

REPORT NUMBER: 201UI-CAL-09-03

**SAFETY COMPLIANCE TESTING FOR FMVSS 201  
OCCUPANT PROTECTION IN INTERIOR IMPACT  
UPPER INTERIOR HEAD IMPACT PROTECTION**

**GENERAL MOTORS CORP.  
2009 CHEVROLET TRAILBLAZER**

NHTSA NUMBER: C90104

CALSPAN TEST NUMBER:

CALSPAN  
TRANSPORTATION SCIENCES CENTER  
P.O. BOX 400  
BUFFALO, NEW YORK 14225



Test Date: January 20, 2009

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Enforcement  
Office of Vehicle Safety Compliance  
Mail Code: NVS-220, West Building 4<sup>th</sup> Floor  
1200 New Jersey Avenue, SE  
Washington, DC 20590

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

Prepared by:



---

James Czarnecki, Project Engineer

Approved by:



---

David J. Travale, Program Manager  
Transportation Science Center

Approval Date:

**APPROVED**  
By james.czarncki at 1:25 pm, 4/2/09

---

**TECHNICAL REPORT STANDARD TITLE PAGE**

| 1. <i>Report No.</i><br>201UI-CAL-09-03   |            | 2. <i>Government Accession No.</i>                          |          | 3. <i>Recipient's Catalog No.</i>   |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
|---|------------|---|----------|---|------------------|--------------|------------|----------|----------|-----|------|------|---|---|---|---|---|------|---|---|---|---|---|
| 4. <i>Title and Subtitle</i><br>Final Report of FMVSS 201 Compliance Testing of a<br>2009 Chevrolet Trailblazer NHTSA No. C90104  |            |   |          | 5. <i>Report Date</i><br>January 20, 2009   |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
|   |            |   |          | 6. <i>Performing Organization Code</i><br>CAL   |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 7. <i>Author(s)</i><br>David J. Travale, Program Manager<br>James Czarnecki, Project Engineer   |            |   |          | 8. <i>Performing Organization Report No.</i>  |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 9. <i>Performing Organization Name and Address</i><br>Calspan<br>4455 Genesee Street<br>Buffalo, New York 14225   |            |   |          | 10. <i>Work Unit No.</i>  |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
|   |            |   |          | 11. <i>Contract or Grant No.</i><br>DTNH22-04-C-01027   |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 12. <i>Sponsoring Agency Name and Address</i><br>U.S. Department of Transportation<br>National Highway Traffic Safety Administration<br>Office of Vehicle Safety Compliance<br>Mail Code: NVS-220, West building 4 <sup>th</sup> Floor<br>1200 New Jersey Avenue, SE<br>Washington, D.C. 20590  |            |   |          | 13. <i>Type of Report and Period Covered</i><br>Final Report<br>January 2009  |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
|   |            |   |          | 14. <i>Sponsoring Agency Code</i><br><br>NVS-220  |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 15. <i>Supplementary Notes</i>  |            |   |          |   |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 16. <i>Abstract</i><br><br>Compliance tests were conducted on the subject vehicle a, 2009 Chevrolet Trailblazer, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure TP-201U-01 for determination of FMVSS 201 compliance. Test failures identified were as follows in the table below:               |            |   |          |   |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| <table border="1"> <thead> <tr> <th>Target Point</th> <th>Horizontal</th> <th>Vertical</th> <th>Velocity</th> <th>HIC</th> <th>HICd</th> </tr> </thead> <tbody> <tr> <td>None</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>None</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> |            |   |          |   |                  | Target Point | Horizontal | Vertical | Velocity | HIC | HICd | None | - | - | - | - | - | None | - | - | - | - | - |
| Target Point  | Horizontal | Vertical  | Velocity | HIC   | HICd             |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| None  | -          | -   | -        | -   | -                |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| None  | -          | -   | -        | -   | -                |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 17. <i>Key Words</i><br>Compliance Testing<br>Safety Engineering<br>FMVSS 201   |            |   |          | 18. <i>Distribution Statement</i><br><u>Copies of this report are available from:</u><br>NHTSA Technical Information Services<br>National Highway Traffic Safety Admin.<br>1200 New Jersey Avenue, SE<br>Washington, DC 20590 |                  |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |
| 19. <i>Security Classif. (of this report)</i><br>UNCLASSIFIED   |            | 20. <i>Security Classif. (of this page)</i><br>UNCLASSIFIED |          | 21. <i>No. of Pages</i>   | 22. <i>Price</i> |              |            |          |          |     |      |      |   |   |   |   |   |      |   |   |   |   |   |

**Form DOT F1700.7 (8-69)**

## TABLE OF CONTENTS

| SECTION    |  | PAGE NO. |
|------------|--|----------|
| 1          | PURPOSE AND TEST PROCEDURE   | 1-1      |
| 2          | SUMMARY OF UPPER INTERIOR HEAD IMPACTS   | 2-1      |
| 3          | SUMMARY OF TEST RESULTS AND DATA PLOTS   | 3-1      |
| APPENDIX A | PHOTOGRAPHS  | A-1      |
| APPENDIX B | PART 572L PERFORMANCE CALIBRATION IN SUPPORT OF VEHICLE SAFETY COMPLIANCE TESTING FOR OCCUPANT PROTECTION IN INTERIOR IMPACT | B-1      |

## LIST OF DATA SHEETS

| <b>DATA SHEET</b> | <b>DESCRIPTION</b>                          | <b>PAGE NO.</b> |
|-------------------|---|-----------------|
| 2-1               | SUMMARY OF UPPER INTERIOR HEAD IMPACT TESTS | 2-2             |
| 2-2               | GENERAL TEST AND VEHICLE PARAMETER DATA     | 2-3             |
| 2-3               | APPROACH ANGLE LIMITS                       | 2-5             |
| 2-4               | SUMMARY TARGET IMPACT LOCATION ON FMH       | 2-6             |

## **SECTION 1**

### **PURPOSE AND TEST PROCEDURE**

This head impact compliance test is part of the FMVSS 201 Upper Interior Head Impact Protection Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-04-C-01027. The purpose of this head impact compliance test was to determine whether the subject vehicle, a 2009 Chevrolet Trailblazer, NHTSA No. C90104, meets the performance requirements of FMVSS 201, Occupant Protection in Interior Impact. The compliance test was conducted in accordance with the OVSC Laboratory Test Procedure No. TP-201U-01 dated April\_03, 1998.

## SECTION 2

### SUMMARY OF UPPER INTERIOR HEAD IMPACTS

A 2009 Chevrolet Trailblazer , NHTSA No. C90104 , was tested at various upper interior locations by a 4.54 kg 50<sup>th</sup> percentile headform. A total of twelve (12) impacts were performed in this test series. The target area impacts were chosen by the NHTSA Contracting Officer's Technical Representative (COTR). A summary of test results can be found on Data Sheet 2-1, Summary of Upper Interior Head Impact Tests. The twelve (12) area chosen for testing were:

|      |      |        |     |      |
|------|------|--------|-----|------|
| OP1  | UROP | URREAR | SR3 | BP4  |
| BP1  | AP3  | AP1    | BP3 | URBP |
| SR2A | AP2  |        |     |      |

The selected impact areas on the test vehicle appeared to comply with the performance requirements of FMVSS 201.

Five Free Motion Headforms (FMH) were used in this test series. All five FMH's were calibrated prior to and after the test series. Calibration information are included in Appendix B. Each FMH weighed  $4.54 \pm 0.5$  kg and had an orthogonal tri-axis accelerometer pack mounted at the headform's center of gravity (c.g.).

A total of three (3) channels of data for each test were recorded on a Keyser-Threde data acquisition system. Data plots, along with still images, can be found in Section 3, Summary of Test Results and Data Plots.

To document each target area impact test, a Weinberger high-speed video camera was placed at an appropriate location to record the headform contact with the selected target area.

**DATA SHEET 2-1**

**SUMMARY OF UPPER INTERIOR HEAD IMPACT TESTS**

|                                |                                 |
|--------------------------------|---------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer      |
| VIN:                           | IGNDS33S792102429               |
| DATE OF MANUFACTURE:           | 08/08 (SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                            |

| TARGET CODE   | Target Coordinates |          |          |                |         |          | Approach Angles (degrees) |          | Velocity (kph) | FMH HIC | HIC(d) |
|---------------|--------------------|----------|----------|----------------|---------|----------|---------------------------|----------|----------------|---------|--------|
|               | Driver Side        |          |          | Passenger Side |         |          | Horizontal                | Vertical |                |         |        |
|               | X(mm)              | Y(mm)    | Z(mm)    | X(mm)          | Y(mm)   | Z(mm)    |                           |          |                |         |        |
| AP1           | 2208.839           | -556.388 | 1638.452 | 2211.945       | 554.550 | 1646.715 | 120°                      | 43°      | 18.75          | 344.8   | 426.5  |
| AP2           | 2066.839           | -601.744 | 1549.938 | 2072.669       | 601.274 | 1559.372 | 212°                      | 40°      | 18.36          | 213.9   | 327.8  |
| AP3           | 1947.803           | -629.898 | 1470.317 | 1946.230       | 634.241 | 1474.541 | Relocated 1 circle        |          | -              | -       | -      |
| AP3 R1        | 1988.890           | -623.046 | 1497.767 | 1975.370       | 625.532 | 1495.777 | 147°                      | 35°      | 18.46          | 308.1   | 398.9  |
| BP1           | 2822.757           | -508.758 | 1692.563 | 2824.011       | 505.899 | 1696.199 | 90°                       | 16°      | 18.52          | 267     | 367.9  |
| BP3           | 2782.405           | -654.182 | 1439.040 | 2778.835       | 652.947 | 1438.140 | 270°                      | -4°      | 23.59          | 527.5   | 564.4  |
| BP4           | 2866.853           | -704.967 | 1311.913 | 2864.299       | 697.750 | 1311.759 | 132°                      | -10°     | 23.49          | 719.4   | 709.2  |
| FH1           | 2135.448           | -438.711 | 1654.282 | 2132.385       | 437.122 | 1658.273 | -                         | -        | -              | -       | -      |
| FH2           | 2122.086           | -290.158 | 1662.104 | 2116.253       | 287.435 | 1664.591 | -                         | -        | -              | -       | -      |
| OP1           | 3687.179           | -623.618 | 1529.694 | 3681.815       | 610.174 | 1525.835 | 90°                       | 0°       | 23.48          | 429.6   | 490.5  |
| OP2           | 3722.915           | -639.102 | 1476.391 | 3719.502       | 618.593 | 1470.922 | -                         | -        | -              | -       | -      |
| SR1           | 2359.806           | -511.650 | 1676.383 | 2361.158       | 513.143 | 1696.214 | Relocated 1 circle        |          | -              | -       | -      |
| SR1 R1        | -                  | -        | -        | 2374.921       | 515.080 | 1679.080 | -                         | -        | -              | -       | -      |
| SR2A          | 2524.053           | -503.658 | 1692.476 | 2522.531       | 509.569 | 1708.076 | Relocated 2 circles       |          | -              | -       | -      |
| SR2A and B R2 | -                  | -        | -        | 2520.959       | 480.074 | 1688.382 | 270°                      | 50°      | 18.46          | 253.3   | 357.5  |
| SR2B          | 2508.854           | -503.003 | 1692.354 | 2511.947       | 507.418 | 1708.219 | Relocated 2 circles       |          | -              | -       | -      |
| SR3 FG        | 3127.007           | -491.685 | 1710.168 | 3122.273       | 490.201 | 1711.019 | 90°                       | 50°      | 23.44          | 491.1   | 536.9  |
| SR3 RG        | 3292.360           | -493.420 | 1711.225 | 3291.411       | 488.779 | 1711.717 | -                         | -        | -              | -       | -      |
| URREAR        | 3921.362           | -380.923 | 1755.939 | 3938.547       | 358.885 | 1756.611 | 53°                       | 47°      | 23.69          | 246.4   | 352.3  |
| URAP          | 2456.388           | -379.326 | 1730.073 | 2453.268       | 341.993 | 1749.936 | -                         | -        | -              | -       | -      |
| URBP          | 2827.912           | -363.037 | 1736.384 | 2826.534       | 382.990 | 1744.156 | 270°                      | 50°      | 23.55          | 705.3   | 698.5  |
| UROB          | 3605.705           | -372.302 | 1762.822 | 3606.661       | 368.581 | 1760.132 | 90°                       | 48°      | 23.58          | 258     | 361.1  |
| URRSR         | 3357.155           | -378.976 | 1762.623 | 3338.059       | 356.514 | 1766.435 | -                         | -        | -              | -       | -      |

\*HIC(d)=0.75446(Free Motion Headform HIC)+166.4



**DATA SHEET 2-2**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

| <b>TEST VEHICLE INFORMATION:</b>                                     |   |                   |               |                                 |     |                  |         |              |  |
|--|---|-------------------|---------------|---------------------------------|-----|------------------|---------|--------------|--|
| Year/Make/Model/Body Style:  |   |                   |               | 2009 Chevrolet Trailblazer      |     |                  |         |              |  |
| VIN:   |   |                   |               | IGNDS33S792102429               |     |                  |         |              |  |
| Month & Year of Manufacture:   |   |                   |               | 08/08 (SEE CERTIFICATION LABEL) |     |                  |         |              |  |
| Vehicle Body Color:  |   |                   |               | Blue                            |     |                  |         |              |  |
| Engine Data:   | 6 | Cylinders;        | -             | CID;                            | 4.2 | Liters;          | -       | cc           |  |
| Engine Placement:  |   | x                 | Longitudinal; | or                              |     | -                | Lateral |              |  |
| Transmission:  | 4 | Speed;            | -             | Manual;                         | x   | Automatic;       | -       | Overdrive    |  |
| Final Drive:   | x | Rear Wheel Drive; | -             | Front Wheel Drive;              | -   | Four Wheel Drive |         |              |  |
| Odometer Reading:  |   | 50                | km            |                                 |     |                  |         |              |  |
| Options:   | x | A/C;              | x             | Power Steering;                 | x   | Pwr.Brakes;      | x       | Pwr. Windows |  |
| Interior Trim Information :  |   |                   |               |                                 |     |                  |         |              |  |
| 1. No seat belt anchorage on the B-pillar.                           |   |                   |               |                                 |     |                  |         |              |  |
| 2. Non-adjustable anchorage on the Other Pillar                      |   |                   |               |                                 |     |                  |         |              |  |
| 3. Grab handles on all outboard seating positions except driver side |   |                   |               |                                 |     |                  |         |              |  |

| <b>DATA FROM TIRE PLACARD:</b>      |   |            |   |                 |   |                              |          |       |  |
|-------------------------------------|---|------------|---|-----------------|---|------------------------------|----------|-------|--|
| Tire Pressure (at capacity);        |   |            |   | 210             |   | kPa FRONT                    |          |       |  |
|                                     |   |            |   | 240             |   | kPa REAR                     |          |       |  |
| Recommended Tire Size:              |   |            |   | P245/65R17      |   |                              |          |       |  |
| Tires on Test Vehicle:              |   | P245/65R17 |   | Manufacturer:   |   |                              | Michelin |       |  |
| Vehicle Capacity Data:              |   |            |   |                 |   |                              |          |       |  |
| Number of Occupants:                | 2 | Front;     | 3 | Rear;           | - | 3rd Seat;                    | 5        | Total |  |
| Type of Front Seats:                | x | Bucket;    | - | Bench;          | - | Split Bench                  |          |       |  |
| Type of Front Seat Back:            | - | Fixed;     | x | Adjustable with | x | Lever or                     | -        | Knob  |  |
| Vehicle Capacity Weight (VCW)=      |   |            |   | 499             |   | kg (A)                       |          |       |  |
| No. of Occupants x 68 kg. =         |   |            |   | 340             |   | kg (B)                       |          |       |  |
| Rated Cargo/Luggage Weight (RCLW) = |   |            |   | 159             |   | kg (A-B) Max. RCLW = 136 kg. |          |       |  |

**DATA SHEET 2-2**

**GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)**

| <b>TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:</b> |        |    |                     |       |    |
|---|--------|----|---------------------|-------|----|
| Left Front =  | 531.5  | kg | Left Rear =         | 464.0 | kg |
| Right Front =   | 528.0  | kg | Right Rear =        | 441.5 | kg |
| TOTAL FRONT =   | 1059.5 | kg | TOTAL REAR =        | 905.5 | kg |
| % of Total Weight =                                       | 53.9%  | %  | % of Total Weight = | 46.1% | %  |
| TOTAL WEIGHT =  | 1965.0 |    | kg                  |       |    |

| <b>CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:</b> |        |          |
|---|--------|----------|
| Total Test Vehicle Delivered Weight=                | 1965.0 | kg (A)   |
| + Rated Cargo/Luggage Weight =                      | 136.0  | kg (B)   |
| TEST VEHICLE TARGET WEIGHT =                        | 2101.0 | kg (A+B) |

| <b>WEIGHT OF TEST VEHICLE (FULLY LOADED):</b>           |        |    |                     |        |    |
|---|--------|----|---------------------|--------|----|
| Left Front =  | 523.0  | kg | Left Rear =         | 538.5  | kg |
| Right Front =   | 521.5  | kg | Right Rear =        | 512.5  | kg |
| TOTAL FRONT =   | 1044.5 | kg | TOTAL REAR =        | 1051.0 | kg |
| % of Total Weight =                                     | 49.8%  | %  | % of Total Weight = | 50.2%  | %  |
| TOTAL TEST WEIGHT =                                     | 2095.5 |    |                     |        |    |
| Weight of vehicle secured in test vehicles cargo area = | 130.5  |    | kg                  |        |    |

| <b>TEST VEHICLE ATTITUDE (all dimensions in millimeters):</b> |             |     |             |     |
|---|-------------|-----|-------------|-----|
| AS DELIVERED:   | Left Front  | 884 | Left Rear   | 903 |
|   | Right Front | 885 | Right Rear  | 903 |
| FULLY LOADED:   | Left Front  | 882 | Left Rear   | 874 |
|   | Right Front | 884 | Right Rear  | 875 |
| Test Vehicle Wheelbase:                                       | 2870        |     | millimeters |     |

| <b>TEST VEHICLE PITCH AND ROLL ANGLES:</b> |                 |       |              |       |
|--|-----------------|-------|--------------|-------|
| AS DELIVERED:                              | PITCH ANGLES    |       | ROLL ANGLES  |       |
|  | Left Door Sill  | ↓0.9↑ | Front Bumper | ↓0.1↑ |
|  | Right Door Sill | ↑1.0↓ | Rear Bumper  | ↑0.2↓ |
| FULLY LOADED:                              | PITCH ANGLES    |       | ROLL ANGLES  |       |
|  | Left Door Sill  | ↓0.3↑ | Front Bumper | 0.0   |
|  | Right Door Sill | ↑0.4↓ | Rear Bumper  | ↑0.3↓ |
| AS TESTED:                                 | PITCH ANGLES    |       | ROLL ANGLES  |       |
|  | Left Door Sill  | ↓0.6↑ | Front Bumper | ↓0.1↑ |
|  | Right Door Sill | ↑0.6↓ | Rear Bumper  | ↑0.2↓ |

DATA SHEET 2-3

APPROACH ANGLE LIMITS

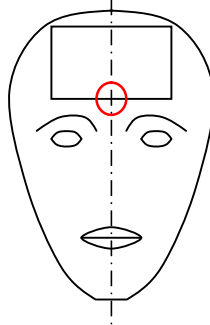
| Target Code | Left Side                |         |                        |         | Target Code | Right Side               |         |                        |         |
|-------------|--------------------------|---------|------------------------|---------|-------------|--------------------------|---------|------------------------|---------|
|             | Horizontal Angles (deg.) |         | Vertical Angles (deg.) |         |             | Horizontal Angles (deg.) |         | Vertical Angles (deg.) |         |
|             | Minimum                  | Maximum | Minimum                | Maximum |             | Minimum                  | Maximum | Minimum                | Maximum |
| AP1         | 208                      | 244     | -5                     | 43      | AP1         | 116                      | 152     | -5                     | 43      |
| AP2         | 208                      | 244     | -5                     | 40      | AP2         | 116                      | 152     | -5                     | 40      |
| AP3         | 208                      | 244     | -5                     | 35      | AP3         | 116                      | 152     | -5                     | 35      |
| BP1         | 203                      | 276     | -10                    | 16      | BP1         | 84                       | 157     | -10                    | 16      |
| BP3         | 203                      | 276     | -10                    | -4      | BP3         | 84                       | 157     | -10                    | -4      |
| BP4         | 203                      | 276     | -10                    | -10     | BP4         | 84                       | 157     | -10                    | -10     |
| OP1         | ANY                      |         | 0                      | 0       | OP1         | ANY                      |         | 0                      | 0       |
| OP2         | 270                      |         | -10                    | 0       | OP2         | 90                       |         | -10                    | 0       |
| FH1         | 180                      |         | 0                      | 50      | FH1         | 180                      |         | 0                      | 50      |
| FH2         | 180                      |         | 0                      | 50      | FH2         | 180                      |         | 0                      | 50      |
| SR1         | 270                      |         | 0                      | 50      | SR1         | 90                       |         | 0                      | 50      |
| SR2A        | 270                      |         | 0                      | 50      | SR2A        | 90                       |         | 0                      | 50      |
| SR2B        | 270                      |         | 0                      | 50      | SR2B        | 90                       |         | 0                      | 50      |
| SR3F        | 270                      |         | 0                      | 50      | SR3F        | 90                       |         | 0                      | 50      |
| SR3R        | 270                      |         | 0                      | 50      | SR3R        | 90                       |         | 0                      | 50      |
| URAP        | ANY                      |         | 0                      | 50      | URAP        | ANY                      |         | 0                      | 50      |
| URBP        | ANY                      |         | 0                      | 50      | URBP        | ANY                      |         | 0                      | 50      |
| UROP        | ANY                      |         | 0                      | 48      | UROP        | ANY                      |         | 0                      | 48      |
| URRSR       | ANY                      |         | 0                      | 50      | URRSR       | ANY                      |         | 0                      | 50      |
| URREAR      | ANY                      |         | 0                      | 47      | URREAR      | ANY                      |         | 0                      | 47      |

Note : OP1 target location – Seat belt anchorage

**DATA SHEET 2-4**

**SUMMARY TARGET IMPACT LOCATION ON FMH**

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |



ã RIGHT SIDE OF FACE

| TARGET | Distance Above Point 0 (mm) | Distance Over From Pt. O (mm) |
|--------|-----------------------------|-------------------------------|
| OP1    | 7                           | 15L                           |
| UROP   | 32                          | 0                             |
| URREAR | 39                          | 5L                            |
| SR3    | 25                          | 0                             |
| BP4    | 15                          | 11R                           |
| BP1    | 65                          | 3R                            |
| AP3    | 24                          | 0                             |
| AP1    | 19                          | 16R                           |
| BP3    | 19                          | 19L                           |
| URBP   | 45                          | 7L                            |
| SR2A   | 16                          | 0                             |
| AP2    | 25                          | 6R                            |

**SECTION 3**

**SUMMARY OF TEST RESULTS AND DATA PLOTS**

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |              |
|--------------------------|--------------|
| Test Number:             | 01           |
| Test Date:               | 01/19/09     |
| Target Location:         | OTHER PILLAR |
| Target Code:             | OP1          |
| Horizontal Impact Angle: | 90°          |
| Vertical Impact Angle:   | 0°           |
| Ambient Temperature:     | 20°C         |
| Relative Humidity:       | 18           |
| Time of Impact:          | 10:15        |
| Headform Number:         | 0805         |

|  |    |                          |  |
|--|----|--------------------------|--|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |  |
| On Centerline  | 15 | <input type="checkbox"/> | mm right <input checked="" type="checkbox"/> mm left |
| On Centerline  | 7  |                          | mm up  |



POST-IMPACT OP1 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 429.6 |
| HIC(d)                | 490.5 |
| Impact Velocity (kph) | 23.48 |
| HIC T1 (msec)         | 1.4   |
| HIC T2 (msec)         | 12.0  |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - OP1

FMH Headform 0805

Location: OP1

Test Date: January 19, 2009

Work File: OP1

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 490.5

Lab Humidity: 18 %

HIC (36ms): 429.6

Velocity at Impact: 23.48 KPH

t1: 1.4 msec

t2: 12.0 msec

Free Flight Distance: 222.17 mm

Duration: 10.6 msec

Average Acceleration: 8.4 g

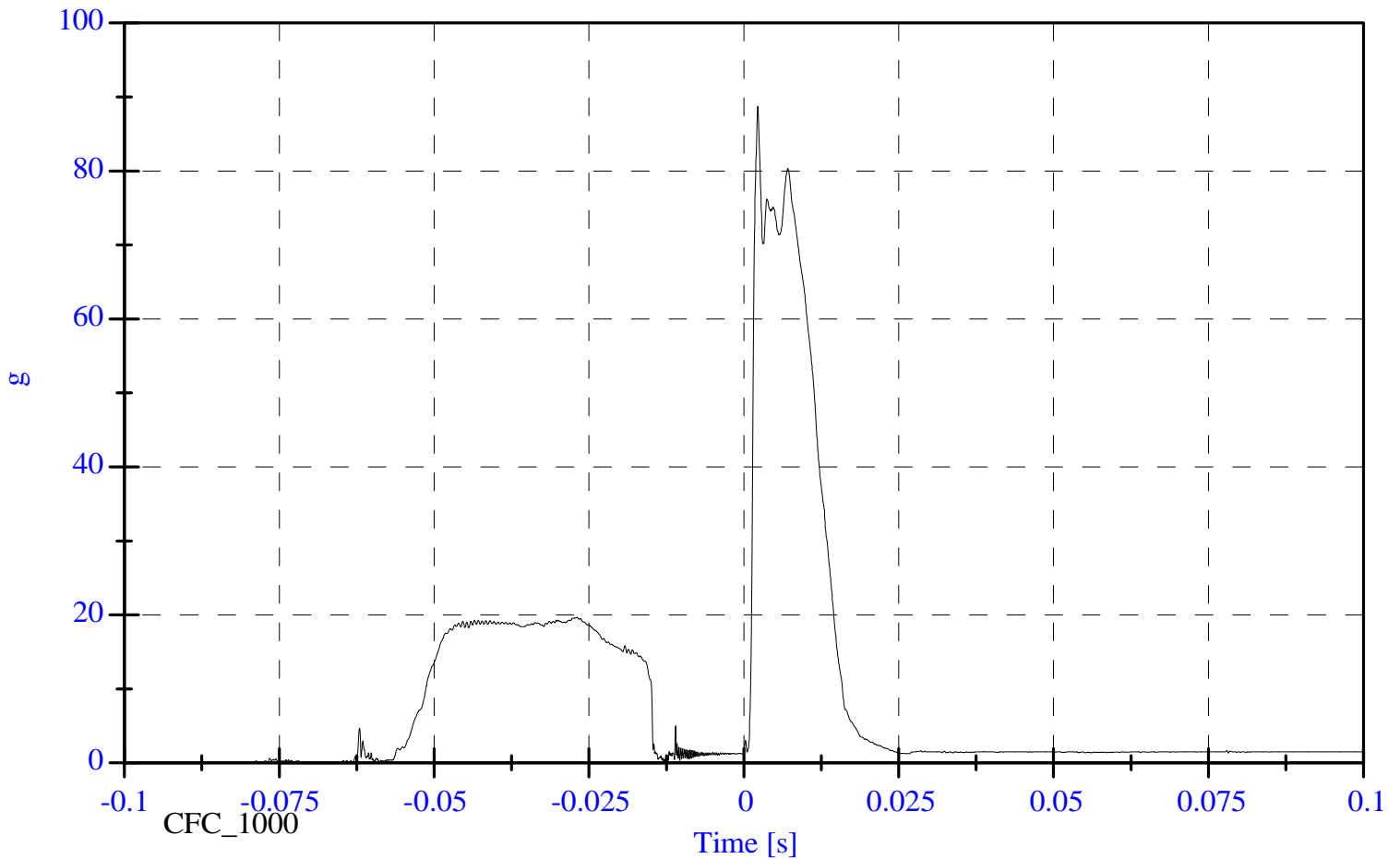
Maximum: 88.7 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 88.7 [g] at 0.002 [s]

Min: 0.0 [g] at -0.095 [s]



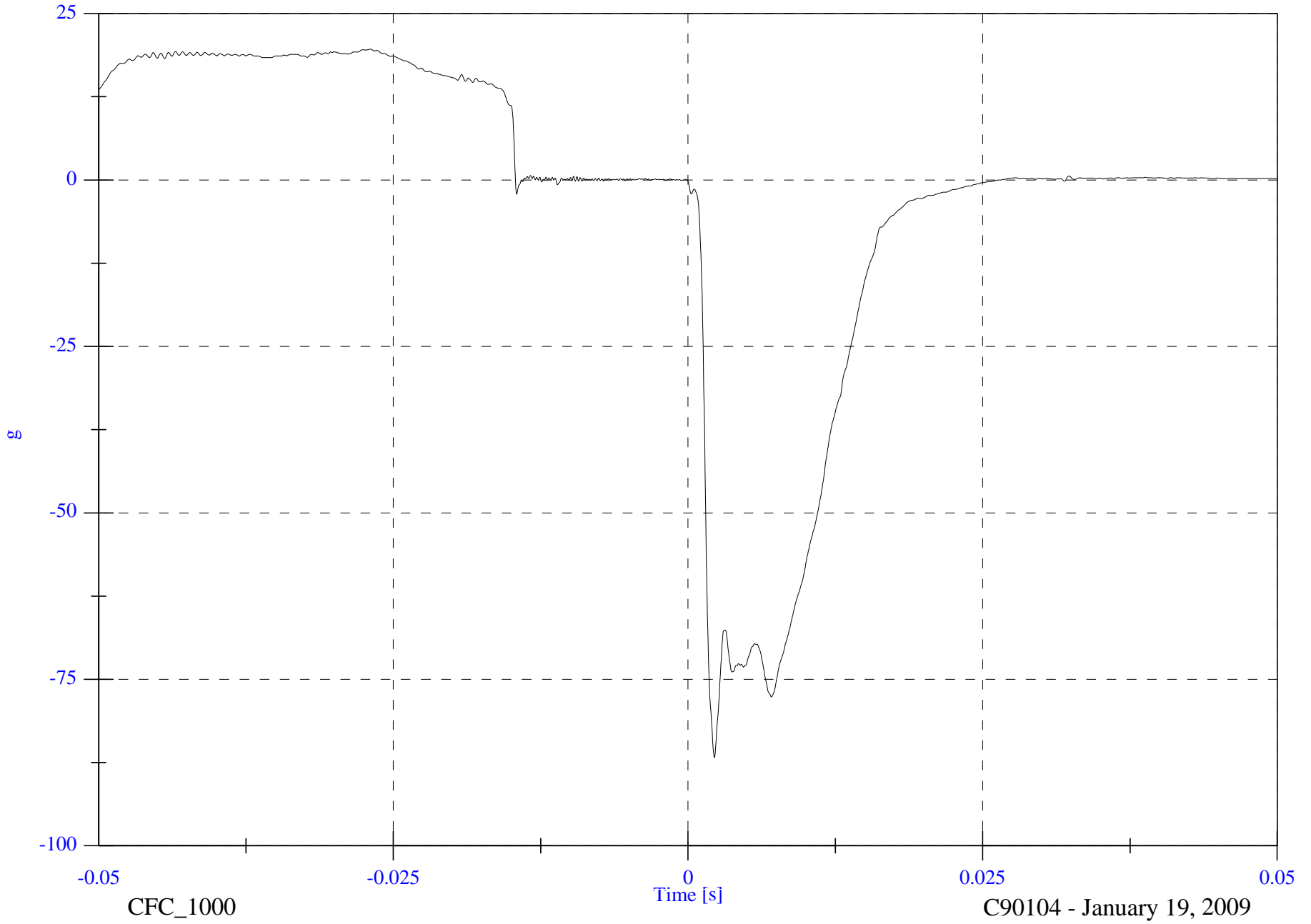
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 19.6 [g] at -0.027 [s]

Min: -86.7 [g] at 0.002 [s]

C90104 PASSENGER SIDE OP1 IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009



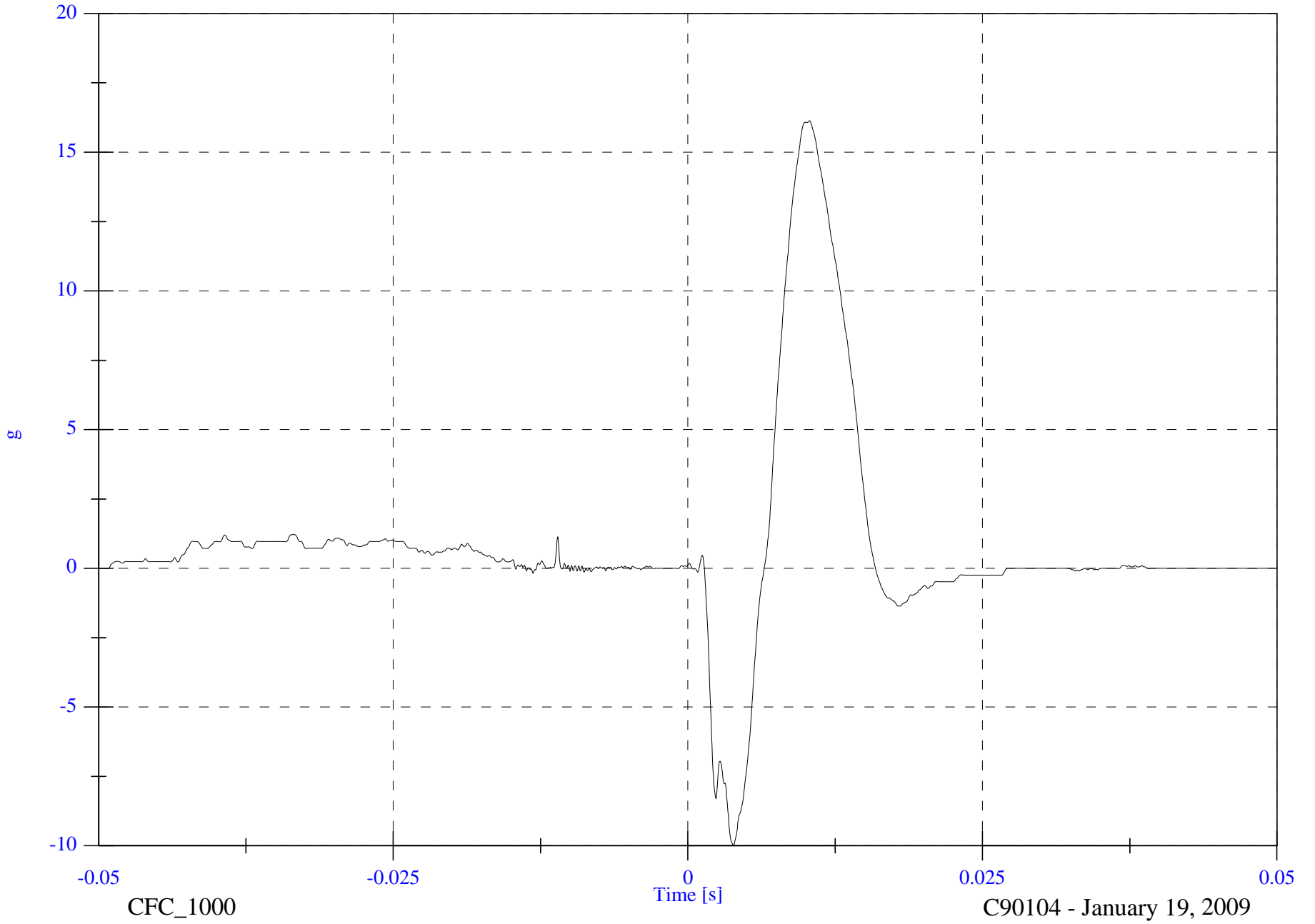
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 16.1 [g] at 0.010 [s]

Min: -10.0 [g] at 0.004 [s]

C90104 PASSENGER SIDE OP1 IMPACT PLOT #2



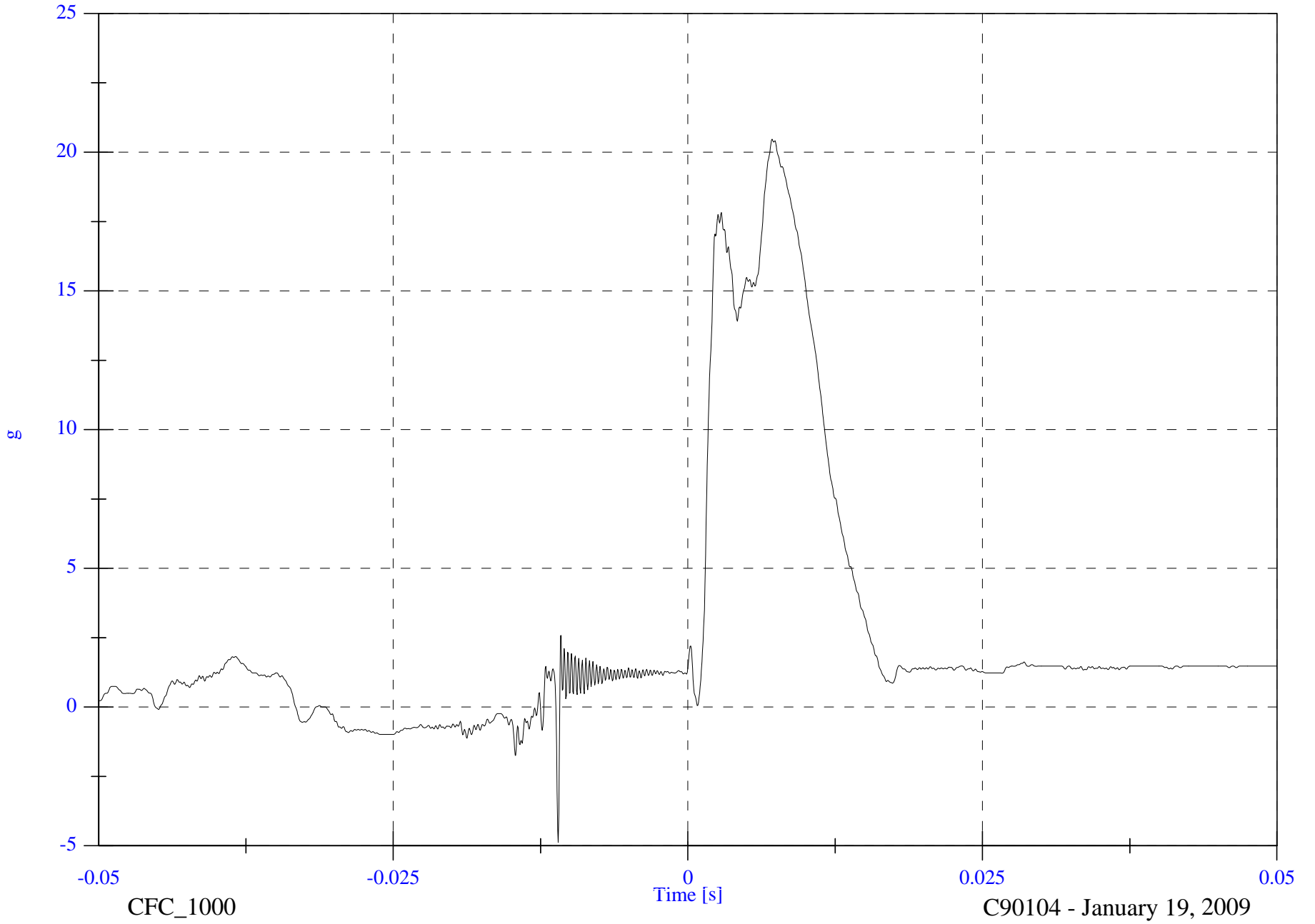
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 20.5 [g] at 0.007 [s]

Min: -4.9 [g] at -0.011 [s]

C90104 PASSENGER SIDE OP1 IMPACT PLOT #3



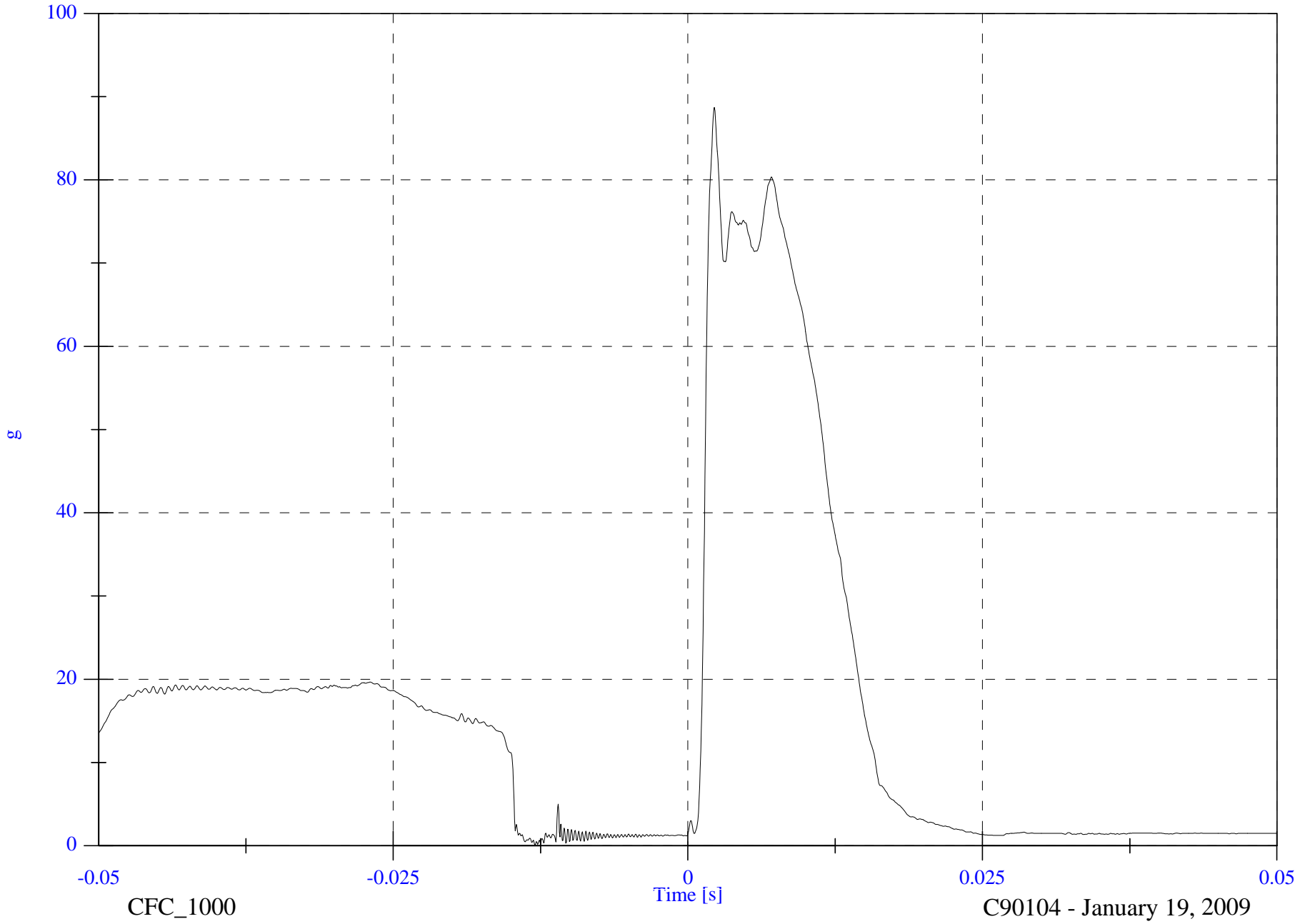
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 88.7 [g] at 0.002 [s]

Min: 0.1 [g] at -0.013 [s]

C90104 PASSENGER SIDE OP1 IMPACT PLOT #4



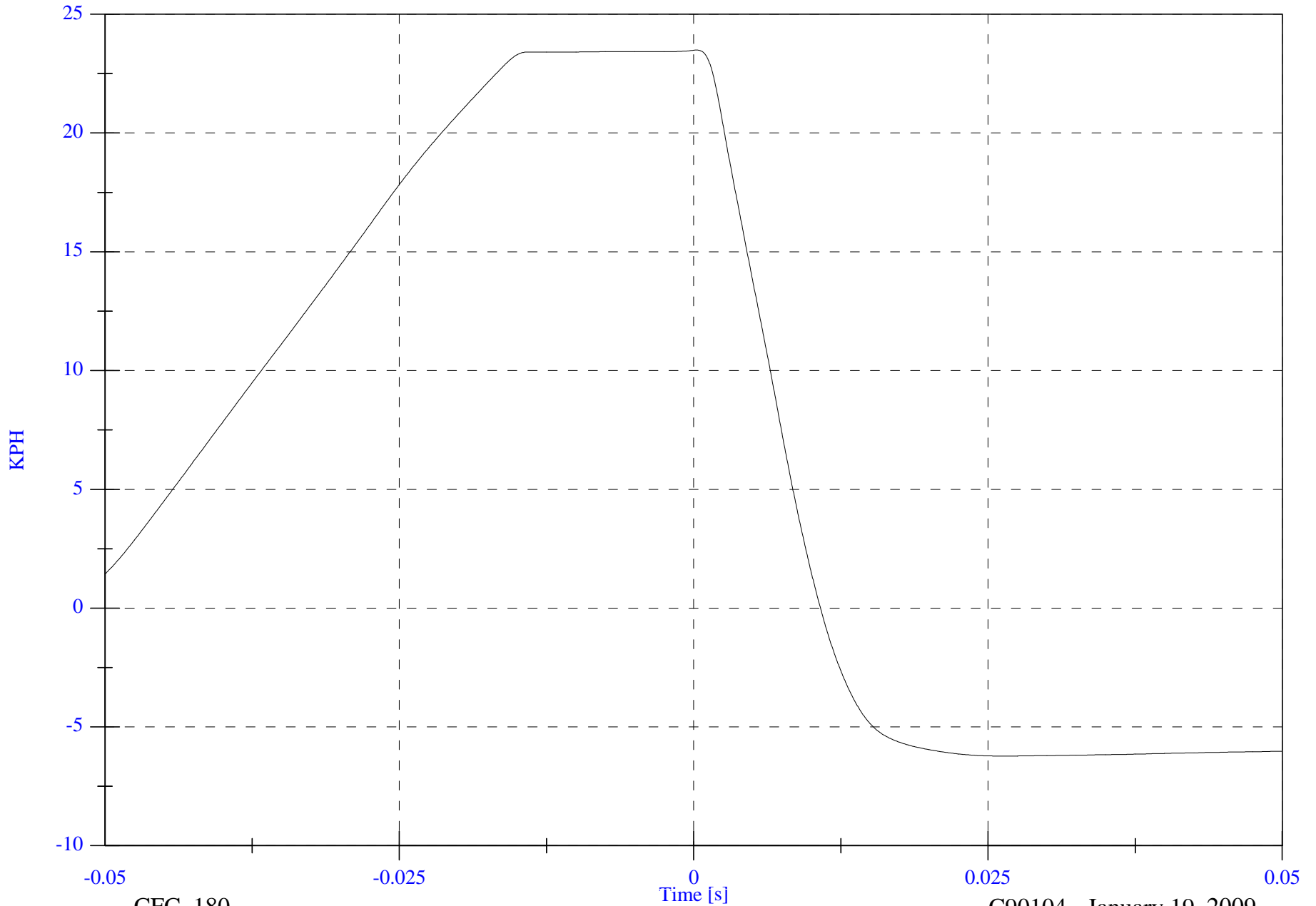
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 23.5 [KPH] at 0.000 [s]

Min: -6.2 [KPH] at 0.026 [s]

### Headform Velocity

C90104 PASSENGER SIDE OP1 IMPACT PLOT #5



CFC\_180

C90104 - January 19, 2009



PRE-IMPACT OPI



POST-IMPACT OPI

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |            |
|--------------------------|------------|
| Test Number:             | 02         |
| Test Date:               | 01/19/09   |
| Target Location:         | UPPER ROOF |
| Target Code:             | UROP       |
| Horizontal Impact Angle: | 90°        |
| Vertical Impact Angle:   | 48°        |
| Ambient Temperature:     | 20°C       |
| Relative Humidity:       | 18         |
| Time of Impact:          | 10:40      |
| Headform Number:         | 1140       |

|  |    |                          |   |
|--|----|--------------------------|---|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |   |
| On Centerline  | 0  | <input type="checkbox"/> | mm right <input type="checkbox"/> mm left |
| On Centerline  | 32 |                          | mm up                                     |



POST-IMPACT UROP HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 258.0 |
| HIC(d)                | 361.1 |
| Impact Velocity (kph) | 23.58 |
| HIC T1 (msec)         | 4.7   |
| HIC T2 (msec)         | 19.9  |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - UROP

FMH Headform 1140

Location: UROP

Test Date: January 19, 2009

Work File: UROP

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 361.1

Lab Humidity: 18 %

HIC (36ms): 258.0

Velocity at Impact: 23.58 KPH

t1: 4.7 msec

t2: 19.9 msec

Free Flight Distance: 222.90 mm

Duration: 15.2 msec

Average Acceleration: 8.7 g

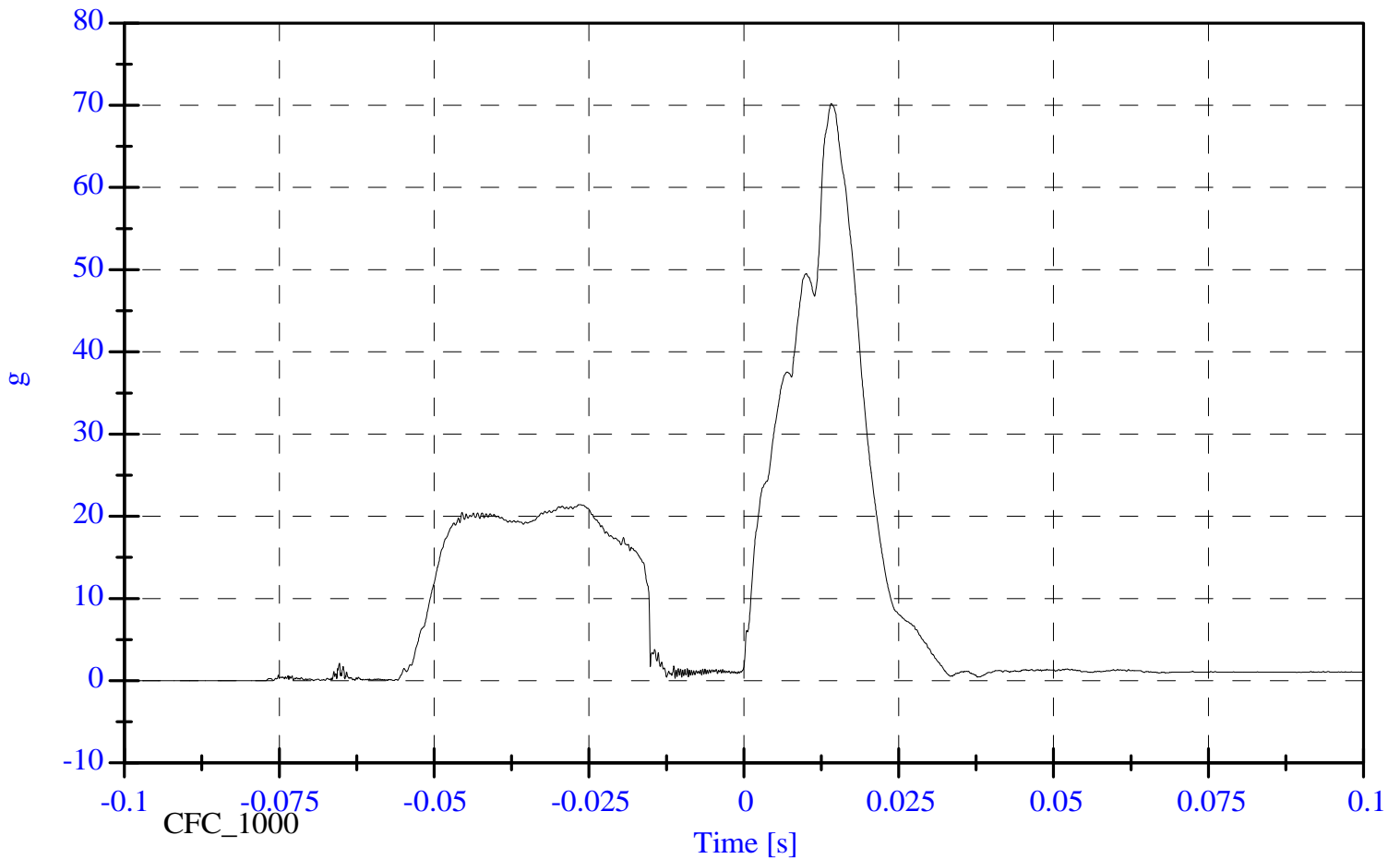
Maximum: 70.2 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 70.2 [g] at 0.014 [s]

