

REPORT NUMBER: 201UI-CAL-09-06

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

**FORD MOTOR CO.
2009 FORD F150**

NHTSA NUMBER: C90206

CALSPAN TEST NUMBER: 8877-06

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



Test Date: March 13, 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 4th Floor
1200 New Jersey Avenue, SE
Washington, DC 20590

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Prepared by:



James Czarnecki, Project Engineer

Approved by:



David J. Travale, Program Manager
Transportation Science Center

Approval Date:

9/10/09

TECHNICAL REPORT STANDARD TITLE PAGE

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| 16. <i>Abstract</i> Compliance tests were conducted on the subject vehicle, a 2009 Ford F150, 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: | | | | | | |
| Target Point | | Horizontal | Vertical | Velocity | HIC | HICd |
| None | | - | - | - | - | - |
| None | | - | - | - | - | - |
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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 Ford F150, NHTSA No. C90206, 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 Ford F150, NHTSA No. C90206, was tested at various upper interior locations by a 4.54 kg 50th 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:

| | | | | |
|-----|-----|------|-------|------|
| RP2 | RP1 | URRP | URSR2 | SR2A |
| AP3 | AP1 | FH2 | SR2R | SR1 |
| AP2 | FH1 | | | |

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 ± 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 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09 (SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| 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 | 2860.69 | -636.164 | 1843.948 | 2859.303 | 629.7934 | 1843.155 | 125° | 42° | 18.51 | 301.8 | 394.1 |
| AP2 | 2703.461 | -684.554 | 1755.05 | 2710.17 | 671.519 | 1757.174 | 209° | 41° | 18.40 | 163.1 | 289.5 |
| AP3 | 2588.91 | -722.192 | 1683.105 | 2639.881 | 665.7115 | 1683.923 | 136° | 38° | 18.62 | 287.7 | 383.4 |
| FH1 | 2763.994 | -539.364 | 1886.166 | 2761.285 | 532.5134 | 1884.145 | Relocated 2 circles | | - | - | - |
| FH1 R2 | 2750.25 | -491.428 | 1896.132 | 2752.681 | 487.2664 | 1894.751 | 180° | 50° | 23.58 | 587.2 | 609.4 |
| FH2 | 2730.515 | -394.493 | 1903.377 | 2730.077 | 388.4765 | 1901.941 | 180° | 50° | 23.56 | 621.1 | 635.0 |
| SR1 | 3011.569 | -598.482 | 1896.747 | 3010.044 | 593.9296 | 1893.566 | 270° | 36° | 18.35 | 220.8 | 333.0 |
| SR2A | 3160.986 | -590.779 | 1910.49 | 3158.066 | 586.905 | 1908.266 | 90° | 33° | 18.60 | 140.4 | 272.4 |
| SR2R | 3334.539 | -587.601 | 1909.787 | 3332.62 | 584.1309 | 1908.003 | 270° | 32° | 18.65 | 236.3 | 344.7 |
| RP1 | 3634.771 | -582.645 | 1864.191 | 3629.591 | 586.7593 | 1856.197 | 67° | 29° | 18.56 | 634.6 | 645.2 |
| RP2 | 3482.462 | -705.723 | 1676.581 | 3479.343 | 699.146 | 1676.716 | 90° | 4° | 23.46 | 776.7 | 752.4 |
| RH | 3651.834 | -464.257 | 1908.328 | 3652.036 | 465.4296 | 1904.688 | - | - | - | - | - |
| URAP | 2965.607 | -453.533 | 1925.228 | 2983.406 | 466.9043 | 1931.446 | - | - | - | - | - |
| URSR1 | 3160.411 | -434.771 | 1987.165 | 3160.664 | 440.1933 | 1983.817 | - | - | - | - | - |
| URSR2 | 3326.189 | -436.375 | 1992.445 | 3334.503 | 445.6204 | 1988.871 | 90° | 41° | 23.82 | 402.3 | 469.9 |
| URRP | 3519.933 | -440.715 | 1984.575 | 3534.273 | 474.7008 | 1973.875 | 34° | 36° | 23.74 | 342.9 | 425.1 |

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

DATA SHEET 2-2

GENERAL TEST AND VEHICLE PARAMETER DATA

| TEST VEHICLE INFORMATION: | | | | | | | | | |
|---|----|-------------------|---------------|---------------------------------|-----|------------------|---------|--------------|--|
| Year/Make/Model/Body Style: | | | | 2009 Ford F150 | | | | | |
| VIN: | | | | 1FTRF12W19KB43084 | | | | | |
| Month & Year of Manufacture: | | | | 01/09 (SEE CERTIFICATION LABEL) | | | | | |
| Vehicle Body Color: | | | | Black | | | | | |
| Engine Data: | 8 | Cylinders; | - | CID; | 4.6 | Liters; | - | cc | |
| Engine Placement: | | x | Longitudinal; | or | | - | Lateral | | |
| Transmission: | 4 | Speed; | - | Manual; | x | Automatic; | x | Overdrive | |
| Final Drive: | x | Rear Wheel Drive; | - | Front Wheel Drive; | - | Four Wheel Drive | | | |
| Odometer Reading: | km | | | | | | | | |
| Options: | x | A/C; | x | Power Steering; | x | Pwr.Brakes; | - | Pwr. Windows | |
| Interior Trim Information : | | | | | | | | | |
| 1. No side rail grab handles | | | | | | | | | |
| 2. Rear pillar adjustable seat belt anchorage | | | | | | | | | |
| 3. No B-pillar or other pillar vehicle | | | | | | | | | |

| DATA FROM TIRE PLACARD: | | | | | | | | | |
|-------------------------------------|---|------------|---|-----------------|---------------|-------------|------------------------------|-------|--|
| Tire Pressure (at capacity); | | | | 260 | | | kPa FRONT | | |
| | | | | 260 | | | kPa REAR | | |
| Recommended Tire Size: | | | | P235/70R17 | | | | | |
| Tires on Test Vehicle: | | P235/70R17 | | | Manufacturer: | | | | |
| Vehicle Capacity Data: | | | | | | | | | |
| Number of Occupants: | 3 | Front; | - | Rear; | - | 3rd Seat; | 3 | 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)= | | | | 746 | | | kg (A) | | |
| No. of Occupants x 68 kg. = | | | | 204.1 | | | kg (B) | | |
| Rated Cargo/Luggage Weight (RCLW) = | | | | 541.9 | | | kg (A-B) Max. RCLW = 136 kg. | | |

DATA SHEET 2-2

GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

| TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS: | | | | | | |
|---|---|--------|----|-------------------|---|----------|
| Left Front | = | 608.0 | kg | Left Rear | = | 458.0 kg |
| Right Front | = | 596.0 | kg | Right Rear | = | 456.0 kg |
| TOTAL FRONT | = | 1204.0 | kg | TOTAL REAR | = | 914.0 kg |
| % of Total Weight | = | 56.8% | % | % of Total Weight | = | 43.2% |
| TOTAL WEIGHT | = | 2118.0 | | kg | | |

| CALCULATION OF VEHICLE'S TARGET TEST WEIGHT: | | |
|---|--------|----------|
| Total Test Vehicle Delivered Weight= | 2118.0 | kg (A) |
| + Rated Cargo/Luggage Weight = | 136.0 | kg (B) |
| TEST VEHICLE TARGET WEIGHT = | 2254.0 | kg (A+B) |

| WEIGHT OF TEST VEHICLE (FULLY LOADED): | | | | | | |
|---|---|--------|----|-------------------|---|-----------|
| Left Front | = | 605.0 | kg | Left Rear | = | 527.0 kg |
| Right Front | = | 596.5 | kg | Right Rear | = | 518.5 kg |
| TOTAL FRONT | = | 1201.5 | kg | TOTAL REAR | = | 1045.5 kg |
| % of Total Weight | = | 53.5% | % | % of Total Weight | = | 46.5% |
| TOTAL TEST WEIGHT | = | 2247.0 | | | | |
| Weight of vehicle secured in test vehicles cargo area | = | 129.0 | | kg | | |

| TEST VEHICLE ATTITUDE (all dimensions in millimeters): | | | | |
|---|-------------|-----|-------------|-----|
| AS DELIVERED: | Left Front | 935 | Left Rear | 995 |
| | Right Front | 933 | Right Rear | 996 |
| FULLY LOADED: | Left Front | 933 | Left Rear | 972 |
| | Right Front | 930 | Right Rear | 973 |
| Test Vehicle Wheelbase: | 3196 | | millimeters | |

| TEST VEHICLE PITCH AND ROLL ANGLES: | | | | |
|--|-----------------|-------|--------------|-------|
| AS DELIVERED: | PITCH ANGLES | | ROLL ANGLES | |
| | Left Door Sill | ↑1.4↓ | Front Bumper | ↑0.2↓ |
| | Right Door Sill | ↓1.8↑ | Rear Bumper | ↑0.1↓ |
| FULLY LOADED: | PITCH ANGLES | | ROLL ANGLES | |
| | Left Door Sill | ↑1.1↓ | Front Bumper | ↑0.1↓ |
| | Right Door Sill | ↓1.3↑ | Rear Bumper | ↑0.1↓ |
| AS TESTED: | PITCH ANGLES | | ROLL ANGLES | |
| | Left Door Sill | ↑1.1↓ | Front Bumper | ↑0.1↓ |
| | Right Door Sill | ↓1.4↑ | Rear Bumper | ↑0.1↓ |

DATA SHEET 2-3

APPROACH ANGLE LIMITS

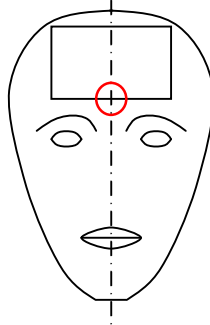
| Target Code | Left Side | | | | Target Code | Right Side | | | |
|-------------|--------------------------|---------|------------------------|---------|-------------|--------------------------|---------|------------------------|---------|
| | Horizontal Angles (deg.) | | Vertical Angles (deg.) | | | Horizontal Angles (deg.) | | Vertical Angles (deg.) | |
| | Minimum | Maximum | Minimum | Maximum | | Minimum | Maximum | Minimum | Maximum |
| AP1 | 204 | 249 | -5 | 42 | AP1 | 111 | 156 | -5 | 42 |
| AP2 | 204 | 249 | -5 | 41 | AP2 | 111 | 156 | -5 | 41 |
| AP3 | 204 | 249 | -5 | 38 | AP3 | 111 | 156 | -5 | 38 |
| RP1 | 270 | 345 | -10 | 29 | RP1 | 15 | 90 | -10 | 29 |
| RP2 | ANY | | 0 | 4 | RP2 | ANY | | 0 | 4 |
| FH1 | 180 | | 0 | 50 | FH1 | 180 | | 0 | 50 |
| FH2 | 180 | | 0 | 50 | FH2 | 180 | | 0 | 50 |
| RH | 360 | | 0 | 40 | RH | 0 | | 0 | 40 |
| SR1 | 270 | | 0 | 36 | SR1 | 90 | | 0 | 36 |
| SR2A | 270 | | 0 | 33 | SR2A | 90 | | 0 | 33 |
| SR2R | 270 | | 0 | 32 | SR2B | 90 | | 0 | 32 |
| URAP | ANY | | 0 | 34 | URAP | ANY | | 0 | 34 |
| URSR2 | ANY | | 0 | 41 | URBP | ANY | | 0 | 41 |
| URRP | ANY | | 0 | 36 | URRP | ANY | | 0 | 36 |

Note : RP2 target location – Seat belt anchorage

DATA SHEET 2-4

SUMMARY TARGET IMPACT LOCATION ON FMH

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |



ã RIGHT SIDE OF FACE

| TARGET | Distance Above Point 0 (mm) | Distance Over From Pt. O (mm) |
|--------|-----------------------------|-------------------------------|
| RP2 | 5 | 0 |
| RP1 | 23 | 2R |
| URRP | 31 | 3R |
| URSR2 | 49 | 4L |
| SR2A | 29 | 0 |
| AP3 | 9 | 6L |
| AP1 | 13 | 0 |
| FH2 | 23 | 6R |
| SR2R | 4 | 2R |
| SR1 | 13 | 11R |
| AP2 | 24 | 6R |
| FH1 | 19 | 5L |

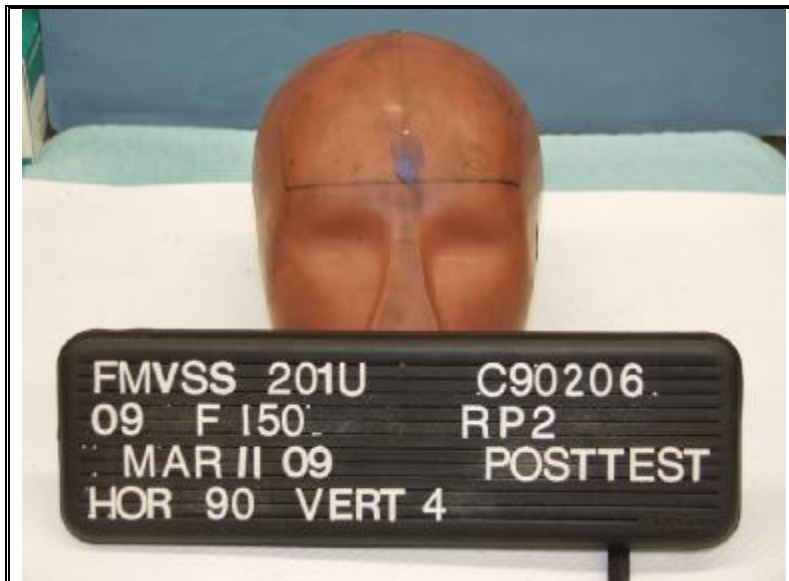
SECTION 3

SUMMARY OF TEST RESULTS AND DATA PLOTS

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|-------------|
| Test Number: | 01 |
| Test Date: | 03/11/09 |
| Target Location: | REAR PILLAR |
| Target Code: | RP2 |
| Horizontal Impact Angle: | 90° |
| Vertical Impact Angle: | 4° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 9:50 |
| 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 | 5 | | | | mm up |



POST-IMPACT RP2 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 776.7 |
| HIC(d) | 752.4 |
| Impact Velocity (kph) | 23.46 |
| HIC T1 (msec) | 3.5 |
| HIC T2 (msec) | 8.5 |

FMVSS 201U 2009 FORD F150 C90206 - RP2

FMH Headform 0062

Location: RP2

Test Date: March 11, 2009

Work File: RP2

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 752.4

Lab Humidity: 37 %

HIC (36ms): 776.7

Velocity at Impact: 23.46 KPH

t1: 3.5 msec

t2: 8.5 msec

Free Flight Distance: 220.70 mm

Duration: 5.0 msec

Average Acceleration: 8.9 g

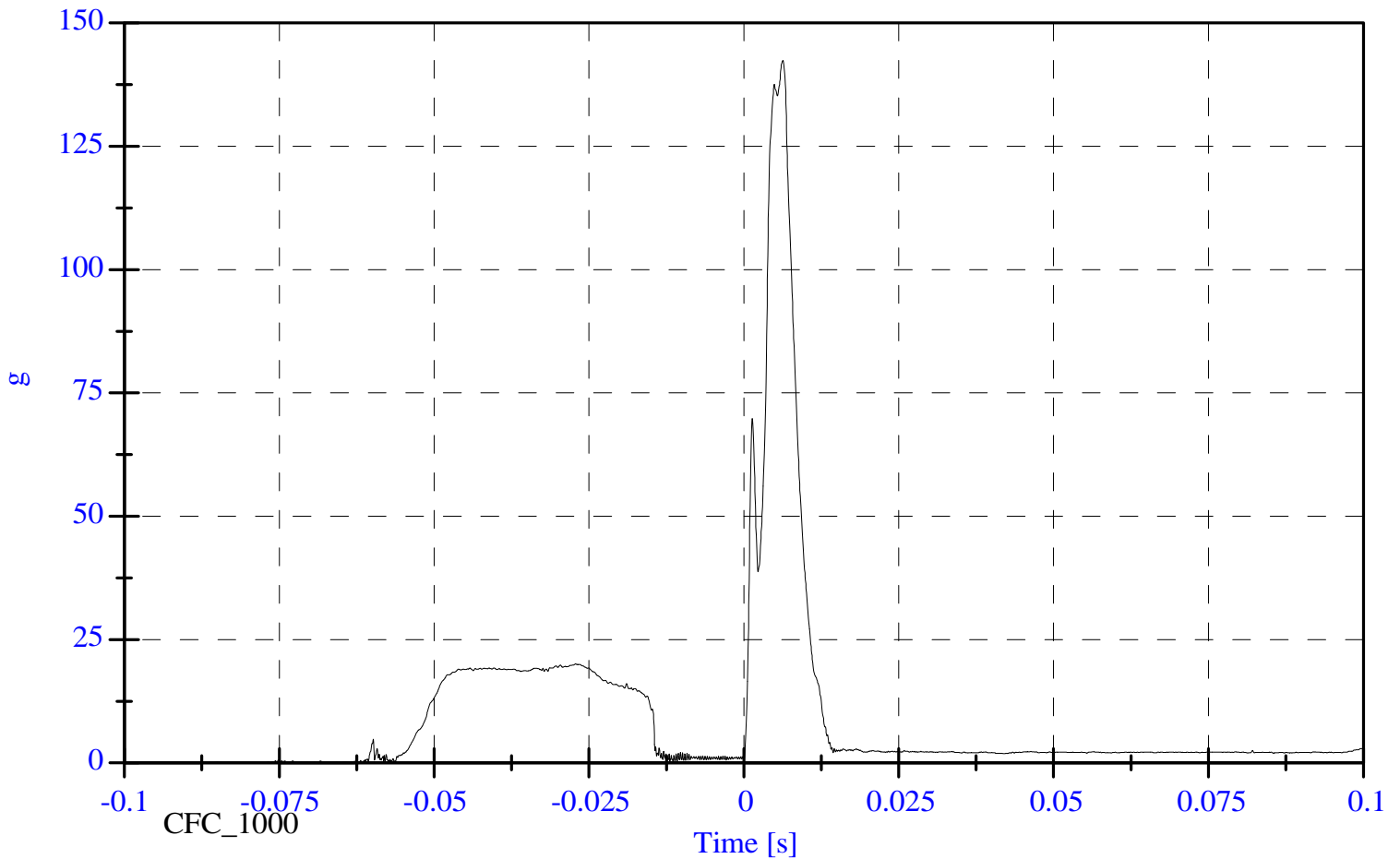
Maximum: 142.4 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 142.4 [g] at 0.006 [s]

Min: 0.0 [g] at -0.071 [s]



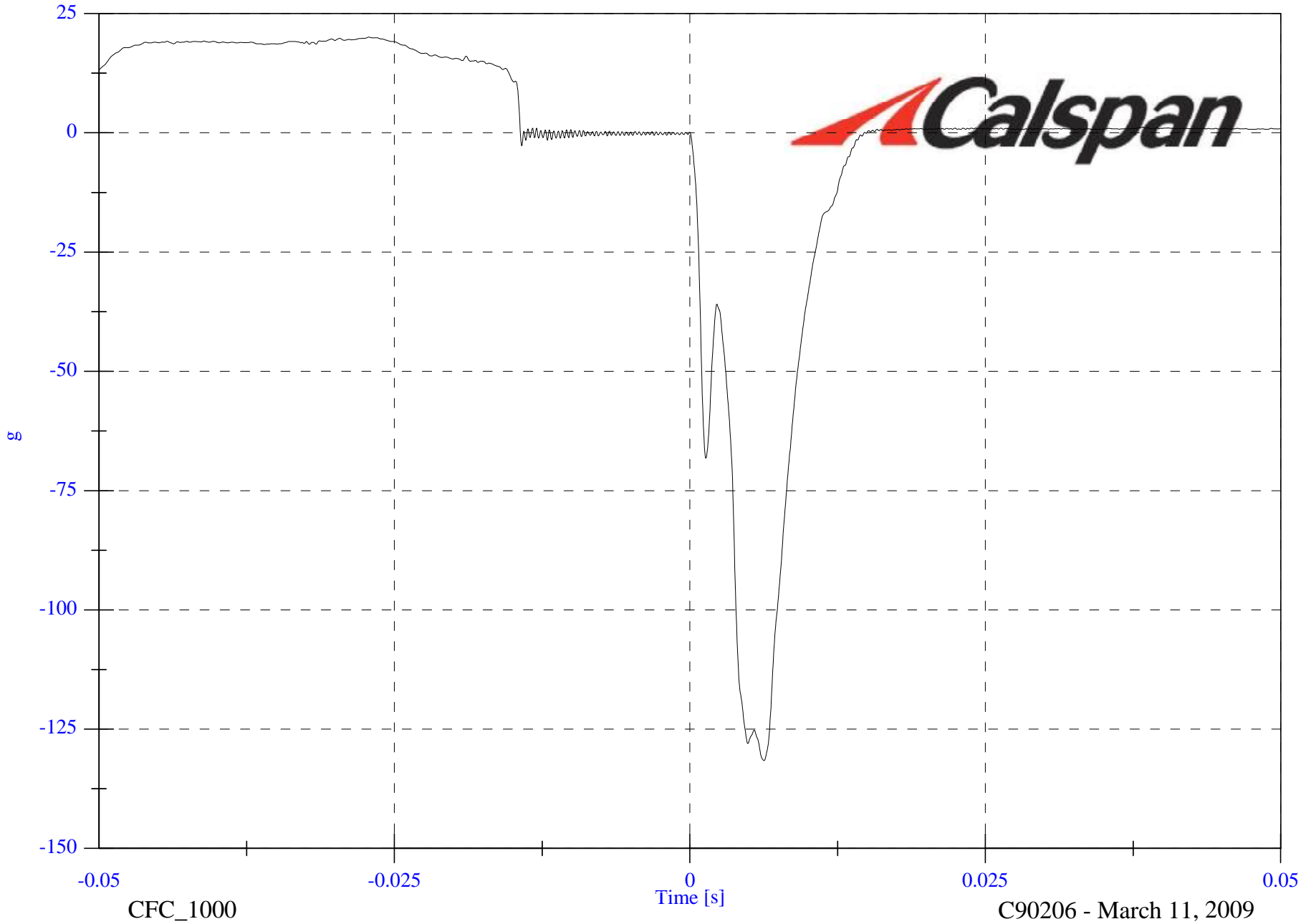
FMVSS 201U 2009 FORD F150

Headform X Acceleration

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

Min: -131.6 [g] at 0.006 [s]

C90206 PASSENGER SIDE RP2 IMPACT PLOT #1



C90206 - March 11, 2009

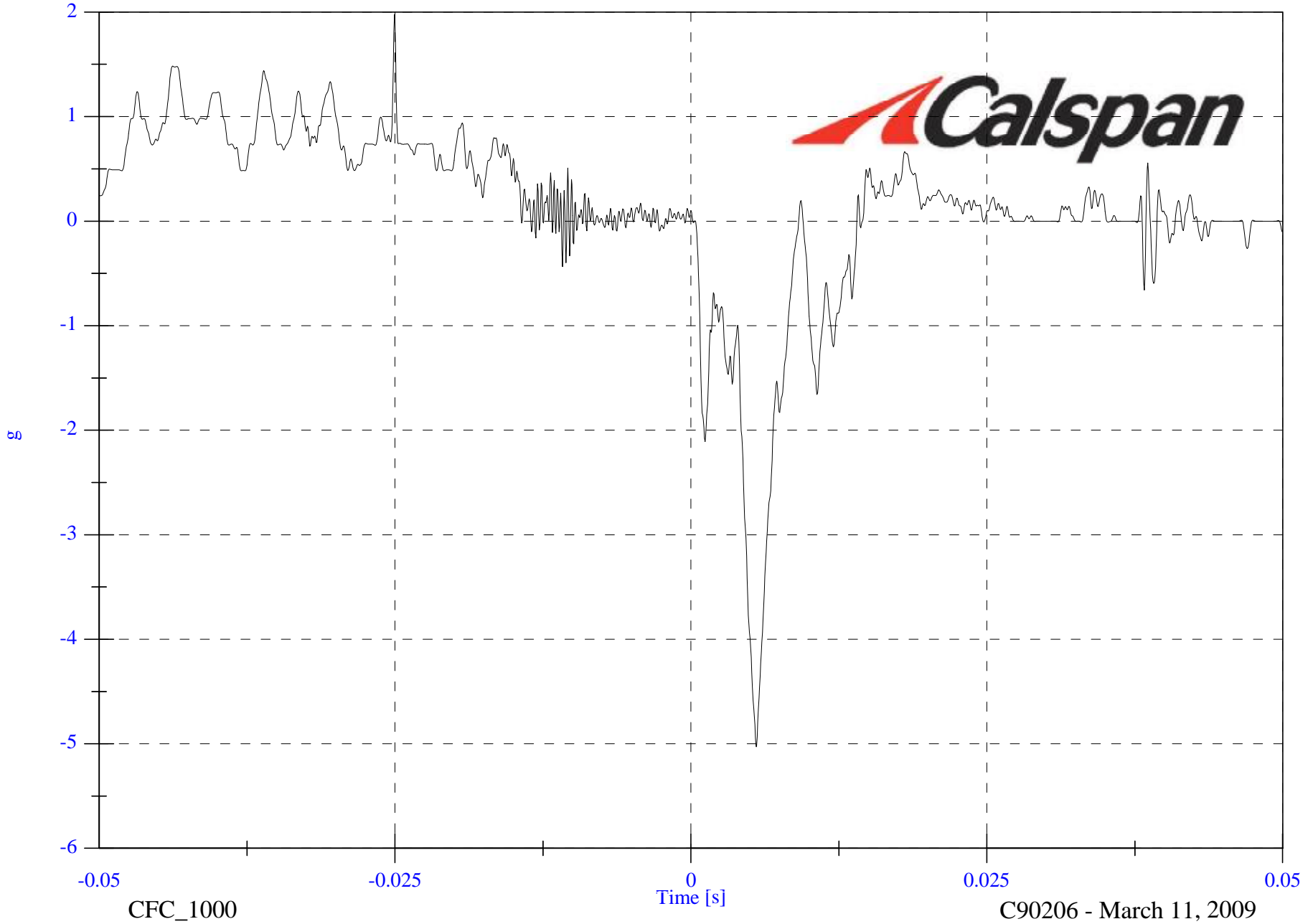
FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 2.0 [g] at -0.025 [s]

Min: -5.0 [g] at 0.006 [s]

C90206 PASSENGER SIDE RP2 IMPACT PLOT #2



CFC_1000

C90206 - March 11, 2009

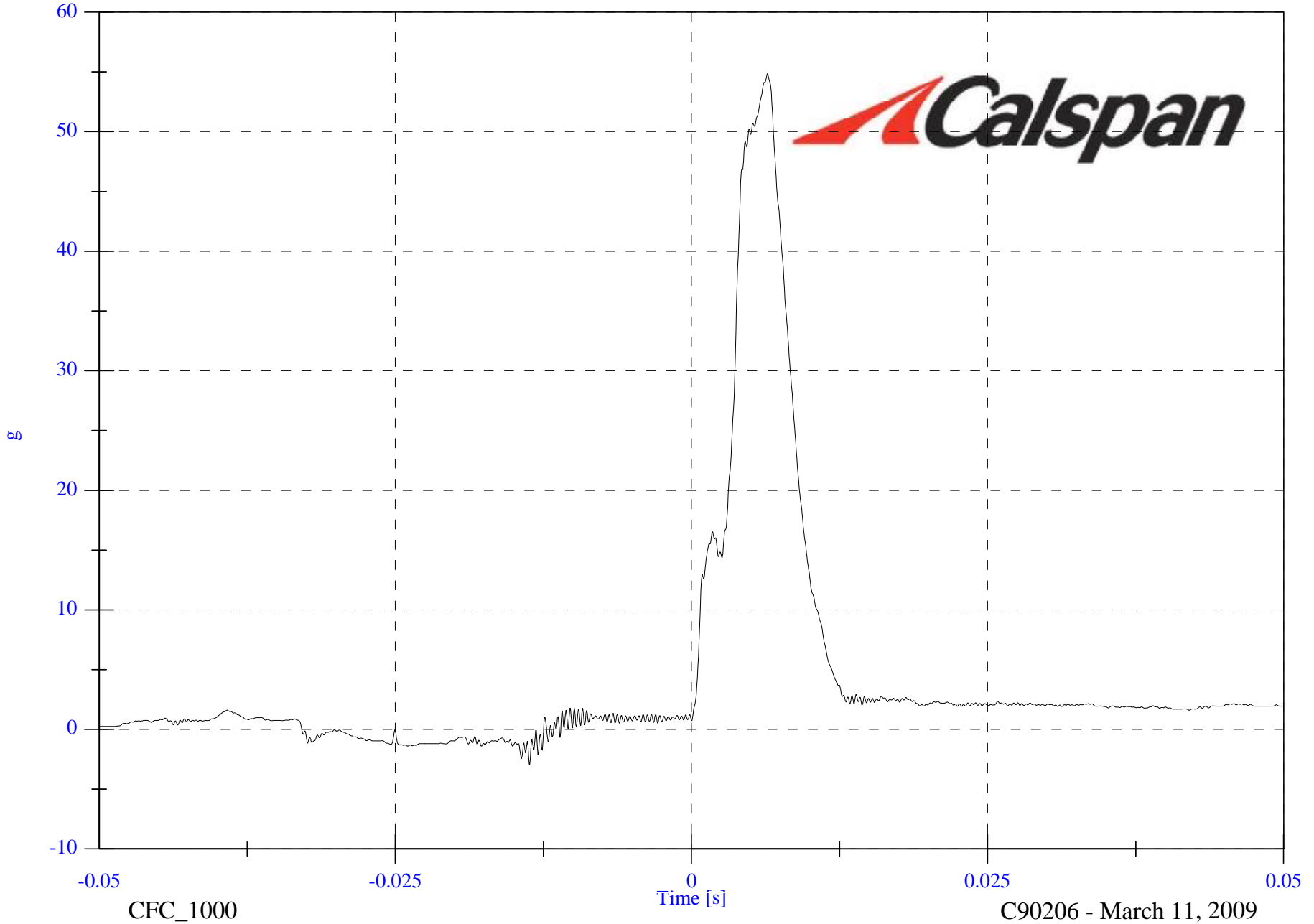
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 54.8 [g] at 0.006 [s]

Min: -3.0 [g] at -0.014 [s]

C90206 PASSENGER SIDE RP2 IMPACT PLOT #3



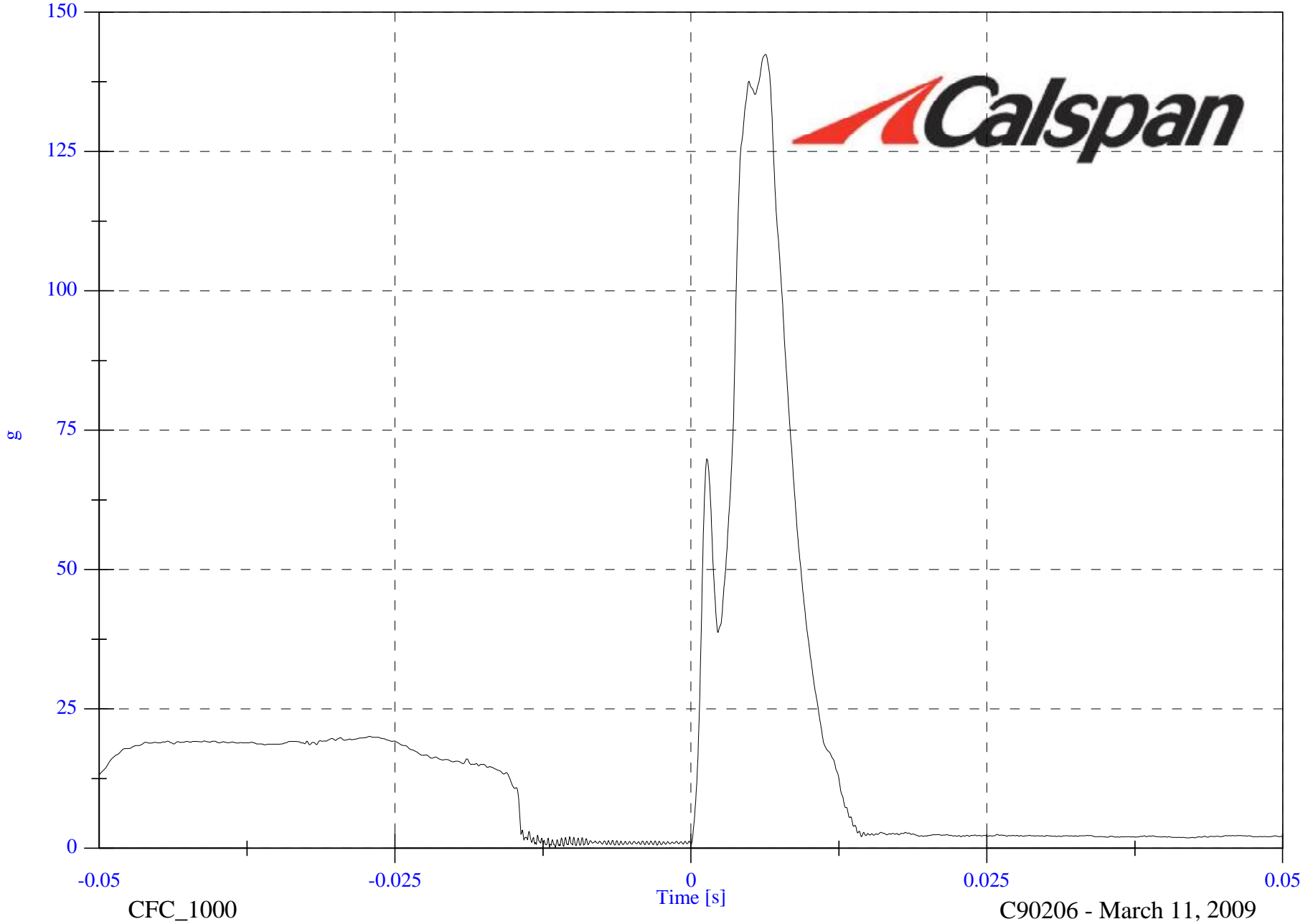
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 142.4 [g] at 0.006 [s]

Min: 0.1 [g] at -0.011 [s]

C90206 PASSENGER SIDE RP2 IMPACT PLOT #4



CFC_1000

C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

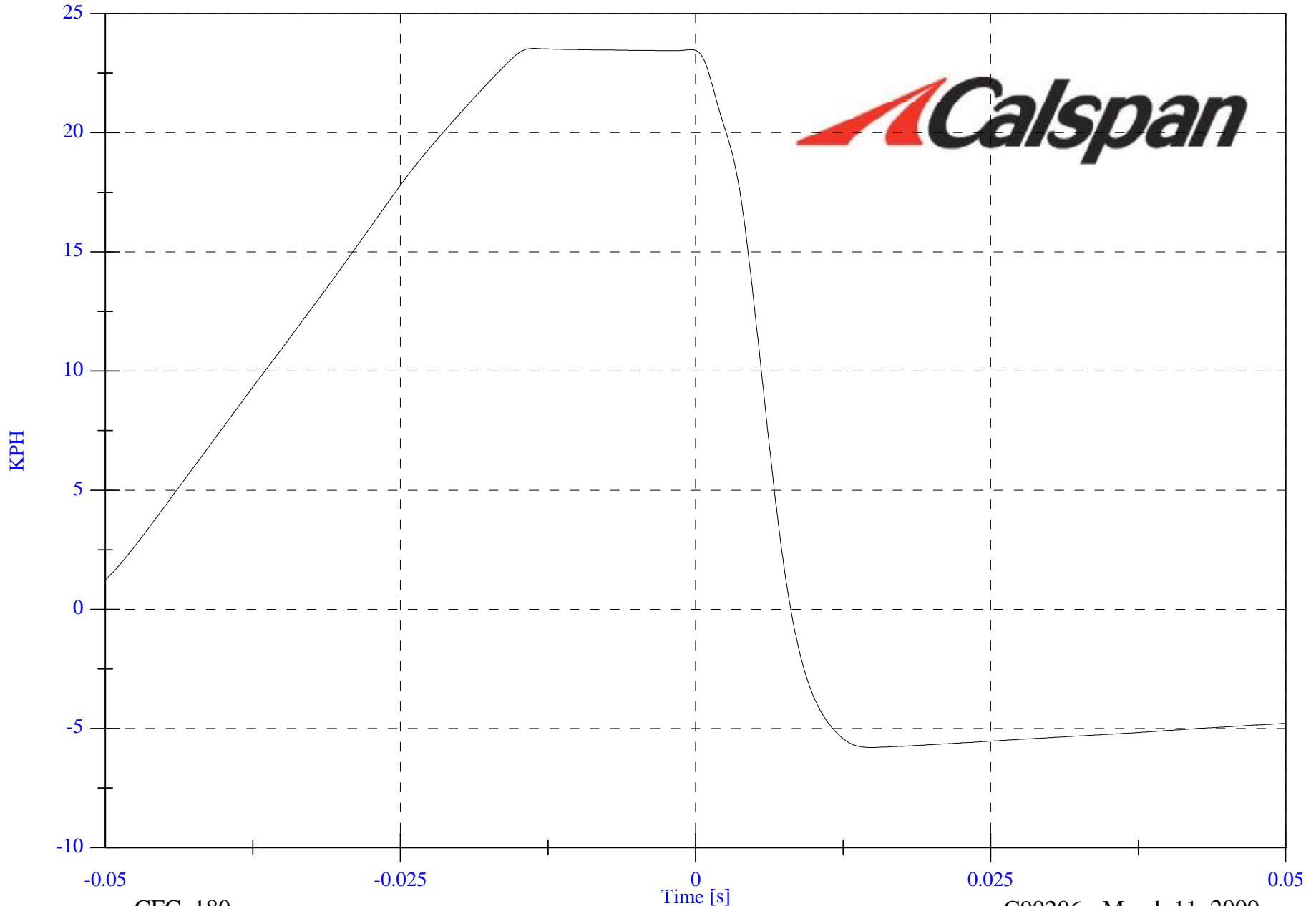
Max: 23.5 [KPH] at -0.014 [s]

Min: -5.8 [KPH] at 0.015 [s]

Headform Velocity



C90206 PASSENGER SIDE RP2 IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT RP2



POST-IMPACT RP2

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|-------------|
| Test Number: | 02 |
| Test Date: | 03/11/09 |
| Target Location: | REAR PILLAR |
| Target Code: | RP1 |
| Horizontal Impact Angle: | 67° |
| Vertical Impact Angle: | 29° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 10:25 |
| Headform Number: | 1140 |

| | | | | | |
|--|----|-------------------------------------|----------|--------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) | | | | | |
| On Centerline | 2R | <input checked="" type="checkbox"/> | mm right | <input type="checkbox"/> | mm left |
| On Centerline | 23 | | | | mm up |



POST-IMPACT RP1 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 634.6 |
| HIC(d) | 645.2 |
| Impact Velocity (kph) | 18.56 |
| HIC T1 (msec) | 9.7 |
| HIC T2 (msec) | 13.0 |

FMVSS 201U 2009 FORD F150 C90206 - RP1

FMH Headform 1140

Location: RP1

Test Date: March 11, 2009

Work File: RP1

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 645.2

Lab Humidity: 37 %

HIC (36ms): 634.6

Velocity at Impact: 18.56 KPH

t1: 9.7 msec

t2: 13.0 msec

Free Flight Distance: 222.09 mm

Duration: 3.3 msec

Average Acceleration: 10.5 g

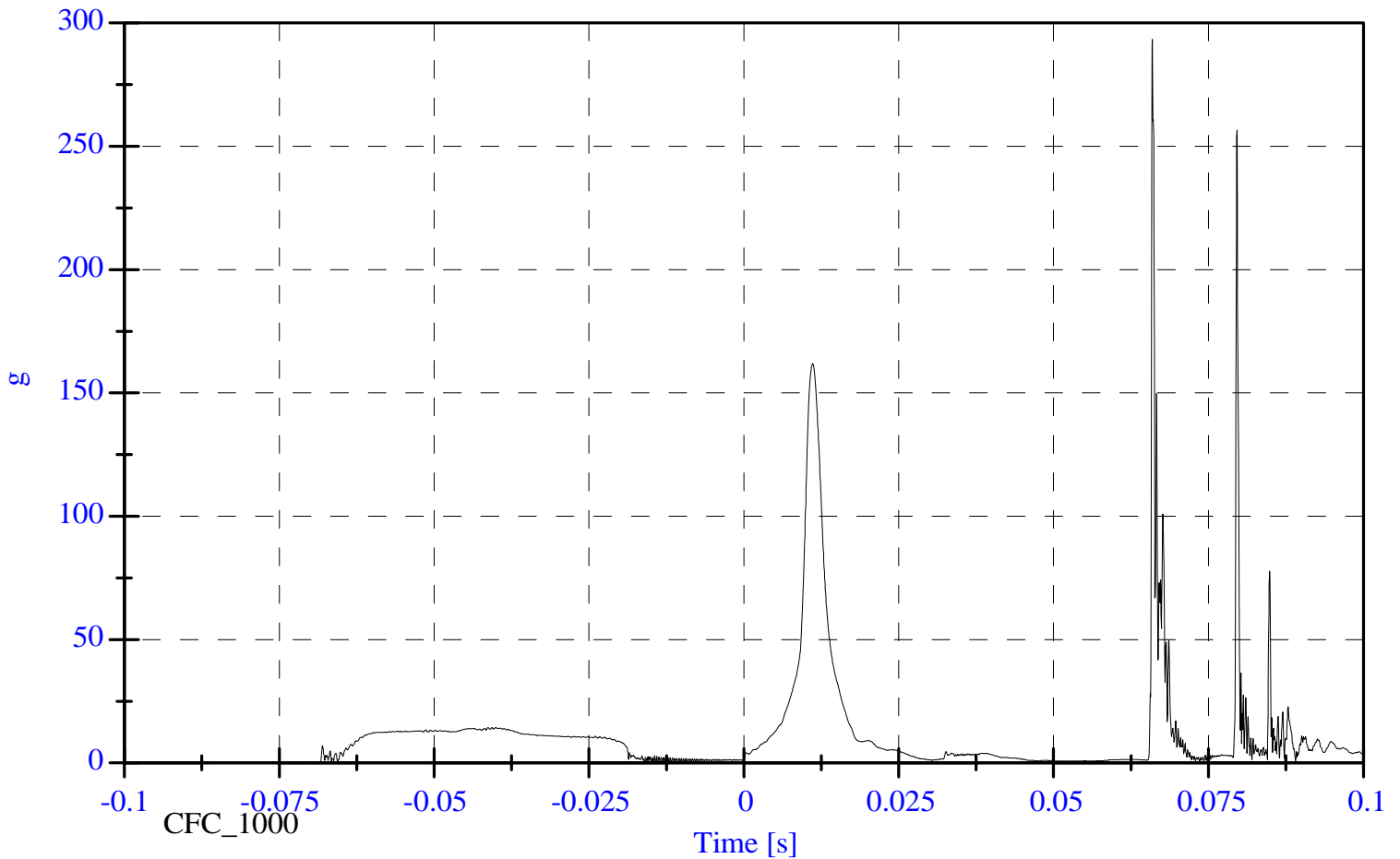
Maximum: 161.9 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 161.9 [g] at 0.011 [s]

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

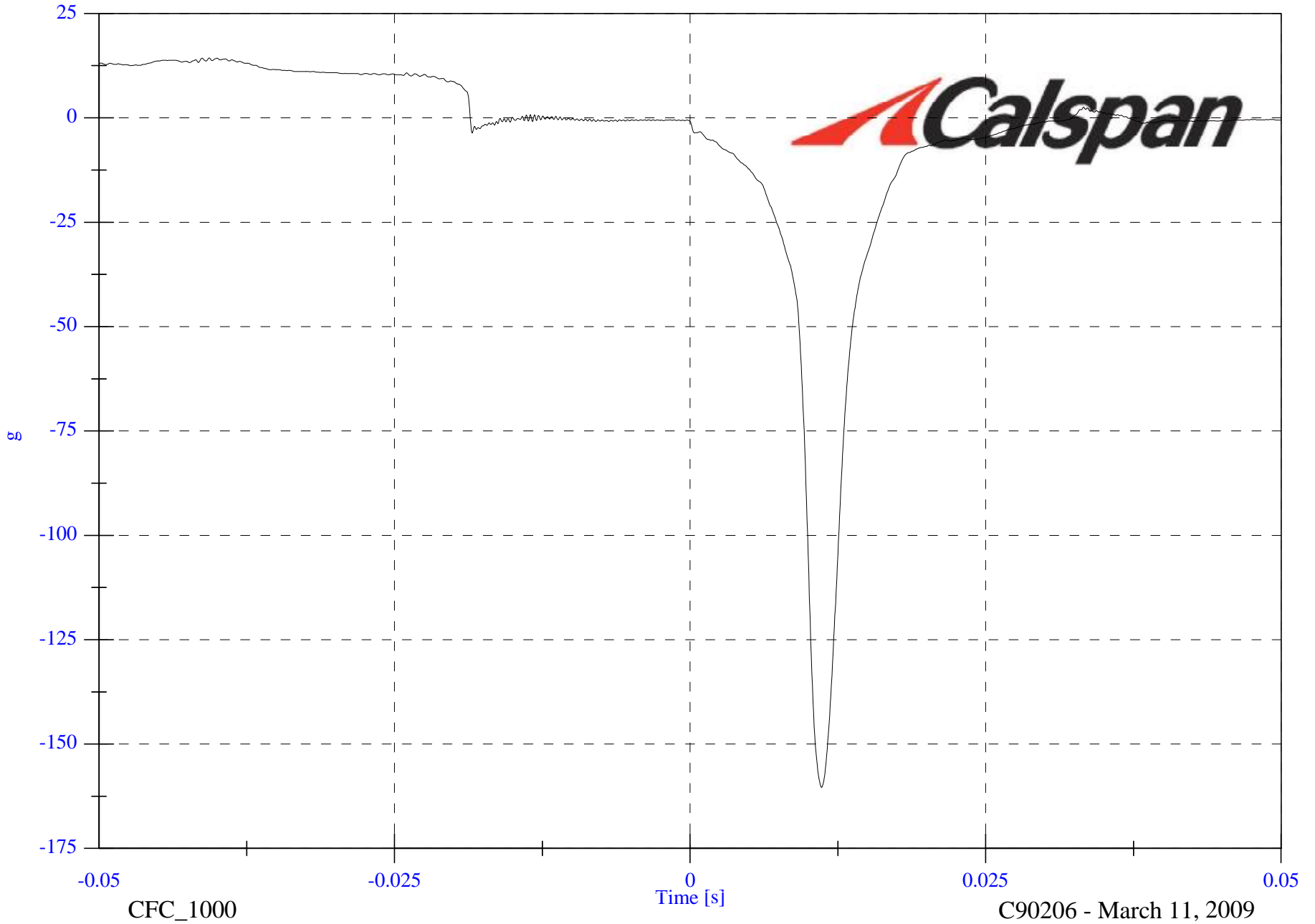


FMVSS 201U 2009 FORD F150

Max: 14.3 [g] at -0.041 [s]

Min: -160.4 [g] at 0.011 [s]

