

REPORT NO. 207-KAR-06-004

**INDICANT TESTING
FOR FMVSS 207**

SEATING SYSTEMS

2006 JEEP WRANGLER
2-DOOR MPV

NHTSA NO. C60303

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September 22, 2006

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ASSURANCE
OFFICE OF VEHICLE SAFETY INDICANT
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WASHINGTON, D.C. 20590

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SECTION 1

PURPOSE OF INDICANT TEST

1. PURPOSE OF INDICANT TEST

Tests were conducted on a 2006 Jeep Wrangler 2-Door MPV, manufactured by DaimlerChrysler Corporation to determine FMVSS 207, "Seating Systems" indicant 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.

This project also collected indicant FMVSS 210 data and utilized the advancements made in the field of anthropomorphic dummies, a new test device that can be used to transfer loads between hydraulic cylinders and the seat belts installed in an automotive vehicle for the purpose of testing the seat belt anchorages. The new test device is intended to add a greater degree of realism to the current FMVSS 210 test methods and increase the repeatability of the test setup procedures.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Indicant (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 - Indicant Test Procedure and Data Summary
- Section 3 - Indicant Test Data
- Section 4 - No Indicant Data (if applicable)
- Appendix A - Photographs
- Appendix B - Data Plots
- Appendix C - Test Equipment List and Calibration Information

SECTION 2

INDICANT TEST PROCEDURE and DATA SUMMARY

2. INDICANT TEST PROCEDURE AND DATA SUMMARY

A 2006 Jeep Wrangler 2-Door MPV was subjected to FMVSS 207 Indicant testing on September 19 thru September 21, 2006. 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
- Forward load 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
- Aft load tests on rear seat frame and adjusters
- Forward load tests on rear seat frames and adjusters

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 Indicant 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
INDICANT TEST DATA

3. INDICANT TEST DATA

The results of FMVSS 207 Indicant tests that were conducted on the 2006 Jeep Wrangler 2-Door MPV on September 19 thru September 21, 2006, to determine Indicant 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	2006	MAKE	Jeep
MODEL	Wrangler	BODY STYLE	2-Door MPV
NHTSA NO.	C60303	VIN	1J4FA29106P741046
BUILD DATE	01/06	TEST DATE	09/19/06 – 09/21/06
TEST LABORATORY		KARCO Engineering, LLC.	

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

	Yes	<u> X </u>	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

	<u> X </u>	Yes	<u> </u>	No
--	--------------	-----	-----------------	----

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

	<u> X </u>	Yes	<u> </u>	No
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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.

	<u> X </u>	Yes	<u> </u>	No
--	--------------	-----	-----------------	----

RESULTS OR RECEIVING INSPECTION:

PASS - -	<u> </u>	<u> X </u>
FAIL - -	<u> </u>	
CONDITIONAL - -	<u> </u>	

REMARKS:

* Vehicle had previously been tested to FMVSS 118.

RECORDED BY: RUPESH B. PATEL DATE: 09/22/06

APPROVED BY: MATTHEW A. IVORY DATE: 09/22/06

DATA SHEET NO. 2
SEATING SYSTEM TEST RESULTS

VEHICLE			
YEAR	2006	MAKE	Jeep
MODEL	Wrangler	BODY STYLE	2-Door MPV
NHTSA NO.	C60303	VIN	1J4FA29106P741046
BUILD DATE	01/06	TEST DATE	09/19/06 – 09/21/06
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=18	20 x Wb = 360	356.2	N/A	PASS
Seat Assy.	Forward	Wa = 50	20 x Wa = 1000	995.7	N/A	PASS
	Rearward	Wa =50	20 x Wa = 1000	996.3	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	200.4	3206.4	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=18	20 x Wb = 360	353.2	N/A	PASS
Seat Assy.	Forward	Wa = 60	20 x Wa = 1200	1194.6	N/A	PASS
	Rearward	Wa = 60	20 x Wa = 1200	1199.2	N/A	PASS
Seat Back Moment	Rearward	N/A	3275 in-lb/Z	202.2	3238.4	PASS

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

VEHICLE			
YEAR	2006	MAKE	Jeep
MODEL	Wrangler	BODY STYLE	2-Door MPV
NHTSA NO.	C60303	VIN	1J4FA29106P741046
BUILD DATE	01/06	TEST DATE	09/19/06 – 09/21/06
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	34	40	YES
	Center	30 to 75 degrees	N/A	N/A	N/A
	Right	30 to 75 degrees	35	42	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	0.0°
		0 – 40 degrees below	
	Right	0 – 80 degrees above	0.0°
		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: RUPESH B. PATEL DATE: 09/22/06

