

REPORT NO. 207-KAR-07-005

**COMPLIANCE TESTING
FOR FMVSS 207**

SEATING SYSTEMS

2008 CHEVROLET IMPALA
4-DOOR

NHTSA NO.C80102

PREPARED BY:
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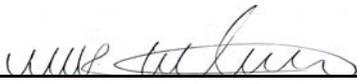
September 24, 2008

FINAL REPORT

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SECTION 1

PURPOSE OF COMPLIANCE TEST

1. PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2008 Chevrolet Impala 4-Door, manufactured by General Motors Corporation to determine FMVSS 207, "Seating Systems" Compliance data. The purpose of this standard is to reduce the number of deaths and injuries that may be caused by the failure of seats, their attachment hardware, and their installation when said failure results from the forces on the seat in a vehicle impact.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-207-09, dated June 18, 1992, and corresponding KARCO Engineering, LLC test procedure KTP-207, dated August 2, 2002. Detailed procedures for receiving, inspecting, testing and reporting of test results are described in the test procedures and are not repeated in this report.

This report is organized in sections containing pertinent test information and data tables as follows:

- Section 2 - Compliance Test Procedure and Data Summary
- Section 3 - Compliance Test Data
- Section 4 - No Compliance Data (if applicable)
- Appendix A - Photographs
- Appendix B - Data Plots
- Appendix C - Test Equipment List and Calibration Information

SECTION 2

COMPLIANCE TEST PROCEDURE and DATA SUMMARY

2. COMPLIANCE TEST PROCEDURE AND DATA SUMMARY

A 2008 Chevrolet Impala 4-Door was subjected to FMVSS 207 Compliance testing on September 23 thru September 24, 2008. All tests were conducted at KARCO Engineering, LLC in Adelanto, California. Summary data is shown on Data Sheet No. 2. The following tests were performed:

- Receiving inspection
- Aft moment tests on front seat backs
- Aft load tests on front seat frames and adjusters
- Forward load tests on front seat frames and adjusters
- Forward load tests on front seat frames and adjusters, including FMVSS 210 Loads
- Aft moment tests on rear seat back
- Forward load tests on rear seat back and cushion
- Aft load tests on rear seat back and cushion

The tests were conducted per the FMVSS 207 test procedure. The significant aspects of the test procedure are described in the following paragraphs.

2.1 Test Vehicle Inspection. The test vehicle was inspected to verify that all seat, restraint systems and seat belt assembly anchorage systems are complete and the seat adjusting mechanisms are working properly.

2.2 Test Vehicle Preparation and Pre-test Measurements. The test vehicle was securely mounted to the test fixture and connected to the appropriate number of hydraulic actuators. Lateral spacing of the individual seat anchorages were measured and all other angular and dimensional measurements were verified to be in Compliance with the requirements of the subject safety standards. The components were weighed and their centers of gravity determined.

2.3 Static Load Tests-General Performance Requirements.

When tested in accordance with S5, each occupant seat, other than a side-facing seat or a passenger seat on a bus, shall withstand the following forces:

- (a) In any position to which it can be adjusted — 20 times the weight of the seat applied in a forward longitudinal direction;

2. (Continued)

- (b) In any position to which it can be adjusted — 20 times the weight of the seat applied in a rearward longitudinal direction;
- (c) For a seat belt assembly attached to the seat — the force specified in subparagraph (a), if it is a forward facing seat, or subparagraph (b), if it is a rearward facing seat, in each case applied simultaneously with the forces imposed on the seat by the seat belt assembly when it is loaded in accordance with section S4.2 of Federal Motor Vehicle Safety Standard No. 210; and
- (d) In its rearmost position — a force that produces a 3,300 inch-pound moment about the seating reference point (SRP) for each designated seating position (DSP) that the seat provides, applied to the upper cross-member of the seat back or the upper seat back, in a rearward longitudinal direction for forward-facing seats and in a forward longitudinal direction for rearward-facing seats.
- (e) To meet FMVSS 210 requirements, the anchorages, attachment hardware, and attachment bolts for all Type 2 and automatic seat belt assemblies that are installed to comply with Standard No. 208 (49 CFR 571.208) shall withstand 3,000 pound forces when tested in accordance with S5.2.

SECTION 3
COMPLIANCE TEST DATA

3. COMPLIANCE TEST DATA

The results of FMVSS 207 Compliance tests that were conducted on the 2008 Chevrolet Impala 4-Door on September 23 thru September 24, 2008, to determine Compliance with FMVSS 207, "Seating Systems" are presented in this section. No performance failures were identified with the vehicle tested.

DATA SHEET NO. 1
TEST VEHICLE RECEIVING INSPECTION

VEHICLE			
YEAR	2008	MAKE	Chevrolet
MODEL	Impala	BODY STYLE	4-Door
NHTSA NO.	C80102	VIN	2G1WB58N889100388
BUILD DATE	05/07	TEST DATE	09/23/08 – 09/24/08
TEST LABORATORY		KARCO Engineering, LLC.	

1. First Compliance test by laboratory for this vehicle is S207 test.

	Yes	<input checked="" type="checkbox"/>	No (Go to item 2)
*	1.1	Label test vehicle with NHTSA Number	
*	1.2	Verify all options on the “window sticker” are present on the vehicle	
*	1.3	Verify tires and wheel rims are new and the same as listed	
*	1.4	Verify there are no dents or other interior or exterior flaws	
*	1.5	Verify the glove box contains an owner’s manual, warranty document, consumer information, and extra keys	
*	1.6	Verify the vehicle is equipped with the proper fuel filler cap	
*	1.7	If the vehicle has been delivered from the dealer, verify the vehicle has been properly prepared and is in running condition	

2. Verify seat adjusters are working

	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
--	-------------------------------------	-----	--------------------------	----

3. Verify there is a seat belt at each seating position

	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
--	-------------------------------------	-----	--------------------------	----

4. Without disturbing the integrity of each seat belt and anchorage, verify that each seat belt is attached to the anchorage. For seat belts that are attached to the seat, also verify the seats are attached to the seat anchors and the seat anchors are attached to the vehicle.

	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
--	-------------------------------------	-----	--------------------------	----

RESULTS OR RECEIVING INSPECTION:

PASS - -	<input checked="" type="checkbox"/>
FAIL - -	<input type="checkbox"/>
CONDITIONAL - -	<input type="checkbox"/>

REMARKS:

* Vehicle had previously been tested to FMVSS 111.

RECORDED BY: Mark Kratzke DATE: 09/24/08

APPROVED BY: Mike Dunlap DATE: 09/24/08

DATA SHEET NO. 2
SEATING SYSTEM TEST RESULTS

VEHICLE			
YEAR	2008	MAKE	Chevrolet
MODEL	Impala	BODY STYLE	4-Door
NHTSA NO.	C80102	VIN	2G1WB58N889100388
BUILD DATE	05/07	TEST DATE	09/23/08 – 09/24/08
TEST LABORATORY	KARCO Engineering, LLC.		

LEGEND: Wa - Weight of Seat Assembly
 Wb - Weight of Seat Back
 Wc - Weight of Seat Cushion
 Z - Distance from Seat SRP to Uppermost Crossmember = 16.0 "

FOR FRONT BUCKET SEATS - - LEFT SIDE

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Seat Back	Forward	Wb=N/A	20 x Wb = N/A	N/A	N/A	N/A
Seat Assy.	Forward	Wa = 66	20 x Wa = 1320	1320.3	N/A	PASS
	Rearward	Wa = 66	20 x Wa = 1320	1320.4	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	210.3	3364.8	PASS

FOR FRONT BUCKET SEATS - - RIGHT SIDE

COMPONENT	LOAD DIRECTION	COMPONENT WEIGHT (lbs)	REQUIRED LOAD (lbs)	ACTUAL LOAD (lbs)	PEAK MOMENT (in-lbs)	ATTACHMENT (PASS/FAIL)
Seat Back	Forward	Wb=N/A	20 x Wb = N/A	N/A	N/A	N/A
Seat Assy.	Forward	Wa = 53	20 x Wa = 1060	1062.0	N/A	PASS
	Rearward	Wa = 53	20 x Wa = 1060	1060.2	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	208.5	3336.0	PASS

**DATA SHEET NO. 3
SEAT BACK ANGLES**

VEHICLE			
YEAR	2008	MAKE	Chevrolet
MODEL	Impala	BODY STYLE	4-Door
NHTSA NO.	C80102	VIN	2G1WB58N889100388
BUILD DATE	05/07	TEST DATE	09/23/08 – 09/24/08
TEST LABORATORY	KARCO Engineering, LLC.		

LAP BELT ANCHORAGES:

SEAT	SEATING POSITION	SPECIFIED ANGLE RANGE ABOVE HORIZONTAL	MEASURED ANGLE		DOES BELT SECURELY FIT ON PELVIS?
			I/B	O/B	
FRONT	Left	30 to 75 degrees	60	58	YES
	Center	30 to 75 degrees	N/A	N/A	N/A
	Right	30 to 75 degrees	64	58	YES
REAR	Left	30 to 75 degrees	N/A	N/A	N/A
	Center	30 to 75 degrees	N/A	N/A	N/A
	Right	30 to 75 degrees	N/A	N/A	N/A

SHOULDER BELT ANCHORAGES:

SEAT	SEATING POSITION	SPECIFIED ANGLE RANGE ABOVE OR BELOW HORIZONTAL	MEASURED ANGLE
FRONT	Left	0 – 80 degrees above	62°
		0 – 40 degrees below	
	Right	0 – 80 degrees above	62°
		0 – 40 degrees below	
REAR	Left	0 – 80 degrees above	N/A
		0 – 40 degrees below	N/A
	Center	0 – 80 degrees above	N/A
		0 – 40 degrees below	N/A
	Right	0 – 80 degrees above	N/A
		0 – 40 degrees below	N/A

RECORDED BY: Mark Kratzke DATE: 09/24/08

APPROVED BY: Mike Dunlap DATE: 09/24/08

DATA SHEET NO. 4

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

The following vehicle has been subjected to Compliance testing for FMVSS No. **207**

VEHICLE			
NHTSA NO.	C80102	TEST DATE	09/23/08 – 09/24/08
CONTRACT NO.	DTNH22-01-C-31025	VIN	2G1WB58N889100388
SEAT CONFIGURATION			
VEHICLE OR SEAT MANUFACTURER		General Motors Corporation	
TEST LABORATORY		KARCO Engineering, LLC.	

The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. All variances have been reported within 2 working days of vehicle arrival, by letter, to the NHTSA Industrial Property Manager (NAD-30), with a copy to the OVSC COTR. The vehicle is again inspected, after the above test has been conducted, and all changes are noted below. The final condition of the vehicle is also noted in detail.