Headform X Acceleration



C90206 PASSENGER SIDE RPI IMPACT PLOT #1

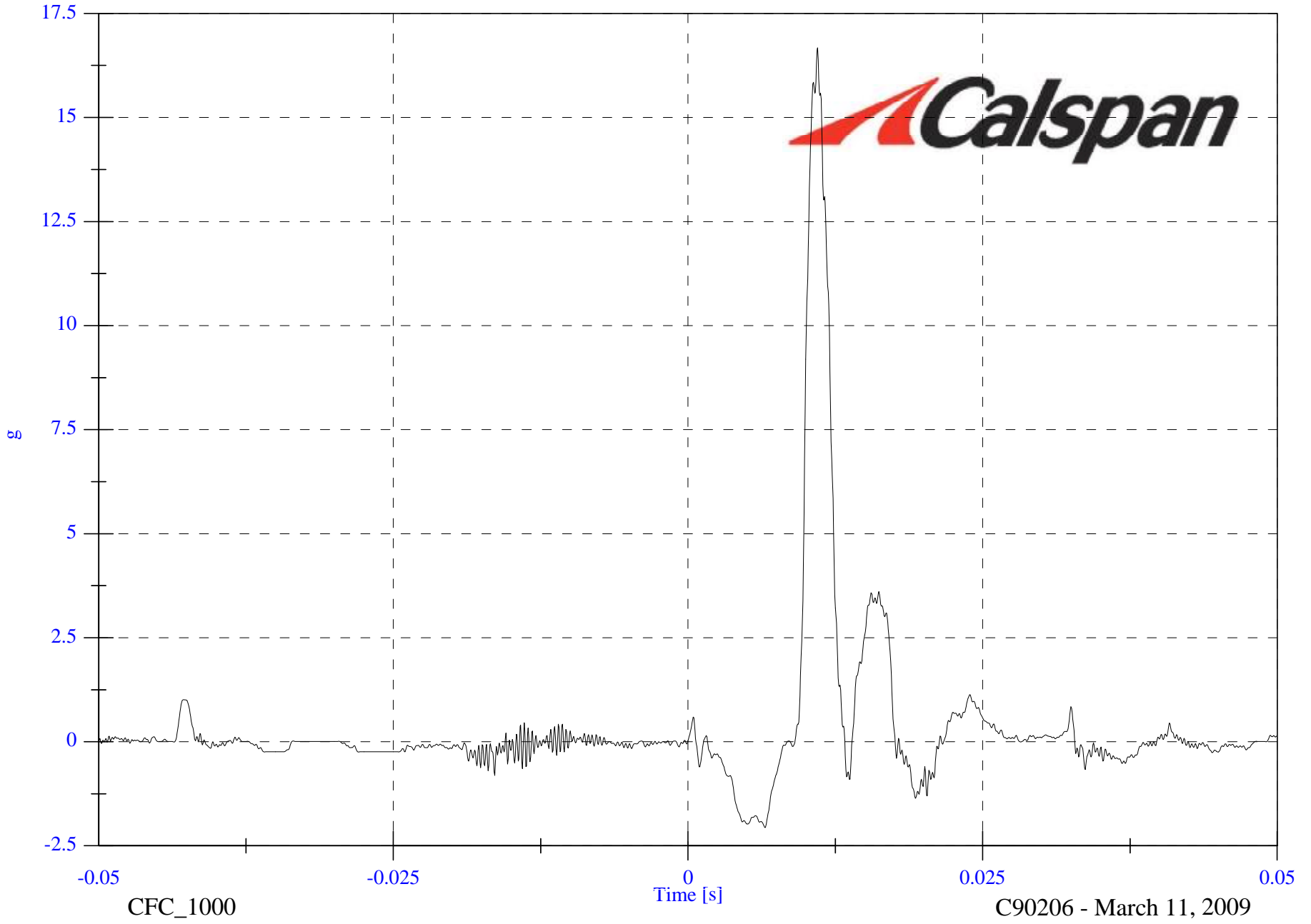
FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 16.7 [g] at 0.011 [s]

Min: -2.1 [g] at 0.007 [s]

C90206 PASSENGER SIDE RP1 IMPACT PLOT #2



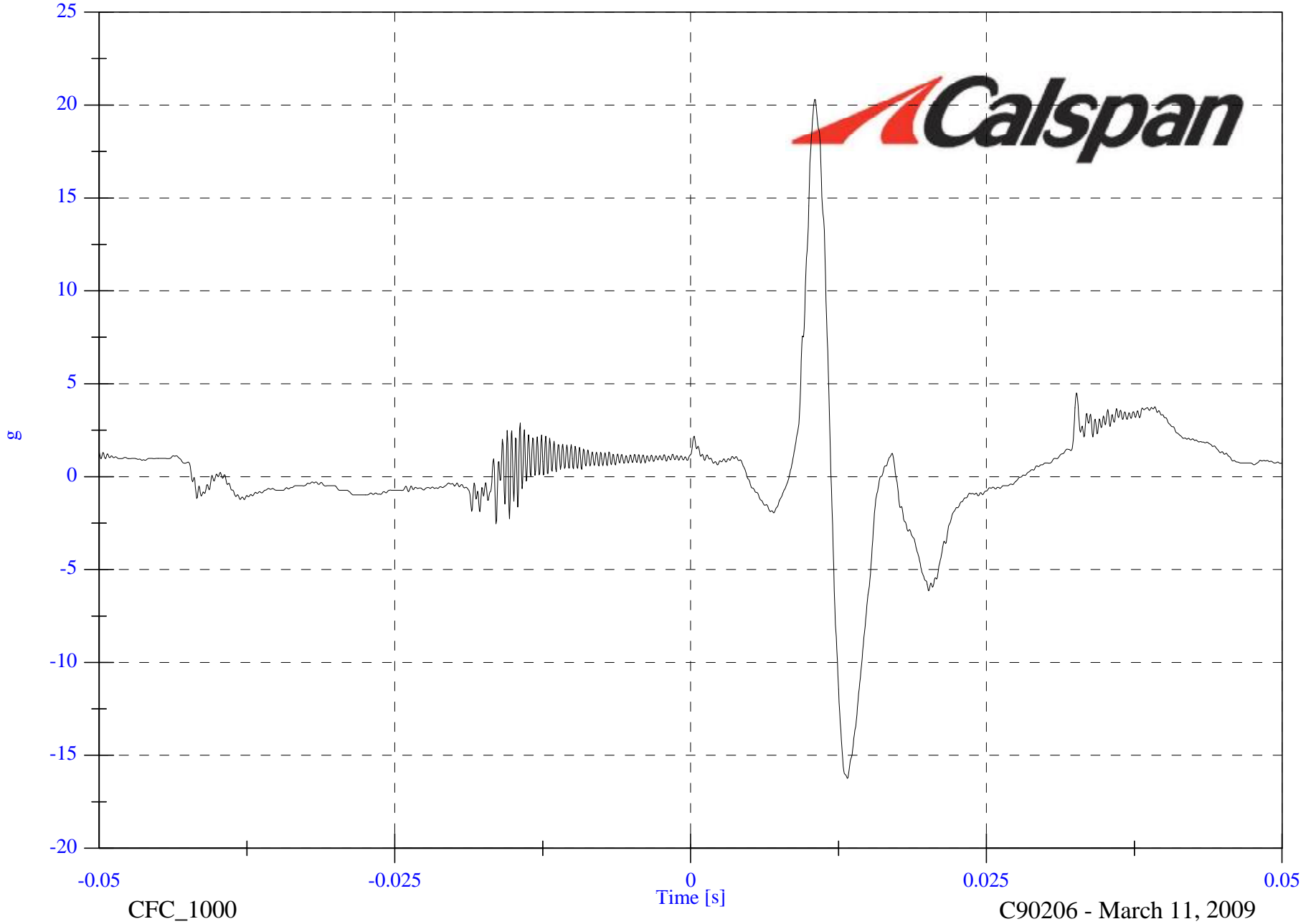
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 20.3 [g] at 0.010 [s]

Min: -16.2 [g] at 0.013 [s]

C90206 PASSENGER SIDE RPI IMPACT PLOT #3



C90206 - March 11, 2009

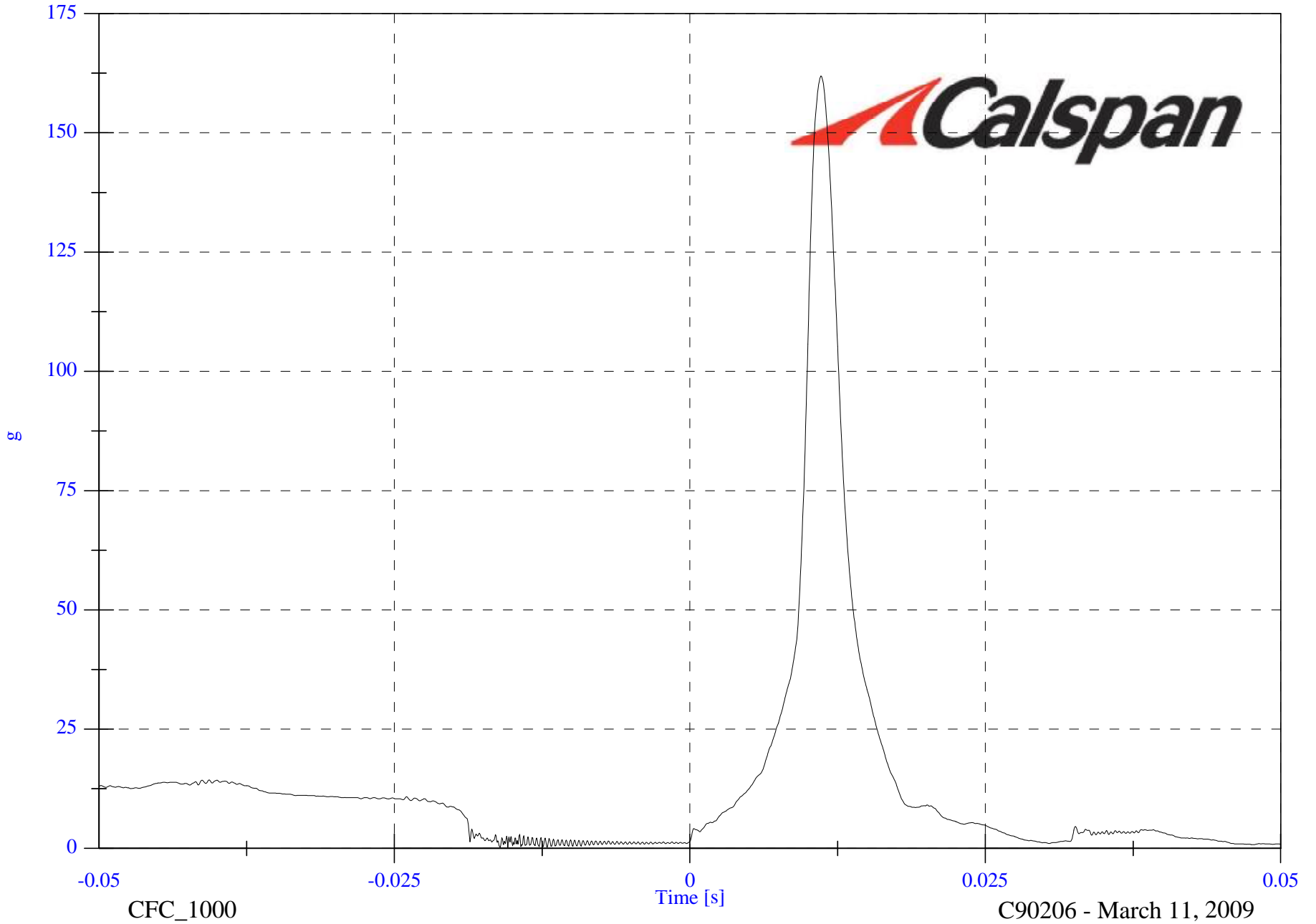
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 161.9 [g] at 0.011 [s]

Min: 0.2 [g] at -0.015 [s]

C90206 PASSENGER SIDE RPI IMPACT PLOT #4



CFC_1000

C90206 - March 11, 2009

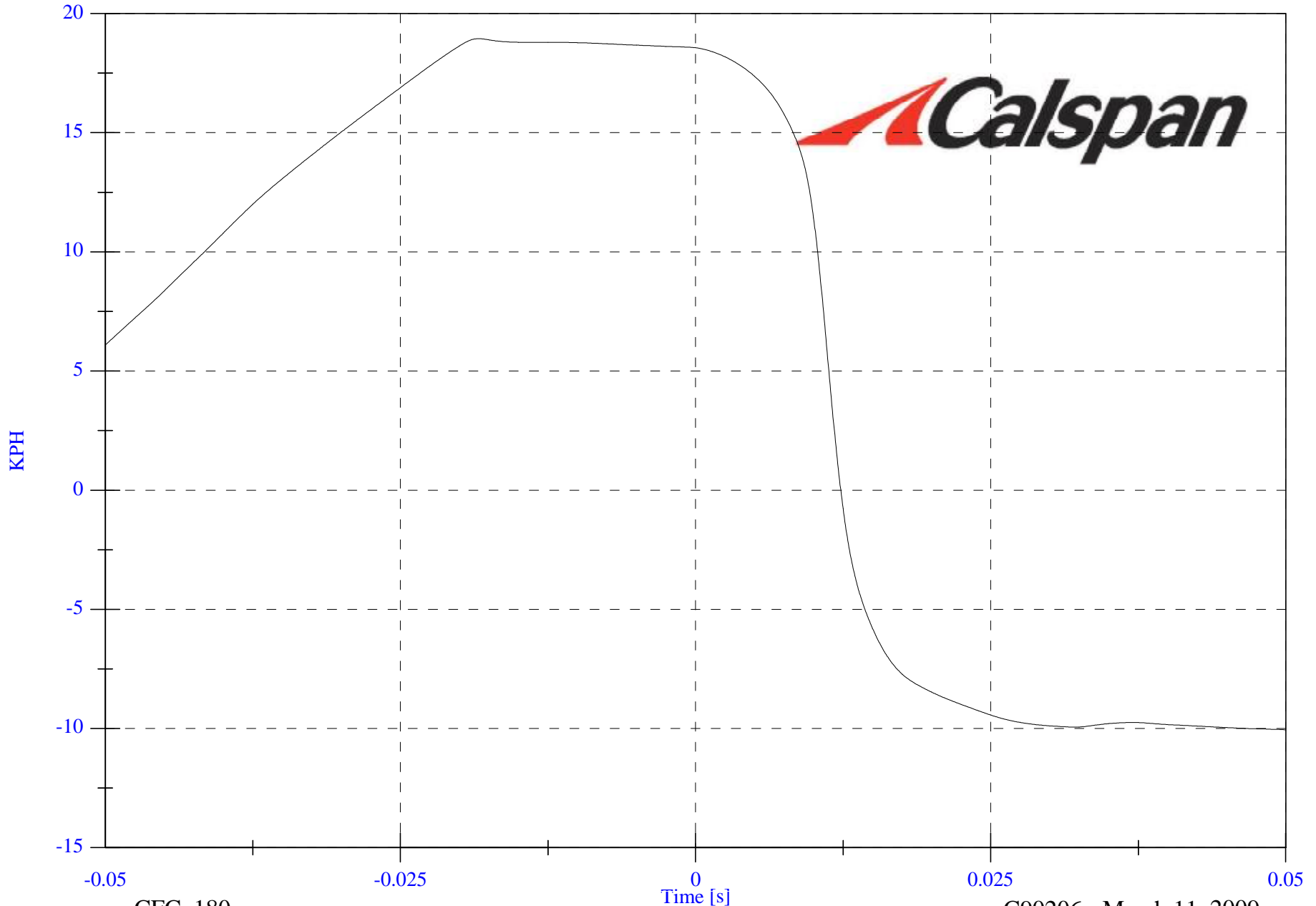
FMVSS 201U 2009 FORD F150

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

Min: -10.1 [KPH] at 0.050 [s]

Headform Velocity

C90206 PASSENGER SIDE RPI IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT RP1



POST-IMPACT RP1

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|------------|
| Test Number: | 03 |
| Test Date: | 03/11/09 |
| Target Location: | UPPER ROOF |
| Target Code: | URRP |
| Horizontal Impact Angle: | 34° |
| Vertical Impact Angle: | 36° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 11:00 |
| Headform Number: | 1142 |

| | | | |
|--|----|--|----------------------------------|
| 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 | 31 | mm up | |



POST-IMPACT URRP HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 342.9 |
| HIC(d) | 425.1 |
| Impact Velocity (kph) | 23.74 |
| HIC T1 (msec) | 1.6 |
| HIC T2 (msec) | 16.5 |

FMVSS 201U 2009 FORD F150 C90206 - URRP

FMH Headform 1142

Location: URRP

Test Date: March 11, 2009

Work File: URRP

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 425.1

Lab Humidity: 37 %

HIC (36ms): 342.9

Velocity at Impact: 23.74 KPH

t1: 1.6 msec

t2: 16.5 msec

Free Flight Distance: 219.80 mm

Duration: 14.9 msec

Average Acceleration: 8.7 g

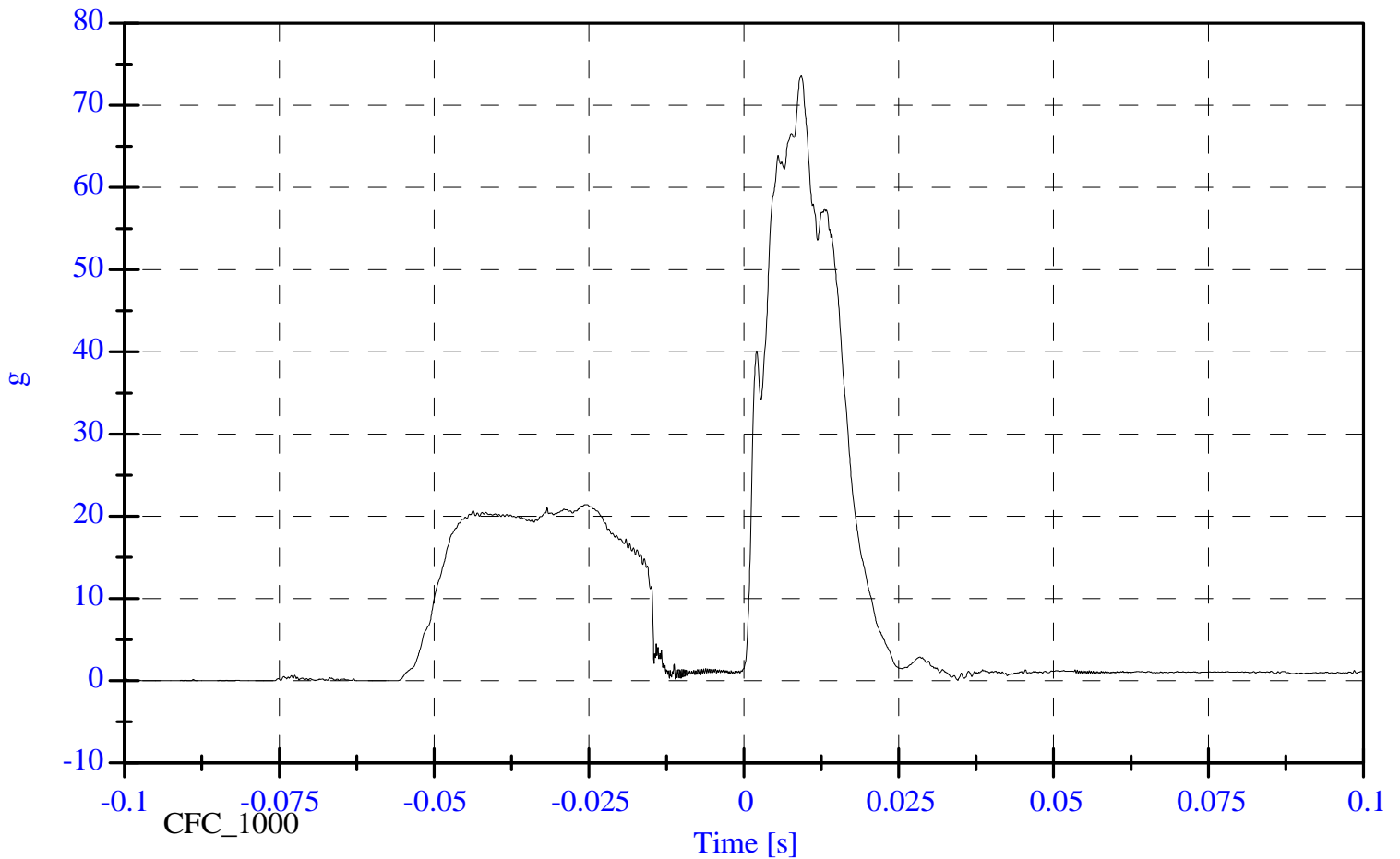
Maximum: 73.7 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 73.7 [g] at 0.009 [s]

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



FMVSS 201U 2009 FORD F150

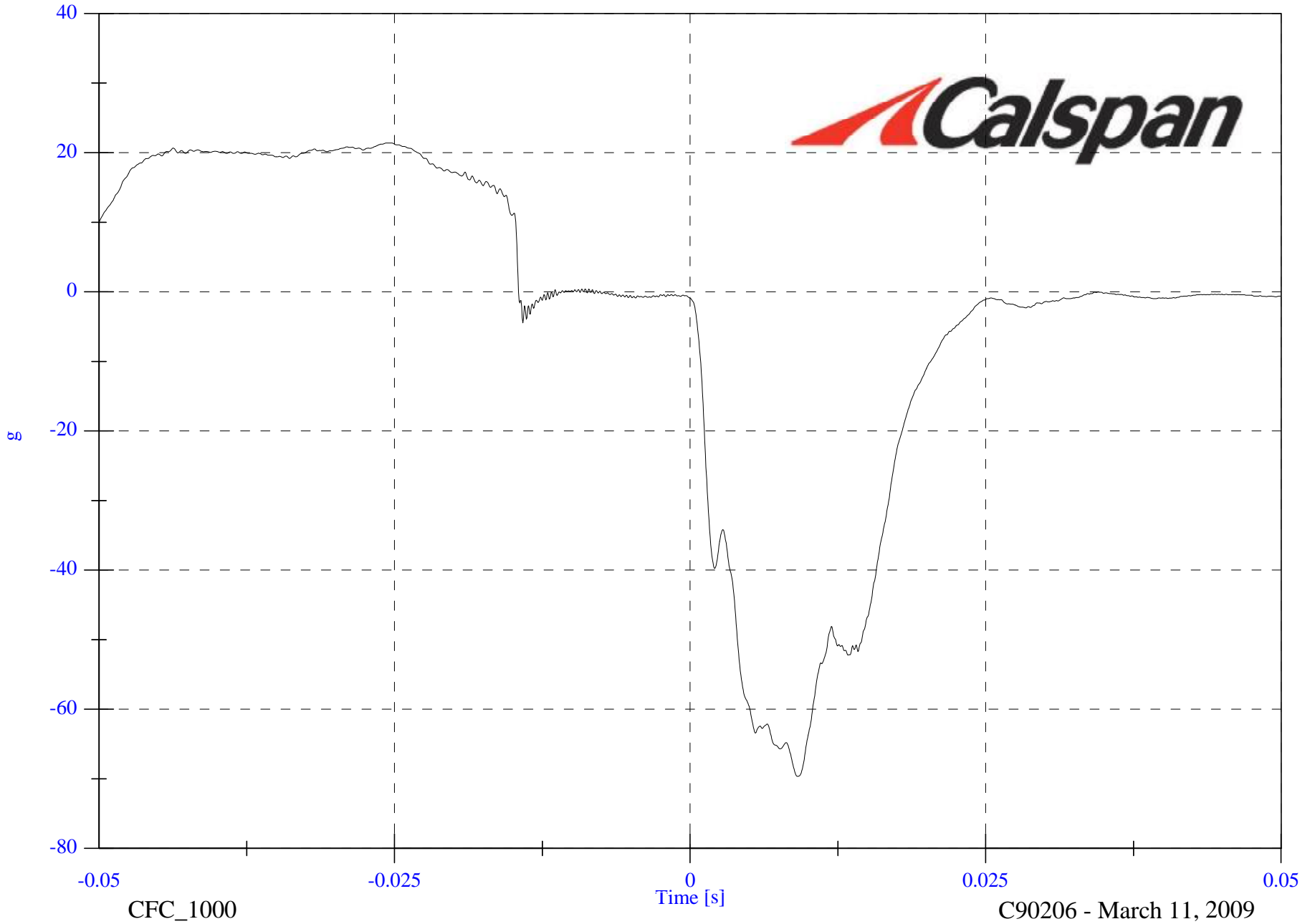
Headform X Acceleration

Max: 21.4 [g] at -0.025 [s]

Min: -69.6 [g] at 0.009 [s]



C90206 PASSENGER SIDE URRP IMPACT PLOT #1



CFC_1000

C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

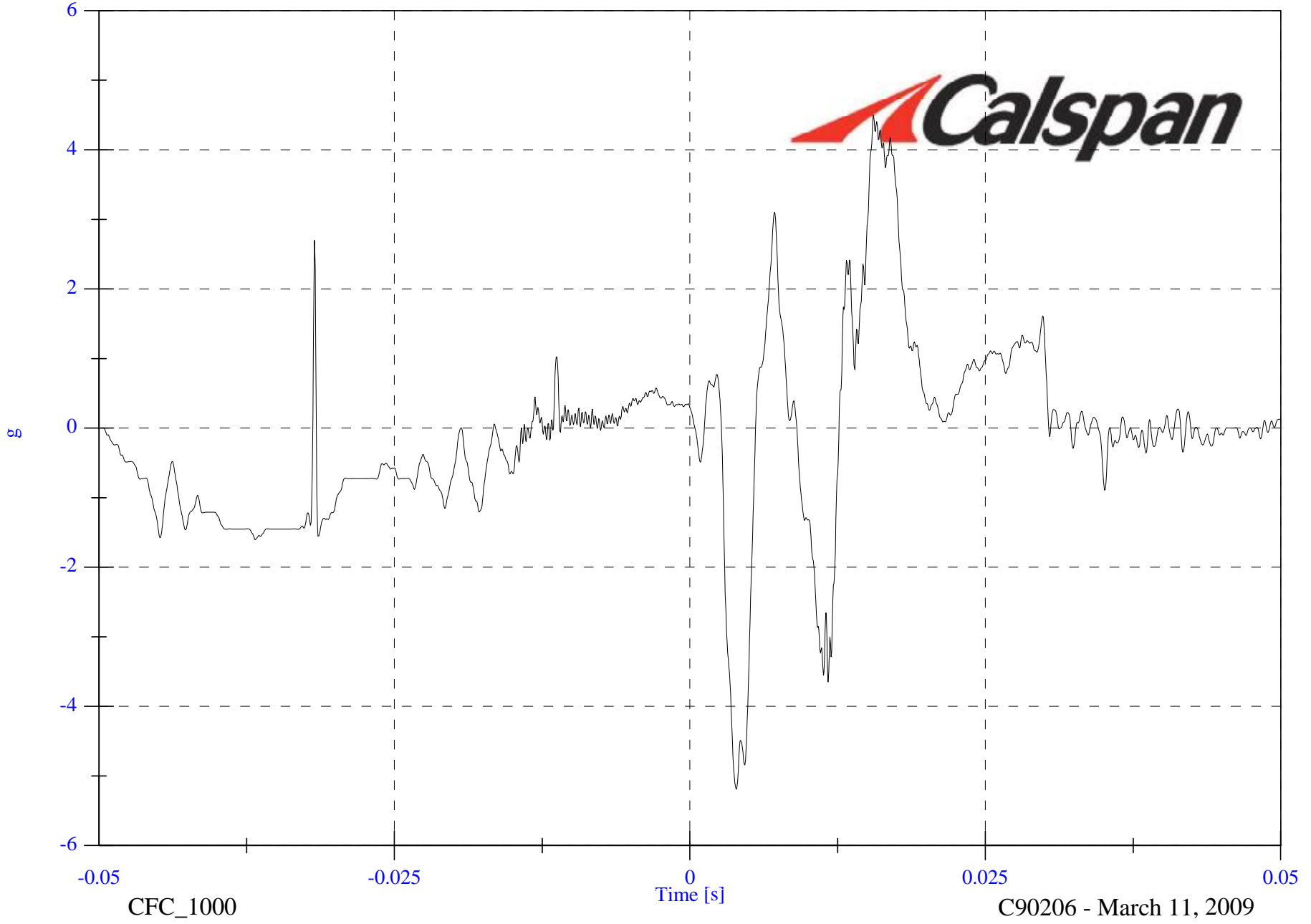
Headform Y Acceleration

Max: 4.5 [g] at 0.016 [s]

Min: -5.2 [g] at 0.004 [s]



C90206 PASSENGER SIDE URRP IMPACT PLOT #2



CFC_1000

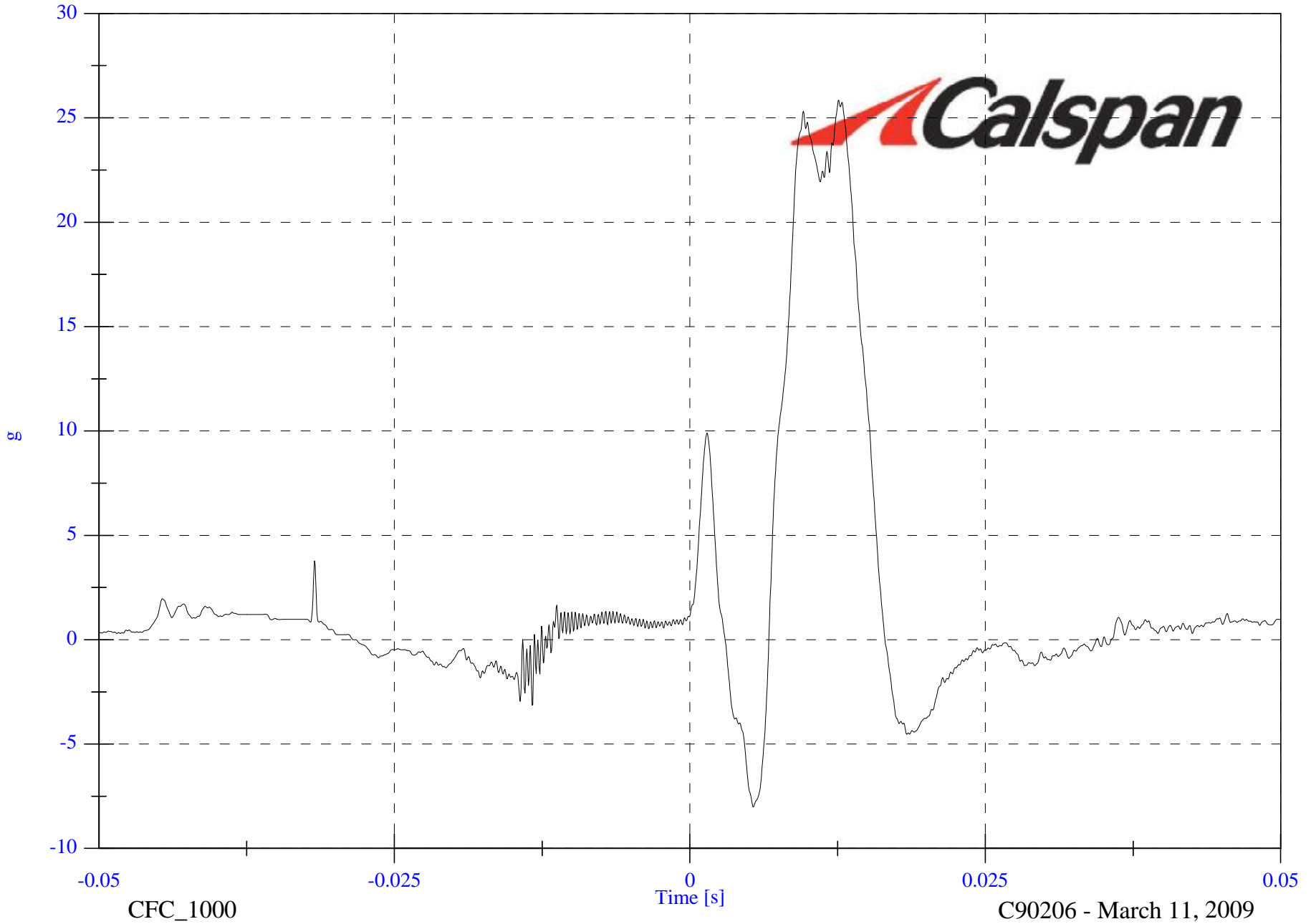
C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 25.9 [g] at 0.013 [s]
Min: -8.0 [g] at 0.005 [s]

C90206 PASSENGER SIDE URRP IMPACT PLOT #3



CFC_1000

C90206 - March 11, 2009

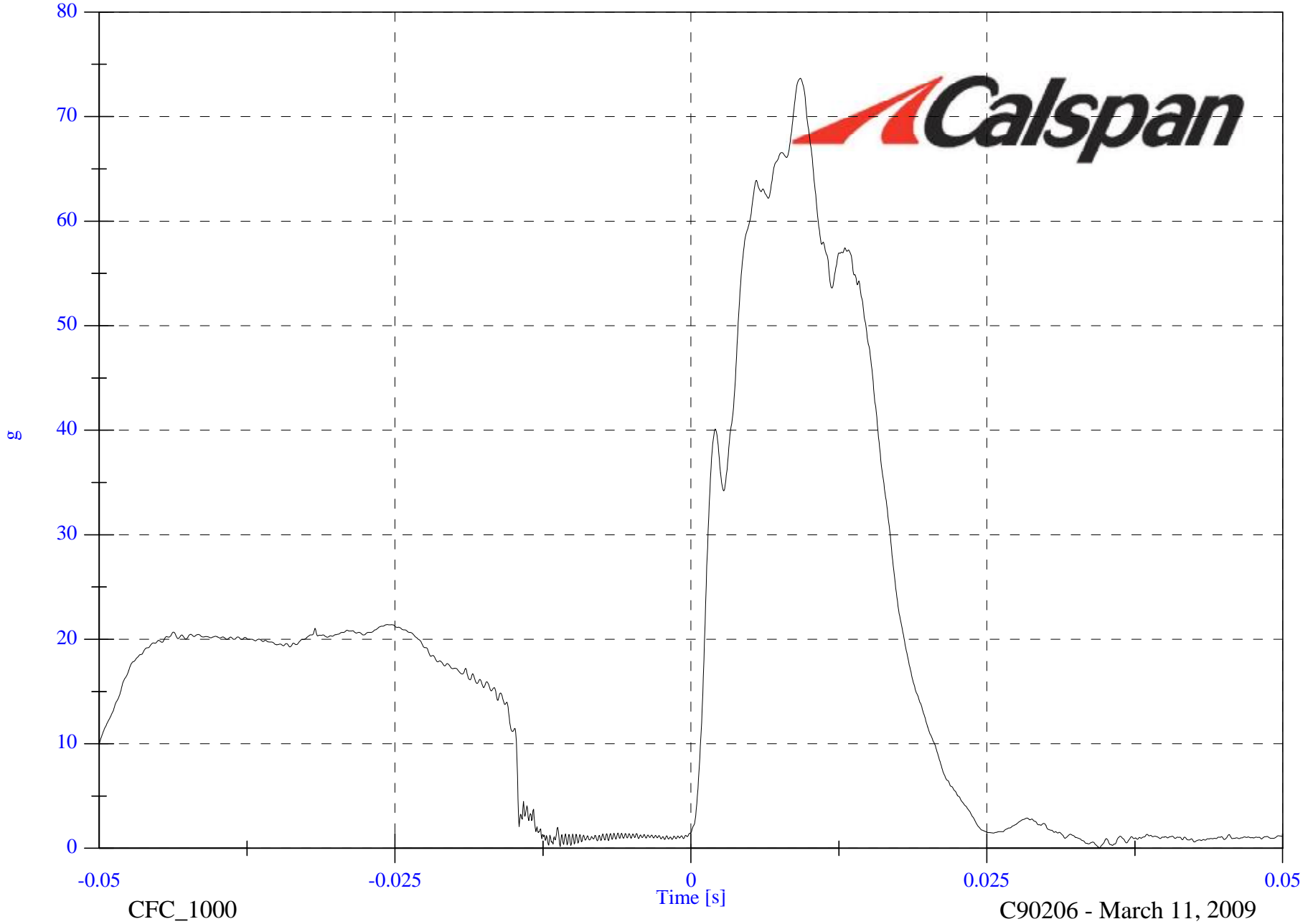
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 73.7 [g] at 0.009 [s]

Min: 0.1 [g] at 0.035 [s]

C90206 PASSENGER SIDE URRP IMPACT PLOT #4



CFC_1000

C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

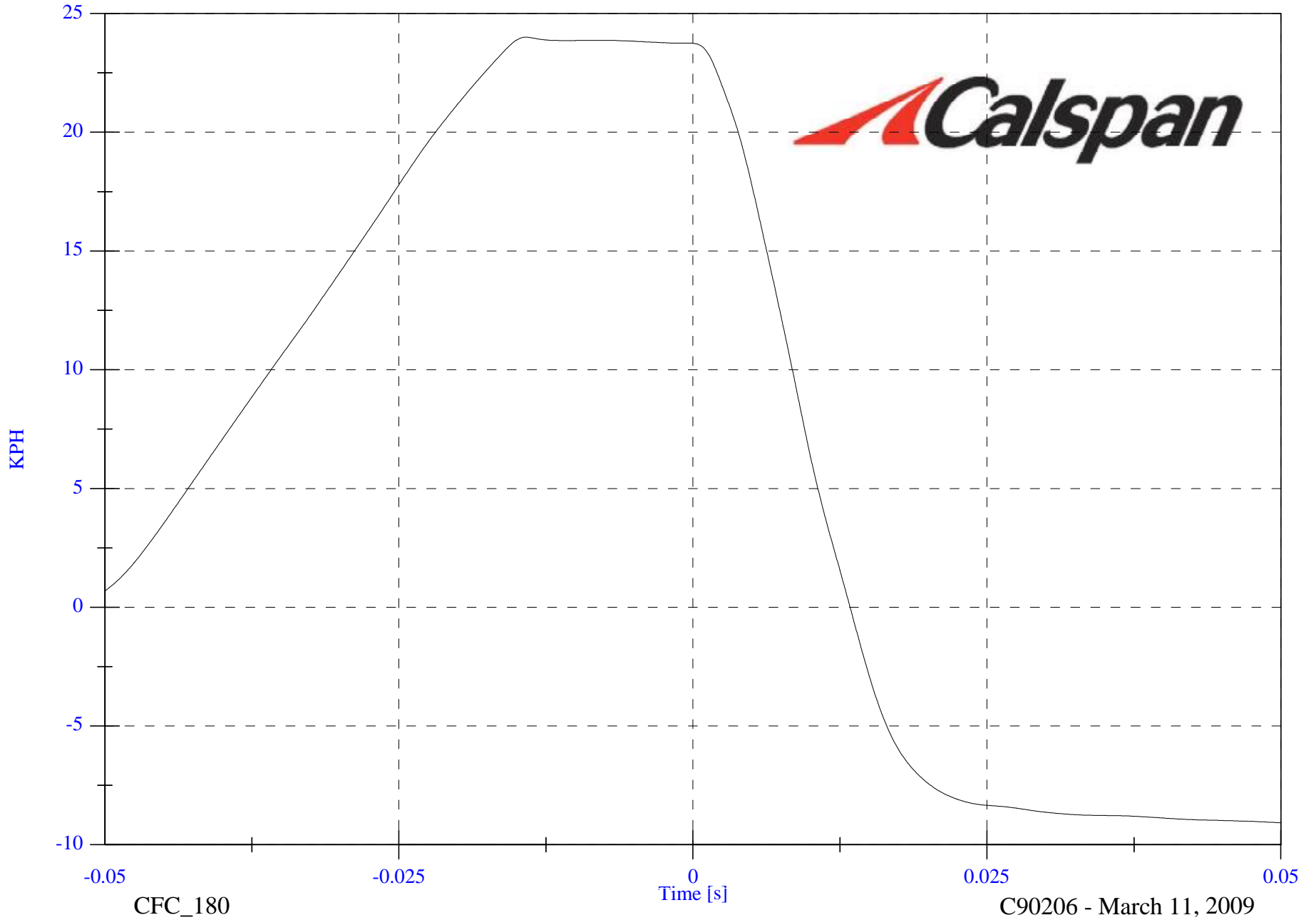
Max: 24.0 [KPH] at -0.014 [s]

Min: -9.1 [KPH] at 0.050 [s]

Headform Velocity



C90206 PASSENGER SIDE URRP IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT URRP



POST-IMPACT URRP

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|------------|
| Test Number: | 04 |
| Test Date: | 03/11/09 |
| Target Location: | UPPER ROOF |
| Target Code: | URSR2 |
| Horizontal Impact Angle: | 90° |
| Vertical Impact Angle: | 41° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 11:25 |
| Headform Number: | 0805 |

| | | | |
|--|----|--------------------------|--|
| Impact Point Description (from lower midpoint on midsagittal line) | | | |
| On Centerline | 4 | <input type="checkbox"/> | mm right <input checked="" type="checkbox"/> mm left |
| On Centerline | 49 | | mm up |



POST-IMPACT URSRREAR HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 402.3 |
| HIC(d) | 469.9 |
| Impact Velocity (kph) | 23.82 |
| HIC T1 (msec) | 4.0 |
| HIC T2 (msec) | 16.7 |

FMVSS 201U 2009 FORD F150 C90206 - URSR2

FMH Headform 805

Location: URSR2

Test Date: March 11, 2009

Work File: URSR2

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 469.9

Lab Humidity: 37 %

HIC (36ms): 402.3

Velocity at Impact: 23.82 KPH

t1: 4.0 msec

t2: 16.7 msec

Free Flight Distance: 221.19 mm

Duration: 12.7 msec

Average Acceleration: 9.1 g

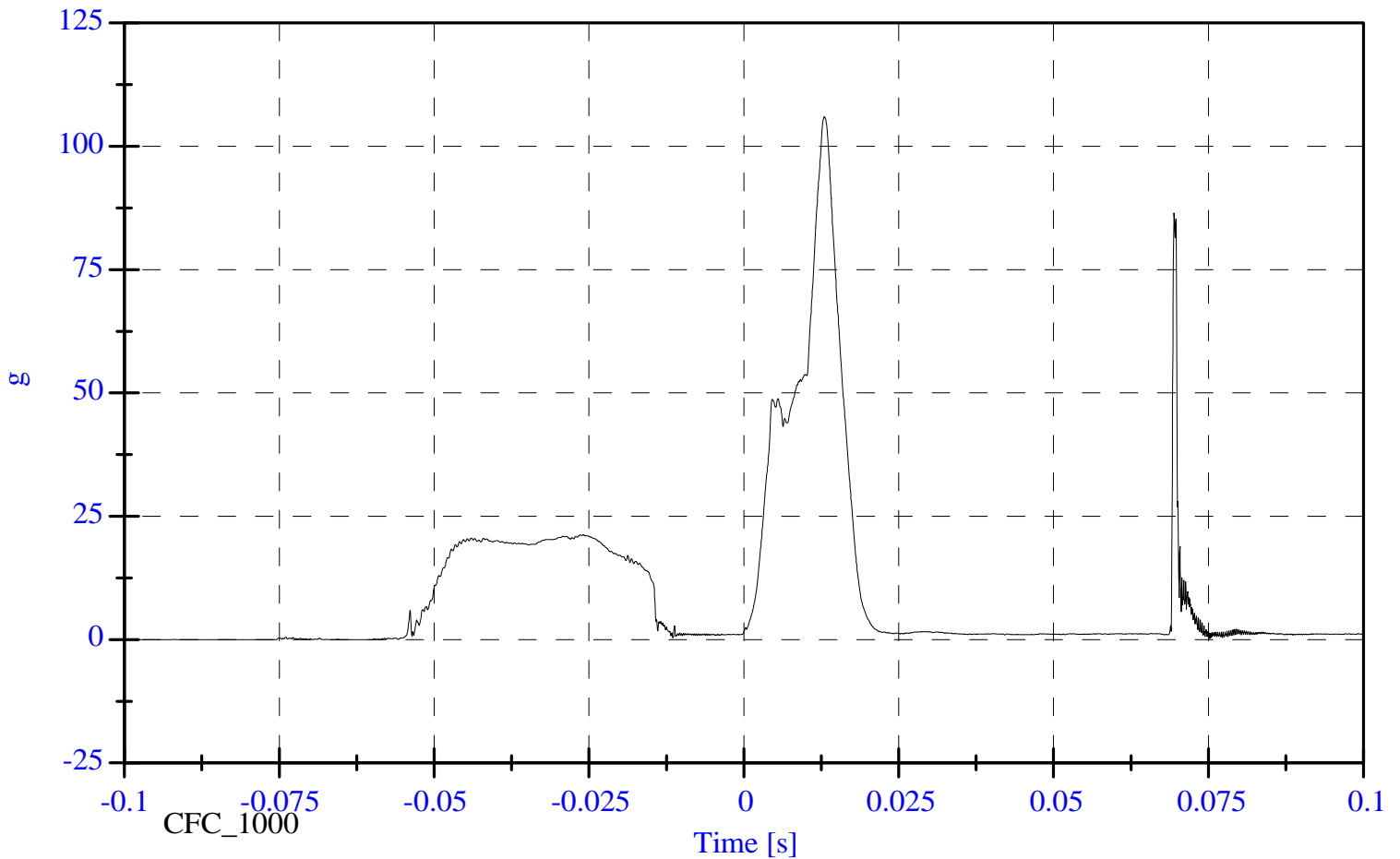
Maximum: 106.0 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 106.0 [g] at 0.013 [s]

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

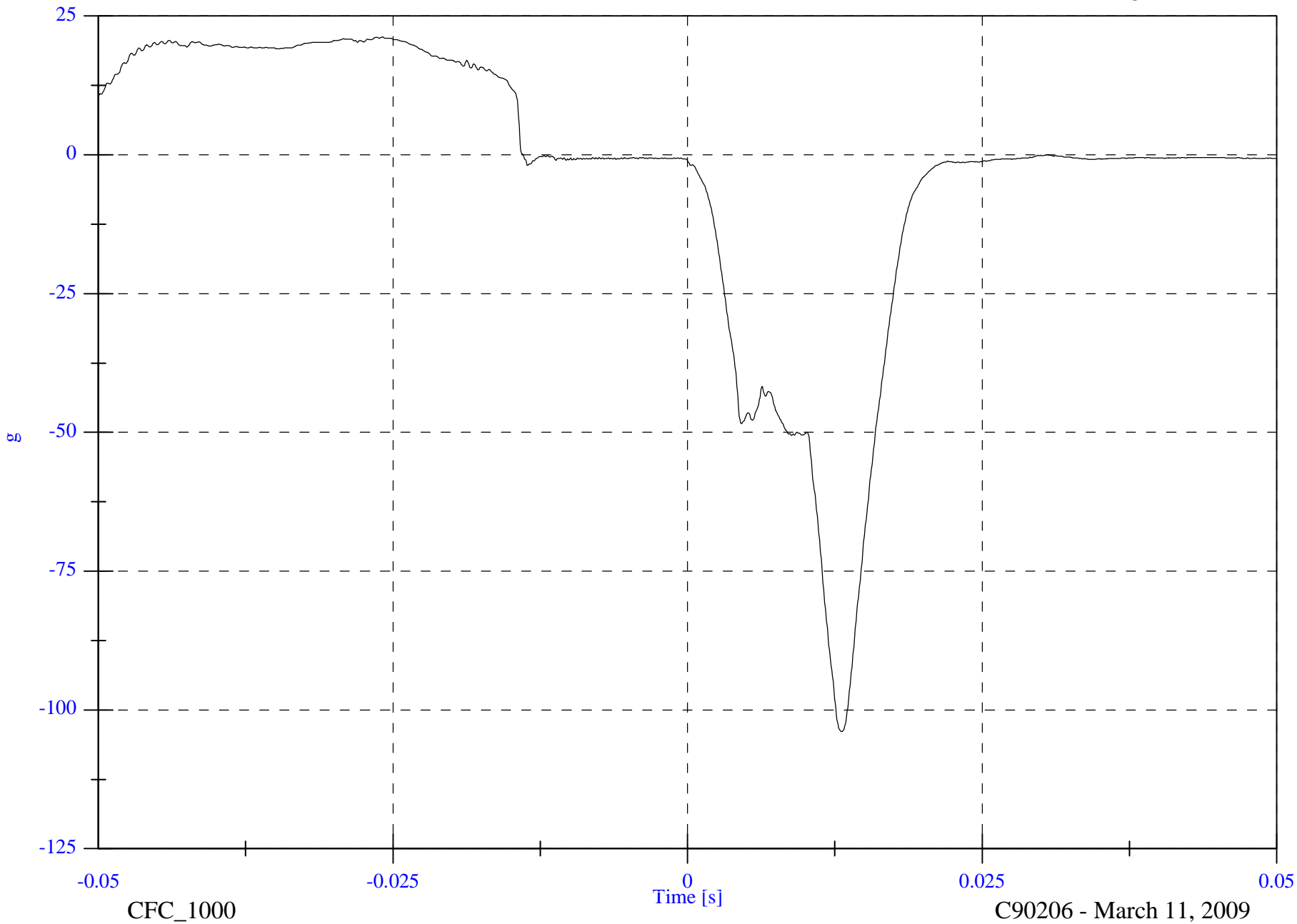


FMVSS 201U 2009 FORD F150

Headform X Acceleration

Max: 21.2 [g] at -0.026 [s]

Min: -103.9 [g] at 0.013 [s]



