REPORT NUMBER: 208-MGA-2008-014

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

GENERAL MOTORS CORP.
2008 GMC ACADIA MPV
NHTSA NO.: C80107

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

TEST DATES: MAY 16, 2008 – JULY 11, 2008

FINAL REPORT DATE: NOVEMBER 14, 2008

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVENUE, S.E., NVS-220
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.

Prepared by: Jeff Lewandowski Date: November 14, 2008
Jeff Lewandowski, Project Engineer

Reviewed by: David Winkelbauer Date: November 14, 2008
David Winkelbauer, Facility Director

FINAL REPORT ACCEPTED BY OVSC:

Accepted By: Charles R. Case

Acceptance Date: November 14, 2008

Technical Report Documentation Page

1. Report No. 208-MGA-2008-014	*2. Government Accession No.*	*3. Recipient's Catalog No.*	
4. Title and Subtitle Final Report of FMVSS 208 Compliance Testing of a 2008 GMC ACADIA NHTSA No.: C80107		*5. Report Date* November 14, 2008 *6. Performing Organization Code* MGA	
7. Author(s) Jeff Lewandowski, Project Engineer		*8. Performing Organization Report No.* 208-MGA-2008-014	
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 1200 New Jersey Avenue, S.E., NVS-220 Washington, D.C. 20590		*13. Type of Report and Period Covered* 5/16/08 - 7/11/08 *14. Sponsoring Agency Code* NVS-220	
15. Supplementary Notes			
16. Abstract Compliance tests were conducted on the subject 2008 GMC ACADIA 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: TEST FAILURES: 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: U.S. Department of Transportation National Highway Traffic Safety Administration Technical Information Services (TIS), NPO-411 1200 New Jersey Avenue, S.E. (Room E12-100) Washington, DC 20590	
19. Security Classif. (of this report) Unclassified	*20. Security Classif. (of this page)* Unclassified	*21. No. of Pages* 361	22. Price

Form DOT F1700.7 (8-72)

TABLE OF CONTENTS

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 2008 GMC ACADIA, NHTSA No. C80107, 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: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
NHTSA No.: C80107
Test Dates: 5/16/08 - 7/11/08

The following checked items indicate the tests that were performed:

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

		Unbelted 50th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
		Unbelted 5th female dummy driver (32 to 40 kmph) (S16.1(b))
		Unbelted 5th female dummy passenger (32 to 40 kmph) (S16.1(b))
		40% Offset 0° Belted 5th female dummy driver and passenger (0 to 40 kmph) (S18.1)
	21.	Sled Test: Unbelted 50th male dummy driver and passenger (S13)
	22.	FMVSS 204 Indicant Test
X	23.	FMVSS 212 Indicant Test
X	24.	FMVSS 219 Indicant Test
X	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 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: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 6/4/08

5th Percentile Female Low Risk Deployments

5th Percentile Female SN 516 Position 1 (Chin On Module) 6/4/08

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	12
Peak Nij (Nte)	1.0	0.1
Time (ms)	NA	85.4
Peak Nij (Ntf)	1.0	0.2
Time (ms)	NA	11.6
Peak Nij (Nce)	1.0	0.0
Time (ms)	NA	3.7
Peak Nij (Ncf)	1.0	0.1
Time (ms)	NA	9.2
Neck Tension	2070 N	399
Neck Compression	2520 N	29
Chest g	60 g	7
Chest Displacement	52 mm	4
Left Femur	6805 N	39
Right Femur	6805 N	34

Second stage fire time of 100 ms; Injuries calculated on 0 ms to 225 ms

5th Percentile Female SN 516 Position 2 (Chin On Rim) 6/4/08

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	7
Peak Nij (Nte)	1.0	0.8
Time (ms)	NA	17.9
Peak Nij (Ntf)	1.0	0.0
Time (ms)	NA	51.4
Peak Nij (Nce)	1.0	0.1
Time (ms)	NA	210.5
Peak Nij (Ncf)	1.0	0.0
Time (ms)	NA	55.4
Neck Tension	2070 N	1089
Neck Compression	2520 N	28
Chest g	60 g	16
Chest Displacement	52 mm	14
Left Femur	6805 N	20
Right Femur	6805 N	32

Second stage fire time of 100 ms; Injuries calculated on 0 ms to 225 ms

SECTION 3

INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08

40 kmph Frontal Crash

Impact Angle: 30 Degree RH Oblique

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

Test Speed: 39.8 kmph Test Weight: 2435.3 kg

Driver Dummy: ___5th female _X_ 50th male
Passenger Dummy: ___5th female _X_ 50th male

50th Percentile Male Frontal Crash Test
Vehicles certified to S5.1.1(b)(1), S5.1.1(b)(2), S5.1.2(a)(2), or S5.1.2(b)

Injury Criteria	Max. Allowable Injury Assessment Values	Driver	Passenger
HIC15	700	30	217
N_{te}	1.0	0.2	0.3
N_{tf}	1.0	0.2	0.1
N_{ce}	1.0	0.0	0.2
N_{cf}	1.0	0.1	0.1
Neck Tension	4170 N	1062	1229
Neck Compression	4000 N	153	753
Chest g	60 g	34	38
Chest Displacement	63 mm	19	0
Left Femur	10,000 N	6388	5600
Right Femur	10,000 N	4541	6494

SECTION 4

DISCUSSION OF TESTS

Test Vehicle:	2008 GMC ACADIA	NHTSA No.:	C80107
Test Program:	FMVSS 208 Compliance	Test Dates:	5/16/08 - 7/11/08

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

The photo signs for post test crash photos C4, C10, C26, C28, and C30 incorrectly indicate that the photos are “pre-test”. The placard in the photo should indicate POST TEST.

SECTION 5

TEST DATA SHEETS

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance

NHTSA No.: C80107
Test Dates: 5/16/08 - 7/11/08

DATA SHEET 1

COTR VEHICLE WORK ORDER

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
NHTSA No.: C80107
Test Dates: 5/16/08 - 7/11/08

COTR Signature: Charles R. Case

Test to be performed for this vehicle are checked below:

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

Section B

X	Britax Handle with Care 191	X	Full Rearward	X	Mid Position	X	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
X	Evenflo First Choice 204	X	Full Rearward	X	Mid Position	X	Full Forward
	Evenflo On My Way Position Right V 282		Full Rearward		Mid Position		Full Forward
X	Graco Infant 8457	X	Full Rearward	X	Mid Position	X	Full Forward

Section C

X	Britax Roundabout 161	X	Full Rearward	X	Mid Position	X	Full Forward
X	Century Encore 4612	X	Full Rearward	X	Mid Position	X	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
X	Evenflo Medallion 254	X	Full Rearward	X	Mid Position	X	Full Forward

X	12.	Suppression tests with newborn infant (Part 572, Subpart K) using the following indicated child restraints.

Section A

X	Cosco Dream Ride 02-719	X	Full Rearward	X	Mid Position	X	Full Forward

X	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

X	Britax Roundabout 161	X	Full Rearward	X	Mid Position	X	Full Forward
X	Century Encore 4612	X	Full Rearward	X	Mid Position	X	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
X	Evenflo Medallion 254	X	Full Rearward	X	Mid Position	X	Full Forward

Section D

	Britax Roadster 9004		Full Rearward		Mid Position		Full Forward
X	Century Next Step 4920	X	Full Rearward	X	Mid Position	X	Full Forward
X	Cosco High Back Booster 02-442	X	Full Rearward	X	Mid Position	X	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

X	15.	Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following Forward, Middle, and Rearward seat track positions
X		Sitting on seat with back against seat back (S22.2.2.1)
X		Sitting on seat with back against reclined seat back (S22.2.2.2)
X		Sitting on seat with back not against seat back (S22.2.2.3)
X		Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
X		Standing on seat, facing forward (S22.2.2.5)
X		Kneeling on seat facing forward (S22.2.2.6)
X		Kneeling on seat facing rearward (S22.2.2.7)
X		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

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

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

- X Sitting on seat with back against seat back (S22.2.2.1)
- X Sitting on seat with back against reclined seat back (S22.2.2.2)
- X Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
- X 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 5th percentile female dummy (S20.3, 22.3, S24.3). Perform this test after the following suppression tests: After each restraint.

X 22. Test of Reactivation of the passenger air bag system with a representative 5th 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
- [X] 26. Low risk deployment test with 5th percentile female dummy (Part 572, Subpart O) in the following positions
  - [X] Position 1
  - [X] Position 2
- [X] 27. Impact Tests
  - [X] Frontal Oblique - Test Speed: 39.9 kmph
    - [ ] Belted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))
    - [ ] Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
    - [X] Unbelted 50th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))
  - [ ] Frontal 0° - Test Speed:
    - [ ] Belted 50th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
    - [ ] Belted 50th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
    - [ ] Belted 5th female dummy driver (0 to 48 kmph) (S16.1(a))
    - [ ] Belted 5th female dummy passenger (0 to 48 kmph) (S16.1(a))
    - [ ] Belted 50th male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
    - [ ] Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))
    - [ ] Unbelted 50th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
    - [ ] Unbelted 50th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
    - [ ] Unbelted 5th female dummy driver (32 to 40 kmph) (S16.1(b))
    - [ ] Unbelted 5th female dummy passenger (32 to 40 kmph) (S16.1(b))
  - [ ] 40% Offset 0° Belted 5th female dummy driver and passenger (0 to 40 kmph) (S18.1) - Test Speed:
- [ ] 28. Sled Test: Unbelted 50th male dummy driver and passenger (S13)
- [ ] 29. FMVSS 204 Indicant Test
- [X] 30. FMVSS 212 Indicant Test
- [X] 31. FMVSS 219 Indicant Test
- [X] 32. FMVSS 301 Frontal Indicant Test

DATA SHEET 2

REPORT OF VEHICLE CONDITION

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Dates: 5/16/08 - 7/11/08

CONTRACT NO.: DTNH22-03-D-11002 Date: 7/18/08
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:	2008 GMC ACADIA MPV		
MANUFACTURE DATE:	03/08		
NHTSA NO.	C80107	GVWR:	2908 kg (6411 lbs)
BODY COLOR:	Dark Crimson Metallic	GAWR (Fr):	1450 kg (3196 lbs)
VIN:	1GKER13728J263658	GAWR (Rr):	1600 kg (3527 lbs)

ODOMETER READINGS:	ARRIVAL (miles):	46	DATE:	4/9/08
	COMPLETION (miles):	53	DATE:	7/11/08
PURCHASE PRICE: ($)	28,993			
DEALER'S NAME:	Brookfield Buick Pontiac GMC, PO Box 1530, Brookfield, WI 53008			

A. All options listed on window sticker are present on the test vehicle:
_X_ Yes ___No
B. Tires and wheel rims are new and the same as listed: _X_ Yes ___No
C. There are no dents or other interior or exterior flaws: _X_ Yes ___No
D. The vehicle has been properly prepared and is in running condition:
_X_ Yes ___No
E. Keyless remote is available and working: _X_ Yes __ No
F. The glove box contains an owner's manual, warranty document, consumer information, and extra set of keys: _X_ Yes ___No
G. Proper fuel filler cap is supplied on the test vehicle: _X_ 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:
_X_ Yes ___No
I. Place vehicle in storage area: _X_ 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:
_X_ 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: 2008 GMC ACADIA NHTSA NO. C80107

REMARKS:

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

Cargo carpet, right rear tail light and second and third row floor mats

Explanation for equipment removal:

Components removed for instrumentation installation and to meet target weight.

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: 7/18/2008

APPROVED BY: David Winkelbauer DATE: 7/18/2008

# #

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: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Jamie Aide

NHTSA No.: C80107
Test Date: 7/11/08

Certification Label	
Manufacturer:	GENERAL MOTORS CORPORATION
Date of Manufacture:	03/08
VIN:	1GKER13728J263658
Vehicle Certified As (Pass. Car/MPV/Truck/Bus):	MPV
Front Axle GVWR:	1450 kg (3196 lbs)
Rear Axle GVWR:	1600 kg (3527 lbs)
Total GVWR:	2908 kg (6411 lbs)

Tire Placard	
Not applicable, vehicle is not a passenger car and does not have a tire placard.	MPV
This is not a passenger car, but all or part of this information is still contained on a vehicle label and is reported here.	MPV
Vehicle Capacity Weight:	751 kg (1656 lbs)
Designated Seating Capacity Front:	2
Designated Seating Capacity Rear:	6
Total Designated Seating Capacity:	8
Recommended Cold Tire Inflation Pressure Front:	240 kpa (35 psi)
Recommended Cold Tire Inflation Pressure Rear:	240 kpa (35 psi)
Recommended Tire Size:	P255/65R18

Signature: 

Date: 7/11/08

DATA SHEET 4

REAR OUTBOARD SEATING POSITION SEAT BELTS

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

	Yes	No
Do all rear outboard seating positions have Type 2 seat belts?	**X**	

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a Type 2 seat belt was not installed.

REMARKS: NONE

Signature: Wayne Dahlke

Date: 5/16/08

DATA SHEET 5

AIR BAG LABELS (S4.5.1)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

X	1.	Air bag maintenance label and owner's manual instructions: (S4.5.1(a))
X	1.1	Does the manufacturer recommend periodic maintenance or replacement of the air bag?
		___ Yes, go to 1.2
		X No - go to 2
___	1.2	Does the vehicle have a label specifying air bag maintenance or replacement?
		___ Yes - Pass
		___ No - Fail
___	1.3	Does the label contain one of the following?
		___ Yes - Pass
		___ No - Fail
		Check applicable schedule:
		__ Schedule on label specifies month and year (Record date_____)
		__ Schedule on label specified vehicle mileage (Record mileage_____)
		__ Schedule on label specifies interval measured from date on certification label (Record interval_____)
___	1.4	Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or the sunvisor? (3/19/01 legal interpretation to Todd Mitchell)
		___ Yes - Pass
		___ No - Fail
___	1.5	Is the label lettered in English?
		___ Yes - Pass
		___ No - Fail
___	1.6	Is the label in block capitals and numerals?
		___ Yes - Pass
		___ No - Fail
___	1.7	Are the letters and numerals at least 3/32 inches high?
		___ Yes - Pass
		___ No - Fail
___	1.8	Does the owner's manual set forth the recommended schedule for maintenance or replacement?
X	2.	Does the owner's manual: (S4.5.1(f))
X	2.1	Include a description of the vehicle's air bag system in an easily understandable format?
		X Yes - Pass
		___ No - Fail
X	2.2	Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating position?
		X Yes - Pass
		___ No - Fail

X 2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating position?

X Yes - Pass
No - Fail

X 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?

X Yes - Pass
No - Fail

X 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to ensure maximum safety protection for those occupants?

X Yes - Pass
No - Fail

X 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?

X Yes - Pass
No - Fail

X 2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? (Obtain answer from COTR) (S4.5.1(f)(2))

X Yes - (Go to 2.7.1)
No - (Go to 3.)

X 2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))

X Yes - Pass
No - Fail

X 2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))

X Yes - Pass
No - Fail

X 2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))

X Yes - Pass
No - Fail

X 2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1(f)(2)(ii))

X Yes - Pass
No - Fail

X 2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))

X Yes - Pass
No - Fail

X 2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2, or 23.2 (automatic suppression)?

X Yes, continue with 2.7.6
No, go to 2.7.7

X 2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))

X Yes - Pass
No - Fail

[X] 2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?

[X] Yes - Pass
[ ] No - Fail

[X] 2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))

[X] Yes - Pass
[ ] No - Fail

[X] 2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))

[X] Yes - Pass
[ ] No - Fail

[X] 2.7.9 Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that my affect the advanced air bag system? (S4.5.1(f)(2)(vii))

[X] Yes - Pass
[ ] No - Fail

[X] 3. Sun Visor Air Bag Warning Label (S4.5.1(b)) Check only one of the following:

[ ] The vehicle is not certified to meet the requirements of S19, S21, and S23 (Obtain answer from COTR) (S4.5.1(b)(1)) Go to 3.1 and skip 3.2

[X] The vehicle is certified to meet the requirements of S19, S21, and S23 on 9/1/03 or later. (Obtain answer from COTR) (S4.5.1(b)(3)) Go to 3.2 and skip 3.1

[ ] 3.1 Vehicles not certified to meet the requirements of S19, S21, and S23.

[ ] 3.1.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or sun visor? (S4.5.1(b)(1)) (3/19/01 legal interpretation to Todd Mitchell)

[ ] Driver Side, Yes - Pass
[ ] Driver Side, No - Fail
[ ] Passenger Side, Yes - Pass
[ ] Passenger Side, No - Fail

3.1.2 Does the label conform in content to the label shown in either Figure 6A or 6B (Figure 6b is for vehicles with passenger air bag on-off switches), as appropriate, at each front outboard seating position? (S4.5.1(b)(1)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(b)(1)(iv))

Figure 6a. Sun Visor Label Visible When Visor is in Down Position.

Figure 6b. Sun Visor Label Visible When Visor is in Down Position.

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

3.1.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1(b)(1)(i))

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

3.1.4 Is the message area white with black text? (S4.5.1(b)(1)(ii))

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

[ ] 3.1.5 Is the message area at least 30 cm^2? (S4.5.1(b)(1)(ii))

The message area consists of the total label area minus the yellow heading area and the pictogram. The pictogram is enclosed on the left side and bottom by the edge of the label and on the top by line that borders the yellow heading area. The right side of the pictogram is defined by a vertical line midway between the rightmost edge of the pictogram and the left most edge of the text, including any bullets. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)

Driver Side: Length_____, Width_____

Passenger Side: Length_____, Width_____

Actual message area _____ cm^2

- [ ] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [ ] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

[ ] 3.1.6 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(b)(2)(iii))

- [ ] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [ ] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

[ ] 3.1.7 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))

Actual diameter_____mm

- [ ] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [ ] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

[X] 3.2 Vehicles certified to meet the requirements of S19, S21, and S23 on 9/1/03 and later. (S4.5.1(b)(3))

[X] 3.2.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(b)(3)) (3/19/01 legal interpretation to Todd Mitchell)

- [X] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [X] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

X 3.2.2 Does the label conform in content to the label shown in Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(b)(3)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement “Never put a rear-facing child seat in the front.”(S4.5.1(b)(3)(v))

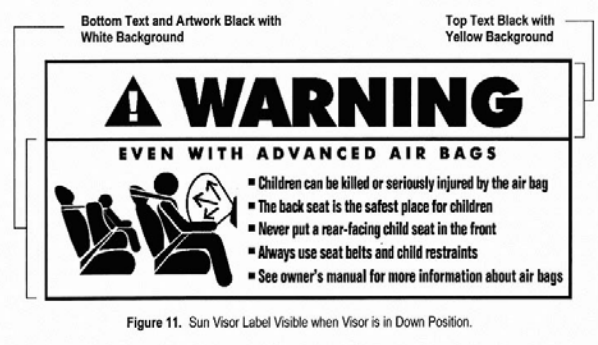


Figure 11. Sun Visor Label Visible when Visor is in Down Position.

X Driver Side, Yes - Pass
Driver Side, No - Fail
X Passenger Side, Yes - Pass
Passenger Side, No - Fail

X 3.2.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1(b)(3)(i))

X Driver Side, Yes - Pass
Driver Side, No - Fail
X Passenger Side, Yes - Pass
Passenger Side, No - Fail

X 3.2.4 Is the message area white with black text? (S4.5.1(b)(3)(ii))

X Driver Side, Yes - Pass
Driver Side, No - Fail
X Passenger Side, Yes - Pass
Passenger Side, No - Fail

X 3.2.5 Is the message area at least 30 cm^2? (S4.5.1(b)(3)(ii)) The message area consists of the total label area minus the yellow heading area and the pictogram. The pictogram is enclosed on the left side and bottom by the edge of the label. The top edge of the pictogram area is defined by a horizontal line midway between the uppermost edge of the pictogram and the lowermost edge of the text. The right side of the pictogram is defined by a vertical line midway between the rightmost edge of the pictogram and the left most edge of the text, including any bullets. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)

Driver Side: Length 8.4 cm, Width 3.7 cm

Passenger Side: Length 8.4 cm, Width 3.7 cm

Actual message area: 31.1 cm^2

X	Driver Side, Yes - Pass
	Driver Side, No - Fail
X	Passenger Side, Yes - Pass
	Passenger Side, No - Fail

X 3.2.6 Is the pictogram black on a white background? (S4.5.1(b)(3)(iii)

X	Driver Side, Yes - Pass
	Driver Side, No - Fail
X	Passenger Side, Yes - Pass
	Passenger Side, No - Fail

X 3.2.7 Is the pictogram at least 30 mm (1.2 inches) in length? (S4.5.1(b)(3)(iii))

Driver Side: Length 33 mm

Passenger Side: Length 33 mm

X	Driver Side, Yes - Pass
	Driver Side, No - Fail
X	Passenger Side, Yes - Pass
	Passenger Side, No - Fail

X 3.3 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1(b)(5)(i))

X	Driver Side, Yes - Pass
	Driver Side, No - Fail
X	Passenger Side, Yes - Pass
	Passenger Side, No - Fail

X 3.4 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1(b)(5)(ii))

X	Driver Side, Yes - Pass
	Driver Side, No - Fail
X	Passenger Side, Yes - Pass
	Passenger Side, No - Fail

[X] 3.5 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?

___Yes, go to 3.5.1

_X_ No, go to 4 (skipping 3.5.1 through 3.5 3)

[ ] 3.5.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?

__ Yes, go to 3.5.2 and skip 3.5.3

__ No, go to 3.5.3 and skip 3.5.2

[ ] 3.5.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))

_____actual distance

[ ] 3.5.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105 (d)(1)(iv)(A))

____ actual distance
___Yes-Pass __No-FAIL

[X] 4. Air Bag Alert Label (S4.5.1(c) (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver's sun visor as the "Air Bag Alert Label." 575.105(d))

[X] 4.1 Is the sun visor warning label visible when the sun visor is in the stowed position?

- [X] If yes for driver and passenger, go to 5.
- [X] Driver Side, Yes
- [ ] Driver Side, No
- [X] Passenger Side, Yes
- [ ] Passenger Side, No

[ ] 4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c)) (3/19/01 legal interpretation to Todd Mitchell)

- [ ] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [ ] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

[ ] 4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))

- [ ] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [ ] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

4.4 Does the label conform in content to the label shown in Figure 6C? (S4.5.1(c))

Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

4.5 Is the message area black with yellow text? (S4.5.1(c)(1))

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

4.6 Is the message area at least 20 cm^2? (S4.5.1(c)(1)) The message area consists of the black part of the label.

Driver Side: Length __, Width __
Passenger Side: Length ____, Width _____
Actual message area

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))

Driver Side Diameter _____
Passenger Side Diameter _____

- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

X 5. Label on the Dashboard

X 5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? (Obtain answer from COTR) (S4.5.1(e)(3))

X Yes, go to 5.1.1 and skip 5.2

No, go to 5.2, skipping 5.1.1 through 5.1.6

X 5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(3))

X Yes - Pass

No – Fail

X 5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(3))

X Yes - Pass

No - Fail

X 5.1.3 Does the label conform in content to the label shown in Figure 12? (S4.5.1(e)(3)) Vehicles without back seats may omit the statement: "The back seat is the safest place for children." Vehicles without back seats or too small to accommodate a rear-facing child restraint consistent with S4.5.4.1 as determined in DATA SHEET 7 may omit the statement "Never put a rear-facing child seat in the front." (S4.5.1(e)(3)(iii)))

X Yes - Pass

No - Fail

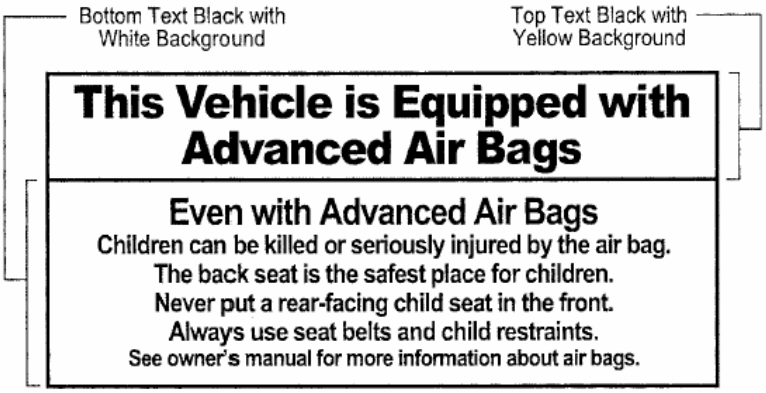


Figure 12. Removable Label on Dash.

X 5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(3)(i)

X Yes - Pass

No - Fail

X 5.1.5 Is the message white with black text? (S4.5.1(e)(3)(ii))

X Yes - Pass

No - Fail

X 5.1.6 Is the message area at least 30 cm^2? (S4.5.1(e)(3)(ii)) The message area consists of the total label area minus the yellow heading area. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)

Length: 10.5 mm Width: 3.2 mm

Actual message area: 33.6 cm^2

X Yes - Pass

No - Fail

5.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(1))

Yes - Pass

No - Fail

5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1))

Yes - Pass

No - Fail

5.2.2 Does the label conform in content to the label shown in Figure 7? (S4.5.1(e)(1)(iii)) Vehicles without back seats may omit the statement: "The back seat is the safest place for children." (S4.5.1(e)(1)(iii))

Yes - Pass

No - Fail

Figure 7. Removable Label on Dash.

5.2.3 Is the heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(e)(1)(i)

Yes - Pass

No - Fail

5.2.4 Is the message white with black text? (S4.5.1(e)(1)(ii))

Yes - Pass

No - Fail

5.2.5 Is the message area at least 30 cm^2? (S4.5.1(e)(1)(ii)) The message area consists of the total label area minus the yellow heading area. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)

Length_____, Width_____

Actual message area _____ cm^2

Yes - Pass

No - Fail

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 6

FMVSS 208 READINESS INDICATOR (S4.5.2)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation to Lawrence F. Hennegerger on behalf of Breed)

[X] 1. Is the system totally mechanical? If Yes, this data sheet is complete.
- [ ] Yes
- [X] No

[X] 2. Describe the location of the readiness indicator: *Lower Right of Cluster*

[X] 3. Is the readiness indicator clearly visible to the driver?
- [X] Yes – Pass
- [ ] No – Fail

[X] 4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual?
- [X] Yes – Pass
- [ ] No – Fail

[X] 5. Does the vehicle have an on-off switch for the passenger air bag?
- [ ] If Yes, go to 6
- [X] If No, this form is complete.

[ ] 6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position?
- [ ] Yes – Pass
- [ ] No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlke

Date: 5/16/08

DATA SHEET 7

PASSENGER AIR BAG MANUAL CUT-OFF DEVICE (S4.5.4)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

[X] 1. Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?

- [ ] Yes, go to 2
- [X] No, this sheet is complete

[ ] 2. Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4.1(a))

- [ ] Yes, go to 3
- [ ] No, go to 4

[ ] 3. Verification there is room for a child restraint in the rear seat behind the driver's seat. (S4.5.4.1(b))

[ ] 3.1 Using all the controls that affect the fore-aft movement of the seat, move the seat to the rearmost position. Mark this position.

- [ ] N/A, the seat does not have fore-aft adjustment

[ ] 3.2 Using all the controls that affect the fore-aft movement of the seat, move the seat to the foremost position. Mark this position.

- [ ] N/A, the seat does not have fore-aft adjustment

[ ] 3.3 Move the seat to the middle of the foremost and rearmost positions. (S8.1.2)

- [ ] N/A, the seat does not have a fore-aft adjustment

[ ] 3.4 If the driver's seat height is adjustable, use all the controls that affect height to put it in the lowest position while maintaining the middle fore-aft position. (S8.1.2)

- [ ] N/A, No seat height adjustment

[ ] 3.5 Position the driver's seat adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)

- [ ] N/A, No lumbar adjustment

[ ] 3.6 The driver's seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1(b) and S8.1.3)

- [ ] N/A, No seat back angle adjustment
- [ ] Manufacturer's design driver's seat back angle _____
- [ ] Tested driver's seat back angle _____

[ ] 3.7 Is the driver seat a bucket seat?

[ ] __ Yes, go to 3.7.1 and skip 3.7.2.
[ ] __ No, go to 3.7.2 and skip 3.7.1.

[ ] 3.7.1 Bucket seats:

[ ] 3.7.1.1 Locate and mark a vertical Plane B through the longitudinal centerline of the driver's seat cushion. The longitudinal centerline of a bucket seat cushion is determined at SgRP. (S16.3.1.10) (S4.5.4.1(b)(1))

3.7.1.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat.

____ mm distance
__less than 720 mm - Pass
__more than 720 mm - FAIL
Go to 4

3.2 Bench seats (including split bench seats):

3.7.2.1 Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline. (S4.5.4.1(b)(2))

3.7.2.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat.

____ mm distance
__less than 720 mm - Pass
__more than 720 mm - FAIL
Go to 4

4. Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)

Yes - Pass
No - Fail

5. Is the on-off device separate from the ignition switch? (S4.5.4.2)

Yes - Pass
No - Fail

6. Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)

Yes - Pass
No - Fail

7. Telltale light (S4.5.4.3)

7.1 Is the light yellow? S4.5.4.3(a))

Yes - Pass
No - Fail

7.2 Are the words "PASSENGER AIR BAG OFF" or "PASS AIR BAG OFF" (S4.5.4.3(b))

7.2.1 on the telltale?

Yes - Pass, go to 7.3
No - go to 7.2.2

7.2.2 within 25 mm of the telltale?

Measurement from the edge of the telltale light (mm):

Yes - Pass
No - Fail

7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c)) (Leave the air bag off for 5 minutes.)

- Yes - Pass
- No - Fail

7.4 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))

- Yes - Fail
- No - Pass

7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.4.3(e))

- Yes - Fail
- No - Pass

8. Owner's Manual

8.1 Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))

- Yes - Pass
- No - Fail

8.2 Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))

Infants:	there is no back seat
	the rear seat is too small to accommodate a child restraint
	there is a medical condition that must be monitored constantly
Children aged 1 to 12:	there is no back seat
	space is not always available in the rear seat
	there is a medical condition that must be monitored constantly
Medical condition:	medical risk causes special risk for passenger
	greater risk for harm than with the air bag on

- Yes - Pass
- No - Fail

8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?

- Yes - Pass
- No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gabbard

Date: 5/16/08

DATA SHEET 8

LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Front Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: REAR (S7.1.1.5(c)(1)) (Any position is acceptable)
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9.
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 69 ½ inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 38 ¾ inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs./sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 39 inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B 21 ½ inches

X 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B 22 inches (S7.1.1.5(c)(6))

X 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X 14-13 = 39 – 38 ¾ = ¼ inch

X 18-17 = 22 – 21 ½ = ½ inch

X Yes – Pass

No - Fail

X 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X 10-14 = 69 ½ - 39 = 30 ½ inches

X 10-18 = 69 ½ - 22 = 47 ½ inches

X Yes – Pass

No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gable

Date: 5/16/08

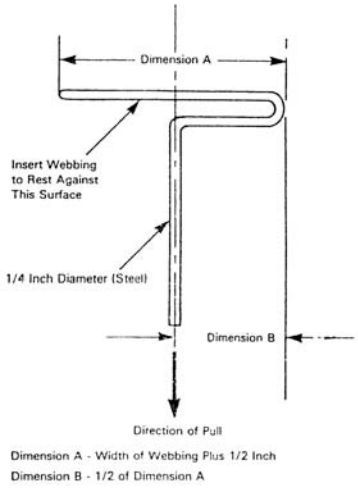


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Left Rear Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: (S7.1.1.5(c)(1)) (Any position is acceptable) REAR
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		X N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9.
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 78 ¼ inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 49 ½ inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs/sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 49 ¾ inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° (spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B: 29 ½ inches

X 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 15 lbs/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B 30 inches (S7.1.1.5(c)(6))

X 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X 14-13 = 49 ¾ - 49 ½ = ¼ inches

X 18-17 = 30 – 29 ½ = ½ inches

X Yes - Pass

No - Fail

X 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X 10-14 = 78 ¼ - 49 ¾ = 28 ½ inches

X 10-18 = 78 ¼ - 30 = 48 ¼ inches

X Yes – Pass

No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Fahl

Date: 5/16/08

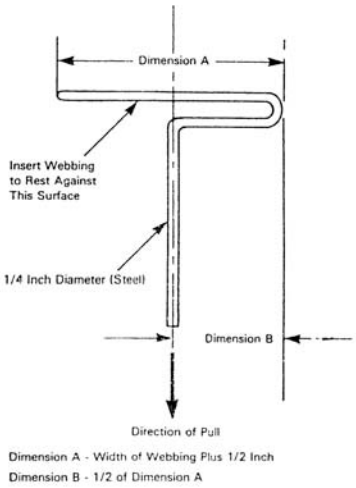


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Center Rear Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: REAR (S7.1.1.5(c)(1)) (Any position is acceptable)
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		X N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 63 ½ inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 36 ¼ inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs/sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 36 ½ inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° (spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B: 12 ½ inches

X
X

18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: 13 ½ inches (S7.1.1.5(c)(6))

X

19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X
X

14-13 = 36 ½ - 36 ¼ = ¼ inches

18-17 = 13 ½ - 12 ½ = 1 inches

X Yes – Pass

No - Fail

X

20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X
X

10-14 = 63 ½ - 36 ½ = 27 inches

10-18 = 63 ½ - 13 ½ = 50 inches

X Yes – Pass

No - Fail

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

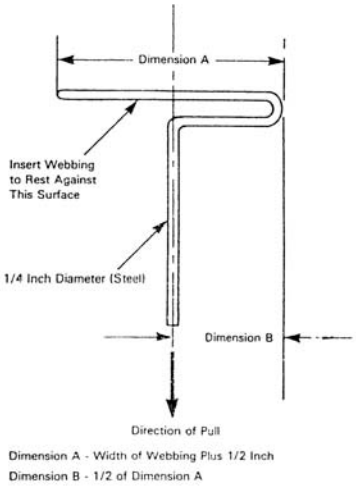


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Right Rear Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: REAR (S7.1.1.5(c)(1)) (Any position is acceptable)
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		X N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9.
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 78 ½ inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 47 ½ inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs/sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 47 ½ inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° (spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B 29 ¾ inches

X 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 15 lbs/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B 30 inches (S7.1.1.5(c)(6))

X 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X 14-13 = 47 ½ - 47 ½ = 0 inch

X 18-17 = 30 – 29 ¾ = ¼ inch

X Yes – Pass

No – Fail

X 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X 10-14 = 78 ½ - 47 ½ = 31 inches

X 10-18 = 78 ½ - 30 = 48 ½ inches

X Yes – Pass

No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

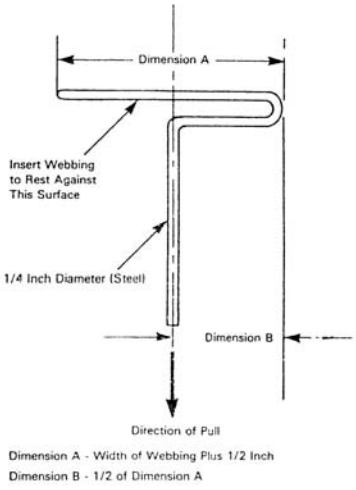


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a)), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Left 3rd Row Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: FIXED (S7.1.1.5(c)(1)) (Any position is acceptable)
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		X N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9.
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 70 ¾ inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees or more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 40 ½ inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs/sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 41 ½ inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° (spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B 17 ½ inches

X 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 15 lbs/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: 18 inches (S7.1.1.5(c)(6))

X 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X 14-13 = 41 ½ - 40 ½ = 1 inch

X 18-17 = 18 – 17 ½ = ½ inch

X Yes – Pass

No – Fail

X 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X 10-14 = 70 ¾ - 41 ½ = 29 ¼ inches

X 10-18 = 70 ¾ - 18 = 52 ¾ inches

X Yes – Pass

No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Fahl

Date: 5/16/08

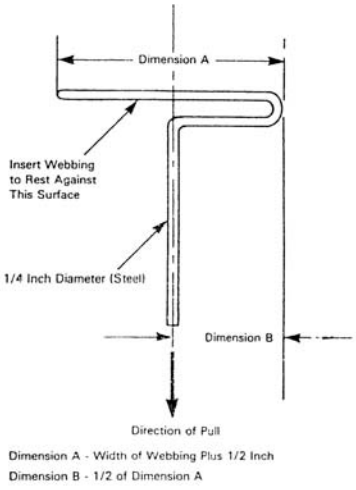


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a)), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Center 3rd Row Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: FIXED (S7.1.1.5(c)(1)) (Any position is acceptable)
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		X N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9.
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 47 ½ inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees or more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 31 inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs/sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 31 ¾ inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° (spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B 12 ½ inches

X 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 15 lbs/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: 13 inches (S7.1.1.5(c)(6))

X 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X 14-13 = 31 ¾ - 31 = ¾ inch

X 18-17 = 13 – 12 ½ = ½ inch

X Yes – Pass

No – Fail

X 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X 10-14 = 47 ½ - 31 ¾ = 15 ¾ inches

X 10-18 = 47 ½ - 13 = 34 ½ inches

X Yes – Pass

No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlen

Date: 5/16/08

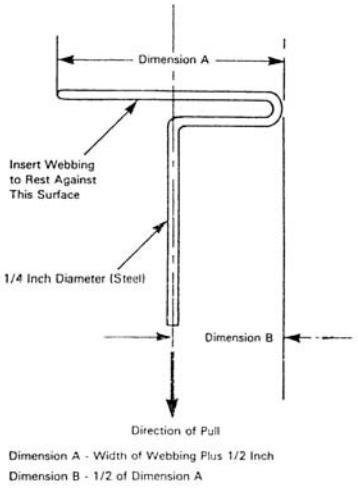


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a)), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Right 3rd Row Passenger

		N/A - no retractor is at this position
		N/A - the retractor is an automatic locking retractor ONLY
X	1.	Record test fore-aft seat position: FIXED (S7.1.1.5(c)(1)) (Any position is acceptable)
X	2.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	3.	Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
		X Yes - Pass
		No - Fail
X	4.	Place any adjustable seat belt anchorage in the lowest adjustment position.
		X N/A The anchorage is not adjustable.
X	5.	Buckle the seat belt. (S7.1.1.5(c)(1))
X	6.	Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
X	7.	Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
X	8.	Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
		X Yes, go to 8.1
		No, go to 9.
X	8.1	Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
		X Yes - Pass
		No - Fail

X 9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X Measured distance between A and B (inches): 70 inches

X 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))

X 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees or more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

X Measured force application angle (Spec. 5-15 degrees): 10°

X 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

X Measured distance between A and B (inches): 44 ½ inches

X 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

X Record onset rate (lb/sec) (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5)): 15 lbs/sec

X Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 44 ¾ inches

X 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled

X 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10° (spec. 5 - 15 degrees)

X 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B: 22 inches

X 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate: 15 lbs/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: 22 ¾ inches (S7.1.1.5(c)(6))

X 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))

X 14-13 = 44 ¾ - 44 ½ = ¼ inch

X 18-17 = 22 ¾ - 22 = ¾ inch

X Yes – Pass

No – Fail

X 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))

X 10-14 = 70 – 44 ¾ = 25 ¼ inches

X 10-18 = 70 – 22 ¾ = 47 ¼ inches

X Yes – Pass

No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlen

Date: 5/16/08

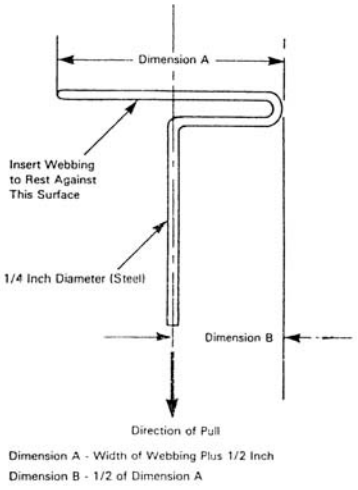


Figure 5. - Webbing Tension Pull Device

DATA SHEET 9

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

X	1.	The occupant is in the driver's seat.
X	2.	The seat belt is in the stowed position.
X	3.	The key is in the "on" or "start" position.
X	4.	The time duration of the audible signal beginning with key "on" or "start" is
X		Seconds: 6
X	5.	The occupant is in the driver's seat.
X	6.	The seat belt is in the stowed position.
X	7.	The key is in the "on" or "start" position.
X	8.	The time duration of the warning light beginning with key "on" or "start" is
X		Seconds: 75
X	9.	The occupant is in the driver's seat.
X	10.	The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
X	11.	The key is in the "on" or "start" position.
X	12.	The time duration of the warning light beginning with key "on" or "start" is
X		Seconds: 0
X	13.	Complete the following table with the data from 4, 8, and 12 to determine which option is used.

		Warning light	Warning light specification	Audible signal	Audible signal specification*
S7.3 (a)(1)	Belt stowed & key on or start	Item 8: 75	60 seconds minimum	Item 4: 6	4 to 8 seconds
S7.3 (a)(2)	Belt latched & key on or start	Item 12: 0	4 to 8 seconds		
	Belt stowed & key on or start	Item 8: 75	4 to 8 seconds	Item 4: 6	4 to 8 seconds

* 49 USCS @ 30124 does NOT allow an audible signal to operate for more than 8 seconds.
A voluntary audible signal after the 4 to 8 second required signal may be provided. It must be differentiated from the required signal (5/25/2001 legal interpretation to Longacre and Associates).

[X] 14. The seat belt warning system meets the requirements of (manufacturers may comply with either section)

- [X] S7.3 (a)(1)
- [ ] S7.3 (a)(2)
- [ ] FAIL - does not meet the requirements of either option

[X] 15. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))

- [ ] Fasten seat belts
- [ ] Fasten belts
- [X] Symbol 101 - 
- [ ] FAIL - does not use any of the above wording or symbol

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlen

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Front Driver

X 1. Does the vehicle incorporate a webbing tension-relieving device?
- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
- [ ] N/A, no lumbar adjustment

X 3. 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)
- [X] N/A, no additional support adjustment

X 4. Is the fore-aft position of the seat adjustable?
- [ ] No- go to 5
- [X] Yes - Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

X 5. Is the seat back angle adjustable?
- [ ] No- go to 6
- [X] Yes-Use the seat back angle determined in Data Sheet 14.2

X 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 7. Fasten the seat belt latch.

X 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

X Contact Force (lb): 0.5
- [X] 0.0 to 0.7 pounds - Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Front Passenger

[X] 1. Does the vehicle incorporate a webbing tension-relieving device?
- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

[X] 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
- [X] N/A, no lumbar adjustment

[X] 3. 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)
- [X] N/A, no additional support adjustment

[X] 4. Is the fore-aft position of the seat adjustable?
- [ ] No- go to 5
- [X] Yes - Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

[X] 5. Is the seat back angle adjustable?
- [ ] No- go to 6
- [X] Yes-Use the seat back angle determined in Data Sheet 14.2

[X] 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

[X] 7. Fasten the seat belt latch.

[X] 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

[X] 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

[X] Contact Force (lb): 0.6
- [X] 0.0 to 0.7 pounds - Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Rear Passenger

X 1. Does the vehicle incorporate a webbing tension-relieving device?
- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
- [X] N/A, no lumbar adjustment

X 3. 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)
- [X] N/A, no additional support adjustment

X 4. Is the fore-aft position of the seat adjustable?
- [ ] No- go to 5
- [X] Yes - Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

X 5. Is the seat back angle adjustable?
- [ ] No- go to 6
- [X] Yes-Use the seat back angle determined in Data Sheet 14.2

X 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 7. Fasten the seat belt latch.

X 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

X Contact Force (lb): 0.6
- [X] 0.0 to 0.7 pounds - Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center Rear Passenger

[X] 1. Does the vehicle incorporate a webbing tension-relieving device?
- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

[X] 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
- [X] N/A, no lumbar adjustment

[X] 3. 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)
- [X] N/A, no additional support adjustment

[X] 4. Is the fore-aft position of the seat adjustable?
- [ ] No- go to 5
- [X] Yes - Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

[X] 5. Is the seat back angle adjustable?
- [ ] No- go to 6
- [X] Yes-Use the seat back angle determined in Data Sheet 14.2

[X] 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

[X] 7. Fasten the seat belt latch.

[X] 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

[X] 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

[X] Contact Force (lb): 0.6
- [X] 0.0 to 0.7 pounds - Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Rear Passenger

X 1. Does the vehicle incorporate a webbing tension-relieving device?

- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)

- [X] N/A, no lumbar adjustment

X 3. 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)

- [X] N/A, no additional support adjustment

X 4. Is the fore-aft position of the seat adjustable?

- [ ] No- go to 5
- [X] Yes – Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

X 5. Is the seat back angle adjustable?

- [ ] No- go to 6
- [X] Yes-Use the seat back angle determined in Data Sheet 14.2

X 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 7. Fasten the seat belt latch.

X 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

X Contact Force (lb): 0.6

- [X] 0.0 to 0.7 pounds – Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left 3rd Row Passenger

X 1. Does the vehicle incorporate a webbing tension-relieving device?

- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)

- [X] N/A, no lumbar adjustment

X 3. 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)

- [X] N/A, no additional support adjustment

X 4. Is the fore-aft position of the seat adjustable?

- [X] No- go to 5
- [ ] Yes – Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

X 5. Is the seat back angle adjustable?

- [X] No- go to 6
- [ ] Yes-Use the seat back angle determined in Data Sheet 14.2

X 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 7. Fasten the seat belt latch.

X 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

X Contact Force (lb): 0.6

- [X] 0.0 to 0.7 pounds – Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center 3rd Row Passenger

X 1. Does the vehicle incorporate a webbing tension-relieving device?
- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
- [X] N/A, no lumbar adjustment

X 3. 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)
- [X] N/A, no additional support adjustment

X 4. Is the fore-aft position of the seat adjustable?
- [X] No- go to 5
- [ ] Yes – Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

X 5. Is the seat back angle adjustable?
- [X] No- go to 6
- [ ] Yes-Use the seat back angle determined in Data Sheet 14.2

X 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 7. Fasten the seat belt latch.

X 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

X Contact Force (lb): 0.5
- [X] 0.0 to 0.7 pounds – Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right 3rd Row Passenger

X 1. Does the vehicle incorporate a webbing tension-relieving device?
- [ ] Yes, this form is complete
- [X] No, continue with this check sheet

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
- [X] N/A, no lumbar adjustment

X 3. 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)
- [X] N/A, no additional support adjustment

X 4. Is the fore-aft position of the seat adjustable?
- [X] No- go to 5
- [ ] Yes – Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2

X 5. Is the seat back angle adjustable?
- [X] No- go to 6
- [ ] Yes-Use the seat back angle determined in Data Sheet 14.2

X 6. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 7. Fasten the seat belt latch.

X 8. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 9. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

X Contact Force (lb): 0.6
- [X] 0.0 to 0.7 pounds – Pass
- [ ] Greater than 0.7 pounds - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 11

LATCH PLATE ACCESS (S7.4.4)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Test all front outboard seat belts **other than those in** walk-in van-type vehicles and those at front outboard designated seating positions in **passenger cars**. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Front Driver

X 1. Put the seat in the forward most fore-aft and full down height position determined in Data Sheet 14.2. (S10.7)

X 2. Put the seat back angle in the position determined in Data Sheet 14.2.

X 3. Position the test dummy using the procedures in Appendix F. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix F positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 4. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.

X 5. Attach the inboard reach string to the base of the head following the instructions on Figure 3.

X 6. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.

X 7. Place the latch plate in the stowed position.

X 8. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?

- X Yes - Pass
- ☐ No

X 9. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?

- X Yes - Pass
- ☐ No

X 10. Is the latch plate within the inboard (item 10) or outboard (item 11) reach envelope?

- X Yes - Pass
- ☐ No - Fail

X 11. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?

- X Yes - Pass
- ☐ No - Fail

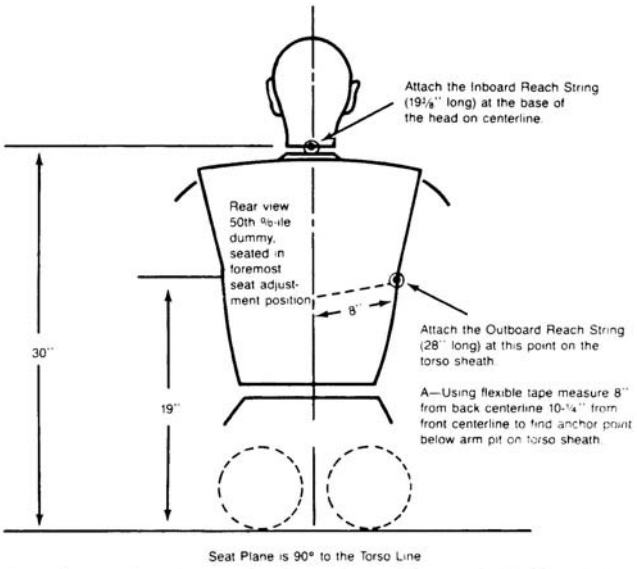


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device

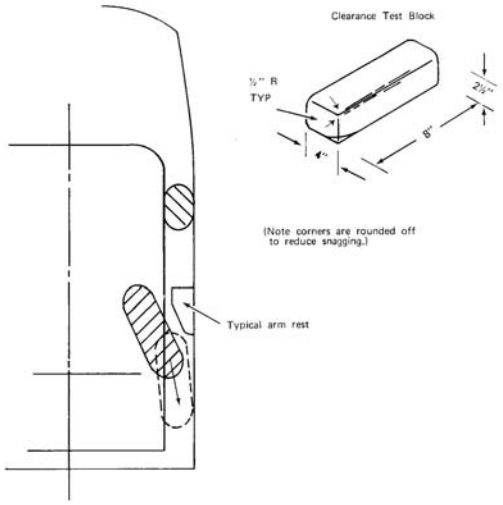


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gable

Date: 5/16/08

DATA SHEET 11

LATCH PLATE ACCESS (S7.4.4)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all front outboard seat belts **other than those in** walk-in van-type vehicles and those at front outboard designated seating positions in **passenger cars**. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Front Passenger

X	1.	Put the seat in the forwardmost fore-aft and full down height position determined in Data Sheet 14.2. (S10.7)
X	2.	Put the seat back angle in the position determined in Data Sheet 14.2.
X	3.	Position the test dummy using the procedures in Appendix F. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix F positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
X	4.	Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.
X	5.	Attach the inboard reach string to the base of the head following the instructions on Figure 3.
X	6.	Attach the outboard reach string to the torso sheath following the instructions on Figure 3.
X	7.	Place the latch plate in the stowed position.
X	8.	Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
		X Yes - Pass No
X	9.	Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
		X Yes - Pass No
X	10.	Is the latch plate within the inboard (item 10) or outboard (item 11) reach envelope?
		X Yes - Pass No - Fail
X	11.	Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
		X Yes - Pass No - Fail

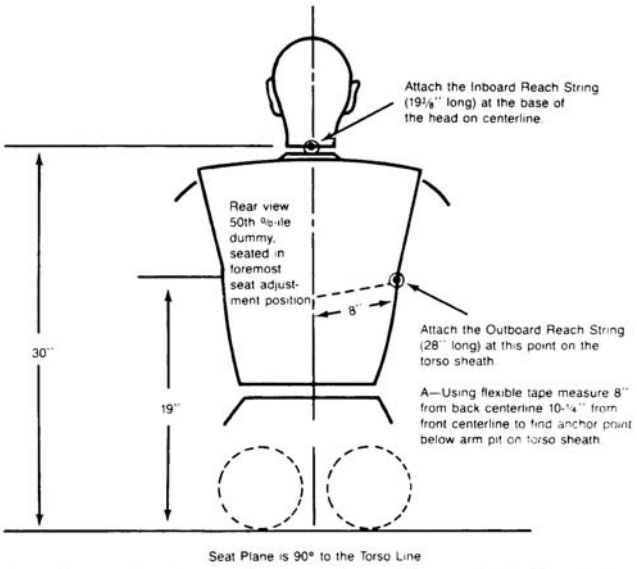


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device

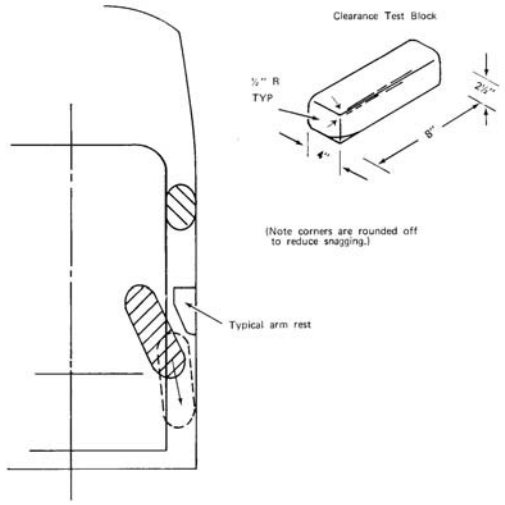


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Fahl

Date: 5/16/08

DATA SHEET 12

SEAT BELT RETRACTION (S7.4.5)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all front outboard seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Front Driver

X 1. Is the vehicle a passenger car or walk-in van-type vehicle?

- [ ] Yes, this form is complete
- [X] No

X 2. Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2. (S8.1.2)

X 3. Put the seat back angle in the position determined in Data Sheet 14.2. (8.1.3)

X 4. Position the Part 572 Subpart E test dummy according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 5. Fasten the seat belt around the dummy.

X 6. Remove all slack from the lap belt portion. (S10.9)

- [ ] N/A, the seat does not have a fore-aft adjustment

X 7. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

X 8. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)

X **Pound load applied:** 3

X 9. Is the belt system equipped with a tension relieving device?

- [ ] __Yes, continue
- [X] **__No, go to 12**

[ ] 10. Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).

[ ] 11. Check the statement that applies to this test vehicle:

[ ] 11.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.

- [ ] Yes - Pass go to 12
- [ ] No - go to 11.2

11.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.

- [ ] Yes - Pass go to 12
- [ ] No - go to 11.3

11.3

- [ ] Neither 11.1 nor 11.2 apply.
- [ ] Fail

[X] 12. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?

- [X] Yes - Pass
- [ ] No - Fail

[X] 13. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

- [X] N/A - Not an open body vehicle
- [ ] Yes - Pass
- [ ] No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

DATA SHEET 12

SEAT BELT RETRACTION (S7.4.5)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test all front outboard seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Front Passenger

X 1. Is the vehicle a passenger car or walk-in van-type vehicle?

- [ ] Yes, this form is complete
- [X] No

X 2. Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2. (S8.1.2)

X 3. Put the seat back angle in the position determined in Data Sheet 14.2. (8.1.3)

X 4. Position the Part 572 Subpart E test dummy according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

X 5. Fasten the seat belt around the dummy.

X 6. Remove all slack from the lap belt portion. (S10.9)

- [ ] N/A, the seat does not have a fore-aft adjustment

X 7. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

X 8. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)

X **Pound load applied:** 4

X 9. Is the belt system equipped with a tension relieving device?

- [ ] __Yes, continue
- [X] **__No, go to 12**

[ ] 10. Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).

[ ] 11. Check the statement that applies to this test vehicle:

[ ] 11.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.

- [ ] Yes - Pass go to 12
- [ ] No - go to 11.2

11.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.

- [ ] Yes - Pass go to 12
- [ ] No - go to 11.3

11.3

- [ ] Neither 11.1 nor 11.2 apply.
- [ ] Fail

[X] 12. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?

- [X] Yes - Pass
- [ ] No - Fail

[X] 13. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

- [X] N/A - Not an open body vehicle
- [ ] Yes - Pass
- [ ] No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Front Driver

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))

- [ ] Yes, this form is complete
- [X] No, go to 2

[X] 2. Is the seat removable? (S7.4.6.1(b))

- [ ] Yes, this form is complete
- [X] No, go to 3

[X] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))

- [ ] Yes, this form is complete
- [X] No, go to 4

[X] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))

- [ ] Yes, go to 5
- [X] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))

- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.

- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?

- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)

- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Front Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))

- [ ] Yes, this form is complete
- [X] No, go to 2

[X] 2. Is the seat removable? (S7.4.6.1(b))

- [ ] Yes, this form is complete
- [X] No, go to 3

[X] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))

- [ ] Yes, this form is complete
- [X] No, go to 4

[X] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))

- [ ] Yes, go to 5
- [X] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))

- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.

- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?

- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)

- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C80107
Test Date: 5/16/08

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Rear Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))

- [ ] Yes, this form is complete
- [X] No, go to 2

[X] 2. Is the seat removable? (S7.4.6.1(b))

- [ ] Yes, this form is complete
- [X] No, go to 3

[X] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))

- [X] Yes, this form is complete
- [ ] No, go to 4

[ ] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))

- [ ] Yes, go to 5
- [ ] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))

- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.

- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?

- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)

- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center Rear Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))

- [ ] Yes, this form is complete
- [X] No, go to 2

[X] 2. Is the seat removable? (S7.4.6.1(b))

- [ ] Yes, this form is complete
- [X] No, go to 3

[X] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))

- [X] Yes, this form is complete
- [ ] No, go to 4

[ ] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))

- [ ] Yes, go to 5
- [ ] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))

- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.

- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?

- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)

- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlen

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Rear Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
- [ ] Yes, this form is complete
- [X] No, go to 2

[X] 2. Is the seat removable? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [X] No, go to 3

[X] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
- [X] Yes, this form is complete
- [ ] No, go to 4

[ ] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
- [ ] Yes, go to 5
- [ ] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.
- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?
- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Gable

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left 3rd Row Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
- [X] Yes, this form is complete
- [ ] No, go to 2

[ ] 2. Is the seat removable? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [ ] No, go to 3

[ ] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [ ] No, go to 4

[ ] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
- [ ] Yes, go to 5
- [ ] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.
- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?
- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahl

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center 3rd Row Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
- [X] Yes, this form is complete
- [ ] No, go to 2

[ ] 2. Is the seat removable? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [ ] No, go to 3

[ ] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [ ] No, go to 4

[ ] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
- [ ] Yes, go to 5
- [ ] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.
- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?
- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Fahl

Date: 5/16/08

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/16/08
Test Technician: Wayne Dahlke

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right 3rd Row Passenger

[X] 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
- [X] Yes, this form is complete
- [ ] No, go to 2

[ ] 2. Is the seat removable? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [ ] No, go to 3

[ ] 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
- [ ] Yes, this form is complete
- [ ] No, go to 4

[ ] 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
- [ ] Yes, go to 5
- [ ] No, this form is complete

[ ] 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
- [ ] Yes - Pass
- [ ] No - Fail

Identify the part(s) on top or above the seat.
- [ ] Seat belt latch plate
- [ ] Buckle
- [ ] Seat belt webbing

[ ] 6. Are the remaining two seat belt parts accessible under normal conditions?
- [ ] Yes - Pass
- [ ] No - Fail

[ ] 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
- [ ] Yes - Pass
- [ ] No - Fail

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)

- Yes - Pass
- No - Fail

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)

- Yes - Pass
- No - Fail

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)

- Yes - Pass
- No - Fail
- N/A - Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Fahl

Date: 5/16/08

DATA SHEET 14

MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Tim Bratz

DATA SHEET 14.1

MARKING OF REFERENCE POINTS FOR 5th FEMALE

X Driver Seat __Passenger Seat

1. Seat Position

X 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

X 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)
X N/A - No additional support adjustment

X 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)
X N/A - No adjustable leg support system

X 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)

X 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)

X 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)

X 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)
X N/A - No independent fore-aft seat cushion adjustment

X 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)
Maximum angle Zero
Minimum angle Zero
Mid-angle Zero

X 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

X 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.

X 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.

X 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.

X 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

X 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.

X 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)

X 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)

X 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)

X 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 3° on the Head Rest Post

X 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

X 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)

X 1.21 Bench seats (complete ONLY the one that is applicable to the seat being marked):

X 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

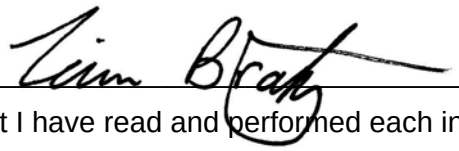
X 2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6 S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

X 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)

X 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 225 mm

Mid-point height 112 mm



I certify that I have read and performed each instruction. 7/11/08 Date

DATA SHEET 14.1

MARKING OF REFERENCE POINTS FOR 5th FEMALE

__Driver Seat X Passenger Seat

1. Seat Position

X 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)
X N/A - No lumbar adjustment

X 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)
X N/A - No additional support adjustment

X 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)
X N/A - No adjustable leg support system

X 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)

X 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)

X 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)

X 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)
X N/A - No independent fore-aft seat cushion adjustment

X 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

X 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)
X N/A - No seat height adjustment

X 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.

X 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.

X 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.

X 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)

X 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)

X 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 3° on the Head Rest Post

X 1.19. Is the seat a bucket seat?

_X_ Yes, go to 1.20 and skip 1.21

__No, go to 1.21 and skip 1.20

X 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

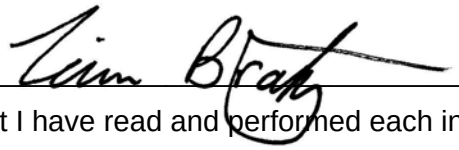
X 2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6 S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

X 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)

X 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)

V Vertical height of head restraint 225 mm

Mid-point height 112 mm



I certify that I have read and performed each instruction. 7/11/08 Date

DATA SHEET 14.2

MARKING OF REFERENCE POINTS FOR 50TH MALE

_X_ Driver Seat __Passenger Seat _____Other seat

X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
__N/A – No lumbar adjustment

X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
_X_ N/A – No additional support adjustment

X 3. Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. **Mark** this position for future reference. (8/31/95 legal interp to Hogan and Hartson)

X 4. Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the foremost position. **Mark** this position for future reference. (8/31/95 legal interp to Hogan and Hartson)

X 5. **Mark** each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, **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. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 3 and 4. (8/31/95 legal interp to Hogan and Hartson)

X 6. Move the seat to the mid position.

X 7. While maintaining the mid position, move the seat to its lowest position. **Mark** the height position for future reference. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.

X 8. Visually **mark** for future reference the seat back angle, if adjustable, at the manufacturer's nominal design riding position for a **50th percentile adult male** in the manner specified by the manufacturer.

__ N/A – No seat back angle adjustment
X Previously marked during Data Sheet 14.1 go to 9
Manufacturer's design seat back angle 3° on the Head Rest Post

X 9. Is the seat a bucket seat?
__Previously marked during data sheet 14.1. This form is complete.
X Yes, go to 10 and skip 11
__No, go to 11 and skip 10

X 10. 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. (S10.4.1.2 and S16.3.1.10)

__11. Bench seats (complete ONLY the one that is applicable to the seat being marked):

__11.1 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. (S10.4.1.1)

__11.2 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. (S10.4.1.1)

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. _____

Tim Bratz 7/11/08

I certify that I have read and performed each instruction. Date

DATA SHEET 14.2

MARKING OF REFERENCE POINTS FOR 50TH MALE

__ Driver Seat X Passenger Seat _____Other seat

X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
X N/A – No lumbar adjustment

X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
X N/A – No additional support adjustment

X 3. Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. **Mark** this position for future reference. (8/31/95 legal interp to Hogan and Hartson)

X 4. Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the foremost position. **Mark** this position for future reference. (8/31/95 legal interp to Hogan and Hartson)

X 5. **Mark** each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, **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. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 3 and 4. (8/31/95 legal interp to Hogan and Hartson)

X 6. Move the seat to the mid position.

X 7. While maintaining the mid position, move the seat to its lowest position. **Mark** the height position for future reference. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.

X 8. Visually **mark** for future reference the seat back angle, if adjustable, at the manufacturer's nominal design riding position for a **50th percentile adult male** in the manner specified by the manufacturer.

__ N/A – No seat back angle adjustment
__ Previously marked during Data Sheet 14.1 go to 9
Manufacturer's design seat back angle 3° on the Head Rest Post

X 9. Is the seat a bucket seat?
__ Previously marked during data sheet 14.1. This form is complete.
X Yes, go to 10 and skip 11
__No, go to 11 and skip 10

X 10. 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. (S10.4.1.2 and S16.3.1.10)

__11. Bench seats (complete ONLY the one that is applicable to the seat being marked):

__11.1 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. (S10.4.1.1)

__11.2 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. (S10.4.1.1)

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. _____

7/11/08

I certify that I have read and performed each instruction. Date

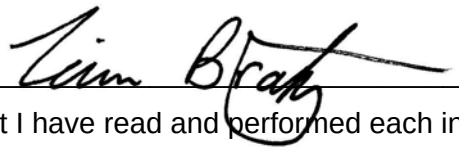
DATA SHEET 14.3

MARKING OF REFERENCE POINTS FOR STEERING WHEEL

X 1. Is the steering wheel adjustable up and down and/or in and out?
X Yes - go to 2
__No - this form is complete

X 2. Find and **mark** for future reference each up and down position. Label three of the positions with the following: H for Top of 4, 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

X 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. 7/11/08 Date

DATA SHEET 14.4

MARKING OF REFERENCE POINTS FOR DRIVER LOW RISK DEPLOYMENT

X Position 1 X Position 2

X 1. Position the steering wheel so the front wheels are in the straight-ahead position. (S26.2.1)

X 2. Position any adjustable parts of the steering controls to the mid-position as determined in Data Sheet 14.3 above. If a mid-position adjustment is not achievable, position the controls to the next lowest detent position. (S26.2.1)

X 3. Locate and **mark** the point that is defined by the intersection of the steering wheel cover and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. The vertical plane parallel to the vehicle longitudinal centerline through this point is referred to as "Plane E." (Check determination method below.) (S26.2.2)
Measurements with respect to measurement reference points:

The longitudinal centerline of the air bag was used.

__Point determined using manufacturer's information supplied by the COTR .
(Include manufacturer's information in the test report.)
OR
X Point determined by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

X 4. Locate the Top of 4 point of the air bag module cover. The horizontal plane through this point is referred to as "Plane F." (Check determination method below.) (S26.2.6)
Measurements with respect to measurement reference points:

The top of the air bag module cover was used.

__Point determined using manufacturer's information supplied by the COTR .
(Include manufacturer's information in the test report.)
OR
X Point determined by test lab personnel and approved by the COTR.
(Include manufacturer's information in the test report.)

Wayne Dahl — 6/4/08

I certify that I have read and performed each instruction. Date

DATA SHEET 15

H-POINT DETERMINATION FOR 50TH PERCENTILE MALE DUMMY

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Tim Bratz

X Driver Designated Seating Position __Passenger Designated Seating Position

X 1. Place the seat in the mid-fore-aft position and full down position, with the head restraint full down and the seat back in the manufacturer's nominal design riding position for the 50th percentile male as determined during the completion of Data Sheet 14.2.
X 2. Place a 910 mm^2 piece of muslin cotton cloth over the seat area. (The muslin cloth shall be comparable to 48 threads/in^2 and density of 2.85 lb/yd.) Tuck the muslin cloth in a sufficient amount to prevent hammocking of the material.
X 3. Place the seat and back assembly of the H-Point machine at the centerline of the seat as determined in Data Sheet 14.1 or 14.2.
X 4. Install the lower leg, and foot segments.
X 5. Set the length of the lower leg segment at 16.3 inches and the length of the thigh bar at 15.8 inches.
X 6. Leg and foot placement
X 6.1 Driver Designated Seating Position
X 6.1.1 Insert the pin so that the foot angle is never less than 87 degrees.
X 6.1.2 Place the right foot on the undepressed accelerator pedal with the sole of the foot on the pedal and the heel as far forward as allowable. Do not place the heel on the toe board.
X 6.1.2 Adjust the left leg to be the same distance from H-point machine centerline as the right leg.
X 6.1.3 With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
X Foot on toe board
__Foot on floor pan
__6.2 Passenger Designated Seating Position
__6.2.1 Insert the pin so that the foot angle is never less than 87 degrees.
__6.2.2 Space the lower legs 10.6 inches apart, equally spaced about the centerline of the H-point machine.
__6.2.3 With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
__Foot on toe board
__Foot on floor pan.
__6.2.3 With the T-bar level, place the right foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
__Foot on toe board
__Foot on floor pan
X 7. Apply the lower leg weights.
X 8. Apply the thigh weights.