Min: -0.0 [g] at -0.099 [s]





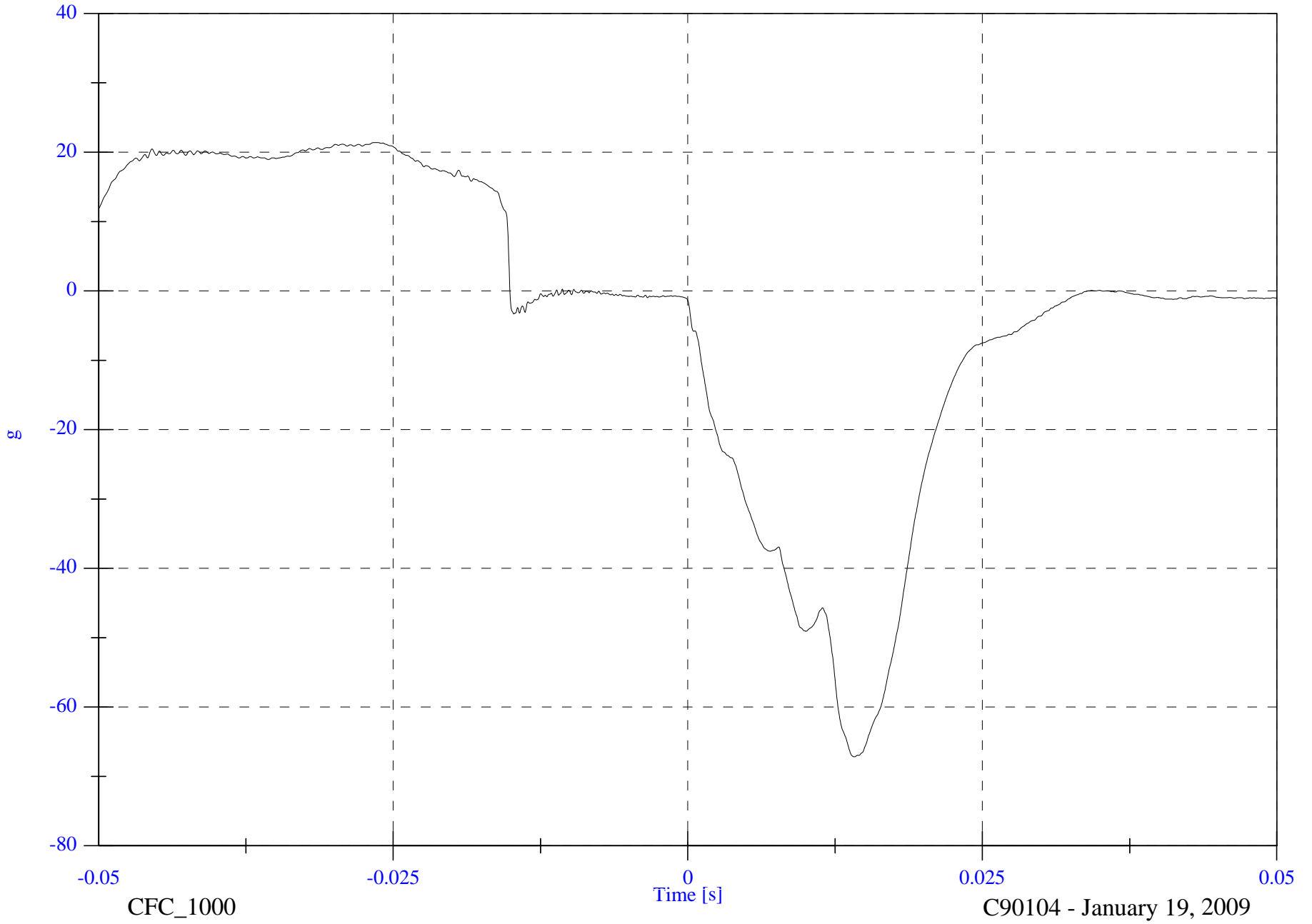
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 21.4 [g] at -0.027 [s]

Min: -67.2 [g] at 0.014 [s]

C90104 PASSENGER SIDE UROP IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009

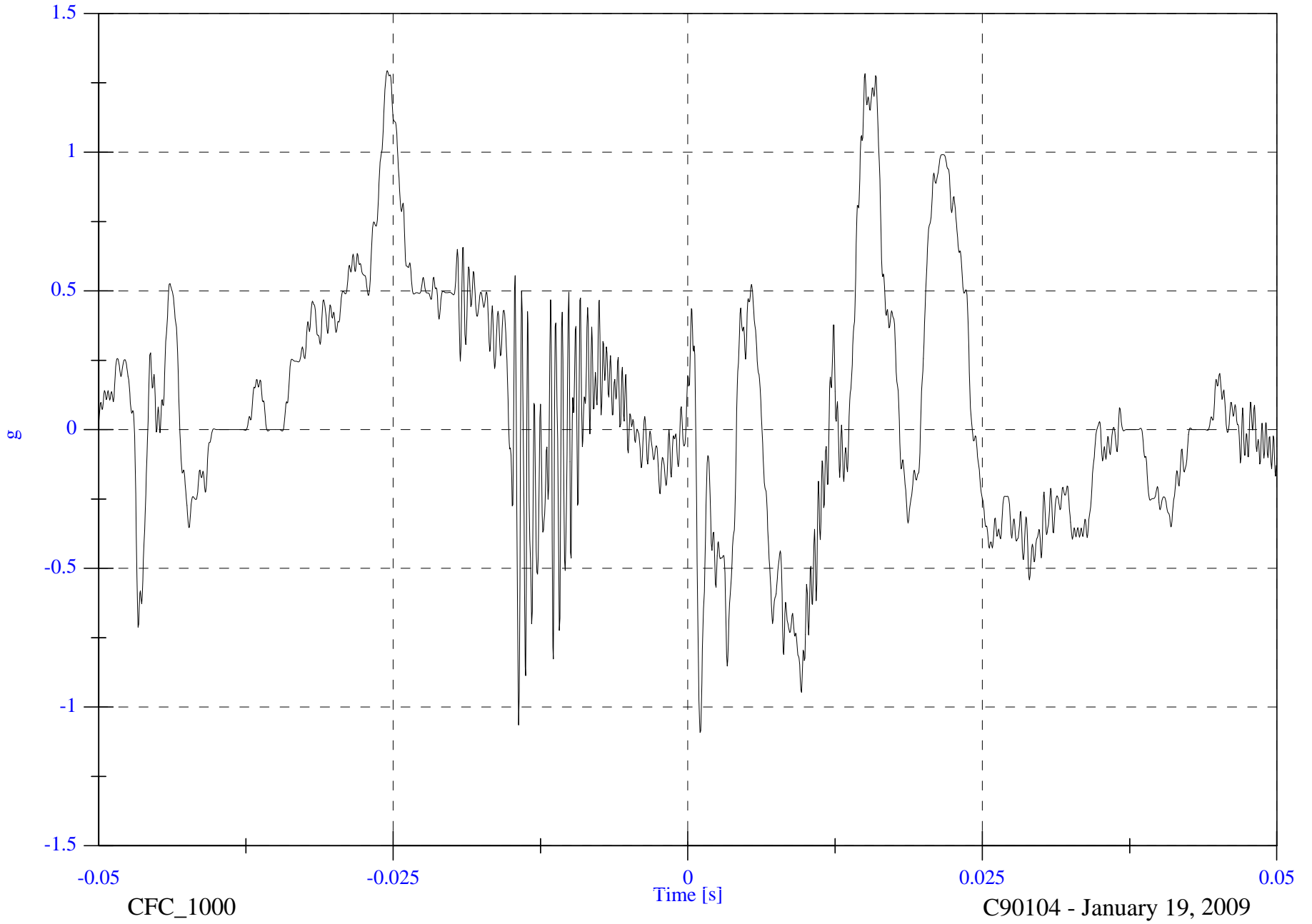
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 1.3 [g] at -0.026 [s]

Min: -1.1 [g] at 0.001 [s]

C90104 PASSENGER SIDE UROP IMPACT PLOT #2



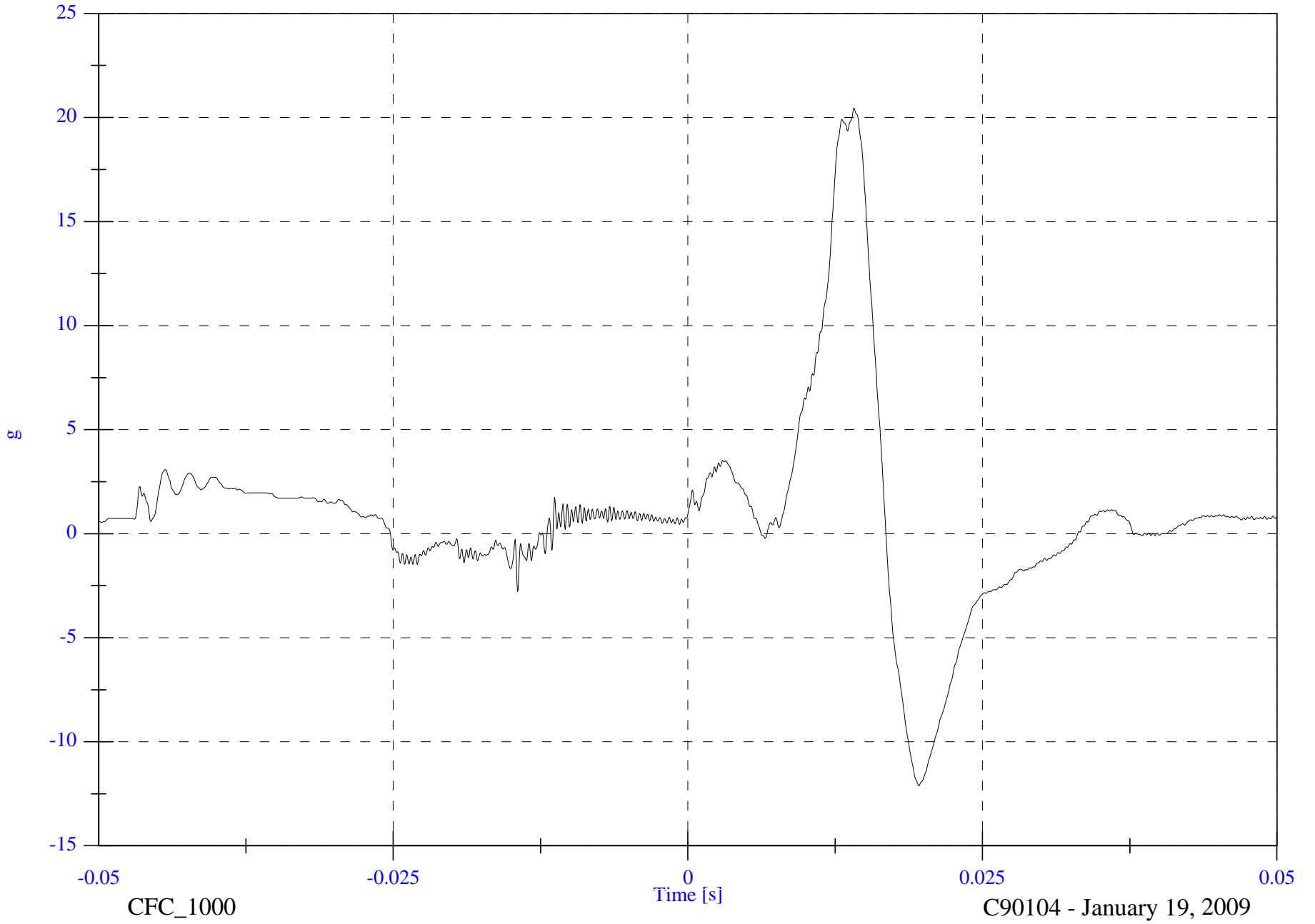
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 20.5 [g] at 0.014 [s]

Min: -12.1 [g] at 0.020 [s]

C90104 PASSENGER SIDE UROP IMPACT PLOT #3



CFC\_1000

C90104 - January 19, 2009

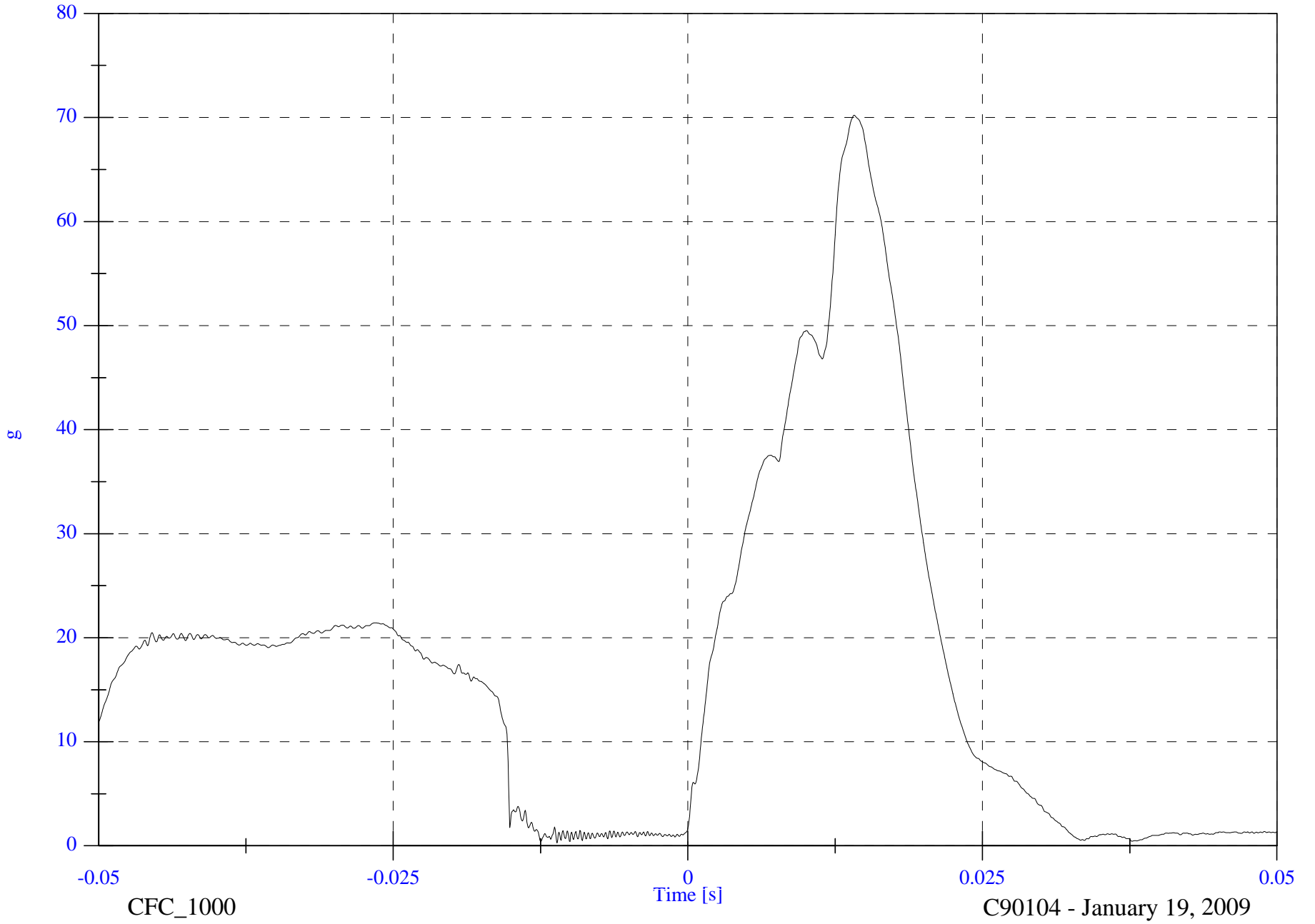
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 70.2 [g] at 0.014 [s]

Min: 0.3 [g] at -0.011 [s]

C90104 PASSENGER SIDE UROP IMPACT PLOT #4



CFC\_1000

C90104 - January 19, 2009

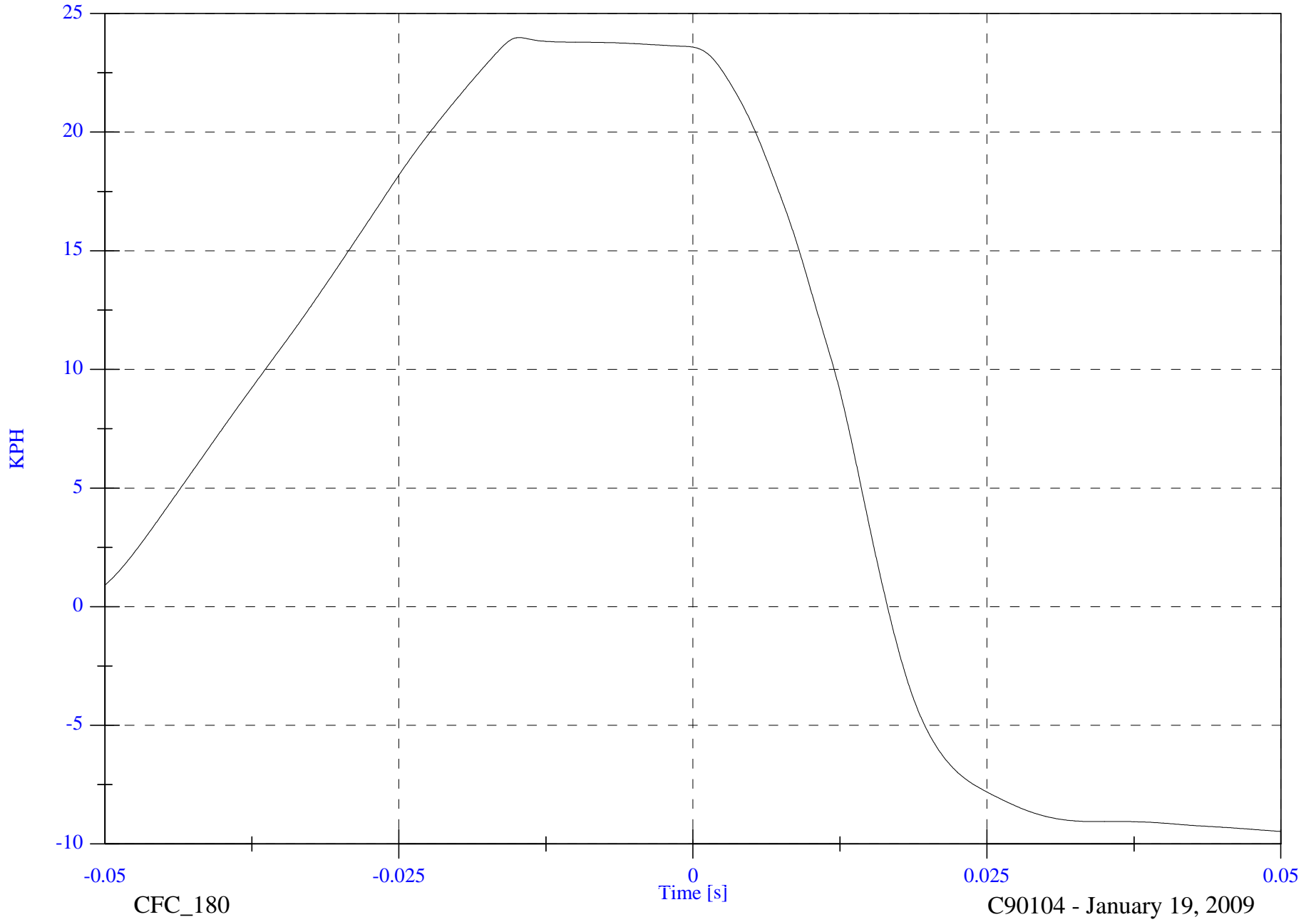
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 24.0 [KPH] at -0.015 [s]

Min: -9.5 [KPH] at 0.050 [s]

Headform Velocity

C90104 PASSENGER SIDE UROP IMPACT PLOT #5



CFC\_180

C90104 - January 19, 2009



PRE-IMPACT UROP

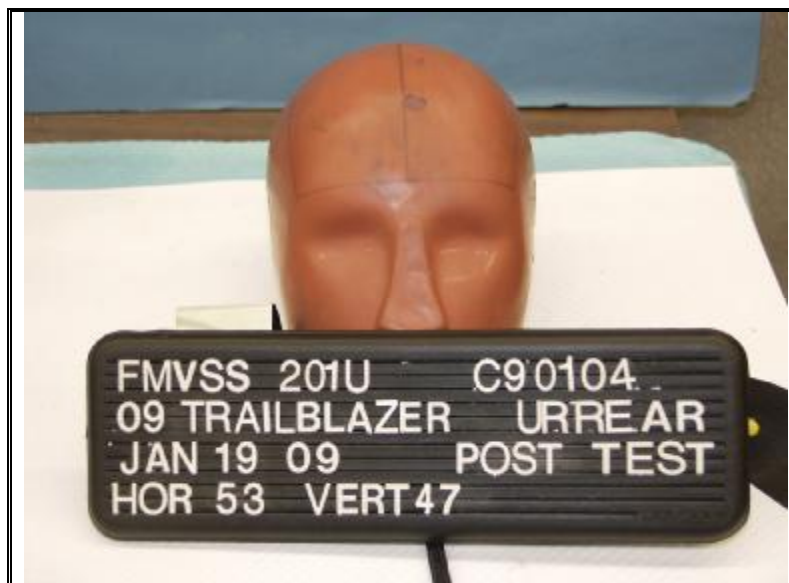


POST-IMPACT UROP

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |            |
|--------------------------|------------|
| Test Number:             | 03         |
| Test Date:               | 01/19/09   |
| Target Location:         | UPPER ROOF |
| Target Code:             | URREAR     |
| Horizontal Impact Angle: | 53°        |
| Vertical Impact Angle:   | 47°        |
| Ambient Temperature:     | 20°C       |
| Relative Humidity:       | 18         |
| Time of Impact:          | 11:15      |
| Headform Number:         | 0355       |

|  |    |                          |          |                                     |         |
|--|----|--------------------------|----------|-------------------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |          |                                     |         |
| On Centerline  | 5  | <input type="checkbox"/> | mm right | <input checked="" type="checkbox"/> | mm left |
| On Centerline  | 39 |                          |          |                                     | mm up   |



POST-IMPACT URREAR HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 246.4 |
| HIC(d)                | 352.3 |
| Impact Velocity (kph) | 23.69 |
| HIC T1 (msec)         | 2.2   |
| HIC T2 (msec)         | 20.9  |



# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - URREAR

FMH Headform 0355

Location: URREAR

Test Date: January 19, 2009

Work File: URREAR

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 352.3

Lab Humidity: 18 %

HIC (36ms): 246.4

Velocity at Impact: 23.69 KPH

t1: 2.2 msec

t2: 20.9 msec

Free Flight Distance: 221.76 mm

Duration: 18.7 msec

Average Acceleration: 8.8 g

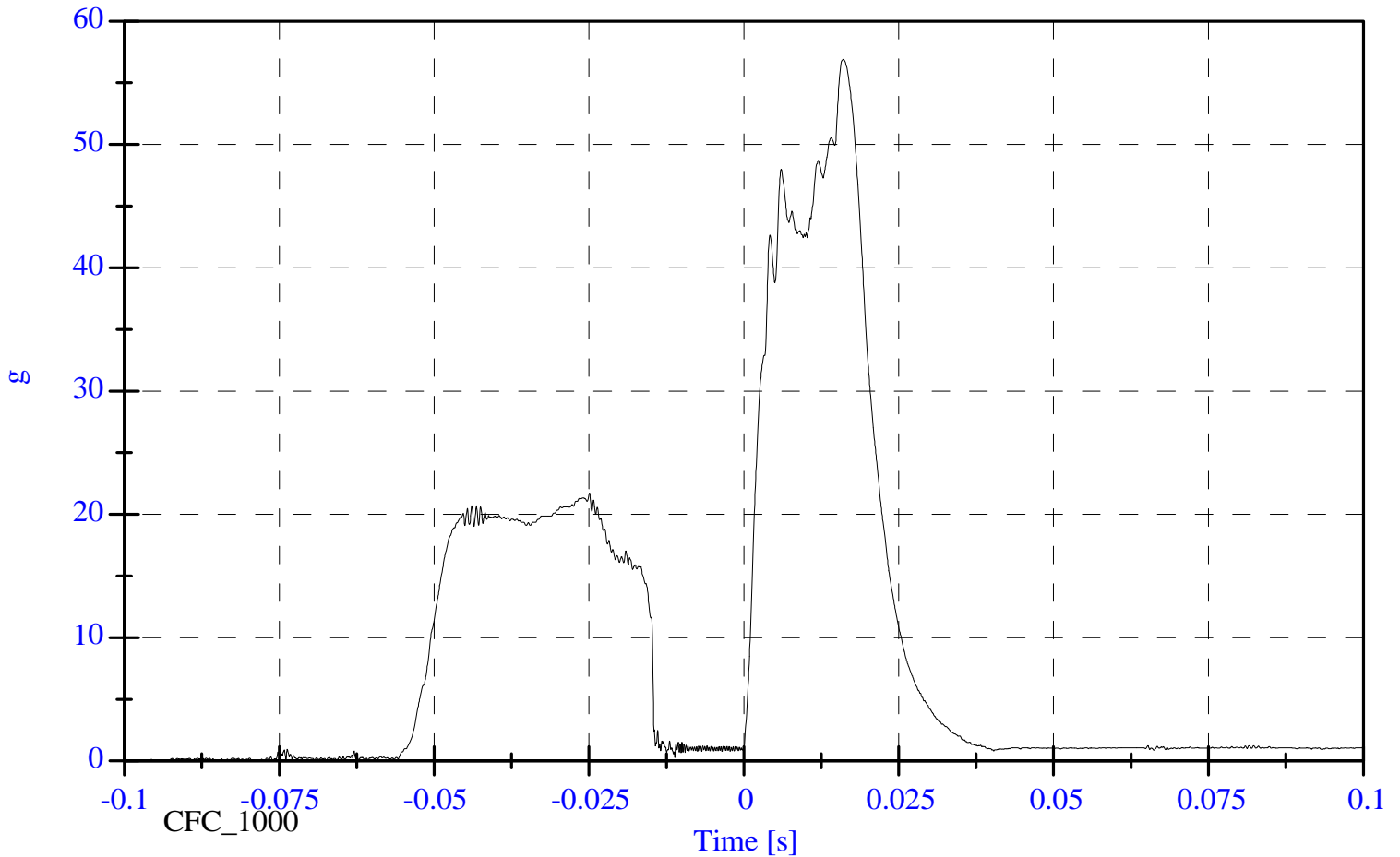
Maximum: 56.9 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 56.9 [g] at 0.016 [s]

Min: 0.0 [g] at -0.094 [s]



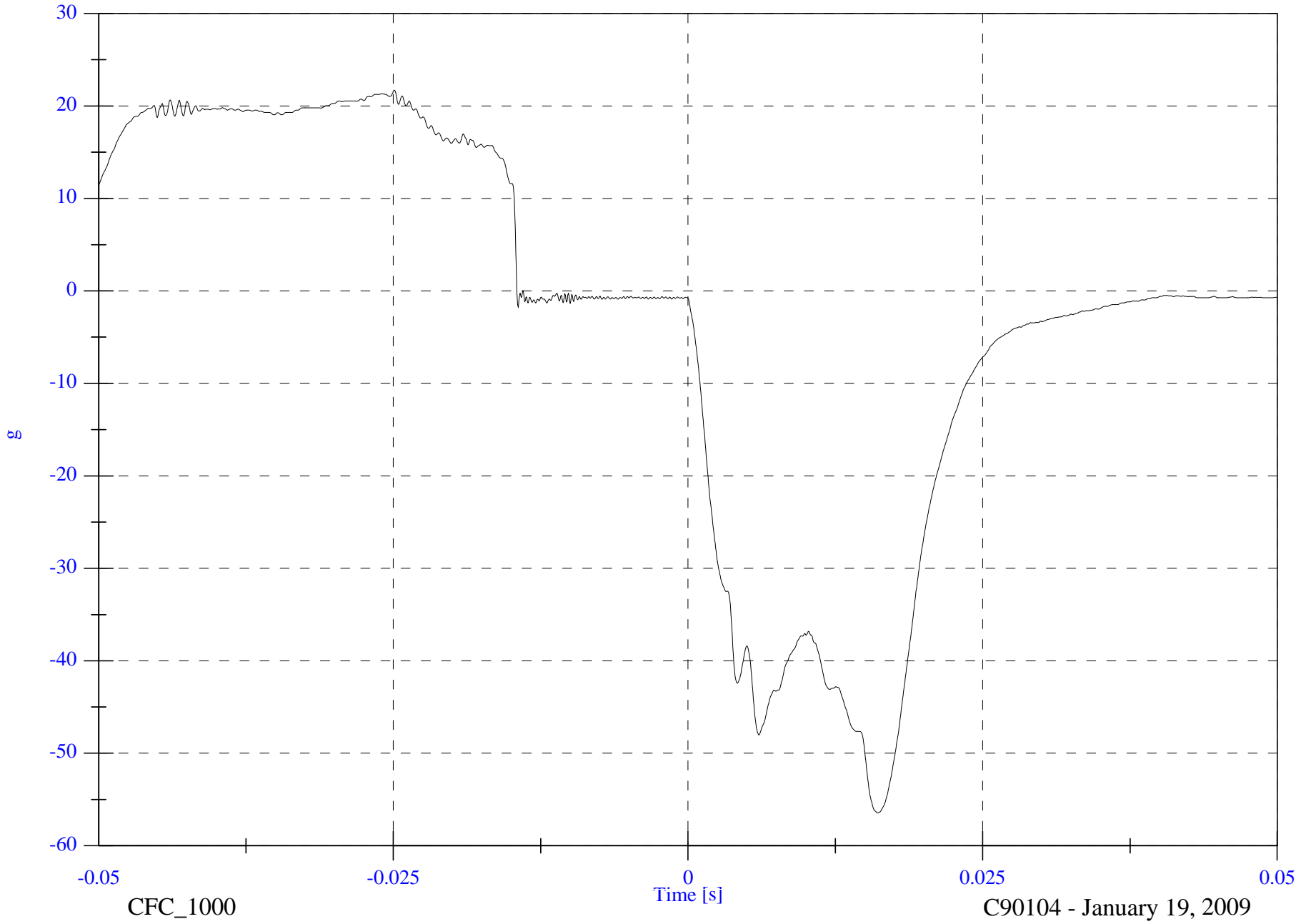
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 21.7 [g] at -0.025 [s]

Min: -56.4 [g] at 0.016 [s]

C90104 PASSENGER SIDE URREAR IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009

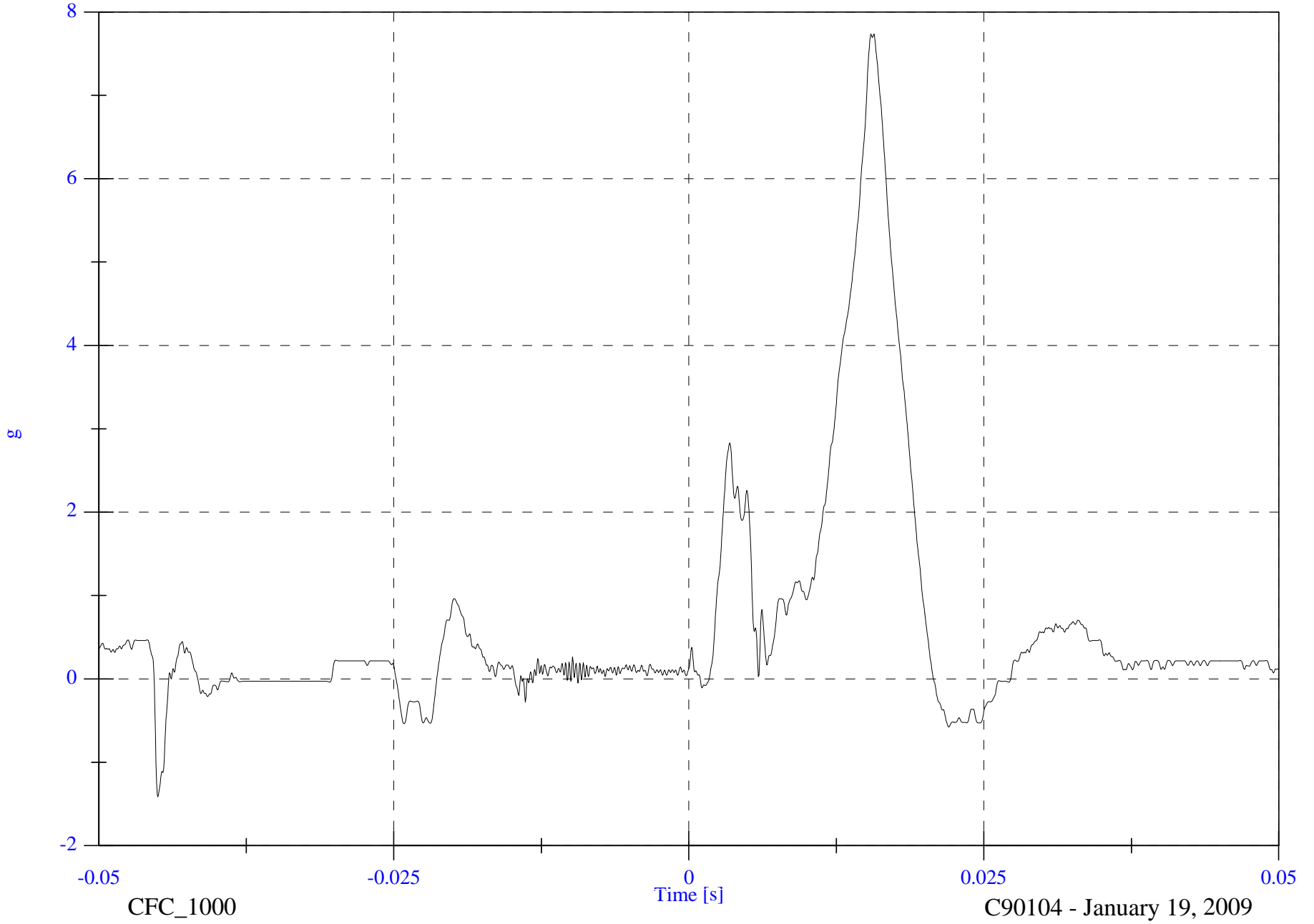
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 7.7 [g] at 0.015 [s]

Min: -1.4 [g] at -0.045 [s]

C90104 PASSENGER SIDE URREAR IMPACT PLOT #2



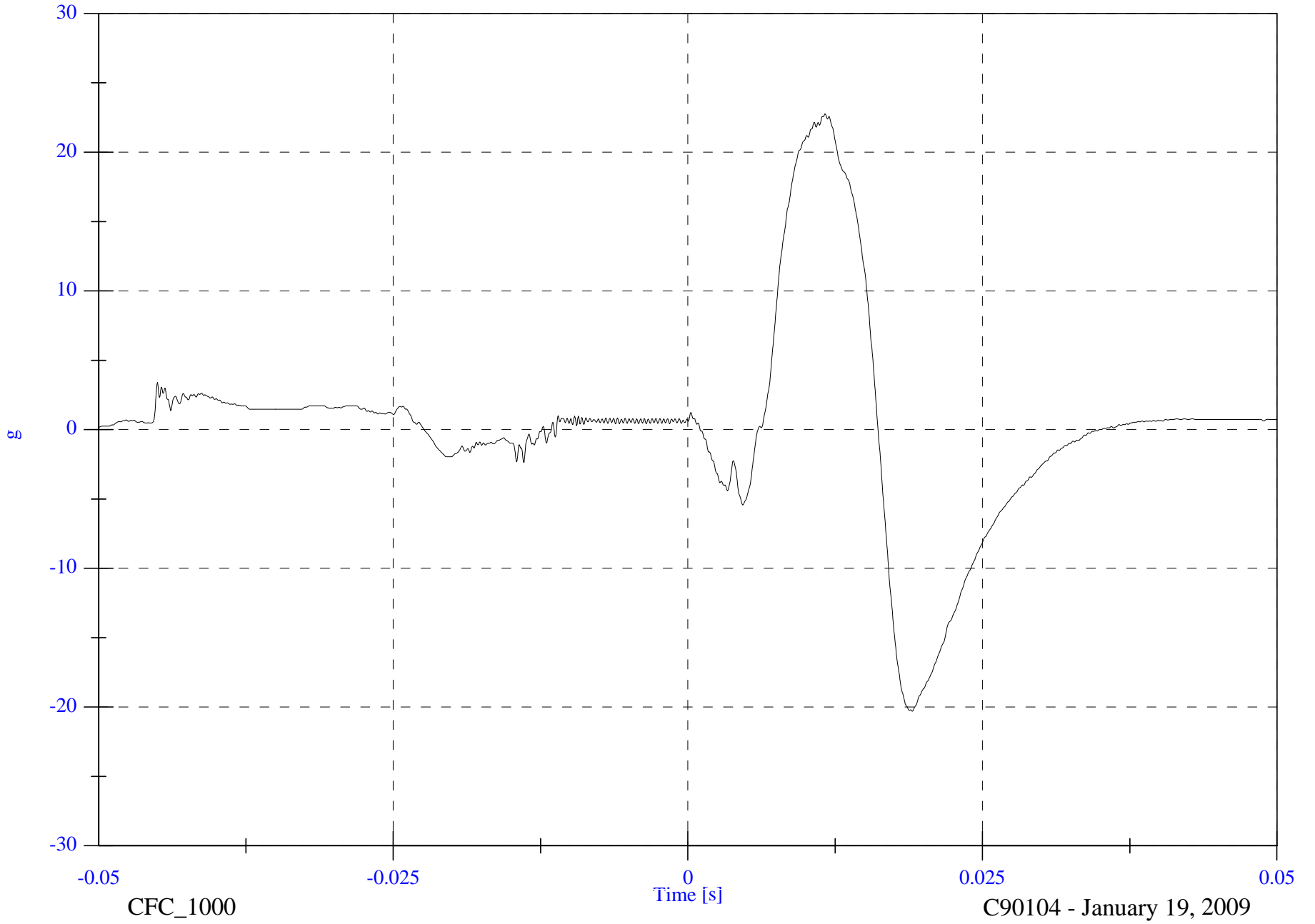
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 22.8 [g] at 0.012 [s]

Min: -20.3 [g] at 0.019 [s]

C90104 PASSENGER SIDE URREAR IMPACT PLOT #3



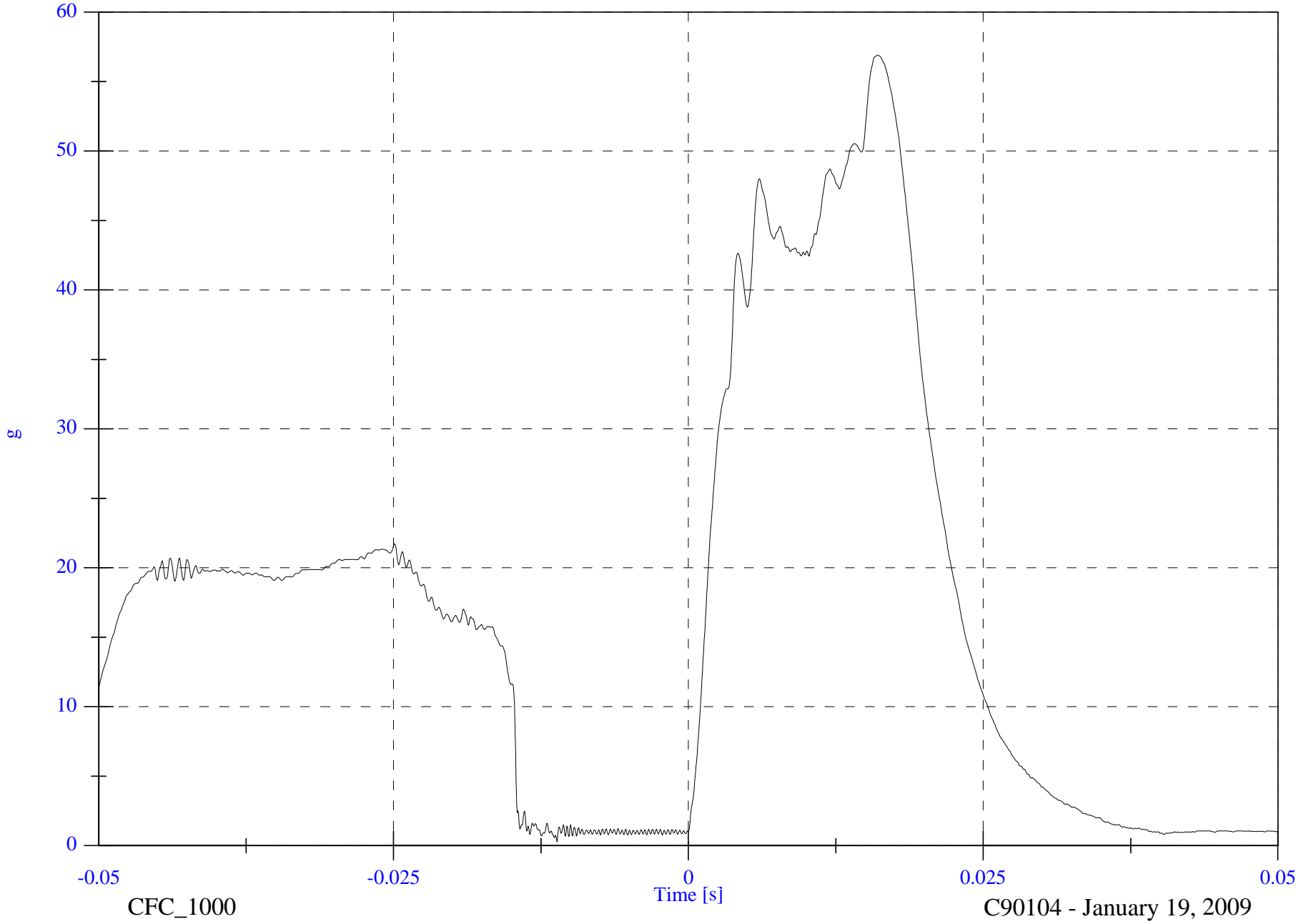
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 56.9 [g] at 0.016 [s]

Min: 0.3 [g] at -0.011 [s]

C90104 PASSENGER SIDE URREAR IMPACT PLOT #4



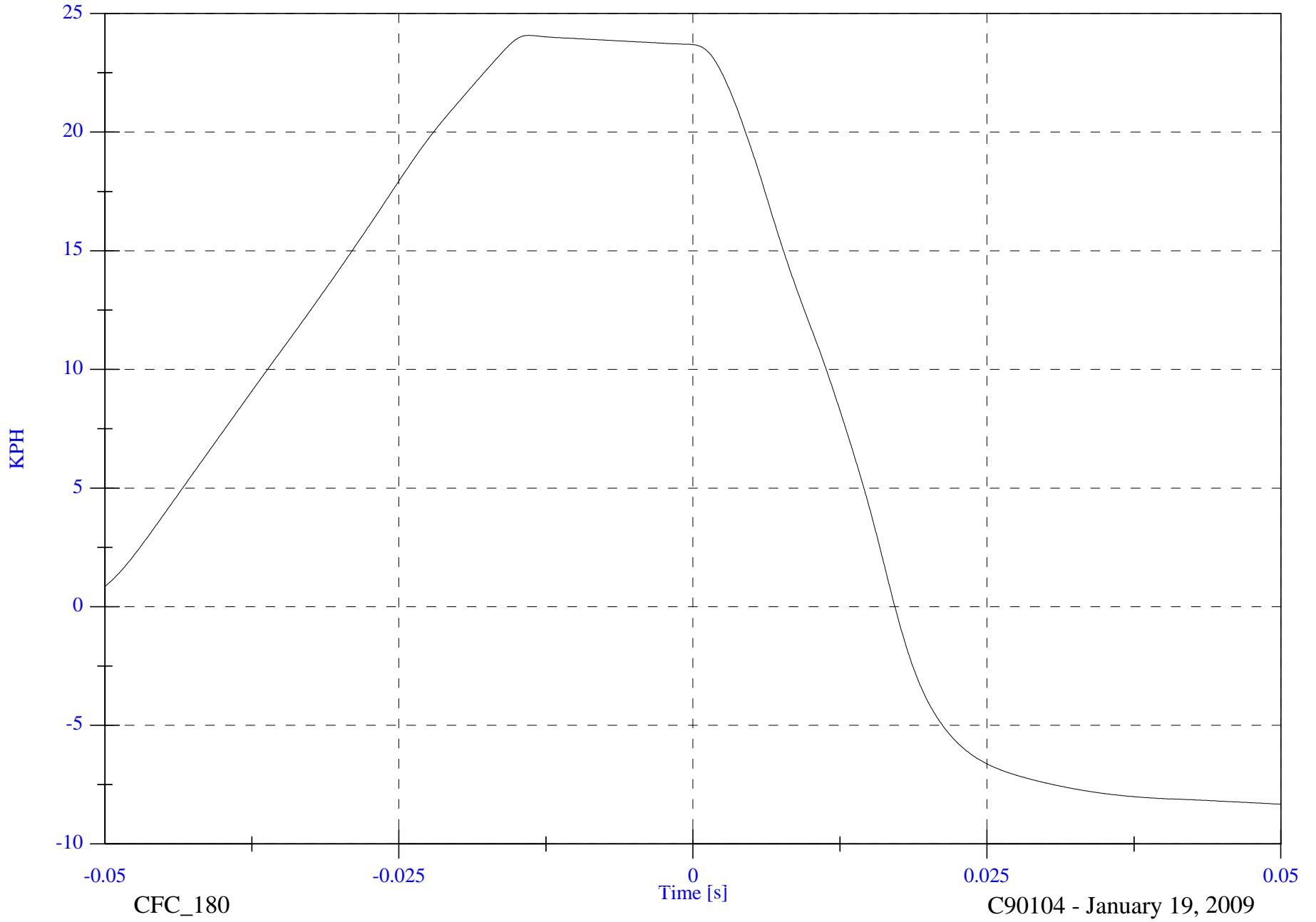
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 24.1 [KPH] at -0.014 [s]

Min: -8.3 [KPH] at 0.050 [s]

Headform Velocity

C90104 PASSENGER SIDE URREAR IMPACT PLOT #5



CFC\_180

C90104 - January 19, 2009



PRE-IMPACT URREAR



POST-IMPACT URREAR



|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |           |
|--------------------------|-----------|
| Test Number:             | 04        |
| Test Date:               | 01/19/09  |
| Target Location:         | SIDE RAIL |
| Target Code:             | SR3       |
| Horizontal Impact Angle: | 90°       |
| Vertical Impact Angle:   | 50°       |
| Ambient Temperature:     | 20°C      |
| Relative Humidity:       | 18        |
| Time of Impact:          | 11:55     |
| Headform Number:         | 1142      |

|  |    |                          |   |
|--|----|--------------------------|---|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |   |
| On Centerline  | 0  | <input type="checkbox"/> | mm right <input type="checkbox"/> mm left |
| On Centerline  | 25 |                          | mm up                                     |



POST-IMPACT SR3 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 491.1 |
| HIC(d)                | 536.9 |
| Impact Velocity (kph) | 23.44 |
| HIC T1 (msec)         | 1.2   |
| HIC T2 (msec)         | 7.9   |

# FMVSS 201U 09 CHEVY TRAILBLAZER c90104 - SR3

FMH Headform 1142

Location: SR3

Test Date: January 19, 2009

Work File: SR3

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 536.9

Lab Humidity: 18 %

HIC (36ms): 491.1

Velocity at Impact: 23.44 KPH

t1: 1.2 msec

t2: 7.9 msec

Free Flight Distance: 209.86 mm

Duration: 6.7 msec

Average Acceleration: 8.8 g

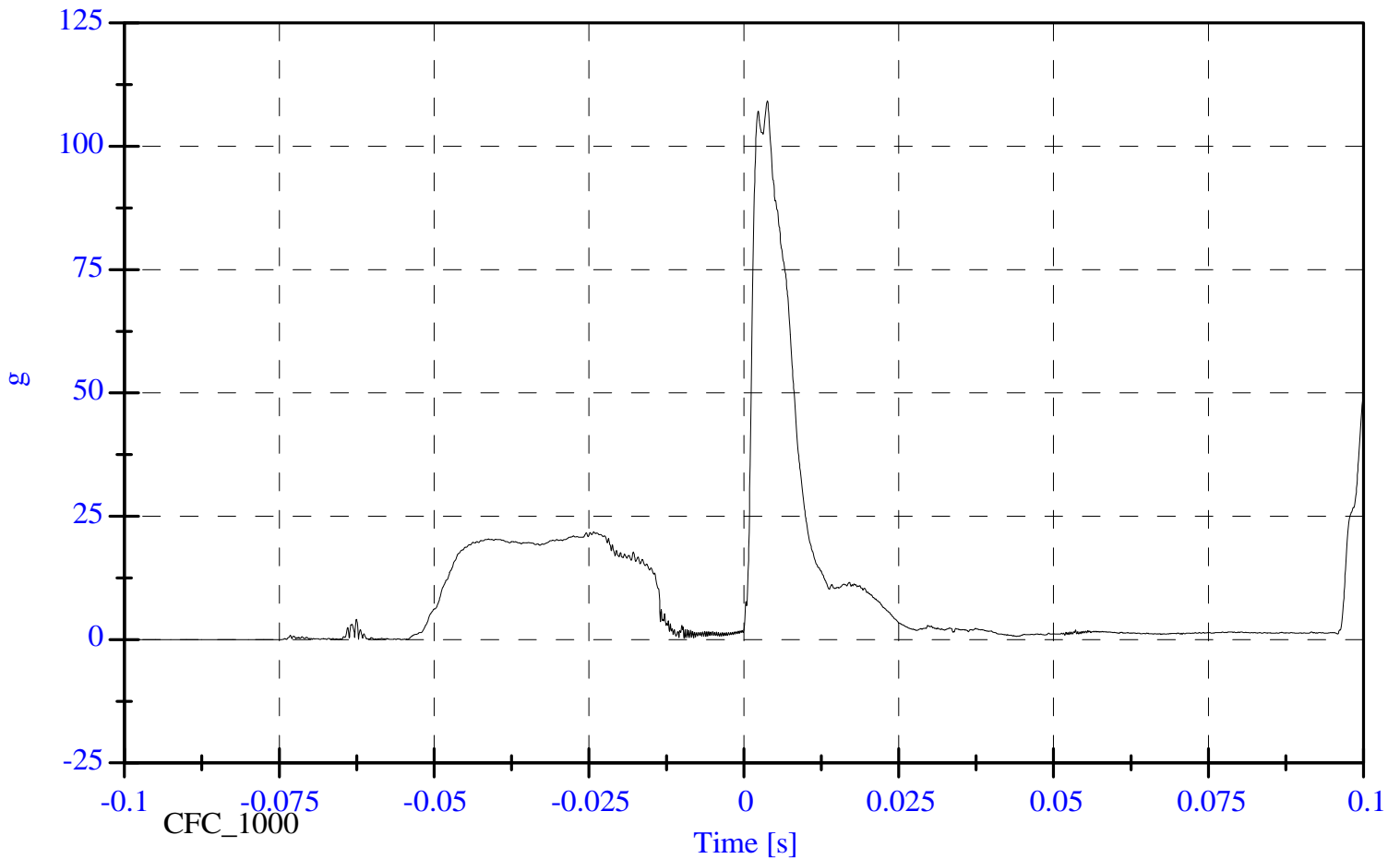
Maximum: 109.2 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 109.2 [g] at 0.004 [s]

Min: -0.0 [g] at -0.100 [s]