C90206 PASSENGER SIDE URSR2 IMPACT PLOT #1

8877-06

CFC_1000

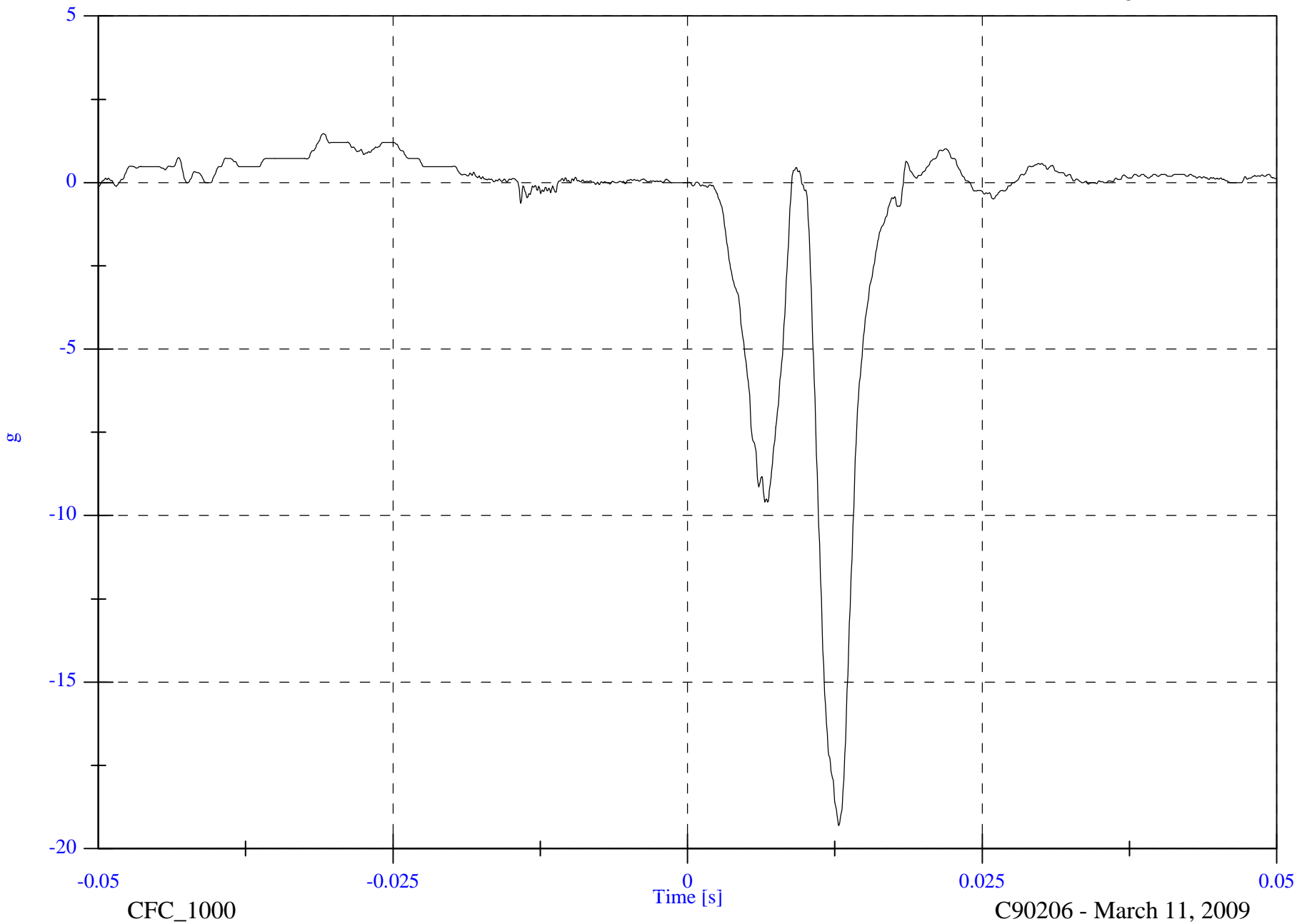
C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

Max: 1.5 [g] at -0.031 [s]

Min: -19.3 [g] at 0.013 [s]

Headform Y Acceleration



C90206 PASSENGER SIDE URSR2 IMPACT PLOT #2

8877-06

CFC_1000

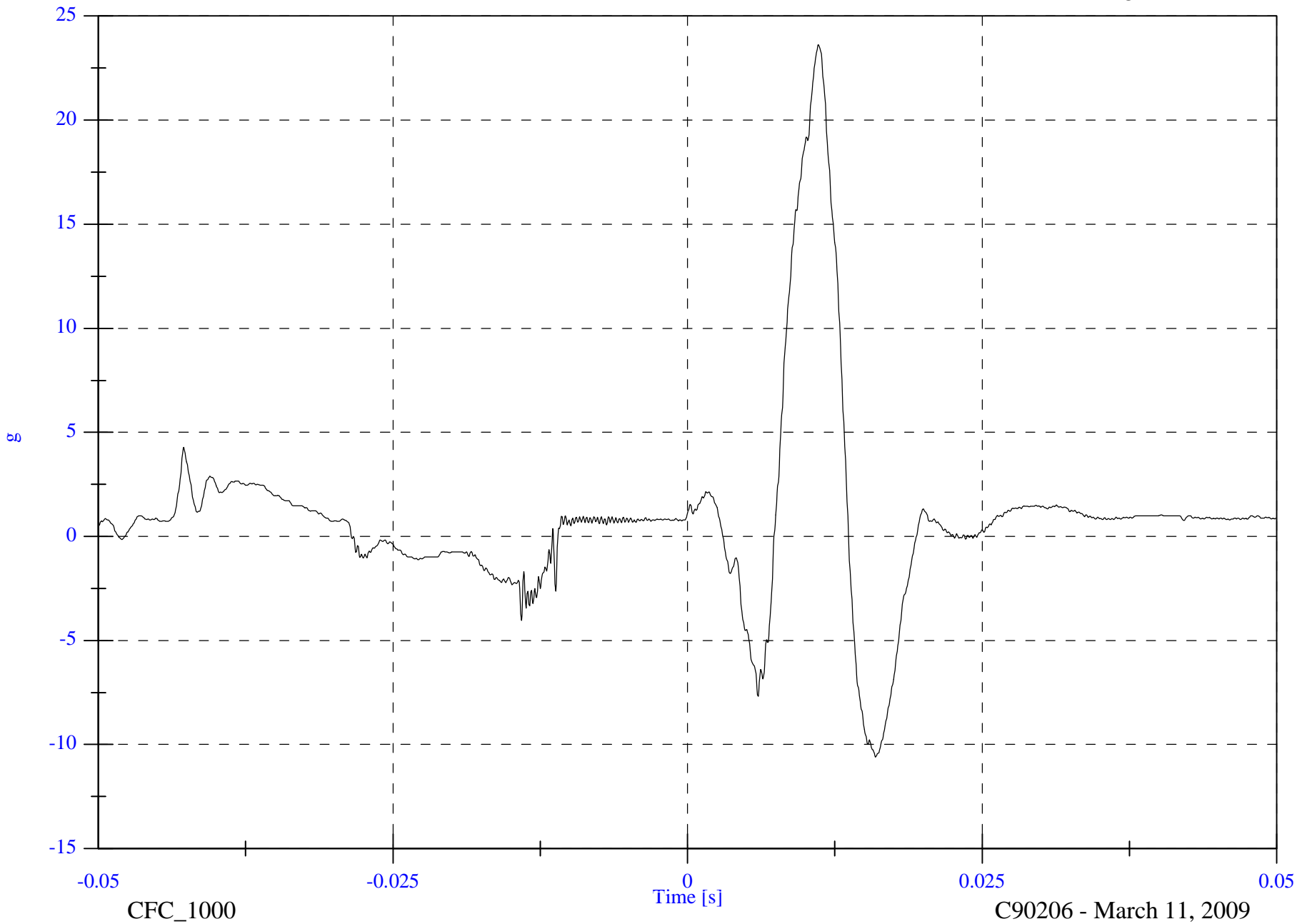
C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 23.6 [g] at 0.011 [s]

Min: -10.6 [g] at 0.016 [s]



C90206 PASSENGER SIDE URSR2 IMPACT PLOT #3

8877-06

CFC_1000

C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

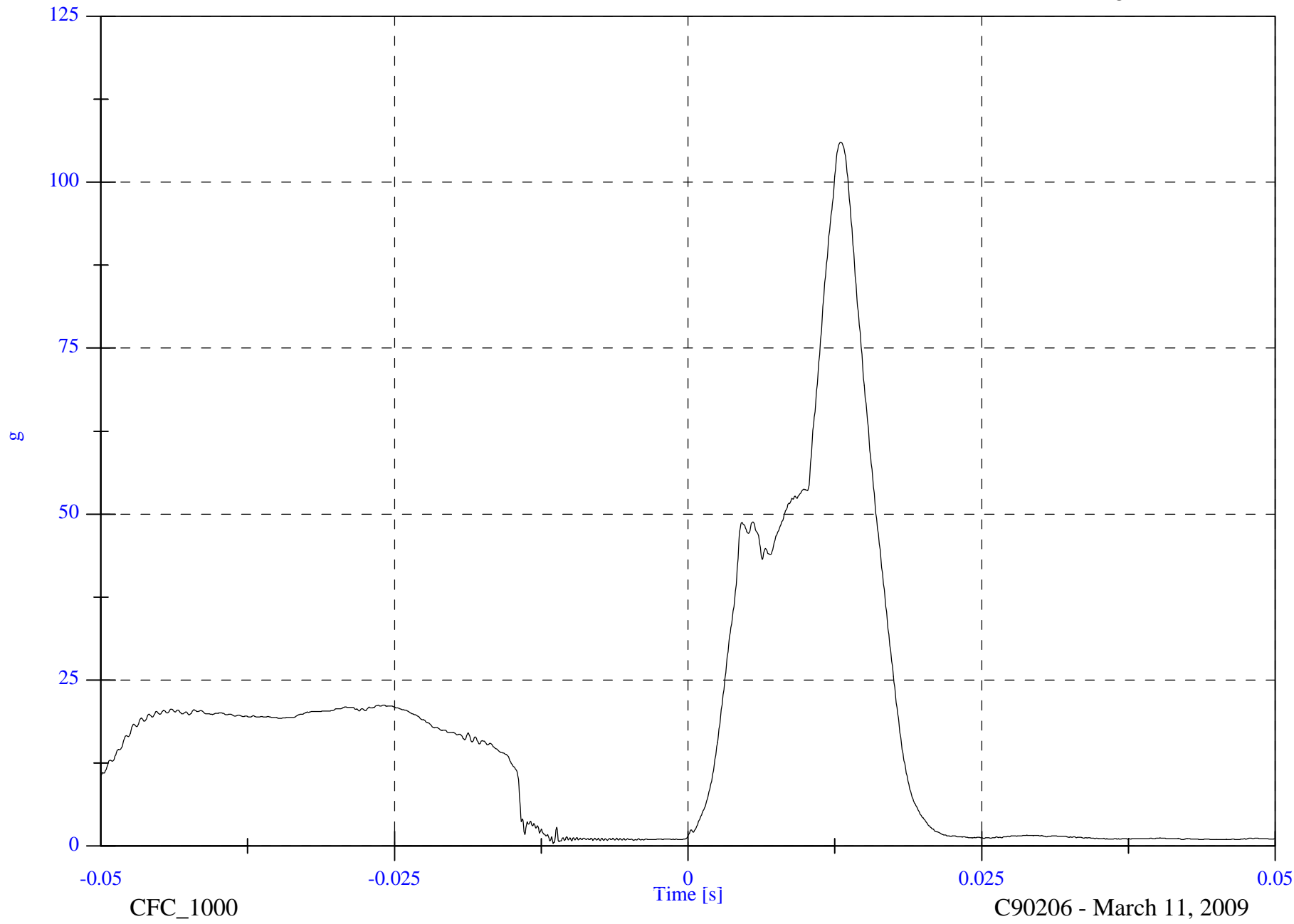
Headform Resultant

Max: 106.0 [g] at 0.013 [s]

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

C90206 PASSENGER SIDE URSR2 IMPACT PLOT #4

8877-06



CFC_1000

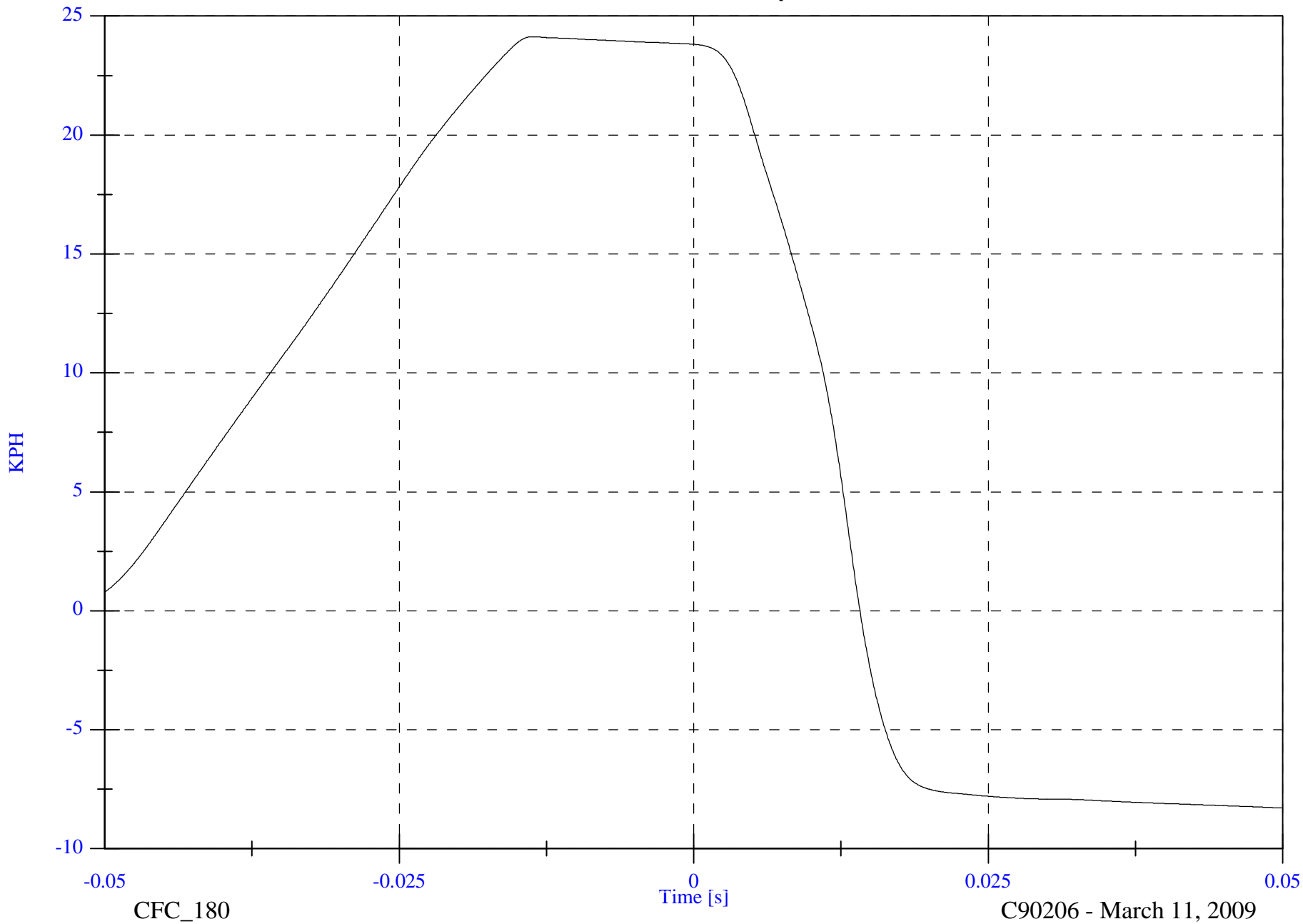
C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

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

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

Headform Velocity



C90206 PASSENGER SIDE URSR2 IMPACT PLOT #5

8877-06

CFC_180

C90206 - March 11, 2009



PRE-IMPACT URSR2



POST-IMPACT URSR2

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|-----------|
| Test Number: | 05 |
| Test Date: | 03/11/09 |
| Target Location: | SIDE RAIL |
| Target Code: | SR2A |
| Horizontal Impact Angle: | 90° |
| Vertical Impact Angle: | 33° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 11:50 |
| Headform Number: | 0355 |

| | | | |
|--|----|----------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) | | | |
| On Centerline | 0 | mm right | mm left |
| On Centerline | 29 | mm up | |



POST-IMPACT SR2A HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 140.4 |
| HIC(d) | 272.4 |
| Impact Velocity (kph) | 18.60 |
| HIC T1 (msec) | 4.9 |
| HIC T2 (msec) | 17.6 |

FMVSS 201U 2009 FORD F150 C90206 - SR2A

FMH Headform 0355

Location: SR2A

Test Date: March 11, 2009

Work File: SR2A

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 272.4

Lab Humidity: 37 %

HIC (36ms): 140.4

Velocity at Impact: 18.60 KPH

t1: 4.9 msec

t2: 17.6 msec

Free Flight Distance: 227.96 mm

Duration: 12.8 msec

Average Acceleration: 6.5 g

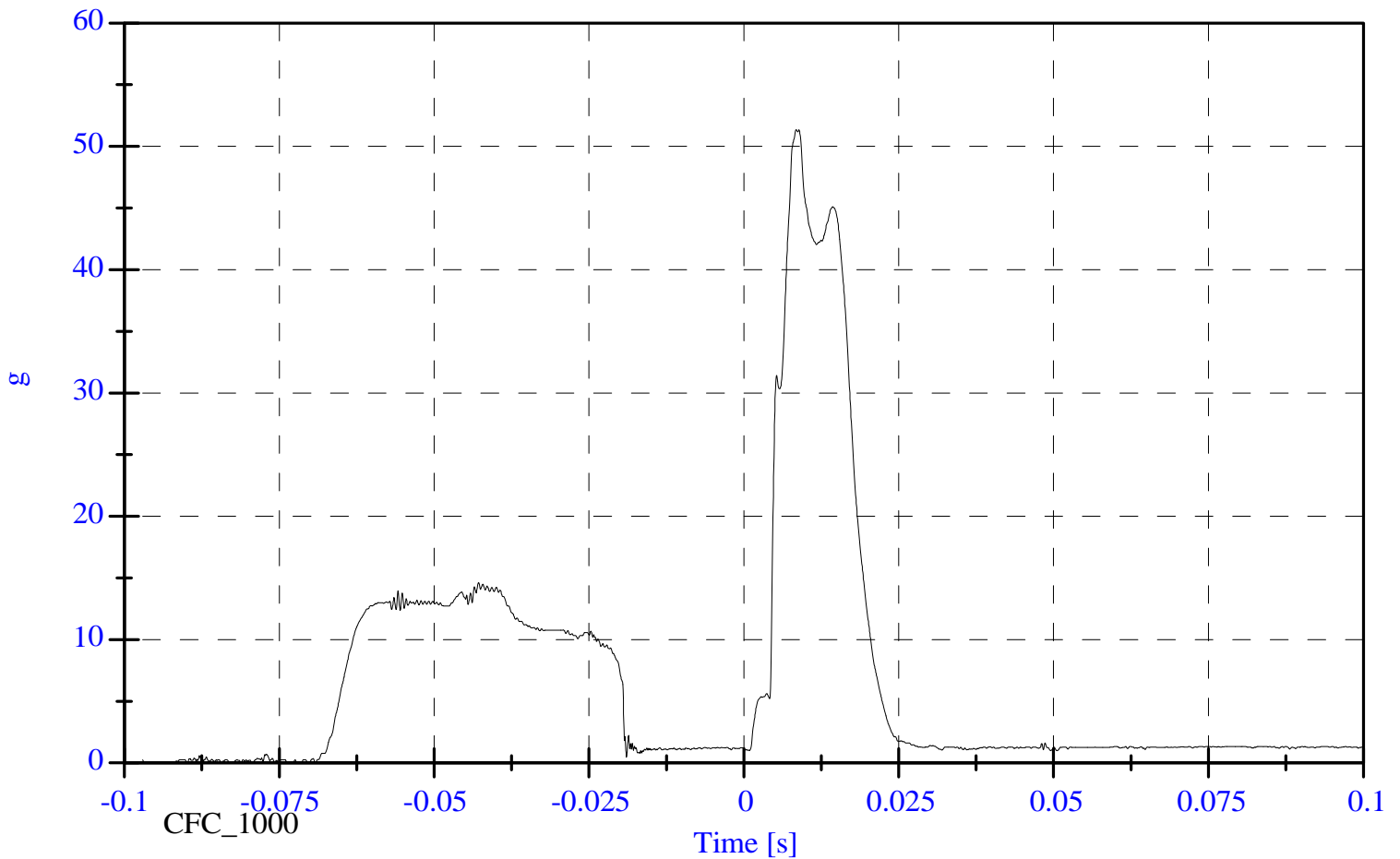
Maximum: 51.3 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 51.3 [g] at 0.008 [s]

Min: 0.0 [g] at -0.097 [s]



FMVSS 201U 2009 FORD F150

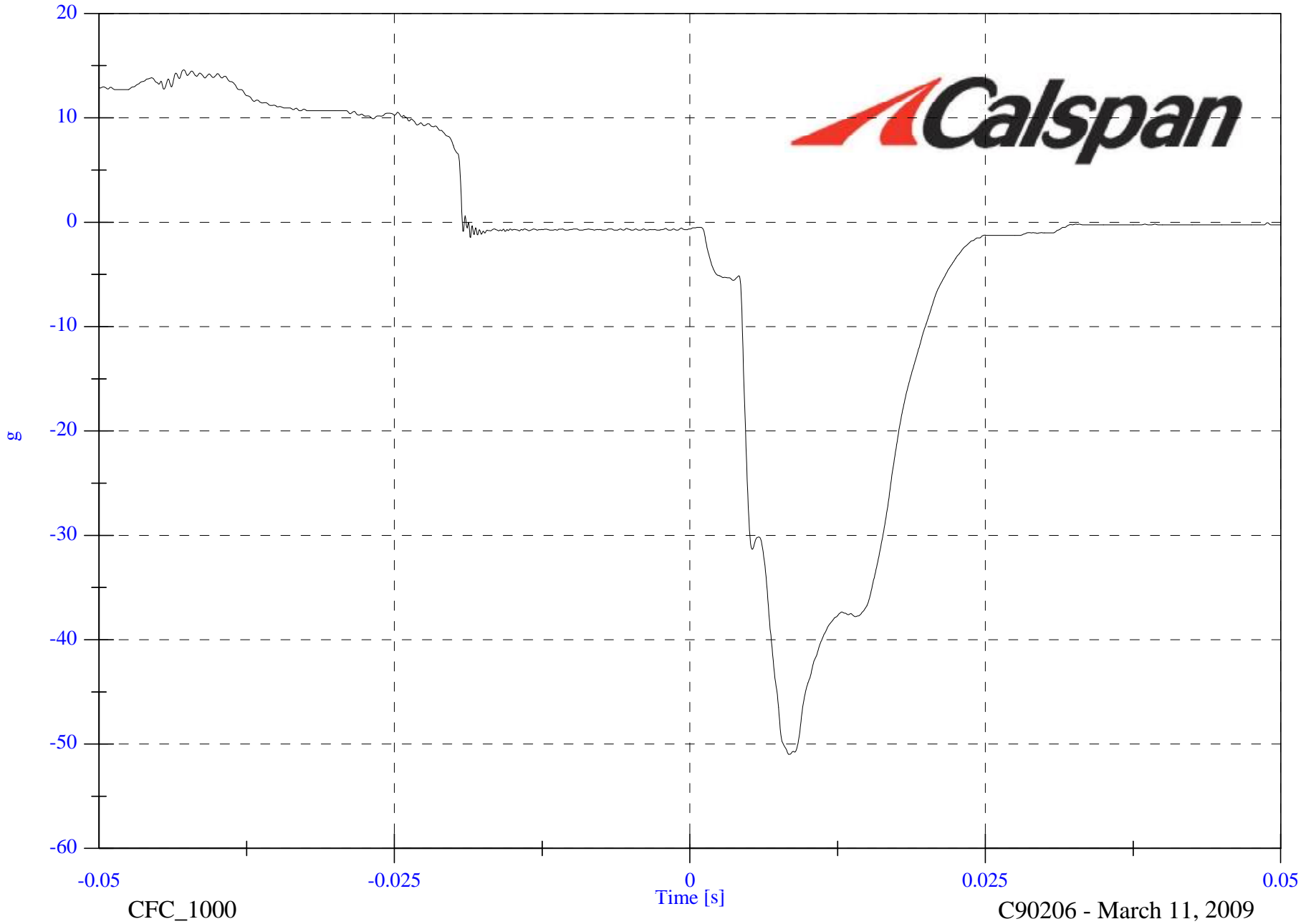
Headform X Acceleration

Max: 14.6 [g] at -0.043 [s]

Min: -51.0 [g] at 0.008 [s]



C90206 PASSENGER SIDE SR2A IMPACT PLOT #1



CFC_1000

C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 2.6 [g] at 0.013 [s]

Min: -4.0 [g] at 0.008 [s]

C90206 PASSENGER SIDE SR2A IMPACT PLOT #2



C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

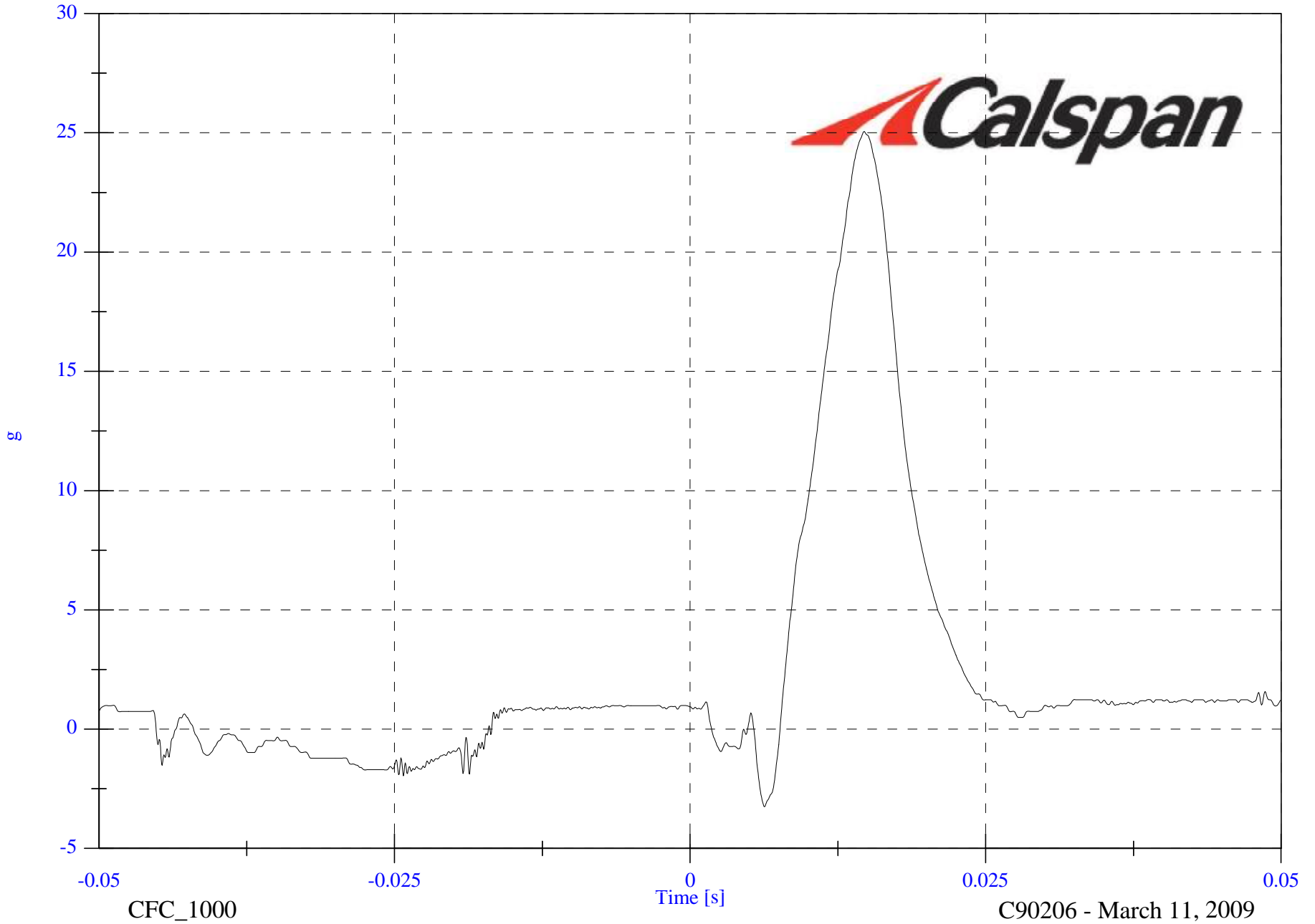
Headform Z Acceleration

Max: 25.1 [g] at 0.015 [s]

Min: -3.3 [g] at 0.006 [s]



C90206 PASSENGER SIDE SR2A IMPACT PLOT #3



CFC_1000

C90206 - March 11, 2009

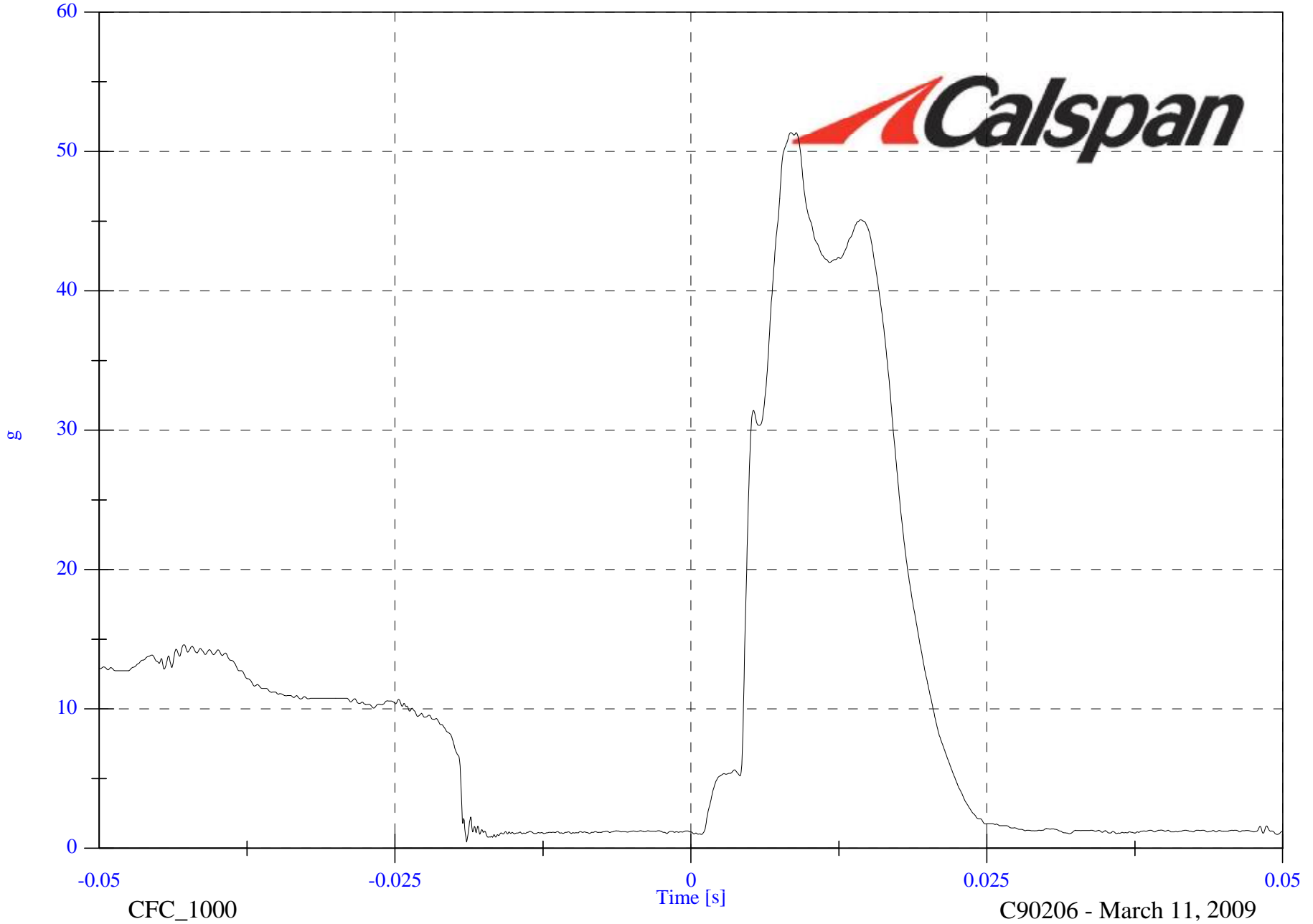
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 51.3 [g] at 0.008 [s]

Min: 0.5 [g] at -0.019 [s]

C90206 PASSENGER SIDE SR2A IMPACT PLOT #4



C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

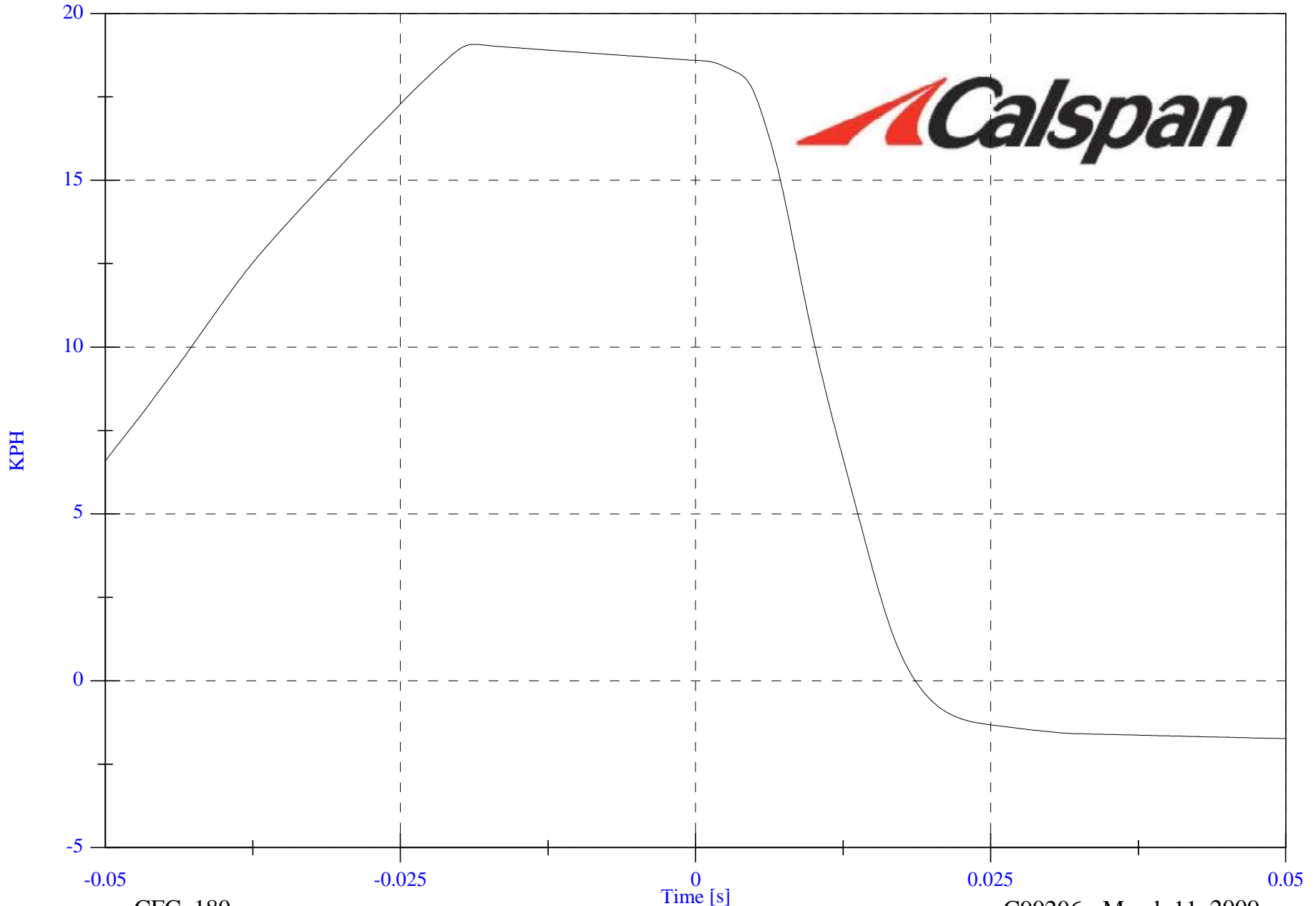
Max: 19.1 [KPH] at -0.019 [s]

Min: -1.7 [KPH] at 0.050 [s]

Headform Velocity



C90206 PASSENGER SIDE SR2A IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT SR2A



POST-IMPACT SR2A

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|----------|
| Test Number: | 06 |
| Test Date: | 03/11/09 |
| Target Location: | A-PILLAR |
| Target Code: | AP3 |
| Horizontal Impact Angle: | 136° |
| Vertical Impact Angle: | 38° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 13:51 |
| Headform Number: | 62 |

| | | | |
|--|---|--------------------------|--|
| Impact Point Description (from lower midpoint on midsagittal line) | | | |
| On Centerline | 6 | <input type="checkbox"/> | mm right <input checked="" type="checkbox"/> mm left |
| On Centerline | 9 | | mm up |



POST-IMPACT AP3 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 287.7 |
| HIC(d) | 383.4 |
| Impact Velocity (kph) | 18.62 |
| HIC T1 (msec) | 1.9 |
| HIC T2 (msec) | 7.5 |

FMVSS 201U 2009 FORD F150 C90206 - AP3

FMH Headform 0062

Location: AP3

Test Date: March 11, 2009

Work File: AP3

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 383.4

Lab Humidity: 37 %

HIC (36ms): 287.7

Velocity at Impact: 18.62 KPH

t1: 1.9 msec

t2: 7.5 msec

Free Flight Distance: 221.72 mm

Duration: 5.6 msec

Average Acceleration: 8.7 g

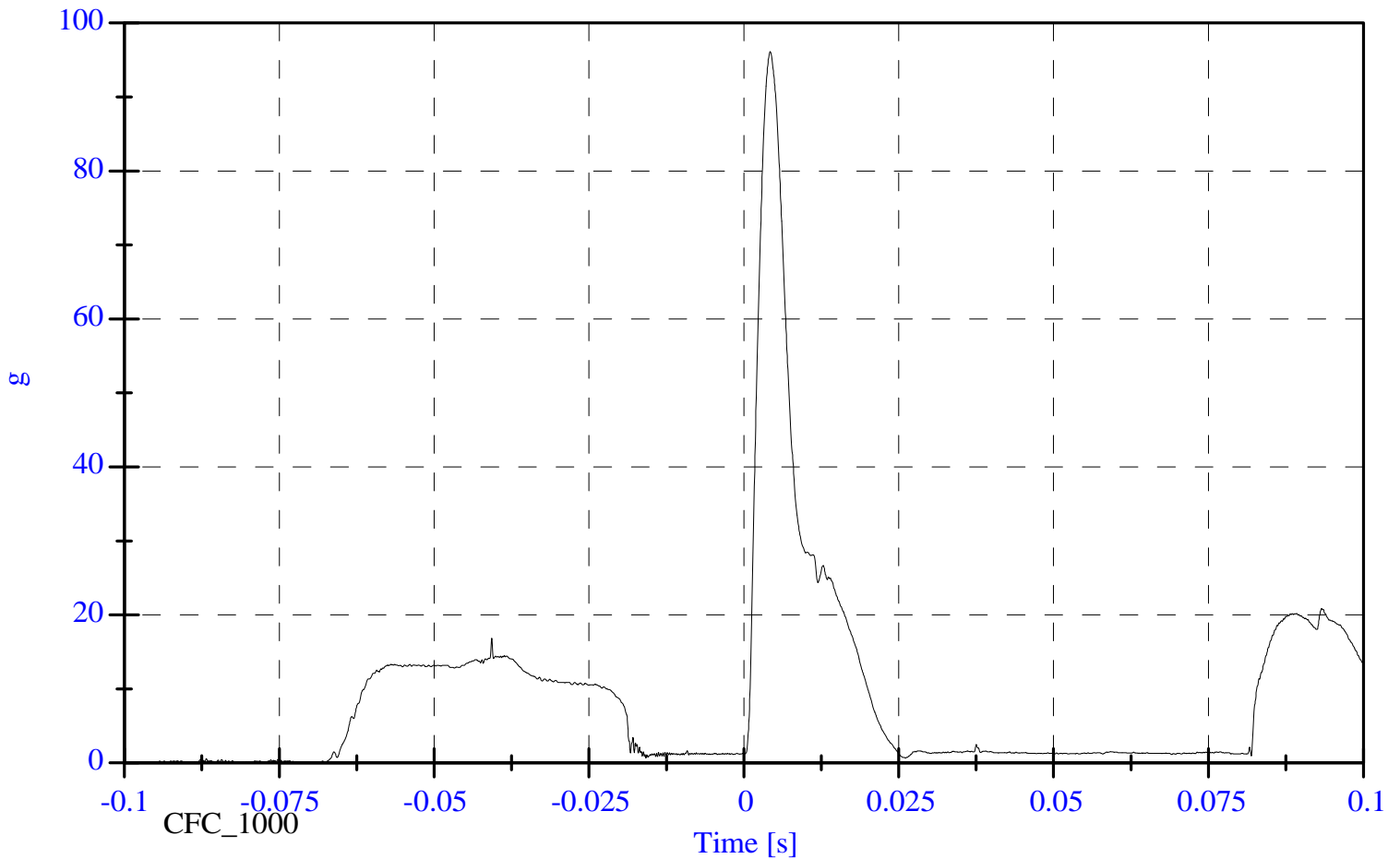
Maximum: 96.1 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 96.1 [g] at 0.004 [s]

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



FMVSS 201U 2009 FORD F150

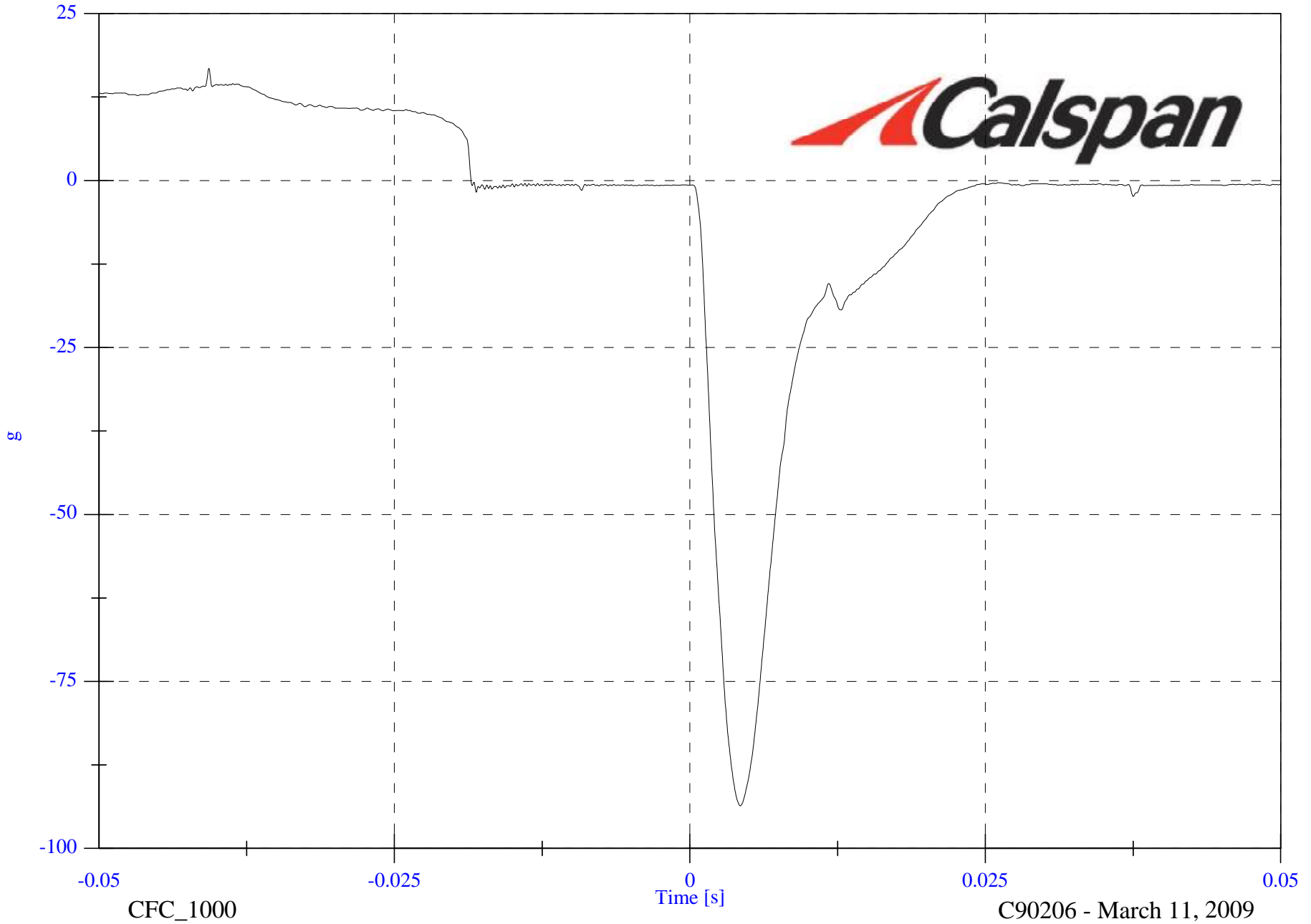
Headform X Acceleration

Max: 16.8 [g] at -0.041 [s]

Min: -93.6 [g] at 0.004 [s]



C90206 PASSENGER SIDE AP3 IMPACT PLOT #1



CFC_1000

C90206 - March 11, 2009

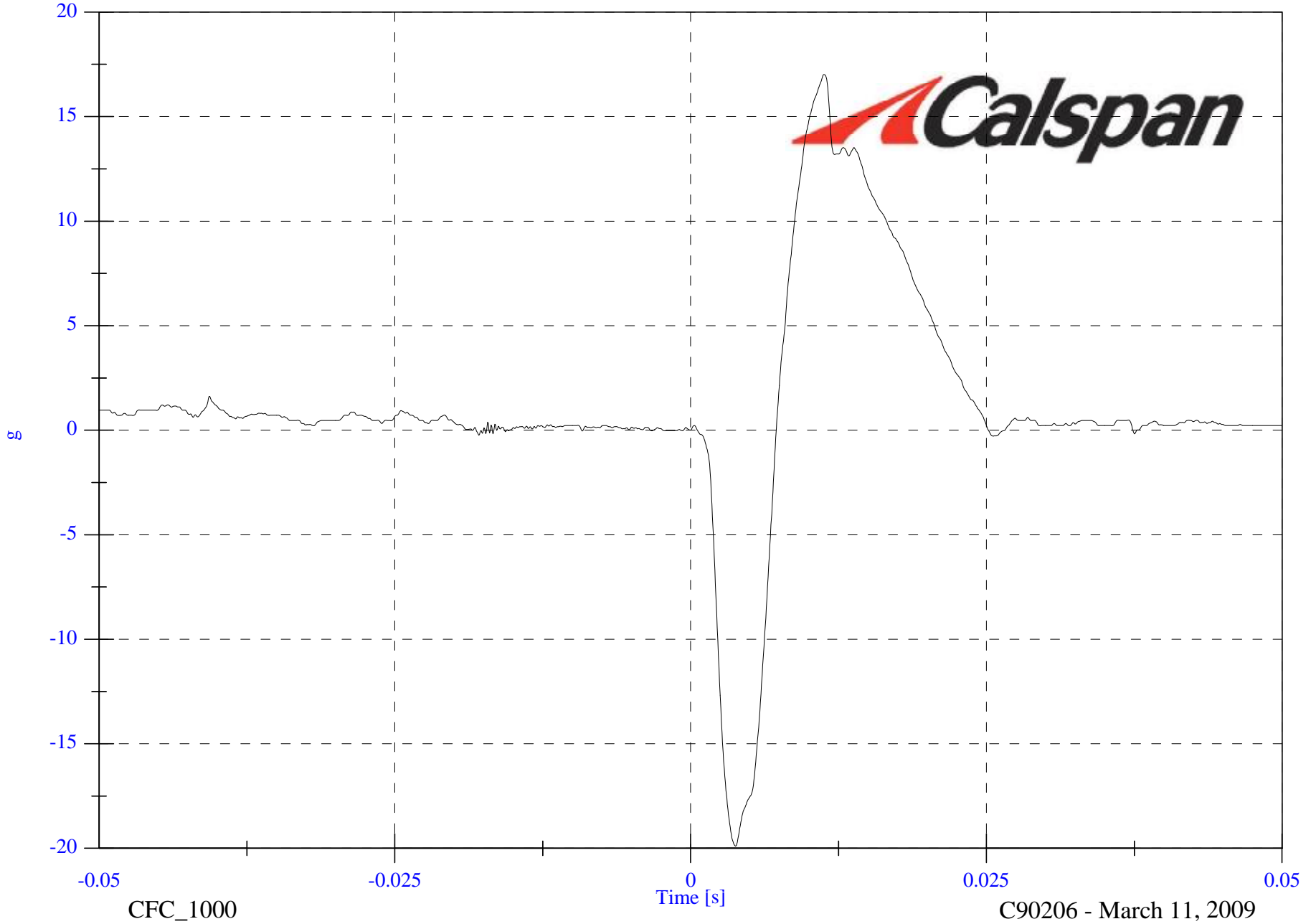
FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 17.0 [g] at 0.011 [s]

Min: -19.9 [g] at 0.004 [s]