TEST VEHICLE INFORMATION			
Manufacturer	General Motors Corp.	VIN	2G1WB58N889100388
Manufacturing Date	05/07	Delivery Date	7/28/08
Dealer	U/N	NHTSA No.	C80102
Odometer Reading (mi.)	122	Fuel Type	GAS
Engine Displacement	3.5 LITER	Cylinders	V-6
Transmission	4-Speed Automatic	Final Drive	Front
Engine Placement	Transverse	Color	Black
Tire Press./Max. Cap. Front	44 PSI	Cold Tire Press. Front	30 PSI
Tire Press./Max. Cap. Rear	44 PSI	Cold Tire Press. Rear	30 PSI
Recommend Tire Size	P225/60R16	Type of Spare	T125/70/D16
Tire Size on Vehicle	P225/60R16	Manufacturer	GOODYEAR
GVWR	2072 Kg.	Cargo Capacity	428 Kg.
GAWR Front	1124 Kg.	GAWR Rear	948 Kg.
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	YES
Power Windows	YES	Tilt Steering	YES
Anti-lock Brakes (ABS)	YES	Power Seats	YES
Driver Airbag	YES	Passenger Airbag	YES

Test Vehicle Condition at the end of testing: **FRONT OF VEHICLE WAS REMOVED, SEATS WERE TESTED.**

