

**REPORT NUMBER: 214D-MGA-2001-007**

**SAFETY COMPLIANCE TESTING FOR FMVSS 214  
SIDE IMPACT PROTECTION  
INDICANT**

**Honda Motor Company  
2001 Honda Insight 2 door  
NHTSA NUMBER:C15301**

**PREPARED BY:  
MGA RESEARCH CORPORATION  
5000 WARREN ROAD  
BURLINGTON, WI 53105**



**January 30, 2001**

**FINAL REPORT**

**PREPARED FOR:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
400 SEVENTH STREET, SW, ROOM 6111 (NSA-30)  
WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-97-C-11033.

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

### Technical Report Documentation Page

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| 9. Performing Organization Name and Address<br>MGA Research Corporation<br>5000 Warren Road<br>Burlington, WI 53105   |  | 10. Work Unit No.   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
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| 15. Supplementary Notes   |  |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| 16. Abstract<br>A 55/28 km/h 90° Moving Deformable Barrier INDICANT Compliance Test was conducted on the subject 2001 Honda Insight 2 door in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-05 Side Impact Protection (except the test was conducted 8kph (5 mph) faster than the standard specifies) for determination of FMVSS No. 214 Side Impact Protection. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on January 30, 2001.<br><br>The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 kph, and the ambient temperature at the struck side (driver's) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 199 mm at level 2. The test vehicle's occupant performance is as follows:<br><br><table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">59</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">67</td> </tr> <tr> <td>Lower Spine (T<sub>12</sub>) Accel., g</td> <td style="text-align: center;">76</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">72</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">86</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">983</td> </tr> </tbody> </table> The door on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite door did not open during the side impact event. |  |   |           |  | <u>DRIVER</u> | Left Upper Rib (LUR) Accel., g | 59 | Left Lower Rib (LLR) Accel., g | 67 | Lower Spine (T <sub>12</sub> ) Accel., g | 76 | Thoracic Trauma Index (TTI) | 72 | Pelvis (PEV) Accel., g | 86 | HIC | 983 |
|   | <u>DRIVER</u>  |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| Left Upper Rib (LUR) Accel., g  | 59   |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| Left Lower Rib (LLR) Accel., g  | 67   |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| Lower Spine (T <sub>12</sub> ) Accel., g  | 76   |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| Thoracic Trauma Index (TTI)   | 72   |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| Pelvis (PEV) Accel., g  | 86   |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| HIC   | 983  |   |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
| 17. Key Words<br>Compliance Testing<br>FMVSS 214D<br>Side Impact Protection<br>Side Impact Dummy (SID)<br>New Car Assessment Program (NCAP)   |  | 18. Distribution Statement<br>Copies of this report are available from:<br>National Highway Traffic Safety Adm.<br>Technical Ref. Division,<br>Room 5108 (NAD-52)<br>400 Seventh Street, S.W.<br>Washington, D.C. 20590 |           |  |               |                                |    |                                |    |  |    |                             |    |                        |    |     |     |
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**SECTION 1**  
**PURPOSE AND TEST PROCEDURE**

**1.1 PURPOSE**

This side impact test is conducted as part of the FY' 2001 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-97-C-11033. The purpose of this test was to evaluate side impact protection in a 2001 Honda Insight 2 door manufactured by Honda Motor Company.

**1.2 TEST PROCEDURE**

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC), laboratory test procedure TP-214D-05, dated August 2, 1999 and the corresponding MGA Research Corporation Test Procedure MGA-NHTSA2 with the exception of the test speed, which was at the NCAP High Speed Lateral Impact level (61.2 kph, approximately 8 kph faster than compliance speed). The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

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

## SECTION 2

### SUMMARY OF SIDE IMPACT TEST

#### 2.1 SUMMARY OF SIDE IMPACT TEST

A model year 2001 Honda Insight 2 door was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.1 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 936.7 kg and the test weight of the MDB was 1362 kg. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on January 30, 2001.

One (1) real-time motion picture camera and eight (8) high-speed motion picture cameras were used to document the impact event. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummy (SID) can be found in Appendix A. One 50th percentile adult male SID was placed in the driver designated seating position according to instructions specified in the OVSC Side Impact Laboratory Test Procedure dated August 2, 1999. The SID was instrumented with eleven accelerometers in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axes)

The test vehicle was instrumented with nineteen (19) structural accelerometers and the MDB was instrumented with five (5) accelerometers and two (2) contact switches on the bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board EME Data Acquisition System. The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

#### 2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 199 mm at level 2, 600 mm rearward of the left vertical impact point. The driver SID, Serial No. 048, was calibrated just prior to this test. The SID injury criteria is summarized as follows:

| Measurements                | Units | Driver |
|-----------------------------|-------|--------|
| Thoracic Trauma Index (TTI) | G's   | 72     |
| Peak Pelvic G's (PEV)       | G's   | 86     |
| Head Injury Criteria (HIC)  | none  | 983    |

Test summaries and post-test observations are presented in Section 3. The vehicle, camera, and occupant measurements are presented in Section 4. Appendix A contains the still photograph prints. Appendix B contains the driver SID, vehicle, and MDB response data traces. Appendix C contains the SID configuration and performance verification data. Appendix D contains the test equipment information.

## TEST NOTES

The following accelerometers were not used for this test:

- Left Front Door on Centerline
- Rear Occupant Compartment
- Midrear of Left Front Door
- Left Front Door Upper Centerline
- Midrear of Left Rear door
- Left Rear Door Upper Centerline
- Rear Seat Track

This is a 2 seat vehicle, left and right front outboard positions, therefore there was no rear passenger dummy needed for this test.

### SECTION 3

#### SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

#### CONVERSION FACTORS USED IN THIS REPORT\*

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

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

**DATA SHEET NO. 1**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**TEST VEHICLE INFORMATION**

|                         |                   |
|-------------------------|-------------------|
| Make                    | Honda             |
| Model                   | Insight           |
| Body Style              | 2 door            |
| NHTSA No.               | C15301            |
| VIN                     | JHMZE13571T000257 |
| Color                   | Silver            |
| Delivery Date           | 1/8/01            |
| Odometer Reading (mile) | 54                |
| Dealer                  | Wilde Honda       |
| Transmission            | 5 speed manual    |
| Final Drive             | Front             |
| Number of Cylinders     | 3                 |
| Engine Displacement (L) | 1.0               |
| Engine Placement        | Lateral           |

**TEST VEHICLE OPTIONS**

|                    |     |
|--------------------|-----|
| Front Airbags      | yes |
| Side Airbags       | no  |
| Power Windows      | yes |
| Power Steering     | yes |
| Power Door Locks   | yes |
| Tilt Wheel         | no  |
| Air Conditioning   | no  |
| Power Brakes       | yes |
| Disc Brakes, Front | yes |
| Disc Brakes, Rear  | no  |
| Anti-lock Brakes   | yes |
| AM/FM/Cassette     | yes |
| Anti-theft System  | yes |
| Cruise Control     | no  |

**DATA FROM CERTIFICATION LABEL**

|                     |                     |
|---------------------|---------------------|
| Manufactured By     | Honda Motor Company |
| Date of Manufacture | 10/00               |

|                 |        |
|-----------------|--------|
| GVWR (kg)       | 1038.7 |
| GAWR Front (kg) | 598.8  |
| GAWR Rear (kg)  | 449.1  |

**DATA FROM TIRE PLACARD**

| Measured Parameter          | Front       | Rear        |
|-----------------------------|-------------|-------------|
| Maximum Tire Pressure (kPa) | 266         | 245         |
| Cold Pressure (kPa)         | 266         | 245         |
| Recommend Tire Size         | P165/65R14  | P165/65R14  |
| Tire Size on Vehicle        | P165/65R14  | P165/65R14  |
| Tire Manufacturer           | Bridgestone | Bridgestone |

| Measured Parameter       | Front  | Rear | Third | Total |
|--------------------------|--------|------|-------|-------|
| Type of Seats            | bucket |      |       |       |
| Number of Occupants      | 2      |      |       | 2     |
| Capacity Wt. (VCW) (kg)  |        |      |       | 165.6 |
| Cargo Weight (RCLW) (kg) |        |      |       | 29.5  |

**DATA SHEET NO. 1...(continued)**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**TEST VEHICLE WEIGHTS**

|        | Units | As Delivered (UVW) |           |       | As Tested (ATW) |           |       |
|--------|-------|--------------------|-----------|-------|-----------------|-----------|-------|
|        |       | Front Axle         | Rear Axle | Total | Front Axle      | Rear Axle | Total |
| Left   | kg    | 248.6              | 169.2     |       | 276.7           | 212.3     |       |
| Right  | kg    | 244.0              | 173.3     |       | 257.2           | 190.5     |       |
| Ratio  | %     | 59.0               | 41.0      |       | 57.0            | 43.0      |       |
| Totals | kg    | 492.6              | 342.5     | 835.1 | 533.9           | 402.8     | 936.7 |

**TARGET TEST WEIGHT CALCULATION\***

| Measured Parameter                      | Units | Value |
|---|-------|-------|
| Total Delivered Weight (UVW)            | kg    | 835.1 |
| Weight of 1 P572F Side Impact Dummy     | kg    | 80.7  |
| Rated Cargo/Luggage Weight (RCLW)       | kg    | 29.5  |
| Calculated Vehicle Target Weight (TVTW) | kg    | 945.3 |

\*Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

**TEST VEHICLE ATTITUDES AND CG**

|              | Units | LF  | RF  | LR  | RR  | CG (aft of front axle) |
|--------------|-------|-----|-----|-----|-----|------------------------|
| As Delivered | mm    | 620 | 624 | 645 | 646 | 984                    |
| As Tested    | mm    | 609 | 618 | 627 | 633 | 1055                   |
| Fully Loaded | mm    | 609 | 620 | 620 | 629 |                        |

**GENERAL TEST VEHICLE DATA**

| Measurement Description                 | Units  | Value |
|---|--------|-------|
| Test Vehicle Wheel Base                 | mm     | 2400  |
| Total Vehicle Length at Left Side       | mm     | 3240  |
| Total Vehicle Length at Centerline      | mm     | 3921  |
| Total Vehicle Length at Right Side      | mm     | 3240  |
| Weight of Ballast in Cargo Area         | kg     | 13.6  |
| Amount of Stoddard Solvent in Fuel Tank | liters | 37.1  |

**TEST VEHICLE VERTICAL IMPACT LINE DATA**

| Measurement Description               | Units | Value |
|---------------------------------------|-------|-------|
| Test Vehicle Wheel Base               | mm    | 2400  |
| Target Impact Point Aft of Front Axle | mm    | 260   |
| Actual Impact Point Aft of Front Axle | mm    | 252   |

**DATA SHEET NO. 1...(continued)**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

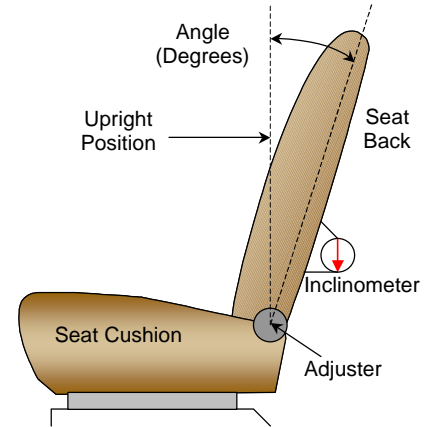
Test Program: FMVSS 214

Test Date: January 30, 2001

**NORMAL DESIGN RIDING POSITION**

The driver's seat back is positioned to the manufacturer's designated angle. The procedure for the seat is as follows: Place the seat 5 steps from the first locking position as "0".

Driver seat back angle: 5<sup>th</sup> step rearward, 1<sup>st</sup> as 0



**SEAT FORE/AFT POSITIONS**

The driver's seat is manually operated. The fore/aft is set to the middle position for the driver's seat. The first detent is numbered "0".

Driver seat fore/aft total travel: 240 mm

Driver seat fore/aft position: 12<sup>th</sup> detent from first locking position as 0

**SEAT BELT UPPER ANCHORAGE**

The test vehicle "D" ring anchorage is not adjustable.

**DATA SHEET NO. 1...(continued)**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

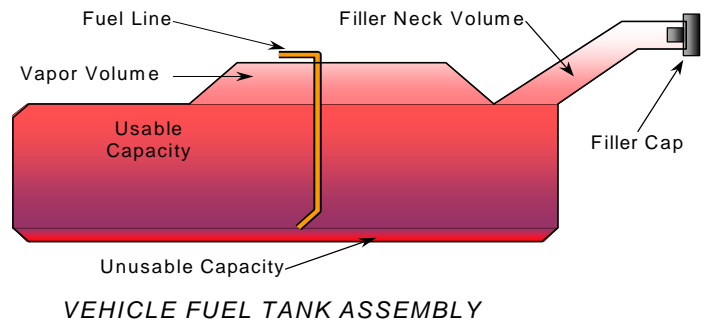
Test Vehicle: 2001/Honda/Insight/2 door  
Test Program: FMVSS 214

NHTSA No.: C15301  
Test Date: January 30, 2001

**FUEL TANK CAPACITY DATA**

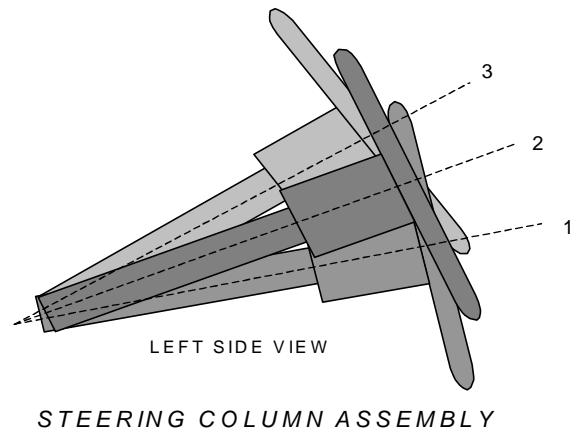
The "Usable Capacity" of the standard equipment fuel tank is: 40.1 liters  
The "Usable Capacity" of any optional equipment fuel tank is: n/a liters  
92-94% of "Usable Capacity" for certification to FMVSS 301 requirement: 36.9 - 37.7 liters  
Actual amount of Stoddard solvent added to vehicle for certification test: 37.1 liters

The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately two (2) seconds with the ignition in the "ON" position.



**STEERING COLUMN ADJUSTMENT**

The steering wheel was not adjustable.



**DATA SHEET NO. 2**

**TEST VEHICLE SUMMARY OF RESULTS**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**TEST VEHICLE WEIGHTS**

|              | Units | As Delivered (UVW) |           |       | As Tested (ATW) |           |       |
|--------------|-------|--------------------|-----------|-------|-----------------|-----------|-------|
|              |       | Front Axle         | Rear Axle | Total | Front Axle      | Rear Axle | Total |
| Left         | kg    | 248.6              | 169.2     |       | 276.7           | 212.3     |       |
| Right        | kg    | 244.0              | 173.3     |       | 257.2           | 190.5     |       |
| Weight Ratio | %     | 59.0               | 41.0      |       | 57.0            | 43.0      |       |
| Totals       | kg    | 492.6              | 342.5     | 835.1 | 533.9           | 402.8     | 936.7 |

**MAXIMUM EXTERIOR STATIC CRUSH**

| Level   | Measured Parameter  | Units | Maximum Crush | Above Ground |
|---------|---------------------|-------|---------------|--------------|
| Level 1 | Sill Top Height     | mm    | 53            | 238          |
| Level 2 | Occupant H-Point    | mm    | 199           | 435          |
| Level 3 | Mid Door            | mm    | 192           | 586          |
| Level 4 | Window Sill         | mm    | 108           | 852          |
| Level 5 | Window Top          | mm    | 17            | 1258         |
| N/A     | Maximum Penetration | mm    | 199           | 435          |

**INSTRUMENTATION**

|                                  |    |
|----------------------------------|----|
| Driver SID Accelerometers        | 11 |
| Vehicle Structure Accelerometers | 19 |
| MDB Accelerometers               | 5  |
| Total                            | 35 |

**DATA SHEET NO. 3**

**MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**MDB SPECIFICATIONS (mm)**

| Measurement Description                 | Length |
|---|--------|
| Overall Width of Framework Carriage     | 1252   |
| Overall Length Including Honeycomb Face | 4115   |
| Wheel base of Framework Carriage        | 2590   |
| C.G. Location aft of Front Axle         | 1127   |

**MDB WEIGHTS**

|        | Units | Front Axle | Rear Axle | Total  |
|--------|-------|------------|-----------|--------|
| Left   | kg    | 395.1      | 293.8     |        |
| Right  | kg    | 385.7      | 287.4     |        |
| Ratio  | %     | 57.3       | 42.7      |        |
| Totals | kg    | 780.8      | 581.2     | 1362.0 |

**SPEED AND IMPACT ANGLE DATA**

| Measured Parameter              | Units   | Requirement  | Value |
|---------------------------------|---------|--------------|-------|
| Trap No. 1 Velocity (Primary)   | km/h    | 61.1 to 62.7 | 62.1  |
| Trap No. 2 Velocity (Redundant) | km/h    | 61.1 to 62.7 | 61.8  |
| MDB CL to Target Vehicle CL     | degrees | 88.5 to 91.5 | 90.3  |

**MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)**

| Vertical Location |                  |        | From Centerline |           | Max. Crush |
|-------------------|------------------|--------|-----------------|-----------|------------|
| Row               | Description      | Height | Distance        | Direction |            |
| A                 | Center of Bumper | 432    | 800             | Left      | 147        |
| B                 | Top of Bumper    | 533    | 800             | Left      | 108        |
| C                 | Mid Level        | 686    | 800             | Left      | 112        |
| D                 | Top of Stack     | 813    | 800             | Left      | 113        |

**MDB INSTRUMENTATION AND CAMERAS**

|                    |   |
|--------------------|---|
| Accelerometers     | 5 |
| Contact Switches   | 2 |
| High Speed Cameras | 2 |

**DATA SHEET NO. 4**

**POST TEST OBSERVATIONS**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**TEST DUMMY INFORMATION AND CONTACT POINTS**

| Description             | Front Seat SID        |
|-------------------------|-----------------------|
| Dummy Type / Serial No. | SID / 048             |
| Head Contact            | Headrest, window sill |
| Upper Torso Contact     | Door panel            |
| Lower Torso Contact     | Door panel            |
| Left Knee Contact       | Door panel            |
| Right Knee Contact      | Left knee             |

**POST TEST DOOR OPENING AND SEAT TRACK INFORMATION**

| Description             | Front           |
|-------------------------|-----------------|
| Left Side Door Opening  | remained closed |
| Right Side Door Opening | remained closed |
| Seat Movement           | none            |
| Seat Back Failure       | none            |

**POST TEST STRUCTURAL OBSERVATIONS**

| Critical Areas of Performance | Observations and Conclusions |
|-------------------------------|------------------------------|
| Pillar Performance            | No failures                  |
| Sill Separation               | None                         |
| Windshield Damage             | Broke                        |
| Window Damage                 | Left side windows broke      |
| Other Notable Effects         | None                         |

**AIRBAG DEPLOYMENT**

|       | Driver | Front Passenger |
|-------|--------|-----------------|
| Front | yes    | yes             |
| Side  |        |                 |

**MDB LEFT EDGE IMPACT POINT DATA**

| Measured Parameter | Units | Requirement | Value     |
|--------------------|-------|-------------|-----------|
| Horizontal Offset  | mm    | +/- 50      | 8 forward |
| Vertical Offset    | mm    | +/-20       | 6 up      |

**SECTION 4**  
**OCCUPANT AND VEHICLE INFORMATION**

**DATA SHEET NO. 5**

**SID INJURY CRITERIA AND SENSOR DATA**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**THORAX AND PELVIS PEAK ACCELERATIONS (FIR 100 Filtered)**

| Location                           | Axis | Units | Driver |      |      |      |
|------------------------------------|------|-------|--------|------|------|------|
|                                    |      |       | Max    | Time | Min  | Time |
| Upper Rib (LUR)                    | Y    | G's   | 59.3   | 33   | 8.8  | 78   |
| Upper Rib (LUR) (R) (RY)           | Y    | G's   | 60.8   | 33   | 8.3  | 78   |
| Lower Rib (LLR)                    | Y    | G's   | 66.9   | 36   | 9.3  | 66   |
| Lower Rib (LLR) (R)                | Y    | G's   | 69.0   | 36   | 9.7  | 66   |
| Lower Spine (T <sub>12</sub> )     | Y    | G's   | 76.3   | 34   | 16.7 | 63   |
| Lower Spine (T <sub>12</sub> ) (R) | Y    | G's   | 75.1   | 34   | 16.8 | 63   |
| Pelvis (PEV)                       | Y    | G's   | 86.0   | 28   | 4.9  | 108  |
| Pelvis (PEV) (R)                   | Y    | G's   | 85.7   | 28   | 5.4  | 112  |

**THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION (FIR 100 Filtered)**

| Location                   | Driver |                 |        |        |
|----------------------------|--------|-----------------|--------|--------|
|                            | LLR    | T <sub>12</sub> | TTI(g) | PEV(g) |
| Rib, Spine, and Pelvis     | 66.9   | 76.3            | 72     | 86     |
| Rib, Spine, and Pelvis (R) | 69.0   | 75.1            | 72     | 86     |

**HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)**

| Location          | Axis | Units | Driver |      |      |      |
|-------------------|------|-------|--------|------|------|------|
|                   |      |       | Max    | Time | Min  | Time |
| Head CG           | X    | G's   | 4.8    | 113  | 96.0 | 70   |
| Head CG           | Y    | G's   | 73.5   | 57   | 4.0  | 44   |
| Head CG           | Z    | G's   | 103.4  | 70   | 16.7 | 60   |
| Head CG Resultant |      | G's   | 139.8  | 70   |      |      |

**HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)**

| Location | Driver |                |                |         |
|----------|--------|----------------|----------------|---------|
|          | HIC    | T <sup>1</sup> | T <sup>2</sup> | Avg G's |
| Head CG  | 983    | 43.3           | 76.1           | 61.8    |

Positive Acceleration Polarities: Longitudinal (X) = Forward  
 (Conforms to SAE J211) Lateral (Y) = Right  
 Vertical (Z) = Down

## DATA SHEET NO. 6

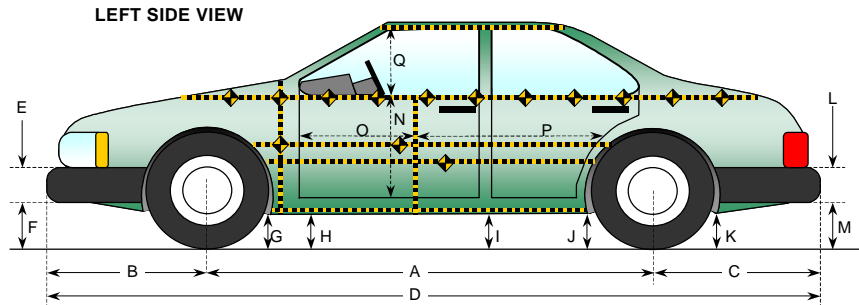
### VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



All Measurements in mm

| Code | Measurement Description                | Pre-Test | Post-Test | Difference |
|------|--|----------|-----------|------------|
| A    | Wheelbase                              | 2415     | 2388      | 27         |
| B    | Front Axle to FSOV                     | 798      | 700       | 98         |
| C    | Rear Axle to RSOV                      | 708      | 666       | 42         |
| D    | Total Length at Centerline             | 3921     | 3754      | 167        |
| E    | Front Bumper Thickness                 | 104      | 104       | 0          |
| F    | Front Bumper Bottom to Ground          | 380      | 408       | 28         |
| G    | Sill Height at Front Wheel Well        | 158      | 164       | 6          |
| H    | Sill Height at Front Door Leading Edge | 156      | 170       | 14         |
| I    | Sill Height at "B" Pillar              | 178      | 192       | 14         |
| J1   | Sill Height at Rear Wheel Well         | 146      | 136       | 10         |
| J2   | Pinch Weld Height at Rear Wheel Well   | 149      | 135       | 14         |
| K    | Sill Height Aft of Rear Wheel Well     | 276      | 284       | 8          |
| L    | Rear Bumper Thickness                  | 200      | 200       | 0          |
| M    | Rear Bumper Bottom to Ground           | 468      | 465       | 3          |
| N    | Sill Height to Window Bottom Sill      | 502      | 475       | 27         |
| O    | Front Door Leading Edge to Impact CL   | 638      | 634       | 4          |
| P    | Rear Door Trailing Edge to Impact CL   | 620      | 617       | 3          |
| Q    | Front Window Opening                   | 385      | 406       | 21         |
| R    | Right Side Length                      | 3240     | 3250      | 10         |
| S    | Left Side Length                       | 3240     | 3201      | 39         |
| T    | Vehicle Width at "B" Post              | 1654     | 1512      | 142        |

## DATA SHEET NO. 7

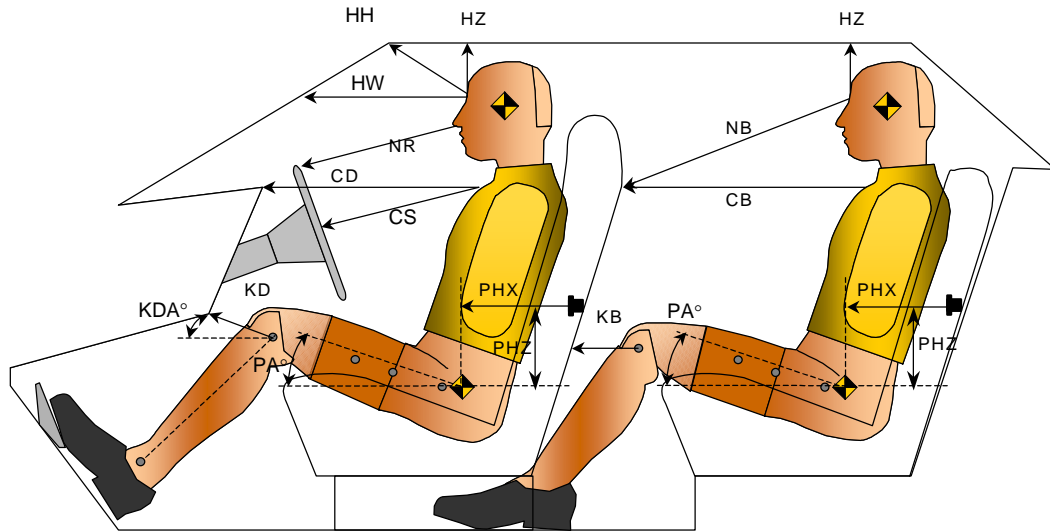
### SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



| Driver Code | Measurement Description        | Driver     |          |
|-------------|--------------------------------|------------|----------|
|             |                                | Length(mm) | Angle(°) |
| HH          | Head to Header                 | 396        |          |
| HW          | Head to Windshield             | 648        |          |
| HZ          | Head to Roof                   | 179        |          |
| NR          | Nose to Rim/Nose to Seatback   | 450        |          |
| CD          | Chest to Dash or Seatback      | 636        |          |
| CS          | Chest to Steering Wheel        | 336        |          |
| KDL         | Left Knee to Dash or Seatback  | 186        | 23.3     |
| KDR         | Right Knee to Dash or Seatback | 180        | 26.0     |
| PA          | Pelvic Angle                   |            | 24.8     |
| PHX         | H-Point to Striker (X-Axis)    | 368        |          |
| PHZ         | H-Point to Striker (Z-Axis)    | 228        |          |

# DATA SHEET NO. 8

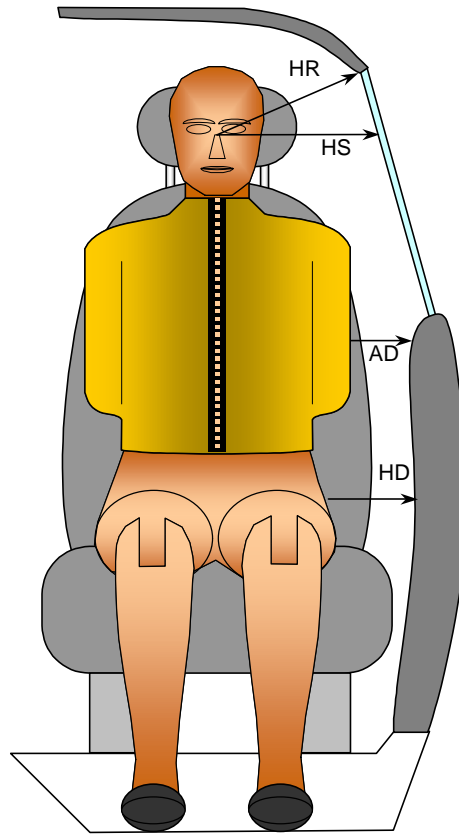
## SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



FRONT VIEW OF DUMMY

| Code | Measurement Description | Units | Driver |
|------|-------------------------|-------|--------|
| HR   | Head to Side Header     | mm    | 152    |
| HS   | Head to Side Window     | mm    | 288    |
| AD   | Arm to Door             | mm    | 80     |
| HD   | H-Point to Door         | mm    | 128    |

# DATA SHEET NO. 9

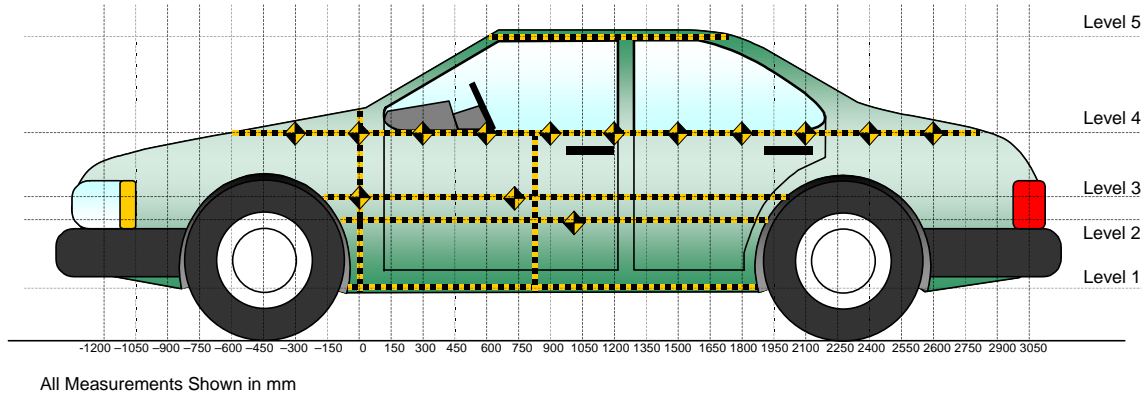
## VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



**LEFT SIDE VIEW**

Measurements are taken with vehicle in the as tested condition.

Measurements along the vertical 800 mm.

All measurements below in mm.

| Level | Measurement Description | Height Above Ground |
|-------|-------------------------|---------------------|
| 5     | Window                  | 1258                |
| 4     | Window Sill             | 852                 |
| 3     | Mid Door                | 586                 |
| 2     | Occupant H-Point        | 435                 |
| 1     | Sill Top                | 238                 |

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

|      | Pre-Test |     |     |     |     | Post-Test |     |     |     |     | Difference |     |     |     |    |
|------|----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|------------|-----|-----|-----|----|
|      | 1        | 2   | 3   | 4   | 5   | 1         | 2   | 3   | 4   | 5   | 1          | 2   | 3   | 4   | 5  |
| -900 |          |     |     |     |     |           |     |     |     |     |            |     |     |     |    |
| -750 |          |     |     |     |     |           |     |     |     |     |            |     |     |     |    |
| -600 |          |     |     | 556 |     |           |     |     | 546 |     |            |     |     | -10 |    |
| -450 |          |     |     | 529 |     |           |     |     | 525 |     |            |     |     | -4  |    |
| -300 |          |     |     | 511 |     |           |     |     | 515 |     |            |     |     | 4   |    |
| -150 |          |     |     | 495 |     |           |     |     | 510 |     |            |     |     | 15  |    |
| 0    |          |     | 438 | 484 |     |           |     | 535 | 510 |     |            |     | 97  | 26  |    |
| 150  | 442      | 434 | 420 | 476 |     | 485       | 586 | 553 | 519 |     | 43         | 152 | 133 | 43  |    |
| 300  | 430      | 426 | 419 | 472 |     | 483       | 602 | 611 | 552 |     | 53         | 176 | 192 | 80  |    |
| 450  | 429      | 426 | 417 | 471 |     | 480       | 620 | 605 | 576 |     | 51         | 194 | 188 | 105 |    |
| 600  | 430      | 427 | 419 | 474 |     | 481       | 626 | 594 | 559 |     | 51         | 199 | 175 | 85  |    |
| 750  | 431      | 429 | 422 | 477 |     | 478       | 626 | 584 | 544 |     | 47         | 197 | 162 | 67  |    |
| 900  | 433      | 431 | 425 | 483 | 743 | 480       | 623 | 576 | 533 | 760 | 47         | 192 | 151 | 50  | 17 |
| 1050 | 434      | 434 | 427 | 490 | 746 | 482       | 596 | 558 | 522 | 758 | 48         | 162 | 131 | 32  | 12 |
| 1200 | 436      | 436 | 431 | 497 | 755 | 484       | 570 | 547 | 515 | 767 | 48         | 134 | 116 | 18  | 12 |
| 1350 | 437      | 438 | 434 | 507 | 764 | 486       | 547 | 533 | 509 | 781 | 49         | 109 | 99  | 2   | 17 |
| 1500 | 491      | 441 | 439 | 517 | 770 | 490       | 627 | 587 | 625 | 785 | -1         | 186 | 148 | 108 | 15 |
| 1650 | 493      | 444 | 444 | 529 | 783 | 493       | 623 | 585 | 620 | 789 |            | 179 | 141 | 91  | 6  |
| 1800 |          | 447 | 450 | 543 |     |           | 560 | 596 | 602 |     |            | 113 | 146 | 59  |    |
| 1950 |          |     | 457 | 557 |     |           |     | 512 | 578 |     |            |     | 55  | 21  |    |
| 2100 |          |     | 465 | 576 |     |           |     | 499 | 588 |     |            |     | 34  | 12  |    |
| 2250 |          |     | 478 | 599 |     |           |     | 496 | 606 |     |            |     | 18  | 7   |    |
| 2400 |          |     | 495 | 626 |     |           |     | 504 | 629 |     |            |     | 9   | 3   |    |
| 2550 |          |     |     |     |     |           |     |     |     |     |            |     |     |     |    |
| 2700 |          |     |     |     |     |           |     |     |     |     |            |     |     |     |    |
| 2850 |          |     |     |     |     |           |     |     |     |     |            |     |     |     |    |
| 3000 |          |     |     |     |     |           |     |     |     |     |            |     |     |     |    |

Reference plane is parallel to test vehicle longitudinal centerline

Given dimensions = Reference plane to car body

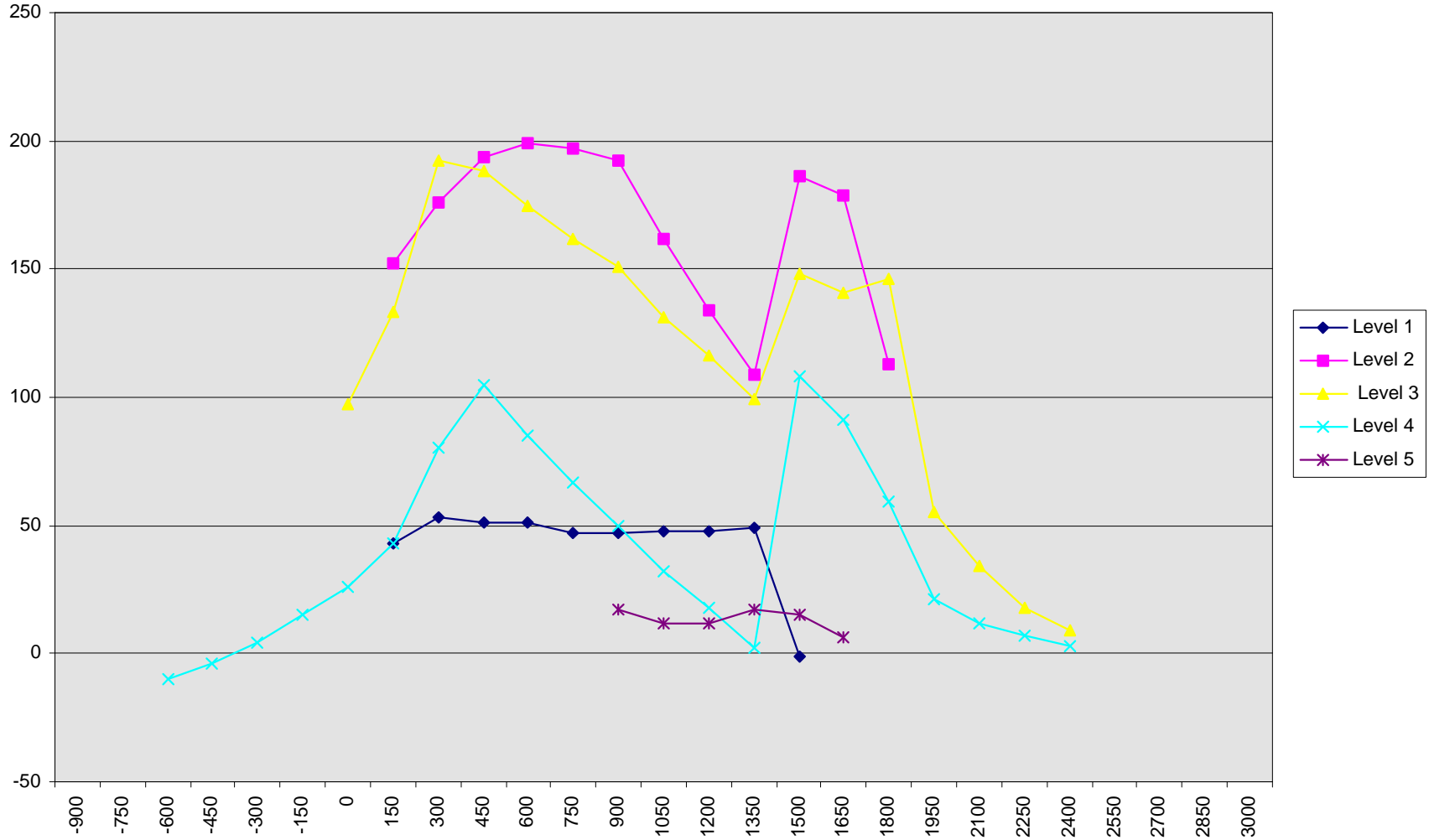
DATA SHEET NO. 10...(continued)

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001/Honda/Insight/2 door NHTSA No.: C15301

Test Program: FMVSS 214 Test Date: January 30, 2001

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## DATA SHEET NO. 11

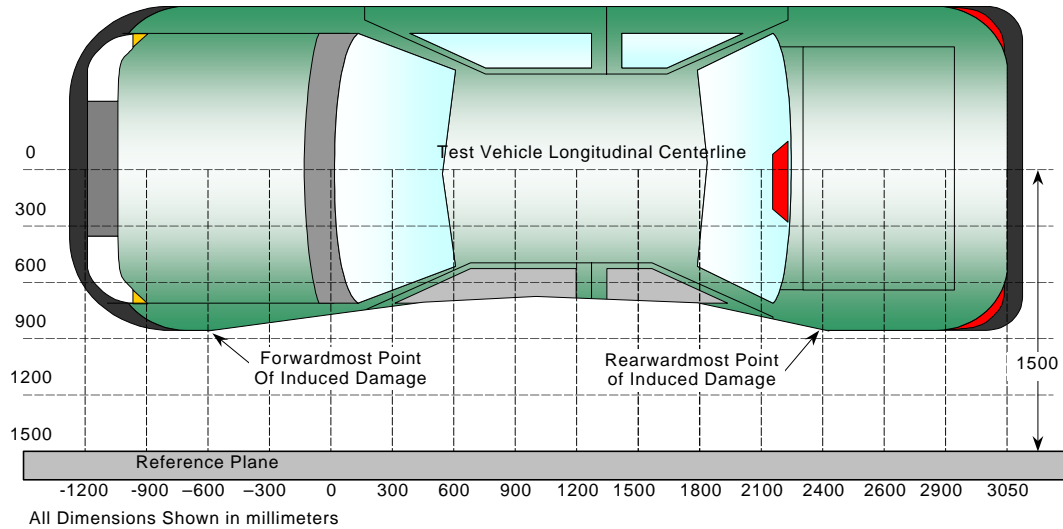
### VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



**TOP VIEW**

**Damage Profile Distances**

| DPD | Distance from Impact Point in mm | Level | Pre-Test (mm) | Post-Test (mm) | Max Static Crush (mm) |
|-----|----------------------------------|-------|---------------|----------------|-----------------------|
| 1   | 2400 mm                          | 4     | 626           | 629            | 3                     |
| 2   | 1790 mm                          | 3     | 450           | 596            | 146                   |
| 3   | 1185 mm                          | 2     | 436           | 573            | 137                   |
| 4   | 590 mm                           | 2     | 427           | 625            | 198                   |
| 5   | 8 mm                             | 3     | 438           | 538            | 100                   |
| 6   | -300 mm                          | 4     | 511           | 515            | 4                     |

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

**DATA SHEET NO. 12**

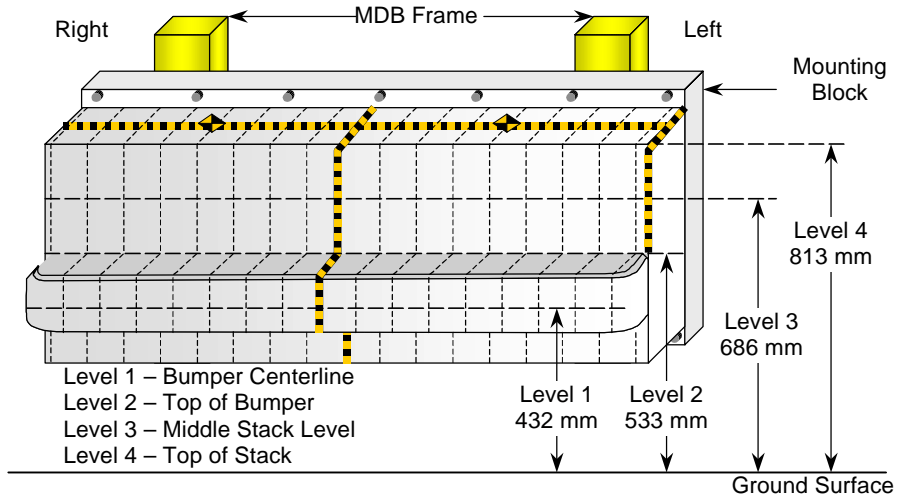
**DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



**DEFORMABLE BARRIER STATIC CRUSH**

| Stack Level | Distance Right of Center |     |     |     |     |     |     |     | C <sub>L</sub> | Distance Left of Center |     |     |     |     |     |     |     |
|-------------|--------------------------|-----|-----|-----|-----|-----|-----|-----|----------------|-------------------------|-----|-----|-----|-----|-----|-----|-----|
|             | 800                      | 700 | 600 | 500 | 400 | 300 | 200 | 100 |                | 0                       | 100 | 200 | 300 | 400 | 500 | 600 | 700 |
| 1           | 113                      | 114 | 112 | 112 | 106 | 92  | 85  | 81  | 79             | 80                      | 86  | 89  | 97  | 111 | 137 | 151 | 147 |
| 2           | 57                       | 59  | 65  | 65  | 50  | 38  | 36  | 38  | 41             | 45                      | 50  | 56  | 61  | 70  | 83  | 94  | 108 |
| 3           | 12                       | 32  | 22  | 23  | 16  | 11  | 11  | 12  | 15             | 15                      | 17  | 22  | 26  | 43  | 76  | 117 | 112 |
| 4           | 8                        | 7   | 6   | 11  | 2   | 3   | 7   | 11  | 14             | 16                      | 21  | 31  | 50  | 72  | 92  | 117 | 113 |

All Dimensions in mm

DATA SHEET NO. 13

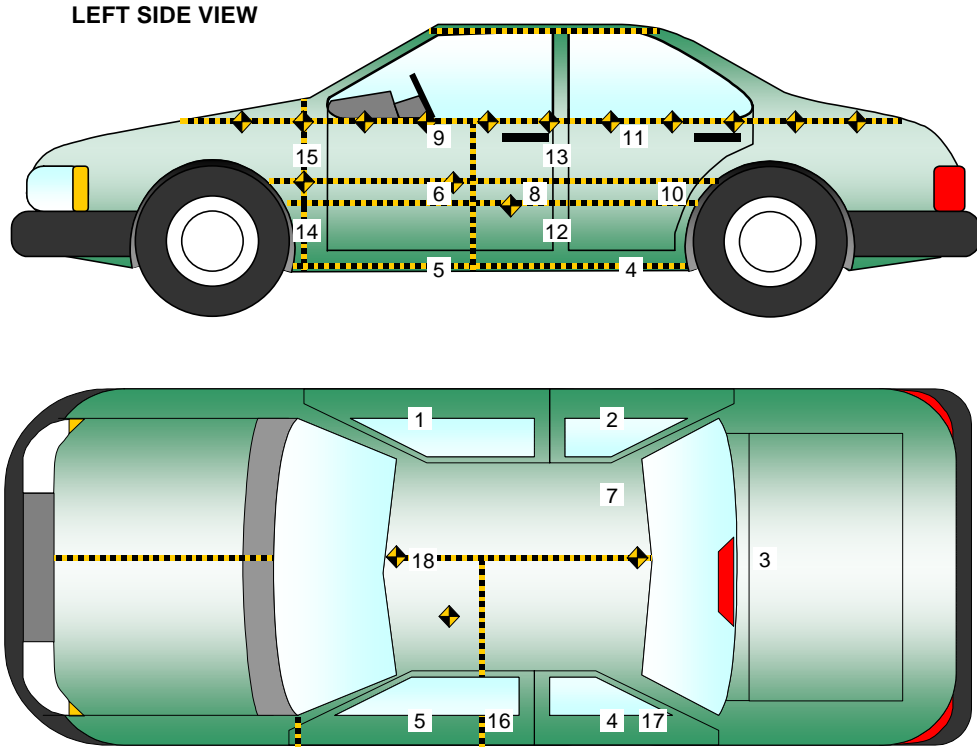
VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



| No. | Location                         |
|-----|----------------------------------|
| 1   | Right Sill at Front Seat         |
| 2   | Right Sill at Rear Seat          |
| 3   | Rear Floorpan Above Axle         |
| 4   | Left Sill at Rear Seat           |
| 5   | Left Sill at Front Seat          |
| 6   | Left Front Door Centerline       |
| 7   | Right Rear Occupant Compartment  |
| 8   | Left Front Door Mid-Rear         |
| 9   | Left Front Door Upper Centerline |

| No. | Location                        |
|-----|---------------------------------|
| 10  | Left Rear Door Mid-Rear         |
| 11  | Left Rear Door Upper Centerline |
| 12  | Left Lower B-Post               |
| 13  | Left Middle B-Post              |
| 14  | Left Lower A-Post               |
| 15  | Left Middle A-Post              |
| 16  | Left Front Seat Track           |
| 17  | Rear Seat Track or Structure    |
| 18  | Vehicle CG                      |

**DATA SHEET NO. 13...(continued)**

**VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

**VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS**

| Loc. No. | Accelerometer Location    | Measurements (mm) |      |      | Peak Values (G's) |       |      |      |      |
|----------|---------------------------|-------------------|------|------|-------------------|-------|------|------|------|
|          |                           | X                 | Y    | Z    | Axis              | Max   | Time | Min  | Time |
| 1        | Right Sill at Front Seat  | 2112              | 699  | 185  | X                 | 6.7   | 8    | 9.3  | 14   |
|          |                           |                   |      |      | Y                 | 41.2  | 8    | 2.5  | 102  |
|          |                           |                   |      |      | Z                 | 15.7  | 33   | 11.6 | 9    |
|          |                           |                   |      |      | RES               | 42.8  | 8    |      |      |
| 2        | Right Sill at Rear Seat   | 1152              | 646  | 230  | X                 | 3.0   | 48   | 13.0 | 14   |
|          |                           |                   |      |      | Y                 | 54.9  | 8    | 5.3  | 80   |
|          |                           |                   |      |      | Z                 | 11.3  | 32   | 6.0  | 18   |
|          |                           |                   |      |      | RES               | 55.0  | 8    |      |      |
| 3        | Rear Floorpan Above Axle* | 708               | 7    | 265  | X                 | 2.3   | 19   | 20.0 | 25   |
|          |                           |                   |      |      | Y                 | 37.6  | 16   | 0.2  | 1    |
|          |                           |                   |      |      | Z                 | 50.0  | 10   | 34.2 | 17   |
|          |                           |                   |      |      | RES               | 52.0  | 16   |      |      |
| 4        | Left Sill at Rear Seat    | 1150              | -646 | 223  | Y                 | 40.9  | 7    | 5.9  | 77   |
| 5        | Left Sill at Front Seat   | 2113              | -699 | 188  | Y                 | 38.0  | 7    | 6.0  | 77   |
| 12       | Left B-Post Lower         | 1519              | -650 | 250  | Y                 | 43.2  | 6    | 3.1  | 78   |
| 13       | Left B-Post Middle        | 1434              | -648 | 780  | Y                 | 141.5 | 6    | 23.3 | 34   |
| 14       | Left A-Post Lower         | 2571              | -650 | 260  | Y                 | 46.4  | 14   | 24.3 | 21   |
| 15       | Left A-Post Middle        | 2411              | -655 | 1022 | Y                 | 44.1  | 18   | 5.2  | 100  |
| 16       | Left Front Seat Track     | 1981              | -461 | 248  | Y                 | 33.3  | 9    | 3.4  | 98   |
| 18       | Vehicle CG                | 2018              | 0    | 350  | X                 | 3.7   | 46   | 11.8 | 15   |
|          |                           |                   |      |      | Y                 | 37.5  | 7    | 2.4  | 90   |
|          |                           |                   |      |      | Z                 | 9.6   | 10   | 14.3 | 28   |
|          |                           |                   |      |      | RES               | 38.9  | 7    |      |      |

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

\* No valid data after 35 msec.

DATA SHEET NO. 14

**MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY**

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

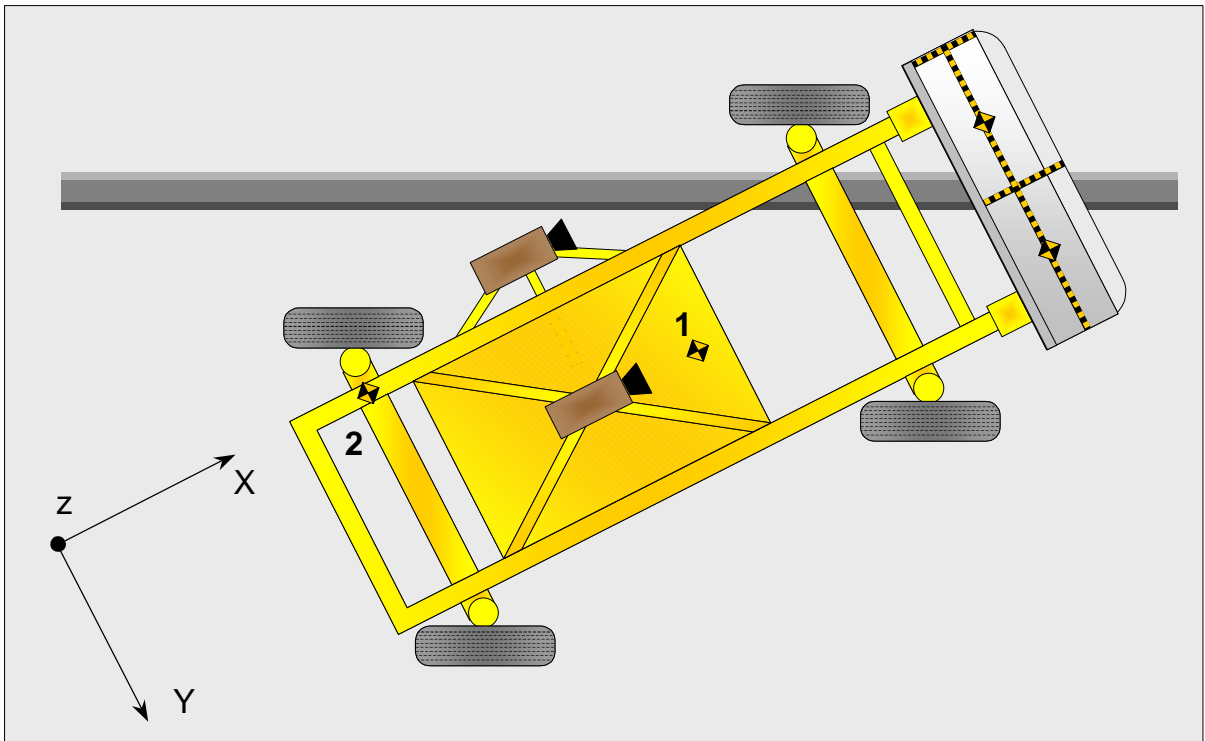
Test Program: FMVSS 214

Test Date: January 30, 2001

**MDB ACCELEROMETER PEAK DATA AND LOCATIONS**

| Loc. No. | Accelerometer Location | Measurement (mm) |      |     | Peak Values (G's) |      |      |      |      |
|----------|------------------------|------------------|------|-----|-------------------|------|------|------|------|
|          |                        | X                | Y    | Z   | Axis              | Max  | Time | Min  | Time |
| 1        | MDB CG                 | -1092            | 0    | 483 | X                 | 1.4  | 75   | 18.9 | 36   |
|          |                        |                  |      |     | Y                 | 3.3  | 55   | 8.9  | 31   |
|          |                        |                  |      |     | Z                 | 13.1 | 52   | 20.2 | 44   |
|          |                        |                  |      |     | RES               | 24.4 | 44   |      |      |
| 2        | MDB Rear               | -2591            | -625 | 622 | X                 | 1.8  | 93   | 22.5 | 37   |
|          |                        |                  |      |     | Y                 | 4.5  | 29   | 1.6  | 154  |

Reference Points  
 X - MDB Front Axle  
 Y - MDB Centerline  
 Z - Ground Plane



DATA SHEET NO. 15

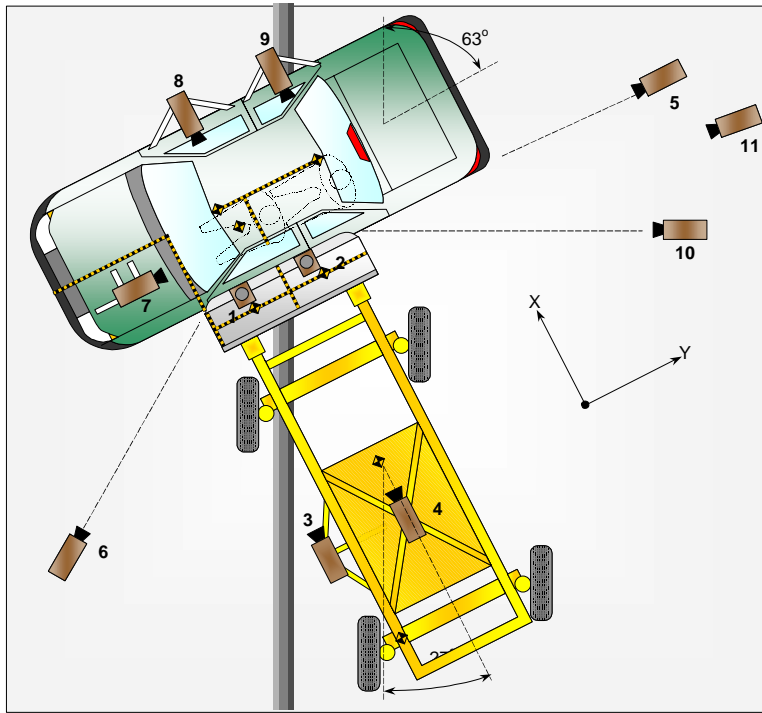
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001



| No. | Camera View                        | Location (mm) |       |      | Lens (mm) | Film Speed (fps) |
|-----|------------------------------------|---------------|-------|------|-----------|------------------|
|     |                                    | X             | Y     | Z    |           |                  |
| 1   | Overhead Overall                   | -140          | 1210  | 5000 | 8         | 893              |
| 2   | Overhead Close-up                  | -500          | -260  | 5000 | 13        | 957              |
| 3   | MDB Onboard, Impact Point Close-up |               |       |      | 13        | 1026             |
| 4   | MDB Onboard, Centerline of Impact  |               |       |      | 35        | 1005             |
| 5   | Right Side, Ground Level, Overall  | -820          | 10200 | 1850 | 25        | 962              |
| 6   | Left Side, Ground Level, Overall   | -440          | 1740  | 1720 | 13        | 1015             |
| 7   | Vehicle Onboard Front SID, Front   |               |       |      | 13        | 1020             |
| 8   | Vehicle Onboard Front SID, Side    |               |       |      | 8         | 1031             |
| 9*  | Vehicle Onboard Rear SID, Side     |               |       |      |           |                  |
| 10  | Real Time Coverage                 |               |       |      | 10        | 24               |

Reference Points X - MDB Front Axle  
 Y - MDB Centerline  
 Z - Ground Plane

\* Not used. No rear seat dummy.

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001/Honda/Insight/2 door

NHTSA No.: C15301

Test Program: FMVSS 214

Test Date: January 30, 2001

Test Time: 12:08 PM

Temperature at Time of Impact: 21 °C

**Stoddard Solvent Spillage Measurements**

- A. From impact until vehicle motion ceases: 0 oz.  
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0 oz.  
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0 oz.  
(Maximum Allowable = 1 oz./minute)
- D. Spillage Details: None

# DATA SHEET NO. 17

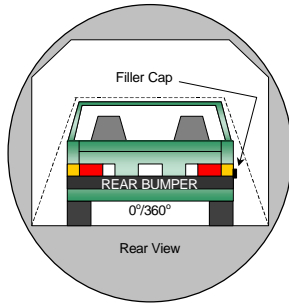
## FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001/Honda/Insight/2 door

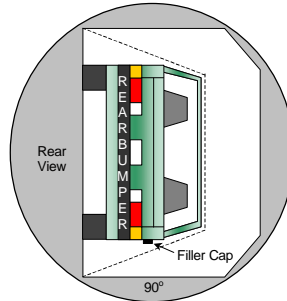
NHTSA No.: C15301

Test Program: FMVSS 214

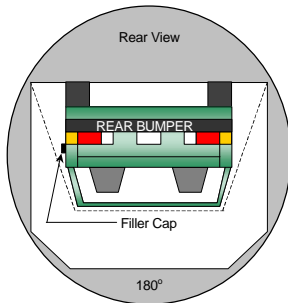
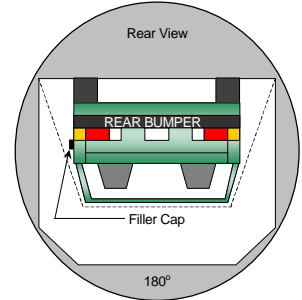
Test Date: January 30, 2001



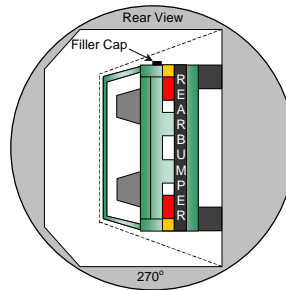
0° TO 90°



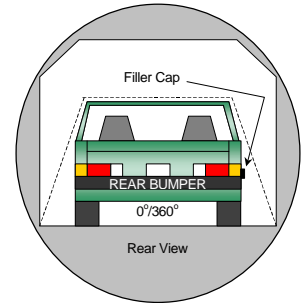
90° TO 180°



180° TO 270°



270° TO 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum)
3. Details of Stoddard Solvent spillage locations:

| Rollover Test Phase | Rotation Time (sec.) | Hold Time (sec.) | Spillage (oz.) |
|---------------------|----------------------|------------------|----------------|
| 0° TO 90°           | 161                  | 300              | 0              |
| 90° TO 180°         | 143                  | 300              | 0              |
| 180° TO 270°        | 144                  | 300              | 0              |
| 270° TO 360°        | 167                  | 300              | 0              |

# **APPENDIX A**

## **PHOTOGRAPHS**

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A-1



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

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

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

A-4



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

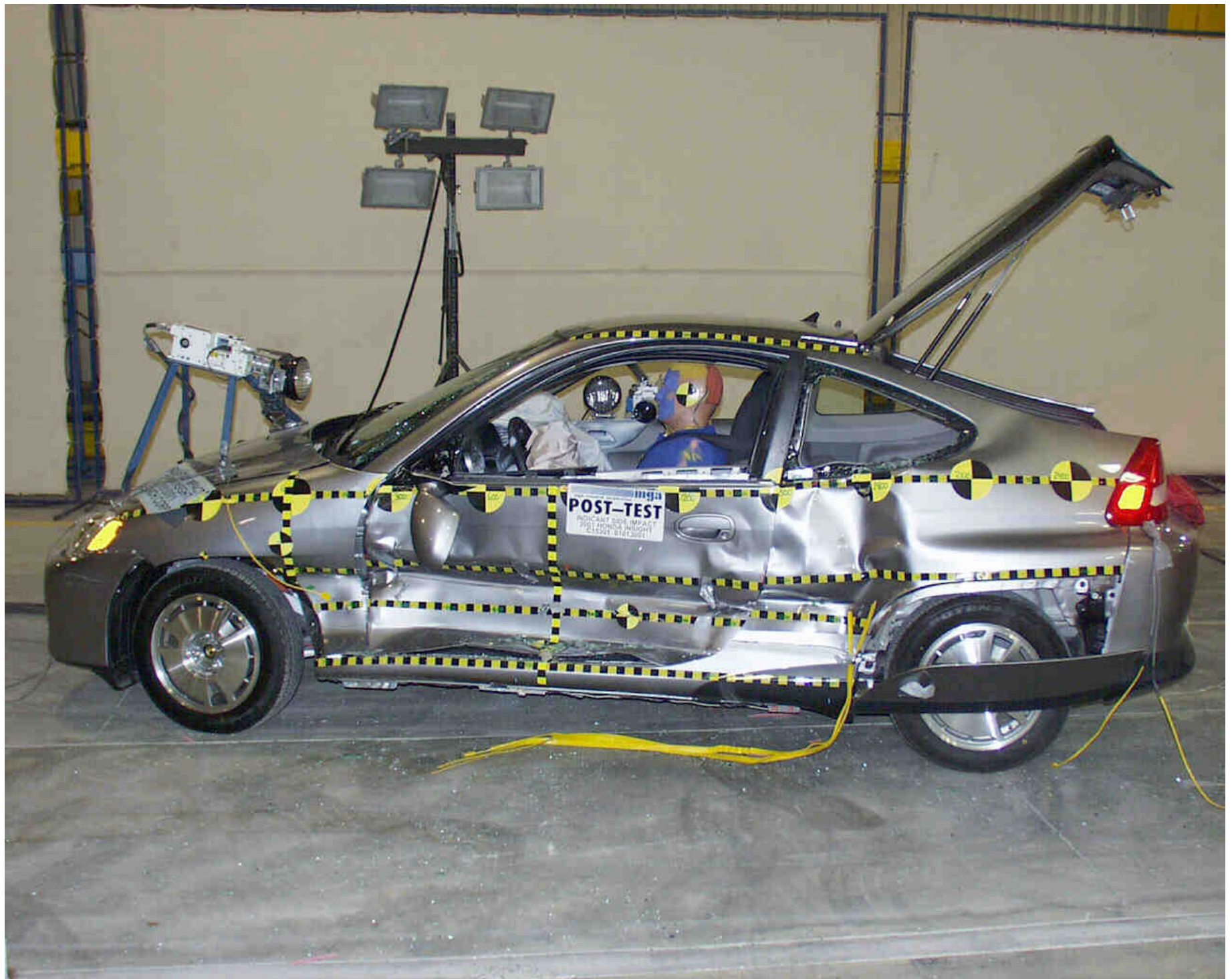


Photo No. A-6 - Post-Test Left Side View of Test Vehicle (trunk was opened manually after the test to access the data acquisition system)



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



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



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

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

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

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Photo No. A-12 - Post-Test MDB and Vehicle Overhead View

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

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

A-15

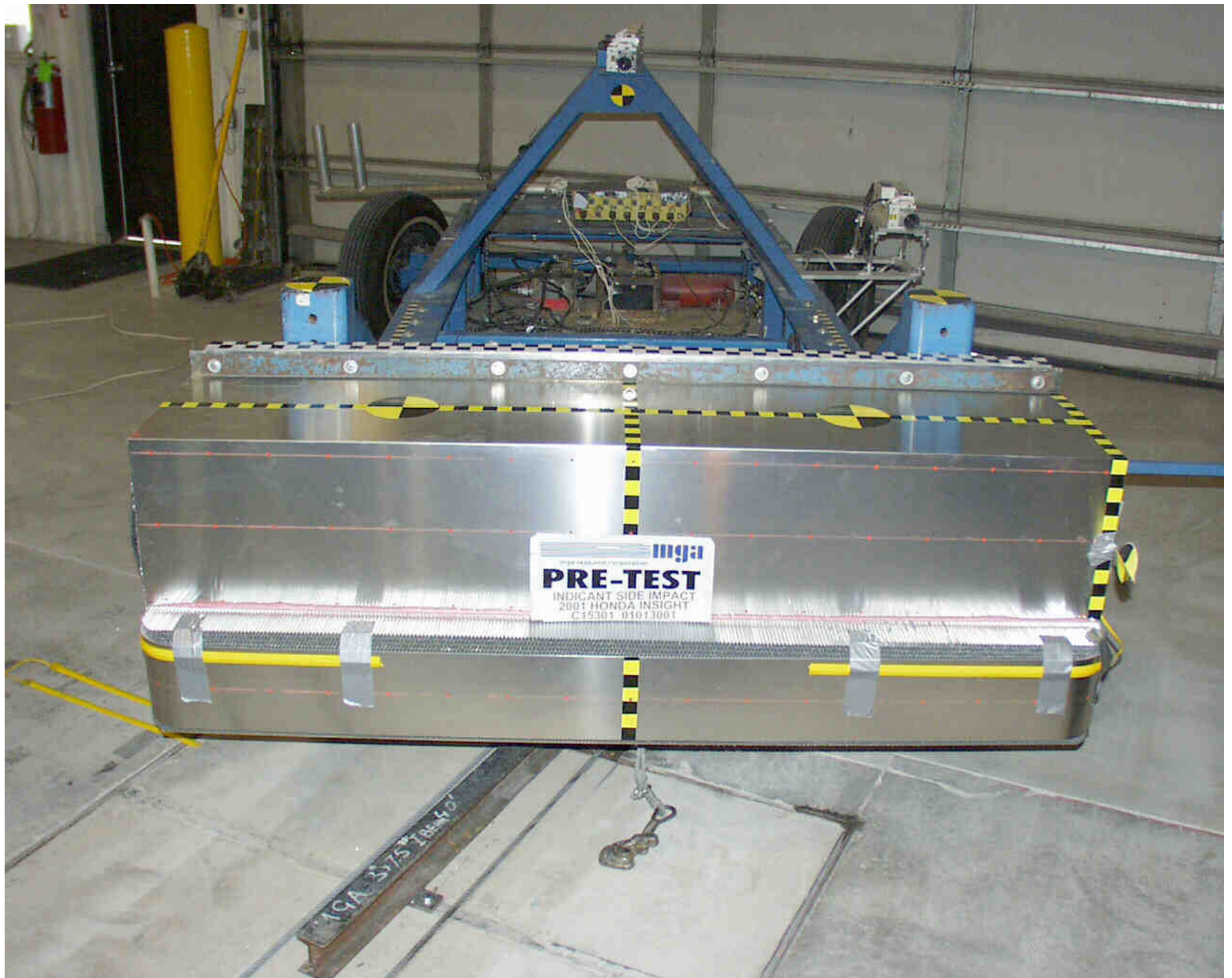


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Photo No. A-16 - Post-Test MDB Front View