C90206 PASSENGER SIDE AP3 IMPACT PLOT #2



CFC_1000

C90206 - March 11, 2009

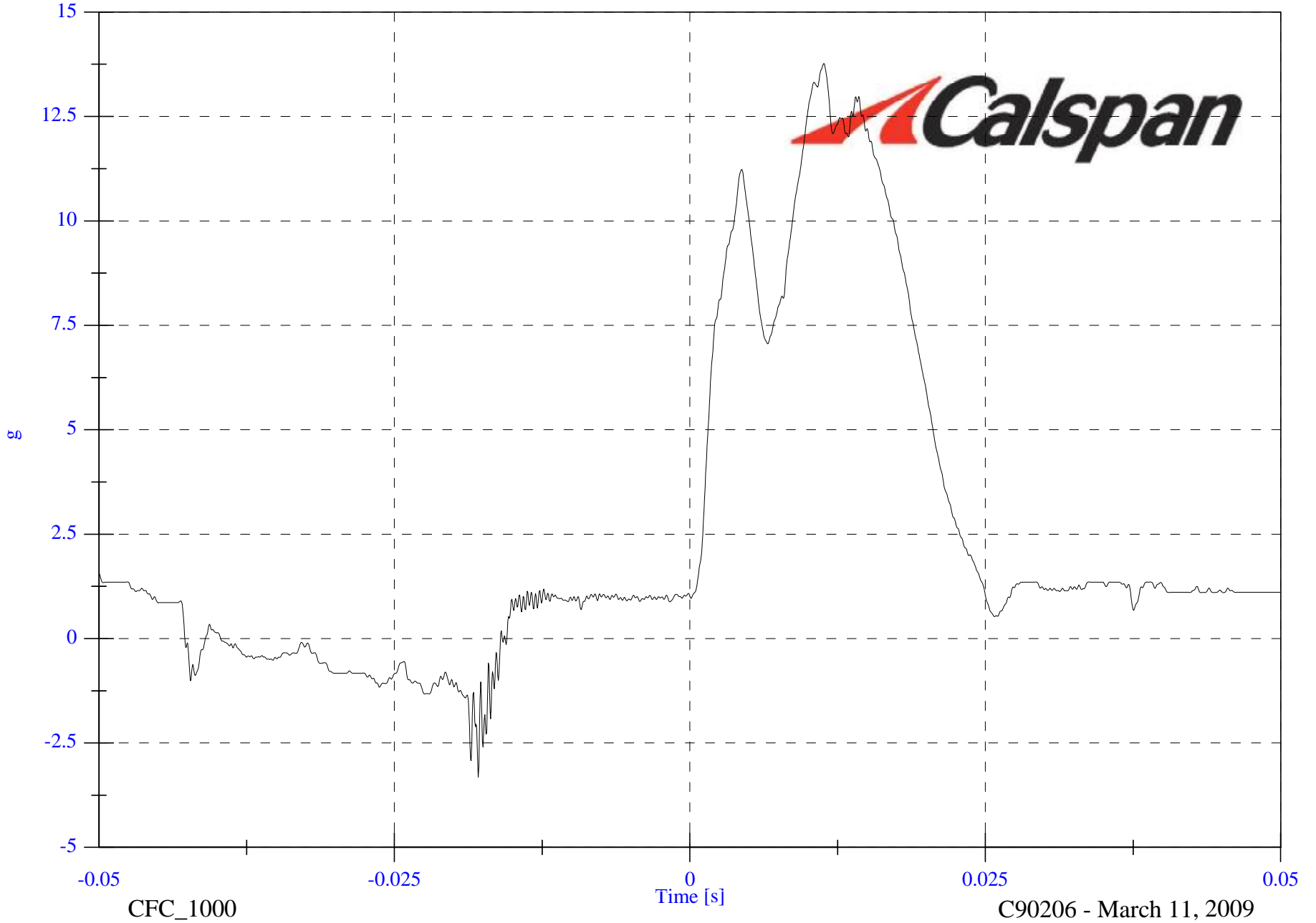
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 13.8 [g] at 0.011 [s]

Min: -3.3 [g] at -0.018 [s]

C90206 PASSENGER SIDE AP3 IMPACT PLOT #3



CFC_1000

C90206 - March 11, 2009

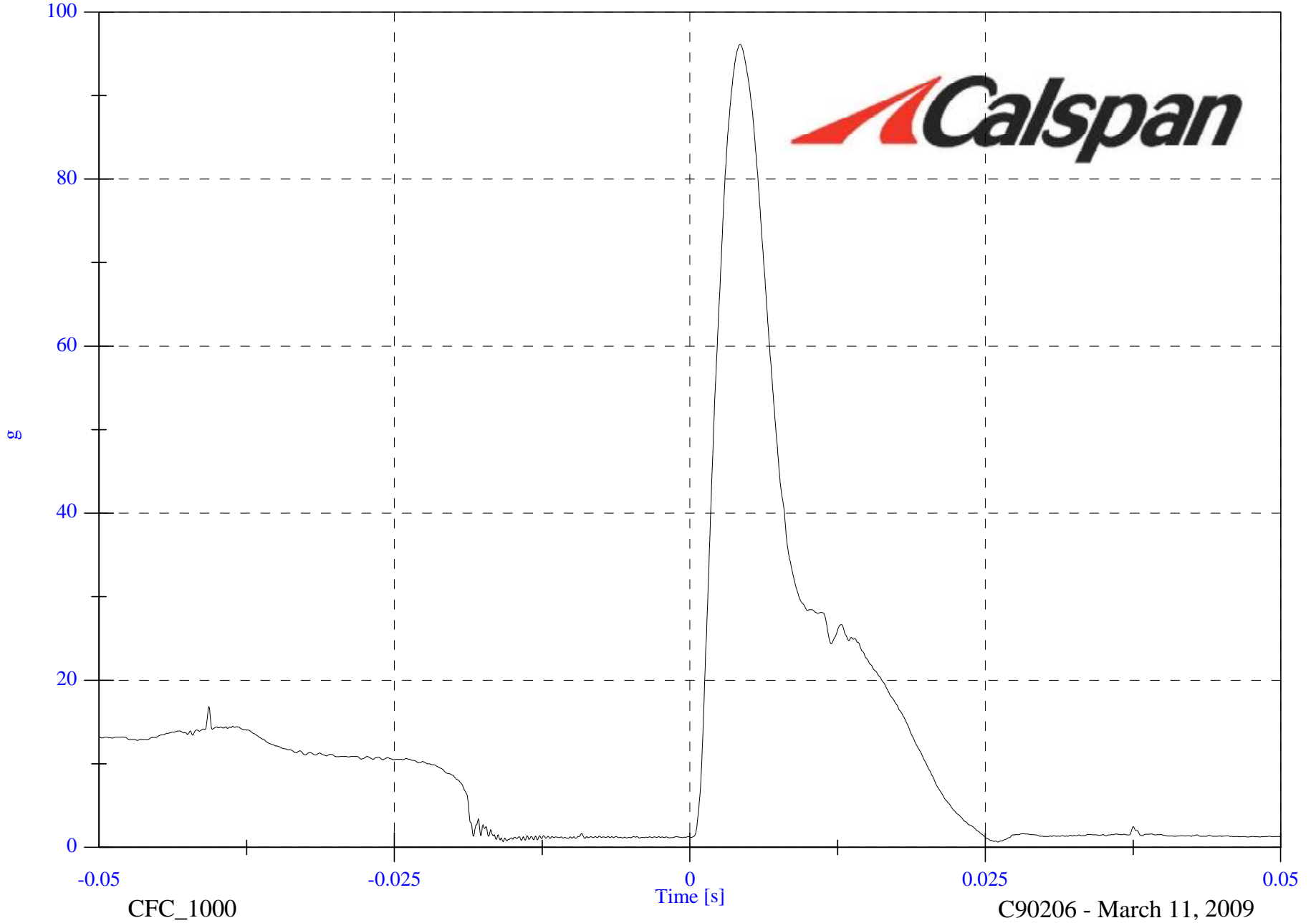
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 96.1 [g] at 0.004 [s]

Min: 0.6 [g] at 0.026 [s]

C90206 PASSENGER SIDE AP3 IMPACT PLOT #4



CFC_1000

C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

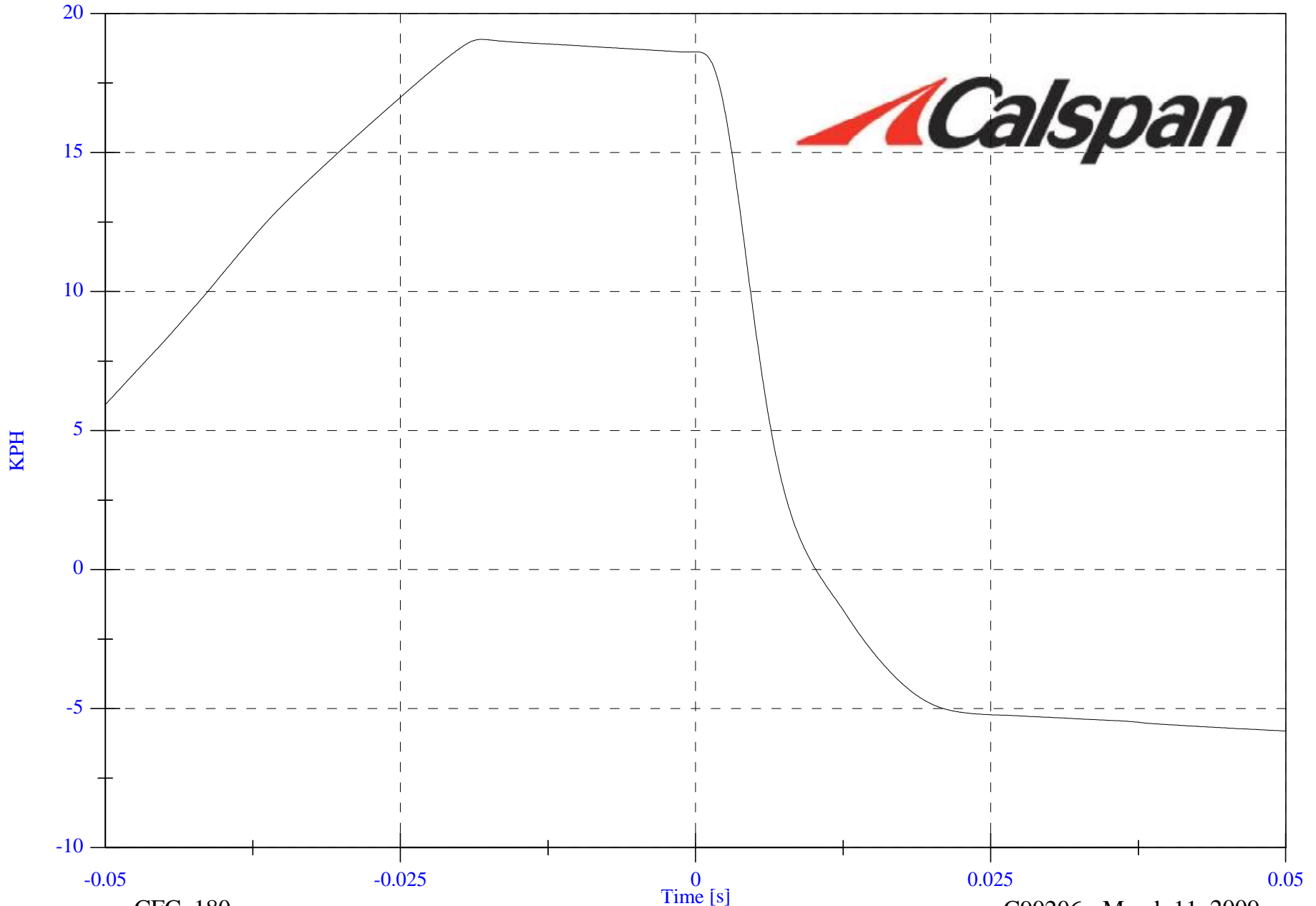
Max: 19.1 [KPH] at -0.018 [s]

Min: -5.8 [KPH] at 0.050 [s]

Headform Velocity



C90206 PASSENGER SIDE AP3 IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT AP3



POST-IMPACT AP3

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|----------|
| Test Number: | 07 |
| Test Date: | 03/11/09 |
| Target Location: | A-PILLAR |
| Target Code: | AP1 |
| Horizontal Impact Angle: | 125° |
| Vertical Impact Angle: | 42° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 14:20 |
| 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 | 13 | | mm up |



POST-IMPACT AP1 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 301.8 |
| HIC(d) | 394.1 |
| Impact Velocity (kph) | 18.51 |
| HIC T1 (msec) | 10.0 |
| HIC T2 (msec) | 14.6 |

FMVSS 201U 2009 FORD F150 C90206 - AP1

FMH Headform 1140

Location: AP1

Test Date: March 11, 2009

Work File: AP1

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 394.1

Lab Humidity: 37 %

HIC (36ms): 301.8

Velocity at Impact: 18.51 KPH

t1: 10.0 msec

t2: 14.6 msec

Free Flight Distance: 223.16 mm

Duration: 4.6 msec

Average Acceleration: 7.1 g

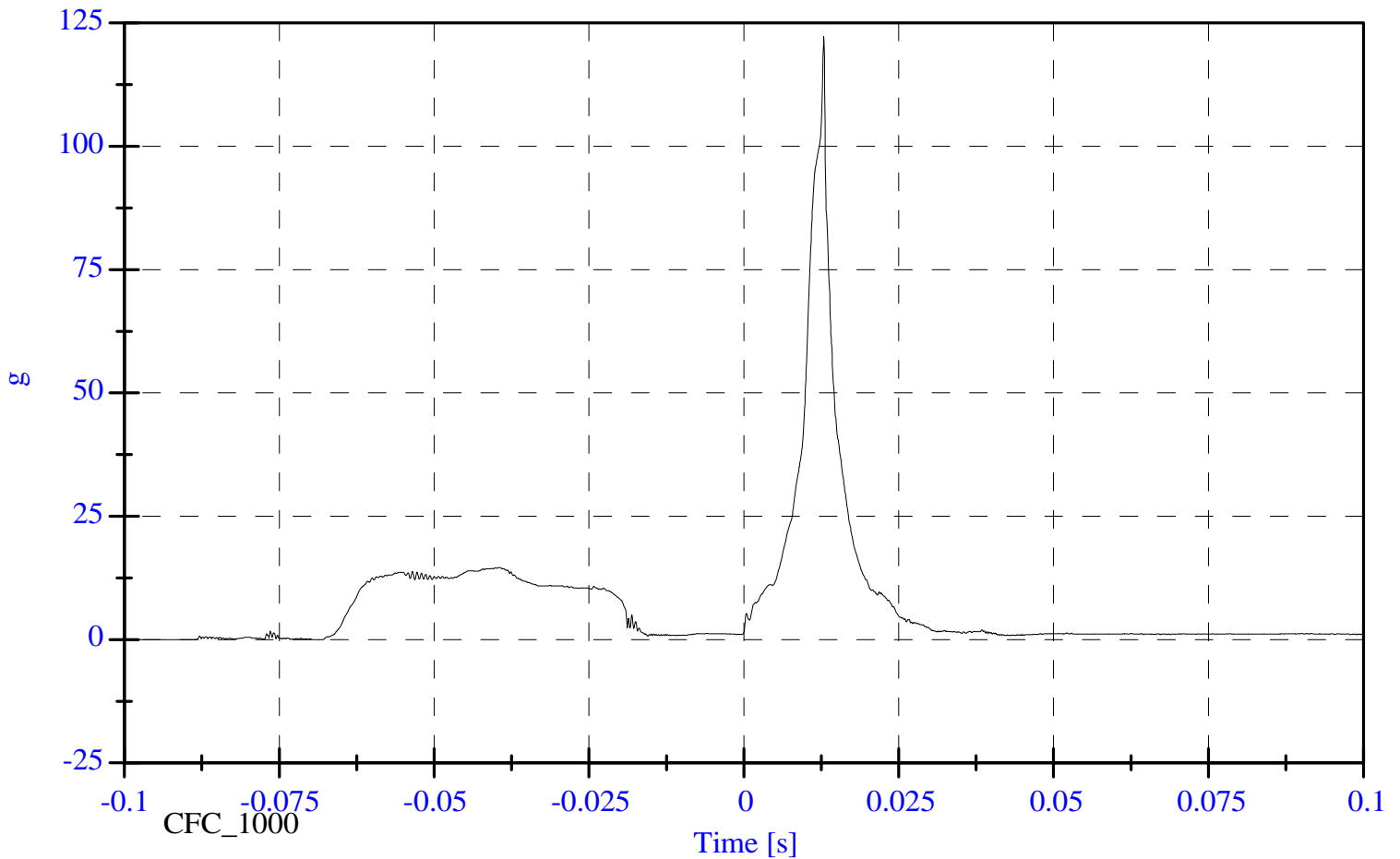
Maximum: 122.3 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 122.3 [g] at 0.013 [s]

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



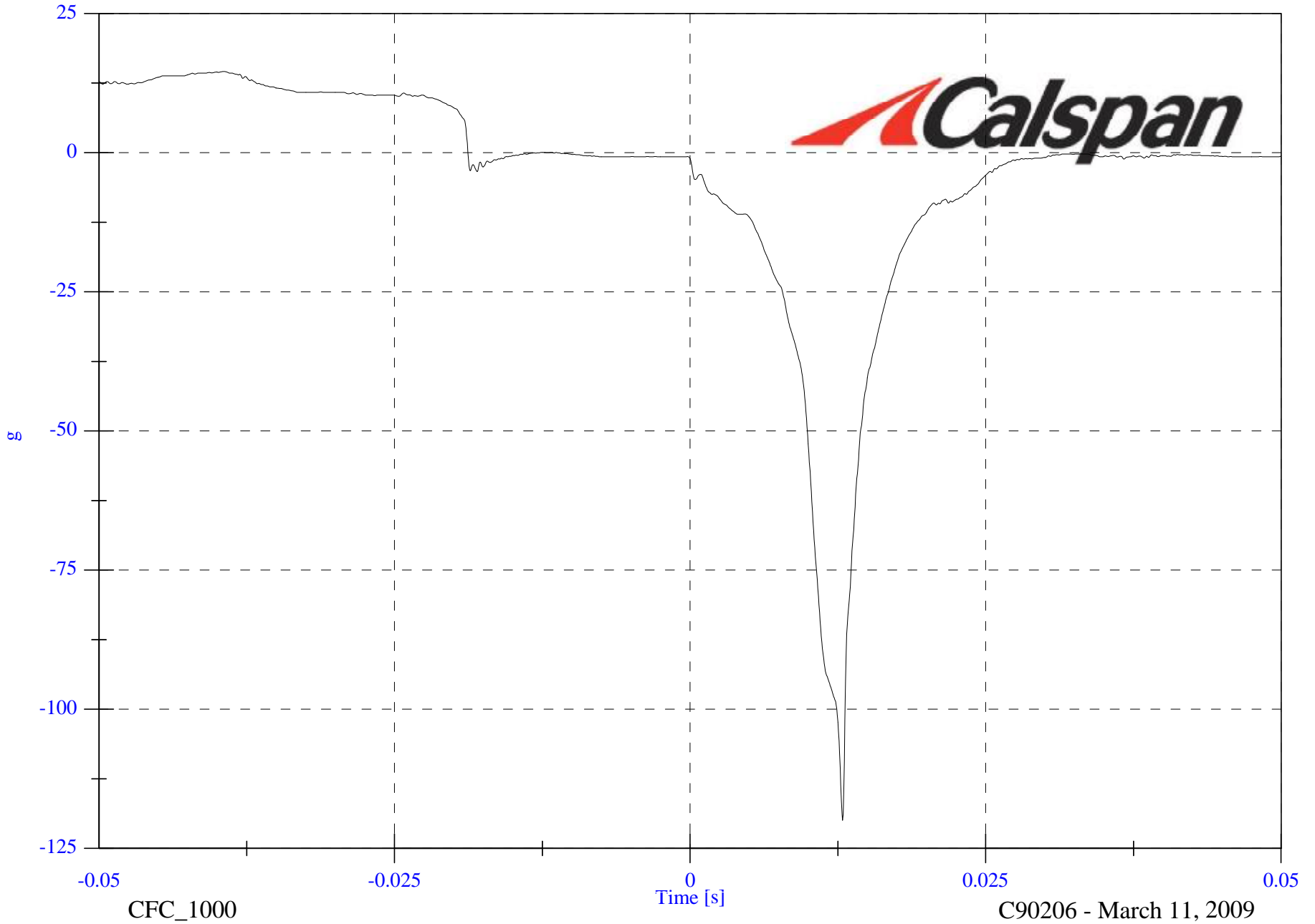
FMVSS 201U 2009 FORD F150

Headform X Acceleration

Max: 14.6 [g] at -0.039 [s]

Min: -119.9 [g] at 0.013 [s]

C90206 PASSENGER SIDE AP1 IMPACT PLOT #1



CFC_1000

C90206 - March 11, 2009

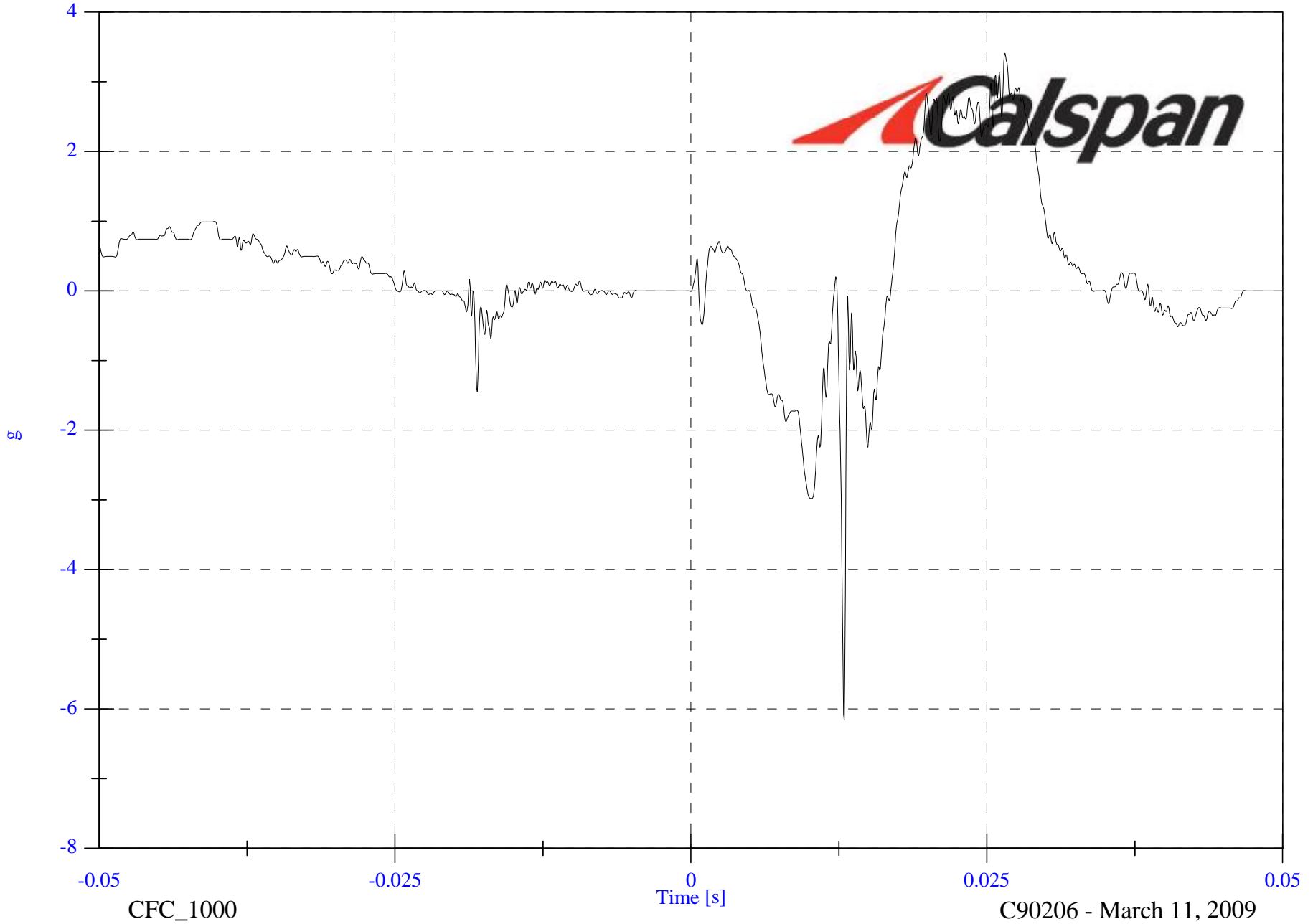
FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 3.4 [g] at 0.027 [s]

Min: -6.2 [g] at 0.013 [s]

C90206 PASSENGER SIDE AP1 IMPACT PLOT #2



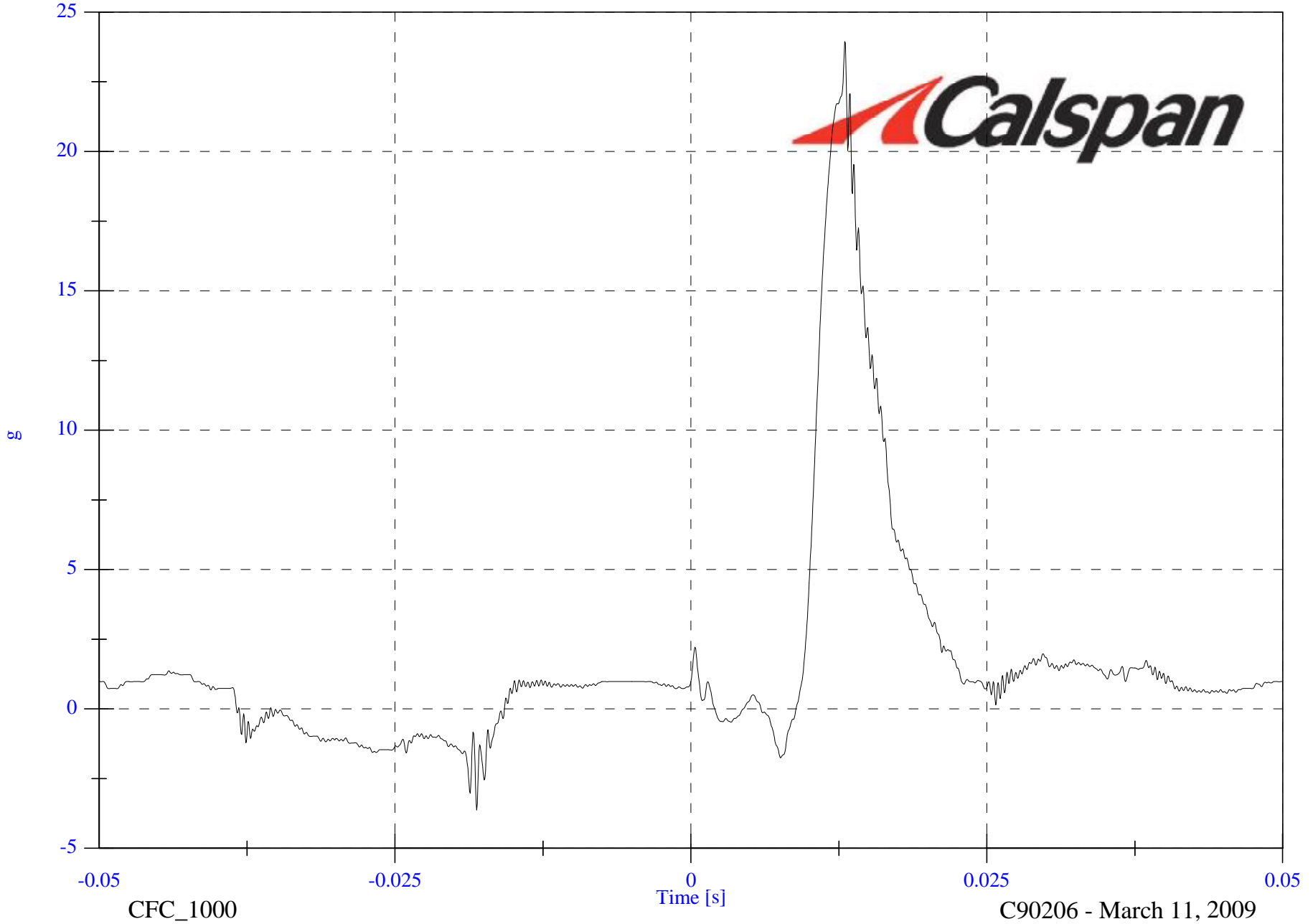
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 23.9 [g] at 0.013 [s]

Min: -3.6 [g] at -0.018 [s]

C90206 PASSENGER SIDE AP1 IMPACT PLOT #3



CFC_1000

C90206 - March 11, 2009

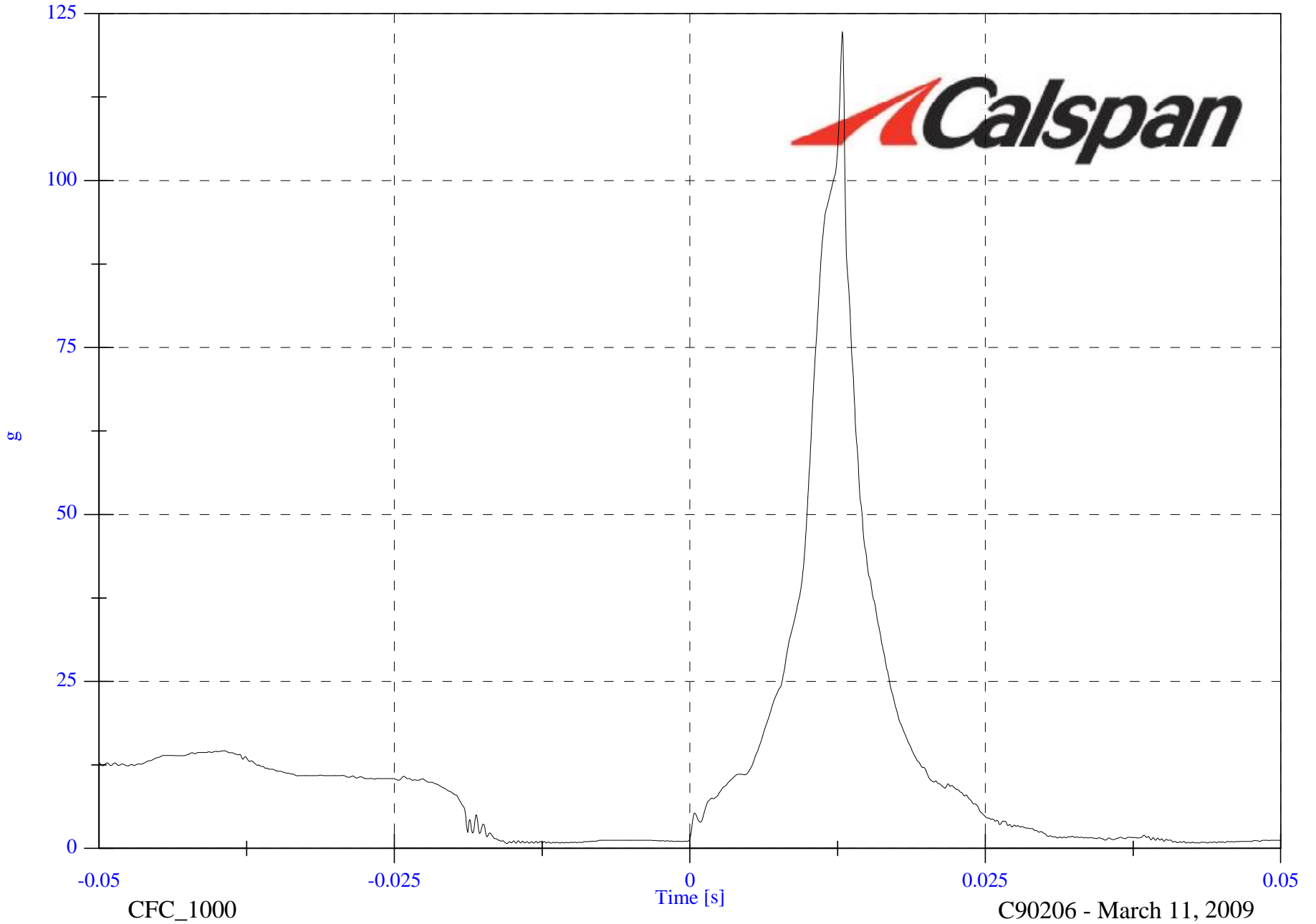
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 122.3 [g] at 0.013 [s]

Min: 0.7 [g] at -0.015 [s]

C90206 PASSENGER SIDE AP1 IMPACT PLOT #4



CFC_1000

C90206 - March 11, 2009

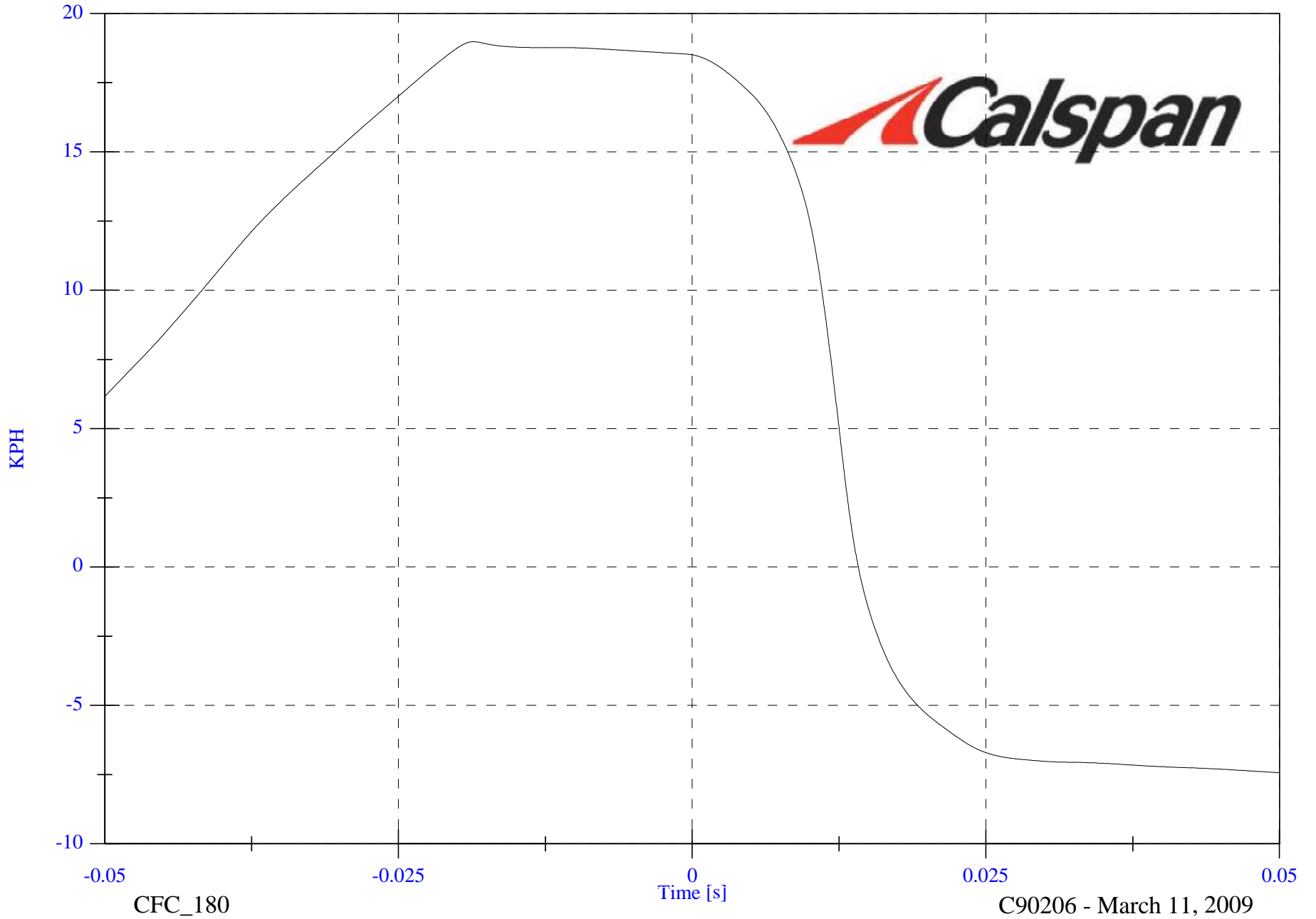
FMVSS 201U 2009 FORD F150

Max: 19.0 [KPH] at -0.019 [s]

Min: -7.4 [KPH] at 0.050 [s]

Headform Velocity

C90206 PASSENGER SIDE AP1 IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT AP1

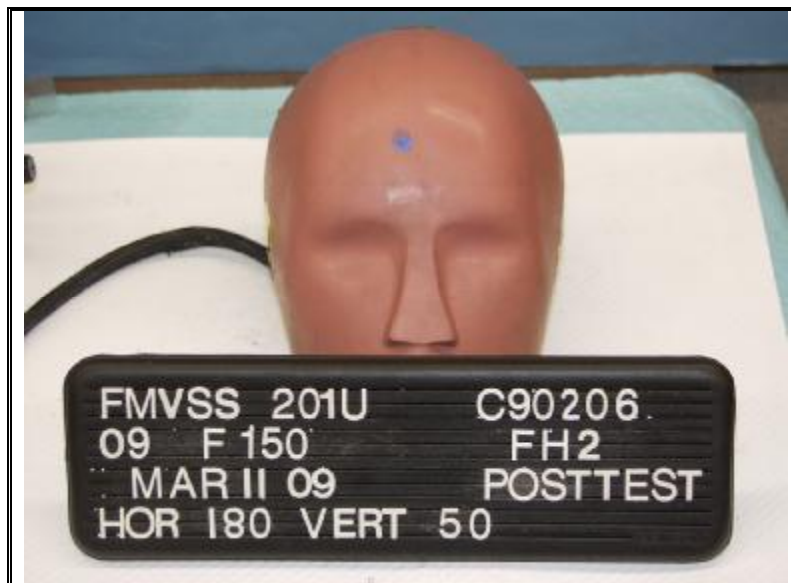


POST-IMPACT AP1

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|--------------|
| Test Number: | 08 |
| Test Date: | 03/11/09 |
| Target Location: | FRONT HEADER |
| Target Code: | FH2 |
| Horizontal Impact Angle: | 180° |
| Vertical Impact Angle: | 50° |
| Ambient Temperature: | 22°C |
| Relative Humidity: | 37 |
| Time of Impact: | 14:45 |
| Headform Number: | 1142 |

| | | | | | |
|--|----|-------------------------------------|----------|--------------------------|---------|
| 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 | 23 | | | | mm up |



POST-IMPACT FH2 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 621.1 |
| HIC(d) | 635 |
| Impact Velocity (kph) | 23.56 |
| HIC T1 (msec) | 3.1 |
| HIC T2 (msec) | 10.3 |

FMVSS 201U 2009 FORD F150 C90206 - FH2

FMH Headform 1142

Location: FH2

Test Date: March 11, 2009

Work File: FH2

-----TEST RESULTS-----

Lab Temperature: 22 C

HICd: 635.0

Lab Humidity: 37 %

HIC (36ms): 621.1

Velocity at Impact: 23.56 KPH

t1: 3.1 msec

t2: 10.3 msec

Free Flight Distance: 219.56 mm

Duration: 7.3 msec

Average Acceleration: 8.5 g

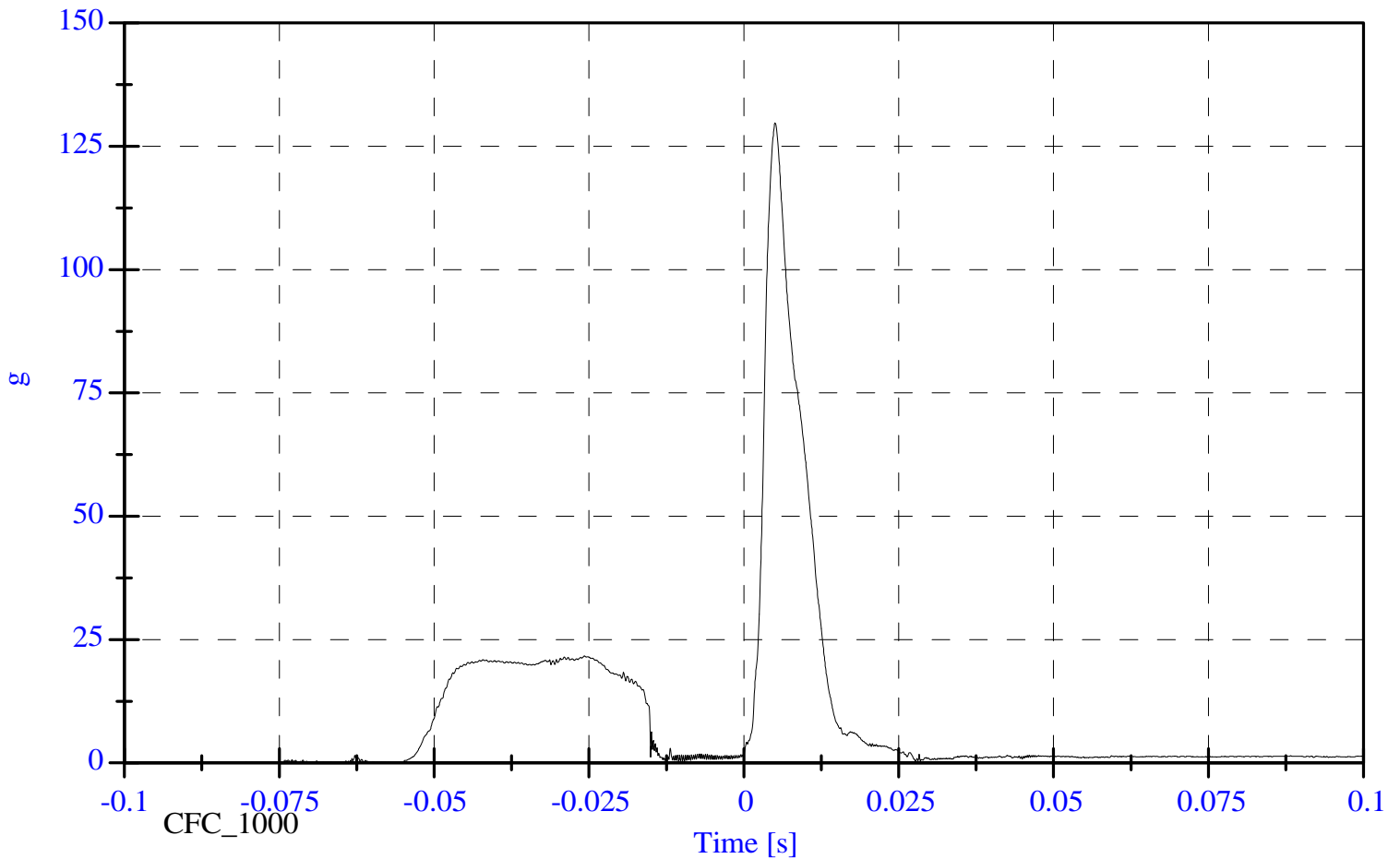
Maximum: 129.7 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 129.7 [g] at 0.005 [s]

Min: 0.0 [g] at -0.078 [s]

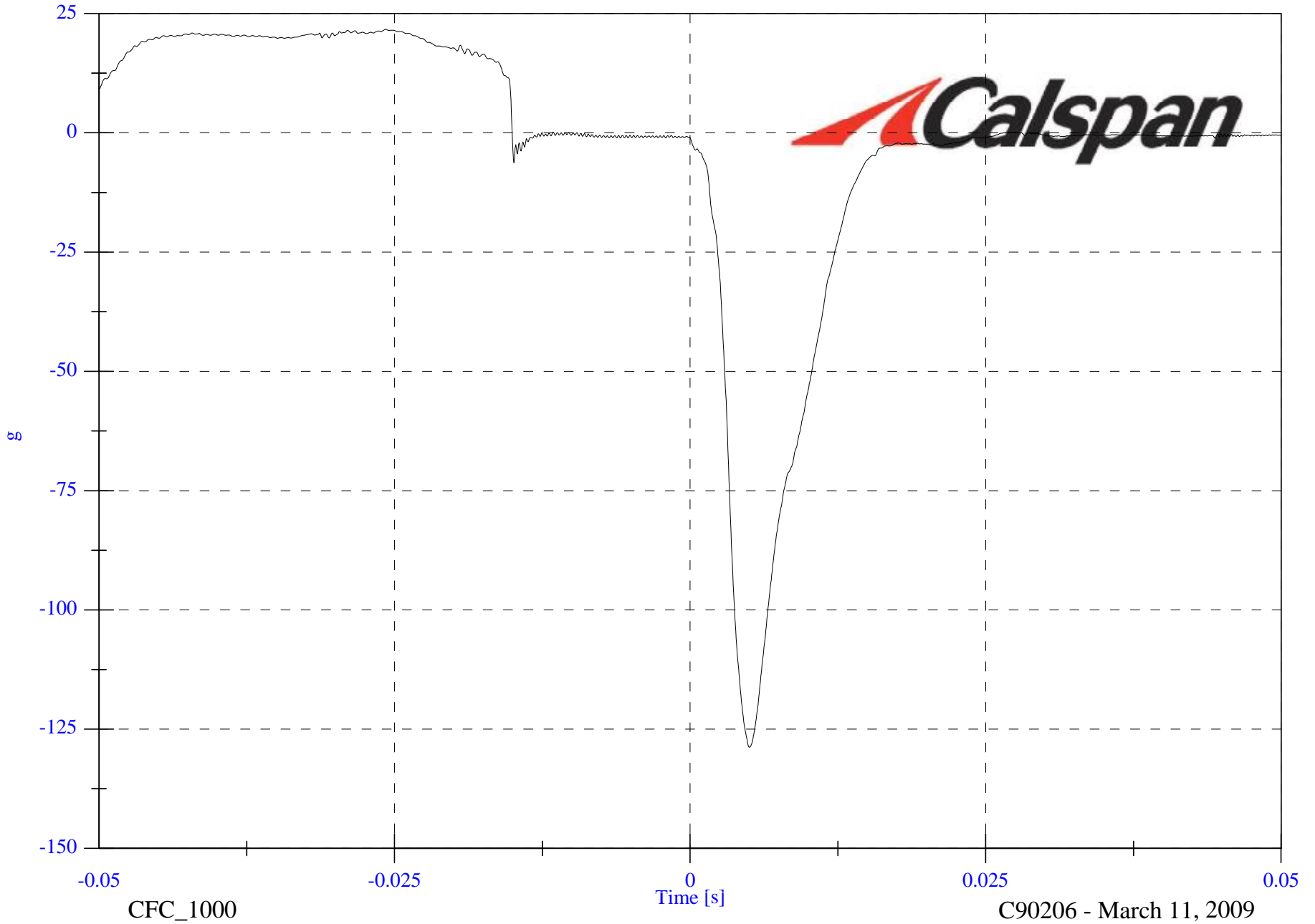


FMVSS 201U 2009 FORD F150

Headform X Acceleration

Max: 21.7 [g] at -0.026 [s]

Min: -128.8 [g] at 0.005 [s]