RECORDED BY: Mark Kratzke DATE: 09/24/08

APPROVED BY: Mike Dunlap DATE: 09/24/08

APPENDIX A
PHOTOGRAPHS



FIGURE 1. Right Front ¾ View, As Received



FIGURE 2. Left Side, As Received



FIGURE 3. Left Rear $\frac{3}{4}$ View, As Received



FIGURE 4. Right Side, As Received

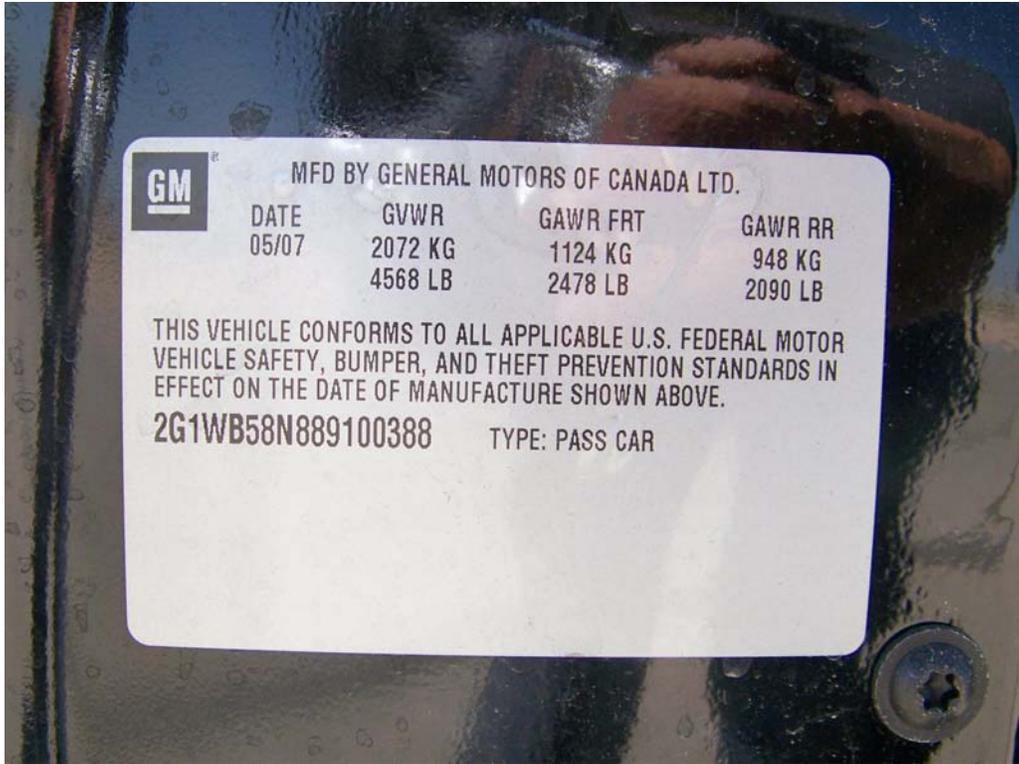


FIGURE 5. Manufacturer's Label



FIGURE 6. Vehicle Tire Placard



FIGURE 7. Vehicle Mounted in Test Fixture



FIGURE 8. Vehicle Mounted in Test Fixture



FIGURE 9. Vehicle Mounted in Test Fixture

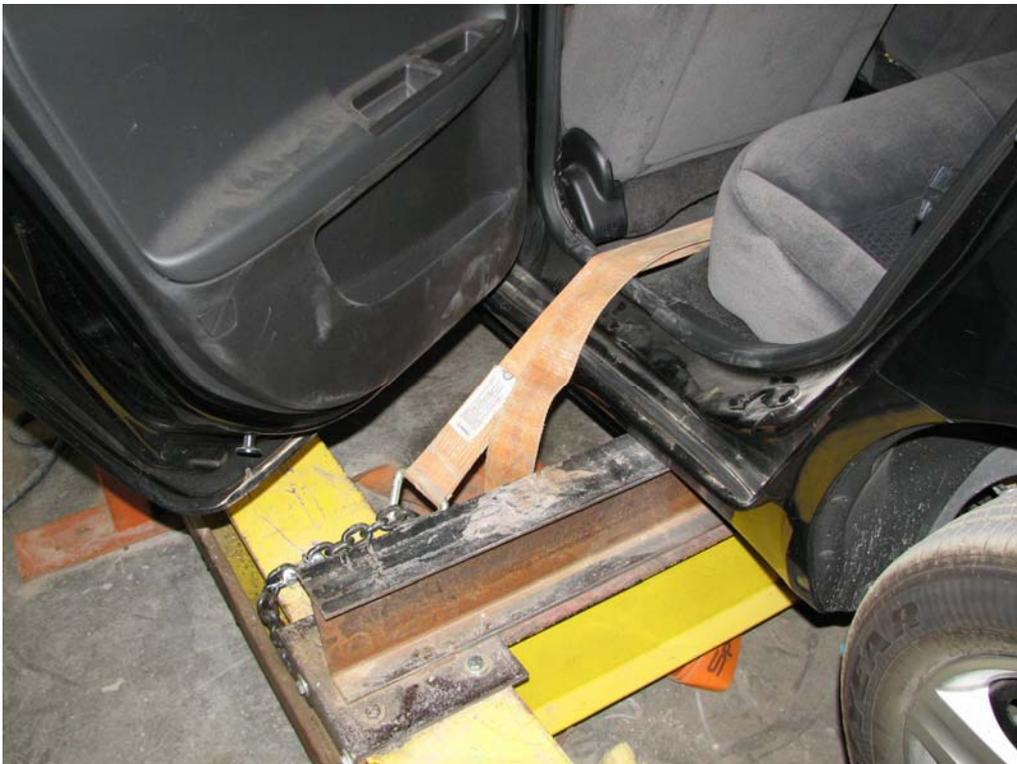


FIGURE 10. Vehicle Mounted in Test Fixture



FIGURE 11. Aft Moment on Seat Back, P1, Pre-Test



FIGURE 12. Aft Moment on Seat Back, P1, Post-Test



FIGURE 13. Aft Moment on Seat Back, P2, Pre-Test



FIGURE 14. Aft Moment on Seat Back, P2, Post-Test



FIGURE 15. Forward Load on Seat Frame and Adjusters, P1, Pre-Test



FIGURE 16. Forward Load on Seat Frame and Adjusters, P1, Post-Test



FIGURE 17. Forward Load on Seat Frame and Adjusters, P2, Pre-Test



FIGURE 18. Forward Load on Seat Frame and Adjusters, P2, Post-Test



FIGURE 19. Aft Load on Seat Frame and Adjusters, P1, Pre-Test



FIGURE 20. Aft Load on Seat Frame and Adjusters, P1, Post-Test



FIGURE 21. Aft Load on Seat Frame and Adjusters, P2, Pre-Test



FIGURE 22. Aft Load on Seat Frame and Adjusters, P2, Post-Test



FIGURE 23. 207/210 Forward Load on Seat Frame and Adjusters, P1, Pre-Test



FIGURE 24. 207/210 Forward Load on Seat Frame and Adjusters, P1, Post-Test



FIGURE 25. 207/210 Forward Load on Seat Frame and Adjusters, P2, Pre-Test



FIGURE 26. 207/210 Forward Load on Seat Frame and Adjusters, P2, Post-Test



FIGURE 27. Aft Moment on Seat Back, P4, Pre-Test



FIGURE 28. Aft Moment on Seat Back, P4, Post-Test



FIGURE 29. Aft Moment on Seat Back, P3, Pre-Test



FIGURE 30. Aft Moment on Seat Back, P3, Post-Test



FIGURE 31. Forward Load on Seat Back and Seat Cushion, P4, Pre-Test



FIGURE 32. Forward Load on Seat Back and Seat Cushion, P4, Post-Test



FIGURE 33. Forward Load on Seat Back and Seat Cushion, P3, Pre-Test



FIGURE 34. Forward Load on Seat Back and Seat Cushion, P3, Post-Test



FIGURE 35. Aft Load on Seat Back and Seat Cushion, P4, Pre-Test



FIGURE 36. Aft Load on Seat Back and Seat Cushion, P4, Post-Test



FIGURE 37. Aft Load on Seat Back and Seat Cushion, P3, Pre-Test



FIGURE 38. Aft Load on Seat Back and Seat Cushion, P3, Post-Test



FIGURE 39. Floor Pan Anchors, P1 Overall, Pre-Test



FIGURE 40. Floor Pan Anchors, P1 Overall, Post-Test

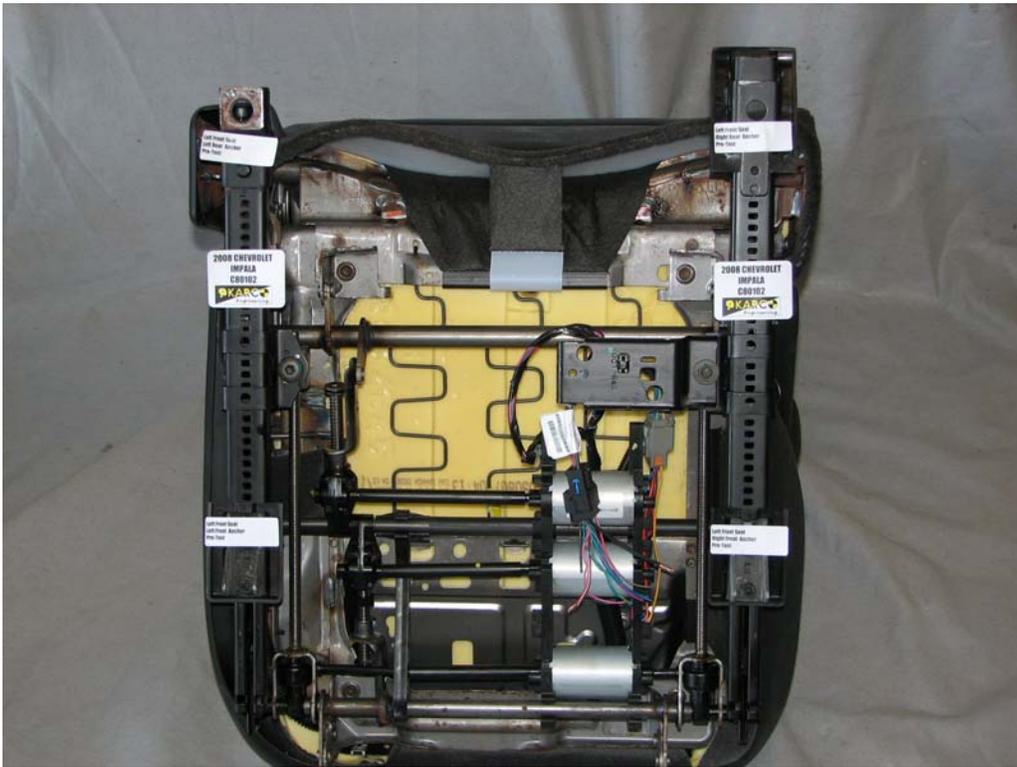


FIGURE 41. Seat Anchors, P1 Overall, Pre-Test



FIGURE 42. Seat Anchors, P1 Overall, Post-Test



FIGURE 43. Floor Pan Anchor, P1, Pre-Test



FIGURE 44. Floor Pan Anchor, P1, Post-Test



FIGURE 45. Seat Anchors, P1, Pre-Test



FIGURE 46. Seat Anchors, P1, Post-Test



FIGURE 47. Floor Pan Anchor, P1, Pre-Test