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

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

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

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

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

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

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

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

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

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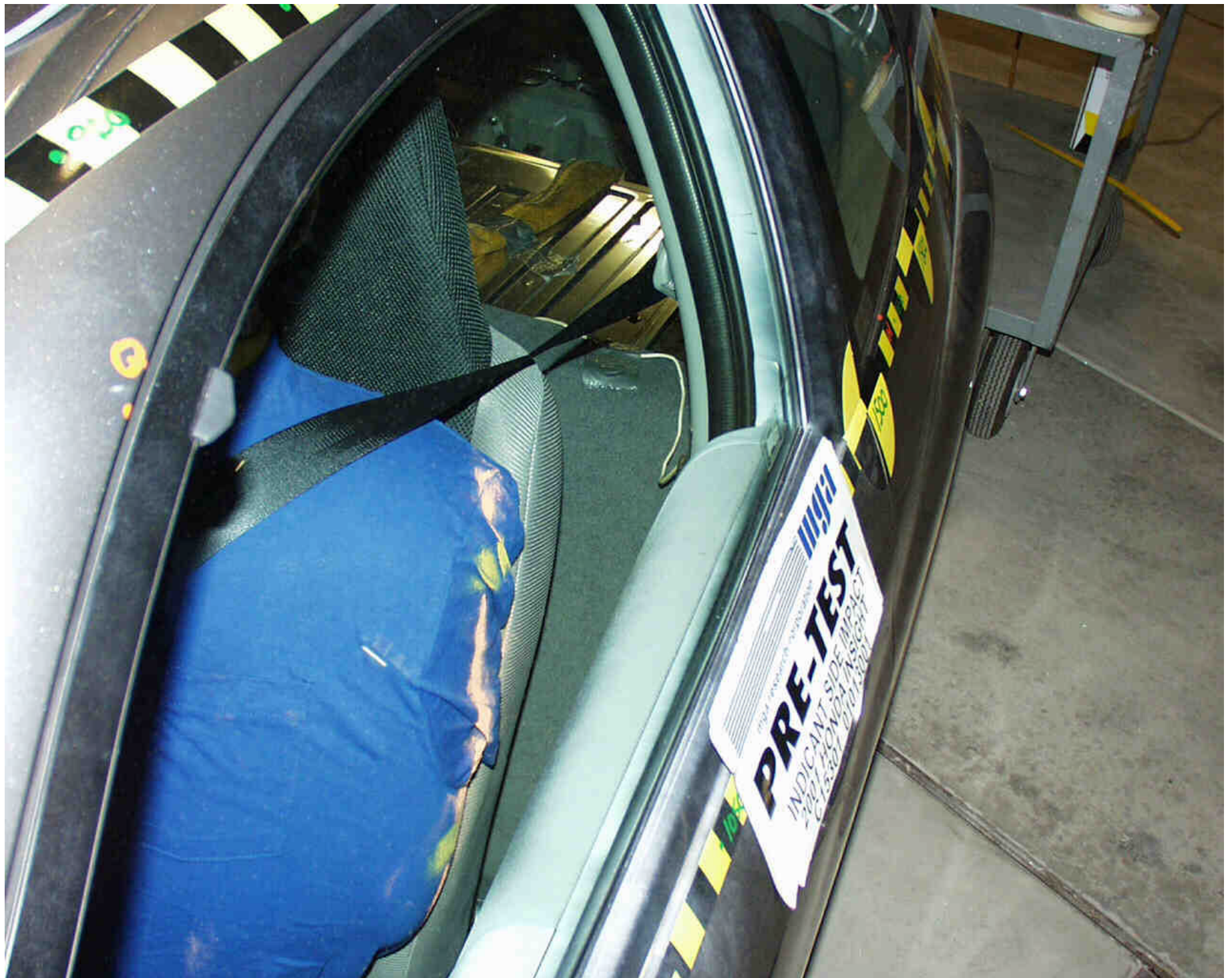


Photo No. A-26 - Pre-Test Driver Dummy Shoulder and Door Top View

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

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Photo No. A-28 - Post-Test Driver Dummy Contact

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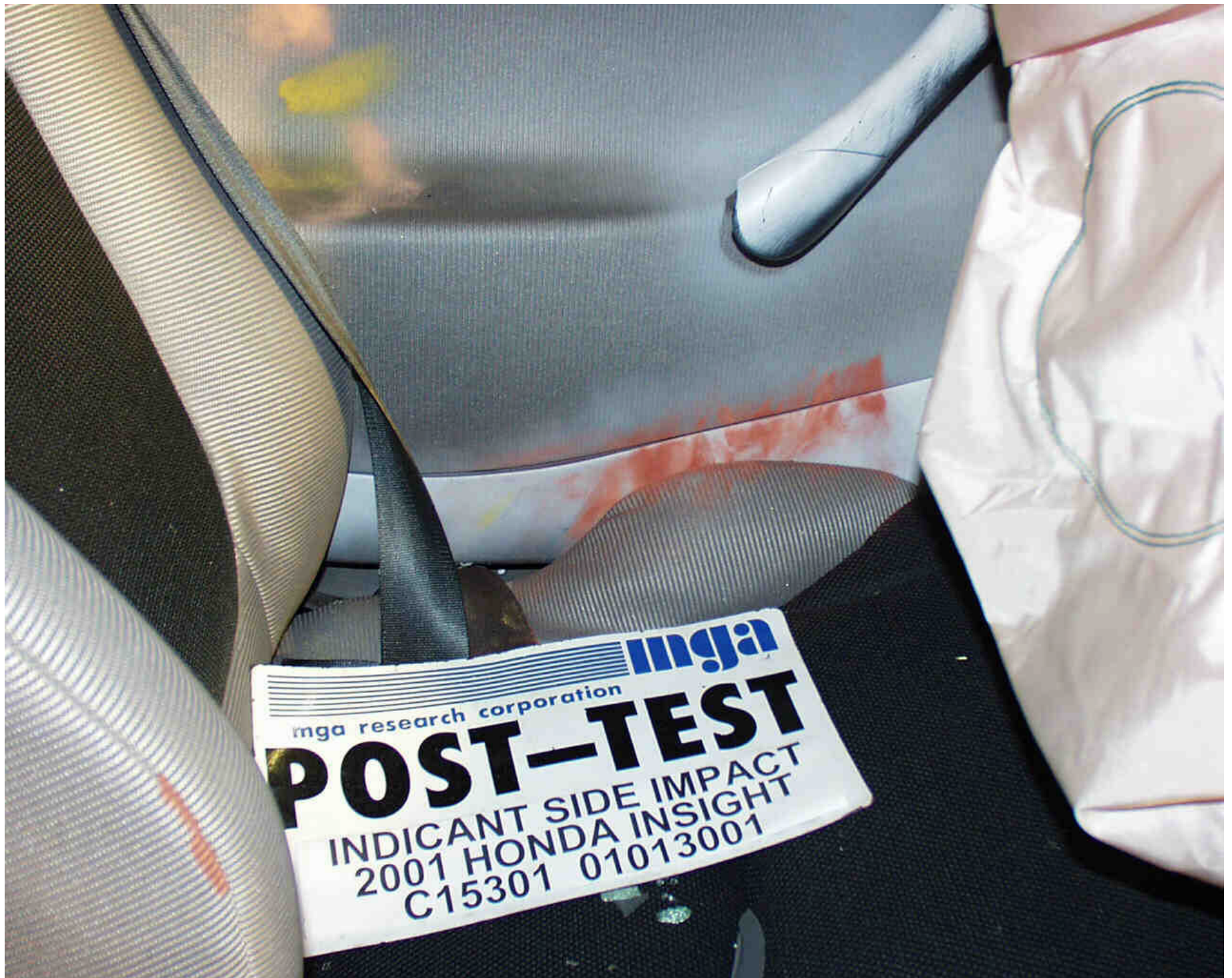


Photo No. A-29 - Post-Test Driver Dummy Contact

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Photo No. A-30 - Post-Test Driver Dummy Head Contact

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Photo No. A-31 - Pre-Test Left Front Impact Point on Vehicle

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Photo No. A-32 - Post-Test Left Front Impact Point on Vehicle

A-33



Photo No. A-33 - Impact



Photo No. A-34 - Vehicle Certification Label

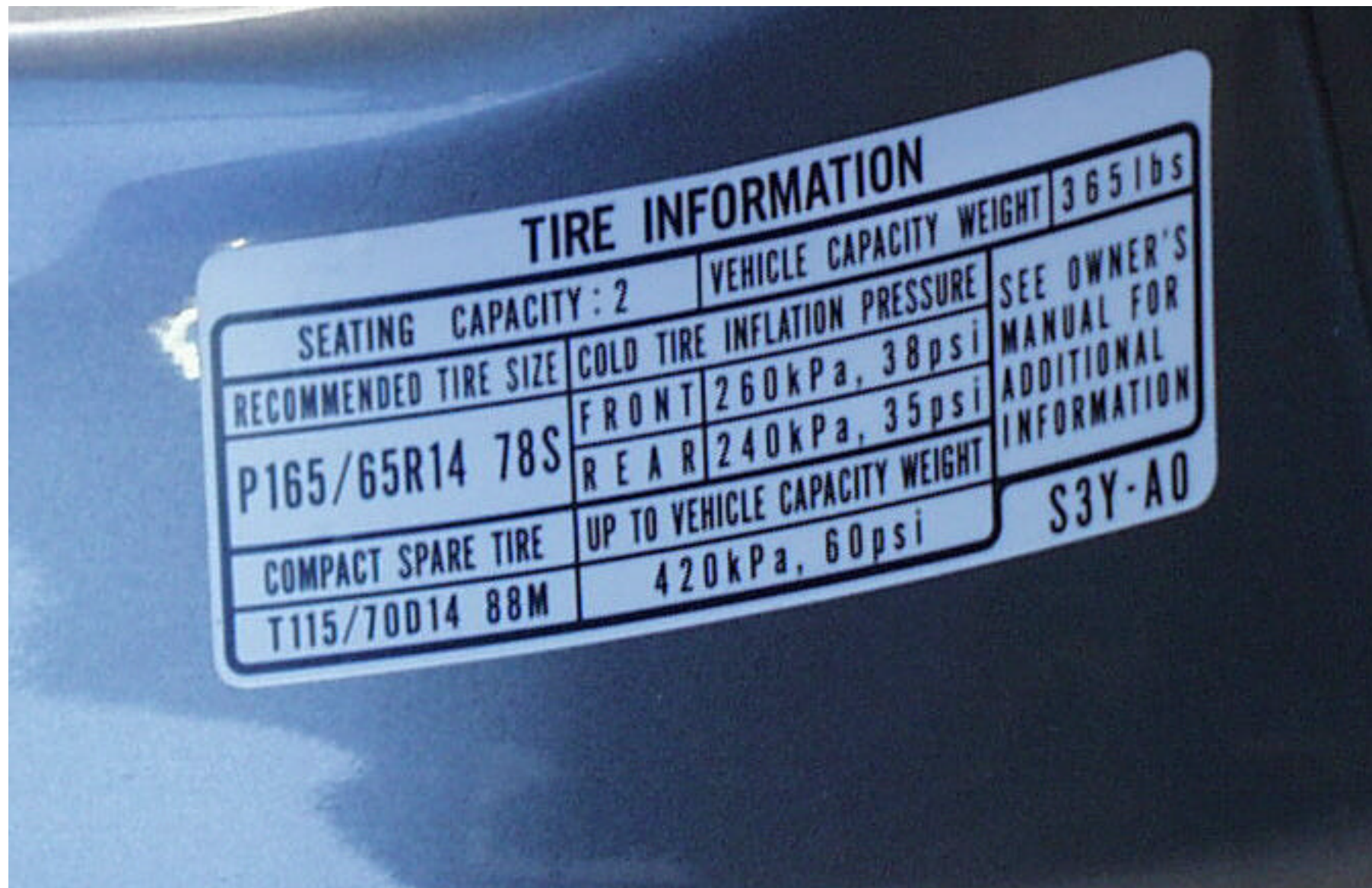


Photo No. A-35 - Tire Placard

A-36



Photo No. A-36 - Rollover 90°

A-37

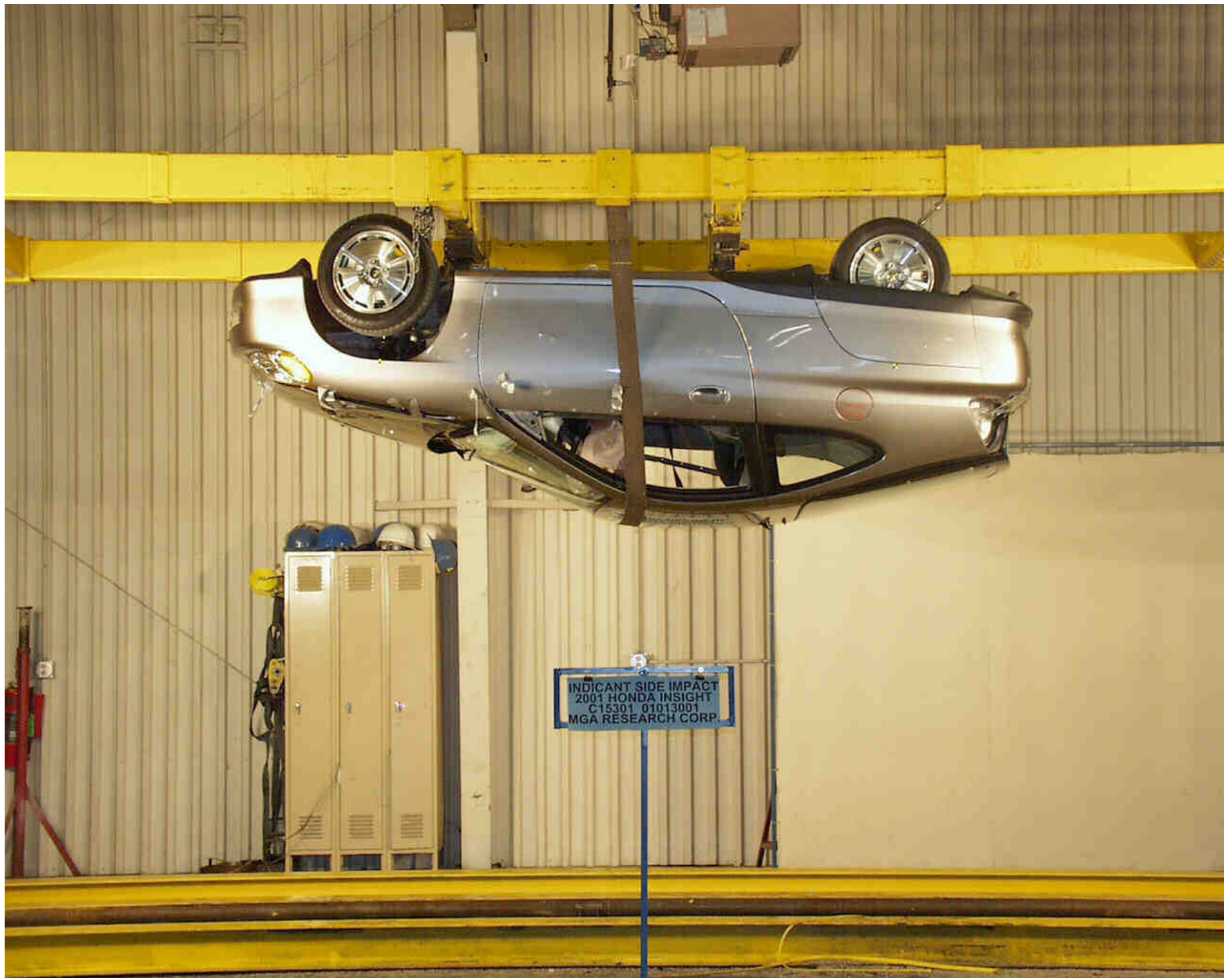


Photo No. A-37 - Rollover 180°

A-38

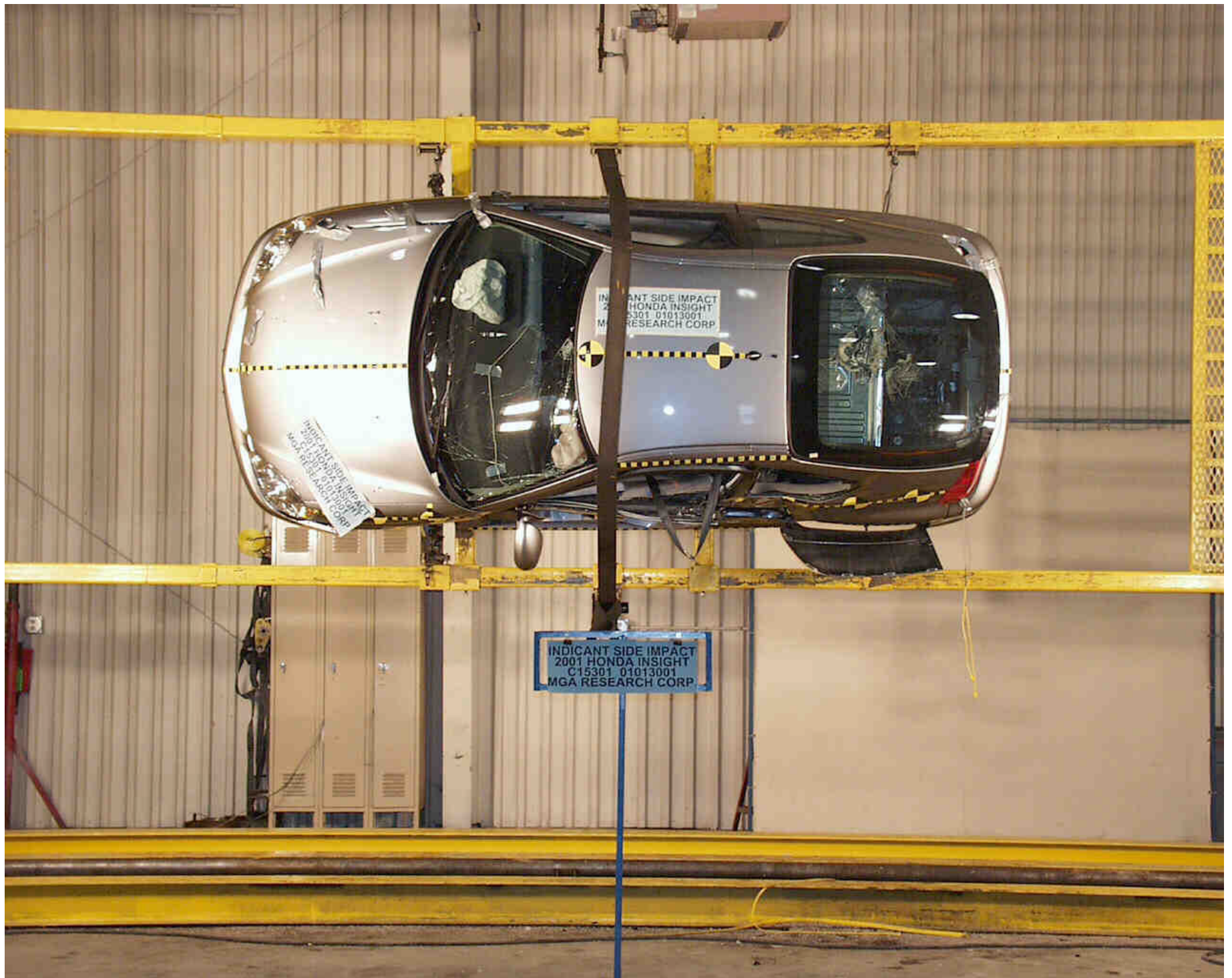


Photo No. A-38 - Rollover 270°

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Photo No. A-39 - Rollover 360°

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Photo No. A-40 - Left Front Attitude Point



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Photo No. A-41 - Right Front Attitude Point



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Photo No. A-42 - Left Rear Attitude Point



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Photo No. A-43 - Right Rear Attitude Point

## **APPENDIX B**

**SID, VEHICLE, AND MDB RESPONSE DATA**

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\* No valid data after 35 msec.

## Table of Data Plots

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### FIR Filtered:

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|--|------|
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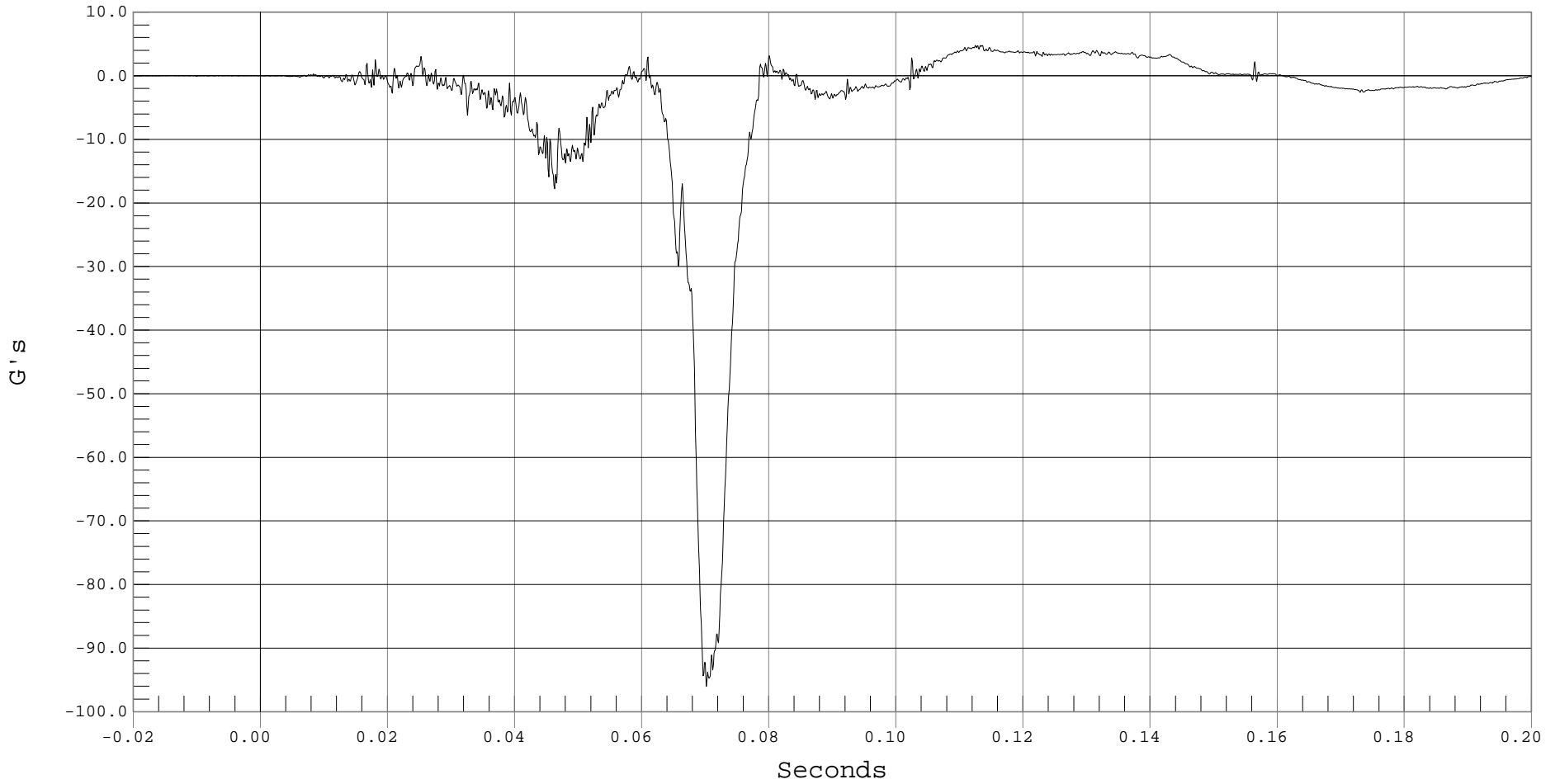
### DRIVER HEAD X ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER HEAD X, B01009AT.A01

Ymin = -96.01 G's @ 0.0702 Seconds, Ymax = 4.8 G's @ 0.1133 Seconds



B-1



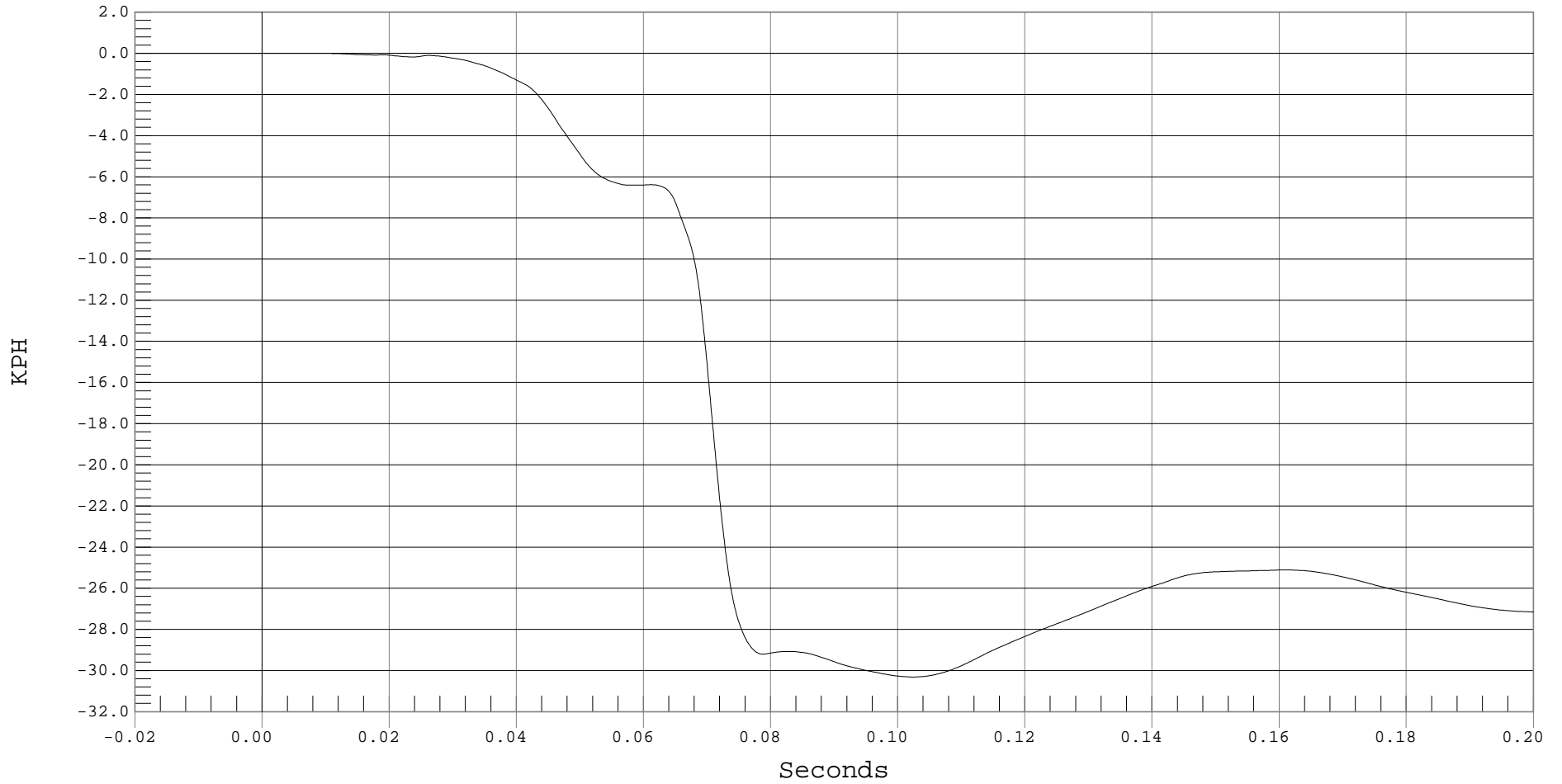
### DRIVER HEAD X VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER HEAD X VELOCITY, B01009AI.V01

Ymin = -30.32 KPH @ 0.1024 Seconds, Ymax = 0 KPH @ 0.0002 Seconds



B-2



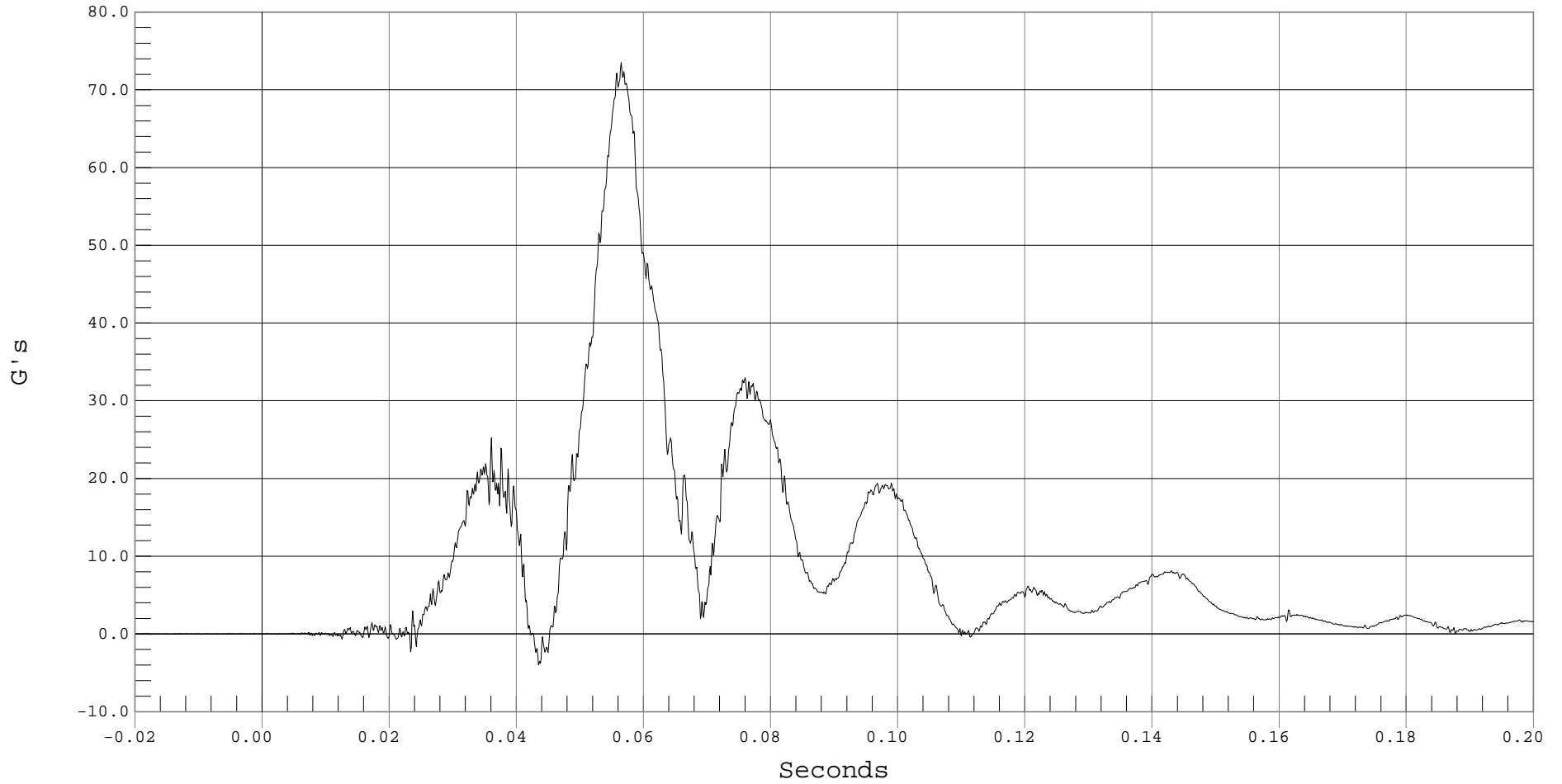
### DRIVER HEAD Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Y, B01009AT.A02

Ymin = -3.99 G's @ 0.0435 Seconds, Ymax = 73.51 G's @ 0.0565 Seconds



B-3



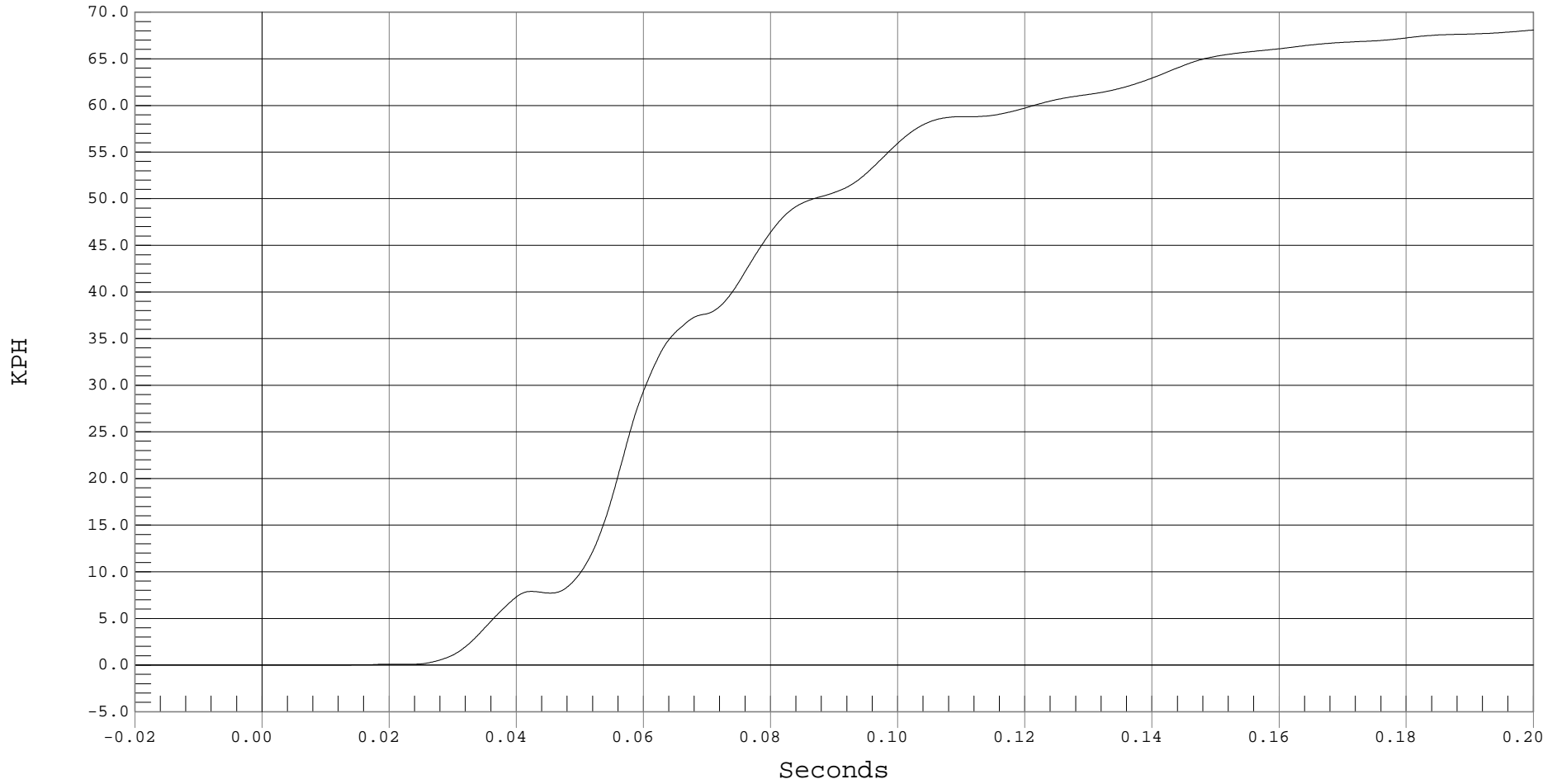
### DRIVER HEAD Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER HEAD Y VELOCITY, B01009AI.V02

Ymin = 0 KPH @ 0.0127 Seconds, Ymax = 68.09 KPH @ 0.2001 Seconds





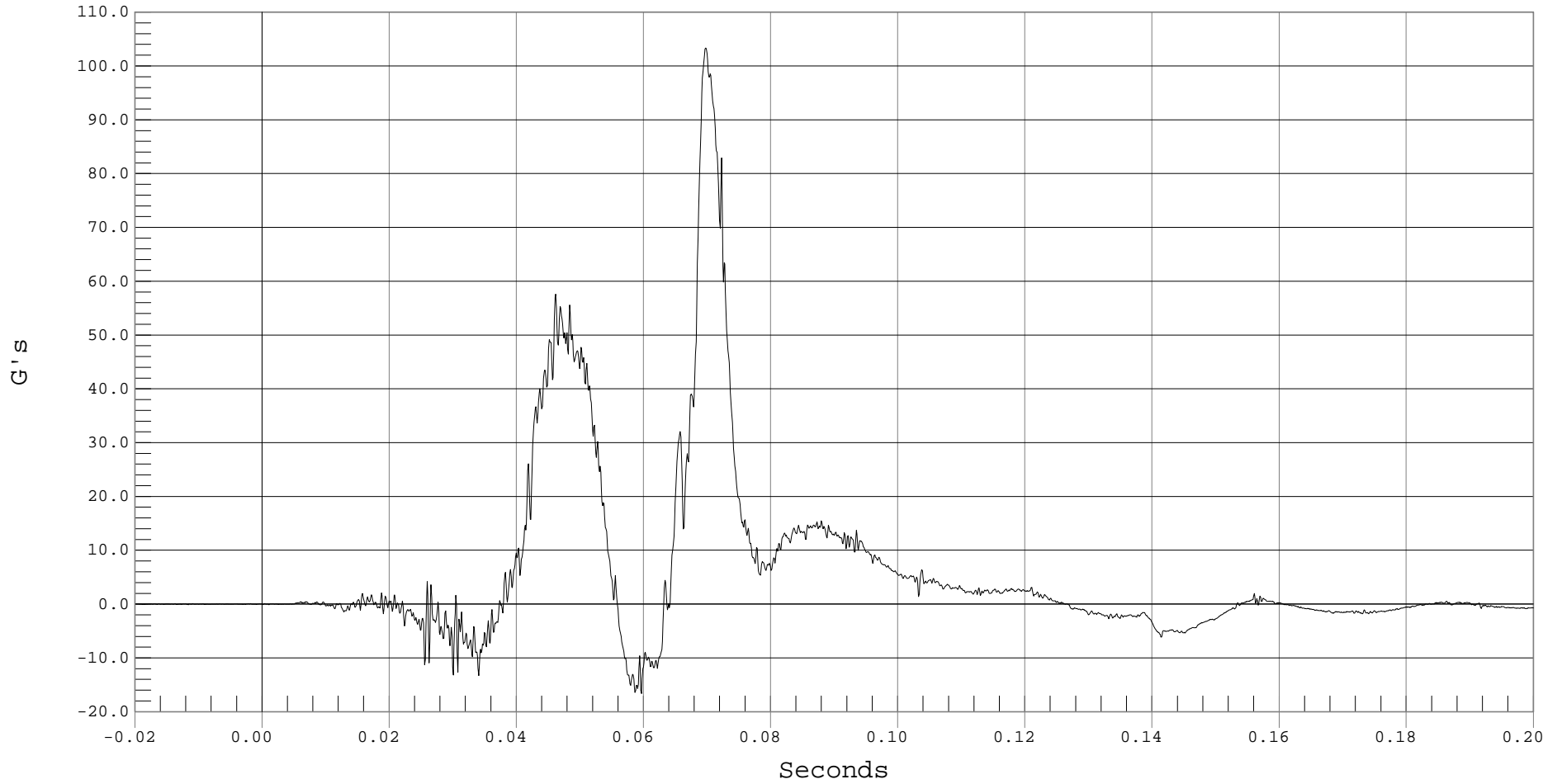
### DRIVER HEAD Z ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER HEAD Z, B01009AT.A03

Ymin = -16.65 G's @ 0.0597 Seconds, Ymax = 103.35 G's @ 0.0698 Seconds



B-5



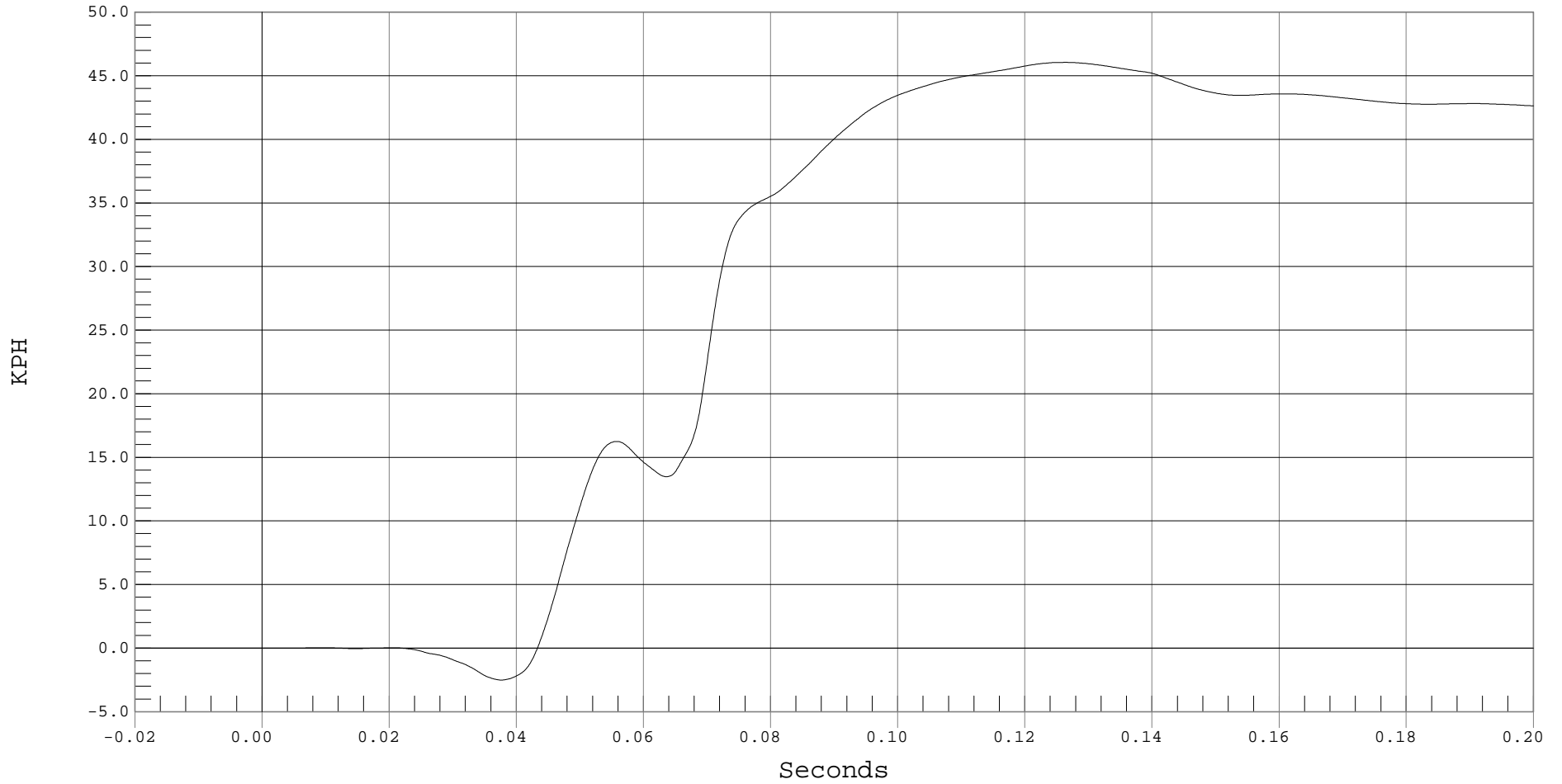
### DRIVER HEAD Z VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER HEAD Z VELOCITY, B01009AI.V03

Ymin = -2.51 KPH @ 0.0377 Seconds, Ymax = 46.05 KPH @ 0.1264 Seconds





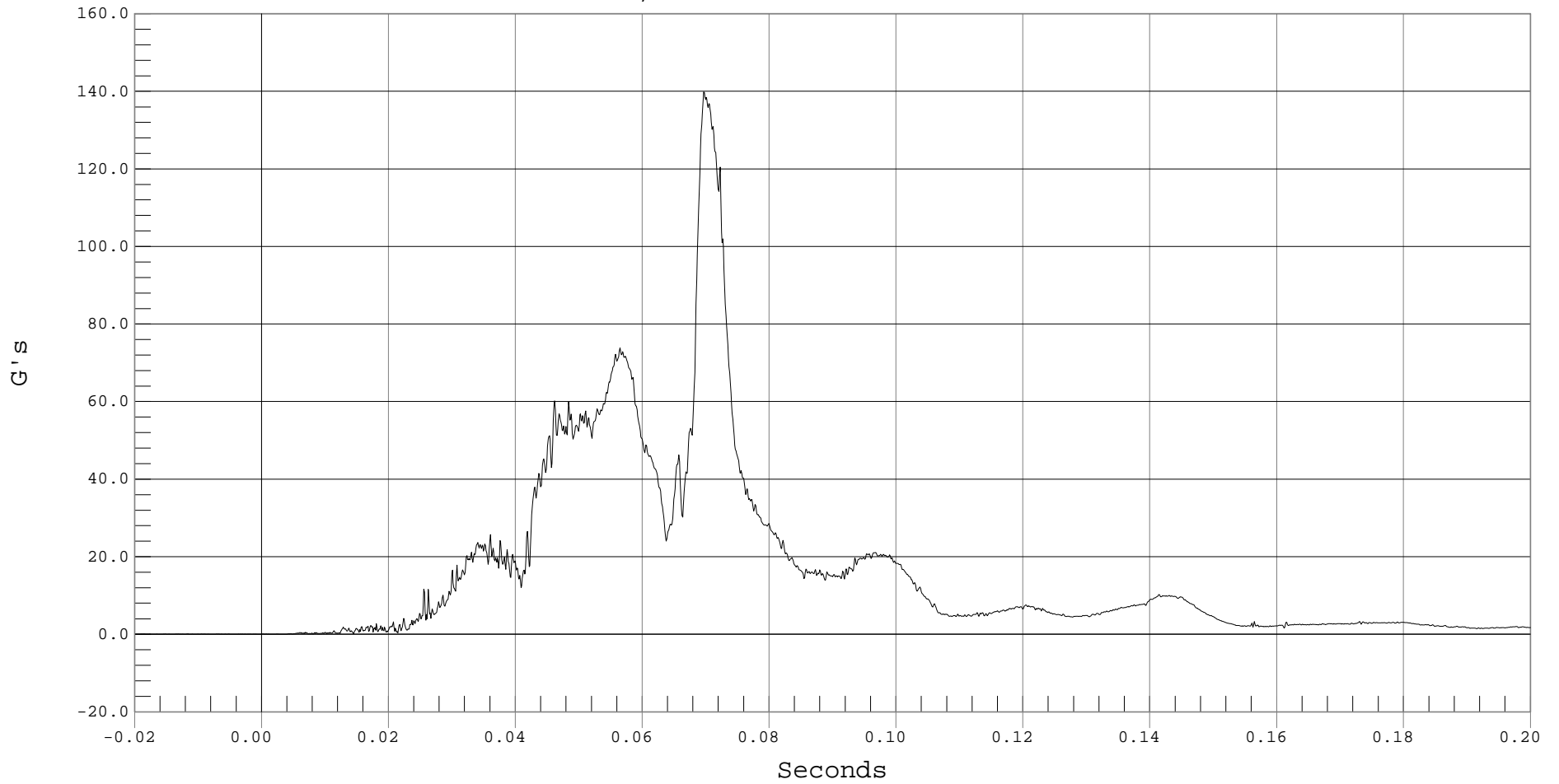
### DRIVER HEAD RESULTANT ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER HEAD RESULTANT, B01009AV.A01

Ymin = .01 G's @ -0.0196 Seconds, Ymax = 139.84 G's @ 0.0697 Seconds



B-7



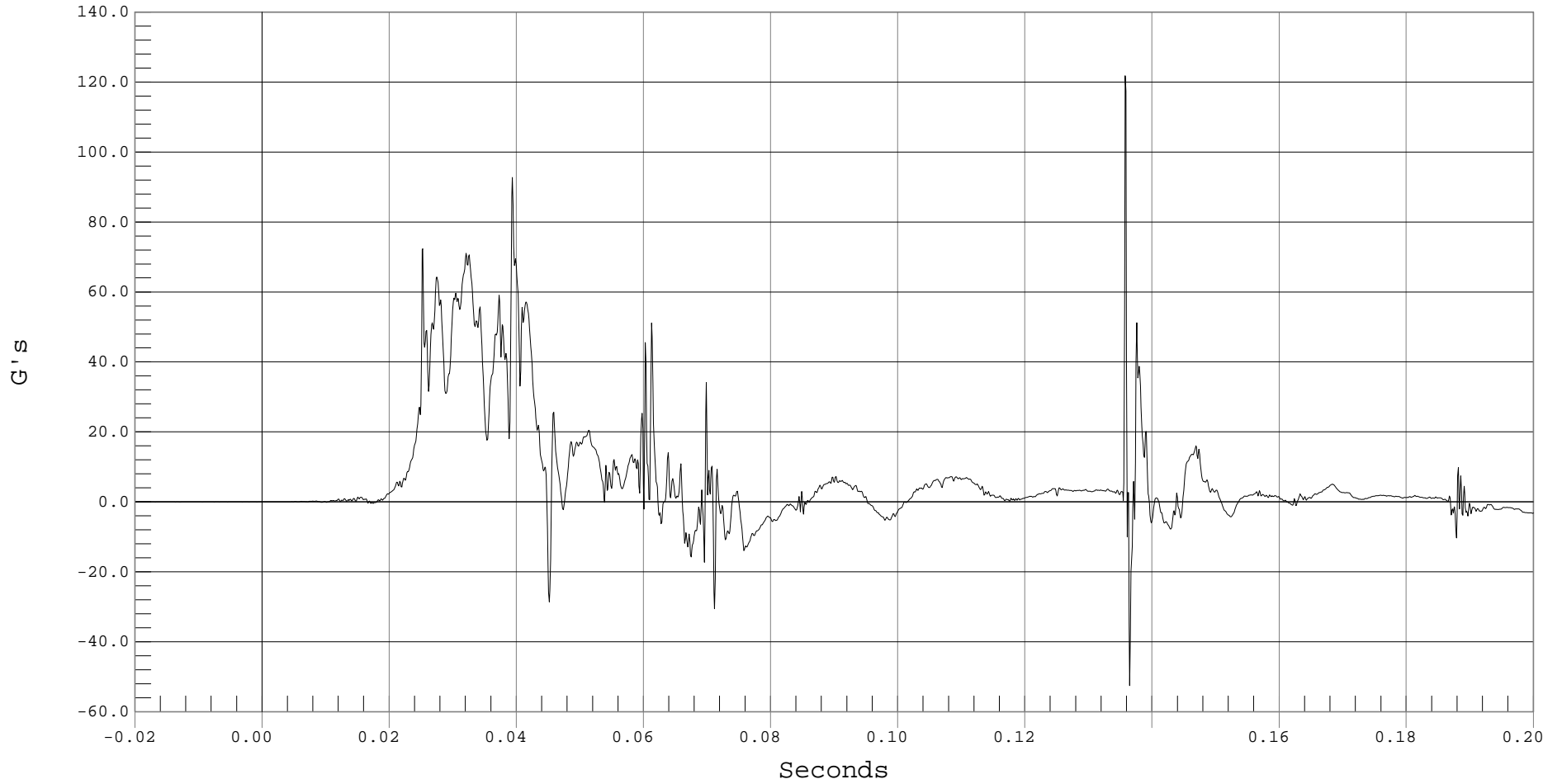
### DRIVER UPPER RIB Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER UPPER RIB Y, B01009AT.A04

Ymin = -52.57 G's @ 0.1365 Seconds, Ymax = 121.78 G's @ 0.1358 Seconds



B-8



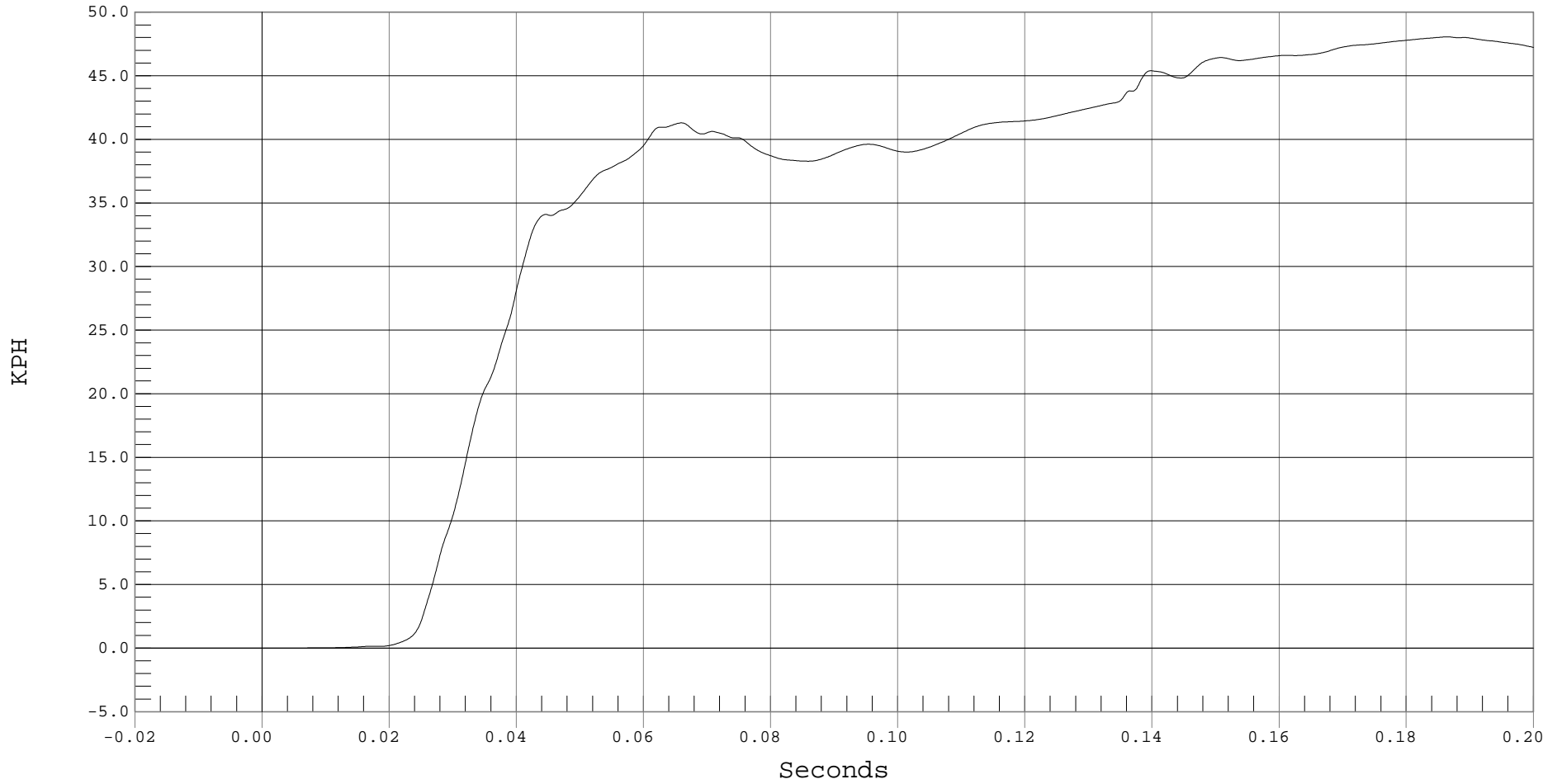
### DRIVER UPPER RIB Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER UPPER RIB Y VELOCITY, B01009AI.V04

Ymin = 0 KPH @ -0.0001 Seconds, Ymax = 48.05 KPH @ 0.1865 Seconds





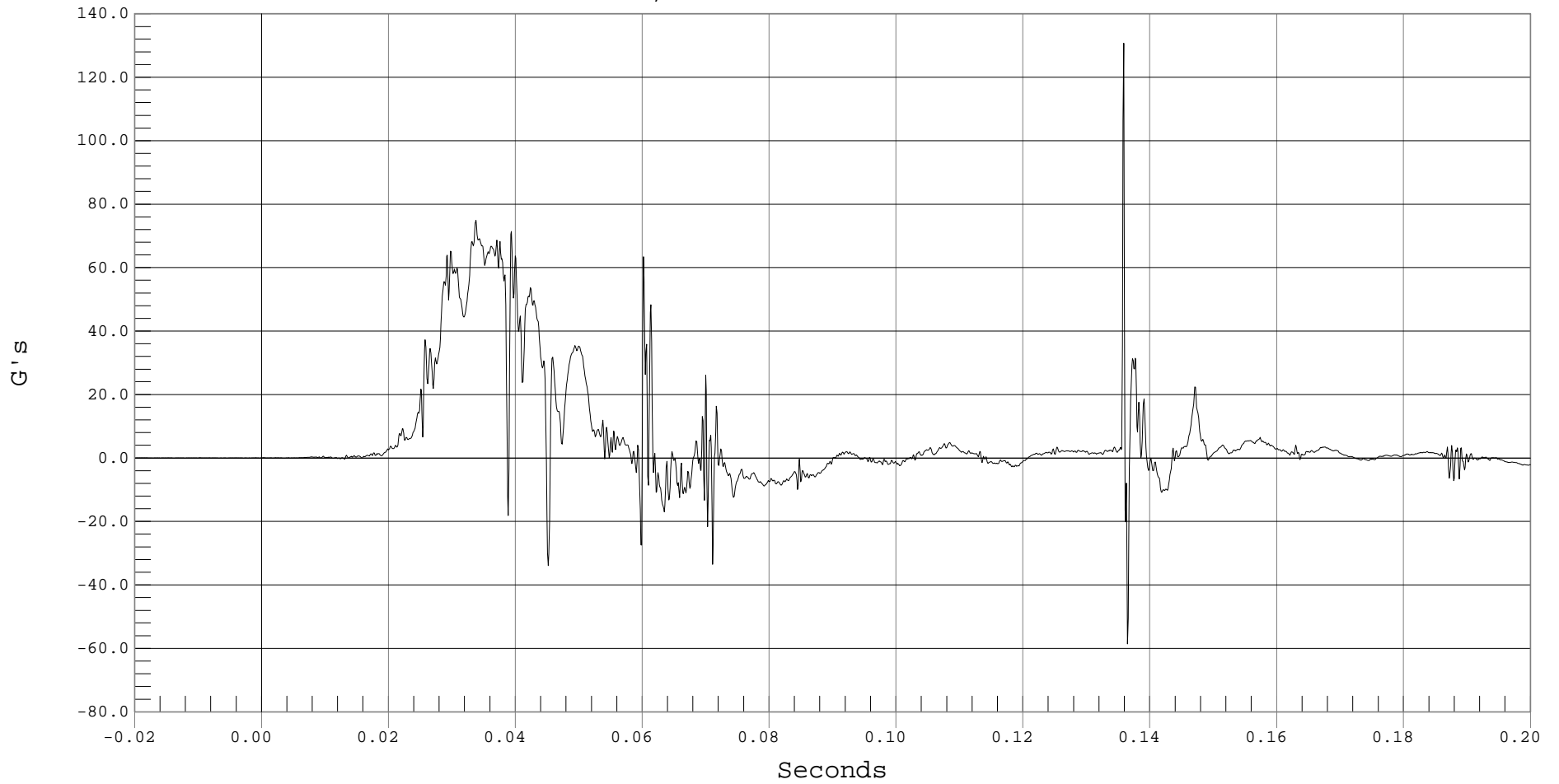
### DRIVER LOWER RIB Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER LOWER RIB Y, B01009AT.A05

Ymin = -58.59 G's @ 0.1365 Seconds, Ymax = 130.71 G's @ 0.1359 Seconds



B-10



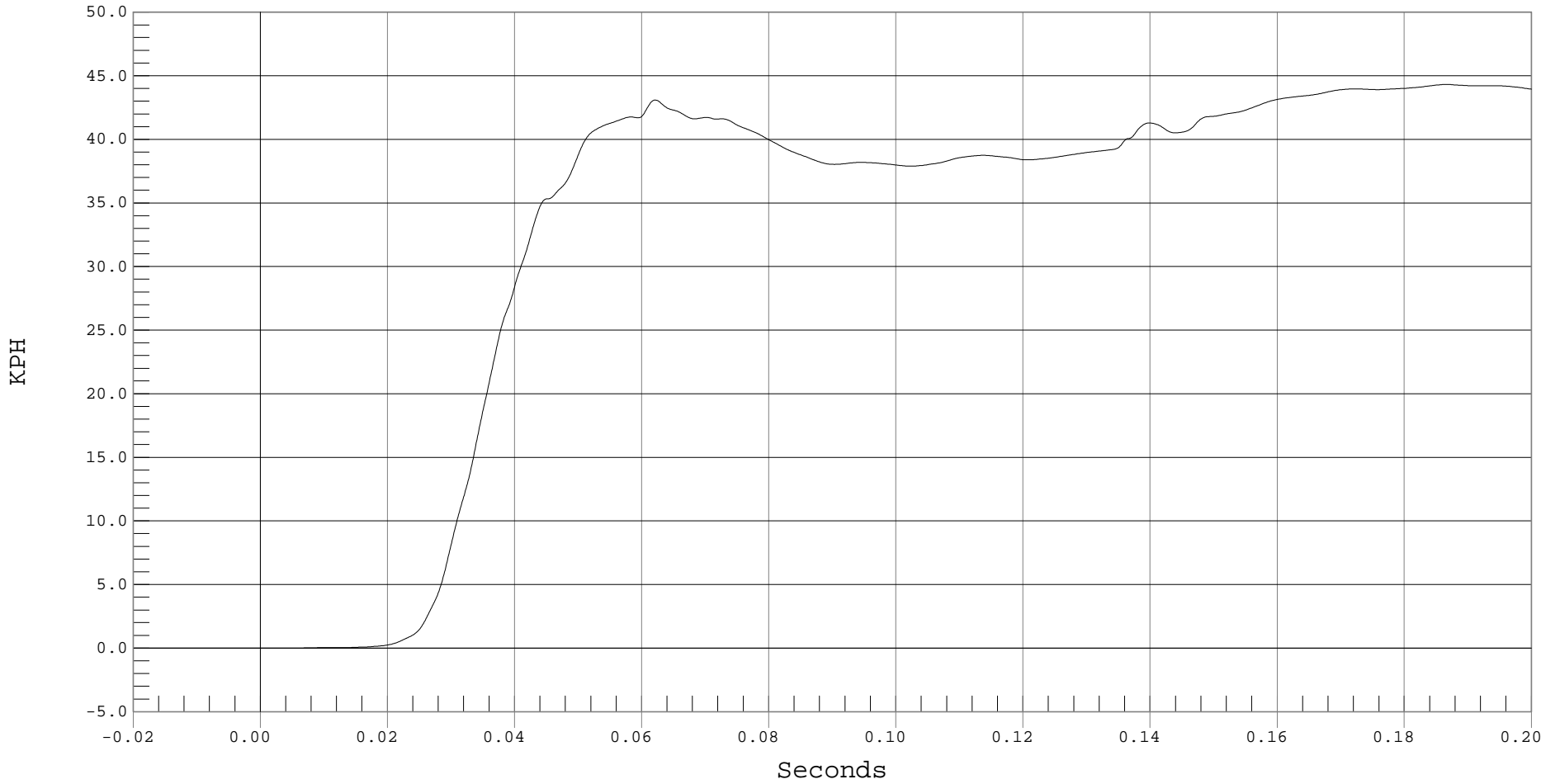
### DRIVER LOWER RIB Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER LOWER RIB Y VELOCITY, B01009AI.V05

Ymin = 0 KPH @ -0.0015 Seconds, Ymax = 44.32 KPH @ 0.1867 Seconds



B-11



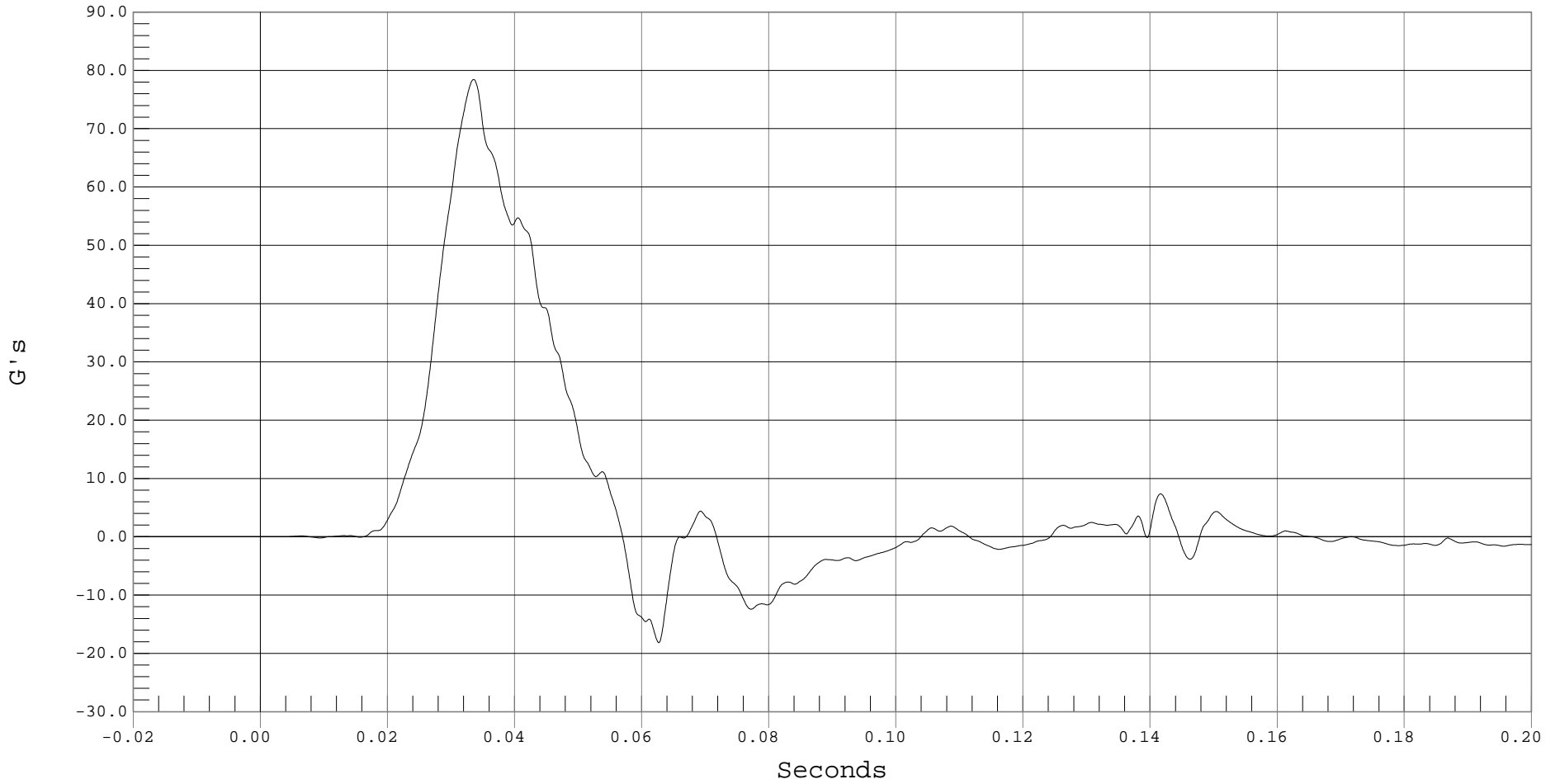
### DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER LOWER SPINE Y, B01009AF.A06