C90206 PASSENGER SIDE FH2 IMPACT PLOT #1

CFC_1000

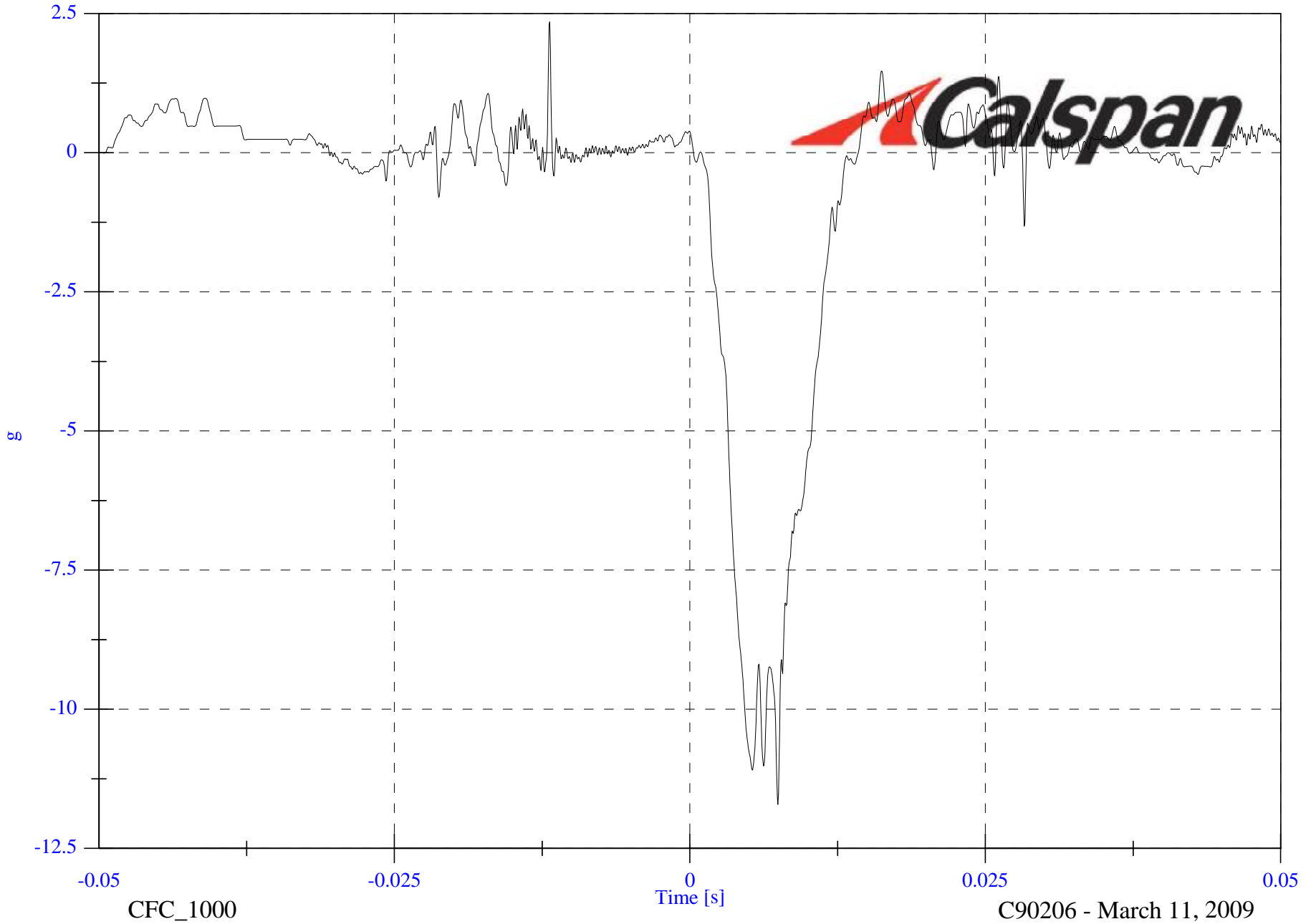
C90206 - March 11, 2009

FMVSS 201U 2009 FORD F150

Max: 2.4 [g] at -0.012 [s]

Min: -11.7 [g] at 0.007 [s]

Headform Y Acceleration



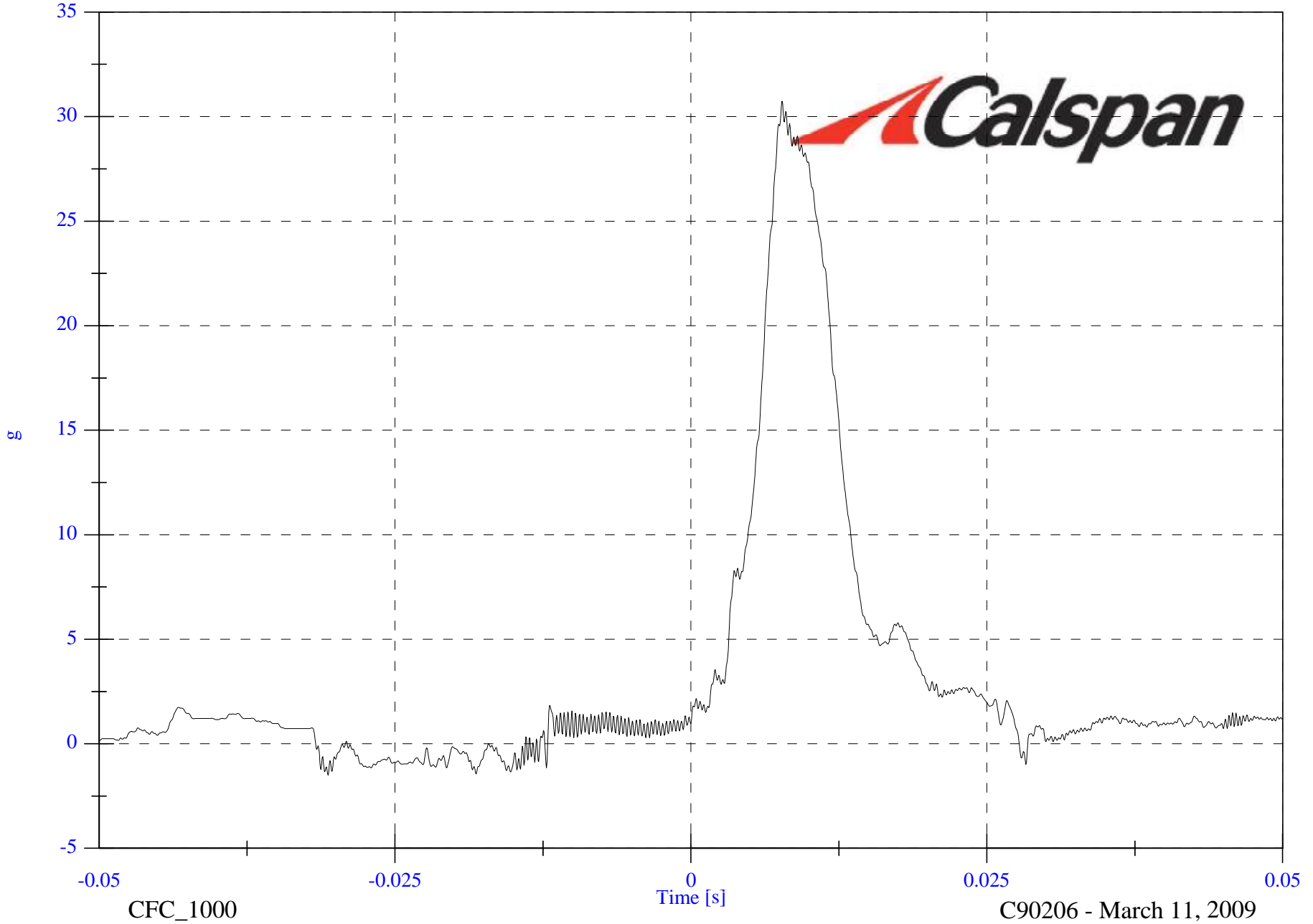
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 30.7 [g] at 0.008 [s]

Min: -1.5 [g] at -0.031 [s]

C90206 PASSENGER SIDE FH2 IMPACT PLOT #3



CFC_1000

C90206 - March 11, 2009

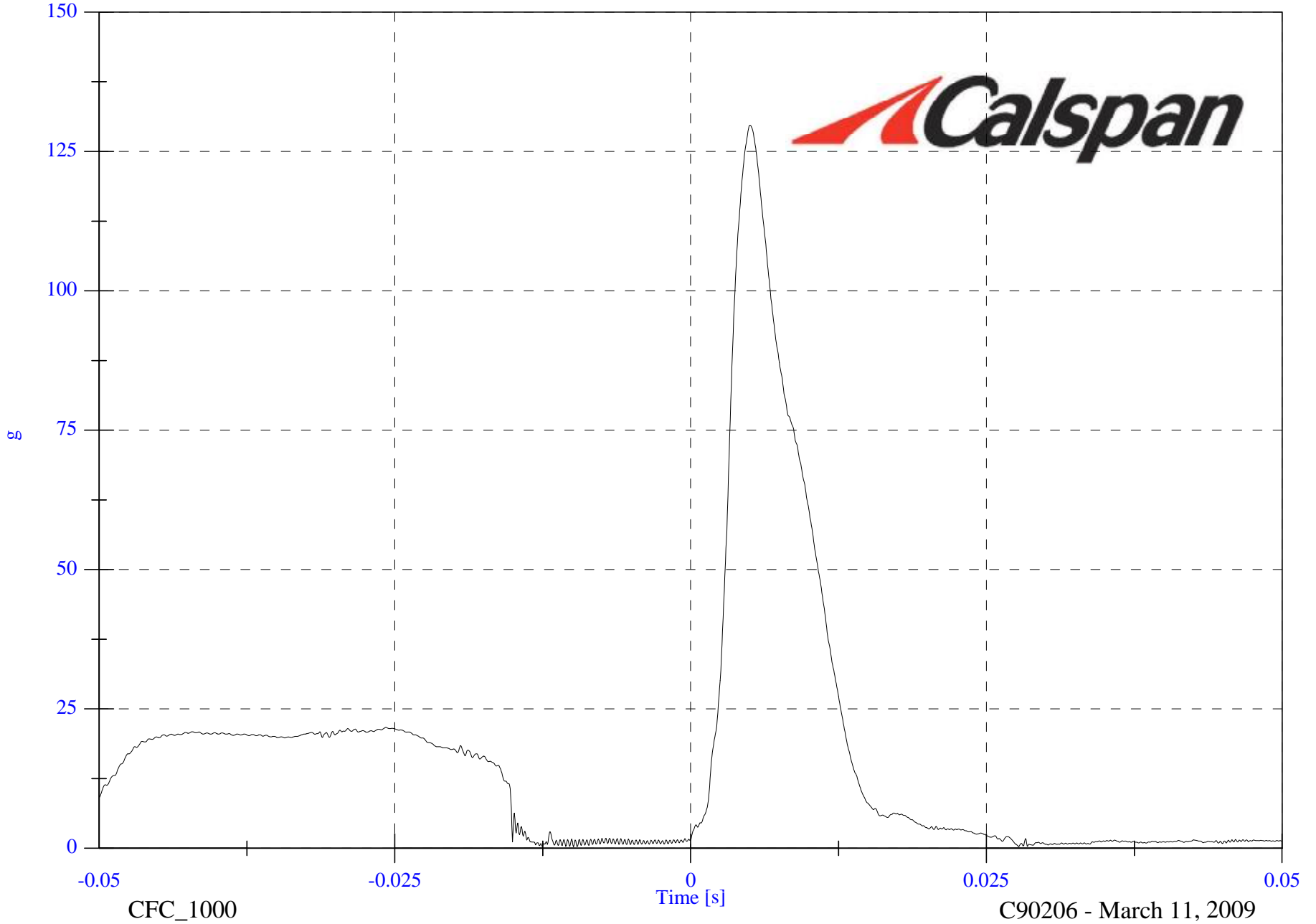
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 129.7 [g] at 0.005 [s]

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

C90206 PASSENGER SIDE FH2 IMPACT PLOT #4



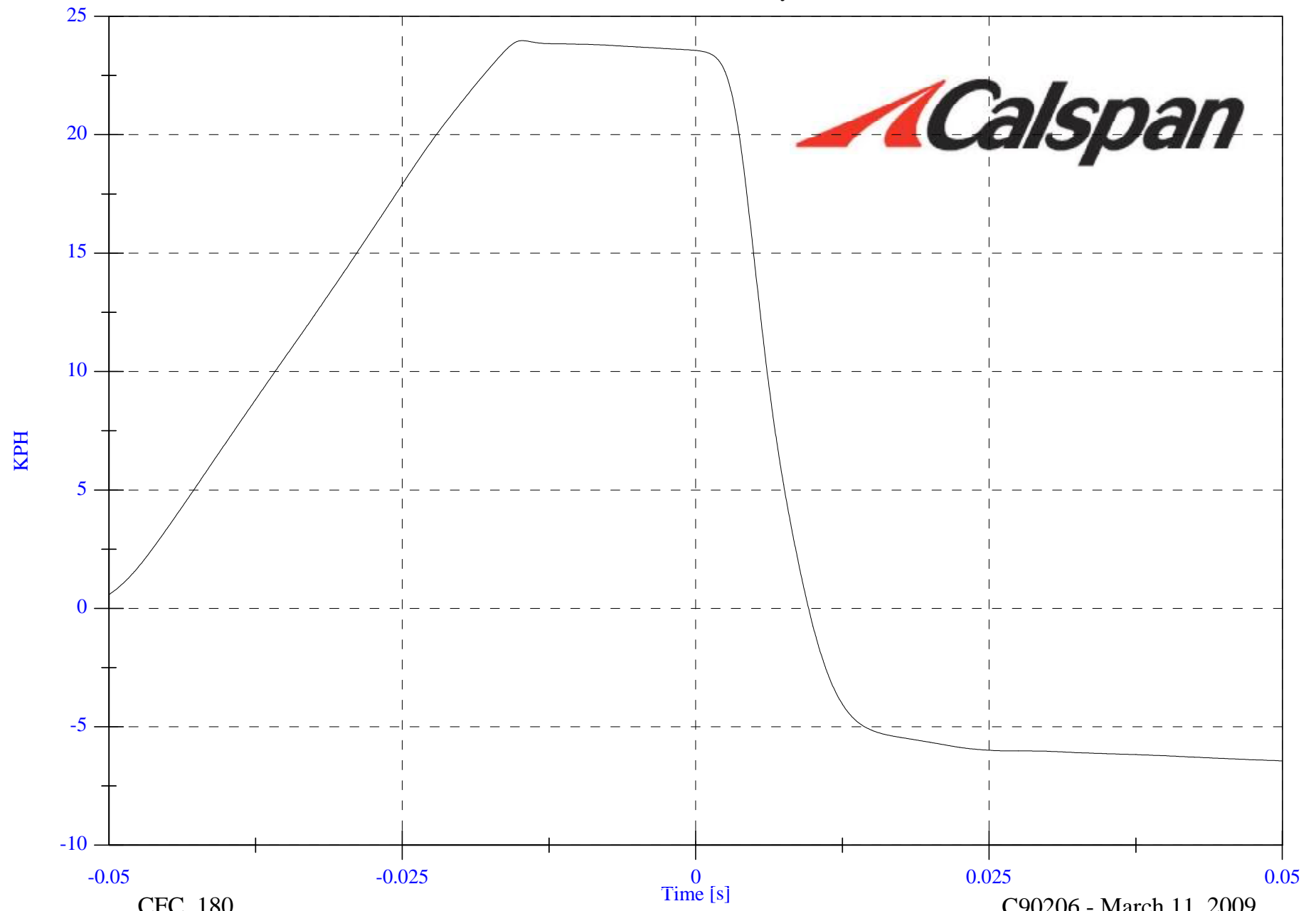
FMVSS 201U 2009 FORD F150

Max: 24.0 [KPH] at -0.015 [s]
Min: -6.4 [KPH] at 0.050 [s]

Headform Velocity



C90206 PASSENGER SIDE FH2 IMPACT PLOT #5



CFC_180

C90206 - March 11, 2009



PRE-IMPACT FH2



POST-IMPACT FH2

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|-----------|
| Test Number: | 09 |
| Test Date: | 03/13/09 |
| Target Location: | SIDE RAIL |
| Target Code: | SR2R |
| Horizontal Impact Angle: | 270° |
| Vertical Impact Angle: | 32° |
| Ambient Temperature: | 21°C |
| Relative Humidity: | 15 |
| Time of Impact: | 9:00 |
| Headform Number: | 1142 |

| | | | | | |
|--|---|-------------------------------------|----------|--------------------------|---------|
| Impact Point Description (from lower midpoint on midsagittal line) | | | | | |
| On Centerline | 2 | <input checked="" type="checkbox"/> | mm right | <input type="checkbox"/> | mm left |
| On Centerline | 4 | | | | mm up |



POST-IMPACT SR2R HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 236.3 |
| HIC(d) | 344.7 |
| Impact Velocity (kph) | 18.65 |
| HIC T1 (msec) | 9.1 |
| HIC T2 (msec) | 16.3 |

FMVSS 201U 2009 FORD F150 C90206 - SR2R

FMH Headform 1142

Location: SR2R

Test Date: March 13, 2009

Work File: SR2R

-----TEST RESULTS-----

Lab Temperature: 21 C

HICd: 344.7

Lab Humidity: 15 %

HIC (36ms): 236.3

Velocity at Impact: 18.65 KPH

t1: 9.1 msec

t2: 16.3 msec

Free Flight Distance: 218.34 mm

Duration: 7.2 msec

Average Acceleration: 7.1 g

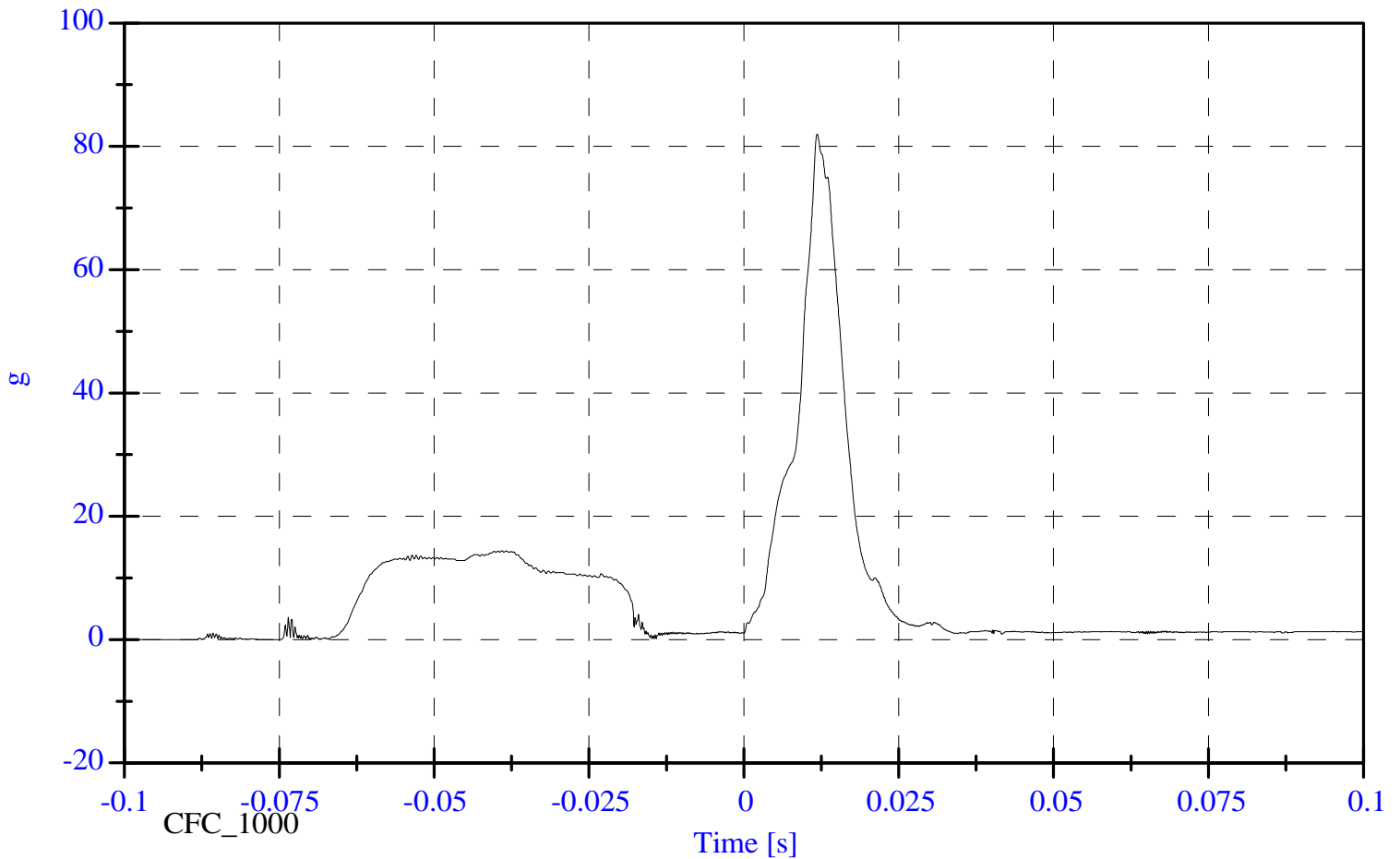
Maximum: 82.0 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 82.0 [g] at 0.012 [s]

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



FMVSS 201U 2009 FORD F150

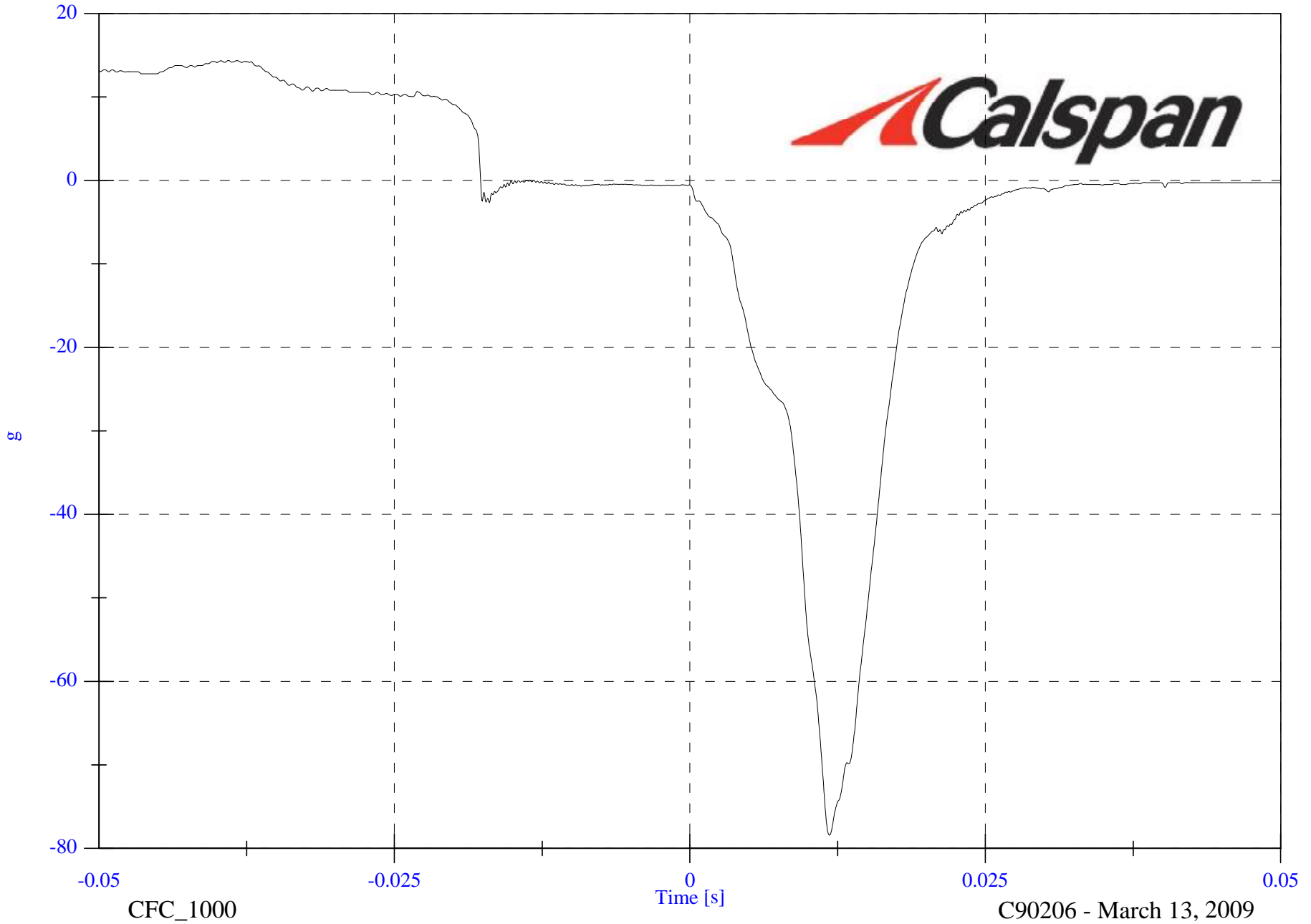
Headform X Acceleration

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

Min: -78.4 [g] at 0.012 [s]



C90206 DRIVER SIDE SR2R IMPACT PLOT #1



CFC_1000

C90206 - March 13, 2009

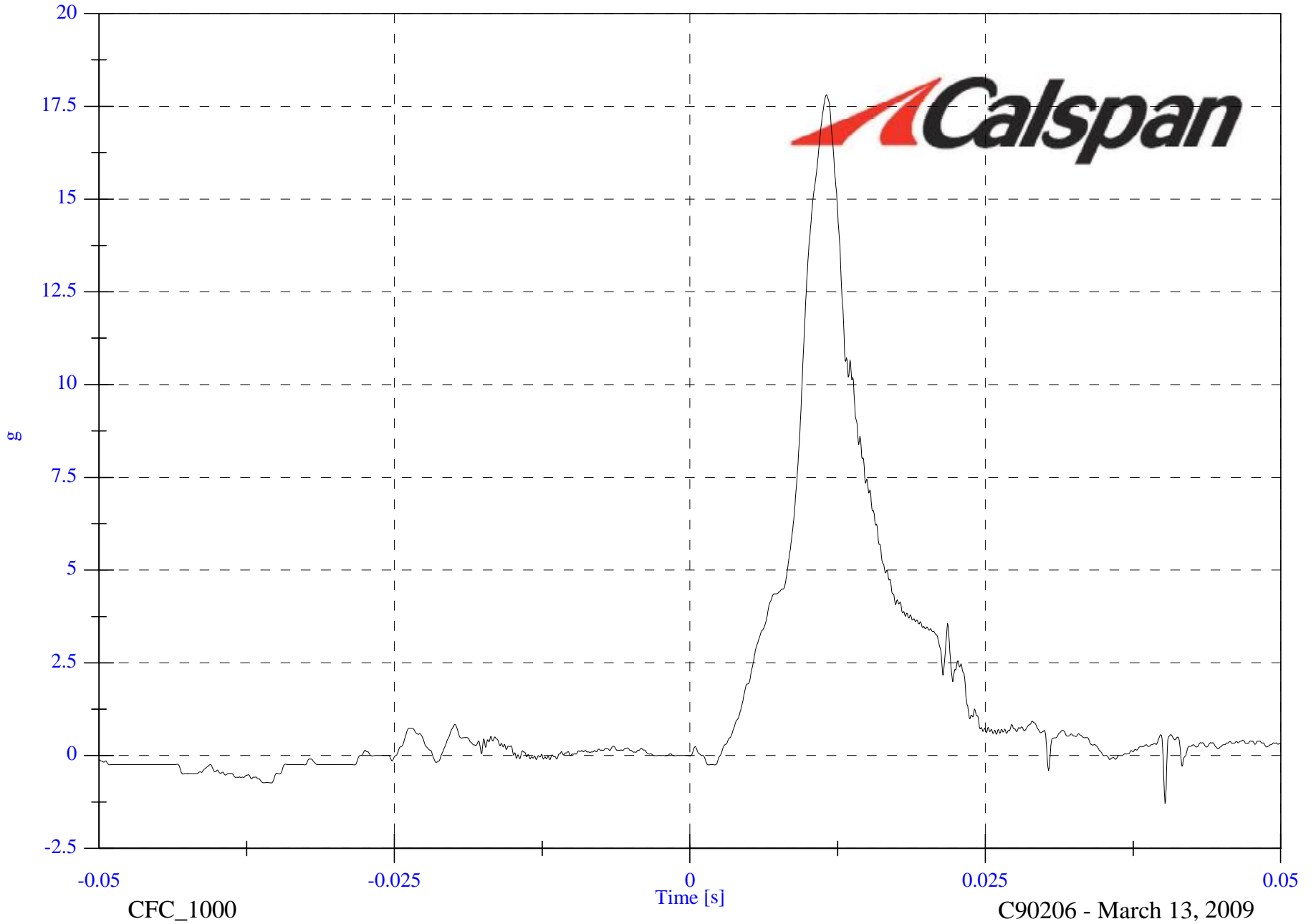
FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 17.8 [g] at 0.012 [s]

Min: -1.3 [g] at 0.040 [s]

C90206 DRIVER SIDE SR2R IMPACT PLOT #2



CFC_1000

C90206 - March 13, 2009

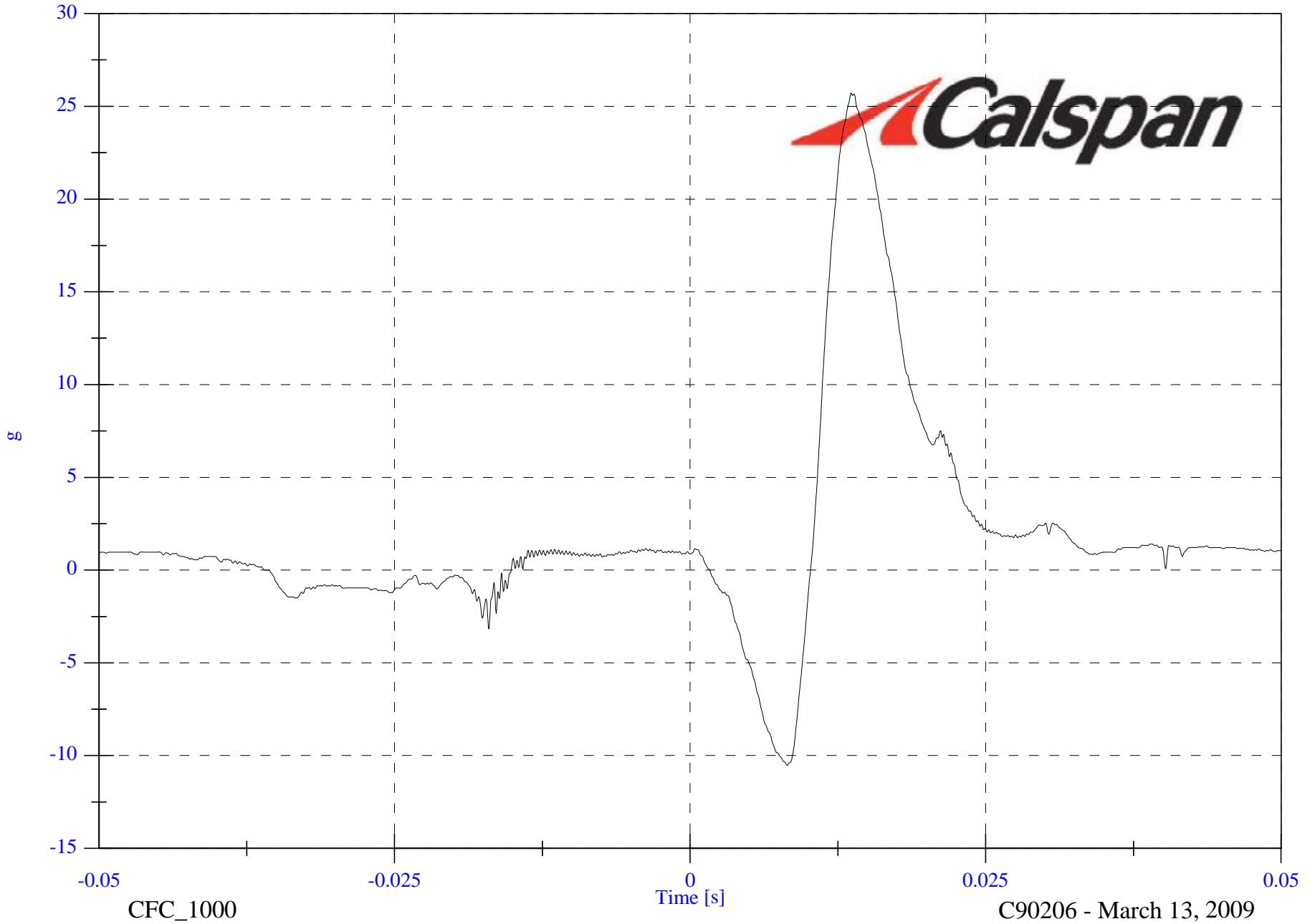
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 25.7 [g] at 0.014 [s]

Min: -10.5 [g] at 0.008 [s]

C90206 DRIVER SIDE SR2R IMPACT PLOT #3



C90206 - March 13, 2009

FMVSS 201U 2009 FORD F150

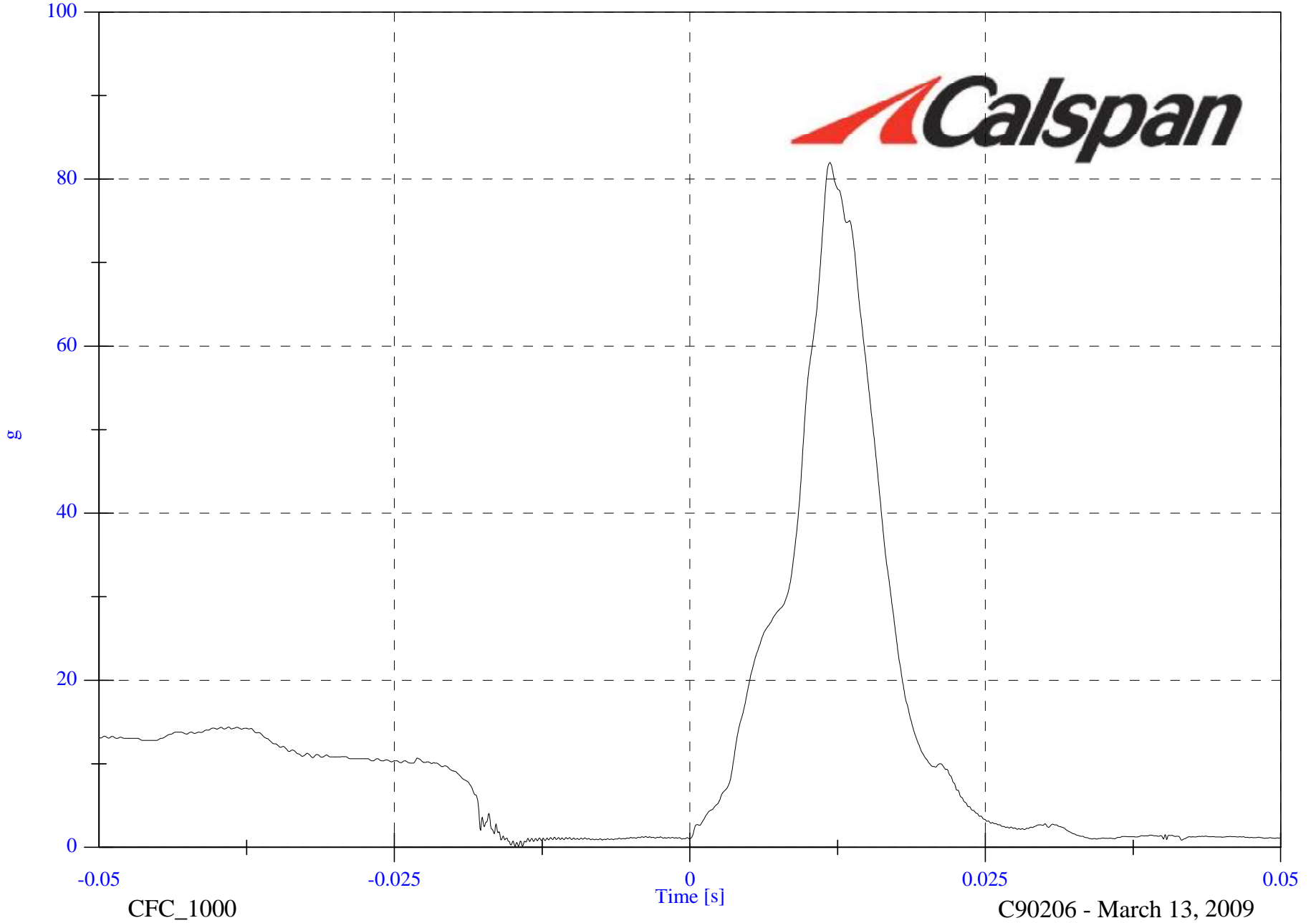
Headform Resultant

Max: 82.0 [g] at 0.012 [s]

Min: 0.1 [g] at -0.015 [s]



C90206 DRIVER SIDE SR2R IMPACT PLOT #4



CFC_1000

C90206 - March 13, 2009

FMVSS 201U 2009 FORD F150

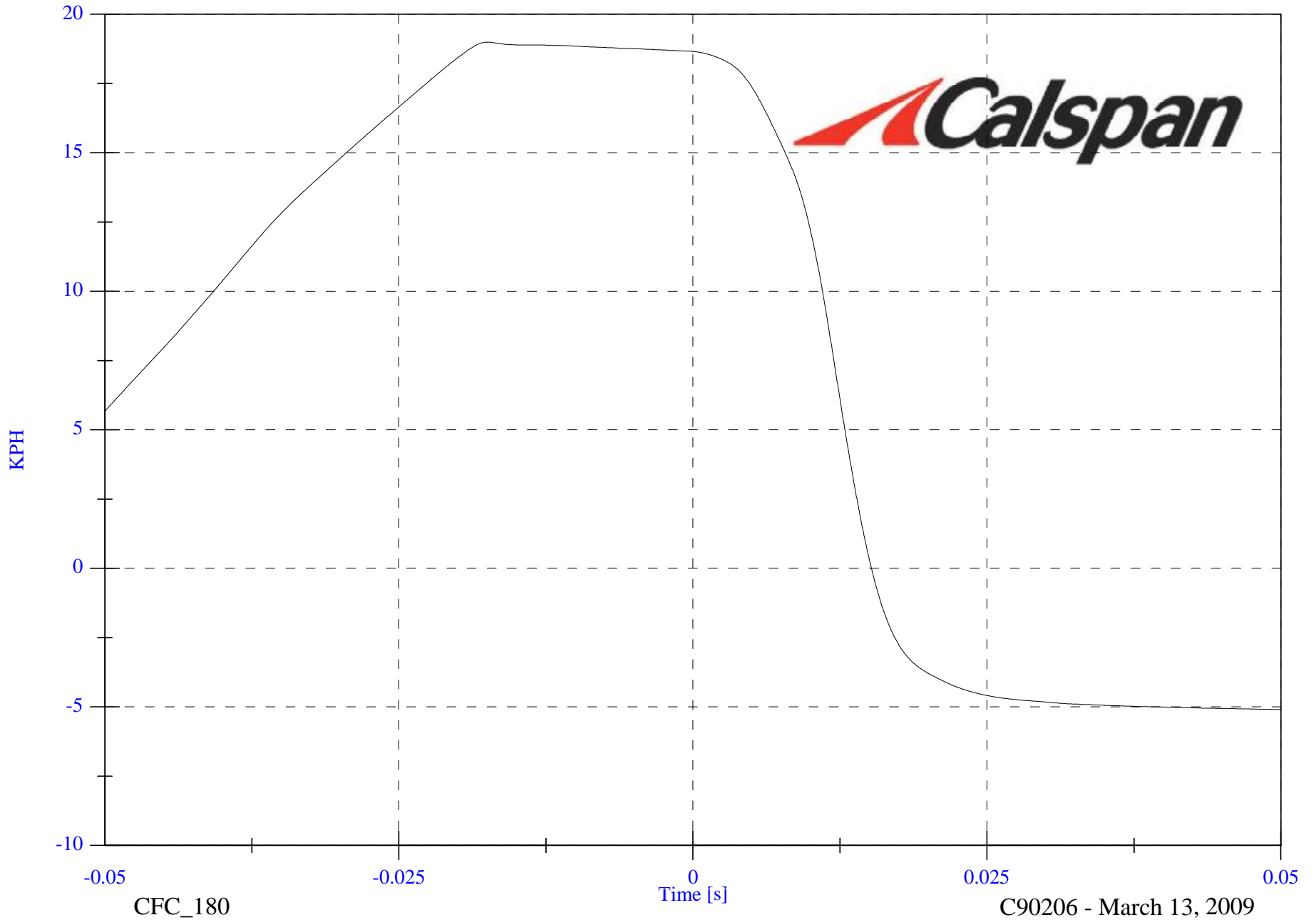
Max: 19.0 [KPH] at -0.017 [s]

Min: -5.1 [KPH] at 0.050 [s]

Headform Velocity



C90206 DRIVER SIDE SR2R IMPACT PLOT #5



CFC_180

C90206 - March 13, 2009



PRE-IMPACT SR2R

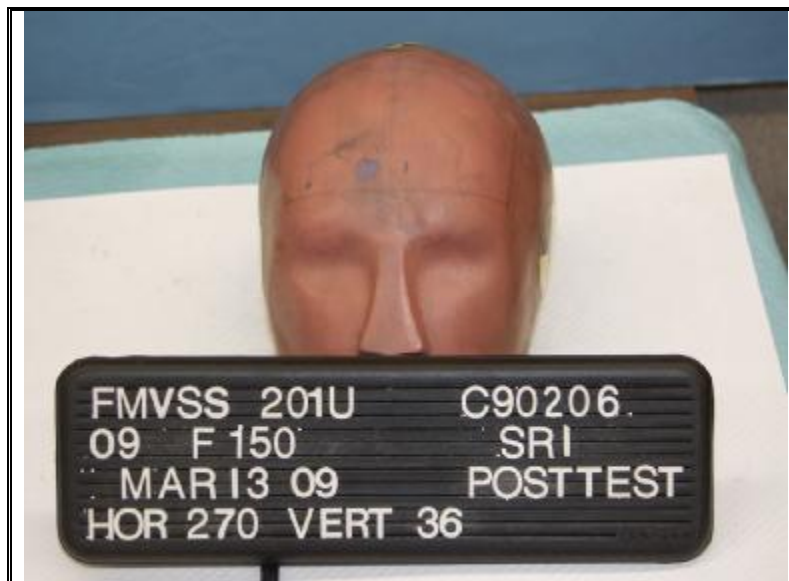


POST-IMPACT SR2R

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|-----------|
| Test Number: | 10 |
| Test Date: | 03/13/09 |
| Target Location: | SIDE RAIL |
| Target Code: | SR1 |
| Horizontal Impact Angle: | 270° |
| Vertical Impact Angle: | 36° |
| Ambient Temperature: | 21°C |
| Relative Humidity: | 15 |
| Time of Impact: | 9:32 |
| Headform Number: | 0805 |

| | | | | | |
|--|----|-------------------------------------|----------|--------------------------|---------|
| 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 | 13 | | | | mm up |



POST-IMPACT SR1 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 220.8 |
| HIC(d) | 333 |
| Impact Velocity (kph) | 18.35 |
| HIC T1 (msec) | 9.2 |
| HIC T2 (msec) | 15.1 |

FMVSS 201U 2009 FORD F150 C90206 - SR1

FMH Headform 0805

Location: SR1

Test Date: March 13, 2009

Work File: SR1

-----TEST RESULTS-----

Lab Temperature: 21 C

HICd: 333.0

Lab Humidity: 15 %

HIC (36ms): 220.8

Velocity at Impact: 18.35 KPH

t1: 9.2 msec

t2: 15.1 msec

Free Flight Distance: 219.53 mm

Duration: 5.8 msec

Average Acceleration: 6.8 g

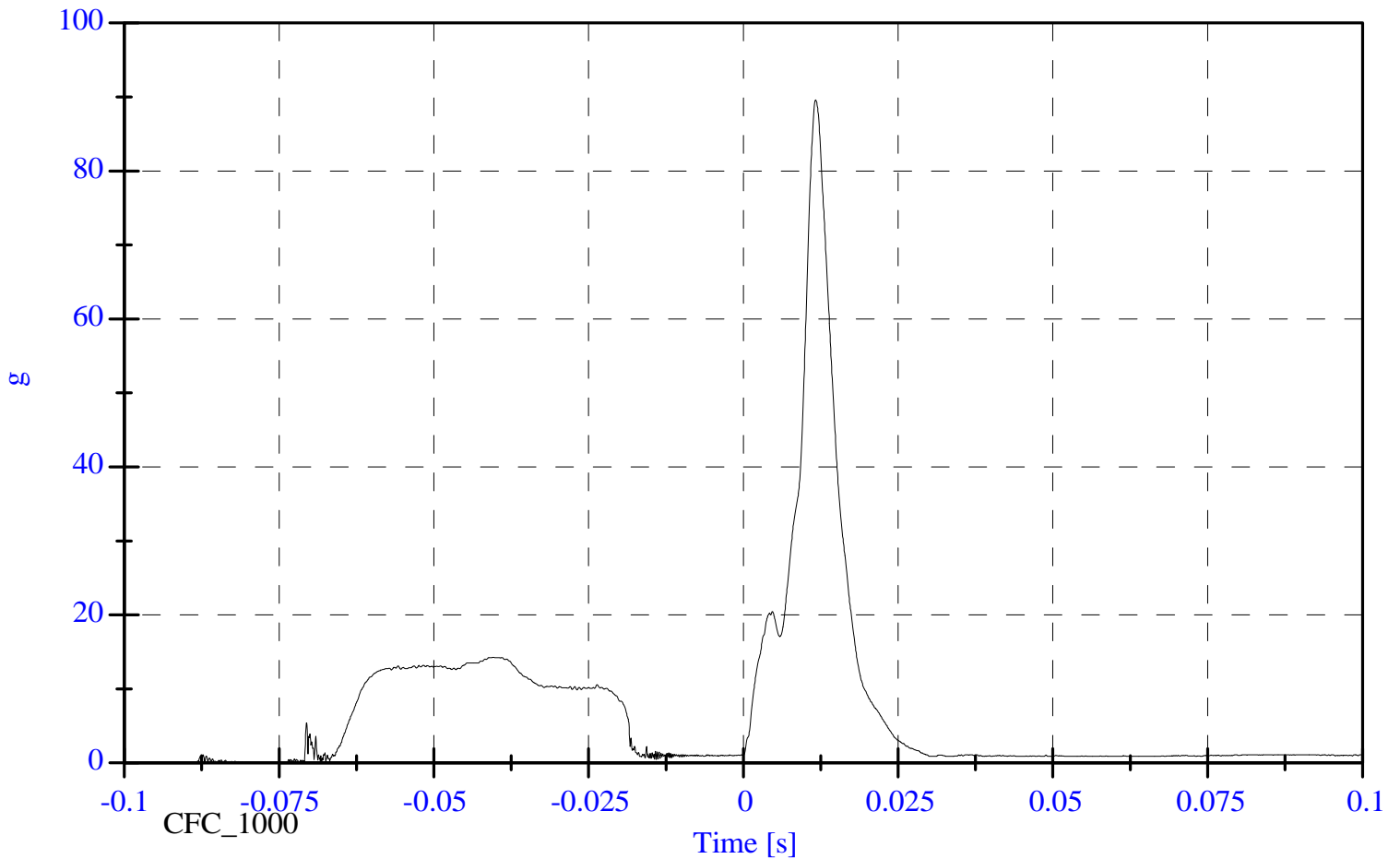
Maximum: 89.6 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 89.6 [g] at 0.012 [s]

Min: 0.0 [g] at -0.079 [s]



FMVSS 201U 2009 FORD F150

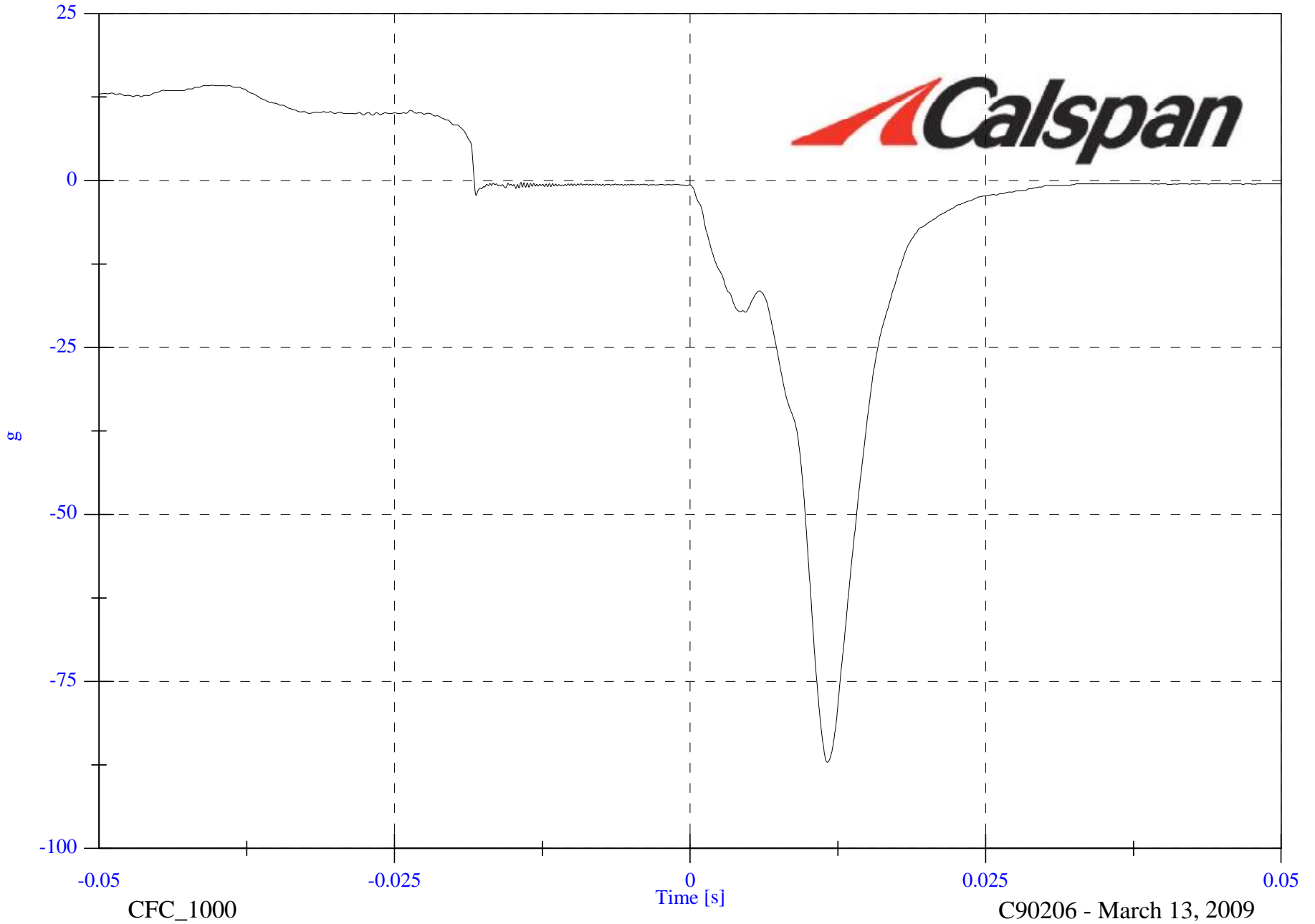
Headform X Acceleration

Max: 14.3 [g] at -0.040 [s]

