

**REPORT NUMBER: 208-MGA-2006-016**

**VEHICLE SAFETY COMPLIANCE TESTING  
FOR  
FMVSS 208, OCCUPANT CRASH PROTECTION  
FMVSS 212, WINDSHIELD MOUNTING  
FMVSS 219, WINDSHIELD INTRUSION (PARTIAL)  
FMVSS 301, FUEL SYSTEM INTEGRITY**

**DaimlerChrysler Corporation  
2006 Dodge Ram Truck  
NHTSA No.: C60307**

**PREPARED BY:  
MGA RESEARCH CORPORATION  
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**Test Date: April 27, 2007**

**Final Report Date: June 21, 2007**

**FINAL REPORT**

**PREPARED FOR:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
OFFICE OF ENFORCEMENT  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
MAIL CODE: NVS-220  
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WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-03-D-11002.

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Accepted By: Charles R. Case

Acceptance Date: June 21, 2007

**Technical Report Documentation Page**

1. Report No. 208-MGA-2006-016		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 208 Compliance Testing of a 2006 Dodge Ram NHTSA No.: C60307				5. Report Date June 21, 2007	
				6. Performing Organization Code MGA	
7. Author(s) Jeff Lewandowski, Project Engineer				8. Performing Organization Report No. 208-MGA-2006-016	
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105				10. Work Unit No.	
				11. Contract or Grant No. DTNH22-03-D-11002	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Enforcement Office of Vehicle Safety Compliance 400 Seventh St., S.W., Room 6115 NVS-220 Washington, D.C. 20590				13. Type of Report and Period Covered 4/27/07	
				14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes					
16. Abstract Compliance tests were conducted on the subject 2006 Dodge Ram in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-13 for the determination of FMVSS 208 compliance. Test failures identified were as follows:  None					
17. Key Words  Frontal Impact 40 kmph Vehicle Safety Compliance Testing FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219, (partial), "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity"				18. Distribution Statement Copies of this report are available from the following: NHTSA Technical Information Services (TIS), Mail Code: NPO-230 400 Seventh Street, S.W., Room 5108 Washington, D.C. 20590 Tel. No.: (202) 366-4946	
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 169	22. Price

Form DOT F1700.7 (8-72)

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**SECTION 1**  
**PURPOSE OF COMPLIANCE TEST**

The tests performed are part of a program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-03-D-11002. The purpose of this test was to determine whether the subject vehicle, a 2006 Dodge Ram, NHTSA No. C60307, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP208-13 dated July 27, 2005.

**SECTION 2**  
**TESTS PERFORMED**

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
Test Dates: 4/27/07

The following checked items indicate the tests that were performed:

- |                                     |                                     |   |
|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/>            | 1.                                  | Rear outboard seating position seat belts (S4.1.1.2(b) & (S4.2.4))  |
| <input type="checkbox"/>            | 2.                                  | Air bag labels (S4.5.1)   |
| <input type="checkbox"/>            | 3.                                  | Readiness indicator (S4.5.2)  |
| <input type="checkbox"/>            | 4.                                  | Passenger air bag manual cut-off device (S4.5.4)  |
| <input type="checkbox"/>            | 5.                                  | Lap belt lockability (S7.1.1.5)   |
| <input type="checkbox"/>            | 6.                                  | Seat belt warning system (S7.3)   |
| <input type="checkbox"/>            | 7.                                  | Seat belt contact force (S7.4.4)  |
| <input type="checkbox"/>            | 8.                                  | Seat belt latch plate access (S7.4.4)   |
| <input type="checkbox"/>            | 9.                                  | Seat belt retraction (S7.4.5)   |
| <input type="checkbox"/>            | 10.                                 | Seat belt guides and hardware (S7.4.6)  |
| <input type="checkbox"/>            | 11.                                 | Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R)   |
| <input type="checkbox"/>            | 12.                                 | Suppression tests with newborn infant (Part 572, Subpart K)   |
| <input type="checkbox"/>            | 13.                                 | Suppression tests with 3-year-old dummy (Part 572, Subpart P)   |
| <input type="checkbox"/>            | 14.                                 | Suppression tests with 6-year-old dummy (Part 572, Subpart N)   |
| <input type="checkbox"/>            | 15.                                 | Test of reactivation of the passenger air bag system with an unbelted 5 <sup>th</sup> percentile female dummy |
| <input type="checkbox"/>            | 16.                                 | Low risk deployment test with 12-month-old dummy (Part 572, Subpart R)  |
| <input type="checkbox"/>            | 17.                                 | Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)  |
| <input type="checkbox"/>            | 18.                                 | Low risk deployment test with 6-year-old dummy (Part 572, Subpart N)  |
| <input type="checkbox"/>            | 19.                                 | Low risk deployment test with 5 <sup>th</sup> female dummy (Part 572, Subpart O)                              |
| <input checked="" type="checkbox"/> | 20.                                 | Impact Tests  |
|                                     | <input type="checkbox"/>            | Frontal Oblique   |
|                                     | <input type="checkbox"/>            | Belted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))                            |
|                                     | <input type="checkbox"/>            | Unbelted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))                       |
|                                     | <input type="checkbox"/>            | Unbelted 50 <sup>th</sup> male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))        |
|                                     | <input checked="" type="checkbox"/> | Frontal 0°  |
|                                     | <input type="checkbox"/>            | Belted 50 <sup>th</sup> male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))                         |
|                                     | <input type="checkbox"/>            | Belted 50 <sup>th</sup> male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))                      |
|                                     | <input type="checkbox"/>            | Belted 5 <sup>th</sup> female dummy driver (0 to 48 kmph) (S16.1(a))  |
|                                     | <input type="checkbox"/>            | Belted 5 <sup>th</sup> female dummy passenger (0 to 48 kmph) (S16.1(a))                                       |
|                                     | <input type="checkbox"/>            | Belted 50 <sup>th</sup> male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))                        |
|                                     | <input type="checkbox"/>            | Unbelted 50 <sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))                      |
|                                     | <input type="checkbox"/>            | Unbelted 50 <sup>th</sup> male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))                      |

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | Unbelted 50 <sup>th</sup> male dummy passenger (32 to 40 kmph)<br>(S5.1.2.(a)(2) or S5.1.2(b)) |
| <input checked="" type="checkbox"/> | Unbelted 5 <sup>th</sup> female dummy driver (32 to 40 kmph) (S16.1(b))                        |
| <input checked="" type="checkbox"/> | Unbelted 5 <sup>th</sup> female dummy passenger (32 to 40 kmph) (S16.1(b))                     |
| <input type="checkbox"/>            | 40% Offset 0° Belted 5 <sup>th</sup> male dummy driver and passenger (0 to 40 kmph) (S18.1)    |
| <input type="checkbox"/>            | 21. Sled Test: unbelted 50 <sup>th</sup> male dummy driver and passenger (S13)                 |
| <input type="checkbox"/>            | 22. FMVSS 204 Indicant Test  |
| <input checked="" type="checkbox"/> | 23. FMVSS 212 Indicant Test  |
| <input checked="" type="checkbox"/> | 24. FMVSS 219 Indicant Test  |
| <input checked="" type="checkbox"/> | 25. FMVSS 301 Frontal Indicant Test  |

For the crash tests, the vehicle was instrumented with 8 accelerometers. The accelerometer data from the vehicle and dummies were sampled at 10,000 samples per second and processed as specified in SAE J211/1 MAR95 and FMVSS 208, S4.13.

The dynamic tests were recorded using high-speed film and high-speed digital video.

The vehicle appears to meet the performance requirements to which it was tested.

### SECTION 3

#### INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
 Test Dates: 4/27/07

#### 40 kmph Frontal Crash

Impact Angle: Zero degrees

Belted Dummies:  Yes  No  
 Speed Range:  0 to 40 kmph  32 to 40 kmph  
 0 to 48 kmph  0 to 56 kmph

Test Speed: 39.8 kmph Test Weight: 2446.2 kg

Driver Dummy:  5<sup>th</sup> female  50<sup>th</sup> male  
 Passenger Dummy:  5<sup>th</sup> female  50<sup>th</sup> male

#### 5<sup>th</sup> Percentile Female Frontal Crash Test Vehicles certified to S16.1(a), S16.1(b), or S18.1

Injury Criteria	Max. Allowable Injury Assessment Values	Driver	Passenger
HIC15	700	123	272
N <sub>te</sub>	1.0	0.1	0.3
N <sub>tf</sub>	1.0	0.3	0.4
N <sub>ce</sub>	1.0	0.7	0.2
N <sub>cf</sub>	1.0	0.2	0.6
Neck Tension	2620 N	737	1099
Neck Compression	2520 N	1495	1831
Chest g	60 g	39	36
Chest Displacement	52 mm	13	0
Left Femur	6805 N	3514	3550
Right Femur	6805 N	3604	2244



**SECTION 4**  
**DISCUSSION OF TESTS**

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
Test Dates: 4/27/07

DaimlerChrysler issued a recall to remedy a non-complaint passenger air bag on the test vehicle. (NHTSA recall no. 06V353000, DaimlerChrysler recall no. F40) This recall was performed prior to the impact test.

**SECTION 5**  
**TEST DATA SHEETS**

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
Test Dates: 4/27/07

**DATA SHEET 1**  
**COTR VEHICLE WORK ORDER**

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
Test Dates: 4/27/07

COTR Signature: Charles R. Case

Test to be performed for this vehicle are checked below:

- |                          |     |   |
|--------------------------|-----|---|
| <input type="checkbox"/> | 1.  | Rear Outboard Seating Position Seat Belts (S4.1.2(b)) & (S4.2.4)  |
| <input type="checkbox"/> | 2.  | Air Bag Labels (S4.5.1)   |
| <input type="checkbox"/> | 3.  | Readiness Indicator (S4.5.2)  |
| <input type="checkbox"/> | 4.  | Passenger Air Bag Manual Cut-off Device (S4.5.4)  |
| <input type="checkbox"/> | 5.  | Lap Belt Lockability (S7.1.1.5)   |
| <input type="checkbox"/> | 6.  | Seat Belt Warning System (S7.3)   |
| <input type="checkbox"/> | 7.  | Seat Belt Contact Force (S7.4.4)  |
| <input type="checkbox"/> | 8.  | Seat Belt Latch Plate Access (S7.4.4)   |
| <input type="checkbox"/> | 9.  | Seat Belt Retraction (S7.4.5)   |
| <input type="checkbox"/> | 10. | Seat Belt Guides and Hardware (S7.4.6)  |
| <input type="checkbox"/> | 11. | Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints. |

Section B

<input type="checkbox"/>	Britax Handle with Care 191	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Century Assura 4553	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Century Avanta SE 41530	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Century Smart Fit 4543	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Cosco Arriva 02727	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Cosco Opus 35 02603	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Evenflo Discovery Adjust Right 212	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Evenflo First Choice 204	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Evenflo On My Way Position Right V 282	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Graco Infant 8457	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward

Section C

<input type="checkbox"/>	Britax Roundabout 161	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Century Encore 4612	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Century STE 1000 4416	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Cosco Olympian 02803	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Cosco Touriva 02519	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Evenflo Horizon V 425	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
<input type="checkbox"/>	Evenflo Medallion 254	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward

- |                          |     |   |
|--------------------------|-----|---|
| <input type="checkbox"/> | 12. | Suppression tests with newborn infant (Part 572, Subpart K) using the following indicated child restraints. |
|--------------------------|-----|---|

Section A

<input type="checkbox"/>	Cosco Dream Ride 02-719	<input type="checkbox"/>	Full Rearward	<input type="checkbox"/>	Mid Position	<input type="checkbox"/>	Full Forward
--------------------------	-------------------------	--------------------------	---------------	--------------------------	--------------	--------------------------	--------------

- |                          |     |   |
|--------------------------|-----|---|
| <input type="checkbox"/> | 13. | Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints where a child restraint is required. |
|--------------------------|-----|---|

Section C

	Britax Roundabout 161	Full Rearward	Mid Position	Full Forward
	Century Encore 4612	Full Rearward	Mid Position	Full Forward
	Century STE 1000 4416	Full Rearward	Mid Position	Full Forward
	Cosco Olympian 02803	Full Rearward	Mid Position	Full Forward
	Cosco Touriva 02519	Full Rearward	Mid Position	Full Forward
	Evenflo Horizon V 425	Full Rearward	Mid Position	Full Forward
	Evenflo Medallion 254	Full Rearward	Mid Position	Full Forward

Section D

	Britax Roadster 9004	Full Rearward	Mid Position	Full Forward
	Century Next Step 4920	Full Rearward	Mid Position	Full Forward
	Cosco High Back Booster 02-442	Full Rearward	Mid Position	Full Forward
	Evenflo Right Fit 245	Full Rearward	Mid Position	Full Forward

14. Suppression tests with representative 3-year-old child using the following indicated child restraints where a child restraint is required. (Appendix H, Data Sheet 16H and 17H)

Section C

	Britax Roundabout 161	Full Rearward	Mid Position	Full Forward
	Century Encore 4612	Full Rearward	Mid Position	Full Forward
	Century STE 1000 4416	Full Rearward	Mid Position	Full Forward
	Cosco Olympian 02803	Full Rearward	Mid Position	Full Forward
	Cosco Touriva 02519	Full Rearward	Mid Position	Full Forward
	Evenflo Horizon V 425	Full Rearward	Mid Position	Full Forward
	Evenflo Medallion 254	Full Rearward	Mid Position	Full Forward

Section D

	Britax Roadster 9004	Full Rearward	Mid Position	Full Forward
	Century Next Step 4920	Full Rearward	Mid Position	Full Forward
	Cosco High Back Booster 02-442	Full Rearward	Mid Position	Full Forward
	Evenflo Right Fit 245	Full Rearward	Mid Position	Full Forward

15. Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following Forward, Middle, and Rearward seat track positions

- Sitting on seat with back against seat back (S22.2.2.1)
- Sitting on seat with back against reclined seat back (S22.2.2.2)
- Sitting on seat with back not against seat back (S22.2.2.3)
- Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
- Standing on seat, facing forward (S22.2.2.5)
- Kneeling on seat facing forward (S22.2.2.6)
- Kneeling on seat facing rearward (S22.2.2.7)
- Lying on seat (S22.2.2.8)

16. Suppression tests with representative 3-year-old child in the following positions

- Sitting on seat with back against seat back (S22.2.2.1)
- Sitting on seat with back against reclined seat back (S22.2.2.2)
- Sitting on seat with back not against seat back (S22.2.2.3)
- Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
- Standing on seat, facing forward (S22.2.2.5)
- Kneeling on seat facing forward (S22.2.2.6)
- Kneeling on seat facing rearward (S22.2.2.7)
- Lying on seat (S22.2.2.8)

17. Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required.

Section D

	Britax Roadster 9004	Full Rearward	Mid Position	Full Forward
	Century Next Step 4920	Full Rearward	Mid Position	Full Forward
	Cosco High Back Booster 02-442	Full Rearward	Mid Position	Full Forward
	Evenflo Right Fit 245	Full Rearward	Mid Position	Full Forward

18. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required.

Section D

	Britax Roadster 9004	Full Rearward	Mid Position	Full Forward
	Century Next Step 4920	Full Rearward	Mid Position	Full Forward
	Cosco High Back Booster 02-442	Full Rearward	Mid Position	Full Forward
	Evenflo Right Fit 245	Full Rearward	Mid Position	Full Forward

19. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following Forward, Middle, and Rearward seat track positions

- Sitting on seat with back against seat back (S22.2.2.1)
- Sitting on seat with back against reclined seat back (S22.2.2.2)
- Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
- Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

20. Suppression tests with representative 6-year-old child in the following positions

- Sitting on seat with back against seat back (S22.2.2.1)
- Sitting on seat with back against reclined seat back (S22.2.2.2)
- Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
- Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

21. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5<sup>th</sup> percentile female dummy (S20.3, 22.3, S24.3). Perform this test after the following suppression tests: After each restraint.

22. Test of Reactivation of the passenger air bag system with a representative 5<sup>th</sup> percentile female (S20.3, 22.3, S24.3). Perform this test after the following suppression tests:

23. Low risk deployment test with 12-month-old dummy (Part 572, Subpart R) using the following indicated child restraints.

Section B

	Britax Handle with Care 191	Full Rearward	Mid Position	Full Forward
	Century Assura 4553	Full Rearward	Mid Position	Full Forward
	Century Avanta SE 41530	Full Rearward	Mid Position	Full Forward
	Century Smart Fit 4543	Full Rearward	Mid Position	Full Forward
	Cosco Arriva 02727	Full Rearward	Mid Position	Full Forward
	Cosco Opus 35 02603	Full Rearward	Mid Position	Full Forward
	Evenflo Discovery Adjust Right 212	Full Rearward	Mid Position	Full Forward
	Evenflo First Choice 204	Full Rearward	Mid Position	Full Forward
	Evenflo On My Way Position Right V 282	Full Rearward	Mid Position	Full Forward
	Graco Infant 8457	Full Rearward	Mid Position	Full Forward

Section C

	Britax Roundabout 161	Full Rearward	Mid Position	Full Forward
	Century Encore 4612	Full Rearward	Mid Position	Full Forward
	Century STE 1000 4416	Full Rearward	Mid Position	Full Forward
	Cosco Olympian 02803	Full Rearward	Mid Position	Full Forward
	Cosco Touriva 02519	Full Rearward	Mid Position	Full Forward
	Evenflo Horizon V 425	Full Rearward	Mid Position	Full Forward
	Evenflo Medallion 254	Full Rearward	Mid Position	Full Forward

- 24. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions
  - Position 1
  - Position 2
- 25. Low risk deployment test with 6-year-old dummy (Part 572, Subpart N) in the following positions
  - Position 1
  - Position 2
- 26. Low risk deployment test with 5<sup>th</sup> percentile female dummy (Part 572, Subpart O) in the following positions
  - Position 1
  - Position 2
- 27. Impact Tests
  - Frontal Oblique – Test Speed:
    - Belted 50<sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))
    - Unbelted 50<sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
    - Unbelted 50<sup>th</sup> male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))
  - Frontal 0° - Test Speed: 39.8 kmph
    - Belted 50<sup>th</sup> male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
    - Belted 50<sup>th</sup> male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
    - Belted 5<sup>th</sup> female dummy driver (0 to 48 kmph) (S16.1(a))
    - Belted 5<sup>th</sup> female dummy passenger (0 to 48 kmph) (S16.1(a))
    - Belted 50<sup>th</sup> male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
    - Unbelted 50<sup>th</sup> male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))
    - Unbelted 50<sup>th</sup> male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
    - Unbelted 50<sup>th</sup> male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
    - Unbelted 5<sup>th</sup> female dummy driver (32 to 40 kmph) (S16.1(b))
    - Unbelted 5<sup>th</sup> female dummy passenger (32 to 40 kmph) (S16.1(b))
  - 40% Offset 0° Belted 5<sup>th</sup> male dummy driver and passenger (0 to 40 kmph) (S18.1) – Test Speed:
- 28. Sled Test: Unbelted 50<sup>th</sup> male dummy driver and passenger (S13)
- 29. FMVSS 204 Indicant Test
- 30. FMVSS 212 Indicant Test
- 31. FMVSS 219 Indicant Test
- 32. FMVSS 301 Frontal Indicant Test

**DATA SHEET 2**  
**REPORT OF VEHICLE CONDITION**

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
 Test Dates: 4/27/07

CONTRACT NO.: DTNH22-03-D-11002 Date: 5/2/07  
 FROM (Lab and rep name): MGA Research Corporation  
 TO: NHTSA, OVSC (NVS-220)

PURPOSE: (X) Initial Receipt ( ) Received via Transfer (X) Present vehicle condition

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2006 Dodge Ram 1500  
 MANUFACTURE DATE: 1/06  
 NHTSA NO. C60307 GVWR: 2994 kg (6600 lbs)  
 BODY COLOR: Light Khaki GAWR (Fr): 1679 kg (3700 lbs)  
 VIN: 1D7HA16N36J176008 GAWR (Rr): 1770 kg (3900 lbs)

ODOMETER READINGS: ARRIVAL (miles): 8 DATE: 8/2/06  
 COMPLETION (miles): 12 DATE: 4/27/07

PURCHASE PRICE: (\$) 18,970

DEALER'S NAME: West Herr Dodge; 3551 Southwestern Blvd.; Orchard Park, NY 14127

- A. All options listed on window sticker are present on the test vehicle:  
 Yes  No
- B. Tires and wheel rims are new and the same as listed:  Yes  No
- C. There are no dents or other interior or exterior flaws:  Yes  No
- D. The vehicle has been properly prepared and is in running condition:  
 Yes  No
- E. Keyless remote is available and working:  Yes  No
- F. The glove box contains an owner's manual, warranty document, consumer information, and extra set of keys:  Yes  No
- G. Proper fuel filler cap is supplied on the test vehicle:  Yes  No
- H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA number inside the windshield and to the exterior front and rear side of bus:  
 Yes  No
- I. Place vehicle in storage area:  Yes  No
- J. Inspect the vehicle's interior and exterior, including all windows, seats, doors, etc. to confirm that each system is complete and functional per the manufacturer's specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NHTSA COTR before beginning any test:  
 Vehicle OK  Conditions reported below

**REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING**

LIST OF FMVSS TESTS PERFORMED BY THIS LAB: FMVSS 208, 212, 219, 301

VEHICLE: 2006 Dodge Ram NHTSA NO. C60307

REMARKS:

Equipment that is no longer on the test vehicle as noted on previous page:

None

Explanation for equipment removal:

None

Test Vehicle Condition:

25 mph frontal impact damage- front suspension & structure damaged, hood & front quarter panels damaged, radiator damaged, air bags & pretensioners deployed, Stoddard in fuel system

RECORDED BY: Jeff Lewandowski DATE: 5/2/2007

APPROVED BY: David Winkelbauer DATE: 5/2/2007

#####

**RELEASE OF TEST VEHICLE**

The vehicle described above is released from MGA to be delivered to:

Date: Time: Odometer:

Lab Rep's Signature:

Title:

Carrier/Customer Rep:

Date:



**DATA SHEET 3**

**CERTIFICATION LABEL AND TIRE PLACARD INFORMATION**

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide

NHTSA No.: C60307  
 Test Date: 4/27/07

<b>Certification Label</b>	
Manufacturer:	DaimlerChrysler Corporation
Date of Manufacture:	1/06
VIN:	1D7HA16N36J176008
Vehicle Certified As (Pass. Car/MPV/Truck/Bus):	Truck
Front Axle GVWR:	1679 kg (3700 lbs)
Rear Axle GVWR:	1770 kg (3900 lbs)
Total GVWR:	2994 kg (6600 lbs)

<b>Tire Placard</b>	
Not applicable, vehicle is not a passenger car and does not have a tire placard.	YES (Truck)
This is not a passenger car, but all or part of this information is still contained on a vehicle label and is reported here.	YES (Truck)
Vehicle Capacity Weight:	782 kg (1726 lbs)
Designated Seating Capacity Front:	3
Designated Seating Capacity Rear:	0
Total Designated Seating Capacity:	3
Recommended Cold Tire Inflation Pressure Front:	240 kpa (35 psi)
Recommended Cold Tire Inflation Pressure Rear:	240 kpa (35 psi)
Recommended Tire Size:	P245/70R17

Signature: 

Date: 4/27/07

## DATA SHEET 14

### MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance  
Test Technician: Joe Fleck

NHTSA No.: C60307  
Test Date: 7/10/06

#### DATA SHEET 14.1

##### MARKING OF REFERENCE POINTS FOR 5<sup>th</sup> FEMALE

Driver Seat  Passenger Seat

##### 1. Seat Position

- 1.1 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)  
 N/A – No lumbar adjustment
- 1.2 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)  
 N/A – No additional support adjustment
- 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)  
 N/A – No adjustable leg support system
- 1.4 **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)
- 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)
- 1.6 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)
- 1.7 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)  
 N/A – No independent fore-aft seat cushion adjustment
- 1.8 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) NO ADJUSTMENT  
Maximum angle Zero  
Minimum angle Zero  
Mid-angle Zero
- 1.9 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 1.8. (S16.2.10.3.1)  
 N/A – No seat height adjustment
- 1.10 Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position.

- 1.11 Use only the controls that primarily move the seat in the fore-aft direction to **mark** for future reference the fore-aft seat positions. **Mark** each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
- 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.
- 1.13 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S22.4.3.1, S24.1.2, S24.3.1, S24.4.3.1, S26.2.3, S26.3.1)  
 N/A – No seat height adjustment. **Go to 1.18**
- 1.14 Use only the controls that primarily move the seat and/or seat cushion in the fore-aft direction to place the seat in the mid-fore-aft position.
- 1.15 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- 1.16 Use only the control that change the seat in the fore-aft direction to place the seat in the foremost position. (S16.2.10.3.2)
- 1.17 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S16.2.10.3.3, S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- 1.18. 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, mid, and foremost seat positions. (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      21° On Seat Back Frame
- 1.19. Is the seat a bucket seat?  
 Yes, go to 1.20 and skip 1.21  
 No, go to 1.21 and skip 1.20
- 1.20 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)
- 1.21 Bench seats (complete ONLY the one that is applicable to the seat being marked):  
 1.21.1 Driver Seat  
 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.

\_\_\_ 1.21.2 Passenger Seat

Locate and **mark** for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.3, S22.2.1.3, S24.2.3, S20.4.4, S22.2.2.1(b), S22.2.2.3(b), S22.2.2.4(a), S22.2.2.5(a), S22.2.2.6(a), S22.2.2.7(a), S24.2.3(a))

Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. \_\_\_\_\_

Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) \_\_\_\_\_

2. Head Restraint Position

\_\_\_ N/A Vehicle contains automatic head restraints.

\_\_\_ N/A, there is no head restraint adjustment

2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6 S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

2.2 All adjustments of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. **Mark** the foremost position. (S16.2.10.2 & S16.3.4.4 & S20.1.9.6, S20.4.1, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and **mark** a horizontal plane through the midpoint of this distance. (S16.3.4.3)

Vertical height of head restraint 220 mm

Mid-point height 110 mm

I certify that I have read and performed each instruction.

Signature: Joe Fleck

Date: 4/27/07

## DATA SHEET 14.1

### MARKING OF REFERENCE POINTS FOR 5<sup>th</sup> FEMALE

Driver Seat  Passenger Seat

#### 1. Seat Position

- 1.1 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)  
 N/A – No lumbar adjustment
- 1.2 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)  
 N/A – No additional support adjustment
- 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)  
 N/A – No adjustable leg support system
- 1.4 **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)
- 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)
- 1.6 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)
- 1.7 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)  
 N/A – No independent fore-aft seat cushion adjustment
- 1.8 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) NO ADJUSTMENT  
Maximum angle Zero  
Minimum angle Zero  
Mid-angle Zero
- 1.9 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 1.8. (S16.2.10.3.1)  
 N/A – No seat height adjustment
- 1.10 Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position.
- 1.11 Use only the controls that primarily move the seat in the fore-aft direction to **mark** for future reference the fore-aft seat positions. **Mark** each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
- 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.

- 1.13 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S22.4.3.1, S24.1.2, S24.3.1, S24.4.3.1, S26.2.3, S26.3.1)  
 N/A – No seat height adjustment. **Go to 1.18**
- 1.14 Use only the controls that primarily move the seat and/or seat cushion in the fore-aft direction to place the seat in the mid-fore-aft position.
- 1.15 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- 1.16 Use only the control that change the seat in the fore-aft direction to place the seat in the foremost position. (S16.2.10.3.2)
- 1.17 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S16.2.10.3.3, S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- 1.18. 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, mid, and foremost seat positions. (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      21° On Seat Back Frame
- 1.19. Is the seat a bucket seat?  
 Yes, go to 1.20 and skip 1.21  
 No, go to 1.21 and skip 1.20
- 1.20 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)
- 1.21 Bench seats (complete ONLY the one that is applicable to the seat being marked):
- 1.21.1 Driver Seat  
 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.
- 1.21.2 Passenger Seat  
 Locate and **mark** for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.3, S22.2.1.3, S24.2.3, S20.4.4, S22.2.2.1(b), S22.2.2.3(b), S22.2.2.4(a), S22.2.2.5(a), S22.2.2.6(a), S22.2.2.7(a), S24.2.3(a))  
 Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. \_\_\_\_\_  
 Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) \_\_\_\_\_

2. Head Restraint Position

N/A Vehicle contains automatic head restraints.

N/A, there is no head restraint adjustment

2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6 S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

2.2 All adjustments of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. **Mark** the foremost position. (S16.2.10.2 & S16.3.4.4 & S20.1.9.6, S20.4.1, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and **mark** a horizontal plane through the midpoint of this distance. (S16.3.4.3)

Vertical height of head restraint 220 mm

Mid-point height 110 mm

I certify that I have read and performed each instruction.

Signature: Joe Fleck

Date: 4/27/07

**DATA SHEET 14.3**

**MARKING OF REFERENCE POINTS FOR STEERING WHEEL**

1. Is the steering wheel adjustable up and down and/or in and out?  
 Yes – go to 2  
 No – this form is complete
2. Find and **mark** for future reference each up and down position. Label three of the positions with the following: H for highest, M for mid-position (if there is no mid-position, label the next lowest adjustment position), and L for lowest.  
 N/A – steering wheel is not adjustable up and down
3. Find and **mark** for future references each in and out position. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the next rearmost adjustment position), and R for rearmost.  
 N/A – steering wheel is not adjustable in and out.

I certify that I have read and performed each instruction.



Signature: \_\_\_\_\_

Date: 4/27/07



## DATA SHEET 32

### VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

- 1. Fill the transmission with transmission fluid to the satisfactory range.
- 2. Drain fuel from vehicle
- 3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
- 4. Record the useable fuel tank capacity supplied by the COTR
- Useable Fuel Tank Capacity supplied by COTR: 128.7 liters (34.0 gallons)
- 5. Record the fuel tank capacity supplied in the owner's manual.
- Useable Fuel Tank Capacity in owner's manual: 128.7 liters (34.0 gallons)
- 6. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," or gasoline, fill the fuel tank.
- Amount Added: 128.7 liters (34.0 gallons)
- 7. Fill the coolant system to capacity.
- 8. Fill the engine with motor oil to the Max. mark on the dip stick.
- 9. Fill the brake reservoir with brake fluid to its normal level.
- 10. Fill the windshield washer reservoir to capacity.
- 11. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner's manual.

Tire placard pressure:	RF:	35 psi	LF:	35 psi	RR:	35 psi	LR:	35 psi
Owner's manual pressure:	RF:	35 psi	LF:	35 psi	RR:	35 psi	LR:	35 psi
Actual inflated pressure:	RF:	35 psi	LF:	35 psi	RR:	35 psi	LR:	35 psi

- 12. Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. "as delivered" weight).

Right Front (kg):	600.1	Right Rear (kg):	488.1
Left Front (kg):	672.7	Left Rear (kg):	456.3
Total Front (kg):	1272.8	Total Rear (kg):	944.4
% Total Weight:	57.4	% Total Weight:	42.6
UVW = TOTAL FRONT PLUS TOTAL REAR (KG):		2217.2	

- 13. UVW Test Vehicle Attitude: (All dimensions in millimeters)
- 13.1 Mark a point on the vehicle above the center of each wheel.
- 13.2 Place the vehicle on a level surface.

- 13.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements

RF:	906	LF:	908	RR:	991	LR:	989
-----	-----	-----	-----	-----	-----	-----	-----

14. Calculate the Rated Cargo and Luggage Weight (RCLW): 136 kg used for test

- 14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?

- Yes, go to 14.3  
 No, go to 14.2

- 14.2 VCW = Gross Vehicle Weight – UVW

$$VCW = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

- 14.3 VCW = 782 kg (1726 lbs)

- 14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?

- Yes, go to 14.6  
 No, go to 14.5 and skip 14.6

- 14.5 DSC = Total number of seat belt assemblies = \_\_\_\_\_

- 14.6 DSC = 3

- 14.7 RCLW = VCW – (68 kg x DSC) = 782 kg - (68 kg x 3) = 578 kg

- 14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?

- Yes, if the calculated RCLW is greater than 136 kg, use 136 kg as the RCLW. (S8.1.1)  
 No, use the RCLW calculated in 14.7

15. Fully Loaded Weight (100% fuel fill): 2451.2 kg

- 15.1 Place the appropriate test dummy in both front outboard seating positions.

Driver:             5<sup>th</sup> female         50<sup>th</sup> male  
 Passenger:        5<sup>th</sup> female         50<sup>th</sup> male

- 15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.

- 15.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (d))

- 15.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

Right Front (kg):	628.7	Right Rear (kg):	578.8
Left Front (kg):	698.5	Left Rear (kg):	545.2
Total Front (kg):	1327.2	Total Rear (kg):	1124.0
% Total Weight:	54.1	% Total Weight:	45.9
% GVW	56.1	% GVW	59.1
(% GVW = Axle GVW divided by Vehicle GVW)			
Fully Loaded Weight = Total Front Plus Total Rear (kg):			2451.2

16. Fully Loaded Test Vehicle Attitude: (All dimensions in millimeters)

- 16.1 Place the vehicle on a level surface.

- 16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13.1 above) and record the measurements

RF:	898	LF:	901	RR:	962	LR:	961
-----	-----	-----	-----	-----	-----	-----	-----

17. Drain the fuel system
18. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," fill the fuel tank to 92 - 94 percent of useable capacity.

Fuel tank capacity x .94 = 128.7 liters (34.0 gallons) x .94 = 121.0 liters (32.0 gallons)  
 Amount added 119.2 liters (31.5 gallons) 92.6%

19. Crank the engine to fill the fuel delivery system with Stoddard solvent
20. Calculate the test weight range.
- 20.1 Calculated Weight = UVW (see 12 above) + RCLW (see 14 above) + 2x(dummy weight)

$$2451.2 \text{ kg} = 2217.2 \text{ kg} + 136.0 \text{ kg} + 98.0 \text{ kg}$$

- 20.2 Test Weight Range = Calculated Weight (- 4.5 kg, - 9 kg.)  
 Max. Test Weight = Calculated Test Weight - 4.5 kg = 2446.7 kg  
 Min. Test Weight = Calculated Test Weight - 9 kg = 2442.2 kg

21. Remove the RCLW from the cargo area.
22. Drain transmission fluid, engine coolant, motor oil, and windshield washer fluid from the test vehicle so that Stoddard solvent leakage from the fuel system will be evident.

23. Vehicle Components Removed For Weight Reduction:  
None

24. Secure the equipment and ballast in the load carrying area and distribute it, as nearly as possible, to obtain the proportion of axle weight indicated by the gross axle weight ratings and center it over the longitudinal centerline of the vehicle.

25. If necessary, add ballast to achieve the actual test weight.

N/A

Weight of Ballast: 99.8 kg

26. Ballast, including test equipment, must be contained so that it will not shift during the impact event or interfere with data collection or interfere with high-speed film recordings or affect the structural integrity of the vehicle or do anything else to affect test results. Care must be taken to assure that any attachment hardware added to the vehicle is not in the vicinity of the fuel tank or lines.

27. Record the vehicle weight at each wheel to determine the actual test weight.

Right Front (kg):	638.2	Right Rear (kg):	568.8
Left Front (kg):	704.0	Left Rear (kg):	535.2
Total Front (kg):	1342.2	Total Rear (kg):	1104.0
% Total Weight:	54.9	% Total Weight:	45.1
% GVW	56.1	% GVW	59.1
(% GVW = Axle GVW divided by Vehicle GVW)			
TOTAL FRONT PLUS TOTAL REAR (kg):			2446.2

28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?
- Yes  
 No, explain why not.
29. Test Weight Vehicle Attitude: (all dimensions in millimeters)
- 29.1 Place the vehicle on a level surface
- 29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements

RF:	899	LF:	901	RR:	965	LR:	965
-----	-----	-----	-----	-----	-----	-----	-----

30. Summary of test attitude
- 30.1 AS DELIVERED:

RF:	906	LF:	908	RR:	991	LR:	989
-----	-----	-----	-----	-----	-----	-----	-----

AS TESTED:

RF:	899	LF:	901	RR:	965	LR:	965
-----	-----	-----	-----	-----	-----	-----	-----

FULLY LOADED:

RF:	898	LF:	901	RR:	962	LR:	961
-----	-----	-----	-----	-----	-----	-----	-----

- 30.2 Is the "as tested" test attitude equal to or between the "fully loaded" and "as delivered" attitude?
- Yes  
 No, explain why not.

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 4/27/07

### DATA SHEET 33

#### VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	X 32 to 40 kmph	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	X 5 <sup>th</sup> female	50 <sup>th</sup> male	
PASSENGER DUMMY:	X 5 <sup>th</sup> female	50 <sup>th</sup> male	

- 1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- 2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- 3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- 4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- 5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.
- 6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- 7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.
- 8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.

