms           | 71           |
| Positive Moment – Time Curve<br>Decay Time to Zero |         | 120 – 148 ms         | 141          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



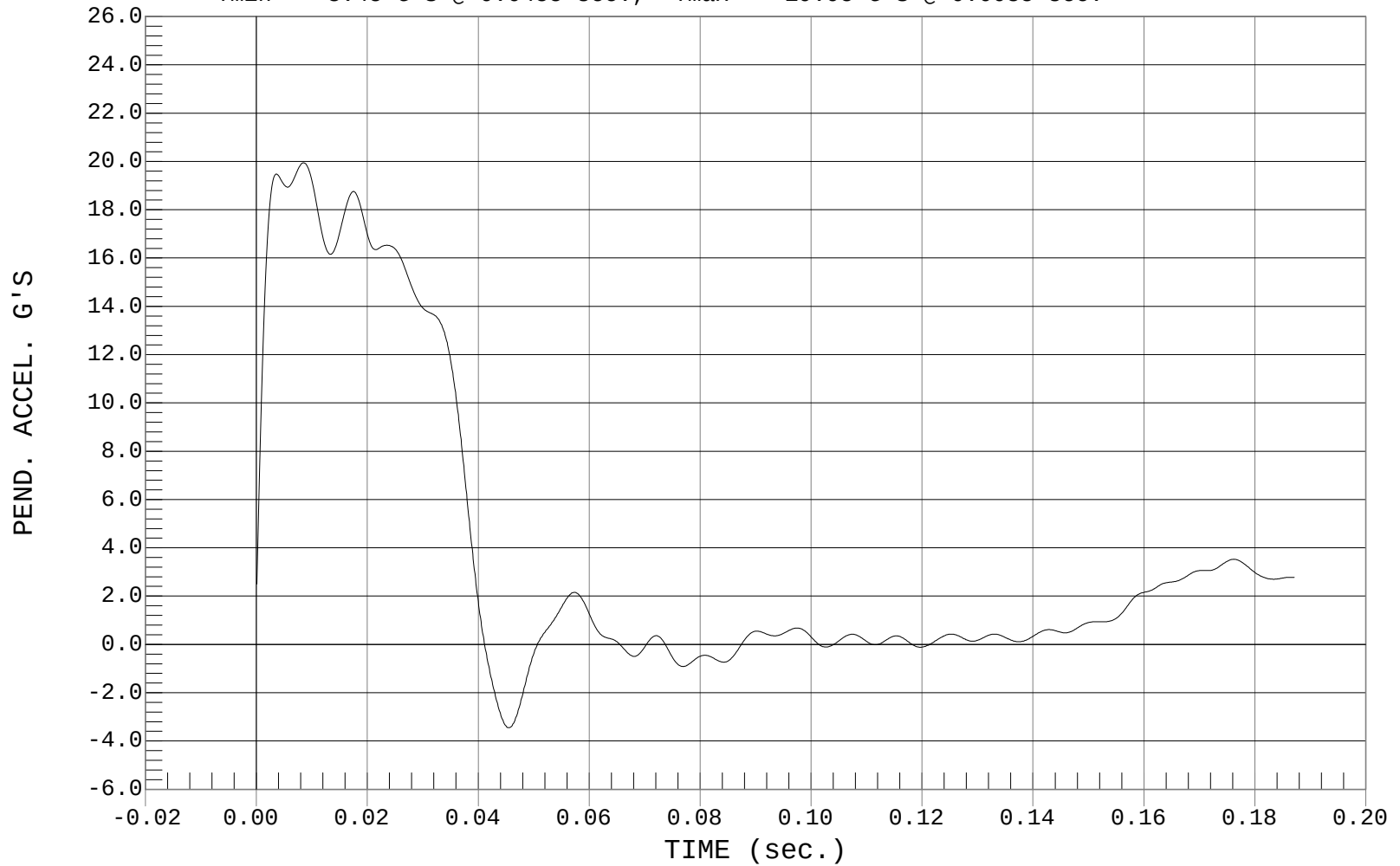
# PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Extension  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 20.09 FT/SEC, 6.12 M/SEC

— 1 PEND. ACCEL., D00403AF.A04

Ymin = -3.45 G'S @ 0.0455 sec., Ymax = 19.95 G'S @ 0.0085 sec.





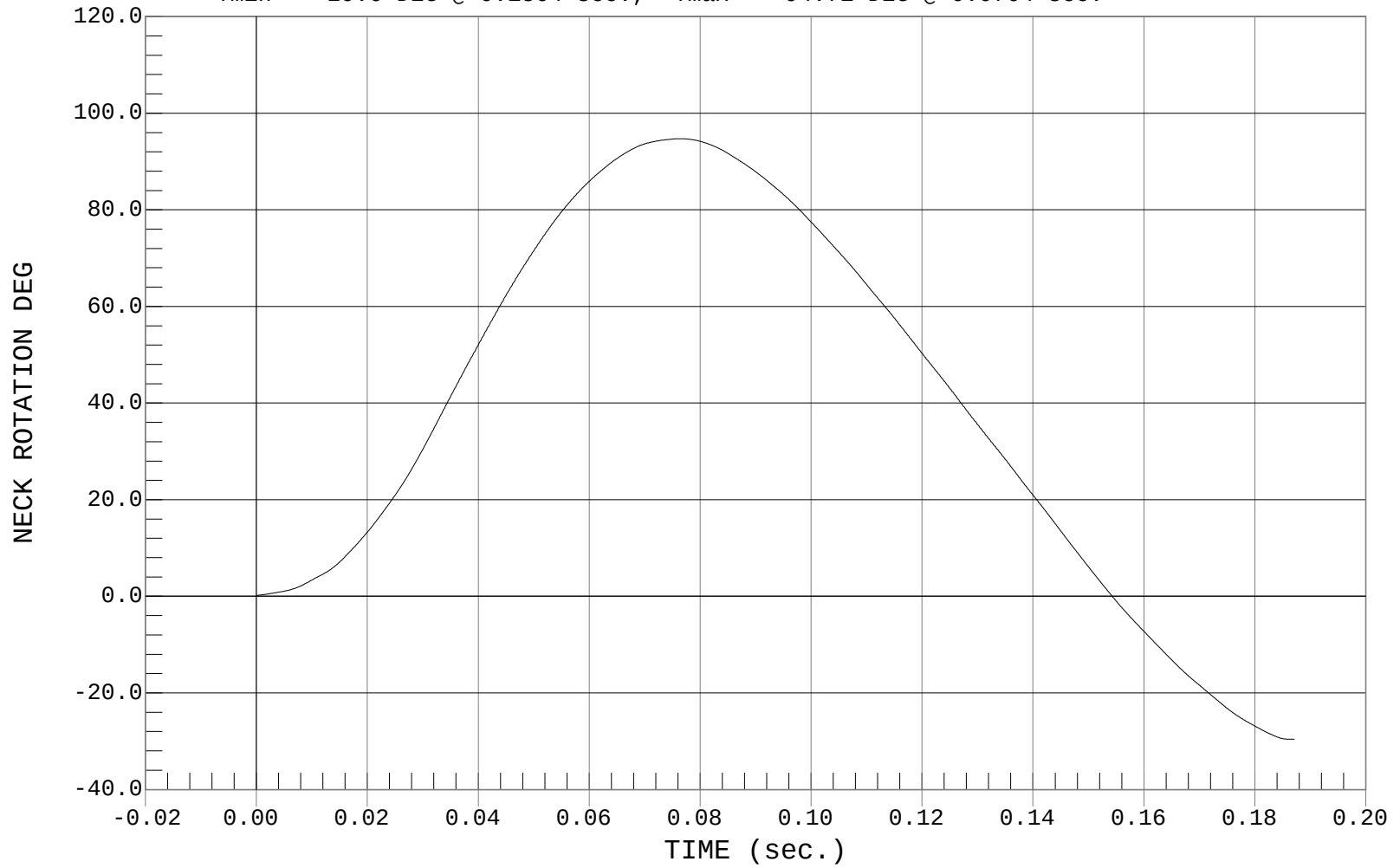
## NECK ROTATION

Test Desc.: Dummy Calibration - Neck Extension  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 20.09 FT/SEC, 6.12 M/SEC

— 1 NECK ROTATION, D00403DU.D05

Ymin = -29.6 DEG @ 0.1864 sec., Ymax = 94.71 DEG @ 0.0764 sec.





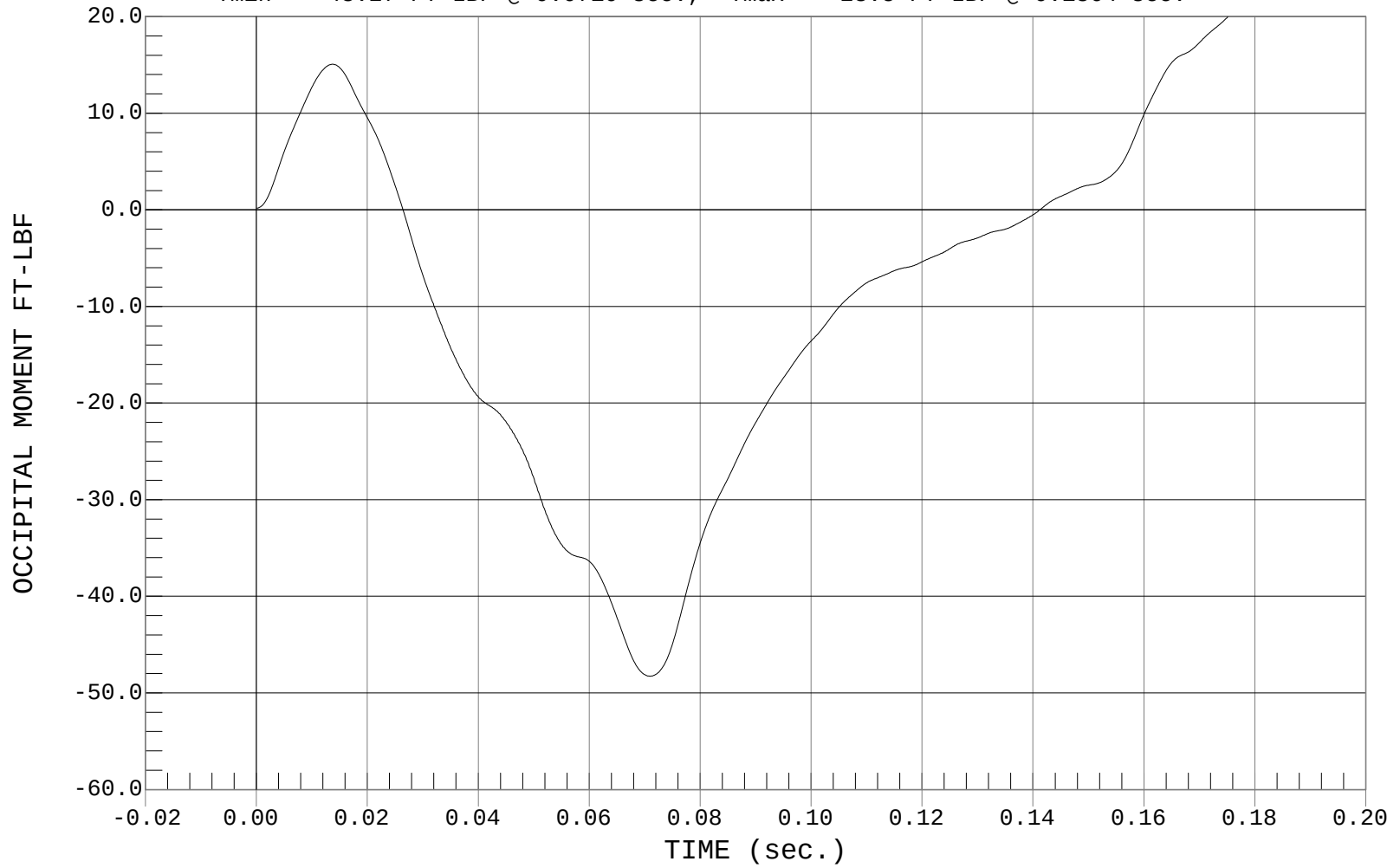
## OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Extension  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 20.09 FT/SEC, 6.12 M/SEC