FIGURE 48. Floor Pan Anchor, P1, Post-Test



FIGURE 49. Seat Anchor, P1, Pre-Test



FIGURE 50. Seat Anchor, P1, Post-Test



FIGURE 51. Floor Pan Anchor, P1, Pre-Test



FIGURE 52. Floor Pan Anchor, P1, Post-Test



FIGURE 53. Seat Anchor, P1, Pre-Test



FIGURE 54. Seat Anchor, P1, Post-Test

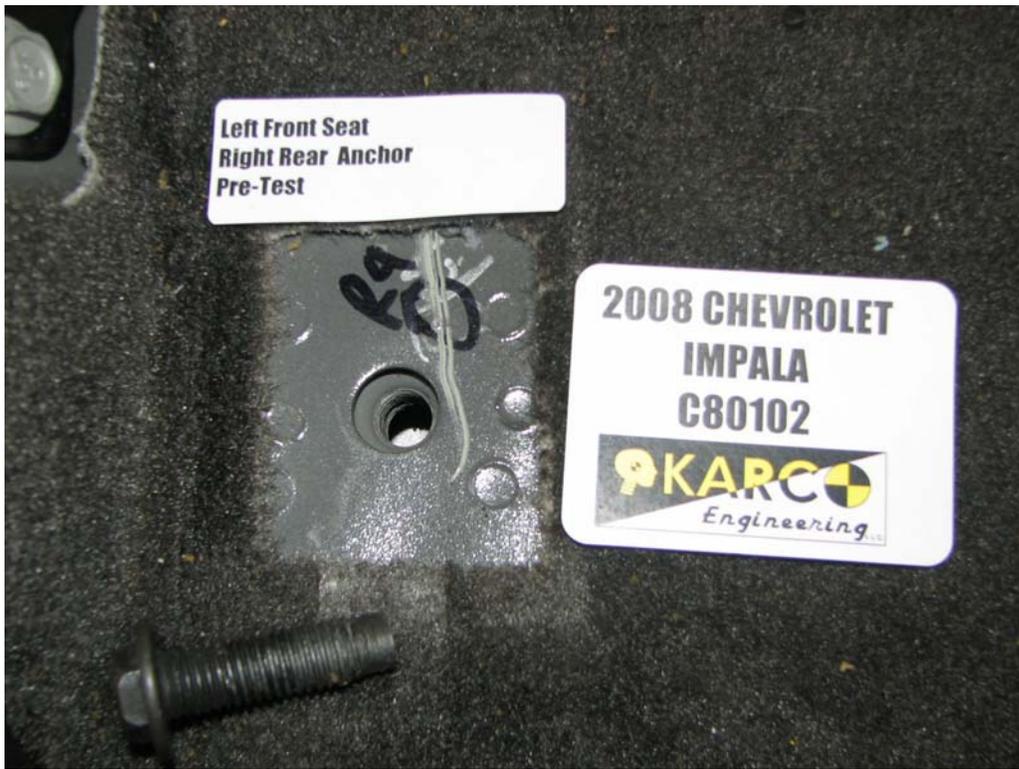


FIGURE 55. Floor Pan Anchor, P1, Pre-Test



FIGURE 56. Floor Pan Anchor, P1, Post-Test



FIGURE 57. Seat Anchor, P1, Pre-Test



FIGURE 58. Seat Anchor, P1, Post-Test



FIGURE 59. Shoulder Belt Anchor, P1, Pre-Test



FIGURE 60. Shoulder Belt Anchor, P1, Post-Test



FIGURE 61. Shoulder Belt Anchor, P1, Pre-Test



FIGURE 62. Shoulder Belt Anchor, P1, Post-Test



FIGURE 63. Belt Anchor, P1, Pre-Test



FIGURE 64. Belt Anchor, P1, Post-Test



FIGURE 65. Belt Anchor, P1, Pre-Test



FIGURE 66. Belt Anchor, P1, Post-Test

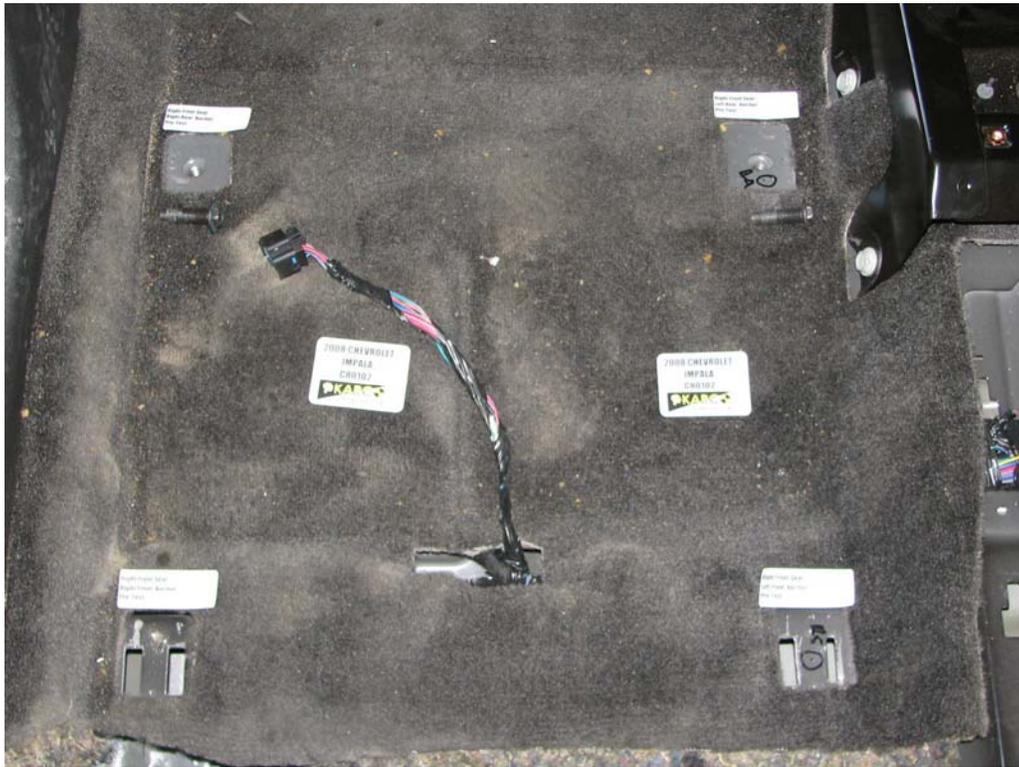


FIGURE 67. Floor Pan Anchors, P2 Overall, Pre-Test

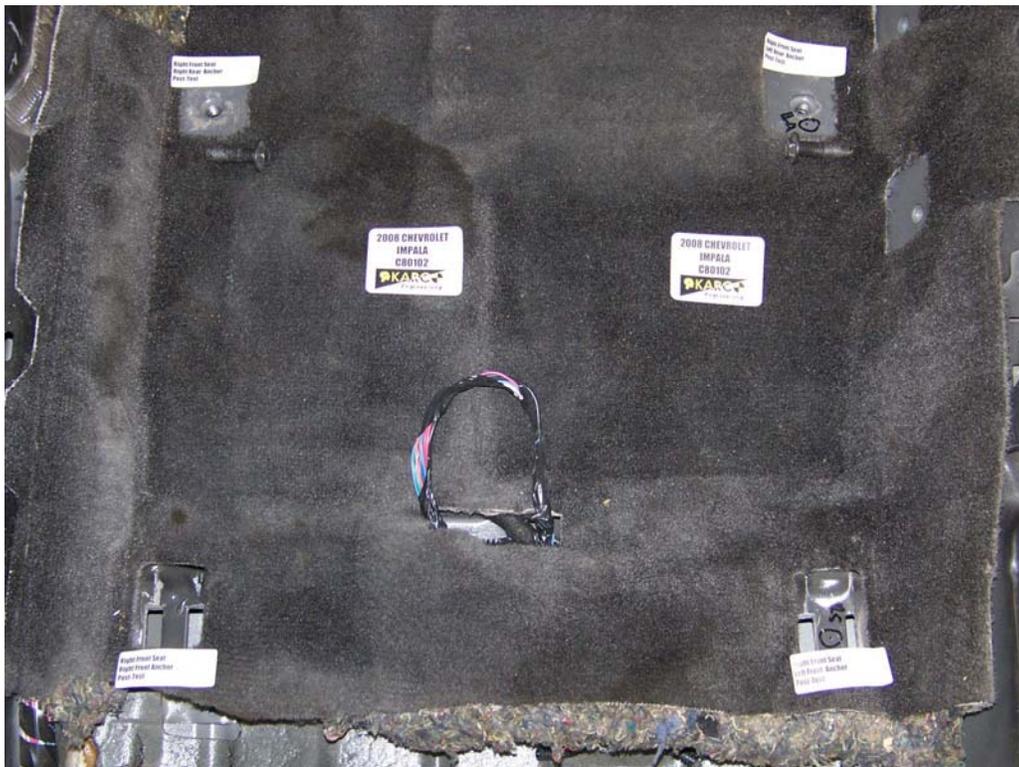


FIGURE 68. Floor Pan Anchors, P2 Overall, Post-Test

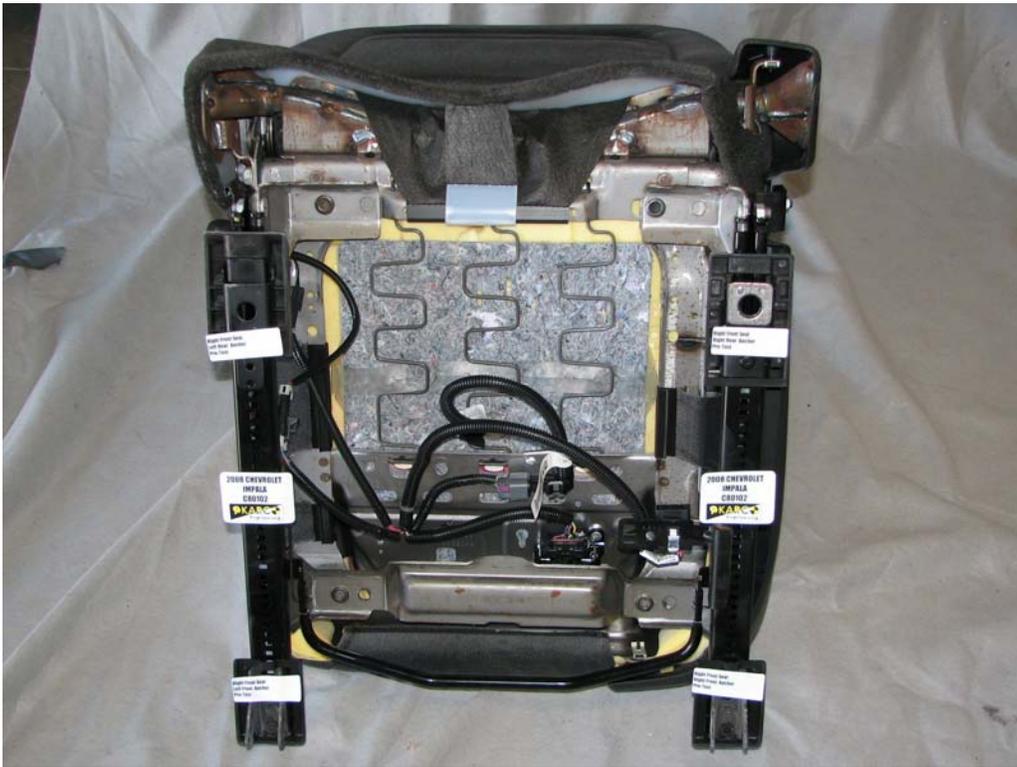


FIGURE 69. Seat Anchors, P2 Overall, Pre-Test

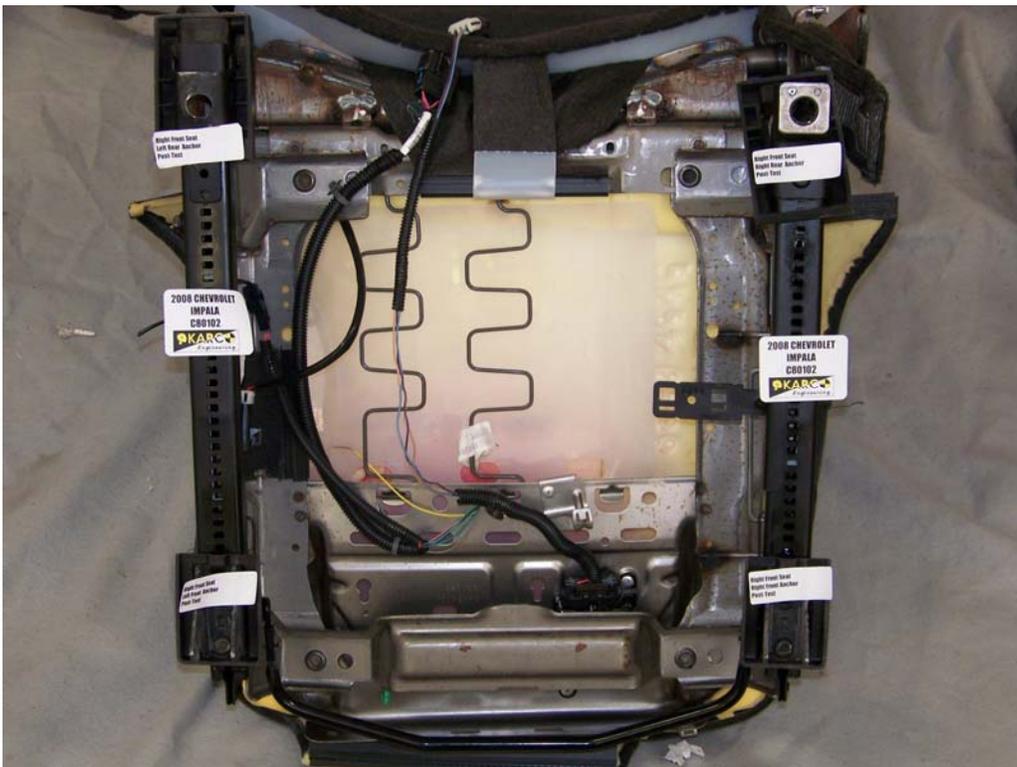


FIGURE 70. Seat Anchors, P2 Overall, Post-Test



FIGURE 71. Floor Pan Anchor, P2, Pre-Test



FIGURE 72. Floor Pan Anchor, P2, Post-Test



FIGURE 73. Seat Anchor, P2, Pre-Test



FIGURE 74. Seat Anchor, P2, Post-Test



FIGURE 75. Floor Pan Anchor, P2, Pre-Test



FIGURE 76. Floor Pan Anchor, P2, Post-Test



FIGURE 77. Seat Anchor, P2, Pre-Test



FIGURE 78. Seat Anchor, P2, Post-Test



FIGURE 79. Floor Pan Anchor, P2, Pre-Test



FIGURE 80. Floor Pan Anchor, P2, Post-Test



FIGURE 81. Seat Anchor, P2, Pre-Test



FIGURE 82. Seat Anchor, P2, Post-Test



FIGURE 83. Floor Pan Anchor, P2, Pre-Test



FIGURE 84. Floor Pan Anchor, P2, Post-Test



FIGURE 85. Seat Anchor, P2, Pre-Test



FIGURE 86. Seat Anchor, P2, Post-Test



FIGURE 87. Shoulder Belt Anchor, P2, Pre-Test



FIGURE 88. Shoulder Belt Anchor, P2, Post-Test



FIGURE 89. Shoulder Belt Anchor, P2, Pre-Test



FIGURE 90. Shoulder Belt Anchor, P2, Post-Test



FIGURE 91. Belt Anchor, P2, Pre-Test



FIGURE 92. Belt Anchor, P2, Post-Test



FIGURE 93. Belt Anchor, P2, Pre-Test



FIGURE 94. Belt Anchor, P2, Post-Test



FIGURE 95. Floor Pan Anchors, P3 & P4 Overall, Pre-Test



FIGURE 96. Floor Pan Anchors, P3 & P4 Overall, Post-Test



FIGURE 97. Seat Back Anchors, P3 & P4 Overall, Pre-Test



FIGURE 98. Seat Back Anchors, P3 & P4 Overall, Post-Test



FIGURE 99. Floor Pan Anchor, P4, Pre-Test



FIGURE 100. Floor Pan Anchor, P4, Post-Test



FIGURE 101. Seat Back Anchor, P4, Pre-Test



FIGURE 102. Seat Back Anchor, P4, Post-Test



FIGURE 103. Floor Pan Anchor, P4, Pre-Test

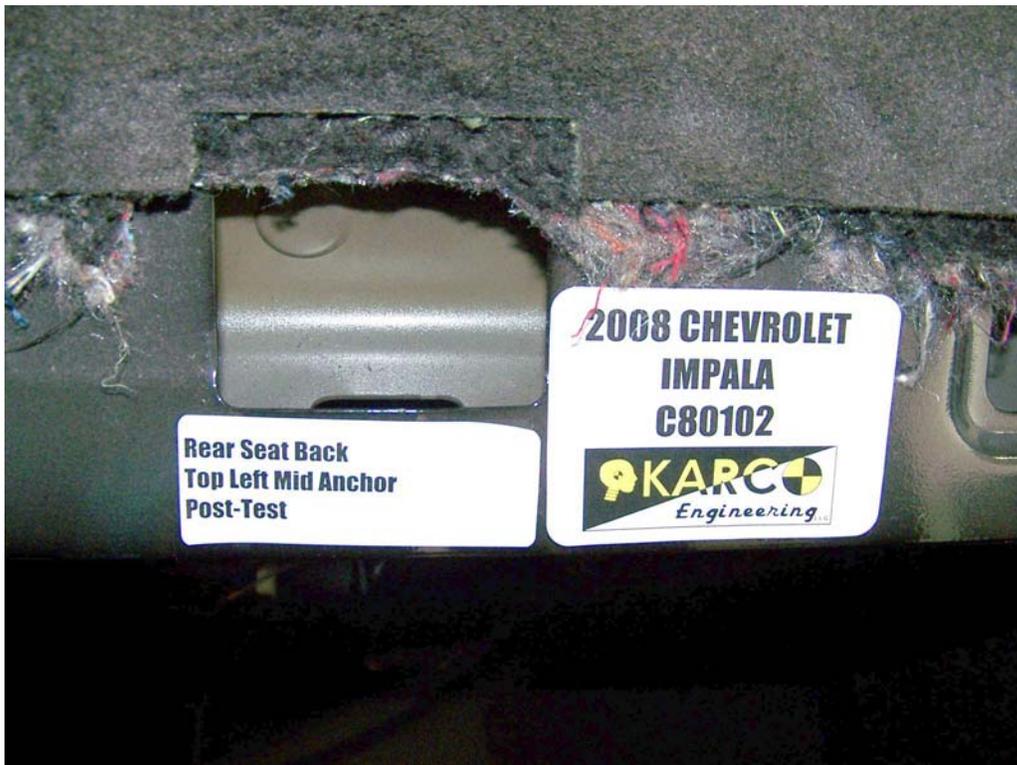


FIGURE 104. Floor Pan Anchor, P4, Post-Test



**2008 CHEVROLET
IMPALA
C80102**

KARCO
Engineering, LLC

