

**DTS-TRC-06-001**

**40% Offset Vehicle to Deformable**

**Barrier Crash Test**

**DaimlerChrysler Corporation  
2006 Dodge Stratus SXT 4-door  
NHTSA Number: R60328  
TRC Inc. Test Number: 060328-1**

**Prepared By:  
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**Final Report  
April 11, 2006**

**Prepared For:  
U. S. Department of Transportation  
Volpe National Transportation Systems Center  
55 Broadway, Kendall Square  
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Date

4/10/2006

FINAL REPORT ACCEPTANCE BY COTR:

Date

Contracting Officer's Technical Representative (COTR),  
USDOT, Volpe National Transportation Systems Center



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      |                                                                                                                                                                                                                         |           |
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| 16. Abstract<br><br>A 56.0 km/h 40% frontal offset vehicle to deformable barrier crash test was conducted on a 2006 Dodge Stratus SXT 4-door, NHTSA No. R60328, at Transportation Research Center Inc. on March 28, 2006. This test was conducted in accordance with Volpe Task Order No. 1, for the evaluation of vehicle and occupant responses. The barrier impact velocity was 56.0 km/h. The vehicle's maximum static crush was 404 millimeters. The ambient temperature was 21° C.<br><br>The driver's 15 millisecond Head Injury Criteria (HIC) was 114. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 31 g. The driver's maximum chest deflection was 22 millimeters. The driver's left and right femur maximum axial compressive forces were -793 N and -673 N, respectively. |                                                      |                                                                                                                                                                                                                         |           |
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## Section 1.0

### Purpose and Test Procedure

### Purpose

This 56.0 km/h (target speed) Left 40% Offset Deformable Barrier test was conducted for the Volpe National Transportation Systems Center (Volpe) by Transportation Research Center Inc. (TRC Inc).

The purpose of this testing was to evaluate and compare vehicle and occupant responses during 40% frontal offset vehicle to deformable barrier crash tests. For this test, the subject vehicle was a 2006 Dodge Stratus SXT 4-door with a 50th percentile driver dummy.



## Test Procedure

This test was conducted in accordance with VNTSC's instructions for a 40% offset vehicle to deformable barrier crash test. Data was obtained relative to FMVSS 208, "Occupant Crash Protection" performance, FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity," performance.

The test vehicle, a 2006 Dodge Stratus SXT 4-door, was instrumented with nine (9) accelerometers to measure longitudinal axis accelerations, three (3) accelerometers to measure lateral axis accelerations, and one (1) accelerometer to measure vertical axis accelerations. The driver's primary and secondary airbag signals were monitored with inductive pickups. The vehicle impacted a 40% left offset deformable barrier. The vehicle's specified impact velocity range was 55.2 to 56.8 km/h.

The test vehicle contained one (1) Part 572E 50<sup>th</sup> percentile adult male Hybrid III anthropomorphic test device (dummy) in the driver position. The 50th percentile dummy was positioned in the front outboard designated seating position according to a procedure provided by NHTSA COTR on March 22, 2006. The seating procedure is included as Appendix D. The driver dummy was restrained with a 3-point seat belt and front dual stage airbags.

The dummy was instrumented with an array of twelve (12) accelerometers in the head, and six (6) accelerometers in the chest, oriented to measure longitudinal, lateral, and vertical accelerations. The dummy was also instrumented with 6-channel upper and lower neck moment and force load cells, left and right femur load cells to measure axial forces, a chest deflection potentiometer, and knee displacement potentiometers. The dummy was equipped with THOR-LX legs, which included upper and lower tibia load cells to measure forces and moments, longitudinal and lateral tibia accelerometers, three (3) foot accelerometers on each foot to measure accelerations in three (3) axes and three (3) rotary potentiometers at each ankle to measure foot rotations about three (3) axes.

The vehicle impacted a deformable barrier instrumented with 90 load cells to measure longitudinal forces.

The 178 data channels were digitally sampled and recorded at 12,500 samples per second and processed per SAE J211 March 1995.

The crash event was recorded by one (1) real-time panning motion picture camera and fifteen (15) high-speed digital motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.

The 40% left frontal offset vehicle to deformable barrier crash test summary data and all occupant, camera, vehicle, and deformable barrier face measurements are presented in Section 2.0. Appendix A contains the still photographs. Appendix B contains the dummy, vehicle, and barrier data plots. Appendix C contains the dummy verification data. Appendix D contains customer provided seating procedure. Appendix E contains miscellaneous test information. Appendix F contains an INSIA report that was the basis for the Structural Measurements presented in Table 8 of this report.

## Section 2.0

### Offset Deformable Barrier Test Summary

### Test Results Summary

This 56.0 km/h (target speed) left 40% offset vehicle to deformable barrier crash test was conducted by TRC Inc. on March 28, 2006.

The test vehicle, a 2006 Dodge Stratus SXT 4-door, NHTSA Number R60328, was equipped with a 2.4-liter 4-cylinder engine, automatic transmission, power steering, power brakes and dual stage front airbags. The vehicle's test weight was 1538.2 kg. The vehicle's impact speed was 56.0 km/h. The vehicle sustained 404 mm of static crush during the impact.

The occupant injury assessment values are summarized below.

| <b>Injury Criterion</b>     | <b>Limits</b> | <b>Driver</b> |
|-----------------------------|---------------|---------------|
| <b>Head</b>                 |               |               |
| HIC 36                      | 1000          | 213           |
| HIC 15                      | 700           | 114           |
| <b>Neck</b>                 |               |               |
| Upper Neck Tension (N)      | 4170          | 717           |
| Upper Neck Compression (N)  | -4000         | -725          |
| Neck Injury (NIJ) NTE       | 1.0           | 0.08          |
| Neck Injury (NIJ) NTF       | 1.0           | 0.25          |
| Neck Injury (NIJ) NCE       | 1.0           | 0.03          |
| Neck Injury (NIJ) NCF       | 1.0           | 0.22          |
| <b>Chest</b>                |               |               |
| 3 ms Clip                   | 60            | 31            |
| Chest Displacement (mm)     | 63            | 22            |
| <b>Femur</b>                |               |               |
| Left Femur Force (N)        | -9040         | -2883         |
| Right Femur Force (N)       | -9040         | -1028         |
| <b>Tibia</b>                |               |               |
| Left Upper TI               | 0.91          | 0.41          |
| Right Upper TI              | 0.91          | 0.74          |
| Left Lower TI               | 0.91          | 0.44          |
| Right Lower TI              | 0.91          | 1.05          |
| Left Upper Tibia Force (N)  | -5600         | -2932         |
| Right Upper Tibia Force (N) | -5600         | -2693         |
| Left Lower Tibia Force (N)  | -5200         | -3831         |
| Right Lower Tibia Force (N) | -5200         | -3636         |

Test Results Summary, Cont'd.

| <b>Injury Criterion</b>       | <b>Limits</b> | <b>Driver</b> |
|-------------------------------|---------------|---------------|
| <b>Ankle</b>                  |               |               |
| Left Inversion (Deg)          | -35           | -14           |
| Left Eversion (Deg)           | 35            | 10            |
| Left Plantarflexion (Deg)     | -             | -30           |
| Left Dorsiflexion (Deg)       | 35            | 13            |
| Left External Rotation (Deg)  | -             | 1             |
| Left Internal Rotation (Deg)  | -             | 12            |
| Right Eversion (Deg)          | -35           | -38           |
| Right Inversion (Deg)         | 35            | 13            |
| Right Plantarflexion (Deg)    | -             | -25           |
| Right Dorsiflexion (Deg)      | 35            | 5             |
| Right Internal Rotation (Deg) | -             | 0             |
| Right External Rotation (Deg) | -             | 21            |

### Data Acquisition Explanations

Electronic data anomalies are summarized below:

| Channel Number | Sensor Type | Sensor Location | Sensor Attachment (Name) | Axis | Problem/Action                                                                      |
|----------------|-------------|-----------------|--------------------------|------|-------------------------------------------------------------------------------------|
| 82             | Accel       | Vehicle CG      | 10VEHCCG0000ACYA         | Y    | Channel failure - lost data after approximately 45 ms. Resultant was also affected. |

**DATA SHEET NO. 1**  
**CRASH VEHICLE SUMMARY**

Vehicle NHTSA No.: R60328 Test Mode: Left 40% Offset Deformable Barrier

Test Date: 03/28/06 Time: 13:15 Temperature: 21 °C

Vehicle Make/Model/Body Style: Dodge/Stratus SXT/ 4-door

Vehicle Test Weight: 1538.2 kg

Vehicle/Barrier Impact Angle: 0 °

Vehicle/Barrier Impact Accuracy: 2 mm up

8 mm right

Impact Velocity: 56.0 kph

Maximum Static Crush: 404 mm

Vehicle Rebound: N/A mm

**DUMMIES:**

**DRIVER #202**

Type: HIII 50<sup>th</sup>

Type Lower Leg / Serial Number THOR-LX/045 & 046

Restraint System: 3-point seat belt, airbag

Number of Data Channels: 71

Number of Cameras: 1 Real-Time

15 High-Speed Digital

**DOOR OPENING DATA:**

|             |               |
|-------------|---------------|
| <u>Easy</u> | - Left Front  |
| <u>Easy</u> | - Right Front |
| <u>Easy</u> | - Left Rear   |
| <u>Easy</u> | - Right Rear  |

**DATA SHEET NO. 1 (continued)**  
**CRASH VEHICLE SUMMARY**

|                                              |                                       |                                         |
|----------------------------------------------|---------------------------------------|-----------------------------------------|
| <b>Front Seat(s) Data:</b>                   | <b><u>DRIVER</u></b>                  | <b><u>RIGHT FRONT<br/>PASSENGER</u></b> |
| Seat Track Failure (mm of shift):            | None                                  | N/A                                     |
| Seat Back Failure:                           | None                                  | N/A                                     |
| <b>Rear Seat(s) Data:</b>                    | <b><u>LEFT REAR<br/>PASSENGER</u></b> | <b><u>RIGHT REAR<br/>PASSENGER</u></b>  |
| Seat Track Failure (mm of shift):            | None                                  | None                                    |
| Seat Back Failure:                           | None                                  | None                                    |
| <b><u>VISIBLE DUMMY CONTACT POINTS :</u></b> | <b><u>DRIVER</u></b>                  |                                         |
| Head:                                        | Airbag                                |                                         |
| Chest:                                       | Airbag                                |                                         |
| Abdomen:                                     | None                                  |                                         |
| Left Knee:                                   | Knee bolster                          |                                         |
| Right Knee:                                  | Knee bolster                          |                                         |



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

**TEST VEHICLE INFORMATION:**

Year/Make/Model/Body

Style: 2006 Dodge Stratus SXT 4-door

NHTSA No.: R60328 VIN: 1B3EL46X46N102360 Color: Silver

Engine Data: 4 Cylinders      CID 2.4 Liters      cc

Placement:      Longitudinal or In-line X Transverse or Lateral

Transmission Data: 3 Speeds      Manual X Automatic X Overdrive

Final Drive:      Rear Wheel X Front Wheel      Four Wheel

Major Options X A/C X Pwr. Steering X Pwr. Brakes      Pwr. Seats  
Cruise

X Tilt Wheel X Pwr. Windows X Pwr. Locks X Control

Date Received: 01/27/06 Odometer Reading: 114 km

Selling Dealer: Nelson Auto Group

& Address: 1751 South Main Street, Bellefontaine, OH 43311

**DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:**

Vehicle Manufactured by: DaimlerChrysler Corporation

Date of Manufacture 08/2005

GVWR: 1917.0 kg; GAWR: 1089.0 kg FRONT; 942.0 kg REAR

**DATA FROM TIRE OR TIRE PLACARD:**

Tire Pressure with Maximum Capacity Vehicle Load: 300 kpa FRONT

300 kpa REAR

Load Index & Speed Symbol: 91T

Recommended Tire Size: P205/60R16

Recommended Cold Tire

\* Pressure: 210 kpa FRONT; 210 kpa REAR

Tire Grades: 360 Treadwear; A Temperature; B Traction

Size of Tires on Test Vehicle: P205/60R16; Manufacturer: Goodyear, Eagle LS

Vehicle Capacity Data:

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

Number of Occupants: 2 Front; 3 Rear; 5 Total

Vehicle Capacity Weight (VCW) = 392 kg

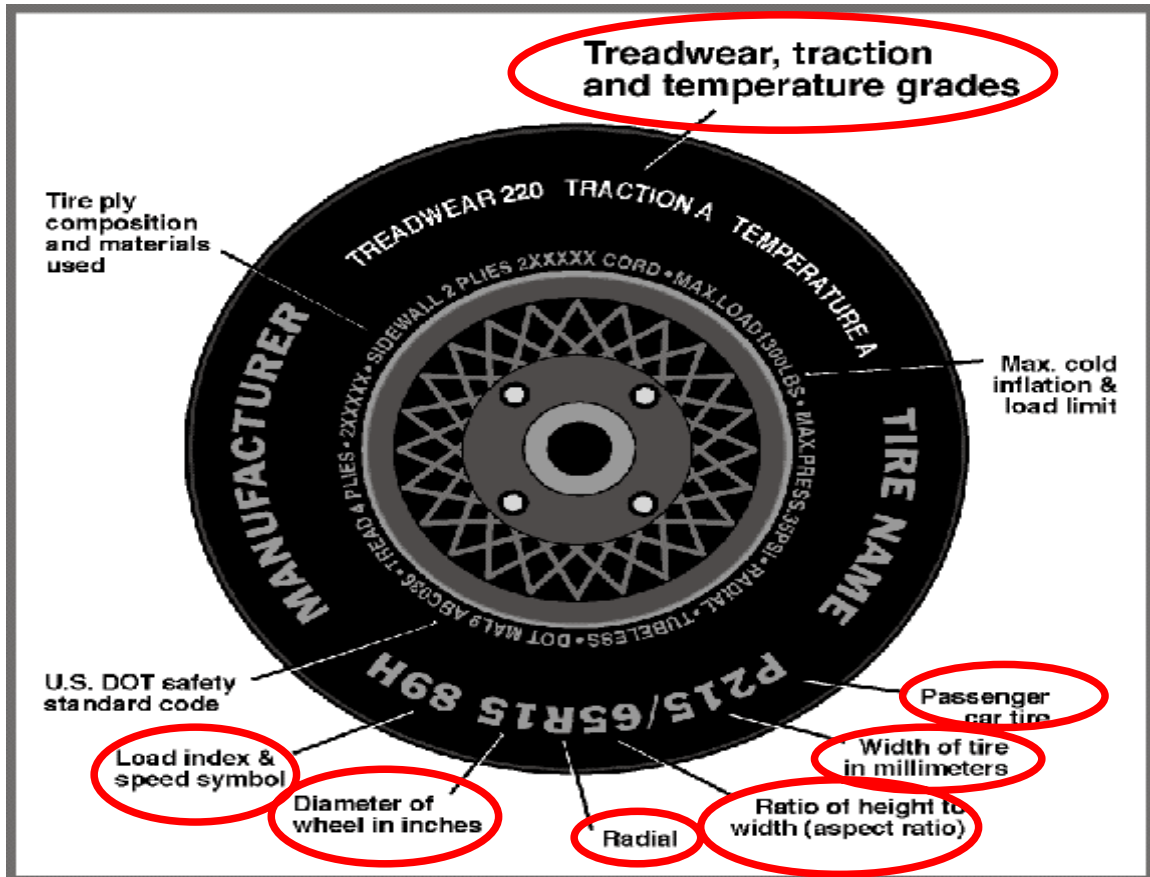
No. of Occupants x 68 kg = 340 kg

Rated Cargo/Luggage Weight (RCLW) = 52 kg

\*Tire pressure used for test

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

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06



DATA RECORDED FROM ACTUAL TIRES ON TEST VEHICLE

|                            | Front      | Rear       |
|----------------------------|------------|------------|
| Manufacture                | Goodyear   | Goodyear   |
| Brand Name                 | Eagle LS   | Eagle LS   |
| Tire Size (ex. P215/65R15) | P205/60R16 | P205/60R16 |
| Load Index & Speed Symbol  | 91T        | 91T        |
| Tread wear                 | 360        | 360        |
| Traction                   | A          | A          |
| Temperature                | B          | B          |

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

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

**WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids) = UDW:**

|                                                    |   |              |    |                                        |   |              |    |
|----------------------------------------------------|---|--------------|----|----------------------------------------|---|--------------|----|
| Right Front                                        | = | <u>429.0</u> | kg | Right Rear                             | = | <u>266.5</u> | kg |
| Left Front                                         | = | <u>458.5</u> | kg | Left Rear                              | = | <u>262.5</u> | kg |
| TOTAL FRONT                                        | = | <u>887.5</u> | kg | TOTAL REAR                             | = | <u>529.0</u> | kg |
| TOTAL DELIVERED WEIGHT = <u>1416.5</u> kg          |   |              |    |                                        |   |              |    |
| % of Total Front of Vehicle Weight = <u>62.7</u> % |   |              |    | % of Total Rear Weight = <u>37.3</u> % |   |              |    |

**CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :**

|                                      |   |               |    |
|--------------------------------------|---|---------------|----|
| Total Delivered Weight (UDW)         | = | <u>1416.5</u> | kg |
| Rated Cargo/Luggage Weight (RCLW)    | = | <u>52.0</u>   | kg |
| Weight of 1 P.572E Dummies @ 76 each | = | <u>76.0</u>   | kg |
| TARGET TEST WEIGHT                   | = | <u>1544.5</u> | kg |

**WEIGHT OF TEST VEHICLE WITH ONE DUMMY:**

|                                                                  |   |              |    |                                                   |   |              |    |
|------------------------------------------------------------------|---|--------------|----|---------------------------------------------------|---|--------------|----|
| Right Front                                                      | = | <u>419.6</u> | kg | Right Rear                                        | = | <u>317.6</u> | kg |
| Left Front                                                       | = | <u>482.0</u> | kg | Left Rear                                         | = | <u>319.0</u> | kg |
| TOTAL FRONT                                                      | = | <u>901.6</u> | kg | TOTAL REAR                                        | = | <u>636.6</u> | kg |
| TOTAL TEST WEIGHT = <u>1538.2</u> kg                             |   |              |    |                                                   |   |              |    |
| % of Total Front Weight = <u>58.6</u> %                          |   |              |    | % of Total Rear Weight = <u>41.4</u> %            |   |              |    |
| Weight of Ballast Secured in Vehicle Trunk Area = <u>None</u> kg |   |              |    |                                                   |   |              |    |
| Vehicle Components Removed for Weight Reduction:                 |   |              |    | <u>Deck lid, taillights, extra camera battery</u> |   |              |    |

**VEHICLE ATTITUDE (all dimension in millimeters):**

|                              |    |                                                |    |            |    |            |    |            |
|------------------------------|----|------------------------------------------------|----|------------|----|------------|----|------------|
| AS DELIVERED :               | RF | <u>712</u>                                     | LF | <u>710</u> | RR | <u>718</u> | LR | <u>717</u> |
| FULLY LOADED :               | RF | <u>704</u>                                     | LF | <u>694</u> | RR | <u>695</u> | LR | <u>687</u> |
| AS TESTED :                  | RF | <u>709</u>                                     | LF | <u>696</u> | RR | <u>682</u> | LR | <u>679</u> |
| Vehicle's Wheel Base :       |    | <u>2745</u> mm                                 |    |            |    |            |    |            |
| Location of Vehicle's C.G. : |    | <u>1136</u> mm rearward of front wheel center. |    |            |    |            |    |            |

**FUEL SYSTEM DATA :**

|                                                                     |                                                                                                                                                                                                              |                   |                                         |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------|
| Fuel System Capacity From Owner's Manual                            | =                                                                                                                                                                                                            | <u>60.3</u>       | liters                                  |
| Usable Capacity Figure Furnished by COTR                            | =                                                                                                                                                                                                            | <u>60.3</u>       | liters                                  |
| Test Volume Range (92 to 94% of Usable Capacity)                    | =                                                                                                                                                                                                            | <u>55.8</u>       | to <u>57.0</u> liters                   |
| ACTUAL TEST VOLUME                                                  | =                                                                                                                                                                                                            | <u>56.4</u>       | liters (with entire fuel system filled) |
| Test Fluid Type:                                                    | <u>Stoddard</u>                                                                                                                                                                                              | ;                 | Spec. Grav. = <u>0.764</u>              |
|                                                                     | Kinematic Viscosity = <u>0.99</u>                                                                                                                                                                            | centistokes;      | Color = <u>Purple</u>                   |
| Type of Fuel Pump:                                                  | Electric- <u>X</u>                                                                                                                                                                                           | ;                 | Mechanical- <u>      </u>               |
| Does Electric Pump operate with ignition switch "ON" & engine "OFF" | Yes- <u>X</u>                                                                                                                                                                                                | No- <u>      </u> |                                         |
| Details of Fuel System:                                             | <u>Fuel tank is in front of rear axle between frame rails. Fuel filler neck enters fuel tank on left rear corner. Fuel filler cap is on right rear quarter panel. Fuel lines run inside left frame rail.</u> |                   |                                         |

**DATA SHEET NO. 3**  
**POST IMPACT DATA**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
NHTSA Test No.: R60328 Test Date: 03/28/06

**TYPE OF TEST:**

Type of Test : Left 40% Offset Deformable Barrier Impact Angle : 0  
Test Date : 03/28/06 Time: 13:15 Temperature: 21 °C  
Vehicle NHTSA No. : R60328  
Required Impact Velocity Range : 55.2 to 56.8 kph

**BARRIER IMPACT VELOCITY:**

Trap No. 1 = 56.0 kph; Trap No. 2 = 56.0 kph

**VEHICLE STATIC CRUSH: (mm)**

Vehicle Length:

|           |         |             |         |             |          |             |
|-----------|---------|-------------|---------|-------------|----------|-------------|
| Pre-Test  | Right = | <u>5075</u> | ; C/L = | <u>5145</u> | ; Left = | <u>5075</u> |
| Post-Test | Right = | <u>5105</u> | ; C/L = | <u>4826</u> | ; Left = | <u>4676</u> |
| Crush     | Right = | <u>-30</u>  | ; C/L = | <u>319</u>  | ; Left = | <u>399</u>  |
| AVERAGE   | =       | <u>229</u>  | mm      |             |          |             |

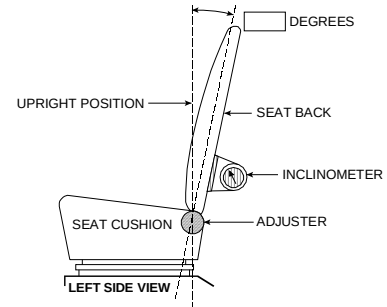
**DATA SHEET NO. 4**  
**TEST VEHICLE INFORMATION**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328

Test Date: 03/28/06

**Nominal Design Riding Position** for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



**FRONT SEAT ASSEMBLY**

Left Front Seat Cushion Placement: 7 detents forward of full rear

Total Length of Fore/Aft Adjustment Travel: N/A mm

Total Number of Adjustment Positions or Detents: 25

Left Front Seat Back Adjustment Position: 12° measured at the head restraint support post

Left Front Head Restraint Placement: Full up

Left D-Ring Placement: Full up

Right Front Seat Cushion Placement: N/A - seat removed

Total Length of Fore/Aft Adjustment Travel: N/A mm

Total Number of Adjustment Positions or Detents: N/A

Right Front Seat Back Adjustment Position: N/A

Right Front Head Restraint Placement: N/A

Right D-Ring Placement: N/A

Adjustable Steering Column Position: 25.7°; center of geometric range of travel

Window Positions:

Right Front: Open

Right Rear: Closed

Left Front: Open

Left Rear: Closed

Amount of Stoddard Solvent In Fuel Tank:

60.3 liters (fuel tank usable capacity)

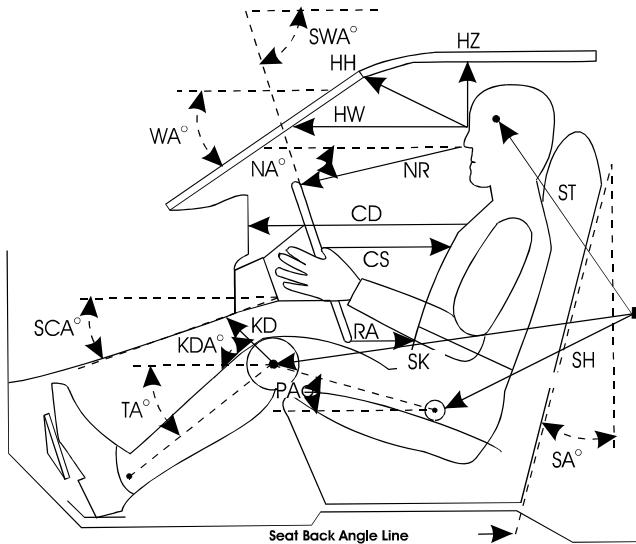
56.4 liters used in test (92% - 94% of fuel tank usable capacity)

**DATA SHEET NO. 5**  
**FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE**

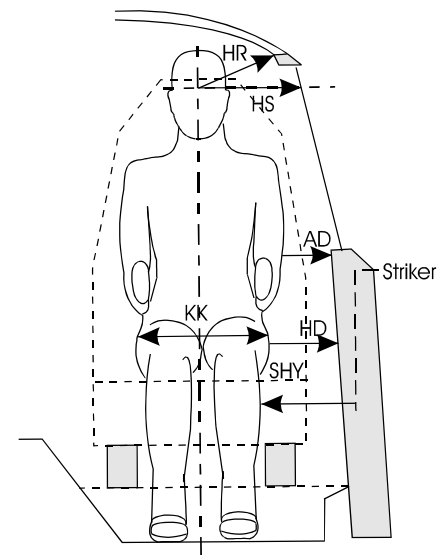
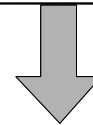
Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328

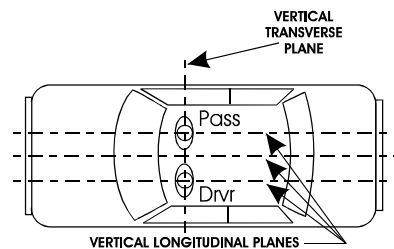
Test Date: 03/28/06



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



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



**DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS**

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

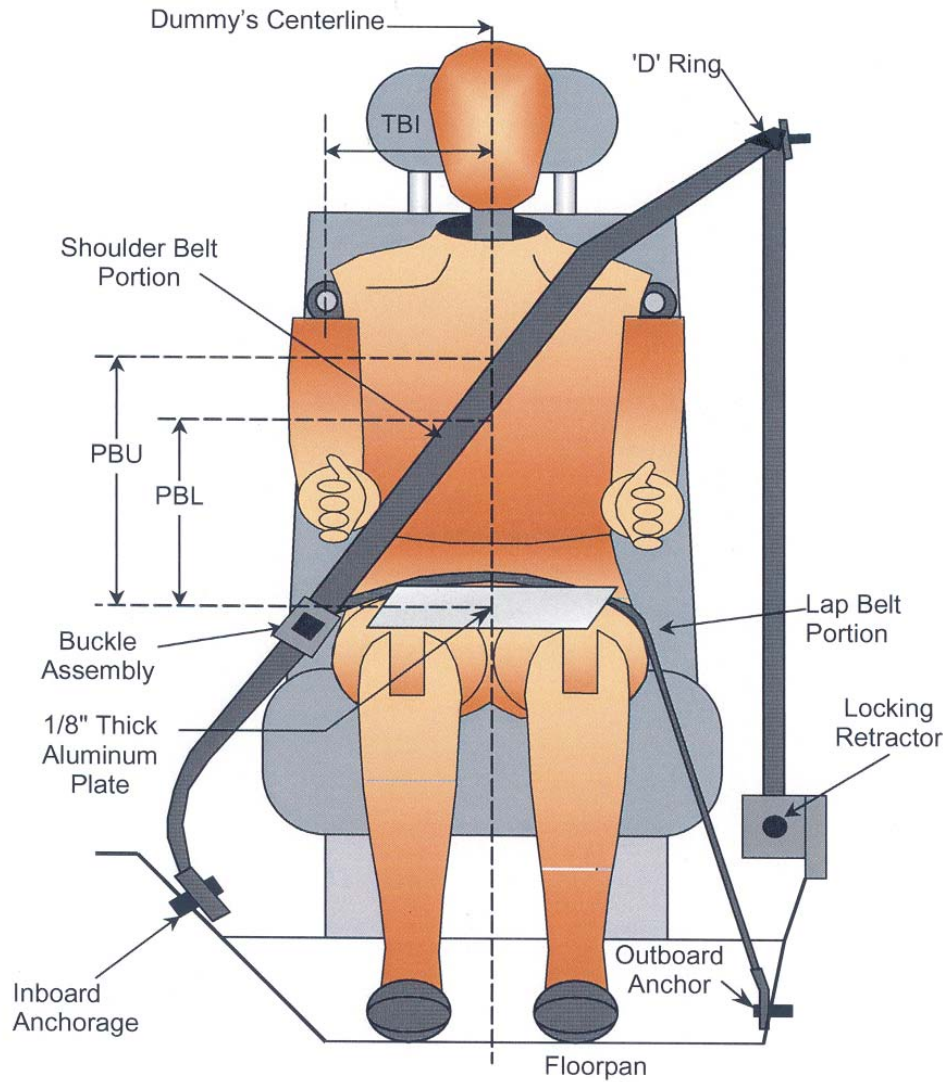
Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

|             | <b>DRIVER (Serial #202)</b> |             |        | <b>RIGHT FRONT PASSENGER (Serial #)</b> |
|-------------|-----------------------------|-------------|--------|-----------------------------------------|
| <b>WA°</b>  | 18.8°                       |             |        |                                         |
| <b>SWA°</b> | 68.6°                       |             |        |                                         |
| <b>SCA°</b> | 21.4°                       |             |        |                                         |
| <b>SA°</b>  | 12.8°                       |             |        |                                         |
| <b>HZ</b>   | 170 mm                      |             |        |                                         |
| <b>HW</b>   | 657 mm                      |             |        |                                         |
| <b>HH</b>   | 354 mm                      |             |        |                                         |
| <b>HR</b>   | 165 mm                      |             |        |                                         |
| <b>NR</b>   | 434 mm                      |             |        |                                         |
| <b>NA°</b>  | 10.2°                       |             |        |                                         |
| <b>CD</b>   | 582 mm                      |             |        |                                         |
| <b>CS</b>   | 318 mm                      |             |        |                                         |
| <b>RA</b>   | 249 mm                      |             |        |                                         |
| <b>KDL</b>  | 192 mm                      | Angle (KDA) | 27.3 ° |                                         |
| <b>KDR</b>  | 198 mm                      |             |        |                                         |
| <b>PA°</b>  | 22.9°                       |             |        |                                         |
| <b>TA°</b>  | 34.9°                       |             |        |                                         |
| <b>KK</b>   | 304 mm                      |             |        |                                         |
| <b>ST</b>   | 539 mm                      | Angle       | -85.5° |                                         |
| <b>SK</b>   | 553 mm                      | Angle       | -0.7°  |                                         |
| <b>SH</b>   | 204 mm                      | Angle       | 32.4°  |                                         |
| <b>SHY</b>  | 160 mm                      |             |        |                                         |
| <b>HS</b>   | 311 mm                      |             |        |                                         |
| <b>HD</b>   | 137 mm                      |             |        |                                         |
| <b>AD</b>   | 147 mm                      |             |        |                                         |

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

Vehicle Year/Make/Model/Body Style: 2006/Dodge/Stratus SXT/4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06



|                                                           | Driver Dummy<br>(mm) | Passenger Dummy<br>(mm) | Rear Passenger<br>Dummy (mm) |
|-----------------------------------------------------------|----------------------|-------------------------|------------------------------|
| PBU - Top surface of aluminum plate<br>to belt upper edge | N/A <sup>1</sup>     |                         |                              |
| PBL - Top surface of aluminum plate<br>to belt lower edge | N/A <sup>1</sup>     |                         |                              |

<sup>1</sup> Measurement not recorded prior to test.



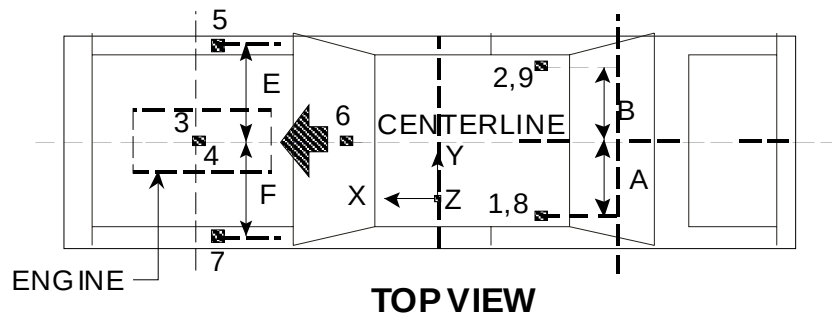
## DATA SHEET NO. 7

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

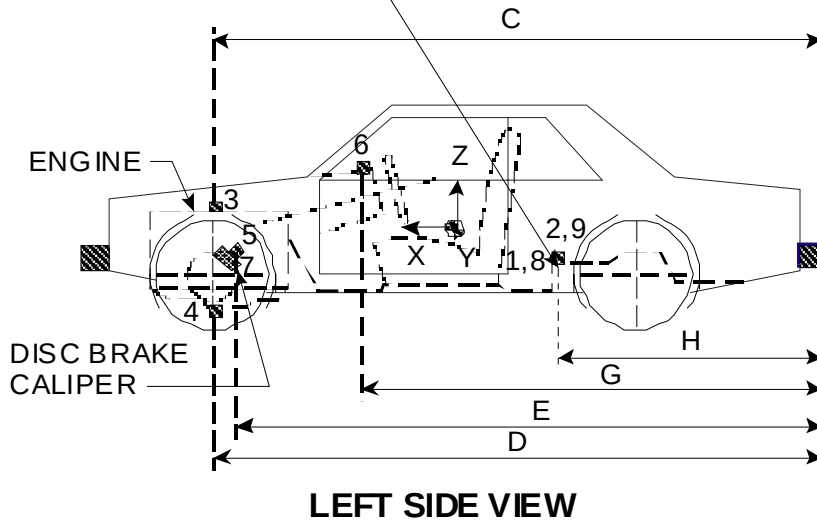
NHTSA Test No.: R60328

Test Date: 03/28/06

### VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION  
ASSY. FRONT ATTACHMENT  
BRACKET SUPPORT



**NOTE:** Vehicle accelerometer location and data summary shown in DATA SHEET NO. 6

**DATA SHEET NO. 7 (continued)**  
**VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

| <b>DIMENSION</b>                           | <b>LENGTH (mm)</b>     |
|--------------------------------------------|------------------------|
|                                            | <b>PRE-TEST VALUES</b> |
| <b>A Left Rear Seat Crossmember Y</b>      | <b>680</b>             |
| <b>B Right Rear Seat Crossmember Y</b>     | <b>680</b>             |
| <b>C Top of Engine X</b>                   | <b>4415</b>            |
| <b>D Bottom of Engine X</b>                | <b>4410</b>            |
| <b>E Disc Brake Calipers Y</b>             | <b>680</b>             |
| <b>F Disc Brake Calipers Y</b>             | <b>680</b>             |
| <b>G Instrument Panel X</b>                | <b>3680</b>            |
| <b>H Left Rear Seat Cross Member X</b>     | <b>2350</b>            |
| <b>I Right Rear Seat Cross Member X</b>    | <b>2350</b>            |
| <b>J Left Side Driver Mid Seat Track X</b> | <b>N/A<sup>1</sup></b> |
| <b>Vehicle Center of Gravity X</b>         | <b>3165</b>            |

<sup>1</sup> Measurement not recorded.

**DATA SHEET NO. 7 (continued)**  
**VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

| LOCATION<br>NUMBER | <u>DESCRIPTION</u>                | MAXIMUM VALUE (g's) |       |      |       |
|--------------------|-----------------------------------|---------------------|-------|------|-------|
|                    |                                   | Pos.                | msec. | Neg. | msec. |
| 1                  | Left Rear Seat Cross Member X     | 2.6                 | 177.4 | 28.5 | 99.0  |
| 2                  | Right Rear Seat Cross Member X    | 1.4                 | 183.4 | 23.7 | 103.7 |
| 3                  | Top of Engine Block X             | 3.7                 | 158.2 | 38.7 | 67.9  |
| 4                  | Bottom of Engine Block X          | 8.9                 | 67.2  | 47.3 | 52.4  |
| 5                  | Disc Brake Caliper @ Right Side X | 19.3                | 54.6  | 45.2 | 102.9 |
| 6                  | Instrument Panel X                | 1.8                 | 222.6 | 41.0 | 84.5  |
| 7                  | Disc Brake Caliper @ Left Side X  | 44.9                | 68.1  | 75.5 | 55.8  |
| 8                  | Left Rear Seat Cross Member Y     | 7.8                 | 88.4  | 9.6  | 121.1 |
| 9                  | Right Rear Seat Cross Member Y    | 9.0                 | 87.0  | 6.0  | 121.5 |
| 10                 | Left Side Driver Mid Seat Track X | 3.8                 | 172.5 | 31.1 | 98.5  |
| 11                 | Vehicle Center of Gravity X       | 1.9                 | 175.7 | 30.1 | 101.0 |
|                    | Vehicle Center of Gravity Y       | 10.2                | 88.6  | 52.3 | 93.4  |
|                    | Vehicle Center of Gravity Z       | 15.3                | 82.6  | 16.6 | 105.0 |

**DATA SHEET NO. 8**  
**DUMMY INJURY CRITERIA VALUES**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

|                     |      | MAXIMUM VALUE |       |       |       |                       |      |     |      |
|---------------------|------|---------------|-------|-------|-------|-----------------------|------|-----|------|
|                     |      | Driver        |       |       |       | Right Front Passenger |      |     |      |
| DESCRIPTION         | Unit | Pos           | msec  | Neg   | Msec  | Pos                   | msec | Neg | msec |
| Head X              | g    | 25.1          | 237.3 | 28.0  | 115.8 |                       |      |     |      |
| Head Y              | g    | 16.5          | 126.7 | 2.8   | 251.3 |                       |      |     |      |
| Head Z              | g    | 20.9          | 111.8 | 1.7   | 33.7  |                       |      |     |      |
| Head Resultant      | g    | 36.7          | 113.4 |       |       |                       |      |     |      |
| Head Redundant X    | g    | 25.2          | 237.2 | 29.8  | 115.8 |                       |      |     |      |
| Head Redundant Y    | g    | 16.5          | 126.8 | 2.0   | 251.8 |                       |      |     |      |
| Head Redundant Z    | g    | 21.8          | 111.9 | 1.8   | 33.7  |                       |      |     |      |
| Head Resultant Red. | g    | 38.2          | 112.8 |       |       |                       |      |     |      |
| Head (FT) Y         | g    | 19.1          | 126.5 | 3.2   | 253.1 |                       |      |     |      |
| Head (FT) Z         | g    | 26.3          | 234.8 | 7.7   | 247.5 |                       |      |     |      |
| Head (TP) X         | g    | 49.7          | 235.1 | 36.4  | 104.6 |                       |      |     |      |
| Head (TP) Y         | g    | 19.3          | 121.0 | 4.5   | 243.9 |                       |      |     |      |
| Head (LT) X         | g    | 26.7          | 236.1 | 26.5  | 116.0 |                       |      |     |      |
| Head (LT) Z         | g    | 20.3          | 108.2 | 1.8   | 34.1  |                       |      |     |      |
| Upper Neck Fx       | N    | 441.6         | 124.1 | 336.6 | 77.3  |                       |      |     |      |
| Upper Neck Fy       | N    | 248.8         | 114.5 | 83.3  | 251.2 |                       |      |     |      |
| Upper Neck Fz       | N    | 725.4         | 244.9 | 717.3 | 102.2 |                       |      |     |      |
| Upper Neck Mx       | N-m  | 19.8          | 165.6 | 23.5  | 138.2 |                       |      |     |      |
| Upper Neck My       | N-m  | 47.2          | 102.9 | 8.3   | 71.8  |                       |      |     |      |
| Upper Neck Mz       | N-m  | 13.1          | 203.5 | 27.9  | 144.0 |                       |      |     |      |
| Lower Neck Fx       | N    | 511.1         | 243.7 | 468.9 | 90.6  |                       |      |     |      |
| Lower Neck Fy       | N    | 197.8         | 61.5  | 95.6  | 252.5 |                       |      |     |      |
| Lower Neck Fz       | N    | 413.2         | 247.4 | 835.6 | 111.7 |                       |      |     |      |
| Lower Neck Mx       | N-m  | 37.5          | 175.4 | 12.7  | 253.2 |                       |      |     |      |
| Lower Neck My       | N-m  | 77.5          | 168.9 | 39.0  | 125.3 |                       |      |     |      |
| Lower Neck Mz       | N-m  | 12.7          | 103.8 | 10.4  | 145.2 |                       |      |     |      |
| Chest X             | g    | 3.3           | 260.6 | 29.5  | 123.7 |                       |      |     |      |
| Chest Y             | g    | 11.4          | 125.6 | 2.1   | 41.7  |                       |      |     |      |
| Chest Z             | g    | 7.3           | 108.8 | 7.1   | 135.3 |                       |      |     |      |

**DATA SHEET NO. 8 (continued)**  
**DUMMY INJURY CRITERIA VALUES**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

|                          |      | MAXIMUM VALUE |       |       |       |                       |      |     |      |
|--------------------------|------|---------------|-------|-------|-------|-----------------------|------|-----|------|
|                          |      | Driver        |       |       |       | Right Front Passenger |      |     |      |
| DESCRIPTION              | Unit | Pos           | msec  | Neg   | Msec  | Pos                   | msec | Neg | msec |
| Chest Resultant          | g    | 31.6          | 123.4 |       |       |                       |      |     |      |
| Chest Redundant X        | g    | 3.4           | 260.5 | 29.5  | 123.8 |                       |      |     |      |
| Chest Redundant Y        | g    | 11.2          | 125.5 | 2.1   | 41.7  |                       |      |     |      |
| Chest Redundant Z        | g    | 7.5           | 108.8 | 7.0   | 135.4 |                       |      |     |      |
| Chest Resultant Red.     | g    | 31.5          | 123.6 |       |       |                       |      |     |      |
| Chest Displacement       | mm   | 0.0           | 10.3  | 22.4  | 112.3 |                       |      |     |      |
| Left Femur Z             | N    | 2882.6        | 99.1  | 793.4 | 90.2  |                       |      |     |      |
| Right Femur Z            | N    | 1027.9        | 72.2  | 672.7 | 91.2  |                       |      |     |      |
| Left Knee Dis. X         | mm   | 1.0           | 103.8 |       |       |                       |      |     |      |
| Left Upper Tibia Fx      | N    | 102.0         | 123.9 | 276.2 | 103.2 |                       |      |     |      |
| Left Upper Tibia Fy      | N    | 121.8         | 66.3  | 143.8 | 105.7 |                       |      |     |      |
| Left Upper Tibia Fz      | N    | 2931.8        | 71.9  | 185.8 | 51.0  |                       |      |     |      |
| Left Upper Tibia Mx      | N-m  | 48.3          | 104.3 | 6.5   | 136.6 |                       |      |     |      |
| Left Upper Tibia My      | N-m  | 22.2          | 134.5 | 67.0  | 102.3 |                       |      |     |      |
| Left Tibia X             | g    | 6.6           | 73.1  | 92.0  | 72.2  |                       |      |     |      |
| Left Tibia Y             | g    | 138.2         | 81.0  | 27.9  | 72.2  |                       |      |     |      |
| Left Lower Tibia Fx      | N    | 60.4          | 50.5  | 529.2 | 103.2 |                       |      |     |      |
| Left Lower Tibia Fy      | N    | 225.8         | 105.7 | 92.9  | 67.2  |                       |      |     |      |
| Left Lower Tibia Fz      | N    | 3831.3        | 71.4  | 66.8  | 51.0  |                       |      |     |      |
| Left Lower Tibia Mx      | N-m  | 9.8           | 65.8  | 31.8  | 103.4 |                       |      |     |      |
| Left Lower Tibia My      | N-m  | 10.1          | 134.1 | 42.1  | 101.8 |                       |      |     |      |
| Left Foot Angular Dis. X | °    | 9.8           | 65.2  | 14.3  | 119.0 |                       |      |     |      |
| Left Foot Angular Dis. Y | °    | 12.9          | 113.8 | 29.8  | 61.9  |                       |      |     |      |
| Left Foot Angular Dis. Z | °    | 12.2          | 104.5 | 1.3   | 64.1  |                       |      |     |      |
| Left Foot X              | g    | 5.0           | 239.3 | 63.5  | 67.9  |                       |      |     |      |
| Left Foot Y              | g    | 23.7          | 63.0  | 13.8  | 67.8  |                       |      |     |      |
| Left Foot Z              | g    | 11.8          | 105.6 | 60.3  | 61.0  |                       |      |     |      |
| Right Knee Dis. X        | mm   | 0.9           | 126.3 | 0.3   | 74.4  |                       |      |     |      |

**DATA SHEET NO. 8 (continued)**  
**DUMMY INJURY CRITERIA VALUES**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

|                        |      | MAXIMUM VALUE |       |        |       |                       |      |     |      |
|------------------------|------|---------------|-------|--------|-------|-----------------------|------|-----|------|
|                        |      | Driver        |       |        |       | Right Front Passenger |      |     |      |
| DESCRIPTION            | Unit | Pos           | msec  | Neg    | Msec  | Pos                   | msec | Neg | msec |
| Right Upper Tibia Fx   | N    | 138.4         | 71.6  | 671.1  | 107.0 |                       |      |     |      |
| Right Upper Tibia Fy   | N    | 178.6         | 121.1 | 1006.8 | 106.6 |                       |      |     |      |
| Right Upper Tibia Fz   | N    | 2692.5        | 106.3 | 145.6  | 44.4  |                       |      |     |      |
| Right Upper Tibia Mx   | N-m  | 87.8          | 107.8 | 47.1   | 72.1  |                       |      |     |      |
| Right Upper Tibia My   | N-m  | 32.3          | 134.5 | 94.9   | 107.1 |                       |      |     |      |
| Right Tibia X          | g    | 13.6          | 70.2  | 60.8   | 107.1 |                       |      |     |      |
| Right Tibia Y          | g    | 56.9          | 107.1 | 26.8   | 122.6 |                       |      |     |      |
| Right Lower Tibia Fx   | N    | 121.2         | 134.2 | 617.0  | 107.2 |                       |      |     |      |
| Right Lower Tibia Fy   | N    | 269.9         | 107.6 | 301.2  | 78.5  |                       |      |     |      |
| Right Lower Tibia Fz   | N    | 3636.3        | 105.9 | 69.3   | 216.1 |                       |      |     |      |
| Right Lower Tibia Mx   | N-m  | 18.0          | 68.5  | 155.3  | 106.3 |                       |      |     |      |
| Right Lower Tibia My   | N-m  | 11.7          | 283.0 | 93.0   | 106.6 |                       |      |     |      |
| Right Foot Ang. Dis. X | °    | 13.1          | 241.2 | 37.6   | 106.3 |                       |      |     |      |
| Right Foot Ang. Dis. Y | °    | 4.8           | 108.0 | 25.1   | 61.1  |                       |      |     |      |
| Right Foot Ang. Dis. Z | °    | 20.6          | 118.8 | 0.5    | 5.0   |                       |      |     |      |
| Right Foot X           | g    | 13.6          | 107.9 | 56.3   | 66.2  |                       |      |     |      |
| Right Foot Y           | g    | 76.4          | 103.3 | 39.8   | 98.5  |                       |      |     |      |
| Right Foot Z           | g    | 55.4          | 98.5  | 53.7   | 67.9  |                       |      |     |      |
| Lap Belt Load          | N    | 5151.9        | 108.9 | 18.1   | 262.7 |                       |      |     |      |
| Shoulder Belt          | N    | 3388.8        | 134.5 | 21.0   | 222.3 |                       |      |     |      |

**DATA SHEET NO. 8 (continued)**  
**DUMMY INJURY CRITERIA VALUES**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

|                                          | <b>HEAD INJURY CRITERIA</b> |                             |                             |                                                                |
|------------------------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------------------------------------------|
|                                          | <b>HIC**</b>                | <b>t<sub>1</sub> (msec)</b> | <b>t<sub>2</sub> (msec)</b> | <b>Average Acceleration<br/>t<sub>1</sub> to t<sub>2</sub></b> |
| <b>Left Front - Driver</b>               | <b>127</b>                  | <b>107.28</b>               | <b>122.32</b>               | <b>37.14</b>                                                   |
| <b>Right Front - Passenger</b>           |                             |                             |                             |                                                                |
| <b>Left Rear – Passenger<sup>1</sup></b> |                             |                             |                             |                                                                |
| <b>Right Rear - Passenger</b>            |                             |                             |                             |                                                                |

\*\* HIC is as defined in FMVSS 208. The maximum time interval from t<sub>1</sub> to t<sub>2</sub> is 0.015 seconds.

|                                | <b>CLIP SUMMARY*</b> |                             |                             |            |
|--------------------------------|----------------------|-----------------------------|-----------------------------|------------|
|                                | <b>CLIP (g's)</b>    | <b>t<sub>1</sub> (msec)</b> | <b>t<sub>2</sub> (msec)</b> | <b>CSI</b> |
| <b>Left Front - Driver</b>     | <b>31.0</b>          | <b>122.30</b>               | <b>125.30</b>               | <b>228</b> |
| <b>Right Front - Passenger</b> |                      |                             |                             |            |
| <b>Left Rear - Passenger</b>   |                      |                             |                             |            |
| <b>Right Rear - Passenger</b>  |                      |                             |                             |            |

\* The maximum chest resultant acceleration is defined as the maximum acceleration that exceeds 0.003 seconds in duration.

<sup>1</sup> See Data Acquisition Explanations

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

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
NHTSA Test No.: R60328 Test Date: 03/28/06

| <b><u>BELT LENGTH DATA:</u></b>                        | <b><u>Driver*</u></b>  | <b><u>Right Rear Passenger *</u></b> |
|--------------------------------------------------------|------------------------|--------------------------------------|
| Total belt length.                                     | <u>N/A<sup>1</sup></u> | <u>N/A<sup>1</sup></u>               |
| Shoulder belt length as measured<br>on Part 572 Dummy. | <u>N/A<sup>1</sup></u> | <u>N/A<sup>1</sup></u>               |
| Lap belt length as measured<br>on Part 572 Dummy.      | <u>N/A<sup>1</sup></u> | <u>N/A<sup>1</sup></u>               |
|                                                        |                        |                                      |
| <b><u>SHOULDER BELT SPOOL-OFF DATA:</u></b>            | <b><u>Driver*</u></b>  | <b><u>Right Rear Passenger *</u></b> |
| As determined mechanically.                            | <u>N/A<sup>2</sup></u> | <u>N/A<sup>2</sup></u>               |

NOTE:

\* All Dimensions in millimeters.

<sup>1</sup> Measurement not recorded prior to test.

<sup>2</sup> Belt spool data not part of test request.



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

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

FMVSS No. 212 – “Windshield Mounting” Data  
 Details Of Windshield Mounting Such As Retention Method, Trim Type, Etc.

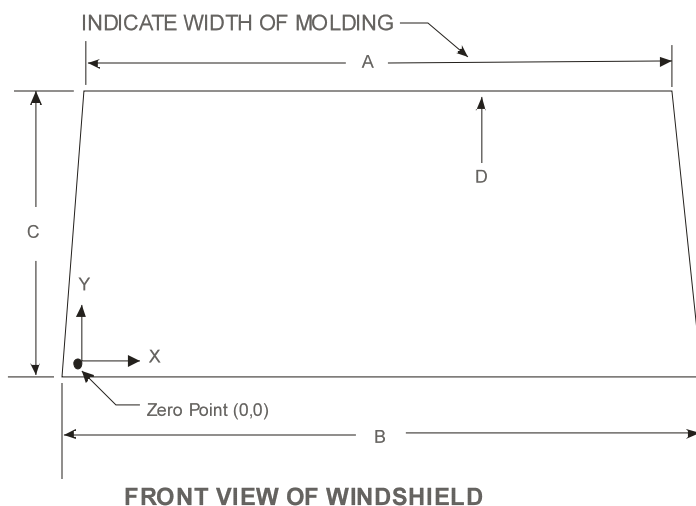
## **FMVSS 212 Requirements**

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

|            | Windshield Periphery |                | % of Retention |
|------------|----------------------|----------------|----------------|
|            | Pre-Test (mm)        | Post-Test (mm) |                |
| Right Side | 2219.5               | 2219.5         | 100            |
| Left Side  | 2219.5               | 2219.5         | 100            |
| Total      | 4439.0               | 4439.0         | 100            |

## Area of Retention Failure

| Dimensions (mm) |      |
|-----------------|------|
| A               | 1213 |
| B               | 1673 |
| C               | 777  |
| D               | 10   |



Failure Details

**DATA SHEET NO. 11**  
**FMVSS 219 (PARTIAL) – “WINDSHIELD ZONE INTRUSION” DATA**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

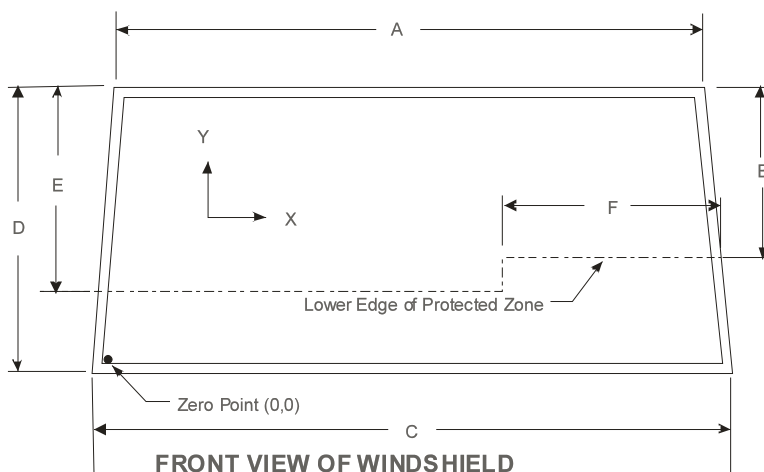
NHTSA Test No.: R60328 Test Date: 03/28/06

**Protected Zone Lower Edge Requirement**

The lower edge of the protected zone is determined by placing a 165 mm diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points extend the locus line horizontally to the edges of the windshield; then draw a line on the inner surface of the windshield below and 13 mm distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield.

**FMVSS 219 Test Data**

(Dimensions in mm)



| Dimensions |      |
|------------|------|
| A          | 1213 |
| B          | 420  |
| C          | 1673 |
| D          | 777  |
| E          | 500  |
| F          | 444  |

(Show location of penetration on the above sketch)

Details of Windshield Glass

Penetration Greater Than 6 mm: None

| COORDINATES |      |      |
|-------------|------|------|
|             | X    | Y    |
| 1.          | None | None |
| 2.          |      |      |
| 3.          |      |      |
| 4.          |      |      |

**DATA SHEET NO. 12**  
**FMVSS NO. 301-75 "FUEL SYSTEM INTEGRITY" POST IMPACT TEST DATA**

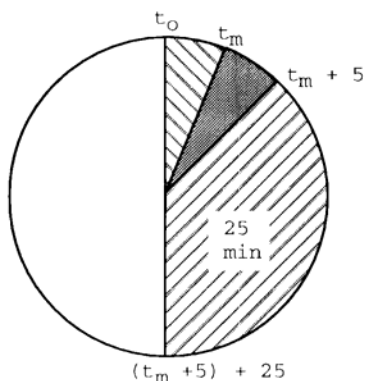
Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

The test vehicle was filled from 92% to 94% of the manufacturer's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

**TEST VEHICLE IMPACT TYPE**

|   |                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------|
| X | Frontal (56 kph)                                                                                        |
|   | Oblique (48 kph) with _____ deg. barrier face<br>first<br>contacting _____ side<br>(driver / passenger) |
|   | Rear Moving Barrier (48 kph)                                                                            |
|   | Lateral Moving Barrier (32 kph)                                                                         |

**FUEL SPILLAGE MEASUREMENT**



|                                                           | ACTUAL     | MAX ALLOWED      |
|-----------------------------------------------------------|------------|------------------|
| <b>1. From impact until vehicle motion ceases</b>         | <b>0.0</b> | <b>28 g</b>      |
| <b>2. For 5 minute period after vehicle motion ceases</b> | <b>0.0</b> | <b>141 g</b>     |
| <b>3. For next 25 minutes</b>                             | <b>0.0</b> | <b>28 g/min.</b> |

**SOLVENT SPILLAGE DETAILS**

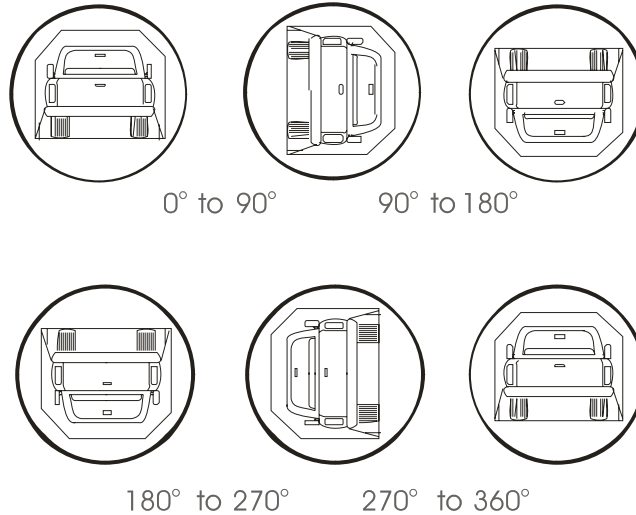
None

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

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328

Test Date: 03/28/06



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).

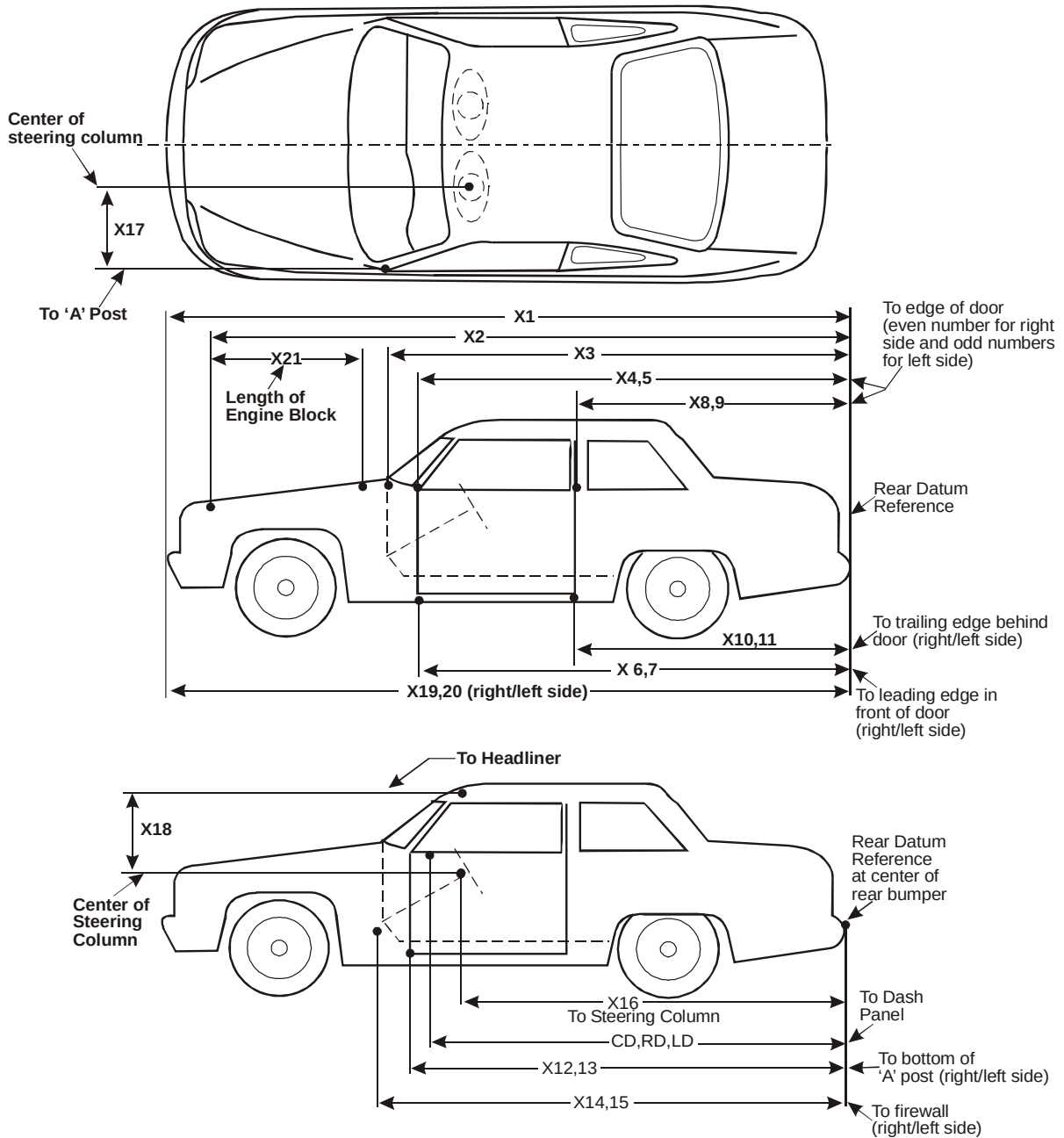
**Details of Stoddard Solvent Spillage Locations**

| Test Phase   | Rotation Time<br>(sec.) | Hold Time<br>(sec.) | Spillage<br>(oz.) |
|--------------|-------------------------|---------------------|-------------------|
| 0° to 90°    | 60                      | 300                 | 0.0               |
| 90° to 180°  | 60                      | 300                 | 0.0               |
| 180° to 270° | 60                      | 300                 | 0.0               |
| 270° to 360° | 60                      | 300                 | 0.0               |

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

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06



**DATA SHEET NO.14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

| No. | Type of measurement                                                | Pre-Test | Post-Test | Difference |
|-----|--------------------------------------------------------------------|----------|-----------|------------|
| X1  | Total Length of Vehicle at Centerline <sup>1</sup>                 | 5145     | 4826      | 319        |
| X2  | Rear Surface of Vehicle to Front of Engine Block                   | 4460     | 4433      | 27         |
| X3  | Rear Surface of Vehicle to Firewall                                | 4249     | 4248      | 1          |
| X4  | Rear Surface of Vehicle to Upper Leading Edge of Right Door        | 3766     | 3772      | -6         |
| X5  | Rear Surface of Vehicle to Upper Leading Edge of Left Door         | 3777     | 3763      | 14         |
| X6  | Rear Surface of Vehicle to Lower Leading Edge of Right Door        | 3754     | 3764      | -10        |
| X7  | Rear Surface of Vehicle to Lower Leading Edge of Left Door         | 3763     | 3749      | 14         |
| X8  | Rear Surface of Vehicle to Upper Trailing Edge of Right Door       | 2688     | 2691      | -3         |
| X9  | Rear Surface of Vehicle to Upper Trailing Edge of Left Door        | 2700     | 2685      | 15         |
| X10 | Rear Surface of Vehicle to Lower Trailing Edge of Right Door       | 2707     | 2718      | -11        |
| X11 | Rear Surface of Vehicle to Lower Trailing Edge of Left Door        | 2712     | 2699      | 13         |
| X12 | Rear Surface of Vehicle to Bottom of " A " Post on Right Side      | 3733     | 3740      | -7         |
| X13 | Rear Surface of Vehicle to Bottom of " A " Post on Left Side       | 3740     | 3731      | 9          |
| X14 | Rear Surface of Vehicle to Firewall-Right Side                     | 4199     | 4200      | -1         |
| X15 | Rear Surface of Vehicle to Firewall-Left Side                      | 4189     | 4142      | 47         |
| X16 | Rear Surface of Vehicle to Steering Wheel Center                   | 3252     | 3250      | 2          |
| X17 | Center of Steering Column to " A " Post                            | 330      | 275       | 55         |
| X18 | Center of Steering Column to Headliner                             | 435      | 419       | 16         |
| X19 | Rear Surface of Vehicle to Right Side of Front Bumper <sup>1</sup> | 5075     | 5105      | -30        |
| X20 | Rear Surface of Vehicle to Left Side of Front Bumper <sup>1</sup>  | 5075     | 4676      | 399        |
| X21 | Length of Engine Block                                             | 491      | 491       | 0          |
| RD  | Rear Surface of Vehicle to Right Side of Dash Panel                | 3520     | 3519      | 1          |
| CD  | Rear Surface of Vehicle to Center of Dash Panel                    | 3512     | 3508      | 4          |
| LD  | Rear Surface of Vehicle to Left Side of Dash Panel                 | 3550     | 3535      | 15         |

All measurements are in millimeters.

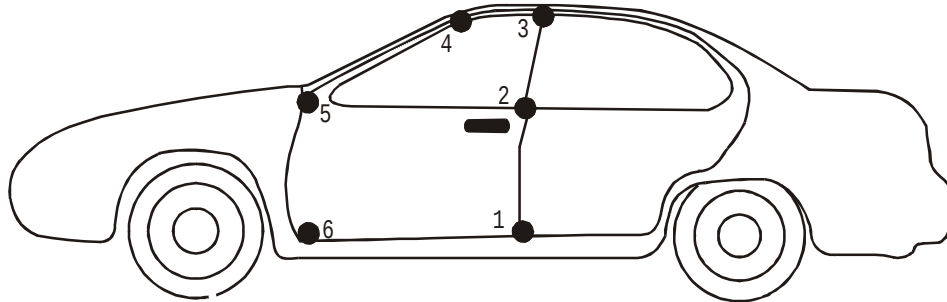
<sup>1</sup> Measured to bumper beam.

**DATA SHEET NO.14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

**DOOR OPENING WIDTH**



Left Front

| Point Location | PRE-TEST (mm) |      |      | POST-TEST (mm) |      |      | CHANGE (mm) |    |    |
|----------------|---------------|------|------|----------------|------|------|-------------|----|----|
|                | X             | Y    | Z    | X              | Y    | Z    | X           | Y  | Z  |
| 1              | 2513          | -606 | -504 | 2507           | -613 | -493 | -6          | -7 | 11 |
| 2              | 2067          | -770 | -142 | 2052           | -773 | -130 | -15         | -3 | 12 |
| 3              | 1993          | -571 | -553 | 1988           | -572 | -543 | -5          | -1 | 10 |
| 4              | 2205          | -757 | 362  | 2179           | -763 | 376  | -26         | -6 | 14 |
| 5              | 3080          | -745 | -145 | 3060           | -752 | -115 | -20         | -7 | 30 |
| 6              | 3114          | -769 | 373  | 3086           | -771 | 404  | -28         | -2 | 31 |

**DATA SHEET NO. 14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

|    | Elements                              | Pre-Test |
|----|---------------------------------------|----------|
| 1  | Total Length <sup>2</sup>             | 5145     |
| 2  | Total Width                           | 1800     |
| 3  | Bumper Top Height                     | 526      |
| 4  | Bumper Bottom Height                  | 431      |
| 5  | Longitudinal Member Top Height        | 536      |
| 6  | Longitudinal Member Bottom Height     | 410      |
| 7  | Distance Between Longitudinal Members | 1000     |
| 7' | Longitudinal Member Width             | 81       |
| 8  | Engine Top Height                     | N/A      |
| 9  | Engine Bottom Height                  | 167      |
| 10 | Engine and Gearbox Width              | 795      |
| 11 | Front Bumper - Engine Distance        | 300      |
| 12 | Front Shock Absorber Fixing Height    | 824      |
| 13 | Bonnet Leading Edge Height            | 682      |
| 14 | Front Shock Absorber Fixing Width     | 1015     |
| 15 | Front Bumper - Front Axle Distance    | 491      |
| 16 | Front Axle - A Pillar Distance        | 530      |
| 17 | A Pillar - B Pillar Distance          | 1080     |
| 18 | B Pillar - Rear Axle Distance         | 1154     |
| 19 | B Pillar - C Pillar Distance          | 944      |
| 20 | Roof Sill Bottom Height               | 1297     |
| 21 | Roof Sill Top Height                  | 1330     |
| 22 | Floor Sill Bottom Height              | 297      |
| 23 | Floor Sill Top Height                 | 297      |

All distance measurements are in millimeters.

<sup>1</sup> Taken from INSIA report, "Structural Survey of Cars, Methodology of the Main Resistant Elements in the Car Body", March 1999. This report is included in Appendix E.

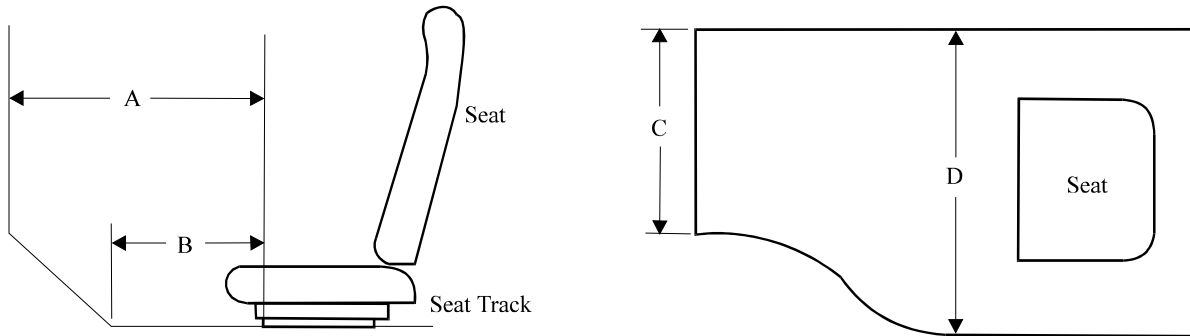
<sup>2</sup> Measured to bumper beam.



**DATA SHEET NO. 14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006/Dodge/Stratus SXT/4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

**STATIC FOOTWELL DEFORMATION**



**DRIVER**

| Measurement | Pre-Test | Post-Test | Difference |
|-------------|----------|-----------|------------|
| A           | 725      | 675       | 50         |
| B           | 645      | 608       | 37         |
| C           | 435      | 422       | 13         |
| D           | 415      | 409       | 6          |

All units in millimeters

**PASSENGER**

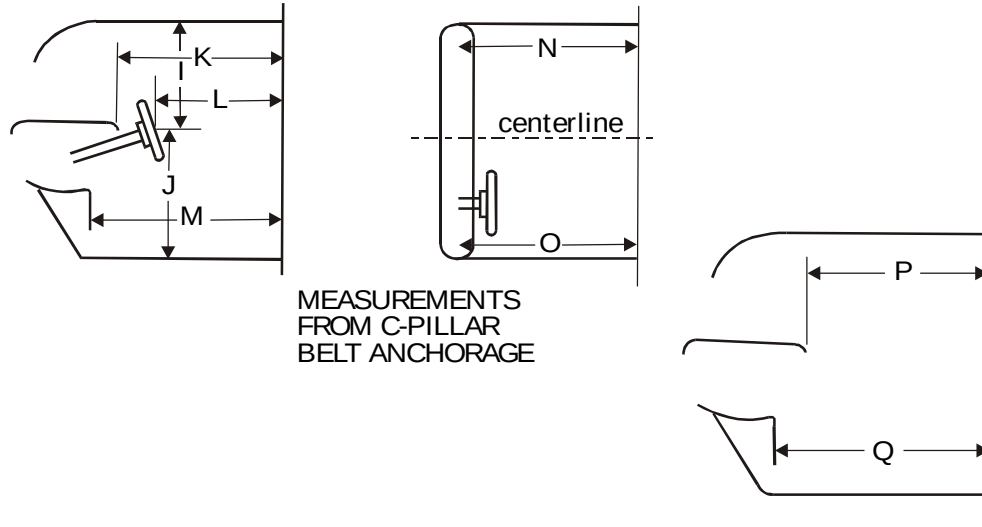
| Measurement | Pre-Test | Post-Test | Difference |
|-------------|----------|-----------|------------|
| A           | 725      | 711       | 14         |
| B           | 600      | 584       | 16         |
| C           | 410      | 412       | -2         |
| D           | 500      | 500       | 0          |

All units in millimeters

**DATA SHEET NO. 14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006/Dodge/Stratus SXT/4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

**STATIC PASSENGER COMPARTMENT INTRUSION**



| Measurement   | Pre-Test | Post-Test | Difference |
|---------------|----------|-----------|------------|
| I             | 435      | 419       | 16         |
| J             | 635      | 706       | -71        |
| K             | 1962     | 1942      | 20         |
| L             | 1680     | 1670      | 10         |
| M             | 2110     | 2090      | 20         |
| N             | 925      | 1923      | -998       |
| O             | 1900     | 1883      | 17         |
| P = K (PASS.) | 1940     | 1940      | 0          |
| Q = M (PASS.) | 2075     | 2077      | -2         |

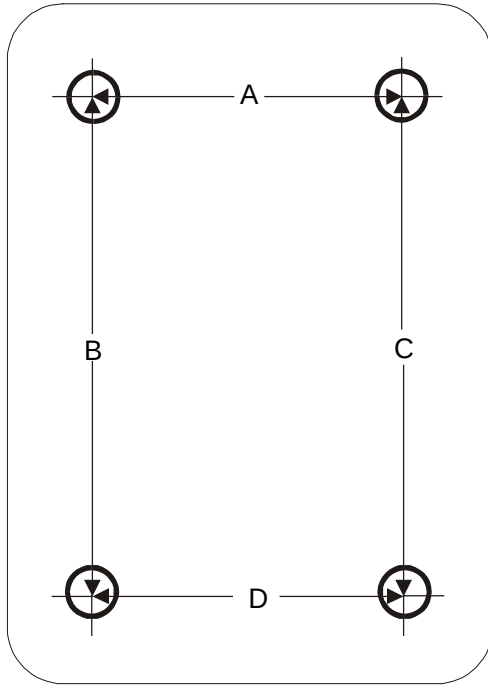
All units in millimeters

**DATA SHEET NO. 14 (continued)**  
**VEHICLE MEASUREMENTS**

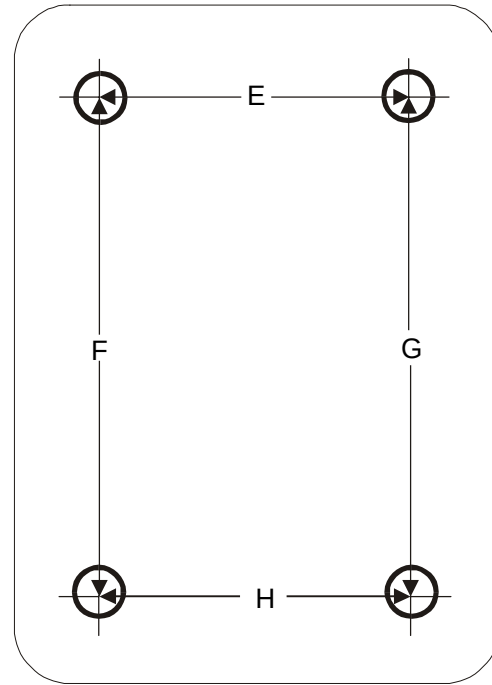
Vehicle Year/Make/Model/Body Style: 2006/Dodge/Stratus SXT/4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

**FLOORBOARD DEFORMATION**

DRIVERS SIDE



PASSENGERS SIDE



TOP VIEW THROUGH FLOOR PAN

| Measurement | Pre-Test | Post-Test | Difference |
|-------------|----------|-----------|------------|
| A           | 435      | 422       | 13         |
| B           | 500      | 494       | 6          |
| C           | 500      | 435       | 65         |
| D           | 415      | 409       | 6          |
| E           | 410      | 435       | -25        |
| F           | 515      | 518       | -3         |
| G           | 545      | 548       | -3         |
| H           | 500      | 409       | 91         |

All units in millimeters

**DATA SHEET NO. 14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006/Dodge/Stratus SXT/4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

| Bottom of Front Bumper |          |      |      |                  |                  |                  |            |      |      |
|------------------------|----------|------|------|------------------|------------------|------------------|------------|------|------|
|                        | Pre-Test |      |      | Post-Test        |                  |                  | Difference |      |      |
|                        | X mm     | Y mm | Z mm | X mm             | Y mm             | Z mm             | X mm       | Y mm | Z mm |
| 1                      | 4652     | 690  | 280  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 2                      | 4782     | 417  | 285  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 3                      | 4852     | 140  | 286  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 4                      | 4853     | 128  | 295  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 5                      | 4780     | 405  | 290  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 6                      | 4652     | 685  | 292  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |

| Top of Front Bumper |          |      |      |                  |                  |                  |            |      |      |
|---------------------|----------|------|------|------------------|------------------|------------------|------------|------|------|
|                     | Pre-Test |      |      | Post-Test        |                  |                  | Difference |      |      |
|                     | X mm     | Y mm | Z mm | X mm             | Y mm             | Z mm             | X mm       | Y mm | Z mm |
| 1                   | 4652     | 690  | 452  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 2                   | 4772     | 415  | 460  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 3                   | 4842     | 144  | 450  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 4                   | 4842     | 127  | 465  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 5                   | 4772     | 405  | 480  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 6                   | 4652     | 685  | 454  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |

| Center of Grille |          |      |      |                  |                  |                  |            |      |      |
|------------------|----------|------|------|------------------|------------------|------------------|------------|------|------|
|                  | Pre-Test |      |      | Post-Test        |                  |                  | Difference |      |      |
|                  | X mm     | Y mm | Z mm | X mm             | Y mm             | Z mm             | X mm       | Y mm | Z mm |
| 1                | 4617     | 690  | 535  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 2                | 4752     | 418  | 564  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 3                | 4802     | 143  | 580  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 4                | 4802     | 125  | 585  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 5                | 4752     | 408  | 568  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |
| 6                | 4617     | 690  | 560  | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A <sup>1</sup> | N/A        | N/A  | N/A  |

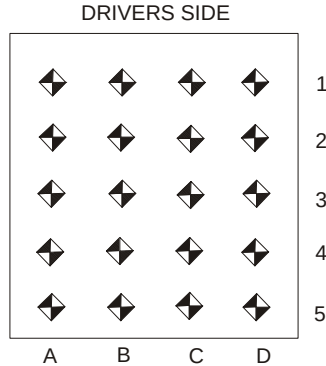
| Front of Hood |          |      |      |           |      |      |            |      |      |
|---------------|----------|------|------|-----------|------|------|------------|------|------|
|               | Pre-Test |      |      | Post-Test |      |      | Difference |      |      |
|               | X mm     | Y mm | Z mm | X mm      | Y mm | Z mm | X mm       | Y mm | Z mm |
| 1             | 4372     | 670  | 740  | 4087      | 650  | 731  | 285        | 20   | 9    |
| 2             | 4647     | 415  | 677  | 4237      | 389  | 562  | 410        | 26   | 115  |
| 3             | 4712     | 140  | 687  | 4379      | 184  | 594  | 333        | -44  | 93   |
| 4             | 4712     | 120  | 689  | 4511      | 22   | 680  | 201        | 98   | 9    |
| 5             | 4647     | 410  | 685  | 4574      | 316  | 780  | 73         | 94   | -95  |
| 6             | 4372     | 685  | 749  | 4371      | 654  | 946  | 1          | 31   | -197 |

<sup>1</sup> Measurement point could not be located post-test.

**DATA SHEET NO. 14 (continued)**  
**VEHICLE MEASUREMENTS**

Vehicle Year/Make/Model/Body Style: 2006/Dodge/Stratus SXT/4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

**TOE PAN FLOORBOARD INTRUSION**



**Driver Side Toe Pan and Floorboard Measurements**

| Intrusion Location | PRE-TEST (mm) |      |      | POST-TEST (mm) |      |      | CHANGE (mm) |     |     |
|--------------------|---------------|------|------|----------------|------|------|-------------|-----|-----|
|                    | X             | Y    | Z    | X              | Y    | Z    | X           | Y   | Z   |
| A1                 | 3265          | -617 | 274  | 3199           | -616 | 290  | -66         | 1   | 16  |
| B1                 | 3353          | -462 | 335  | 3259           | -444 | 328  | -94         | 18  | -7  |
| C1                 | 3344          | -332 | 340  | 3233           | -321 | 336  | -111        | 11  | -4  |
| D1                 | 3362          | -184 | 337  | 3288           | -195 | 346  | -74         | -11 | 9   |
| A2                 | 3237          | -632 | 402  | 3186           | -624 | 423  | -51         | 8   | 21  |
| B2                 | 3257          | -474 | 425  | 3173           | -462 | 423  | -84         | 12  | -2  |
| C2                 | 3256          | -343 | 431  | 3160           | -332 | 428  | -96         | 11  | -3  |
| D2                 | 3270          | -186 | 425  | 3199           | -191 | 439  | -71         | -5  | 14  |
| A3                 | 3104          | -633 | 479  | 3065           | -629 | 513  | -39         | 4   | 34  |
| B3                 | 3112          | -487 | 496  | 3057           | -485 | 531  | -55         | 2   | 35  |
| C3                 | 3098          | -360 | 500  | 3029           | -362 | 540  | -69         | -2  | 40  |
| D3                 | 3104          | -195 | 511  | 3021           | -213 | 488  | -83         | -18 | -23 |
| A4                 | 2863          | -644 | 495  | 2831           | -666 | 543  | -32         | -22 | 48  |
| B4                 | 2866          | -502 | 505  | 2819           | -532 | 578  | -47         | -30 | 73  |
| C4                 | 2874          | -364 | 506  | 2814           | -399 | 548  | -60         | -35 | 42  |
| D4                 | 2878          | -206 | 507  | 2863           | -253 | 547  | -15         | -47 | 40  |
| A5                 | 2604          | -640 | 500  | 2576           | -666 | 535  | -28         | -26 | 35  |
| B5                 | 2600          | -514 | 508  | 2575           | -542 | 553  | -25         | -28 | 45  |
| C5                 | 2605          | -375 | 509  | 2585           | -403 | 554  | -20         | -28 | 45  |
| D5                 | 2604          | -230 | 510  | 2592           | -257 | 557  | -12         | -27 | 47  |
| BP                 | 3158          | -357 | 290  | 3070           | -330 | 250  | -88         | 27  | -40 |
| LB                 | 2861          | -502 | 25   | 2841           | -503 | 48   | -20         | -1  | 23  |
| RB                 | 2861          | -202 | 24   | 2848           | -204 | 40   | -13         | -2  | 16  |
| SW                 | 2630          | -353 | -120 | 2619           | -381 | -118 | -11         | -28 | 2   |
| AB                 | 2581          | -531 | 460  | 2559           | -554 | 499  | -22         | -23 | 39  |

BP=Brake Pedal, LB=Left side of bolster, RB=Right side of bolster, SW=Steering wheel center,  
 AB=Front outboard seat anchor bolt.

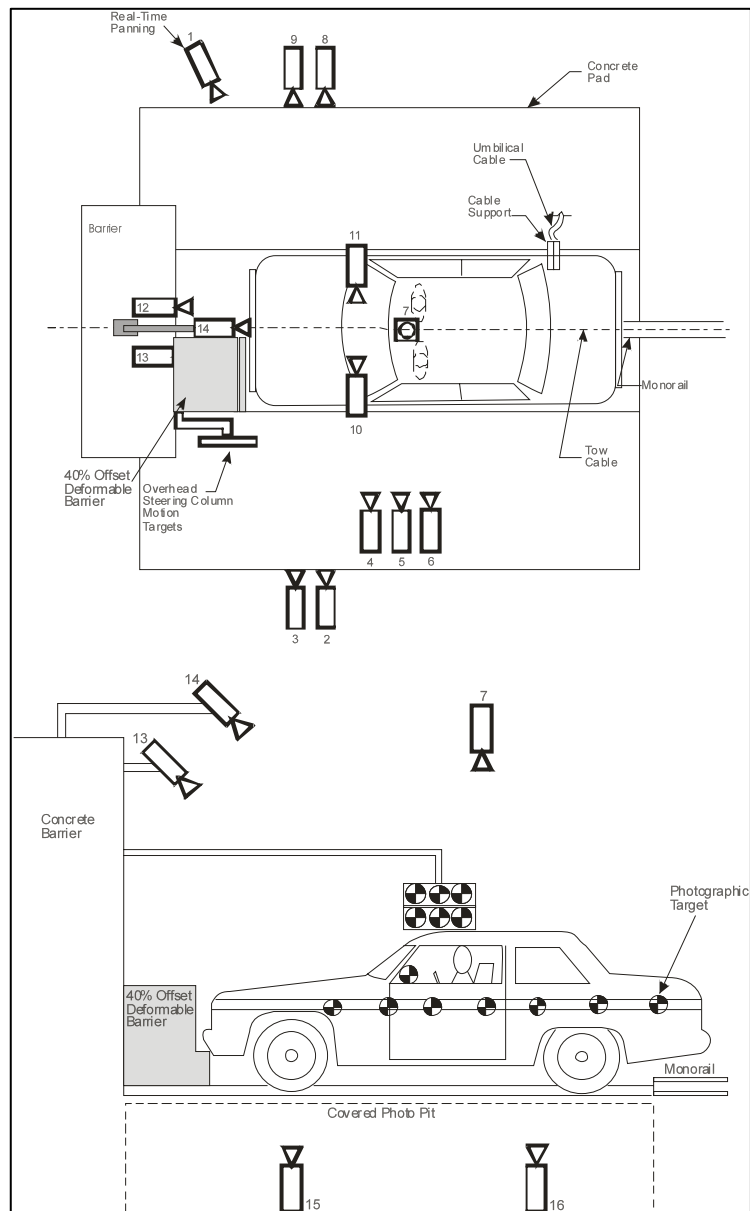
Procedure for measuring interior points is located in Appendix E.

**DATA SHEET NO.15**  
**CAMERA POSITIONS FOR FRONTAL IMPACTS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

NOTE: Camera information shown in DATA SHEET NO. 15.



**DATA SHEET NO.15 (continued)**  
**HIGH-SPEED CAMERA LOCATIONS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328

Test Date: 03/28/06

| CAMERA NO. | VIEW                     | CAMERA POSITIONS (mm)* |      |      | ANGLE (deg)** | FILM PLANE TO HEAD TARGET | LENS (mm) | SPEED (fps) |
|------------|--------------------------|------------------------|------|------|---------------|---------------------------|-----------|-------------|
|            |                          | X                      | Y    | Z    |               |                           |           |             |
| 1          | Real-Time Camera         | ---                    | ---  | ---  | ---           | ---                       | ---       | 24          |
| 2          | Overall Left Side        | 2200                   | 5300 | 960  | -5.5          | 4800                      | 12.5      | 1000        |
| 3          | Left Side View           | 0                      | 7000 | 780  | -2.0          | N/A                       | 50        | 1000        |
| 4          | Driver View              | 1100                   | 6860 | 1040 | -1.4          | 6600                      | 50        | 1000        |
| 5          | Steering Column Top      | 1810                   | 5750 | 2330 | -15.7         | 5400                      | 50        | 1000        |
| 6          | Steering Column Bottom   | 1730                   | 5300 | 1560 | -7.5          | 4800                      | 50        | 1000        |
| 7          | Top View                 | 0                      | 200  | 5650 | -88.0         | N/A                       | 10        | 1000        |
| 8          | Overall Right Side       | -860                   | 8250 | 1000 | -2.1          | 8700                      | 12.5      | 1000        |
| 9          | Right Side View          | 0                      | 7950 | 770  | -1.0          | N/A                       | 50        | 1000        |
| 10         | Left Driver Foot View    | 1900                   | 400  | N/A  | 9.0           | N/A                       | 6.5       | 1000        |
| 11         | Right Driver Foot View   | 2190                   | 200  | N/A  | -1.6          | N/A                       | 12.5      | 1000        |
| 12         | Driver Front Angled View | 2100                   | 700  | 2170 | -21.2         | 4930                      | 25        | 1000        |
| 13         | Driver Front View        | 2100                   | 470  | 2170 | -23.3         | 4930                      | 25        | 1000        |
| 14         | Windshield View          | 2100                   | 0    | 2170 | -23.8         | 4930                      | 25        | 1000        |
| 15         | Pit View of Engine       | 0                      | 0    | 400  | 86.6          | N/A                       | 25        | 1000        |
| 16         | Pit View of Fuel Tank    | 1870                   | 100  | 400  | 88.5          | N/A                       | 12.5      | 1000        |

\*X = film plane to impact location

\*\* = referenced to horizontal plane

Y = film plane to monorail centerline

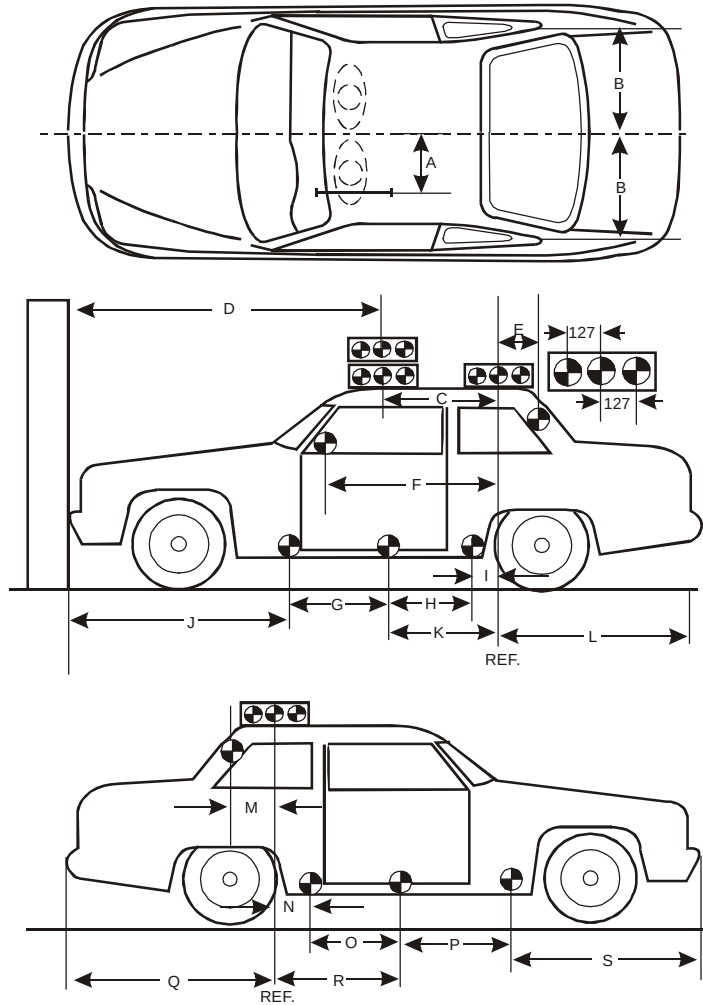
N.T. indicates No Timing

Z = film plane to ground

**DATA SHEET NO. 16**  
**VEHICLE REFERENCE PHOTO TARGET LOCATIONS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

|          |                  |
|----------|------------------|
| <b>A</b> | 350              |
| <b>B</b> | 595              |
| <b>C</b> | 610              |
| <b>D</b> | N/A <sup>1</sup> |
| <b>E</b> | 1810             |
| <b>F</b> | 3490             |
| <b>G</b> | 932              |
| <b>H</b> | 933              |
| <b>I</b> | 1960             |
| <b>J</b> | 5070             |
| <b>K</b> | 2900             |
| <b>L</b> | 2222             |
| <b>M</b> | 1756             |
| <b>N</b> | 1960             |
| <b>O</b> | 933              |
| <b>P</b> | 938              |
| <b>Q</b> | 2210             |
| <b>R</b> | 2890             |
| <b>S</b> | 5070             |



All units in millimeters

<sup>1</sup> Measurement not recorded.

The relative target spacing for targets placed on top of the hood and roof top of the vehicle is 300 mm.



**DATA SHEET NO. 17**  
**POST TEST AIR BAG DATA**

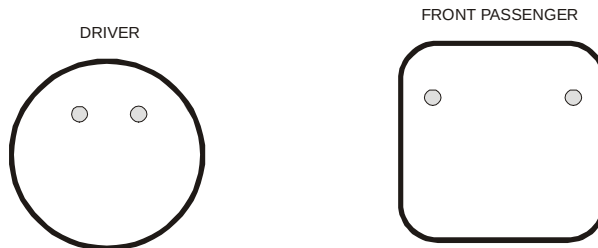
Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

NHTSA No.: R60328 Test Date: 03/28/2006 Technician: Mike Postle

Vehicle Model Year/Make/Model: 2006 Dodge Stratus SXT

- A. No. of vent holes: 2 -Driver 2 -Passenger
- B. Size of vent holes: (mm<sup>2</sup>) 706.5 -Driver 17,662.5 -Passenger
- C. Total vent area: (mm<sup>2</sup>) 1413.0 -Driver 35,325.0 -Passenger
- D. Deflated air bag length and width dimensions or, if round, diameter. (mm)  
 Driver: \_\_\_\_\_ -Length; \_\_\_\_\_ -Width; 580 -Diameter  
 Passenger: 450 -Height; 360 -Width; 560 -Depth
- E. Is the air bag tethered?  
 Driver: \_\_\_\_\_ -Yes; X -No; If yes, record length of tether- \_\_\_\_\_  
 Passenger: \_\_\_\_\_ -Yes; X -No; If yes, record length of tether- \_\_\_\_\_

Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.



(Note: Not to scale;  $V_n$  = Vent hole<sub>n</sub>,  $T_n$  = Tether<sub>n</sub>).

- F. Record part numbers and manufacturer name of the air bag and gas generator.  
 Driver: 312266 420d 018733504CKV  
 \_\_\_\_\_  
 Passenger: 2403867 TB-113-L1 14 09 04  
 \_\_\_\_\_  
 \_\_\_\_\_

**DATA SHEET NO. 18**  
**ACCIDENT INVESTIGATION DIVISION DATA**

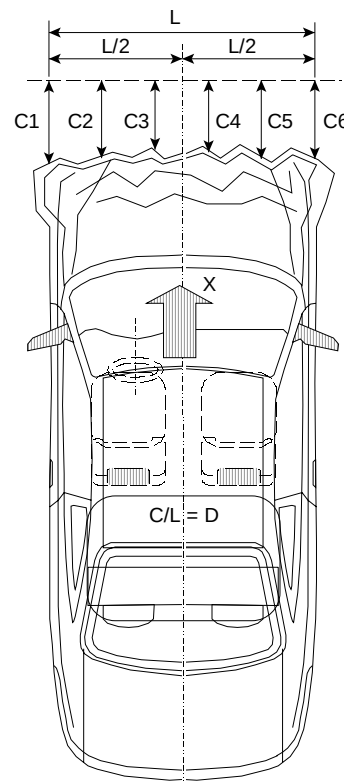
Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door  
 NHTSA Test No.: R60328 Test Date: 03/28/06

**FOR FRONTAL BARRIER IMPACT**

NHTSA Test No.: R60328 VIN: 1B3EL46X46N102360  
 Model Year: 2006 Build Date: 12/05 Test Date: 03/28/06  
 Vehicle Size Category: Sedan Test Weight: 1538.2 kg  
 Vehicle Wheelbase: 2745 mm; Front Overhang: 1010 mm; Overall Width: 1800 mm  
 Collision Deformation Classification (CDC) Code: 12FDEW3

**Crush Depth Dimensions with Bumper**

|      | PRE  | POST             | DIFF |    |
|------|------|------------------|------|----|
| C1 = | 4652 | N/A <sup>1</sup> |      | mm |
| C2 = | 4772 | N/A <sup>1</sup> |      | mm |
| C3 = | 4842 | N/A <sup>1</sup> |      | mm |
| C4 = | 4852 | N/A <sup>1</sup> |      | mm |
| C5 = | 4844 | N/A <sup>1</sup> |      | mm |
| C6 = | 4772 | N/A <sup>1</sup> |      | mm |



**Crush Depth Dimensions without Bumper**

|      | PRE  | POST | DIFF |    |
|------|------|------|------|----|
| C1 = | 5075 | 4676 | 399  | mm |
| C2 = | 5125 | 4721 | 404  | mm |
| C3 = | 5145 | 4826 | 319  | mm |
| C4 = | 5145 | 4935 | 210  | mm |
| C5 = | 5125 | 5031 | 94   | mm |
| C6 = | 5075 | 5105 | -30  | mm |

Midpoint of Damage:  $D = \underline{\text{Vehicle Centerline (Longitudinal)}}$

Length of Damaged Region  $L1 = \underline{1075}$  mm

$L2 = \underline{537}$  mm

$L3 = \underline{537}$  mm

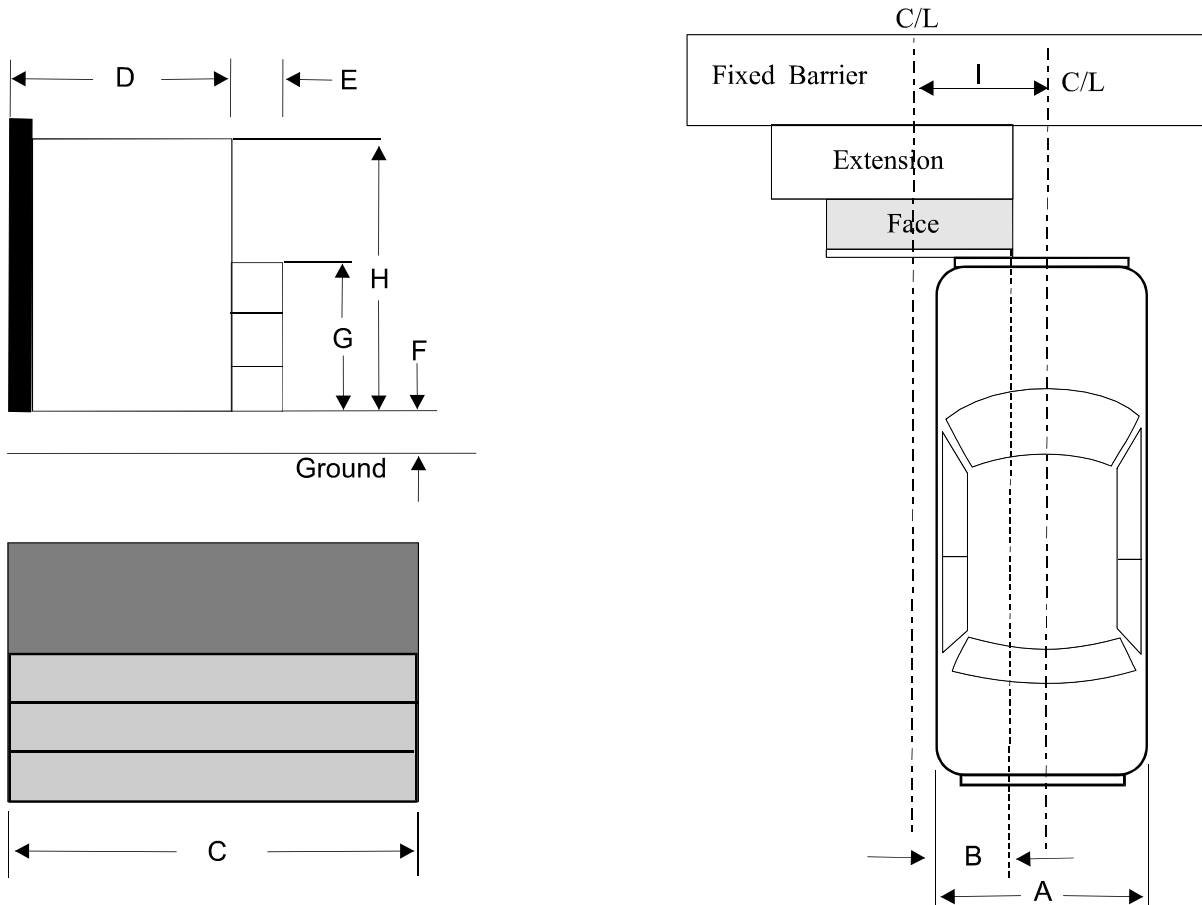
<sup>1</sup> Vehicle fascia destroyed during impact.

**DATA SHEET NO. 19**  
**OFFSET BARRIER AND VEHICLE ORIENTATION**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328

Test Date: 03/28/06



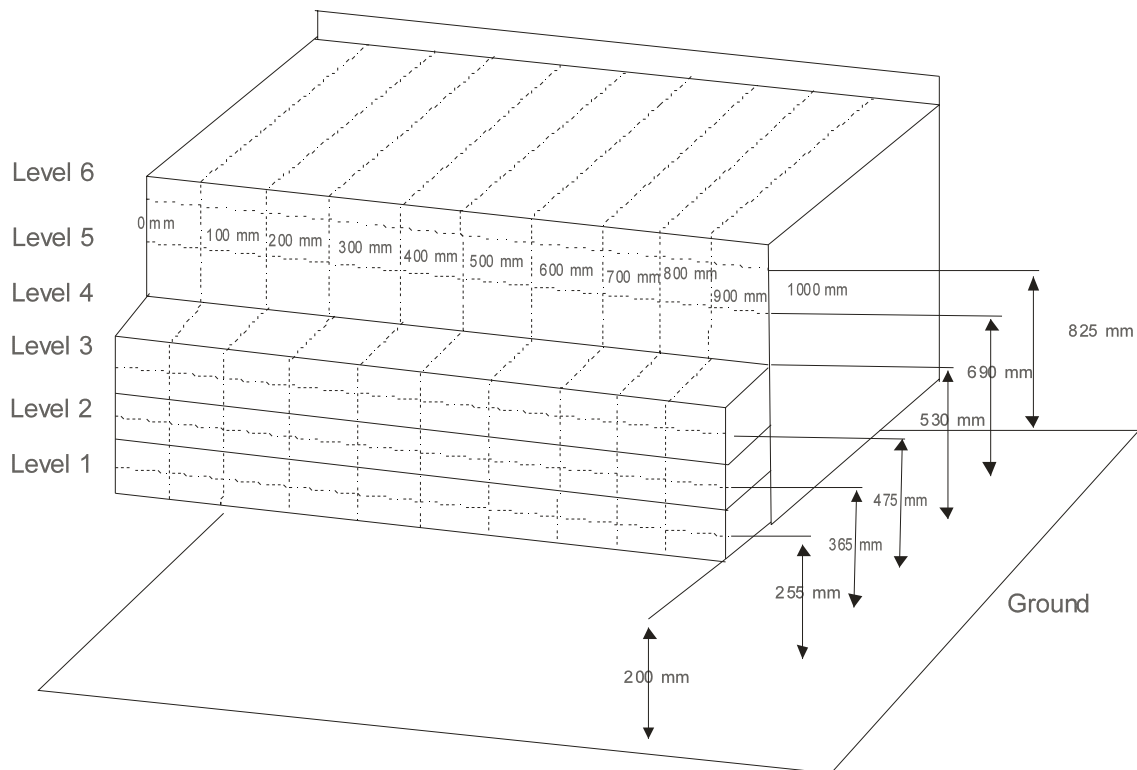
|                                        |             |    |
|----------------------------------------|-------------|----|
| A. Total Vehicle Width                 | <u>1800</u> | mm |
| B. 40% Overlap Distance                | <u>711</u>  | mm |
| C. Deformable Face Width               | <u>1000</u> | mm |
| D. Single Stage Honeycomb Depth        | <u>450</u>  | mm |
| E. Bumper Element Depth                | <u>90</u>   | mm |
| F. Lower Edge Height From Ground       | <u>200</u>  | mm |
| G. Bumper Element Height*              | <u>330</u>  | mm |
| H. Deformable Barrier Honeycomb Height | <u>650</u>  | mm |
| I. Offset                              | <u>-689</u> | mm |

\* The bumper element consists of three 110 mm height blocks of 1.723 MPa honeycomb.

**DATA SHEET NO. 20**  
**DEFORMABLE BARRIER HONEYCOMB CRUSH**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06



Note: Pre-test measurements were not recorded and the deformable face was not marked prior to test. The deformed face was marked and measured post-test. Pre-test measurements were taken from another barrier face from the same manufacturer.

# Deformable Barrier Face Profile

Pre-Test

| Index | Xmm   | Ymm    | Zmm   |
|-------|-------|--------|-------|
| 1     | -89.9 | -988.7 | 605.6 |
| 2     | -89.5 | -894.3 | 605.4 |
| 3     | -89.3 | -793.0 | 605.0 |
| 4     | -89.5 | -694.3 | 605.7 |
| 5     | -89.3 | -593.7 | 606.0 |
| 6     | -89.0 | -493.5 | 606.2 |
| 7     | -89.0 | -393.8 | 605.8 |
| 8     | -88.9 | -294.6 | 606.1 |
| 9     | -88.8 | -194.1 | 606.4 |
| 10    | -88.6 | -94.5  | 605.8 |
| 11    | -88.7 | -0.6   | 606.5 |
| 12    | -89.2 | -990.1 | 497.0 |
| 13    | -88.8 | -894.6 | 497.1 |
| 14    | -88.5 | -794.0 | 496.9 |
| 15    | -88.4 | -695.7 | 497.4 |
| 16    | -88.3 | -593.6 | 497.3 |
| 17    | -88.3 | -495.6 | 496.9 |
| 18    | -88.3 | -394.5 | 496.8 |
| 19    | -87.9 | -294.9 | 496.6 |
| 20    | -87.6 | -194.1 | 496.6 |
| 21    | -87.2 | -93.9  | 496.2 |
| 22    | -87.8 | 0.8    | 496.3 |

Post-Test

| Index | Xmm    | Ymm    | Zmm   |
|-------|--------|--------|-------|
| 1     | -32.2  | -901.3 | 471.0 |
| 2     | -58.0  | -806.4 | 470.0 |
| 3     | -87.2  | -713.3 | 470.8 |
| 4     | -110.6 | -618.2 | 470.2 |
| 5     | -168.1 | -532.9 | 471.6 |
| 6     | -242.6 | -478.2 | 470.5 |
| 7     | -252.4 | -395.2 | 470.0 |
| 8     | -233.0 | -288.2 | 469.2 |
| 9     | -262.4 | -197.7 | 469.1 |
| 10    | -293.1 | -102.9 | 470.2 |
| 11    | -343.2 | -9.5   | 468.8 |
| 12    | -15.1  | -903.9 | 346.8 |
| 13    | -42.9  | -816.2 | 347.1 |
| 14    | -78.5  | -716.0 | 347.6 |
| 15    | -122.3 | -631.5 | 346.7 |
| 16    | -181.4 | -543.3 | 346.9 |
| 17    | -234.3 | -473.0 | 348.2 |
| 18    | -266.2 | -405.6 | 346.5 |
| 19    | -307.0 | -314.9 | 347.0 |
| 20    | -331.1 | -226.7 | 348.3 |
| 21    | -338.8 | -107.5 | 347.6 |
| 22    | -388.6 | -27.2  | 346.6 |

Difference

| Index | Xmm   | Ymm   | Zmm   |
|-------|-------|-------|-------|
| 1     | -57.7 | -87.4 | 134.6 |
| 2     | -31.5 | -87.9 | 135.4 |
| 3     | -2.1  | -79.7 | 134.2 |
| 4     | 21.1  | -76.1 | 135.5 |
| 5     | 78.8  | -60.8 | 134.4 |
| 6     | 153.6 | -15.3 | 135.7 |
| 7     | 163.4 | 1.4   | 135.8 |
| 8     | 144.1 | -6.4  | 136.9 |
| 9     | 173.6 | 3.6   | 137.3 |
| 10    | 204.5 | 8.4   | 135.6 |
| 11    | 254.5 | 8.9   | 137.7 |
| 12    | -74.1 | -86.2 | 150.2 |
| 13    | -45.9 | -78.4 | 150.0 |
| 14    | -10.0 | -78.0 | 149.3 |
| 15    | 33.9  | -64.2 | 150.7 |
| 16    | 93.1  | -50.3 | 150.4 |
| 17    | 146.0 | -22.6 | 148.7 |
| 18    | 177.9 | 11.1  | 150.3 |
| 19    | 219.1 | 20.0  | 149.6 |
| 20    | 243.5 | 32.6  | 148.3 |
| 21    | 251.6 | 13.6  | 148.6 |
| 22    | 300.8 | 28.0  | 149.7 |

Deformable Barrier Face Profile Cont'd.

Pre-Test

| Index | Xmm   | Ymm    | Zmm   |
|-------|-------|--------|-------|
| 23    | -88.4 | -989.6 | 385.3 |
| 24    | -88.0 | -895.8 | 385.6 |
| 25    | -87.9 | -794.5 | 385.1 |
| 26    | -88.0 | -695.9 | 385.7 |
| 27    | -86.8 | -595.3 | 385.1 |
| 28    | -88.2 | -496.0 | 385.7 |
| 29    | -87.5 | -395.1 | 385.2 |
| 30    | -87.1 | -295.1 | 386.2 |
| 31    | -86.6 | -196.9 | 385.6 |
| 32    | -86.6 | -96.0  | 384.4 |
| 33    | -87.5 | -0.5   | 385.2 |
| 34    | 3.1   | -991.8 | 281.9 |
| 35    | 3.6   | -896.8 | 281.0 |
| 36    | 3.7   | -796.4 | 281.0 |
| 37    | 4.0   | -697.0 | 281.1 |
| 38    | 4.1   | -596.3 | 280.8 |
| 39    | 4.8   | -495.4 | 280.1 |
| 40    | 4.5   | -397.1 | 280.0 |
| 41    | 4.6   | -296.8 | 280.2 |
| 42    | 4.8   | -196.3 | 279.8 |
| 43    | 4.9   | -96.8  | 279.5 |
| 44    | 4.6   | -1.5   | 279.8 |

Post-Test

| Index | Xmm    | Ymm    | Zmm   |
|-------|--------|--------|-------|
| 23    | -36.1  | -916.3 | 201.5 |
| 24    | N/A    | N/A    | N/A   |
| 25    | -77.0  | -709.6 | 200.7 |
| 26    | -139.8 | -628.3 | 201.3 |
| 27    | -195.2 | -548.7 | 201.6 |
| 28    | -254.5 | -473.0 | 201.7 |
| 29    | -325.9 | -402.9 | 201.2 |
| 30    | -380.9 | -321.1 | 201.4 |
| 31    | -415.4 | -210.6 | 202.1 |
| 32    | -421.5 | -104.3 | 203.5 |
| 33    | -432.2 | -43.1  | 201.6 |
| 34    | 52.3   | -849.1 | 136.6 |
| 35    | -10.6  | -772.8 | 137.2 |
| 36    | -72.3  | -703.8 | 137.8 |
| 37    | -123.9 | -611.5 | 137.1 |
| 38    | -182.6 | -528.9 | 137.3 |
| 39    | -238.9 | -457.1 | 138.0 |
| 40    | -303.1 | -383.0 | 137.3 |
| 41    | -377.8 | -312.8 | 136.9 |
| 42    | -416.4 | -203.0 | 136.2 |
| 43    | -396.9 | -64.1  | 138.1 |
| 44    | N/A    | N/A    | N/A   |

Difference

| Index | Xmm   | Ymm    | Zmm   |
|-------|-------|--------|-------|
| 23    | -52.3 | -73.3  | 183.8 |
| 24    | N/A   | N/A    | N/A   |
| 25    | -10.9 | -84.9  | 184.4 |
| 26    | 51.8  | -67.6  | 184.4 |
| 27    | 108.4 | -46.6  | 183.5 |
| 28    | 166.3 | -23.0  | 184.0 |
| 29    | 238.4 | 7.8    | 184.0 |
| 30    | 293.8 | 26.0   | 184.8 |
| 31    | 328.8 | 13.7   | 183.5 |
| 32    | 334.9 | 8.3    | 180.9 |
| 33    | 344.7 | 42.6   | 183.6 |
| 34    | -49.2 | -142.7 | 145.3 |
| 35    | 14.2  | -124.0 | 143.8 |
| 36    | 76.0  | -92.6  | 143.2 |
| 37    | 127.9 | -85.5  | 144.0 |
| 38    | 186.7 | -67.4  | 143.5 |
| 39    | 243.7 | -38.3  | 142.1 |
| 40    | 307.6 | -14.1  | 142.7 |
| 41    | 382.4 | 16.0   | 143.3 |
| 42    | 421.2 | 6.7    | 143.6 |
| 43    | 401.8 | -32.7  | 141.4 |
| 44    | N/A   | N/A    | N/A   |

Deformable Barrier Face Profile Cont'd.

Pre-Test

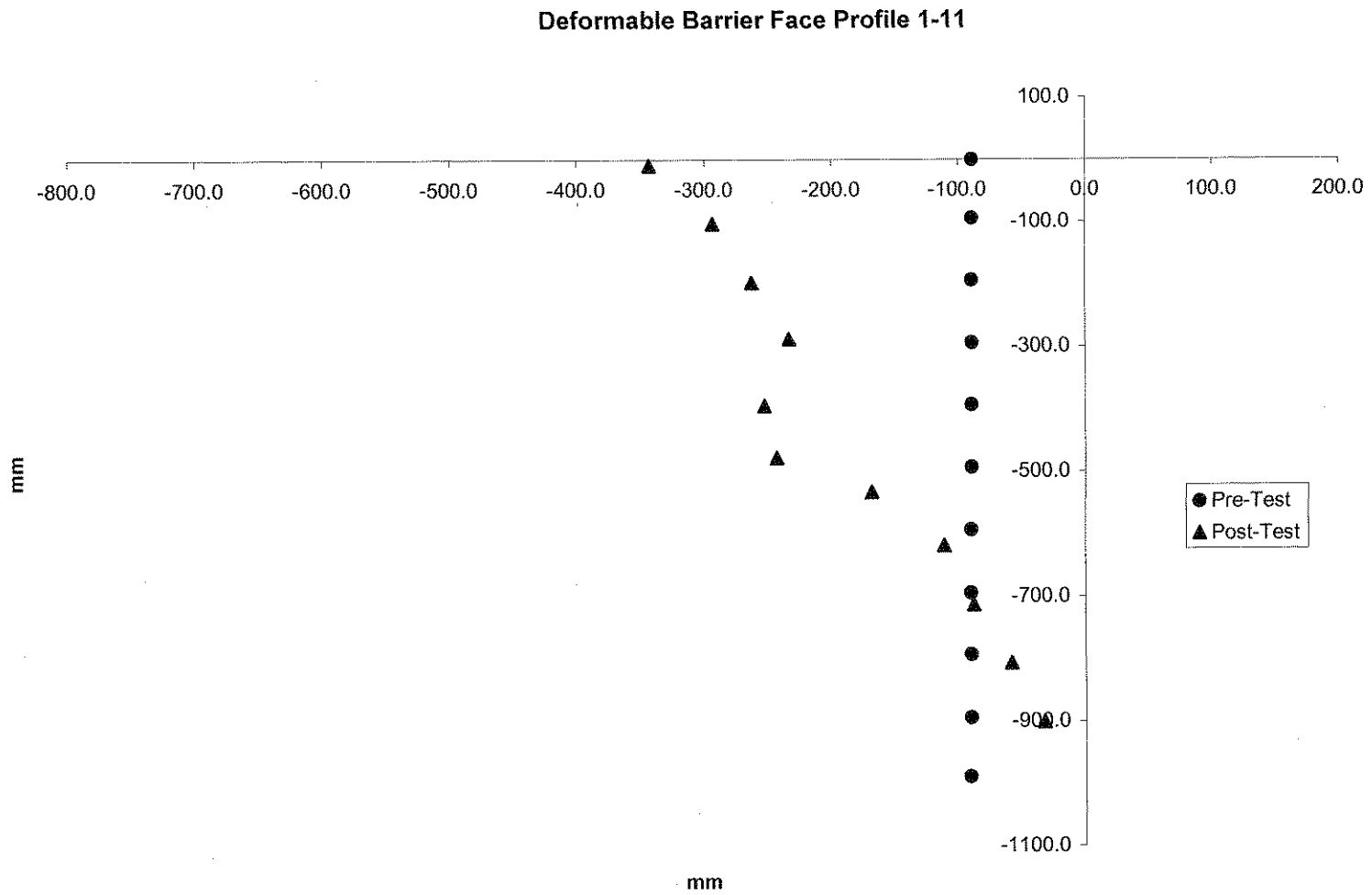
| Index | Xmm | Ymm    | Zmm   |
|-------|-----|--------|-------|
| 45    | 3.6 | -992.9 | 170.9 |
| 46    | 4.3 | -896.9 | 170.9 |
| 47    | 5.1 | -797.0 | 170.1 |
| 48    | 5.4 | -696.7 | 169.5 |
| 49    | 5.5 | -597.2 | 169.1 |
| 50    | 4.9 | -496.2 | 169.9 |
| 51    | 5.7 | -397.1 | 168.7 |
| 52    | 5.2 | -296.6 | 169.5 |
| 53    | 6.1 | -197.3 | 168.5 |
| 54    | 5.6 | -96.2  | 170.0 |
| 55    | 5.2 | -1.6   | 168.6 |
| 56    | 4.3 | -992.3 | 60.8  |
| 57    | 4.7 | -897.5 | 61.0  |
| 58    | 4.8 | -797.3 | 61.0  |
| 59    | 5.0 | -696.9 | 60.9  |
| 60    | 5.1 | -597.3 | 60.8  |
| 61    | 5.4 | -497.4 | 60.1  |
| 62    | 5.5 | -397.4 | 60.5  |
| 63    | 5.8 | -296.4 | 60.6  |
| 64    | 6.4 | -196.2 | 60.2  |
| 65    | 5.7 | -96.9  | 60.2  |
| 66    | 6.0 | -1.8   | 60.1  |

Post-Test

| Index | Xmm    | Ymm    | Zmm   |
|-------|--------|--------|-------|
| 45    | 28.2   | -865.0 | 17.1  |
| 46    | -17.1  | -781.3 | 17.5  |
| 47    | -60.3  | -694.4 | 17.9  |
| 48    | -99.3  | -600.9 | 17.0  |
| 49    | -150.1 | -513.6 | 18.1  |
| 50    | N/A    | N/A    | N/A   |
| 51    | -257.0 | -342.8 | 17.6  |
| 52    | -298.4 | -251.5 | 17.0  |
| 53    | -303.6 | -139.6 | 15.6  |
| 54    | -304.4 | -36.2  | 17.5  |
| 55    | -321.6 | 29.1   | 17.5  |
| 56    | 37.4   | -869.7 | -91.7 |
| 57    | -3.1   | -780.1 | -92.4 |
| 58    | -44.2  | -689.2 | -91.1 |
| 59    | -81.5  | -595.8 | -92.0 |
| 60    | -124.0 | -498.8 | -91.3 |
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| 65    | N/A    | N/A    | N/A   |
| 66    | N/A    | N/A    | N/A   |

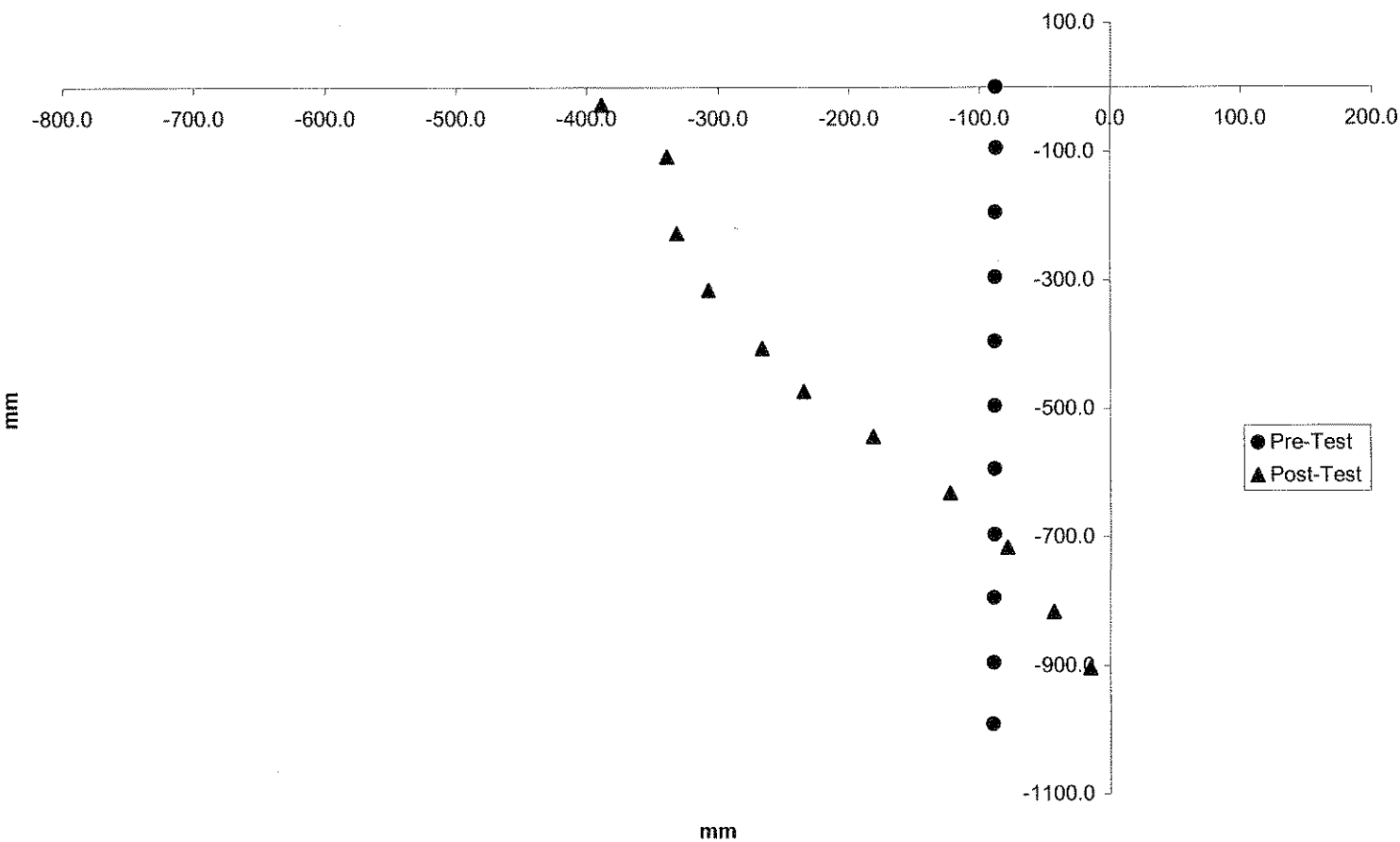
Difference

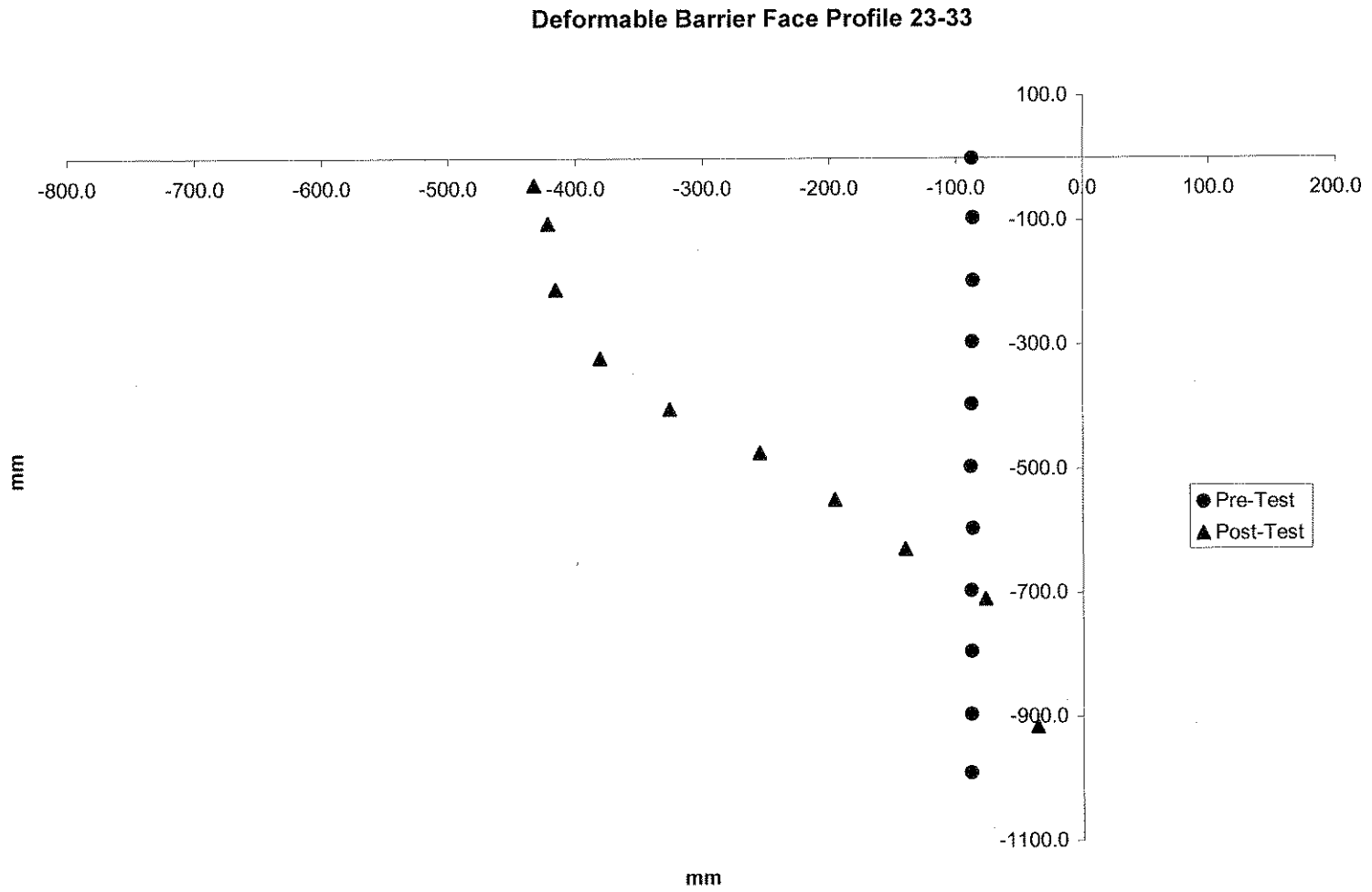
| Index | Xmm   | Ymm    | Zmm   |
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| 46    | 21.4  | -115.6 | 153.4 |
| 47    | 65.4  | -102.6 | 152.2 |
| 48    | 104.7 | -95.8  | 152.5 |
| 49    | 155.6 | -83.6  | 151.0 |
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| 51    | 262.7 | -54.3  | 151.1 |
| 52    | 303.6 | -45.1  | 152.5 |
| 53    | 309.7 | -57.7  | 152.9 |
| 54    | 310.0 | -60.0  | 152.5 |
| 55    | 326.8 | -30.7  | 151.1 |
| 56    | -33.1 | -122.6 | 152.5 |
| 57    | 7.8   | -117.4 | 153.4 |
| 58    | 49.0  | -108.1 | 152.1 |
| 59    | 86.5  | -101.1 | 152.9 |
| 60    | 129.1 | -98.5  | 152.1 |
| 61    | N/A   | N/A    | N/A   |
| 62    | N/A   | N/A    | N/A   |
| 63    | N/A   | N/A    | N/A   |
| 64    | N/A   | N/A    | N/A   |
| 65    | N/A   | N/A    | N/A   |
| 66    | N/A   | N/A    | N/A   |



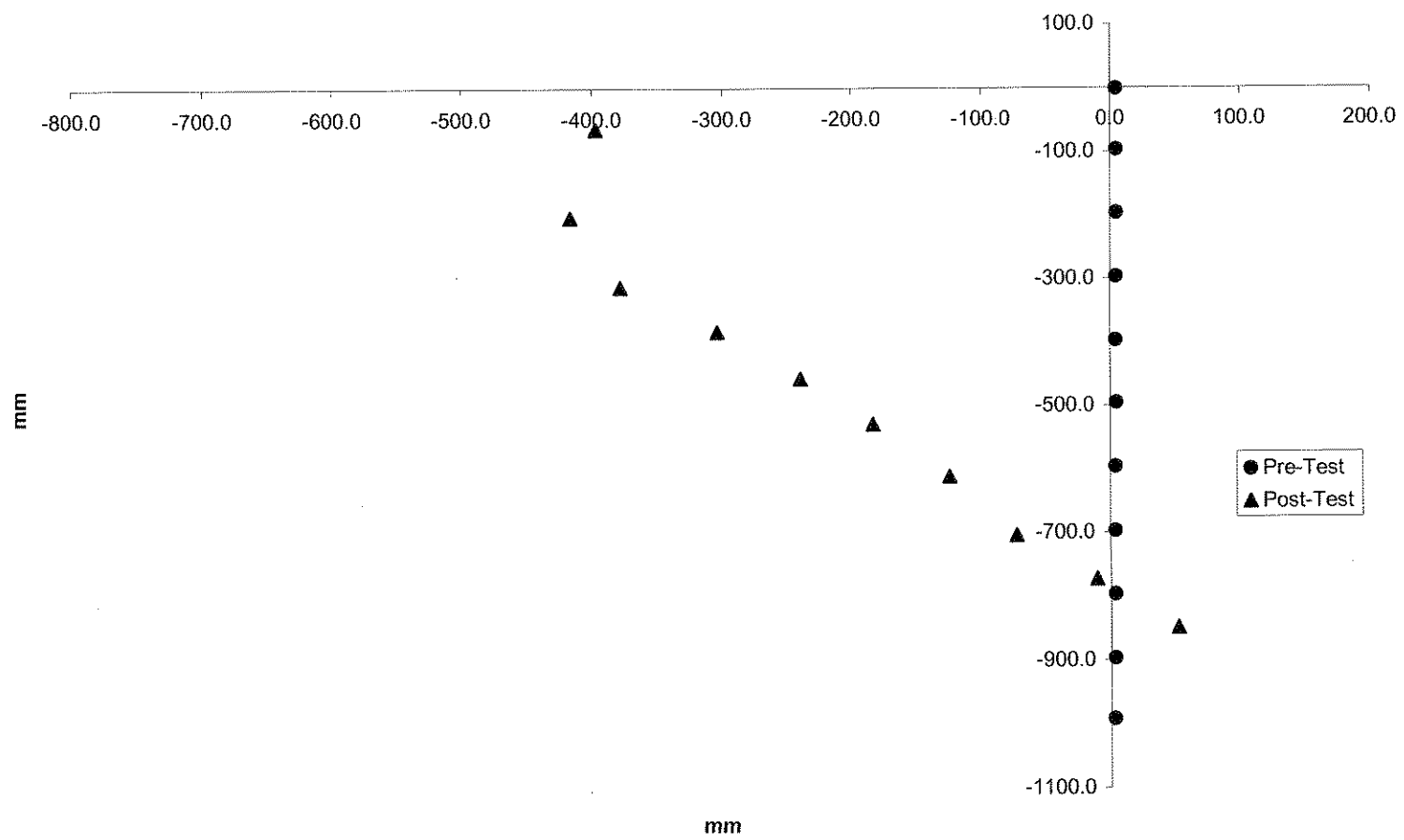


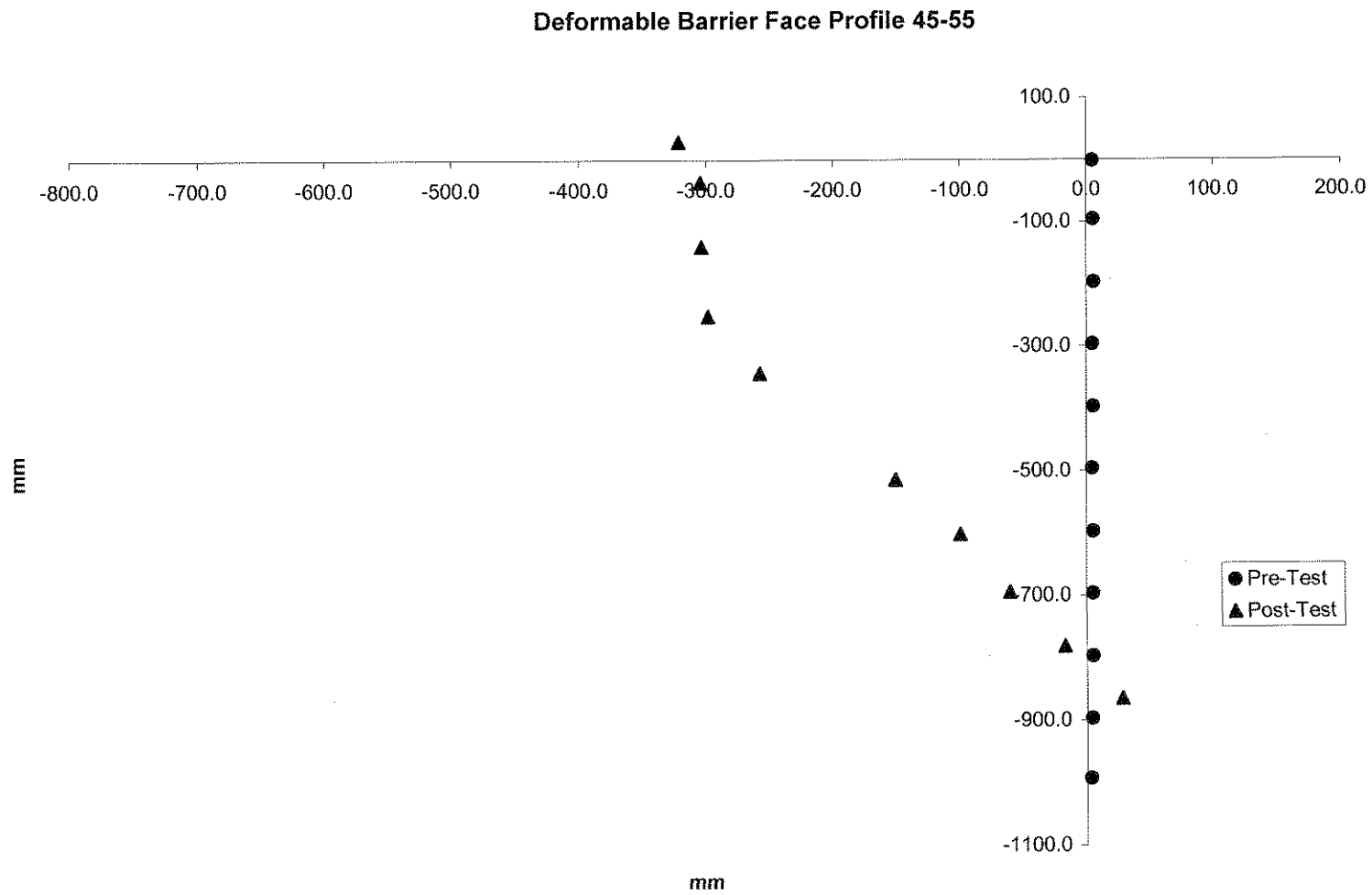
Deformable Barrier Face Profile 12-22



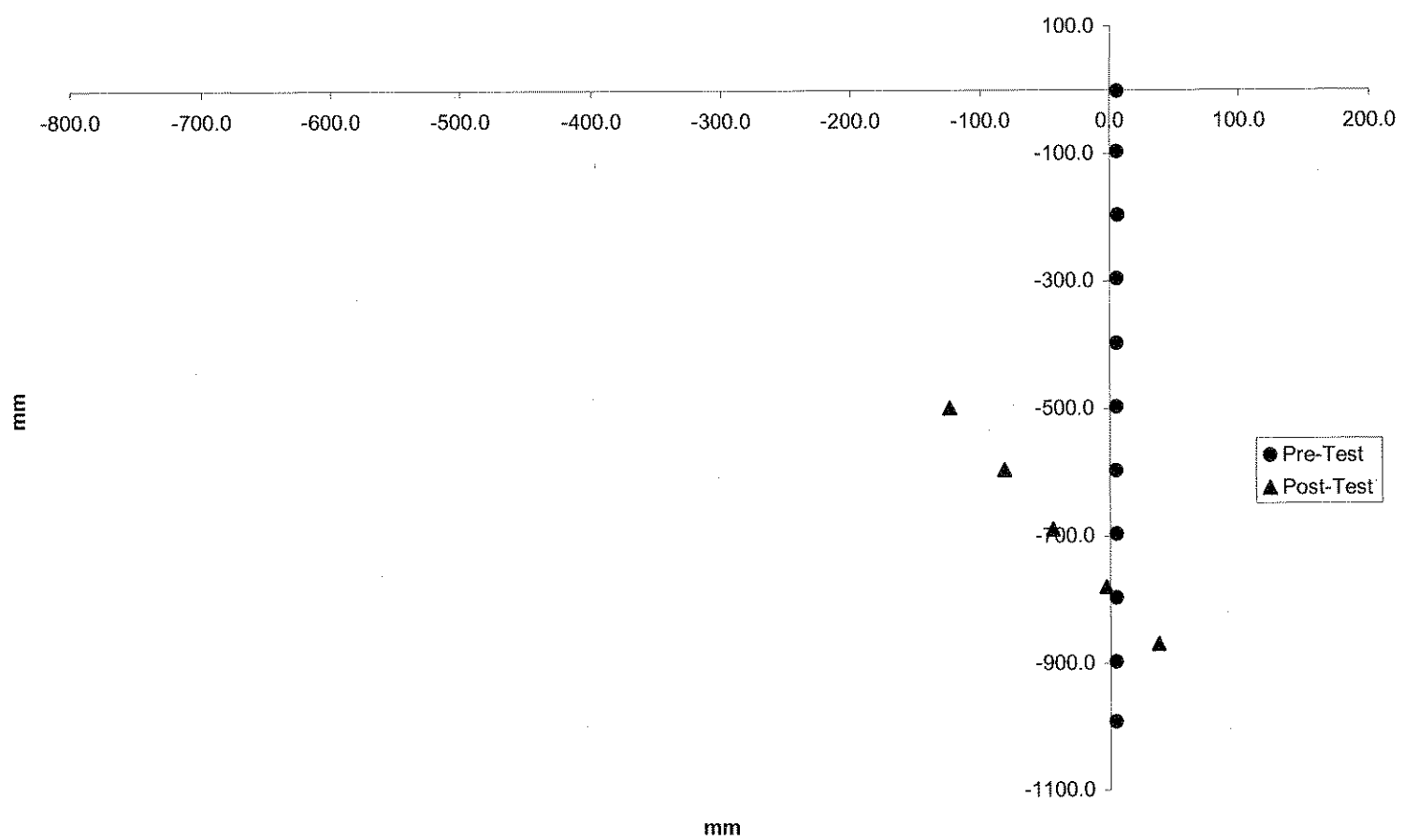


Deformable Barrier Face Profile 34-44





Deformable Barrier Face Profile 56-66

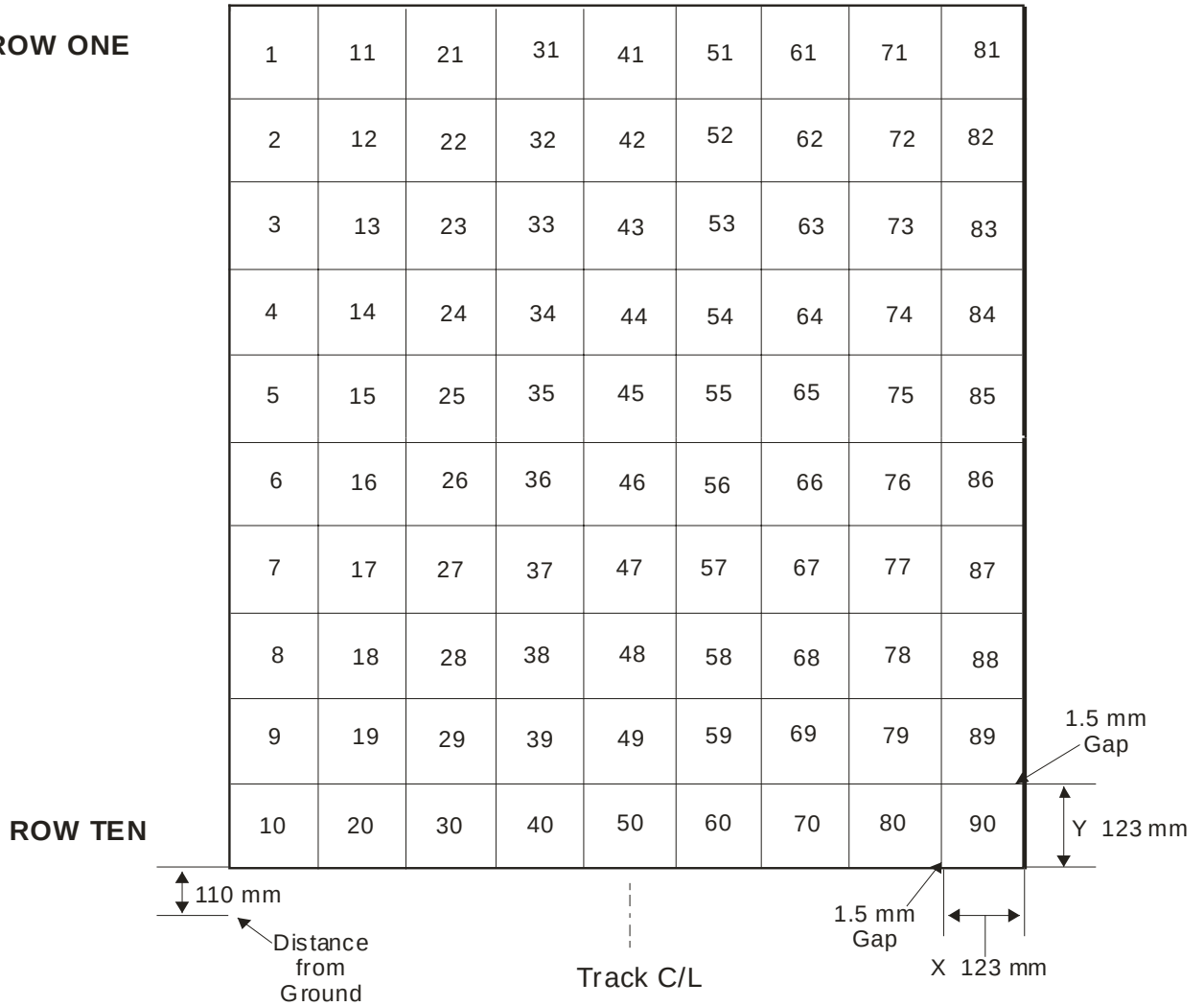


**DATA SHEET NO. 21**  
**DEFORMABLE BARRIER LOAD CELL LOCATIONS**

Vehicle Year/Make/Model/Body Style: 2006 Dodge Stratus SXT 4-door

NHTSA Test No.: R60328 Test Date: 03/28/06

**ROW ONE**



**ROW TEN**

90 LOAD CELLS  
 10 ROWS  
 9 COLUMNS

**FRONT VIEW**

## Appendix A

### Photographs



Figure A-1 Pre-Test Front View  
A-2

060328-1



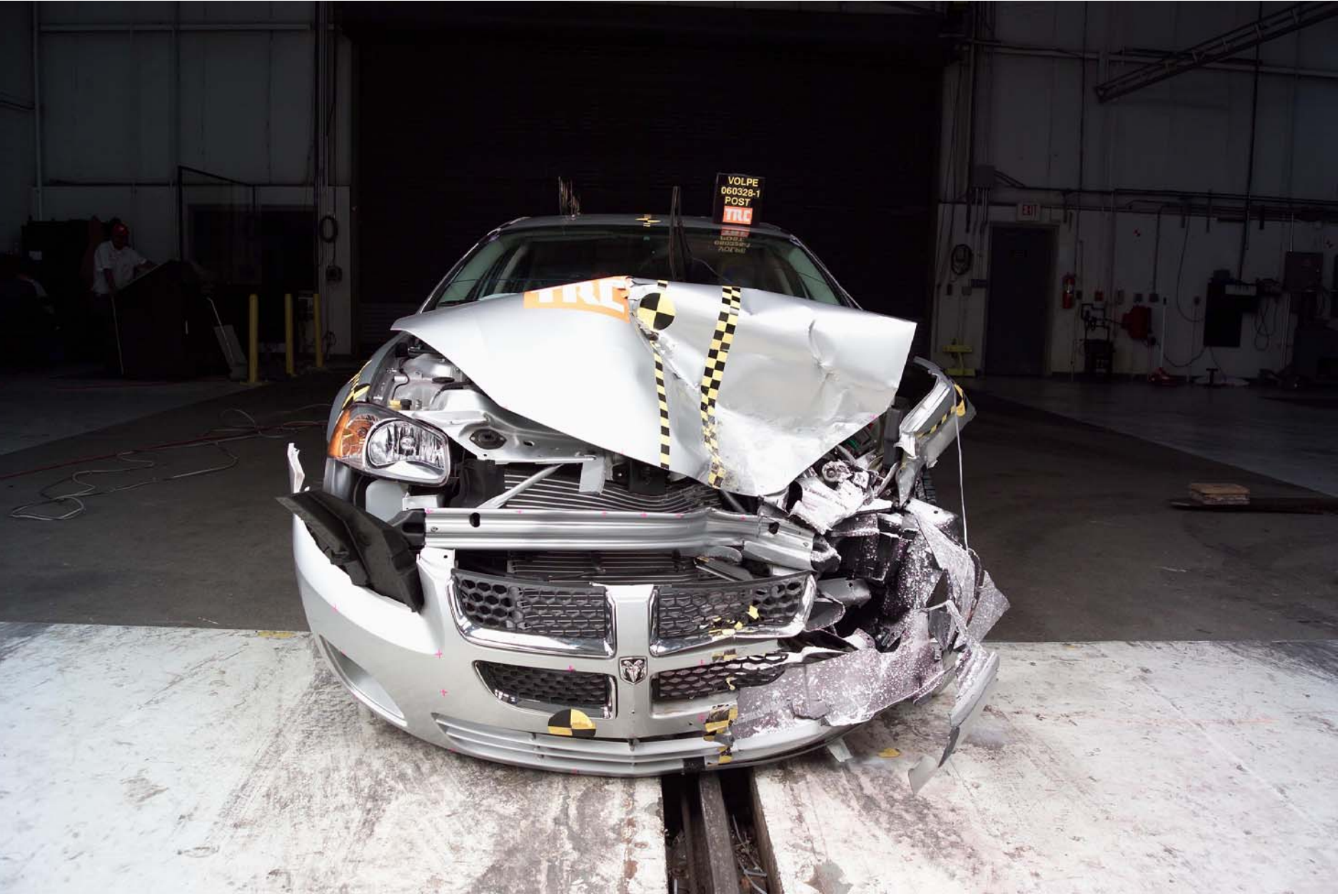


Figure A-2 Post-Test Front View  
A-3

060328-1







Figure A-4 Post-Test Left Front View  
A-5

060328-1





Figure A-5 Pre-Test Left Side View  
A-6

060328-1





Figure A-6 Post-Test Left Side View  
A-7

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Figure A-7 Pre-Test Left Rear View  
A-8

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Figure A-8 Post-Test Left Rear View  
A-9

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Figure A-9 Pre-Test Rear View  
A-10

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Figure A-10 Post-Test Rear View  
A-11

060328-1



Figure A-11 Pre-Test Right Rear View  
A-12

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Figure A-12 Post-Test Right Rear View  
A-13

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Figure A-13 Pre-Test Right Side View  
A-14

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Figure A-14 Post-Test Right Side View  
A-15

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Figure A-15 Pre-Test Right Front View  
A-16