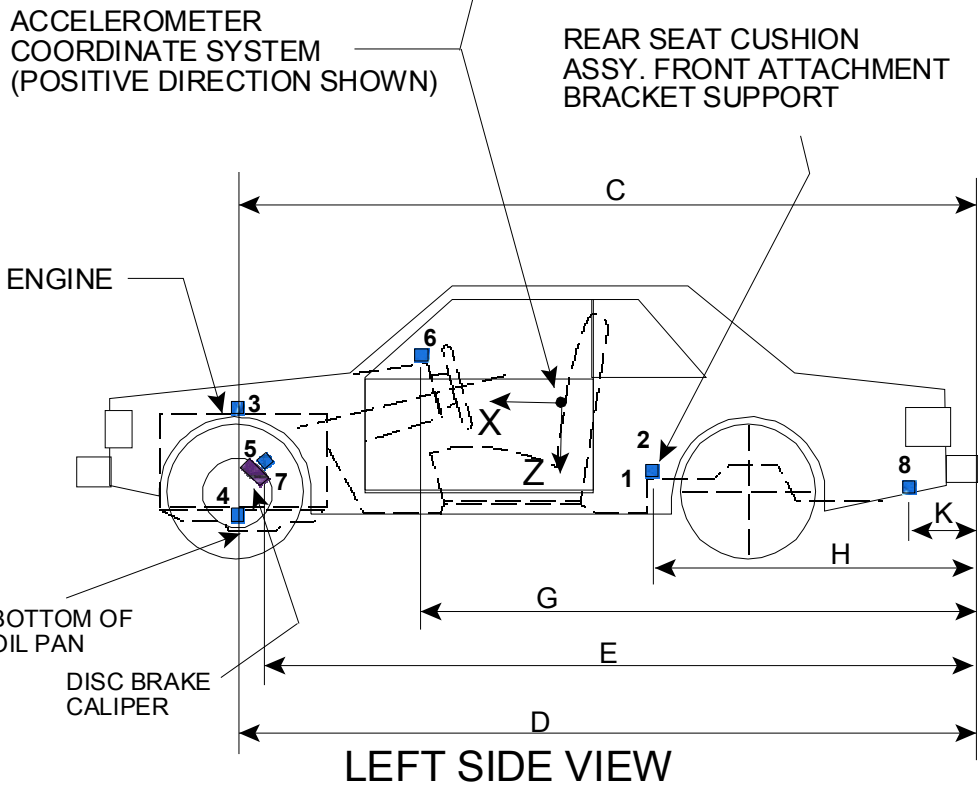
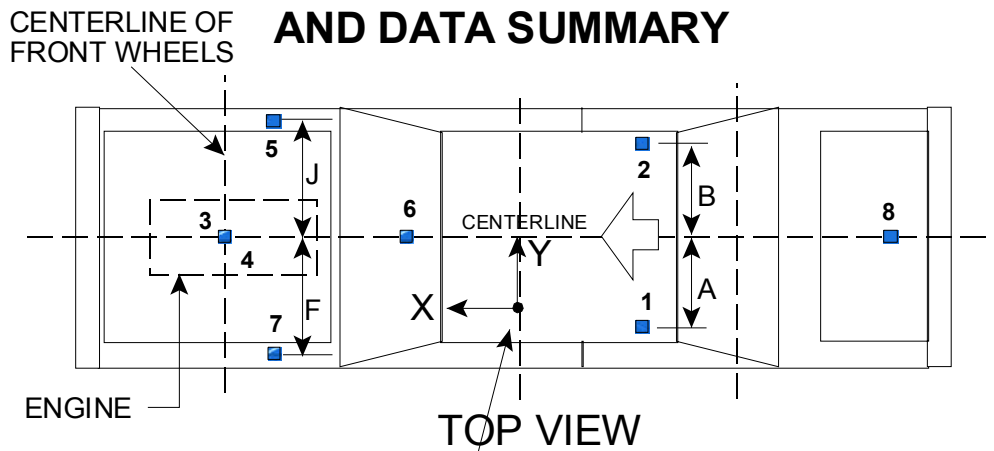
REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 4/27/07

# VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



Dimensions Corresponding To The Letters "A" Through "K" (Excluding "I") Are Recorded In The Table On The Following Page.  
 Accelerometers Corresponding To The Numbers 1 Through 8 Are Specified On The Preceding Page.

**DATA SHEET 33**  
**VEHICLE ACCELEROMETER LOCATION AND MEASUREMENTS**

<u>DIMENSION</u>	<u>LENGTH (mm)</u>	
<b>PRETEST VALUES</b>		
<u>A</u> (LH Rear Seat Xmbr)	500	
<u>B</u> (RH Rear Seat Xmbr)	500	
<u>C</u> (Engine Top)	4607	
<u>D</u> (Engine Bottom)	4818	
<u>E</u> (Caliper)	Right Side: 4662	Right Side: 4662
<u>F</u> (Left Caliper)	740	
<u>G</u> (IP)	3999	
<u>H</u> (Seat)	2958	
<u>J</u> (Right Caliper)	740	
<u>K</u> (Trunk)	1259	
<b>POST TEST VALUES</b>		
<u>A</u> (LH Rear Seat Xmbr)	500	
<u>B</u> (RH Rear Seat Xmbr)	500	
<u>C</u> (Engine Top)	4651	
<u>D</u> (Engine Bottom)	4830	
<u>E</u> (Caliper)	Right Side: 4657	Right Side: 4660
<u>F</u> (Left Caliper)	740	
<u>G</u> (IP)	3995	
<u>H</u> (Seat)	2956	
<u>J</u> (Right Caliper)	745	
<u>K</u> (Trunk)	1259	

**DATA SHEET 34**  
**PHOTOGRAPHIC TARGETS**

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide



NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<u>X</u> 32 to 40 kmph	<u>  </u> 0 to 48 kmph	<u>  </u> 0 to 56 kmph
DRIVER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>  </u> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>  </u> 50 <sup>th</sup> male	

- 1. FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)
- 1.1 Targets A1 and A2 are on flat rectangular panels.
- 1.2 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it.  
 Distance between targets (mm): 100 mm
- 1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it.  
 Distance between targets (mm): 100 mm
- 1.4 The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm.  
 Distance between the first and last circular targets (mm): 715 mm This dimension was used due to the length of the truck cab.
- 1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy.
- 1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.
- 1.7 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart.  
 Distance between targets (mm): 610 mm
- 1.8 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart.  
 Distance between targets (mm): 610 mm
- 1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.
- 1.10 Chalk the bottom portion of the steering wheel
- 1.11 Is this an offset test?  
 Yes, continue with this section  
 No, go to 2.
- 1.12 Measure the width of the vehicle.  
 Vehicle width (mm):



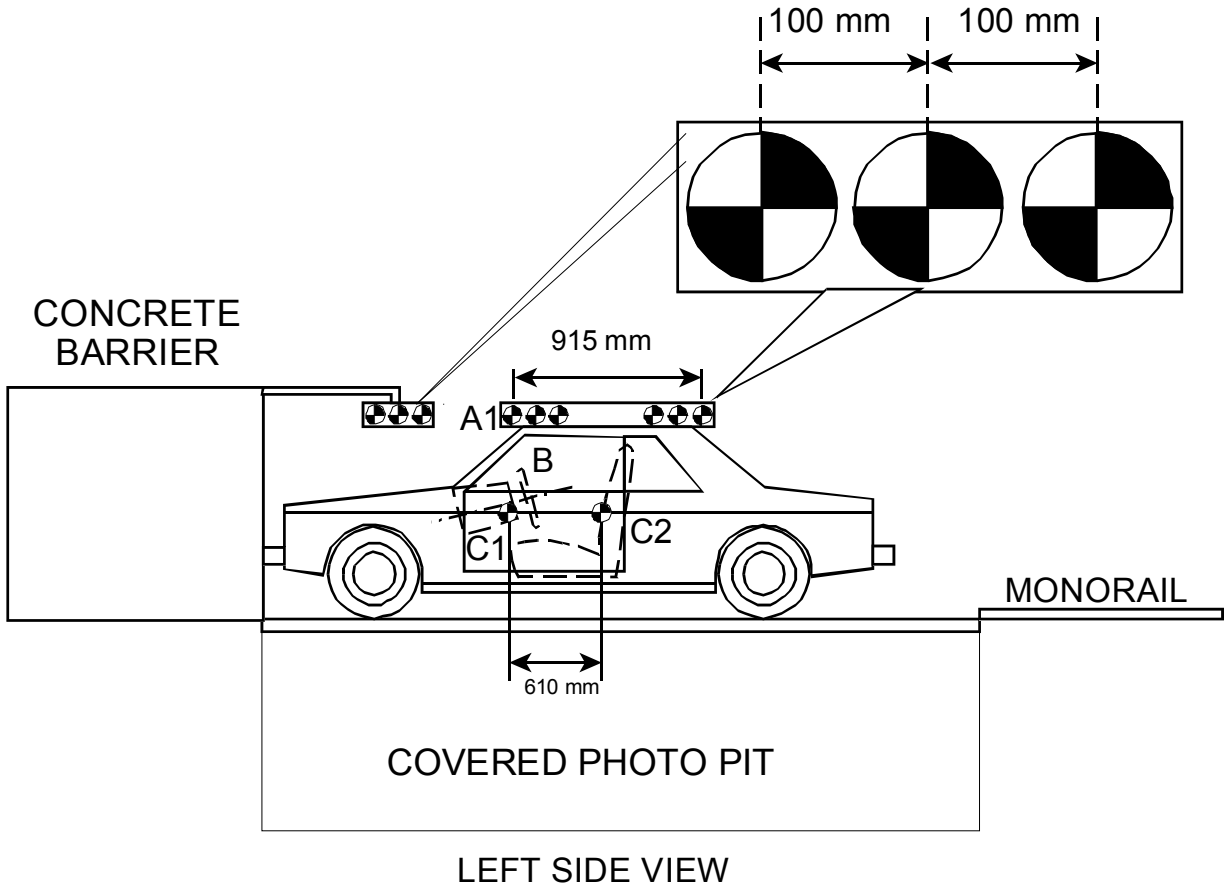
- 1.13 Find the centerline of the vehicle. ( $\frac{1}{2}$  of the vehicle width)
- 1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.
- 1.15 Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield. (Figure 28D)
2. Barrier Targeting
- 2.1 Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy
- 2.2 Targets D1 and D2 are on a rectangular panel.
- 2.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.
- Distance between circular targets on D1 (mm): 100 mm
- Distance between circular targets on D2 (mm): 100 mm
3. FMVSS 208 Dummy Targeting Requirements
- 3.1 Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
- 3.2 Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
- 3.3 Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
- 3.4 Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
4. FMVSS 204 Targeting Requirements
- 4.1 Is an FMVSS 204 indicant test ordered on the "COTR Vehicle Work Order?"
- Yes, continue with this form.
- No, this form is complete.
- 4.2 Resection panel (Figure 28C)
- 4.2.1 The panel deviates no more than 6 mm from perfect flatness when suspended vertically
- 4.2.2 The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.
- 4.2.3 The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.
- 4.2.4 Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.
- 4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.

-  4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.
-  4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash

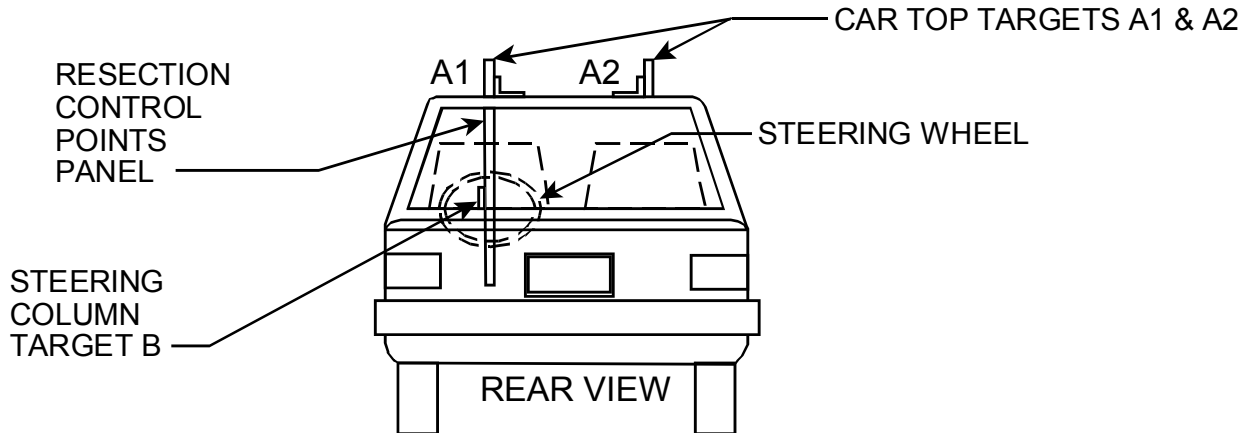
I certify that I have read and performed each instruction.

Signature:           *Jamie Costa*                Date:      4/27/07

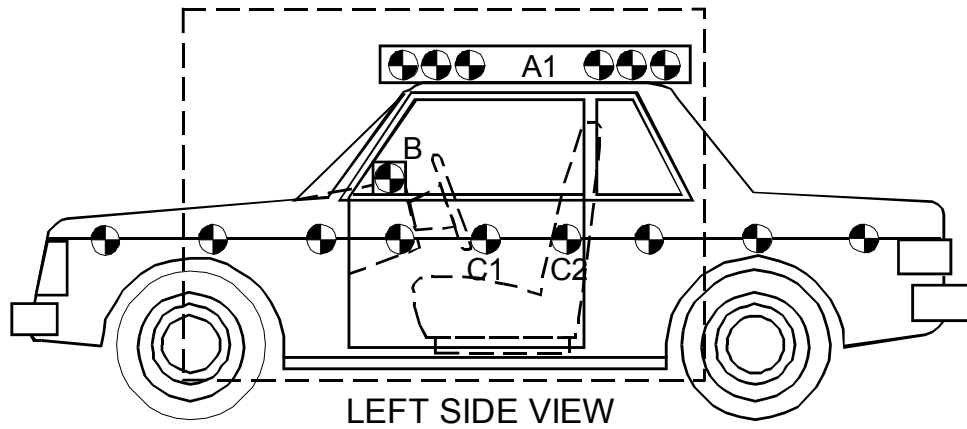
# REFERENCE PHOTO TARGETS



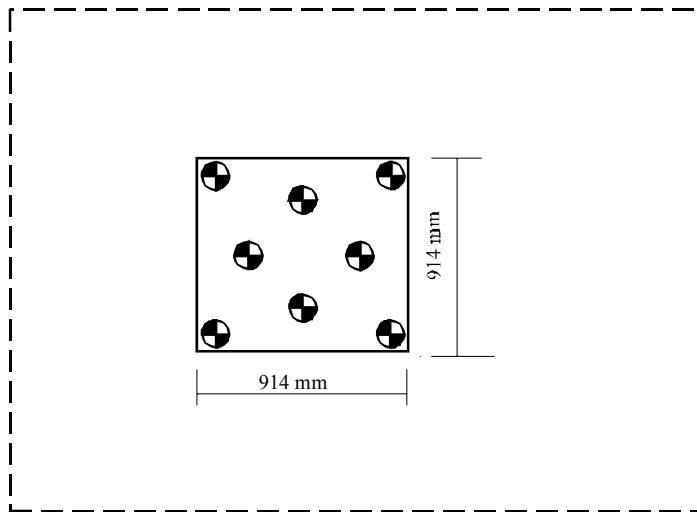
# RESECTION PANEL TARGETING ALIGNMENT



# TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION



# PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW



LEFT SIDE VIEW

**DATA SHEET 35**  
**CAMERA LOCATIONS**

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance

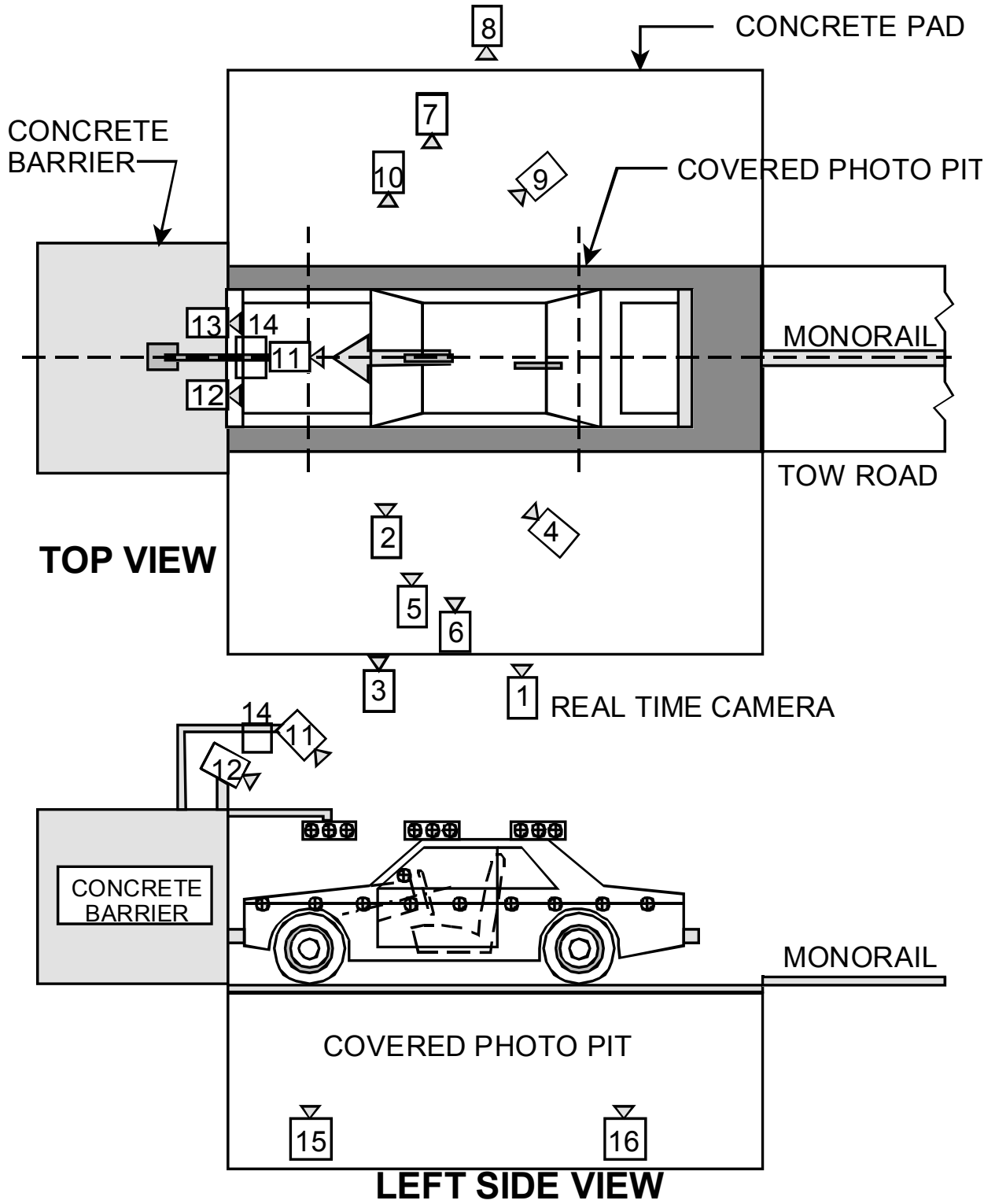
NHTSA No.: C60307  
Test Date: 4/27/07  
Time: 9:48 am

CAMERA NO.	VIEW	CAMERA POSITIONS (mm) *			LENS (mm)	SPEED (fps)
		X	Y	Z		
1	Real Time Left Side View				13	24
2	Left Side View (Barrier face to front seat backs)	860	-4200	1220	24	1000
3	Left Side View (Driver)	1420	-6650	1510	35	1000
4	Left Side View (B-post aimed toward center of steering wheel)	6900	-4770	2150	50	1000
5	Left Side View (Steering Column)	1400	-4820	1270	25	1000
6	Left Side View (Steering Column)	1400	-4820	880	25	1000
7	Right Side View (Overall)	2080	6840	1160	19	1000
8	Right Side View (Passenger)	1570	6410	1620	35	1000
9	Right Side View (Angle)	6900	4920	2150	50	1000
10	Right Side View (Front door)	1120	5360	1090	25	1000
11	Front View Windshield	-240	0	2800	12.5	1000
12	Front View Driver	-40	-480	2250	24	1000
13	Front View Passenger	-40	480	2250	24	1000
14	Overhead Barrier Impact View	1370	0	5050	19	1000
15	Pit Camera Engine View	1020	0	-3160	24	1000
16	Pit Camera Fuel Tank View	3160	0	-3160	24	1000

\*COORDINATES:

- +X - forward of impact plane
- +Y - right of monorail centerline
- +Z - above ground level

# CAMERA POSITIONS FOR FMVSS 208



## DATA SHEET 36

### APPENDIX G DUMMY POSITIONING PROCEDURES FOR 5<sup>th</sup>% DRIVER TEST DUMMY CONFORMING TO SUBPART O OF PART 572

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Joe Fleck

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

- X 1. Using the markings made from data sheet 14.3 (If not done previously or steering repairs have been made, complete data sheet 14.3 at this time.) to position the steering controls in the mid-position or if applicable next lowest detent position. (S16.2.9)
- X 2. Place the SCRIP in the full rearward, mid-height position, and mid-seat cushion angle, determined during the completion of Data Sheet 14.1. (S16.3.2.1.1)
- X 3. If the vehicle has an adjustable accelerator pedal, place it in the full forward position. (S16.3.2.2.1)  
X N/A accelerator pedal not adjustable
- X 4. Fully recline the seat back. (S16.3.2.1.2)  
 \_\_\_ N/A seat back not adjustable.
- X 5. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.2.1.2)
- X 6. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in Data Sheet 14.1. (S16.3.2.1.3 and S16.3.2.1.4)
- X 7. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.2.1.5)
- X 8. Set the angle between the legs and the thighs to 120 degrees. (S16.3.2.1.6)
- X 9. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches) Center the knee separation with respect to the longitudinal seat cushion marking as determined Data Sheet 14.1. (S16.3.2.1.6)  
 Record Knee Separation 165
- X 10. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.2.1.6)  
 \_\_\_ Pelvis contacted seat back.  
X Calves contacted seat cushion.



11. Gently rock the upper torso  $\pm 5$  degrees (approximately 51 mm (2 inches)) side-to-side three times. (S16.3.2.1.7)
12. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.2.1.8)
13. Position the right foot until the foot is in line with a longitudinal vertical plane passing through the center of the accelerator pedal. Maintain the leg and thigh in a vertical plane. (S16.3.2.1.8)
14. Rotate the left leg and thigh laterally to equalize the distance between each knee and the longitudinal seat cushion marking as determined in Data Sheet 14.1. (S16.3.2.1.8)
15. Attempt to return the seat to the foremost fore-aft position, mid-height, and seat cushion mid-angle as determined in Data Sheet 14.2. The foot may contact and depress the accelerator and/or change the angle of the foot with respect to the leg. (S16.3.2.1.8)
- Foremost position achieved. Proceed to step 20.
- Foremost not achieved because of foot interference. Proceed to step 17.
- Foremost not achieved because of steering wheel contact.
16. If either of the dummy's legs contact the steering wheel, move the steering wheel up the minimum amount required to avoid contact. If the steering wheel is not adjustable separate the knees the minimum required to avoid contact. (S16.3.2.1.8)
- N/A- there was no leg contact
- Steering wheel repositioned
- Knees separated
17. If the left foot interferes with the clutch or brake pedals, rotate the left foot about the leg to provide clearance. If this is not sufficient, rotate the thigh outboard at the hip the minimum amount required for clearance. (S16.3.2.1.8)
- N/A, No foot interference with pedals.
- Foot adjusted to provide clearance.
- Foot and Thigh adjusted to provide clearance.
18. Continue to move the seat. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14.1 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
- Foremost, mid-height position and the seat cushion mid-angle reached
- Dummy contact. Clearance set at maximum of 5mm  
Measured Clearance \_\_\_\_\_
- Dummy Contact. Seat set at nearest detent position.  
Seat position \_\_\_\_ detent positions rearward of foremost  
(foremost is position zero)

19. If the steering wheel was repositioned in step 16, return the steering wheel to the original position. If the steering wheel contacts the dummy before reaching the original position, position the wheel until a maximum clearance of 5mm (.2 inches) is achieved, or the steering wheel is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)

N/A Steering wheel was not repositioned.

Original position achieved.

Dummy contact. Clearance set at maximum of 5mm

Measured Clearance \_\_\_\_\_

Dummy Contact. Steering wheel set at nearest detent position.

Steering wheel position \_\_\_ detent positions upward of original position.

(Original position is position zero)

20. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level  $\pm 0.5$  degrees. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.2.1.9)

Head Level Achieved. (Check all that apply)

Head leveled using the adjustable seat back

Head leveled using the neck bracket.

Head Angle 0.3 degrees

Head Level NOT Achieved. (Check all that apply)

Head adjusted using the adjustable seat back

Head adjusted using the neck bracket.

Head Angle \_\_\_\_\_ degrees

21. Verify the pelvis is not interfering with the seat bight. (S16.3.2.1.9)

No interference

Pelvis moved forward the minimum amount so that it is not caught in the seat bight.

22. Verify the dummy abdomen is properly installed. (S16.3.2.1.9)

Abdomen still seated properly into dummy

Abdomen was adjusted because it was not seated properly into dummy

23. Head Angle

N/A, neither the pelvis nor the abdomen were adjusted.

23.1 Head still level (Go to 24)

23.2 Head level adjusted

Head Level Achieved. (Check all that apply)

Head leveled using the adjustable seat back

Head leveled using the neck bracket.

Head Angle \_\_\_\_\_ degrees

Head Level NOT Achieved. (Check all that apply)

Head level adjusted using the adjustable seat back

Head level adjusted using the neck bracket.

Head Angle \_\_\_\_\_ degrees

24. If the dummy torso contacts the steering wheel while performing step 20, reposition the steering wheel in the following order to eliminate contact. (S16.3.2.1.9)  
 N/A, No dummy torso contact with the steering wheel.

24.1 Adjust telescoping mechanism.

N/A No telescoping adjustment.

Adjustment performed (fill in appropriate change)

Steering wheel moved \_\_\_\_\_ detent positions in the forward direction.

Steering wheel moved \_\_\_\_\_ mm in the forward direction.

24.2 Adjust tilt mechanism.

N/A No tilt adjustment.

No adjustment performed.

Adjustment performed.

Steering wheel moved \_\_\_\_\_ detent positions Upward/Downward.  
(circle one)

Steering wheel moved \_\_\_\_\_ degrees Upward/Downward

24.3 Adjust Seat in the aft direction.

No Adjustment performed.

Seat moved aft \_\_\_\_\_ mm from original position.

Seat moved aft \_\_\_\_\_ detent positions from the original position.

25. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees  $\pm$  2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level or because the dummy will have need major repositioning, adjust the pelvis as closely as possible to the angle range, but keep the head level. (S16.3.2.1.11)

Pelvic angle set to 20.0 degrees  $\pm$  2.5 degrees.

Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.

Record the pelvic angle. 21.5 degrees

26. Check the dummy for contact with the interior after completing adjustments.  
(S16.3.2.1.12)

No contact.

Dummy in contact with interior.

Seat moved aft \_\_\_\_\_ mm from the previous position.

Seat moved aft \_\_\_\_\_ detent positions from the previous position.

27. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.2.1.12)

N/A, Seat already at foremost position.

Clearance unchanged. No adjustments required.

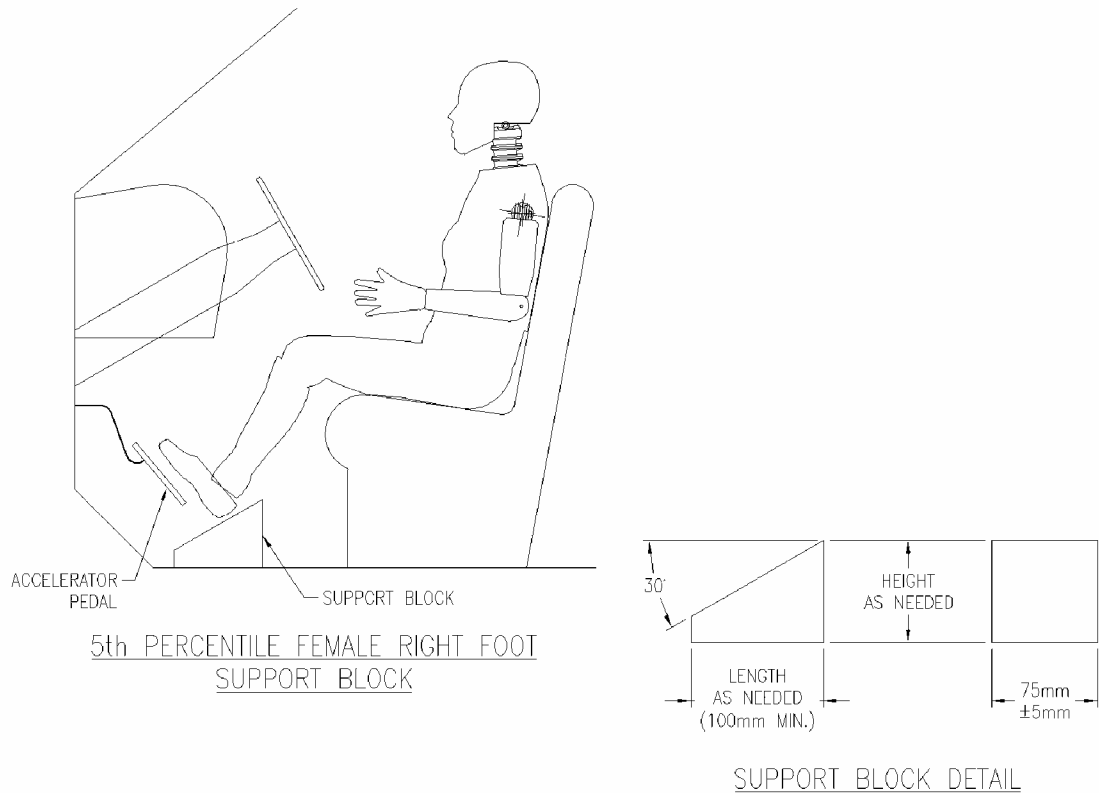
Additional clearance available

Seat moved Forward \_\_\_\_\_ mm from the previous position.

Seat moved Forward \_\_\_\_\_ detent positions from the previous position.

28. Driver's foot positioning, right foot. Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 29 otherwise, **proceed to step 30**. (S16.3.2.2.1)

- \_\_29. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 29.6 shall be completed in all cases. (S16.3.2.2.1(a))
- \_\_29.1 With the rear of the heel contacting the floor pan, move the foot forward until pedal contact occurs or the foot is at the full forward position.
- \_\_29.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position.
- \_\_29.3 Extend the leg, allowing the heel to lose contact with the floor until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- \_\_29.4 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- \_\_29.5 Align the centerline of the foot with the vertical-longitudinal plane passing through the center of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- \_\_29.6 Record foot position
- \_\_Pedal Contact achieved. Contact occurred at step \_\_\_\_.
- \_\_Heel contacts floor pan
- \_\_Heel set \_\_\_\_ mm from floor pan.
- \_\_Pedal Contact not achieved. Heel set \_\_\_\_ mm from the floor pan.



**FIGURE G1**

- X 30. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 30.5 shall be completed in all cases.
- X 30.1 Extend the leg until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.1(b) & S16.3.2.2.3)
- 30.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.1(b) & S16.3.2.2.3)  
   N/A No pedal adjustment
- 30.3 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.2 & S16.3.2.2.3)
- 30.4 Align the centerline of the foot in the same horizontal plane as the centerline of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)

X 30.5 Record foot position

X Pedal Contact achieved. Contact occurred at step 30.1.

X Heel set 45 mm from floor pan.

   Pedal Contact not achieved. Heel set        mm from the floor pan.

X 31. Driver's foot positioning, left foot.

X 31.1 Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan **proceed to step 31.2**, otherwise position the leg as perpendicular to the thigh as possible with the foot parallel to the floor pan. (S16.2.2.6)

   31.2 Place the foot on the toe board with the heel resting on the floor pan as close to the intersection of the floor pan and the toe board as possible. Adjust the angle of the foot if necessary to contact the toe board. If the foot will not contact the toe board, set the foot perpendicular to the leg, and set the heel on the floor pan as far forward as possible. Avoid contact with the brake pedal, clutch pedal, wheel well projection, and footrest. To avoid this contact use the following three manipulations in the order listed, with each subsequent option incorporating the previous, until contact is avoided: rotate the foot about the lower leg (abduction/adduction), plantar flex the foot, rotate the leg outboard about the hip. Movement should be the minimum amount necessary. If it is not possible to avoid all foot contact, give priority to avoiding brake or clutch pedal contact. (S16.2.2.4 & S16.2.2.5 & S16.2.2.7)

   No contact

   Foot rotated about the leg (abduction/adduction)

   Foot rotated about the leg, and foot plantar flexed

   Foot rotated about the leg, foot plantar flexed, and the leg rotated about the hip.

X 31.3 Record foot position.

X Heel does not contact floor pan.

   Heel on floor pan and foot on toe board.

   Heel on floor pan and foot not on toe board.

X 32. Driver arm/hand positioning.

X 32.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.2.3.1)

X 32.2 Place the palms of the dummy in contact with the outer part of the steering wheel rim at its horizontal centerline with the thumbs over the steering wheel rim. (S16.3.2.3.2)

X 32.3 If it is not possible to position the thumbs inside the steering wheel rim at its horizontal centerline, then position them above and as close to the horizontal centerline of the steering wheel rim as possible. (S16.3.2.3.3)

X 32.4 Lightly tape the hands to the steering wheel rim so that if the hand of the test dummy is pushed upward by a force of not less than 9 N (2 lb) and not more than 22 N (5 lb), the tape releases the hand from the steering wheel rim. S16.3.2.3.4

X 33. Adjustable head restraints

   N/A, there is no head restraint adjustment

- 33.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 34.
- 33.2 Adjust each head restraint vertically so that the mid-horizontal plane determined in Data Sheet 14.1 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)
- 33.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)  
 N/A midpoint position attained in previous step  
 Headrest set at nearest detent below the head CG
- 33.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)
34. Driver and passenger manual belt adjustment (for tests conducted with a belted dummy). (S16.3.5) UNBELTED TEST
- 34.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female. (S16.3.5.1) **This information will be supplied by the COTR.**  
 Manufacturer's specified position \_\_\_\_\_  
 Actual Position \_\_\_\_\_
- 34.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)
- 34.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)
- 34.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

REMARKS:

I certify that I have read and performed each instruction.

Signature: Joe Flick

Date: 4/27/07

## APPENDIX G

### DUMMY POSITIONING PROCEDURES FOR 5<sup>th</sup>% PASSENGER TEST DUMMY CONFORMING TO SUBPART O OF PART 572

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Joe Fleck

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

(Check this item ONLY if it applies to this vehicle.)

     The passenger seat adjustments are controlled by the adjustments made to the driver's seat. Therefore, positioning of the passenger dummy is made simultaneously with the driver dummy. Adjustments made to the seat to position the driver will over ride any adjustments that would normally be made to position the passenger. (S16.2.10.3)

- X 1. Place the SCRIP in the full rearward, mid-height position, and mid-seat cushion angle, determined during the completion of Data Sheet 14.1. (S16.3.3.1.1)
- X 2. Fully recline the seat back. (S16.3.3.1.2)  
     N/A seat back not adjustable.
- X 3. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.3.1.2)
- X 4. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion marking that was determined in Data Sheet 14.1. (S16.3.3.1.3 and S16.3.3.1.4)
- X 5. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.3.1.5)
- X 6. Set the angle between the legs and the thighs to 120 degrees. (S16.3.3.1.6)
- X 7. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches). Center the knee separation with respect to the longitudinal seat cushion marking that was determined Data Sheet 14.1. (S16.3.3.1.6)  
Record Knee Separation     166
- X 8. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.3.1.6)  
     Pelvis contacted seat back.  
X Calves contacted seat cushion.
- X 9. Gently rock the upper torso  $\pm$  5 degrees (approximately 51 mm (2 inches)) side-to-side three times. (S16.3.3.1.7)



10. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.3.1.8)
11. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14.1 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.3.1.8)
- Foremost, mid-height position and the seat cushion mid-angle reached
- Dummy contact. Clearance set at maximum of 5mm  
Measured Clearance \_\_\_\_\_
- Dummy Contact. Seat set at nearest detent position.  
Seat position \_\_\_ detent positions rearward of foremost  
(foremost is position zero)
12. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level  $\pm 0.5$  degrees. If head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, adjust the head as closely as possible to the  $\pm 0.5$  degree range. (S16.3.3.1.9 and S16.3.3.1.10)
- (Check All That Apply)
- Seat back not adjustable
- Seat back not independent of driver side seat back
- Head Level Achieved. (Check all that apply)
- Head leveled using the adjustable seat back
- Head leveled using the neck bracket.  
Head Angle 0.1 degrees
- Head Level NOT Achieved. (Check all that apply)
- Head adjusted using the adjustable seat back
- Head adjusted using the neck bracket.  
Head Angle \_\_\_\_\_ degrees
13. Verify the pelvis is not interfering with the seat bight. (S16.3.3.1.9)
- No interference
- Pelvis moved forward the minimum amount so that it is not caught in the seat bight.
14. Verify the dummy abdomen is properly installed. (S16.3.3.1.9)
- Abdomen still seated properly into dummy
- Abdomen was adjusted because it was not seated properly into dummy
15. Head Angle
- N/A, neither the pelvis nor the abdomen were adjusted.
- 15.1 Head still level (Go to 16)

15.2 Head level adjusted

   Head Level Achieved. (Check all that apply)

   Head leveled using the adjustable seat back

   Head leveled using the neck bracket.

Head Angle \_\_\_\_\_ degrees

   Head Level NOT Achieved. (Check all that apply)

   Head adjusted using the adjustable seat back

   Head adjusted using the neck bracket.

Head Angle \_\_\_\_\_ degrees

X 16. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees  $\pm$  2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level or because the dummy will have need major repositioning, adjust the pelvis as closely as possible to the angle range, but keep the head level.

X Pelvic angle set to 20.0 degrees  $\pm$  2.5 degrees.

   Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.

X Record the pelvic angle.    20.4    degrees

X 17. Check the dummy for contact with the interior after completing adjustments.

X No contact.

   Dummy in contact with interior.

   Seat moved aft \_\_\_\_\_ mm from the previous position.

   Seat moved aft \_\_\_\_\_ detent positions from the previous position.