— 1 OCCIPITAL MOMENT, D00403NK.MNT

Ymin = -48.27 FT-LBF @ 0.0710 sec., Ymax = 23.5 FT-LBF @ 0.1864 sec.



MGA RESEARCH CORPORATION  
THORAX IMPACT TEST  
HYBRID III

Date: 1/8/00  
Dummy Serial Number: 066  
Test Number: D001404

| TEST PARAMETER        | SPECIFICATION      | TEST RESULTS |
|-----------------------|--------------------|--------------|
| Temperature (°F)      | 69 – 72            | 70°          |
| Relative Humidity (%) | 10 – 70%           | 33%          |
| Probe Speed           | 21.6 – 22.4 ft/sec | 22.2         |
| Peak Deflection       | 2.50 – 2.86 in     | 2.66         |
| Peak Resistive Force  | 1160 – 1325 lbs    | 1311         |
| Internal Hysteresis   | 69 – 85%           | 75%          |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



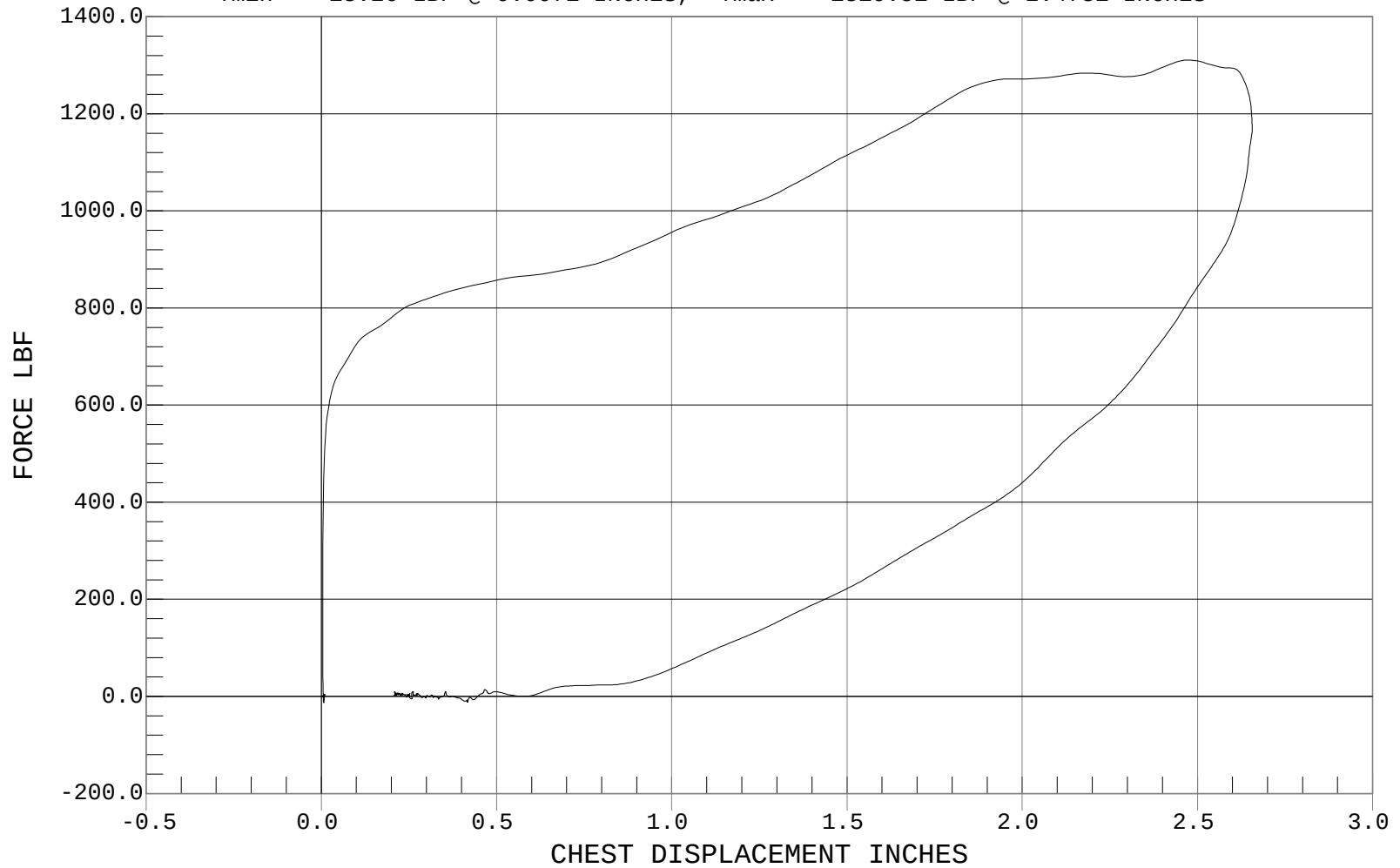
# THORAX IMPACT

Test Desc.: Dummy Calibration - Chest Impact  
Component: Dummy #066

Test Date: 11-08-00  
Speed: 22.23 FT/SEC, 6.78 M/SEC

1 FORCE, D00404CH.FVD

Ymin = -13.26 LBF @ 0.0071 INCHES, Ymax = 1310.51 LBF @ 2.4731 INCHES





MGA RESEARCH CORPORATION  
RIGHT KNEE IMPACT TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 066  
Test Number: D001405

| TEST PARAMETER        | SPECIFICATION    | TEST RESULTS |
|-----------------------|------------------|--------------|
| Temperature (°F)      | 66 – 78          | 69°          |
| Relative Humidity (%) | 10 – 70          | 45%          |
| Probe Speed           | 6.8 – 7.0 ft/sec | 6.8          |
| Maximum Force         | 1060 - 1300      | 1089         |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



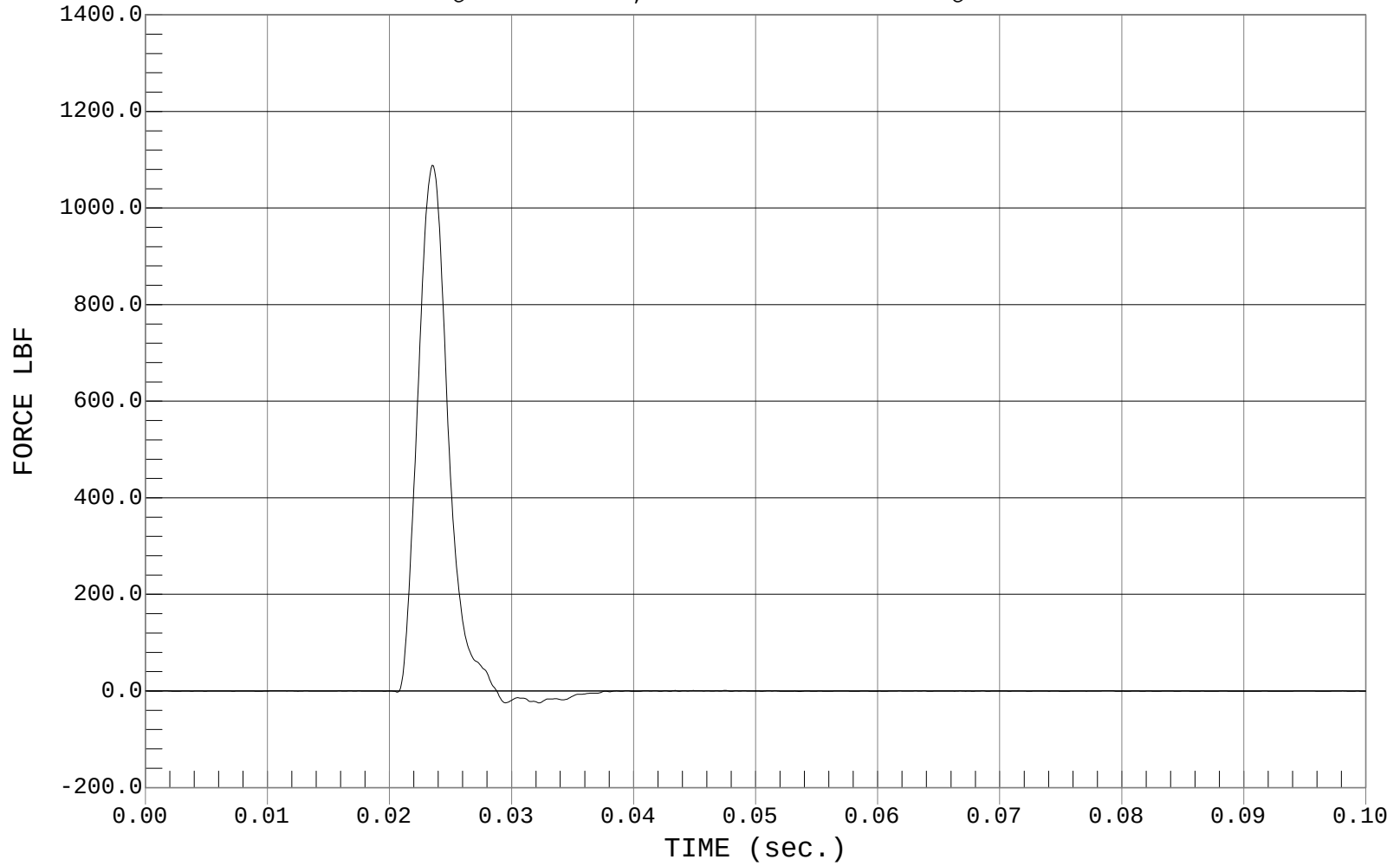
# KNEE IMPACT

Test Desc.: Dummy Calibration - Right Knee Impact  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 6.81 FT/SEC, 2.08 M/SEC

— 1 FORCE, D00405FF.F09

Ymin = -24.7 LBF @ 0.0323 sec., Ymax = 1088.51 LBF @ 0.0235 sec.