APPROVED BY: MATTHEW A. IVORY DATE: 09/22/06

DATA SHEET NO. 4

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

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

VEHICLE			
NHTSA NO.	C60303	TEST DATE	09/19/06 – 09/21/06
CONTRACT NO.	DTNH22-01-C-31025	VIN	1J4FA29106P741046
SEAT CONFIGURATION			
VEHICLE OR SEAT MANUFACTURER		DaimlerChrysler 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	DaimlerChrysler Corporation	VIN	1J4FA29106P741046
Manufacturing Date	01/06	Delivery Date	09/06/06
Dealer	Victorville Motors Inc	NHTSA No.	C60303
Odometer Reading (mi.)	63	Fuel Type	GAS
Engine Displacement	2.4 LITER	Cylinders	INLINE-4
Transmission	6-Speed Automatic	Final Drive	4wd
Engine Placement	Longitudinal	Color	Light Khaki
Tire Press./Max. Cap. Front	44 PSI	Cold Tire Press. Front	33 PSI
Tire Press./Max. Cap. Rear	44 PSI	Cold Tire Press. Rear	33 PSI
Recommend Tire Size	P215/75R15	Type of Spare	P215/75R15
Tire Size on Vehicle	P215/75R15	Manufacturer	GOODYEAR
GVWR	2019 Kg.	Cargo Capacity	318
GAWR Front	998 Kg.	GAWR Rear	1202 Kg.
Air Conditioning	NO	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	NO
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	NO	Tilt Steering	YES
Anti-lock Brakes (ABS)	NO	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	YES

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

RECORDED BY: RUPESH B. PATEL DATE: 09/22/06

APPROVED BY: MATTHEW A. IVORY DATE: 09/22/06

APPENDIX A
PHOTOGRAPHS



FIGURE 1. Left Front $\frac{3}{4}$ View, As Received



FIGURE 2. Left Side, As Received



FIGURE 3. Right Rear ¾ View, As Received



FIGURE 4. Right Side, As Received



FIGURE 5. Manufacturer's Label

Photograph Not Available

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 Back, P1, Pre-Test



FIGURE 16. Forward Load on Seat Back, P1, Post-Test



FIGURE 17. Forward Load on Seat Back, P2, Pre-Test



FIGURE 18. Forward Load on Seat Back, 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. Forward Load on Seat Back, P4, Pre-Test
(Incorrect Sign)



FIGURE 28. Forward Load on Seat Back, P4, Post-Test
(Incorrect Sign)



FIGURE 29. Forward Load on Seat Back, P3, Pre-Test
(Incorrect Sign)



FIGURE 30. Forward Load on Seat Back, P3, Post-Test
(Incorrect Sign)



FIGURE 31. Forward Load on Seat Frame and Adjusters, P4, Pre-Test



FIGURE 32. Forward Load on Seat Frame and Adjusters, P4, Post-Test



FIGURE 33. Forward Load on Seat Frame and Adjusters, P3, Pre-Test



FIGURE 34. Forward Load on Seat Frame and Adjusters, P3, Post-Test



FIGURE 35. Aft Moment on Seat Back, P4, Pre-Test



FIGURE 36. Aft Moment on Seat Back, P4, Post-Test



FIGURE 37. Aft Moment on Seat Back, P3, Pre-Test



FIGURE 38. Aft Moment on Seat Back, P3, Post-Test



FIGURE 39. Aft Load on Seat Frame and Adjusters, P4, Pre-Test



FIGURE 40. Aft Load on Seat Frame and Adjusters, P4, Post-Test



FIGURE 41. Aft Load on Seat Frame and Adjusters, P3, Pre-Test



FIGURE 42. Aft Load on Seat Frame and Adjusters, P3, Post-Test



FIGURE 43. Floor Pan Anchors, P1 Overall, Pre-Test

Photograph Not Available

FIGURE 44. Floor Pan Anchors, P1 Overall, Post-Test



FIGURE 45. Seat Anchors, P1 Overall, Pre-Test



FIGURE 46. Seat Anchors, P1 Overall, 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. Floor Pan Anchor, P1, Pre-Test