060328-1

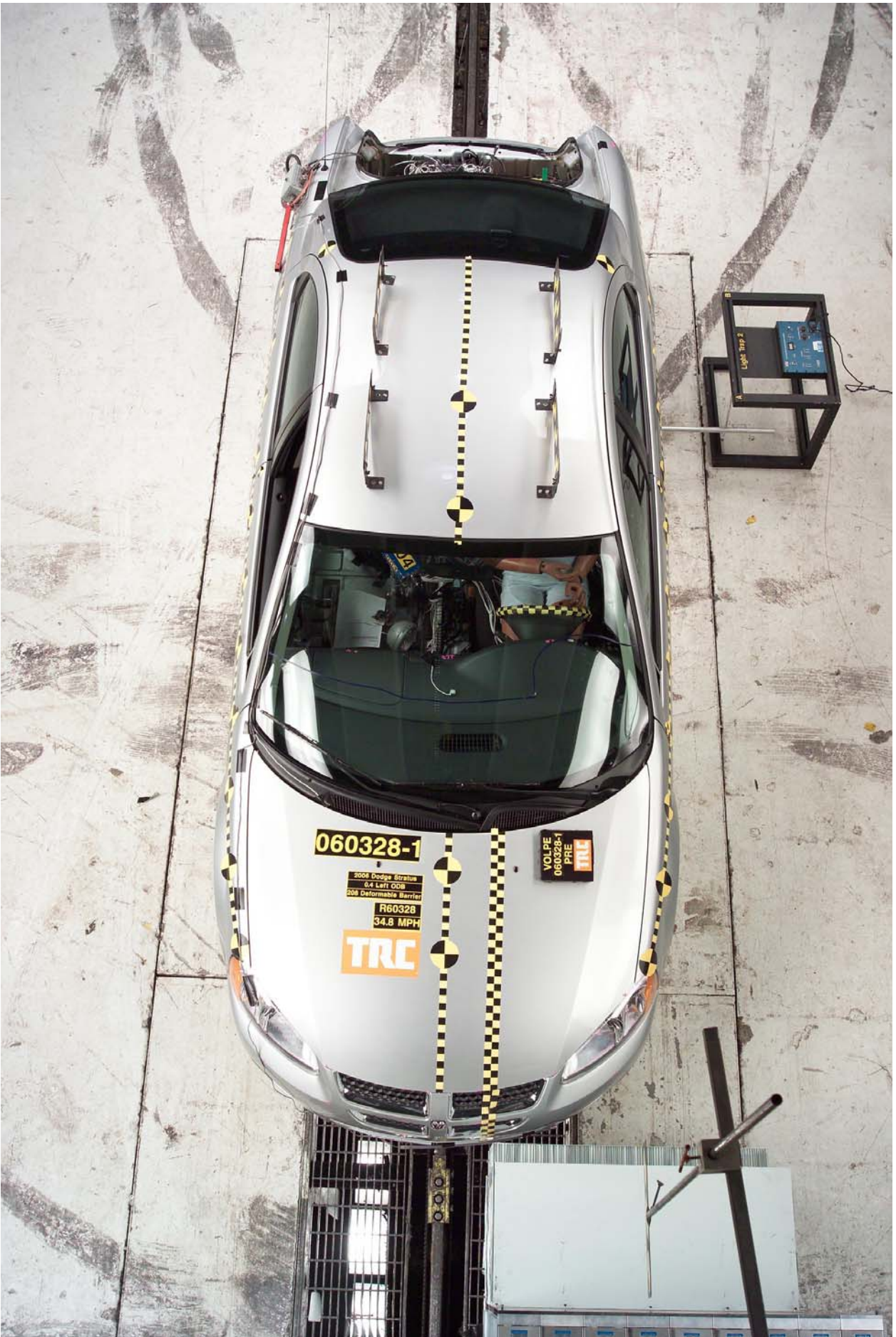




Figure A-16 Post-Test Right Front View  
A-17

060328-1





**Figure A-17 Pre-Test Overhead View**





**Figure A-18 Post-Test Overhead View**





Figure A-19 Pre-Test Impact Alignment - View 1  
A-20

060328-1



Figure A-20 Pre-Test Impact Alignment - View 2  
A-21

060328-1



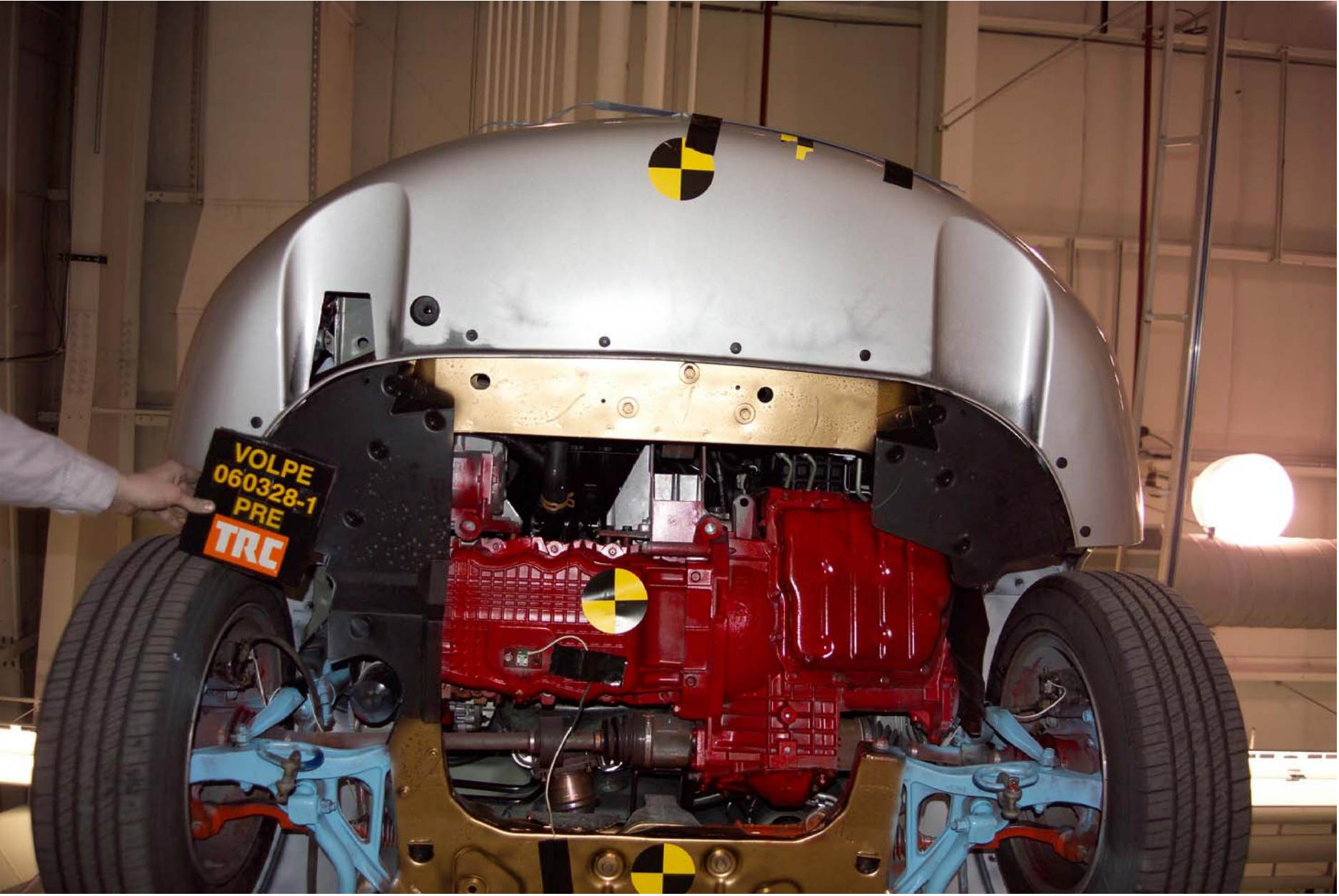


Figure A-21 Pre-Test Front Underbody View  
A-22

060328-1



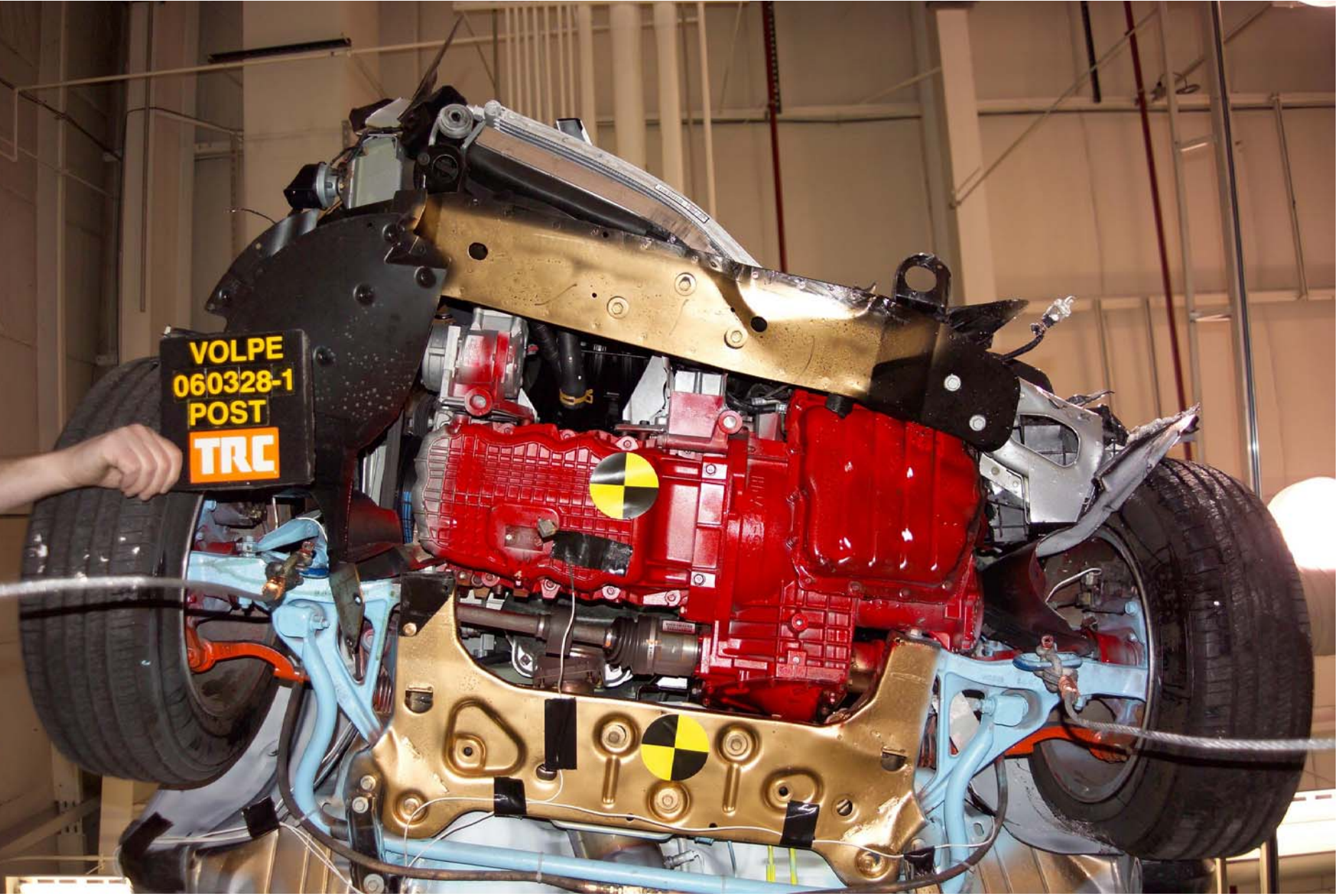


Figure A-22 Post-Test Front Underbody View  
A-23

060328-1



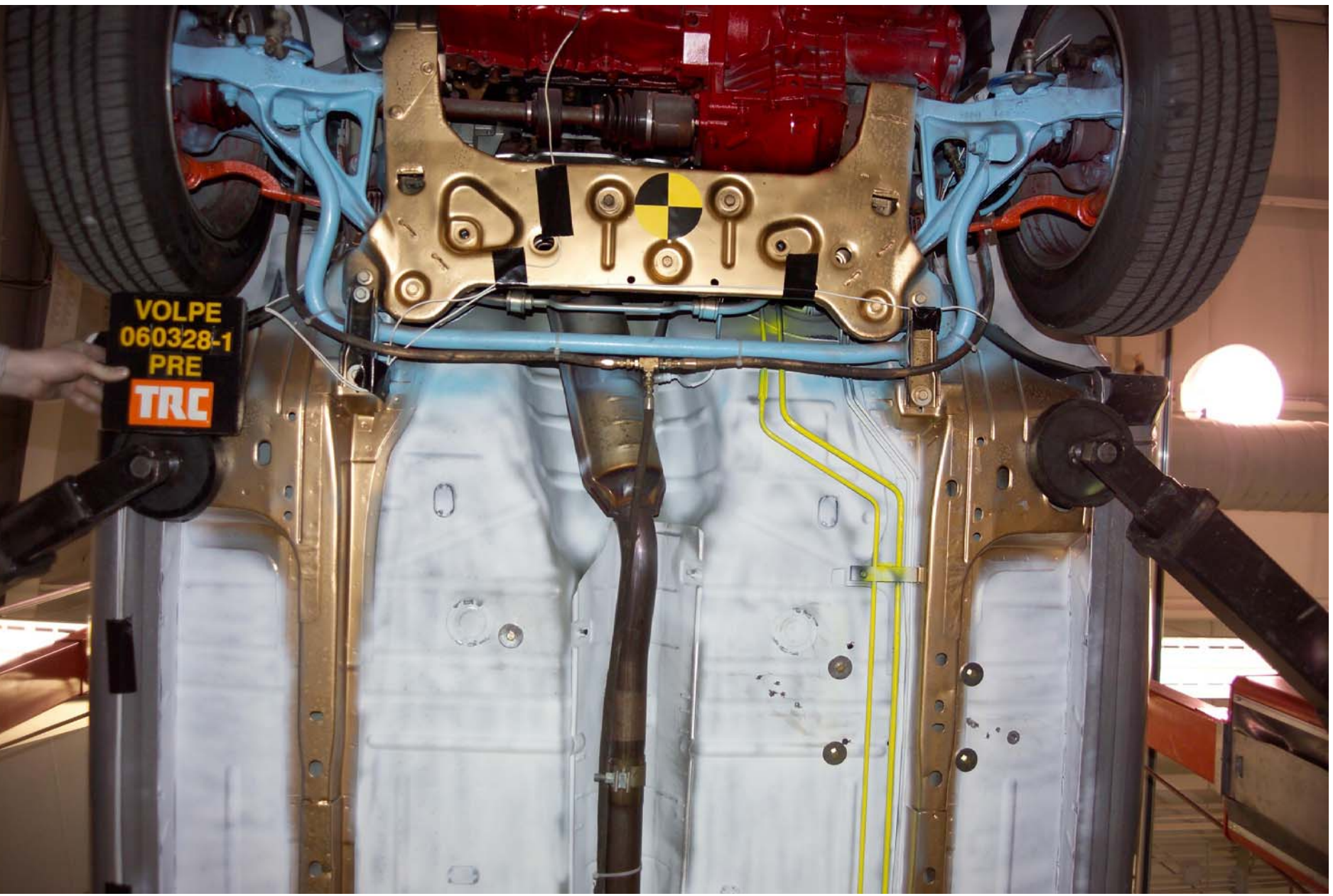


Figure A-23 Pre-Test Mid Front Underbody View  
A-24

060328-1



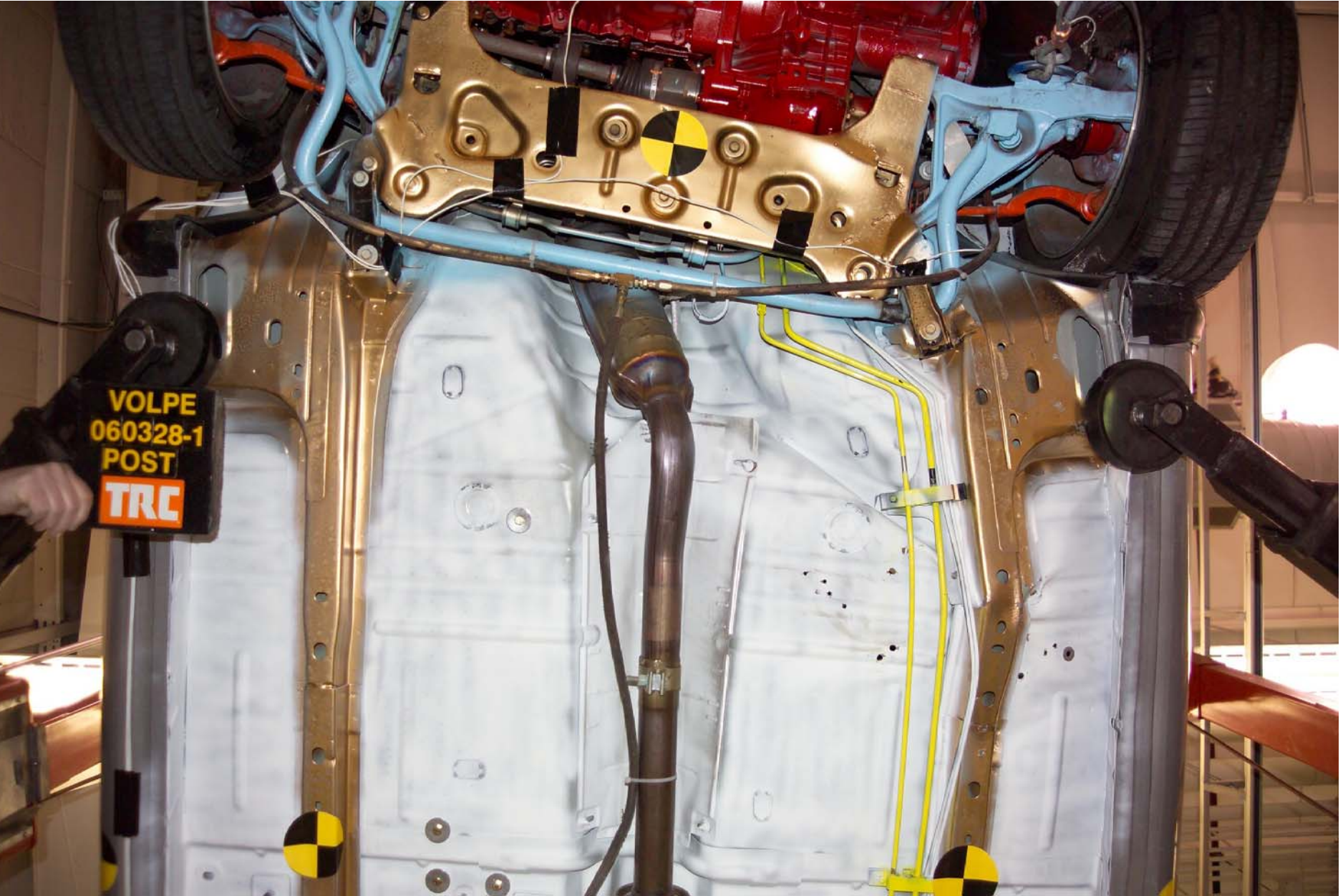


Figure A-24 Post-Test Mid Front Underbody View  
A-25

060328-1





Figure A-25 Pre-Test Mid Underbody View

A-26

060328-1

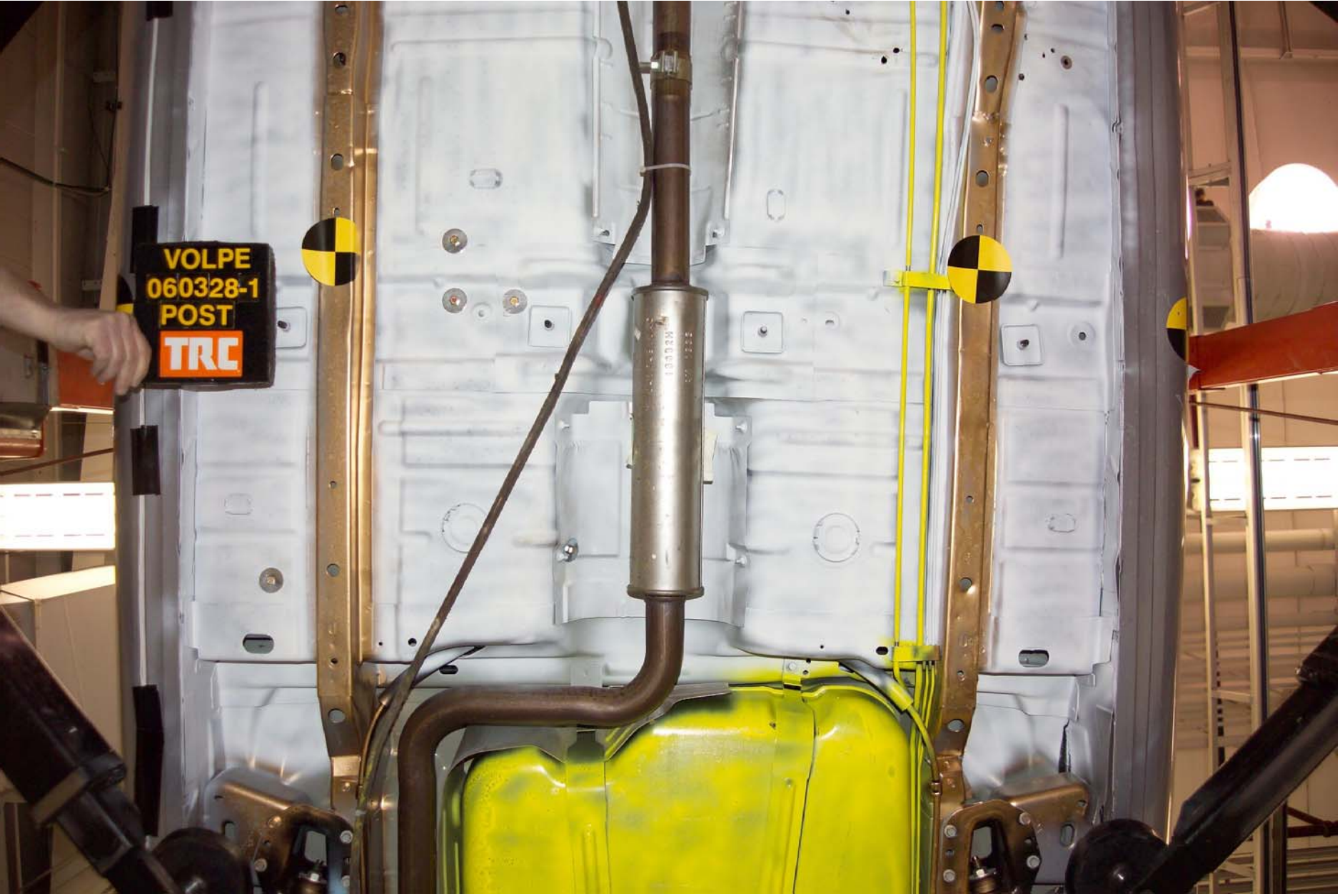


Figure A-26 Post-Test Mid Underbody View  
A-27

060328-1



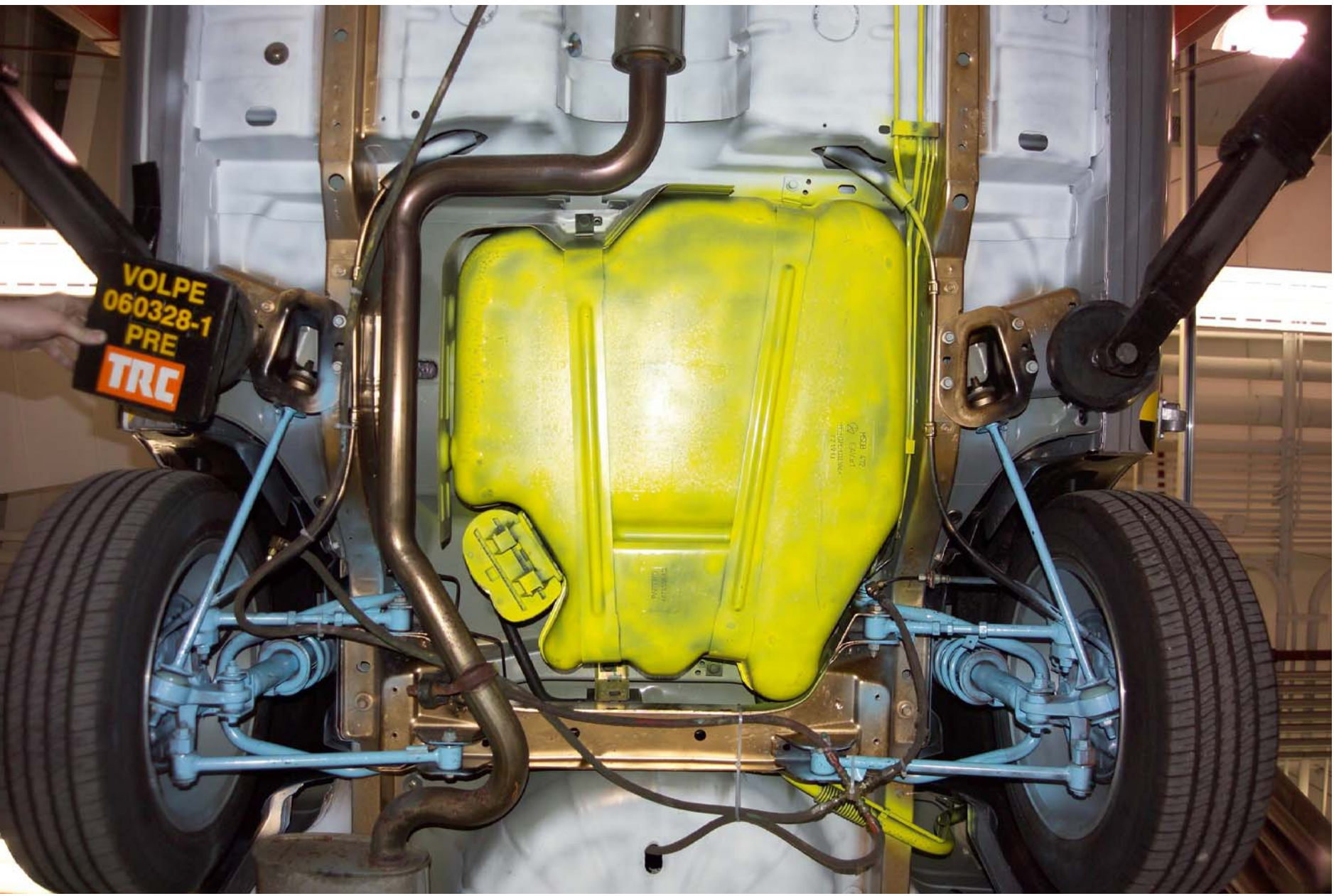


Figure A-27 Pre-Test Mid Rear Underbody View

A-28

060328-1



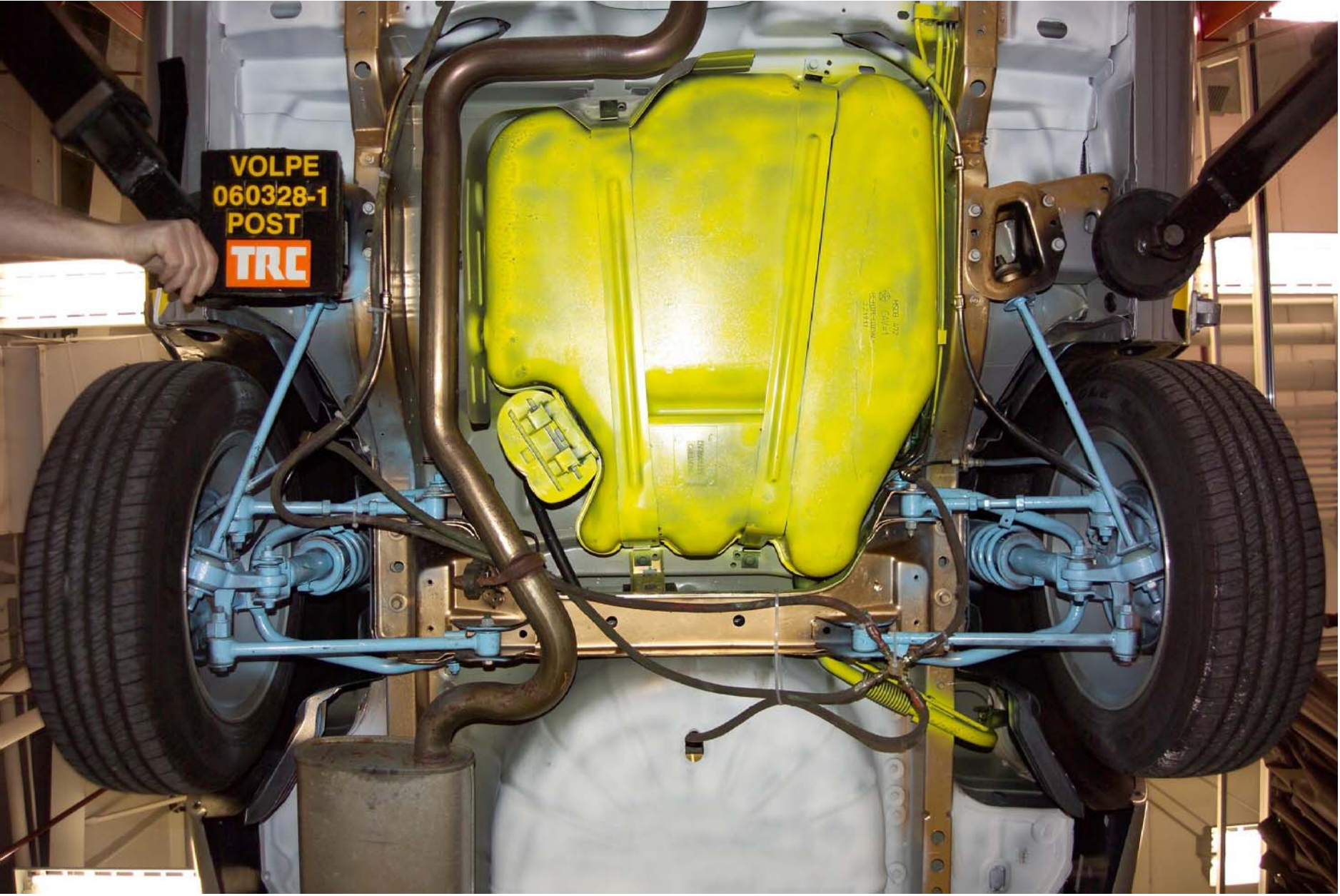


Figure A-28 Post-Test Mid Rear Underbody View  
A-29

060328-1



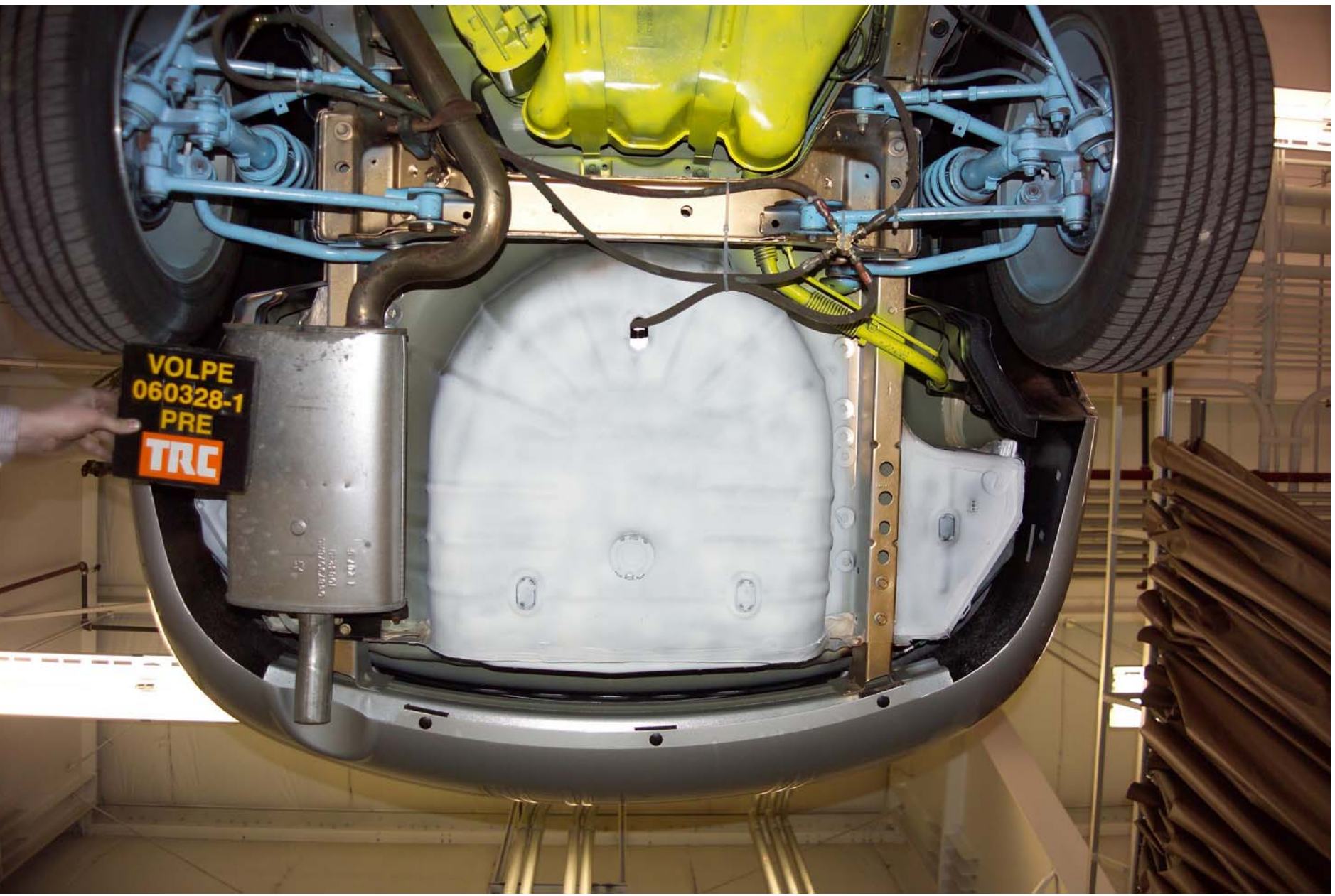


Figure A-29 Pre-Test Rear Underbody View  
A-30

060328-1





Figure A-30 Post-Test Rear Underbody View  
A-31

060328-1



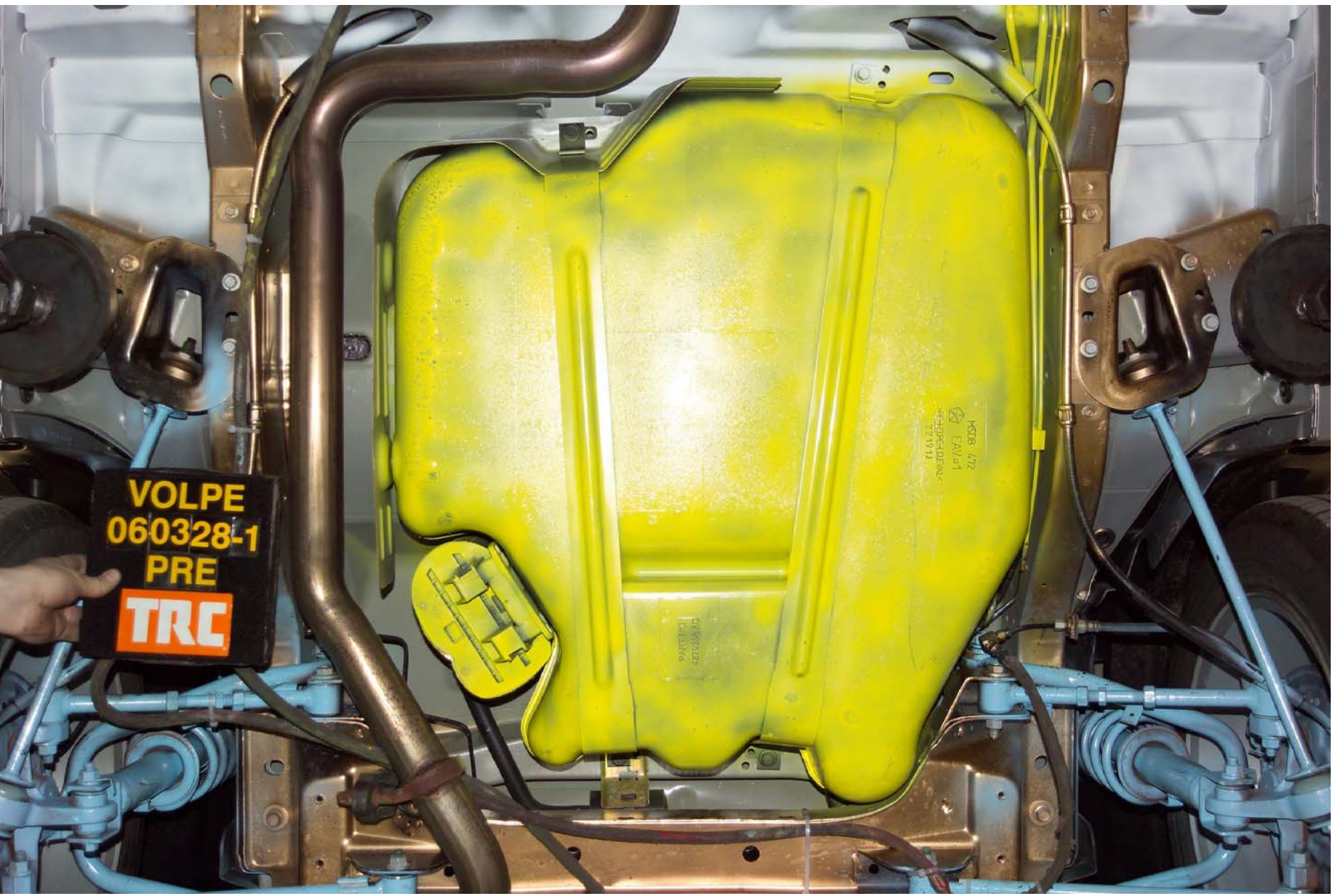


Figure A-31 Pre-Test Fuel Tank View  
A-32

060328-1





Figure A-32 Post-Test Fuel Tank View  
A-33

060328-1





Figure A-33 Pre-Test Fuel Filler Neck View  
A-34

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Figure A-34 Post-Test Fuel Filler Neck View

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Figure A-35 Pre-Test Fuel Filler Cap View  
A-36

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060328-1





Figure A-37 Pre-Test Engine Compartment View

A-38

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Figure A-38 Pre-Test Windshield View  
A-39

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Figure A-39 Post-Test Windshield View  
A-40

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Figure A-40 Post-Test Driver Dummy - View 1



Figure A-41 Post-Test Driver Dummy - View 2  
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Figure A-42 Post-Test Driver Dummy - View 3  
A-43

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Figure A-43 Post-Test Driver Dummy - View 4  
A-44

060328-1



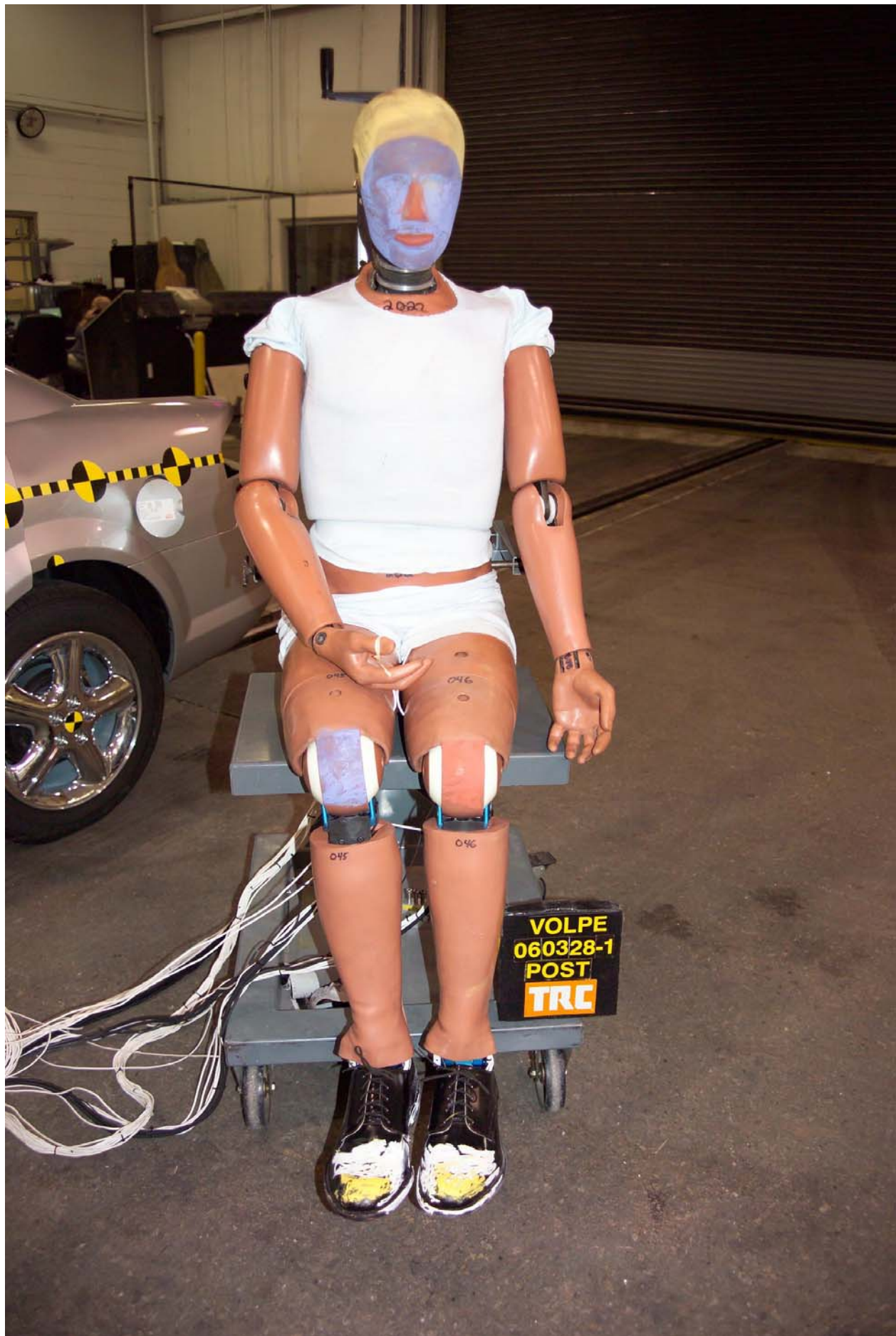


Figure A-44 Post-Test Driver Dummy Overall View

A-45

060328-1



Figure A-45 Post-Test Driver Dummy Head Contact View  
A-46

060328-1



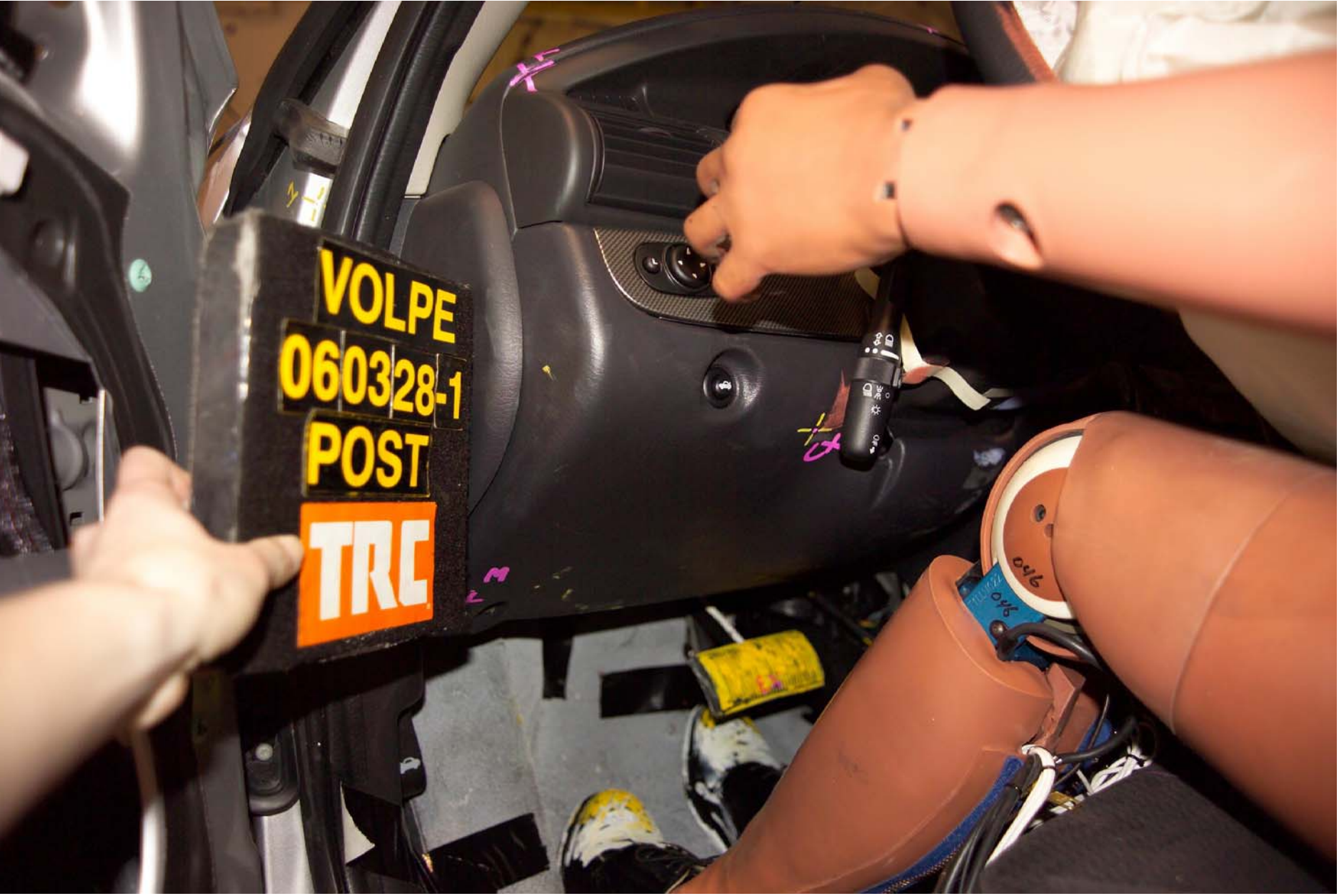


Figure A-46 Post-Test Driver Dummy Knee Contact - View 1  
A-47

060328-1



Figure A-47 Post-Test Driver Dummy Knee Contact - View 2  
A-48

060328-1





Figure A-48 Post-Test Driver Dummy Knee Bolster View  
A-49

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Figure A-49 Post-Test Driver Floorboard Deformation - View 1  
A-50

060328-1



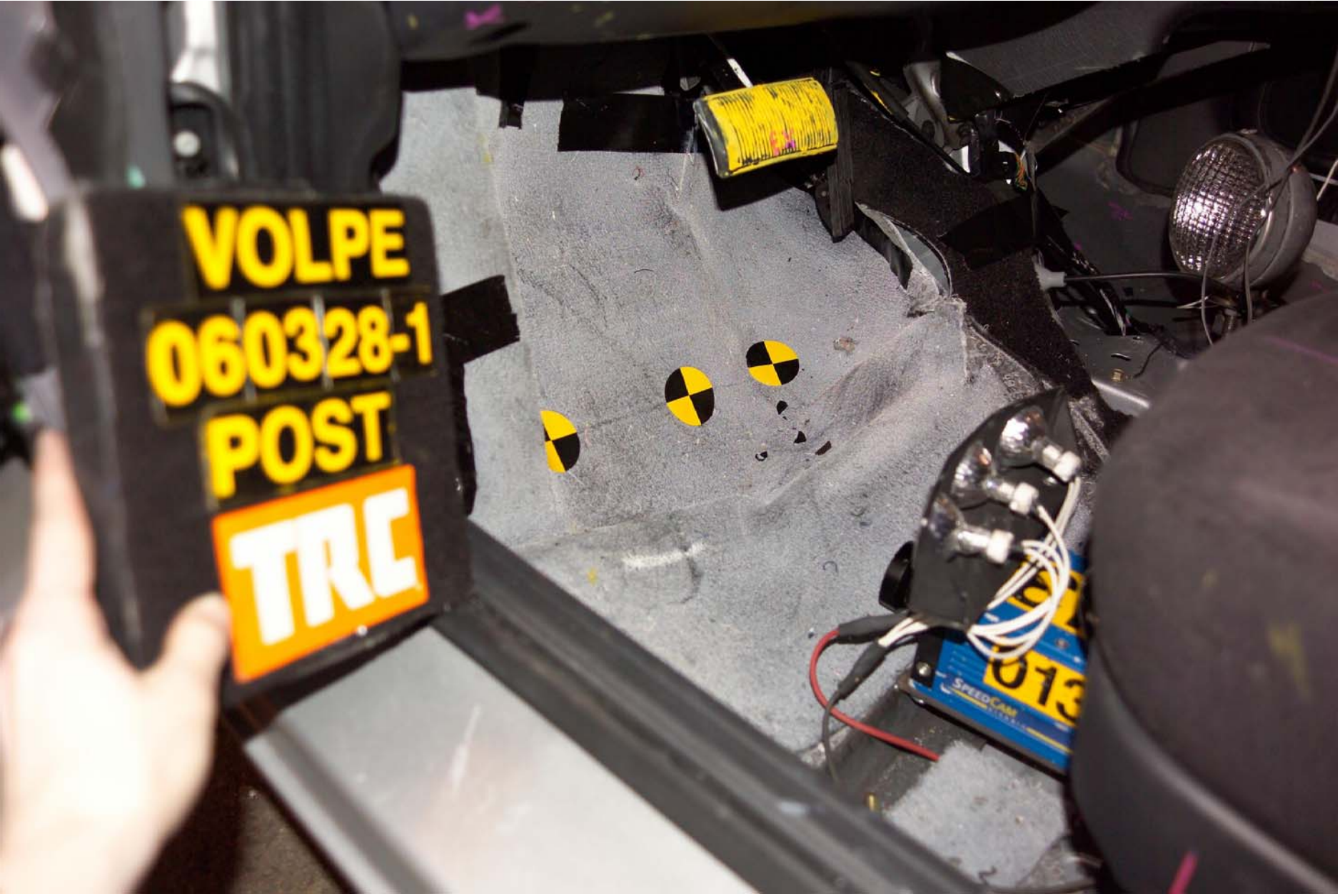


Figure A-50 Post-Test Driver Floorboard Deformation - View 2  
A-51

060328-1



Figure A-51 Post-Test Driver Floorboard Deformation - View 3  
A-52

060328-1





Figure A-52 Post-Test Driver Floorboard Deformation - View 4  
A-53

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Figure A-53 Post-Test Driver Floorboard Deformation - View 5  
A-54

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Figure A-54 Post-Test Driver Toeboard Deformation - View 1

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Figure A-55 Post-Test Driver Toeboard Deformation - View 2  
A-56





Figure A-56 Post-Test Driver Instrument Panel Damage - View 1  
A-57

060328-1



Figure A-57 Post-Test Driver Instrument Panel Damage - View 2  
A-58

060328-1



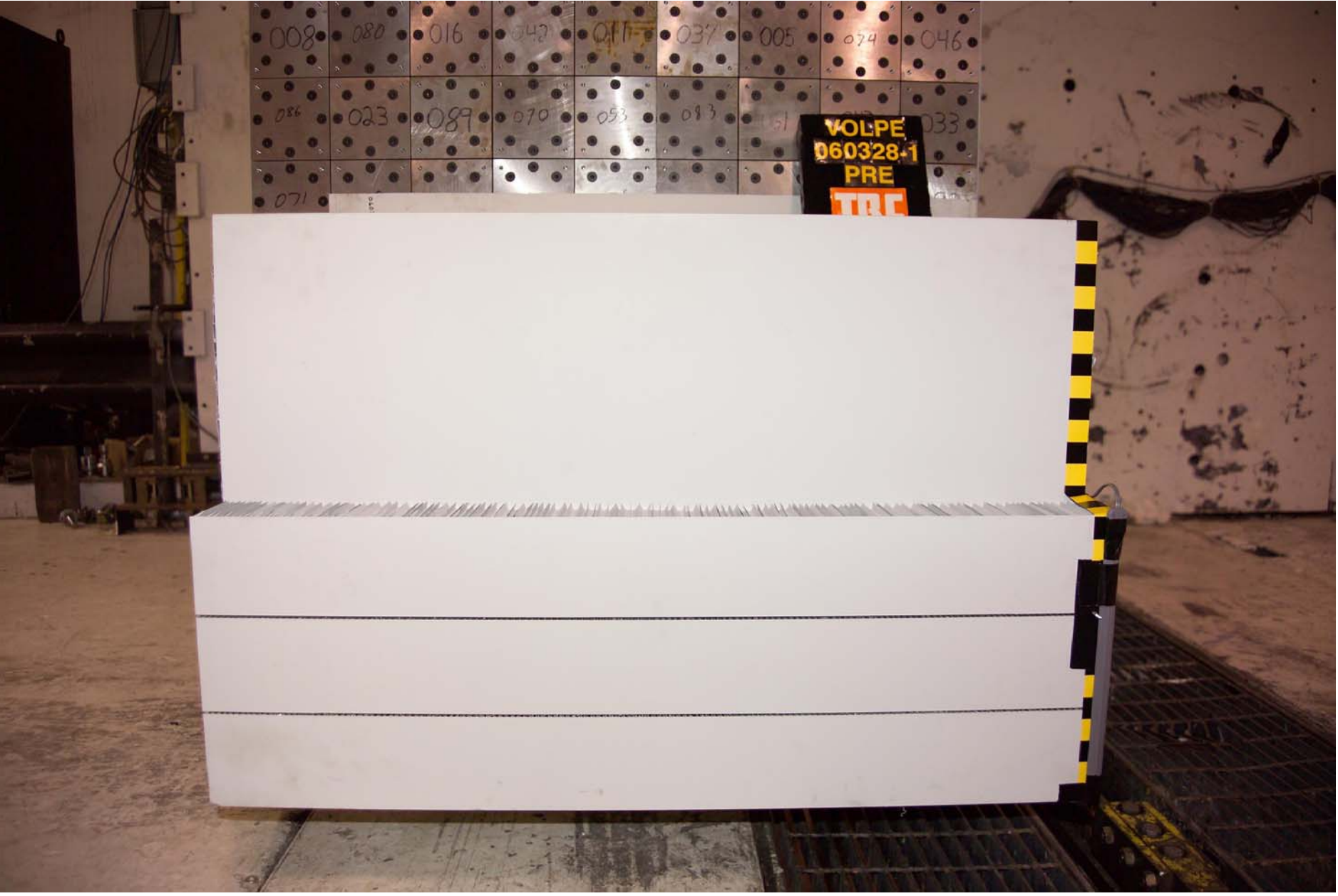


Figure A-58 Pre-Test Barrier Front View  
A-59

060328-1



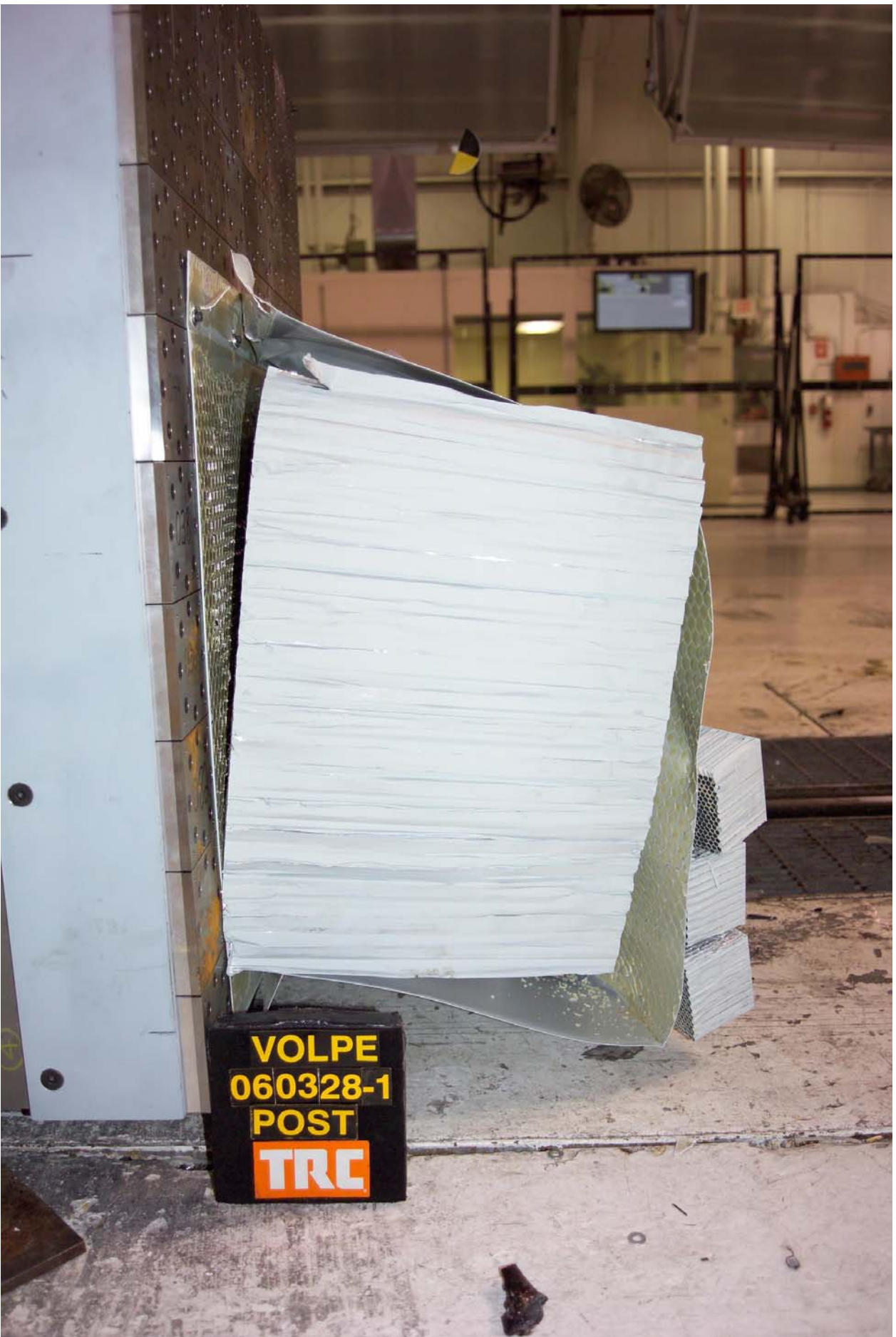
Figure A-59 Post-Test Barrier Front View  
A-60

060328-1





**Figure A-60 Pre-Test Barrier Left Side View**



**Figure A-61 Post-Test Barrier Left Side View**

A-62

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**Figure A-62 Pre-Test Barrier Right Side View**





**Figure A-63 Post-Test Barrier Right Side View**



Figure A-64 Pre-Test Barrier Top View

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060328-1





Figure A-65 Post-Test Barrier Top View  
A-66

060328-1



MFD BY DAIMLERCHRYSLER CORPORATION

DATE OF MFR: 8-05

GWR 1917 KG  
04225 LB

GWR 1089 KG  
FRONT 2400 LB

GWR 0942 KG  
REAR 2075 LB

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER AND  
THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 1B3EL46X46N102360

TYPE: PASSENGER CAR



MDH: 080516 245AA PNT:PS2 VEHICLE MADE IN U.S.A. TRM:ABDU 4648102

Figure A-66 Vehicle Certification Label View

A-67

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3

 **TIRE AND LOADING INFORMATION**

SEATING CAPACITY – TOTAL **5** FRONT **2** REAR **3**

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED  
392 KG OR 865 LB

| TIRE                         | FRONT           | REAR            | SPARE           |
|------------------------------|-----------------|-----------------|-----------------|
| ORIGINAL TIRE SIZE           | P205/60R16      | P205/60R16      | T125/70D15      |
| COLD TIRE INFLATION PRESSURE | 210 kPa, 30 PSI | 210 kPa, 30 PSI | 420 kPa, 60 PSI |

 **SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION** 6N102360

Figure A-67 Vehicle Tire Load Label View

A-68

060328-1

## Appendix B

### Dummy, Vehicle, and Load Cell Barrier Data Plots



**Table of Data Plots**  
Curve Number Corresponds to NHTSA Database Sequence

| <u>Curve No.</u> | <u>Data Plot Title</u>                       | <u>Page</u> |
|------------------|----------------------------------------------|-------------|
| 1                | Driver Head X-Axis Acceleration              | B-9         |
| 2                | Driver Head Y-Axis Acceleration              | B-10        |
| 3                | Driver Head Z-Axis Acceleration              | B-11        |
| --- <sup>1</sup> | Driver Head Resultant Acceleration           | B-12        |
| 4                | Driver Head X-Axis Acceleration Redundant    | B-13        |
| 5                | Driver Head Y-Axis Acceleration Redundant    | B-14        |
| 6                | Driver Head Z-Axis Acceleration Redundant    | B-15        |
| --- <sup>1</sup> | Driver Head Redundant Resultant Acceleration | B-16        |
| 7                | Driver Head Y-Axis (FT) Acceleration         | B-17        |
| 8                | Driver Head Z-Axis (FT) Acceleration         | B-18        |
| 9                | Driver Head X-Axis (TP) Acceleration         | B-19        |
| 10               | Driver Head Y-Axis (TP) Acceleration         | B-20        |
| 11               | Driver Head X-Axis (LT) Acceleration         | B-21        |
| 12               | Driver Head Z-Axis (LT) Acceleration         | B-22        |
| 13               | Driver Neck X-Axis Shear Force               | B-23        |
| 14               | Driver Neck Y-Axis Shear Force               | B-24        |
| 15               | Driver Neck Z-Axis Axial Force               | B-25        |
| 16               | Driver Neck Moment About X Axis              | B-26        |
| 17               | Driver Neck Moment About Y Axis              | B-27        |
| 18               | Driver Neck Moment About Z Axis              | B-28        |
| 19               | Driver Neck Lower X-Axis Shear Force         | B-29        |
| 20               | Driver Neck Lower Y-Axis Shear Force         | B-30        |
| 21               | Driver Neck Lower Z-Axis Axial Force         | B-31        |
| 22               | Driver Neck Lower Moment About X Axis        | B-32        |
| 23               | Driver Neck Lower Moment About Y Axis        | B-33        |
| 24               | Driver Neck Lower Moment About Z Axis        | B-34        |
| 25               | Driver Chest X-Axis Acceleration             | B-35        |
| 26               | Driver Chest Y-Axis Acceleration             | B-36        |
| 27               | Driver Chest Z-Axis Acceleration             | B-37        |
| --- <sup>1</sup> | Driver Chest Resultant Acceleration          | B-38        |
| 28               | Driver Chest X-Axis Acceleration Redundant   | B-39        |

Table of Data Plots Cont'd.

| <u>Curve No.</u> | <u>Data Plot Title</u>                        | <u>Page</u> |
|------------------|-----------------------------------------------|-------------|
| 29               | Driver Chest Y-Axis Acceleration Redundant    | B-40        |
| 30               | Driver Chest Z-Axis Acceleration Redundant    | B-41        |
| --- <sup>1</sup> | Driver Chest Redundant Resultant Acceleration | B-42        |
| 31               | Driver Chest Deflection                       | B-43        |
| 32               | Driver Left Femur Force                       | B-44        |
| 33               | Driver Right Femur Force                      | B-45        |
| 34               | Driver Left Knee Displacement                 | B-46        |
| 35               | Driver Left Upper Tibia X-Axis Force          | B-47        |
| 36               | Driver Left Upper Tibia Y-Axis Force          | B-48        |
| 37               | Driver Left Upper Tibia Z-Axis Force          | B-49        |
| 38               | Driver Left Upper Tibia Moment About X Axis   | B-50        |
| 39               | Driver Left Upper Tibia Moment About Y Axis   | B-51        |
| 40               | Driver Left Tibia X-Axis Acceleration         | B-52        |
| 41               | Driver Left Tibia Y-Axis Acceleration         | B-53        |
| 42               | Driver Left Lower Tibia X-Axis Force          | B-54        |
| 43               | Driver Left Lower Tibia Y-Axis Force          | B-55        |
| 44               | Driver Left Lower Tibia Z-Axis Force          | B-56        |
| 45               | Driver Left Lower Tibia Moment About X-Axis   | B-57        |
| 46               | Driver Left Lower Tibia Moment About Y-Axis   | B-58        |
| 47               | Driver Left Foot Angular X-Axis Rotation      | B-59        |
| 48               | Driver Left Foot Angular Y-Axis Rotation      | B-60        |
| 49               | Driver Left Foot Angular Z-Axis Rotation      | B-61        |
| 50               | Driver Left Foot X-Axis Acceleration          | B-62        |
| 51               | Driver Left Foot Y-Axis Acceleration          | B-63        |
| 52               | Driver Left Foot Z-Axis Acceleration          | B-64        |
| --- <sup>1</sup> | Driver Left Foot Resultant Acceleration       | B-65        |
| 53               | Driver Right Knee Displacement                | B-66        |
| 54               | Driver Right Upper Tibia X-Axis Force         | B-67        |
| 55               | Driver Right Upper Tibia Y-Axis Force         | B-68        |
| 56               | Driver Right Upper Tibia Z-Axis Force         | B-69        |
| 57               | Driver Right Upper Tibia Moment About X-Axis  | B-70        |
| 58               | Driver Right Upper Tibia Moment About Y-Axis  | B-71        |

Table of Data Plots Cont'd.

| <u>Curve No.</u> | <u>Data Plot Title</u>                          | <u>Page</u> |
|------------------|-------------------------------------------------|-------------|
| 59               | Driver Right Tibia X-Axis Acceleration          | B-72        |
| 60               | Driver Right Tibia Y-Axis Acceleration          | B-73        |
| 61               | Driver Right Lower Tibia X-Axis Force           | B-74        |
| 62               | Driver Right Lower Tibia Y-Axis Force           | B-75        |
| 63               | Driver Right Lower Tibia Z-Axis Force           | B-76        |
| 64               | Driver Right Lower Tibia Moment About X-Axis    | B-77        |
| 65               | Driver Right Lower Tibia Moment About Y-Axis    | B-78        |
| 66               | Driver Right Foot to Ankle X-Axis Rotation      | B-79        |
| 67               | Driver Right Foot to Ankle Y-Axis Rotation      | B-80        |
| 68               | Driver Right Foot to Ankle Z-Axis Rotation      | B-81        |
| 69               | Driver Right Foot X-Axis Acceleration           | B-82        |
| 70               | Driver Right Foot Y-Axis Acceleration           | B-83        |
| 71               | Driver Right Foot Z-Axis Acceleration           | B-84        |
| --- <sup>1</sup> | Driver Right Foot Resultant Acceleration        | B-85        |
| 72               | Left Rear Seat Crossmember X-Axis Acceleration  | B-86        |
| 73               | Right Rear Seat Crossmember X-Axis Acceleration | B-87        |
| 74               | Left Rear Seat Crossmember Y-Axis Acceleration  | B-88        |
| 75               | Right Rear Seat Crossmember Y-Axis Acceleration | B-89        |
| 76               | Top of Engine Block X-Axis Acceleration         | B-90        |
| 77               | Bottom of Engine Block X-Axis Acceleration      | B-91        |
| 78               | Right Front Brake Caliper X-Axis Acceleration   | B-92        |
| 79               | Left Front Brake Caliper X-Axis Acceleration    | B-93        |
| 80               | Instrument Panel X-Axis Acceleration            | B-94        |
| 81               | Vehicle CG X-Axis Acceleration                  | B-95        |
| 82               | Vehicle CG X-Axis Velocity                      | B-96        |
| 83               | Vehicle CG X-Axis Displacement                  | B-97        |
| 84               | Vehicle CG Y-Axis Acceleration                  | B-98        |
| 85               | Vehicle CG Y-Axis Velocity                      | B-99        |
| 86               | Vehicle CG Y-Axis Displacement                  | B-100       |
| 87               | Vehicle CG Z-Axis Acceleration                  | B-101       |
| 88               | Vehicle CG Z-Axis Velocity                      | B-102       |
| 89               | Vehicle CG Z-Axis Displacement                  | B-103       |



Table of Data Plots Cont'd.

| <u>Curve No.</u> | <u>Data Plot Title</u>                              | <u>Page</u> |
|------------------|-----------------------------------------------------|-------------|
| 90               | Vehicle CG Resultant Acceleration                   | B-104       |
| 91               | Driver Front Airbag 1 Inductive                     | B-105       |
| 92               | Driver Front Airbag 2 Inductive                     | B-106       |
| 93               | Driver Lap Belt                                     | B-107       |
| 94               | Driver Shoulder Belt                                | B-108       |
| 95               | Left Side Driver Mid Seat Track X-Axis Acceleration | B-109       |
| 96               | Load Cell Row 10 Column 9                           | B-110       |
| 97               | Load Cell Row 10 Column 8                           | B-111       |
| 98               | Load Cell Row 10 Column 7                           | B-112       |
| 99               | Load Cell Row 10 Column 6                           | B-113       |
| 100              | Load Cell Row 10 Column 5                           | B-114       |
| 101              | Load Cell Row 10 Column 4                           | B-115       |
| 102              | Load Cell Row 10 Column 3                           | B-116       |
| 103              | Load Cell Row 10 Column 2                           | B-117       |
| 104              | Load Cell Row 10 Column 1                           | B-118       |
| 105              | Load Cell Row 9 Column 9                            | B-119       |
| 106              | Load Cell Row 9 Column 8                            | B-120       |
| 107              | Load Cell Row 9 Column 7                            | B-121       |
| 108              | Load Cell Row 9 Column 6                            | B-122       |
| 109              | Load Cell Row 9 Column 5                            | B-123       |
| 110              | Load Cell Row 9 Column 4                            | B-124       |
| 111              | Load Cell Row 9 Column 3                            | B-125       |
| 112              | Load Cell Row 9 Column 2                            | B-126       |
| 113              | Load Cell Row 9 Column 1                            | B-127       |
| 114              | Load Cell Row 8 Column 9                            | B-128       |
| 115              | Load Cell Row 8 Column 8                            | B-129       |
| 116              | Load Cell Row 8 Column 7                            | B-130       |
| 117              | Load Cell Row 8 Column 6                            | B-131       |
| 118              | Load Cell Row 8 Column 5                            | B-132       |
| 119              | Load Cell Row 8 Column 4                            | B-133       |
| 120              | Load Cell Row 8 Column 3                            | B-134       |
| 121              | Load Cell Row 8 Column 2                            | B-135       |

Table of Data Plots Cont'd.

| <u>Curve No.</u> | <u>Data Plot Title</u>   | <u>Page</u> |
|------------------|--------------------------|-------------|
| 122              | Load Cell Row 8 Column 1 | B-136       |
| 123              | Load Cell Row 7 Column 9 | B-137       |
| 124              | Load Cell Row 7 Column 8 | B-138       |
| 125              | Load Cell Row 7 Column 7 | B-139       |
| 126              | Load Cell Row 7 Column 6 | B-140       |
| 127              | Load Cell Row 7 Column 5 | B-141       |
| 128              | Load Cell Row 7 Column 4 | B-142       |
| 129              | Load Cell Row 7 Column 3 | B-143       |
| 130              | Load Cell Row 7 Column 2 | B-144       |
| 131              | Load Cell Row 7 Column 1 | B-145       |
| 132              | Load Cell Row 6 Column 9 | B-146       |
| 133              | Load Cell Row 6 Column 8 | B-147       |
| 134              | Load Cell Row 6 Column 7 | B-148       |
| 135              | Load Cell Row 6 Column 6 | B-149       |
| 136              | Load Cell Row 6 Column 5 | B-150       |
| 137              | Load Cell Row 6 Column 4 | B-151       |
| 138              | Load Cell Row 6 Column 3 | B-152       |
| 139              | Load Cell Row 6 Column 2 | B-153       |
| 140              | Load Cell Row 6 Column 1 | B-154       |
| 141              | Load Cell Row 5 Column 9 | B-155       |
| 142              | Load Cell Row 5 Column 8 | B-156       |
| 143              | Load Cell Row 5 Column 7 | B-157       |
| 144              | Load Cell Row 5 Column 6 | B-158       |
| 145              | Load Cell Row 5 Column 5 | B-159       |
| 146              | Load Cell Row 5 Column 4 | B-160       |
| 147              | Load Cell Row 5 Column 3 | B-161       |
| 148              | Load Cell Row 5 Column 2 | B-162       |
| 149              | Load Cell Row 5 Column 1 | B-163       |
| 141              | Load Cell Row 4 Column 9 | B-164       |
| 142              | Load Cell Row 4 Column 8 | B-165       |
| 143              | Load Cell Row 4 Column 7 | B-166       |

Table of Data Plots Cont'd.

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| 144              | Load Cell Row 4 Column 6 | B-167       |
| 145              | Load Cell Row 4 Column 5 | B-168       |
| 146              | Load Cell Row 4 Column 4 | B-169       |
| 147              | Load Cell Row 4 Column 3 | B-170       |
| 148              | Load Cell Row 4 Column 2 | B-171       |
| 149              | Load Cell Row 4 Column 1 | B-172       |
| 150              | Load Cell Row 3 Column 9 | B-173       |
| 151              | Load Cell Row 3 Column 8 | B-174       |
| 152              | Load Cell Row 3 Column 7 | B-175       |
| 153              | Load Cell Row 3 Column 6 | B-176       |
| 154              | Load Cell Row 3 Column 5 | B-177       |
| 155              | Load Cell Row 3 Column 4 | B-178       |
| 156              | Load Cell Row 3 Column 3 | B-179       |
| 157              | Load Cell Row 3 Column 2 | B-180       |
| 158              | Load Cell Row 3 Column 1 | B-181       |
| 159              | Load Cell Row 2 Column 9 | B-182       |
| 160              | Load Cell Row 2 Column 8 | B-183       |
| 161              | Load Cell Row 2 Column 7 | B-184       |
| 162              | Load Cell Row 2 Column 6 | B-185       |
| 163              | Load Cell Row 2 Column 5 | B-186       |
| 164              | Load Cell Row 2 Column 4 | B-187       |
| 165              | Load Cell Row 2 Column 3 | B-188       |
| 166              | Load Cell Row 2 Column 2 | B-189       |
| 167              | Load Cell Row 2 Column 1 | B-190       |
| 168              | Load Cell Row 1 Column 9 | B-191       |
| 169              | Load Cell Row 1 Column 8 | B-192       |
| 170              | Load Cell Row 1 Column 7 | B-193       |
| 171              | Load Cell Row 1 Column 6 | B-194       |
| 172              | Load Cell Row 1 Column 5 | B-195       |
| 173              | Load Cell Row 1 Column 4 | B-196       |
| 174              | Load Cell Row 1 Column 3 | B-197       |



Table of Data Plots Cont'd.

| <u>Curve No.</u> | <u>Data Plot Title</u>   | <u>Page</u> |
|------------------|--------------------------|-------------|
| 175              | Load Cell Row 1 Column 2 | B-198       |
| 176              | Load Cell Row 1 Column 1 | B-199       |

<sup>1</sup> Curve is not included in NHTSA database.



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

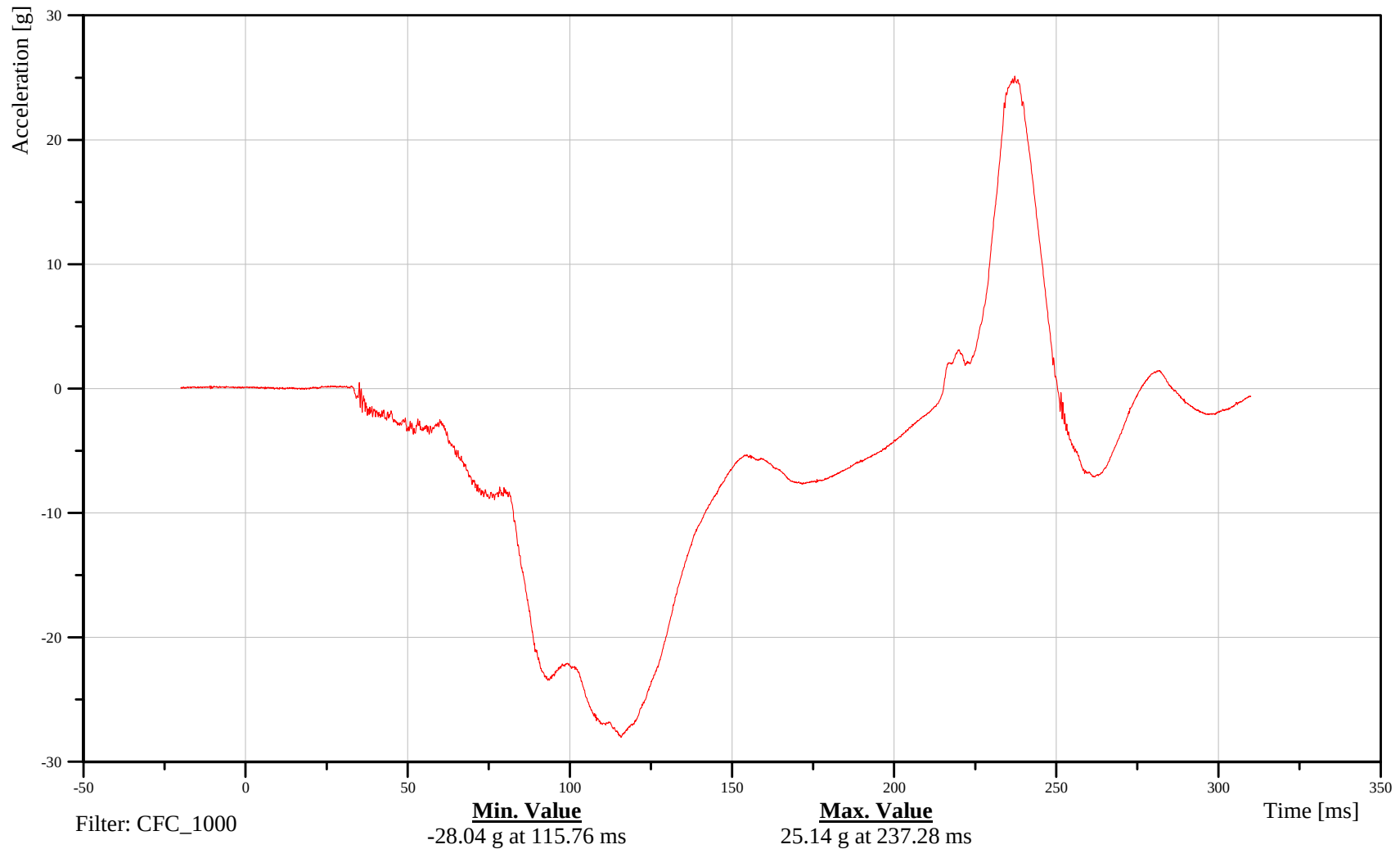
## Head X-Axis Acceleration

Customer: Volpe

### 11HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-9

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

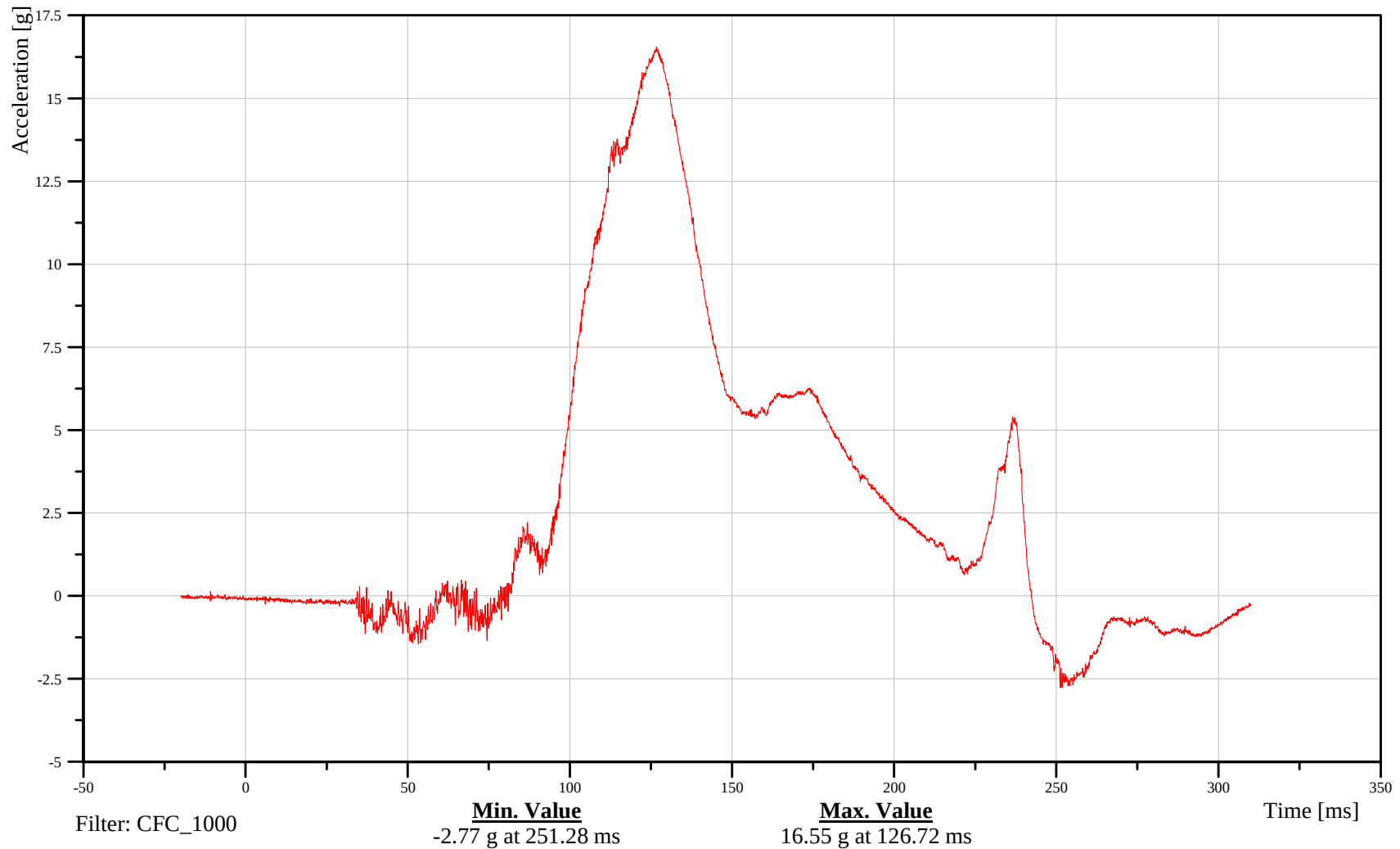
## Head Y-Axis Acceleration

Customer: Volpe

# 11HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-10

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

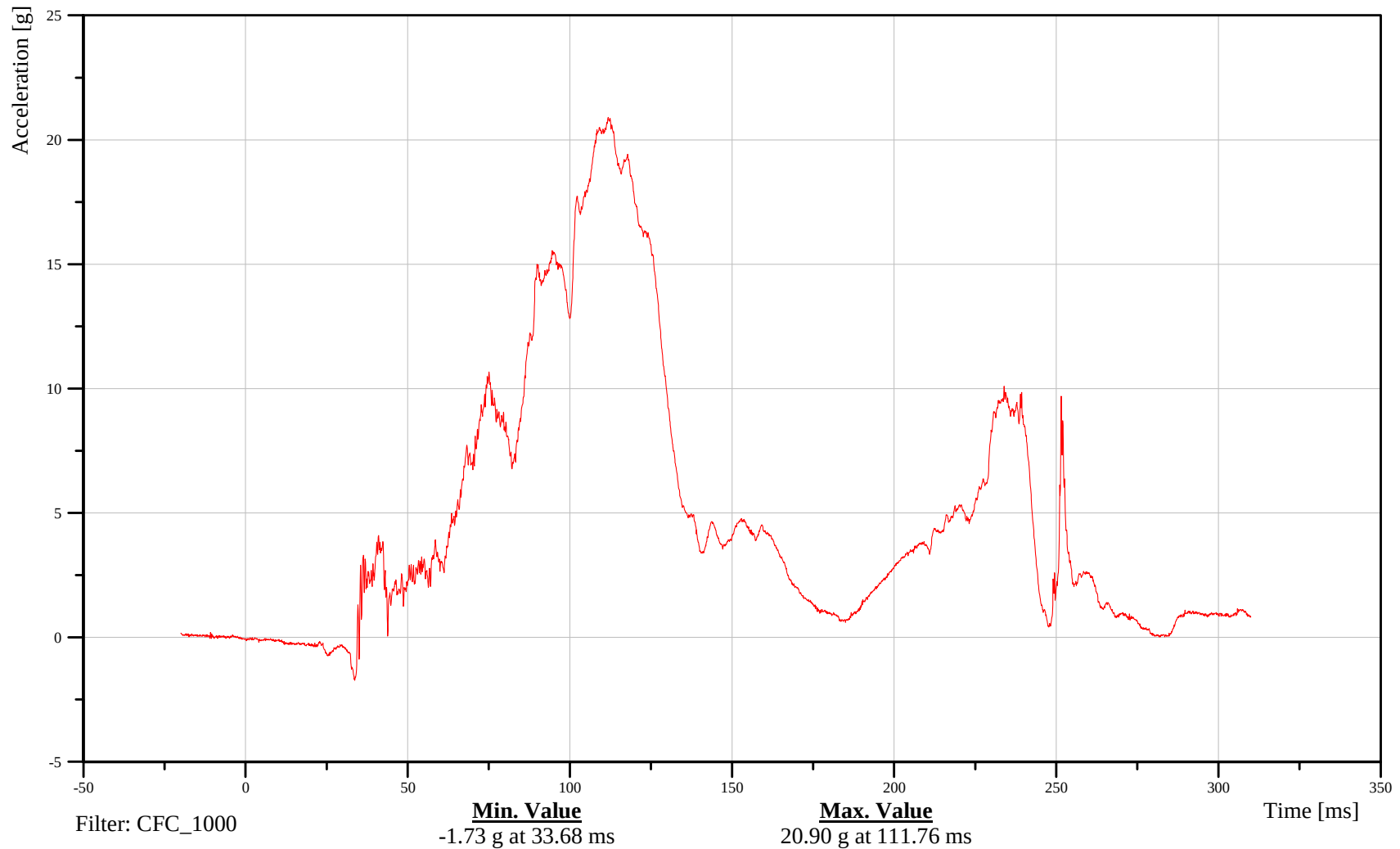
## Head Z-Axis Acceleration

Customer: Volpe

### 11HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-11

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

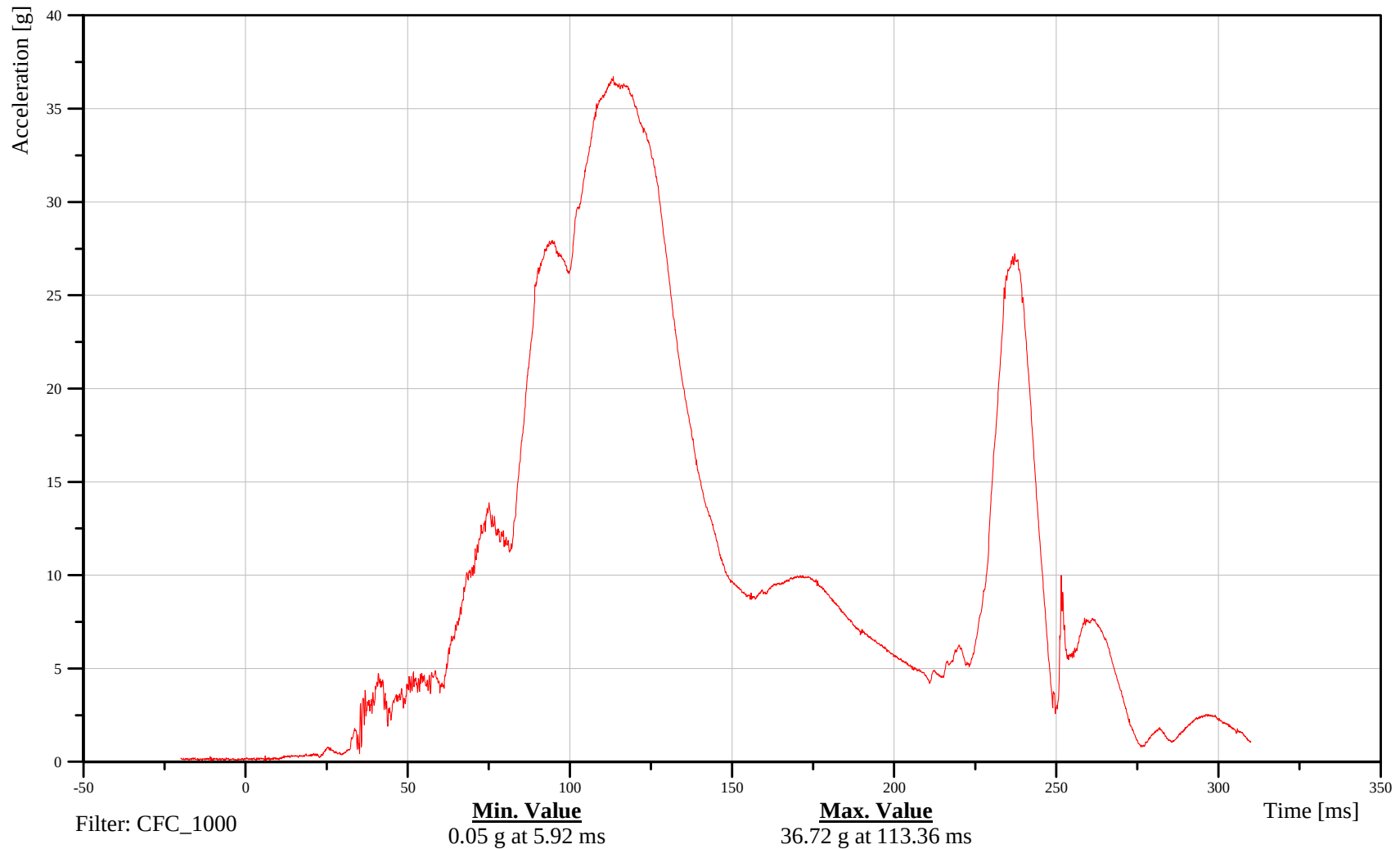
## Head Resultant Acceleration

Customer: Volpe

### 11HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-12

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

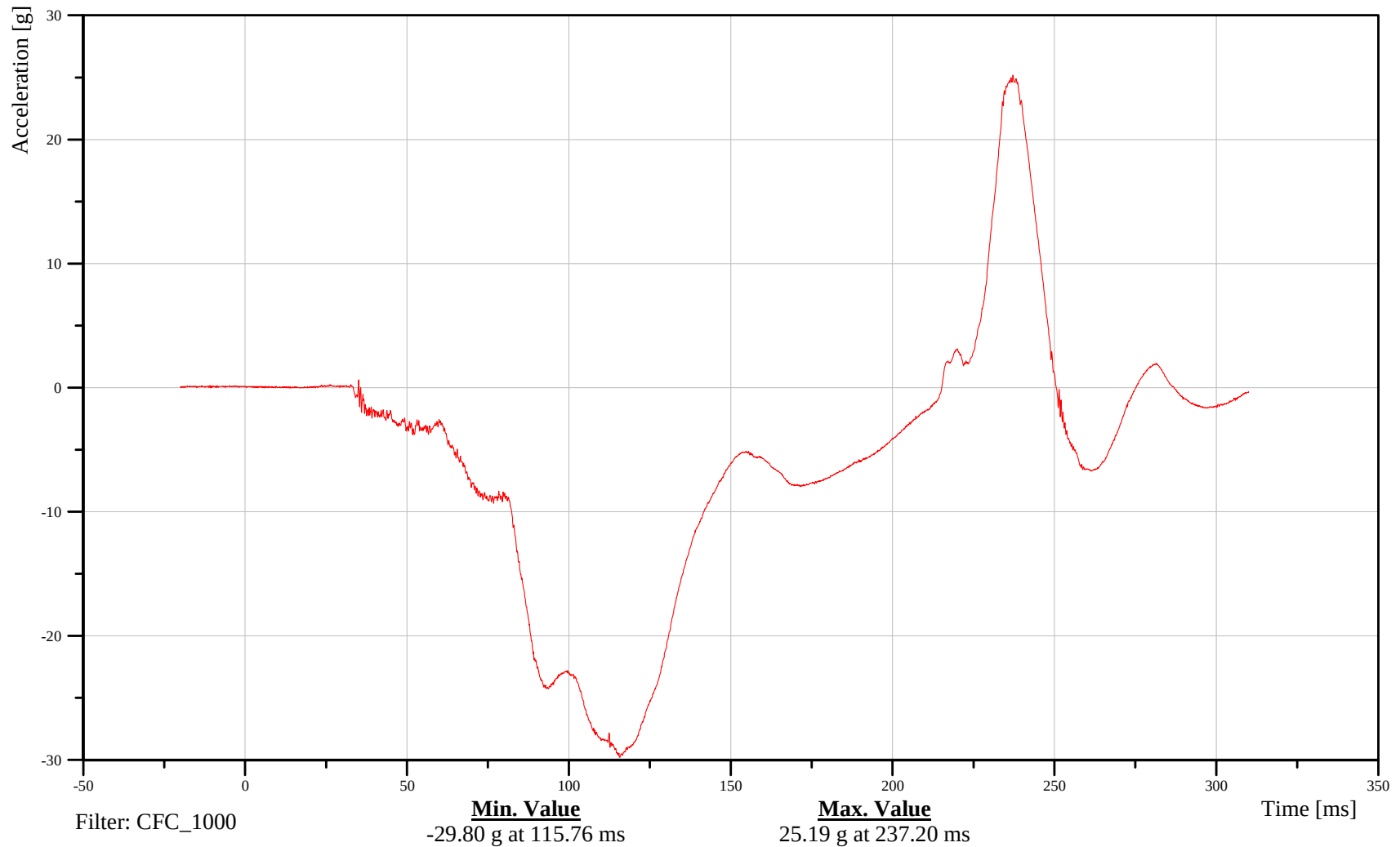
## Head X-Axis Redundant Acceleration

Customer: Volpe

### 11HEADCGRDH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-13

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

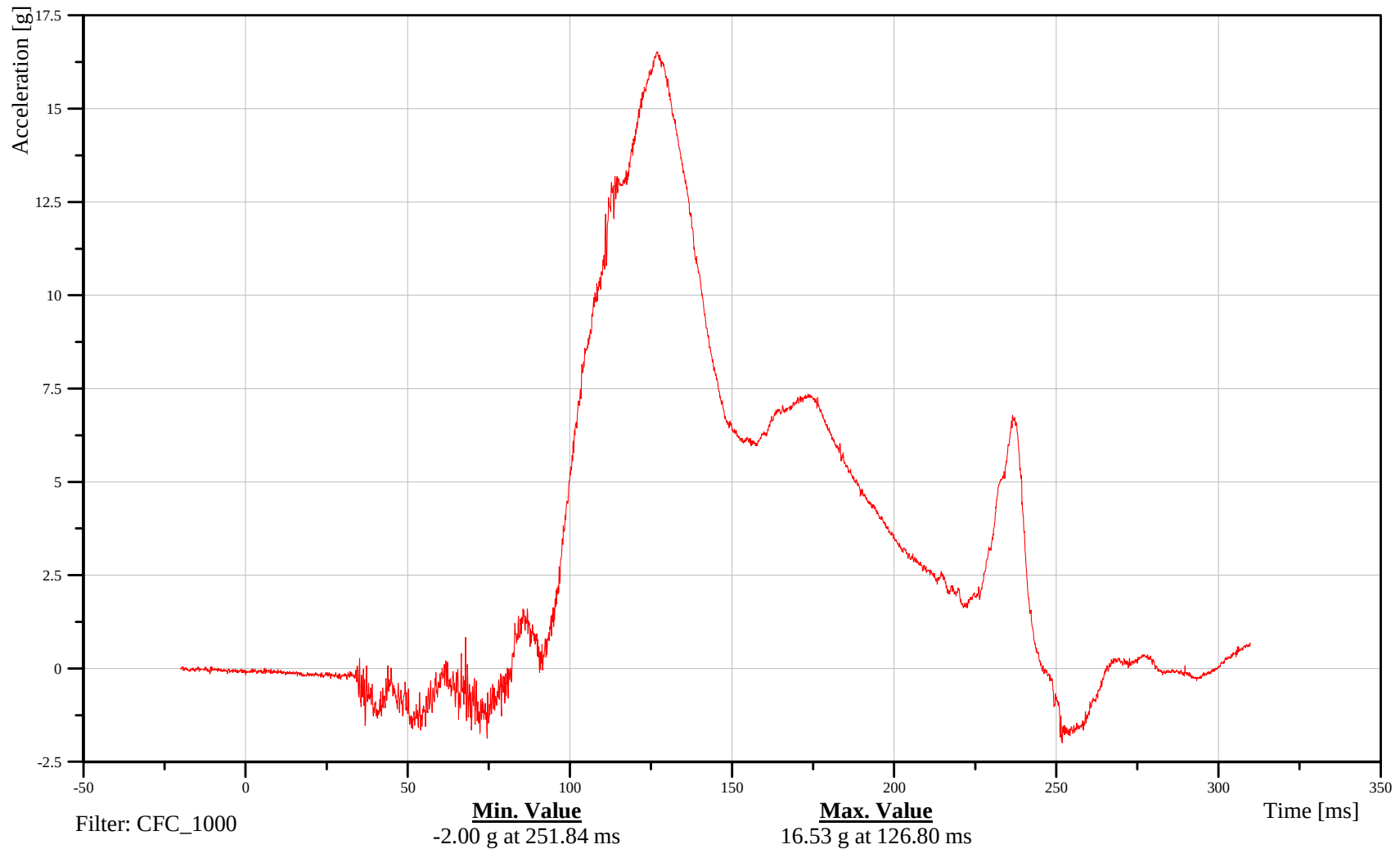
## Head Y-Axis Redundant Acceleration

Customer: Volpe

### 11HEADCGRDH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-14

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

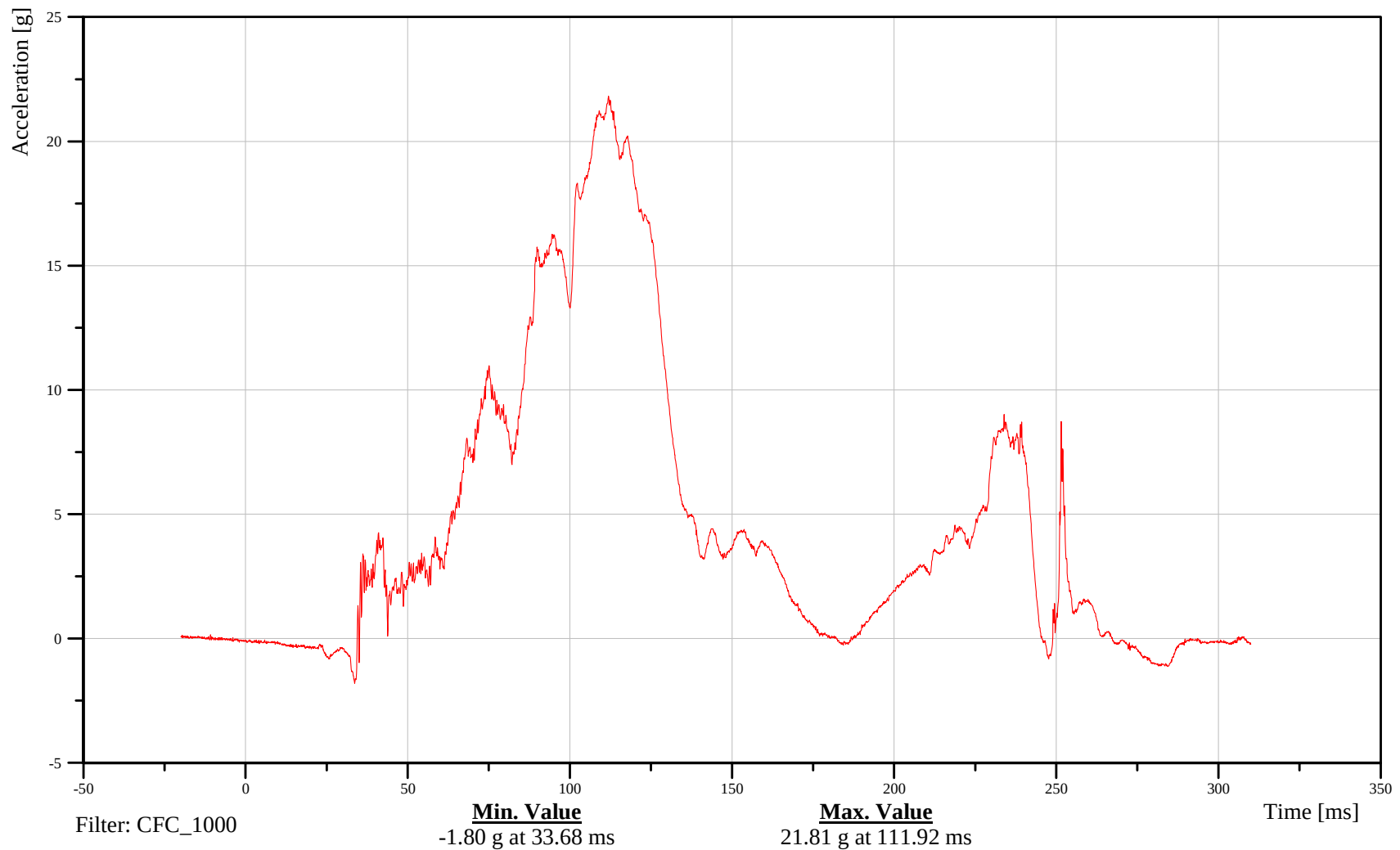
## Head Z-Axis Redundant Acceleration

Customer: Volpe

### 11HEADCGRDH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-15

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

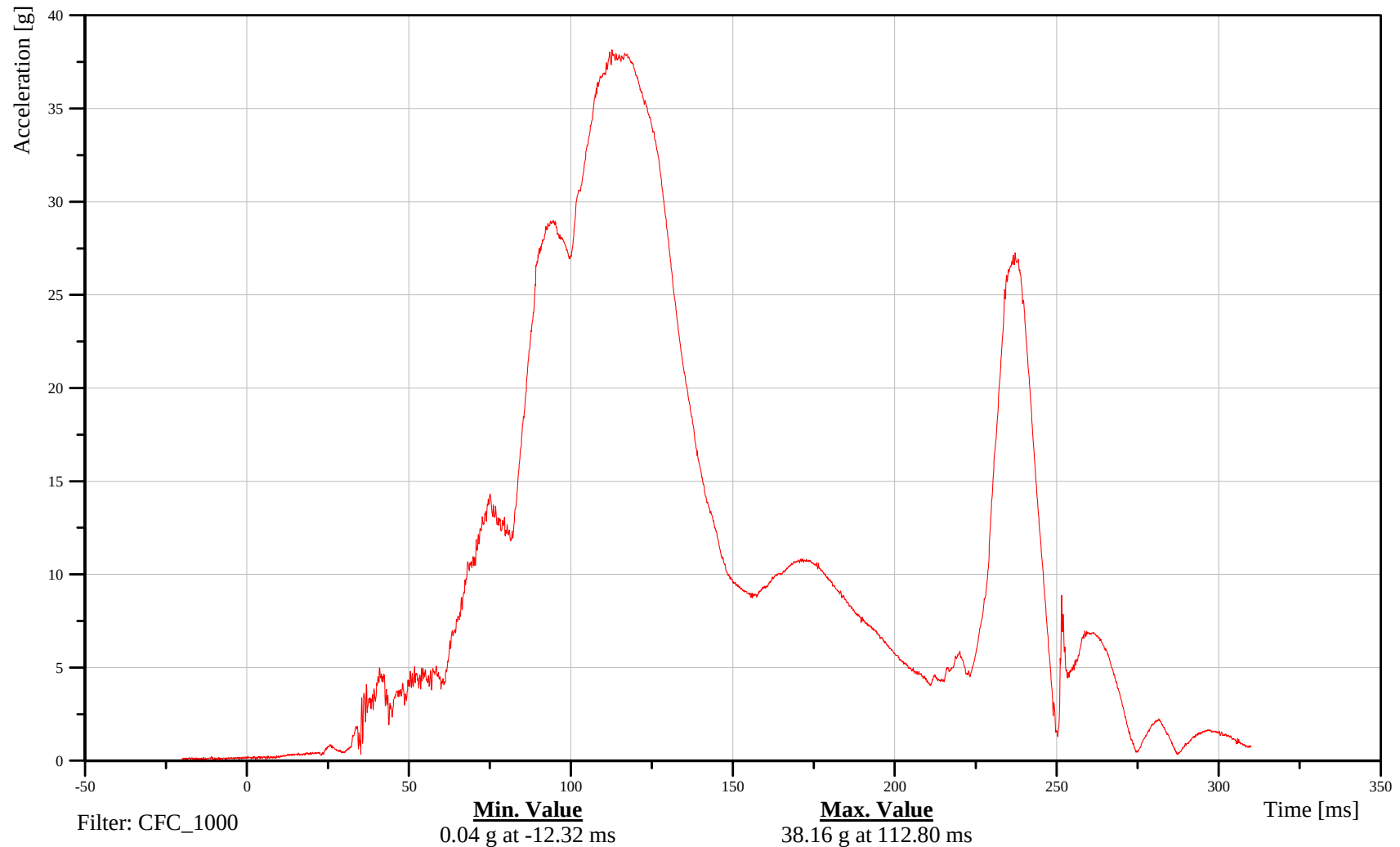
## Head Redundant Resultant Acceleration