MGA RESEARCH CORPORATION  
LEFT KNEE IMPACT TEST  
HYBRID III

Date: 11/7/00  
Dummy Serial Number: 066  
Test Number: D001406

| TEST PARAMETER        | SPECIFICATION    | TEST RESULTS |
|-----------------------|------------------|--------------|
| Temperature (°F)      | 66 – 78          | 69°          |
| Relative Humidity (%) | 10 – 70          | 45%          |
| Probe Speed           | 6.8 – 7.0 ft/sec | 6.8          |
| Maximum Force         | 1060 - 1300      | 1096         |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



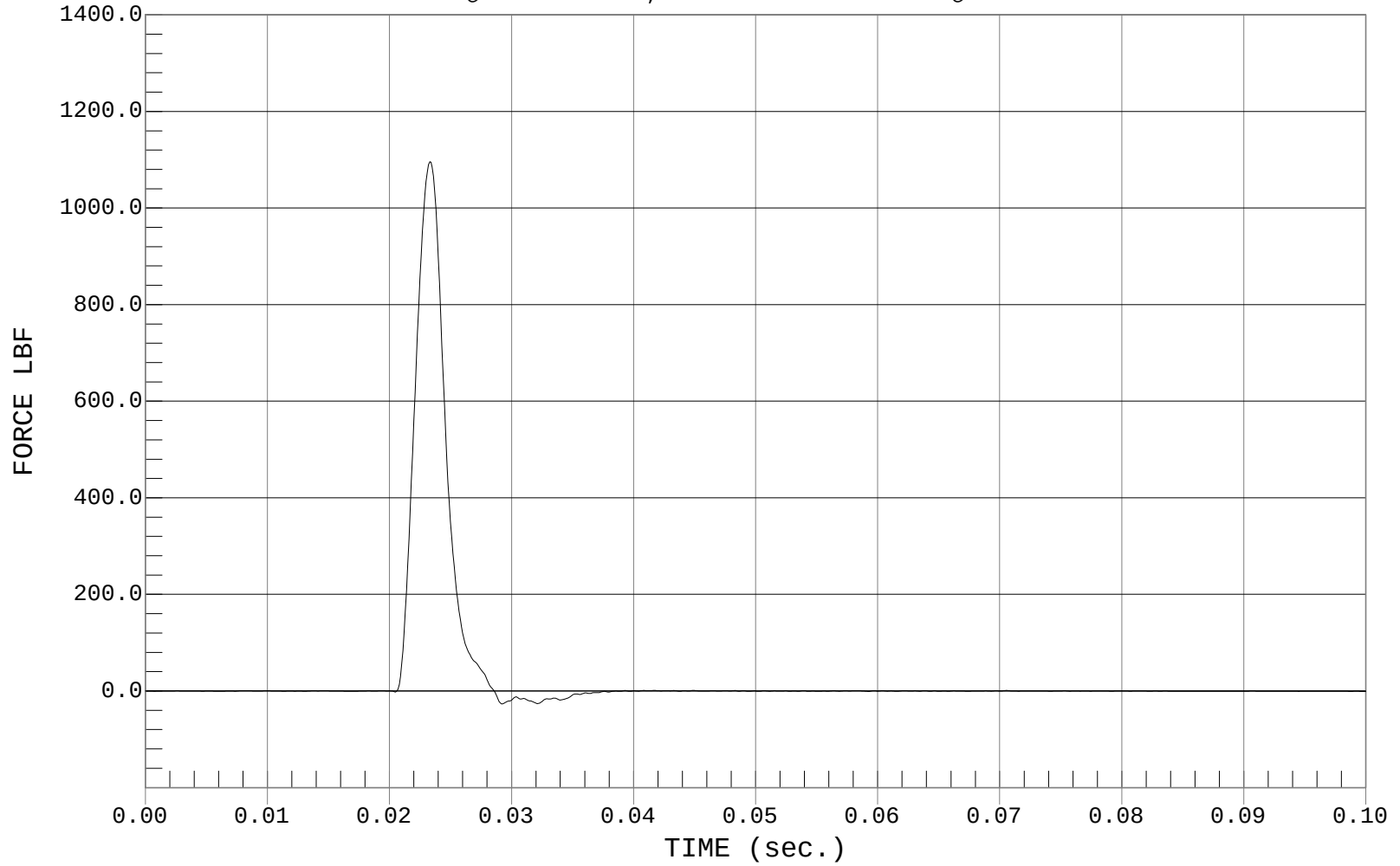
# KNEE IMPACT

Test Desc.: Dummy Calibration - Left Knee Impact  
Component: Dummy #066

Test Date: 11-07-00  
Speed: 6.84 FT/SEC, 2.08 M/SEC

— 1 FORCE, D00406FF.F09

Ymin = -26.87 LBF @ 0.0292 sec., Ymax = 1096.2 LBF @ 0.0233 sec.



MGA RESEARCH CORPORATION  
HIP-FEMUR FLEXION TEST  
HYBRID III

Date: 11/8/00  
Dummy Serial Number: 066  
Test Number: D001409/0

| TEST PARAMETER        | SPECIFICATION                    | TEST RESULTS |      |
|-----------------------|----------------------------------|--------------|------|
|                       |                                  | Right        | Left |
| Temperature (°F)      | 66 – 78                          | 70°          | 70°  |
| Relative Humidity (%) | 10 – 70                          | 32%          | 32%  |
| Rotation Rate         | 5-10 deg/sec                     | Yes          | Yes  |
| 30 Degrees            | 70 ft-lb maximum                 | 44           | 48   |
| 150 ft-lbf            | 40-50 degree maximum<br>rotation | 46°          | 45°  |

TEST MEETS SPECIFICATIONS

Technician: \_\_\_\_\_

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



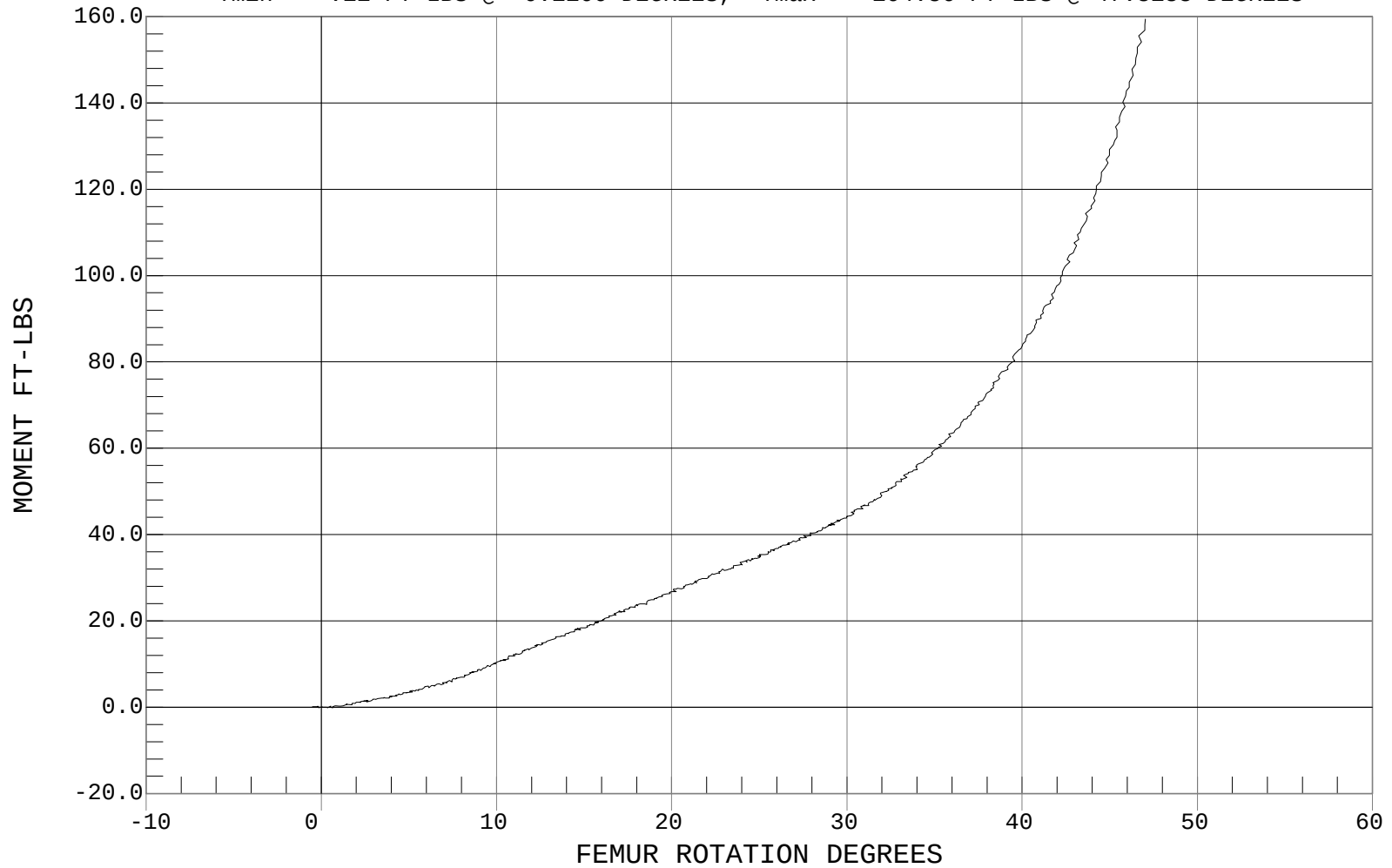
# HIP-FEMUR FLEXION

Test Desc.: DUMMY CALIBRATION - HIP-FEMUR FLEXION  
Component: DUMMY # 066 RIGHT FEMUR