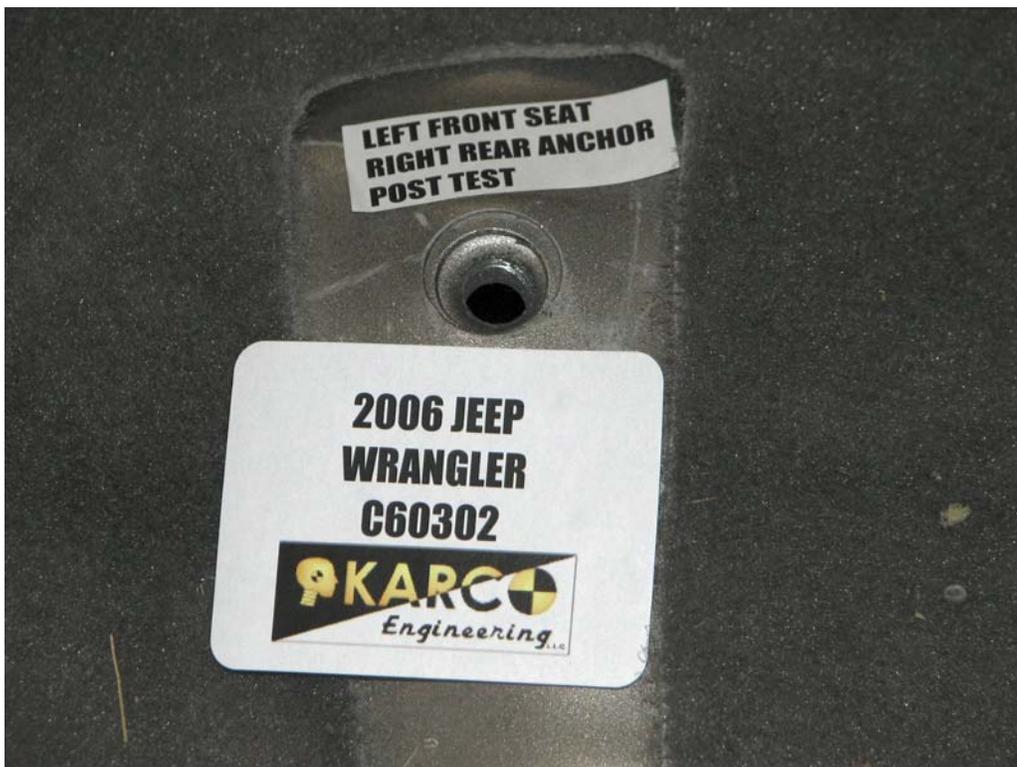


FIGURE 60. Floor Pan Anchor, P1, Post-Test



FIGURE 61. Seat Anchor, P1, Pre-Test



FIGURE 62. Seat Anchor, P1, Post-Test



FIGURE 63. Shoulder Belt Anchor, P1, Pre-Test



FIGURE 64. Shoulder Belt Anchor, P1, Post-Test



FIGURE 65. Shoulder Belt Anchor, P1, Pre-Test



FIGURE 66. Shoulder Belt Anchor, P1, Post-Test



FIGURE 67. Belt Anchor, P1, Pre-Test



FIGURE 68. Belt Anchor, P1, Post-Test



FIGURE 69. Belt Anchor, P1, Pre-Test



FIGURE 70. Belt Anchor, P1, Post-Test

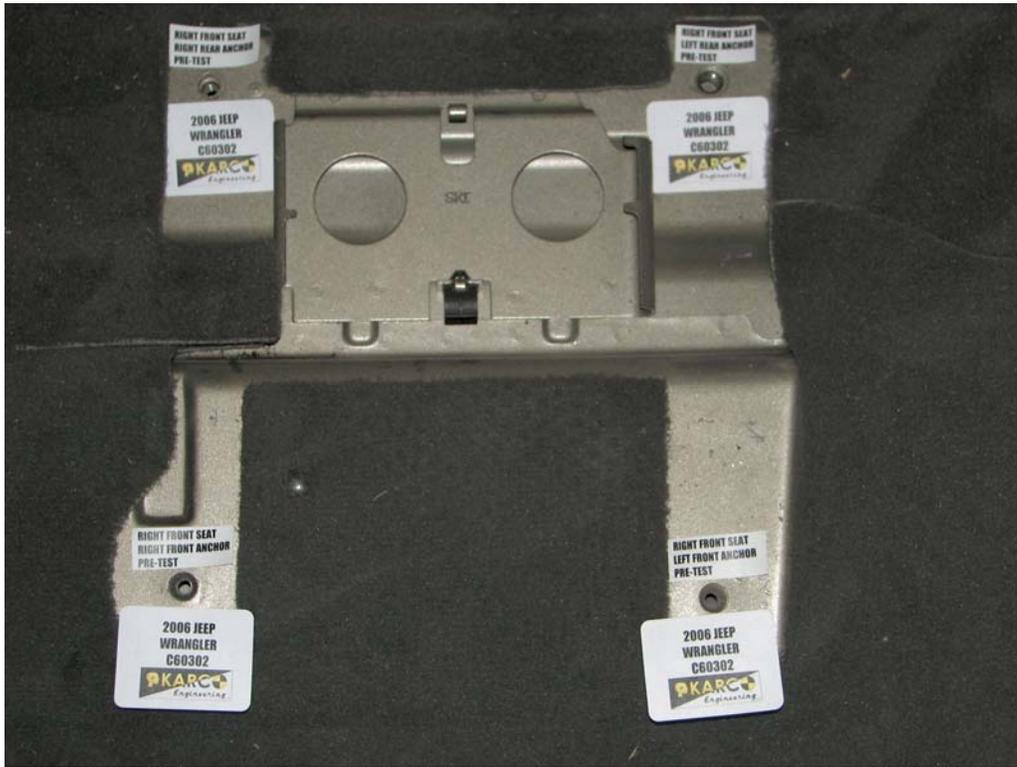


FIGURE 71. Floor Pan Anchors, P2 Overall, Pre-Test

Photograph Not Available

FIGURE 72. Floor Pan Anchors, P2 Overall, Post-Test



FIGURE 73. Seat Anchors, P2 Overall, Pre-Test (Incorrect Signs)