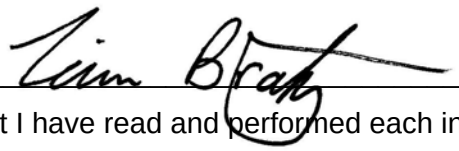
X 9. Tilt the back pan forward against the forward stop and draw the H-point machine away from the seatback using the T-bar.
X 10. Repositioning the back pan
X 10.1 Allow the H-point machine to slide rearward until a forward horizontal restraining load on the T-bar is no longer required due to the seat pan contacting the seat back.
X The seat pan does not slide rearward. Go to 10.2
X 10.2 Slide the H-point machine rearward by a horizontal rearward load applied at the T-bar until the seat pan contacts the seat back.
X 11. Apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.
X 12. Again apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.
X 13. Carefully return the back pan to the seat back.
X 14. Install the right and left buttock weights.
X 15. Install the eight torso weights alternately the installation between right and left.
X 16. Tilt the back pan forward until the stop is contacted.
X 17. Rock the H-point from side to side over a 10degree arc (5 degrees to each side of the vertical centerline) for three complete cycles. Restrain the T-bar during rocking so that the seat pan does not change position. Minimize any inadvertent exterior loads applied in a vertical or fore-aft direction. The feet are free to move during this rocking motion.
X 18. Without applying a forward or lateral load lift the right foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.
X 19. Lower the right foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor, toe board, or undepressed accelerator pedal.
X 20. Without applying a forward or lateral load lift the left foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.
X 21. Lower the left foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor or toe board.
X 22. Is the seat pan level?
X Yes. Go to 24
__No. Go to 23
__23. Apply a sufficient lateral load to the top of the seatback pan to level the H-point machine seat pan on the seat.
X 24. Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, return the seatback pan to the seatback.
X 25. Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, apply sufficient rearward force perpendicular to the back angle bar just above the torso weights to increase the hip angle 3 degrees. Minimize the exterior downward or side forces applied to the H-point machine. Release the force. Repeat this step until the hip angle readout is identical. Complete as many force applications as necessary and record the results in the following table:

Force Application	Hip Angle
1	101
2	102
3	101
4	
5	

X 26. Is the H-point machine level?
X Yes, go to 27.
__No, relevel. Go back to step 16 and repeat using a new data sheet.
X 27. Record the H-point location.
Describe and mark the measuring reference point.

Driver H-Point	
HP to Floor Z	255
HP to Hinge X	788
HP to Sill Y	261
HP to Striker X	192
HP to Dash X	690
HP to Header Z	828

H-Point Machine	
Left Knee	133
Right Knee	132
Left Foot Angle	128°
Right Foot Angle	95°
Left Leg	140
Right Leg	145
Hip Angle	102°
Back Angle	24°



I certify that I have read and performed each instruction.

7/11/08
Date

DATA SHEET 15

H-POINT DETERMINATION FOR 50TH PERCENTILE MALE DUMMY

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Tim Bratz

__Driver Designated Seating Position X Passenger Designated Seating Position

X 1. Place the seat in the mid-fore-aft position and full down position, with the head restraint full down and the seat back in the manufacturer's nominal design riding position for the 50th percentile male as determined during the completion of Data Sheet 14.2.
X 2. Place a 910 mm^2 piece of muslin cotton cloth over the seat area. (The muslin cloth shall be comparable to 48 threads/in^2 and density of 2.85 lb/yd.) Tuck the muslin cloth in a sufficient amount to prevent hammocking of the material.
X 3. Place the seat and back assembly of the H-Point machine at the centerline of the seat as determined in Data Sheet 14.1 or 14.2.
X 4. Install the lower leg, and foot segments.
X 5. Set the length of the lower leg segment at 16.3 inches and the length of the thigh bar at 15.8 inches.
X 6. Leg and foot placement
__6.1Driver Designated Seating Position
__6.1.1 Insert the pin so that the foot angle is never less than 87 degrees.
__6.1.2 Place the right foot on the undepressed accelerator pedal with the sole of the foot on the pedal and the heel as far forward as allowable. Do not place the heel on the toe board.
__6.1.2Adjust the left leg to be the same distance from H-point machine centerline as the right leg.
__6.1.3With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
__Foot on toe board
__Foot on floor pan
X 6.2 Passenger Designated Seating Position
X 6.2.1 Insert the pin so that the foot angle is never less than 87 degrees.
X 6.2.2 Space the lower legs 10.6 inches apart, equally spaced about the centerline of the H-point machine.
X 6.2.3 With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
X Foot on toe board
__Foot on floor pan.
X 6.2.3 With the T-bar level, place the right foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
X Foot on toe board
__Foot on floor pan
X 7. Apply the lower leg weights.
X 8. Apply the thigh weights.

X 9. Tilt the back pan forward against the forward stop and draw the H-point machine away from the seatback using the T-bar.
X 10. Repositioning the back pan
X 10.1 Allow the H-point machine to slide rearward until a forward horizontal restraining load on the T-bar is no longer required due to the seat pan contacting the seat back.
X The seat pan does not slide rearward. Go to 10.2
X 10.2 Slide the H-point machine rearward by a horizontal rearward load applied at the T-bar until the seat pan contacts the seat back.
X 11. Apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.
X 12. Again apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.
X 13. Carefully return the back pan to the seat back.
X 14. Install the right and left buttock weights.
X 15. Install the eight torso weights alternately the installation between right and left.
X 16. Tilt the back pan forward until the stop is contacted.
X 17. Rock the H-point from side to side over a 10degree arc (5 degrees to each side of the vertical centerline) for three complete cycles. Restrain the T-bar during rocking so that the seat pan does not change position. Minimize any inadvertent exterior loads applied in a vertical or fore-aft direction. The feet are free to move during this rocking motion.
X 18. Without applying a forward or lateral load lift the right foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.
X 19. Lower the right foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor, toe board, or undepressed accelerator pedal.
X 20. Without applying a forward or lateral load lift the left foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.
X 21. Lower the left foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor or toe board.
X 22. Is the seat pan level?
X Yes. Go to 24
__No. Go to 23
__23. Apply a sufficient lateral load to the top of the seatback pan to level the H-point machine seat pan on the seat.
X 24. Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, return the seatback pan to the seatback.
X 25. Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, apply sufficient rearward force perpendicular to the back angle bar just above the torso weights to increase the hip angle 3 degrees. Minimize the exterior downward or side forces applied to the H-point machine. Release the force. Repeat this step until the hip angle readout is identical. Complete as many force applications as necessary and record the results in the following table:

Force Application	Hip Angle
1	101
2	103
3	103
4	
5	

X 26. Is the H-point machine level?

X Yes, go to 27.

__No, relevel. Go back to step 16 and repeat using a new data sheet.

X 27. Record the H-point location.

Describe and mark the measuring reference point.

Passenger H-Point	
HP to Floor Z	290
HP to Hinge X	772
HP to Sill Y	255
HP to Striker X	207
HP to Dash X	674
HP to Header Z	805

H-Point Machine	
Left Knee	131
Right Knee	132
Left Foot Angle	127°
Right Foot Angle	108°
Left Leg	134
Right Leg	132
Hip Angle	103°
Back Angle	24°

Tim Bratt 7/11/08

I certify that I have read and performed each instruction. Date

DATA SHEET 16

AIR BAG SUPPRESSION TELLTALE (S19.2.2)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 5/29/08
Test Technician: Wayne Dahlke

X 1. Is the vehicle certified to any suppression performance standards of FMVSS 208?
X Yes - go to 2
__No - this form is complete

X 2. Does telltale emit yellow light when the air bag is suppressed? (S19.2.2(a))
X Yes - Pass ___**NO - FAIL**

X 3. Are the words "PASSENGER AIR BAG OFF" or "PASS AIR BAG OFF" (S19.2.2(b))

X 3.1 on the telltale? (S19.2.2(b))
____Yes - Pass, go to 4
_X_ No - go to 3.2

X 3.2 Within 25 mm of the telltale? (S19.2.2(b)) ___4___mm from the edge of the telltale light
_X_ Yes - Pass ___**NO - FAIL**

X 4. Is the telltale separate from the air bag readiness indicator? (S19.2.2(c))
X Yes - Pass ___**NO - FAIL**

X 5. Is the telltale within the interior of the vehicle? (S19.2.2(d))
X Yes - Pass ___**NO - FAIL**

X 6 Is the telltale forward of and above the design H-point of both the driver's and the front outboard passenger's seat when the seats are in their forwardmost seating positions? (S19.2.2(d))
X Yes - Pass ___**NO - FAIL**

X 7. Is the telltale away from surfaces that can be used for temporary or permanent storage of objects that could obscure the telltale from either the driver's or front outboard passenger's view? (S19.2.2(d))
X Yes - Pass ___**NO - FAIL**

X 8. Is the telltale located so that it is not obscured from the driver or front outboard passenger by a rear-facing child restraint in Appendix A installed in the front outboard passenger seat? (S19.2.2(d))
X Yes - Pass ___**NO - FAIL**

X 9. Is the telltale visible or recognizable during the night? (S19.2.2(e))
X Yes - Pass ___**NO - FAIL**

X 10. Is the telltale visible or recognizable during the day? (S19.2.2(e))
X Yes - Pass ___**NO - FAIL**

X 11. If there is a visibility adjustment, do all the adjustment levels make the telltale visible and recognizable? (S19.2.2(g))
X N/A-No visibility adjustment
___Yes - Pass ___**NO - FAIL**

X 12. Does the telltale remain illuminated while the air bag is suppressed? (S19.2.2(h)) (Leave the air bag suppressed for 5 minutes.)
X Yes - Pass ___**NO - FAIL**

X 13. Is the telltale off while the air bag is activated? (S19.2.2(h)) (Leave the air bag activated for 5 minutes.)
X Yes - Pass ___**NO - FAIL**

Wayne Dahlke 5/29/08

I certify that I have read and performed each instruction. Date

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Handle With Care 191
DATE OF MANUFACTURE:	5-26-2000

Base: __On __Off _X_N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward	133	Suppressed
	Middle	132	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Middle position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	First Choice 204
DATE OF MANUFACTURE:	6-20-2000

Base: __On __Off _X_N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward 6 *	130	Suppressed
	Middle	128	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward 8 *	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base: _X_On ___ Off __N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward 3 *	133	Suppressed
	Middle	132	Suppressed
	Rearward	133	Suppressed
Unbelted Rear Facing	Forward 5 *	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Infant 8457
DATE OF MANUFACTURE:	8-31-2000

Base: __On _X_Off __N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward 5 *	130	Suppressed
	Middle	128	Suppressed
	Rearward	127	Suppressed
Unbelted Rear Facing	Forward 5 *	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 25 = Full Rearward; 25 total Seat Slide detents)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section C Forward Facing Convertible CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Base: __On __Off _X_N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	133	Suppressed
	Middle	130	Suppressed
	Rearward	131	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	130	Suppressed
	Middle	130	Suppressed
	Rearward	127	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Middle position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section C Forward Facing Convertible CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Base: __On __Off _X_N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	133	Suppressed
	Middle	132	Suppressed
	Rearward	129	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	132	Suppressed
	Middle	131	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section C Forward Facing Convertible CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Base: __On __Off _X_N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	133	Suppressed
	Middle	130	Suppressed
	Rearward	132	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward	131	Suppressed
	Middle	128	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 18 SUMMARY

Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K)
Section A Car Bed

NHTSA NO.:	C80107	TEST DATE:	5/30/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	Newborn Infant	DUMMY SERIAL NO.:	003

CAR BED NAME:	Cosco
CAR BED MODEL:	Dream Ride 02-719
DATE OF MANUFACTURE:	6-16-2000

Base: __On __Off _X_ N/A-Restraint does not have a removable base
(A car bed with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated on a new form with the base off.

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Result
Belted	Forward	Suppressed
	Middle	Suppressed
	Rearward	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 19 SUMMARY

Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)
Section D Forward Facing Belt Positioning Booster

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	032

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing Without Harness	Forward	18	Suppressed
	Middle	15	Suppressed
	Rearward	10	Suppressed
Belted Forward Facing Cinched With Harness	Forward	130	Suppressed
	Middle	128	Suppressed
	Rearward	127	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 49.4 kg, 149.9 cm)

DATA SHEET 19 SUMMARY

Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)
Section D Forward Facing Toddler Belt Positioning Booster Seat

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	032

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing Without Harness	Forward	15	Suppressed
	Middle	10	Suppressed
	Rearward	14	Suppressed
Belted Forward Facing Cinched With Harness	Forward	132	Suppressed
	Middle	130	Suppressed
	Rearward	127	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Middle position. (Human Identification Code 036; 49.4 kg, 149.9 cm)

DATA SHEET 20 SUMMARY

Suppression Test Using 3 Year Old Dummy And Convertible Restraints (Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	032

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout 161
DATE OF MANUFACTURE:	7-21-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	132	Suppressed
	Middle	129	Suppressed
	Rearward	130	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 49.4 kg, 149.9 cm)

DATA SHEET 20 SUMMARY

Suppression Test Using 3 Year Old Dummy And Convertible Restraints (Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	032

CHILD RESTRAINT NAME:	Century
CHILD RESTRAINT MODEL:	Encore 4612
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	132	Suppressed
	Middle	130	Suppressed
	Rearward	129	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 49.4 kg, 149.9 cm)

DATA SHEET 20 SUMMARY

Suppression Test Using 3 Year Old Dummy And Convertible Restraints (Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	032

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Medallion 254
DATE OF MANUFACTURE:	6-1-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	133	Suppressed
	Middle	133	Suppressed
	Rearward	130	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg, 149.9 cm)

DATA SHEET 21 SUMMARY

Suppression Test Using An Unbelted 3 Year Old Dummy (Part 572, Subpart P)
No CRS

NHTSA NO.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
DUMMY TYPE:	3 Year Old	DUMMY SERIAL NO.:	032

Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	27.7° on the HRP	Suppressed
	Middle	27.7° on the HRP	Suppressed
	Rearward	27.7° on the HRP	Suppressed
Position 3 Sitting on seat with back not against seat back	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 4 Sitting on seat edge, spine vertical, hands at dummy's sides	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 5 Standing on seat, facing forward	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 6 Kneeling on seat, facing forward	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 7 Kneeling on seat, facing rearward	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 8 Lying on seat. (Three designated seating positions only)	Forward	N/A	N/A
	Middle	N/A	N/A
	Rearward	N/A	N/A

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg, 149.9 cm)

DATA SHEET 22H SUMMARY

Suppression Test Using a Representative 6-Year-Old Child and Booster Seats (S24.2.1)

NHTSA No.:	C80107	TEST DATE:	5/30/08
LABORATORY:	MGA	TECHNICIANS:	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	057

(Child Identification Code 057; 24.2 kg, 115.6 cm)

BOOSTER SEAT NAME:	Century
BOOSTER SEAT MODEL:	Next Step 4920
DATE OF MANUFACTURE:	8-16-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Belt Load (N)	Result
Belted	Forward	12	Suppressed
	Middle	10	Suppressed
	Rearward	9	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 22H SUMMARY

Suppression Test Using a Representative 6-Year-Old Child and Booster Seats (S24.2.1)

NHTSA No.:	C80107	TEST DATE:	5/30/08
LABORATORY:	MGA	TECHNICIANS:	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	057

(Child Identification Code 057; 24.2 kg, 115.6 cm)

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	High Back Booster 02-442
DATE OF MANUFACTURE:	4-28-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Belt Load (N)	Result
Belted	Forward	15	Suppressed
	Middle	10	Suppressed
	Rearward	12	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Middle position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 22H SUMMARY

Suppression Test Using a Representative 6-Year-Old Child and Booster Seats (S24.2.1)

NHTSA No.:	C80107	TEST DATE:	5/30/08
LABORATORY:	MGA	TECHNICIANS:	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	057

(Child Identification Code 057; 242 kg, 115.6 cm)

BOOSTER SEAT NAME:	Evenflo
BOOSTER SEAT MODEL:	Right Fit 245
DATE OF MANUFACTURE:	6-26-2000

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Manufacturer's specified anchorage position: Highest
Tested anchorage position: Highest

Test Summary

Seat Belt	Seat Slide	Belt Load (N)	Result
Belted	Forward	16	Suppressed
	Middle	14	Suppressed
	Rearward	9	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 23H SUMMARY

Suppression Tests Using an Unbelted Representative 6-Year-Old Child (S24.2.1)

NHTSA No.:	C80107	TEST DATE:	5/29/08
LABORATORY:	MGA	TECHNICIANS:	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	057

(Child Identification Code 057; 24.2 kg, 115.6 cm)

Test Summary

Position	Seat Slide	Seat Back Angle	Result
Position 1 Sitting on seat with back against seat back	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	27.7° on the HRP	Suppressed
	Middle	27.7° on the HRP	Suppressed
	Rearward	27.7° on the HRP	Suppressed
Position 3 Sitting on seat edge, spine vertical, hands at child's sides	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed
Position 4 Sitting on seat with back against seat back then leaning on the door	Forward	3.0° on the HRP	Suppressed
	Middle	3.0° on the HRP	Suppressed
	Rearward	3.0° on the HRP	Suppressed

Successful Unbelted Representative 5th Percentile Female Reactivation was performed with the seat in the Rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 29 SUMMARY

Low Risk Deployment Tests Using an Unbelted 5th Percentile Female Dummy (Part 572, Subpart O) (S26) Position 1 - Chin On Module (S26.2)

NHTSA NO.:	C80107	TEST DATE:	6/4/08
LABORATORY:	MGA	TECHNICIANS:	WD/AP
DUMMY TYPE:	5th Percentile Female	DUMMY SERIAL NO.:	516

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Tested seat position: Full Aft

Tested steering wheel angle: 21.3°
Thorax cavity angle: 27.4°
Bottom of chin height: 0 mm

Air Bag Deployment Timing

Stage No.	Firing time (ms)	Recorded firing time (ms)
1	0.0	0.3
2	100.0	100.3

5th Percentile Female SN 516 Position 1 (Chin On Module) 6/4/08

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	12
Peak Nij (Nte)	1.0	0.1
Time (ms)	NA	85.4
Peak Nij (Ntf)	1.0	0.2
Time (ms)	NA	11.6
Peak Nij (Nce)	1.0	0.0
Time (ms)	NA	3.7
Peak Nij (Ncf)	1.0	0.1
Time (ms)	NA	9.2
Neck Tension	2070 N	399
Neck Compression	2520 N	29
Chest g	60 g	7
Chest Displacement	52 mm	4
Left Femur	6805 N	39
Right Femur	6805 N	34

Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))
Second stage fire time of 100 ms; Injuries calculated on 0 ms to 225 ms

The original equipment parts were used for this deployment.

DATA SHEET 30 SUMMARY

Low Risk Deployment Tests Using an Unbelted 5th Percentile Female Dummy (Part 572, Subpart O) (S26) Position 2 - Chin On Rim (S26.3)

NHTSA NO.:	C80107	TEST DATE:	6/4/08
LABORATORY:	MGA	TECHNICIANS:	WD/AP
DUMMY TYPE:	5th Percentile Female	DUMMY SERIAL NO.:	516

Manufacturer's design seat back angle: 3.0° on the Head Rest Post
Tested seat back angle: 3.0° on the Head Rest Post
Tested seat position: Full Aft

Tested steering wheel angle: 21.3°
Thorax cavity angle: 27.5°
Chin Point height: 1 mm Below Steering Wheel Target
Note: The chin on rim steering wheel target is 10 mm below the highest point on the steering wheel

Air Bag Deployment Timing

Stage No.	Firing time (ms)	Recorded firing time (ms)
1	0.0	0.3
2	100.0	100.3

5th Percentile Female SN 516 Position 2 (Chin On Rim) 6/4/08

Injury Criteria	Max. Allowable Injury Assessment Values	Measured Value
HIC15	700	7
Peak Nij (Nte)	1.0	0.8
Time (ms)	NA	17.9
Peak Nij (Ntf)	1.0	0.0
Time (ms)	NA	51.4
Peak Nij (Nce)	1.0	0.1
Time (ms)	NA	210.5
Peak Nij (Ncf)	1.0	0.0
Time (ms)	NA	55.4
Neck Tension	2070 N	1089
Neck Compression	2520 N	28
Chest g	60 g	16
Chest Displacement	52 mm	14
Left Femur	6805 N	20
Right Femur	6805 N	32

Calculated on data recorded for 125ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))
Second stage fire time of 100 ms; Injuries calculated on 0 ms to 225 ms

A new air bag; and original equipment steering column and steering wheel were used for this deployment.

DATA SHEET 32

VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Jamie Aide

NHTSA No.: C80107
Test Date: 7/11/08

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

X	1.	Fill the transmission with transmission fluid to the satisfactory range.
X	2.	Drain fuel from vehicle
X	3.	Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
X	4.	Record the useable fuel tank capacity supplied by the COTR
X		Useable Fuel Tank Capacity supplied by COTR: 82.1 liters (21.7 gallons)
X	5.	Record the fuel tank capacity supplied in the owner's manual.
X		Useable Fuel Tank Capacity in owner's manual: 82.1 liters (21.7 gallons)
X	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.
X		Amount Added: 82.1 liters (21.7 gallons)
X	7.	Fill the coolant system to capacity.
X	8.	Fill the engine with motor oil to the Max. mark on the dip stick.
X	9.	Fill the brake reservoir with brake fluid to its normal level.
X	10.	Fill the windshield washer reservoir to capacity.
X	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

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

Right Front (kg):	590.1	Right Rear (kg):	473.6
Left Front (kg):	594.2	Left Rear (kg):	491.2
Total Front (kg):	1184.3	Total Rear (kg):	964.8
% Total Weight:	55.1	% Total Weight:	44.9
UVW = TOTAL FRONT PLUS TOTAL REAR (KG):			2149.1

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

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

RF:	861	LF:	855	RR:	878	LR:	870

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

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

X [X] Yes, go to 14.3
[ ] No, go to 14.2

[ ] 14.2 VCW = Gross Vehicle Weight - UVW

VCW = _____ - _____ = _____

X 14.3 VCW = 751 kg (1656 lbs)

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

[X] Yes, go to 14.6
[ ] No, go to 14.5 and skip 14.6

[ ] 14.5 DSC = Total number of seat belt assemblies = _____

X 14.6 DSC = 8

X 14.7 RCLW = VCW - (68 kg x DSC) = 751 kg - (68 kg x 8) = 207 kg

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

[X] 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

X 15. Fully Loaded Weight (100% fuel fill): 2441.2 kg

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

Driver: __ 5th female X 50th male
Passenger: __ 5th female X 50th male

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

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

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

Right Front (kg):	626.4	Right Rear (kg):	582.9
Left Front (kg):	630.0	Left Rear (kg):	601.9
Total Front (kg):	1256.4	Total Rear (kg):	1184.8
% Total Weight:	51.5	% Total Weight:	48.5
% GVW	49.9	% GVW	55.0
(% GVW = Axle GVW divided by Vehicle GVW)			
Fully Loaded Weight = Total Front Plus Total Rear (kg):			2441.2

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

X 16.1 Place the vehicle on a level surface.

X 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:	849	LF:	844	RR:	848	LR:	839

X 17. Drain the fuel system

X 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.

X Fuel tank capacity x .94 = 82.1 liters (21.7 gallons) x .94 = 77.2 liters (20.4 gallons)

X Amount added 76.1 liters (20.1 gallons) 92.6%

X 19. Crank the engine to fill the fuel delivery system with Stoddard solvent

X 20. Calculate the test weight range.

X 20.1 Calculated Weight = UVW (see 12 above) + RCLW (see 14 above) + 2x(dummy weight)

2441.1 kg = 2149.1 kg + 136.0 kg + 156.0 kg

X 20.2 Test Weight Range = Calculated Weight (- 4.5 kg, - 9 kg.)
Max. Test Weight = Calculated Test Weight - 4.5 kg = 2436.6 kg
Min. Test Weight = Calculated Test Weight - 9 kg = 2432.1 kg

X 21. Remove the RCLW from the cargo area.

X 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.

X 23. Vehicle Components Removed For Weight Reduction:
Cargo carpet, right rear tail light and second and third row floor mats

X 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.

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

[ ] N/A

X Weight of Ballast: 99.8 kg

X 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.

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

Right Front (kg):	614.6	Right Rear (kg):	587.4
Left Front (kg):	625.5	Left Rear (kg):	607.8
Total Front (kg):	1240.1	Total Rear (kg):	1195.2
% Total Weight:	50.9	% Total Weight:	49.1
% GVW	49.9	% GVW	55.0
(% GVW = Axle GVW divided by Vehicle GVW)			
TOTAL FRONT PLUS TOTAL REAR (kg):			2435.3

X 28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?

X Yes

No, explain why not.

X 29. Test Weight Vehicle Attitude: (all dimensions in millimeters)

X 29.1 Place the vehicle on a level surface

X 29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements

RF:	854	LF:	844	RR:	849	LR:	846

X 30. Summary of test attitude

X 30.1 AS DELIVERED:

RF:	861	LF:	855	RR:	878	LR:	870

AS TESTED:

RF:	854	LF:	844	RR:	849	LR:	846

FULLY LOADED:

RF:	849	LF:	844	RR:	848	LR:	839

X 30.2 Is the “as tested” test attitude equal to or between the “fully loaded” and “as delivered” attitude?

X Yes

No, explain why not.

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 7/11/08

DATA SHEET 33

VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Chris Novak

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

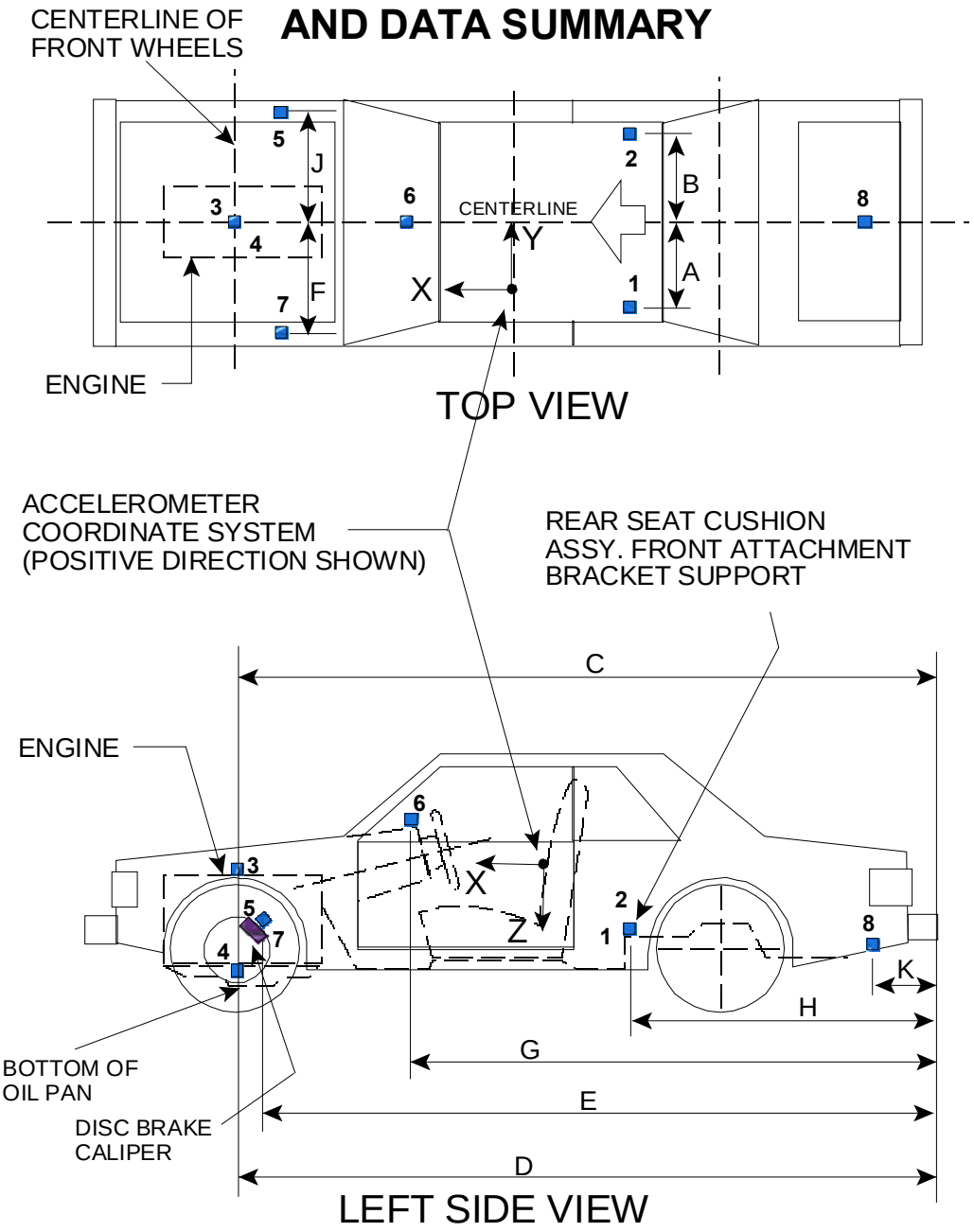
X	1.	Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
X	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.
X	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.
X	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
X	5.	Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart
X	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
X	7.	Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart
X	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: Chris Novak Date: 7/11/08

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

DIMENSION	LENGTH (mm)	
PRETEST VALUES		
A (LH Rear Seat Xmbr)	412	
B (RH Rear Seat Xmbr)	396	
C (Engine Top)	4344	
D (Engine Bottom)	4374	
E (Caliper)	Right Side: 4238	Left Side: 4238
F (Left Caliper)	758	
G (IP)	3456	
H (Seat)	2208	
J (Right Caliper)	758	
K (Trunk)	209	
POST TEST VALUES		
A (LH Rear Seat Xmbr)	412	
B (RH Rear Seat Xmbr)	396	
C (Engine Top)	4277	
D (Engine Bottom)	4284	
E (Caliper)	Right Side: 4130	Left Side: 4238
F (Left Caliper)	800	
G (IP)	3456	
H (Seat)	2208	
J (Right Caliper)	785	
K (Trunk)	209	

DATA SHEET 34

PHOTOGRAPHIC TARGETS

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Jamie Aide

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

X	1.	FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)
X	1.1	Targets A1 and A2 are on flat rectangular panels.
X	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.
X		Distance between targets (mm): 100 mm
X	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.
X		Distance between targets (mm): 100 mm
X	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.
X		Distance between the first and last circular targets (mm): 915 mm
X	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.
X	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.
X	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.
X		Distance between targets (mm): 612 mm
X	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.
X		Distance between targets (mm): 612 mm
X	1.9	Place tape with squares having alternating colors on the top portion of the steering wheel.
X	1.10	Chalk the bottom portion of the steering wheel
X	1.11	Is this an offset test?
		Yes, continue with this section
X		No, go to 2.

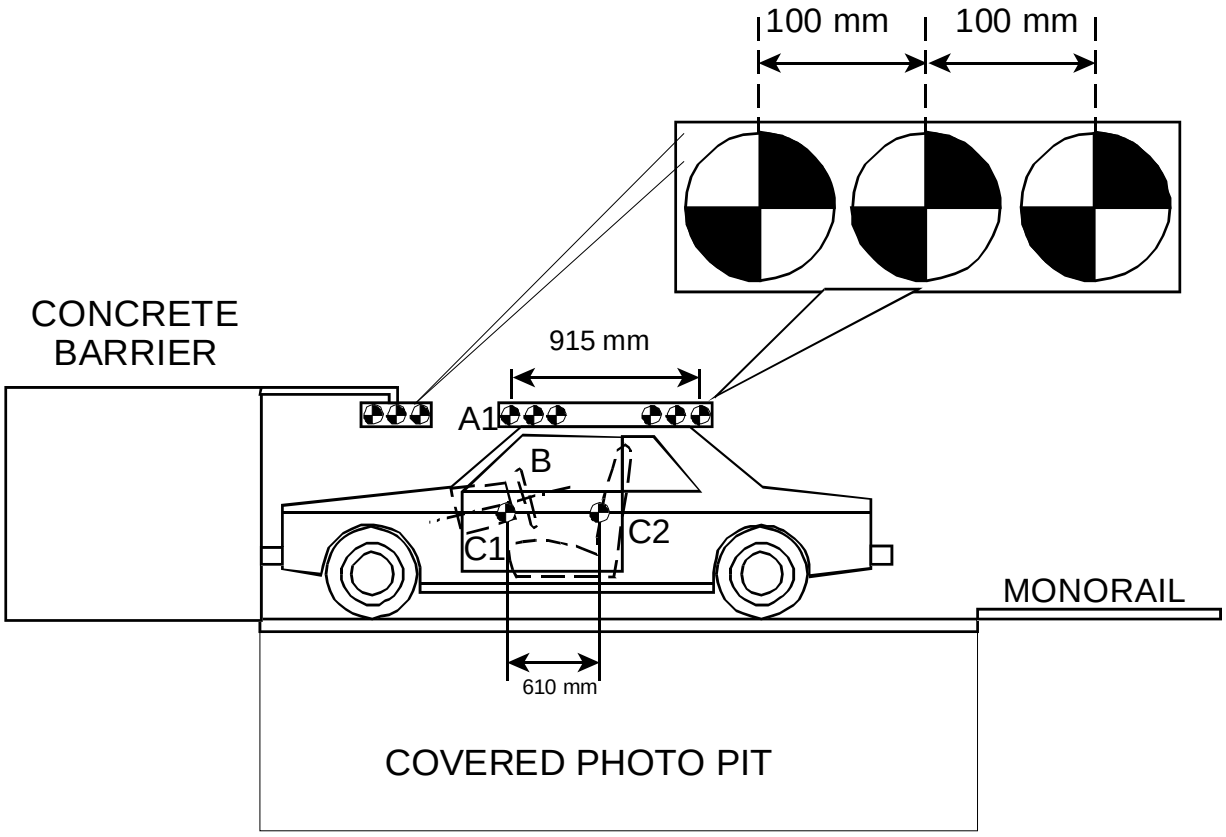
	1.12	Measure the width of the vehicle.
		Vehicle width (mm):
	1.13	Find the centerline of the vehicle. (½ of the vehicle width)
	1.14	Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.
	1.15	Apply 25 mm wide tape with alternating black 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
X	2.	Barrier Targeting
X	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
X	2.2	Targets D1 and D2 are on a rectangular panel.
X	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.
X		Distance between circular targets on D1 (mm): <u>100 mm</u>
X		Distance between circular targets on D2 (mm): <u>100 mm</u>
X	3.	FMVSS 208 Dummy Targeting Requirements
X	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).
X	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).
X	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.
X	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.
X	4.	FMVSS 204 Targeting Requirements
X	4.1	Is an FMVSS 204 indicant test ordered on the “COTR Vehicle Work Order?”
		Yes, continue with this form.
X		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.

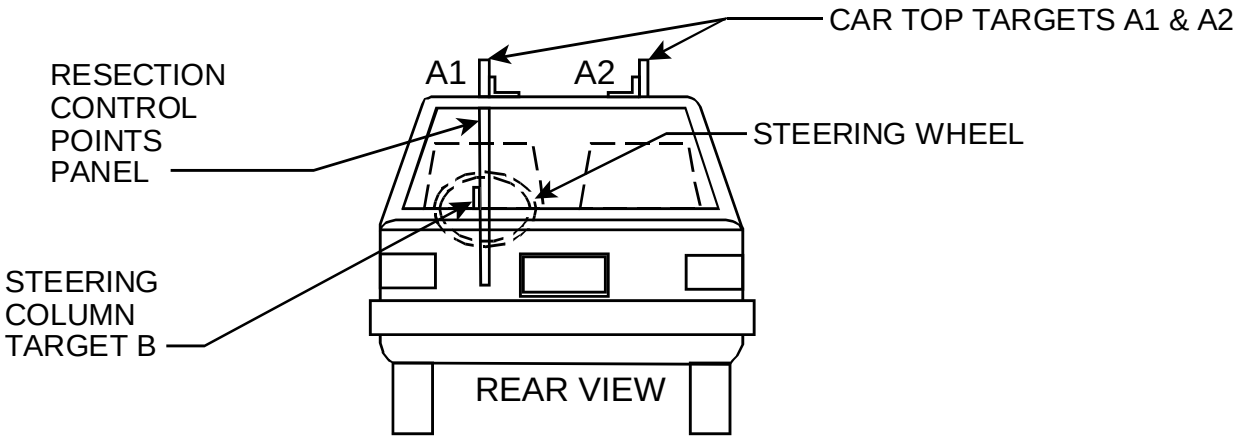
Signature:  Date: 7/11/08

REFERENCE PHOTO TARGETS

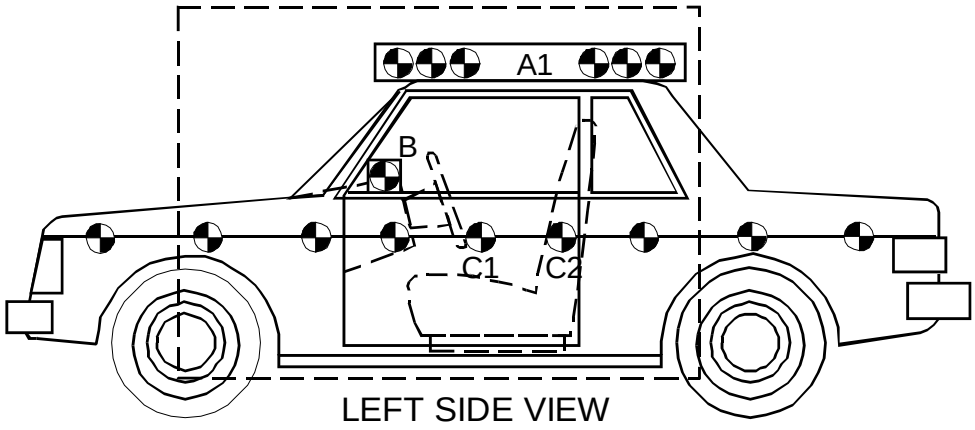


LEFT SIDE VIEW

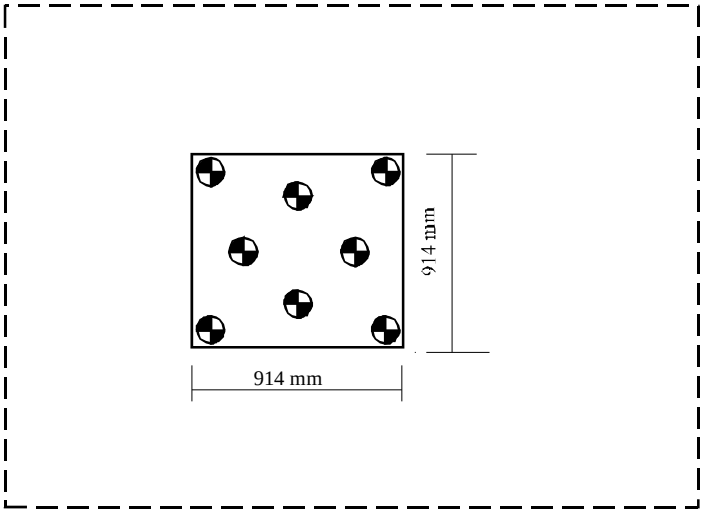
RESECTION PANEL TARGETING ALIGNMENT



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

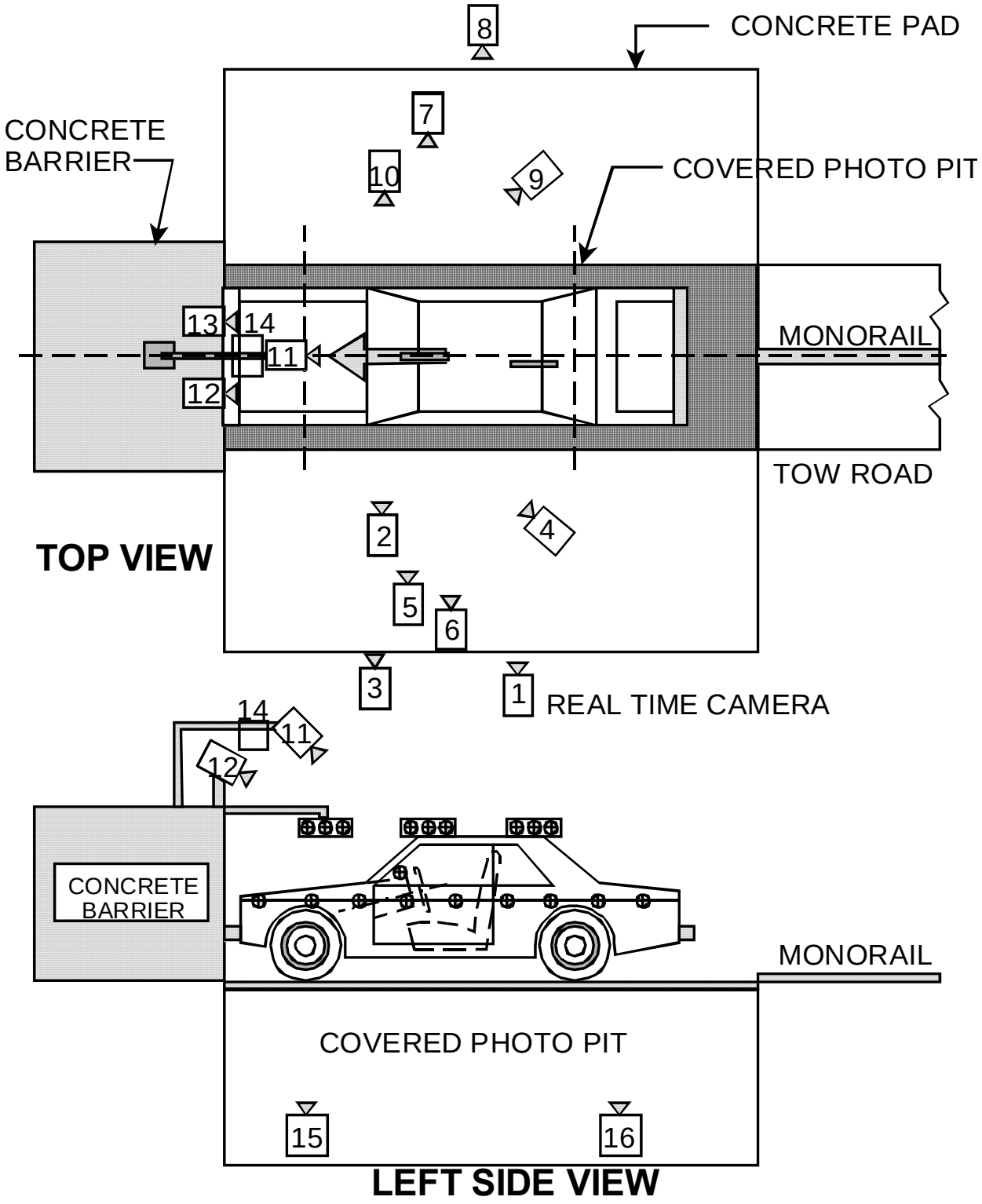
Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance

NHTSA No.: C80107
Test Date: 7/11/08
Time: 9:45 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)	2155	-5955	1145	24	1000
3	Left Side View (Driver)	3915	-5795	1410	35	1000
4	Left Side View (B-post aimed toward center of steering wheel)	6510	-5110	2120	50	1000
5	Left Side View (Steering Column)	1970	-5585	1235	25	1000
6	Left Side View (Steering Column)	1955	-5590	870	25	1000
7	Right Side View (Overall)	3500	6190	1210	20	1000
8	Right Side View (Passenger)	3905	6095	2055	35	1000
9	Right Side View (Angle)	6515	5195	2105	50	1000
10	Right Side View (Front door)	2350	5710	1225	24	1000
11	Front View Windshield	-285	0	3120	12.5	1000
12	Front View Driver	-135	-470	3200	25	1000
13	Front View Passenger	140	480	3200	25	1000
14	Overhead Barrier Impact View	0	0	5050	14	1000
15	Pit Camera Engine View	2040	0	-3150	24	1000
16	Pit Camera Fuel Tank View	3700	0	-3150	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 F
DUMMY POSITIONING PROCEDURES
FOR DRIVER TEST DUMMY CONFORMING TO SUBPART E OF PART 572

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Tim Bratz

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

_X_ 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
__N/A – No lumbar adjustment

_X_ 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S20.1.8.2)
X N/A – No additional support adjustment

_X_ 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S20.1.9.3)
X N/A – No independent fore-aft seat cushion adjustment

_X_ 4. Use the seat markings determined during the completion of Data Sheet 14 to set the mid-fore-aft position, full down height position and the seat cushion angle. (S8.1.2)

_X_ 5. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)

__N/A – No seat back angle adjustment
Manufacturer's design seat back angle 3.0° on the Head Rest Post
Tested seat back angle 3.1° on the Head Rest Post

_X_ 6. If adjustable, set the head restraint at the full up and full forward position. Any adjustment 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. (S8.1.3)
__N/A – No head restraint adjustment

_X_ 7. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
__N/A – No adjustable upper seat belt anchorage
Manufacturer's specified anchorage position. Highest
Tested anchorage position Highest (Unbelted Test)

X 8. Place the adjustable accelerator pedal in the full forward position.
X N/A – the accelerator pedal is not adjustable.

X 9. Set the steering wheel hub at the geometric center of the full range of driving positions including any telescoping positions as determined in data sheet 14.

X 10. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in item 1.18 of Data Sheet 14 and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

X 11. Rest the thighs on the seat cushion. (S10.5)

X 12. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage.

Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
.079 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
.035 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
24.4° pelvic angle (20^o to 25^o)

X 13. Is the head level within $\pm$ 0.5^o? (S10.1)
__Yes, go to 14
X No, go to 13.1

X 13.1 Adjust the position of the H-point. (S10.1)

X 13.2 Is the head level within $\pm$ 0.5^o? (S10.1)
__Yes, record the following, then go to 15. X No, go to 13.3
____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____pelvic angle (20^o to 25^o) (S10.4.2.2)

X 13.3 Adjust the pelvic angle. (S10.1)

X 13.4 Is the head level within $\pm$ 0.5^o? (S10.1)
__Yes, record the following, then go to 14. X No, go to 13.5
____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____pelvic angle (20^o to 25^o) (S10.4.2.2)

X 13.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within ± 0.5°. (S10.1)
Record the following, then go to 14 **(The neck bracket was moved three notches)**
.079 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
.025 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
23.4° pelvic angle (20° to 25°)

X 14. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
10.6" measured distance (10.6 inches) (S10.5)

X 15. Can the right foot be placed on the accelerator?
X Yes, go to 15.1 and skip 15.2
__No, go to 15.2

X 15.1. To the extent practicable keep the right thigh and the leg in a vertical plane (S10.5) while resting the foot on the undepressed accelerator pedal with the rearmost point of the heel on the floor pan in the plane of the pedal. (S10.6.1.1)

__15.2 Initially set the foot perpendicular to the leg and then place it as far forward as possible in the direction of the pedal centerline with the rearmost point of the heel resting on the floor pan. (S10.6.1.1)

__15.2.1 Move the adjustable pedal to its most rearward position or until the right foot is flat on the pedal, whichever occurs first. (S10.6.1.1)
__N/A – the accelerator pedal is not adjustable

X 16. Does the vehicle have a foot rest?
X Yes, go to 16.1
__No, go to 16.2

X 16.1 With the left thigh and leg in a vertical plane, place the foot on the foot rest with the heel resting on the floor pan. (S10.6.1.2)

X 16.1.1 Is the left foot elevated above the right foot?
__Yes, go to 16.1.2 and position the foot off the foot rest
X No, go to 17

__16.1.2 Check the ONLY one of the following that applies

__The foot reaches the toeboard without adjusting the foot or leg. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard, skip 16.1.3 (S10.6.1.2)

__The foot reaches the toeboard but contacts the brake or clutch pedal and must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot was rotated about the leg to avoid pedal contact, skip 16.1.3 (S10.6.1.2)

__The foot reaches the toeboard but contacts the brake or clutch pedal and the foot and leg must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact, skip 16.1.3 (S10.6.1.2)

__N/A – the foot does not reach the toeboard, go to 16.1.3

__16.1.3 Check the ONLY one of the following that applies

__The foot did not contact the brake or clutch pedal. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan. (S10.6.1.2)

__The foot did contact the brake or clutch pedal and the foot was rotated to avoid contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot the minimum amount to avoid pedal contact. (S10.6.1.2)

__The foot did contact the brake or clutch pedal and the foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact. Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot about the leg and the thigh and leg outboard about the hip the minimum distance necessary to avoid pedal contact. (S10.6.1.2)

_X_ 17. Place the right upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)

_X_ 18. Is the driver seat belt used for this test?
__Yes, continue
_X_ No, go to 19

__18.1 Fasten the seat belt around the dummy.

__18.2 Remove all slack from the lap belt portion. (S10.9)

__18.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

__18.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
_____pound load applied

__18.5 Is the belt system equipped with a tension-relieving device?
__Yes, continue
__No, go to 19

__18.6 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).

_X_ 19. Place the left upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)

_X_ 20. Place the right hand with the palm in contact with the steering wheel at the rim's horizontal centerline and with the thumb over the steering wheel. (S10.3.1)

_X_ 21. Place the left hand with the palm in contact with the steering wheel at the rim's horizontal centerline and with the thumb over the steering wheel. (S10.3.1)

_X_ 22. Tape the thumb of each hand to the steering wheel by using masking tape with a width of 0.25 inch. The length of the tape shall only be enough to go around the thumb and steering wheel one time.

REMARKS:

I certify that I have read and performed each instruction.

Signature: _____ Date: 7/11/08

APPENDIX F
DUMMY POSITIONING PROCEDURES FOR PASSENGER TEST DUMMY CONFORMING TO SUBPART E OF PART 572

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Jordan Haynes

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

_X_ 1. The seat is a bench seat for which the adjustments have already been made for the driver and there are no independent adjustments that can be made for the passenger. Go to 7.
X N/A- the passenger seat adjusts independently of the driver seat.

_X_ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
X N/A – No lumbar adjustment

_X_ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S20.1.8.2)
X N/A – No additional support adjustment

_X_ 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S20.1.9.3)
X N/A – No independent fore-aft seat cushion adjustment

_X_ 5. Use the seat markings determined during the completion of Data Sheet 14 to set the mid-fore-aft position, full down height position and the seat cushion angle. (S8.1.2)

_X_ 6. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)

__N/A – No seat back angle adjustment
Manufacturer's design seat back angle 3.0° on the Head Rest Post
Tested seat back angle 3.0° on the Head Rest Post

_X_ 7. If adjustable, set the head restraint at the full up and full forward position. Any adjustment 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. (S8.1.3)
__N/A – No head restraint adjustment

_X_ 8. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
__N/A – No adjustable upper seat belt anchorage
Manufacturer's specified anchorage position. Highest
Tested anchorage position Highest (Unbelted Test)
__ N/A - the seat does not have a fore-aft adjustment

X 9. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in item 2.19 of Data Sheet 14 and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

X 10. Rest the thighs on the seat cushion. (S10.5)

X 11. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage.

Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
.088 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
033 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
23.2° pelvic angle (20^o to 25^o)

X 12. Is the head level within $\pm$ 0.5^o? (S10.1)
__Yes, go to 13
X No, go to 12.1

X 12.1 Adjust the position of the H-point. (S10.1 and S10.4.2.1)

X 12.2 Is the head level within $\pm$ 0.5^o? (S10.1)
__Yes, record the following, then go to 13. X No, go to 12.3
____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____pelvic angle (20^o to 25^o) (S10.4.2.2)

X 12.3 Adjust the pelvic angle. (S10.1)

X 12.4 Is the head level within $\pm$ 0.5^o? (S10.1)
__Yes, record the following, then go to 13. X No, go to 12.5
____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
____pelvic angle (20^o to 25^o) (S10.4.2.2)

X 12.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within ± 0.5°. (S10.1)
Record the following, then go to 13 **(The neck bracket was moved three notches)**
.079 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
.053 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
23.2° pelvic angle (20° to 25°) (S10.4.2.2)

X 13. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
10.6" measured distance (10.6 inches) (S10.5)

X 14. Check the only one of the following that applies:

__To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, place the feet on the toe board with the heels resting on the floor pan as close as possible to the intersection of the floor pan and toe board.

__The feet cannot be placed flat on the toe board. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan.

X The vehicle has a wheelhouse projection. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan. Do not set the feet on the wheelhouse projection.

__The vehicle has a wheelhouse projection and the feet cannot be placed on the toe board. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heel resting on the floor pan. . Do not set the feet on the wheelhouse projection.

X 15. Place the left upper arm in contact with the seat back and side of the torso. (S10.2.2)

X 16. Is the passenger seat belt used for this test?
__Yes, continue
X No, go to 17

__16.1 Fasten the seat belt around the dummy.

__16.2 Remove all slack from the lap belt portion. (S10.9)

__16.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

__16.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
____pound load applied

__16.5 Is the belt system equipped with a tension relieving device?
__Yes, continue
__No, go to 17

__16.6 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 17.

X 17. Place the right upper arm in contact with the seat back and side of the torso. (S10.2.2)

X 18. Place the left hand palm in contact with the outside of the left thigh and the little finger in contact with the seat cushion. (S10.3.2)

X 19. Place the right hand palm in contact with the outside of the right thigh and the little finger in contact with the seat cushion. (S10.3.2)

REMARKS:

I certify that I have read and performed each instruction.

Signature: Jordan Haynes Date: 7/11/08

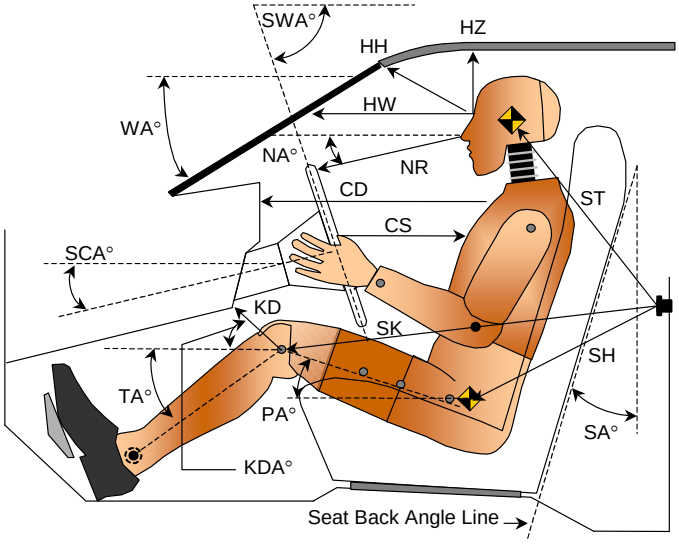
DATA SHEET 37

DUMMY MEASUREMENTS

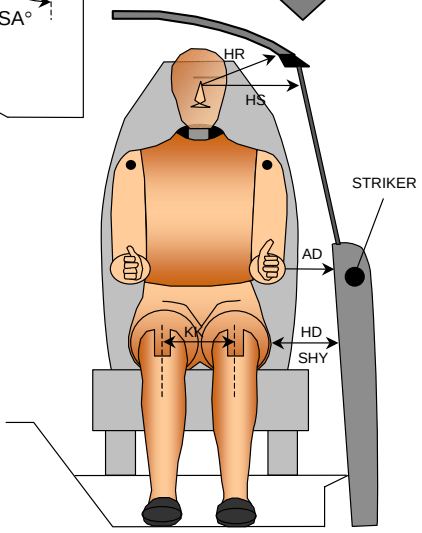
Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Joe Fleck

NHTSA No.: C80107
Test Date: 7/11/08

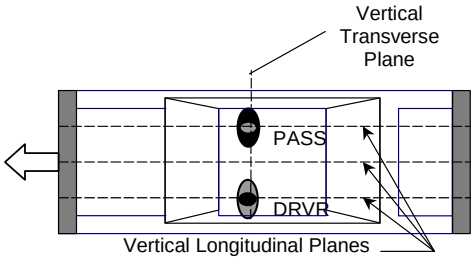
DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



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



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



DATA SHEET 37

DUMMY MEASUREMENTS

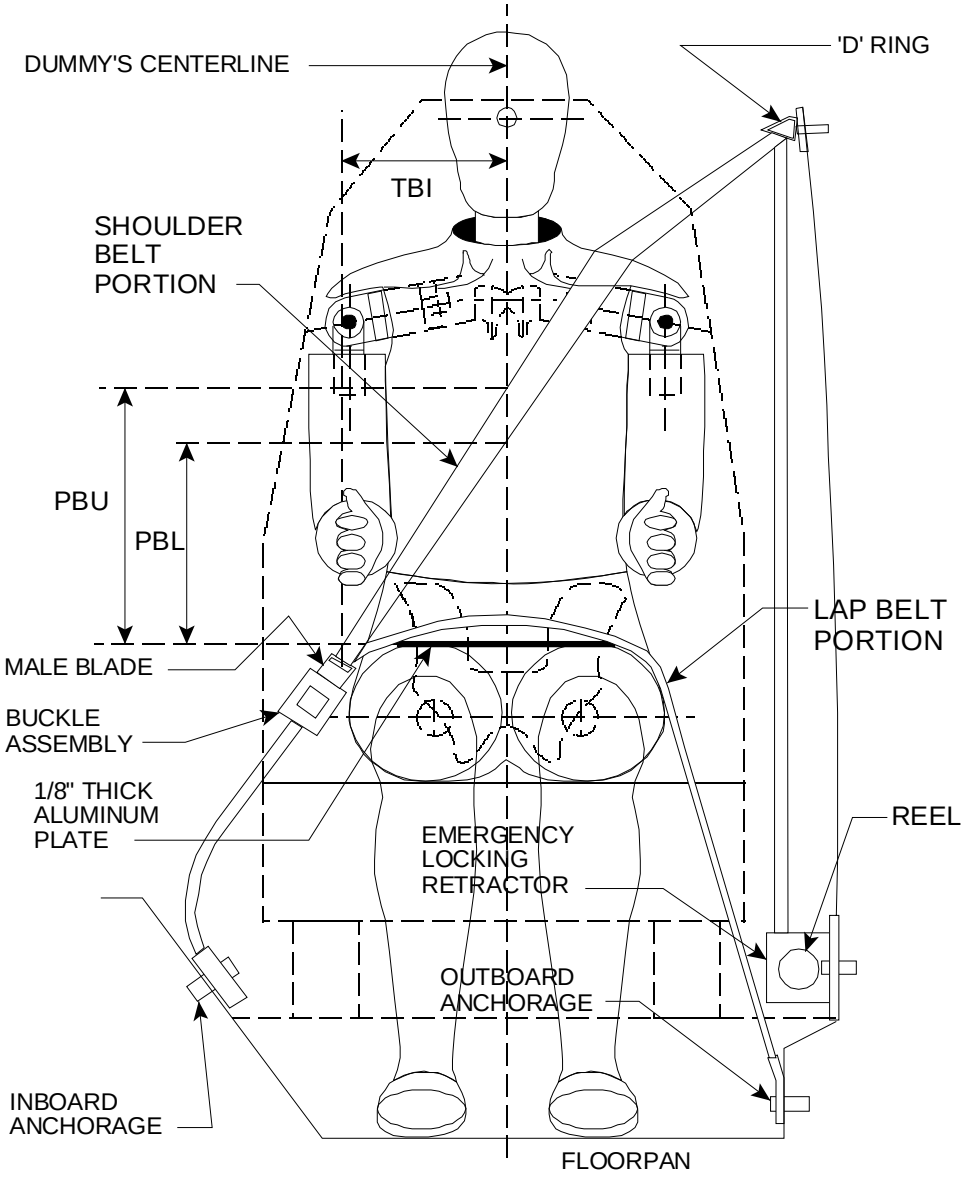
Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Jordan Haynes

NHTSA No.: C80107
Test Date: 7/11/08

TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver SN 401		Passenger SN 403	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		29.3		
SWA	Steering Wheel Angle		66.6		
SCA	Steering Column Angle		21.5		
SA	Seat Back Angle (On Headrest Post)		3.1		3.0
HZ	Head to Roof (Z)	260		230	
HH	Head to Header	478	20.5	431	13.0
HW	Head to Windshield	834	0.0	738	0.0
HR	Head to Side Header (Y)	265		242	
NR	Nose to Rim	405	9.1		
CD	Chest to Dash	579		538	
CS	Chest to Steering Hub	334	4.5		
RA	Rim to Abdomen	209	2.5		
KDL	Left Knee to Dash	195	39.7	180	
KDR	Right Knee to Dash	188		195	18.0
PA	Pelvic Angle		23.4		23.2
TA	Tibia Angle		47.9		44.1
KK	Knee to Knee (Y)	305		262	
SK	Striker to Knee	590	86.7	620	90.7
ST	Striker to Head	592	9.1	623	12.5
SH	Striker to H-Point	185	110.8	183	98.9
SHY	Striker to H-Point (Y)	309		310	
HS	Head to Side Window	374		351	
HD	H-Point to Door (Y)	171		168	
AD	Arm to Door (Y)	173		121	
AA	Ankle to Ankle	330		205	

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: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Joe Haynes

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

X 1. Vehicle underbody painted
X 2. The speed measuring devices are in place and functioning.
X 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)
X 4. Convertible top is in the closed position.

X N/A, not a convertible

X 5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
X 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

X 7. Time zero contacts on barrier in place.
X 8. Pre test zero and shunt calibration adjustments performed and recorded
X 9. Dummy temperature meets requirements of section 12.2 of the test procedure.
X 10. Vehicle hood closed and latched
X 11. Transmission placed in neutral
X 12. Parking brake off
X 13. Ignition in the ON position
X 14. Doors closed and latched but not locked
X 15. Posttest zero and shunt calibration checks performed and recorded
X 16. Actual test speed 39.9 kmph
X 17. Vehicle rebound from the barrier 38 cm
X 18. Describe whether the doors open after the test and what method is used to open the doors.

X Left Front Door: Door remained closed and latched; Door opened without tools
X Right Front Door: Door remained closed and latched; Door opened without tools
X Left Rear Door: Door remained closed and latched; Door opened without tools
X 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; Chest to Air Bag; Knees to Knee Bolster

X Passenger Dummy: Head to Air Bag, A-Post, Right Front Window and Windshield; Chest to Air Bag; Knees to Glove Box

REMARKS:

I certify that I have read and performed each instruction.

Signature: Jordan Haynes Date: 7/11/08

DATA SHEET NO. 40

ACCIDENT INVESTIGATION MEASUREMENTS

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Jamie Aide

NHTSA No.: C80107
Test Date: 7/11/08

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

Vehicle Year/Make/Model/Body Style:	2008 GMC ACADIA MPV
VIN:	1GKER13728J263658
Wheelbase:	3027 mm
Build Date:	03/08
Vehicle Size Category:	4
Test Weight:	2435.3 kg
Front Overhang:	1002 mm
Overall Width:	1960 mm
Overall Length Center:	5088 mm

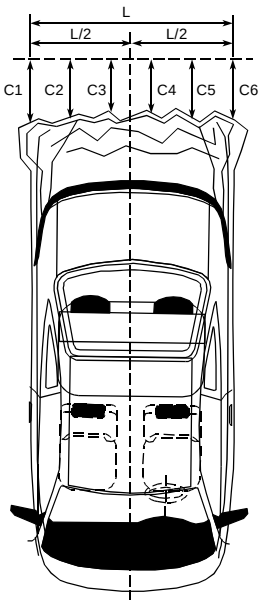
Accelerometer Data	
Location:	As per measurements on Data Sheet 33
Linearity:	>99.9%

Integration Algorithm:	Trapezoidal
Vehicle Impact Speed:	39.9 kmph
Time of Separation:	160 ms
Velocity Change:	45.4 kmph

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6
Midpoint of Damage: Vehicle Longitudinal Centerline
Damage Region Length (mm): 1538
Impact Mode: Frontal 30° Right Oblique

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	4878	4960	-82
C2	Crush zone 2 at left side	mm	4997	5006	-9
C3	Crush zone 3 at left side	mm	5051	4934	117
C4	Crush zone 4 at right side	mm	5052	4685	367
C5	Crush zone 5 at right side	mm	4995	4634	461
C6	Crush zone 6 at right side	mm	4882	4504	378



REMARKS:

I certify that I have read and performed each instruction.

Signature: _____ Date: 7/11/08

DATA SHEET 41

WINDSHIELD MOUNTING (FMVSS 212)

Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08
Test Technician: Chris Novak

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

1. Pre-Crash

[X] 1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.

Retained with glue
Plastic trim

[X] 1.2 Mark the longitudinal centerline of the windshield

[X] 1.3 Measure pre-crash A, B, and C for the left side and record in the chart below.

[X] 1.4 Measure pre-crash C, D, and E for the right side and record in the chart below.

[X] 1.5 Measure from the edge of the retainer or molding to the edge of the windshield.
[X] Dimension G (mm): 8 mm

2. Post Crash

[X] 2.1 Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?

[X] 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

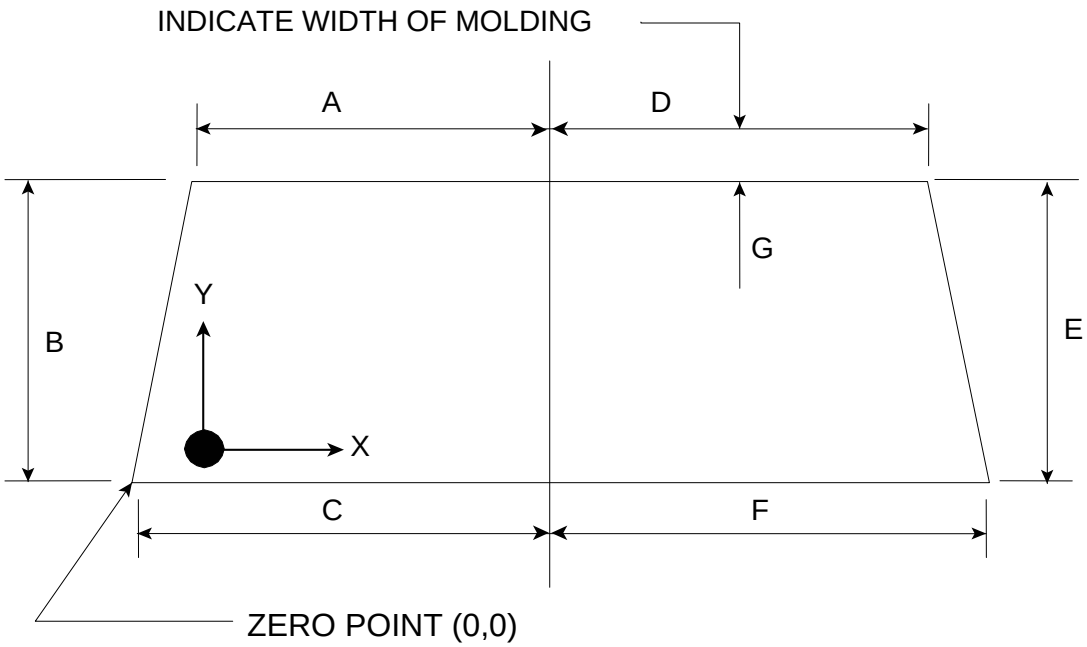
[ ] No, Pass

WINDSHIELD RETENTION MEASUREMENTS

	Dimension	Pre-Crash (mm)	Post-Crash (mm)	Percent Retention (Post-Test ÷ Pre-Crash)
Left Side	A	655	655	100%
	B	840	840	100%
	C	856	856	100%
	Total	2351	2351	100%
Right Side	D	655	655	100%
	E	840	840	100%
	F	856	856	100%
	Total	2351	2351	100%

Indicate area of mounting failure. NONE

FRONT VIEW OF WINDSHIELD



REMARKS:

I certify that I have read and performed each instruction.