X 18. Verify the transverse instrument platform of the dummy head is level +/- 0.5 degrees. Use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.3.1.9, S16.3.3.1.10, and S16.3.3.1.11)

X Head Level Achieved

Head Angle    0.1    degrees

   Head Level NOT Achieved.

Head Angle \_\_\_\_\_ degrees

X 19. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.3.1.12)

   N/A Bench Seat

X N/A Seat already at full forward position.

   Clearance unchanged. No adjustments required.

   Additional clearance available

   Seat moved Forward \_\_\_\_\_ mm from the previous position.

   Seat moved Forward \_\_\_\_\_ detent positions from the previous position.

   Seat moved Forward, Full Forward position reached.

X 20. Passenger foot positioning. (Indicate final position achieved) (S16.3.3.2)

   20.1 Place feet flat on the toe board; OR (S16.3.3.2.1)

X 20.2 If the feet cannot be placed flat on the toe board, set the feet perpendicular to the lower leg, and rest the heel as far forward on the floor pan as possible; OR (S16.3.3.2.2)

   20.3 If the heels do not touch the floor pan, set the legs as perpendicular to the thighs as possible and set the feet parallel to the floor pan. (S16.3.3.2.2)

21. Passenger arm/hand positioning. (S16.3.3.3)

21.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.3.3.1)

21.2 Place the palms of the dummy in contact with the outer part of the thighs (S16.3.3.3.2)

21.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)

22. Adjustable head restraints (S16.3.4)

N/A, there is no head restraint adjustment

22.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 23.

22.2 Adjust each head restraint vertically so that the horizontal plane determined in Data Sheet 14.1 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

22.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)

N/A midpoint position attained in previous step

Headrest set at nearest detent below the head CG

22.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)

23. Manual belt adjustment (for tests conducted with a belted dummy) S16.3.5

N/A, Unbelted test

23.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female. **This information will be supplied by the COTR.** (S16.3.5.1)

Manufacturer's specified position \_\_\_\_\_

Actual Position \_\_\_\_\_

23.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)

23.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)

23.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

REMARKS:

I certify that I have read and performed each instruction.



Signature: \_\_\_\_\_

Date: 4/27/07

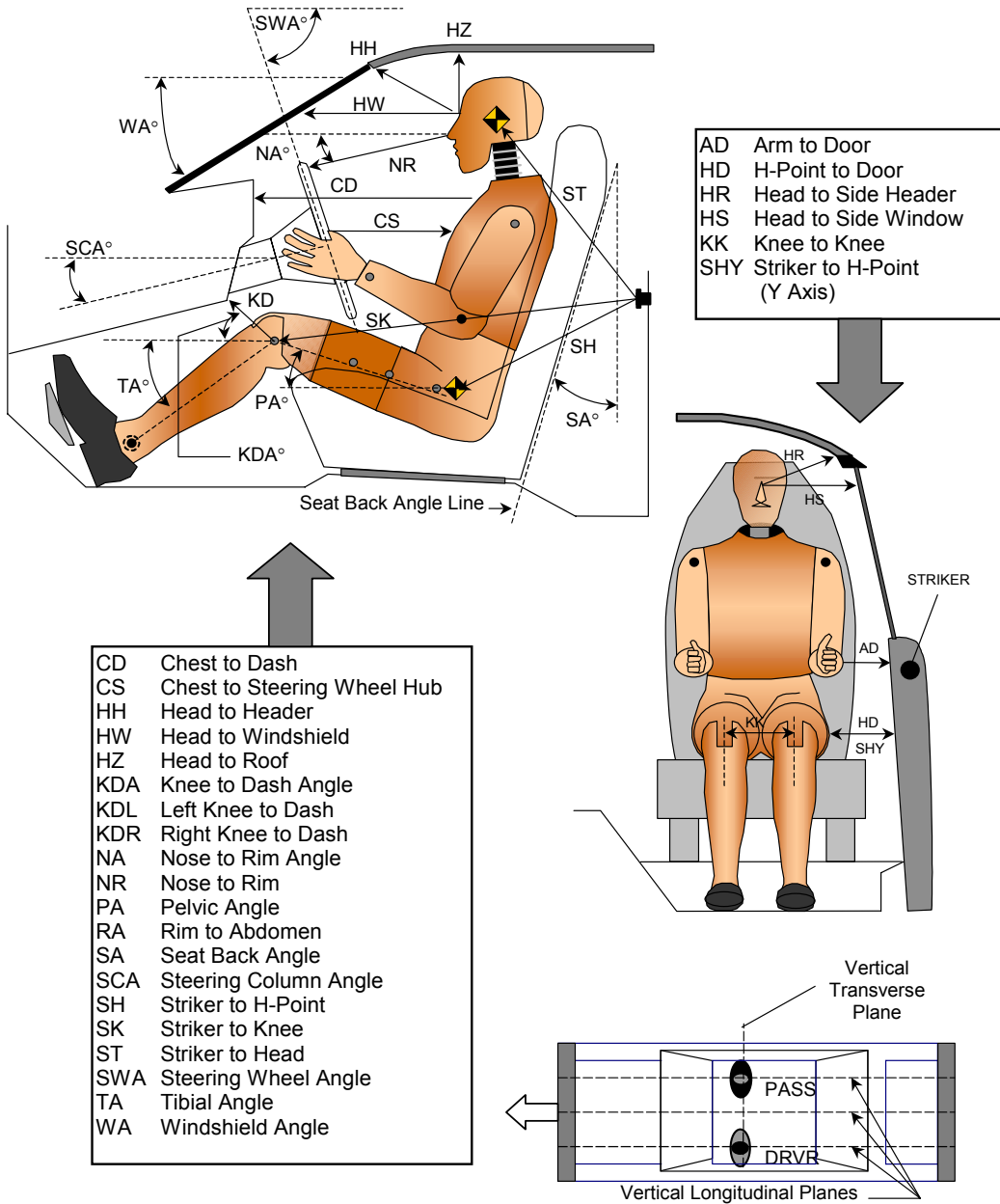
# DATA SHEET 37

## DUMMY MEASUREMENTS

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Joe Fleck

NHTSA No.: C60307  
 Test Date: 4/27/07

### DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



**DATA SHEET 37**  
**DUMMY MEASUREMENTS**

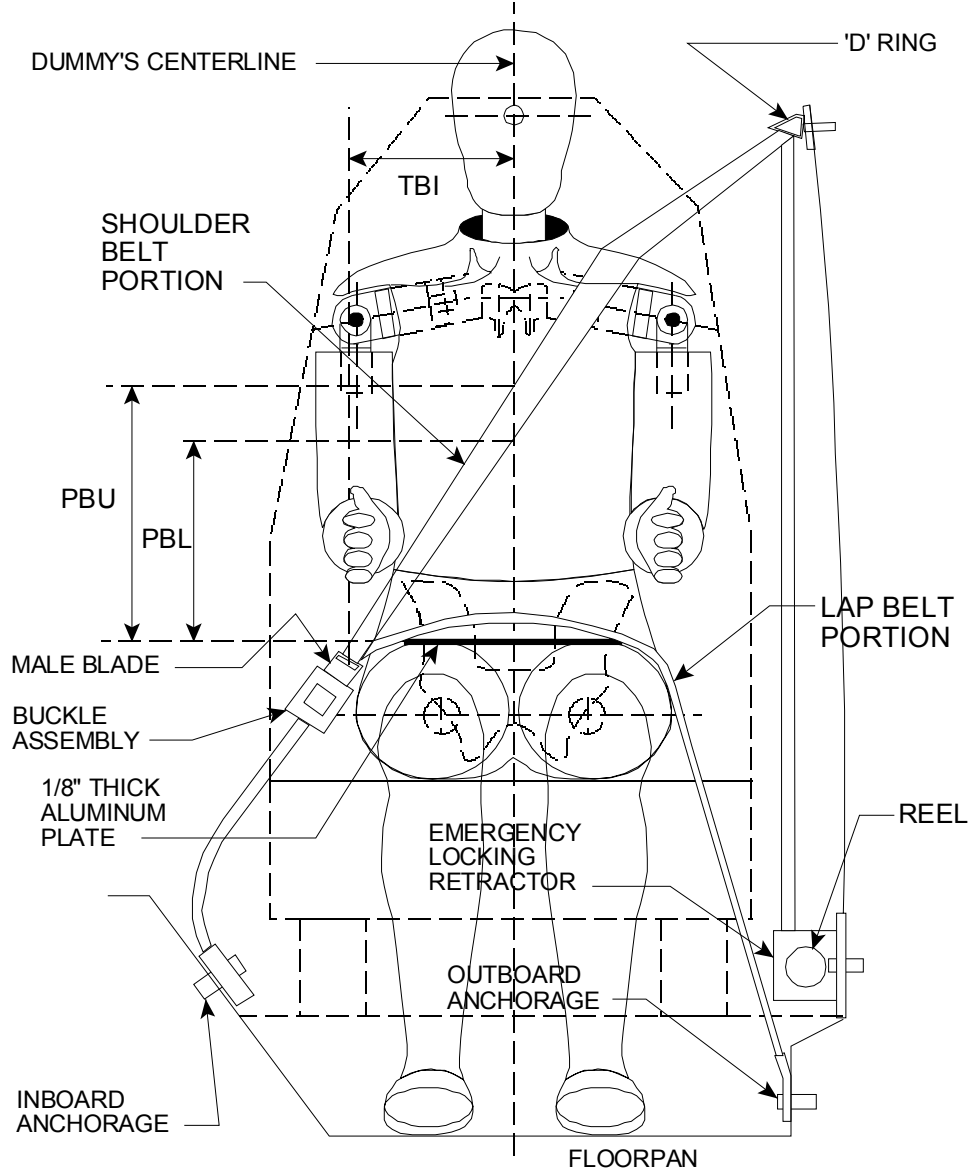
Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Joe Fleck

NHTSA No.: C60307  
 Test Date: 4/27/07

**TEST DUMMY POSITION MEASUREMENTS**

Code	Measurement Description	Driver SN 516		Passenger SN 506	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		31.6		
SWA	Steering Wheel Angle		67.0		
SCA	Steering Column Angle		23.6		
SA	Seat Back Angle (On Headrest)		16.9		18.7
HZ	Head to Roof (Z)	258		248	
HH	Head to Header	383	42.4	379	42.7
HW	Head to Windshield	707	0.0	692	0.0
HR	Head to Side Header (Y)	253		249	
NR	Nose to Rim	297	8.3		
CD	Chest to Dash	484		342	
CS	Chest to Steering Hub	237	3.3		
RA	Rim to Abdomen	103	0.0		
KDL	Left Knee to Dash	77	25.4	77	
KDR	Right Knee to Dash	74		86	27.6
PA	Pelvic Angle		21.5		20.4
TA	Tibia Angle		75.0		74.9
KK	Knee to Knee (Y)	280		214	
SK	Striker to Knee	862	87.3	846	90.3
ST	Striker to Head	680	35.3	683	37.7
SH	Striker to H-Point	517	87.8	517	91.4
SHY	Striker to H-Point (Y)	326		315	
HS	Head to Side Window	347		351	
HD	H-Point to Door (Y)	215		223	
AD	Arm to Door (Y)	162		220	
AA	Ankle to Ankle	251		163	

# SEAT BELT POSITIONING DATA



## FRONT VIEW OF DUMMY

### SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU - Top surface of reference to belt upper edge	mm	N/A	N/A
PBL - Top surface of reference to belt lower edge	mm	N/A	N/A

## DATA SHEET 38

### CRASH TEST

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Joe Fleck

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<u>X</u> 32 to 40 kmph	<u>  </u> 0 to 48 kmph	<u>  </u> 0 to 56 kmph
DRIVER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>  </u> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<u>X</u> 5 <sup>th</sup> female	<u>  </u> 50 <sup>th</sup> male	

- 1. Vehicle underbody painted
- 2. The speed measuring devices are in place and functioning.
- 3. The speed measuring devices are 1.0 m from the barrier (spec. 1.5m) and 30 cm from the barrier (spec. is 30 cm)
- 4. Convertible top is in the closed position.
- N/A, not a convertible
- 5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
- 6. Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.

240 kpa front left tire    240 kpa specified on tire placard or in owner information  
240 kpa front right tire    240 kpa specified on tire placard or in owner information  
240 kpa rear left tire    240 kpa specified on tire placard or in owner information  
240 kpa rear right tire    240 kpa specified on tire placard or in owner information

- 7. Time zero contacts on barrier in place.
- 8. Pre test zero and shunt calibration adjustments performed and recorded
- 9. Dummy temperature meets requirements of section 12.2 of the test procedure.
- 10. Vehicle hood closed and latched
- 11. Transmission placed in neutral
- 12. Parking brake off
- 13. Ignition in the ON position
- 14. Doors closed and latched but not locked
- 15. Posttest zero and shunt calibration checks performed and recorded
- 16. Actual test speed 39.8 kmph
- 17. Vehicle rebound from the barrier 33 cm
- 18. Describe whether the doors open after the test and what method is used to open the doors.
  - Left Front Door: Door remained closed and latched; Door opened without tools
  - Right Front Door: Door remained closed and latched; Door opened without tools
  - Left Rear Door: Door remained closed and latched; Door opened without tools
  - Right Rear Door: Door remained closed and latched; Door opened without tools

X

19. Describe the contact points of the dummy with the interior of the vehicle.

X

Driver Dummy: Head to Air Bag, Windshield and Headrest; Chest to Air Bag; Knees to Knee Bolster

X

Passenger Dummy: Head to Air Bag, Visor and Headrest; Chest to Air Bag; Knees to Glove Box

REMARKS:

I certify that I have read and performed each instruction.

*Joe Fleck*

Signature: \_\_\_\_\_

Date: 4/27/07



**DATA SHEET NO. 40**

**ACCIDENT INVESTIGATION MEASUREMENTS**

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

Vehicle Year/Make/Model/Body Style:	2006 Dodge Ram Truck
VIN:	1D7HA16N36J176008
Wheelbase:	3566 mm
Build Date:	1/06
Vehicle Size Category:	6
Test Weight:	2446.2 kg
Front Overhang:	990 mm
Overall Width:	2017 mm
Overall Length Center:	5826 mm

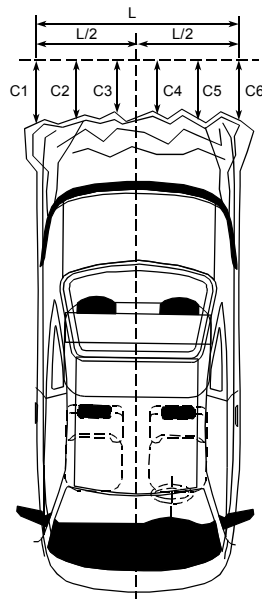
Accelerometer Data	
Location:	As per measurements on Data Sheet 33
Linearity:	>99.9%

Integration Algorithm:	Trapezoidal
Vehicle Impact Speed:	39.8 kmph
Time of Separation:	94.6 ms
Velocity Change:	44.5 kmph

## CRUSH PROFILE

Collision Deformation Classification: 12FDEW6  
 Midpoint of Damage: Vehicle Longitudinal Centerline  
 Damage Region Length (mm): 1780  
 Impact Mode: Frontal Barrier

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	5620	5436	184
C2	Crush zone 2 at left side	mm	5748	5484	264
C3	Crush zone 3 at left side	mm	5806	5466	340
C4	Crush zone 4 at right side	mm	5807	5472	335
C5	Crush zone 5 at right side	mm	5748	5482	266
C6	Crush zone 6 at right side	mm	5622	5464	158



REMARKS:

I certify that I have read and performed each instruction.

Signature: *Jamie Custer*

Date: 4/27/07

**DATA SHEET 41**  
**WINDSHIELD MOUNTING (FMVSS 212)**

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

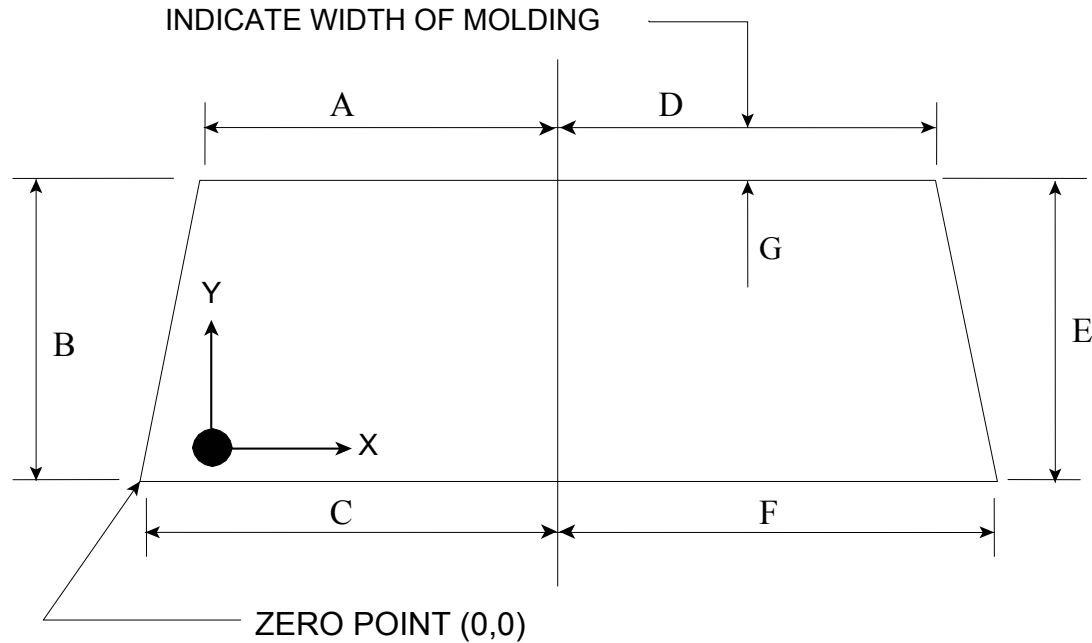
1. Pre-Crash
- 1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.
- Retained with glue  
Rubber trim
- 1.2 Mark the longitudinal centerline of the windshield
- 1.3 Measure pre-crash A, B, and C for the left side and record in the chart below.
- 1.4 Measure pre-crash C, D, and E for the right side and record in the chart below.
- 1.5 Measure from the edge of the retainer or molding to the edge of the windshield.
- Dimension G (mm): 18 mm
2. Post Crash
- 2.1 Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?
- No – Pass. Skip to the table of measurements, complete it by repeating the pre-crash measurements in the post crash column, and calculate the retention percentage, which will be 100%.
- Yes, go to 2.2
- 2.2 Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.
- 2.3 Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.
- 2.4 Calculate and record the percent retention for the right and left side of the windshield.
- 2.5 Is total right side percent retention less than 75%?
- Yes, Fail
- No, Pass
- 2.6 Is total left side percent retention less than 75%?
- Yes, Fail
- No, Pass

## WINDSHIELD RETENTION MEASUREMENTS

	Dimension	Pre-Crash (mm)	Post-Crash (mm)	Percent Retention (Post-Test ÷ Pre-Crash)
Left Side	A	688	688	100%
	B	807	807	100%
	C	850	850	100%
	Total	2345	2345	100%
Right Side	D	688	688	100%
	E	807	807	100%
	F	850	850	100%
	Total	2345	2345	100%

Indicate area of mounting failure. NONE

### FRONT VIEW OF WINDSHIELD



REMARKS:

I certify that I have read and performed each instruction.

Signature: *Jamie Curtis*

Date: 4/27/07

**DATA SHEET 42**  
**WINDSHIELD ZONE INTRUSION (FMVSS 219)**

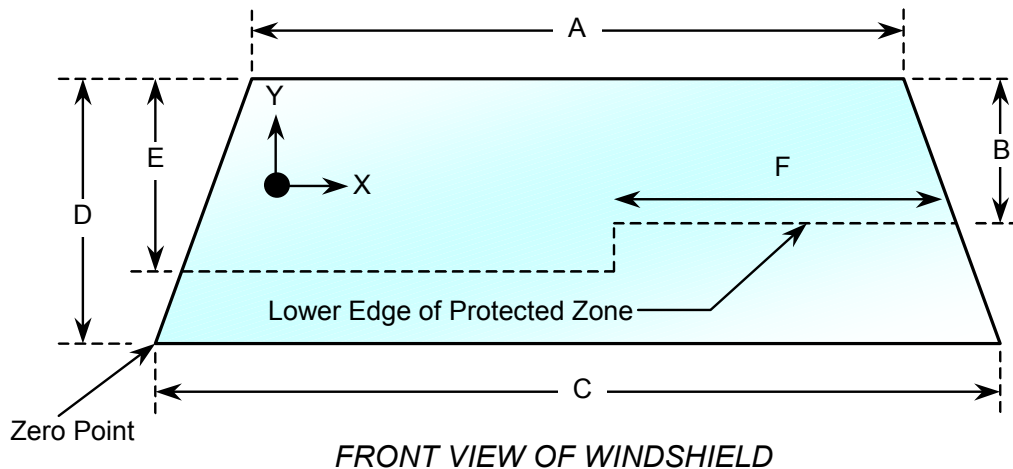
Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance  
 Test Technician: Jamie Aide

NHTSA No.: C60307  
 Test Date: 4/27/07

IMPACT ANGLE:	Zero Degrees		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	<input checked="" type="checkbox"/> 32 to 40 kmph	<input type="checkbox"/> 0 to 48 kmph	<input type="checkbox"/> 0 to 56 kmph
DRIVER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	
PASSENGER DUMMY:	<input checked="" type="checkbox"/> 5 <sup>th</sup> female	<input type="checkbox"/> 50 <sup>th</sup> male	

- 1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))
- 2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))
- 3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))
- 4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3
- 5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

Provide all dimensions necessary to reproduce the protected area.



### WINDSHIELD DIMENSIONS

Item	Units	Value
A	mm	1376
B	mm	481
C	mm	1700
D	mm	807
E	mm	538
F	mm	395

**AREA OF PROTECTED ZONE FAILURES:**

- B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

X	Y
NONE	

- C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component.

X	Y
NONE	

**REMARKS:**

I certify that I have read and performed each instruction.

Signature:           *Jamie Costa*                Date:                      4/27/07

**DATA SHEET 43**

**FUEL SYSTEM INTEGRITY (FMVSS 301)**

Test Vehicle: 2006 Dodge Ram  
Test Program: FMVSS 208 Compliance  
Test Technician: Daniel Sienko

NHTSA No.: C60307  
Test Date: 4/27/07

TYPE OF IMPACT:	25 mph Unbelted Flat Frontal
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**Stoddard Solvent Spillage Measurements**

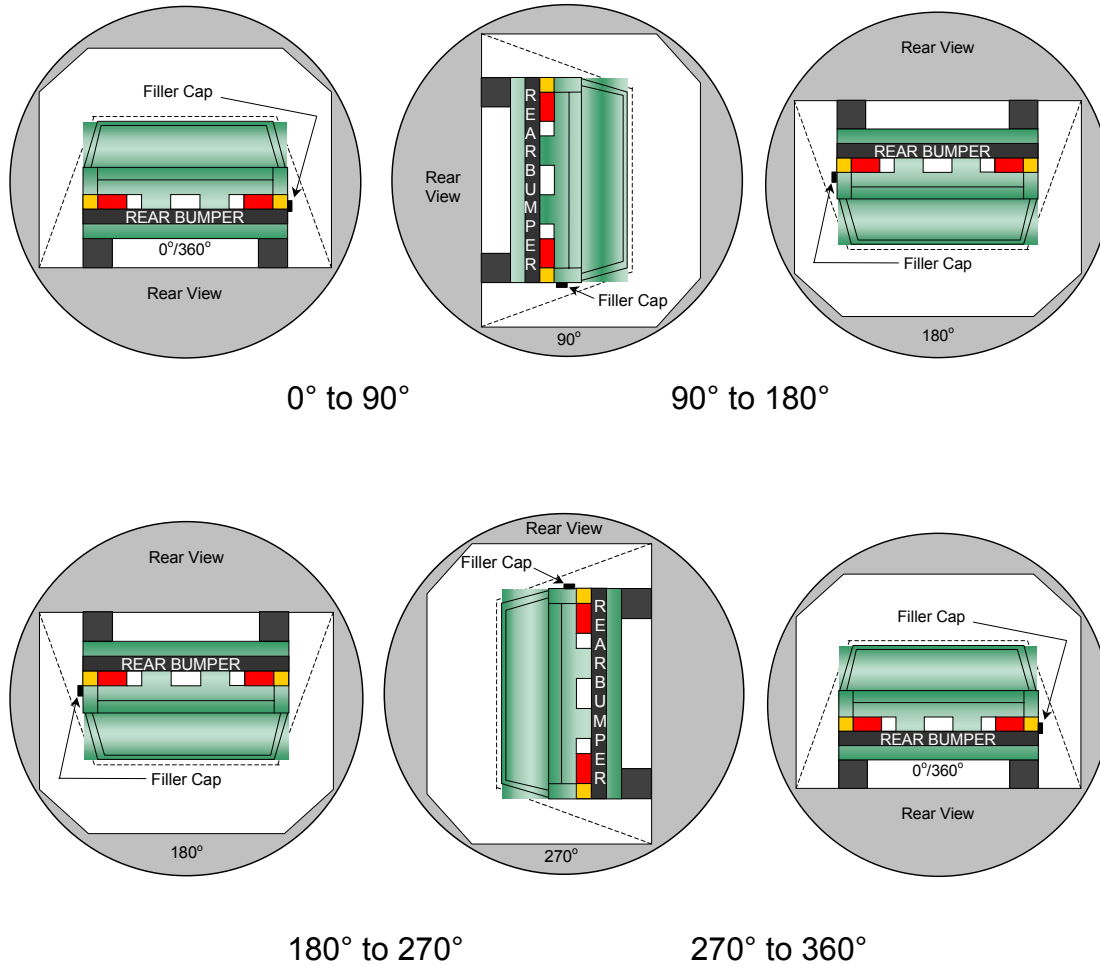
- A. From impact until vehicle motion ceases: 0.0 grams  
(Maximum Allowable = 28 grams)
- B. For the 5 minute period after motion ceases: 0.0 grams  
(Maximum Allowable = 142 grams)
- C. For the following 25 minutes: 0.0 grams  
(Maximum Allowable = 28 grams/minute)
- D. Spillage: NONE

REMARKS: NO SPILLAGE

**DATA SHEET NO. 43**  
**FMVSS 301 STATIC ROLLOVER DATA**

Test Vehicle: 2006 Dodge Ram  
 Test Program: FMVSS 208 Compliance

NHTSA No.: C60307  
 Test Date: 4/27/07



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations: **None**

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (grams)
0° to 90°	164	311	0.0
90° to 180°	149	314	0.0
180° to 270°	144	320	0.0
270° to 360°	172	313	0.0



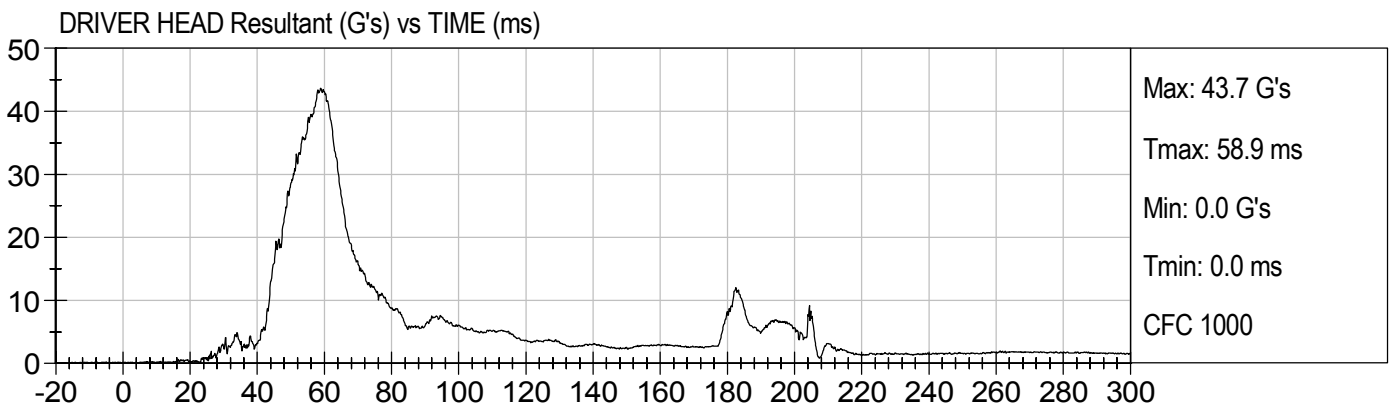
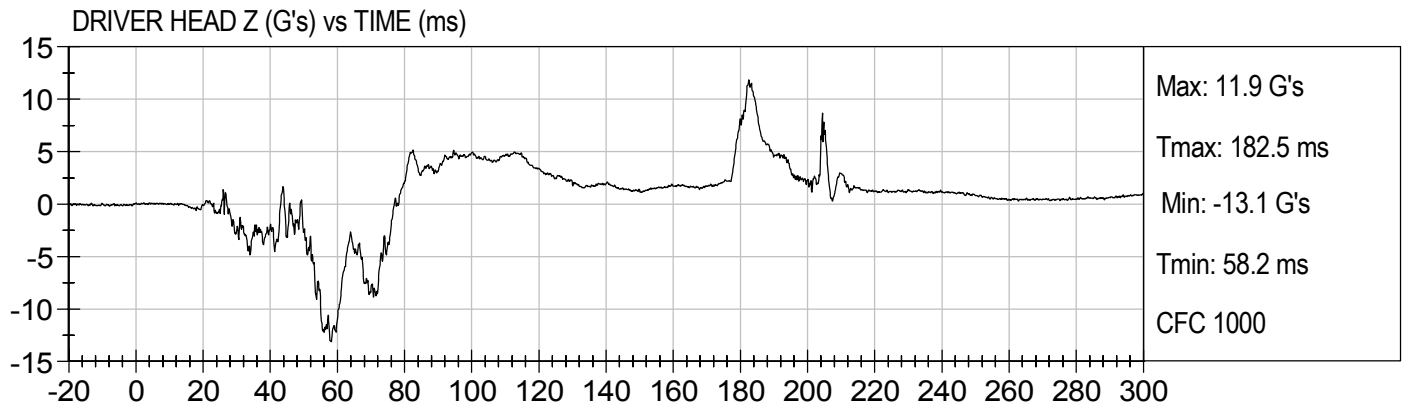
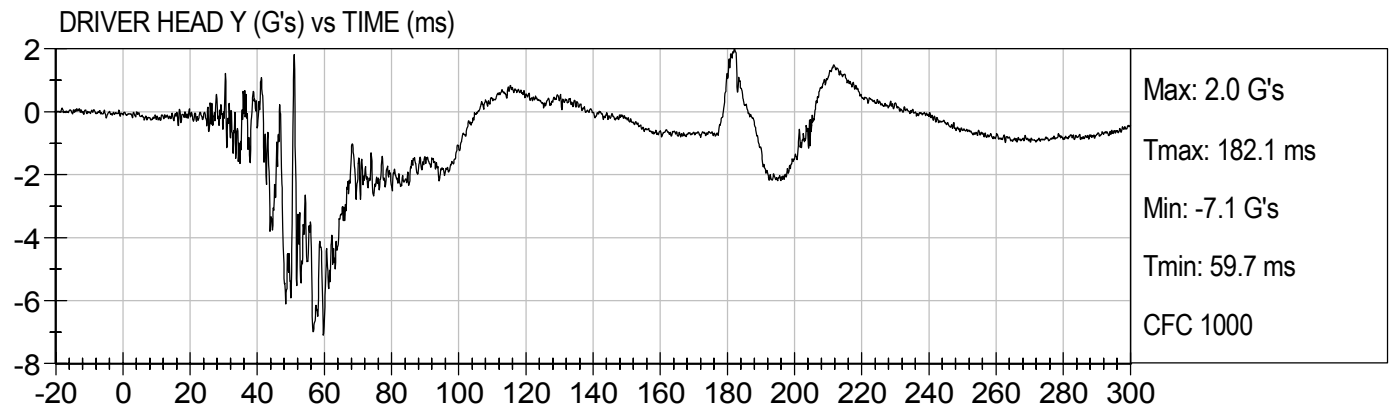
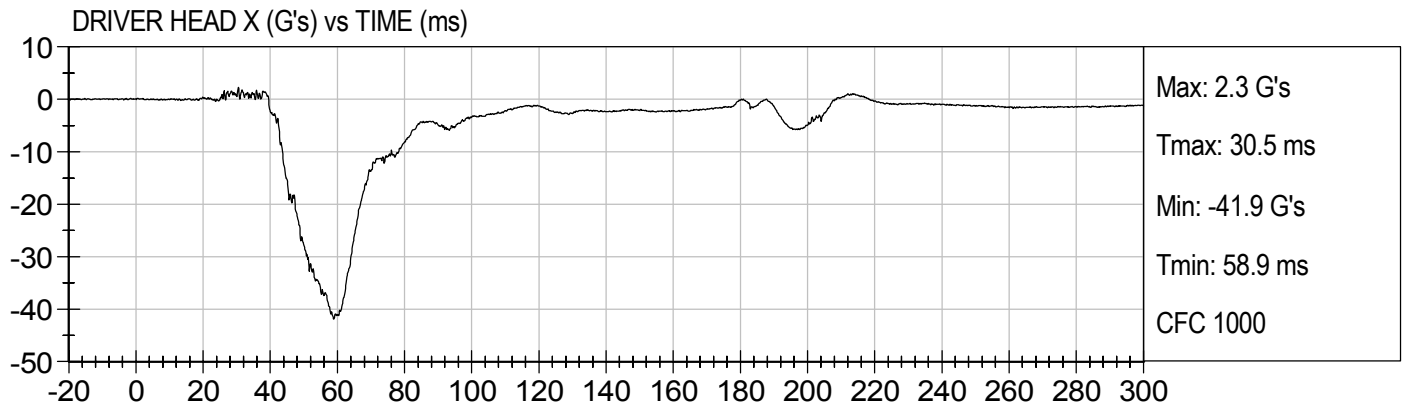
**APPENDIX A**  
**CRASH TEST DATA**