**Rear Seat Back
Top Left Mid Anchor
Pre-Test**

FIGURE 105. Seat Back Anchor, P4, Pre-Test



**2008 CHEVROLET
IMPALA
C80102**

KARCO
Engineering, LLC

**Rear Seat Back
Top Left Mid Anchor
Post-Test**

FIGURE 106. Seat Back Anchor, P4, Post-Test



FIGURE 107. Floor Pan Anchor, P3, Pre-Test



FIGURE 108. Floor Pan Anchor, P3, Post-Test



2008 CHEVROLET
IMPALA
C80102



Rear Seat Back
Top Right Mid Anchor
Pre-Test

FIGURE 109. Seat Back Anchor, P3, Pre-Test



2008 CHEVROLET
IMPALA
C80102



Rear Seat Back
Top Right Mid Anchor
Post-Test

FIGURE 110. Seat Back Anchor, P3, Post-Test



FIGURE 111. Floor Pan Anchor, P3, Pre-Test



FIGURE 112. Floor Pan Anchor, P3, Post-Test



FIGURE 113. Seat Back Anchor, P3, Pre-Test



FIGURE 114. Seat Back Anchor, P3, Post-Test



FIGURE 115. Floor Pan Anchor, P4, Pre-Test



FIGURE 116. Floor Pan Anchor, P4, Post-Test



FIGURE 117. Seat Back Anchor, P4, Pre-Test



FIGURE 118. Seat Back Anchor, P4, Post-Test



FIGURE 119. Floor Pan Anchor, P3, Pre-Test



FIGURE 120. Floor Pan Anchor, P3, Post-Test



FIGURE 121. Seat Back Anchor, P3, Pre-Test



FIGURE 122. Seat Back Anchor, P3, Post-Test



FIGURE 123. Seat Cushion Anchors, P3 & P4 Overall, Pre-Test



FIGURE 124. . Seat Cushion Anchors, P3 & P4 Overall, Post-Test



FIGURE 125. Floor Pan Anchor, P4, Pre-Test



FIGURE 126. Floor Pan Anchor, P4, Post-Test



FIGURE 127. Seat Cushion Anchor, P4, Pre-Test



FIGURE 128. Seat Cushion Anchor, P4, Post-Test



FIGURE 129. Floor Pan Anchor, P3, Pre-Test



FIGURE 130. Floor Pan Anchor, P3, Post-Test



FIGURE 131. Seat Cushion Anchor, P3, Pre-Test



FIGURE 132. Seat Cushion Anchor, P3, Post-Test



FIGURE 133. Floor Pan Anchor, P4, Pre-Test



FIGURE 134. Floor Pan Anchor, P4, Post-Test



FIGURE 135. Seat Cushion Anchor, P4, Pre-Test



FIGURE 136. Seat Cushion Anchor, P4, Post-Test



FIGURE 137. . Floor Pan Anchor, P3, Pre-Test



FIGURE 138. . Floor Pan Anchor, P3, Post-Test

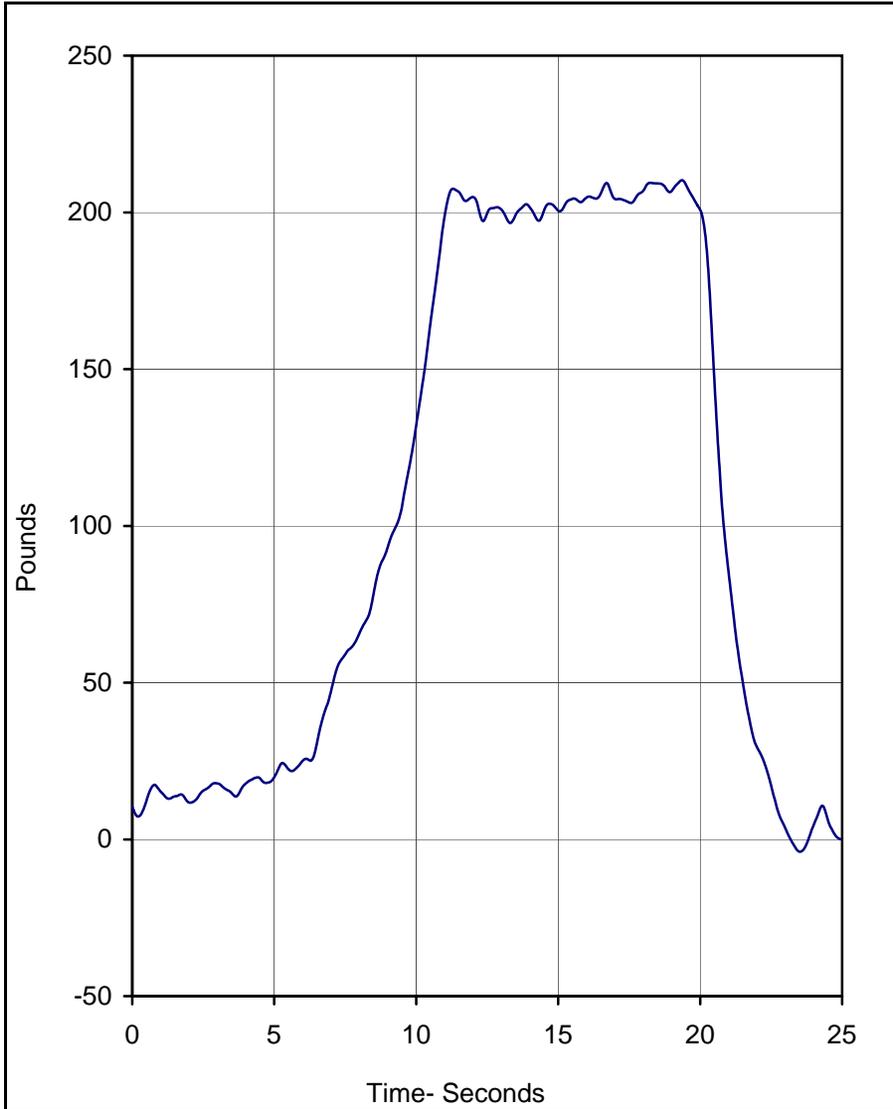


FIGURE 139. Seat Cushion Anchor, P3, Pre-Test



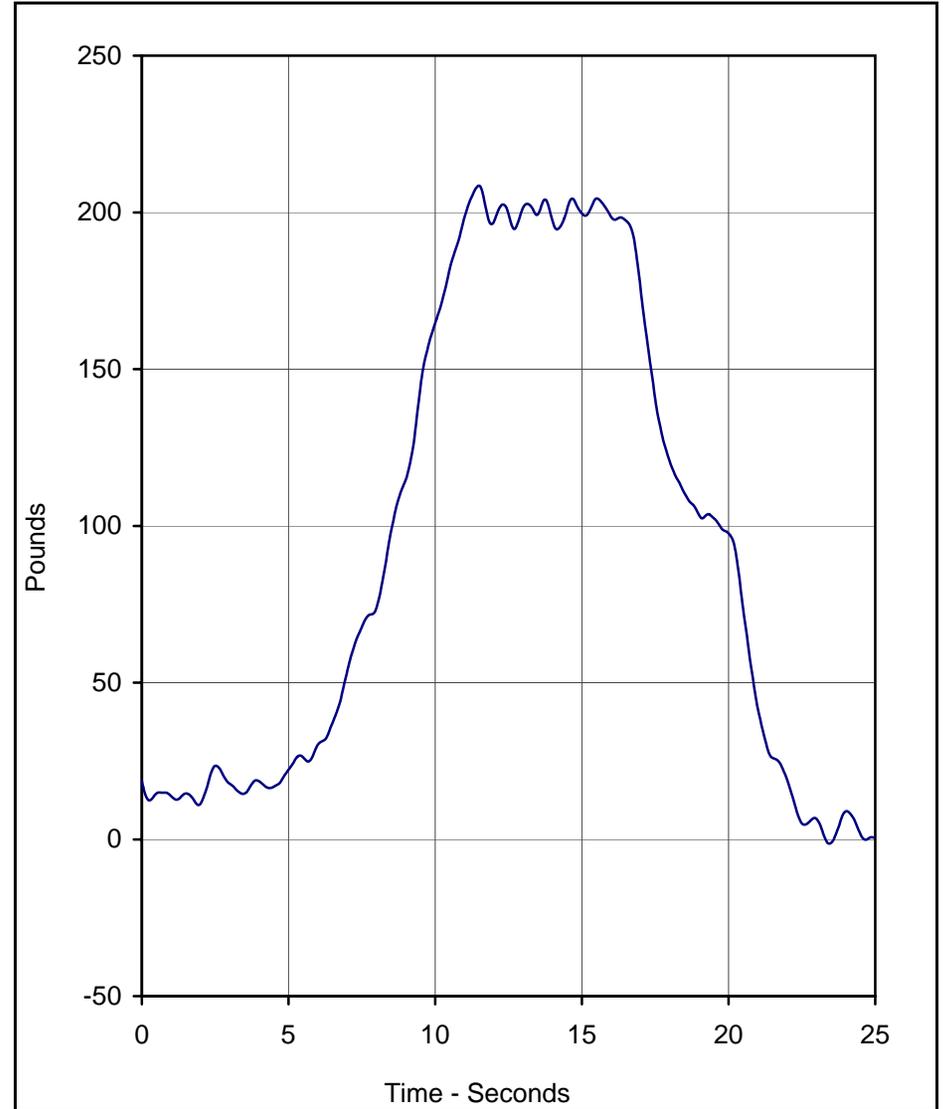
FIGURE 140. Seat Cushion Anchor, P3, Post-Test

APPENDIX B
DATA PLOTS



Curve Description	CURNO	Type
Driver Seat	001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	210.3	19.4	-3.9	23.5	1



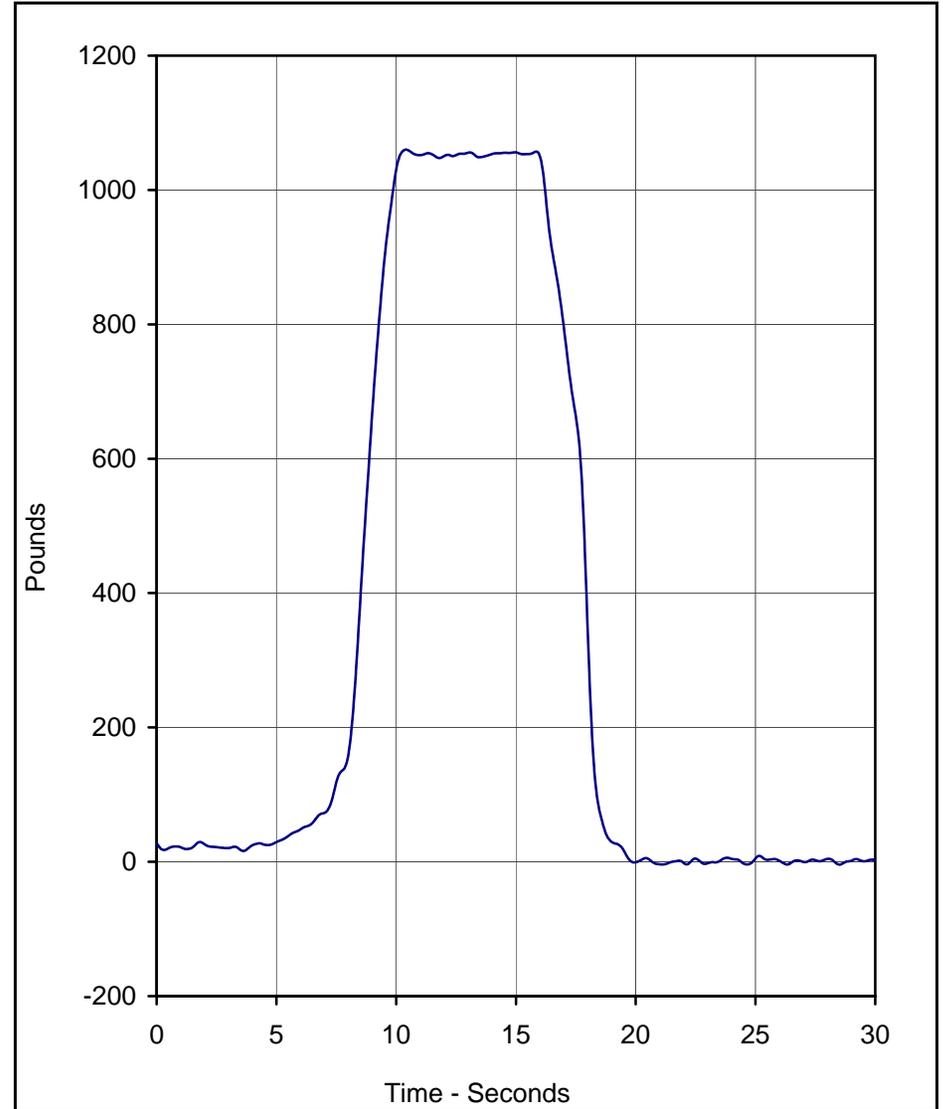
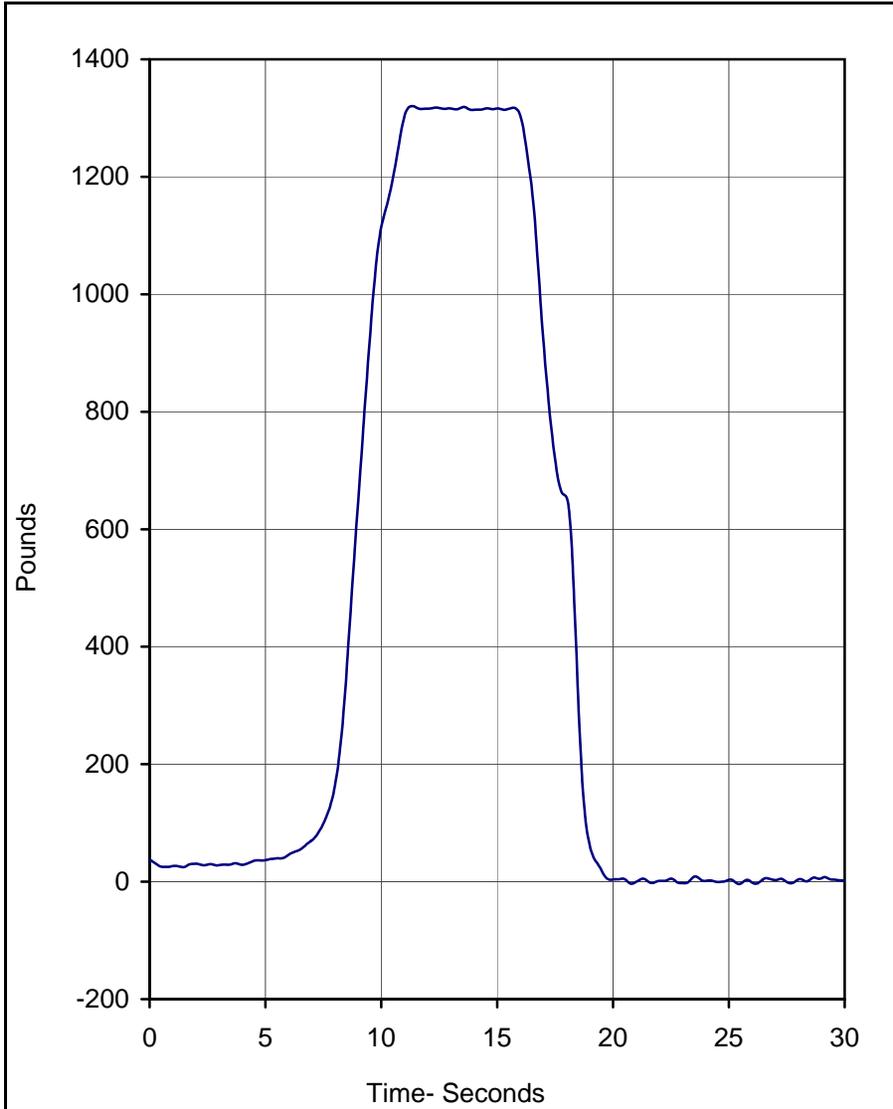
Curve Description	CURNO	Type
Passenger Seat	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	208.5	11.5	-1.4	23.5	1

Test Program: FMVSS 207 Aft Moment (Front)
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

Test Date: 9/23/08
 Project No.: C80102





Curve Description	CURNO	Type
Driver Seat	001	FIL

Curve Description	CURNO	Type
Passenger Seat	002	FIL

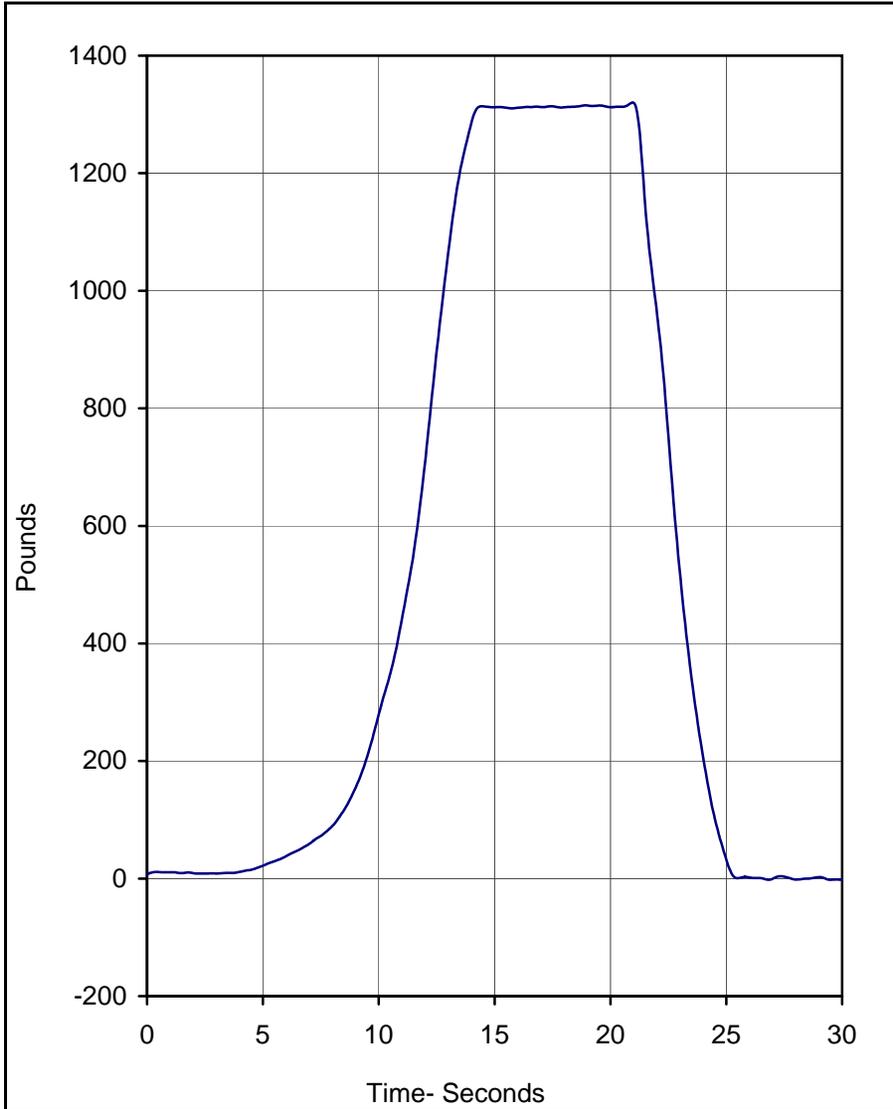
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1320.4	11.4	-4.0	25.5	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1060.2	10.4	-4.1	28.5	1