Signature: Chris Kozak Date: 7/11/08

DATA SHEET 42

WINDSHIELD ZONE INTRUSION (FMVSS 219)

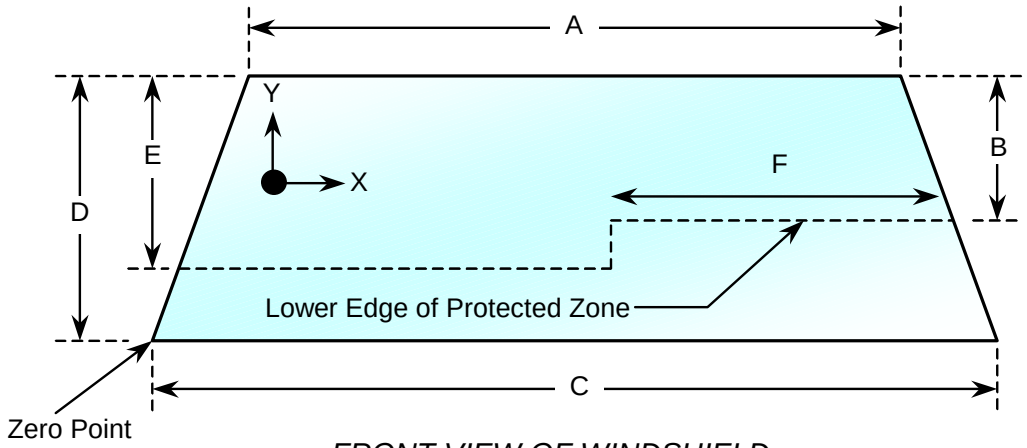
Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Chris Novak

NHTSA No.: C80107
Test Date: 7/11/08

IMPACT ANGLE:	30° Right Oblique		
BELTED DUMMIES (YES/NO):	No		
TEST SPEED:	_X_ 32 to 40 kmph	__ 0 to 48 kmph	__ 0 to 56 kmph
DRIVER DUMMY:	__ 5th female	_X_ 50th male	
PASSENGER DUMMY:	__ 5th female	_X_ 50th male	

X	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))
X	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))
X	3.	From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))
X	4.	Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3
X	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.



FRONT VIEW OF WINDSHIELD

WINDSHIELD DIMENSIONS

Item	Units	Value
A	mm	1310
B	mm	571
C	mm	1712
D	mm	840
E	mm	587
F	mm	538

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:  Date: 7/11/08

DATA SHEET 43

FUEL SYSTEM INTEGRITY (FMVSS 301)

Test Vehicle: 2008 GMC ACADIA
Test Program: FMVSS 208 Compliance
Test Technician: Tim Bratz

NHTSA No.: C80107
Test Date: 7/11/08

TYPE OF IMPACT:	25 mph Unbelted Frontal 30° Right Oblique

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)

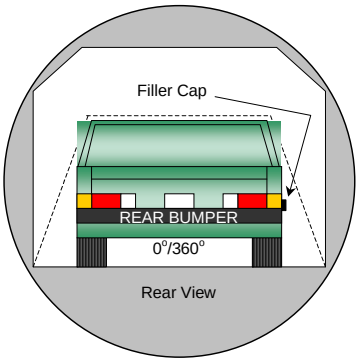
D. Spillage: NONE

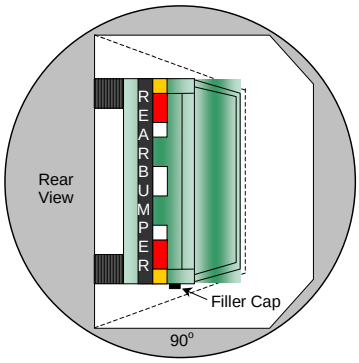
REMARKS: NO SPILLAGE

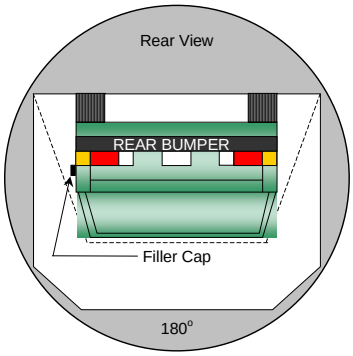
DATA SHEET NO. 43

FMVSS 301 STATIC ROLLOVER DATA

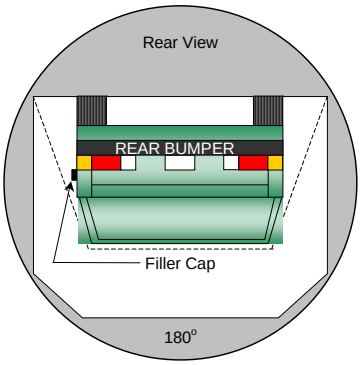
Test Vehicle: 2008 GMC ACADIA NHTSA No.: C80107
Test Program: FMVSS 208 Compliance Test Date: 7/11/08

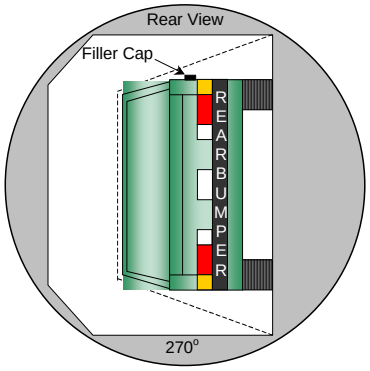


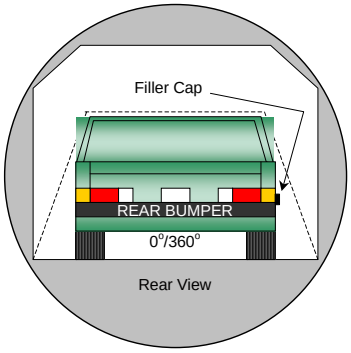




0° to 90° 90° to 180°







180° to 270° 270° to 360°

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

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (grams)
0° to 90°	119	300	0.0
90° to 180°	117	300	0.0
180° to 270°	116	300	0.0
270° to 360°	118	300	0.0

APPENDIX A

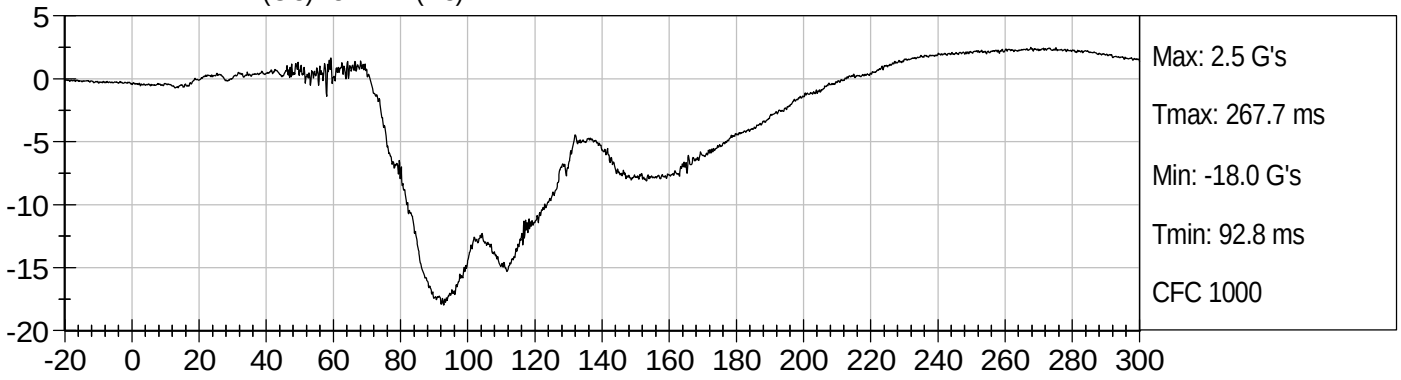
CRASH TEST DATA

TABLE OF DATA PLOTS

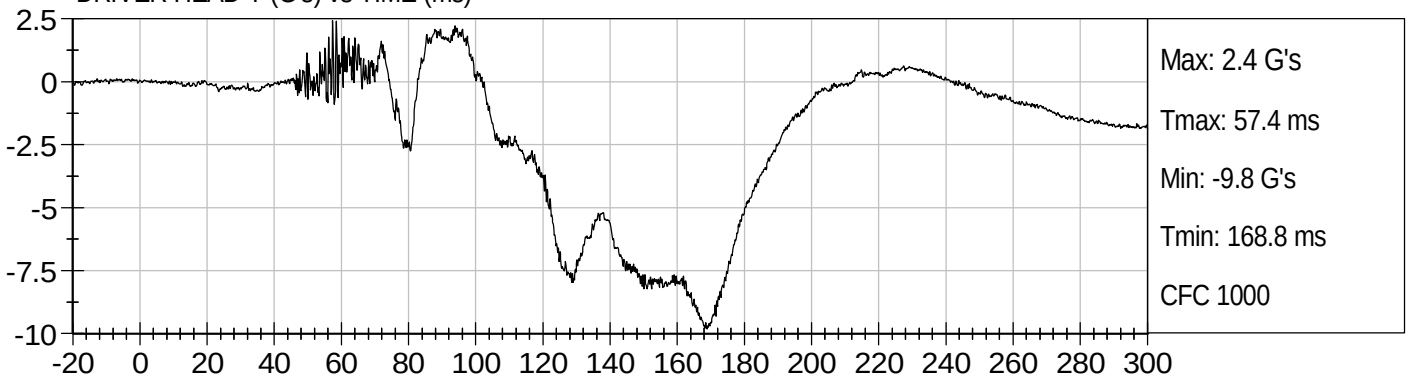
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

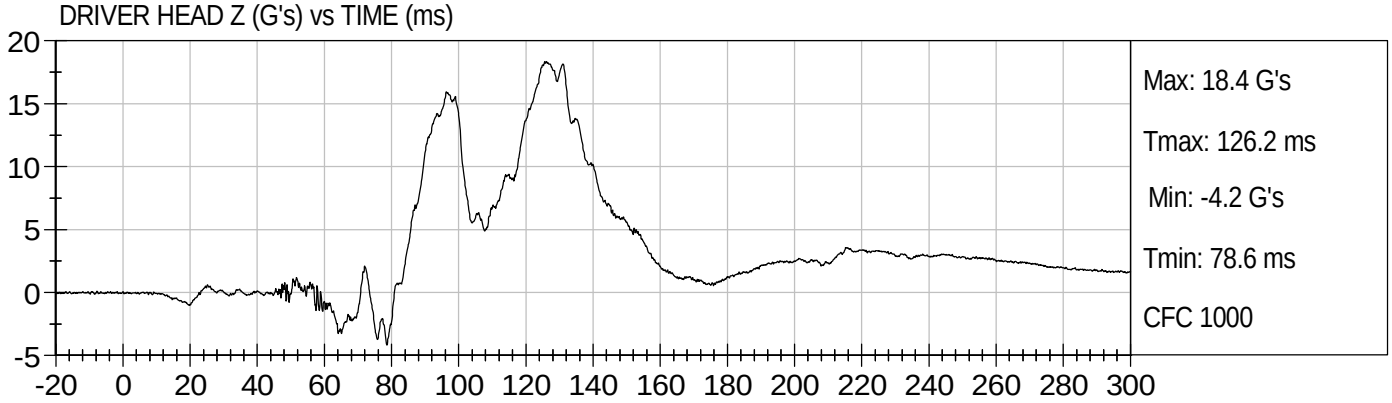
DRIVER HEAD X (G's) vs TIME (ms)



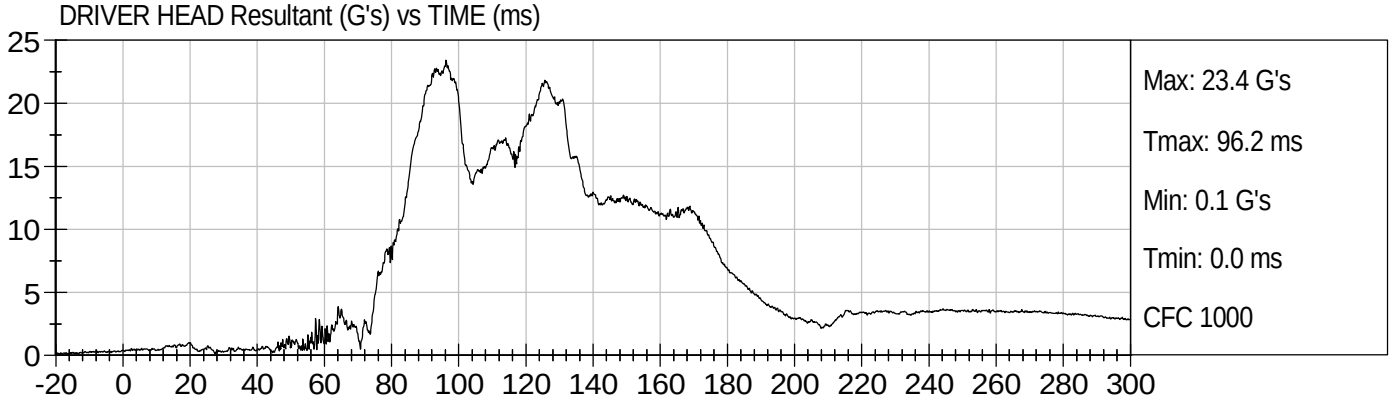
DRIVER HEAD Y (G's) vs TIME (ms)



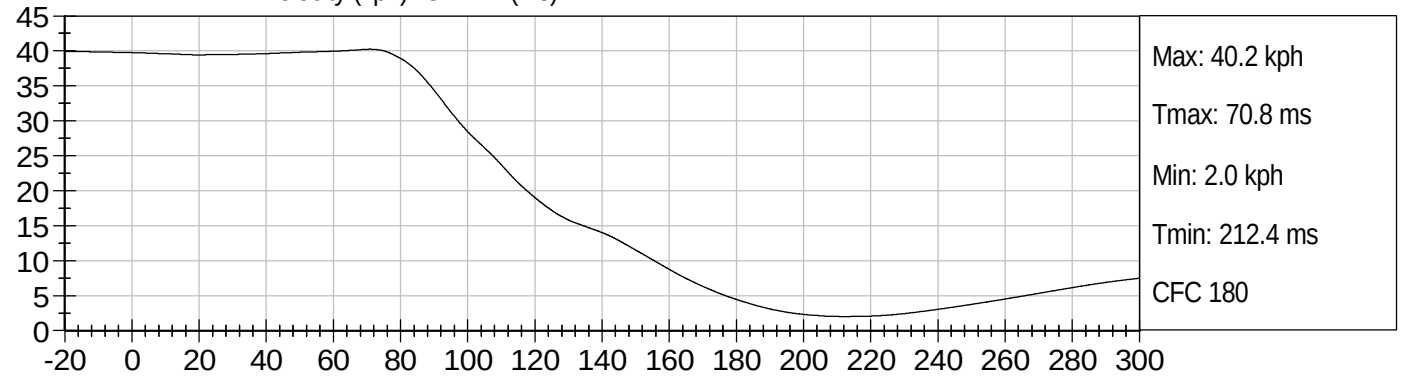
DRIVER HEAD Z (G's) vs TIME (ms)



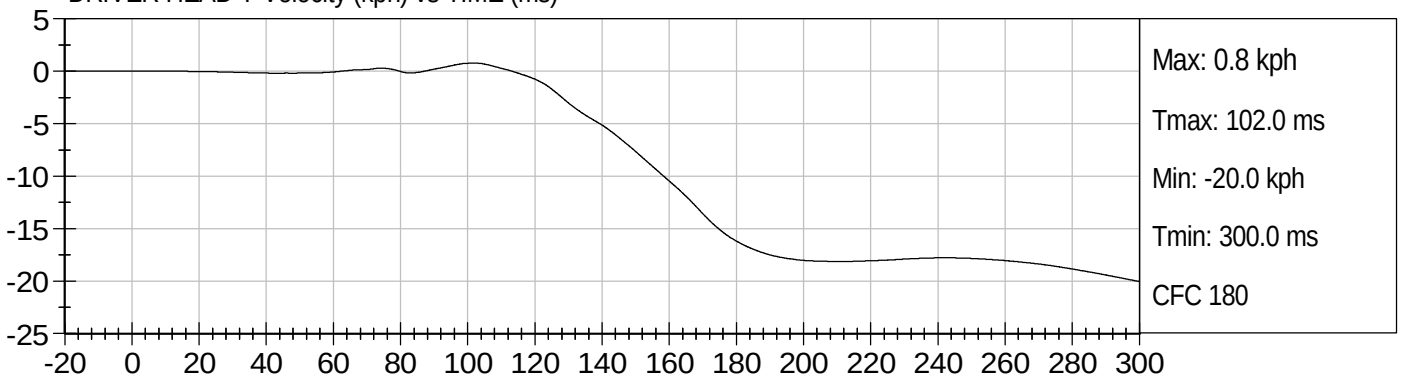
DRIVER HEAD Resultant (G's) vs TIME (ms)



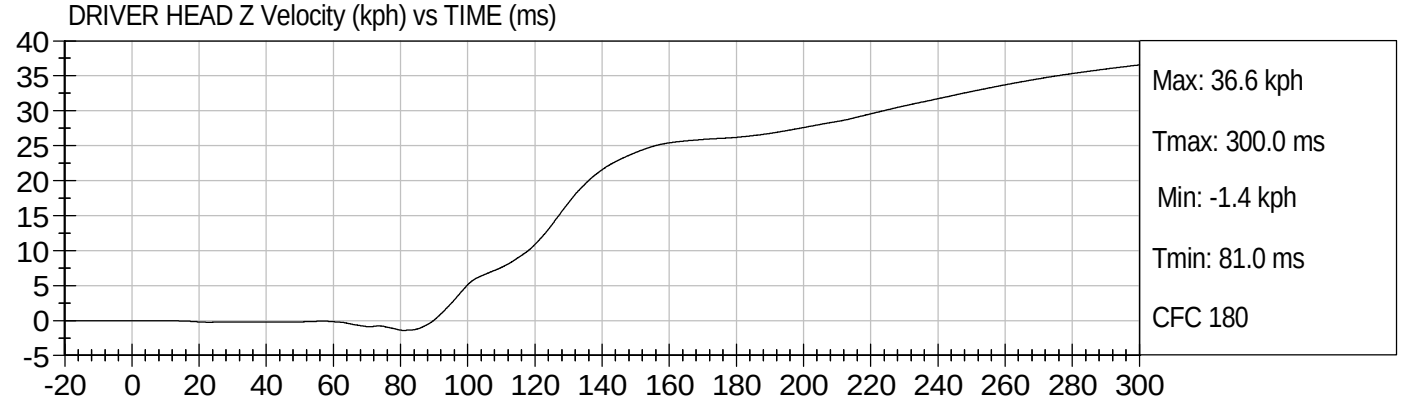
DRIVER HEAD X Velocity (kph) vs TIME (ms)



DRIVER HEAD Y Velocity (kph) vs TIME (ms)



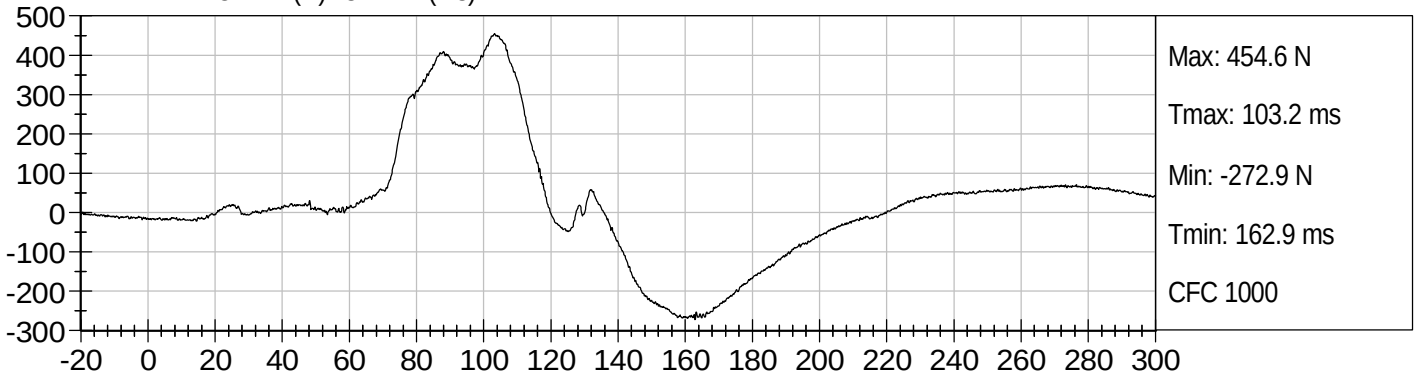
DRIVER HEAD Z Velocity (kph) vs TIME (ms)



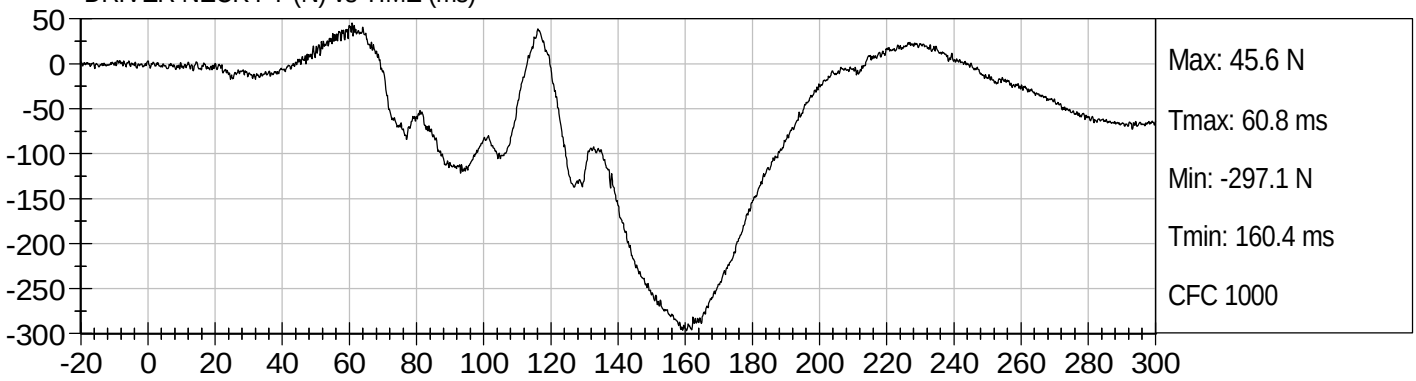
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

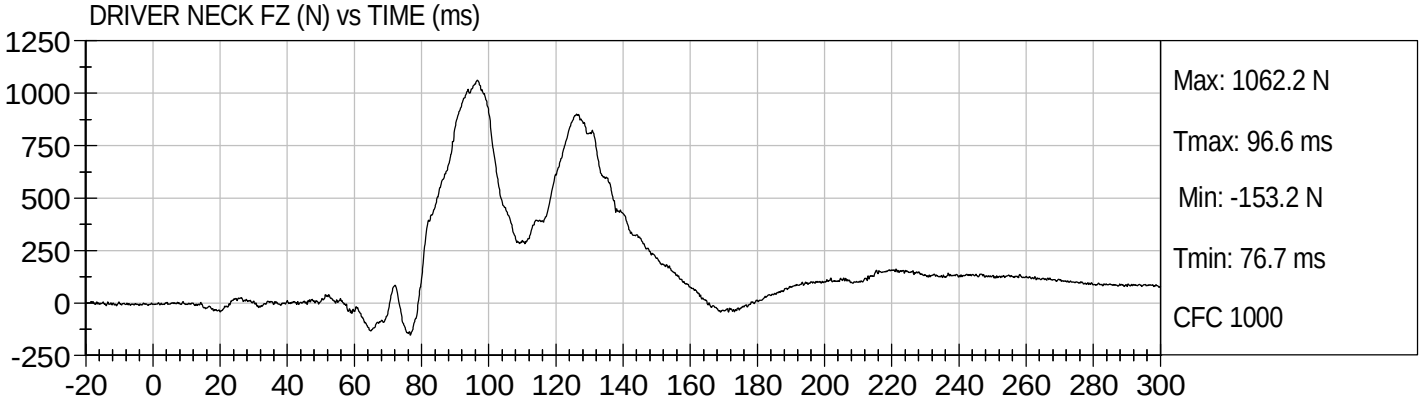
DRIVER NECK FX (N) vs TIME (ms)



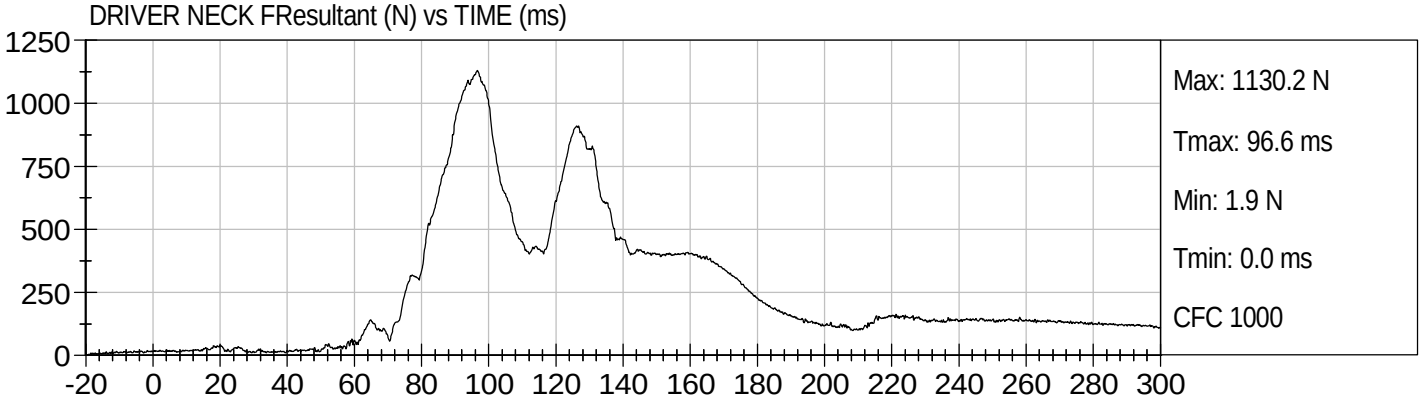
DRIVER NECK FY (N) vs TIME (ms)



DRIVER NECK FZ (N) vs TIME (ms)



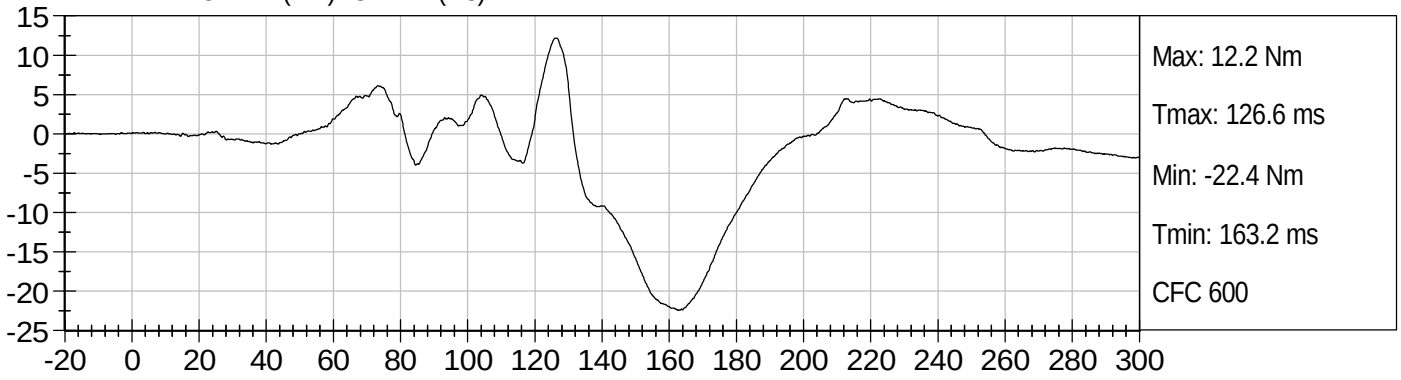
DRIVER NECK FResultant (N) vs TIME (ms)



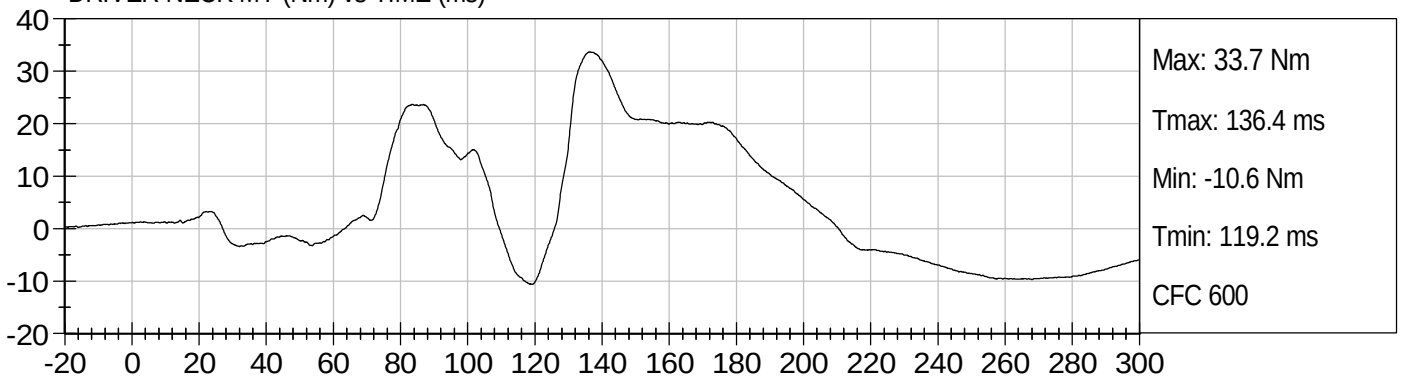
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

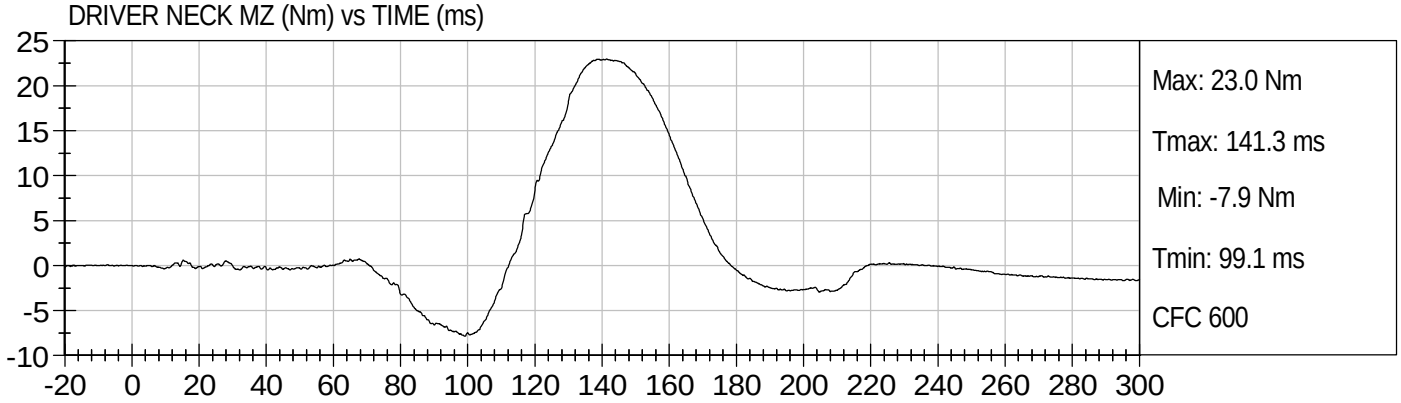
DRIVER NECK MX (Nm) vs TIME (ms)



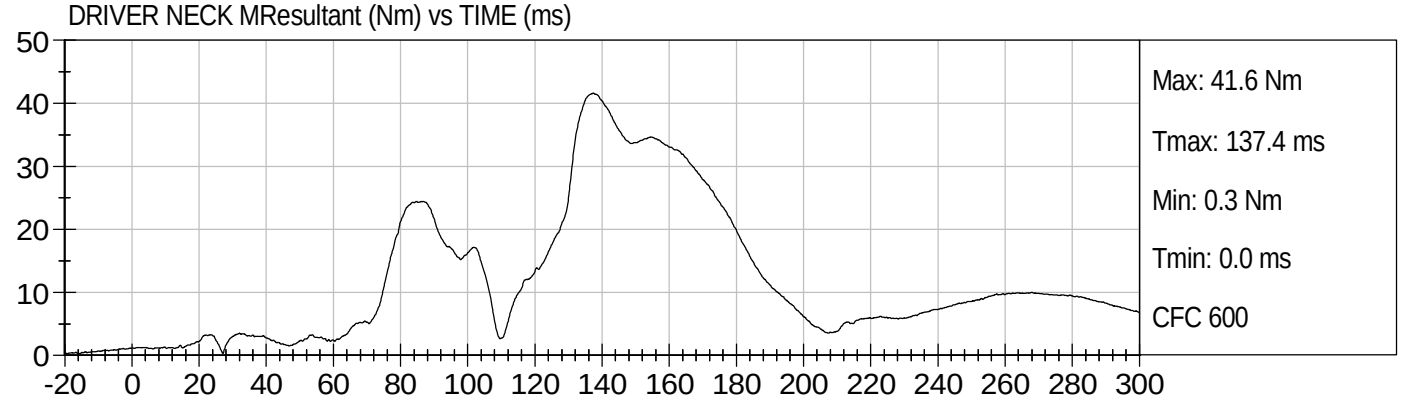
DRIVER NECK MY (Nm) vs TIME (ms)



DRIVER NECK MZ (Nm) vs TIME (ms)



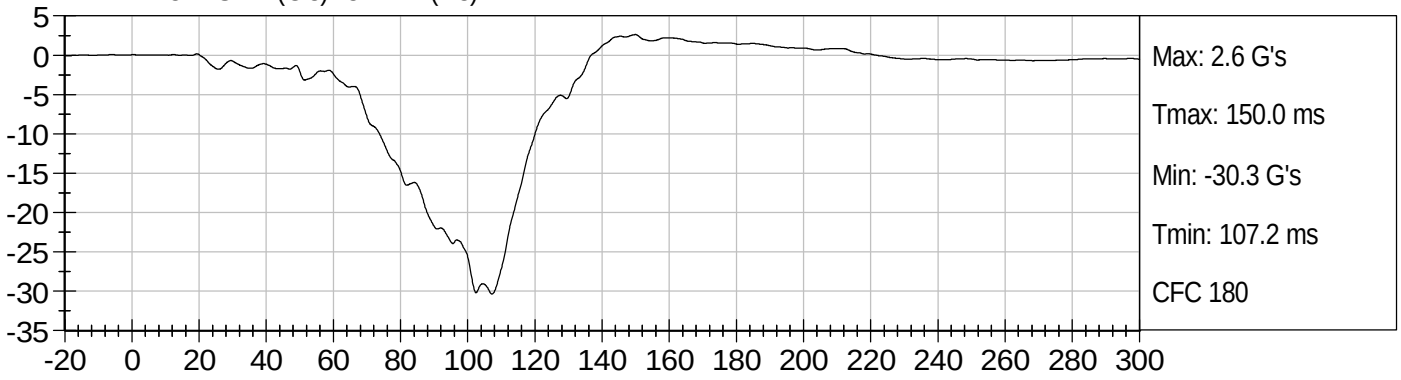
DRIVER NECK MResultant (Nm) vs TIME (ms)



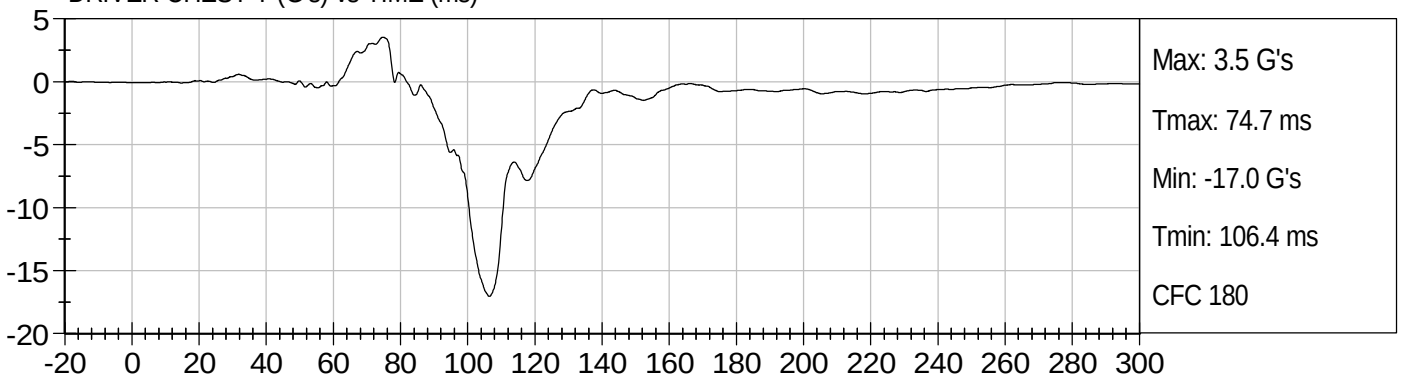
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

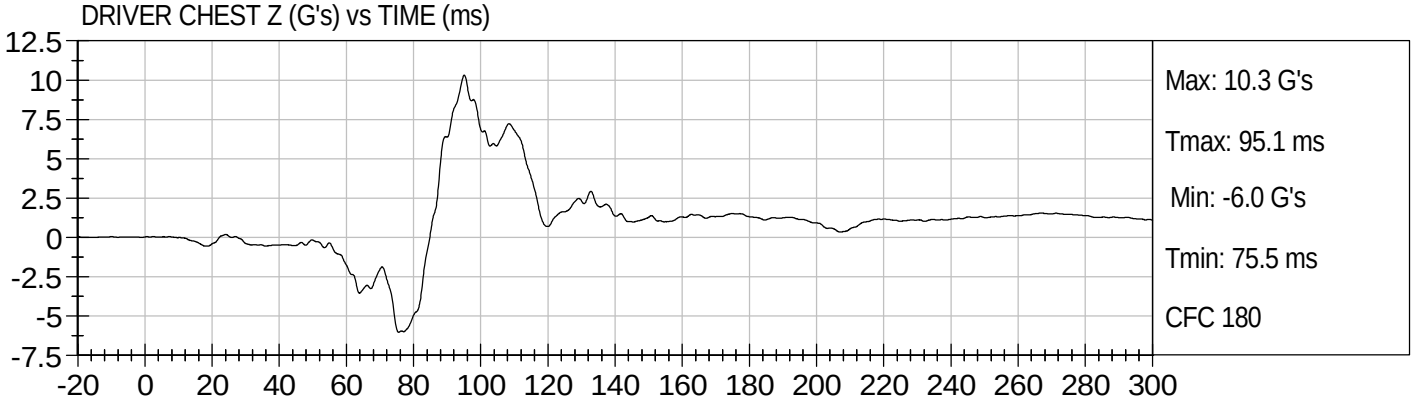
DRIVER CHEST X (G's) vs TIME (ms)



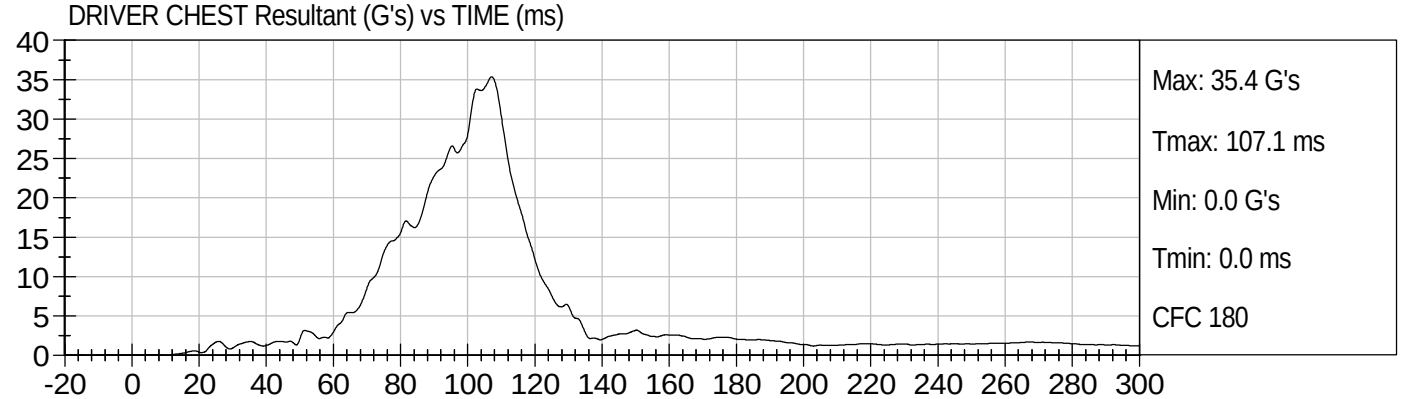
DRIVER CHEST Y (G's) vs TIME (ms)



DRIVER CHEST Z (G's) vs TIME (ms)



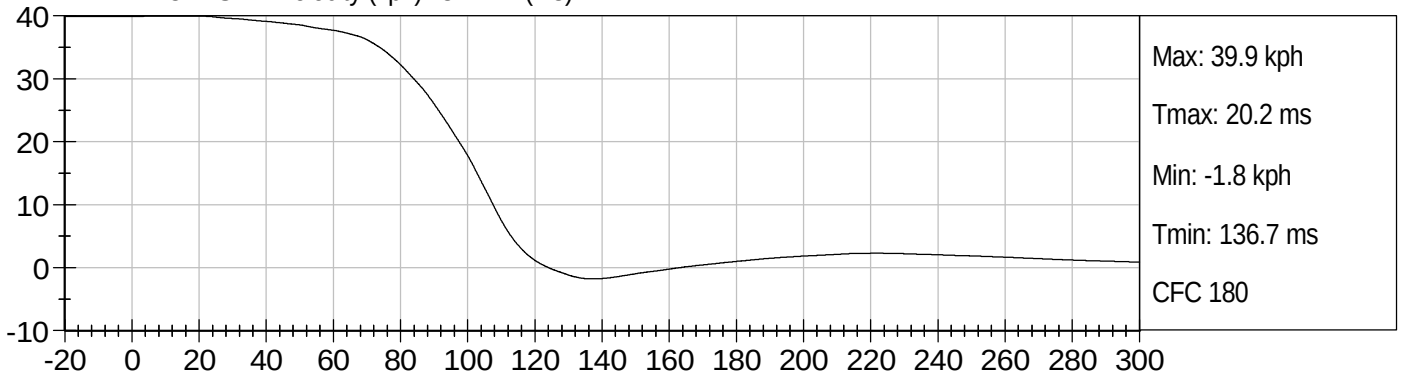
DRIVER CHEST Resultant (G's) vs TIME (ms)



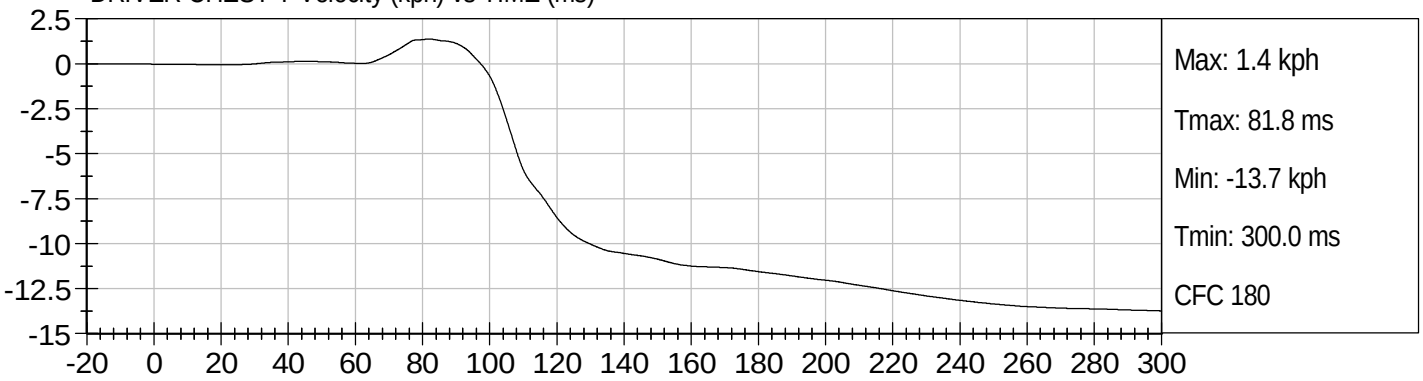
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

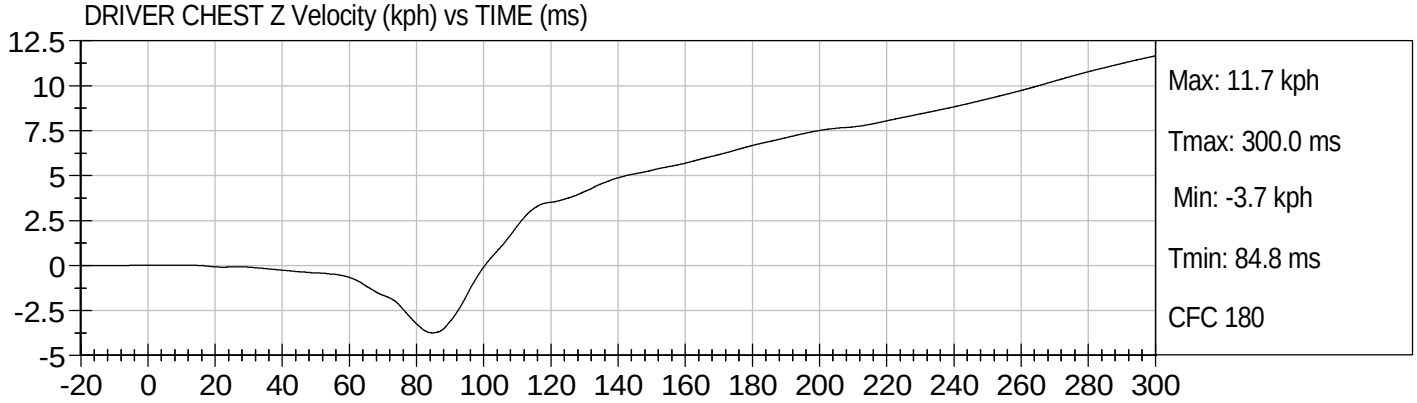
DRIVER CHEST X Velocity (kph) vs TIME (ms)



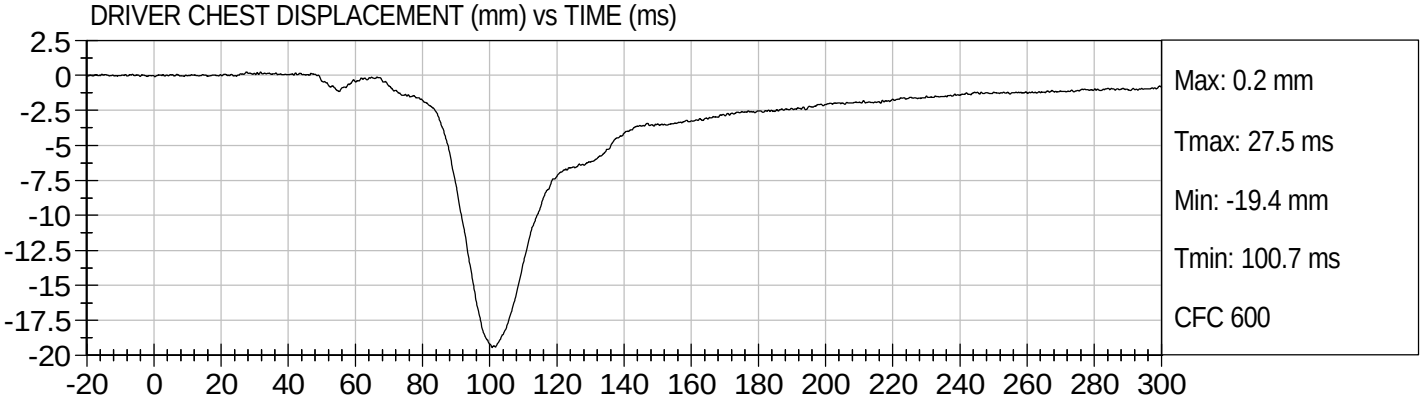
DRIVER CHEST Y Velocity (kph) vs TIME (ms)



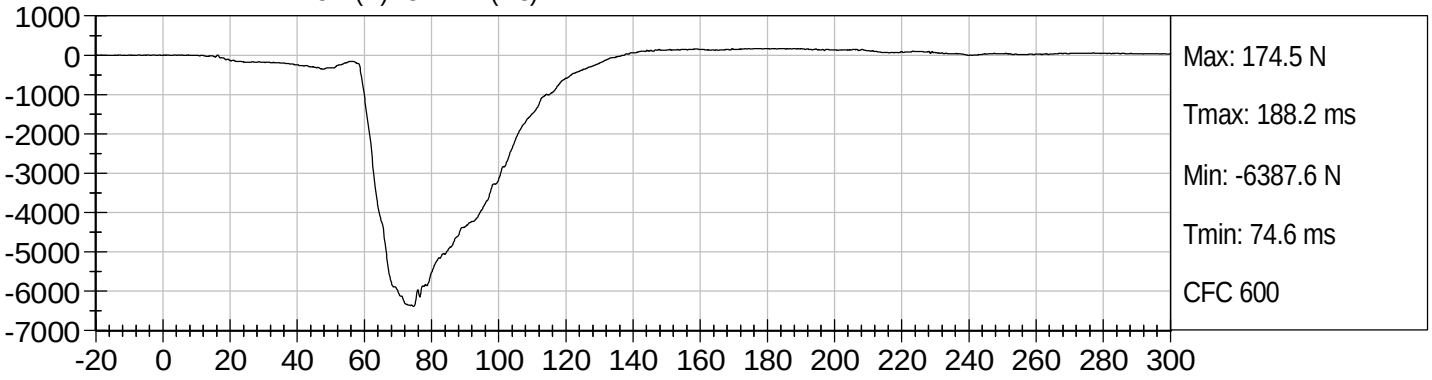
DRIVER CHEST Z Velocity (kph) vs TIME (ms)



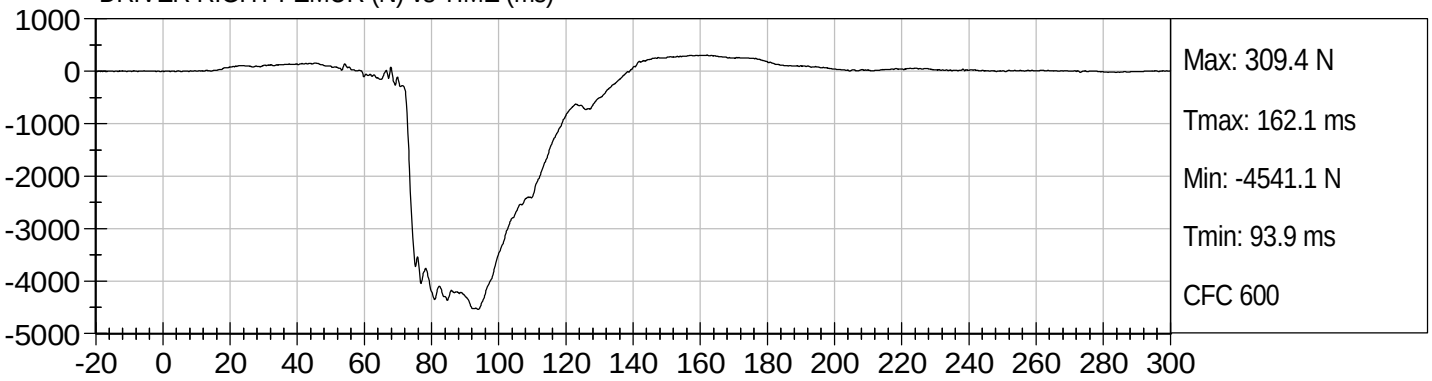
DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)



DRIVER LEFT FEMUR (N) vs TIME (ms)



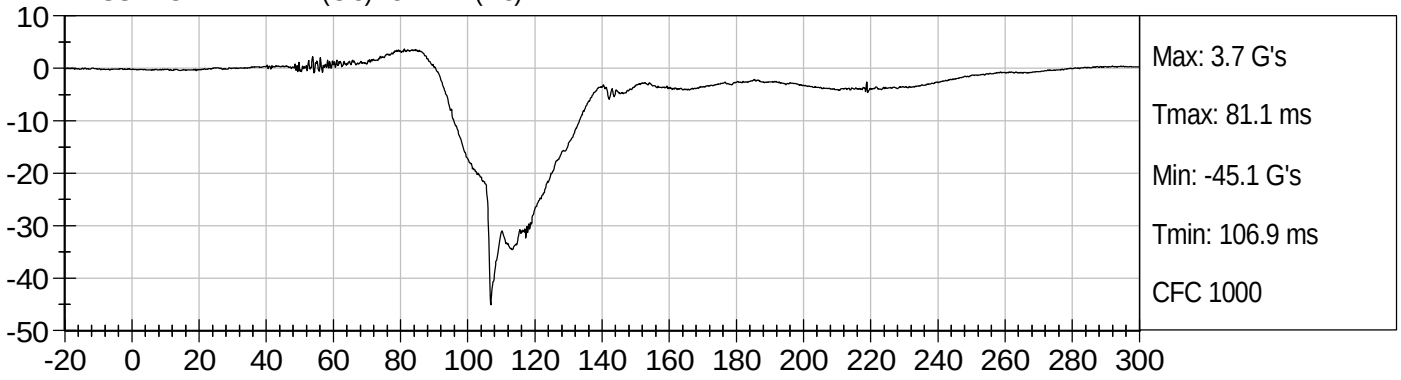
DRIVER RIGHT FEMUR (N) vs TIME (ms)



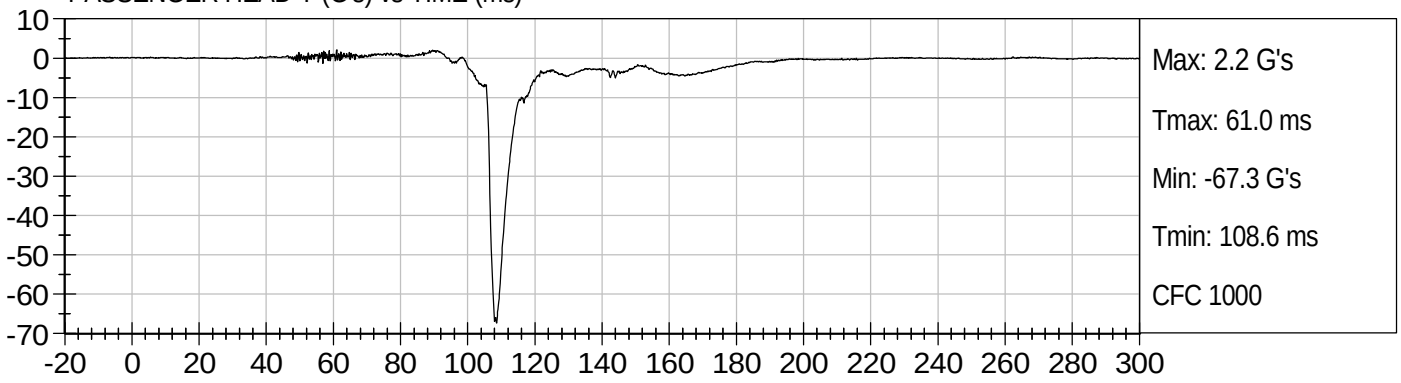
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

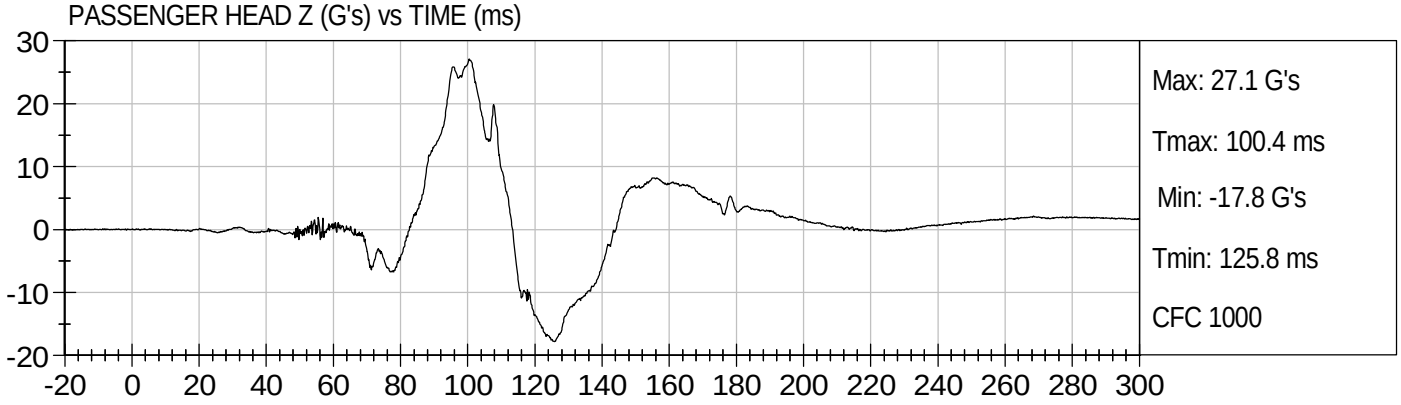
PASSENGER HEAD X (G's) vs TIME (ms)



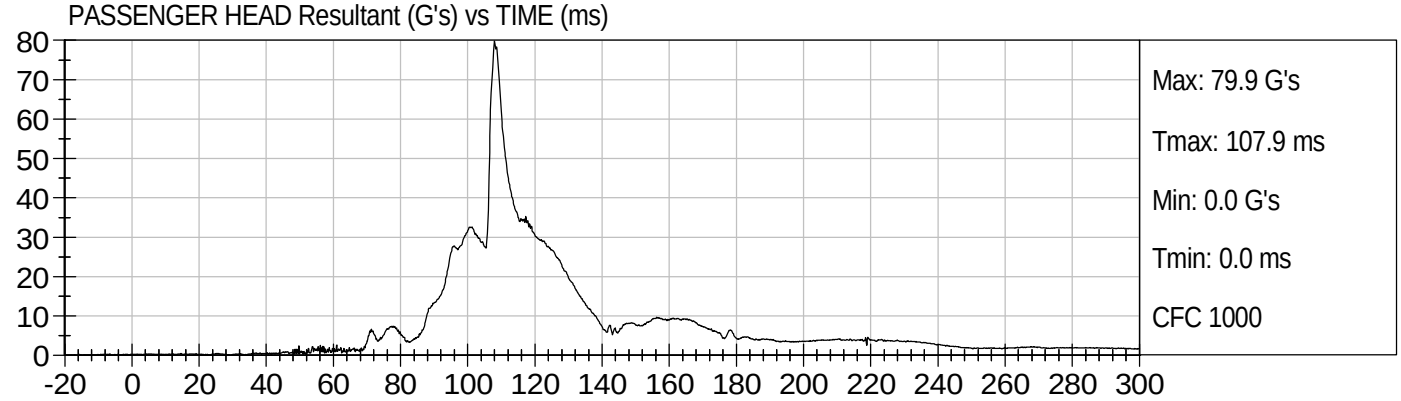
PASSENGER HEAD Y (G's) vs TIME (ms)



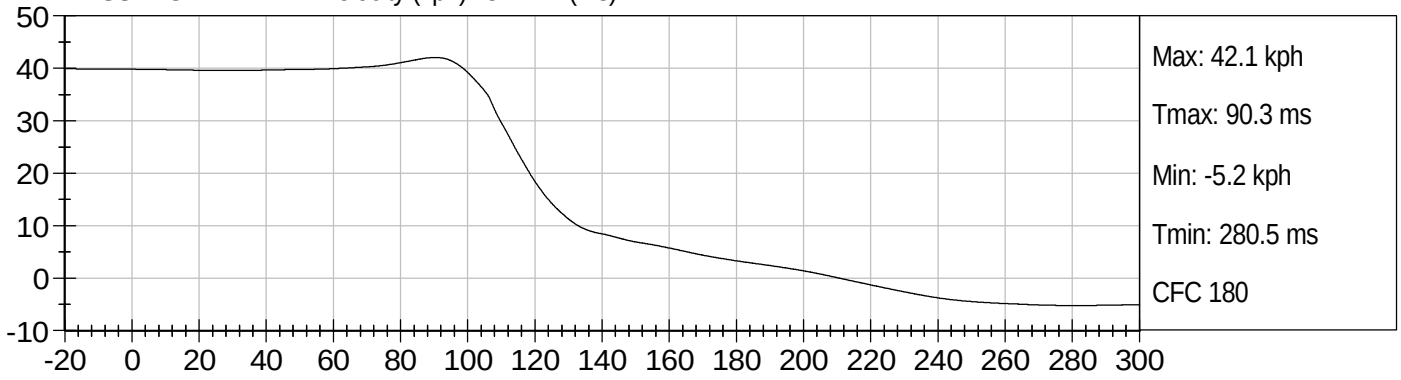
PASSENGER HEAD Z (G's) vs TIME (ms)



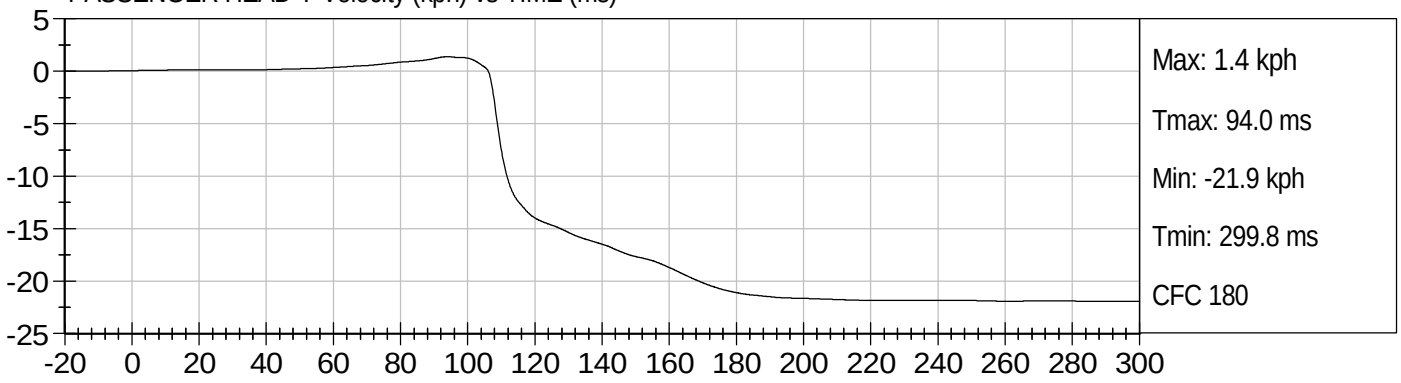
PASSENGER HEAD Resultant (G's) vs TIME (ms)



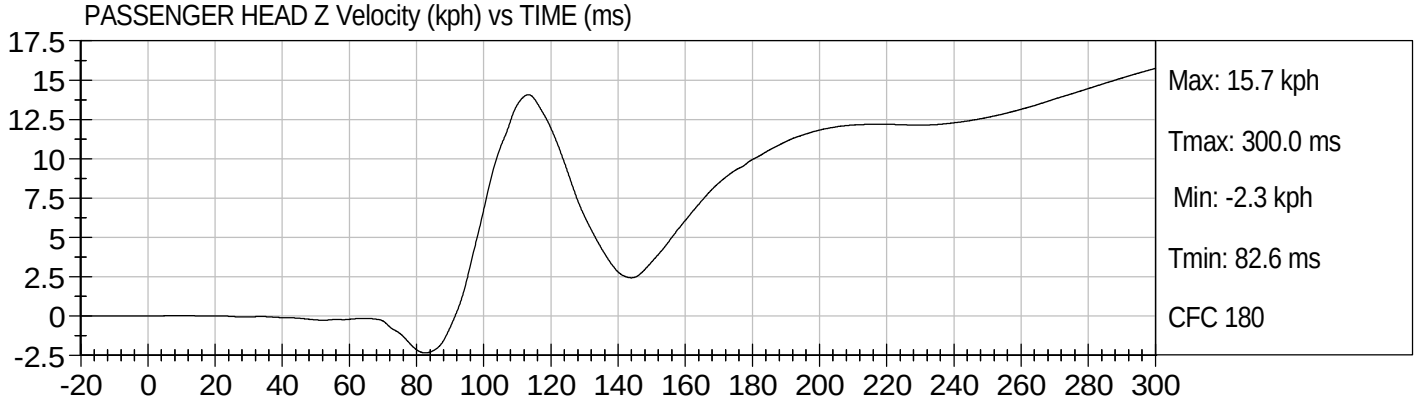
PASSENGER HEAD X Velocity (kph) vs TIME (ms)



PASSENGER HEAD Y Velocity (kph) vs TIME (ms)



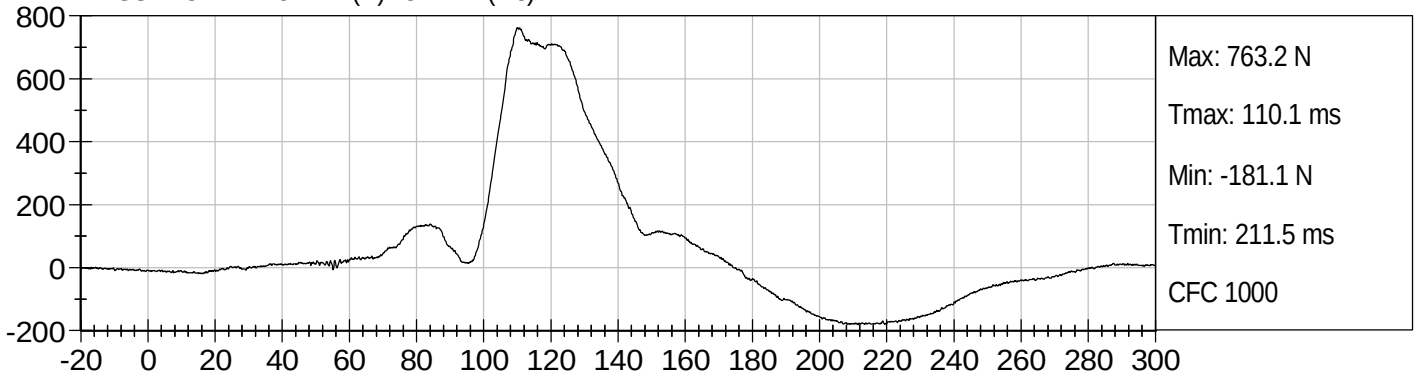
PASSENGER HEAD Z Velocity (kph) vs TIME (ms)



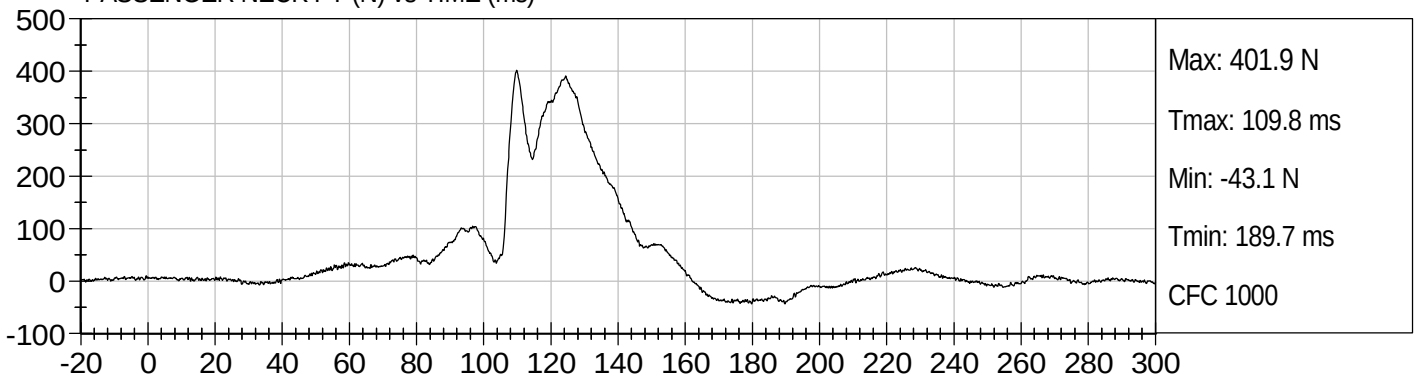
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