Customer: Volpe

### 11HEADCGRDH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-16

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

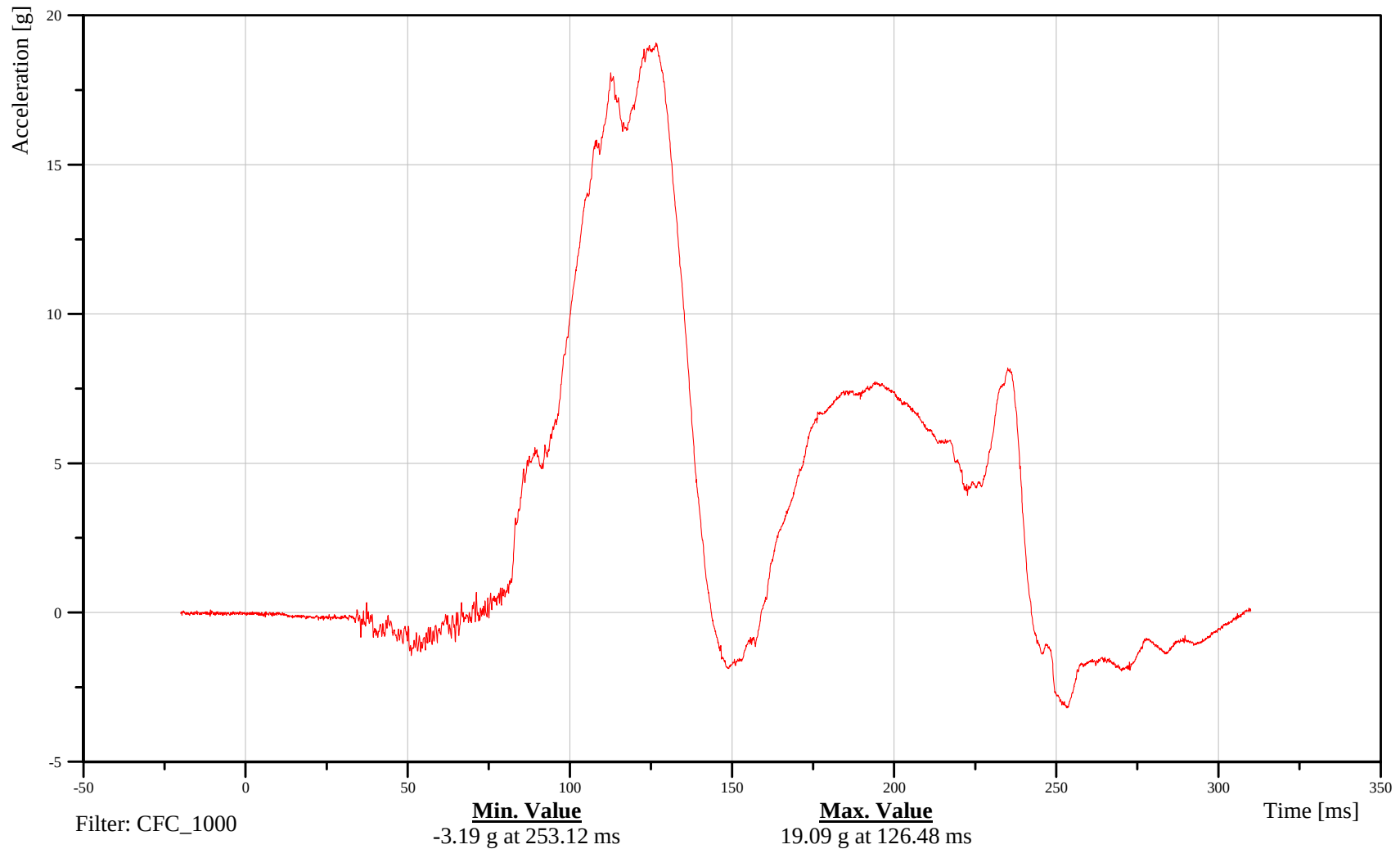
Head (FT) Y-Axis Acceleration

Customer: Volpe

## 11HEADFR00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-17

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

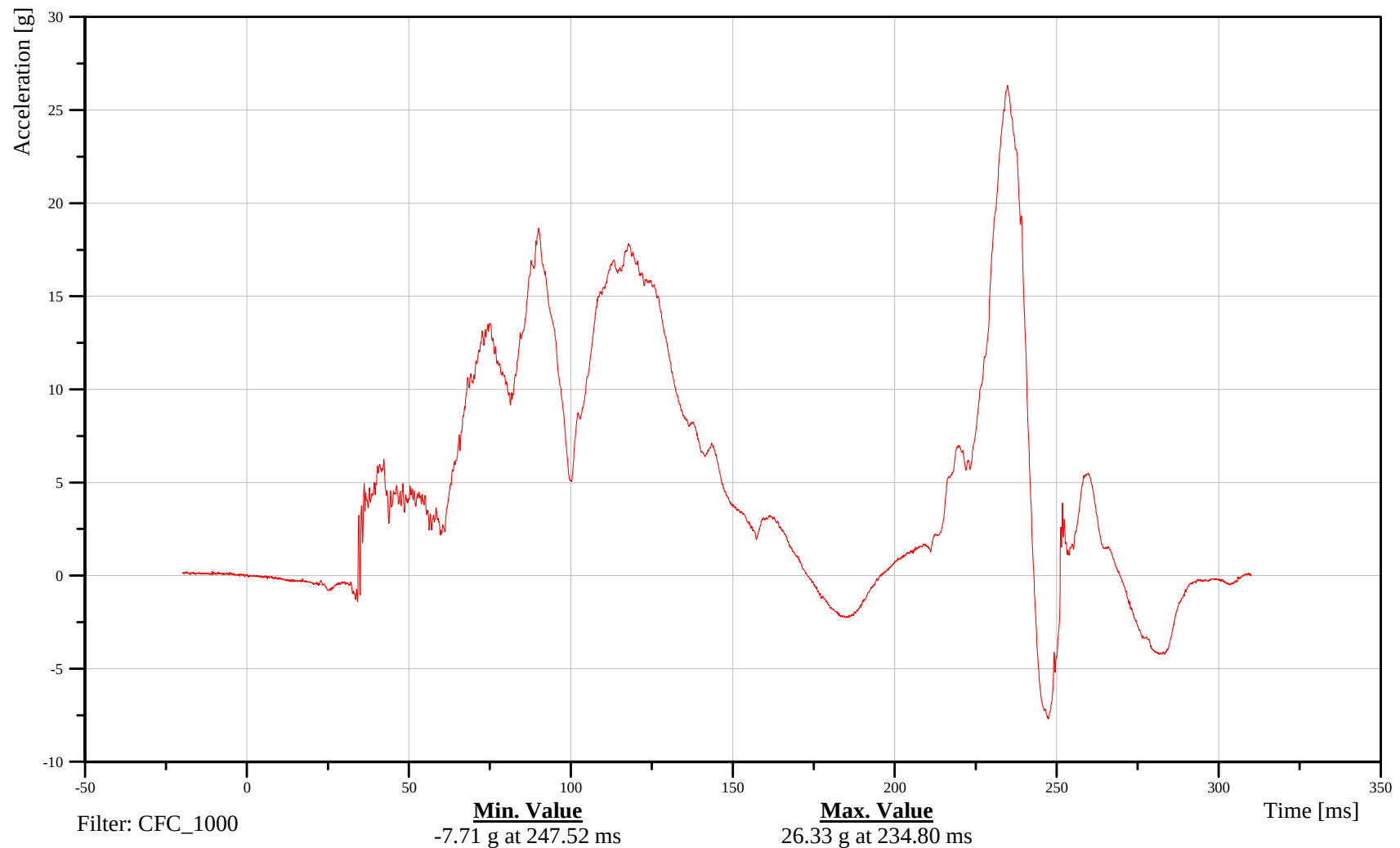
Head (FT) Z-Axis Acceleration

Customer: Volpe

## 11HEADFR00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-18

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

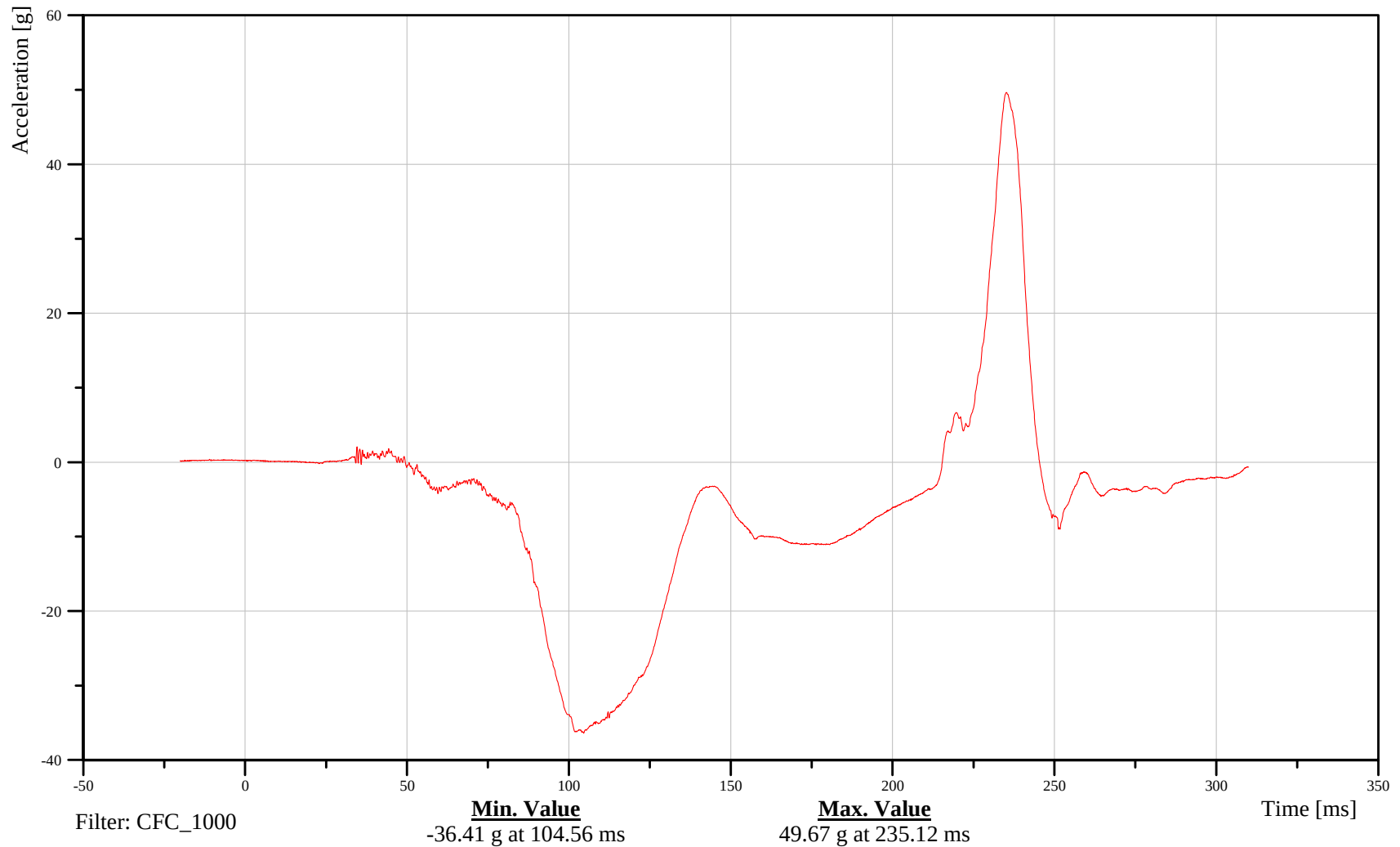
Head (TP) X-Axis Acceleration

Customer: Volpe

## 11HEADUP00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-19

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

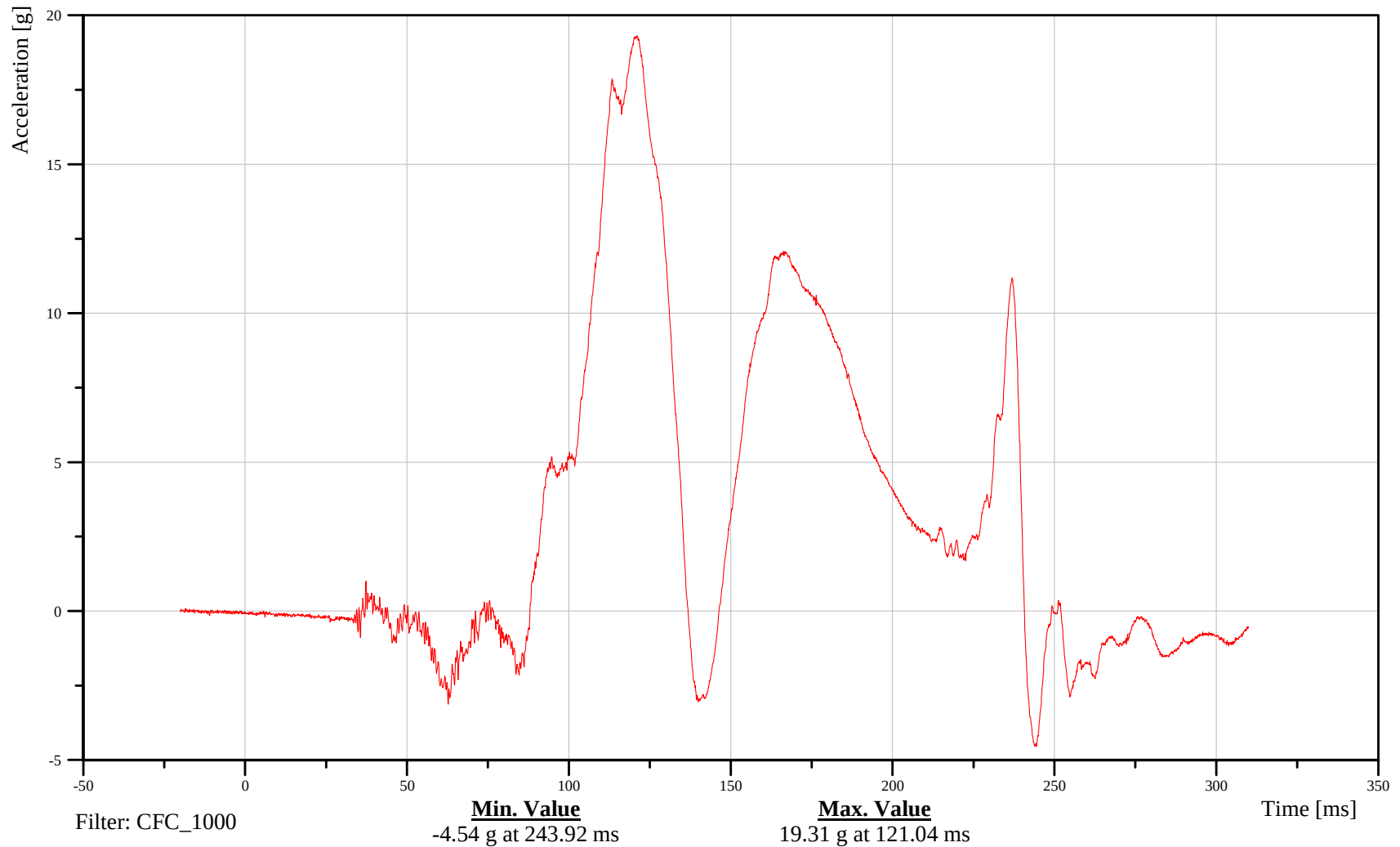
Head (TP) Y-Axis Acceleration

Customer: Volpe

## 11HEADUP00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-20

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

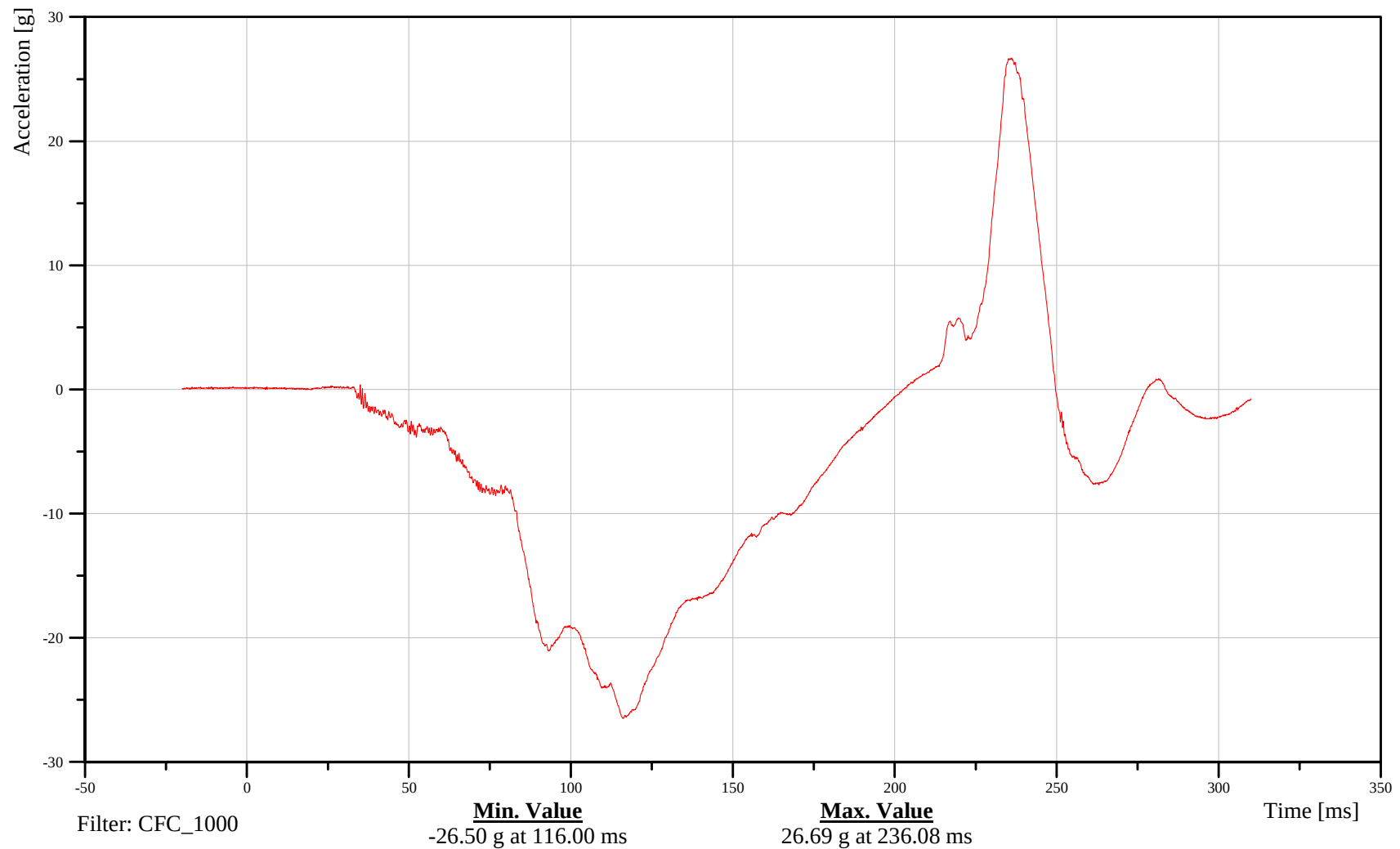
Head (LT) X-Axis Acceleration

Customer: Volpe

## 11HEADLE00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-21

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

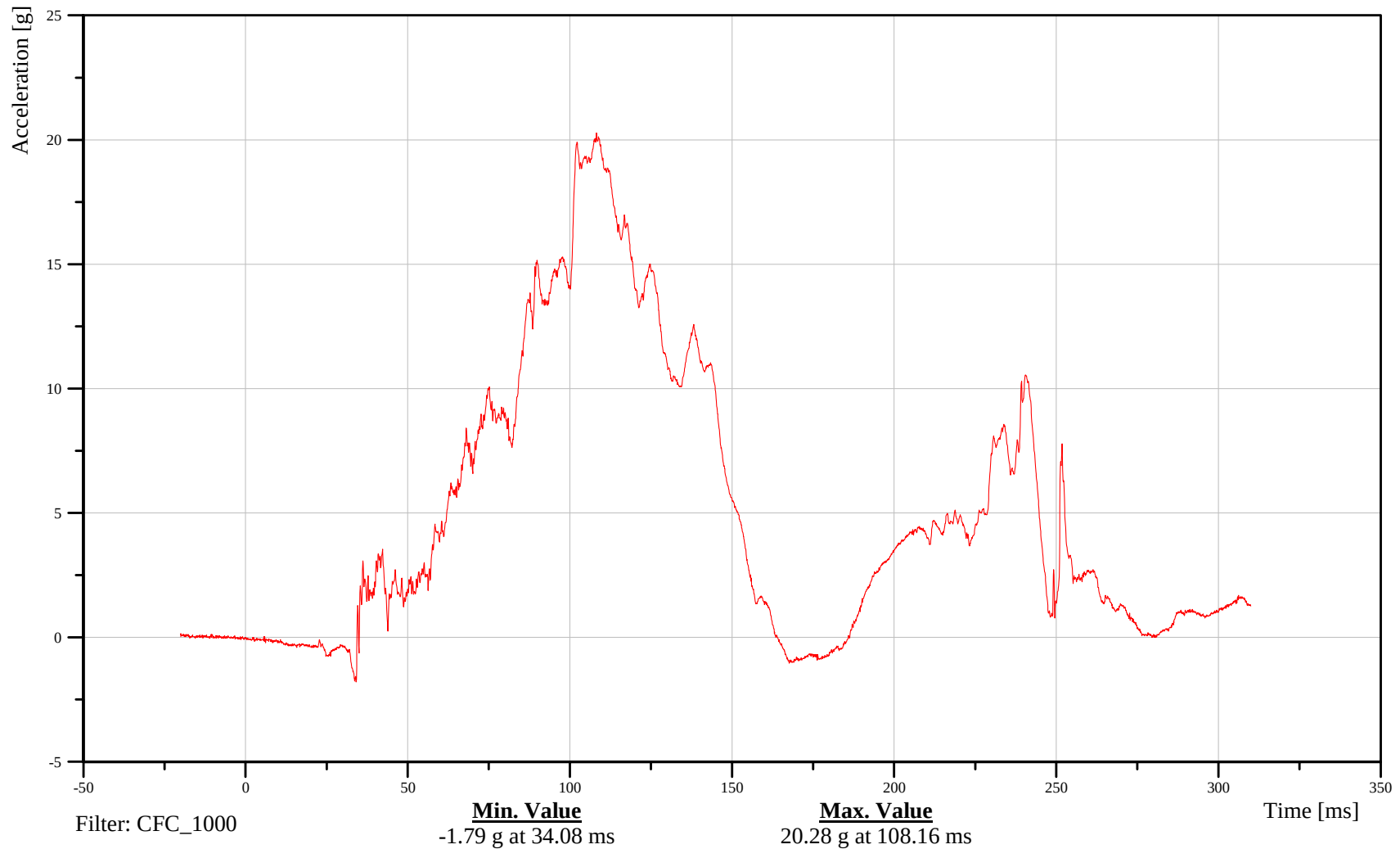
Head (LT) Z-Axis Acceleration

Customer: Volpe

## 11HEADLE00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-22

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

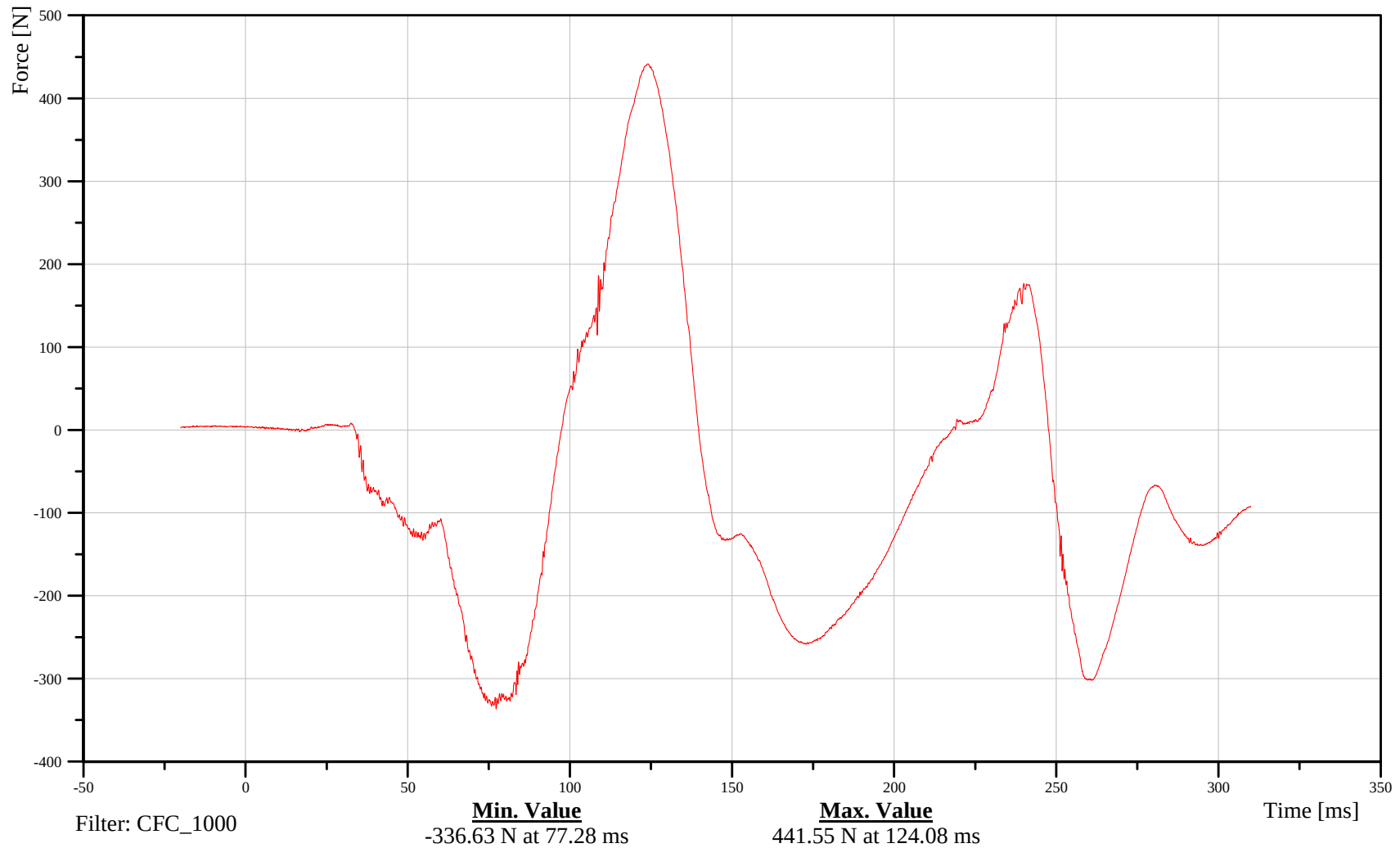
## Upper Neck X-Axis Force

Customer: Volpe

### 11NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-23

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

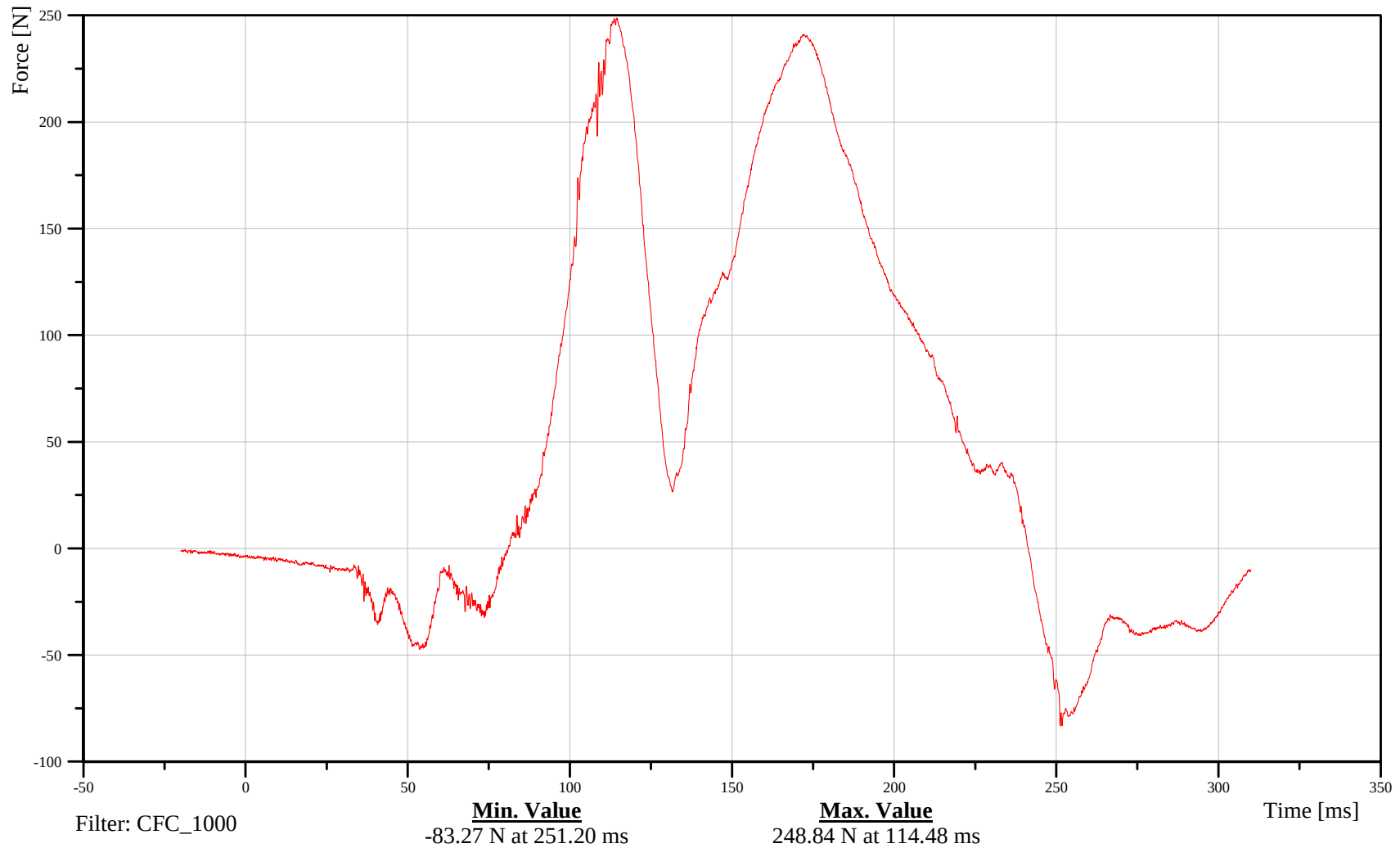
## Upper Neck Y-Axis Force

Customer: Volpe

### 11NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-24

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

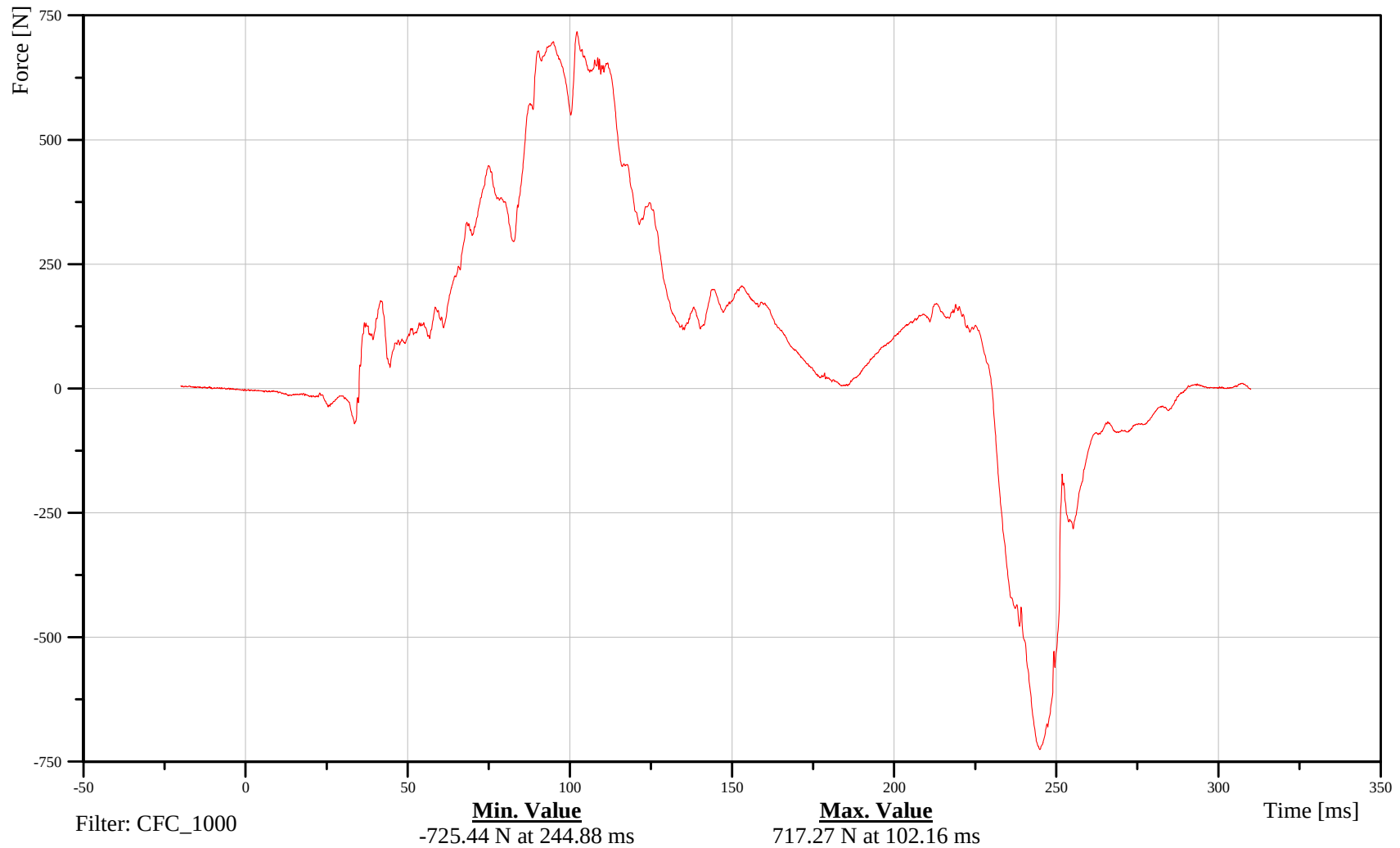
## Upper Neck Z-Axis Force

Customer: Volpe

### 11NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-25

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

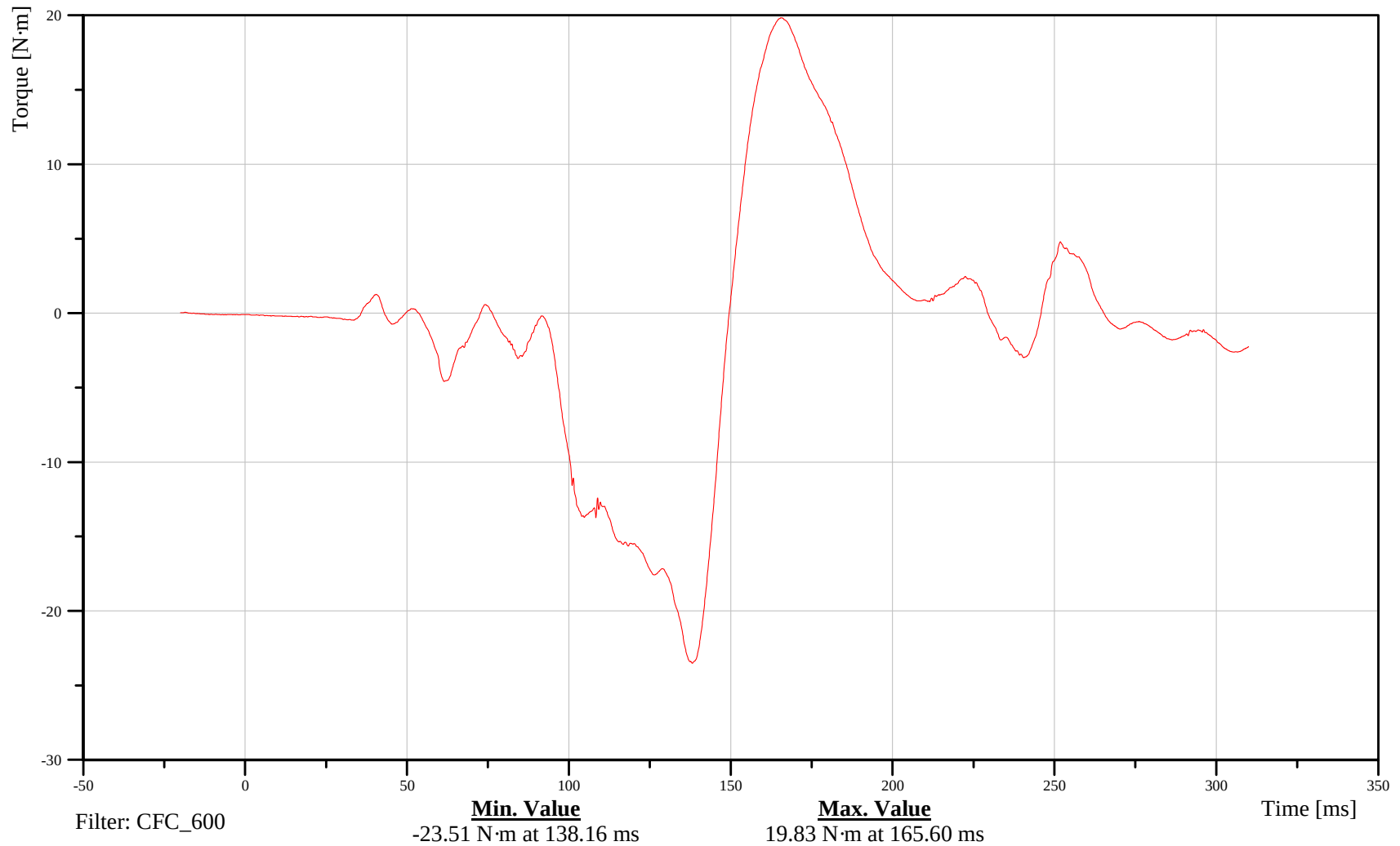
## Upper Neck Moment About X Axis

Customer: Volpe

### 11NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-26

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

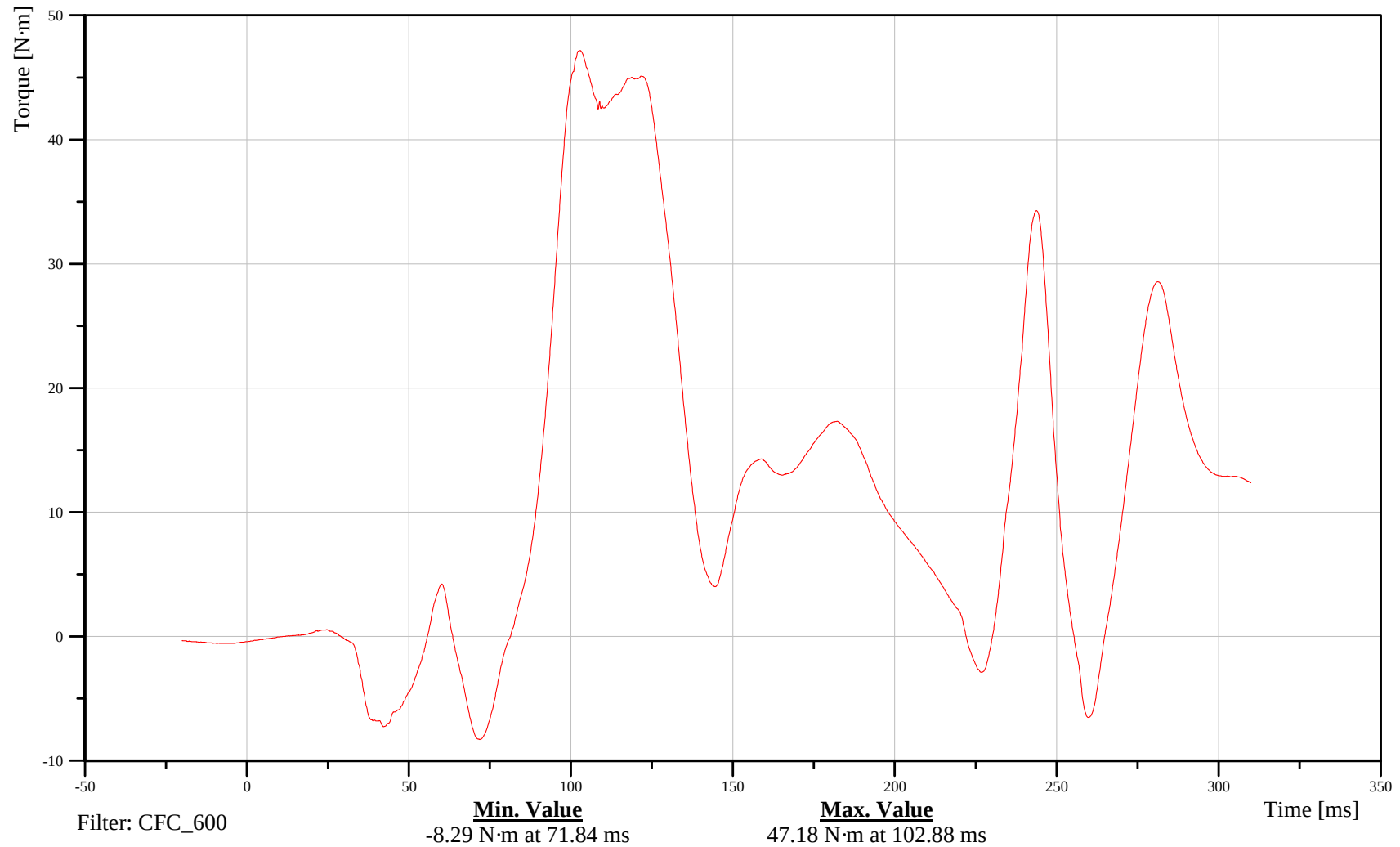
## Upper Neck Moment About Y Axis

Customer: Volpe

### 11NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-27

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

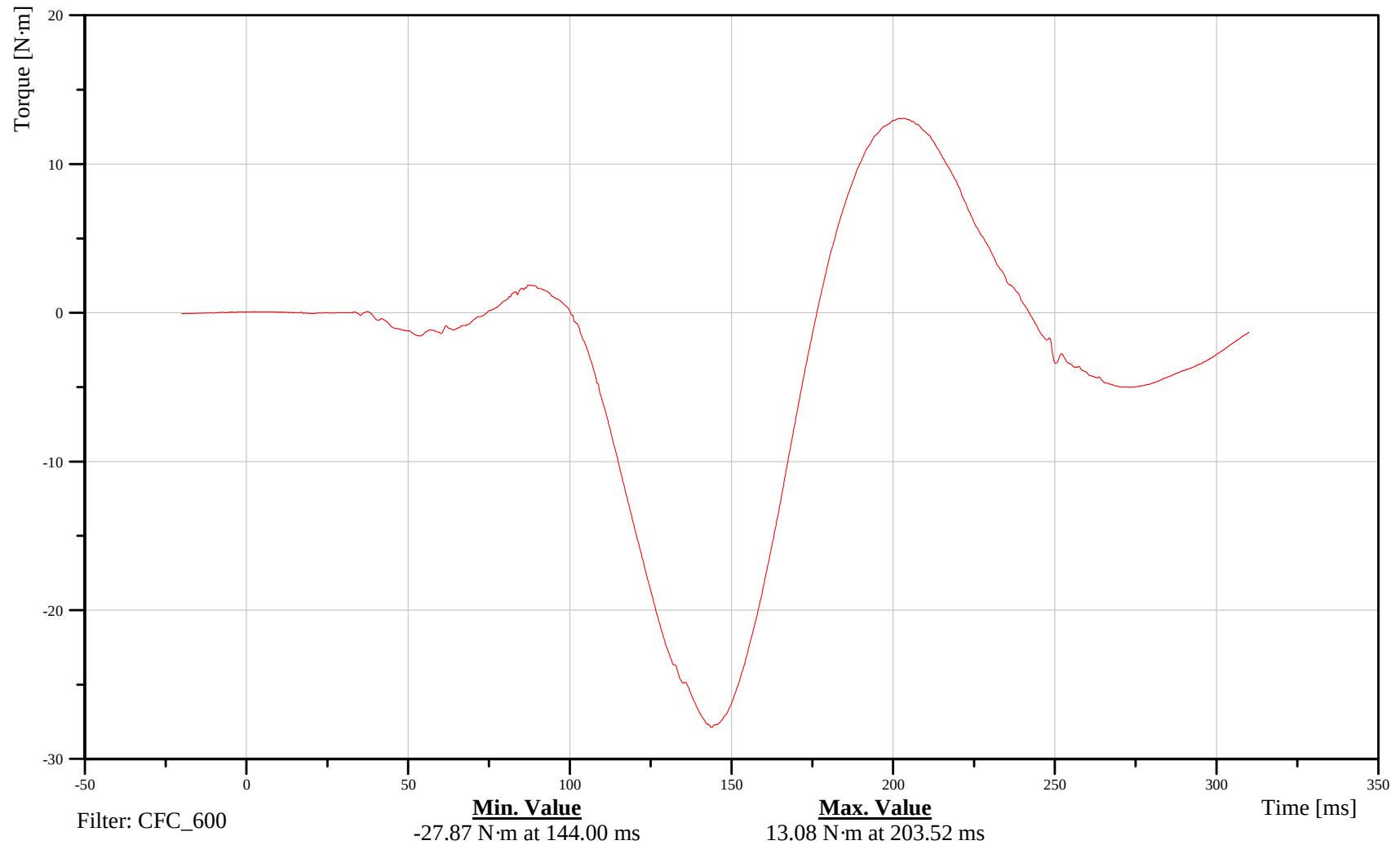
## Upper Neck Moment About Z Axis

Customer: Volpe

### 11NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-28

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

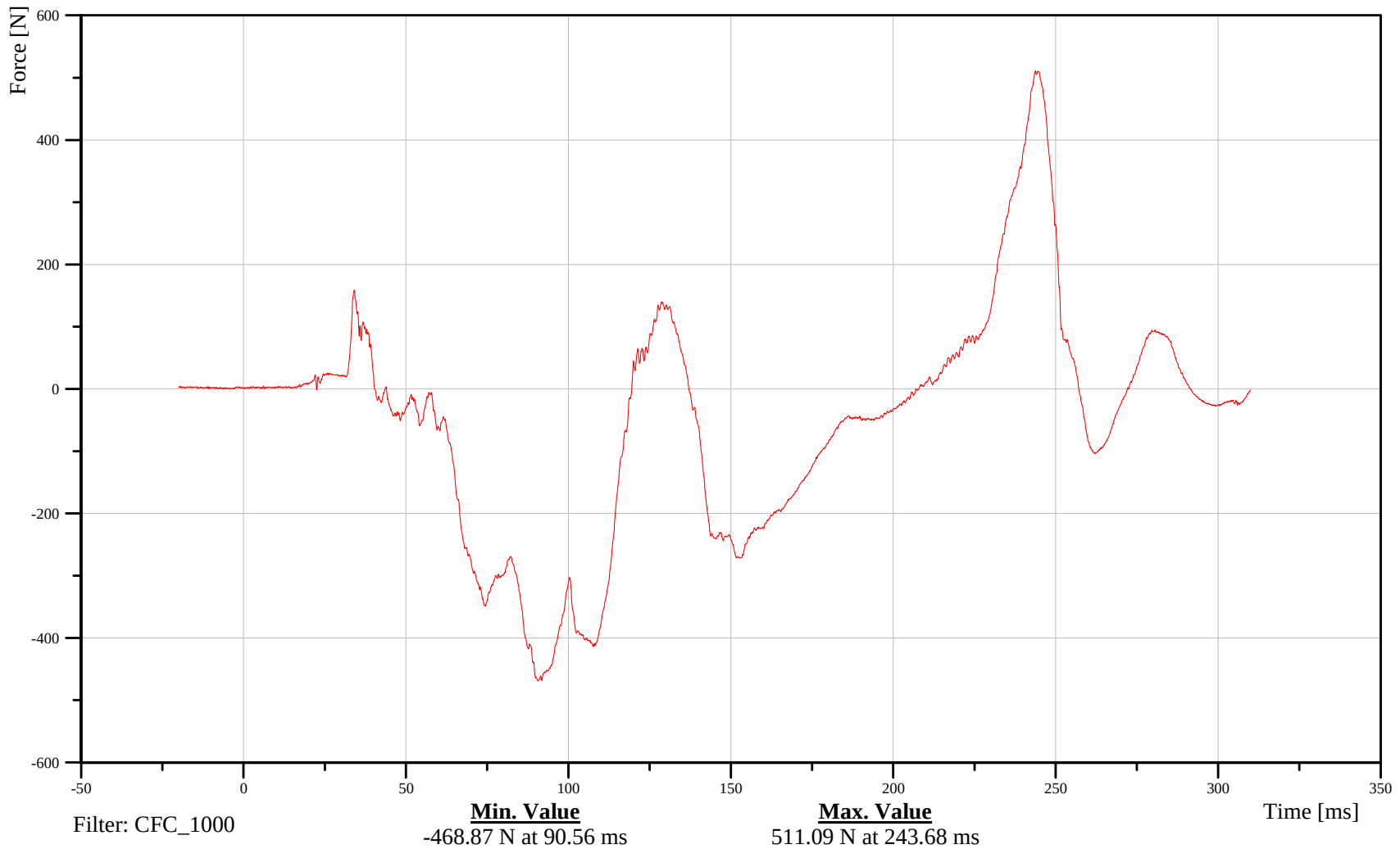
## Lower Neck X-Axis Force

Customer: Volpe

### 11NECKLO00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-29

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

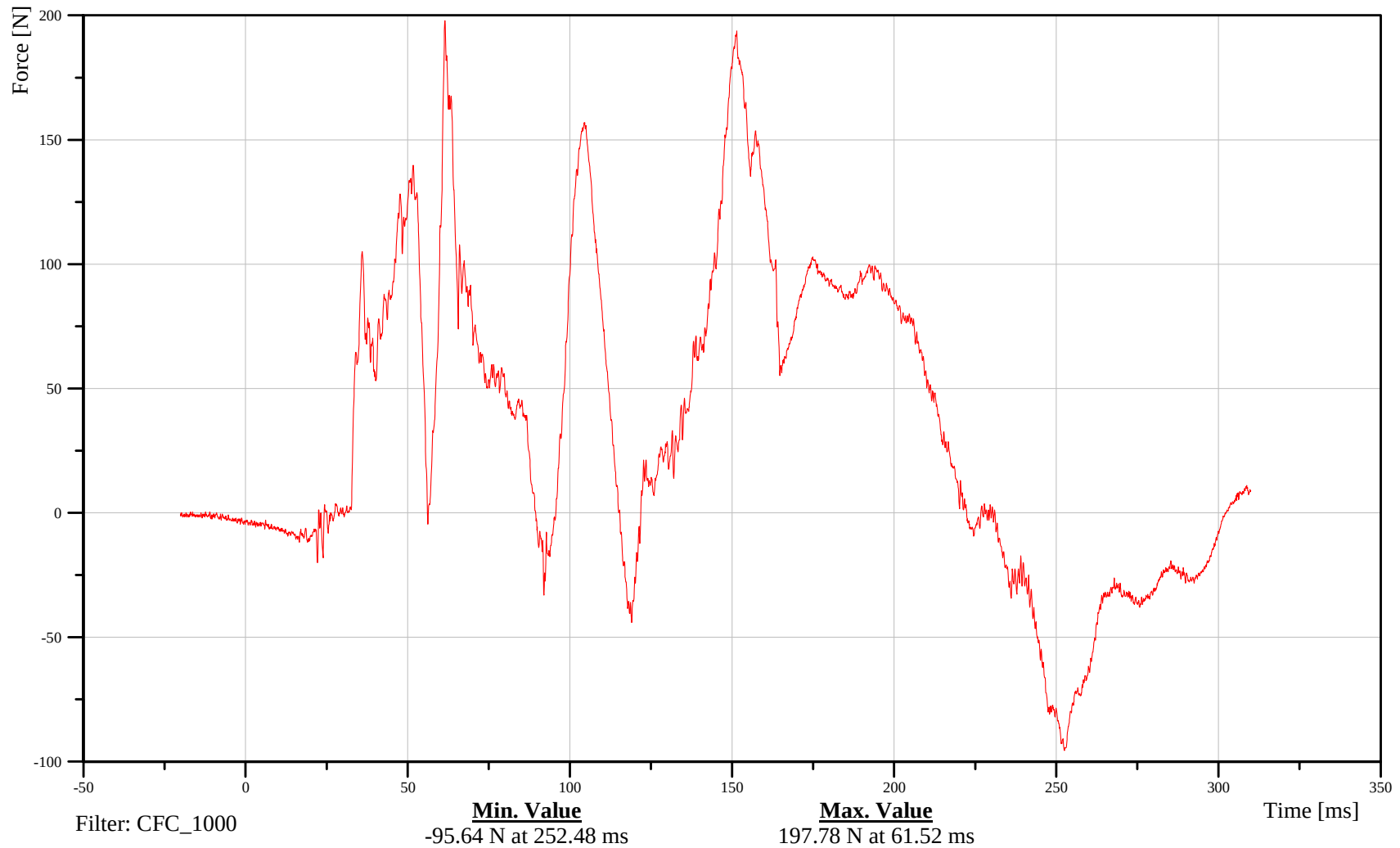
## Lower Neck Y-Axis Force

Customer: Volpe

### 11NECKLO00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-30

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

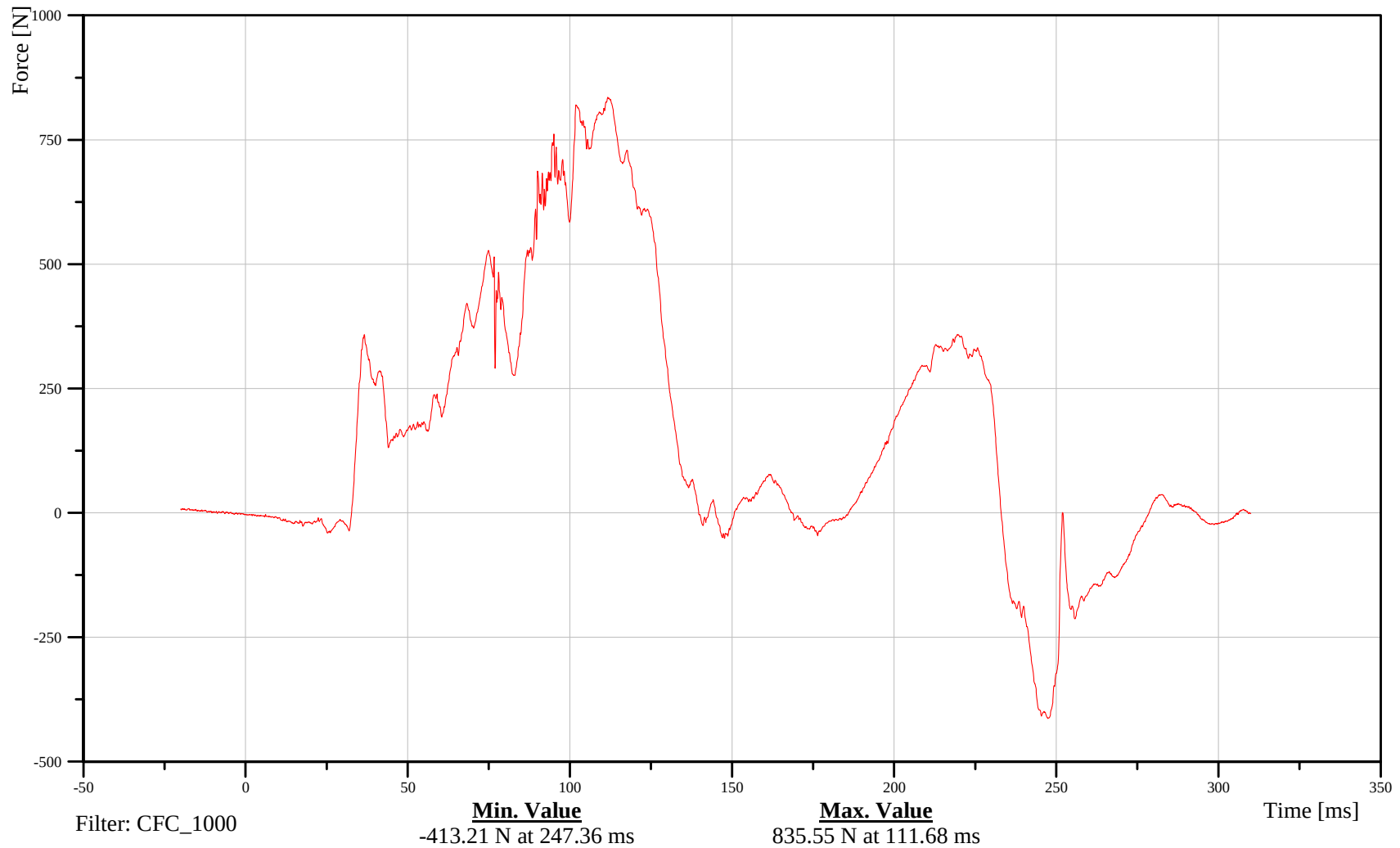
## Lower Neck Z-Axis Force

Customer: Volpe

### 11NECKLO00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-31

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

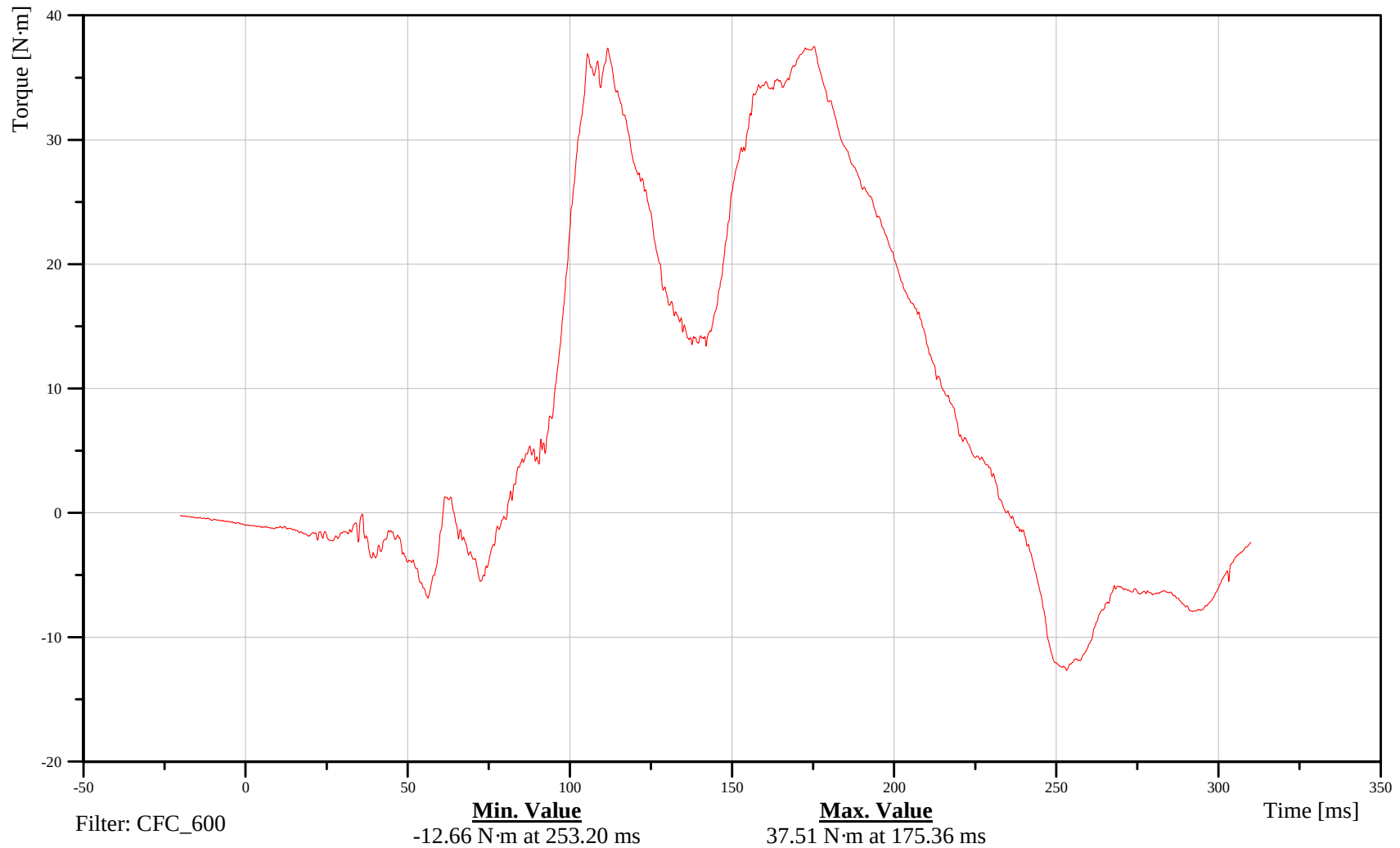
## Lower Neck Moment About X Axis

Customer: Volpe

### 11NECKLO00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-32

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

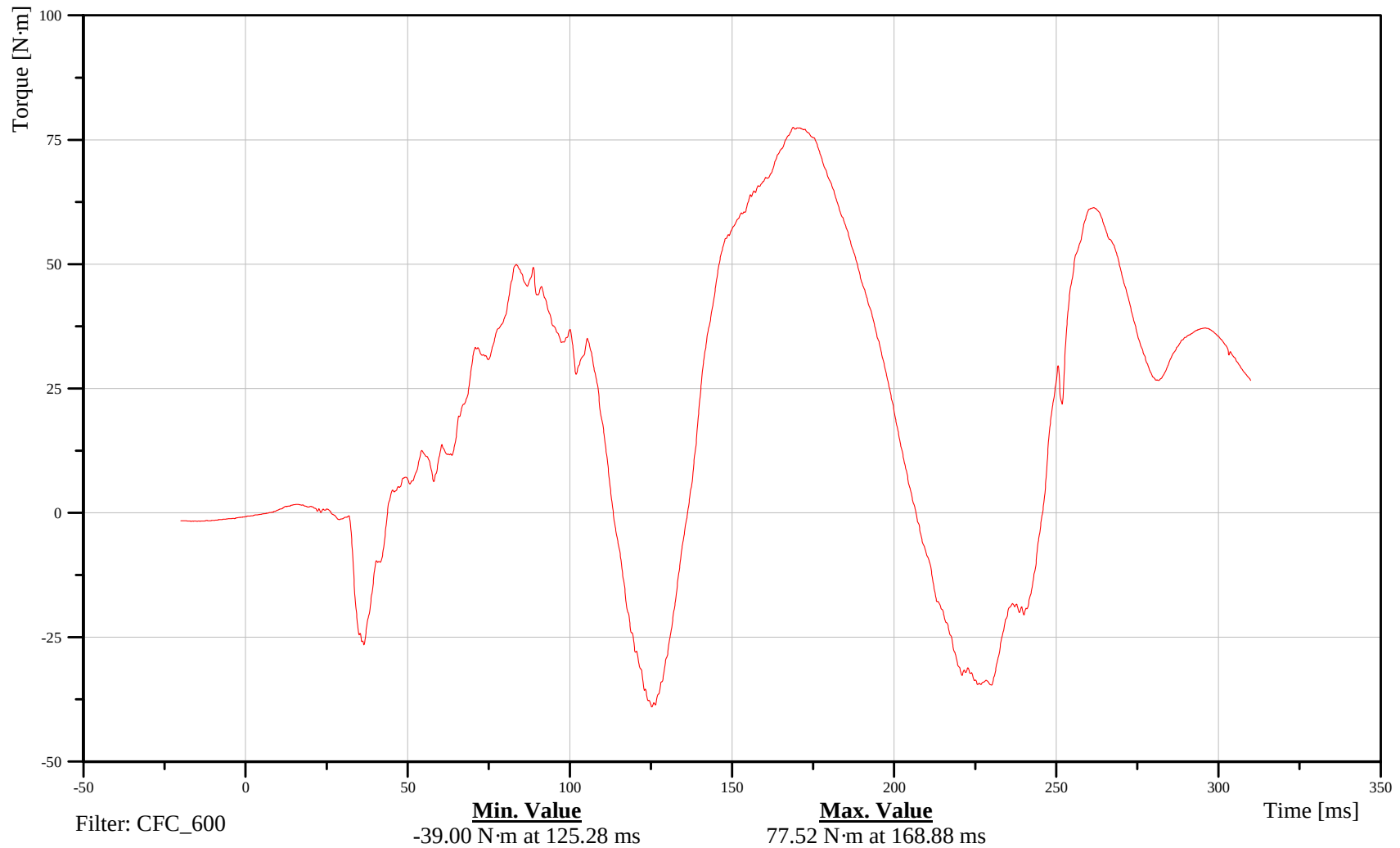
## Lower Neck Moment About Y Axis

Customer: Volpe

### 11NECKLO00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-33

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

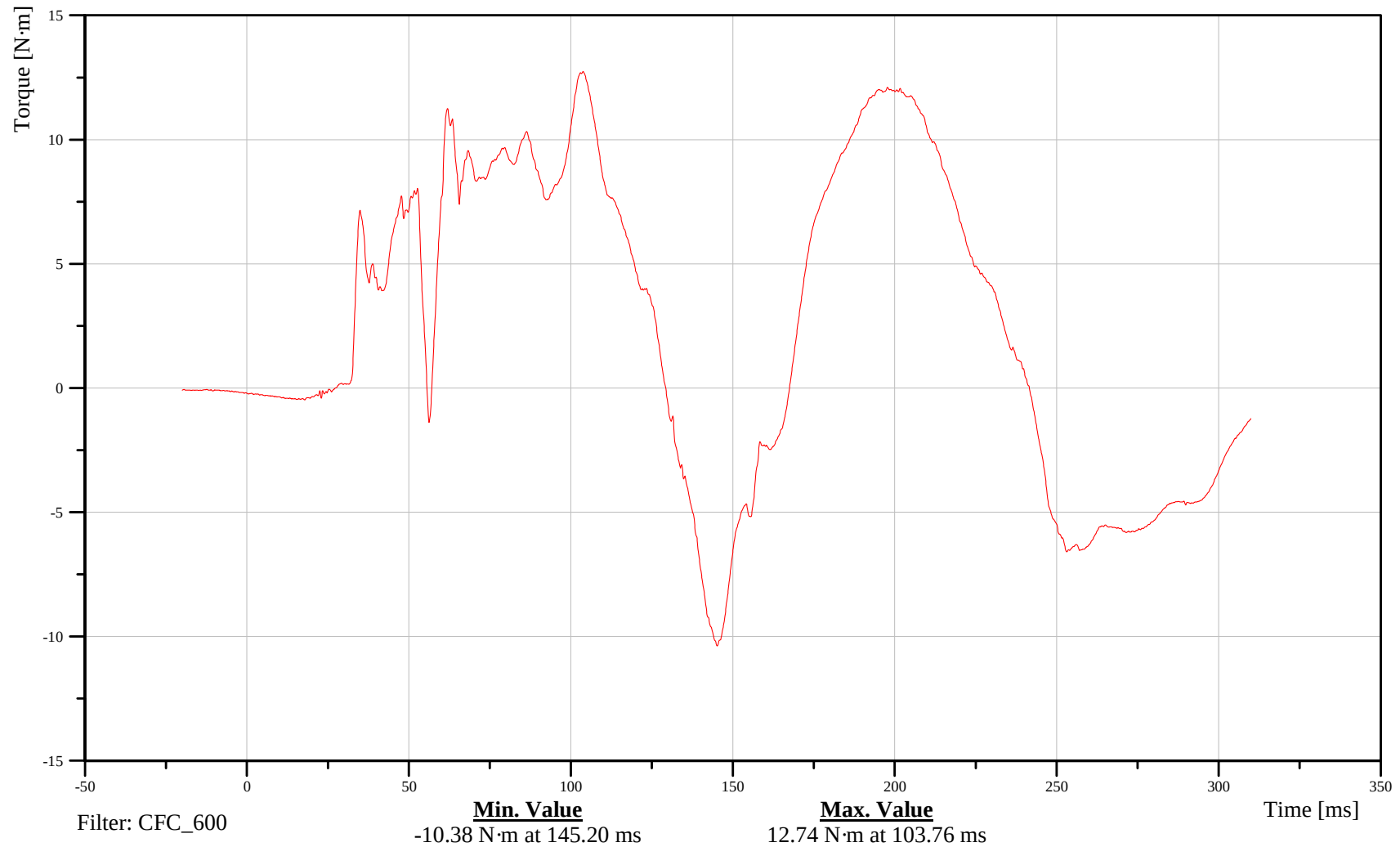
## Lower Neck Moment About Z Axis

Customer: Volpe

### 11NECKLO00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-34

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

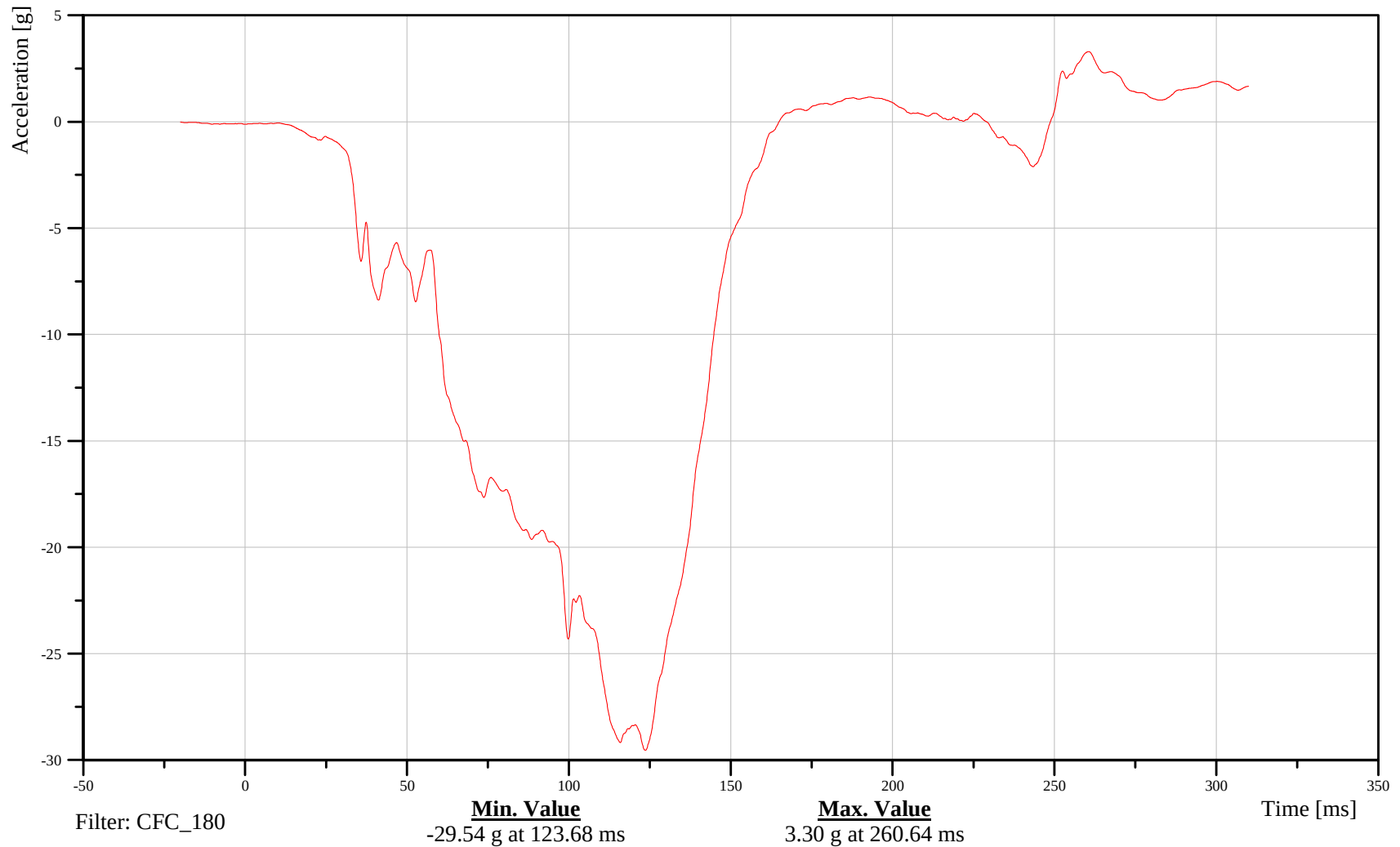
## Chest X-Axis Acceleration

Customer: Volpe

# 11CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-35

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

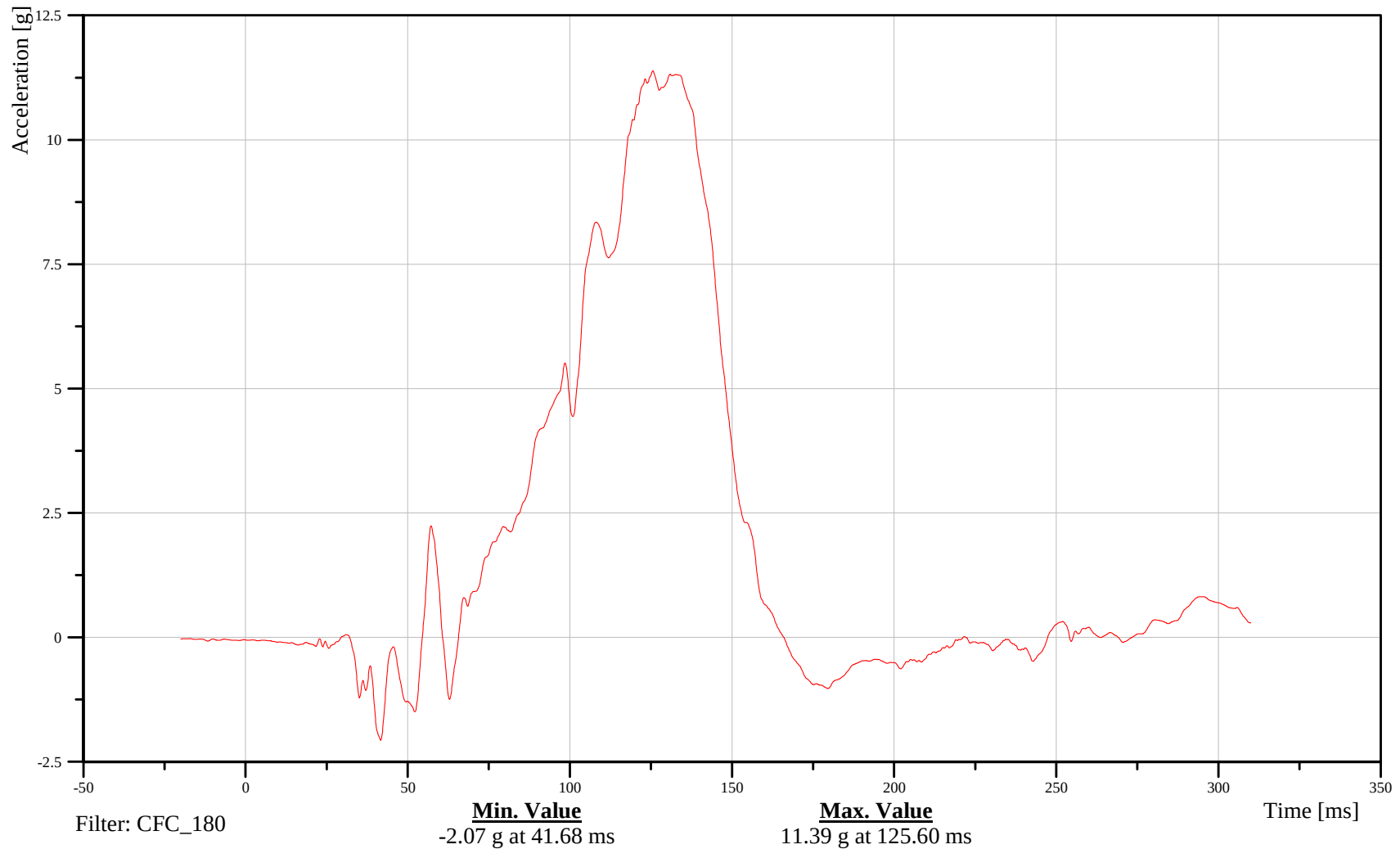
## Chest Y-Axis Acceleration

Customer: Volpe

# 11CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-36

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

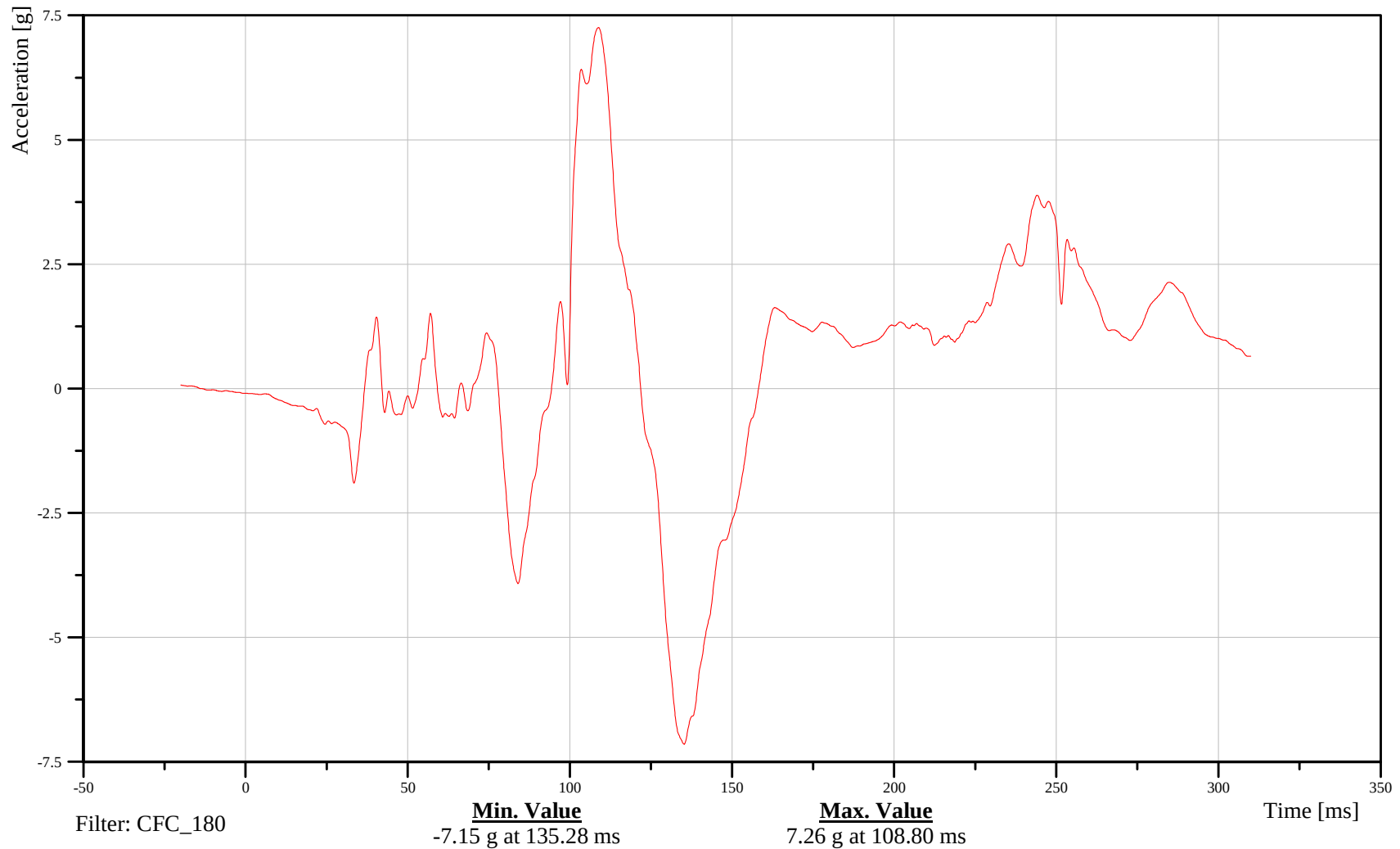
## Chest Z-Axis Acceleration

Customer: Volpe

### 11CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-37

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

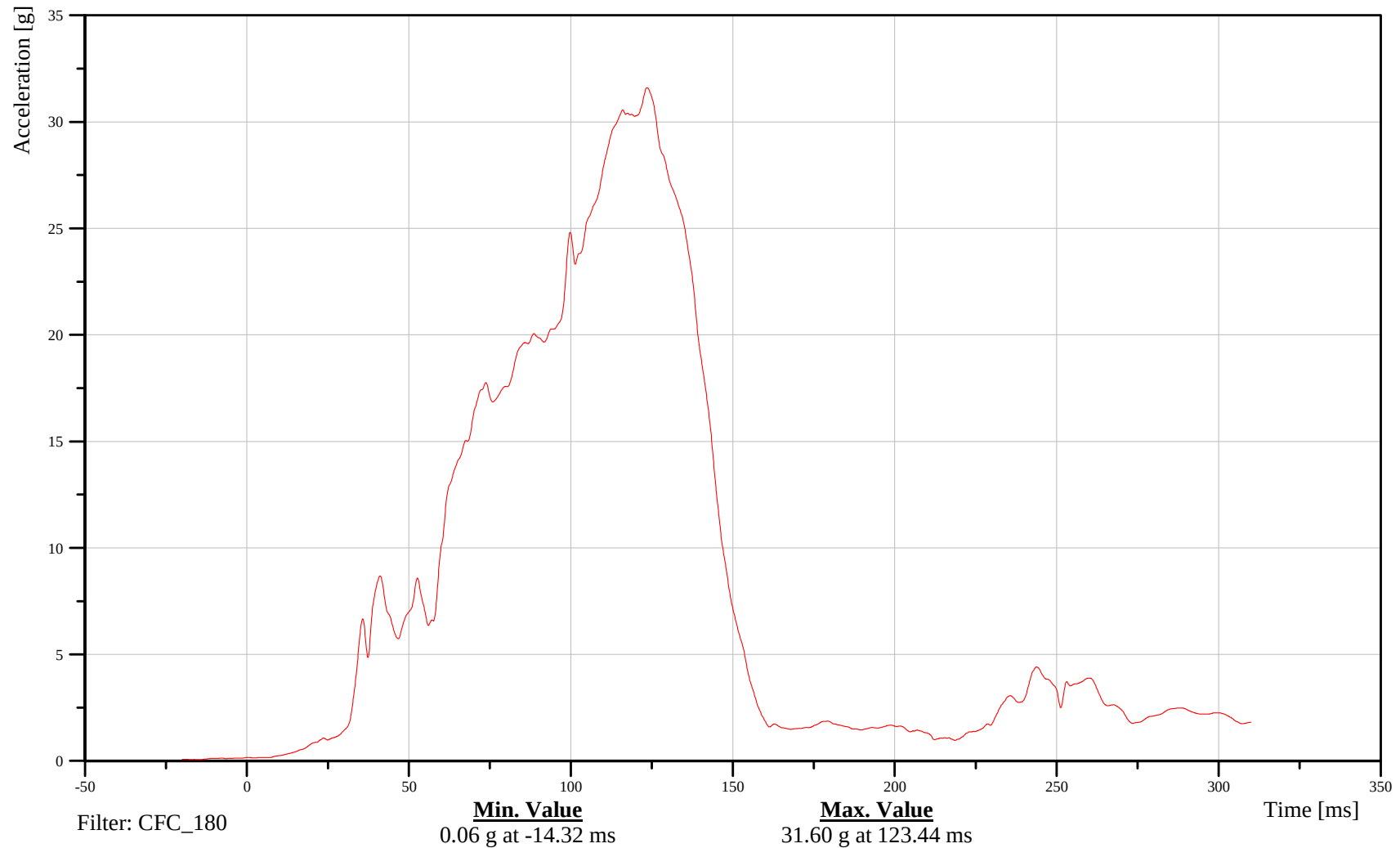
## Chest Resultant Acceleration

Customer: Volpe

# 11CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-38

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

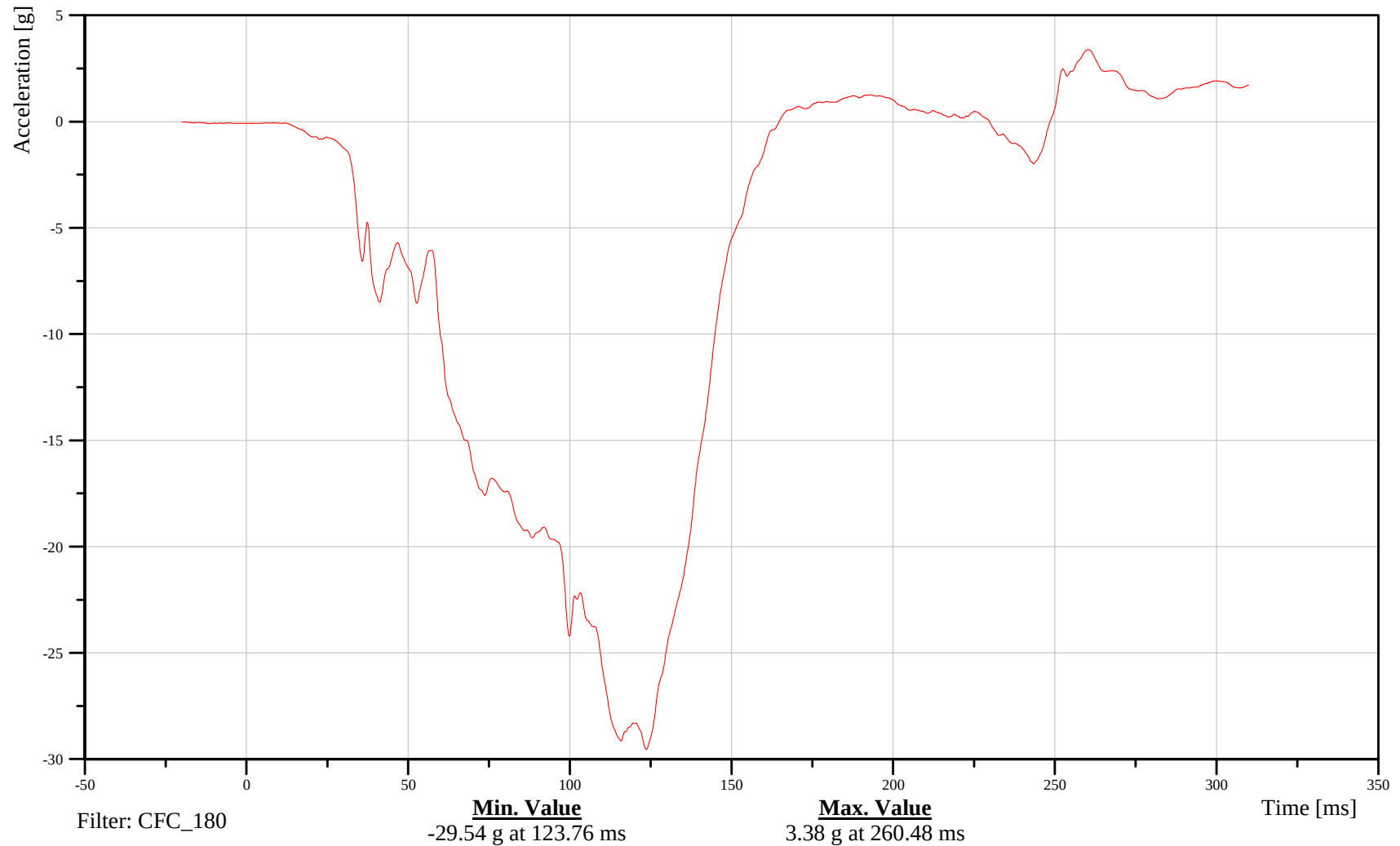
## Chest X-Axis Redundant Acceleration

Customer: Volpe

# 11CHSTCGRDH3ACXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-39

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

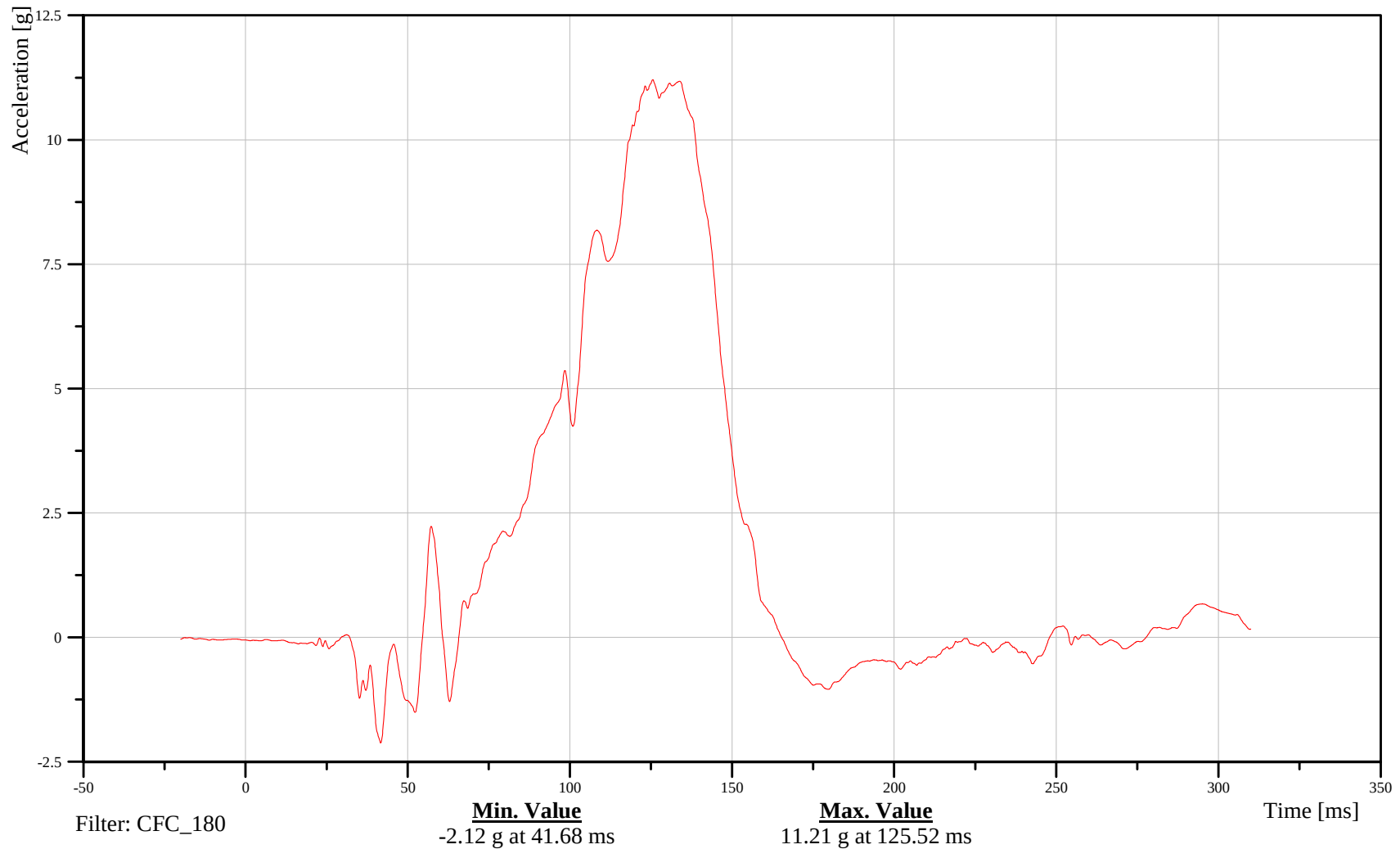
## Chest Y-Axis Redundant Acceleration

Customer: Volpe

# 11CHSTCGRDH3ACYC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-40

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

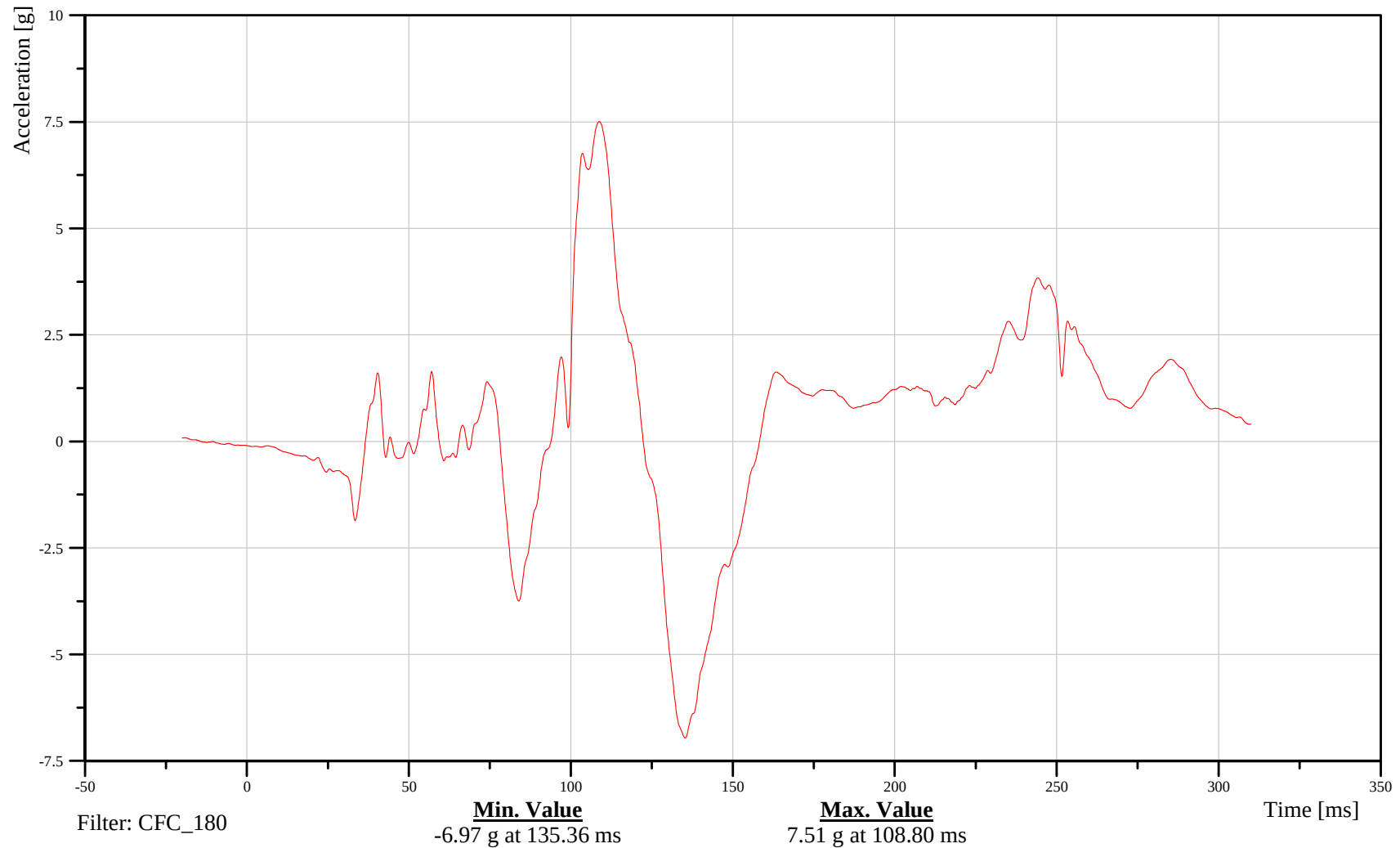
## Chest Z-Axis Redundant Acceleration

Customer: Volpe

### 11CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-41

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

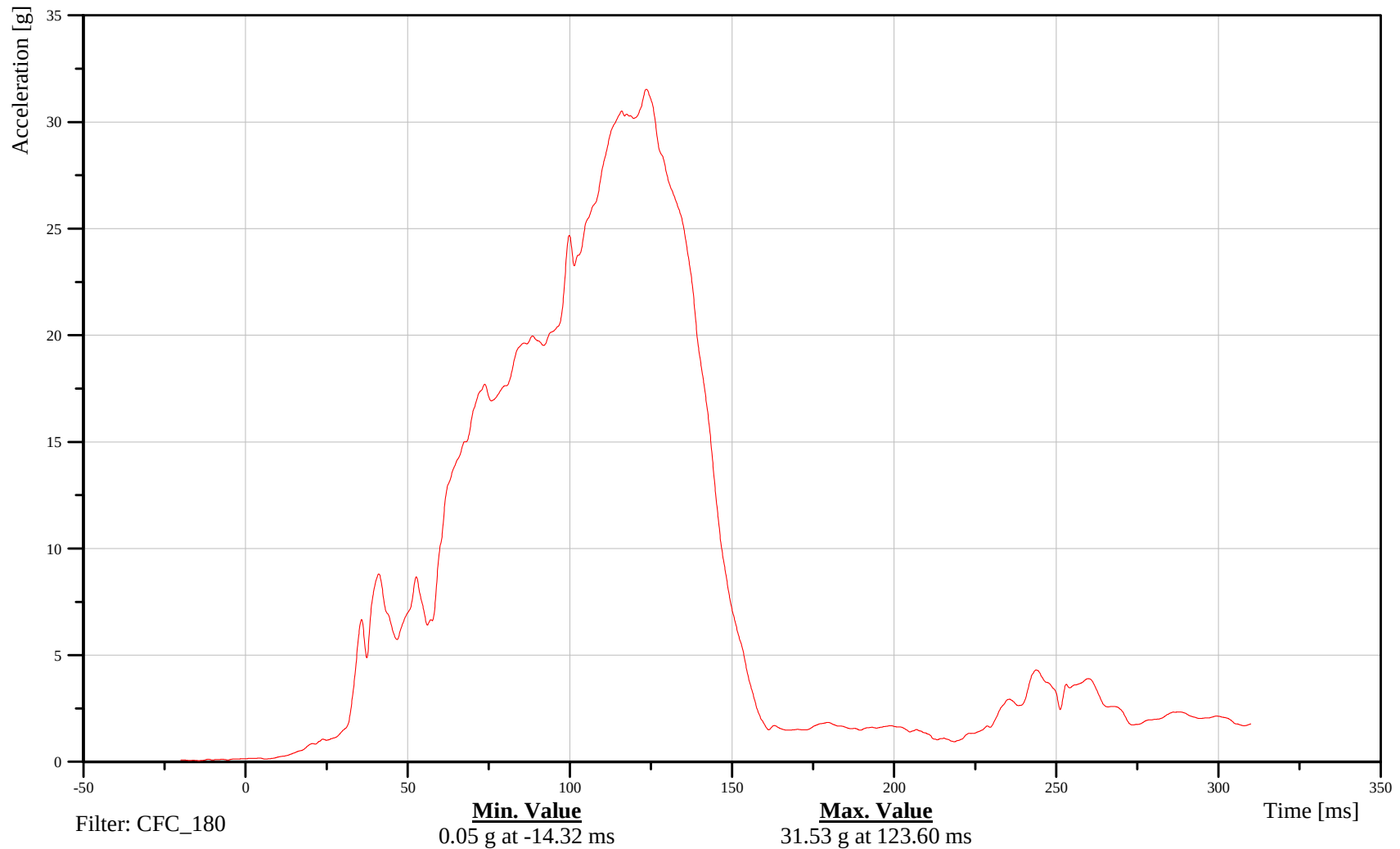
## Chest Redundant Resultant Acceleration

Customer: Volpe

# 11CHSTCGRDH3ACRC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-42

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

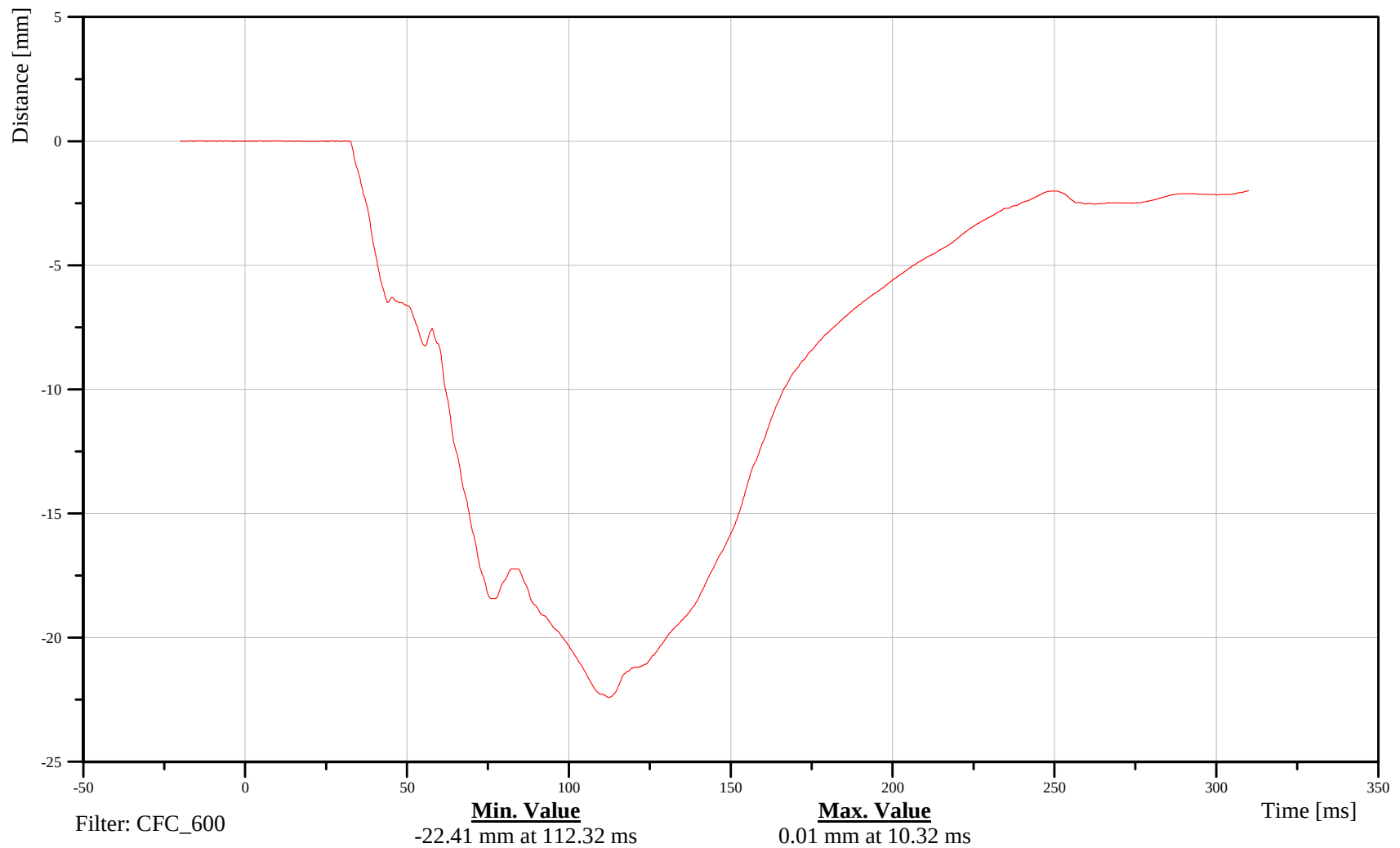
## Chest Displacement

Customer: Volpe

### 11CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-43

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

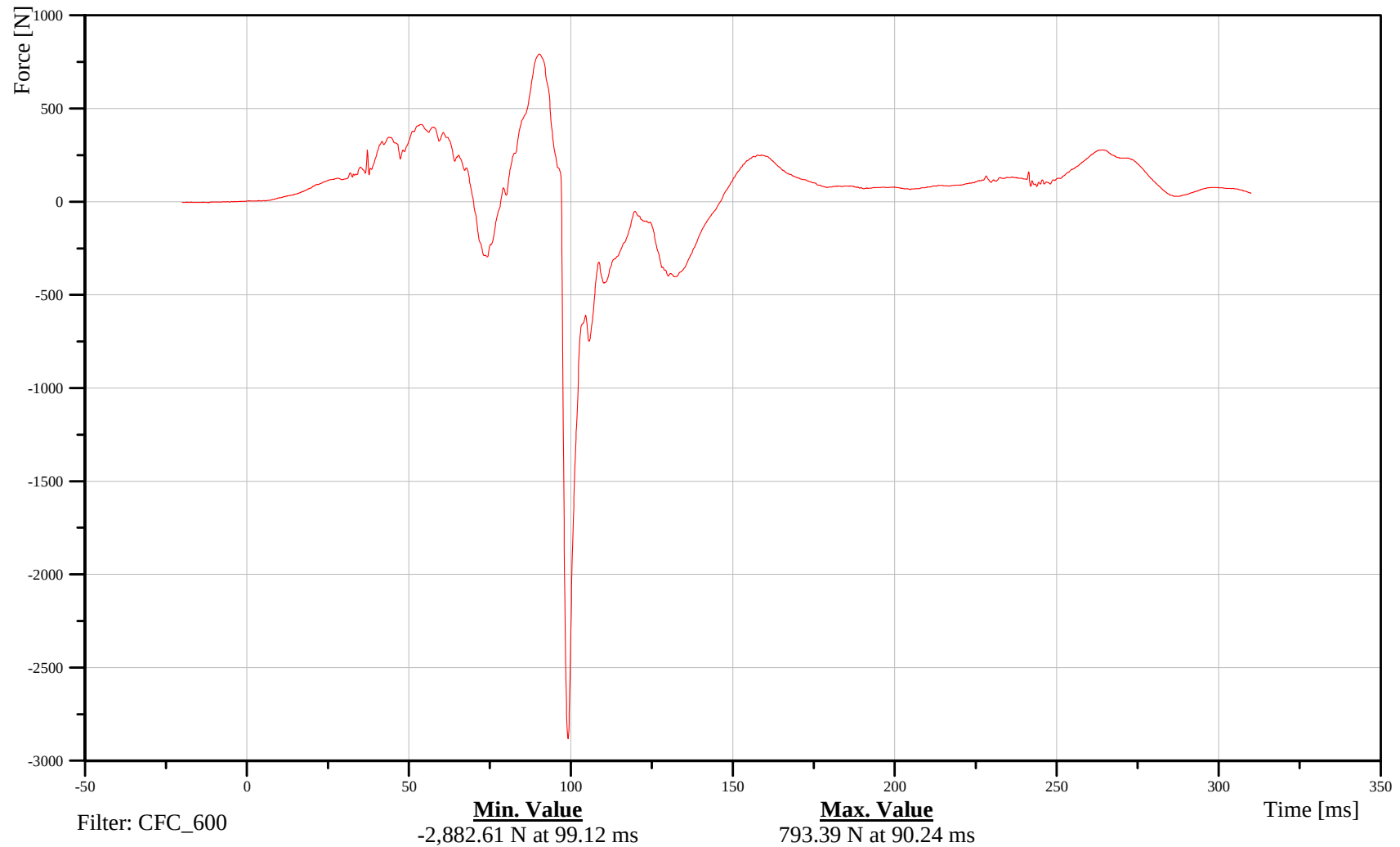
## Left Femur Z-Axis Force

Customer: Volpe

### 11FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-44

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

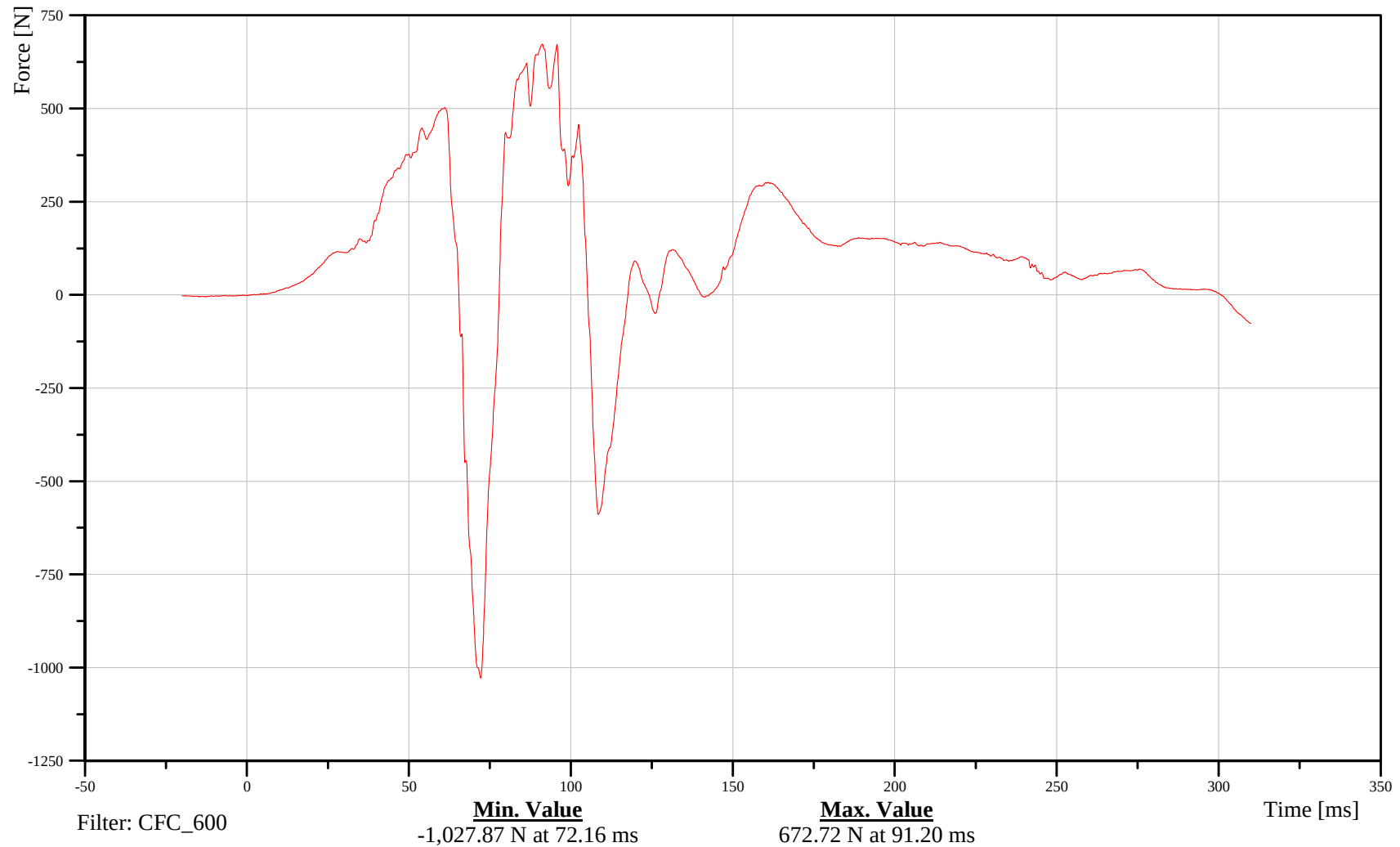
Right Femur Z-Axis Force

Customer: Volpe

## 11FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-45

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

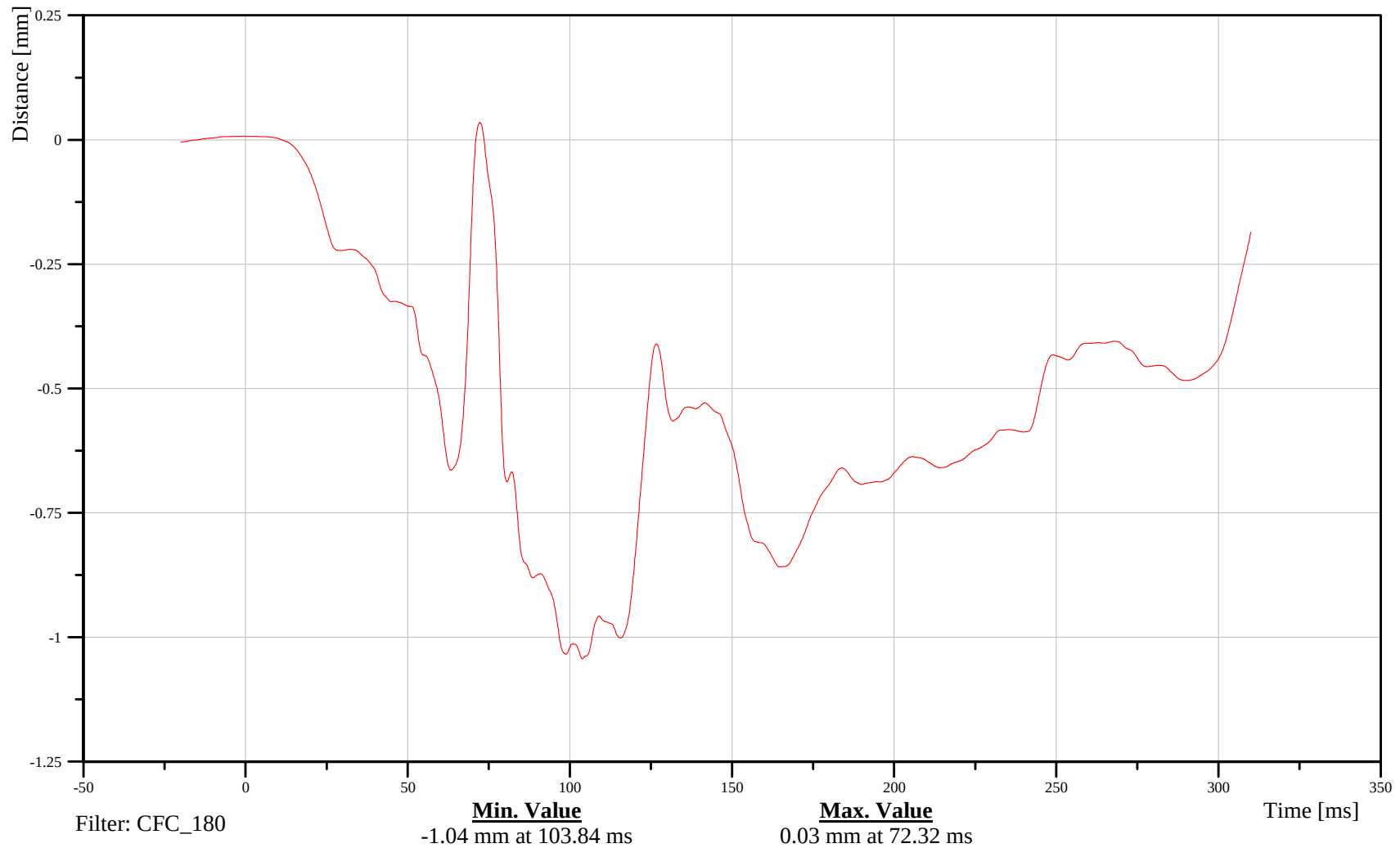
## Left Knee Displacement

Customer: Volpe

11KNSLLE00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-46

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

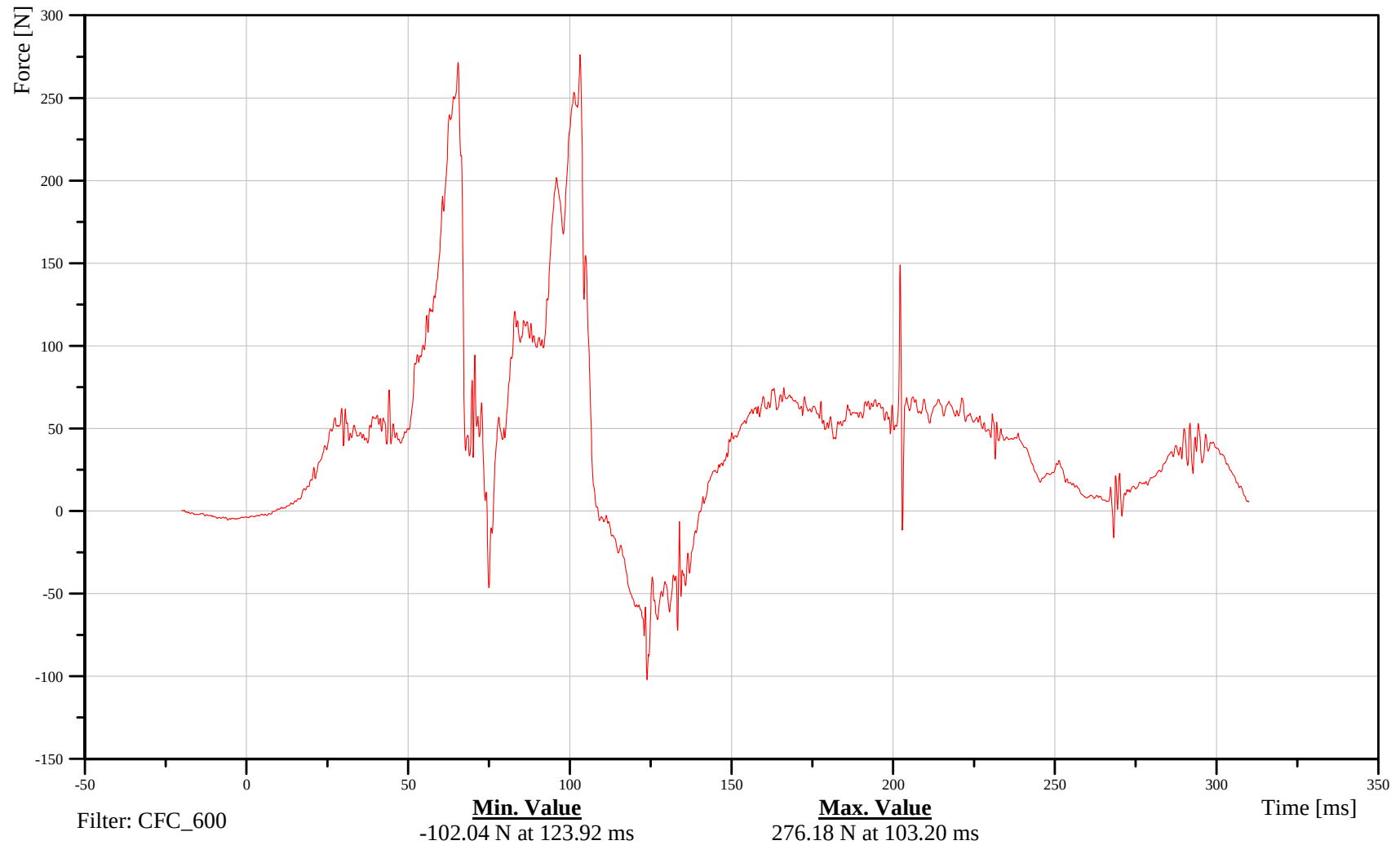
## Left Upper Tibia X-Axis Force

Customer: Volpe

### 11TIBILULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



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060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

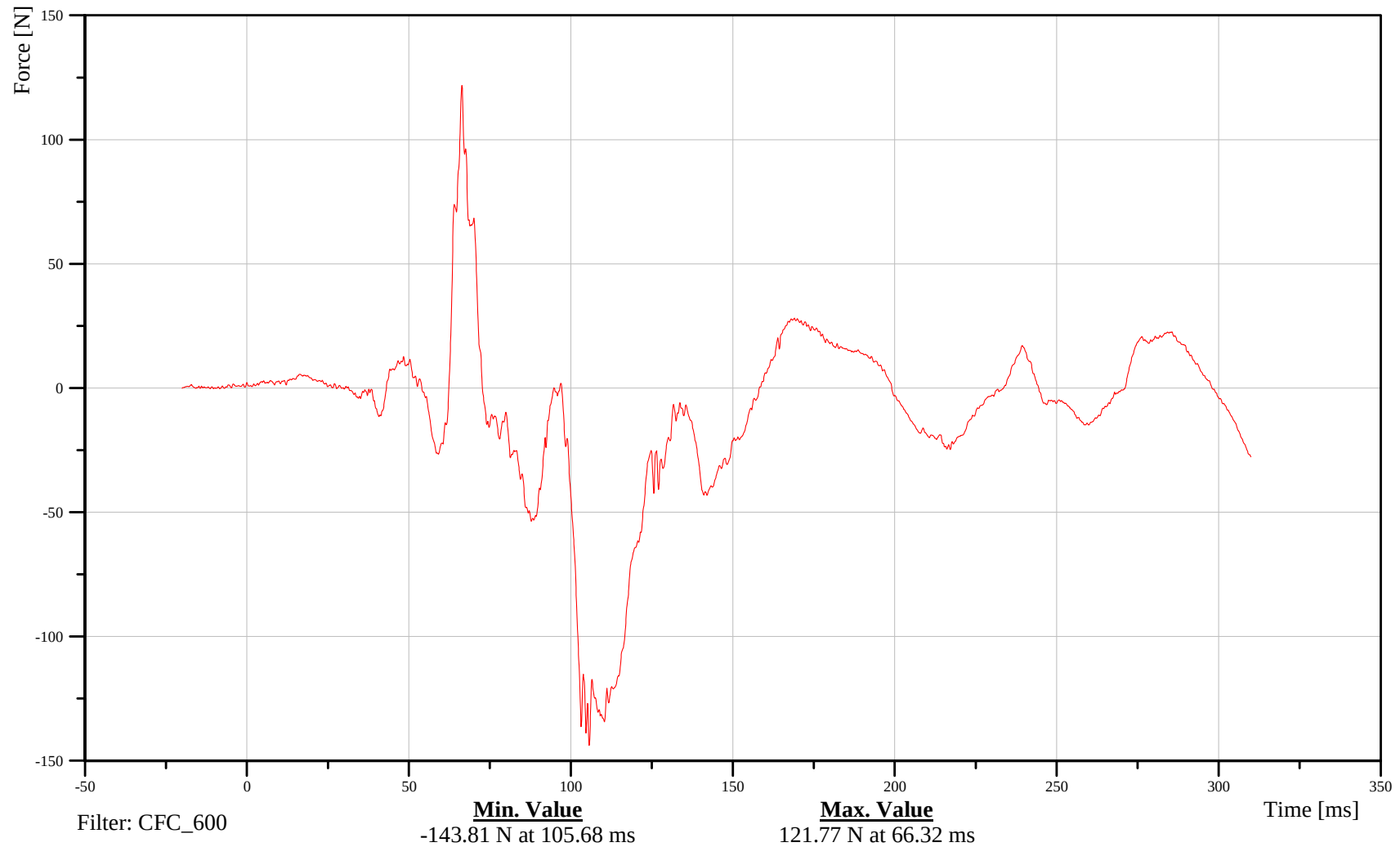
## Left Upper Tibia Y-Axis Force

Customer: Volpe

### 11TIBILULXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-48

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

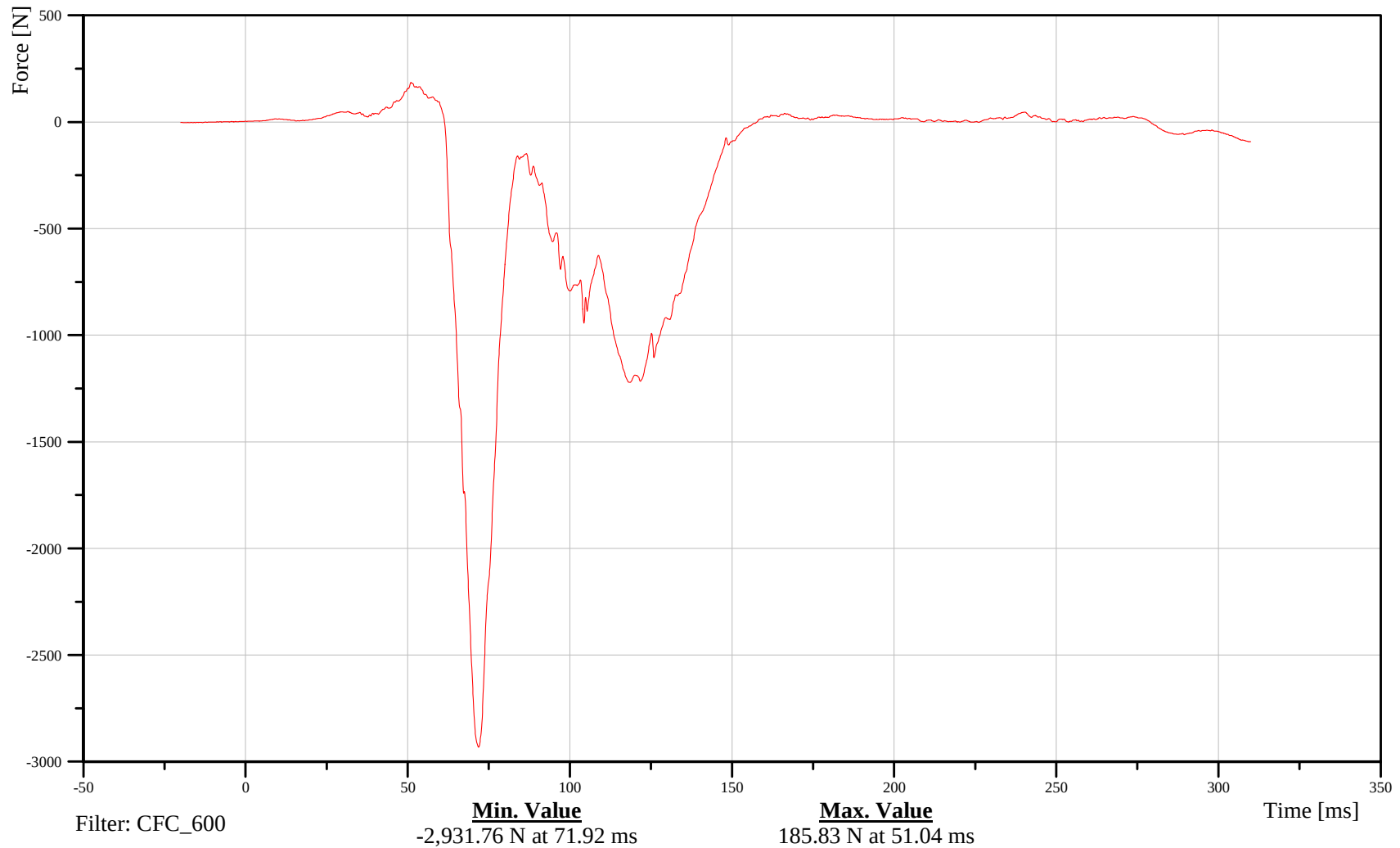
Left Upper Tibia Z-Axis Force

Customer: Volpe

## 11TIBILULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-49

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

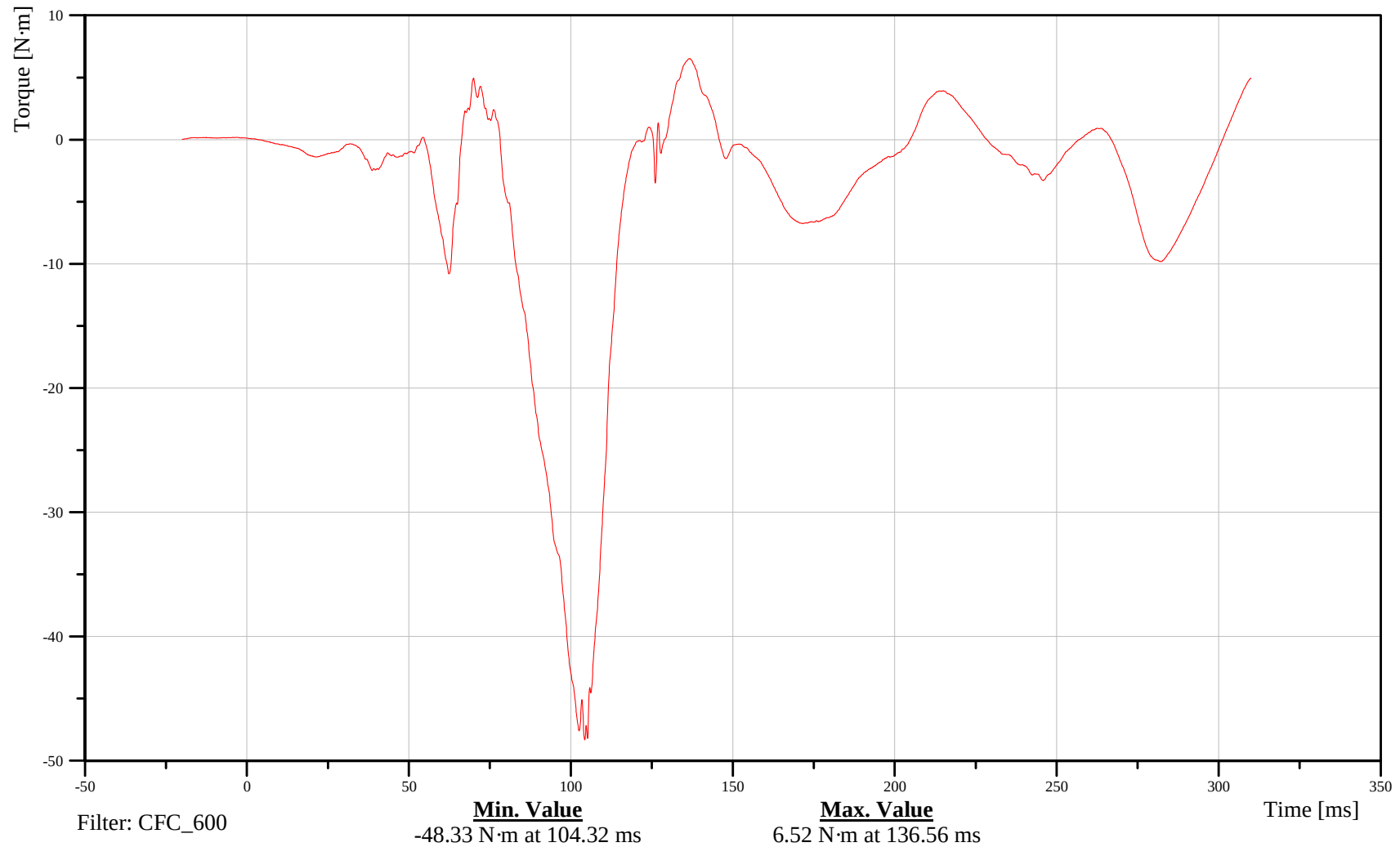
## Left Upper Tibia Moment About X Axis

Customer: Volpe

### 11TIBILULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-50

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

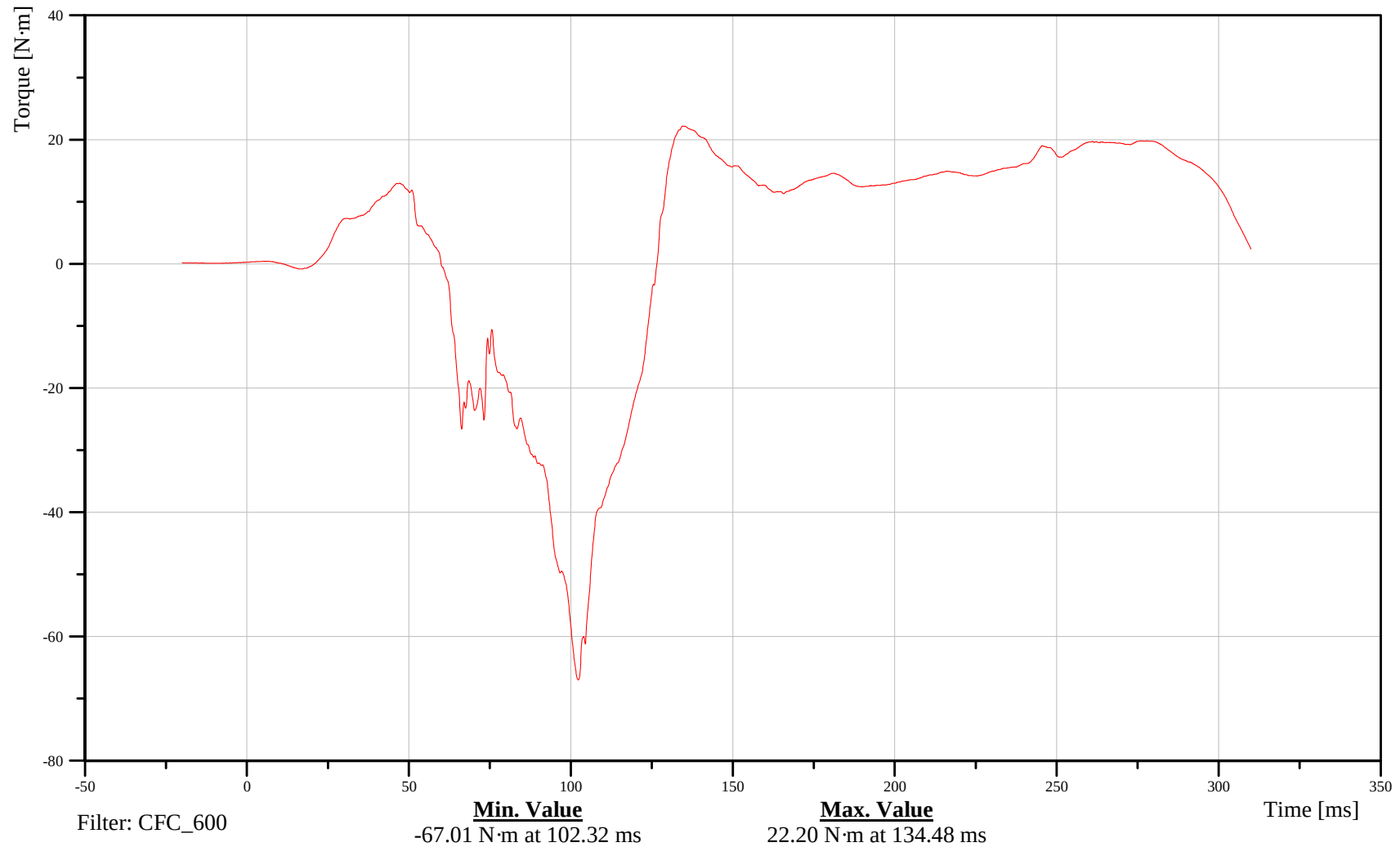
## Left Upper Tibia Moment About Y Axis

Customer: Volpe

### 11TIBILULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-51

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

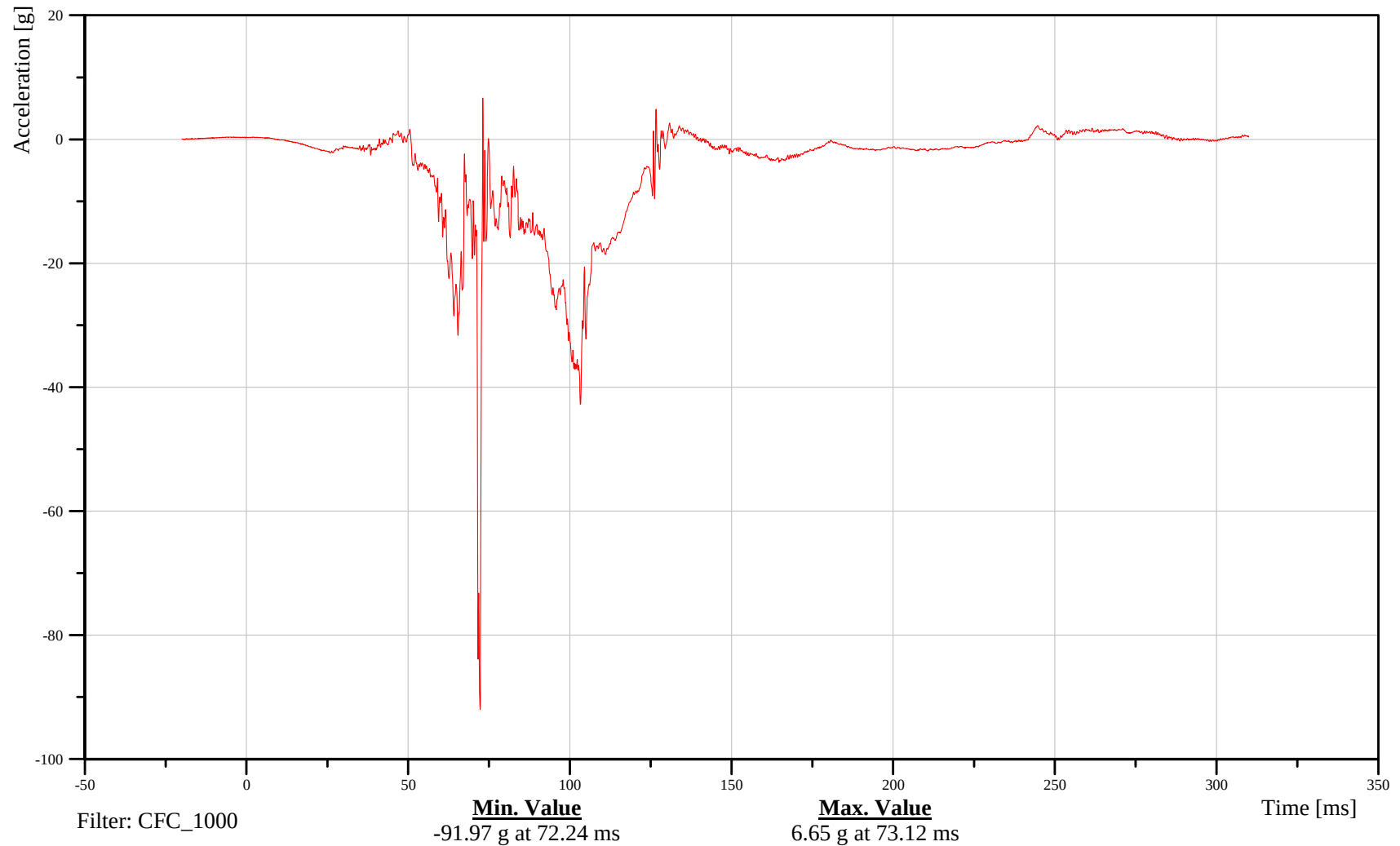
## Left Tibia X-Axis Acceleration

Customer: Volpe

### 11TIBILELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-52

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

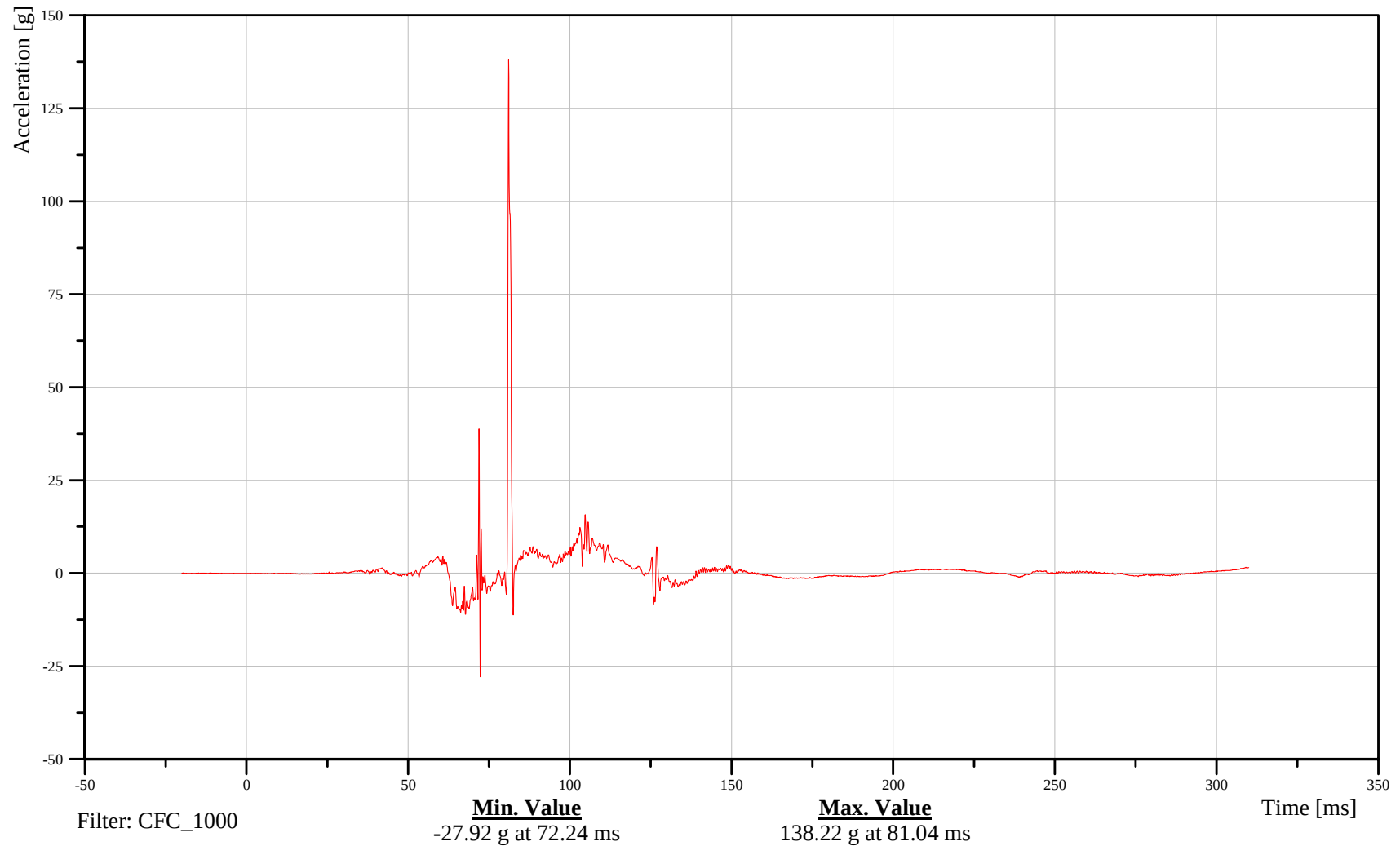
## Left Tibia Y-Axis Acceleration

Customer: Volpe

### 11TIBILELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-53

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

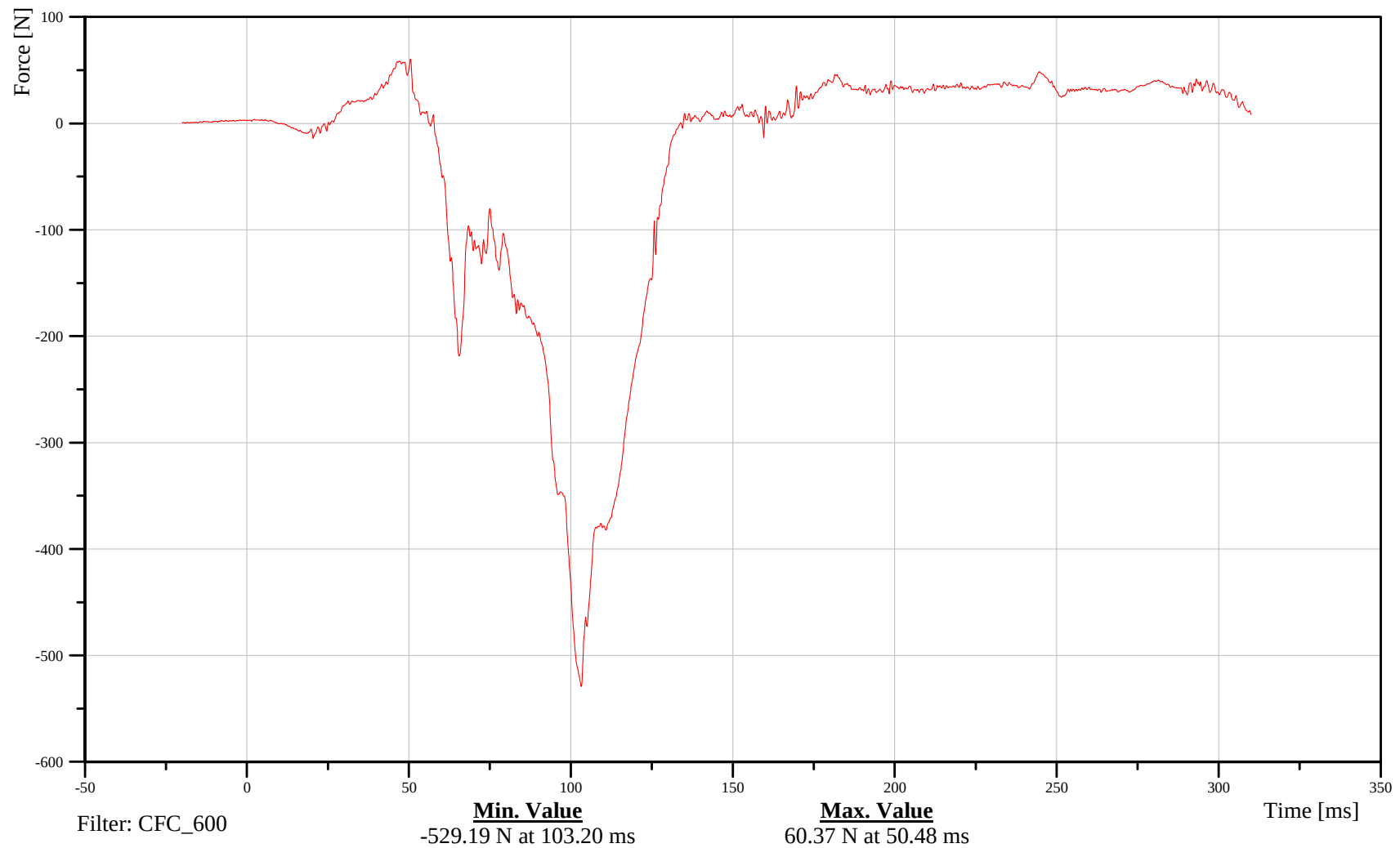
## Left Lower Tibia X-Axis Force

Customer: Volpe

### 11TIBILLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-54

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

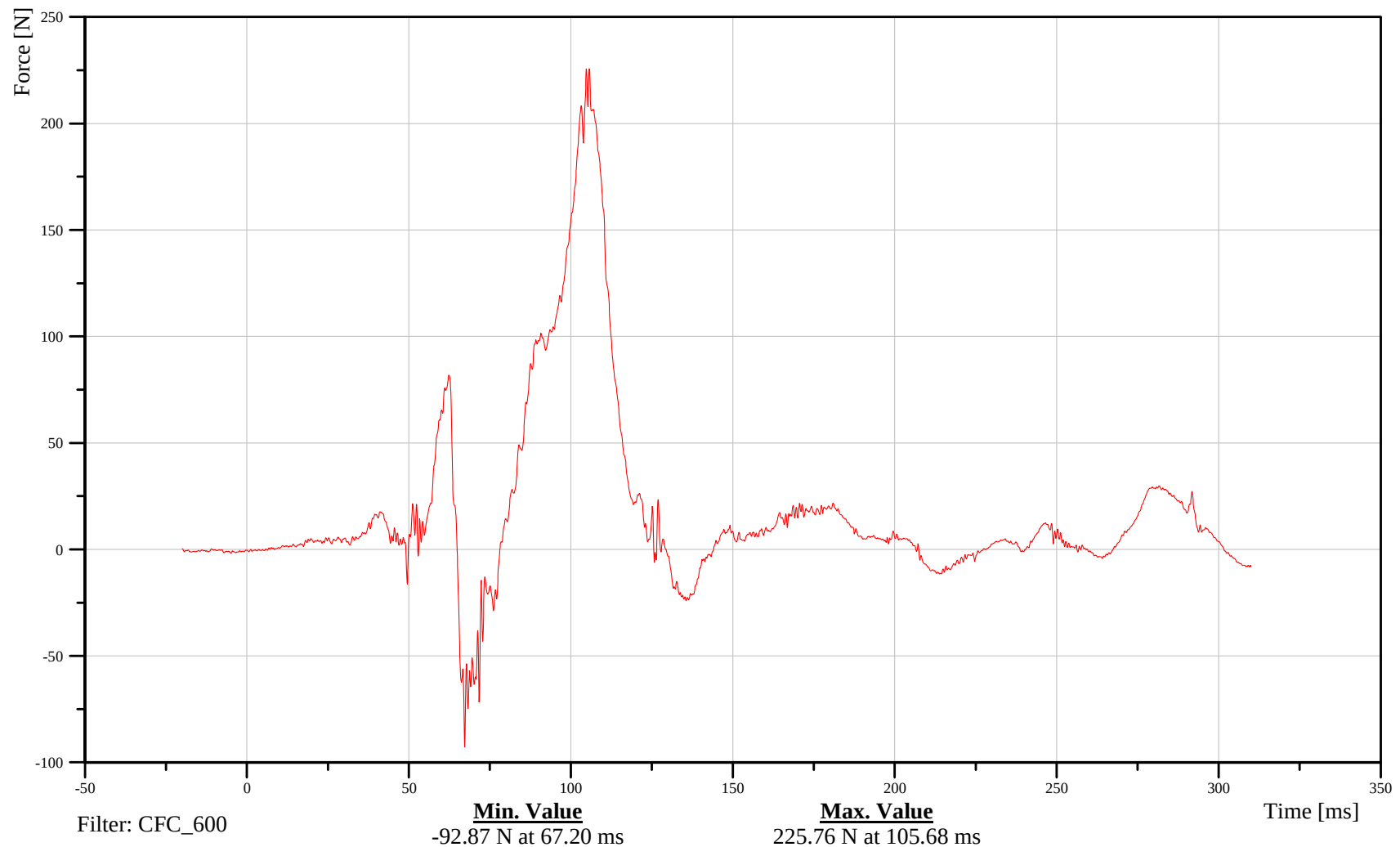
## Left Lower Tibia Y-Axis Force

Customer: Volpe

### 11TIBILLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-55

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

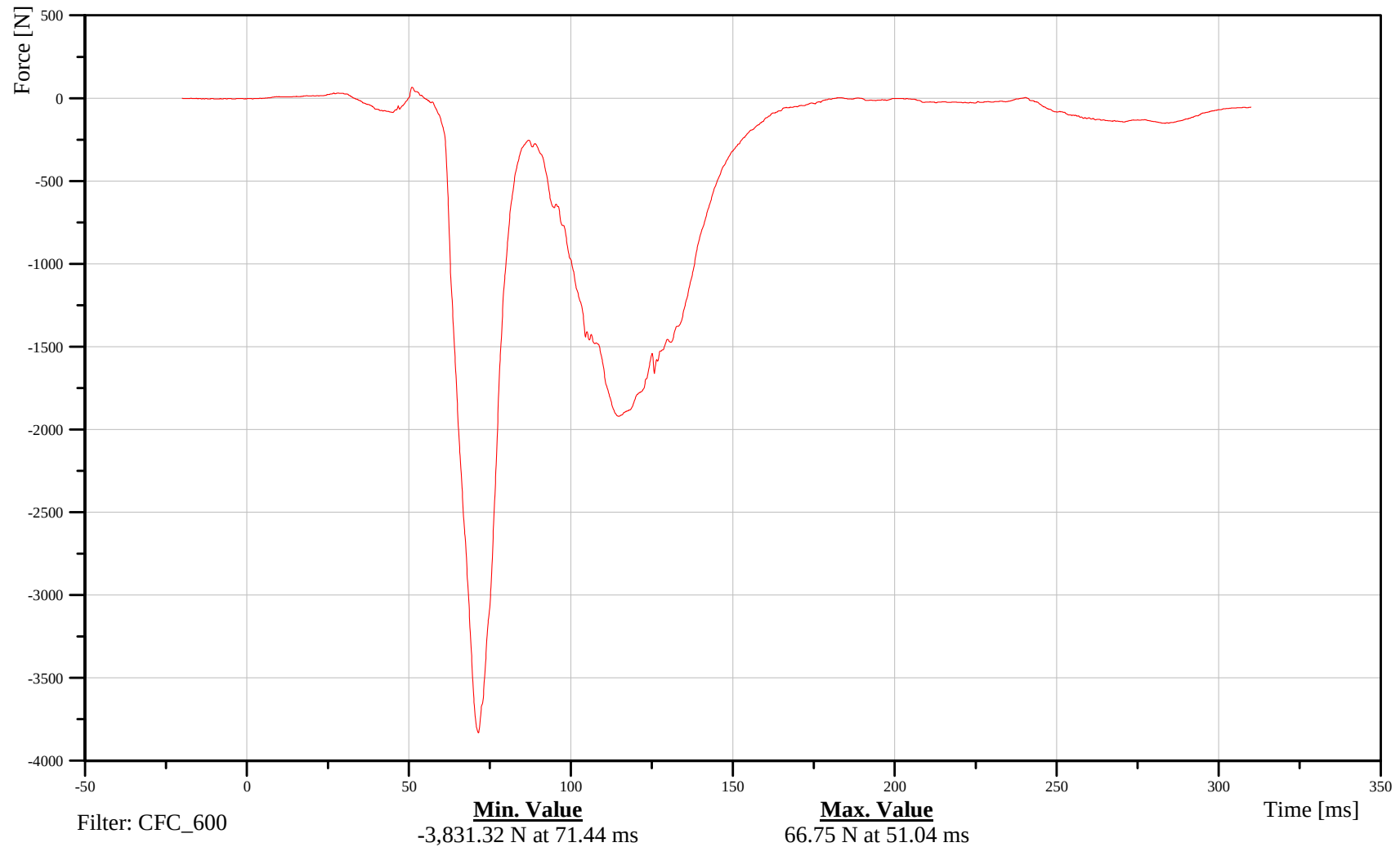
## Left Lower Tibia Z-Axis Force

Customer: Volpe

### 11TIBILLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-56

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

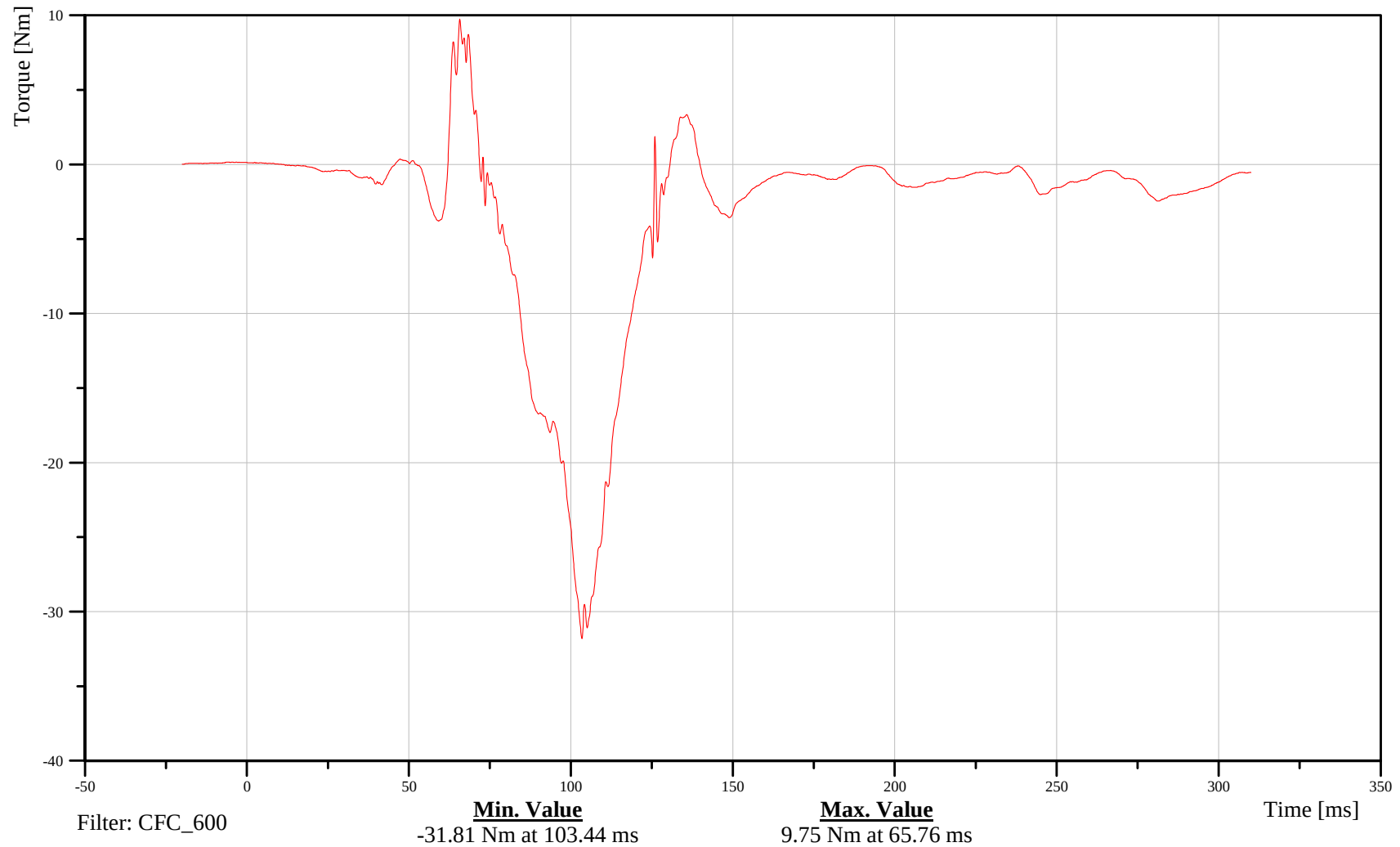
Left Lower Tibia Moment About X Axis

Customer: Volpe

## 11TIBILLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-57

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

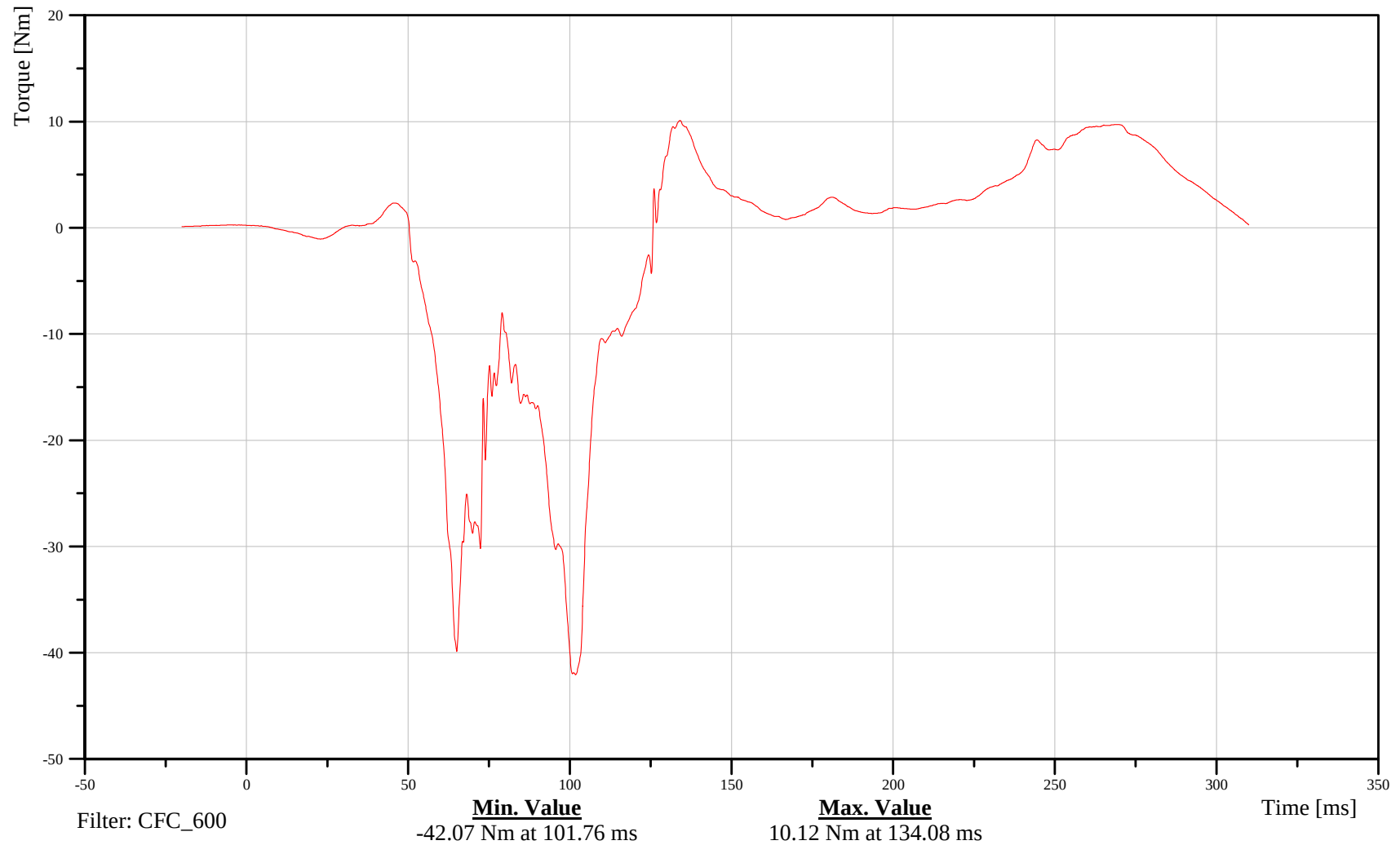
Left Lower Tibia Moment About Y Axis

Customer: Volpe

## 11TIBILLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-58

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

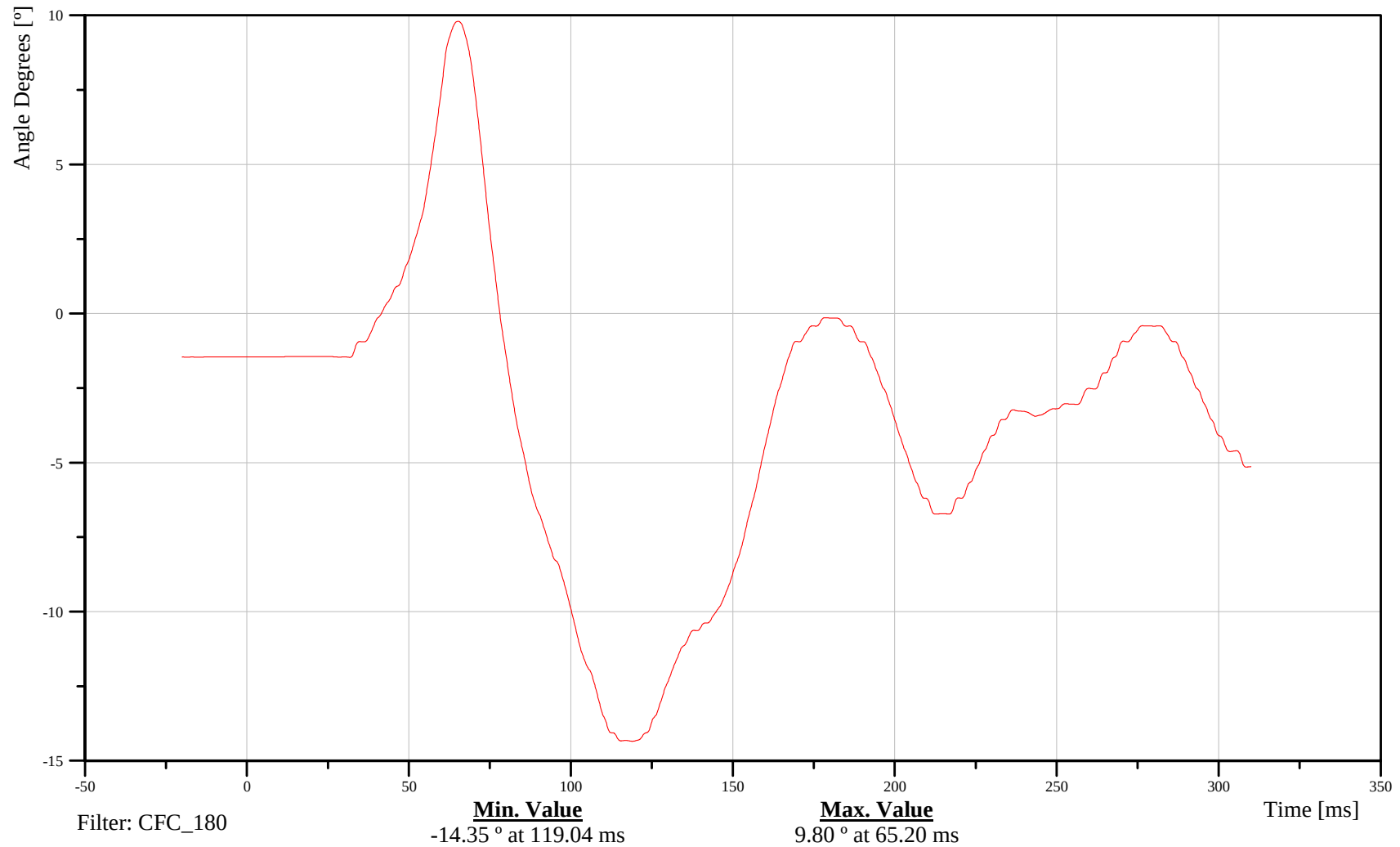
## Left Foot X-Axis Rotation

Customer: Volpe

# 11FOOTLELXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-59

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

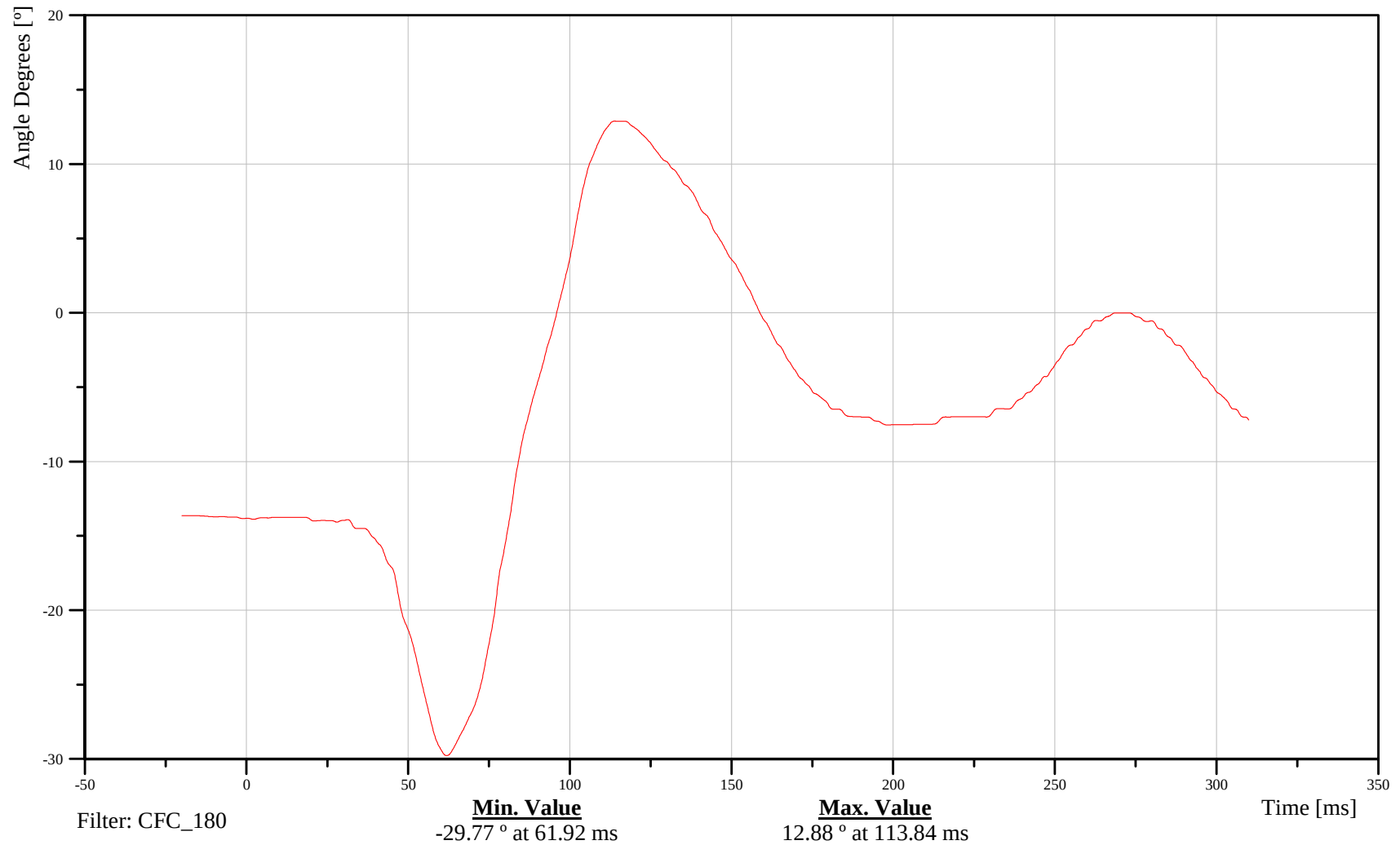
## Left Foot Y-Axis Rotation

Customer: Volpe

# 11FOOTLELXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-60

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

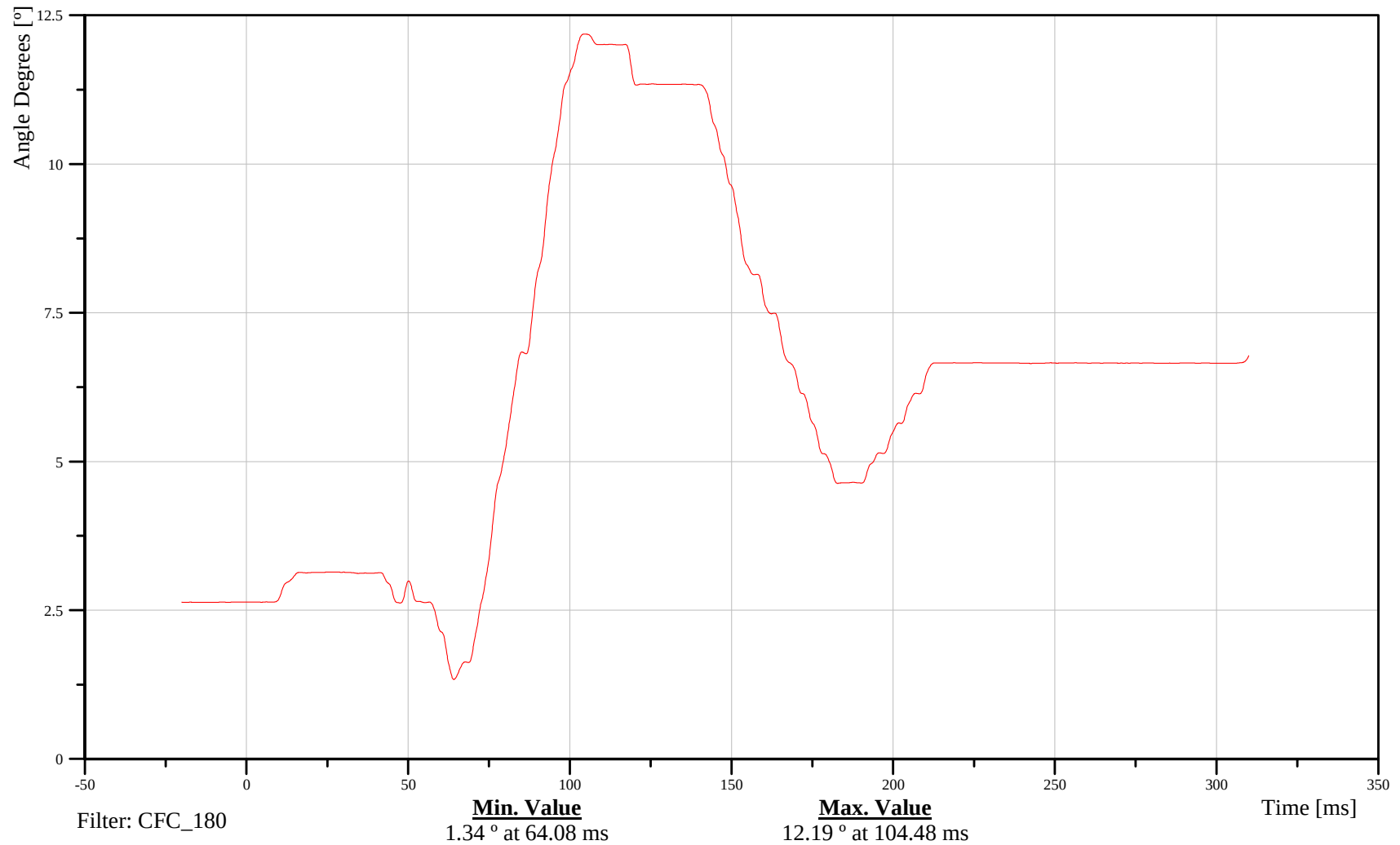
## Left Foot Z-Axis Rotation

Customer: Volpe

# 11FOOTLELXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-61

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

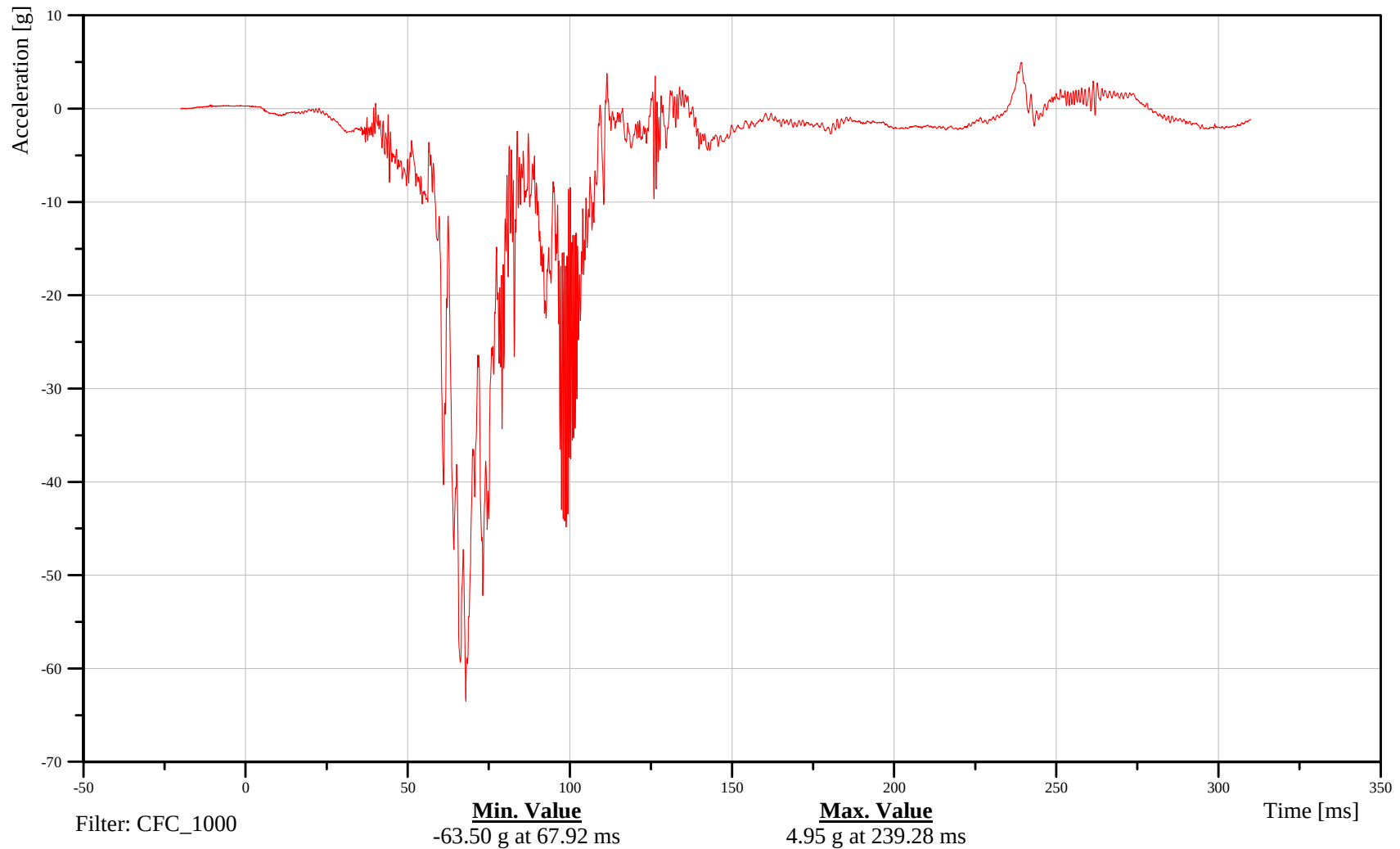
## Left Foot X-Axis Acceleration

Customer: Volpe

# 11FOOTLELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-62

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

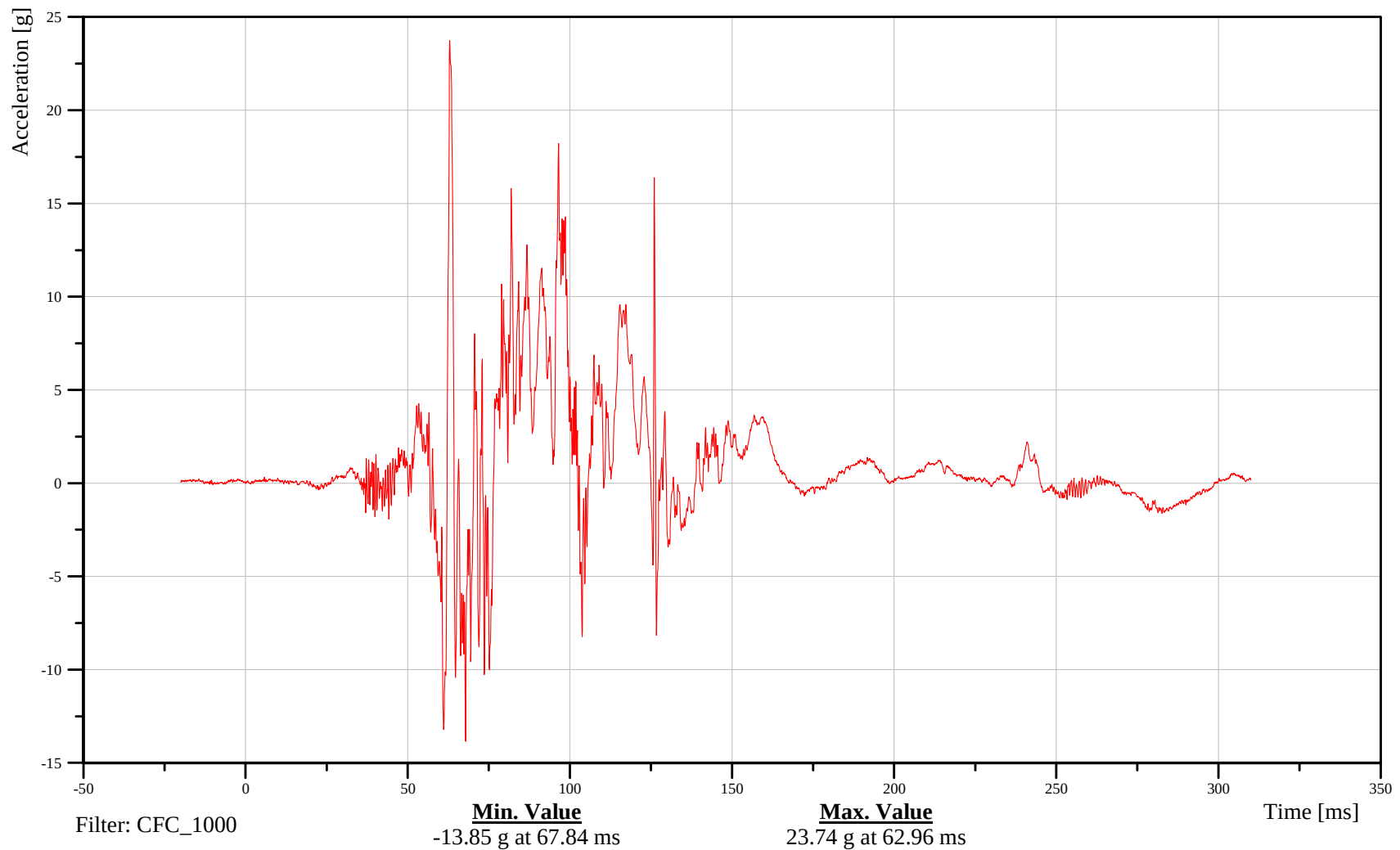
## Left Foot Y-Axis Acceleration

Customer: Volpe

# 11FOOTLELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-63

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

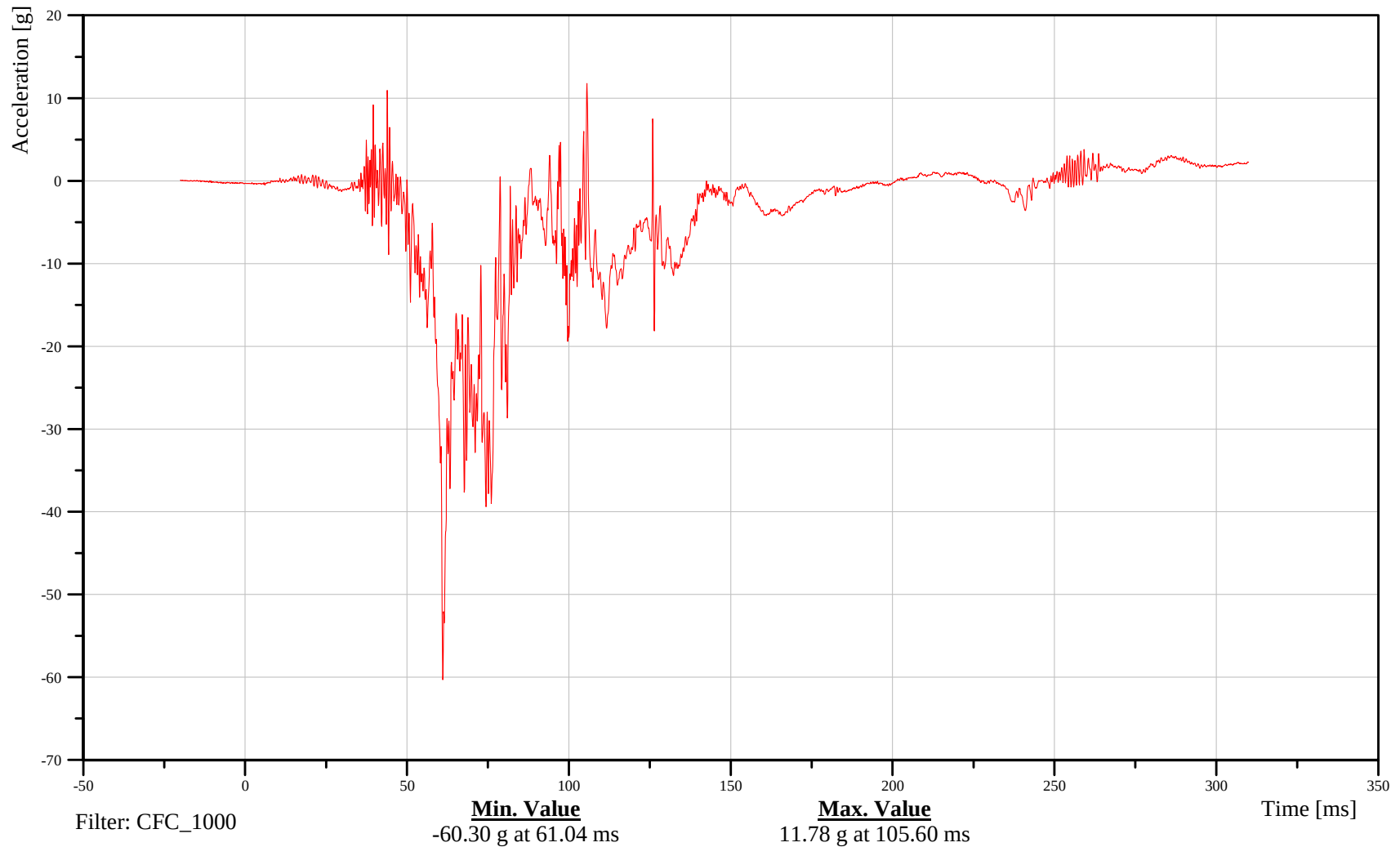
## Left Foot Z-Axis Acceleration

Customer: Volpe

# 11FOOTLELXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-64

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

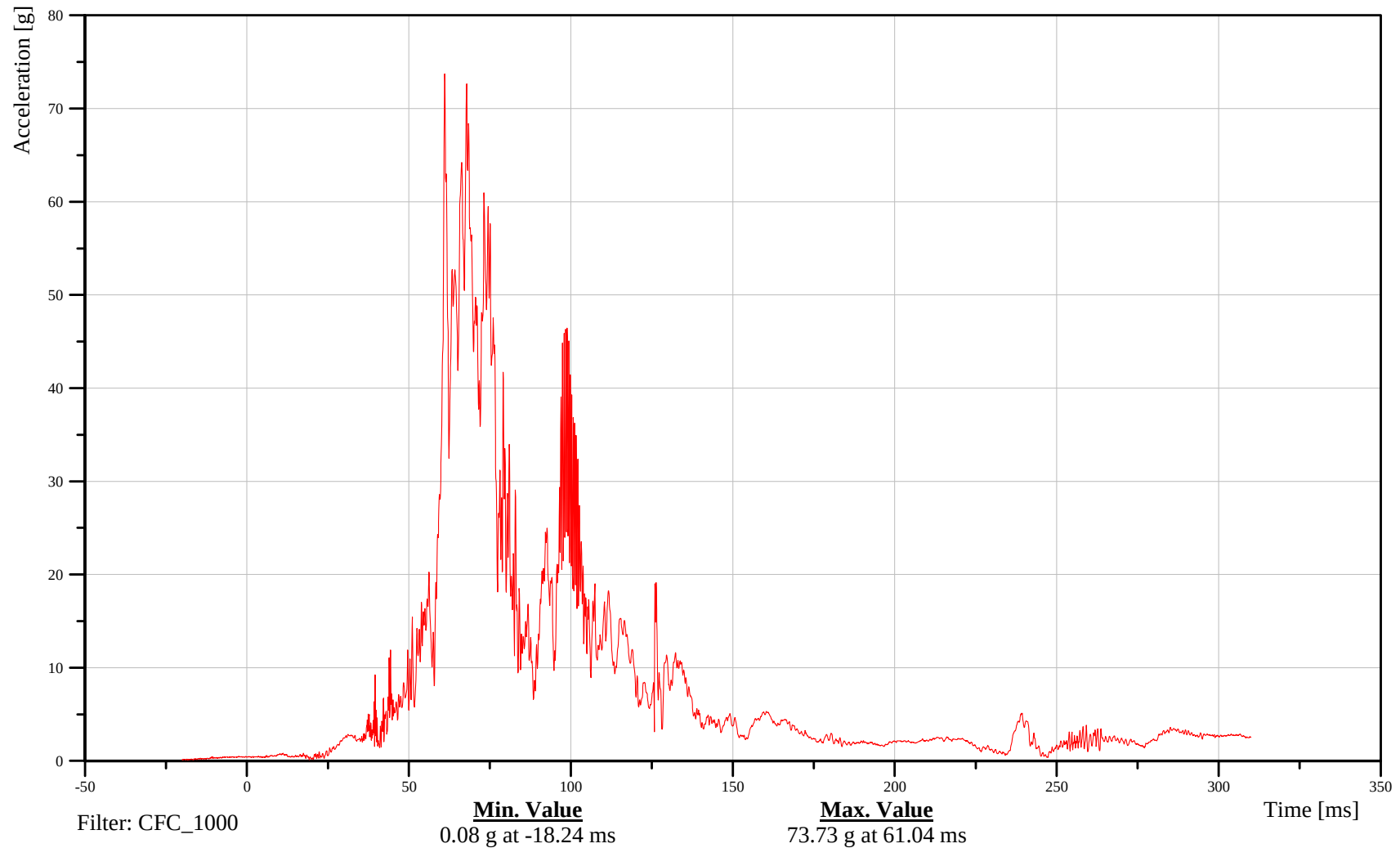
## Left Foot Resultant Acceleration

Customer: Volpe

# 11FOOTLELXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-65

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

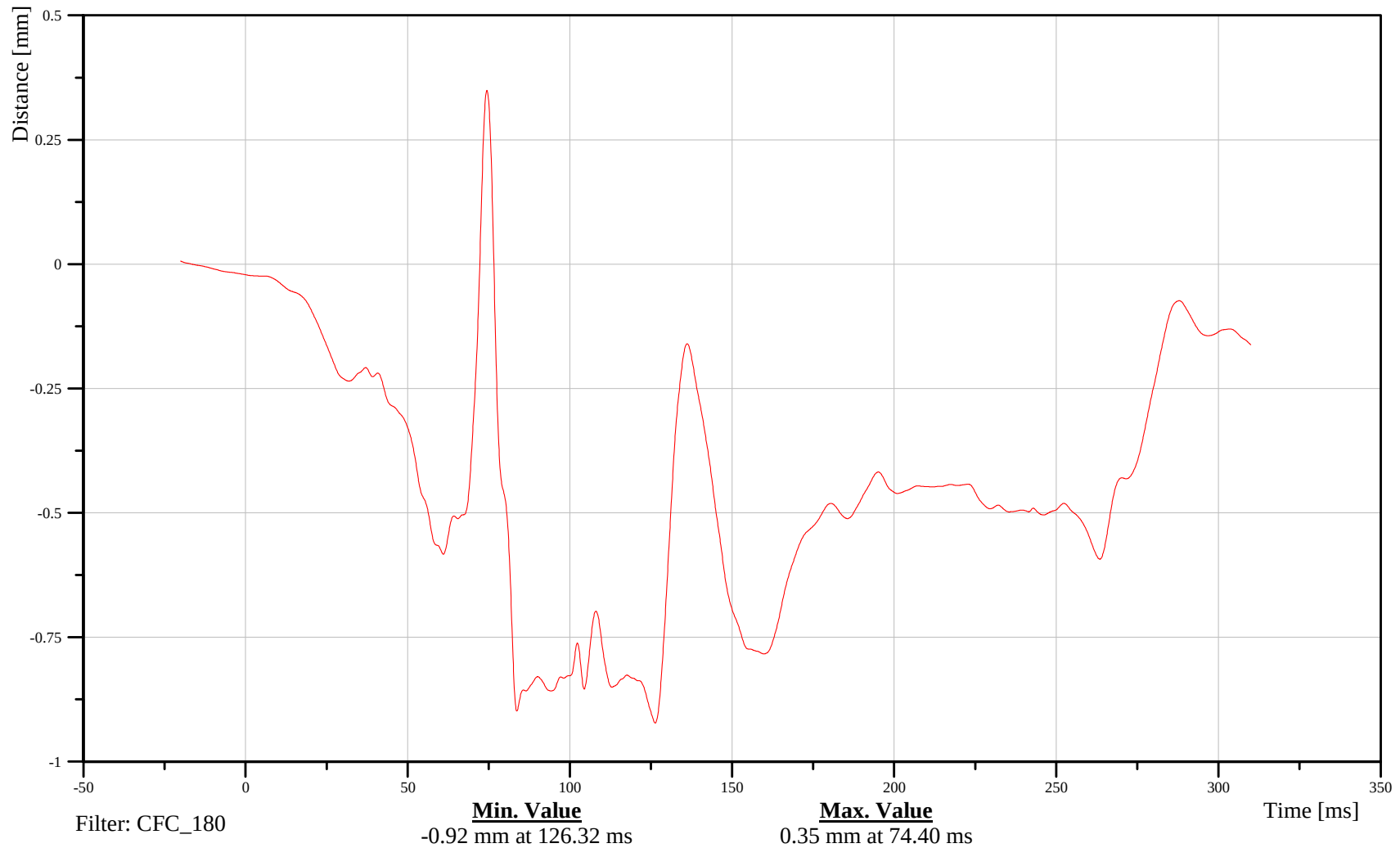
## Right Knee Displacement

Customer: Volpe

11KNSLRI00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-66

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

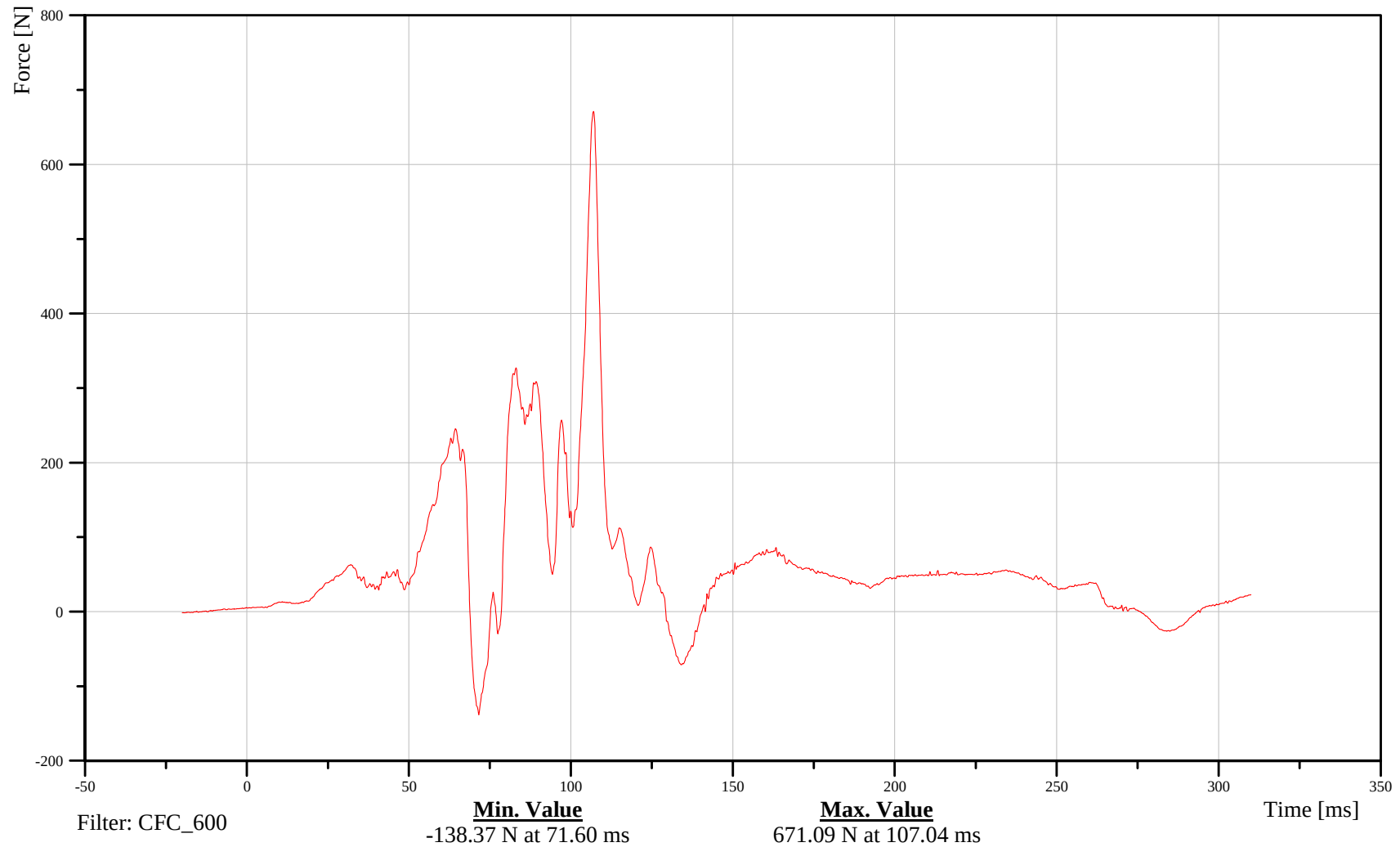
Right Upper Tibia X-Axis Force

Customer: Volpe

## 11TIBIRULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-67

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

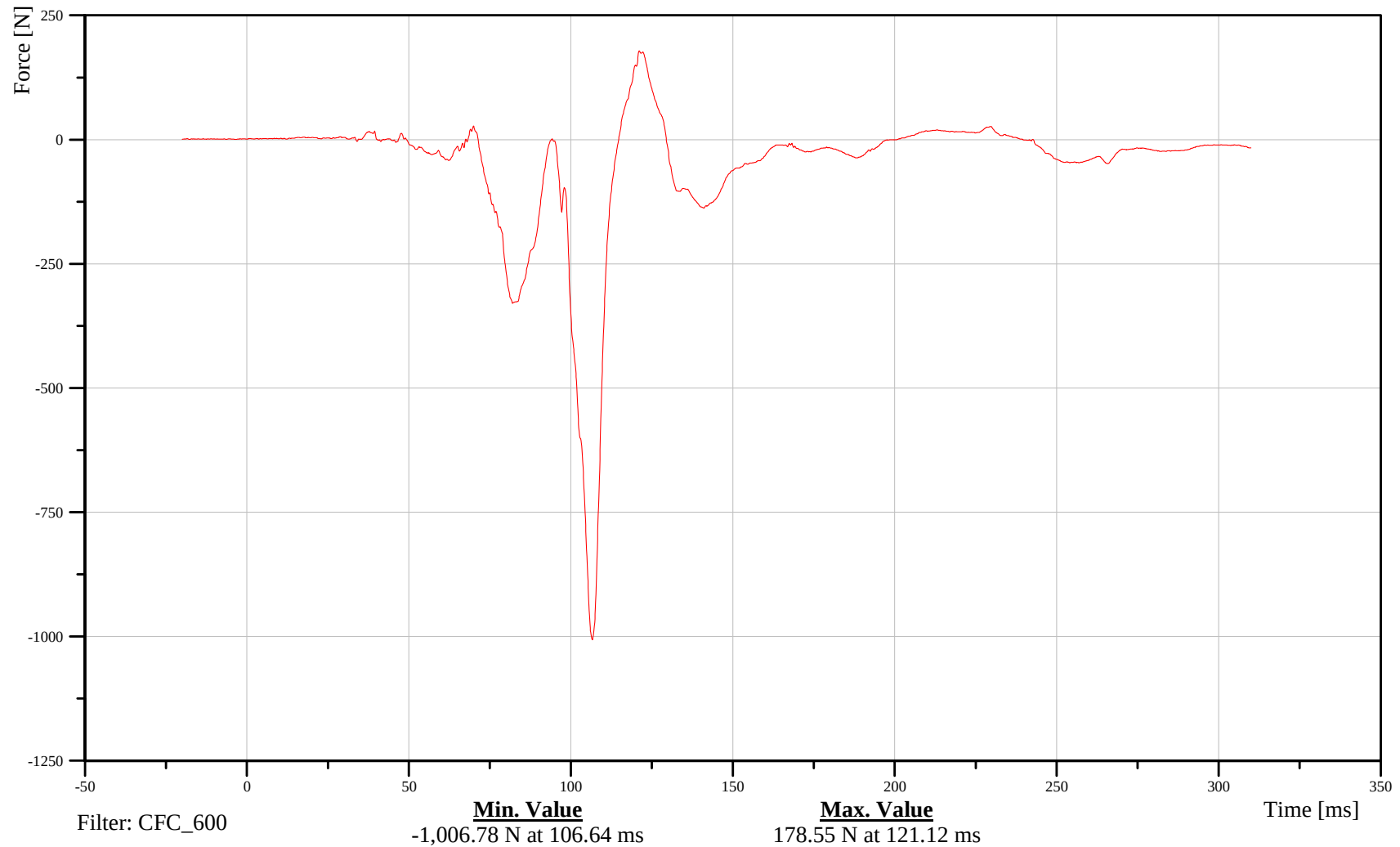
## Right Upper Tibia Y-Axis Force

Customer: Volpe

### 11TIBIRLUXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-68

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

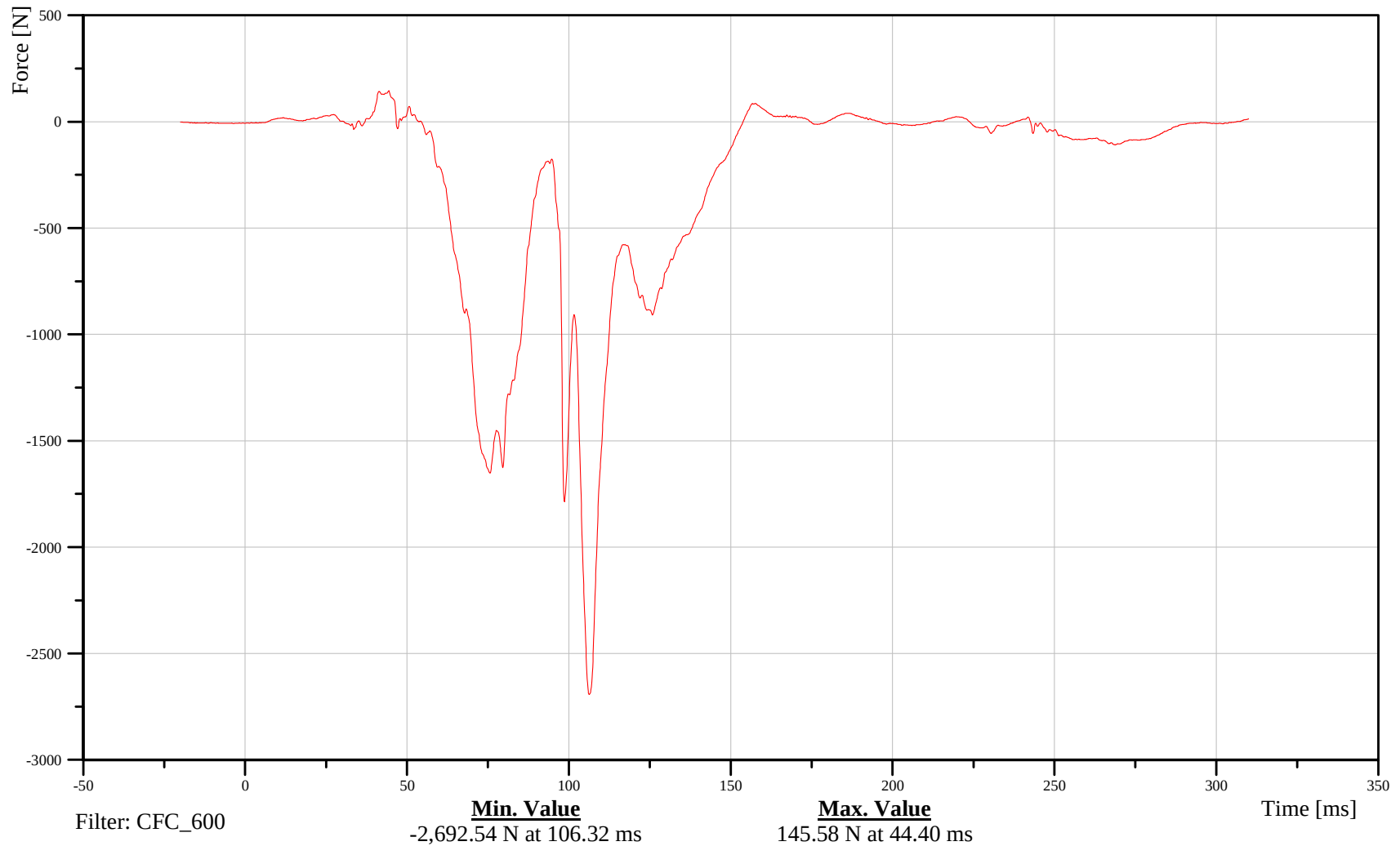
Right Upper Tibia Z-Axis Force

Customer: Volpe

## 11TIBIRULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-69

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

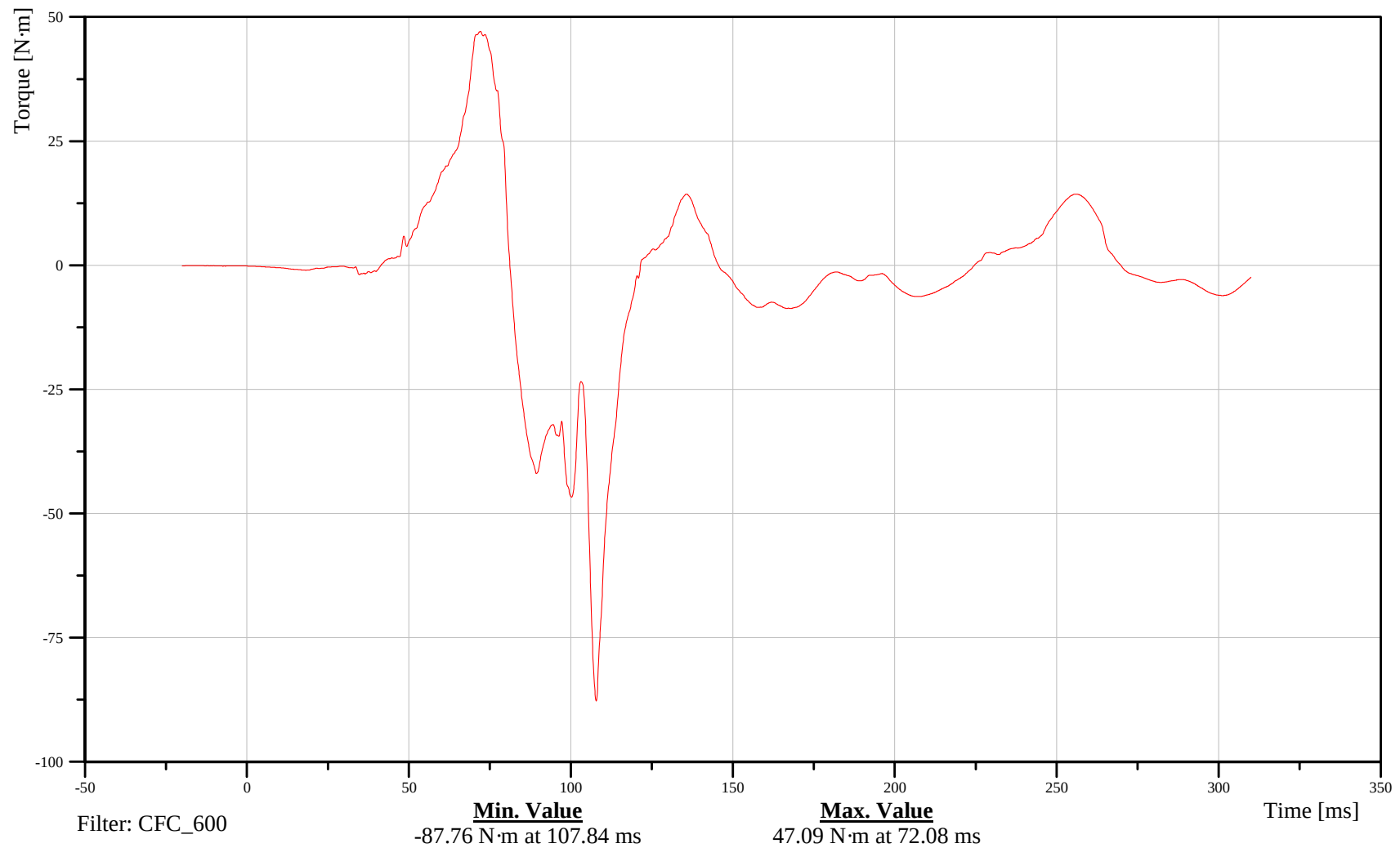
## Right Upper Tibia Moment About X Axis