Ymin = -18.17 G's @ 0.0627 Seconds, Ymax = 78.45 G's @ 0.0336 Seconds



B-12



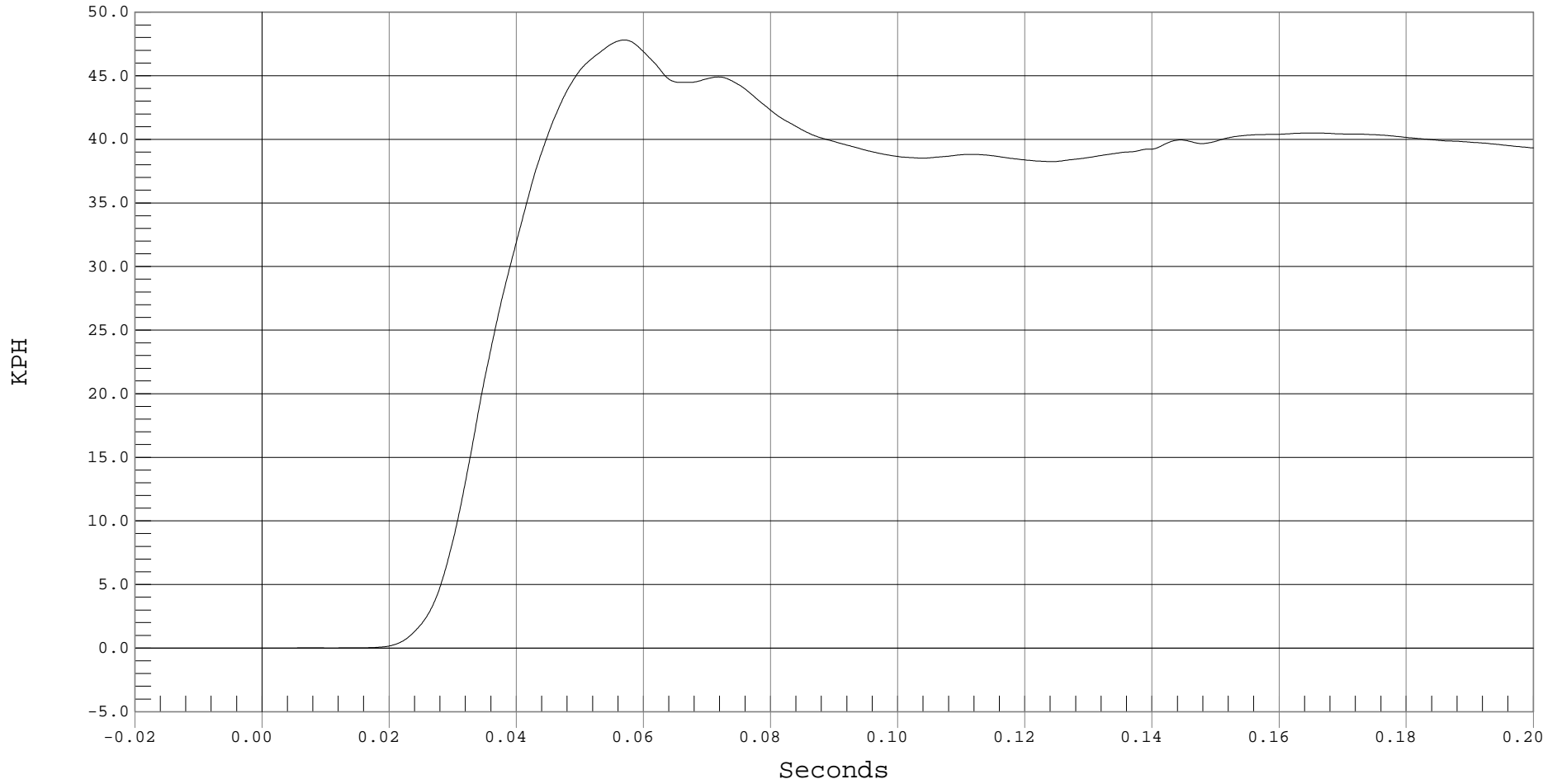
### DRIVER LOWER SPINE Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER LOWER SPINE Y VELOCITY, B01009AI.V06

Ymin = 0 KPH @ -0.0189 Seconds, Ymax = 47.81 KPH @ 0.0570 Seconds



B-13



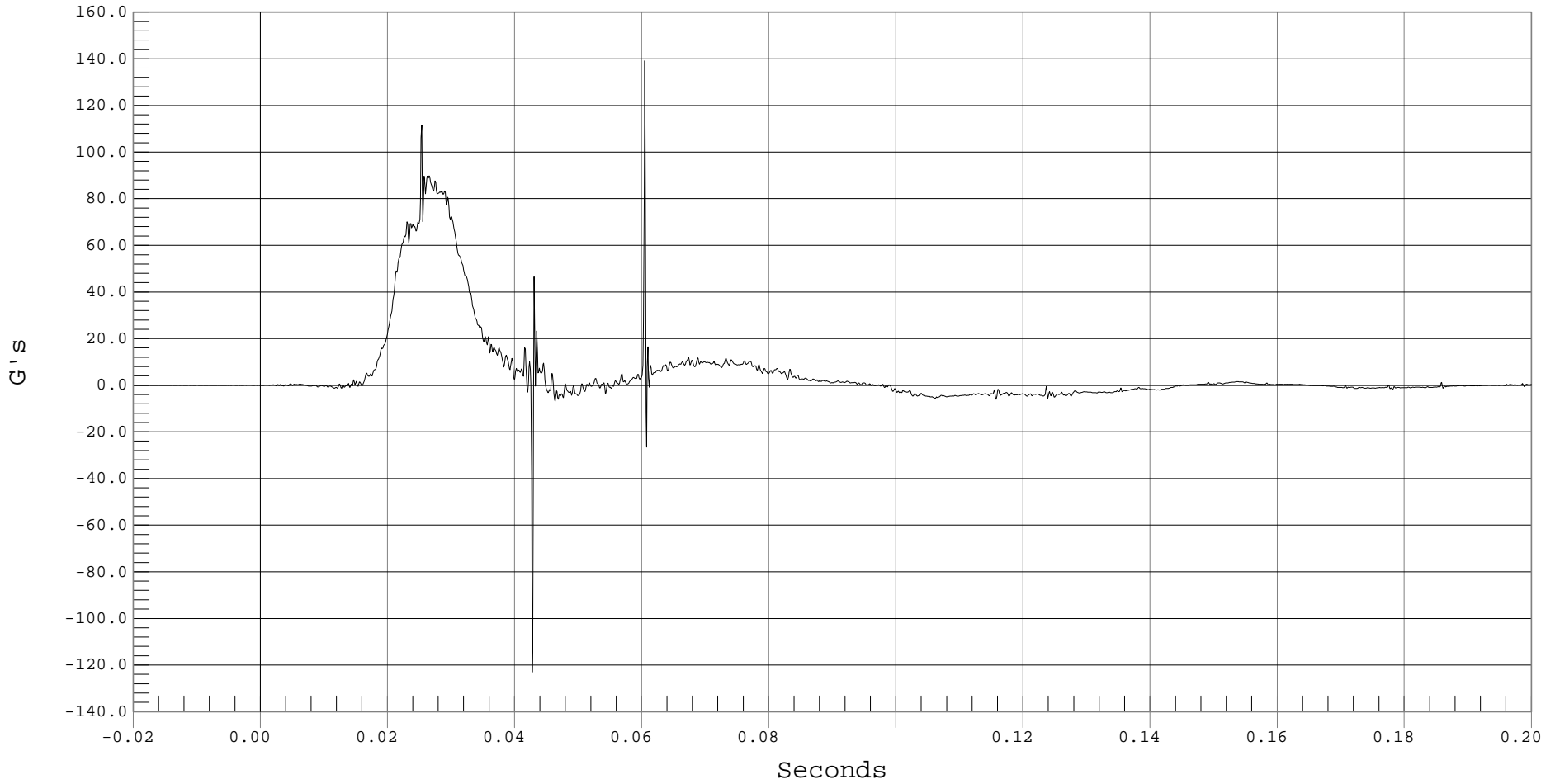
### DRIVER PELVIS Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER PELVIS Y, B01009AT.A07

Ymin = -123.12 G's @ 0.0428 Seconds, Ymax = 139.21 G's @ 0.0605 Seconds



B-14



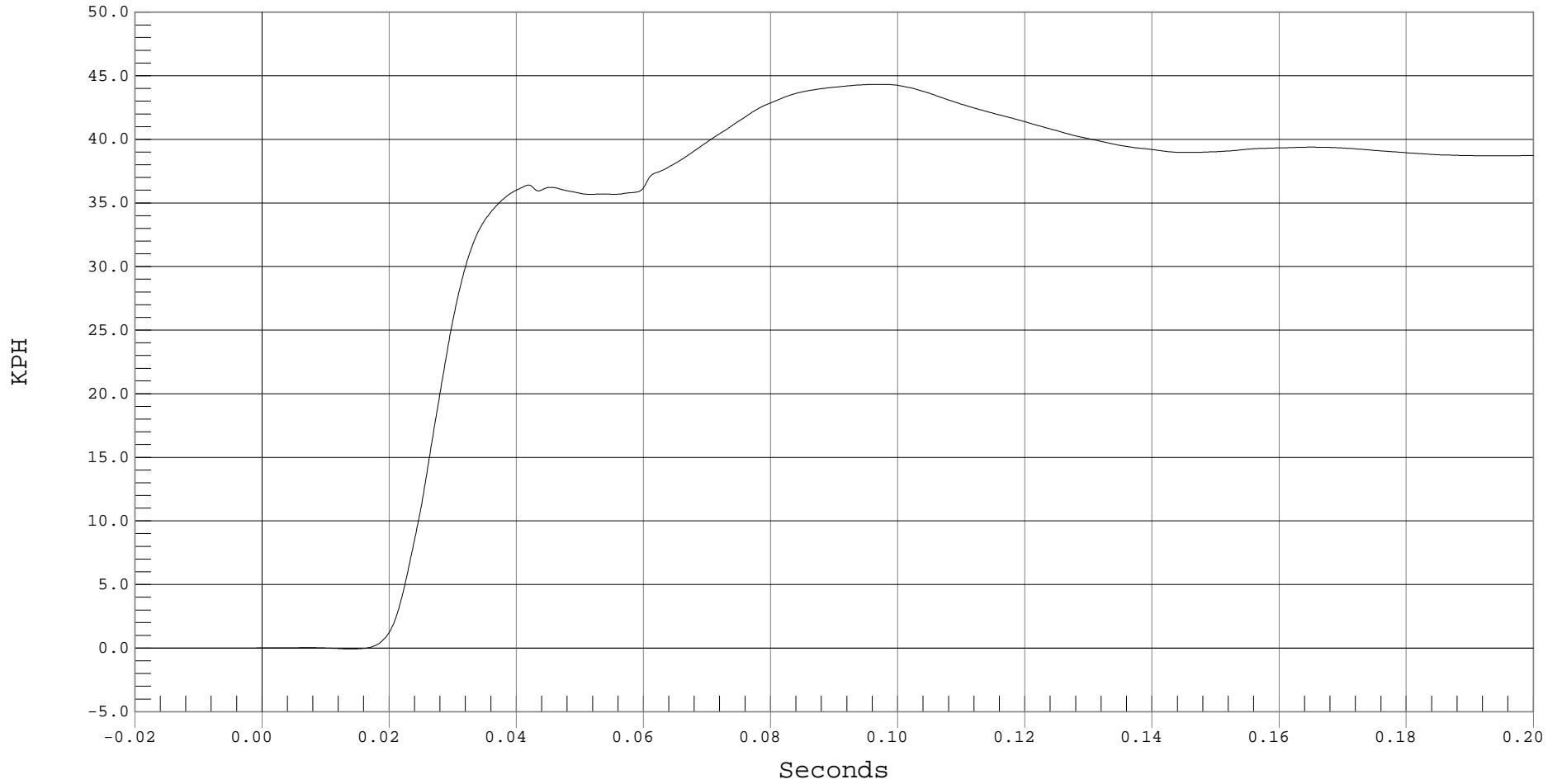
### DRIVER PELVIS Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER PELVIS Y VELOCITY, B01009AI.V07

Ymin = -.07 KPH @ 0.0140 Seconds, Ymax = 44.32 KPH @ 0.0969 Seconds



B-15



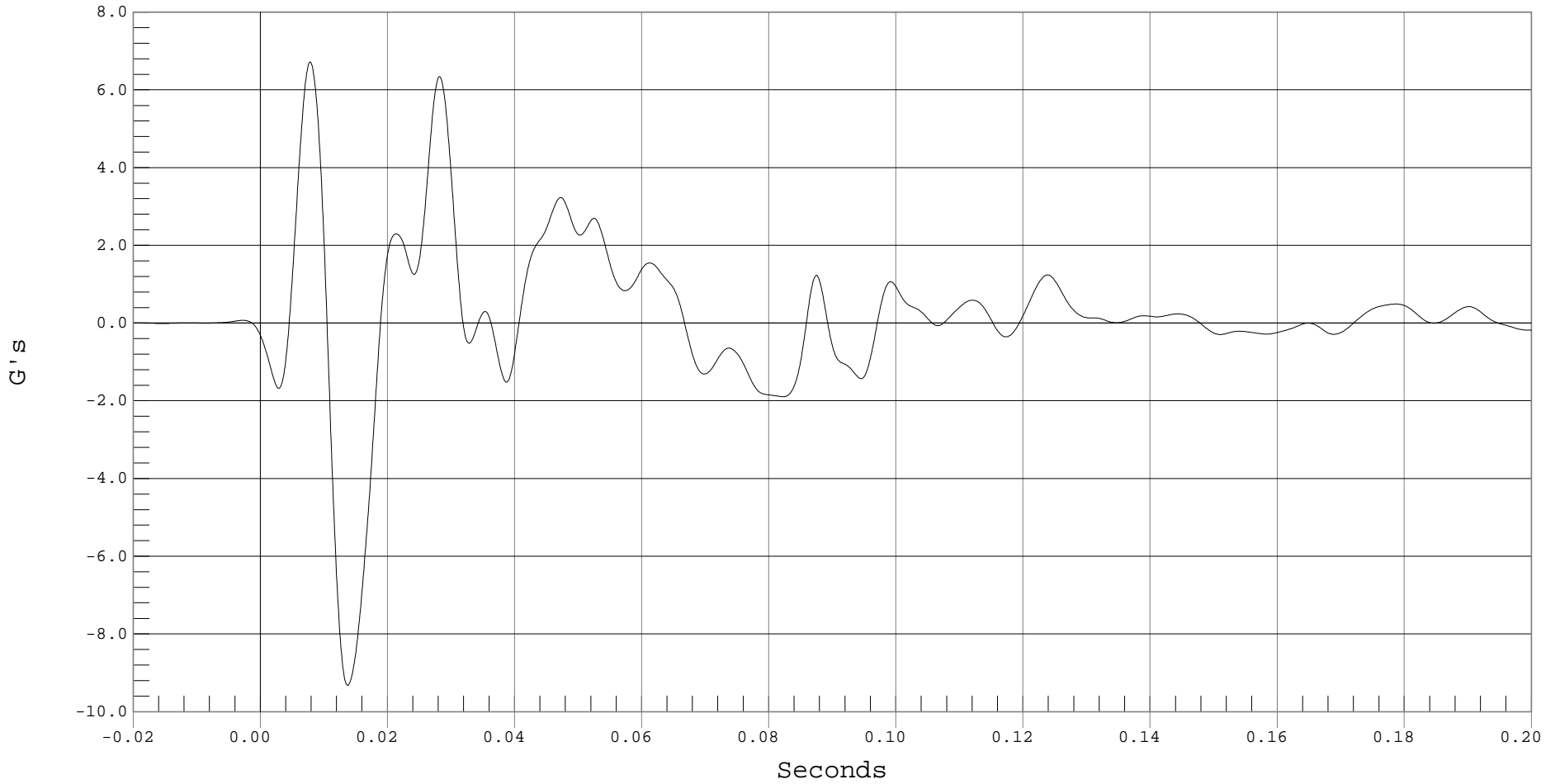
### RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT FRONT SILL X, B01009AF.A15

Ymin = -9.32 G's @ 0.0138 Seconds, Ymax = 6.72 G's @ 0.0079 Seconds



B-16



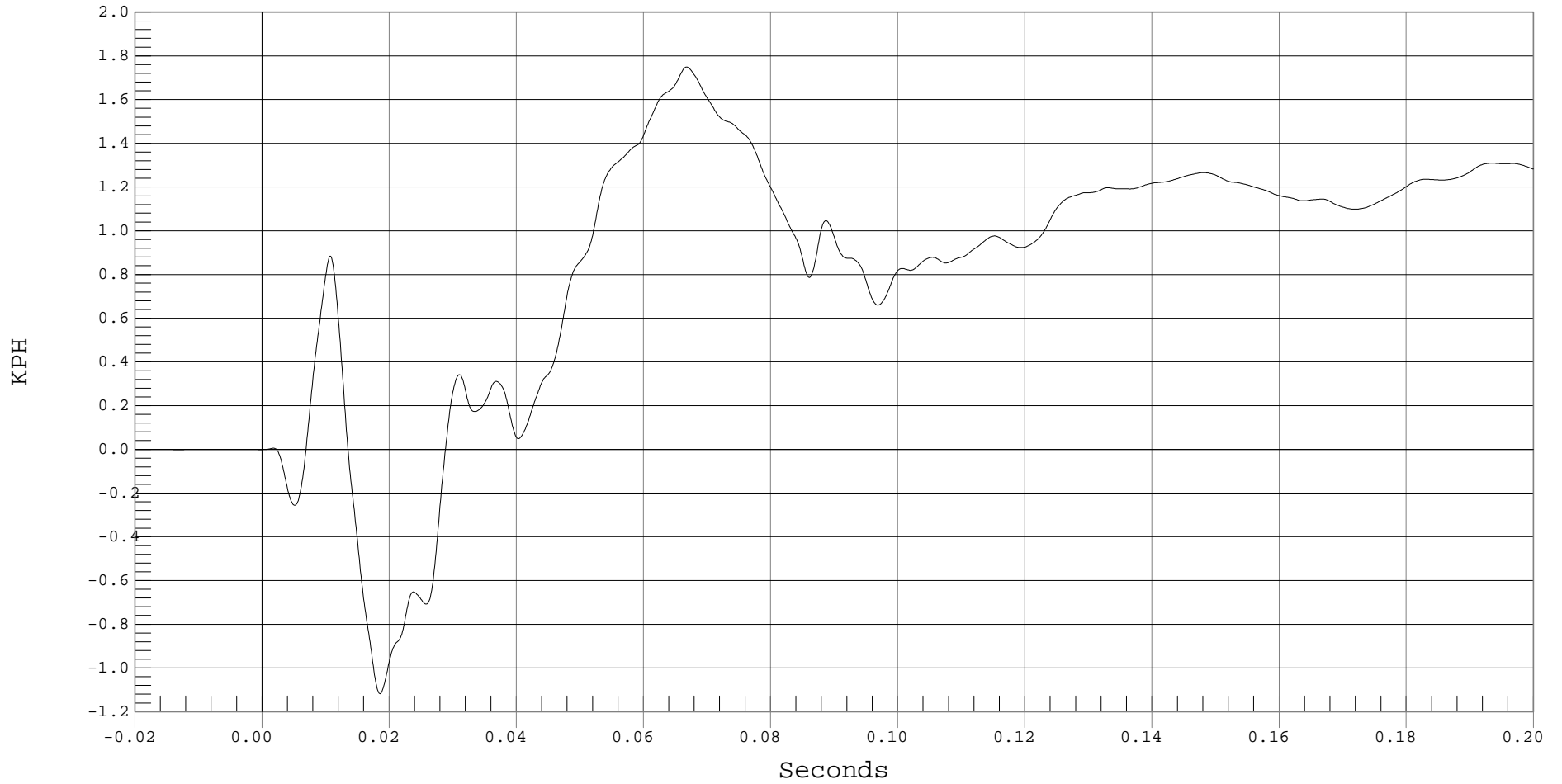
### RIGHT SIDE SILL AT FRONT SEAT X VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 RIGHT SIDE SILL AT FRONT SEAT X VELOCITY, B01009AI.V15

Ymin = -1.12 KPH @ 0.0186 Seconds, Ymax = 1.75 KPH @ 0.0668 Seconds





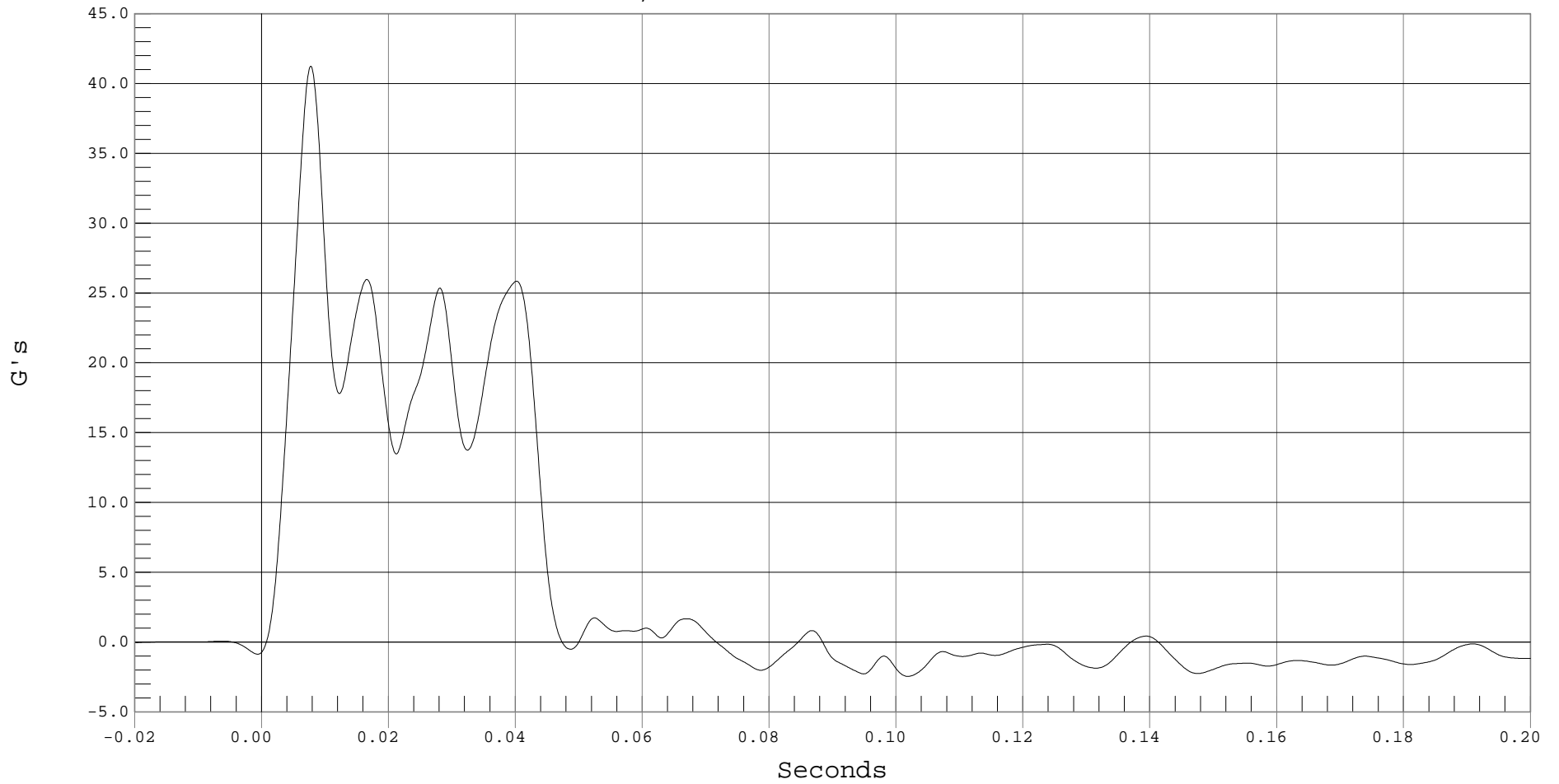
### RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT FRONT SILL Y, B01009AF.A16

Ymin = -2.46 G's @ 0.1018 Seconds, Ymax = 41.24 G's @ 0.0078 Seconds



B-18



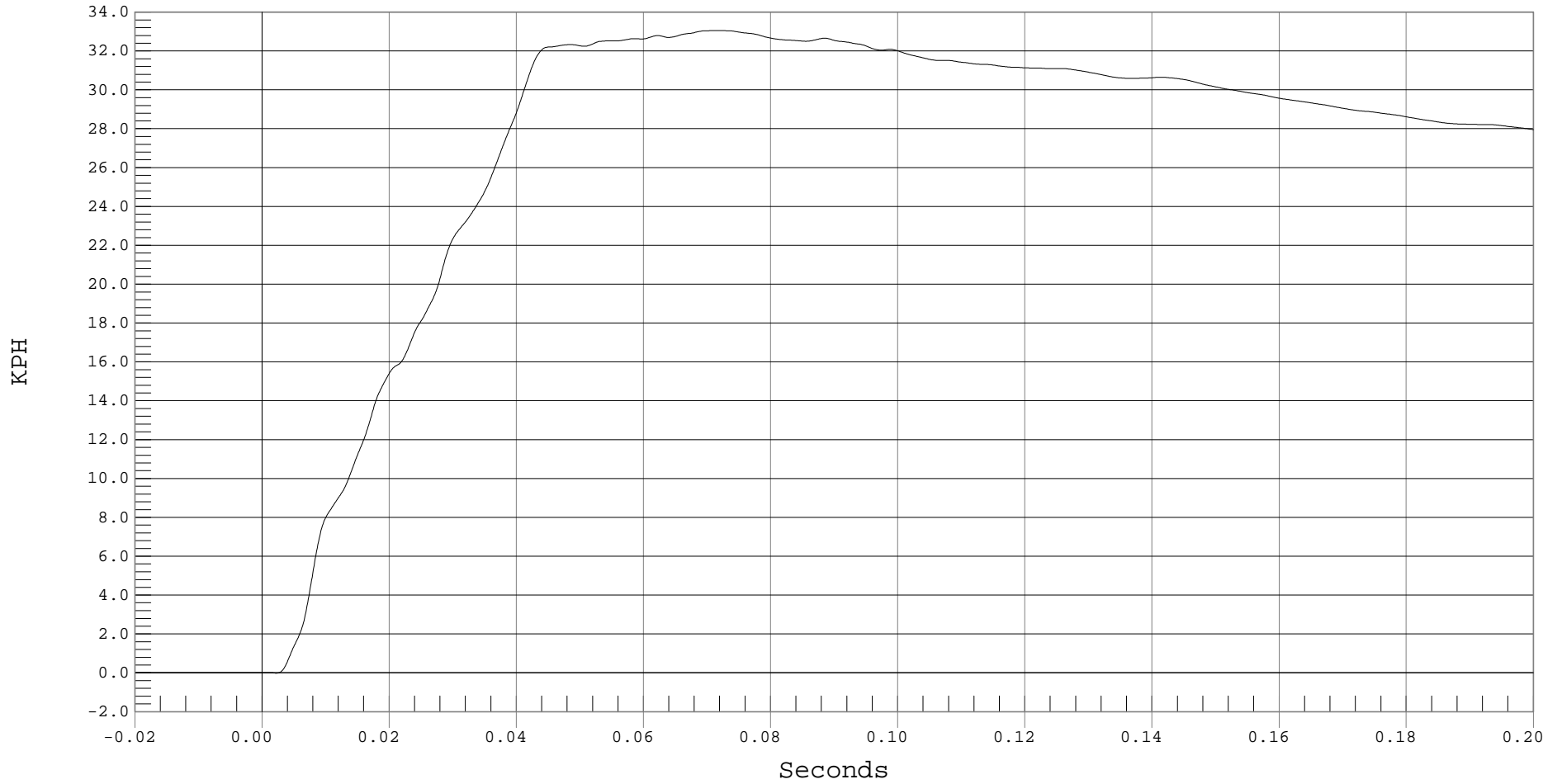
### RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY, B01009AI.V16

Ymin = -.02 KPH @ 0.0023 Seconds, Ymax = 33.05 KPH @ 0.0708 Seconds





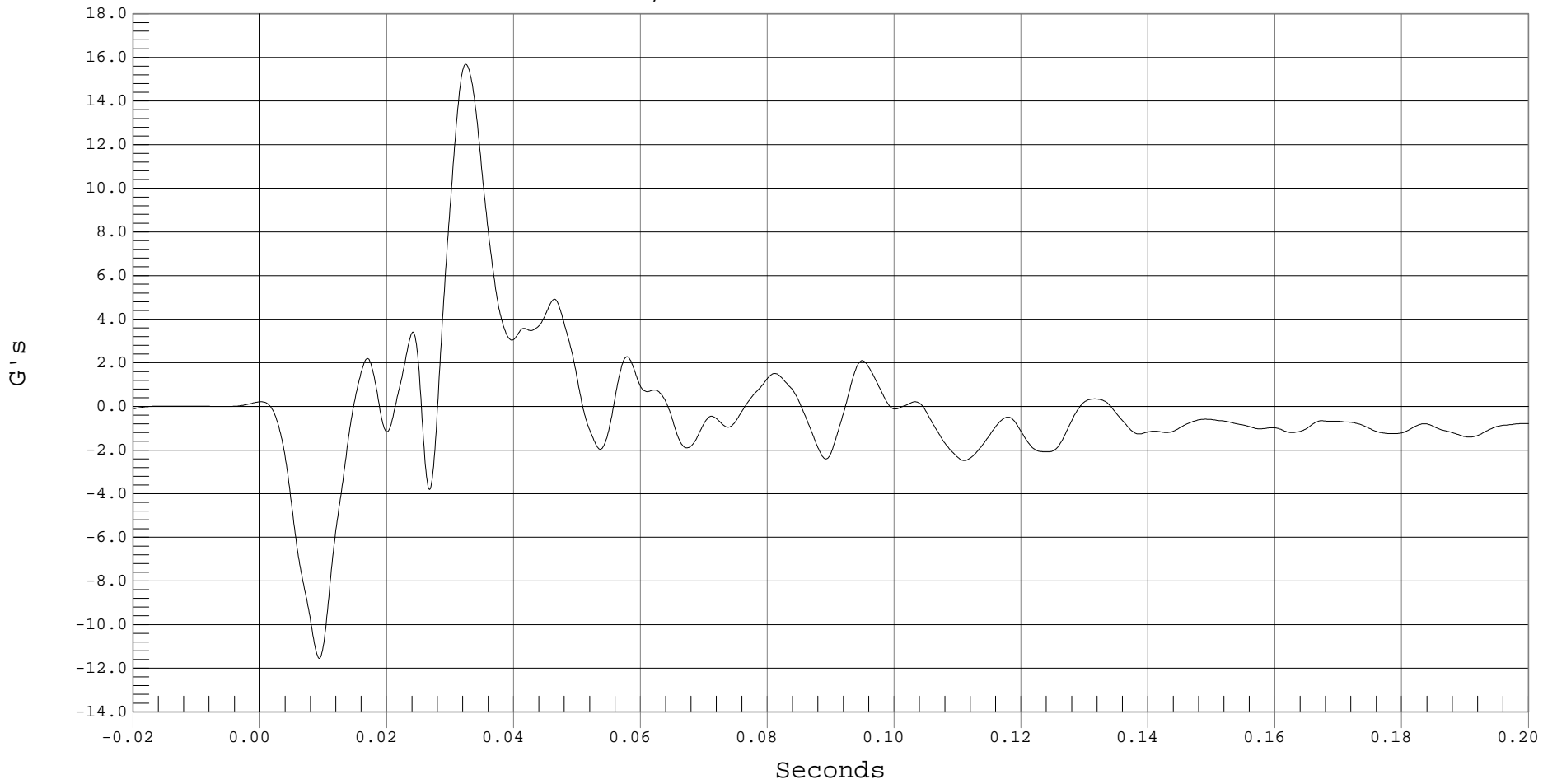
### RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT FRONT SILL Z, B01009AF.A17

Ymin = -11.55 G's @ 0.0094 Seconds, Ymax = 15.68 G's @ 0.0325 Seconds



B-20



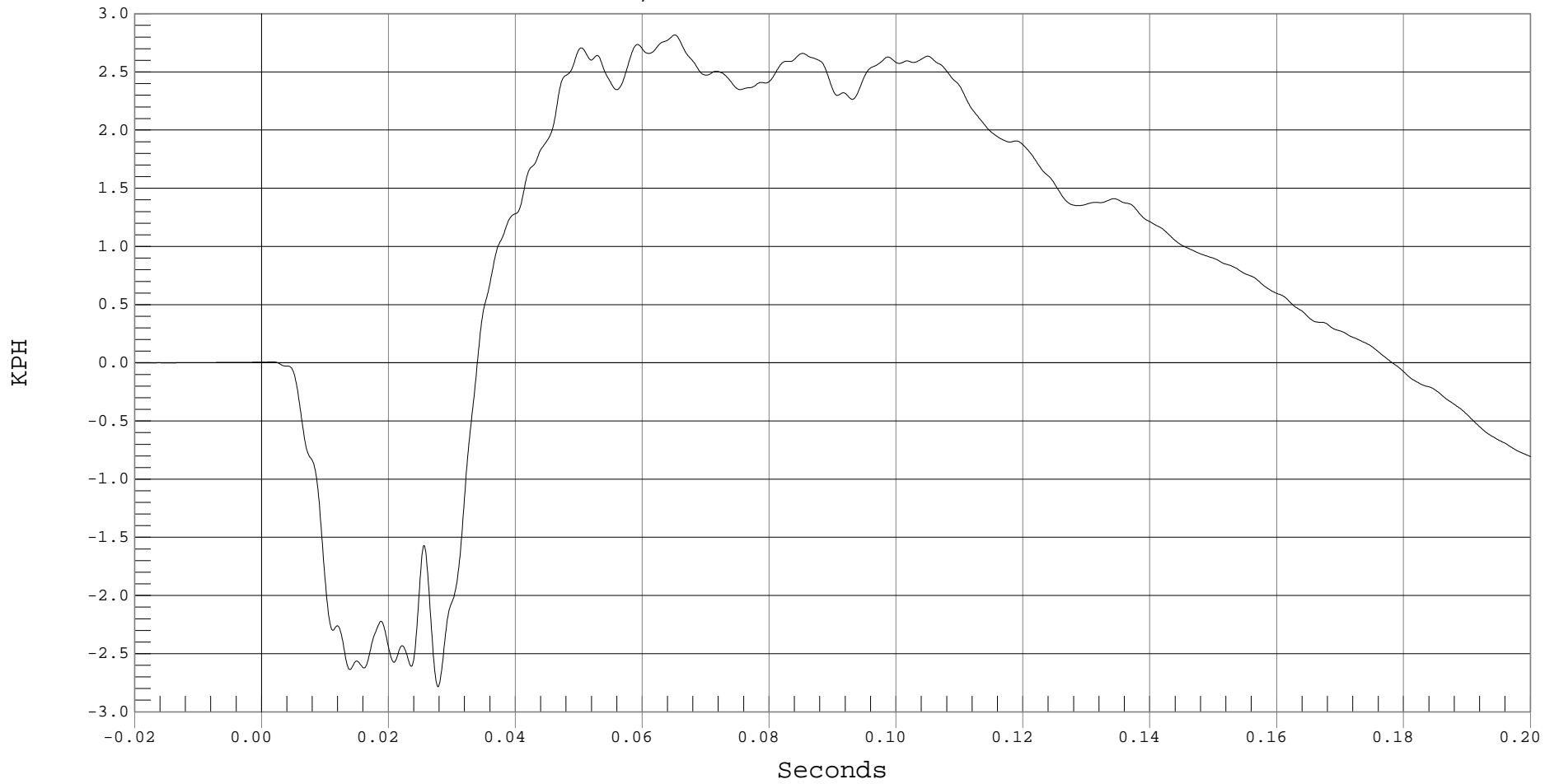
### RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY, B01009AI.V17

Ymin = -2.78 KPH @ 0.0278 Seconds, Ymax = 2.82 KPH @ 0.0651 Seconds



B-21



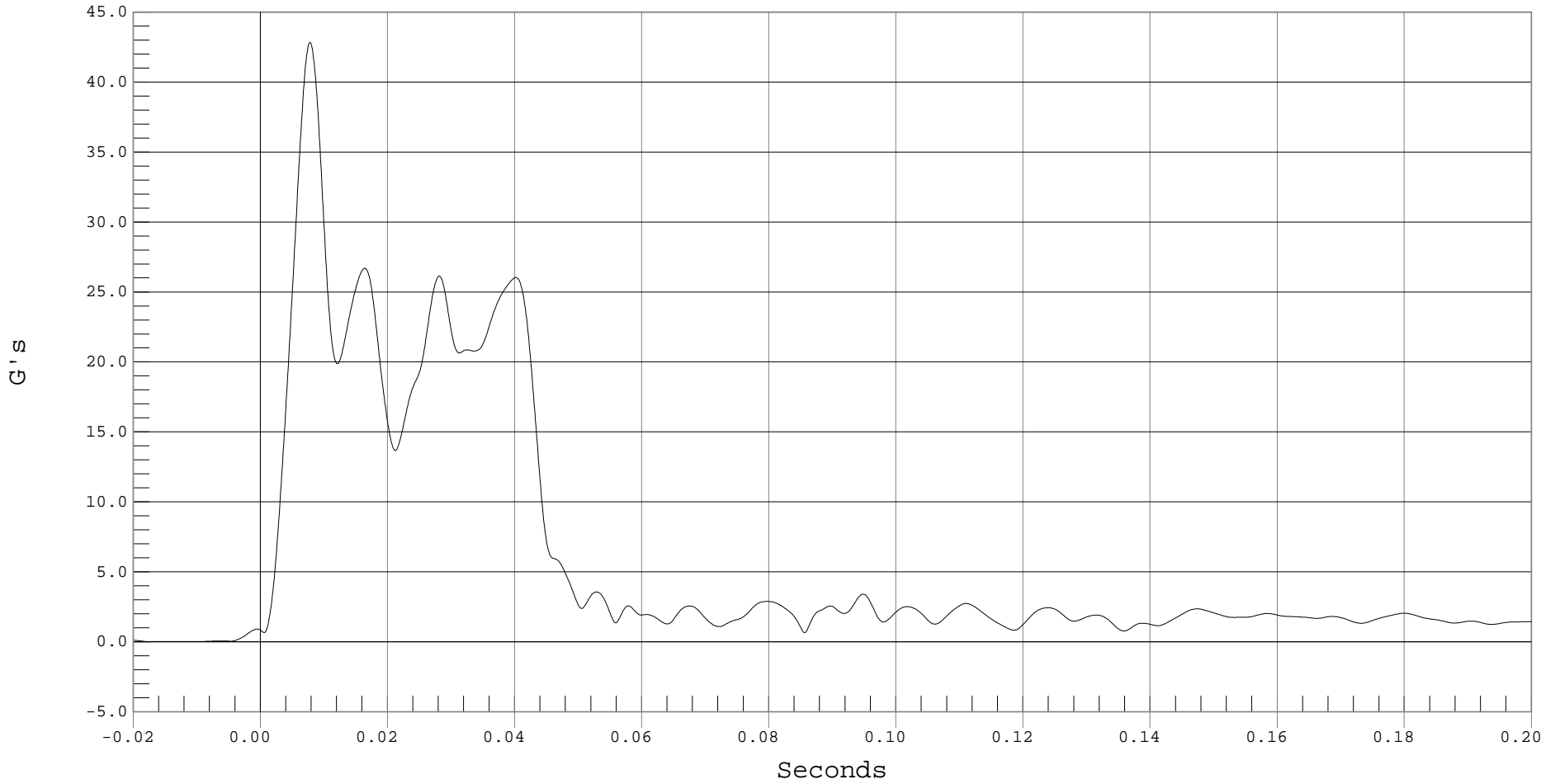
### RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION, B01009AV.A15

Ymin = .01 G's @ -0.0174 Seconds, Ymax = 42.84 G's @ 0.0078 Seconds



B-22



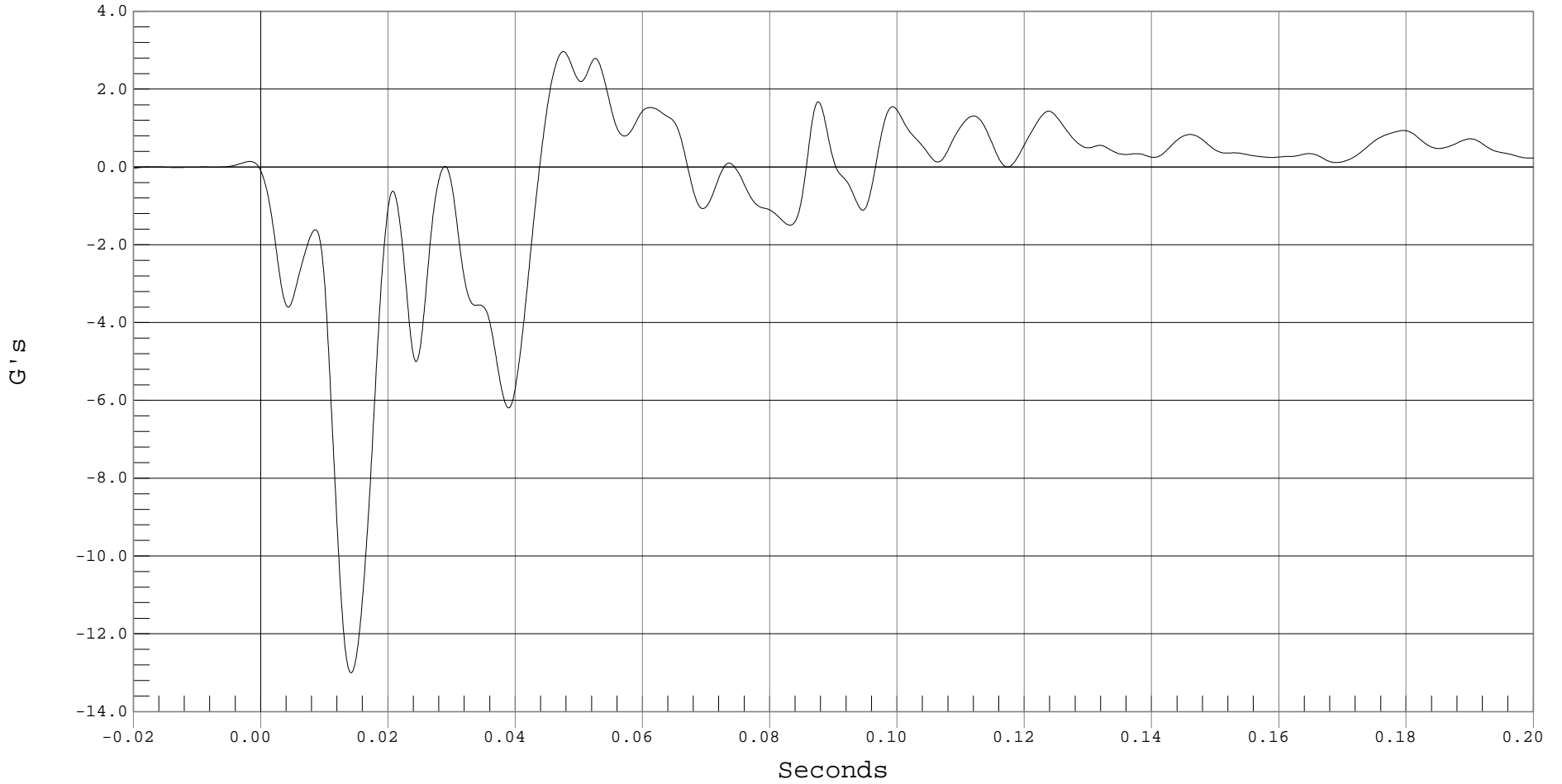
### RIGHT SIDE SILL AT REAR SEAT X ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT REAR SILL X, B01009AF.A18

Ymin = -13 G's @ 0.0142 Seconds, Ymax = 2.97 G's @ 0.0476 Seconds



B-23



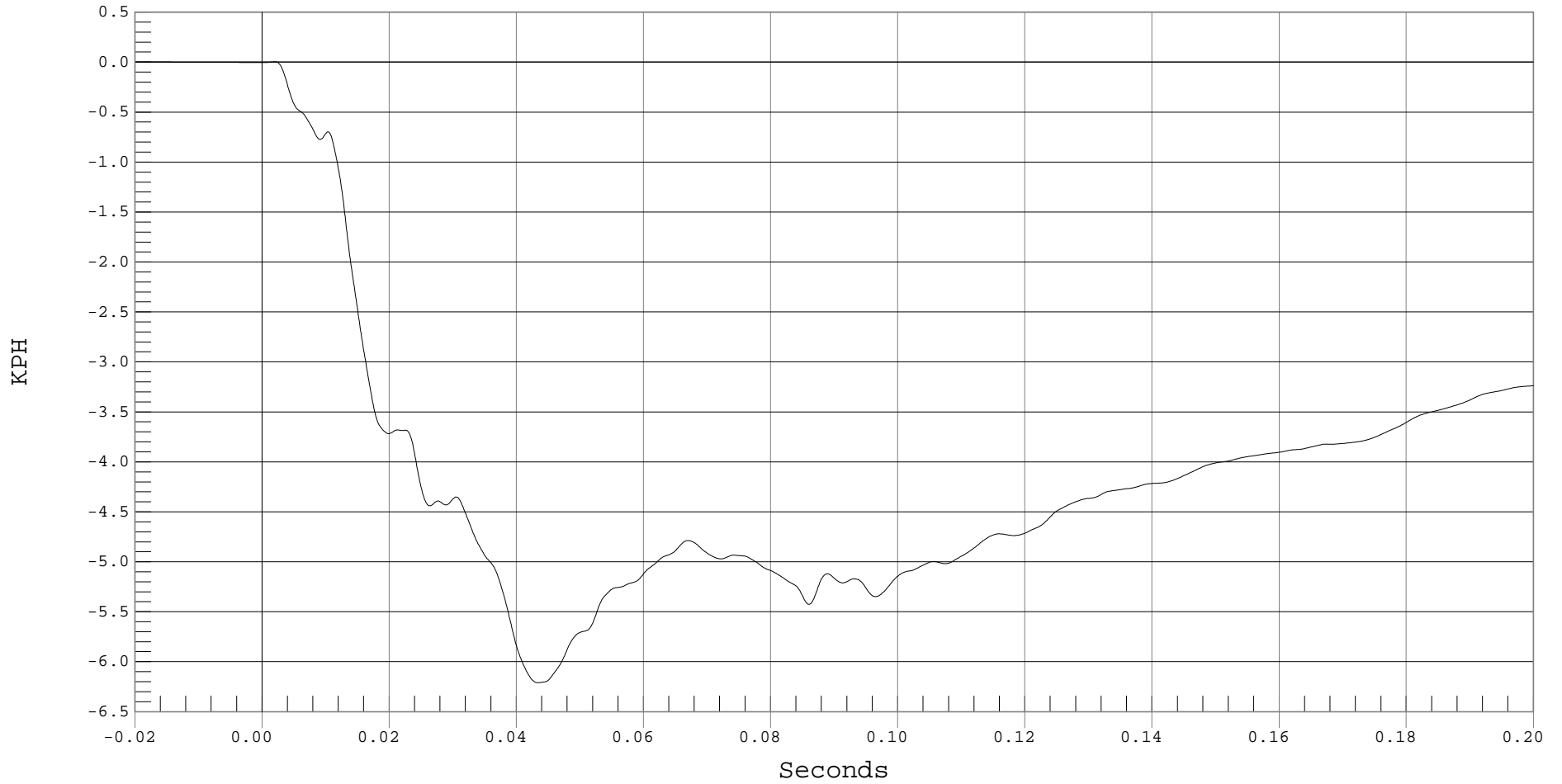
### RIGHT SIDE SILL AT REAR SEAT X VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 RIGHT SIDE SILL AT REAR SEAT X VELOCITY, B01009AI.V18

Ymin = -6.21 KPH @ 0.0434 Seconds, Ymax = 0 KPH @ 0.0020 Seconds





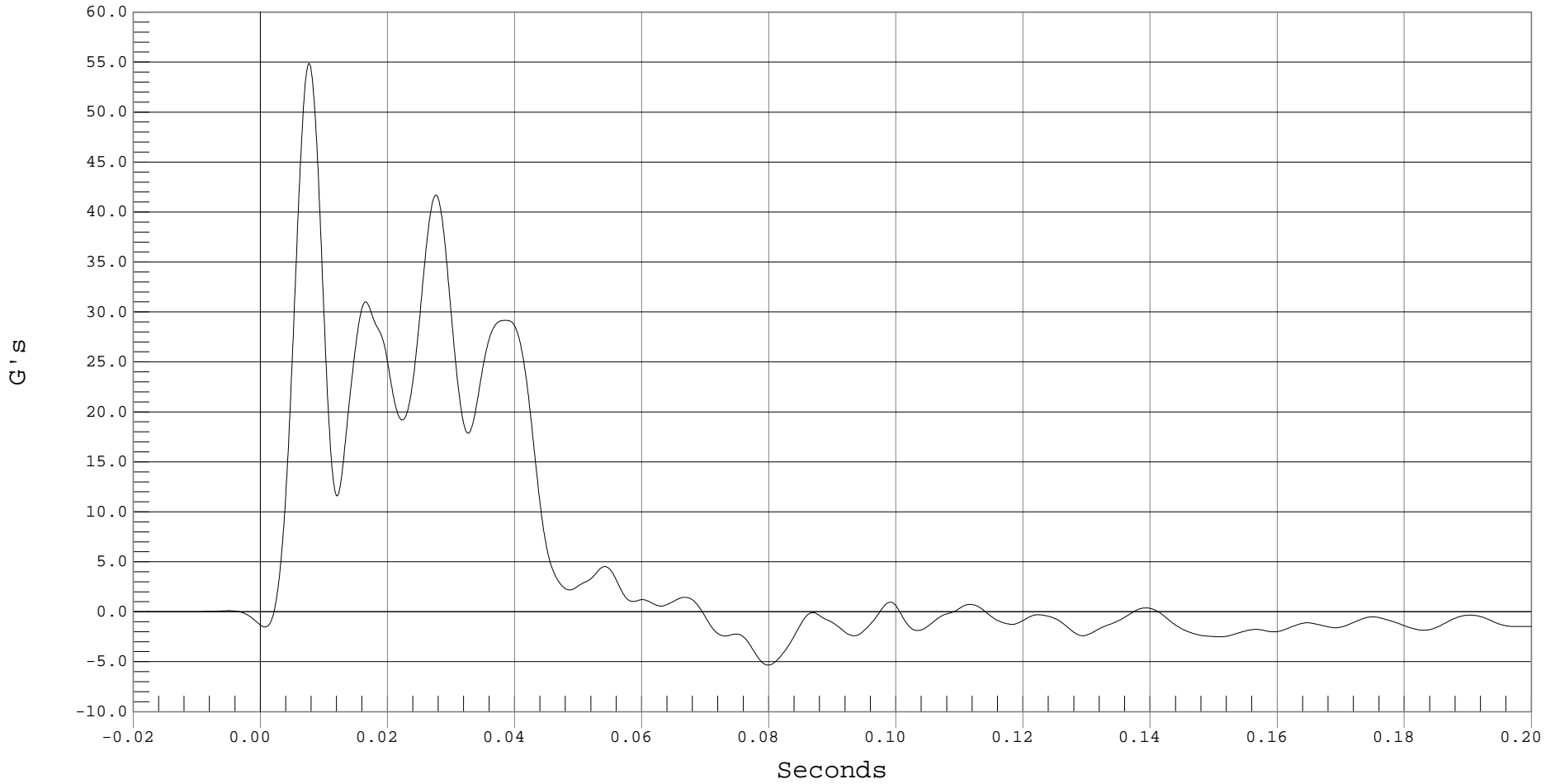
### RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT REAR SILL Y, B01009AF.A19

Ymin = -5.34 G's @ 0.0799 Seconds, Ymax = 54.87 G's @ 0.0077 Seconds



B-25



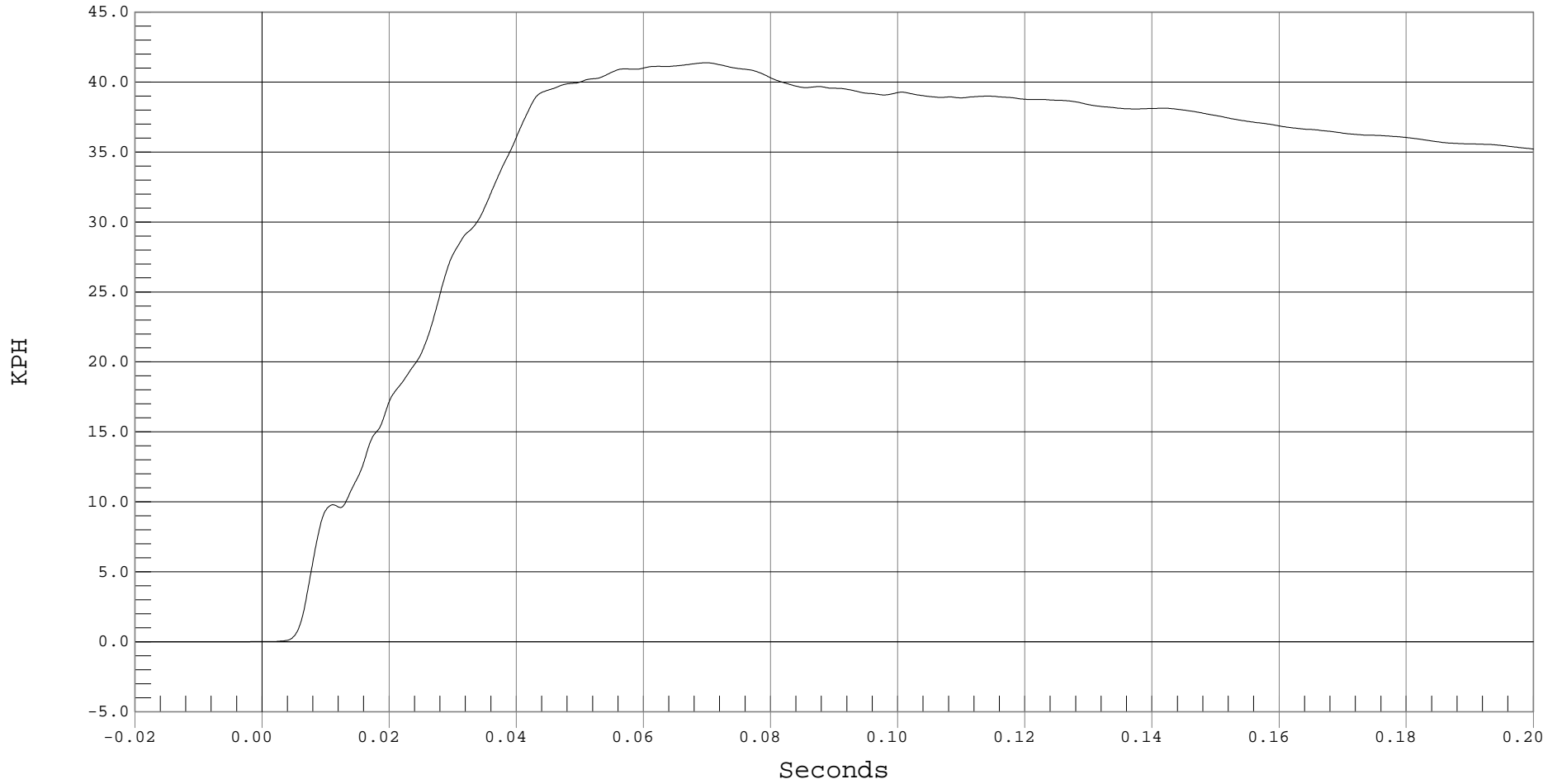
### RIGHT SIDE SILL AT REAR SEAT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 RIGHT SIDE SILL AT REAR SEAT Y VELOCITY, B01009AI.V19

Ymin = 0 KPH @ -0.0169 Seconds, Ymax = 41.38 KPH @ 0.0699 Seconds



B-26



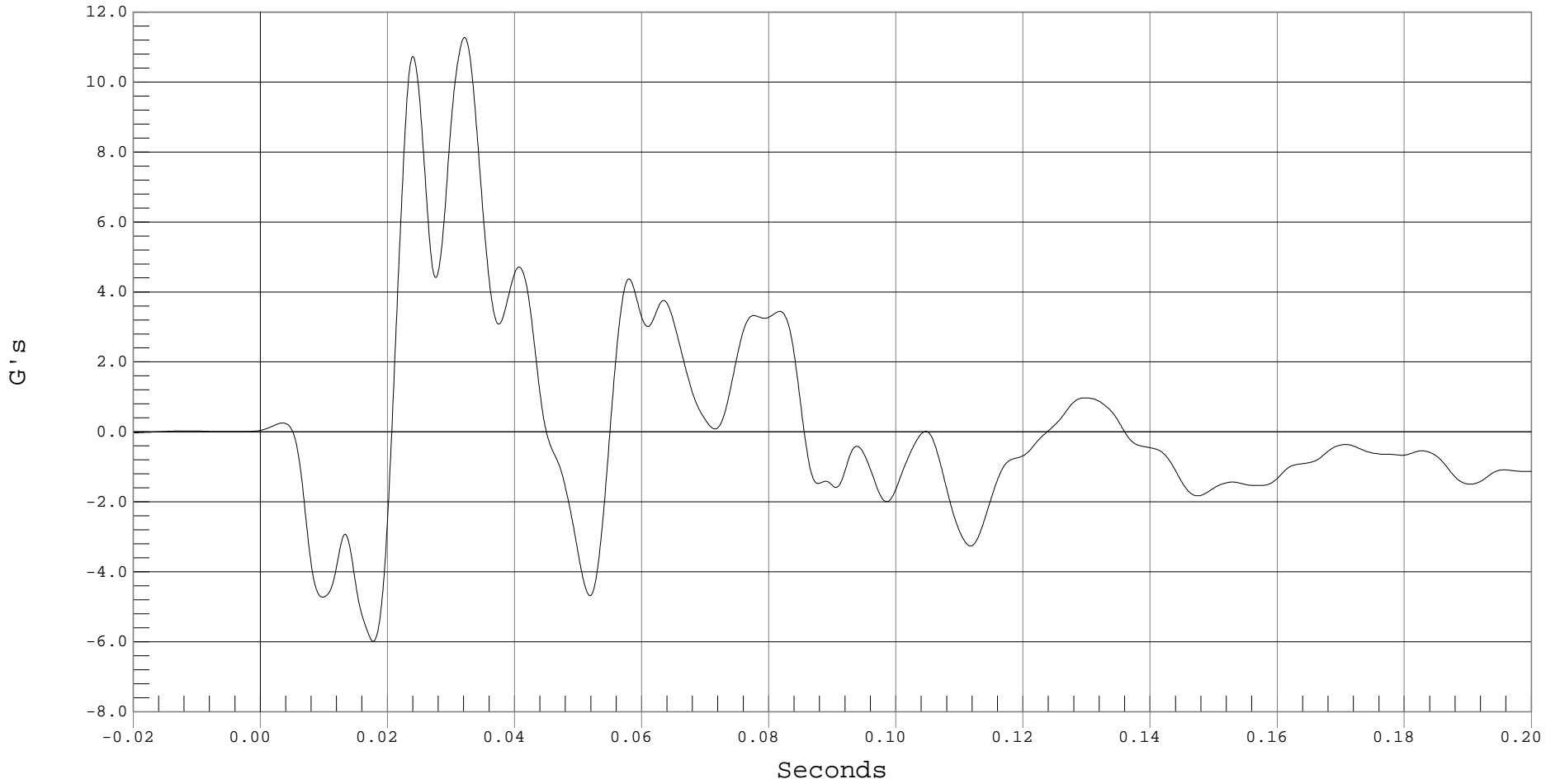
### RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT REAR SILL Z, B01009AF.A20

Ymin = -5.99 G's @ 0.0178 Seconds, Ymax = 11.28 G's @ 0.0321 Seconds



B-27



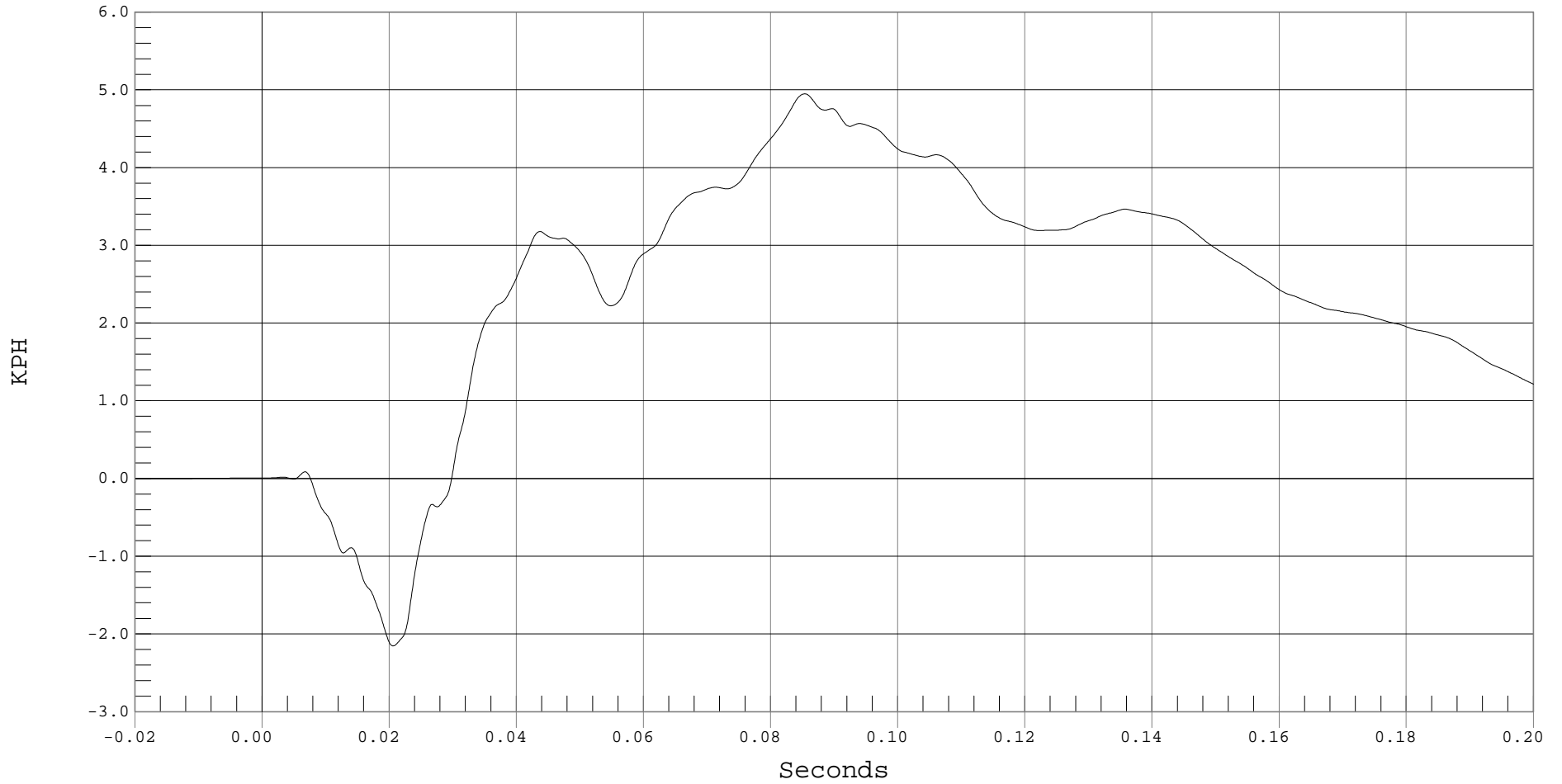
### RIGHT SIDE SILL AT REAR SEAT Z VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 RIGHT SIDE SILL AT REAR SEAT Z VELOCITY, B01009AI.V20

Ymin = -2.15 KPH @ 0.0206 Seconds, Ymax = 4.95 KPH @ 0.0854 Seconds





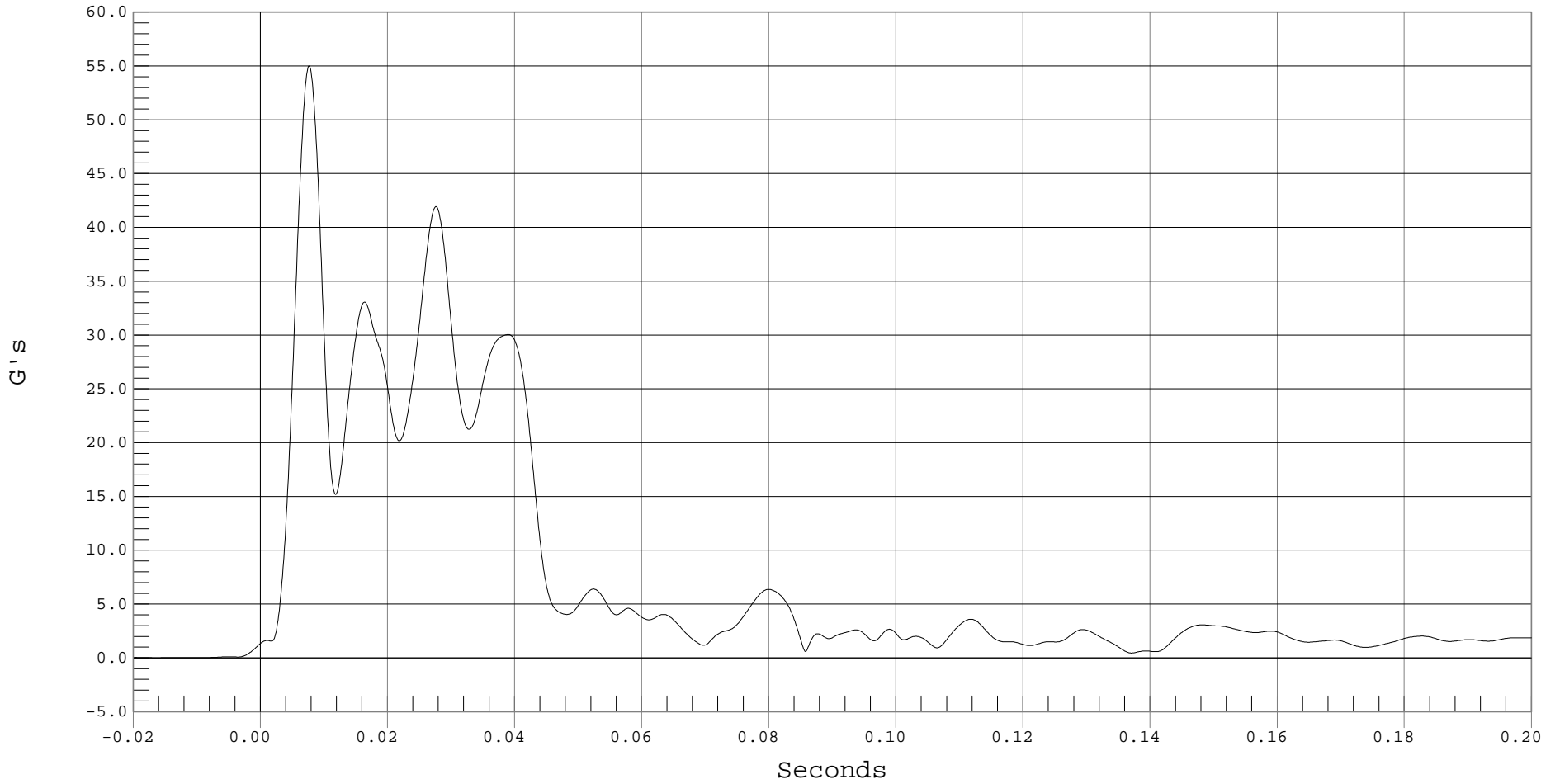
### RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION, B01009AV.A18