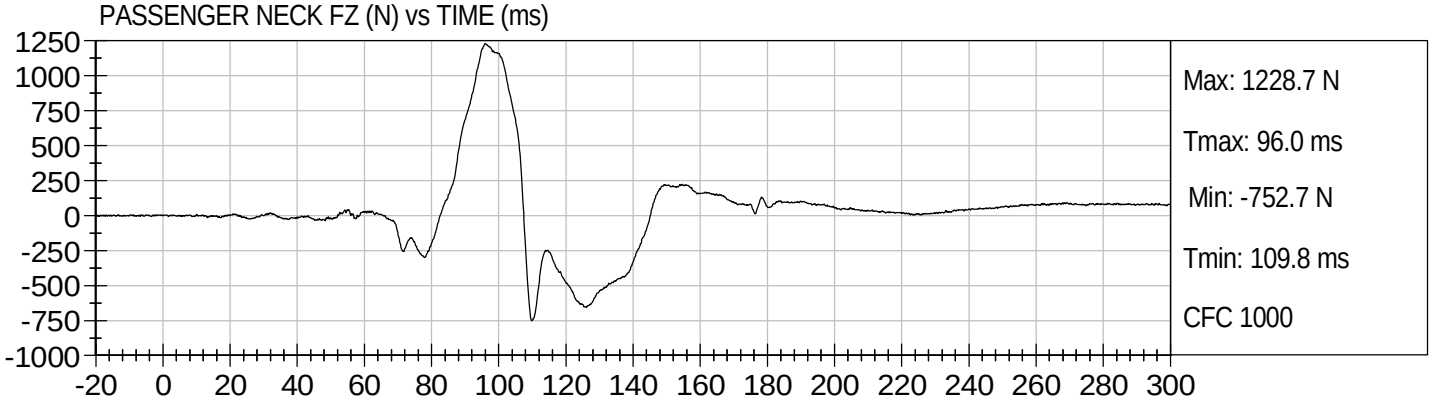
PASSENGER NECK FX (N) vs TIME (ms)



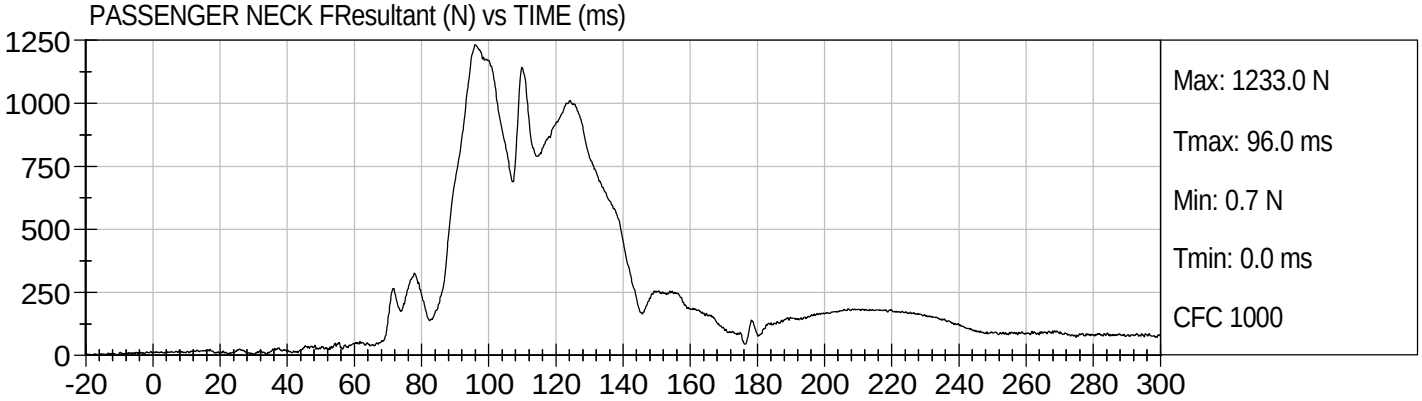
PASSENGER NECK FY (N) vs TIME (ms)



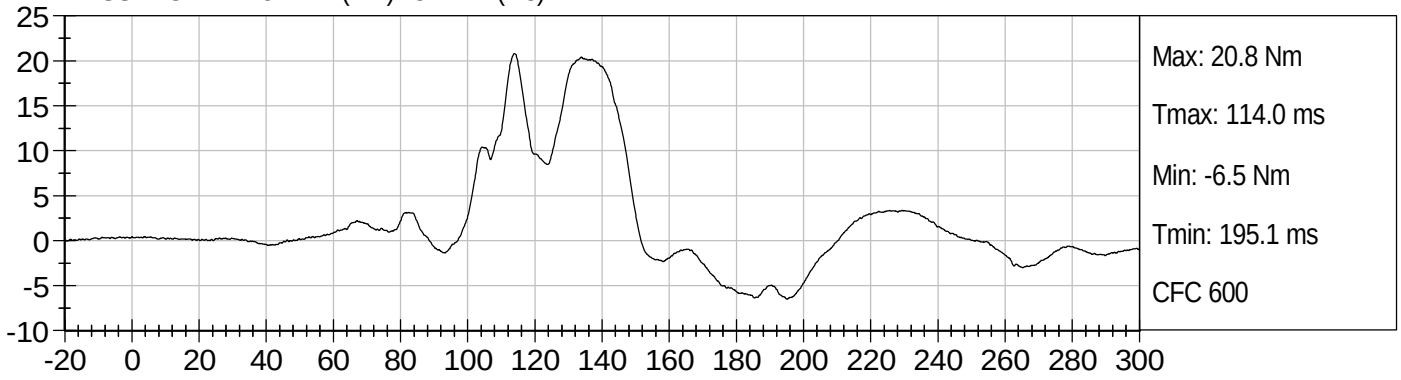
PASSENGER NECK FZ (N) vs TIME (ms)



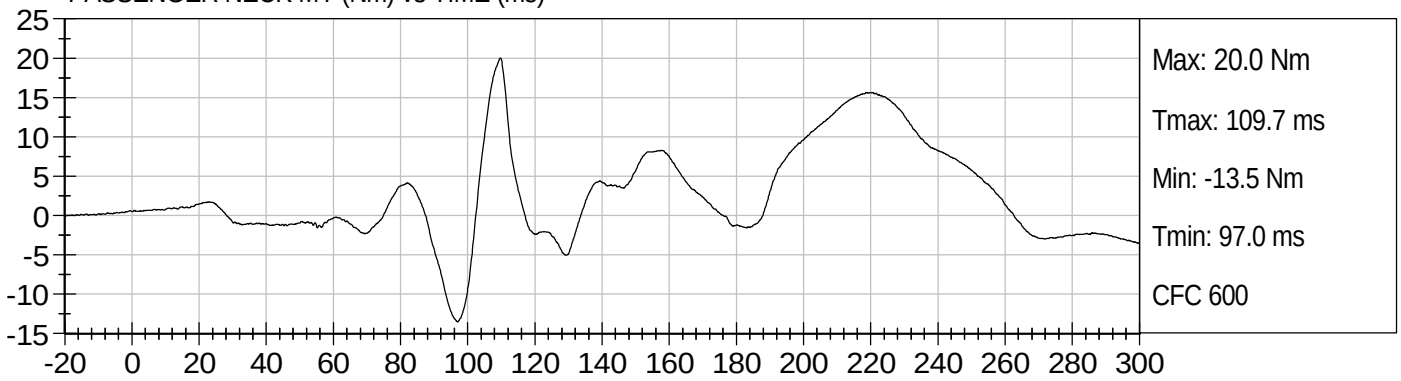
PASSENGER NECK FResultant (N) vs TIME (ms)



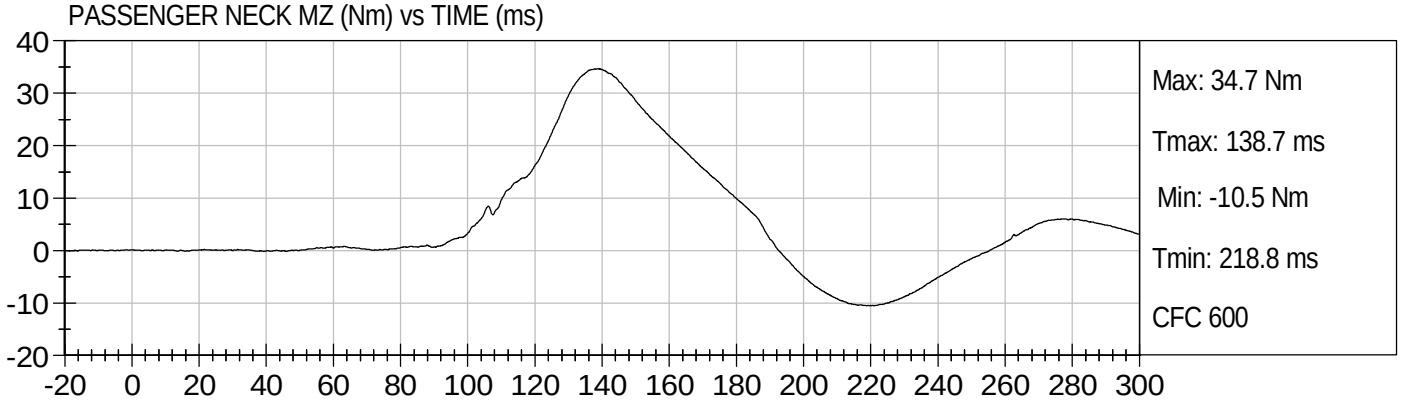
PASSENGER NECK MX (Nm) vs TIME (ms)



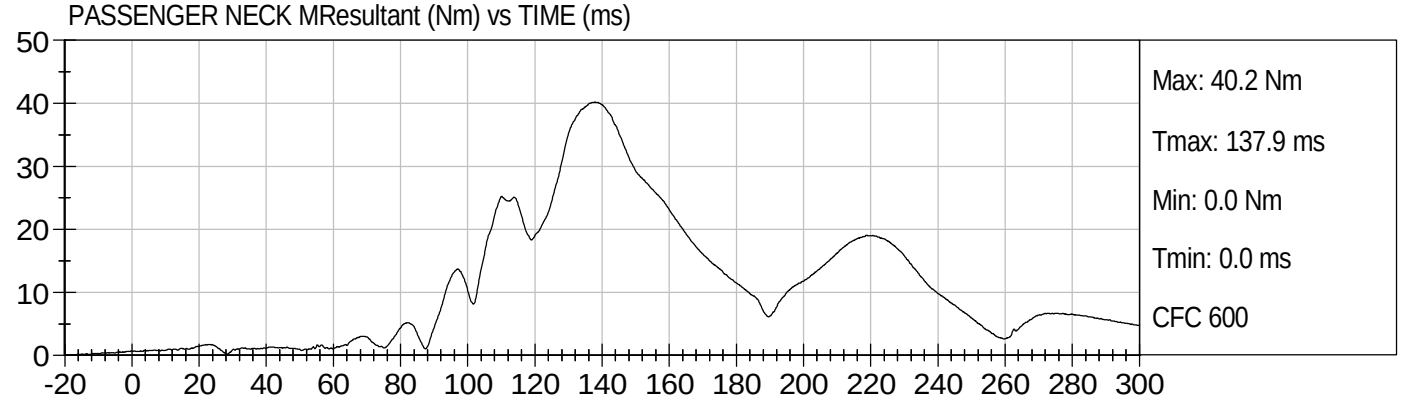
PASSENGER NECK MY (Nm) vs TIME (ms)



PASSENGER NECK MZ (Nm) vs TIME (ms)



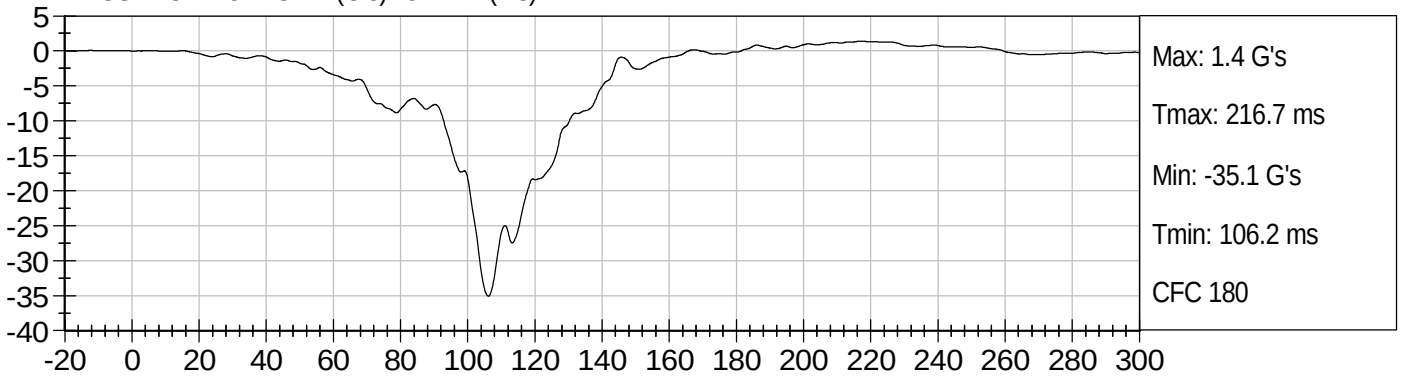
PASSENGER NECK MResultant (Nm) vs TIME (ms)



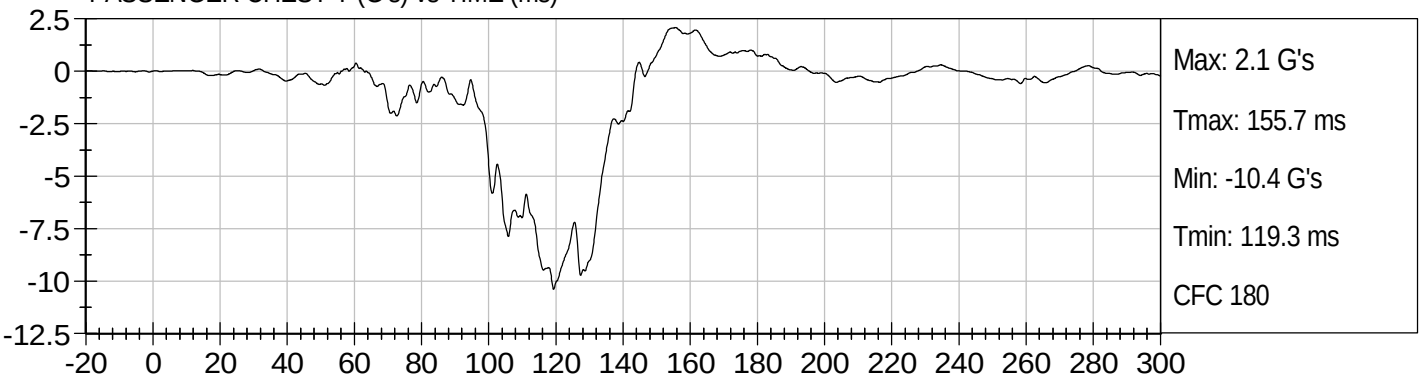
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

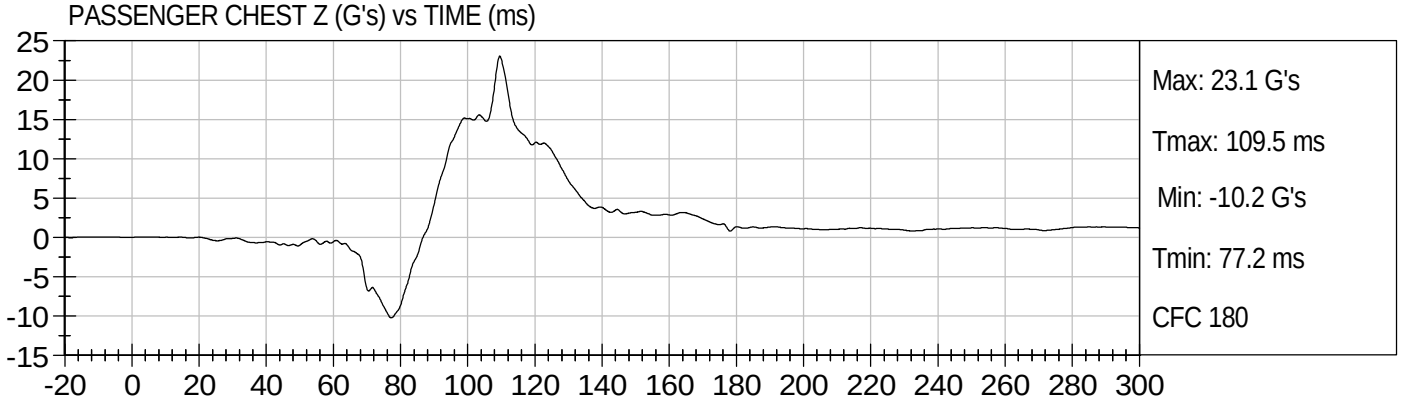
PASSENGER CHEST X (G's) vs TIME (ms)



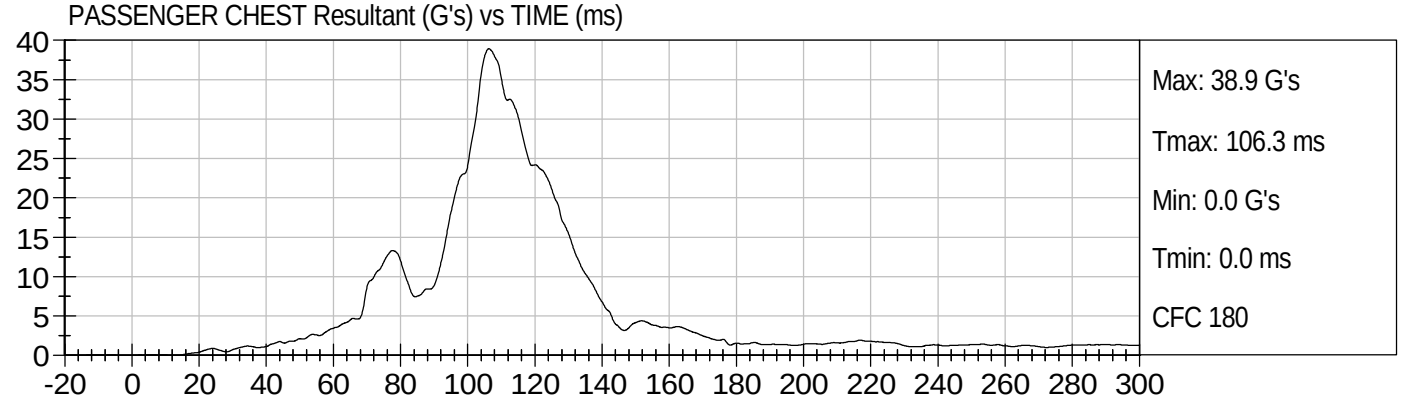
PASSENGER CHEST Y (G's) vs TIME (ms)



PASSENGER CHEST Z (G's) vs TIME (ms)



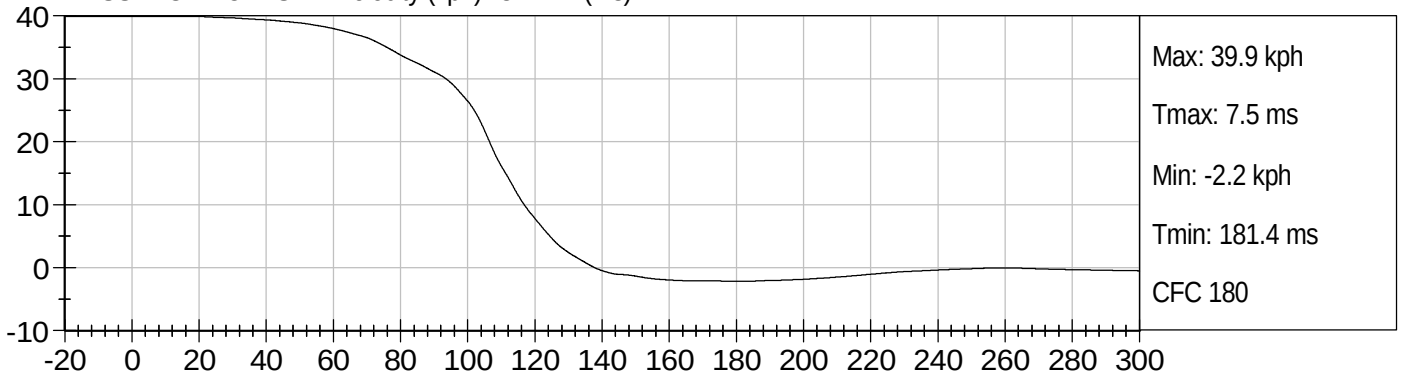
PASSENGER CHEST Resultant (G's) vs TIME (ms)



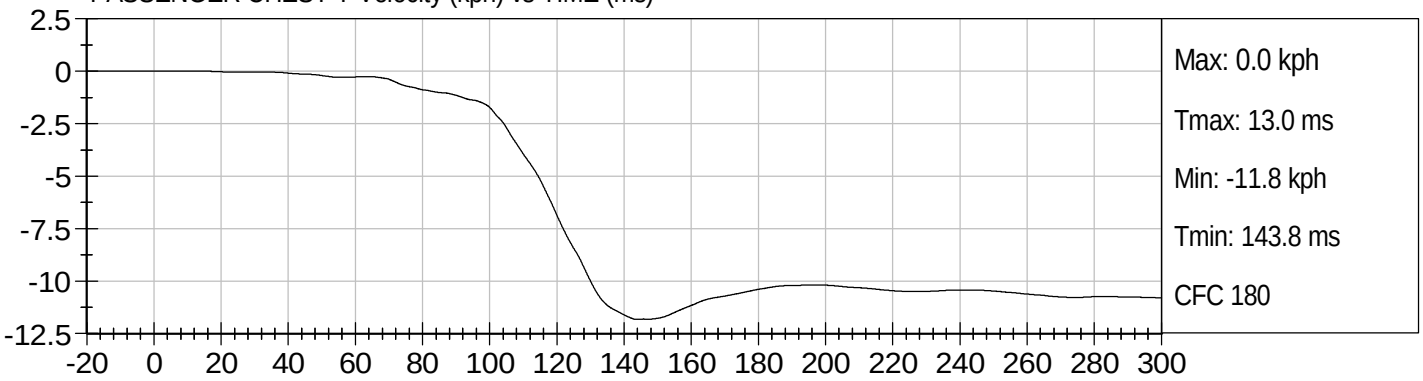
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

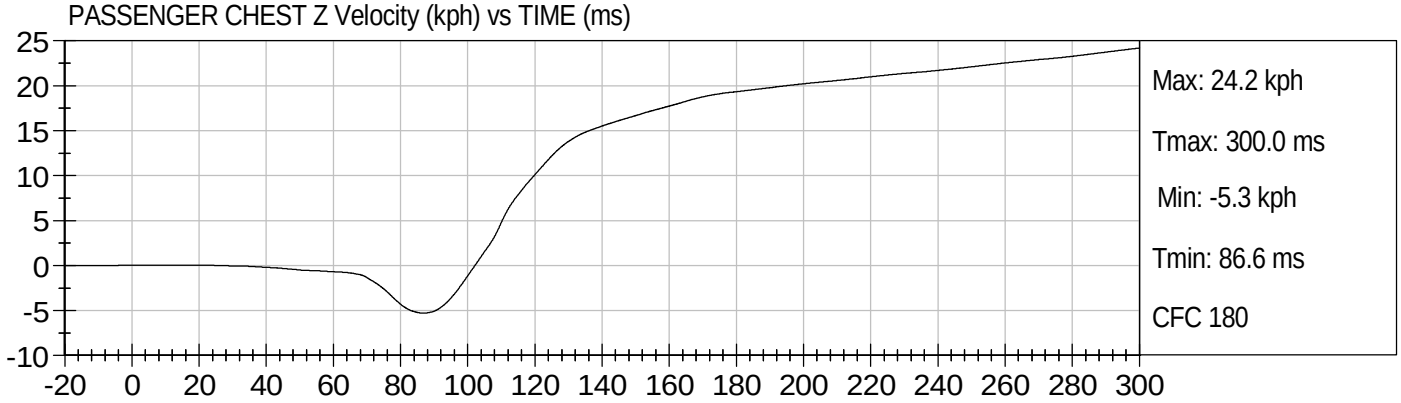
PASSENGER CHEST X Velocity (kph) vs TIME (ms)



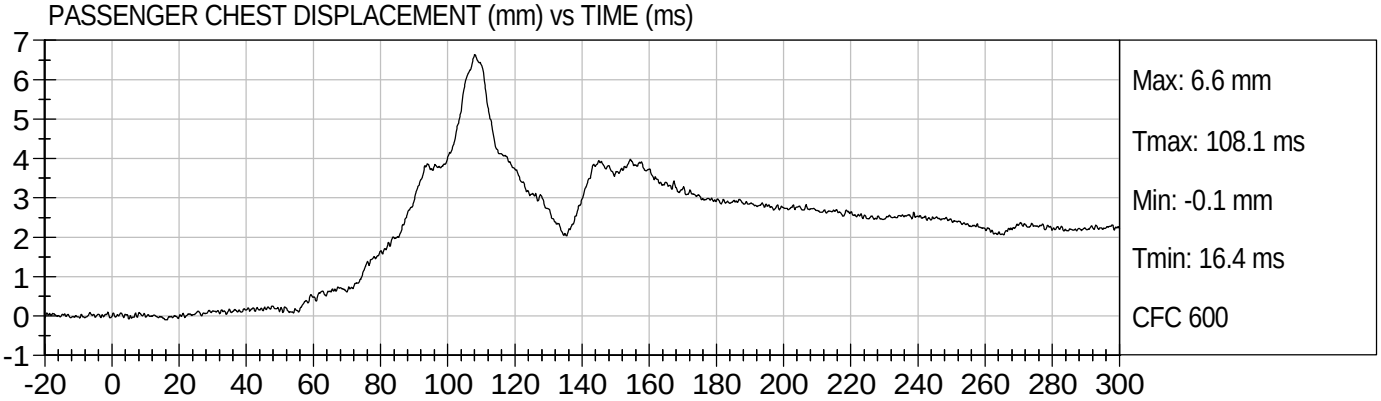
PASSENGER CHEST Y Velocity (kph) vs TIME (ms)



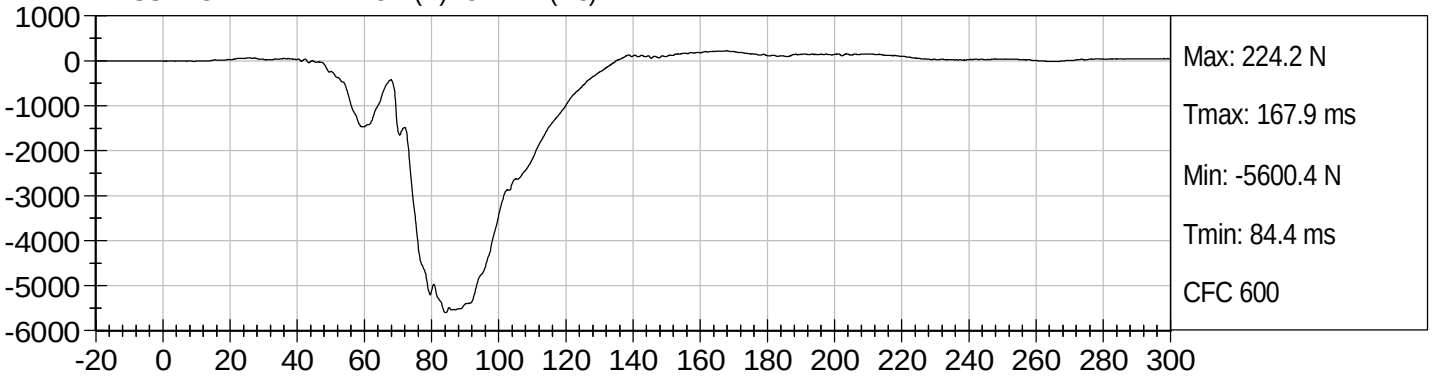
PASSENGER CHEST Z Velocity (kph) vs TIME (ms)



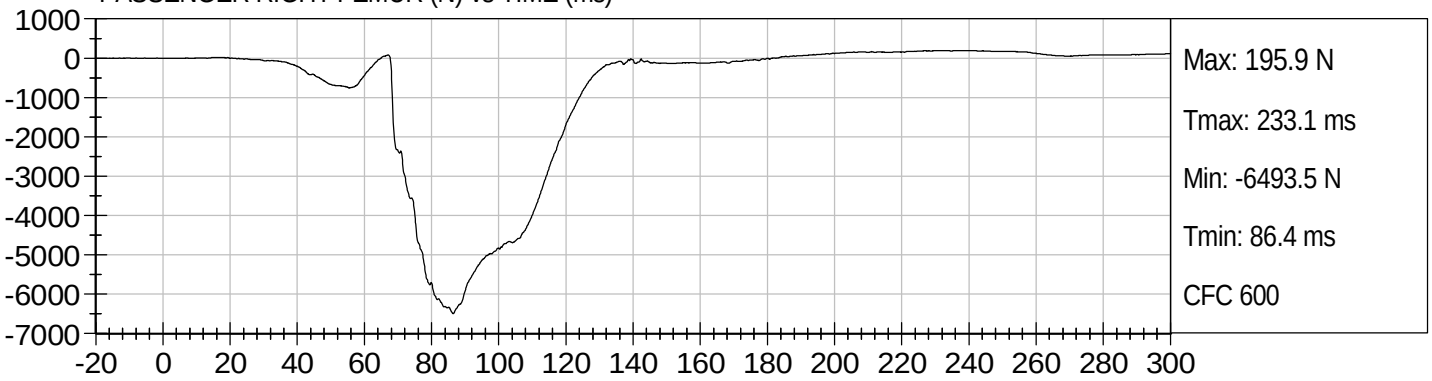
PASSENGER CHEST DISPLACEMENT (mm) vs TIME (ms)



PASSENGER LEFT FEMUR (N) vs TIME (ms)



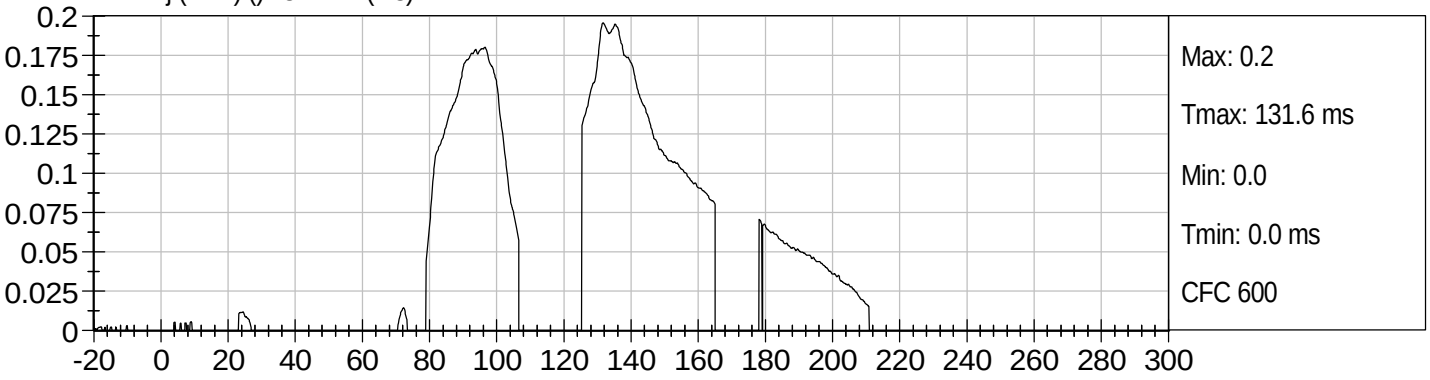
PASSENGER RIGHT FEMUR (N) vs TIME (ms)



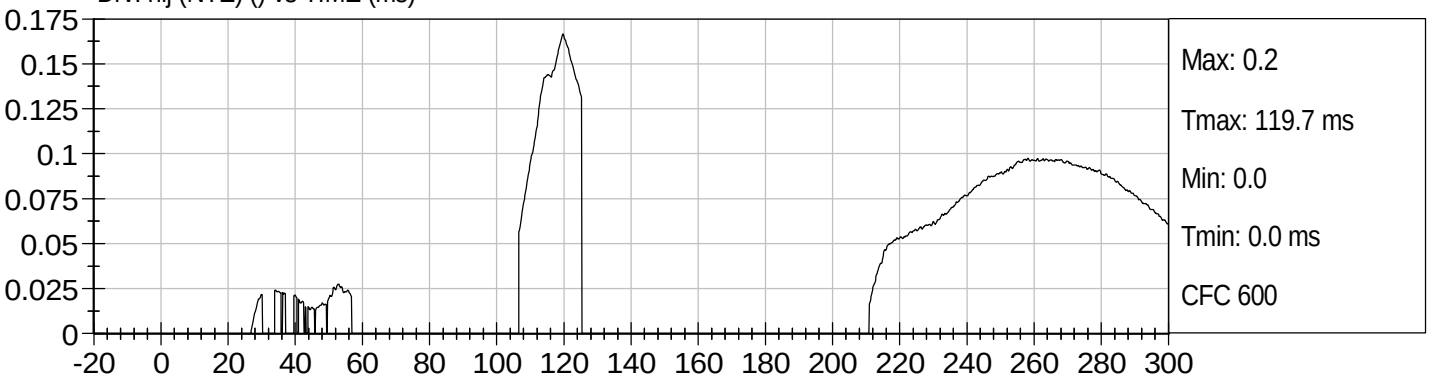
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

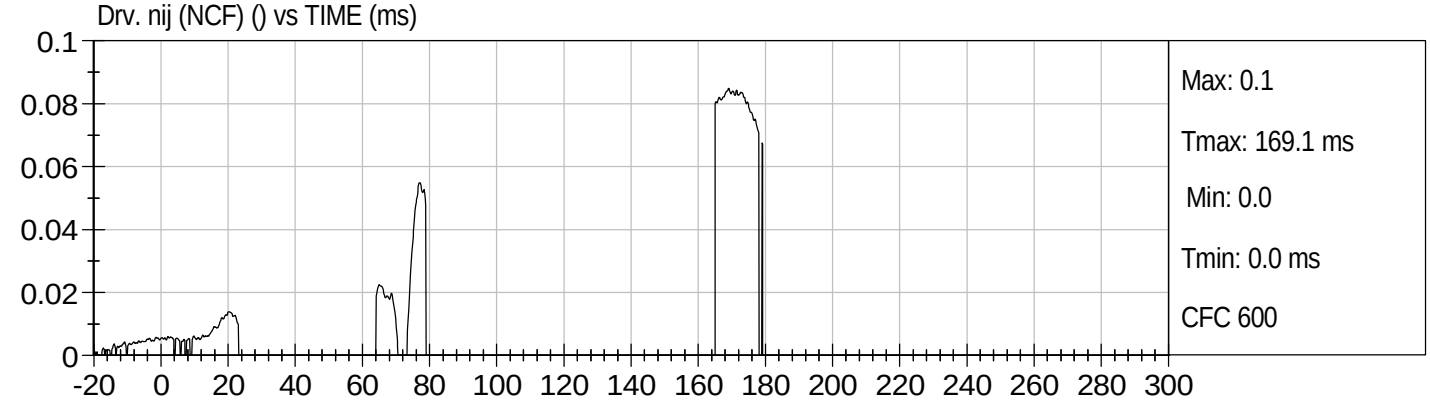
Drv. nij (NTF) () vs TIME (ms)



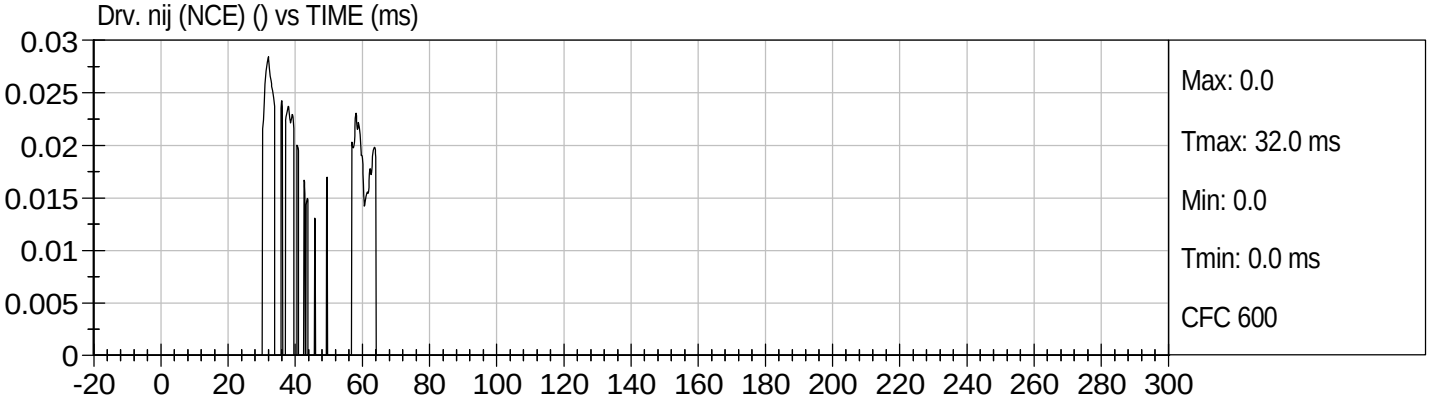
Drv. nij (NTE) () vs TIME (ms)

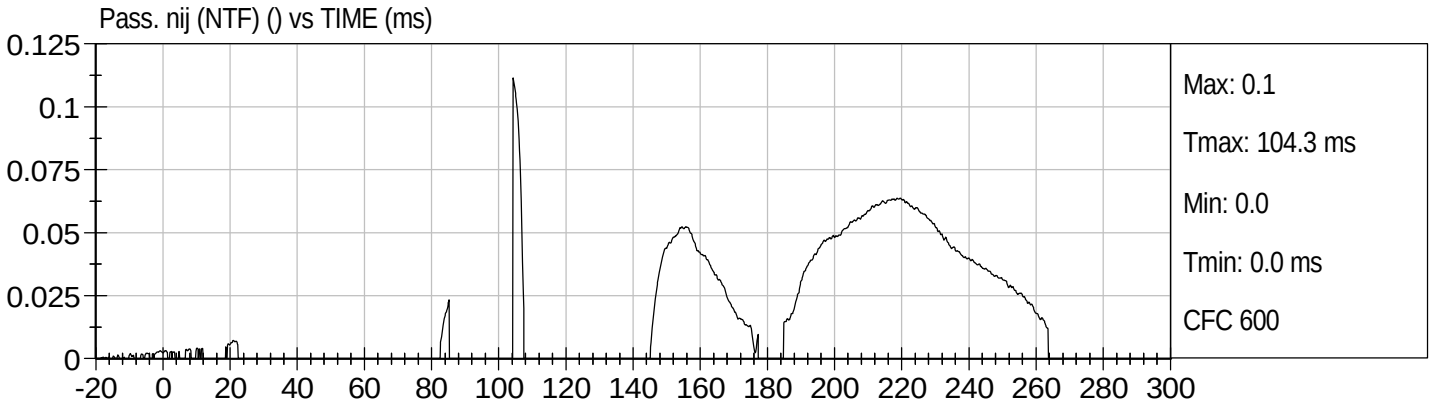


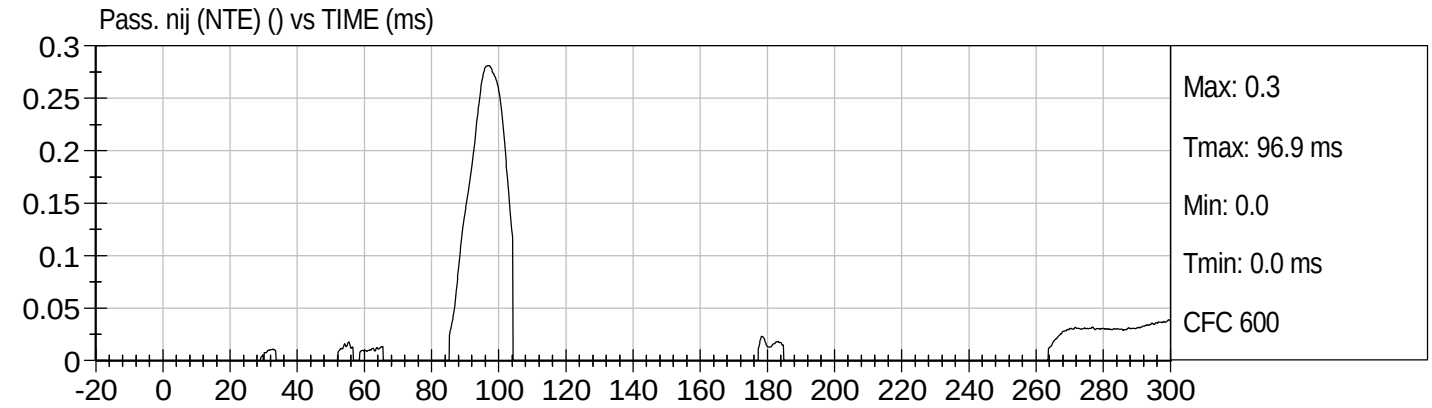
Drv. nij (NCF) () vs TIME (ms)

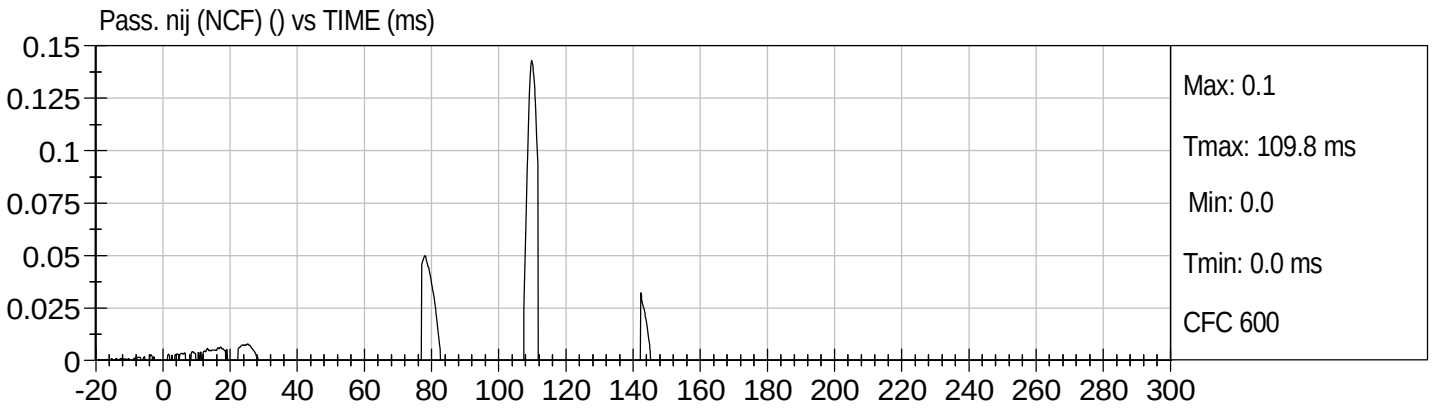


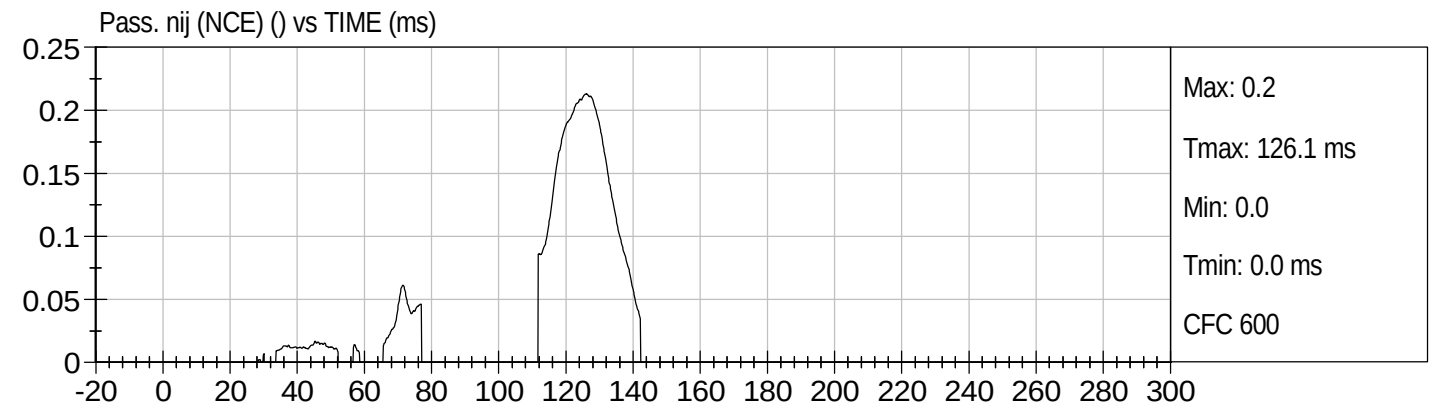
Drv. nij (NCE) () vs TIME (ms)



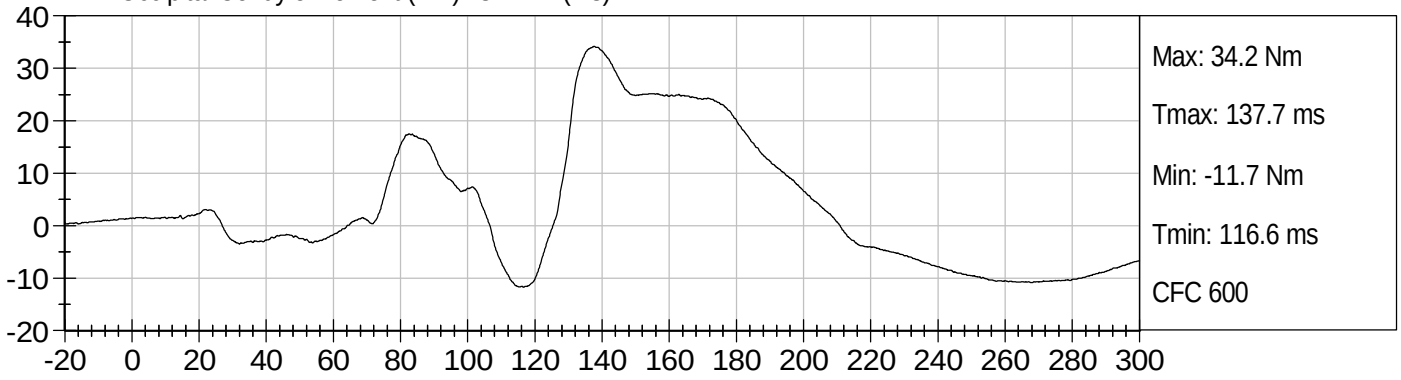

Pass. nij (NTF) () vs TIME (ms)
0.125
0.1
0.075
0.05
0.025
0
-20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Max: 0.1
Tmax: 104.3 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600


Pass. nij (NTE) () vs TIME (ms)
0.3
0.25
0.2
0.15
0.1
0.05
0
-20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Max: 0.3
Tmax: 96.9 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

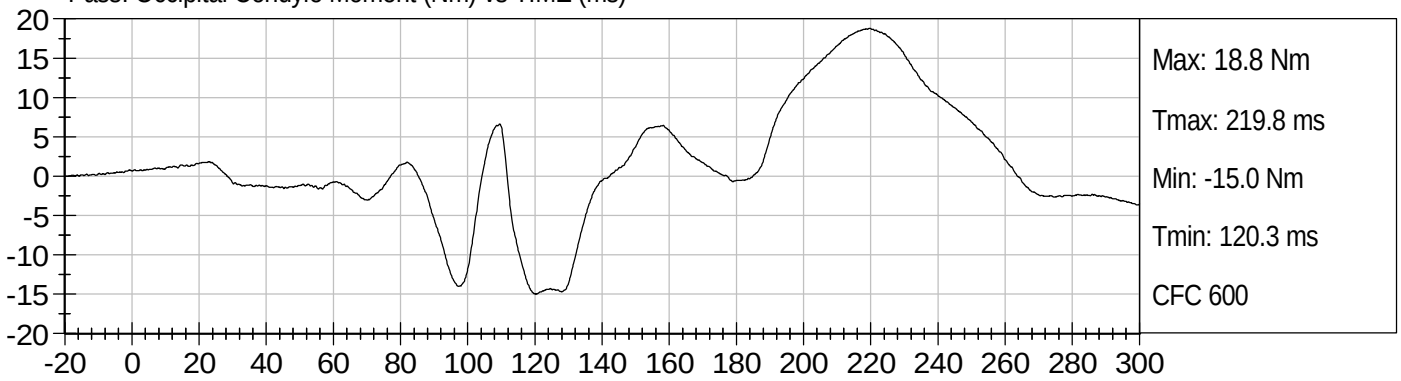

Pass. nij (NCF) () vs TIME (ms)
0.15
0.125
0.1
0.075
0.05
0.025
0
-20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Max: 0.1
Tmax: 109.8 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600


Pass. nij (NCE) () vs TIME (ms)
0.25
0.2
0.15
0.1
0.05
0
-20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Max: 0.2
Tmax: 126.1 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

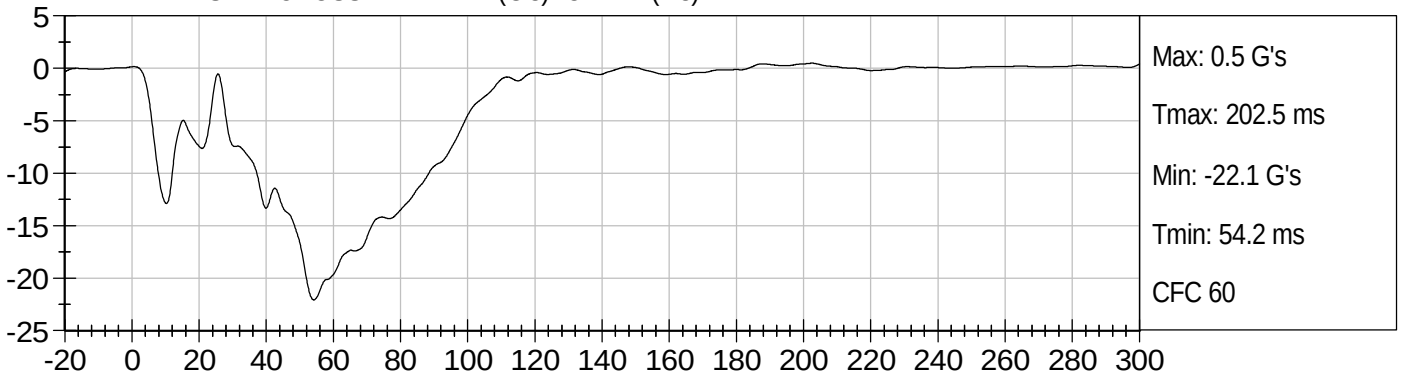
Drv. Occipital Condyle Moment (Nm) vs TIME (ms)



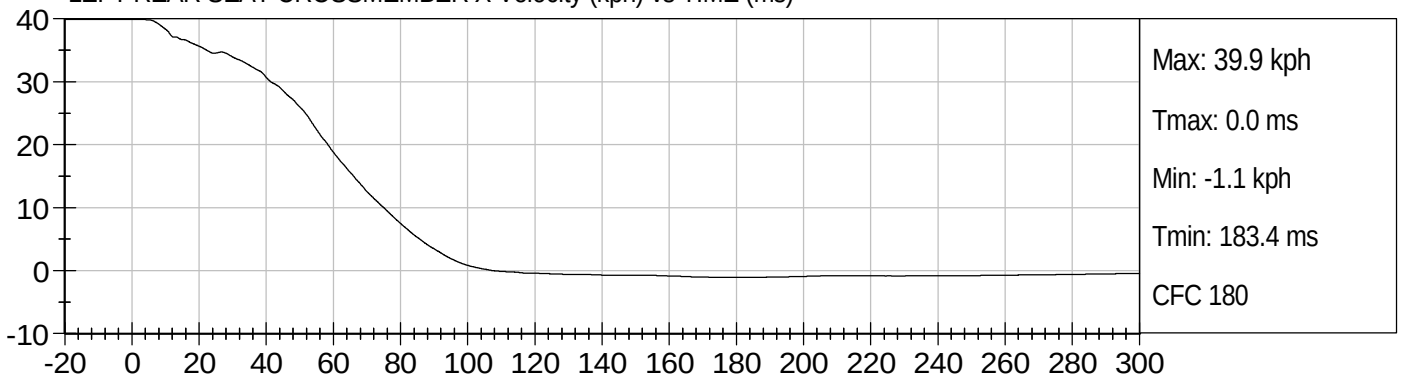
Pass. Occipital Condyle Moment (Nm) vs TIME (ms)



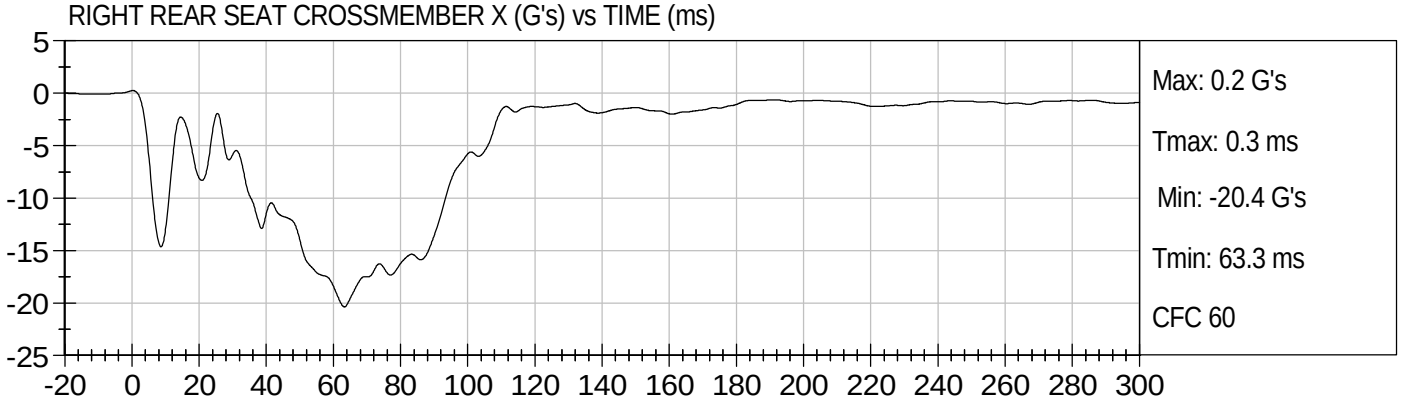
LEFT REAR SEAT CROSSMEMBER X (G's) vs TIME (ms)



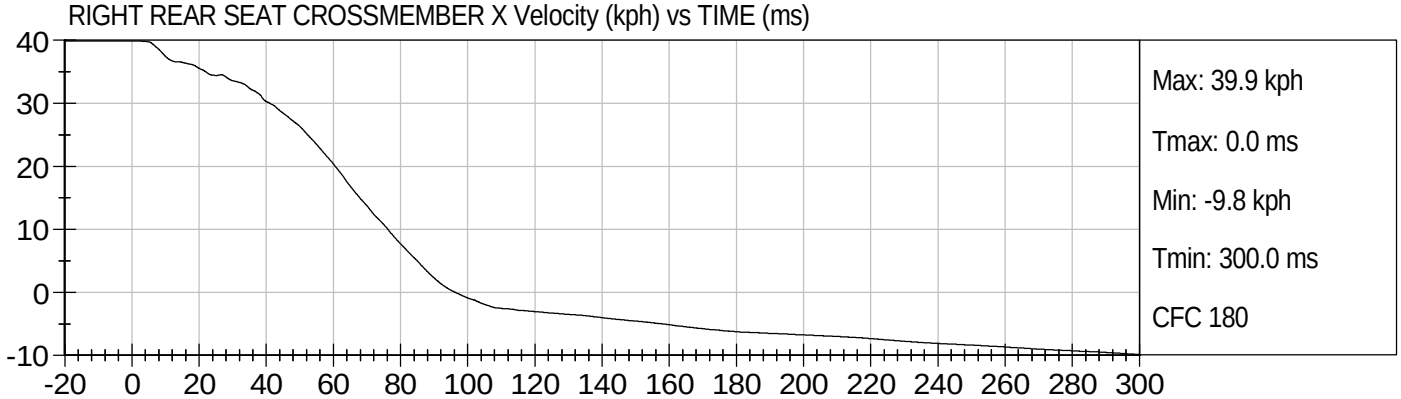
LEFT REAR SEAT CROSSMEMBER X Velocity (kph) vs TIME (ms)



RIGHT REAR SEAT CROSSMEMBER X (G's) vs TIME (ms)



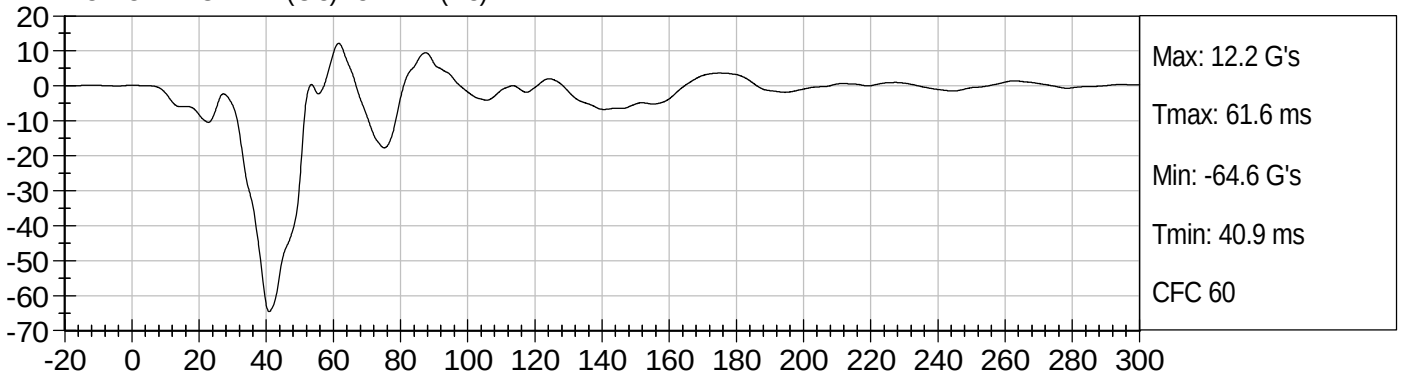
RIGHT REAR SEAT CROSSMEMBER X Velocity (kph) vs TIME (ms)



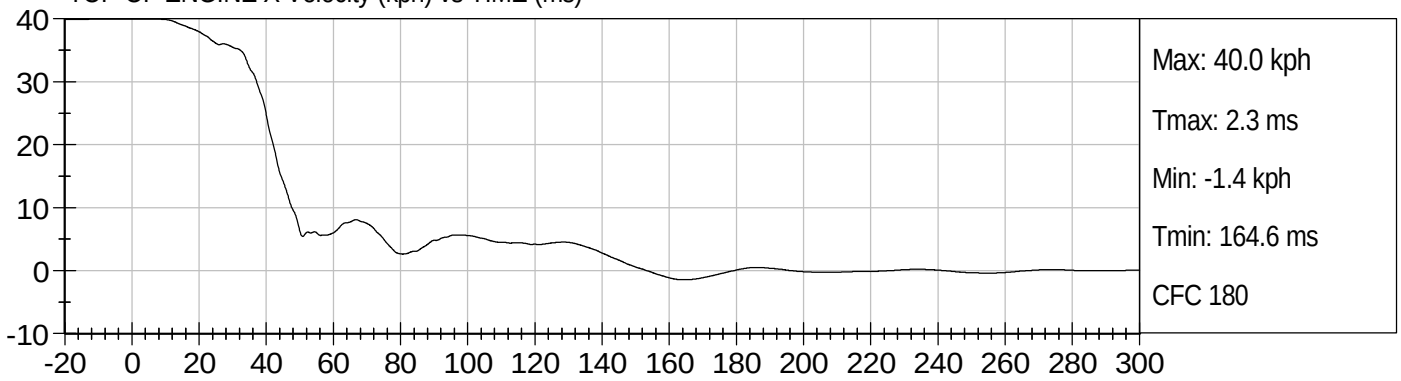
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

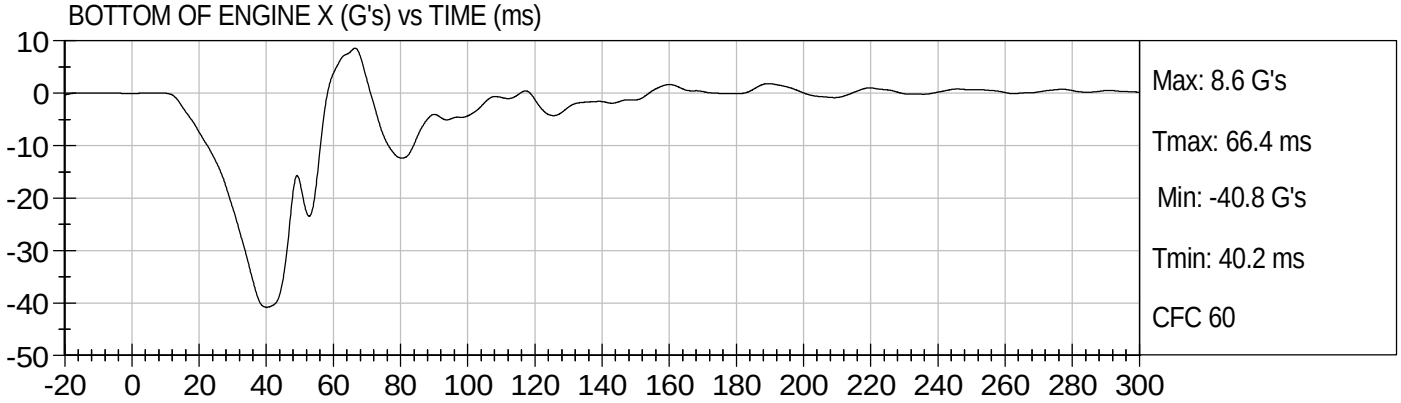
TOP OF ENGINE X (G's) vs TIME (ms)



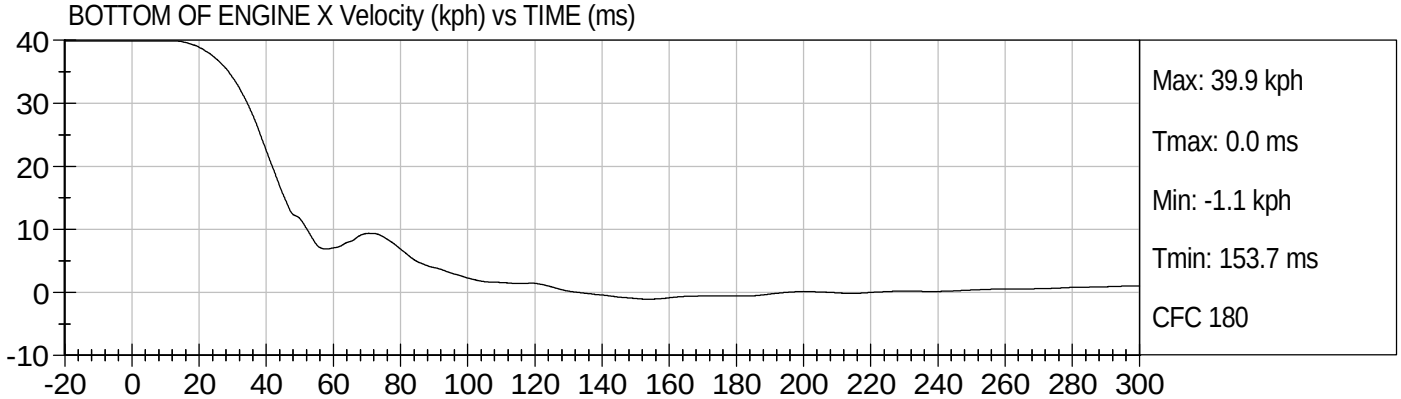
TOP OF ENGINE X Velocity (kph) vs TIME (ms)



BOTTOM OF ENGINE X (G's) vs TIME (ms)



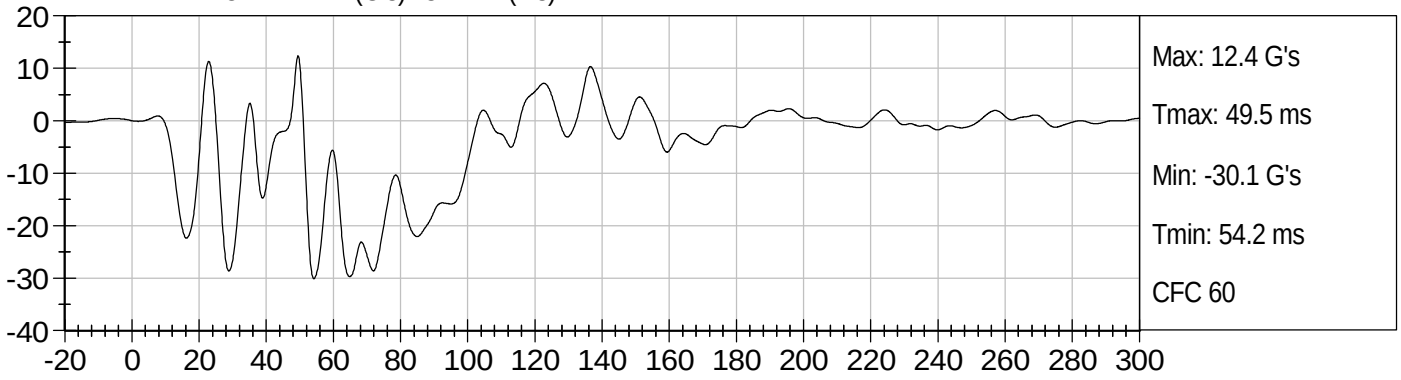
BOTTOM OF ENGINE X Velocity (kph) vs TIME (ms)



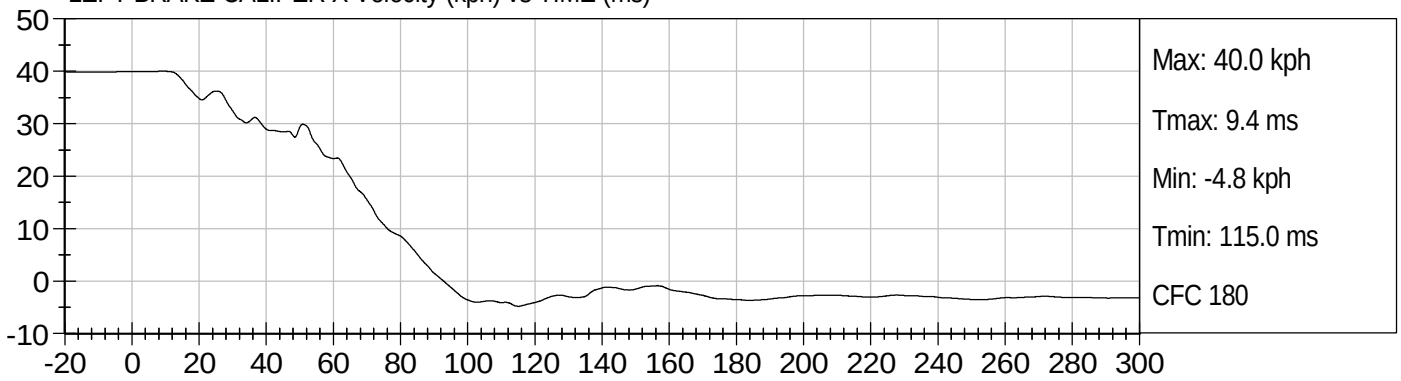
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

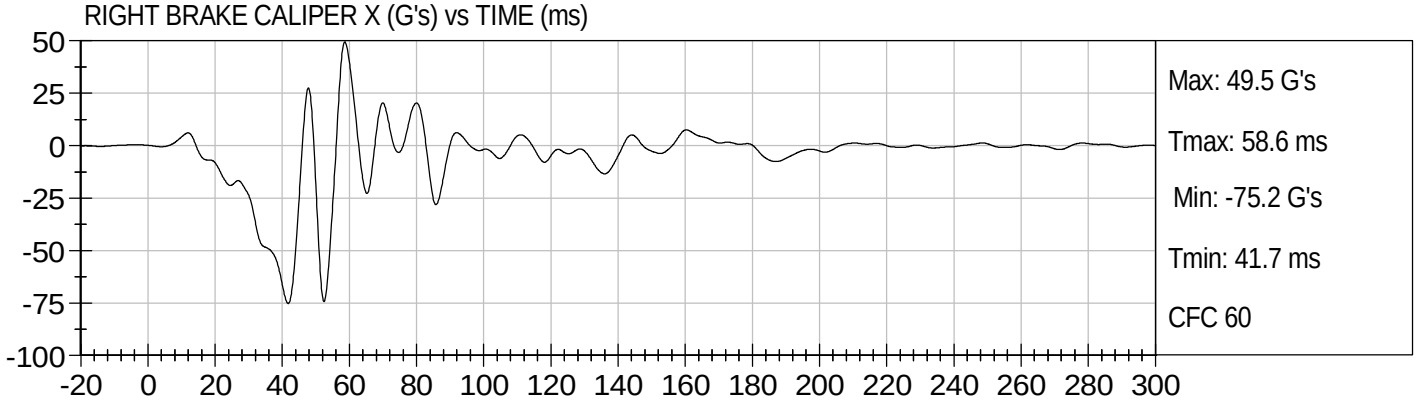
LEFT BRAKE CALIPER X (G's) vs TIME (ms)