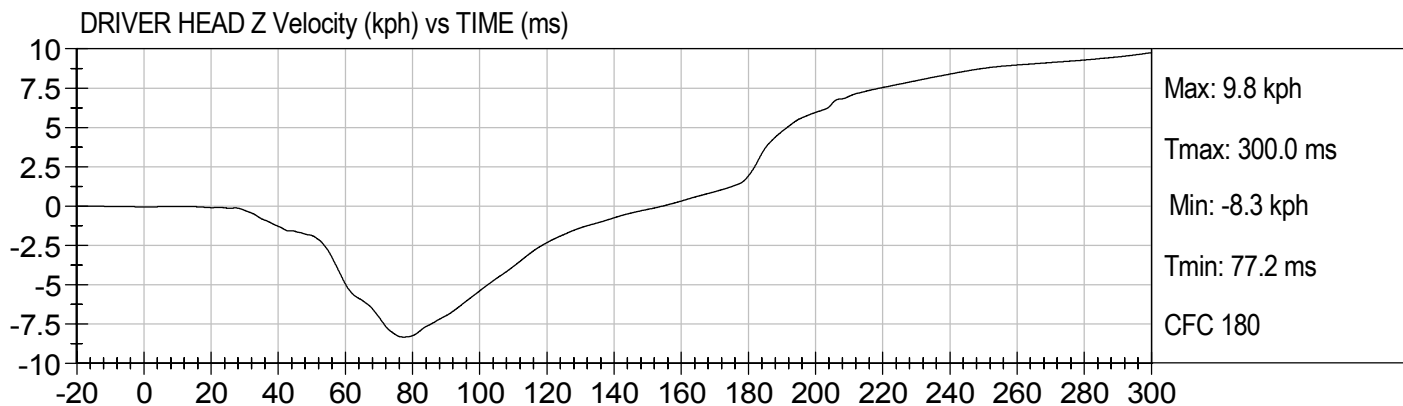
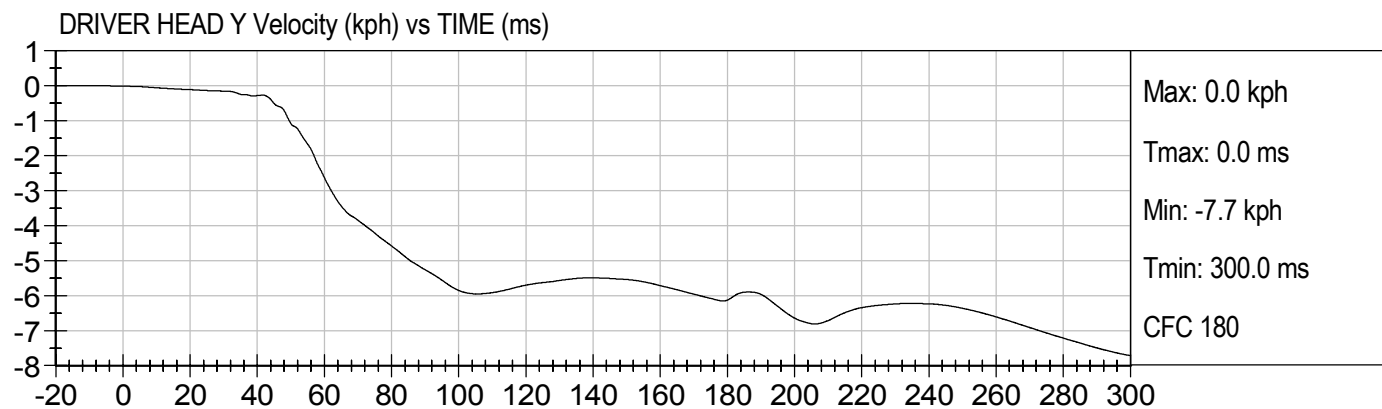
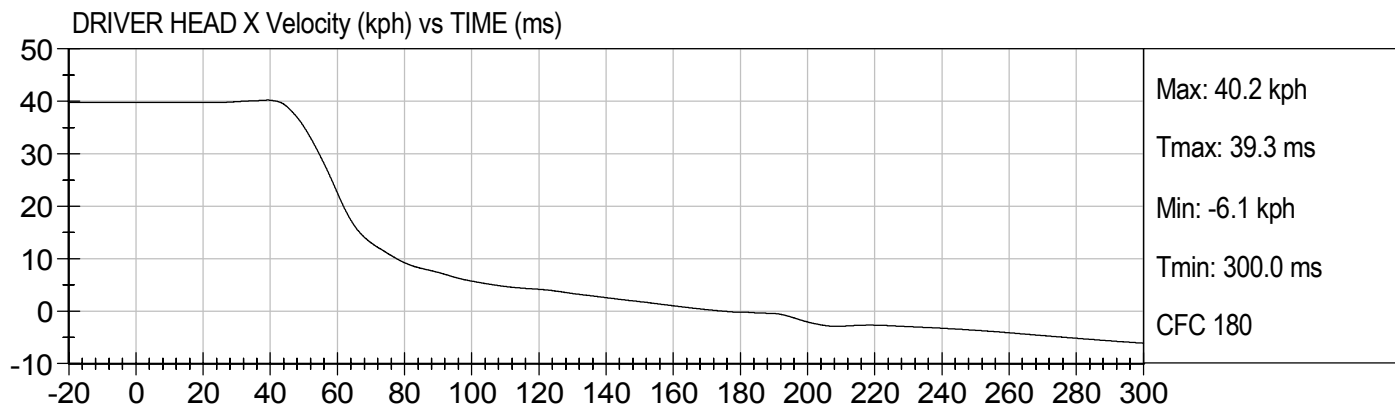
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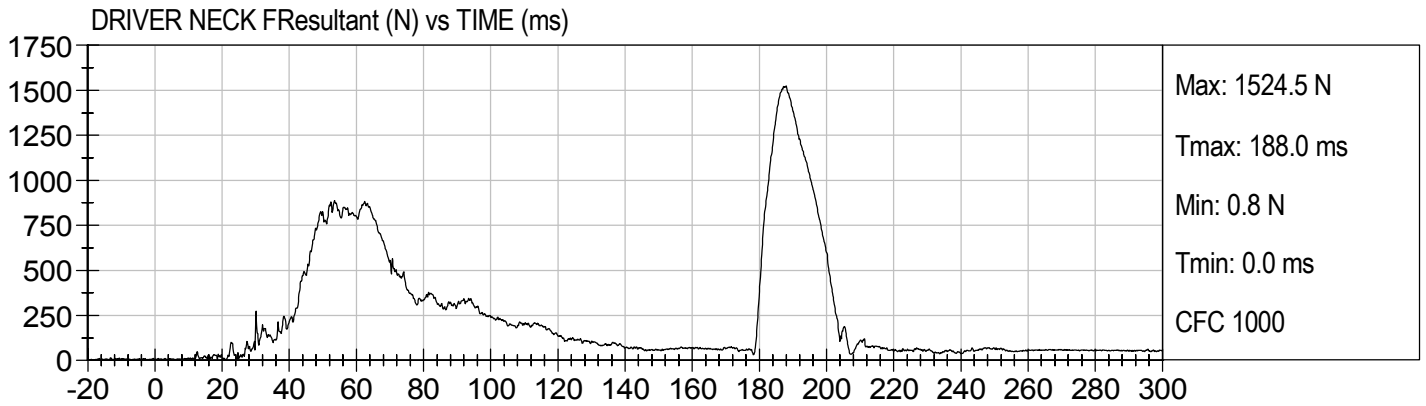
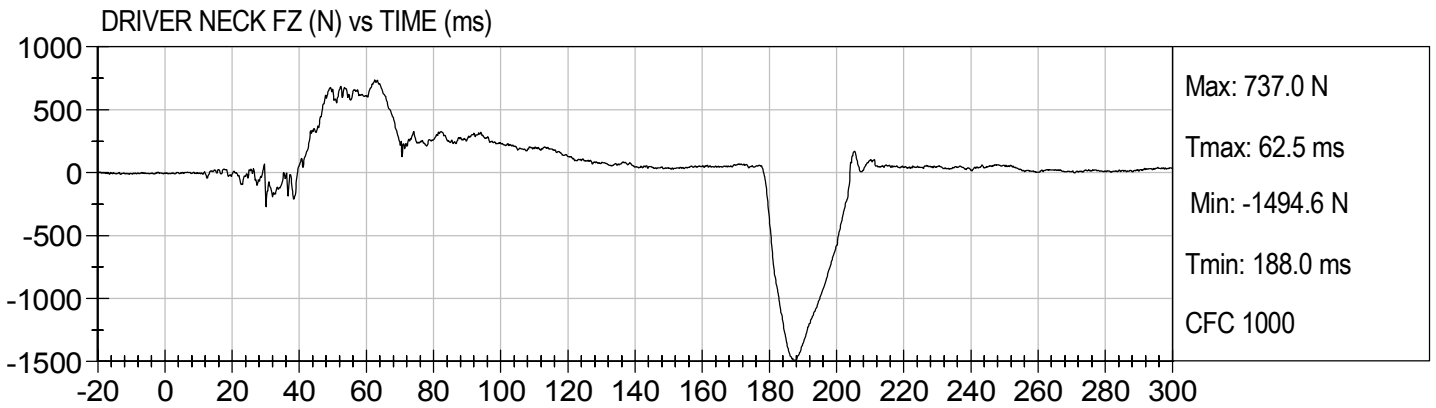
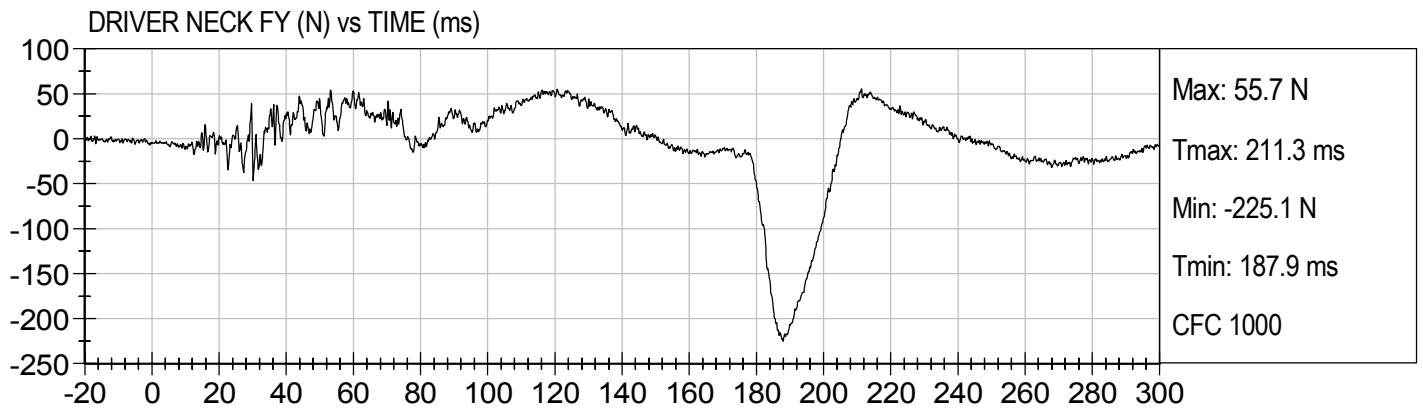
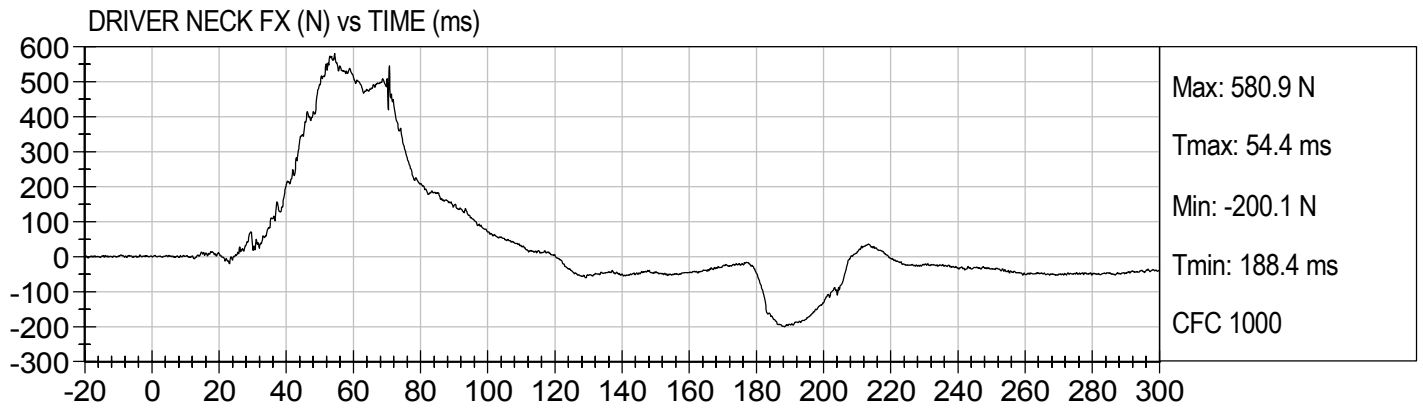


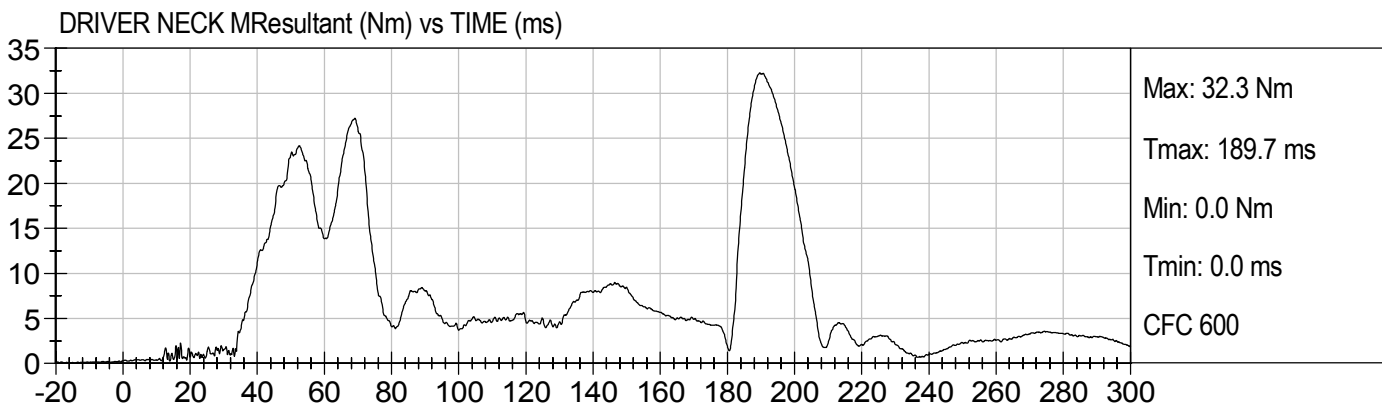
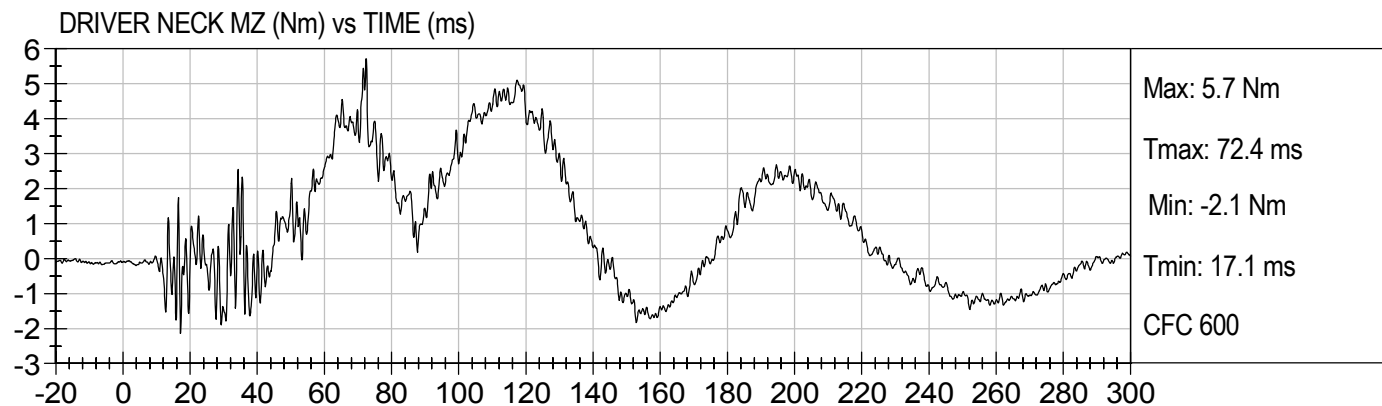
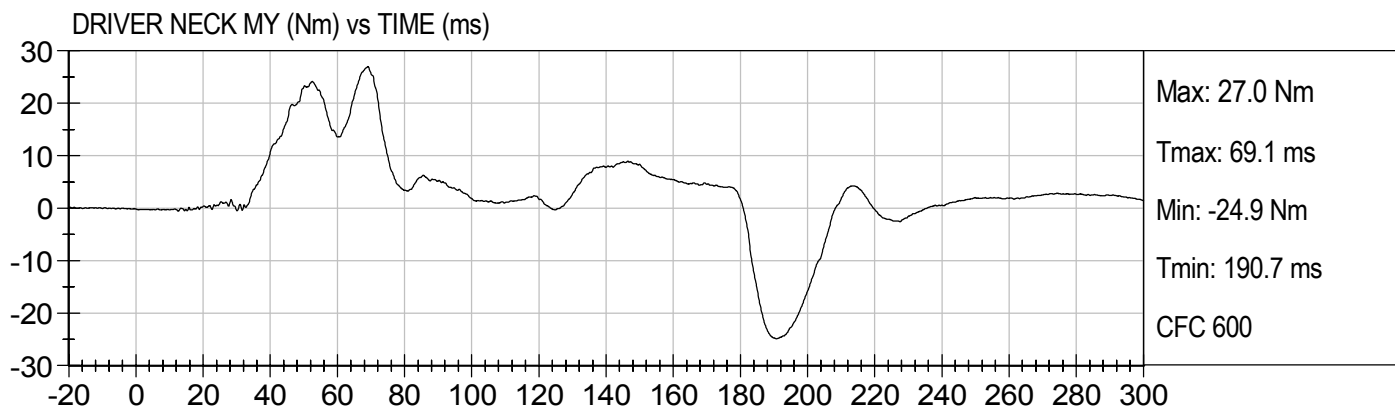
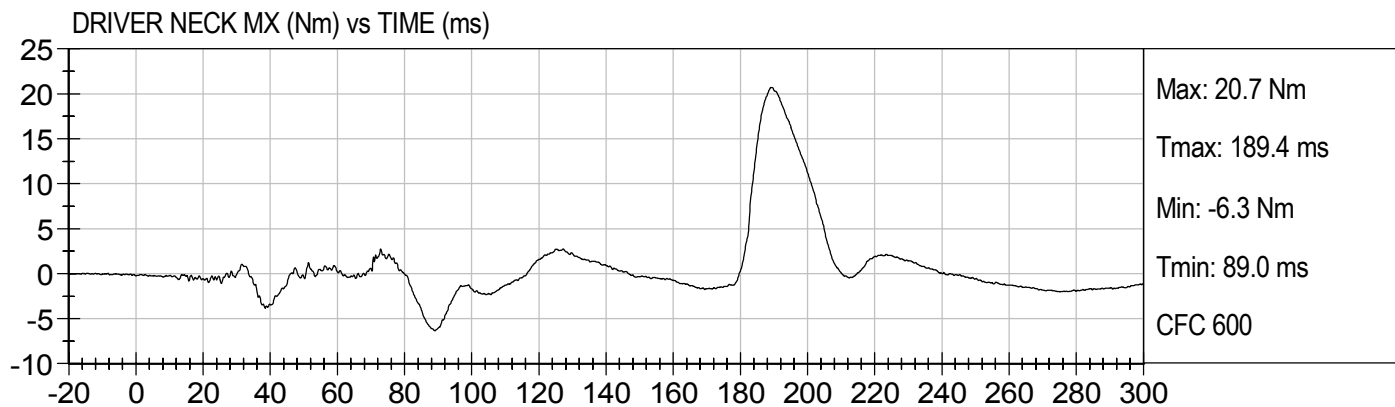




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2006 DODGE RAM (C60307)

Test Date: 04/27/2007  
Speed: 24.7 mph (39.8 km/h)



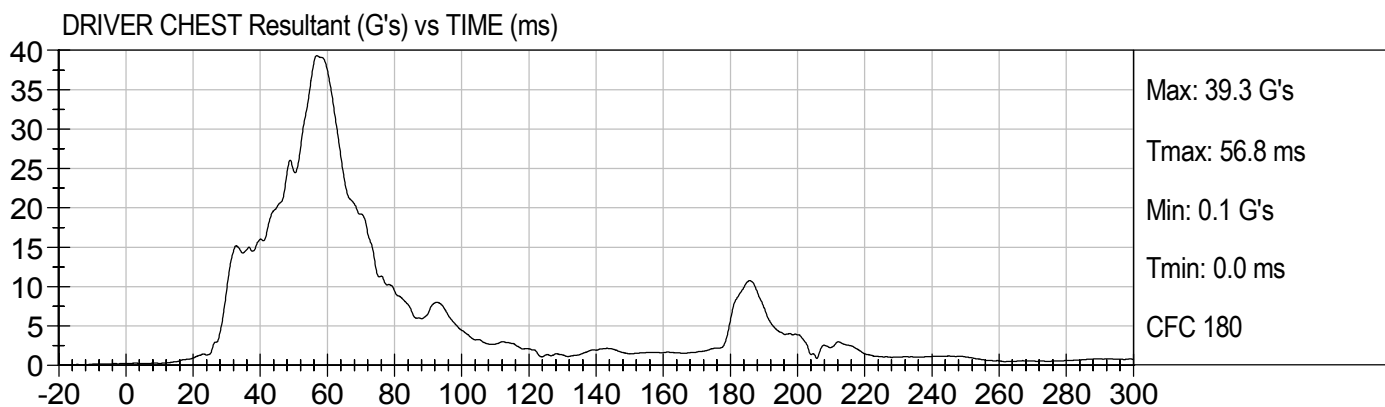
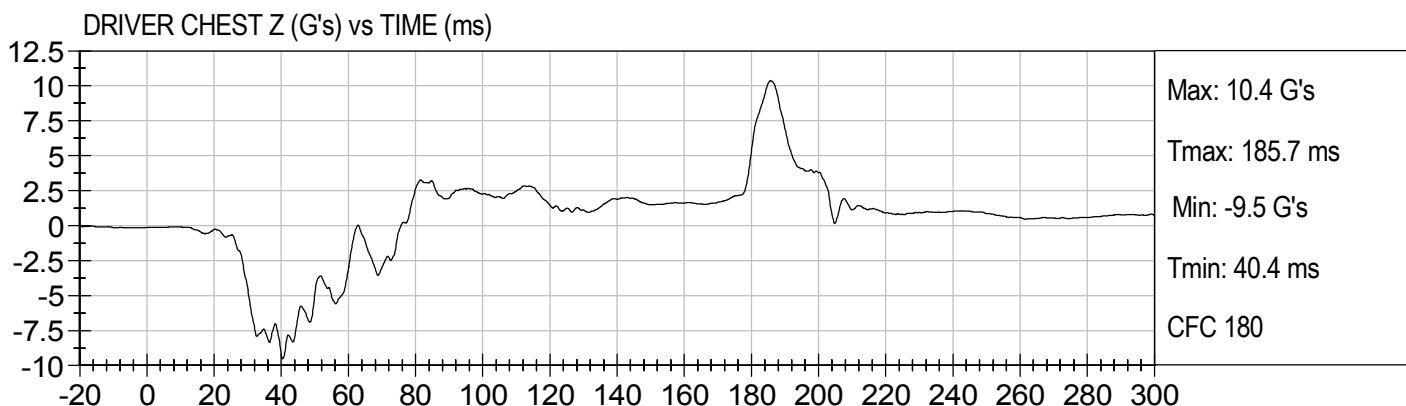
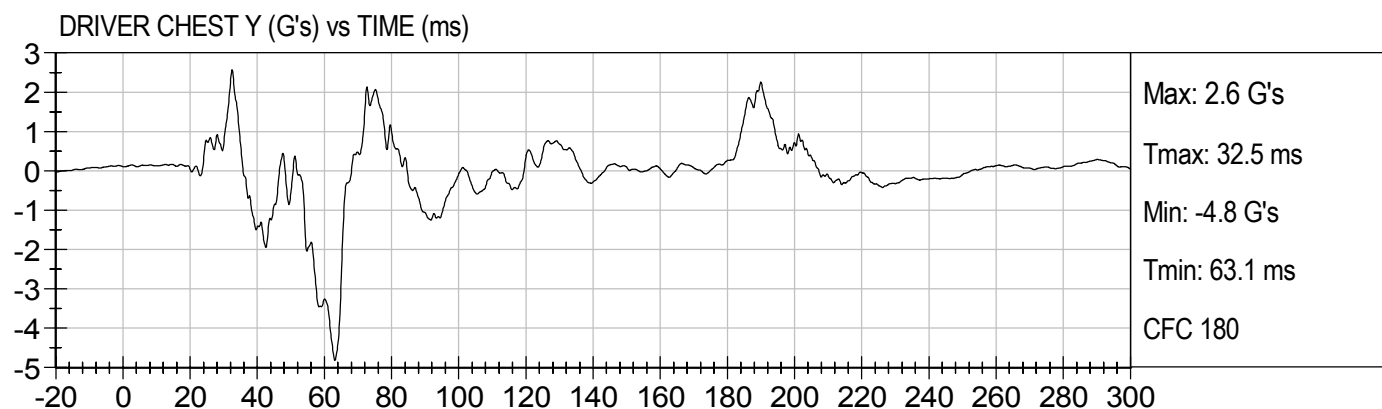
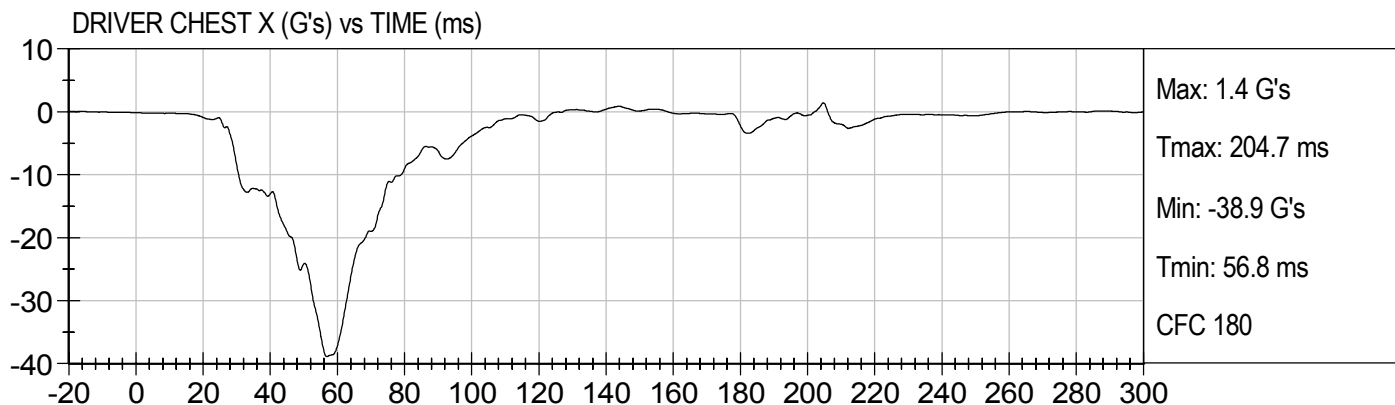


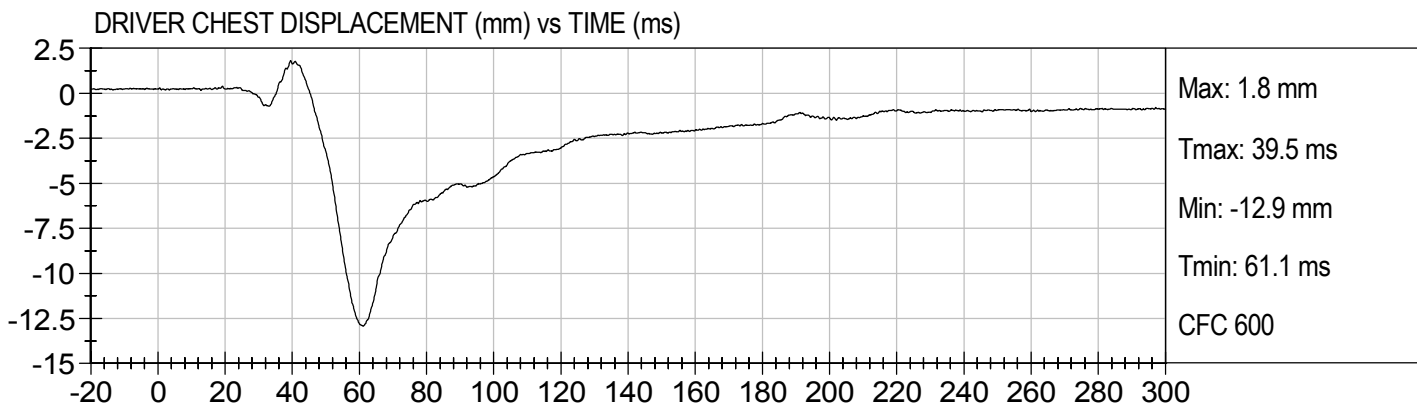
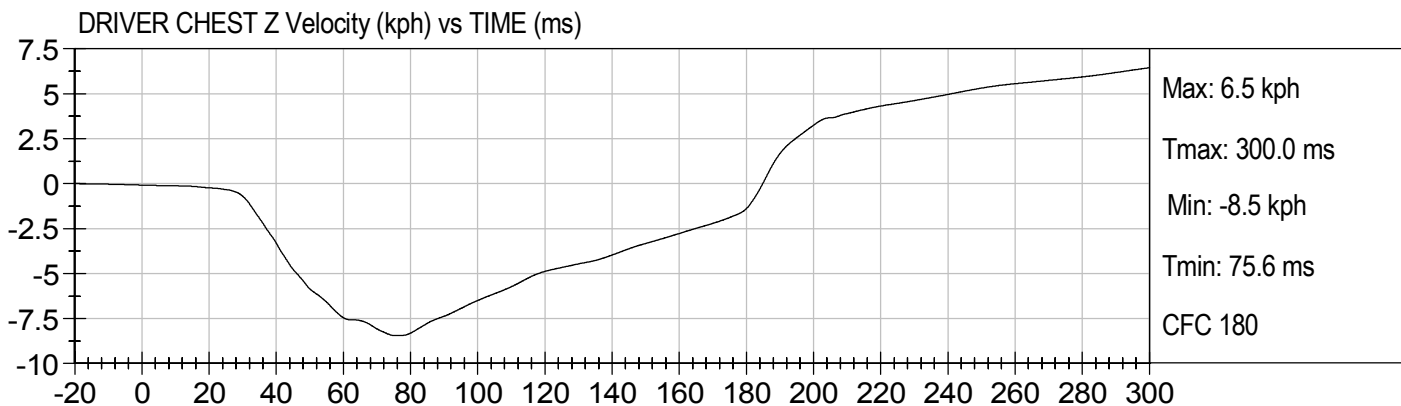
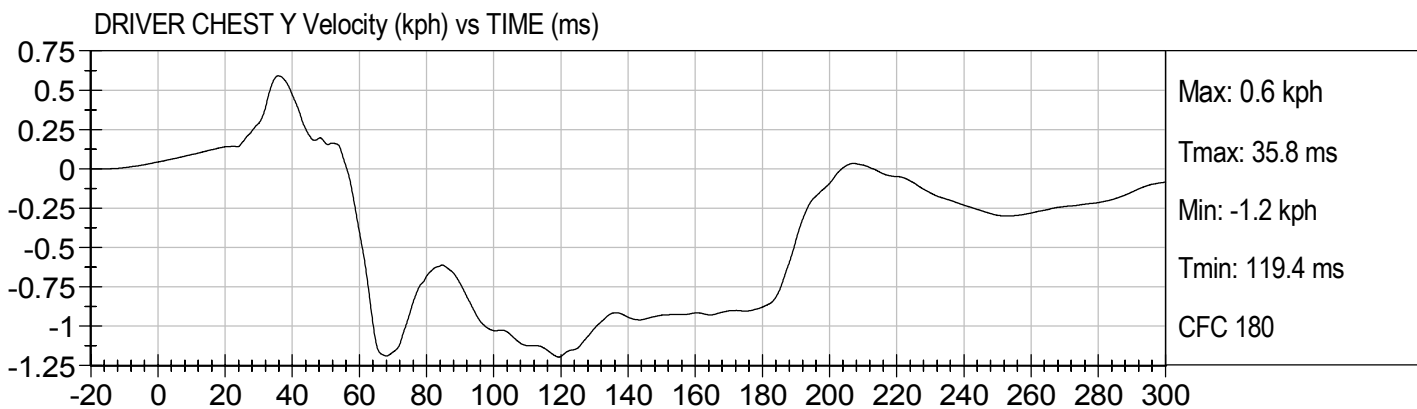
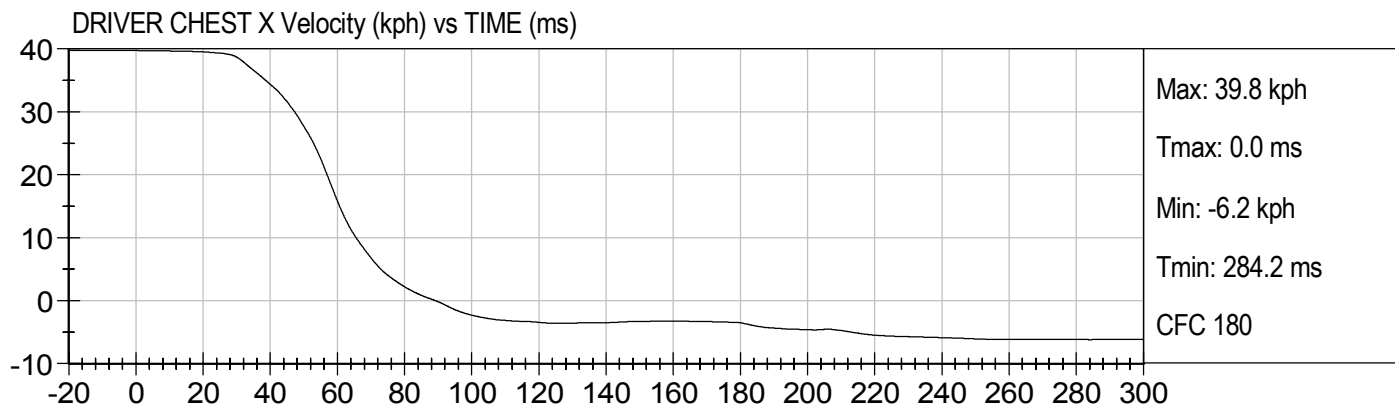




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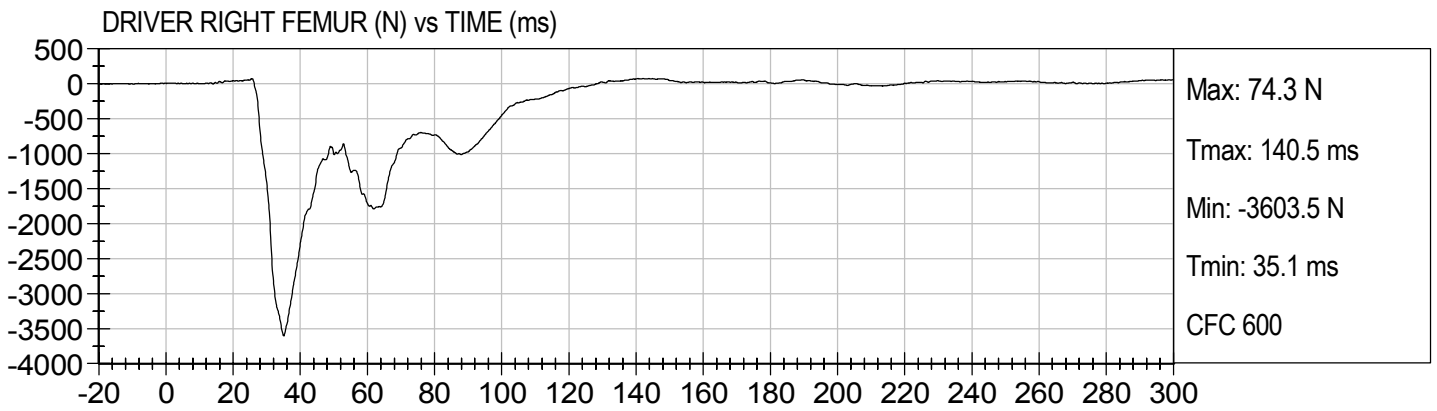
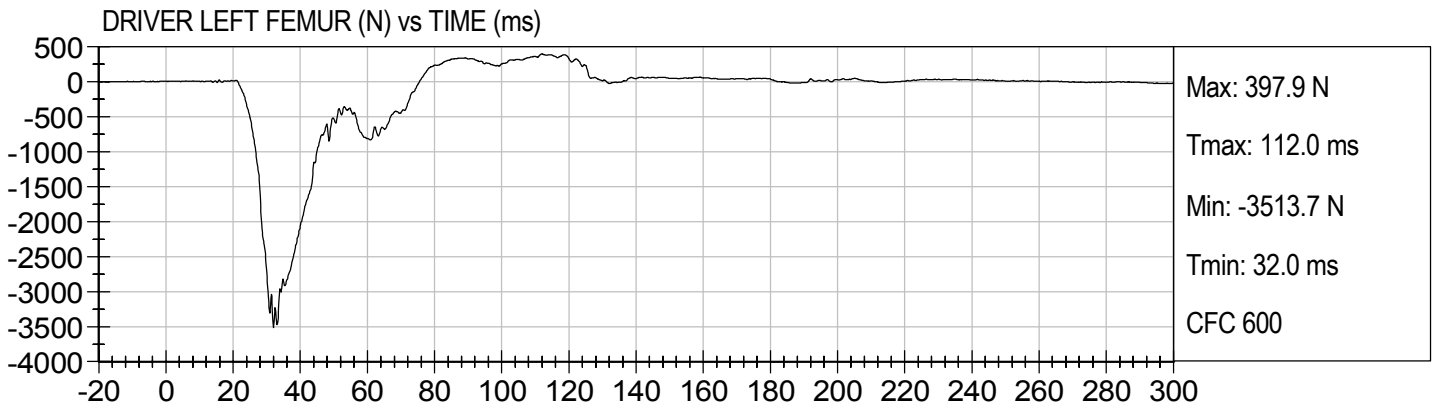