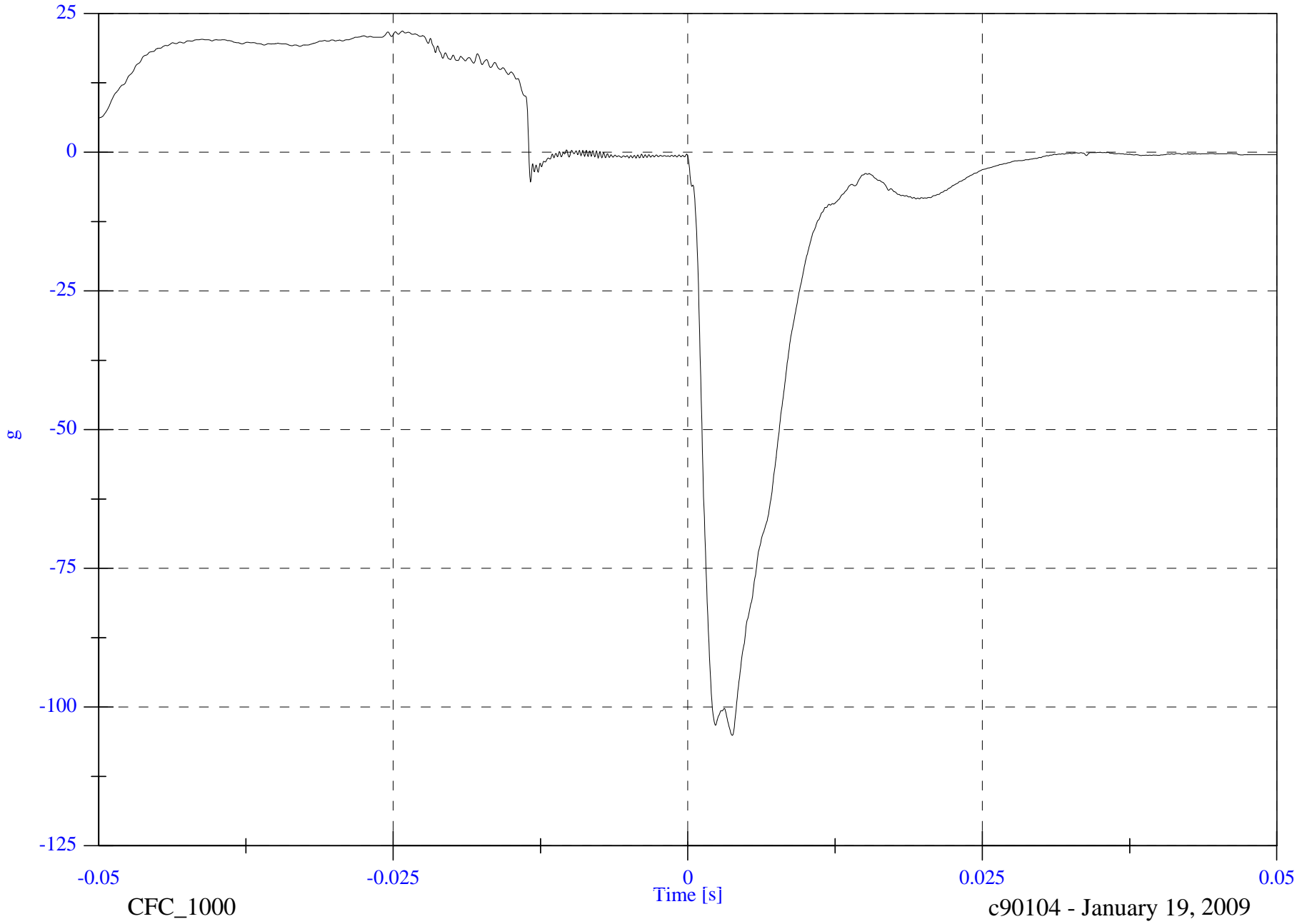
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 21.8 [g] at -0.024 [s]

Min: -105.1 [g] at 0.004 [s]

C90104 PASSENGER SIDE SR3 IMPACT PLOT #1



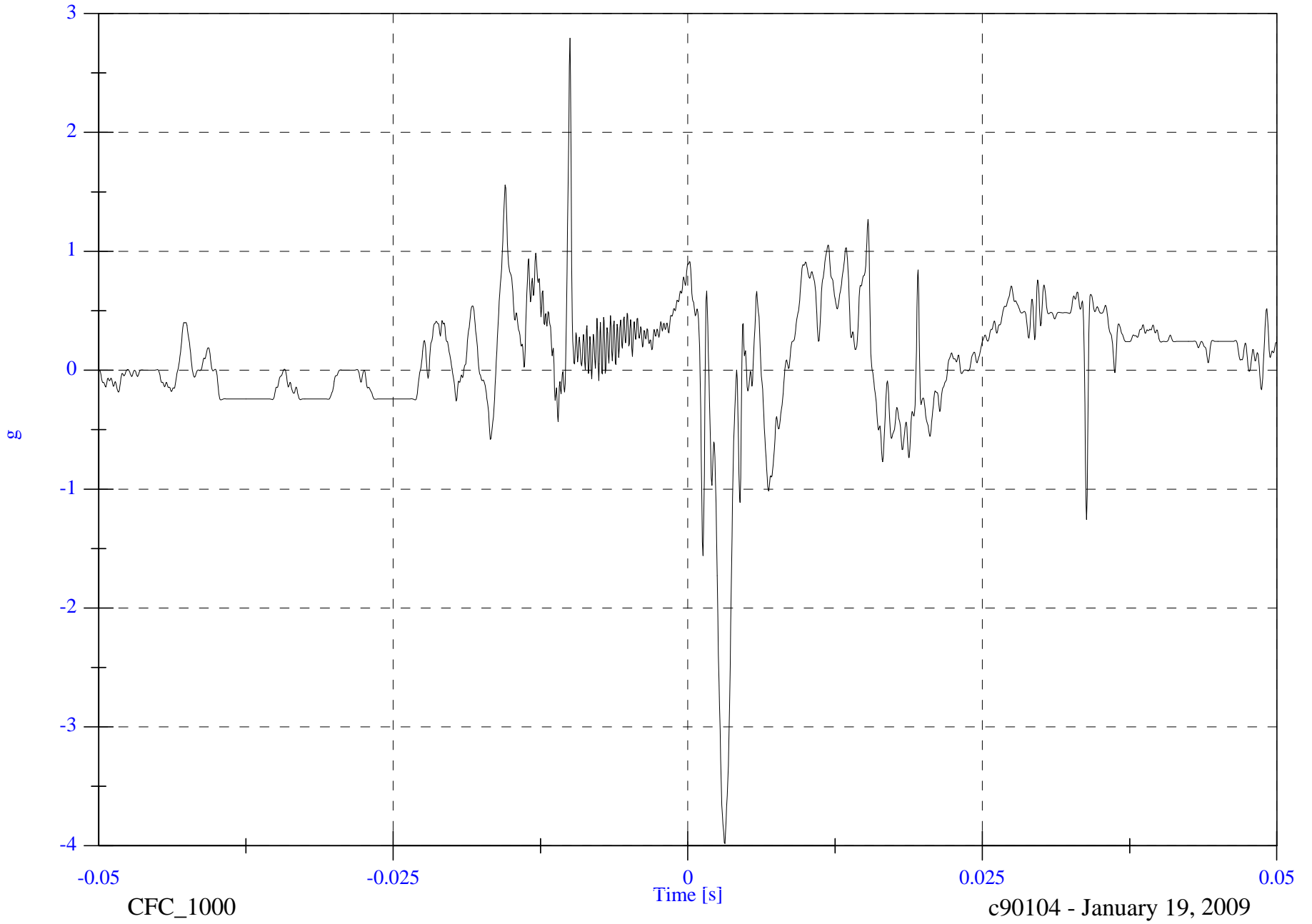
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 2.8 [g] at -0.010 [s]

Min: -4.0 [g] at 0.003 [s]

C90104 PASSENGER SIDE SR3 IMPACT PLOT #2



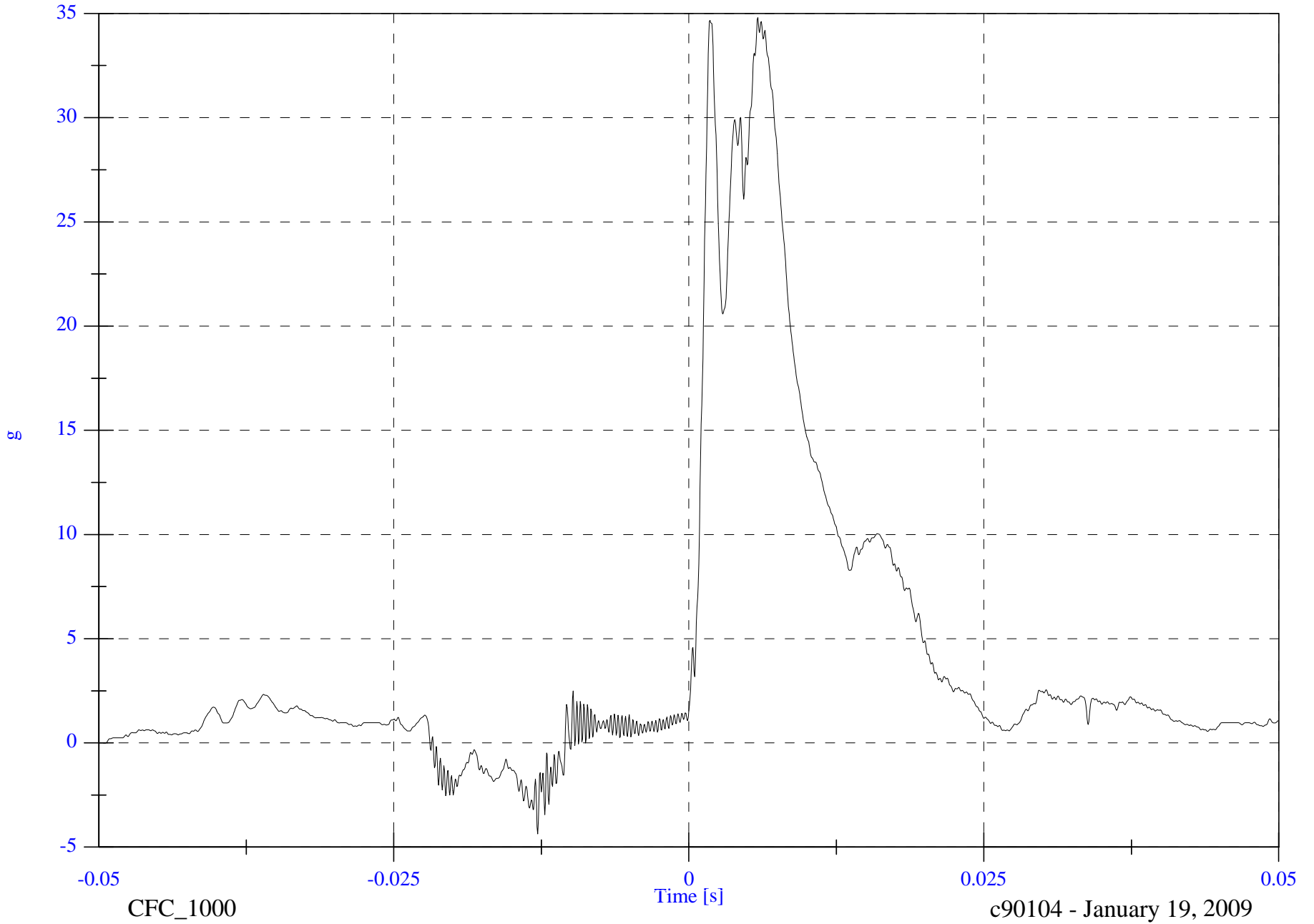
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 34.8 [g] at 0.006 [s]

Min: -4.4 [g] at -0.013 [s]

C90104 PASSENGER SIDE SR3 IMPACT PLOT #3



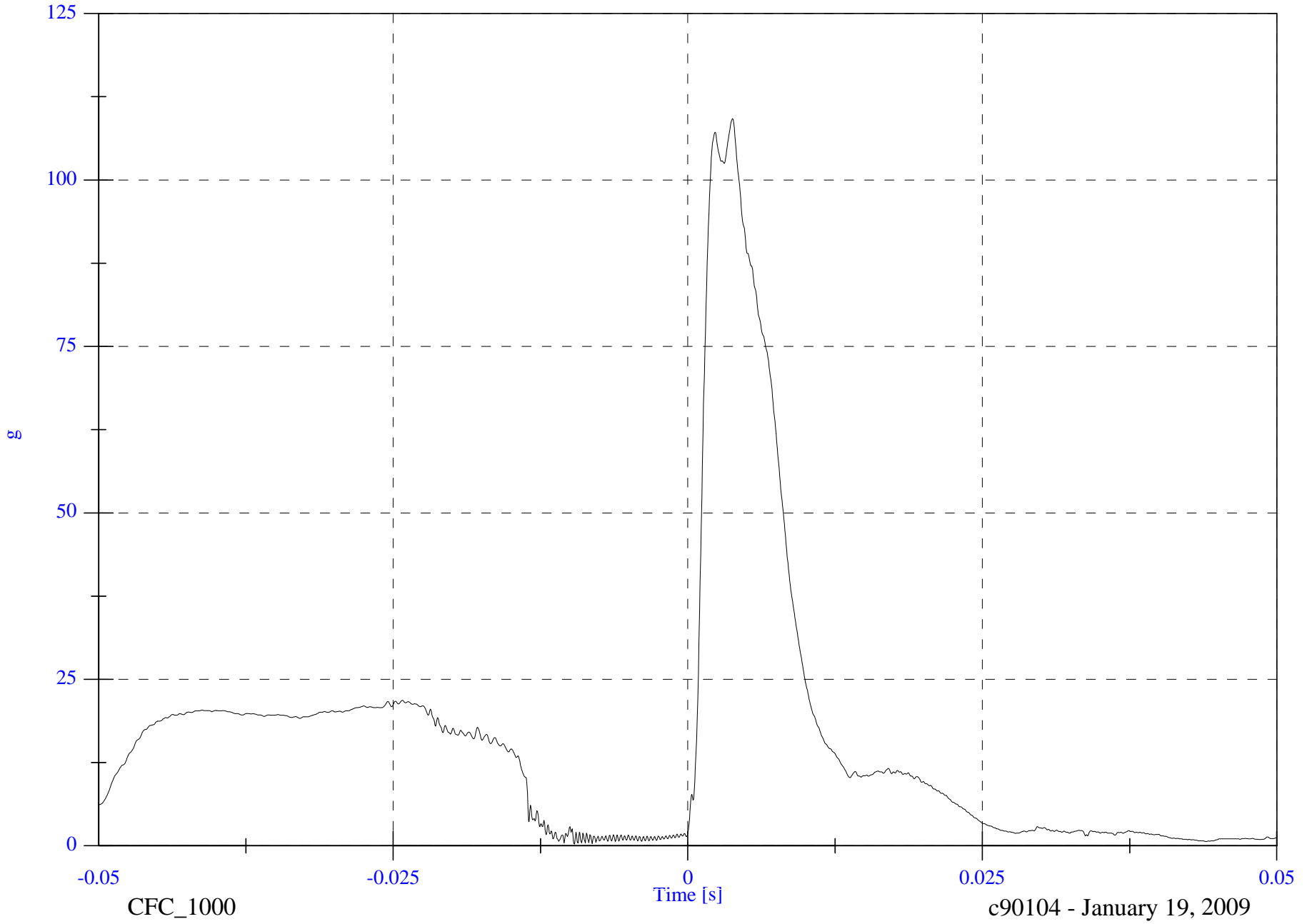
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 109.2 [g] at 0.004 [s]

Min: 0.3 [g] at -0.010 [s]

C90104 PASSENGER SIDE SR3 IMPACT PLOT #4



CFC\_1000

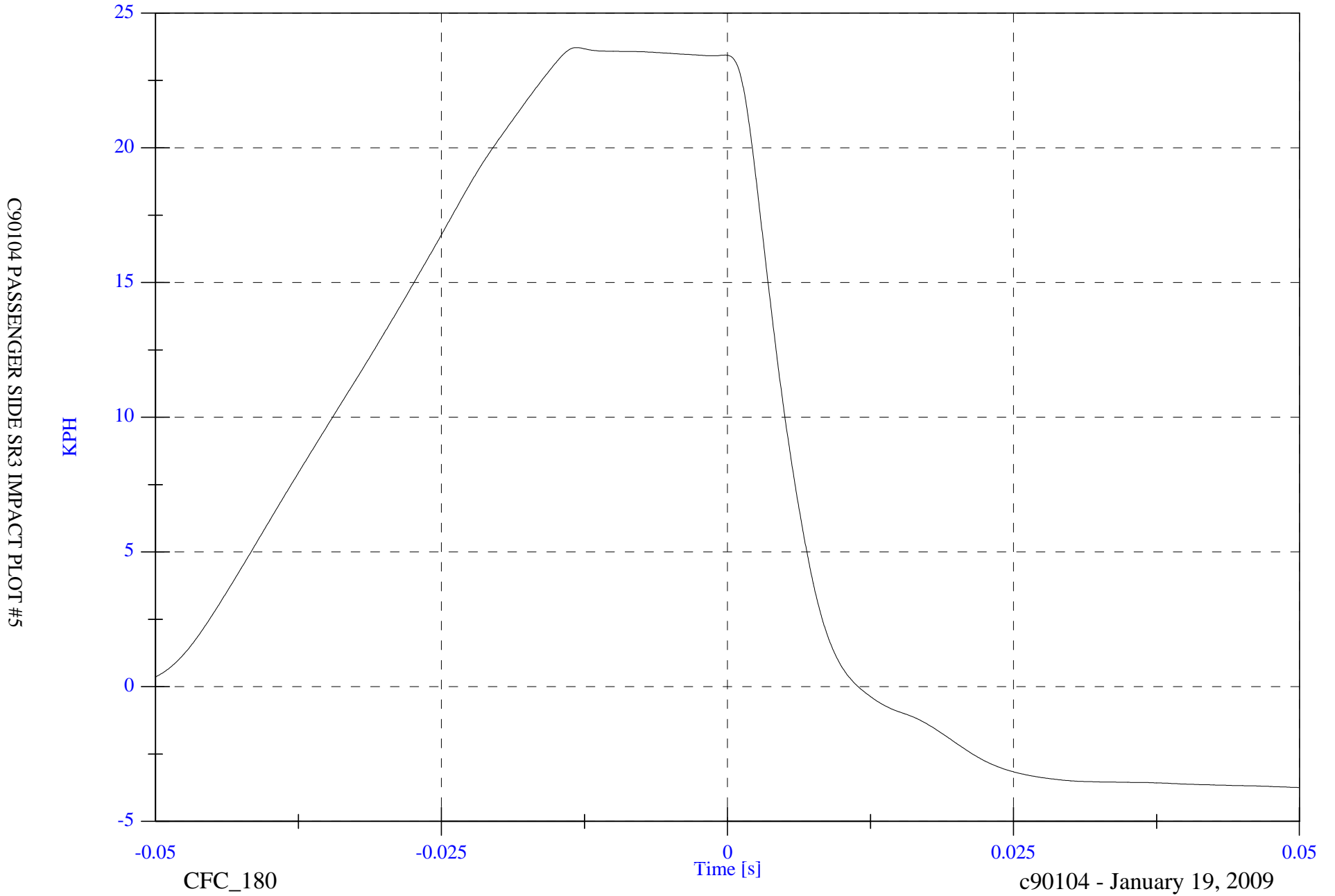
c90104 - January 19, 2009

FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 23.7 [KPH] at -0.013 [s]

Min: -3.7 [KPH] at 0.050 [s]

### Headform Velocity



C90104 PASSENGER SIDE SR3 IMPACT PLOT #5

CFC\_180

c90104 - January 19, 2009



PRE-IMPACT SR3





POST-IMPACT SR3

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |          |
|--------------------------|----------|
| Test Number:             | 05       |
| Test Date:               | 01/19/09 |
| Target Location:         | B-PILLAR |
| Target Code:             | BP4      |
| Horizontal Impact Angle: | 132°     |
| Vertical Impact Angle:   | -10°     |
| Ambient Temperature:     | 20°C     |
| Relative Humidity:       | 18       |
| Time of Impact:          | 13:45    |
| Headform Number:         | 62       |

|  |    |                                     |          |                          |         |
|--|----|-------------------------------------|----------|--------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                                     |          |                          |         |
| On Centerline  | 11 | <input checked="" type="checkbox"/> | mm right | <input type="checkbox"/> | mm left |
| On Centerline  | 15 |                                     |          |                          | mm up   |



POST-IMPACT BP4 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 719.4 |
| HIC(d)                | 709.2 |
| Impact Velocity (kph) | 23.49 |
| HIC T1 (msec)         | 2.2   |
| HIC T2 (msec)         | 8.6   |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - BP4

FMH Headform 0062

Location: BP4

Test Date: January 19, 2009

Work File: BP4

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 709.2

Lab Humidity: 18 %

HIC (36ms): 719.4

Velocity at Impact: 23.49 KPH

t1: 2.2 msec

t2: 8.6 msec

Free Flight Distance: 221.81 mm

Duration: 6.5 msec

Average Acceleration: 8.5 g

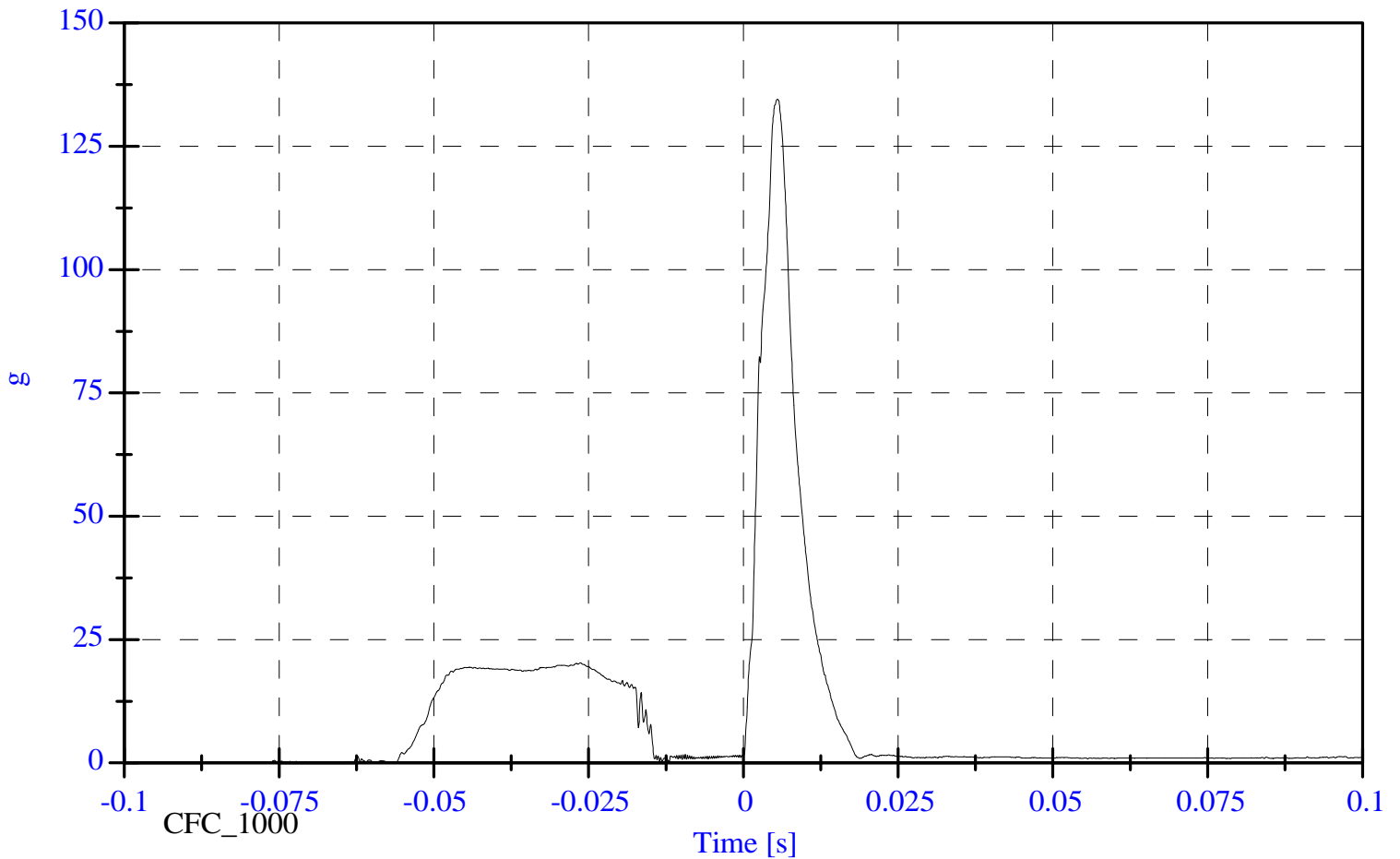
Maximum: 134.5 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 134.5 [g] at 0.006 [s]

Min: 0.0 [g] at -0.093 [s]



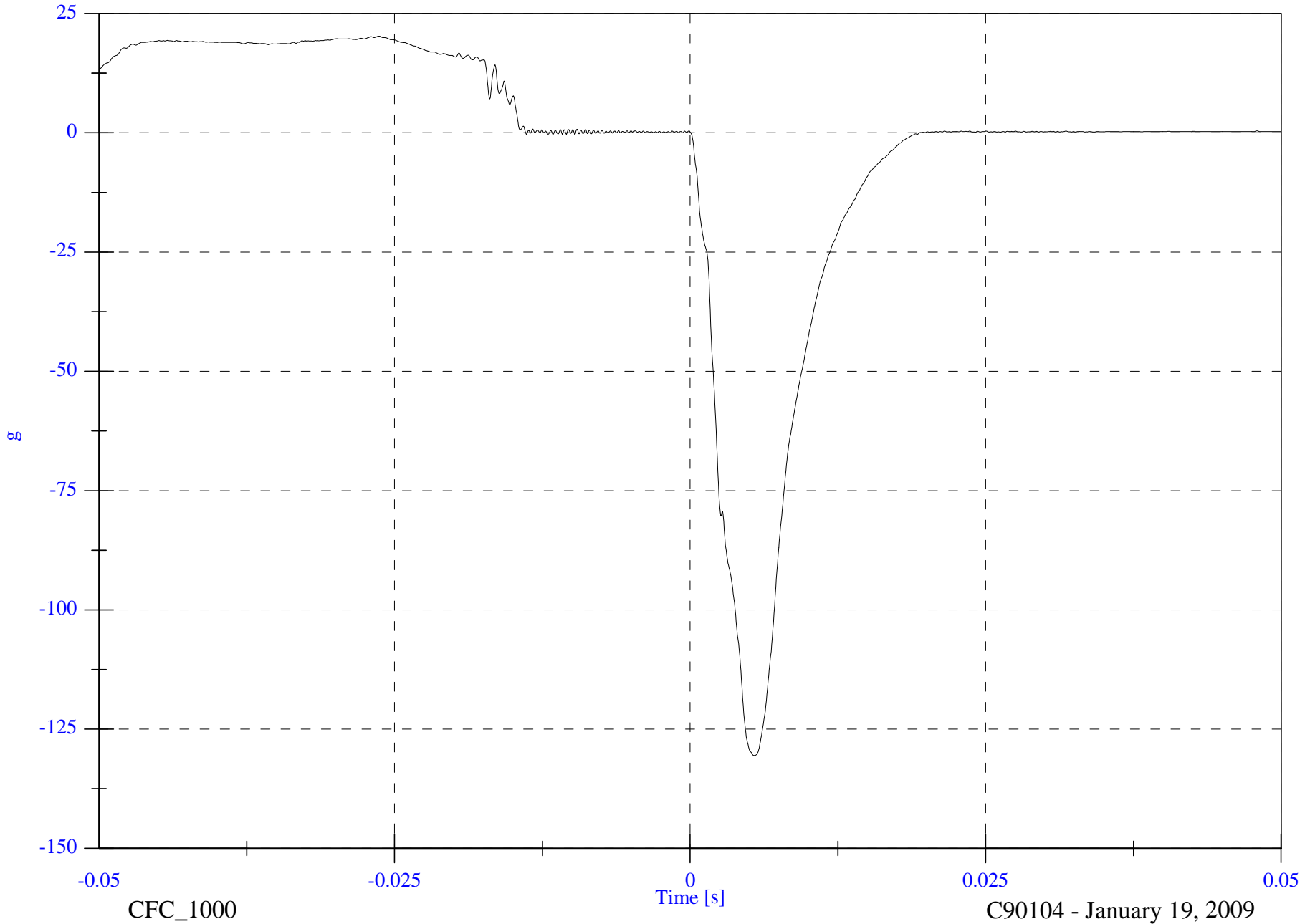
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 20.2 [g] at -0.026 [s]

Min: -130.5 [g] at 0.005 [s]

C90104 PASSENGER SIDE BP4 IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009

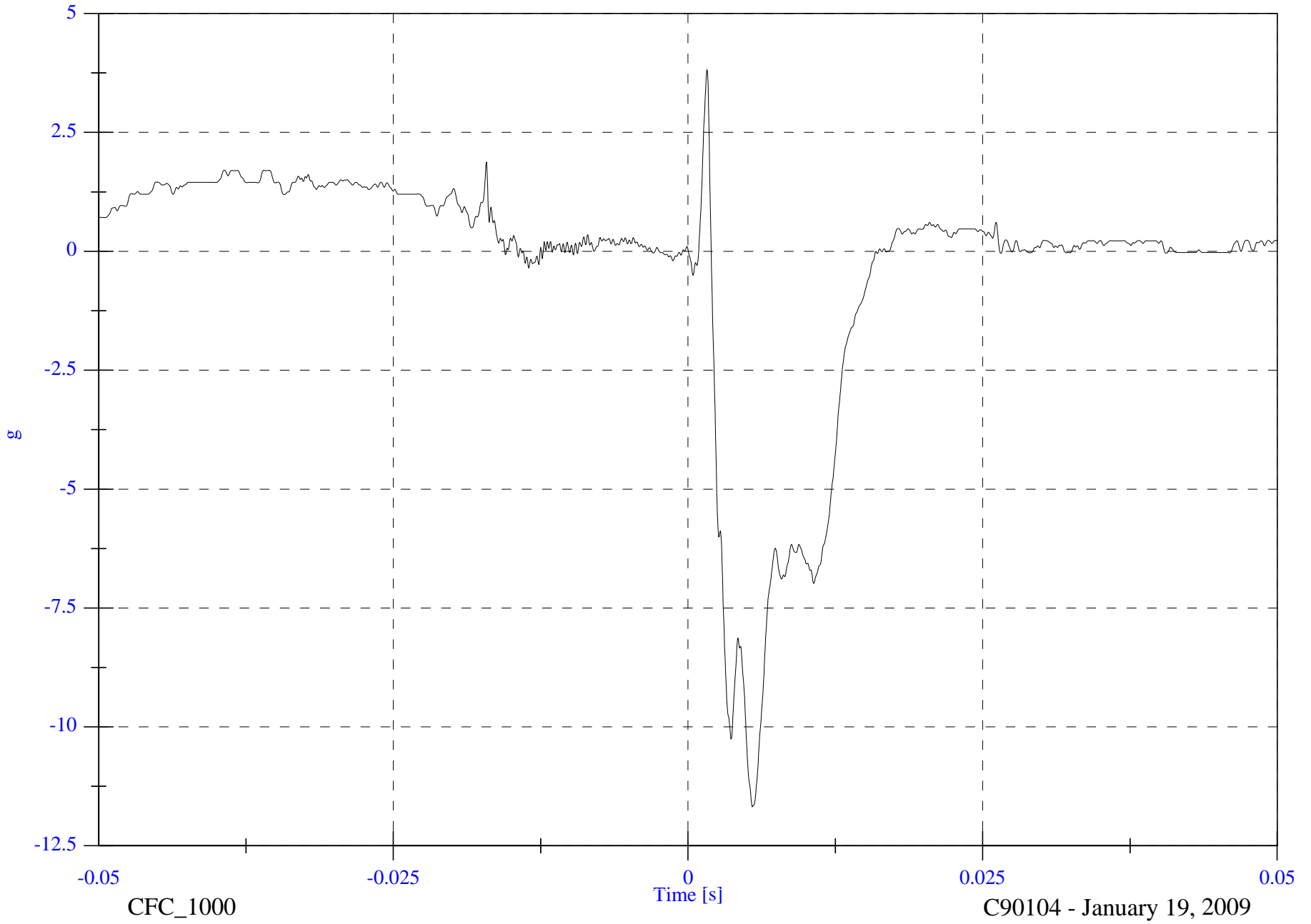
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 3.8 [g] at 0.002 [s]

Min: -11.7 [g] at 0.005 [s]

C90104 PASSENGER SIDE BP4 IMPACT PLOT #2



CFC\_1000

C90104 - January 19, 2009

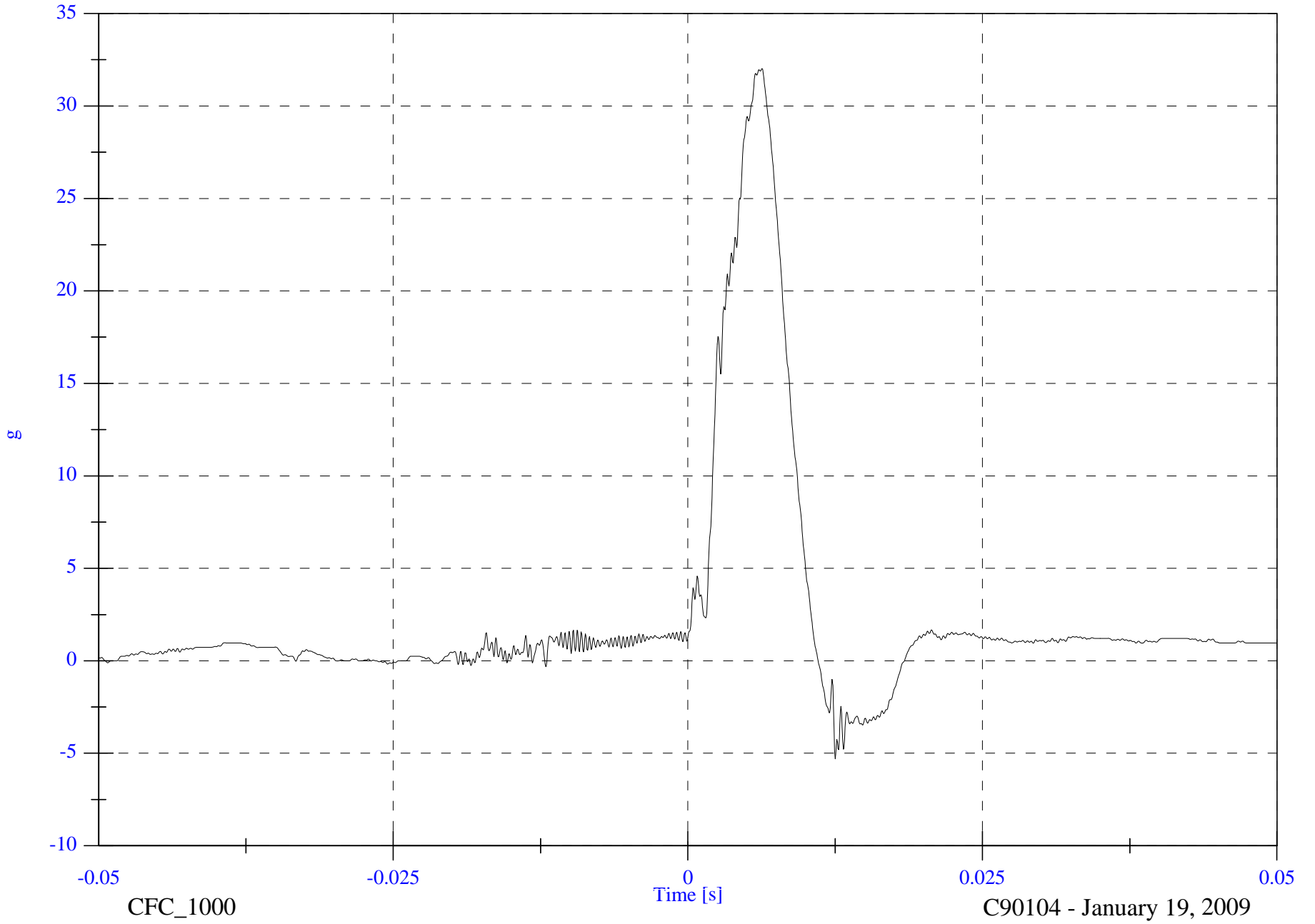
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 32.0 [g] at 0.006 [s]

Min: -5.3 [g] at 0.013 [s]

C90104 PASSENGER SIDE BP4 IMPACT PLOT #3



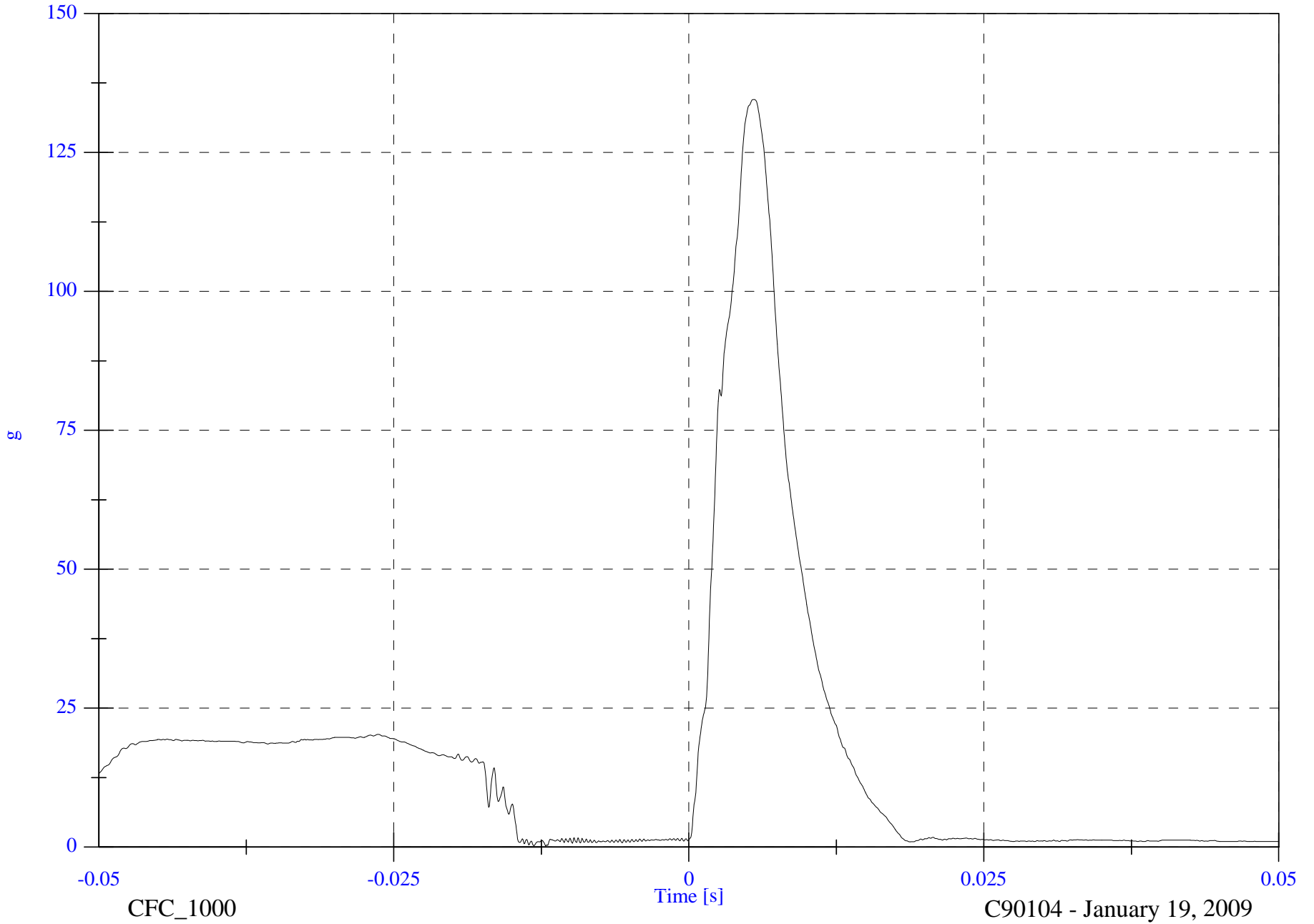
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 134.5 [g] at 0.006 [s]

Min: 0.2 [g] at -0.012 [s]

C90104 PASSENGER SIDE BP4 IMPACT PLOT #4



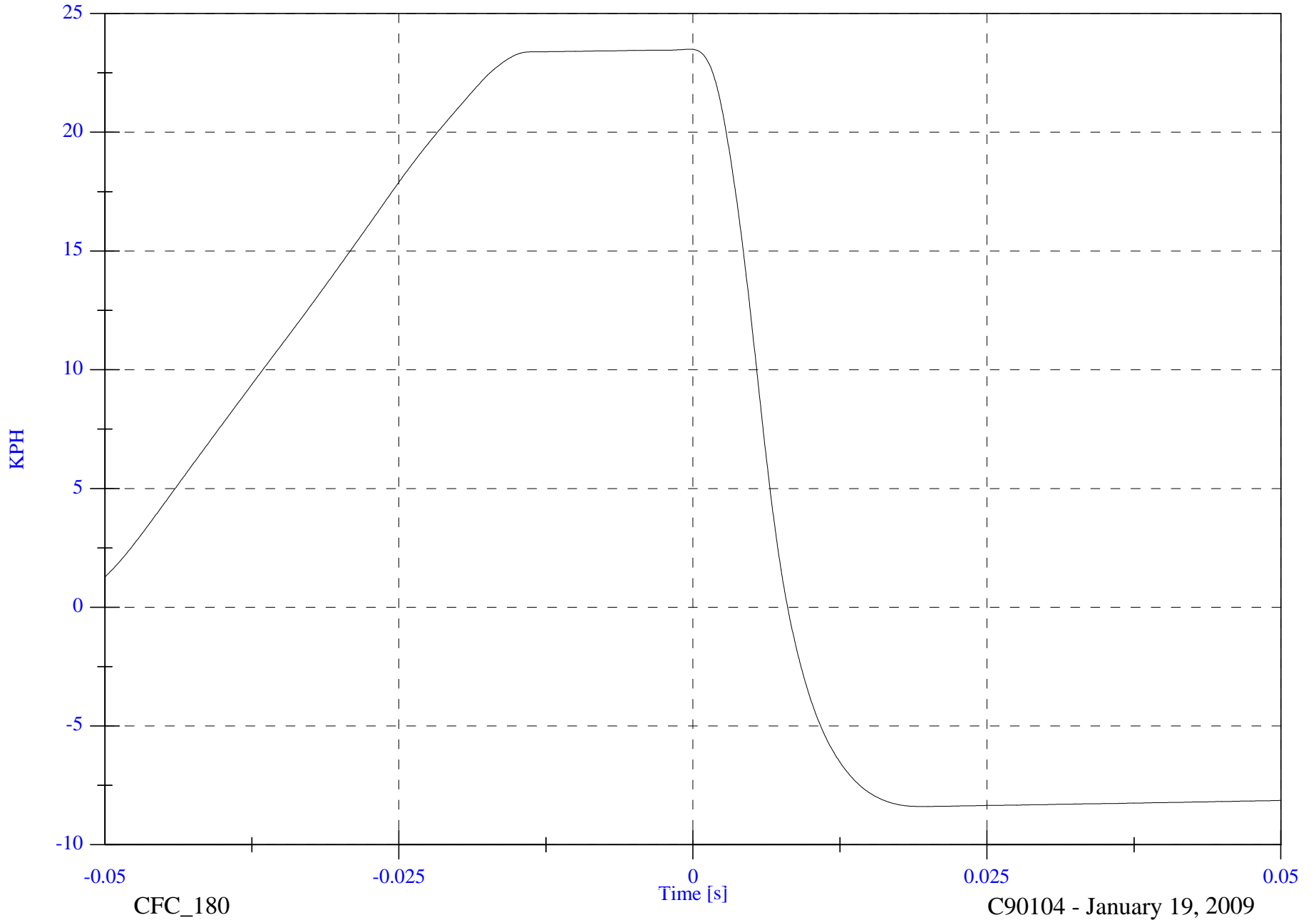
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 23.5 [KPH] at -0.000 [s]

Min: -8.4 [KPH] at 0.020 [s]

Headform Velocity

C90104 PASSENGER SIDE BP4 IMPACT PLOT #5



CFC\_180

C90104 - January 19, 2009





PRE-IMPACT BP4

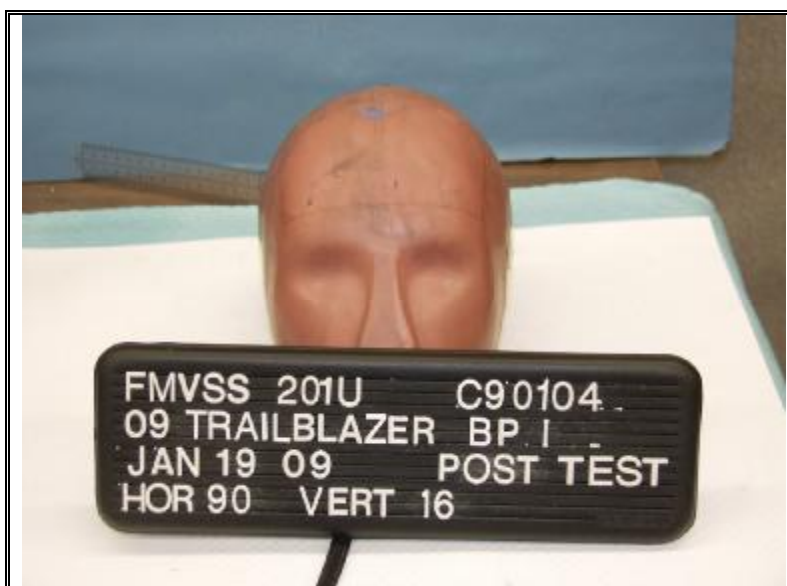


POST-IMPACT BP4

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |          |
|--------------------------|----------|
| Test Number:             | 06       |
| Test Date:               | 01/19/09 |
| Target Location:         | B-PILLAR |
| Target Code:             | BP1      |
| Horizontal Impact Angle: | 90°      |
| Vertical Impact Angle:   | 16°      |
| Ambient Temperature:     | 20°C     |
| Relative Humidity:       | 18       |
| Time of Impact:          | 14:15    |
| Headform Number:         | 0805     |

|  |    |                                     |          |                          |         |
|--|----|-------------------------------------|----------|--------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                                     |          |                          |         |
| On Centerline  | 3  | <input checked="" type="checkbox"/> | mm right | <input type="checkbox"/> | mm left |
| On Centerline  | 65 |                                     |          |                          | mm up   |



POST-IMPACT BP1 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 267.0 |
| HIC(d)                | 367.9 |
| Impact Velocity (kph) | 18.52 |
| HIC T1 (msec)         | 6.4   |
| HIC T2 (msec)         | 17.3  |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - BP1

FMH Headform 0805

Location: BP1

Test Date: January 19, 2009

Work File: BP1

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 367.9

Lab Humidity: 18 %

HIC (36ms): 267.0

Velocity at Impact: 18.52 KPH

t1: 6.4 msec

t2: 17.3 msec

Free Flight Distance: 214.59 mm

Duration: 10.8 msec

Average Acceleration: 8.1 g

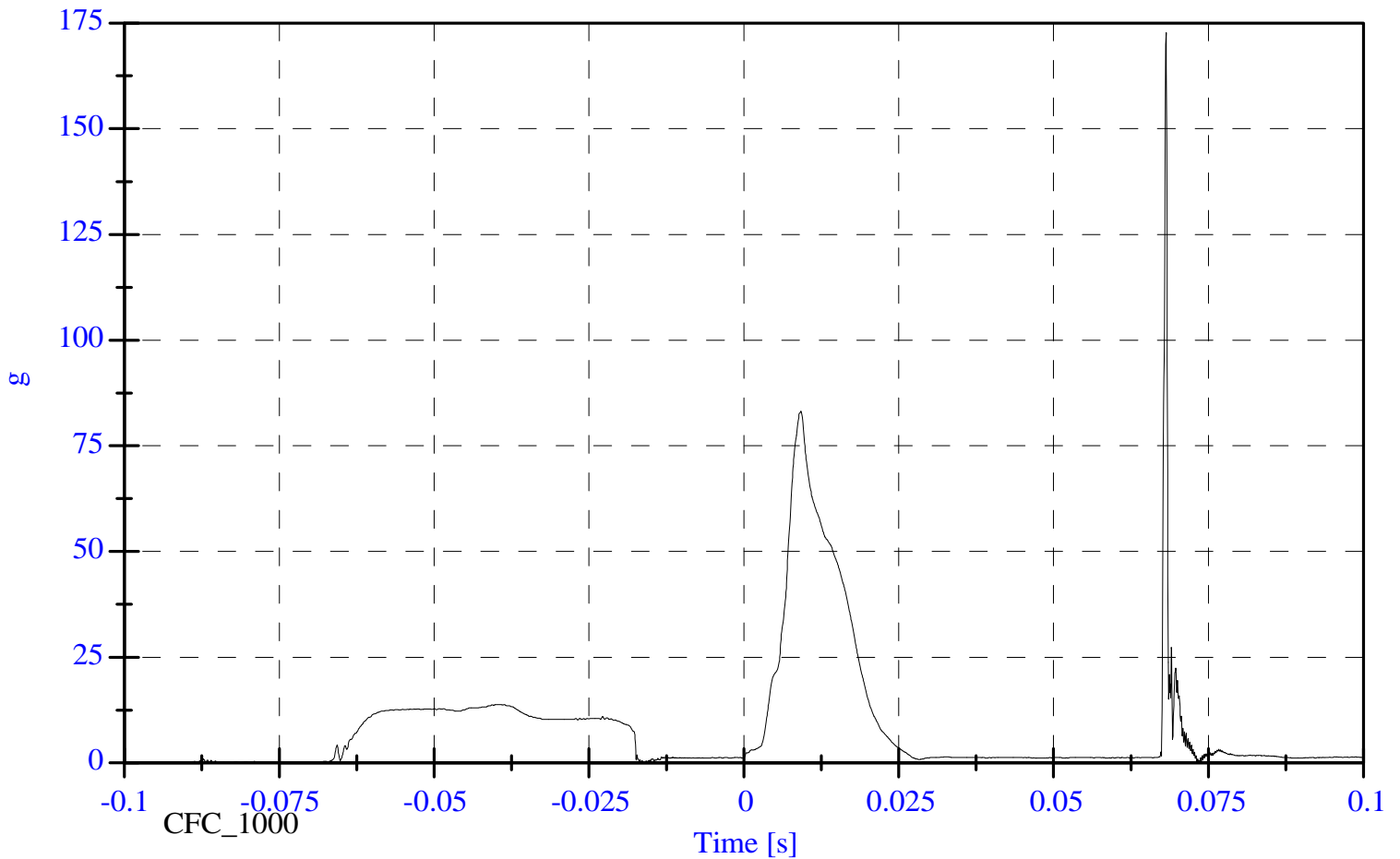
Maximum: 83.2 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 83.2 [g] at 0.009 [s]

Min: 0.0 [g] at -0.096 [s]