Ymin = 0 G's @ -0.0164 Seconds, Ymax = 55 G's @ 0.0077 Seconds



B-29



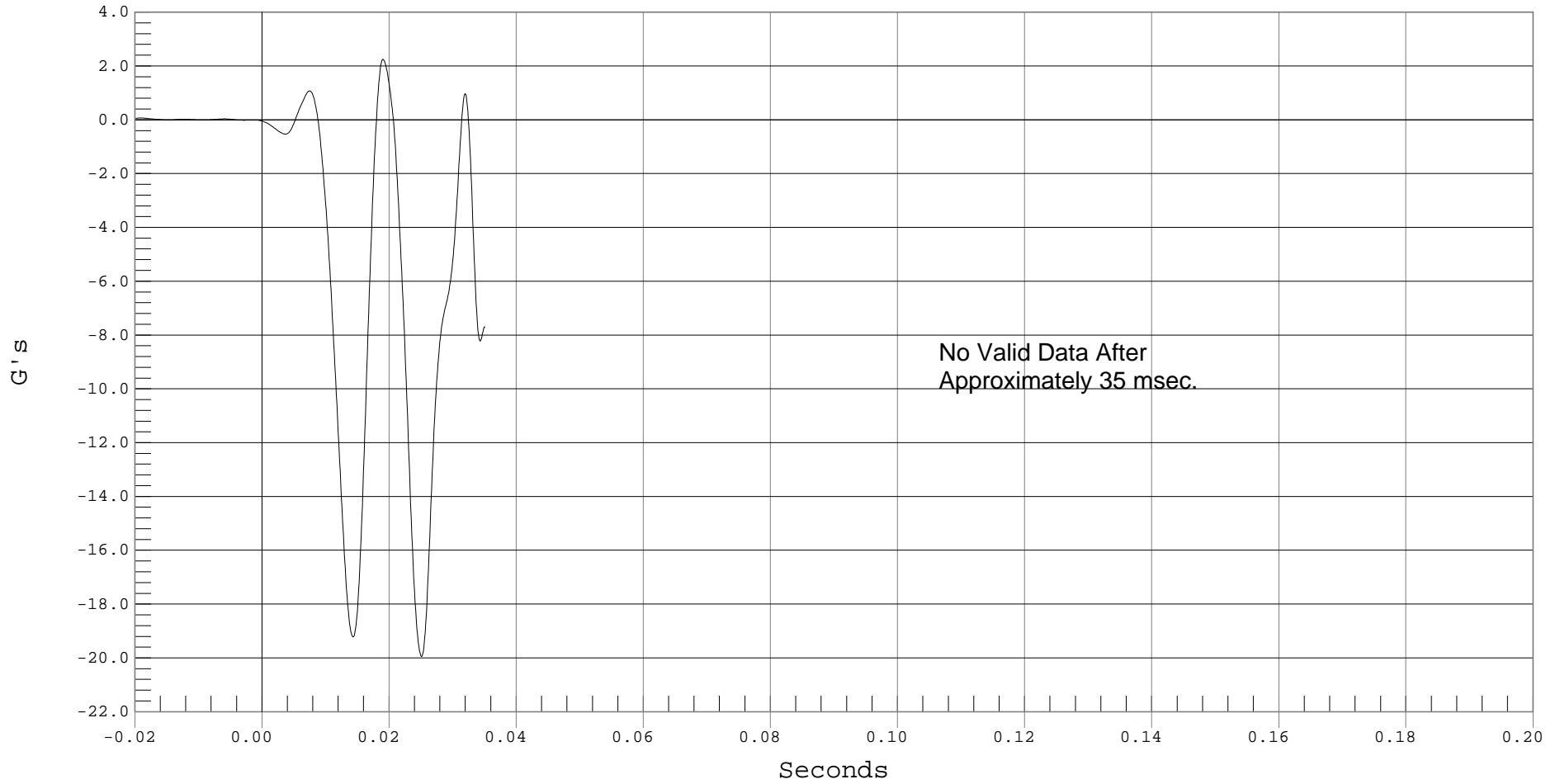
REAR FLOORPAN ABOVE AXLE X ACCELERATION (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 FLOORPAN @ REAR AXLE X, B01009AF.A23

Ymin = -19.95 G's @ 0.0251 Seconds, Ymax = 2.25 G's @ 0.0191 Seconds



B-30



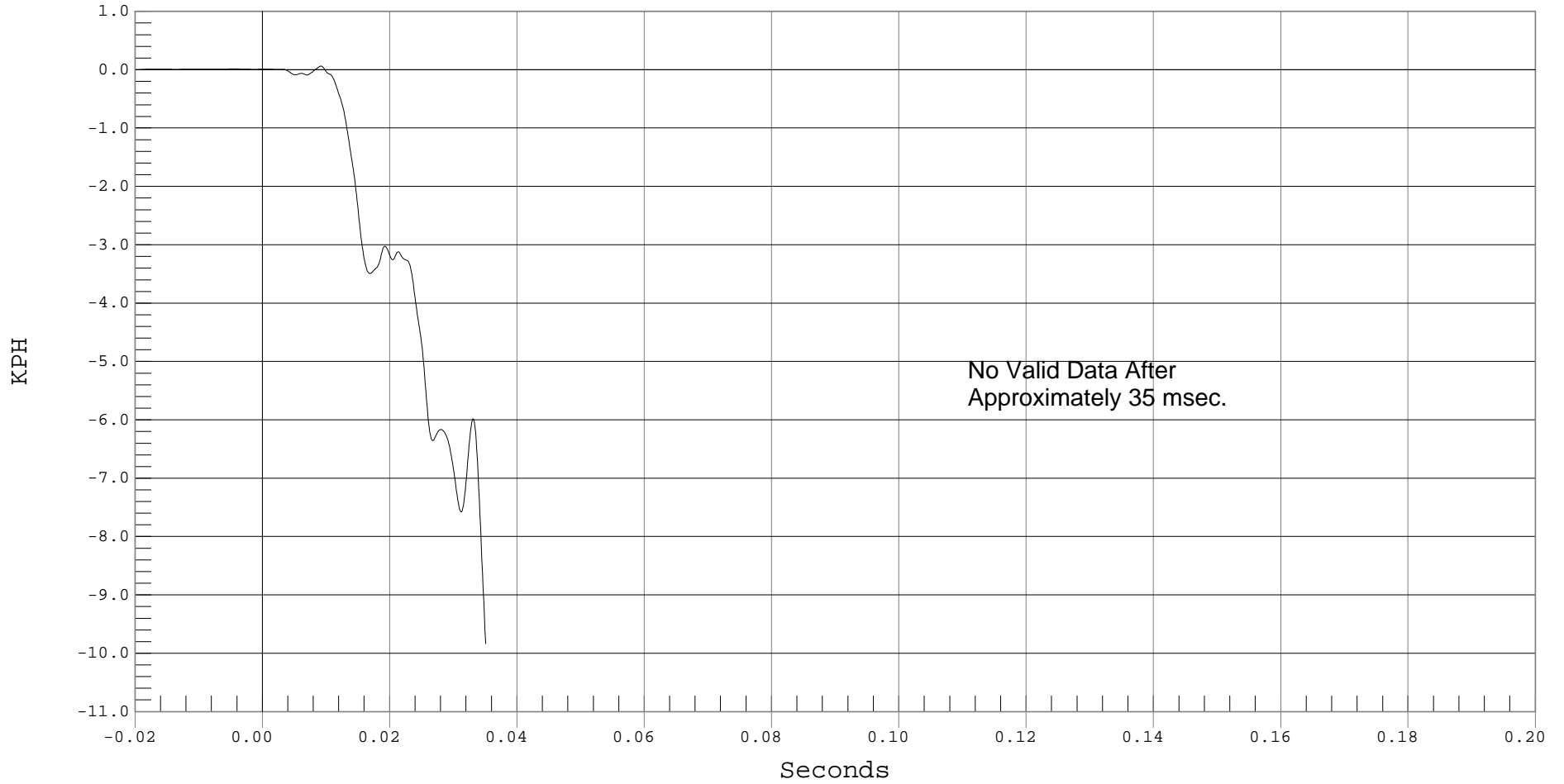
REAR FLOORPAN ABOVE AXLE X VELOCITY (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 REAR FLOORPAN ABOVE AXLE X VELOCITY, B01009AI.V23

Ymin = -9.84 KPH @ 0.0351 Seconds, Ymax = .06 KPH @ 0.0092 Seconds



B-31



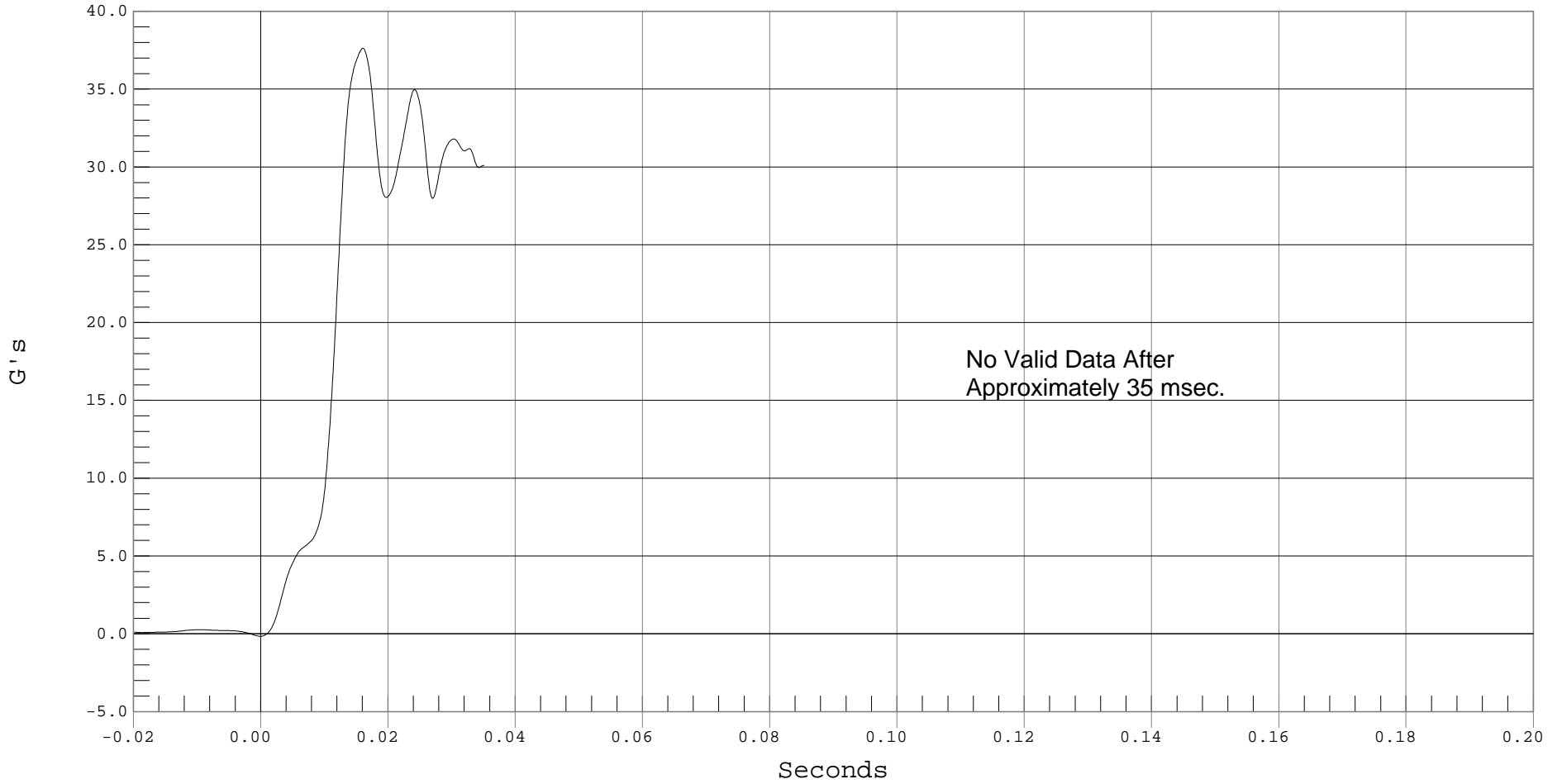
REAR FLOORPAN ABOVE AXLE Y ACCELERATION (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 FLOORPAN @ REAR AXLE Y, B01009AF.A24

Ymin = -.16 G's @ 0.0000 Seconds, Ymax = 37.63 G's @ 0.0161 Seconds



B-32



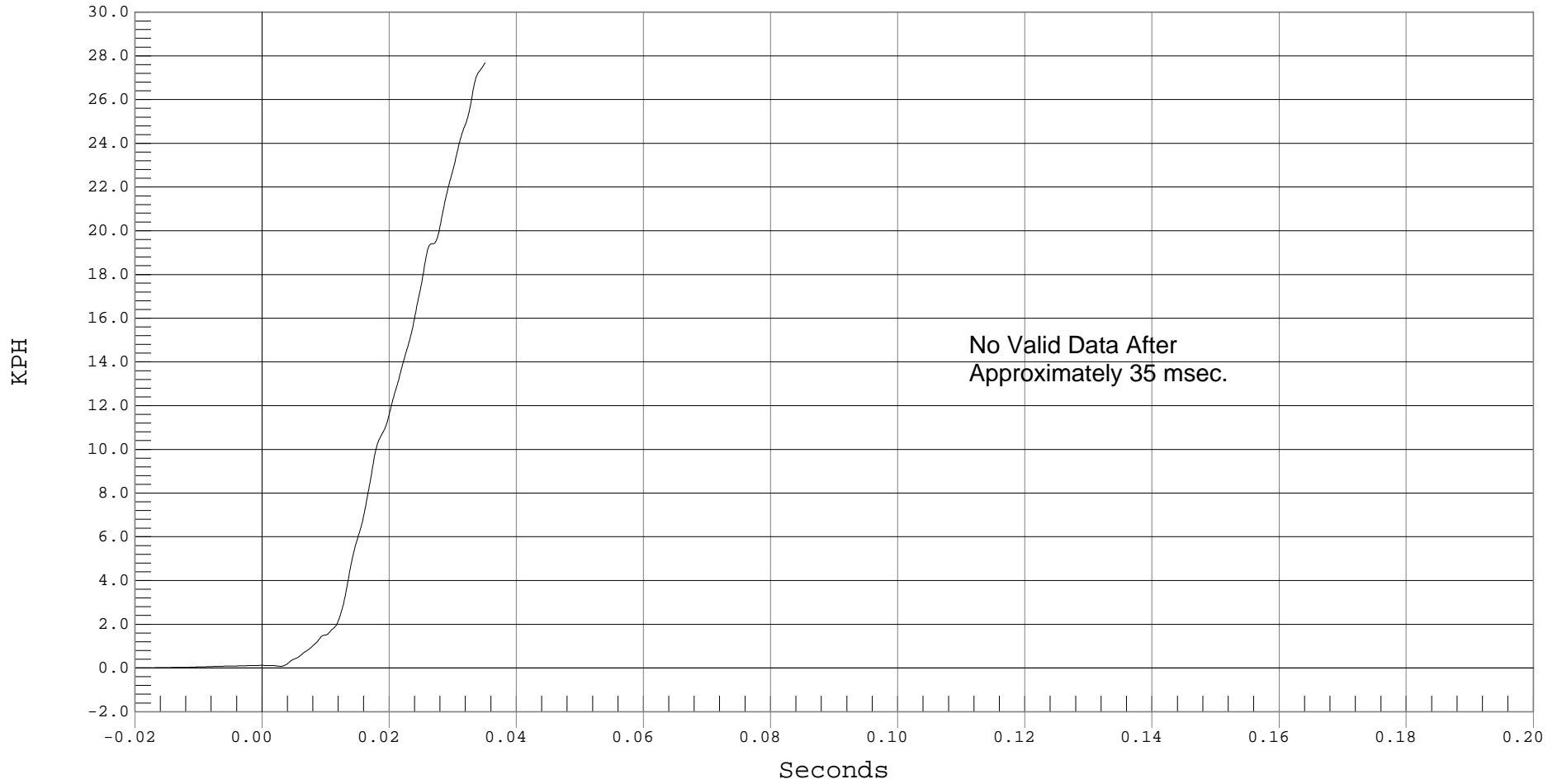
REAR FLOORPAN ABOVE AXLE Y VELOCITY (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 REAR FLOORPAN ABOVE AXLE Y VELOCITY, B01009AI.V24

Ymin = 0 KPH @ -0.0183 Seconds, Ymax = 27.68 KPH @ 0.0351 Seconds



B-33



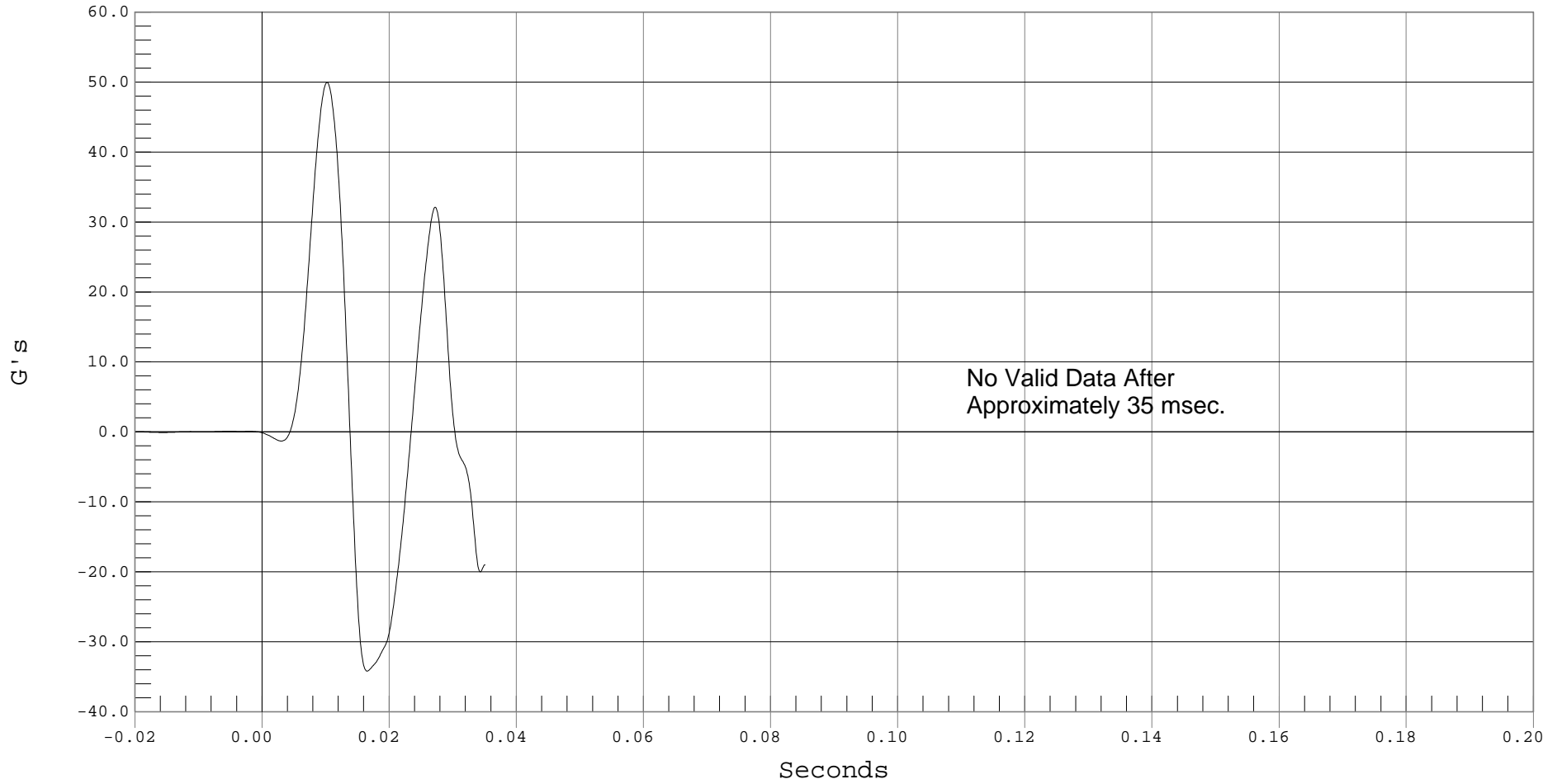
REAR FLOORPAN ABOVE AXLE Z ACCELERATION (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 FLOORPAN @ REAR AXLE Z, B01009AF.A25

Ymin = -34.2 G's @ 0.0165 Seconds, Ymax = 49.97 G's @ 0.0102 Seconds



B-34



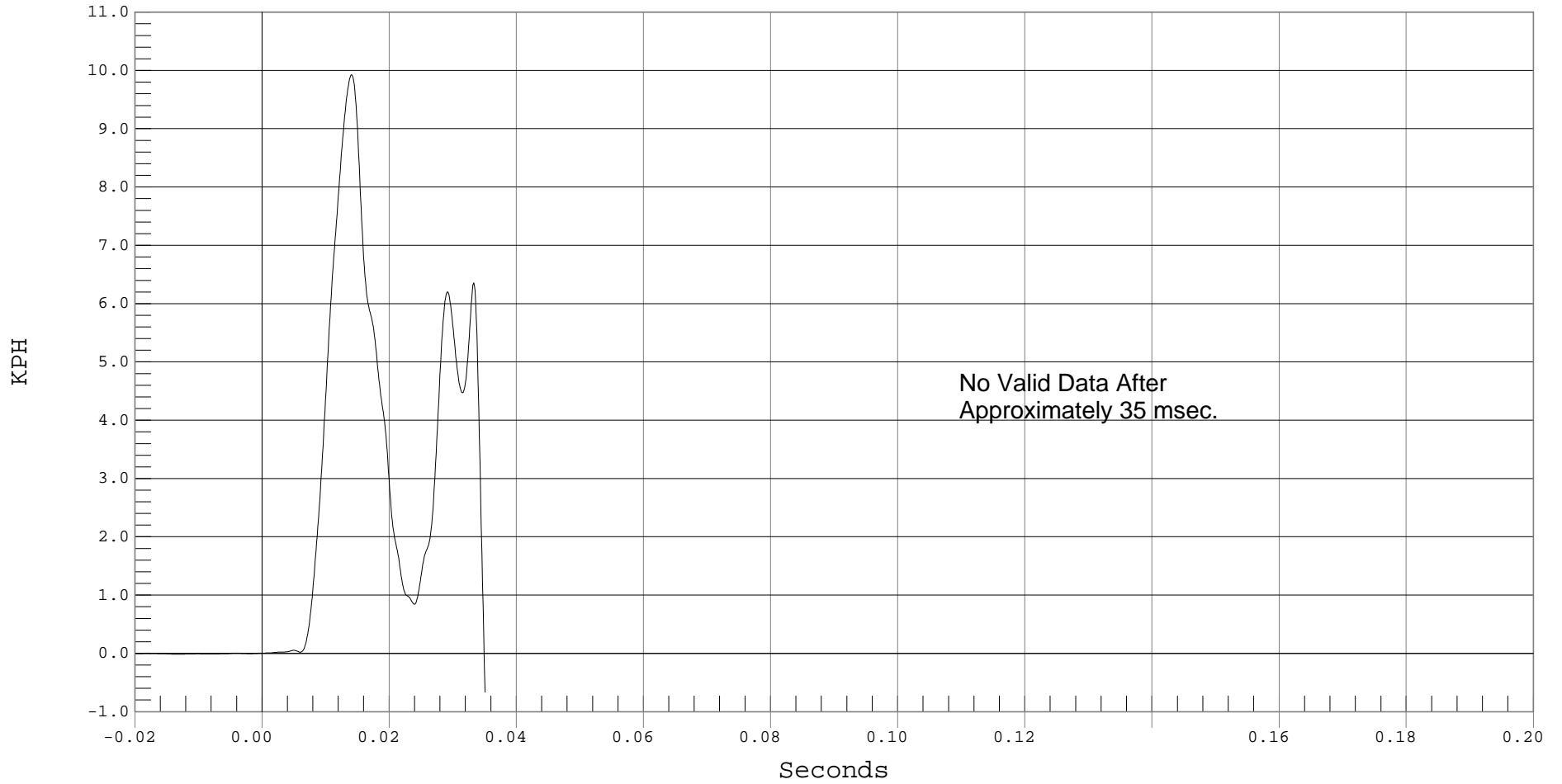
REAR FLOORPAN ABOVE AXLE Z VELOCITY (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 REAR FLOORPAN ABOVE AXLE Z VELOCITY, B01009AI.V25

Ymin = -.67 KPH @ 0.0351 Seconds, Ymax = 9.93 KPH @ 0.0141 Seconds





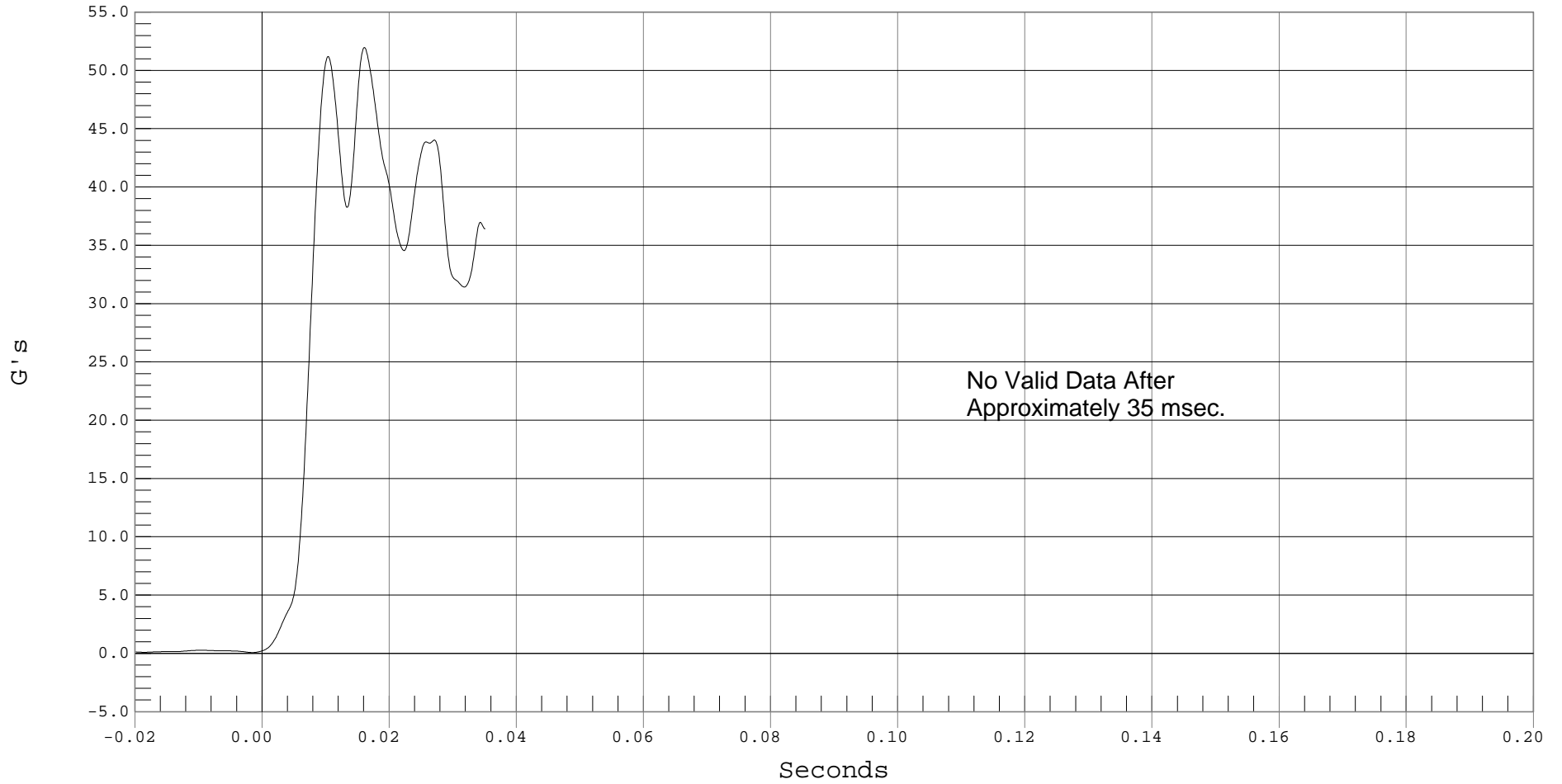
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION (QD AFTER 35 MSEC)

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION, B01009AV.A23

Ymin = .07 G's @ -0.0015 Seconds, Ymax = 51.98 G's @ 0.0161 Seconds





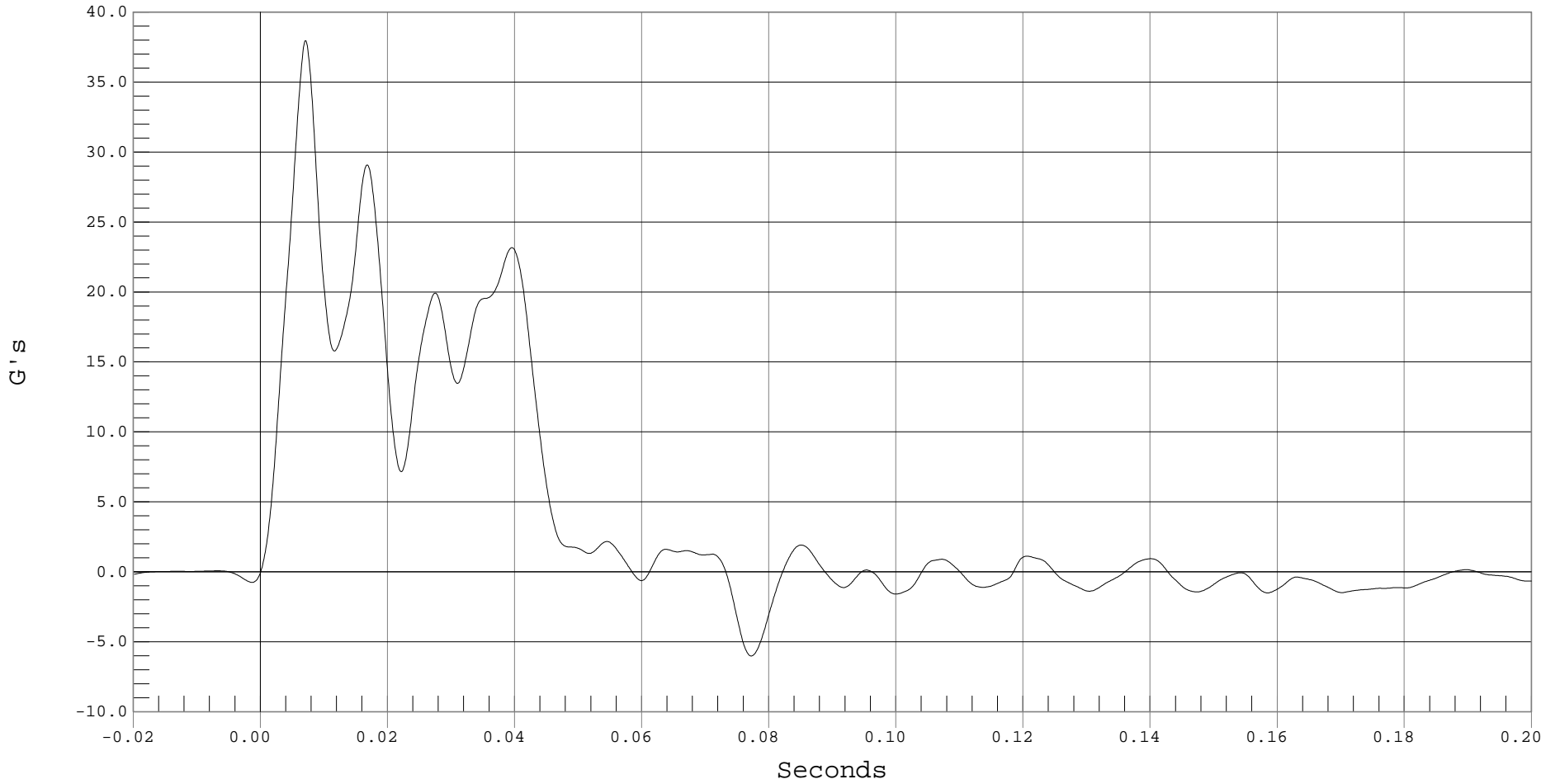
LEFT SIDE SILL AT FRONT SEAT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 LEFT FRONT SILL Y, B01009AF.A21

Ymin = -6.02 G's @ 0.0773 Seconds, Ymax = 37.97 G's @ 0.0071 Seconds



B-37



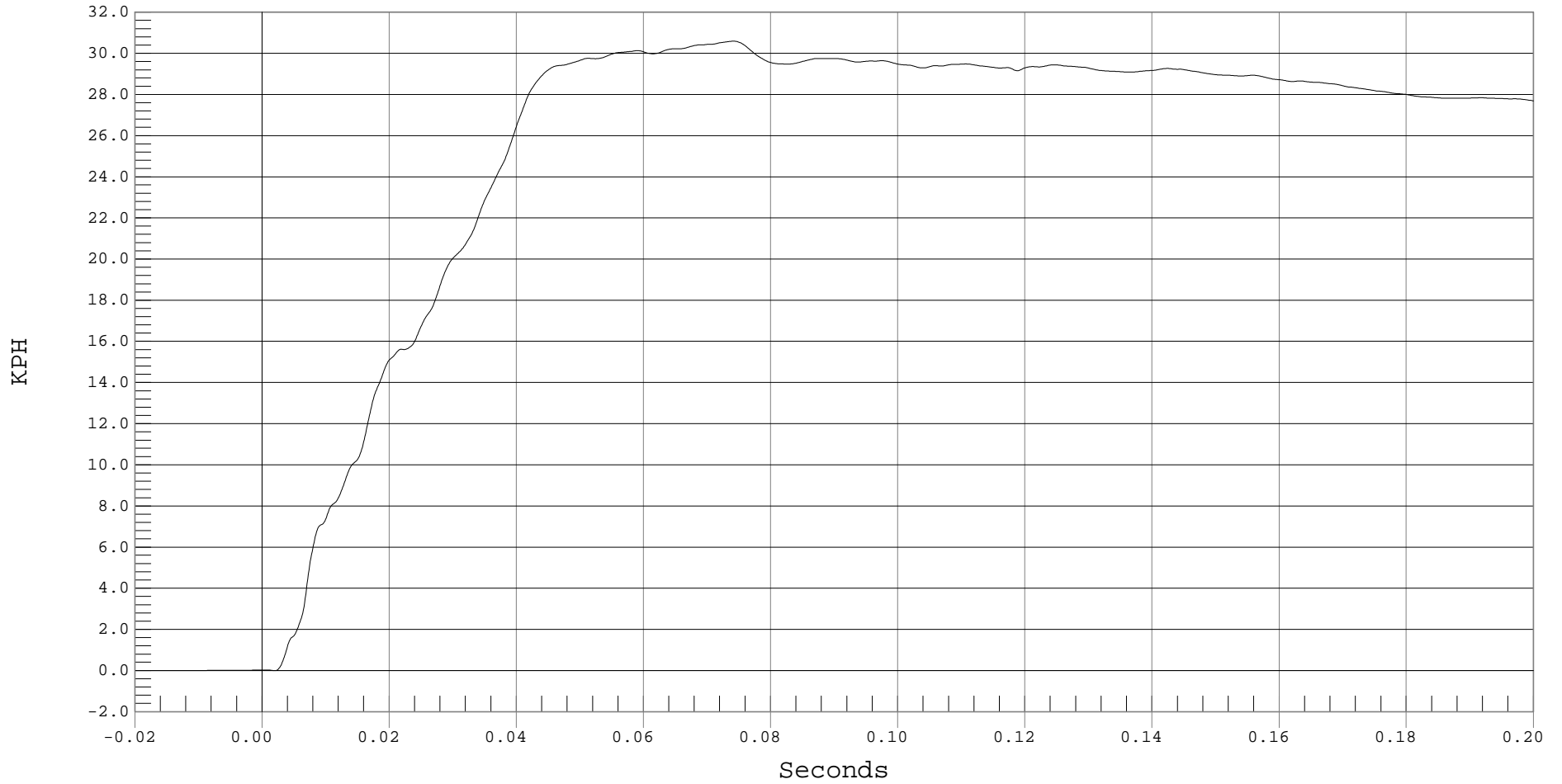
LEFT SIDE SILL AT FRONT SEAT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 LEFT SIDE SILL AT FRONT SEAT Y VELOCITY, B01009AI.V21

Ymin = -.01 KPH @ 0.0020 Seconds, Ymax = 30.59 KPH @ 0.0742 Seconds



B-38



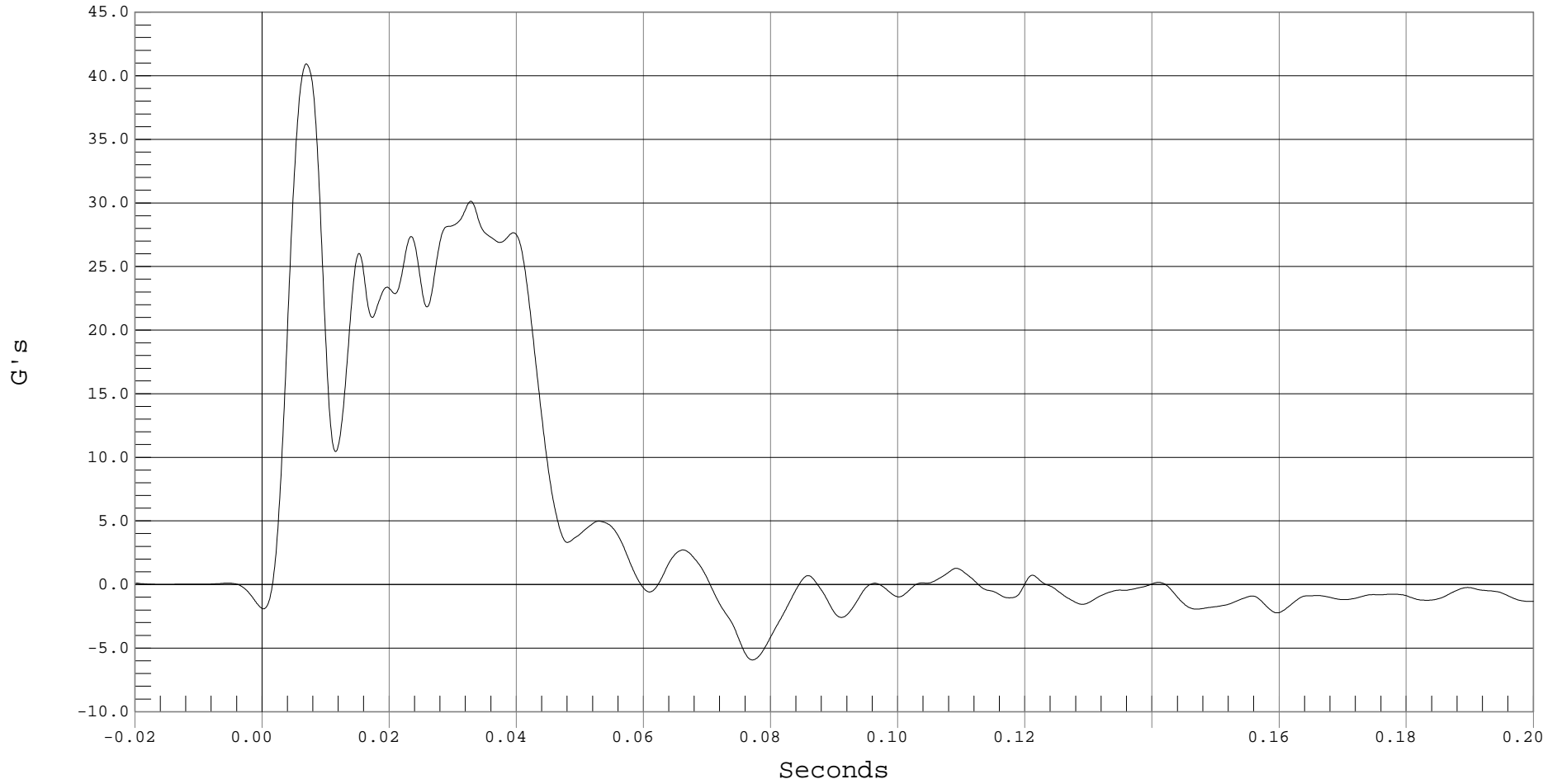
### LEFT SIDE SILL AT REAR SEAT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 LEFT REAR SILL Y, B01009AF.A22

Ymin = -5.93 G's @ 0.0772 Seconds, Ymax = 40.93 G's @ 0.0070 Seconds



B-39



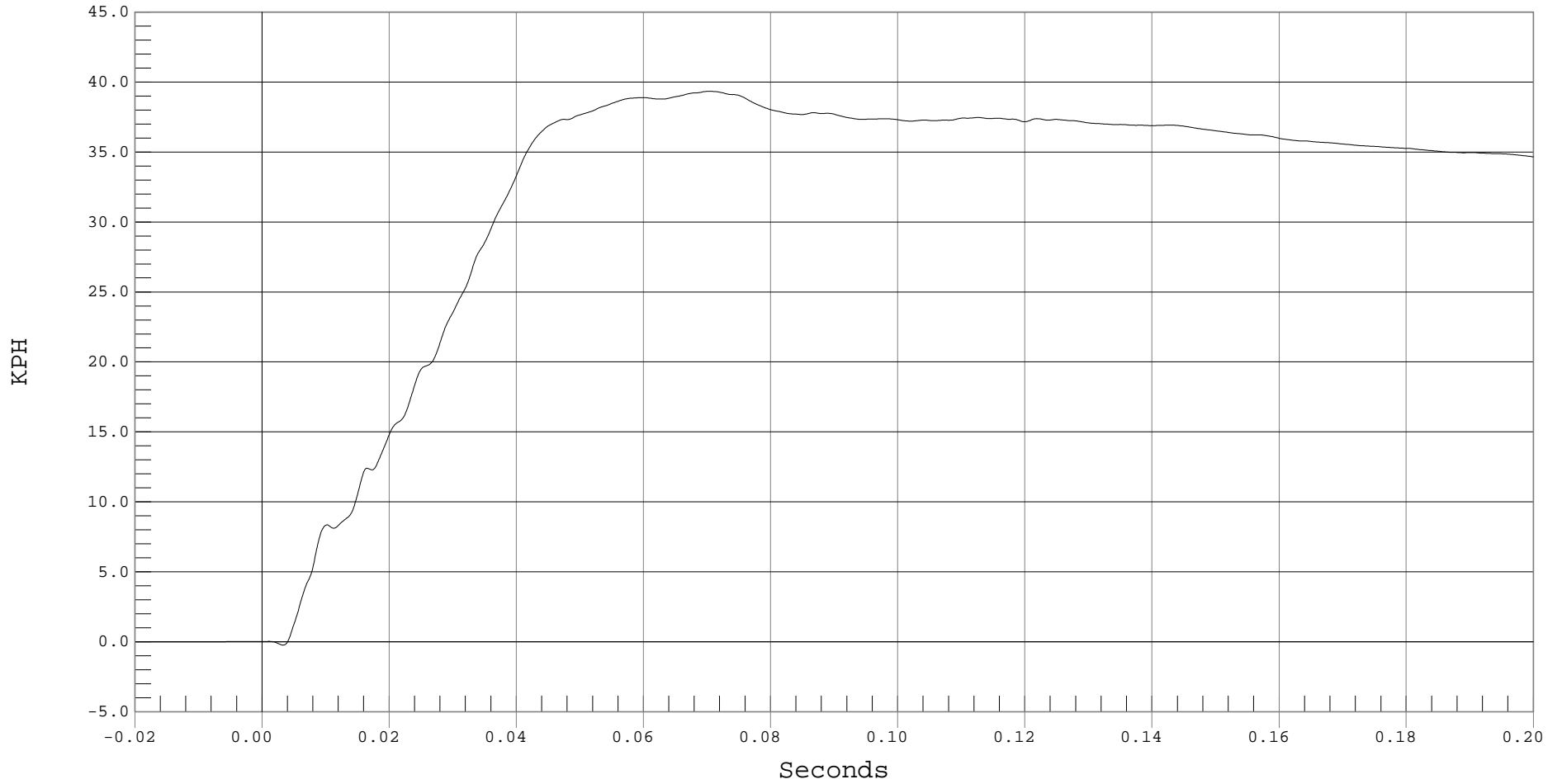
### LEFT SIDE SILL AT REAR SEAT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 LEFT SIDE SILL AT REAR SEAT Y VELOCITY, B01009AI.V22

Ymin = -.25 KPH @ 0.0033 Seconds, Ymax = 39.34 KPH @ 0.0703 Seconds



B-40



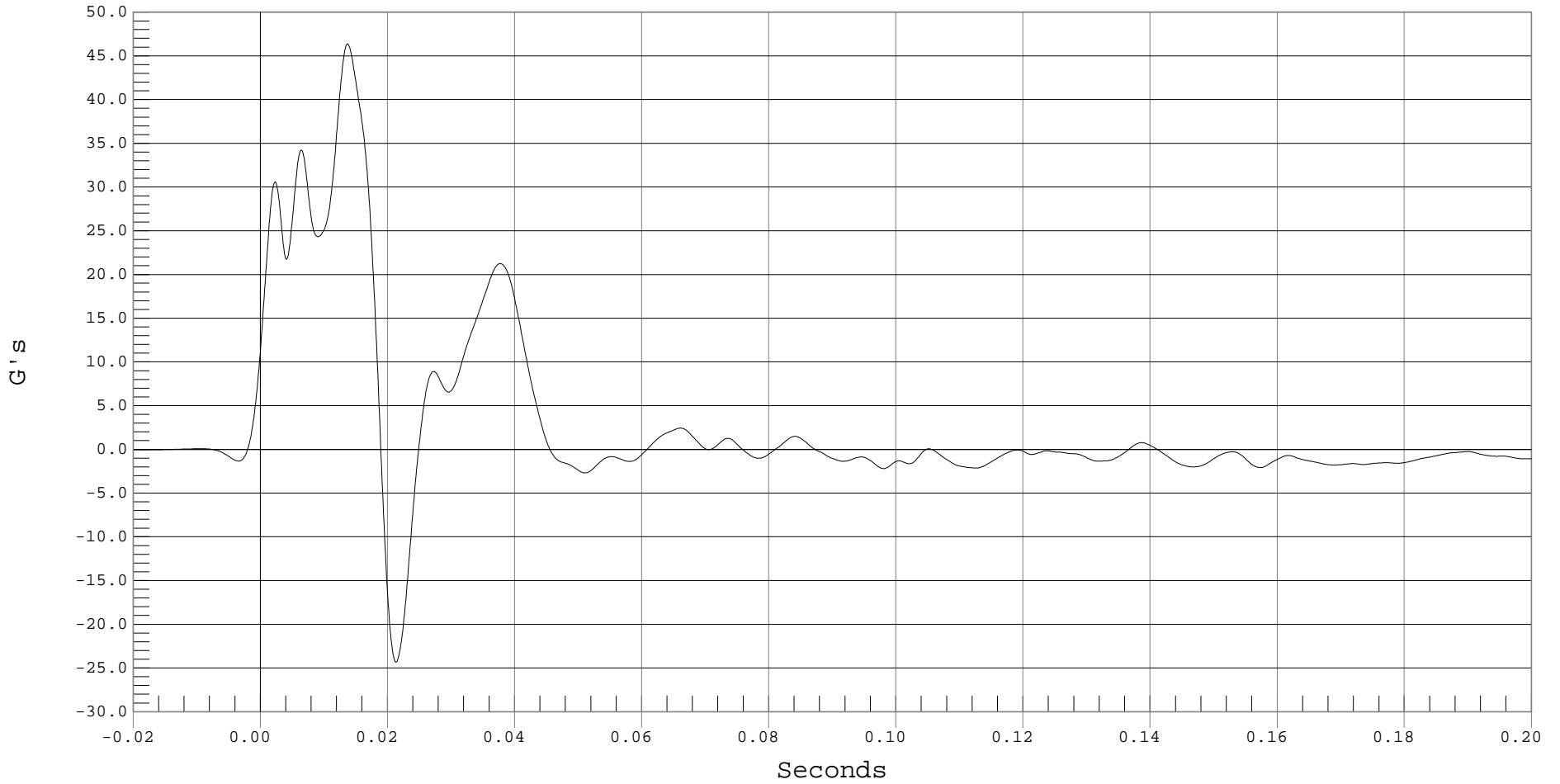
### LEFT LOWER A-POST Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 LEFT LOWER A-POST Y, B01009AF.A27

Ymin = -24.33 G's @ 0.0214 Seconds, Ymax = 46.38 G's @ 0.0137 Seconds



B-41



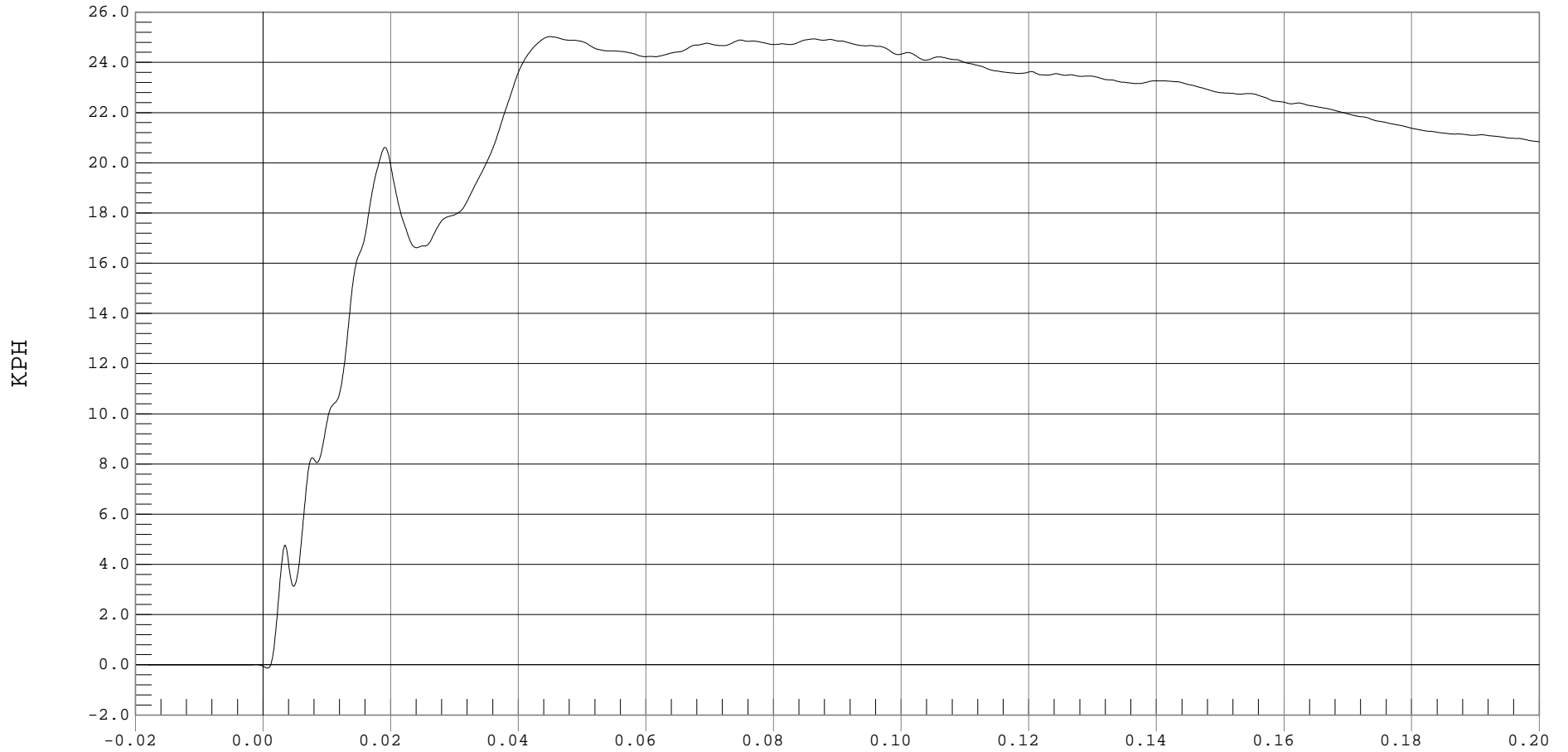
### LEFT LOWER A-POST Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 LEFT LOWER A-POST Y VELOCITY, B01009AI.V27

Ymin = -.13 KPH @ 0.0007 Seconds, Ymax = 25.03 KPH @ 0.0450 Seconds



B-42



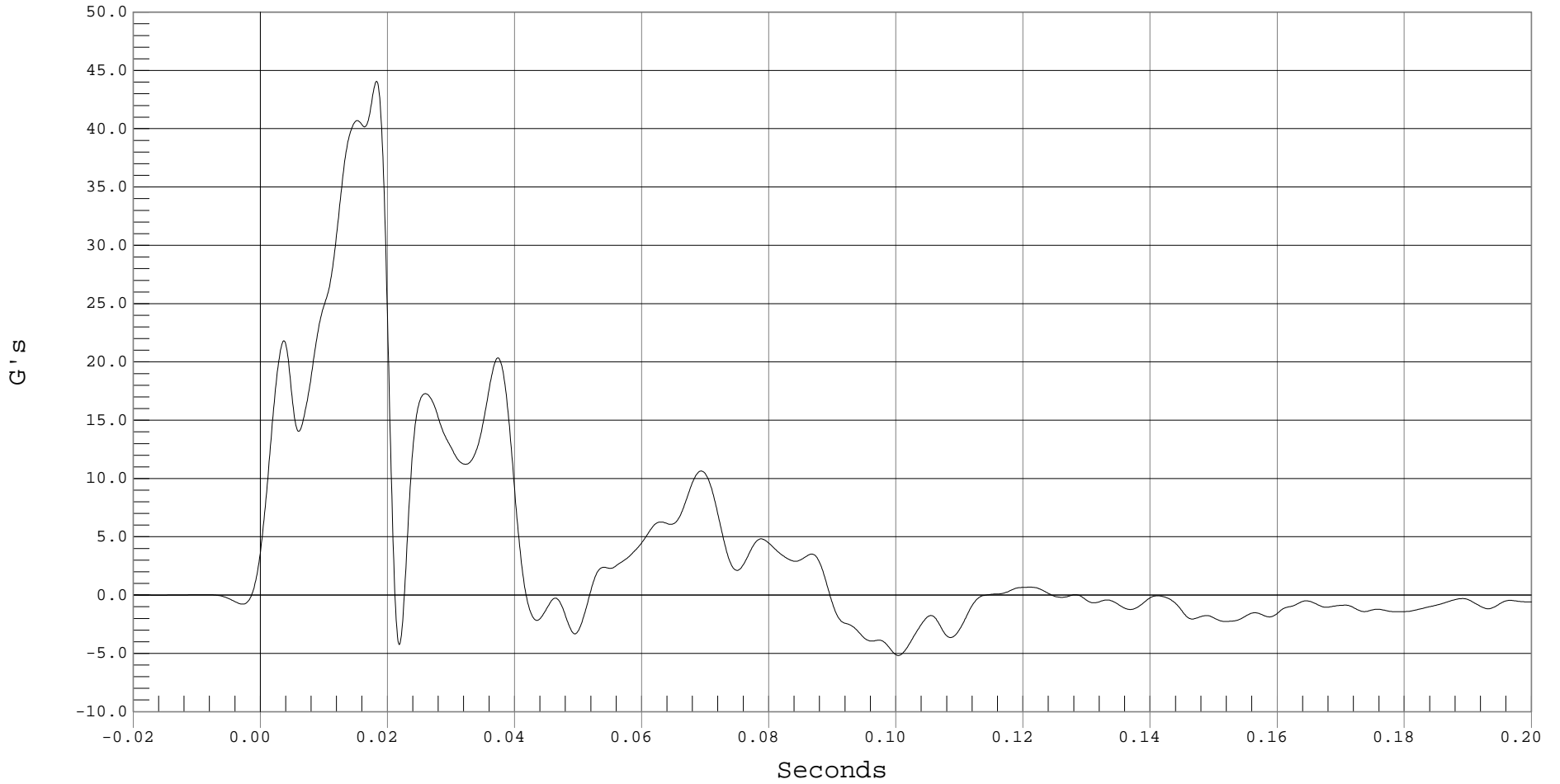
### LEFT MID A-POST Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 LEFT MID A-POST Y, B01009AF.A26

Ymin = -5.18 G's @ 0.1004 Seconds, Ymax = 44.07 G's @ 0.0183 Seconds



B-43



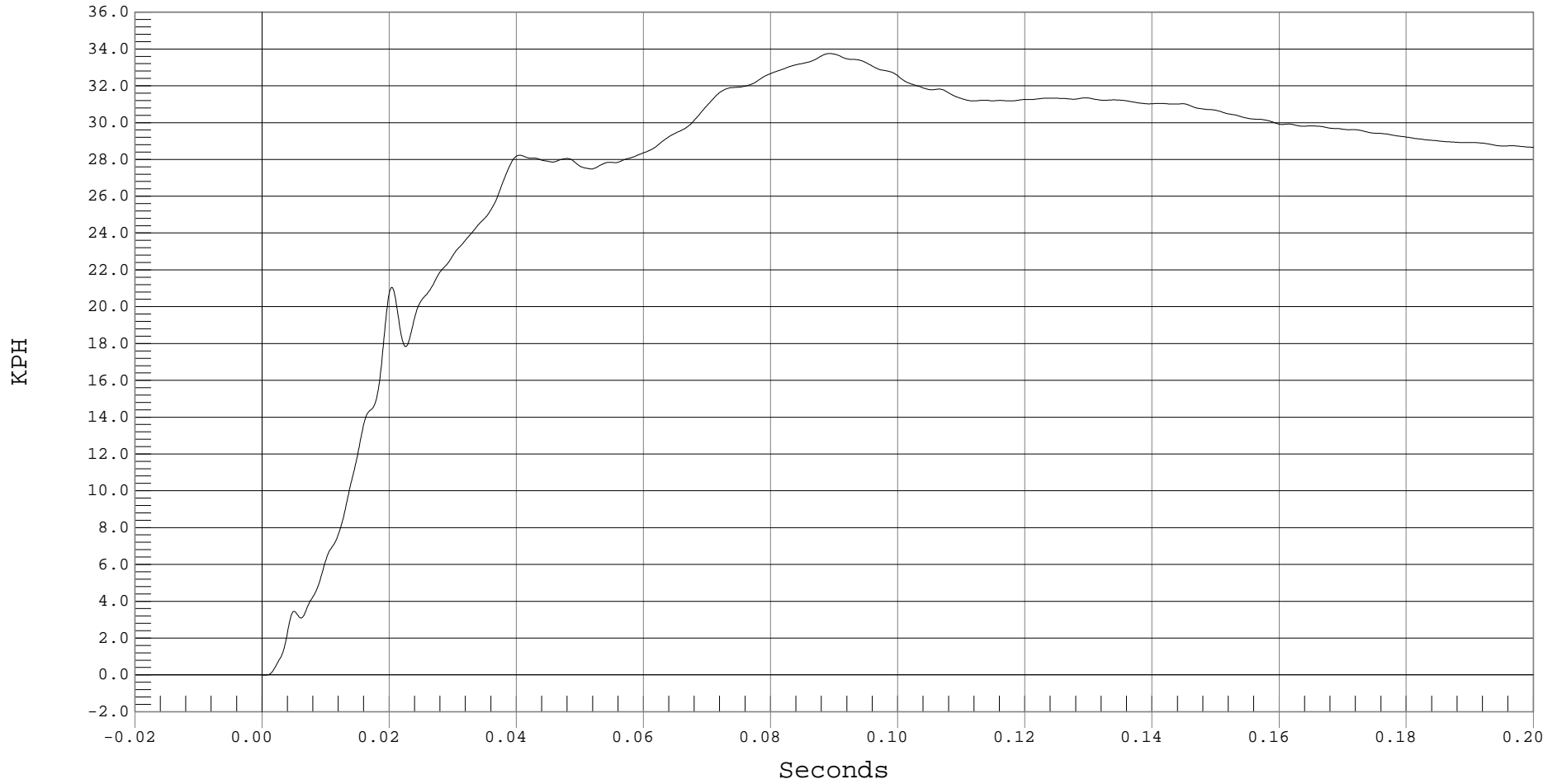
### LEFT MID A-POST Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 LEFT MID A-POST Y VELOCITY, B01009AI.V26

Ymin = -.02 KPH @ 0.0005 Seconds, Ymax = 33.75 KPH @ 0.0893 Seconds



B-44



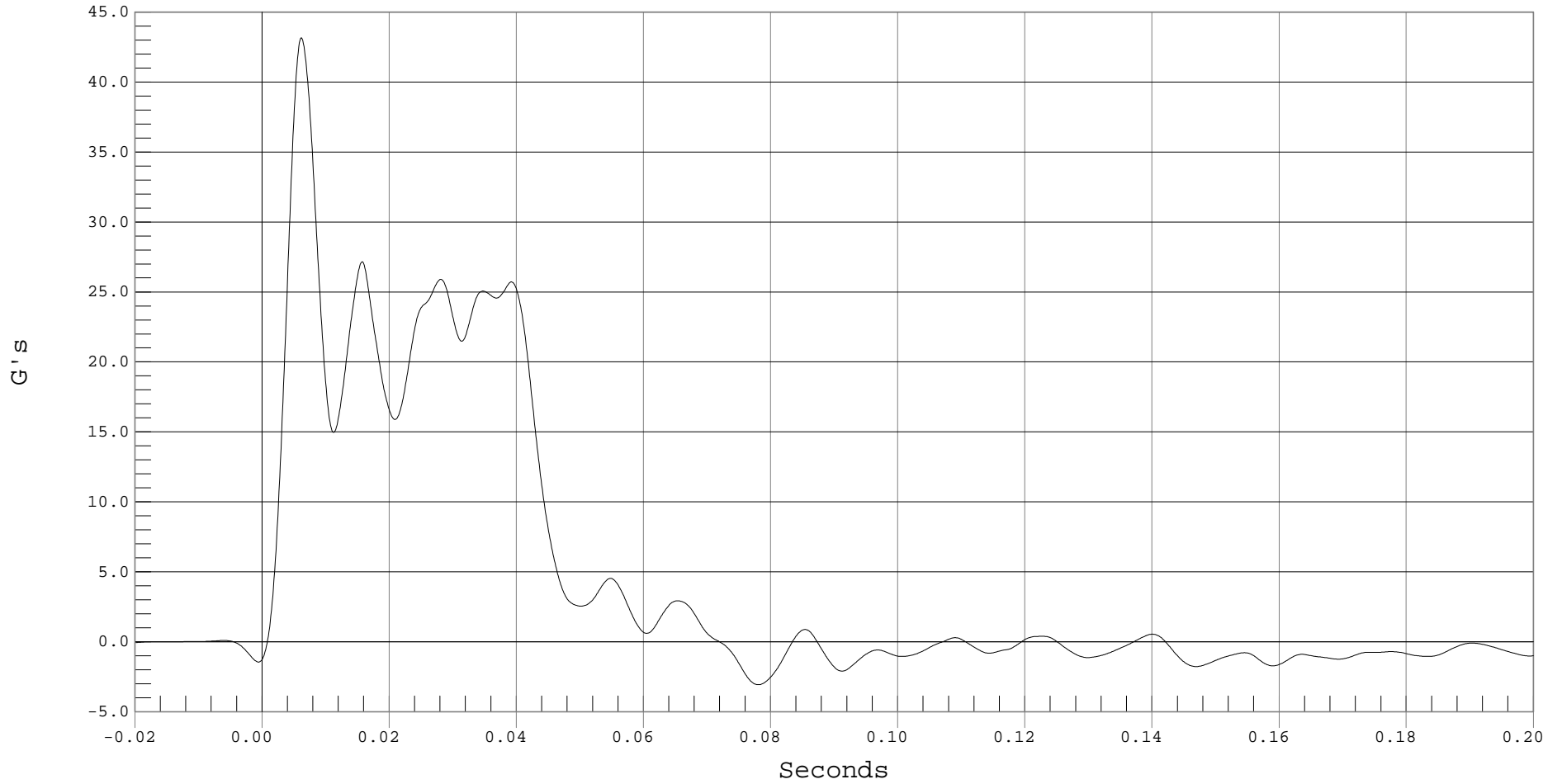
### LEFT LOWER B-POST Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 LEFT LOWER B-POST, B01009AF.A29

Ymin = -3.07 G's @ 0.0781 Seconds, Ymax = 43.18 G's @ 0.0062 Seconds



B-45



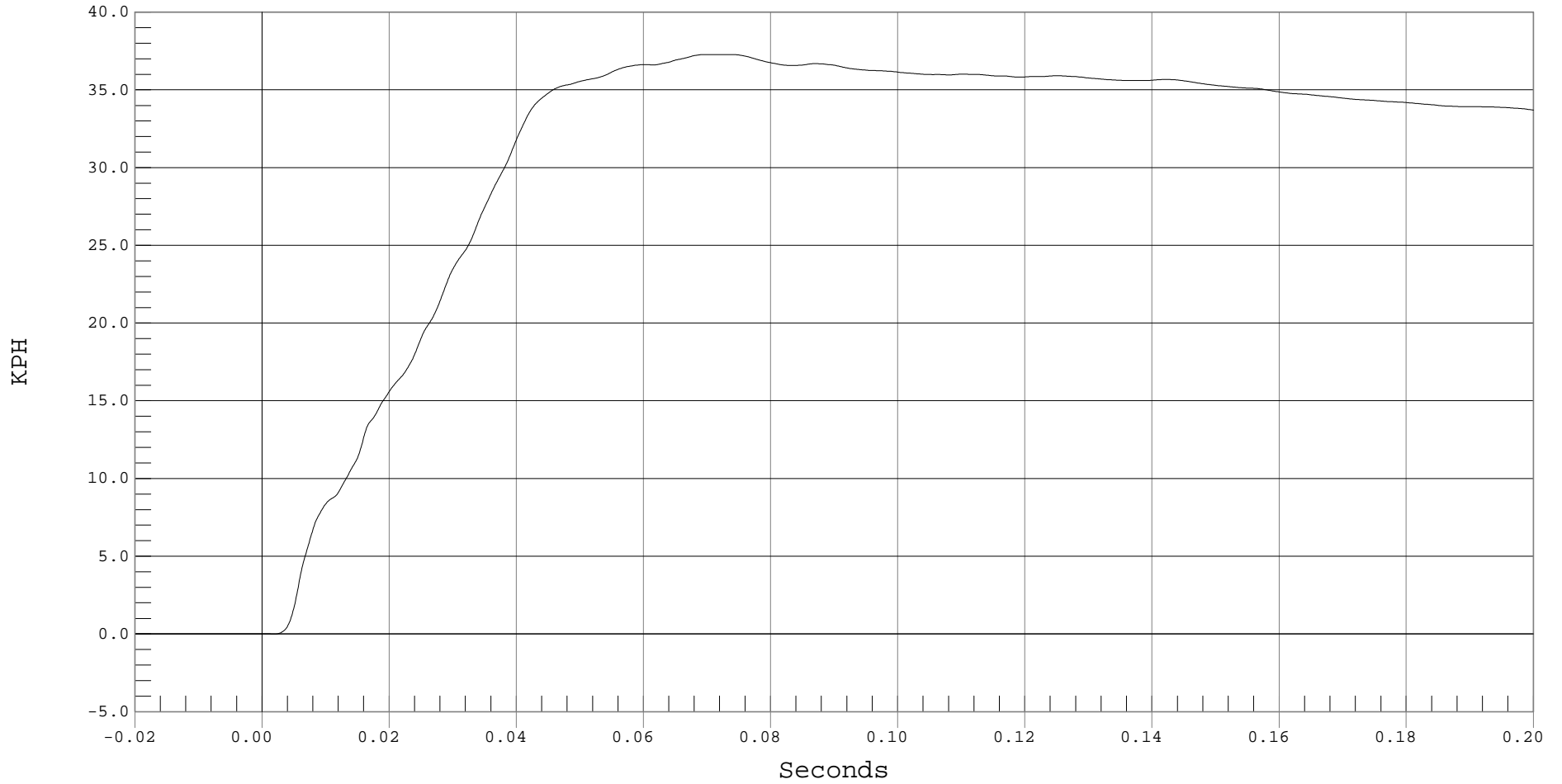
### LEFT LOWER B-POST Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 LEFT LOWER B-POST Y VELOCITY, B01009AI.V29