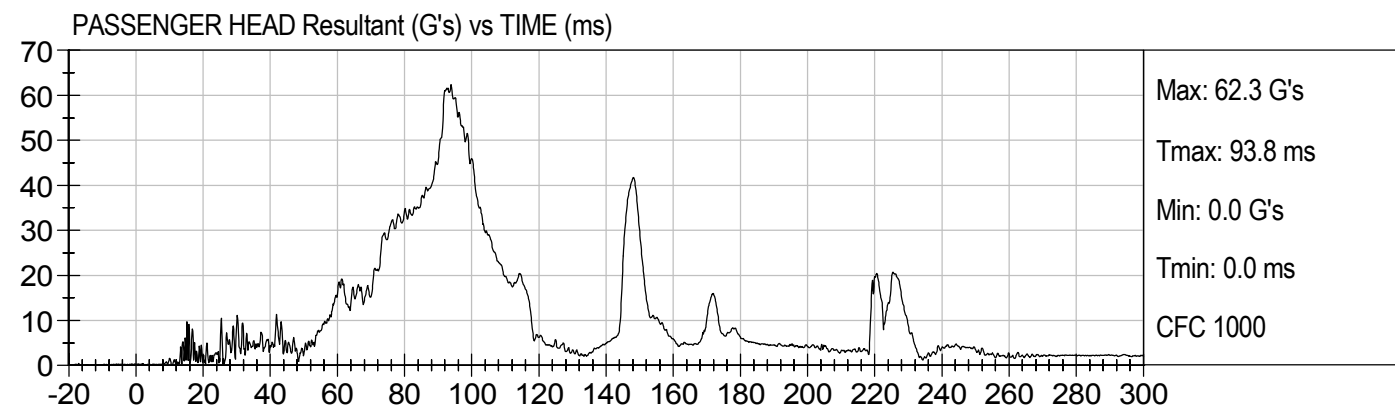
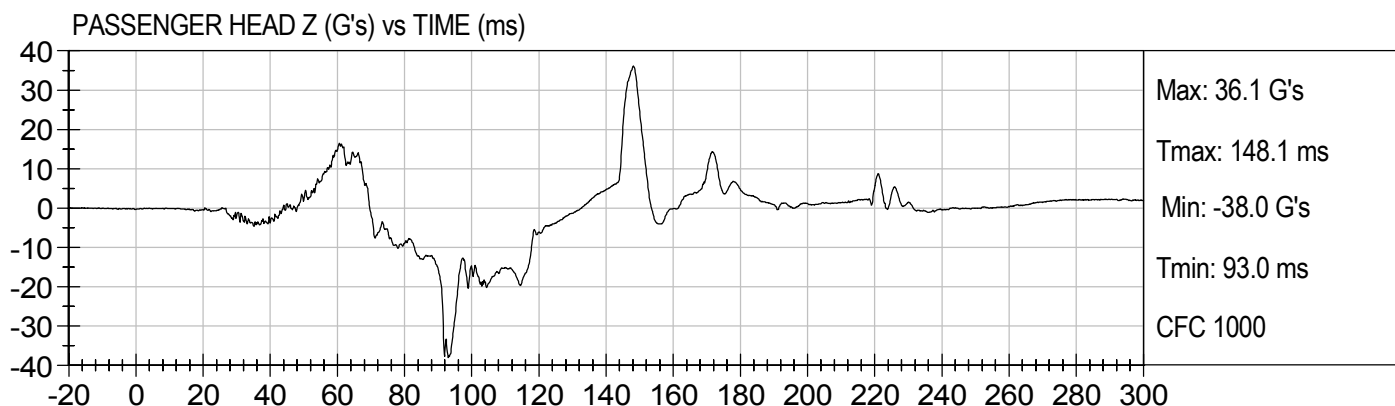
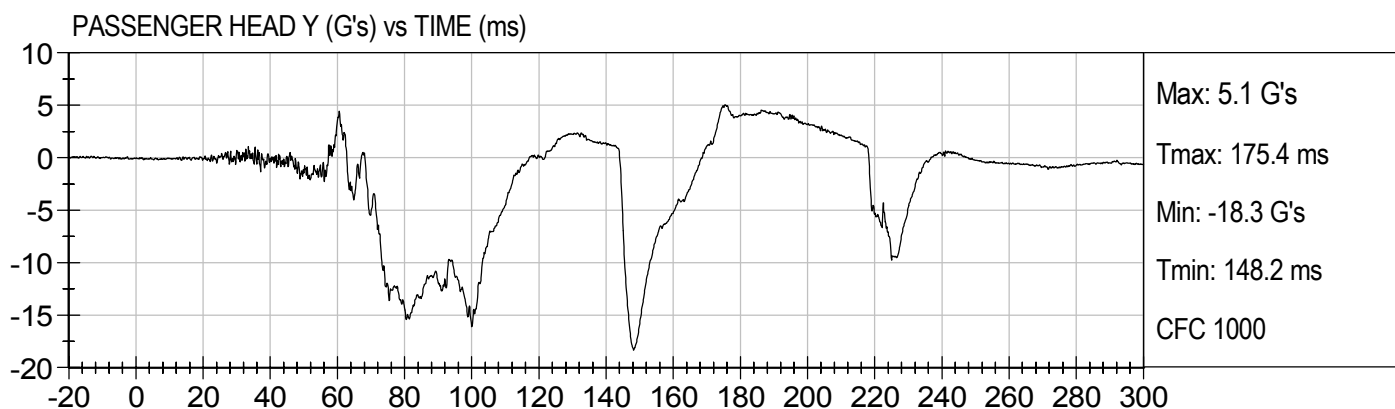
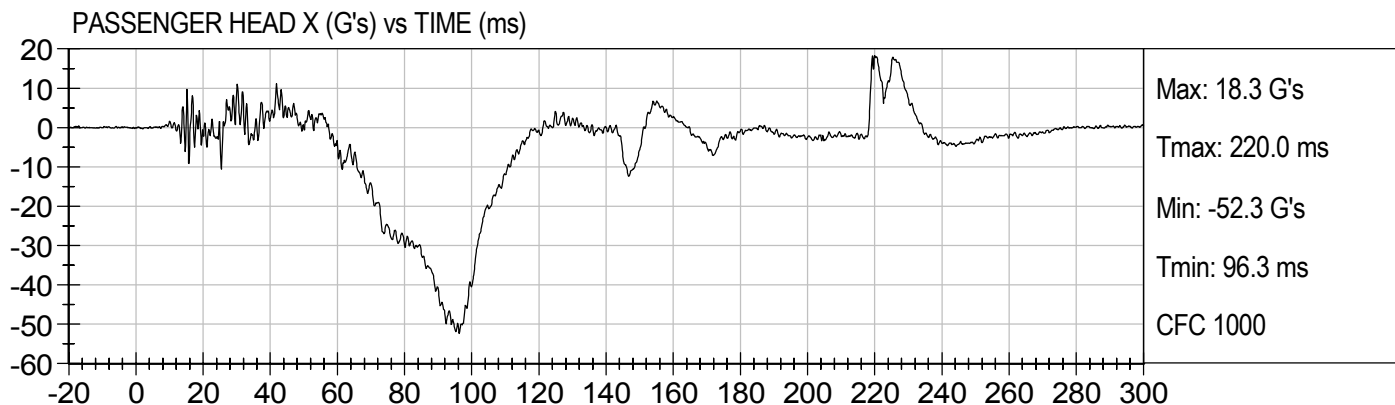


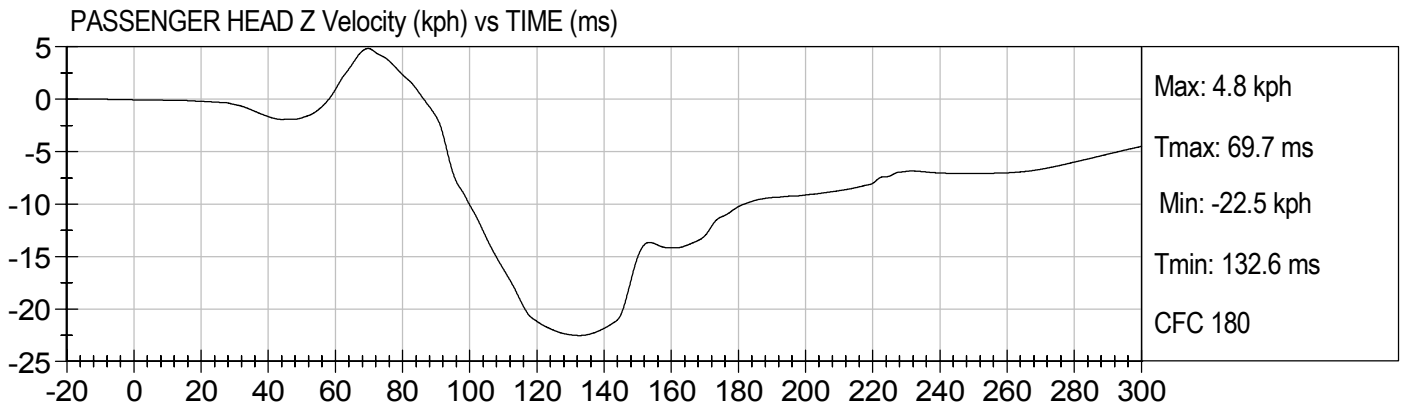
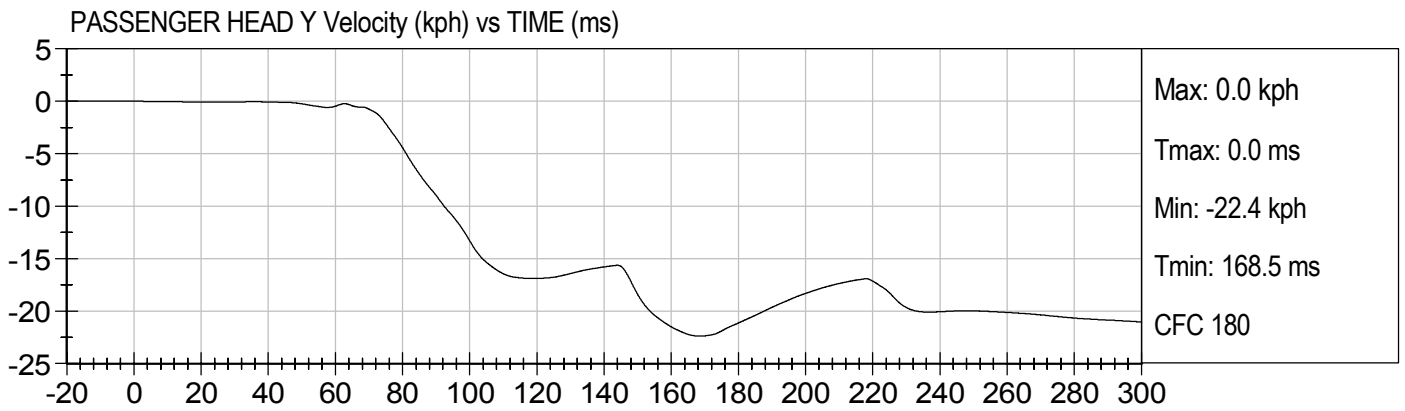
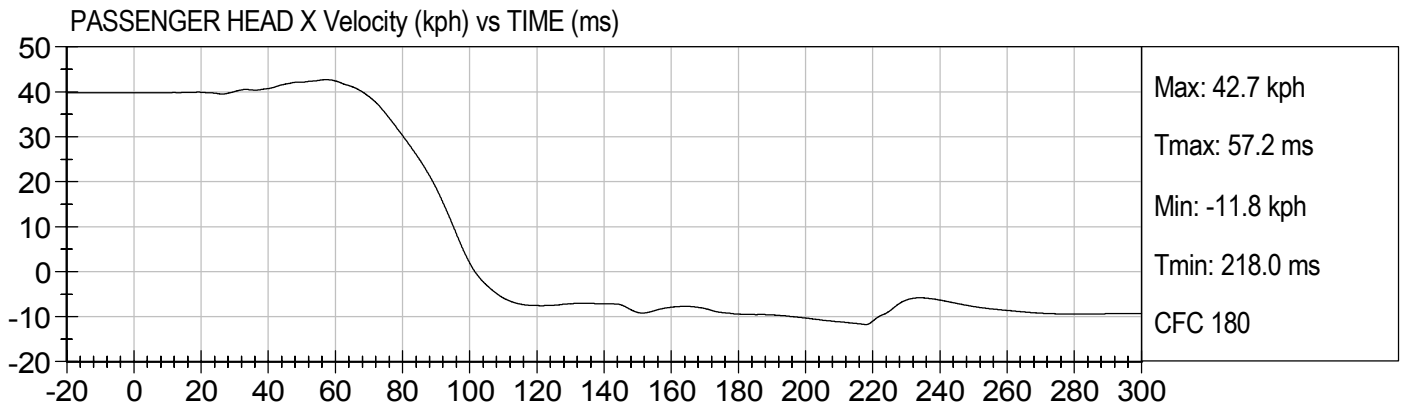


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2006 DODGE RAM (C60307)

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Speed: 24.7 mph (39.8 km/h)



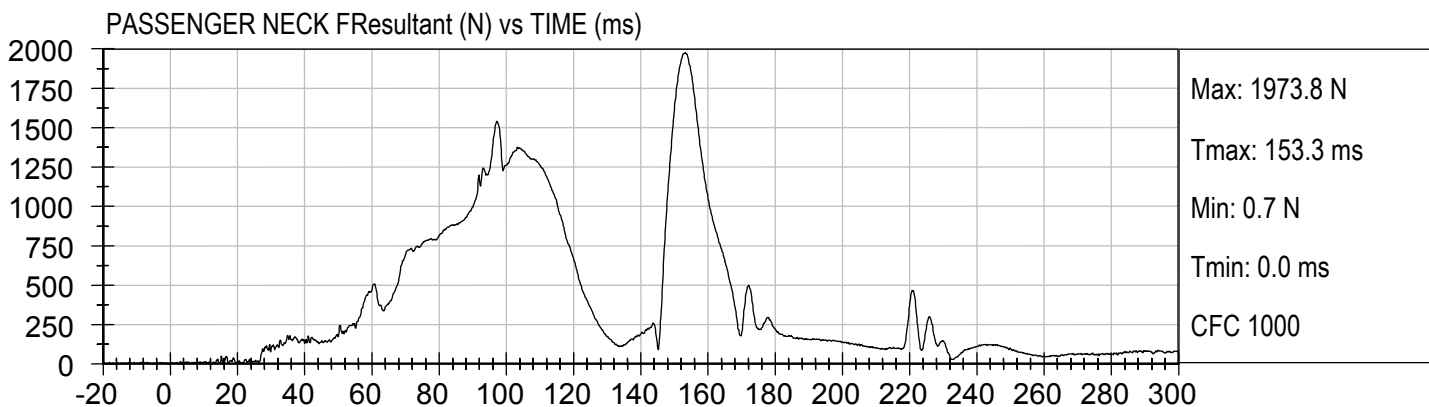
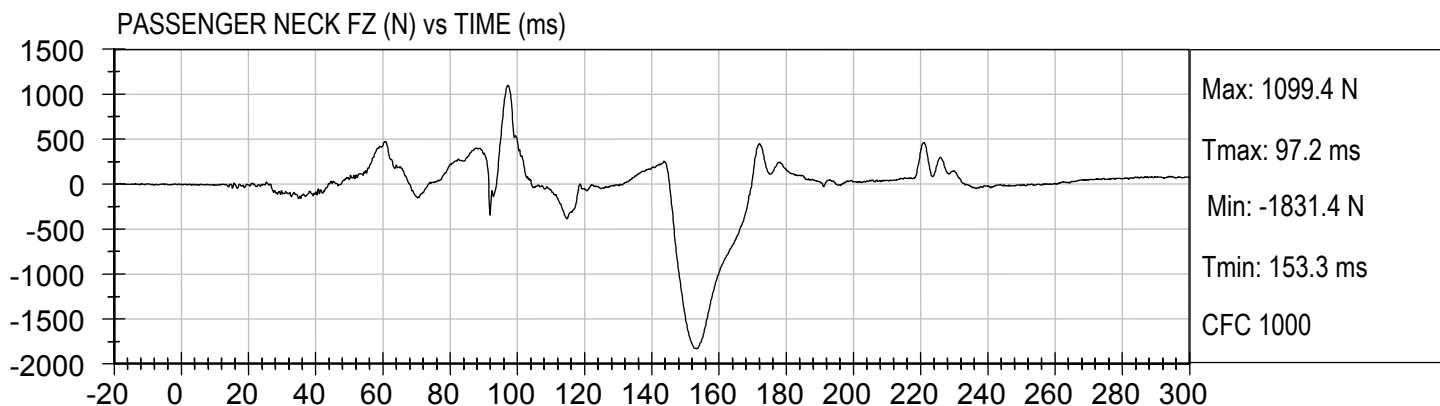
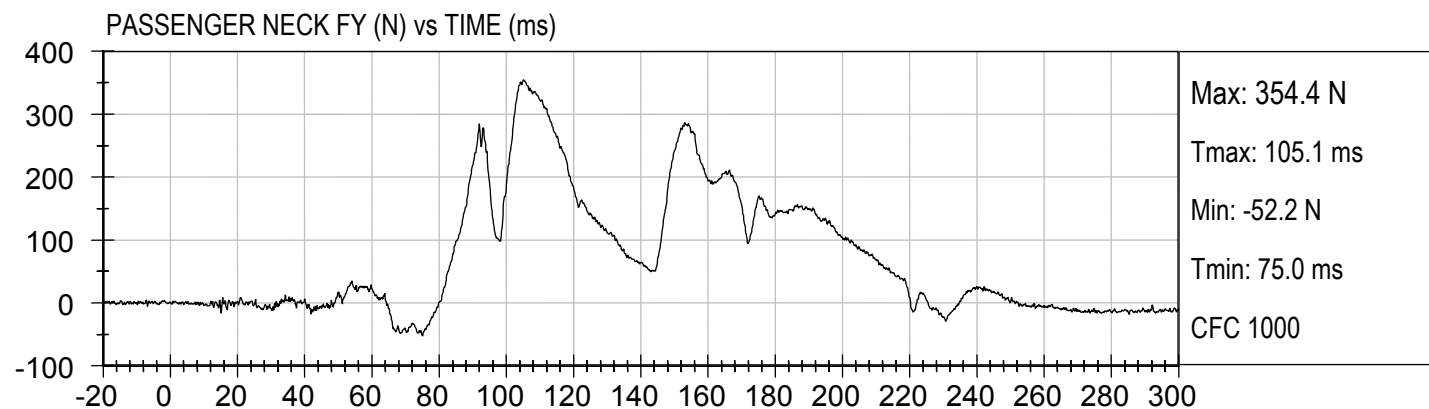
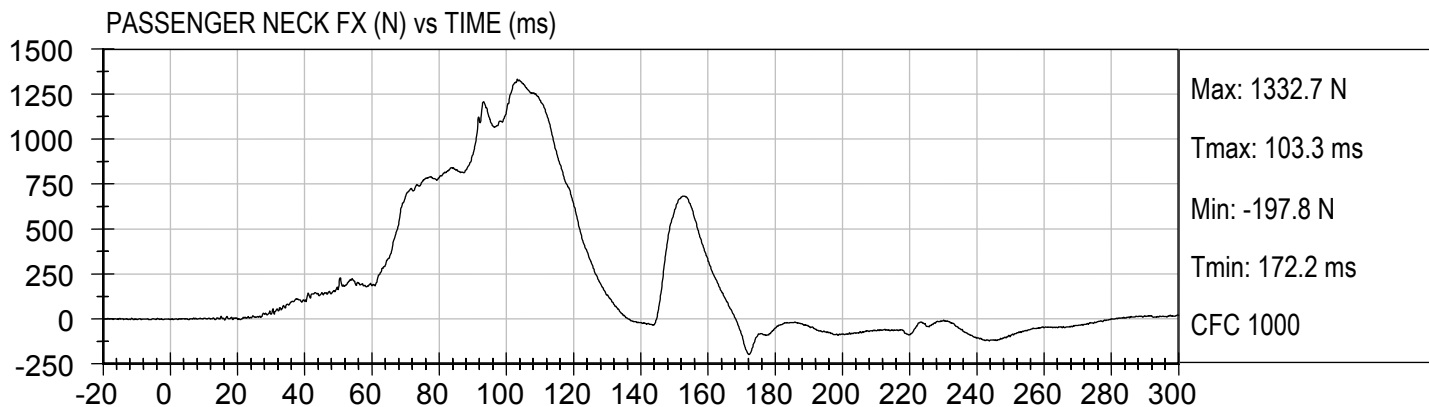






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2006 DODGE RAM (C60307)

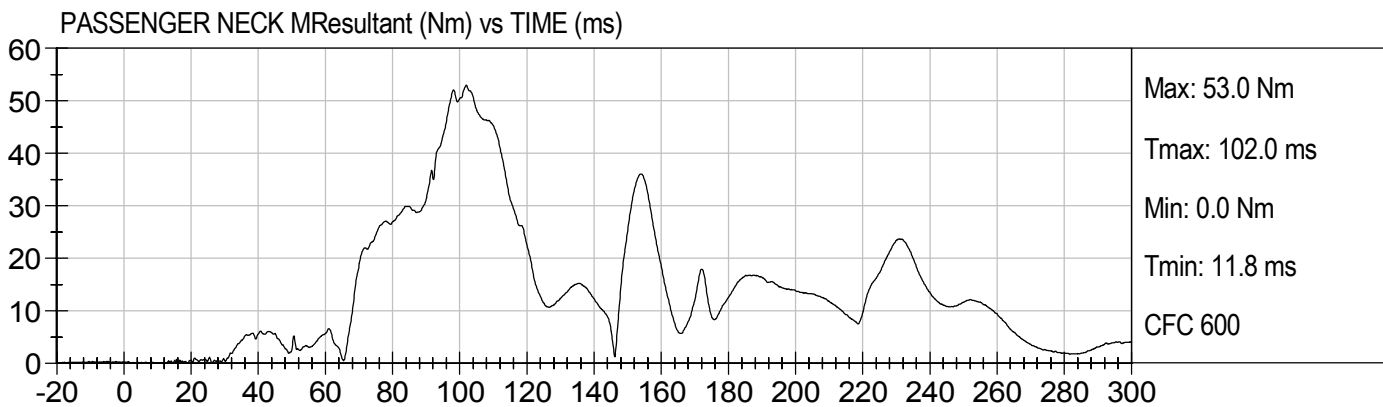
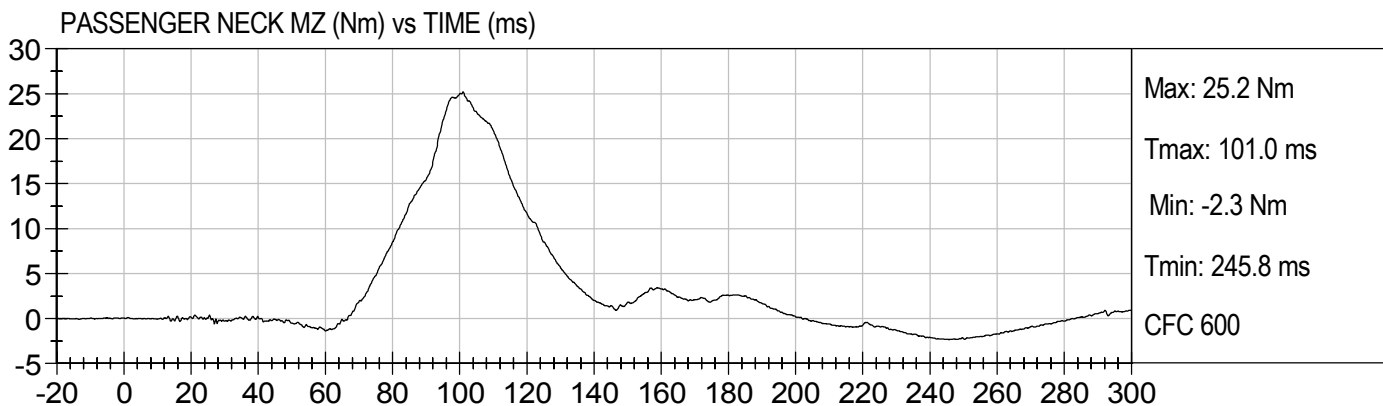
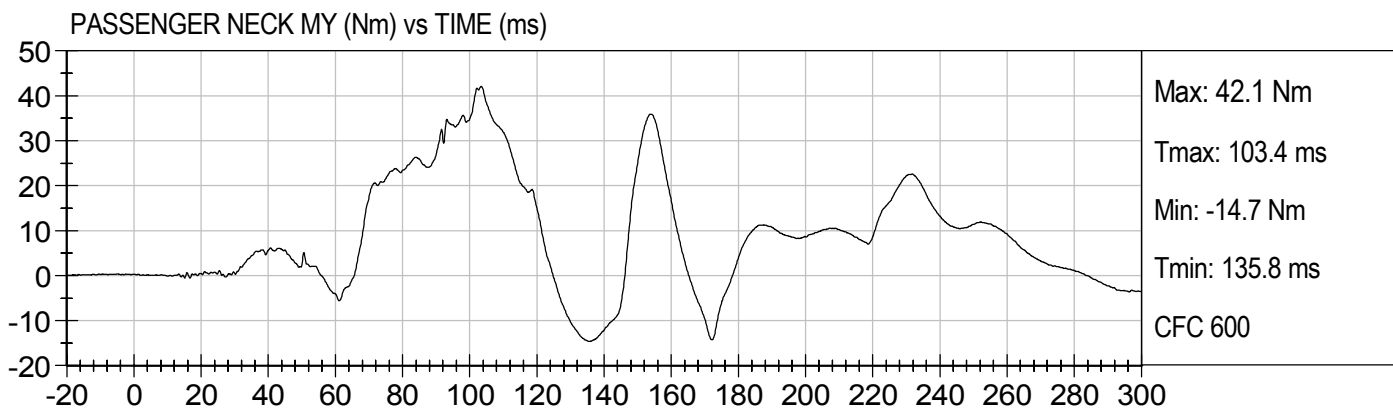
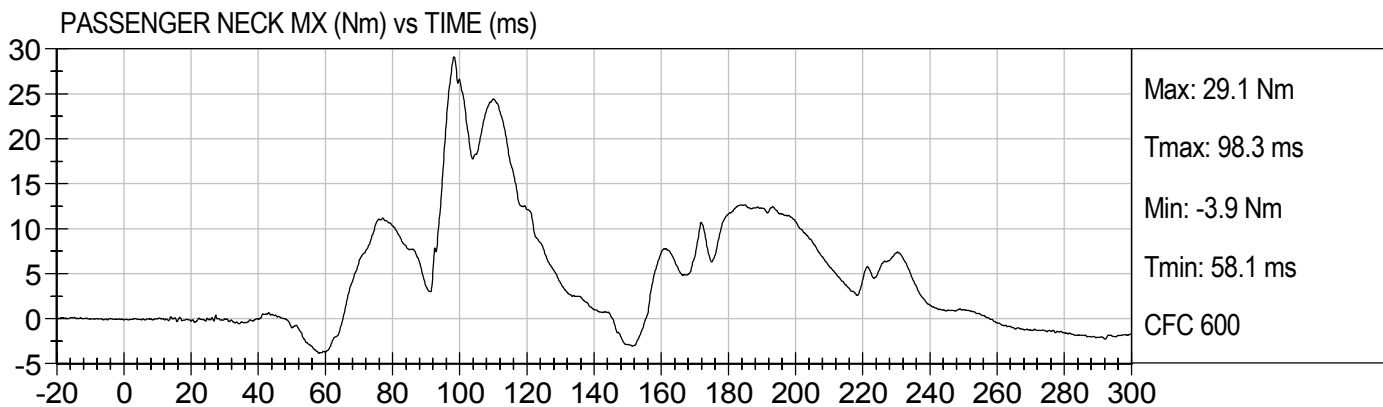
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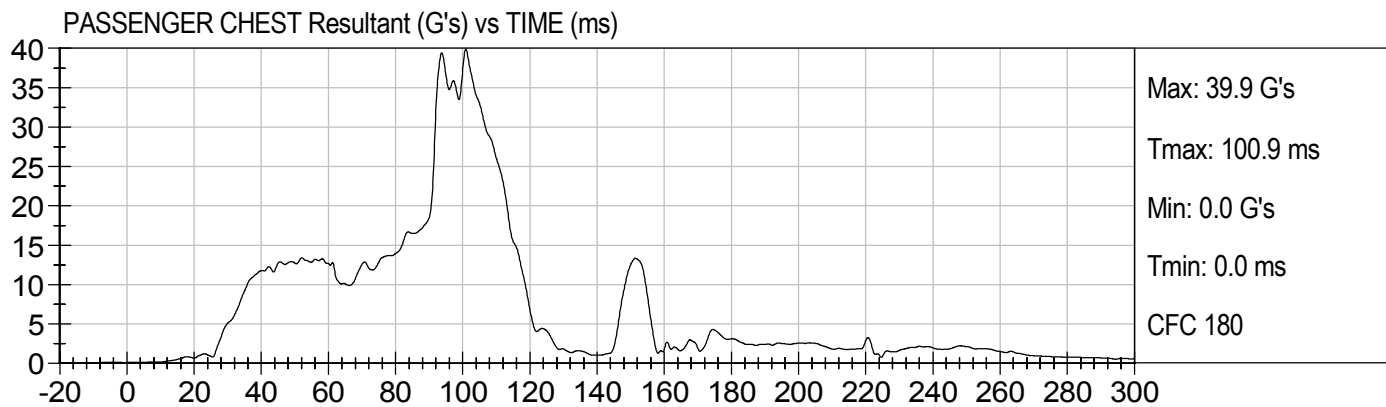
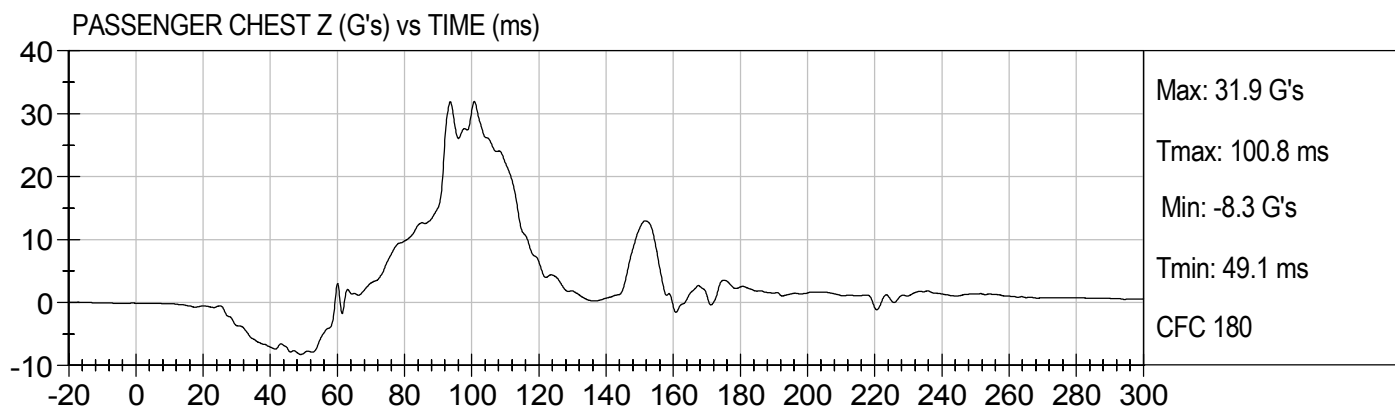
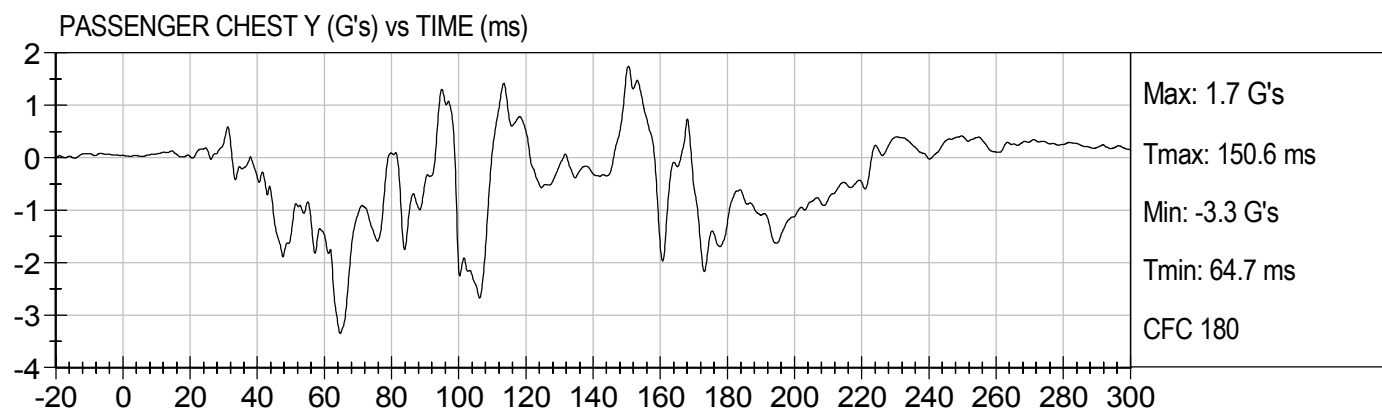
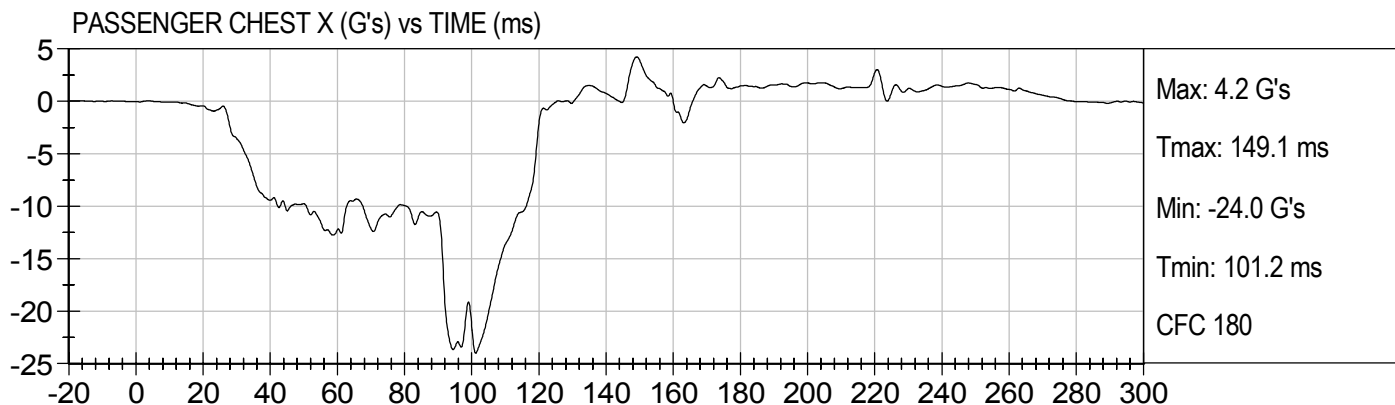




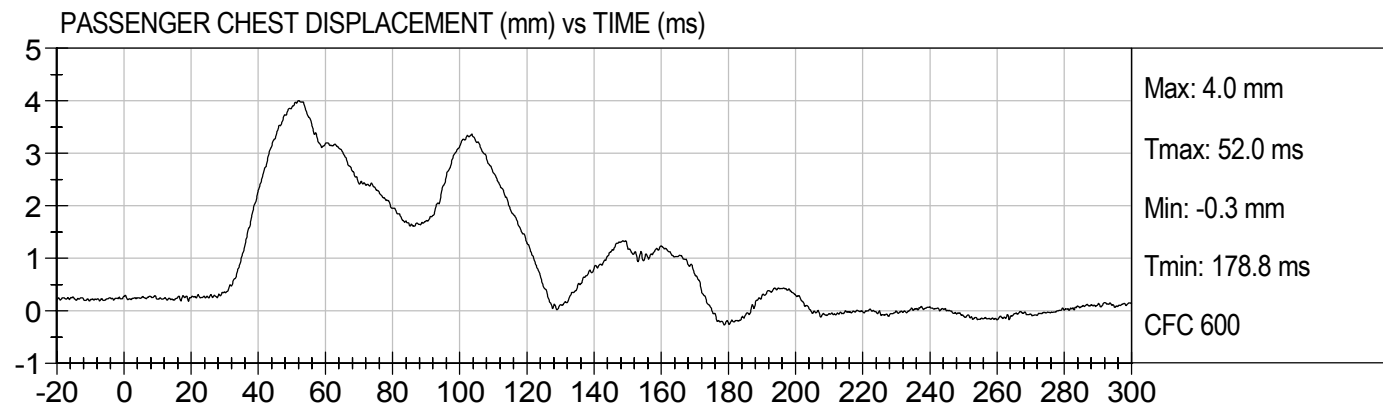
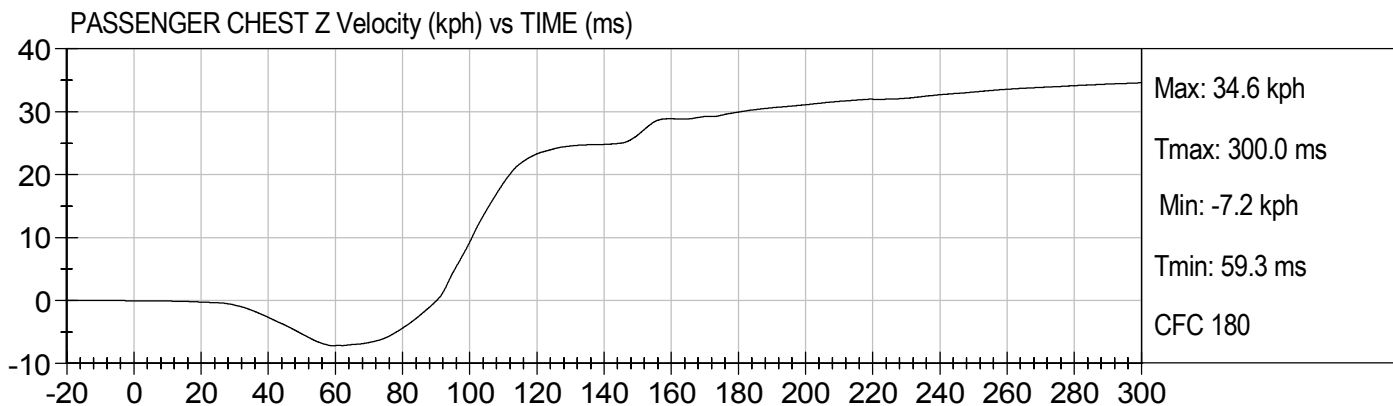
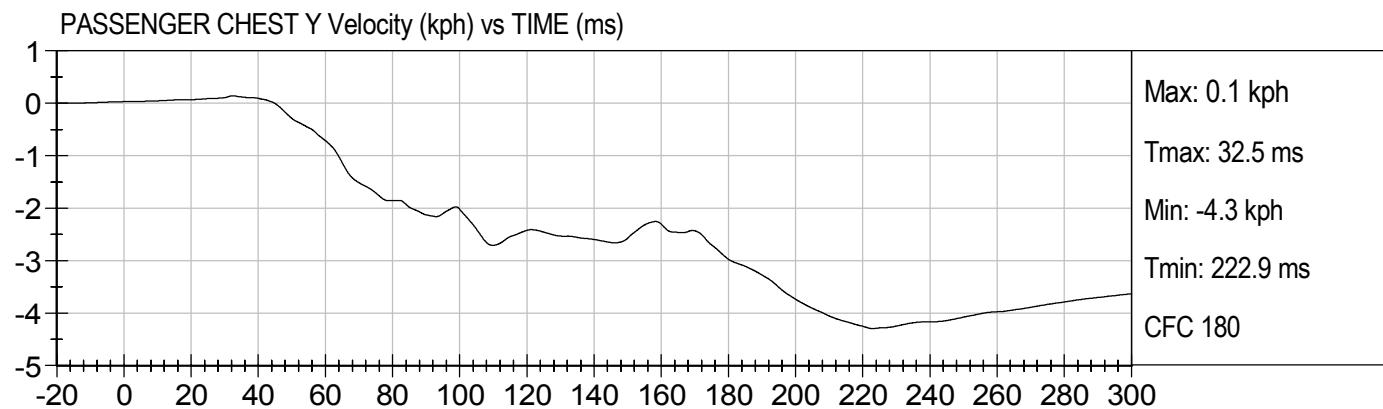
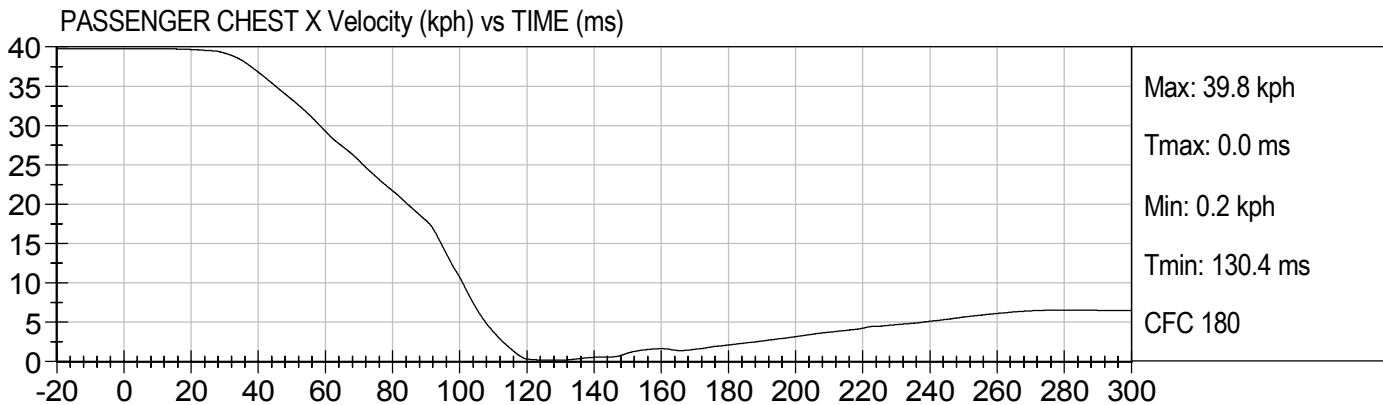
25 MPH FRONTAL UNBELTED  
2006 DODGE RAM (C60307)