Test Program: FMVSS 207 Aft Seat Frame and Adj. (Front)
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

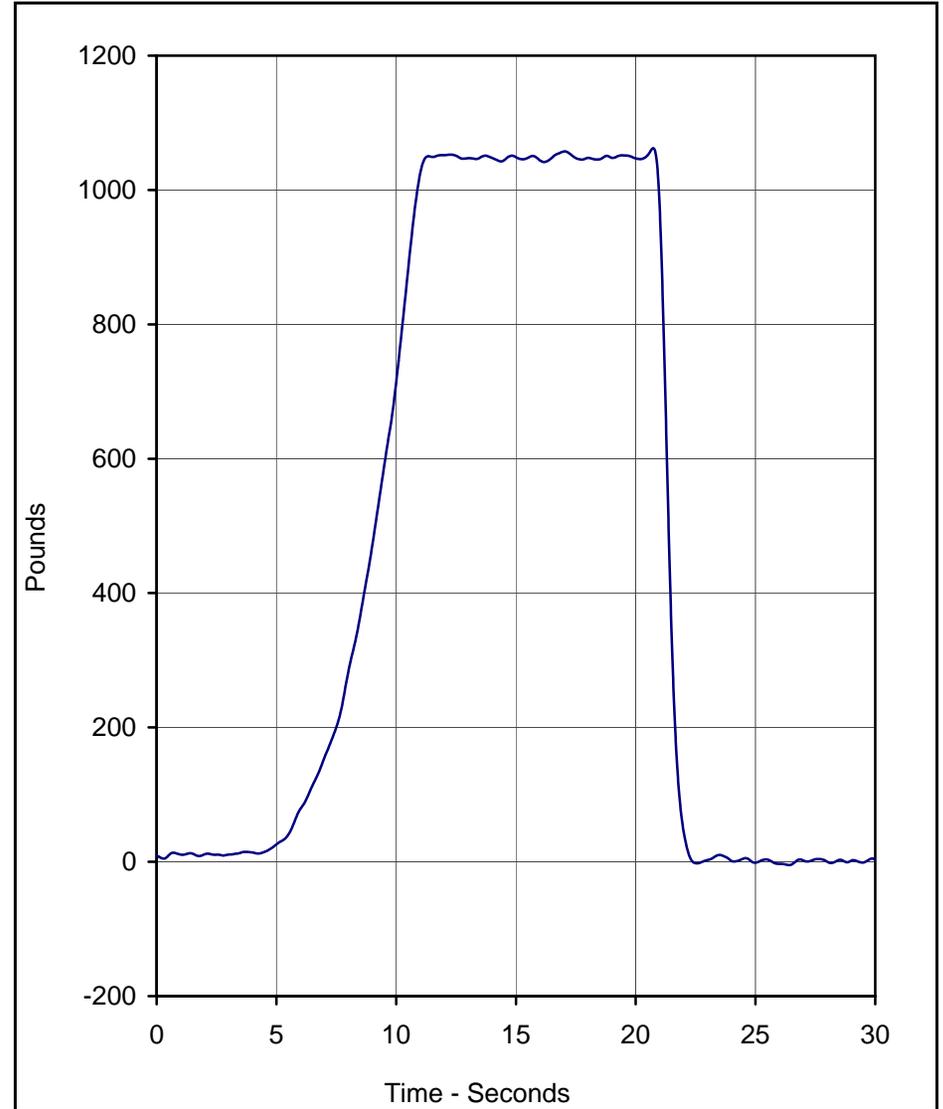
Test Date: 9/23/08
 Project No.: C80102





Curve Description	CURNO	Type
Driver Seat	001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1320.3	21.0	8.0	0.0	1



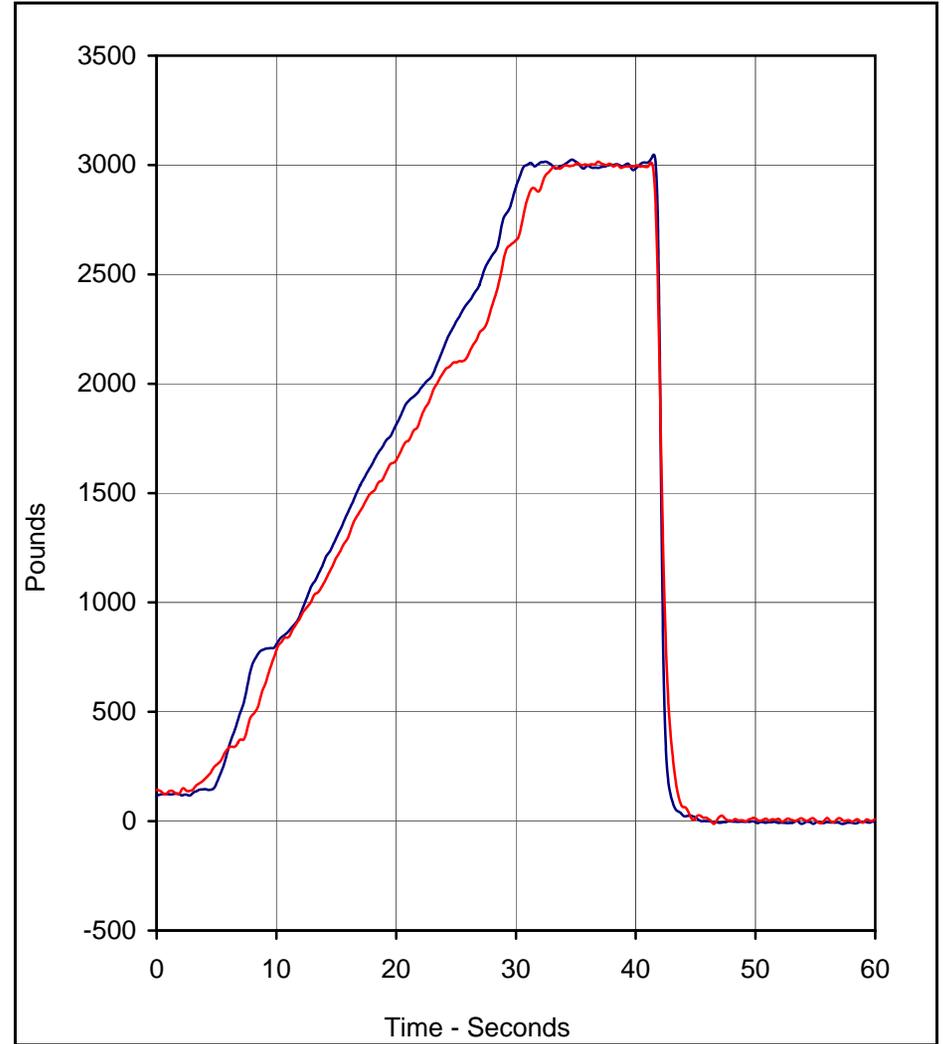
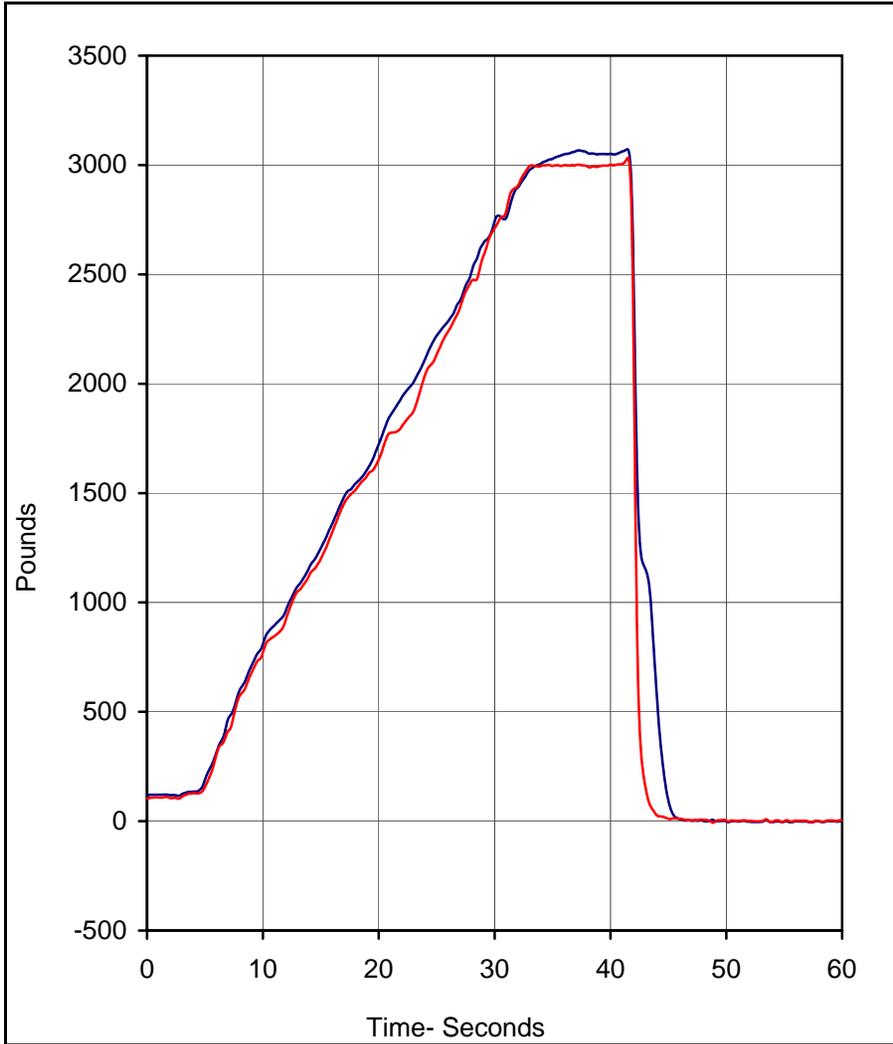
Curve Description	CURNO	Type
Passenger Seat	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1062.0	20.8	-2.3	22.6	1

Test Program: FMVSS 207 Fwd Seat Frame and Adj. (Front)
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

Test Date: 9/23/08
 Project No.: C80102





Curve Description	CURNO	Type
Driver Lap Force	001	FIL
Driver Shoulder Force	002	FIL

Curve Description	CURNO	Type
Passenger Lap Force	004	FIL
Passenger Shoulder Force	005	FIL