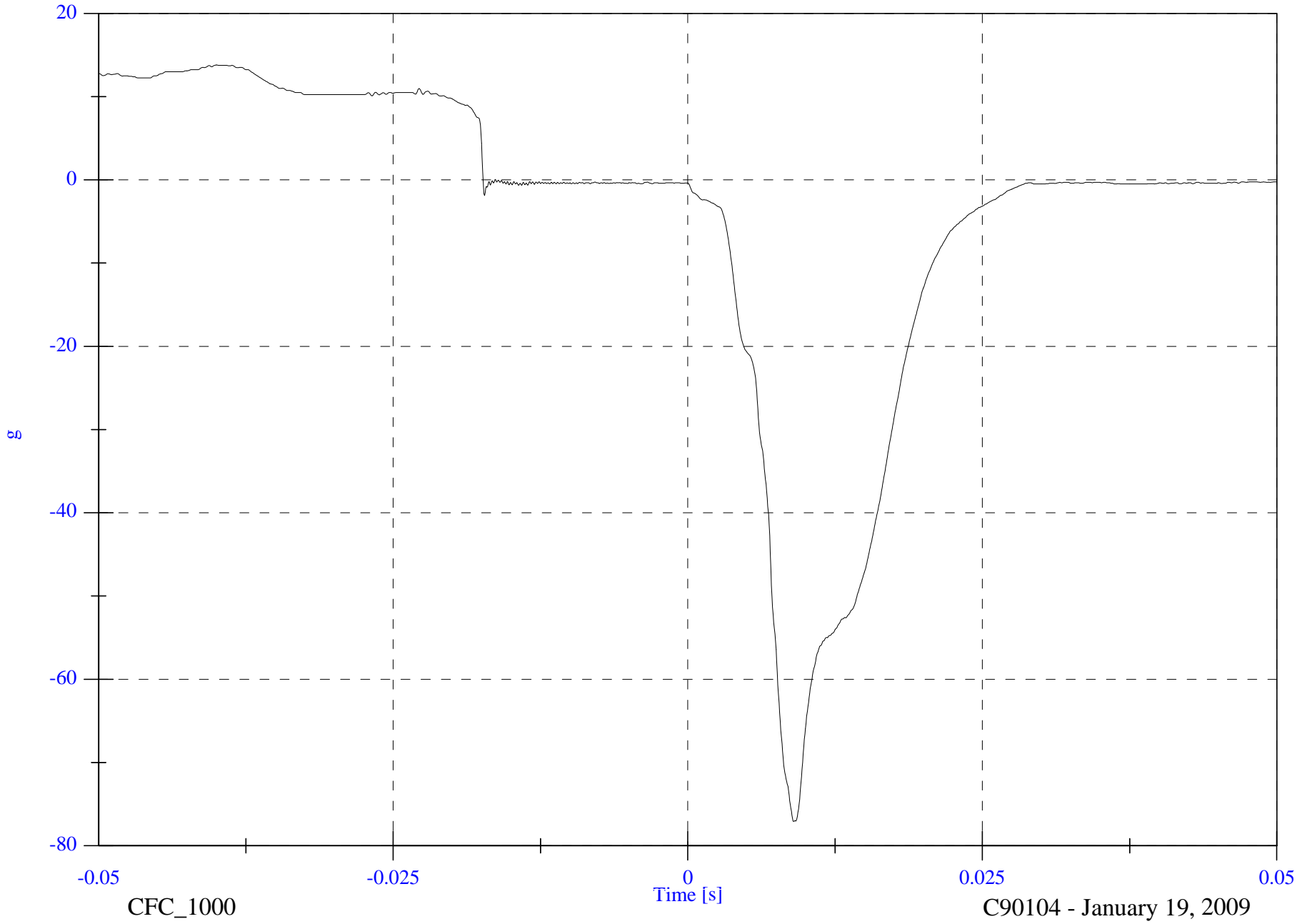
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 13.8 [g] at -0.040 [s]

Min: -77.1 [g] at 0.009 [s]

C90104 PASSENGER SIDE BP1 IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009

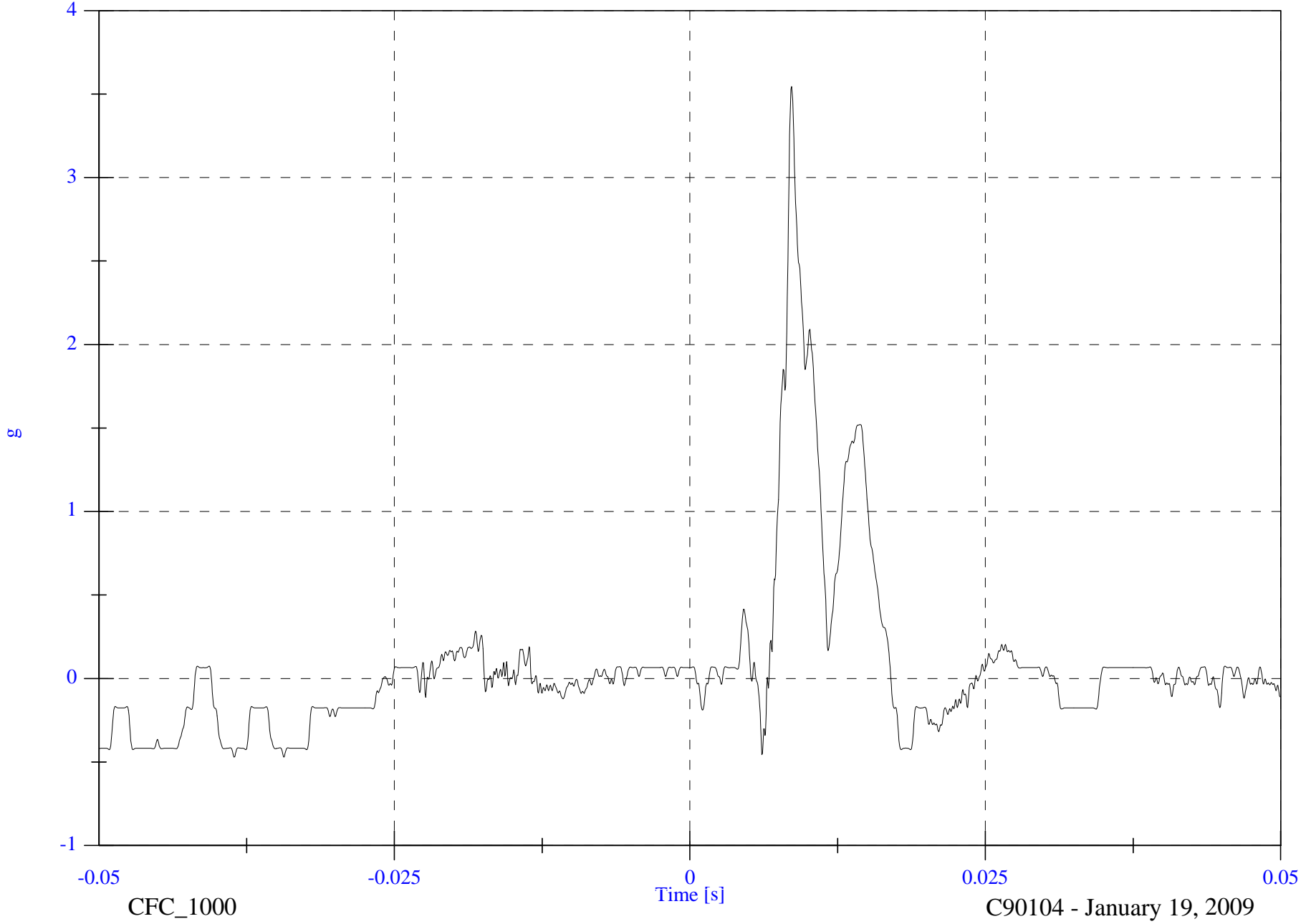
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 3.5 [g] at 0.009 [s]

Min: -0.5 [g] at -0.034 [s]

C90104 PASSENGER SIDE BP1 IMPACT PLOT #2



CFC\_1000

C90104 - January 19, 2009

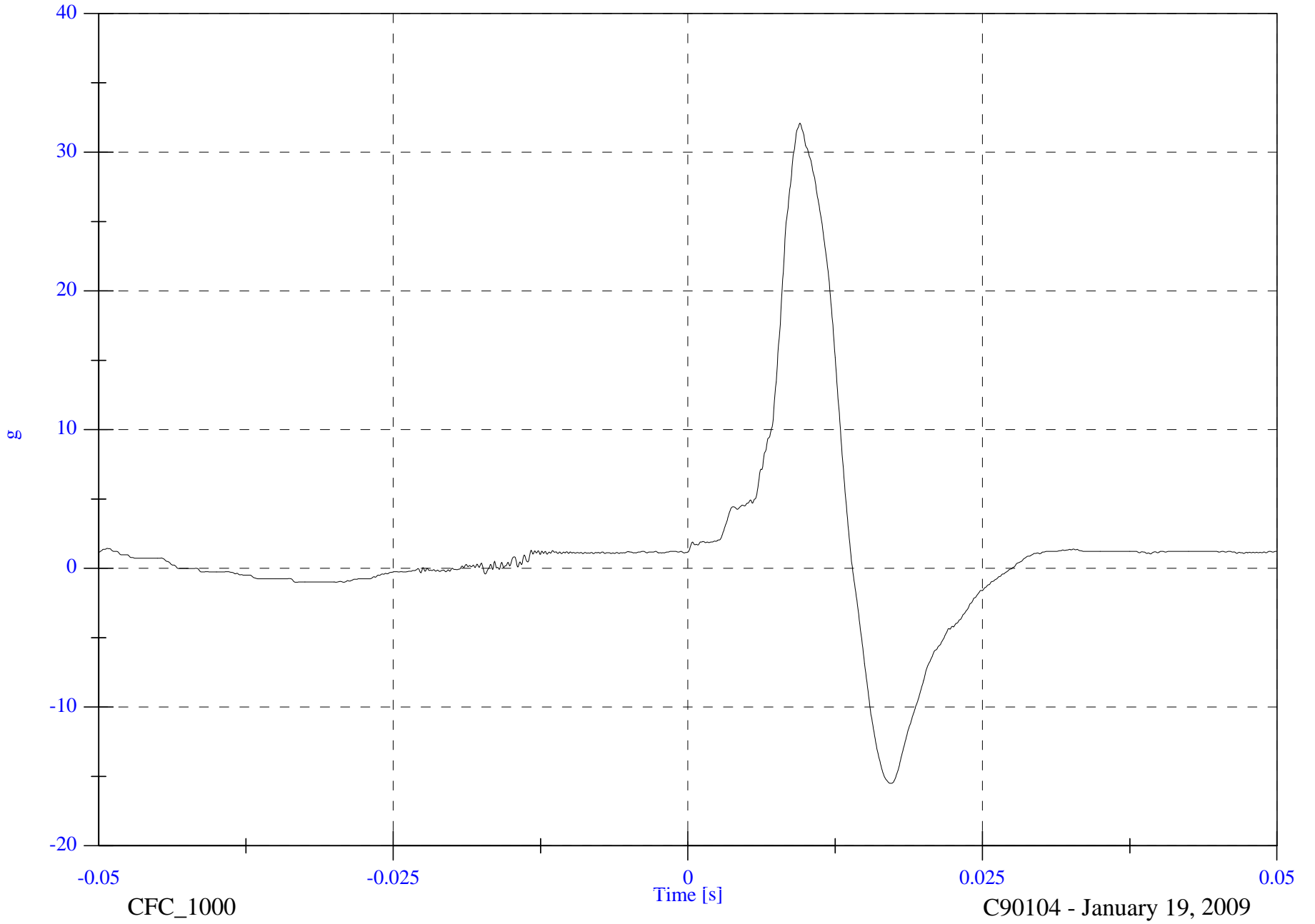
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 32.1 [g] at 0.010 [s]

Min: -15.5 [g] at 0.017 [s]

C90104 PASSENGER SIDE BPI IMPACT PLOT #3



CFC\_1000

C90104 - January 19, 2009

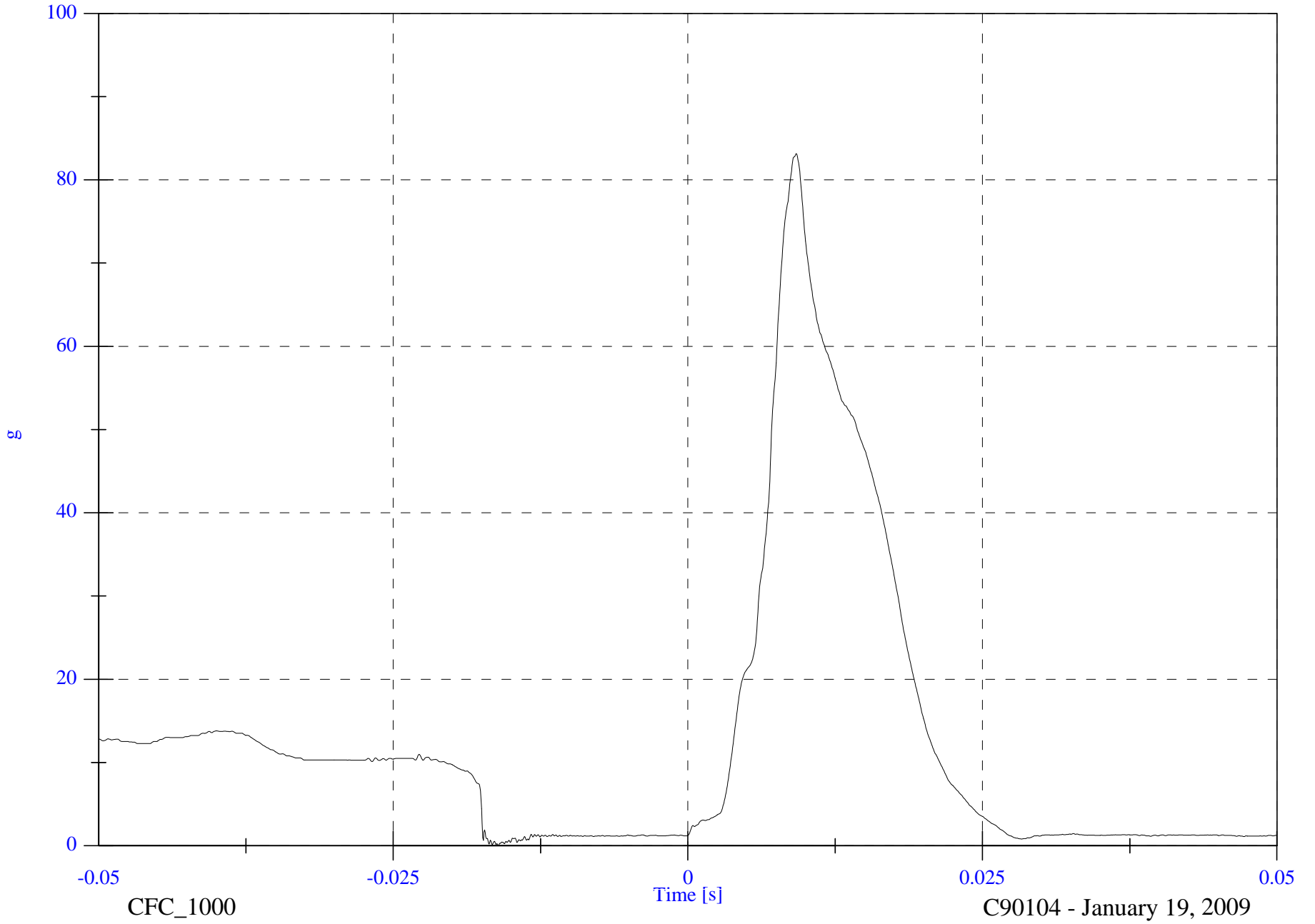
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 83.2 [g] at 0.009 [s]

Min: 0.1 [g] at -0.016 [s]

C90104 PASSENGER SIDE BPI IMPACT PLOT #4





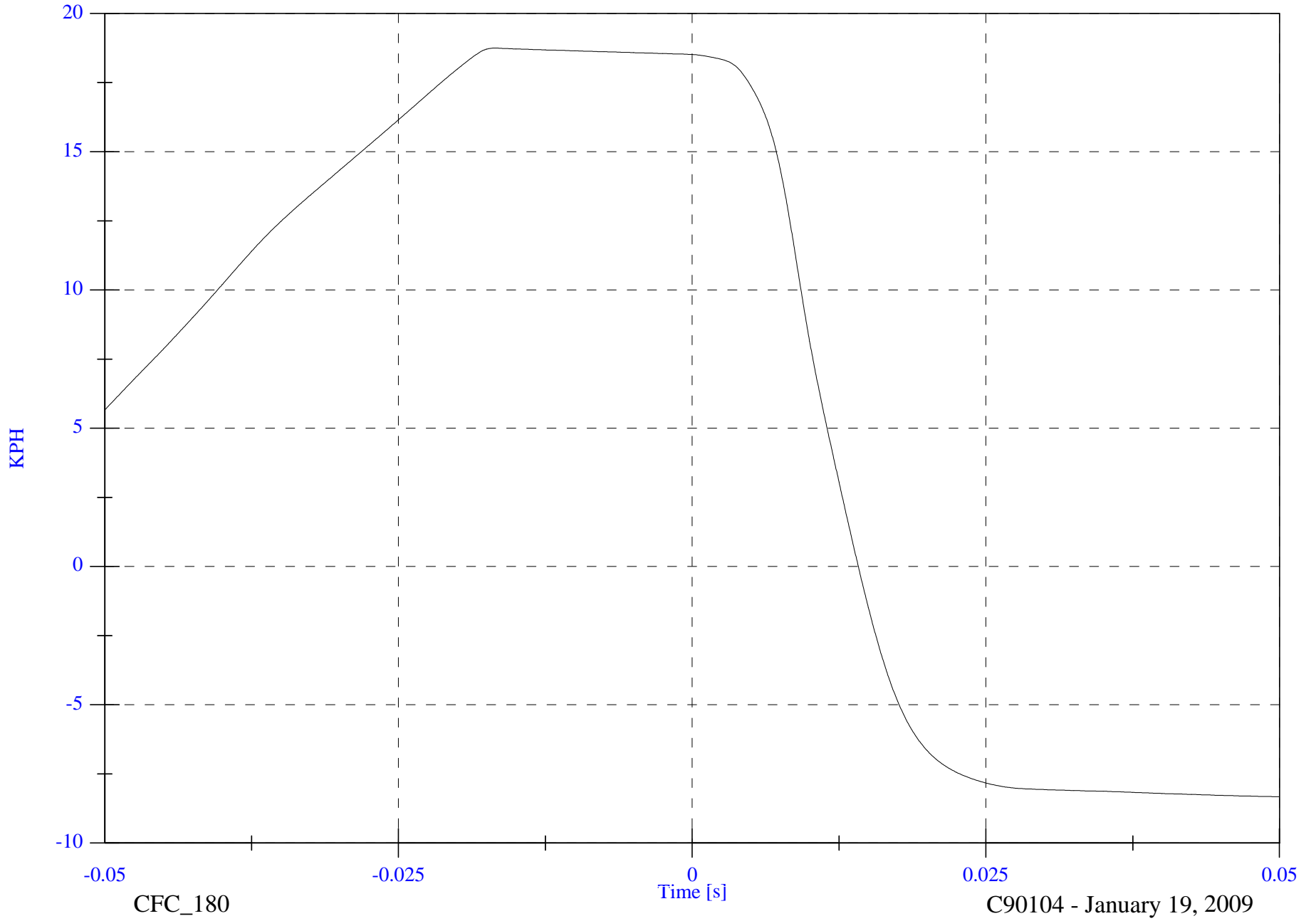
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 18.7 [KPH] at -0.017 [s]

Min: -8.3 [KPH] at 0.050 [s]

Headform Velocity

C90104 PASSENGER SIDE BP1 IMPACT PLOT #5





PRE-IMPACT BP1

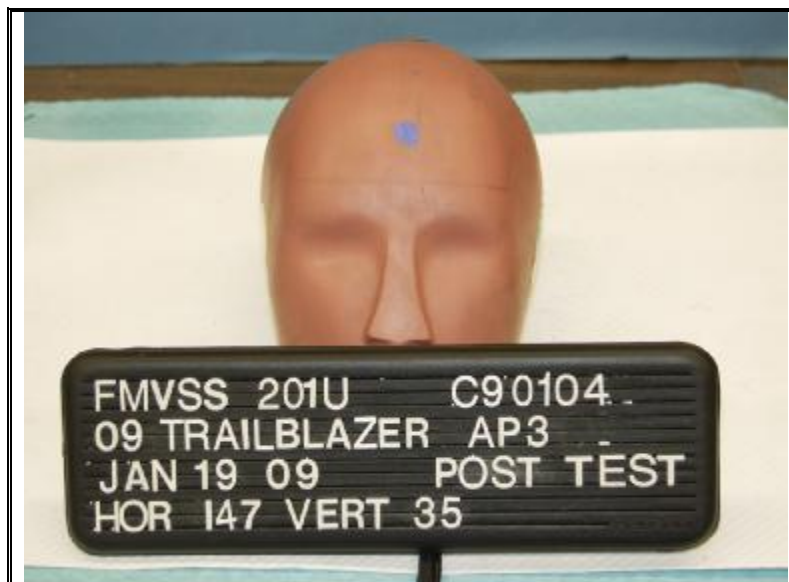


POST-IMPACT BP1

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |          |
|--------------------------|----------|
| Test Number:             | 07       |
| Test Date:               | 01/19/09 |
| Target Location:         | A-PILLAR |
| Target Code:             | AP3      |
| Horizontal Impact Angle: | 147°     |
| Vertical Impact Angle:   | 35°      |
| Ambient Temperature:     | 20°C     |
| Relative Humidity:       | 18       |
| Time of Impact:          | 14:55    |
| Headform Number:         | 1140     |

|  |    |                          |   |
|--|----|--------------------------|---|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |   |
| On Centerline  | 0  | <input type="checkbox"/> | mm right <input type="checkbox"/> mm left |
| On Centerline  | 24 |                          | mm up                                     |



POST-IMPACT AP3 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 308.1 |
| HIC(d)                | 398.9 |
| Impact Velocity (kph) | 18.46 |
| HIC T1 (msec)         | 4.0   |
| HIC T2 (msec)         | 9.3   |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - AP3

FMH Headform 1140

Location: AP3

Test Date: January 19, 2009

Work File: AP3

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 398.9

Lab Humidity: 18 %

HIC (36ms): 308.1

Velocity at Impact: 18.46 KPH

t1: 4.0 msec

t2: 9.3 msec

Free Flight Distance: 217.18 mm

Duration: 5.3 msec

Average Acceleration: 9.0 g

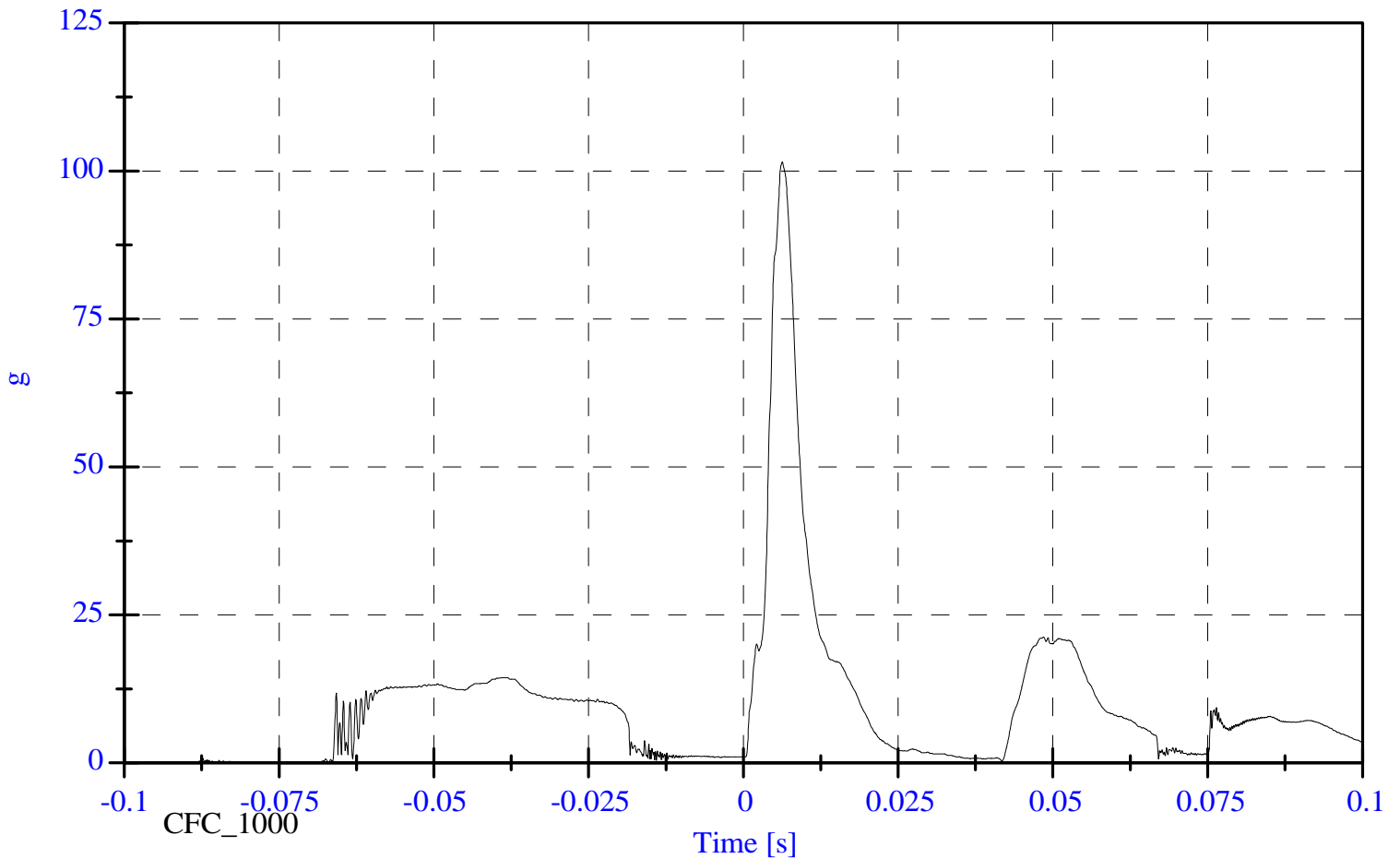
Maximum: 101.5 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 101.5 [g] at 0.006 [s]

Min: 0.0 [g] at -0.069 [s]



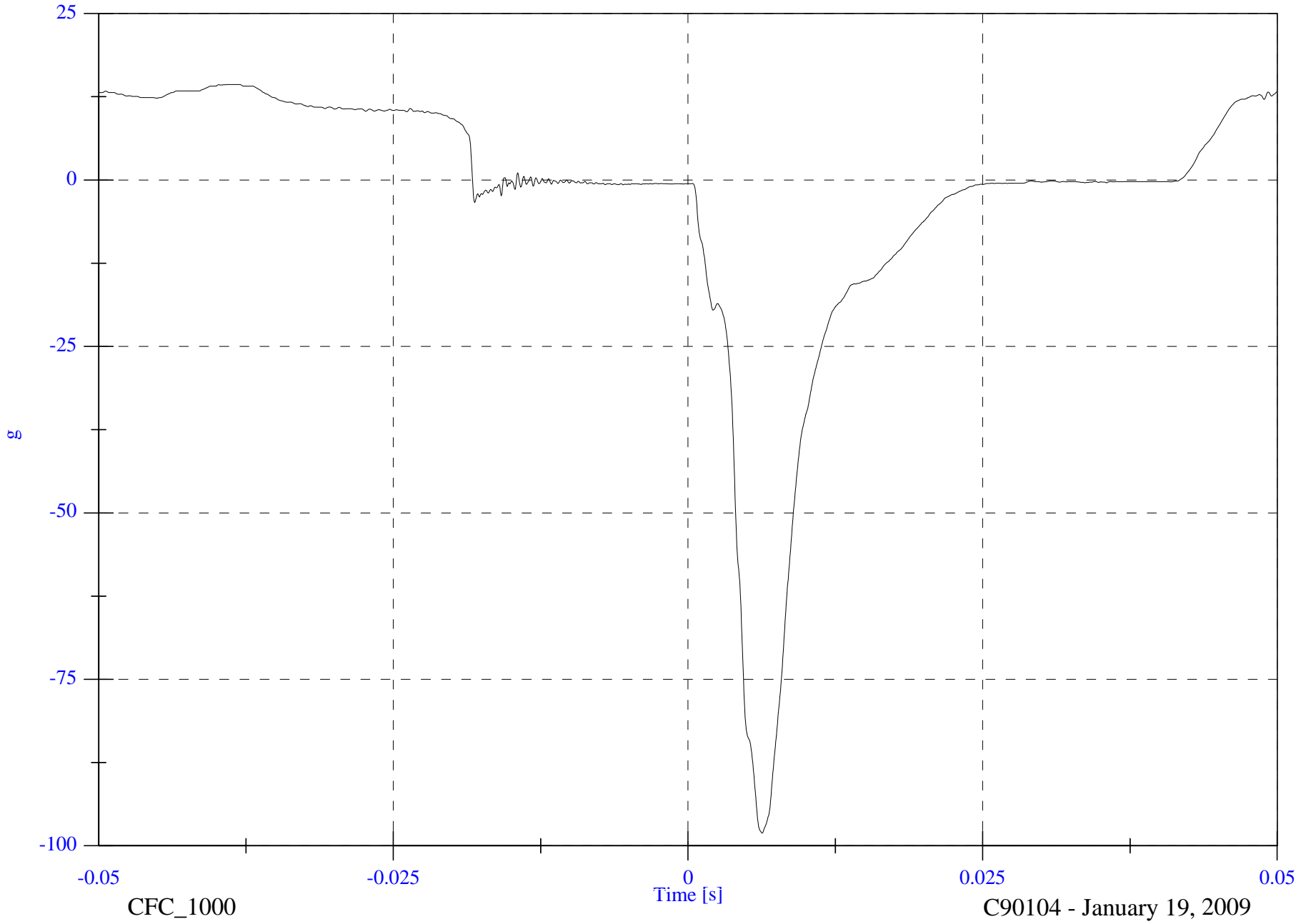
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 14.3 [g] at -0.038 [s]

Min: -98.1 [g] at 0.006 [s]

C90104 PASSENGER SIDE AP3 IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009

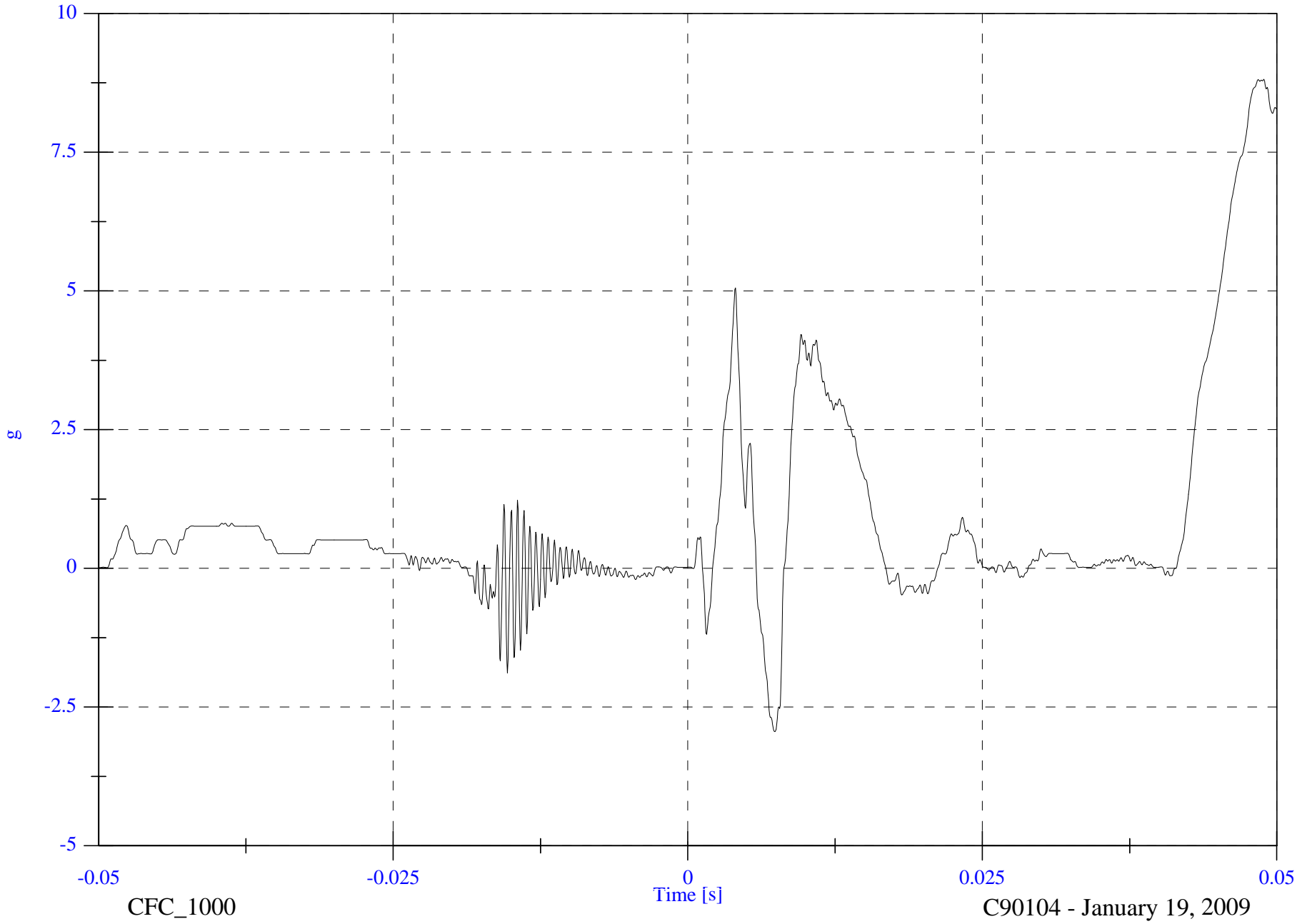
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 8.8 [g] at 0.049 [s]

Min: -2.9 [g] at 0.007 [s]

C90104 PASSENGER SIDE AP3 IMPACT PLOT #2



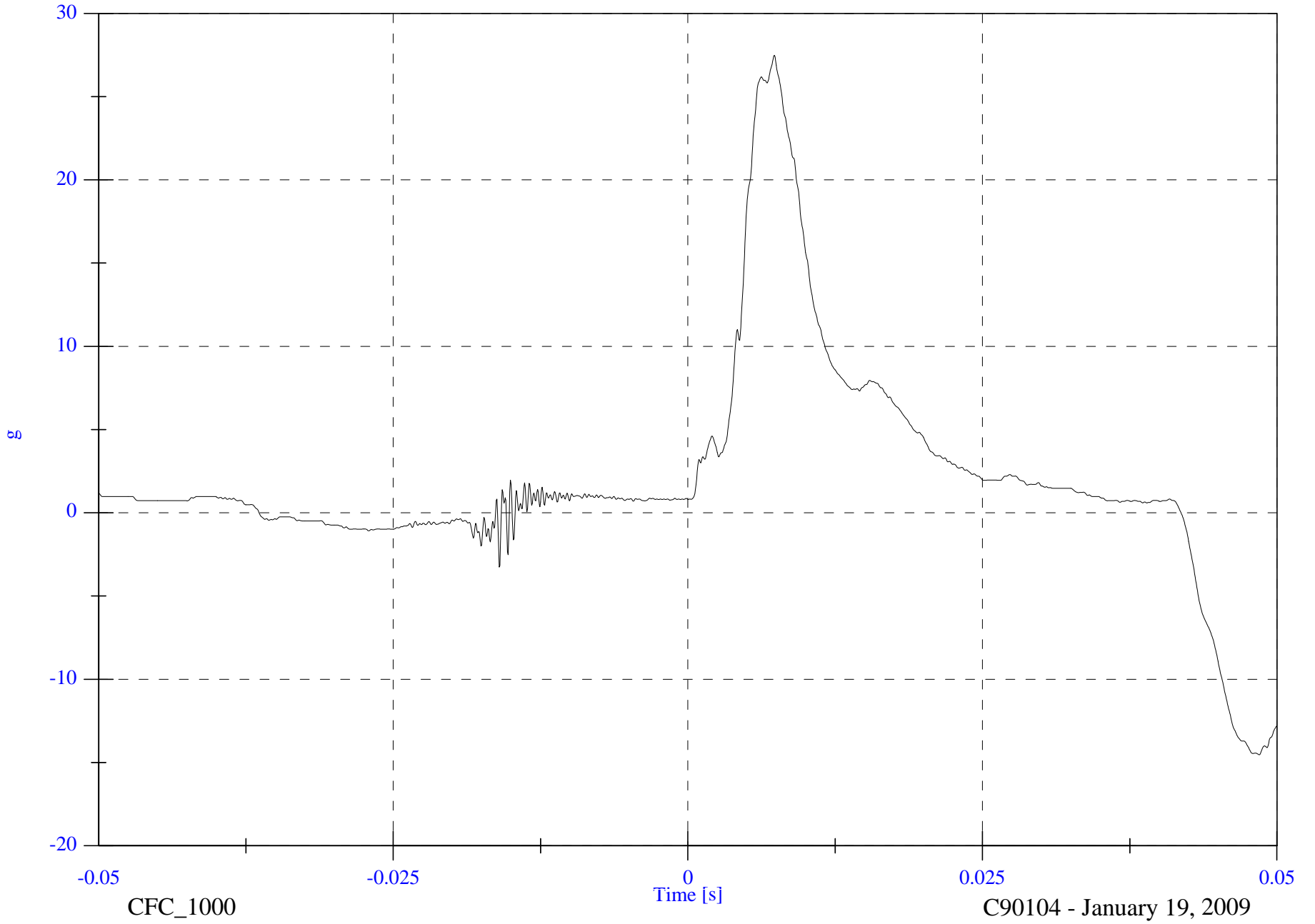
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 27.5 [g] at 0.007 [s]

Min: -14.5 [g] at 0.049 [s]

C90104 PASSENGER SIDE AP3 IMPACT PLOT #3





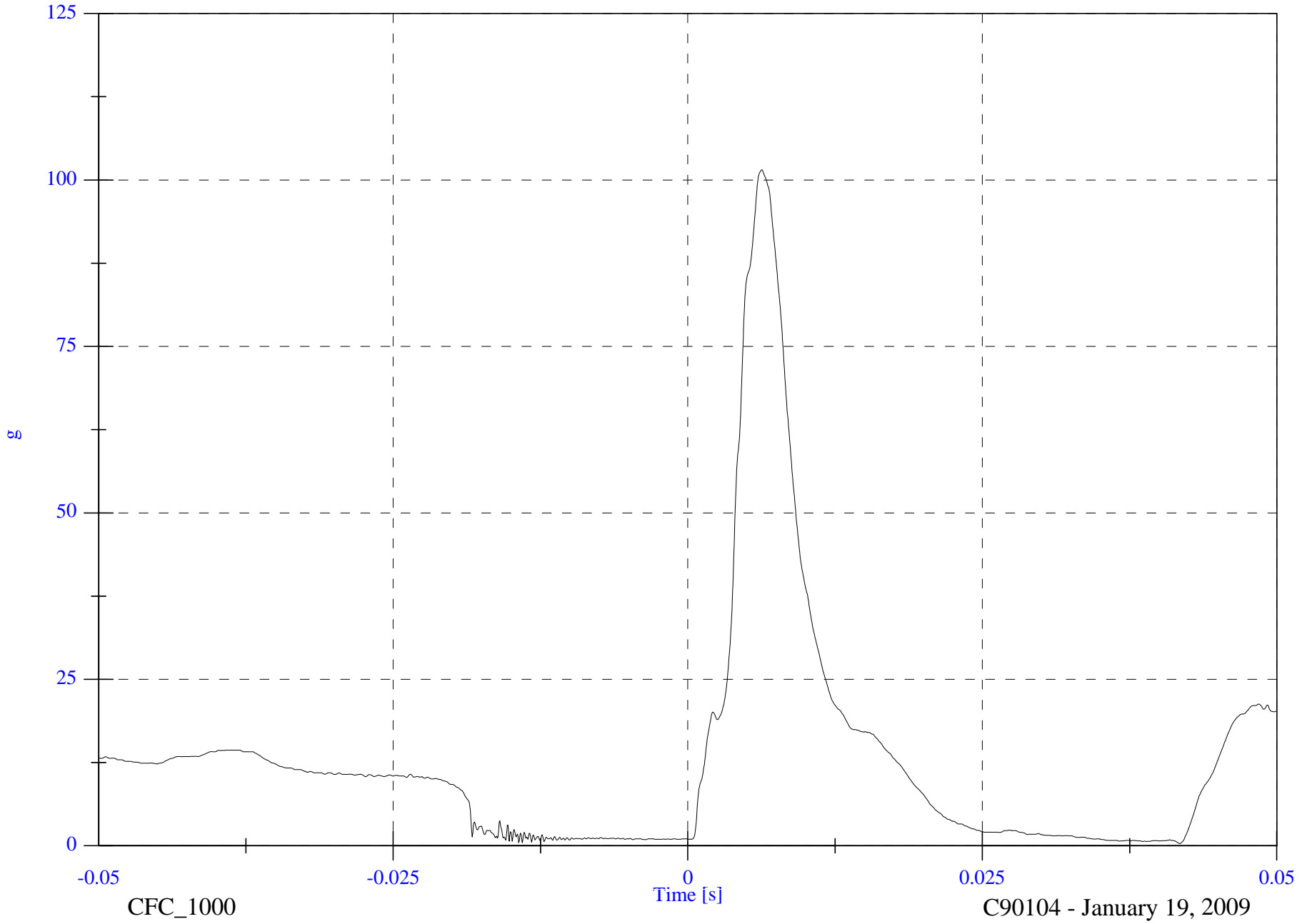
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 101.5 [g] at 0.006 [s]

Min: 0.3 [g] at 0.042 [s]

C90104 PASSENGER SIDE AP3 IMPACT PLOT #4



CFC\_1000

C90104 - January 19, 2009

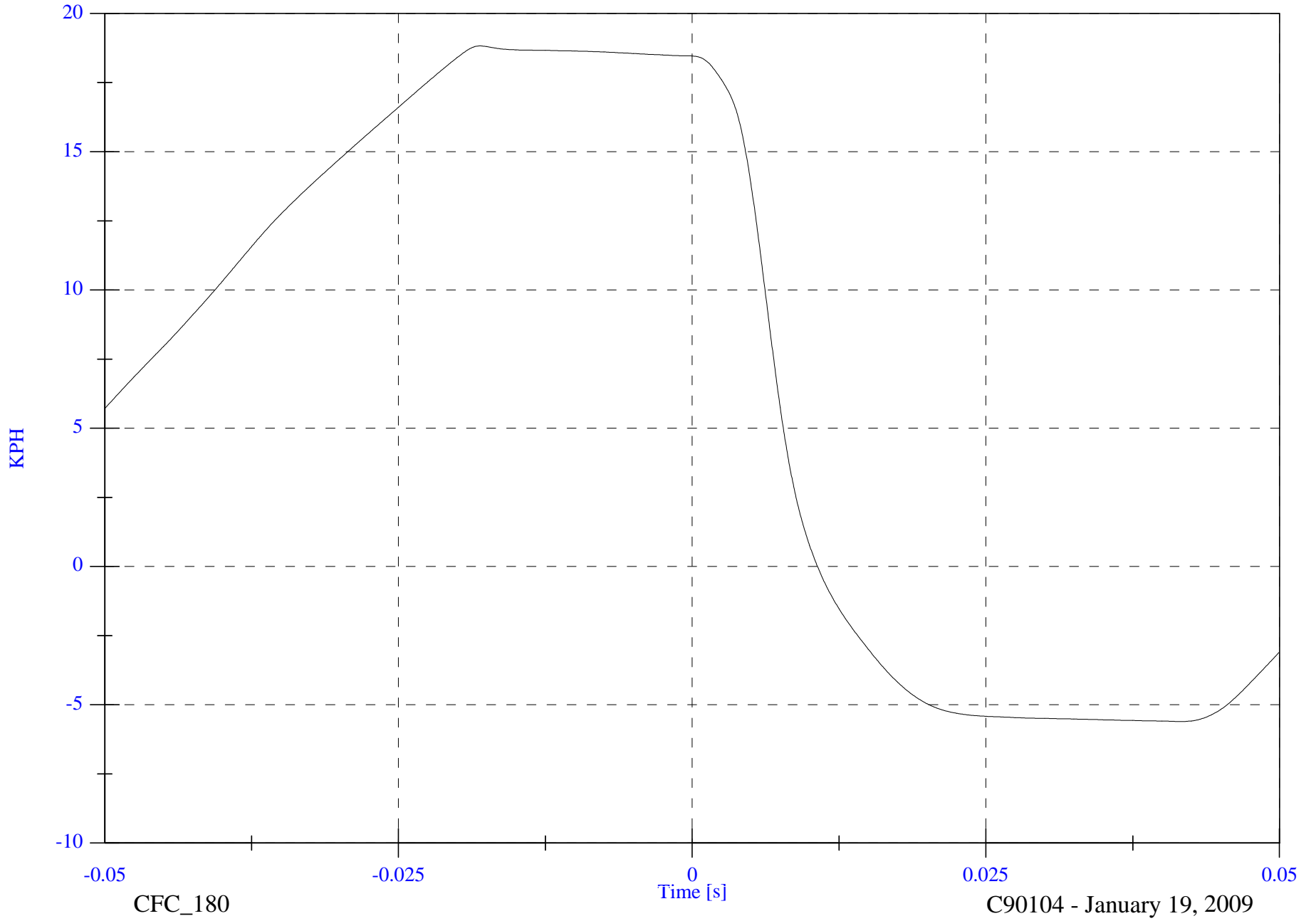
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 18.8 [KPH] at -0.018 [s]

Min: -5.6 [KPH] at 0.042 [s]

Headform Velocity

C90104 PASSENGER SIDE AP3 IMPACT PLOT #5



CFC\_180

C90104 - January 19, 2009



PRE-IMPACT AP3

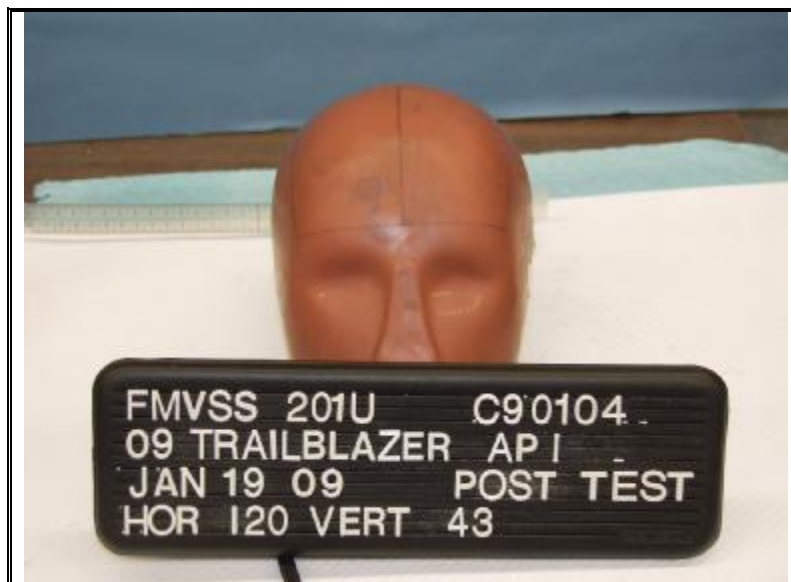


POST-IMPACT AP3

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |          |
|--------------------------|----------|
| Test Number:             | 08       |
| Test Date:               | 01/19/09 |
| Target Location:         | A-PILLAR |
| Target Code:             | AP1      |
| Horizontal Impact Angle: | 120°     |
| Vertical Impact Angle:   | 43°      |
| Ambient Temperature:     | 20°C     |
| Relative Humidity:       | 18       |
| Time of Impact:          | 15:40    |
| Headform Number:         | 0355     |

|  |    |                                     |          |                          |         |
|--|----|-------------------------------------|----------|--------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                                     |          |                          |         |
| On Centerline  | 16 | <input checked="" type="checkbox"/> | mm right | <input type="checkbox"/> | mm left |
| On Centerline  | 19 |                                     |          |                          | mm up   |



POST-IMPACT AP1 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 344.8 |
| HIC(d)                | 426.5 |
| Impact Velocity (kph) | 18.75 |
| HIC T1 (msec)         | 2.3   |
| HIC T2 (msec)         | 7.4   |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - AP1

FMH Headform 0355

Location: AP1

Test Date: January 19, 2009

Work File: AP1

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 426.5

Lab Humidity: 18 %

HIC (36ms): 344.8

Velocity at Impact: 18.75 KPH

t1: 2.3 msec

t2: 7.4 msec

Free Flight Distance: 223.05 mm

Duration: 5.2 msec

Average Acceleration: 6.4 g

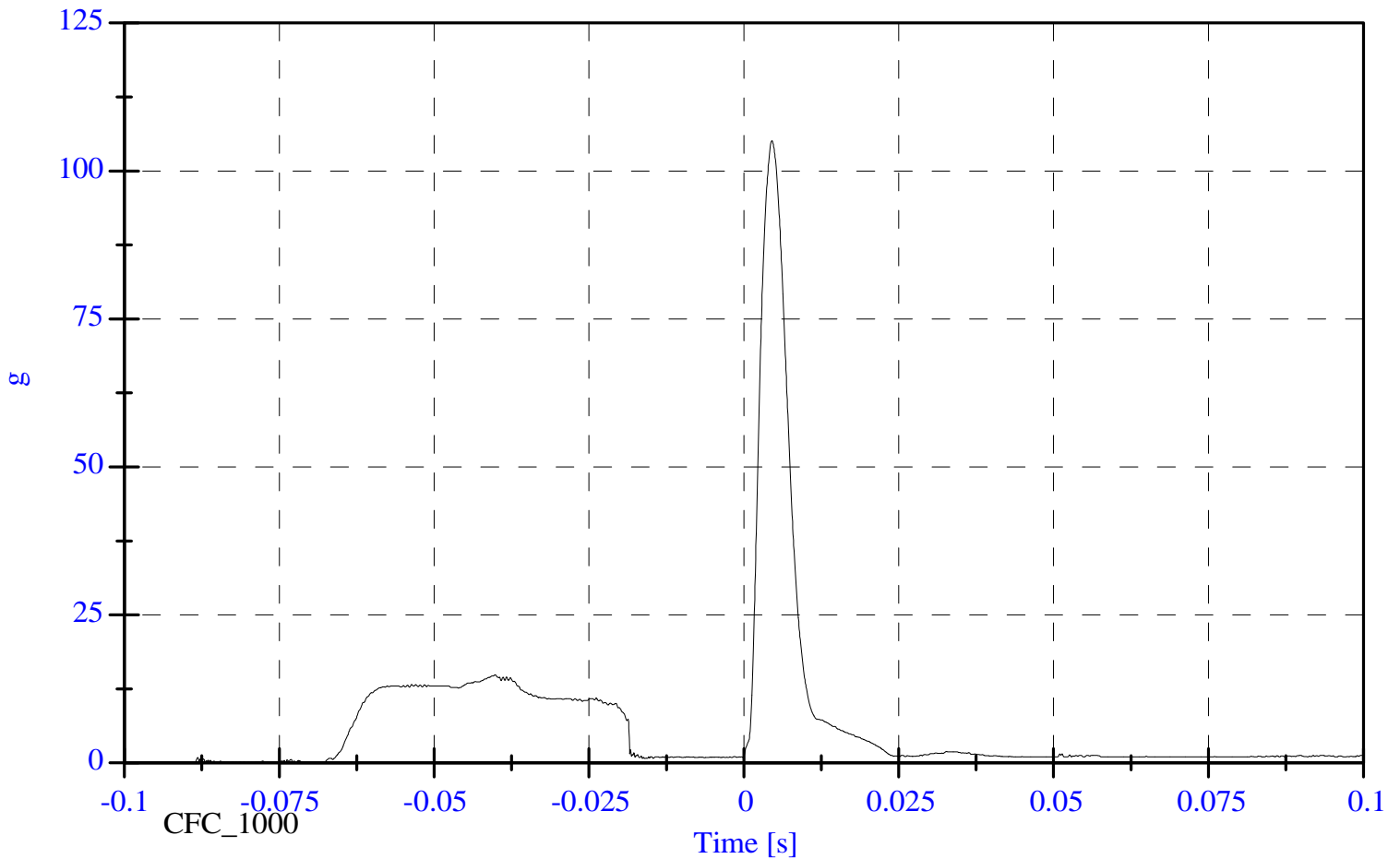
Maximum: 105.1 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 105.1 [g] at 0.005 [s]

Min: 0.0 [g] at -0.096 [s]