Test Date: 04/27/2007  
Speed: 24.7 mph (39.8 km/h)





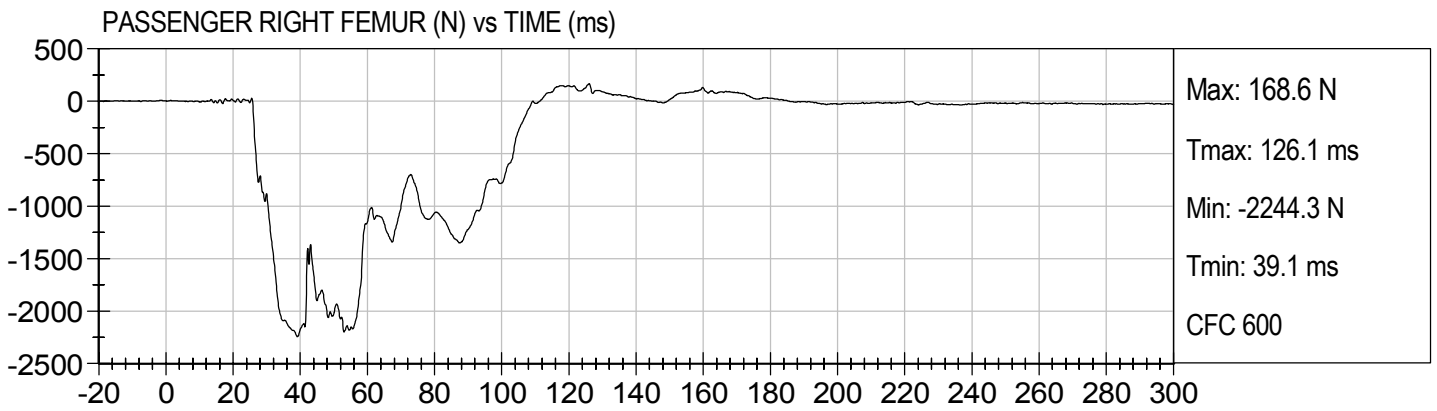
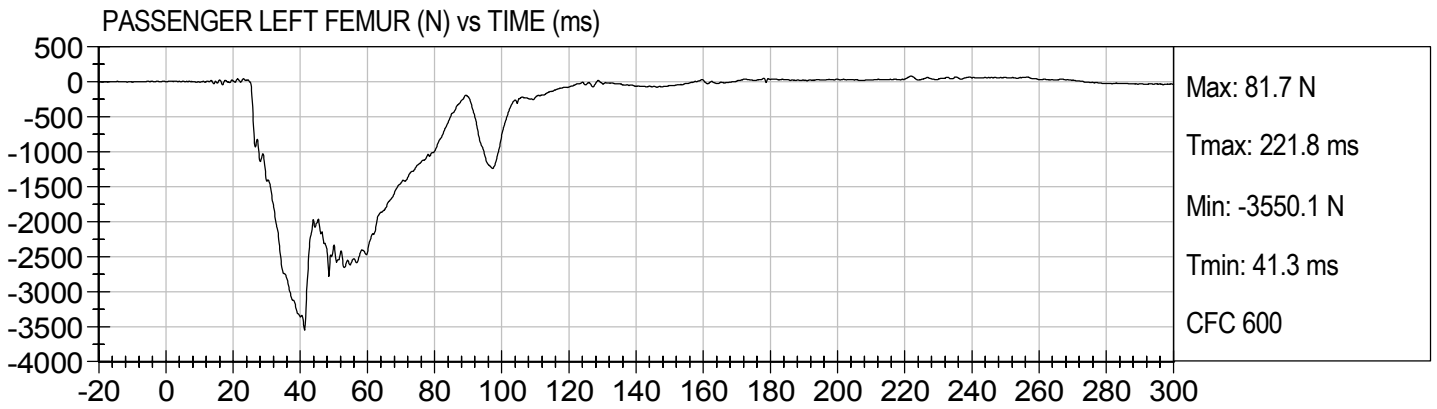


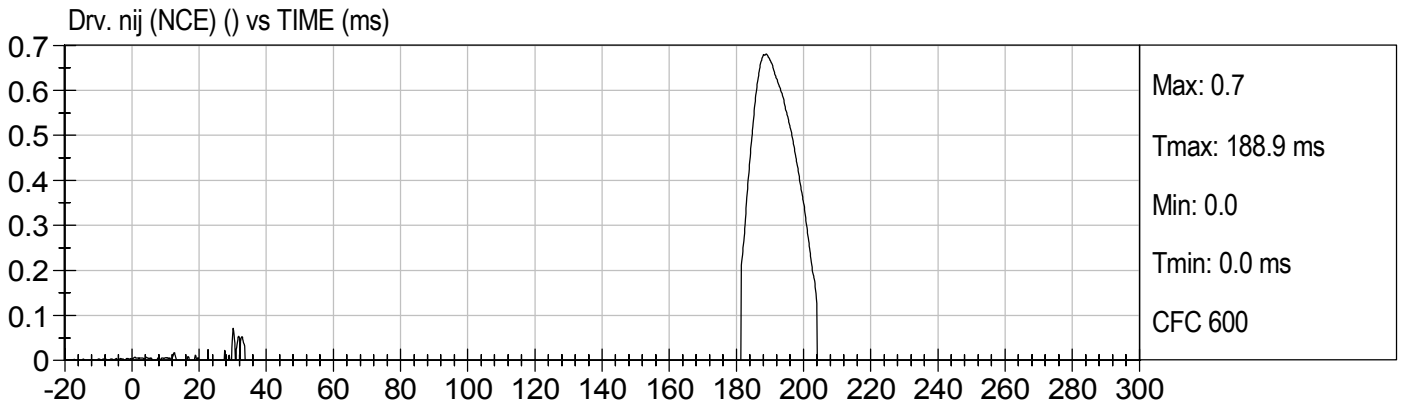
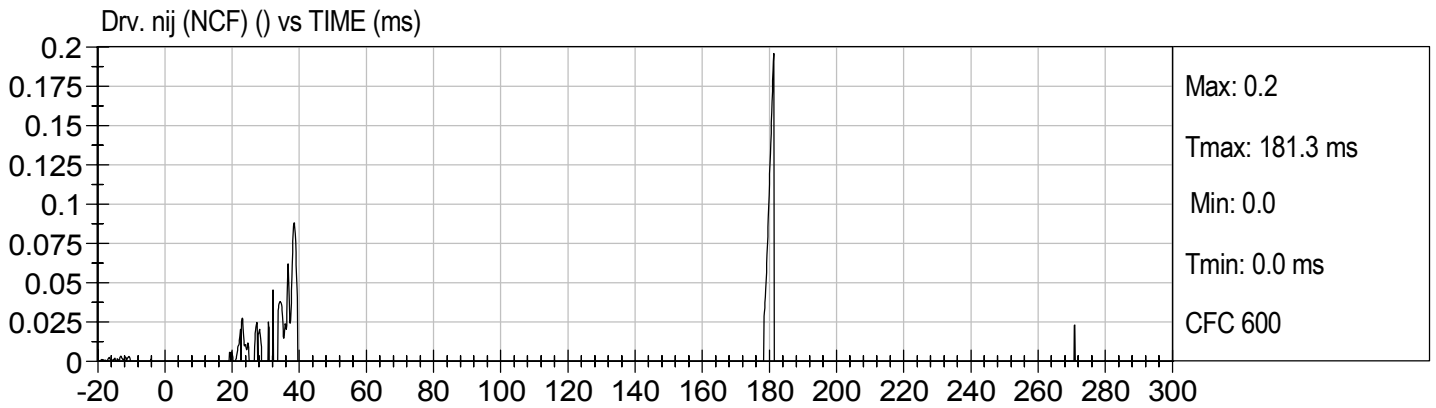
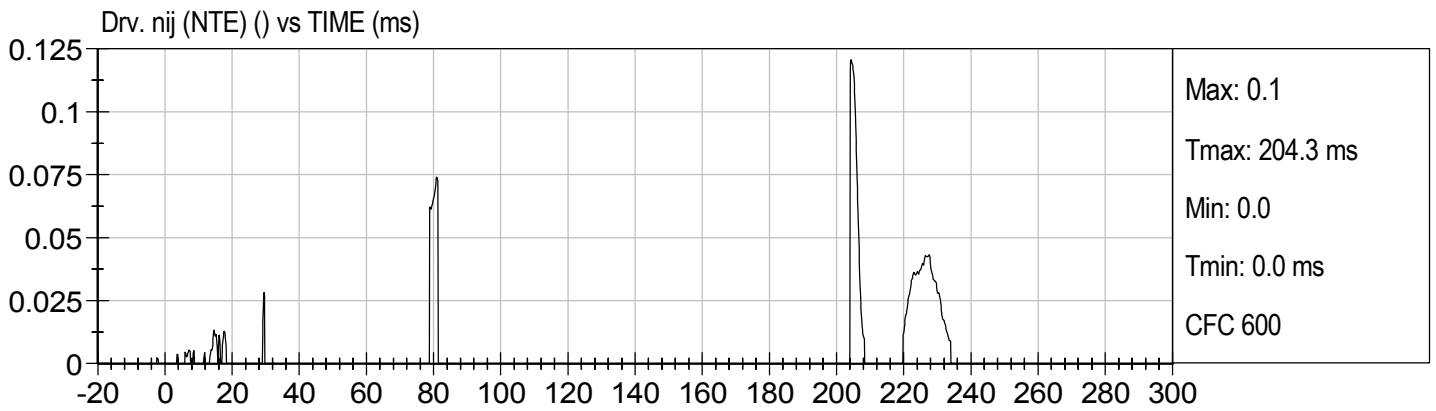
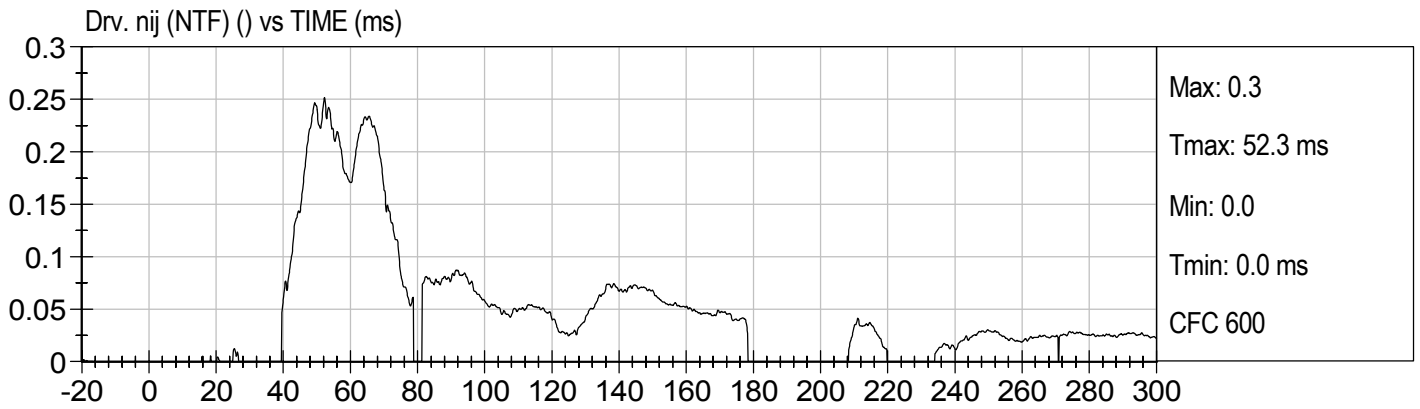


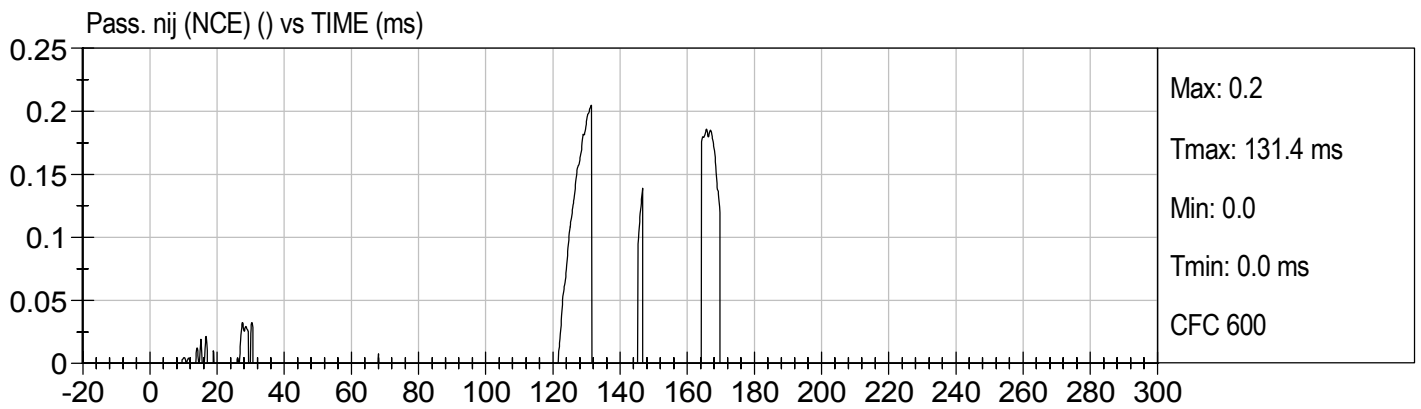
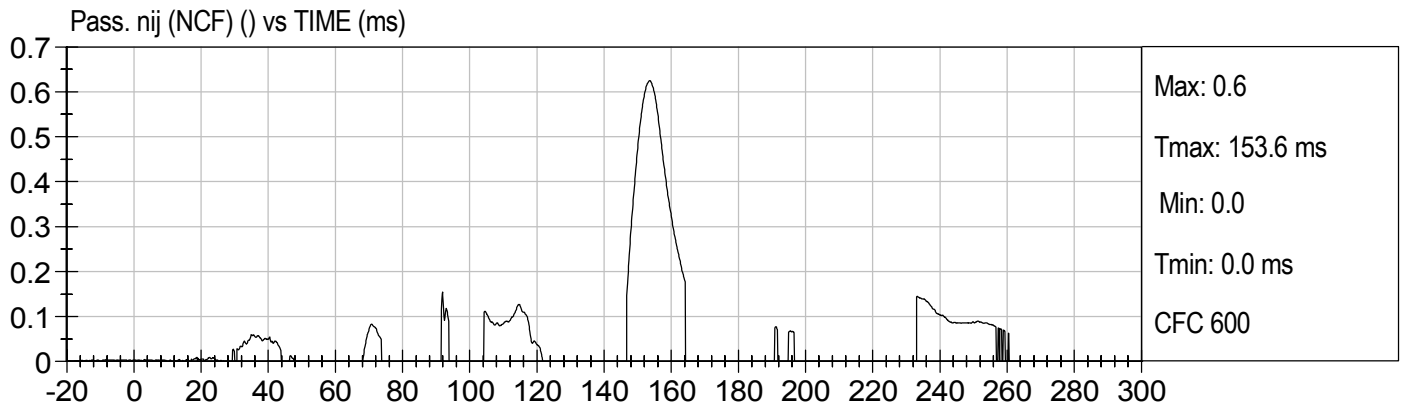
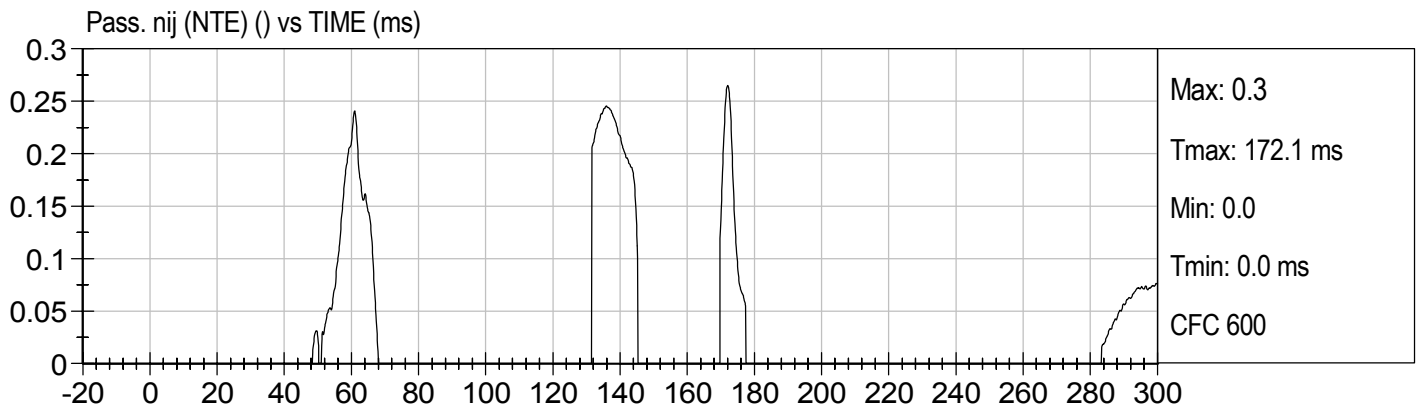
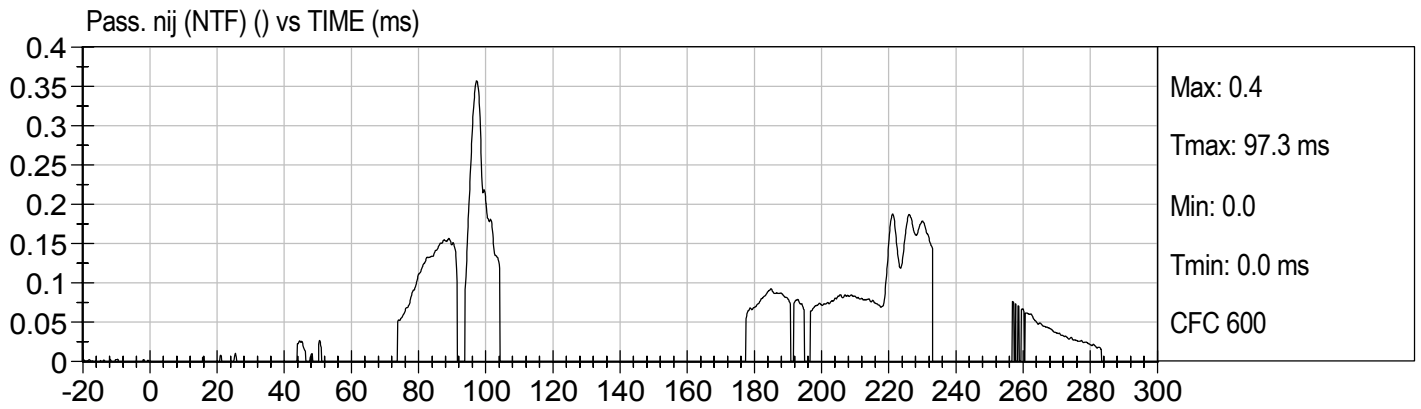


25 MPH FRONTAL UNBELTED  
2006 DODGE RAM (C60307)

Test Date: 04/27/2007  
Speed: 24.7 mph (39.8 km/h)



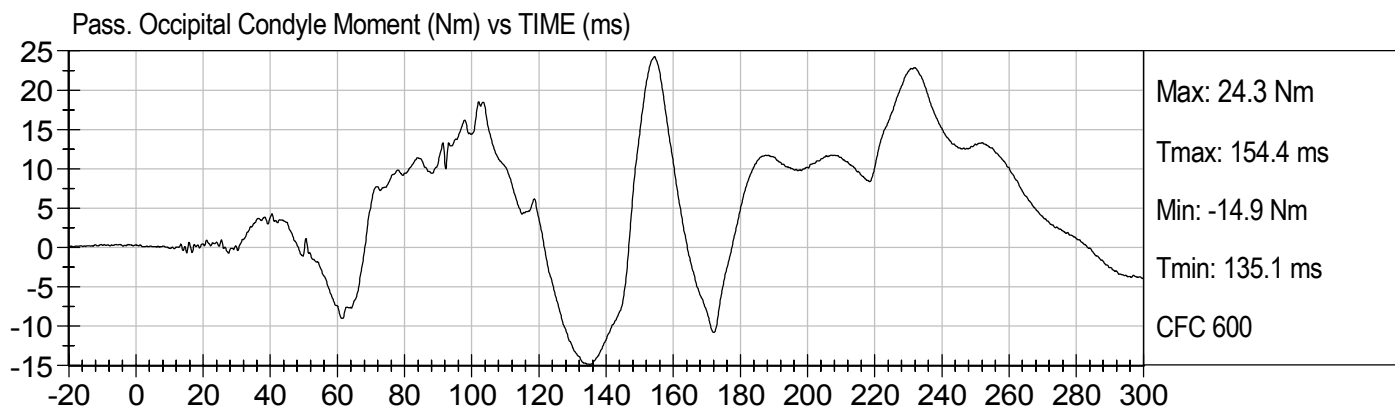
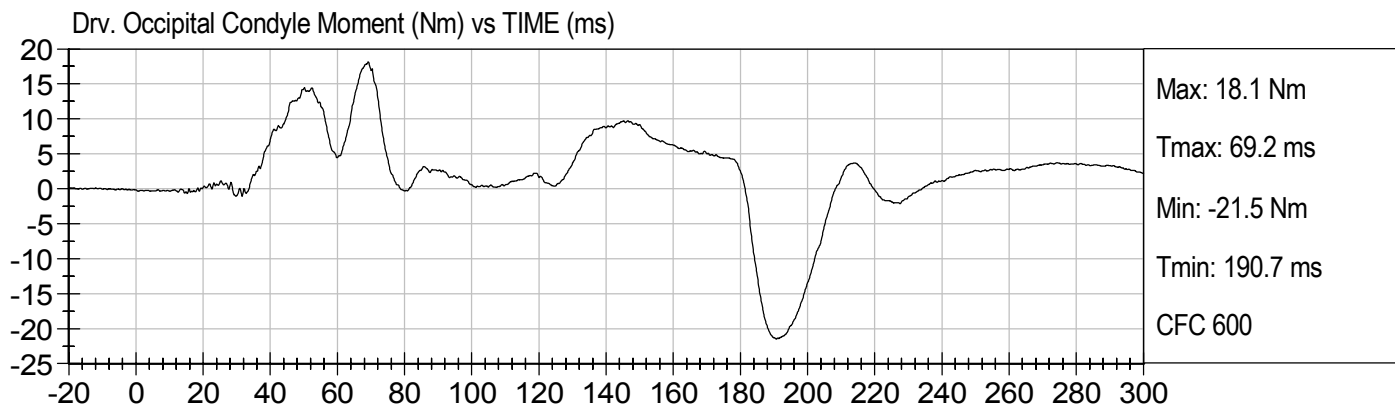


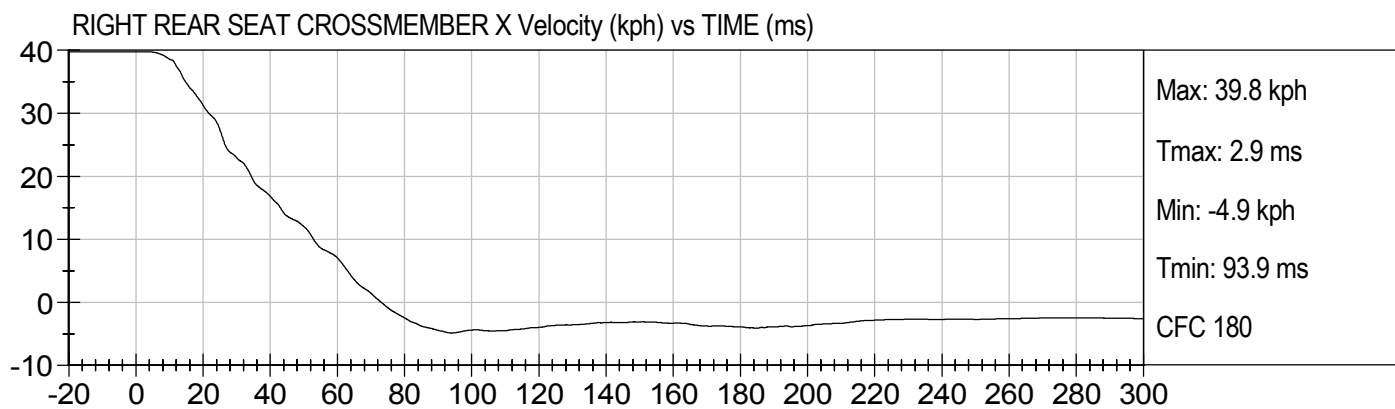
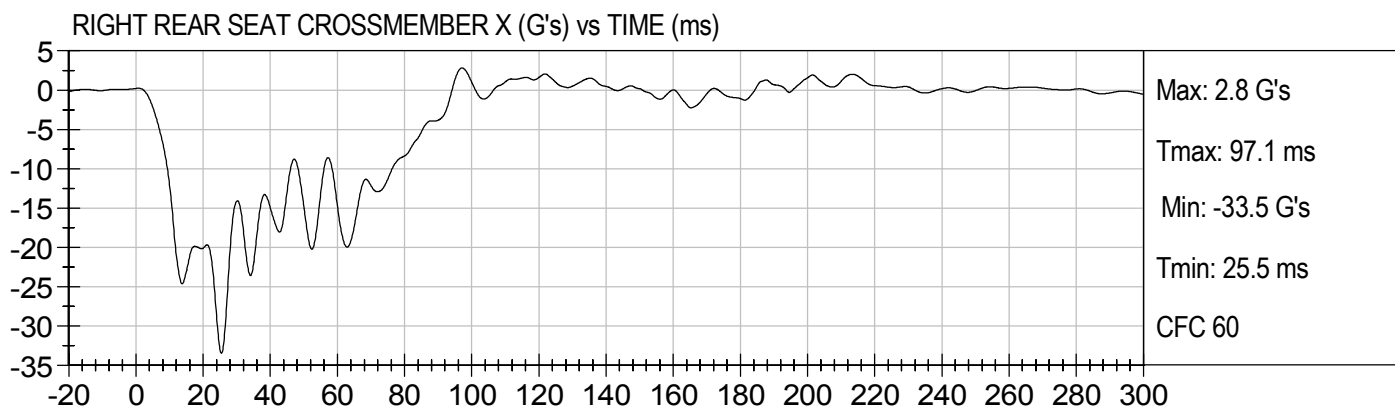
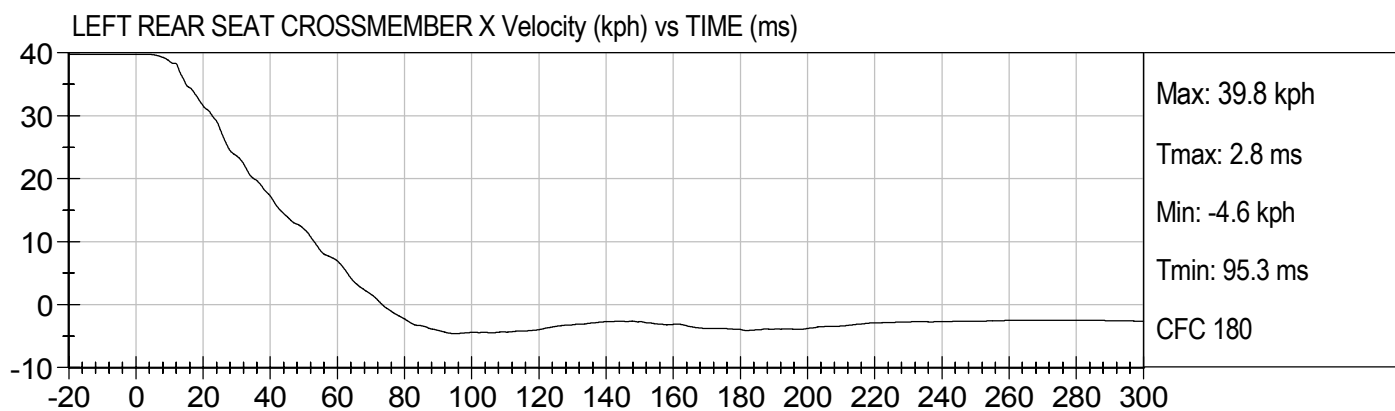
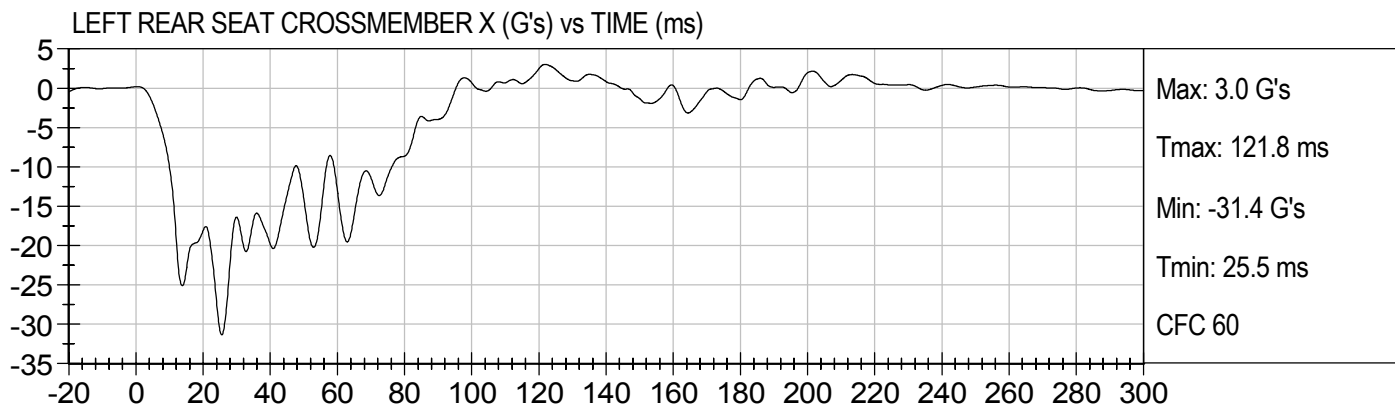


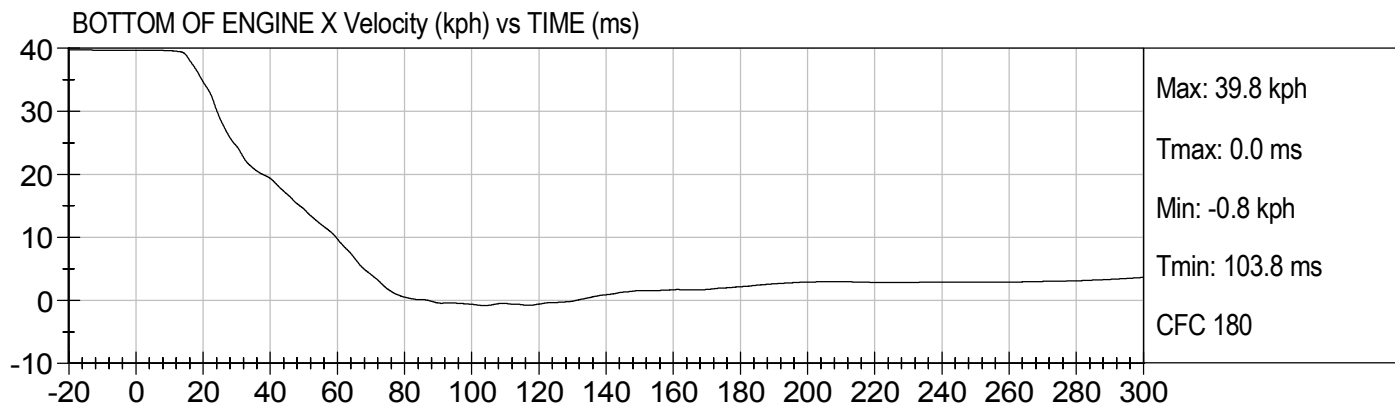
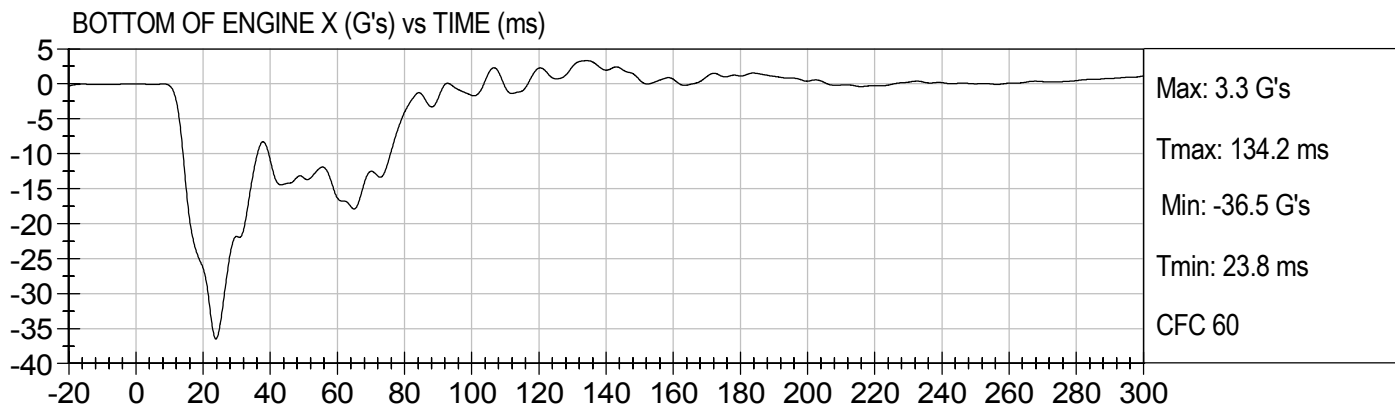
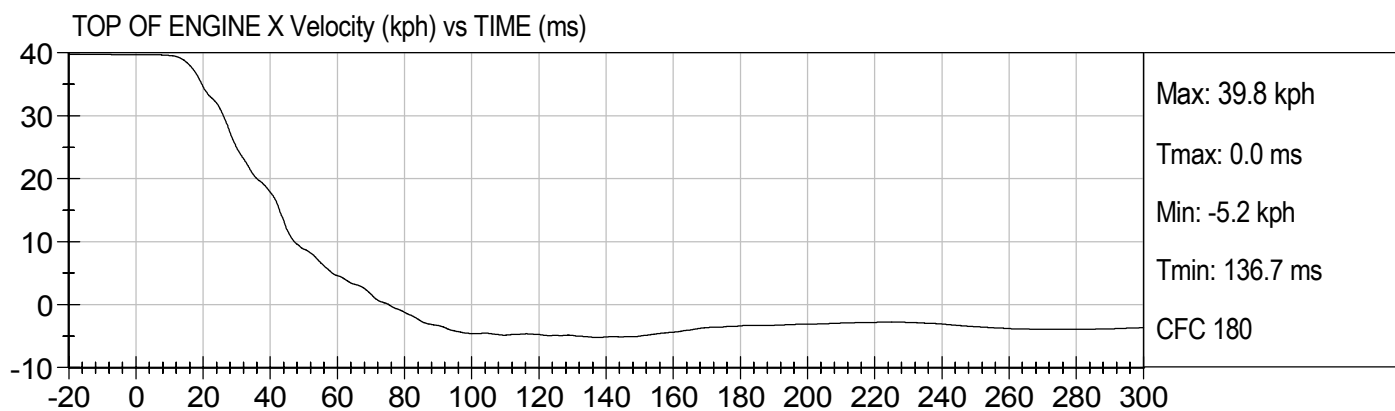
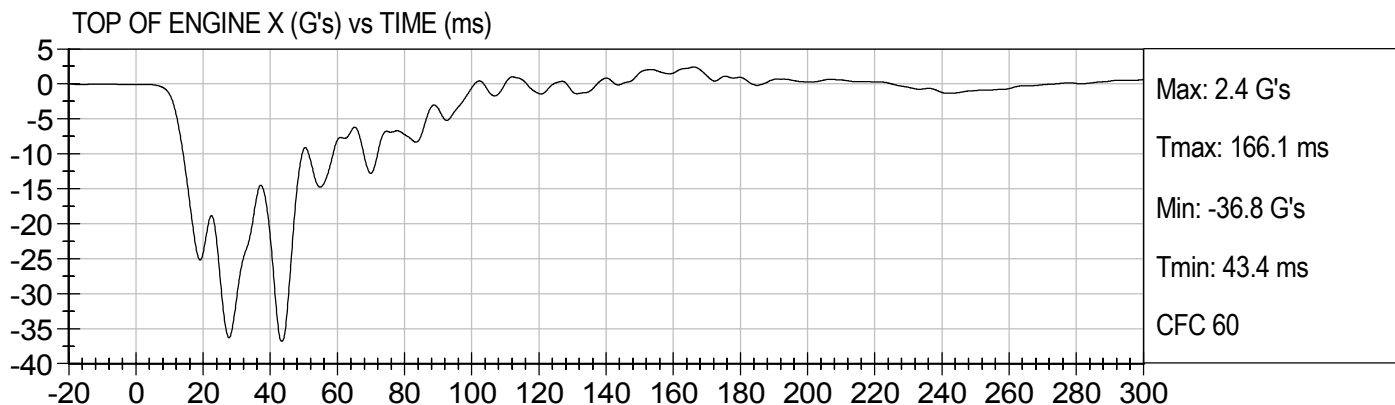