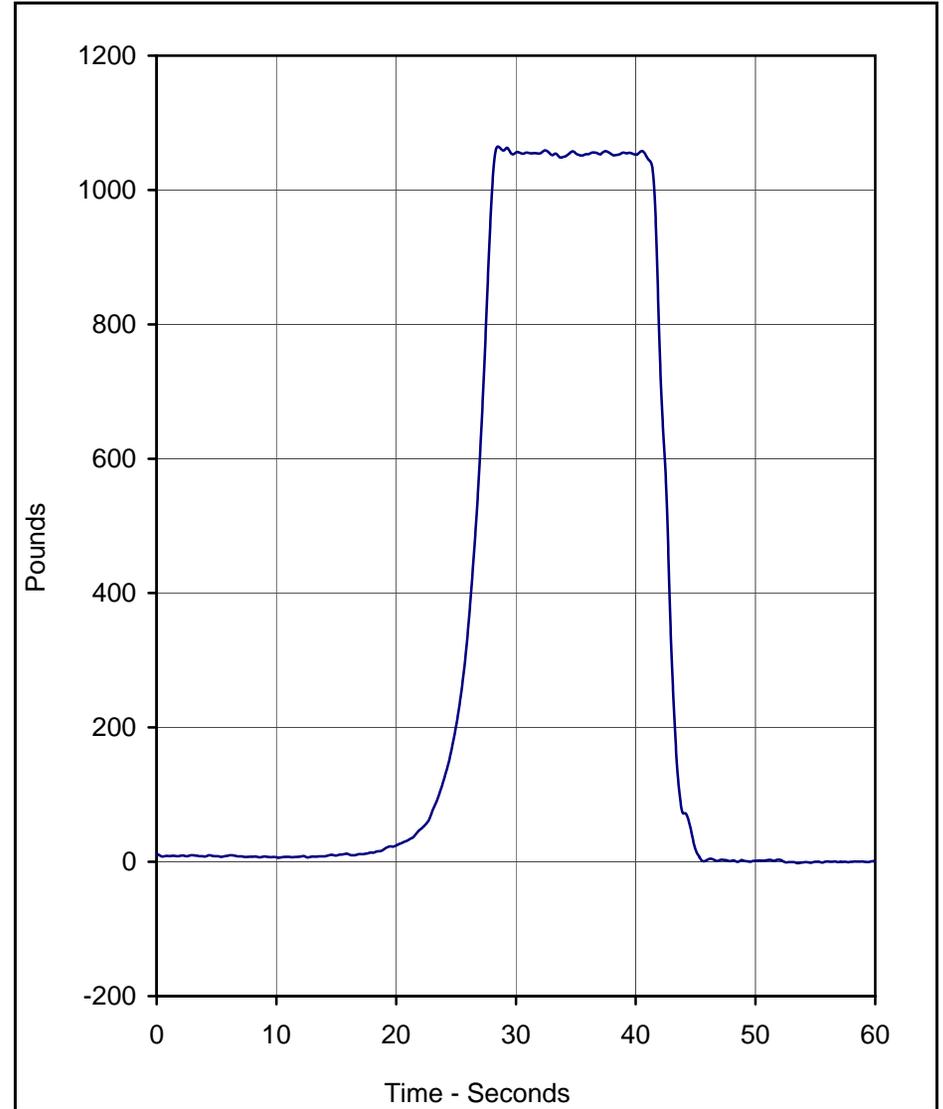
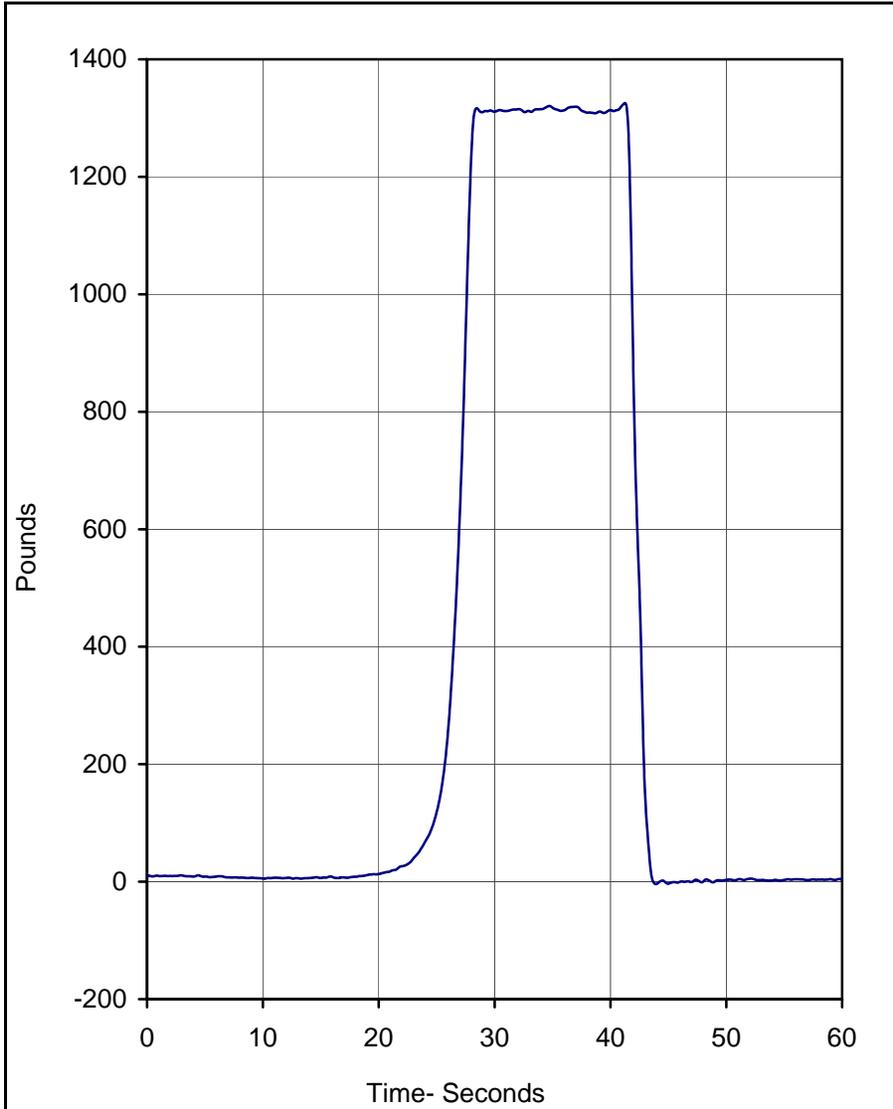
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	3072.1	41.5	-5.8	57.4	1
Pounds	3032.0	41.5	-6.8	48.9	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	3047.1	41.5	-12.4	57.3	1
Pounds	3015.3	36.9	-12.0	46.6	1

Test Program: FMVSS 207/210 Front Seats
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

Test Date: 9/24/08
 Project No.: C80102





Curve Description	CURNO	Type
Driver Seat Force	003	FIL

Curve Description	CURNO	Type
Passenger Seat Force	006	FIL

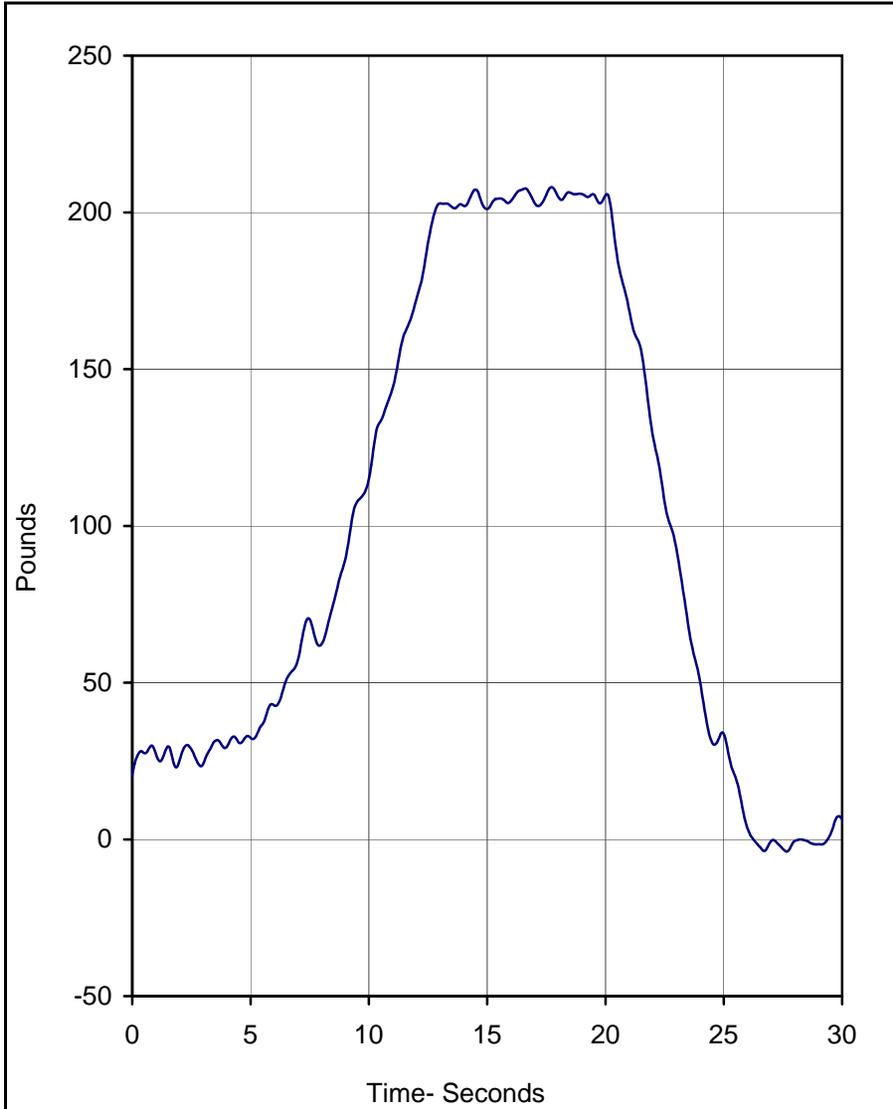
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1325.6	41.3	-4.1	43.9	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1064.6	28.5	-2.1	53.6	1

Test Program: FMVSS 207/210 Front Seats
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

Test Date: 9/24/08
 Project No.: C80102





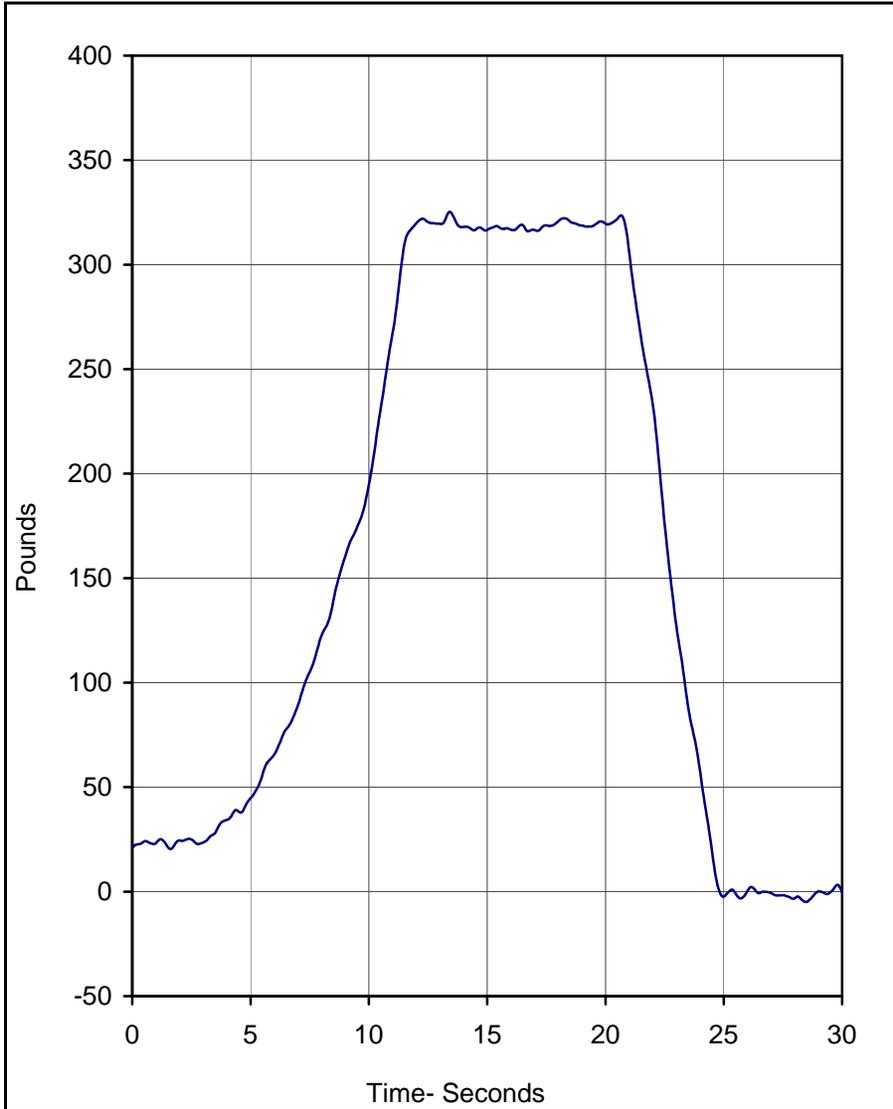
Curve Description	CURNO	Type
Rear Seat Back	001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	208.0	17.7	20.6	0.0	1