Test Date: 11-08-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 MOMENT, D00409FC.F14

Ymin = -.11 FT-LBS @ -0.1166 DEGREES, Ymax = 164.86 FT-LBS @ 47.3133 DEGREES







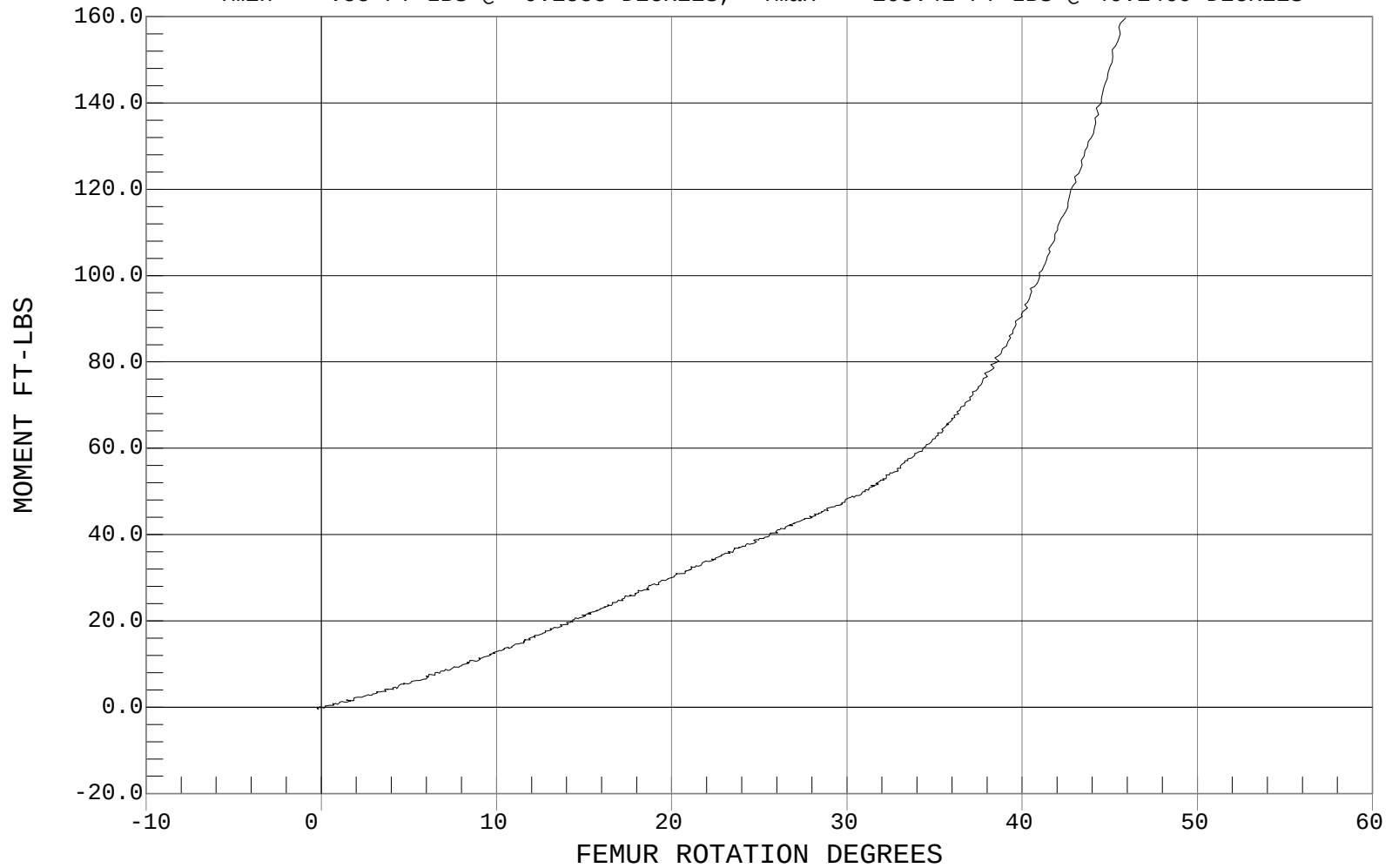
# HIP-FEMUR FLEXION

Test Desc.: DUMMY CALIBRATION - HIP-FEMUR FLEXION  
Component: DUMMY # 066 LEFT FEMUR

Test Date: 11-08-00  
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 MOMENT, D00400FC.F14

Ymin = -.55 FT-LBS @ -0.1555 DEGREES, Ymax = 168.42 FT-LBS @ 46.1469 DEGREES



## DUMMY INSPECTION CHECKLIST

Type: Hybrid III

Dummy Serial Number: 066

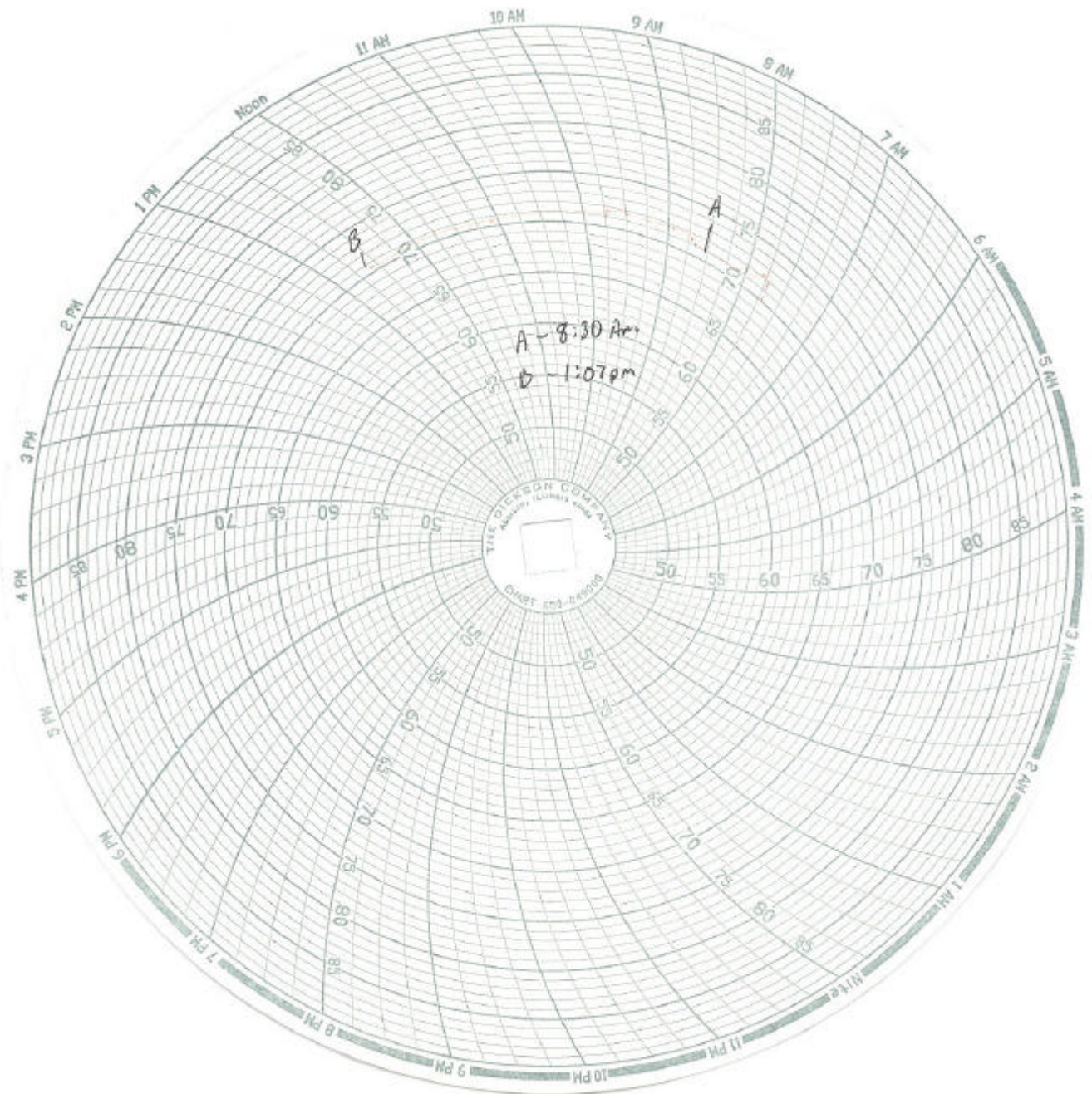
Inspected By: Tim Michnay

Date: 11/8/00

| <u>Part</u>  | <u>Items Checked</u>                           | <u>Comments</u> |
|--------------|------------------------------------------------|-----------------|
| Skin         | visual inspection                              | OK              |
| Head         | visual, ballast, accelerometer mount           | OK              |
| Neck         | visual, cable torque, nodding blocks           | OK              |
| Clavicles    | visual, bumpers, range of motion               | OK              |
| Arms/Hands   | visual, bumpers, range of motion               | OK              |
| Spine box    | visual, ballast, weldment, accelerometer mount | OK              |
| Rib cage     | visual, measure, stiffeners                    | OK              |
| Sternum      | visual, bumpers                                | OK              |
| Lumbar spine | visual, cable torque                           | OK              |
| Abdomen      | visual                                         | OK              |
| Pelvis       | visual, palpate, accelerometer mount           | OK              |
| Upper legs   | visual, load cell bolts                        | OK              |
| Knees        | visual, stops, inserts, sliders                | OK              |
| Lower legs   | visual, range of motion                        | OK              |
| Ankles       | visual, range of motion                        | OK              |
| Feet         | visual, range of motion                        | OK              |
| Joints       | 1 to 2 g range                                 | OK              |
| Other        |                                                |                 |

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

## VEHICLE AND DUMMY TEMPERATURE



A = Dummies installed in vehicle at 8:30 a.m.

B = Test conducted at 1:07 p.m.