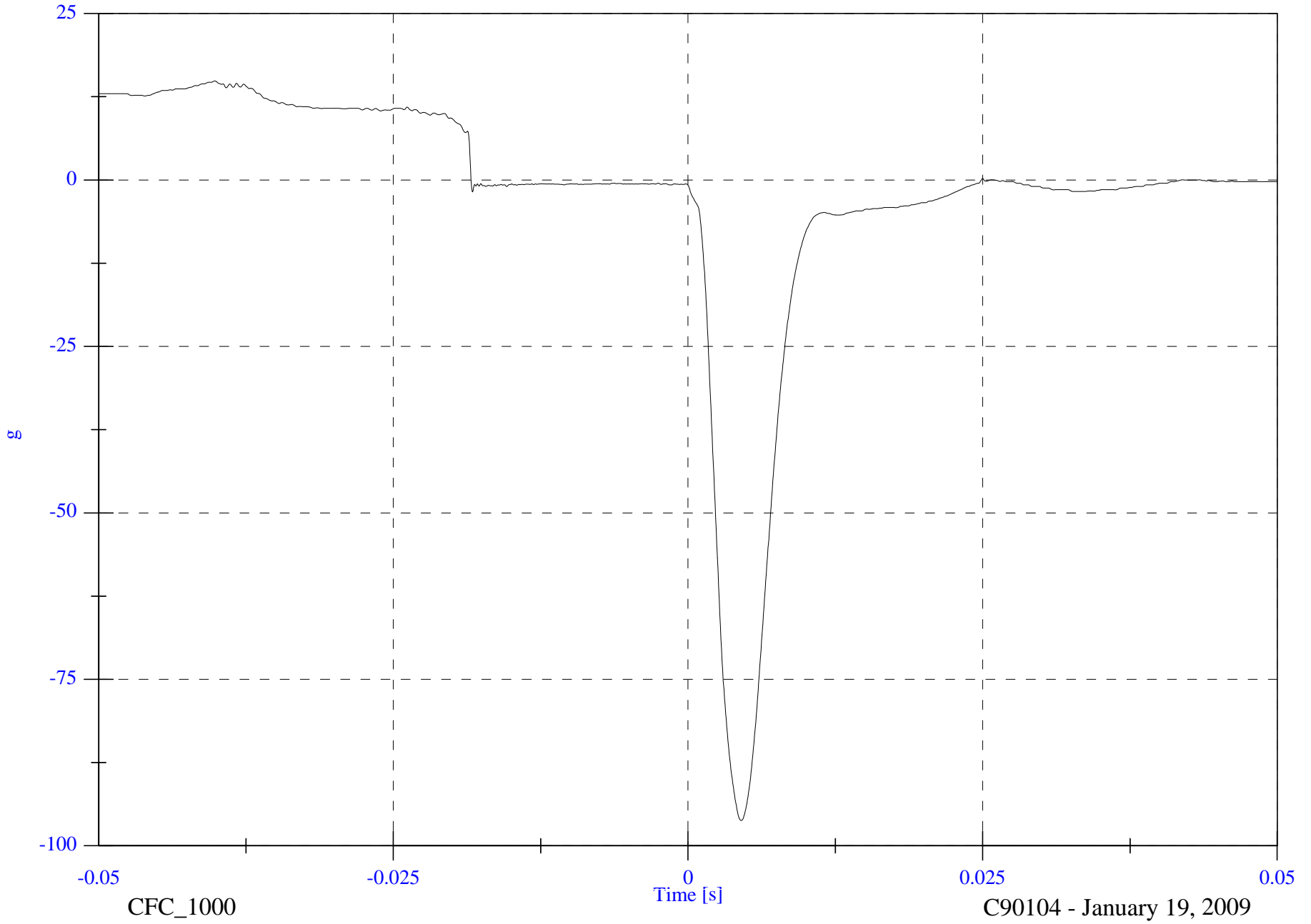
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 14.9 [g] at -0.040 [s]

Min: -96.2 [g] at 0.005 [s]

C90104 PASSENGER SIDE AP1 IMPACT PLOT #1



CFC\_1000

C90104 - January 19, 2009

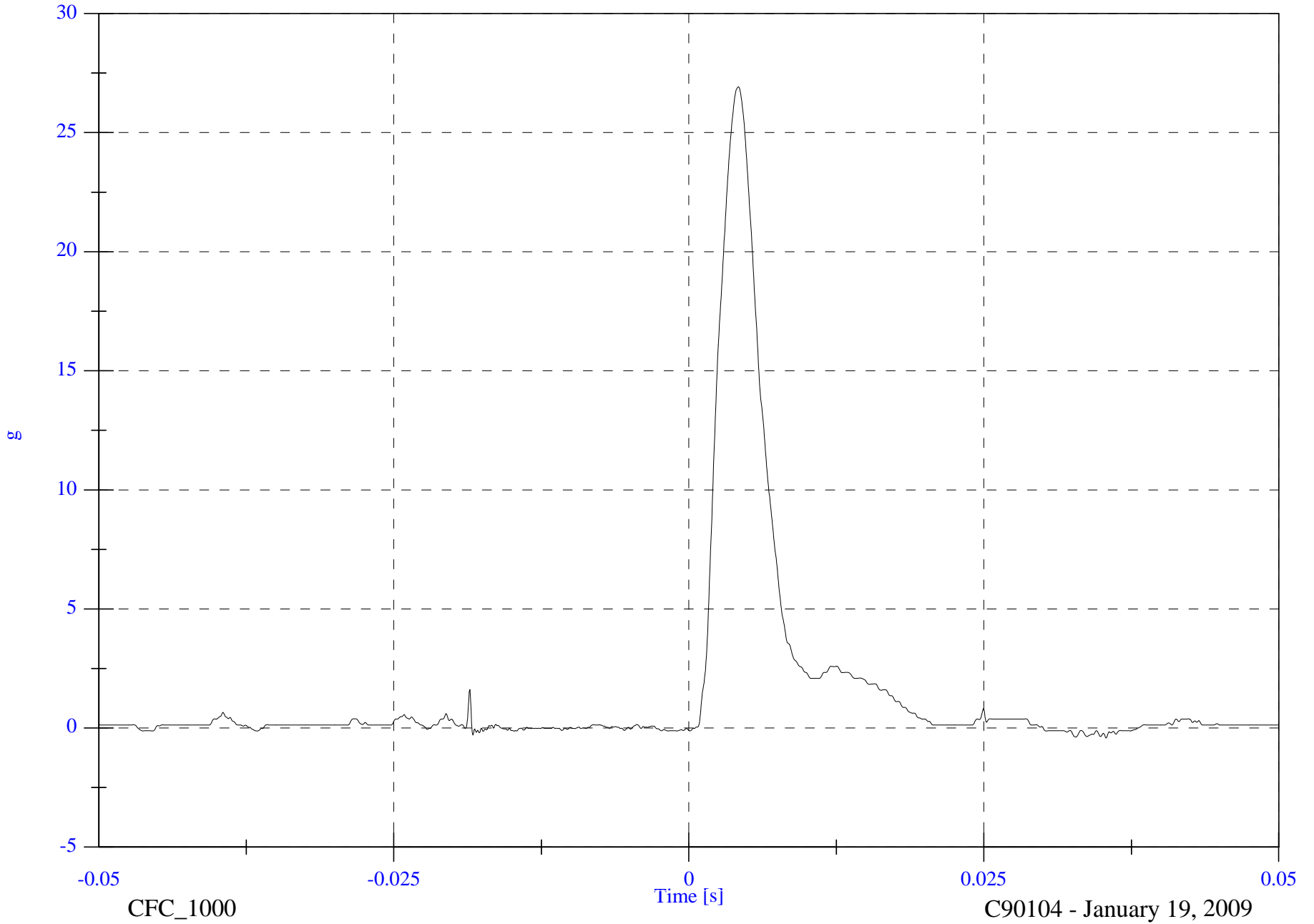
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 26.9 [g] at 0.004 [s]

Min: -0.4 [g] at 0.035 [s]

C90104 PASSENGER SIDE AP1 IMPACT PLOT #2



CFC\_1000

C90104 - January 19, 2009



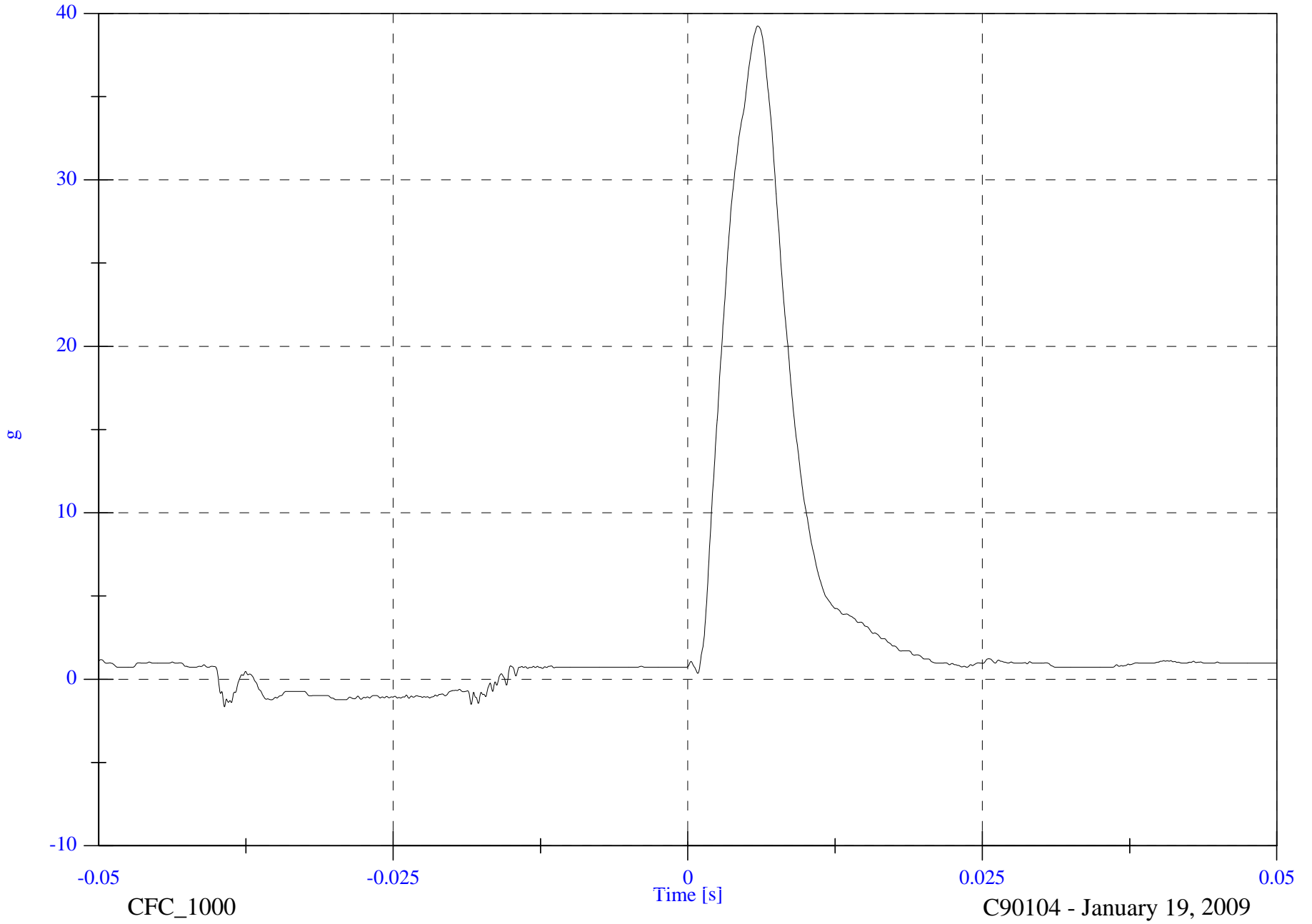
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 39.2 [g] at 0.006 [s]

Min: -1.6 [g] at -0.039 [s]

C90104 PASSENGER SIDE AP1 IMPACT PLOT #3



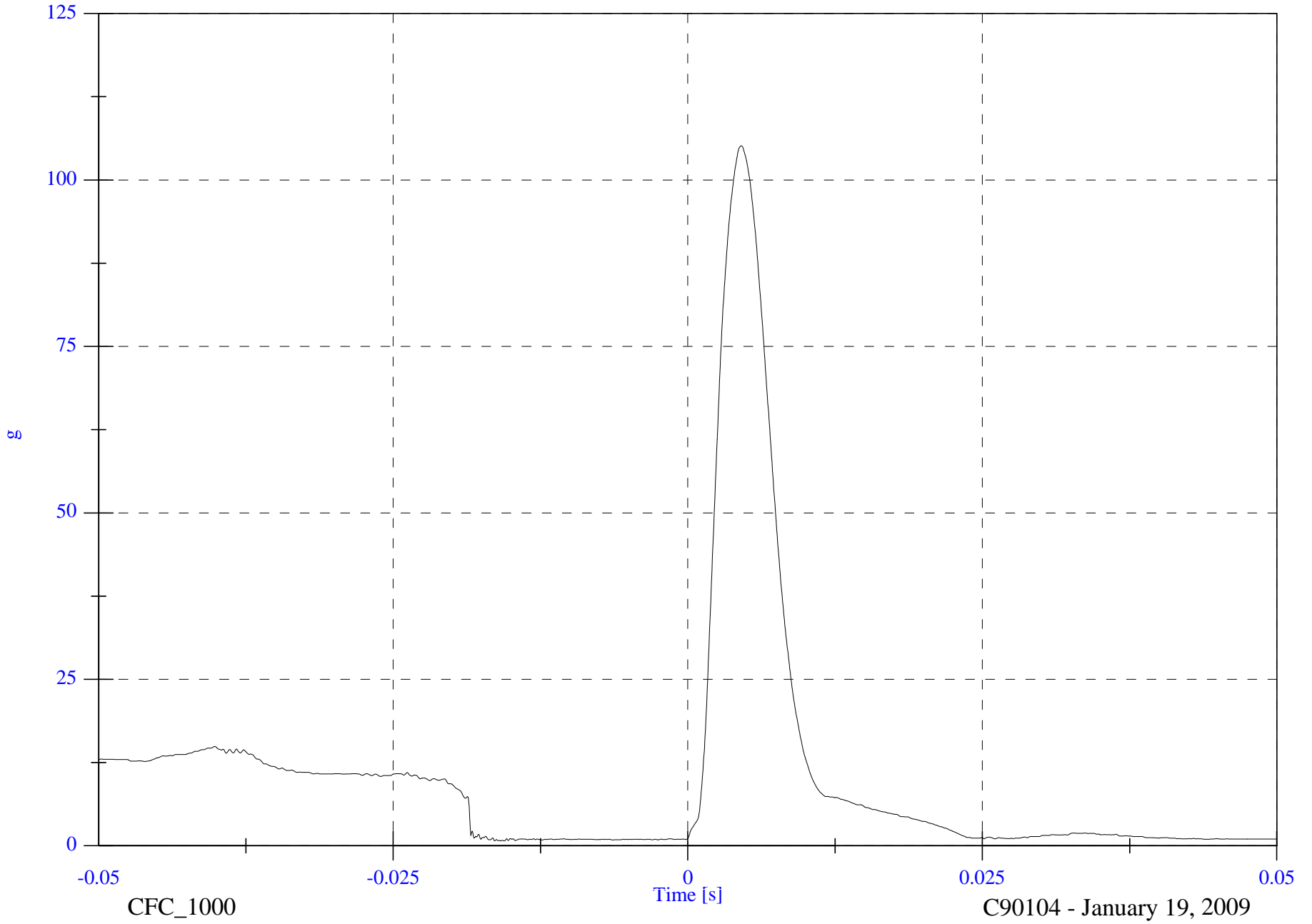
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 105.1 [g] at 0.005 [s]

Min: 0.7 [g] at -0.016 [s]

C90104 PASSENGER SIDE AP1 IMPACT PLOT #4



CFC\_1000

C90104 - January 19, 2009

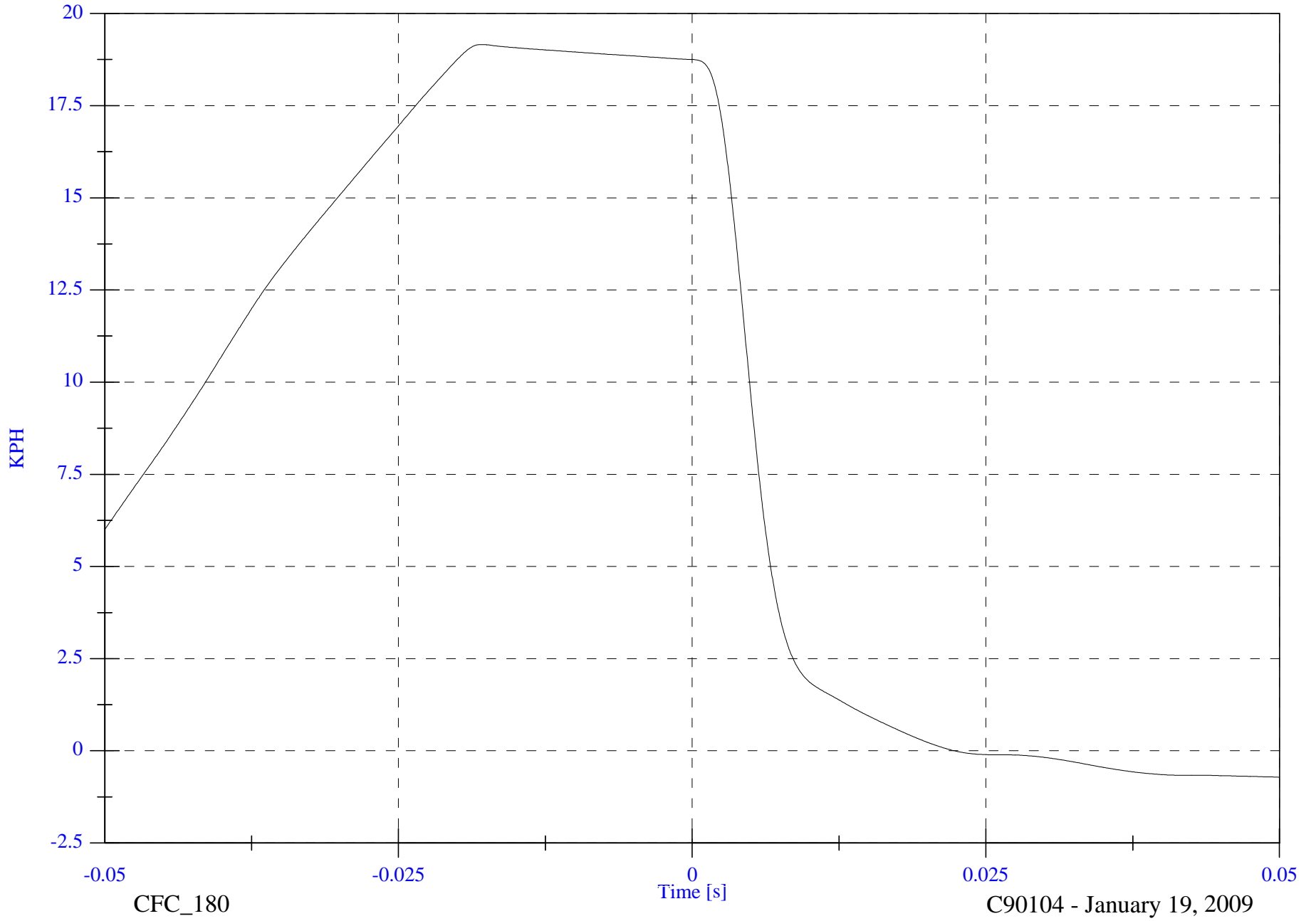
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 19.2 [KPH] at -0.018 [s]

Min: -0.7 [KPH] at 0.050 [s]

Headform Velocity

C90104 PASSENGER SIDE AP1 IMPACT PLOT #5



CFC\_180

C90104 - January 19, 2009



PRE-IMPACT AP1



POST-IMPACT API

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |          |
|--------------------------|----------|
| Test Number:             | 09       |
| Test Date:               | 01/20/09 |
| Target Location:         | B-PILLAR |
| Target Code:             | BP3      |
| Horizontal Impact Angle: | 270°     |
| Vertical Impact Angle:   | -4°      |
| Ambient Temperature:     | 20°C     |
| Relative Humidity:       | 18       |
| Time of Impact:          | 9:45     |
| Headform Number:         | 0355     |

|  |    |                          |          |                                     |         |
|--|----|--------------------------|----------|-------------------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |          |                                     |         |
| On Centerline  | 19 | <input type="checkbox"/> | mm right | <input checked="" type="checkbox"/> | mm left |
| On Centerline  | 19 |                          |          |                                     | mm up   |



POST-IMPACT BP3 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 527.5 |
| HIC(d)                | 564.4 |
| Impact Velocity (kph) | 23.59 |
| HIC T1 (msec)         | 3.5   |
| HIC T2 (msec)         | 12.2  |

# FMVSS 201U 09 CHEVY TRAILBLAZER c90104 - BP3

FMH Headform 0355

Location: BP3

Test Date: January 20, 2009

Work File: BP3

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 564.4

Lab Humidity: 18 %

HIC (36ms): 527.5

Velocity at Impact: 23.59 KPH

t1: 3.5 msec

t2: 12.2 msec

Free Flight Distance: 222.25 mm

Duration: 8.7 msec

Average Acceleration: 8.8 g

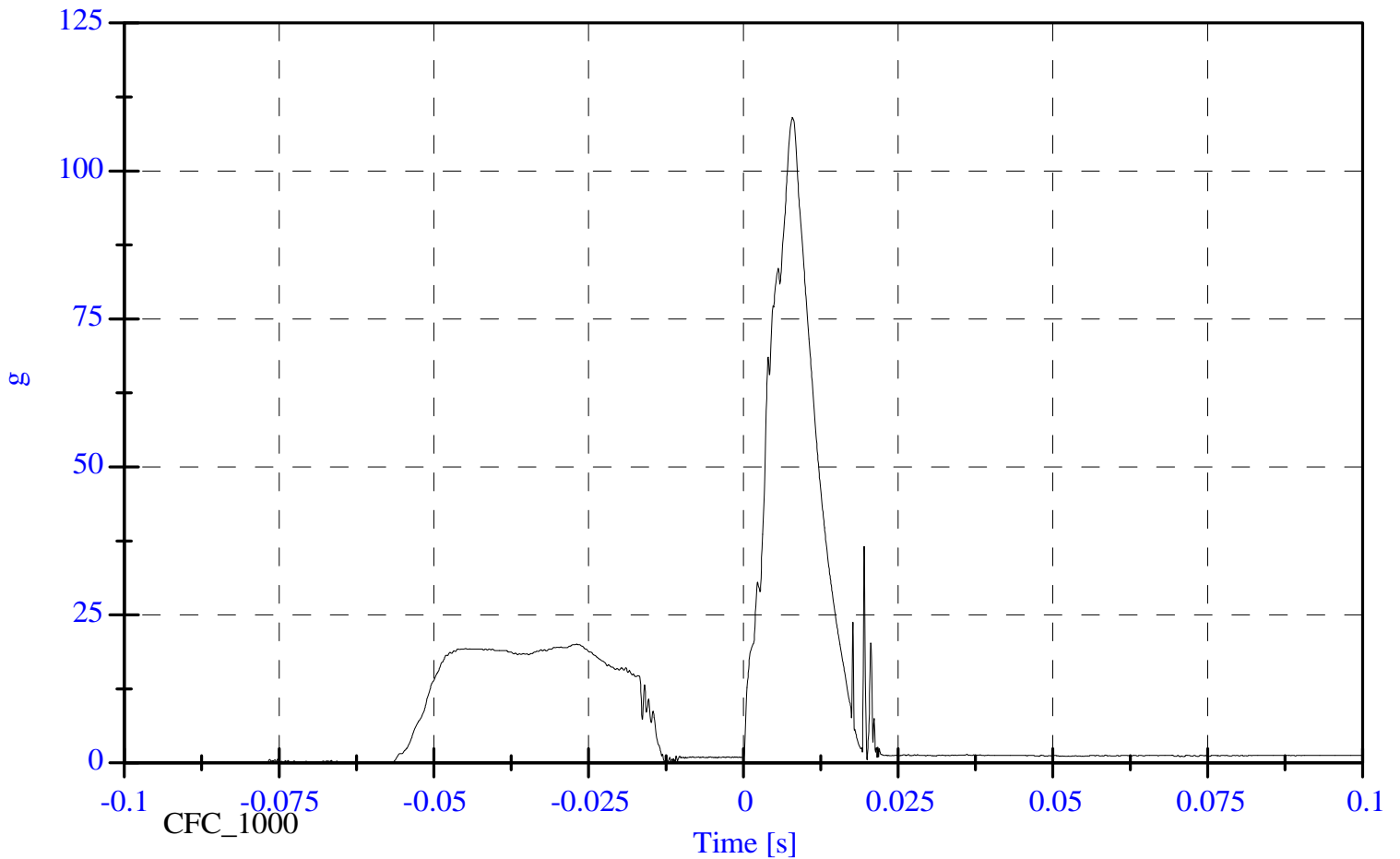
Maximum: 109.0 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 109.0 [g] at 0.008 [s]

Min: 0.0 [g] at -0.065 [s]



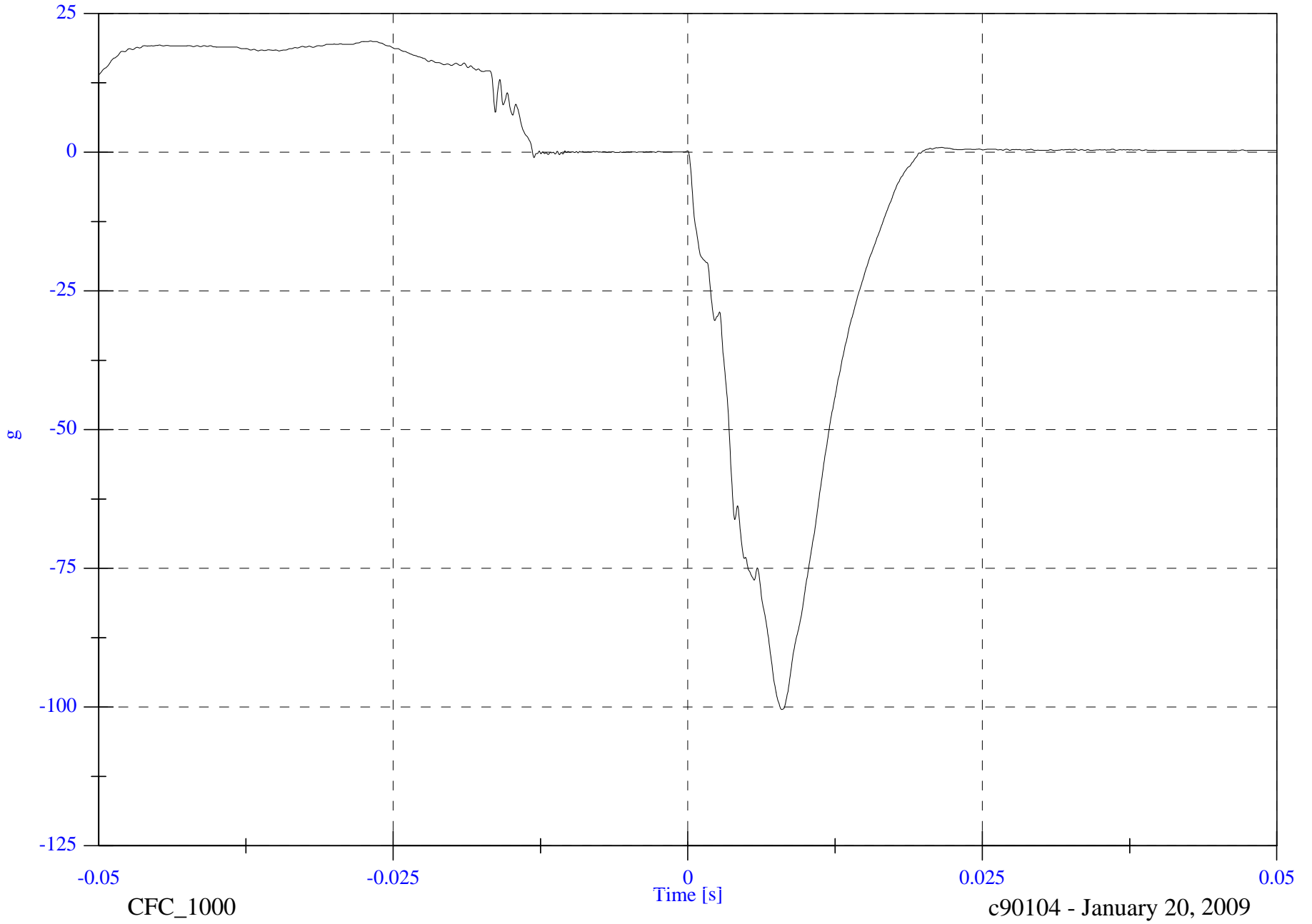
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 20.0 [g] at -0.027 [s]

Min: -100.4 [g] at 0.008 [s]

C90104 DRIVER SIDE BP3 IMPACT PLOT #1



CFC\_1000

c90104 - January 20, 2009



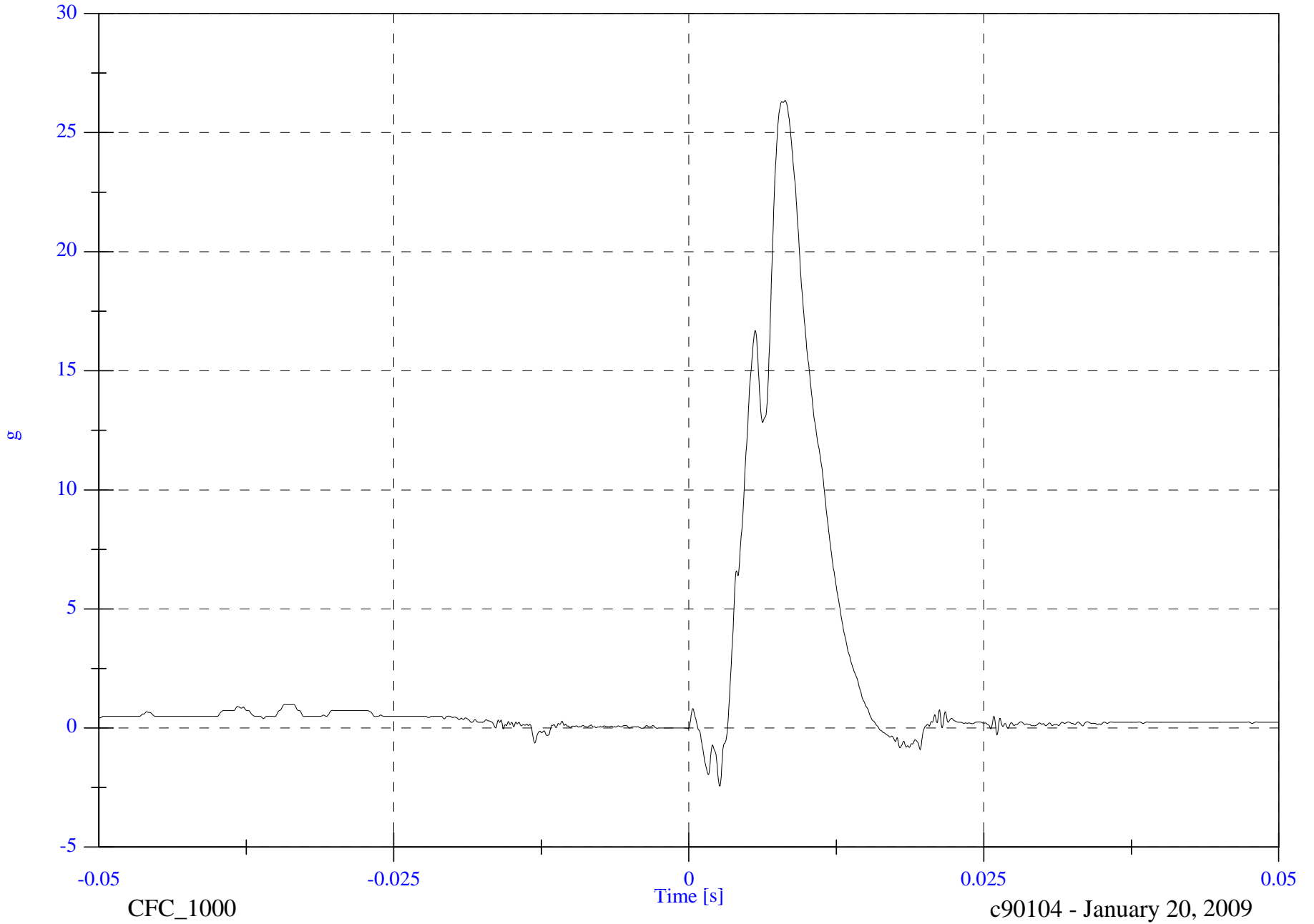
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 26.3 [g] at 0.008 [s]

Min: -2.4 [g] at 0.003 [s]

C90104 DRIVER SIDE BP3 IMPACT PLOT #2



CFC\_1000

c90104 - January 20, 2009

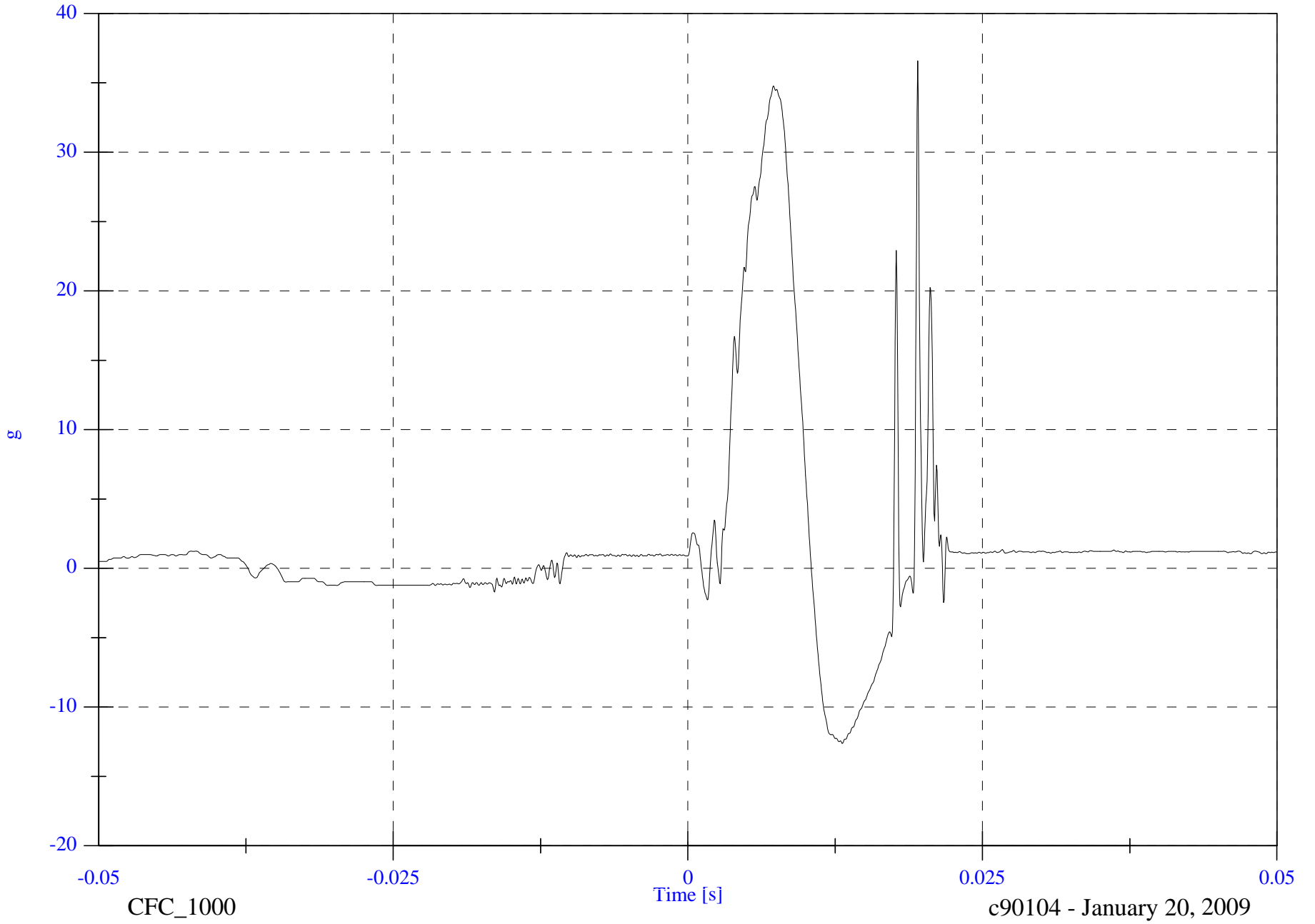
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 36.6 [g] at 0.019 [s]

Min: -12.6 [g] at 0.013 [s]

C90104 DRIVER SIDE BP3 IMPACT PLOT #3



CFC\_1000

c90104 - January 20, 2009

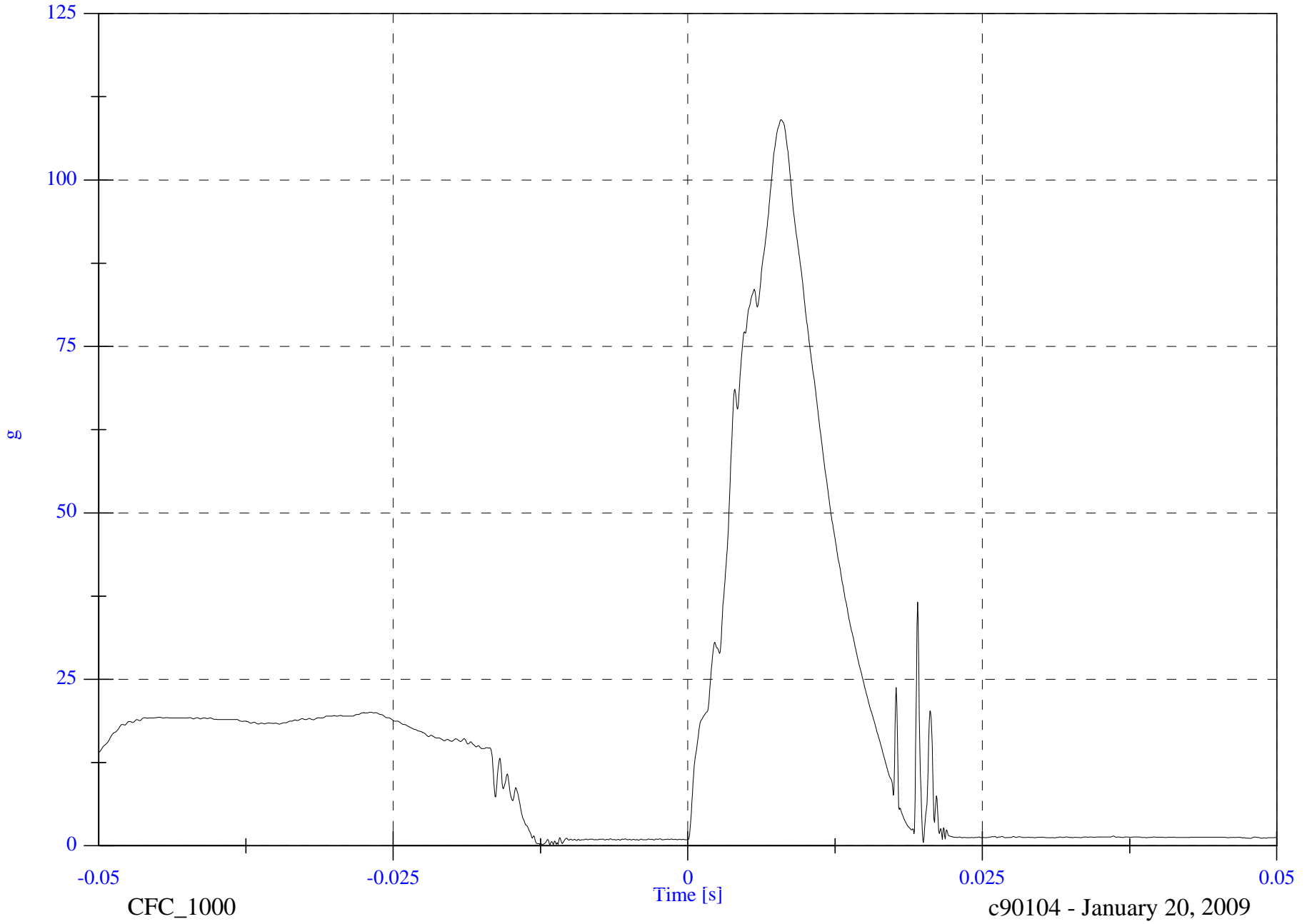
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 109.0 [g] at 0.008 [s]

Min: 0.1 [g] at -0.012 [s]

C90104 DRIVER SIDE BP3 IMPACT PLOT #4



CFC\_1000

c90104 - January 20, 2009

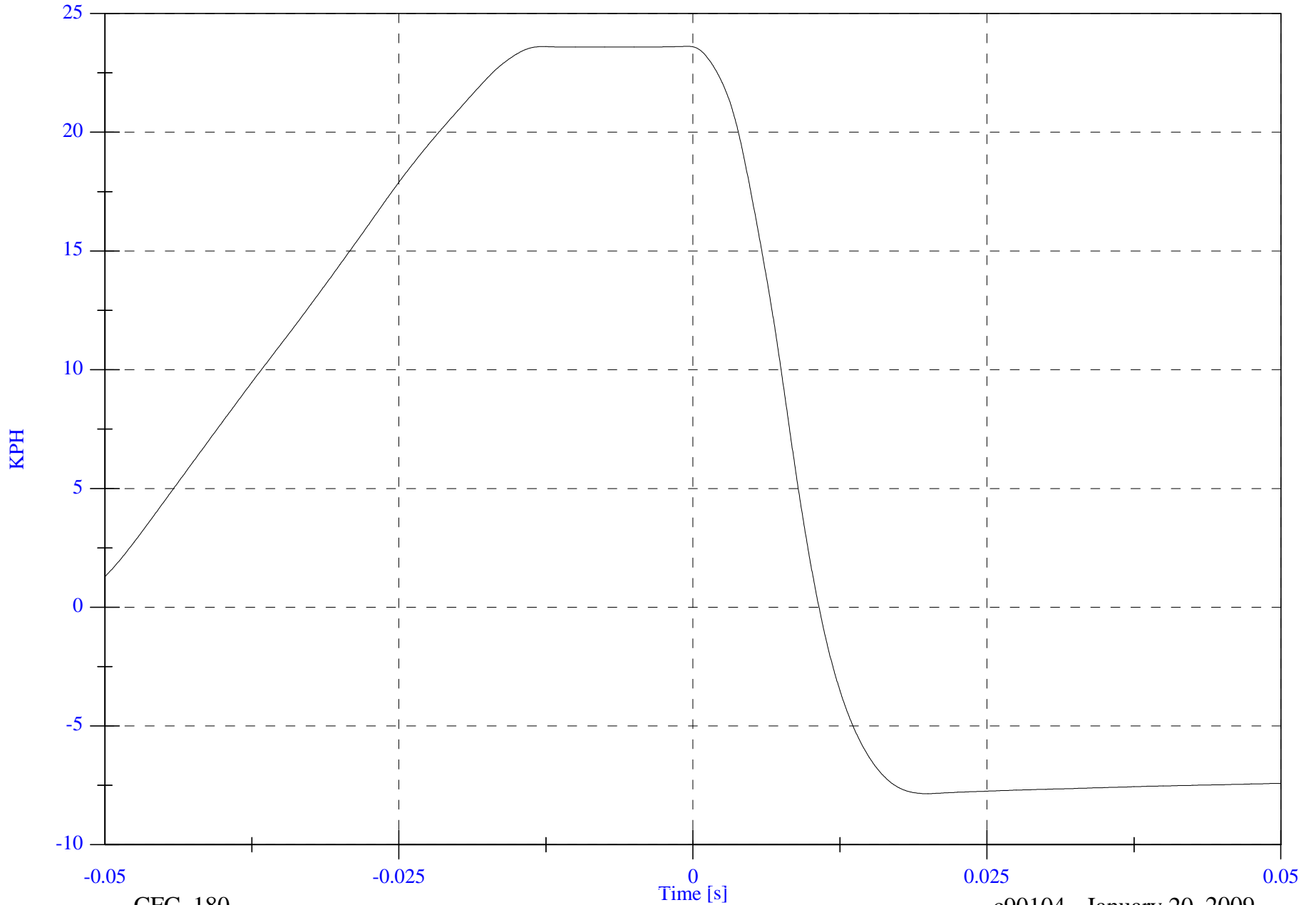
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Velocity

Max: 23.6 [KPH] at -0.001 [s]

Min: -7.9 [KPH] at 0.020 [s]

C90104 DRIVER SIDE BP3 IMPACT PLOT #5



CFC\_180

c90104 - January 20, 2009



PRE-IMPACT BP3



POST-IMPACT BP3

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |            |
|--------------------------|------------|
| Test Number:             | 10         |
| Test Date:               | 01/20/09   |
| Target Location:         | UPPER ROOF |
| Target Code:             | URBP       |
| Horizontal Impact Angle: | 270°       |
| Vertical Impact Angle:   | 50°        |
| Ambient Temperature:     | 20°C       |
| Relative Humidity:       | 18         |
| Time of Impact:          | 10:15      |
| Headform Number:         | 1142       |

|  |    |                          |  |
|--|----|--------------------------|--|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |  |
| On Centerline  | 7  | <input type="checkbox"/> | mm right <input checked="" type="checkbox"/> mm left |
| On Centerline  | 45 |                          | mm up  |



POST-IMPACT URBP HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 705.3 |
| HIC(d)                | 698.5 |
| Impact Velocity (kph) | 23.55 |
| HIC T1 (msec)         | 4.4   |
| HIC T2 (msec)         | 11.2  |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - URBP

FMH Headform 1142

Location: URBP

Test Date: January 20, 2009

Work File: URBP

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 698.5

Lab Humidity: 18 %

HIC (36ms): 705.3

Velocity at Impact: 23.55 KPH

t1: 4.4 msec

t2: 11.2 msec

Free Flight Distance: 219.31 mm

Duration: 6.8 msec

Average Acceleration: 8.9 g

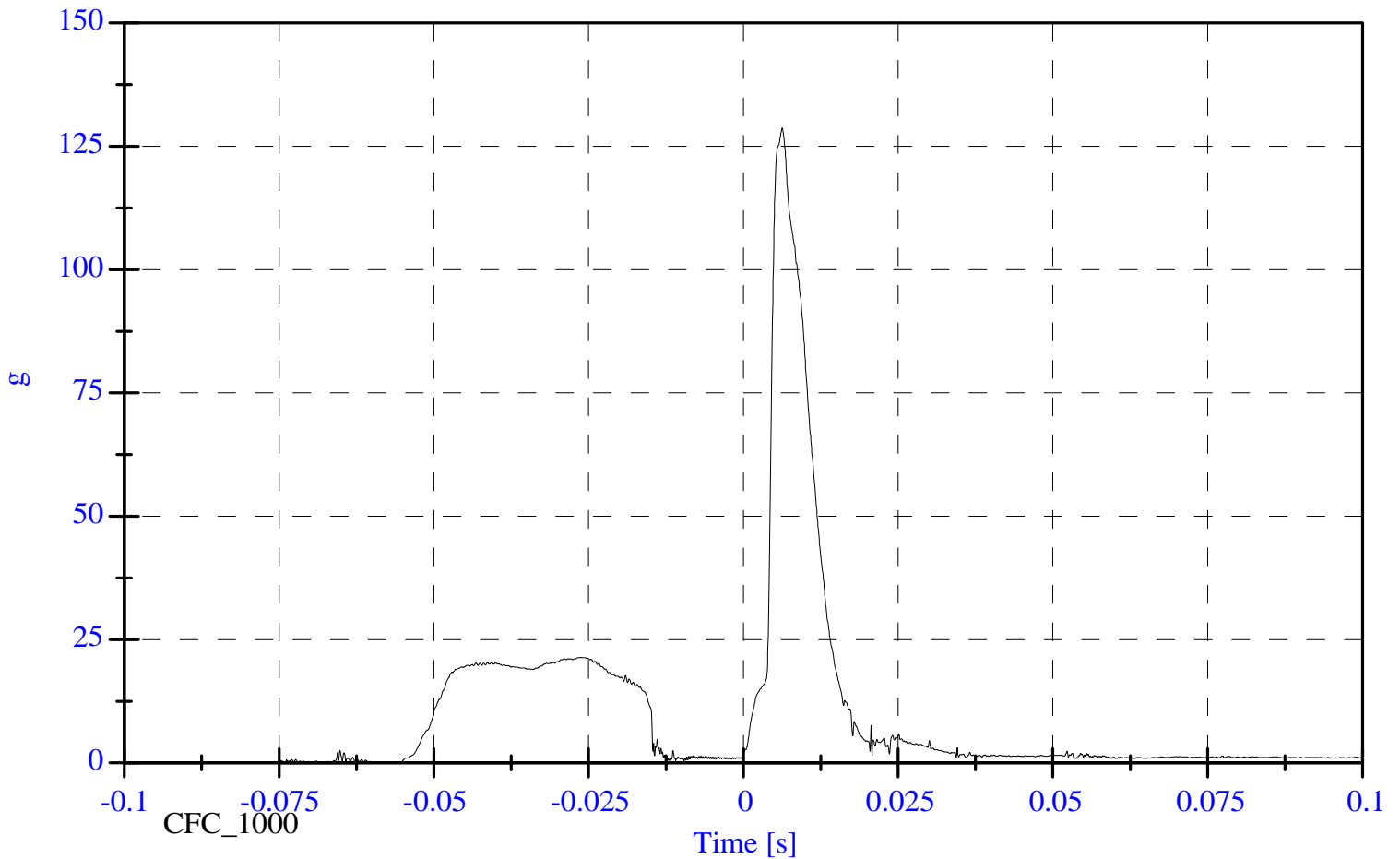
Maximum: 128.7 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 128.7 [g] at 0.006 [s]

Min: 0.0 [g] at -0.094 [s]





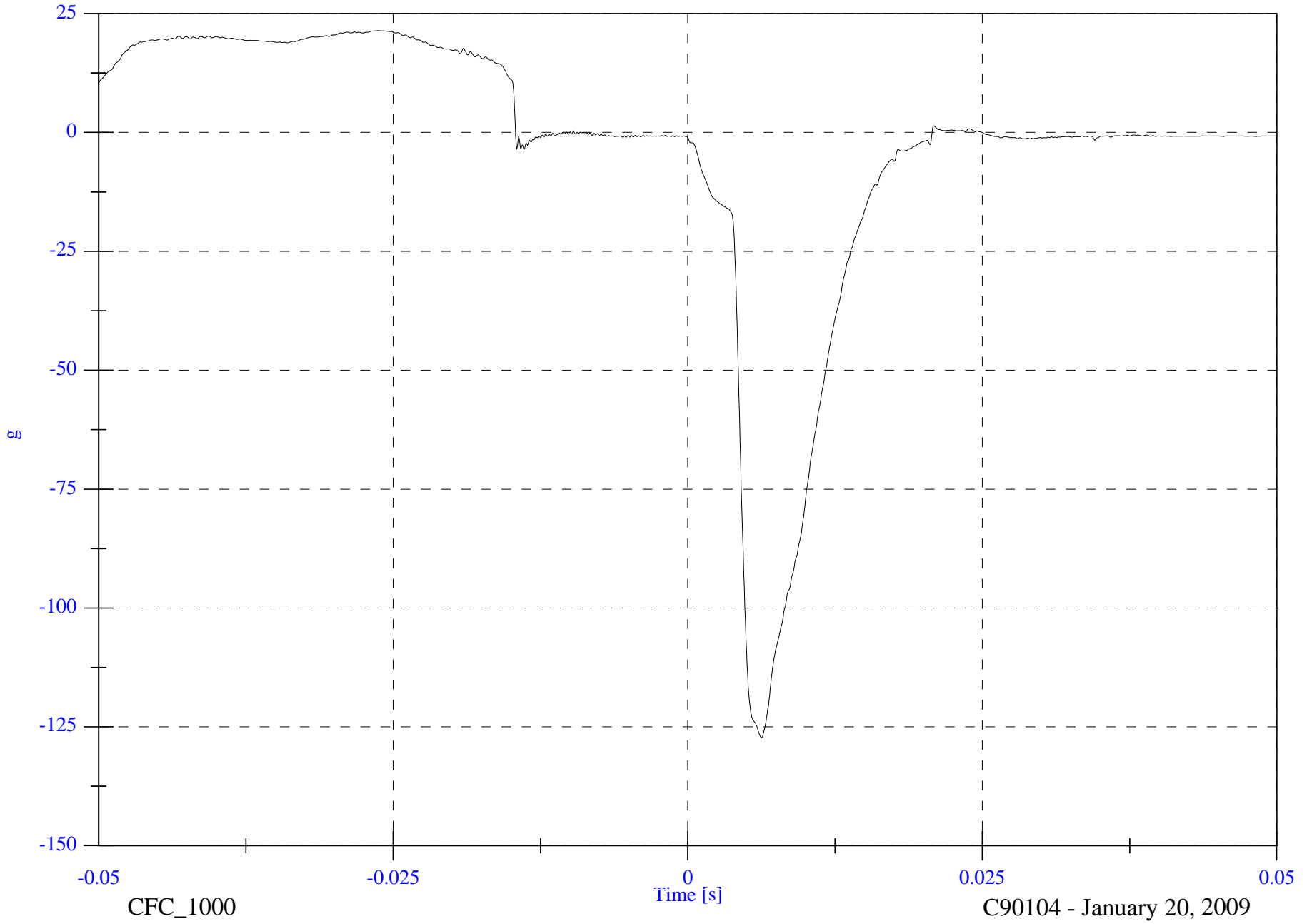
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 21.4 [g] at -0.026 [s]