Test Program: FMVSS 207 Aft Moment Seat Back (Rear)
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

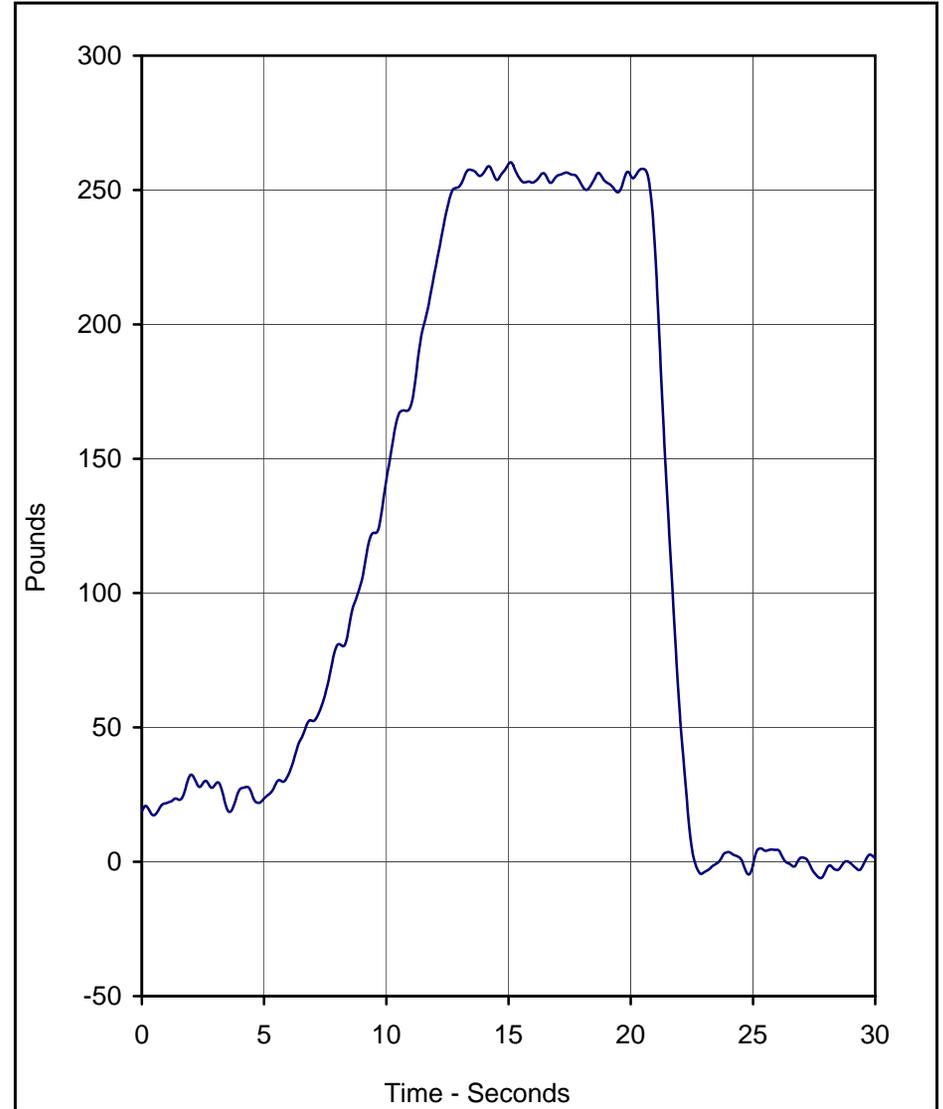
Test Date: 9/24/08
 Project No.: C80102





Curve Description	CURNO	Type
Rear Seat Back	001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	325.3	13.4	-2.4	25.0	1



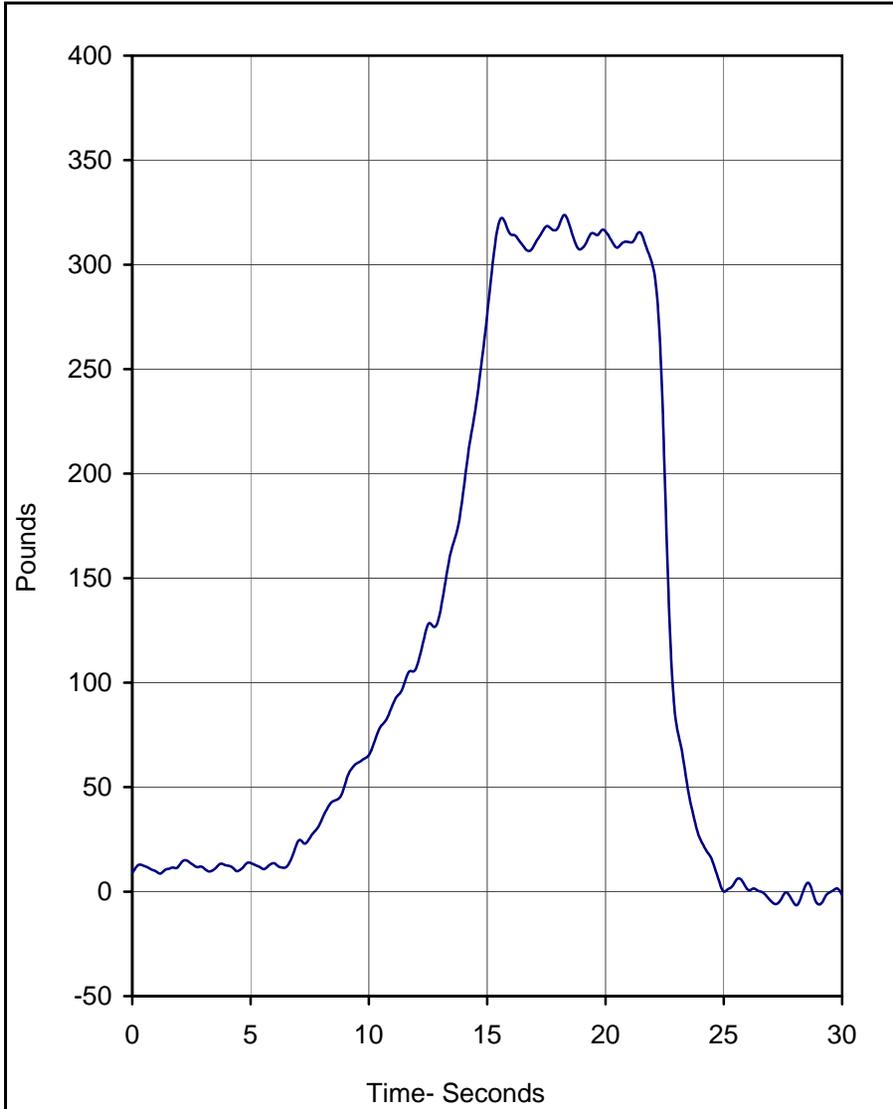
Curve Description	CURNO	Type
Rear Seat Cushion	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	260.3	15.1	-4.7	24.8	1

Test Program: FMVSS 207 Aft Load (Rear)
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

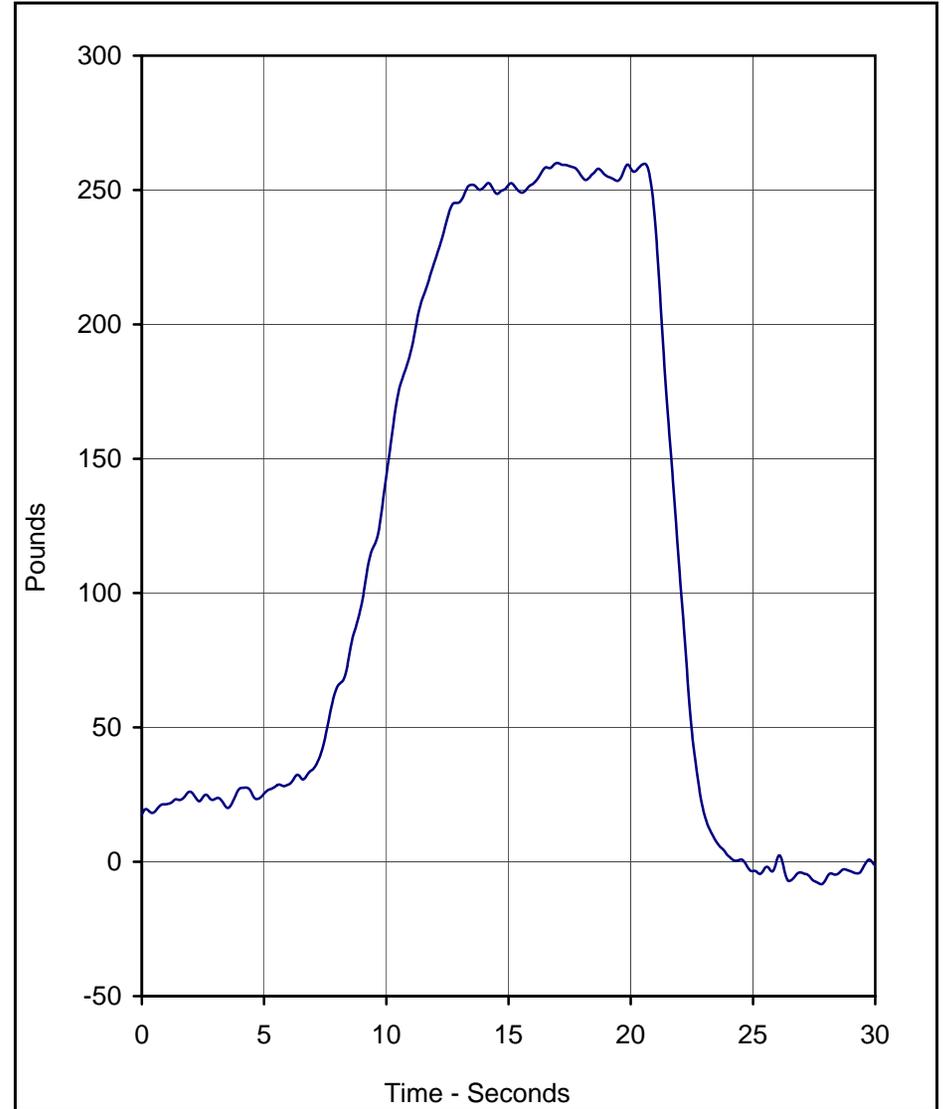
Test Date: 9/24/08
 Project No.: C80102





Curve Description	CURNO	Type
Rear Seat Back	001	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	323.7	18.3	0.6	24.9	1



Curve Description	CURNO	Type
Rear Seat Cushion	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	260.1	17.0	-3.5	24.9	1

Test Program: FMVSS 207 Forward Load (Rear)
 Test Vehicle: 2008 Chevrolet Impala 4-Door Sedan

Test Date: 9/24/08
 Project No.: C80102



APPENDIX C

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

FMVSS 207
Test Equipment List
9/23/08
2008 Chevrolet Impala 4-Door Sedan

Description	Manufacturer	Model No.	Serial No.	Limit	Accuracy	Cal. Date	Due Cal.
Hydraulic Pump	Lincoln	T-3825-C	2460952	8 gpm @ 2700 psi			
Computer	Panasonic	CF-71	8IMAA01852	N/A	N/A	N/A	N/A
TDAS	DTS	TDAS	DM0103	N/A	SAE J211	11/14/07	11/13/08
Load Cell	Interface	1220-FS	50k1	50K	± 1.0%	5/20/08	11/18/08
Load Cell	Interface	1220-FS	50k2	50K	± 1.0%	5/20/08	11/18/08
Load Cell	BLH	U3G1	49296	3K	± 1.0%	5/22/08	11/20/08
Load Cell	BLH	U-1C	N873	6K	± 1.0%	5/20/08	11/18/08
Load Cell	BLH	U-1C	11139	12K	± 1.0%	5/20/08	11/18/08
Load Cell	Alinco	342-E	22438-B	10K	± 1.0%	5/22/08	11/20/08
Load Cell	Alinco	342-E	22440-A	10K	± 1.0%	5/22/08	11/20/08
Load Cell	BLH	U3G1	81711A	10K	± 1.0%	5/22/08	11/20/08

C-1

207-KAR-07-005-NC