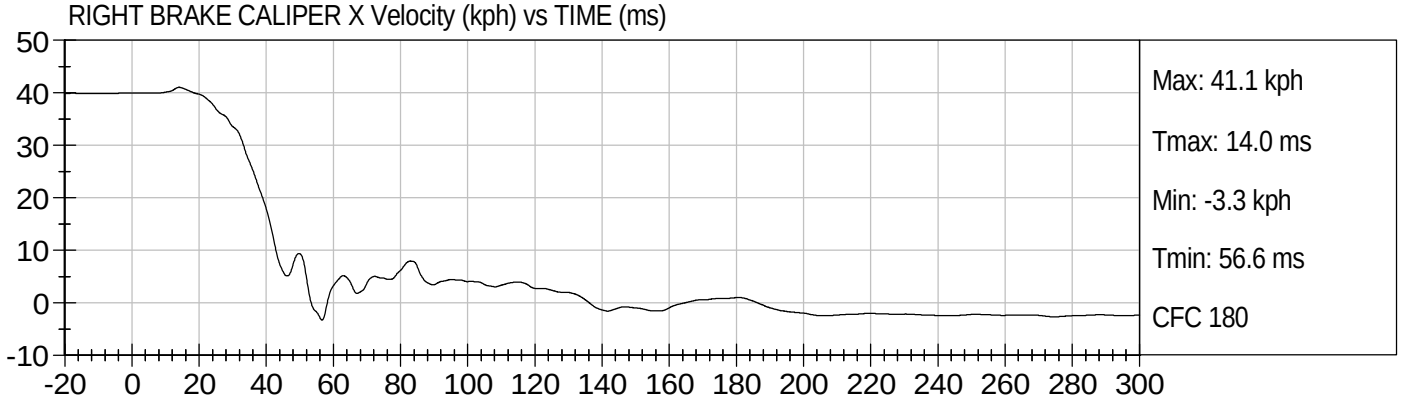
LEFT BRAKE CALIPER X Velocity (kph) vs TIME (ms)



RIGHT BRAKE CALIPER X (G's) vs TIME (ms)



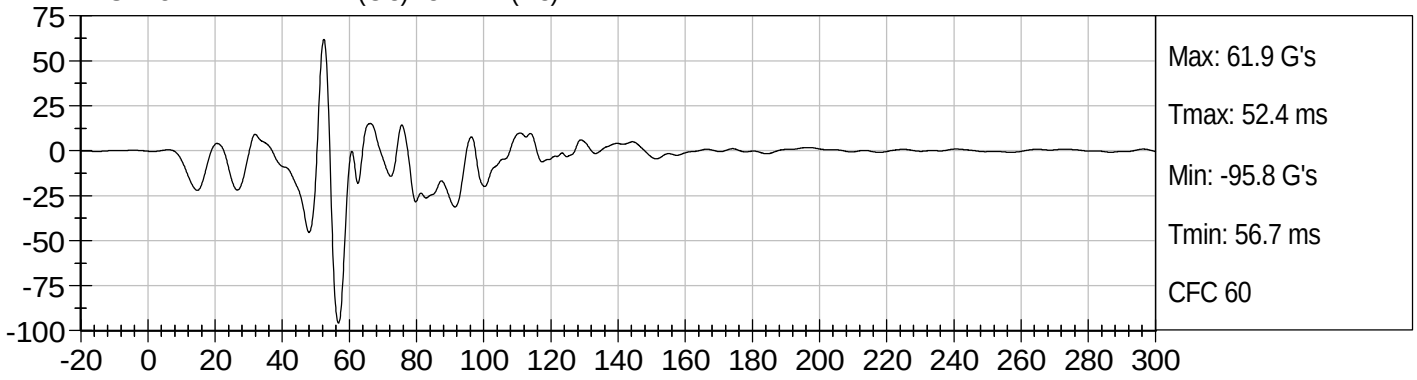
RIGHT BRAKE CALIPER X Velocity (kph) vs TIME (ms)



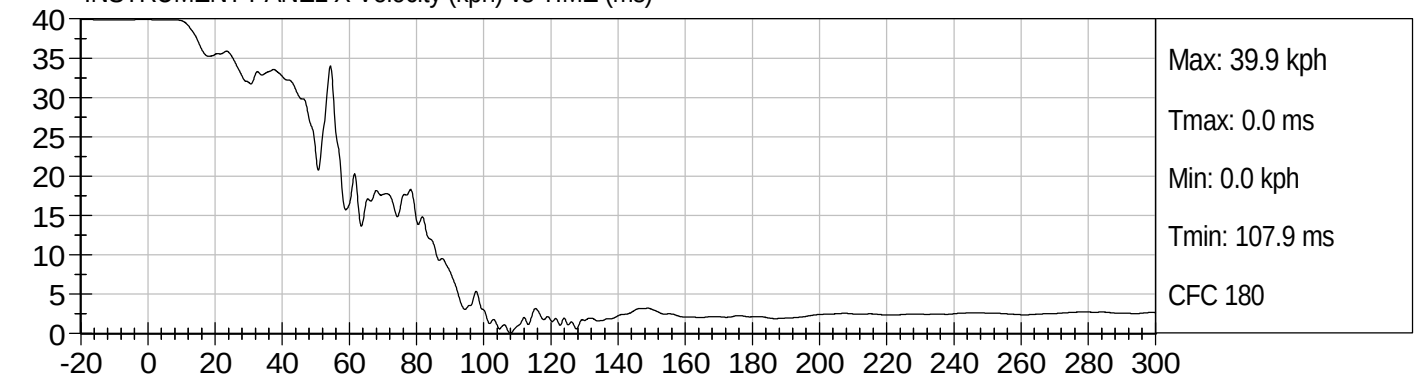
25 MPH FRONTAL UNBELTED / RH 30 Degree
2008 GMC ACADIA (C80107)

Test Date: 07/11/2008
Speed: 24.8 mph (39.9 km/h)

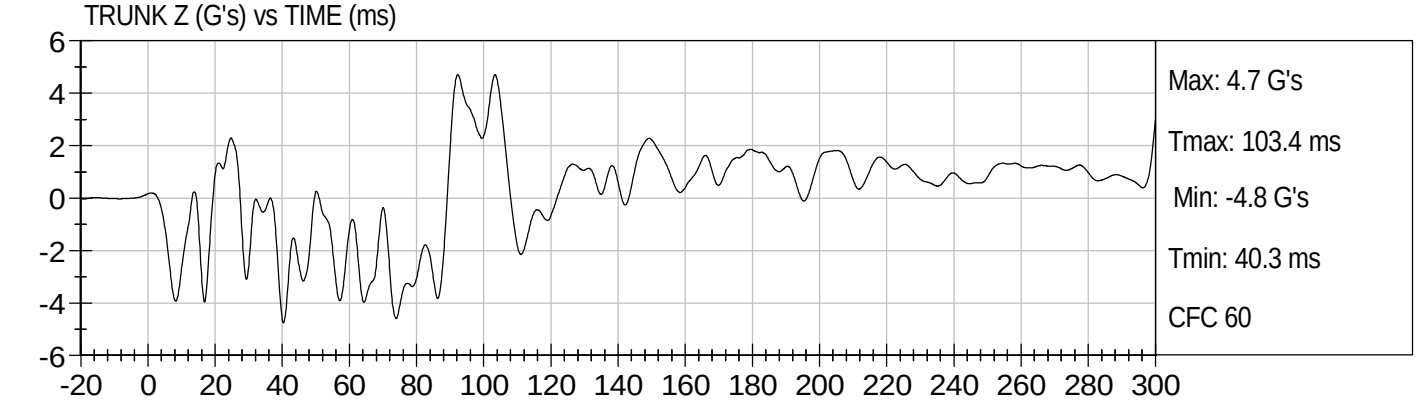
INSTRUMENT PANEL X (G's) vs TIME (ms)



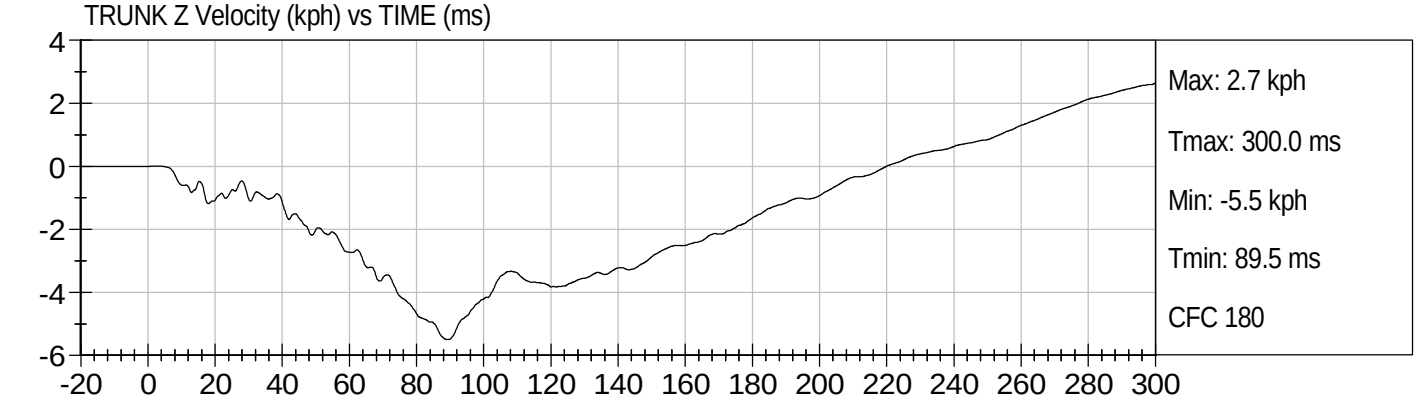
INSTRUMENT PANEL X Velocity (kph) vs TIME (ms)



TRUNK Z (G's) vs TIME (ms)



TRUNK Z Velocity (kph) vs TIME (ms)



APPENDIX B

LOW RISK TEST DATA

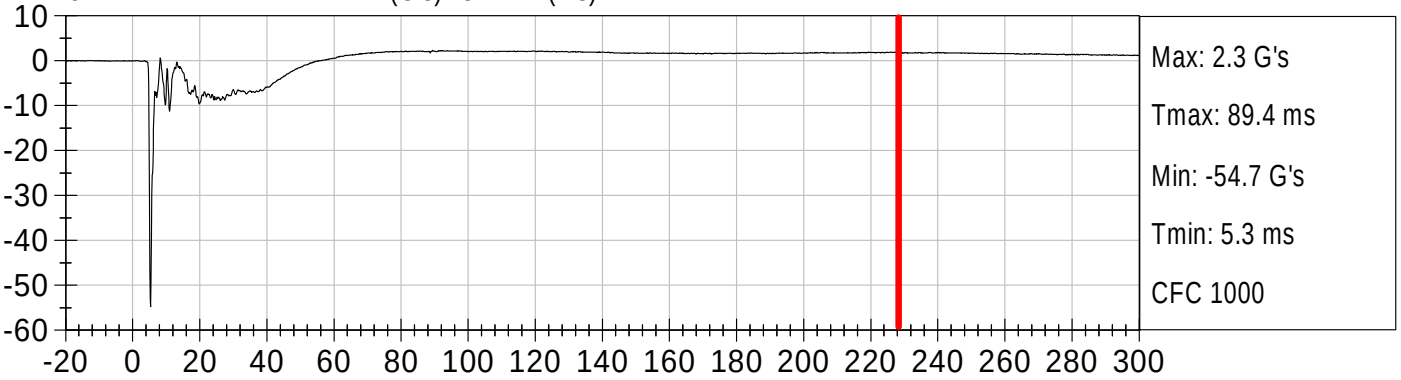
TABLE OF DATA PLOTS

LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

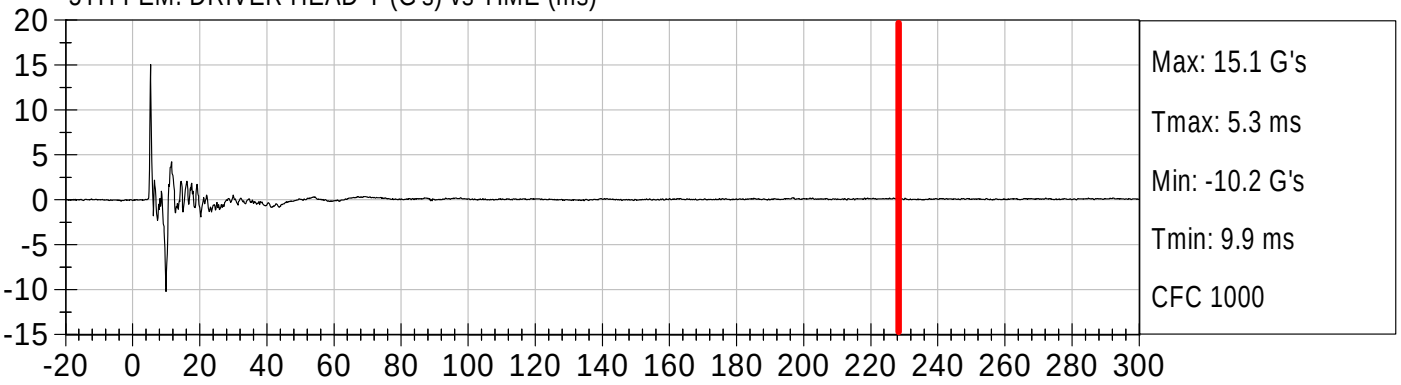
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

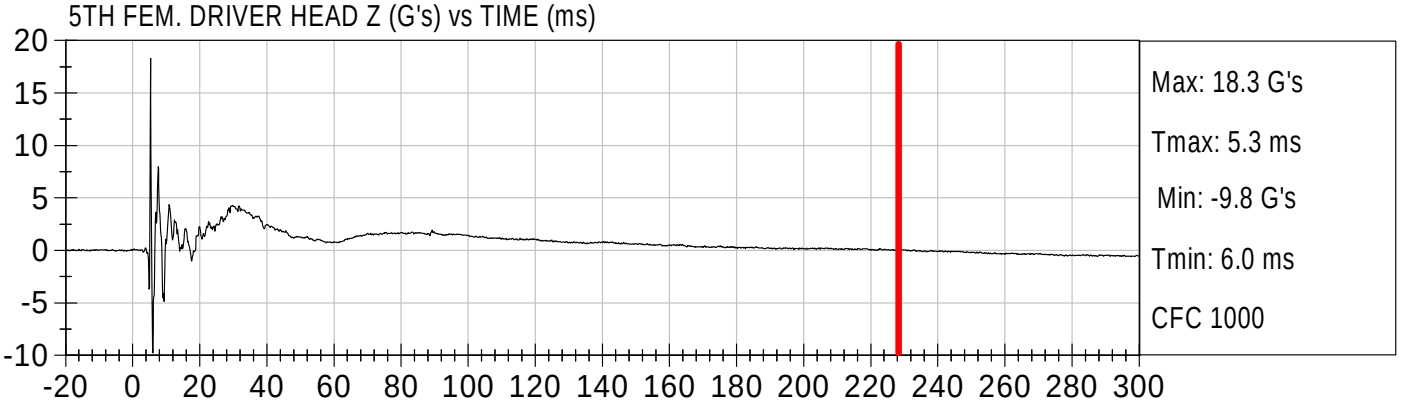
5TH FEM. DRIVER HEAD X (G's) vs TIME (ms)



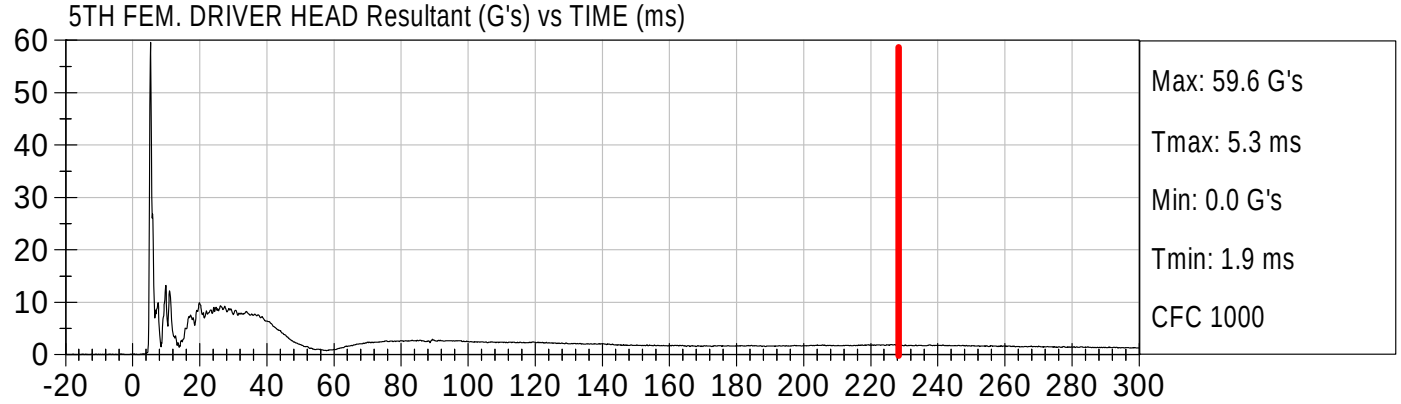
5TH FEM. DRIVER HEAD Y (G's) vs TIME (ms)



5TH FEM. DRIVER HEAD Z (G's) vs TIME (ms)



5TH FEM. DRIVER HEAD Resultant (G's) vs TIME (ms)

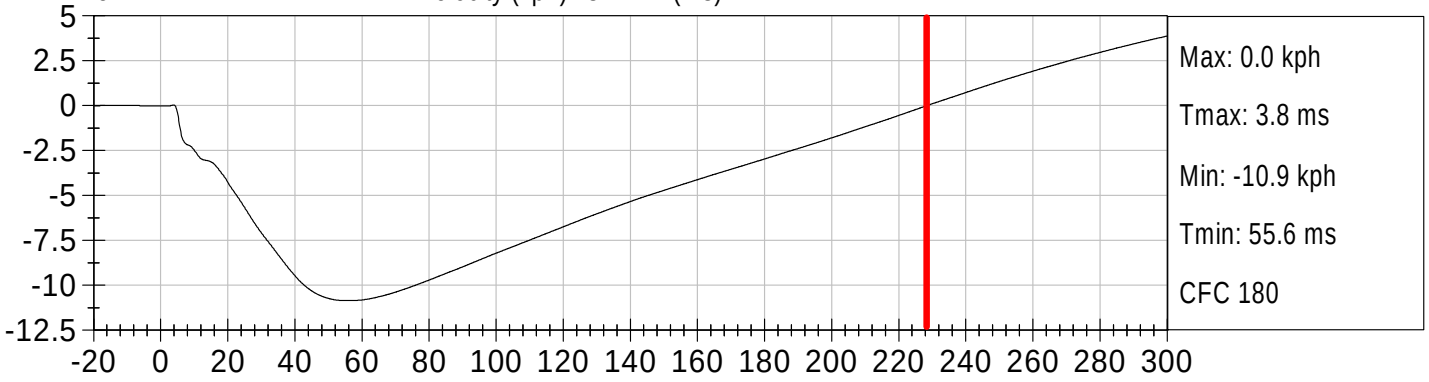


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

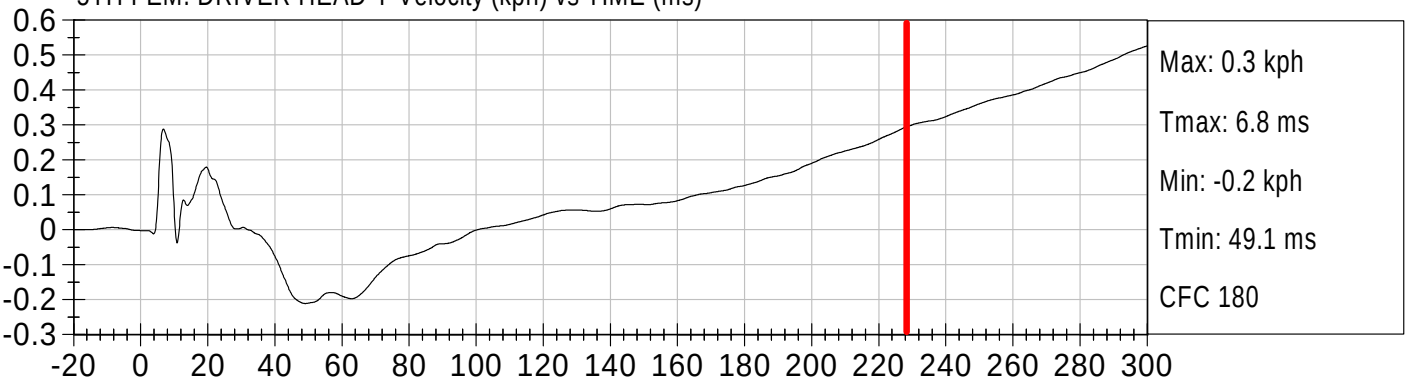
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

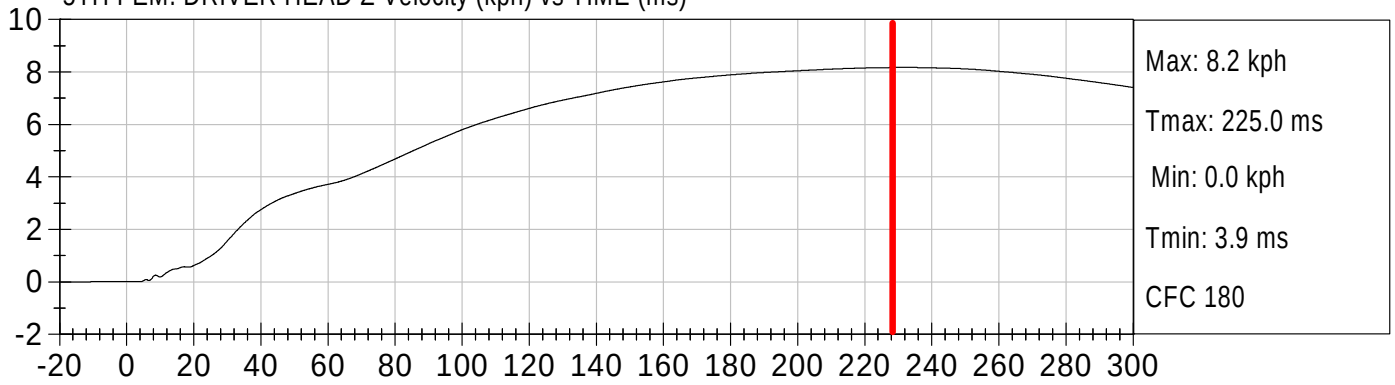
5TH FEM. DRIVER HEAD X Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER HEAD Y Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER HEAD Z Velocity (kph) vs TIME (ms)

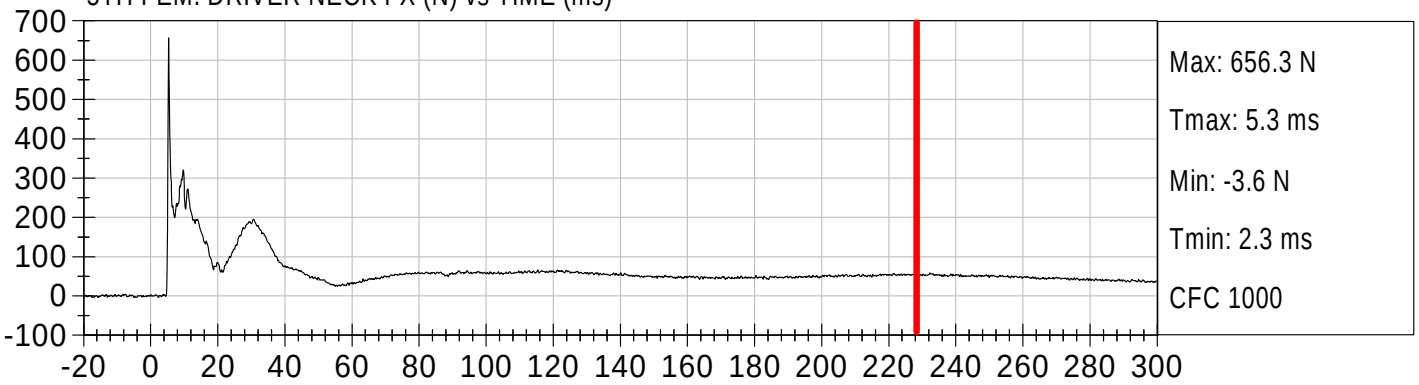


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

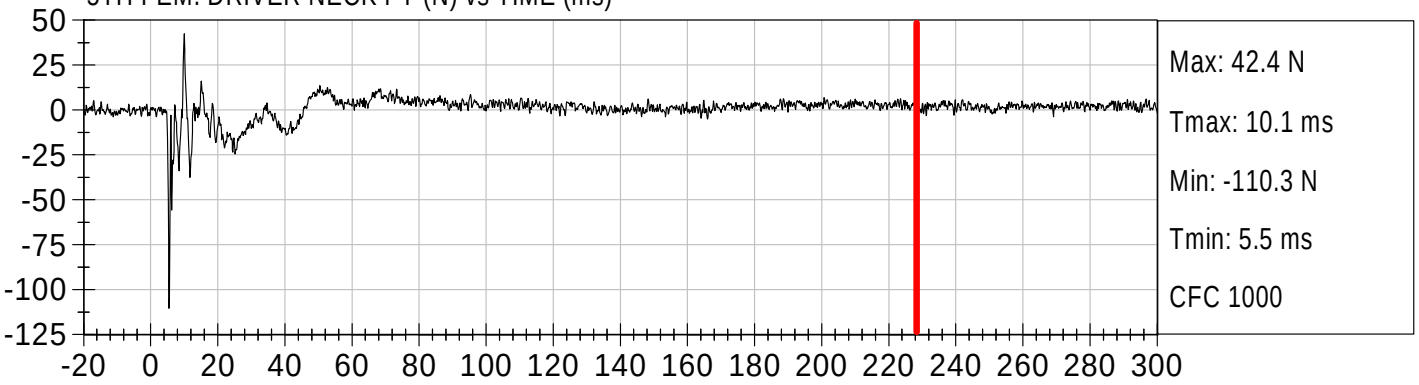
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

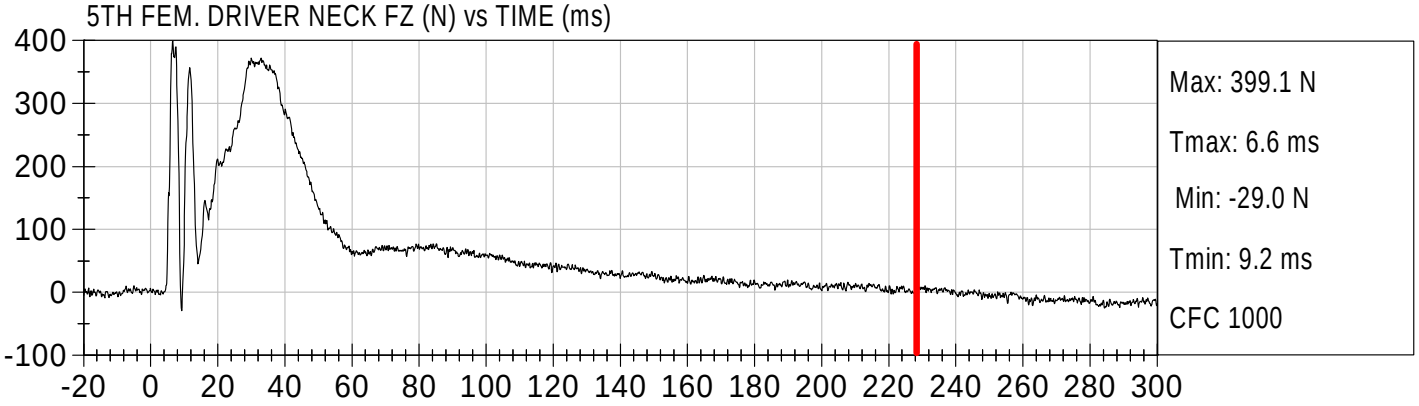
5TH FEM. DRIVER NECK FX (N) vs TIME (ms)



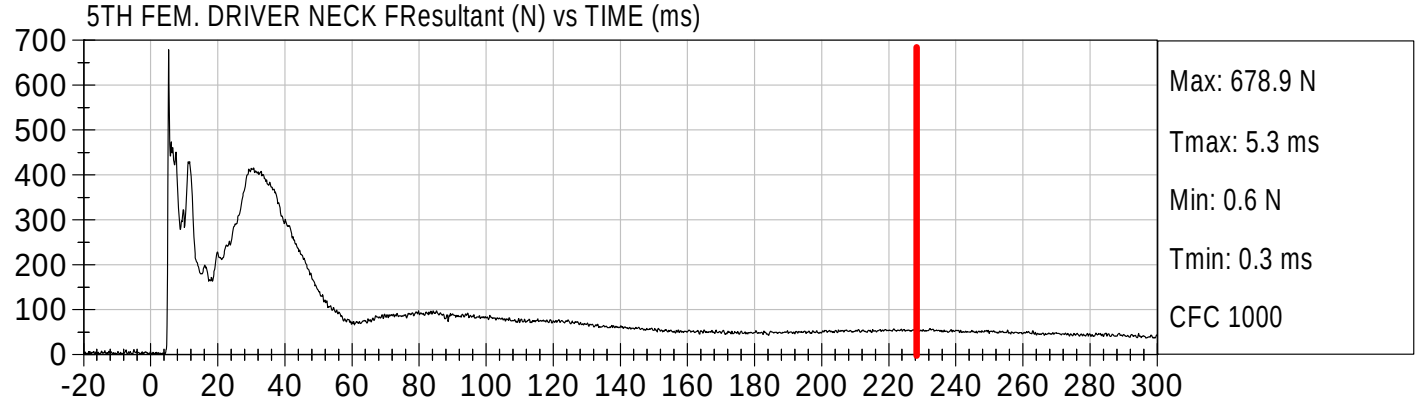
5TH FEM. DRIVER NECK FY (N) vs TIME (ms)



5TH FEM. DRIVER NECK FZ (N) vs TIME (ms)



5TH FEM. DRIVER NECK FResultant (N) vs TIME (ms)

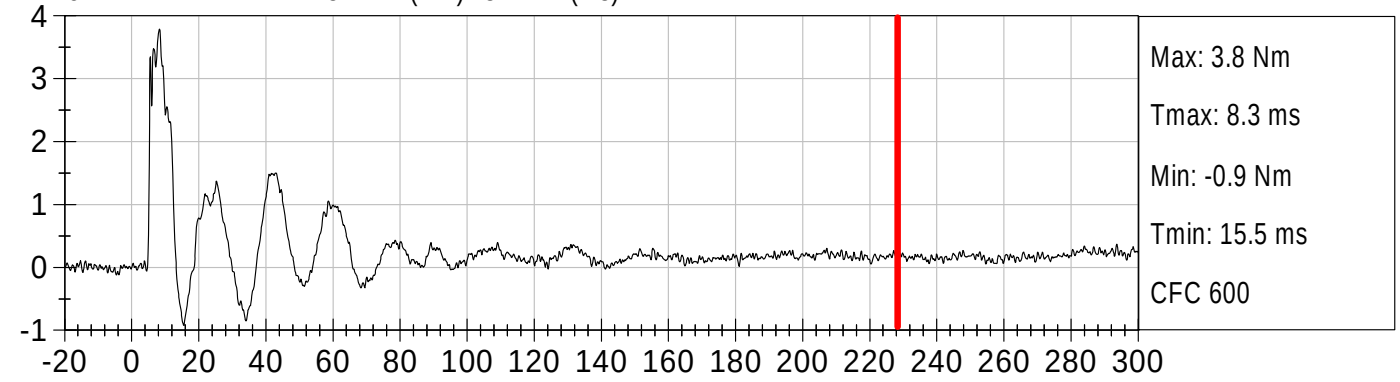


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

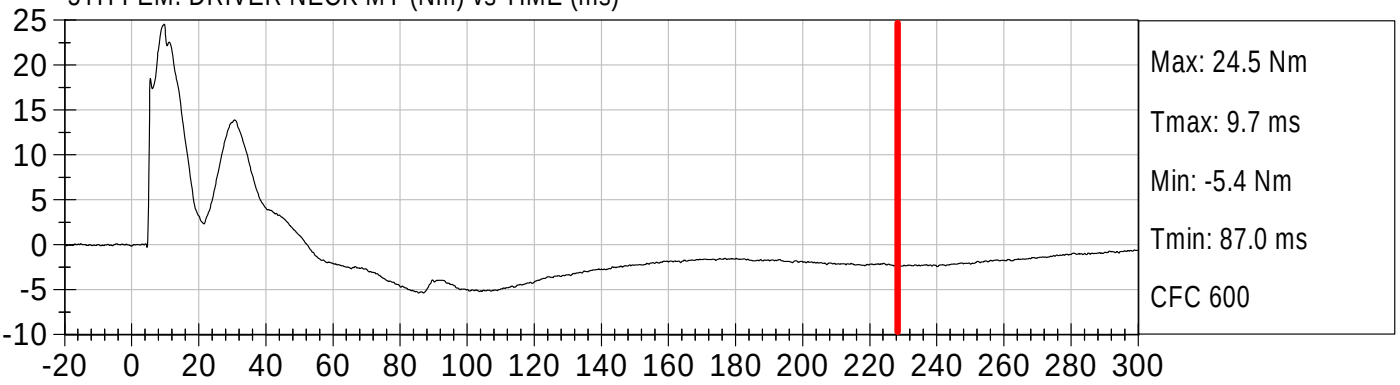
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

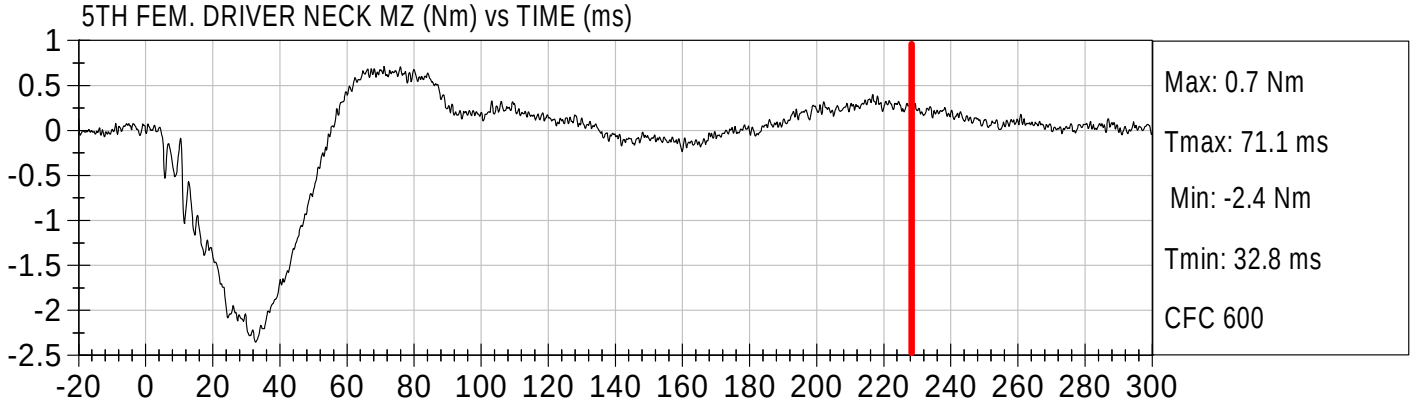
5TH FEM. DRIVER NECK MX (Nm) vs TIME (ms)



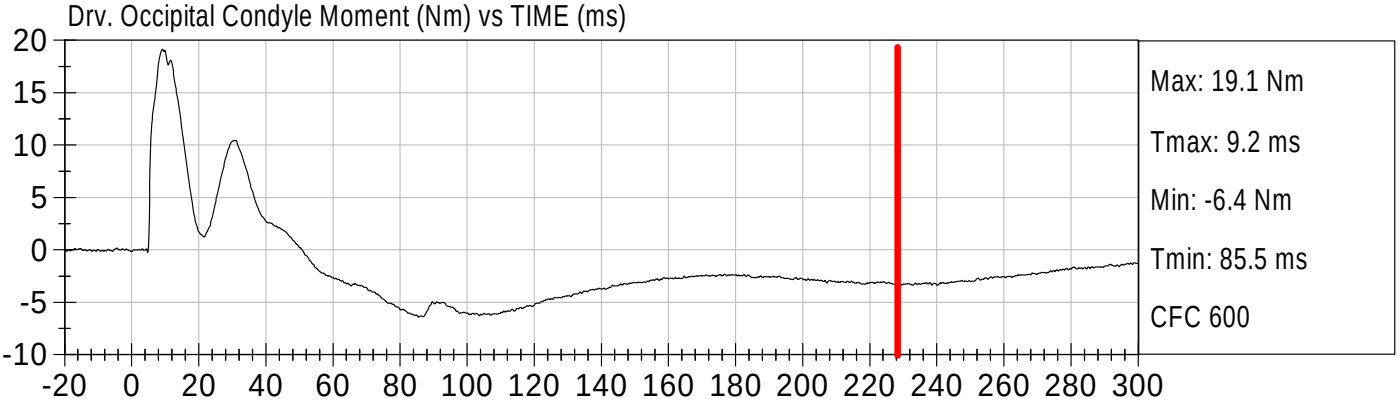
5TH FEM. DRIVER NECK MY (Nm) vs TIME (ms)



5TH FEM. DRIVER NECK MZ (Nm) vs TIME (ms)



Drv. Occipital Condyle Moment (Nm) vs TIME (ms)

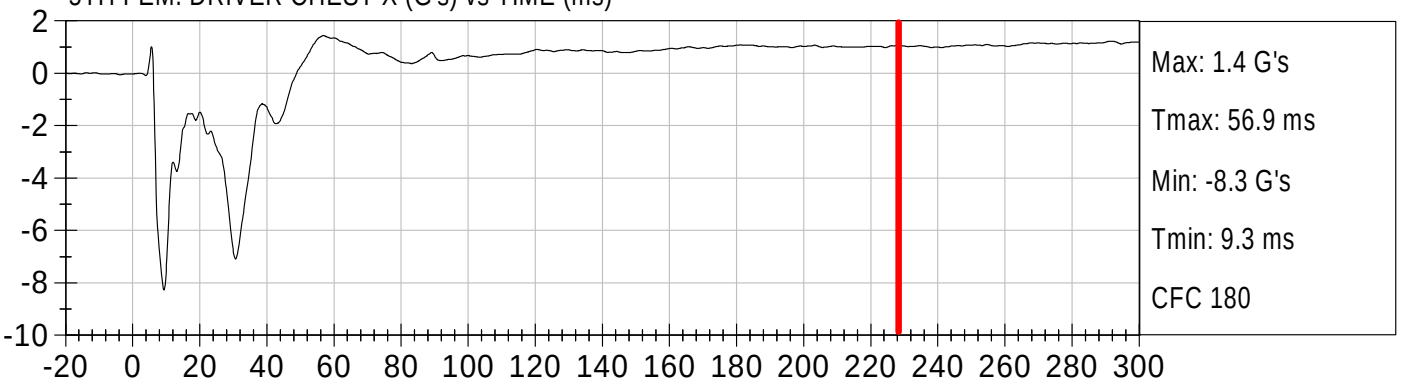


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

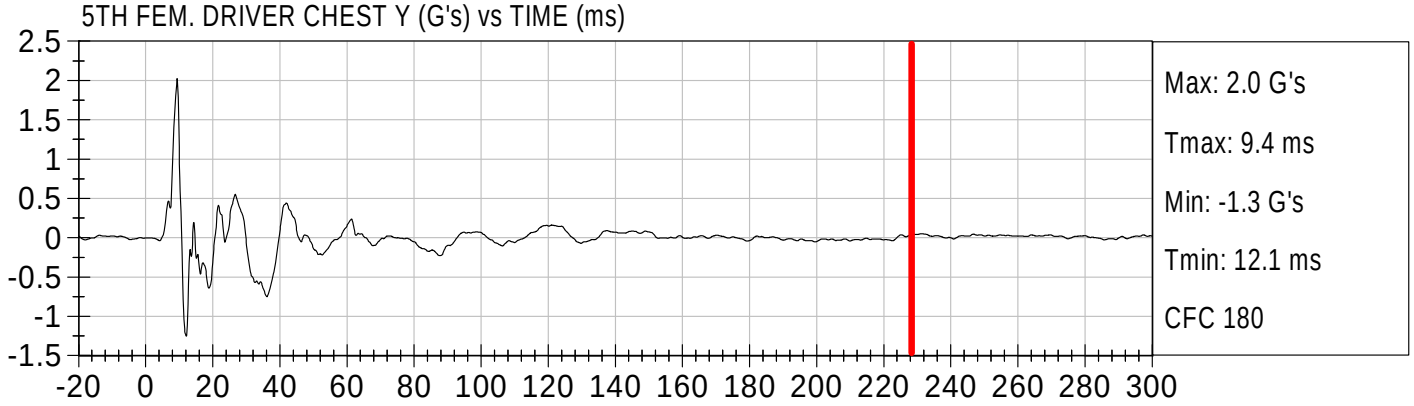
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

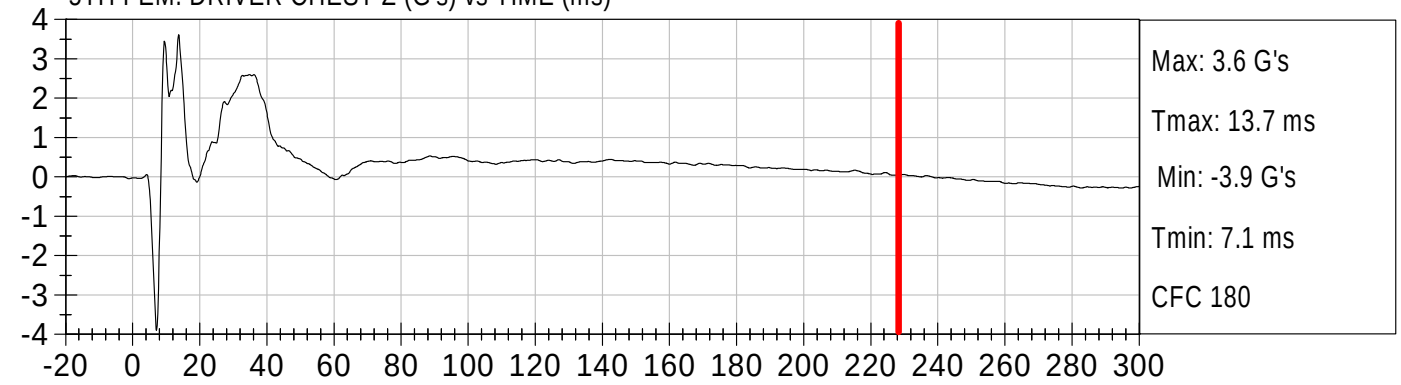
5TH FEM. DRIVER CHEST X (G's) vs TIME (ms)



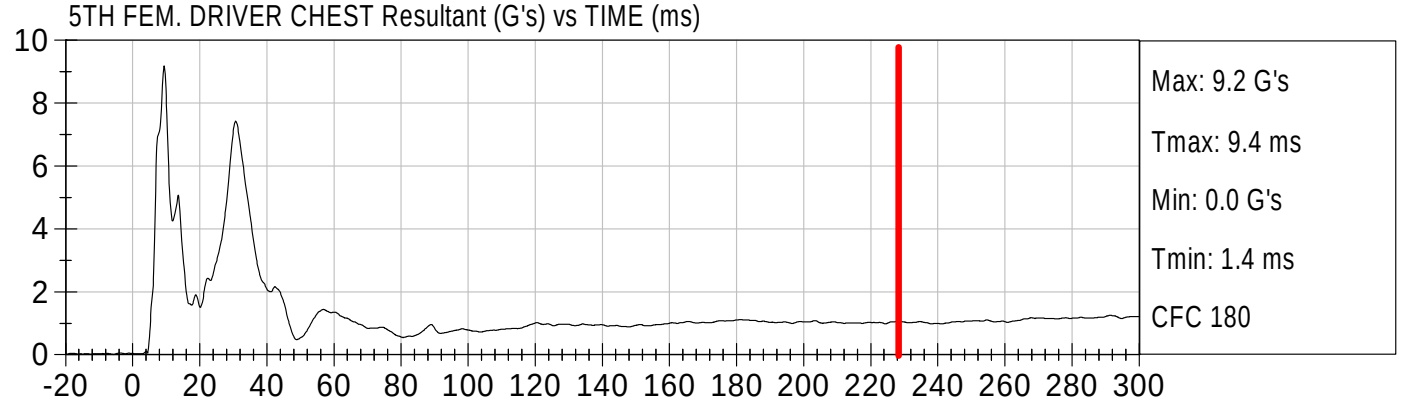
5TH FEM. DRIVER CHEST Y (G's) vs TIME (ms)



5TH FEM. DRIVER CHEST Z (G's) vs TIME (ms)



5TH FEM. DRIVER CHEST Resultant (G's) vs TIME (ms)

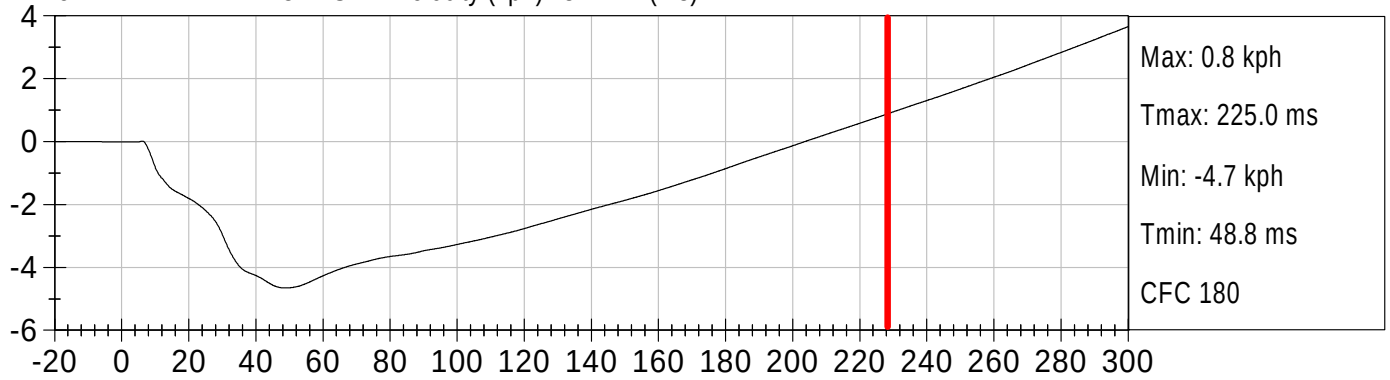


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

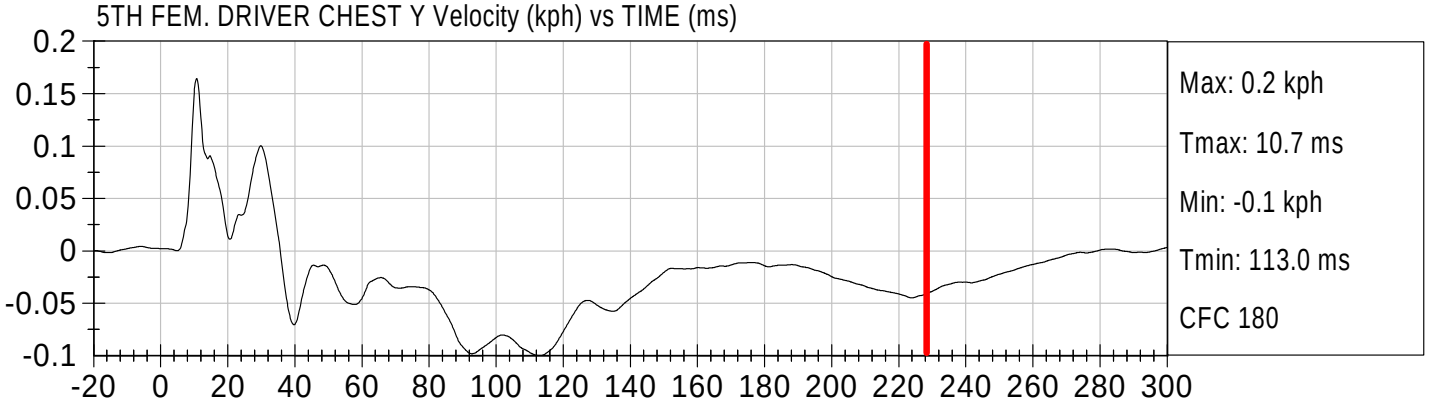
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

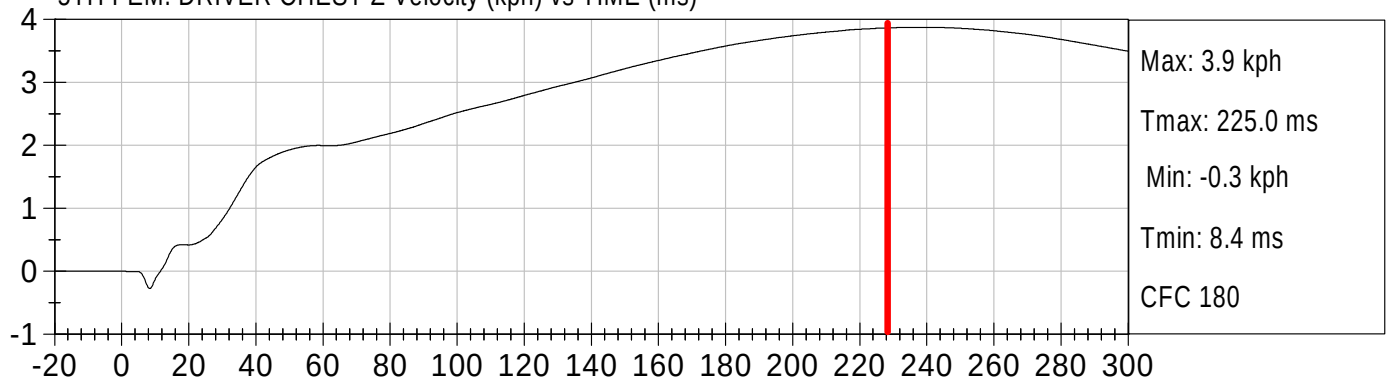
5TH FEM. DRIVER CHEST X Velocity (kph) vs TIME (ms)



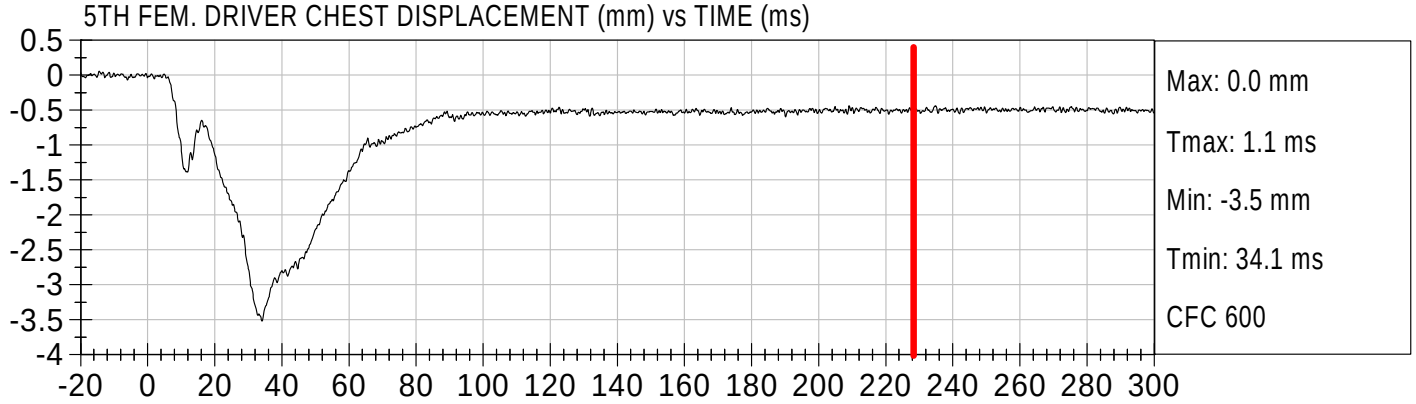
5TH FEM. DRIVER CHEST Y Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER CHEST Z Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)

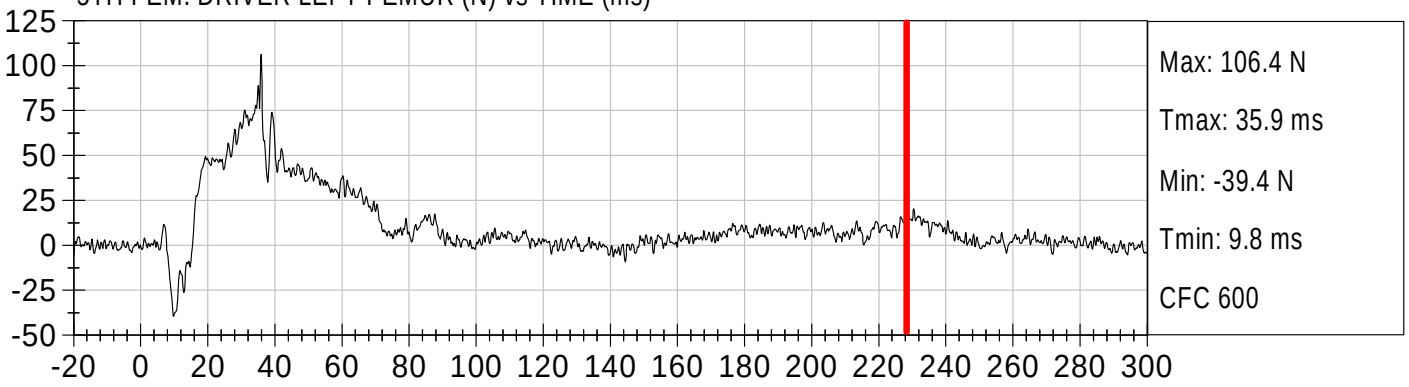


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

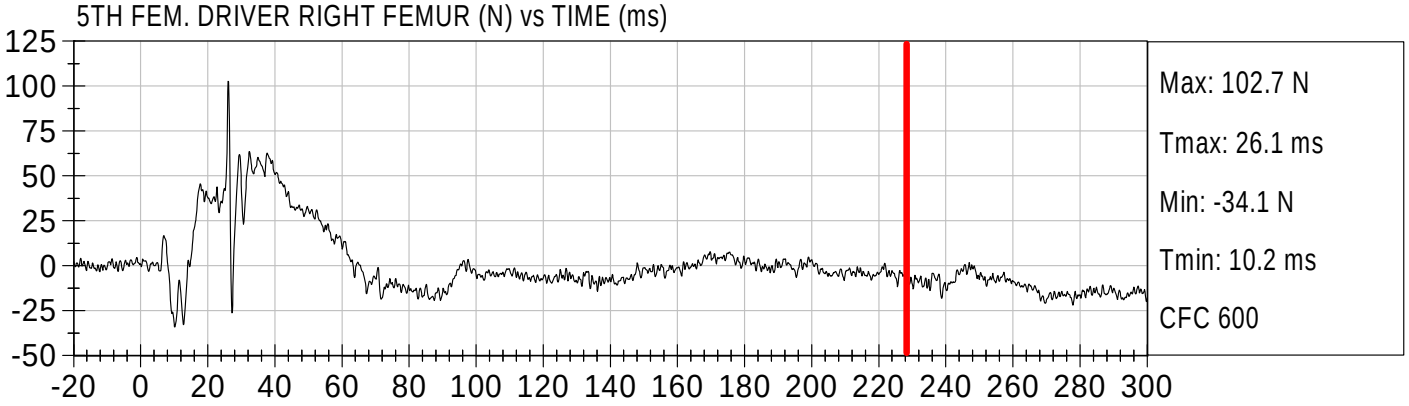
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

5TH FEM. DRIVER LEFT FEMUR (N) vs TIME (ms)



5TH FEM. DRIVER RIGHT FEMUR (N) vs TIME (ms)

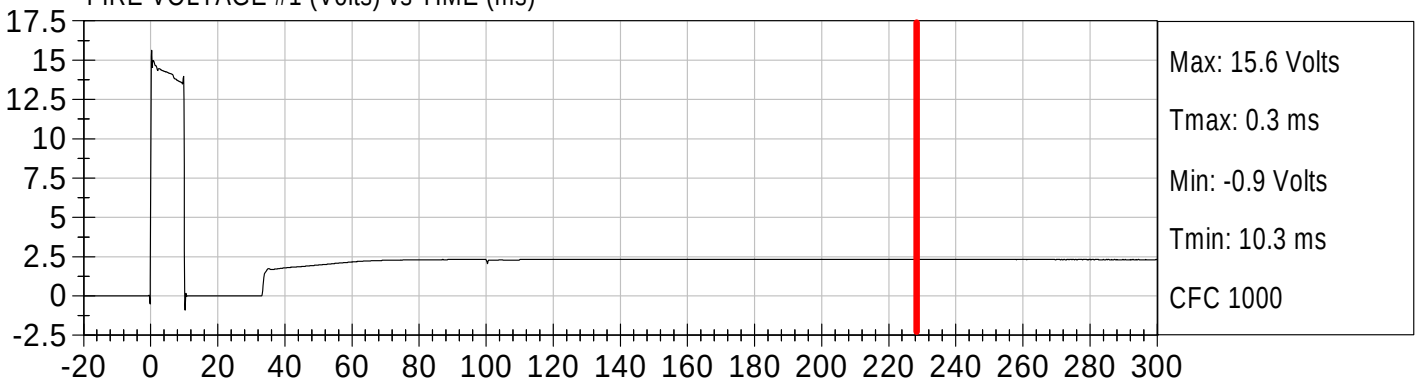


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

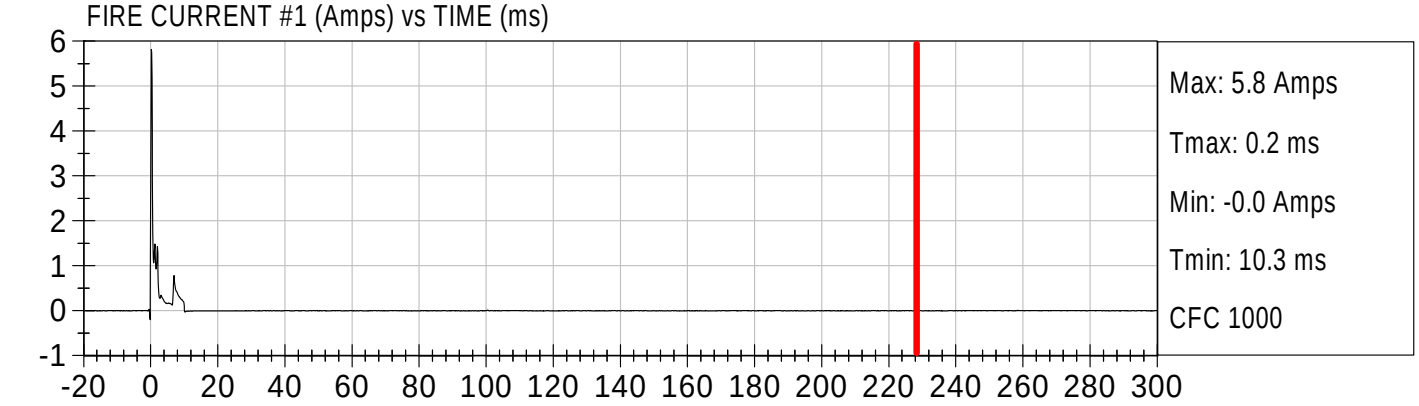
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

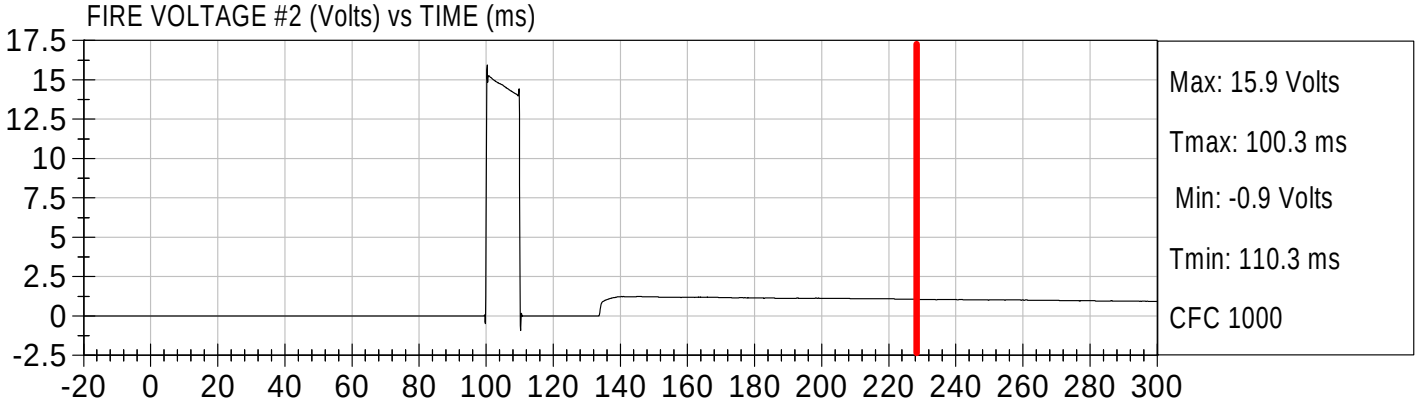
FIRE VOLTAGE #1 (Volts) vs TIME (ms)



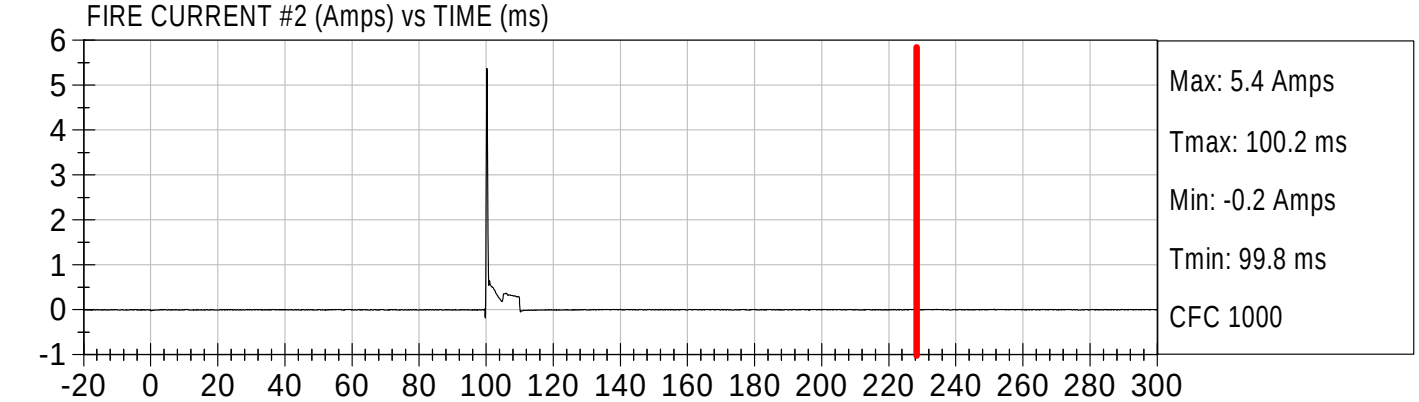
FIRE CURRENT #1 (Amps) vs TIME (ms)



FIRE VOLTAGE #2 (Volts) vs TIME (ms)

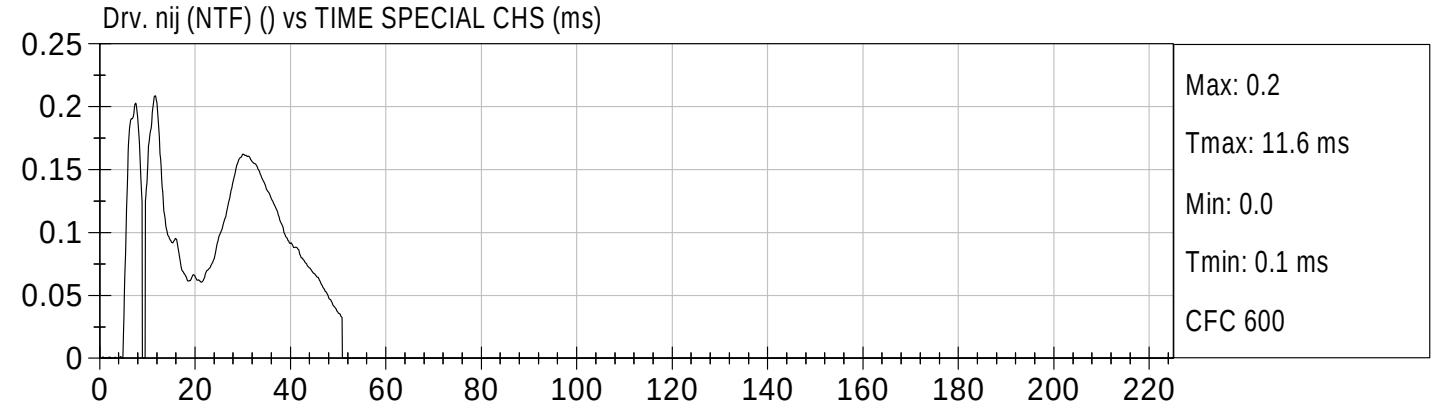


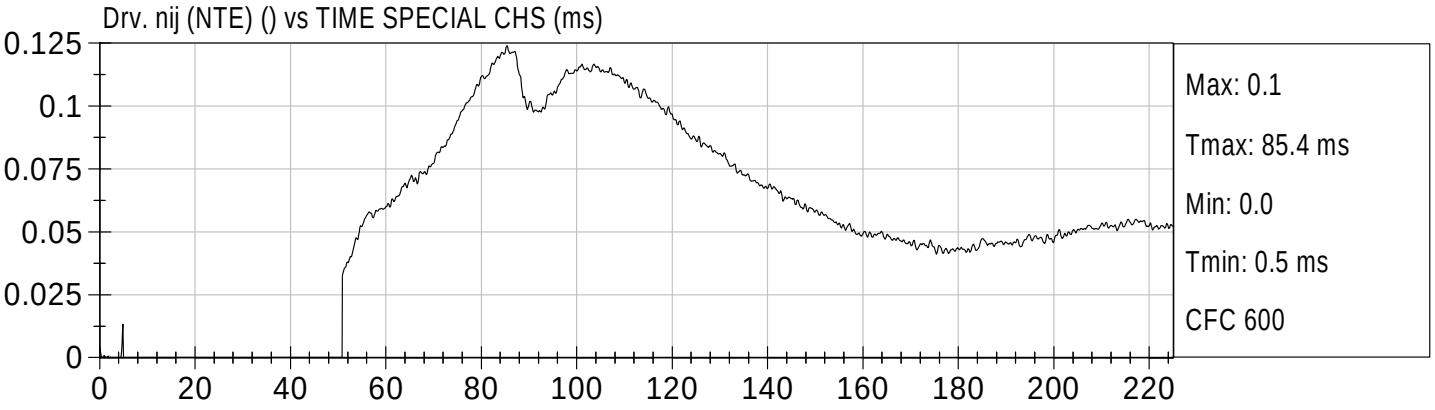
FIRE CURRENT #2 (Amps) vs TIME (ms)