FIGURE 74. Seat Anchors, P2 Overall, Post-Test



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

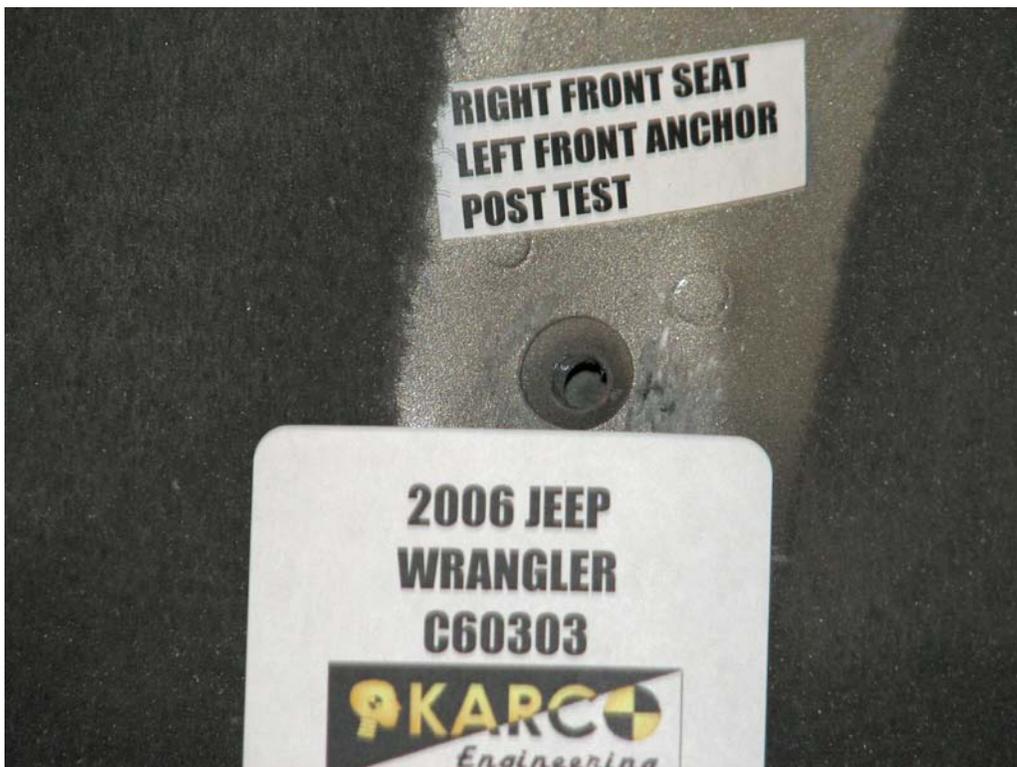


FIGURE 76. Floor Pan Anchor, P2, Post-Test



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 (Incorrect Sign)



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. Floor Pan Anchor, P2, Pre-Test



FIGURE 88. Floor Pan Anchor, P2, Post-Test



FIGURE 89. Seat Anchor, P2, Pre-Test (Incorrect Sign)



FIGURE 90. Seat Anchor, P2, Post-Test



FIGURE 91. Shoulder Belt Anchor, P2, Pre-Test



FIGURE 92. Shoulder Belt Anchor, P2, Post-Test



FIGURE 93. Shoulder Belt Anchor, P2, Pre-Test



FIGURE 94. Shoulder Belt Anchor, P2, Post-Test



FIGURE 95. Belt Anchor, P2, Pre-Test



FIGURE 96. Belt Anchor, P2, Post-Test (Incorrect Sign)



FIGURE 97. Belt Anchor, P2, Pre-Test



FIGURE 98. Belt Anchor, P2, Post-Test



FIGURE 99. Floor Pan Anchors, P3 and P4 Overall, Pre-Test



FIGURE 100. Floor Pan Anchors, P3 and P4 Overall, Post-Test



FIGURE 101. Seat Anchors, P3 and P4 Overall, Pre-Test



FIGURE 102. Seat Anchors, P3 and P4 Overall, Post-Test



FIGURE 103. Floor Pan Anchor, P3 and P4, Pre-Test



FIGURE 104. Floor Pan Anchor, P3 and P4, Post-Test



FIGURE 105. Seat Anchor, P3 and P4, Pre-Test



FIGURE 106. Seat Anchor, P3 and P4, Post-Test



FIGURE 107. Floor Pan Anchor, P3 and P4, Pre-Test



FIGURE 108. Floor Pan Anchor, P3 and P4, Post-Test



FIGURE 109. Seat Anchor, P3 and P4, Pre-Test



FIGURE 110. Seat Anchor, P3 and P4, Post-Test



FIGURE 111. Floor Pan Anchor, P3 and P4, Pre-Test



FIGURE 112. Floor Pan Anchor, P3 and P4, Post-Test



FIGURE 113. Seat Anchor, P3 and P4, Pre-Test (Sign Missing)