Customer: Volpe

### 11TIBIRULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-70

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

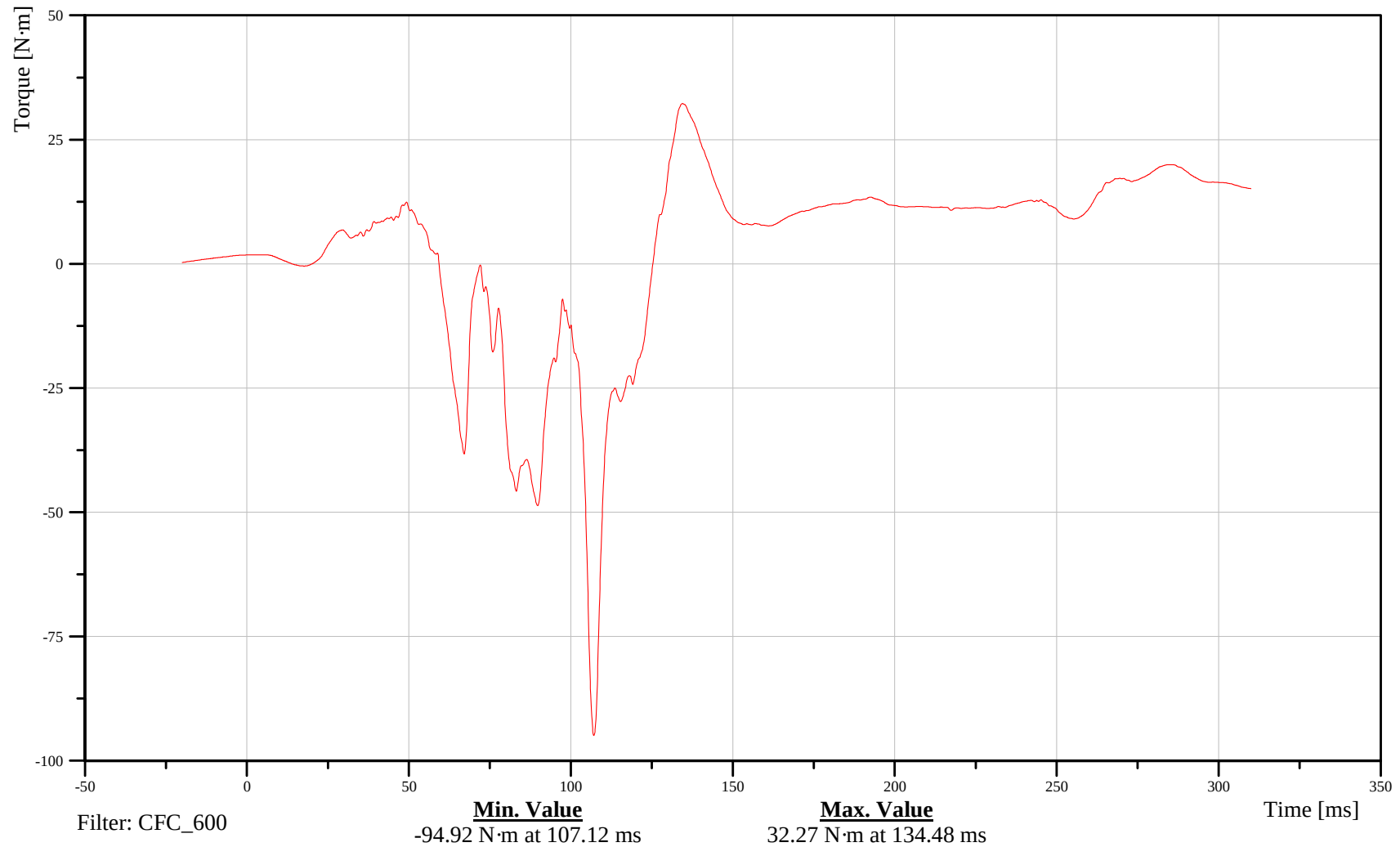
## Right Upper Tibia Moment About Y Axis

Customer: Volpe

### 11TIBIRULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-71

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

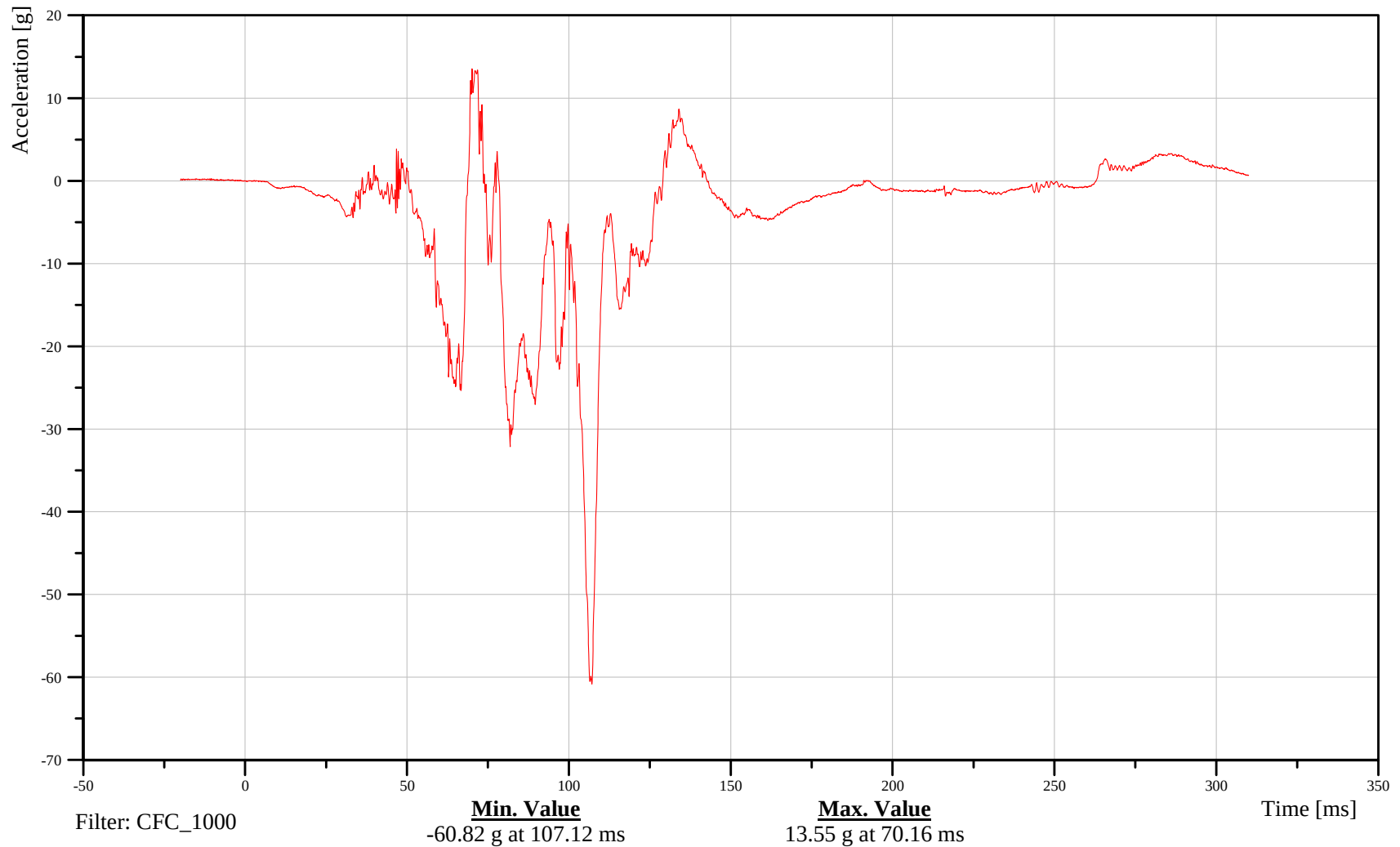
## Right Tibia X-Axis Acceleration

Customer: Volpe

### 11TIBIRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-72

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

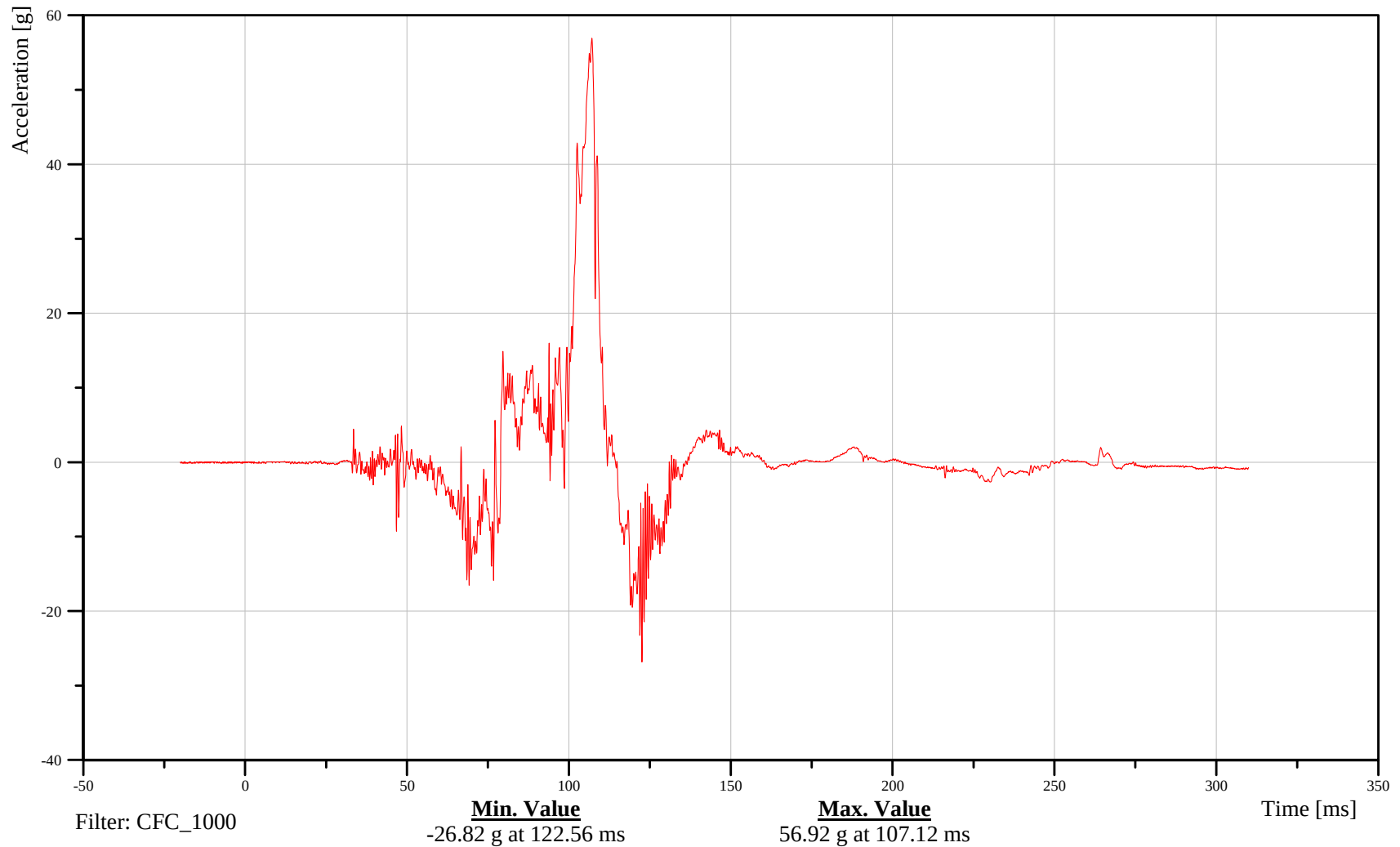
## Right Tibia Y-Axis Acceleration

Customer: Volpe

# 11TIBIRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-73

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

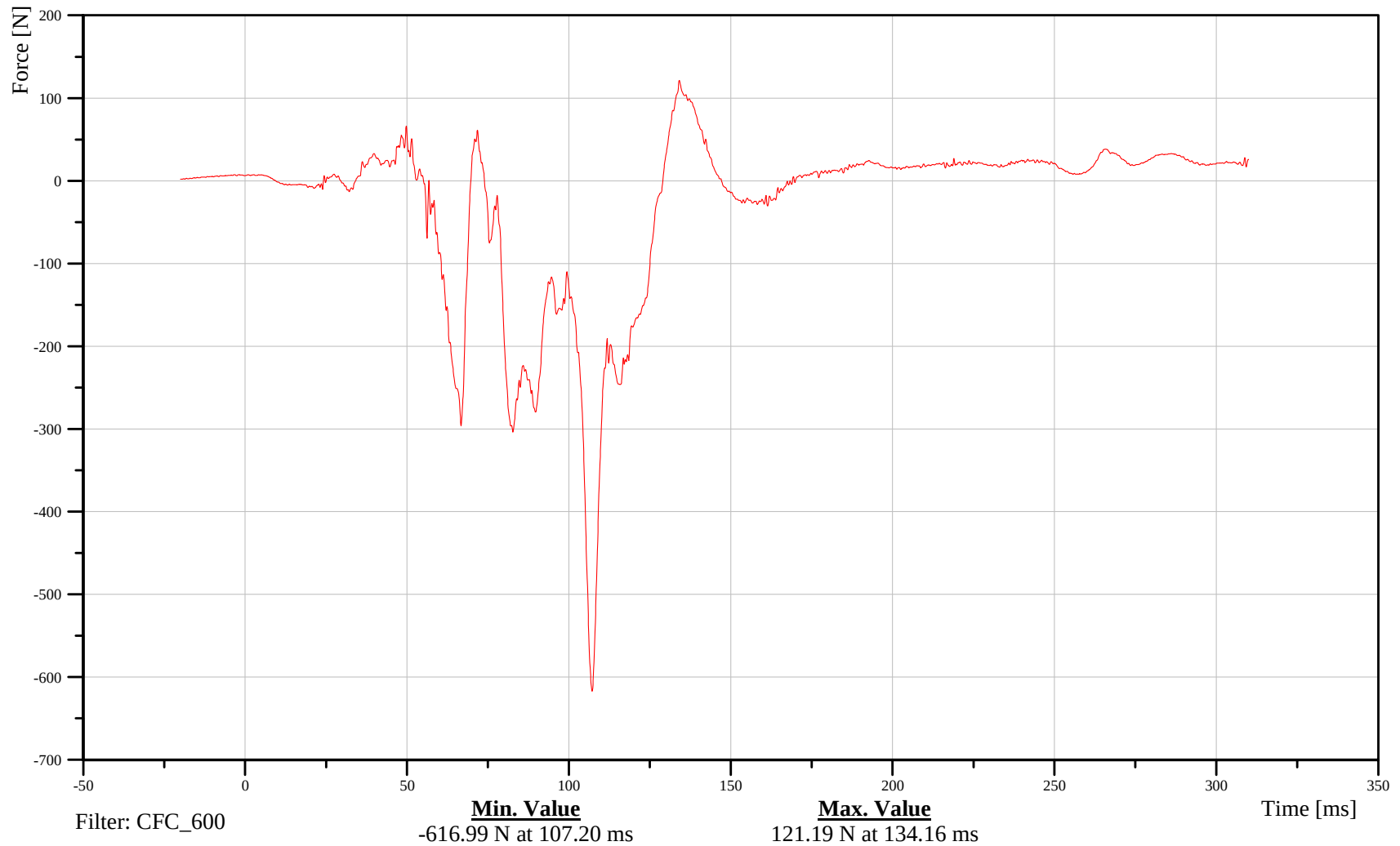
Right Lower Tibia X-Axis Force

Customer: Volpe

## 11TIBIRLLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-74

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

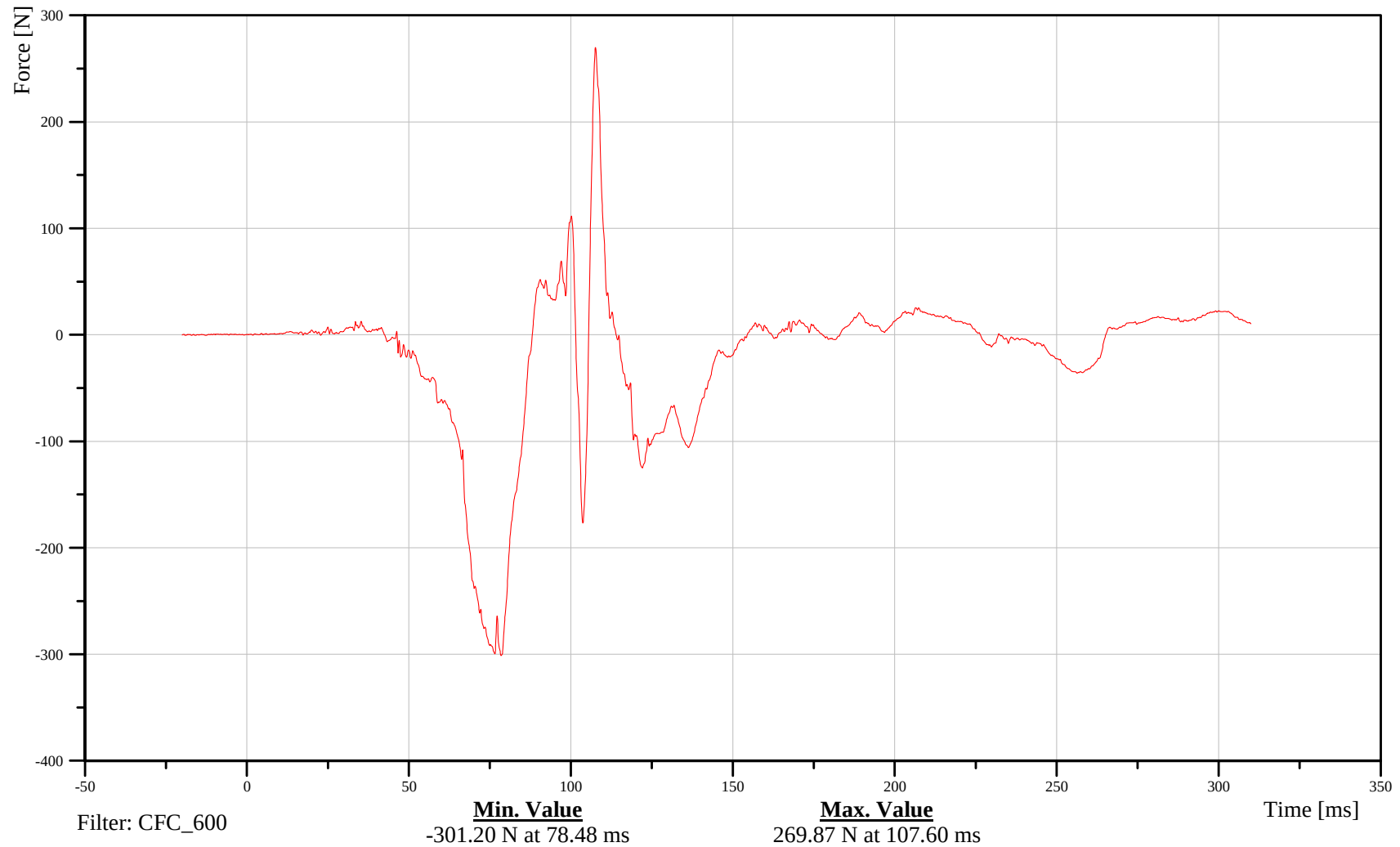
Right Lower Tibia Y-Axis Force

Customer: Volpe

## 11TIBIRLLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-75

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

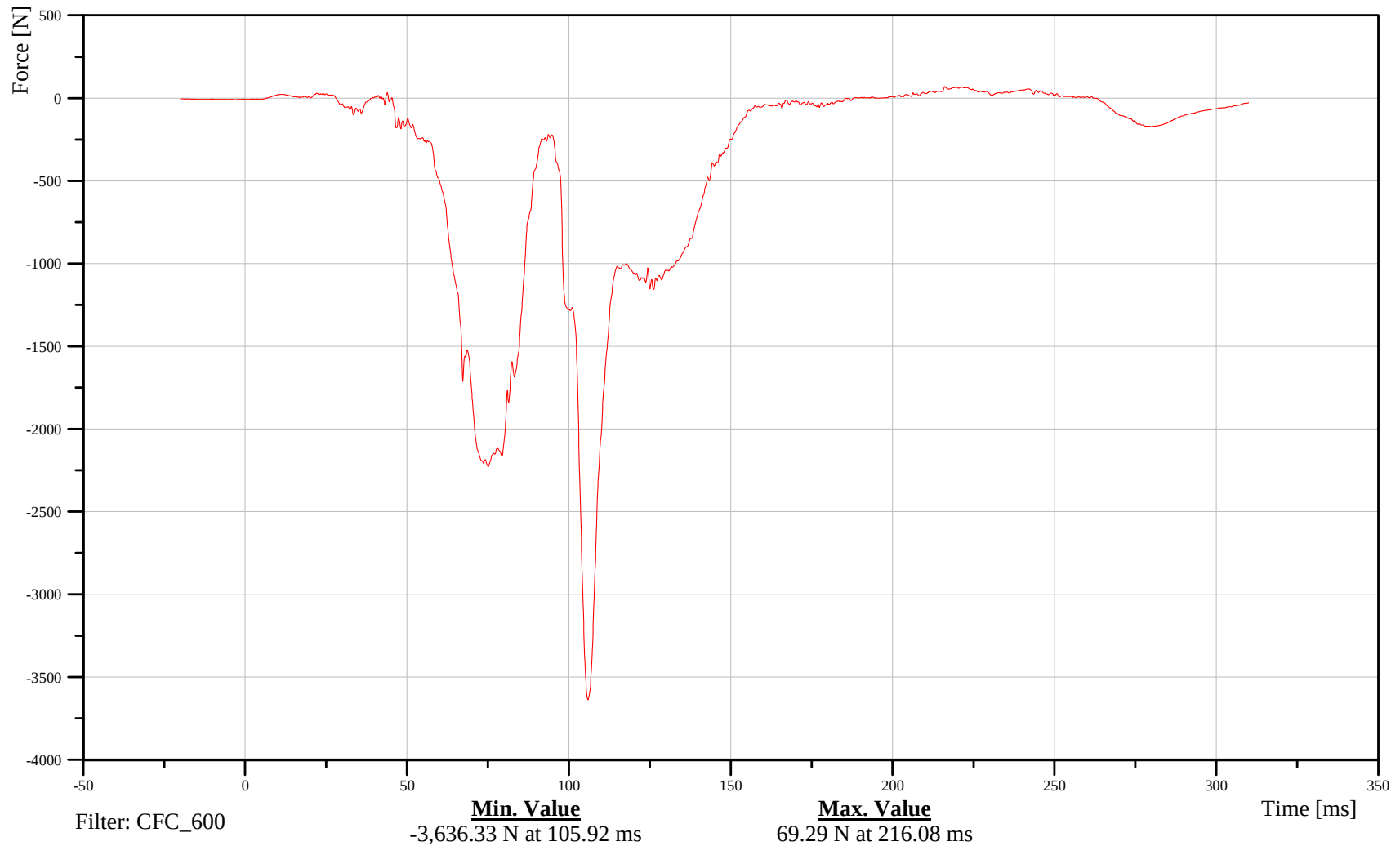
## Right Lower Tibia Z-Axis Force

Customer: Volpe

### 11TIBIRLLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-76

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

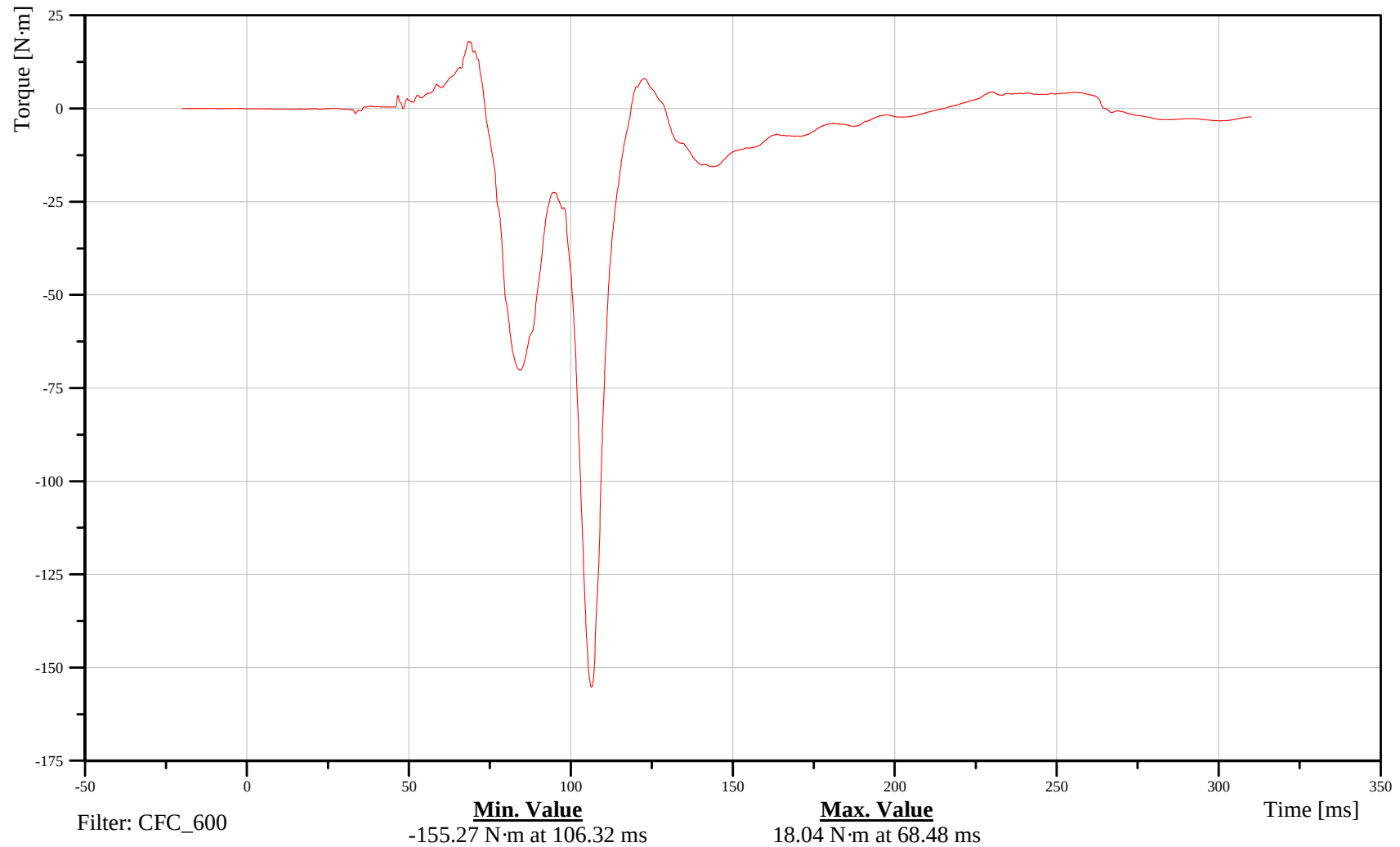
Right Lower Tibia Moment About X Axis

Customer: Volpe

## 11TIBIRLLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-77

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

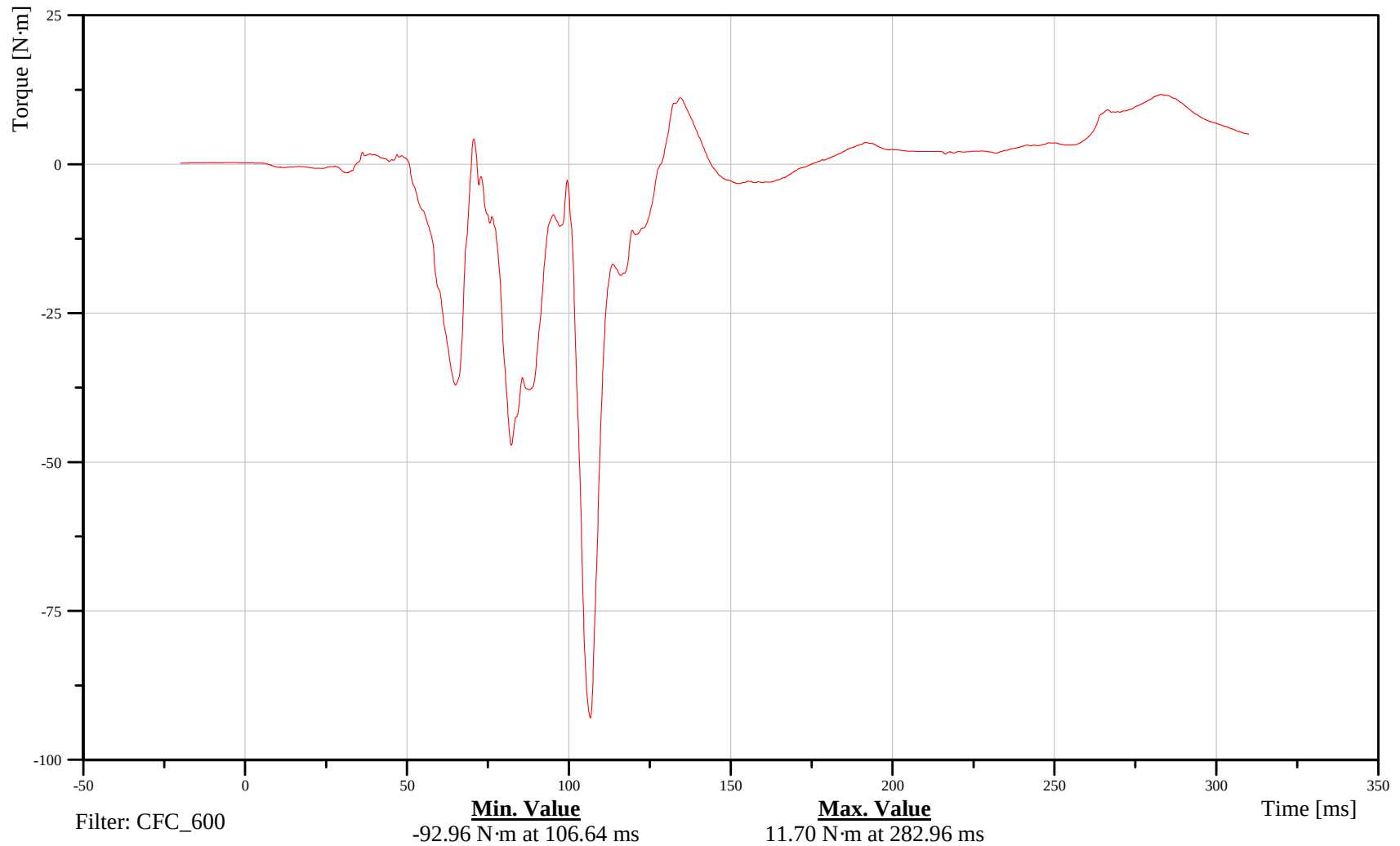
Right Lower Tibia Moment About Y Axis

Customer: Volpe

## 11TIBIRLLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-78

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

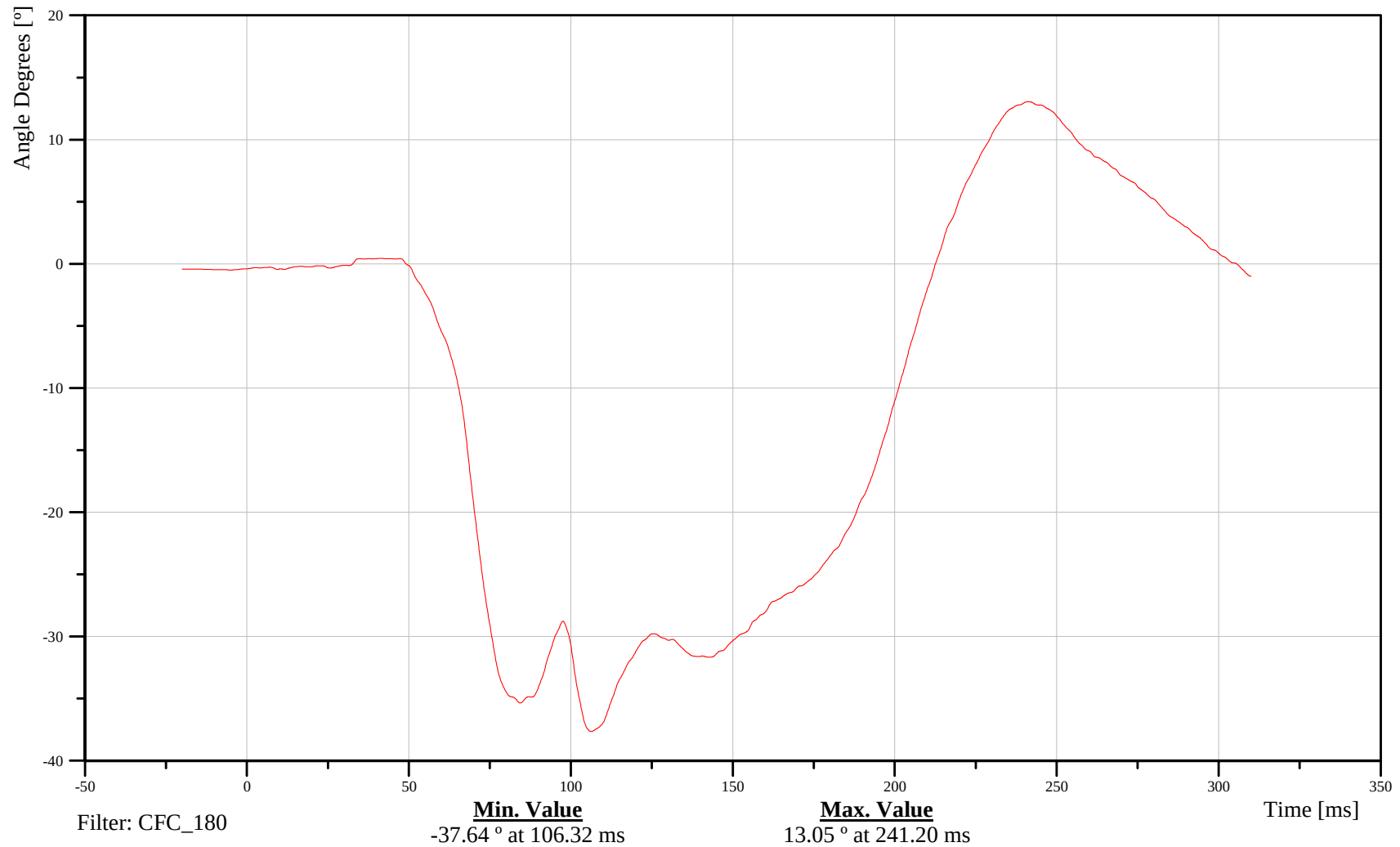
## Right Foot X-Axis Rotation

Customer: Volpe

# 11FOOTRILXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-79

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

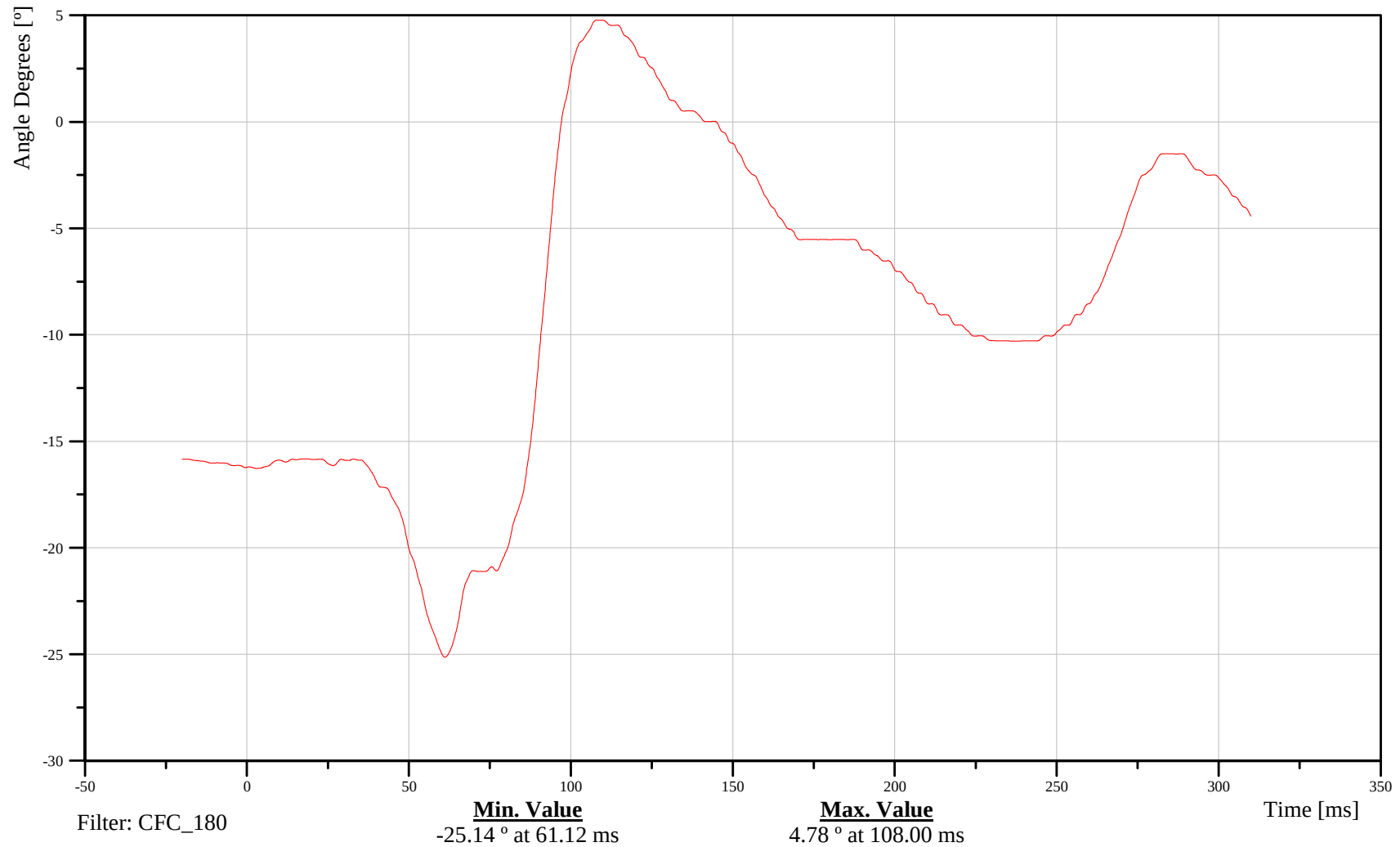
## Right Foot Y-Axis Rotation

Customer: Volpe

# 11FOOTRILXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-80

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

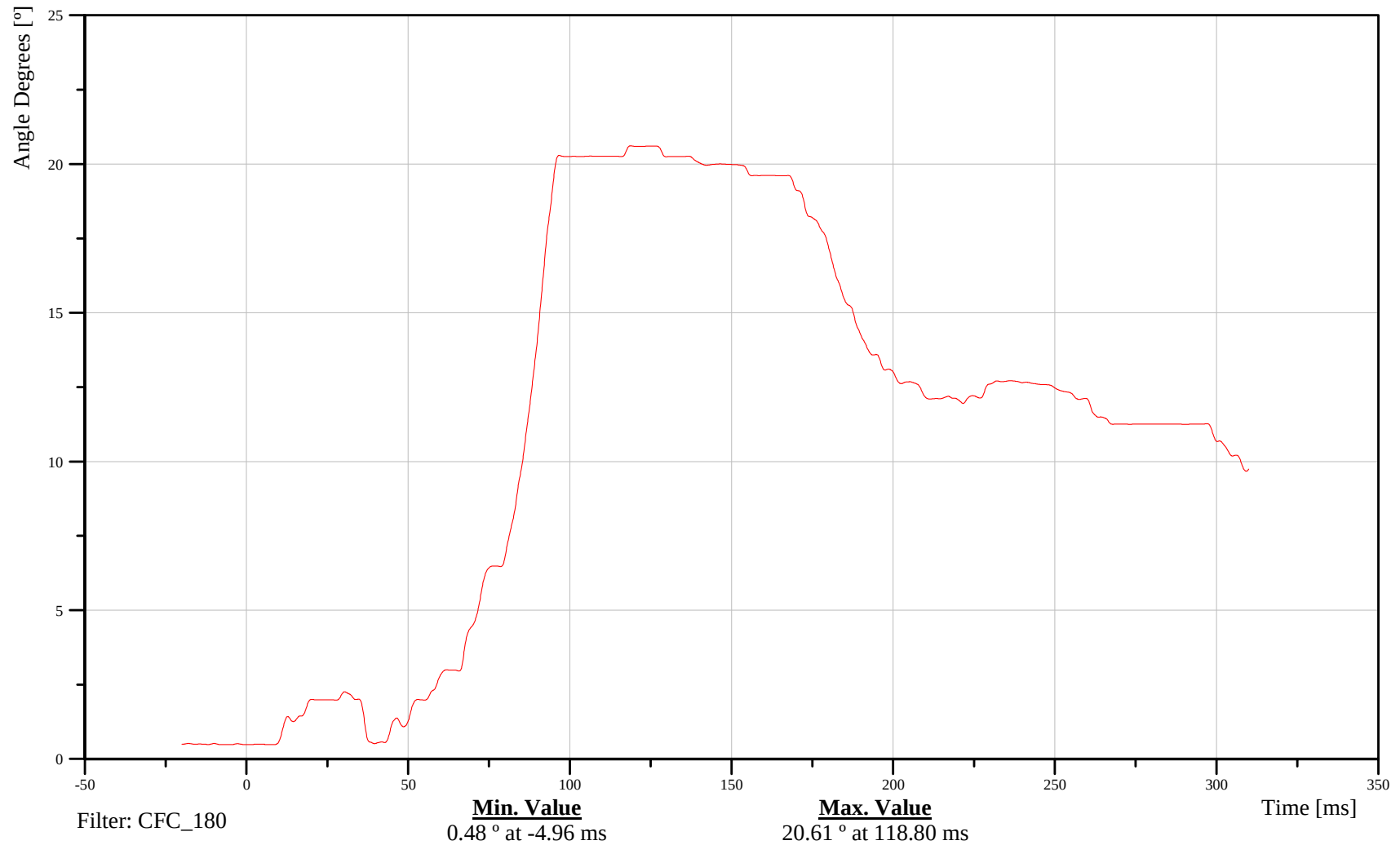
## Right Foot Z-Axis Rotation

Customer: Volpe

# 11FOOTRILXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-81

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

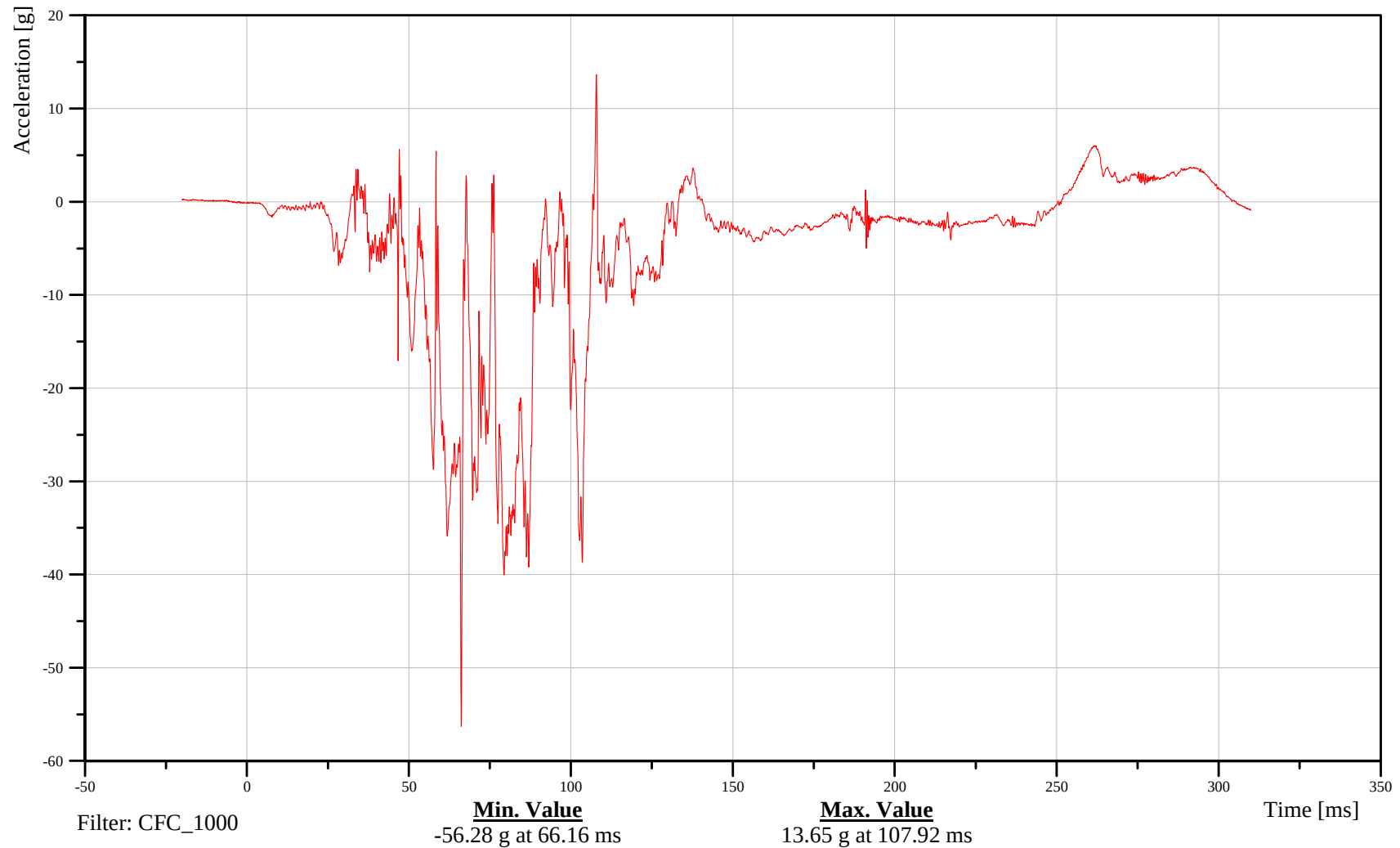
## Right Foot X-Axis Acceleration

Customer: Volpe

# 11FOOTRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-82

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

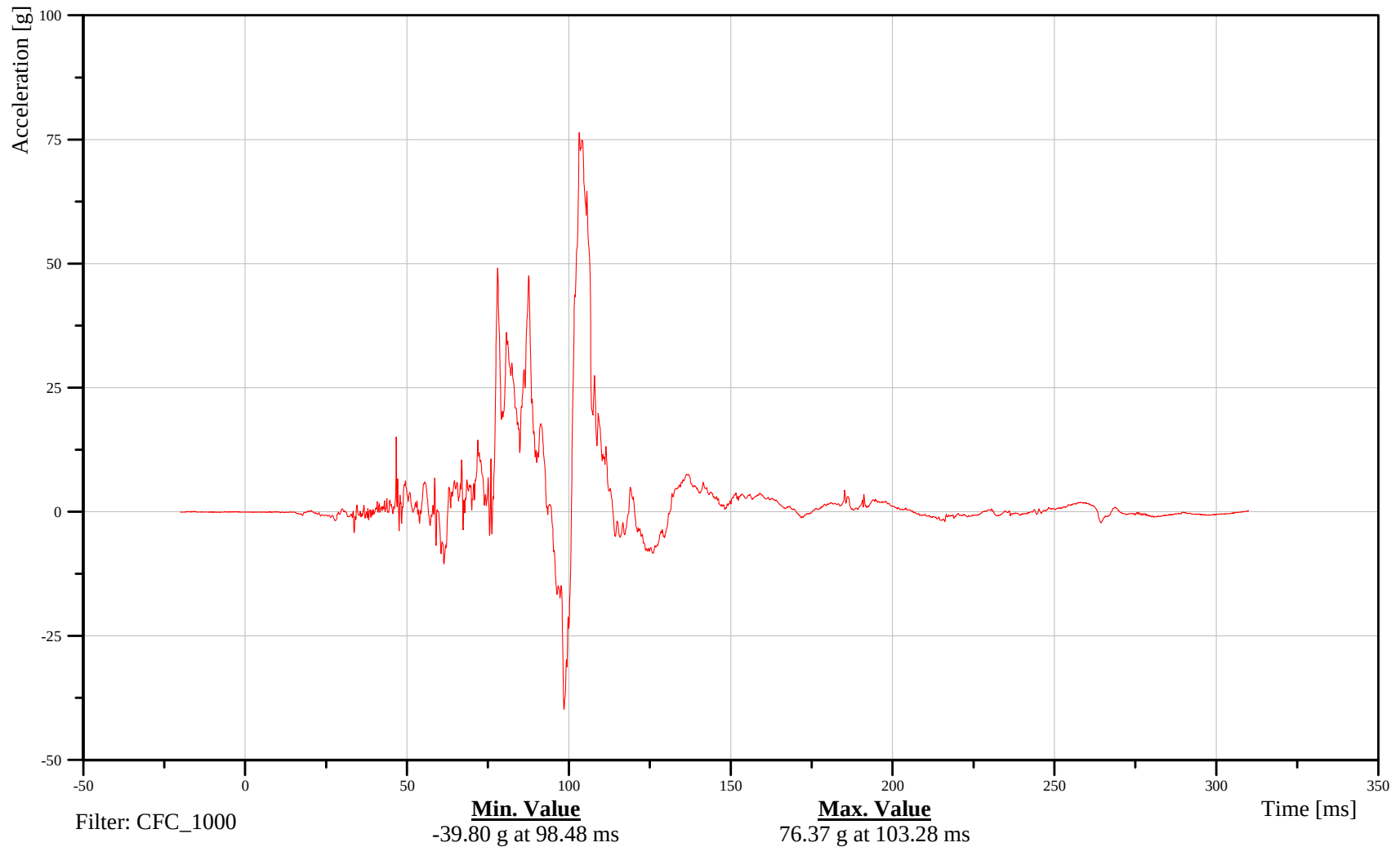
## Right Foot Y-Axis Acceleration

Customer: Volpe

# 11FOOTRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-83

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

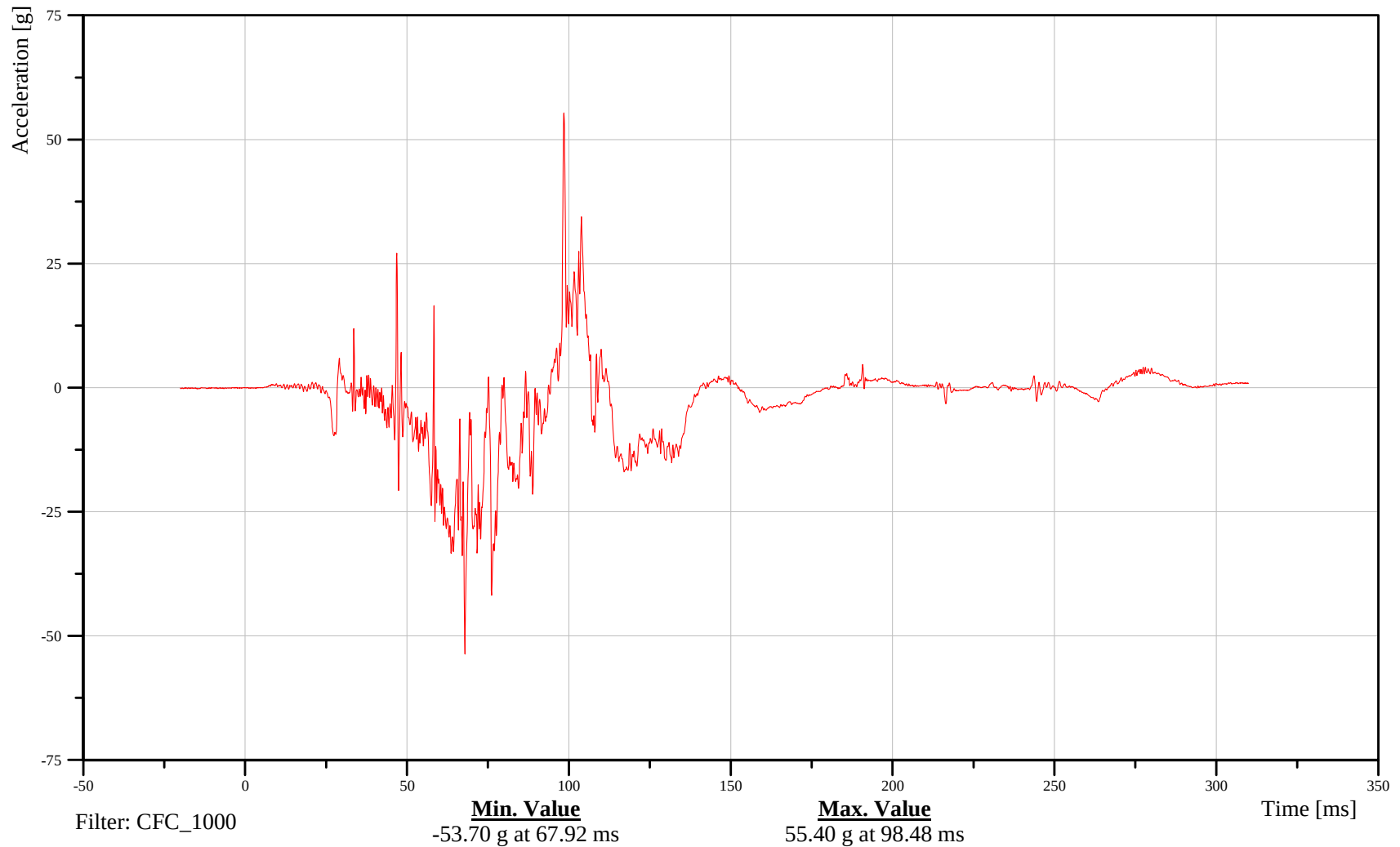
## Right Foot Z-Axis Acceleration

Customer: Volpe

# 11FOOTRILXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-84

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

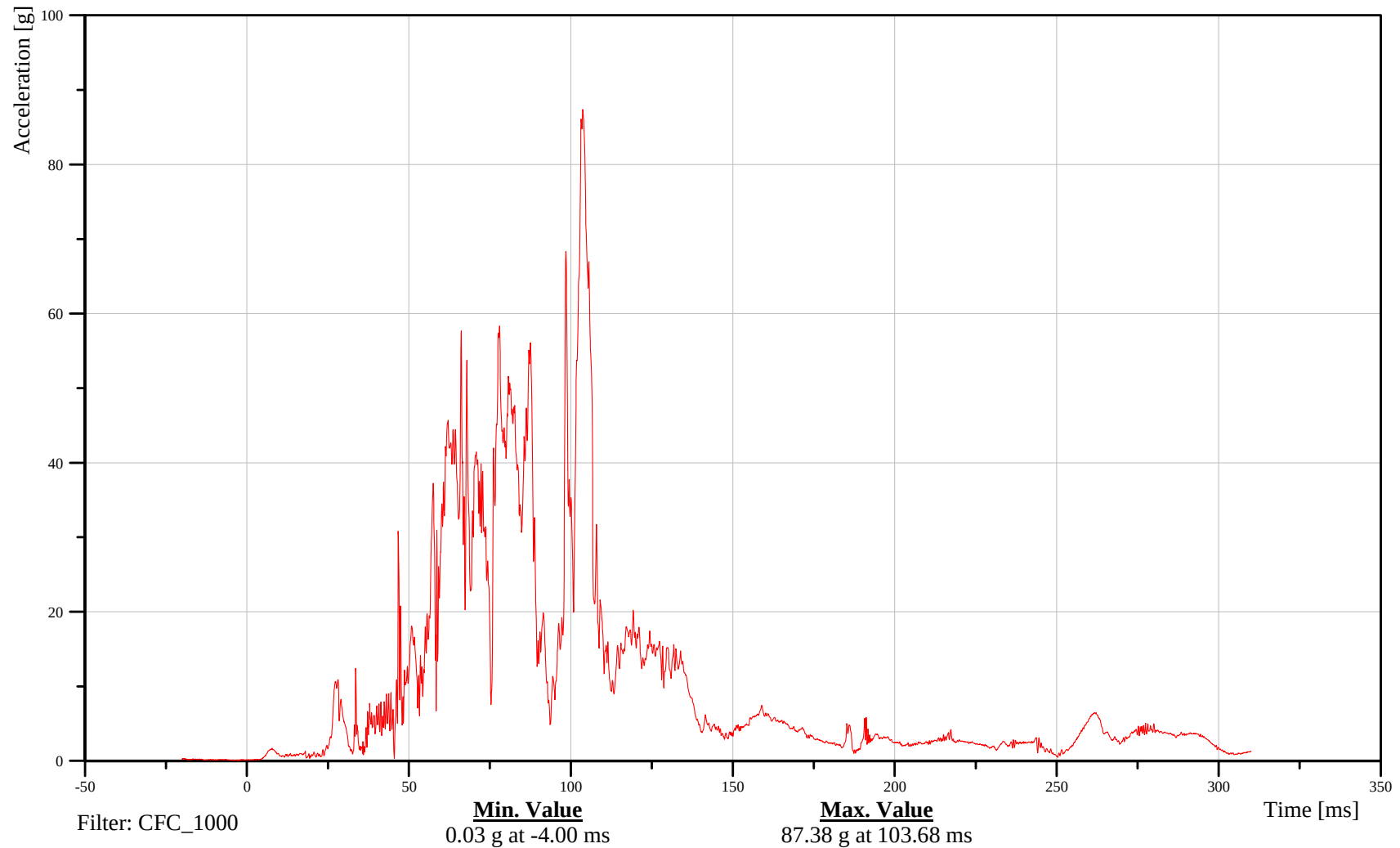
## Right Foot Resultant Acceleration

Customer: Volpe

# 11FOOTRILXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-85

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

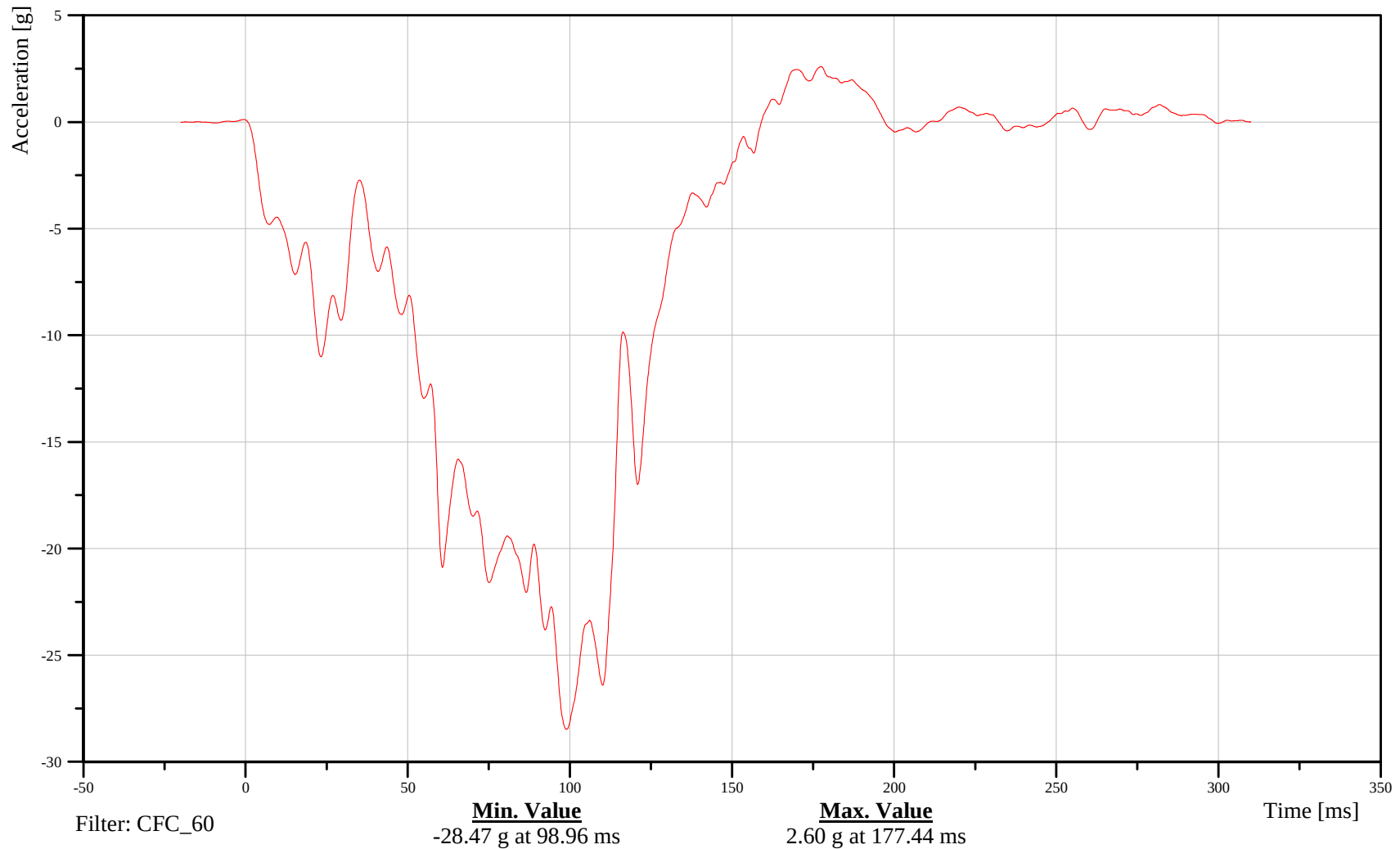
## Left Rear Seat Cross-Member X-Axis Acceleration

Customer: Volpe

14CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-86

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006

Time: 13:15

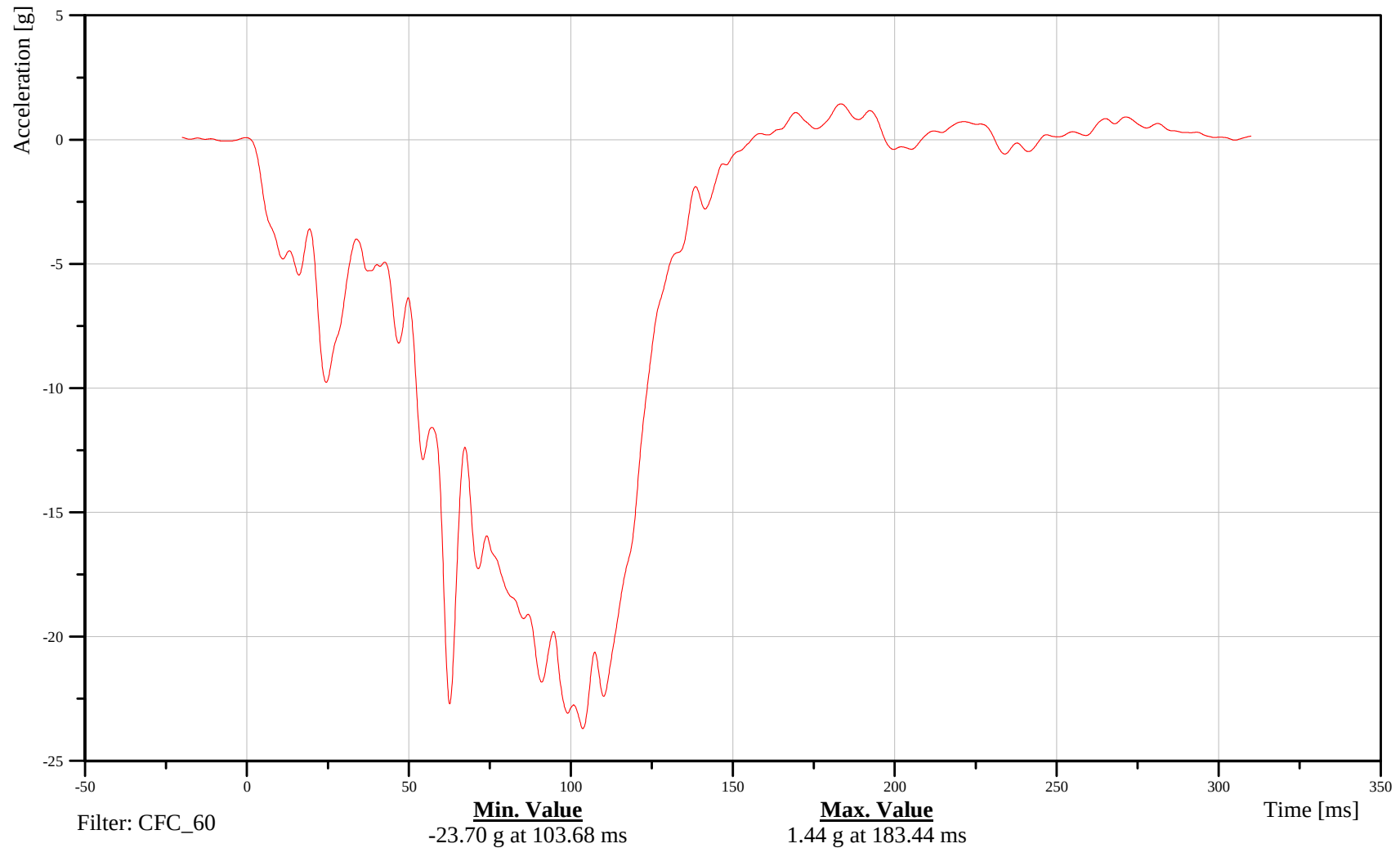
## Right Rear Seat Cross-Member X-Axis Acceleration

Customer: Volpe

16CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-87

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

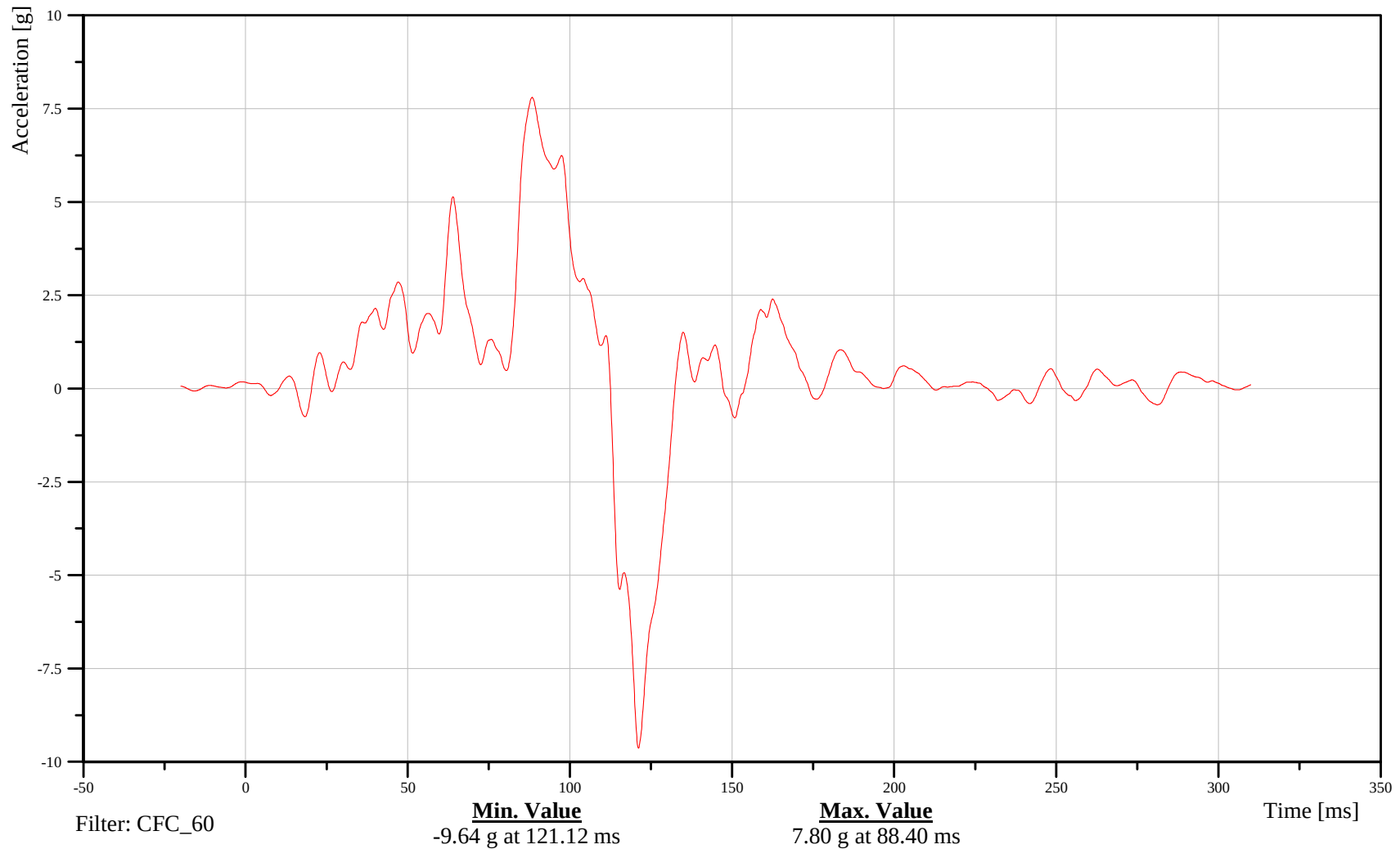
## Left Rear Seat Cross-Member Y-Axis Acceleration

Customer: Volpe

14CRME000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-88

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

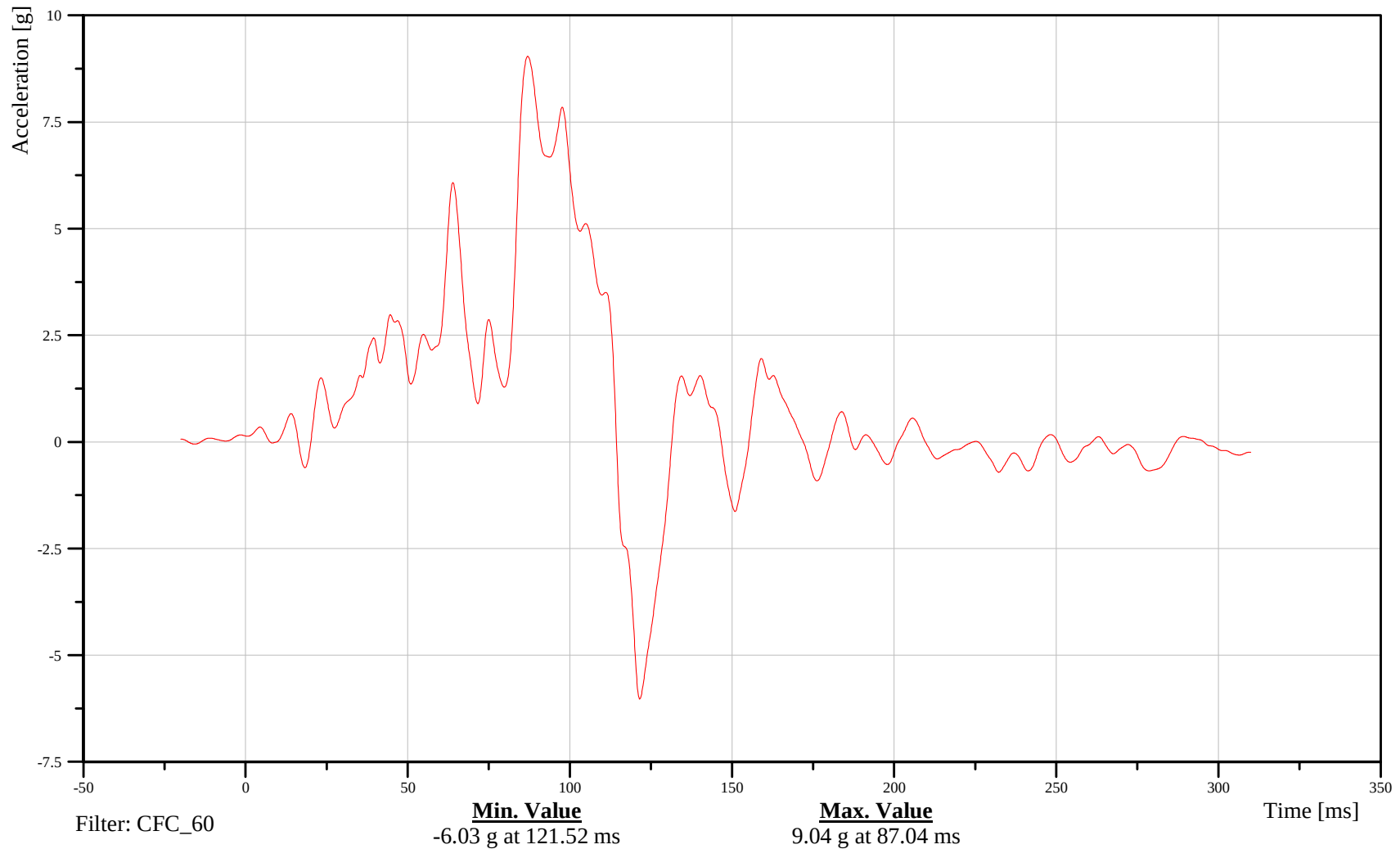
## Right Rear Seat Cross-Member Y-Axis Acceleration

Customer: Volpe

16CRME000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-89

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

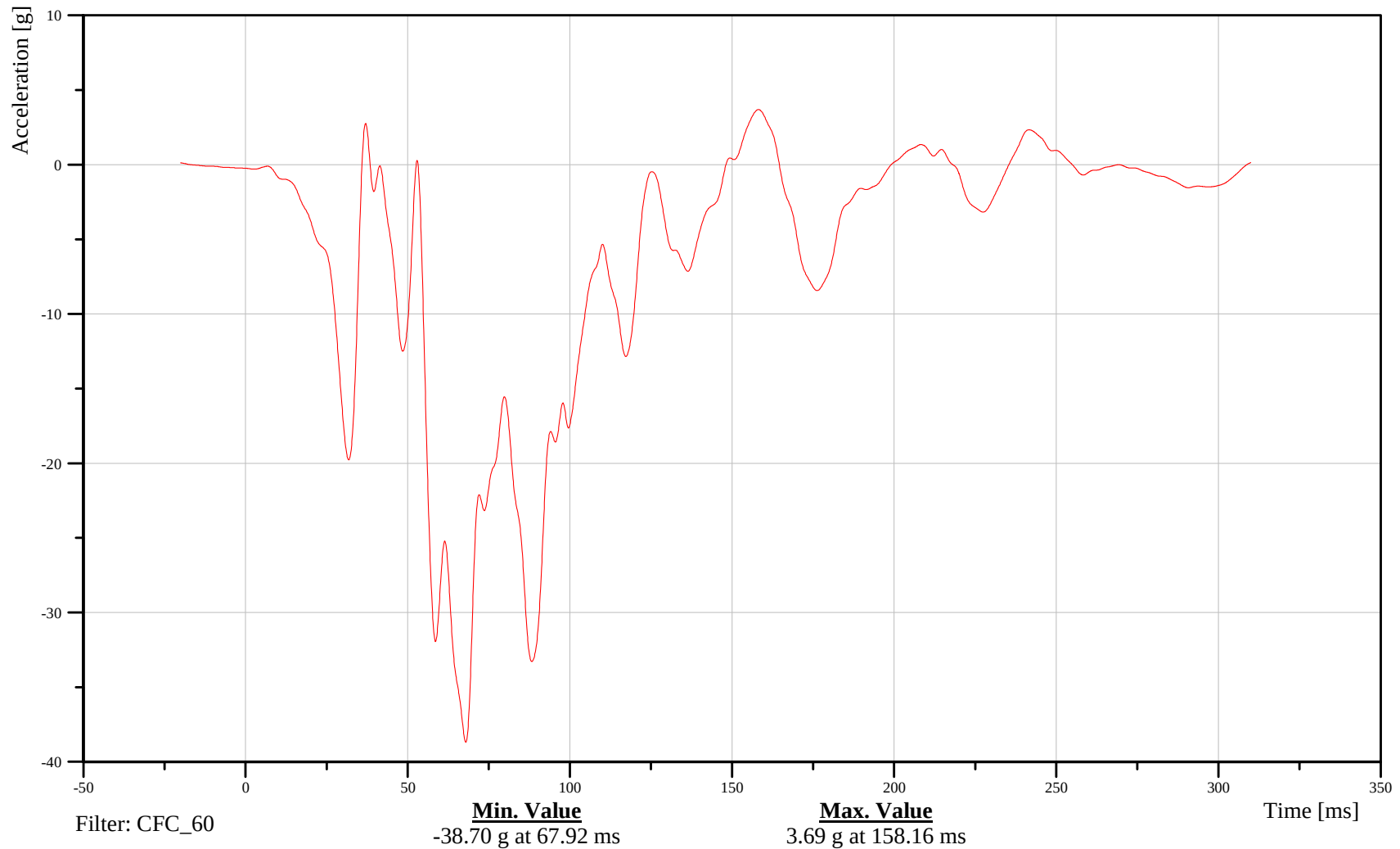
Top of Engine Block X-Axis Acceleration

Customer: Volpe

## 12ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-90

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

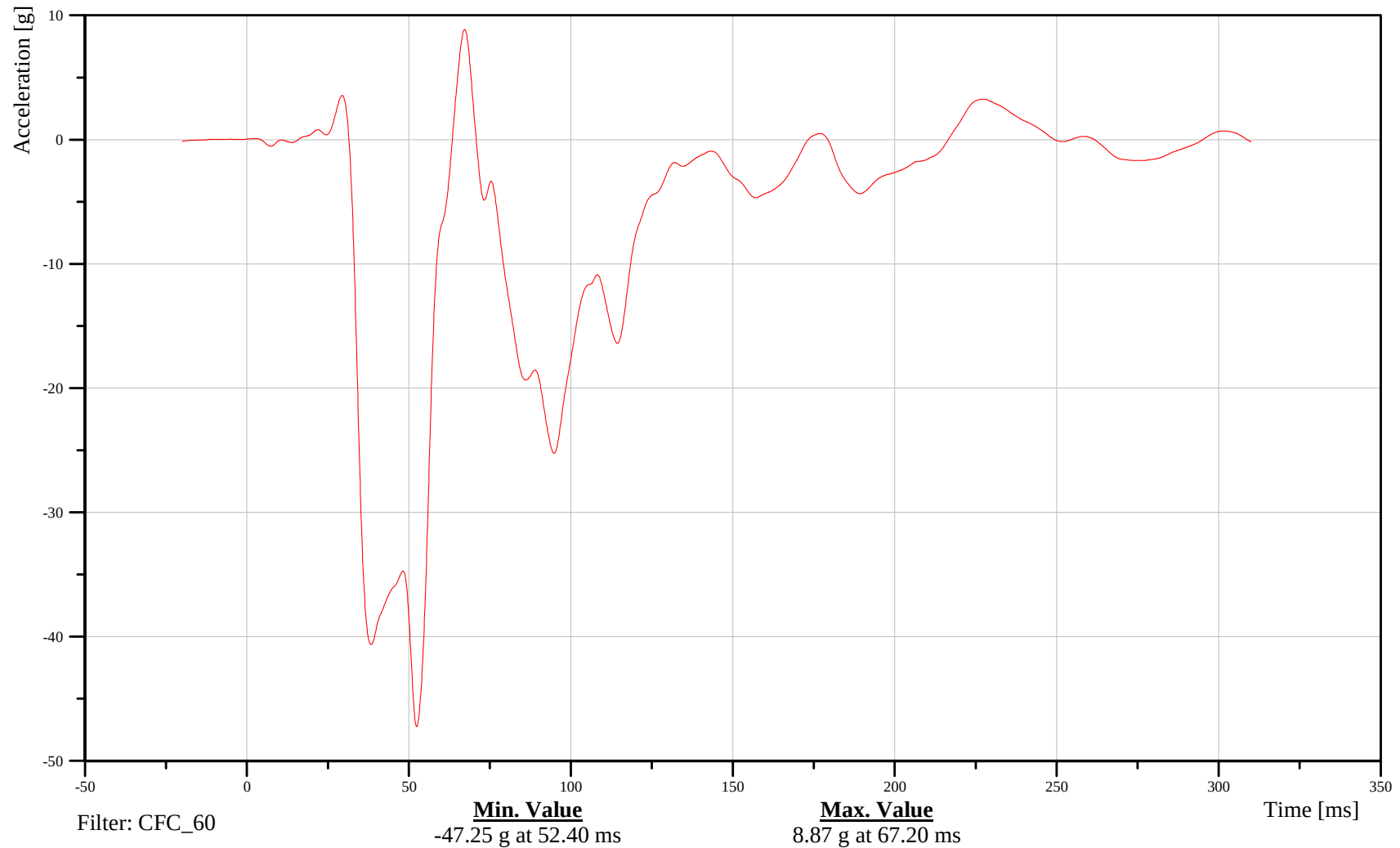
## Bottom of Engine Block X-Axis Acceleration

Customer: Volpe

12ENGNB00000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-91

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

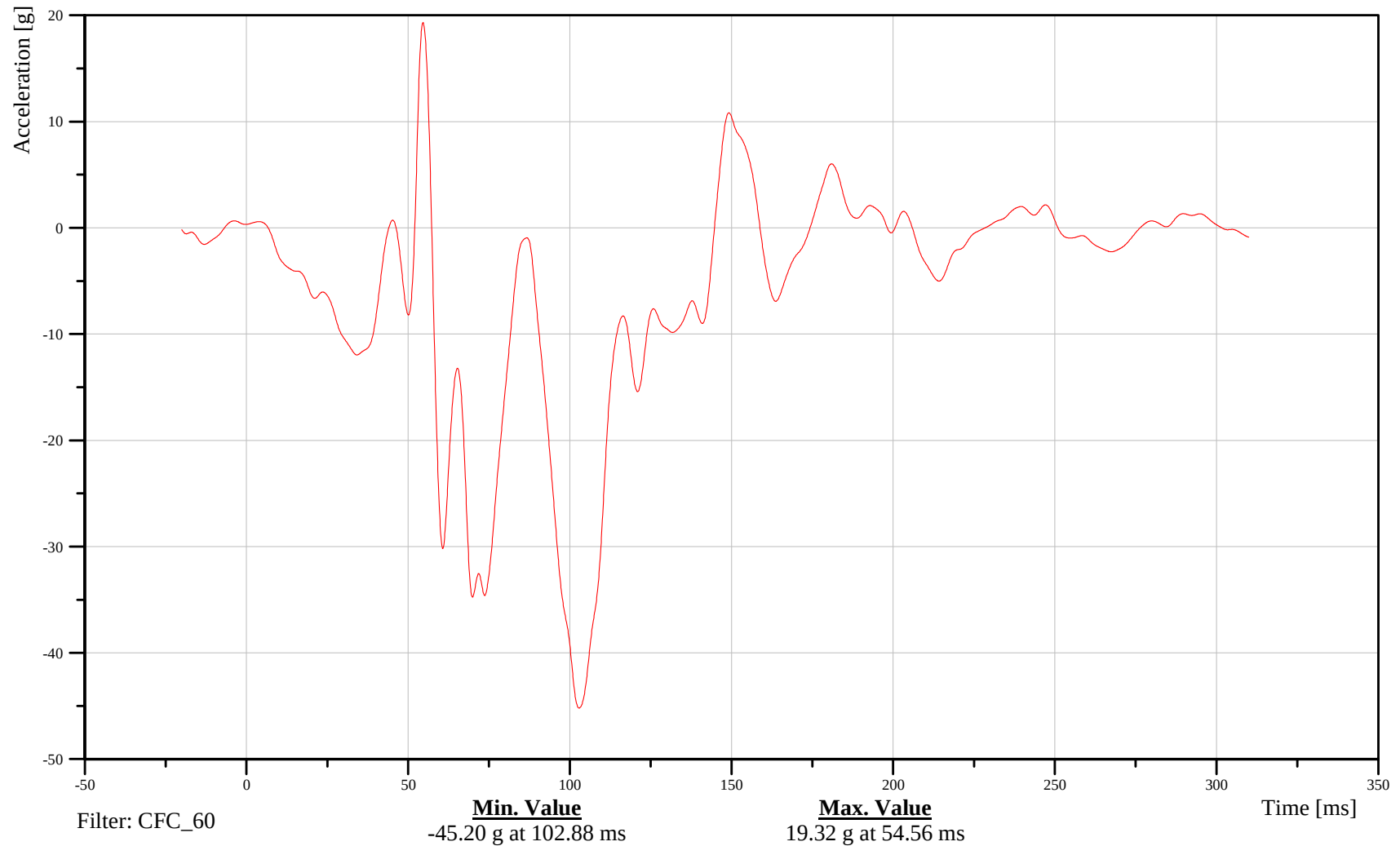
## Right Brake Caliper X-Axis Acceleration

Customer: Volpe

13VEHCRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-92

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

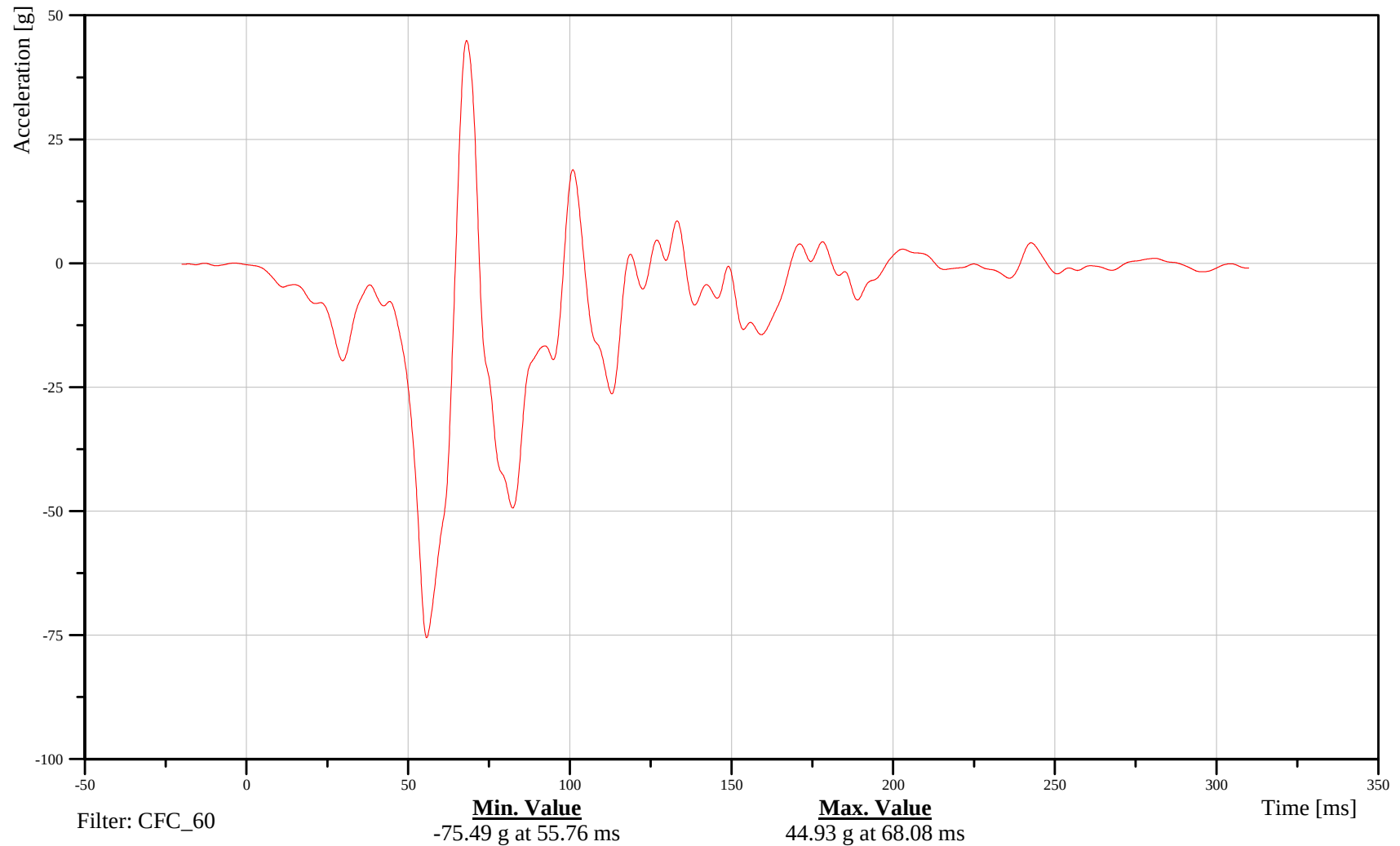
## Left Brake Caliper X-Axis Acceleration

Customer: Volpe

11VEHICLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-93

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

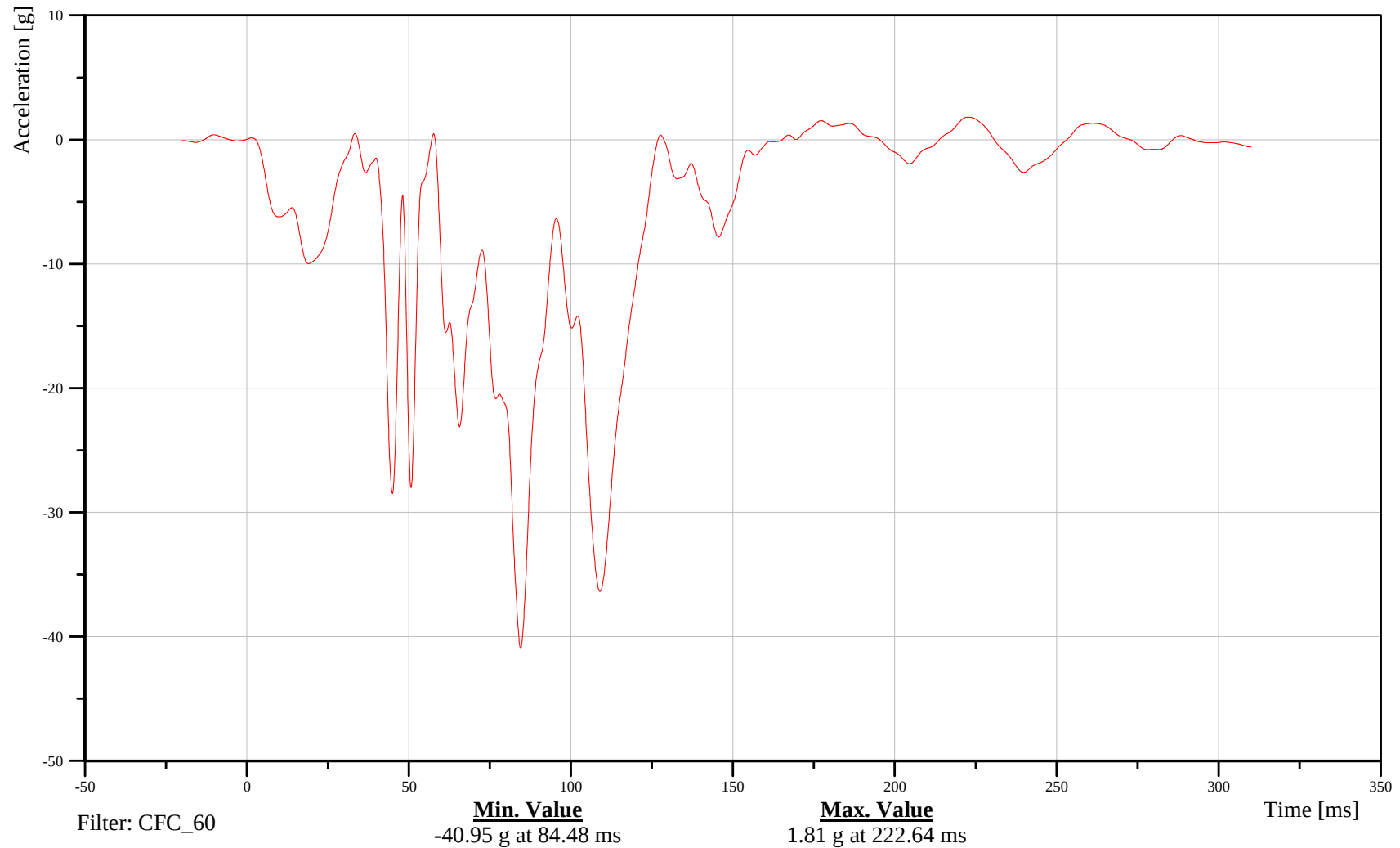
## Instrument Panel X-Axis Acceleration

Customer: Volpe

12DASH000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-94

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

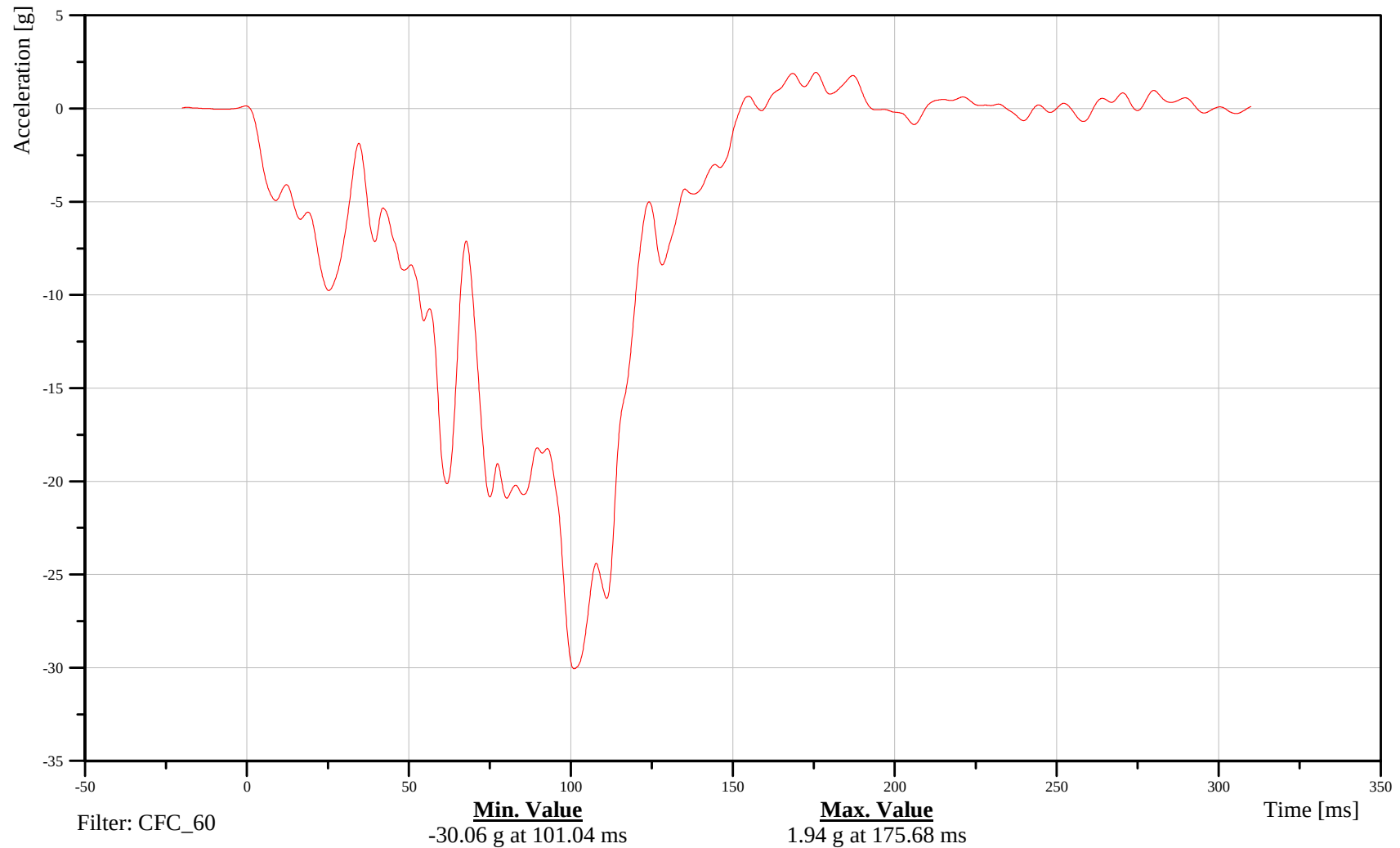
## Vehicle CG X-Axis Acceleration

Customer: Volpe

### 10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-95

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

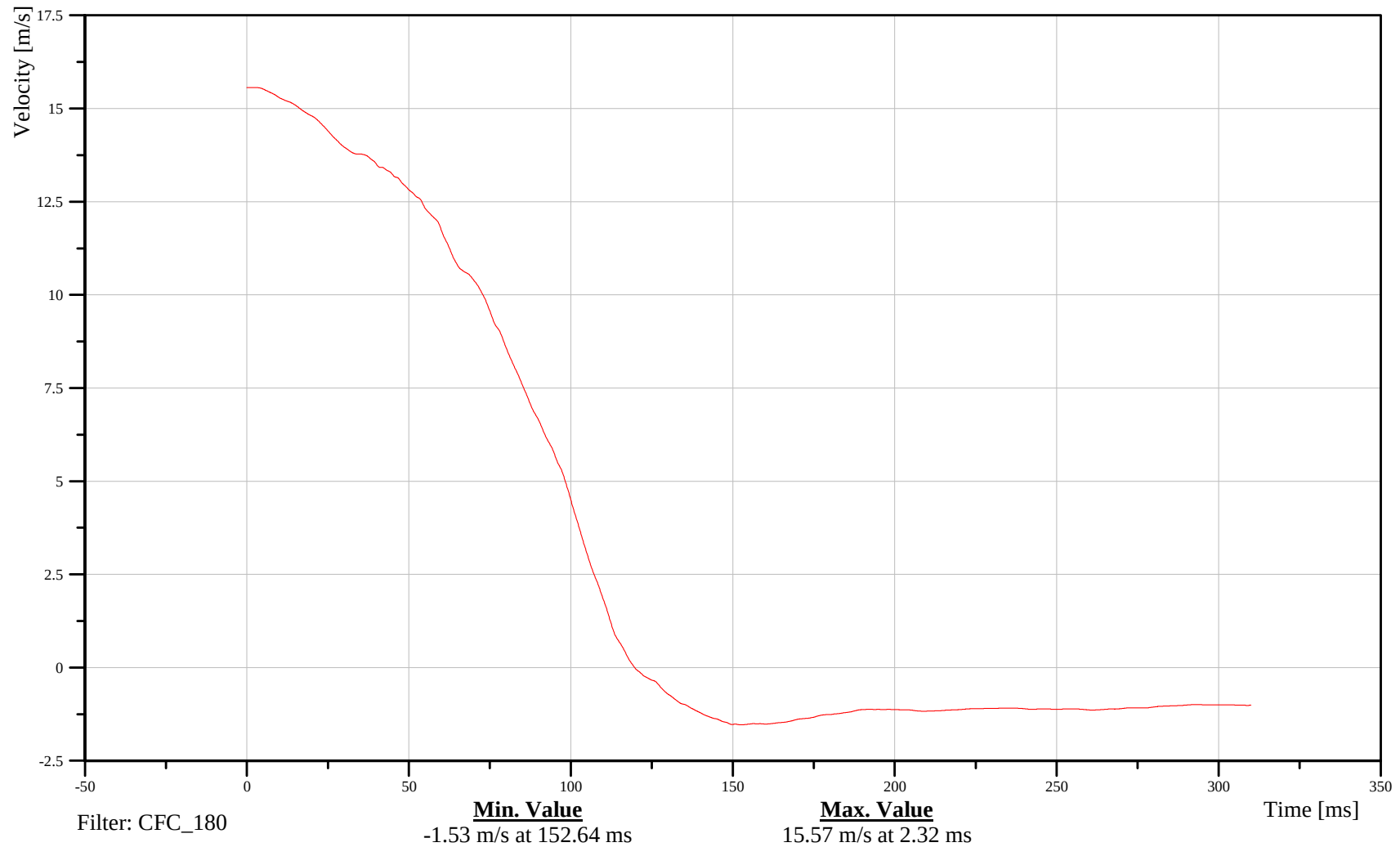
Vehicle CG X-Axis Velocity

Customer: Volpe

10VEHCCG0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-96

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

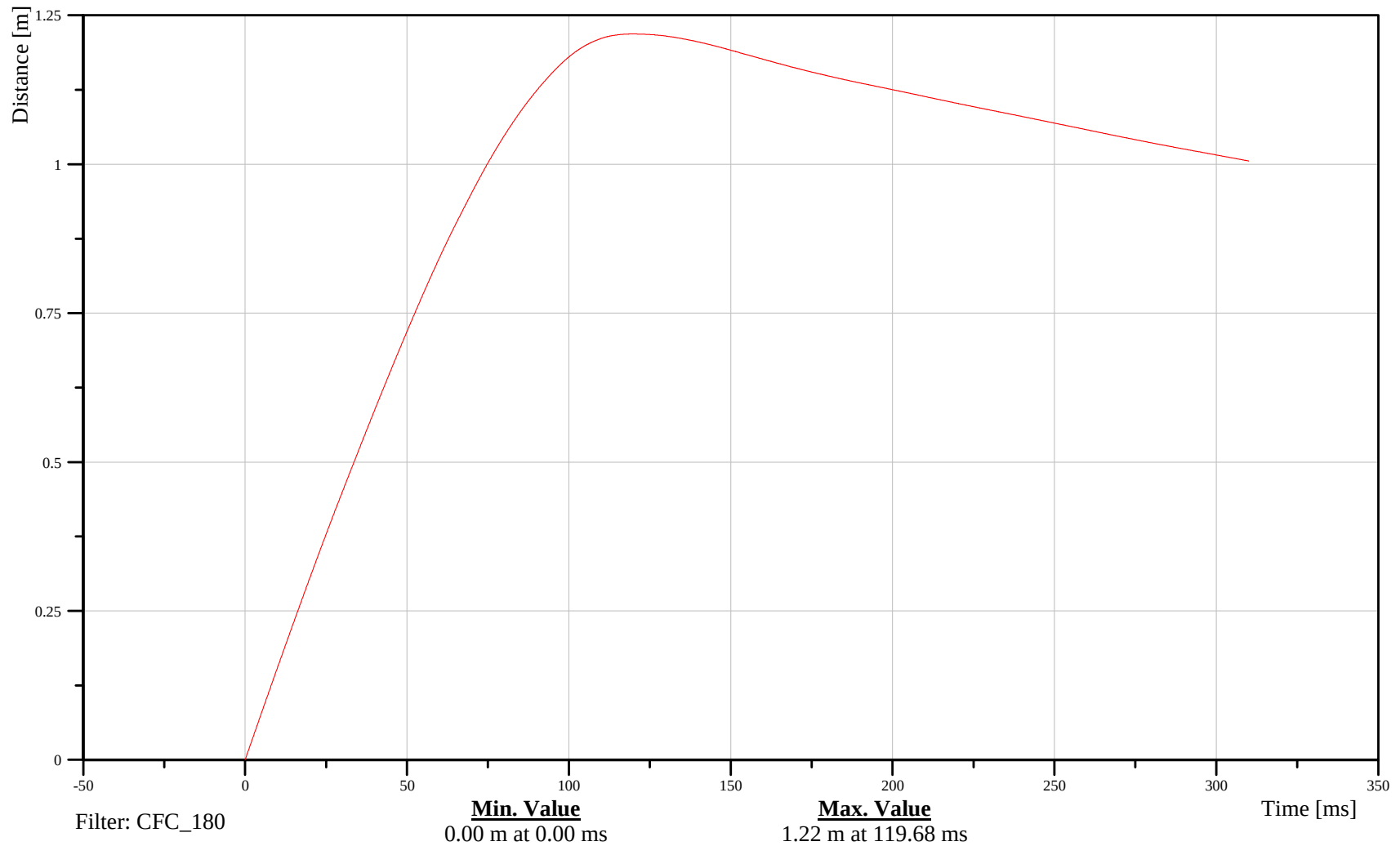
## Vehicle CG X-Axis Displacement

Customer: Volpe

### 10VEHCCG0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-97

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

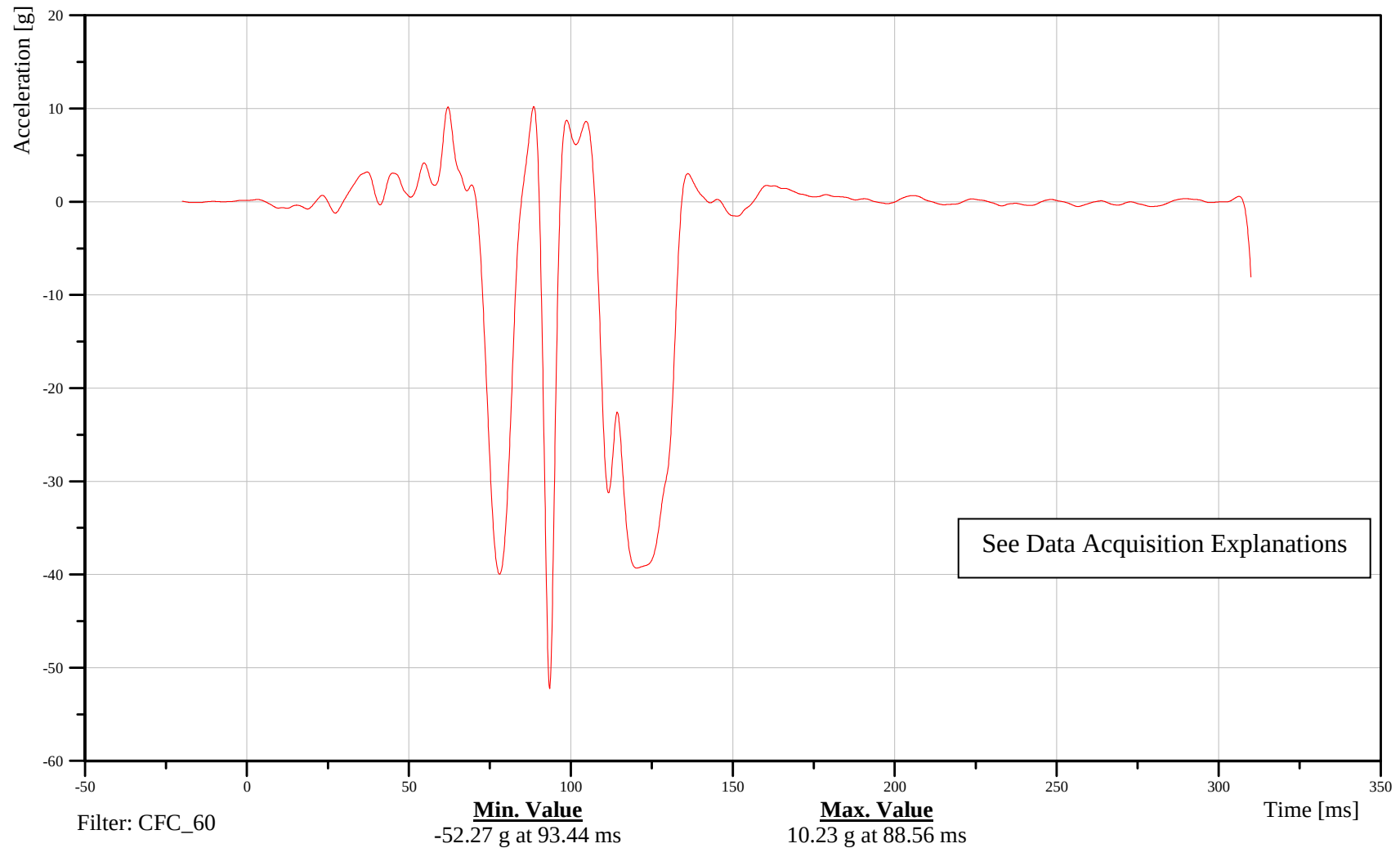
## Vehicle CG Y-Axis Acceleration

Customer: Volpe

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-98

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

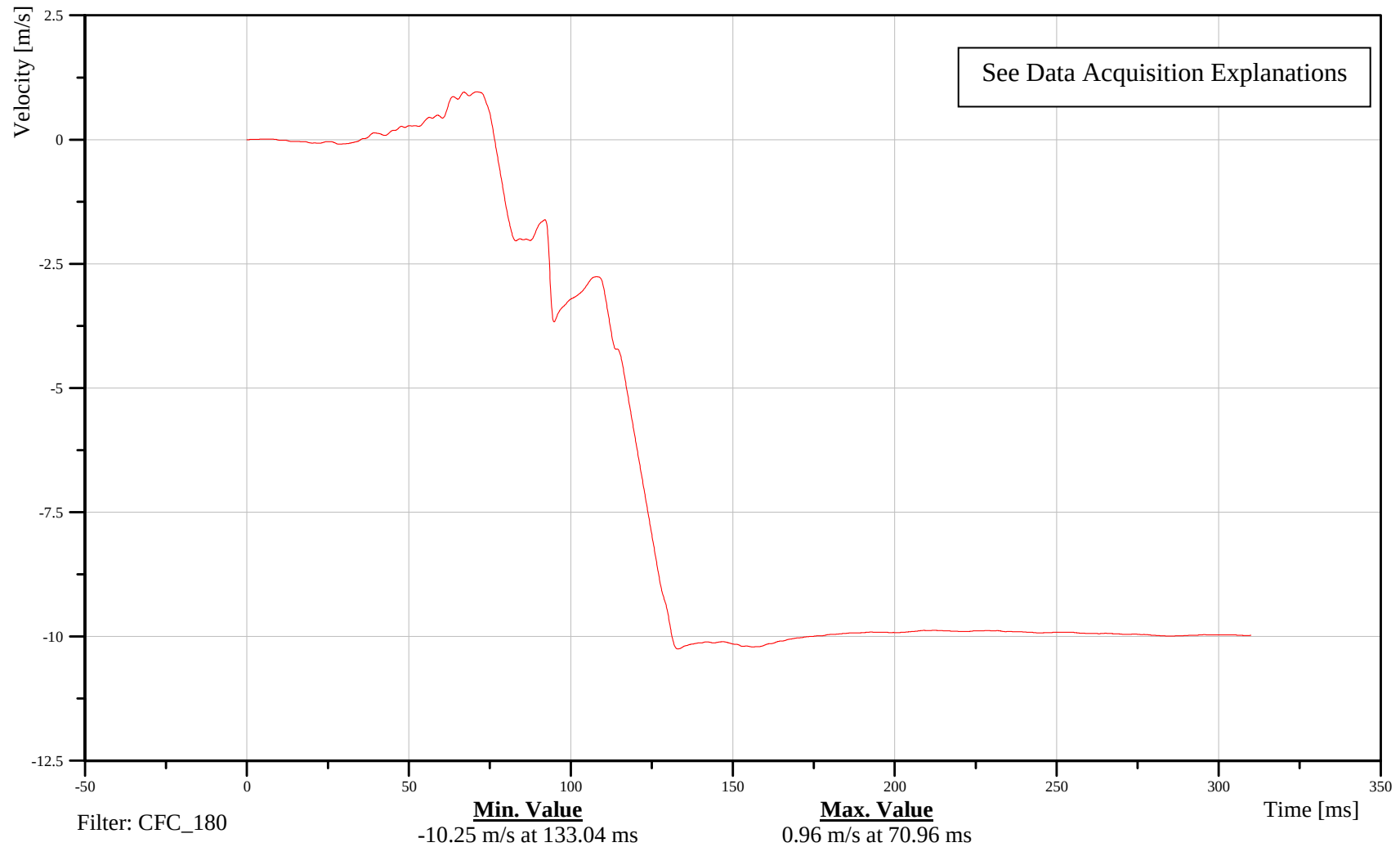
## Vehicle CG Y-Axis Velocity

Customer: Volpe

10VEHCCG0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-99

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

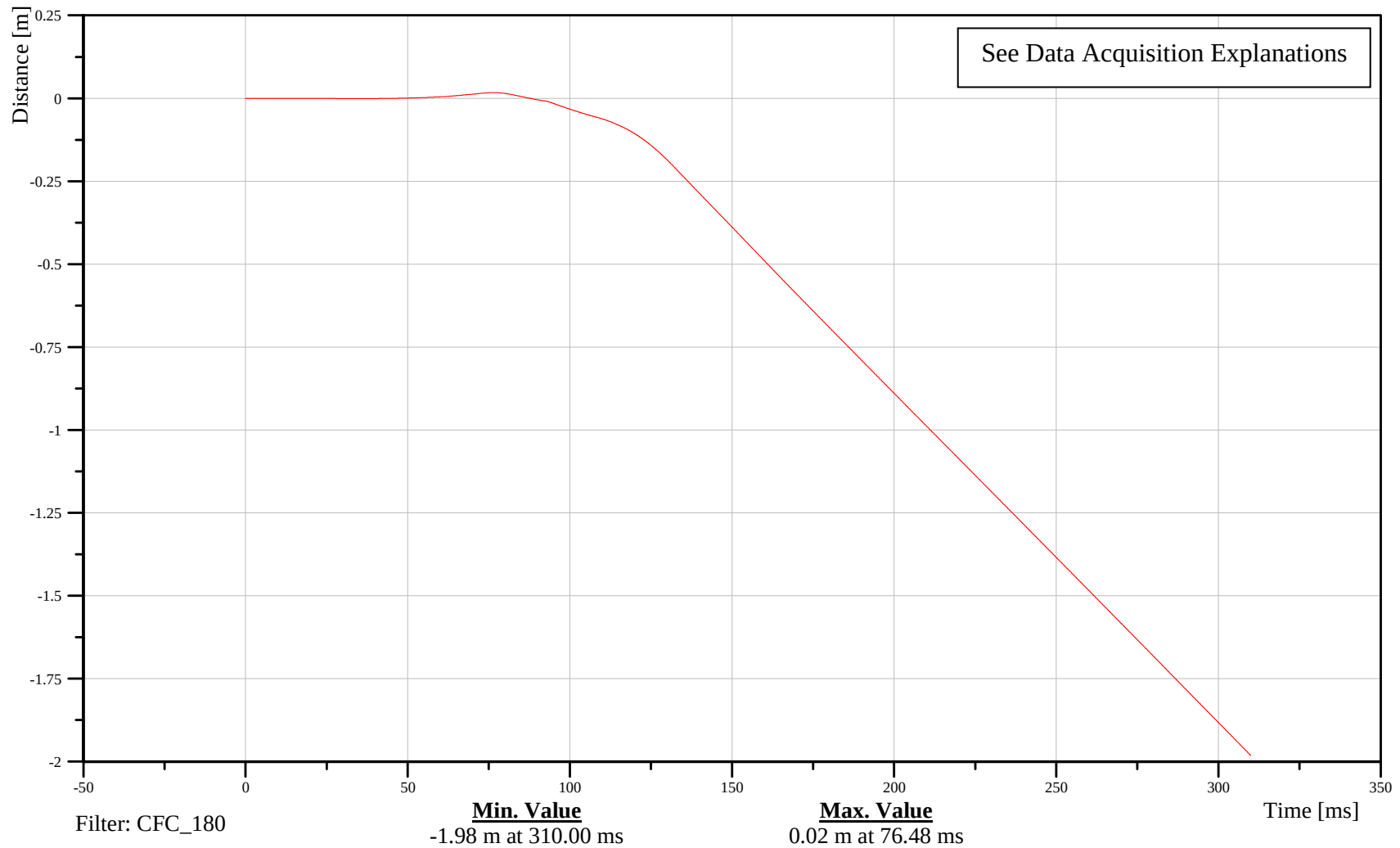
## Vehicle CG Y-Axis Displacement

Customer: Volpe

10VEHCCG0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-100

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

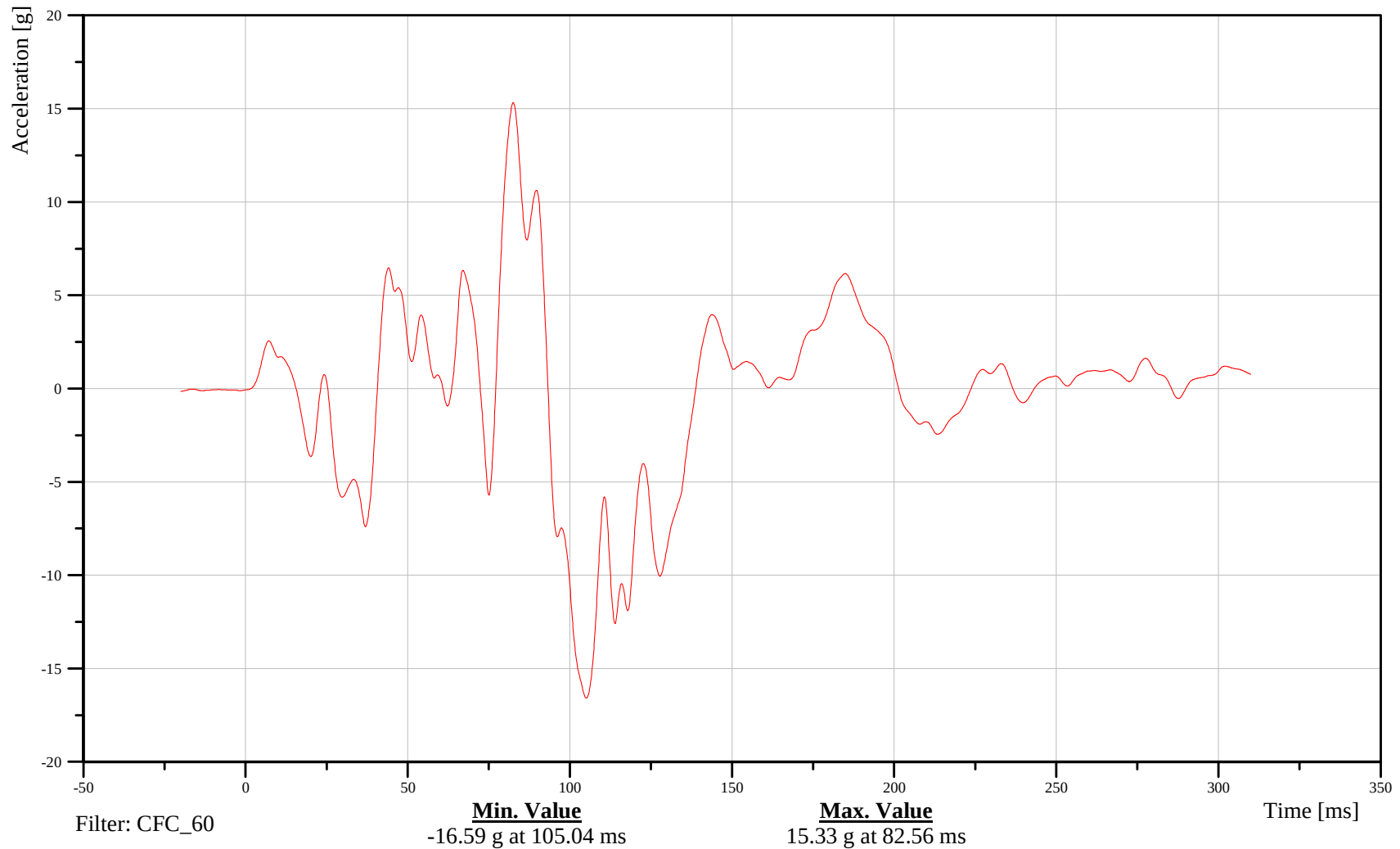
## Vehicle CG Z-Axis Acceleration

Customer: Volpe

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-101

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

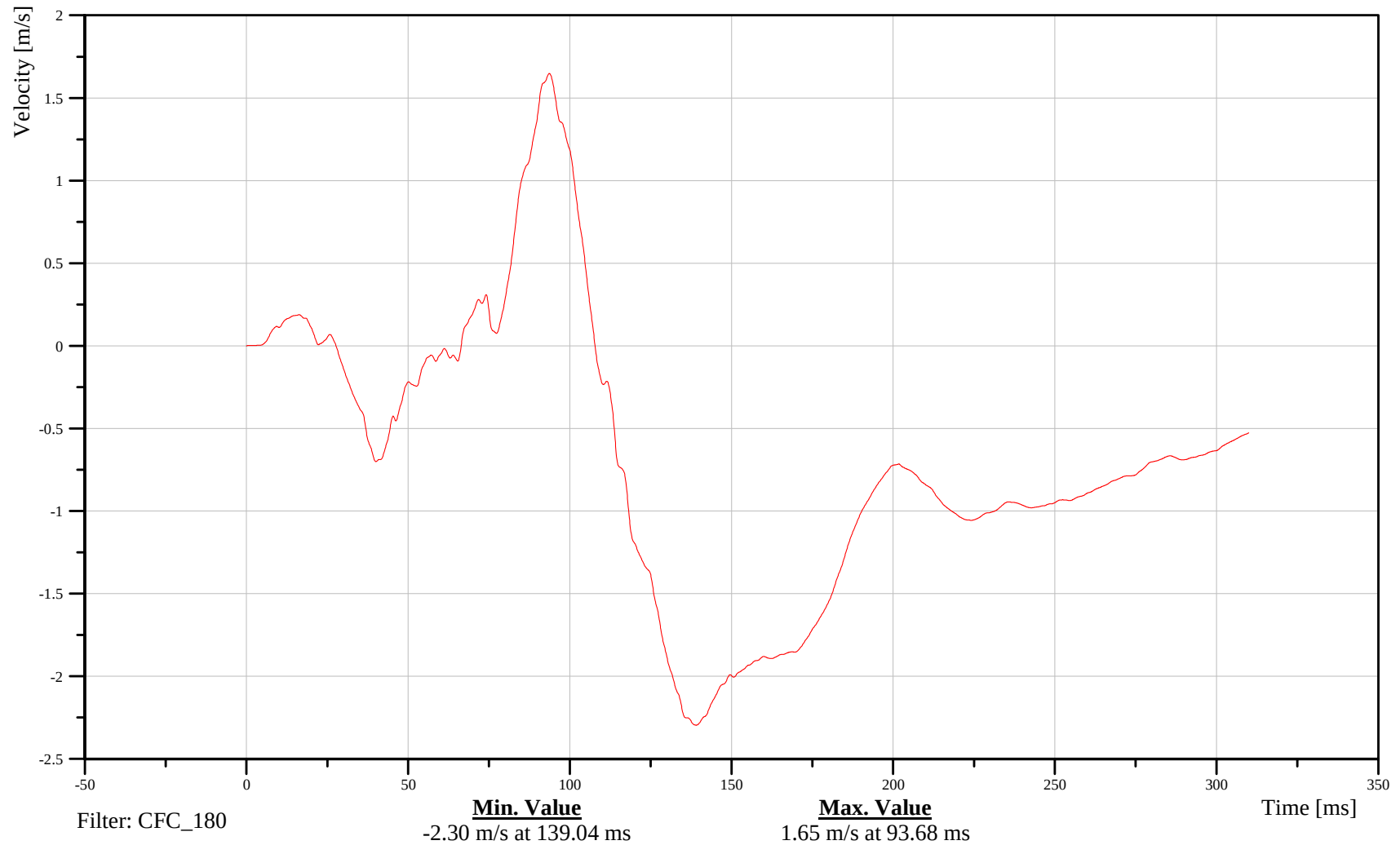
## Vehicle CG Z-Axis Velocity

Customer: Volpe

10VEHCCG0000VEZC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-102

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

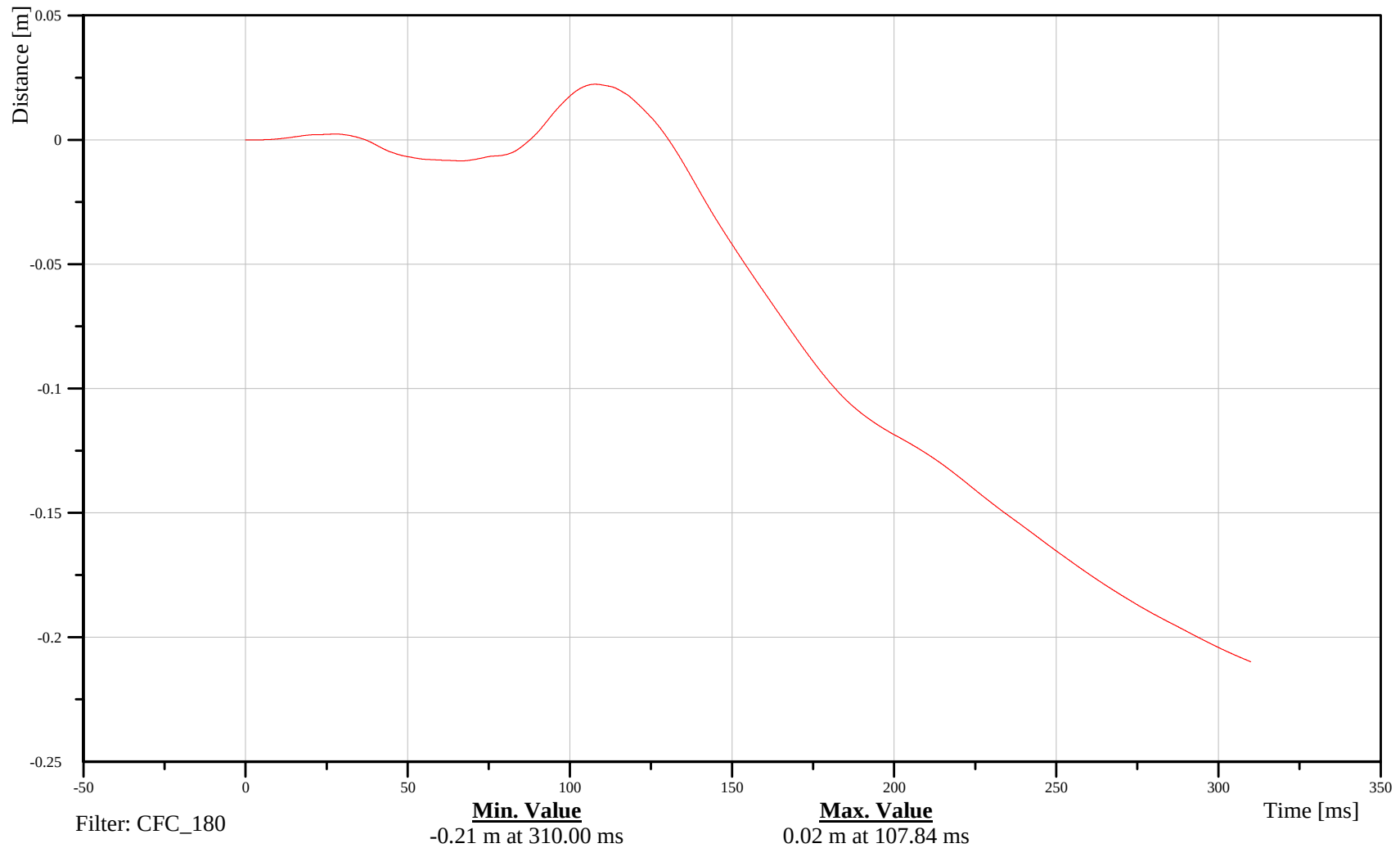
## Vehicle CG Z-Axis Displacement

Customer: Volpe

10VEHCCG0000DCZC

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-103

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

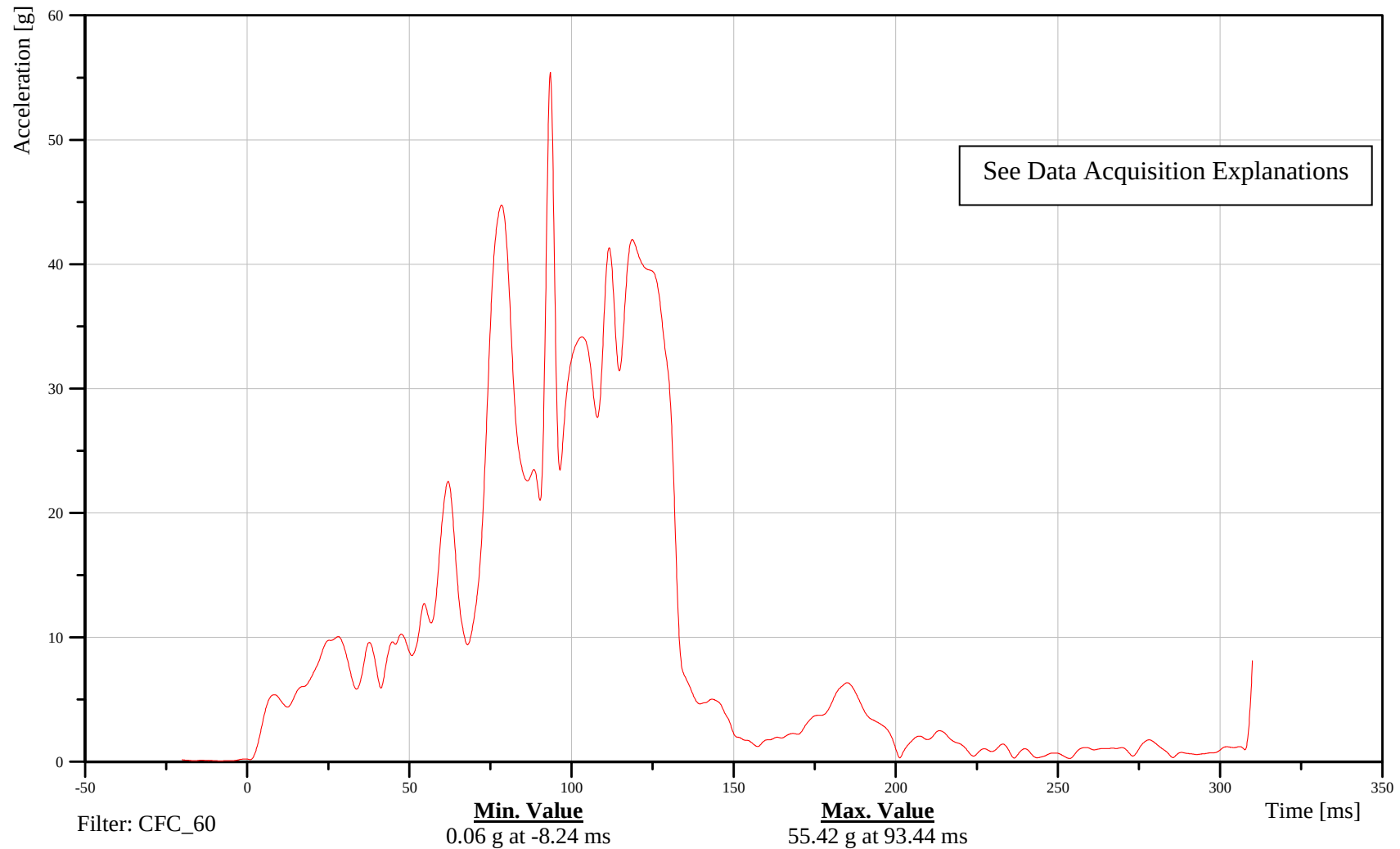
## Vehicle CG Resultant Acceleration

Customer: Volpe

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-104

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

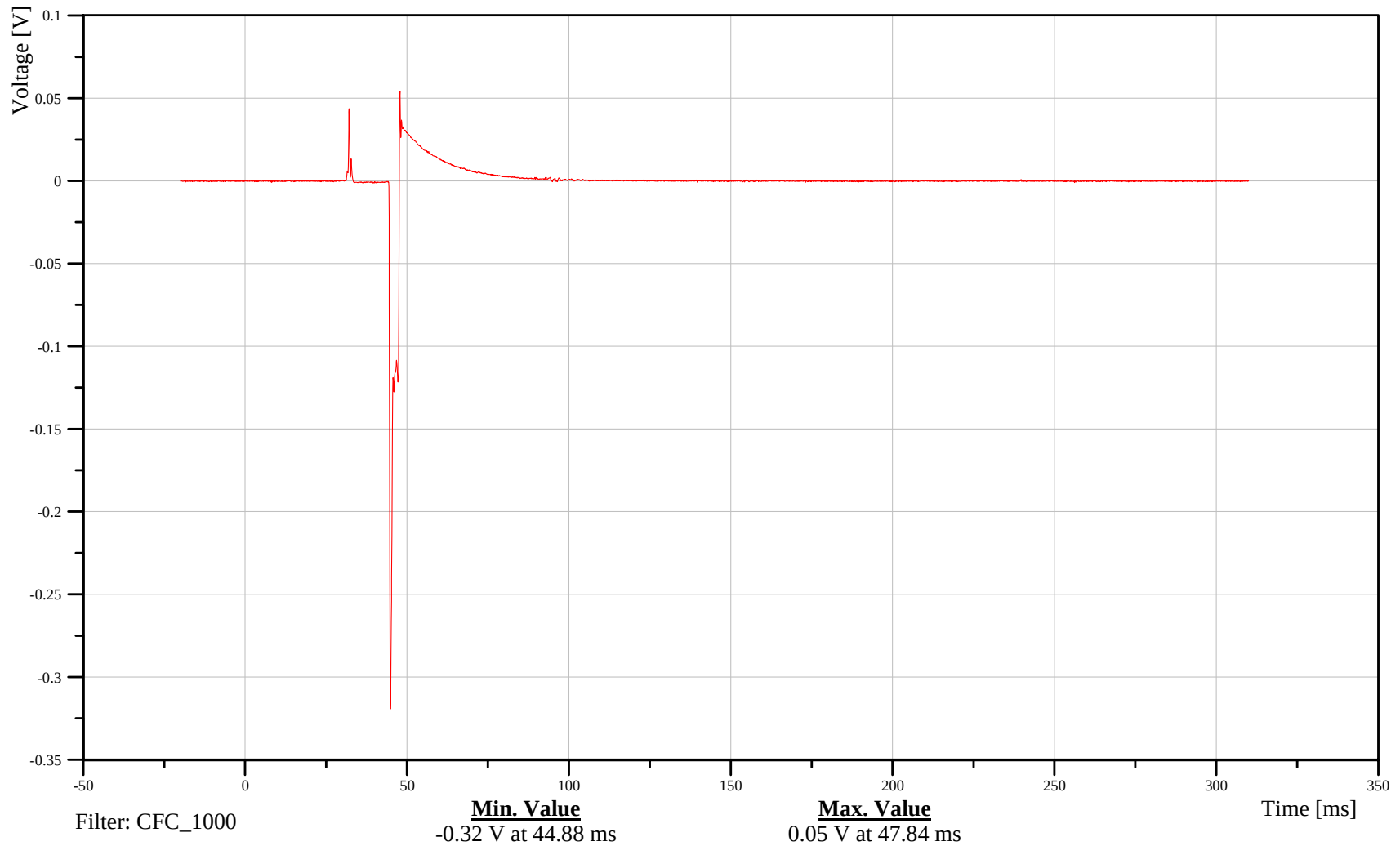
## Driver Front Airbag 1 Ind

Customer: Volpe

# 11AIRBFR0100EV0A

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-105

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

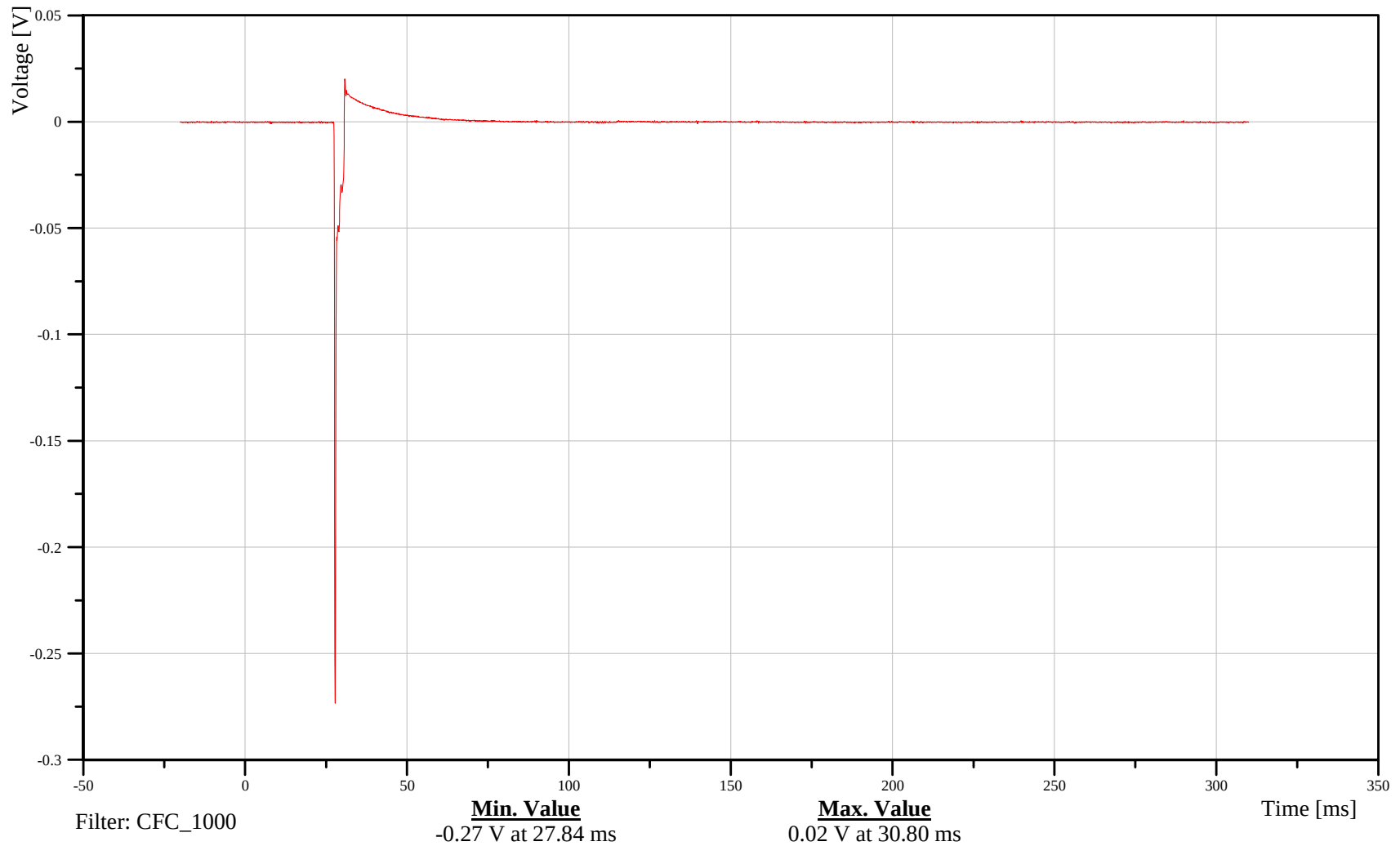
Driver Front Airbag 2 Ind

Customer: Volpe

## 11AIRBFR0200EV0A

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-106

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

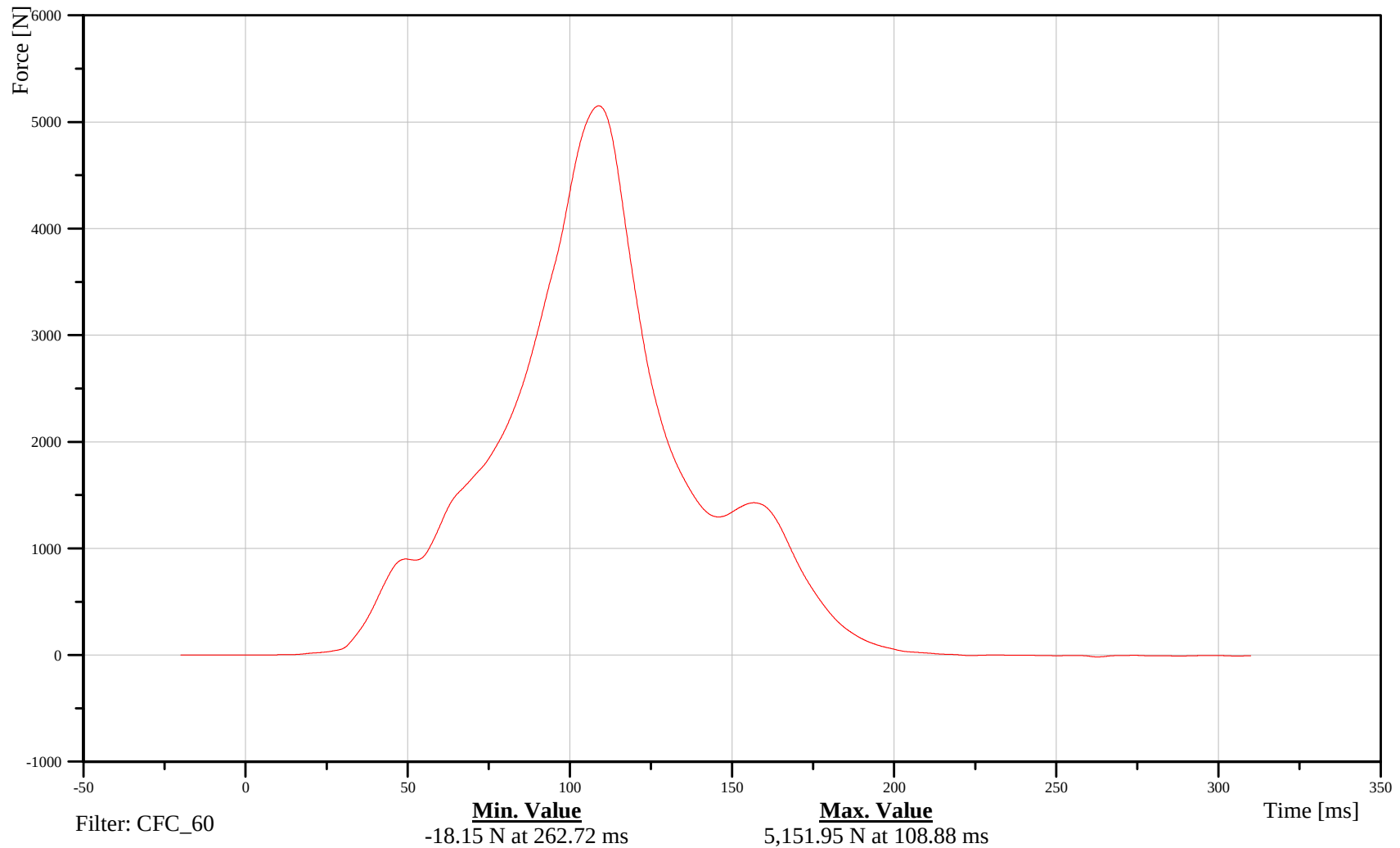
Driver Lap Belt

Customer: Volpe

## 11SEBE0000B5FOOD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-107

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

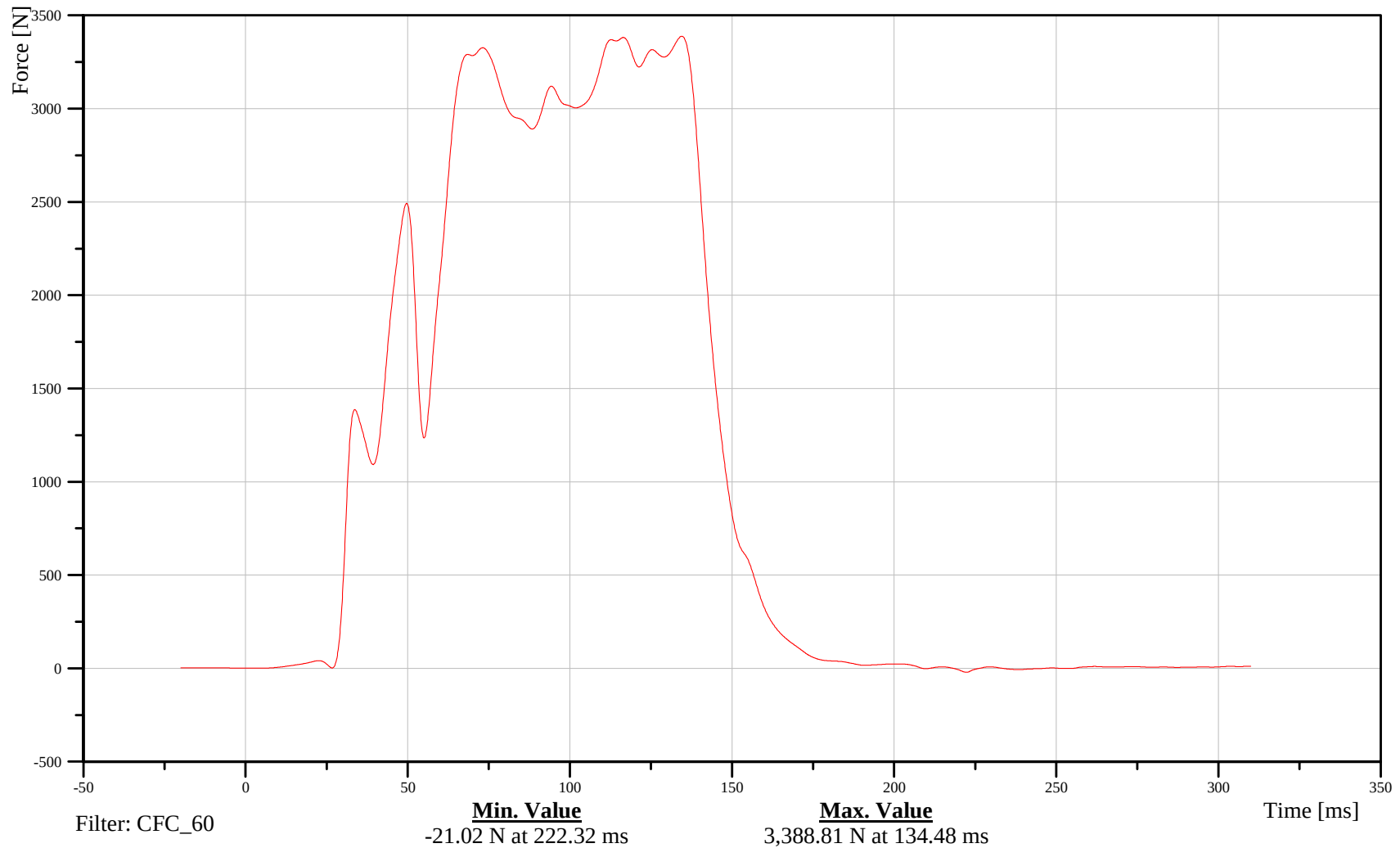
Driver Shoulder Belt

Customer: Volpe

11SEBE0000B3FOOD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-108

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

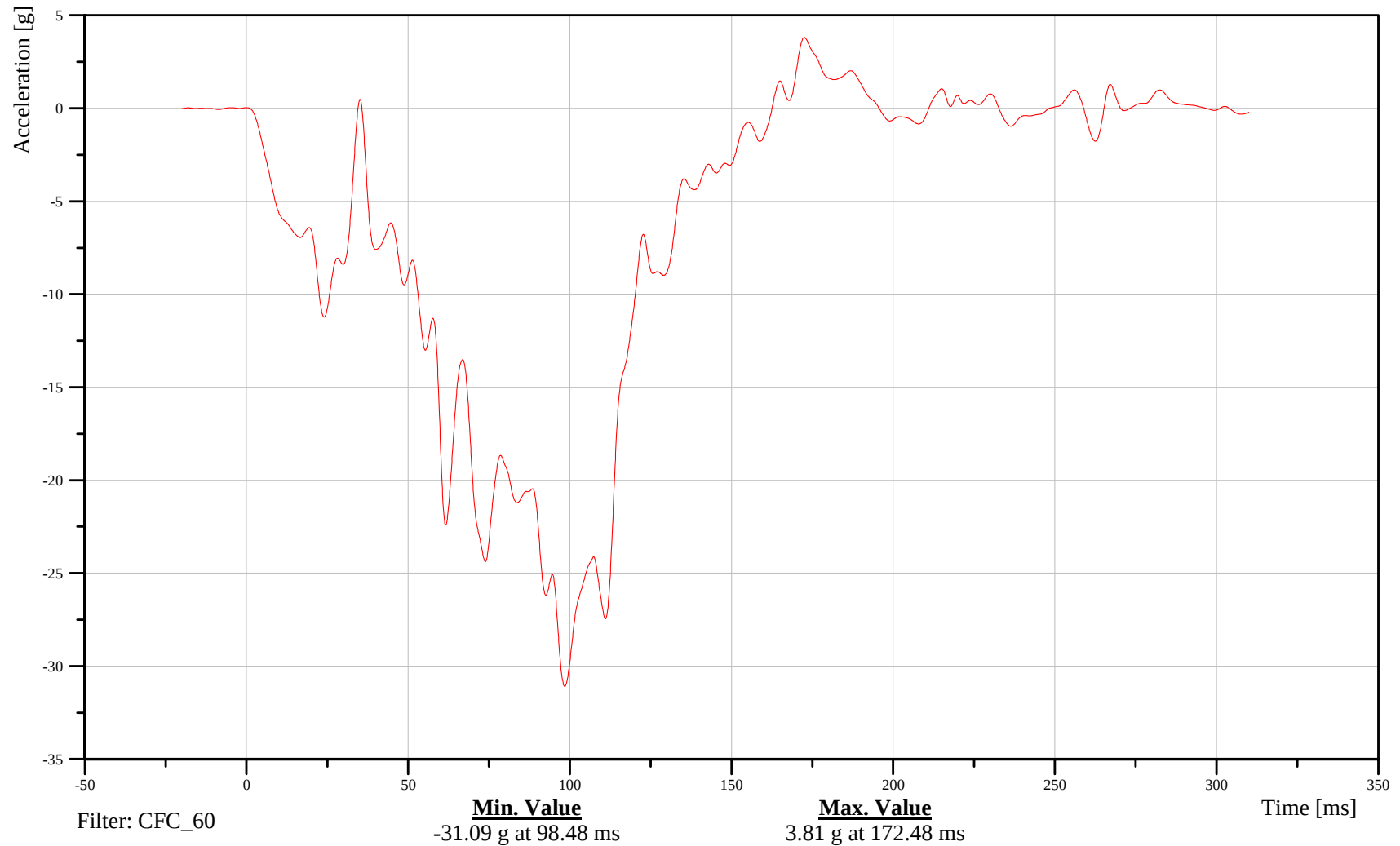
## Left Side Driver Mid Seat Track X-Axis Acceleration