Ymin = -.01 KPH @ 0.0019 Seconds, Ymax = 37.28 KPH @ 0.0727 Seconds



B-46



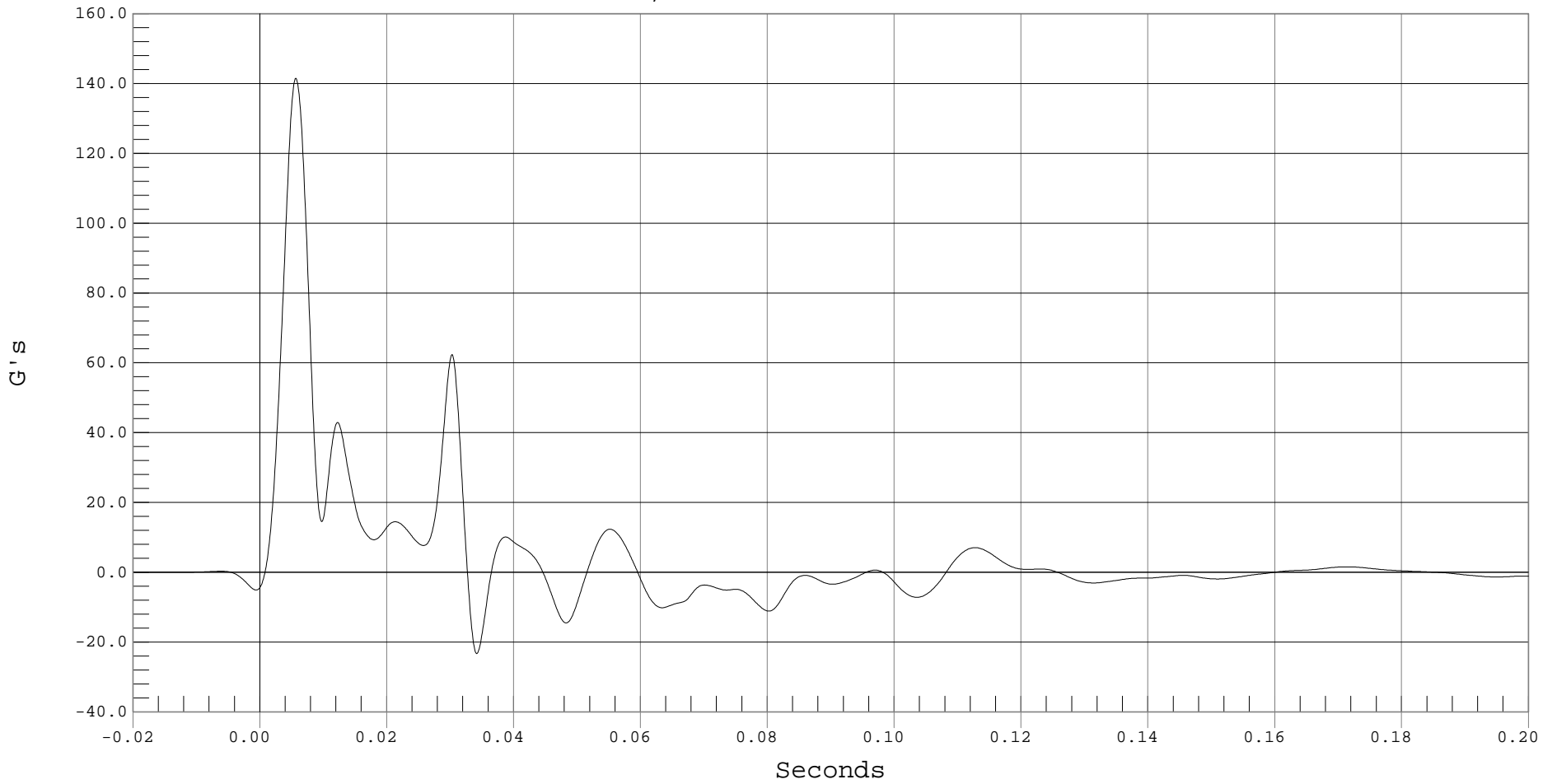
### LEFT MID B-POST Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 LEFT MID B-POST, B01009AF.A28

Ymin = -23.31 G's @ 0.0342 Seconds, Ymax = 141.53 G's @ 0.0057 Seconds



B-47



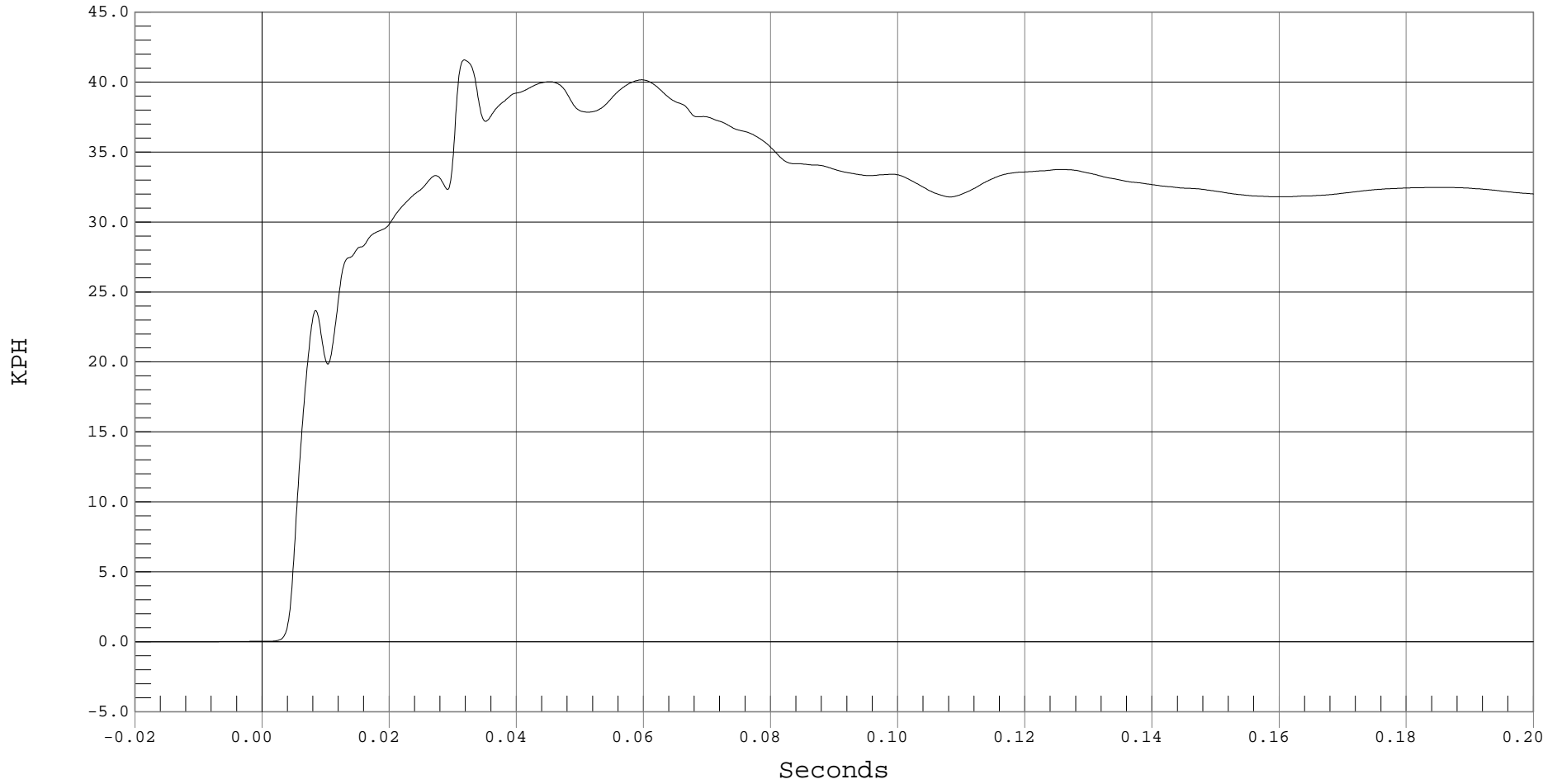
### LEFT MID B-POST Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 LEFT MID B-POST Y VELOCITY, B01009AI.V28

Ymin = 0 KPH @ -0.0151 Seconds, Ymax = 41.58 KPH @ 0.0318 Seconds



B-48



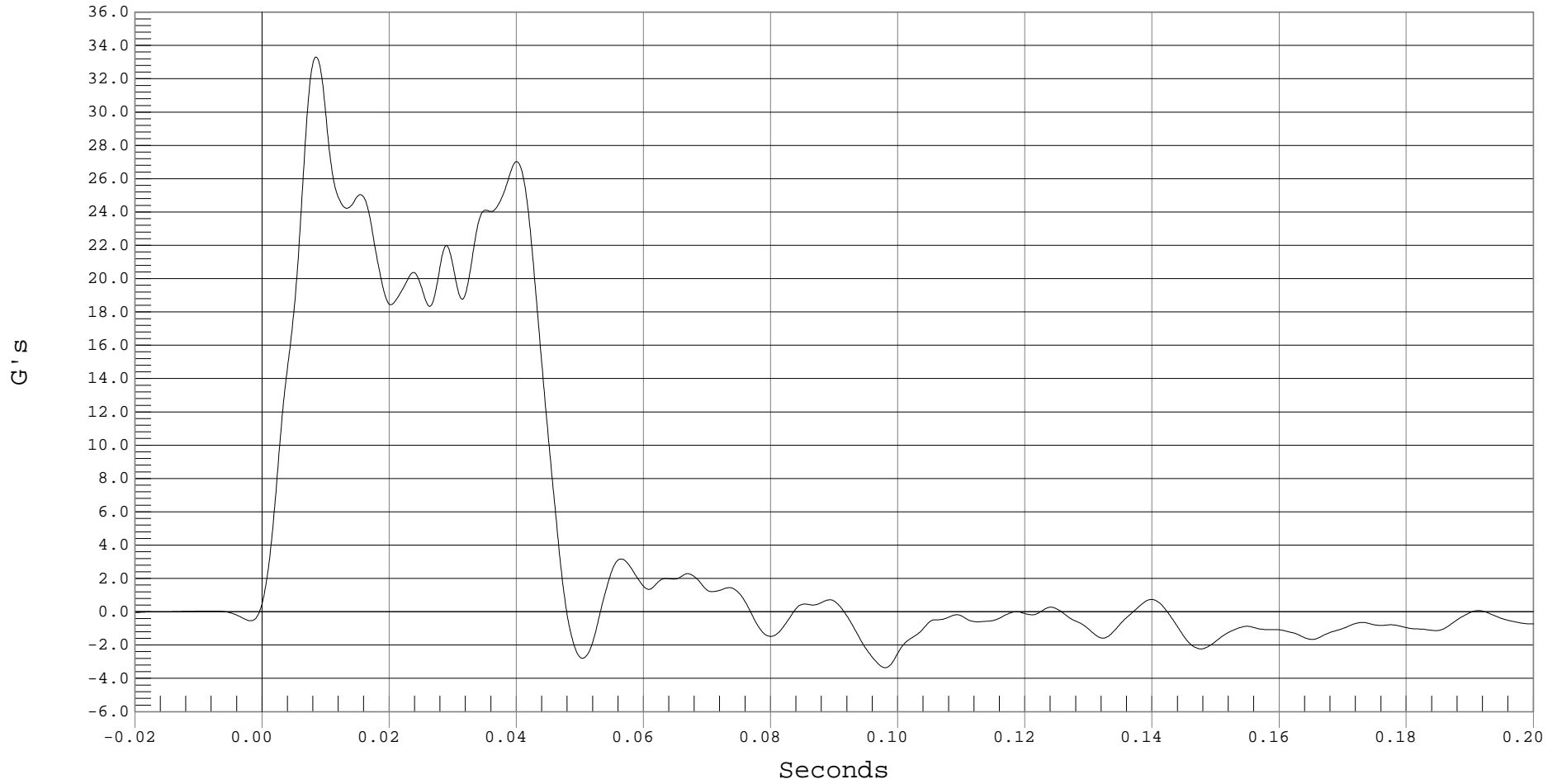
### LEFT DRIVER SEAT TRACK Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 DRIVER SEAT TRACK Y, B01009AF.A30

Ymin = -3.36 G's @ 0.0980 Seconds, Ymax = 33.3 G's @ 0.0085 Seconds



B-49



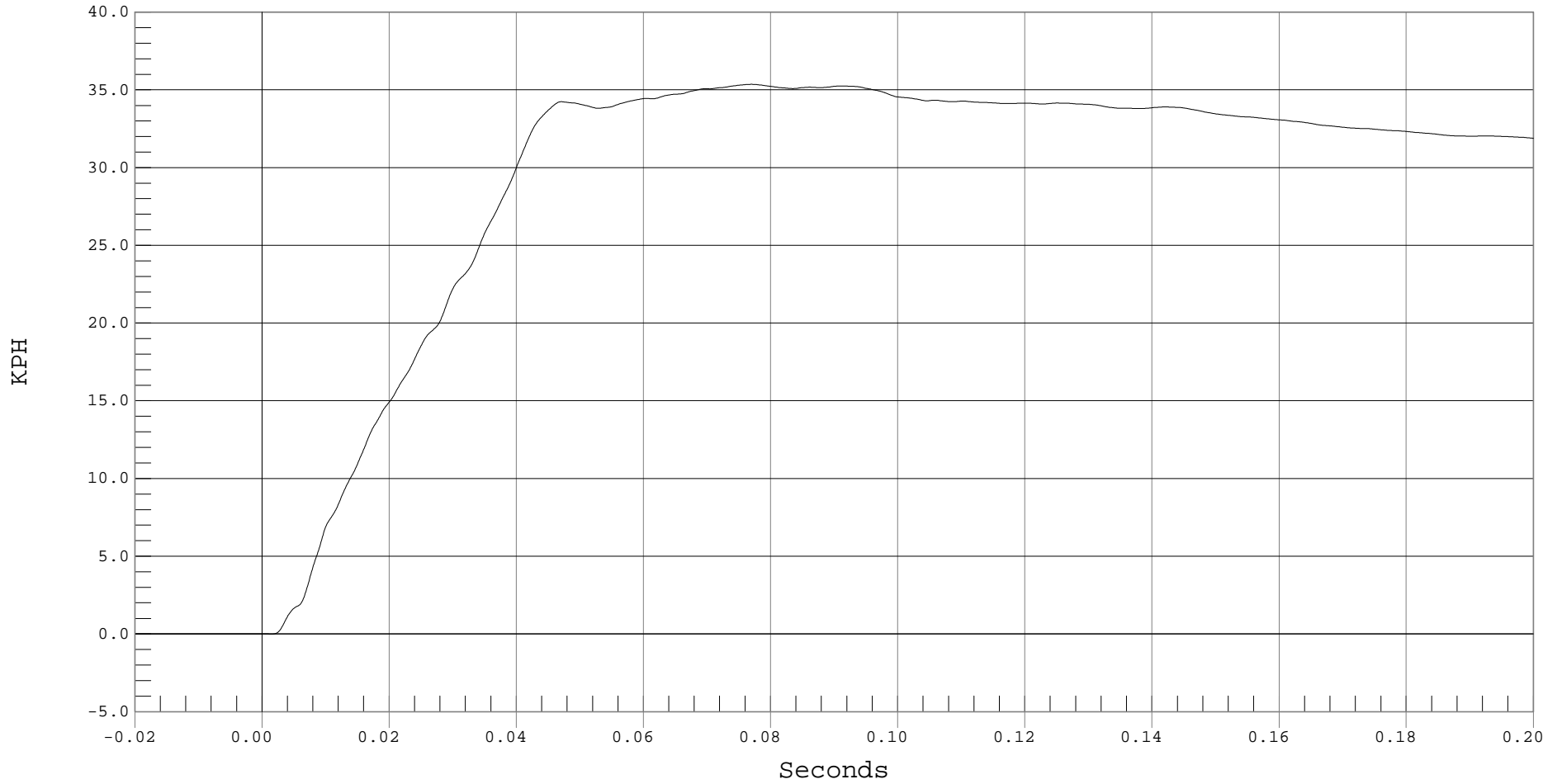
### LEFT DRIVER SEAT TRACK Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER SEAT TRACK Y VELOCITY, B01009AI.V30

Ymin = -.01 KPH @ 0.0016 Seconds, Ymax = 35.36 KPH @ 0.0770 Seconds



B-50



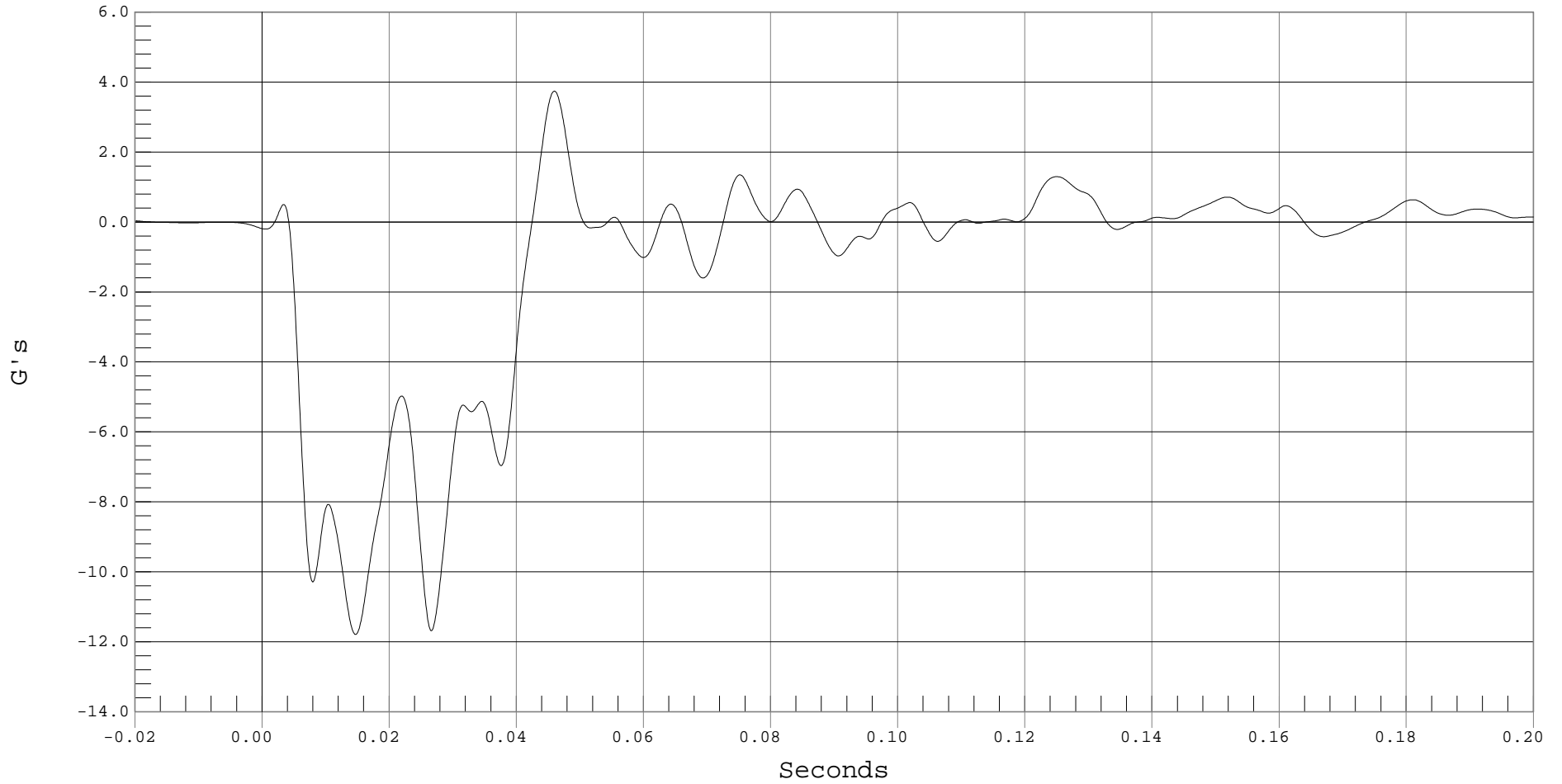
### VEHICLE CG X ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 VEHICLE CG X, B01009AF.A12

Ymin = -11.79 G's @ 0.0147 Seconds, Ymax = 3.74 G's @ 0.0460 Seconds



B-51



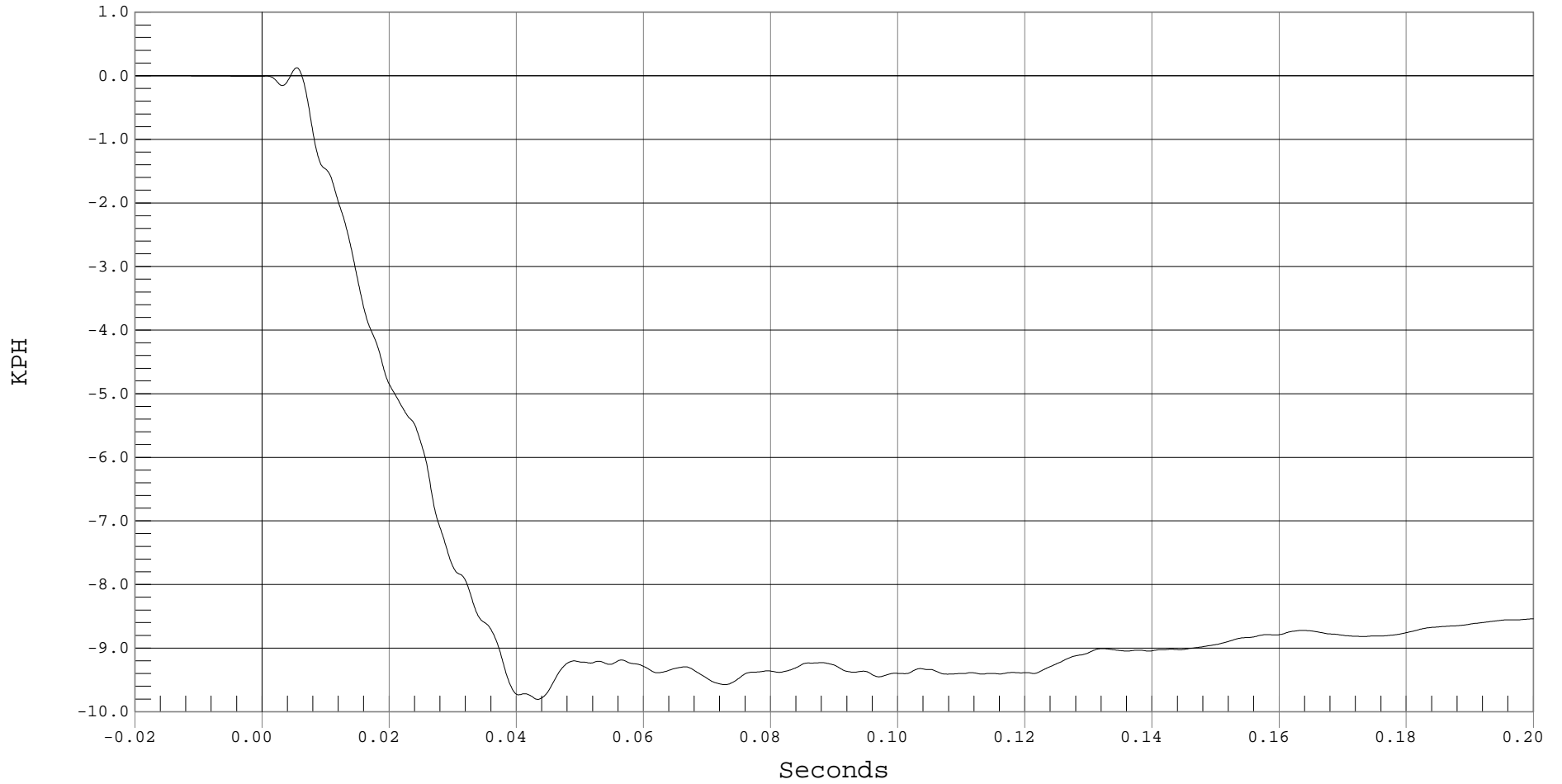
### VEHICLE CG X VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 VEHICLE CG X VELOCITY, B01009AI.V12

Ymin = -9.81 KPH @ 0.0434 Seconds, Ymax = .13 KPH @ 0.0055 Seconds



B-52



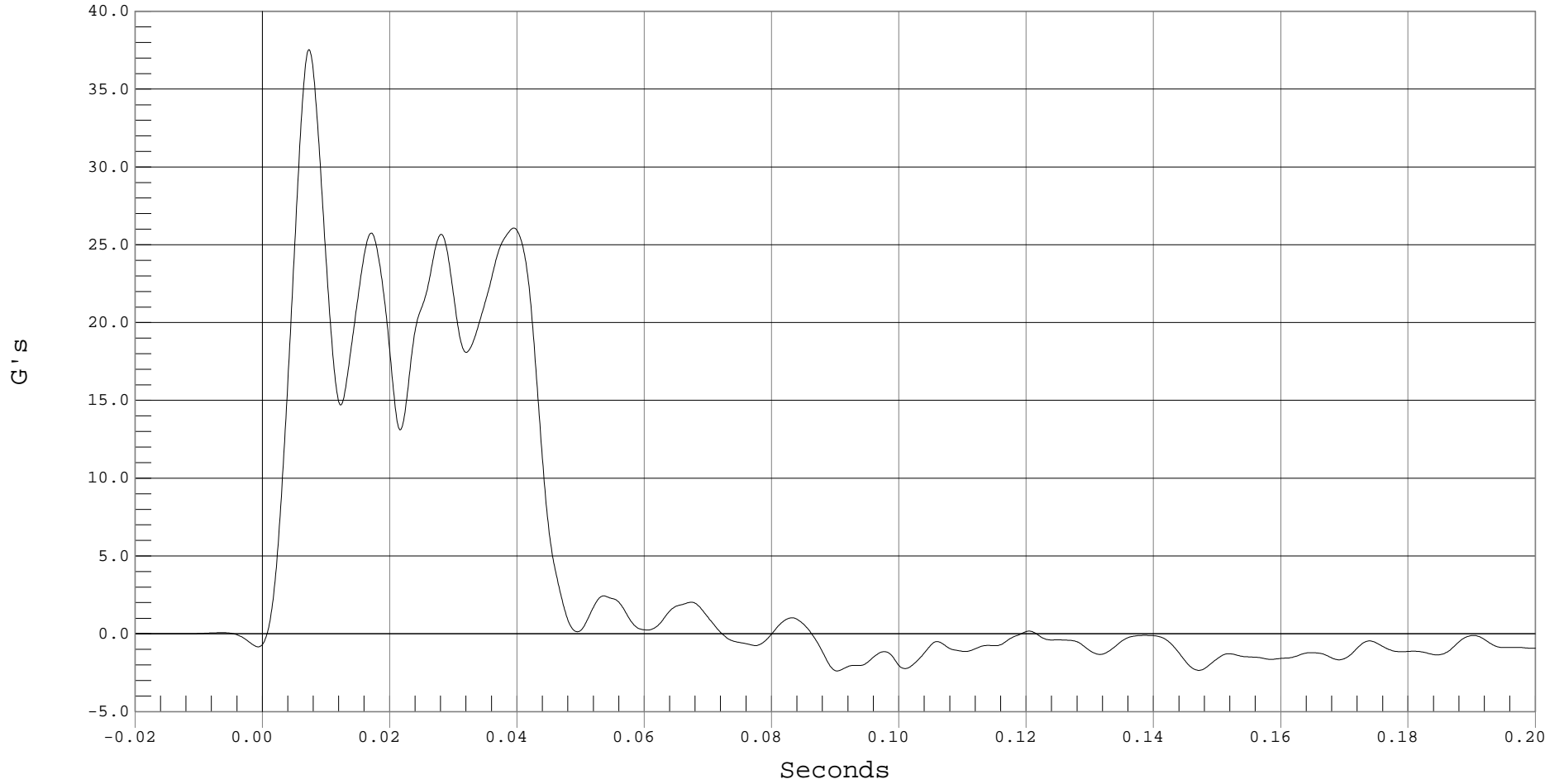
### VEHICLE CG Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 VEHICLE CG Y, B01009AF.A13

Ymin = -2.39 G's @ 0.0903 Seconds, Ymax = 37.54 G's @ 0.0073 Seconds





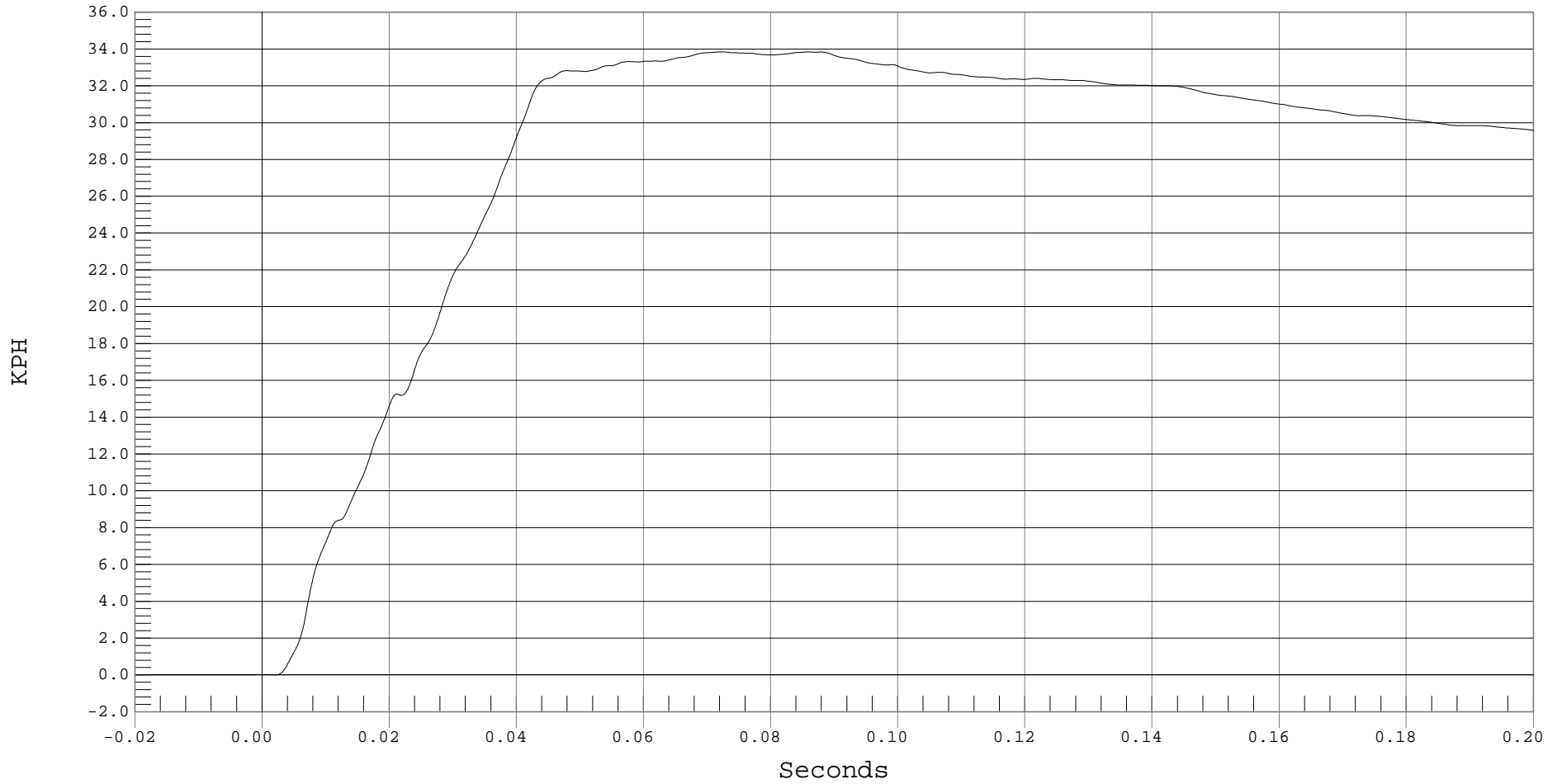
### VEHICLE CG Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 VEHICLE CG Y VELOCITY, B01009AI.V13

Ymin = 0 KPH @ -0.0198 Seconds, Ymax = 33.84 KPH @ 0.0860 Seconds



B-54



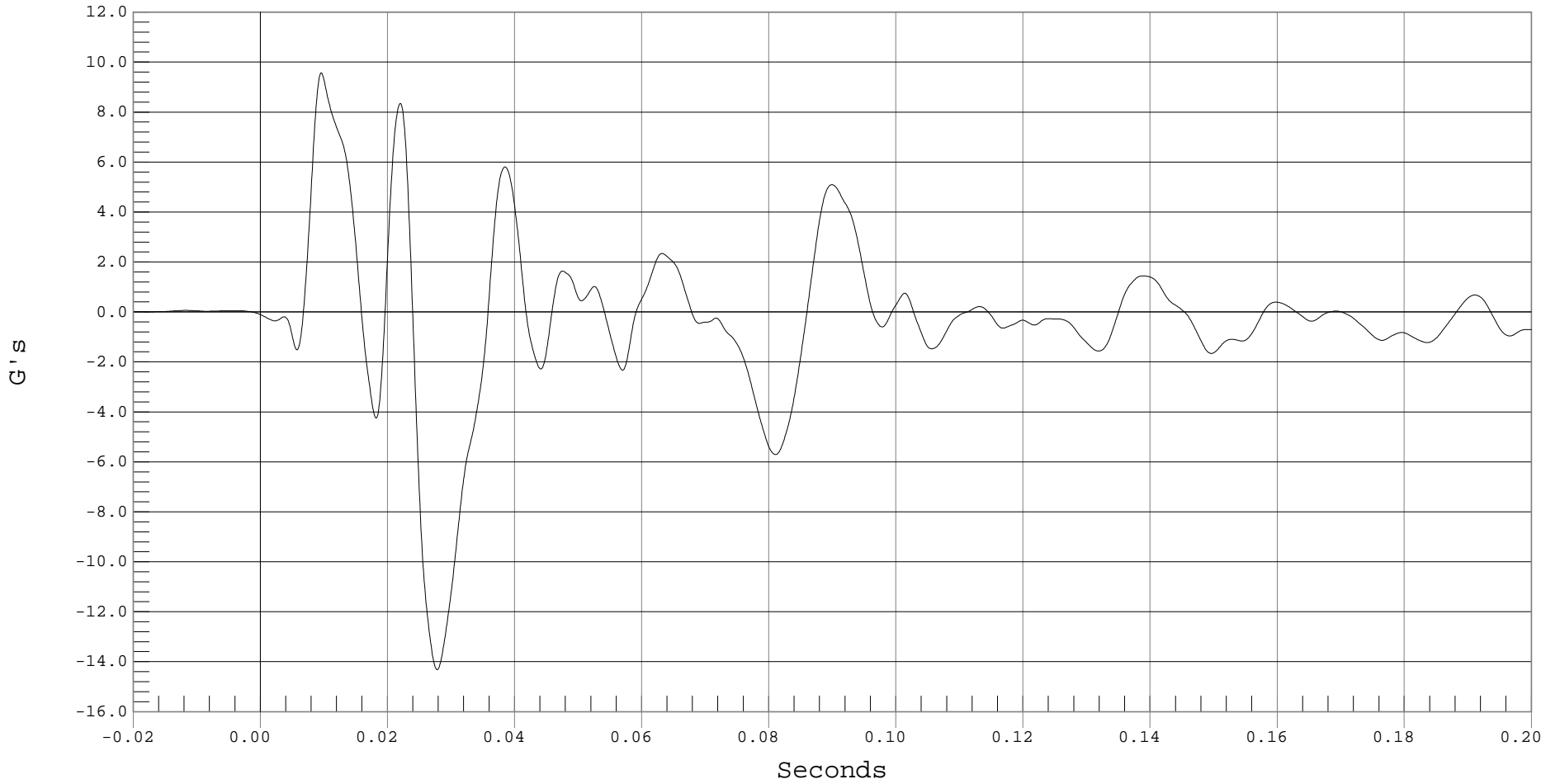
### VEHICLE CG Z ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 VEHICLE CG Z, B01009AF.A14

Ymin = -14.32 G's @ 0.0278 Seconds, Ymax = 9.57 G's @ 0.0096 Seconds



B-55



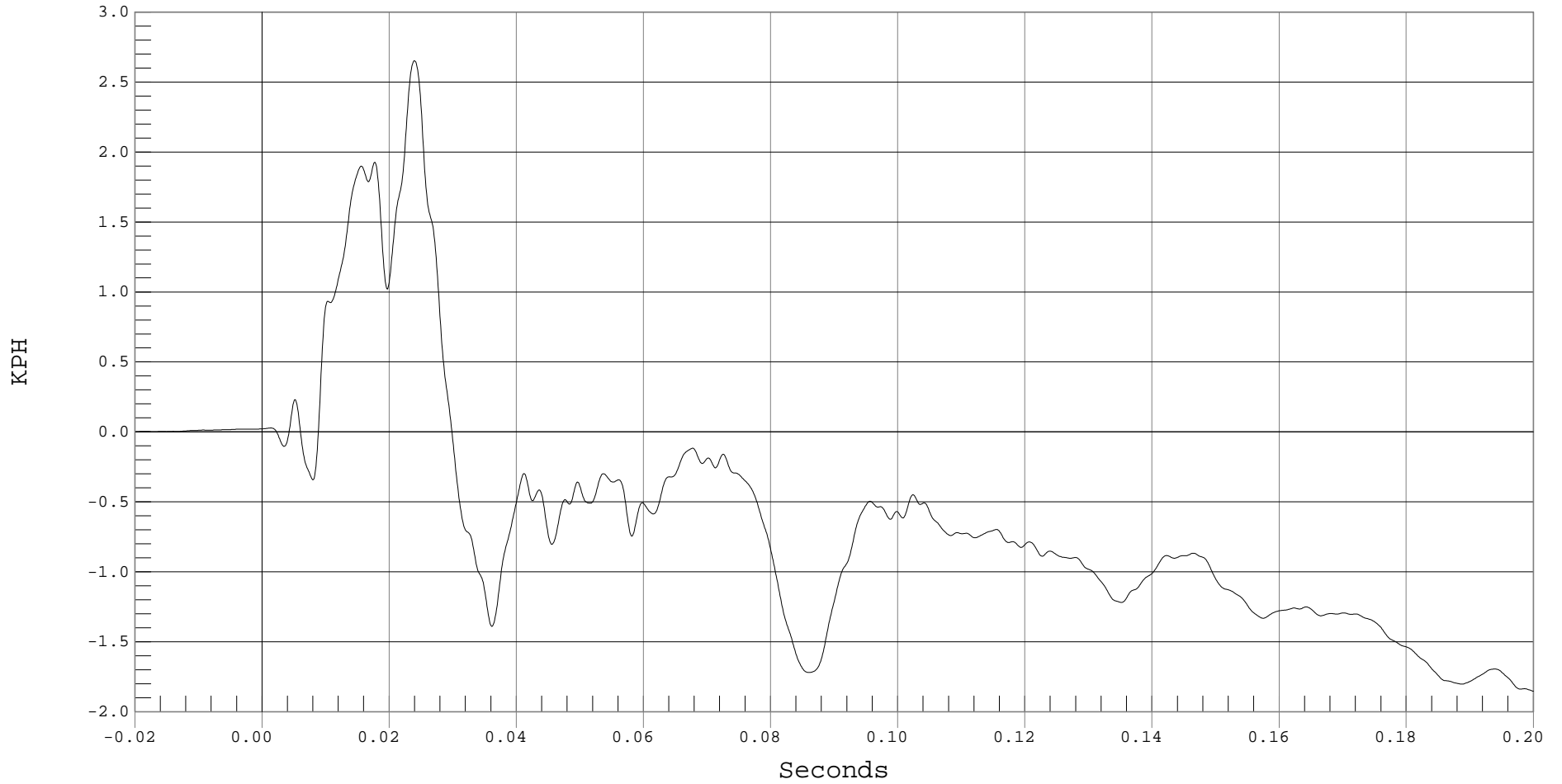
### VEHICLE CG Z VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 VEHICLE CG Z VELOCITY, B01009AI.V14

Ymin = -1.86 KPH @ 0.2001 Seconds, Ymax = 2.65 KPH @ 0.0240 Seconds



B-56



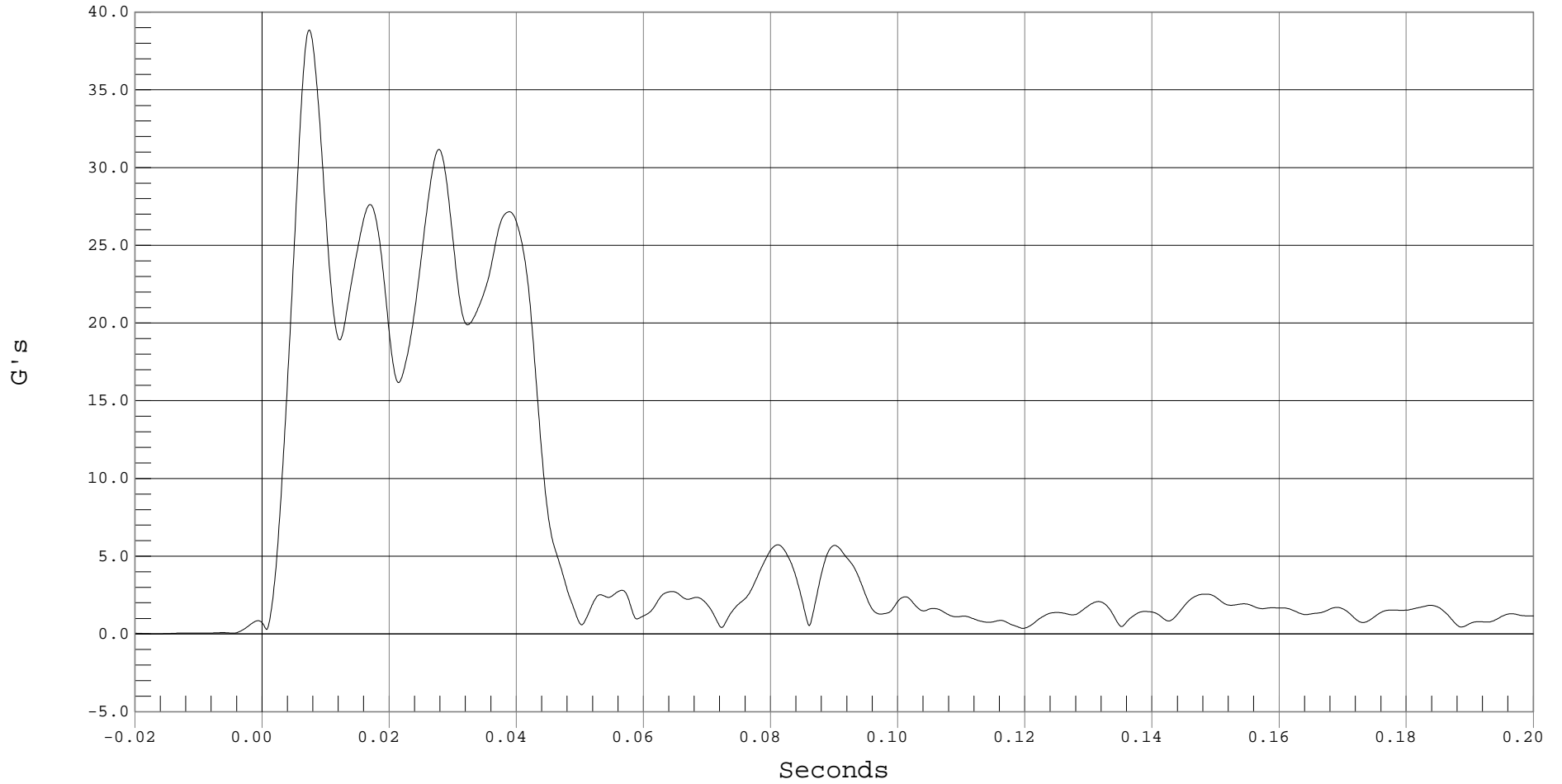
### VEHICLE CG RESULTANT ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 VEHICLE CG RESULTANT ACCELERATION, B01009AV.A12

Ymin = .01 G's @ -0.0169 Seconds, Ymax = 38.86 G's @ 0.0074 Seconds



B-57



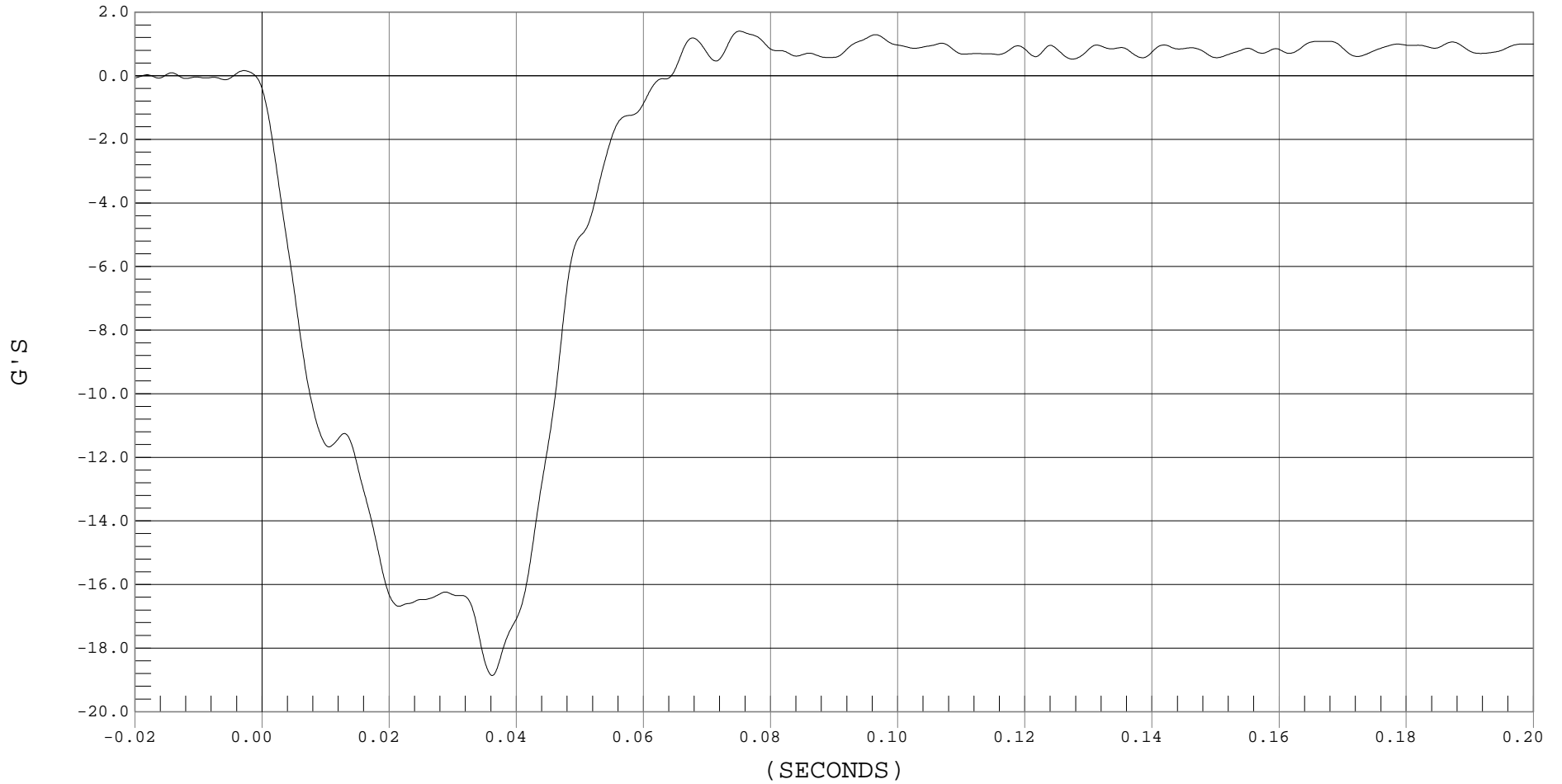
### MOVING BARRIER CG X ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 CART CG X, C01009AF.A02

Ymin = -18.86 G'S @ 0.0362 SECONDS, Ymax = 1.4 G'S @ 0.0751 SECONDS



B-58



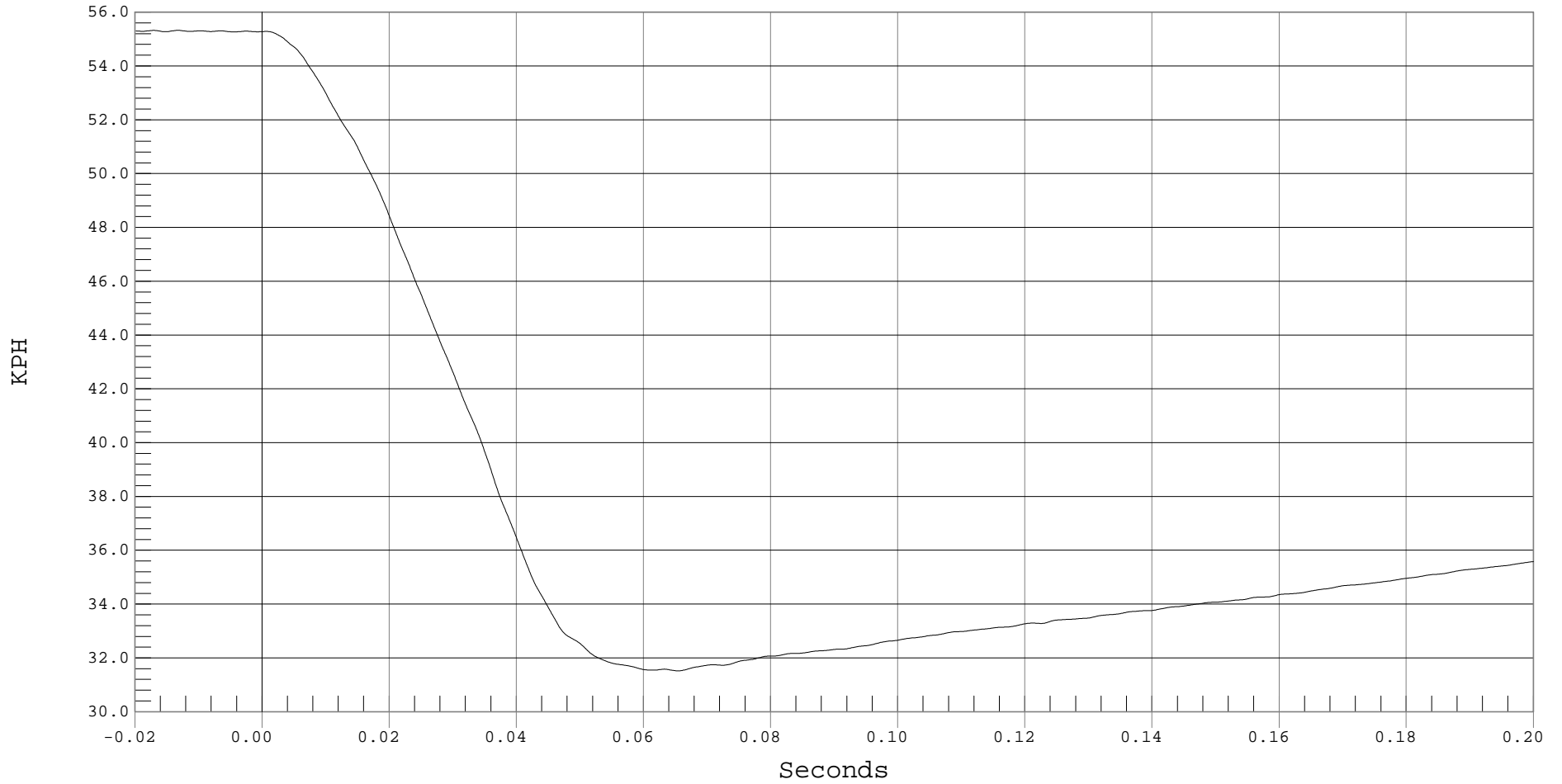
### MOVING BARRIER CG X VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 MOVING BARRIER CG X VELOCITY, C01009AI.V02

Ymin = 31.52 KPH @ 0.0655 Seconds, Ymax = 55.32 KPH @ -0.0132 Seconds



B-59



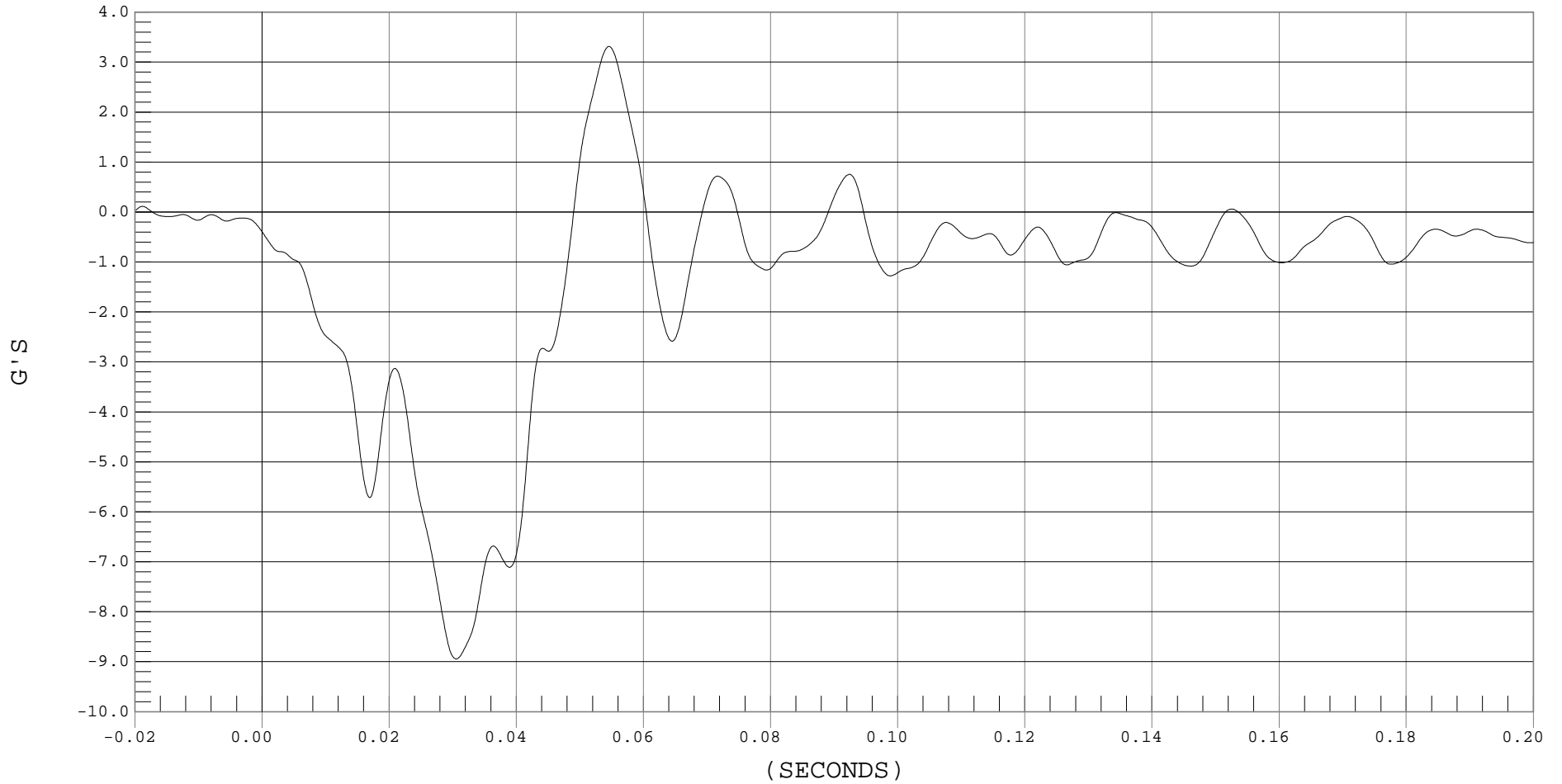
### MOVING BARRIER CG Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 CART CG Y, C01009AF.A03

Ymin = -8.94 G'S @ 0.0305 SECONDS, Ymax = 3.31 G'S @ 0.0546 SECONDS



B-60



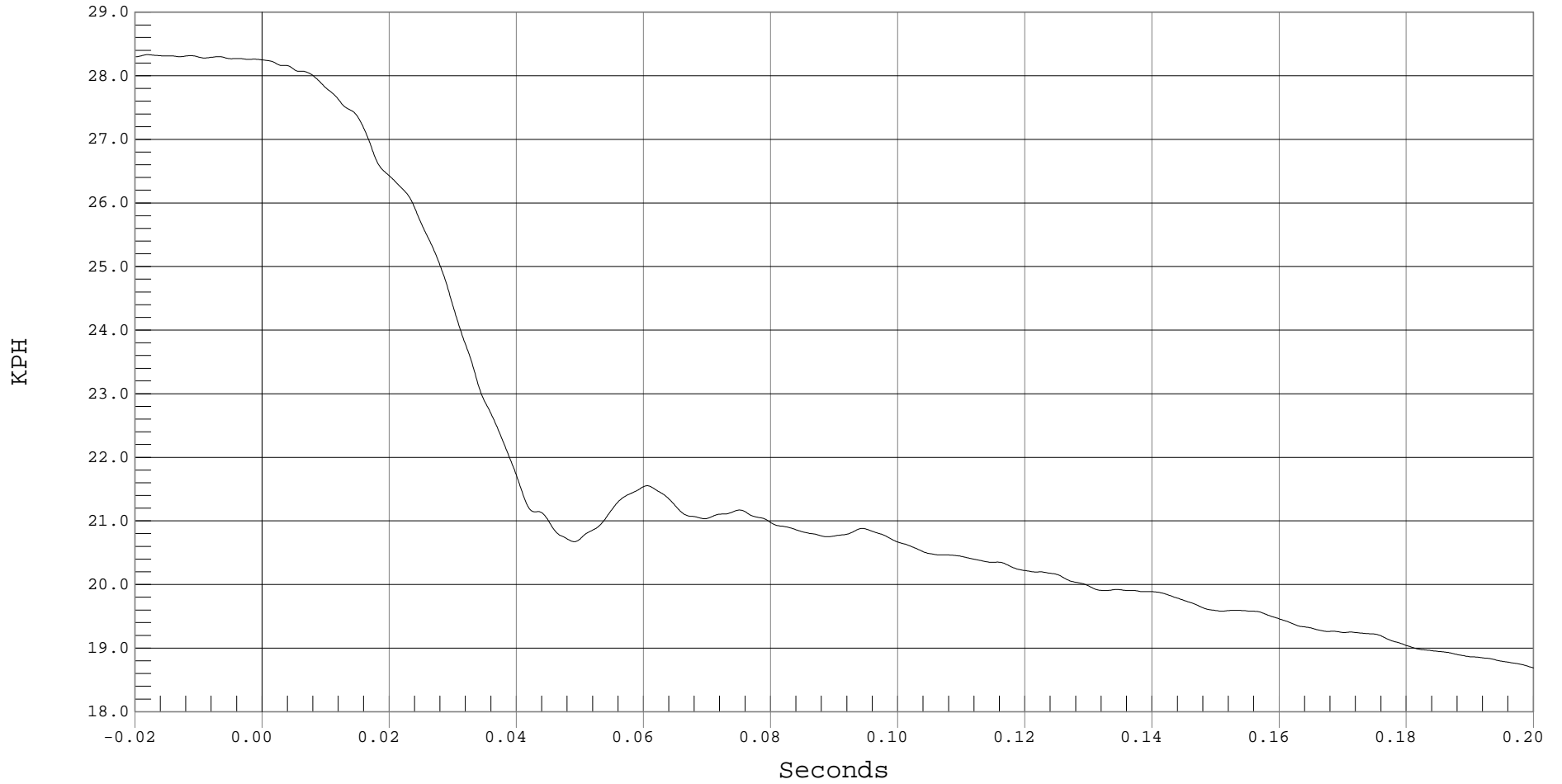
### MOVING BARRIER CG Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 MOVING BARRIER CG Y VELOCITY, C01009AI.V03

Ymin = 18.68 KPH @ 0.2001 Seconds, Ymax = 28.33 KPH @ -0.0180 Seconds



B-61



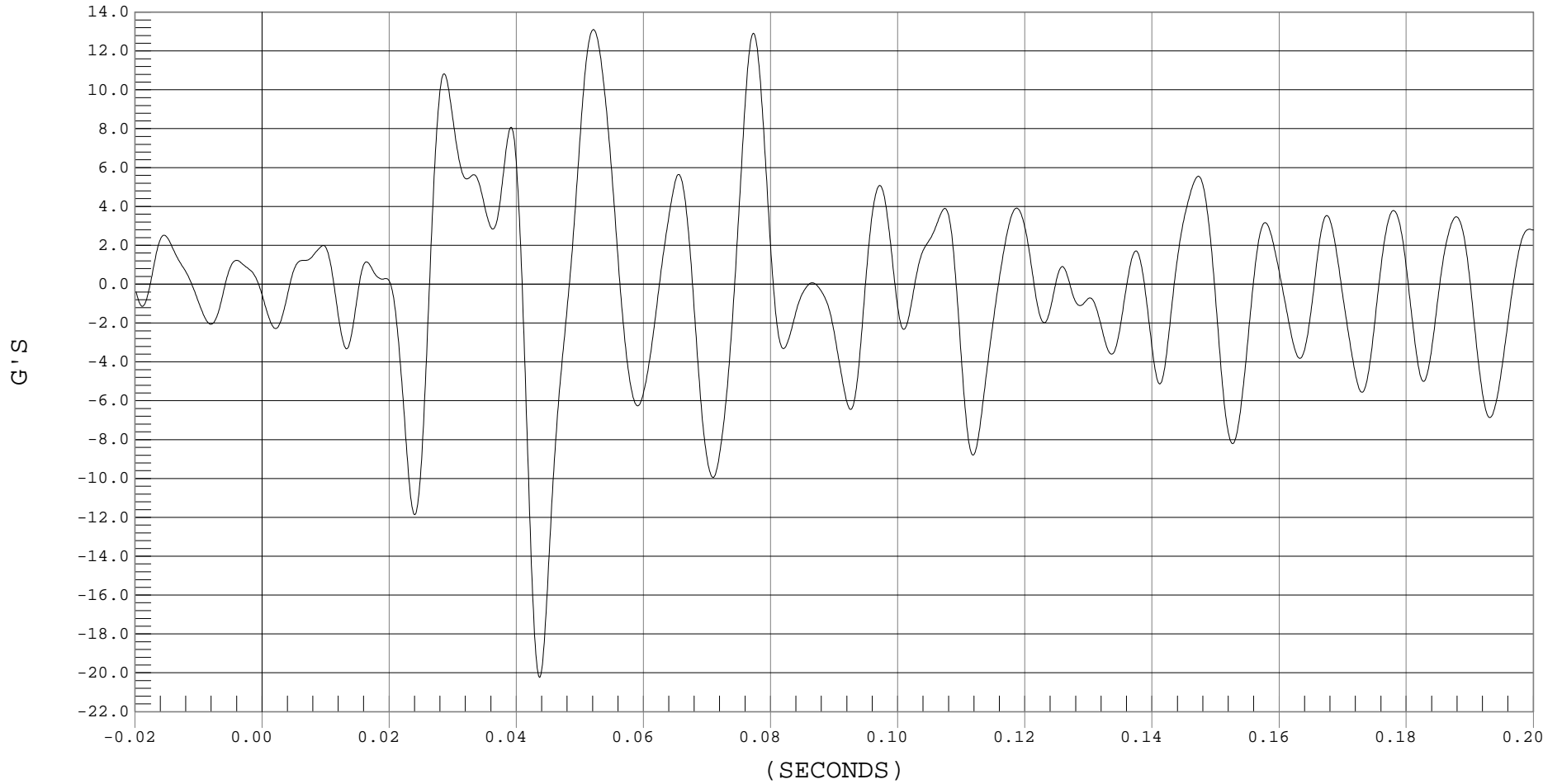
### MOVING BARRIER CG Z ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 CART CG Z, C01009AF.A04

Ymin = -20.24 G'S @ 0.0437 SECONDS, Ymax = 13.1 G'S @ 0.0521 SECONDS



B-62



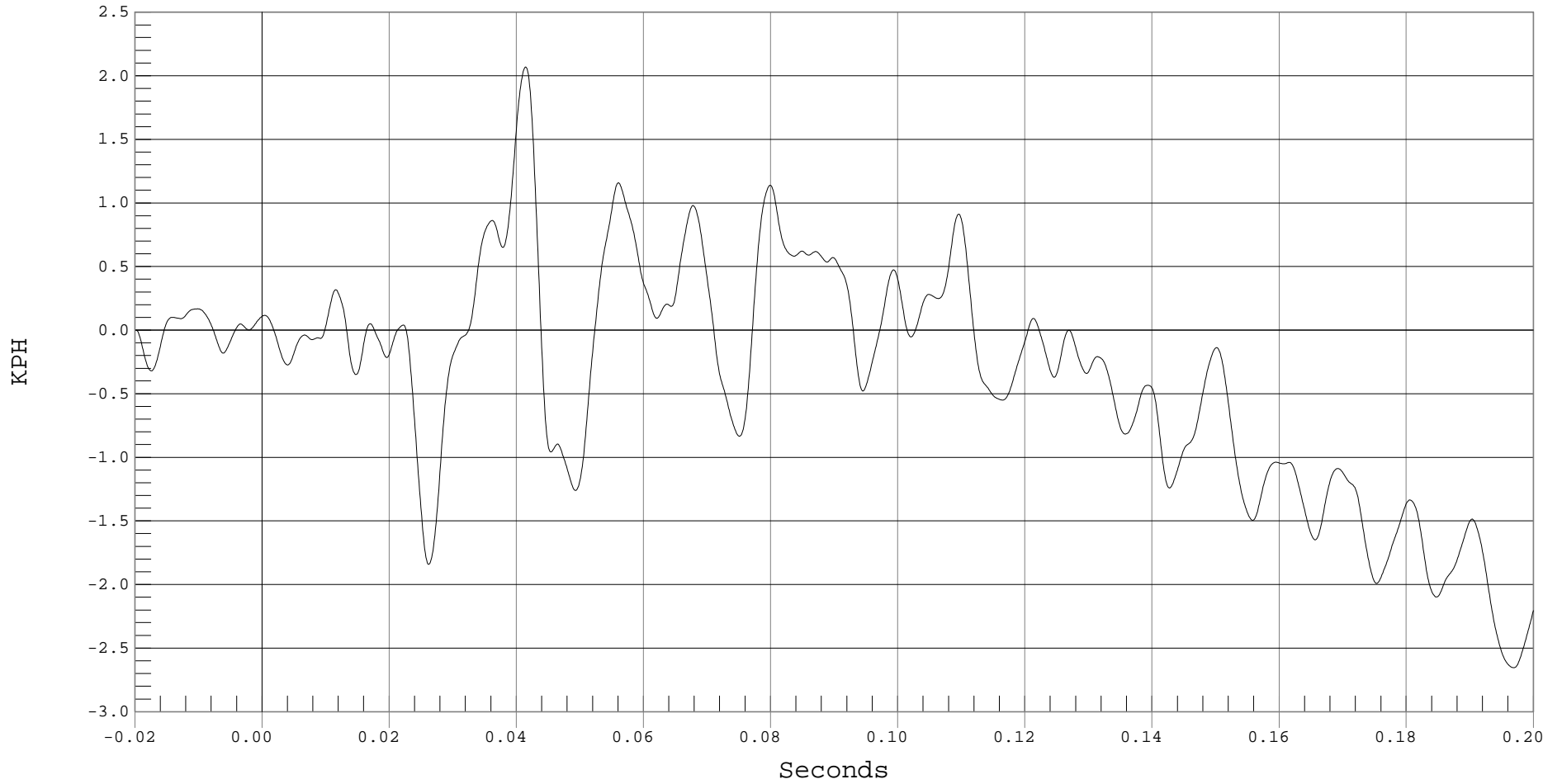
### MOVING BARRIER CG Z VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 MOVING BARRIER CG Z VELOCITY, C01009AI.V04

Ymin = -2.65 KPH @ 0.1969 Seconds, Ymax = 2.07 KPH @ 0.0415 Seconds





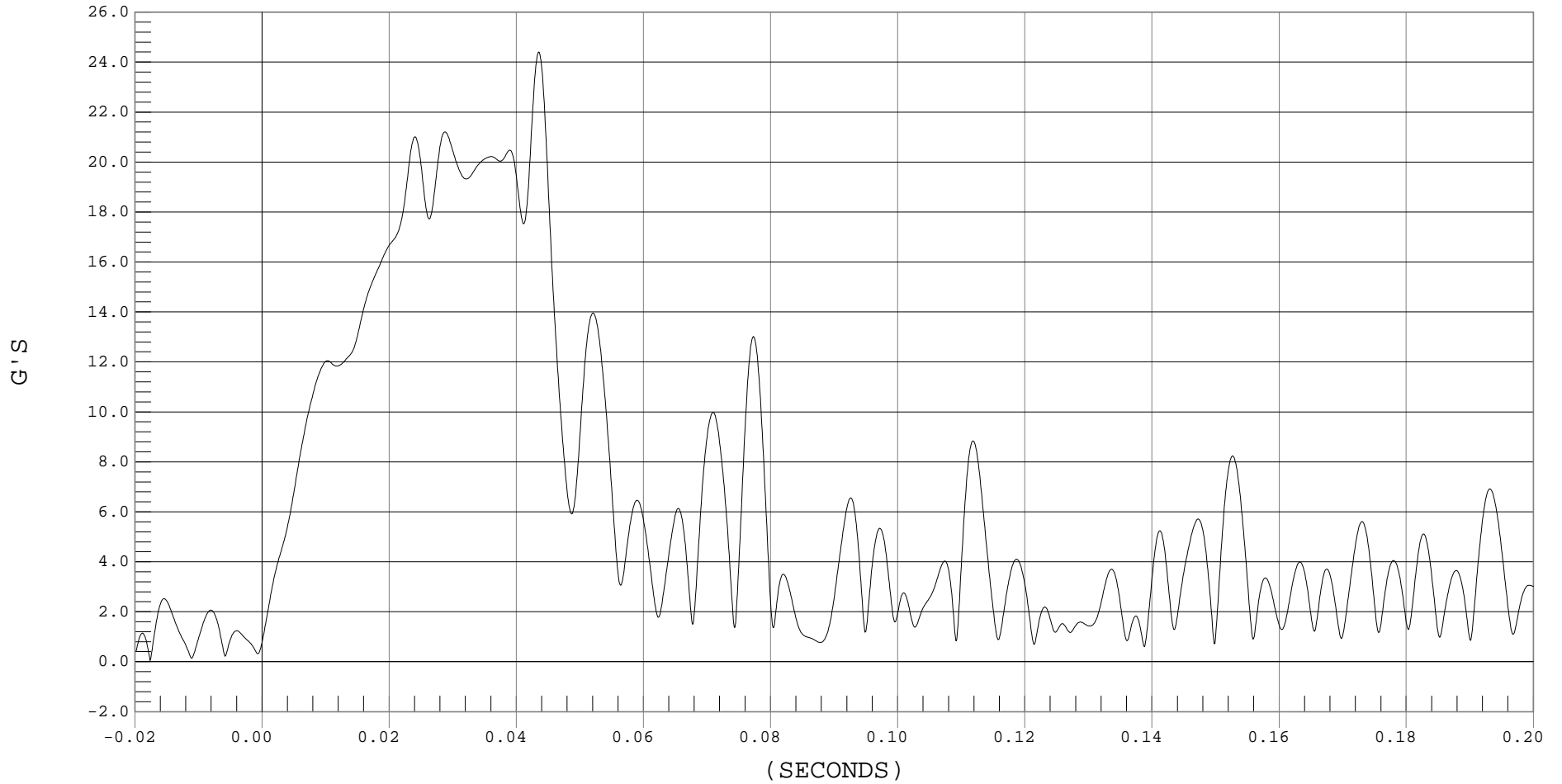
### MOVING BARRIER CG RESULTANT ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 MOVING BARRIER CG RESULTANT ACCELERATION, C01009AV.A02