FIGURE 114. Seat Anchor, P3 and P4, Post-Test



FIGURE 115. Floor Pan Anchor, P3 and P4, Pre-Test



FIGURE 116. Floor Pan Anchor, P3 and P4, Post-Test

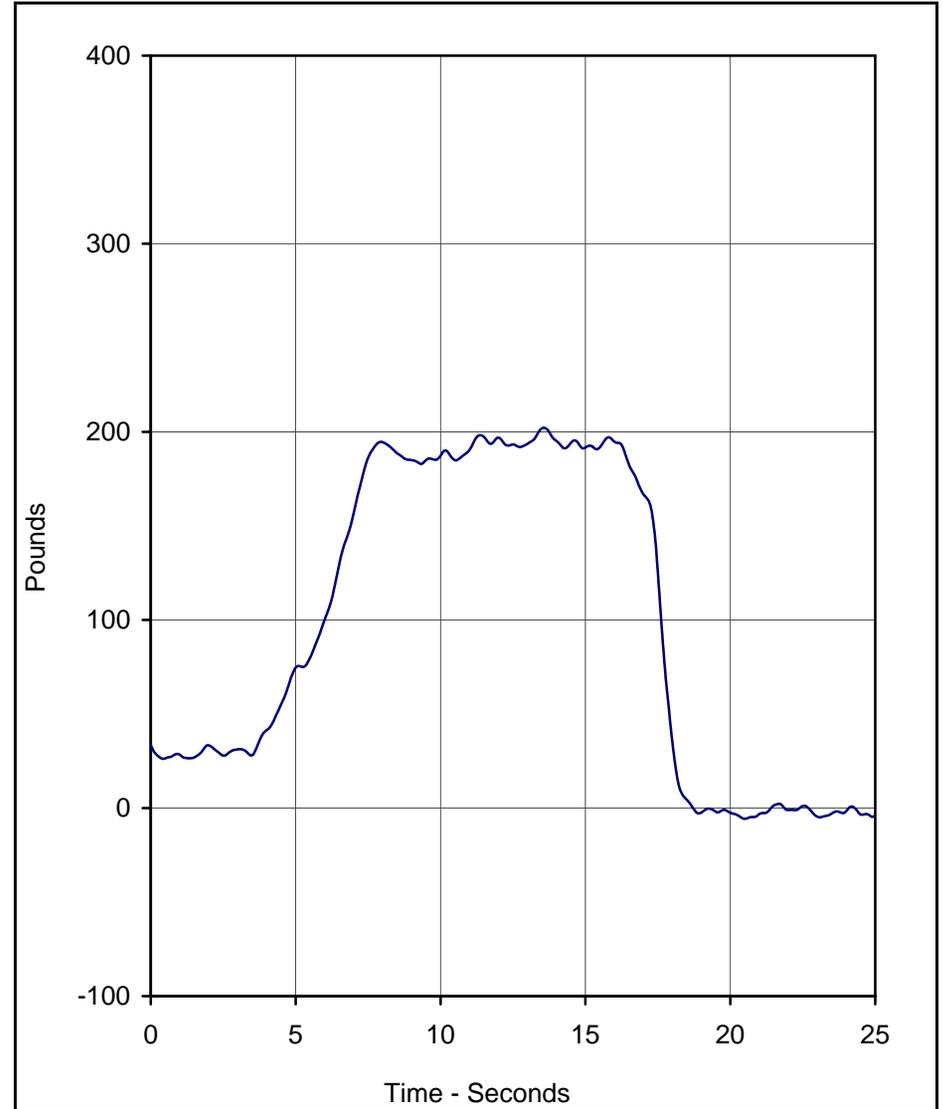
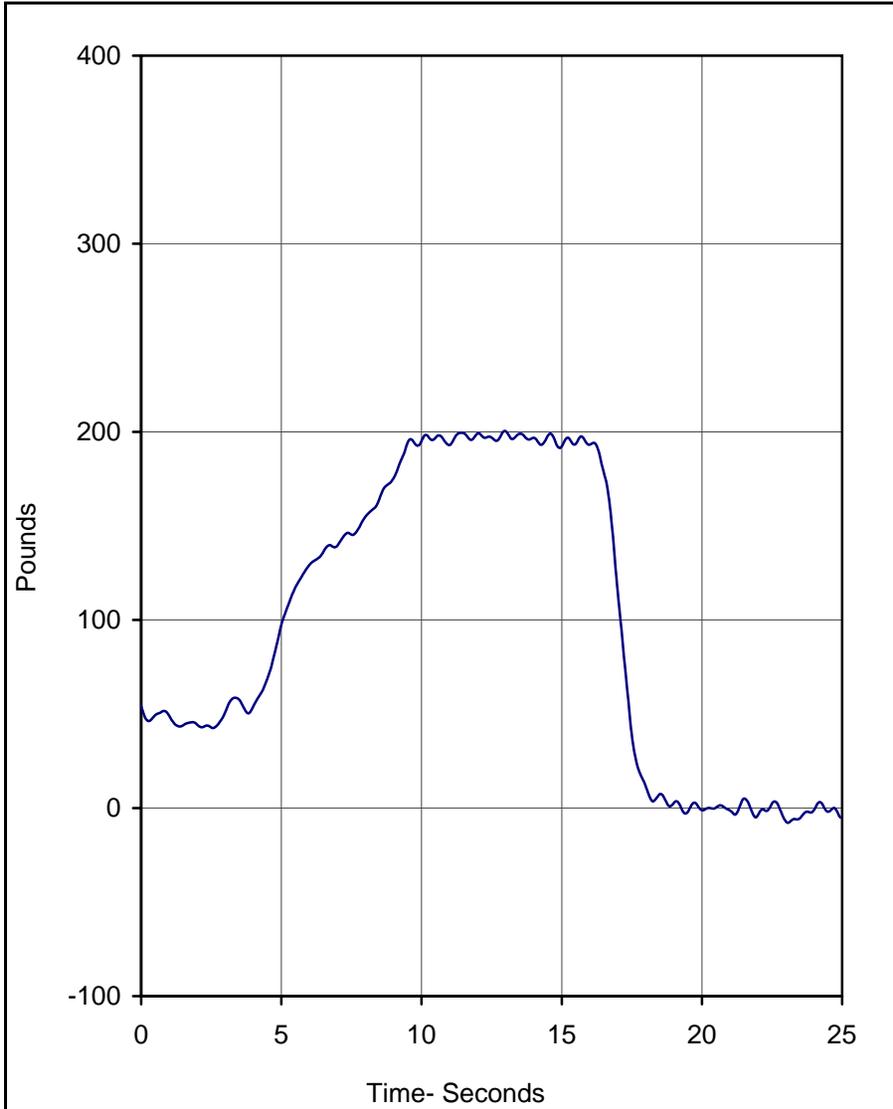