APPENDIX D  
TEST EQUIPMENT & INSTRUMENTATION CALIBRATION

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION  
INSTRUMENTS FOR DUMMY NO. 065

|                       | DRIVER     |              |                  |
|-----------------------|------------|--------------|------------------|
|                       | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Head X                | ACCY6      | Endevco      | 10/3/00          |
| Head Y                | ACCH1      | Endevco      | 10/3/00          |
| Head Z                | AAMW5      | Endevco      | 10/3/00          |
| Head X Redundant      | AJ9D2      | Endevco      | 10/3/00          |
| Head Y Redundant      | AH1E2      | Endevco      | 10/3/00          |
| Head Z Redundant      | AJ7K3      | Endevco      | 10/3/00          |
| Chest X               | ACC78      | Endevco      | 10/3/00          |
| Chest Y               | ACCE6      | Endevco      | 10/3/00          |
| Chest Z               | ACCY3      | Endevco      | 10/3/00          |
| Chest X Redundant     | AJ9J7      | Endevco      | 10/3/00          |
| Chest Y Redundant     | AJ7A2      | Endevco      | 10/3/00          |
| Chest Z Redundant     | AJ819      | Endevco      | 10/3/00          |
| Right Femur Load Cell | F259FZ     | Denton       | 10/13/00         |
| Left Femur Load Cell  | F260FZ     | Denton       | 10/13/00         |
| Pelvis X              | AM748      | Endevco      | 9/19/00          |
| Pelvis Y              | ALCH7      | Endevco      | 9/19/00          |
| Pelvis Z              | AALH1      | Endevco      | 9/19/00          |

# DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

## INSTRUMENTS FOR DUMMY NO. 065

|                         | DRIVER     |              |                  |
|-------------------------|------------|--------------|------------------|
|                         | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Neck Load Cell X        | N442FX     | Denton       | 6/1/00           |
| Neck Load Cell Y        | N442FY     | Denton       | 6/1/00           |
| Neck Load Cell Z        | N442FZ     | Denton       | 6/1/00           |
| Neck Moment X           | N442MX     | Denton       | 6/1/00           |
| Neck Moment Y           | N442MY     | Denton       | 6/1/00           |
| Neck Moment Z           | N442MZ     | Denton       | 6/1/00           |
| Chest Deflection Gauge  | 65         | Servo        | 10/12/00         |
| Lap Belt Load Cell      | 191        | Denton       | 10/6/00          |
| Shoulder Belt Load Cell | 192        | Denton       | 10/6/00          |



DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION  
INSTRUMENTS FOR DUMMY NO. 065

|                                | DRIVER     |              |                  |
|--------------------------------|------------|--------------|------------------|
|                                | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Right Tibia Moment X     | T103MX     | Denton       | 10/11/00         |
| Upper Right Tibia Moment Y     | T103MY     | Denton       | 10/11/00         |
| Upper Right Tibia Force Z      | T103FZ     | Denton       | 10/11/00         |
| Lower Right Tibia Moment X     | A133MX     | Denton       | 10/11/00         |
| Lower Right Tibia Moment Y     | A133MY     | Denton       | 10/11/00         |
| Lower Right Tibia Force Z      | A133FZ     | Denton       | 10/11/00         |
| Upper Left Tibia Moment X      | T105MX     | Denton       | 10/11/00         |
| Upper Left Tibia Moment Y      | T105MY     | Denton       | 10/11/00         |
| Upper Left Tibia Force Z       | T105FZ     | Denton       | 10/11/00         |
| Lower Left Tibia Moment X      | A134MX     | Denton       | 10/11/00         |
| Lower Left Tibia Moment Y      | A134MY     | Denton       | 10/11/00         |
| Lower Left Tibia Force Z       | A134FZ     | Denton       | 10/11/00         |
| Left Foot Ball Z Acceleration  | AP2D6      | Endevco      | 11/16/00         |
| Left Heel X Acceleration       | J11548     | Endevco      | 11/16/00         |
| Left Heel Z Acceleration       | J10866     | Endevco      | 11/16/00         |
| Right Foot Ball Z Acceleration | AGMT2      | Endevco      | 11/16/00         |
| Right Heel X Acceleration      | AH0A2      | Endevco      | 11/16/00         |
| Right Heel Z Acceleration      | AJ837      | Endevco      | 11/16/00         |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION  
INSTRUMENTS FOR DUMMY NO. 066

|                       | PASSENGER  |              |                  |
|-----------------------|------------|--------------|------------------|
|                       | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Head X                | AAMN8      | Endevco      | 8/30/00          |
| Head Y                | ACC61      | Endevco      | 8/30/00          |
| Head Z                | ACCW9      | Endevco      | 8/30/00          |
| Head X Redundant      | AJ621      | Endevco      | 8/30/00          |
| Head Y Redundant      | AJ619      | Endevco      | 8/30/00          |
| Head Z Redundant      | AHY54      | Endevco      | 8/30/00          |
| Chest X               | ACCY1      | Endevco      | 8/30/00          |
| Chest Y               | ACCC8      | Endevco      | 8/30/00          |
| Chest Z               | ACCT7      | Endevco      | 8/30/00          |
| Chest X Redundant     | AJ9D4      | Endevco      | 8/30/00          |
| Chest Y Redundant     | AJ9F3      | Endevco      | 8/30/00          |
| Chest Z Redundant     | AJ9D9      | Endevco      | 8/30/00          |
| Right Femur Load Cell | F261FZ     | Denton       | 10/16/00         |
| Left Femur Load Cell  | F262FZ     | Denton       | 10/16/00         |
| Pelvis X              | AHTR2      | Endevco      | 9/19/00          |
| Pelvis Y              | AGTE9      | Endevco      | 9/19/00          |
| Pelvis Z              | AJ9B0      | Endevco      | 9/19/00          |

# DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 066

|                         | PASSENGER  |              |                  |
|-------------------------|------------|--------------|------------------|
|                         | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Neck Load Cell X        | N253FX     | Denton       | 10/11/00         |
| Neck Load Cell Y        | N253FY     | Denton       | 10/11/00         |
| Neck Load Cell Z        | N253FZ     | Denton       | 10/11/00         |
| Neck Moment X           | N253MX     | Denton       | 10/11/00         |
| Neck Moment Y           | N253MY     | Denton       | 10/11/00         |
| Neck Moment Z           | N253MZ     | Denton       | 10/11/00         |
| Chest Deflection Gauge  | 66         | Servo        | 10/12/00         |
| Lap Belt Load Cell      | 194        | Denton       | 10/4/00          |
| Shoulder Belt Load Cell | 193        | Denton       | 10/6/00          |

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION  
INSTRUMENTS FOR DUMMY NO. 066

|                                | PASSENGER  |              |                  |
|--------------------------------|------------|--------------|------------------|
|                                | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Right Tibia Moment X     | T106MX     | Denton       | 10/11/00         |
| Upper Right Tibia Moment Y     | T106MY     | Denton       | 10/11/00         |
| Upper Right Tibia Force Z      | T106FZ     | Denton       | 10/11/00         |
| Lower Right Tibia Moment X     | A135MX     | Denton       | 10/11/00         |
| Lower Right Tibia Moment Y     | A135MY     | Denton       | 10/11/00         |
| Lower Right Tibia Force Z      | A135FZ     | Denton       | 10/11/00         |
| Upper Left Tibia Moment X      | T109MX     | Denton       | 10/11/00         |
| Upper Left Tibia Moment Y      | T109MY     | Denton       | 10/11/00         |
| Upper Left Tibia Force Z       | T109FZ     | Denton       | 10/11/00         |
| Lower Left Tibia Moment X      | A138MX     | Denton       | 10/11/00         |
| Lower Left Tibia Moment Y      | A138MY     | Denton       | 10/11/00         |
| Lower Left Tibia Force Z       | A138FZ     | Denton       | 10/11/00         |
| Left Foot Ball Z Acceleration  | ALDD6      | Endevco      | 11/16/00         |
| Left Heel X Acceleration       | J20392     | Endevco      | 11/16/00         |
| Left Heel Z Acceleration       | AGT18      | Endevco      | 11/16/00         |
| Right Foot Ball Z Acceleration | AH0A5      | Endevco      | 11/16/00         |
| Right Heel X Acceleration      | AJ9C4      | Endevco      | 11/16/00         |
| Right Heel Z Acceleration      | AN8A4      | Endevco      | 11/16/00         |

# DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

|                                         | VEHICLE ACCELEROMETERS |              |                  |
|-----------------------------------------|------------------------|--------------|------------------|
|                                         | SERIAL NO.             | MANUFACTURER | CALIBRATION DATE |
| Left Rear Seat Crossmember X            | I18-E02                | Entran       | 8/10/00          |
| Right Rear Seat Crossmember X           | F12-G09                | Entran       | 8/18/00          |
| Top of Engine Block X                   | E10-F18                | Entran       | 7/11/00          |
| Bottom of Engine X                      | D05-R16                | Entran       | 8/10/00          |
| Left Brake Caliper X                    | G13-F04                | Entran       | 8/14/00          |
| Right Brake Caliper X                   | G13-F06                | Entran       | 8/14/00          |
| Instrument Panel X                      | A09-G02                | Entran       | 9/12/00          |
| Redundant Left Rear Seat Crossmember X  | H02-J14                | Entran       | 9/14/00          |
| Redundant Right Rear Seat Crossmember X | L18-G02                | Entran       | 8/10/00          |

|                                            | LABORATORY INSTRUMENTS |              |                  |
|--------------------------------------------|------------------------|--------------|------------------|
|                                            | SERIAL NO.             | MANUFACTURER | CALIBRATION DATE |
| Neck Bending Pendulum Accelerometer        | C12885                 | Endevco      | 7/12/00          |
| Neck Bending Head Rotary Potentiometer     | 018                    | Spectrol     | 7/12/00          |
| Neck Bending Pendulum Rotary Potentiometer | 019                    | Spectrol     | 7/12/00          |
| Chest Probe Accelerometer                  | J14396                 | Endevco      | 7/12/00          |
| Knee Impact Accelerometer                  | J14398                 | Entran       | 7/12/00          |

APPENDIX E  
VEHICLE OWNER'S OCCUPANT RESTRAINT  
SYSTEM INSTRUCTIONS



## SEAT BELTS

### Seat belt precautions

Lexus strongly urges that the driver and passengers in the vehicle be properly restrained at all times with the seat belts provided. Failure to do so could increase the chance of injury and/or the severity of injury in accidents.

**Child.** Use a child restraint system appropriate for the child until the child becomes large enough to properly wear the vehicle's seat belts. See "Child restraint" on page 115 for details.

If a child is too large for a child restraint system, the child should sit in the rear seat and must be restrained using the vehicle's seat belt. According to accident statistics, the child is safer when properly restrained in the rear seat than in the front seat.

If a child must sit in the front seat, the seat belts should be worn properly. Do not let the child sit on your lap. It does not provide sufficient restraint. If an accident occurs and the seat belts are not worn properly, the force of the rapid inflation of the airbag may cause severe injury to the child.

Do not allow the child to stand up or kneel on either rear or front seats. An unrestrained child could suffer serious injury or death during emergency braking or a collision.