Ymin = .05 G'S @ -0.0176 SECONDS, Ymax = 24.4 G'S @ 0.0435 SECONDS



B-64



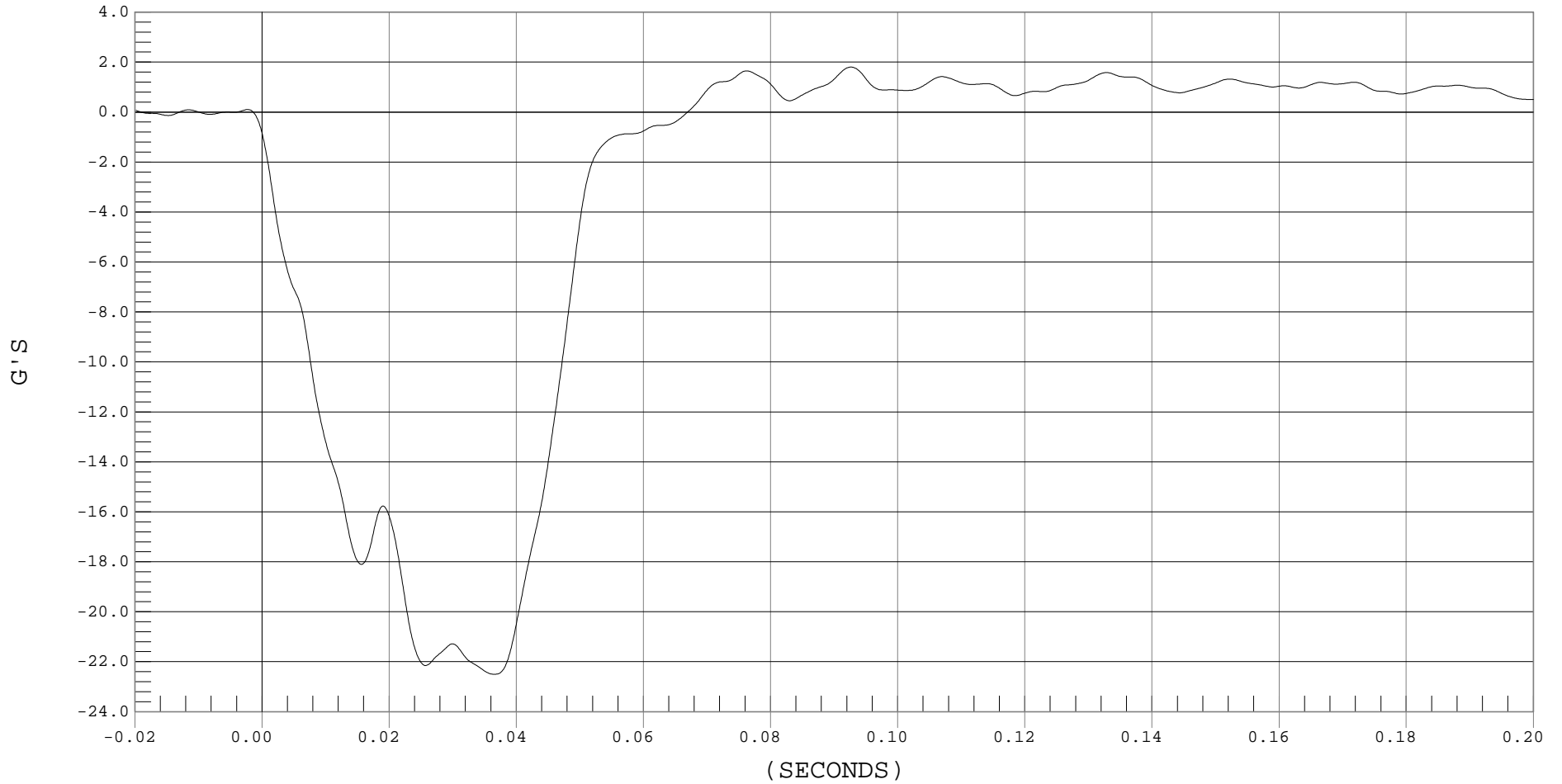
### MOVING BARRIER REAR AXLE X ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 CART REAR X, C01009AF.A05

Ymin = -22.5 G'S @ 0.0365 SECONDS, Ymax = 1.8 G'S @ 0.0926 SECONDS



B-65

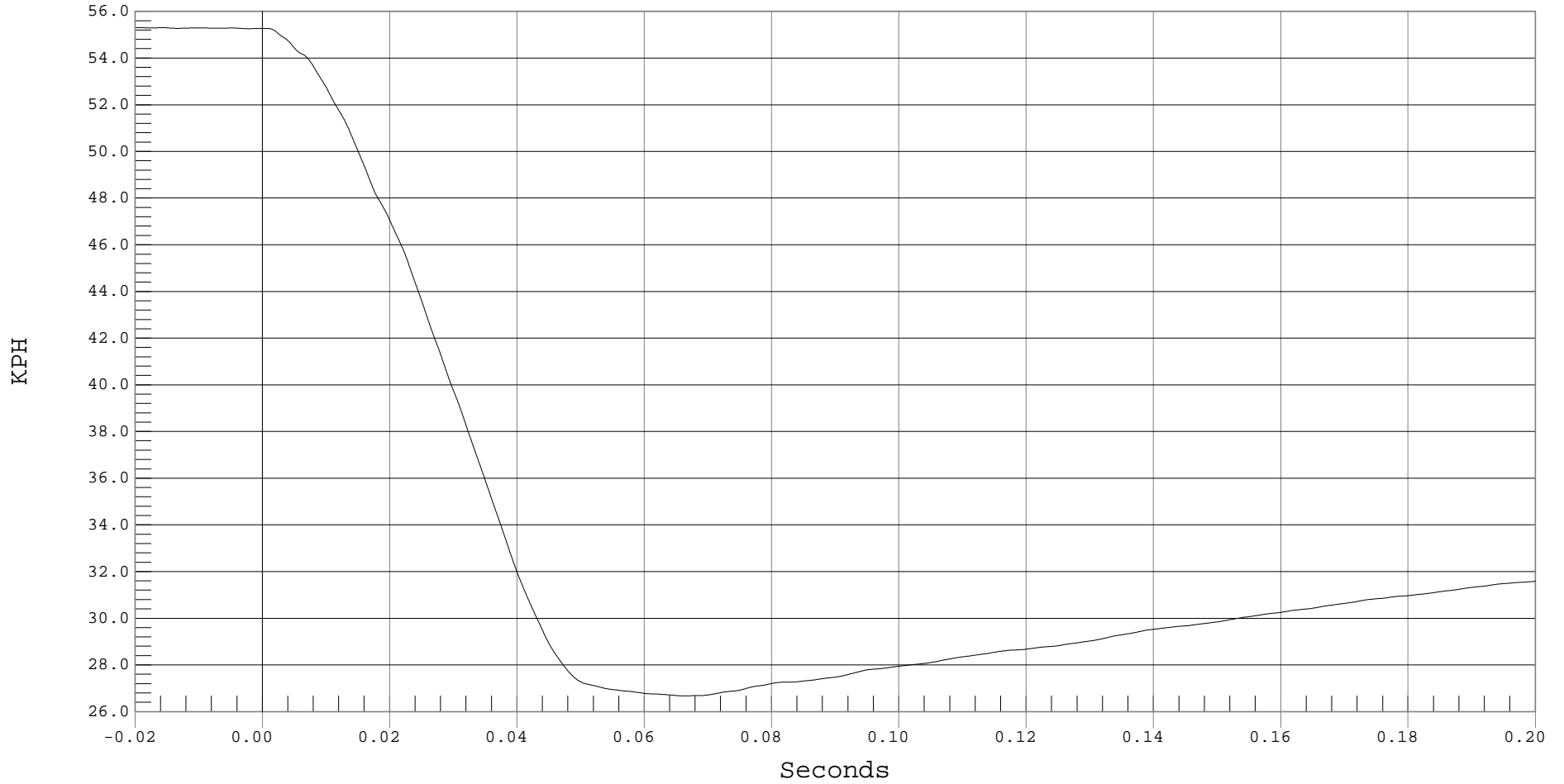


MOVING BARRIER REAR AXLE X VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

Ymin = 26.68 KPH @ 0.0663 Seconds, Ymax = 55.3 KPH @ -0.0193 Seconds



B-66



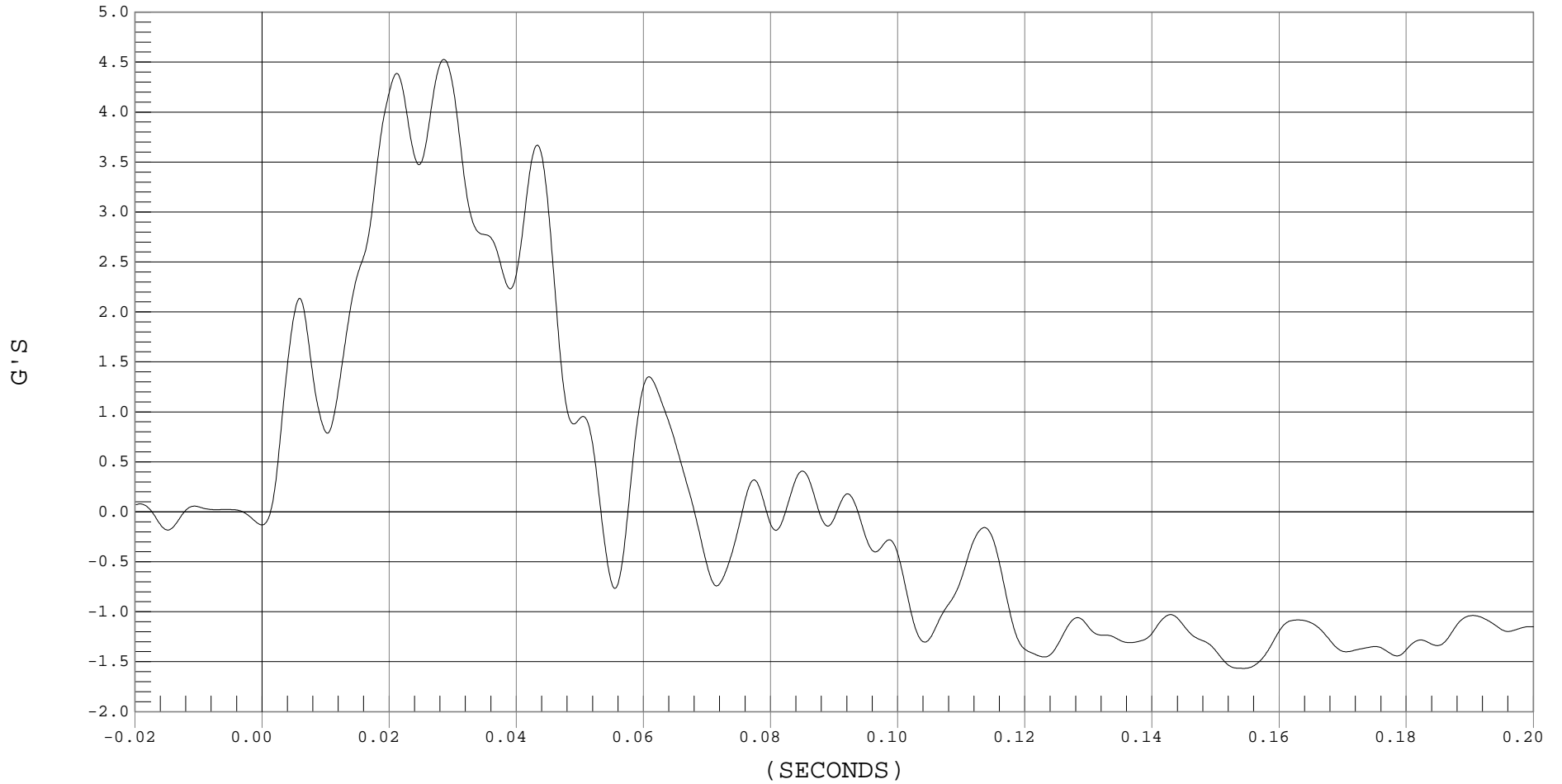
### MOVING BARRIER REAR AXLE Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 60

— 1 CART REAR Y, C01009AF.A06

Ymin = -1.57 G'S @ 0.1544 SECONDS, Ymax = 4.53 G'S @ 0.0286 SECONDS



B-67



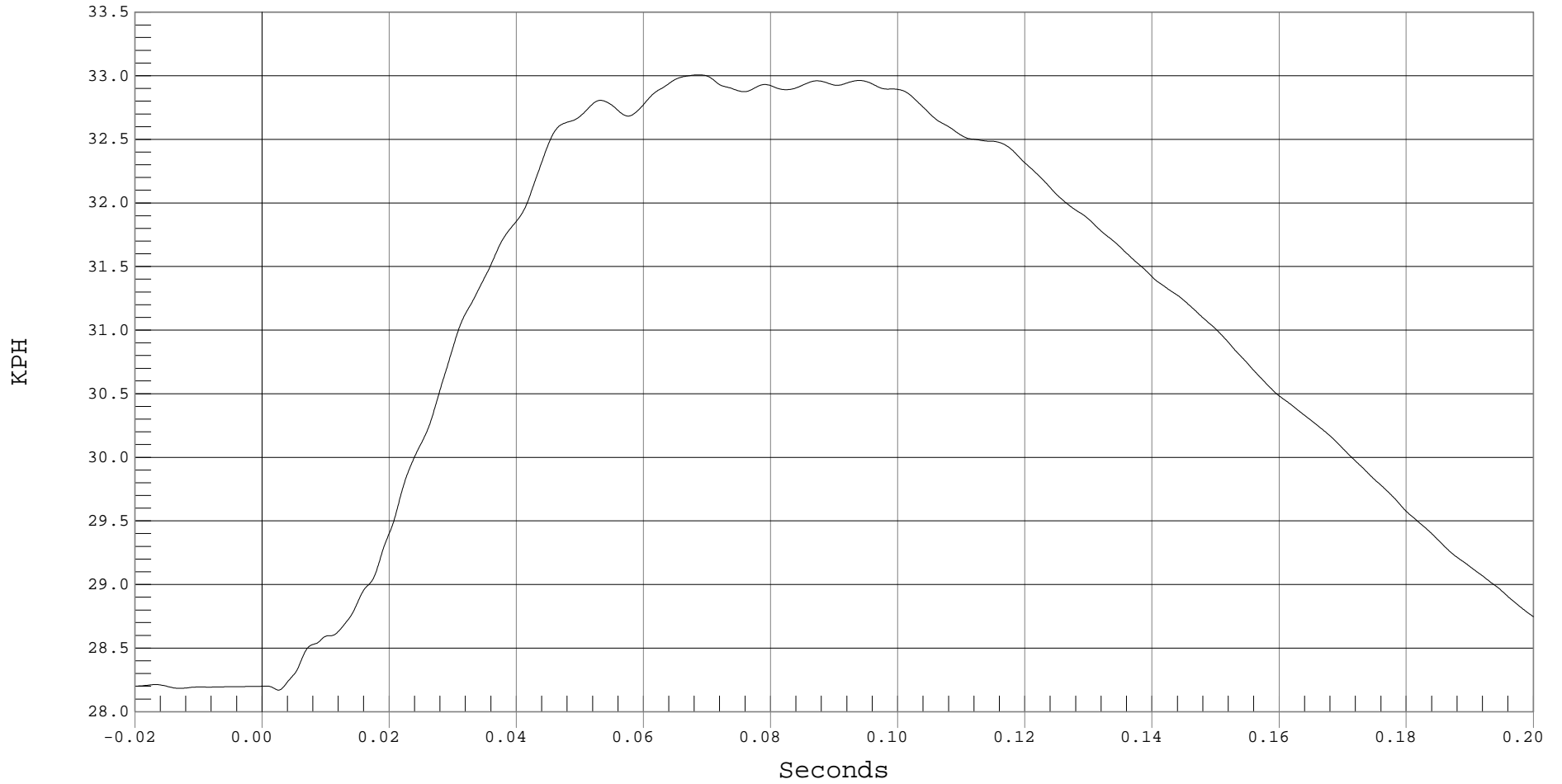
### MOVING BARRIER REAR AXLE Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 MOVING BARRIER REAR AXLE Y VELOCITY, C01009AI.V06

Ymin = 28.17 KPH @ 0.0026 Seconds, Ymax = 33.01 KPH @ 0.0688 Seconds



B-68



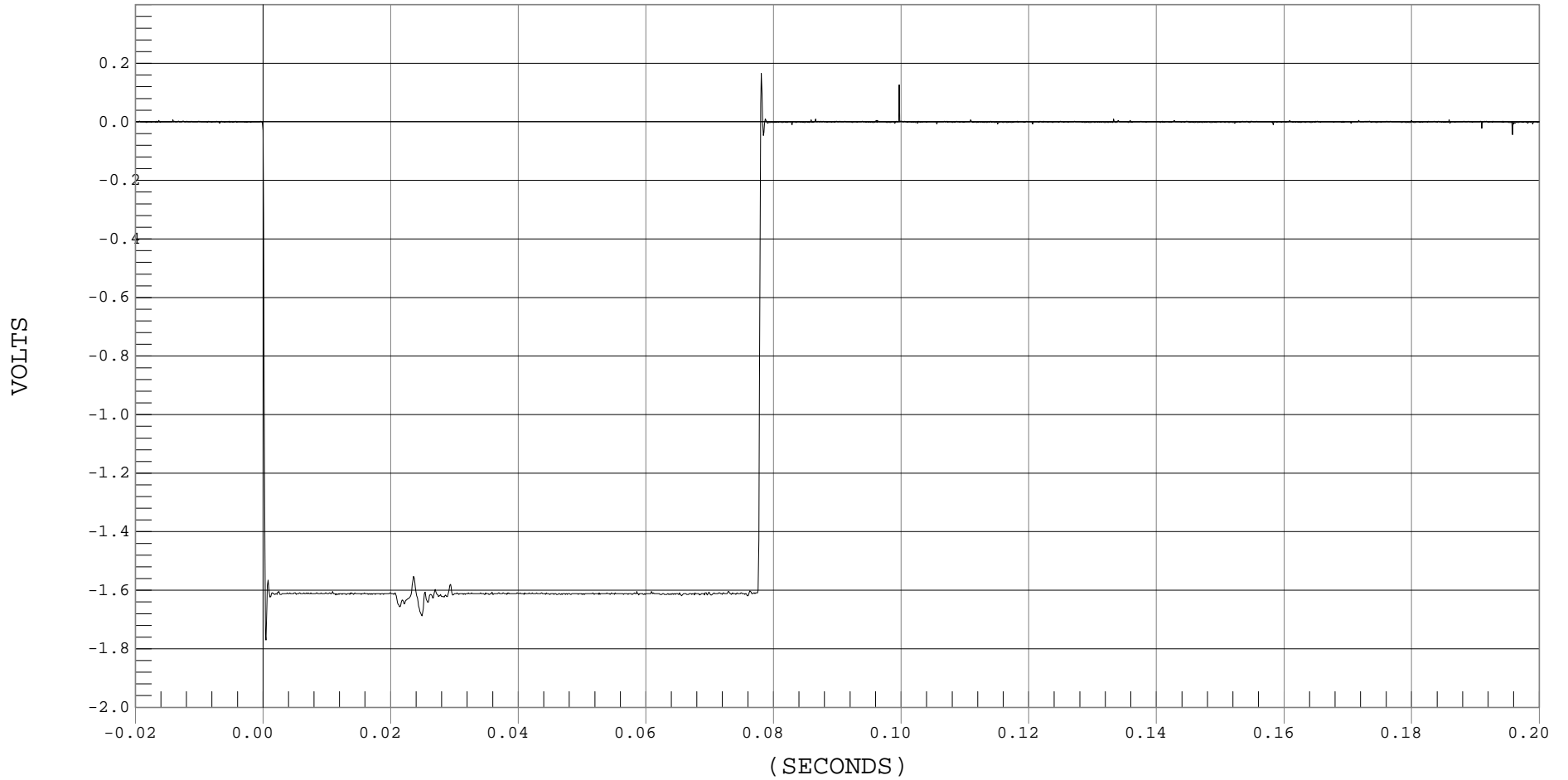
LEFT BARRIER CONTACT

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 LEFT BARRIER CONTACT, C010090T.009

Ymin = -1.77 VOLTS @ 0.0005 SECONDS, Ymax = .17 VOLTS @ 0.0781 SECONDS



B-69



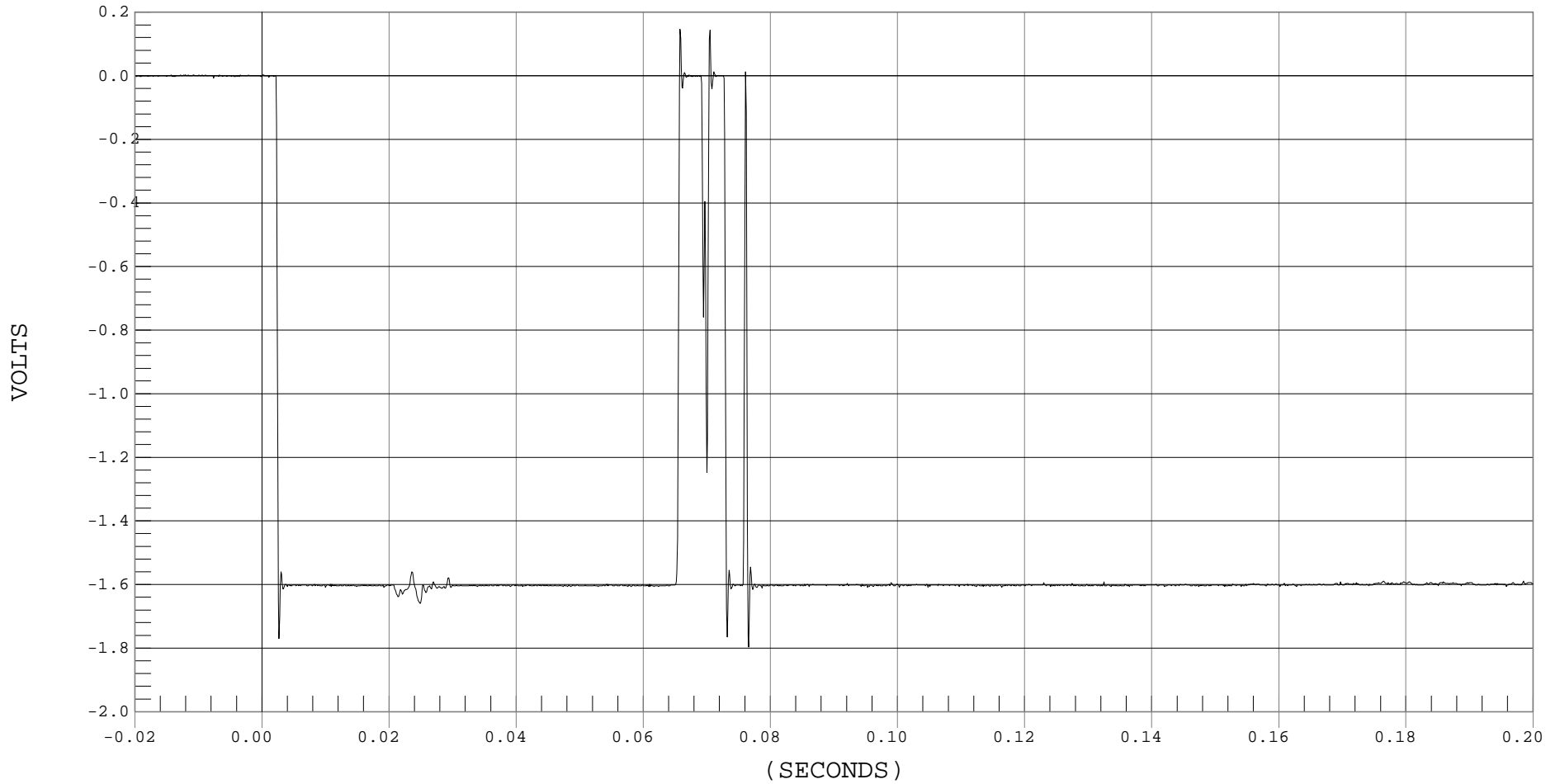
### RIGHT BARRIER CONTACT

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 RIGHT BARRIER CONTACT, C010090T.010

Ymin = -1.8 VOLTS @ 0.0766 SECONDS, Ymax = .15 VOLTS @ 0.0658 SECONDS



B-70



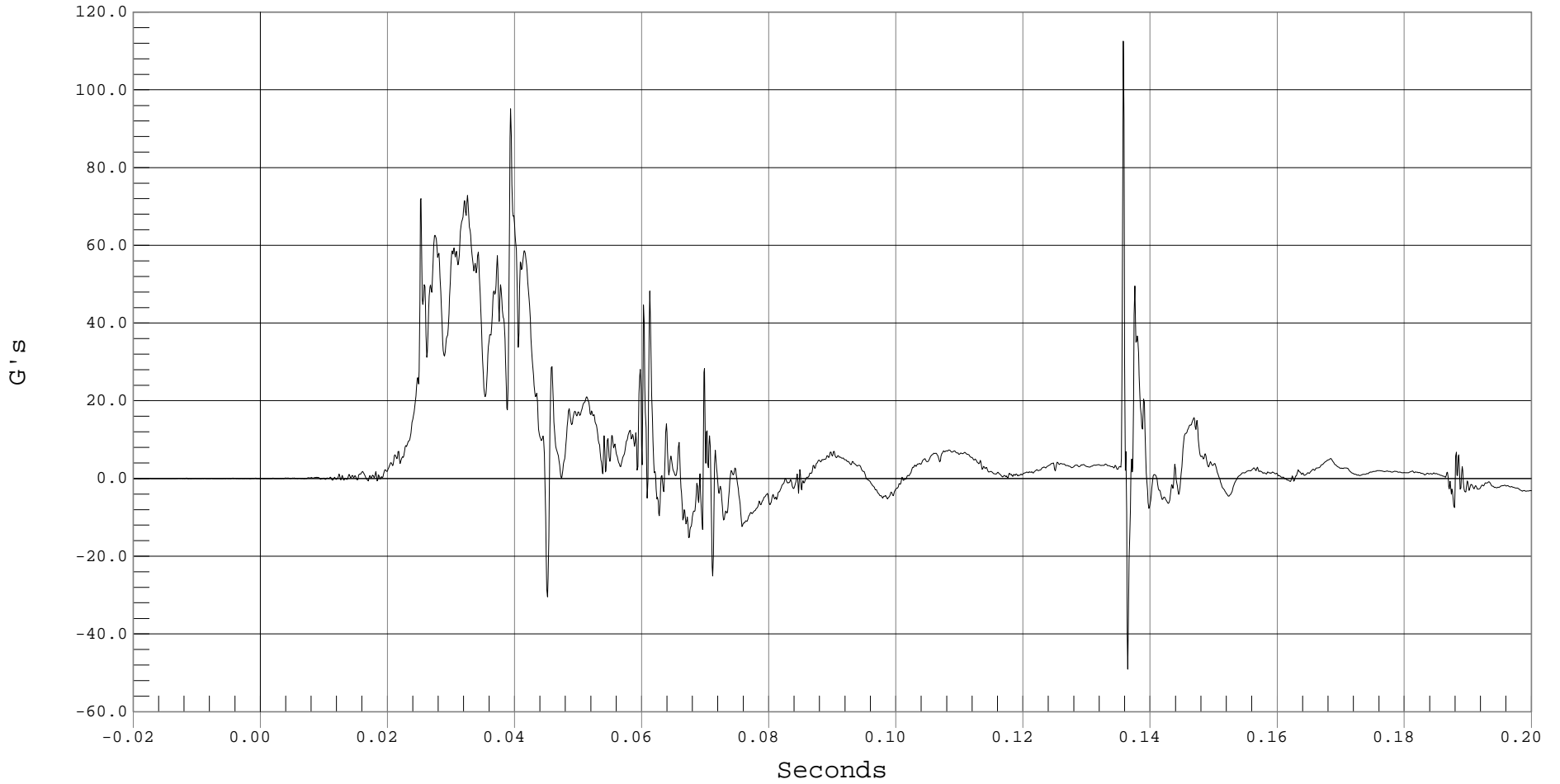
### DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER UPPER RIB Yr, B01009AT.A08

Ymin = -49.11 G's @ 0.1365 Seconds, Ymax = 112.57 G's @ 0.1358 Seconds



B-71



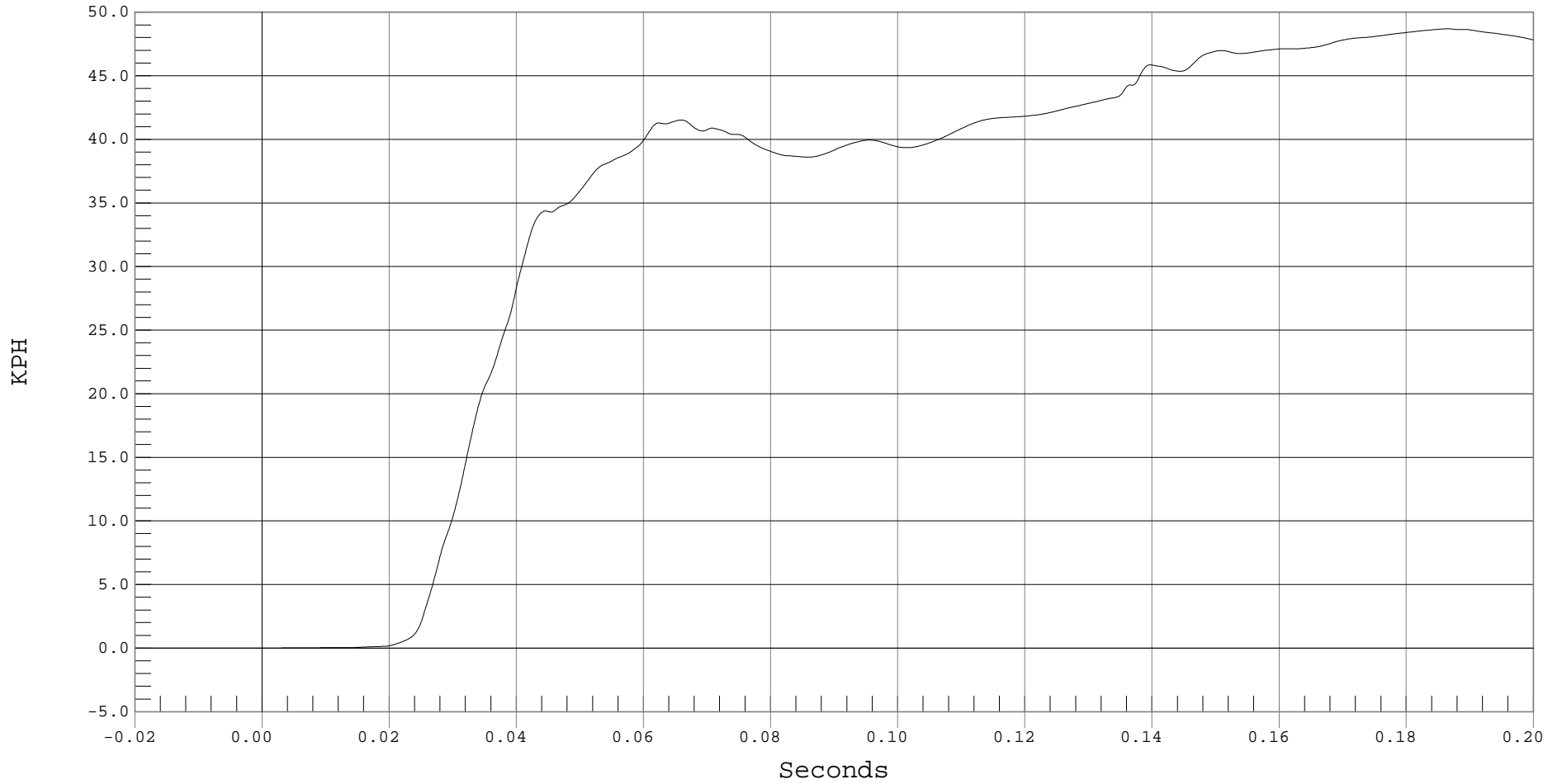
### DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, B01009AI.V08

Ymin = 0 KPH @ -0.0149 Seconds, Ymax = 48.69 KPH @ 0.1865 Seconds



B-72



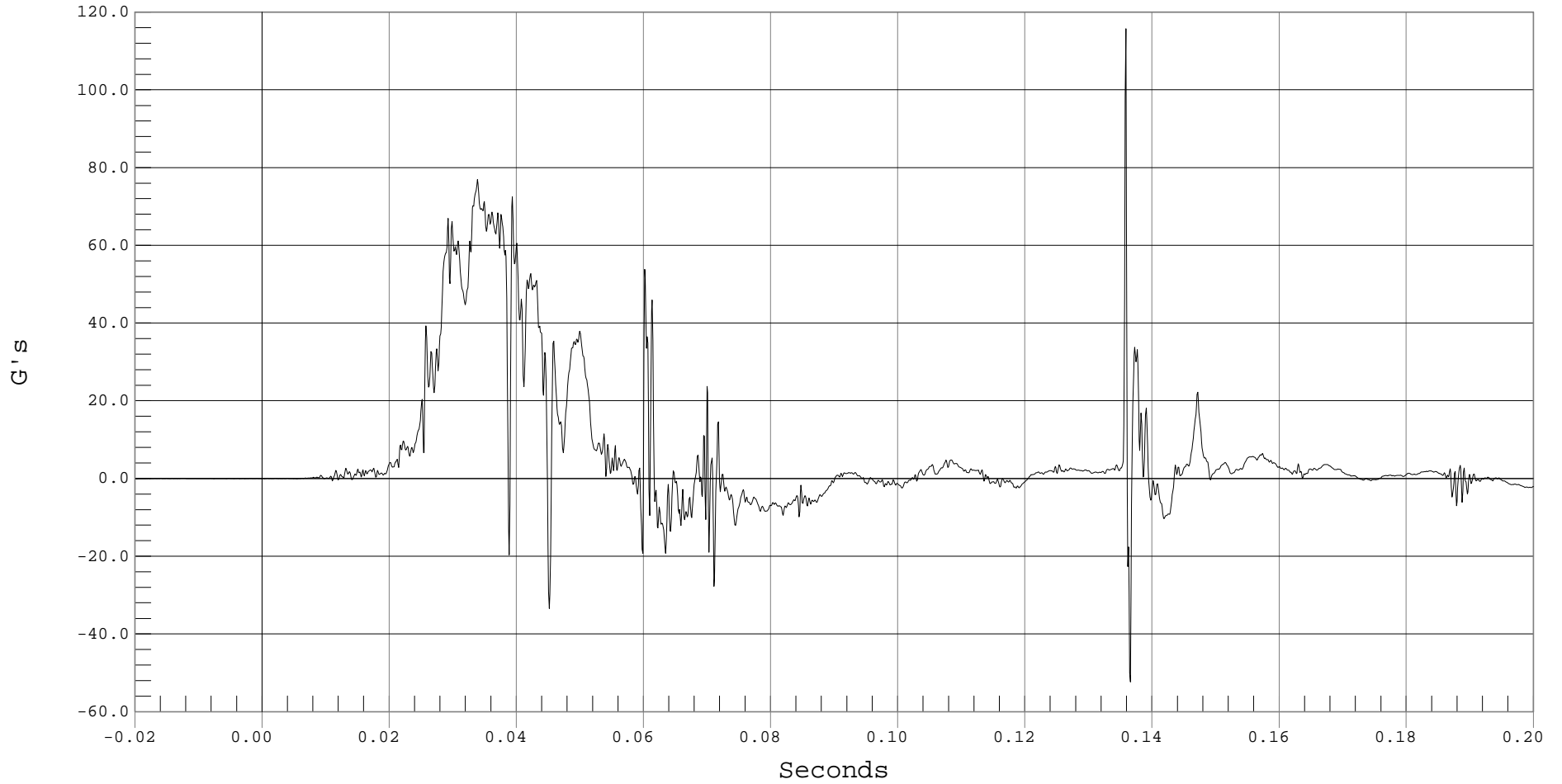
### DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER LOWER RIB Yr, B01009AT.A09

Ymin = -52.32 G's @ 0.1366 Seconds, Ymax = 115.75 G's @ 0.1359 Seconds



B-73



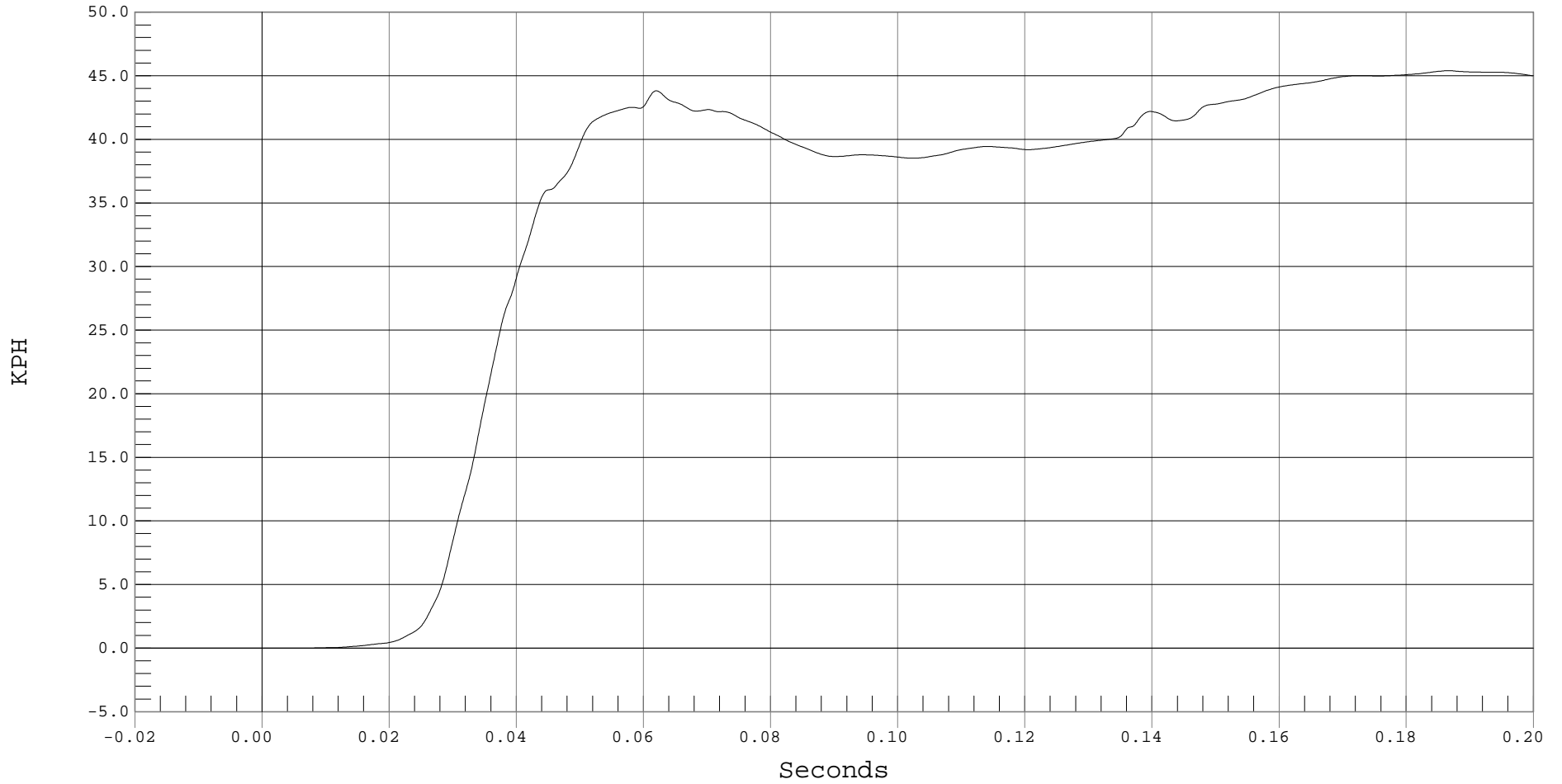
### DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, B01009AI.V09

Ymin = 0 KPH @ -0.0023 Seconds, Ymax = 45.4 KPH @ 0.1867 Seconds



B-74



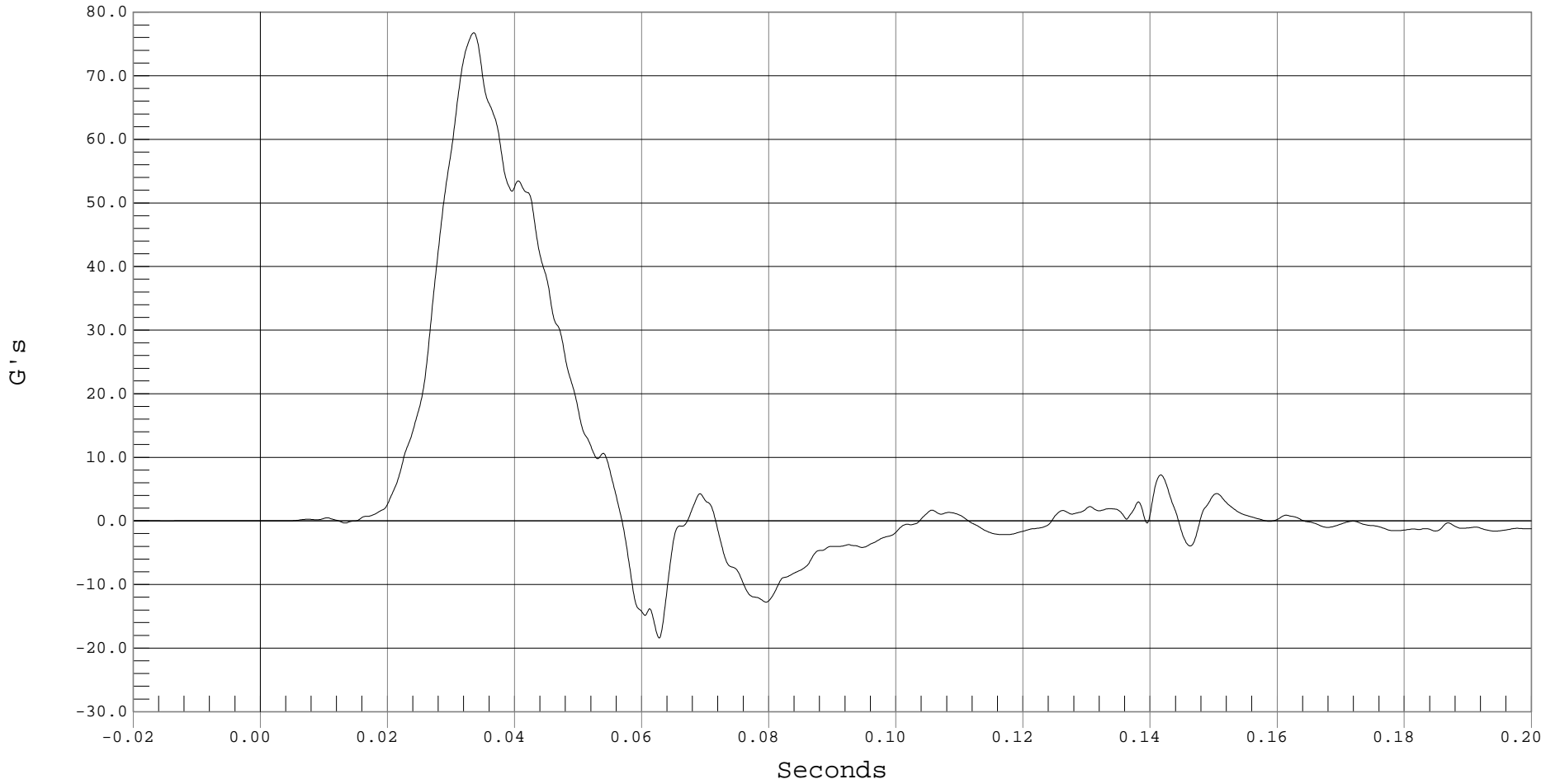
### DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER LOWER SPINE Yr, B01009AF.A10

Ymin = -18.42 G's @ 0.0628 Seconds, Ymax = 76.77 G's @ 0.0336 Seconds



B-75



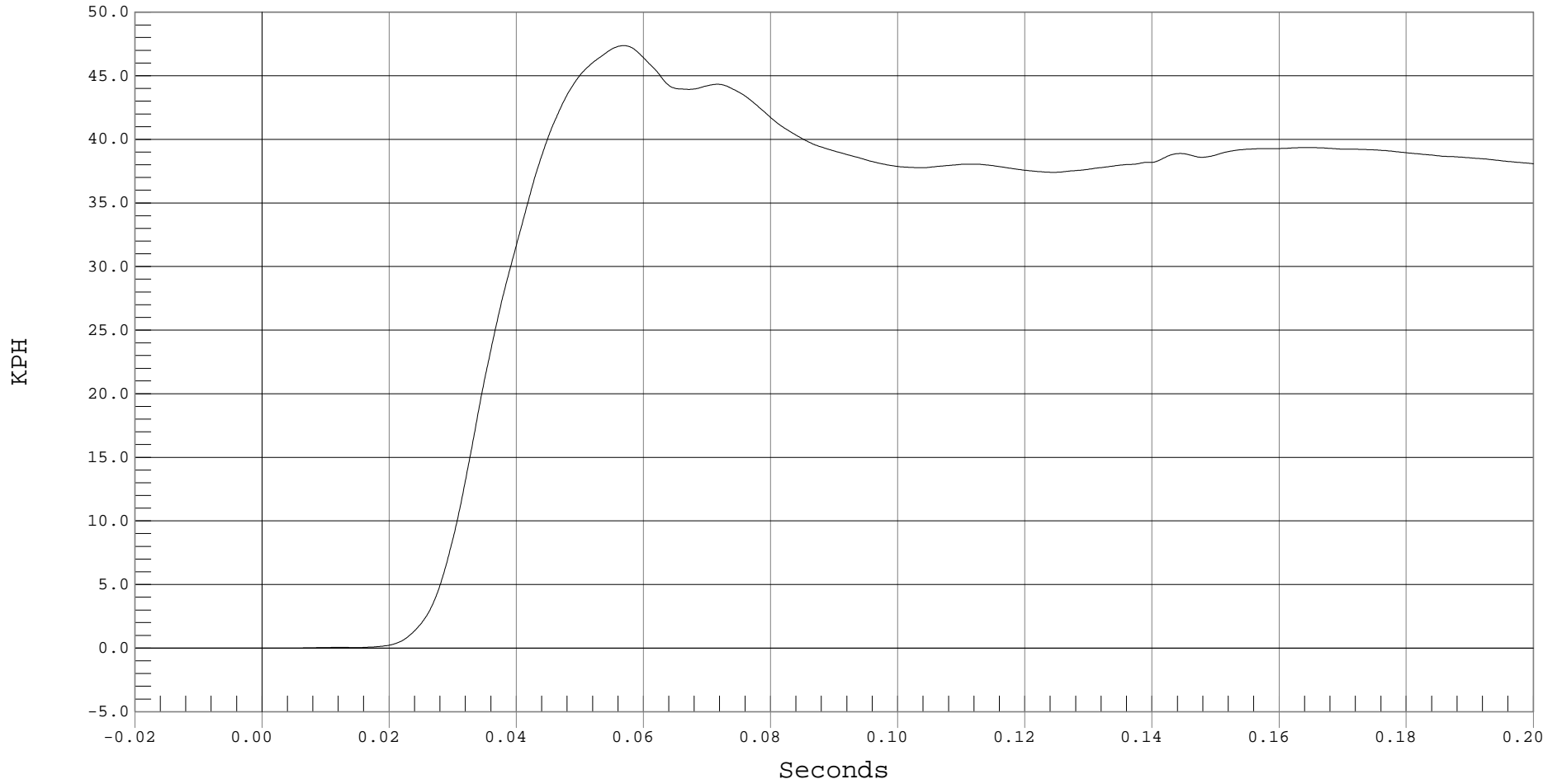
### DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, B01009AI.V10

Ymin = 0 KPH @ -0.0108 Seconds, Ymax = 47.37 KPH @ 0.0569 Seconds



B-76



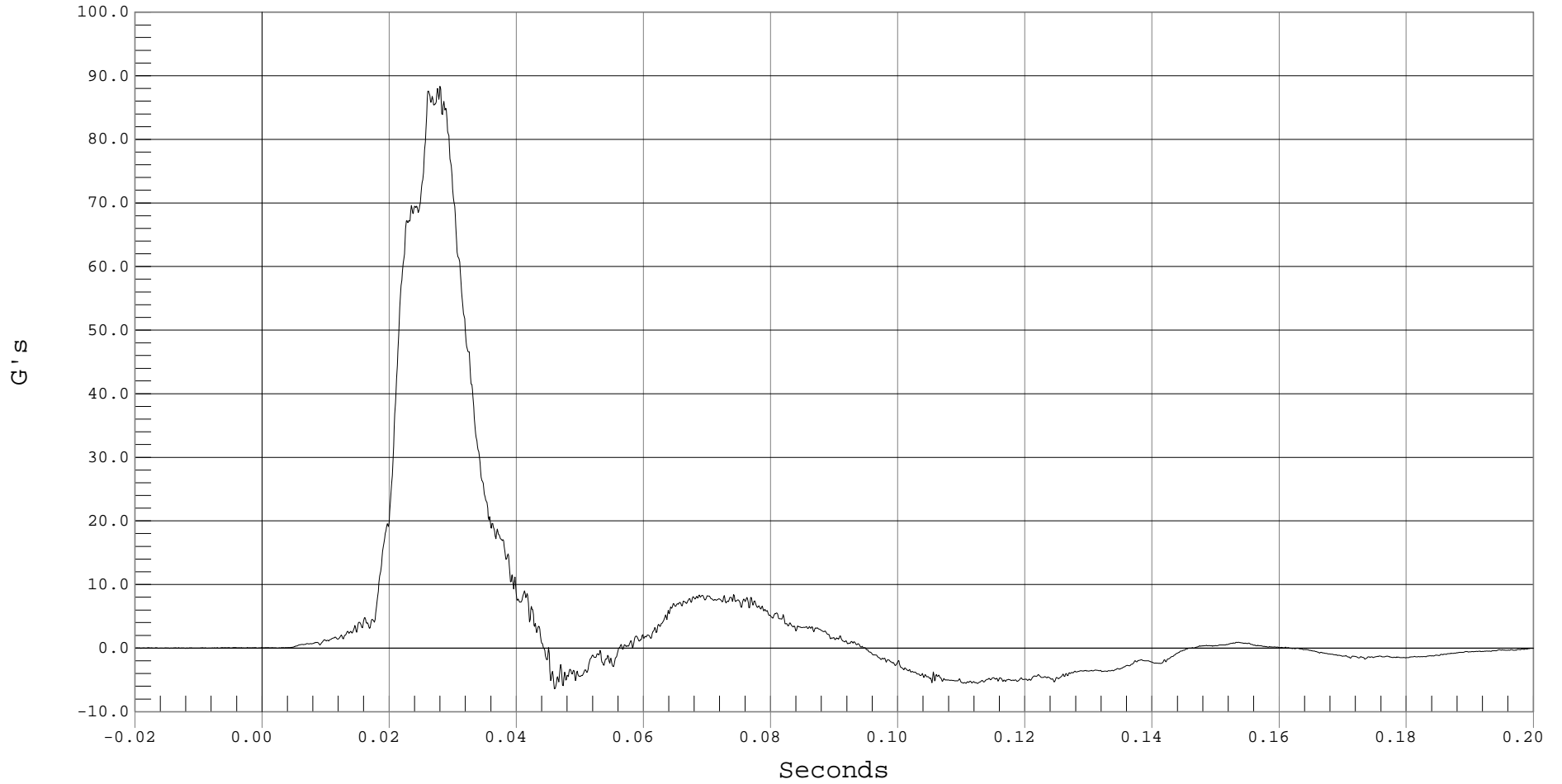
### DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 1000

— 1 DRIVER PELVIS Yr, B01009AT.A11

Ymin = -6.39 G's @ 0.0460 Seconds, Ymax = 88.32 G's @ 0.0280 Seconds



B-77



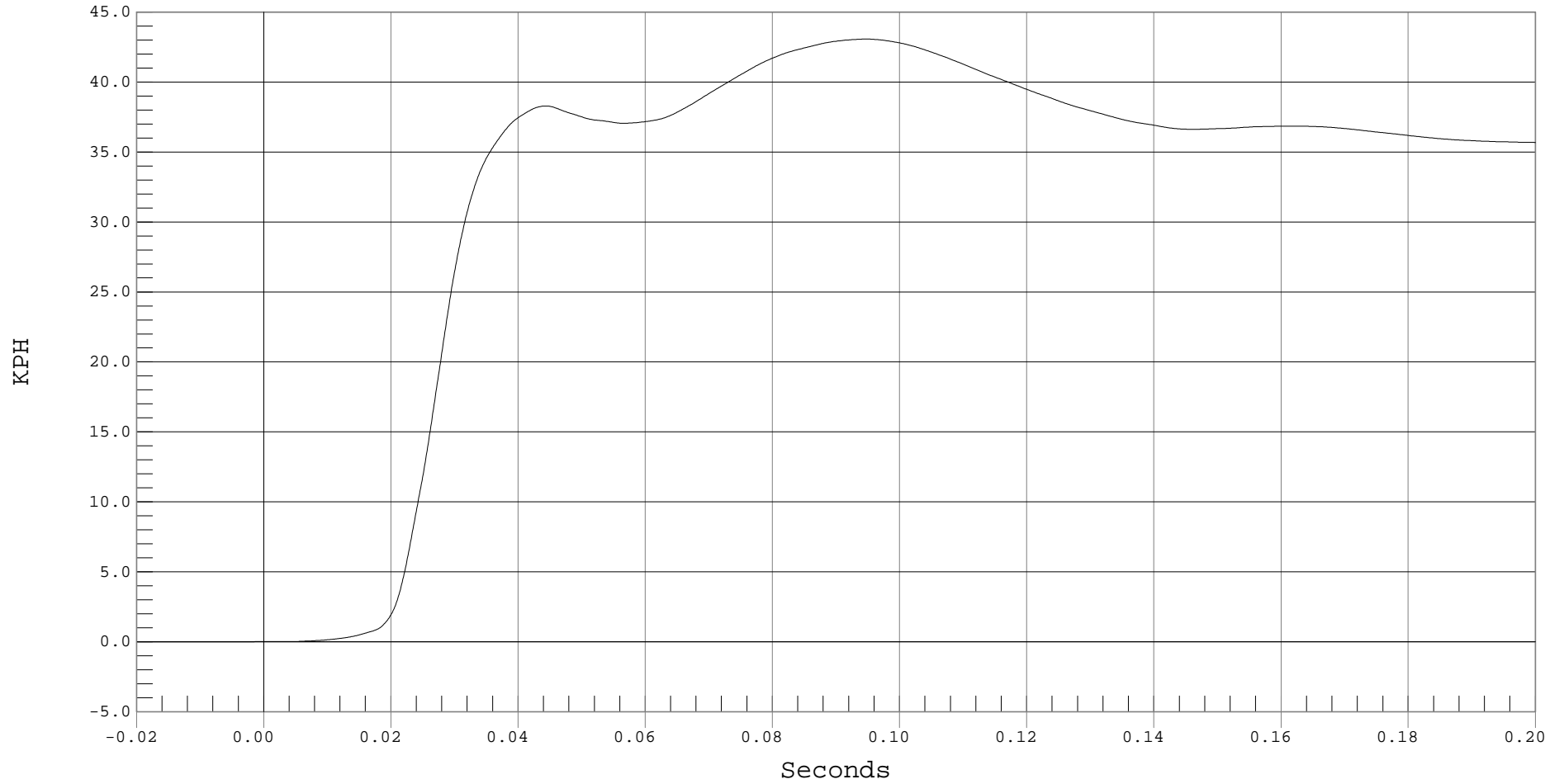
### DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Filter Class: 180

— 1 DRIVER PELVIS Y REDUNDANT VELOCITY, B01009AI.V11

Ymin = 0 KPH @ -0.0198 Seconds, Ymax = 43.08 KPH @ 0.0948 Seconds



B-78



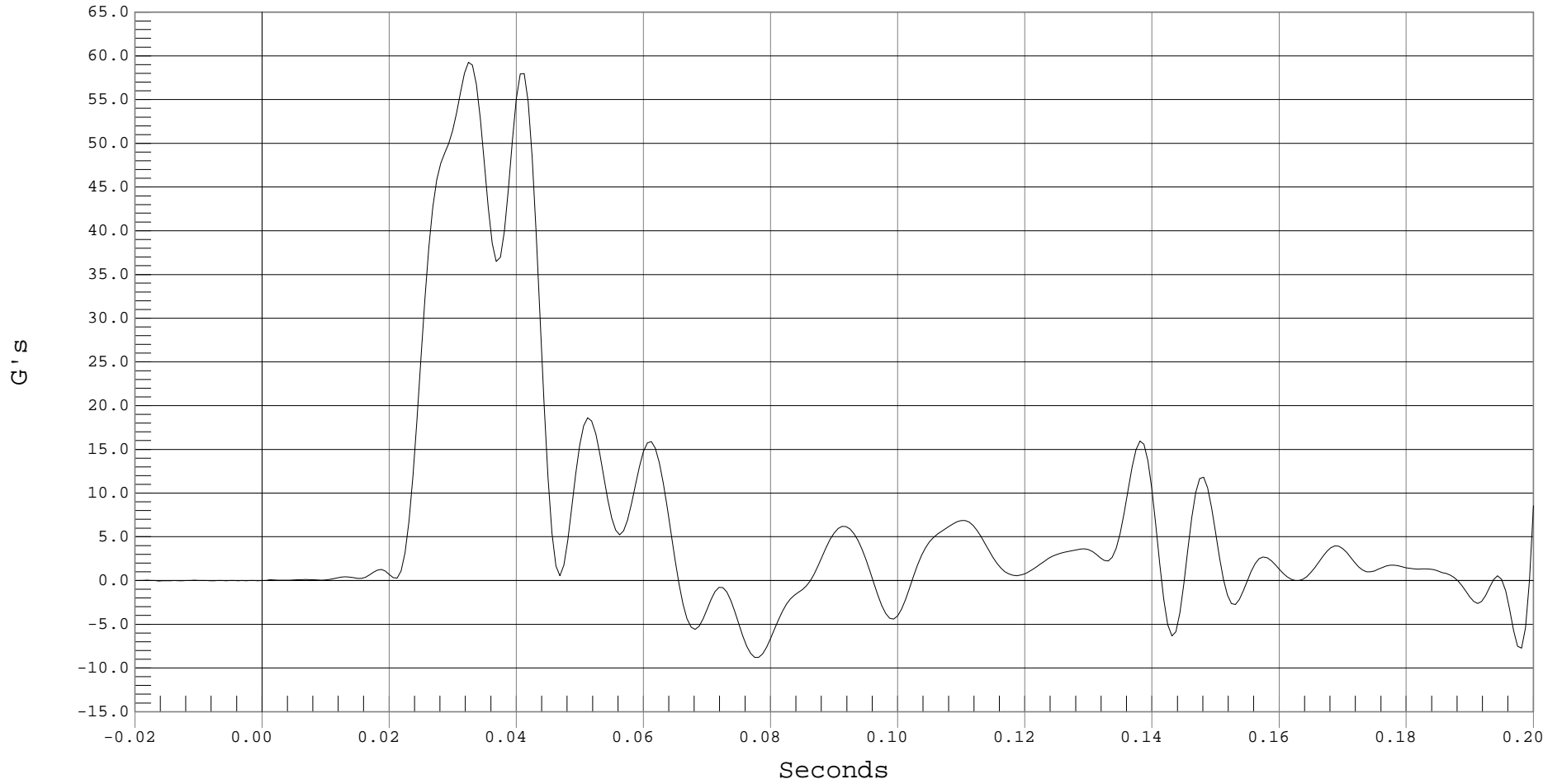
### DRIVER UPPER RIB Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER UPPER RIB Y, B01009FI.R04

Ymin = -8.79 G's @ 0.0781 Seconds, Ymax = 59.27 G's @ 0.0325 Seconds



B-79



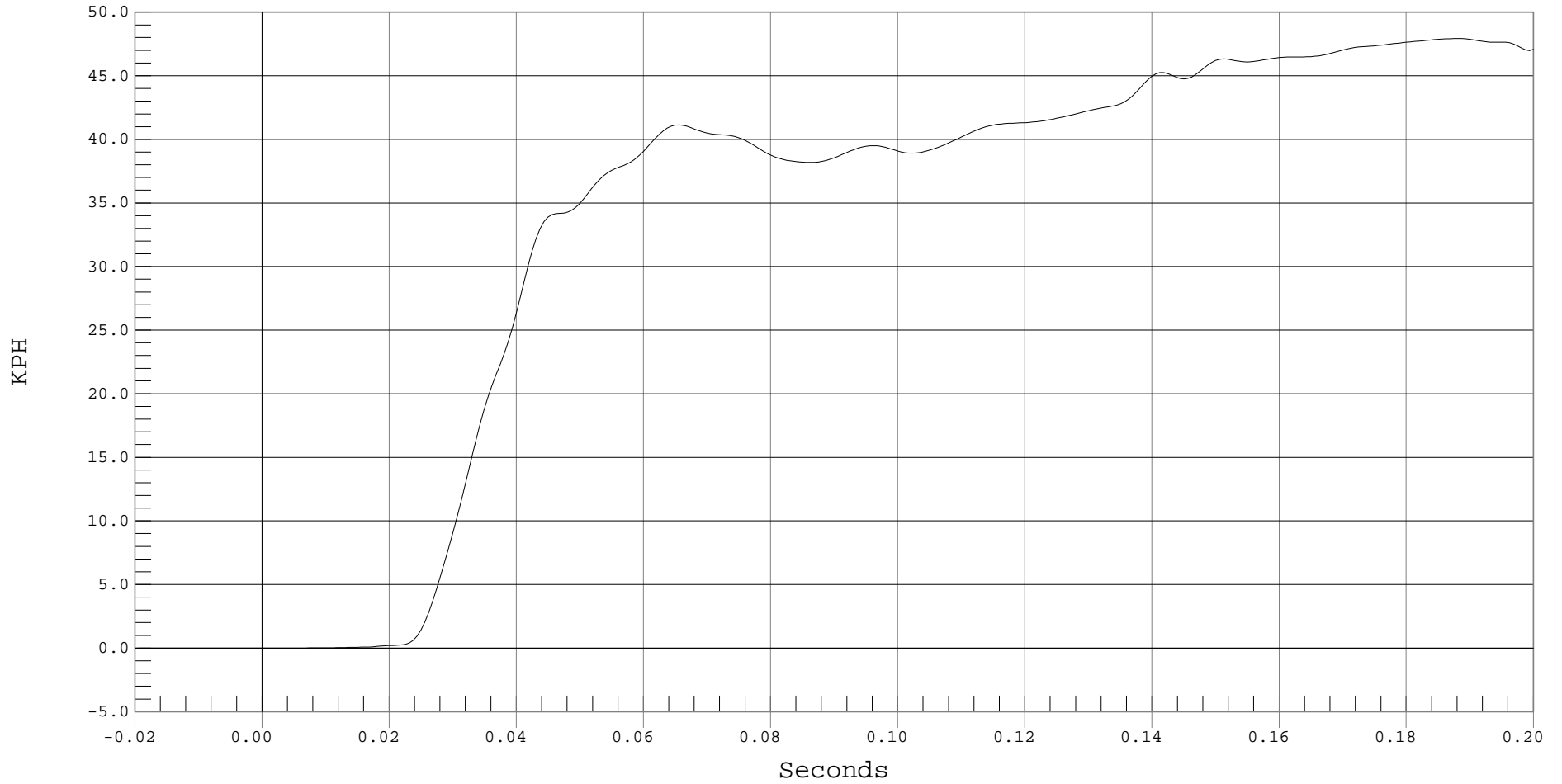
### DRIVER UPPER RIB Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER UPPER RIB Y VELOCITY, B01009FI.V04

Ymin = 0 KPH @ 0.0006 Seconds, Ymax = 47.93 KPH @ 0.1881 Seconds



B-80



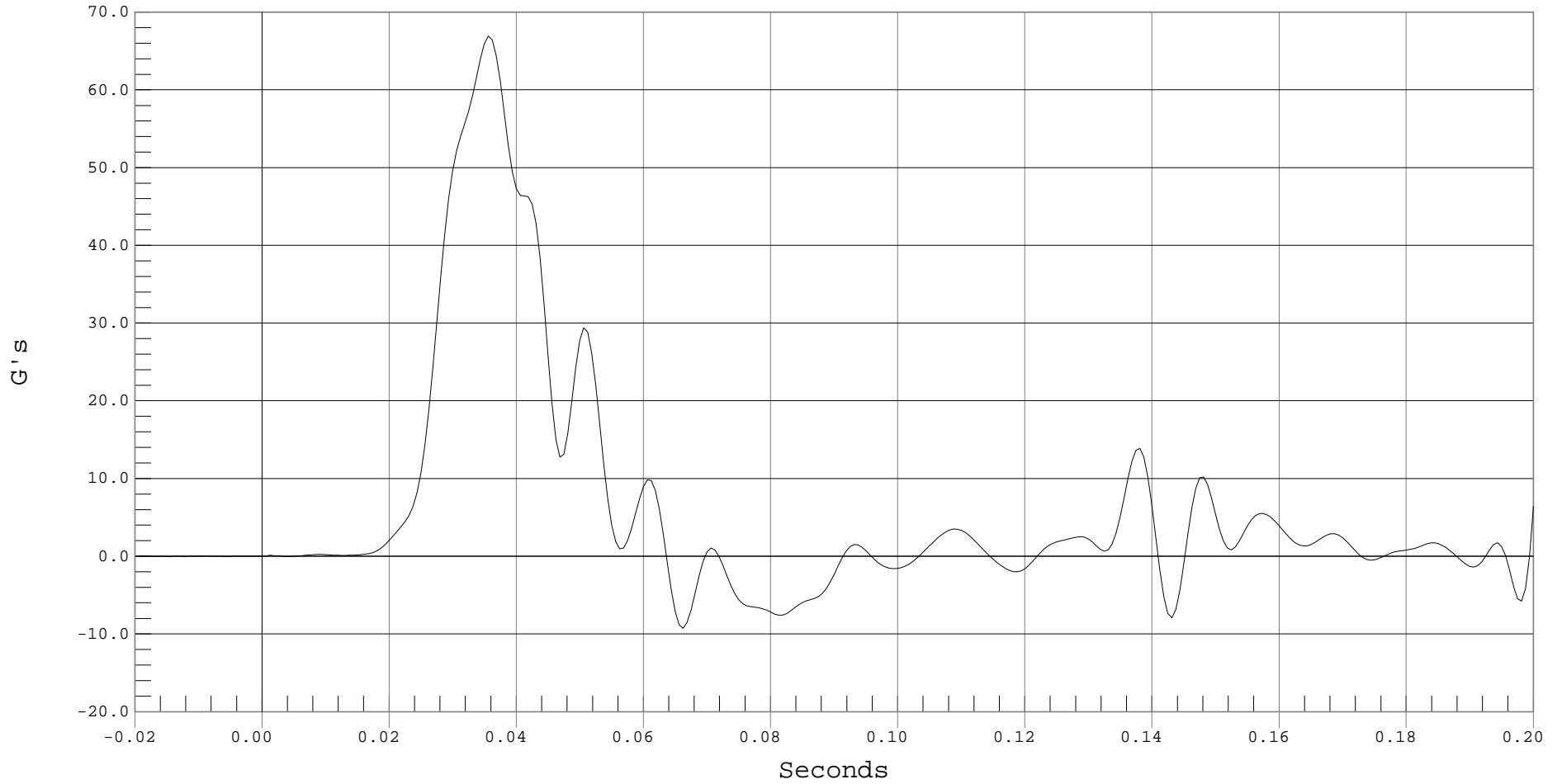
### DRIVER LOWER RIB Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER RIB Y, B01009FI.R05