Min: -87.1 [g] at 0.012 [s]



C90206 DRIVER SIDE SR1 IMPACT PLOT #1

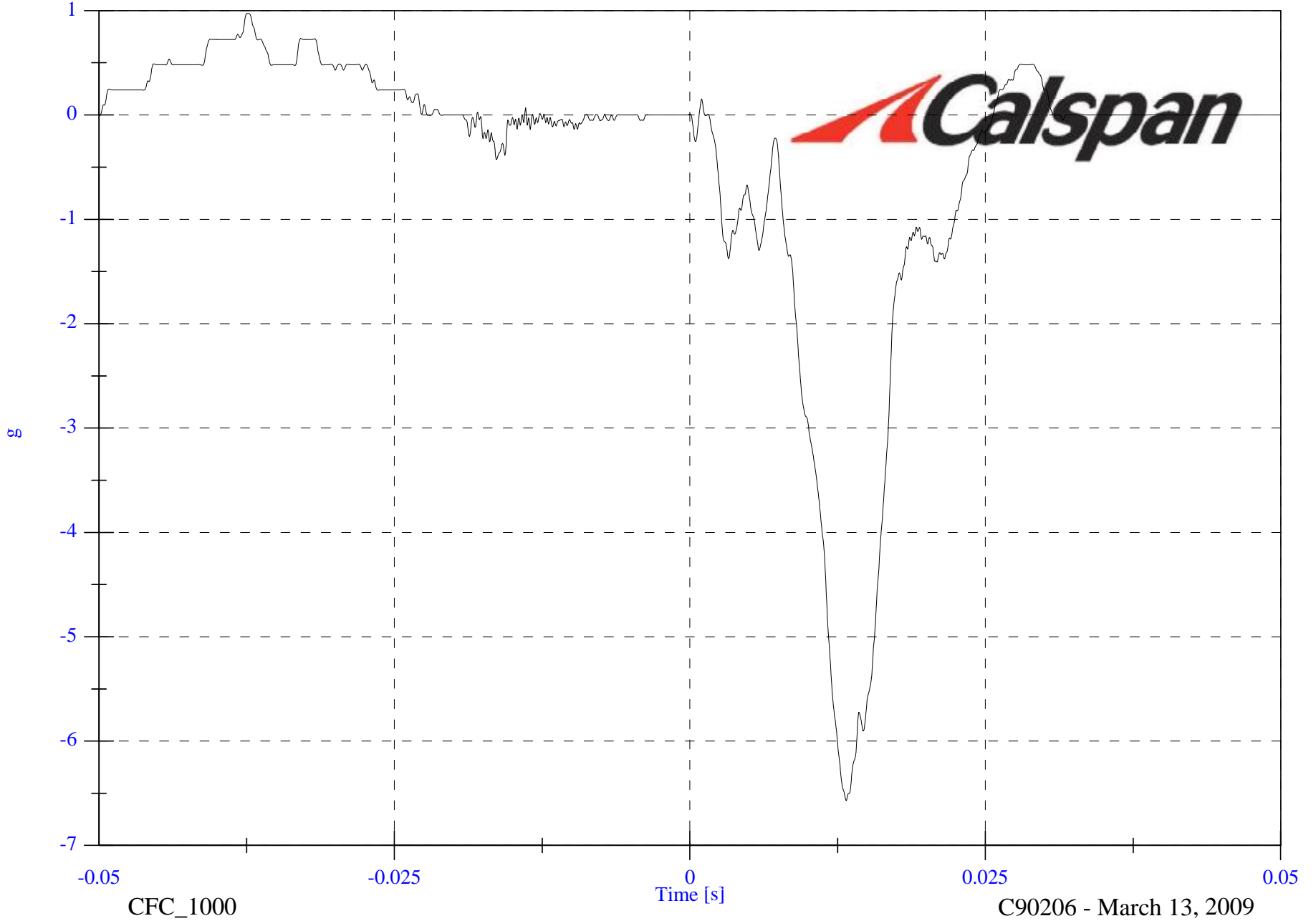


C90206 - March 13, 2009

FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 1.0 [g] at -0.037 [s]
Min: -6.6 [g] at 0.013 [s]



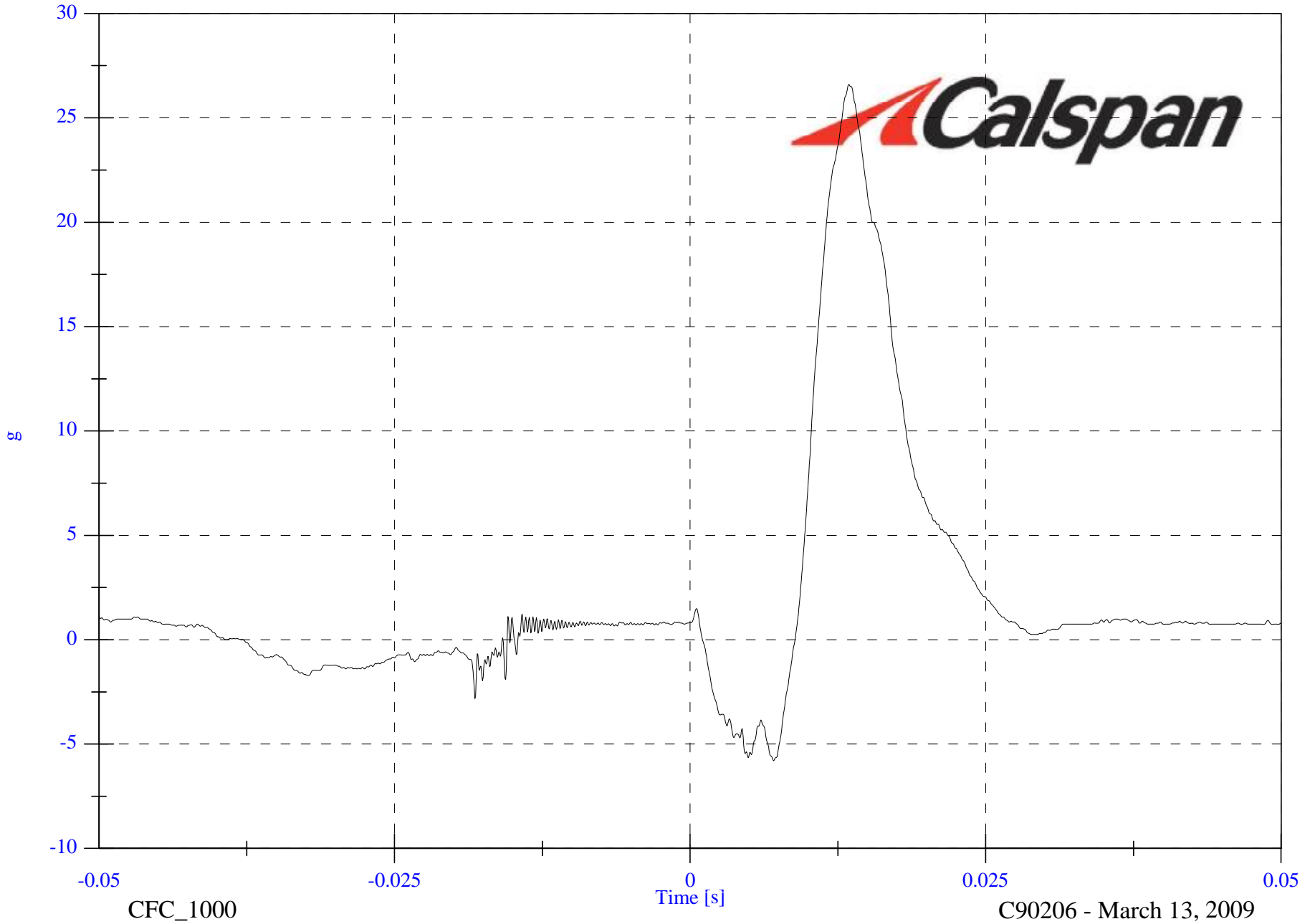
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 26.6 [g] at 0.013 [s]

Min: -5.8 [g] at 0.007 [s]

C90206 DRIVER SIDE SR1 IMPACT PLOT #3



CFC_1000

C90206 - March 13, 2009

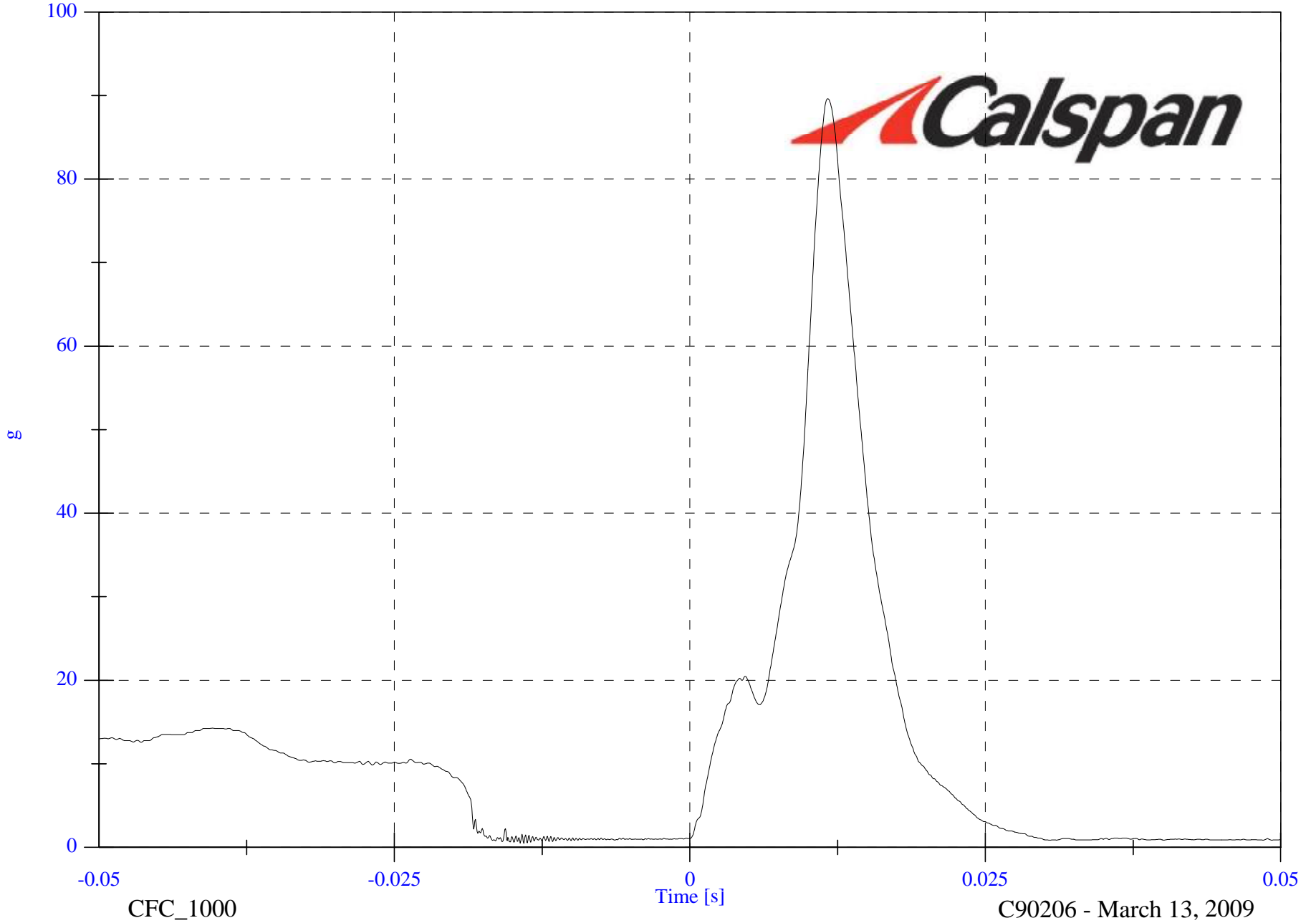
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 89.6 [g] at 0.012 [s]

Min: 0.5 [g] at -0.014 [s]

C90206 DRIVER SIDE SR1 IMPACT PLOT #4



FMVSS 201U 2009 FORD F150

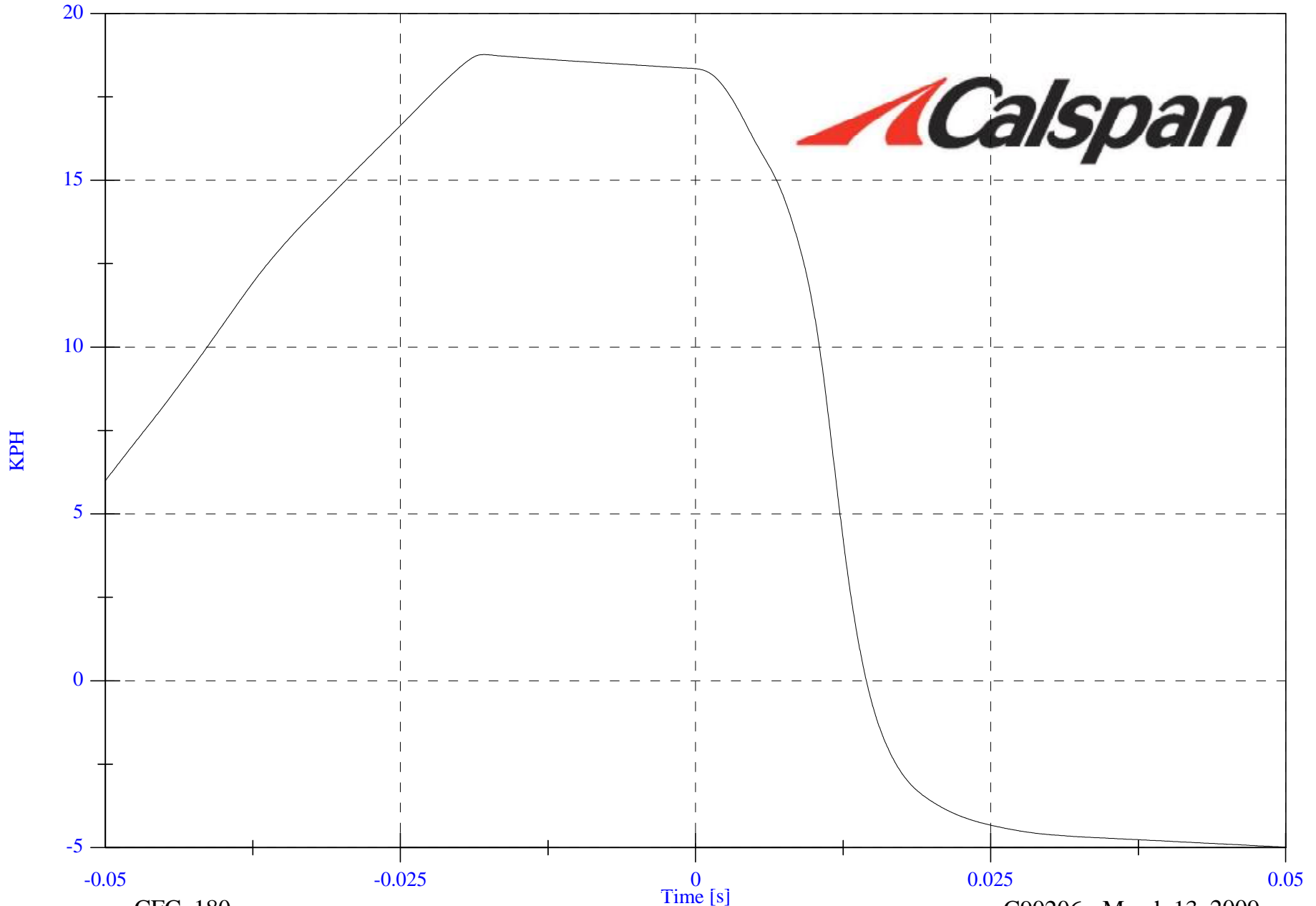
Max: 18.8 [KPH] at -0.018 [s]

Min: -5.0 [KPH] at 0.050 [s]

Headform Velocity



C90206 DRIVER SIDE SR1 IMPACT PLOT #5



CFC_180

C90206 - March 13, 2009



PRE-IMPACT SRI



POST-IMPACT SRI

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|----------|
| Test Number: | 11 |
| Test Date: | 03/13/09 |
| Target Location: | A-PILLAR |
| Target Code: | AP2 |
| Horizontal Impact Angle: | 209° |
| Vertical Impact Angle: | 41° |
| Ambient Temperature: | 21°C |
| Relative Humidity: | 15 |
| Time of Impact: | 10:09 |
| Headform Number: | 0355 |

| | | | | | |
|--|----|-------------------------------------|----------|--------------------------|---------|
| 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 | 24 | | | | mm up |



POST-IMPACT AP2HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 163.1 |
| HIC(d) | 289.5 |
| Impact Velocity (kph) | 18.4 |
| HIC T1 (msec) | 2.3 |
| HIC T2 (msec) | 17.4 |

FMVSS 201U 2009 FORD F150 C90206 - AP2

FMH Headform 0355

Location: AP2

Test Date: March 13, 2009

Work File: D AP2

-----TEST RESULTS-----

Lab Temperature: 21 C

HICd: 289.5

Lab Humidity: 15 %

HIC (36ms): 163.1

Velocity at Impact: 18.40 KPH

t1: 2.3 msec

t2: 17.4 msec

Free Flight Distance: 227.31 mm

Duration: 15.0 msec

Average Acceleration: 6.9 g

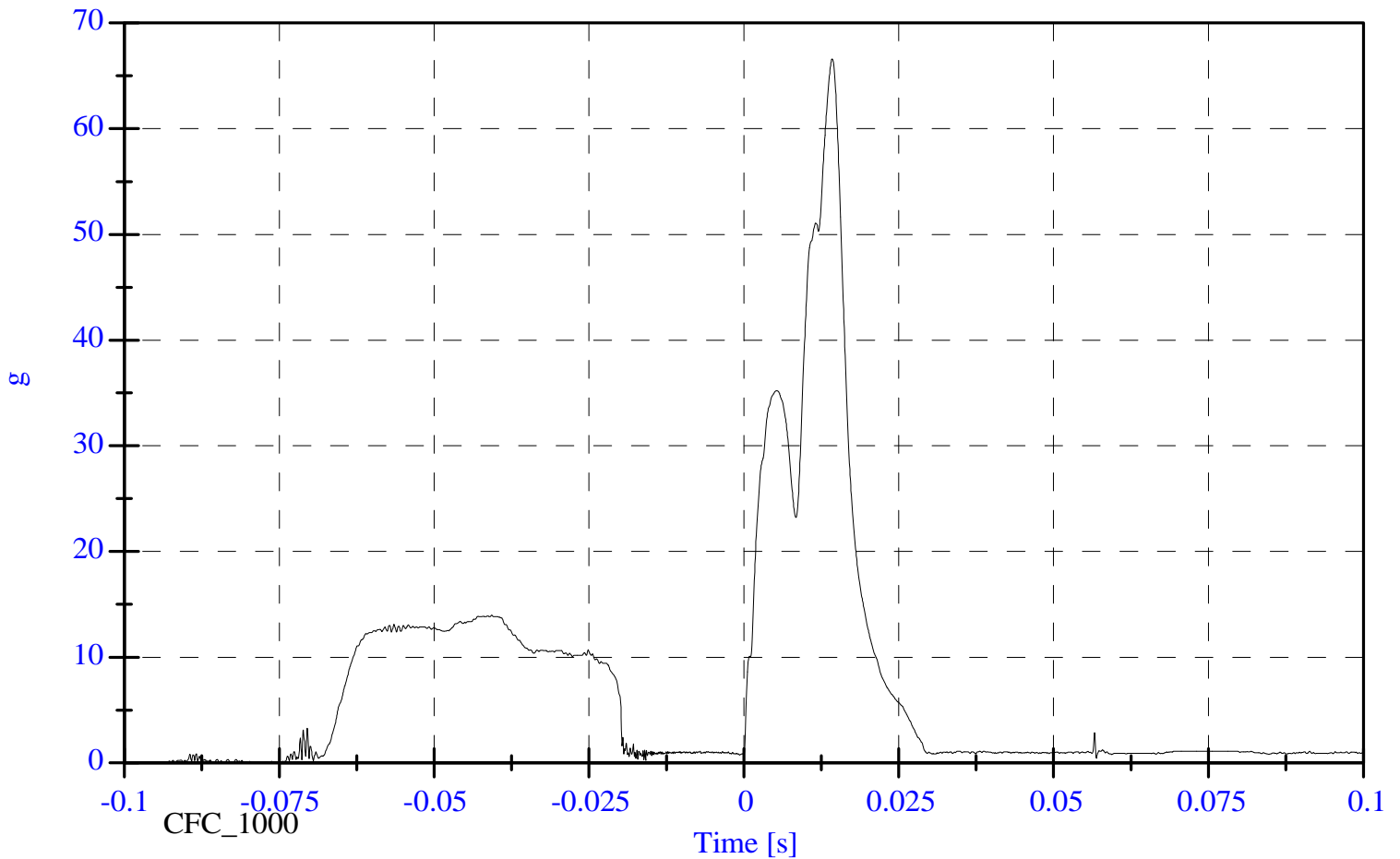
Maximum: 66.6 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 66.6 [g] at 0.014 [s]

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



FMVSS 201U 2009 FORD F150

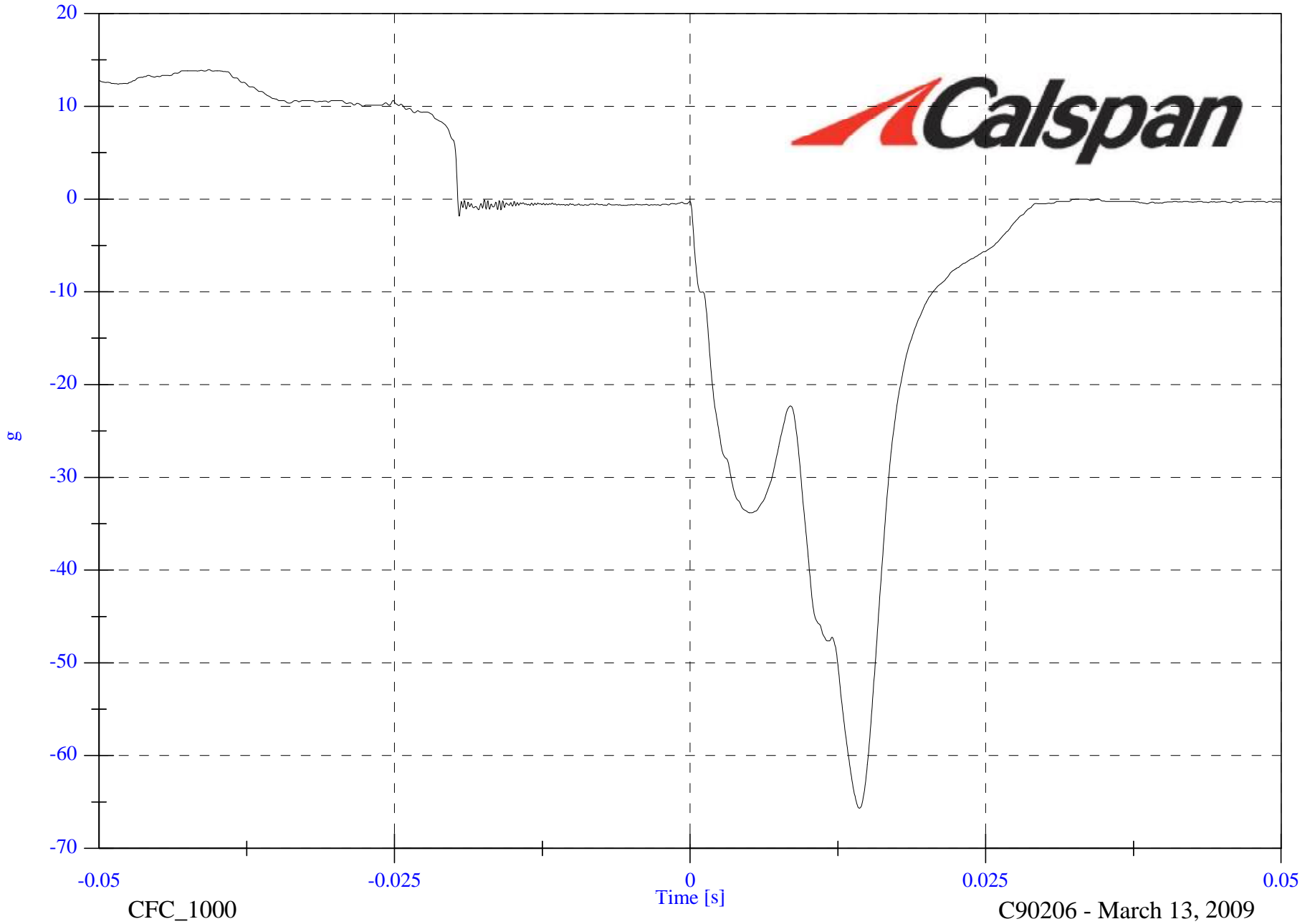
Headform X Acceleration

Max: 14.0 [g] at -0.041 [s]

Min: -65.7 [g] at 0.014 [s]



C90206 DRIVER SIDE AP2 IMPACT PLOT #1



CFC_1000

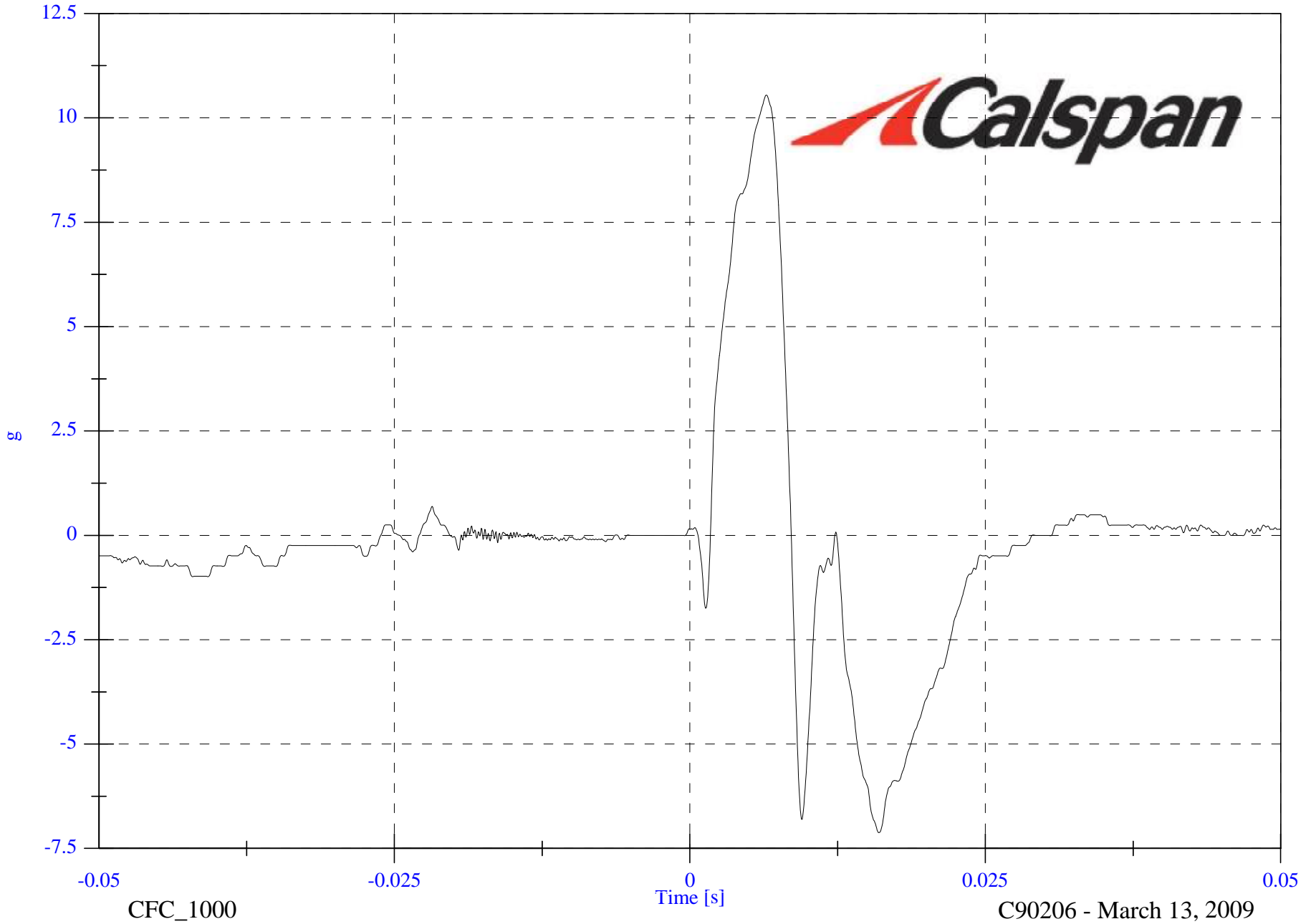
C90206 - March 13, 2009

FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 10.5 [g] at 0.006 [s]
Min: -7.1 [g] at 0.016 [s]

C90206 DRIVER SIDE AP2 IMPACT PLOT #2



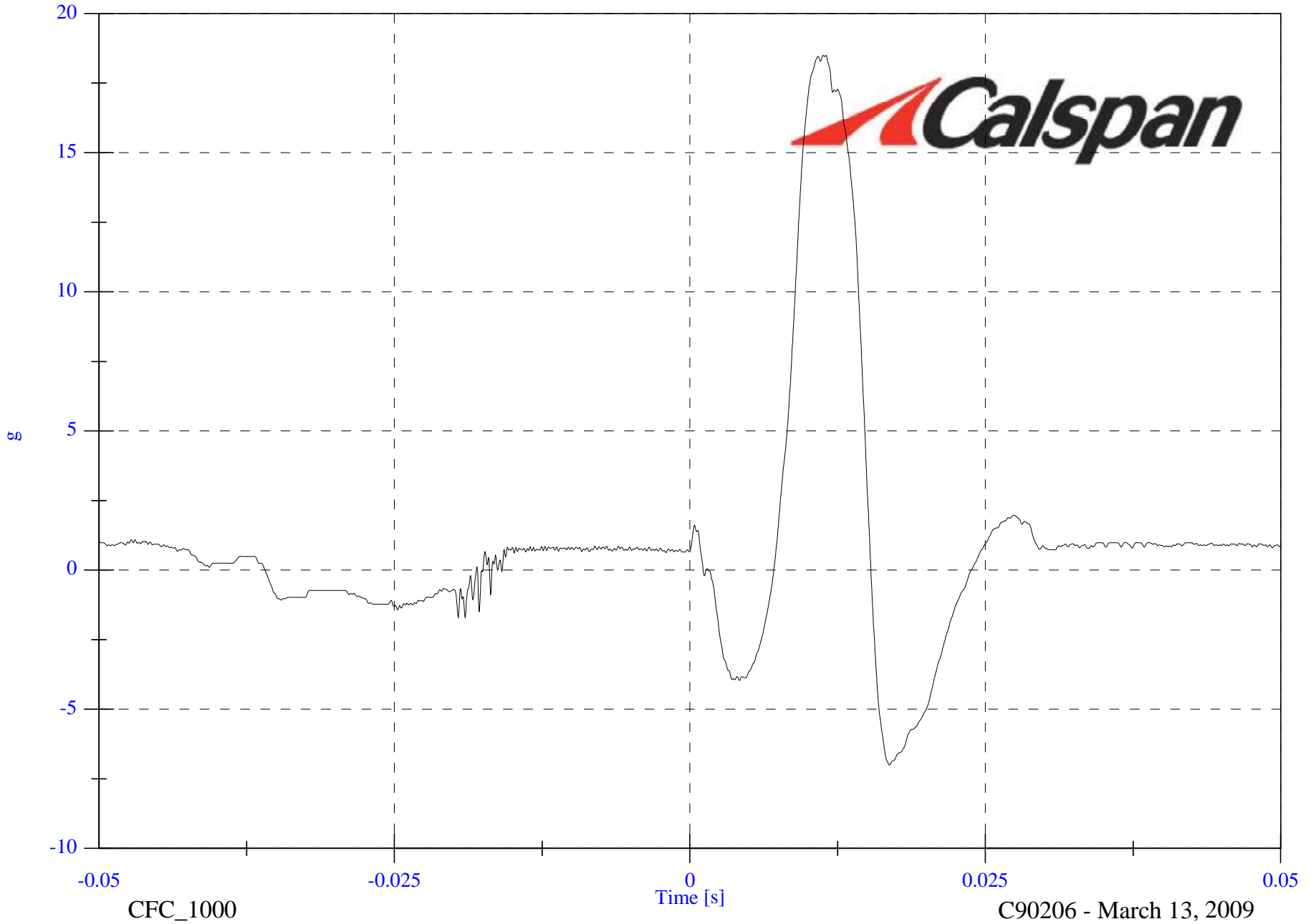
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 18.5 [g] at 0.011 [s]

Min: -7.0 [g] at 0.017 [s]

C90206 DRIVER SIDE AP2 IMPACT PLOT #3



C90206 - March 13, 2009

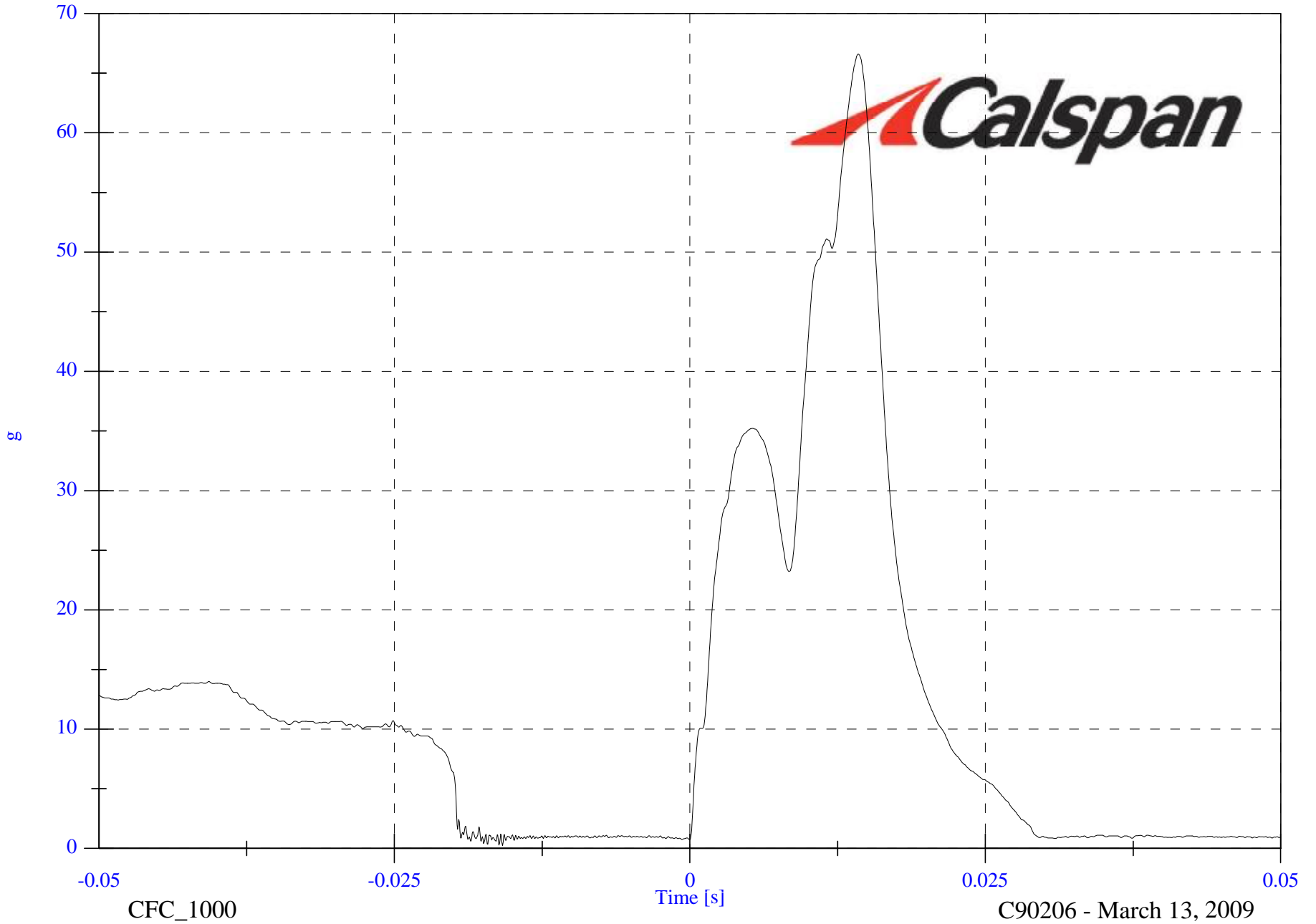
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 66.6 [g] at 0.014 [s]

Min: 0.2 [g] at -0.016 [s]

C90206 DRIVER SIDE AP2 IMPACT PLOT #4



CFC_1000

C90206 - March 13, 2009

FMVSS 201U 2009 FORD F150

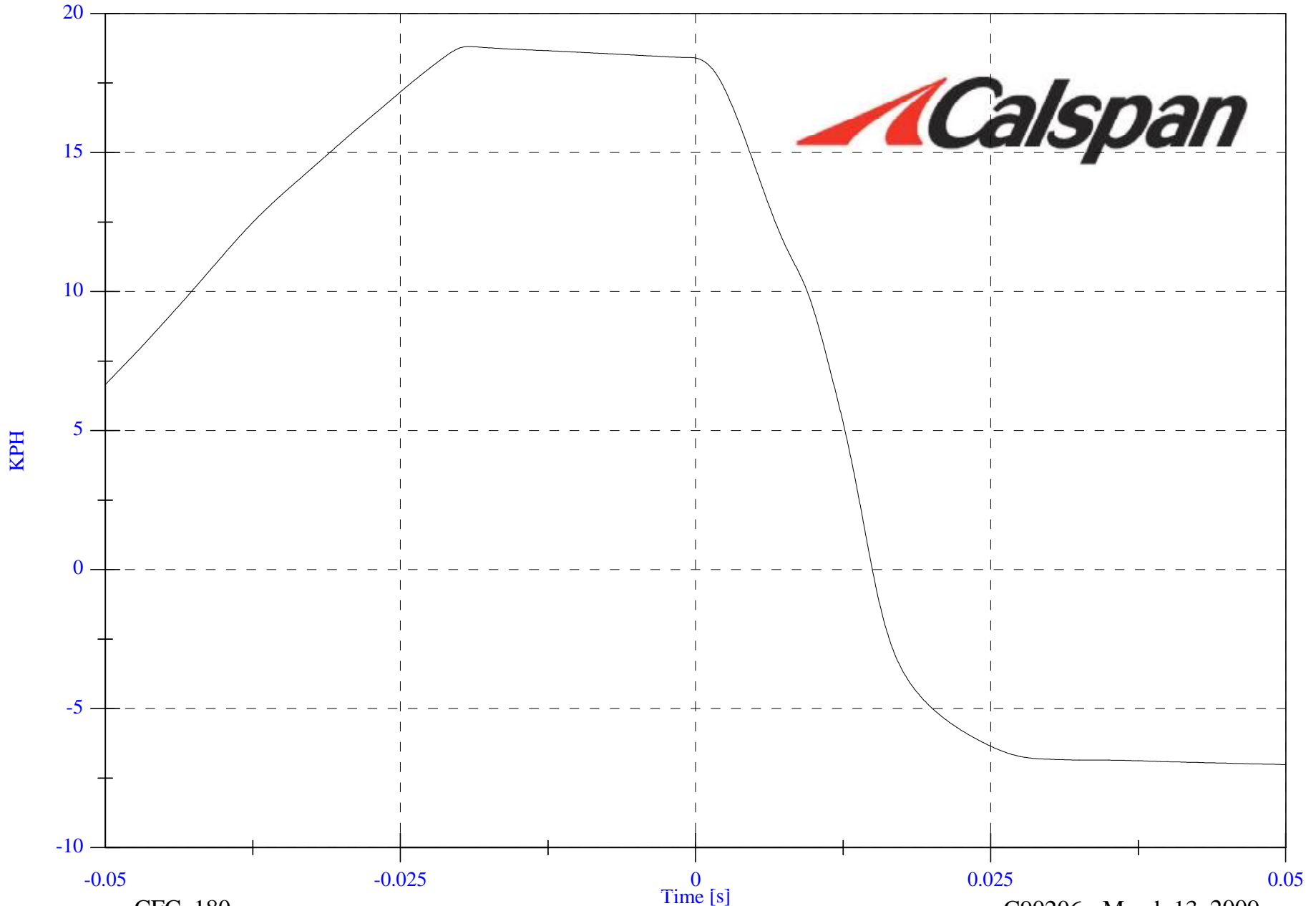
Max: 18.8 [KPH] at -0.019 [s]

Min: -7.0 [KPH] at 0.050 [s]

Headform Velocity



C90206 DRIVER SIDE AP2 IMPACT PLOT #5



CFC_180

C90206 - March 13, 2009



PRE-IMPACT AP2

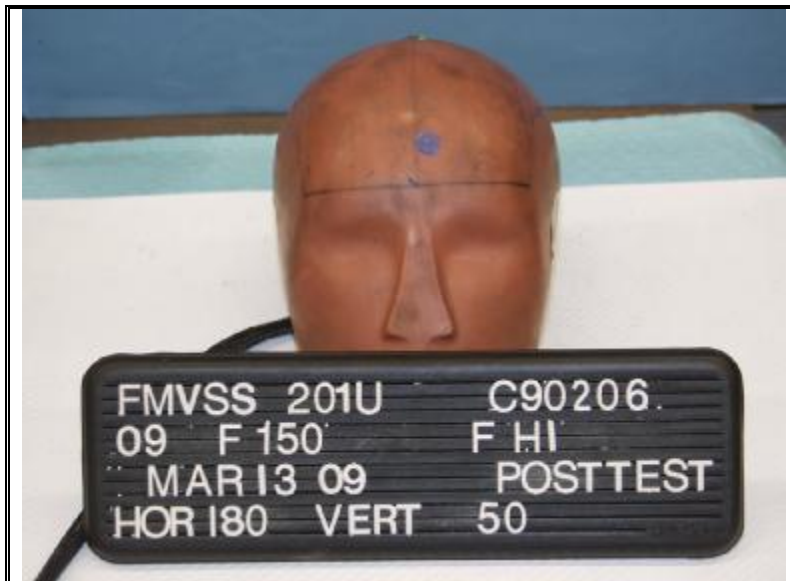


POST-IMPACT AP2

| | |
|--------------------------------|--------------------------------|
| VEHICLE YEAR/MAKE/MODEL/STYLE: | 2009 Ford F150 |
| VIN: | 1FTRF12W19KB43084 |
| DATE OF MANUFACTURE: | 01/09(SEE CERTIFICATION LABEL) |
| COLOR: | Black |

| | |
|--------------------------|--------------|
| Test Number: | 12 |
| Test Date: | 03/13/09 |
| Target Location: | FRONT HEADER |
| Target Code: | FH1 |
| Horizontal Impact Angle: | 180° |
| Vertical Impact Angle: | 50° |
| Ambient Temperature: | 21°C |
| Relative Humidity: | 15 |
| Time of Impact: | 11:15 |
| Headform Number: | 0062 |

| | | | |
|--|----|--------------------------|--|
| 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 | 19 | | mm up |



POST-IMPACT FH1 HEADFORM

| | |
|-----------------------|-------|
| Free Motion HIC | 587.2 |
| HIC(d) | 609.4 |
| Impact Velocity (kph) | 23.58 |
| HIC T1 (msec) | 1.8 |
| HIC T2 (msec) | 8.3 |

FMVSS 201U 2009 FORD F150 C90206 - FH1

FMH Headform 0062

Location: FH1

Test Date: March 13, 2009

Work File: FH1

-----TEST RESULTS-----

Lab Temperature: 21 C

HICd: 609.4

Lab Humidity: 15 %

HIC (36ms): 587.2

Velocity at Impact: 23.58 KPH

t1: 1.8 msec

t2: 8.3 msec

Free Flight Distance: 221.70 mm

Duration: 6.5 msec

Average Acceleration: 10.5 g

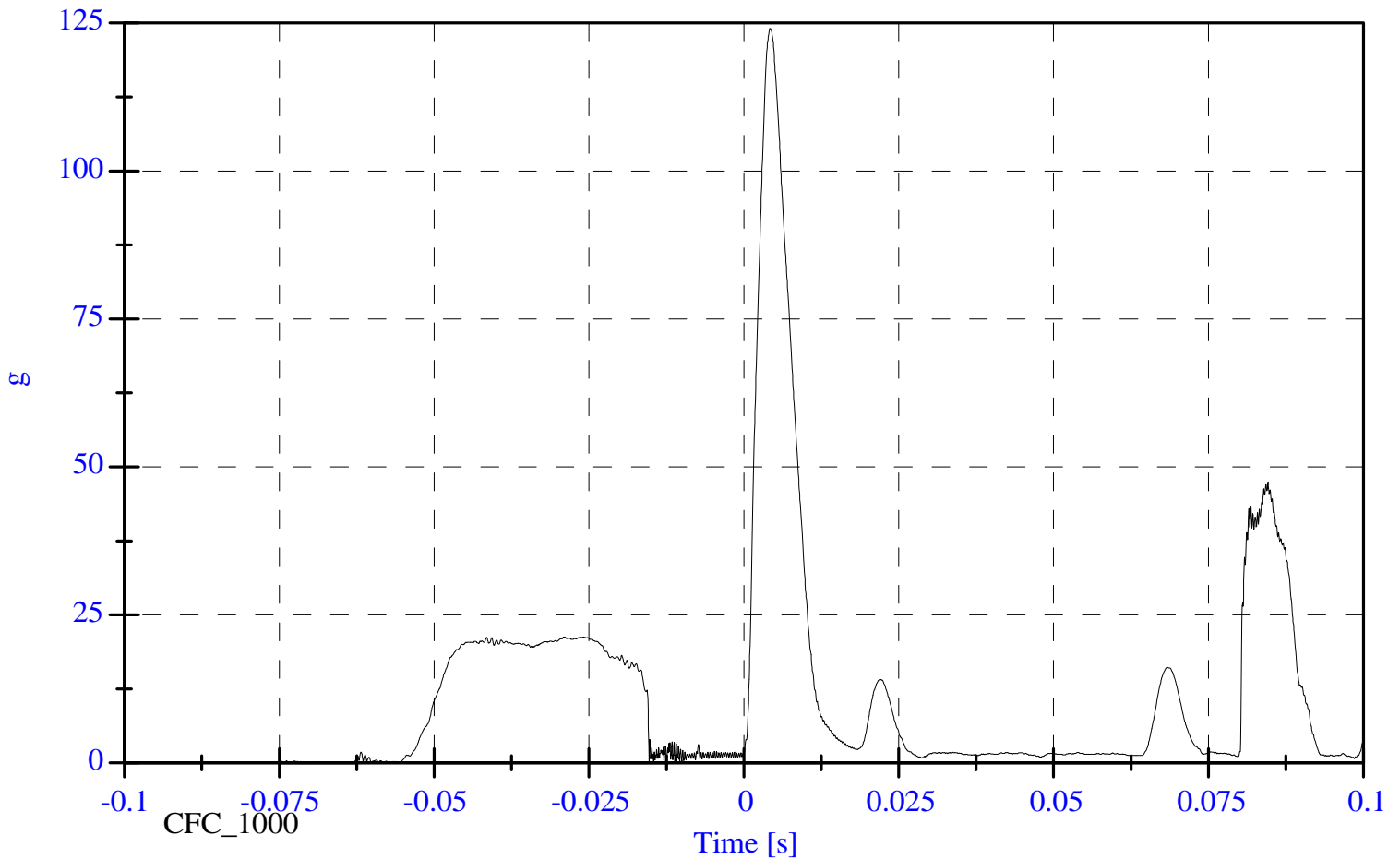
Maximum: 124.1 g

FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 124.1 [g] at 0.004 [s]