**Pregnant woman.** Lexus recommends the use of a seat belt

**Injured person.** Lexus recommends the use of a seat belt. Depending on the injury, first check with your doctor for specific recommendations.



### CAUTION

Persons should ride in their seats properly wearing their seat belts whenever the vehicle is moving. Otherwise, they are much more likely to suffer serious bodily injury or death in the event of sudden braking or a collision.

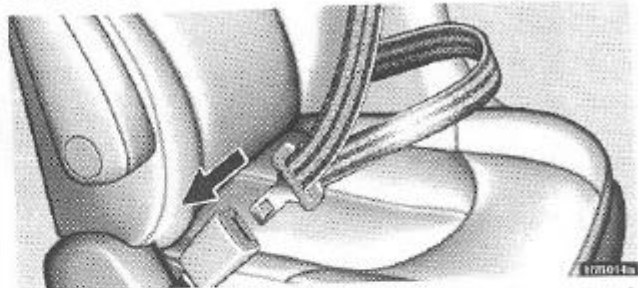
When using the seat belts, observe the following:

- Use the belt for only one person at a time. Do not use a single belt for two or more people – even children.
- Avoid reclining the seatbacks too much. The seat belts provide maximum protection when the seatbacks are in the upright position. (See "Adjusting seatback angle" on page 80.)
- Be careful not to damage the belt webbing or hardware. Take care that they do not get caught or pinched in the seat or doors.
- Inspect the belt system periodically. Check for cuts, fraying, and loose parts. Damaged parts should be replaced. Do not disassemble or modify the system.

### COMFORT ADJUSTMENT

- Keep the belts clean and dry. If they need cleaning, use a mild soap solution or lukewarm water. Never use bleach, dye, or abrasive cleaners – they may severely weaken the belts. (See "Cleaning the interior" on page 308 for instructions.)
- Replace the belt assembly (including bolts) if it has been used in a severe impact. The entire assembly should be replaced even if damage is not obvious.

### Fastening front and rear seat belts



Adjust the seat as needed and sit up straight and well back in the seat. To fasten your belt, pull it out of the retractor and insert the tab into the buckle.

You will hear a click when the tab locks into the buckle.

The seat belt length automatically adjusts to your size and the seat position.

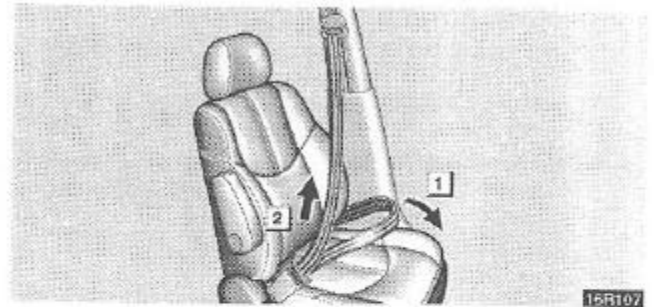
The retractor will lock the belt during a sudden stop or on impact. It also may lock if you lean forward too quickly. A slow, easy motion will allow the belt to extend, and you can move around freely.

When a passenger's shoulder belt is completely extended and is then retracted even slightly, the belt is locked in that position and cannot be extended. This feature is used to hold the child restraint system securely. (For details, see "Child restraint" on page 115.) To free the belt again, fully retract the belt and then pull the belt out once more.

If the seat belt cannot be pulled out of the retractor, firmly pull the belt and release it. You will then be able to smoothly pull the belt out of the retractor.

### ⚠ CAUTION

- After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.
- If the seat belt does not function normally, immediately contact your Lexus dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.



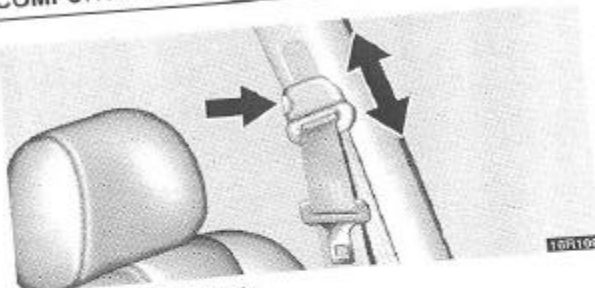
Adjust the position of the lap and shoulder belts.

- 1 Position the lap belt as low as possible on your hips – not on your waist.
- 2 Adjust it to a snug fit by pulling the shoulder portion upward through the latch plate.

### ⚠ CAUTION

- Both high-positioned lap belts and loose-fitting belts could cause serious injuries due to sliding under the lap belt during a collision or other unintended result. Keep the lap belt positioned as low on hips as possible.
- For your safety, do not place the shoulder belt under your arm.

### COMFORT ADJUSTMENT



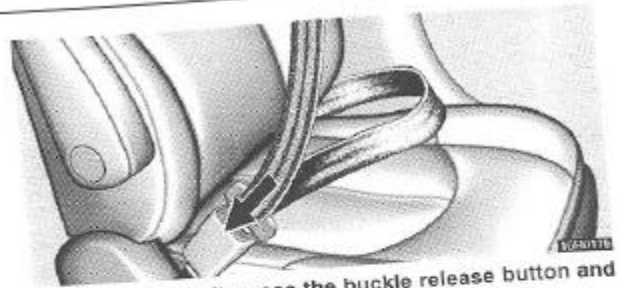
#### ►Front seat belts only

Adjust the shoulder anchor position to your size.

To raise the anchor position, push the anchor up. To lower the anchor position, support the anchor while you push the lock release button then slide the anchor down. After the adjustment, make sure the anchor is locked in position.

### ⚠ CAUTION

Always make sure the shoulder belt is positioned across the center of your shoulder. The belt should be kept away from your neck, but not falling off your shoulder. Failure to do so could reduce the amount of protection in an accident and cause severe injuries in a collision.



To release the belt, press the buckle release button and allow the belt to retract.

If the belt does not retract smoothly, pull it out and check for kinks or twists. Then make sure it remains untwisted as it retracts.

### Seat belt extender

If your seat belts cannot be fastened securely because it is not long enough, a personalized seat belt extender is available from your Lexus dealer free of charge.

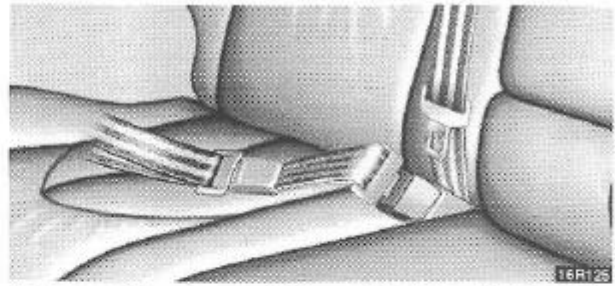
Please contact your local Lexus dealer to order the proper required length for the extender. Bring the heaviest coat you expect to wear for proper measurement and selection of length. Additional ordering information is available at your Lexus dealer.



#### CAUTION

When using the seat belt extender, observe the following. Failure to follow these instructions could result in less effectiveness of the seat belt restraint system in case of vehicle accident, increasing the chance of personal injury.

- Never use the seat belt extender if you can fasten the seat belt without it.
- Remember that the extender provided for you may not be safe when used on a different vehicle, or for another person or at a different seating position than the one originally intended for.

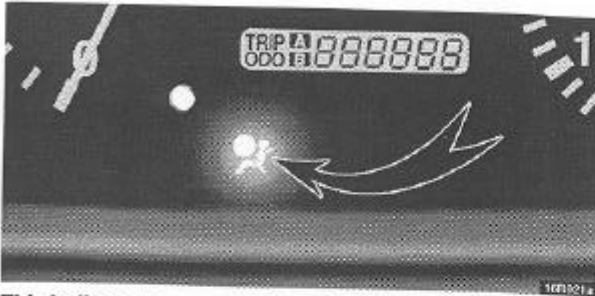


To connect the extender to the seat belt, insert the tab into the seat belt buckle so that the "PRESS" signs on the buckle release buttons of the extender and the seat belt are both facing outward as shown.

You will hear a click when the tab locks into the buckle.

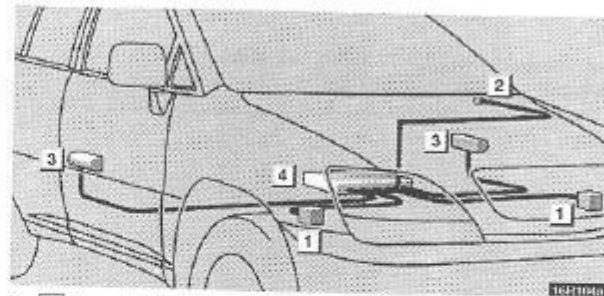
When releasing the seat belt, press on the buckle release button on the extender, not on the seat belt. This helps prevent damage to the vehicle interior and extender itself.

When not in use, remove the extender and store in the vehicle for future use.



This indicator comes on when the ignition key is turned to the "ON" position. It goes off after about 6 seconds. This means the front seat belt pretensioners are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, side airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see "Service reminder indicators and warning buzzers" on page 40.)



- ▶ 1 Front airbag sensors
- 2 SRS warning light
- 3 Front seat belt pretensioner assemblies
- 4 Airbag sensor assembly

The front seat belt pretensioner system consists mainly of the above components, and their locations are shown in the illustration.

The front seat belt pretensioners are controlled by the airbag sensor assembly. The airbag sensor assembly consists of a safing sensor and airbag sensor.

When the front seat belt pretensioners are activated, an operating noise may be heard and a small amount of smoke-like gas may be released. This gas is harmless and does not indicate that a fire is occurring.

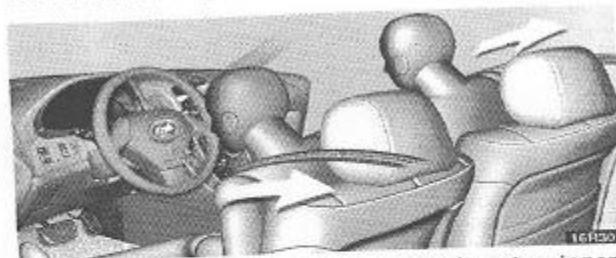
Once the front seat belt pretensioners have been activated, the seat belt retractors remain locked.

## COMFORT ADJUSTMENT

 **CAUTION**

- After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.
- Do not insert coins, clips, etc. in the buckle as this may prevent you from properly latching the tab and buckle.
- If the seat belt does not function normally, immediately contact your Lexus dealer. Do not use the seat until the seat belt is fixed. It cannot protect an adult occupant or your child from injury.