FIGURE 117. Seat Anchor, P3 and P4, Pre-Test



FIGURE 118. Seat Anchor, P3 and P4, Post-Test

APPENDIX B
DATA PLOTS



Curve Description	CURNO	Type
Driver Seat	001	FIL

Curve Description	CURNO	Type
Pass. Seat	002	FIL

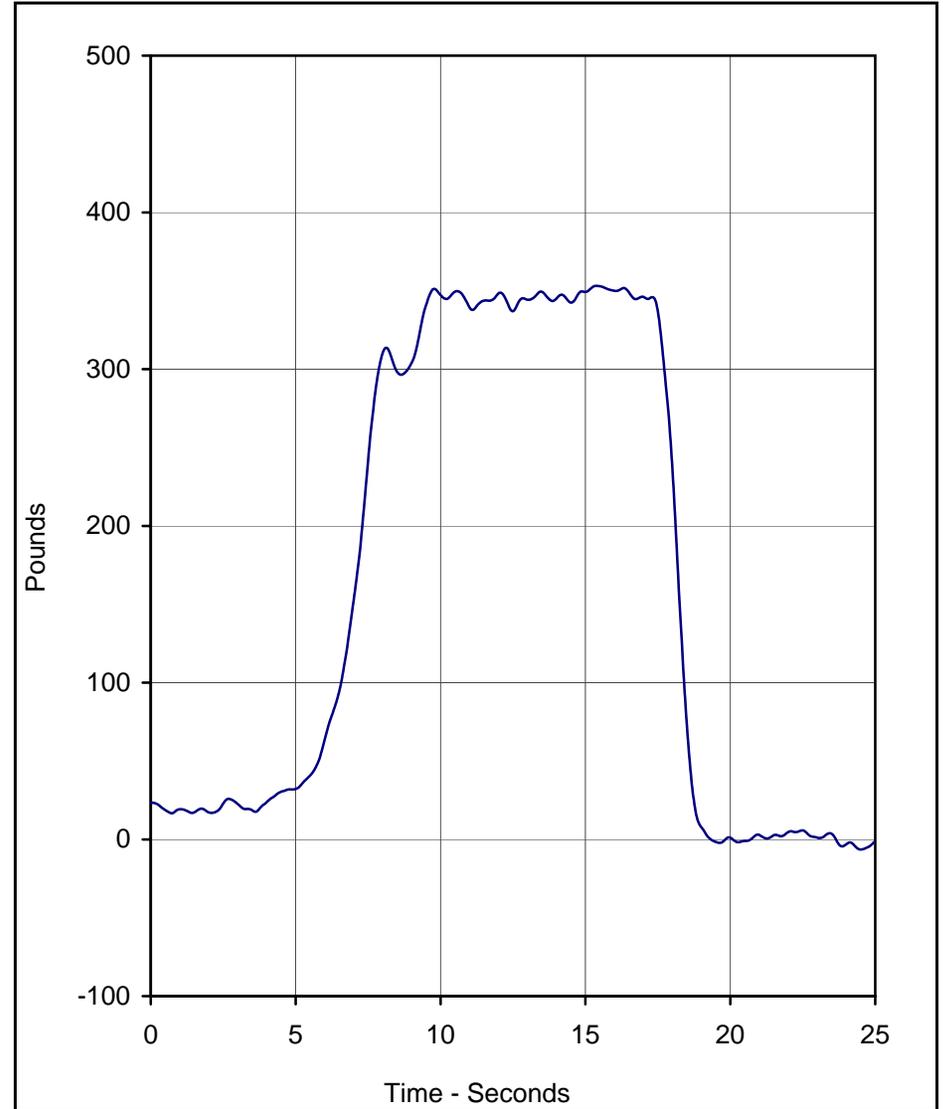
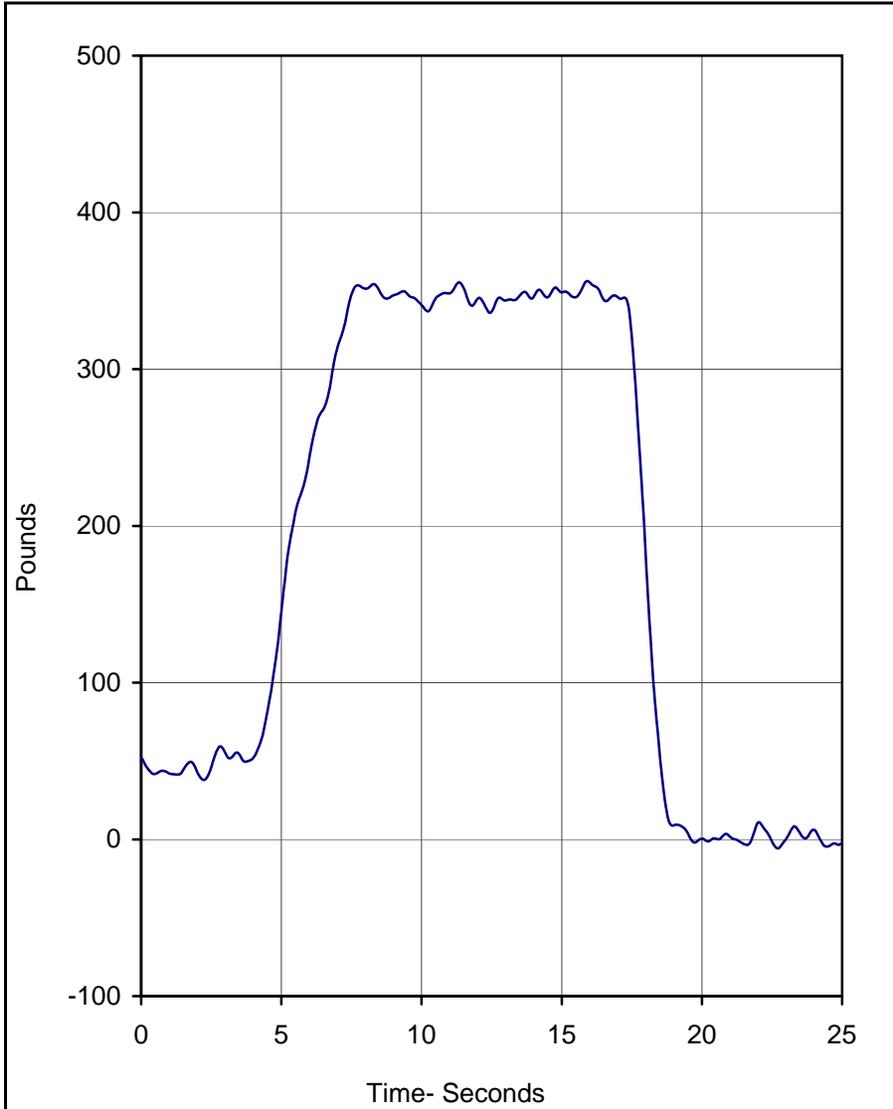
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	200.4	13.0	-7.8	23.1	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	202.2	13.6	-5.7	20.5	1