Min: 0.0 [g] at -0.066 [s]



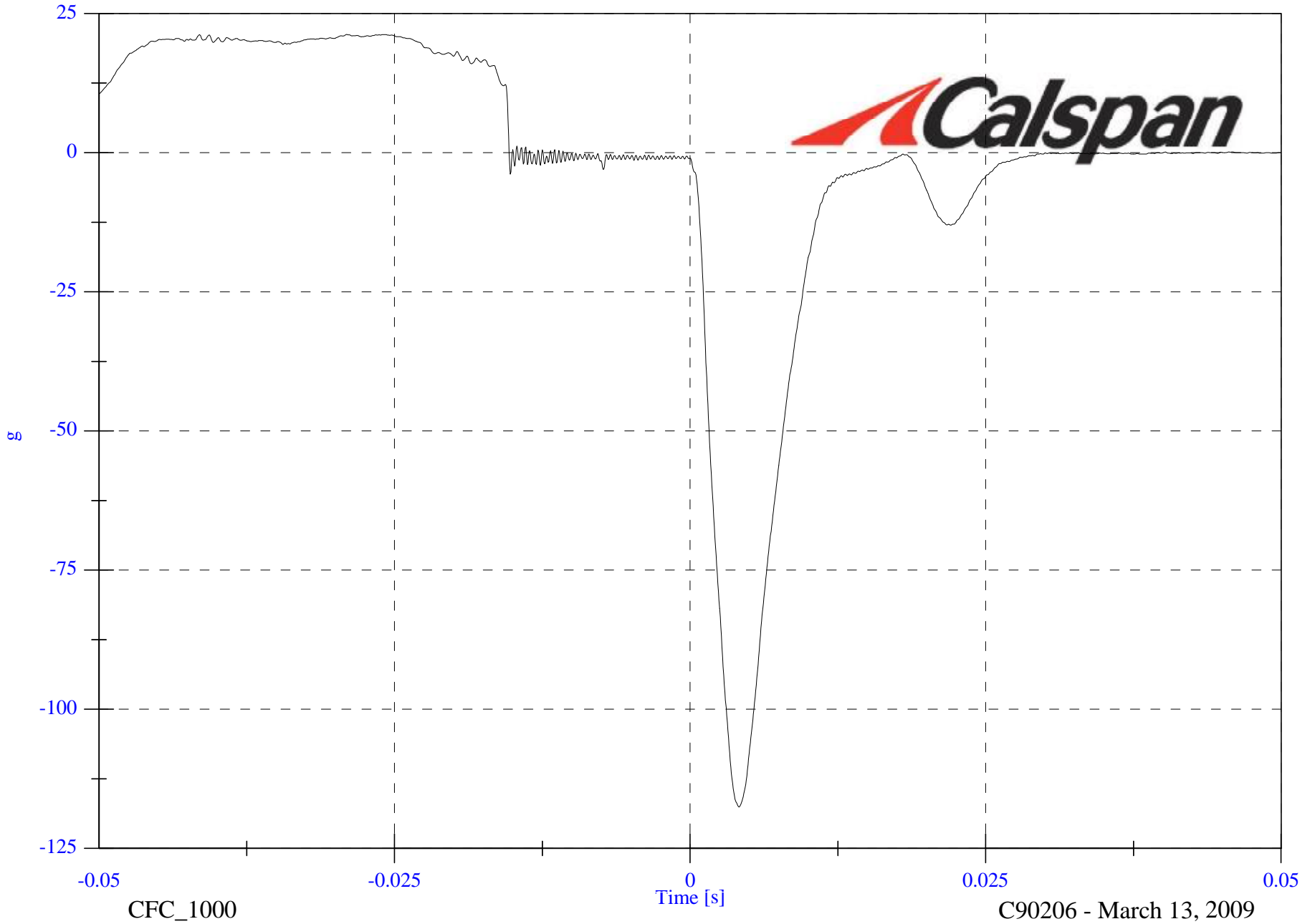
FMVSS 201U 2009 FORD F150

Headform X Acceleration

Max: 21.2 [g] at -0.029 [s]

Min: -117.6 [g] at 0.004 [s]

C90206 DRIVER SIDE FH1 IMPACT PLOT #1



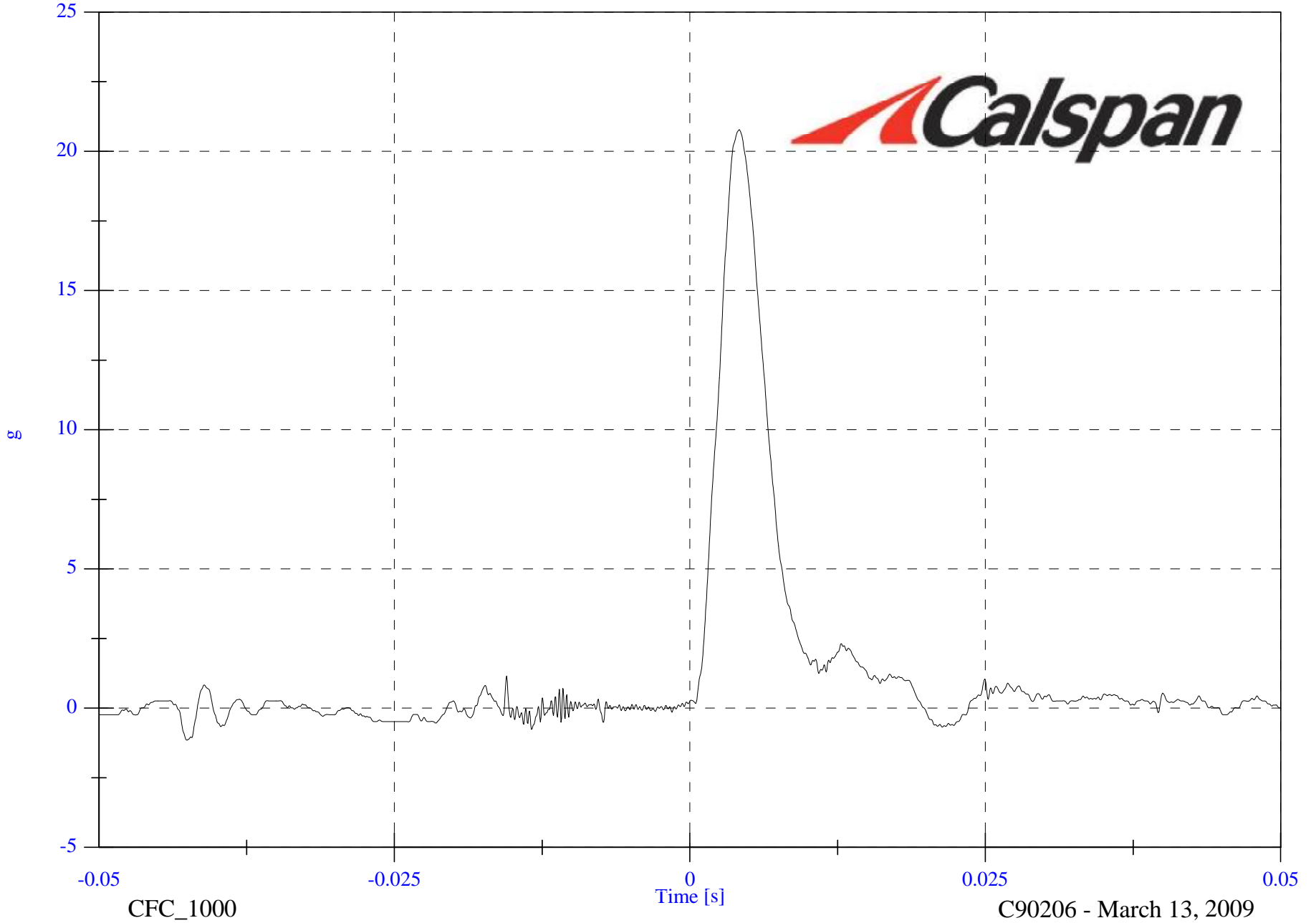
FMVSS 201U 2009 FORD F150

Headform Y Acceleration

Max: 20.8 [g] at 0.004 [s]

Min: -1.1 [g] at -0.043 [s]

C90206 DRIVER SIDE FH1 IMPACT PLOT #2



CFC_1000

C90206 - March 13, 2009

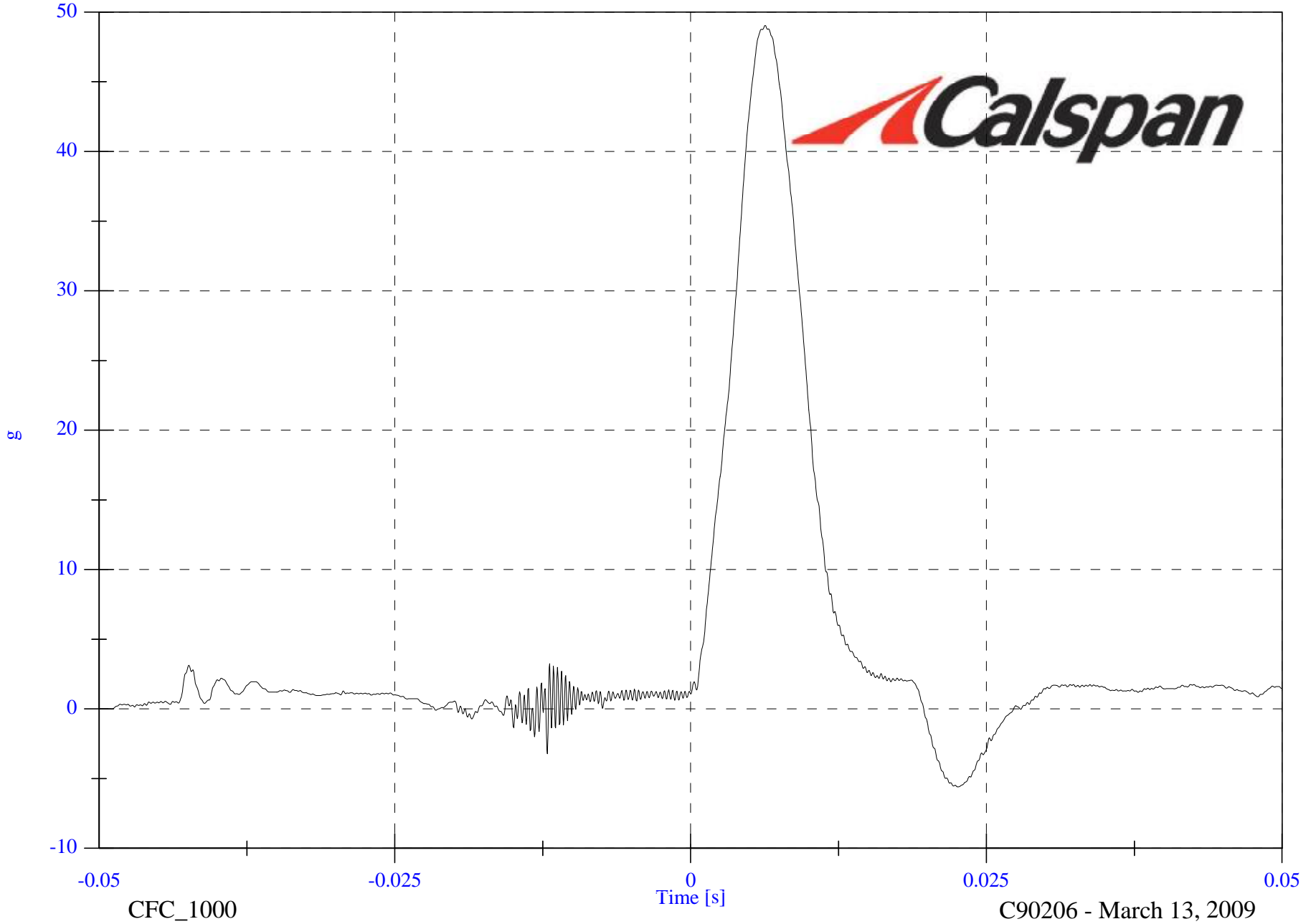
FMVSS 201U 2009 FORD F150

Headform Z Acceleration

Max: 49.1 [g] at 0.006 [s]

Min: -5.6 [g] at 0.023 [s]

C90206 DRIVER SIDE FH1 IMPACT PLOT #3



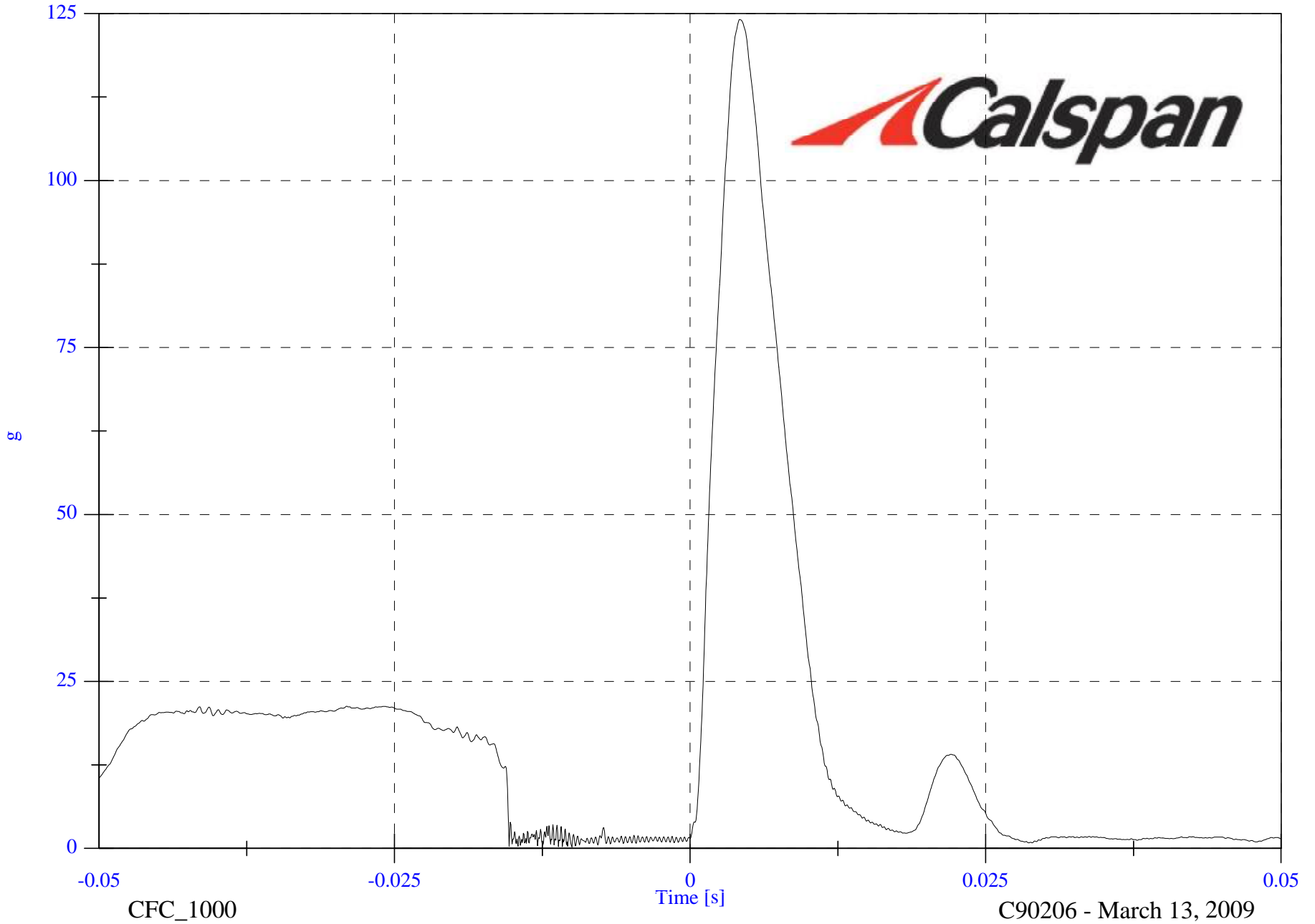
FMVSS 201U 2009 FORD F150

Headform Resultant

Max: 124.1 [g] at 0.004 [s]

Min: 0.2 [g] at -0.010 [s]

C90206 DRIVER SIDE FH1 IMPACT PLOT #4



CFC_1000

C90206 - March 13, 2009

FMVSS 201U 2009 FORD F150

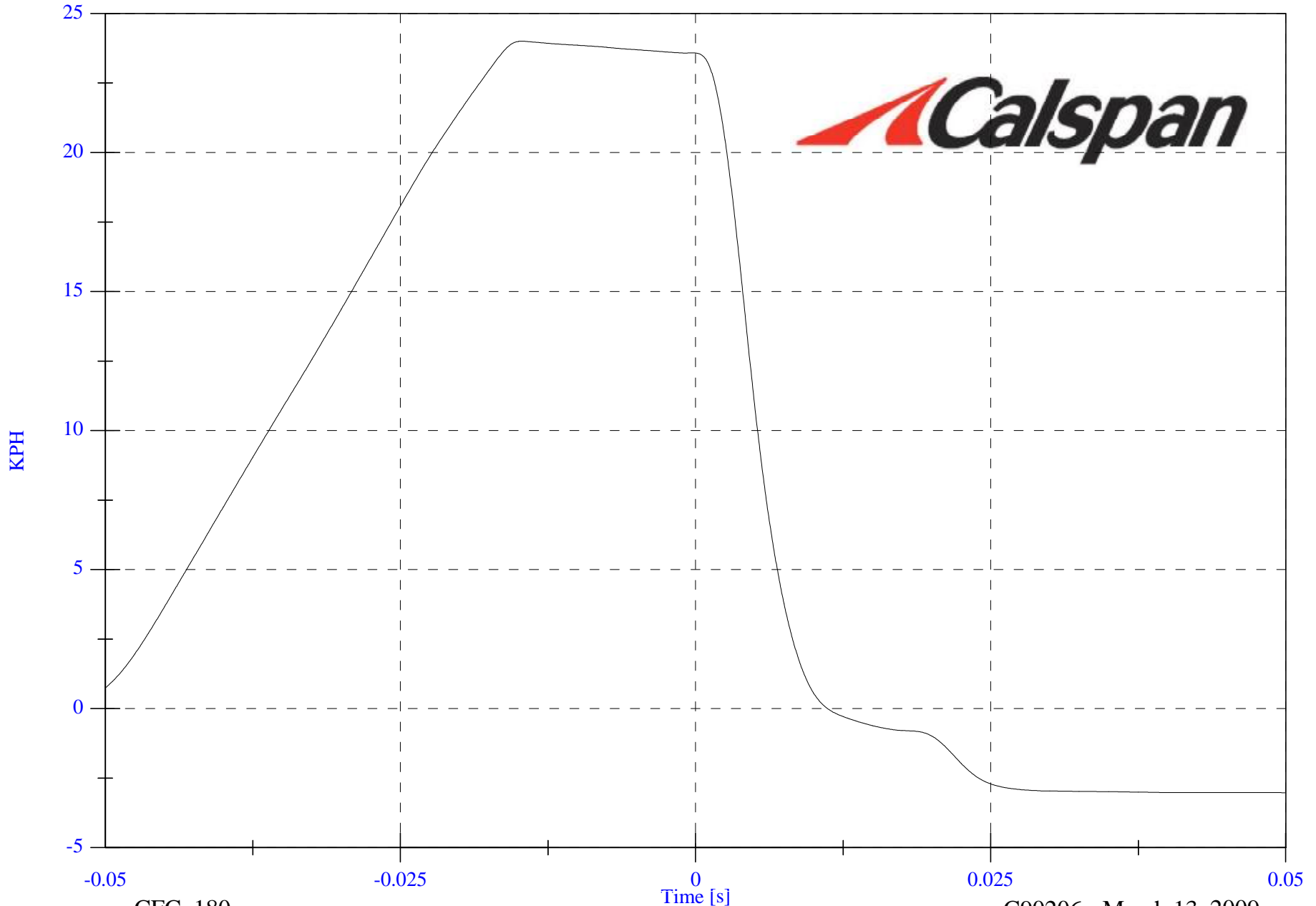
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Headform Velocity



C90206 DRIVER SIDE FH1 IMPACT PLOT #5



CFC_180

C90206 - March 13, 2009



PRE-IMPACT FH1



POST-IMPACT FH1

APPENDIX A

PHOTOGRAPHS

PHOTOGRAPHS

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| A-1 | LEFT SIDE VIEW OF VEHICLE | A-3 |
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| A-19 | POST-TEST PASSENGER SIDE A-PILLAR | A-21 |
| A-20 | POST-TEST PASSENGER SIDE FRONT HEADER | A-22 |
| A-21 | POST-TEST PASSENGER SIDE SIDE RAIL | A-23 |
| A-22 | POST-TEST PASSENGER SIDE REAR PILLAR | A-24 |



Figure A-1 : LEFT SIDE VIEW OF VEHICLE



Figure A-2 : RIGHT SIDE VIEW OF VEHICLE



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



Figure A-4 : 3/4 REAR VIEW FROM LEFT 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 REAR PILLAR



Figure A-11 : PRE-TEST PASSENGER SIDE A-PILLAR



Figure A-12 : PRE-TEST PASSENGER SIDE FRONT HEADER



Figure A-13 : PRE-TEST PASSENGER SIDE SIDE RAIL



Figure A-14 : PRE-TEST PASSENGER SIDE REAR PILLAR



Figure A-15 : POST-TEST DRIVER SIDE A-PILLAR



Figure A-16 : POST-TEST DRIVER SIDE FRONT HEADER



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



Figure A-18 : POST-TEST DRIVER SIDE REAR PILLAR



Figure A-19 : POST-TEST PASSENGER SIDE A-PILLAR



Figure A-20 : POST-TEST PASSENGER SIDE FRONT HEADER



Figure A-21 : POST-TEST PASSENGER SIDE SIDE RAIL



Figure A-22 : POST-TEST PASSENGER SIDE REAR 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**

| | | | |
|--|----------------------|--|--|
| MANUFACTURER: | | FIRST TECHNOLOGY SAFETY SYSTEMS | |
| SERIAL NUMBER: | | 1142 | |
| CALIBRATION DATE: | | February 3, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 20 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 258.7 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 2.9 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

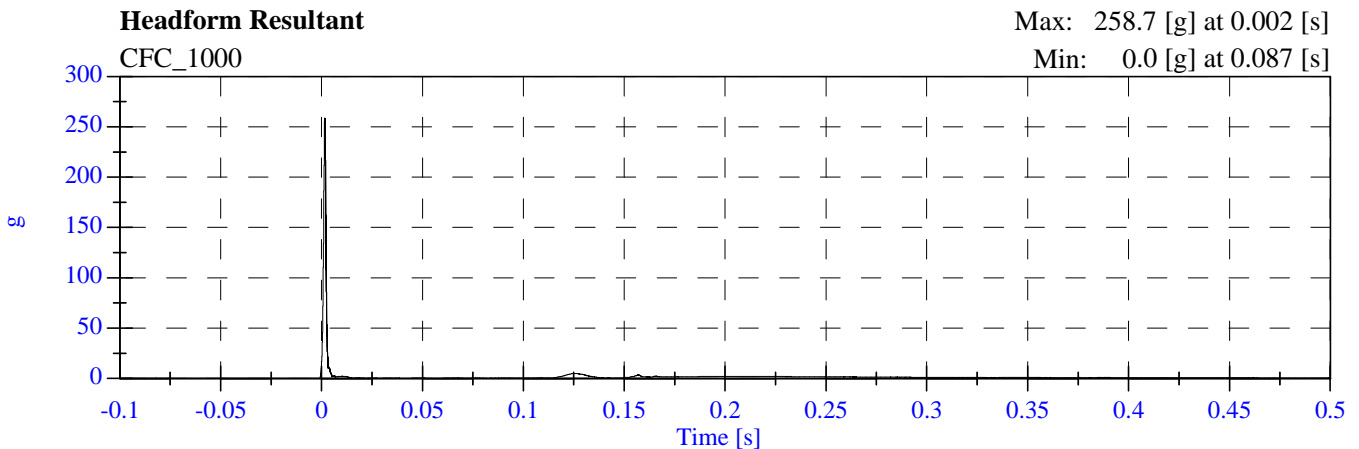
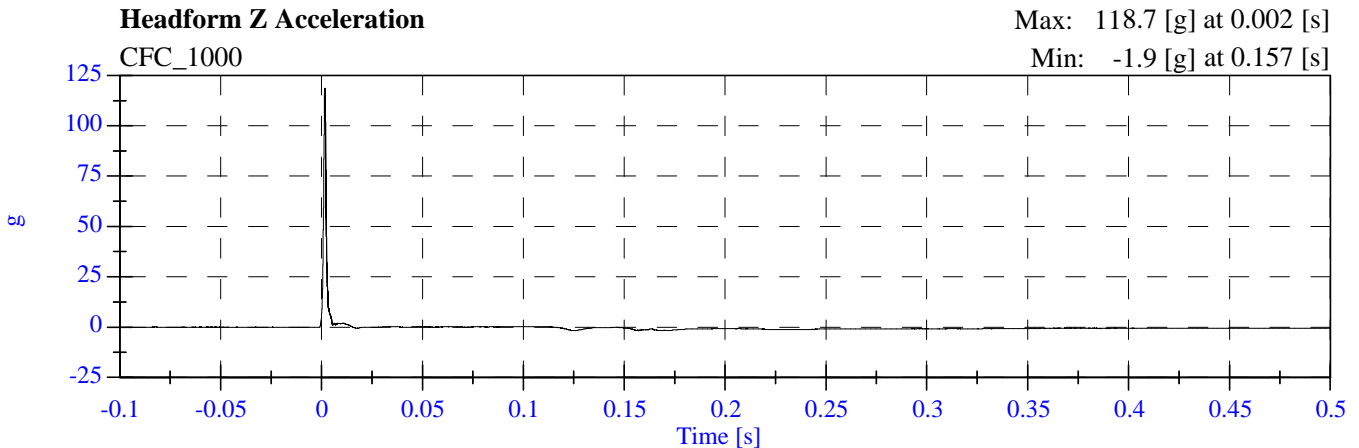
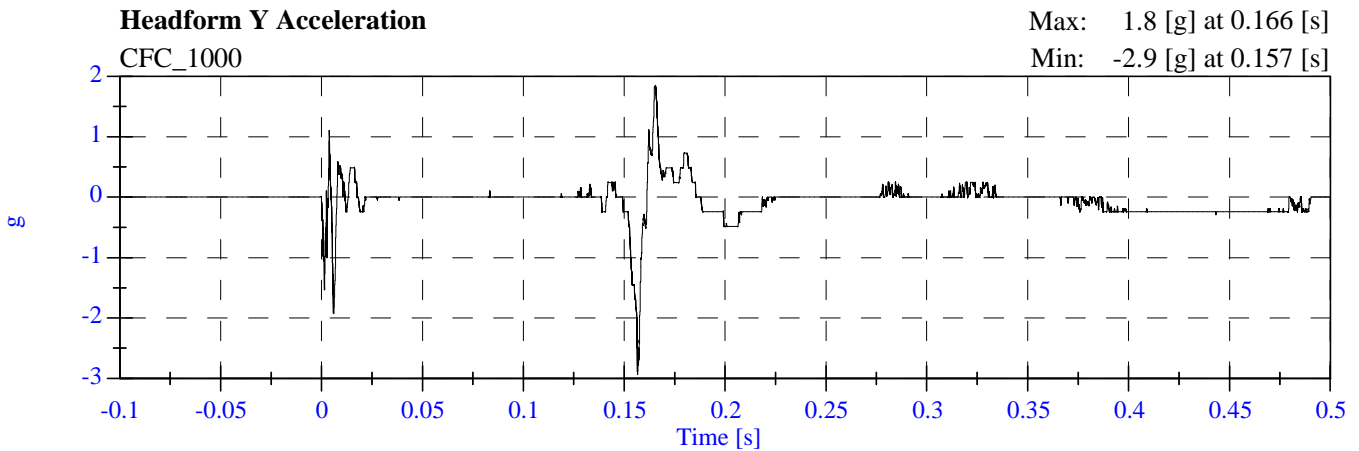
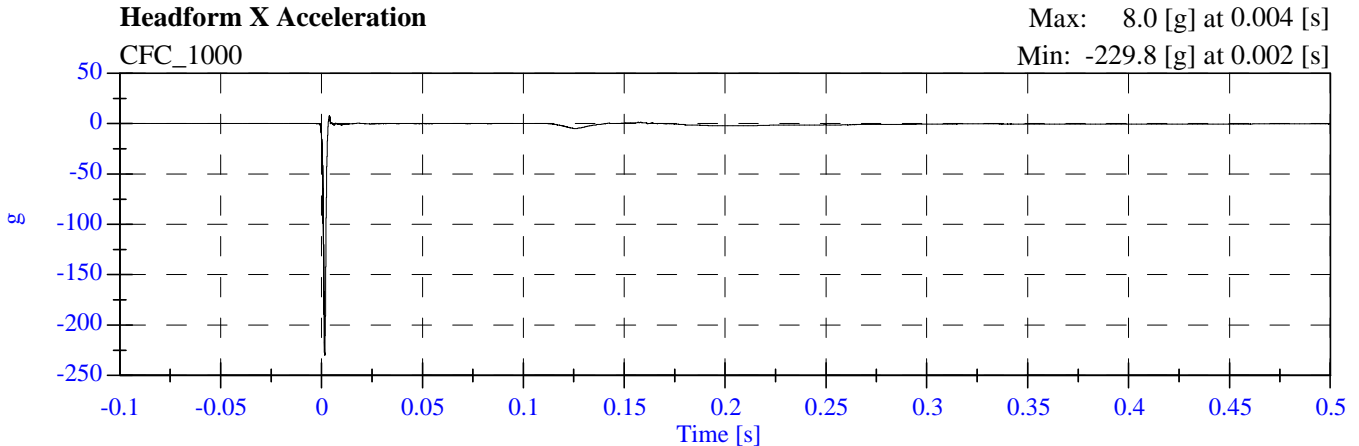
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

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

| | | | |
|--|-------------------------|-------------------------|--|
| MANUFACTURER: | | DENTON ATD INC. | |
| SERIAL NUMBER: | | 0062 | |
| CALIBRATION DATE: | | February 3, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 20 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 238.4 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 5.8 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

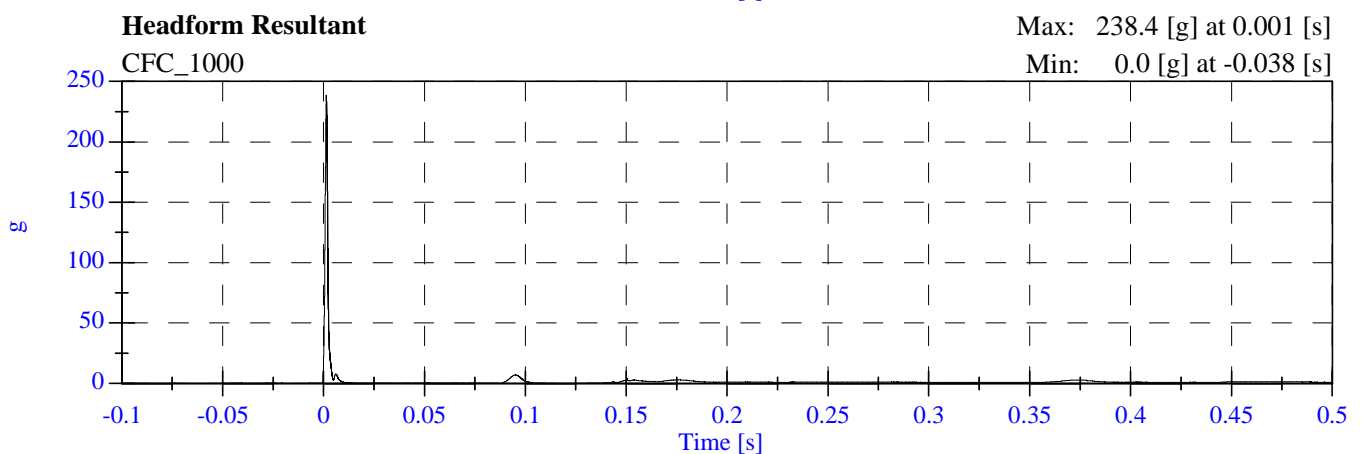
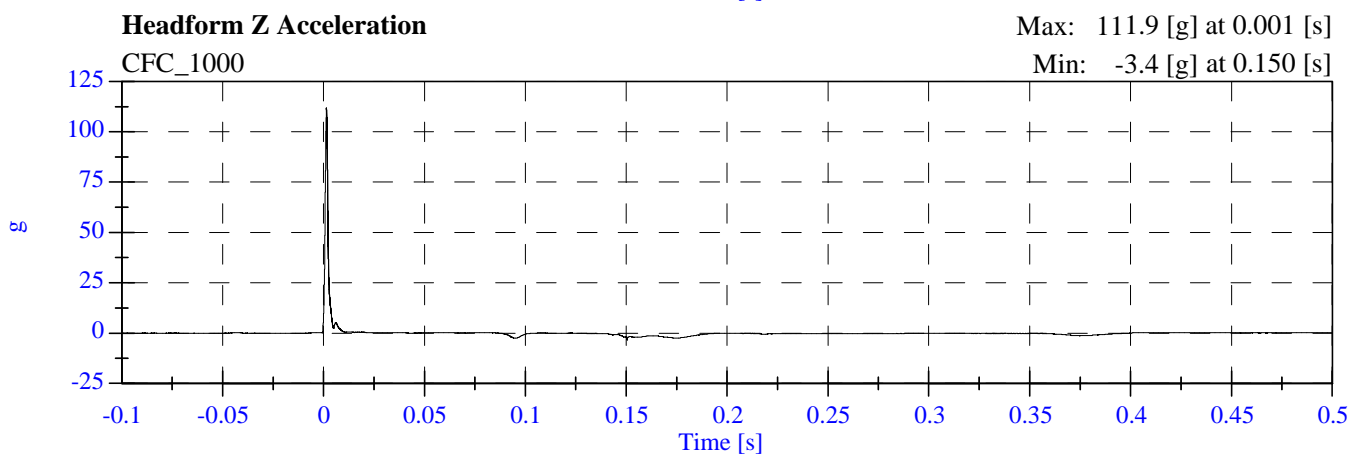
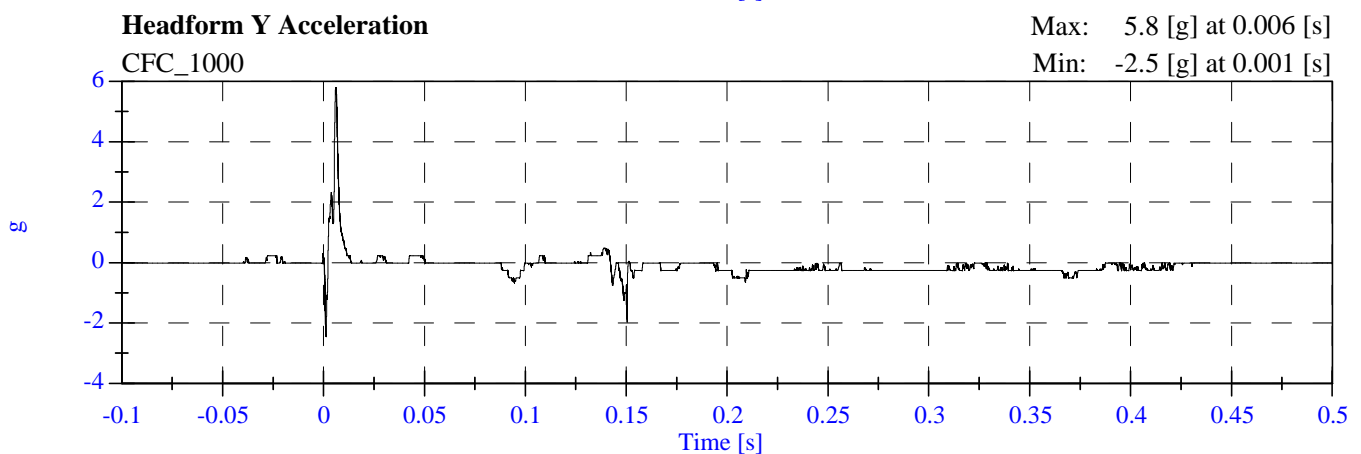
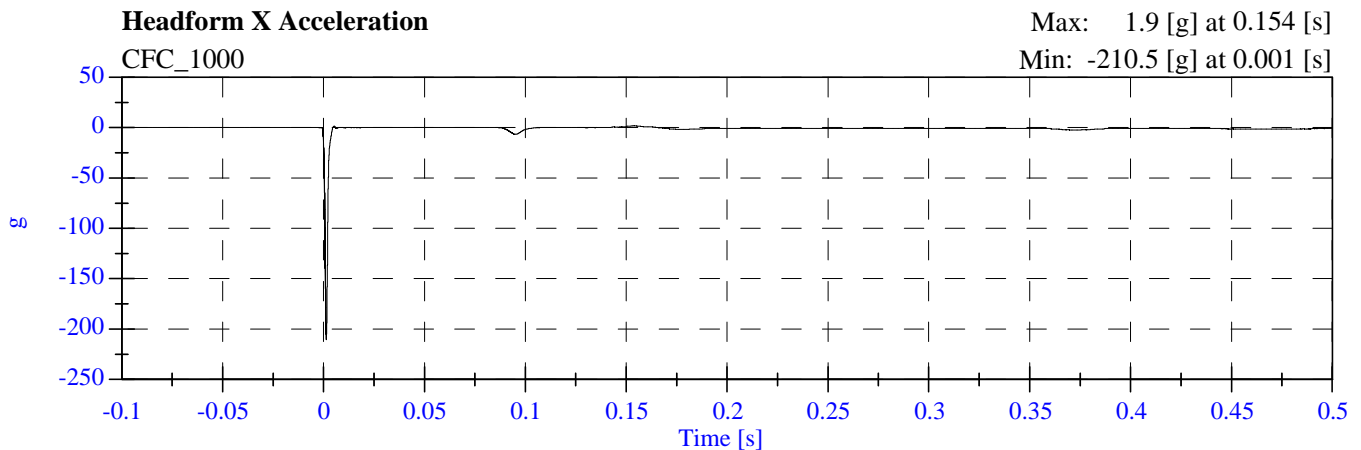
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

C90206 - February 03, 2009



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

| | | | |
|--|-------------------------|--|--|
| MANUFACTURER: | | FIRST TECHNOLOGY SAFETY SYSTEMS | |
| SERIAL NUMBER: | | 805 | |
| CALIBRATION DATE: | | February 3, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 20 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 264.3 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 8.6 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

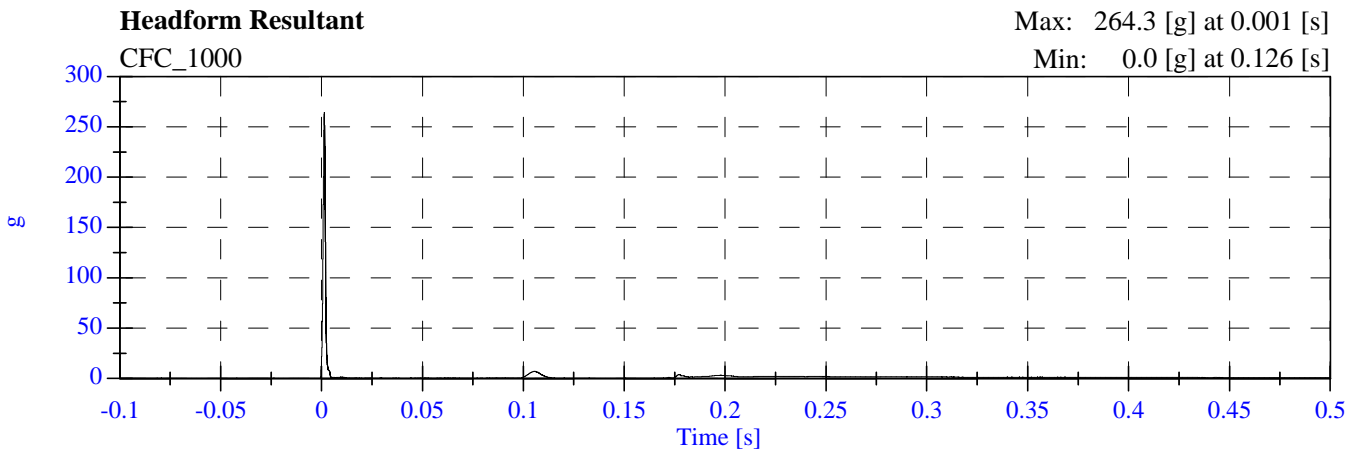
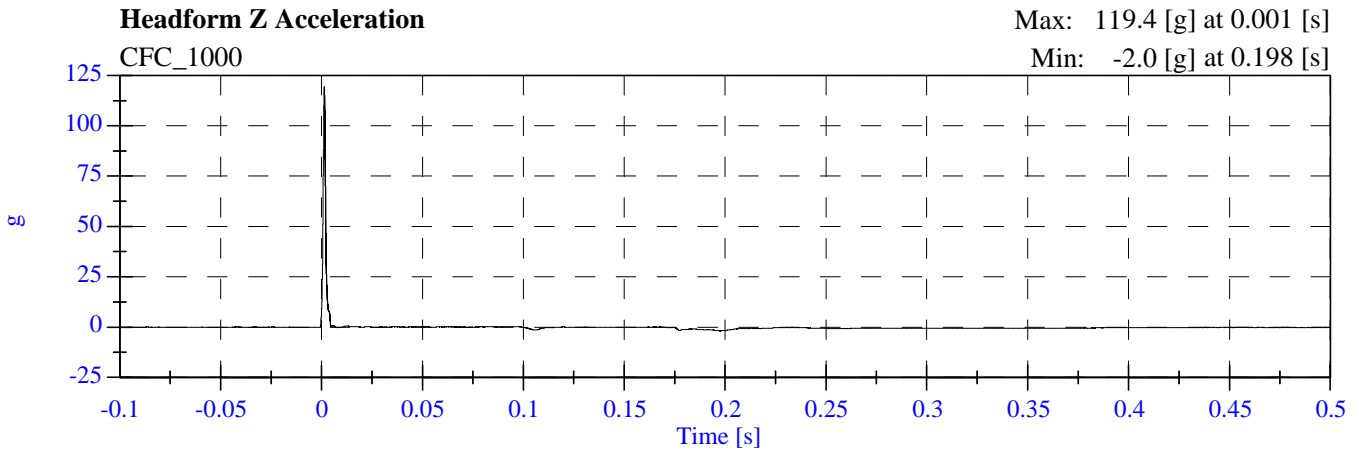
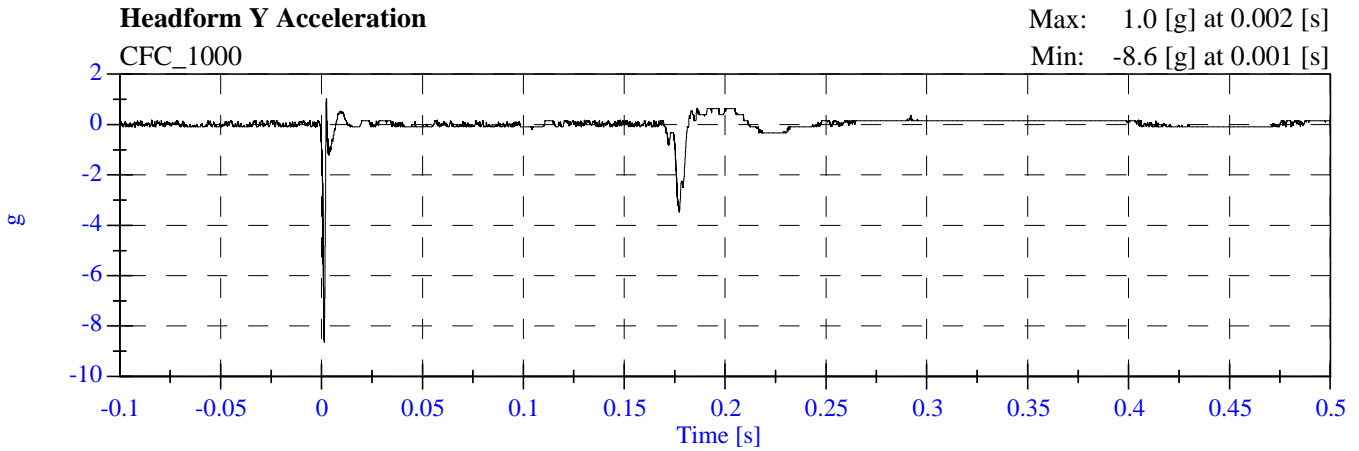
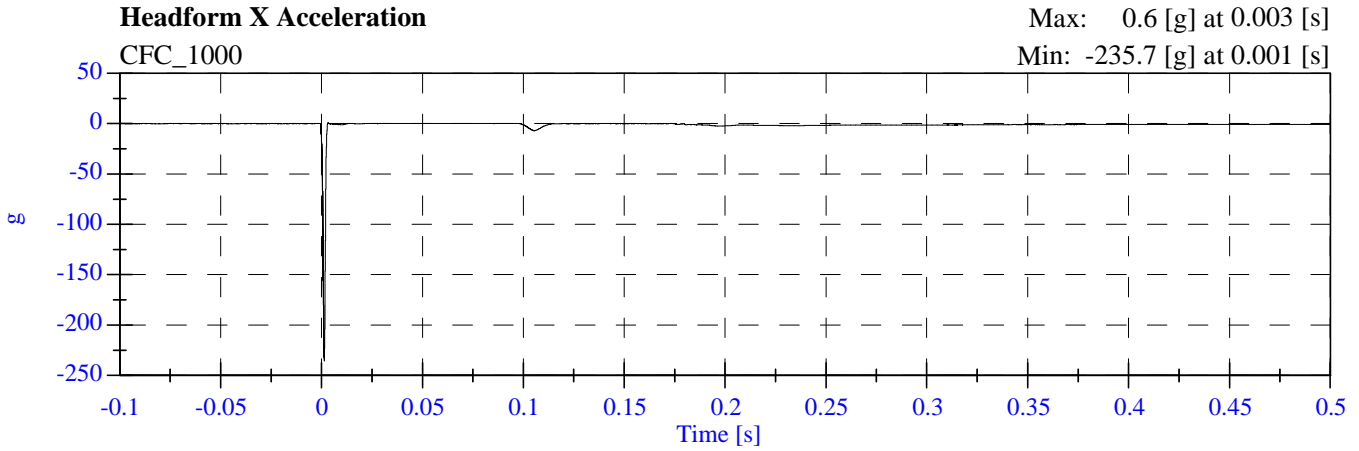
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

C90206 - February 03, 2009



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

| | | | |
|--|-------------------------|-------------------------|--|
| MANUFACTURER: | | DENTON ATD INC. | |
| SERIAL NUMBER: | | 0355 | |
| CALIBRATION DATE: | | February 3, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 20 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 252.3 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 6.1 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