Customer: Volpe

11SETR000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-109

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

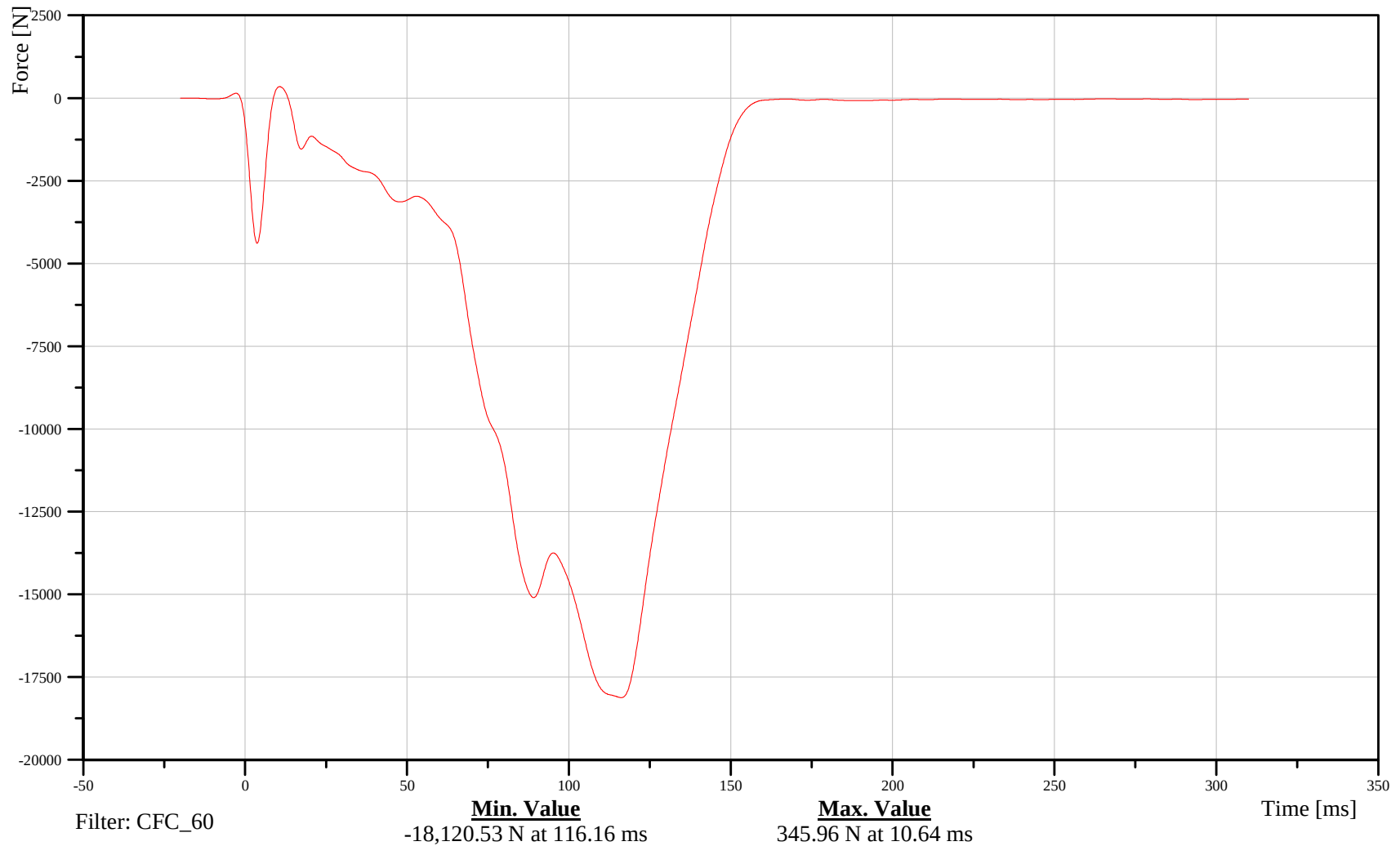
Load Cell Row 10 Column 9

Customer: Volpe

## L0FBAR000090FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-110

060328-1



2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

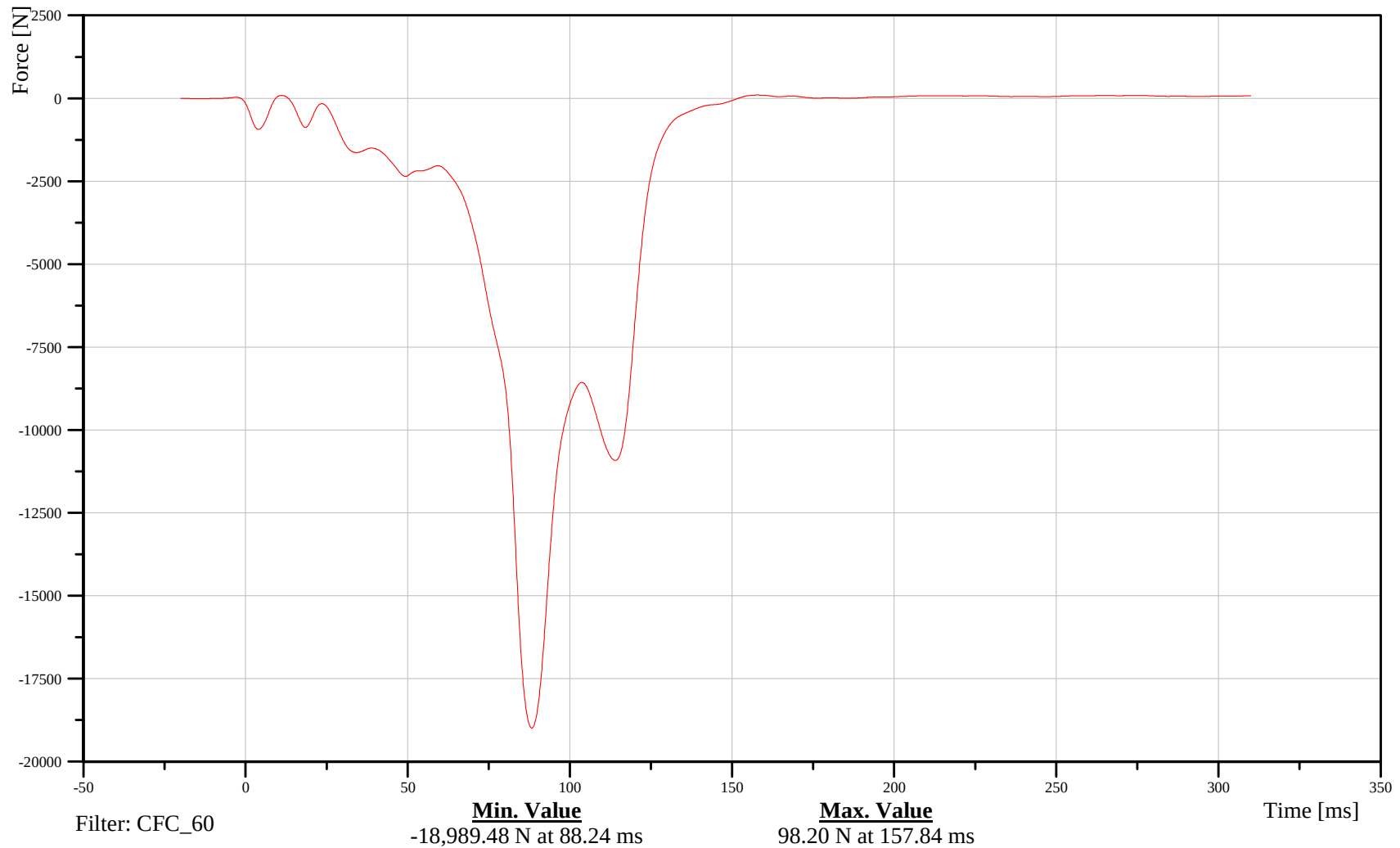
Load Cell Row 10 Column 8

Customer: Volpe

L0FBAR000080FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-111

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

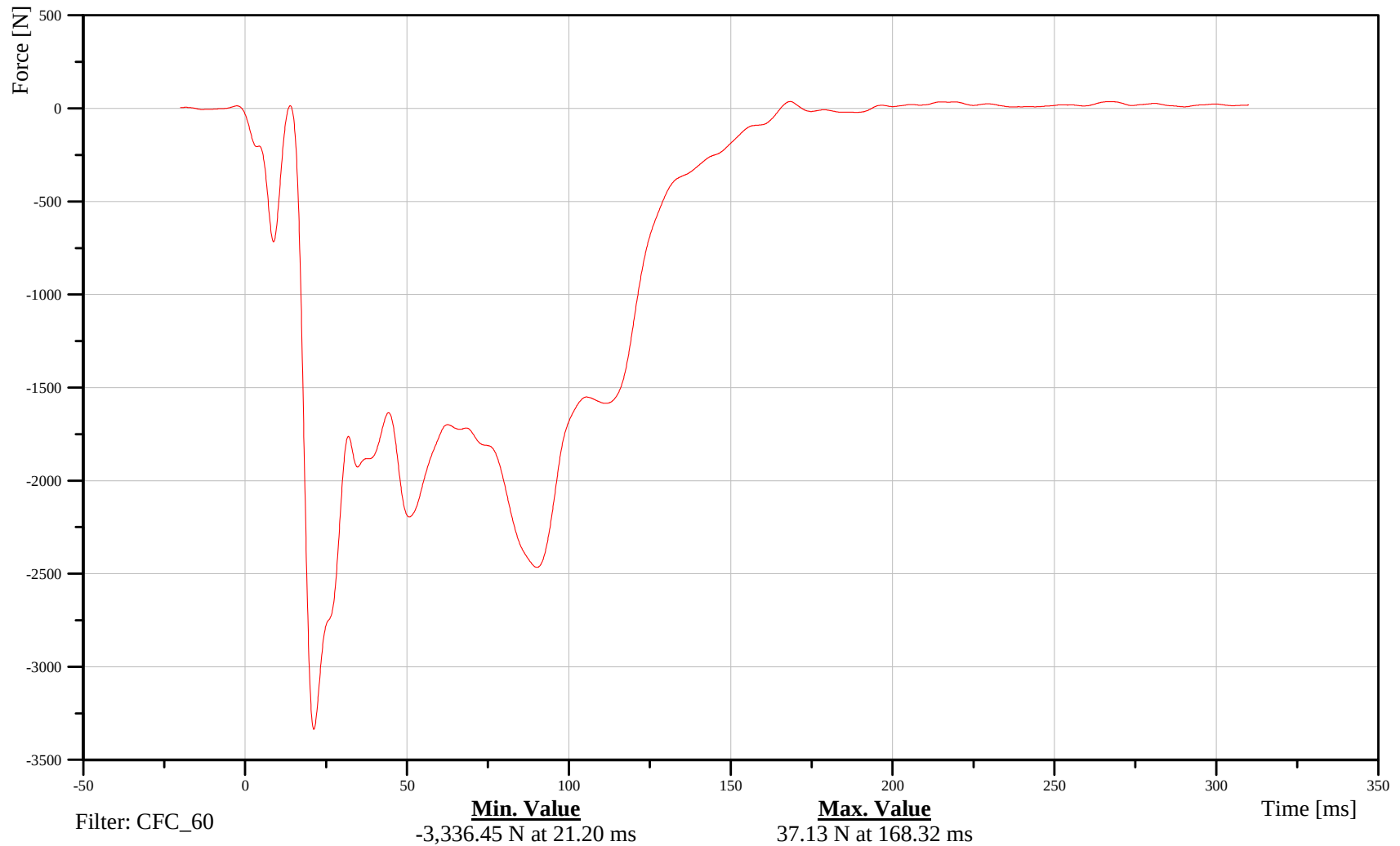
Load Cell Row 10 Column 7

Customer: Volpe

## L0FBAR000070FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-112

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

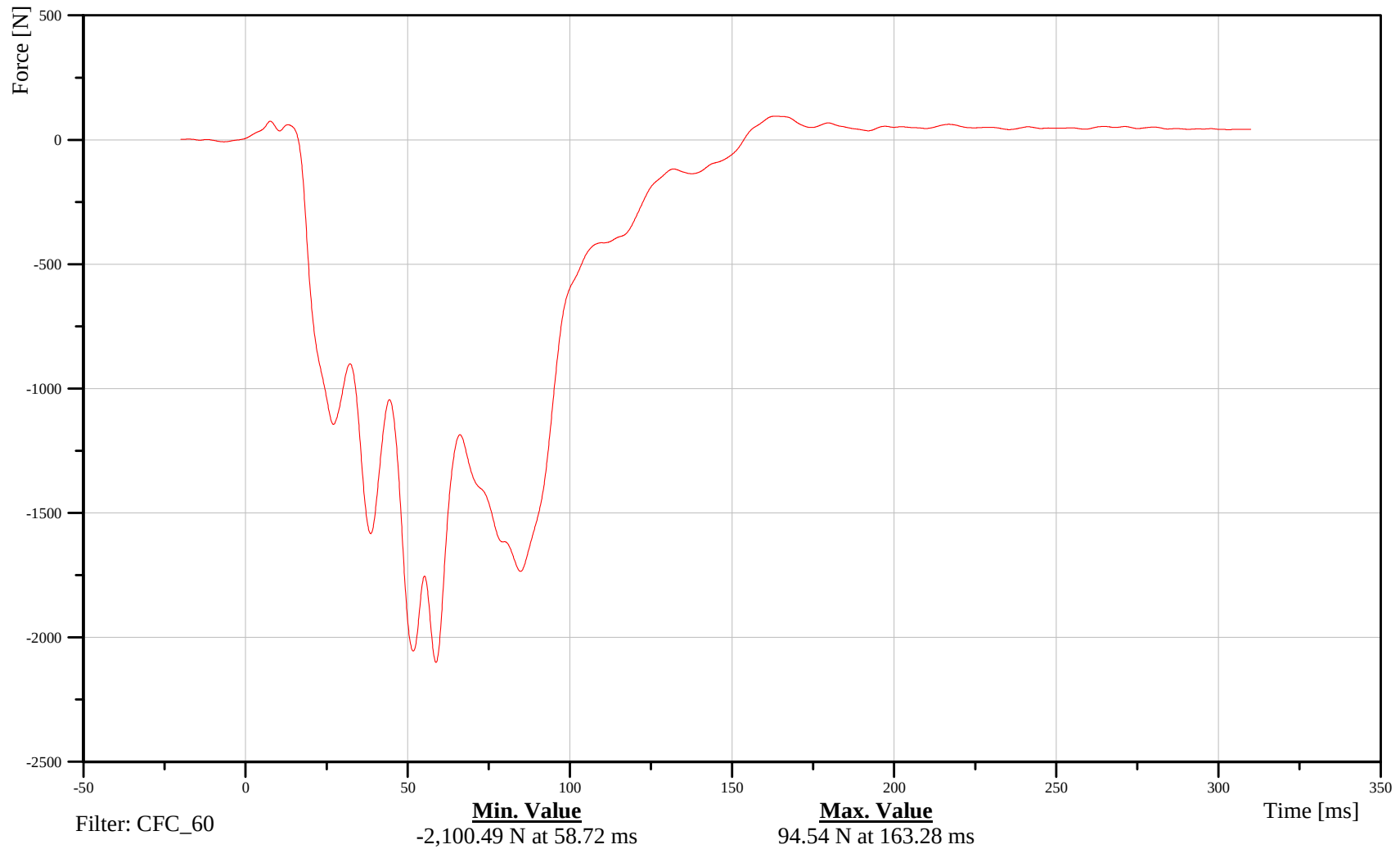
Load Cell Row 10 Column 6

Customer: Volpe

## L0FBAR000060FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-113

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

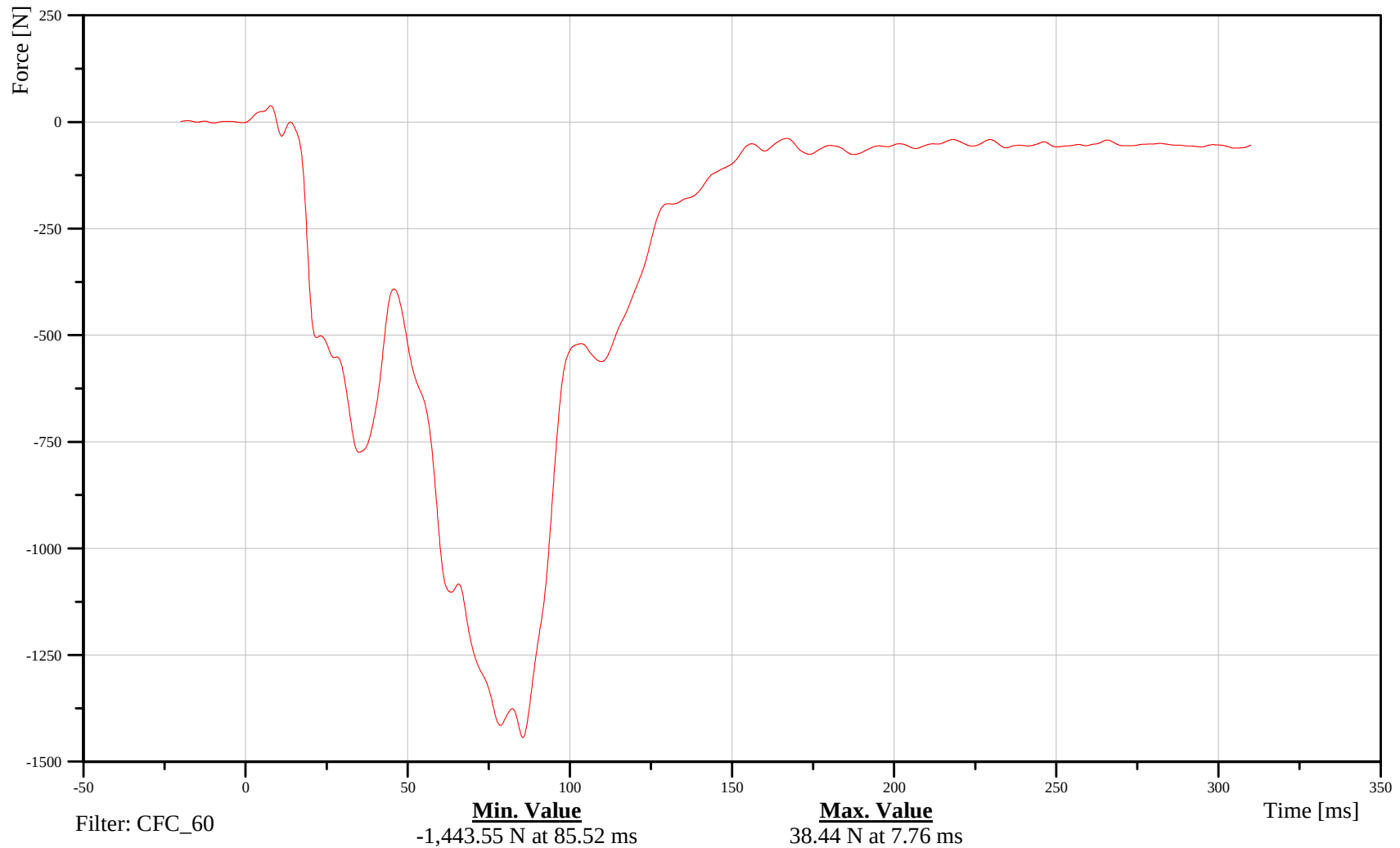
Load Cell Row 10 Column 5

Customer: Volpe

## L0FBAR000050FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-114

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

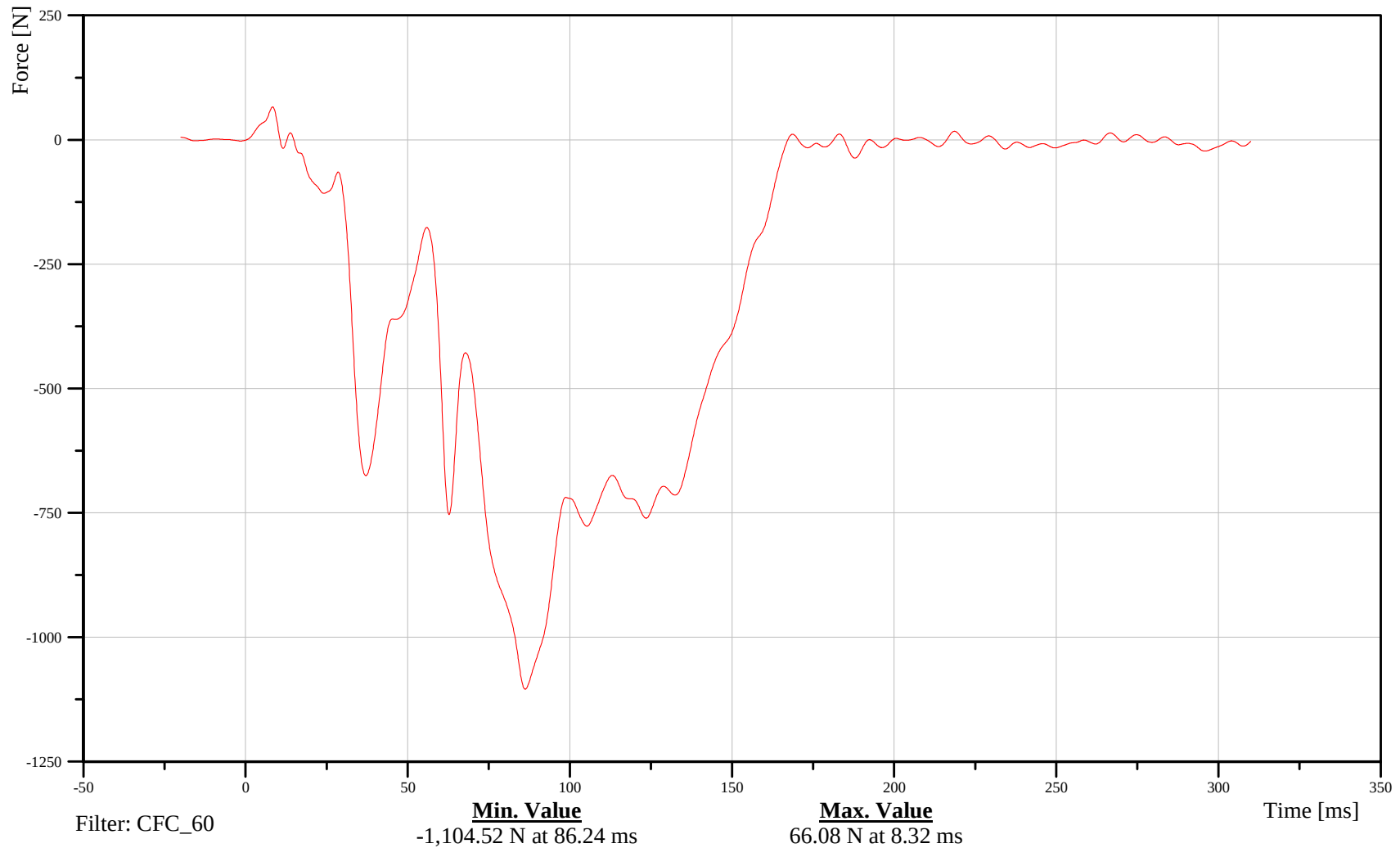
Load Cell Row 10 Column 4

Customer: Volpe

## L0FBAR000040FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-115

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

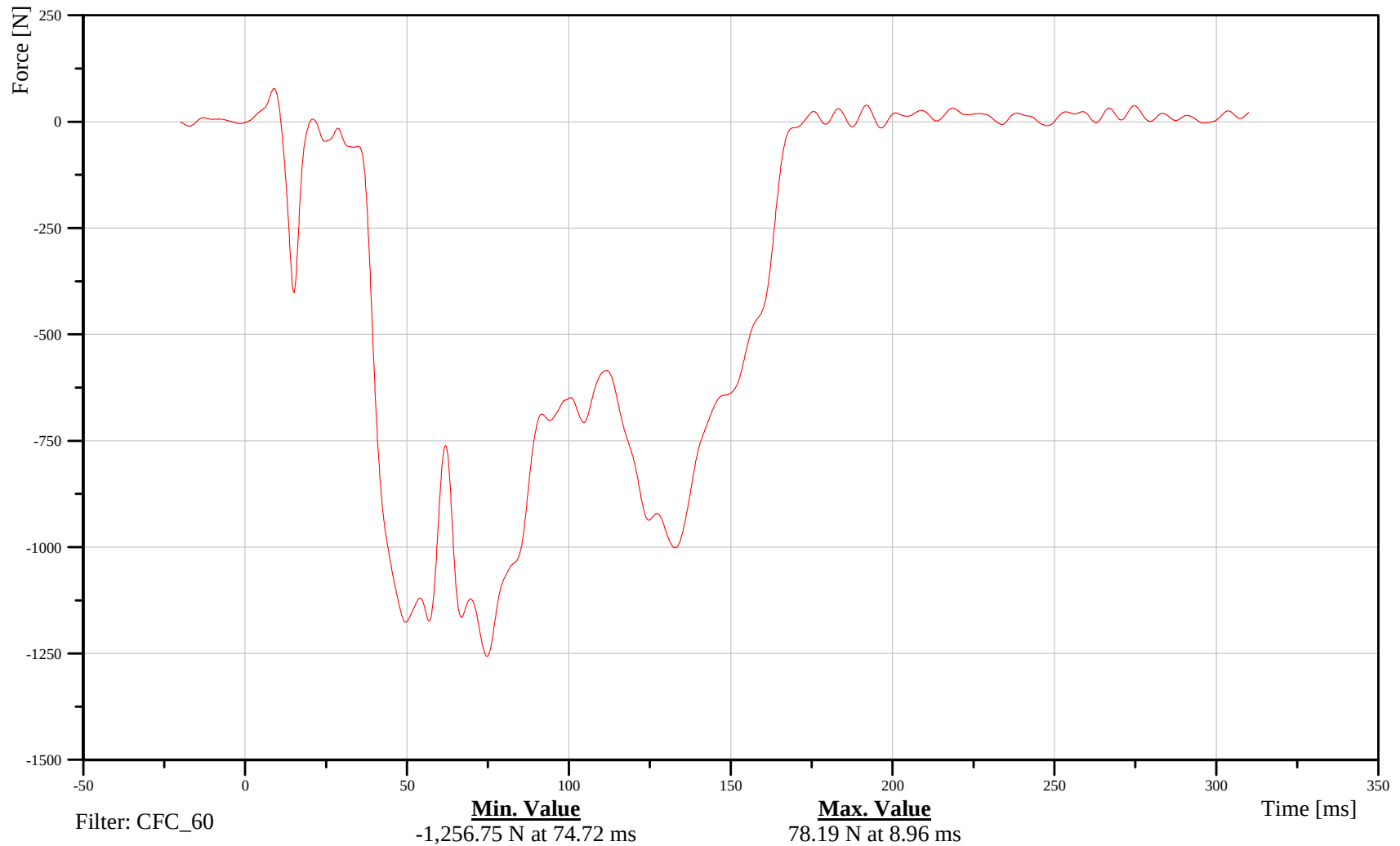
Load Cell Row 10 Column 3

Customer: Volpe

## L0FBAR000030FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-116

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

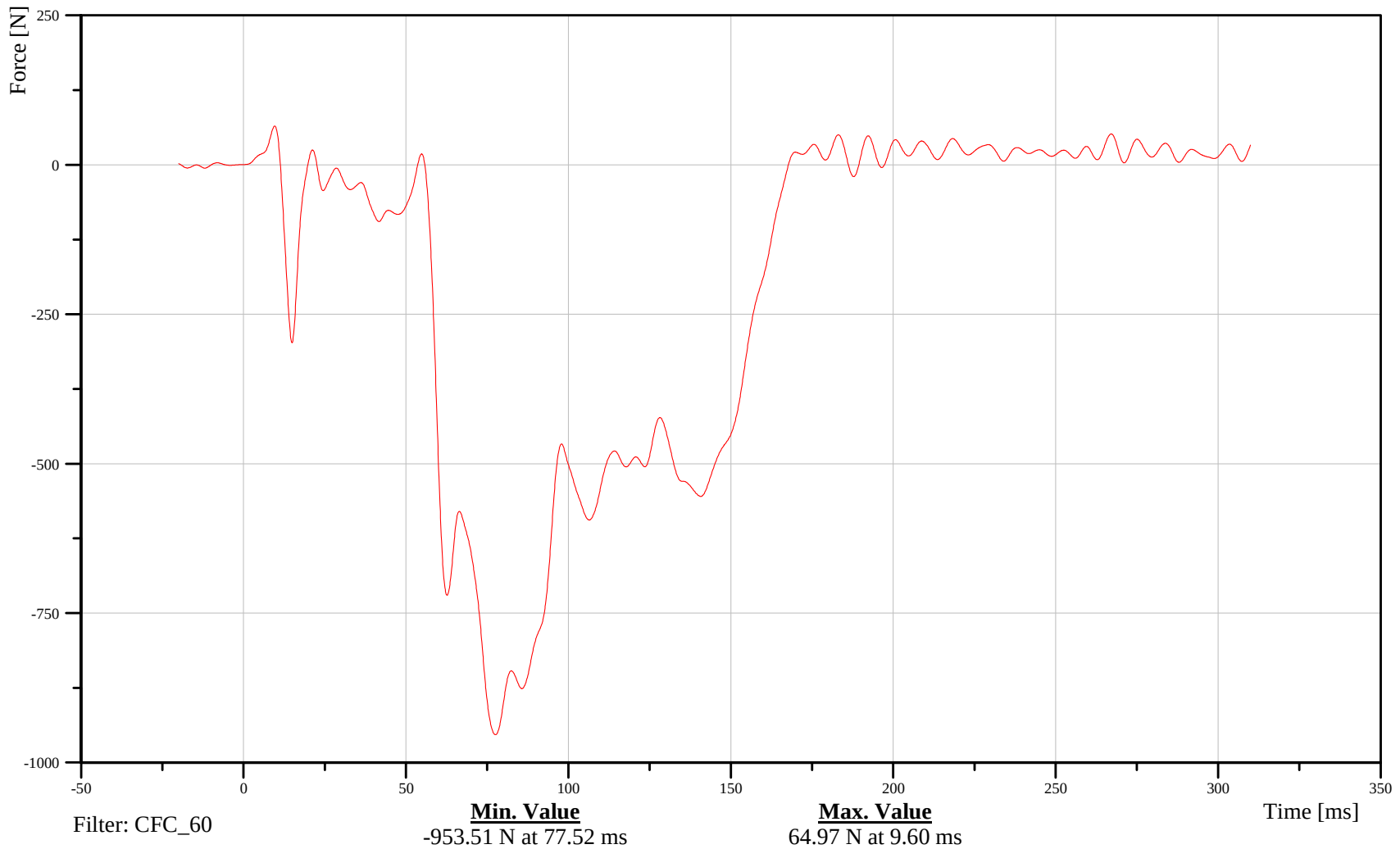
Load Cell Row 10 Column 2

Customer: Volpe

## L0FBAR000020FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-117

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

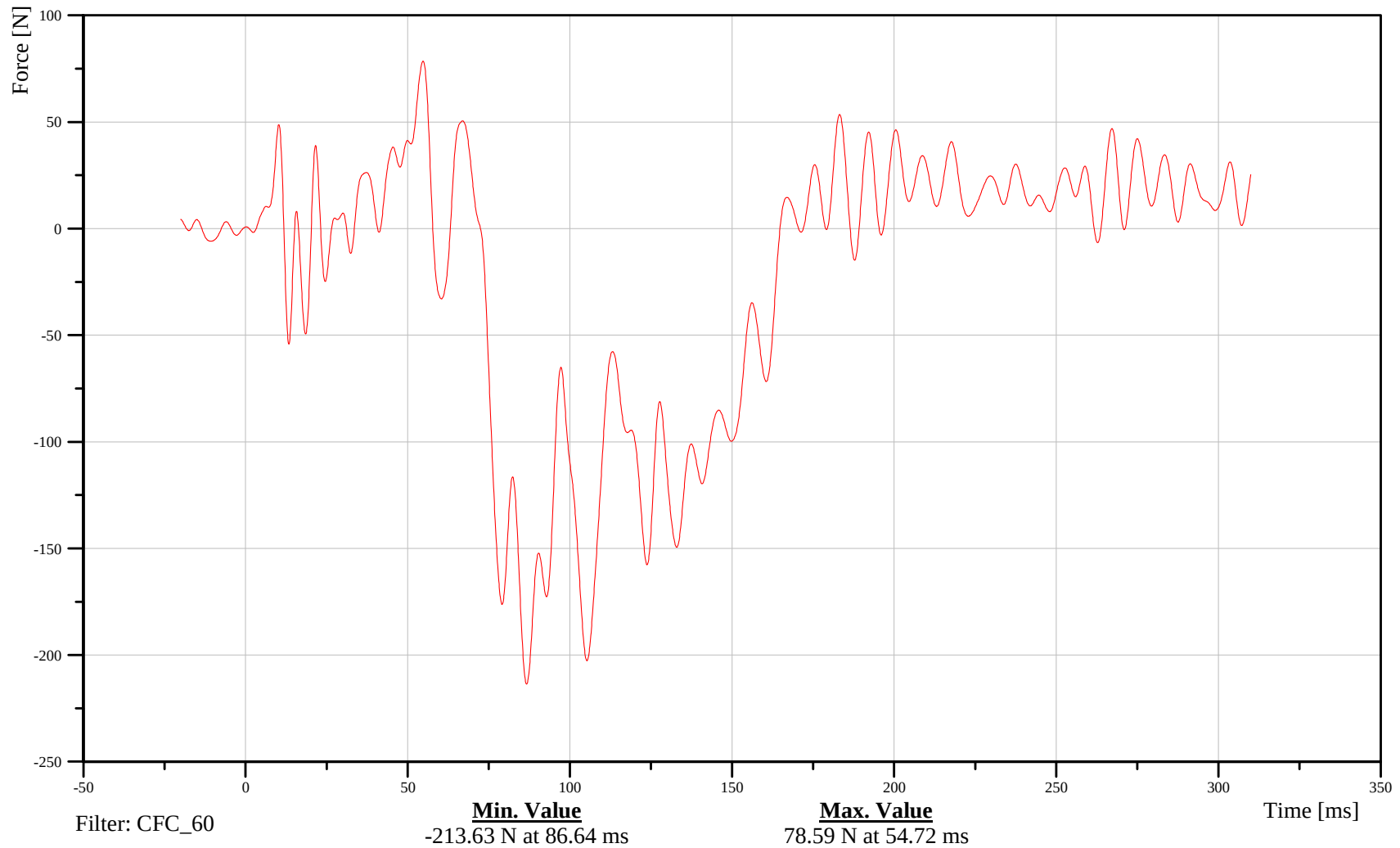
Load Cell Row 10 Column 1

Customer: Volpe

## L0FBAR000010FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-118

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

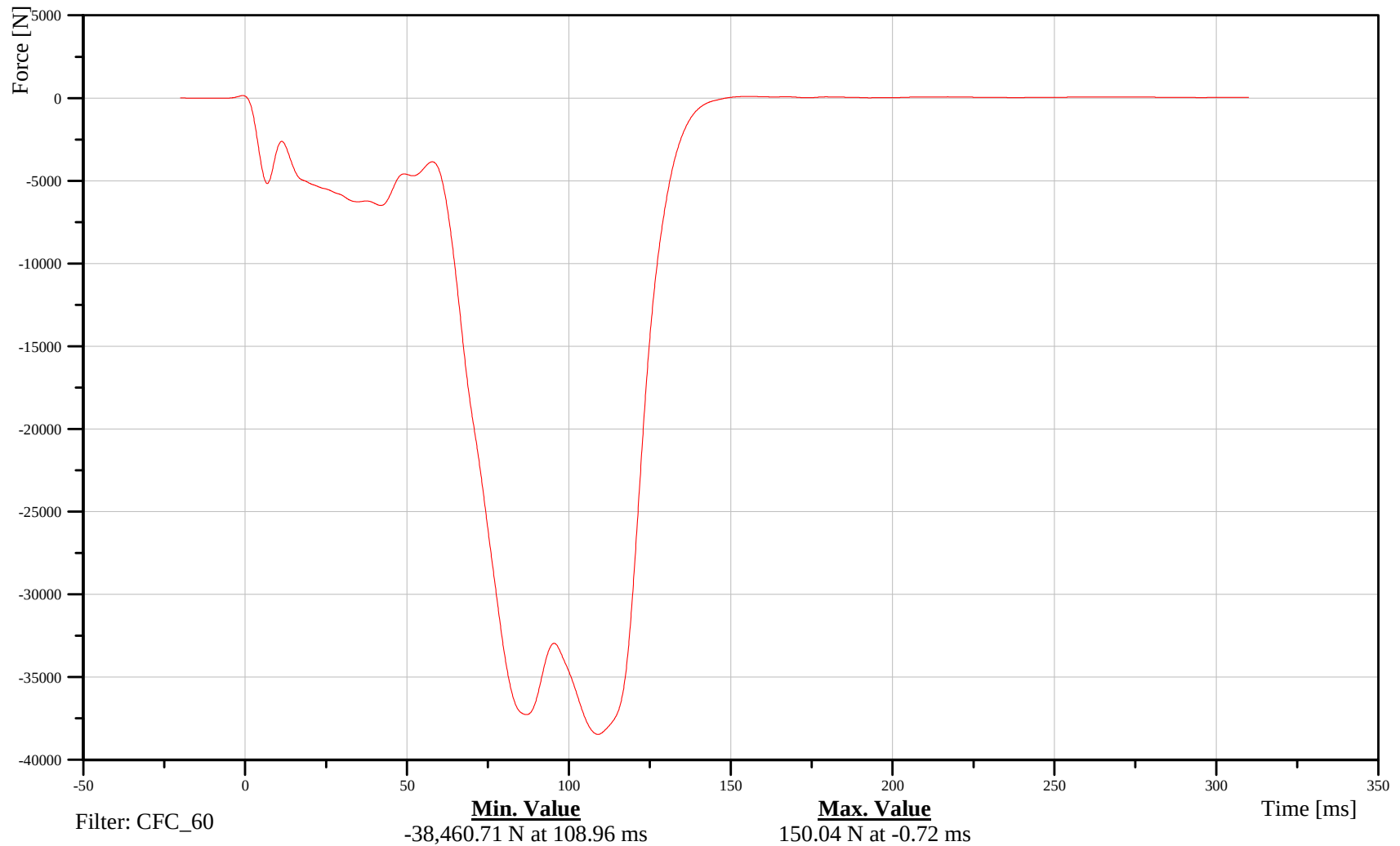
Load Cell Row 9 Column 9

Customer: Volpe

## L0FBAR000089FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-119

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

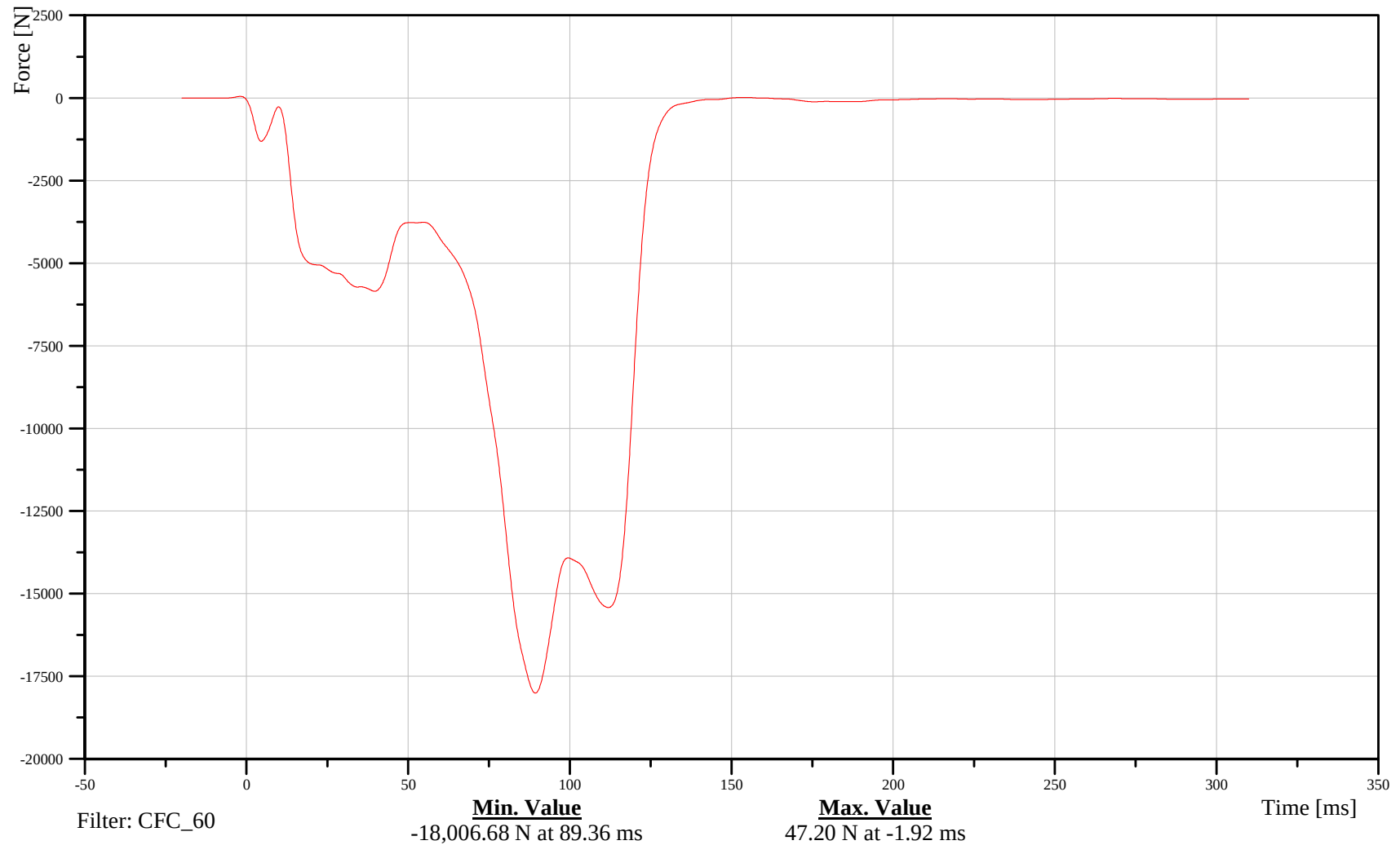
Load Cell Row 9 Column 8

Customer: Volpe

## L0FBAR000079FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-120

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

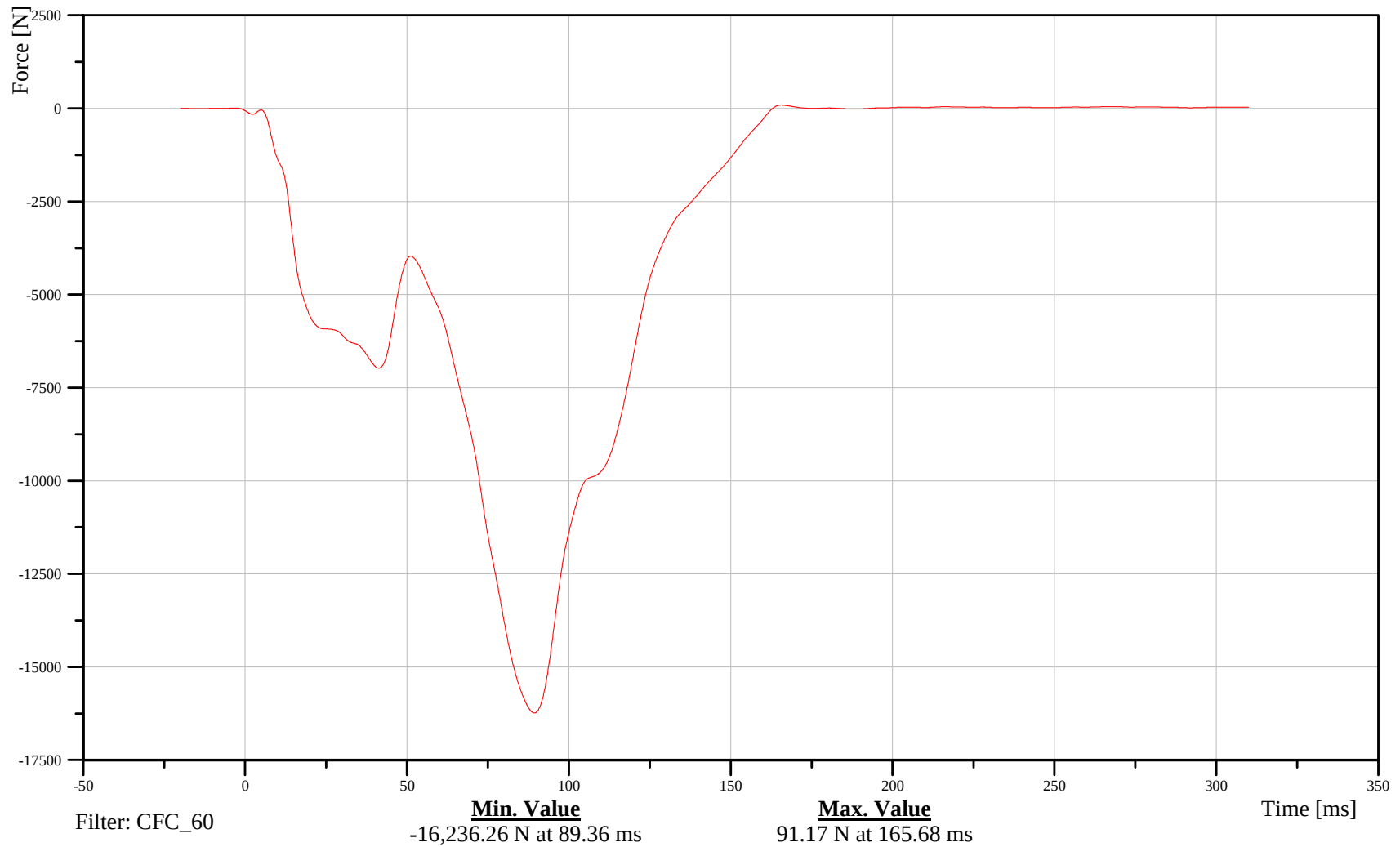
Load Cell Row 9 Column 7

Customer: Volpe

## L0FBAR000069FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-121

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

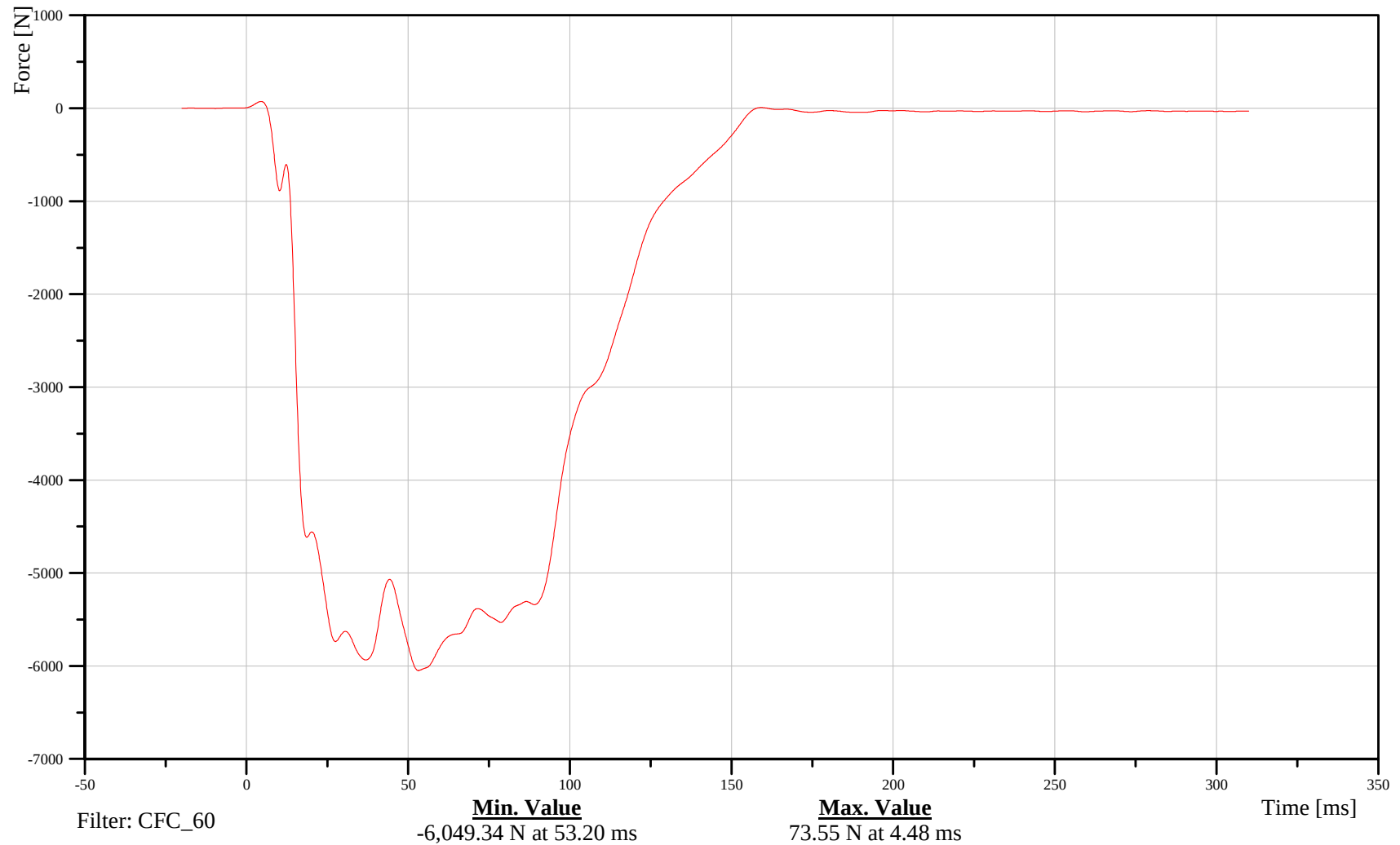
Load Cell Row 9 Column 6

Customer: Volpe

## L0FBAR000059FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-122

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

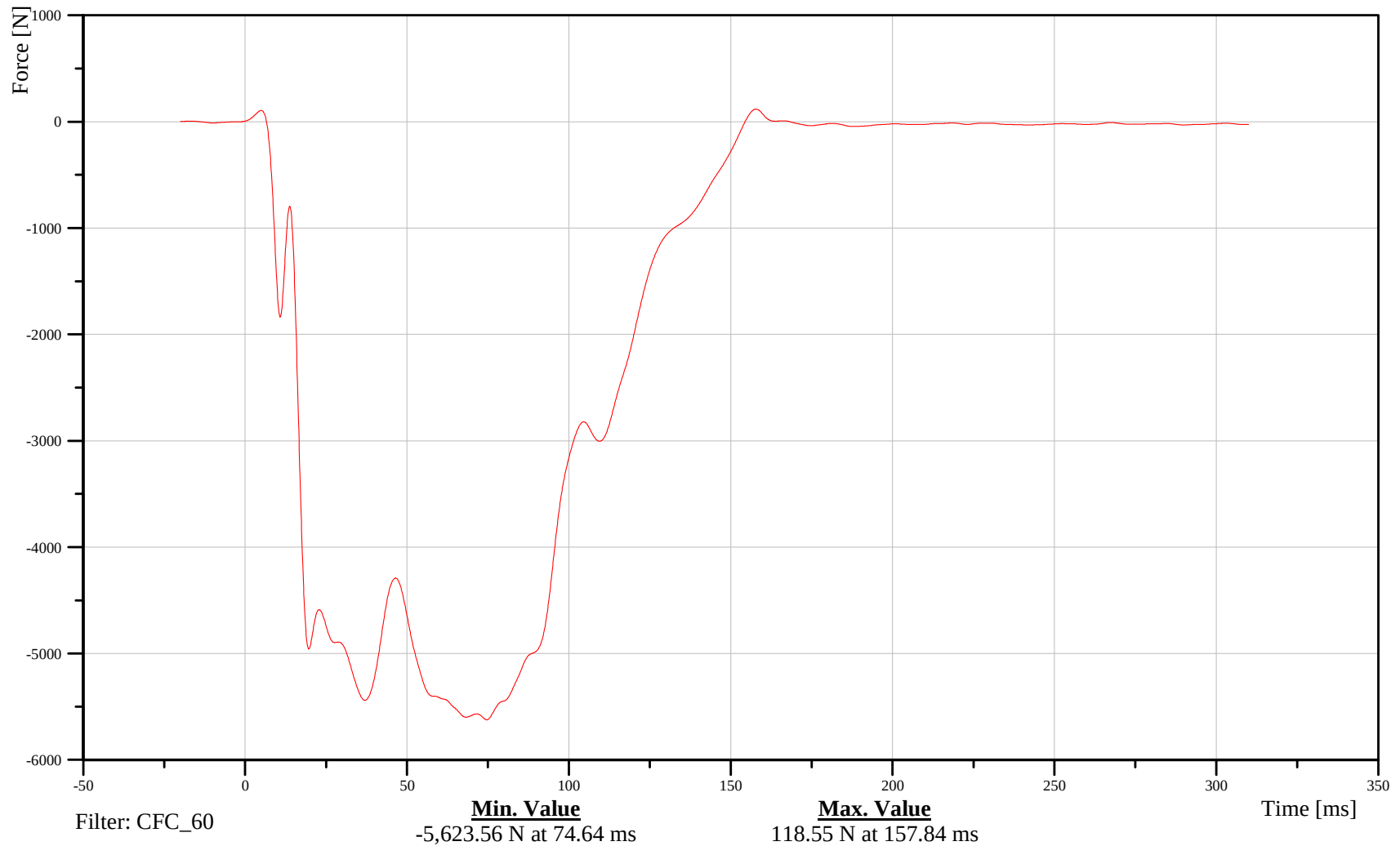
Load Cell Row 9 Column 5

Customer: Volpe

## L0FBAR000049FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-123

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

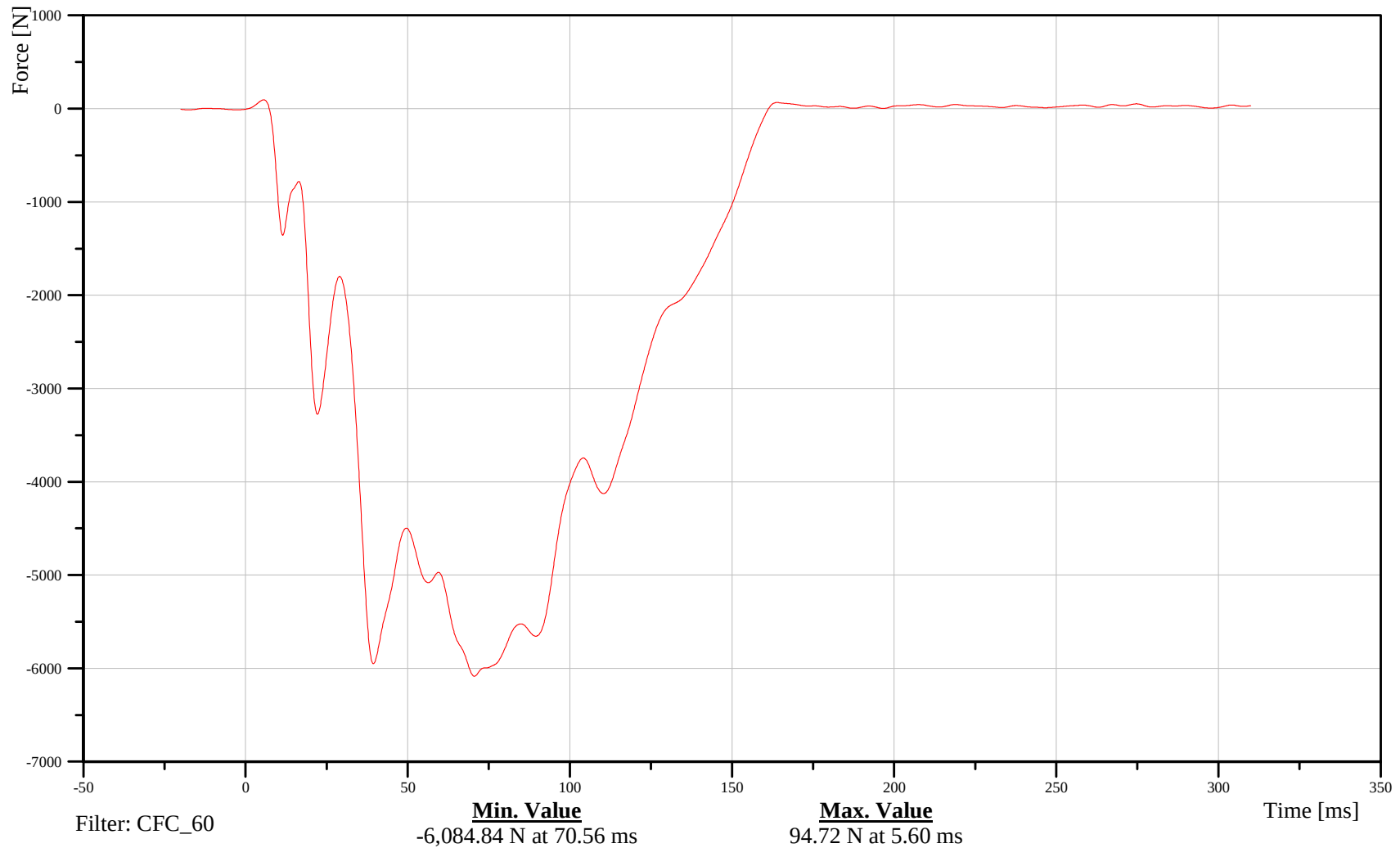
Load Cell Row 9 Column 4

Customer: Volpe

## L0FBAR000039FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-124

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

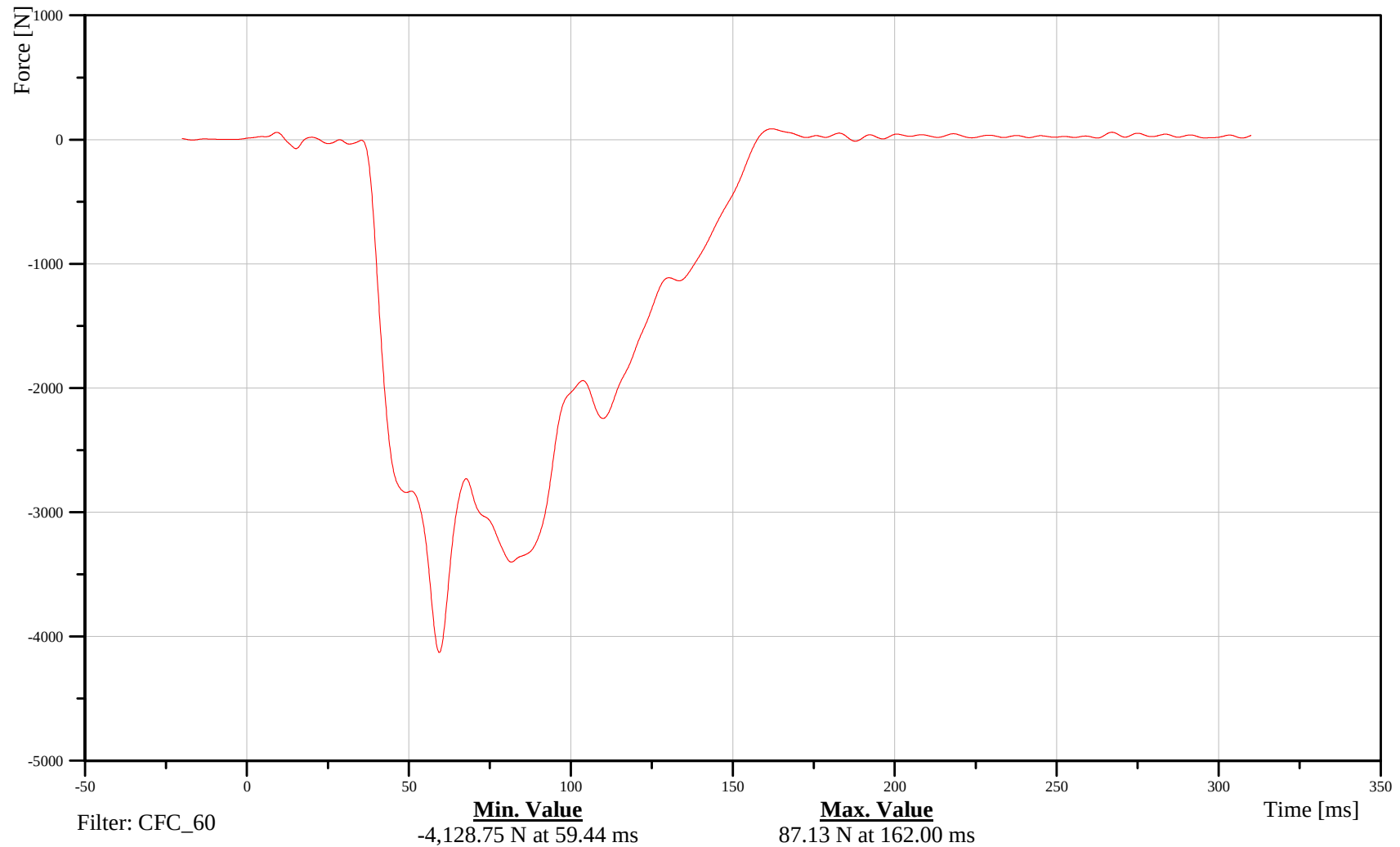
Load Cell Row 9 Column 3

Customer: Volpe

## L0FBAR000029FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-125

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

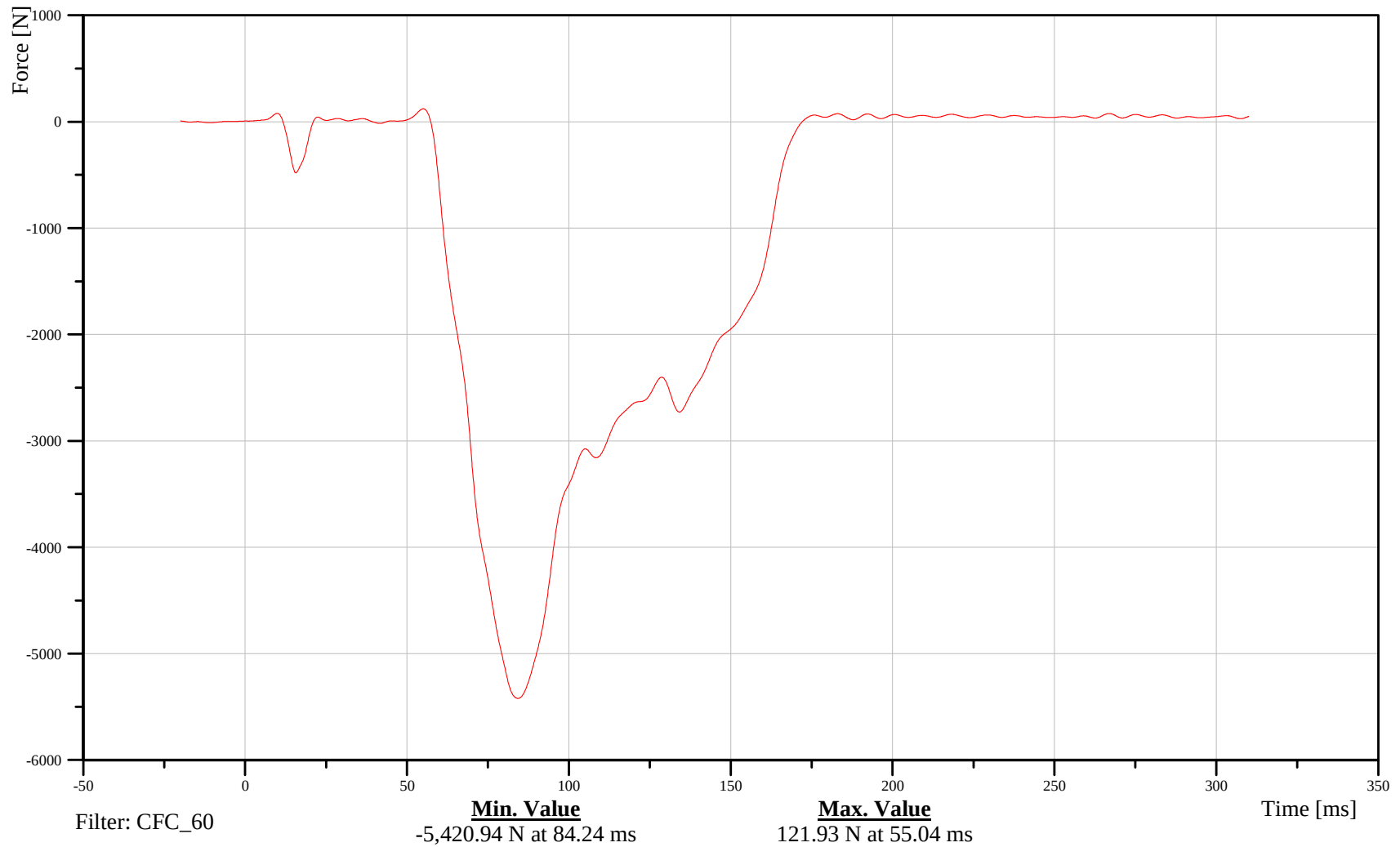
Load Cell Row 9 Column 2

Customer: Volpe

## L0FBAR000019FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-126

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

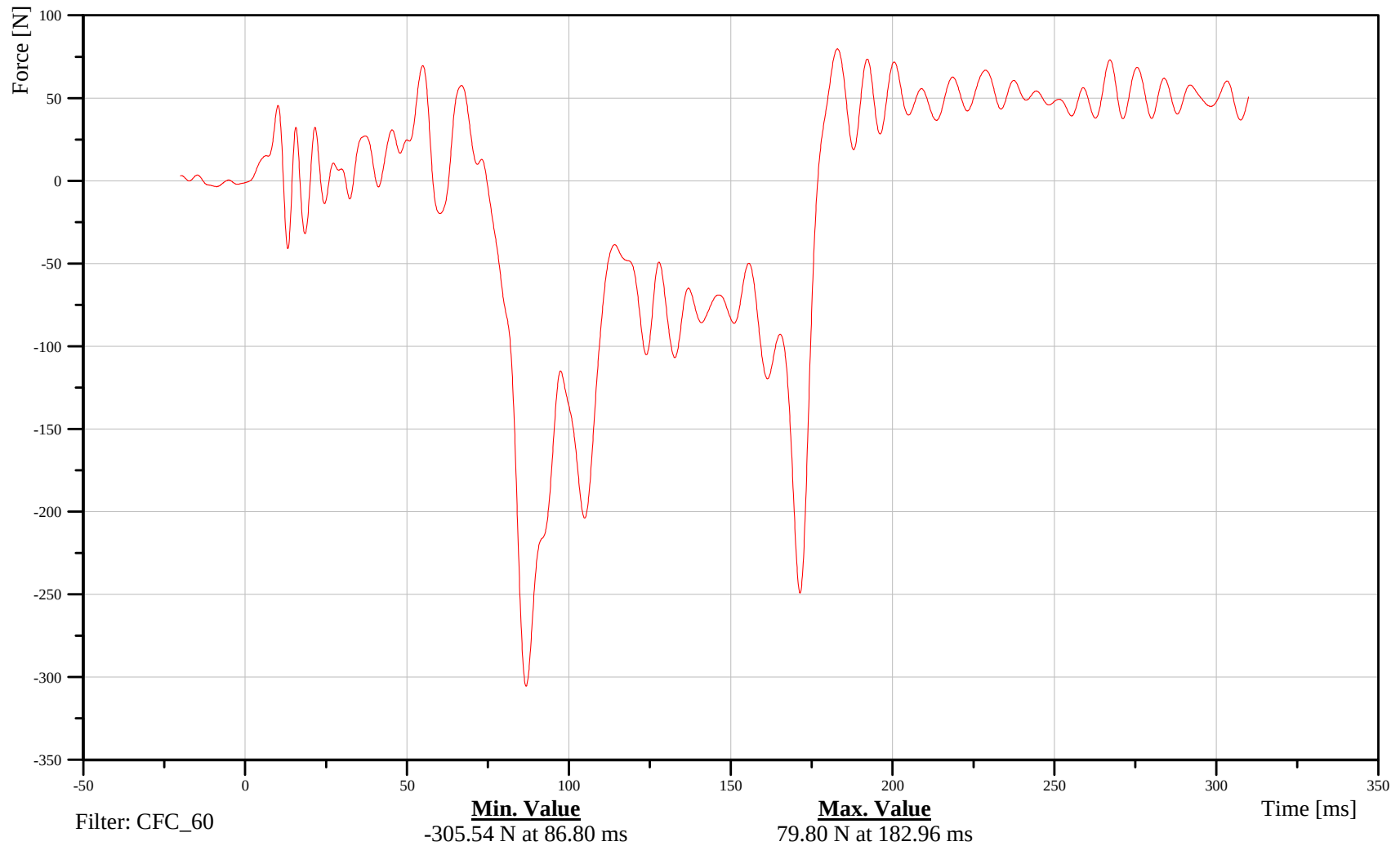
Load Cell Row 9 Column 1

Customer: Volpe

## L0FBAR000009FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-127

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

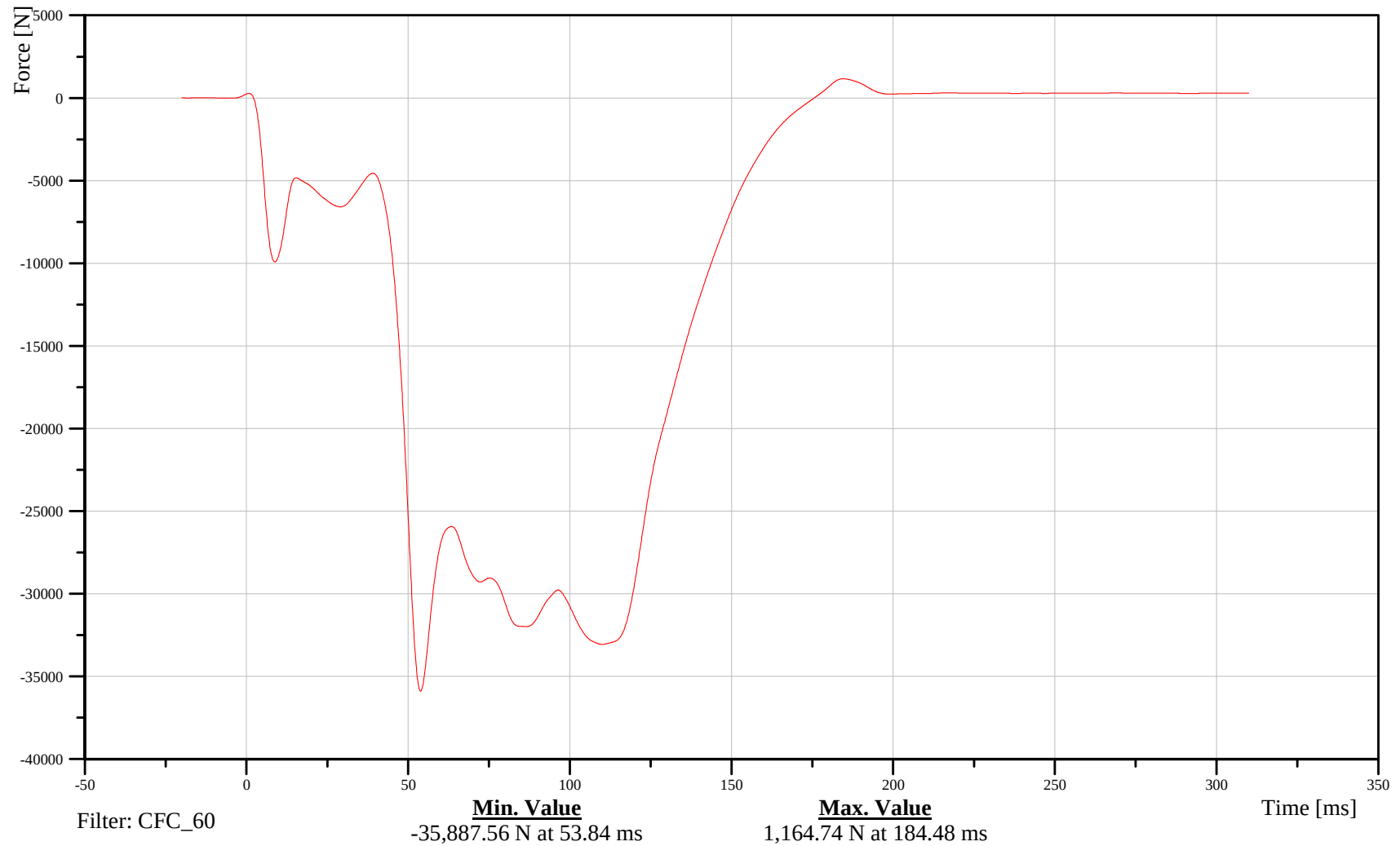
Load Cell Row 8 Column 9

Customer: Volpe

## L0FBAR000088FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-128

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

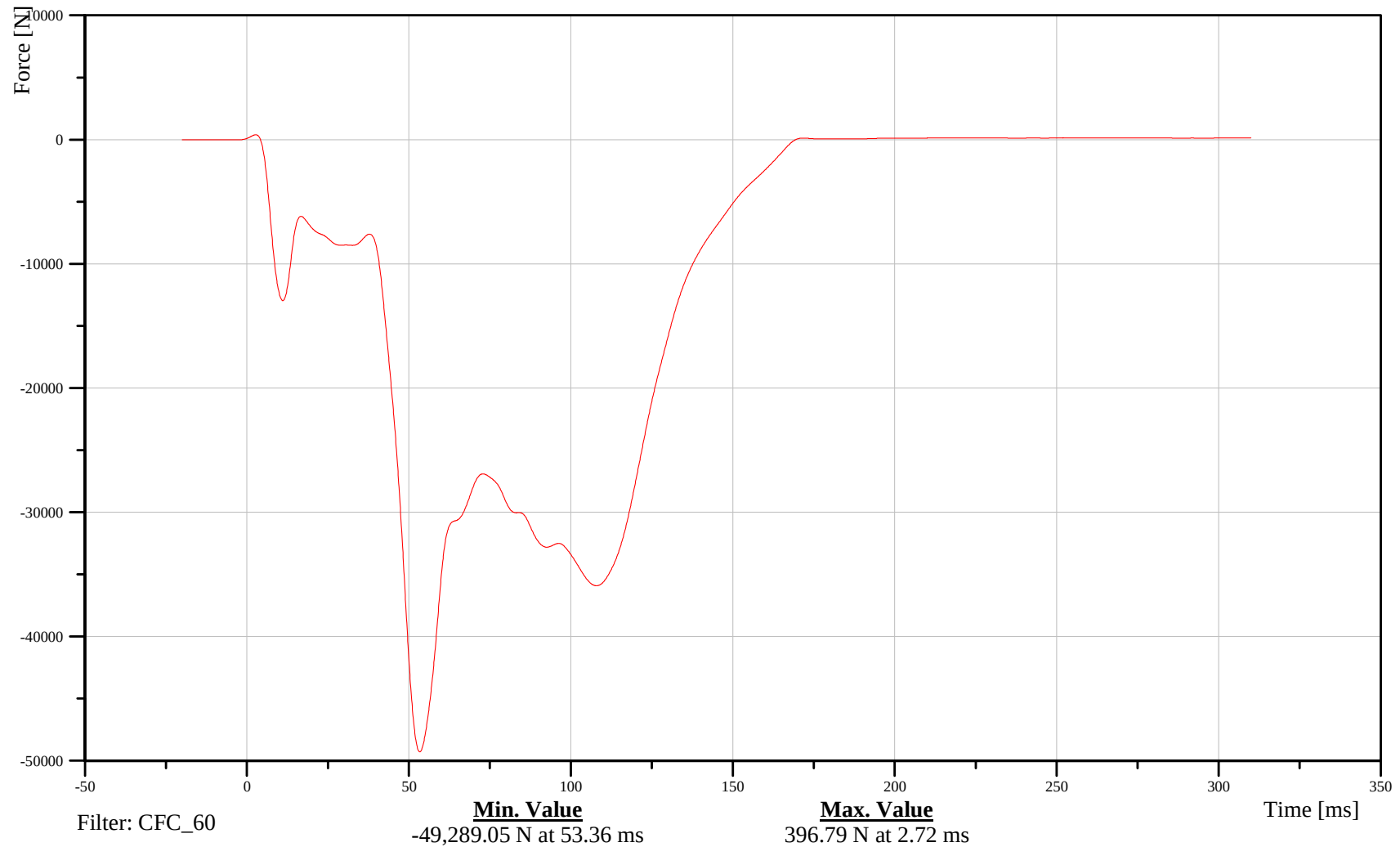
Load Cell Row 8 Column 8

Customer: Volpe

## L0FBAR000078FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-129

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

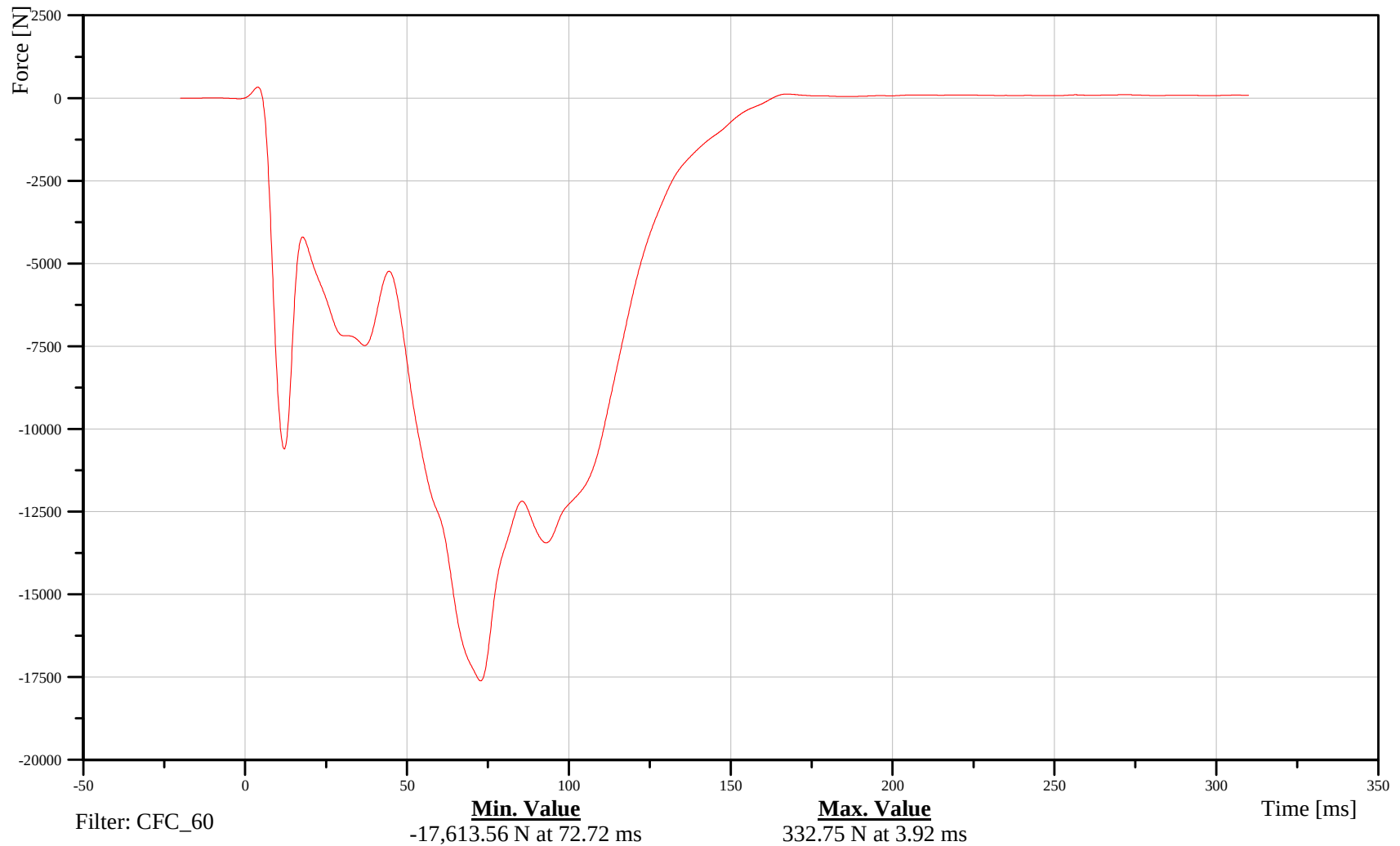
Load Cell Row 8 Column 7

Customer: Volpe

## L0FBAR000068FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-130

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

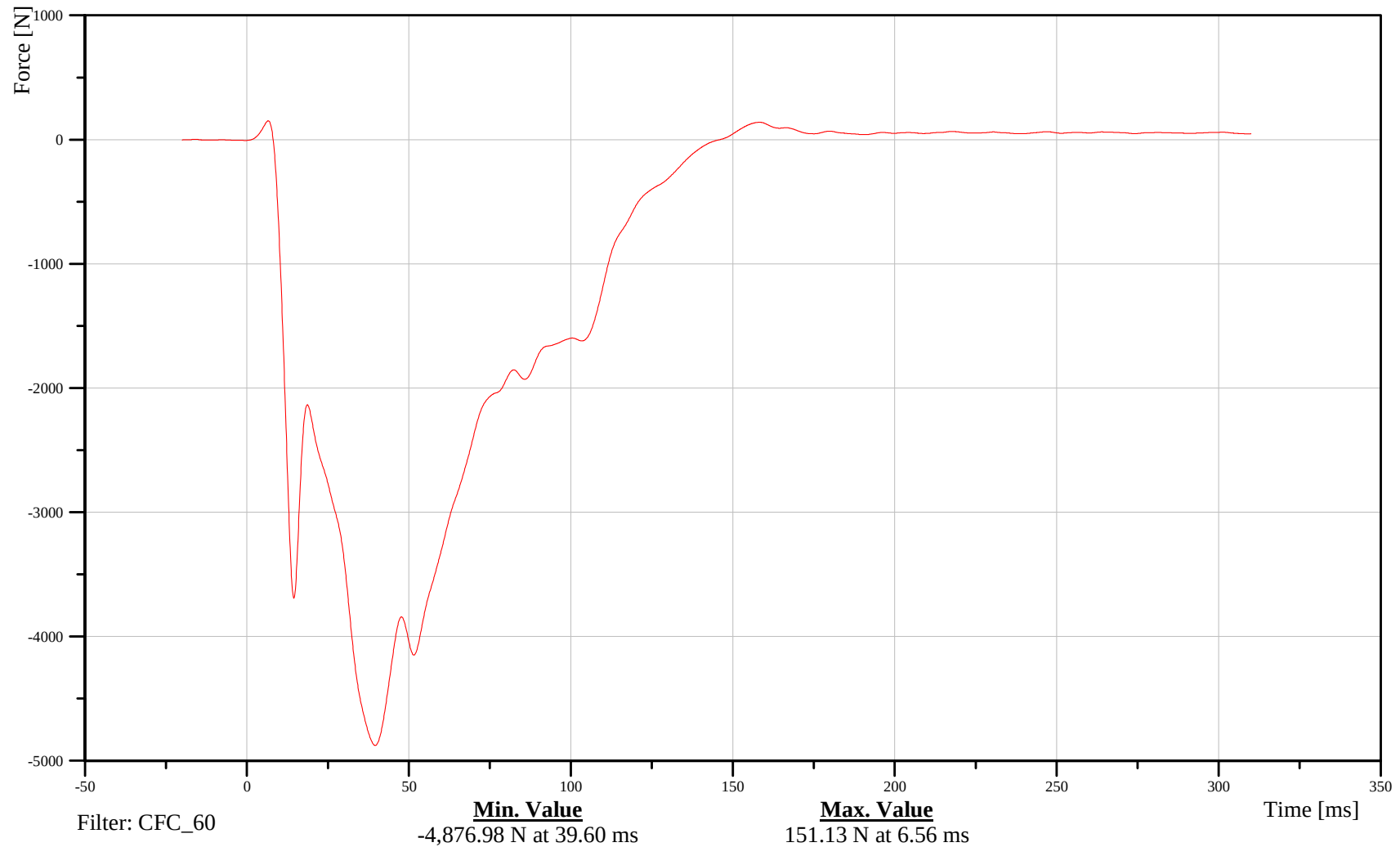
Load Cell Row 8 Column 6

Customer: Volpe

## L0FBAR000058FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-131

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

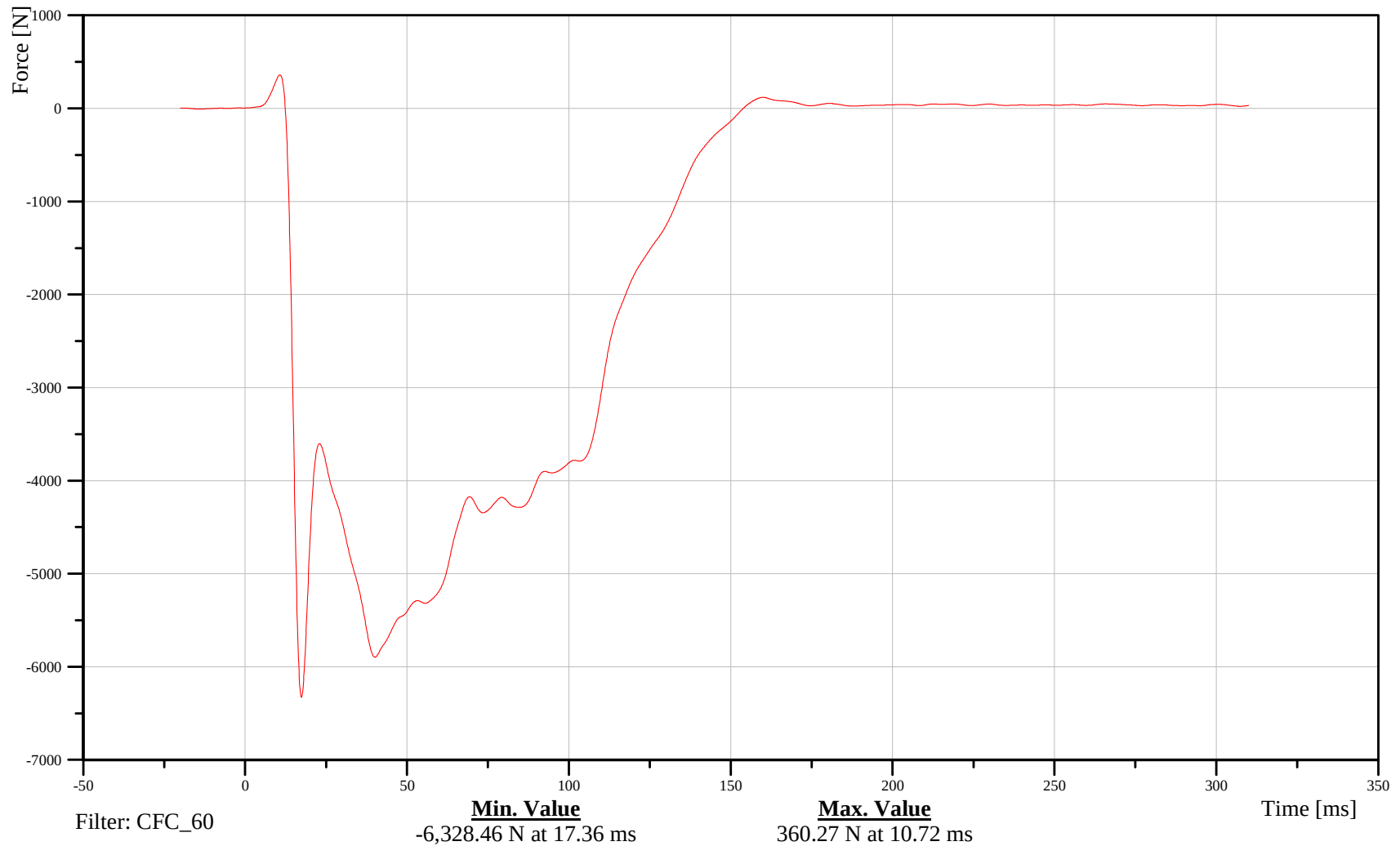
Load Cell Row 8 Column 5

Customer: Volpe

## L0FBAR000048FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-132

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

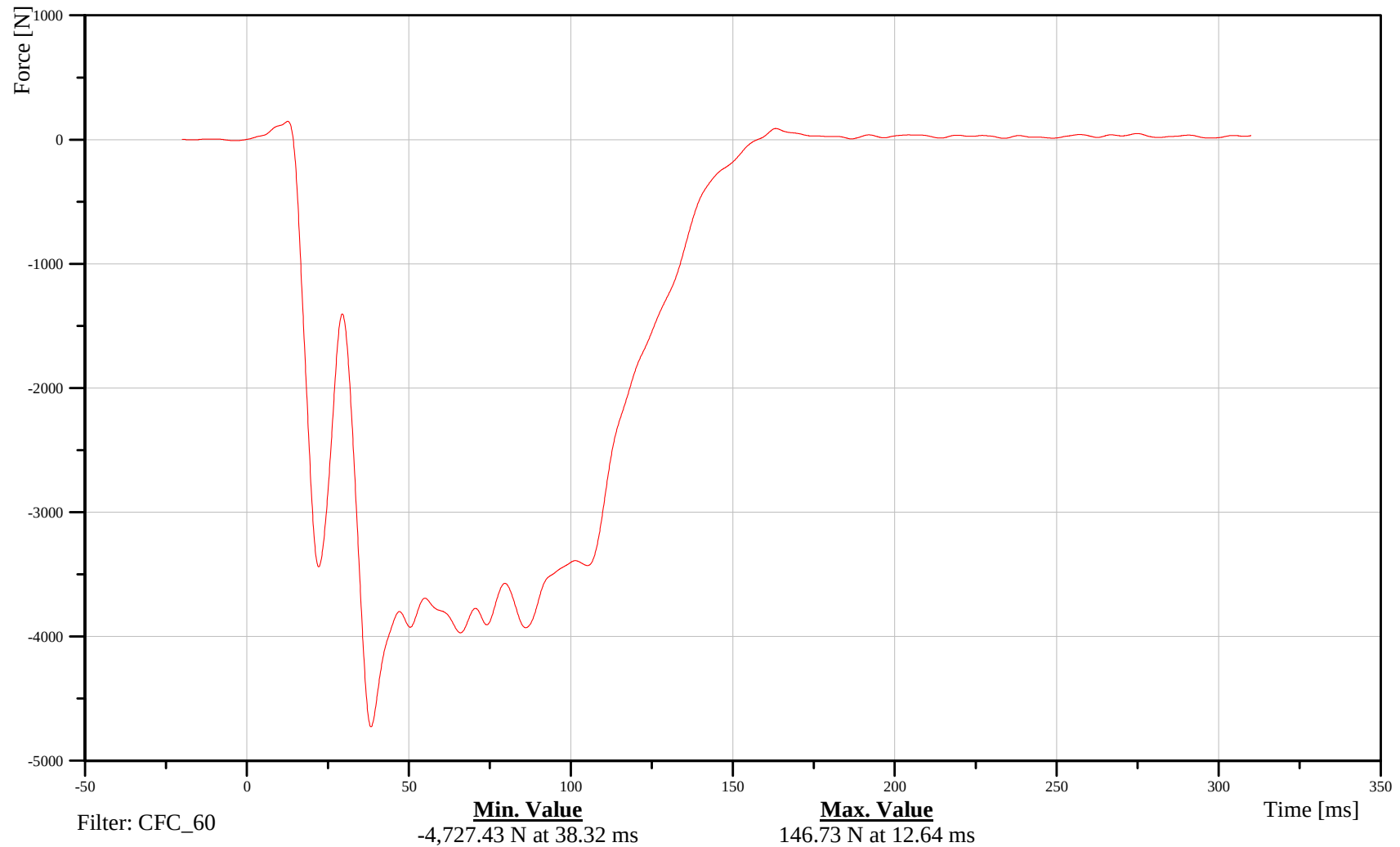
Load Cell Row 8 Column 4

Customer: Volpe

## L0FBAR000038FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-133

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

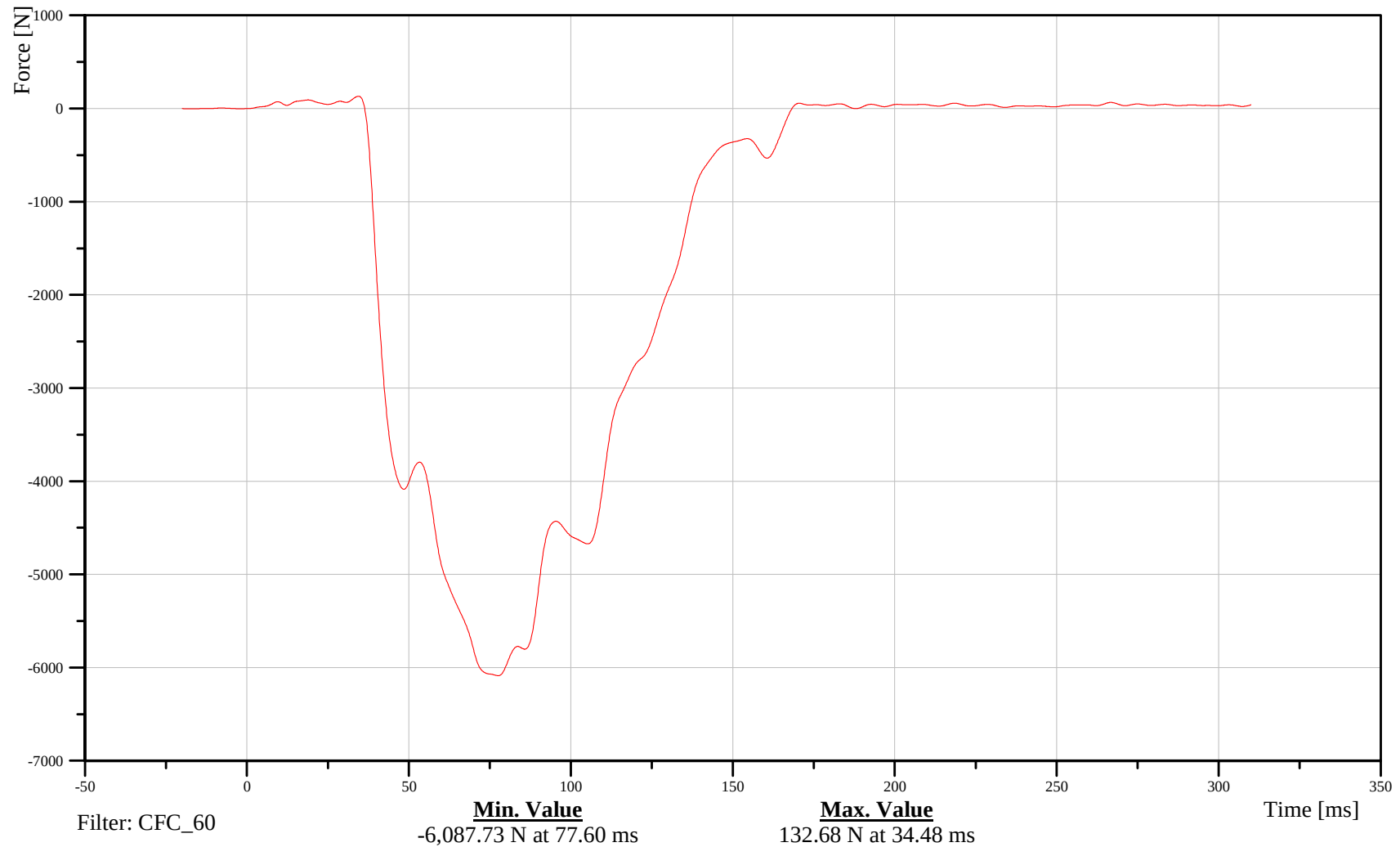
Load Cell Row 8 Column 3

Customer: Volpe

## L0FBAR000028FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-134

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

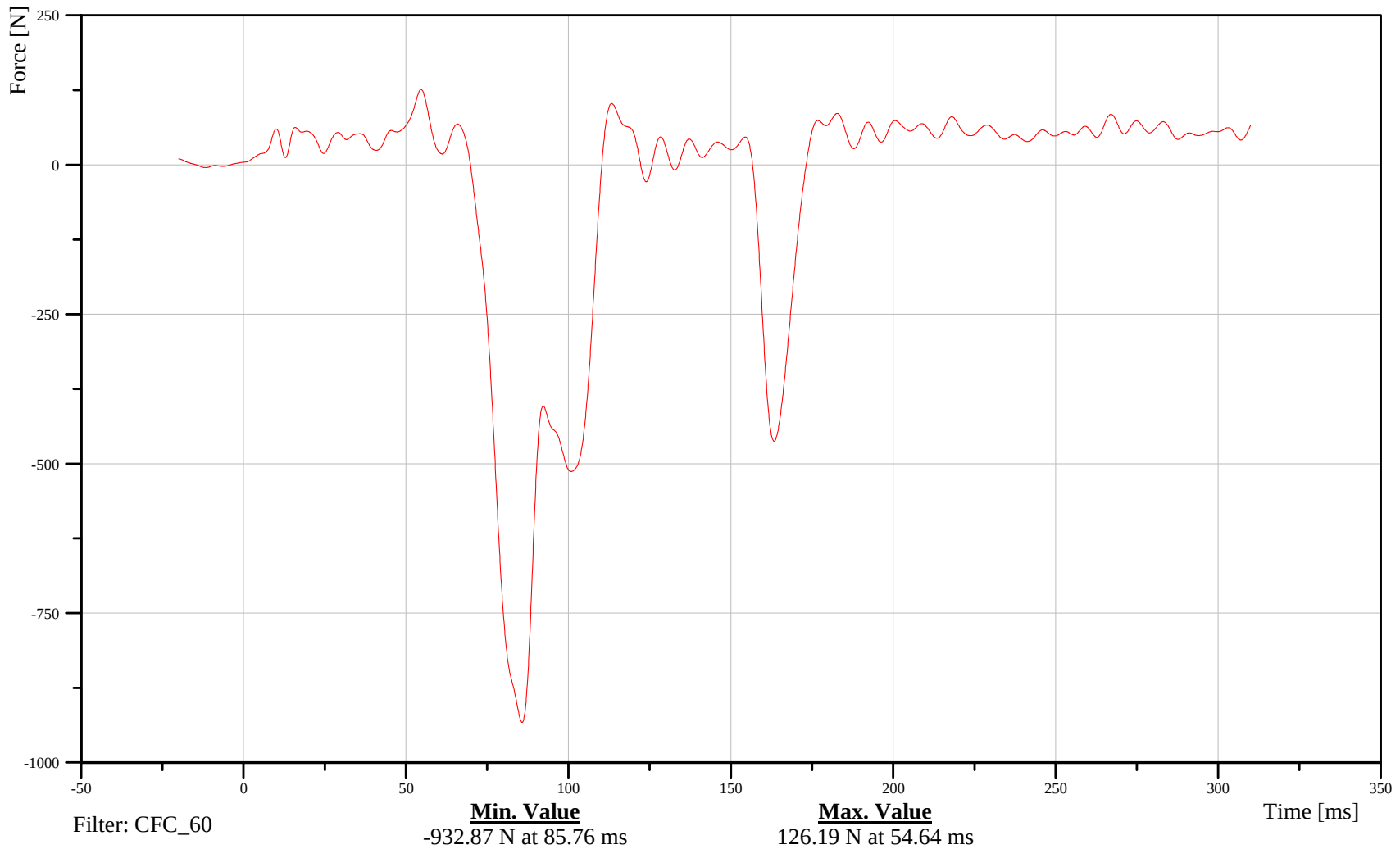
Load Cell Row 8 Column 2

Customer: Volpe

## L0FBAR000018FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-135

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

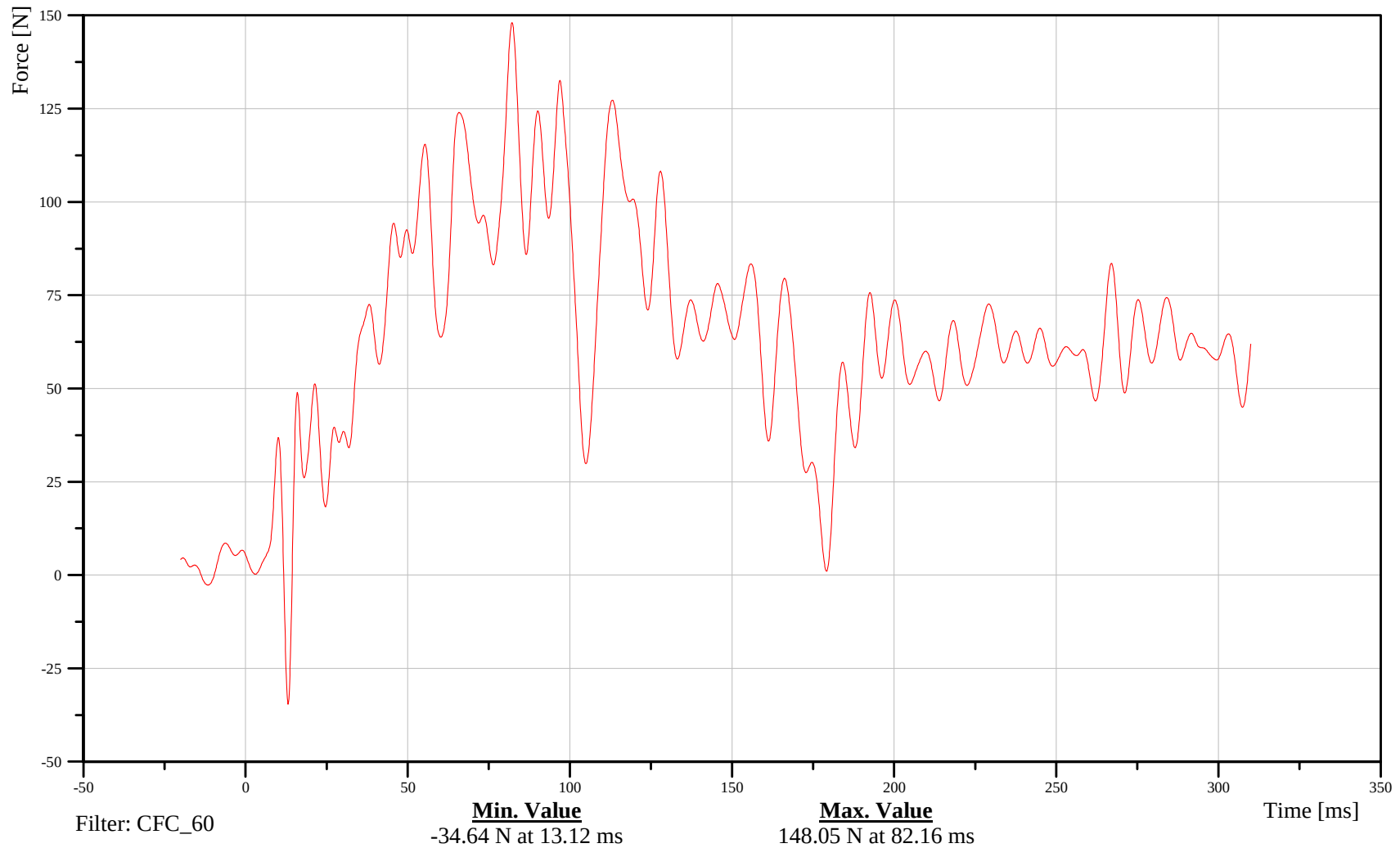
Load Cell Row 8 Column 1

Customer: Volpe

## L0FBAR000008FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-136

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

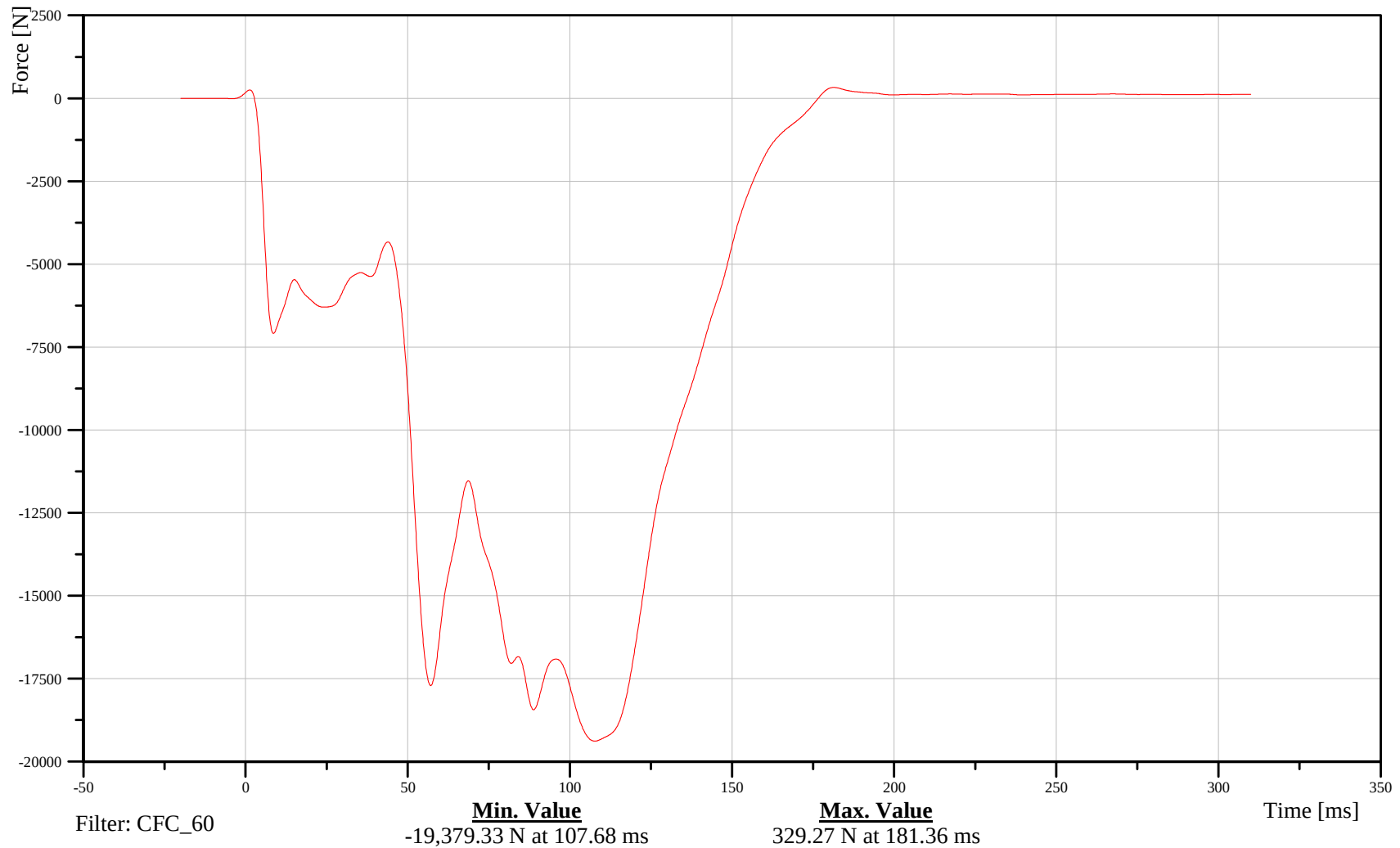
Load Cell Row 7 Column 9

Customer: Volpe

## L0FBAR000087FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-137

060328-1





2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006

Load Cell Row 7 Column 8

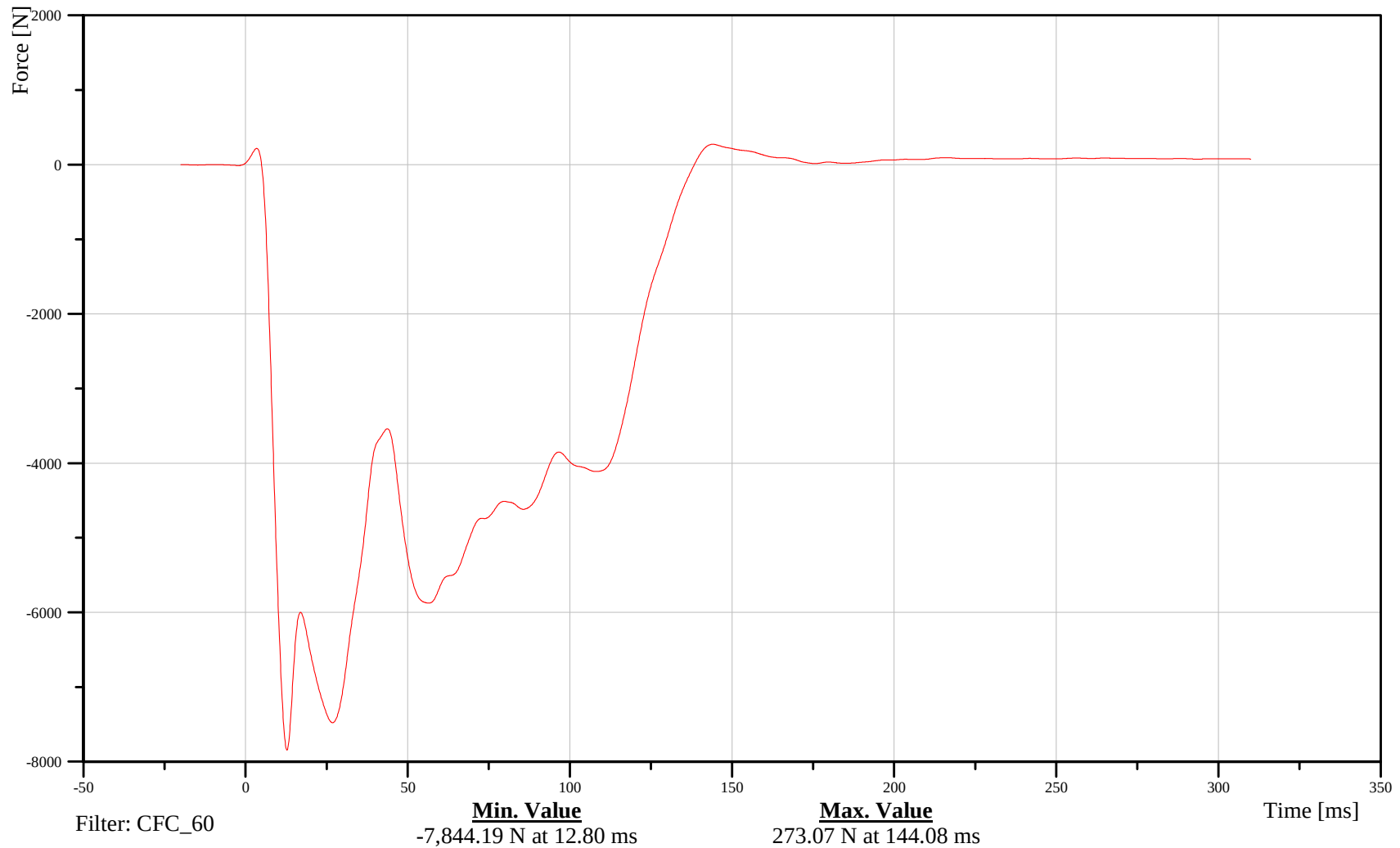
Time: 13:15

Customer: Volpe

L0FBAR000077FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-138

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

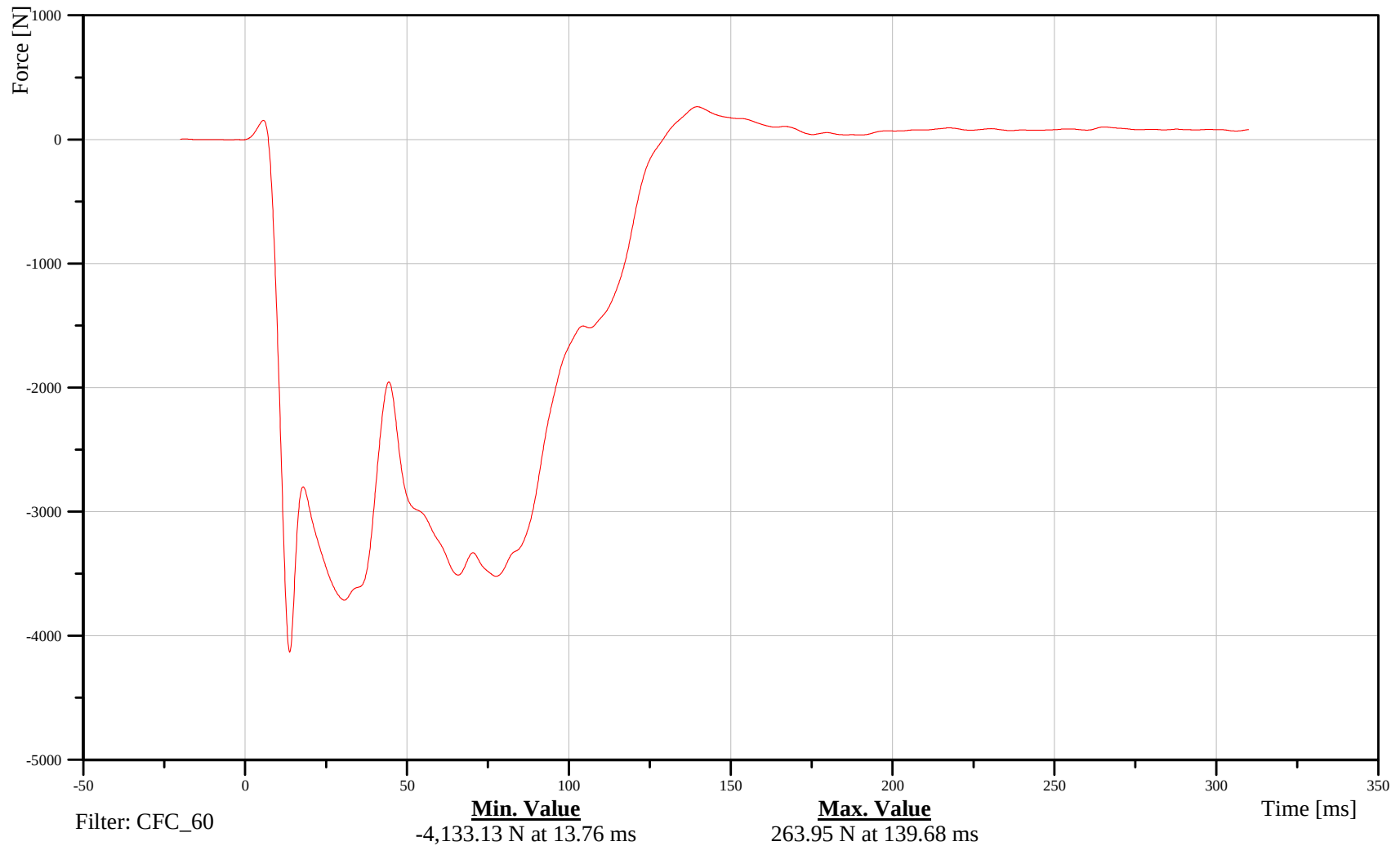
Load Cell Row 7 Column 7

Customer: Volpe

## L0FBAR000067FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-139

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

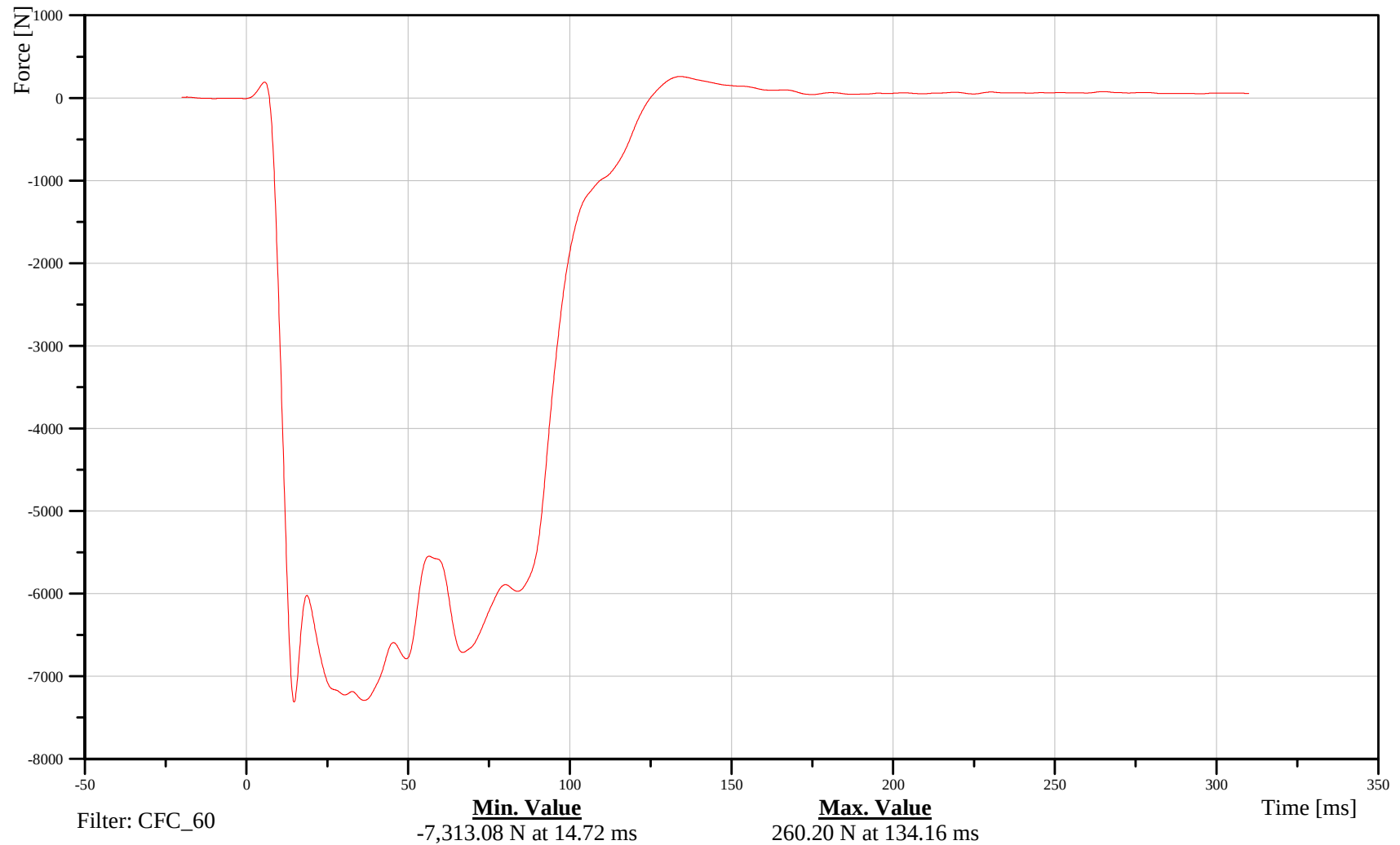
Load Cell Row 7 Column 6

Customer: Volpe

## L0FBAR000057FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-140

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

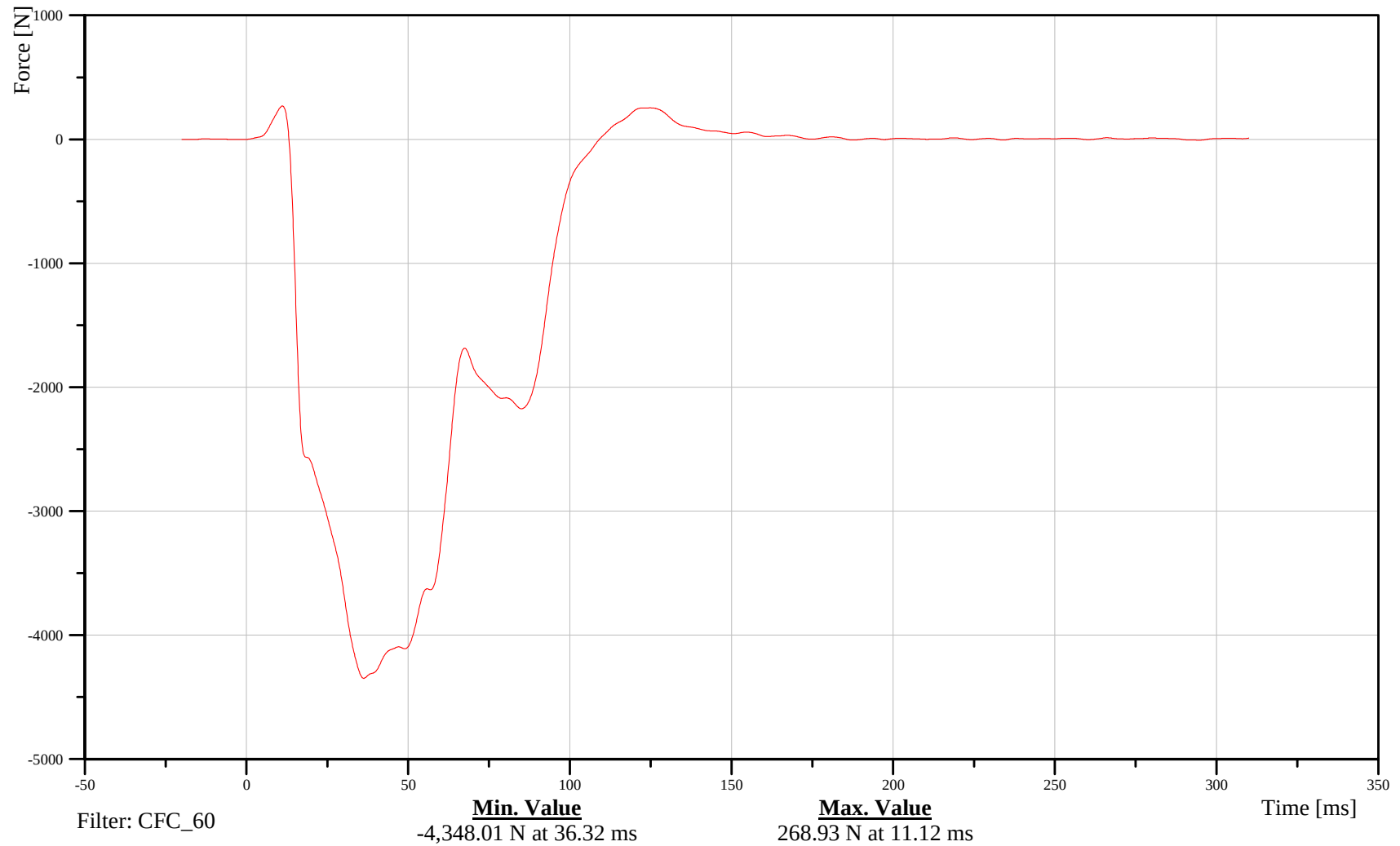
Load Cell Row 7 Column 5

Customer: Volpe

## L0FBAR000047FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-141

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

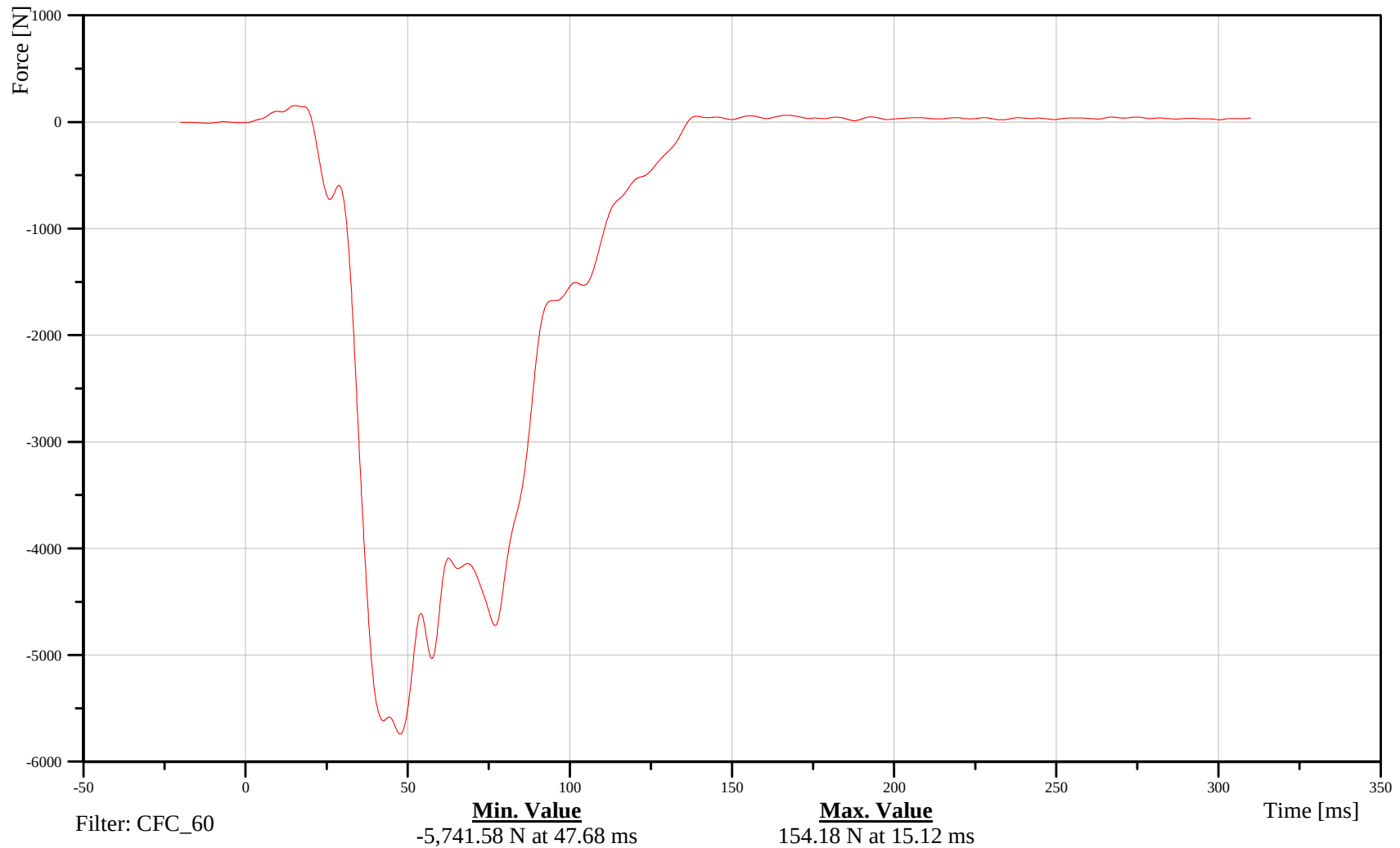
Load Cell Row 7 Column 4

Customer: Volpe

## L0FBAR000037FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-142

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

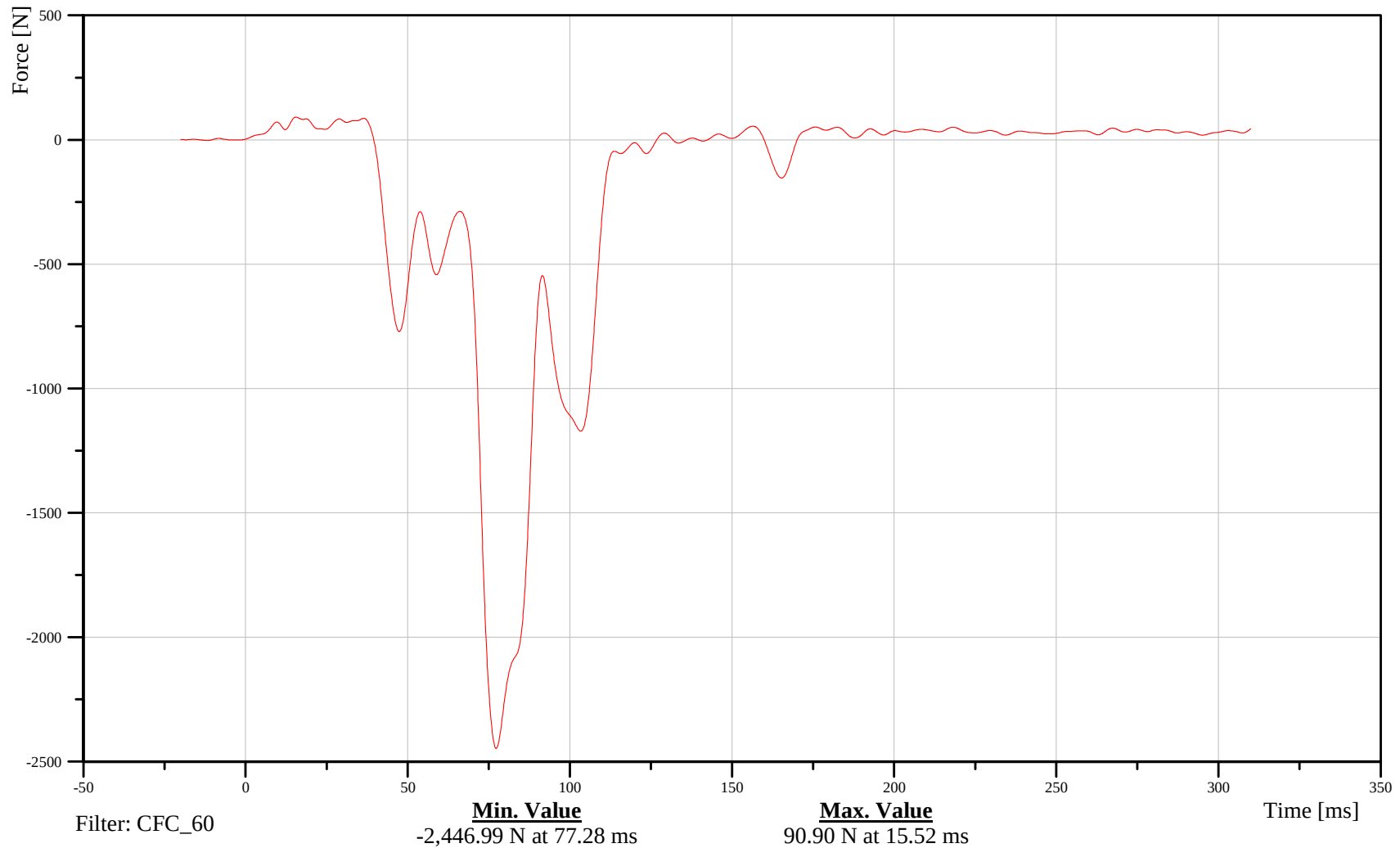
Load Cell Row 7 Column 3

Customer: Volpe

## L0FBAR000027FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-143

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

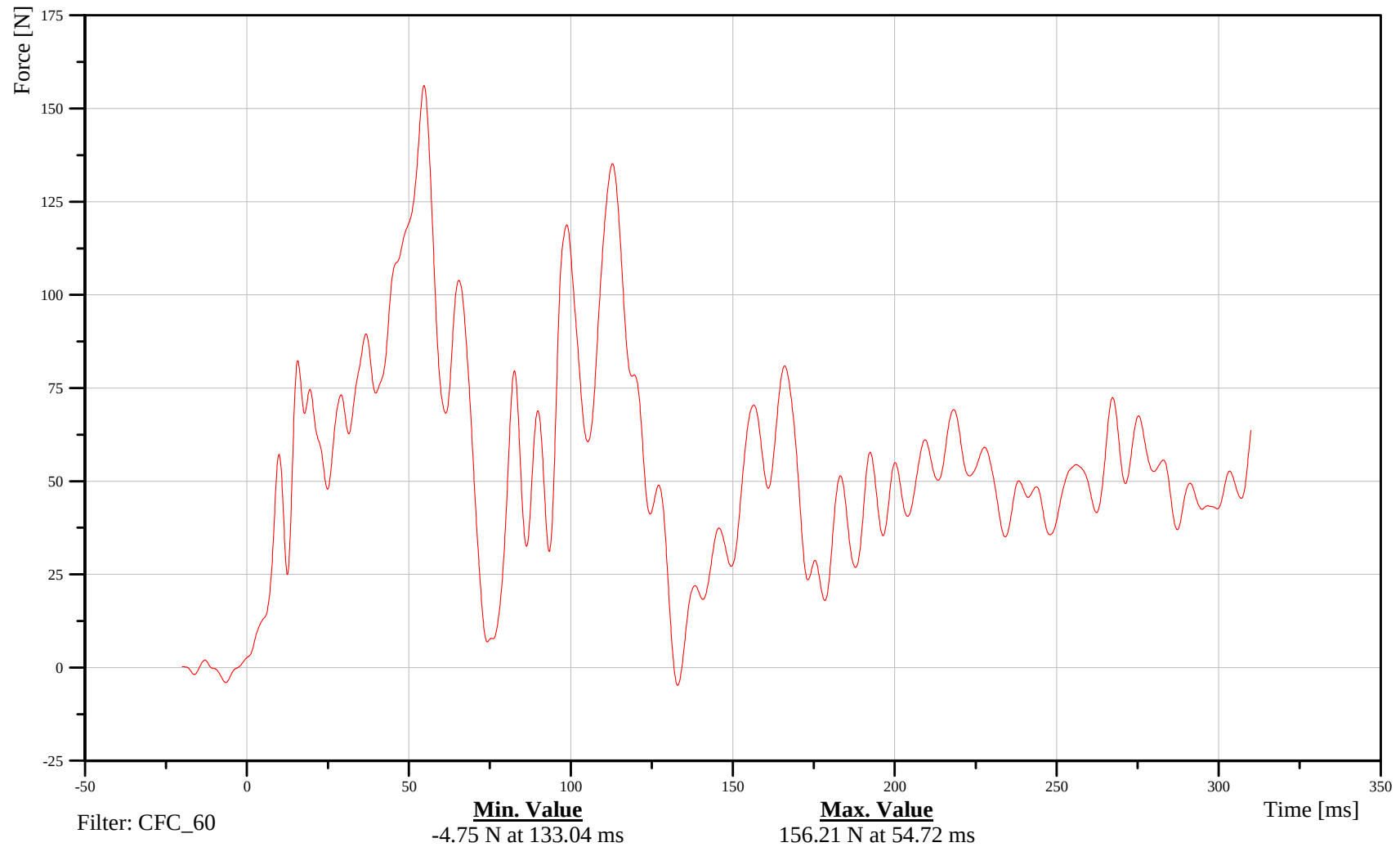
Load Cell Row 7 Column 2

Customer: Volpe

## L0FBAR000017FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-144

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

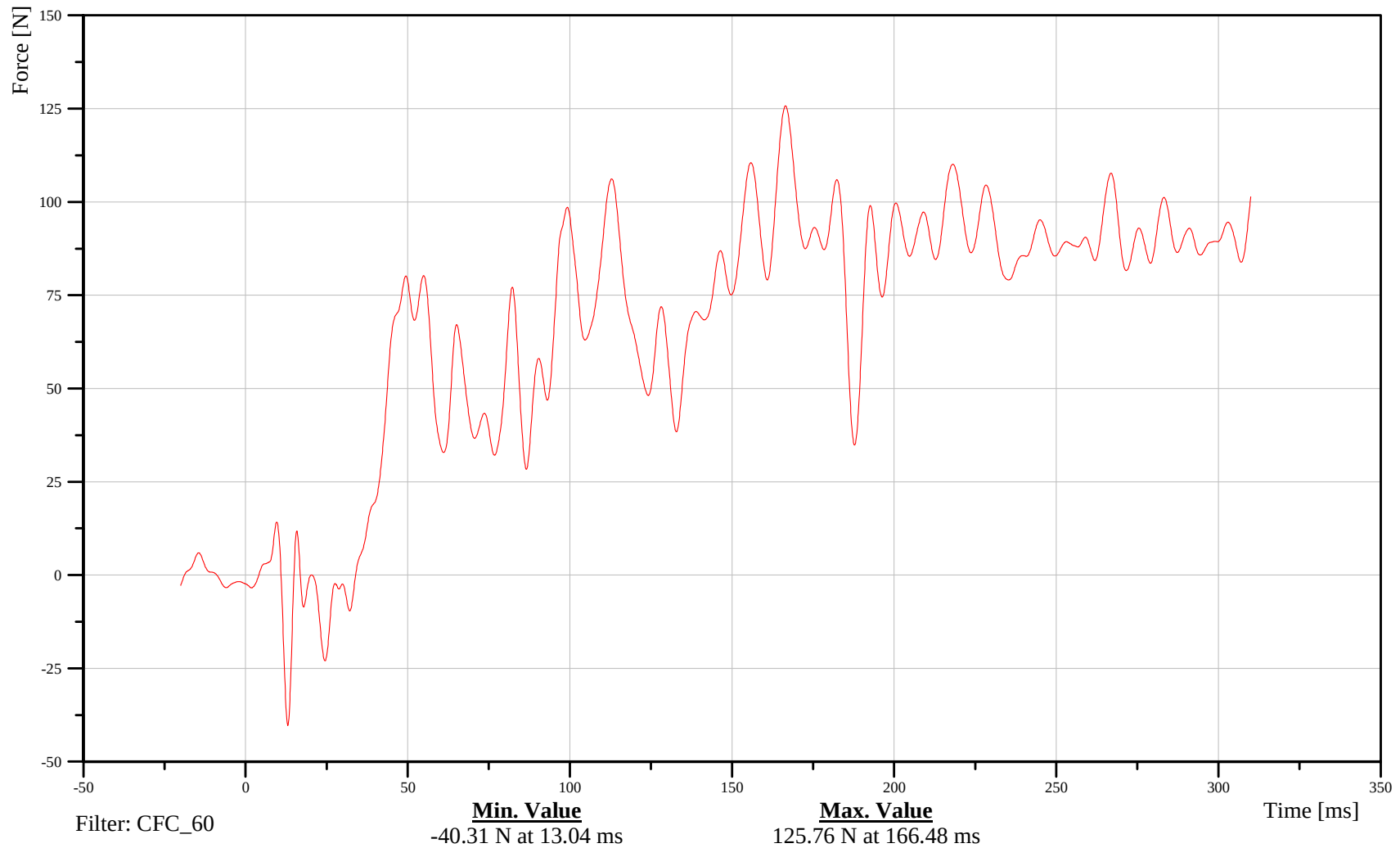
Load Cell Row 7 Column 1

Customer: Volpe

## L0FBAR000007FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-145

060328-1



2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

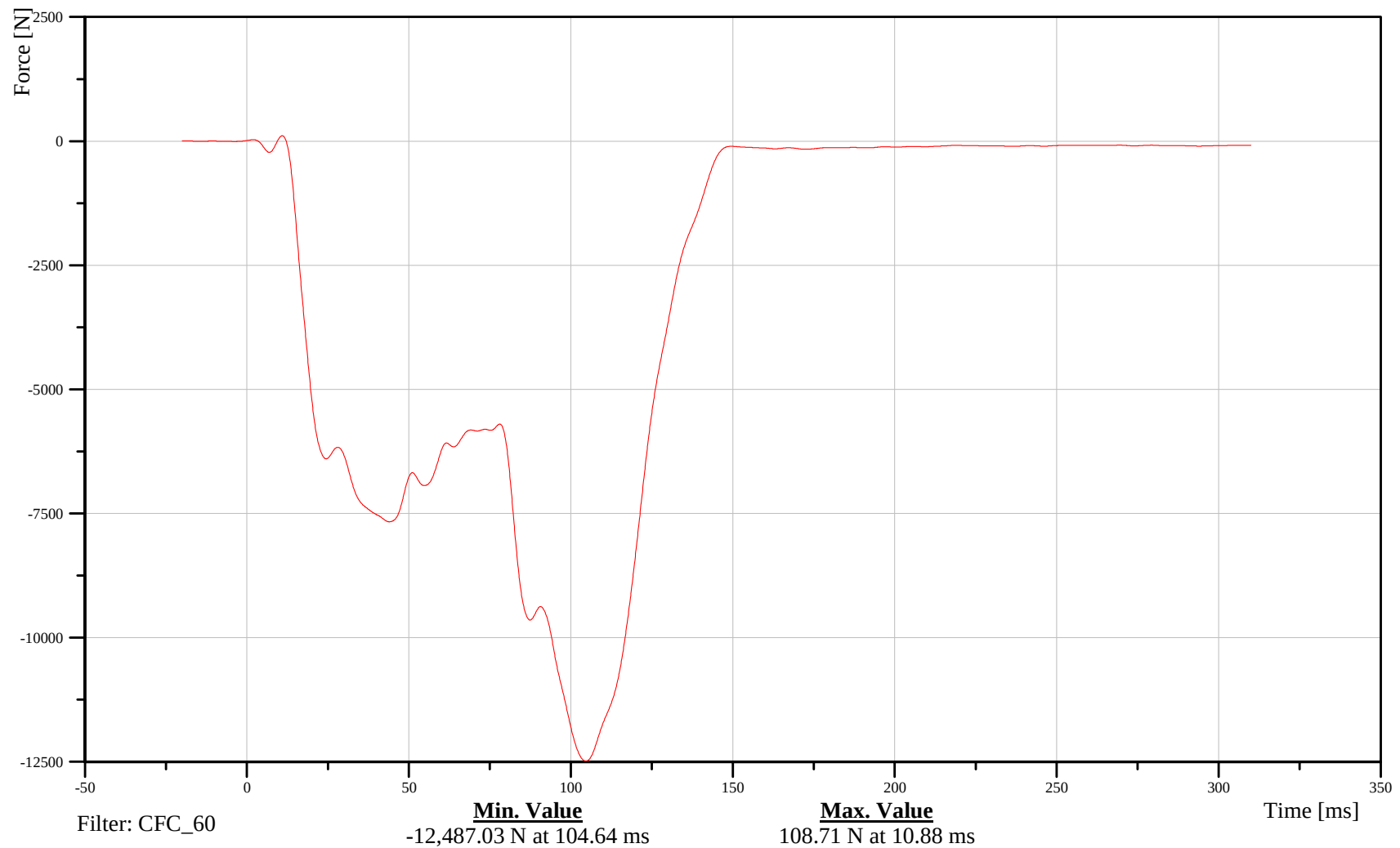
Load Cell Row 6 Column 9

Customer: Volpe

L0FBAR000086FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-146

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

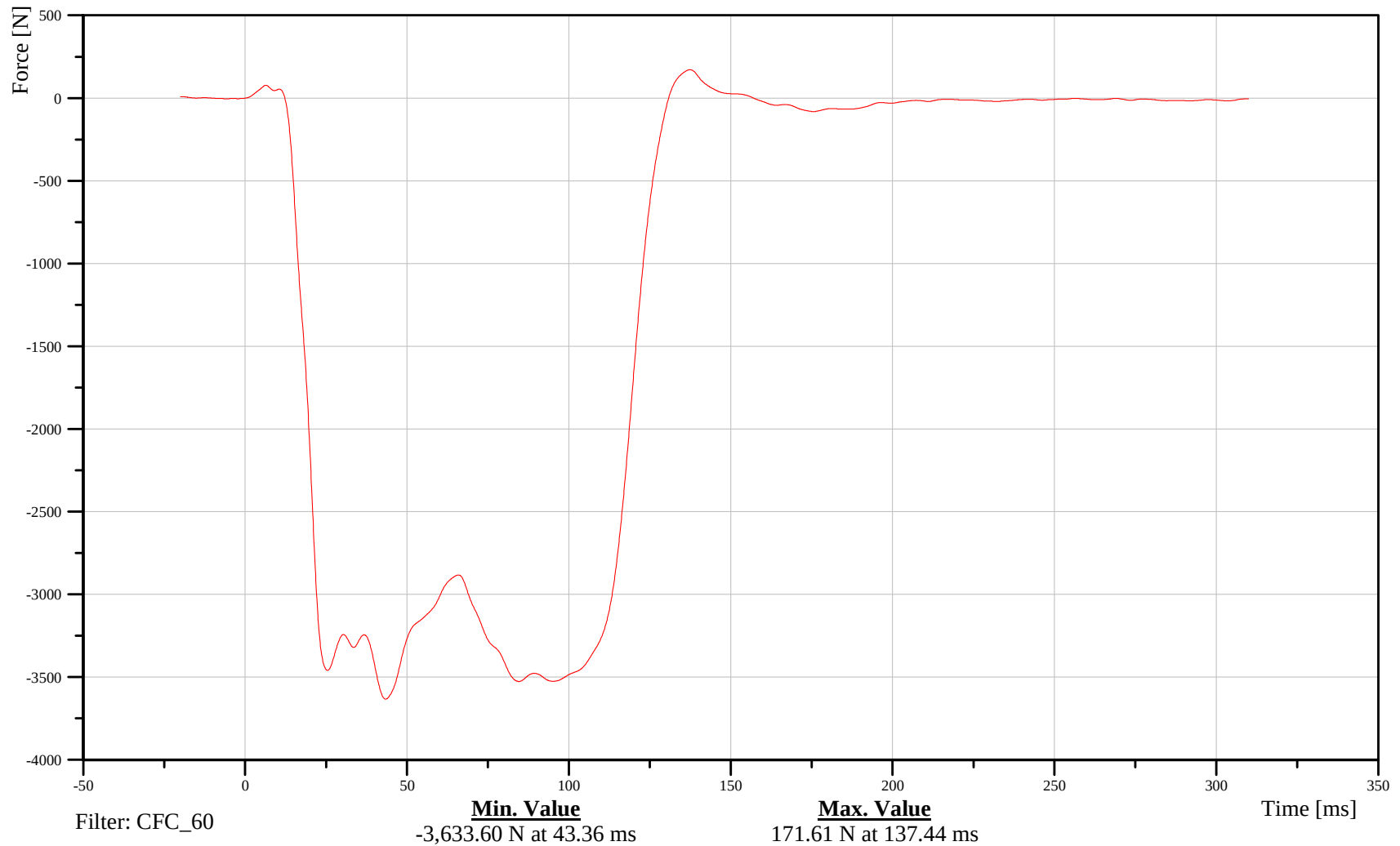
Load Cell Row 6 Column 8

Customer: Volpe

## L0FBAR000076FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-147

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

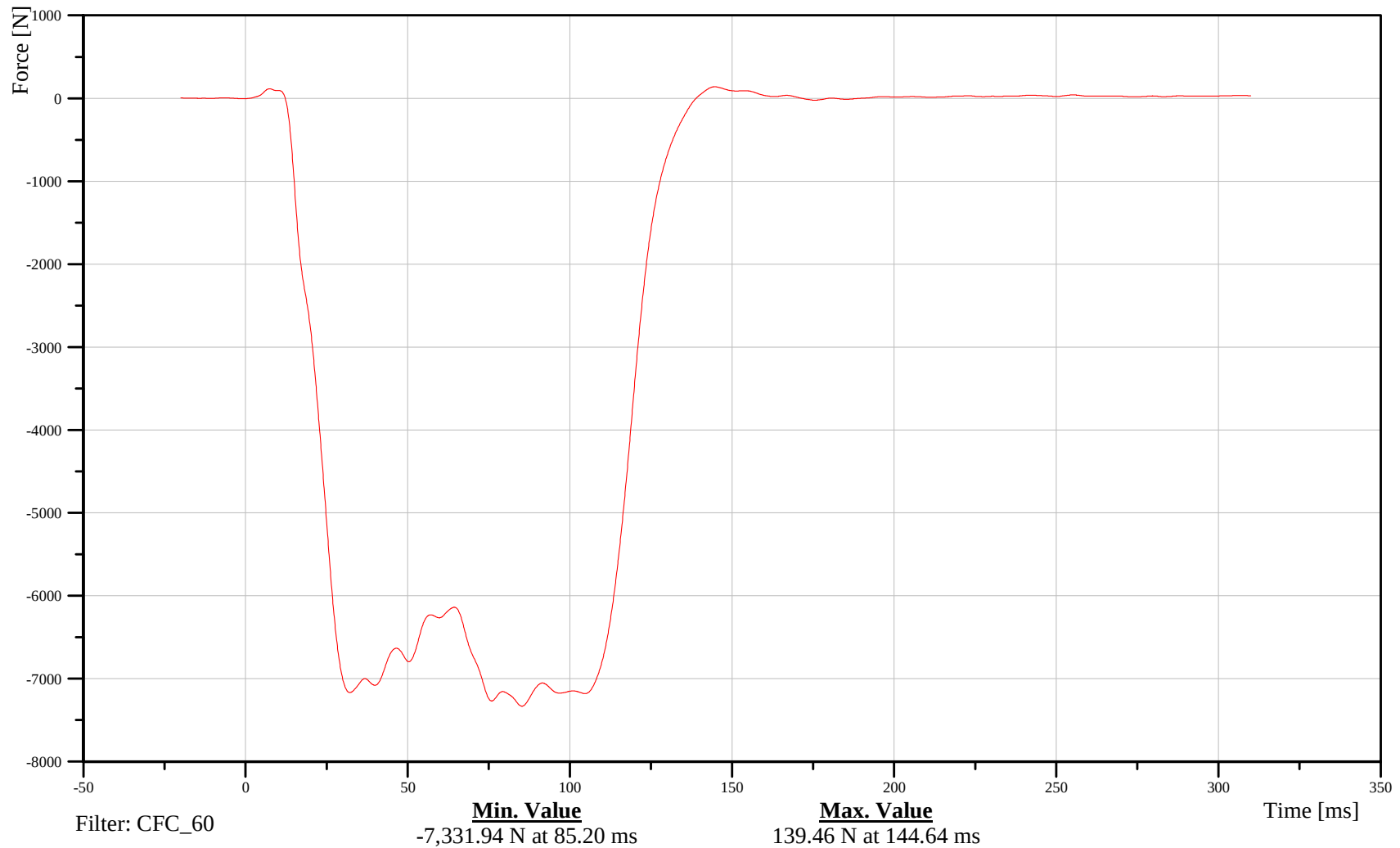
Load Cell Row 6 Column 7

Customer: Volpe

## L0FBAR000066FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-148

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

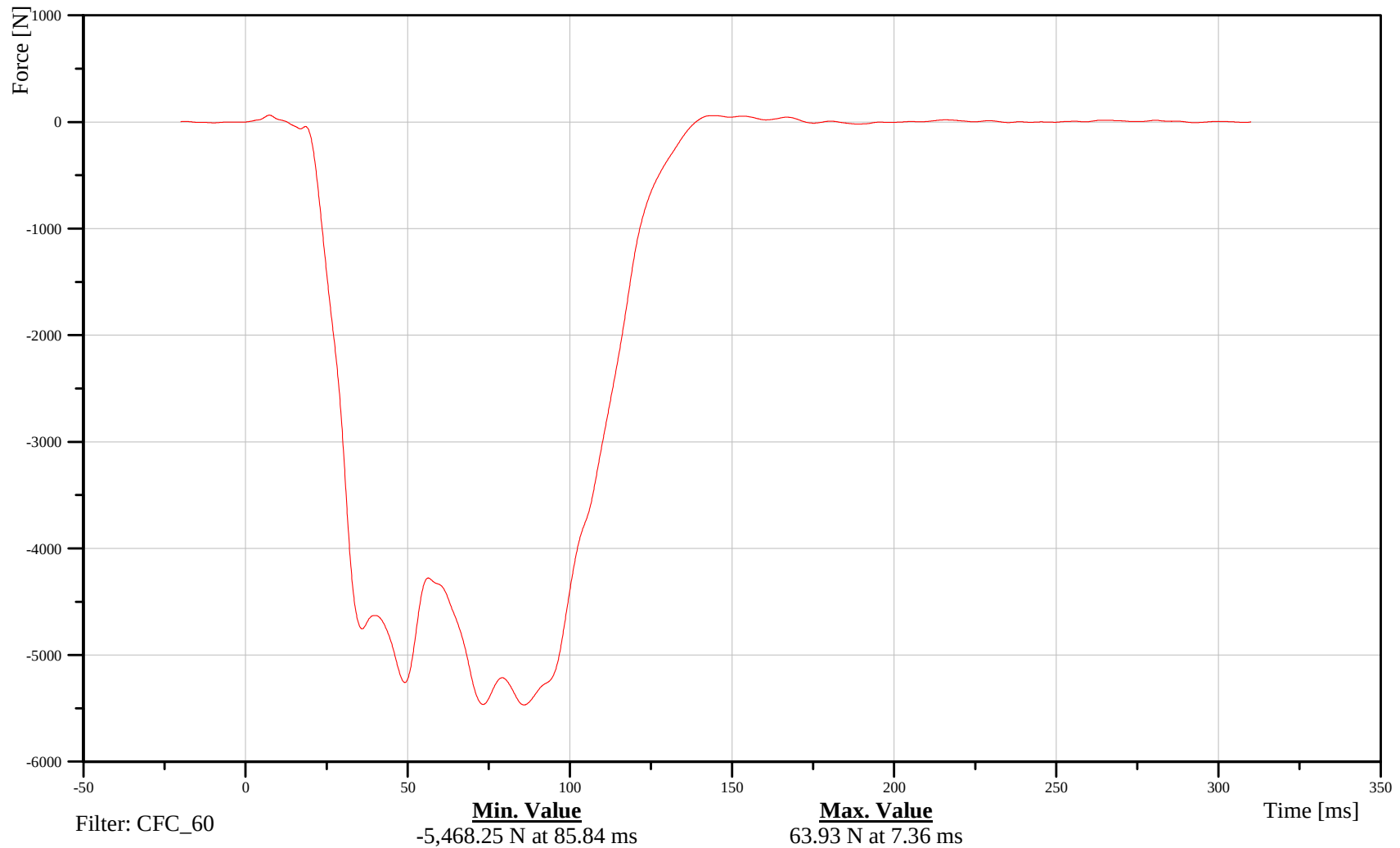
Load Cell Row 6 Column 6

Customer: Volpe

## L0FBAR000056FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-149

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

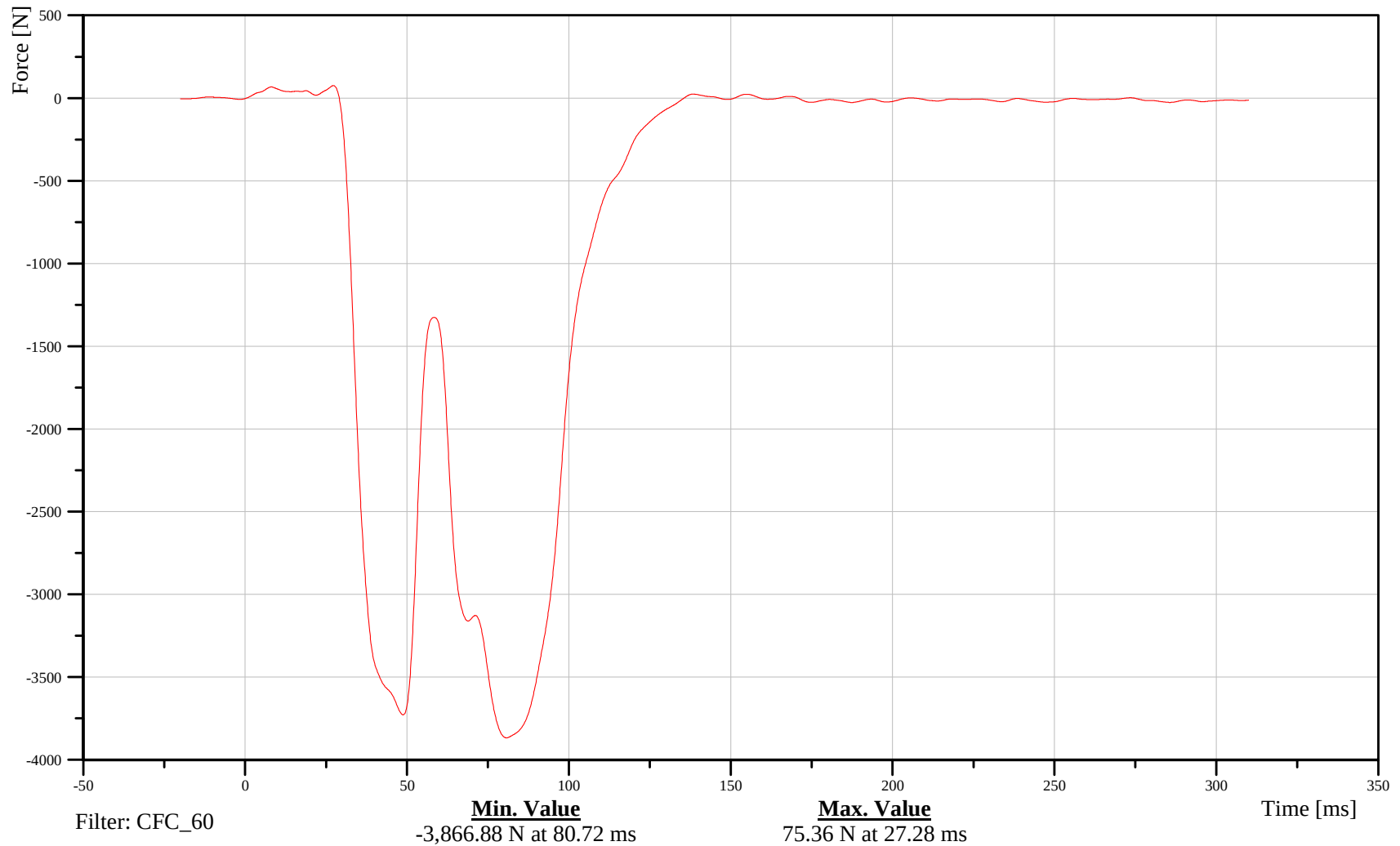
Load Cell Row 6 Column 5

Customer: Volpe

## L0FBAR000046FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-150

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

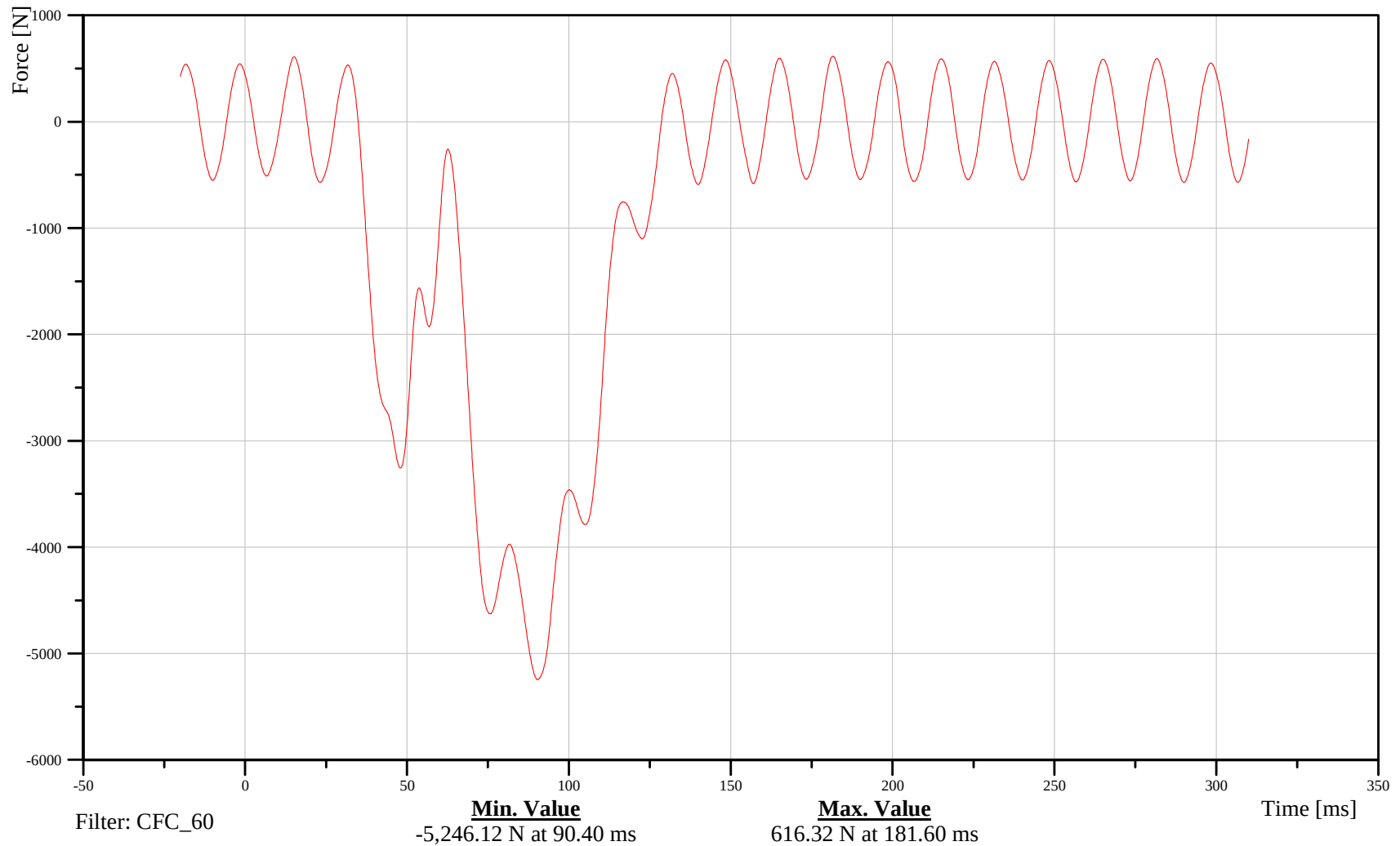
Load Cell Row 6 Column 4

Customer: Volpe

## L0FBAR000036FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-151

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

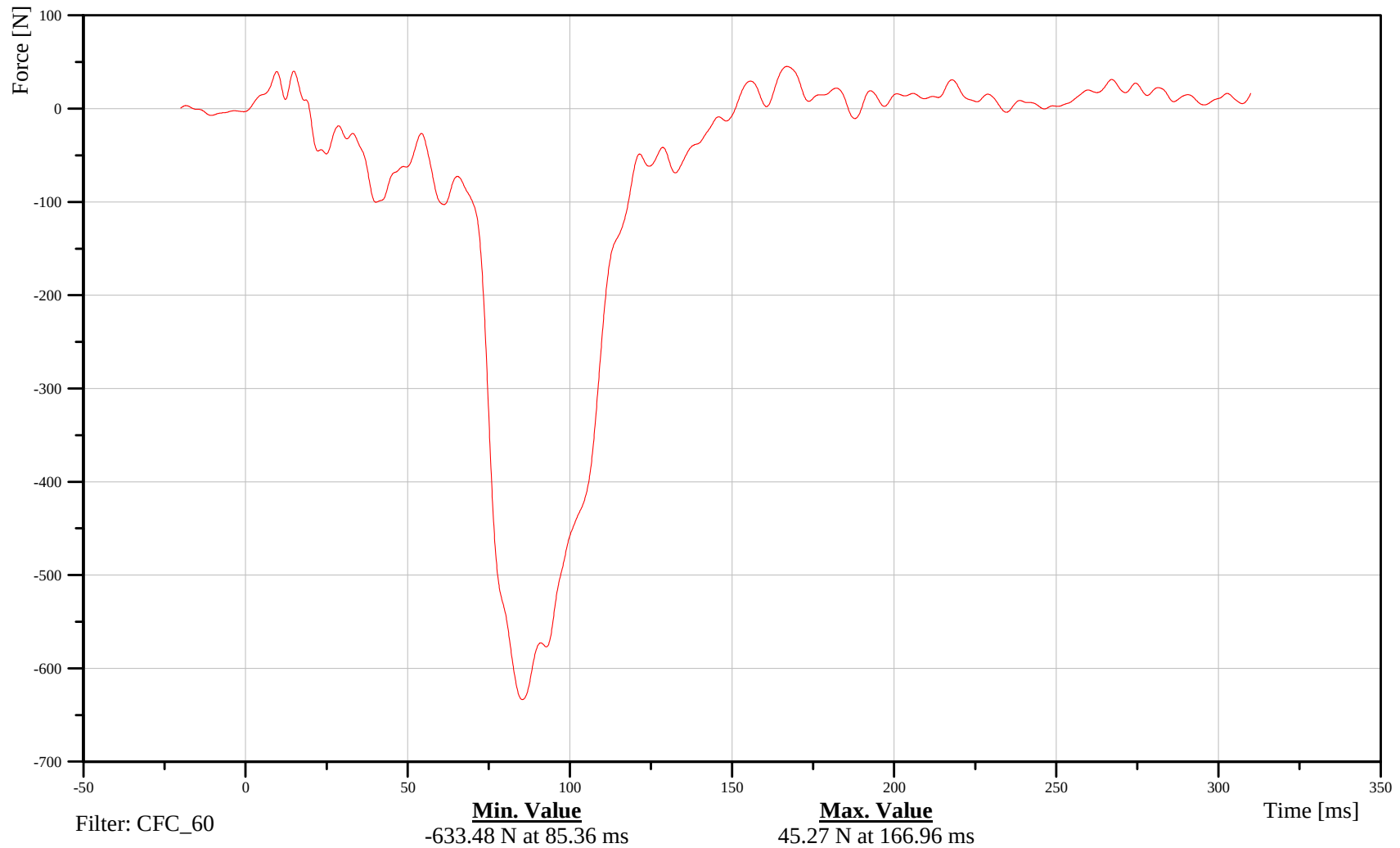
Load Cell Row 6 Column 3

Customer: Volpe

## L0FBAR000026FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-152

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

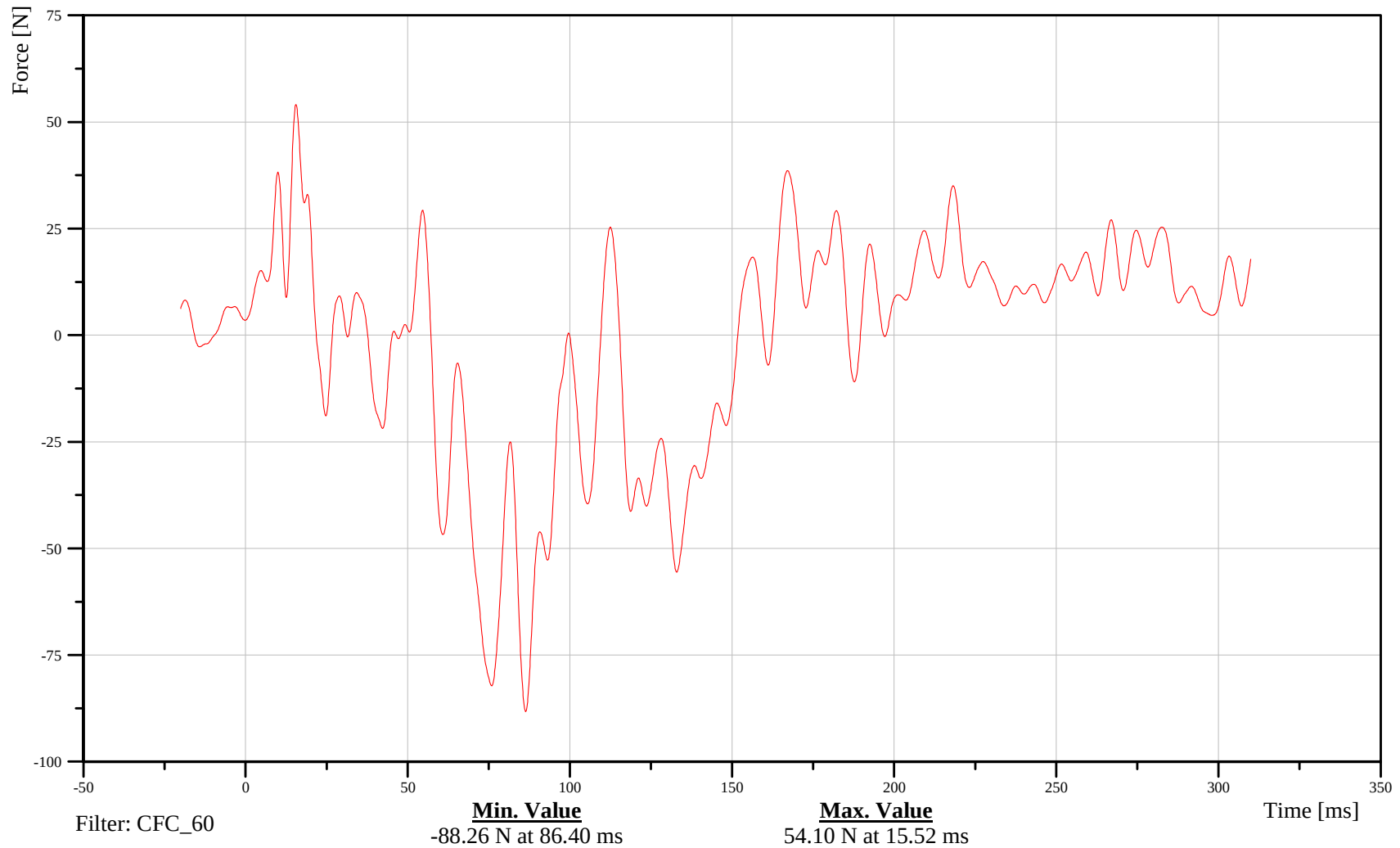
Load Cell Row 6 Column 2

Customer: Volpe

## L0FBAR000016FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-153

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

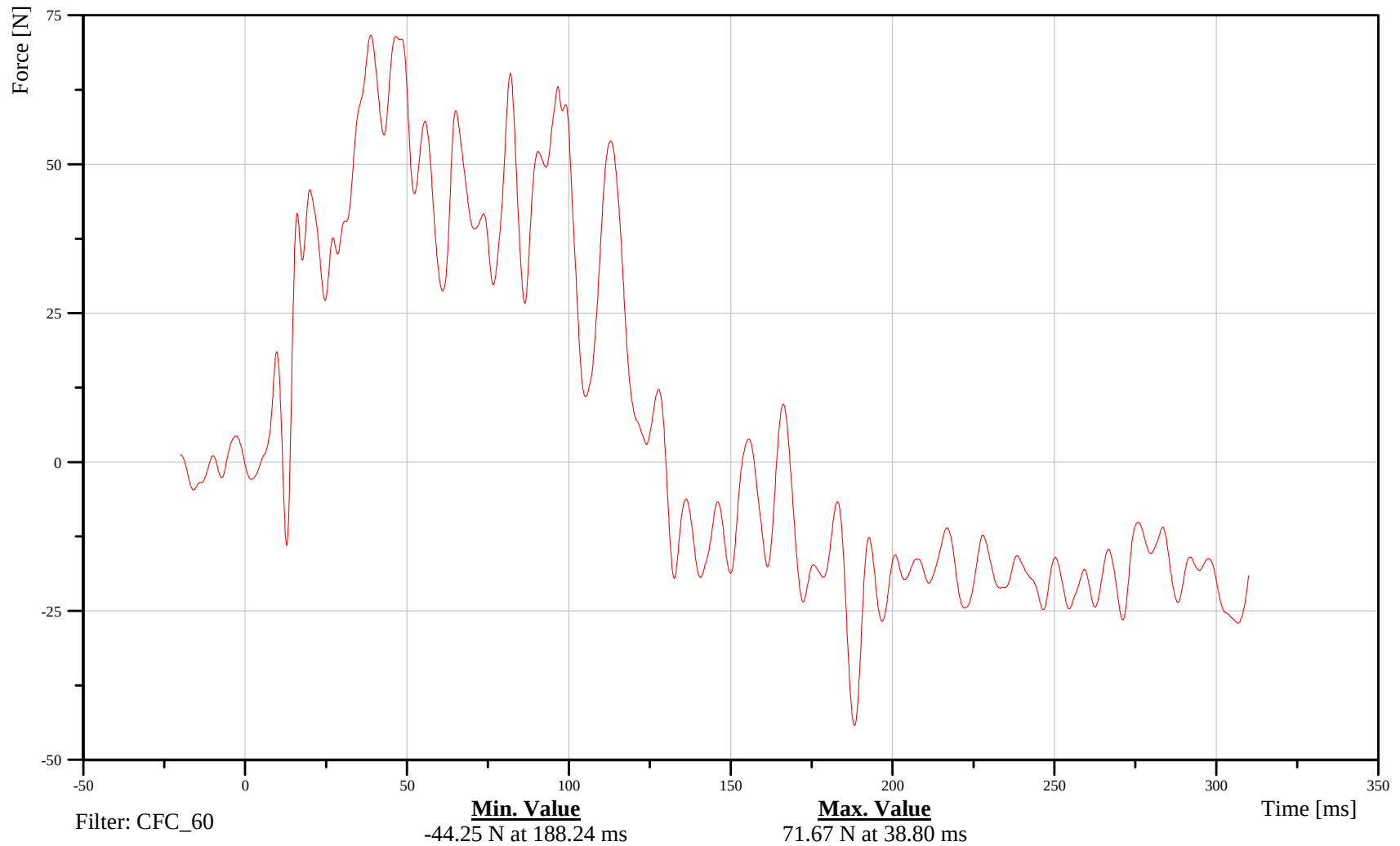
Load Cell Row 6 Column 1

Customer: Volpe

## L0FBAR000006FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-154

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

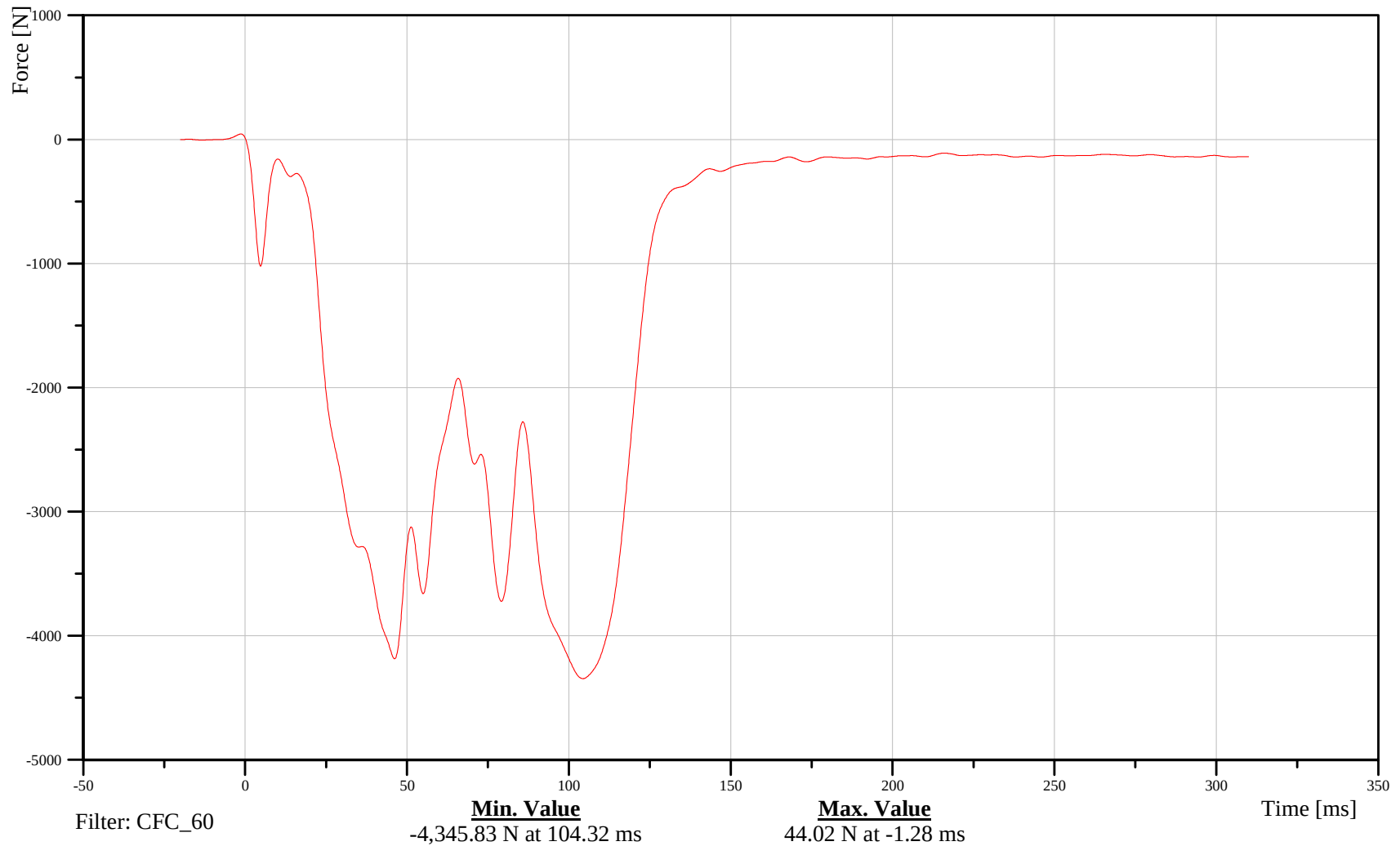
Load Cell Row 5 Column 9

Customer: Volpe

## L0FBAR000085FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-155

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

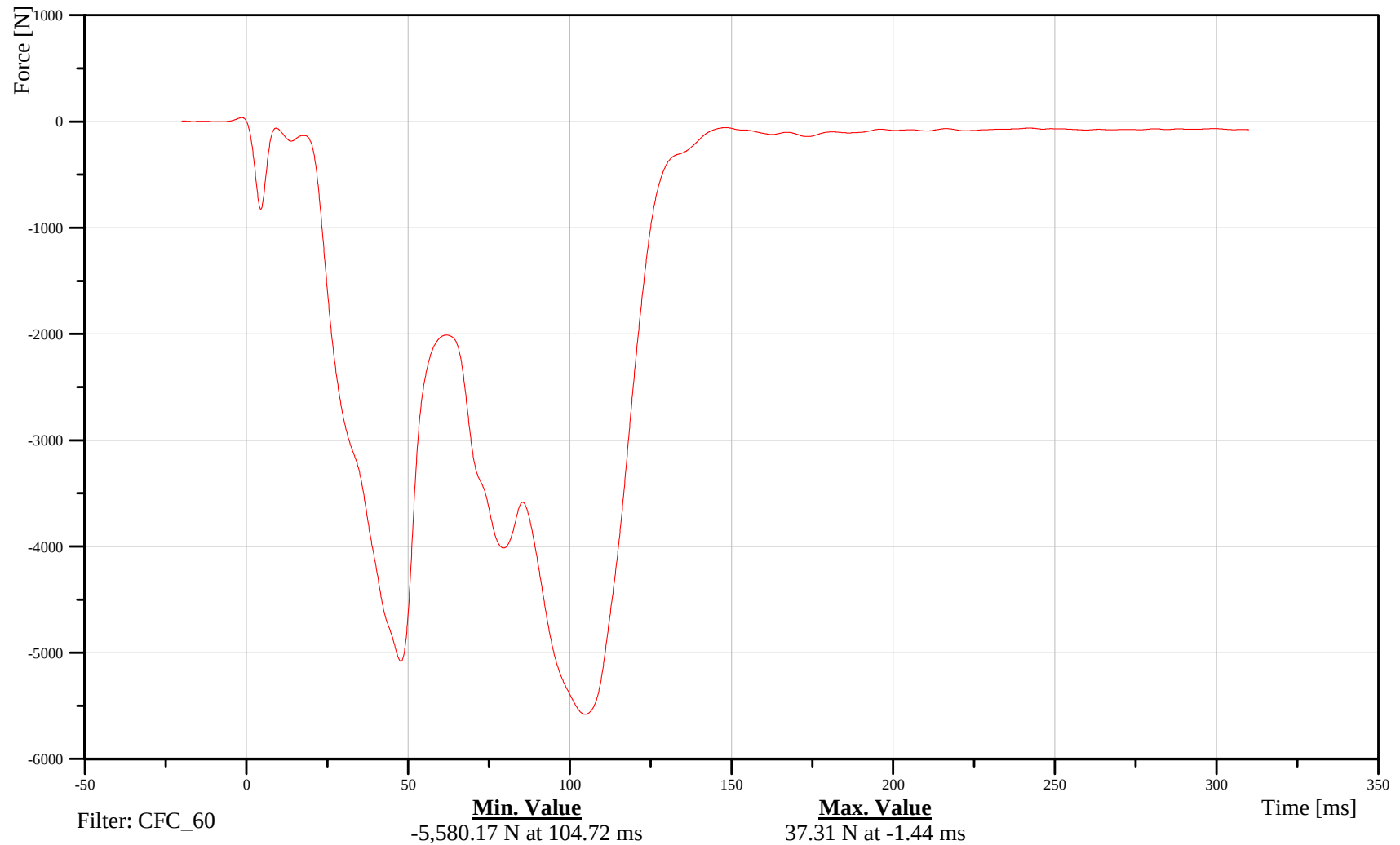
Load Cell Row 5 Column 8

Customer: Volpe

## L0FBAR000075FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-156

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

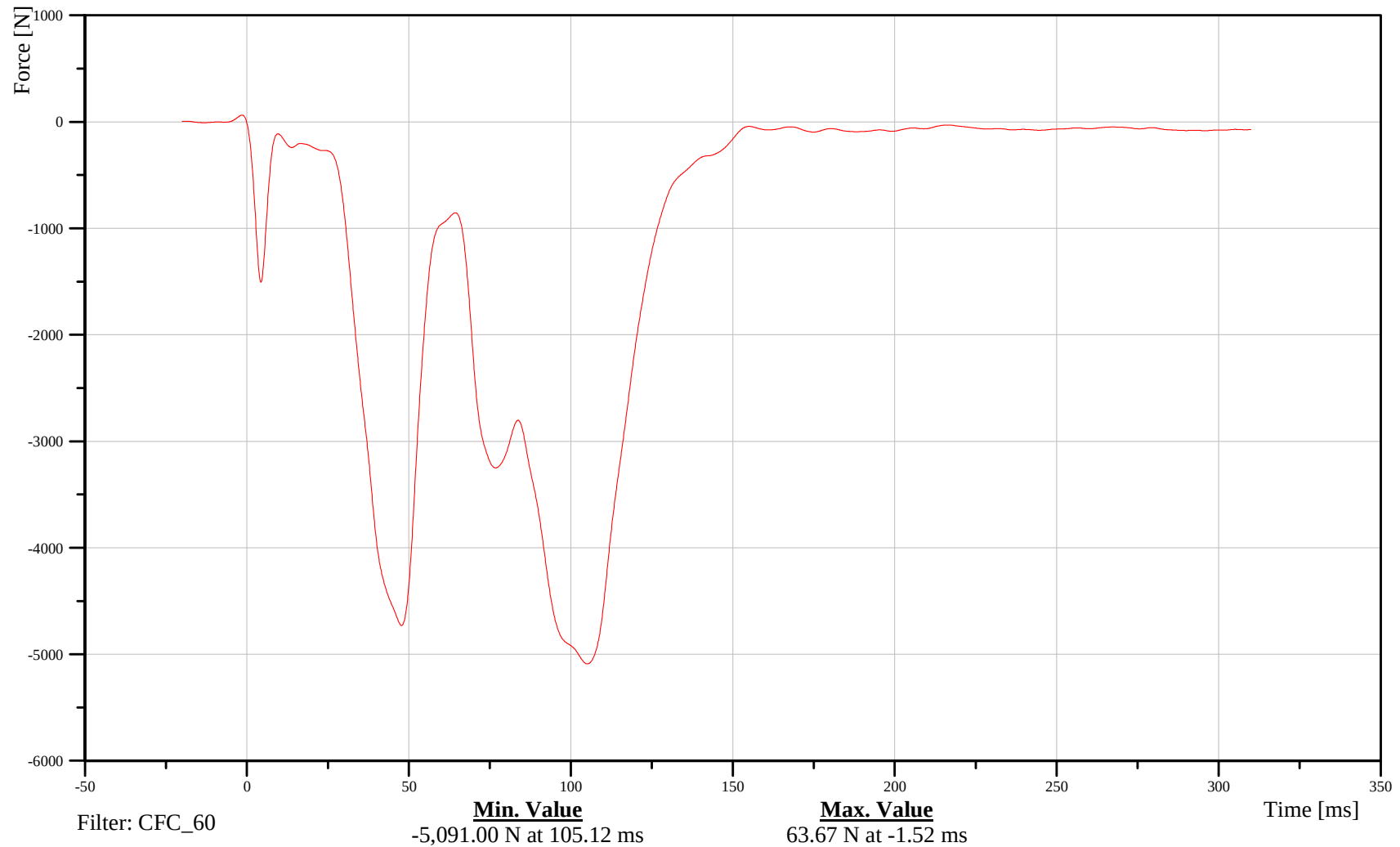
Load Cell Row 5 Column 7

Customer: Volpe

## L0FBAR000065FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-157

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

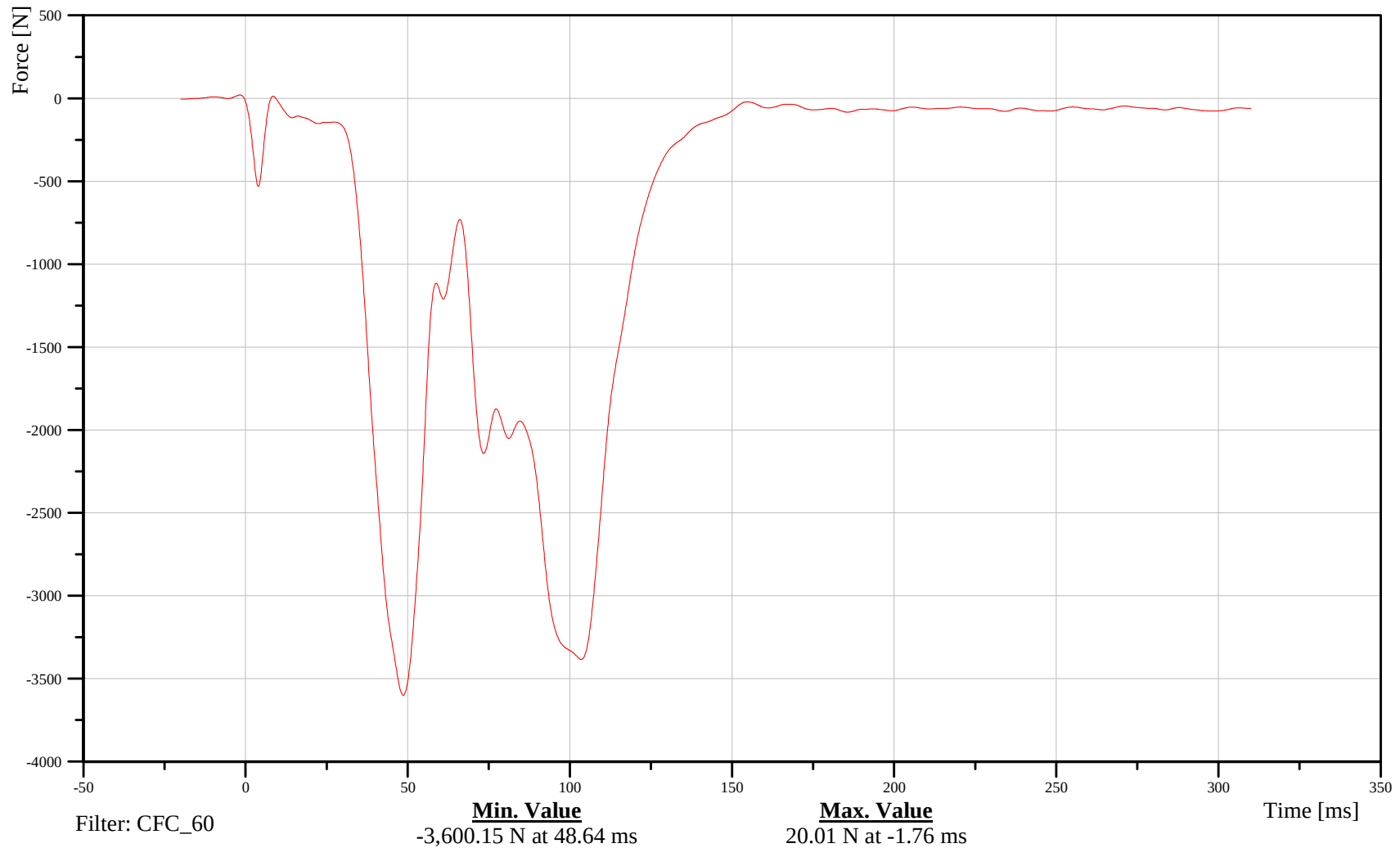
Load Cell Row 5 Column 6

Customer: Volpe

## L0FBAR000055FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-158

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

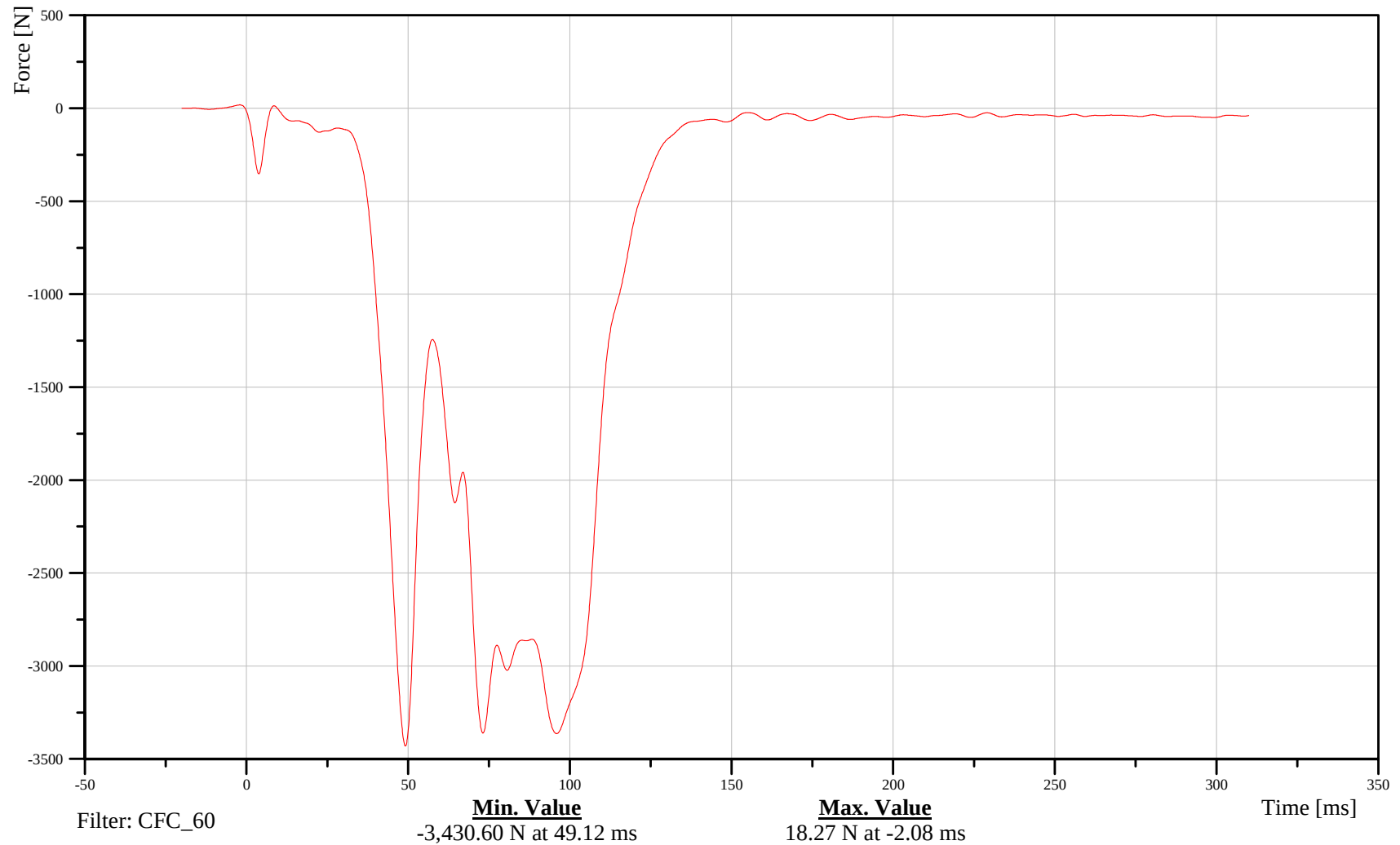
Load Cell Row 5 Column 5

Customer: Volpe

## L0FBAR000045FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-159

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

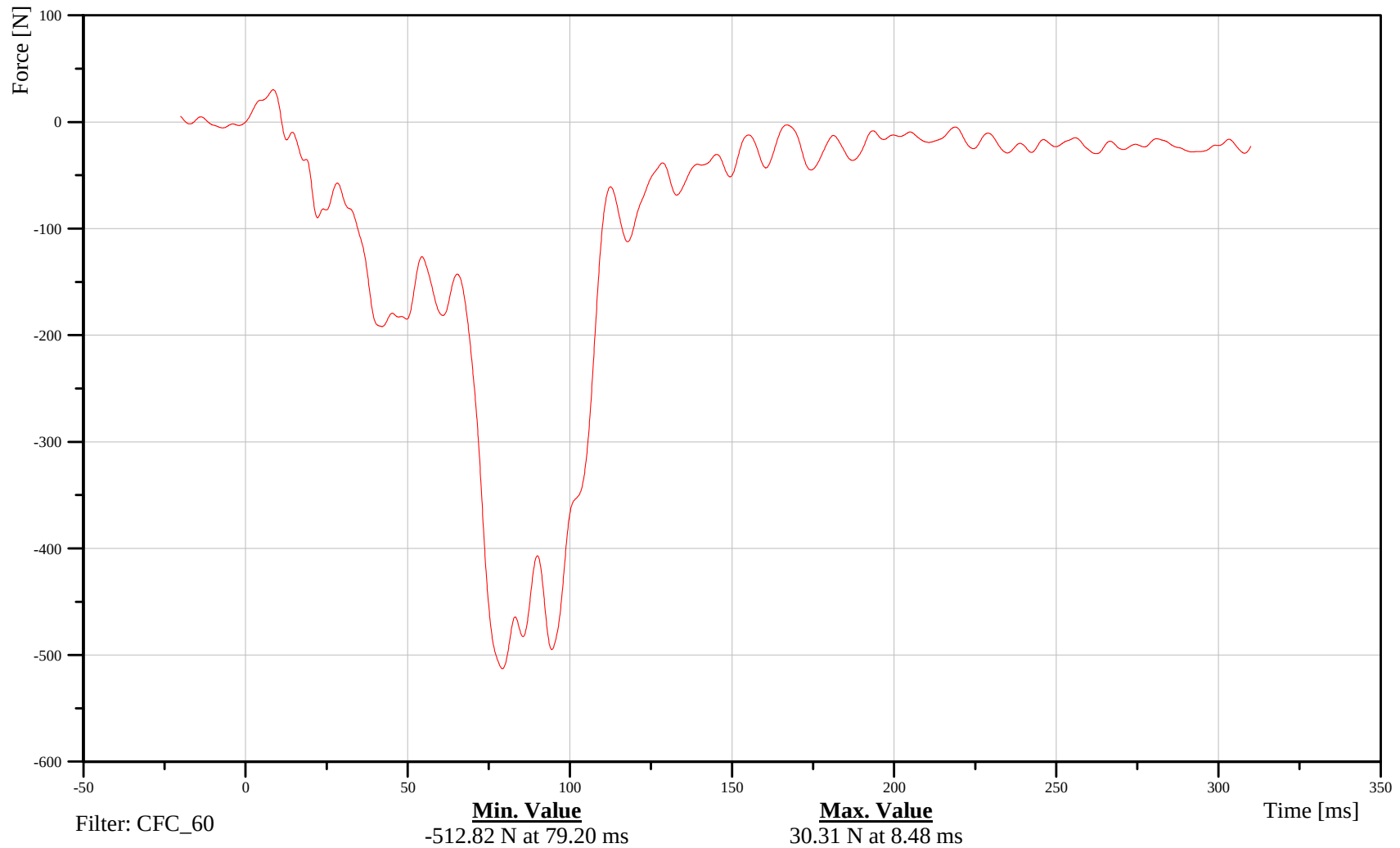
Load Cell Row 5 Column 4

Customer: Volpe

## L0FBAR000035FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-160

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

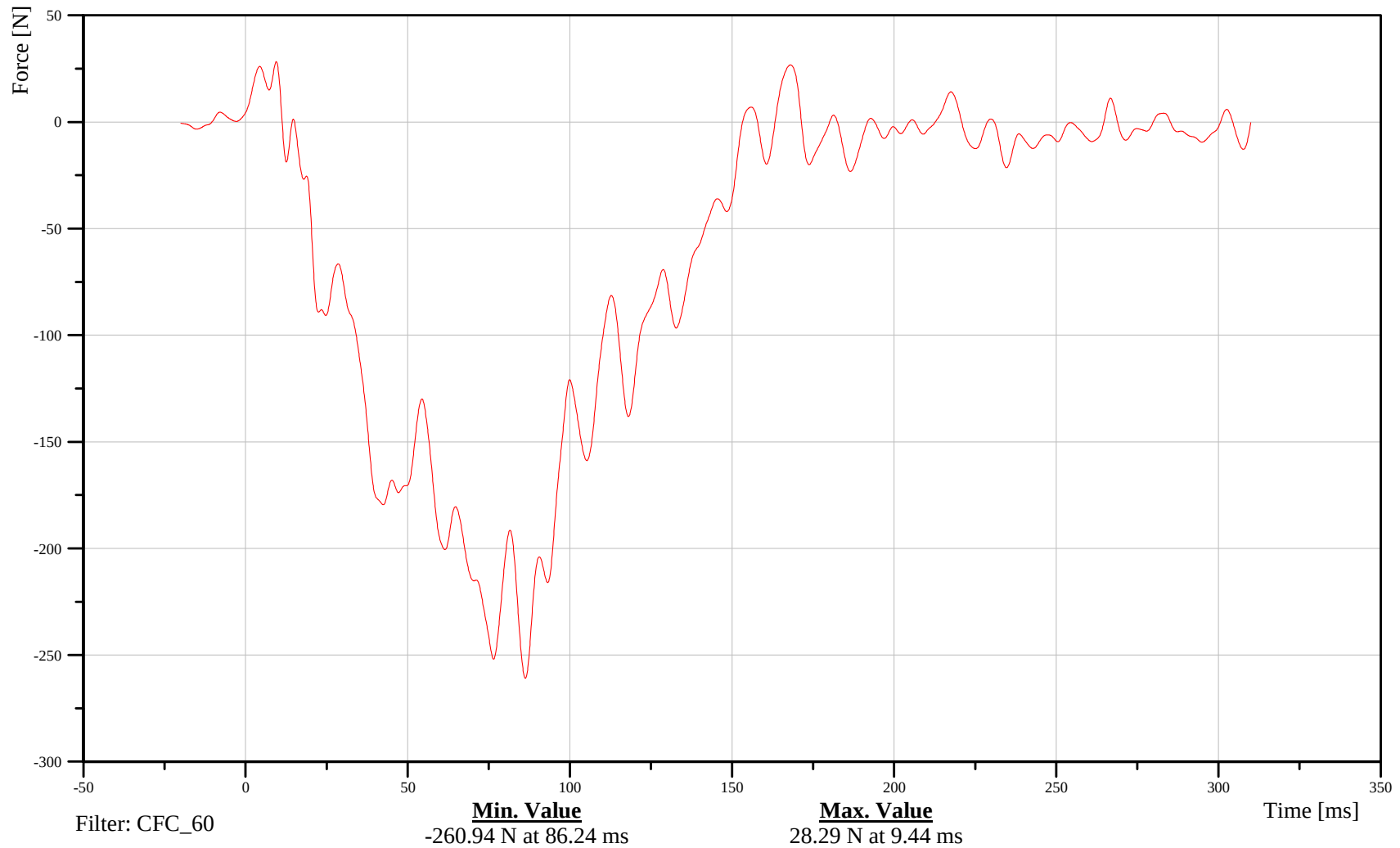
Load Cell Row 5 Column 3

Customer: Volpe

## L0FBAR000025FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-161

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

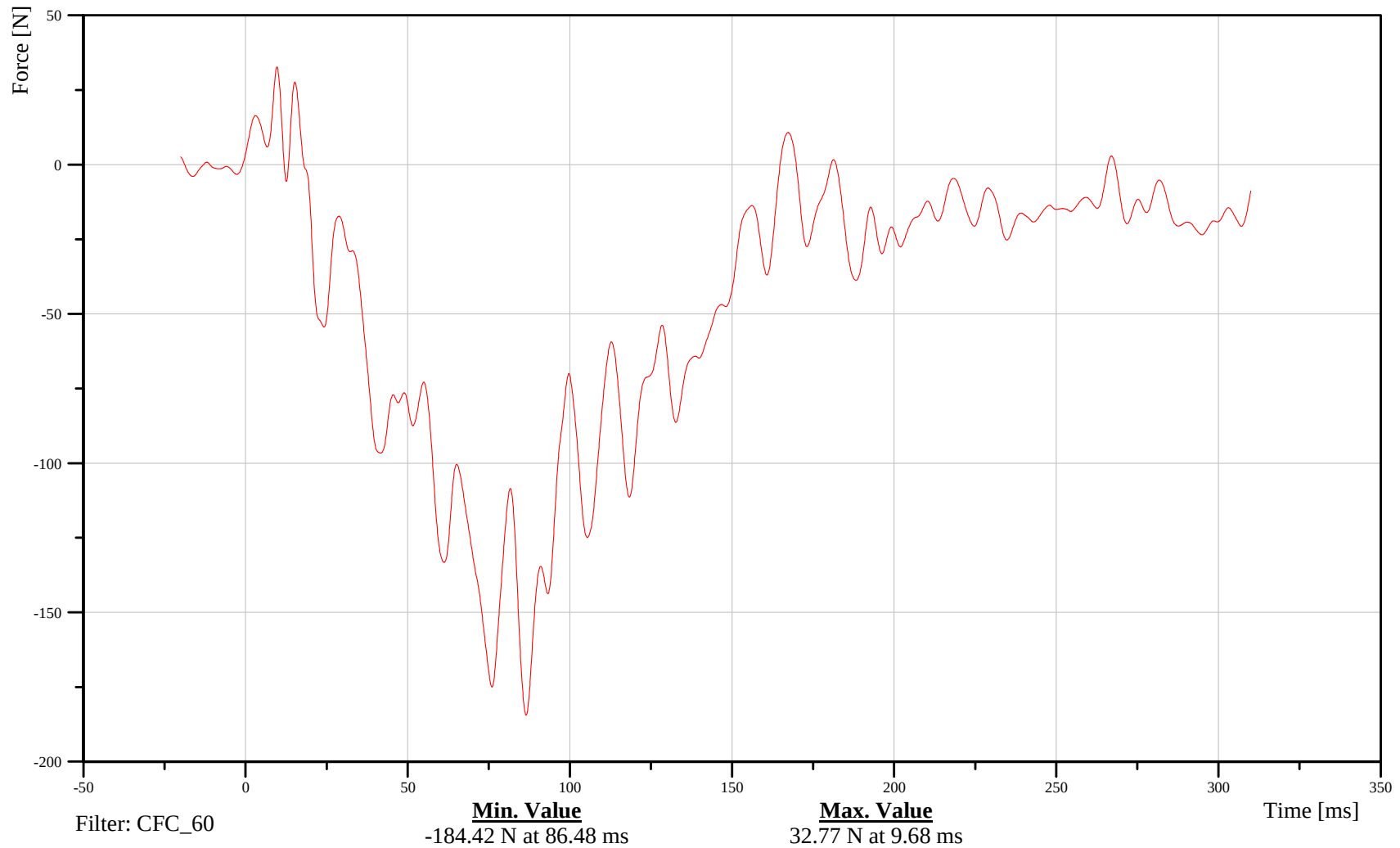
Load Cell Row 5 Column 2

Customer: Volpe

## L0FBAR000015FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-162

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

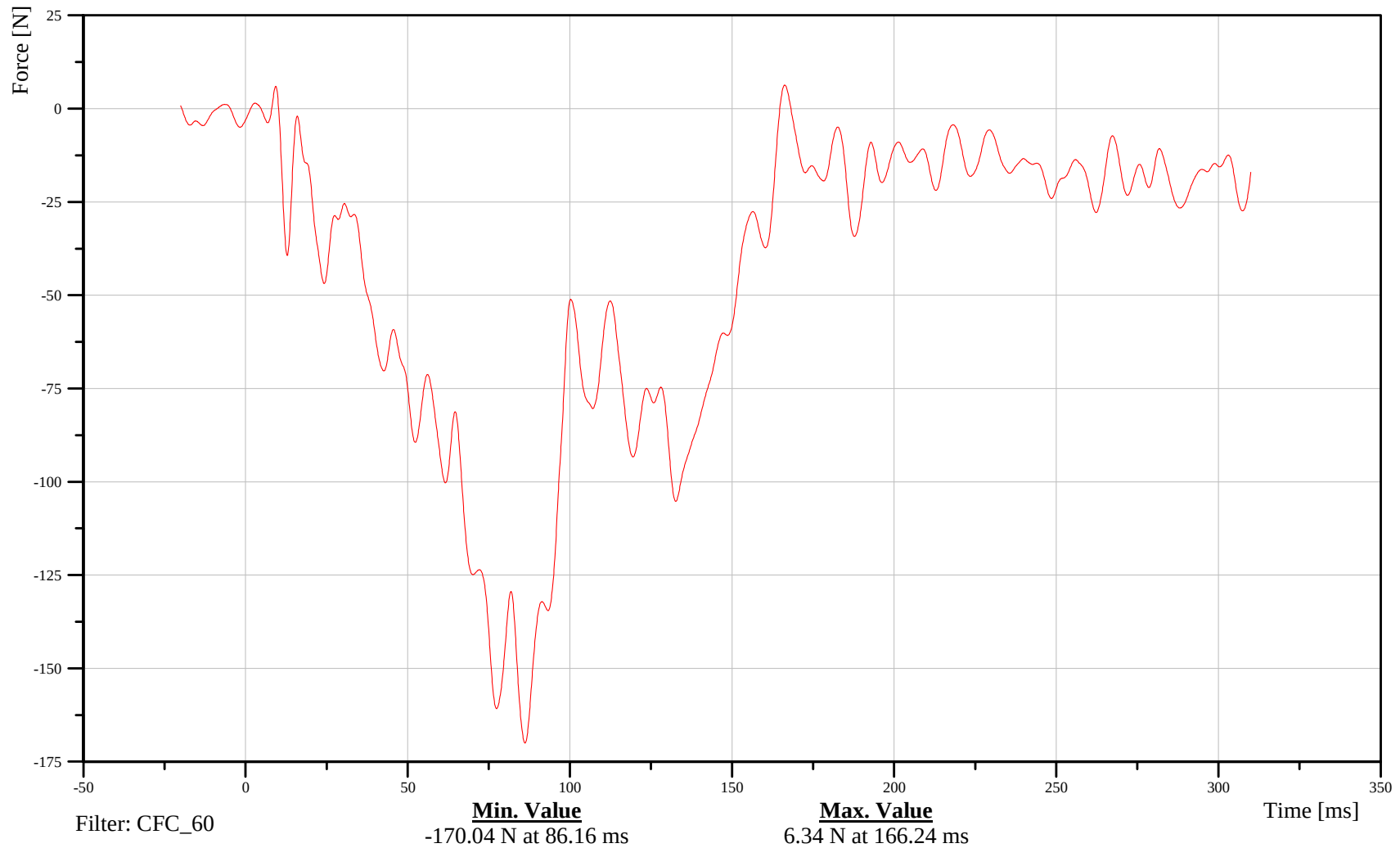
Load Cell Row 5 Column 1

Customer: Volpe

## L0FBAR000005FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-163

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

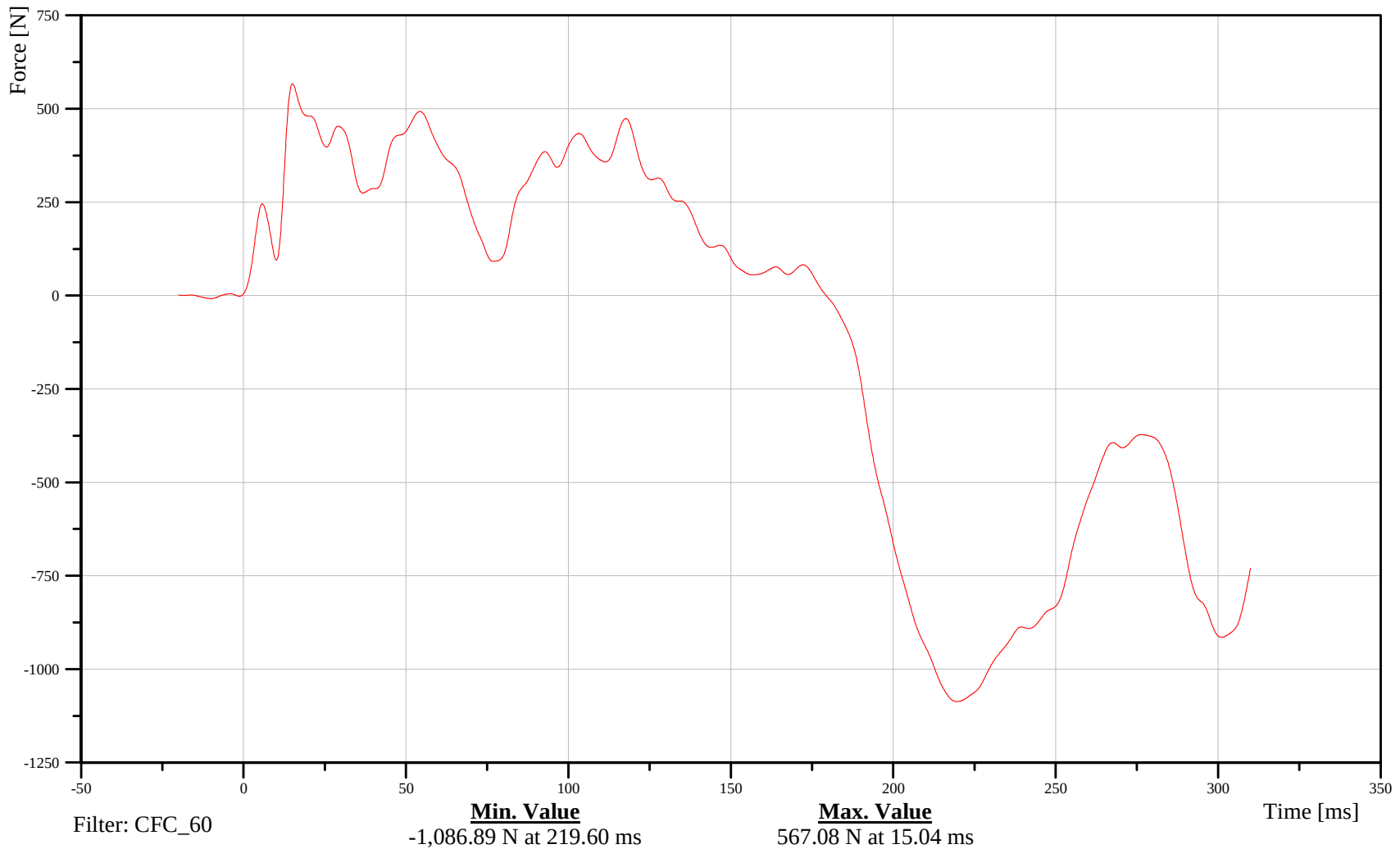
Load Cell Row 4 Column 9

Customer: Volpe

## L0FBAR000084FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-164

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

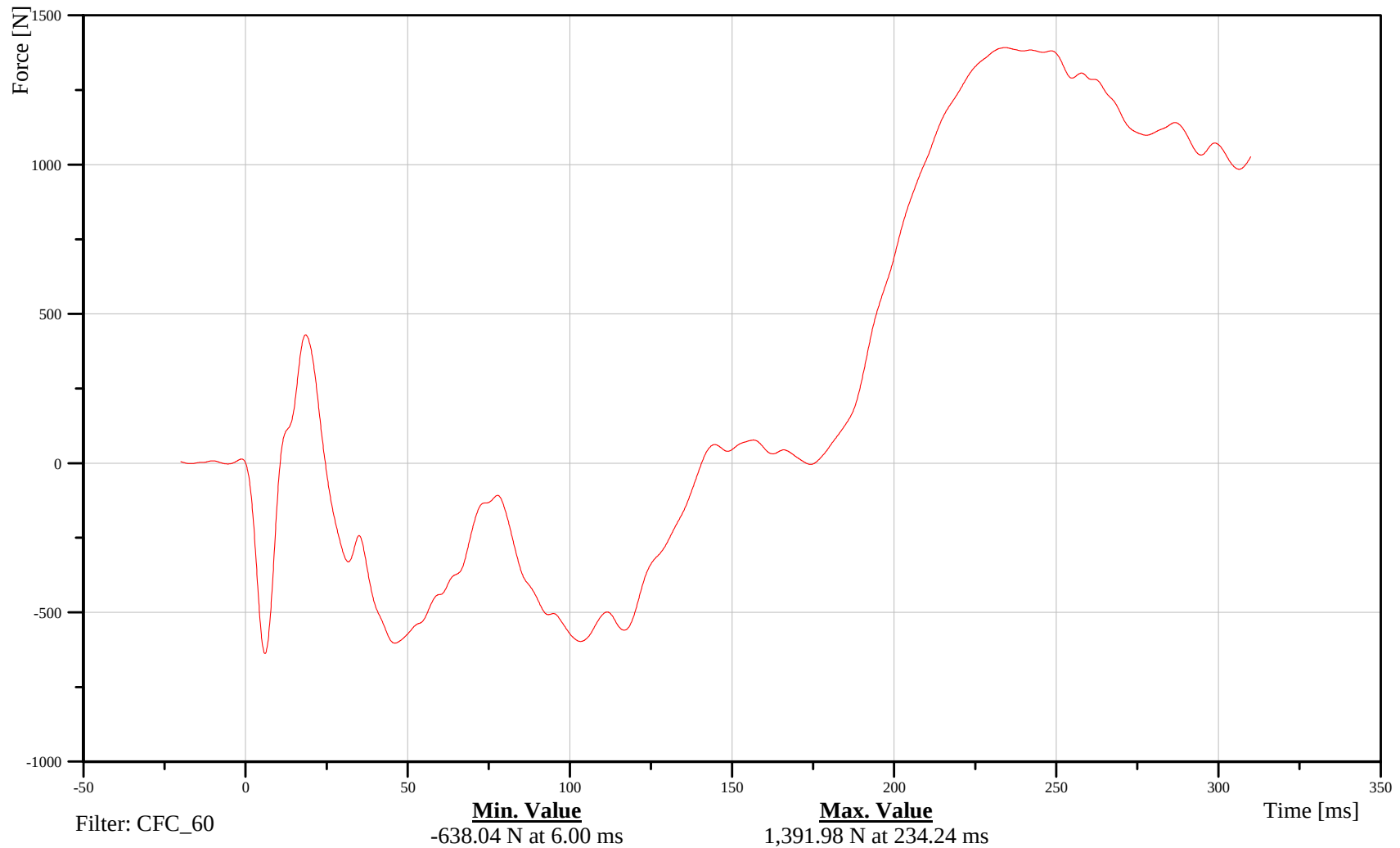
Load Cell Row 4 Column 8

Customer: Volpe

## L0FBAR000074FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-165

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

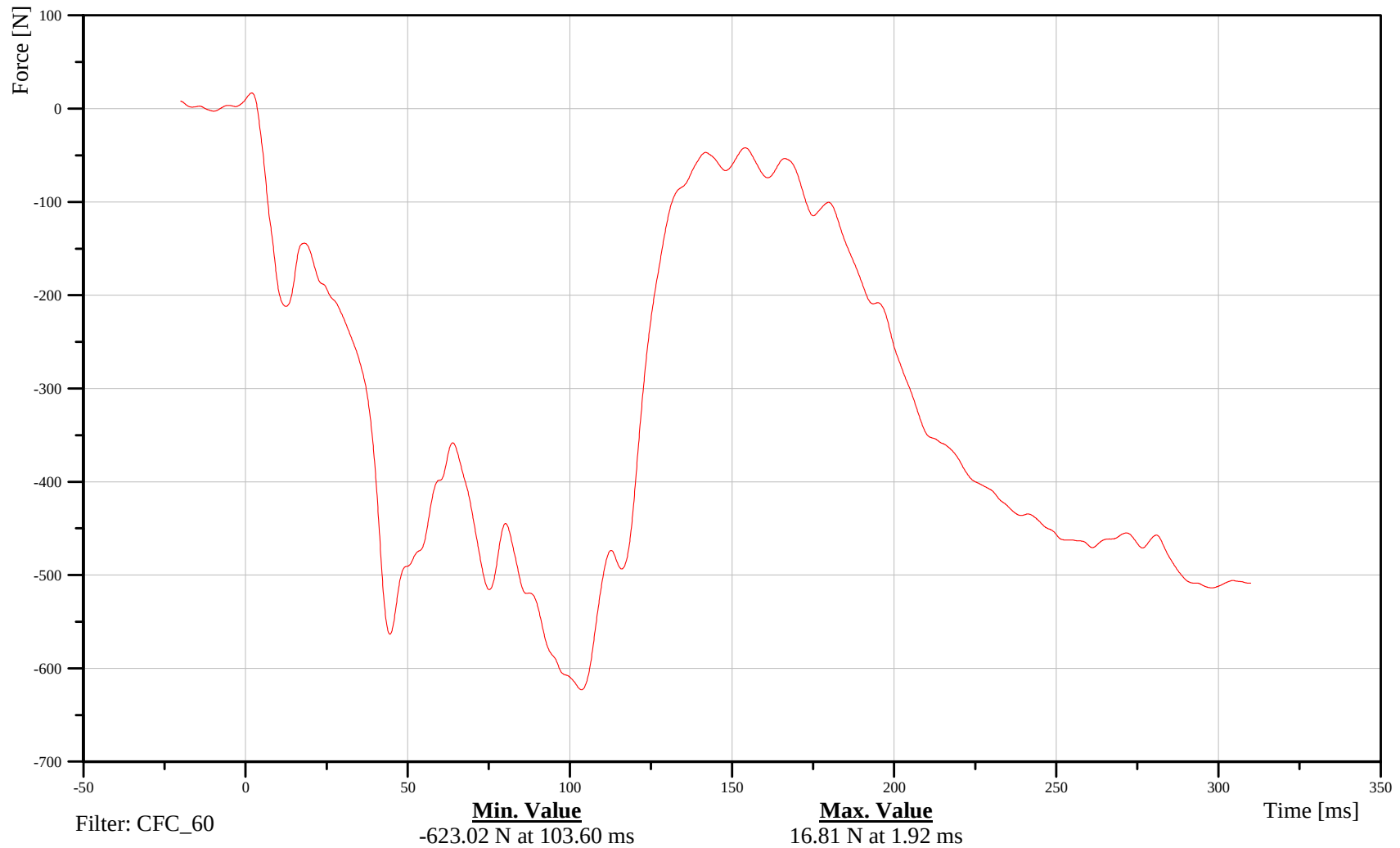
Load Cell Row 4 Column 7

Customer: Volpe

## L0FBAR000064FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-166

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

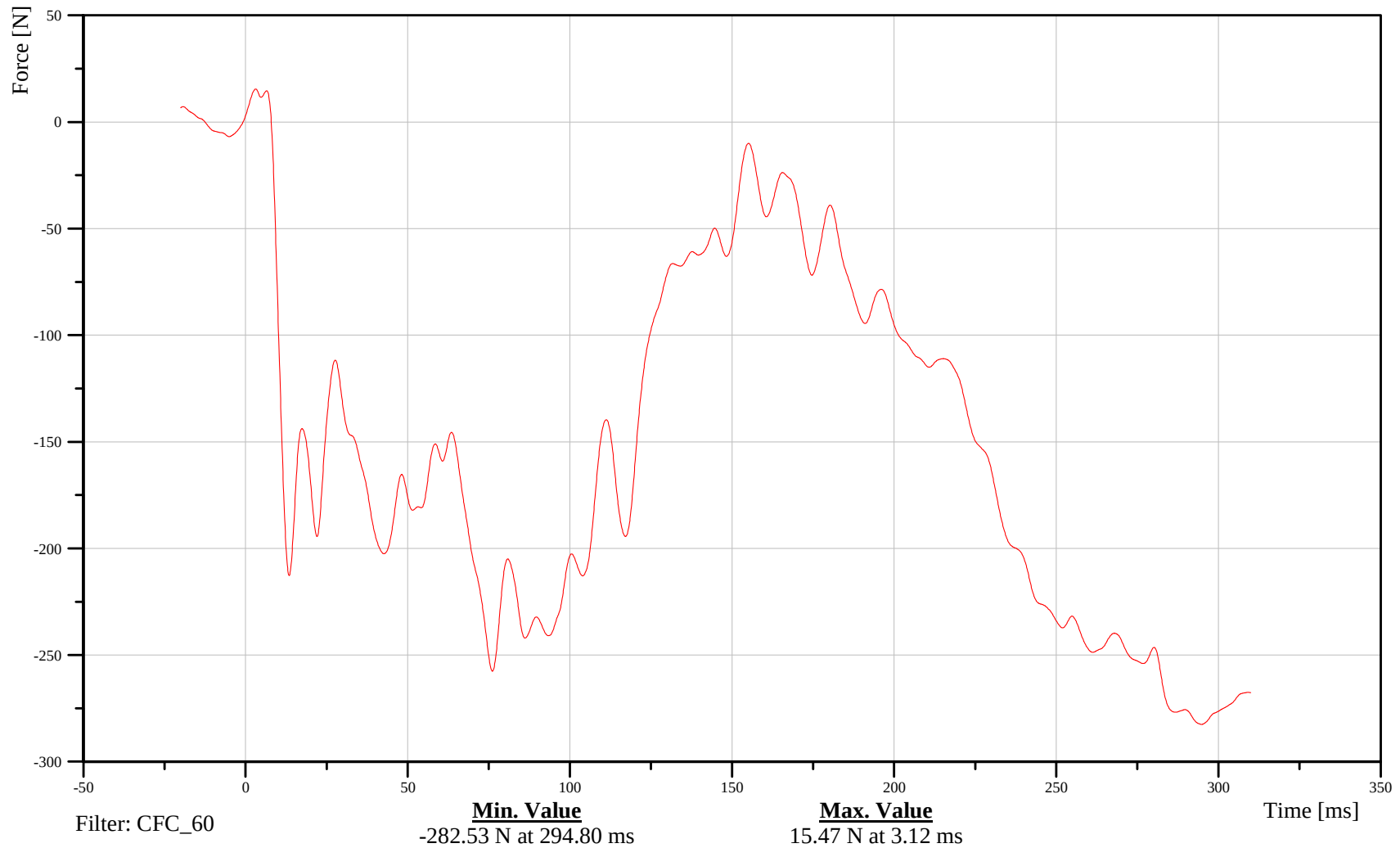
Load Cell Row 4 Column 6

Customer: Volpe

## L0FBAR000054FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-167

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

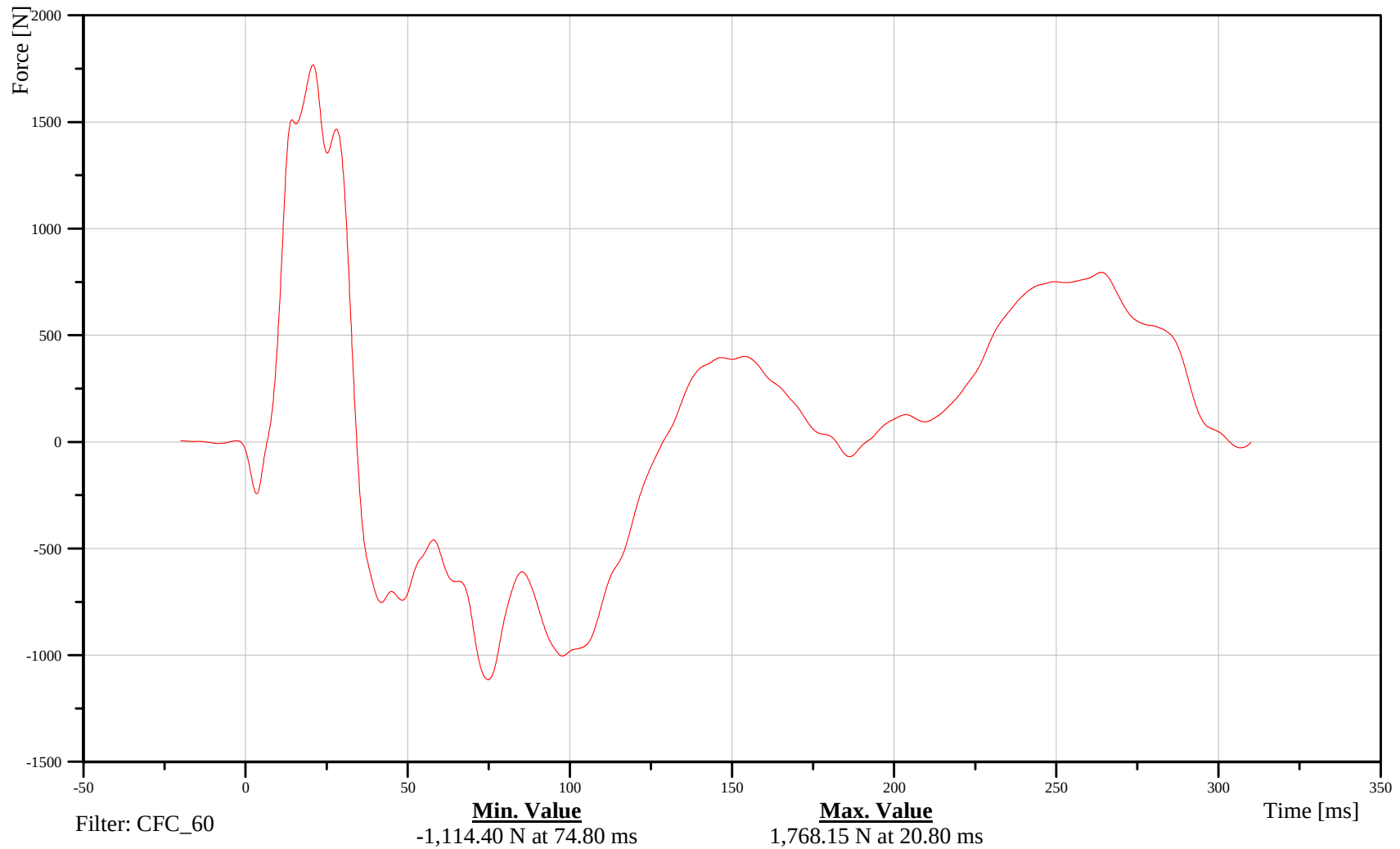
Load Cell Row 4 Column 5