Min: -127.3 [g] at 0.006 [s]

C90104 DRIVER SIDE URBP IMPACT PLOT #1



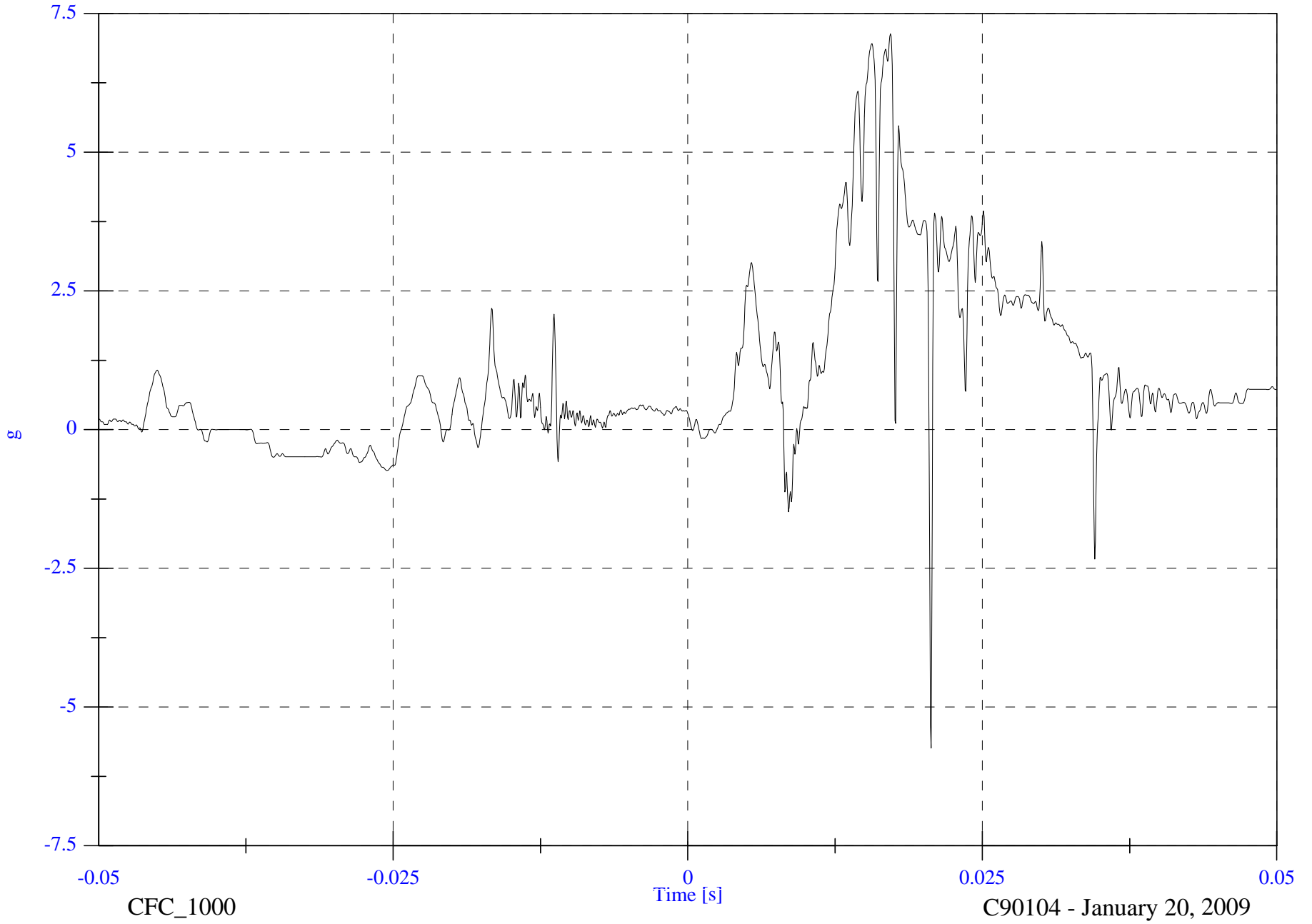
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 7.1 [g] at 0.017 [s]

Min: -5.7 [g] at 0.021 [s]

C90104 DRIVER SIDE URBP IMPACT PLOT #2



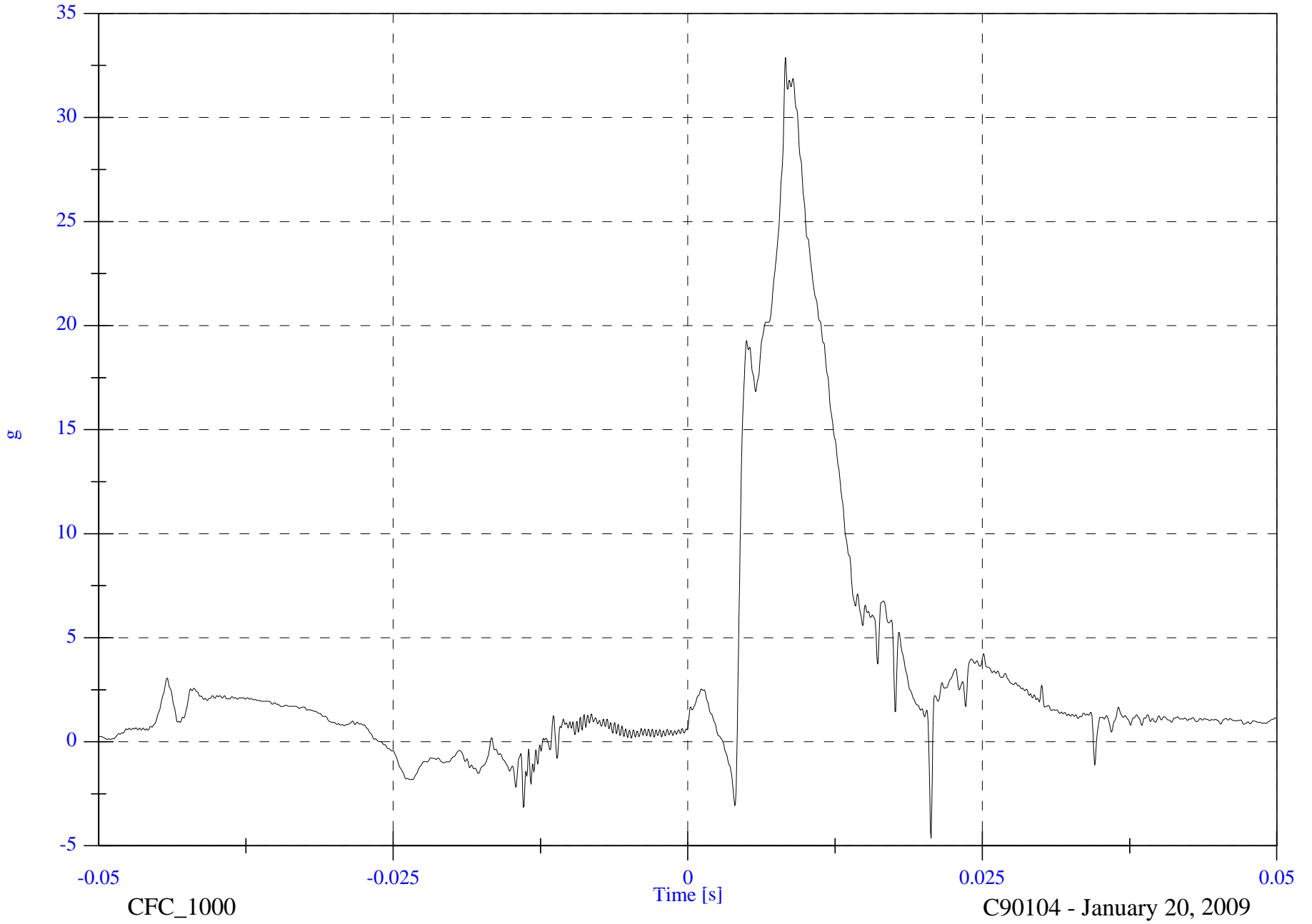
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 32.9 [g] at 0.008 [s]

Min: -4.6 [g] at 0.021 [s]

C90104 DRIVER SIDE URBP IMPACT PLOT #3



CFC\_1000

C90104 - January 20, 2009

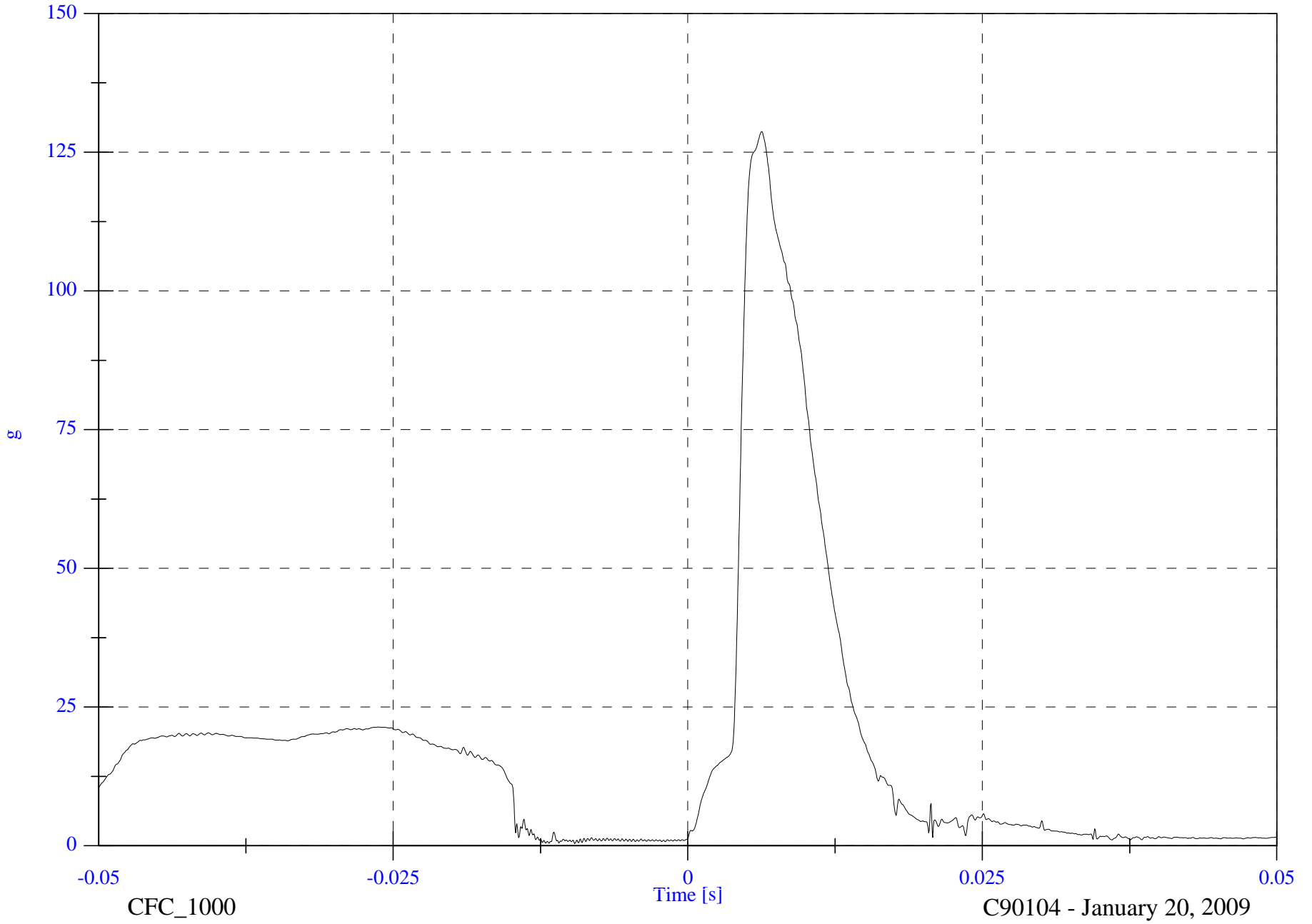
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 128.7 [g] at 0.006 [s]

Min: 0.4 [g] at -0.010 [s]

C90104 DRIVER SIDE URBP IMPACT PLOT #4



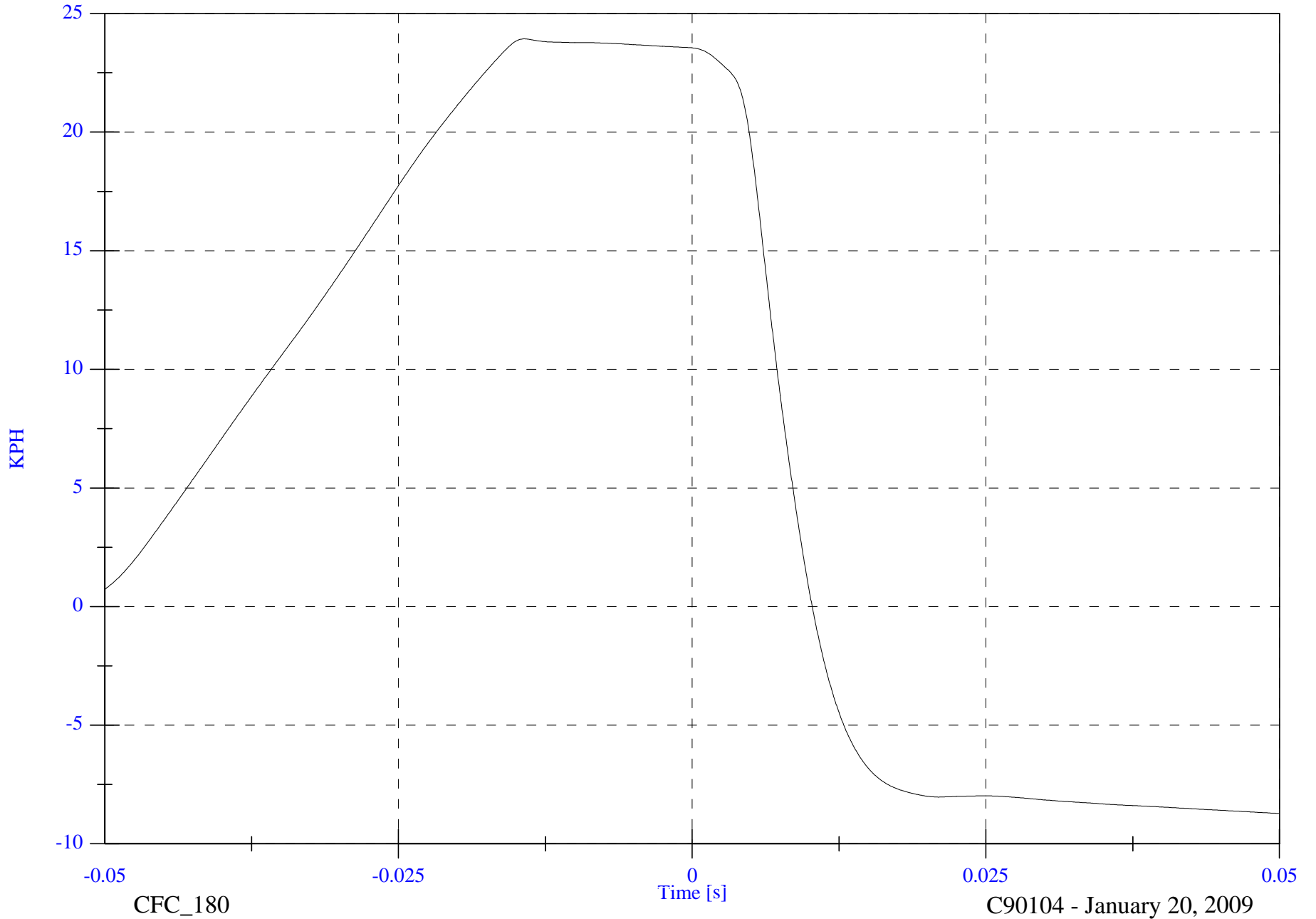
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 23.9 [KPH] at -0.014 [s]

Min: -8.7 [KPH] at 0.050 [s]

Headform Velocity

C90104 DRIVER SIDE URBP IMPACT PLOT #5



CFC\_180

C90104 - January 20, 2009



PRE-IMPACT URBP



POST-IMPACT URBP

|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |           |
|--------------------------|-----------|
| Test Number:             | 11        |
| Test Date:               | 01/20/09  |
| Target Location:         | SIDE RAIL |
| Target Code:             | SR2A      |
| Horizontal Impact Angle: | 270°      |
| Vertical Impact Angle:   | 50°       |
| Ambient Temperature:     | 20°C      |
| Relative Humidity:       | 18        |
| Time of Impact:          | 10:45     |
| Headform Number:         | 0062      |

| Impact Point Description (from lower midpoint on midsagittal line) |    |                          |   |
|--|----|--------------------------|---|
| On Centerline  | 0  | <input type="checkbox"/> | mm right <input type="checkbox"/> mm left |
| On Centerline  | 16 |                          | mm up                                     |



POST-IMPACT SR2AHEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 253.3 |
| HIC(d)                | 357.5 |
| Impact Velocity (kph) | 18.46 |
| HIC T1 (msec)         | 7.2   |
| HIC T2 (msec)         | 16.7  |



# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - SR2A

FMH Headform 0062

Location: SR2A

Test Date: January 20, 2009

Work File: SR2A

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 357.5

Lab Humidity: 18 %

HIC (36ms): 253.3

Velocity at Impact: 18.46 KPH

t1: 7.2 msec

t2: 16.7 msec

Free Flight Distance: 216.23 mm

Duration: 9.4 msec

Average Acceleration: 7.2 g

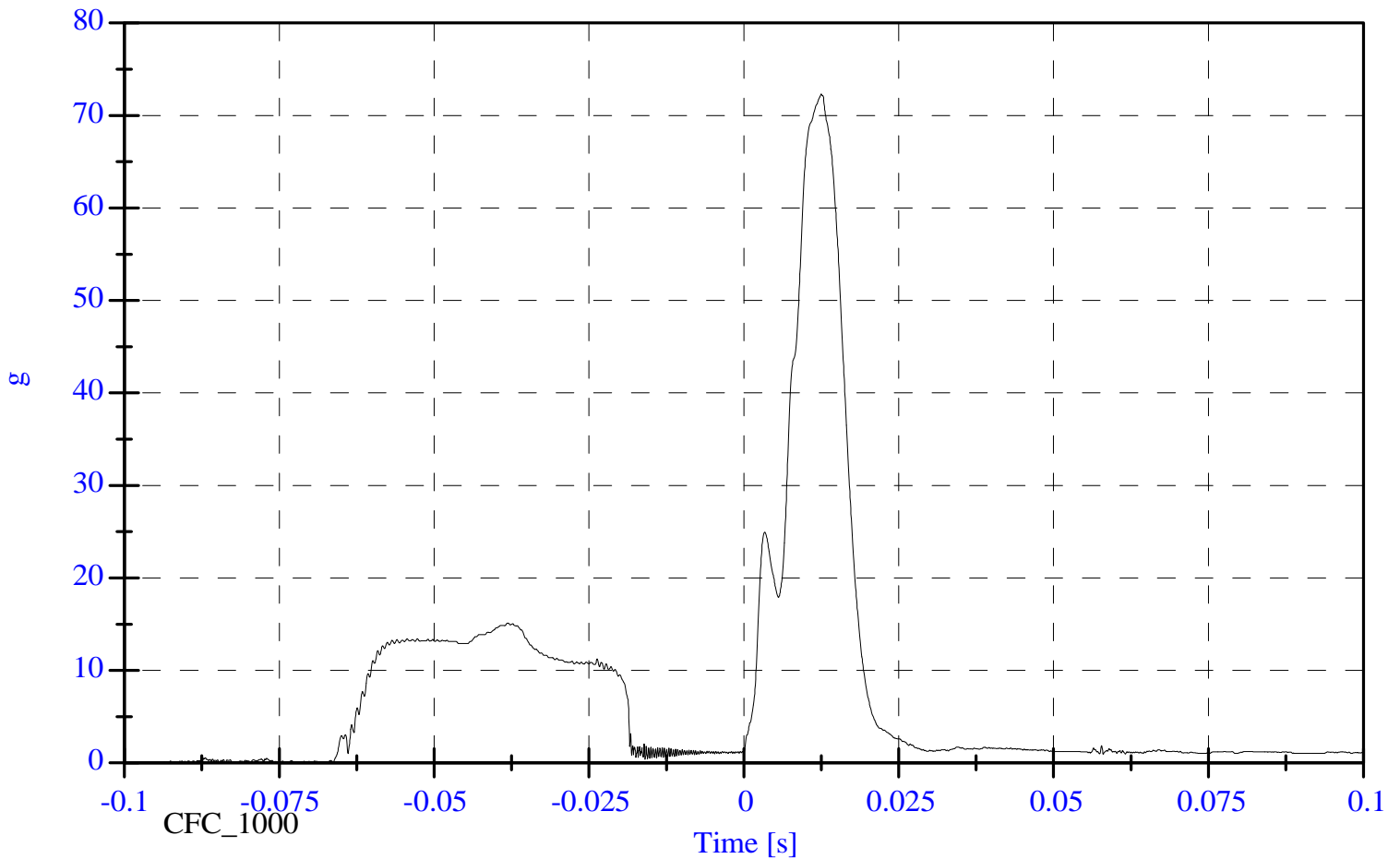
Maximum: 72.3 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 72.3 [g] at 0.013 [s]

Min: 0.0 [g] at -0.098 [s]



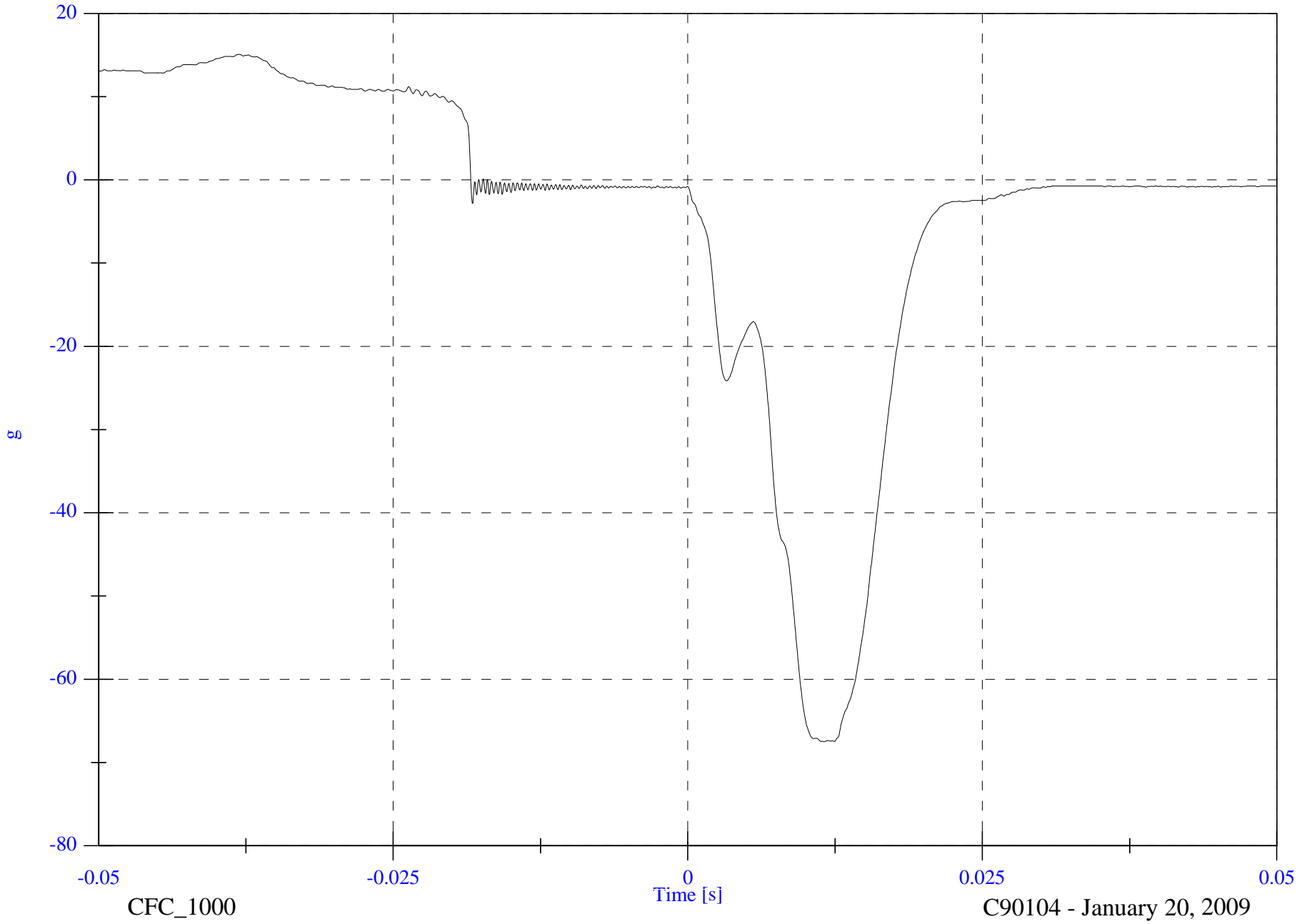
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 15.1 [g] at -0.038 [s]

Min: -67.5 [g] at 0.012 [s]

C90104 DRIVER SIDE SR2A IMPACT PLOT #1



CFC\_1000

C90104 - January 20, 2009

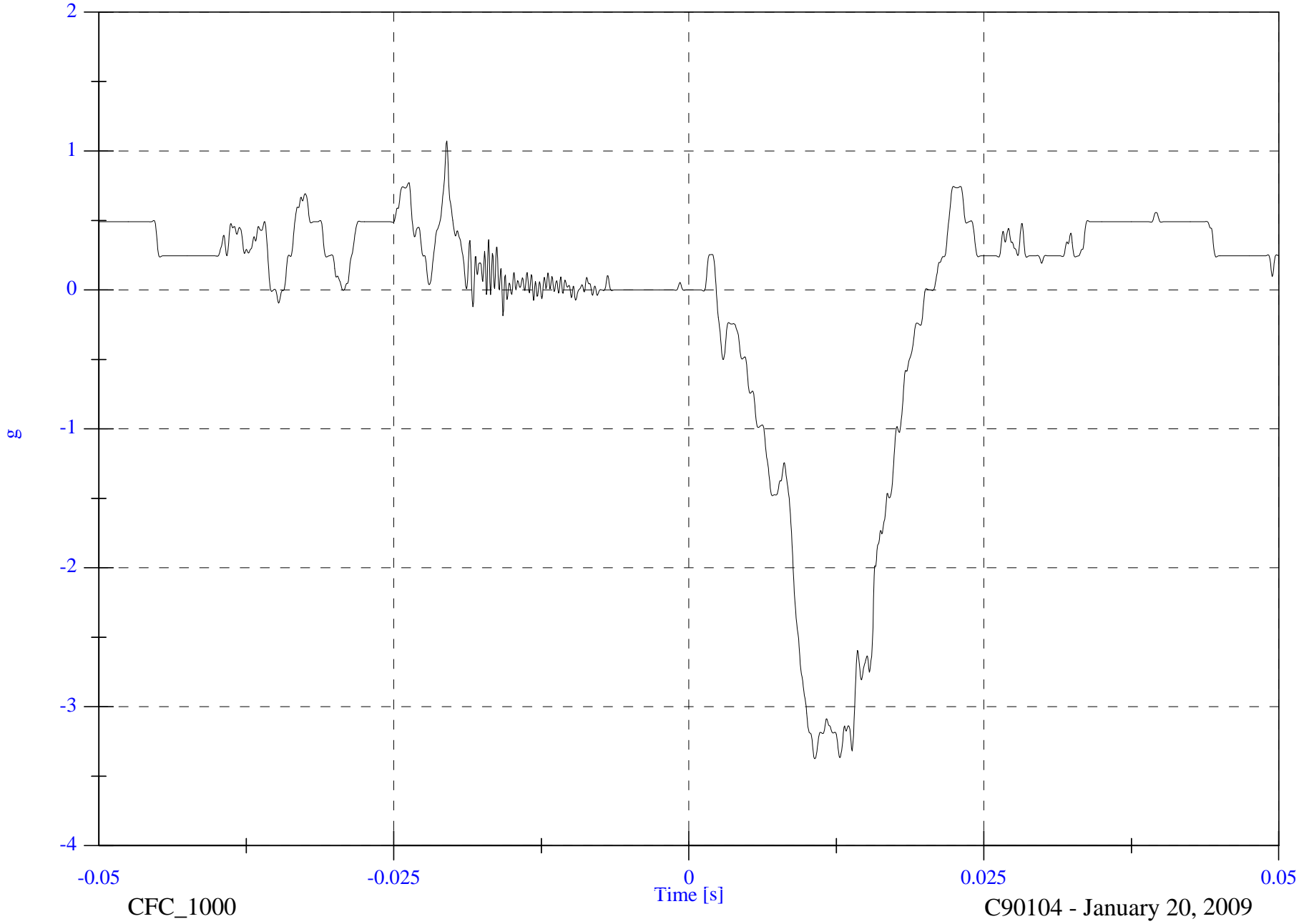
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 1.1 [g] at -0.020 [s]

Min: -3.4 [g] at 0.011 [s]

C90104 DRIVER SIDE SR2A IMPACT PLOT #2



CFC\_1000

C90104 - January 20, 2009

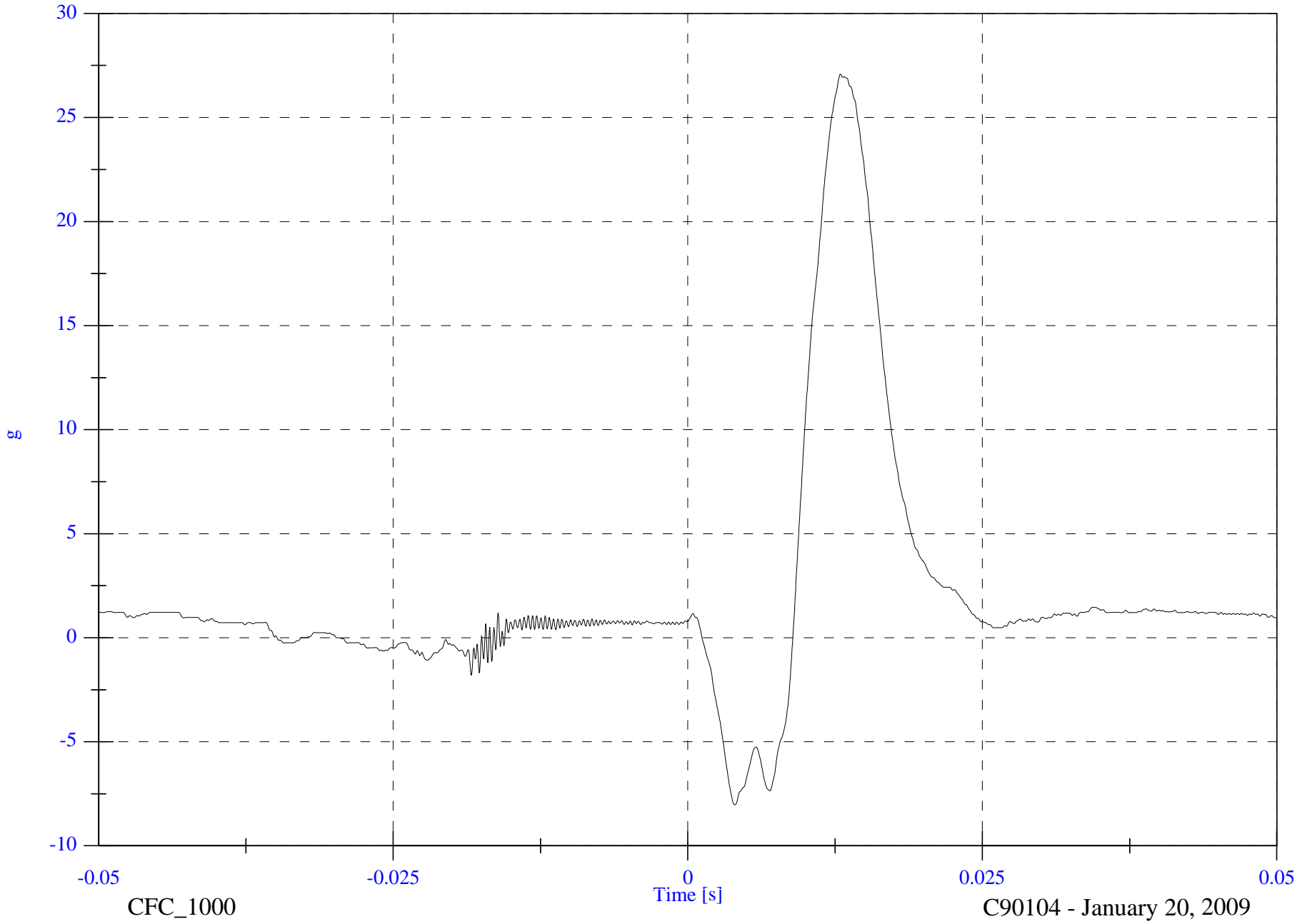
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 27.1 [g] at 0.013 [s]

Min: -8.0 [g] at 0.004 [s]

C90104 DRIVER SIDE SR2A IMPACT PLOT #3



CFC\_1000

C90104 - January 20, 2009

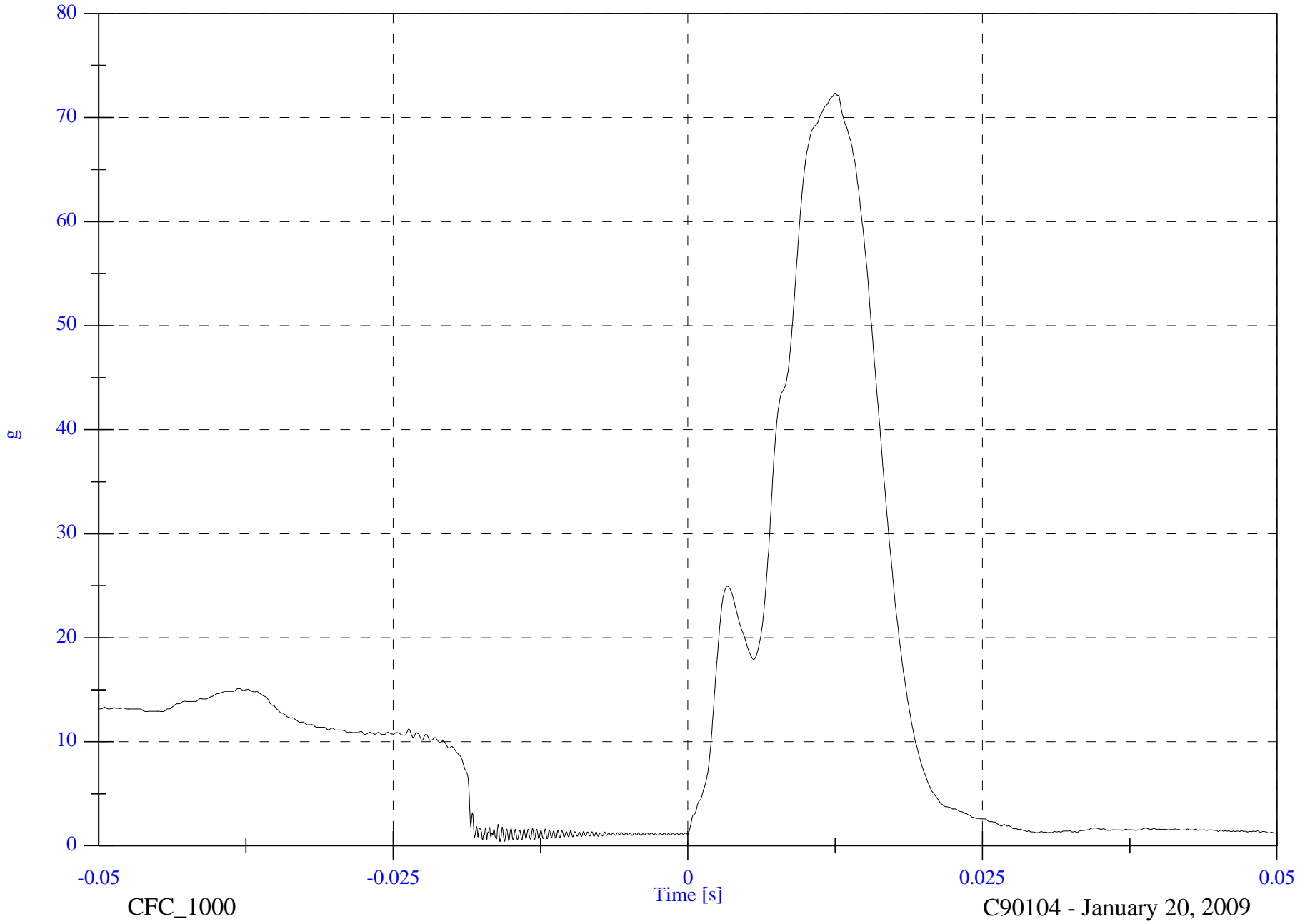
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 72.3 [g] at 0.013 [s]

Min: 0.4 [g] at -0.016 [s]

C90104 DRIVER SIDE SR2A IMPACT PLOT #4



CFC\_1000

C90104 - January 20, 2009

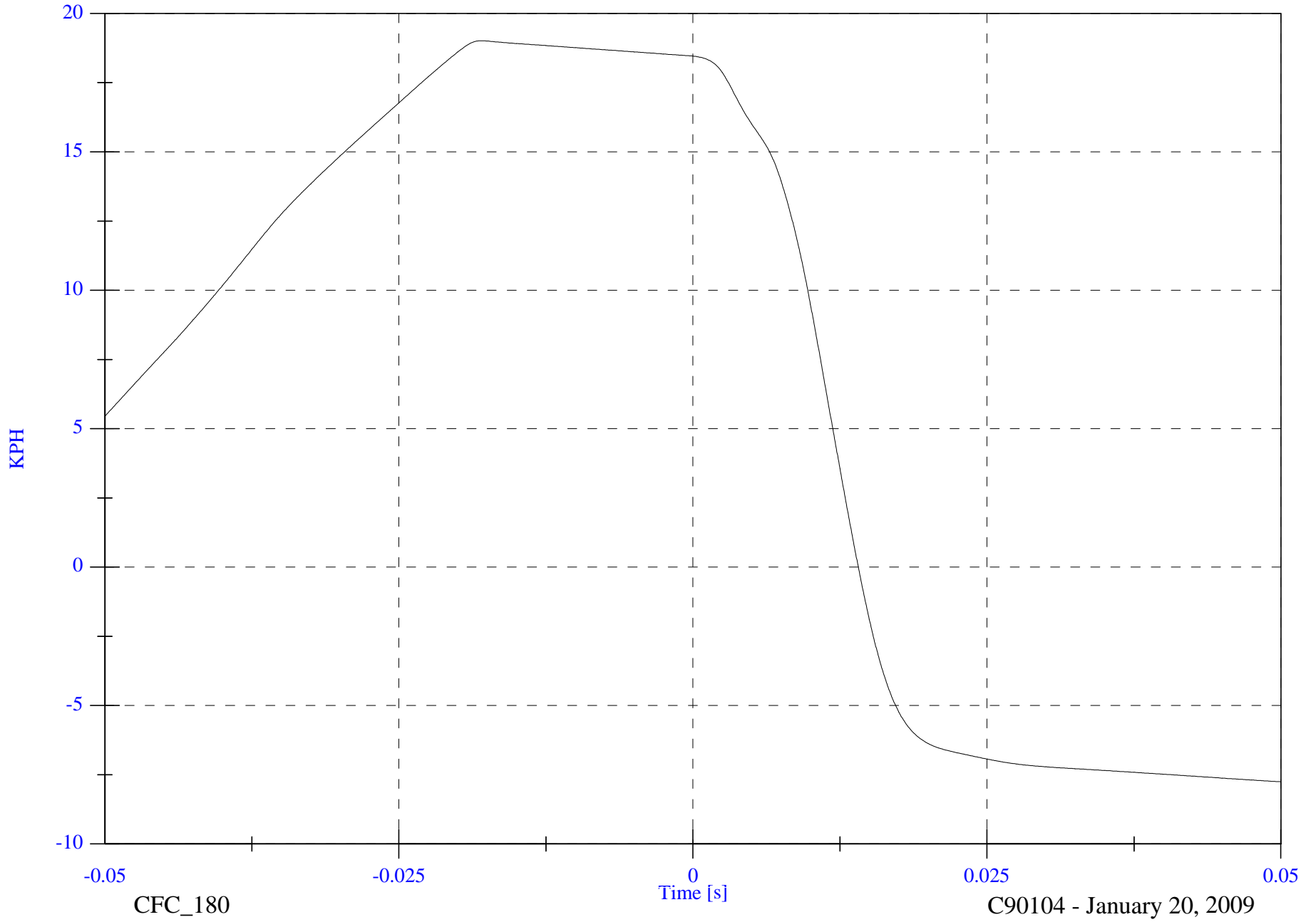
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 19.0 [KPH] at -0.018 [s]

Min: -7.8 [KPH] at 0.050 [s]

Headform Velocity

C90104 DRIVER SIDE SR2A IMPACT PLOT #5



CFC\_180

Time [s]

C90104 - January 20, 2009



PRE-IMPACT SR2A



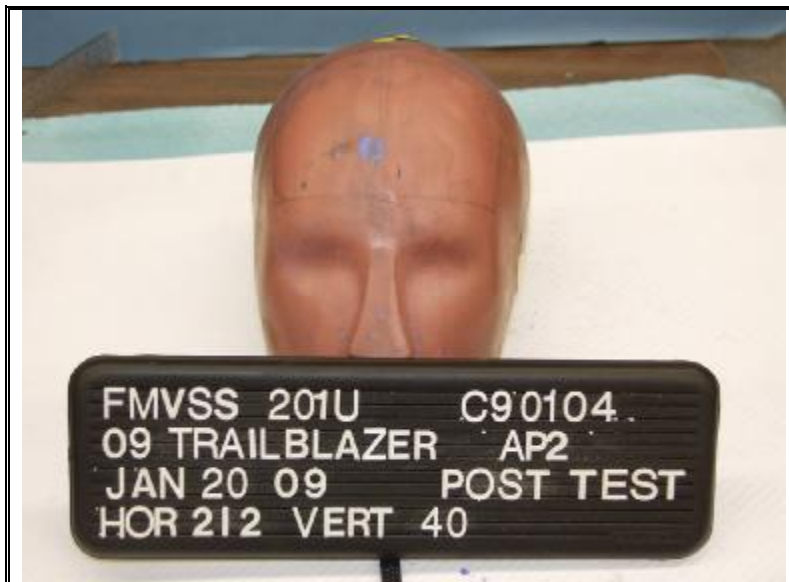
POST-IMPACT SR2A



|                                |                                |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Chevrolet Trailblazer     |
| VIN:                           | IGNDS33S792102429              |
| DATE OF MANUFACTURE:           | 08/08(SEE CERTIFICATION LABEL) |
| COLOR:                         | Blue                           |

|                          |          |
|--------------------------|----------|
| Test Number:             | 12       |
| Test Date:               | 01/20/09 |
| Target Location:         | A-PILLAR |
| Target Code:             | AP2      |
| Horizontal Impact Angle: | 212°     |
| Vertical Impact Angle:   | 40°      |
| Ambient Temperature:     | 20°C     |
| Relative Humidity:       | 18       |
| Time of Impact:          | 11:30    |
| Headform Number:         | 0805     |

|  |    |                                     |          |                          |         |
|--|----|-------------------------------------|----------|--------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) |    |                                     |          |                          |         |
| On Centerline  | 6  | <input checked="" type="checkbox"/> | mm right | <input type="checkbox"/> | mm left |
| On Centerline  | 25 |                                     |          |                          | mm up   |



POST-IMPACT AP2 HEADFORM

|                       |       |
|-----------------------|-------|
| Free Motion HIC       | 213.9 |
| HIC(d)                | 327.8 |
| Impact Velocity (kph) | 18.36 |
| HIC T1 (msec)         | 3.4   |
| HIC T2 (msec)         | 16.1  |

# FMVSS 201U 09 CHEVY TRAILBLAZER C90104 - AP2

FMH Headform 0805

Location: AP2

Test Date: January 20, 2009

Work File: AP2

## -----TEST RESULTS-----

Lab Temperature: 20 C

HICd: 327.8

Lab Humidity: 18 %

HIC (36ms): 213.9

Velocity at Impact: 18.36 KPH

t1: 3.4 msec

t2: 16.1 msec

Free Flight Distance: 219.10 mm

Duration: 12.7 msec

Average Acceleration: 7.2 g

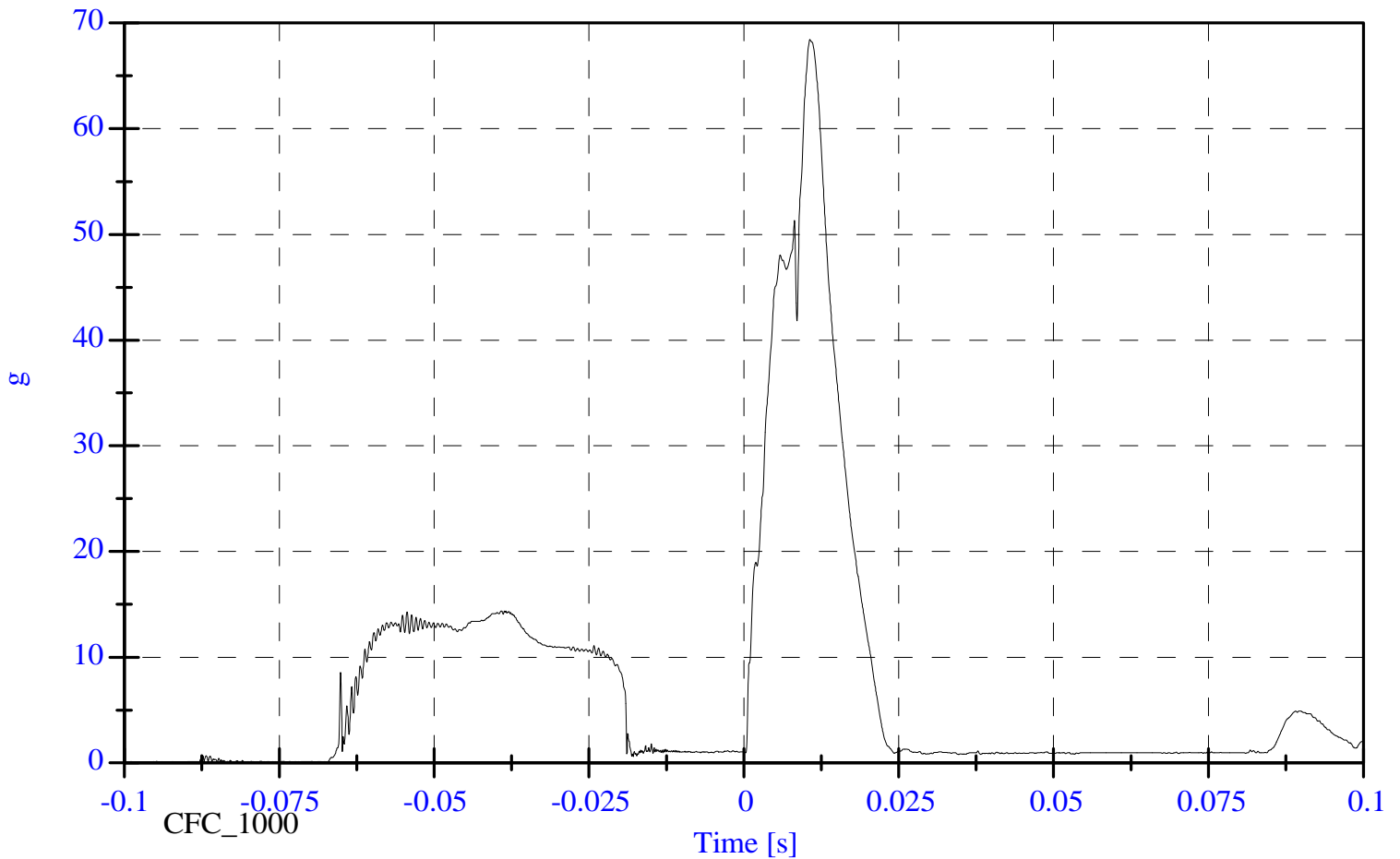
Maximum: 68.5 g

FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 68.5 [g] at 0.011 [s]

Min: 0.0 [g] at -0.091 [s]



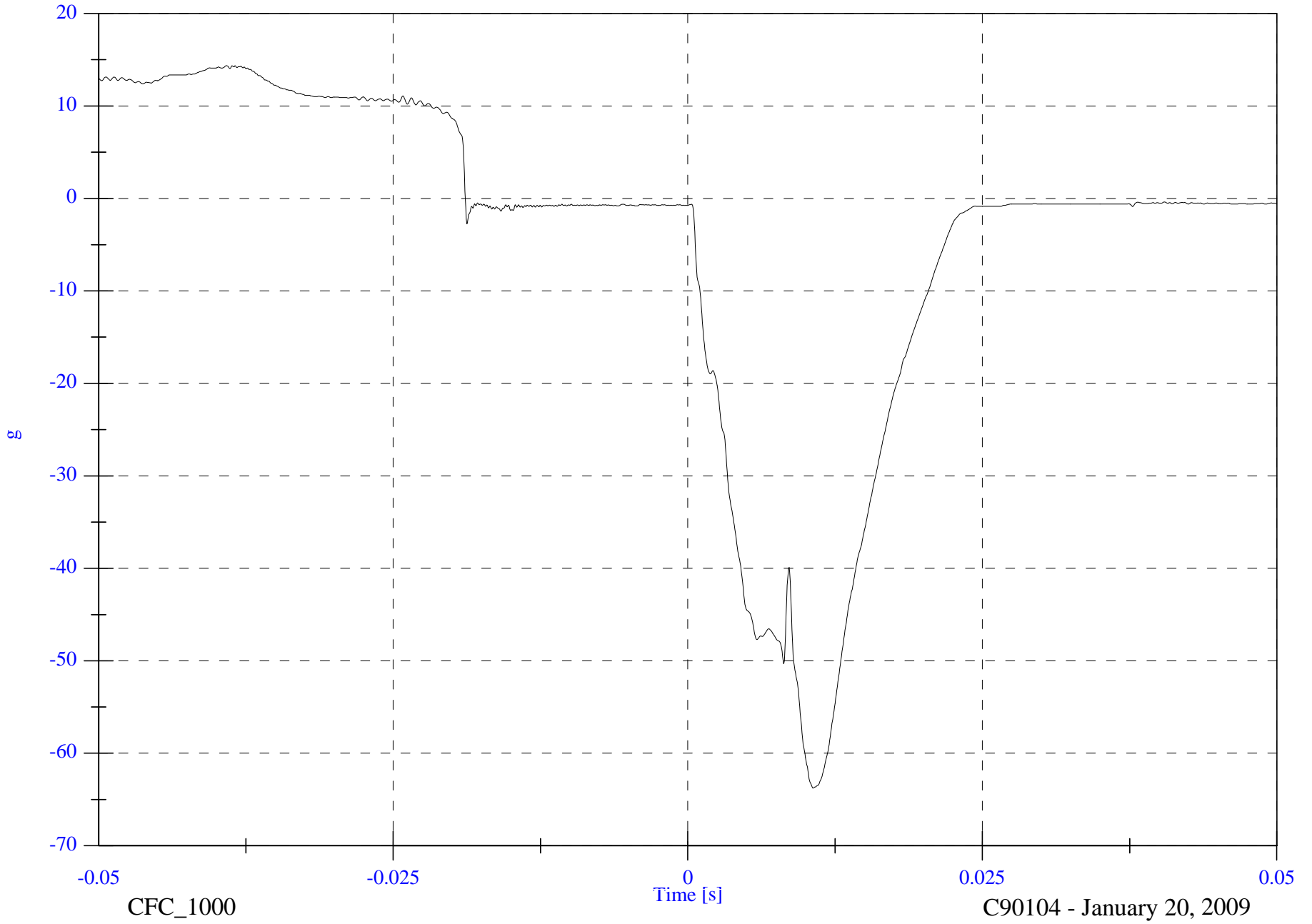
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform X Acceleration

Max: 14.4 [g] at -0.039 [s]

Min: -63.8 [g] at 0.011 [s]