## Front seat belt pretensioners

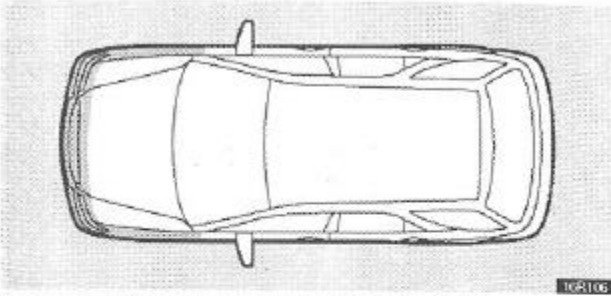


The driver and front passenger's seat belt pretensioners are designed to be activated in response to a severe frontal impact.

When the airbag sensor detects the shock of a severe frontal impact, the front seat belts are quickly drawn back in by the retractors so that the belts snugly restrain the front seat occupants.

The front seat belt pretensioners are activated even with no passenger in the front seat.

Collisions occurring at certain speeds and angles may cause the seat belt pretensioners and SRS airbags not to operate all together.

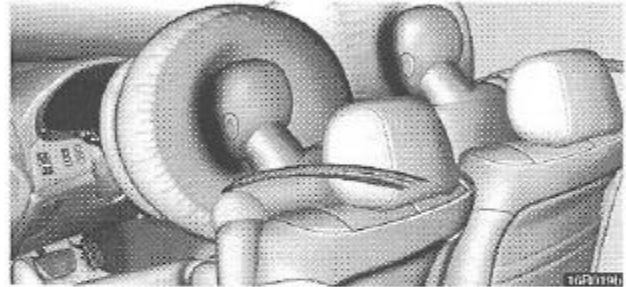


In the following cases, contact your Lexus dealer as soon as possible:

- The front part of the vehicle (shaded in the illustration) was involved in an accident that was not severe enough to cause the front seat belt pretensioners to operate.
- Either front seat belt pretensioner assembly or surrounding area is scratched, cracked, or otherwise damaged.

## SRS AIRBAGS

The SRS (Supplemental Restraint System) airbags are designed to provide further protection for the driver and front passenger in addition to the primary safety protection provided by the seat belts.



### ►SRS front airbags

In response to a severe frontal impact, the SRS front airbags work together with the seat belts to help reduce injury by inflating. The SRS front airbags help to reduce injuries mainly to the driver's or front passenger's head or chest caused by directly hitting the steering wheel or dashboard.

The front passenger airbag is activated even with no passenger in the front seat.

Be sure to wear your seat belt properly.

103

## COMFORT ADJUSTMENT

### ⚠ CAUTION

Do not modify, remove, strike or open the front seat belt pretensioner assemblies, airbag sensor or surrounding area or wiring. Doing any of these may cause sudden operation of the front seat belt pretensioners or disable the system, which could result in death or serious injury.

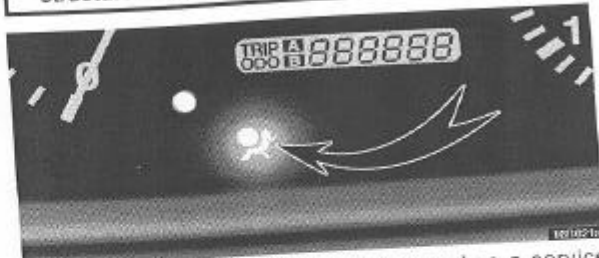
Failure to follow these instructions can result in death or serious injuries.

### NOTICE

Do not perform any of the following changes without consulting your Lexus dealer. Such changes can interfere with proper operation of the front seat belt pretensioners in some cases.

- Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player.
- Repairs on or near the front seat belt retractor assemblies.
- Modification of the suspension system.
- Modification of the front end structure.
- Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end.

- Repairs made on or near the front fenders, front end structure or console.



This front seat belt pretensioner system has a service reminder indicator to inform the driver of operating problems. If any of the following conditions occurs, this indicates a malfunction of the pretensioners. Contact your Lexus dealer as soon as possible to service the vehicle.

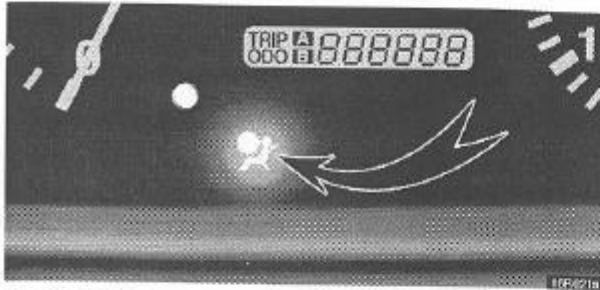
- When the ignition key is turned to the "ON" position, the light does not come on or flashes.
- The light flashes while driving.
- If either front seat belt does not retract or can not be pulled out due to a malfunction or activation of the relevant front seat belt pretensioner.



**CAUTION**

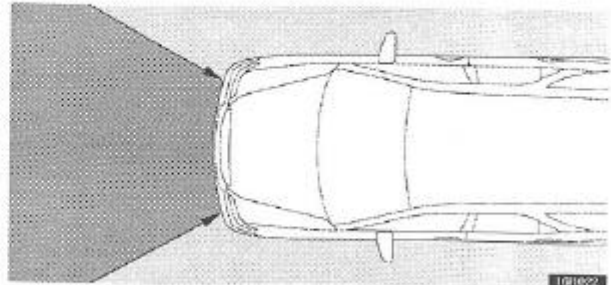
SRS side airbags inflate with considerable force. To avoid potential death or serious injury when they inflate, the driver and front passenger must:

- Wear their seat belts properly.
- Remain properly seated with their back upright and against the seat at all times.



The indicator comes on when the ignition key is turned to the "ON" position. It goes off after about 6 seconds. This means the SRS airbags are operating properly.

This warning light system monitors the airbag sensor assembly, front airbag sensors, side airbag sensors, front seat belt pretensioner assemblies, inflators, warning light, interconnecting wiring and power sources. (For details, see "Service reminder indicators and warning buzzers" on page 40.)



The SRS front airbag system is designed to activate in response to a severe frontal impact within the shaded area between the arrows in the illustration.

The SRS front airbags will deploy if the severity of the impact is above the designed threshold level, comparable to an approximate 25 km/h (15 mph) collision when impacting straight into a fixed barrier that does not move or deform.

If the severity of the impact is below the above threshold level, the SRS front airbags may not deploy.

However, this threshold velocity will be considerably higher if the vehicle strikes an object, such as a parked vehicle or sign pole, which can move or deform on impact, or if it is involved in an underride collision (e.g. a collision in which the nose of the vehicle "underrides", or goes under, the bed of a truck, etc.).

It is possible that in some collisions at the lower zone of airbag sensor detection and activation the SRS airbags and seat belt pretensioners will not operate all together.

105

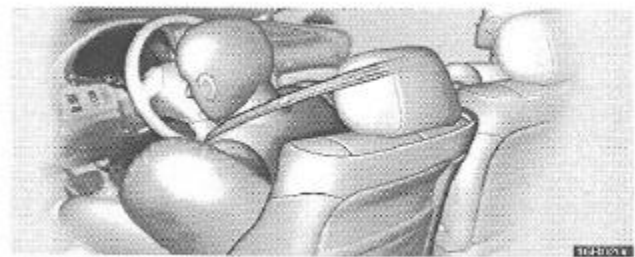
## COMFORT ADJUSTMENT

Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seat belt restraint system by the driver and front passenger when the SRS airbags are inflated.

**CAUTION**

The driver or front passenger too close to the steering wheel or dashboard during airbag deployment can be killed or seriously injured. Lexus strongly recommends that:

- The driver sit as far back as possible from the steering wheel while still maintaining control of the vehicle.
- The front passenger sit as far back as possible from the dashboard.
- All vehicle occupants be properly restrained using the available seat belts.

**SRS side airbags**

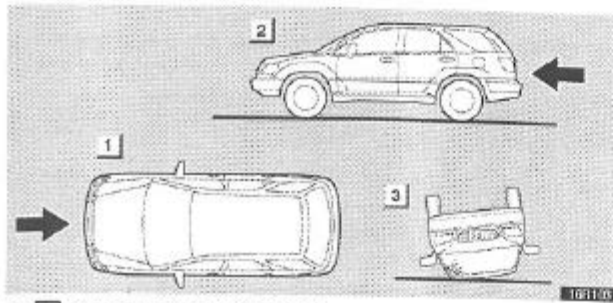
In response to a severe side impact, the SRS side airbags work together with the seat belts to help reduce injury by inflating. The SRS side airbags help to reduce injuries mainly to the driver's or front passenger's chest.

The SRS side airbag on the passenger seat is activated even with no passenger in the front seat.

Be sure to wear your seat belt properly.

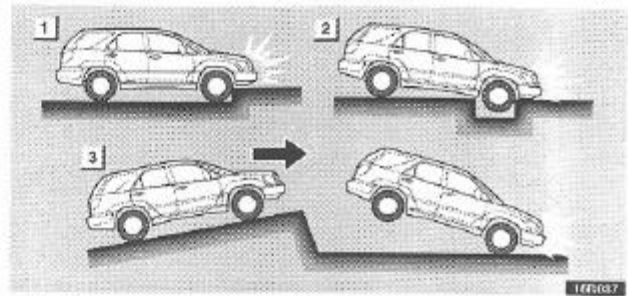
Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seat belt restraint system by the driver and front passenger when the SRS side airbags are inflated.





- ▶ 1 Collision from the front
- ▶ 2 Collision from the rear
- ▶ 3 Vehicle rollover

The SRS side airbags are not designed to inflate if the vehicle is involved in a front or rear collision, if it rolls over, or if it is involved in a low-speed side collision.



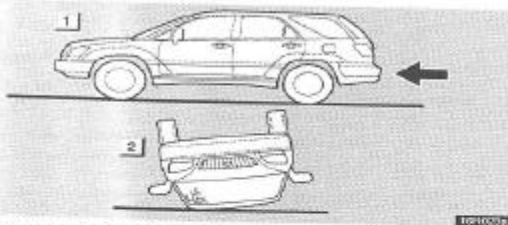
- ▶ 1 Hitting a curb, edge of pavement or hard material
- ▶ 2 Falling into or jumping over a deep hole
- ▶ 3 Landing hard or vehicle falling

The SRS front airbags may deploy if a serious impact occurs to the underside of your vehicle. Some examples are shown in the illustration.