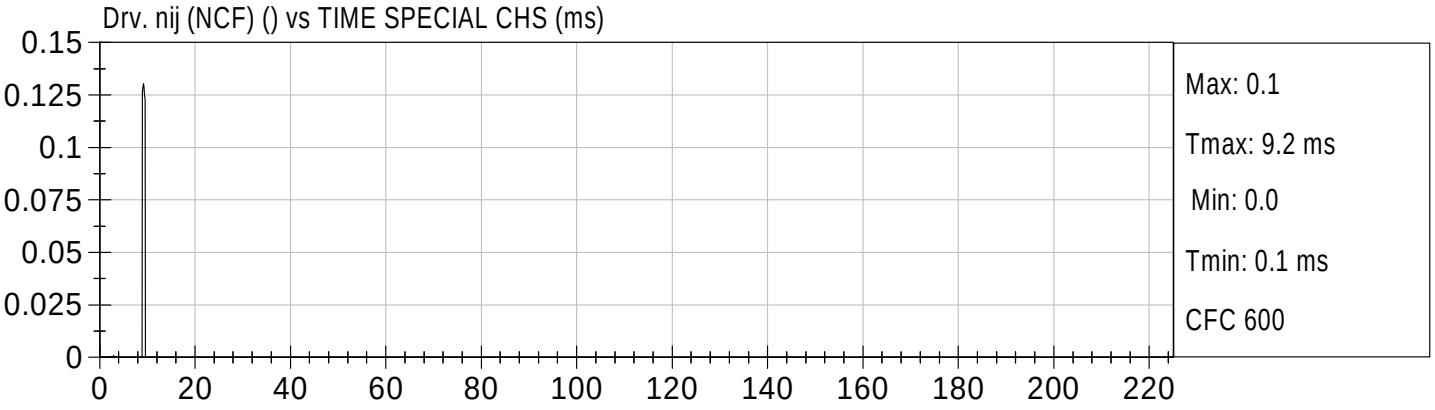


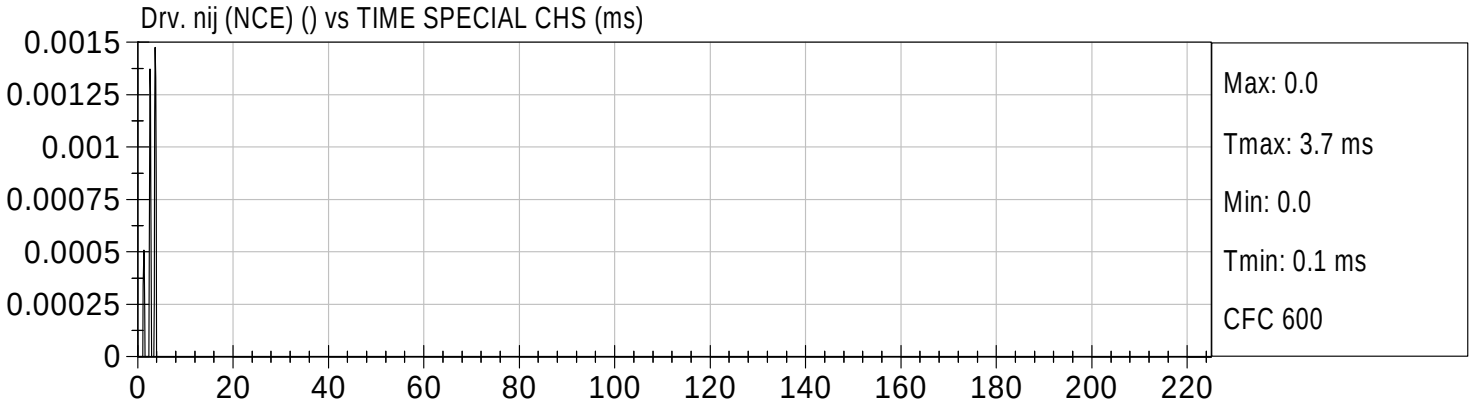
LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P1)

Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)







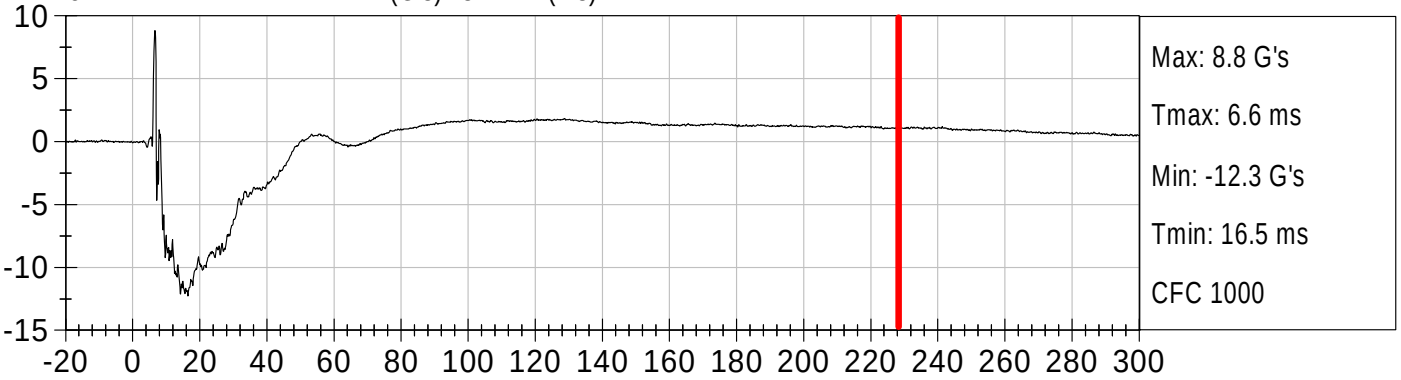


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

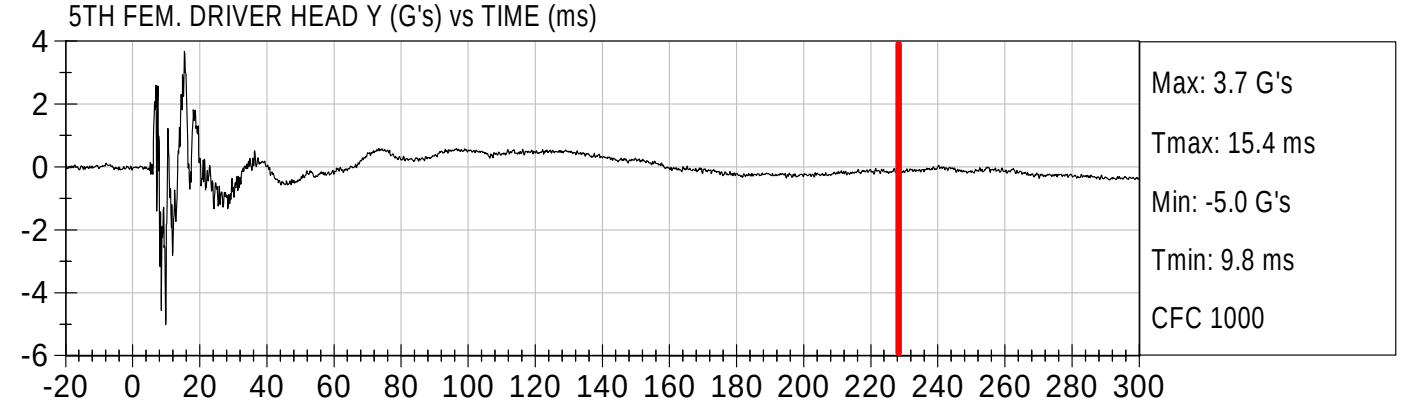
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

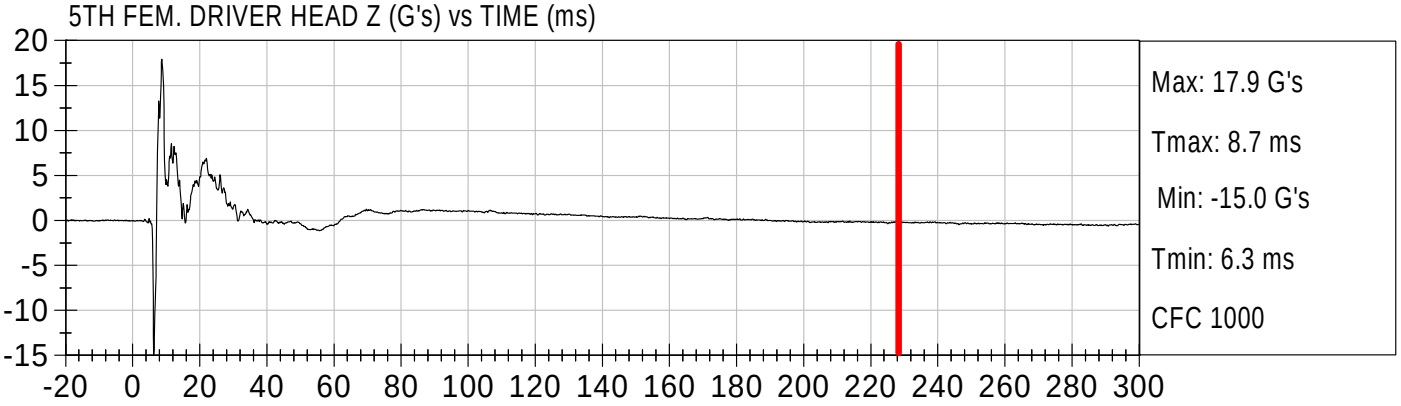
5TH FEM. DRIVER HEAD X (G's) vs TIME (ms)



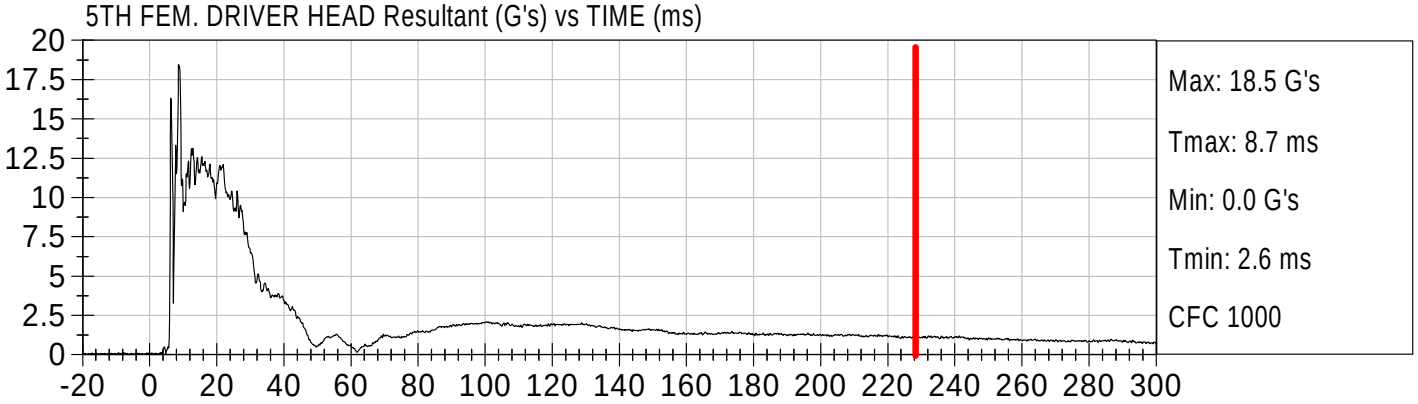
5TH FEM. DRIVER HEAD Y (G's) vs TIME (ms)



5TH FEM. DRIVER HEAD Z (G's) vs TIME (ms)



5TH FEM. DRIVER HEAD Resultant (G's) vs TIME (ms)

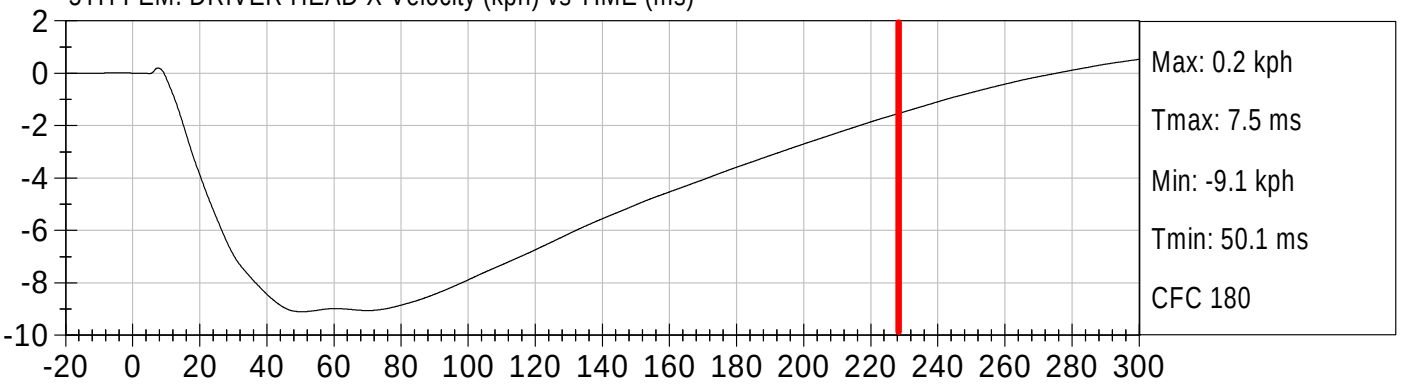


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

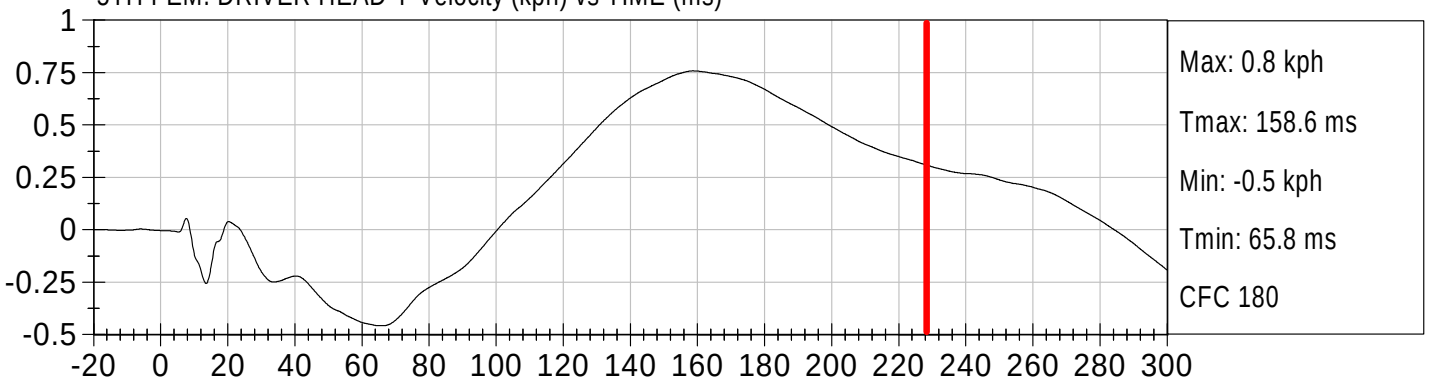
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

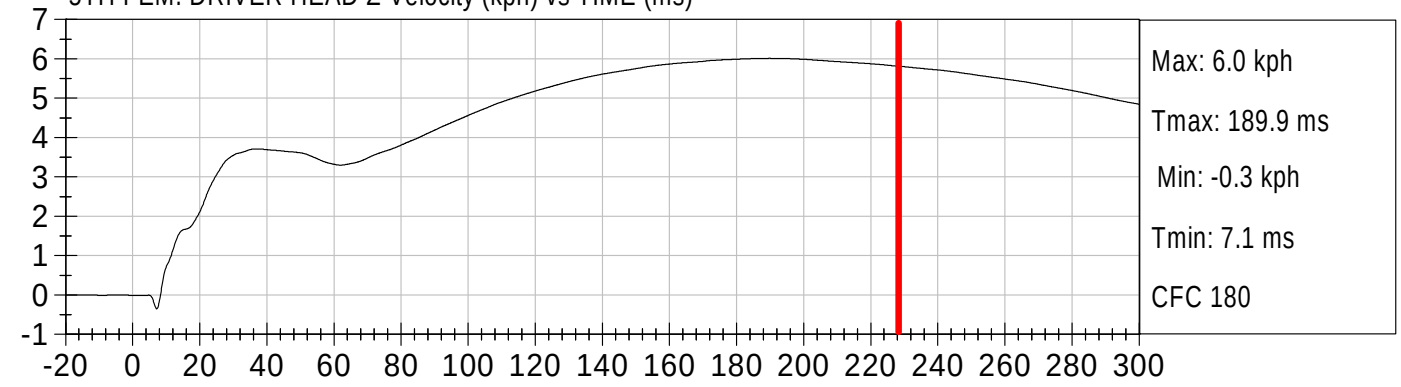
5TH FEM. DRIVER HEAD X Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER HEAD Y Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER HEAD Z Velocity (kph) vs TIME (ms)

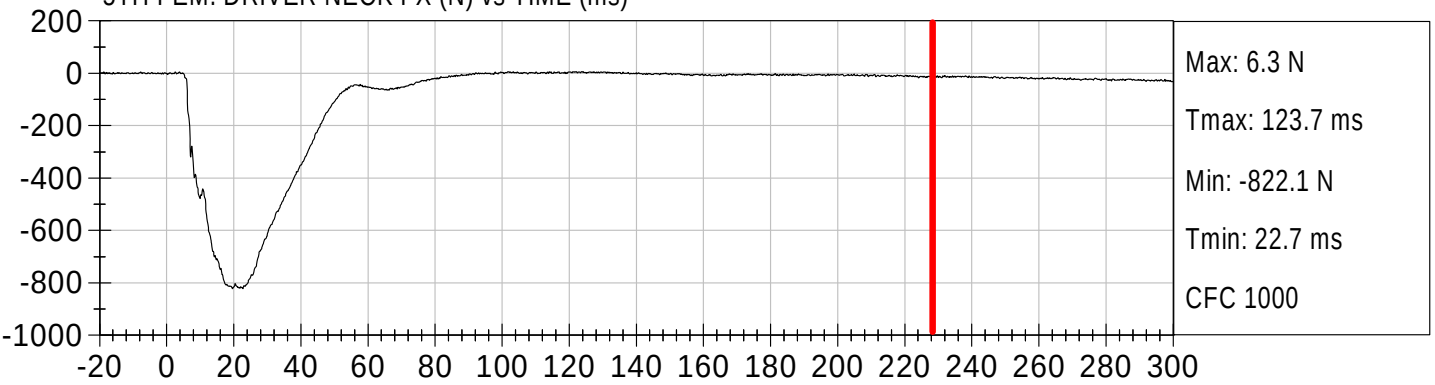


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

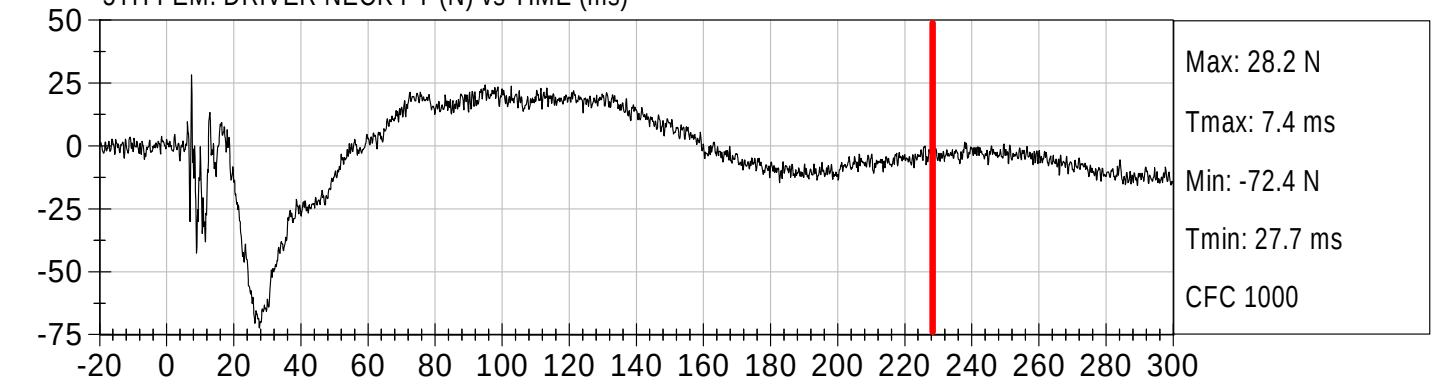
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

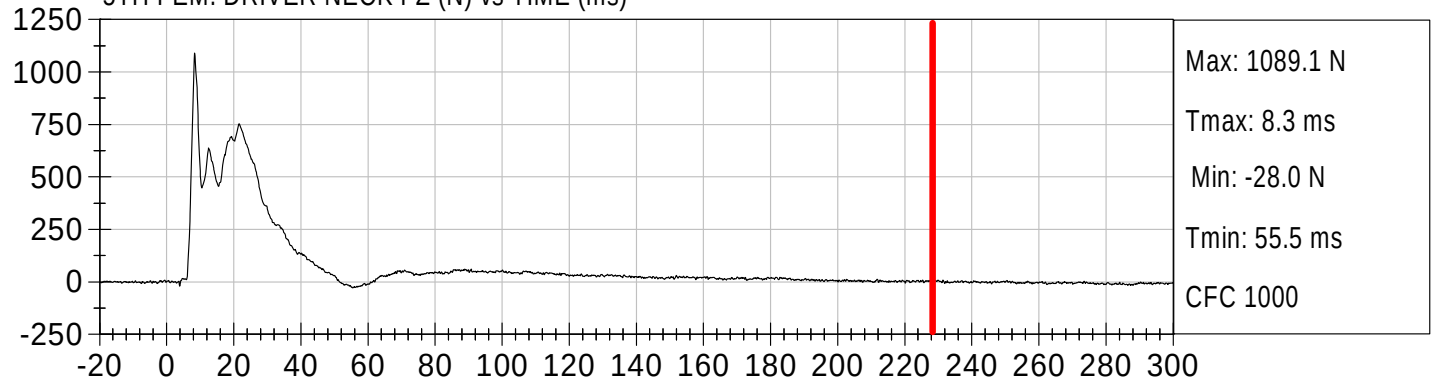
5TH FEM. DRIVER NECK FX (N) vs TIME (ms)



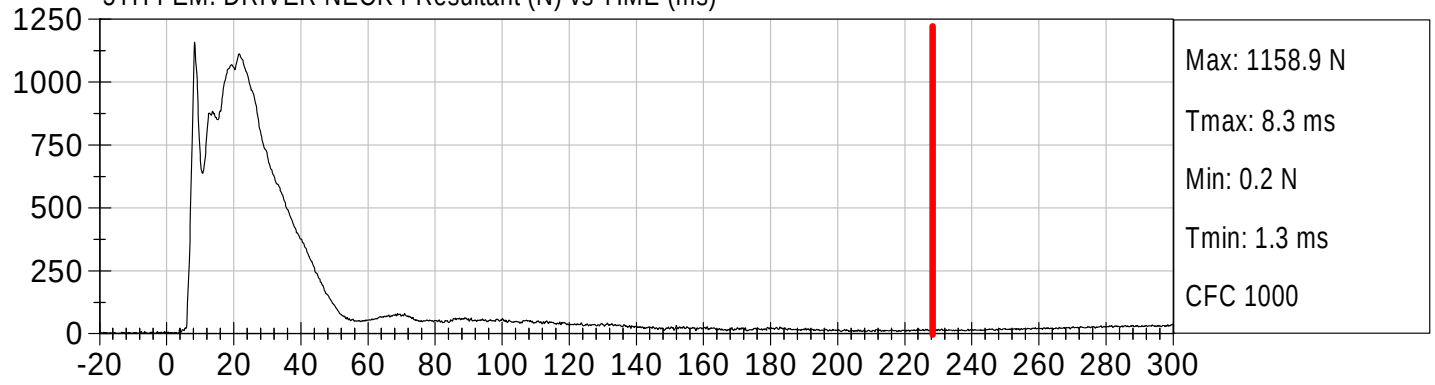
5TH FEM. DRIVER NECK FY (N) vs TIME (ms)



5TH FEM. DRIVER NECK FZ (N) vs TIME (ms)



5TH FEM. DRIVER NECK FResultant (N) vs TIME (ms)

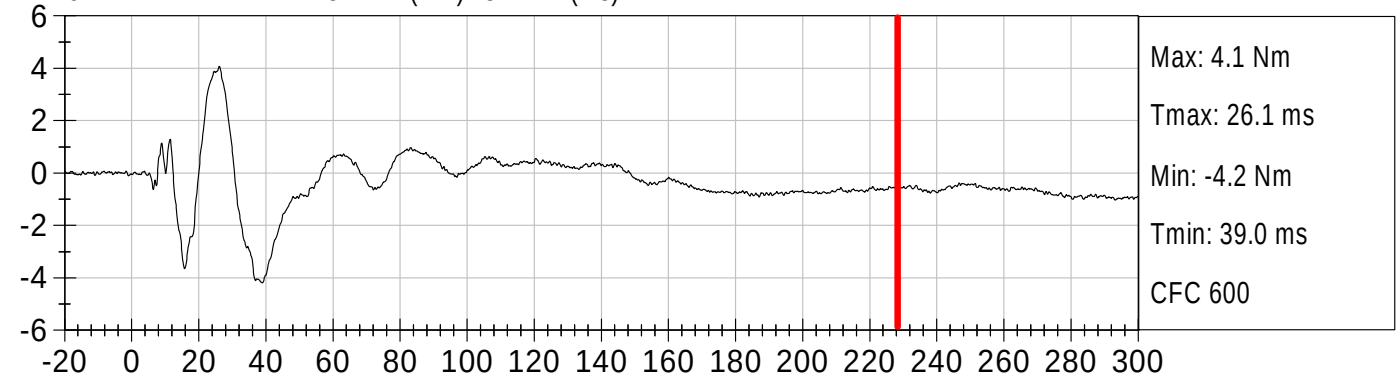


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

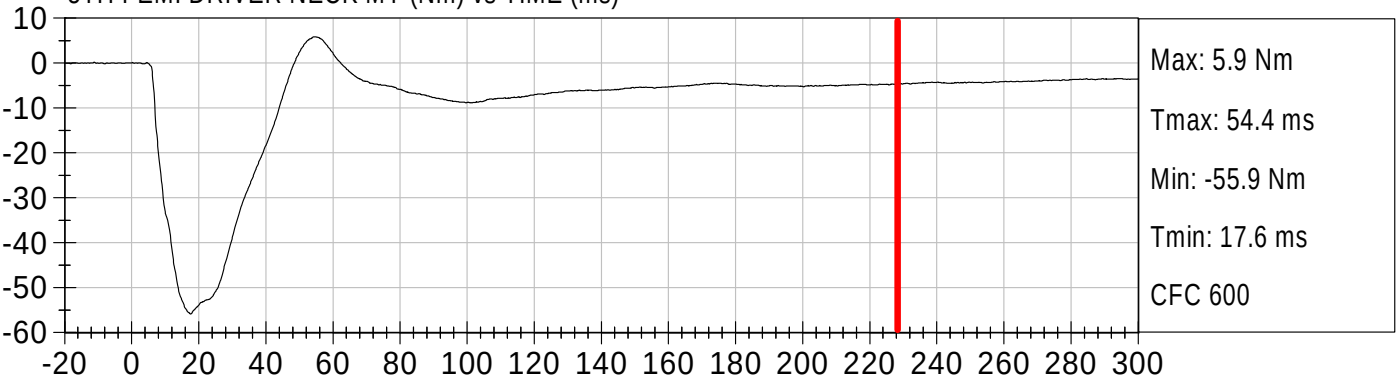
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

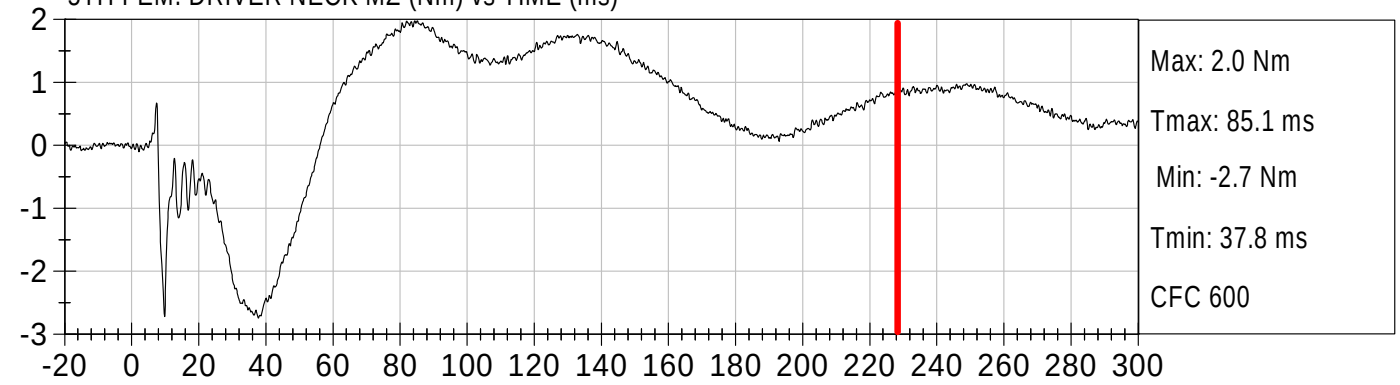
5TH FEM. DRIVER NECK MX (Nm) vs TIME (ms)



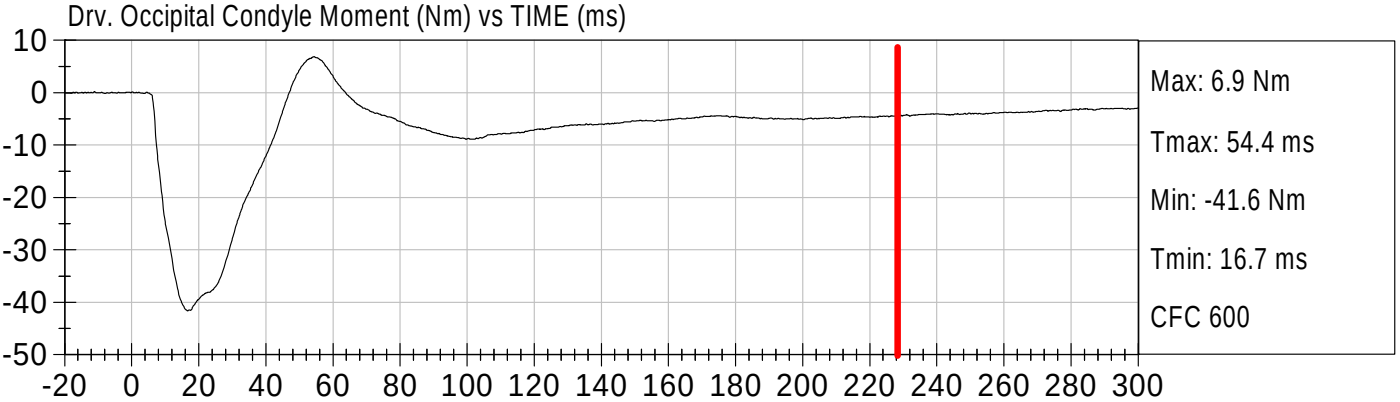
5TH FEM. DRIVER NECK MY (Nm) vs TIME (ms)



5TH FEM. DRIVER NECK MZ (Nm) vs TIME (ms)



Drv. Occipital Condyle Moment (Nm) vs TIME (ms)

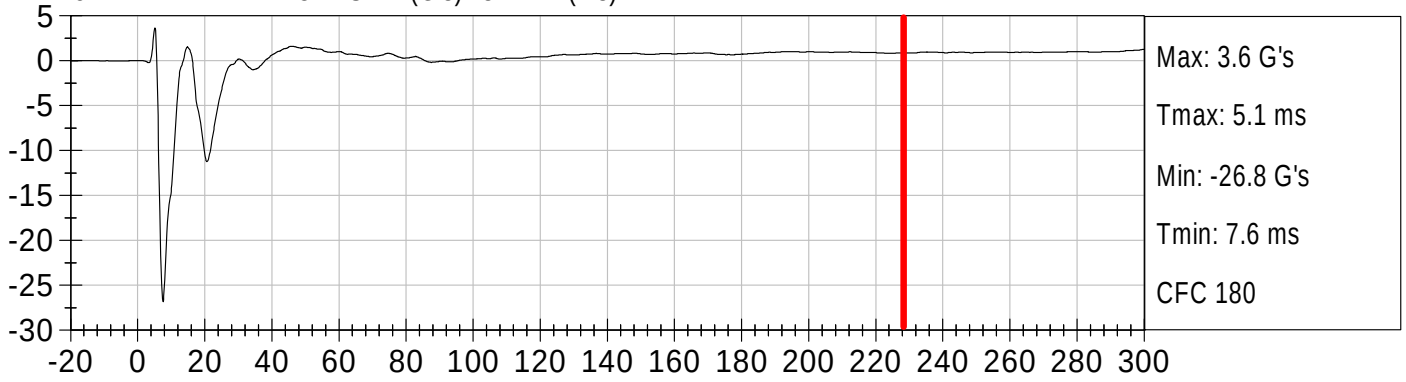


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

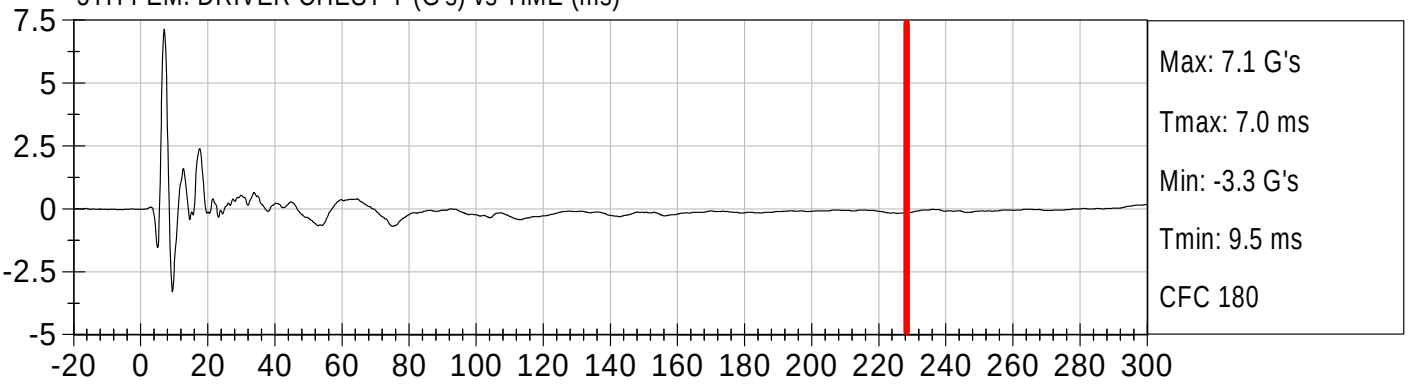
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

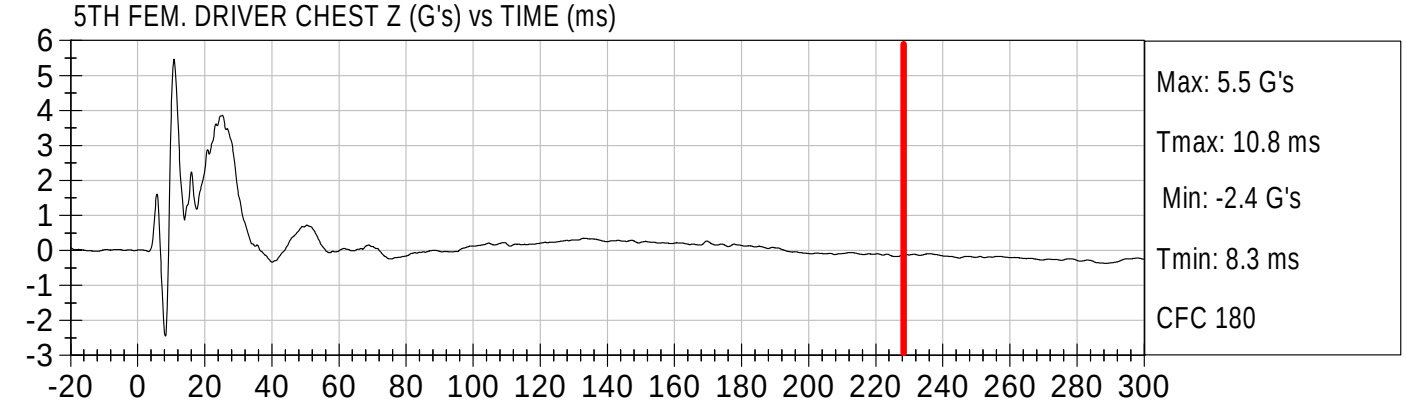
5TH FEM. DRIVER CHEST X (G's) vs TIME (ms)



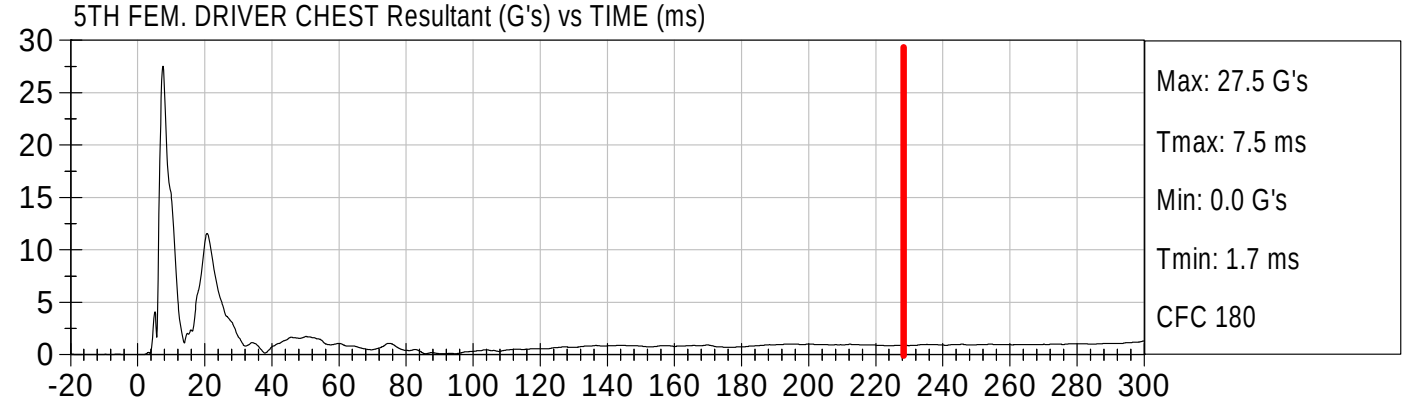
5TH FEM. DRIVER CHEST Y (G's) vs TIME (ms)



5TH FEM. DRIVER CHEST Z (G's) vs TIME (ms)



5TH FEM. DRIVER CHEST Resultant (G's) vs TIME (ms)

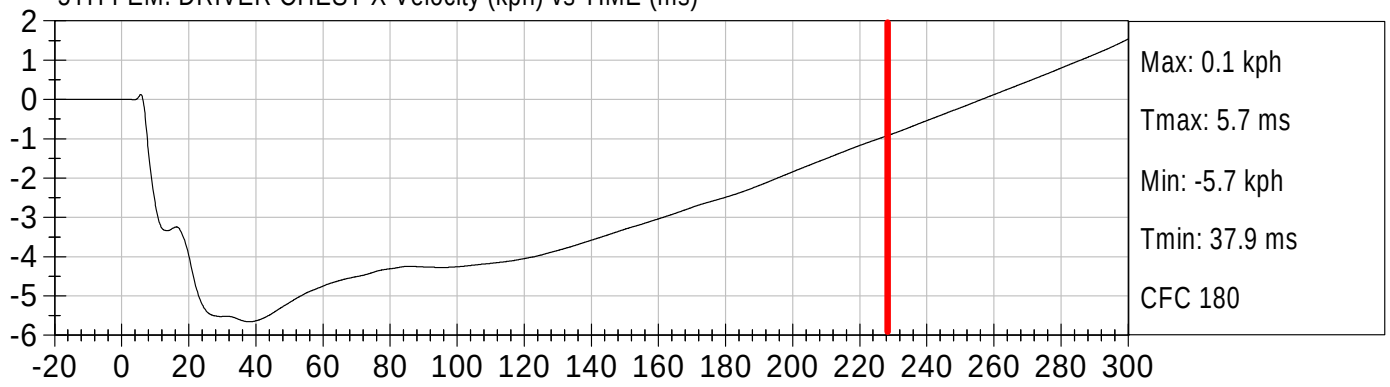


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

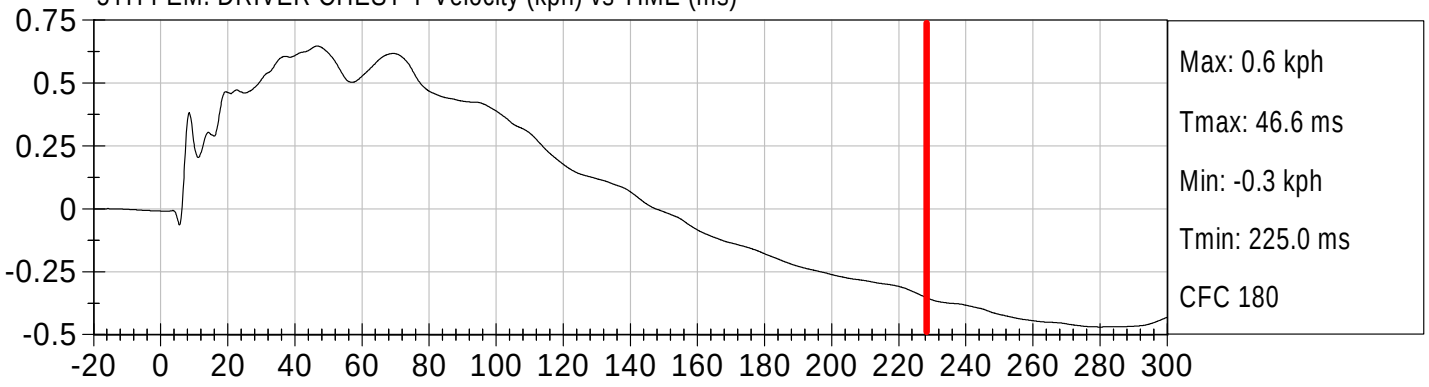
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

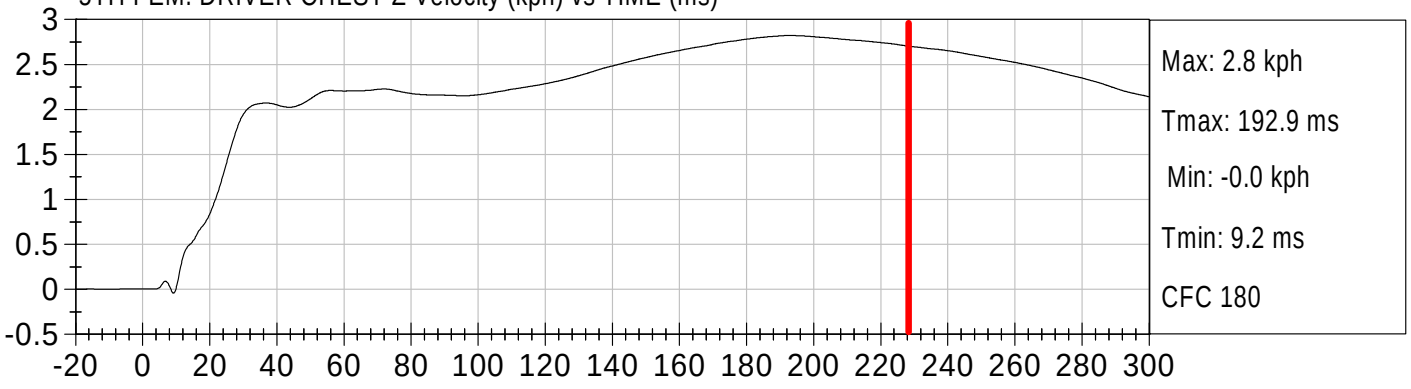
5TH FEM. DRIVER CHEST X Velocity (kph) vs TIME (ms)



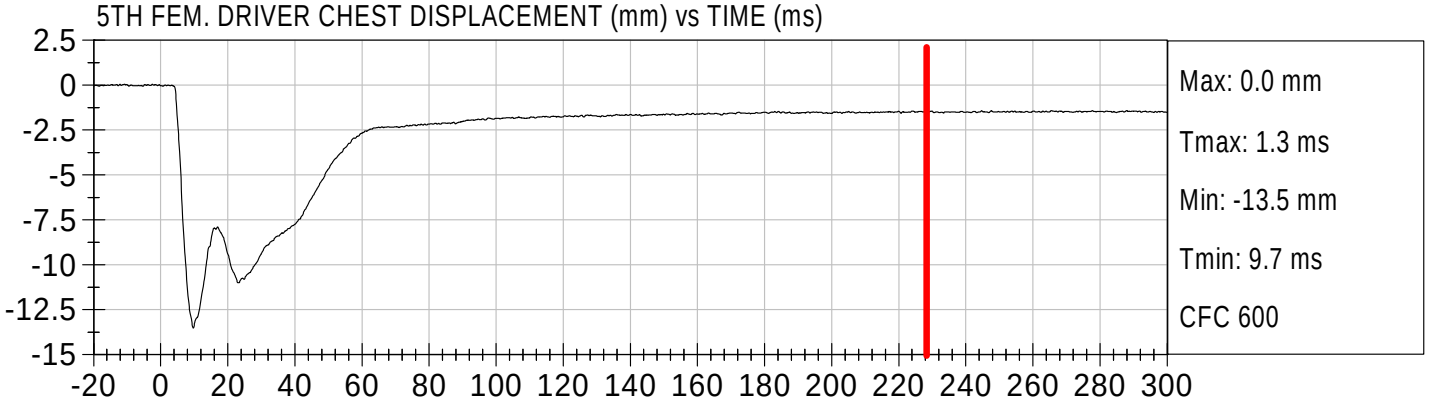
5TH FEM. DRIVER CHEST Y Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER CHEST Z Velocity (kph) vs TIME (ms)



5TH FEM. DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)

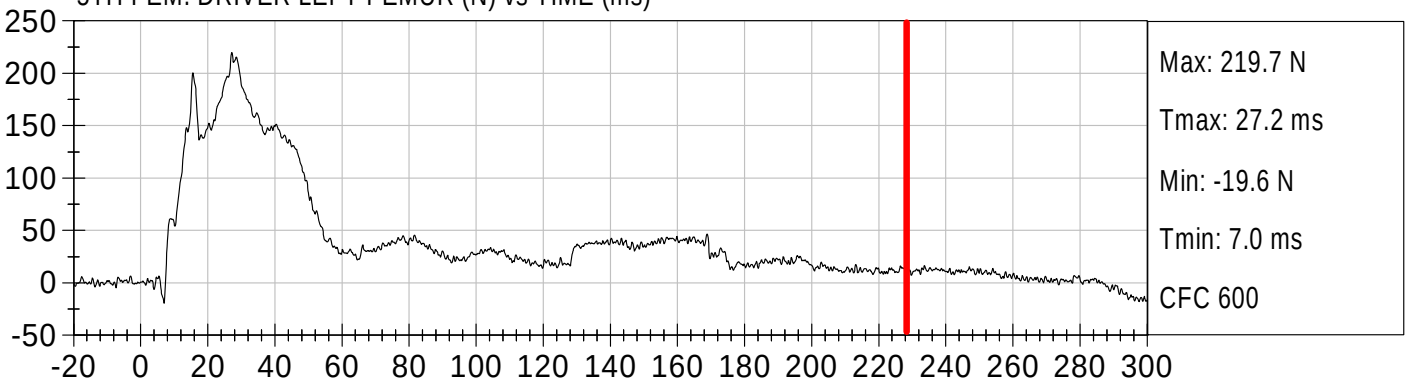


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

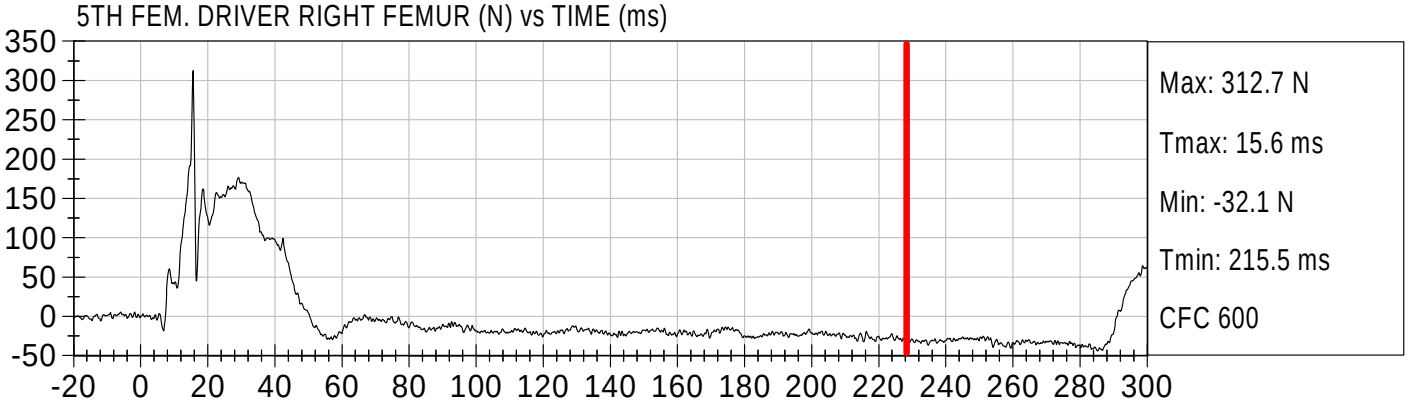
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

5TH FEM. DRIVER LEFT FEMUR (N) vs TIME (ms)



5TH FEM. DRIVER RIGHT FEMUR (N) vs TIME (ms)

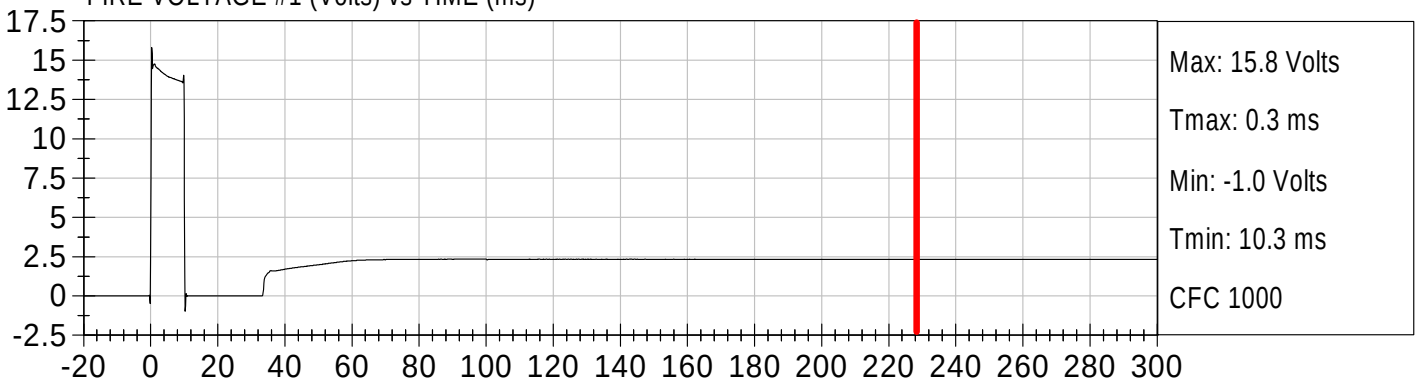


LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

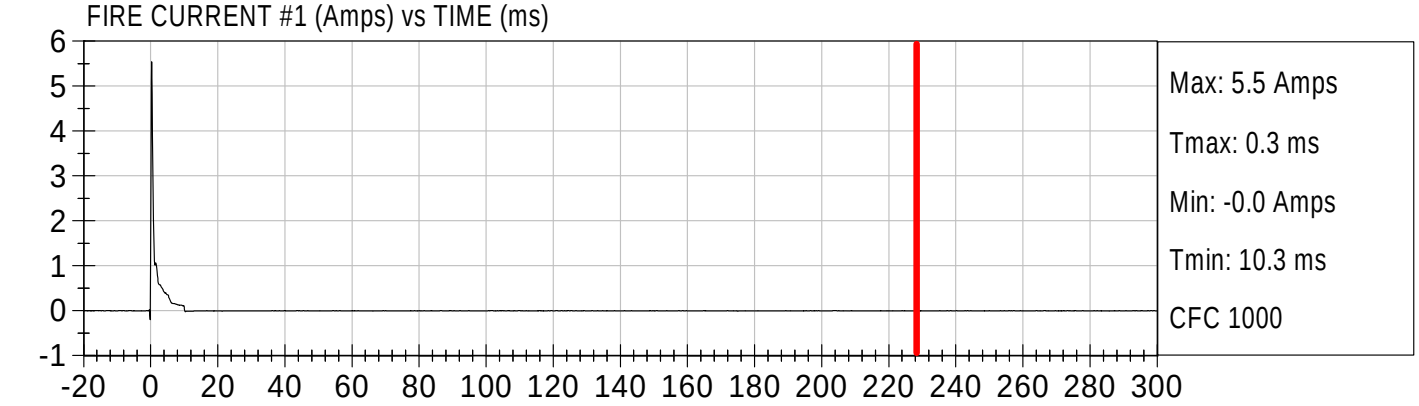
Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)

Injury Values Calculated between 0ms and 225ms

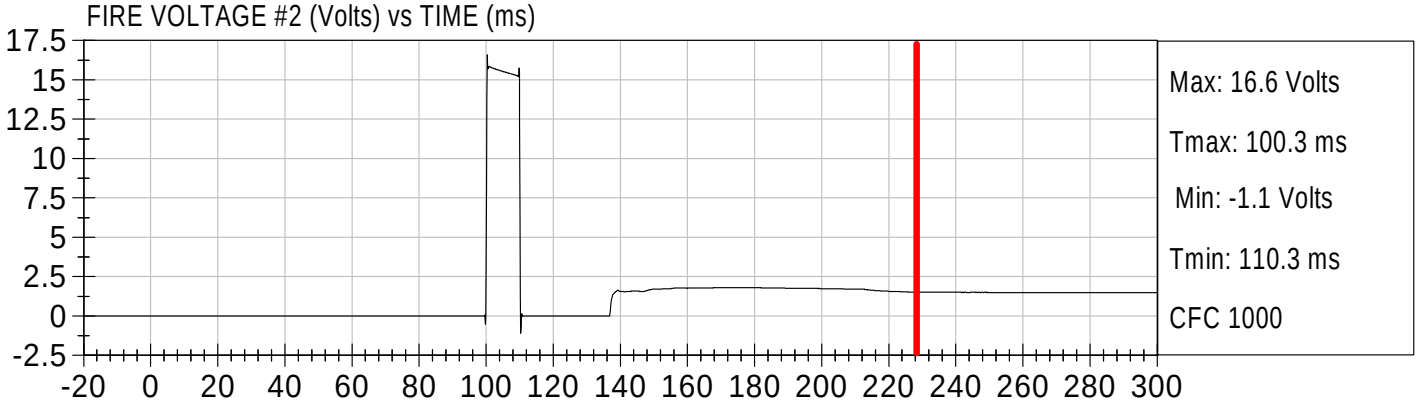
FIRE VOLTAGE #1 (Volts) vs TIME (ms)



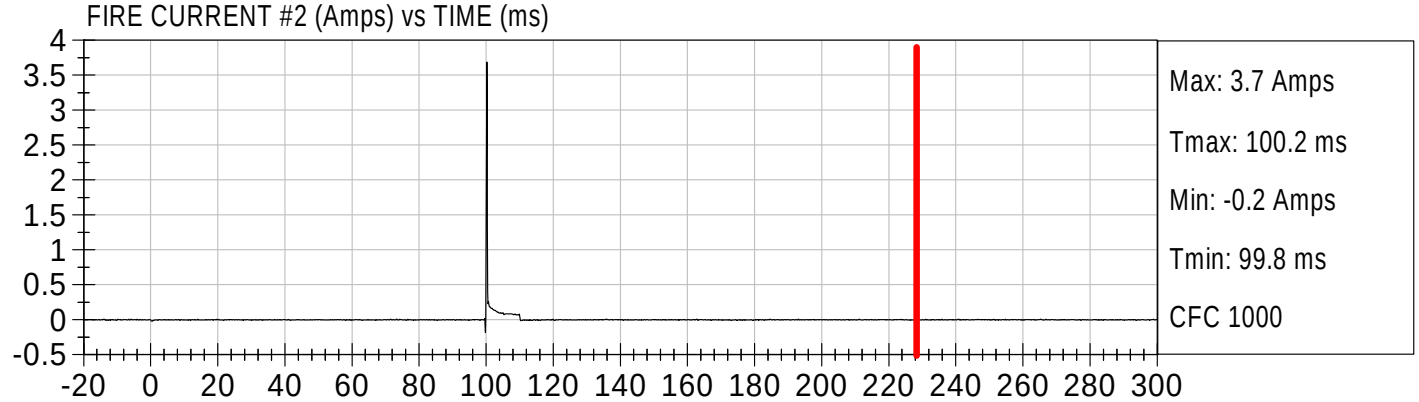
FIRE CURRENT #1 (Amps) vs TIME (ms)



FIRE VOLTAGE #2 (Volts) vs TIME (ms)

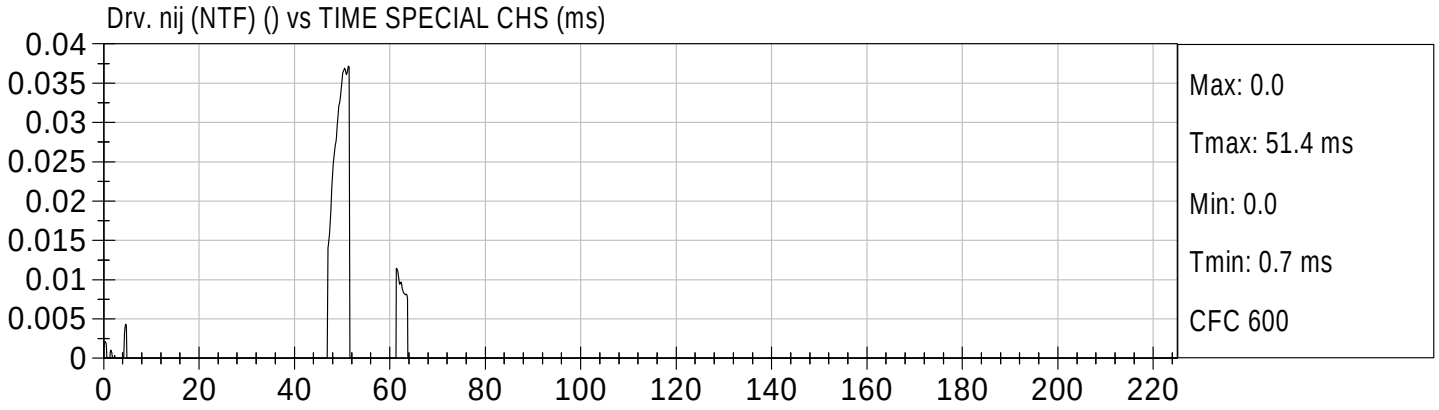


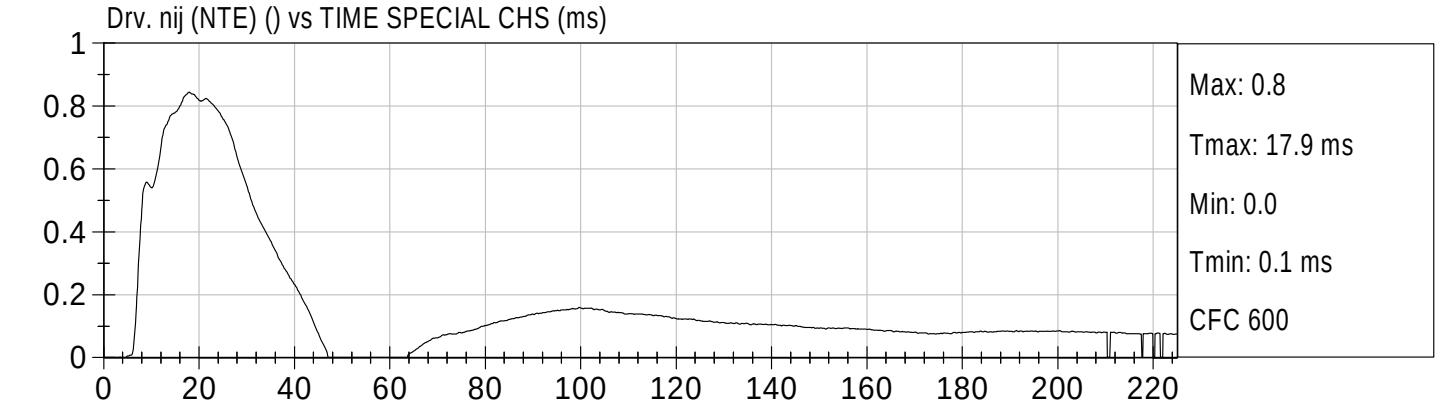
FIRE CURRENT #2 (Amps) vs TIME (ms)

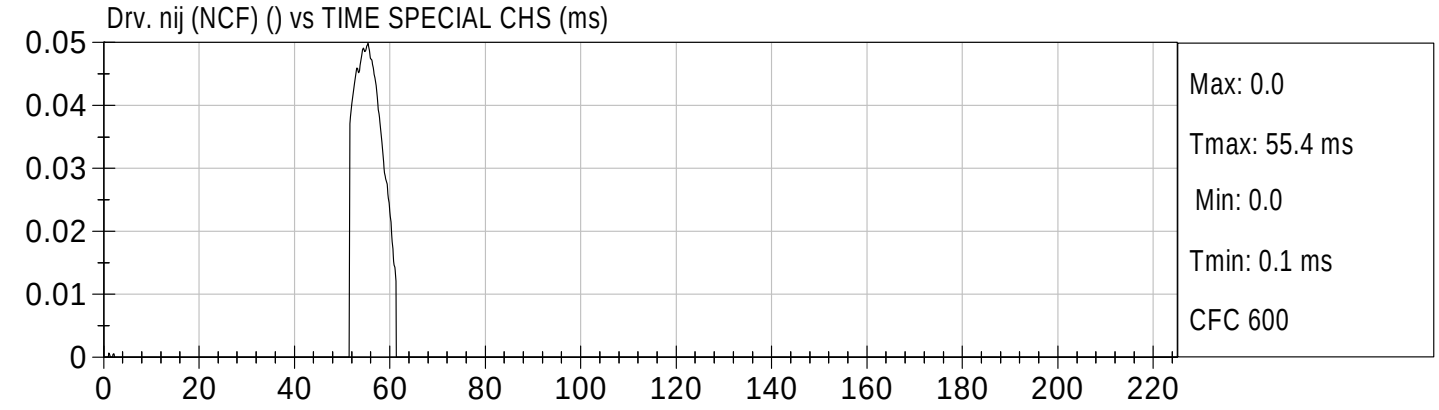


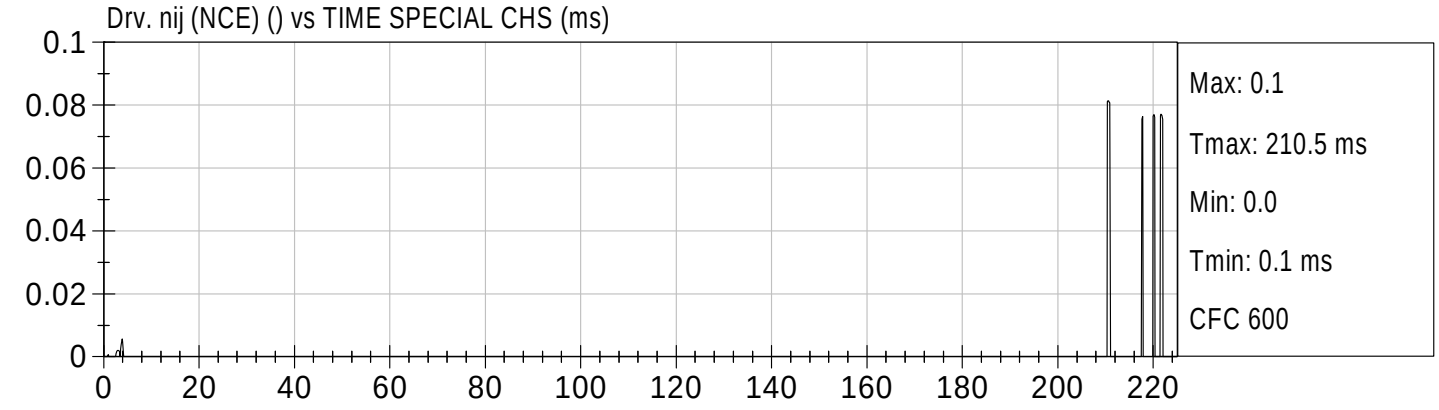
LOW RISK DEPLOYMENT
2008 GMC Acadia (C80107) (5th P2)

Test Date: 6/4/08
Speed: 0.0 mph (0.0 km/h)









APPENDIX C

CRASH TEST PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

C-1.