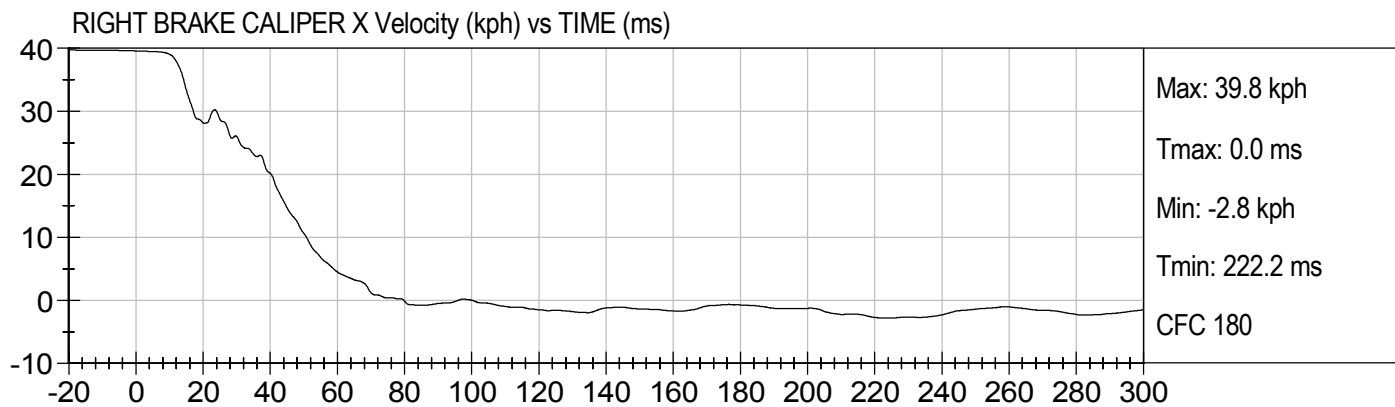
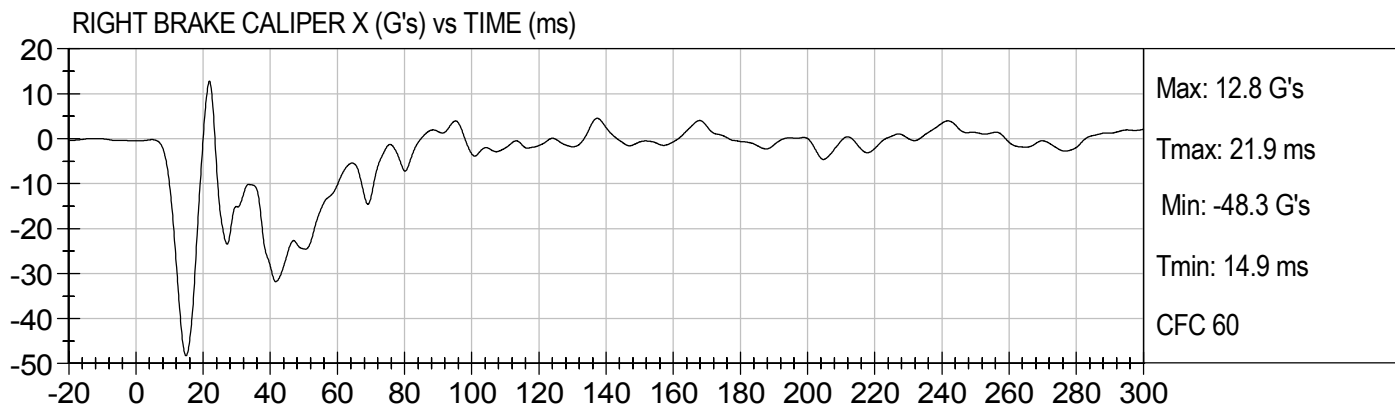
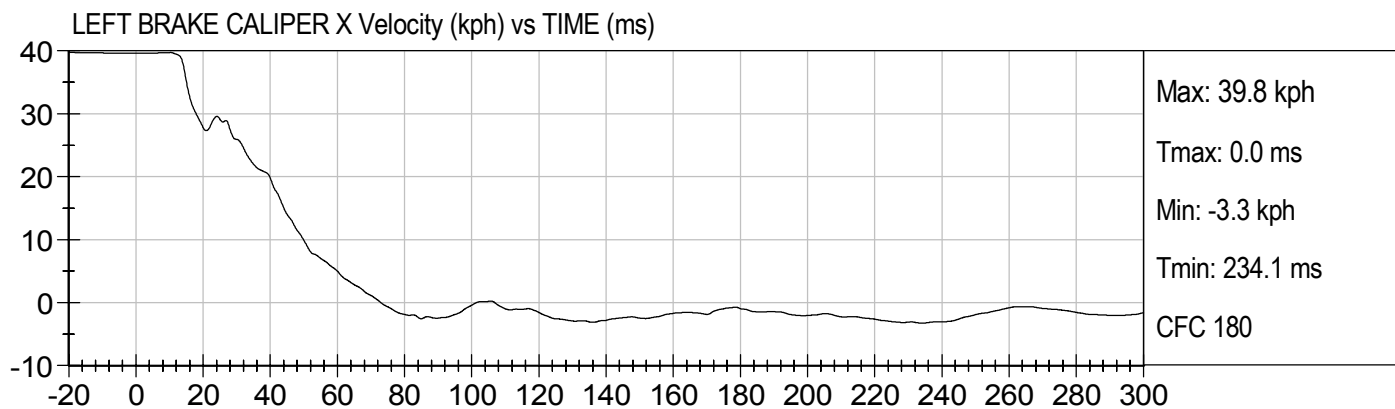
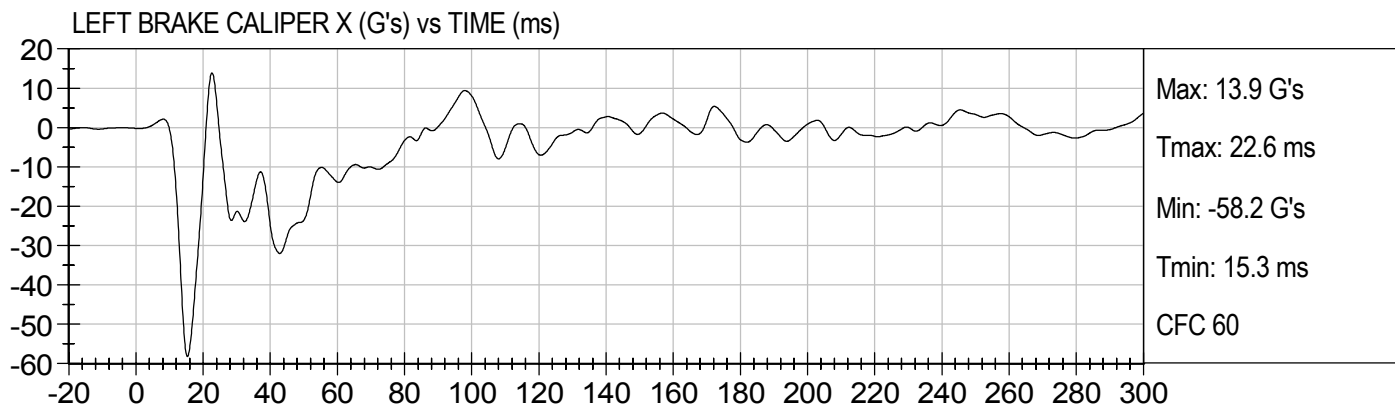
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2006 DODGE RAM (C60307)

Test Date: 04/27/2007  
Speed: 24.7 mph (39.8 km/h)

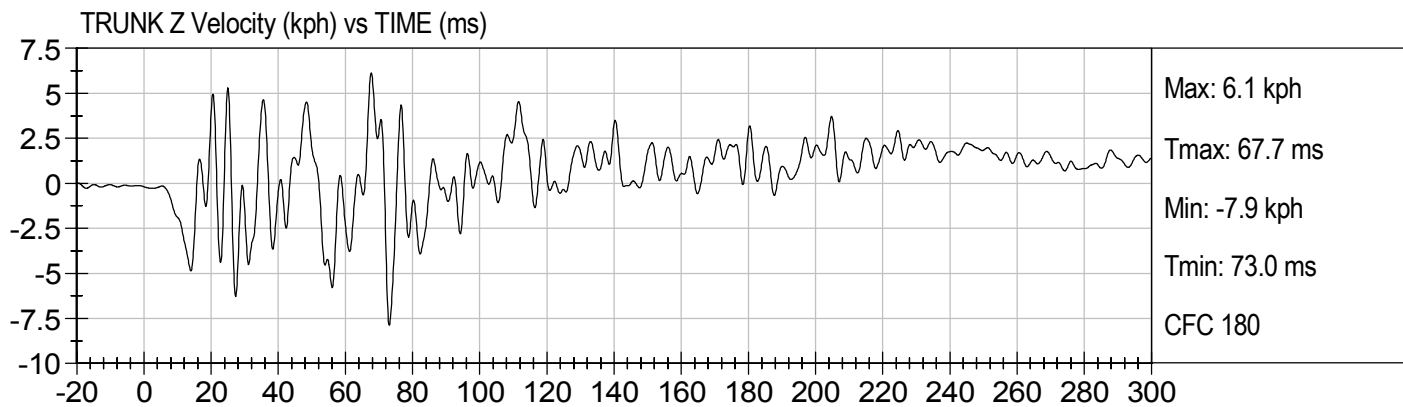
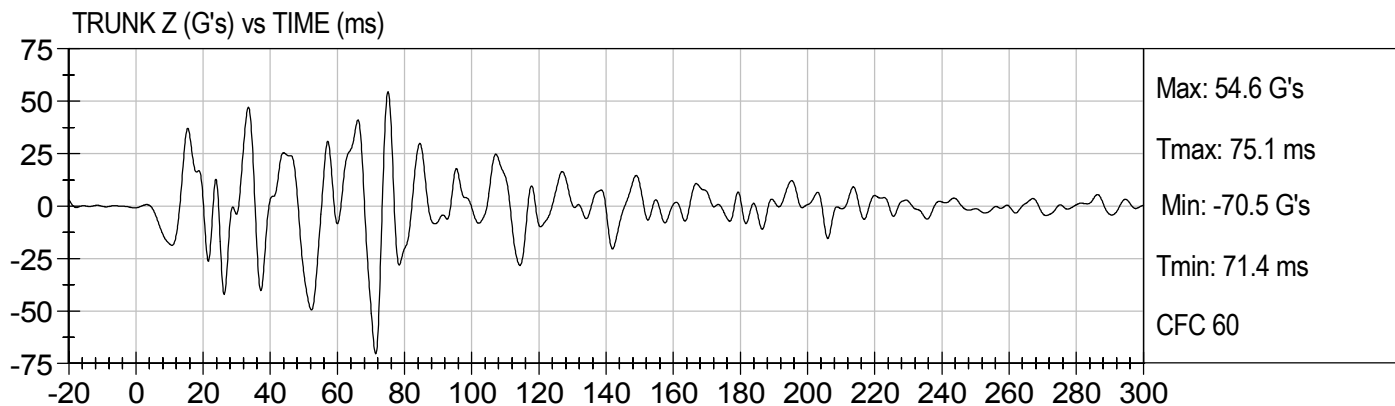
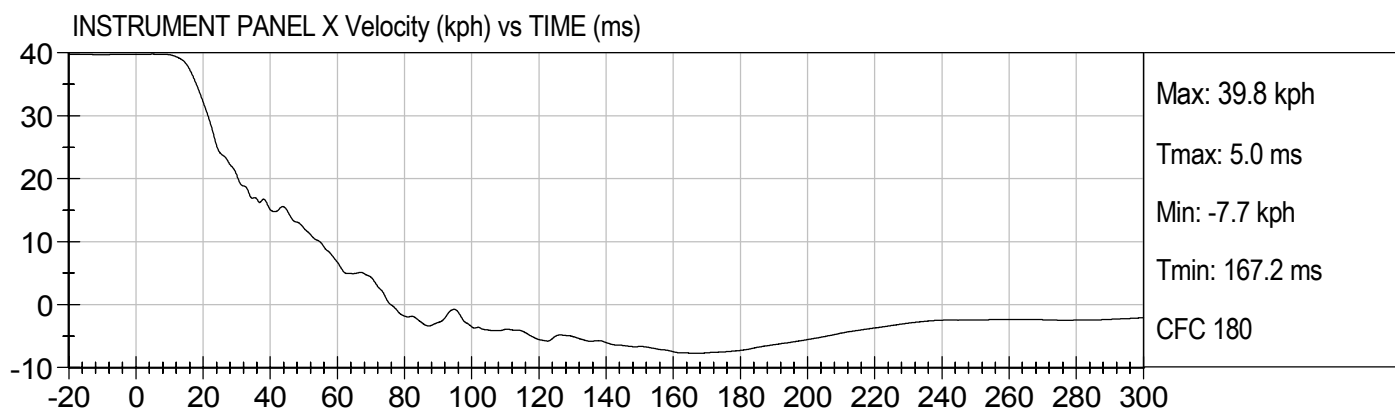
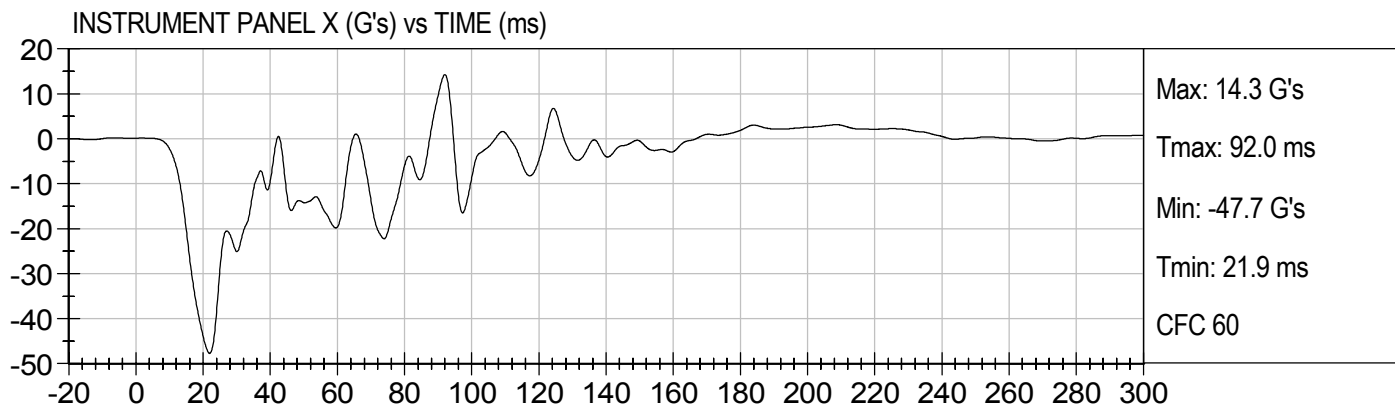


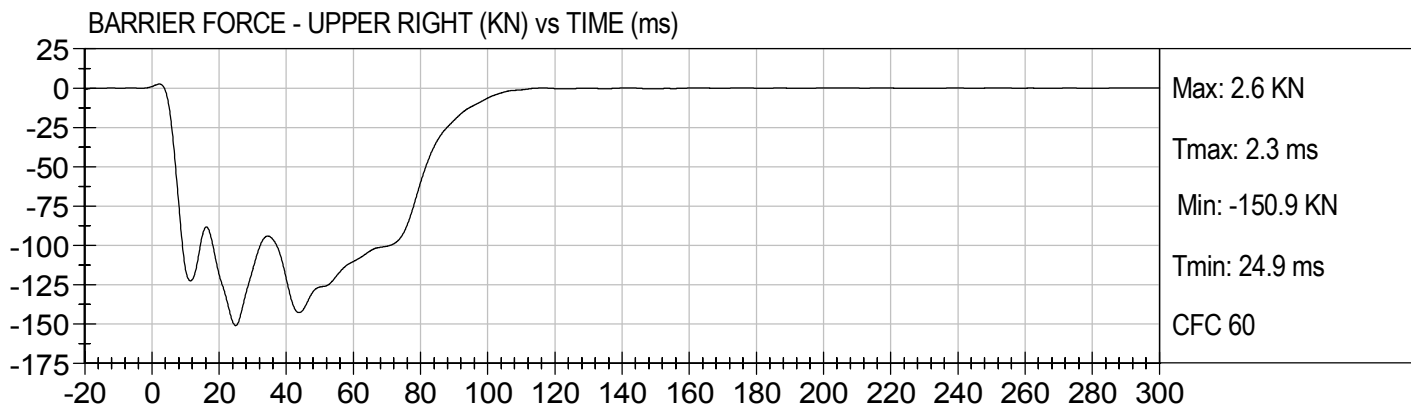
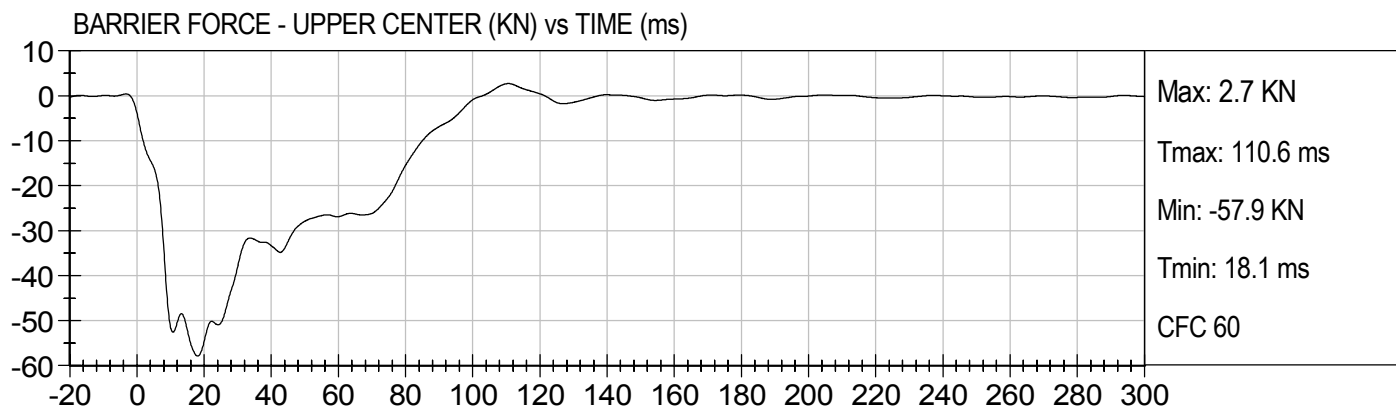
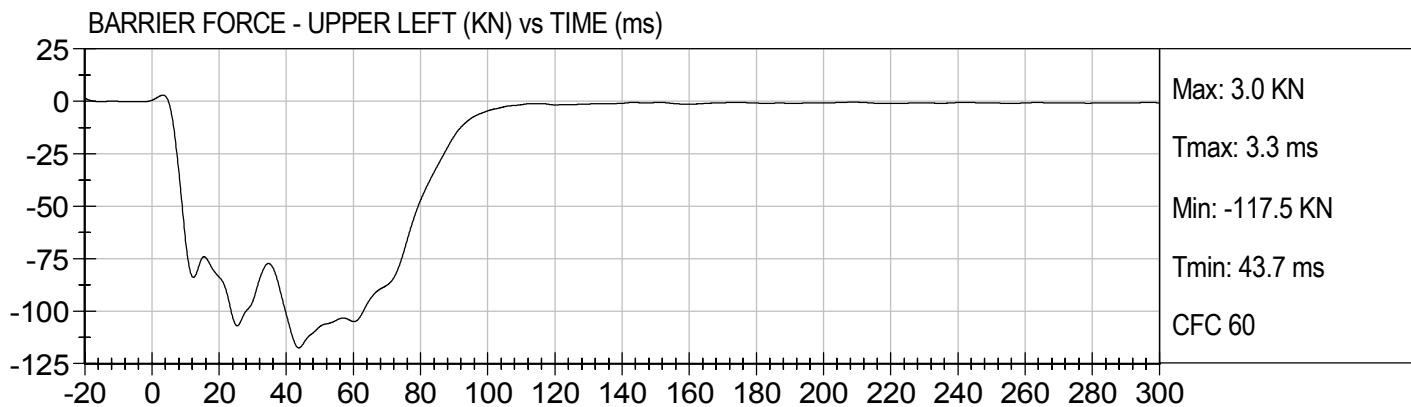


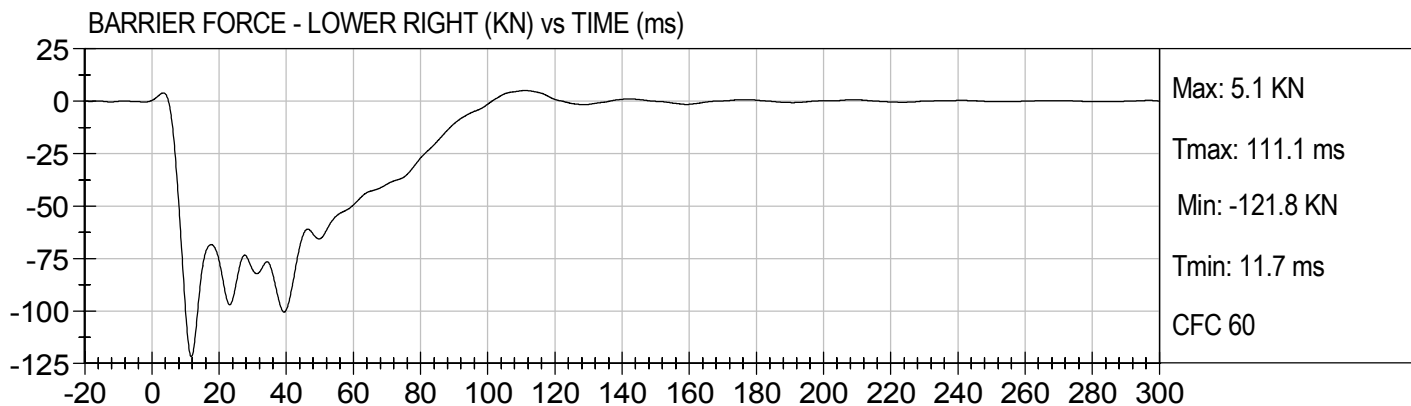
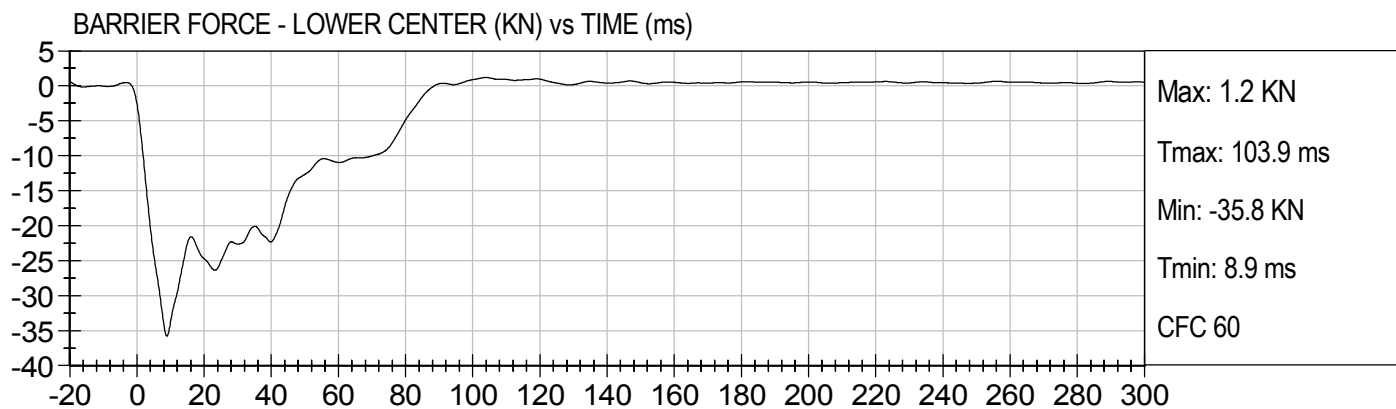
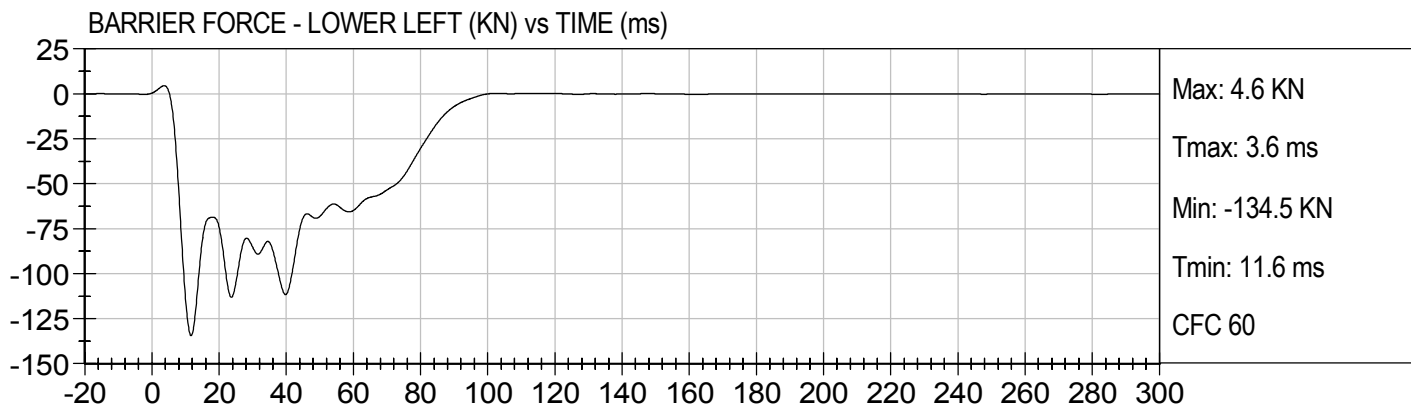








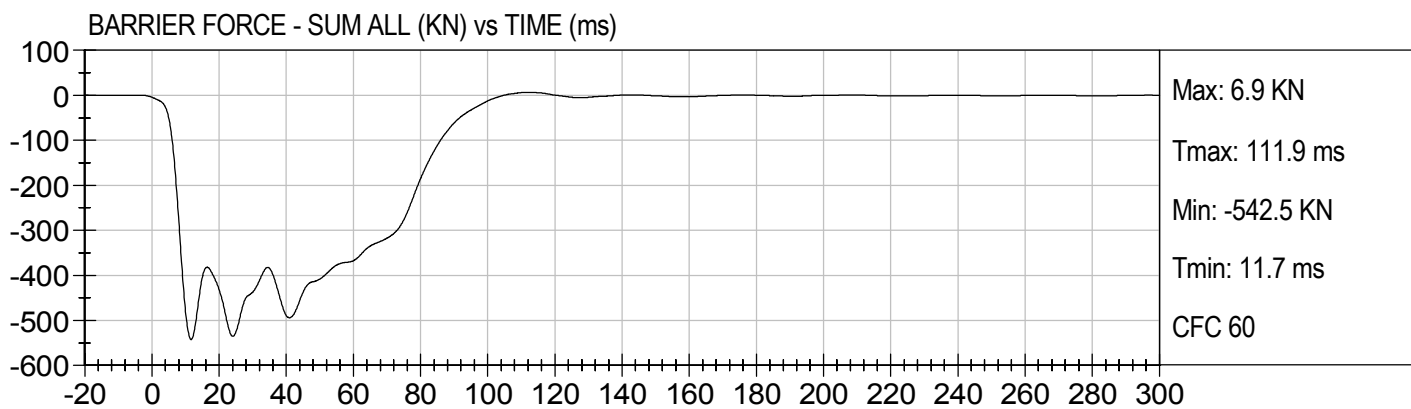
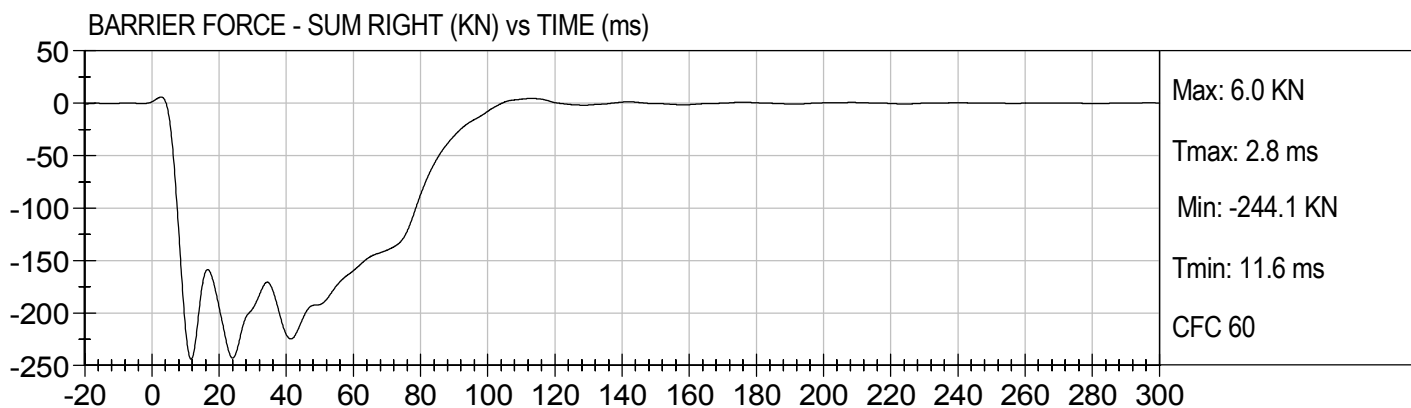
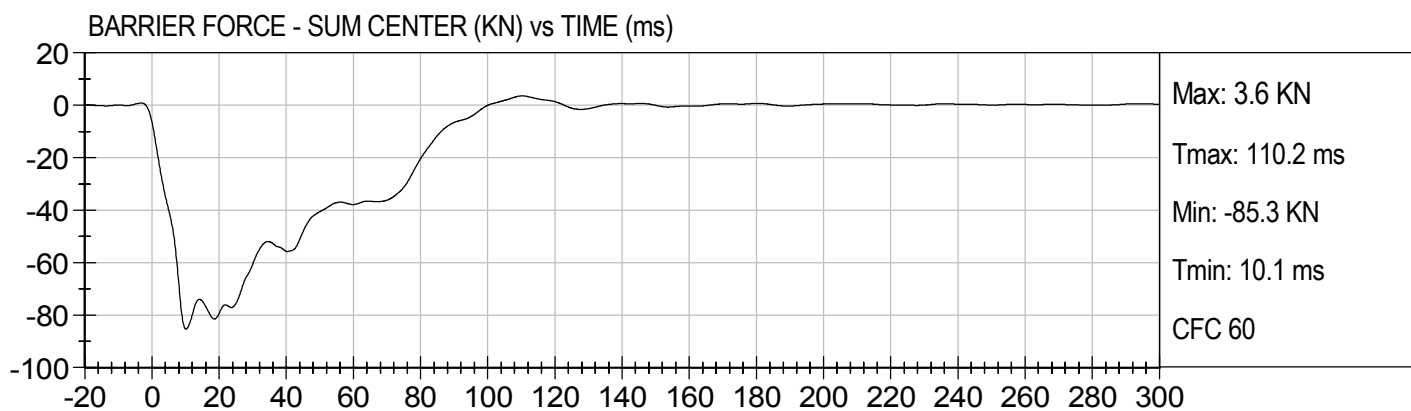
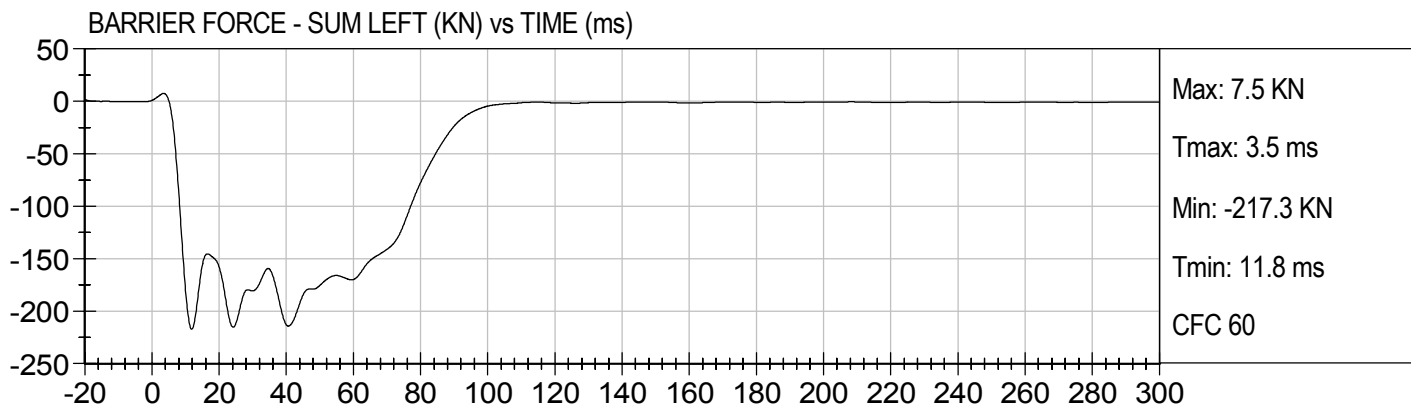






25 MPH FRONTAL UNBELTED  
2006 DODGE RAM (C60307)

Test Date: 04/27/2007  
Speed: 24.7 mph (39.8 km/h)



**APPENDIX B**  
**CRASH TEST PHOTOGRAPHS**

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MFD BY	DAIMLERCHRYSLER CORPORATION	DATE OF MFR	1-06	GWR	2994 KG(06600 LB)
GWR FRONT	WITH TIRES	RIMS AT	COLD		
1679 KG(3700 LB)	P245/70R17	17X7.0	240 KPA( 35 PSI)		
GWR REAR	WITH TIRES	RIMS AT	COLD		
1770 KG(3900 LB)	P245/70R17	17X7.0	240 KPA( 35 PSI)		


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

VIN: 1D7HA16N36J176008 TYPE: TRUCK SINGLE ~~X~~ DUAL



NDH: 012416 249AA PNT:PJC VEHICLE MADE IN U.S.A. TRM:TXJ3 4648503

Vehicle Certification Label




### TIRE AND LOADING INFORMATION

SEATING CAPACITY – TOTAL **3** FRONT **3** REAR **0**

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED  
782 KG OR 1726 LB

TIRE	FRONT	REAR	SPARE
ORIGINAL TIRE SIZE	P245/70R17	P245/70R17	P245/70R17
COLD TIRE INFLATION PRESSURE	240 kPa, 35 PSI	240 kPa, 35 PSI	240 kPa, 35 PSI

SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION 

**6J176008**

Tire Placard



Pre-Test Front View of Test Vehicle



Post-Test Front View of Test Vehicle

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Pre-Test Left Side View of Test Vehicle