Customer: Volpe

## L0FBAR000044FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-168

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

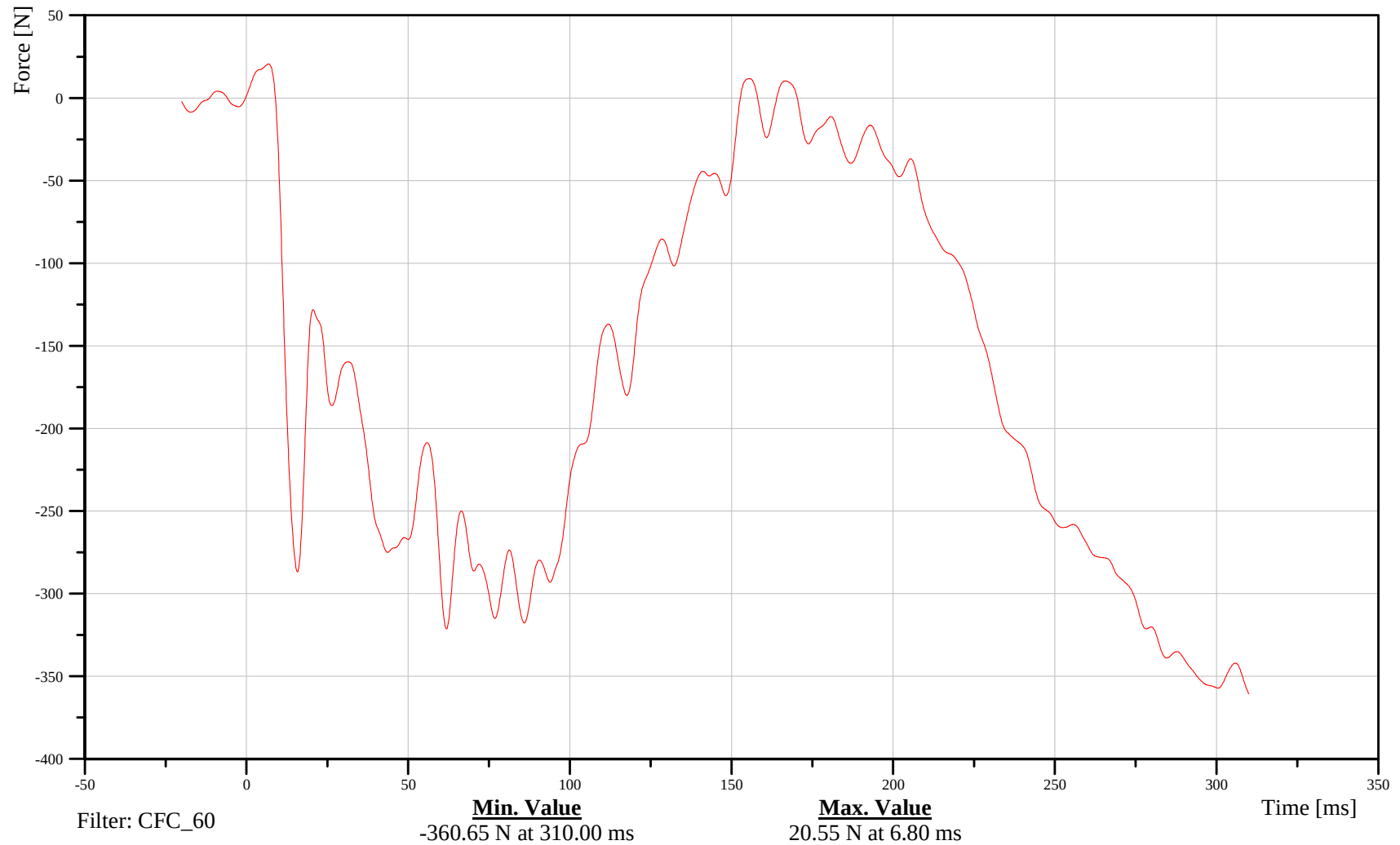
Load Cell Row 4 Column 4

Customer: Volpe

## L0FBAR000034FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-169

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

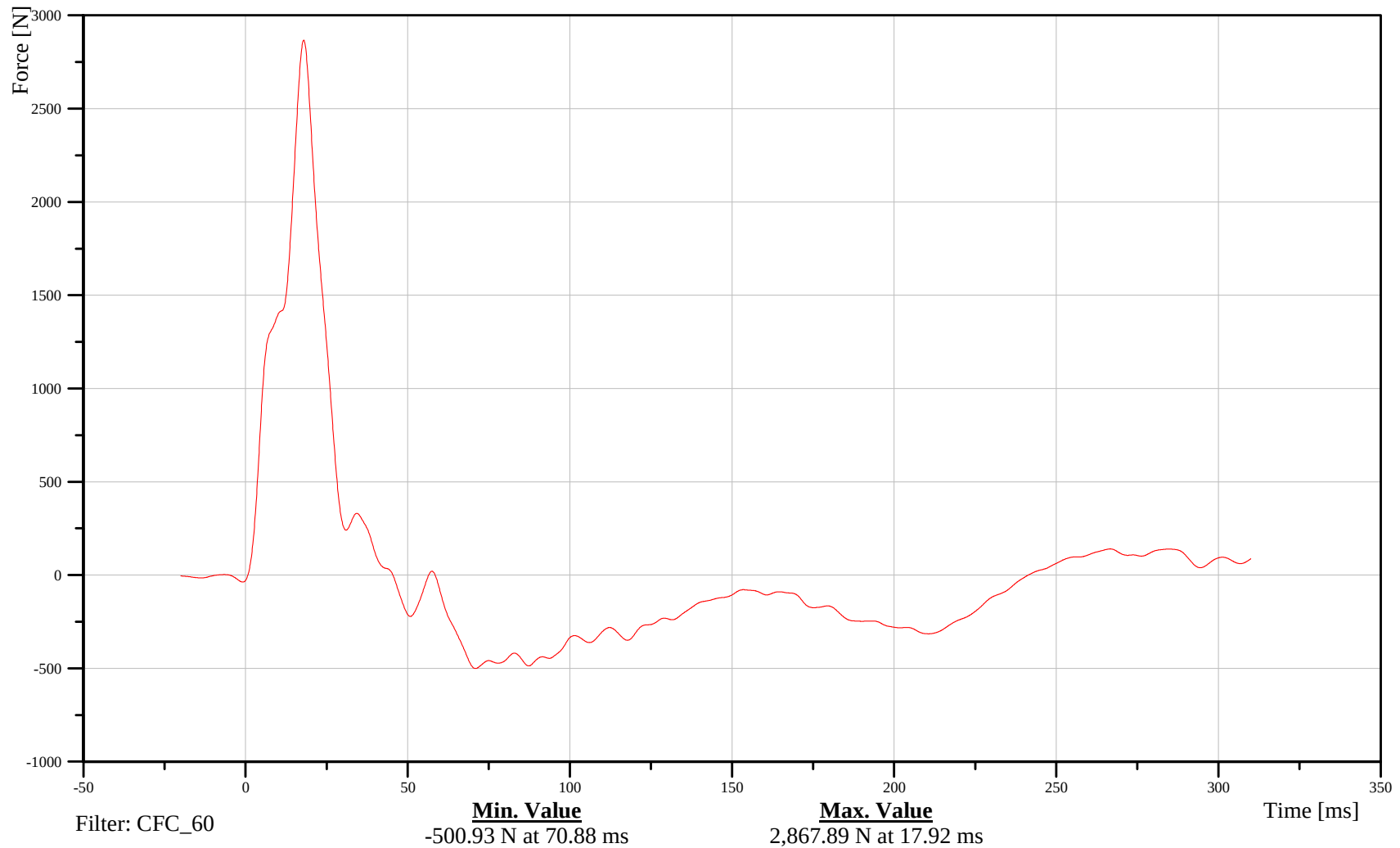
Load Cell Row 4 Column 3

Customer: Volpe

## L0FBAR000024FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-170

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

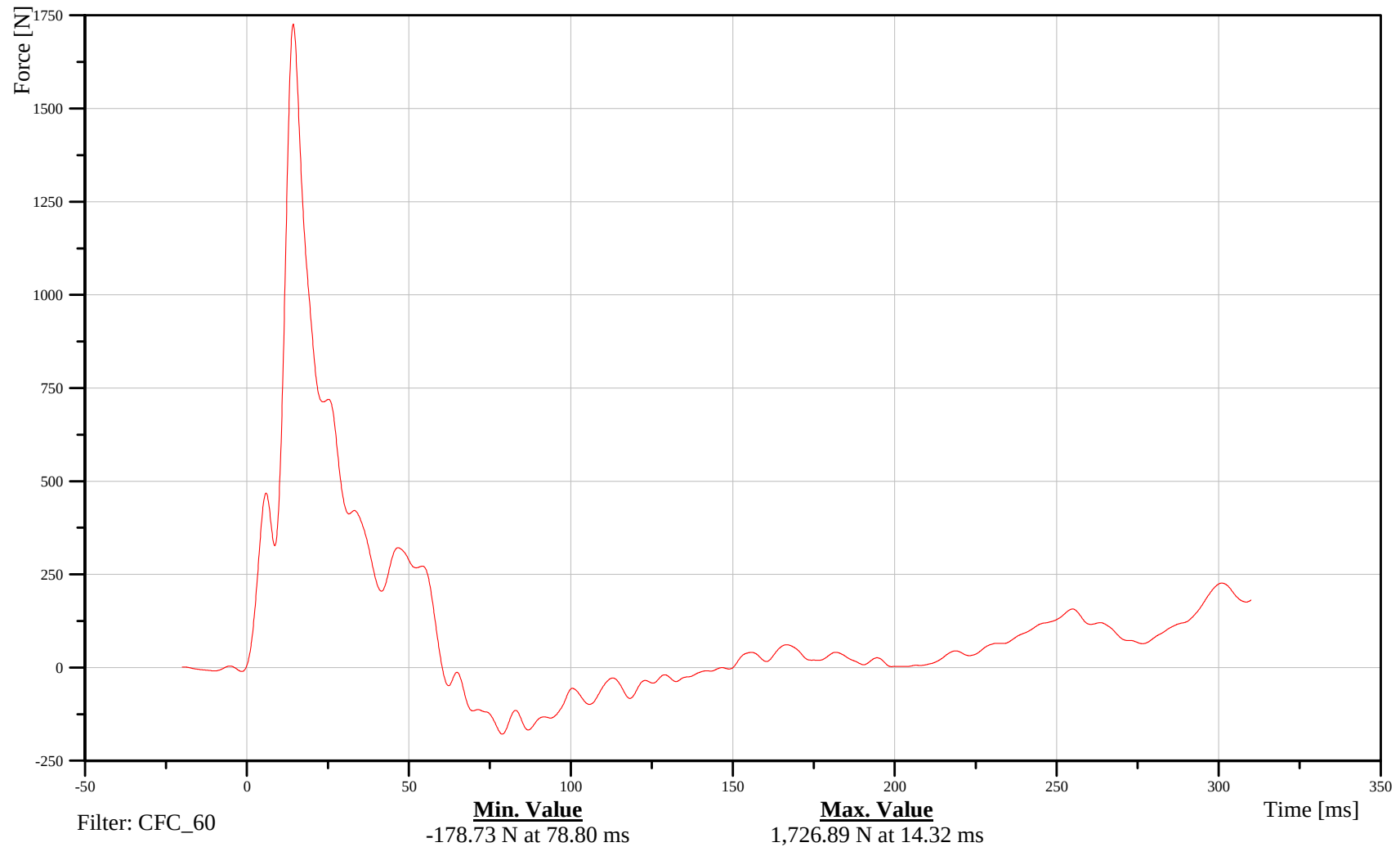
Load Cell Row 4 Column 2

Customer: Volpe

## L0FBAR000014FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-171

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

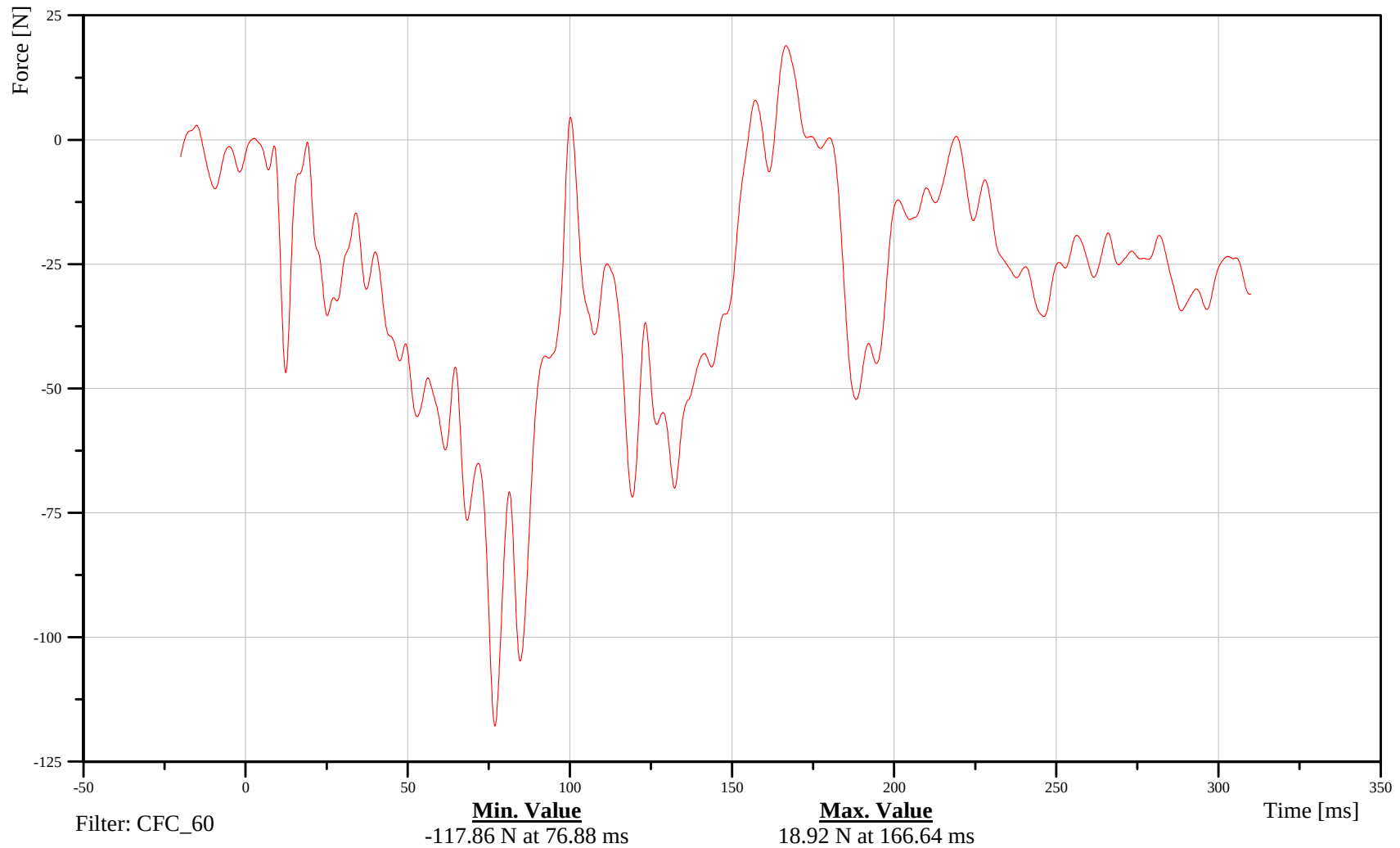
Load Cell Row 4 Column 1

Customer: Volpe

## L0FBAR000004FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-172

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

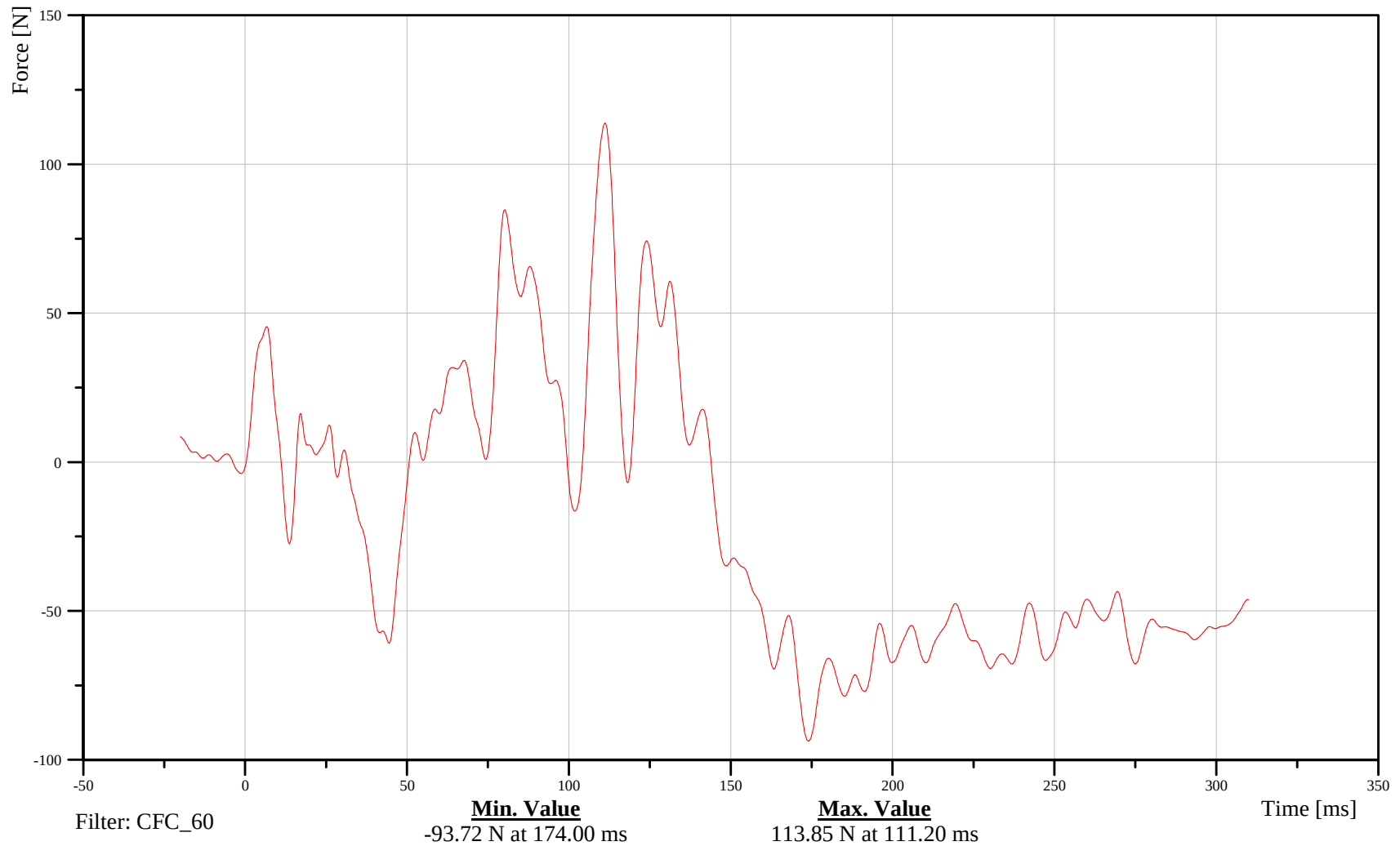
Load Cell Row 3 Column 9

Customer: Volpe

## L0FBAR000083FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-173

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

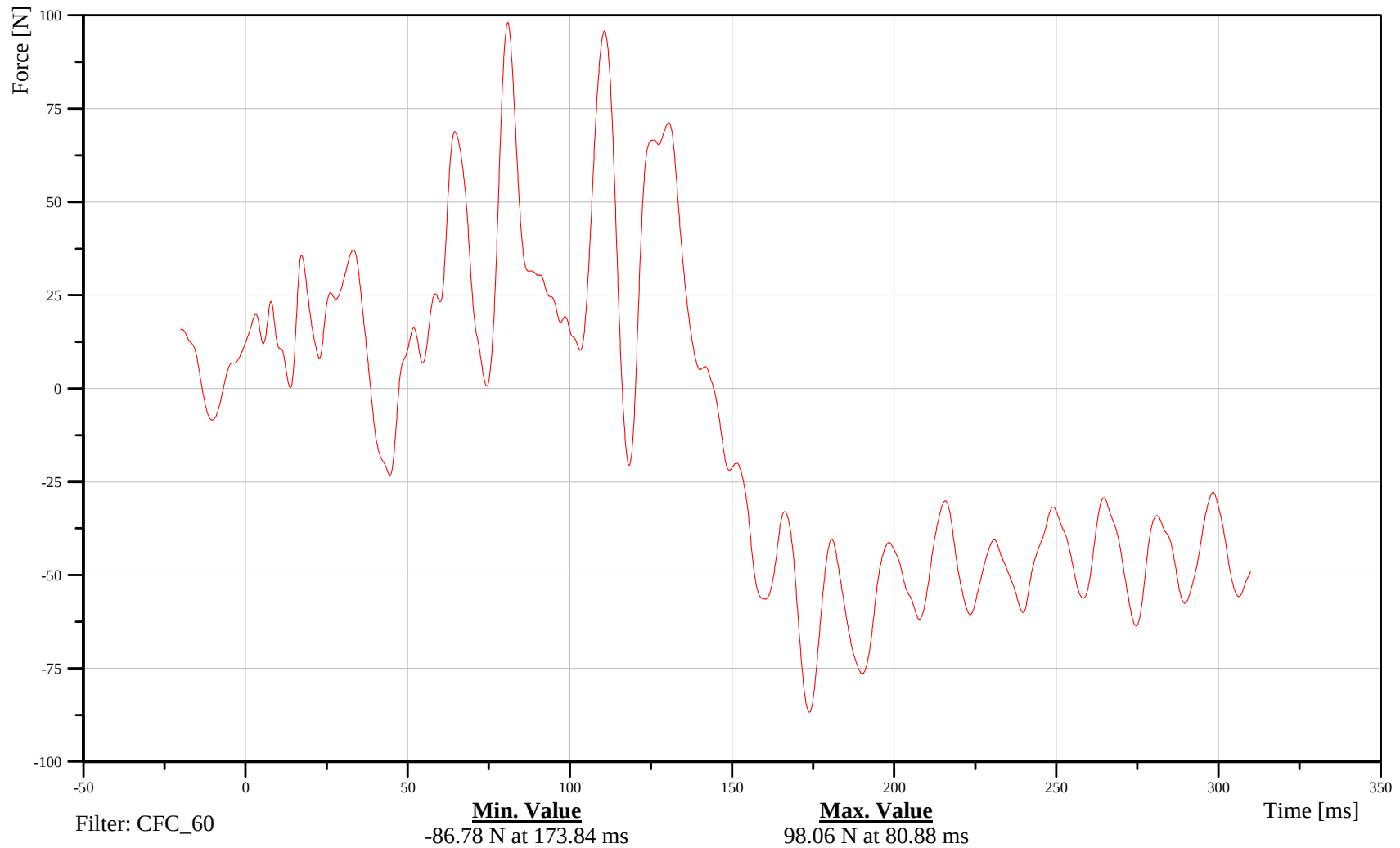
Load Cell Row 3 Column 8

Customer: Volpe

## L0FBAR000073FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-174

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

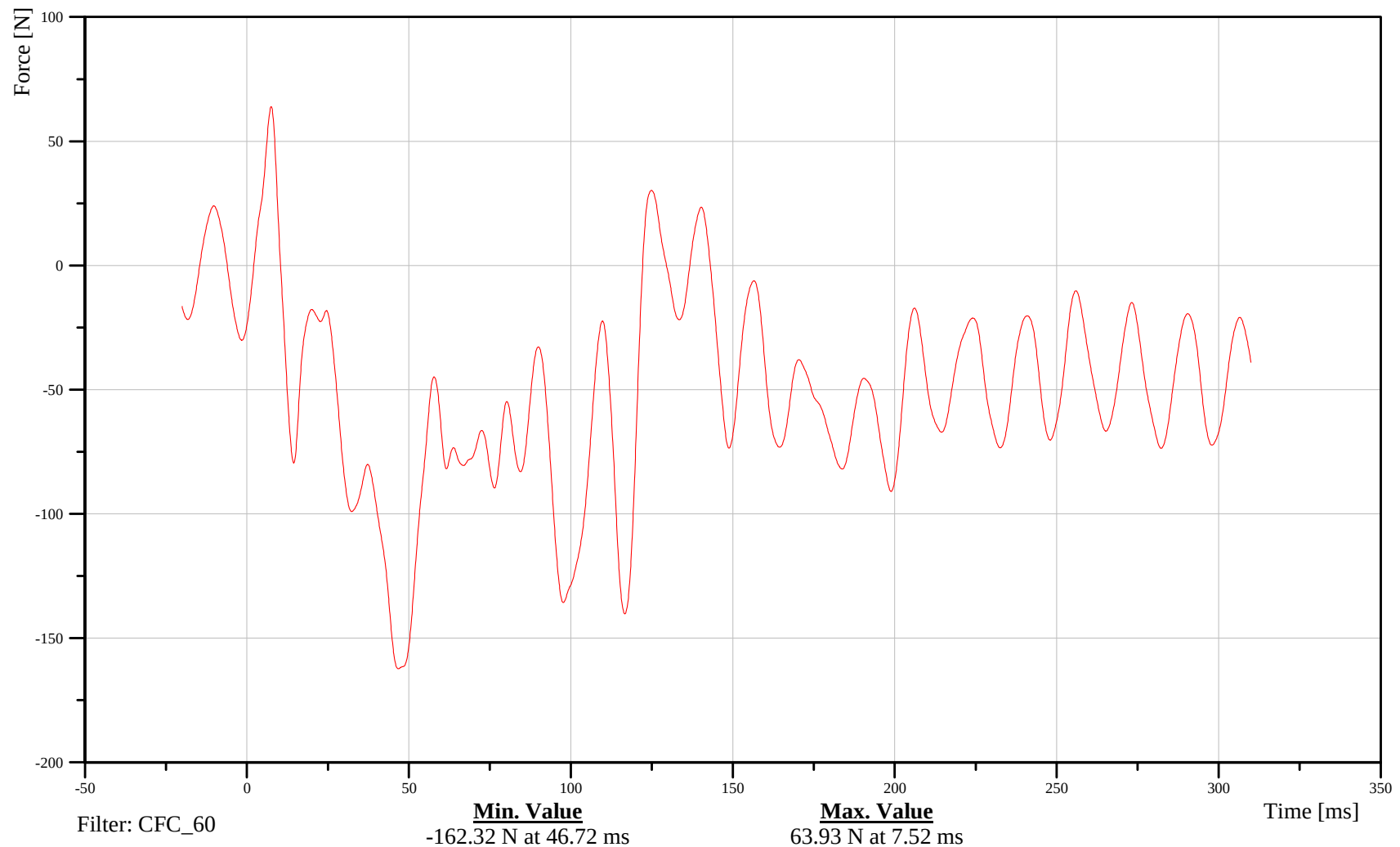
Load Cell Row 3 Column 7

Customer: Volpe

## L0FBAR000063FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-175

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

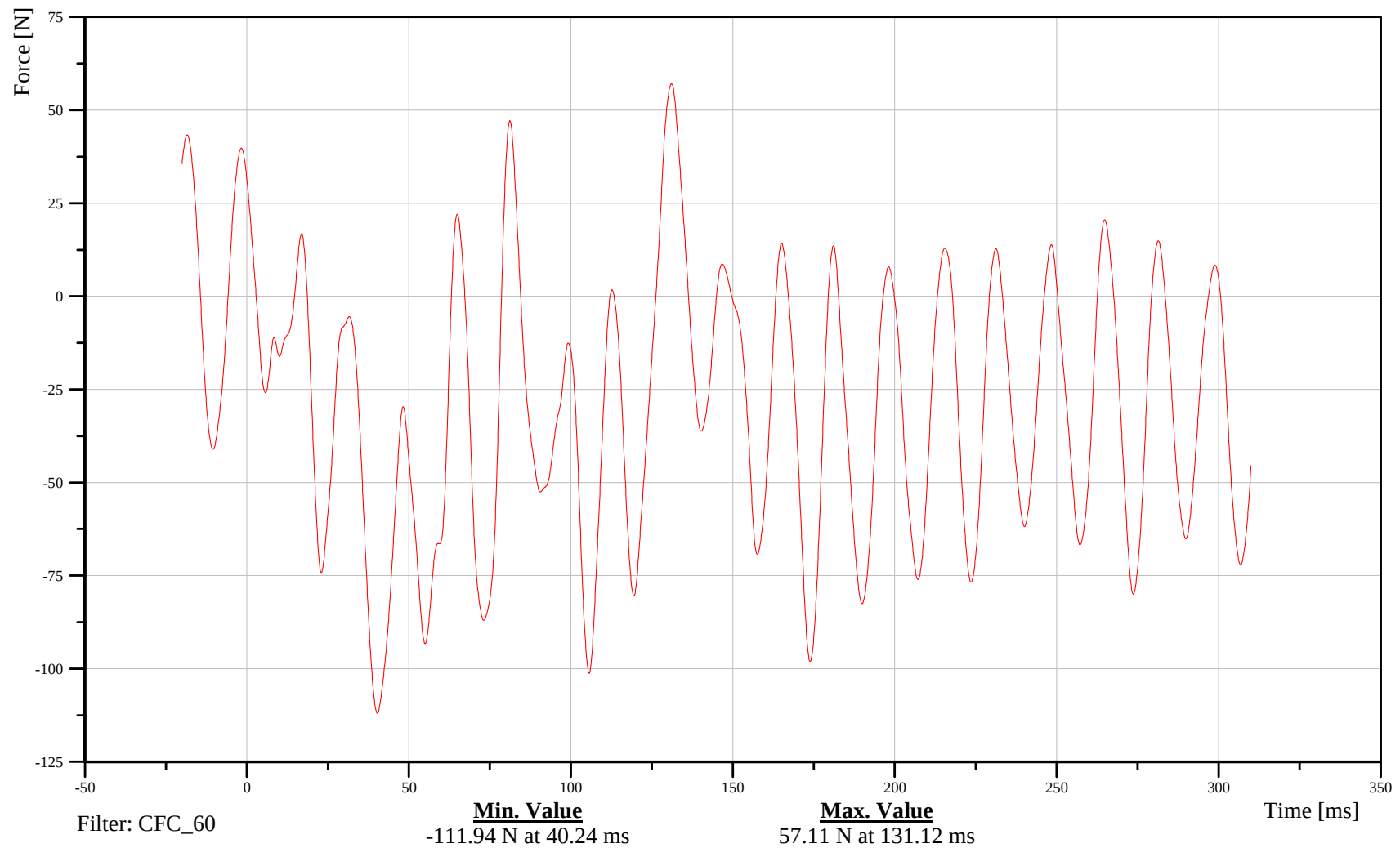
Load Cell Row 3 Column 6

Customer: Volpe

## L0FBAR000053FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-176

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

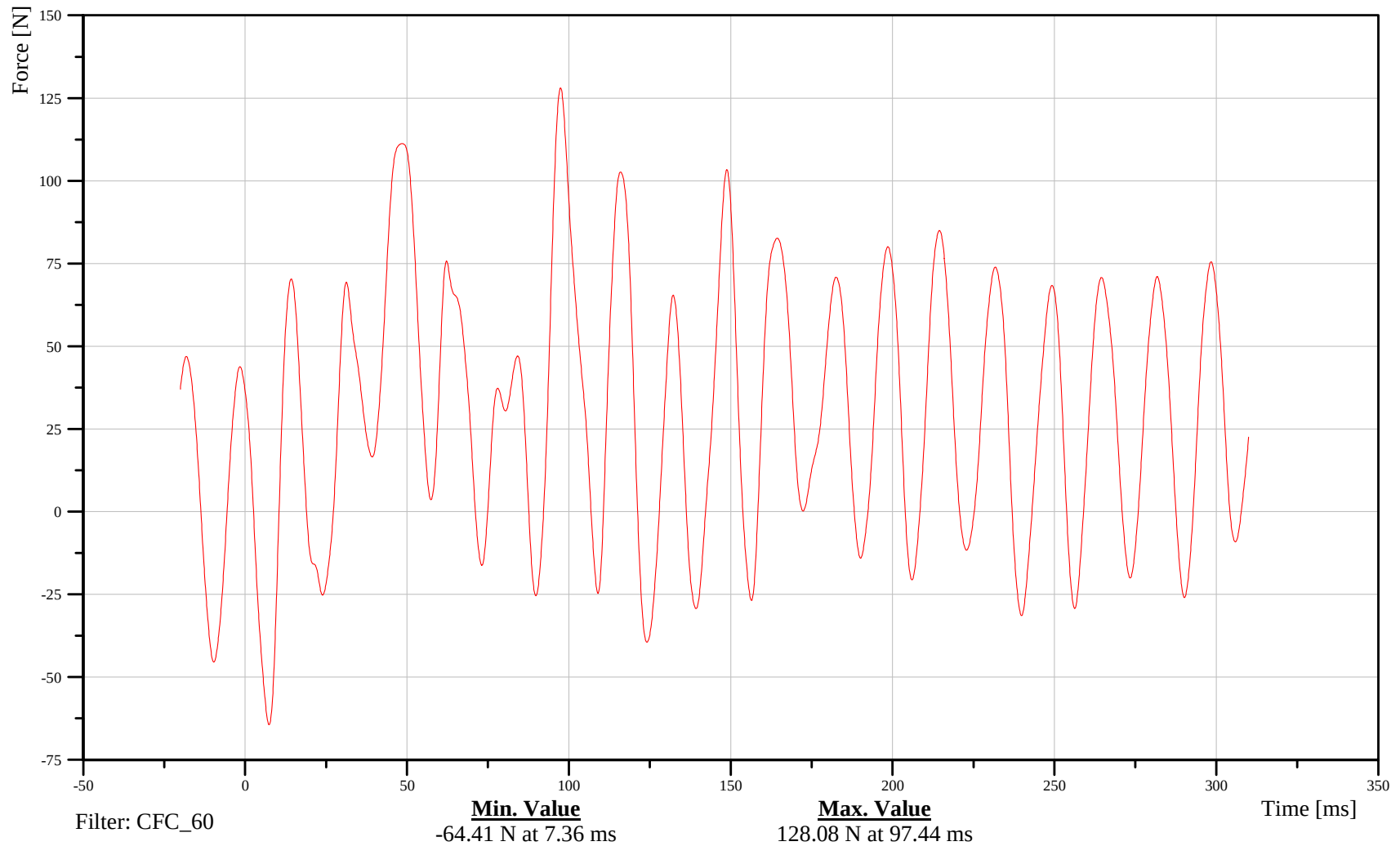
Load Cell Row 3 Column 5

Customer: Volpe

## L0FBAR000043FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-177

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

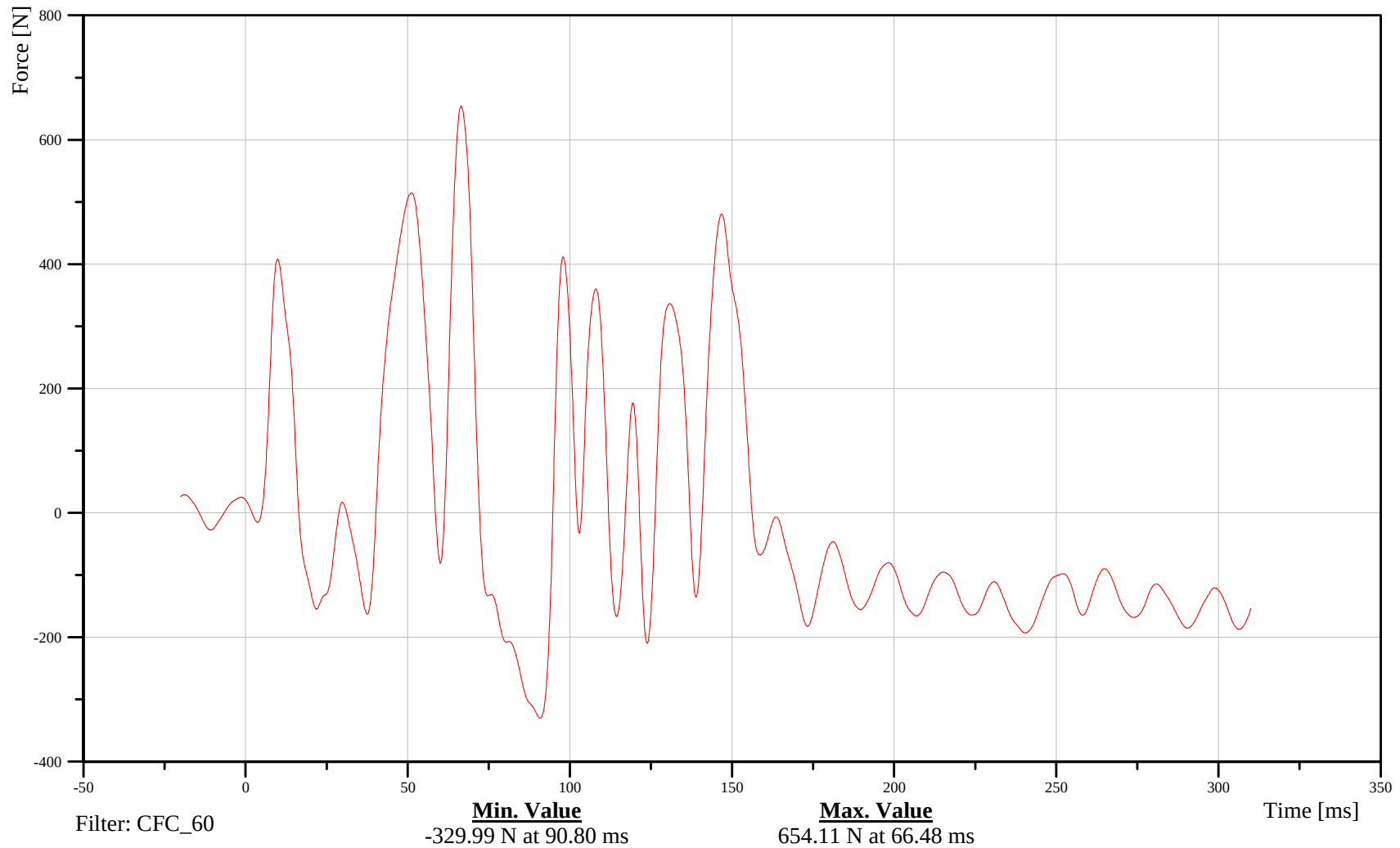
Load Cell Row 3 Column 4

Customer: Volpe

## L0FBAR000033FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-178

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

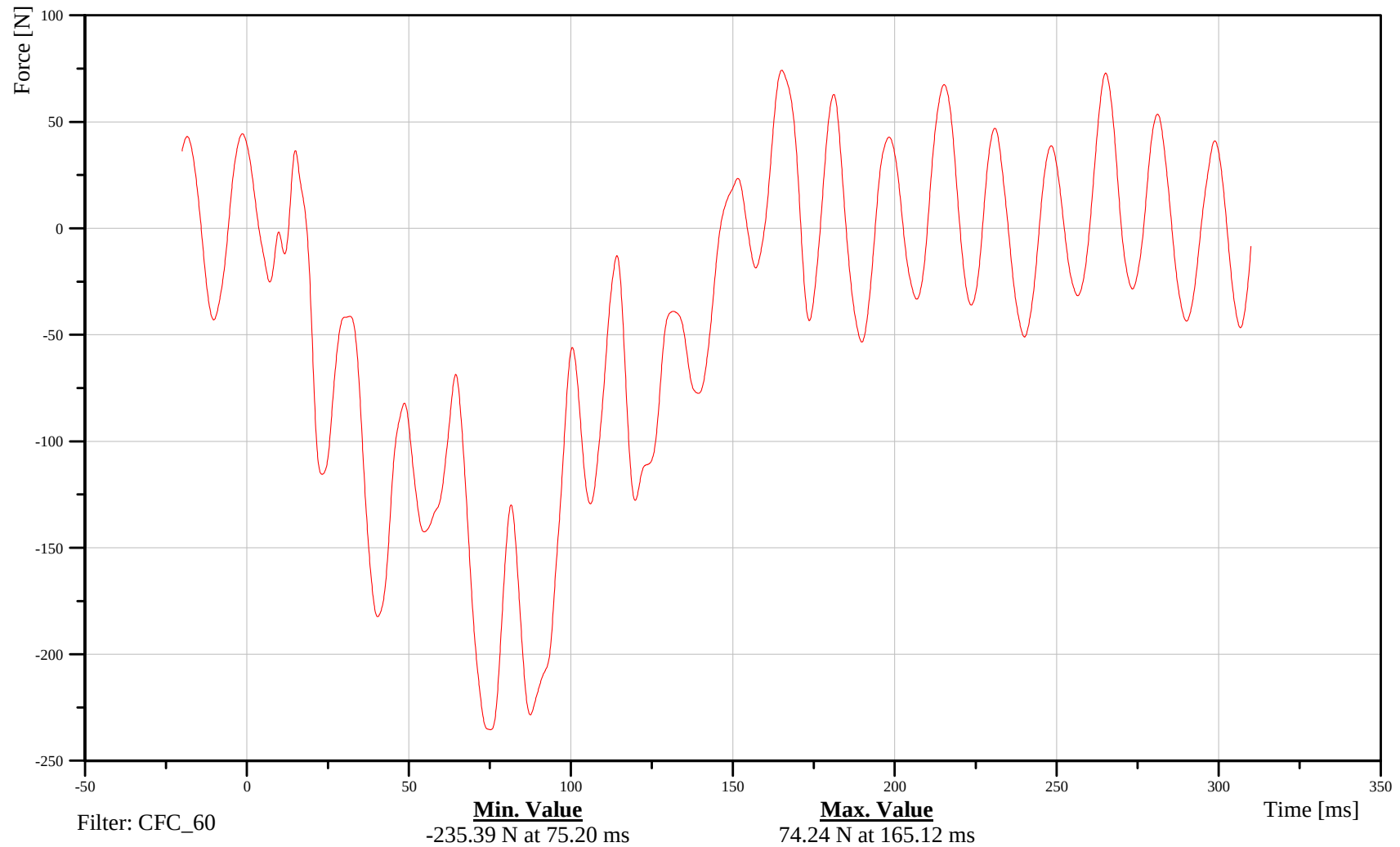
Load Cell Row 3 Column 3

Customer: Volpe

## L0FBAR000023FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-179

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

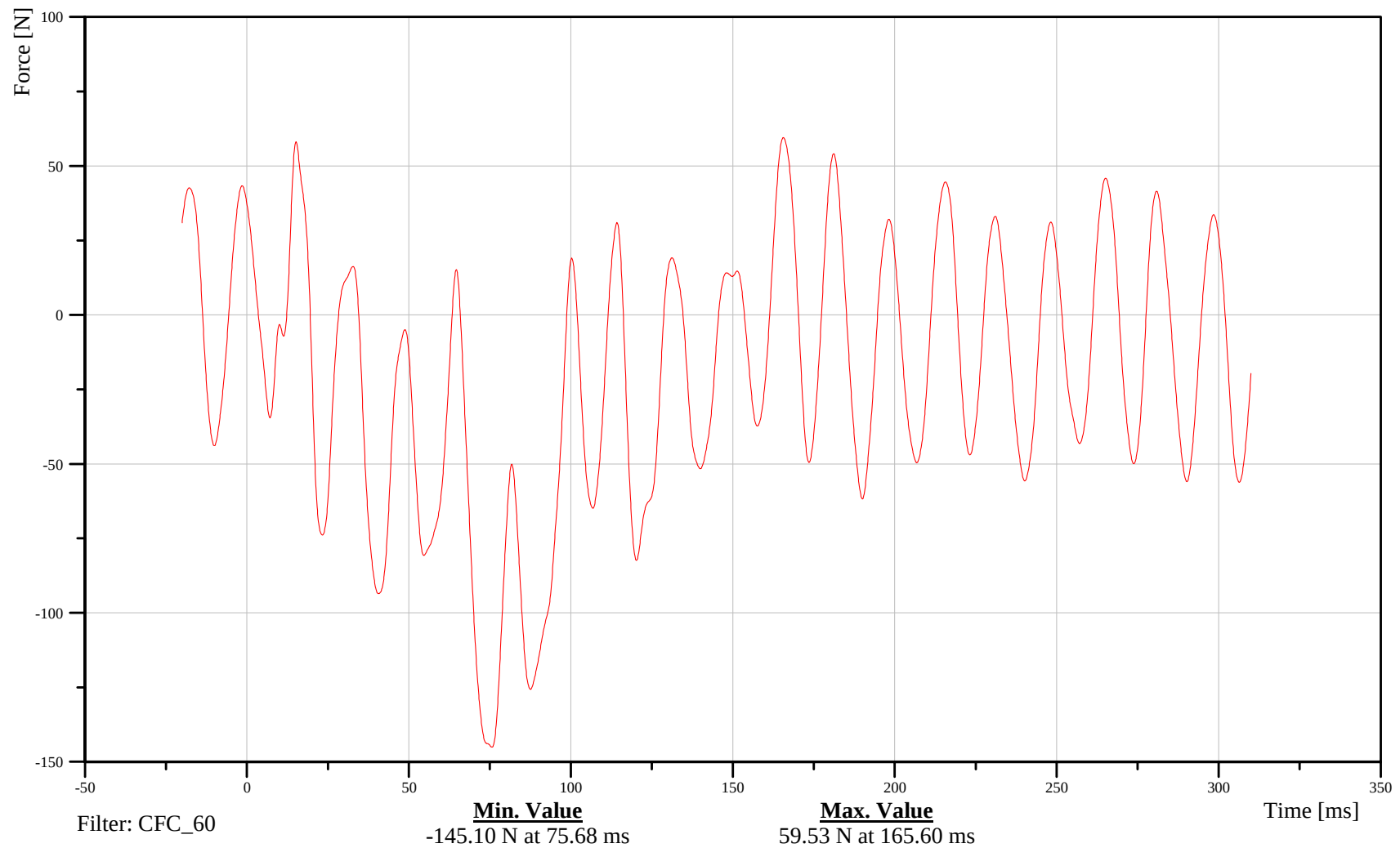
Load Cell Row 3 Column 2

Customer: Volpe

## L0FBAR000013FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-180

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

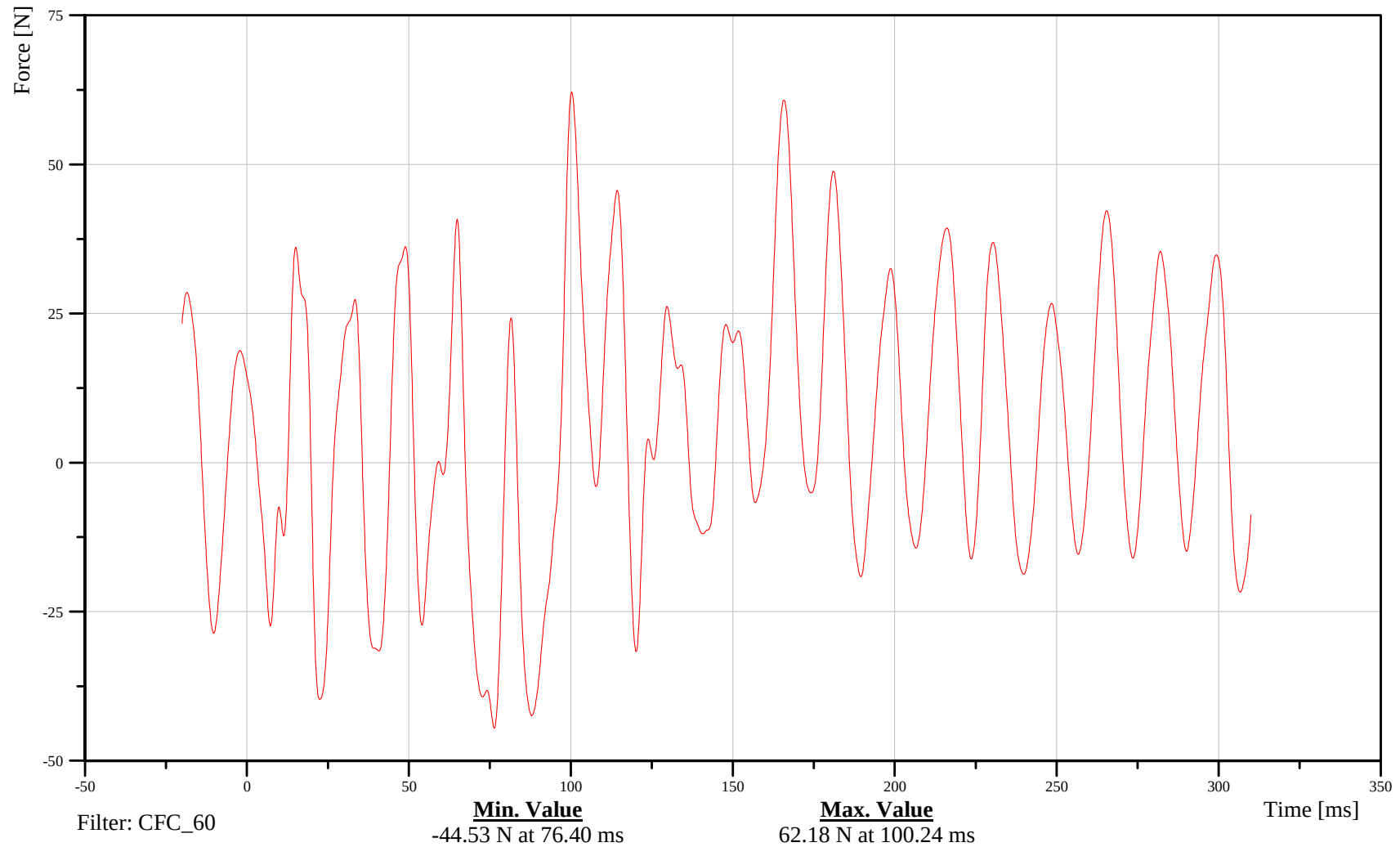
Load Cell Row 3 Column 1

Customer: Volpe

## L0FBAR000003FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-181

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

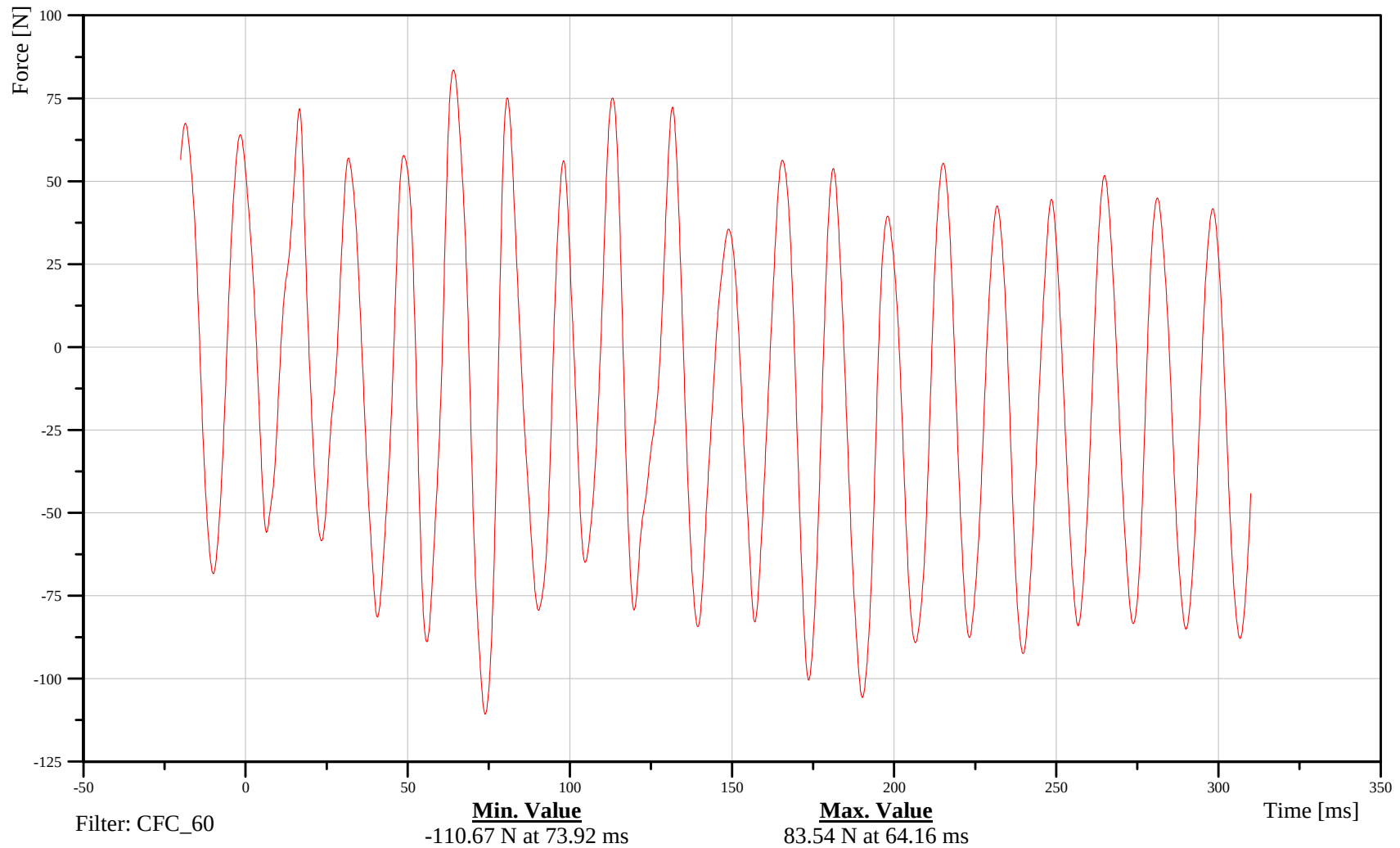
Load Cell Row 2 Column 9

Customer: Volpe

## L0FBAR000082FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-182

060328-1



2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

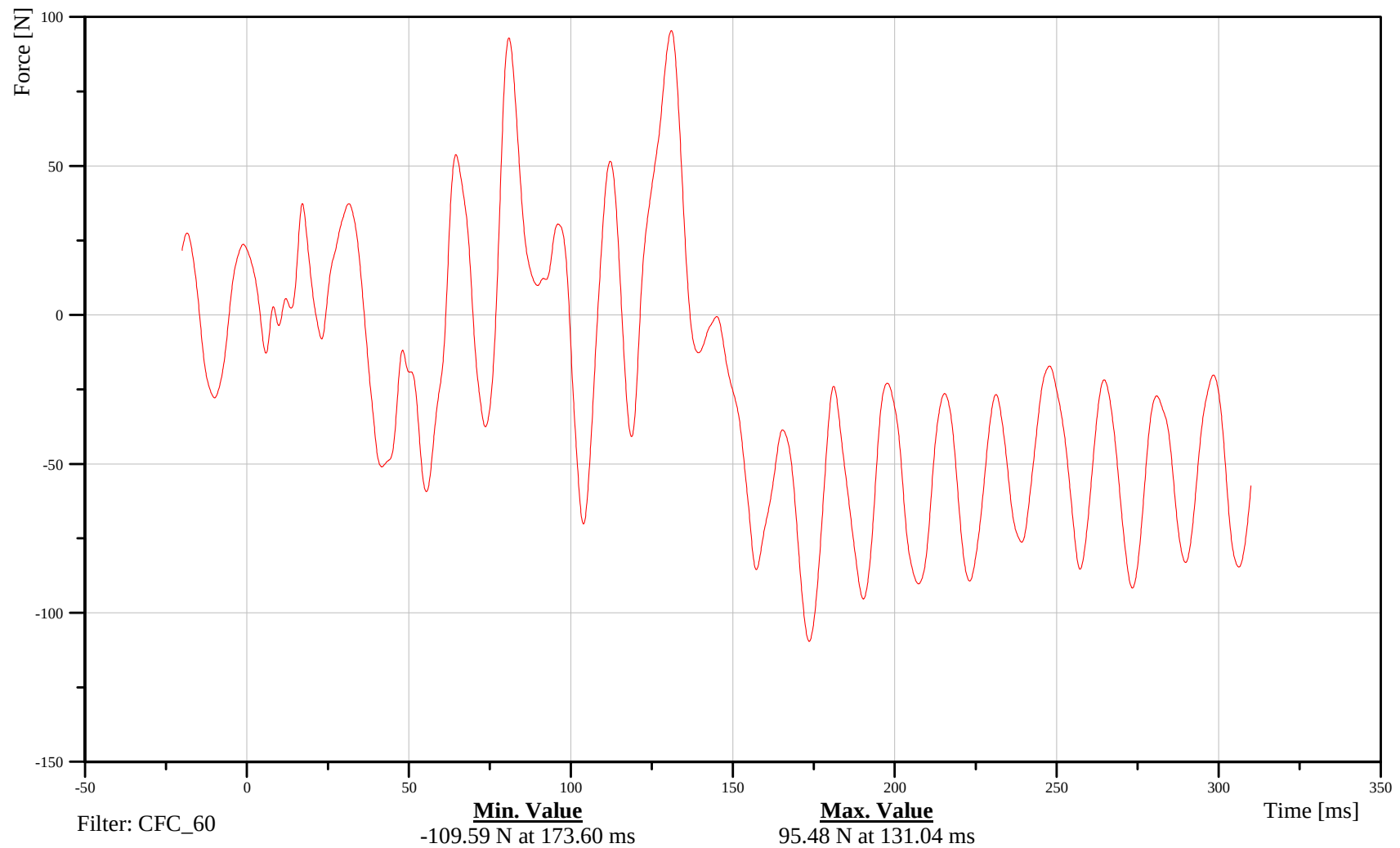
Load Cell Row 2 Column 8

Customer: Volpe

L0FBAR000072FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-183

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

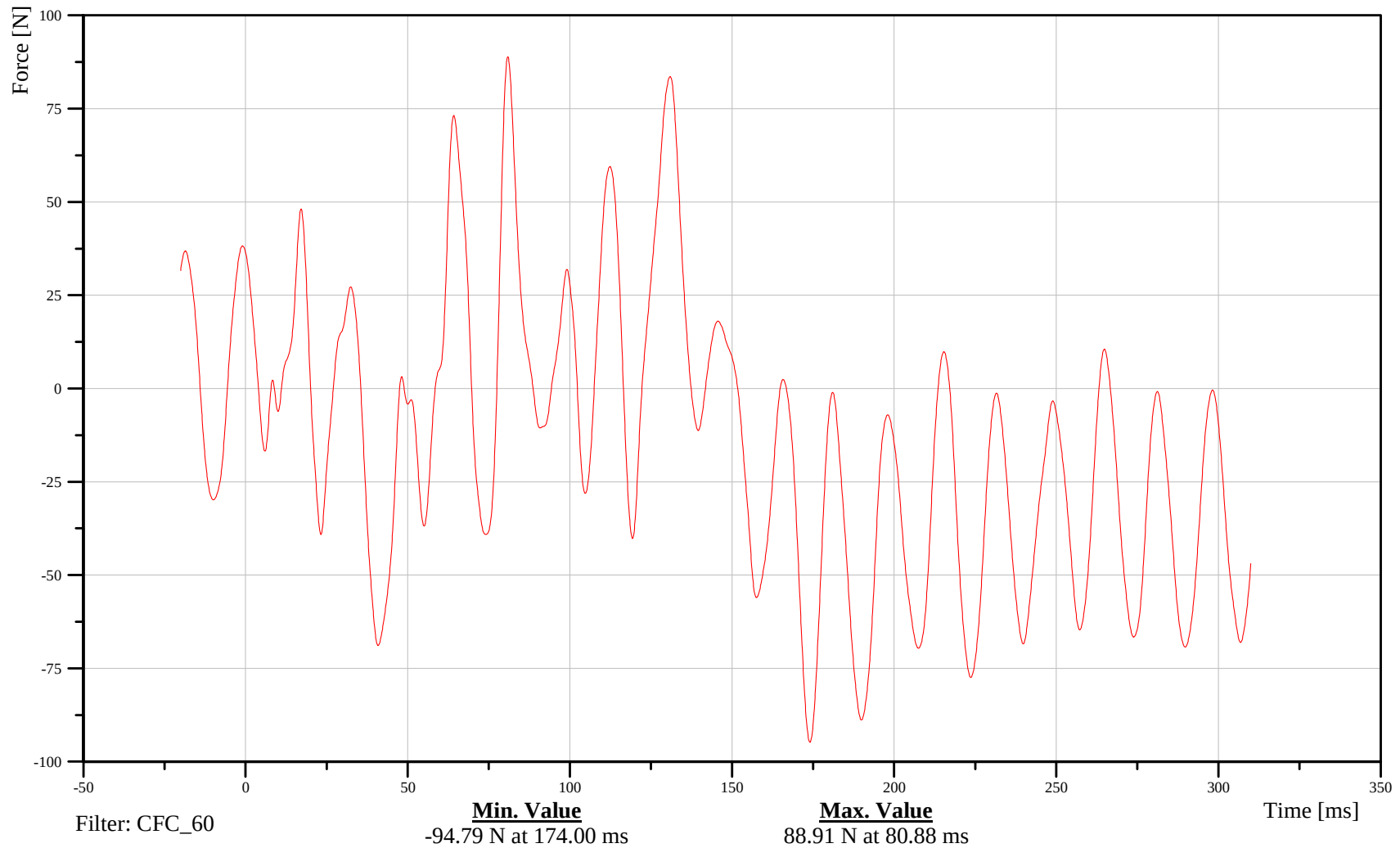
Load Cell Row 2 Column 7

Customer: Volpe

## L0FBAR000062FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-184

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

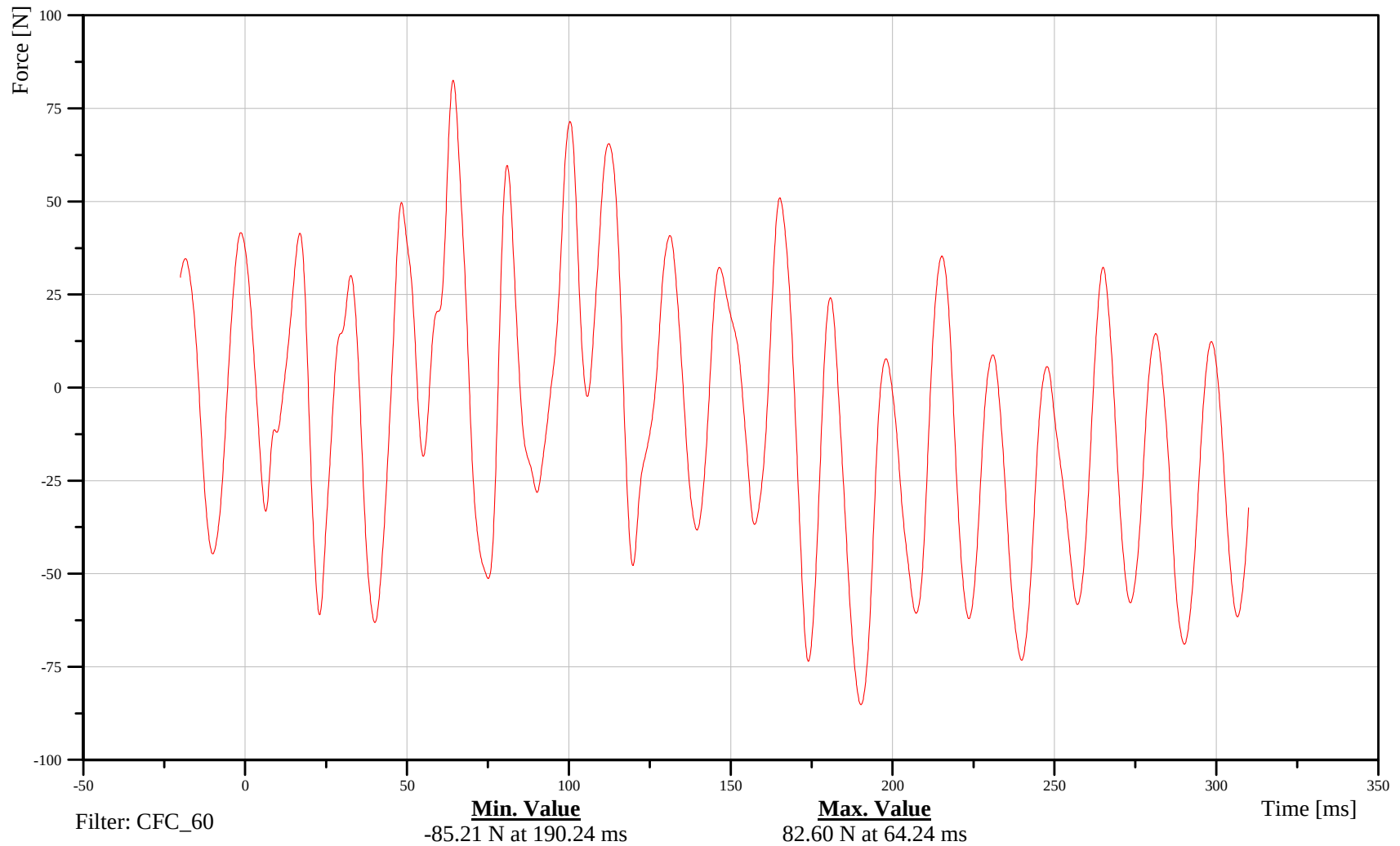
Load Cell Row 2 Column 6

Customer: Volpe

## L0FBAR000052FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-185

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

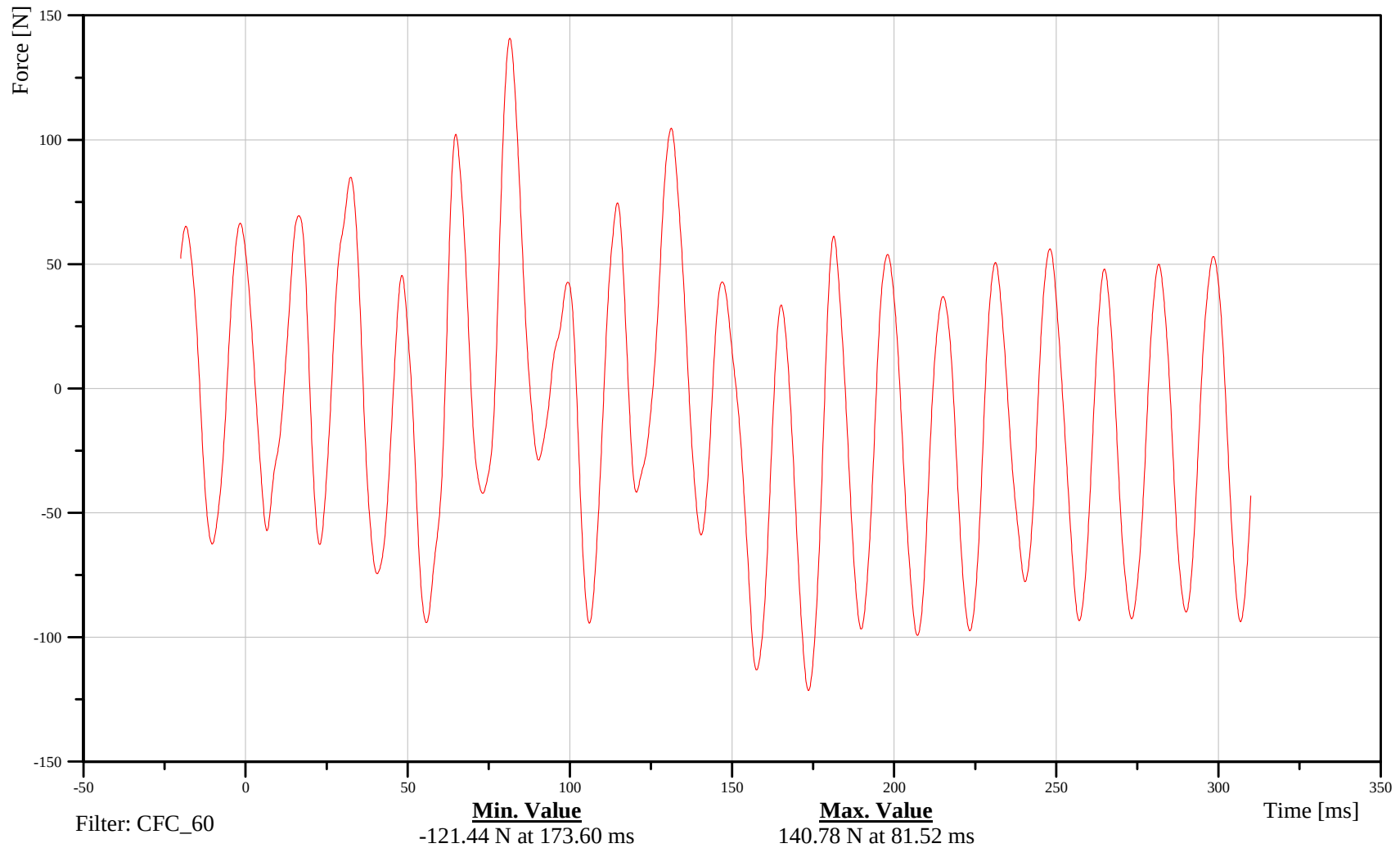
Load Cell Row 2 Column 5

Customer: Volpe

## L0FBAR000042FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-186

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

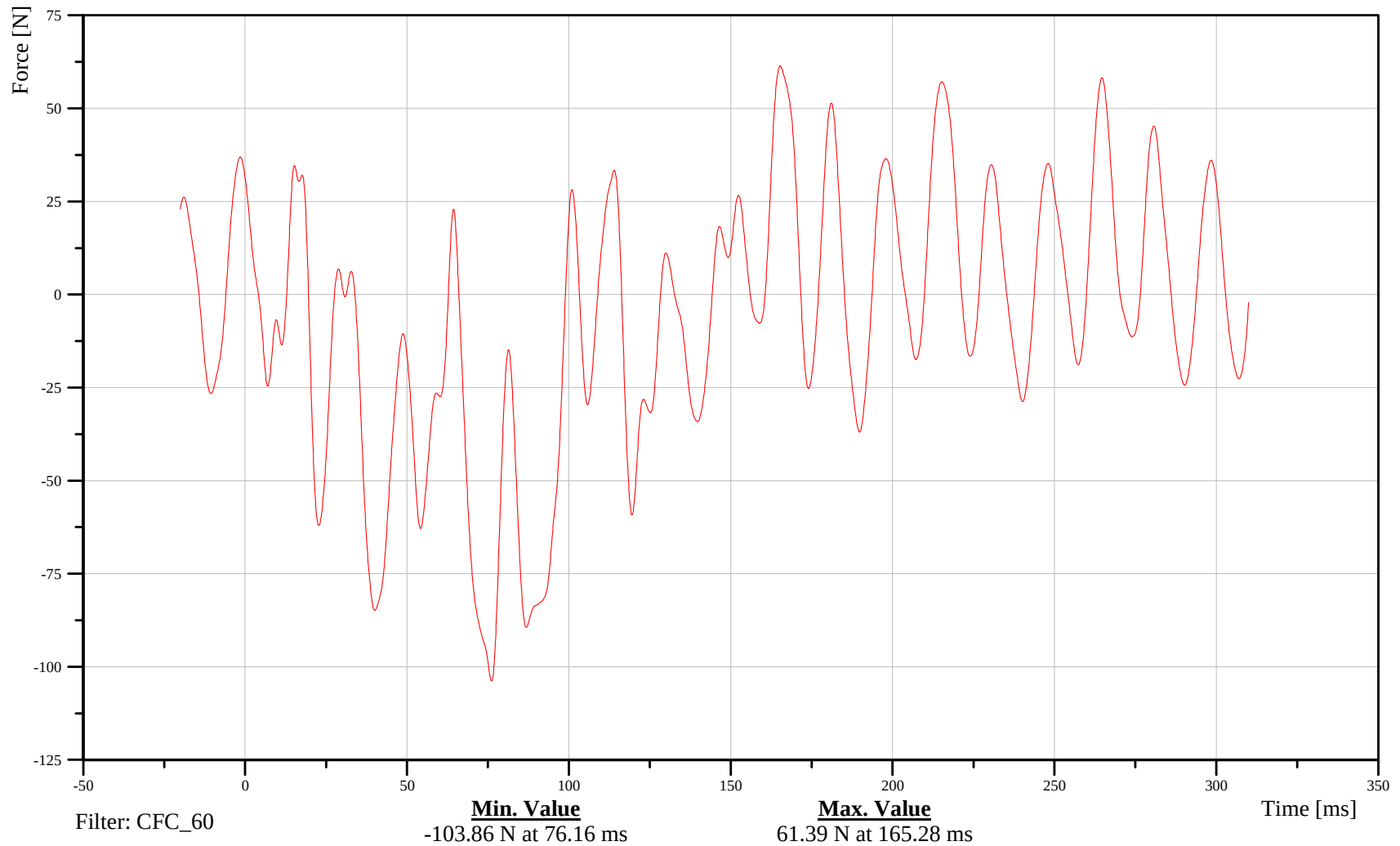
Load Cell Row 2 Column 4

Customer: Volpe

## L0FBAR000032FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-187

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

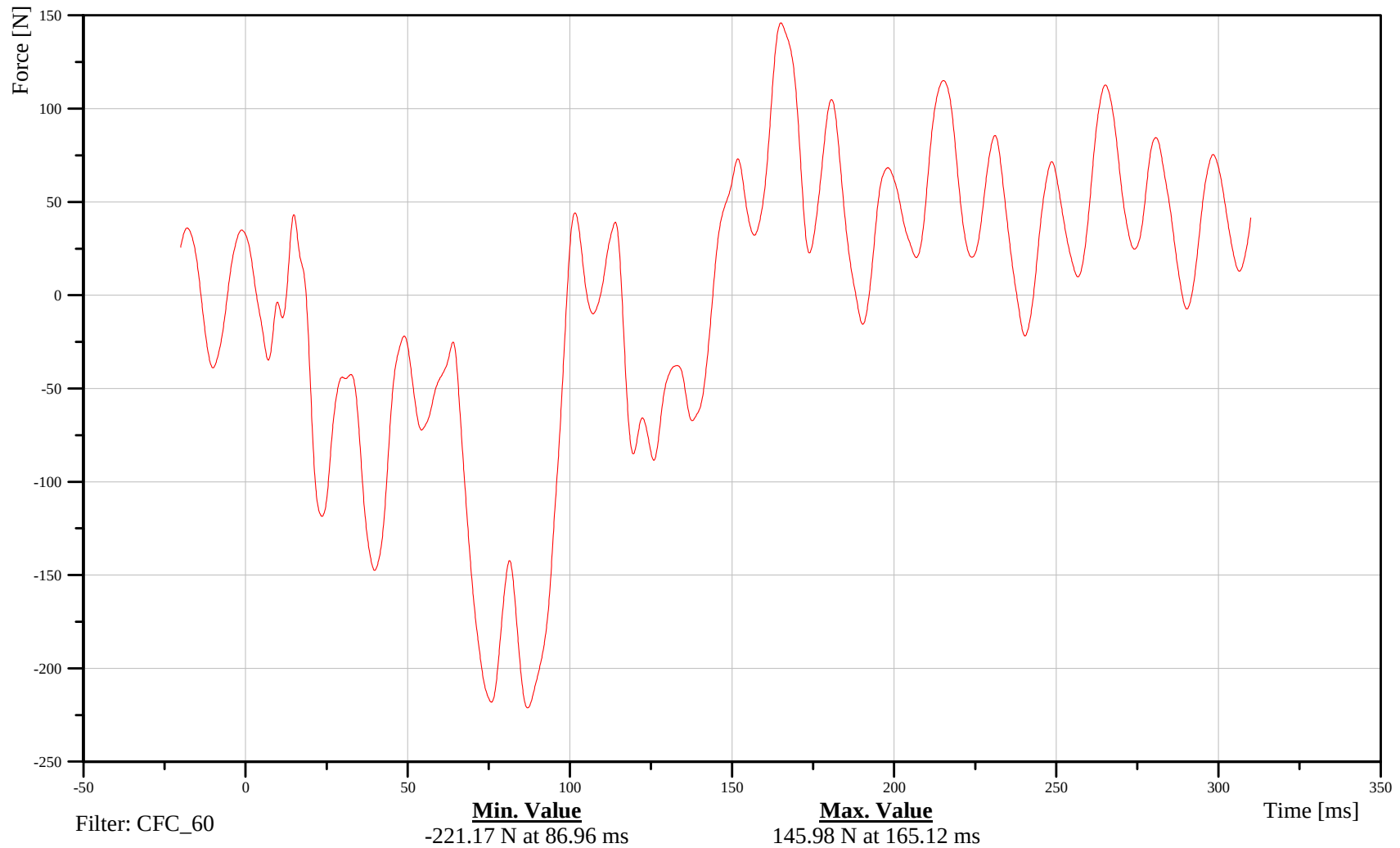
Load Cell Row 2 Column 3

Customer: Volpe

## L0FBAR000022FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-188

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

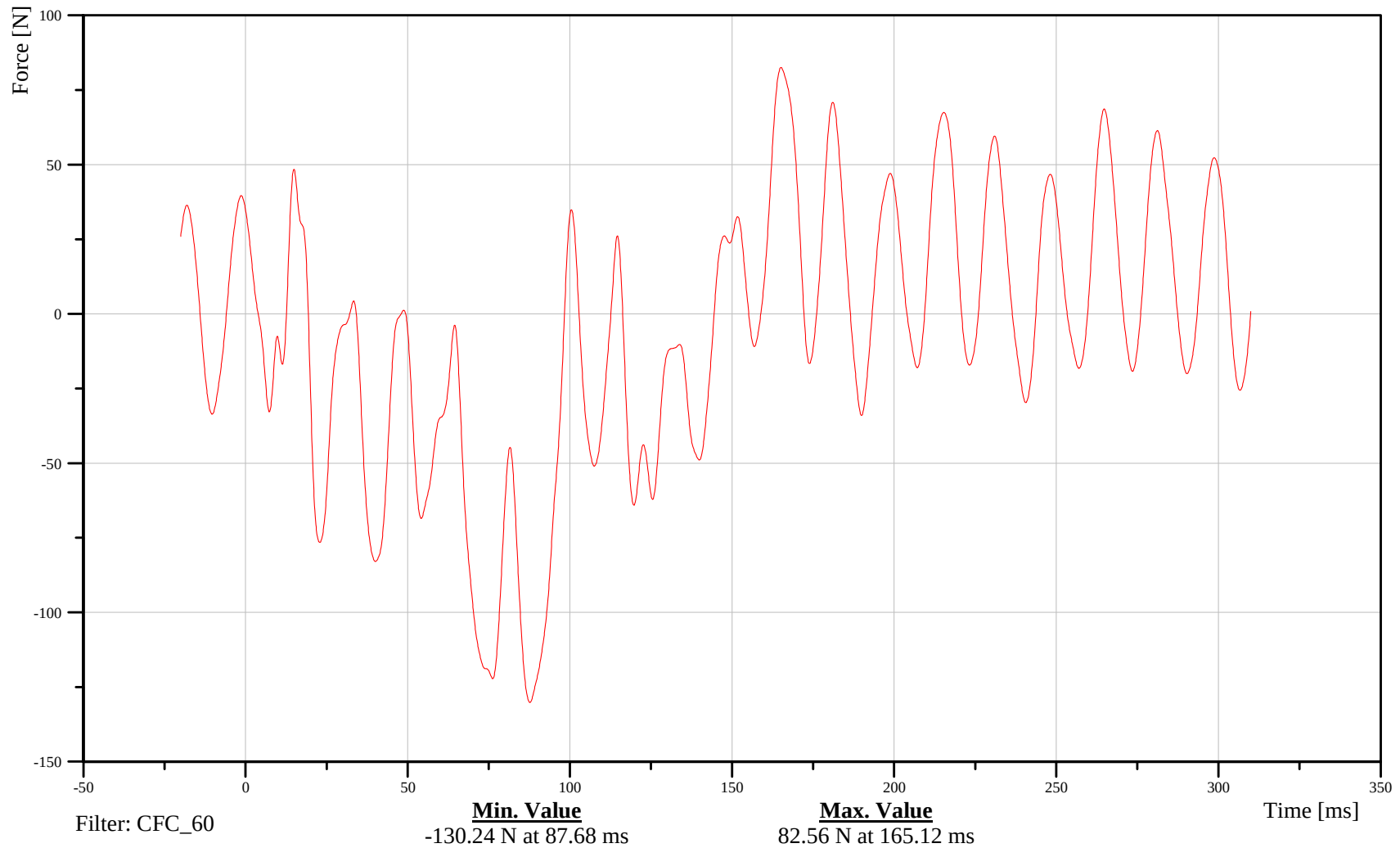
Load Cell Row 2 Column 2

Customer: Volpe

## L0FBAR000012FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-189

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

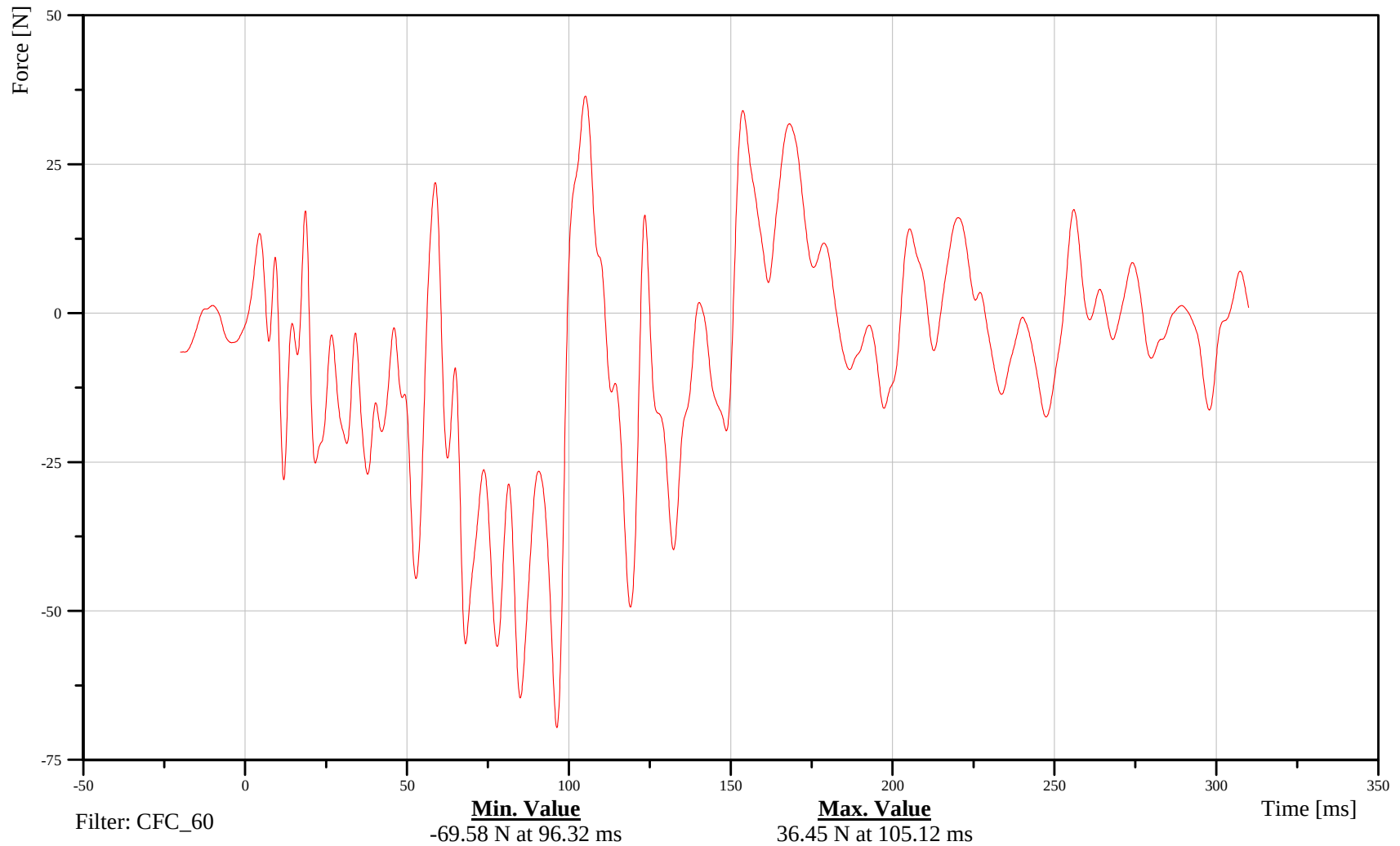
Load Cell Row 2 Column 1

Customer: Volpe

## L0FBAR000002FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-190

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

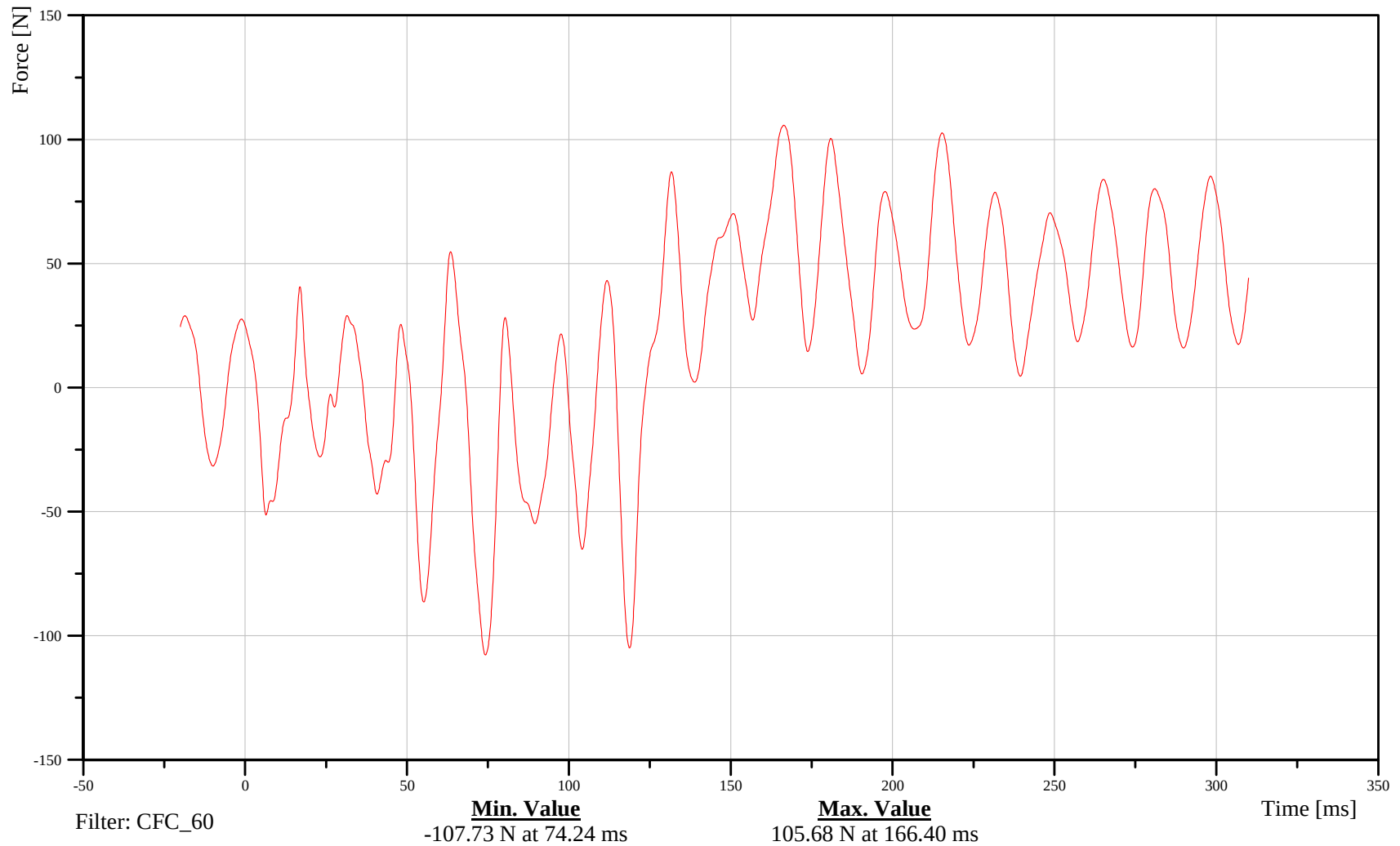
Load Cell Row 1 Column 9

Customer: Volpe

## L0FBAR000081FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-191

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

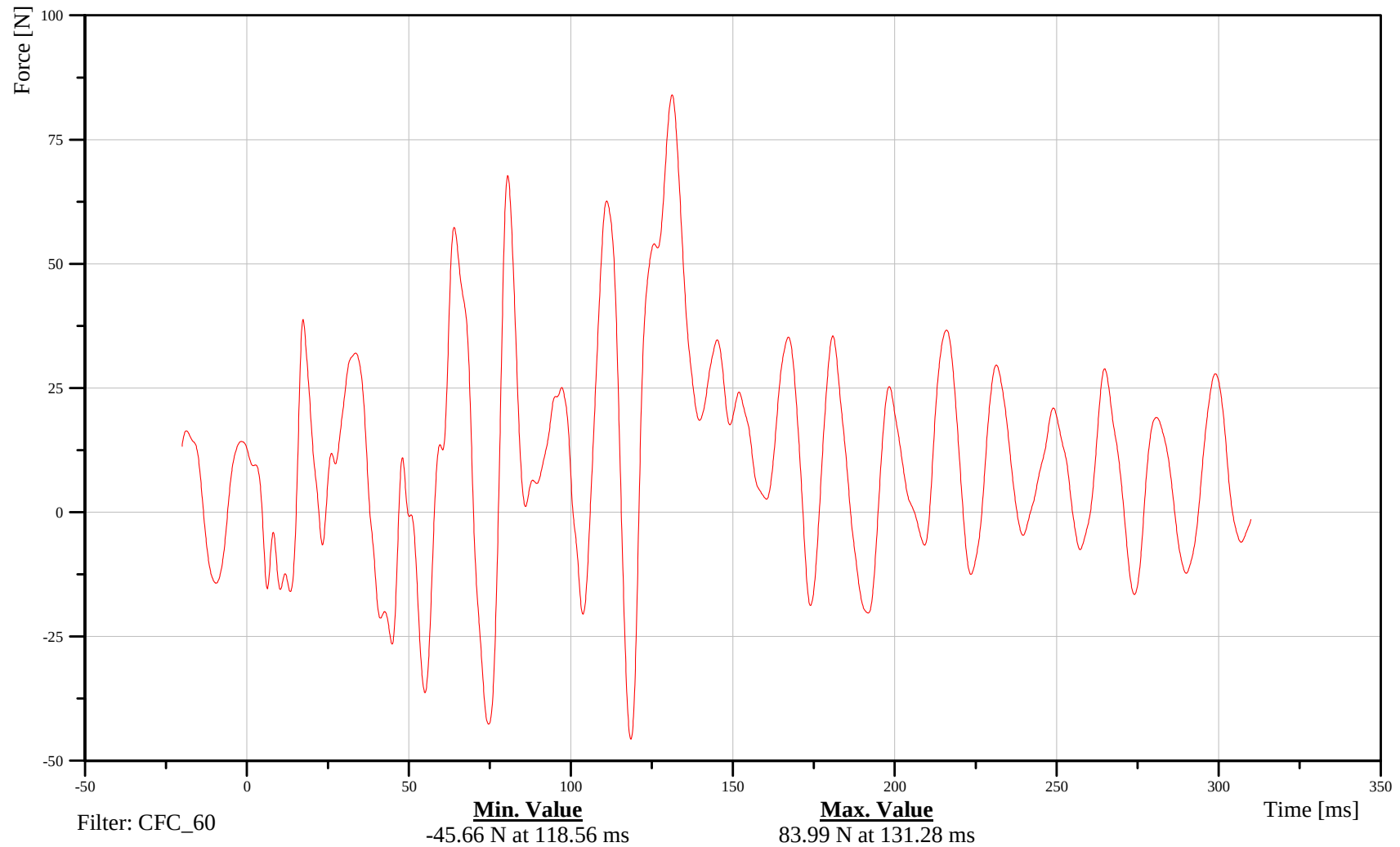
Load Cell Row 1 Column 8

Customer: Volpe

## L0FBAR000071FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-192

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

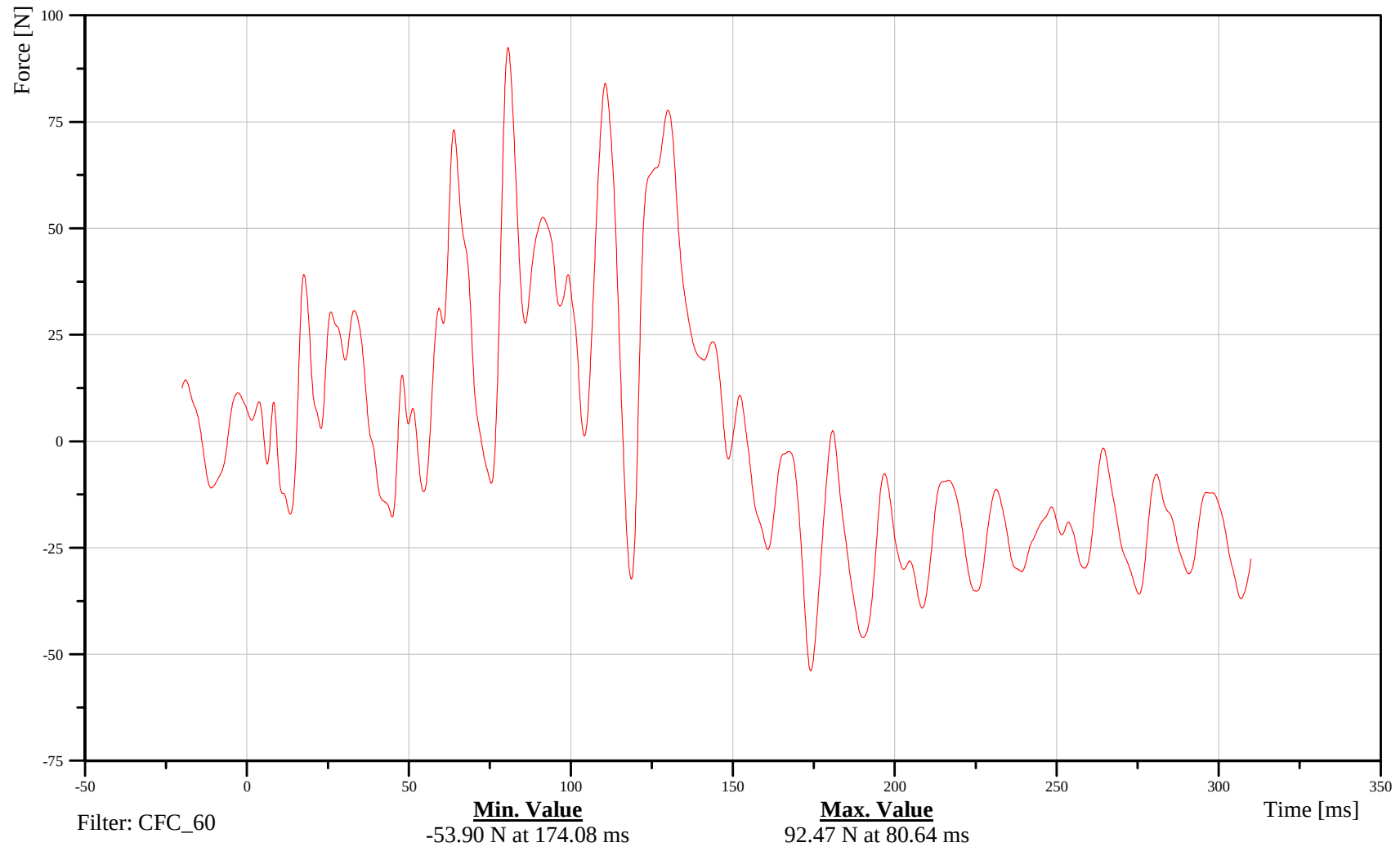
Load Cell Row 1 Column 7

Customer: Volpe

## L0FBAR000061FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-193

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

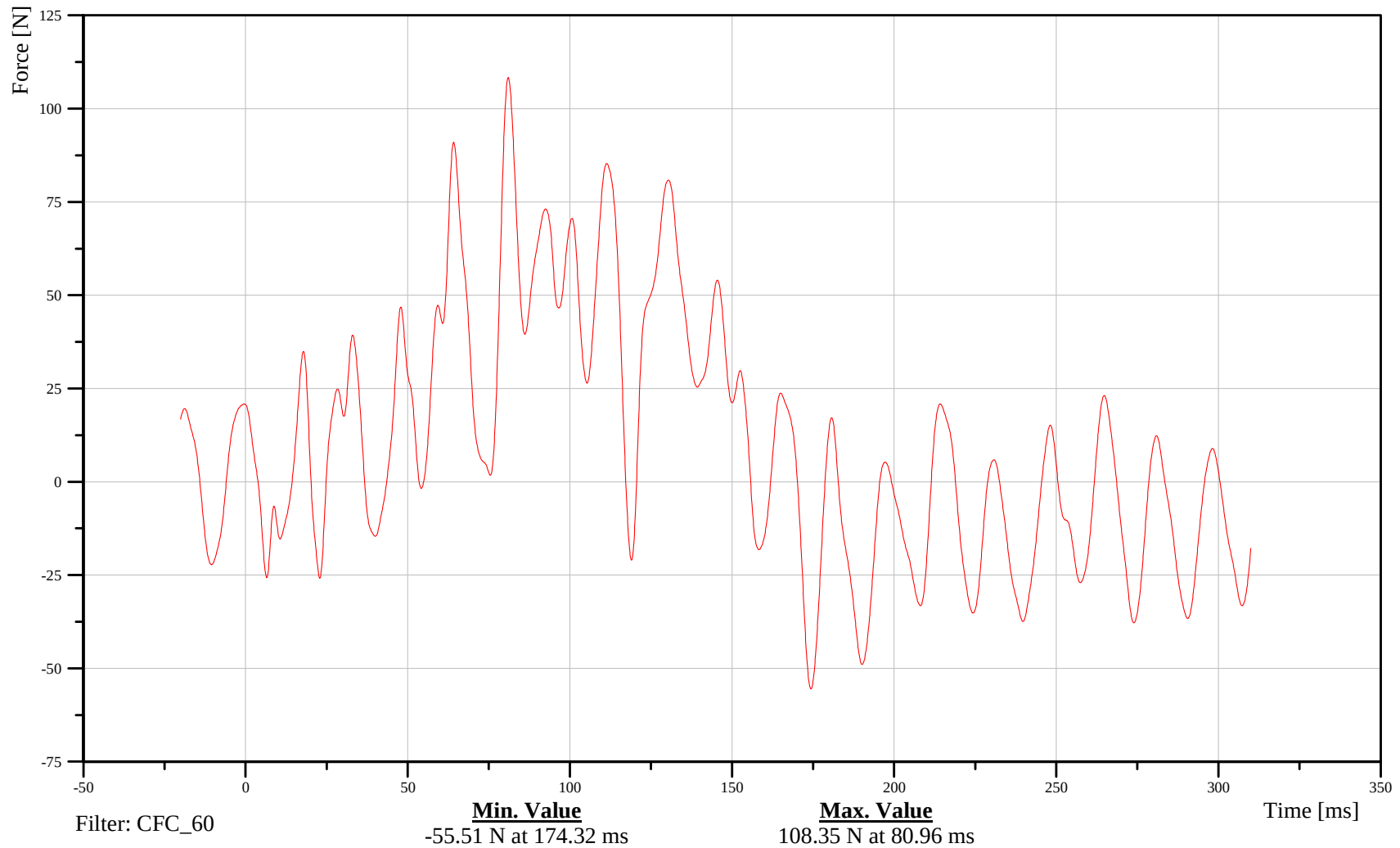
Load Cell Row 1 Column 6

Customer: Volpe

## L0FBAR000051FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-194

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

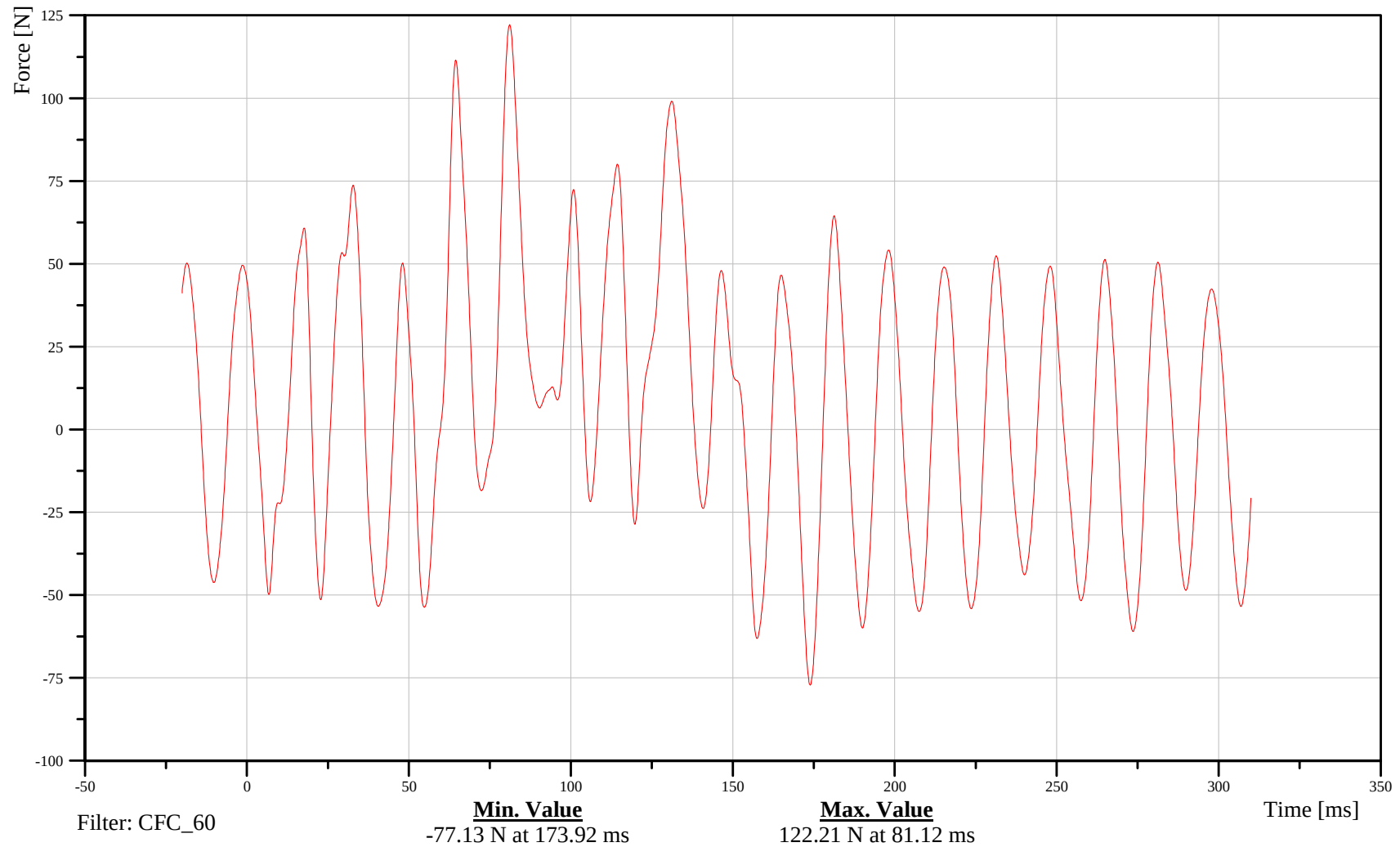
Load Cell Row 1 Column 5

Customer: Volpe

## L0FBAR000041FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-195

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

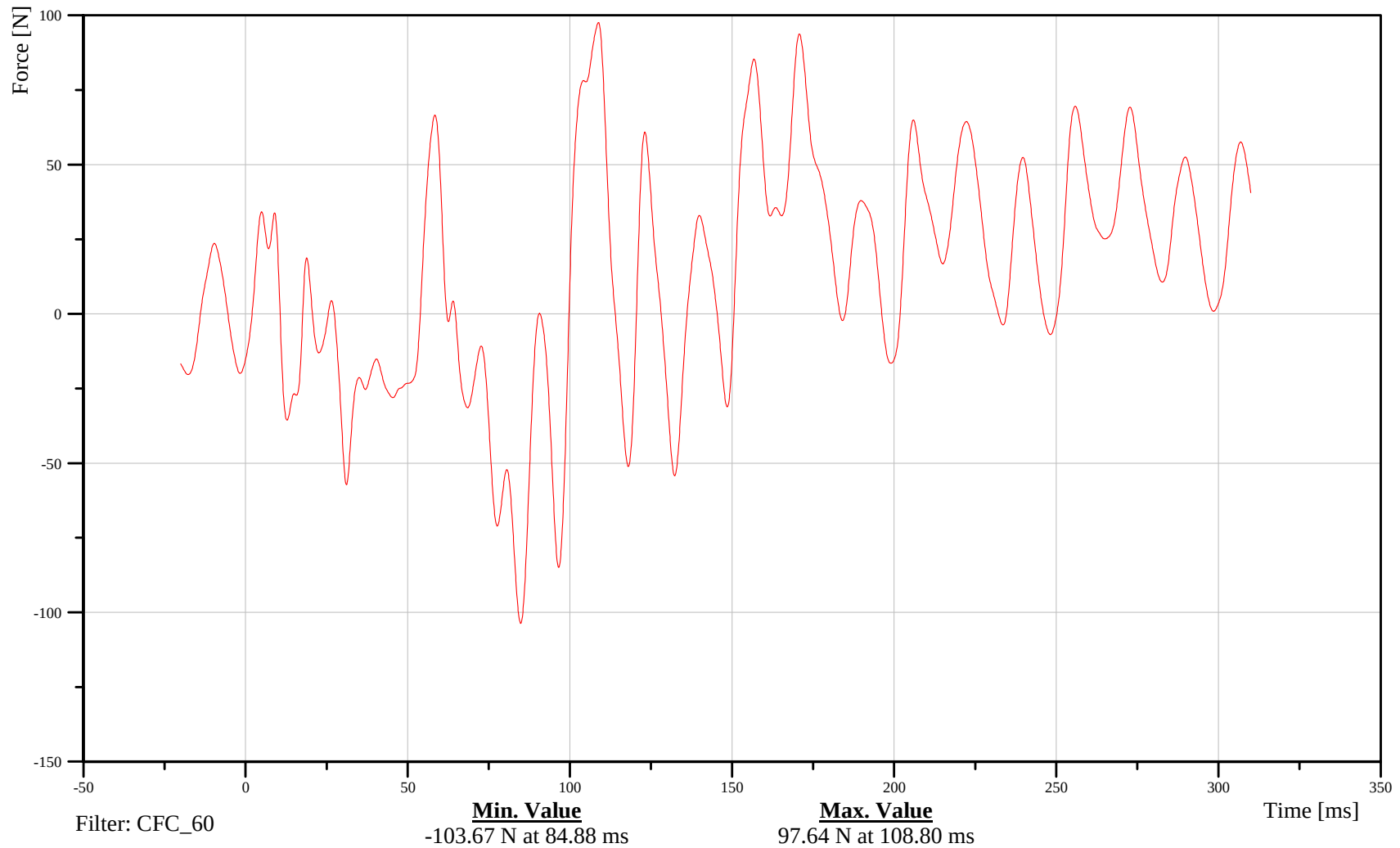
Load Cell Row 1 Column 4

Customer: Volpe

## L0FBAR000031FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-196

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

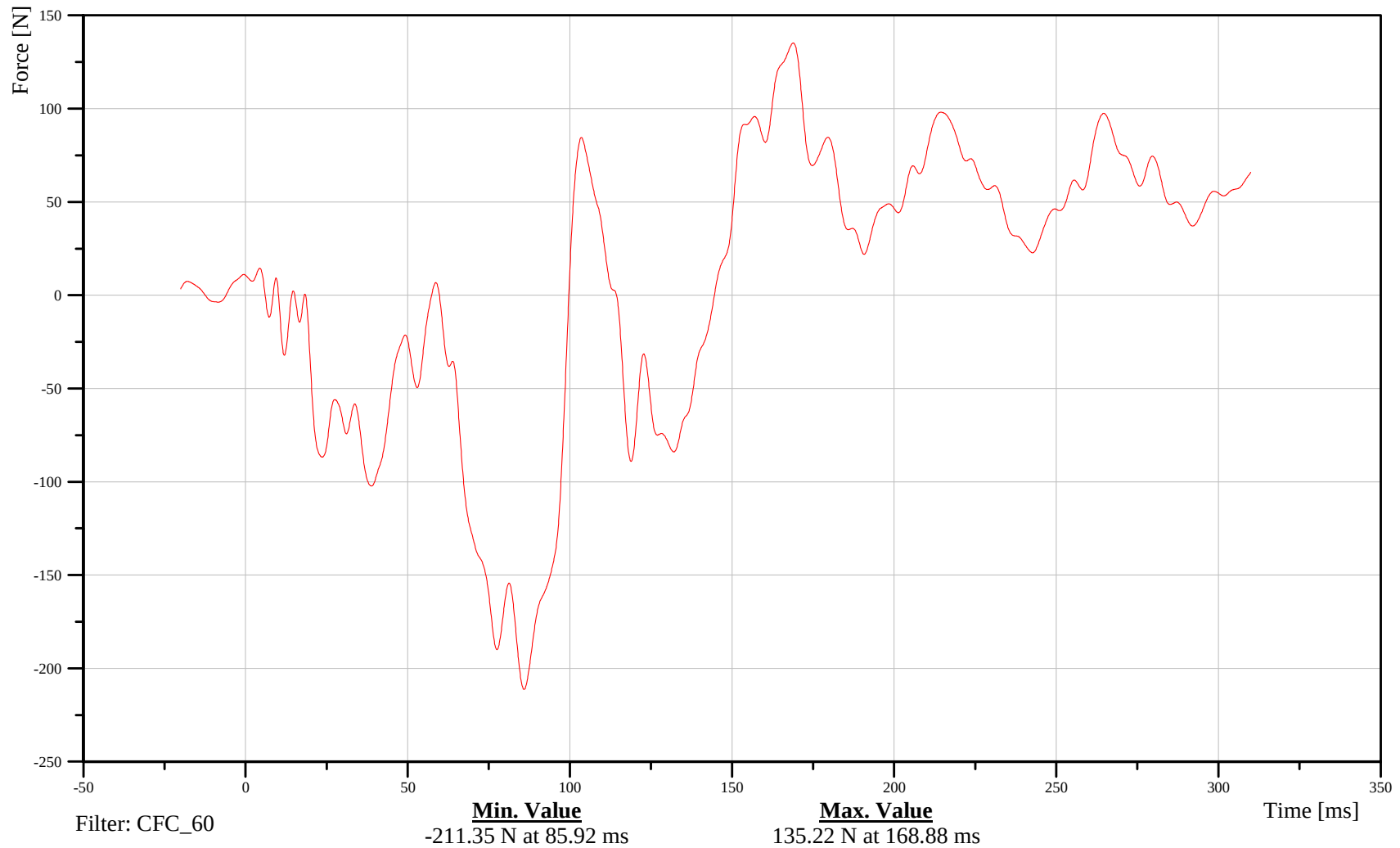
Load Cell Row 1 Column 3

Customer: Volpe

## L0FBAR000021FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-197

060328-1





# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

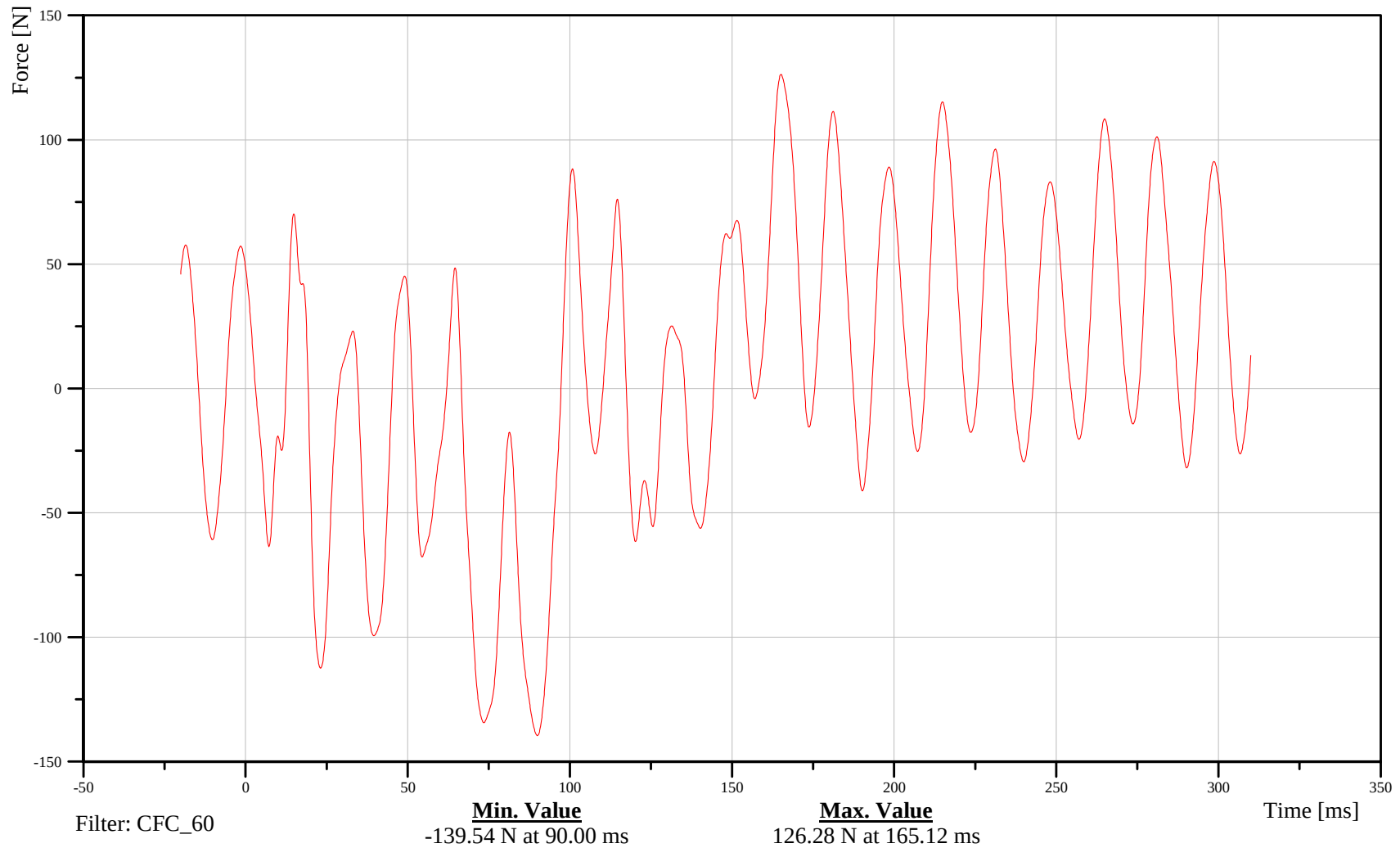
Load Cell Row 1 Column 2

Customer: Volpe

## L0FBAR000011FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-198

060328-1



# 2006 Dodge Stratus into Left 40% Offset Deformable LCB at 56 kph

Date: 03/28/2006  
Time: 13:15

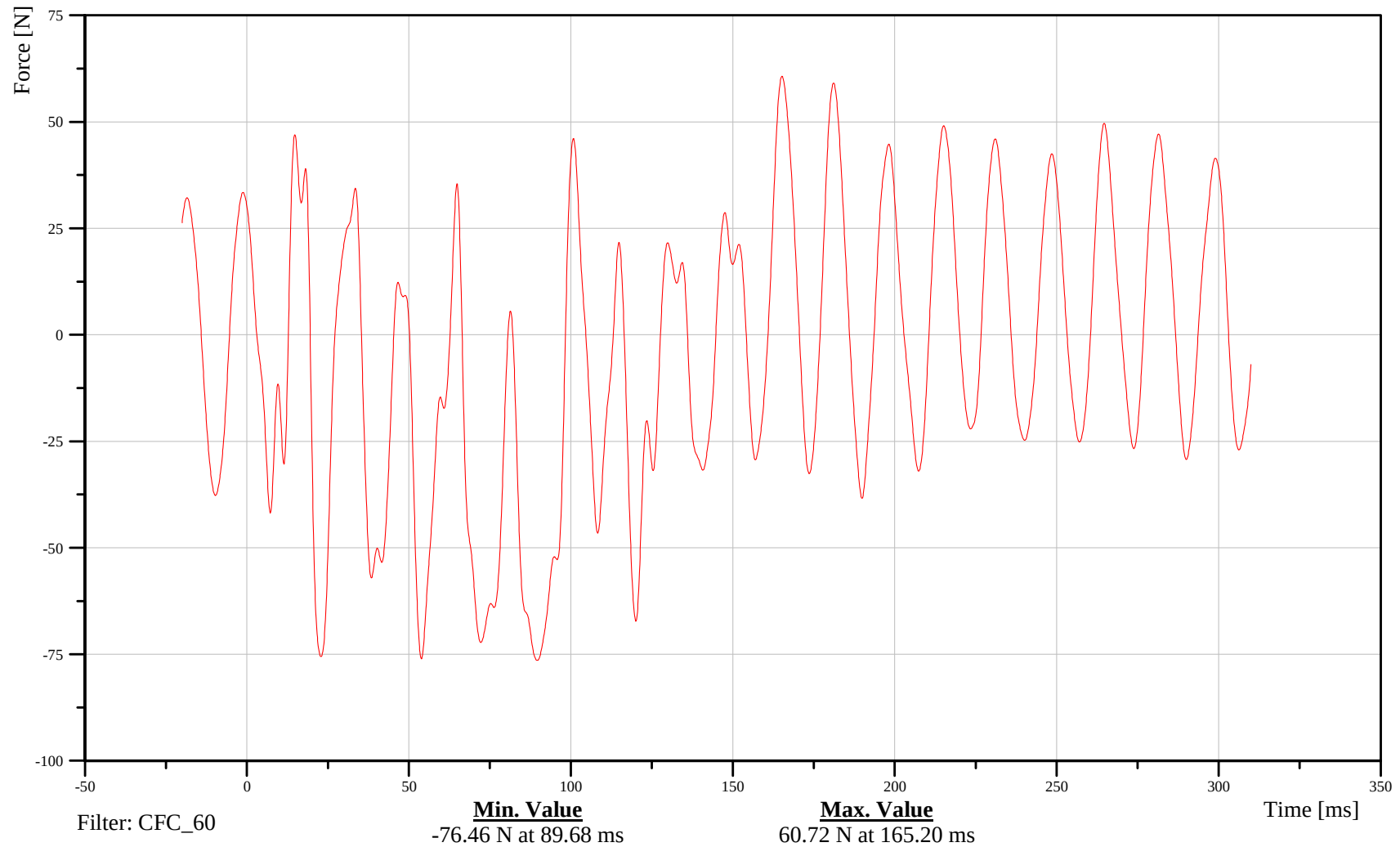
Load Cell Row 1 Column 1

Customer: Volpe

## L0FBAR000001FOXD

TRC Inc. Test Lab: CTF

Test Number: 060328-1



B-199

060328-1

## Appendix C

### Dummy Certification Data

Pre-test Dummy Configuration and Performance Verification Data

Driver Dummy S/N: 202

**Transportation Research Center Inc.**  
**572E HIII 50th Male Dummy**  
**External Dimensions**  
**Serial No. 202    Calibration No. 15**

| Symbol | Description                      | Specification  | Results | Pass |
|--------|----------------------------------|----------------|---------|------|
|        |                                  | mm             | mm      |      |
| A      | Total Sitting Height             | 878.8 - 889.0  | 883     | Yes  |
| B      | Shoulder Pivot Height            | 505.5 - 520.7  | 517     | Yes  |
| C      | H-Point Height                   | 83.8 - 88.9    | 87      | Yes  |
| D      | H-Point From Seatback            | 134.6 - 139.7  | 136     | Yes  |
| E      | Shoulder Pivot From Backline     | 83.8 - 94.0    | 89      | Yes  |
| F      | Thigh Clearance                  | 139.7 - 154.9  | 152     | Yes  |
| G      | Back Of Elbow To Wrist Pivot     | 289.6 - 304.8  | 292     | Yes  |
| H      | Skull Cap To Backline            | 40.6 - 45.7    | 43      | Yes  |
| I      | Shoulder-Elbow Length            | 330.2 - 345.4  | 338     | Yes  |
| J      | Elbow Rest Height                | 190.5 - 210.8  | 197     | Yes  |
| K      | Buttock Knee Length              | 579.1 - 604.5  | 597     | Yes  |
| L      | Popliteal Height                 | 429.3 - 454.7  | 439     | Yes  |
| M      | Knee Pivot Height                | 485.1 - 500.4  | 493     | Yes  |
| N      | Buttock Popliteal Length         | 452.1 - 477.5  | 458     | Yes  |
| O      | Chest Depth                      | 213.4 - 228.6  | 221     | Yes  |
| P      | Foot Length                      | 251.5 - 266.7  | 259     | Yes  |
| V      | Shoulder Breadth                 | 421.6 - 436.9  | 432     | Yes  |
| W      | Foot Breadth                     | 91.4 - 106.7   | 102     | Yes  |
| Y      | Chest Circumference              | 970.3 - 1000.8 | 993     | Yes  |
| Z      | Waist Circumference              | 835.7 - 866.1  | 841     | Yes  |
| AA     | Location For Chest Circumference | 429.3 - 434.3  | 432     | Yes  |
| BB     | Location For Waist Circumference | 226.1 - 231.1  | 229     | Yes  |

Technician



Approved



# Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 202 Certification No. 15-1

Test Date: 03/21/2006

| Test Parameter                                        | Specification  | Test Results | Pass |
|-------------------------------------------------------|----------------|--------------|------|
| Temperature                                           | 18.9 - 25.5 °C | 21.5 °C      | Yes  |
| Relative Humidity                                     | 10 - 70 %      | 29 %         | Yes  |
| Peak Head Resultant Acceleration                      | 225 - 275 g    | 259.7 g      | Yes  |
| Peak Head Lateral Acceleration                        | (-15) - 15 g   | -11.7 g      | Yes  |
| Is Acceleration Curve Unimodal<br>within 10% of Peak? | Yes            | Yes          | Yes  |

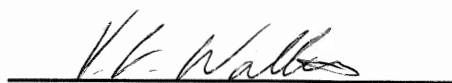
**Test meets specifications.**

**Comments:**

Technician



Approved

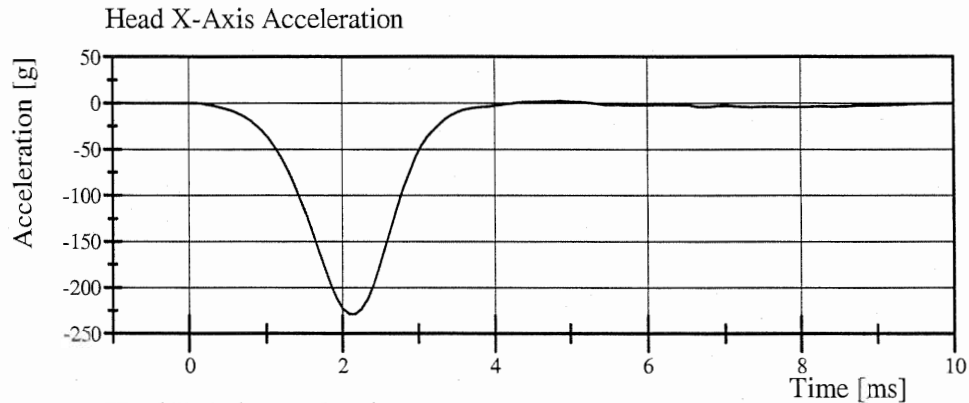


# Transportation Research Center Inc.

## Front Head Drop

HHH 50th Serial No. 202 Certification No. 15-1

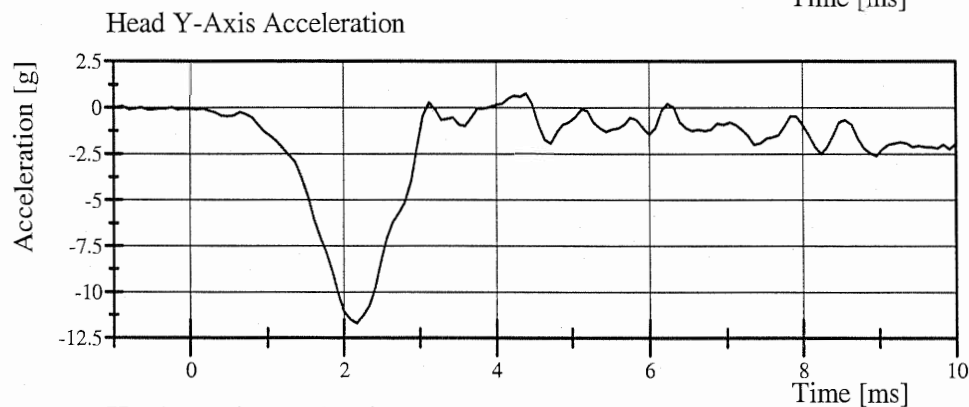
Test Date: 03/21/2006



Filter Class: CFC\_1000

Max: 2.2 g at 4.9 ms

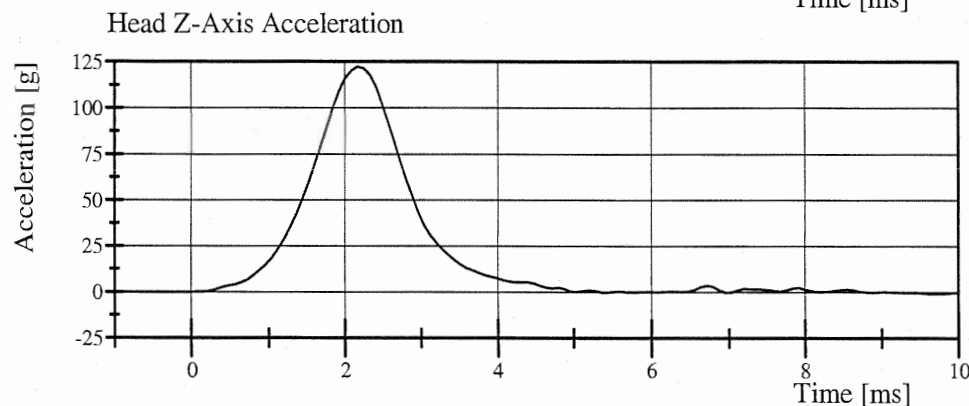
Min: -228.8 g at 2.2 ms



Filter Class: CFC\_1000

Max: 0.8 g at 4.4 ms

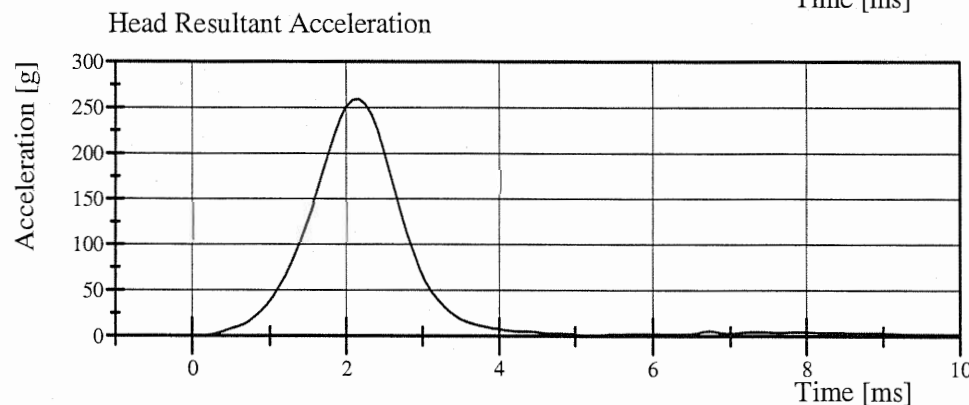
Min: -11.7 g at 2.2 ms



Filter Class: CFC\_1000

Max: 122.3 g at 2.2 ms

Min: -0.6 g at 9.8 ms



Filter Class: CFC\_1000

Max: 259.7 g at 2.2 ms

Min: 0.0 g at -1.0 ms



# Transportation Research Center Inc.

Neck Flexion

HHH 50th Serial No. 202 Certification No. 15-2

Test Date: 03/24/2006

| Test Parameter                                         | Specification       | Test Results | Pass |
|--------------------------------------------------------|---------------------|--------------|------|
| Temperature                                            | 20.6 - 22.2 °C      | 21.2 °C      | Yes  |
| Relative Humidity                                      | 10 - 70 %           | 27 %         | Yes  |
| Pendulum Velocity                                      | 6.89 - 7.13 m/s     | 6.933 m/s    | Yes  |
| Pendulum Acceleration Decay<br>Crossing -5g            | 34 - 42 ms          | 38.7 ms      | Yes  |
| Pendulum Acceleration at 10ms                          | (-22.5) - (-27.5) g | -24.27 g     | Yes  |
| Pendulum Acceleration at 20ms                          | (-17.6) - (-22.6) g | -21.09 g     | Yes  |
| Pendulum Acceleration at 30ms                          | (-12.5) - (-18.5) g | -15.71 g     | Yes  |
| Pendulum Acceleration > 30ms                           | >= (-29.0) g        | -15.71 g     | Yes  |
| Total Head D-Plane Rotation<br>Peak                    | (-64) - (-78) °     | -71.0 °      | Yes  |
| Time of Peak                                           | 57 - 64 ms          | 57.4 ms      | Yes  |
| Total Head D-Plane Rotation<br>Decay to 0°             | 113 - 128 ms        | 113.8 ms     | Yes  |
| Total Neck Occipital Condyles Moment<br>Peak           | 88 - 108 N·m        | 103.4 N·m    | Yes  |
| Time of Peak                                           | 47 - 58 ms          | 50.9 ms      | Yes  |
| Total Neck Occipital Condyles Moment<br>Decay to 0 N·m | 97 - 107 ms         | 97.0 ms      | Yes  |

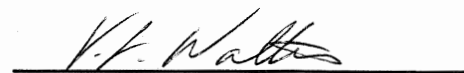
**Test meets specifications.**

**Comments:**

Technician



Approved



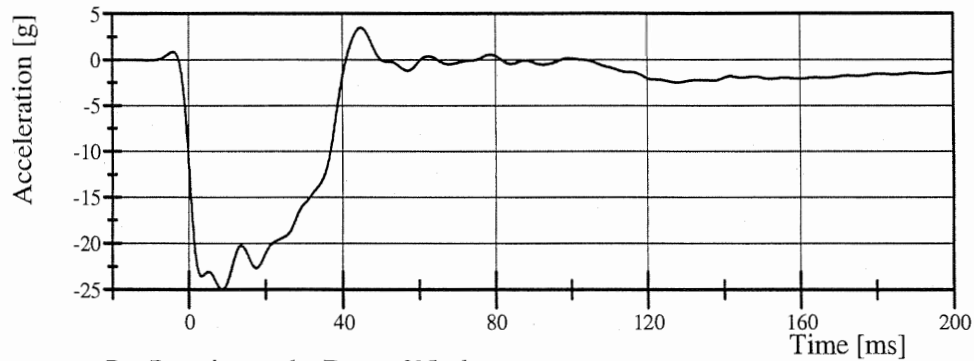
# Transportation Research Center Inc.

## Neck Flexion

HIII 50th Serial No. 202 Certification No. 15-2