Vehicle Certification Label

Tire Placard

Pre-Test Front View of Test Vehicle

Post-Test Front View of Test Vehicle

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

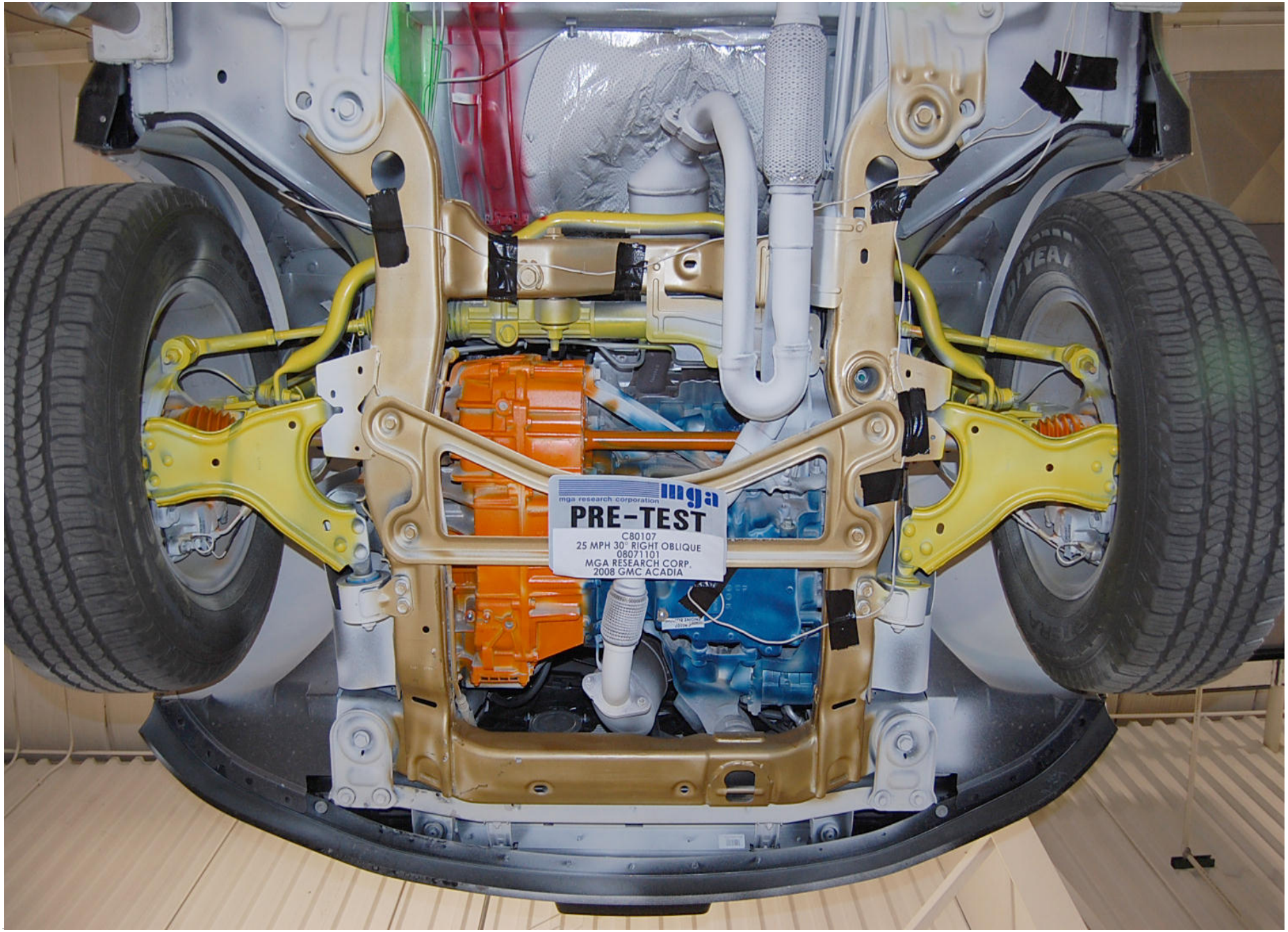
Post-Test Windshield View

Pre-Test Engine Compartment View

Post-Test Engine Compartment View

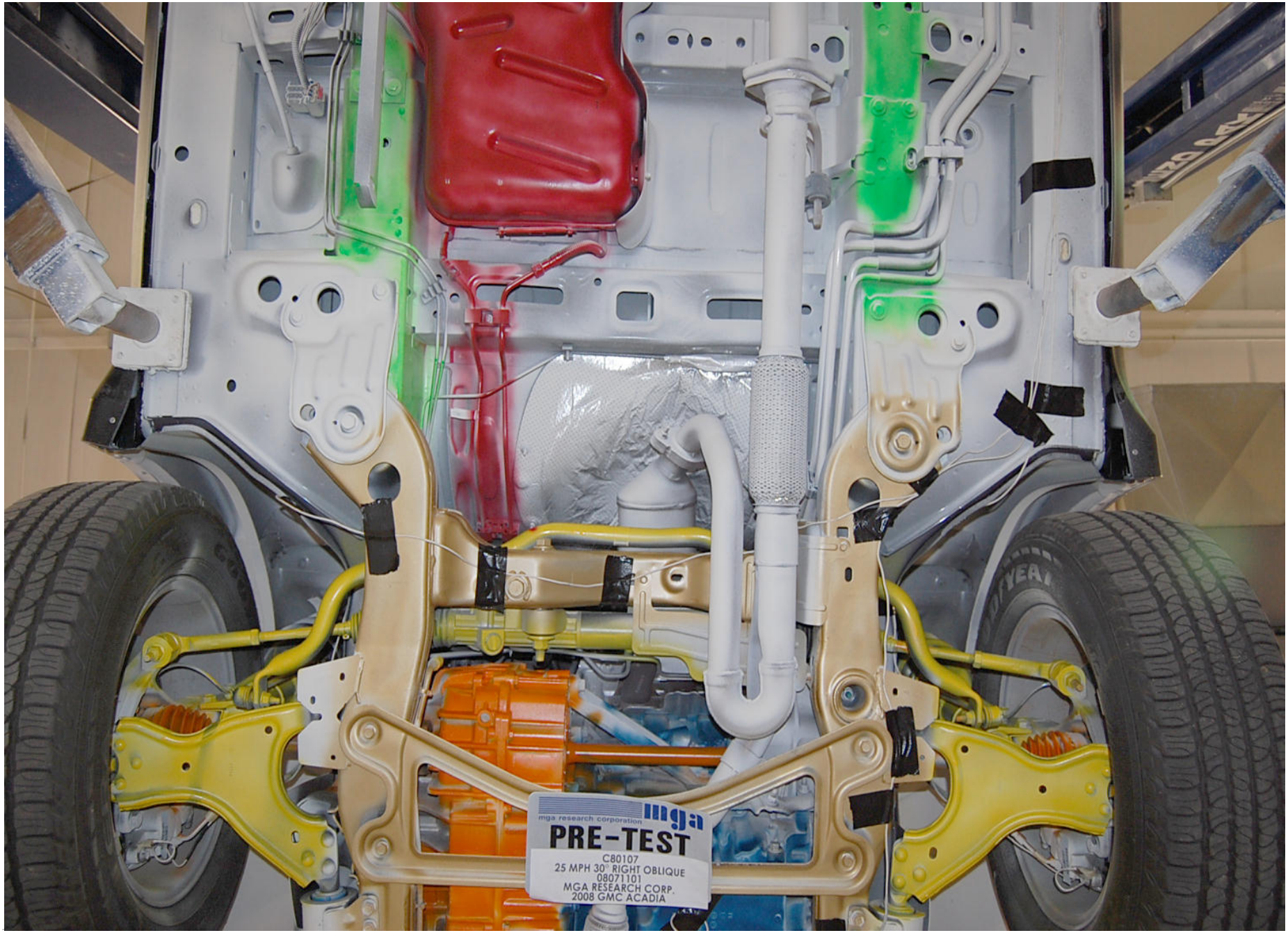
Pre-Test Fuel Filler Cap View

Post-Test Fuel Filler Cap View



Pre-Test Front Underbody View

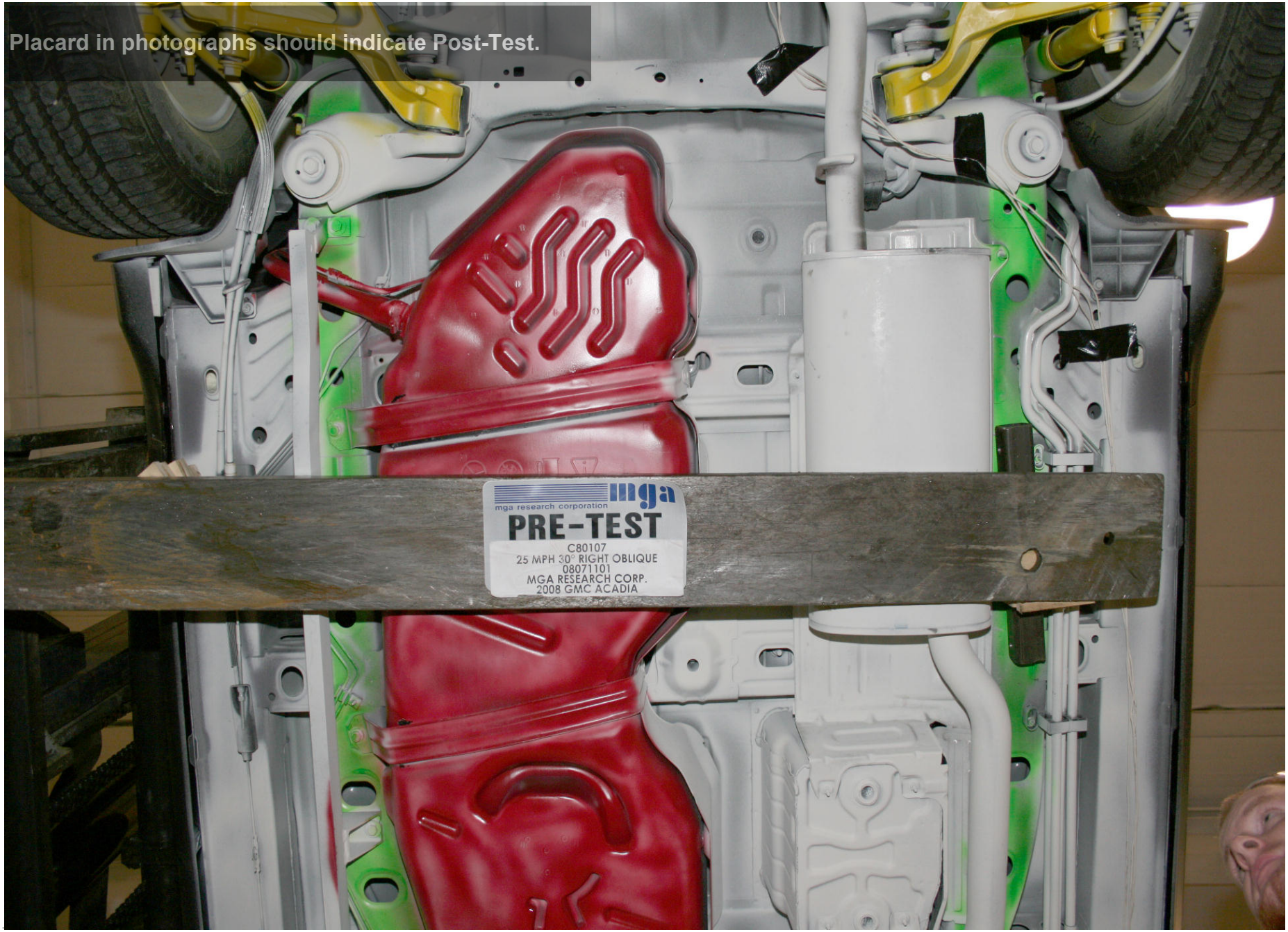
Post-Test Front Underbody View



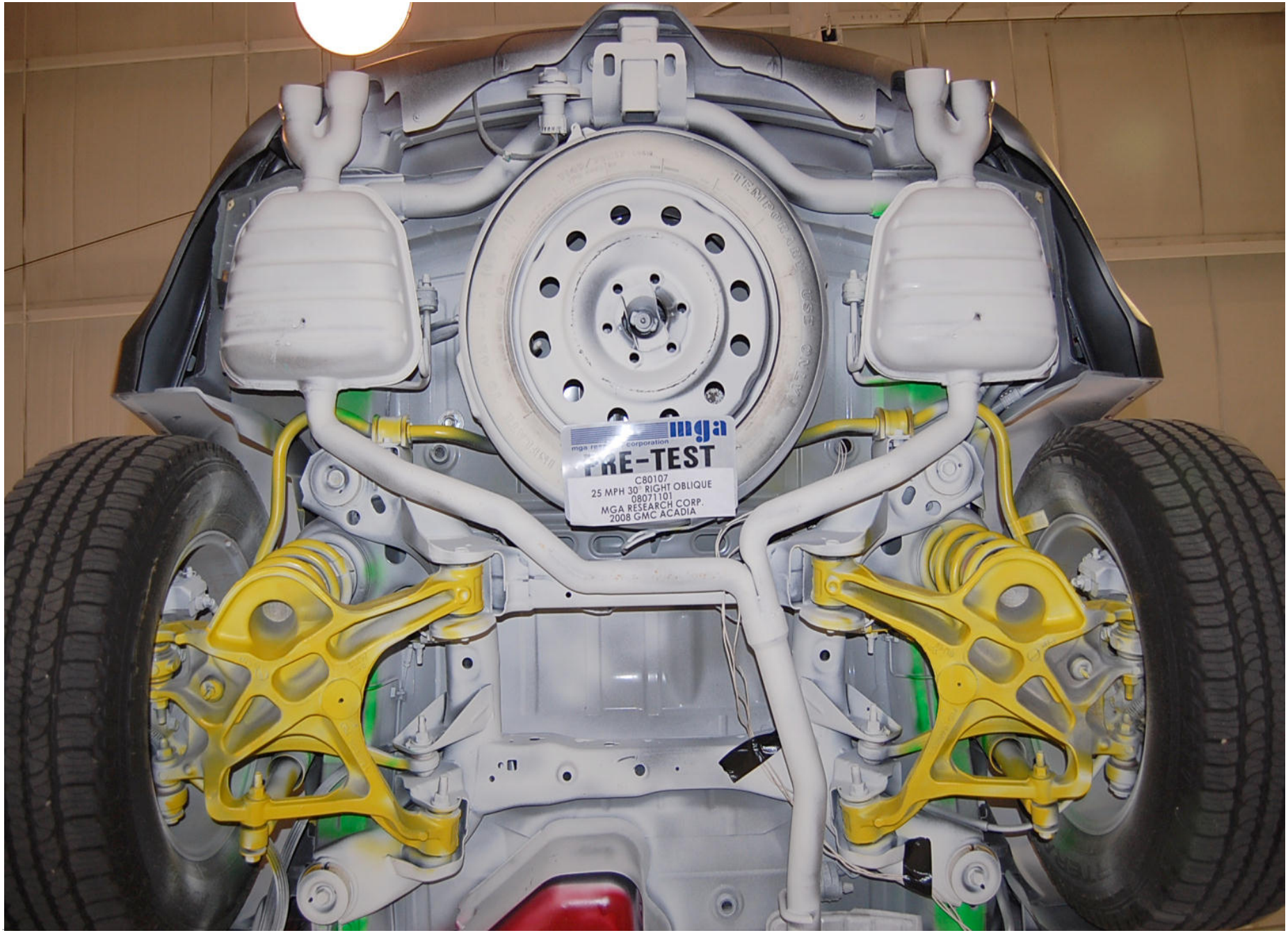
Pre-Test Mid Front Underbody View

Post-Test Mid Front Underbody View

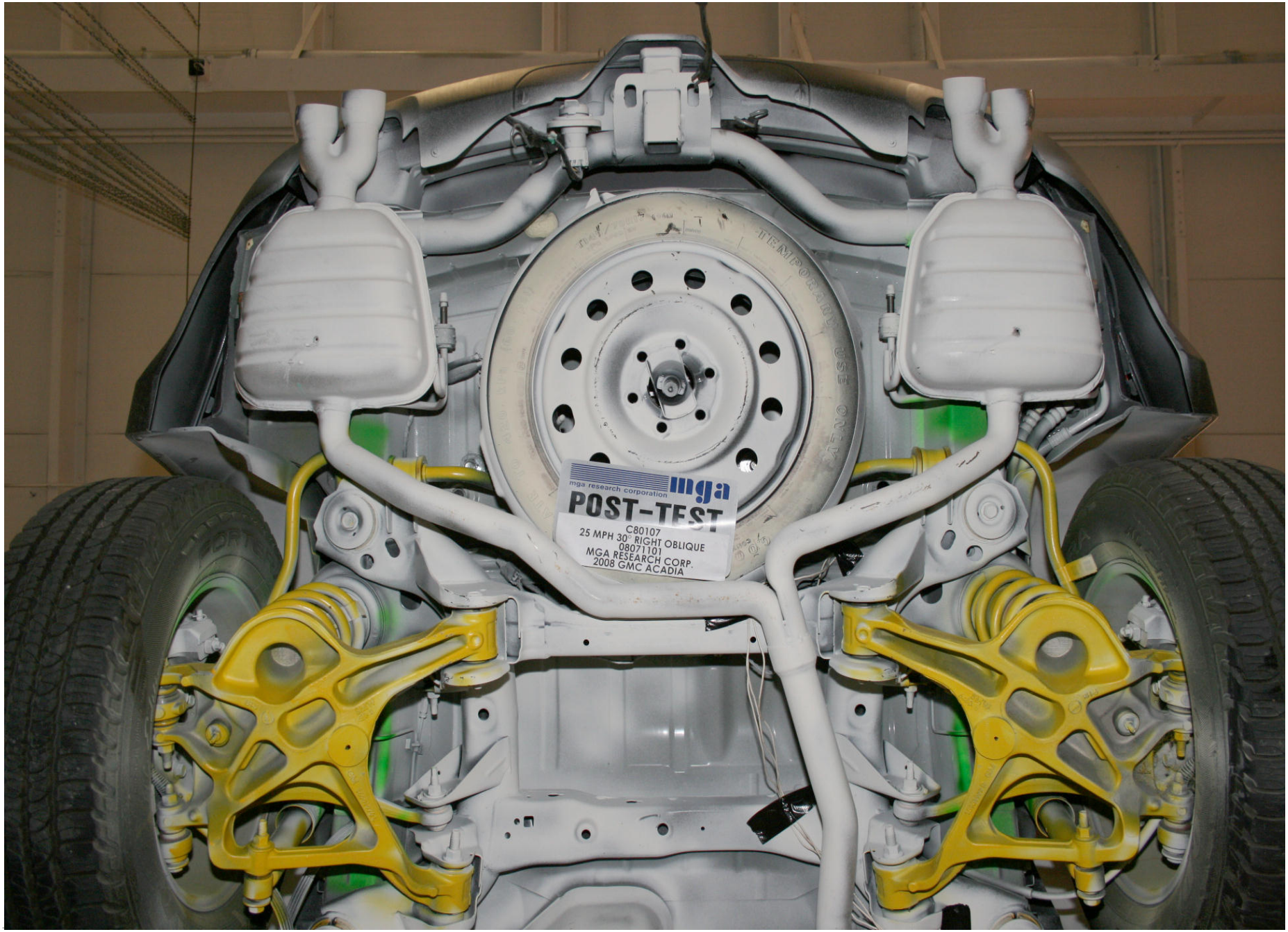
Pre-Test Mid Rear Underbody View



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

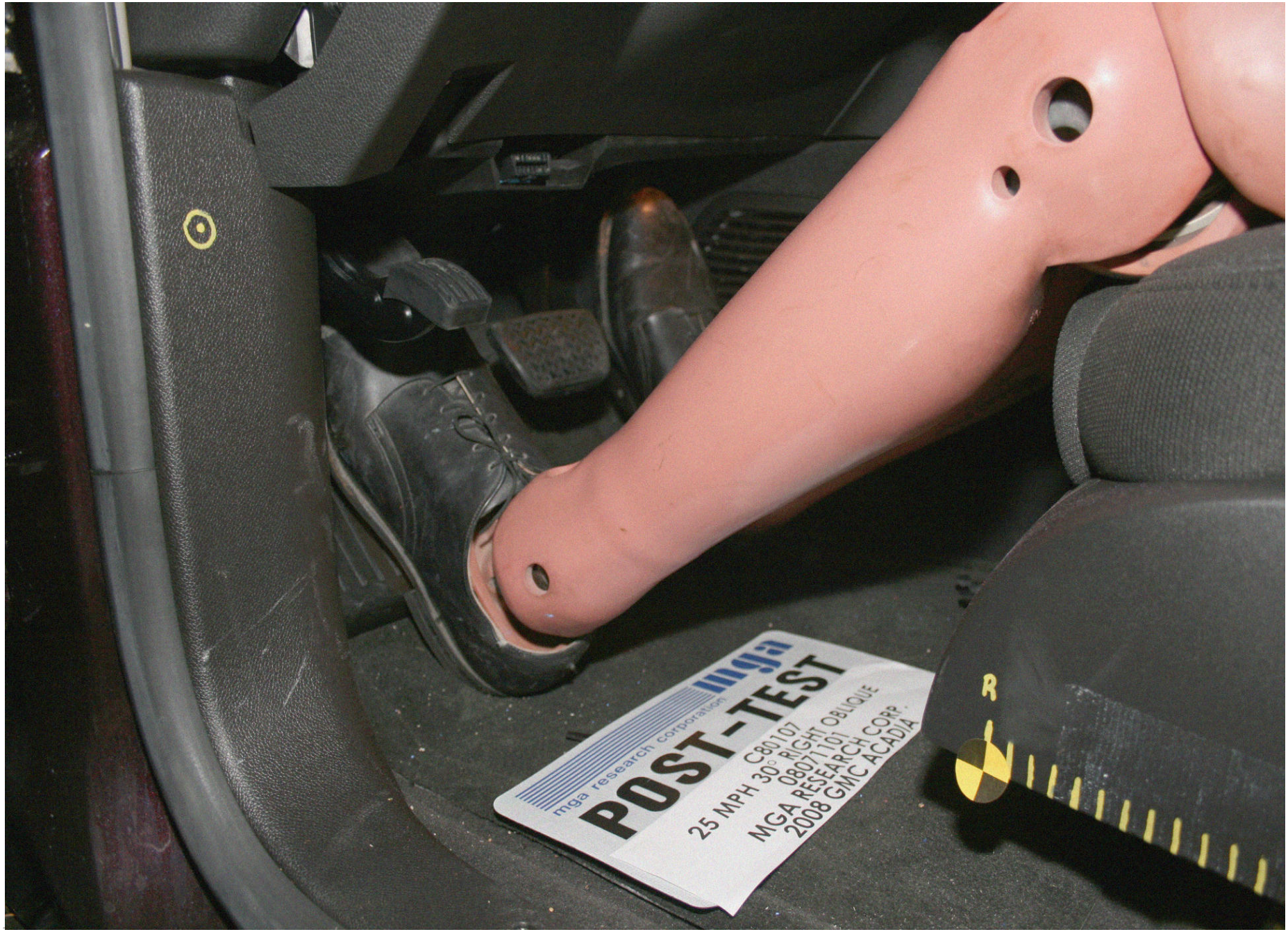
Pre-Test Driver Dummy Position Left Side View (Door Open)

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

Pre-Test Driver Dummy Seat Position

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 Knee Contact (left side)

Post-Test Driver Dummy Knee Contact (right side)

Post-Test Driver Dummy Airbag Contact

Pre-Test Passenger Dummy Front View (head position)

Post-Test Passenger Dummy Front View (head position)

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)

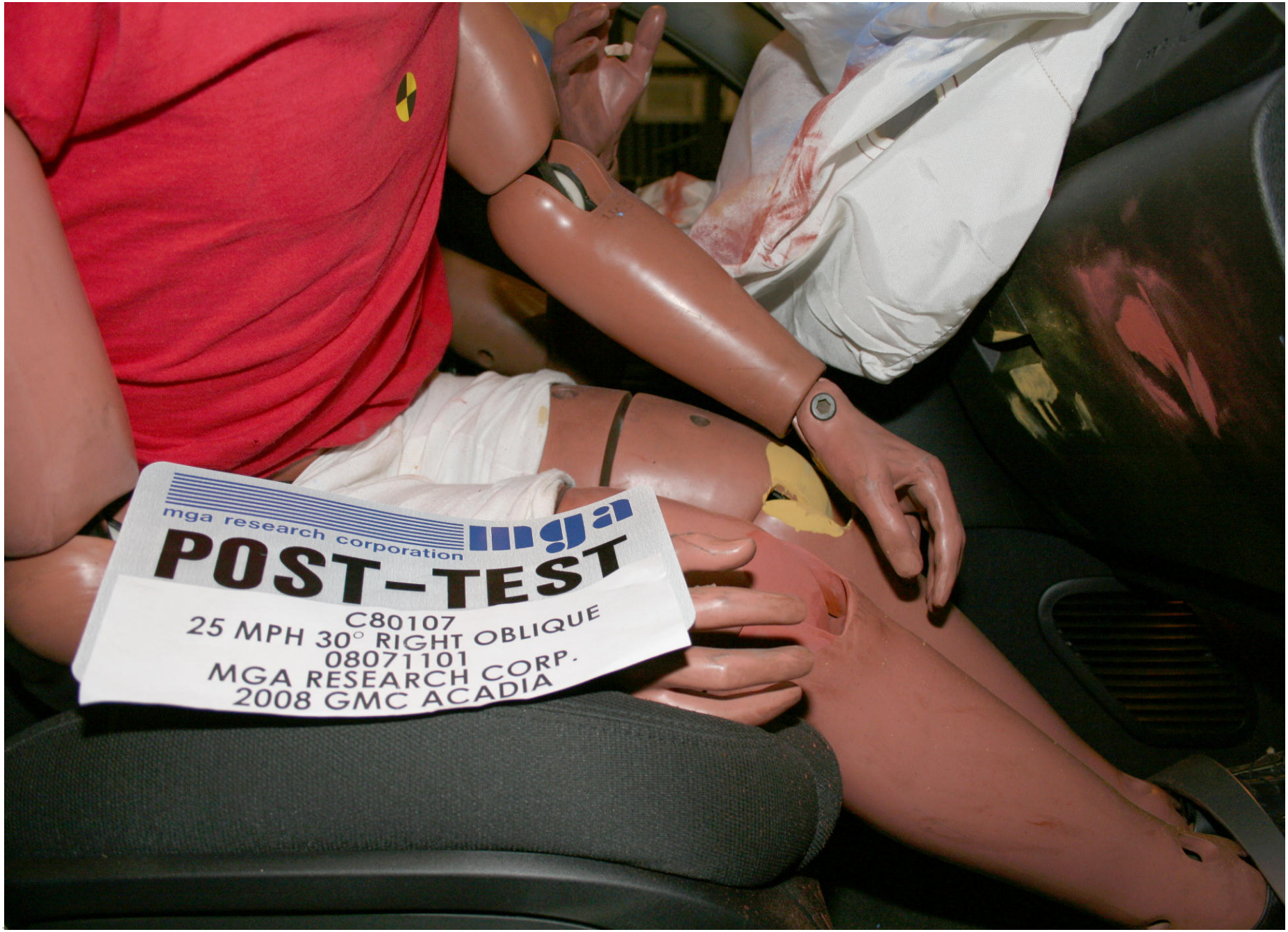
Pre-Test Passenger Dummy Seat Position

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



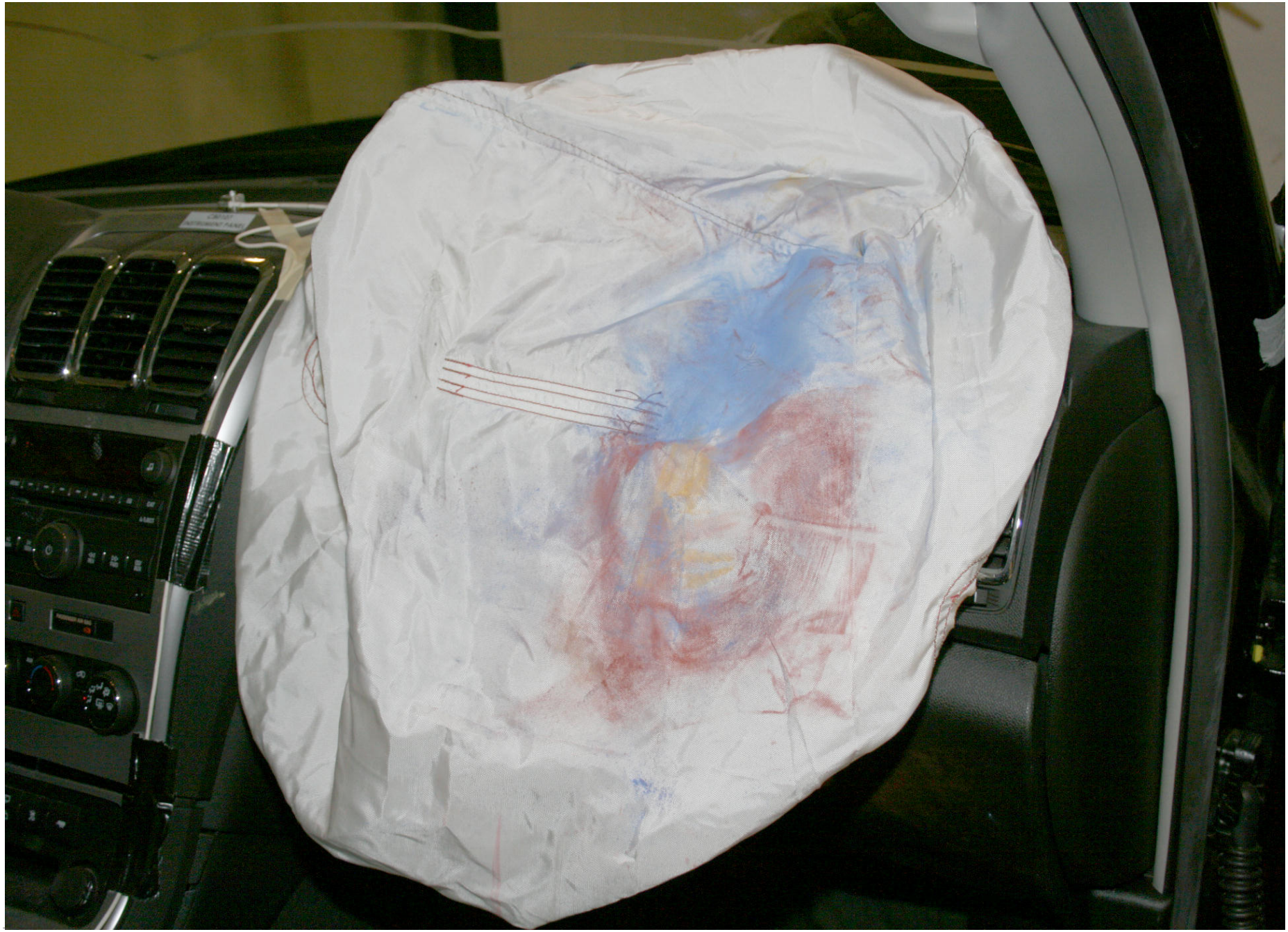
Post-Test Passenger Side Knee Bolster View

Post-Test Passenger Dummy Head Contact View (windshield)

Post-Test Passenger Dummy Head Contact View (C-pillar)

Post-Test Passenger Dummy Head Contact View (visor)

Post-Test Passenger Dummy Knee Contact



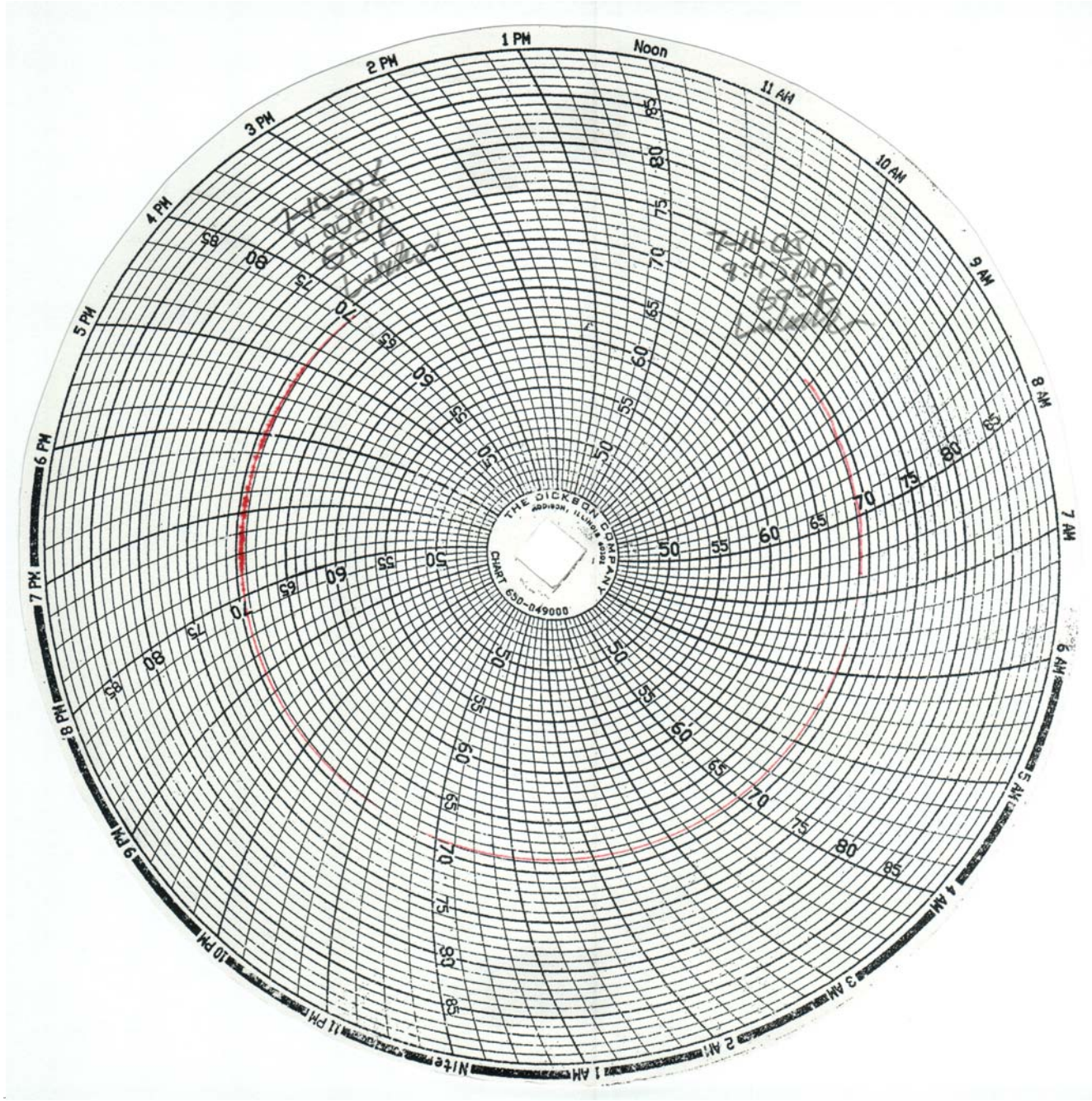
Post-Test Passenger Dummy Airbag Contact

Rollover 90 Degrees

Rollover 180 Degrees

Rollover 270 Degrees

Rollover 360 Degrees



Temperature Plot

APPENDIX D

LOW RISK PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Pre-Test 5th Fem. P1 Driver Dummy Left Side View

Post-Test 5th Fem. P1 Driver Dummy Left Side View

Pre-Test 5th Fem. P1 Driver Dummy Right Side View

Post-Test 5th Fem. P1 Driver Dummy Right Side View

Post-Test 5th Fem. P1 Driver Dummy Airbag Left Side View

Post-Test 5th Fem. P1 Driver Dummy Head Contact (headrest)

Pre-Test 5th Fem. P2 Driver Dummy Left Side View

Post-Test 5th Fem. P2 Driver Dummy Left Side View

Pre-Test 5th Fem. P2 Driver Dummy Right Side View

Post-Test 5th Fem. P2 Driver Dummy Right Side View

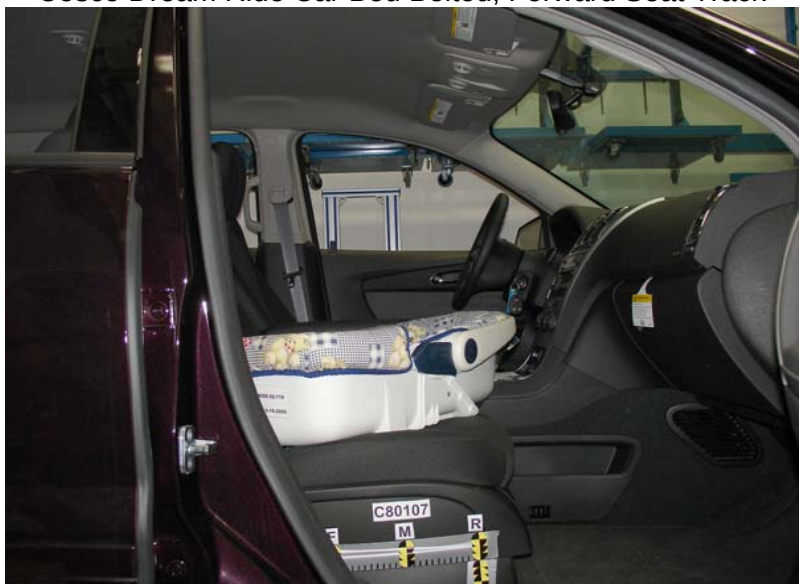
Post-Test 5th Fem. P2 Driver Dummy Airbag Left Side View

APPENDIX E
SUPPRESSION PHOTOGRAPHS

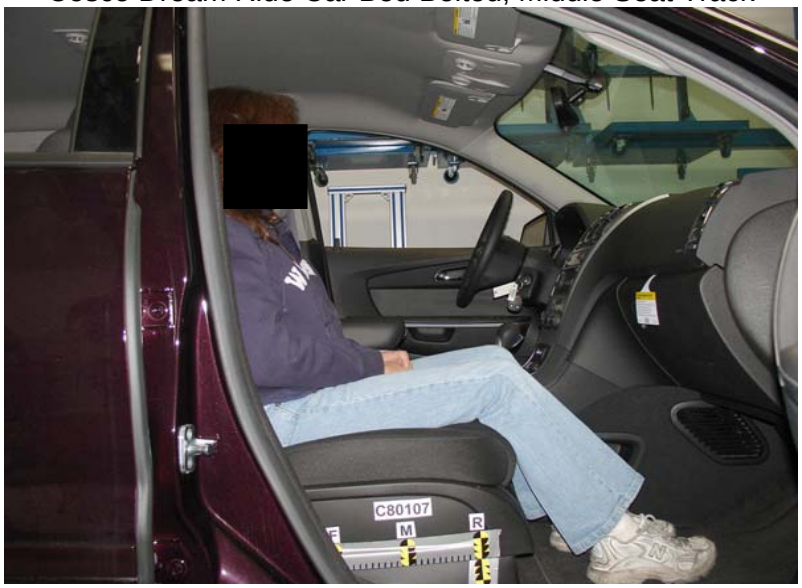
TABLE OF PHOTOGRAPHS

Cosco Dream Ride Car Bed Belted, Forward Seat Track

Cosco Dream Ride Car Bed Belted, Middle Seat Track



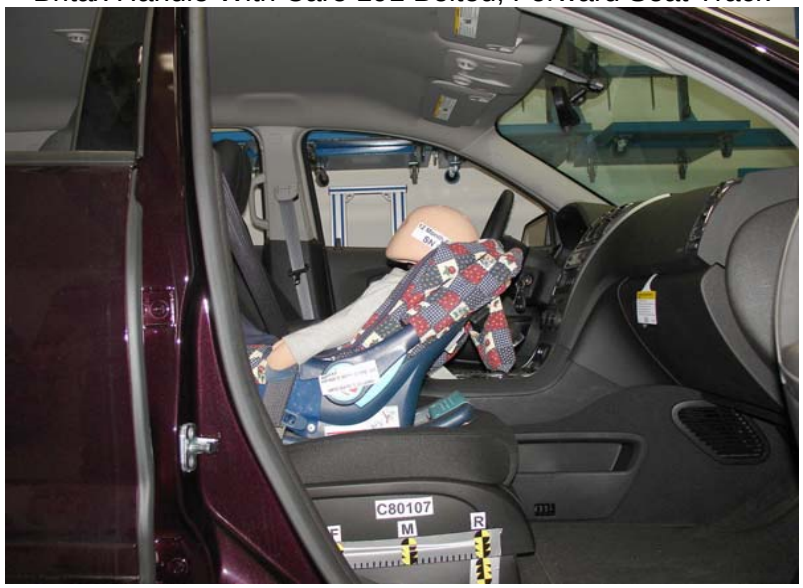
Cosco Dream Ride Car Bed Belted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

Britax Handle With Care 191 Belted, Forward Seat Track

Britax Handle With Care 191 Belted, Middle Seat Track

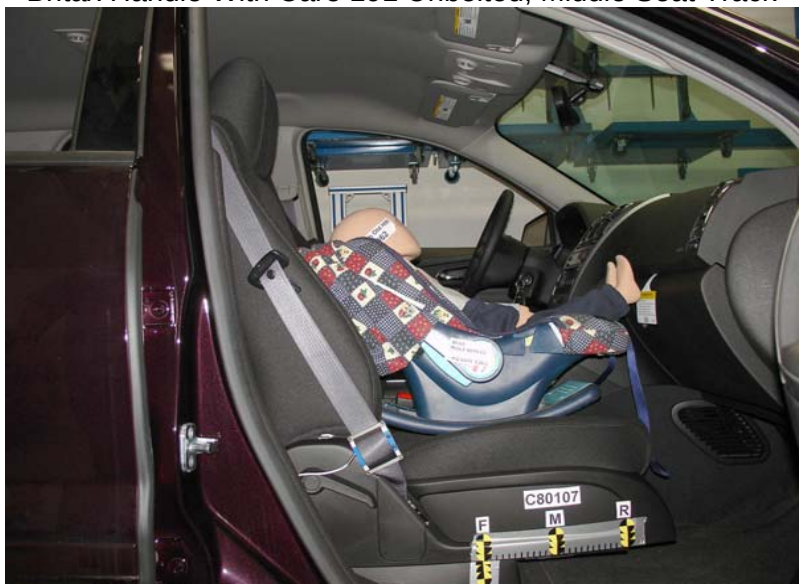


Britax Handle With Care 191 Belted, Rearward Seat Track

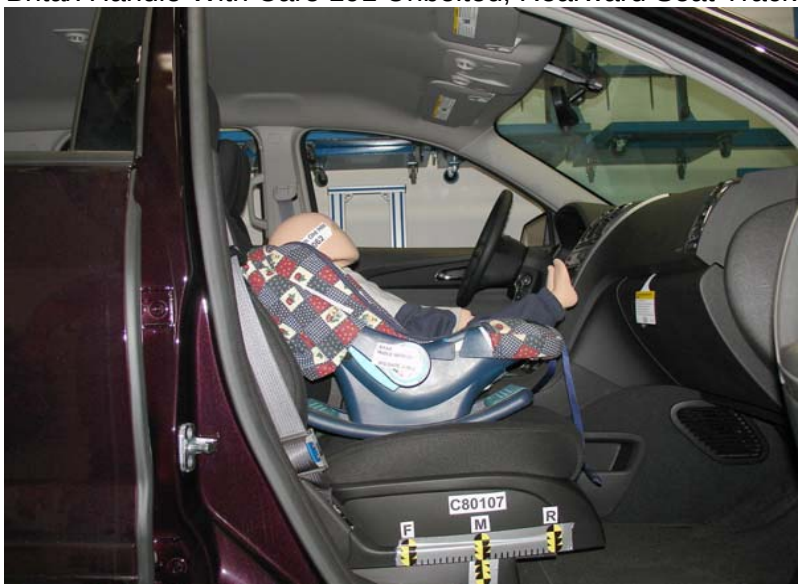
Britax Handle With Care 191 Unbelted, Forward Seat Track

Britax Handle With Care 191 Unbelted, Middle Seat Track

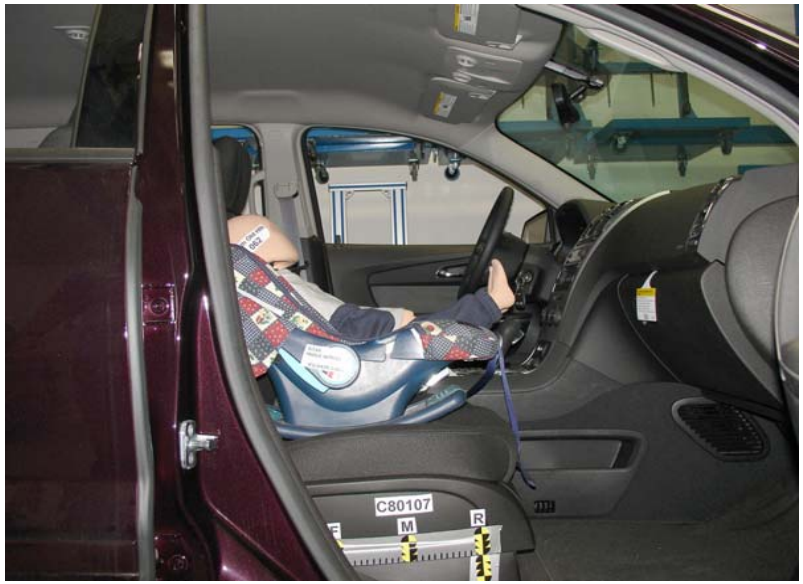
Britax Handle With Care 191 Unbelted, Rearward Seat Track



Britax Handle With Care 191 Forward Facing Unbelted, Forward Seat Track



Britax Handle With Care 191 Forward Facing Unbelted, Middle Seat Track

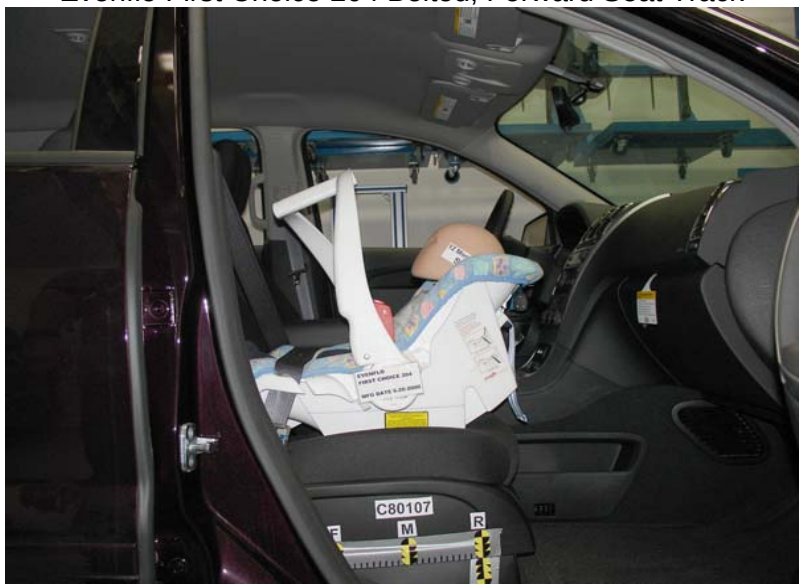


Britax Handle With Care 191 Forward Facing Unbelted,
Rearward Seat Track

Unbelted 5th Percentile Female Reactivation,
Middle Seat Track

Evenflo First Choice 204 Belted, Forward Seat Track

Evenflo First Choice 204 Belted, Middle Seat Track

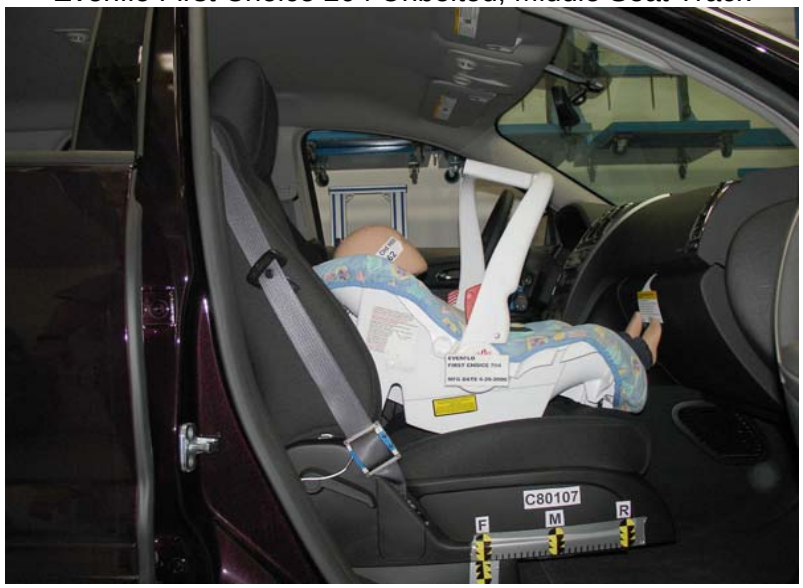


Evenflo First Choice 204 Belted, Rearward Seat Track

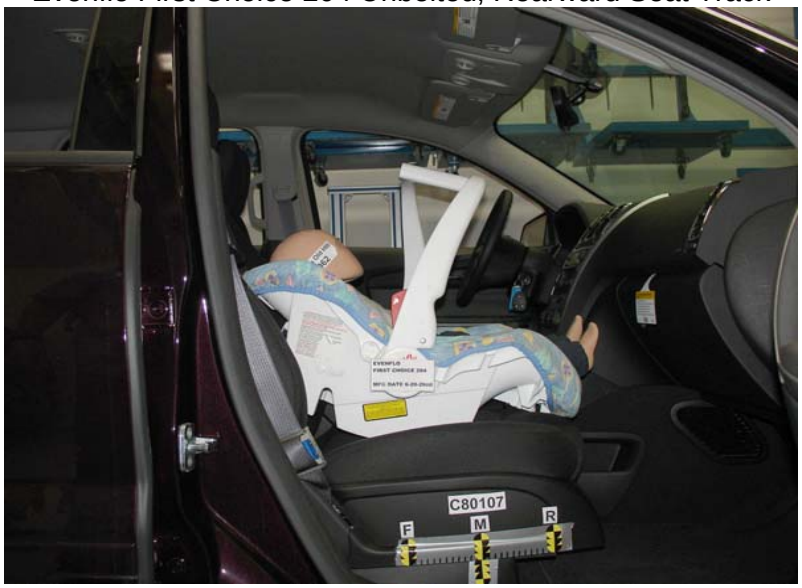
Evenflo First Choice 204 Unbelted, Forward Seat Track

Evenflo First Choice 204 Unbelted, Middle Seat Track

Evenflo First Choice 204 Unbelted, Rearward Seat Track

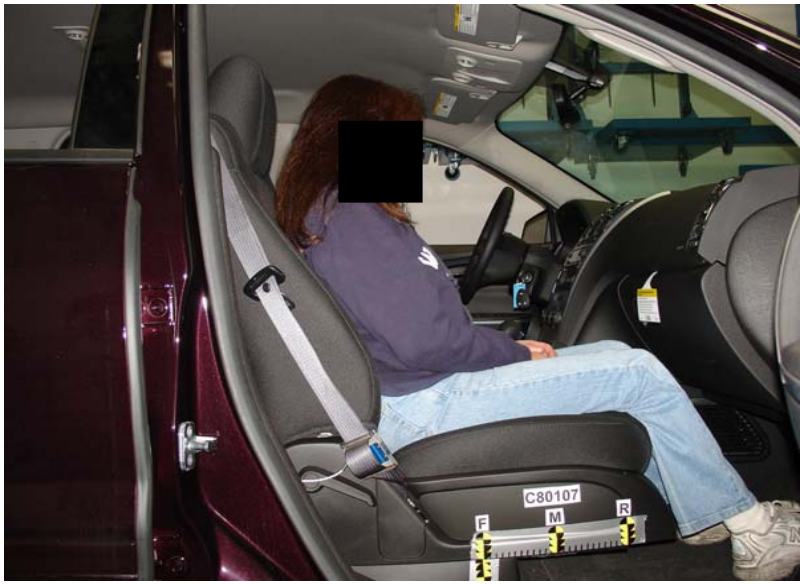


Evenflo First Choice 204 Forward Facing Unbelted, Forward Seat Track



Evenflo First Choice 204 Forward Facing Unbelted, Middle Seat Track

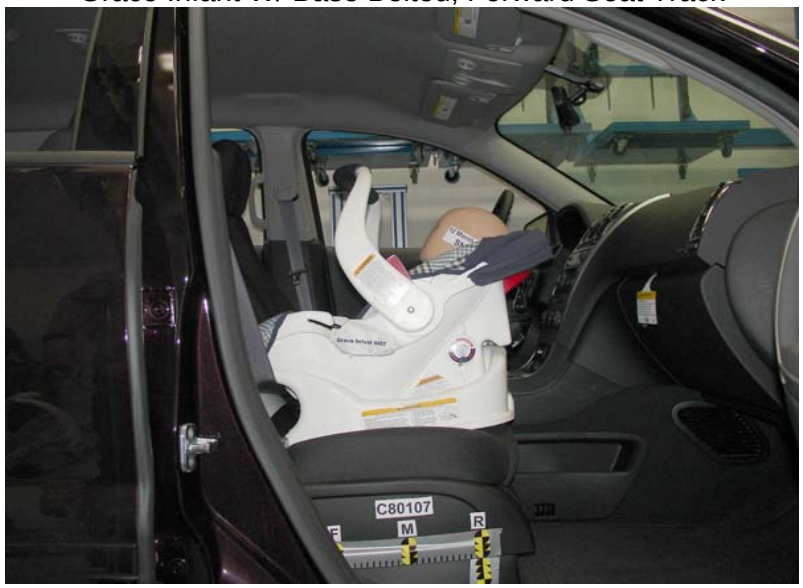
Evenflo First Choice 204 Forward Facing Unbelted,
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,
Forward Seat Track

Graco Infant W/ Base Belted, Forward Seat Track

Graco Infant W/ Base Belted, Middle Seat Track

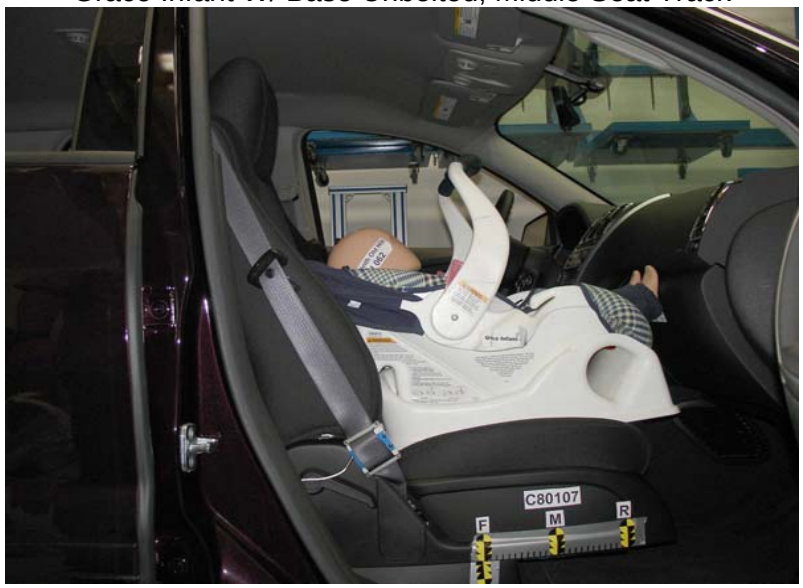


Graco Infant W/ Base Belted, Rearward Seat Track

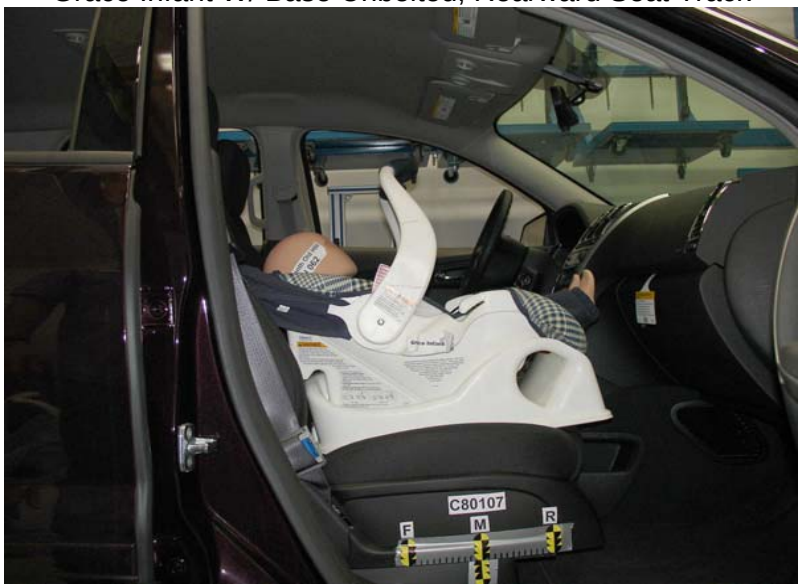
Graco Infant W/ Base Unbelted, Forward Seat Track

Graco Infant W/ Base Unbelted, Middle Seat Track

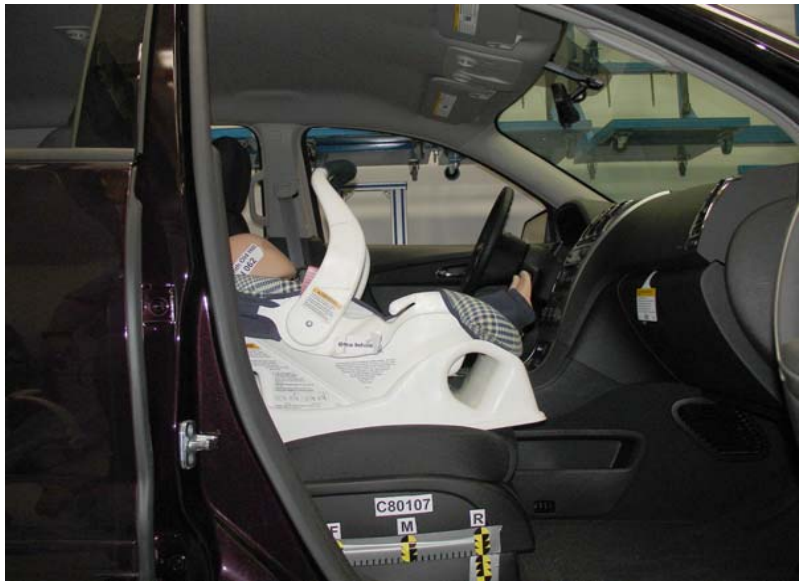
Graco Infant W/ Base Unbelted, Rearward Seat Track



Graco Infant W/ Base Forward Facing Unbelted, Forward Seat Track



Graco Infant W/ Base Forward Facing Unbelted, Middle Seat Track



Graco Infant W/ Base Forward Facing Unbelted, Rearward Seat Track

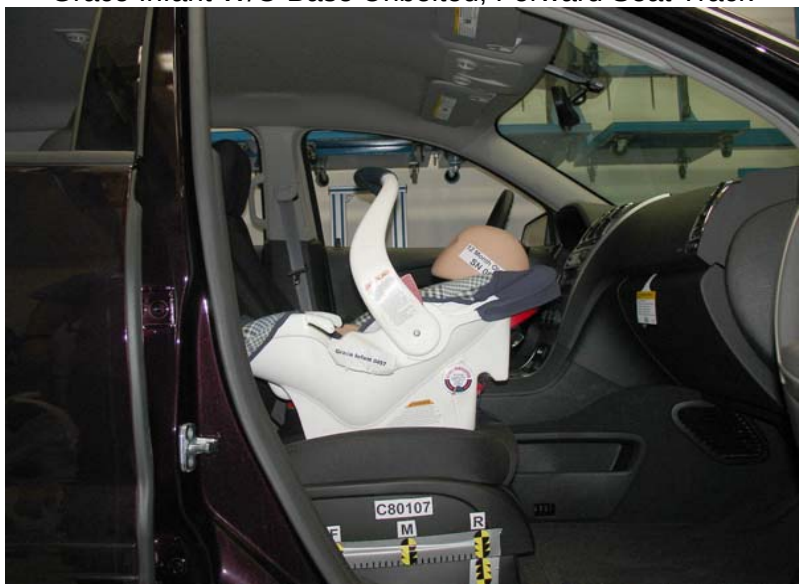
Graco Infant W/O Base Belted, Forward Seat Track

Graco Infant W/O Base Belted, Middle Seat Track

Graco Infant W/O Base Belted, Rearward Seat Track

Graco Infant W/O Base Unbelted, Forward Seat Track

Graco Infant W/O Base Unbelted, Middle Seat Track

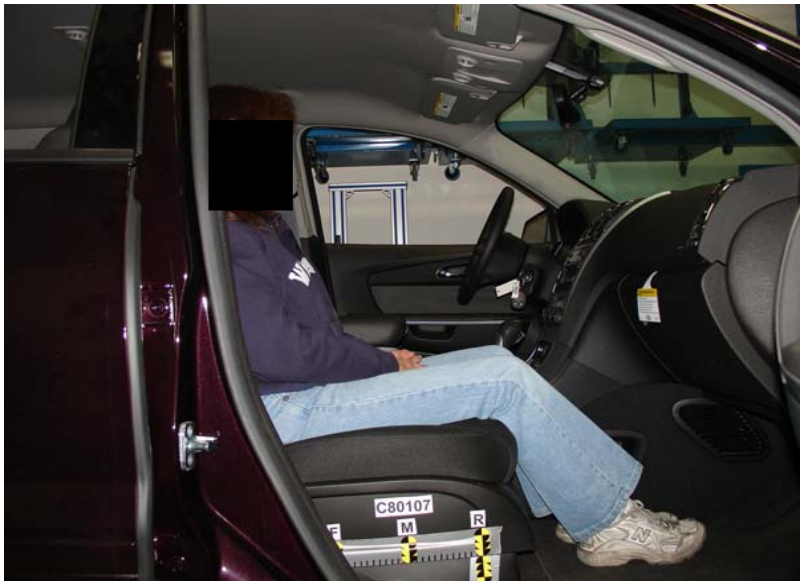


Graco Infant W/O Base Unbelted, Rearward Seat Track

Graco Infant W/O Base Forward Facing Unbelted, Forward Seat Track

Graco Infant W/O Base Forward Facing Unbelted,
Middle Seat Track

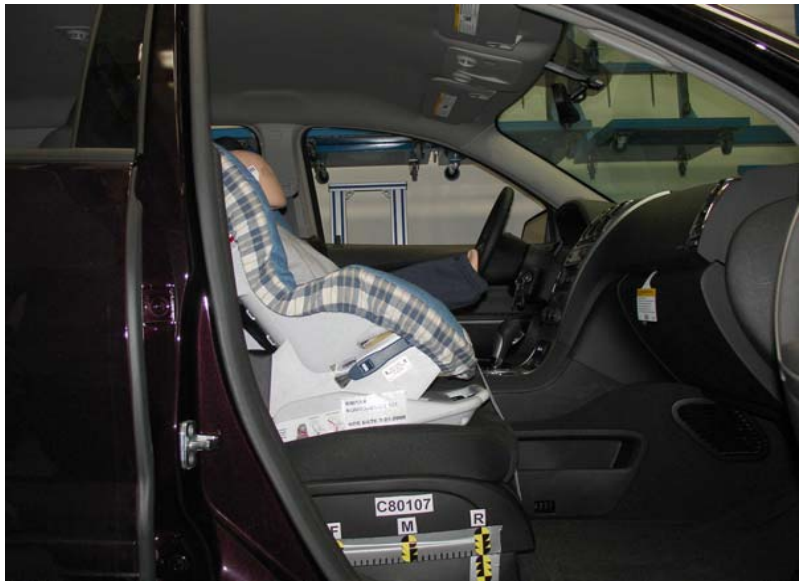
Graco Infant W/O Base Forward Facing Unbelted,
Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,
Rearward Seat Track

Britax Roundabout 161 Forward Facing Belted,
Forward Seat Track

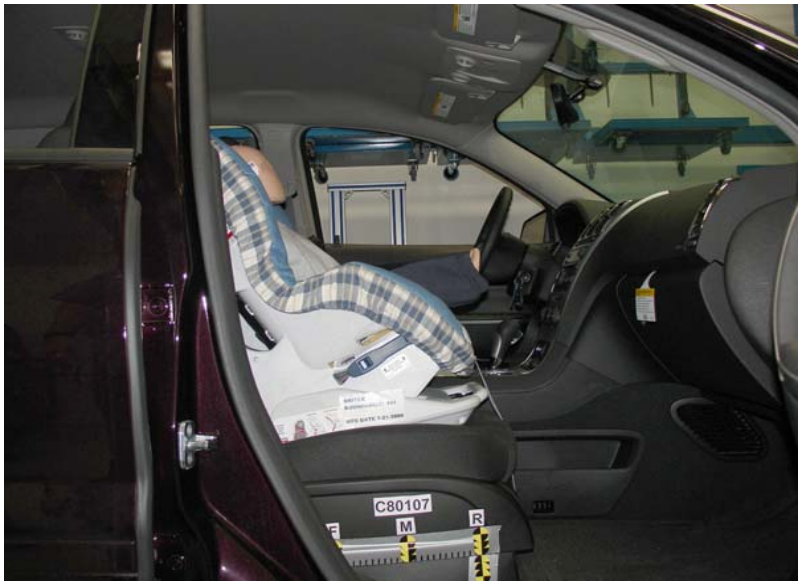
Britax Roundabout 161 Forward Facing Belted,
Middle Seat Track



Britax Roundabout 161 Forward Facing Belted,
Rearward Seat Track

Britax Roundabout 161 Forward Facing Unbelted,
Forward Seat Track

Britax Roundabout 161 Forward Facing Unbelted,
Middle Seat Track



Britax Roundabout 161 Forward Facing Unbelted,
Rearward Seat Track

Britax Roundabout 161 Rear Facing Belted,
Forward Seat Track

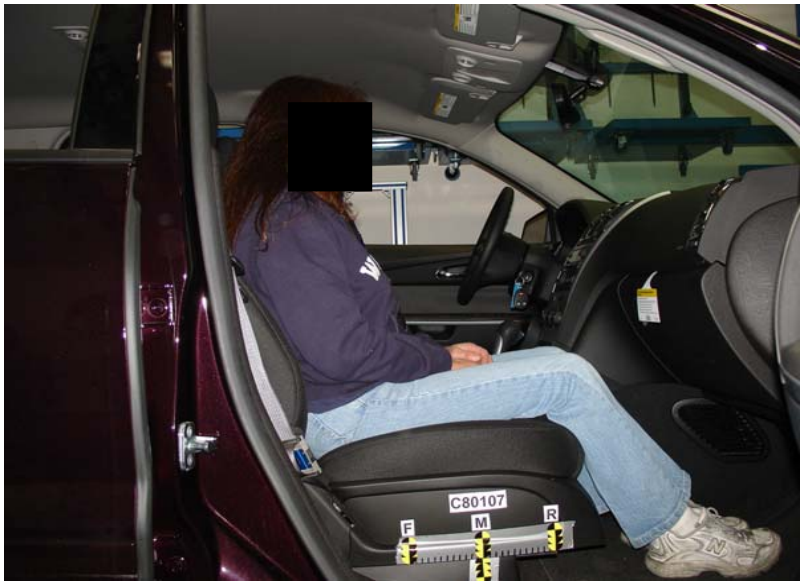
Britax Roundabout 161 Rear Facing Belted,
Middle Seat Track

Britax Roundabout 161 Rear Facing Belted,
Rearward Seat Track

Britax Roundabout 161 Rear Facing Unbelted,
Forward Seat Track

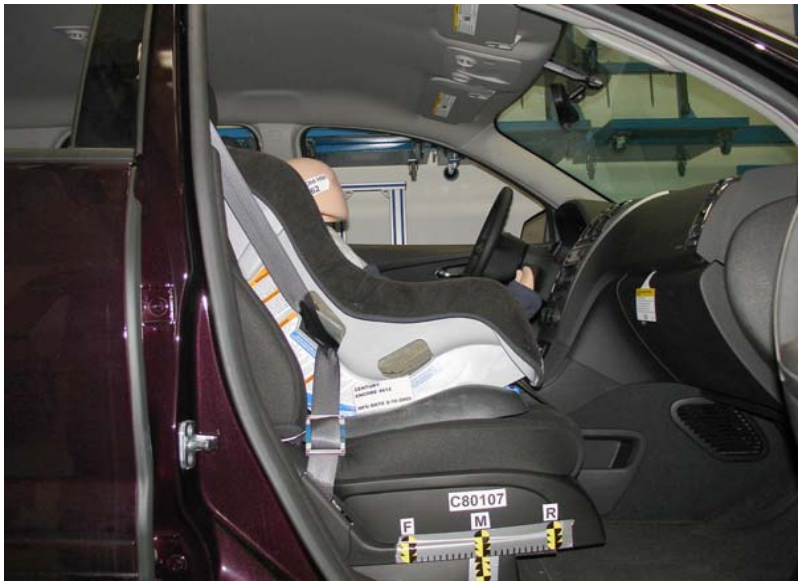
Britax Roundabout 161 Rear Facing Unbelted,
Middle Seat Track

Britax Roundabout 161 Rear Facing Unbelted,
Rearward Seat Track

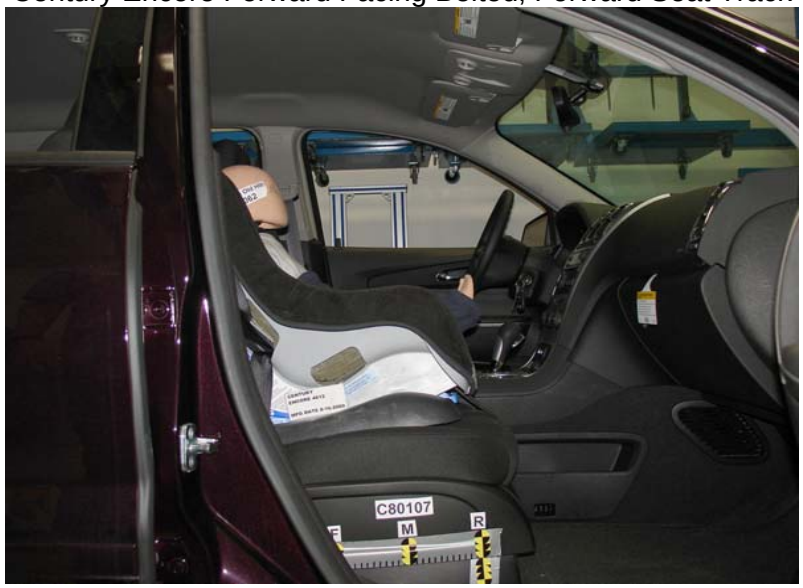


Unbelted 5th Percentile Female Reactivation,
Middle Seat Track

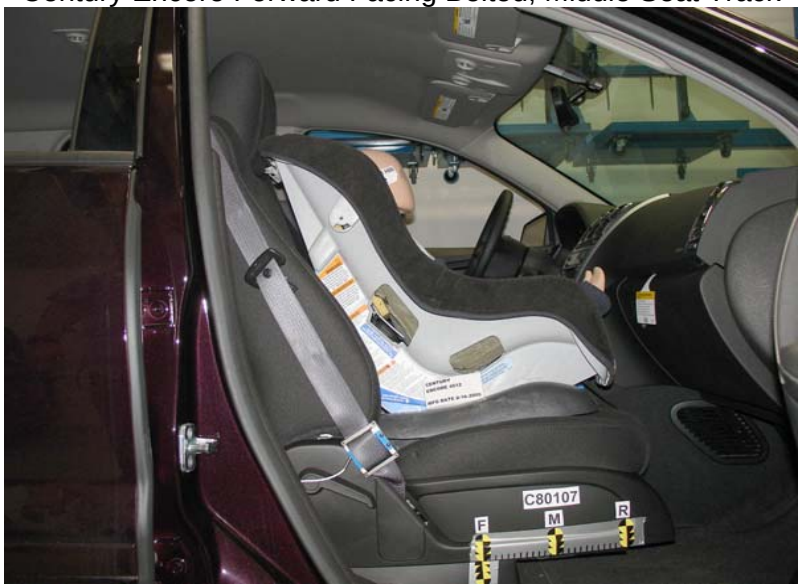
Century Encore Forward Facing Belted, Forward Seat Track