Post-Test Left Side View of Test Vehicle



Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle





Pre-Test Right Front Three-Quarter View of Test Vehicle



Post-Test Right Front Three-Quarter View of Test Vehicle



Pre-Test Left Front Three-Quarter View of Test Vehicle



Post-Test Left Front Three-Quarter View of Test Vehicle



Pre-Test Right Rear Three-Quarter View of Test Vehicle



Post-Test Right Rear Three-Quarter View of Test Vehicle



Pre-Test Left Rear Three-Quarter View of Test Vehicle



Post-Test Left Rear Three-Quarter View of Test Vehicle





Pre-Test Rear View of Test Vehicle



Post-Test Rear View of Test Vehicle



Pre-Test Windshield View



Post-Test Windshield View



Pre-Test Engine Compartment View



Post-Test Engine Compartment View

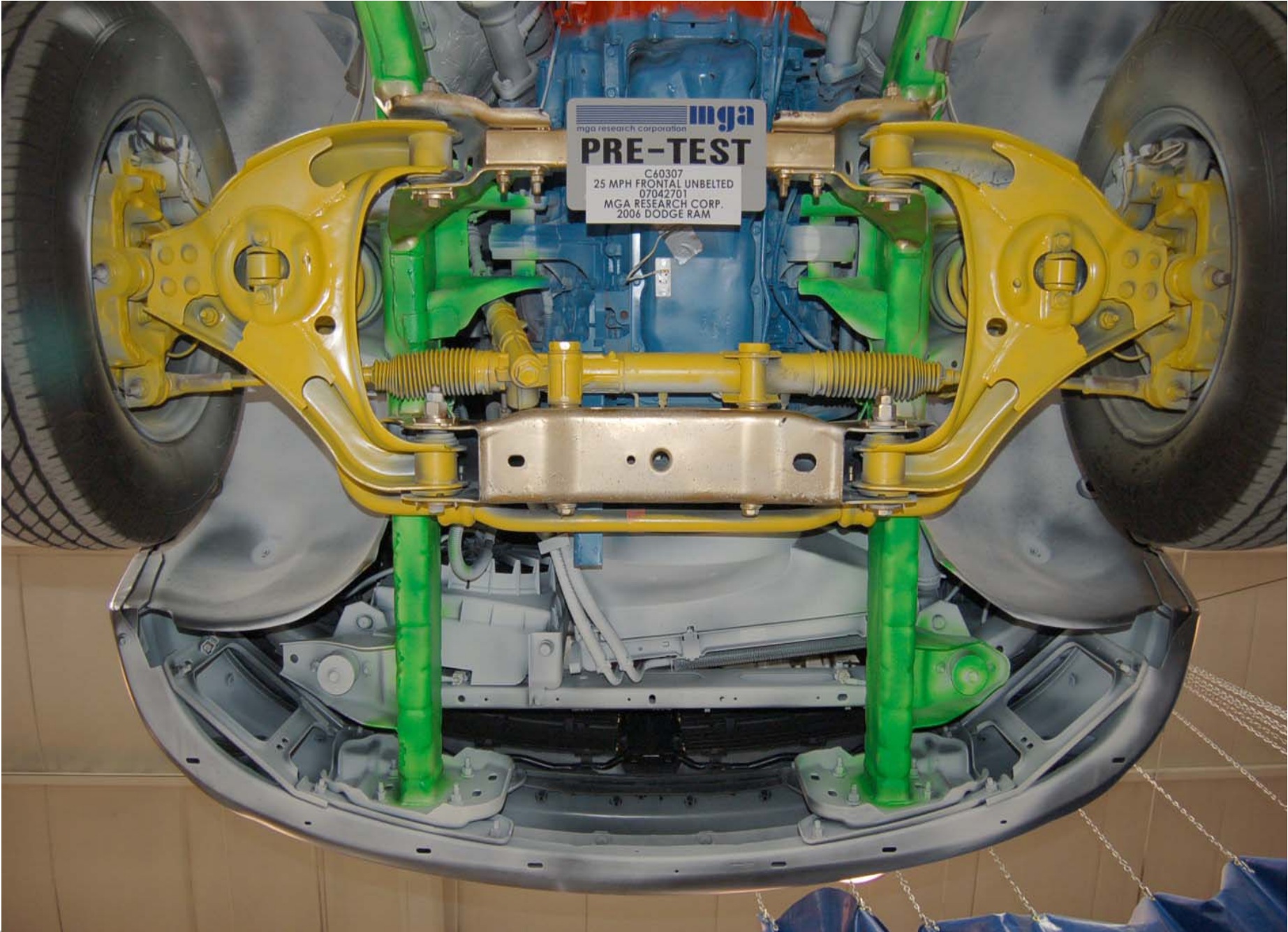


Pre-Test Fuel Filler Cap View

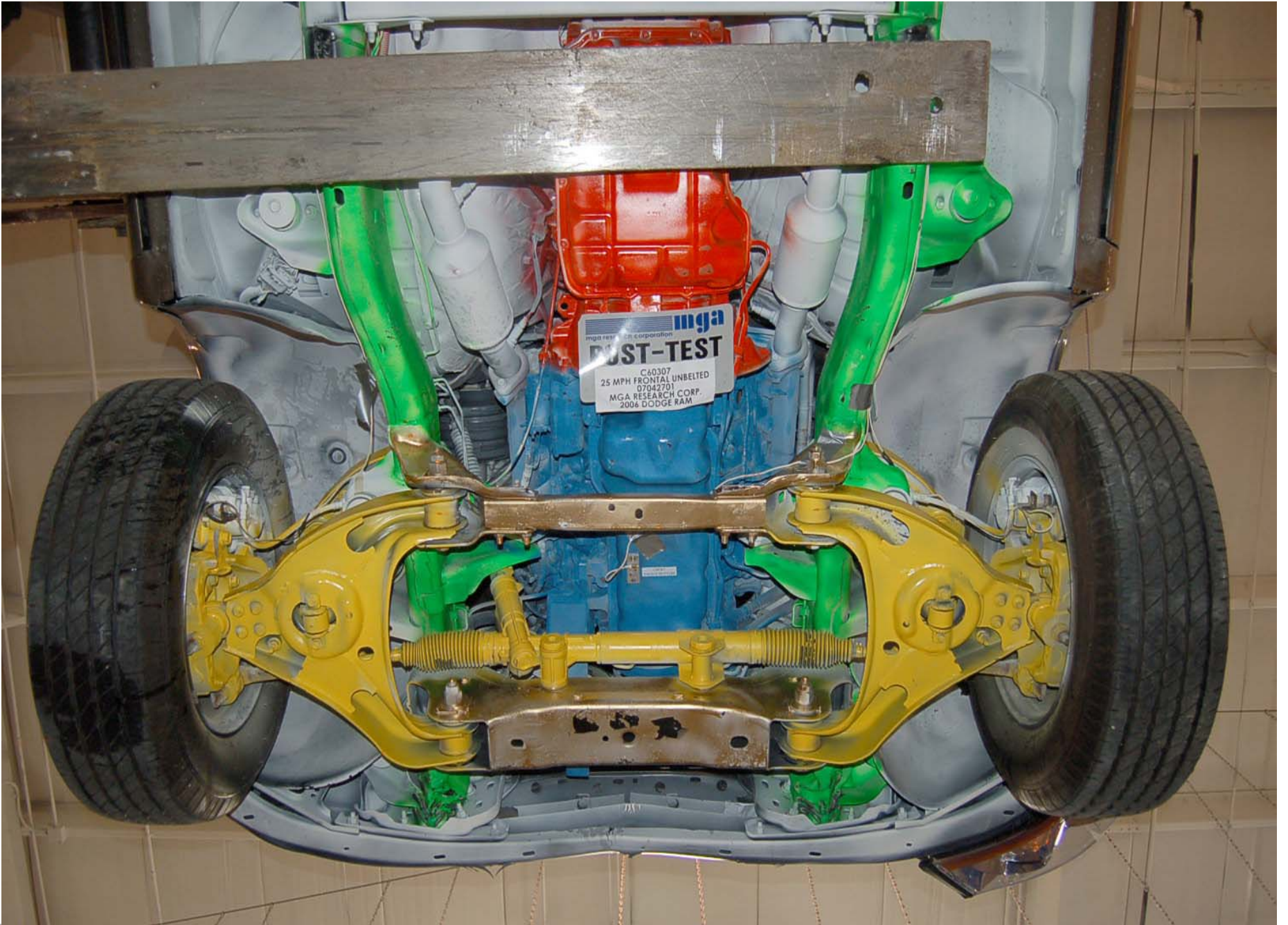


Post-Test Fuel Filler Cap View





Pre-Test Front Underbody View



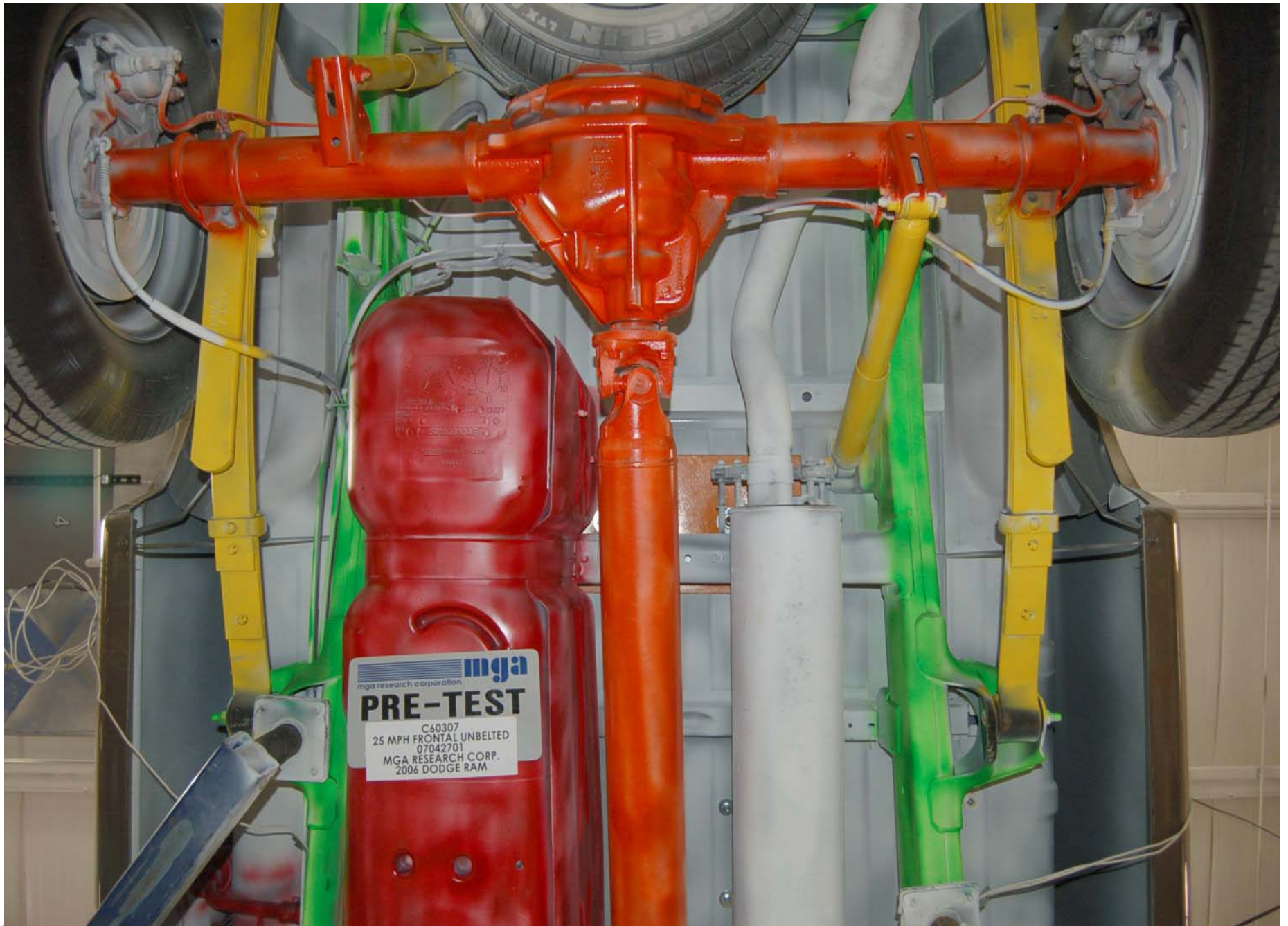
Post-Test Front Underbody View



Pre-Test Mid Underbody View



Post-Test Mid Underbody View



Pre-Test Mid Rear Underbody View



Post-Test Mid Rear Underbody View



Pre-Test Rear Underbody View



Post-Test Rear Underbody View





Pre-Test Driver Dummy Front View (head position)



Post-Test Driver Dummy Front View (head position)



Pre-Test Driver Dummy Position Left Side View



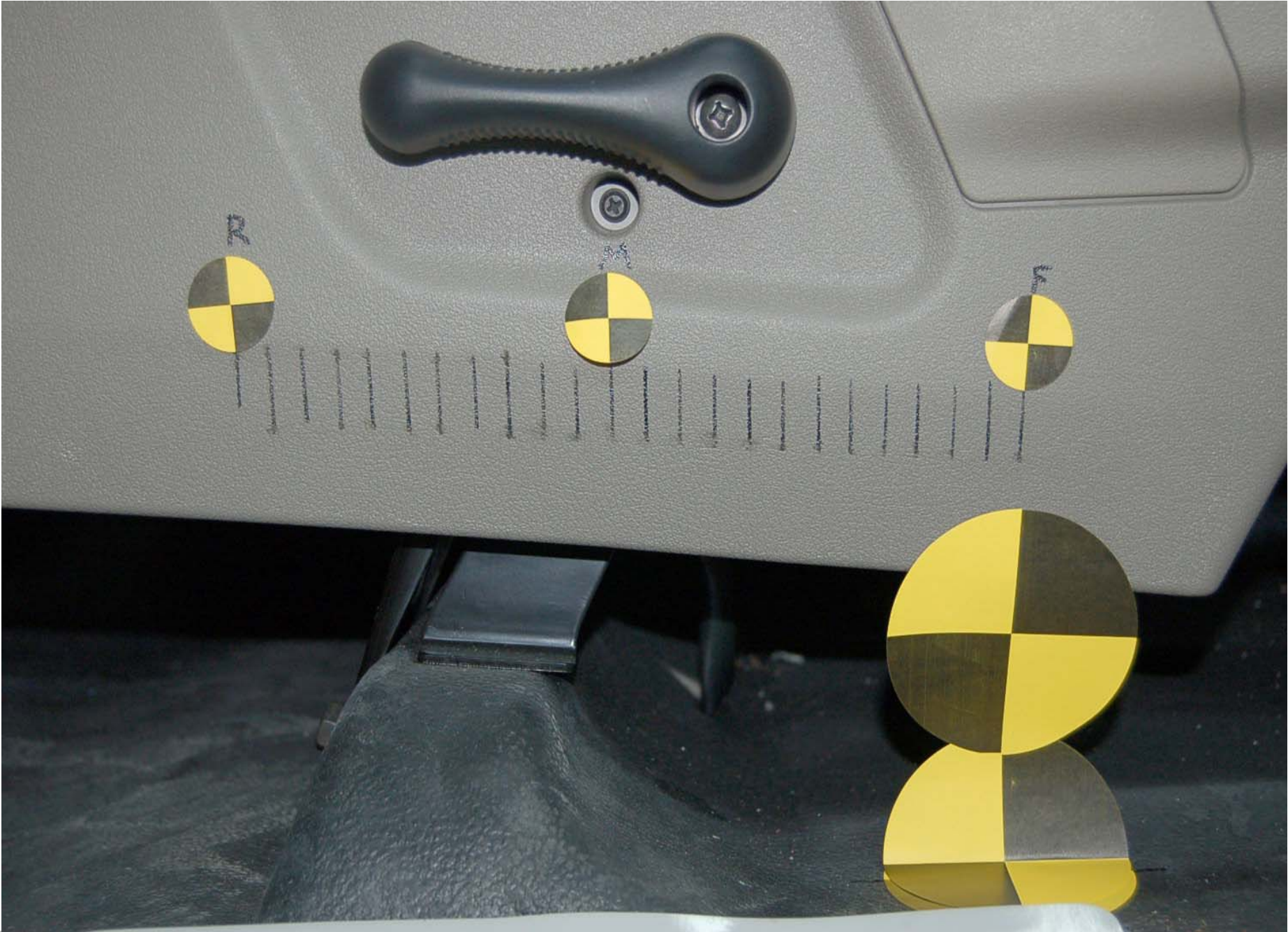
Post-Test Driver Dummy Position Left Side View



Pre-Test Driver Dummy Position Left Side View (Door Open)



Post-Test Driver Dummy Position Left Side View (Door Open)



Pre-Test Driver Dummy Seat Position

B-40



Post-Test Driver Dummy Seat Position





Pre-Test Driver Dummy Feet Position



Post-Test Driver Dummy Feet Position



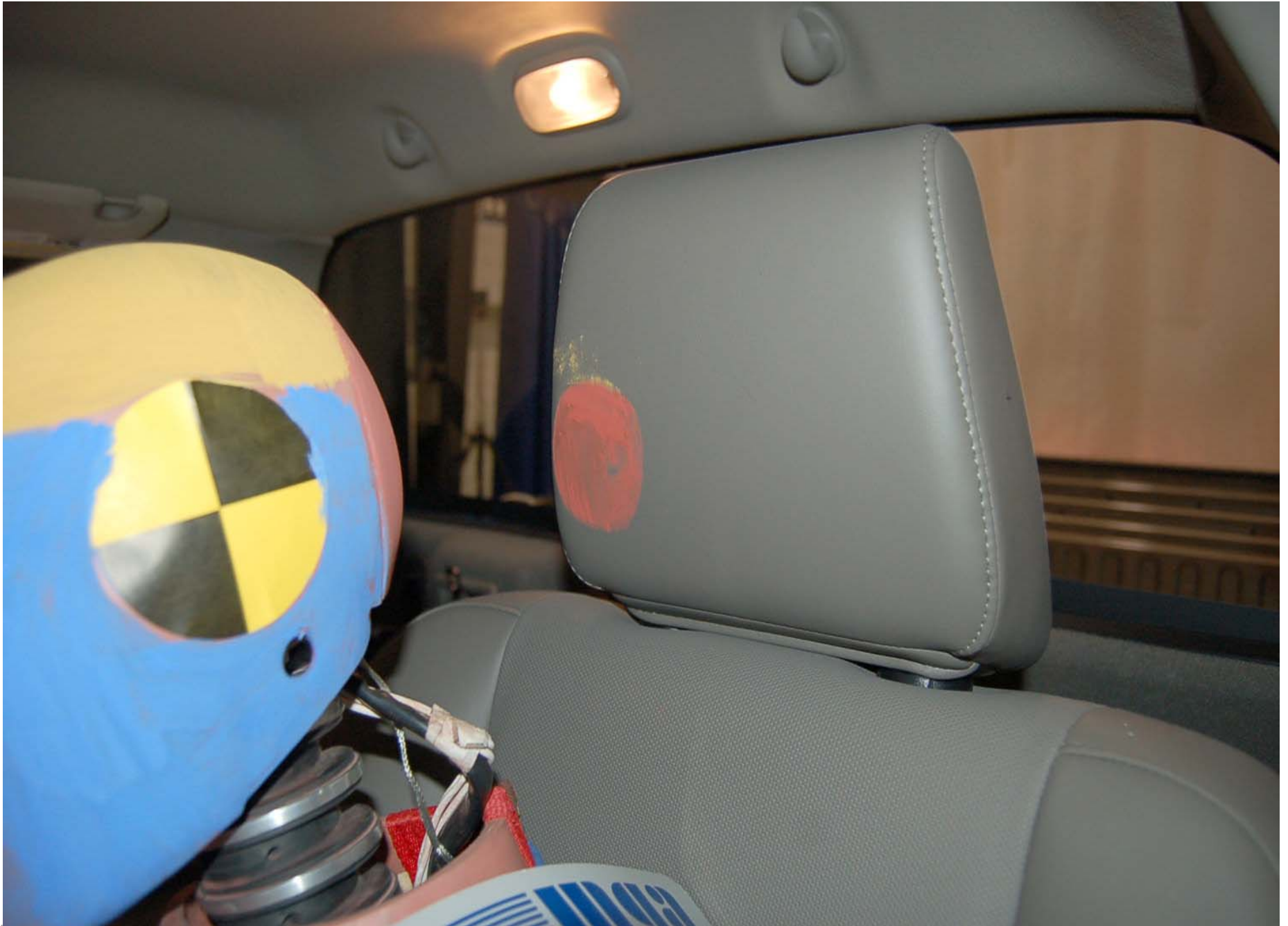
Pre-Test Driver Side Knee Bolster View



Post-Test Driver Side Knee Bolster View



Post-Test Driver Dummy Head Contact (windshield)



Post-Test Driver Dummy Head Contact (head rest)

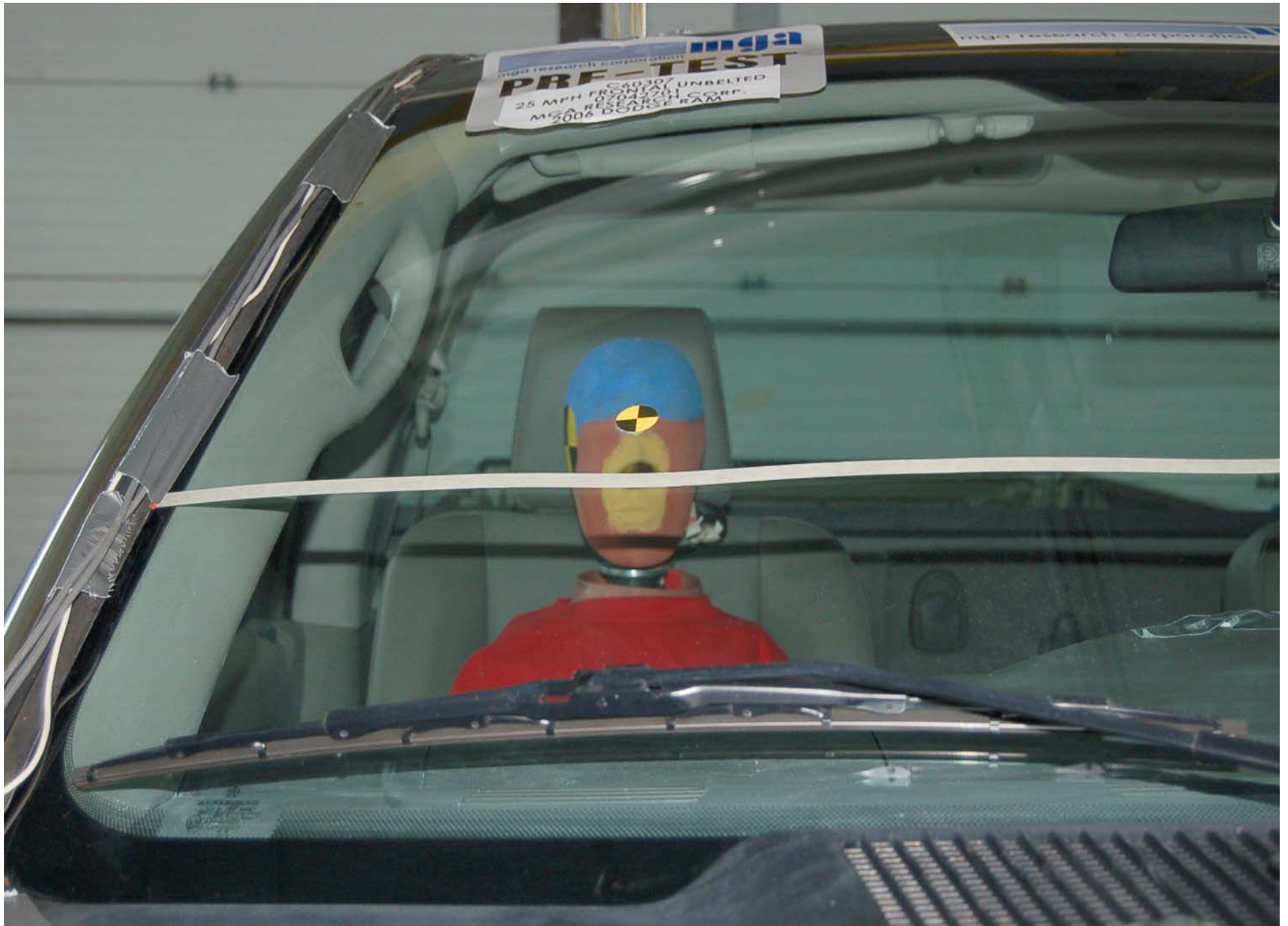


Post-Test Driver Dummy Knee Contact



Post-Test Driver Dummy Airbag Contact





Pre-Test Passenger Dummy Front View (head position)



Post-Test Passenger Dummy Front View (head position)

B-51



Pre-Test Passenger Dummy Position Right Side View



Post-Test Passenger Dummy Position Right Side View



Pre-Test Passenger Dummy Position Right Side View (Door Open)



Post-Test Passenger Dummy Position Right Side View (Door Open)

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Pre-Test Passenger Dummy Seat Position

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Post-Test Passenger Dummy Seat Position





Pre-Test Passenger Dummy Feet Position



Post-Test Passenger Dummy Feet Position



Pre-Test Passenger Side Knee Bolster View

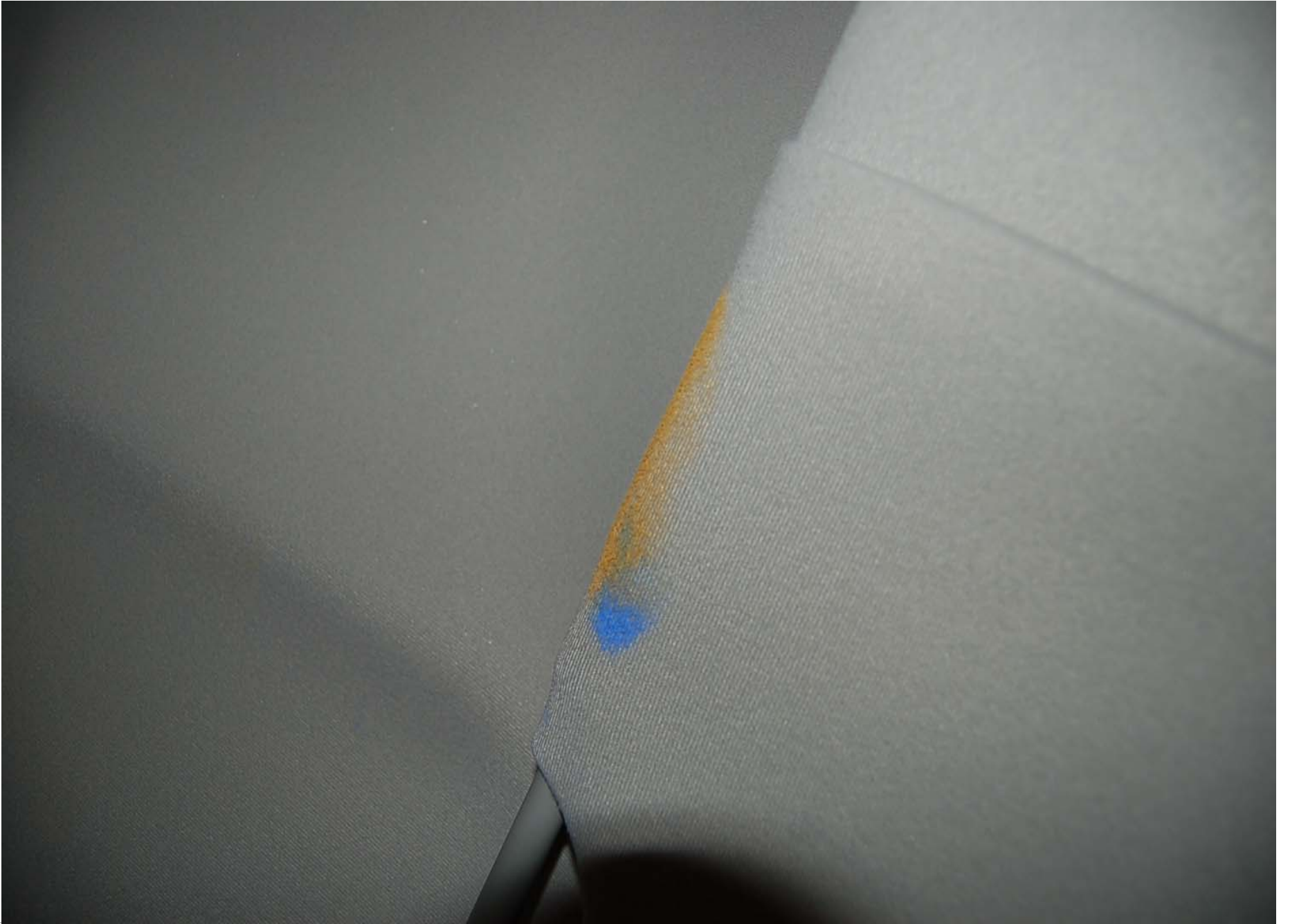
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Post-Test Passenger Side Knee Bolster View



Post-Test Passenger Dummy Head Contact (windshield/header)



Post-Test Passenger Dummy Head Contact (visor)



Post-Test Passenger Dummy Head Contact (head rest)

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Post-Test Passenger Dummy Knee Contact



B-65



Post-Test Passenger Dummy Airbag Contact



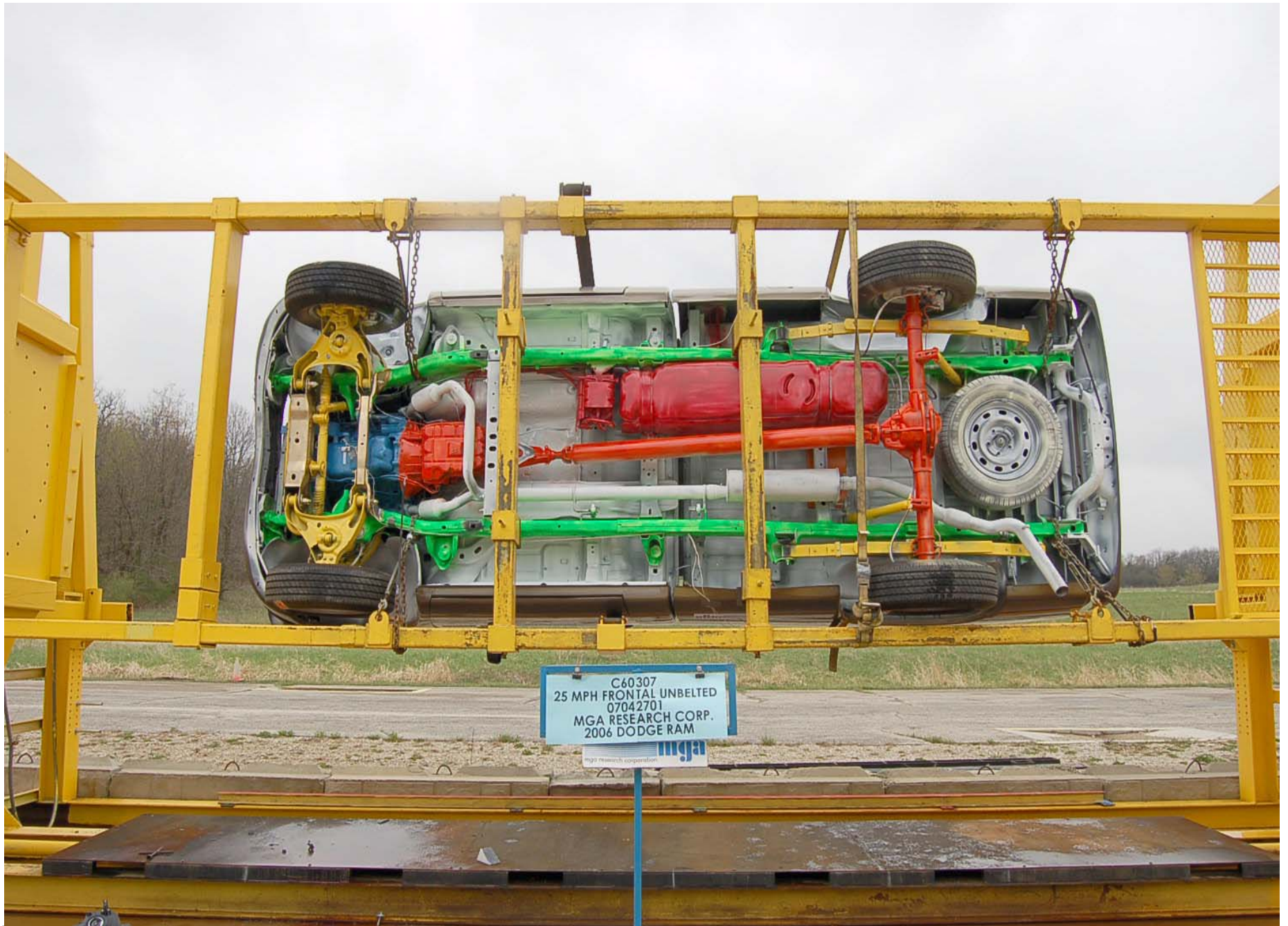
Rollover 90 Degrees

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Rollover 180 Degrees

B-68



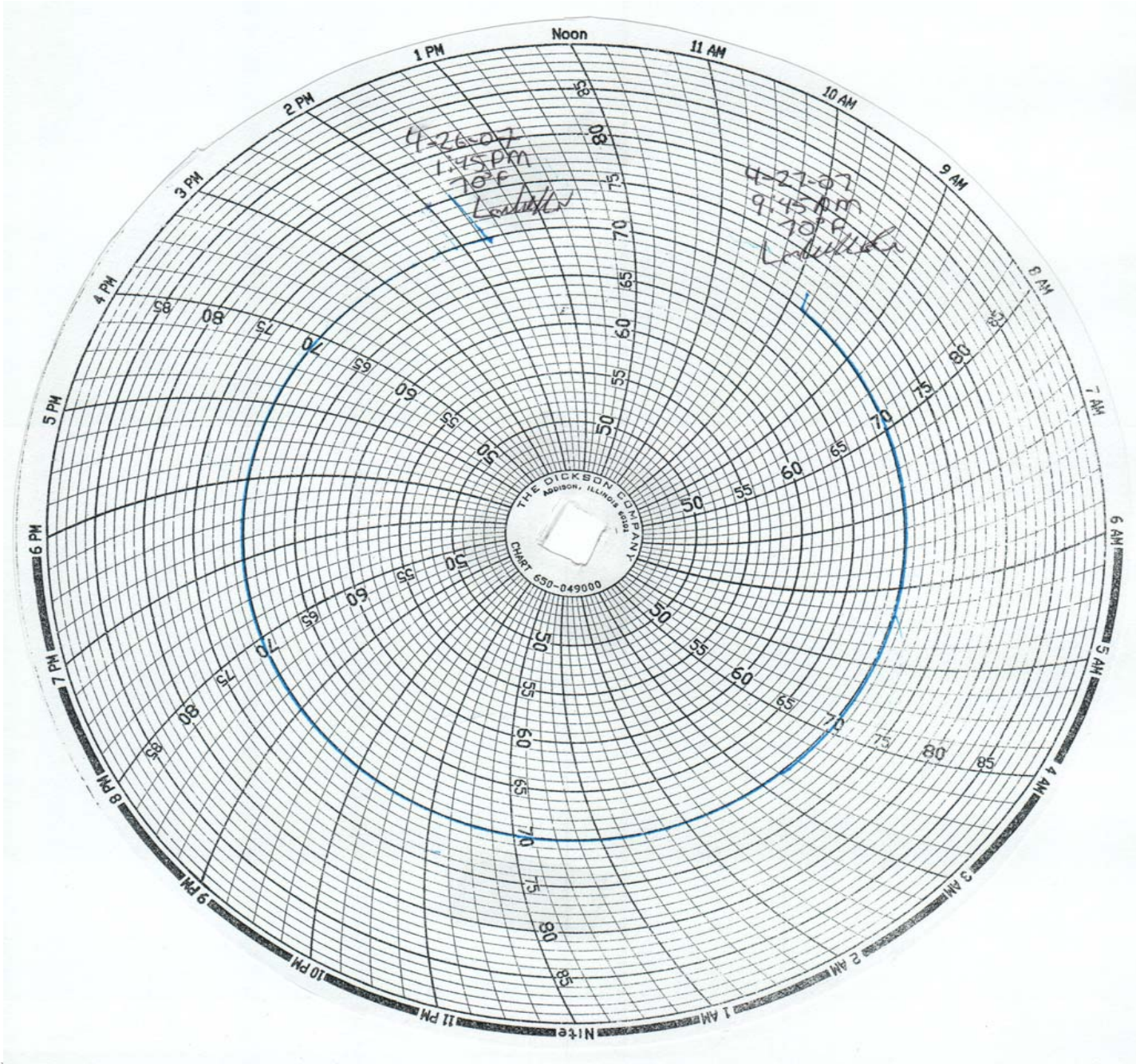
Rollover 270 Degrees

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Rollover 360 Degrees

B-70



Temperature Plot

B-71



Vehicle in Relation to The Load Cell Grid

**APPENDIX C**  
**INSTRUMENTATION CALIBRATION**



### INSTRUMENTS FOR DRIVER DUMMY NO. 516

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	J25-R13	Entran	03/12/07
Head Y	J25-R15	Entran	03/12/07
Head Z	J26-H01	Entran	03/12/07
Neck Load Cell	253	Denton	01/25/07
Chest X	A05-A20	Entran	03/12/07
Chest Y	A05-A21	Entran	03/12/07
Chest Z	A07-J01	Entran	03/12/07
Chest Displacement	516	Servo	03/15/07
Left Femur Load Cell	996	Denton	03/13/07
Right Femur Load Cell	994	Denton	03/13/07

### INSTRUMENTS FOR PASSENGER DUMMY NO. 506

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	P47891	Endevco	03/12/07
Head Y	P47892	Endevco	03/12/07
Head Z	P47893	Endevco	03/12/07
Neck Load Cell	252	Denton	01/24/07
Chest X	P47888	Endevco	03/12/07
Chest Y	P47889	Endevco	03/12/07
Chest Z	P47890	Endevco	03/12/07
Chest Displacement	506	Servo	03/15/07
Left Femur Load Cell	992	Denton	03/13/07
Right Femur Load Cell	988	Denton	03/13/07

### VEHICLE INSTRUMENTS

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	C09-Y09	Entran	03/02/07
Right Rear Seat Crossmember X	D08-L03	Entran	01/16/07
Top of Engine X	E05-Z27	Entran	01/16/07
Bottom of Engine X	B28-Z17	Entran	03/02/07
Left Brake Caliper X	ALE80	Endevco	01/16/07
Right Brake Caliper X	E05-Z57	Entran	01/25/07
Instrument Panel X	D08-L07	Entran	01/16/07
Trunk Z	H10-M18	Entran	12/21/06