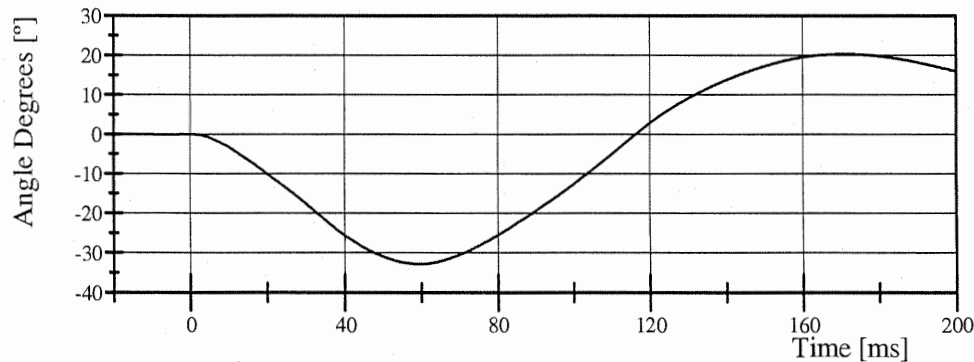
Test Date: 03/24/2006

Pendulum Acceleration



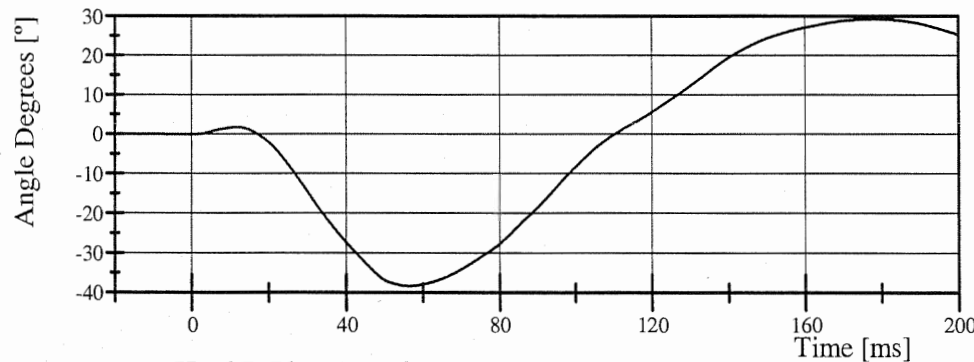
Filter Class: CFC\_60  
Max: 3.5 g at 44.7 ms  
Min: -25.0 g at 8.7 ms

Pot Rotation at the Base of Neck



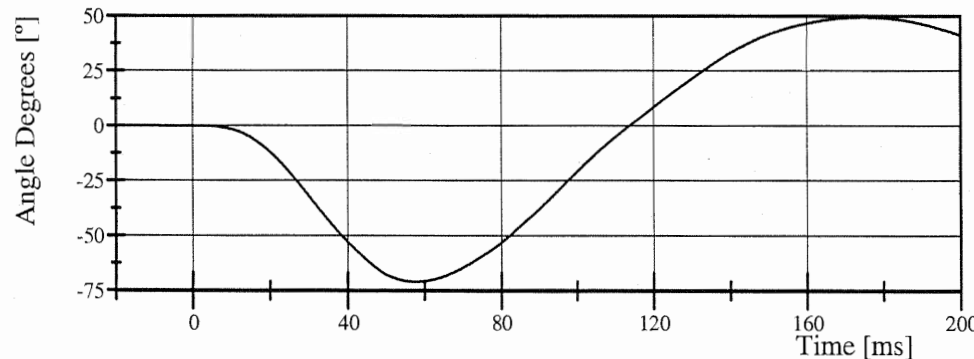
Filter Class: CFC\_60  
Max: 20.3 ° at 171.2 ms  
Min: -32.8 ° at 59.9 ms

Head Rotation at Occypital Condyles



Filter Class: CFC\_60  
Max: 29.3 ° at 178.5 ms  
Min: -38.3 ° at 56.5 ms

Total Head D-Plane Rotation



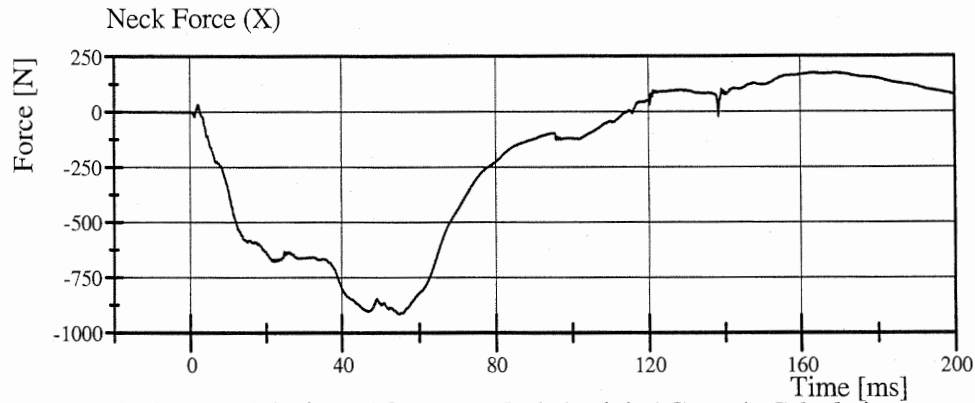
Filter Class: CFC\_60  
Max: 49.5 ° at 175.1 ms  
Min: -71.0 ° at 57.4 ms

# Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 202 Certification No. 15-2

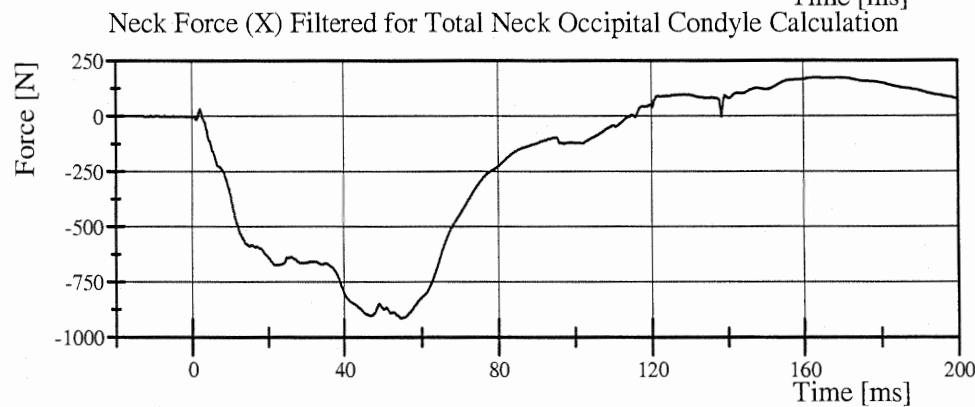
Test Date: 03/24/2006



Filter Class: CFC\_1000

Max: 174.7 N at 163.8 ms

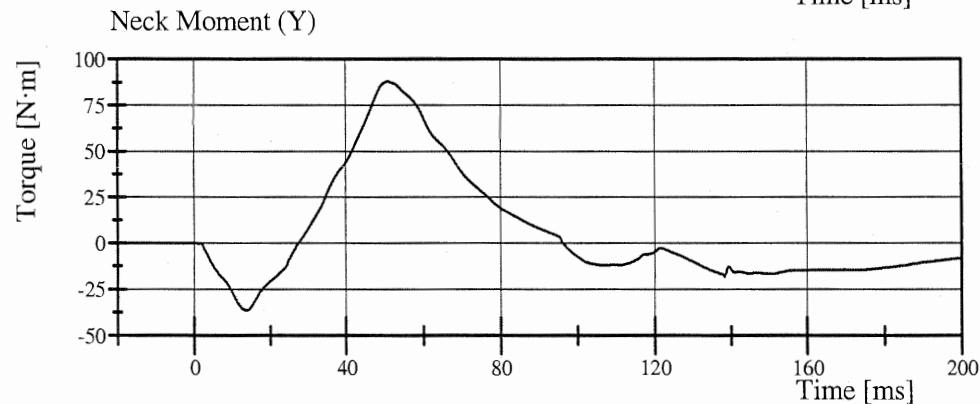
Min: -913.5 N at 55.0 ms



Filter Class: CFC\_600

Max: 174.3 N at 168.9 ms

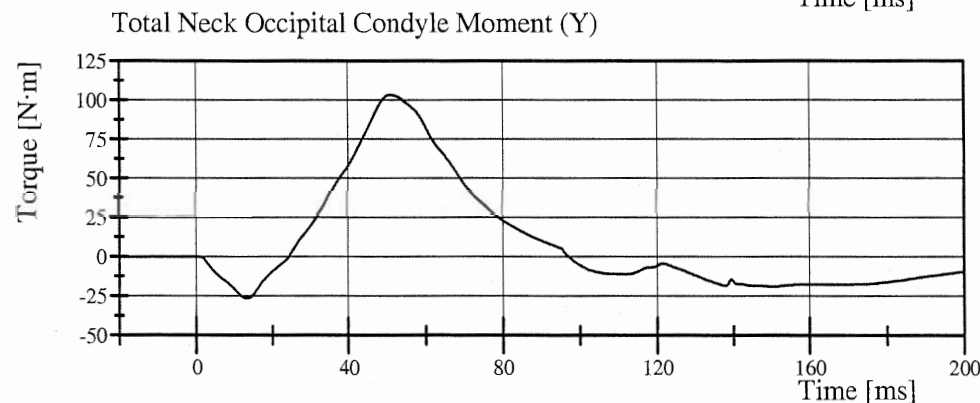
Min: -913.3 N at 54.7 ms



Filter Class: CFC\_600

Max: 88.1 N·m at 50.8 ms

Min: -36.4 N·m at 13.7 ms



Filter Class: CFC\_600

Max: 103.4 N·m at 50.9 ms

Min: -26.4 N·m at 13.3 ms

# Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 202 Certification No. 15-1

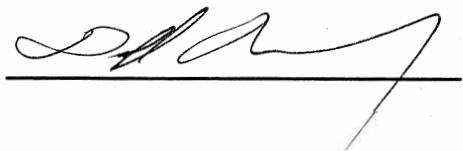
Test Date: 03/24/2006

| Test Parameter                       | Specification         | Test Results | Pass |
|--------------------------------------|-----------------------|--------------|------|
| Temperature                          | 20.6 - 22.2 °C        | 21.5 °C      | Yes  |
| Relative Humidity                    | 10 - 70 %             | 26 %         | Yes  |
| Pendulum Velocity                    | (-5.95) - (-6.18) m/s | -5.989 m/s   | Yes  |
| Pendulum Acceleration Decay          |                       |              |      |
| Crossing 5g                          | 38 - 46 ms            | 41.8 ms      | Yes  |
| Pendulum Acceleration at 10ms        | 17.2 - 21.2 g         | 18.27 g      | Yes  |
| Pendulum Acceleration at 20ms        | 14.0 - 19.0 g         | 16.82 g      | Yes  |
| Pendulum Acceleration at 30ms        | 11.0 - 16.0 g         | 13.96 g      | Yes  |
| Pendulum Acceleration > 30ms         | <= 22.0 g             | 13.96 g      | Yes  |
| Total Head D-Plane Rotation          |                       |              |      |
| Peak                                 | 81 - 106 °            | 97.2 °       | Yes  |
| Time of Peak                         | 72 - 82 ms            | 77.1 ms      | Yes  |
| Total Head D-Plane Rotation          |                       |              |      |
| Decay to 0°                          | 147 - 174 ms          | 157.7 ms     | Yes  |
| Total Neck Occipital Condyles Moment |                       |              |      |
| Peak                                 | (-53) - (-80) N·m     | -68.4 N·m    | Yes  |
| Time of Peak                         | 65 - 79 ms            | 72.2 ms      | Yes  |
| Total Neck Occipital Condyles Moment |                       |              |      |
| Decay to 0 N·m                       | 120 - 148 ms          | 142.0 ms     | Yes  |

**Test meets specifications.**

**Comments:**

Technician



Approved

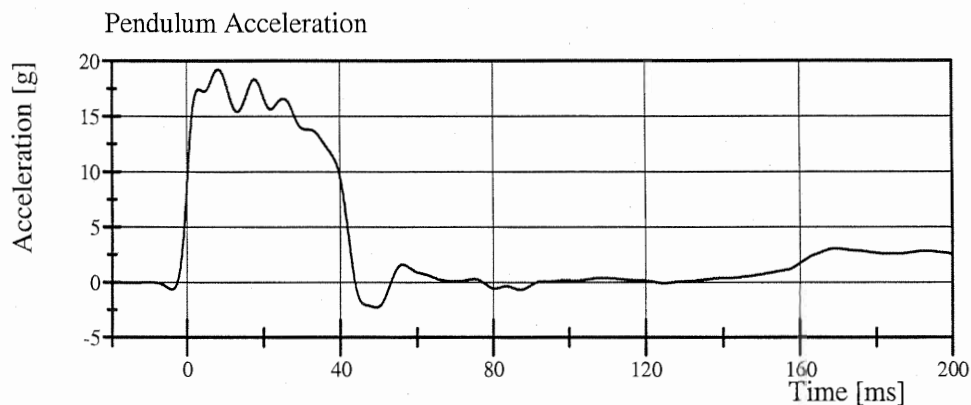


# Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 202 Certification No. 15-1

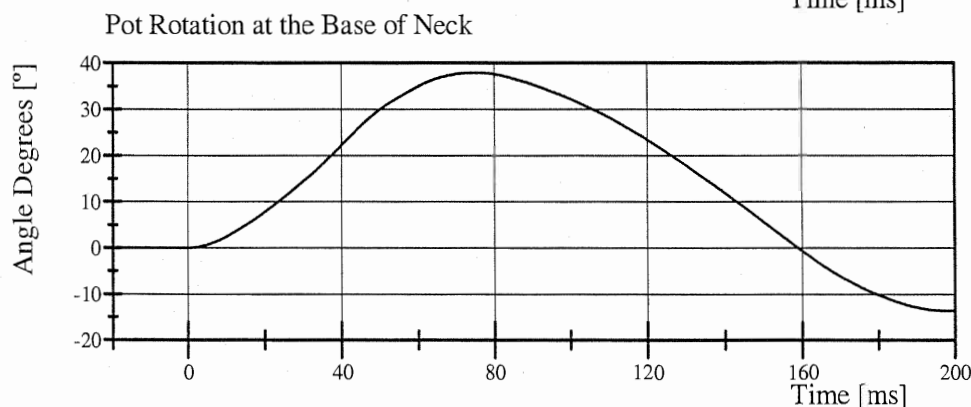
Test Date: 03/24/2006



Filter Class: CFC\_60

Max: 19.2 g at 8.3 ms

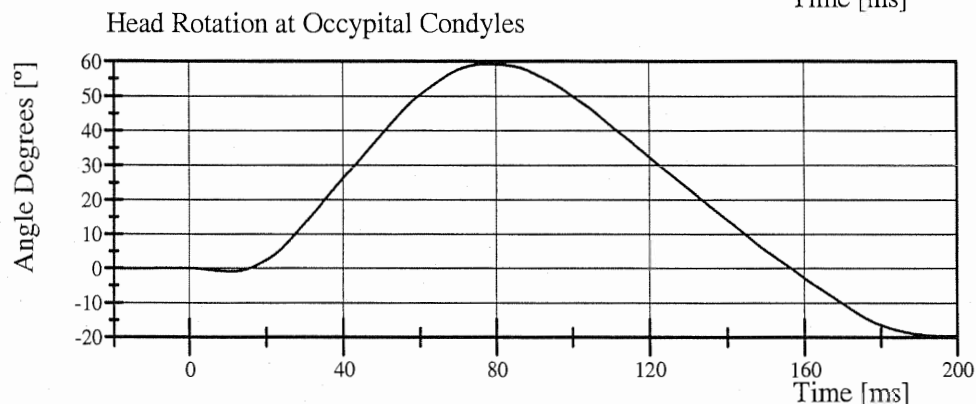
Min: -2.3 g at 49.2 ms



Filter Class: CFC\_60

Max: 37.9 ° at 75.0 ms

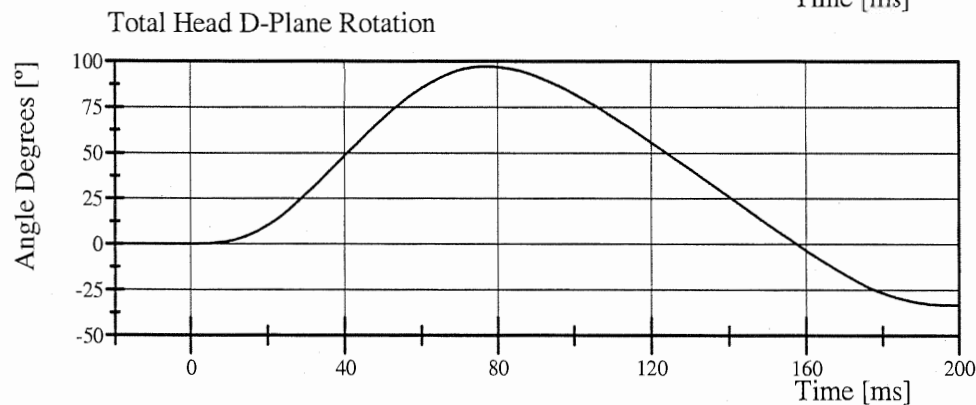
Min: -13.6 ° at 199.1 ms



Filter Class: CFC\_60

Max: 59.3 ° at 77.9 ms

Min: -19.6 ° at 198.3 ms



Filter Class: CFC\_60

Max: 97.2 ° at 77.1 ms

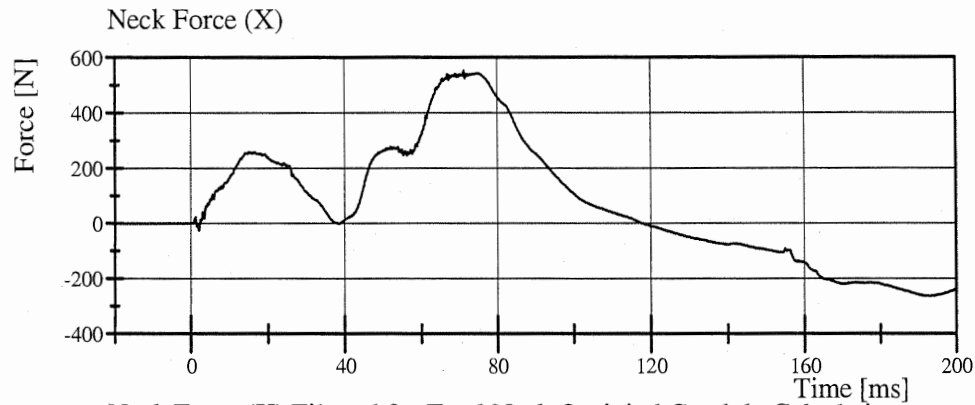
Min: -33.3 ° at 198.7 ms

# Transportation Research Center Inc.

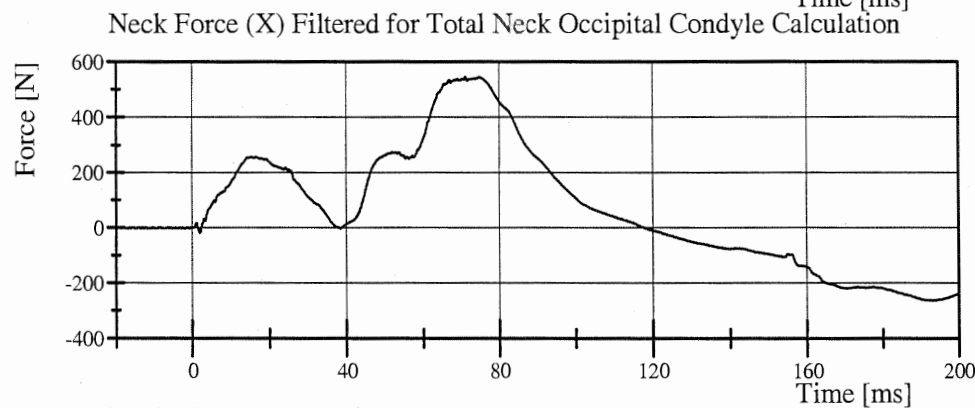
## Neck Extension

HIII 50th Serial No. 202 Certification No. 15-1

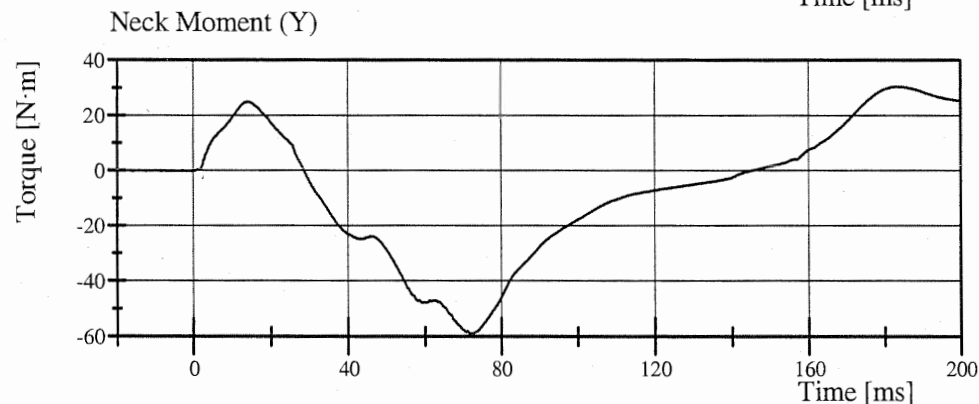
Test Date: 03/24/2006



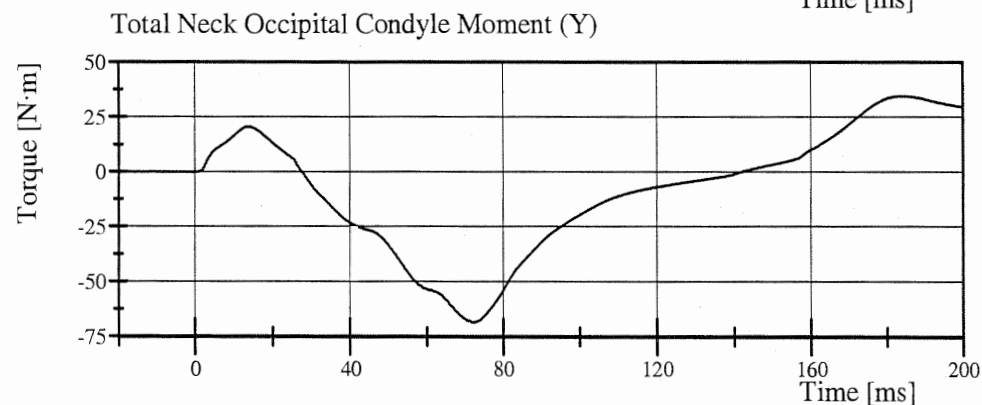
Filter Class: CFC\_1000  
Max: 552.9 N at 71.3 ms  
Min: -263.9 N at 193.0 ms



Filter Class: CFC\_600  
Max: 545.9 N at 71.2 ms  
Min: -263.4 N at 193.0 ms



Filter Class: CFC\_600  
Max: 30.5 N·m at 183.2 ms  
Min: -59.0 N·m at 71.8 ms



Filter Class: CFC\_600  
Max: 34.6 N·m at 184.4 ms  
Min: -68.4 N·m at 72.2 ms

# Transportation Research Center Inc.

Front Thorax

HHH 50th Serial No. 202 Certification No. 15-3

Test Date: 03/24/2006

| Test Parameter            | Specification         | Test Results | Pass |
|---------------------------|-----------------------|--------------|------|
| Temperature               | 20.6 - 22.2 °C        | 21.1 °C      | Yes  |
| Relative Humidity         | 10 - 70 %             | 27 %         | Yes  |
| Probe Velocity            | 6.59 - 6.83 m/s       | 6.600 m/s    | Yes  |
| Probe Force Peak          | (-5,160) - (-5,893) N | -5,760.9 N   | Yes  |
| Maximum Chest Compression | (-63.5) - (-72.6) mm  | -72.32 mm    | Yes  |
| Internal Hysteresis       | 65 - 85 %             | 71.1 %       | Yes  |

**Test meets specifications.**

**Comments:**

Technician



Approved





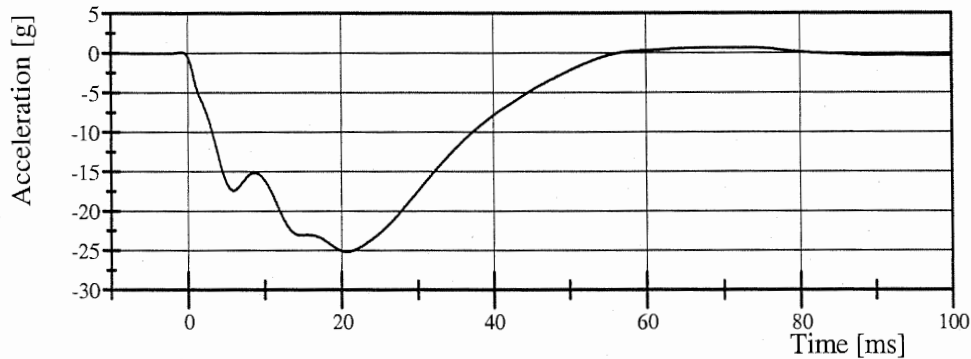
# Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 202 Certification No. 15-3

Test Date: 03/24/2006

Pendulum Acceleration

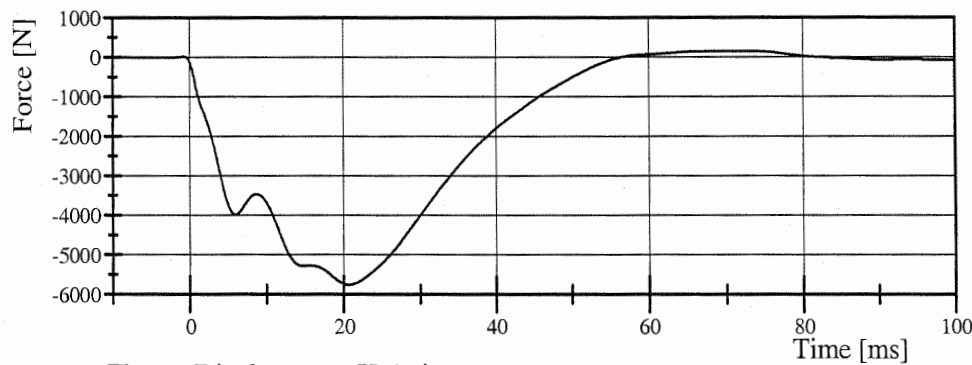


Filter Class: CFC\_180

Max: 0.7 g at 69.8 ms

Min: -25.1 g at 20.6 ms

Pendulum Force

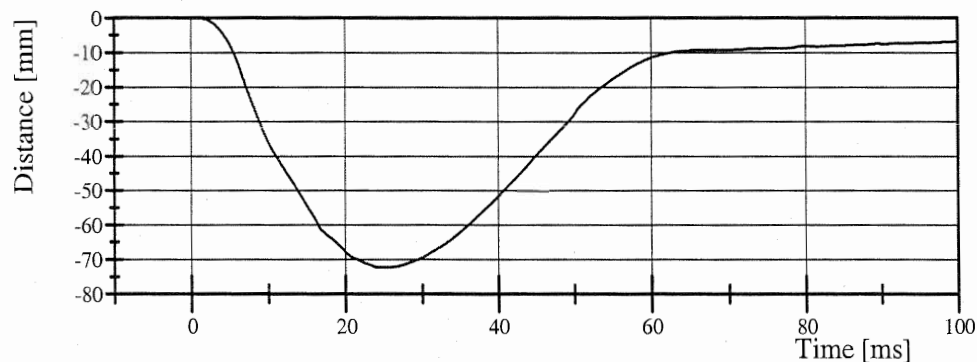


Filter Class: CFC\_180

Max: 158.7 N at 69.8 ms

Min: -5,760.9 N at 20.6 ms

Thorax Displacement X-Axis

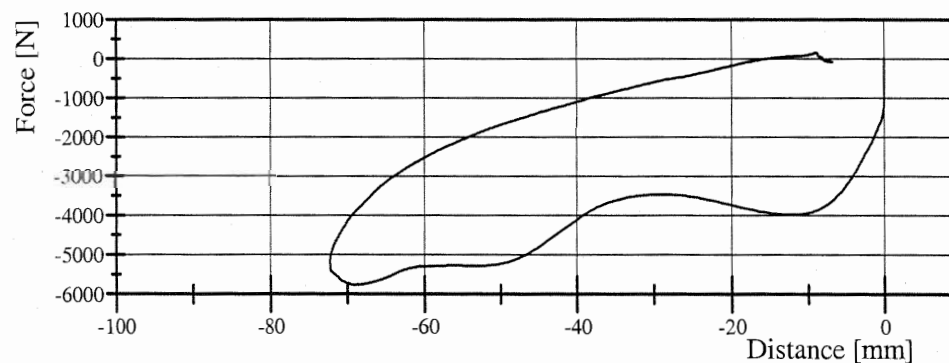


Filter Class: CFC\_600

Max: 0.0 mm at -9.3 ms

Min: -72.3 mm at 25.3 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC\_180

Max: 158.7 N at -9.2 mm

Min: -5,760.9 N at -69.2 mm

# Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. 202 Certification No. 15-3

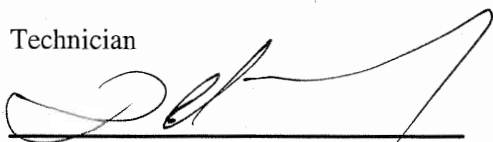
Test Date: 03/22/2006

| Test Parameter    | Specification             | Test Results | Pass |
|-------------------|---------------------------|--------------|------|
| Temperature       | 18.9 - 25.5 °C            | 21.3 °C      | Yes  |
| Relative Humidity | 10 - 70 %                 | 26 %         | Yes  |
| Probe Velocity    | 2.08 - 2.13 m/s           | 2.110 m/s    | Yes  |
| Peak Femur Force  | (-4,715.2) - (-5,782.6) N | -4,754.45 N  | Yes  |

Test meets specifications.

Comments:

Technician

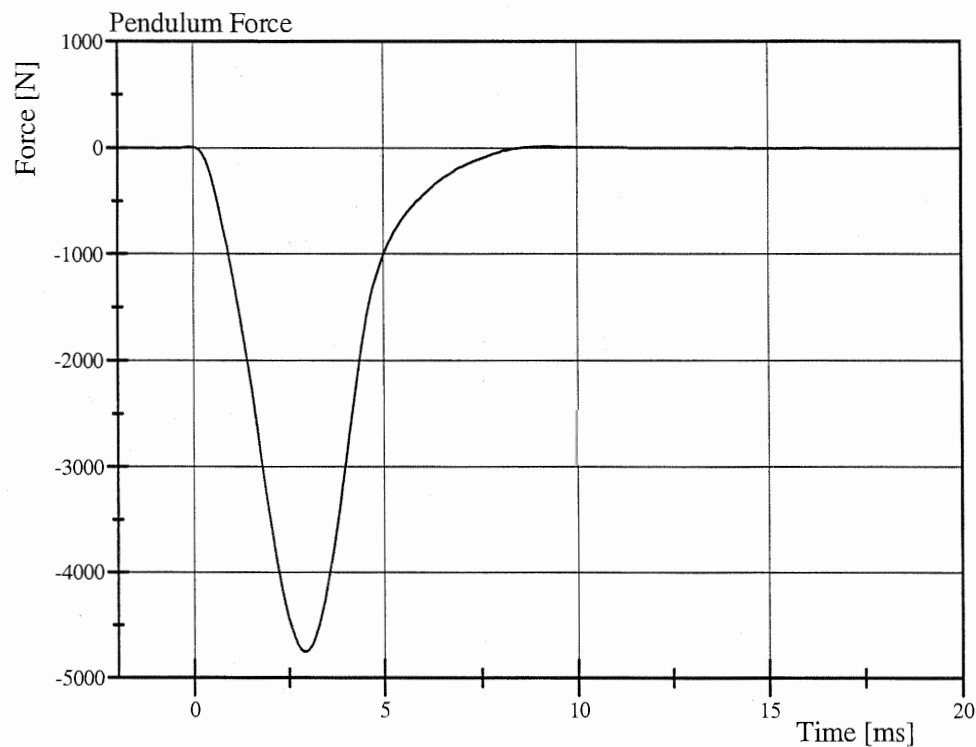
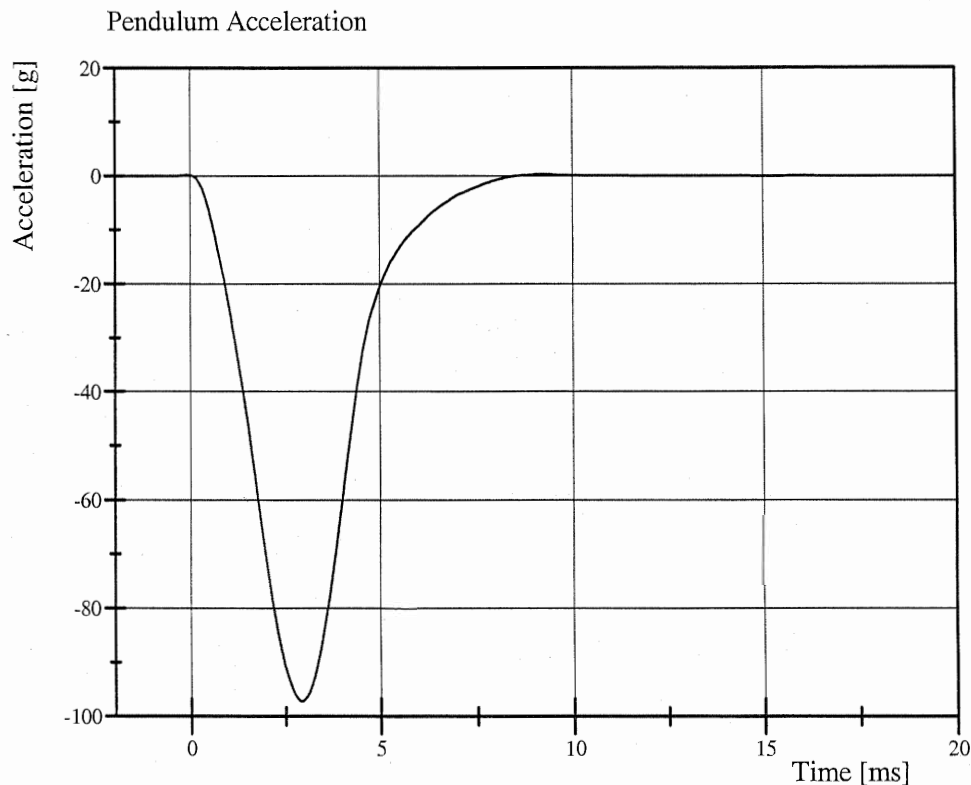


Approved



# Transportation Research Center Inc.

Left Knee Femur Response Test  
HIII 50th Serial No. 202 Certification No. 15-3  
Test Date: 03/22/2006



# Transportation Research Center Inc.

Right Knee Femur Response Test

HIII 50th Serial No. 202 Certification No. 15-3

Test Date: 03/22/2006

| Test Parameter    | Specification             | Test Results | Pass |
|-------------------|---------------------------|--------------|------|
| Temperature       | 18.9 - 25.5 °C            | 21.2 °C      | Yes  |
| Relative Humidity | 10 - 70 %                 | 26 %         | Yes  |
| Probe Velocity    | 2.08 - 2.13 m/s           | 2.110 m/s    | Yes  |
| Peak Femur Force  | (-4,715.2) - (-5,782.6) N | -5,134.05 N  | Yes  |

Test meets specifications.

Comments:

Technician

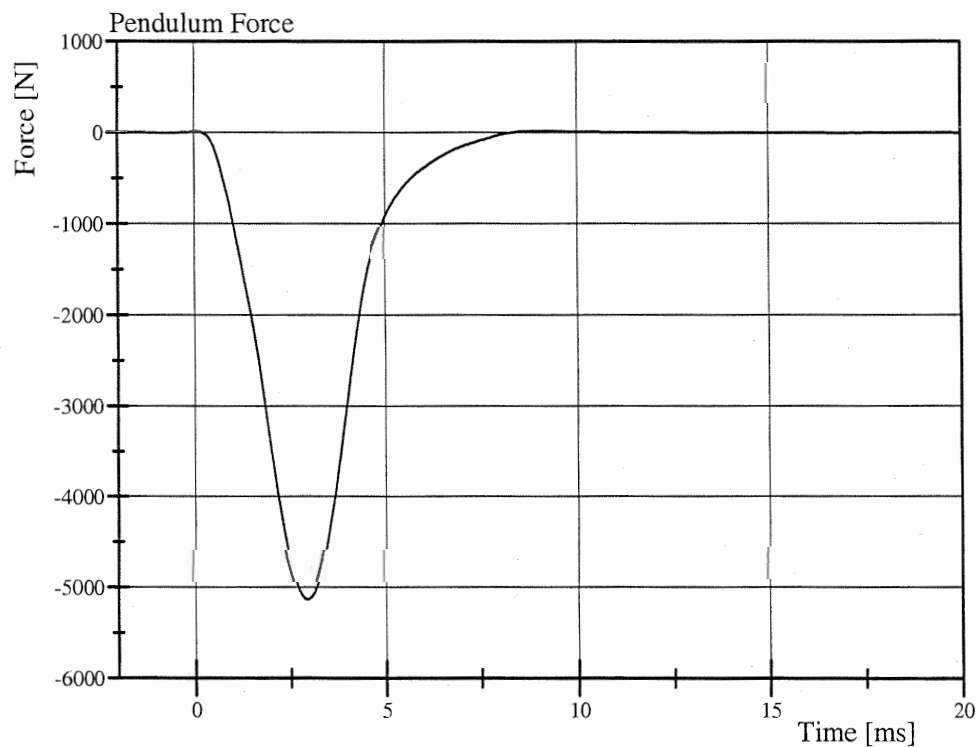
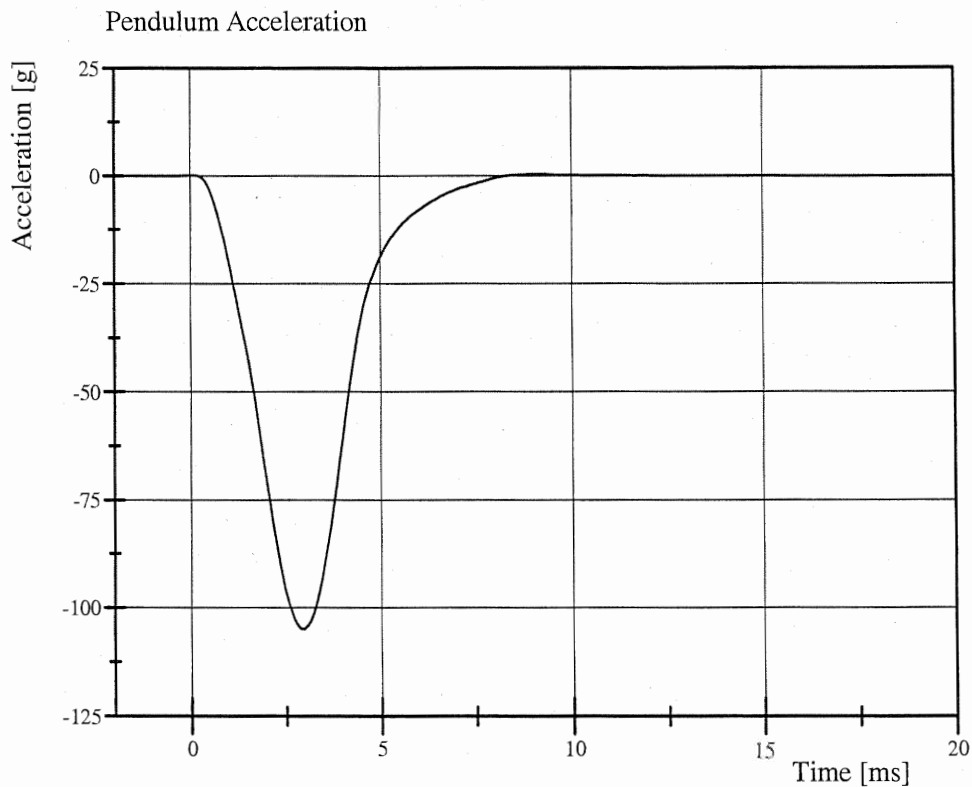


Approved



# Transportation Research Center Inc.

Right Knee Femur Response Test  
HIII 50th Serial No. 202 Certification No. 15-3  
Test Date: 03/22/2006



# Transportation Research Center Inc.

Left Knee Slider

HHH 50th Serial No. 202 Certification No. 15-3

Test Date: 03/25/2006

| Test Parameter                   | Specification         | Test Results | Pass |
|----------------------------------|-----------------------|--------------|------|
| Temperature                      | 18.9 - 25.5 °C        | 21.1 °C      | Yes  |
| Relative Humidity                | 10 - 70 %             | 26 %         | Yes  |
| Probe Velocity                   | 2.70 - 2.80 m/s       | 2.765 m/s    | Yes  |
| Force Peak at 10.0 mm Deflection | (-1,260) - (-1,720) N | -1,546.0 N   | Yes  |
| Force Peak at 18.0 mm Deflection | (-2,270) - (-3,100) N | -3,020.9 N   | Yes  |

**Test meets specifications.**

**Comments:**

Technician



Approved



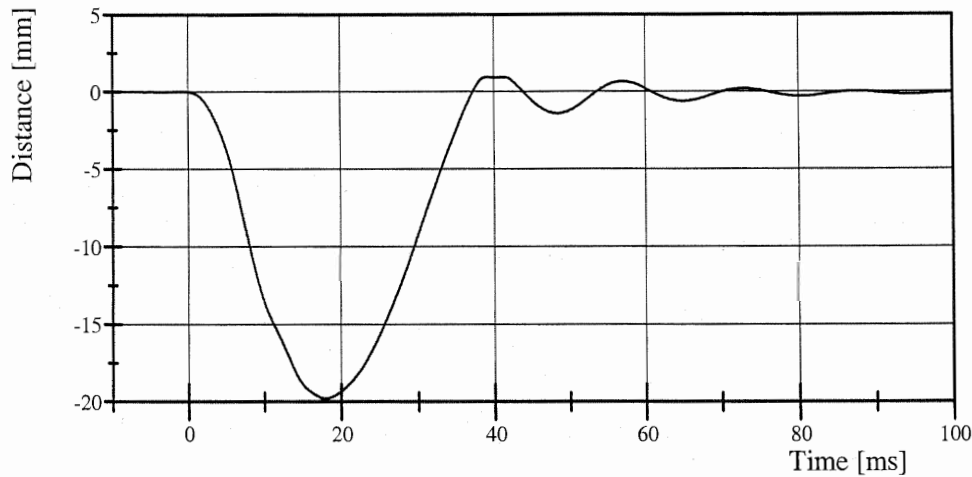
# Transportation Research Center Inc.

## Left Knee Slider

HIII 50th Serial No. 202 Certification No. 15-3

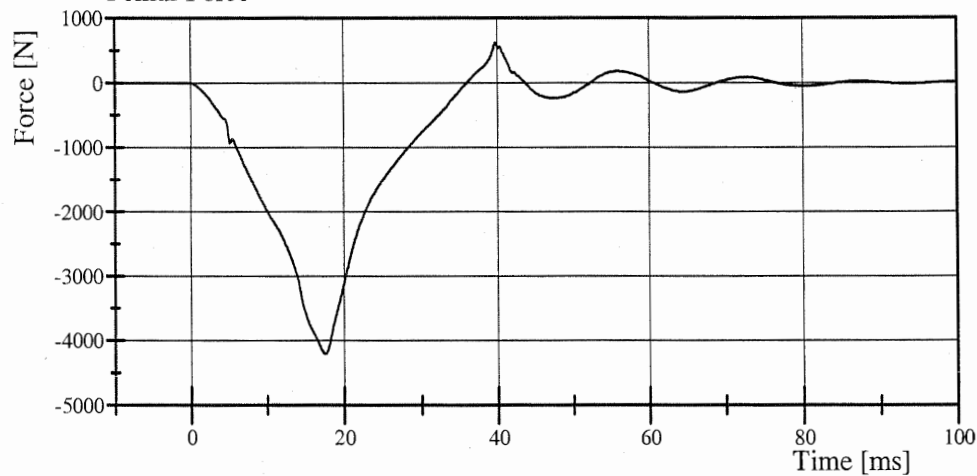
Test Date: 03/25/2006

Knee Slider Displacement



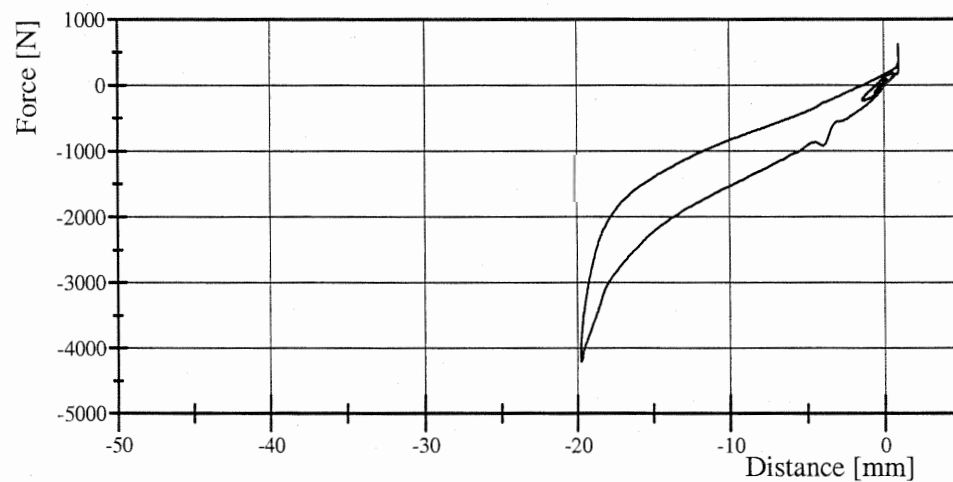
Filter Class: CFC\_180  
Max: 1.0 mm at 41.4 ms  
Min: -19.8 mm at 17.9 ms

Femur Force



Filter Class: CFC\_600  
Max: 620.5 N at 39.8 ms  
Min: -4,202.3 N at 17.5 ms

Femur Force vs. Knee Slider Displacement



Filter Class: CFC\_600  
Max: 620.5 N at 0.9 mm  
Min: -4,202.3 N at -19.8 mm



# Transportation Research Center Inc.

Right Knee Slider

HHH 50th Serial No. 202 Certification No. 15-1

Test Date: 03/22/2006

| Test Parameter                   | Specification         | Test Results | Pass |
|----------------------------------|-----------------------|--------------|------|
| Temperature                      | 18.9 - 25.5 °C        | 21.4 °C      | Yes  |
| Relative Humidity                | 10 - 70 %             | 28 %         | Yes  |
| Probe Velocity                   | 2.70 - 2.80 m/s       | 2.730 m/s    | Yes  |
| Force Peak at 10.0 mm Deflection | (-1,260) - (-1,720) N | -1,324.6 N   | Yes  |
| Force Peak at 18.0 mm Deflection | (-2,270) - (-3,100) N | -2,596.8 N   | Yes  |

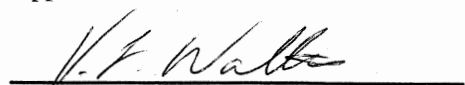
**Test meets specifications.**

**Comments:**

Technician



Approved

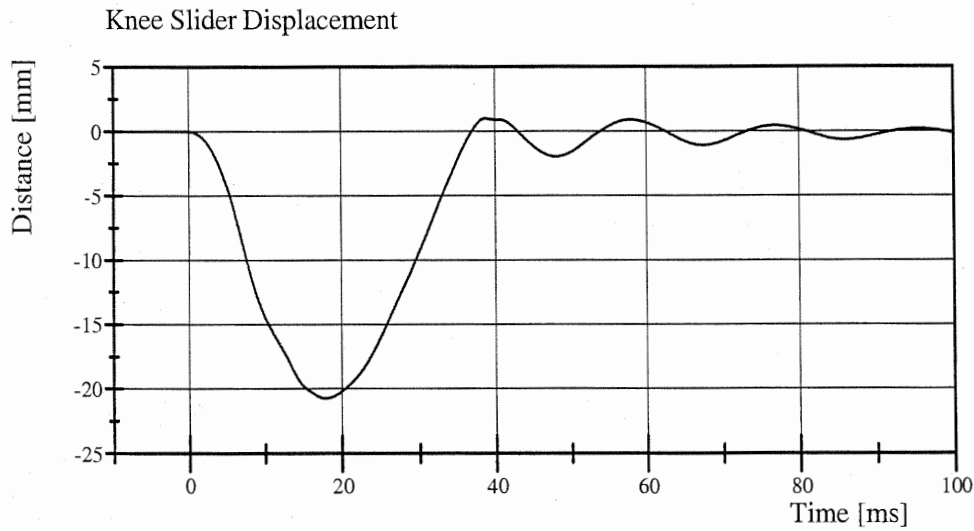


# Transportation Research Center Inc.

Right Knee Slider

HIII 50th Serial No. 202 Certification No. 15-1

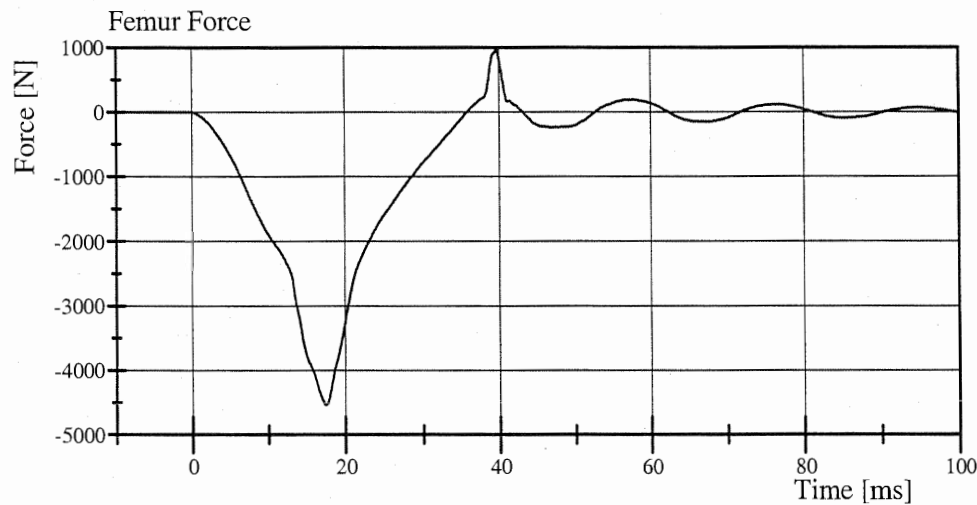
Test Date: 03/22/2006



Filter Class: CFC\_180

Max: 1.0 mm at 38.8 ms

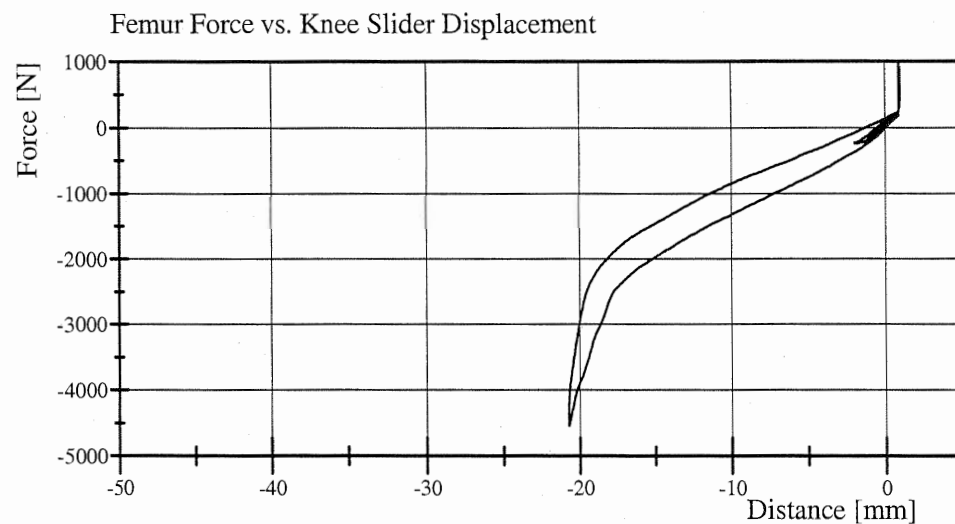
Min: -20.7 mm at 17.8 ms



Filter Class: CFC\_600

Max: 963.1 N at 39.7 ms

Min: -4,534.0 N at 17.4 ms



Filter Class: CFC\_600

Max: 963.1 N at 0.9 mm

Min: -4,534.0 N at -20.7 mm

# Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

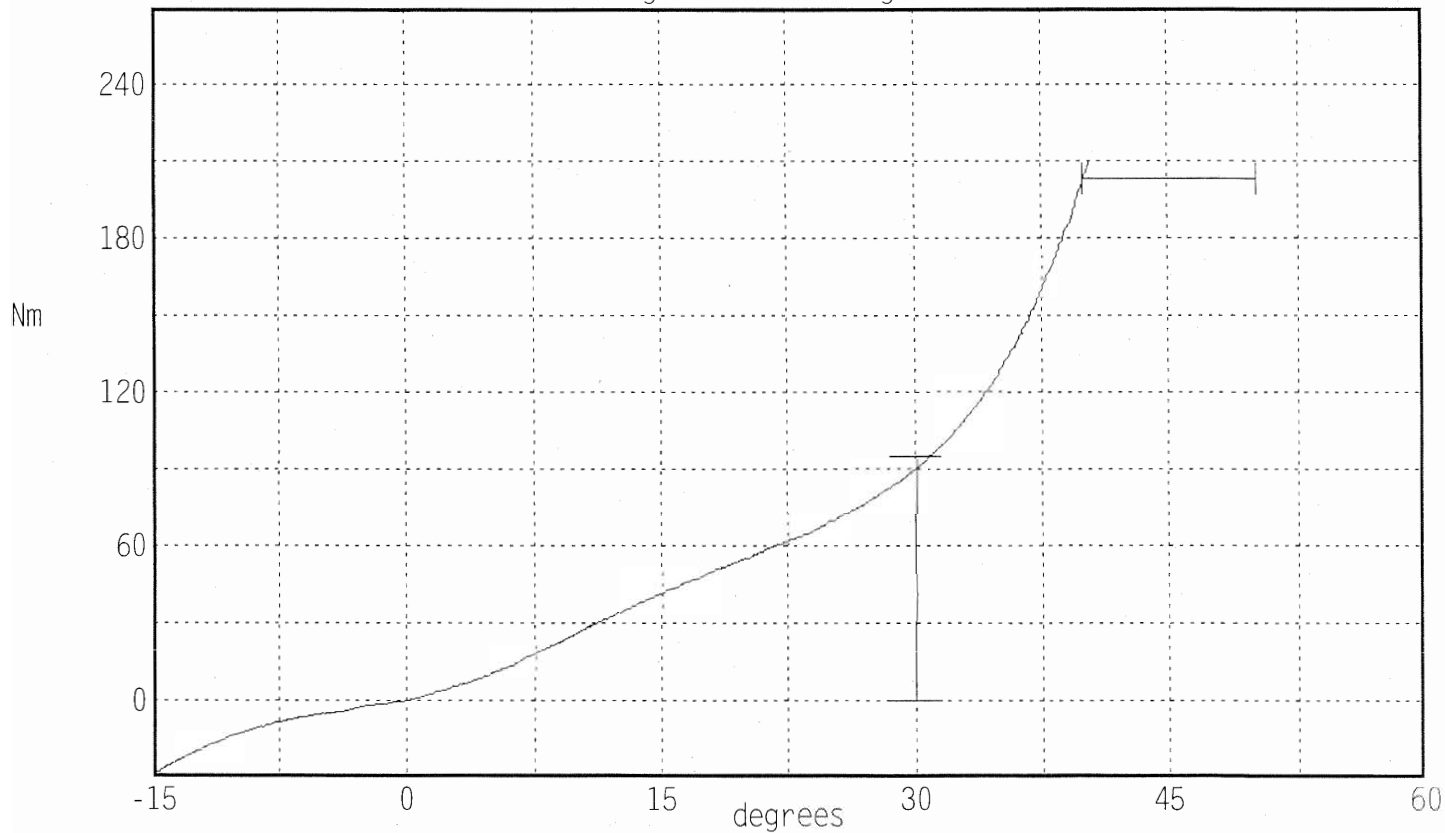
Serial Number: 202L  
Test Number: 202C15  
Comments:

Date: 03/21/2006  
Time: 14:16

| TEST PARAMETER   | SPECIFICATION | TEST RESULTS |      |
|------------------|---------------|--------------|------|
| Temperature      | 18.9 - 25.6   | 21.2 °C      | Pass |
| Humidity         | 10 - 70       | 29 %         | Pass |
| Moment at 30 deg | <= 94.9       | 90.4 Nm      | Pass |
| Angle at 203 Nm  | 40.0 - 50.0   | 40.0 deg     | Pass |
| Average Velocity | 5.0 - 10.0    | 7.5 deg/sec  | Pass |

Peak Moment: 210.0 Nm at 40.4 deg  
Peak Angle: 40.4 deg at 208.6 Nm

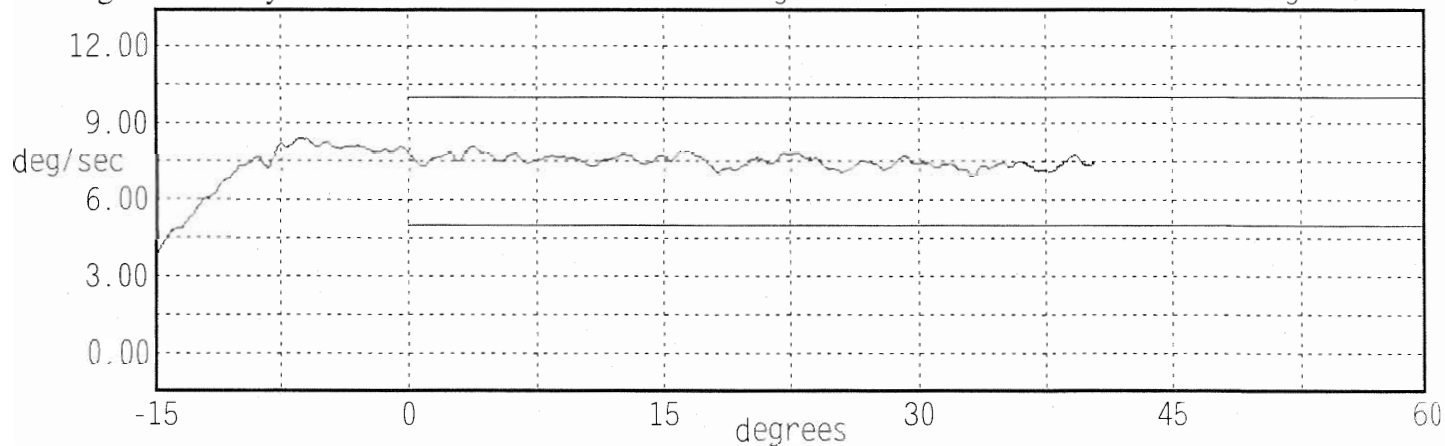
Moment About H-Point



Angular Velocity

Max: 8.1 deg/sec

Min: 6.9 deg/sec



# Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

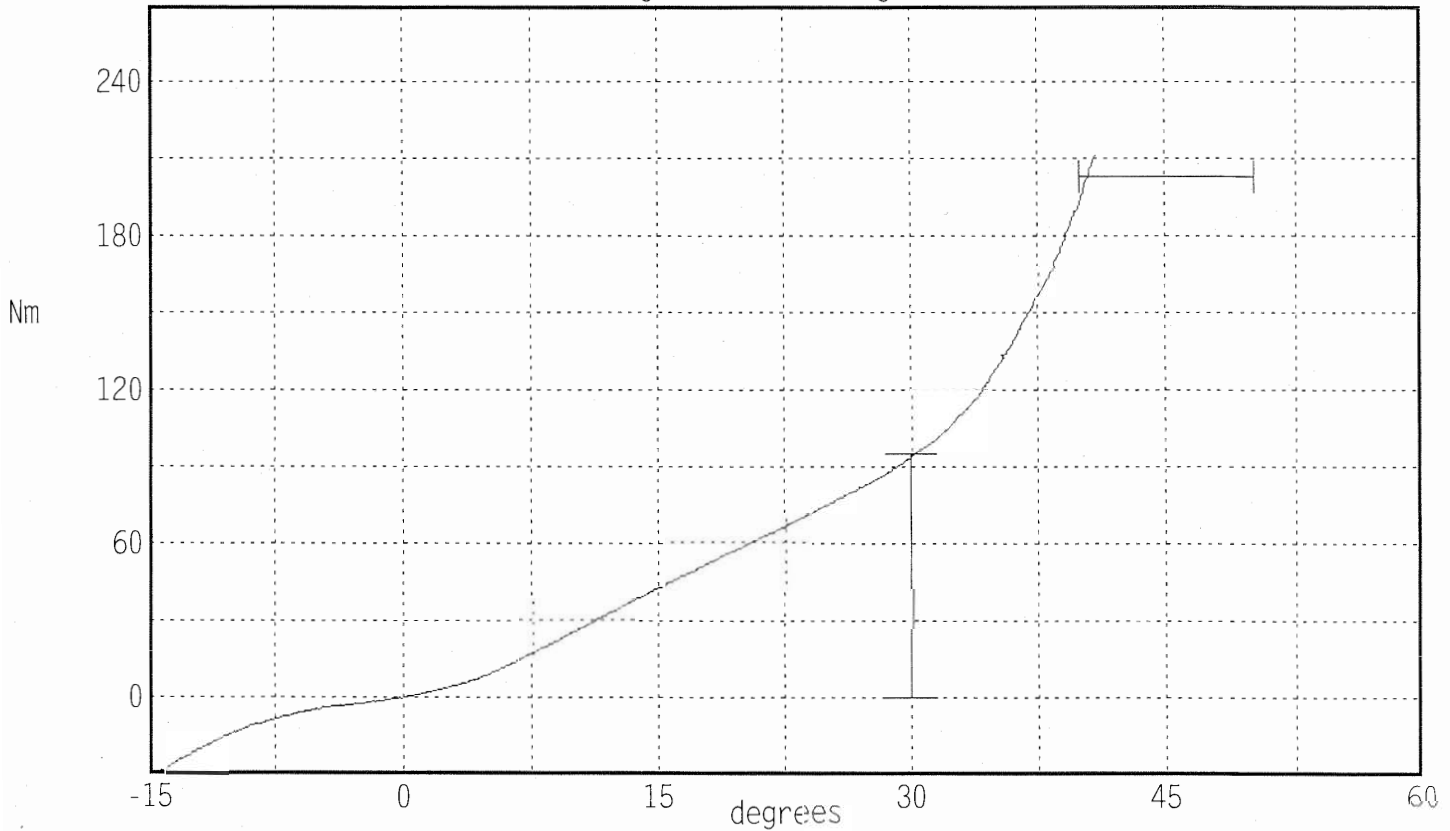
Serial Number: 202R  
Test Number: 202C15  
Comments:

Date: 03/21/2006  
Time: 14:11

| TEST PARAMETER   | SPECIFICATION | TEST RESULTS |      |
|------------------|---------------|--------------|------|
| Temperature      | 18.9 - 25.6   | 21.0 °C      | Pass |
| Humidity         | 10 - 70       | 29 %         | Pass |
| Moment at 30 deg | <= 94.9       | 93.9 Nm      | Pass |
| Angle at 203 Nm  | 40.0 - 50.0   | 40.6 deg     | Pass |
| Average Velocity | 5.0 - 10.0    | 7.4 deg/sec  | Pass |

Peak Moment: 211.2 Nm at 41.0 deg  
Peak Angle: 41.0 deg at 211.2 Nm

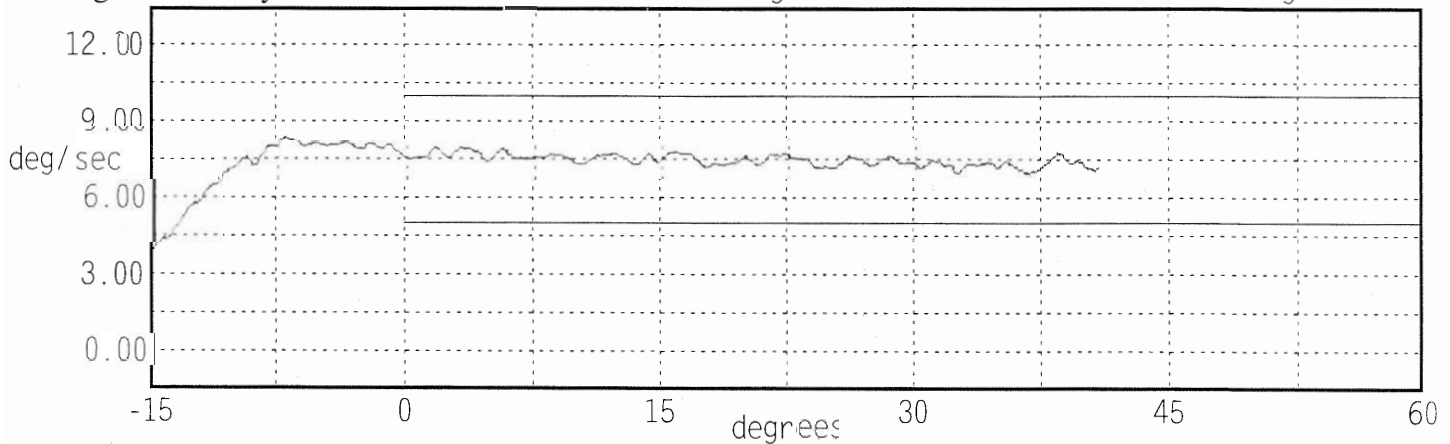
Moment About H-Point



Angular Velocity

Max: 8.0 deg/sec

Min: 7.0 deg/sec

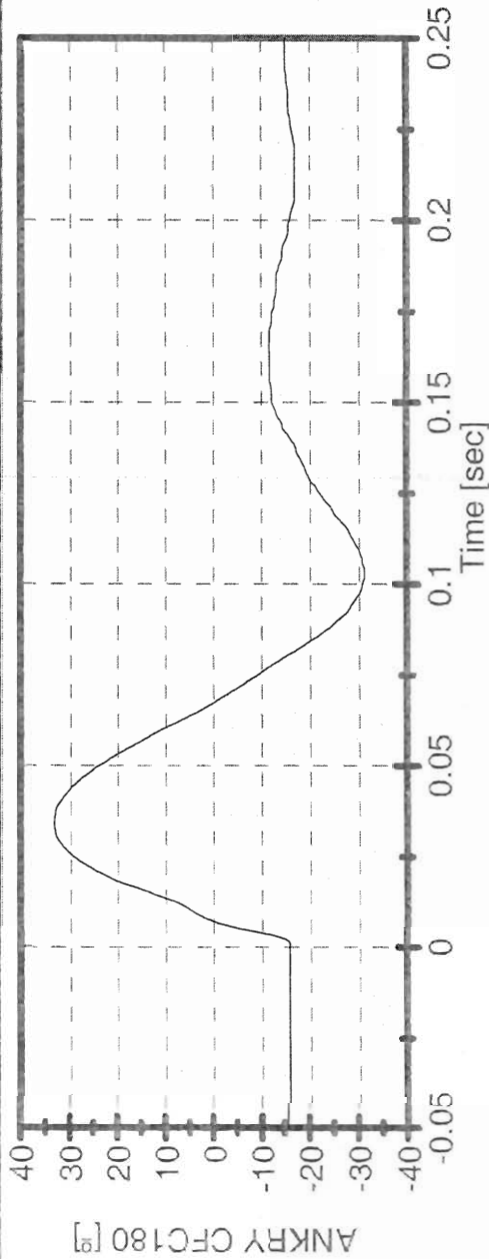




# LX0045NOV302005DORSI\_02

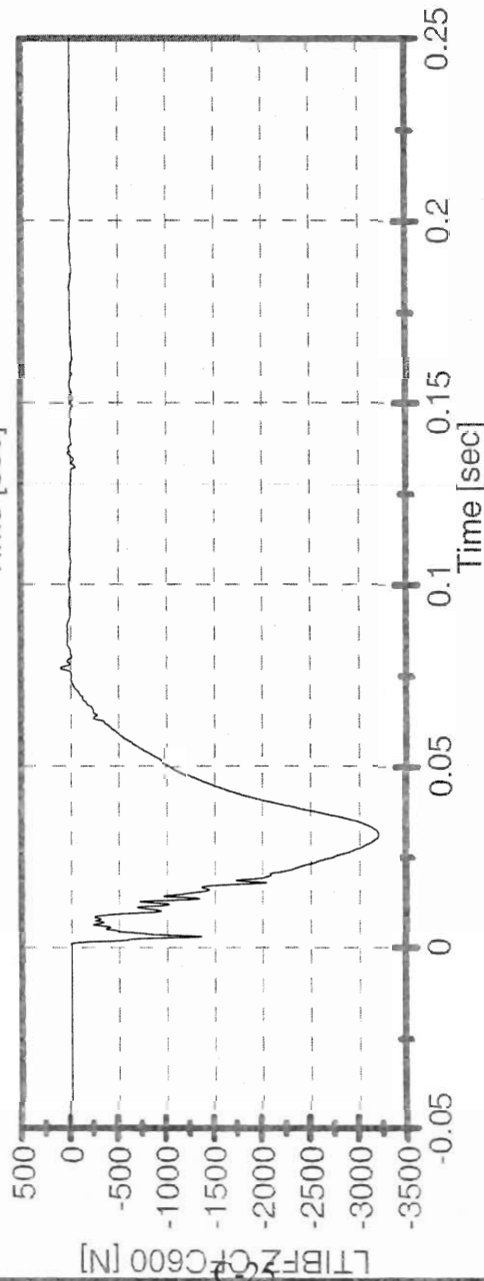
Min = -31.1463758345392

Max = 33.4315740156824



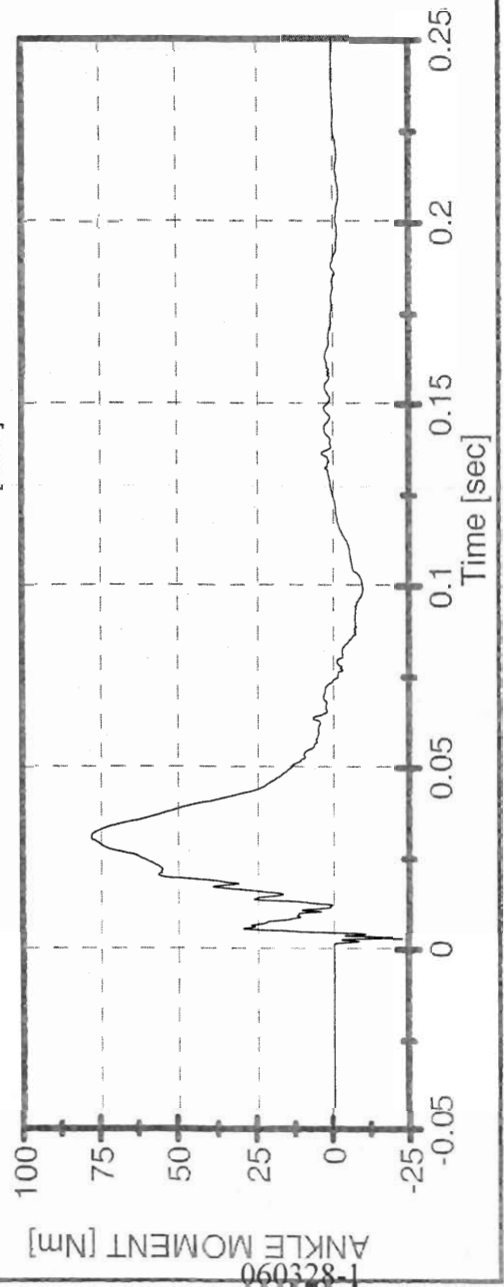
Min = -3191.79388857251

Max = 107.506925895931



Min = -23.0033410232309

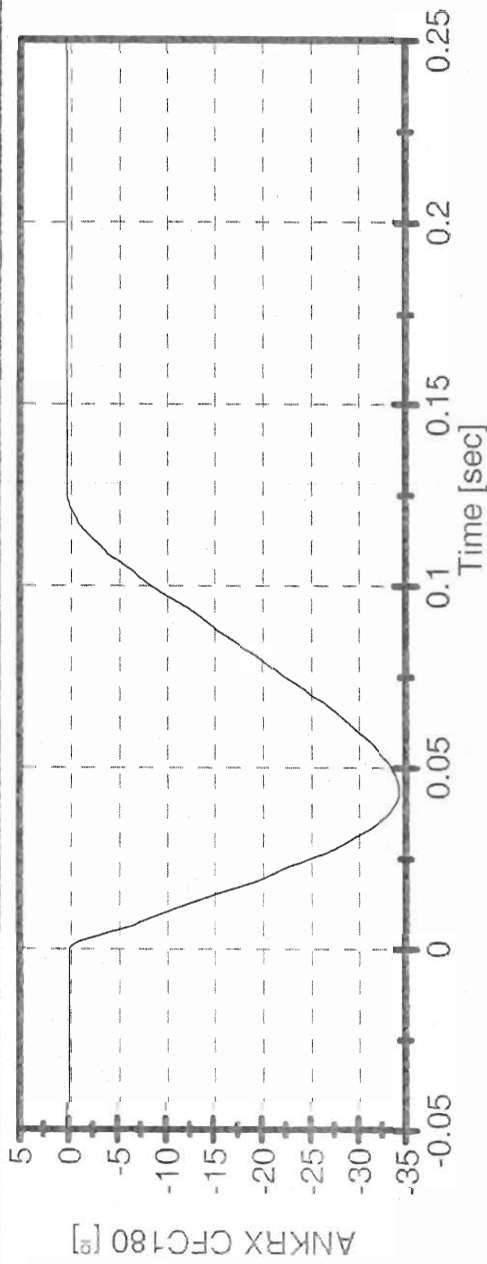
Max = 78.3111948708584



# LX0045NOV302005INVER\_01

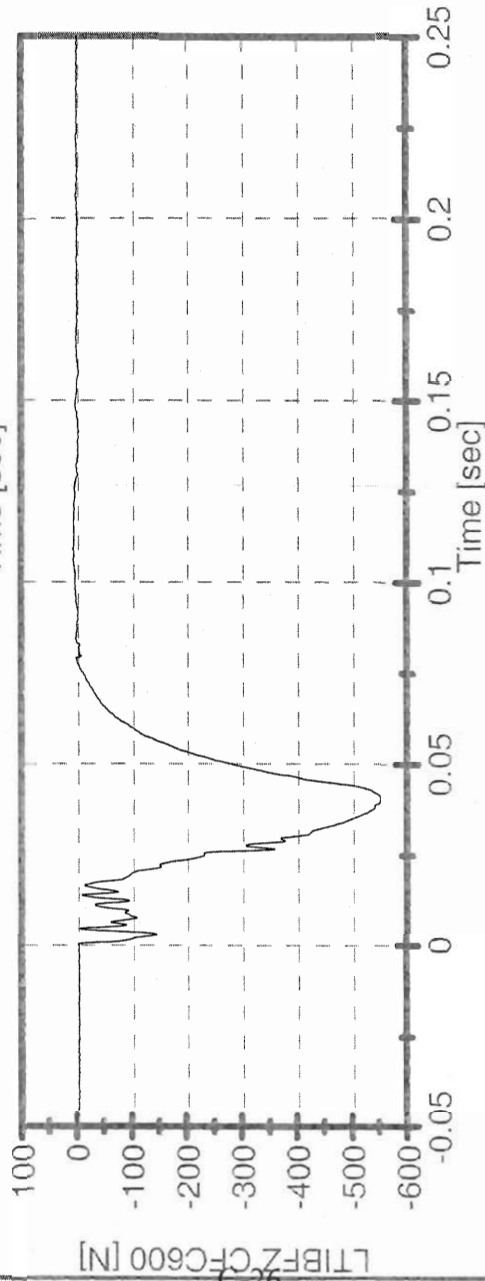
Min = -34.2973791990571

Max = 0.465638955690728



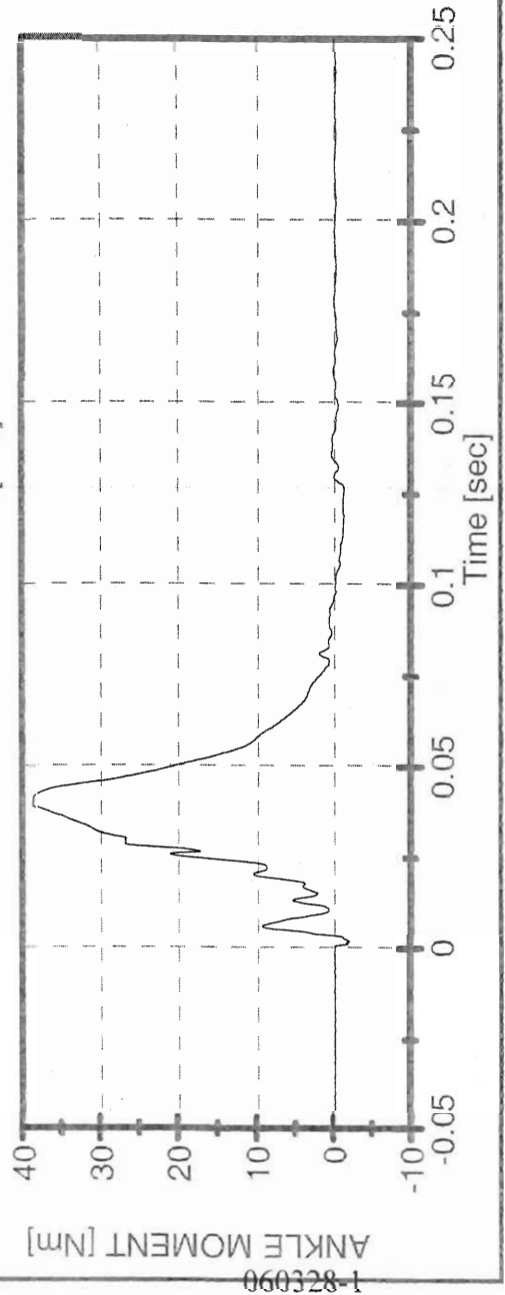
Min = -549.262010240277

Max = 10.1996788807081



Min = -1.85941336053267

Max = 38.660212055236



# LX0045NOV302005EVER\_01

Min = -0.859372482563251

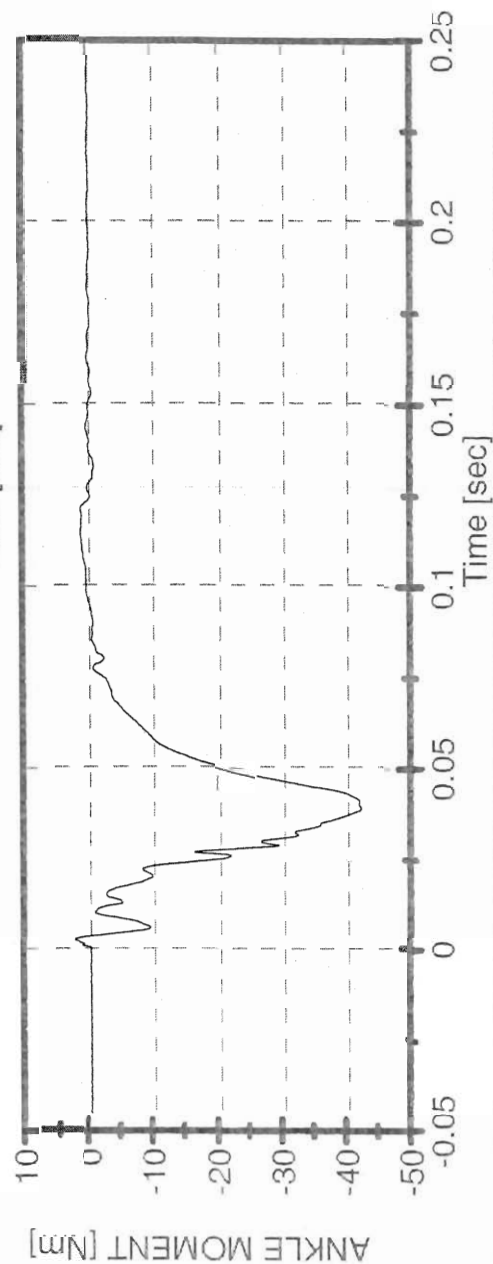
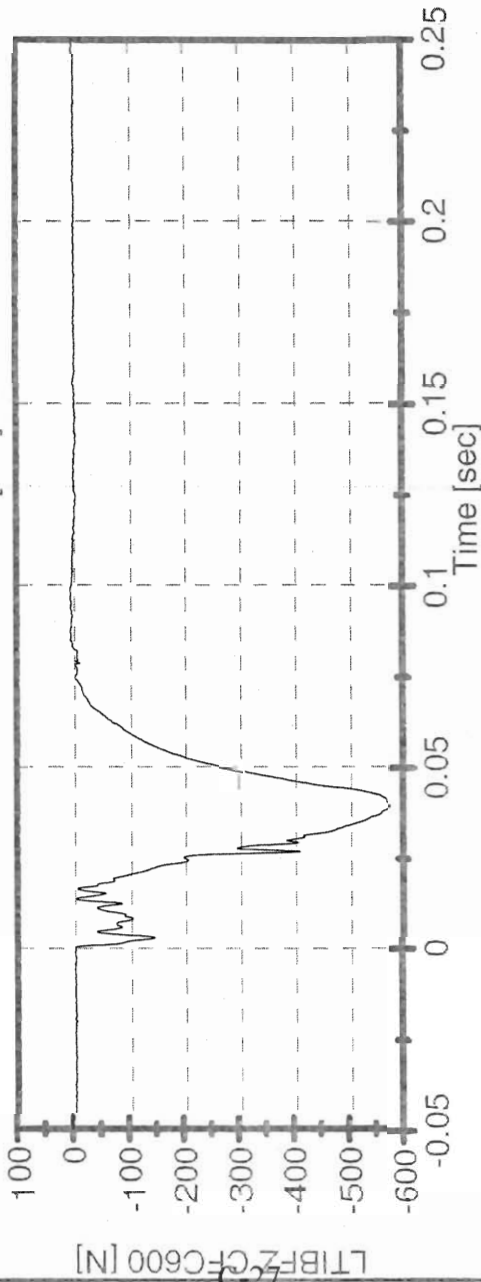
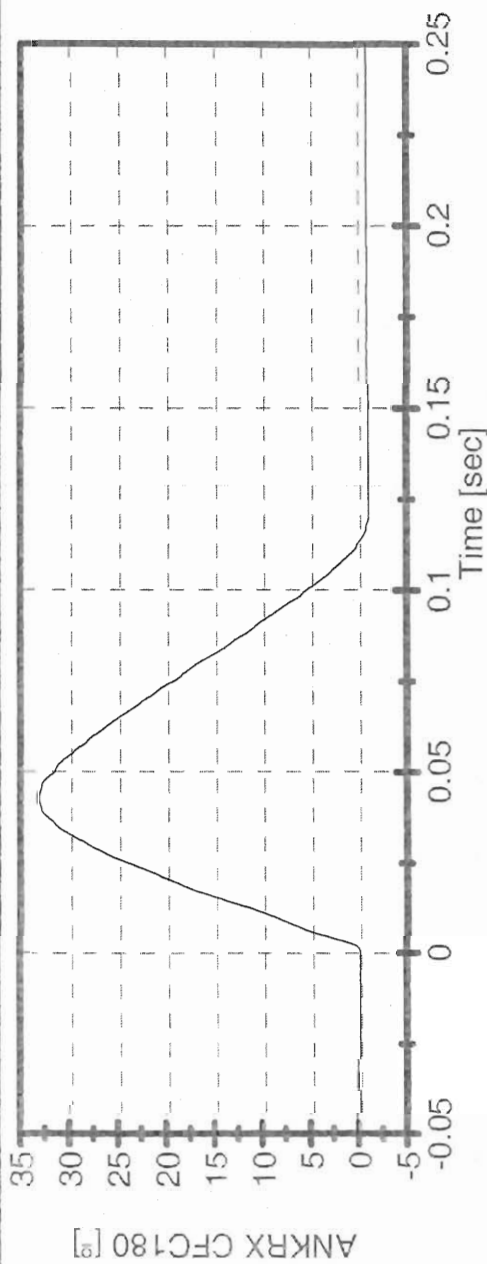
Max = 33.3017342322621