Ymin = -9.27 G's @ 0.0663 Seconds, Ymax = 66.92 G's @ 0.0356 Seconds



B-81



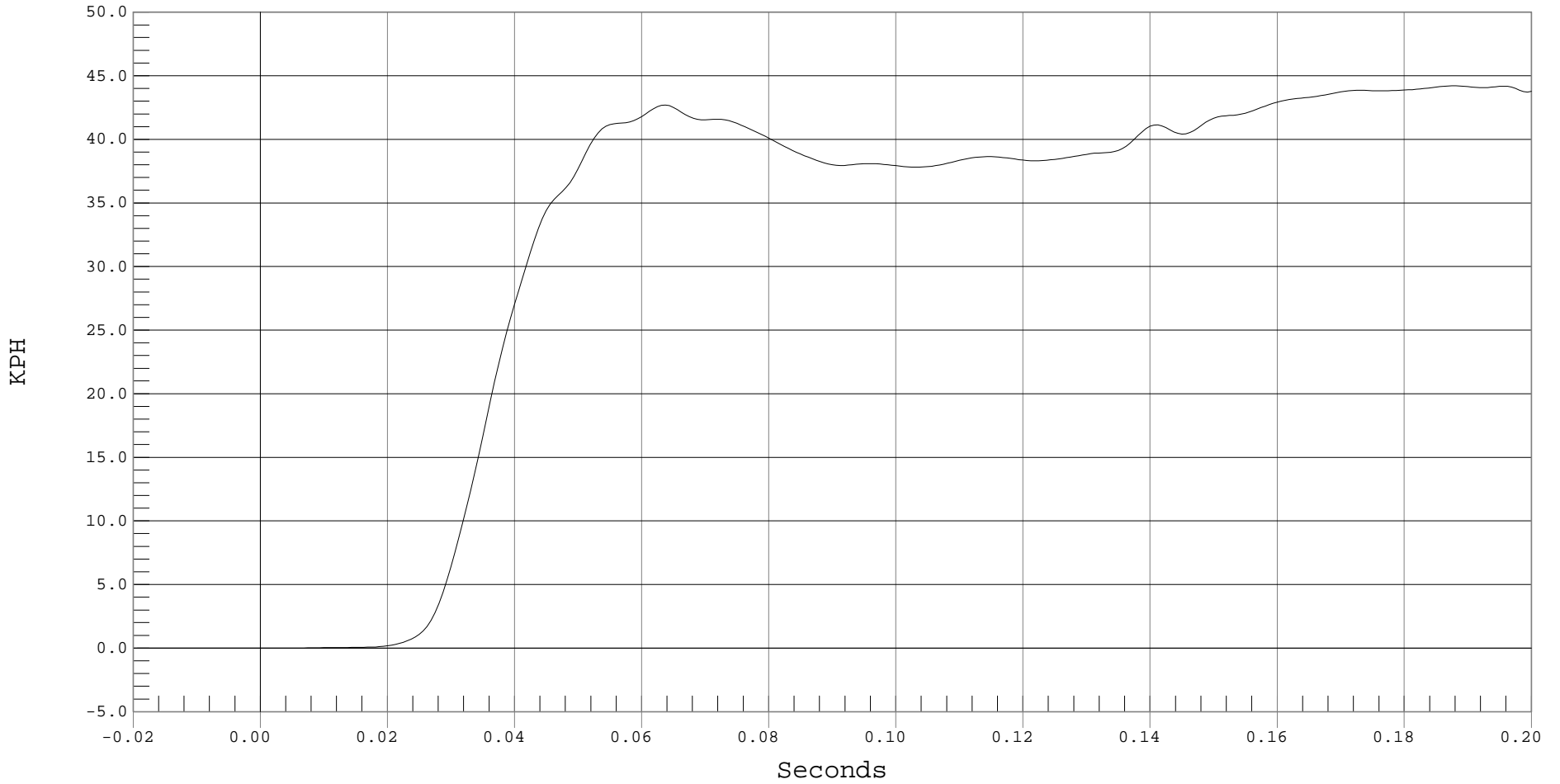
### DRIVER LOWER RIB Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER RIB Y VELOCITY, B01009FI.V05

Ymin = 0 KPH @ -0.0119 Seconds, Ymax = 44.2 KPH @ 0.1881 Seconds



B-82



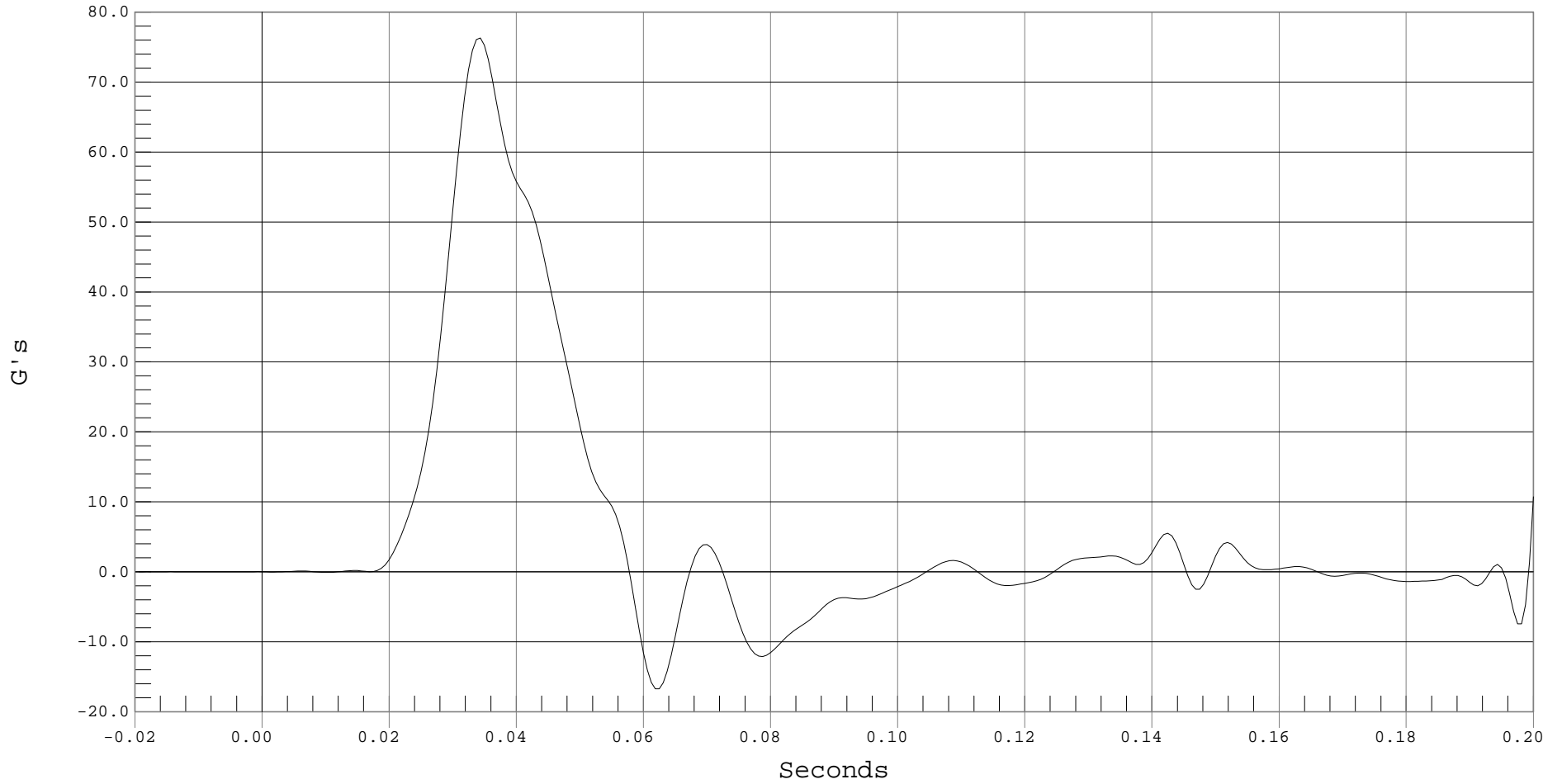
### DRIVER LOWER SPINE Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER SPINE Y, B01009FI.R06

Ymin = -16.74 G's @ 0.0625 Seconds, Ymax = 76.31 G's @ 0.0344 Seconds



B-83



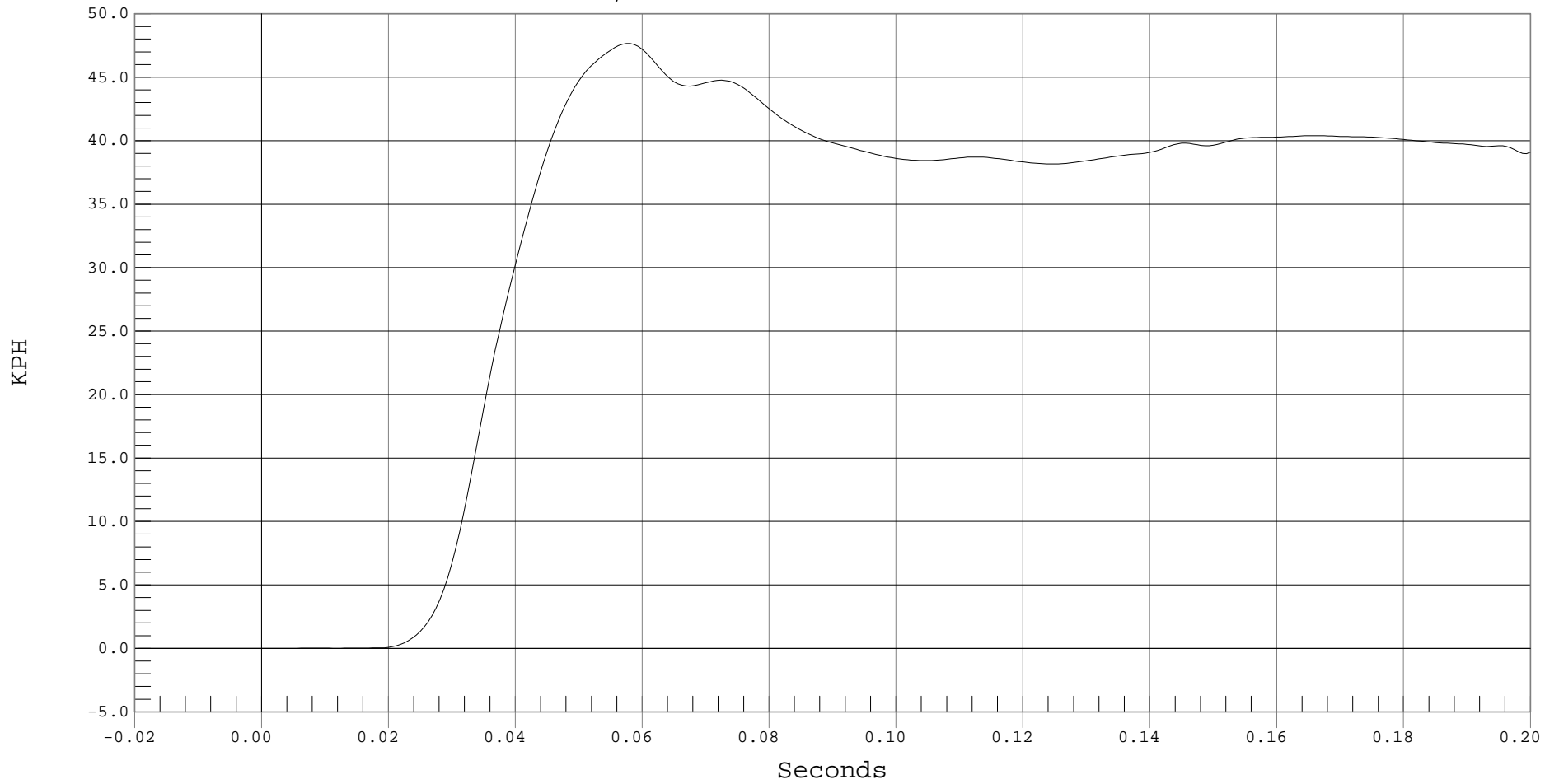
### DRIVER LOWER SPINE Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER SPINE Y VELOCITY, B01009FI.V06

Ymin = 0 KPH @ -0.0194 Seconds, Ymax = 47.66 KPH @ 0.0575 Seconds



B-84



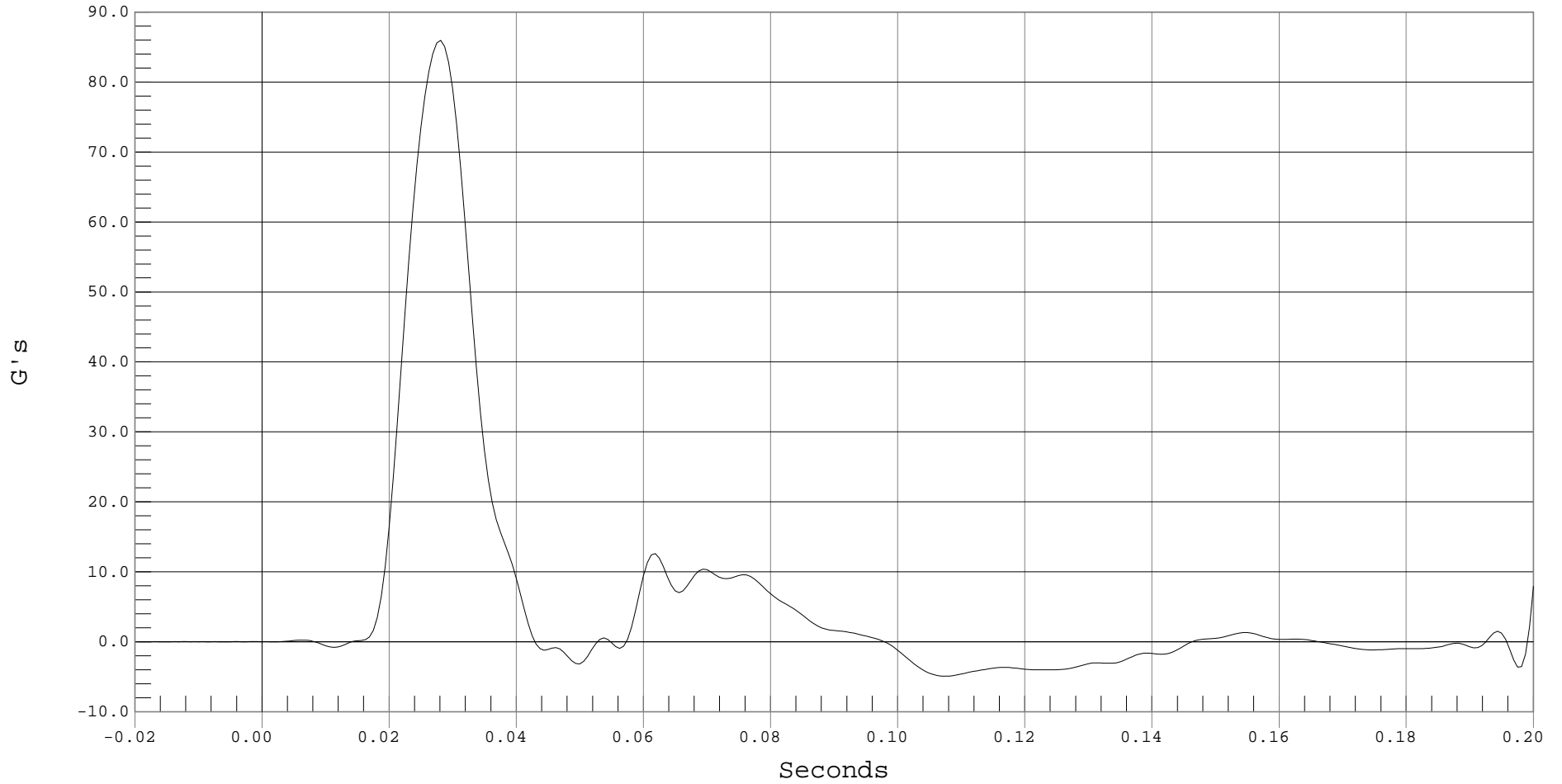
### DRIVER PELVIS Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER PELVIS Y, B01009FI.R07

Ymin = -4.93 G's @ 0.1075 Seconds, Ymax = 85.97 G's @ 0.0281 Seconds



B-85



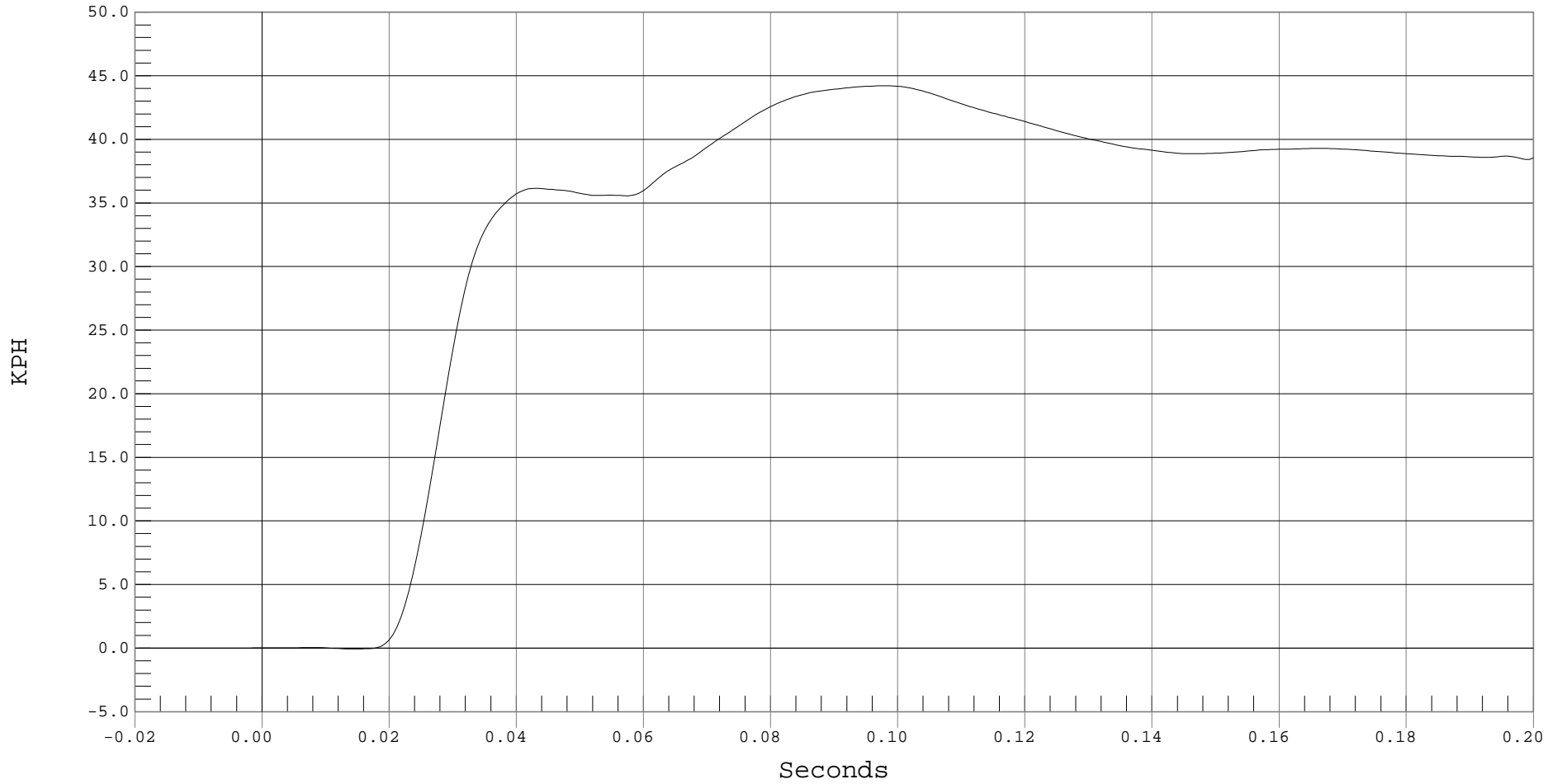
### DRIVER PELVIS Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER PELVIS Y VELOCITY, B01009FI.V07

Ymin = -.06 KPH @ 0.0144 Seconds, Ymax = 44.21 KPH @ 0.0981 Seconds



B-86



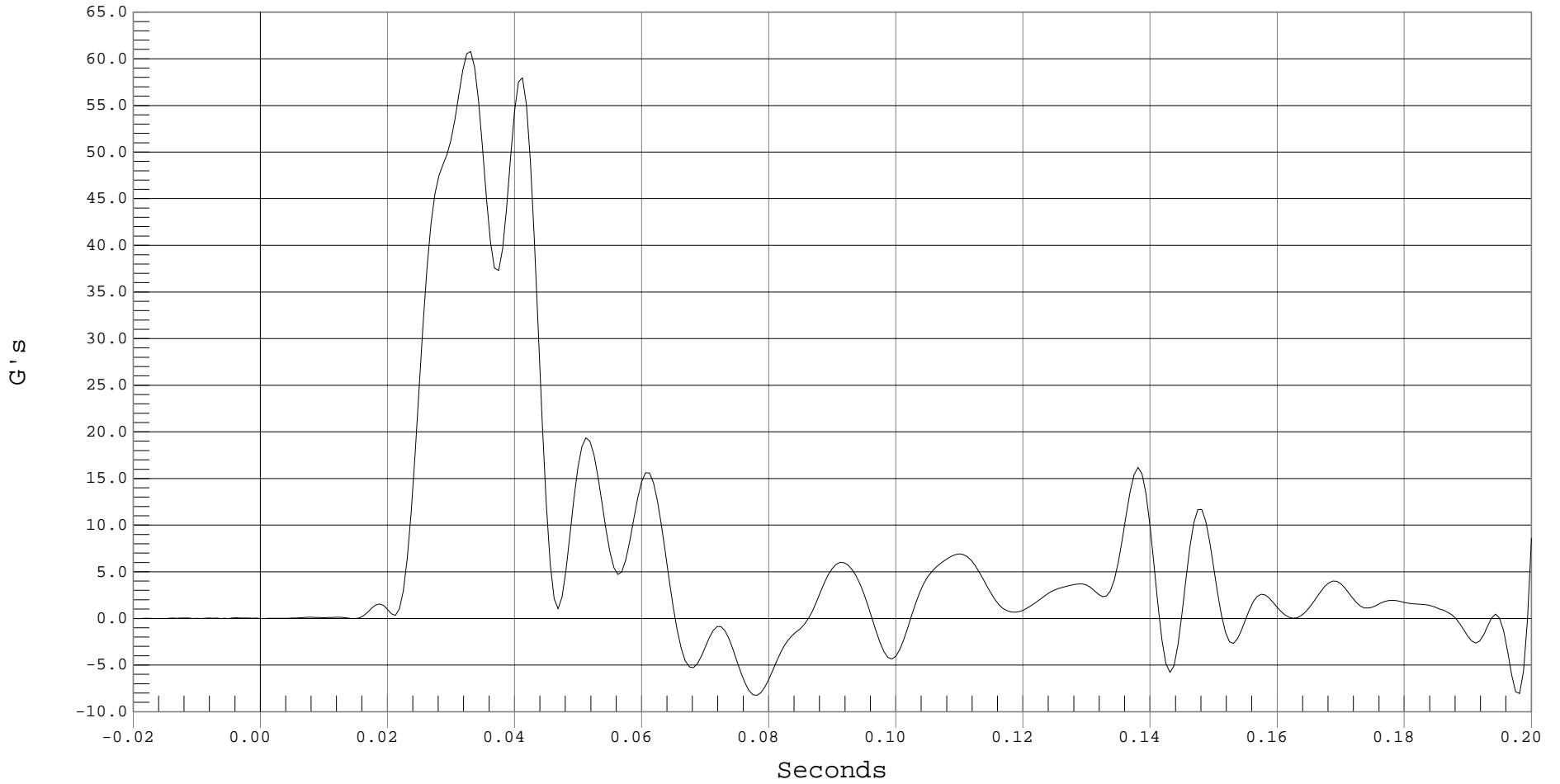
DRIVER UPPER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER UPPER RIB Yr, B01009FI.R08

Ymin = -8.25 G's @ 0.0781 Seconds, Ymax = 60.8 G's @ 0.0331 Seconds



B-87



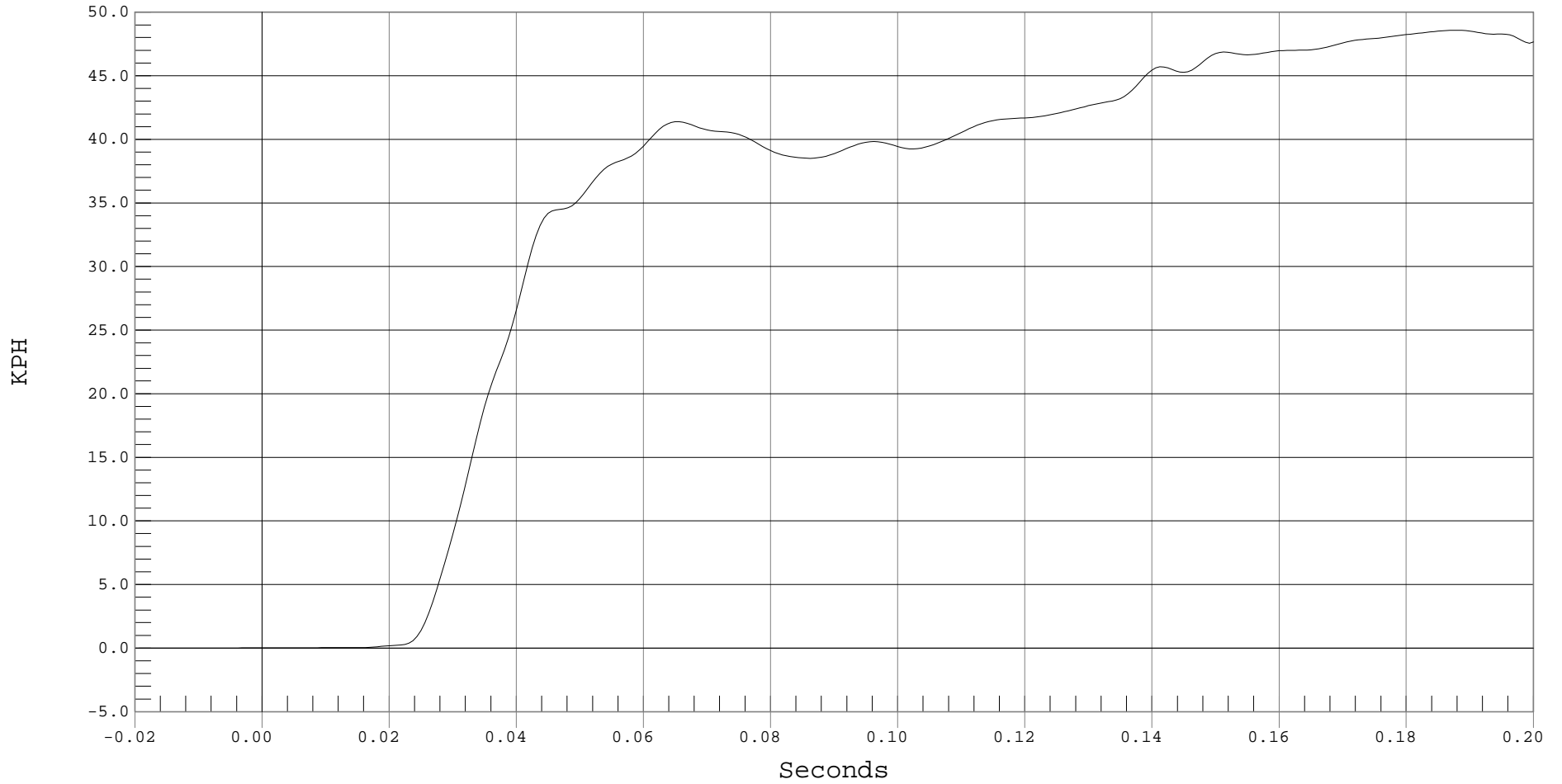
### DRIVER UPPER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER UPPER RIB Y REDUNDANT VELOCITY, B01009FI.V08

Ymin = 0 KPH @ -0.0150 Seconds, Ymax = 48.58 KPH @ 0.1881 Seconds





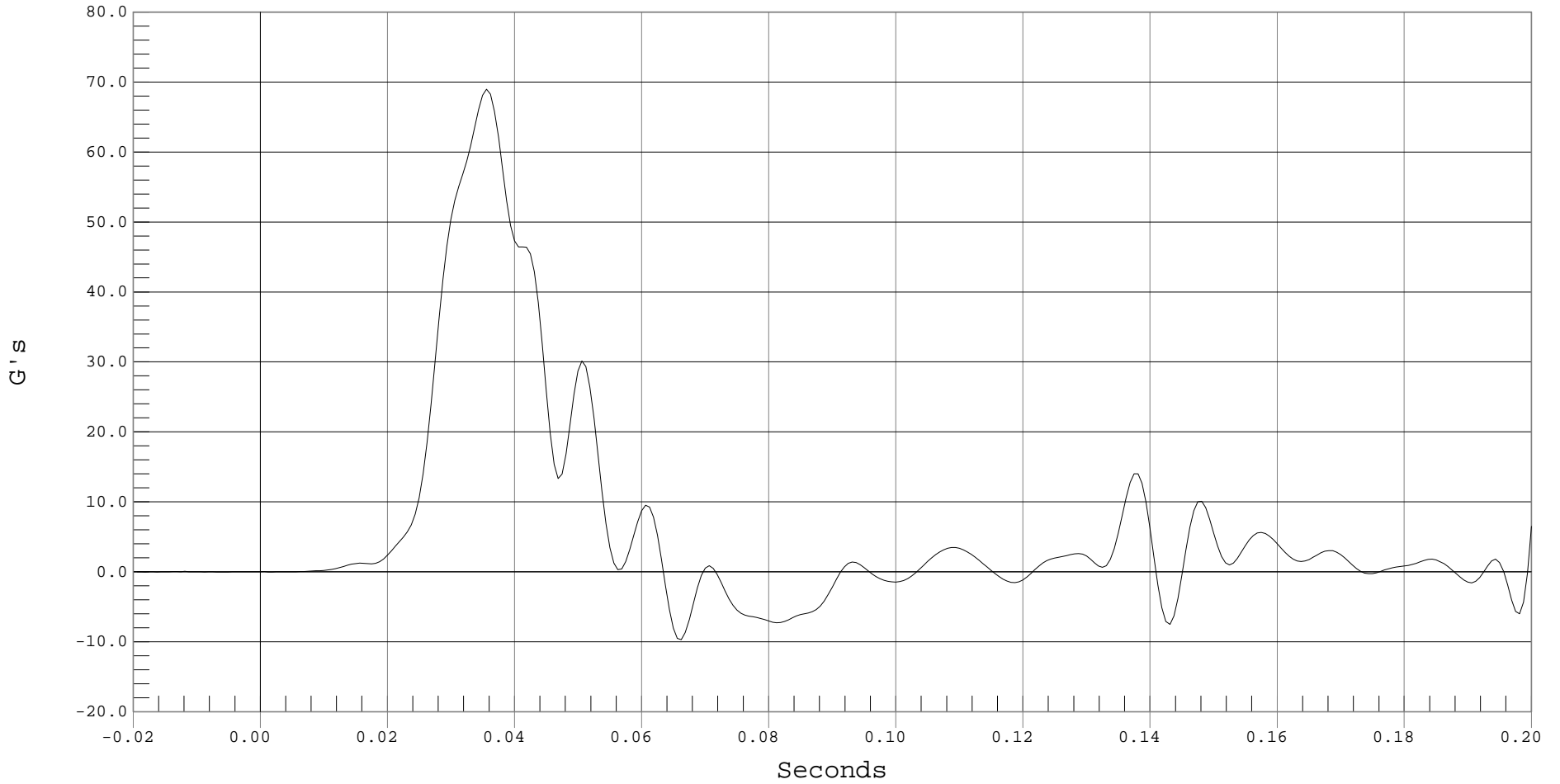
### DRIVER LOWER RIB REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER RIB Yr, B01009FI.R09

Ymin = -9.7 G's @ 0.0663 Seconds, Ymax = 68.98 G's @ 0.0356 Seconds



B-89



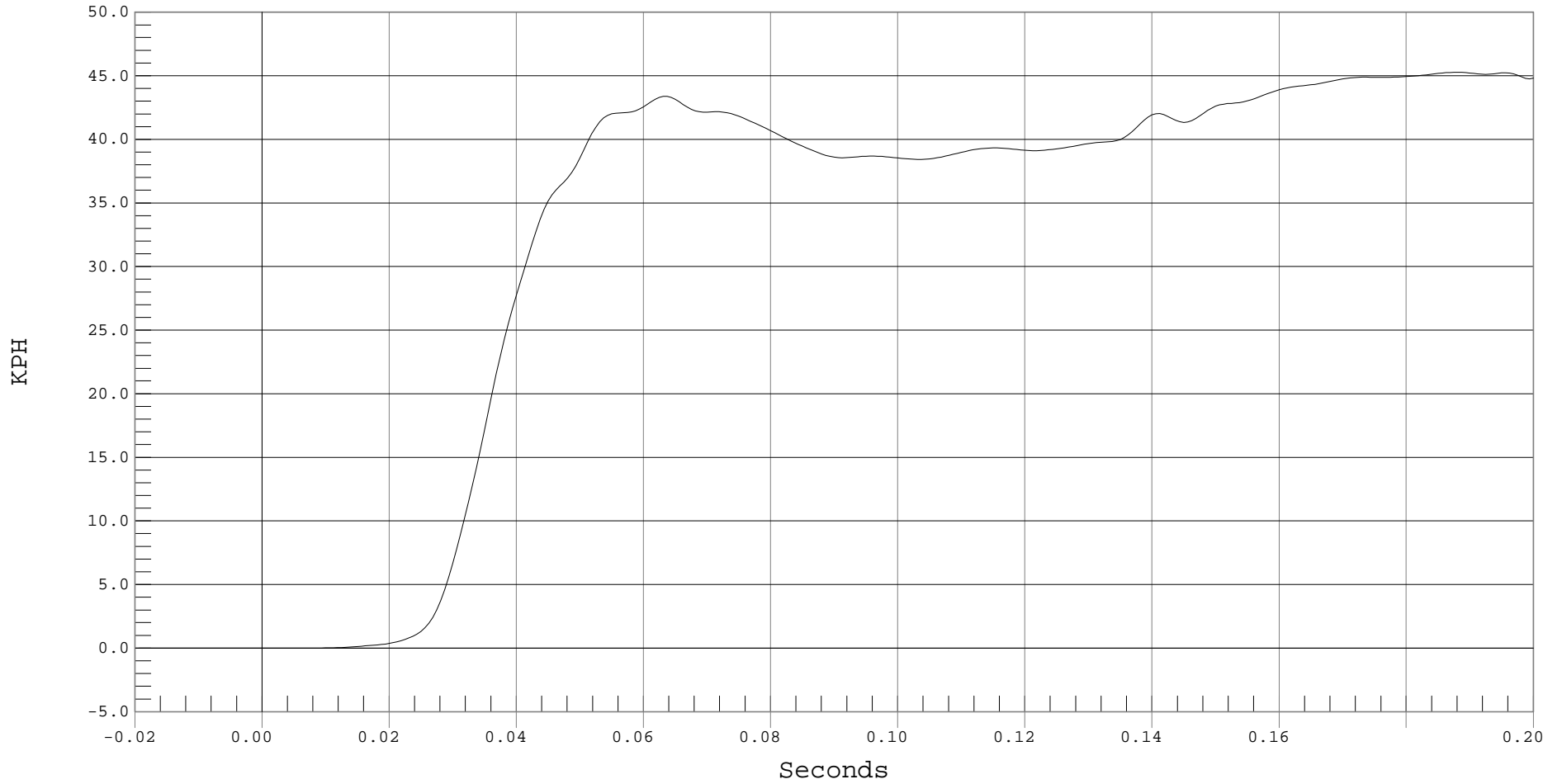
### DRIVER LOWER RIB REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER RIB Y REDUNDANT VELOCITY, B01009FI.V09

Ymin = -.01 KPH @ 0.0050 Seconds, Ymax = 45.27 KPH @ 0.1881 Seconds



B-90



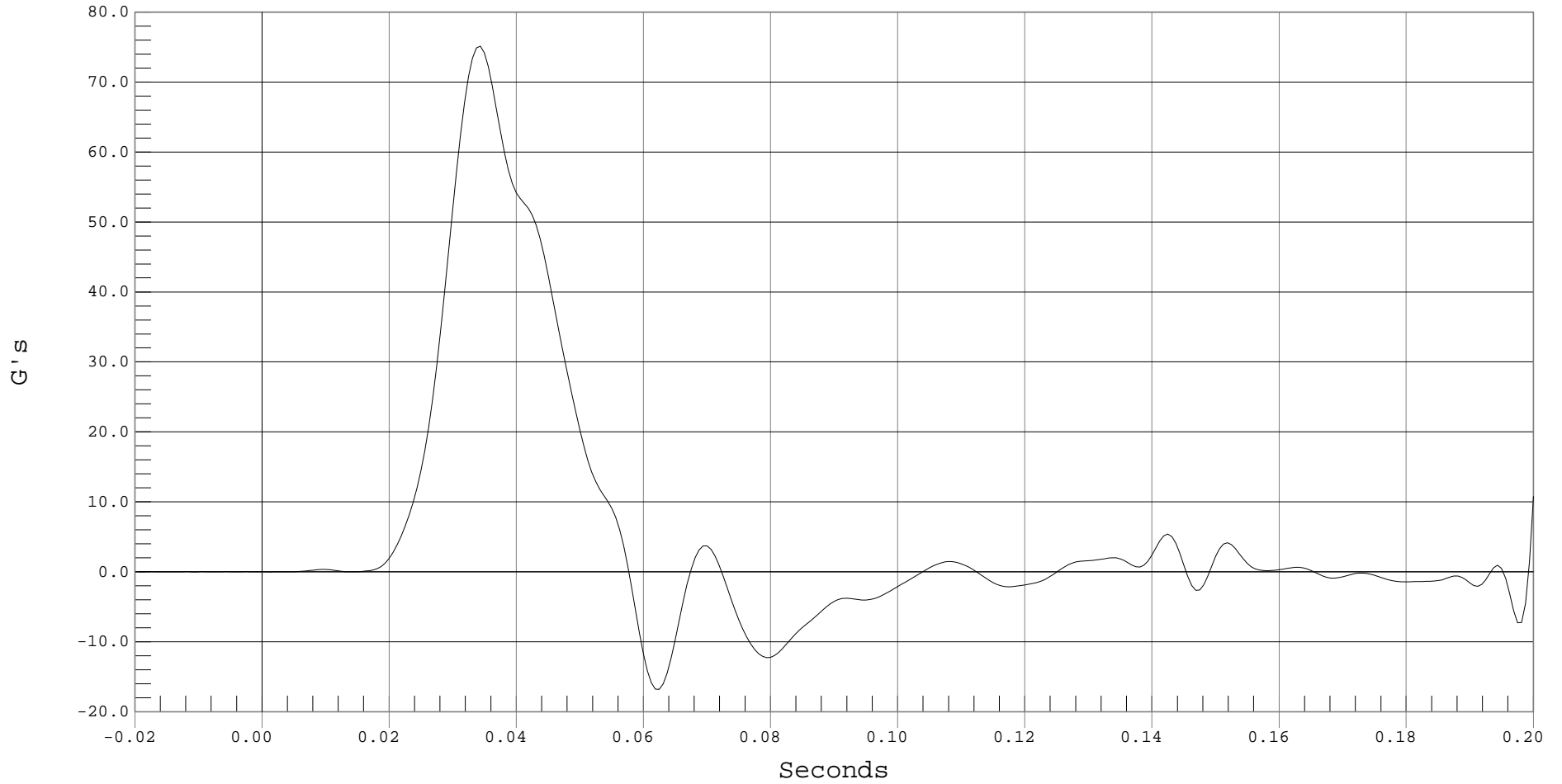
### DRIVER LOWER SPINE REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER SPINE Yr, B01009FI.R10

Ymin = -16.82 G's @ 0.0625 Seconds, Ymax = 75.14 G's @ 0.0344 Seconds



B-91



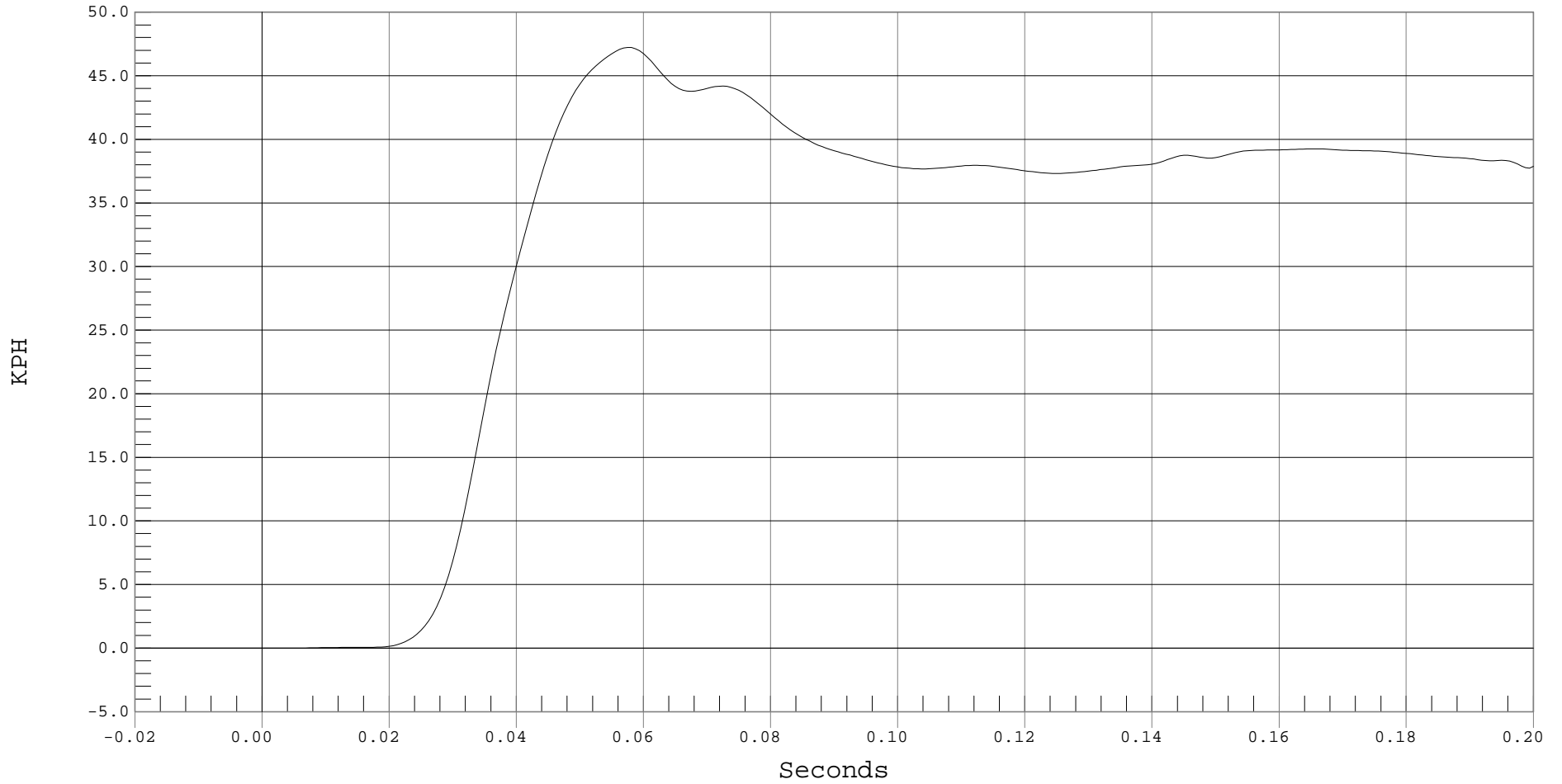
### DRIVER LOWER SPINE REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER LOWER SPINE Y REDUNDANT VELOCITY, B01009FI.V10

Ymin = 0 KPH @ -0.0100 Seconds, Ymax = 47.23 KPH @ 0.0575 Seconds



B-92



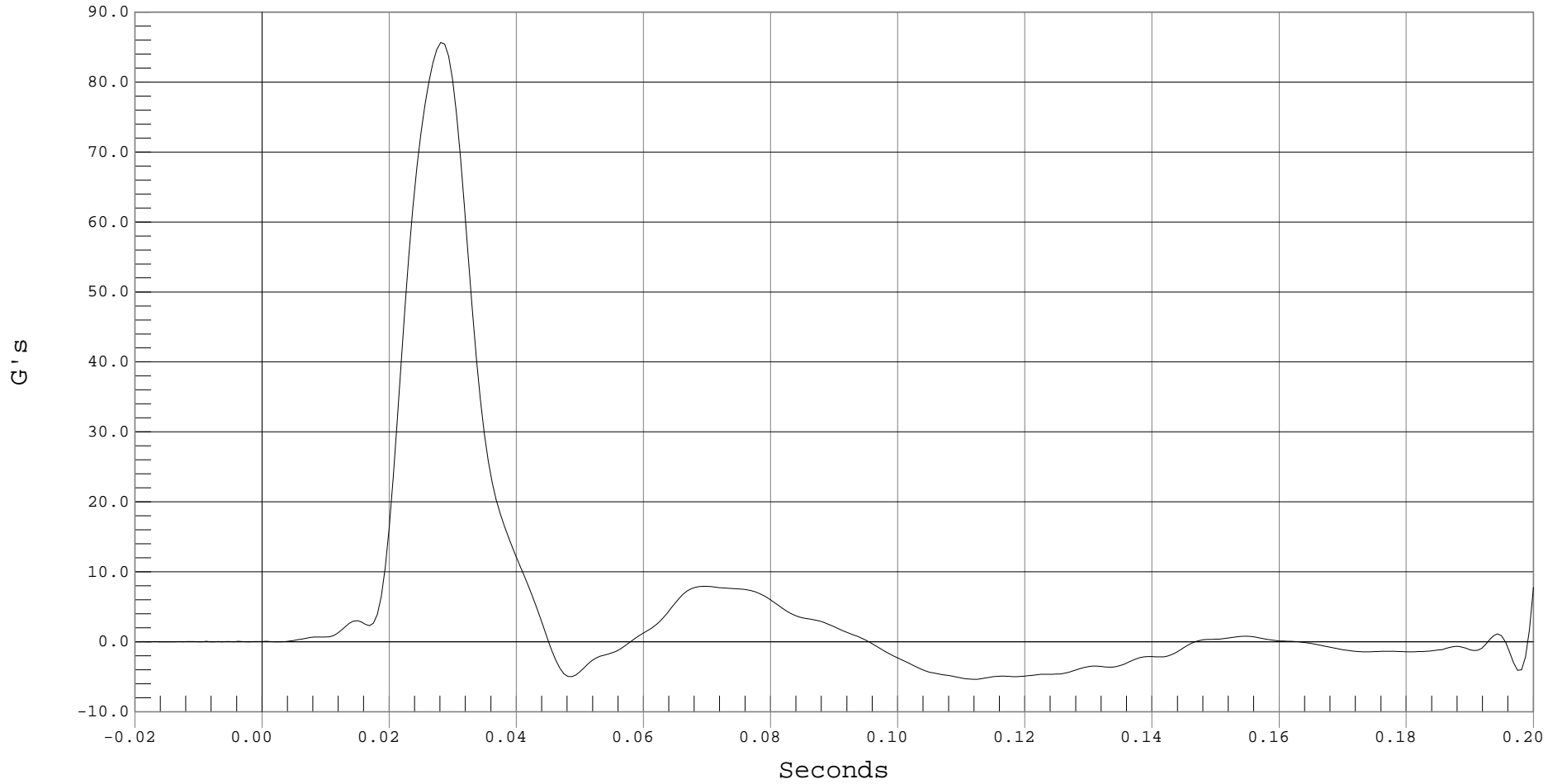
### DRIVER PELVIS REDUNDANT Y ACCELERATION

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER PELVIS Yr, B01009FI.R11

Ymin = -5.37 G's @ 0.1119 Seconds, Ymax = 85.66 G's @ 0.0281 Seconds



B-93



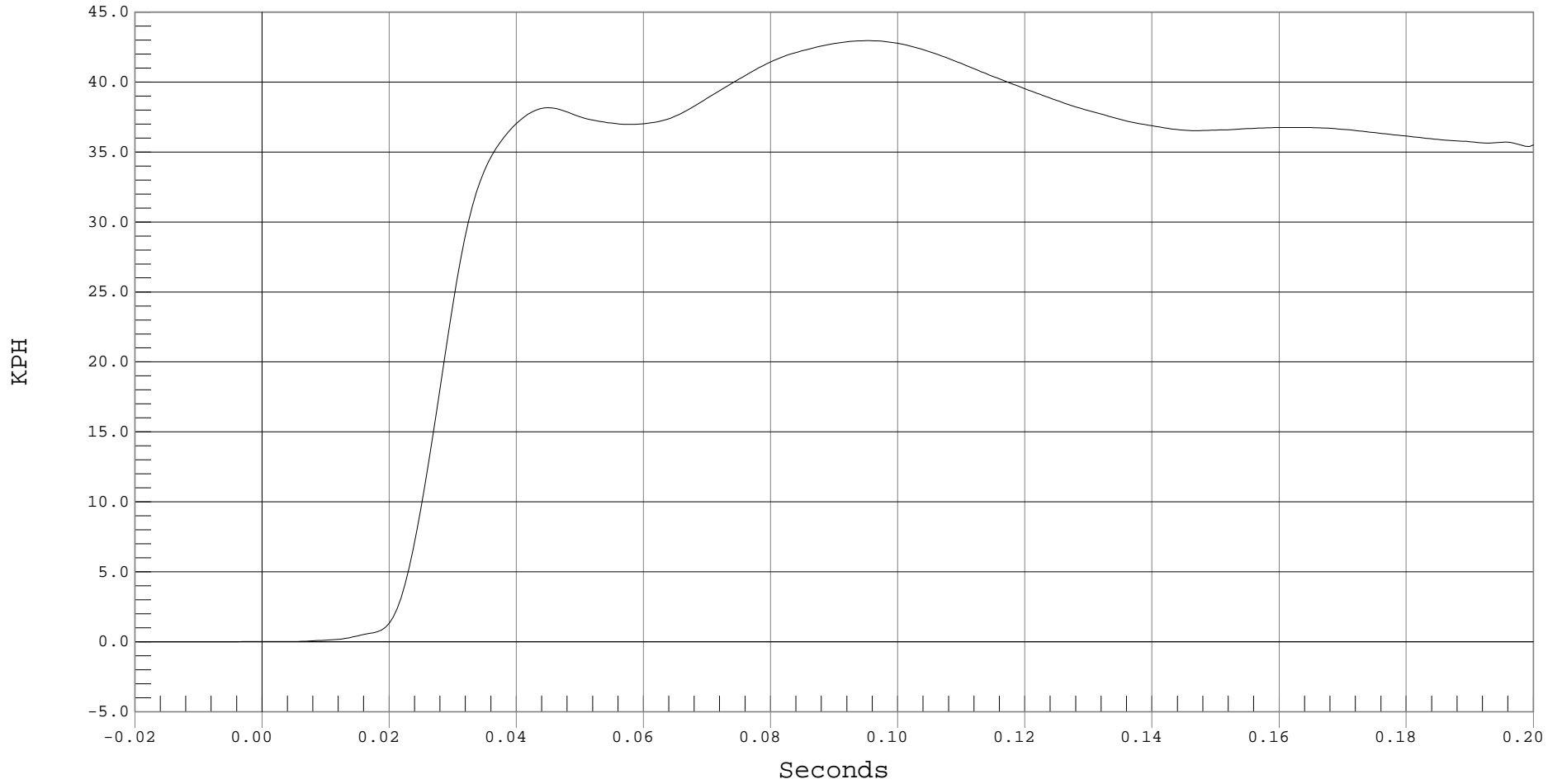
### DRIVER PELVIS REDUNDANT Y VELOCITY

Test Desc.: INDICANT SIDE IMPACT  
Component: 2001 HONDA INSIGHT (C15301)  
Other Info:

Test Date: 01-30-01  
Speed: 38.6 MPH, 62.1 KPH  
Fir Filtered

— 1 DRIVER PELVIS Y REDUNDANT VELOCITY, B01009FI.V11

Ymin = 0 KPH @ -0.0194 Seconds, Ymax = 42.96 KPH @ 0.0956 Seconds



## **APPENDIX C**

### **SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA**

CALIBRATION DATA SUMMARY  
 SIDE IMPACT DUMMY (SID)  
 CONFIGURED TO LEFT/RIGHT SIDE IMPACT

Report Date: February 9, 2001

Technician: Tim Michnay

| Test Parameter                    | Specification | Dummy Serial Number: 048 |           |
|-----------------------------------|---------------|--------------------------|-----------|
|                                   |               | Pre-Test                 | Post-Test |
| SH-Seated Height (mm)             | 889 – 909     | 903                      | 903       |
| RH-Rib Height (mm)                | 501 – 521     | 515                      | 515       |
| HP-Hip Pivot Height (mm)          | 99 ref.       | 99                       | 99        |
| RD-Rib from Back Line (mm)        | 229 – 241     | 238                      | 238       |
| KV-Knee Pivot from Back Line (mm) | 511 – 526     | 521                      | 521       |
| SW-Knee Pivot to Floor (mm)       | 490 – 505     | 493                      | 493       |
| HW-Hip Width (mm)                 | 356 - 391     | 365                      | 365       |
| <b>Thorax Impact</b>              |               |                          |           |
| Temperature (°C)                  | 18.9 – 25.5   | 21.2                     | 21.0      |
| Relative Humidity (%)             | 10 – 70       | 26                       | 17        |
| Probe Speed (m/s)                 | 4.27 – 4.33   | 4.28                     | 4.28      |
| Upper Rib (g's)                   | 37 – 46       | 38                       | 39        |
| Lower Rib (g's)                   | 37 – 46       | 39                       | 39        |
| Lower Spine (g's)                 | 15 – 22       | 21                       | 20        |
| <b>Pelvis Impact</b>              |               |                          |           |
| Temperature (°C)                  | 18.9 – 25.5   | 21.2                     | 21.0      |
| Relative Humidity (%)             | 10 – 70       | 26                       | 17        |
| Probe Speed (m/s)                 | 4.27 – 4.33   | 4.30                     | 4.28      |
| Pelvis (g's)                      | 40 - 60       | 53                       | 47        |

REMARKS:

CERTIFICATION DATA

Dummy Serial Number: 048

## Calibration Test Results Summary

Dummy Serial Number: 048

### Pre-Test Calibration

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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 048  
 Date of Verification: 1/18/01  
 Test Number: D0102

| DESCRIPTION                       | SPECIFICATION | TEST RESULTS |
|-----------------------------------|---------------|--------------|
| SH-Seated Height (mm)             | 889 – 909     | 903          |
| RH-Rib Height (mm)                | 501 – 521     | 515          |
| HP-Hip Pivot Height (mm)          | 99 ref.       | 99           |
| RD-Rib From Back Line (mm)        | 229 - 241     | 238          |
| KV-Knee Pivot From Back Line (mm) | 511 – 526     | 521          |
| SW-Knee Pivot to Floor (mm)       | 490 – 505     | 493          |
| HW – Hip Width (mm)               | 356 – 391     | 365          |

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

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

MGA RESEARCH CORPORATION  
HEAD DROP TEST  
SIDE IMPACT DUMMY (SID)

Date: 1/18/01

Dummy Serial Number: 048

Test Number: D01021

| TEST PARAMETER              | SPECIFICATION   | TEST RESULTS |
|-----------------------------|-----------------|--------------|
| Temperature (°C)            | 18.9 - 25.5     | 21.3         |
| Relative Humidity (%)       | 10 - 70         | 18           |
| Peak Resultant Acceleration | 210 - 260 g's   | 218          |
| Peak Lateral Acceleration   | < 10 g's        | 2            |
| Time Above 100 g.           | 0.9 - 1.5 msec. | 1.1          |

TEST MEETS SPECIFICATIONS

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

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



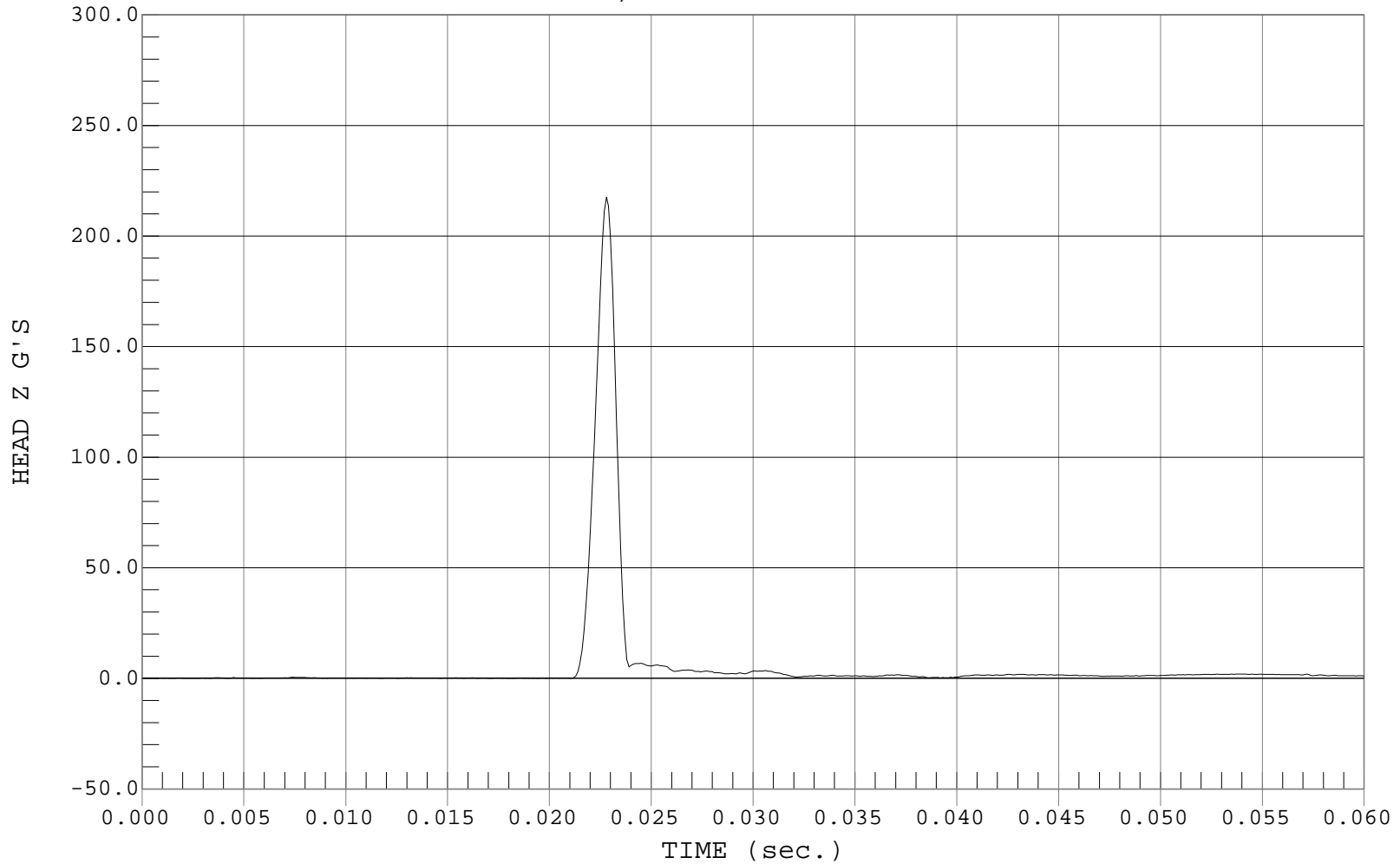
### PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #048

Test Date: 01-18-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT, D01021av.a01

Ymin = .04 G'S @ 0.0004 sec., Ymax = 217.52 G'S @ 0.0228 sec.





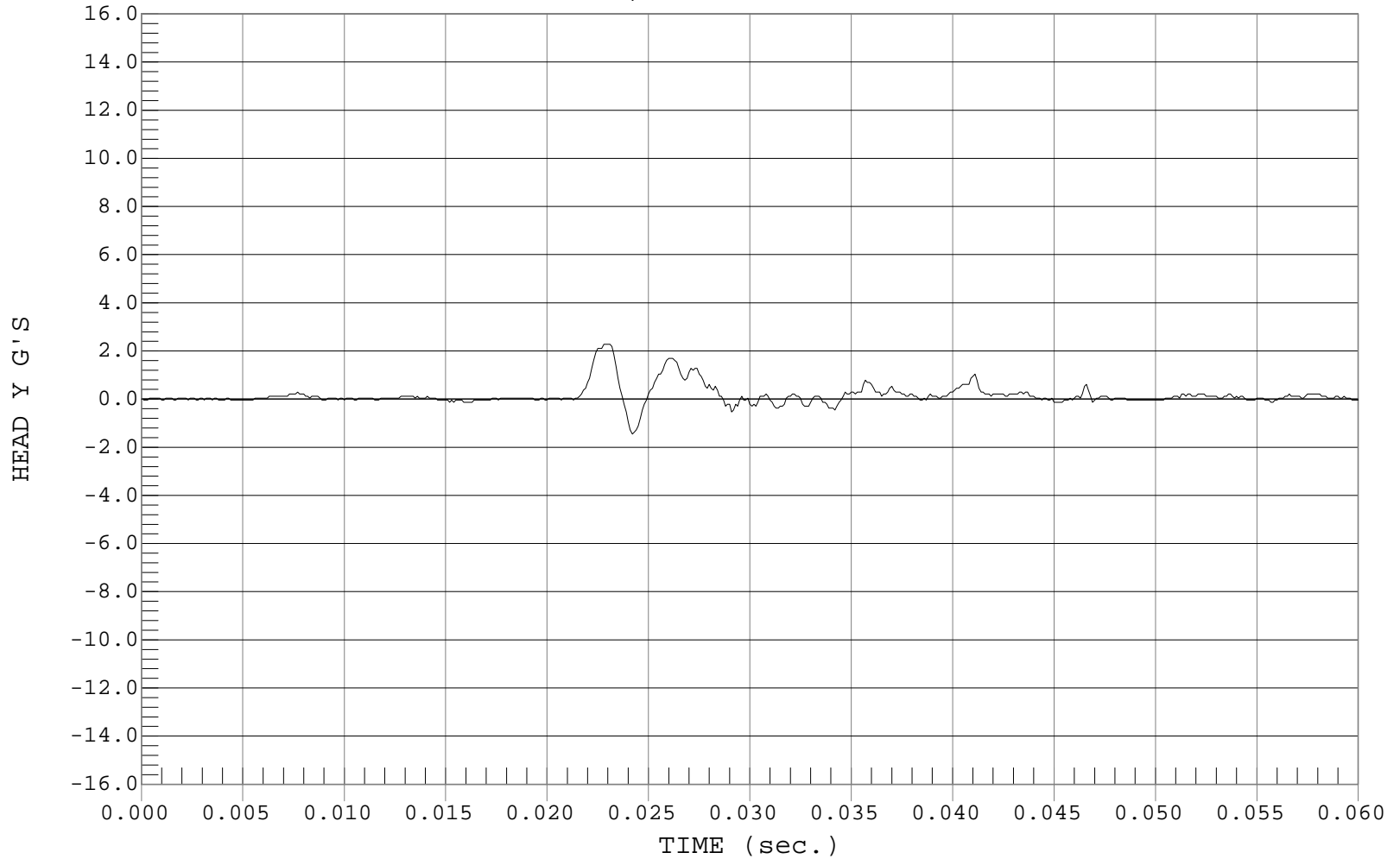
### PEAK LATERAL ACCELARATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #048

Test Date: 01-18-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD Y, D01021AR.A02

Ymin = -1.61 G'S @ 0.1260 sec., Ymax = 2.27 G'S @ 0.0228 sec.



MGA RESEARCH CORPORATION  
THORAX IMPACT TEST  
SIDE IMPACT DUMMY (SID)

Date: 1/5/01  
Dummy Serial Number: 048  
Test Number: D01022

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| Temperature (°C)      | 18.9 – 25.5   | 21.2         |
| Relative Humidity (%) | 10 – 70       | 26           |
| Probe Speed (m/s)     | 4.27 – 4.33   | 4.28         |
| Upper Rib (g's)       | 37 – 46       | 38           |
| Lower Rib (g's)       | 37 – 46       | 39           |
| Lower Spine (g's)     | 15 - 22       | 21           |

TEST MEETS SPECIFICATIONS

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

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



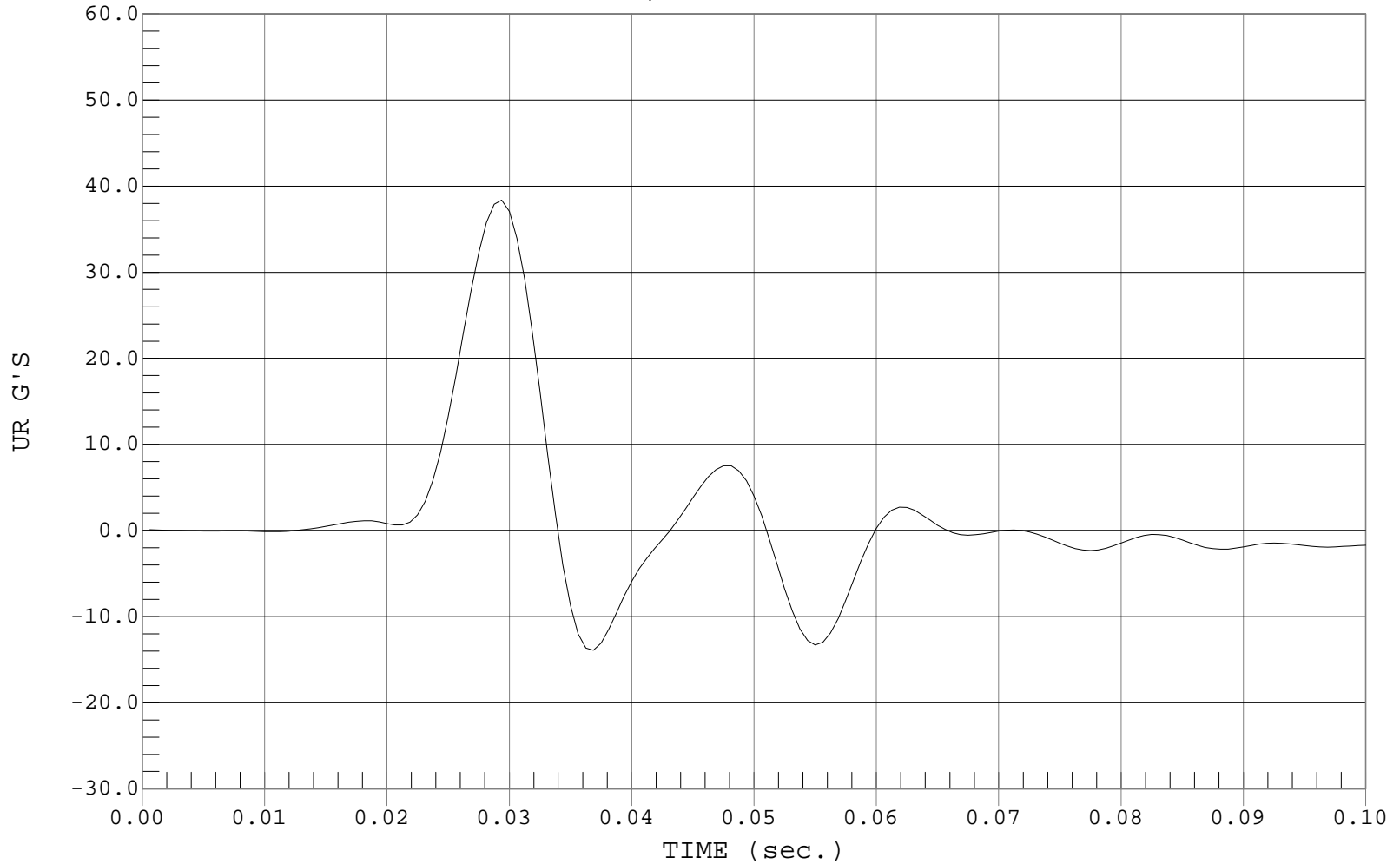
### UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact  
Component: Dummy #048

Test Date: 01-05-01  
Speed: 14.04 FT/SEC, 4.28 M/SEC

— 1 UR, D01022FI.R08

Ymin = -13.92 G'S @ 0.0369 sec., Ymax = 38.38 G'S @ 0.0294 sec.