C90104 DRIVER SIDE AP2 IMPACT PLOT #1



CFC\_1000

C90104 - January 20, 2009

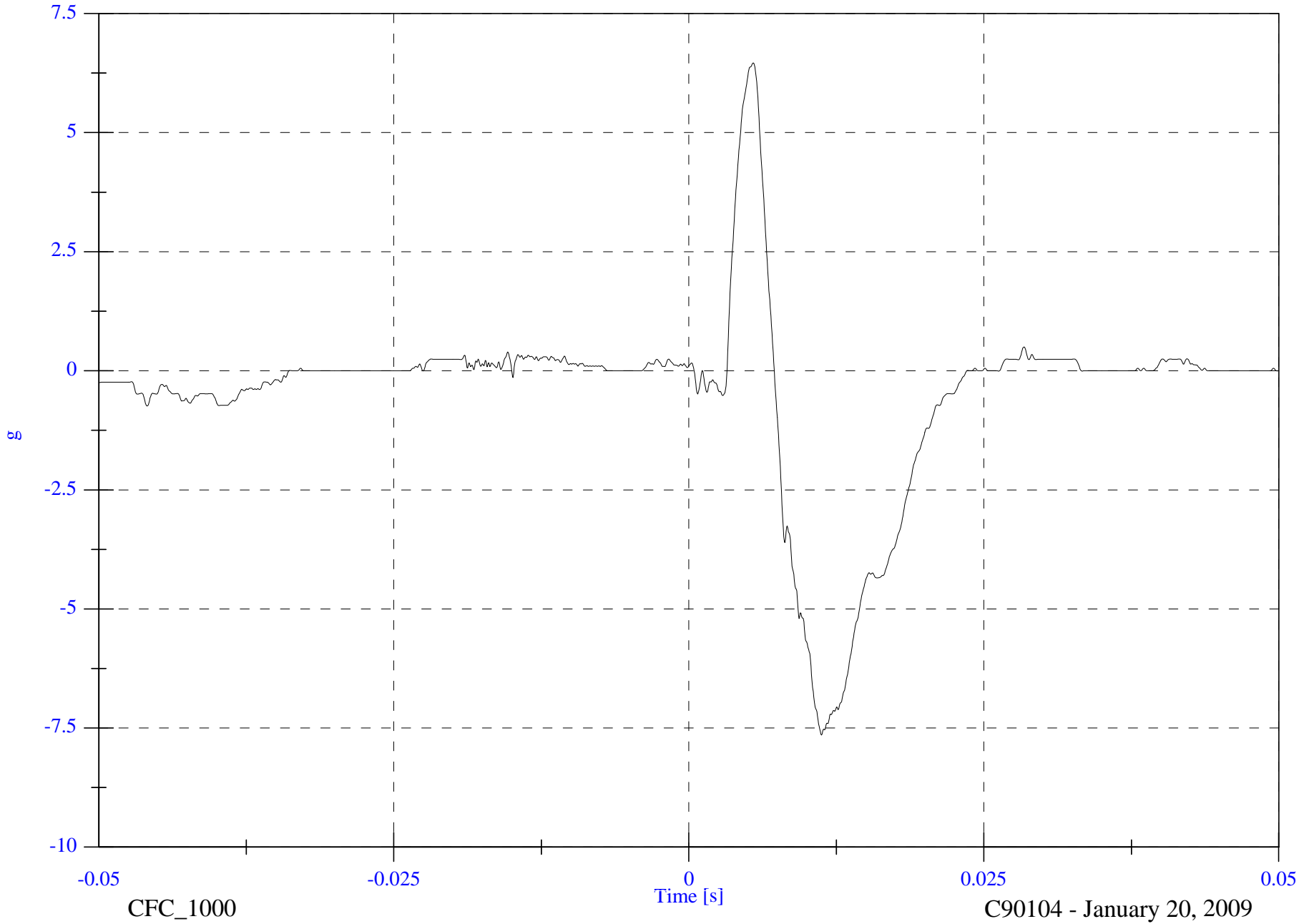
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Y Acceleration

Max: 6.5 [g] at 0.005 [s]

Min: -7.6 [g] at 0.011 [s]

C90104 DRIVER SIDE AP2 IMPACT PLOT #2



CFC\_1000

C90104 - January 20, 2009

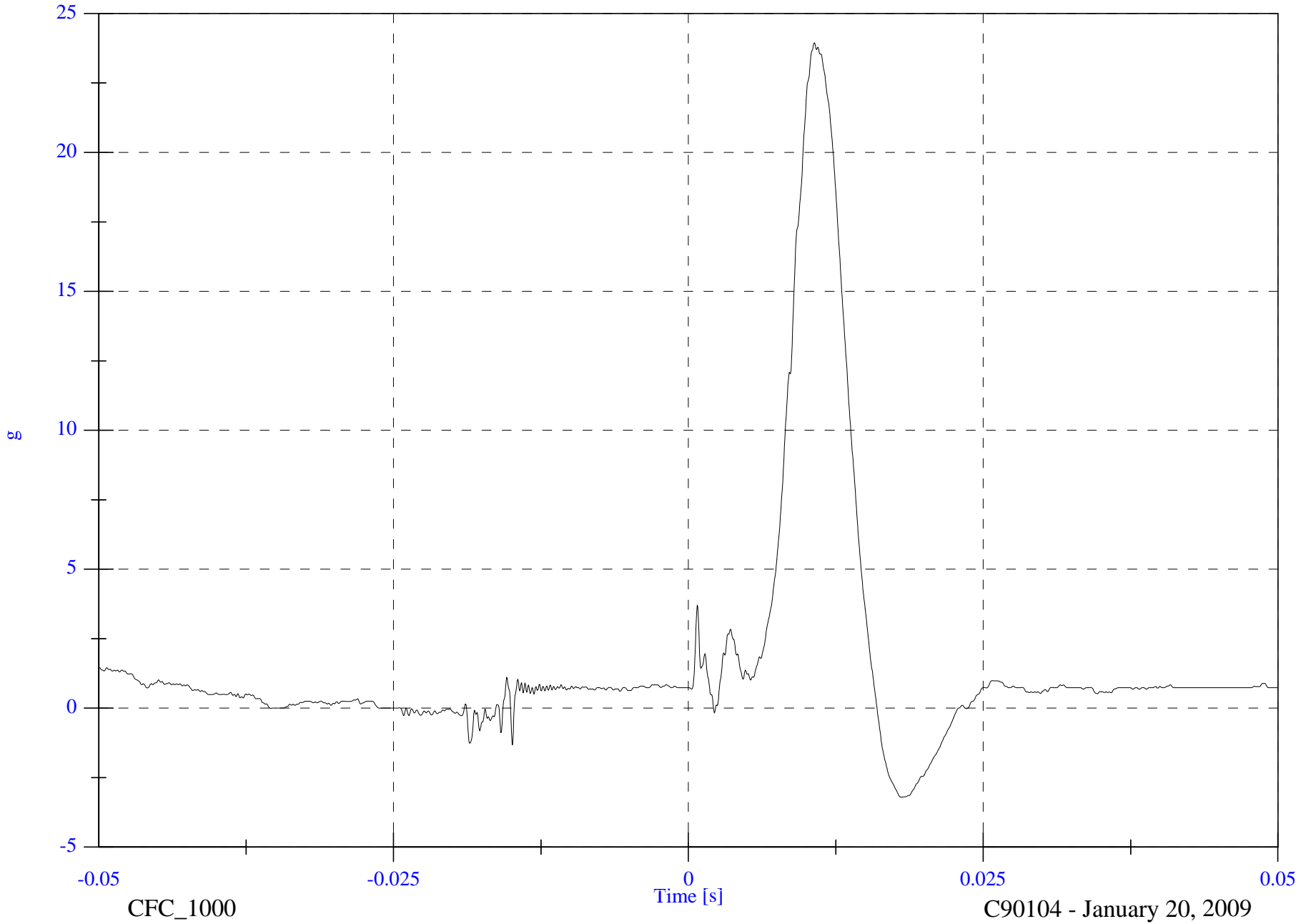
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Z Acceleration

Max: 23.9 [g] at 0.011 [s]

Min: -3.2 [g] at 0.018 [s]

C90104 DRIVER SIDE AP2 IMPACT PLOT #3



CFC\_1000

C90104 - January 20, 2009

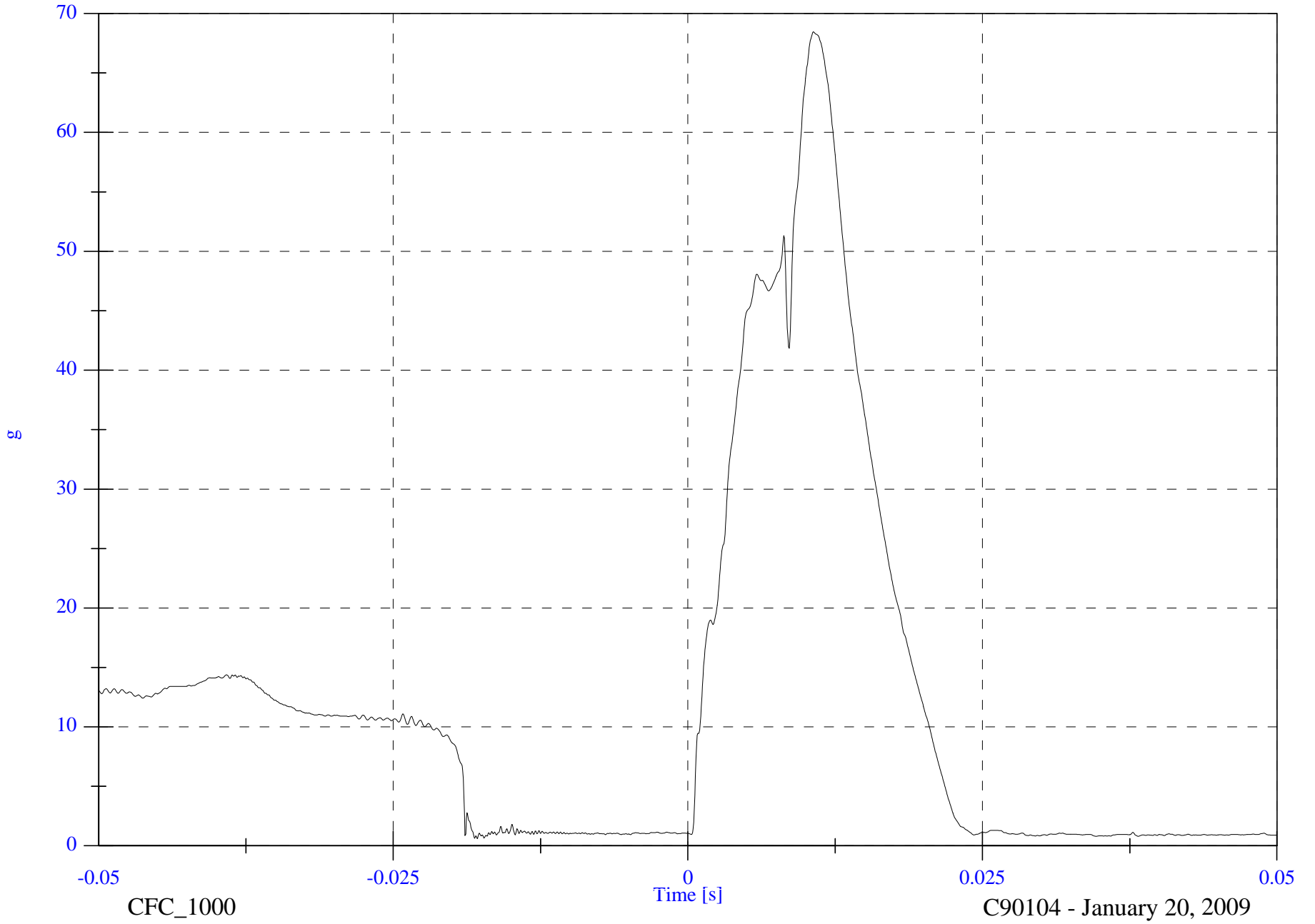
FMVSS 201U 09 CHEVY TRAILBLAZER

Headform Resultant

Max: 68.5 [g] at 0.011 [s]

Min: 0.6 [g] at -0.018 [s]

C90104 DRIVER SIDE AP2 IMPACT PLOT #4



CFC\_1000

C90104 - January 20, 2009

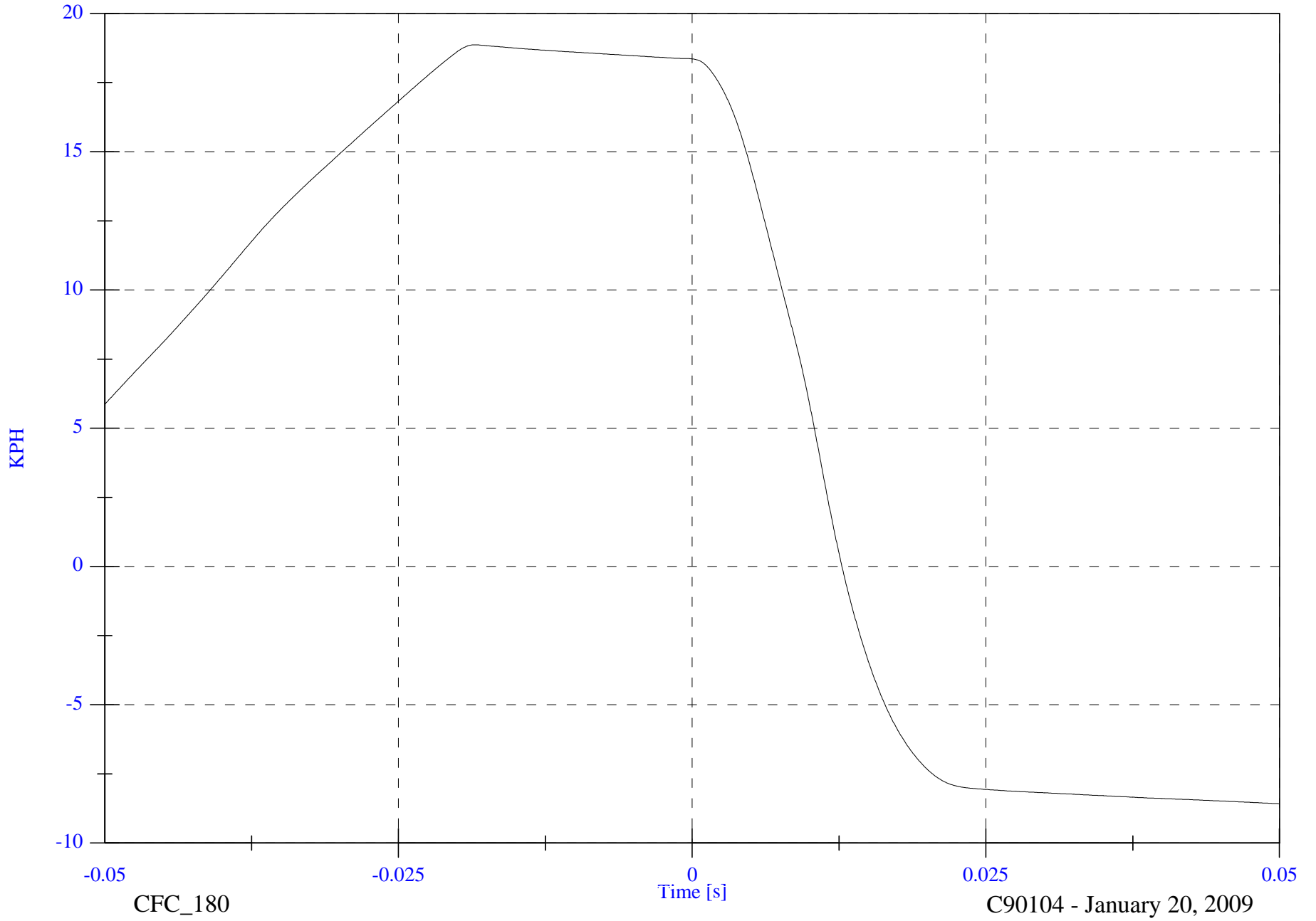
FMVSS 201U 09 CHEVY TRAILBLAZER

Max: 18.9 [KPH] at -0.018 [s]

Min: -8.6 [KPH] at 0.050 [s]

Headform Velocity

C90104 DRIVER SIDE AP2 IMPACT PLOT #5



CFC\_180

C90104 - January 20, 2009



PRE-IMPACT AP2





POST-IMPACT AP2

**APPENDIX A**

**PHOTOGRAPHS**

## PHOTOGRAPHS

| <b>FIGURE</b> | <b>VIEW</b>                                | <b>PAGE</b> |
|---------------|--|-------------|
| A-1           | LEFT SIDE VIEW OF VEHICLE                  | A-3         |
| A-2           | RIGHT SIDE VIEW OF VEHICLE                 | A-4         |
| A-3           | 3/4 FRONTAL VIEW FROM LEFT SIDE OF VEHICLE | A-5         |
| A-4           | 3/4 REAR VIEW FROM RIGHT SIDE OF VEHICLE   | A-6         |
| A-5           | VEHICLE'S CERTIFICATION LABEL              | A-7         |
| A-6           | VEHICLE'S TIRE INFORMATION LABEL           | A-8         |
| A-7           | PRE-TEST DRIVER SIDE A-PILLAR              | A-9         |
| A-8           | PRE-TEST DRIVER SIDE FRONT HEADER          | A-10        |
| A-9           | PRE-TEST DRIVER SIDE SIDE RAIL             | A-11        |
| A-10          | PRE-TEST DRIVER SIDE B-PILLAR              | A-12        |
| A-11          | PRE-TEST DRIVER SIDE OTHER PILLAR          | A-13        |
| A-12          | PRE-TEST PASSENGER SIDE A-PILLAR           | A-14        |
| A-13          | PRE-TEST PASSENGER SIDE FRONT HEADER       | A-15        |
| A-14          | PRE-TEST PASSENGER SIDE SIDE RAIL          | A-16        |
| A-15          | PRE-TEST PASSENGER SIDE B-PILLAR           | A-17        |
| A-16          | PRE-TEST PASSENGER SIDE OTHER PILLAR       | A-18        |
| A-17          | POST-TEST DRIVER SIDE A-PILLAR             | A-19        |
| A-18          | POST-TEST DRIVER SIDE FRONT HEADER         | A-20        |
| A-19          | POST-TEST DRIVER SIDE SIDE RAIL            | A-21        |
| A-20          | POST-TEST DRIVER SIDE B-PILLAR             | A-22        |
| A-21          | POST-TEST DRIVER SIDE OTHER PILLAR         | A-23        |
| A-22          | POST-TEST PASSENGER SIDE A-PILLAR          | A-24        |
| A-23          | POST-TEST PASSENGER SIDE FRONT HEADER      | A-25        |
| A-24          | POST-TEST PASSENGER SIDE SIDE RAIL         | A-26        |
| A-25          | POST-TEST PASSENGER SIDE B-PILLAR          | A-27        |
| A-26          | POST-TEST PASSENGER SIDE OTHER PILLAR      | A-28        |



Figure A-1 : LEFT SIDE VIEW OF VEHICLE



A-4

8877-03

Figure A-2 : RIGHT SIDE VIEW OF VEHICLE



Figure A-3 : 3/4 FRONTAL VIEW FROM LEFT SIDE OF VEHICLE



Figure A-4 : 3/4 REAR VIEW FROM RIGHT SIDE OF VEHICLE

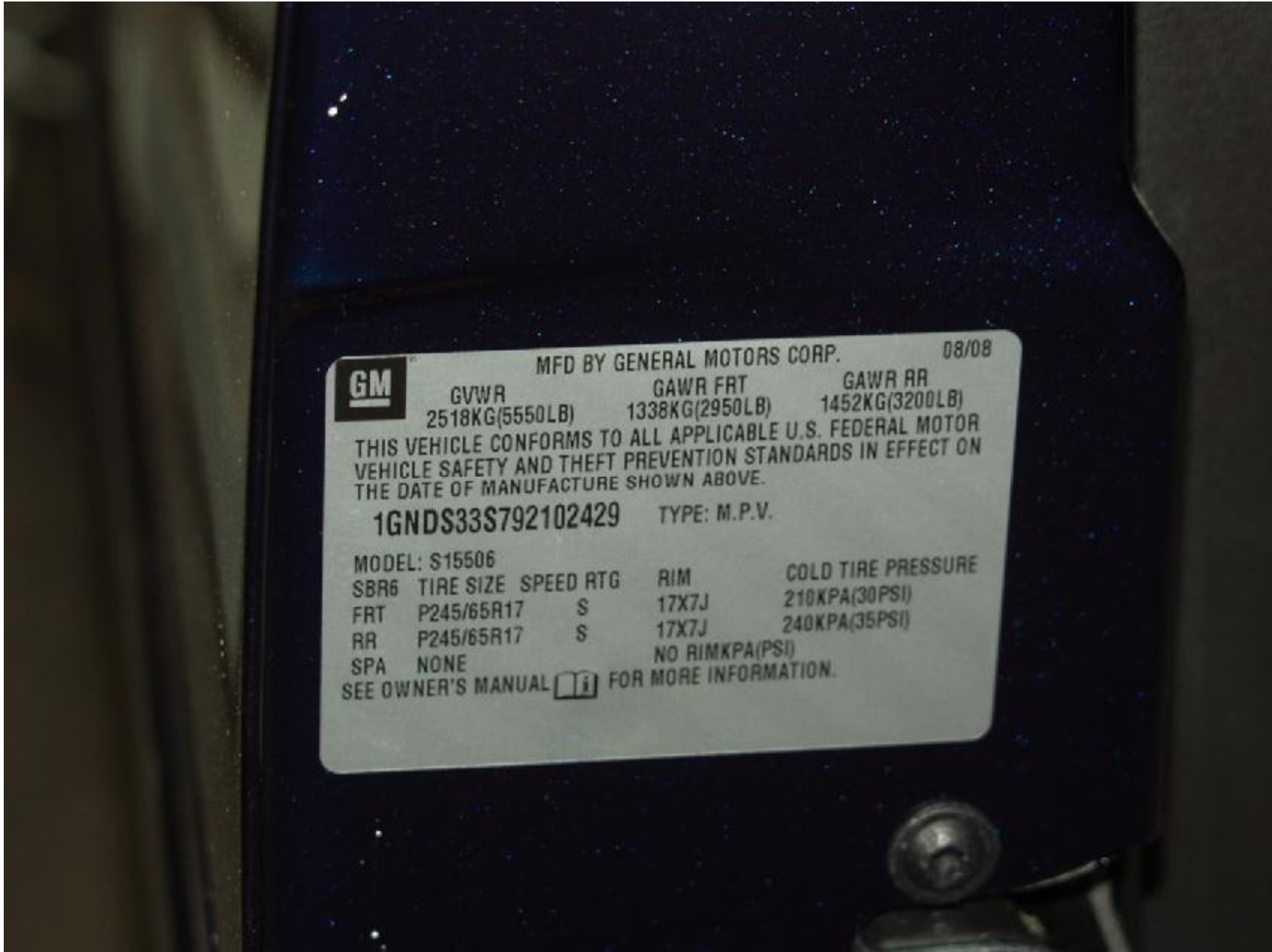


Figure A-5 : VEHICLE'S CERTIFICATION LABEL





Figure A-6 : VEHICLE'S TIRE INFORMATION LABEL



Figure A-7 : PRE-TEST DRIVER SIDE A-PILLAR



Figure A-8 : PRE-TEST DRIVER SIDE FRONT HEADER



Figure A-9 : PRE-TEST DRIVER SIDE SIDE RAIL



Figure A-10 : PRE-TEST DRIVER SIDE B-PILLAR



Figure A-11 : PRE-TEST DRIVER SIDE OTHER PILLAR



Figure A-12 : PRE-TEST PASSENGER SIDE A-PILLAR



Figure A-13 : PRE-TEST PASSENGER SIDE FRONT HEADER





Figure A-14 : PRE-TEST PASSENGER SIDE SIDE RAIL



Figure A-15 : PRE-TEST PASSENGER SIDE B-PILLAR



Figure A-16 : PRE-TEST PASSENGER SIDE OTHER PILLAR



Figure A-17 : POST-TEST DRIVER SIDE A-PILLAR



Figure A-18 : POST-TEST DRIVER SIDE FRONT HEADER



Figure A-19 : POST-TEST DRIVER SIDE SIDE RAIL



Figure A-20 : POST-TEST DRIVER SIDE B-PILLAR



Figure A-21 : POST-TEST DRIVER SIDE OTHER PILLAR





Figure A-22 : POST-TEST PASSENGER SIDE A-PILLAR



Figure A-23 : POST-TEST PASSENGER SIDE FRONT HEADER



Figure A-24 : POST-TEST PASSENGER SIDE SIDE RAIL



Figure A-25 : POST-TEST PASSENGER SIDE B-PILLAR



Figure A-26 : POST-TEST PASSENGER SIDE OTHER PILLAR

## **APPENDIX B**

### **PART 572L PERFORMANCE CALIBRATION IN SUPPORT OF VEHICLE SAFETY COMPLIANCE TESTING FOR OCCUPANT PROTECTION IN INTERIOR IMPACT**

Appendix B contains the results from certification tests performed on the Free Motion Headforms utilized in this test program. The results indicate that the headforms meet all of the performance specifications given in 49 CFR Part 572 Subpart L.

The tests were conducted at the Dummy Certification Test Facility of Calspan Corporation. A summary of the test results are included in this Appendix.

**PART 572L  
HEAD DROP PRE-TEST**

|  |                         |  |  |
|--|-------------------------|--|--|
| <b>MANUFACTURER:</b>                   |                         | <b>FIRST TECHNOLOGY SAFETY SYSTEMS</b> |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>1140</b>                            |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 12, 2009</b>                |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>                    |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>20</b>                              |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>                              |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>249.2</b>                           |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>6.8</b>                             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>                             |  |

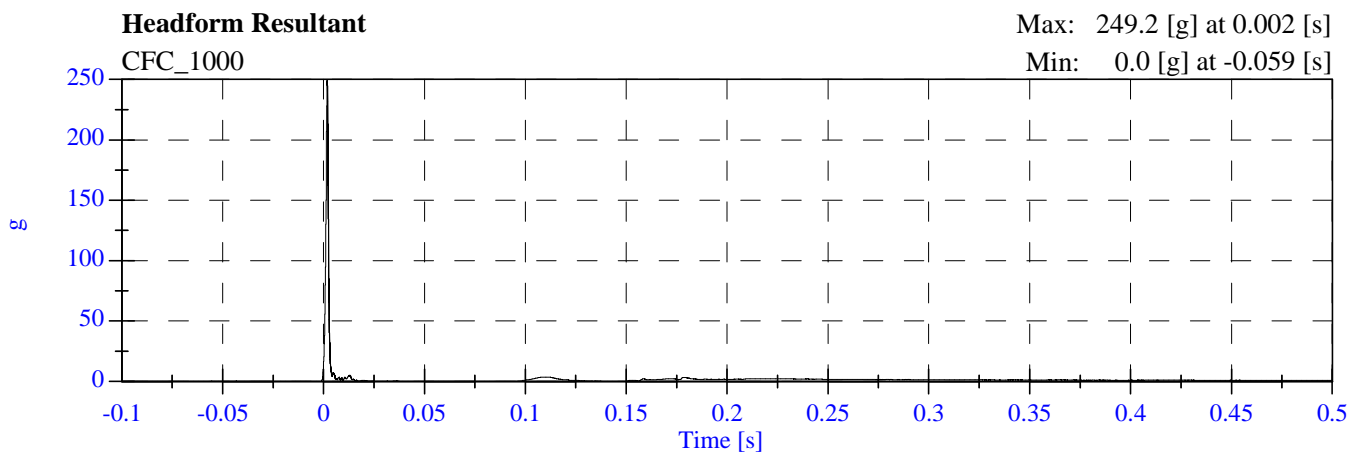
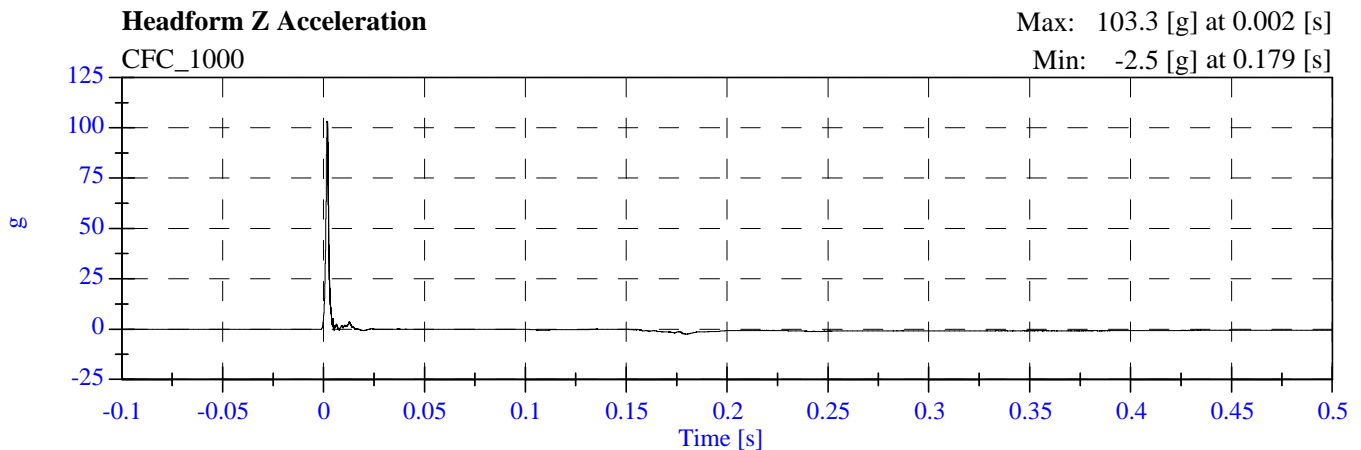
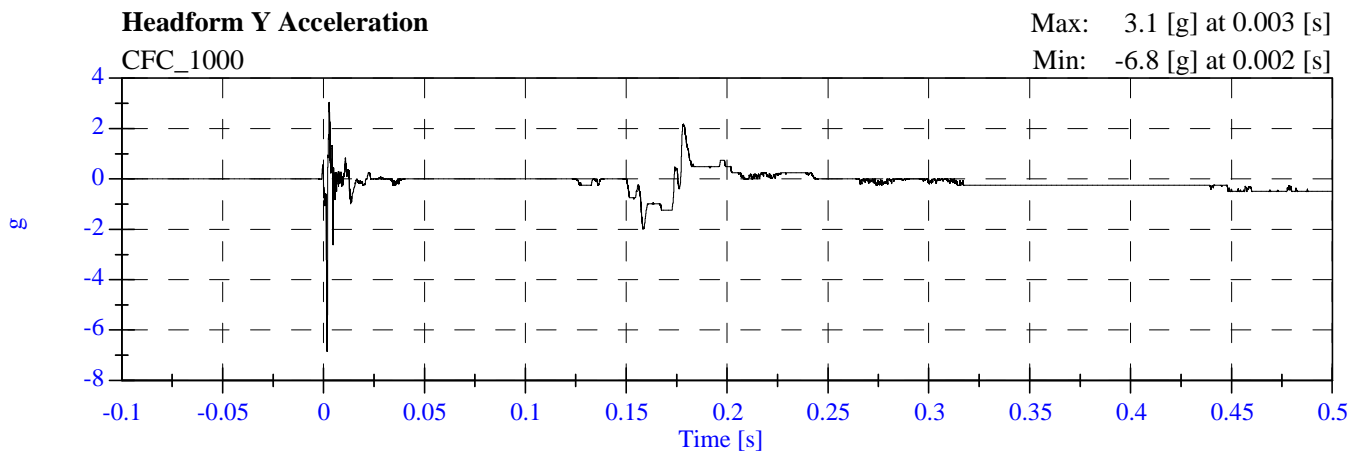
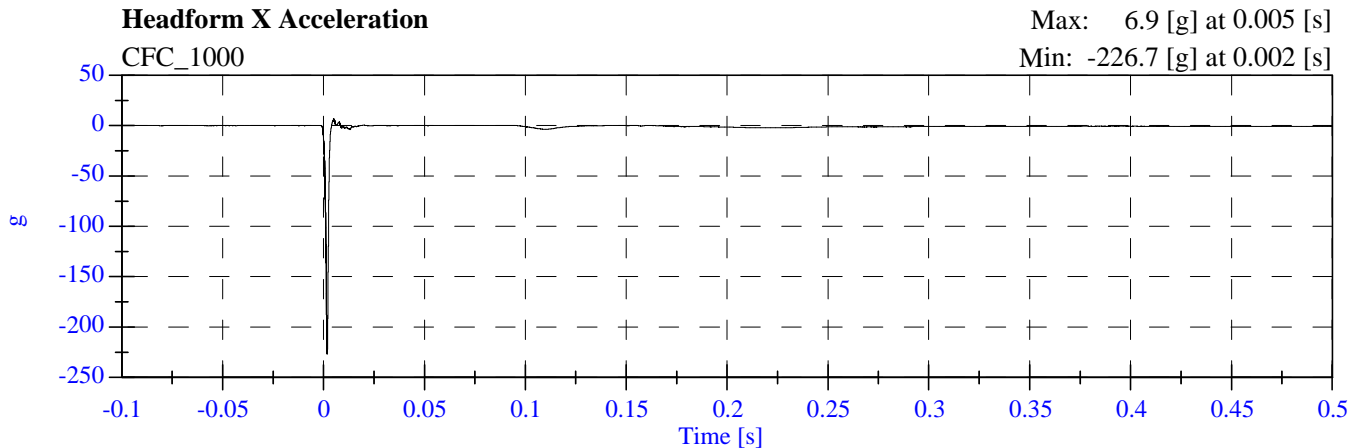
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J24876</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J33030</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J31009</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 12, 2009





**PART 572L  
HEAD DROP PRE-TEST**

|  |                         |                         |  |
|--|-------------------------|-------------------------|--|
| <b>MANUFACTURER:</b>                   |                         | <b>DENTON ATD INC.</b>  |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>0062</b>             |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 12, 2009</b> |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>     |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>20</b>               |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>               |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>240.1</b>            |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>14.1</b>             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>              |  |

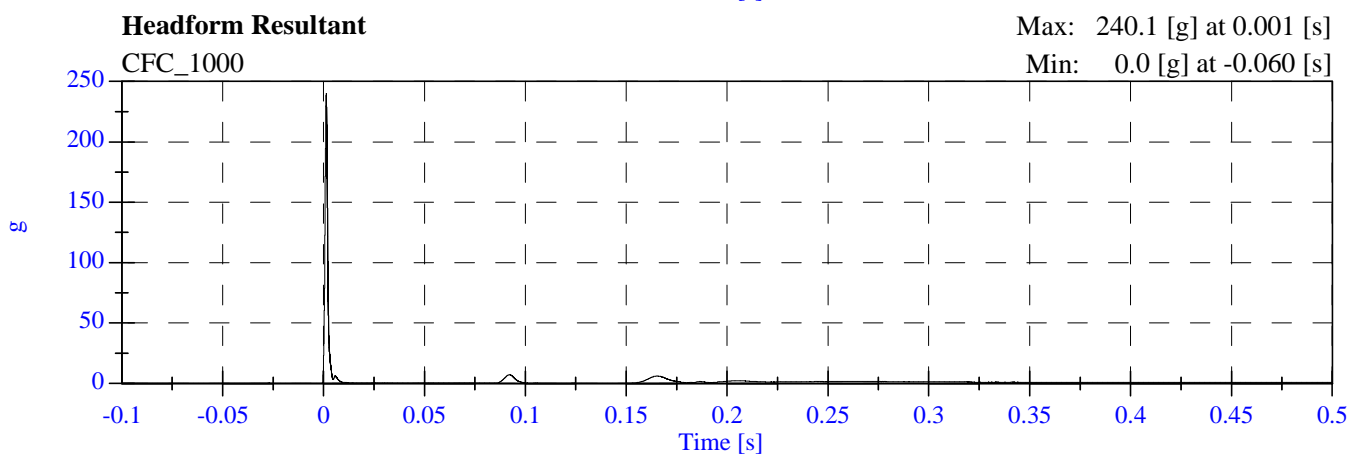
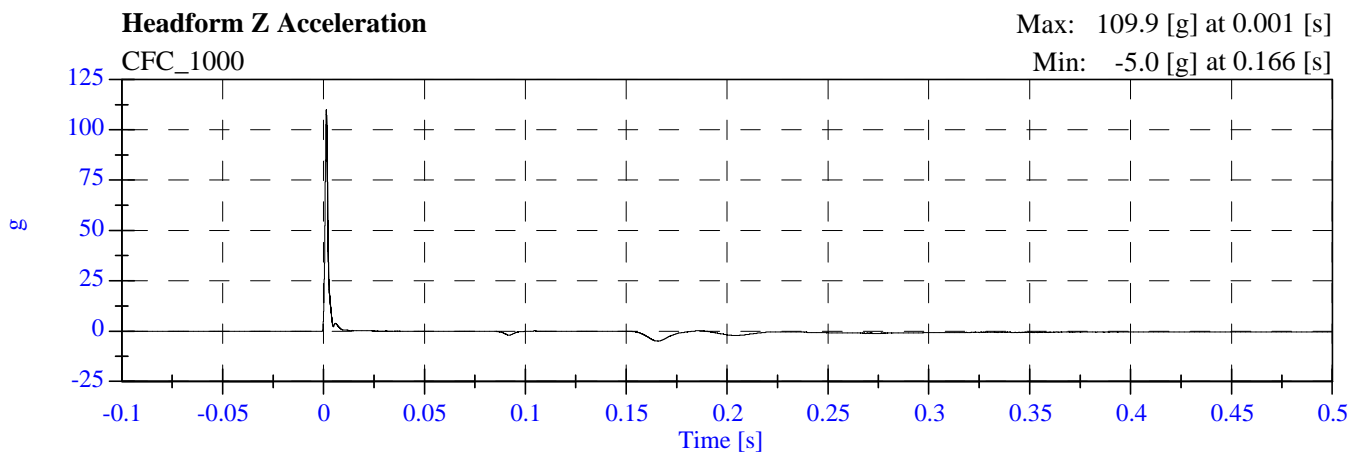
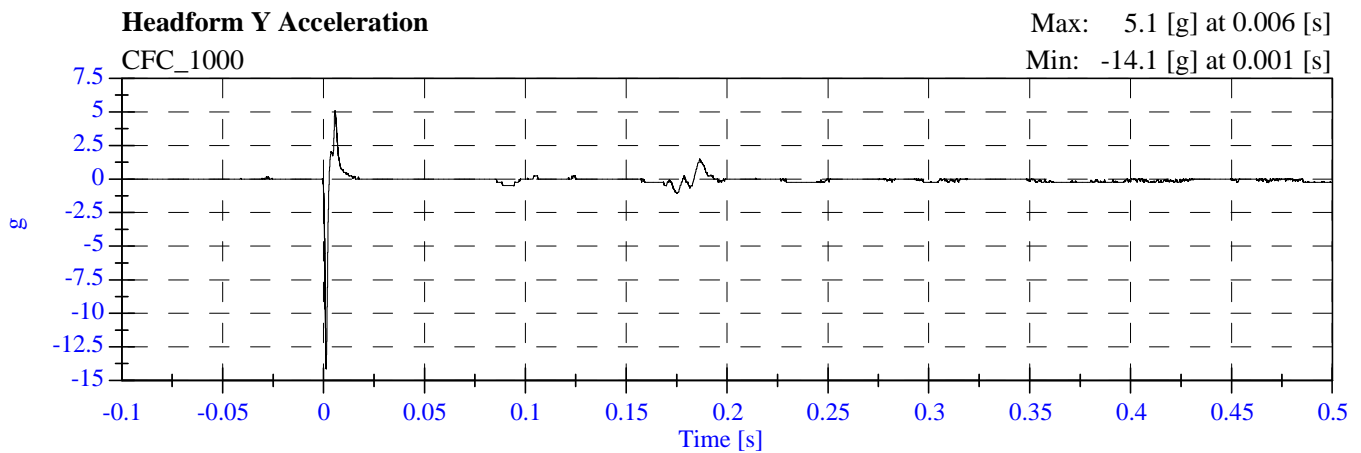
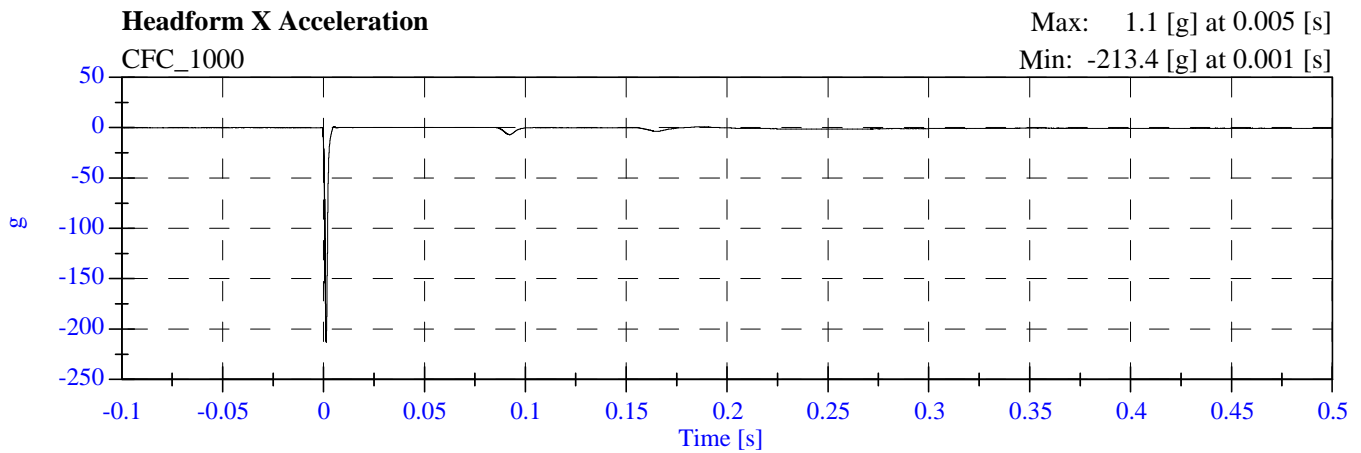
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J33127</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J33019</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J32782</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 12, 2009



**PART 572L  
HEAD DROP PRE-TEST**

|  |                         |  |  |
|--|-------------------------|--|--|
| <b>MANUFACTURER:</b>                   |                         | <b>FIRST TECHNOLOGY SAFETY SYSTEMS</b> |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>805</b>                             |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 12, 2009</b>                |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>                    |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>20</b>                              |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>                              |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>263.1</b>                           |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>9.5</b>                             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>                             |  |

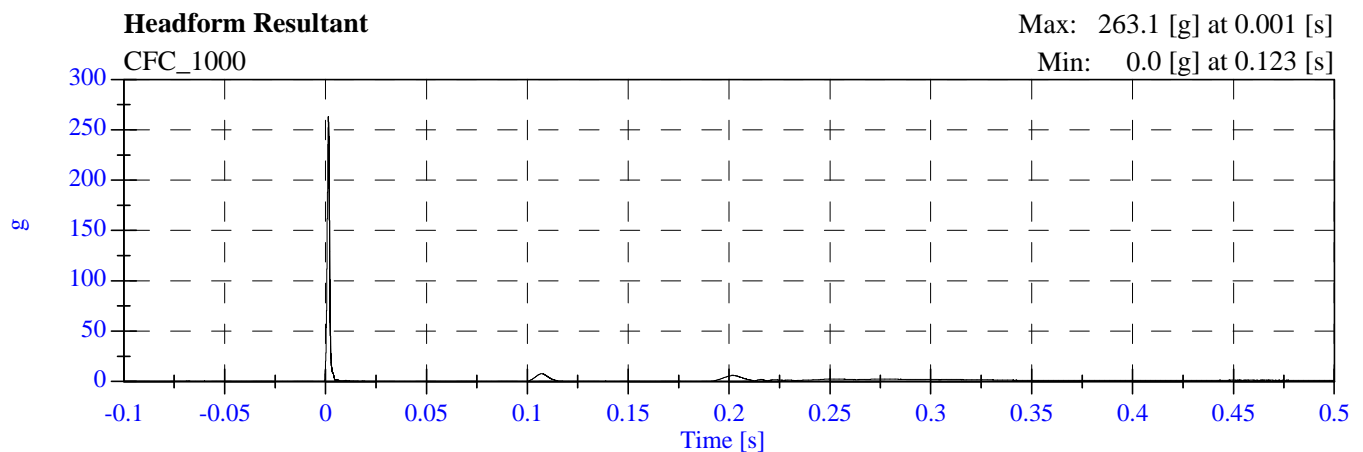
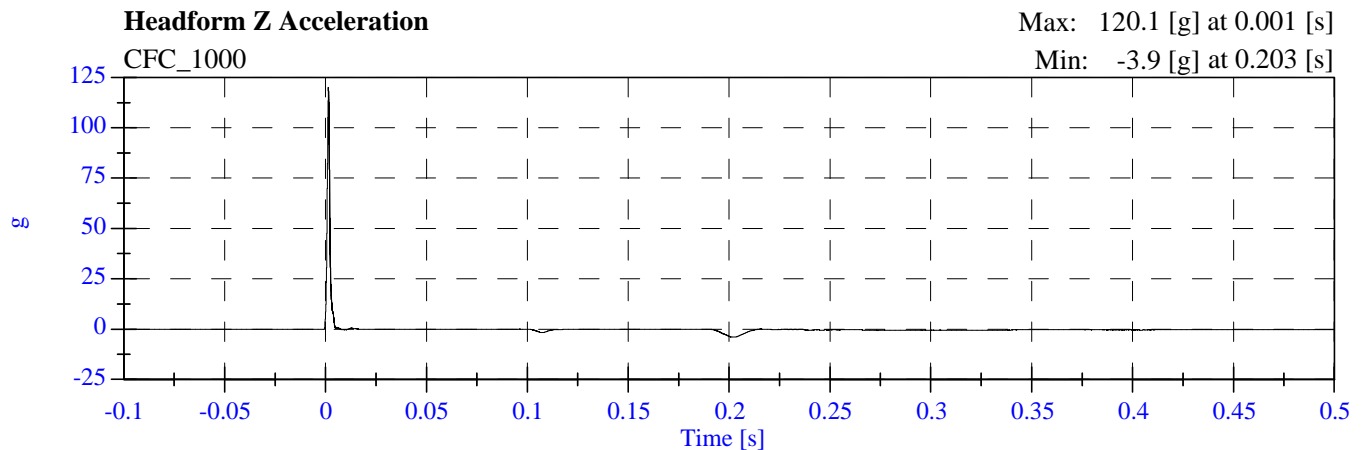
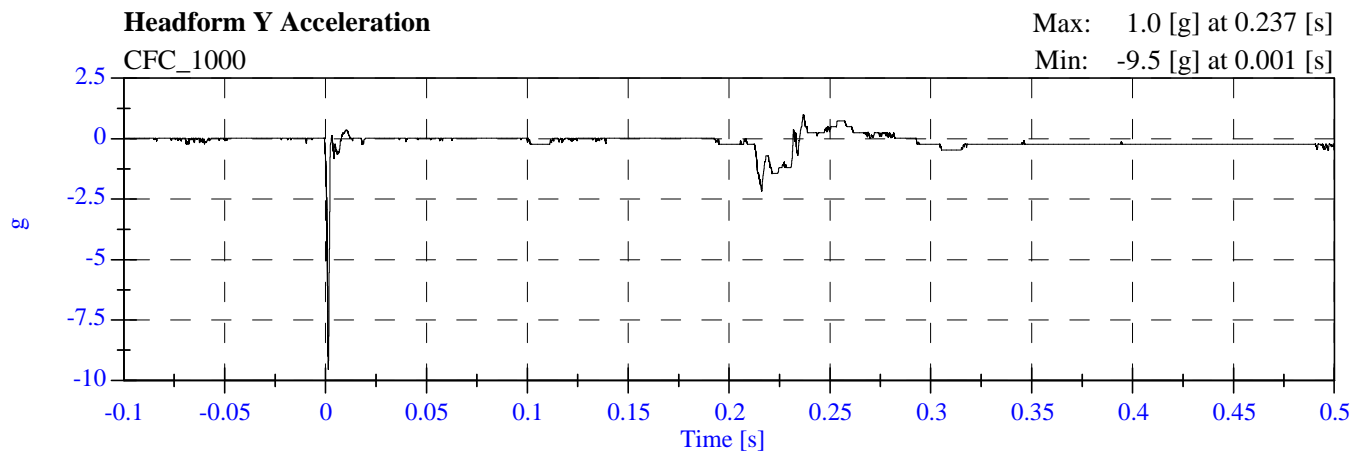
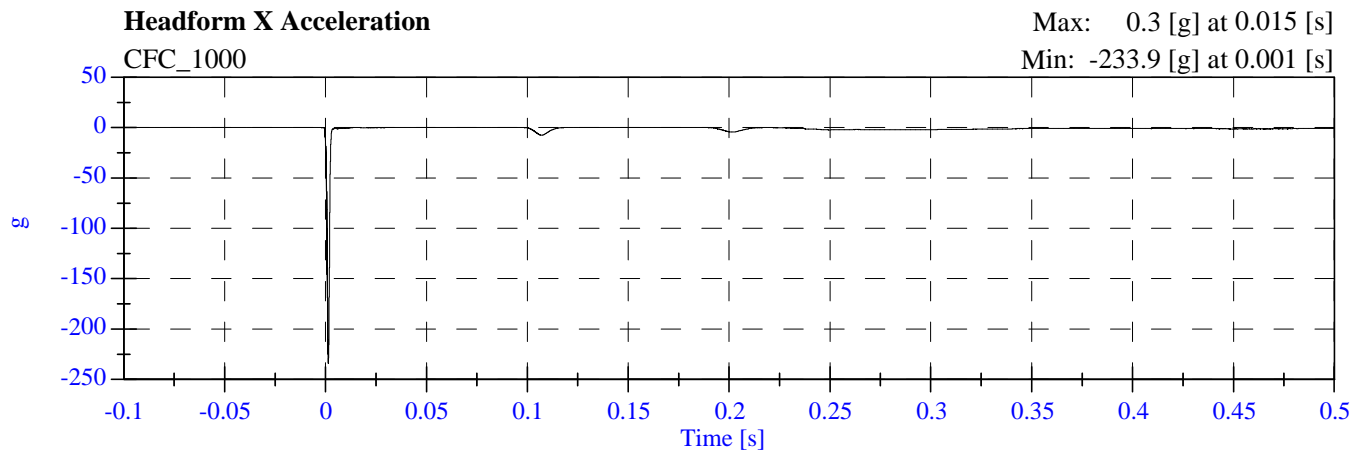
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J41004</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J37496</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J41016</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 12, 2009



**PART 572L  
HEAD DROP PRE-TEST**

|  |                         |                         |  |
|--|-------------------------|-------------------------|--|
| <b>MANUFACTURER:</b>                   |                         | <b>DENTON ATD INC.</b>  |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>0355</b>             |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 12, 2009</b> |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>     |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>20</b>               |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>               |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>263.2</b>            |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>13.7</b>             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>              |  |