Min = -575.844365543668

Max = 8.05351440679311

Min = -41.8949447665471

Max = 2.54298134187598

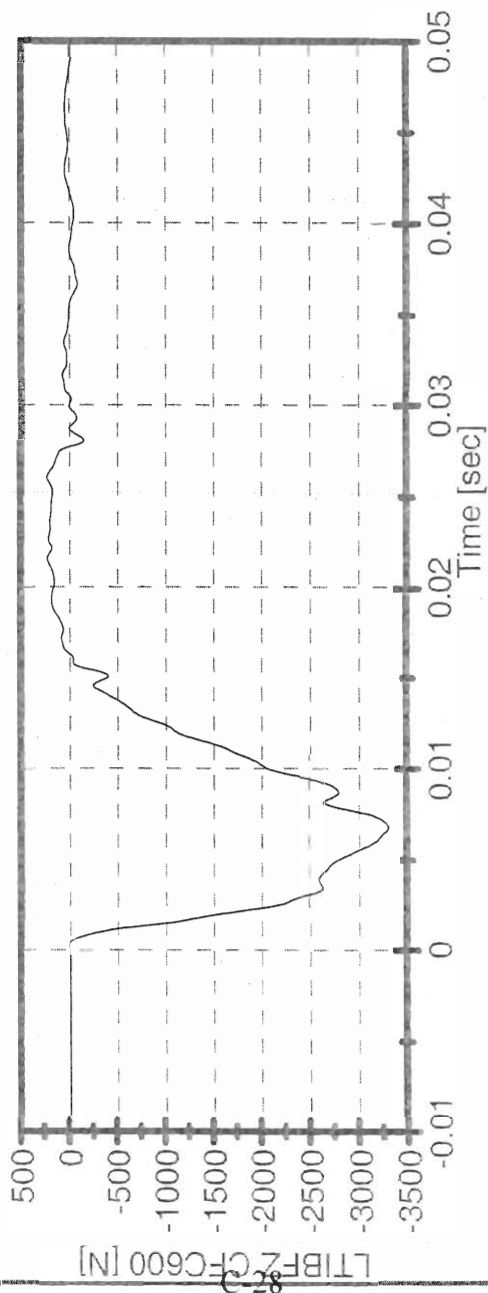




# LX0045DEC052005HEEL\_01

Min = -3291.55482318782

Max = 235.613526770538



LTIBFLCFC600 [N]

# LX0046DEC012005DORSI\_02

Min = -31.3396679194813

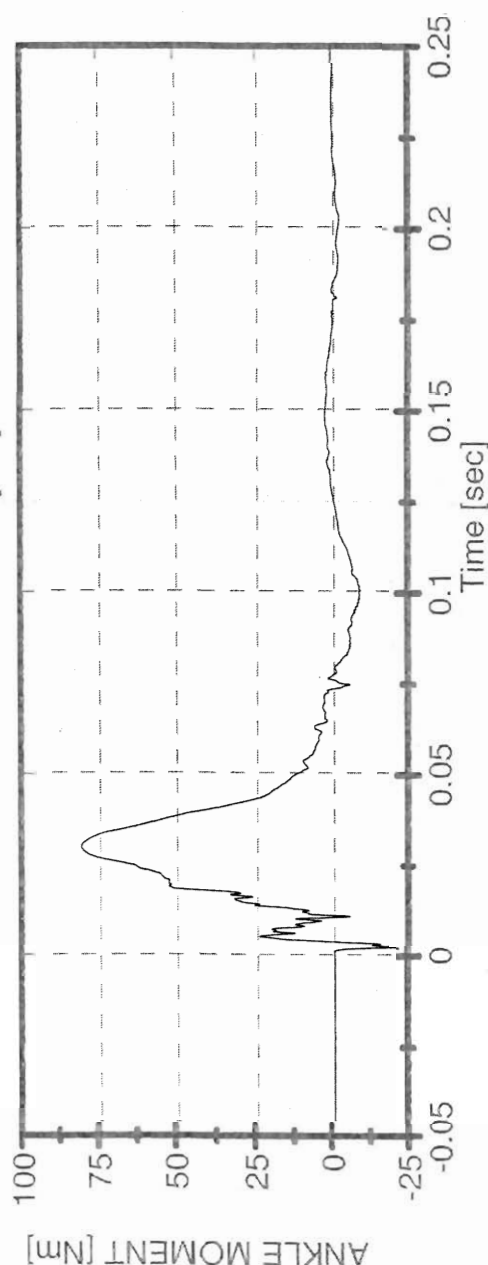
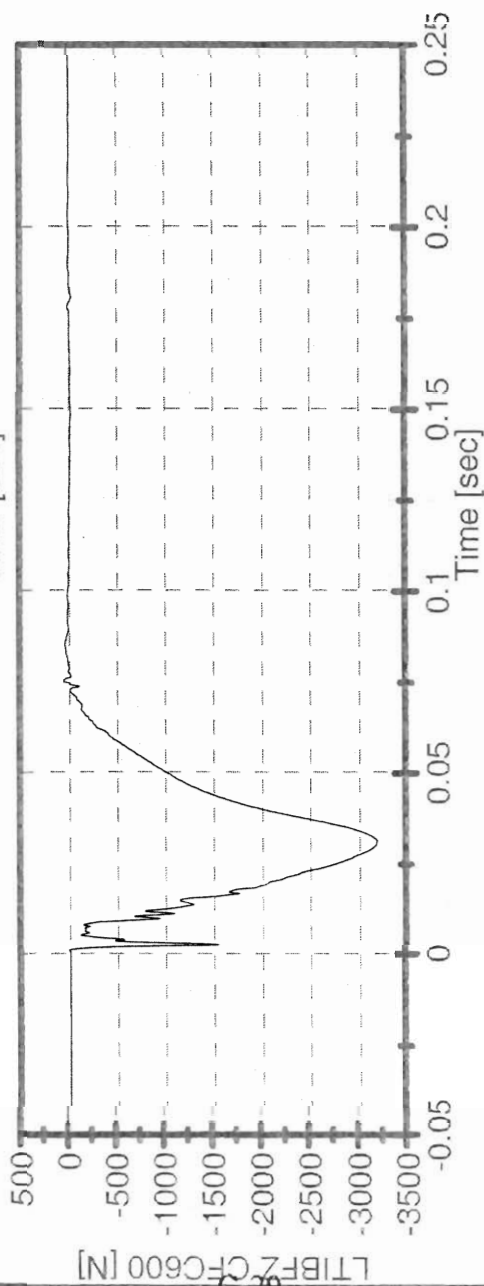
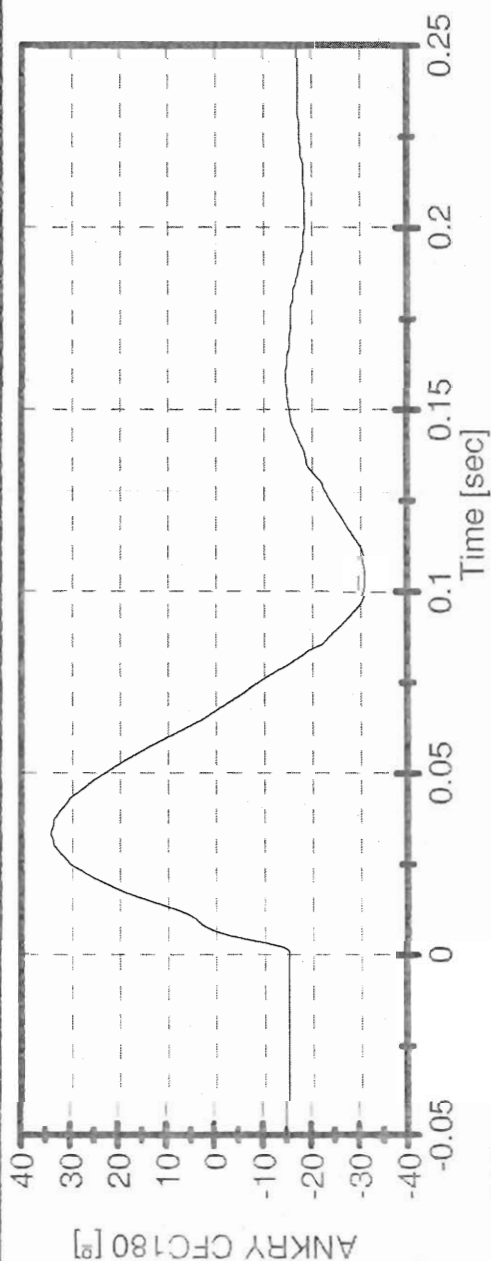
Max = 34.4181558438497

Min = -3173.77643306494

Max = 66.1238200727544

Min = -22.018288643543

Max = 81.1666103171652



# LX0046DEC012005INVER\_01

Min = -6.29654476700768

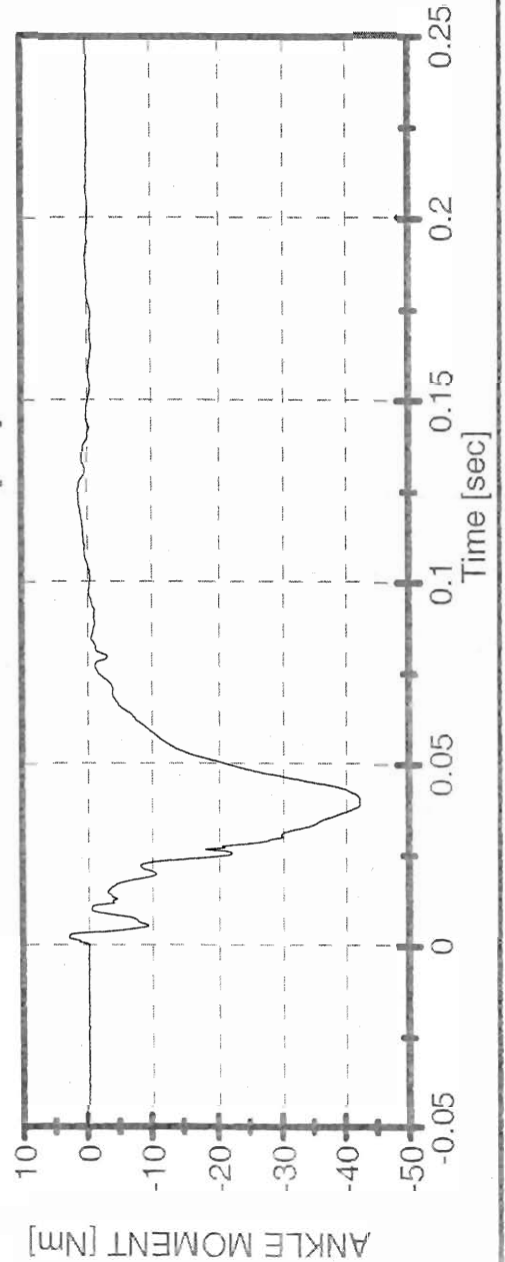
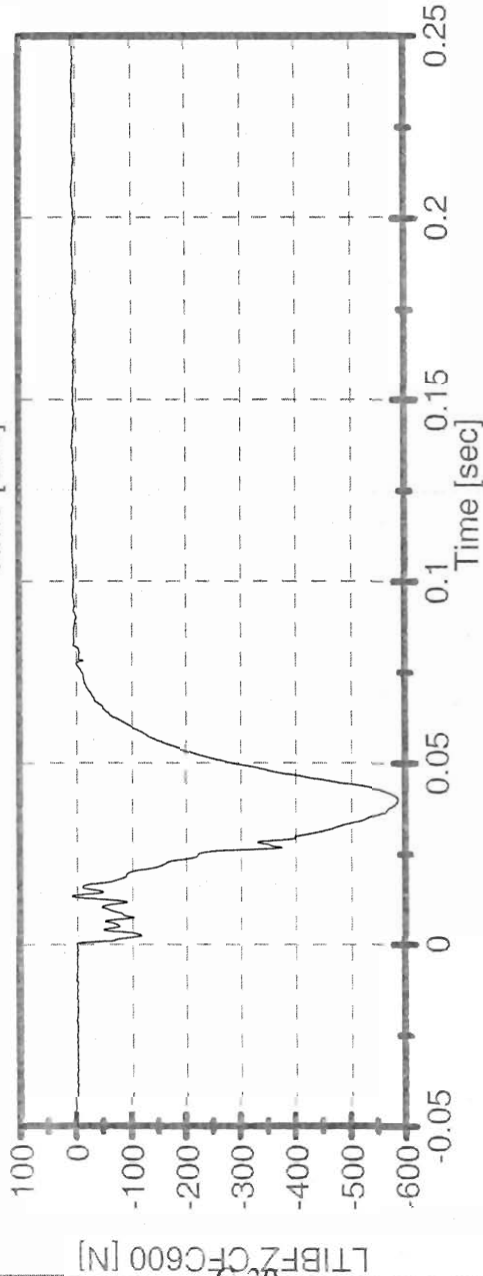
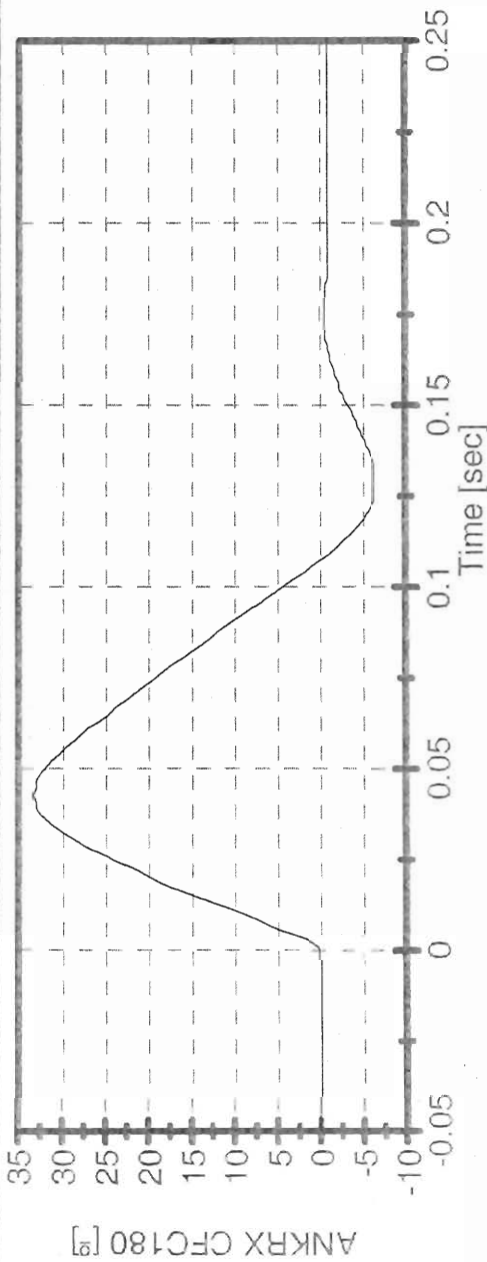
Max = 33.3754797800285

Min = -586.608289370772

Max = 9.93673810269256

Min = -42.1867705524178

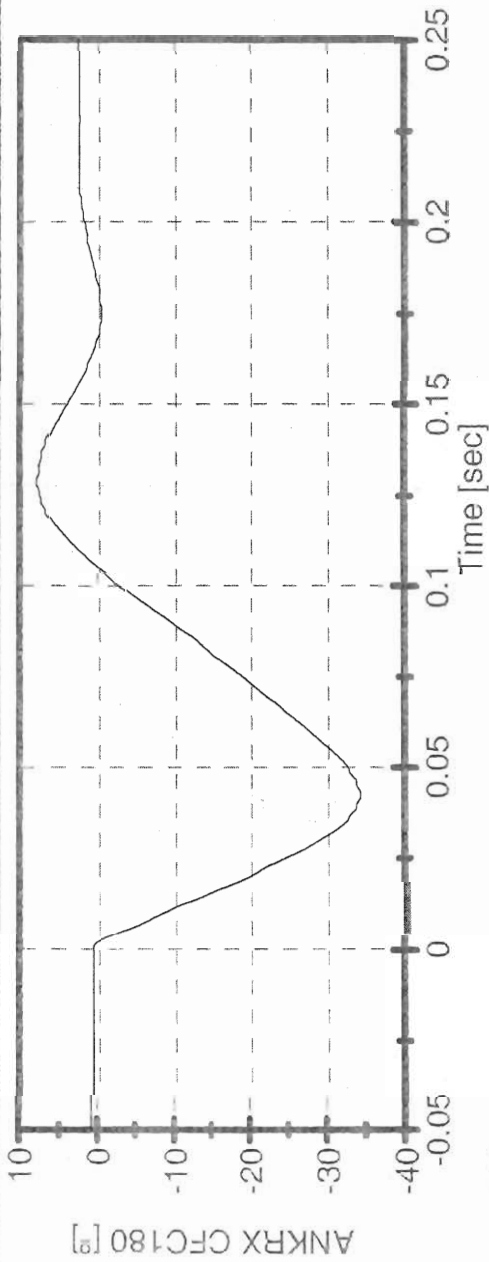
Max = 3.12356145043073



# LX0046DEC012005EVER\_01

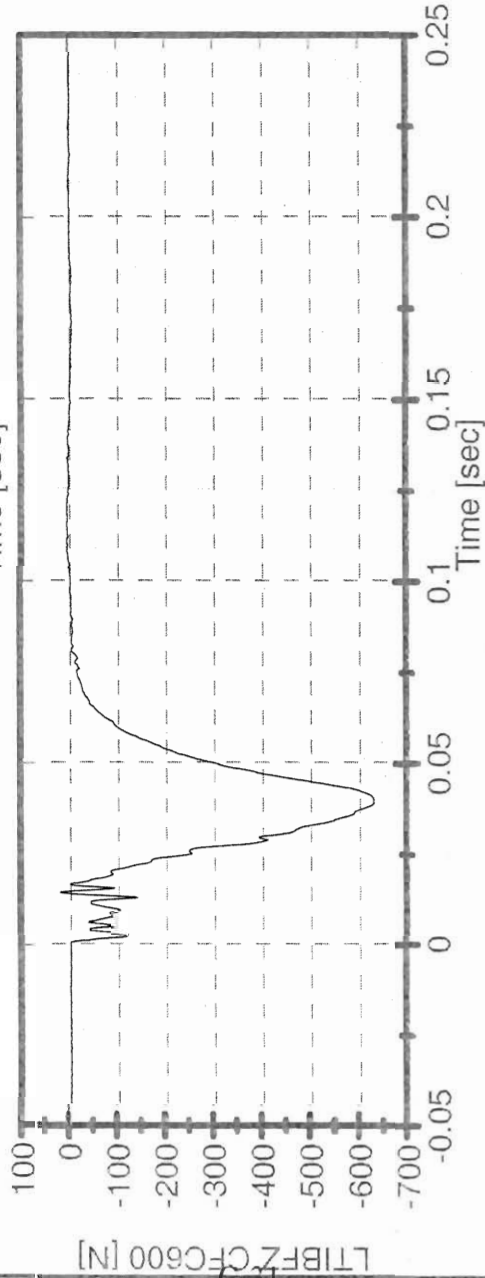
Min = -34.1048787127703

Max = 7.90503396601157



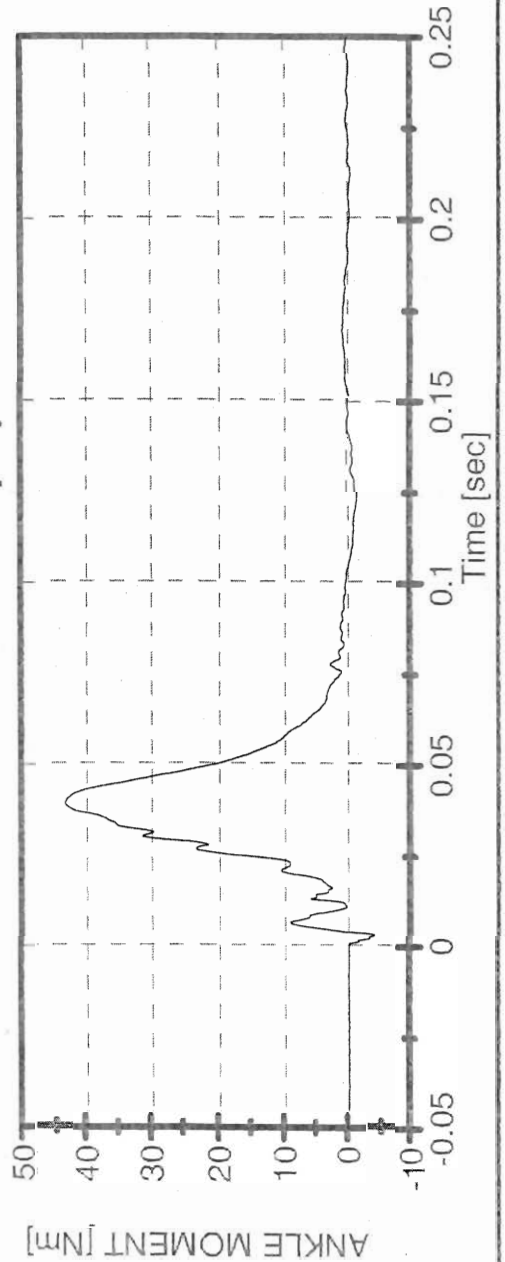
Min = -628.14108606457

Max = 22.5522632446148



Min = -4.06126125463868

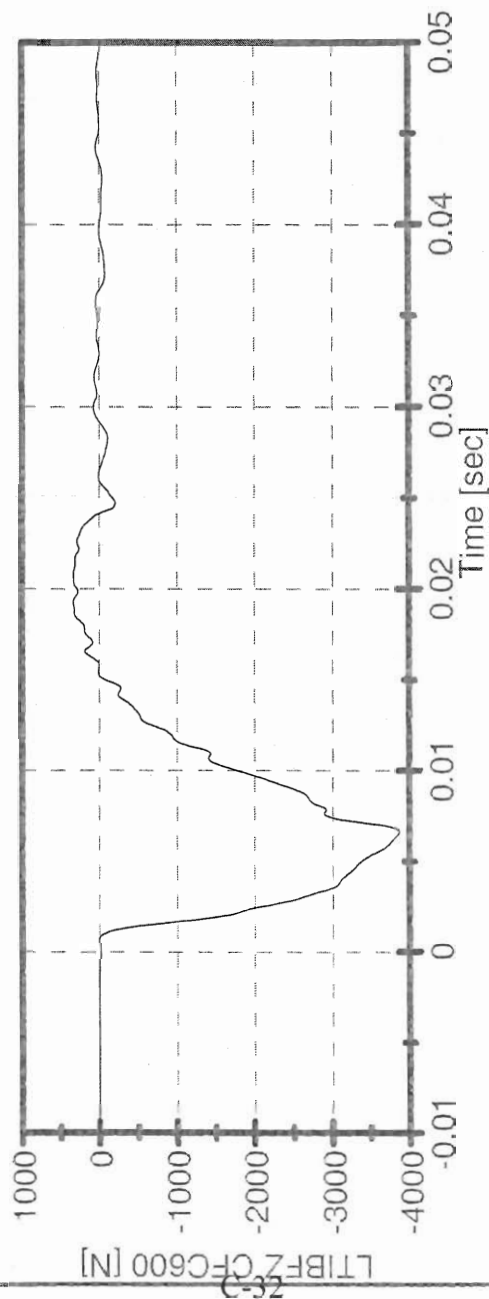
Max = 43.5382923401219



# LX0046DEC012005HEEL\_05

Min = -3864.23552407864

Max = 338.175272393699



Type: 50th S/N: 202 Mfg.: ASTC Test Date: 03/28/06  
 Proj./Seg. No.: 20040479-1000 Test Eng. Walter D. Dudek

| ITEM                                                                                                                       | PRE-USE |
|----------------------------------------------------------------------------------------------------------------------------|---------|
| <b>HEAD:</b>                                                                                                               |         |
| Skull Cap Bolts                                                                                                            | X       |
| Accel. Cable Exit (left or right)                                                                                          | X       |
| <b>NECK:</b>                                                                                                               |         |
| * Bracket at specified setting, Serration Alignment, Bolt                                                                  | X       |
| * Condyle Pin, Set Screws                                                                                                  | X       |
| * Rubber Condition                                                                                                         | X       |
| * Neck Cable Torque (5 <sup>th</sup> /50 <sup>th</sup> /95 <sup>th</sup> : 10 – 14 in-lb / 6YO 1.8 – 2.2 in-lb) Actual: 12 | X       |
| * Nodding Blocks Condition and Position                                                                                    | X       |
| <b>ARMS AND HANDS:</b>                                                                                                     |         |
| Clavicle and Shoulder Bumpers Condition                                                                                    | X       |
| Range of Motion Stops: Elbow, Top and Rear Shoulder                                                                        | X       |
| <b>THORAX:</b>                                                                                                             |         |
| Front and Rear Rib Bolts, Rib Ends Position, Rib Spacing                                                                   | X       |
| Chest Pot Arm, Ball Movement, Set Screws                                                                                   | X       |
| Sternum Bolts and Sternum Bumpers Condition                                                                                | X       |
| Jacket Condition                                                                                                           | X       |
| Abdominal Insert Condition                                                                                                 | X       |
| Rib Damping Material and Stiffeners Condition                                                                              | X       |
| Rib Minimum Depth                                                                                                          | X       |
| Accel. Mount Bolts                                                                                                         | X       |
| Lumbar Spine Rubber Condition, Spine Angle, (4) Attachment Bolts                                                           | X       |
| <b>PELVIS:</b>                                                                                                             |         |
| Iliac Crest Bone                                                                                                           | X       |
| Flesh Condition                                                                                                            | X       |
| Accel. Mount Bolt                                                                                                          | X       |
| Lumbar Block Bolts                                                                                                         | X       |
| <b>LEGS AND FEET:</b>                                                                                                      |         |
| * Femur Load Cell Bolts (5 <sup>th</sup> /50 <sup>th</sup> /95 <sup>th</sup> : 30 ft-lb / 6YO: 16 ft-lb)                   | X       |
| Knee Joint Function and Range of Motion                                                                                    | X       |
| Knee Skins, Inserts and Castings Condition                                                                                 | X       |
| Knee Slider Zero Position                                                                                                  | X       |
| Ankle Range of Motion, Bumper Condition                                                                                    | X       |
| Foot Condition                                                                                                             | X       |
| <b>OTHER:</b>                                                                                                              |         |
| Cleanliness / Skin Condition & Position                                                                                    | X       |
| Target Position                                                                                                            | X       |
| Clothes Blue                                                                                                               | X       |
| Shoes                                                                                                                      | X       |
| One G Joint Adjustments                                                                                                    | X       |

\* Items to be checked during calibration.

Inspection Completed By: J. Clarridge

Date: 03/24/06

**Transportation Research Center Inc.****Hybrid III Dummy Post-Use Inspection**

Type: 50% S/N: 202 Mfg.: ASTC Test Date: 03/28/06  
Proj./Seg. No.: 20040479-1000 Test Eng. Walter D. Dudek

| ITEM                                          | POST-USE |
|-----------------------------------------------|----------|
| <b>HEAD:</b>                                  |          |
| Head Skin Condition                           | X        |
| <b>NECK:</b>                                  |          |
| Rubber Condition                              | X        |
| Nodding Blocks Condition and Position         | X        |
| Nodding Joint Function (no lateral motion)    | X        |
| Adjustable (upper and lower) Neck Bracket     | X        |
| <b>ARMS AND HANDS:</b>                        |          |
| Skin Condition                                | X        |
| <b>THORAX:</b>                                |          |
| Jacket Condition                              | X        |
| Rib Damping Material and Stiffeners Condition | X        |
| Chest Pot Arm and Ball Movement               | X        |
| Spine Condition                               | X        |
| Sternum Assembly Condition                    | X        |
| <b>PELVIS:</b>                                |          |
| Flesh Condition                               | X        |
| Iliac Crest Bone                              | X        |
| Range of Motion Bumpers and Leg Cavity        | X        |
| <b>LEGS AND FEET:</b>                         |          |
| Knee Skins, Inserts, and Castings Condition   | X        |
| Leg Skin Condition and Position               | X        |
| Foot Condition                                | X        |

NOTES: No damage to report.

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Inspection Completed By: J. Clarridge

Date: 04/07/06

## Appendix D

### Customer Provided Seating Procedure



A. 2 Driver side (with Brake and clutch pedals in place while avoiding pedal interaction)

- x 1. Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1, S20.1.9.1, S20.4.1, S22.1.7.1)  
x N/A – No lumbar adjustment
- x 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2, S20.1.9.2, S20.4.1, S22.1.7.1, S22.4.2.1, S22.4.3.1, S24.4.2.1, S26.2.3, S26.3.1)  
x N/A – No additional support adjustment
- x 3. Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)  
x N/A – No adjustable leg support system
- NA4. Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion. (S16.3.1.12)
- NA5. Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)
- \_\_\_ 6. Use only the controls that primarily move the seat in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S22.1.7.3)
- NA7. If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S20.1.9.3)  
x N/A – No independent fore-aft seat cushion adjustment
- NA8. Use any part of any control, other than the parts just used for fore-aft positioning, to determine the range of angles of the seat cushion reference line and to set the seat cushion reference line at the mid-angle. (S16.2.10.3.1)  
Maximum angle \_\_\_\_\_  
Minimum angle \_\_\_\_\_  
Mid-angle \_\_\_\_\_
- x 9. If the seat and/or seat cushion height is adjustable, use any part of any control other than the parts which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 8. (S16.2.10.3.1)  
x N/A – No seat height adjustment
- \_\_\_ 10. Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position.
- \_\_\_ 12. Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.
- \_\_\_ 14. Visually mark for future reference the seat back angle at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer for the rearmost seat position. (S20.1.9.5, S22.1.7.5, S22.4.2.1, S22.4.3.1, S24.1.2, S24.4.2.1, S26.2.3, S26.3.1)  
\_\_\_ N/A – No seat back angle adjustment  
Manufacturer's design seat back angle \_\_\_\_\_
- x 15. Is the seat a bucket seat?  
x Yes, go to 16 and skip 17  
\_\_\_ No, go to 17 and skip 16
- NA16. Bucket seats:  
Locate and mark for future reference the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S16.3.1.10 & S20.1.10)

- x 17. Bench seats  
Locate and mark for future reference the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface.
- x 18. Head Restraint Position  
     \_\_\_ N/A Vehicle contains automatic head restraints.  
     \_\_\_ N/A, there is no head restraint adjustment  
     x Adjust the head restraint to its highest position. (S8.1.3)
- x 19. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)  
     \_\_\_ N/A – No adjustable upper seat belt anchorage  
     Manufacturer's specified anchorage position.  
     Tested anchorage position \_\_\_\_\_ Full up \_\_\_\_\_
- x 20. Place adjustable pedals in the full forward position (towards the front of the vehicle.)  
     \_\_\_ N/A – the pedals are not adjustable.
- x 21. Locate and mark the right heel point (RHP) on the carpet.  
     Flat accelerator pedals: Extend a line through the axis of symmetry (that is closest to the vertical plane) of the accelerator pedal. The RHP is the intersection of that line with the floorpan.  
     Curved accelerator pedals: Construct a line in the side view tangent to the accelerator pedal such that the distance from the contact point on the pedal to the floorpan, along the tangent line, is 200 mm. The RHP is at the intersection of this tangent line and the floorpan
- x 22. Locate a longitudinal line L1 and a transverse line T1 on the floorpan through the RHP. Locate a Left Heel Point (LHP) point on the line T1 that is to the left of the seat centerline at the same distance from the seat centerline as the RHP. Locate a longitudinal line L2 through the LHP.
- x 23. Set the steering wheel hub at the geometric center of the full range of driving positions including any telescoping positions as determined in data sheet 14.3.
- x 24. Verify that the seat is in the rearmost seat track position and full down height adjustment with the seat cushion at the mid-angle with the seat back at the manufacturer's nominal seat back angle.
- x 25. With the seat in the rearmost, full down, mid-angle position, determine the H-point using SAE J826 and the FMVSS 208 leg and thigh dimensions.
- x 26. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings and the upper torso resting against the seat back. (S10.4.1.1 & S10.4.1.2)
- x 27. Rest the thighs on the seat cushion. (S10.5)
- x 28. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.  
     x measured distance (10.6 inches) (S10.5)
- x 29. Set the heels of the feet on the floor pan.
- x 30. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined in Data Sheet 15. (S10.4.2.1)  
     Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)  
     .2 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
     .4 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
     22.9 pelvic angle (20° to 25°)

**The H-point and pelvic angle are not adjusted after this step.**

- x 31. Set the left and right feet in the neutral position (longitudinal centerline of foot in the same plane as the lower leg/thigh, foot at -15 degrees +/- 2 degrees to lower leg), as determined by the output of the potentiometers at the ankle.
- x 32. Without moving the seat, and while keeping the right thigh and leg in the same vertical plane, set the right foot heel on Line L1.
- x 32.1. Without moving the seat, and while keeping the left thigh and leg in the same vertical plane, move the left foot laterally to the left until
- The right edge of the foot is clear of the brake or clutch pedal by 0.25" laterally
  - The left heel is on Line L2
  - The left edge of the shoe contacts the vehicle interior
- whichever occurs first.
- x 33. Place a 100 N +0, -5N weight (e.g. 100 N shot bag), no larger than 4" x 4", on each knee-thigh area. The weight should be centered on the assembly-hole on the top of the knee.
- x 34. Raise the heels off the floor pan so that the seat can be moved forward.
- x 35. Using only the control that primarily moves the seat in the fore-aft direction, move the seat forward and rest the rearmost point of the right foot heel on the floor pan such that:
- the heel is on the line L1
  - the foot is in the same plane as the lower leg/thigh, foot at -15 degrees +/- 2 degrees (about the Y- axis) to lower leg,
  - foot is contacting the accelerator pedal
  - the thighs are resting on the seat cushion
  - the thigh, leg and foot are in the same vertical plane
- If the heel is unable to reach line L1 because the foot contacts the vehicle interior, place the foot as close to the line L1 as possible while maintaining a gap of no more than 5 mm between the shoe and the vehicle interior.
- If the left foot contacts the brake or clutch pedals or the vehicle interior, then stop the forward movement of the left foot, raising the left knee off the seat cushion if needed. The pedals should not be depressed.
- x 36. If the right foot does not reach the accelerator pedal, move the adjustable pedal until it contacts the foot. Locate a new heel point. Repeat steps 21 – 35 to re-position the seat. If the pedals are not adjustable, place the heel at the point closest to the pedal, in the same longitudinal vertical plane as the line L1.
- x N/A – the accelerator pedal is not adjustable
- x N/A – the accelerator pedal did not need to be moved.
- x 37. Verify that the left thigh and leg are in a vertical longitudinal plane, the foot in the neutral position (longitudinal centerline of foot in the same plane as the lower leg/thigh, foot at -15 degrees +/- 2 degrees (Y-axis) to lower leg), the heel on the floor pan, and the heel is on the line L2, unless the left edge of the shoe contacts the vehicle, preventing the heel from reaching Line L2.
- x 38. Remove the leg weights.
- x 39. Verify that the right foot is in the neutral position and is contacting the accelerator pedal. If the foot is not contacting the accelerator pedal, move the seat forward to rest the right foot on the accelerator pedal, keeping the foot in the neutral position
- x 40. While holding the thighs in place, push with a 50 lb force on a 3 inch diameter area of the chest that is centered 5" (127mm) vertically below the chin on the midsagittal plane of the dummy.
- x 41.1 Fasten the seat belt around the dummy.
- x 41.2 Remove all slack from the lap belt portion. (S10.9)
- x 41.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- x 41.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
- \_\_\_\_\_pound load applied

- ☒ 41.5 Is the belt system equipped with a tension-relieving device?  
    \_\_\_ Yes, continue  
    ☒ No, go to 42
- \_\_\_ 41.6 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).
- ☒ 42. Place the upper arms adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)
- ☒ 43. Adjust the head level within  $\pm 0.5$  degrees using the seat back adjustment. Check the head angle after pushing on the chest with a 50 lb force on a 3 inch diameter area of the chest that is centered 5" (127mm) vertically below the chin on the midsagittal plane of the dummy, while holding the thighs in place, and releasing.
- ☒ 43.1 No seat back adjustment. Adjust the neck bracket to achieve head level within  $\pm 0.5$  degrees. Record neck bracket setting. N/A
- ☒ 44. Maintaining the head alignment as determined above, place the right hand with the palm in contact with the steering wheel at the rim's horizontal centerline and with the thumb over the steering wheel. (S10.3.1)
- ☒ 45. Maintaining the head alignment as determined above place the left hand with the palm in contact with the steering wheel at the rim's horizontal centerline and with the thumb over the steering wheel. (S10.3.1)
- \_\_\_ 46. If the hands don't reach the steering wheel at the horizontal centerline, maintaining the head alignment place them at symmetric location on the wheel, below the horizontal centerline.
- ☒ 47. Tape the thumb of each hand to the steering wheel by using masking tape with a width of 0.25 inch. The length of the tape shall only be enough to go around the thumb and steering wheel one time.
- ☒ 48. Verify that the feet are in the neutral position ( $\pm 2$  deg) and the head is level ( $\pm 0.5$  deg). Adjust and repeat until the feet and head angles are within this range.

## Appendix E

### Test Equipment and Instrumentation Information

Sign Convention  
SAE J211 MAR95

Accelerometers:

+X: Forward  
+Y: Rightward  
+Z: Downward

Potentiometers:

+Chest longitudinal deflection: Outward  
+Chest lateral deflection: Rightward  
+Seat belt displacement: Outward  
+Seat belt extension: Elongation  
+Knee slider displacement: Distance between femur and tibia  
increased (in relation to a seated  
dummy)

Rotation potentiometers:

+About the X-axis: Left foot-eversion  
Right foot-inversion  
+About the Y-axis: Left/right foot-dorsiflexion  
+About the Z-axis: Left foot-internal  
Right foot-external

Load cells:

+Femur force: Tension  
+Seat belt force: Tension  
+Barrier force: Tension

Neck load cells:

+X force: Head pushed rearward  
+Y force: Head pushed leftward  
+Z force: Head pulled upward (tension on neck)  
+X moment: Left ear rotating toward left shoulder  
+Y moment: Chin rotating toward chest  
+Z moment: Chin rotating toward left shoulder

Tibia load cells:

+X force: Ankle forward, knee rearward  
+Y force: Ankle rightward, knee leftward  
+Z force: Tension  
+X moment: Bottom of tibia moving leftward  
+Y moment: Bottom of tibia moving rearward

Frequency Response Classes  
SAE J211 MAR95

| <u>Typical Test Measurements</u>             | <u>Channel Class</u> |
|----------------------------------------------|----------------------|
| Vehicle Structural Accelerations for use in: |                      |
| Total vehicle comparison                     | 60                   |
| Collision simulation input                   | 60                   |
| Component analysis                           | 600                  |
| Integration for velocity or displacement     | 180                  |
| Barrier Face Forces                          | 60                   |
| Belt Restraint System Loads                  | 60                   |
| Anthropomorphic Test Device                  |                      |
| Head accelerations (linear and angular)      | 1000                 |
| Neck                                         |                      |
| Forces                                       | 1000                 |
| Moments                                      | 600                  |
| Thorax                                       |                      |
| Spine accelerations                          | 180                  |
| Rib accelerations                            | 1000                 |
| Sternum accelerations                        | 1000                 |
| Deflections                                  | 600                  |
| Lumbar                                       |                      |
| Forces                                       | 1000                 |
| Moments                                      | 1000                 |
| Pelvis                                       |                      |
| Accelerations                                | 1000                 |
| Forces                                       | 1000                 |
| Moments                                      | 1000                 |
| Femur/Knee/Tibia/Ankle                       |                      |
| Forces                                       | 600                  |
| Moments                                      | 600                  |
| Displacements                                | 180                  |
| Sled Accelerations                           | 60                   |
| Steering Column Loads                        | 600                  |
| Head form Accelerations                      | 1000                 |

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.



# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID | ISO Signal Identifier | Description         | FScale | Units   | DAS  |                                    | Assembly                 |
|-----|---------------|-----------------------|---------------------|--------|---------|------|------------------------------------|--------------------------|
|     |               |                       |                     |        |         | Flip | Positive Polarity                  |                          |
| 1   | Trig D1       | 10ZERO000000EV00      | Event               |        | 1 Logic | +    | Bipolar                            |                          |
| 2   | 05G15-L07     | 11HEADCG00H3ACXA      | Head Accel X        | 1000   | g       | +    | Forward                            | 1-202 HIII 50th ASTC.001 |
| 3   | 03E03E18-F05  | 11HEADCG00H3ACYA      | Head Accel Y        | 1000   | g       | -    | Leftward                           | 1-202 HIII 50th ASTC.002 |
| 4   | 05I07-Z17     | 11HEADCG00H3ACZA      | Head Accel Z        | 1000   | g       | -    | Upward                             | 1-202 HIII 50th ASTC.003 |
| 5   | 03E03E18-F10  | 11HEADCGRDH3ACXA      | Head Accel X Red    | 1000   | g       | +    | Forward                            | 1-202 HIII 50th ASTC.004 |
| 6   | 01G25-N10     | 11HEADCGRDH3ACYA      | Head Accel Y Red    | 1000   | g       | -    | Leftward                           | 1-202 HIII 50th ASTC.005 |
| 7   | 02I02I16-A12  | 11HEADCGRDH3ACZA      | Head Accel Z Red    | 1000   | g       | -    | Upward                             | 1-202 HIII 50th ASTC.006 |
| 8   | 05G20-L21     | 11HEADFR00H3ACYA      | Head (FT) Accel Y   | 1000   | g       | -    | Leftward                           | 1-202 HIII 50th ASTC.007 |
| 9   | 05H25-L15     | 11HEADFR00H3ACZA      | Head (FT) Accel Z   | 1000   | g       | -    | Upward                             | 1-202 HIII 50th ASTC.008 |
| 10  | 05I07-Z05     | 11HEADUP00H3ACXA      | Head (TP) Accel X   | 1000   | g       | +    | Forward                            | 1-202 HIII 50th ASTC.009 |
| 11  | 05G20-L01     | 11HEADUP00H3ACYA      | Head (TP) Accel Y   | 1000   | g       | -    | Leftward                           | 1-202 HIII 50th ASTC.010 |
| 12  | 05G29-X51     | 11HEADLE00H3ACXA      | Head (LT) Accel X   | 1000   | g       | +    | Forward                            | 1-202 HIII 50th ASTC.011 |
| 13  | 05G20-L18     | 11HEADLE00H3ACZA      | Head (LT) Accel Z   | 1000   | g       | -    | Upward                             | 1-202 HIII 50th ASTC.012 |
| 14  | 1716A-1872-FX | 11NECKUP00H3FOXA      | Neck Force X        | 8896.4 | N       | -    | Head forward,<br>chest rearward    | 1-202 HIII 50th ASTC.013 |
| 15  | 1716A-1872-FY | 11NECKUP00H3FOYA      | Neck Force Y        | 8896.4 | N       | +    | Head leftward,<br>chest rightward  | 1-202 HIII 50th ASTC.014 |
| 16  | 1716A-1872-FZ | 11NECKUP00H3FOZA      | Neck Force Z        | 13344  | N       | +    | Head upward,<br>chest downward     | 1-202 HIII 50th ASTC.015 |
| 17  | 1716A-1872-MX | 11NECKUP00H3MOXA      | Neck Moment X       | 282    | N-m     | -    | Right ear toward<br>right shoulder | 1-202 HIII 50th ASTC.016 |
| 18  | 1716A-1872-MY | 11NECKUP00H3MOYA      | Neck Moment Y       | 282    | N-m     | +    | Chin toward<br>sternum             | 1-202 HIII 50th ASTC.017 |
| 19  | 1716A-1872-MZ | 11NECKUP00H3MOZA      | Neck Moment Z       | 282    | N-m     | +    | Chin toward left<br>shoulder       | 1-202 HIII 50th ASTC.018 |
| 20  | 5832J-78-FX   | 11NECKLO00H3FOXA      | Neck Lower Force X  | 13344  | N       | +    | Head rearward,<br>chest forward    | 1-202 HIII 50th ASTC.019 |
| 21  | 5832J-78-FY   | 11NECKLO00H3FOYA      | Neck Lower Force Y  | 13344  | N       | +    | Head leftward,<br>chest rightward  | 1-202 HIII 50th ASTC.020 |
| 22  | 5832J-78-FZ   | 11NECKLO00H3FOZA      | Neck Lower Force Z  | 13344  | N       | +    | Head upward,<br>chest downward     | 1-202 HIII 50th ASTC.021 |
| 23  | 5832J-78-MX   | 11NECKLO00H3MOXA      | Neck Lower Moment X | 452    | N-m     | +    | Left ear toward<br>left shoulder   | 1-202 HIII 50th ASTC.022 |
| 24  | 5832J-78-MY   | 11NECKLO00H3MOYA      | Neck Lower Moment Y | 452    | N-m     | +    | Chin toward<br>sternum             | 1-202 HIII 50th ASTC.023 |
| 25  | 5832J-78-MZ   | 11NECKLO00H3MOZA      | Neck Lower Moment Z | 451.9  | N-m     | +    | Chin toward left<br>shoulder       | 1-202 HIII 50th ASTC.024 |
| 26  | 03E03E02-N01  | 11CHSTCG00H3ACXA      | Chest Accel X       | 1000   | g       | +    | Forward                            | 1-202 HIII 50th ASTC.025 |
| 27  | 03E03E02-N06  | 11CHSTCG00H3ACYA      | Chest Accel Y       | 1000   | g       | -    | Leftward                           | 1-202 HIII 50th ASTC.026 |

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060328-1

# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID     | ISO Signal Identifier | Description               | FScale | Units | DAS  |                                           | Assembly                 |
|-----|-------------------|-----------------------|---------------------------|--------|-------|------|-------------------------------------------|--------------------------|
|     |                   |                       |                           |        |       | Flip | Positive Polarity                         |                          |
| 28  | 03E03E02-N02      | 11CHSTCG00H3ACZA      | Chest Accel Z             | 1000   | g     | -    | Upward                                    | 1-202 HIII 50th ASTC.027 |
| 29  | 02I02I05-F02      | 11CHSTCGRDH3ACXA      | Chest Accel X Red.        | 1000   | g     | -    | Rearward                                  | 1-202 HIII 50th ASTC.028 |
| 30  | 03E03E02-N04      | 11CHSTCGRDH3ACYA      | Chest Accel Y Red.        | 1000   | g     | -    | Leftward                                  | 1-202 HIII 50th ASTC.029 |
| 31  | 03E03E02-N15      | 11CHSTCGRDH3ACZA      | Chest Accel Z Red.        | 1000   | g     | -    | Upward                                    | 1-202 HIII 50th ASTC.030 |
| 32  | CST202            | 11CHST0000H3DSXA      | Chest Deflection X        | 100    | mm    | +    | Forward                                   | 1-202 HIII 50th ASTC.031 |
| 33  | 2121AJ-1520       | 11FEMRLL00H3FOZA      | Left Femur Force Z        | 13344  | N     | +    | Knee forward,<br>pelvis rearward          | 1-202 HIII 50th ASTC.032 |
| 34  | 2121AJ-1517       | 11FEMRRL00H3FOZA      | Right Femur Force Z       | 13344  | N     | +    | Knee forward,<br>pelvis rearward          | 1-202 HIII 50th ASTC.052 |
| 35  | 150-0121VR-018026 | 11KNSLLE00H3DSXA      | Left Knee Displacement X  | 22     | mm    | -    | Hold femur in<br>place, tibia<br>rearward | 1-202 HIII 50th ASTC.033 |
| 36  | 4509J-107-FX      | 11TIBILULXH3FOXA      | Left Upper Tibia Force X  | 11120  | N     | +    | Tibia forward,<br>knee rearward           | 1-202 HIII 50th ASTC.034 |
| 37  | 4509J-107-FY      | 11TIBILULXH3FOYA      | Left Upper Tibia Force Y  | 11120  | N     | +    | Bipolar                                   | 1-202 HIII 50th ASTC.035 |
| 38  | 4509J-107-FZ      | 11TIBILULXH3FOZA      | Left Upper Tibia Force Z  | 11120  | N     | +    | Tibia downward,<br>femur upward           | 1-202 HIII 50th ASTC.036 |
| 39  | 4509J-107-MX      | 11TIBILULXH3MOXA      | Left Upper Tibia Moment X | 395.4  | N-m   | +    | Ankle leftward,<br>hold knee in<br>place  | 1-202 HIII 50th ASTC.037 |
| 40  | 4509J-107-MY      | 11TIBILULXH3MOYA      | Left Upper Tibia Moment Y | 395.4  | N-m   | +    | Ankle forward,<br>hold knee in<br>place   | 1-202 HIII 50th ASTC.038 |
| 41  | 05G20-L08         | 11TIBILELXH3ACXA      | Left Tibia Accel X        | 1000   | g     | +    | Tibia forward                             | 1-202 HIII 50th ASTC.039 |
| 42  | 05I07-Z13         | 11TIBILELXH3ACYA      | Left Tibia Accel Y        | 1000   | g     | +    | Tibia right                               | 1-202 HIII 50th ASTC.040 |
| 43  | 4929J-139-FX      | 11TIBILLLXH3FOXA      | Left Lower Tibia Force X  | 11120  | N     | +    | Ankle rightward,<br>knee leftward         | 1-202 HIII 50th ASTC.041 |
| 44  | 4929J-139-FY      | 11TIBILLLXH3FOYA      | Left Lower Tibia Force Y  | 11120  | N     | +    | Ankle rightward,<br>knee leftward         | 1-202 HIII 50th ASTC.042 |
| 45  | 4929J-139-FZ      | 11TIBILLLXH3FOZA      | Left Lower Tibia Force Z  | 11120  | N     | +    | Ankle downward,<br>knee upward            | 1-202 HIII 50th ASTC.043 |
| 46  | 4929J-139-MX      | 11TIBILLLXH3MOXA      | Left Lower Tibia Moment X | 395.4  | Nm    | +    | Ankle leftward,<br>hold knee in<br>place  | 1-202 HIII 50th ASTC.044 |
| 47  | 4929J-139-MY      | 11TIBILLLXH3MOYA      | Left Lower Tibia Moment Y | 395.4  | Nm    | +    | Ankle forward,<br>hold knee in<br>place   | 1-202 HIII 50th ASTC.045 |
| 48  | PD210-4B-426      | 11FOOTLELXH3ANXA      | Left Foot Angular Dis. X  | 164.4  | °     | +    | Eversion                                  | 1-202 HIII 50th ASTC.046 |
| 49  | PD210-4B-424      | 11FOOTLELXH3ANYA      | Left Foot Angular Dis. Y  | 163.4  | °     | -    | Dorsiflexion                              | 1-202 HIII 50th ASTC.047 |

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060328-1

# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID    | ISO Signal Identifier | Description                                     | FScale | Units | DAS<br>Flip | Positive Polarity                   | Assembly                 |
|-----|------------------|-----------------------|-------------------------------------------------|--------|-------|-------------|-------------------------------------|--------------------------|
| 50  | PD210-4B-423     | 11FOOTLELXH3ANZA      | Left Foot Angular Dis. Z                        | 163.8  | °     | +           | Internal rotation                   | 1-202 HIII 50th ASTC.048 |
| 51  | 05G20-L14        | 11FOOTLELXH3ACXA      | Left Foot Accel X                               | 1000   | g     | +           | Foot forward                        | 1-202 HIII 50th ASTC.049 |
| 52  | 05G20-L12        | 11FOOTLELXH3ACYA      | Left Foot Accel Y                               | 1000   | g     | +           | Foot rightward                      | 1-202 HIII 50th ASTC.050 |
| 53  | 06A04-R12        | 11FOOTLELXH3ACZA      | Left Foot Accel Z                               | 1000   | g     | +           | Foot down                           | 1-202 HIII 50th ASTC.051 |
| 54  | 150-0121VL-33646 | 11KNSLRIO0H3DSXA      | Right Knee Displacement X                       | 22     | mm    | -           | Hold femur in place, tibia rearward | 1-202 HIII 50th ASTC.053 |
| 55  | 4509J-104-FX     | 11TIBIRULXH3FOXA      | Right Upper Tibia Force X                       | 11120  | N     | +           | Tibia forward, knee rearward        | 1-202 HIII 50th ASTC.054 |
| 56  | 4509J-104-FY     | 11TIBIRLUXH3FOYA      | Right Upper Tibia Force Y                       | 11120  | N     | +           | Bipolar                             | 1-202 HIII 50th ASTC.055 |
| 57  | 4509J-104-FZ     | 11TIBIRULXH3FOZA      | Right Upper Tibia Force Z                       | 11120  | N     | +           | Tibia downward, femur upward        | 1-202 HIII 50th ASTC.056 |
| 58  | 4509J-104-MX     | 11TIBIRULXH3MOXA      | Right Upper Tibia Moment X                      | 396    | N-m   | +           | Ankle leftward, hold knee in place  | 1-202 HIII 50th ASTC.057 |
| 59  | 4509J-104-MY     | 11TIBIRULXH3MOYA      | Right Upper Tibia Moment Y                      | 396    | N-m   | +           | Ankle forward, hold knee in place   | 1-202 HIII 50th ASTC.058 |
| 60  | 05G20-L06        | 11TIBIRILXH3ACXA      | Right Tibia Accel X                             | 1000   | g     | +           | Tibia forward                       | 1-202 HIII 50th ASTC.059 |
| 61  | 06A07-R14        | 11TIBIRILXH3ACYA      | Right Tibia Accel Y                             | 1000   | g     | +           | Tibia right                         | 1-202 HIII 50th ASTC.060 |
| 62  | 4929J-138-FX     | 11TIBIRLLXH3FOXA      | Right Lower Tibia Force X                       | 11120  | N     | +           | Ankle forward, knee rearward        | 1-202 HIII 50th ASTC.061 |
| 63  | 4929J-138-FY     | 11TIBIRLLXH3FOYA      | Right Lower Tibia Force Y                       | 11120  | N     | +           | Ankle rightward, knee leftward      | 1-202 HIII 50th ASTC.062 |
| 64  | 4929J-138-FZ     | 11TIBIRLLXH3FOZA      | Right Lower Tibia Force Z                       | 11120  | N     | +           | Ankle downward, knee upward         | 1-202 HIII 50th ASTC.063 |
| 65  | 4929J-138-MX     | 11TIBIRLLXH3MOXA      | Right Lower Tibia Moment X                      | 395.4  | N-m   | +           | Ankle leftward, hold knee in place  | 1-202 HIII 50th ASTC.064 |
| 66  | 4929J-138-MY     | 11TIBIRLLXH3MOYA      | Right Lower Tibia Moment Y                      | 395.4  | N-m   | +           | Ankle forward, hold knee in place   | 1-202 HIII 50th ASTC.065 |
| 67  | PD210-4B-427     | 11FOOTRILXH3ANXA      | Right Foot Angular Dis. X                       | 163.5  | °     | +           | Inversion                           | 1-202 HIII 50th ASTC.066 |
| 68  | PD210-4B-425     | 11FOOTRILXH3ANYA      | Right Foot Angular Dis. Y                       | 163.8  | °     | -           | Dorsiflexion                        | 1-202 HIII 50th ASTC.067 |
| 69  | PD210-4B-422     | 11FOOTRILXH3ANZA      | Right Foot Angular Dis. Z                       | 163.6  | °     | +           | External rotation                   | 1-202 HIII 50th ASTC.068 |
| 70  | 05I07-Z07        | 11FOOTRILXH3ACXA      | Right Foot Accel X                              | 1000   | g     | +           | Foot forward                        | 1-202 HIII 50th ASTC.069 |
| 71  | 05H31-Z12        | 11FOOTRILXH3ACYA      | Right Foot Accel Y                              | 1000   | g     | +           | Foot rightward                      | 1-202 HIII 50th ASTC.070 |
| 72  | 05G20-L03        | 11FOOTRILXH3ACZA      | Right Foot Accel Z                              | 1000   | g     | +           | Foot down                           | 1-202 HIII 50th ASTC.071 |
| 73  | P49674           | 14CRME000000ACXA      | Left Rear Seat Cross-member X-axis Acceleration | 1000   | g     | +           | Forward                             |                          |

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060328-1

# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID | ISO Signal Identifier | Description                                         | FScale | Units | DAS  |                   | Assembly |
|-----|---------------|-----------------------|-----------------------------------------------------|--------|-------|------|-------------------|----------|
|     |               |                       |                                                     |        |       | Flip | Positive Polarity |          |
| 74  | P49918        | 16CRME000000ACXA      | Right Rear Seat Cross-member X-axis Acceleration    | 1000   | g     | +    | Forward           |          |
| 75  | P46498        | 14CRME000000ACYA      | Left Rear Seat Cross-member Y-axis Acceleration     | 1000   | g     | -    | Leftward          |          |
| 76  | P48657        | 16CRME000000ACYA      | Right Rear Seat Cross-member Y-axis Acceleration    | 1000   | g     | -    | Leftward          |          |
| 77  | P49647        | 12ENGNTPO0000ACXA     | Top of Engine Block X-axis acceleration             | 1500   | g     | -    | Rearward          |          |
| 78  | P50005        | 12ENGNB000000ACXA     | Bottom of Engine Block X-axis acceleration          | 1500   | g     | +    | Forward           |          |
| 79  | P50308        | 13VEHCRI0000ACXA      | Right Brake Caliper X-axis Acceleration             | 1500   | g     | +    | Forward           |          |
| 80  | P50317        | 11VEHCLE0000ACXA      | Left Brake Caliper X-axis Acceleration              | 1500   | g     | +    | Forward           |          |
| 81  | P50456        | 12DASH000000ACXA      | Instrument Panel X-axis Acceleration                | 1500   | g     | +    | Forward           |          |
| 82  | P50281        | 10VEHCCG0000ACXA      | Vehicle CG X-axis acceleration                      | 1000   | g     | +    | Forward           |          |
| 83  | P50328        | 10VEHCCG0000ACYA      | Vehicle CG Y-axis acceleration                      | 1000   | g     | -    | Leftward          |          |
| 84  | P50417        | 10VEHCCG0000ACZA      | Vehicle CG Z-axis acceleration                      | 1000   | g     | -    | Upward            |          |
| 85  | ABFire1       | 11AIRBFR0100EV0A      | DRIV. FRONT AIRBAG1 IND (IP 15)                     | 5      | V     | +    | Bipolar           |          |
| 86  | ABFire2       | 11AIRBFR0200EV0A      | DRIV. FRONT AIRBAG2 IND (IP98)                      | 5      | V     | +    | Bipolar           |          |
| 87  | 3419T-840     | 11SEBE0000B5FOOA      | Driver lap belt (1018)                              | 13500  | N     | +    | Bipolar           |          |
| 88  | 3419T-842     | 11SEBE0000B3FOOA      | Driver shoulder belt (613)                          | 13500  | N     | +    | Bipolar           |          |
| 89  | P50425        | 11SETR000000ACXA      | Left Side Driver mid seat track X-axis acceleration | 1000   | g     | +    | Forward           |          |

# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID | ISO Signal Identifier | Description               | FScale | Units | DAS  |                   | Assembly                             |
|-----|---------------|-----------------------|---------------------------|--------|-------|------|-------------------|--------------------------------------|
|     |               |                       |                           |        |       | Flip | Positive Polarity |                                      |
| 1   | 476830060     | LOFBAR000090FOXA      | Load Cell Row 10 Column 9 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.090 |
| 2   | 476830010     | LOFBAR000080FOXA      | Load Cell Row 10 Column 8 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.080 |
| 3   | 476830084     | LOFBAR000070FOXA      | Load Cell Row 10 Column 7 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.070 |
| 4   | 476830054     | LOFBAR000060FOXA      | Load Cell Row 10 Column 6 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.060 |
| 5   | 476830014     | LOFBAR000050FOXA      | Load Cell Row 10 Column 5 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.050 |
| 6   | 476830072     | LOFBAR000040FOXA      | Load Cell Row 10 Column 4 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.040 |
| 7   | 476830013     | LOFBAR000030FOXA      | Load Cell Row 10 Column 3 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.030 |
| 8   | 476830007     | LOFBAR000020FOXA      | Load Cell Row 10 Column 2 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.020 |
| 9   | 476830068     | LOFBAR000010FOXA      | Load Cell Row 10 Column 1 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.010 |
| 10  | 476830022     | LOFBAR000089FOXA      | Load Cell Row 9 Column 9  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.089 |
| 11  | 476830079     | LOFBAR000079FOXA      | Load Cell Row 9 Column 8  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.079 |
| 12  | 476830056     | LOFBAR000069FOXA      | Load Cell Row 9 Column 7  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.069 |
| 13  | 476830024     | LOFBAR000059FOXA      | Load Cell Row 9 Column 6  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.059 |
| 14  | 476830006     | LOFBAR000049FOXA      | Load Cell Row 9 Column 5  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.049 |
| 15  | 476830029     | LOFBAR000039FOXA      | Load Cell Row 9 Column 4  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.039 |
| 16  | 476830021     | LOFBAR000029FOXA      | Load Cell Row 9 Column 3  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.029 |
| 17  | 476830034     | LOFBAR000019FOXA      | Load Cell Row 9 Column 2  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.019 |
| 18  | 476830065     | LOFBAR000009FOXA      | Load Cell Row 9 Column 1  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.009 |
| 19  | 476830062     | LOFBAR000088FOXA      | Load Cell Row 8 Column 9  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.088 |
| 20  | 476830045     | LOFBAR000078FOXA      | Load Cell Row 8 Column 8  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.078 |
| 21  | 476830085     | LOFBAR000068FOXA      | Load Cell Row 8 Column 7  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.068 |
| 22  | 476830041     | LOFBAR000058FOXA      | Load Cell Row 8 Column 6  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.058 |
| 23  | 476830001     | LOFBAR000048FOXA      | Load Cell Row 8 Column 5  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.048 |
| 24  | 476830059     | LOFBAR000038FOXA      | Load Cell Row 8 Column 4  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.038 |
| 25  | 476830003     | LOFBAR000028FOXA      | Load Cell Row 8 Column 3  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.028 |
| 26  | 476830017     | LOFBAR000018FOXA      | Load Cell Row 8 Column 2  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.018 |
| 27  | 476830082     | LOFBAR000008FOXA      | Load Cell Row 8 Column 1  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.008 |
| 28  | 476830078     | LOFBAR000087FOXA      | Load Cell Row 7 Column 9  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.087 |
| 29  | 476830025     | LOFBAR000077FOXA      | Load Cell Row 7 Column 8  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.077 |
| 30  | 476830055     | LOFBAR000067FOXA      | Load Cell Row 7 Column 7  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.067 |
| 31  | 476830004     | LOFBAR000057FOXA      | Load Cell Row 7 Column 6  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.057 |
| 32  | 476830048     | LOFBAR000047FOXA      | Load Cell Row 7 Column 5  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.047 |
| 33  | 476830052     | LOFBAR000037FOXA      | Load Cell Row 7 Column 4  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.037 |
| 34  | 476830051     | LOFBAR000027FOXA      | Load Cell Row 7 Column 3  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.027 |
| 35  | 476830088     | LOFBAR000017FOXA      | Load Cell Row 7 Column 2  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.017 |
| 36  | 476830036     | LOFBAR000007FOXA      | Load Cell Row 7 Column 1  | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.007 |

# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID | ISO Signal Identifier | Description              | FScale | Units | DAS  |                   | Assembly                             |
|-----|---------------|-----------------------|--------------------------|--------|-------|------|-------------------|--------------------------------------|
|     |               |                       |                          |        |       | Flip | Positive Polarity |                                      |
| 37  | 476830035     | L0FBAR000086FOXA      | Load Cell Row 6 Column 9 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.086 |
| 38  | 476830039     | L0FBAR000076FOXA      | Load Cell Row 6 Column 8 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.076 |
| 39  | 476830073     | L0FBAR000066FOXA      | Load Cell Row 6 Column 7 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.066 |
| 40  | 476830091     | L0FBAR000056FOXA      | Load Cell Row 6 Column 6 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.056 |
| 41  | 476830058     | L0FBAR000046FOXA      | Load Cell Row 6 Column 5 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.046 |
| 42  | 476830027     | L0FBAR000036FOXA      | Load Cell Row 6 Column 4 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.036 |
| 43  | 476830067     | L0FBAR000026FOXA      | Load Cell Row 6 Column 3 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.026 |
| 44  | 476830043     | L0FBAR000016FOXA      | Load Cell Row 6 Column 2 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.016 |
| 45  | 476830038     | L0FBAR000006FOXA      | Load Cell Row 6 Column 1 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.006 |
| 46  | 476830031     | L0FBAR000085FOXA      | Load Cell Row 5 Column 9 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.085 |
| 47  | 476830030     | L0FBAR000075FOXA      | Load Cell Row 5 Column 8 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.075 |
| 48  | 476830090     | L0FBAR000065FOXA      | Load Cell Row 5 Column 7 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.065 |
| 49  | 476830087     | L0FBAR000055FOXA      | Load Cell Row 5 Column 6 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.055 |
| 50  | 476830049     | L0FBAR000045FOXA      | Load Cell Row 5 Column 5 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.045 |
| 51  | 476830063     | L0FBAR000035FOXA      | Load Cell Row 5 Column 4 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.035 |
| 52  | 476830009     | L0FBAR000025FOXA      | Load Cell Row 5 Column 3 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.025 |
| 53  | 476830015     | L0FBAR000015FOXA      | Load Cell Row 5 Column 2 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.015 |
| 54  | 476830044     | L0FBAR000005FOXA      | Load Cell Row 5 Column 1 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.005 |
| 55  | 476830092     | L0FBAR000084FOXA      | Load Cell Row 4 Column 9 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.084 |
| 56  | 476830057     | L0FBAR000074FOXA      | Load Cell Row 4 Column 8 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.074 |
| 57  | 476830050     | L0FBAR000064FOXA      | Load Cell Row 4 Column 7 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.064 |
| 58  | 476830064     | L0FBAR000054FOXA      | Load Cell Row 4 Column 6 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.054 |
| 59  | 476830076     | L0FBAR000044FOXA      | Load Cell Row 4 Column 5 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.044 |
| 60  | 476830075     | L0FBAR000034FOXA      | Load Cell Row 4 Column 4 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.034 |
| 61  | 476830026     | L0FBAR000024FOXA      | Load Cell Row 4 Column 3 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.024 |
| 62  | 476830012     | L0FBAR000014FOXA      | Load Cell Row 4 Column 2 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.014 |
| 63  | 476830071     | L0FBAR000004FOXA      | Load Cell Row 4 Column 1 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.004 |
| 64  | 476830033     | L0FBAR000083FOXA      | Load Cell Row 3 Column 9 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.083 |
| 65  | 476830047     | L0FBAR000073FOXA      | Load Cell Row 3 Column 8 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.073 |
| 66  | 476830061     | L0FBAR000063FOXA      | Load Cell Row 3 Column 7 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.063 |
| 67  | 476830083     | L0FBAR000053FOXA      | Load Cell Row 3 Column 6 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.053 |
| 68  | 476830053     | L0FBAR000043FOXA      | Load Cell Row 3 Column 5 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.043 |
| 69  | 476830070     | L0FBAR000033FOXA      | Load Cell Row 3 Column 4 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.033 |
| 70  | 476830089     | L0FBAR000023FOXA      | Load Cell Row 3 Column 3 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.023 |
| 71  | 476830023     | L0FBAR000013FOXA      | Load Cell Row 3 Column 2 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.013 |
| 72  | 476830086     | L0FBAR000003FOXA      | Load Cell Row 3 Column 1 | 311376 | N     | +    | Tension force     | 0-Barrier VRTC 90 channel Offset.003 |

# Channel Report Test Number 060328-1 R60328

| Ref | Transducer ID | ISO Signal Identifier | Description              | FScale | Units | DAS<br>Flip | Positive Polarity | Assembly                             |
|-----|---------------|-----------------------|--------------------------|--------|-------|-------------|-------------------|--------------------------------------|
| 73  | 476830046     | L0FBAR000082FOXA      | Load Cell Row 2 Column 9 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.082 |
| 74  | 476830074     | L0FBAR000072FOXA      | Load Cell Row 2 Column 8 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.072 |
| 75  | 476830005     | L0FBAR000062FOXA      | Load Cell Row 2 Column 7 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.062 |
| 76  | 476830037     | L0FBAR000052FOXA      | Load Cell Row 2 Column 6 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.052 |
| 77  | 476830011     | L0FBAR000042FOXA      | Load Cell Row 2 Column 5 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.042 |
| 78  | 476830042     | L0FBAR000032FOXA      | Load Cell Row 2 Column 4 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.032 |
| 79  | 476830016     | L0FBAR000022FOXA      | Load Cell Row 2 Column 3 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.022 |
| 80  | 476830080     | L0FBAR000012FOXA      | Load Cell Row 2 Column 2 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.012 |
| 81  | 476830008     | L0FBAR000002FOXA      | Load Cell Row 2 Column 1 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.002 |
| 82  | 476830020     | L0FBAR000081FOXA      | Load Cell Row 1 Column 9 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.081 |
| 83  | 476830093     | L0FBAR000071FOXA      | Load Cell Row 1 Column 8 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.071 |
| 84  | 476830040     | L0FBAR000061FOXA      | Load Cell Row 1 Column 7 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.061 |
| 85  | 476830032     | L0FBAR000051FOXA      | Load Cell Row 1 Column 6 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.051 |
| 86  | 476830028     | L0FBAR000041FOXA      | Load Cell Row 1 Column 5 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.041 |
| 87  | 476830019     | L0FBAR000031FOXA      | Load Cell Row 1 Column 4 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.031 |
| 88  | 476830018     | L0FBAR000021FOXA      | Load Cell Row 1 Column 3 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.021 |
| 89  | 476830069     | L0FBAR000011FOXA      | Load Cell Row 1 Column 2 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.011 |
| 90  | 476830002     | L0FBAR000001FOXA      | Load Cell Row 1 Column 1 | 311376 | N     | +           | Tension force     | 0-Barrier VRTC 90 channel Offset.001 |

# Command File Test Number 060328-1

| Channel   Mnemonic   | Channel Title                         | Filter Class | Flip | Zero | Full Scale |
|----------------------|---------------------------------------|--------------|------|------|------------|
| 1 11HEADCG00H3ACXA   | Head Accel X                          | 1000         | +    | yes  | 1000       |
| 2 11HEADCG00H3ACYA   | Head Accel Y                          | 1000         | +    | yes  | 1000       |
| 3 11HEADCG00H3ACZA   | Head Accel Z                          | 1000         | +    | yes  | 1000       |
| 3A 11HEADCG00H3ACRA  | Head Resultant Acceleration           | 1000         |      |      |            |
| 4 11HEADCGRDH3ACXA   | Head Accel X Redundant                | 1000         | +    | yes  | 1000       |
| 5 11HEADCGRDH3ACYA   | Head Accel Y Redundant                | 1000         | +    | yes  | 1000       |
| 6 11HEADCGRDH3ACZA   | Head Accel Z Redundant                | 1000         | +    | yes  | 1000       |
| 6A 11HEADCGRDH3ACRA  | Head Redundant Resultant Acceleration | 1000         |      |      |            |
| 7 11HEADFR00H3ACYA   | Head (FT) Accel Y                     | 1000         | +    | yes  | 1000       |
| 8 11HEADFR00H3ACZA   | Head (FT) Accel Z                     | 1000         | +    | yes  | 1000       |
| 9 11HEADUP00H3ACXA   | Head (TP) Accel X                     | 1000         | +    | yes  | 1000       |
| 10 11HEADUP00H3ACYA  | Head (TP) Accel Y                     | 1000         | +    | yes  | 1000       |
| 11 11HEADLE00H3ACXA  | Head (LT) Accel X                     | 1000         | +    | yes  | 1000       |
| 12 11HEADLE00H3ACZA  | Head (LT) Accel Z                     | 1000         | +    | yes  | 1000       |
| 13 11NECKUP00H3FOXA  | Neck Force X                          | 1000         | +    | yes  | 8896.4     |
| 14 11NECKUP00H3FOYA  | Neck Force Y                          | 1000         | +    | yes  | 8896.4     |
| 15 11NECKUP00H3FOZA  | Neck Force Z                          | 1000         | +    | yes  | 13344      |
| 16 11NECKUP00H3MOXA  | Neck Moment X                         | 600          | +    | yes  | 282        |
| 17 11NECKUP00H3MOYA  | Neck Moment Y                         | 600          | +    | yes  | 282        |
| 18 11NECKUP00H3MOZA  | Neck Moment Z                         | 600          | +    | yes  | 282        |
| 19 11NECKLO00H3FOXA  | Neck Lower Force X                    | 1000         | +    | yes  | 13344      |
| 20 11NECKLO00H3FOYA  | Neck Lower Force Y                    | 1000         | +    | yes  | 13344      |
| 21 11NECKLO00H3FOZA  | Neck Lower Force Z                    | 1000         | +    | yes  | 13344      |
| 22 11NECKLO00H3MOXA  | Neck Lower Moment X                   | 600          | +    | yes  | 452        |
| 23 11NECKLO00H3MOYA  | Neck Lower Moment Y                   | 600          | +    | yes  | 452        |
| 24 11NECKLO00H3MOZA  | Neck Lower Moment Z                   | 600          | +    | yes  | 451.9      |
| 25 11CHSTCG00H3ACXA  | Chest Accel X                         | 180          | +    | yes  | 1000       |
| 26 11CHSTCG00H3ACYA  | Chest Accel Y                         | 180          | +    | yes  | 1000       |
| 27 11CHSTCG00H3ACZA  | Chest Accel Z                         | 180          | +    | yes  | 1000       |
| 27A 11CHSTCG00H3ACRA | Chest Resultant Acceleration          | 180          |      |      |            |
| 28 11CHSTCGRDH3ACXA  | Chest Accel X Redundant               | 180          | +    | yes  | 1000       |



# Command File Test Number 060328-1

| Channel   Mnemonic   | Channel Title                          | Filter Class | Flip | Zero | Full Scale |
|----------------------|----------------------------------------|--------------|------|------|------------|
| 29 11CHSTCGRDH3ACYA  | Chest Accel Y Redundant                | 180          | +    | yes  | 1000       |
| 30 11CHSTCGRDH3ACZA  | Chest Accel Z Redundant                | 180          | +    | yes  | 1000       |
| 30A 11CHSTCGRDH3ACRA | Chest Redundant Resultant Acceleration | 180          |      |      |            |
| 31 11CHST0000H3DSXA  | Chest Deflection X                     | 600          | -    | yes  | 100        |
| 32 11FEMRLL00H3FOZA  | Left Femur Force Z                     | 600          | +    | yes  | 13344      |
| 33 11FEMRRL00H3FOZA  | Right Femur Force Z                    | 600          | +    | yes  | 13344      |
| 34 11KNSLLE00H3DSXA  | Left Knee Displacement X               | 180          | +    | yes  | 22         |
| 35 11TIBILULXH3FOXA  | Left Upper Tibia Force X               | 600          | +    | yes  | 11120      |
| 36 11TIBILULXH3FOYA  | Left Upper Tibia Force Y               | 600          | +    | yes  | 11120      |
| 37 11TIBILULXH3FOZA  | Left Upper Tibia Force Z               | 600          | +    | yes  | 11120      |
| 38 11TIBILULXH3MOXA  | Left Upper Tibia Moment X              | 600          | +    | yes  | 395.4      |
| 39 11TIBILULXH3MOYA  | Left Upper Tibia Moment Y              | 600          | +    | yes  | 395.4      |
| 40 11TIBILELXH3ACXA  | Left Tibia Accel X                     | 1000         | +    | yes  | 1000       |
| 41 11TIBILELXH3ACYA  | Left Tibia Accel Y                     | 1000         | +    | yes  | 1000       |
| 42 11TIBILLXXH3FOXA  | Left Lower Tibia Force X               | 600          | +    | yes  | 11120      |
| 43 11TIBILLXXH3FOYA  | Left Lower Tibia Force Y               | 600          | +    | yes  | 11120      |
| 44 11TIBILLXXH3FOZA  | Left Lower Tibia Force Z               | 600          | +    | yes  | 11120      |
| 45 11TIBILLXXH3MOXA  | Left Lower Tibia Moment X              | 600          | +    | yes  | 395.4      |
| 46 11TIBILLXXH3MOYA  | Left Lower Tibia Moment Y              | 600          | +    | yes  | 395.4      |
| 47 11FOOTLELXH3ANXA  | Left Foot Angular Displacement X       | 180          | +    | no   | 164.4      |
| 48 11FOOTLELXH3ANYA  | Left Foot Angular Displacement Y       | 180          | +    | no   | 163.4      |
| 49 11FOOTLELXH3ANZA  | Left Foot Angular Displacement Z       | 180          | +    | no   | 163.8      |
| 50 11FOOTLELXH3ACXA  | Left Foot Accel X                      | 1000         | +    | yes  | 1000       |
| 51 11FOOTLELXH3ACYA  | Left Foot Accel Y                      | 1000         | +    | yes  | 1000       |
| 52 11FOOTLELXH3ACZA  | Left Foot Accel Z                      | 1000         | +    | yes  | 1000       |
| 52A 11FOOTLELXH3ACRA | Left Foot Resultant Acceleration       | 1000         |      |      |            |
| 53 11KNSLRI00H3DSXA  | Right Knee Displacement X              | 180          | +    | yes  | 22         |
| 54 11TIBIRULXH3FOXA  | Right Upper Tibia Force X              | 600          | +    | yes  | 11120      |
| 55 11TIBIRLUXH3FOYA  | Right Upper Tibia Force Y              | 600          | +    | yes  | 11120      |
| 56 11TIBIRULXH3FOZA  | Right Upper Tibia Force Z              | 600          | +    | yes  | 11120      |
| 57 11TIBIRULXH3MOXA  | Right Upper Tibia Moment X             | 600          | +    | yes  | 396        |

# Command File Test Number 060328-1

| Channel   Mnemonic   | Channel Title                                       | Filter Class | Flip | Zero | Full Scale |
|----------------------|-----------------------------------------------------|--------------|------|------|------------|
| 58 11TIBIRULXH3MOYA  | Right Upper Tibia Moment Y                          | 600          | +    | yes  | 396        |
| 59 11TIBIRILXH3ACXA  | Right Tibia Accel X                                 | 1000         | +    | yes  | 1000       |
| 60 11TIBIRILXH3ACYA  | Right Tibia Accel Y                                 | 1000         | +    | yes  | 1000       |
| 61 11TIBIRLLXH3FOXA  | Right Lower Tibia Force X                           | 600          | +    | yes  | 11120      |
| 62 11TIBIRLLXH3FOYA  | Right Lower Tibia Force Y                           | 600          | +    | yes  | 11120      |
| 63 11TIBIRLLXH3FOZA  | Right Lower Tibia Force Z                           | 600          | +    | yes  | 11120      |
| 64 11TIBIRLLXH3MOXA  | Right Lower Tibia Moment X                          | 600          | +    | yes  | 395.4      |
| 65 11TIBIRLLXH3MOYA  | Right Lower Tibia Moment Y                          | 600          | +    | yes  | 395.4      |
| 66 11FOOTRILXH3ANXA  | Right Foot Angular Displacement X                   | 180          | +    | no   | 163.5      |
| 67 11FOOTRILXH3ANYA  | Right Foot Angular Displacement Y                   | 180          | +    | no   | 163.8      |
| 68 11FOOTRILXH3ANZA  | Right Foot Angular Displacement Z                   | 180          | +    | no   | 163.6      |
| 69 11FOOTRILXH3ACXA  | Right Foot Accel X                                  | 1000         | +    | yes  | 1000       |
| 70 11FOOTRILXH3ACYA  | Right Foot Accel Y                                  | 1000         | +    | yes  | 1000       |
| 71 11FOOTRILXH3ACZA  | Right Foot Accel Z                                  | 1000         | +    | yes  | 1000       |
| 71A 11FOOTRILXH3ACRA | Right Foot Resultant Acceleration                   | 1000         |      |      |            |
| 72 14CRME000000ACXA  | Left Rear Seat Cross-member X-axis Acceleration     | 60           | +    | yes  | 1000       |
| 73 16CRME000000ACXA  | Right Rear Seat Cross-member X-axis Acceleration    | 60           | +    | yes  | 1000       |
| 74 14CRME000000ACYA  | Left Rear Seat Cross-member Y-axis Acceleration     | 60           | +    | yes  | 1000       |
| 75 16CRME000000ACYA  | Right Rear Seat Cross-member Y-axis Acceleration    | 60           | +    | yes  | 1000       |
| 76 12ENGNTPO0000ACXA | Top of Engine Block X-axis acceleration             | 60           | +    | yes  | 1500       |
| 77 12ENGNB00000ACXA  | Bottom of Engine Block X-axis acceleration          | 60           | +    | yes  | 1500       |
| 78 13VEHCRI0000ACXA  | Right Brake Caliper X-axis Acceleration             | 60           | +    | yes  | 1500       |
| 79 11VEHCLE0000ACXA  | Left Brake Caliper X-axis Acceleration              | 60           | +    | yes  | 1500       |
| 80 12DASH000000ACXA  | Instrument Panel X-axis Acceleration                | 60           | +    | yes  | 1500       |
| 81 11SETR000000ACXA  | Left Side Driver mid seat track X-axis acceleration | 60           | +    | yes  | 1000       |
| 82 10VEHCCG0000ACXA  | Vehicle CG X-axis Acceleration                      | 60           | +    | yes  | 1000       |
| 82A 10VEHCCG0000VEXA | Vehicle CG X-axis Velocity                          | 180          |      |      |            |
| 82B 10VEHCCG0000DCXA | Vehicle CG X-axis Displacement                      | 180          |      |      |            |
| 83 10VEHCCG0000ACYA  | Vehicle CG Y-axis Acceleration                      | 60           | +    | yes  | 1000       |
| 83A 10VEHCCG0000VEYA | Vehicle CG Y-axis Velocity                          | 180          |      |      |            |
| 83B 10VEHCCG0000DCYA | Vehicle CG Y-axis Displacement                      | 180          |      |      |            |

# Command File Test Number 060328-1

| Channel   Mnemonic   | Channel Title                     | Filter Class | Flip | Zero | Full Scale |
|----------------------|-----------------------------------|--------------|------|------|------------|
| 84 10VEHCCG0000ACZA  | Vehicle CG Z-axis Acceleration    | 60           | +    | yes  | 1000       |
| 84A 10VEHCCG0000VEZA | Vehicle CG Z-axis Velocity        | 180          |      |      |            |
| 84B 10VEHCCG0000DCZA | Vehicle CG Z-axis Displacement    | 180          |      |      |            |
| 84C 10VEHCCG0000ACRA | Vehicle CG Resultant Acceleration | 60           |      |      |            |
| 85 11AIRBFR0100EV0A  | Driver Front Airbag 1 Ind         | 1000         | +    | no   | 5          |
| 86 11AIRBFR0200EV0A  | Driver Front Airbag 2 Ind         | 1000         | +    | no   | 5          |
| 87 11SEBE0000B5FOOA  | Driver Lap Belt                   | 1000         | +    | yes  | 13500      |
| 88 11SEBE0000B3FOOA  | Driver Shoulder Belt              | 1000         | +    | yes  | 13500      |
| 89 L0FBAR000090FOXA  | Load Cell Row 10 Column 9         | 60           | -    | yes  | 311376     |
| 90 L0FBAR000080FOXA  | Load Cell Row 10 Column 8         | 60           | -    | yes  | 311376     |
| 91 L0FBAR000070FOXA  | Load Cell Row 10 Column 7         | 60           | -    | yes  | 311376     |
| 92 L0FBAR000060FOXA  | Load Cell Row 10 Column 6         | 60           | -    | yes  | 311376     |
| 93 L0FBAR000050FOXA  | Load Cell Row 10 Column 5         | 60           | -    | yes  | 311376     |
| 94 L0FBAR000040FOXA  | Load Cell Row 10 Column 4         | 60           | -    | yes  | 311376     |
| 95 L0FBAR000030FOXA  | Load Cell Row 10 Column 3         | 60           | -    | yes  | 311376     |
| 96 L0FBAR000020FOXA  | Load Cell Row 10 Column 2         | 60           | -    | yes  | 311376     |
| 97 L0FBAR000010FOXA  | Load Cell Row 10 Column 1         | 60           | -    | yes  | 311376     |
| 98 L0FBAR000089FOXA  | Load Cell Row 9 Column 9          | 60           | -    | yes  | 311376     |
| 99 L0FBAR000079FOXA  | Load Cell Row 9 Column 8          | 60           | -    | yes  | 311376     |
| 100 L0FBAR000069FOXA | Load Cell Row 9 Column 7          | 60           | -    | yes  | 311376     |
| 101 L0FBAR000059FOXA | Load Cell Row 9 Column 6          | 60           | -    | yes  | 311376     |
| 102 L0FBAR000049FOXA | Load Cell Row 9 Column 5          | 60           | -    | yes  | 311376     |
| 103 L0FBAR000039FOXA | Load Cell Row 9 Column 4          | 60           | -    | yes  | 311376     |
| 104 L0FBAR000029FOXA | Load Cell Row 9 Column 3          | 60           | -    | yes  | 311376     |
| 105 L0FBAR000019FOXA | Load Cell Row 9 Column 2          | 60           | -    | yes  | 311376     |
| 106 L0FBAR000009FOXA | Load Cell Row 9 Column 1          | 60           | -    | yes  | 311376     |
| 107 L0FBAR000088FOXA | Load Cell Row 8 Column 9          | 60           | -    | yes  | 311376     |
| 108 L0FBAR000078FOXA | Load Cell Row 8 Column 8          | 60           | -    | yes  | 311376     |
| 109 L0FBAR000068FOXA | Load Cell Row 8 Column 7          | 60           | -    | yes  | 311376     |
| 110 L0FBAR000058FOXA | Load Cell Row 8 Column 6          | 60           | -    | yes  | 311376     |
| 111 L0FBAR000048FOXA | Load Cell Row 8 Column 5          | 60           | -    | yes  | 311376     |

# Command File Test Number 060328-1

| Channel   Mnemonic   | Channel Title            | Filter Class | Flip | Zero | Full Scale |
|----------------------|--------------------------|--------------|------|------|------------|
| 112 LOFBAR000038FOXA | Load Cell Row 8 Column 4 | 60           | -    | yes  | 311376     |
| 113 LOFBAR000028FOXA | Load Cell Row 8 Column 3 | 60           | -    | yes  | 311376     |
| 114 LOFBAR000018FOXA | Load Cell Row 8 Column 2 | 60           | -    | yes  | 311376     |
| 115 LOFBAR000008FOXA | Load Cell Row 8 Column 1 | 60           | -    | yes  | 311376     |
| 116 LOFBAR000087FOXA | Load Cell Row 7 Column 9 | 60           | -    | yes  | 311376     |
| 117 LOFBAR000077FOXA | Load Cell Row 7 Column 8 | 60           | -    | yes  | 311376     |
| 118 LOFBAR000067FOXA | Load Cell Row 7 Column 7 | 60           | -    | yes  | 311376     |
| 119 LOFBAR000057FOXA | Load Cell Row 7 Column 6 | 60           | -    | yes  | 311376     |
| 120 LOFBAR000047FOXA | Load Cell Row 7 Column 5 | 60           | -    | yes  | 311376     |
| 121 LOFBAR000037FOXA | Load Cell Row 7 Column 4 | 60           | -    | yes  | 311376     |
| 122 LOFBAR000027FOXA | Load Cell Row 7 Column 3 | 60           | -    | yes  | 311376     |
| 123 LOFBAR000017FOXA | Load Cell Row 7 Column 2 | 60           | -    | yes  | 311376     |
| 124 LOFBAR000007FOXA | Load Cell Row 7 Column 1 | 60           | -    | yes  | 311376     |
| 125 LOFBAR000086FOXA | Load Cell Row 6 Column 9 | 60           | -    | yes  | 311376     |
| 126 LOFBAR000076FOXA | Load Cell Row 6 Column 8 | 60           | -    | yes  | 311376     |
| 127 LOFBAR000066FOXA | Load Cell Row 6 Column 7 | 60           | -    | yes  | 311376     |
| 128 LOFBAR000056FOXA | Load Cell Row 6 Column 6 | 60           | -    | yes  | 311376     |
| 129 LOFBAR000046FOXA | Load Cell Row 6 Column 5 | 60           | -    | yes  | 311376     |
| 130 LOFBAR000036FOXA | Load Cell Row 6 Column 4 | 60           | -    | yes  | 311376     |
| 131 LOFBAR000026FOXA | Load Cell Row 6 Column 3 | 60           | -    | yes  | 311376     |
| 132 LOFBAR000016FOXA | Load Cell Row 6 Column 2 | 60           | -    | yes  | 311376     |
| 133 LOFBAR000006FOXA | Load Cell Row 6 Column 1 | 60           | -    | yes  | 311376     |
| 134 LOFBAR000085FOXA | Load Cell Row 5 Column 9 | 60           | -    | yes  | 311376     |
| 135 LOFBAR000075FOXA | Load Cell Row 5 Column 8 | 60           | -    | yes  | 311376     |
| 136 LOFBAR000065FOXA | Load Cell Row 5 Column 7 | 60           | -    | yes  | 311376     |
| 137 LOFBAR000055FOXA | Load Cell Row 5 Column 6 | 60           | -    | yes  | 311376     |
| 138 LOFBAR000045FOXA | Load Cell Row 5 Column 5 | 60           | -    | yes  | 311376     |
| 139 LOFBAR000035FOXA | Load Cell Row 5 Column 4 | 60           | -    | yes  | 311376     |
| 140 LOFBAR000025FOXA | Load Cell Row 5 Column 3 | 60           | -    | yes  | 311376     |
| 141 LOFBAR000015FOXA | Load Cell Row 5 Column 2 | 60           | -    | yes  | 311376     |
| 142 LOFBAR000005FOXA | Load Cell Row 5 Column 1 | 60           | -    | yes  | 311376     |

# **Command File Test Number 060328-1**

| Channel   Mnemonic   | Channel Title            | Filter Class | Flip | Zero | Full Scale |
|----------------------|--------------------------|--------------|------|------|------------|
| 143 L0FBAR000084FOXA | Load Cell Row 4 Column 9 | 60           | -    | yes  | 311376     |
| 144 L0FBAR000074FOXA | Load Cell Row 4 Column 8 | 60           | -    | yes  | 311376     |
| 145 L0FBAR000064FOXA | Load Cell Row 4 Column 7 | 60           | -    | yes  | 311376     |
| 146 L0FBAR000054FOXA | Load Cell Row 4 Column 6 | 60           | -    | yes  | 311376     |
| 147 L0FBAR000044FOXA | Load Cell Row 4 Column 5 | 60           | -    | yes  | 311376     |
| 148 L0FBAR000034FOXA | Load Cell Row 4 Column 4 | 60           | -    | yes  | 311376     |
| 149 L0FBAR000024FOXA | Load Cell Row 4 Column 3 | 60           | -    | yes  | 311376     |
| 150 L0FBAR000014FOXA | Load Cell Row 4 Column 2 | 60           | -    | yes  | 311376     |
| 151 L0FBAR000004FOXA | Load Cell Row 4 Column 1 | 60           | -    | yes  | 311376     |
| 152 L0FBAR000083FOXA | Load Cell Row 3 Column 9 | 60           | -    | yes  | 311376     |
| 153 L0FBAR000073FOXA | Load Cell Row 3 Column 8 | 60           | -    | yes  | 311376     |
| 154 L0FBAR000063FOXA | Load Cell Row 3 Column 7 | 60           | -    | yes  | 311376     |
| 155 L0FBAR000053FOXA | Load Cell Row 3 Column 6 | 60           | -    | yes  | 311376     |
| 156 L0FBAR000043FOXA | Load Cell Row 3 Column 5 | 60           | -    | yes  | 311376     |
| 157 L0FBAR000033FOXA | Load Cell Row 3 Column 4 | 60           | -    | yes  | 311376     |
| 158 L0FBAR000023FOXA | Load Cell Row 3 Column 3 | 60           | -    | yes  | 311376     |
| 159 L0FBAR000013FOXA | Load Cell Row 3 Column 2 | 60           | -    | yes  | 311376     |
| 160 L0FBAR000003FOXA | Load Cell Row 3 Column 1 | 60           | -    | yes  | 311376     |
| 161 L0FBAR000082FOXA | Load Cell Row 2 Column 9 | 60           | -    | yes  | 311376     |
| 162 L0FBAR000072FOXA | Load Cell Row 2 Column 8 | 60           | -    | yes  | 311376     |
| 163 L0FBAR000062FOXA | Load Cell Row 2 Column 7 | 60           | -    | yes  | 311376     |
| 164 L0FBAR000052FOXA | Load Cell Row 2 Column 6 | 60           | -    | yes  | 311376     |
| 165 L0FBAR000042FOXA | Load Cell Row 2 Column 5 | 60           | -    | yes  | 311376     |
| 166 L0FBAR000032FOXA | Load Cell Row 2 Column 4 | 60           | -    | yes  | 311376     |
| 167 L0FBAR000022FOXA | Load Cell Row 2 Column 3 | 60           | -    | yes  | 311376     |
| 168 L0FBAR000012FOXA | Load Cell Row 2 Column 2 | 60           | -    | yes  | 311376     |
| 169 L0FBAR000002FOXA | Load Cell Row 2 Column 1 | 60           | -    | yes  | 311376     |
| 170 L0FBAR000081FOXA | Load Cell Row 1 Column 9 | 60           | -    | yes  | 311376     |
| 171 L0FBAR000071FOXA | Load Cell Row 1 Column 8 | 60           | -    | yes  | 311376     |
| 172 L0FBAR000061FOXA | Load Cell Row 1 Column 7 | 60           | -    | yes  | 311376     |
| 173 L0FBAR000051FOXA | Load Cell Row 1 Column 6 | 60           | -    | yes  | 311376     |

## Command File Test Number 060328-1

| Channel   Mnemonic   | Channel Title            | Filter Class | Flip | Zero | Full Scale |
|----------------------|--------------------------|--------------|------|------|------------|
| 174 L0FBAR000041FOXA | Load Cell Row 1 Column 5 | 60           | -    | yes  | 311376     |
| 175 L0FBAR000031FOXA | Load Cell Row 1 Column 4 | 60           | -    | yes  | 311376     |
| 176 L0FBAR000021FOXA | Load Cell Row 1 Column 3 | 60           | -    | yes  | 311376     |
| 177 L0FBAR000011FOXA | Load Cell Row 1 Column 2 | 60           | -    | yes  | 311376     |
| 178 L0FBAR000001FOXA | Load Cell Row 1 Column 1 | 60           | -    | yes  | 311376     |



## CERTIFICATE OF CONFORMITY

Certificate No. **24863**  
Serial No. **F1041**

|                     |                          |
|---------------------|--------------------------|
| Product Description | Frontal ODB painted grey |
| Cellbond Part No.   | 70EEVCFI US              |

|   | Test Results | GR No.       | Blk No. |
|---|--------------|--------------|---------|
| 1 | 36209-16     | CHC0303007FH | N/A     |
| 2 | 36303-10     | CHC05046FF   | N/A     |

### Declaration.

The above moving deformable barrier has been manufactured in accordance with the provisions of the European Parliament and Council No 96/79/EC Directive (Regulation ECE R94)

### Additional Information...

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Cellbond Offices  
United Kingdom  
United States of America





EEVC DEFORMABLE FRONTAL BARRIER  
ALUMINIUM HONEYCOMB CERTIFICATION  
STATIC TEST RESULTS

MAIN BLOCK  
Core: 1.8 3/4 3003

Required Crush Strength  
0.308 MPa to 0.342 MPa

Test No: 36209-16

GR No : CHC03-03-007-FH

Block No: N/A

|           | Crush Strength (MPa) |                |                 | RESULT |
|-----------|----------------------|----------------|-----------------|--------|
|           | 6.4 to 9.7 mm        | 9.7 to 13.2 mm | 13.2 to 16.5 mm |        |
| Sample* 1 | 0.3242               | 0.3210         | 0.3117          | PASS   |
| Sample 2  | 0.3170               | 0.3291         | 0.3189          | PASS   |
| Sample 3  | 0.3148               | 0.3162         | 0.3100          | PASS   |
| Sample 4  | 0.3146               | 0.3176         | 0.3134          | PASS   |
| Sample 5  | 0.3159               | 0.3101         | 0.3129          | PASS   |
| Sample 6  | 0.3198               | 0.3201         | 0.3149          | PASS   |
| Sample 7  | 0.3244               | 0.3223         | 0.3097          | PASS   |
| Sample 8  | 0.3278               | 0.3210         | 0.3166          | PASS   |

Seven out of the eight samples must fulfil the crush strength  
requirement in order to pass the block certification

\*Sample size and location as per R94.

**RESULT: PASSED**



# EEVC DEFORMABLE FRONTAL BARRIER MAIN BLOCK

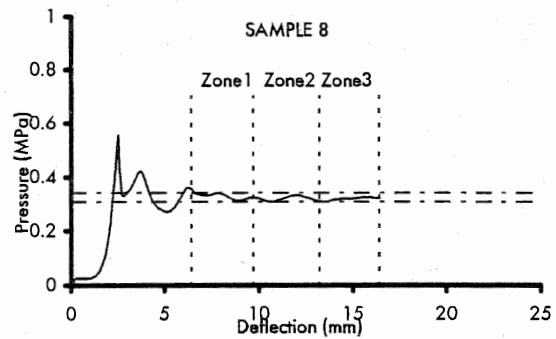
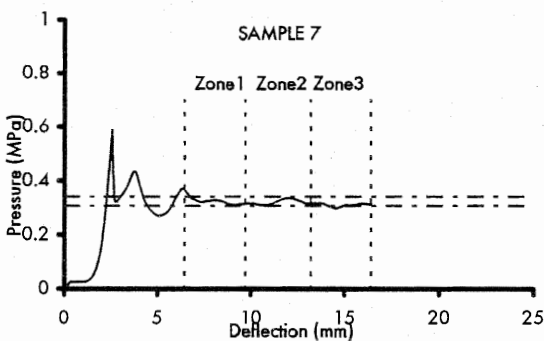
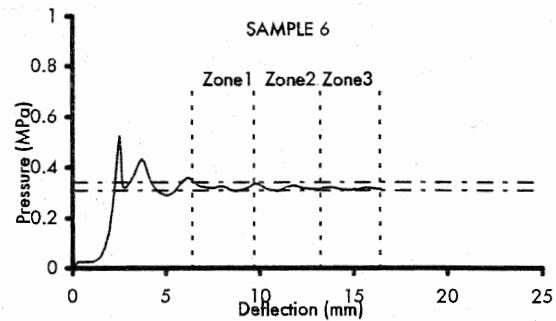
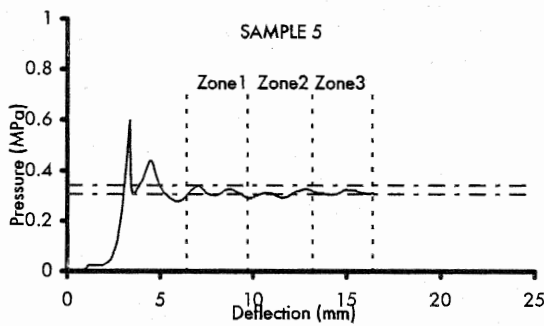
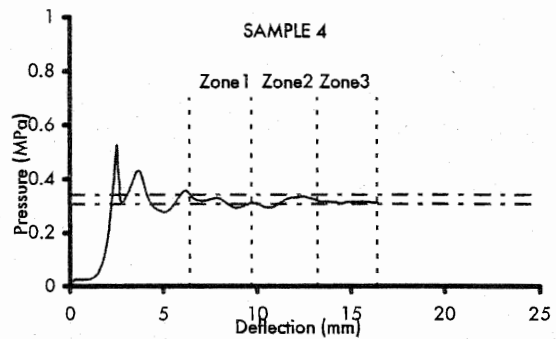
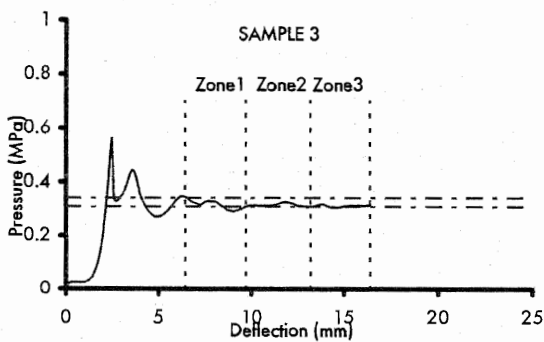
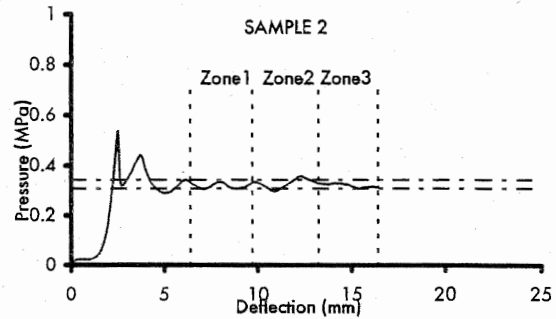
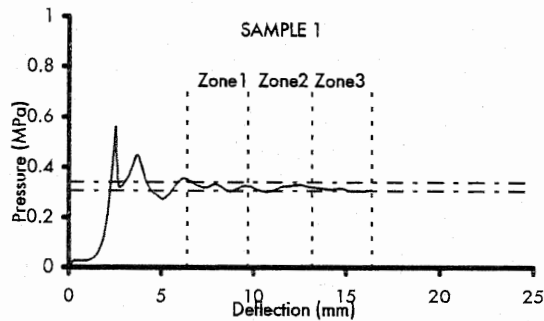
Honeycomb Type: 1.8 3/4 3003  
Higher Acceptable Crush Strength Limit: 0.342 MPa  
Lower Acceptable Crush Strength Limit: 0.308 MPa

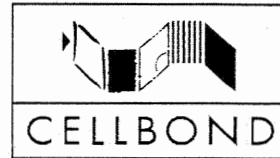
Section 1: 6.4 - 9.7mm  
Section 2: 9.7 - 13.2mm  
Section 3: 13.2 - 16.5mm  
Speed: 6.35 mm/min

Test No: 36209-16

GR No: CHC03-03-007-FH

Block No: N/A





EEVC DEFORMABLE FRONTAL BARRIER  
ALUMINIUM HONEYCOMB CERTIFICATION  
STATIC TEST RESULTS

BUMPER

Core: 5.2 1/4 3003

Required Crush Strength  
1.540 MPa to 1.711 MPa

Test No: 36303-10

GR No: CHC-05-046-FF

Block No: N/A

|           | Crush Strength (MPa) |                |                 | RESULT |
|-----------|----------------------|----------------|-----------------|--------|
|           | 6.4 to 9.7 mm        | 9.7 to 13.2 mm | 13.2 to 16.5 mm |        |
| Sample* 1 | 1.648                | 1.633          | 1.644           | PASS   |
| Sample 2  | 1.594                | 1.607          | 1.601           | PASS   |
| Sample 3  | 1.623                | 1.629          | 1.613           | PASS   |
| Sample 4  | 1.607                | 1.607          | 1.586           | PASS   |
| Sample 5  | 1.612                | 1.606          | 1.588           | PASS   |
| Sample 6  | 1.631                | 1.641          | 1.626           | PASS   |
| Sample 7  | 1.637                | 1.608          | 1.625           | PASS   |
| Sample 8  | 1.611                | 1.613          | 1.613           | PASS   |

Seven out of the eight samples must fulfil the crush strength  
requirement in order to pass the block certification

\*Sample size and location as per R94.

**RESULT: PASSED**

# EEVC DEFORMABLE FRONTAL BARRIER BUMPER

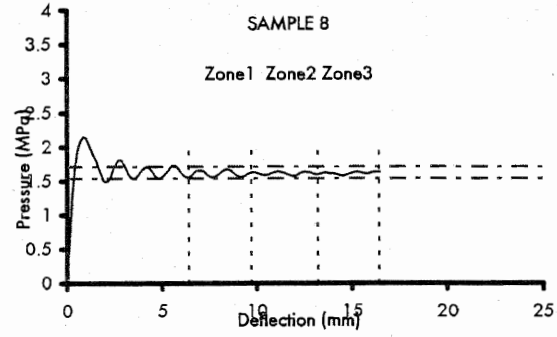
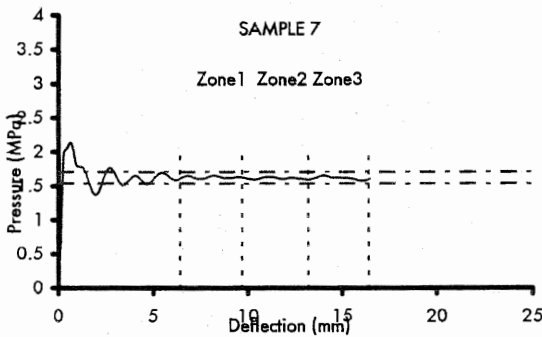
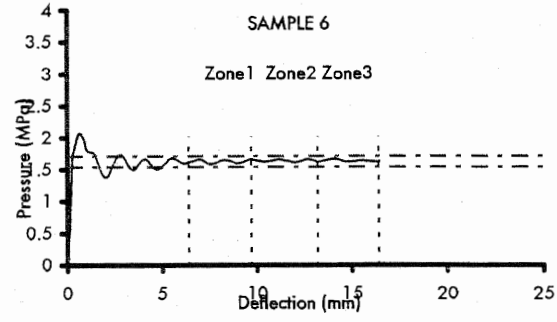
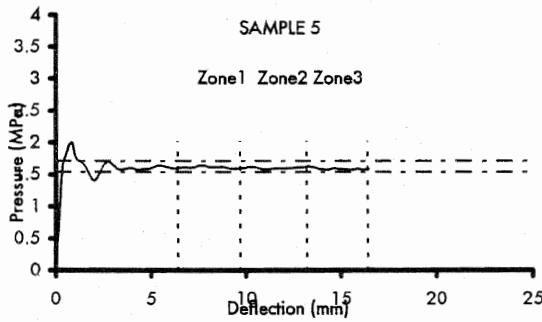
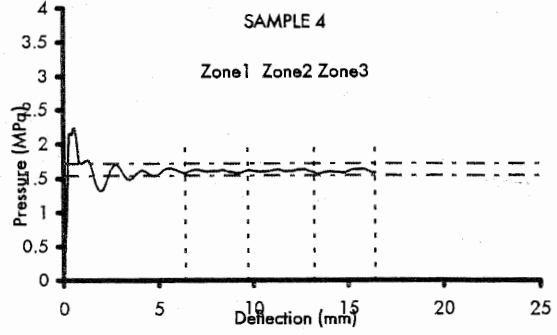
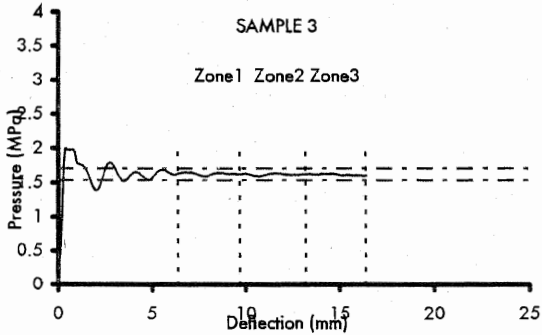
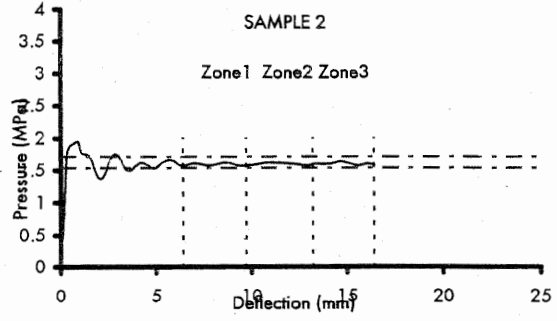
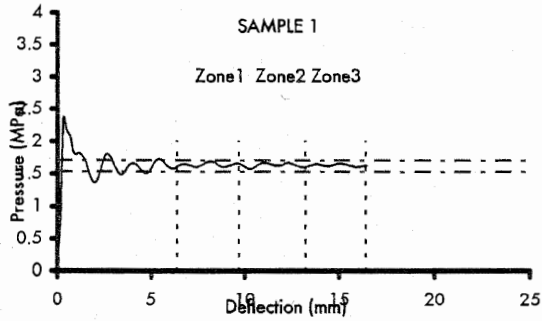
Honeycomb Type: 5.2 1/4 3003  
Higher Acceptable Crush Strength Limit: 1.711 MPa  
Lower Acceptable Crush Strength Limit: 1.540 MPa

Section 1: 6.4 - 9.7mm  
Section 2: 9.7 - 13.2mm  
Section 3: 13.2 - 16.5mm  
Speed: 6.35 mm/min

Test No: 36303-10

GR No: CHC-05-046-FF

Block No: N/A



## **Procedure For Vehicle Interior Intrusion Measurements**

The interior intrusion measurement locations are marked on both the driver and passenger side of the vehicle and are to be recorded using a coordinate measuring machine (CMM). The coordinate system for intrusion measurements is based on SAE J211 vehicle and laboratory coordinates. The X-direction is positive from the left of the vehicle to the right of the vehicle. The Z-direction is positive from the top of the vehicle to the ground. The frame of reference for the vehicle coordinate system is the non-deforming part of the vehicle.

The Contractor shall level the vehicle (Note: do not use suspension) and locate the vehicle coordinate system on a rigid surface of the vehicle's bumper at centerline of the vehicle. The post-test intrusion measurement points shall be measured using the same reference coordinate system by leveling the vehicle to the same pretest condition. The before and after impact measurements are in millimeters in the range -10,000 to 10,000 millimeters. A unique intrusion point number (IPNO) further identifies an intrusion point within each possible intrusion point location. The unique IPNO codes are identified in Table E1. The locations of the toe pan intrusion points are depicted in Figure E1. The Contractor shall record the intrusion measurements described in Figure E1. The COTR reserves the right to modify these measurements and the procedure.

**Table E1: Intrusion Point Numbers (IPNO) Codes**

| Intrusion Point Number (IPNO)<br>Format: Integer | Description                                                                            |
|--------------------------------------------------|----------------------------------------------------------------------------------------|
| 1                                                | Toe pan point A1 (See Figure E1)                                                       |
| 2                                                | Toe pan point B1 (See Figure E1)                                                       |
| 3                                                | Toe pan point C1 (See Figure E1)                                                       |
| 4                                                | Toe pan point D1 (See Figure E1)                                                       |
| 5                                                | Toe pan point A2 (See Figure E1)                                                       |
| 6                                                | Toe pan point B2 (See Figure E1)                                                       |
| 7                                                | Toe pan point C2 (See Figure E1)                                                       |
| 8                                                | Toe pan point D2 (See Figure E1)                                                       |
| 9                                                | Toe pan point A3 (See Figure E1)                                                       |
| 10                                               | Toe pan point B3 (See Figure E1)                                                       |
| 11                                               | Toe pan point C3 (See Figure E1)                                                       |
| 12                                               | Toe pan point D3 (See Figure E1)                                                       |
| 13                                               | Floorboard point A4 (See Figure E1)                                                    |
| 14                                               | Floorboard point B4 (See Figure E1)                                                    |
| 15                                               | Floorboard point C4 (See Figure E1)                                                    |
| 16                                               | Floorboard point D4 (See Figure E1)                                                    |
| 17                                               | Floorboard point A5 (See Figure E1)                                                    |
| 18                                               | Floorboard point B5 (See Figure E1)                                                    |
| 19                                               | Floorboard point C5 (See Figure E1)                                                    |
| 20                                               | Floorboard point D5 (See Figure E1)                                                    |
| 21                                               | Geometric center of brake pedal (See Figure E1)                                        |
| 22                                               | Upper instrument panel (IP) left knee (located above where dummy's knees contact dash) |
| 23                                               | Upper IP right knee (located above where dummy's knees contact dash)                   |
| 24                                               | Steering column                                                                        |
| 25                                               | Front outboard seat attachment point                                                   |

**Procedure for Marking Toe Pan and Floorboard**

1. Locate and mark point D1 (column D row 1): Project a line 45 degrees (from the horizontal) down and forward from the center of the top accelerometer pedal in x-z plane until the line intersects the interior of the vehicle. Mark this point by cutting a small "v" in the carpet and underlying padding and peeling back and exposing the floor. The carpet and padding are then refitted prior to crash.
2. ST plane: The ST plane is a y-z plane that passes through the front edge of the right seat track.
3. AP1 plane: The AP1 plane is a y-z plane that passes through point D1.
4. AP2 plane: The AP2 plane is an x-z plane that passes through point D1.
5. AP3 plane: The AP3 plane is an x-y plane that passes through point D1.
6. MP plane: The MP plane is a y-z plane located halfway between the ST plane and AP1 plane.

7. CF plane: The CF plane is an x-z plane that passes through the center of the footrest. If there is no visible footrest, locate the x-z plane to pass through a point located 64 mm measured along the MP plane in the y-direction from the intersection of the door sill and floorboard.
8. BP plane: The BP plane is an x-z plane that passes through the center of the brake pedal.
9. TP plane: The TP plane is a y-z plane at the intersection of the BP plane and the intersection of the toe pan and floorboard.
10. Column A is at the intersection of the vehicle and the CF plane.
11. Column D is at the intersection of the vehicle and the AP2 plane.
12. Row 1 is at the intersection of the vehicle and the AP3 plane.
13. Row 3 is at the intersection of the vehicle and the TP plane.
14. Row 5 is at the intersection of the vehicle and MP plane.
15. Columns B and C are evenly spaced between Columns A and D.
16. Row 2 is evenly spaced between Row 1 and Row 3.
17. Row 4 is evenly spaced between Row 3 and Row 5.
18. Map and mark additional driver points:
  - a. Mark the center of the brake pedal.
  - b. Mark the left upper IP located above where dummy's knees contact the dash.
  - c. Mark the right upper IP located above where dummy's knees contact the dash.
  - d. Mark the center of the steering wheel.
  - e. Mark the front outboard seat attachment point.
19. Map all driver side toe pan and floorboard points to the passenger side from the center line of the vehicle.
20. Map and mark additional driver points:
  - a. Mark the left upper IP located above where dummy's knees contact dash.
  - b. Mark the right upper IP located above where dummy's knees contact dash.
  - c. Mark the front outboard seat attachment point.

### **Data Submission**

For each intrusion point, six measurements may be taken. The Contractor shall submit a table that describes the data from three pre-test and three post-test measurements in the test report. The data shall be submitted in ENTRÉE format:

- Notes: (1) If no data is taken for one of the coordinate systems please leave blank - do not put a zero.  
 (2) VEHNO denotes Vehicle Number  
 (3) TSTREF denotes Test Reference Number  
 (4) Table E2 defines IPLOC  
 (5) Table E3 defines measurement format

**Table E2: Intrusion Point Location Format**

| Intrusion Point Locations (IPLOC)<br>Format: Text | Description     |
|---------------------------------------------------|-----------------|
| C                                                 | Steering Column |
| D                                                 | Driver Side     |
| P                                                 | Passenger Side  |

**Table E3: Intrusion Measurement Format**

| Intrusion Measurements (Millimeters)<br>Format: Integer | Description                                          |
|---------------------------------------------------------|------------------------------------------------------|
| BIX, BIY, BIZ                                           | Pre-test measurements for x, y, z axis respectively  |
| AIX, AIY, AIZ                                           | Post-test measurements for x, y, z axis respectively |

## Appendix F

### INSIA Report on Structural Measurements





**UPM**



**INSIA**

Compatibility Project  
EEVC - WG15

# **STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY**

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**March, 1999**

**Structural Survey - 1**

**REPORT DOCUMENTATION PAGE****Title:**

*STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY*

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28031 – Madrid – Spain

**Supplementary notes:**

Under contract to:

THE EUROPEAN COMMUNITY

Project: “Improvement of Crash Compatibility between Cars”

Contract N°: RO – 97 – SC.1064

**Abstract:**

The main aim of this working package -*Structural Survey of Cars*- is the reduction of incompatibilities, both structural and geometric, between passenger vehicles and their potential collision partners. The understanding of these incompatibilities needs a previous step for the knowledge of the existing car fleet.

Firstly, it is necessary to select the main resistant elements in the car body. These elements have to be chosen from the point of view of the sort of collision that we want to study, that is to say, frontal and side impacts.

Detailed measurements have been taken from exterior and interior elements, spread to a total number of 74 models selected from the main vehicle manufacturers at Spain. All of them are being sold this year. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars will be defined.

This report shows the methodology followed to get these measurements.

**Subject terms:**

Crash compatibility, geometric compatibility, resistant elements, measure methodology

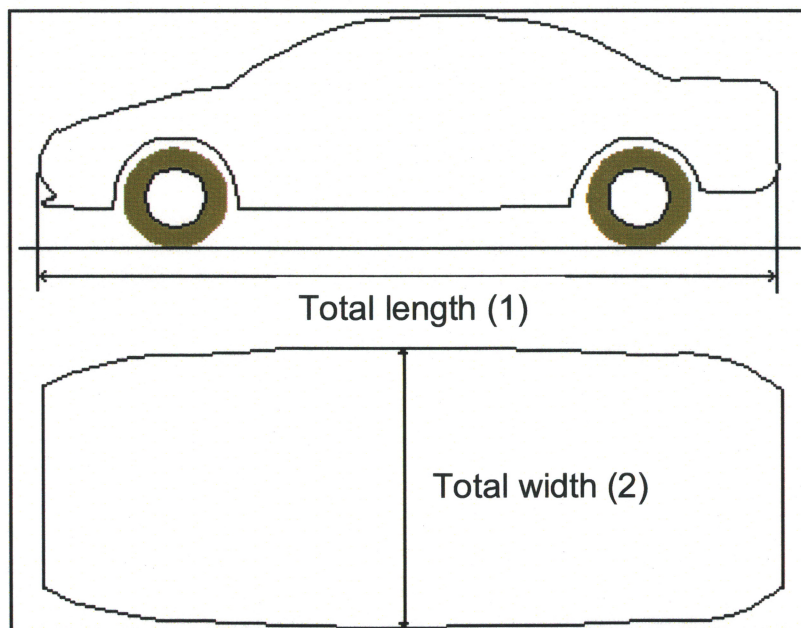
**Date:**

March, 1999



## 1.- METHODOLOGY.

Detailed measurements have been taken from exterior and interior elements. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars have been defined. These elements are presented in the following figures, and have been divided in two main groups according to the vehicle zones studied in this project.



*Figure 1.- Definition of the main resistant elements. General dimensions.*

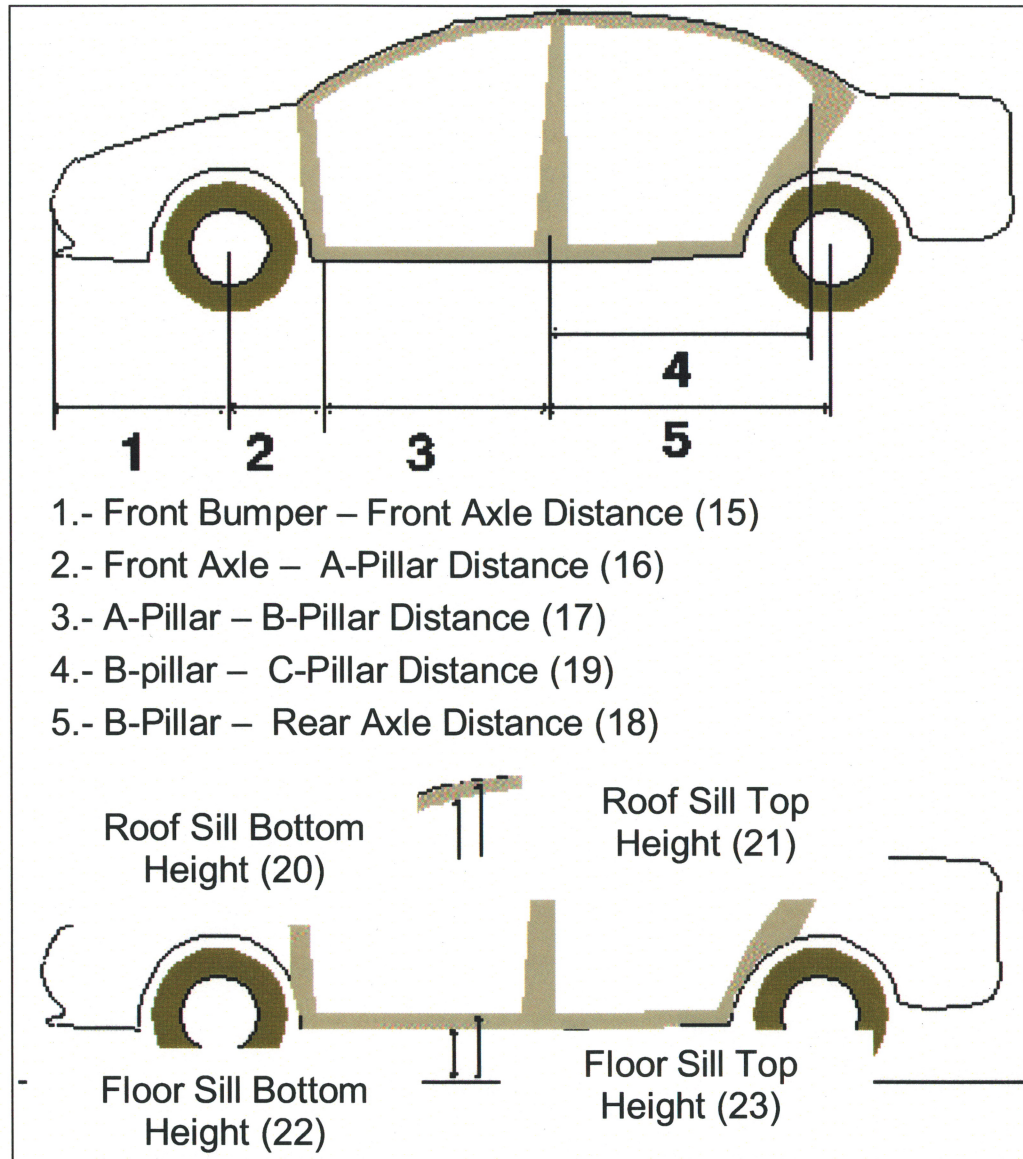


Figure 2.- Definition of the main resistant elements. Side elements.



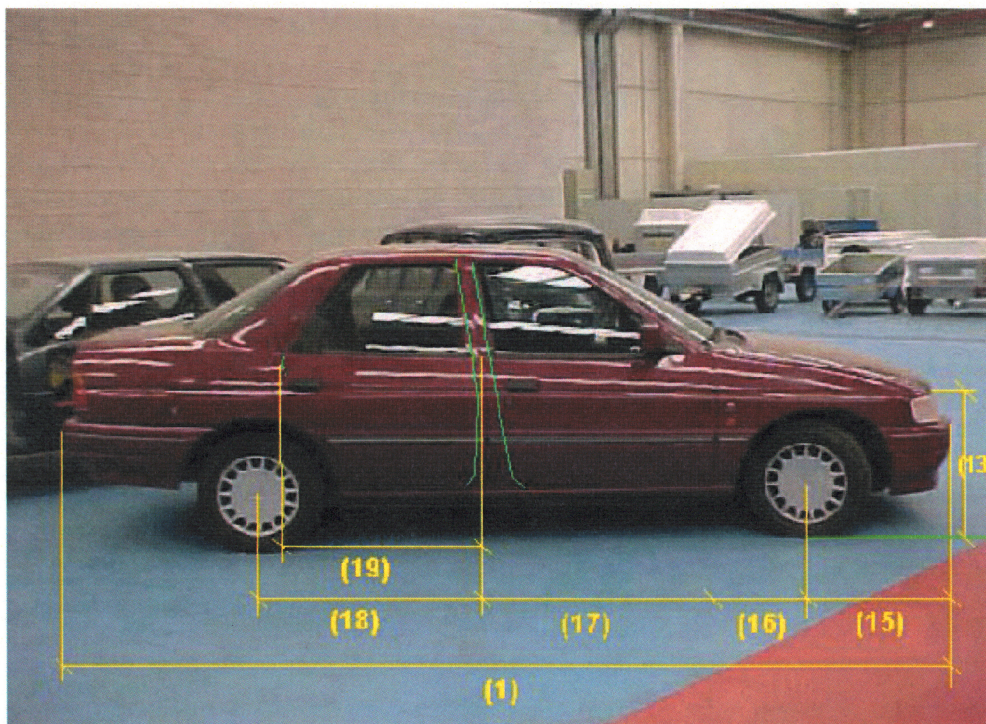
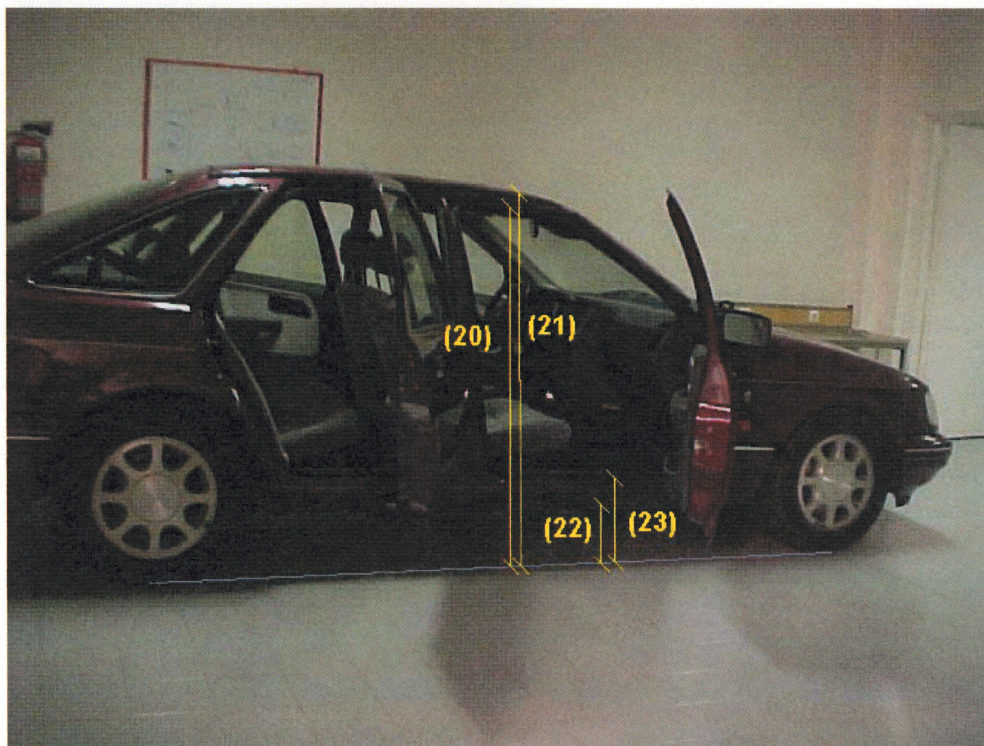


Figure 3.-  
Measurements of  
the side resistant  
elements (outer).

Figure 4.- Measurements  
of the side resistant  
elements (inner).





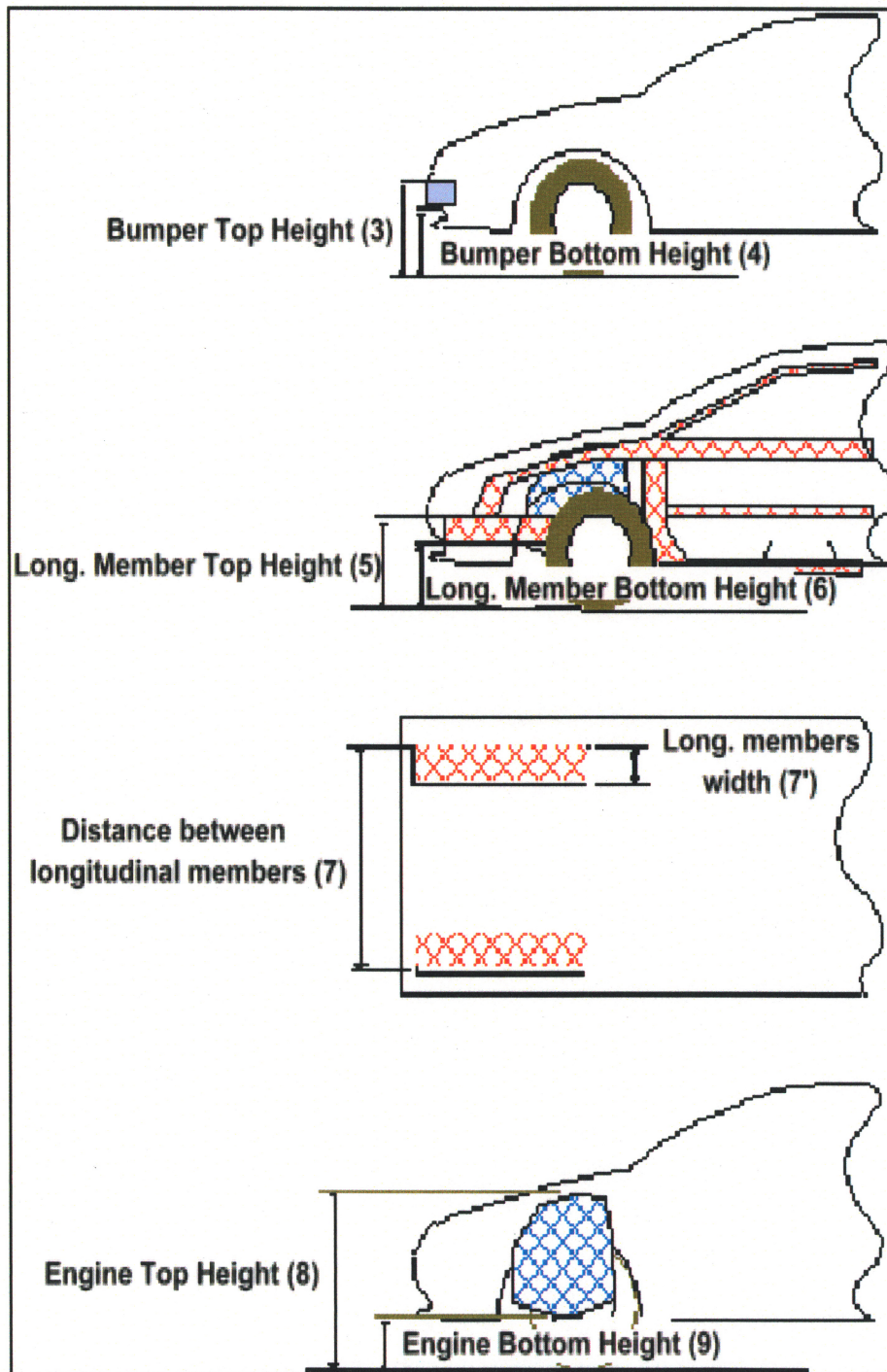


Figure 5.- Definition of the main resistant elements. Front elements.



Figure 6.-  
Measurements of the  
main resistant elements.  
Front elements 1.

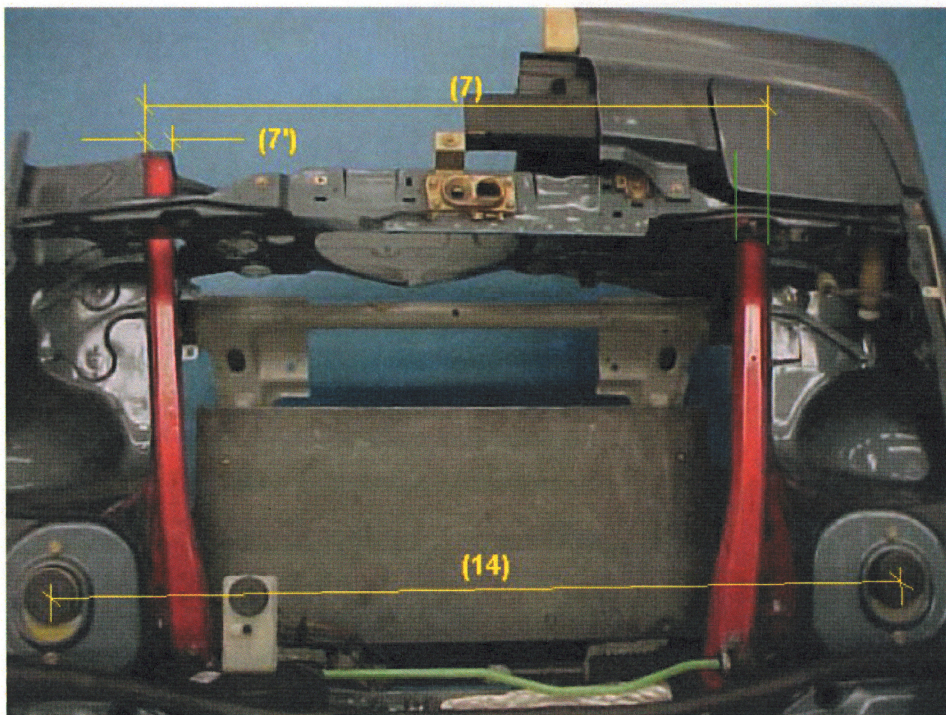
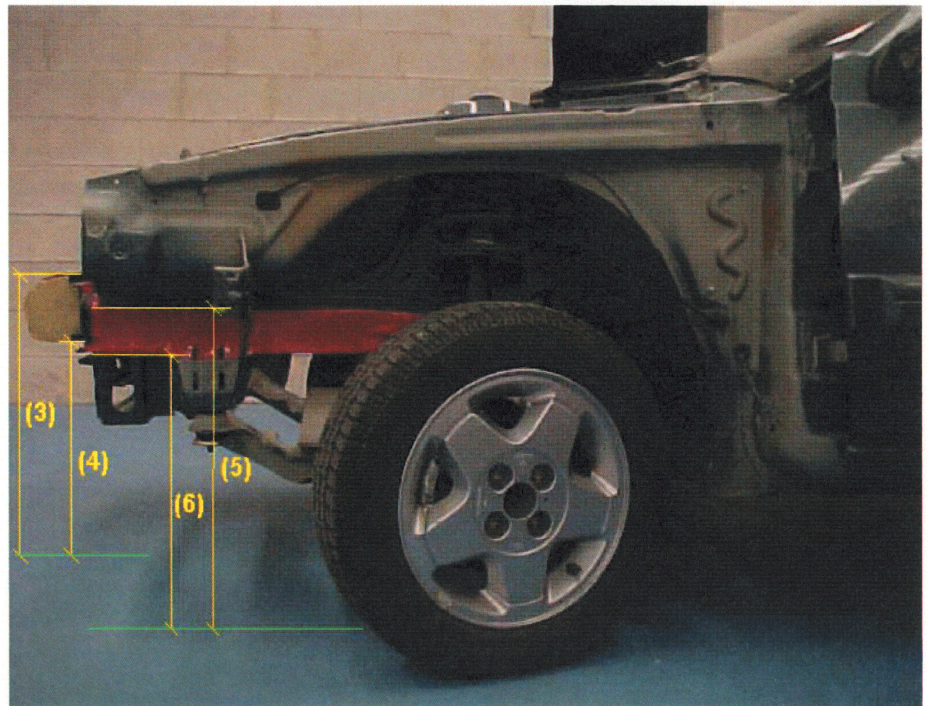


Figure 7.-  
Measurements  
of the main  
resistant  
elements. Front  
elements 2.



Figure 8.-  
Measurements of  
the main resistant  
elements. Front  
elements 3.

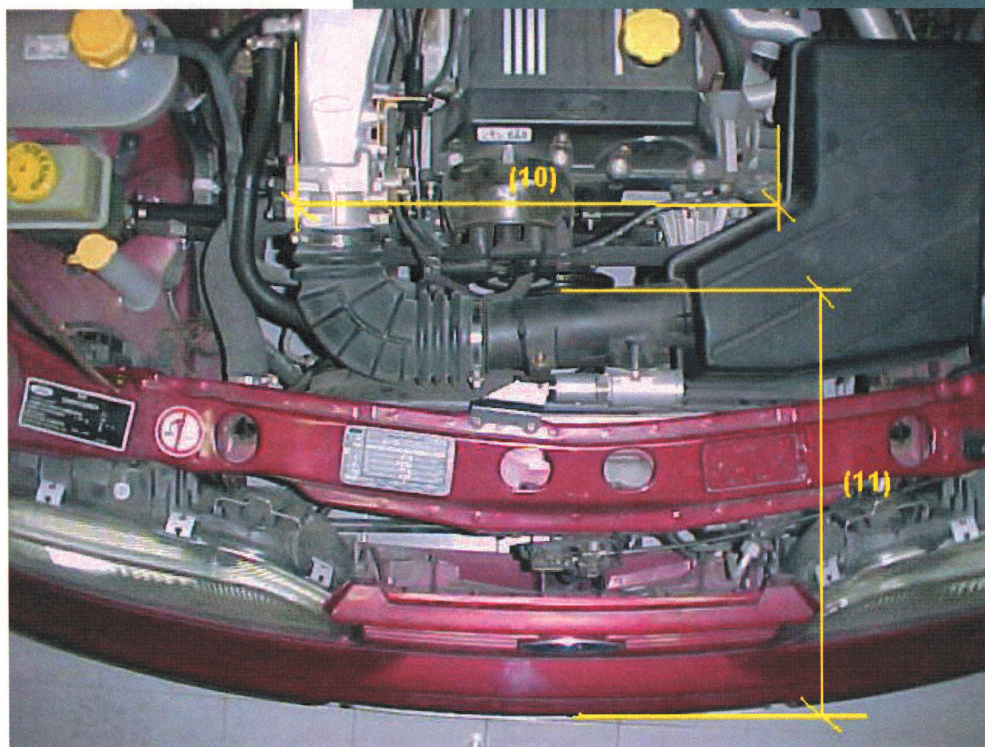
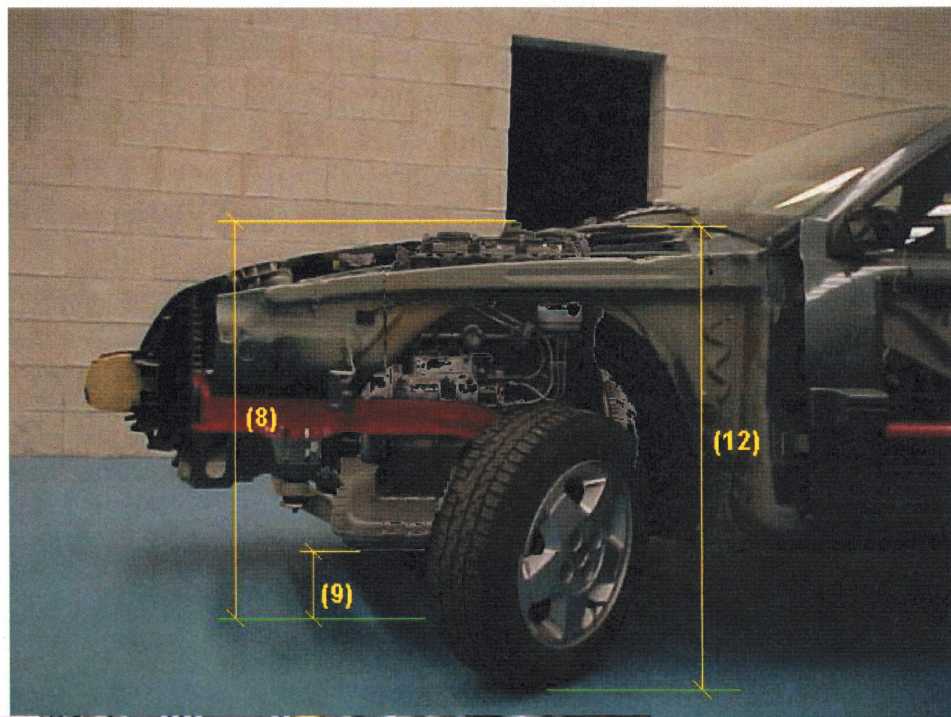


Figure 9.-  
Definition of  
the main  
resistant  
elements. Front  
elements  
(Longitudinal  
engine).



The procedure considered to measure these elements is described as follows, where it is indicated the location of these ones in the Excel Sheet (SURVEY.XLS) into brackets:

### **FRONT ELEMENTS**

- **Total Length –(1)- (Side & Front Sheets - C column):** distance between the point in the front bumper further on and the point in the rear bumper further back.
- **Weight (Side & Front Sheets - D column):** mass, including an average driver weight (70 kg), and the fuel tank mass (at half-capacity).
- **Total Width –(2)- (Side & Front Sheets - E column):** distance between the outer side points in a transverse plane of the vehicle (middle plane between the front and rear axles).
- **Bumper bottom height –(4)- (Front Sheet G column):** distance between the ground and the lowest point on the front bumper, being a resistant member (aerodynamic elements under the front bumper are not considered).
- **Bumper top height –(3)- (Front Sheet H column):** distance between the ground and the highest point on the front bumper, being a resistant member (aerodynamic elements are not considered).
- **Longitudinal member top height –(5)- (Front Sheet I column):** distance between the ground and the highest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint (when accessible).
- **Longitudinal member bottom height –(6)- (Front Sheet J column):** distance between the ground and the lowest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint.
- **Distance between longitudinal members (Front Sheet K column):** transverse distance between extreme points in longitudinal members, measured approximately in the front bumper-longitudinal member joint.

Depending on the accessibility of these members, the extreme points are the inner points (I) or the outer points (O).

- **Longitudinal member width -7'- (Front Sheet L column):** width of one of the longitudinal members, measured approximately in the front bumper-longitudinal member joint.



- **Engine top height (8) (Front Sheet N column):** distance between the ground and the highest point on the engine that can be a resistant member in case of accident (usually, the highest point on the head, or the highest point of the inlet or exhaust manifolds).
- **Engine bottom height (9) (Front Sheet M column):** distance between the ground and the lowest point on the engine (usually, the lowest point on the crankcase).
- **Engine and Gearbox width (10) (Front Sheet O & P columns):**
  - *Transverse configuration engine:* distance between extreme points in the gearbox-cylinder block unit or others resistant members attached to the cylinder block unit, i.e. fan belts (from a front point of view).
  - *Longitudinal configuration engine:* distance between extreme points in the cylinder block unit (from a front point of view).
- **Front bumper - Engine distance (11) (Front Sheet Q column):** distance between the point in the front bumper further on and the point in the engine further on that is a resistant element, i.e. the further on point of the exhaust manifold placed in the front of the engine.
- **Front shock absorber fixing width (14) (Front Sheet R column):** transverse distance between the front shock absorber - body car joints.
- **Front shock absorber fixing height (12) (Front Sheet S column):** distance between the ground and the front shock absorber-body car joint.
- **Bonnet leading edge height (Front Sheet T column):** distance between the ground and the bonnet edge further on.



## SIDE ELEMENTS

- **Front bumper - Front axle distance (15) (Side Sheet G column):** distance between the point in the front bumper further on and the middle point in the front tyre-road contact patch.
- **Front axle - A Pillar distance (16) (Side Sheet H column):** distance between the middle point in the front tyre-road contact patch and the point in the A-pillar further back.
- **A Pillar - B Pillar distance (17) (Side Sheet I column):** distance between the point in the A-pillar further back and the middle point in the B-pillar.
- **B Pillar - C Pillar distance (19) (Side Sheet J column):** distance between the middle point in the B-pillar and the point in the C-pillar further back (only 4/5-door vehicles).
- **B Pillar - Rear axle distance (18) (Side Sheet K column):** distance between the middle point in the B-pillar and the middle point in the rear tyre-road contact patch.
- **Roof sill bottom height (20) (Side Sheet L column):** distance between the ground and the lowest point on the roof sill, measured in the front door middle point.
- **Roof sill top height (21) (Side Sheet M column):** distance between the ground and the highest point on the roof sill (usually located in the sill-roof joint), measured in the front door middle point.
- **Floor sill bottom height (22) (Side Sheet N column):** distance between the ground and the lowest point on the floor sill, measured in the front door middle point.
- **Floor sill top height (23) (Side Sheet O column):** distance between the ground and the highest point on the floor sill, measured in the front door middle point.

## NOTE

- N/A: dimension not available.