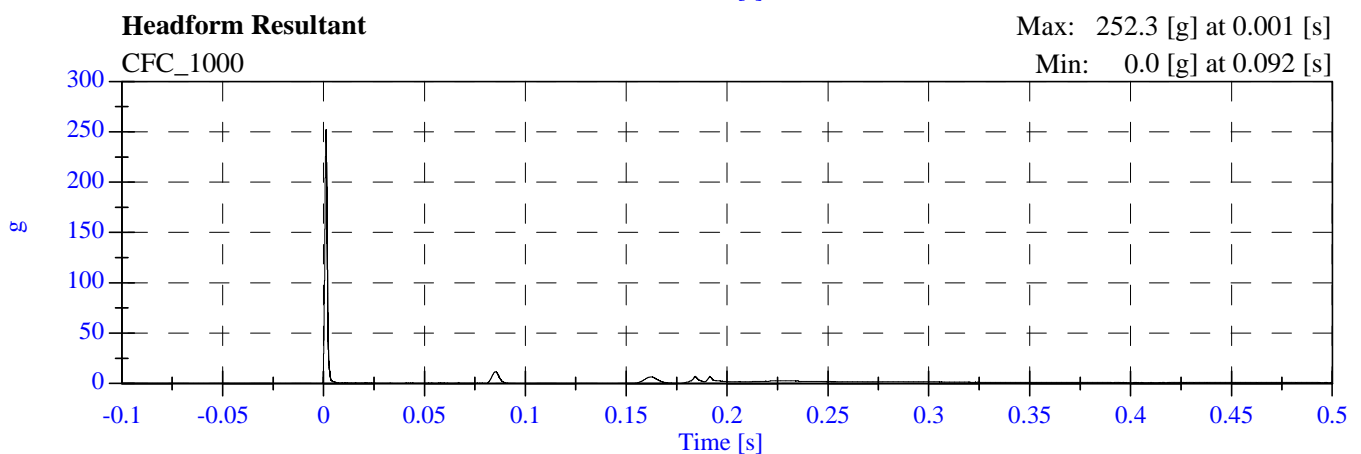
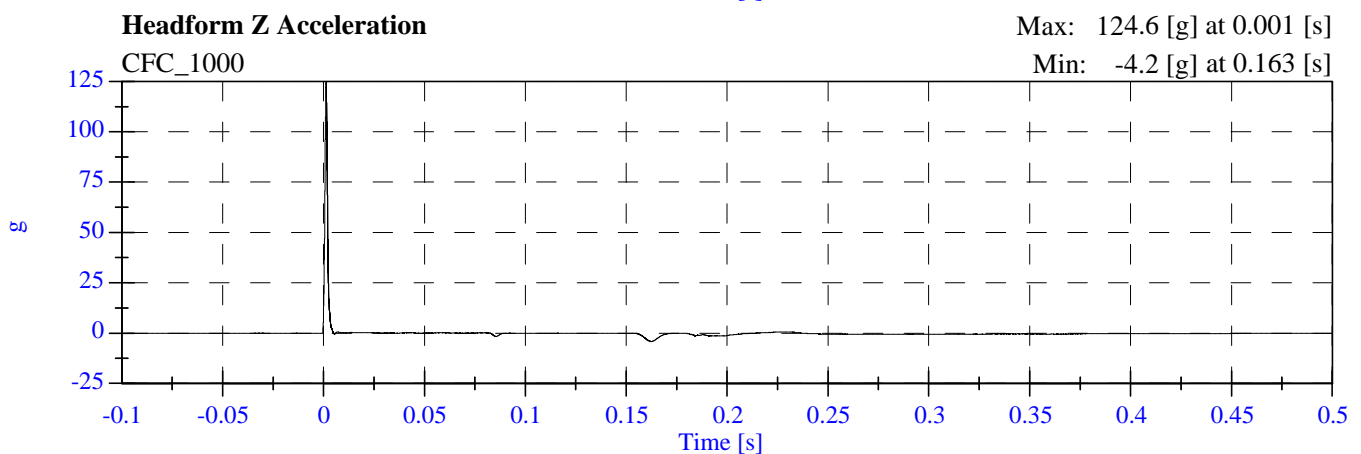
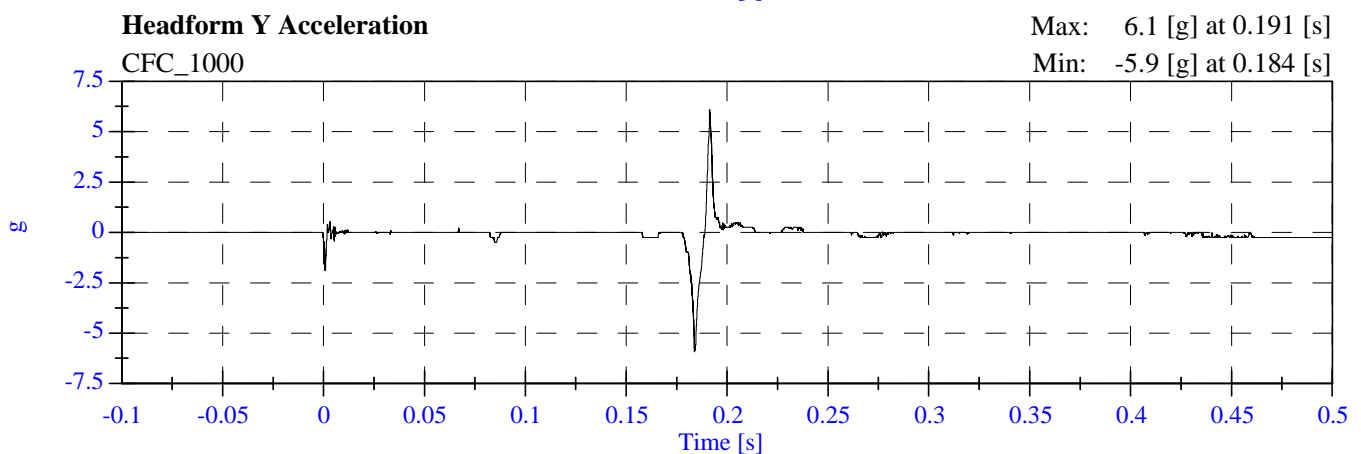
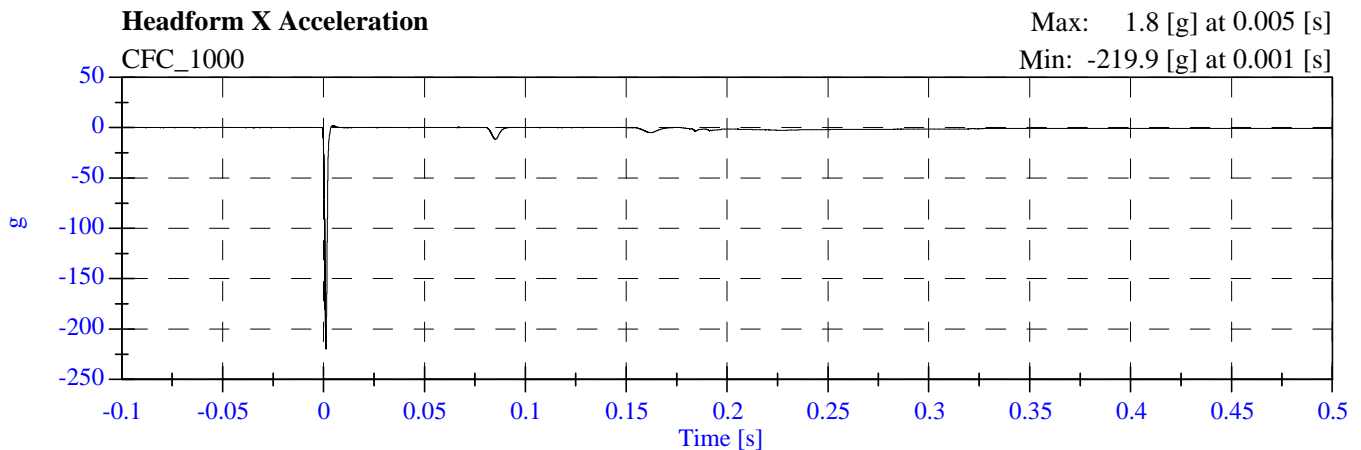
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

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

| | | | |
|--|-------------------------|--|--|
| MANUFACTURER: | | FIRST TECHNOLOGY SAFETY SYSTEMS | |
| SERIAL NUMBER: | | 1140 | |
| CALIBRATION DATE: | | February 3, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 20 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 258.3 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 5.7 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

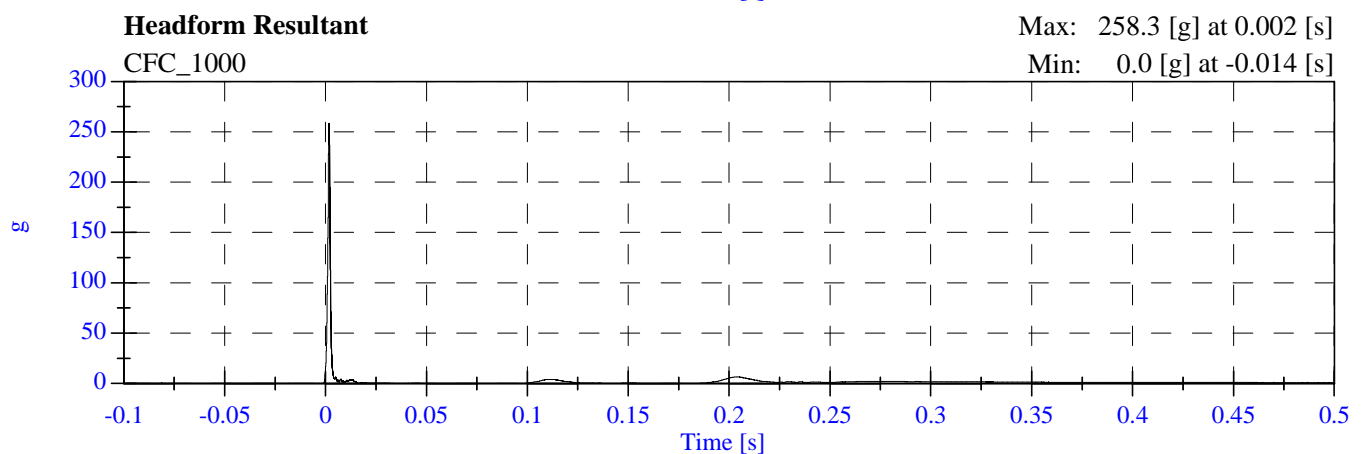
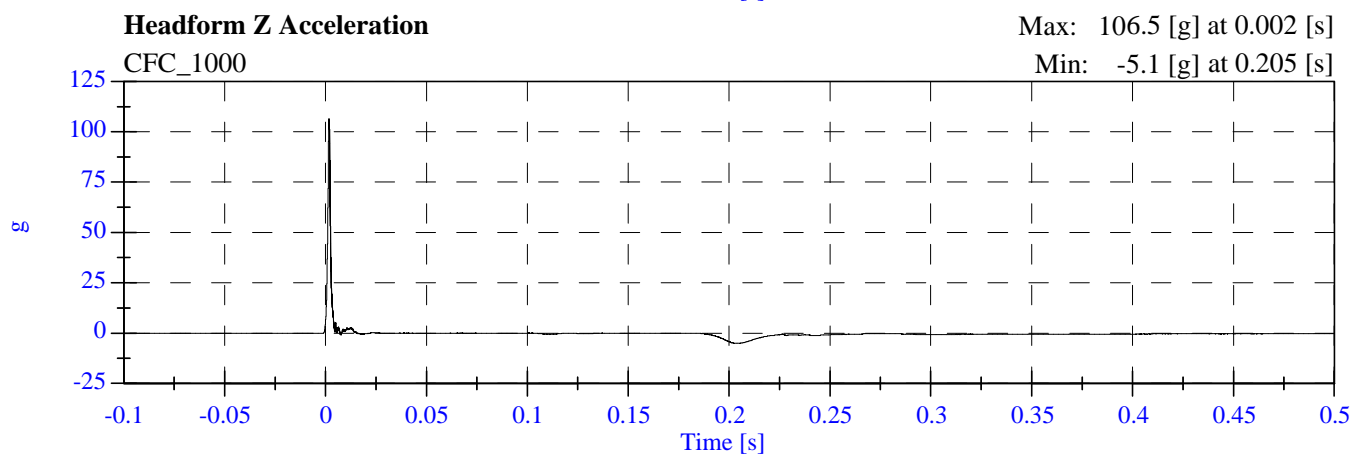
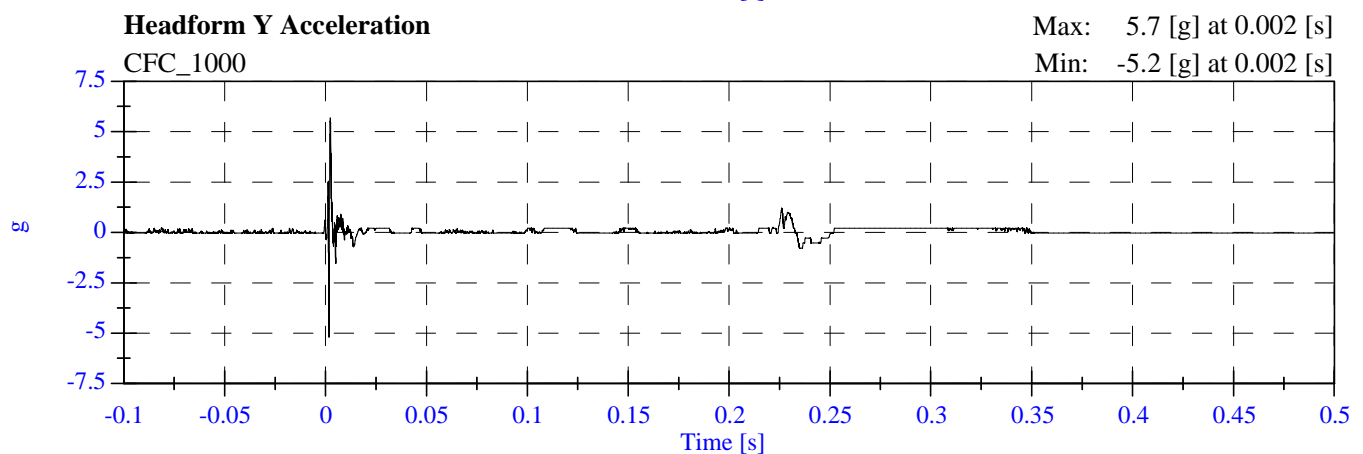
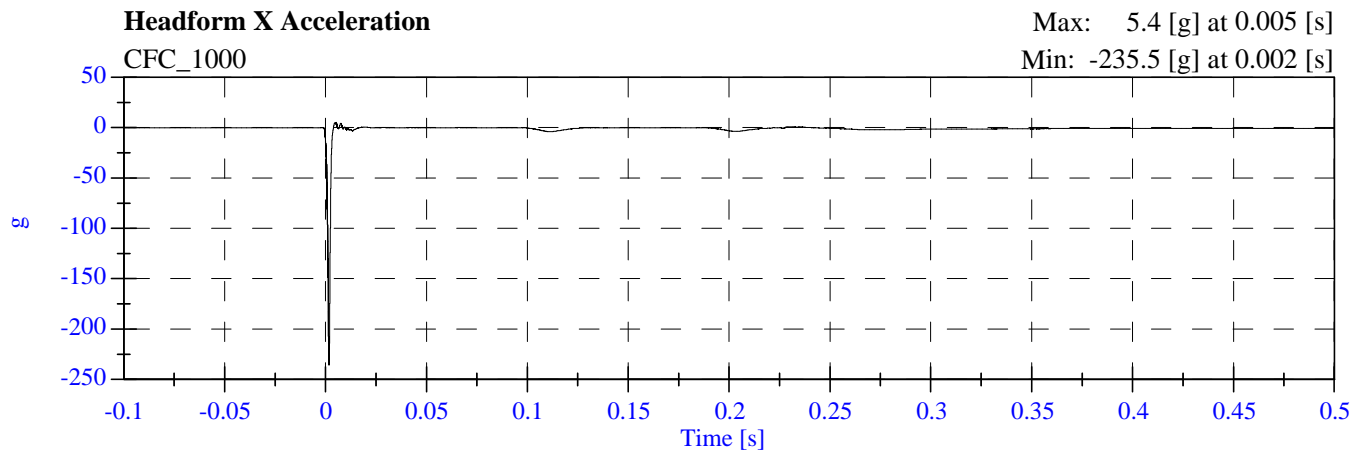
HEAD ACCELEROMETER CALIBRATION INFORMATION

| I.D. NUMBER | MANUFACTURER | MODEL NUMBER | SERIAL NUMBER | DATE OF LAST CALIBRATION | DATE OF NEXT CALIBRATION |
|-------------------------|---------------------|---------------------|----------------------|---------------------------------|---------------------------------|
| 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

C90206 - February 03, 2009



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

| | | | |
|---------------------------------|----------------------|--|--|
| MANUFACTURER: | | FIRST TECHNOLOGY SAFETY SYSTEMS | |
| SERIAL NUMBER: | | 1142 | |
| CALIBRATION DATE: | | MARCH 16, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 21 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 263.7 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 3.1 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

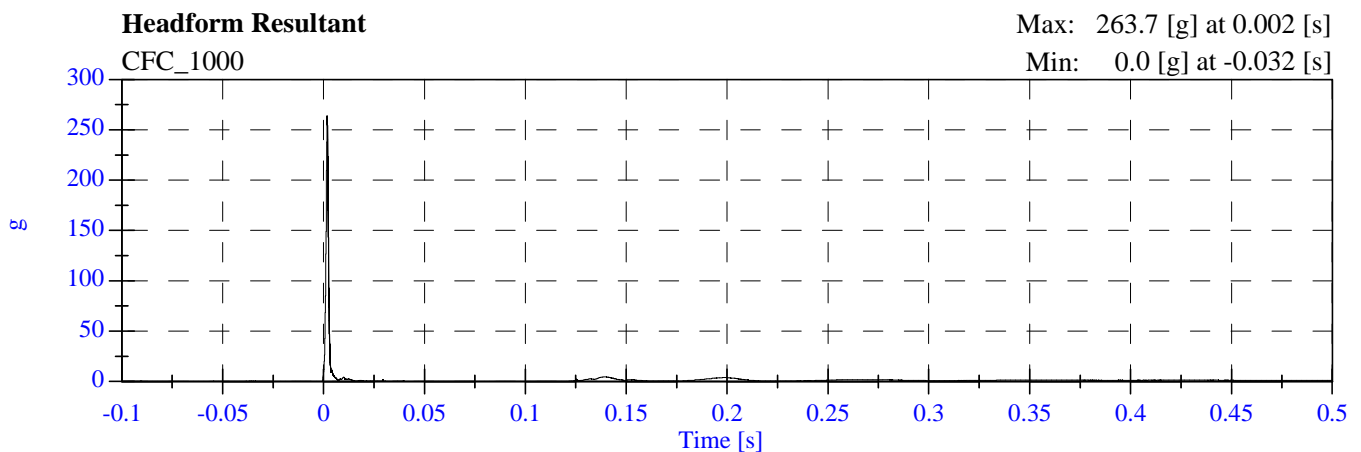
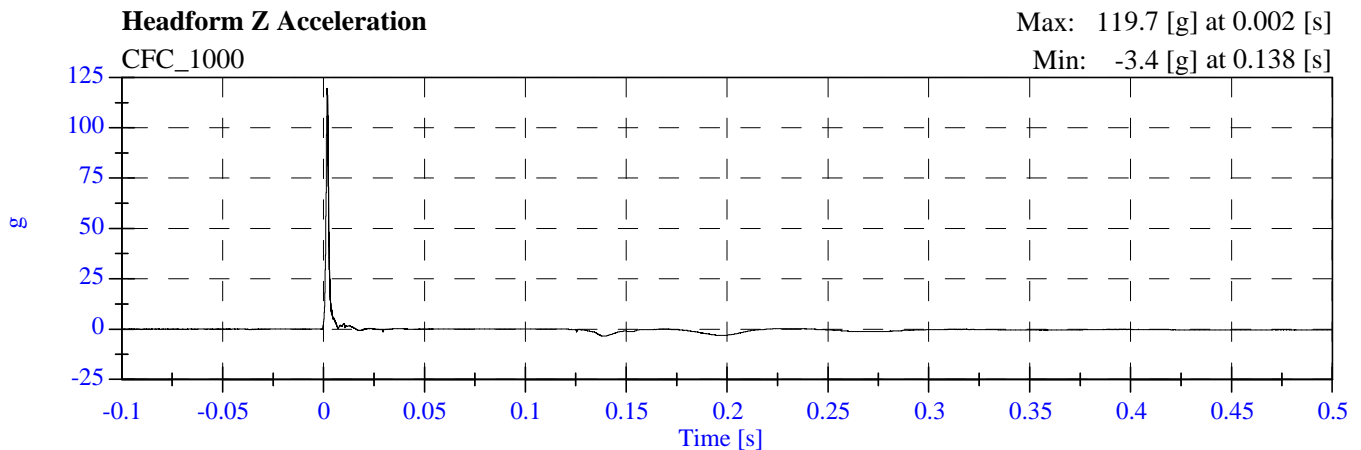
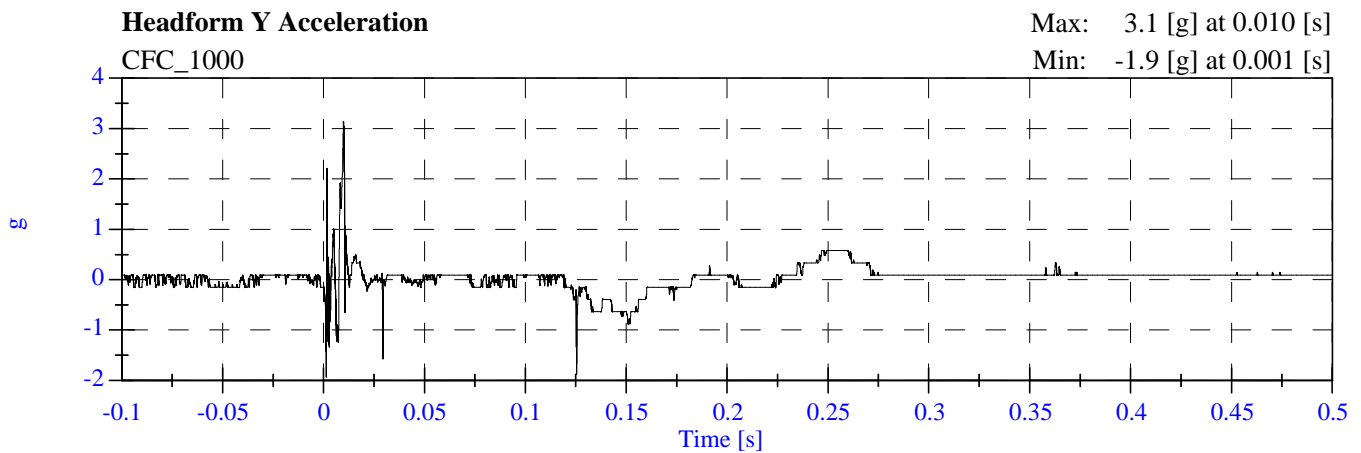
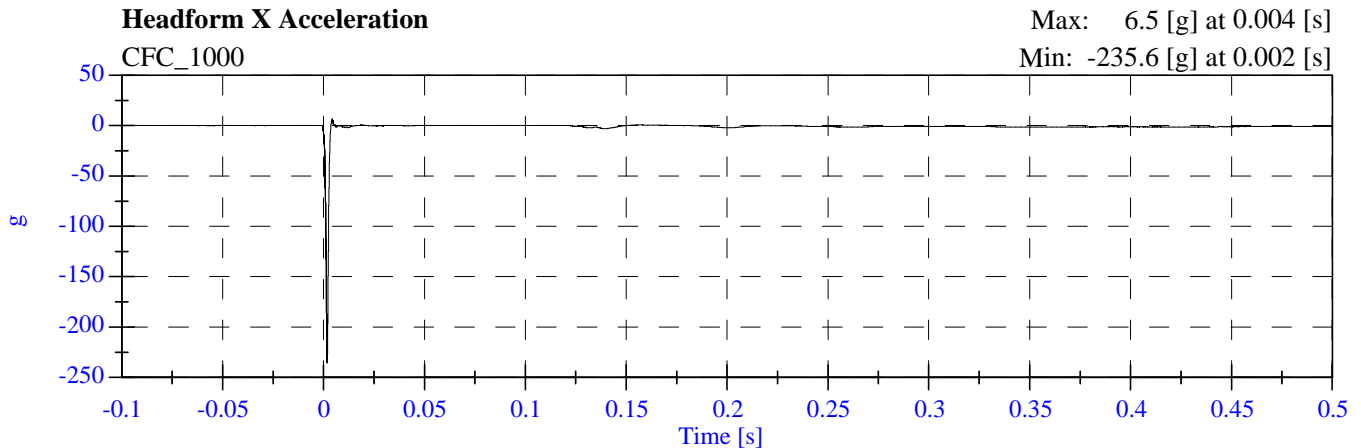
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

C90206 - March 16, 2009



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

| | | | |
|--|-------------------------|------------------------|--|
| MANUFACTURER: | | DENTON ATD INC. | |
| SERIAL NUMBER: | | 0062 | |
| CALIBRATION DATE: | | MARCH 16, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 21 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 259.7 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 8.0 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

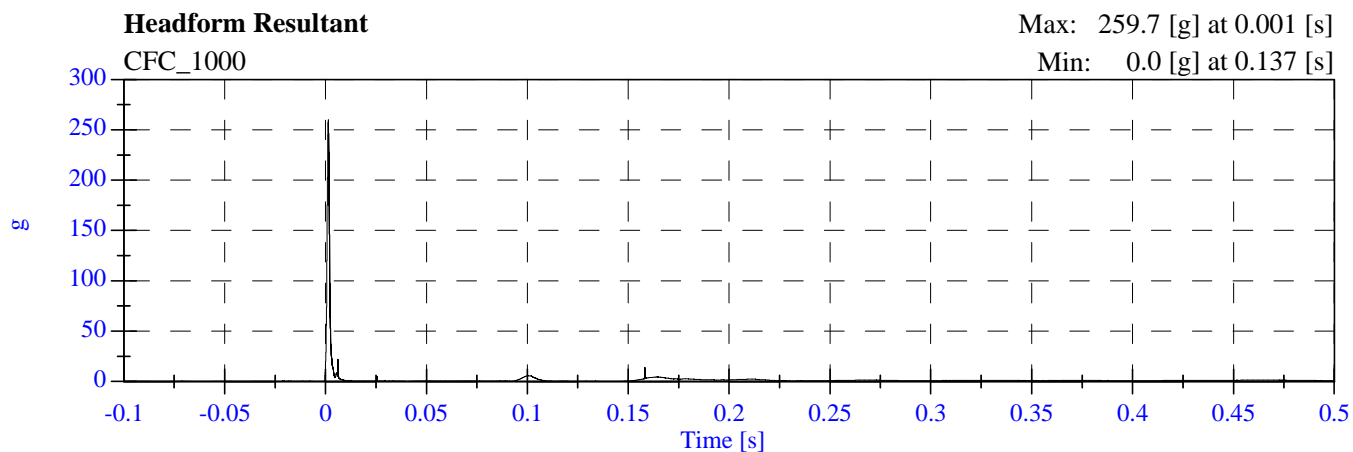
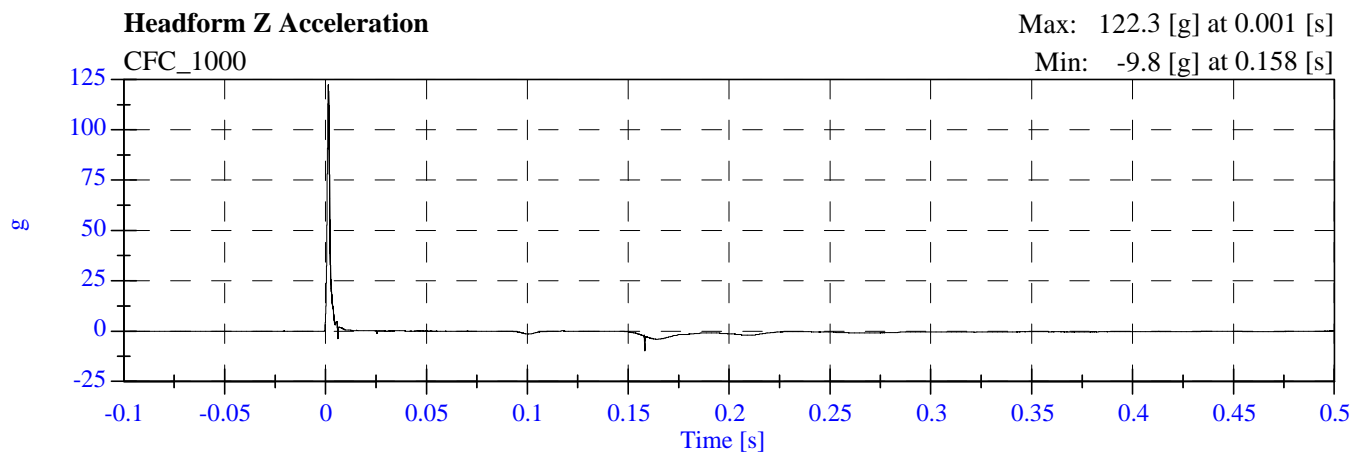
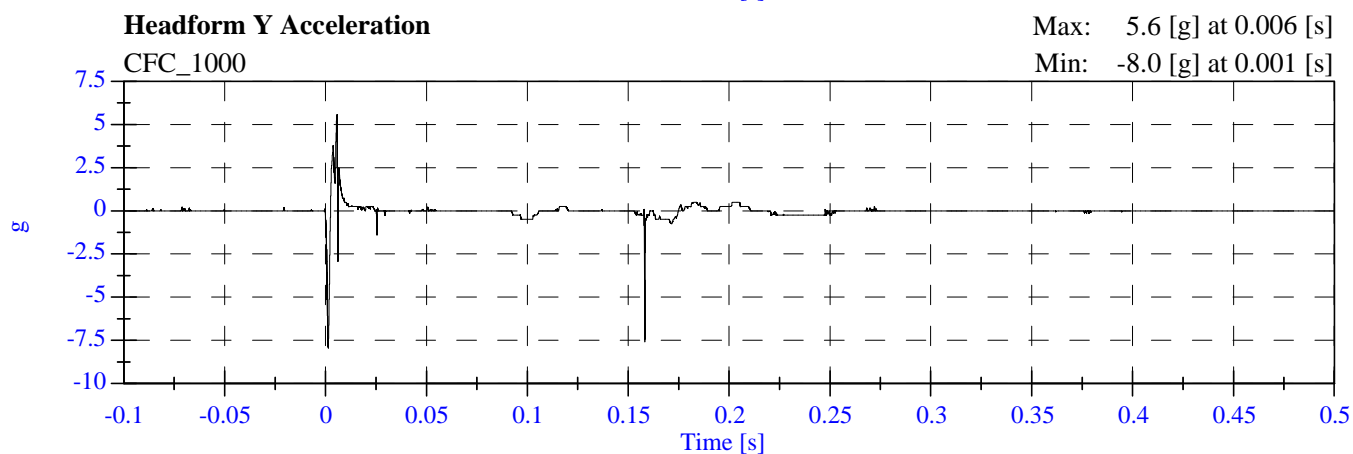
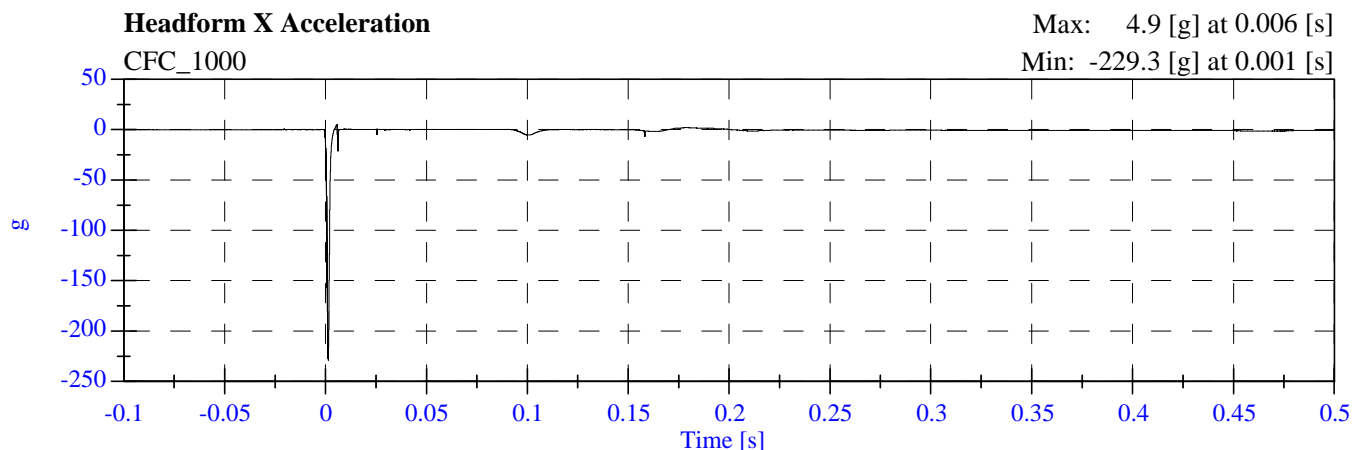
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

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

| | | | |
|--|-------------------------|--|--|
| MANUFACTURER: | | FIRST TECHNOLOGY SAFETY SYSTEMS | |
| SERIAL NUMBER: | | 805 | |
| CALIBRATION DATE: | | MARCH 16, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 21 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 265.3 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 4.0 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

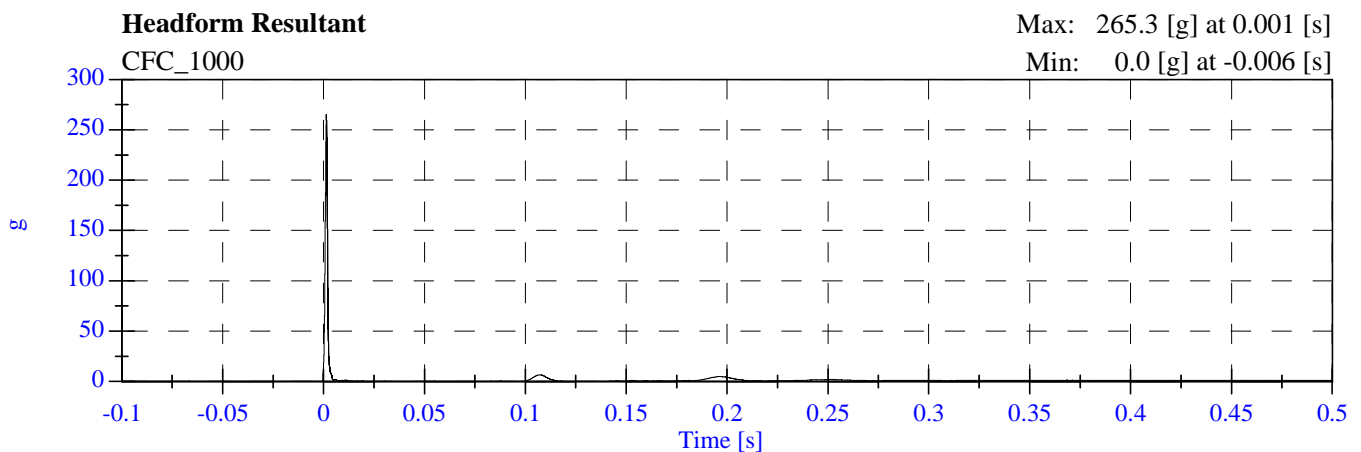
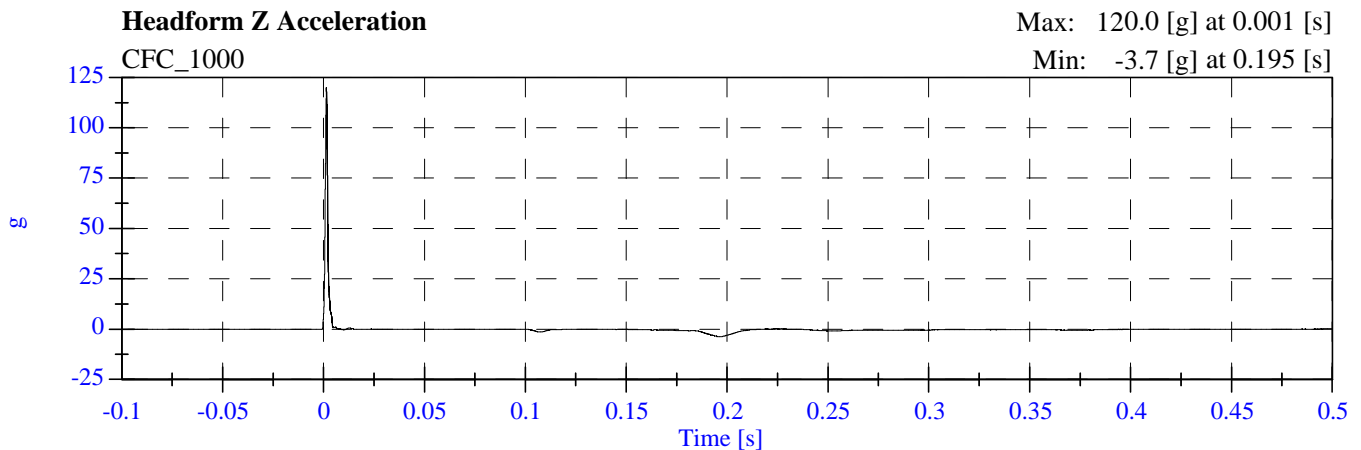
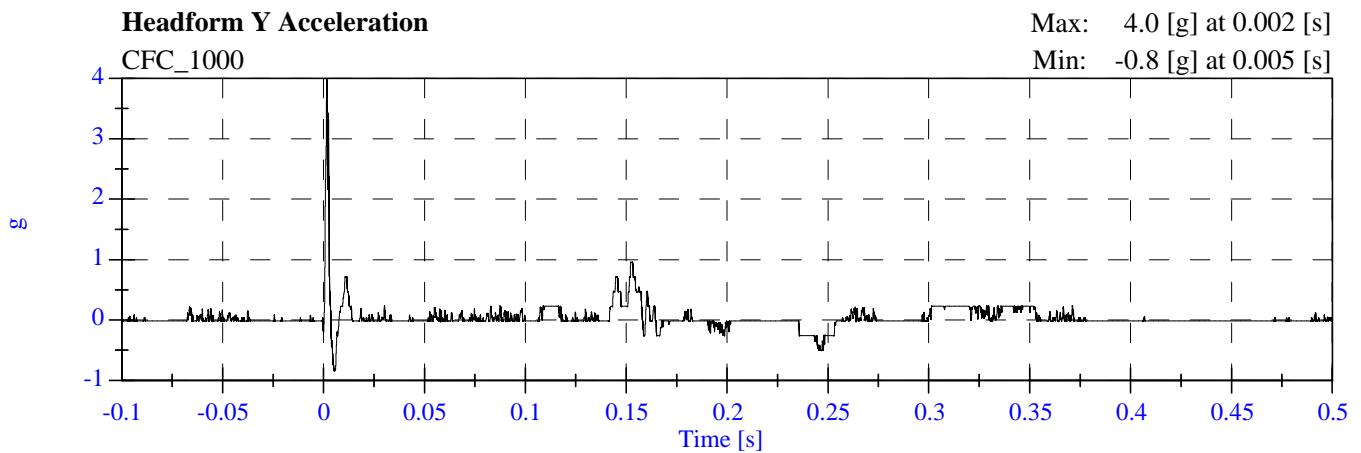
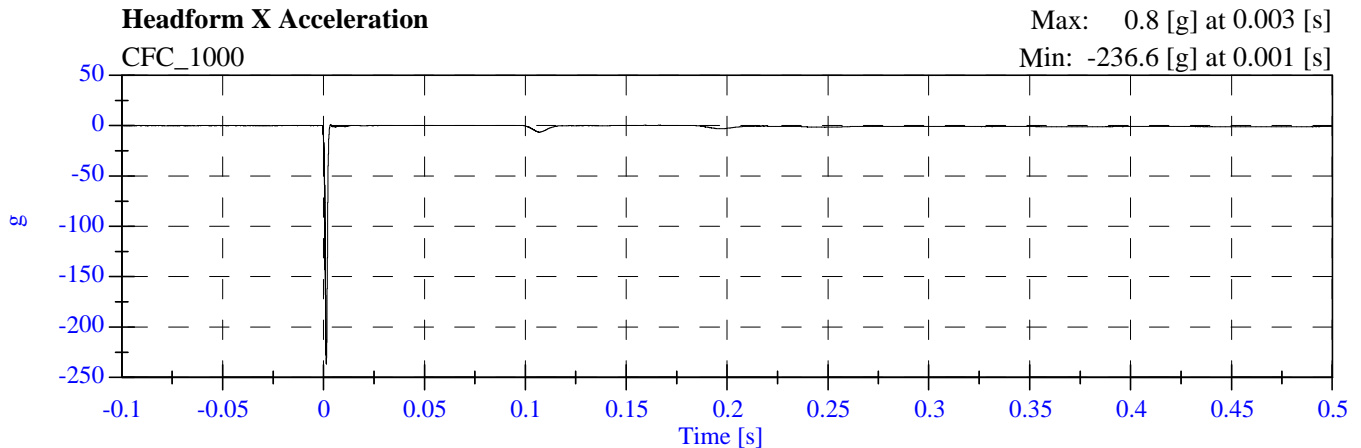
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

C90206 - March 16, 2009



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

| | | | |
|--|-------------------------|------------------------|--|
| MANUFACTURER: | | DENTON ATD INC. | |
| SERIAL NUMBER: | | 0355 | |
| CALIBRATION DATE: | | MARCH 16, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 21 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 256.0 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 11.5 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

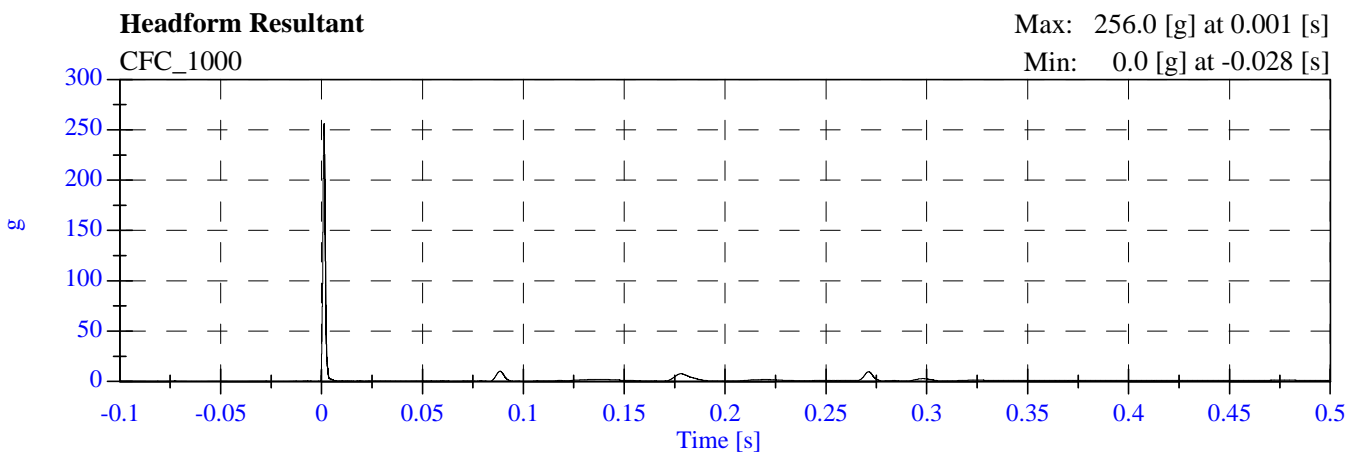
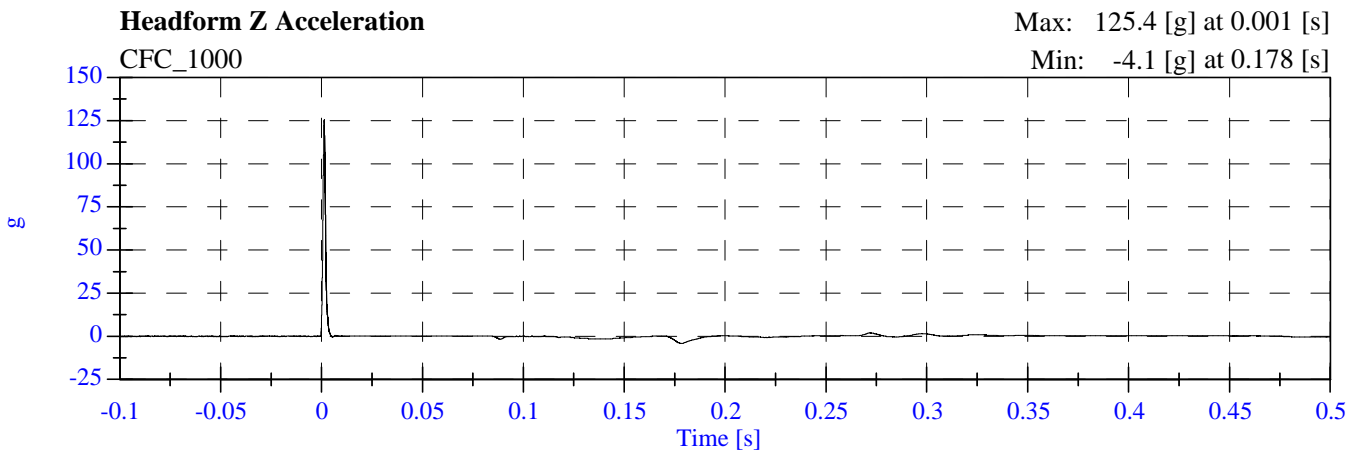
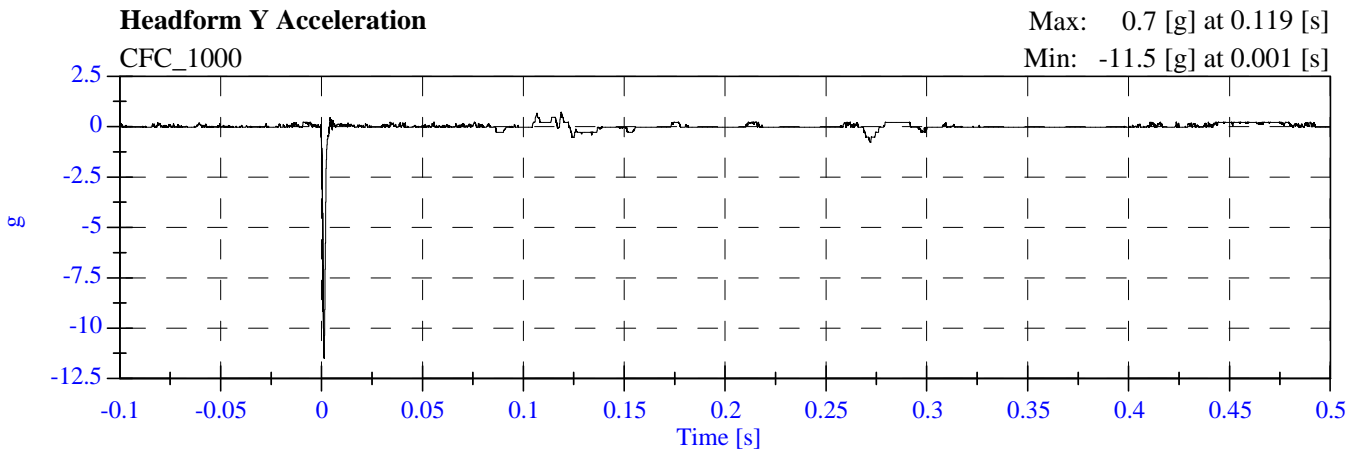
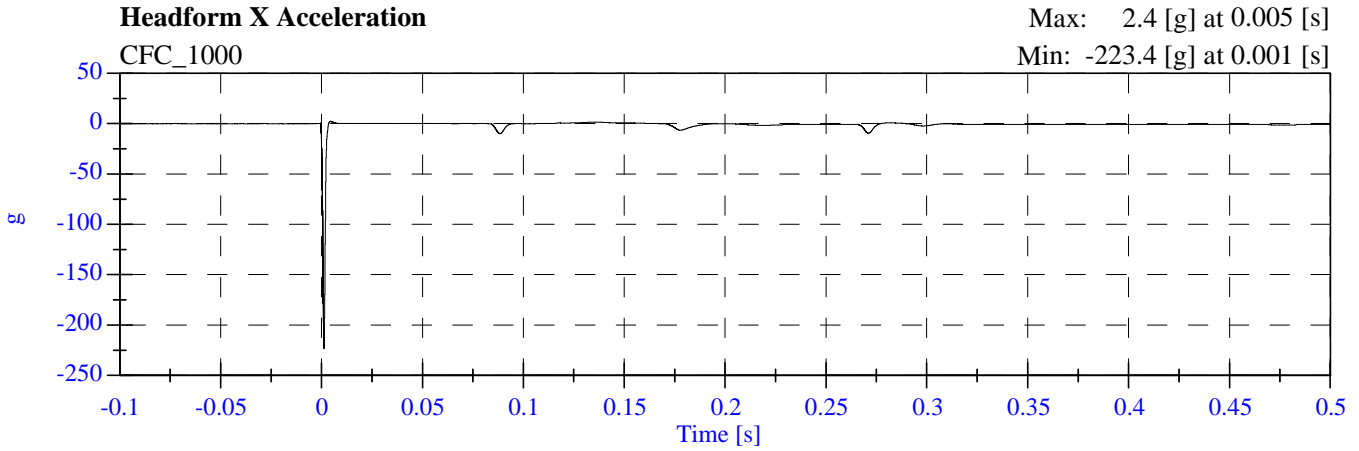
HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

FMVSS 201U - Headform Calibration Drops

C90206 - March 16, 2009



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

| | | | |
|--|-------------------------|--|--|
| MANUFACTURER: | | FIRST TECHNOLOGY SAFETY SYSTEMS | |
| 1140 | | 1255 | |
| CALIBRATION DATE: | | MARCH 16, 2009 | |
| TEST PARAMETER | SPECIFICATION | TEST RESULTS | |
| TEMPERATURE | 19°C to 26°C | 21 | |
| RELATIVE HUMIDITY | 10% to 70% | 24 | |
| PEAK RESULTANT ACCELERATION | 225 Gs to 275 Gs | 233.0 | |
| PEAK LATERAL ACCELERATION | 15 Gs Maximum | 7.5 | |
| IS ACCELERATION CURVE UNIMODAL? | YES | YES | |

HEAD ACCELEROMETER CALIBRATION INFORMATION

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

REMARKS:

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