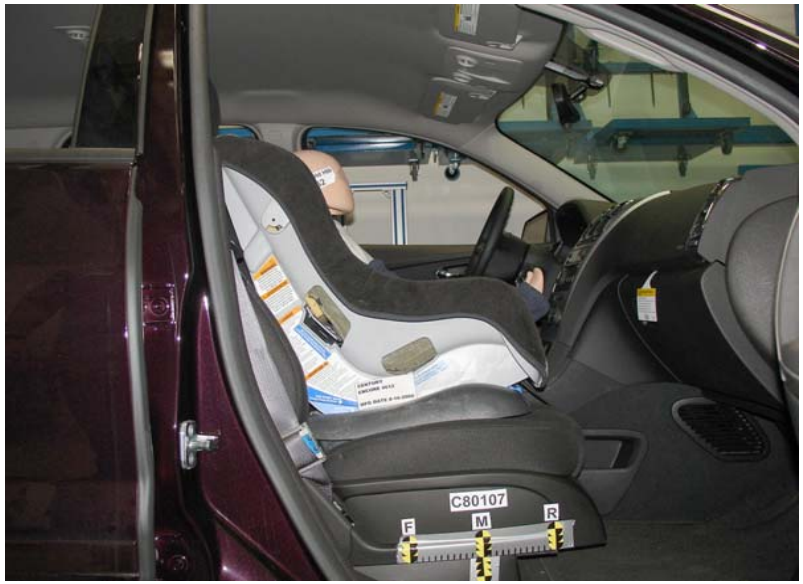
Century Encore Forward Facing Belted, Middle Seat Track



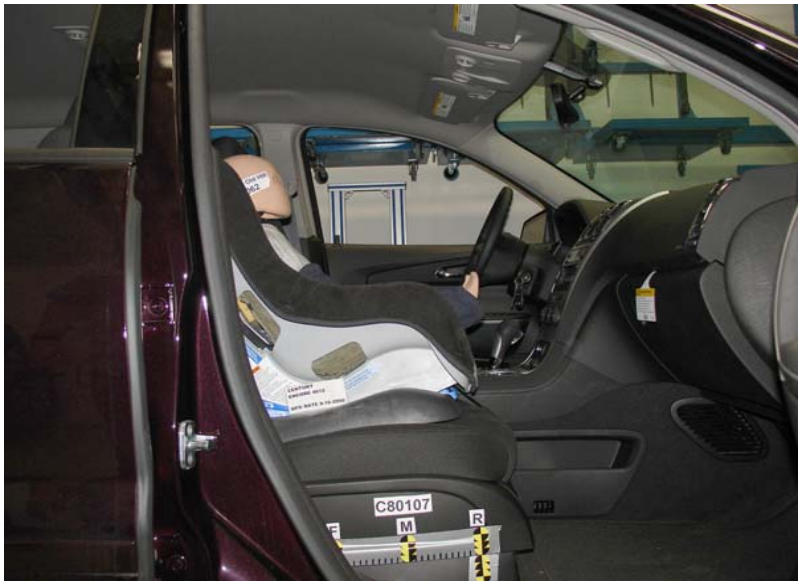
Century Encore Forward Facing Belted, Rearward Seat Track



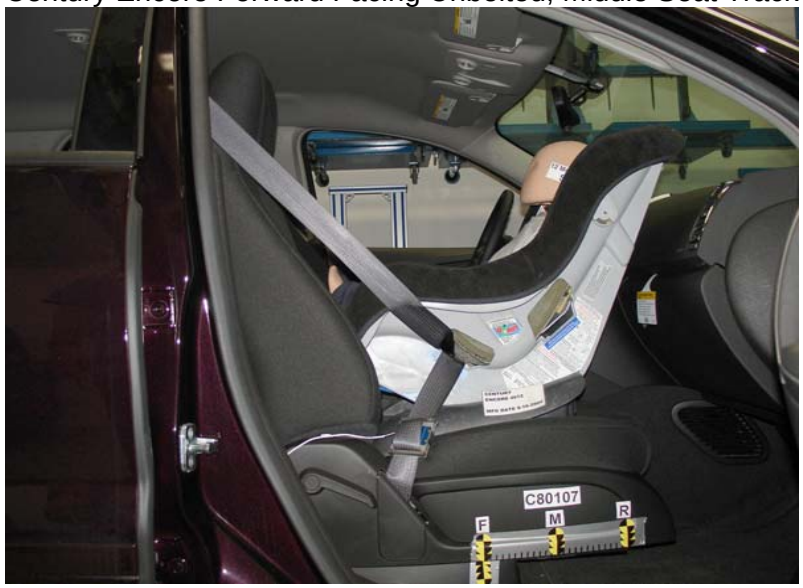
Century Encore Forward Facing Unbelted, Forward Seat Track



Century Encore Forward Facing Unbelted, Middle Seat Track

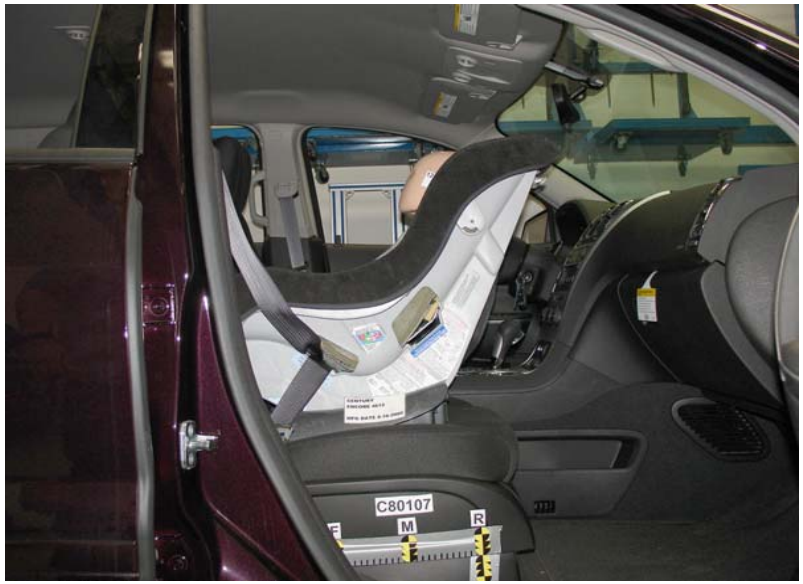


Century Encore Forward Facing Unbelted, Rearward Seat Track



Century Encore Rear Facing Belted, Forward Seat Track

Century Encore Rear Facing Belted, Middle Seat Track

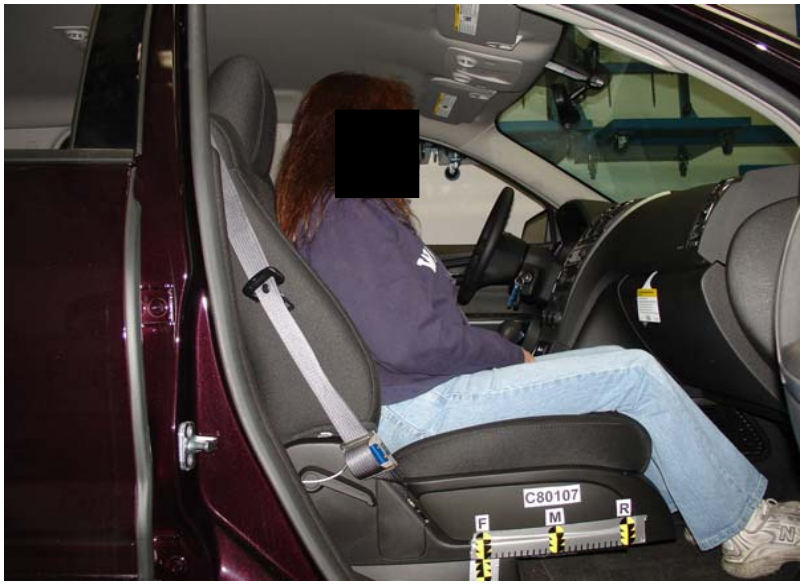


Century Encore Rear Facing Belted, Rearward Seat Track

Century Encore Rear Facing Unbelted, Forward Seat Track

Century Encore Rear Facing Unbelted, Middle Seat Track

Century Encore Rear Facing Unbelted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation,
Forward Seat Track

Evenflo Medallion 254 Forward Facing Belted,
Forward Seat Track

Evenflo Medallion 254 Forward Facing Belted,
Middle Seat Track

Evenflo Medallion 254 Forward Facing Belted,
Rearward Seat Track

Evenflo Medallion 254 Forward Facing Unbelted,
Forward Seat Track

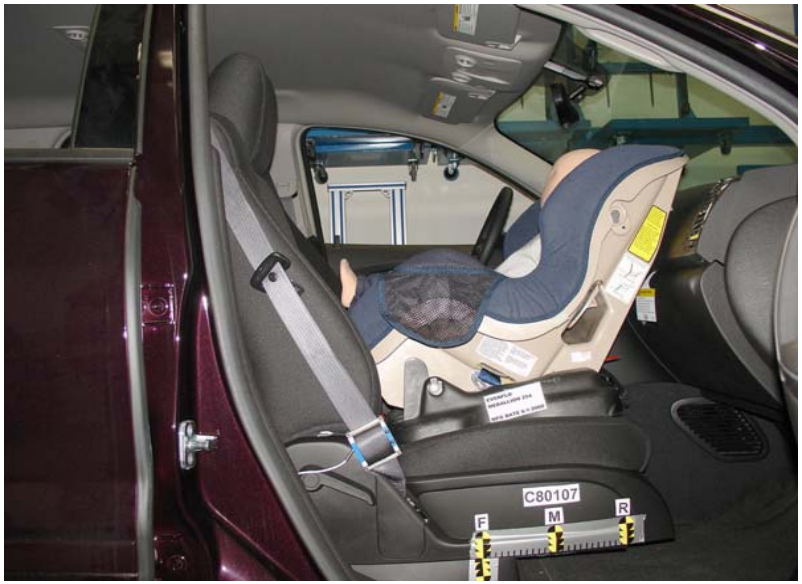
Evenflo Medallion 254 Forward Facing Unbelted,
Middle Seat Track

Evenflo Medallion 254 Forward Facing Unbelted,
Rearward Seat Track

Evenflo Medallion 254 Rear Facing Belted,
Forward Seat Track

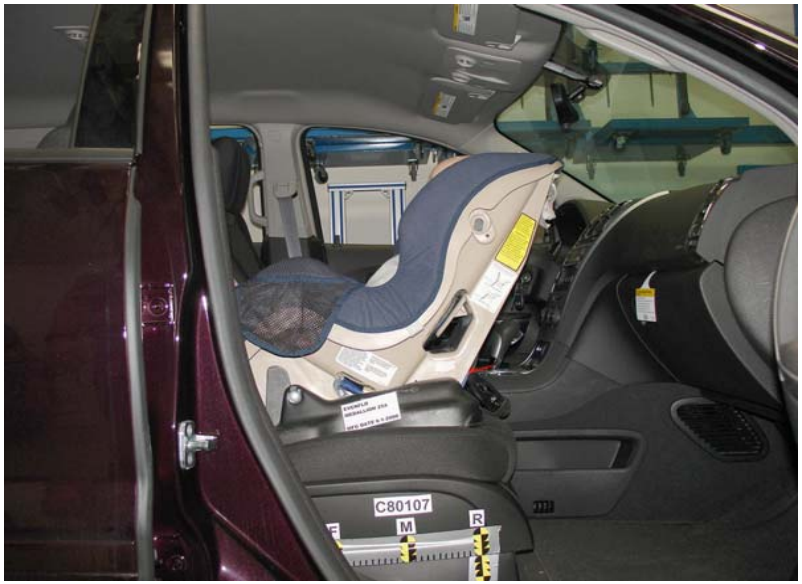
Evenflo Medallion 254 Rear Facing Belted,
Middle Seat Track

Evenflo Medallion 254 Rear Facing Belted,
Rearward Seat Track

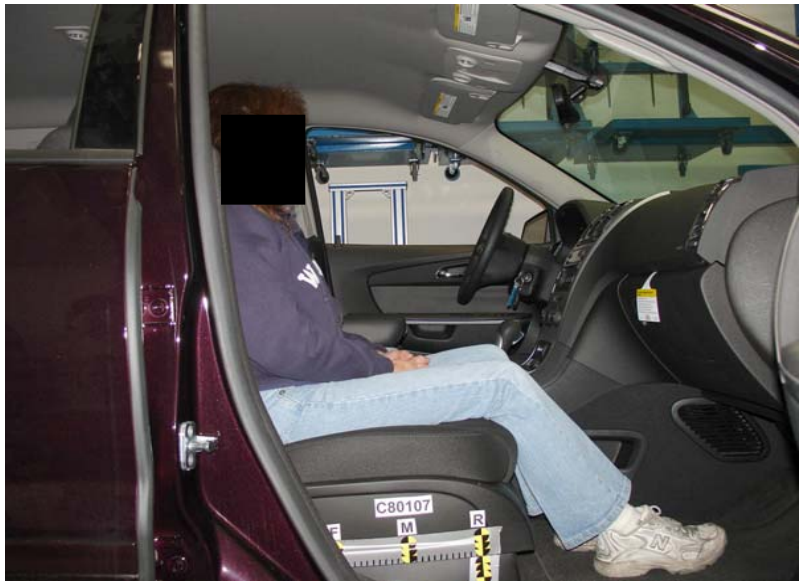


Evenflo Medallion 254 Rear Facing Unbelted,
Forward Seat Track

Evenflo Medallion 254 Rear Facing Unbelted,
Middle Seat Track



Evenflo Medallion 254 Rear Facing Unbelted,
Rearward Seat Track

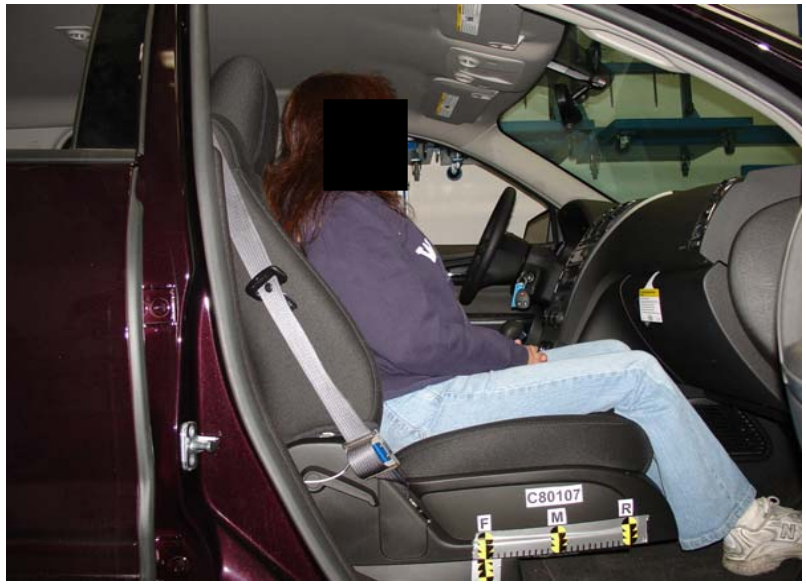


Unbelted 5th Percentile Female Reactivation,
Rearward Seat Track

3-Year-Old Forward Facing Britax Roundabout Belted, Forward Seat Track

3-Year-Old Forward Facing Britax Roundabout Belted, Middle Seat Track

3-Year-Old Forward Facing Britax Roundabout Belted, Rearward Seat Track

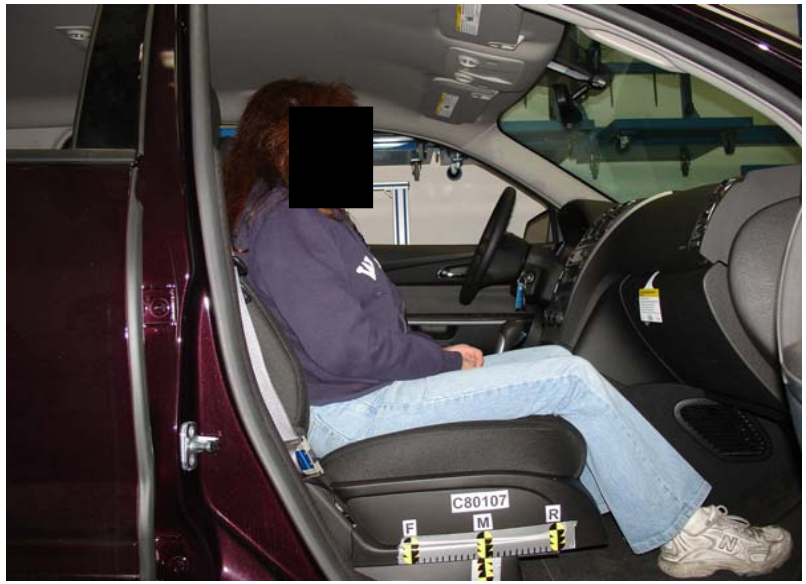


Unbelted 5th Percentile Female Reactivation, Forward Seat Track

3-Year-Old Forward Facing Century Encore Belted,
Forward Seat Track

3-Year-Old Forward Facing Century Encore Belted,
Middle Seat Track

3-Year-Old Forward Facing Century Encore Belted,
Rearward Seat Track



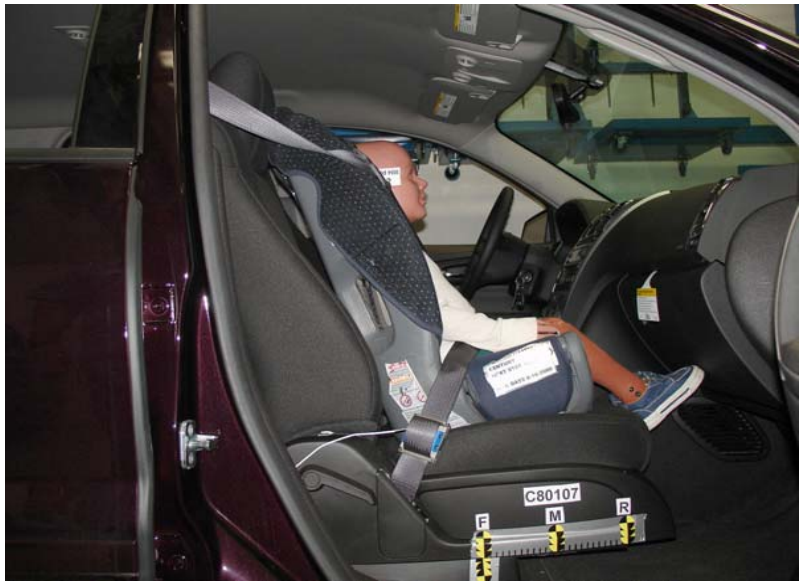
Unbelted 5th Percentile Female Reactivation,
Middle Seat Track

3-Year-Old Forward Facing Evenflo Medallion Belted,
Forward Seat Track

3-Year-Old Forward Facing Evenflo Medallion Belted,
Middle Seat Track

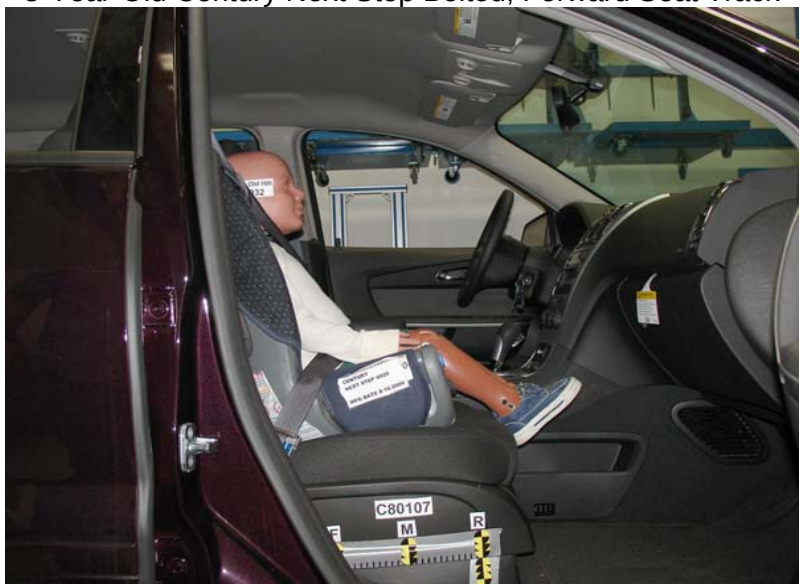
3-Year-Old Forward Facing Evenflo Medallion Belted,
Rearward Seat Track

Unbelted 5th Percentile Female Reactivation,
Rearward Seat Track

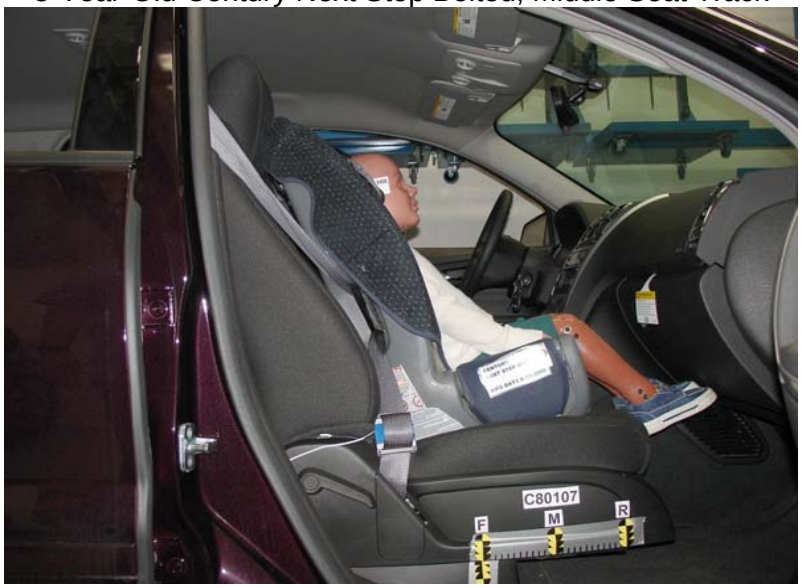


3-Year-Old Century Next Step Belted, Forward Seat Track

3-Year-Old Century Next Step Belted, Middle Seat Track



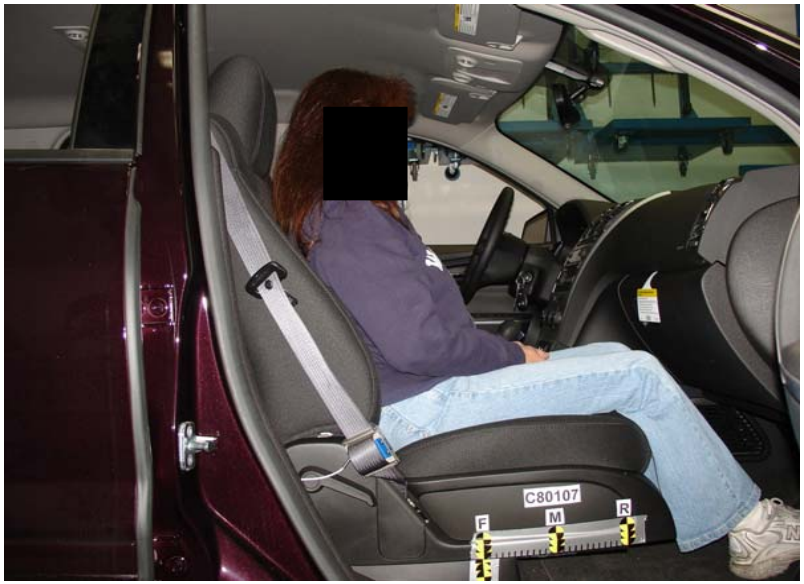
3-Year-Old Century Next Step Belted, Rearward Seat Track



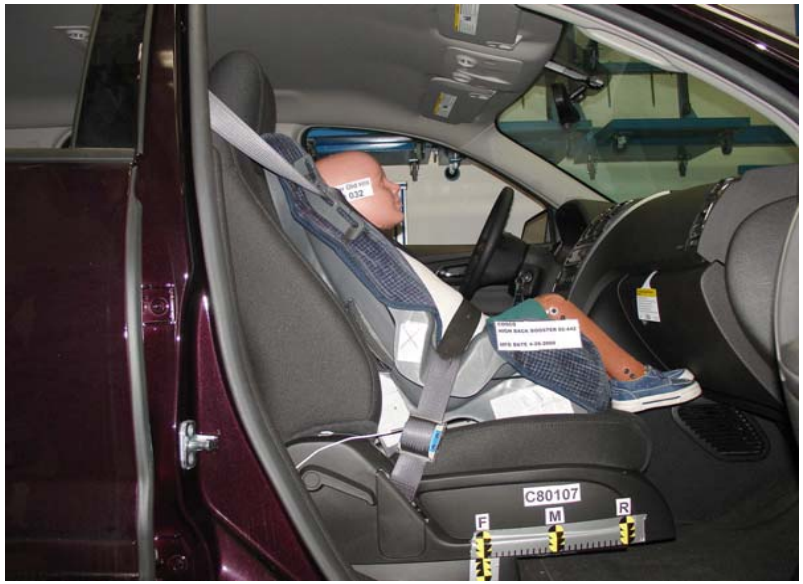
3-Year-Old Century Next Step Cinched With Harness, Forward Seat Track

3-Year-Old Century Next Step Cinched With Harness, Middle Seat Track

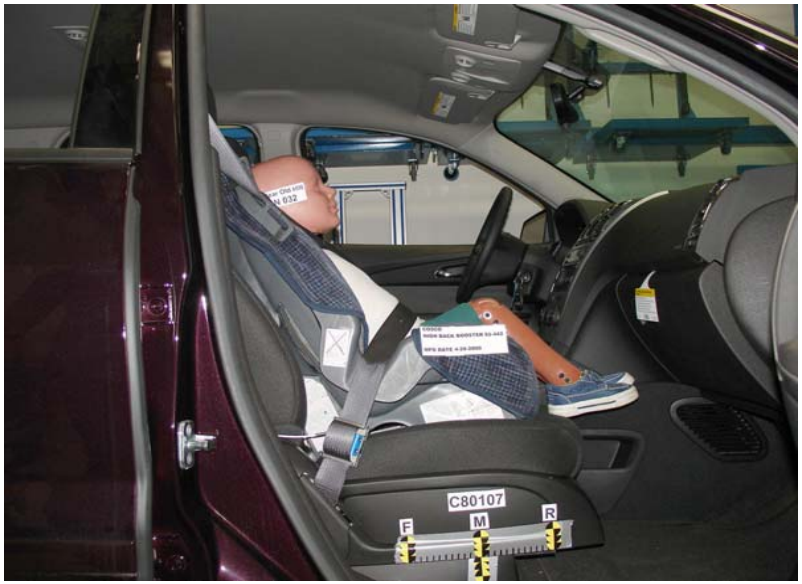
3-Year-Old Century Next Step Cinched With Harness, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track



3-Year-Old Cosco High Back Booster Belted,
Forward Seat Track



3-Year-Old Cosco High Back Booster Belted,
Middle Seat Track

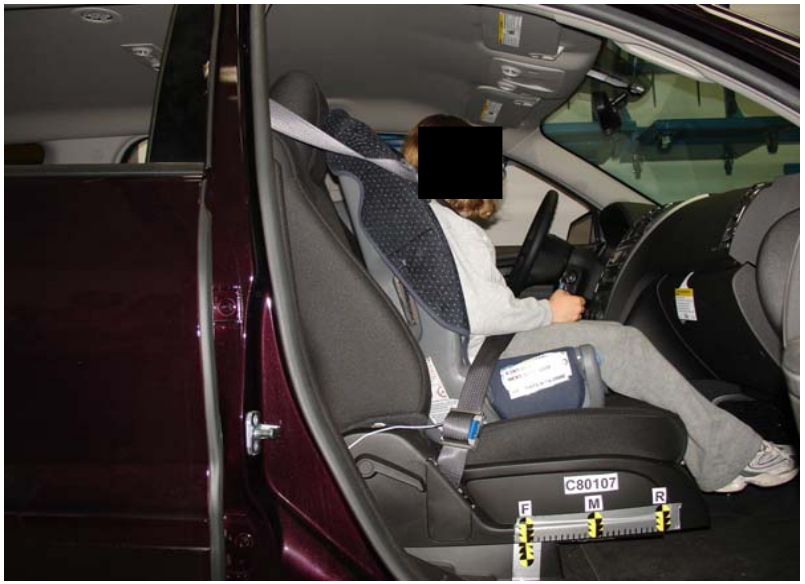
3-Year-Old Cosco High Back Booster Belted,
Rearward Seat Track

3-Year-Old Cosco High Back Booster Cinched With Harness,
Forward Seat Track

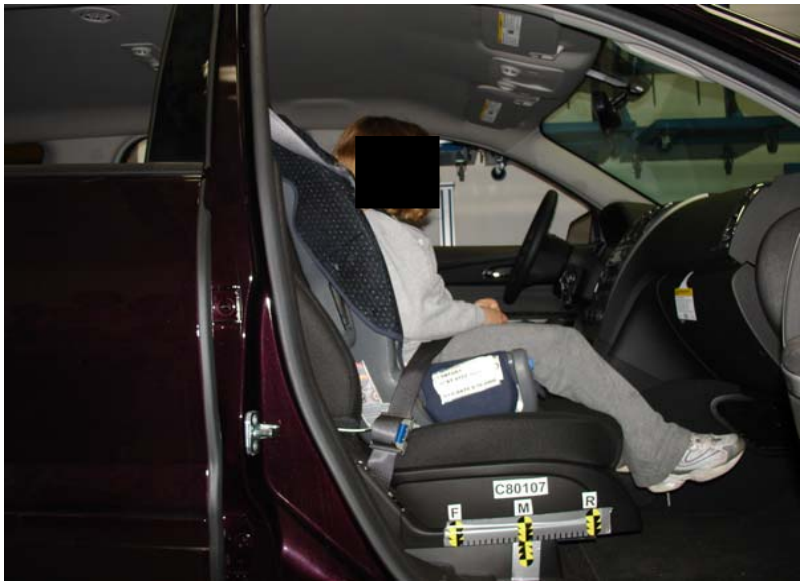
3-Year-Old Cosco High Back Booster Cinched With Harness, Middle Seat Track

3-Year-Old Cosco High Back Booster Cinched With Harness, Rearward Seat Track

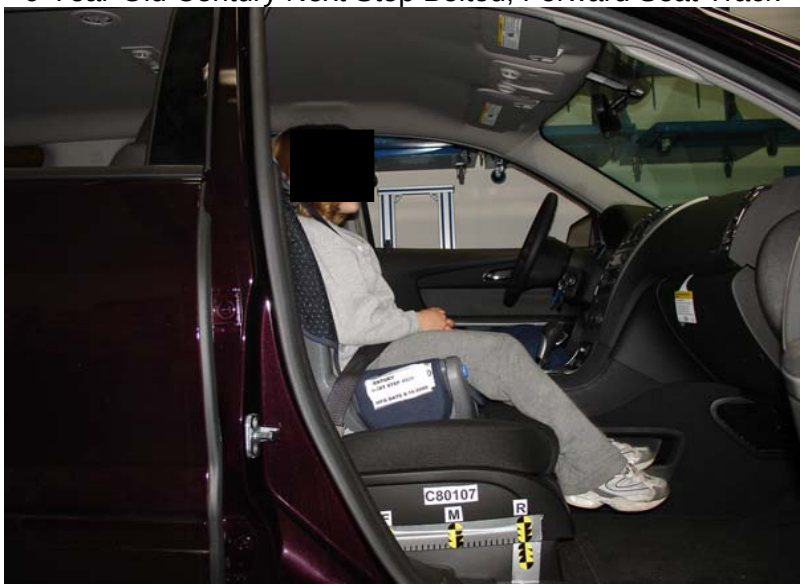
Unbelted 5th Percentile Female Reactivation, Middle Seat Track



6-Year-Old Century Next Step Belted, Forward Seat Track

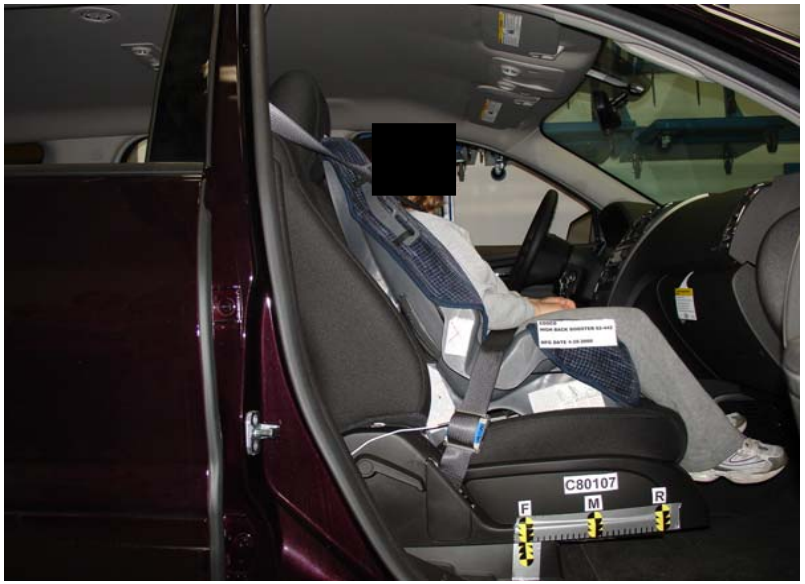


6-Year-Old Century Next Step Belted, Middle Seat Track

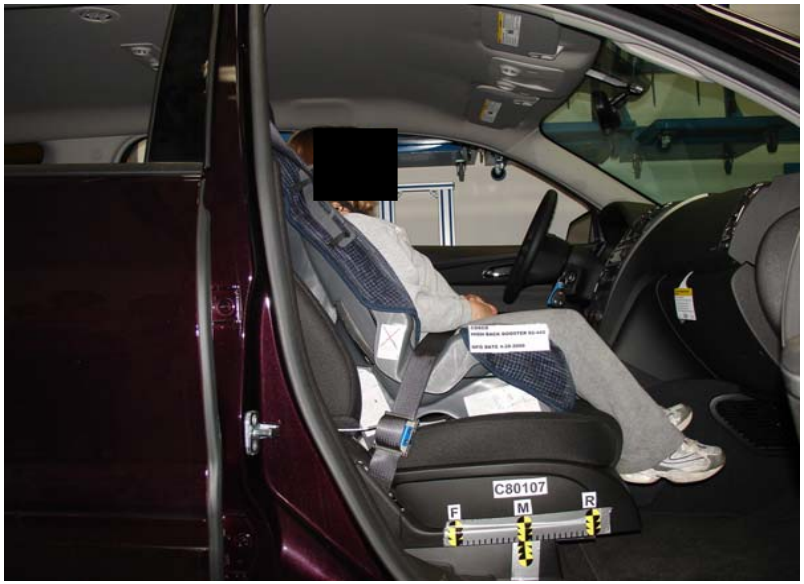


6-Year-Old Century Next Step Belted, Rearward Seat Track

Unbelted 5th Percentile Female Reactivation, Forward Seat Track



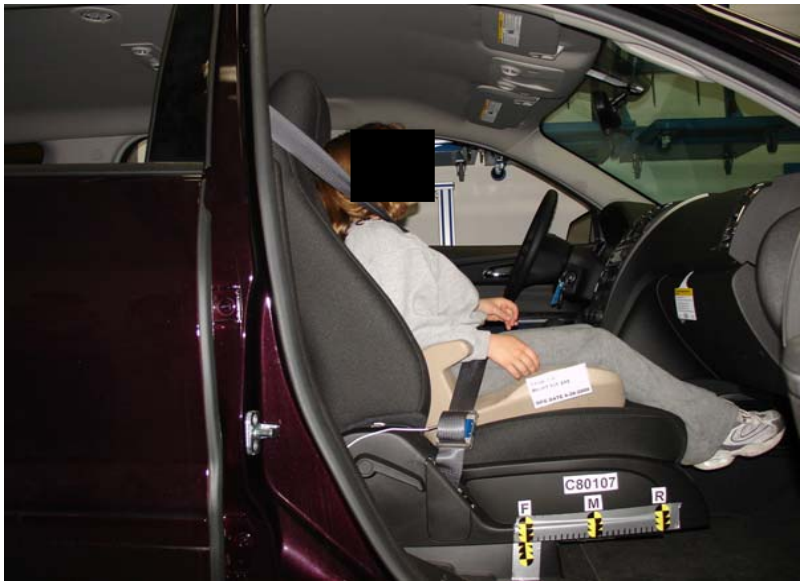
6-Year-Old Cosco High Back Booster Belted,
Forward Seat Track



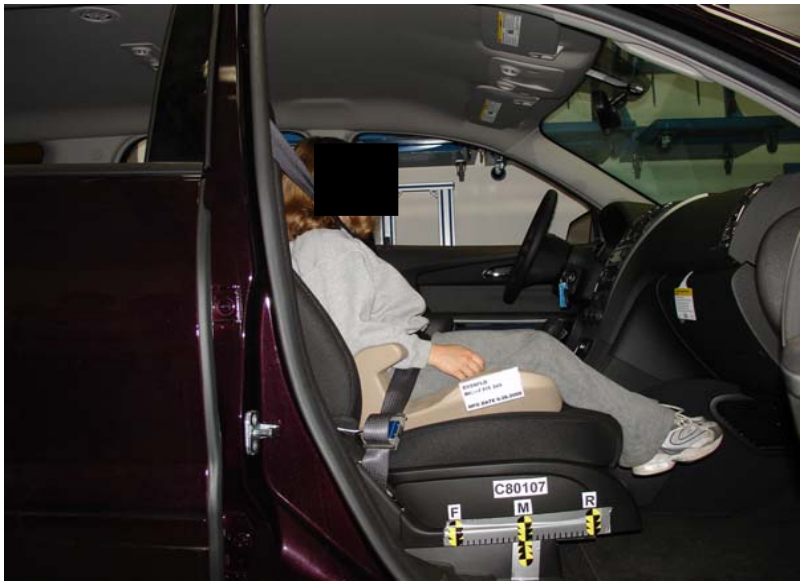
6-Year-Old Cosco High Back Booster Belted,
Middle Seat Track

6-Year-Old Cosco High Back Booster Belted,
Rearward Seat Track

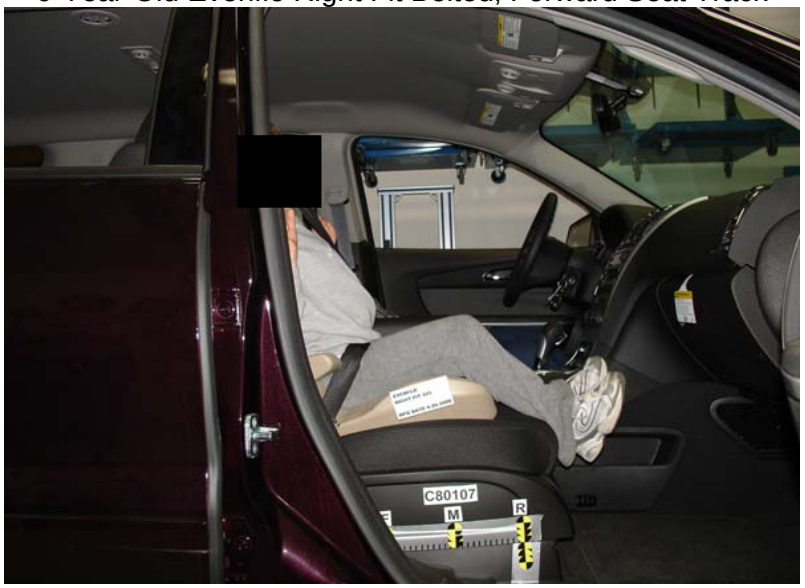
Unbelted 5th Percentile Female Reactivation,
Middle Seat Track



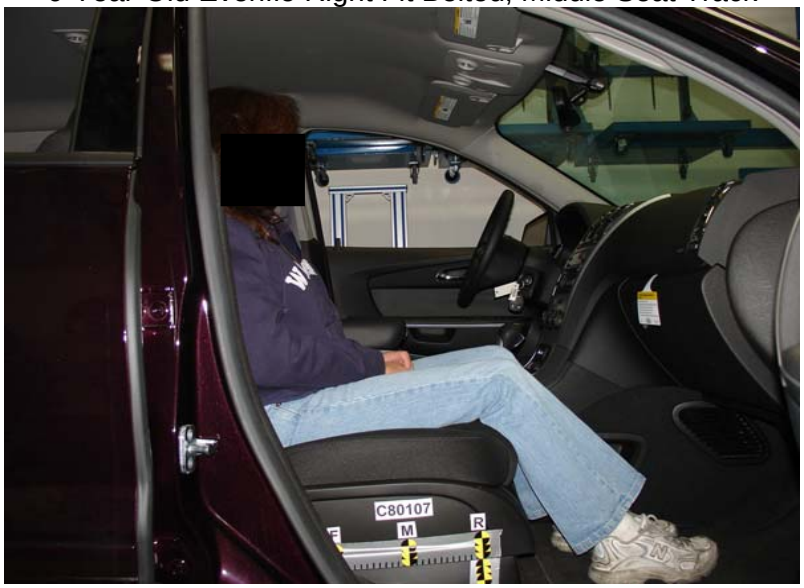
6-Year-Old Evenflo Right Fit Belted, Forward Seat Track



6-Year-Old Evenflo Right Fit Belted, Middle Seat Track

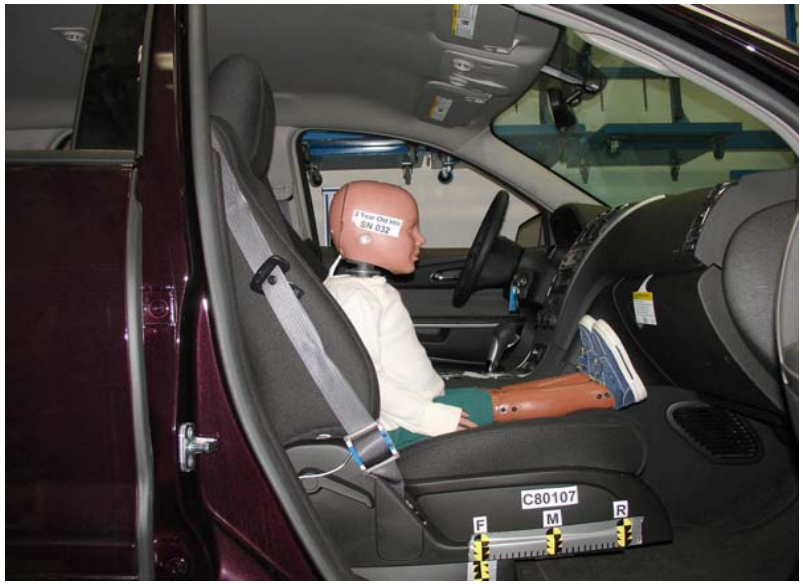


6-Year-Old Evenflo Right Fit Belted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

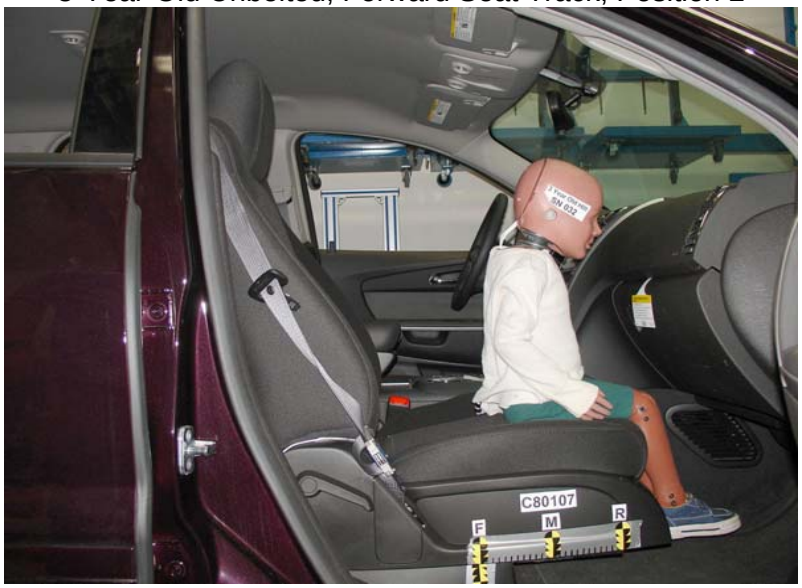
DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
3 Year Old No CRS



3-Year-Old Unbelted, Forward Seat Track, Position 1

3-Year-Old Unbelted, Forward Seat Track, Position 2

3-Year-Old Unbelted, Forward Seat Track, Position 3



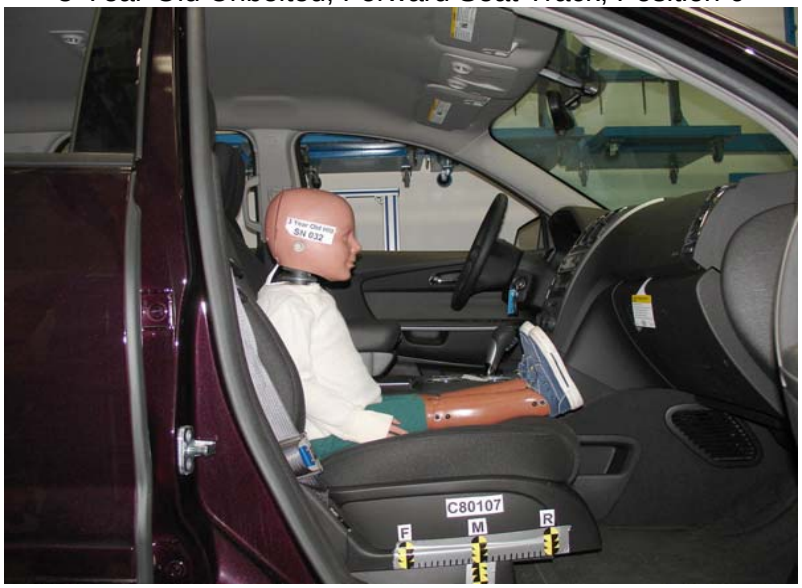
3-Year-Old Unbelted, Forward Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
3 Year Old No CRS

3-Year-Old Unbelted, Forward Seat Track, Position 5

3-Year-Old Unbelted, Forward Seat Track, Position 6

3-Year-Old Unbelted, Forward Seat Track, Position 7



3-Year-Old Unbelted, Middle Seat Track, Position 1

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
3 Year Old No CRS

3-Year-Old Unbelted, Middle Seat Track, Position 2

3-Year-Old Unbelted, Middle Seat Track, Position 3

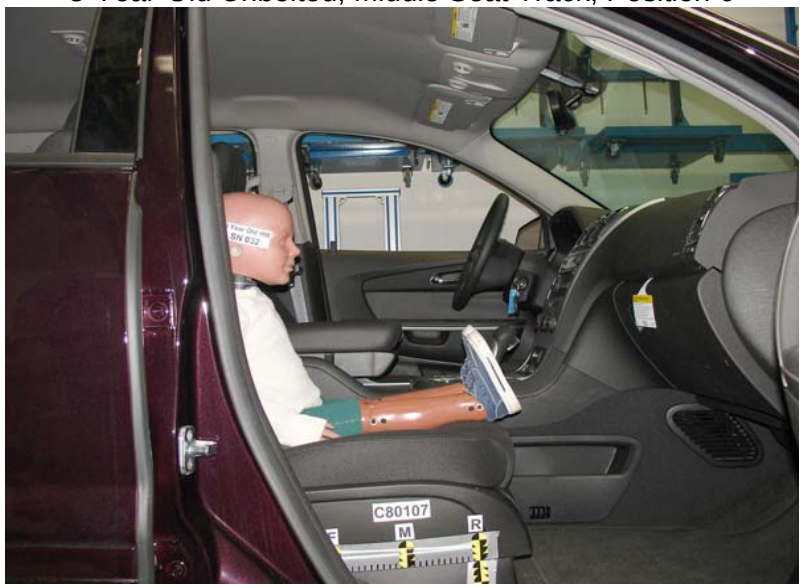
3-Year-Old Unbelted, Middle Seat Track, Position 4

3-Year-Old Unbelted, Middle Seat Track, Position 5

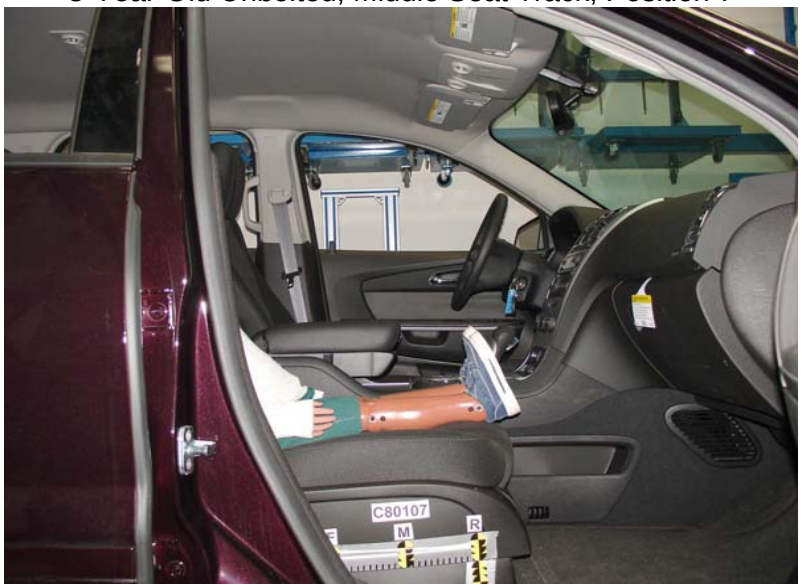
DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
3 Year Old No CRS

3-Year-Old Unbelted, Middle Seat Track, Position 6

3-Year-Old Unbelted, Middle Seat Track, Position 7

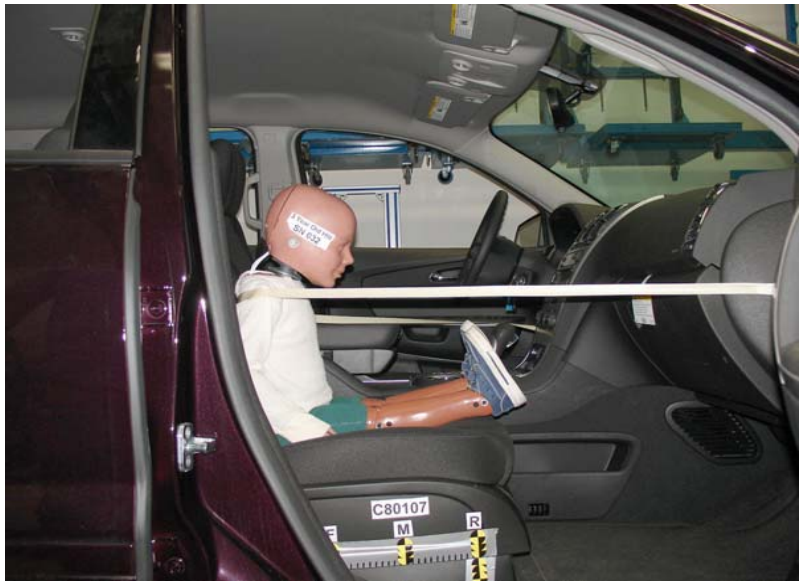


3-Year-Old Unbelted, Rearward Seat Track, Position 1



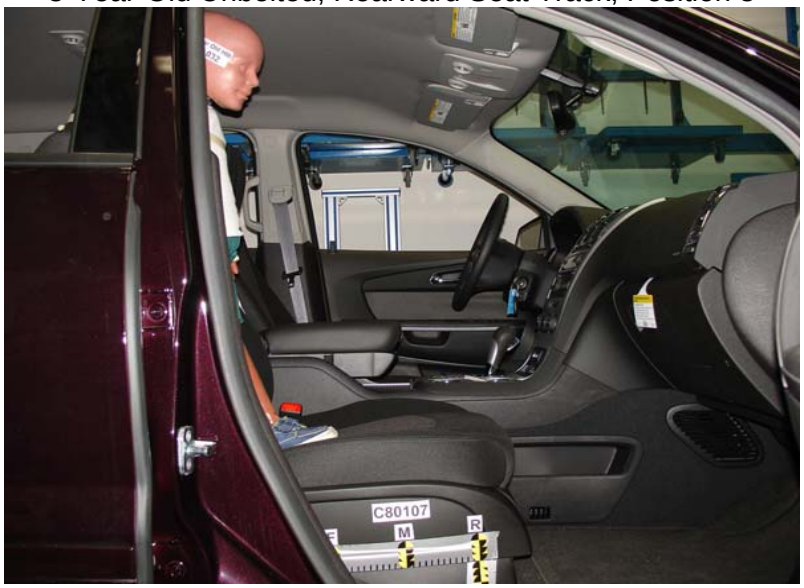
3-Year-Old Unbelted, Rearward Seat Track, Position 2

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
3 Year Old No CRS

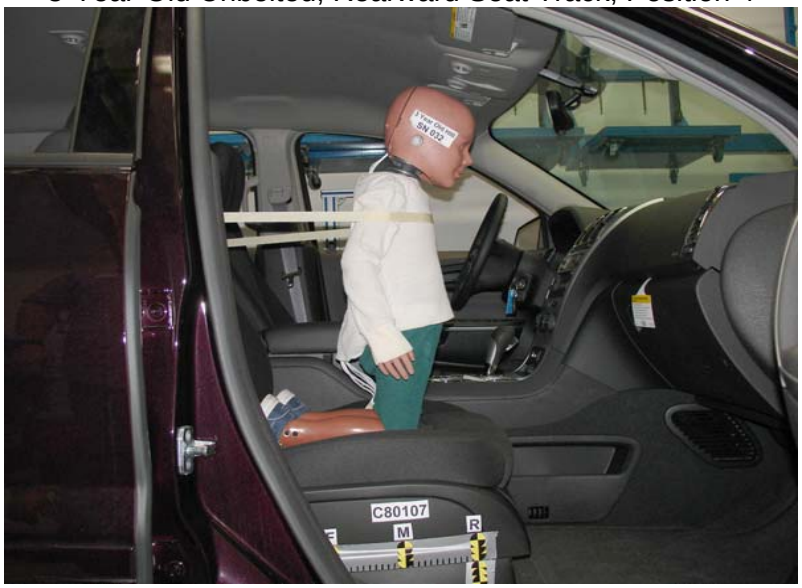


3-Year-Old Unbelted, Rearward Seat Track, Position 3

3-Year-Old Unbelted, Rearward Seat Track, Position 4

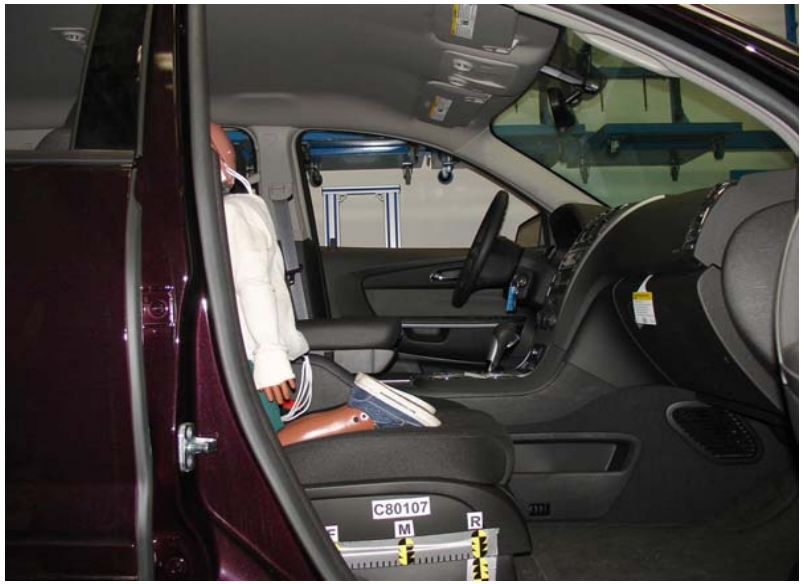


3-Year-Old Unbelted, Rearward Seat Track, Position 5

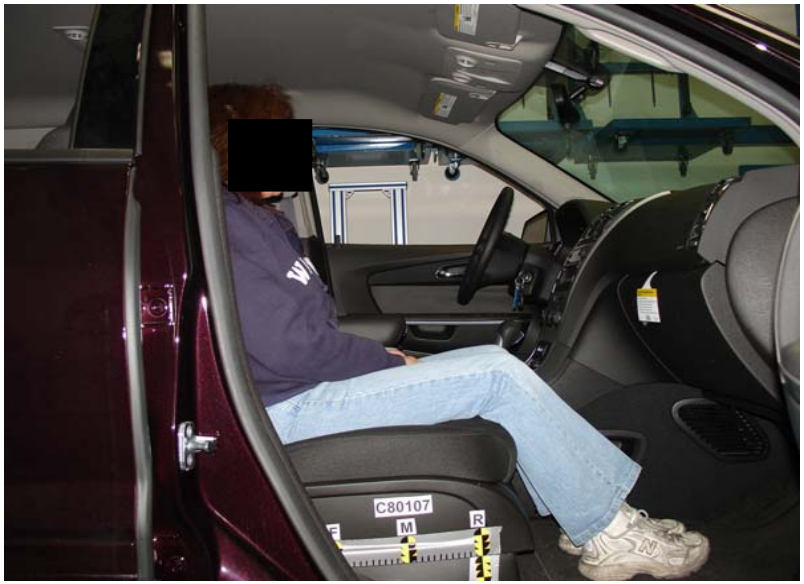


3-Year-Old Unbelted, Rearward Seat Track, Position 6

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
3 Year Old No CRS

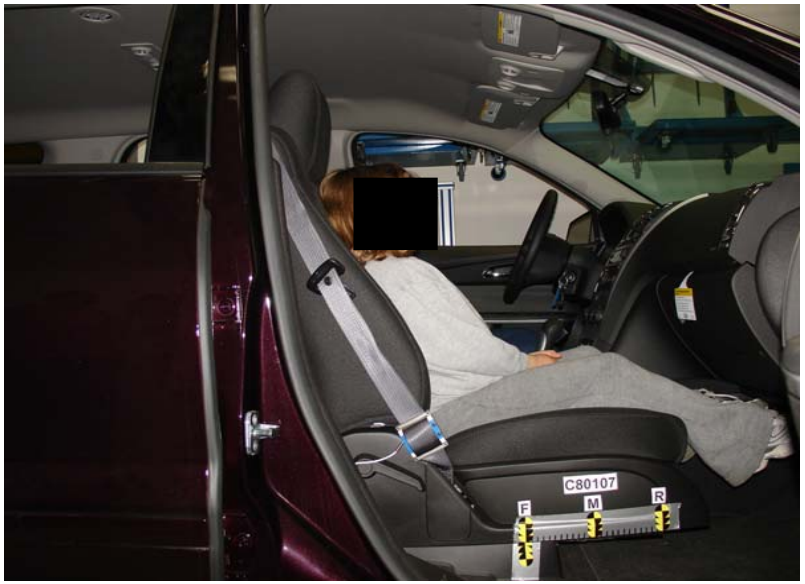


3-Year-Old Unbelted, Rearward Seat Track, Position 7



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
6 Year Old No CRS



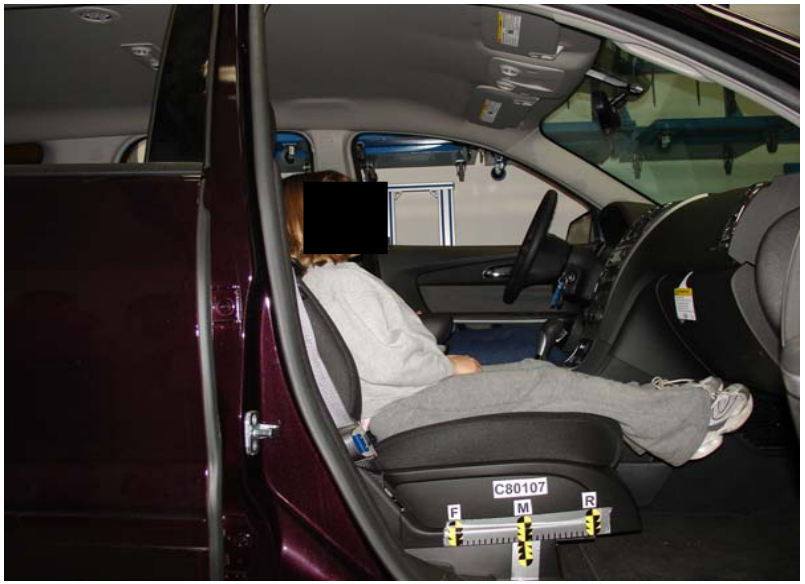
6-Year-Old Unbelted, Forward Seat Track, Position 1

6-Year-Old Unbelted, Forward Seat Track, Position 2

6-Year-Old Unbelted, Forward Seat Track, Position 3


6-Year-Old Unbelted, Forward Seat Track, Position 4

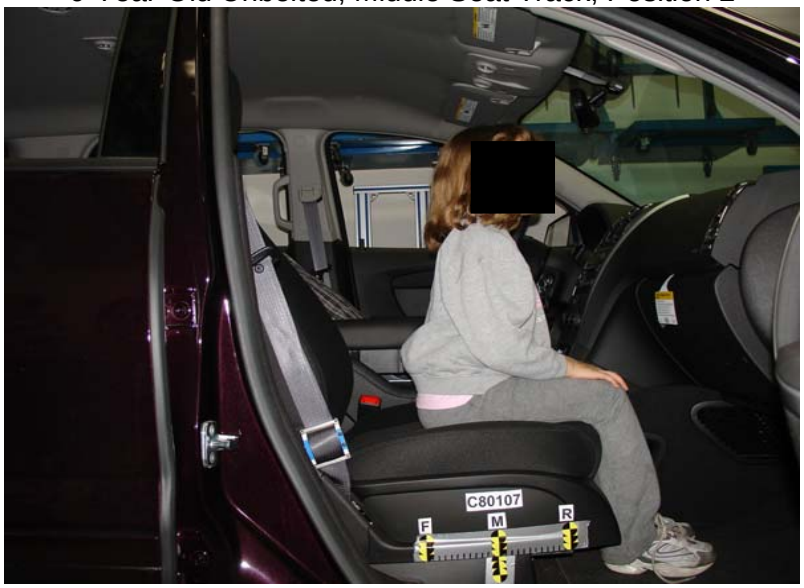
DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
6 Year Old No CRS



6-Year-Old Unbelted, Middle Seat Track, Position 1

6-Year-Old Unbelted, Middle Seat Track, Position 2


6-Year-Old Unbelted, Middle Seat Track, Position 3



6-Year-Old Unbelted, Middle Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
6 Year Old No CRS

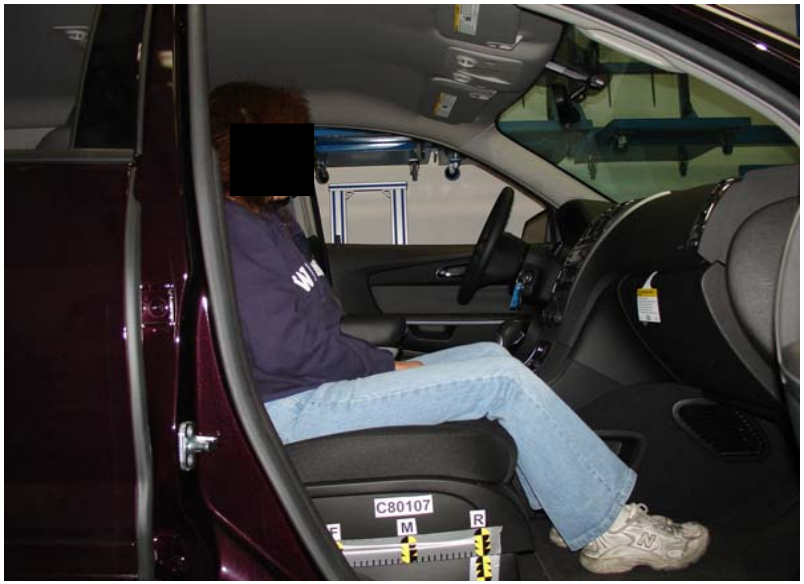
6-Year-Old Unbelted, Rearward Seat Track, Position 1

6-Year-Old Unbelted, Rearward Seat Track, Position 2

6-Year-Old Unbelted, Rearward Seat Track, Position 3


6-Year-Old Unbelted, Rearward Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2008 GMC Acadia (C80107)
6 Year Old No CRS



Unbelted 5th Percentile Female Reactivation,
Rearward Seat Track

APPENDIX F

INSTRUMENTATION CALIBRATION

INSTRUMENTS FOR DRIVER DUMMY NO. 401

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AGH70	Endevco	01/25/08
Head Y	AGH78	Endevco	01/25/08
Head Z	C10727	Endevco	01/25/08
Neck Load Cell	1562	Denton	01/30/08
Chest X	AGH55	Endevco	01/31/08
Chest Y	AGH79	Endevco	01/31/08
Chest Z	AGH89	Endevco	01/31/08
Chest Displacement	401	Servo	01/29/08
Left Femur Load Cell	9428	FTSS	05/01/08
Right Femur Load Cell	9427	FTSS	05/01/08

INSTRUMENTS FOR PASSENGER DUMMY NO. 403

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AH5E5	Endevco	01/25/08
Head Y	C10770	Endevco	01/25/08
Head Z	C12863	Endevco	01/25/08
Neck Load Cell	1021	Denton	06/25/08
Chest X	AGH90	Endevco	01/31/08
Chest Y	AH467	Endevco	01/31/08
Chest Z	AH5P1	Endevco	01/31/08
Chest Displacement	403	Servo	01/29/08
Left Femur Load Cell	86	Denton	04/15/08
Right Femur Load Cell	85	Denton	04/15/08

INSTRUMENTS FOR LOW RISK 5TH FEMALE DUMMY NO. 516 (P1 & P2)

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	G04-Z09	Entran	03/13/08
Head Y	G04-Z26	Entran	03/13/08
Head Z	J14-J20	Entran	03/13/08
Neck Load Cell	1703	Denton	12/20/07
Chest X	G16-Z03	Entran	03/13/08
Chest Y	A28-H02	Entran	03/13/08
Chest Z	J03-J09	Entran	03/13/08
Chest Displacement	516	Servo	02/04/08
Left Femur Load Cell	995	Denton	05/01/08
Right Femur Load Cell	991	Denton	05/01/08

VEHICLE INSTRUMENTS

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	P26982	Endevco	06/19/08
Right Rear Seat Crossmember X	J14-J16	Entran	06/10/08
Top of Engine X	H10-L04	Entran	06/10/08
Bottom of Engine X	04J14-J11	Entran	04/23/08
Left Brake Caliper X	F11-H19	Entran	06/10/08
Right Brake Caliper X	J23-J06	Entran	06/10/08
Instrument Panel X	J23-M09	Entran	04/23/08
Trunk Z	B05-J12	Entran	04/21/08