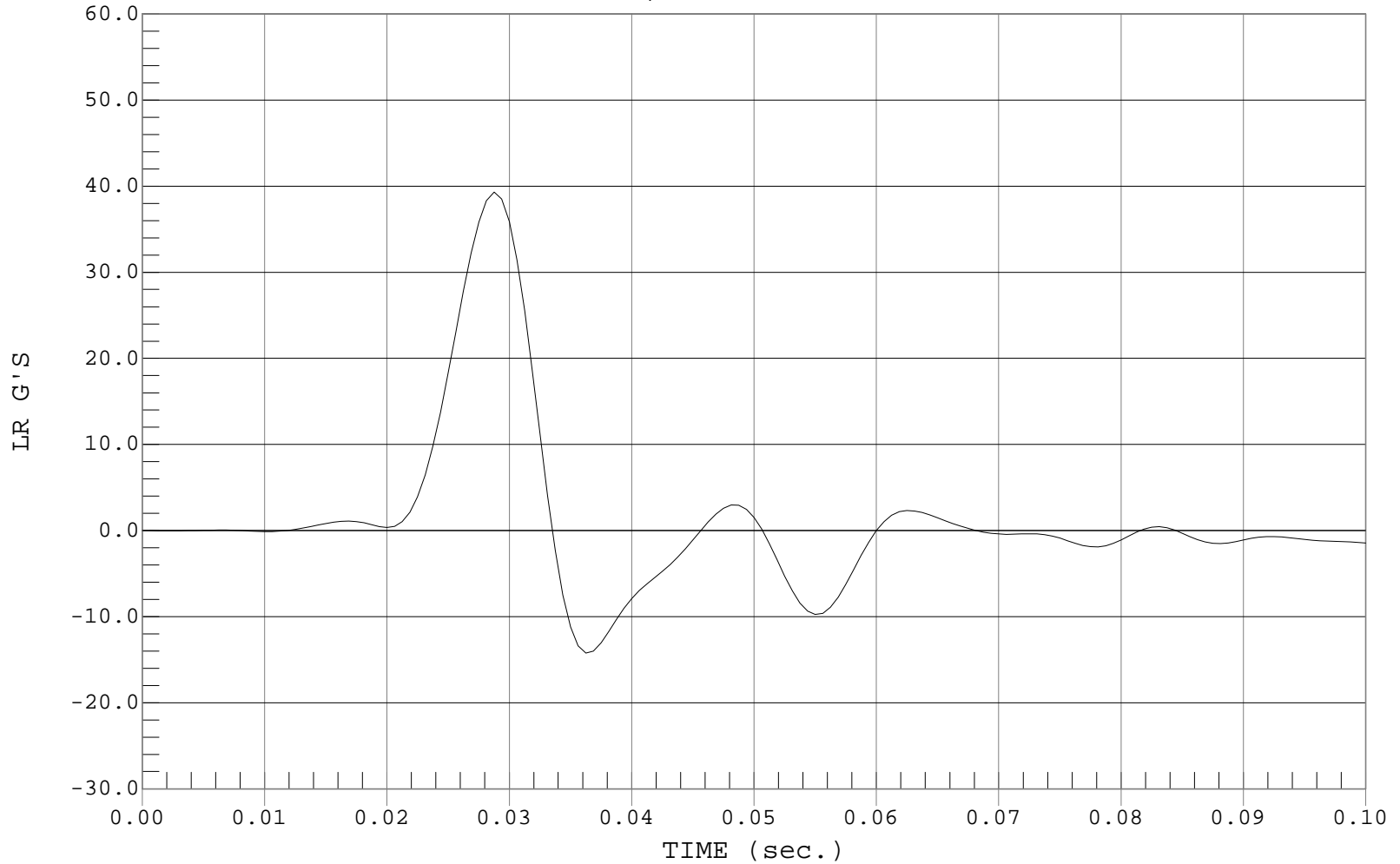
### LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact  
Component: Dummy #048

Test Date: 01-05-01  
Speed: 14.41 FT/SEC, 4.28 M/SEC

— 1 LR, D01022FI.R09

Ymin = -14.22 G'S @ 0.0363 sec., Ymax = 39.3 G'S @ 0.0288 sec.



C-10



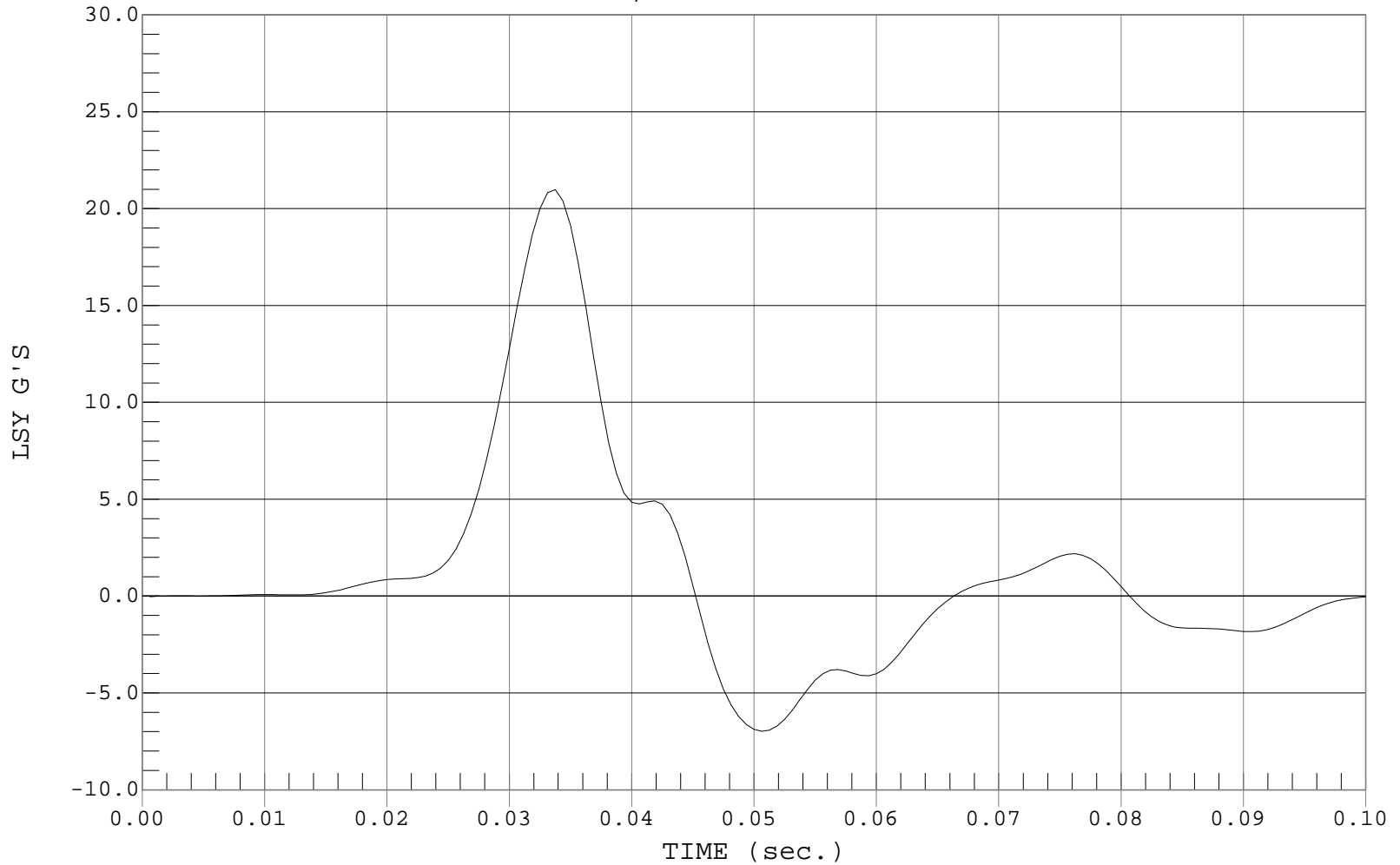
### LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact  
Component: Dummy #048

Test Date: 01-05-01  
Speed: 14.41 FT/SEC, 4.28 M/SEC

— 1 LSY, D01022FI.R10

Ymin = -6.97 G'S @ 0.0506 sec., Ymax = 20.98 G'S @ 0.0338 sec.



MGA RESEARCH CORPORATION  
PELVIS IMPACT TEST  
SIDE IMPACT DUMMY (SID)

Date: 1/5/01  
Dummy Serial Number: 048  
Test Number: D01023

| TEST PARAMETER            | SPECIFICATION | TEST RESULTS |
|---------------------------|---------------|--------------|
| Temperature (°C)          | 18.9 – 25.5   | 21.1         |
| Relative Humidity (%)     | 10 – 70       | 26           |
| Probe Speed (m/s)         | 4.27 – 4.33   | 4.30         |
| Pelvis Acceleration (g's) | 40 – 60       | 53           |

TEST MEETS SPECIFICATIONS

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

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



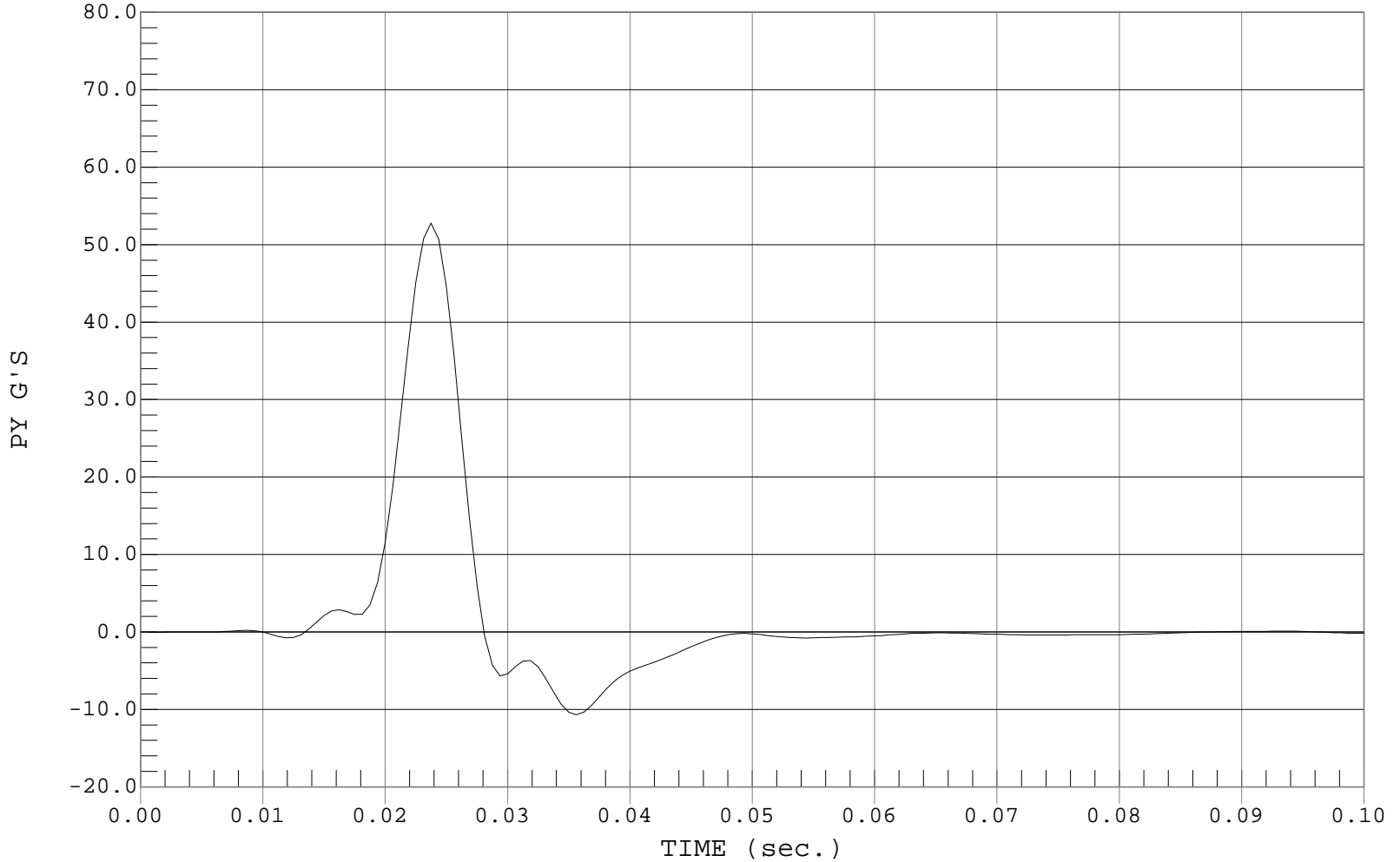
### PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact  
Component: Dummy #048

Test Date: 01-05-01  
Speed: 14.11 FT/SEC, 4.30 M/SEC

— 1 PY, D01023FI.R11

Ymin = -10.68 G'S @ 0.0356 sec., Ymax = 52.78 G'S @ 0.0238 sec.



MGA RESEARCH CORPORATION  
ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)  
SIDE IMPACT DUMMY (SID)

Date: 1/17/01  
Dummy Serial Number: 048  
Test Number: D01024

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| Temperature (°C)      | 18.9 – 25.5   | 21.4         |
| Relative Humidity (%) | 10 – 70       | 20           |
| Force @ 12.7 mm       | 104 – 162     | 143          |
| Force @ 19 mm         | 163 – 222     | 199          |
| Force @ 25.4 mm       | 222 – 280     | 264          |
| Force @ 33 mm         | 325 - 391     | 362          |

TEST MEETS SPECIFICATIONS

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

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



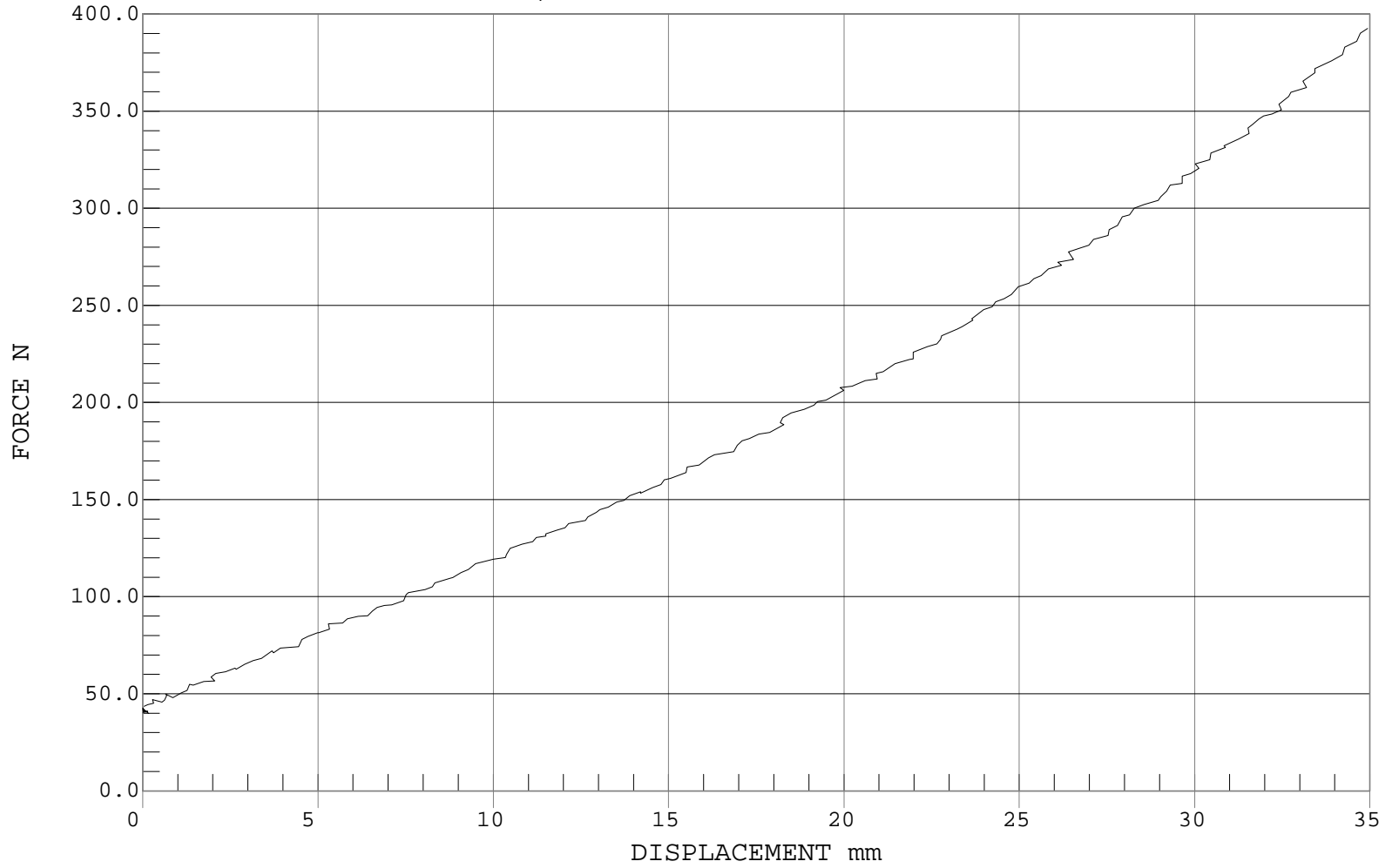
### ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION  
Component: DUMMY # 048

Test Date: 01-17-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 FORCE, D01024FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 559.27 N @ 43.9374 mm



MGA RESEARCH CORPORATION  
LUMBAR FLEXION TEST  
SIDE IMPACT DUMMY (SID)

Date: 1/17/01  
Dummy Serial Number: 048  
Test Number: D01025

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| Temperature (°C)      | 18.9 – 25.5   | 21.4         |
| Relative Humidity (%) | 10 – 70       | 20           |
| Force @ 0°            | 0 – 26.7      | 0            |
| Force @ 20°           | 97.9 – 151.2  | 102.2        |
| Force @ 30°           | 151.2 – 204.6 | 161.3        |
| Force @ 40°           | 204.6 – 258.0 | 232.2        |
| Return Angle          | 12° maximum   | 1            |

TEST MEETS SPECIFICATIONS

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

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



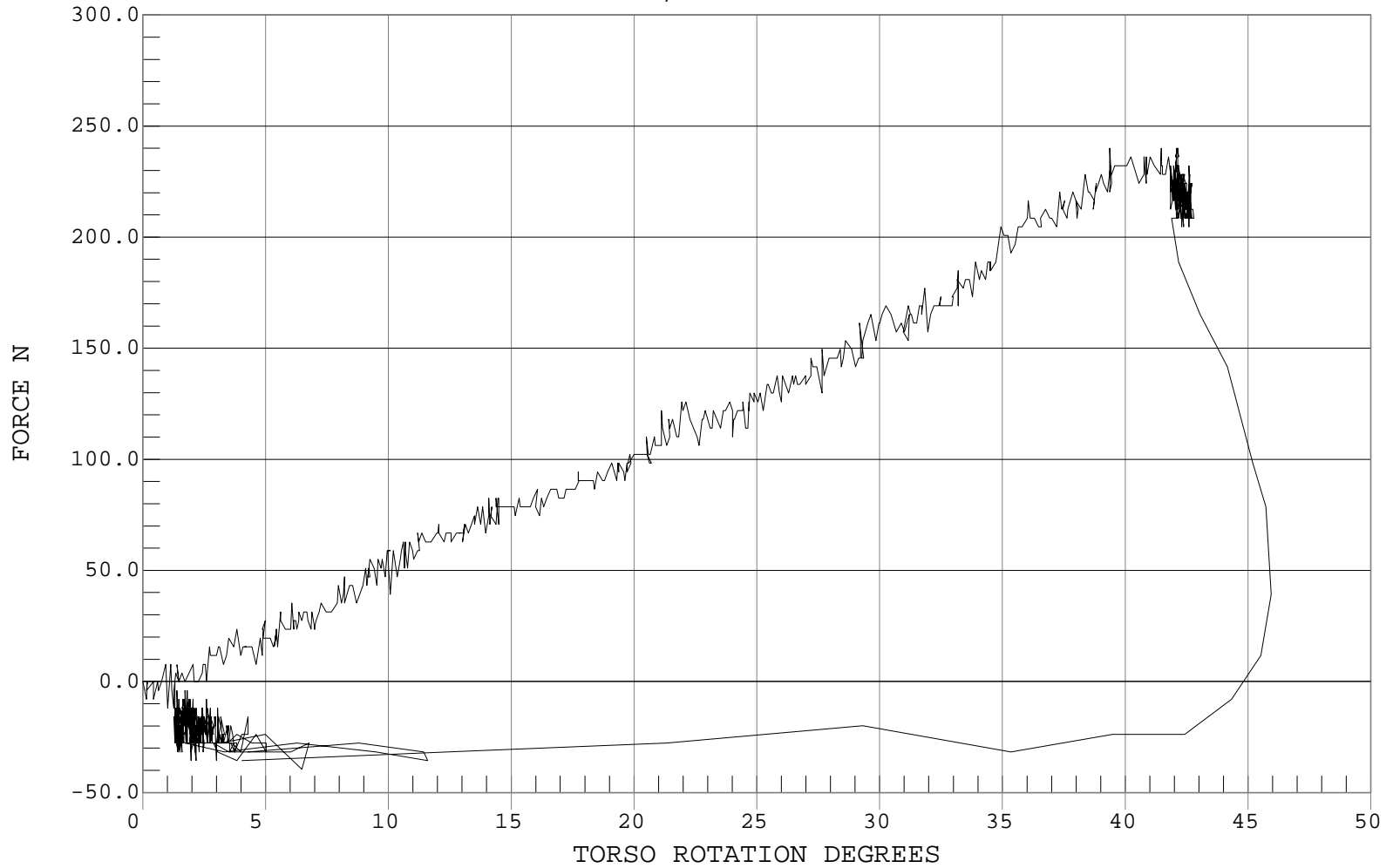
### LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION  
Component: DUMMY # 048

Test Date: 01-17-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01025FC.F14

Ymin = -39.54 N @ 6.4760 DEGREES, Ymax = 240.05 N @ 39.3610 DEGREES



## DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 048

Inspected By: Tim Michnay

Date: 1/18/01

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

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

CERTIFICATION DATA

Dummy Serial Number: 048

## Calibration Test Results Summary

Dummy Serial Number: 048

### Post-Test Calibration

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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Dummy Serial Number: 048  
 Date of Verification: 2/2/00  
 Test Number: D0117

| DESCRIPTION                       | SPECIFICATION | TEST RESULTS |
|-----------------------------------|---------------|--------------|
| SH-Seated Height (mm)             | 889 – 909     | 903          |
| RH-Rib Height (mm)                | 501 – 521     | 515          |
| HP-Hip Pivot Height (mm)          | 99 ref.       | 99           |
| RD-Rib From Back Line (mm)        | 229 - 241     | 238          |
| KV-Knee Pivot From Back Line (mm) | 511 – 526     | 521          |
| SW-Knee Pivot to Floor (mm)       | 490 – 505     | 493          |
| HW – Hip Width (mm)               | 356 – 391     | 365          |

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

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

MGA RESEARCH CORPORATION  
HEAD DROP TEST  
SIDE IMPACT DUMMY (SID)

Date: 2/5/01  
Dummy Serial Number: 048  
Test Number: D01171

| TEST PARAMETER              | SPECIFICATION   | TEST RESULTS |
|-----------------------------|-----------------|--------------|
| Temperature (°C)            | 18.9 - 25.5     | 21.2         |
| Relative Humidity (%)       | 10 - 70         | 20           |
| Peak Resultant Acceleration | 210 - 260 g's   | 211          |
| Peak Lateral Acceleration   | < 10 g's        | 2            |
| Time Above 100 g.           | 0.9 - 1.5 msec. | 1.2          |

TEST MEETS SPECIFICATIONS

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

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



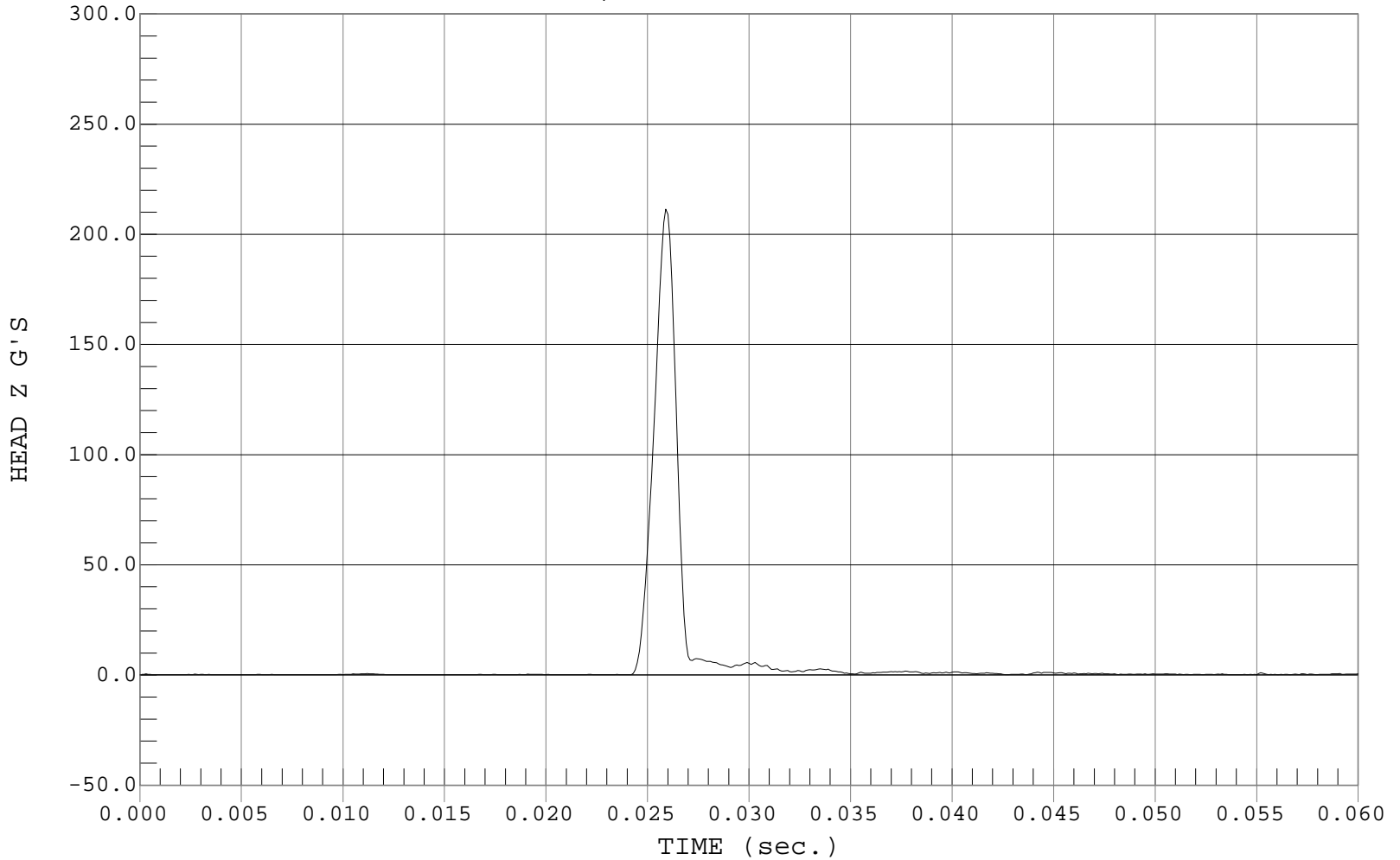
### PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #048

Test Date: 02-05-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD RESULTANT, D01171av.a01

Ymin = .1 G'S @ 0.0014 sec., Ymax = 211.35 G'S @ 0.0259 sec.





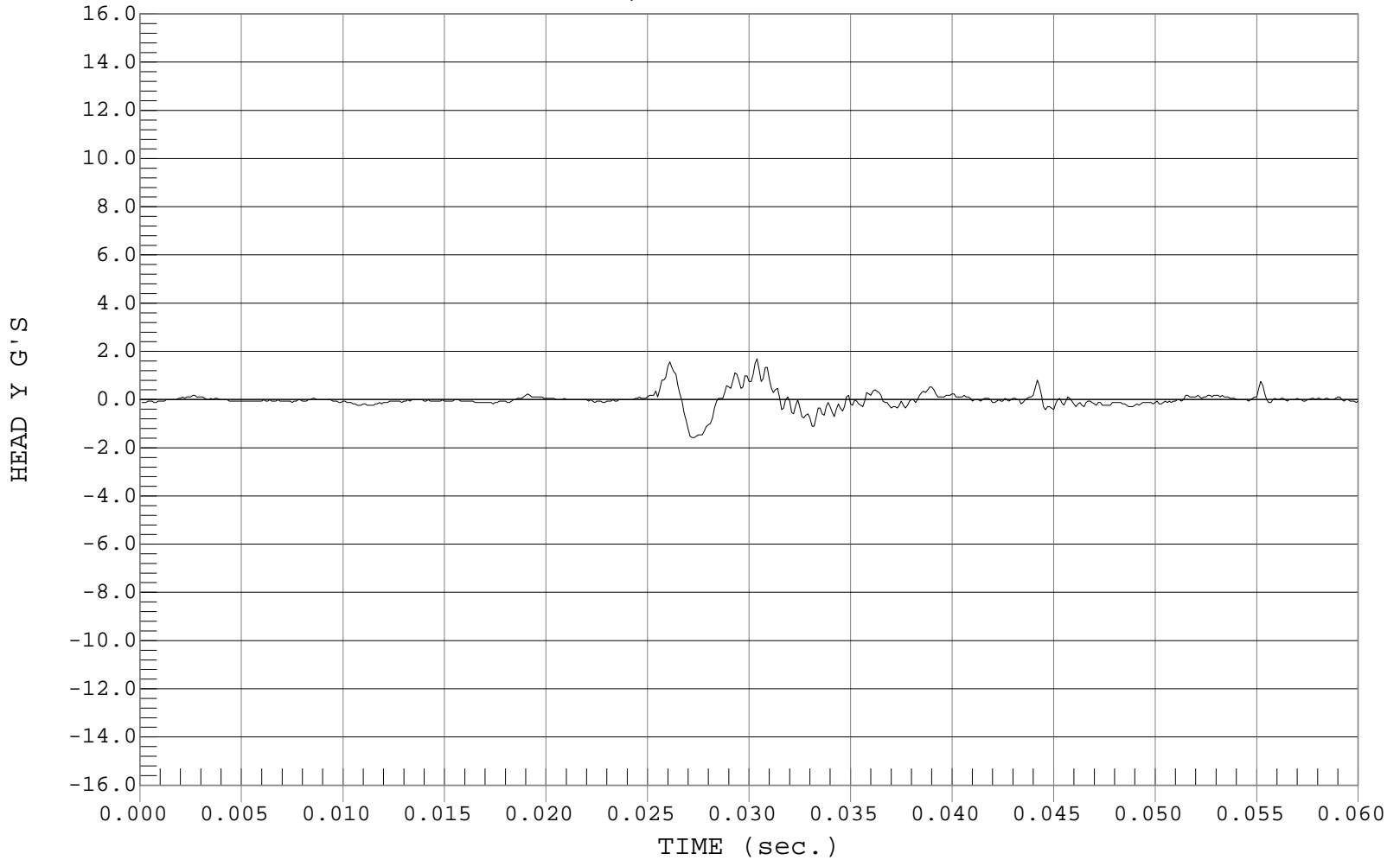
### PEAK LATERAL ACCELARATION

Test Desc.: Dummy Calibration - Head Drop  
Component: Dummy #048

Test Date: 02-05-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 HEAD Y, D01171AR.A02

Ymin = -1.58 G'S @ 0.0272 sec., Ymax = 1.69 G'S @ 0.0304 sec.



MGA RESEARCH CORPORATION  
THORAX IMPACT TEST  
SIDE IMPACT DUMMY (SID)

Date: 2/2/01  
Dummy Serial Number: 048  
Test Number: D01172

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| Temperature (°C)      | 18.9 – 25.5   | 21.0         |
| Relative Humidity (%) | 10 – 70       | 17           |
| Probe Speed (m/s)     | 4.27 – 4.33   | 4.28         |
| Upper Rib (g's)       | 37 – 46       | 39           |
| Lower Rib (g's)       | 37 – 46       | 39           |
| Lower Spine (g's)     | 15 - 22       | 20           |

TEST MEETS SPECIFICATIONS

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

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



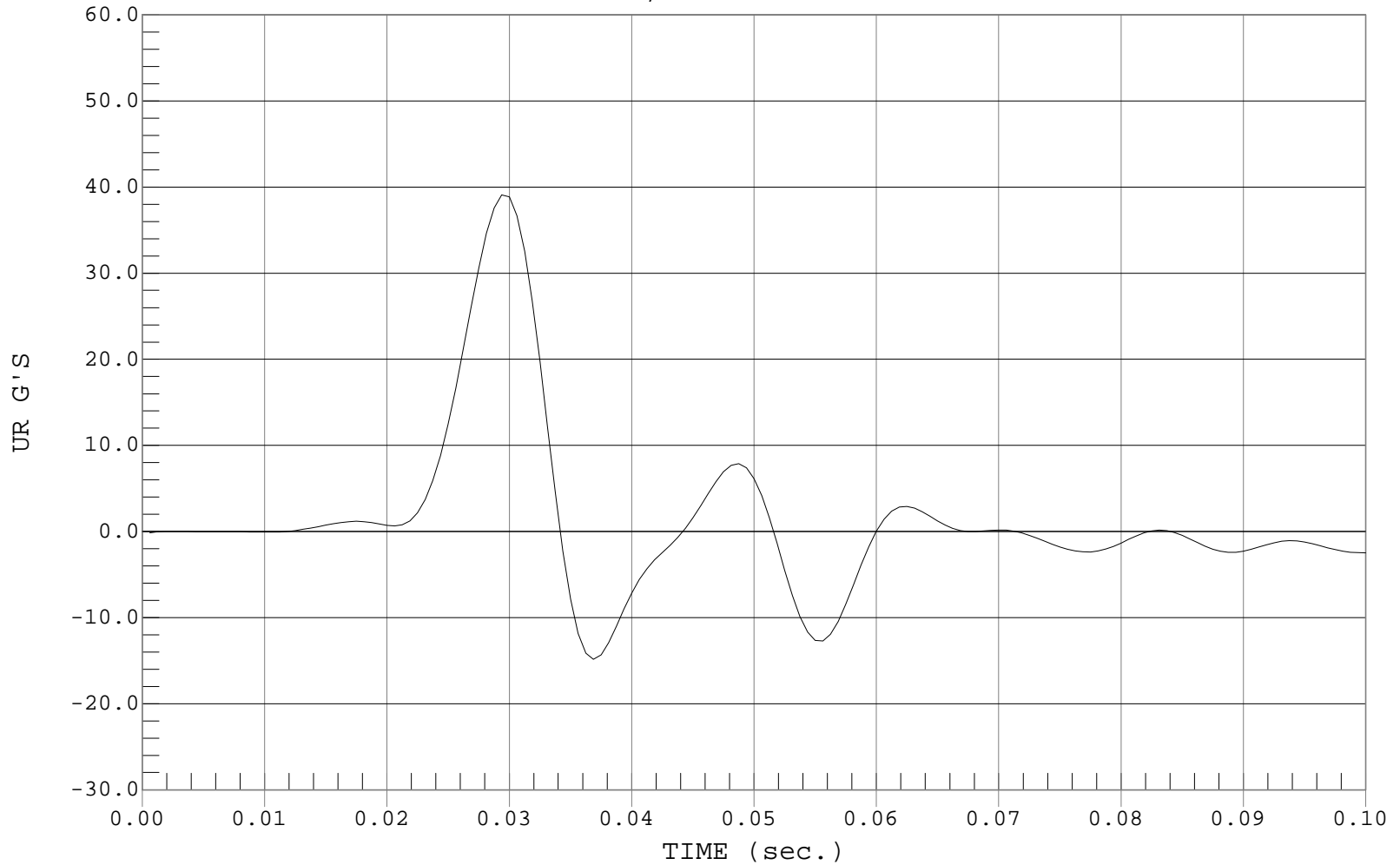
### UPPER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact  
Component: Dummy #048

Test Date: 02-02-01  
Speed: 14.06 FT/SEC, 4.28 M/SEC

— 1 UR, D01172FI.R08

Ymin = -14.86 G'S @ 0.0369 sec., Ymax = 39.1 G'S @ 0.0294 sec.





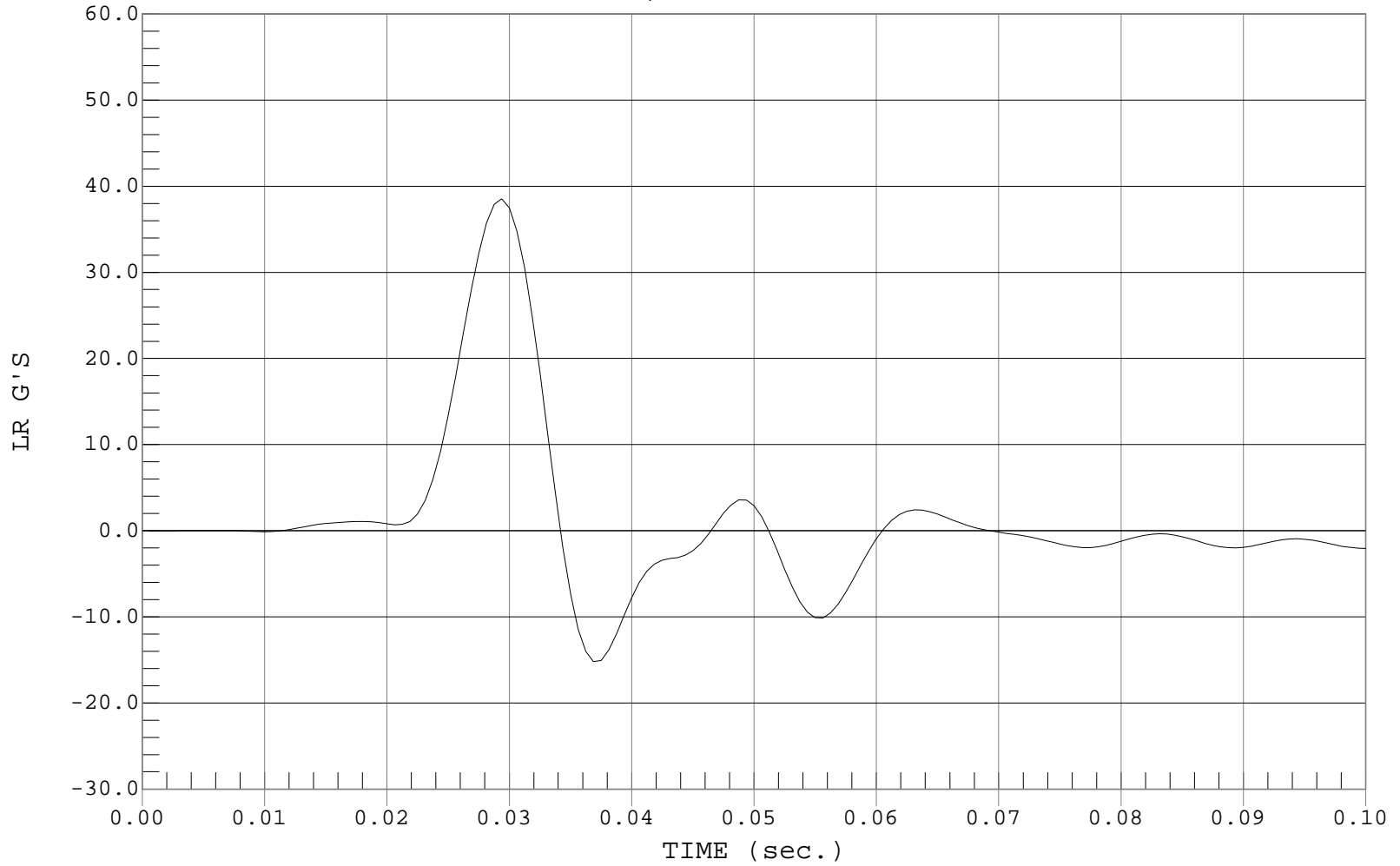
### LOWER RIB ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact  
Component: Dummy #048

Test Date: 02-02-01  
Speed: 14.06 FT/SEC, 4.28 M/SEC

— 1 LR, D01172FI.R09

Ymin = -15.21 G'S @ 0.0369 sec., Ymax = 38.53 G'S @ 0.0294 sec.





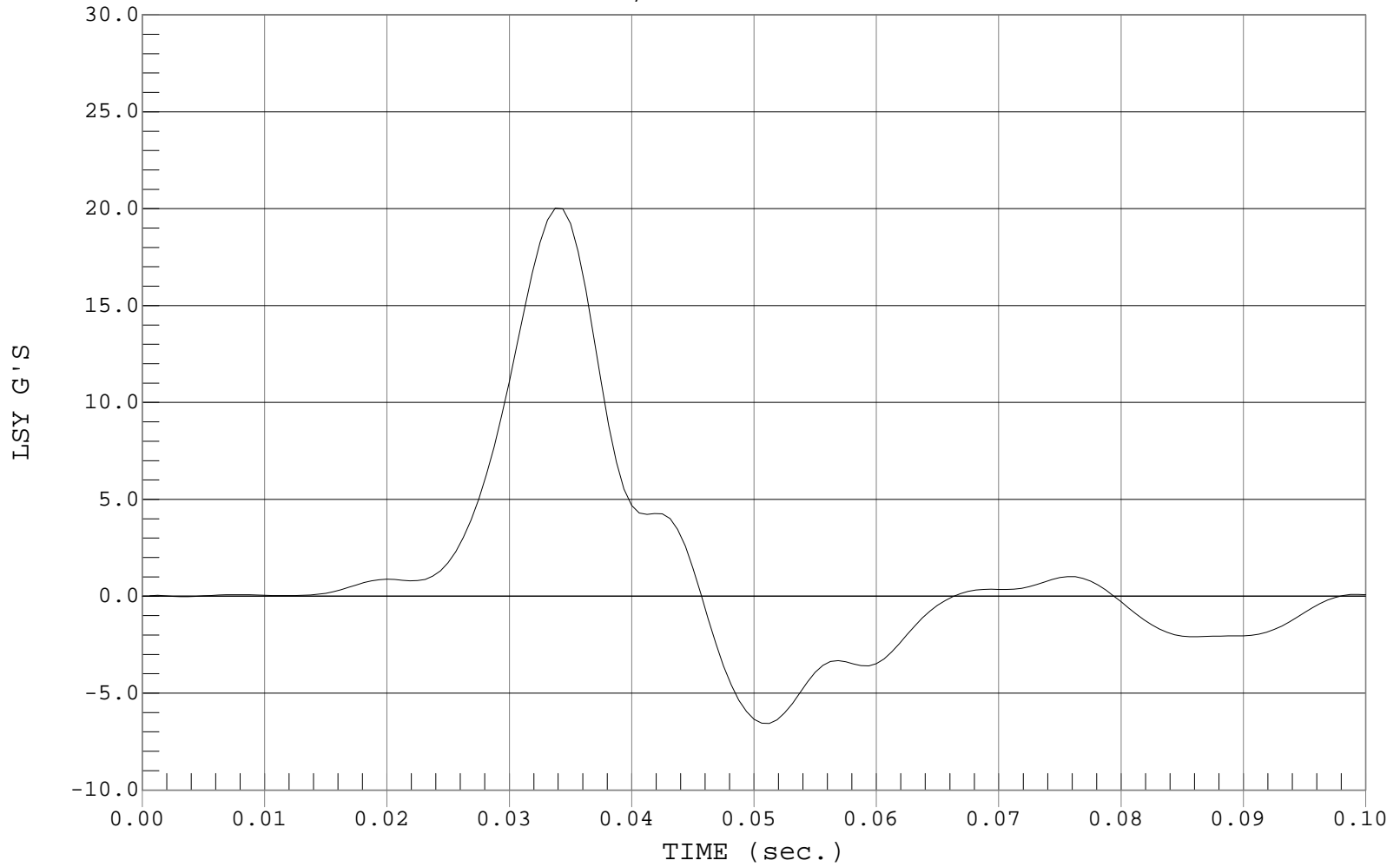
### LOWER SPINE ACCELERATION

Test Desc.: Dummy Calibration - Thorax Impact  
Component: Dummy #048

Test Date: 02-02-01  
Speed: 14.06 FT/SEC, 4.28 M/SEC

— 1 LSY, D01172FI.R10

Ymin = -6.56 G'S @ 0.0513 sec., Ymax = 20.04 G'S @ 0.0338 sec.



MGA RESEARCH CORPORATION  
PELVIS IMPACT TEST  
SIDE IMPACT DUMMY (SID)

Date: 2/2/01  
Dummy Serial Number: 048  
Test Number: D01173

| TEST PARAMETER            | SPECIFICATION | TEST RESULTS |
|---------------------------|---------------|--------------|
| Temperature (°C)          | 18.9 – 25.5   | 21.0         |
| Relative Humidity (%)     | 10 – 70       | 17           |
| Probe Speed (m/s)         | 4.27 – 4.33   | 4.28         |
| Pelvis Acceleration (g's) | 40 – 60       | 47           |

TEST MEETS SPECIFICATIONS

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

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



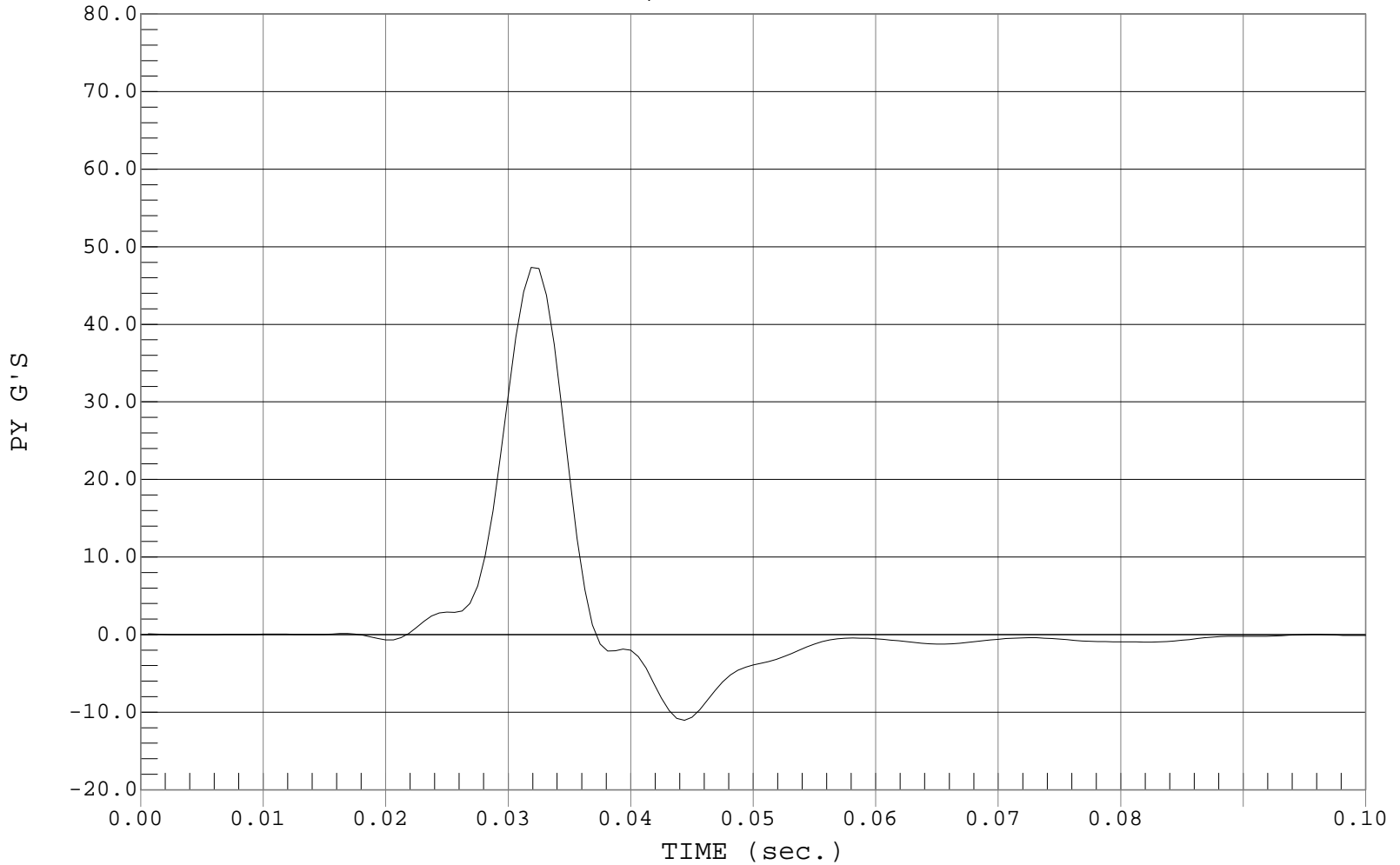
### PELVIS ACCELERATION

Test Desc.: Dummy Calibration - Pelvis Impact  
Component: Dummy #048

Test Date: 02-02-01  
Speed: 14.05 FT/SEC, 4.28 M/SEC

— 1 PY, D01173FI.R11

Ymin = -11.06 G'S @ 0.0444 sec., Ymax = 47.32 G'S @ 0.0319 sec.



MGA RESEARCH CORPORATION  
ABDOMINAL COMPRESSION TEST (PRELOAD = 10 LBS)  
SIDE IMPACT DUMMY (SID)

Date: 2/2/01  
Dummy Serial Number: 048  
Test Number: D01174

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| Temperature (°C)      | 18.9 – 25.5   | 21.0         |
| Relative Humidity (%) | 10 – 70       | 18           |
| Force @ 12.7 mm       | 104 – 162     | 152          |
| Force @ 19 mm         | 163 – 222     | 209          |
| Force @ 25.4 mm       | 222 – 280     | 274          |
| Force @ 33 mm         | 325 - 391     | 382          |

TEST MEETS SPECIFICATIONS

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

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



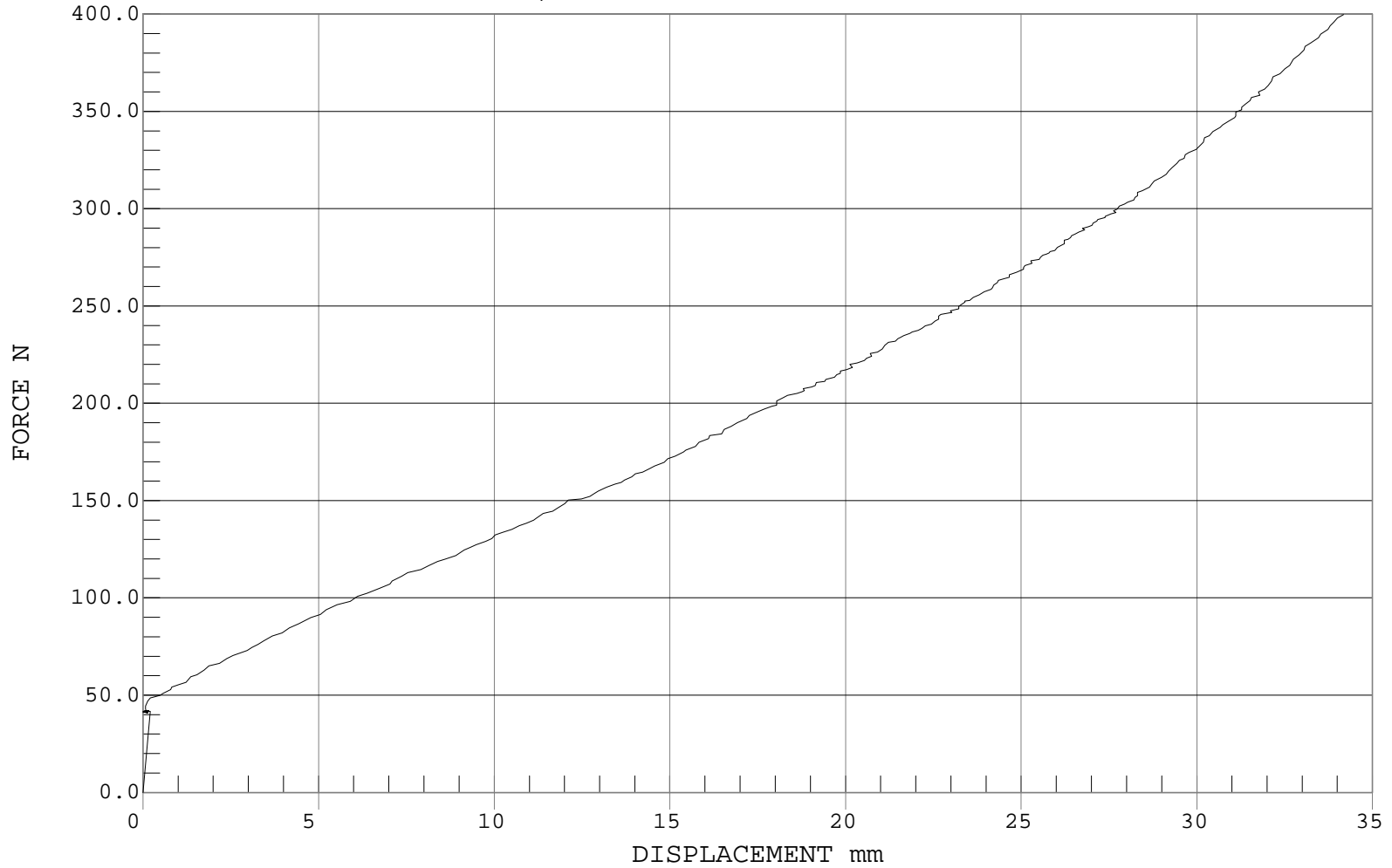
### ABDOMEN COMPRESSION

Test Desc.: DUMMY CALIBRATION - ABDOMEN COMPRESSION  
Component: DUMMY # 048

Test Date: 02-02-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01174FC.F16

Ymin = 0 N @ 0.0000 mm, Ymax = 554.91 N @ 41.8505 mm



MGA RESEARCH CORPORATION  
LUMBAR FLEXION TEST  
SIDE IMPACT DUMMY (SID)

Date: 2/2/01  
Dummy Serial Number: 048  
Test Number: D01175

| TEST PARAMETER        | SPECIFICATION | TEST RESULTS |
|-----------------------|---------------|--------------|
| Temperature (°C)      | 18.9 – 25.5   | 20.8         |
| Relative Humidity (%) | 10 – 70       | 18           |
| Force @ 0°            | 0 – 26.7      | 0            |
| Force @ 20°           | 97.9 – 151.2  | 99.6         |
| Force @ 30°           | 151.2 – 204.6 | 163.7        |
| Force @ 40°           | 204.6 – 258.0 | 215.9        |
| Return Angle          | 12° maximum   | 7            |

TEST MEETS SPECIFICATIONS

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

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



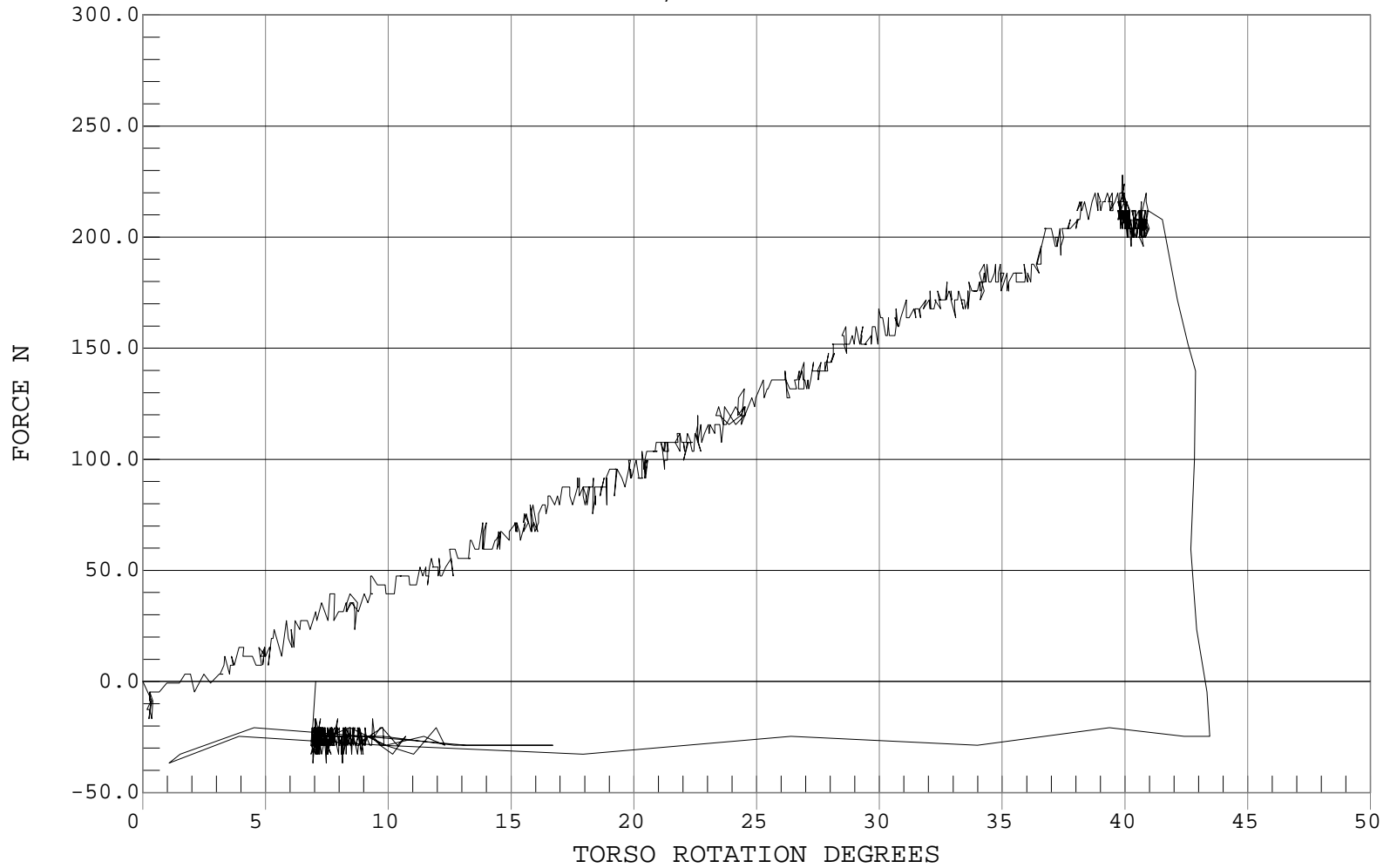
### LUMBAR FLEXION

Test Desc.: DUMMY CALIBRATION - LUMBAR FLEXION  
Component: DUMMY # 048

Test Date: 02-02-01  
Speed: 0.00 FT/SEC, 0.00 M/SEC

— 1 FORCE, D01175FC.F14

Ymin = -36.78 N @ 1.0641 DEGREES, Ymax = 227.92 N @ 39.9017 DEGREES



## DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 048

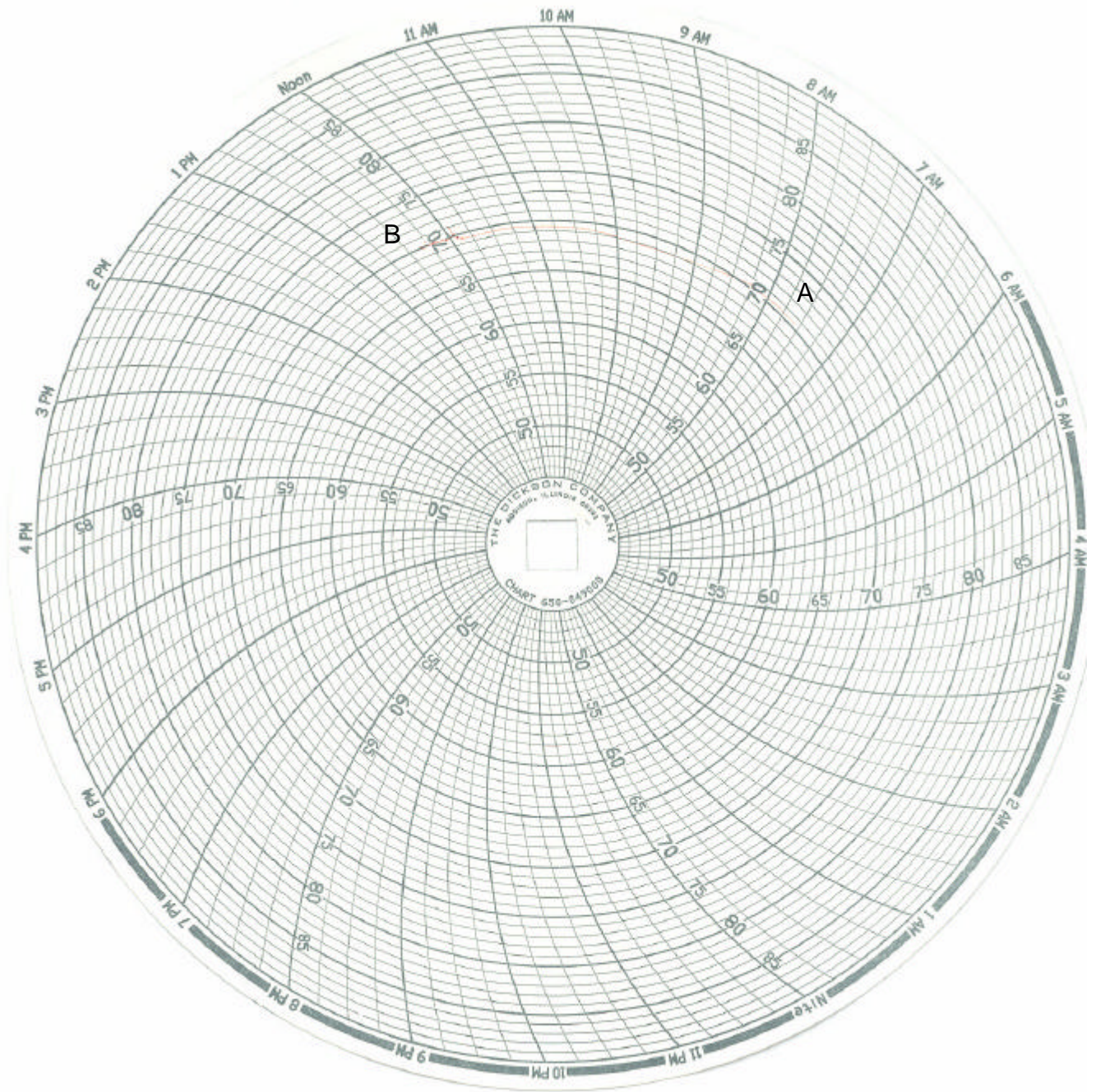
Inspected By: Tim Michnay

Date: 2/5/01

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

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

# VEHICLE AND DUMMY TEMPERATURE



A = Dummies installed in vehicle at 7:30 a.m.

B = Test conducted at 12:15 p.m.

## **APPENDIX D**

### **TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

DUMMY AND VEHICLE CALIBRATION DATA

| INSTRUMENTS FOR DRIVER DUMMY NO. 048 |            |              |                  |
|--------------------------------------|------------|--------------|------------------|
|                                      | SERIAL NO. | MANUFACTURER | CALIBRATION DATE |
| Upper Rib Y                          | AGTB5      | Endevco      | 9/19/00          |
| Lower Rib Y                          | ANBP7      | Endevco      | 10/2/00          |
| Lower Spine Y                        | AHT13      | Endevco      | 10/12/00         |
| Pelvis Y                             | AKAA6      | Endevco      | 10/2/00          |
| Upper Rib Redundant Y                | AGTM2      | Endevco      | 9/19/00          |
| Lower Rib Redundant Y                | AP1C6      | Endevco      | 10/2/00          |
| Lower Spine Redundant Y              | ADAB3      | Endevco      | 10/12/00         |
| Pelvis Redundant Y                   | AP2C4      | Endevco      | 10/2/00          |
| Head Center of Gravity X             | J22055     | Endevco      | 10/3/00          |
| Head Center of Gravity Y             | J22107     | Endevco      | 10/3/00          |
| Head Center of Gravity Z             | J20965     | Endevco      | 10/3/00          |

VEHICLE INSTRUMENT CALIBRATION

|                                 | VEHICLE ACCELEROMETERS |              |                  |
|---------------------------------|------------------------|--------------|------------------|
|                                 | SERIAL NO.             | MANUFACTURER | CALIBRATION DATE |
| Moving Barrier CG X             | I25-F09                | Entran       | 12/13/00         |
| Moving Barrier CG Y             | I25-F07                | Entran       | 12/13/00         |
| Moving Barrier CG Z             | I25-F08                | Entran       | 12/13/00         |
| Moving Barrier Rear Axle X      | K19-A15                | Entran       | 7/11/00          |
| Moving Barrier Rear Axle Y      | G13-F10                | Entran       | 8/14/00          |
| Left Mid A-Post Y               | K19-A15                | Entran       | 1/11/01          |
| Left Lower A-Post Y             | J07-X16                | Entran       | 9/12/00          |
| Left Mid B-Post Y               | E10-F20                | Entran       | 10/4/00          |
| Left Lower B-Post Y             | F18-G08                | Entran       | 8/8/00           |
| Rear Floorpan Above Axle X      | I26-D11                | Entran       | 8/18/00          |
| Rear Floorpan Above Axle Y      | I25-J18                | Entran       | 8/18/00          |
| Rear Floorpan Above Axle Z      | F07-A24                | Entran       | 8/18/00          |
| Driver Seat Track Y             | J06-D19                | Entran       | 9/14/00          |
| Right Side Sill at Front Seat X | G13-F15                | Entran       | 8/14/00          |
| Right Side Sill at Front Seat Y | G13-F02                | Entran       | 8/14/00          |
| Right Side Sill at Front Seat Z | G13-F12                | Entran       | 8/14/00          |
| Right Side Sill at Rear Seat X  | G13-F01                | Entran       | 8/14/00          |
| Right Side Sill at Rear Seat Y  | E23-R11                | Entran       | 9/12/00          |
| Right Side Sill at Rear Seat Z  | G13-F09                | Entran       | 8/14/00          |
| Left Side Sill at Front Seat Y  | E13-D06                | Entran       | 8/8/00           |
| Left Side Sill at Rear Seat Y   | I25-F14                | Entran       | 11/15/00         |
| Vehicle CG X                    | G13-F06                | Entran       | 8/14/00          |
| Vehicle CG Y                    | G13-F04                | Entran       | 8/14/00          |
| Vehicle CG Z                    | K11-J08                | Entran       | 11/17/00         |

Note: All Endeveco accelerometers are Model No. 7264-2000

All Entran accelerometers are Model No. EGE-72