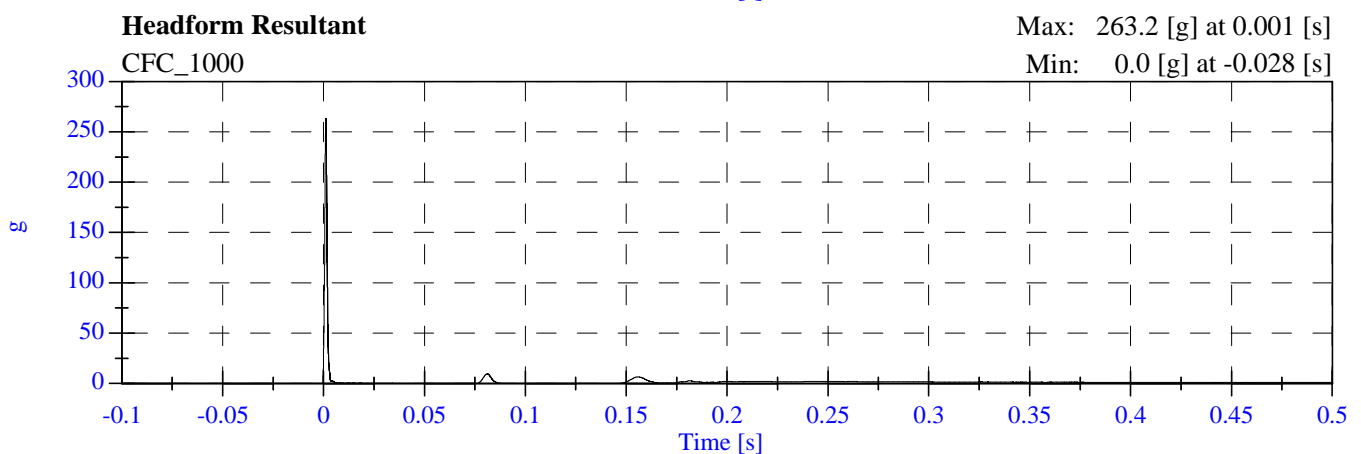
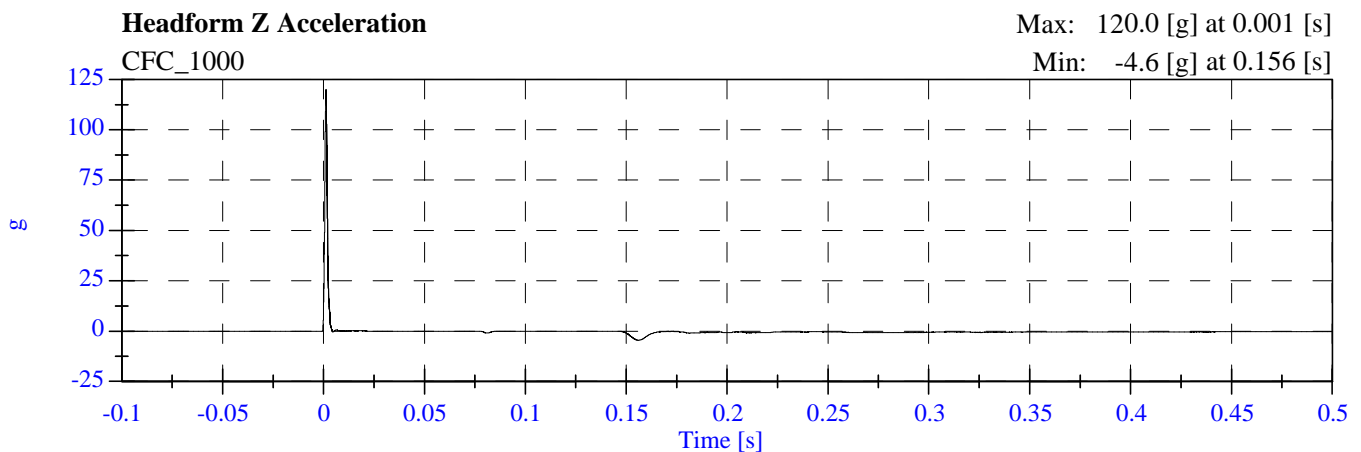
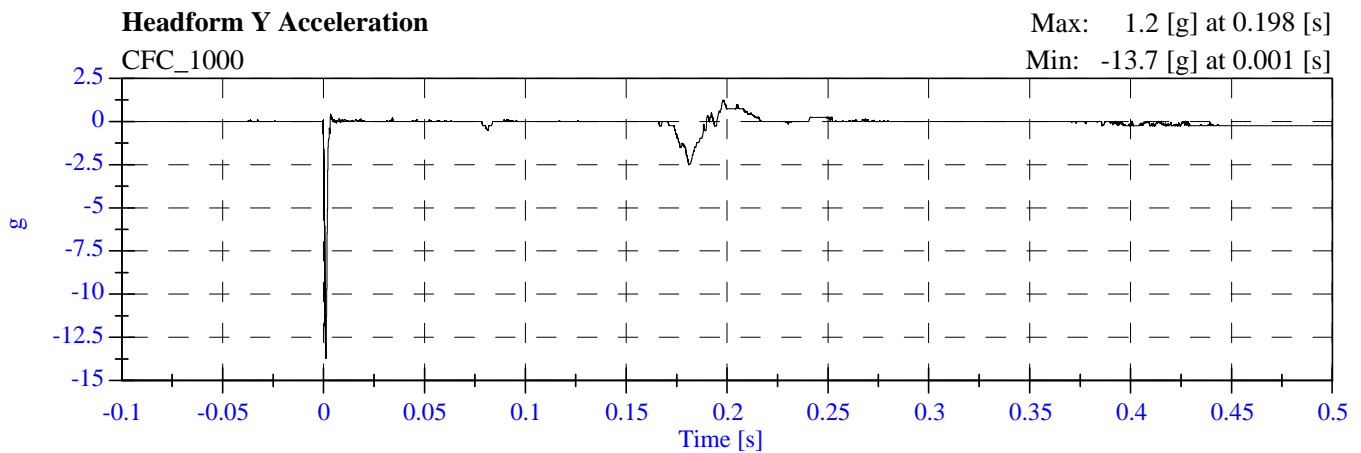
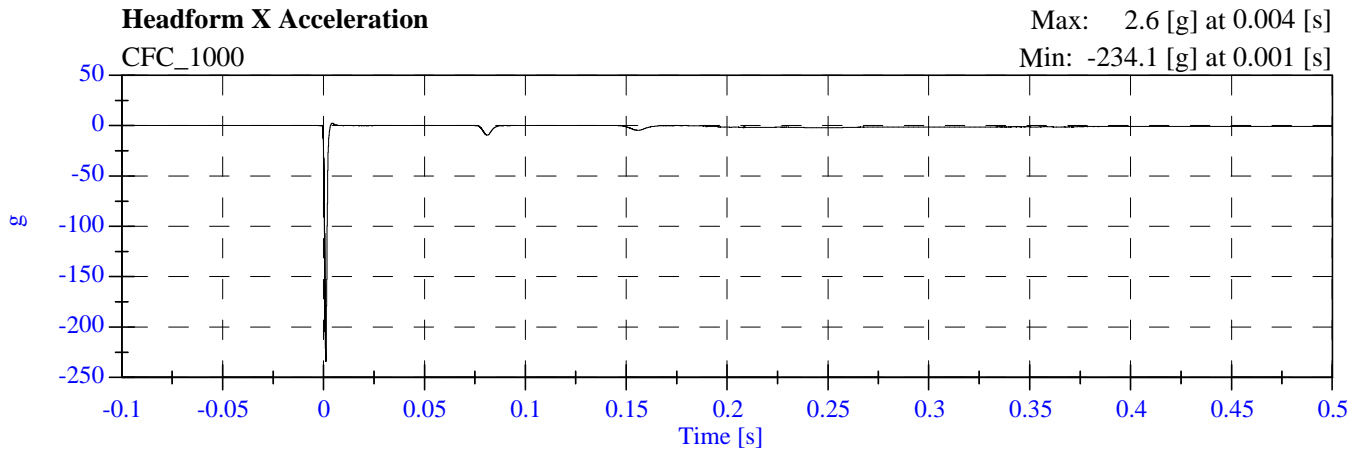
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J28671</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J32779</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J25854</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 12, 2009



**PART 572L  
HEAD DROP PRE-TEST**

|  |                      |  |  |
|--|----------------------|--|--|
| <b>MANUFACTURER:</b>                   |                      | <b>FIRST TECHNOLOGY SAFETY SYSTEMS</b> |  |
| <b>SERIAL NUMBER:</b>                  |                      | 1142                                   |  |
| <b>CALIBRATION DATE:</b>               |                      | January 12, 2009                       |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b> | <b>TEST RESULTS</b>                    |  |
| <b>TEMPERATURE</b>                     | 19°C to 26°C         | 20                                     |  |
| <b>RELATIVE HUMIDITY</b>               | 10% to 70%           | 14                                     |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | 225 Gs to 275 Gs     | 256.1                                  |  |
| <b>PEAK LATERAL ACCELERATION</b>       | 15 Gs Maximum        | 4.4                                    |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | YES                  | YES                                    |  |

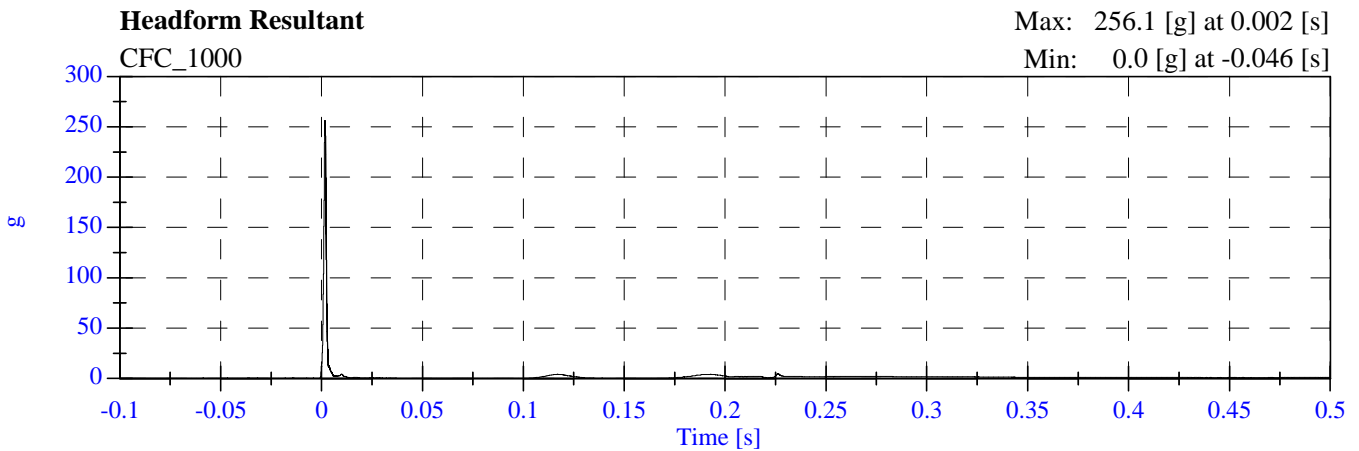
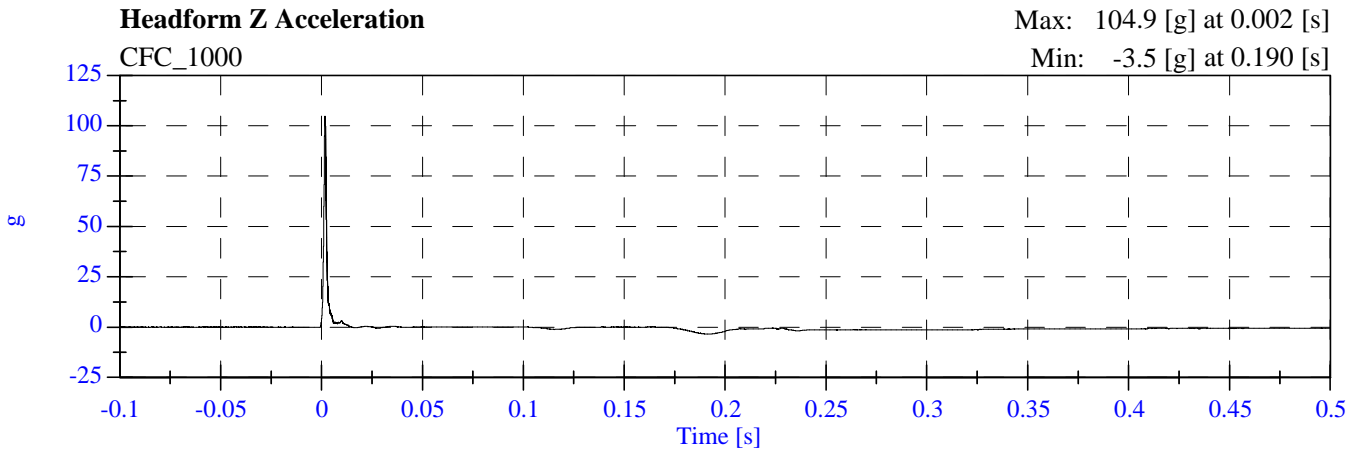
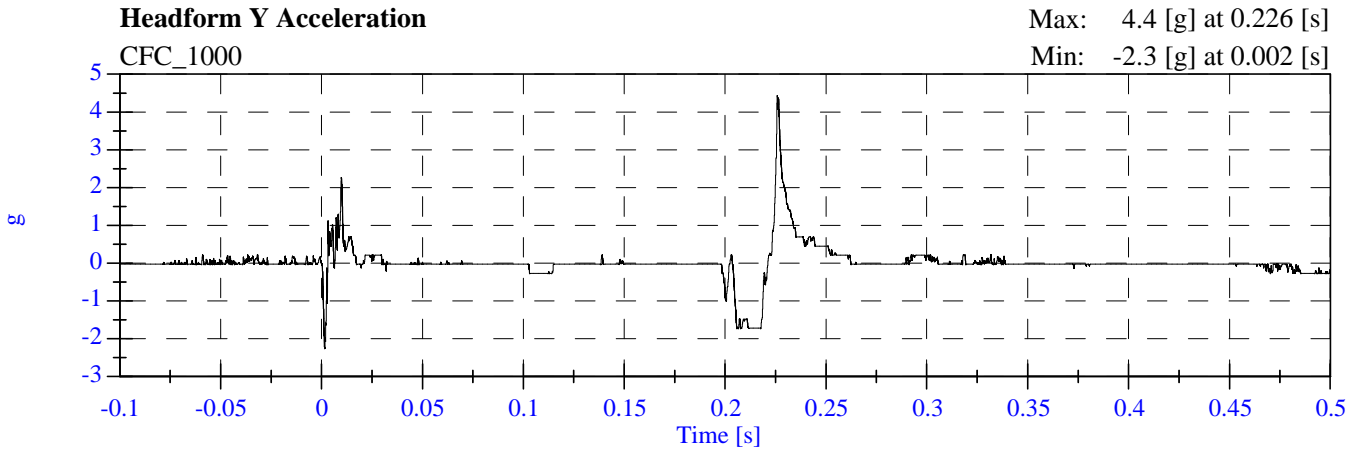
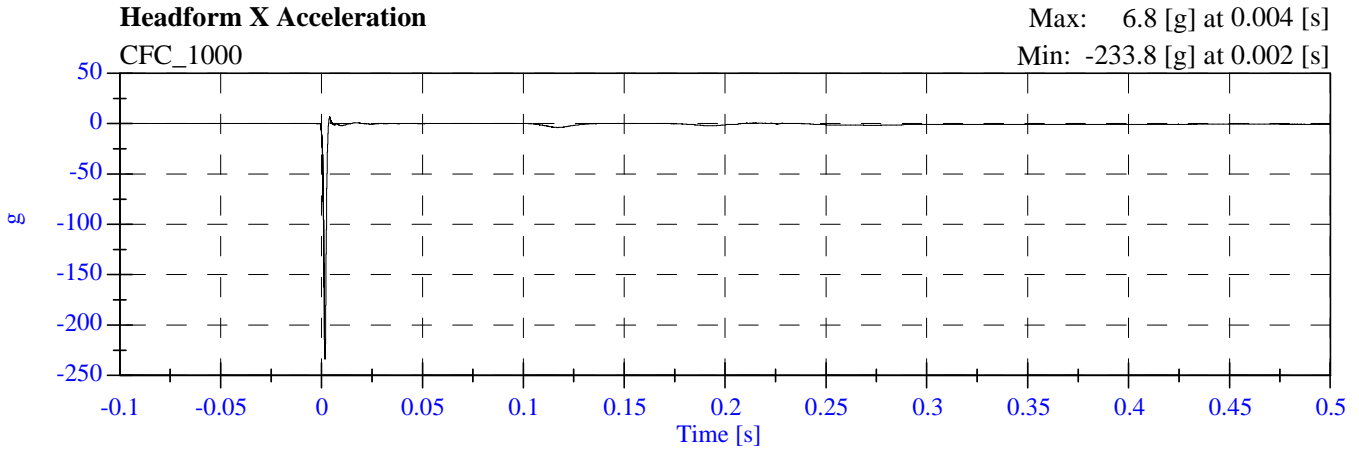
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b> | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|--------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| 1 - LONGITUDINAL   | ENDEVCO             | 7264-2000T          | J41006               | 9/2/2008                        | 3/2/2009                        |
| 2 - LATERAL        | ENDEVCO             | 7264-2000T          | J40994               | 9/2/2008                        | 3/2/2009                        |
| 3 - VERTICAL       | ENDEVCO             | 7264-2000T          | J41007               | 9/2/2008                        | 3/2/2009                        |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 12, 2009





**PART 572L  
HEAD DROP POST-TEST**

|  |                         |  |  |
|--|-------------------------|--|--|
| <b>MANUFACTURER:</b>                   |                         | <b>FIRST TECHNOLOGY SAFETY SYSTEMS</b> |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>1140</b>                            |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 20, 2009</b>                |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>                    |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>21</b>                              |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>                              |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>236.1</b>                           |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>6.9</b>                             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>                             |  |

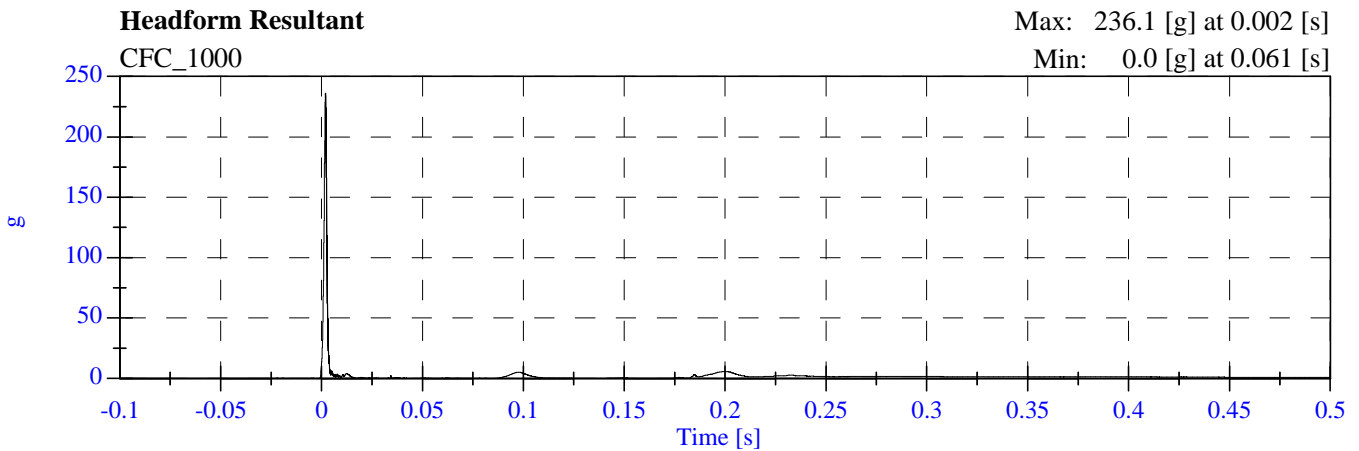
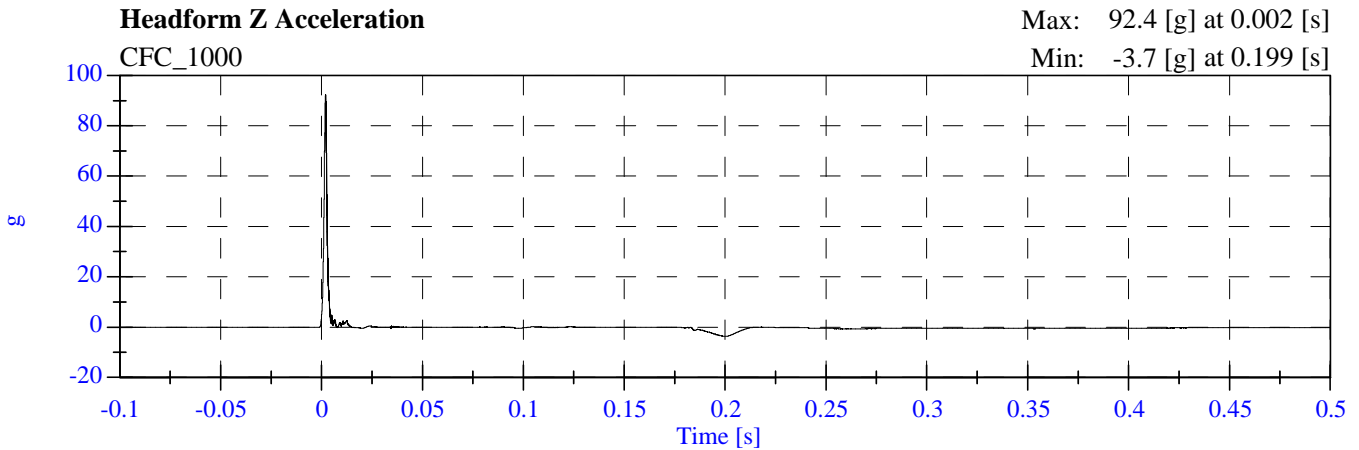
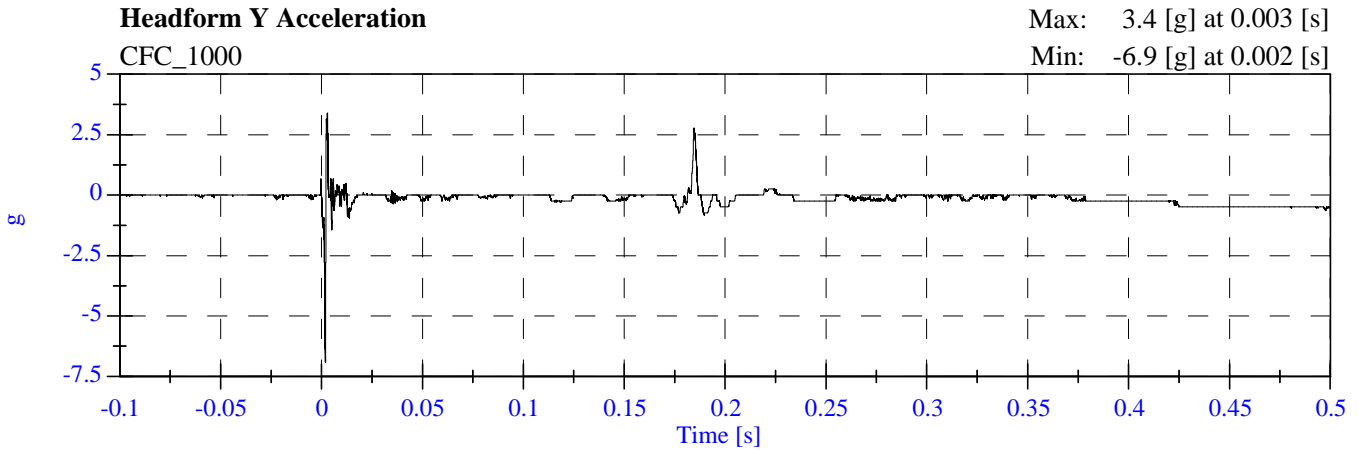
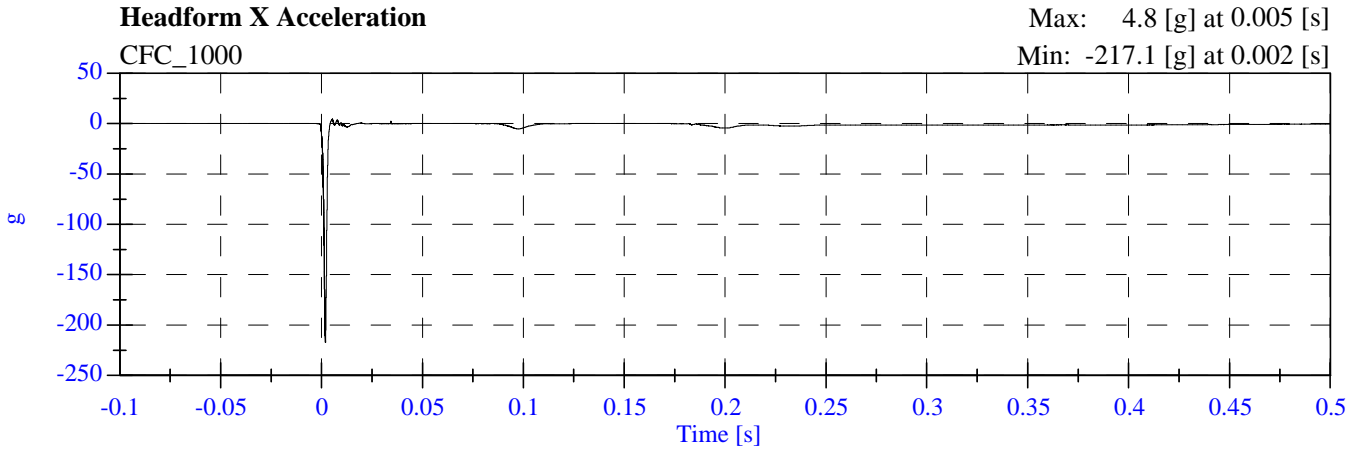
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J24876</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J33030</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J31009</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 20, 2009



**PART 572L  
HEAD DROP POST-TEST**

|  |                         |                         |  |
|--|-------------------------|-------------------------|--|
| <b>MANUFACTURER:</b>                   |                         | <b>DENTON ATD INC.</b>  |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>0062</b>             |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 20, 2009</b> |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>     |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>21</b>               |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>               |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>266.0</b>            |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>12.3</b>             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>              |  |

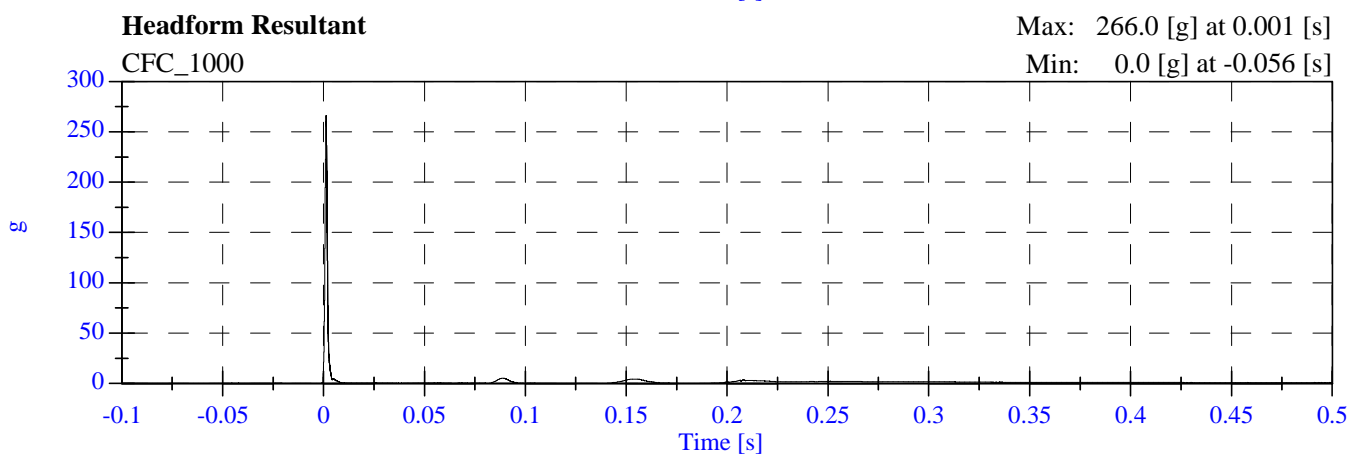
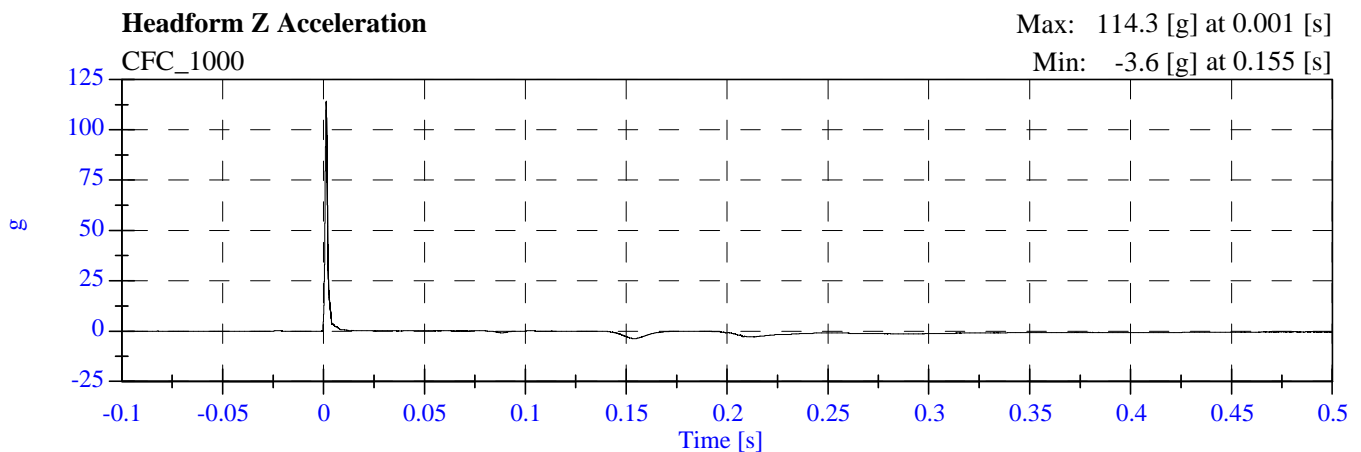
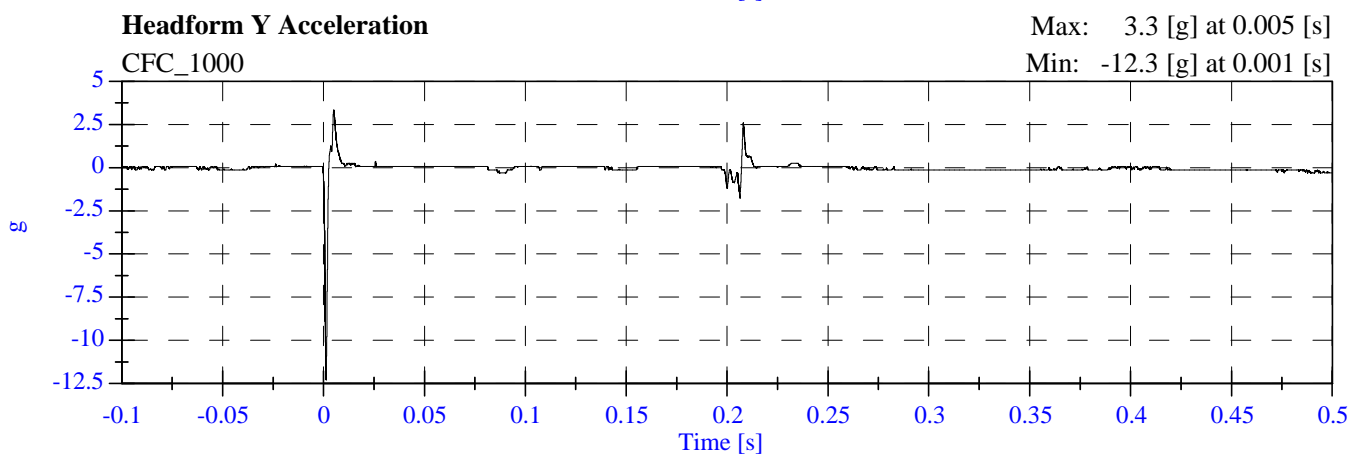
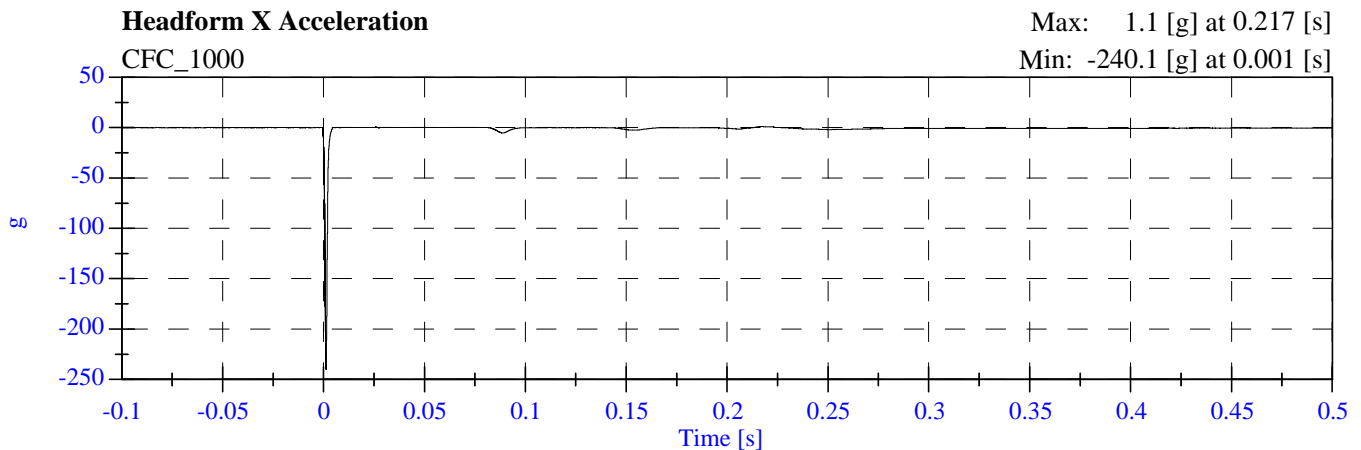
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J33127</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J33019</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J32782</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 20, 2009



**PART 572L  
HEAD DROP POST-TEST**

|  |                         |  |  |
|--|-------------------------|--|--|
| <b>MANUFACTURER:</b>                   |                         | <b>FIRST TECHNOLOGY SAFETY SYSTEMS</b> |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>805</b>                             |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 20, 2009</b>                |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>                    |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>21</b>                              |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>                              |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>265.4</b>                           |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>7.9</b>                             |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>                             |  |

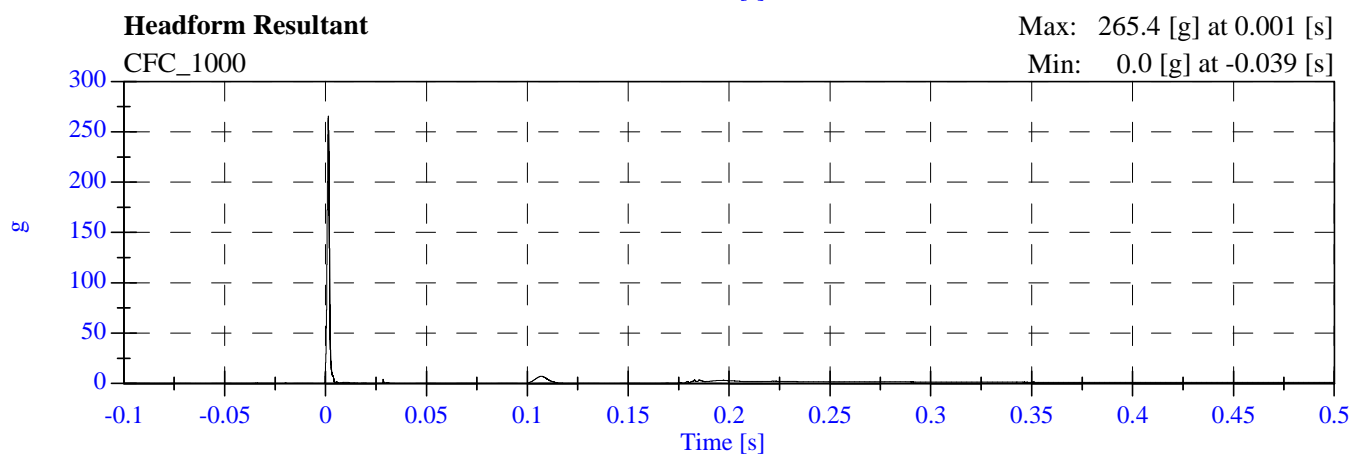
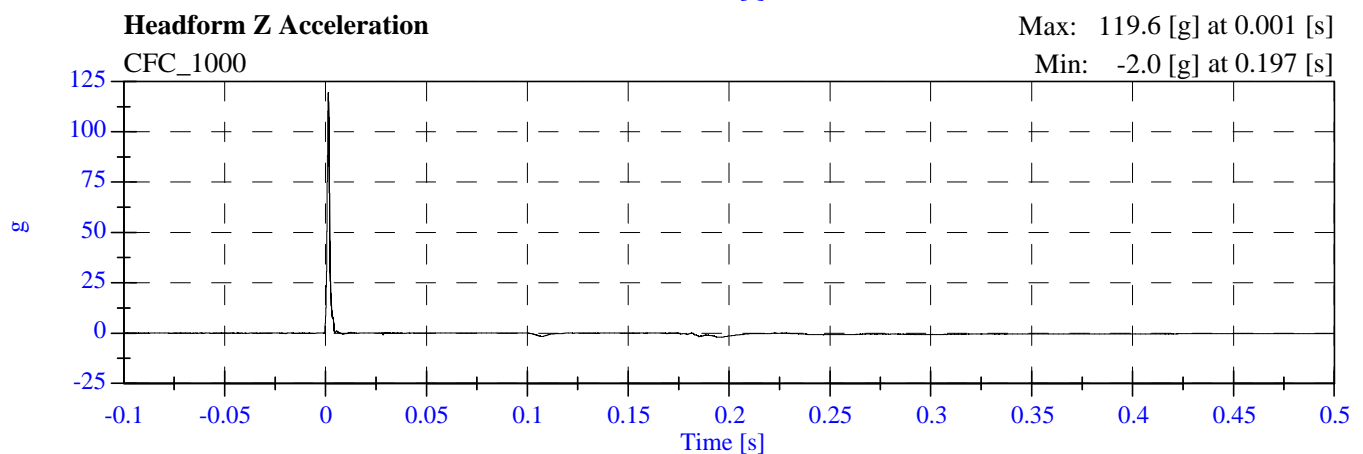
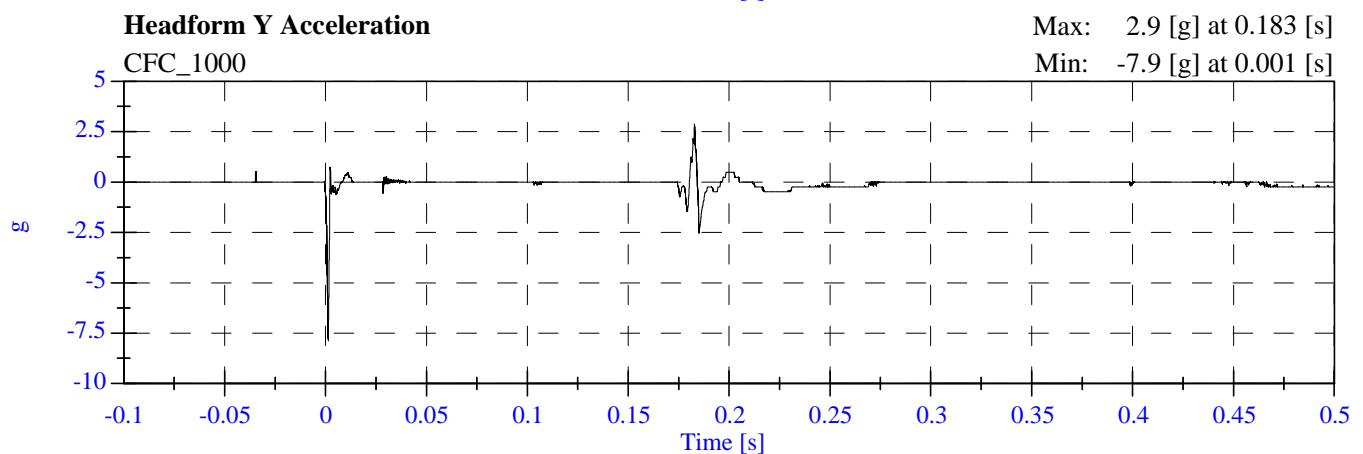
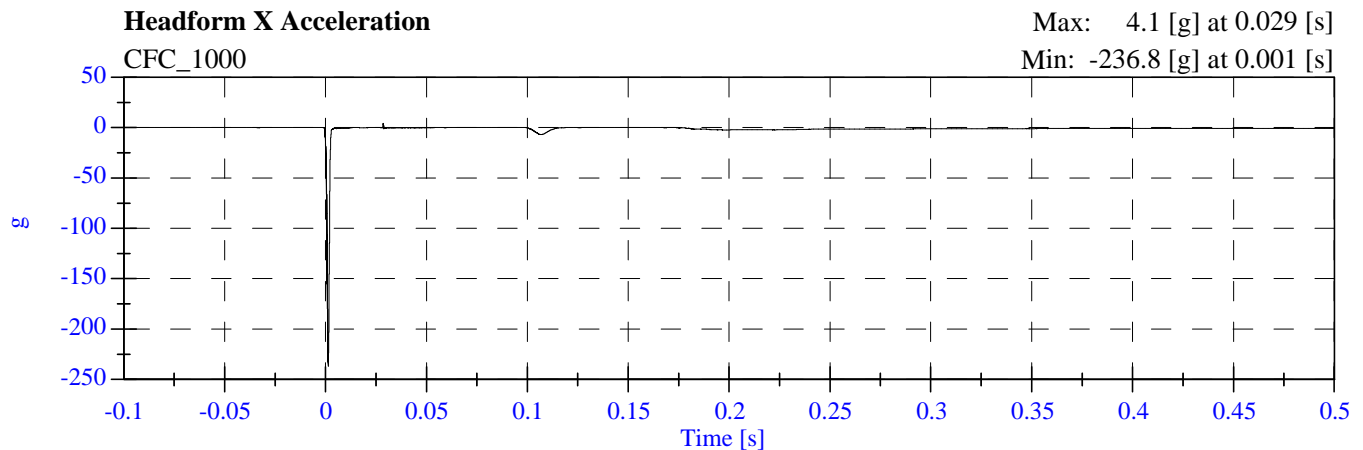
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J41004</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J37496</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J41016</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 20, 2009



**PART 572L  
HEAD DROP POST-TEST**

|  |                         |                         |  |
|--|-------------------------|-------------------------|--|
| <b>MANUFACTURER:</b>                   |                         | <b>DENTON ATD INC.</b>  |  |
| <b>SERIAL NUMBER:</b>                  |                         | <b>0355</b>             |  |
| <b>CALIBRATION DATE:</b>               |                         | <b>January 20, 2009</b> |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b>    | <b>TEST RESULTS</b>     |  |
| <b>TEMPERATURE</b>                     | <b>19°C to 26°C</b>     | <b>21</b>               |  |
| <b>RELATIVE HUMIDITY</b>               | <b>10% to 70%</b>       | <b>14</b>               |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | <b>225 Gs to 275 Gs</b> | <b>264.1</b>            |  |
| <b>PEAK LATERAL ACCELERATION</b>       | <b>15 Gs Maximum</b>    | <b>4.3</b>              |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | <b>YES</b>              | <b>YES</b>              |  |

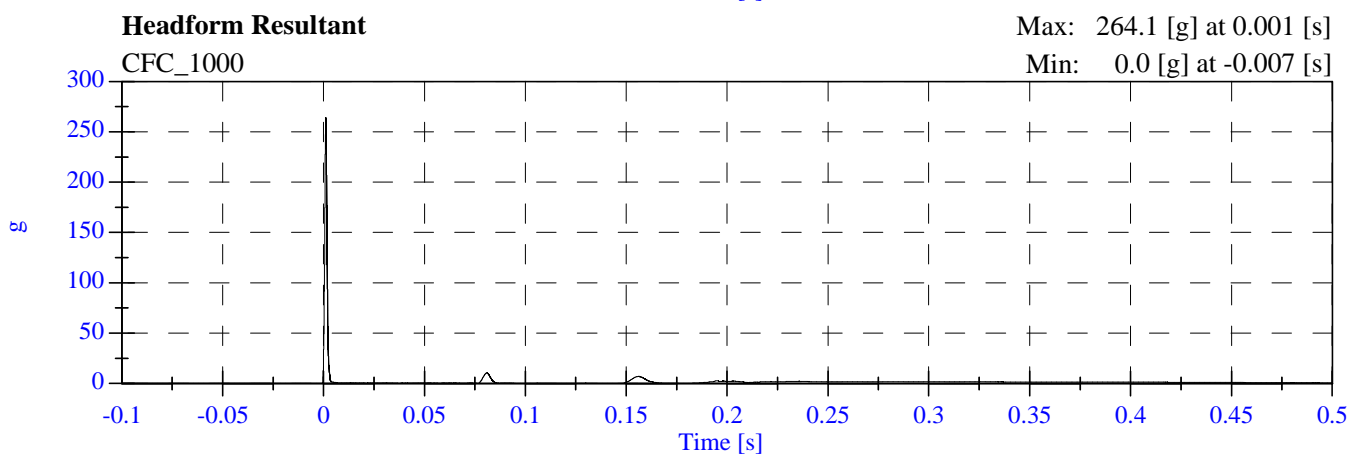
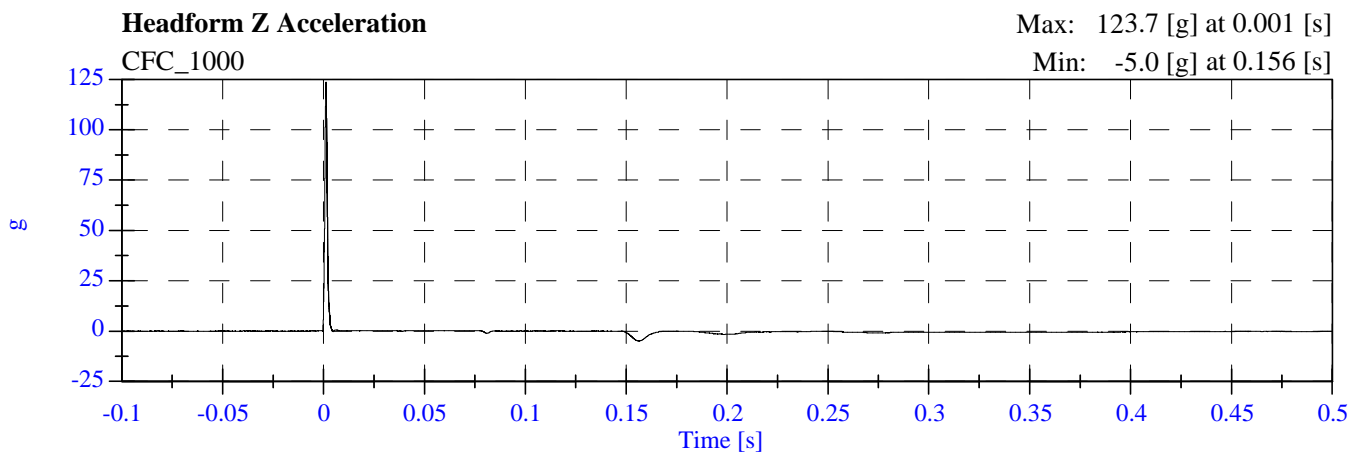
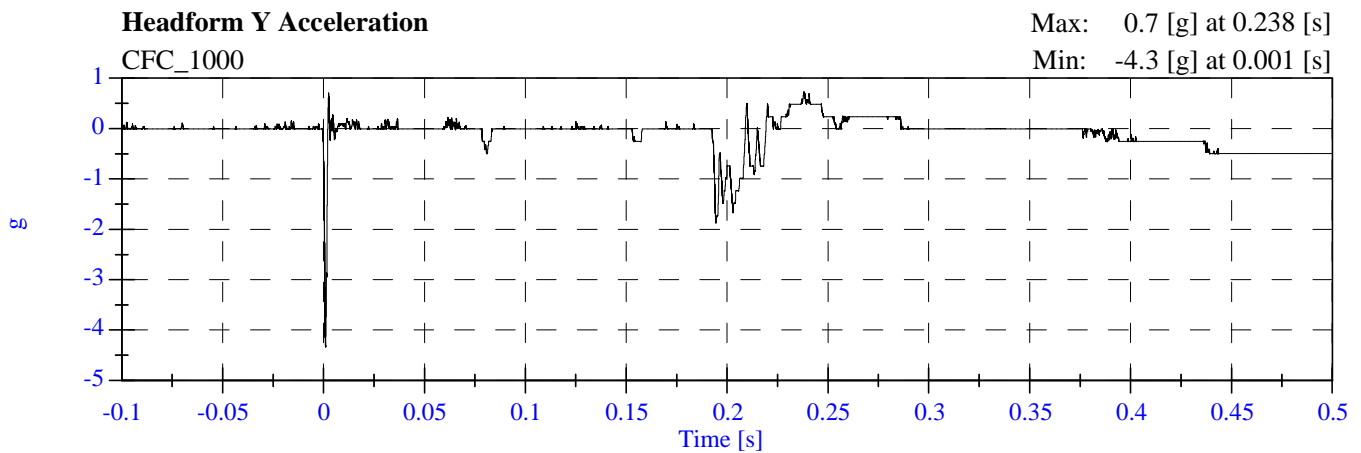
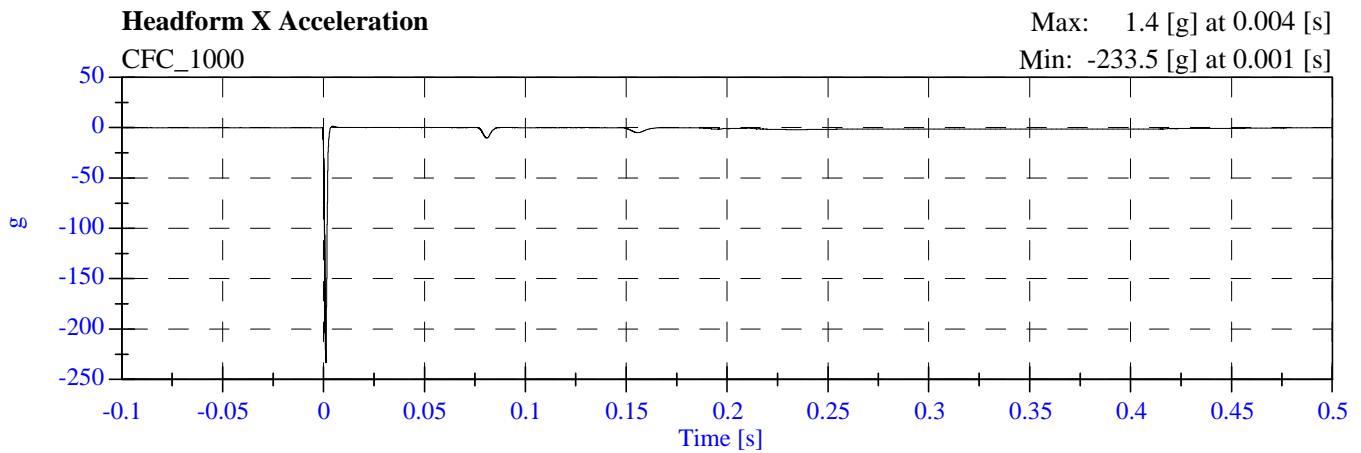
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J28671</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J32779</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J25854</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 20, 2009





**PART 572L  
HEAD DROP POST-TEST**

|  |                      |  |  |
|--|----------------------|--|--|
| <b>MANUFACTURER:</b>                   |                      | <b>FIRST TECHNOLOGY SAFETY SYSTEMS</b> |  |
| <b>SERIAL NUMBER:</b>                  |                      | 1142                                   |  |
| <b>CALIBRATION DATE:</b>               |                      | January 20, 2009                       |  |
| <b>TEST PARAMETER</b>                  | <b>SPECIFICATION</b> | <b>TEST RESULTS</b>                    |  |
| <b>TEMPERATURE</b>                     | 19°C to 26°C         | 21                                     |  |
| <b>RELATIVE HUMIDITY</b>               | 10% to 70%           | 14                                     |  |
| <b>PEAK RESULTANT ACCELERATION</b>     | 225 Gs to 275 Gs     | 233.3                                  |  |
| <b>PEAK LATERAL ACCELERATION</b>       | 15 Gs Maximum        | 6.0                                    |  |
| <b>IS ACCELERATION CURVE UNIMODAL?</b> | YES                  | YES                                    |  |

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

| <b>I.D. NUMBER</b>      | <b>MANUFACTURER</b> | <b>MODEL NUMBER</b> | <b>SERIAL NUMBER</b> | <b>DATE OF LAST CALIBRATION</b> | <b>DATE OF NEXT CALIBRATION</b> |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| <b>1 - LONGITUDINAL</b> | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J41006</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>2 - LATERAL</b>      | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J40994</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |
| <b>3 - VERTICAL</b>     | <b>ENDEVCO</b>      | <b>7264-2000T</b>   | <b>J41007</b>        | <b>9/2/2008</b>                 | <b>3/2/2009</b>                 |

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C90104 - January 20, 2009