107

## COMFORT ADJUSTMENT

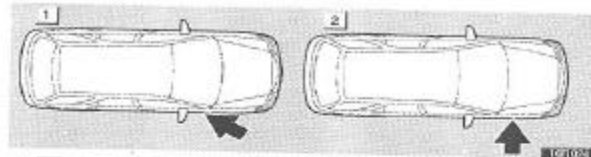
For the safety of all occupants, always wear your seat belts properly.



- ▶ 1 Collision from the rear
- ▶ 2 Vehicle rollover

The SRS front airbags are not designed to inflate if the vehicle is involved in a rear collision, if it rolls over, or if it is involved in a low-speed frontal collision.

The SRS side airbags are designed to inflate when the passenger compartment area suffers a severe impact from the side.

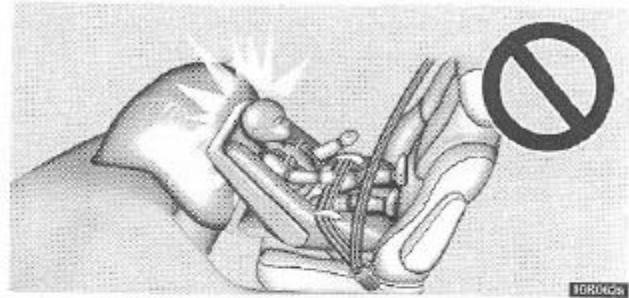


- ▶ 1 Collision from the side at an angle
- ▶ 2 Collision from the side to the vehicle body other than the passenger compartment

The SRS side airbag system may not activate if the vehicle is subjected to a collision from the side at certain angles, or a collision to the side of the vehicle body other than the passenger compartment as shown in the illustration.

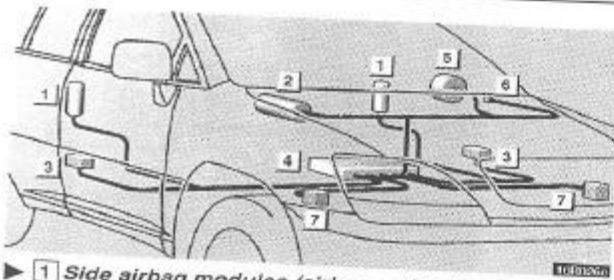
### ⚠ CAUTION

- The SRS airbag system is designed only as a supplement to the primary protection of the driver side and front passenger side seat belt systems. The front seat occupants can be killed or seriously injured by the inflating airbags if they do not wear the available seat belts properly. During sudden braking just before a collision, an unrestrained driver or front passenger can move forward into direct contact with or close proximity to the airbag which may then deploy during the collision. To ensure maximum protection in an accident, the driver and all passengers in the vehicle must wear their seat belts properly. Wearing a seat belt properly during an accident reduces the chances of death or serious injury or being thrown out of the vehicle. For instructions and precautions concerning the seat belt system, see "Seat belts" on page 95.
- Improperly seated and/or restrained infants and children can be killed or seriously injured by the deploying front airbags. An infant or child who is too small to use a seat belt should be properly secured using a child restraint system. Lexus strongly recommends that all infants and children be placed in the rear seat of the vehicle and properly restrained. The rear seat is the safest for infants and children. For instructions concerning the installation of a child restraint system, see "Child restraint" on page 115.



- Never put a rear-facing child restraint system on the front passenger seat because the force of the rapid inflation of the front passenger airbag can cause death or serious injury to the child.

## COMFORT ADJUSTMENT



- 1 Side airbag modules (airbag and inflator)
- 2 Airbag module for front passenger (airbag and inflator)
- 3 Side airbag sensors
- 4 Airbag sensor assembly
- 5 Airbag module for driver (airbag and inflator)
- 6 SRS warning light
- 7 Front airbag sensors

The SRS airbag system consists mainly of the above components, and their locations are shown in the illustration. The airbag sensor assembly consists of a safing sensor and airbag sensor.

In a severe frontal impact, the sensors detect deceleration and the system triggers the front airbag inflators. In a severe side impact, the side airbag sensor triggers the side airbag inflator. Then a chemical reaction in the inflators quickly fills the airbags with non-toxic gas to help restrain the forward or lateral motion of the occupants.

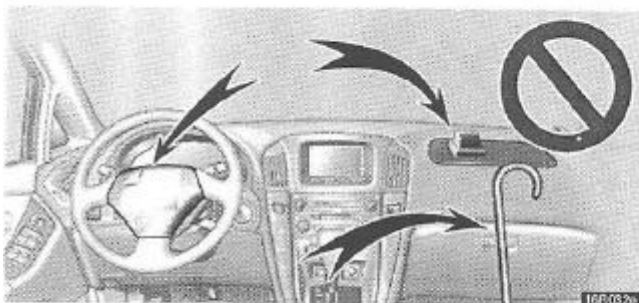
When the SRS airbag operates, it produces a fairly loud noise and release some smoke and residue along with non-toxic gas. This does not indicate a fire. This gas is normally harmless; however, for those who have delicate skin, it may cause a minor skin irritation. Be sure to wash off any residue as soon as possible to prevent any potential skin irritation.

Deployment of the airbags happens in a fraction of a second, so the airbags must inflate with considerable force. While the system is designed to reduce serious injuries, it may also cause minor burns or abrasions and swelling.

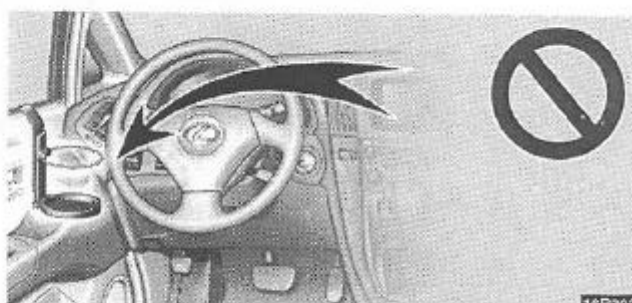
Parts of the airbag module (steering wheel hub, dashboard, front seats) may be hot for several minutes, but the airbags themselves will not be hot. The airbags are designed to inflate only once.

A crash severe enough to inflate the driver and front passenger airbags may break the windshield as the vehicle buckles. In vehicles with a front passenger airbag, the windshield may also be damaged by absorbing some of the force of the inflating airbag.

## COMFORT ADJUSTMENT



- Do not put objects or your pets on or in front of the dashboard or steering wheel pad that houses the front airbag system. They might restrict inflation or cause death or serious injury as they are projected rearward by the force of the deploying airbags. Likewise, the driver and front passenger should not hold things in their arms or on their knees.



- Do not attach a cup holder or any other device or object on or around the door. When the side airbag inflates, the cup holder or any other device or object will be thrown with great force, or the side airbag may not activate correctly, resulting in death or serious injury. Likewise, the driver and front passenger should not hold things in their arms or on their knees.

## COMFORT ADJUSTMENT

- Do not use accessories for the seats which cover the parts where the side airbags inflate. Such accessories may prevent the side airbags from activating correctly, causing death or serious injury.
- Do not modify or remove any wiring. Do not modify, remove, strike or open any components, such as the steering wheel pad, steering wheel, column cover, front passenger airbag cover, front seats or airbag sensor assembly. Doing any of these may cause sudden SRS airbag inflation or disable the system, which could result in death or serious injury.
- Do not modify or replace the seats or upholstery of the front seats with side airbags. Such changes may disable the system or cause the side airbags to inflate accidentally, resulting in death or serious injury. Consult your Lexus dealer if you consider modifications of this kind.

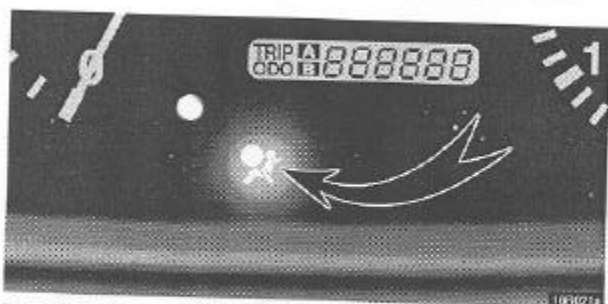
Failure to follow these instructions can result in death or serious injury.

### NOTICE

*Do not perform any of the following changes without consulting your Lexus dealer. Such changes can interfere with proper operation of the SRS airbag system in some cases.*

- Installation of electronic devices such as a mobile two-way radio, cassette tape player or compact disc player.
- Modification of the suspension system.
- Modification of the front end structure and side structure of the passenger compartment.
- Attachment of a grille guard (bull bar, kangaroo bar, etc.), snowplow, winches or any other equipment to the front end.
- Repairs made on or near the front fenders, front end structure, console, steering column, steering wheel, dashboard near the front passenger airbag or front seats.

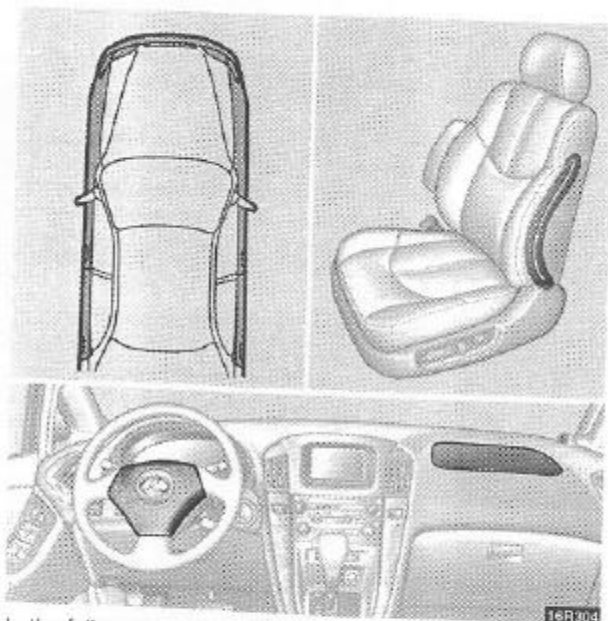
## COMFORT ADJUSTMENT



The SRS airbag system has an indicator to inform the driver of operating problems. If either of the following conditions occurs, this indicates a malfunction of the airbags. Contact your Lexus dealer as soon as possible to service the vehicle.

- When the ignition key is turned to the "ON" position, the light does not come on, stays on or flashes.
- The light comes on or starts flashing while driving.

If the light stays on, it indicates that the driver and front passenger airbags fail. If the light flashes, the side airbags fail.



In the following cases, contact your Lexus dealer as soon as possible:

- Any of the SRS airbags have been inflated.
- The front part of the vehicle and portion of the doors (shaded in the illustration) were involved in an accident that was not severe enough to cause the SRS airbags to inflate.