Test Program: FMVSS 207 Aft Moment (Front)
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/19/06
 Project No.: C60303





Curve Description	CURNO	Type
Driver Seat	001	FIL

Curve Description	CURNO	Type
Pass. Seat	002	FIL

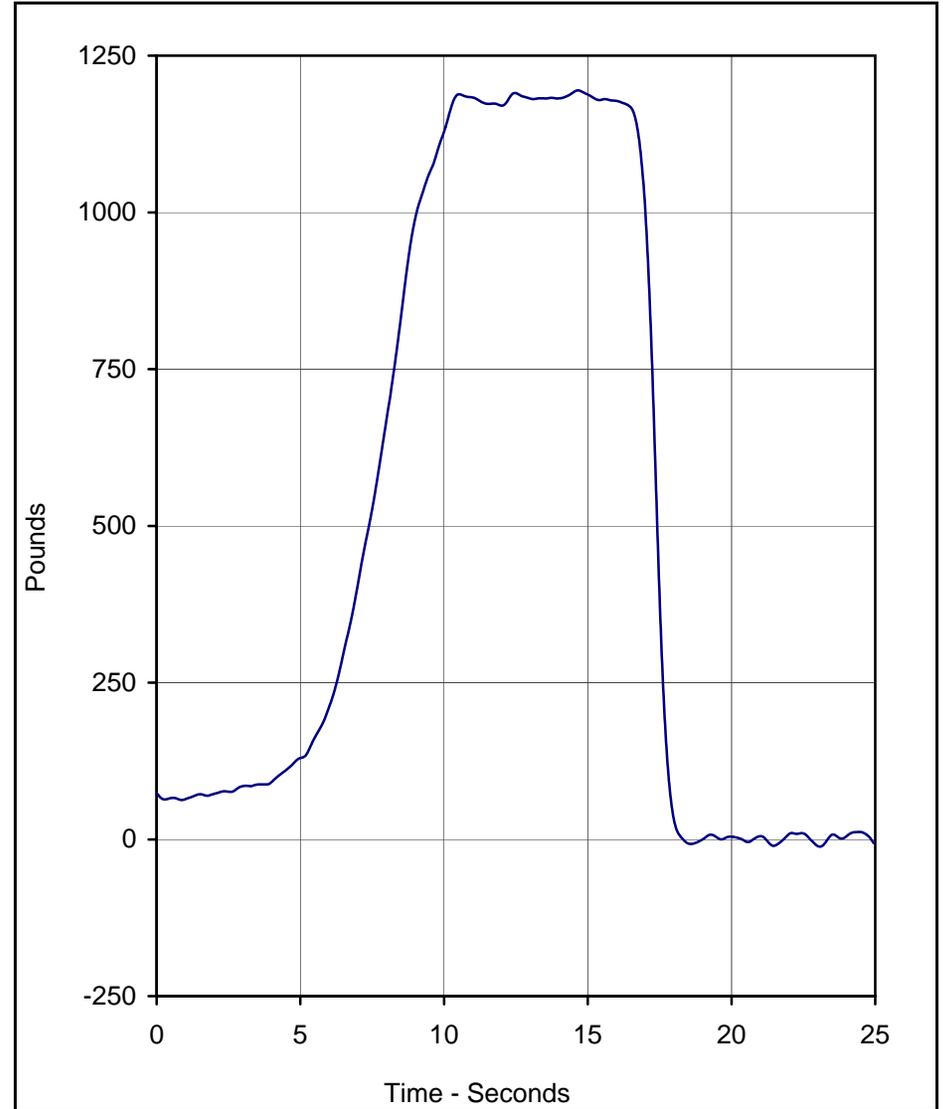
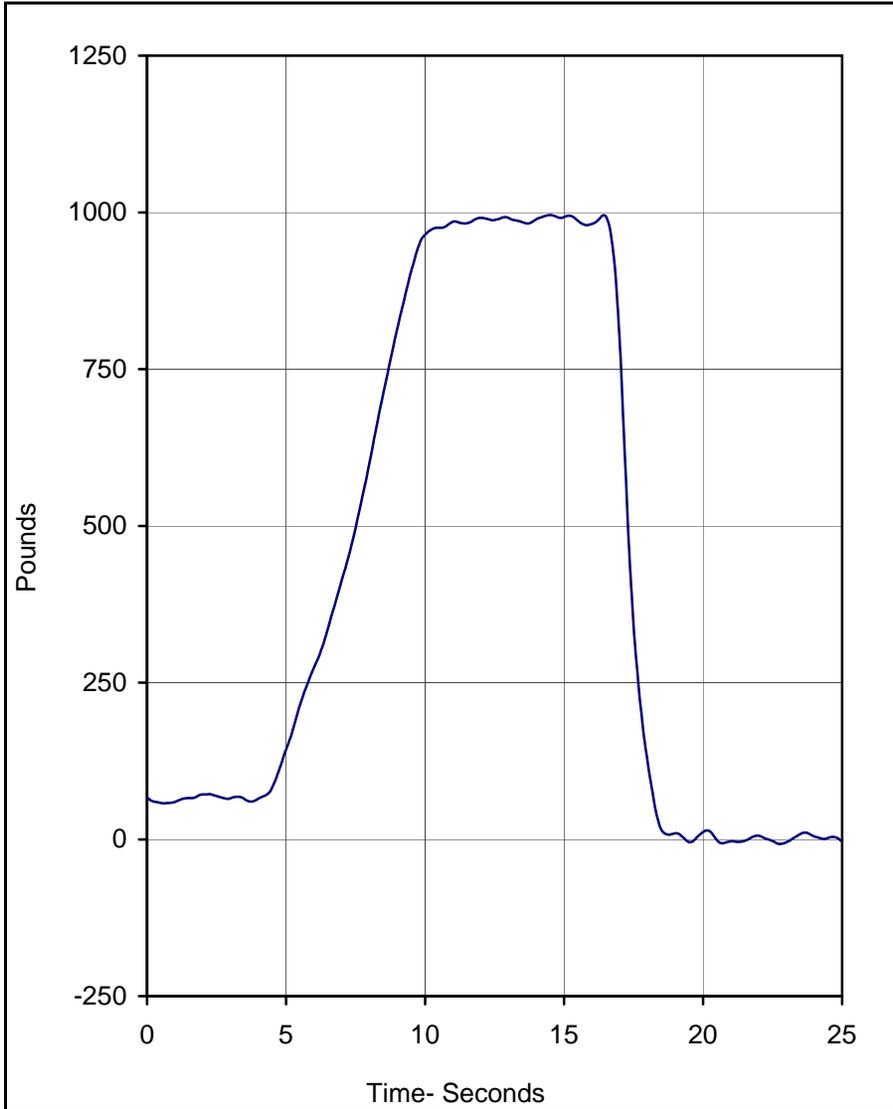
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	356.2	15.9	-5.8	22.7	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	353.2	15.4	-6.4	24.5	1

Test Program: FMVSS 207 Fwd Load on Seatback (Front)
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/19/06
 Project No.: C60303





Curve Description	CURNO	Type
Driver Seat	001	FIL

Curve Description	CURNO	Type
Pass. Seat	002	FIL

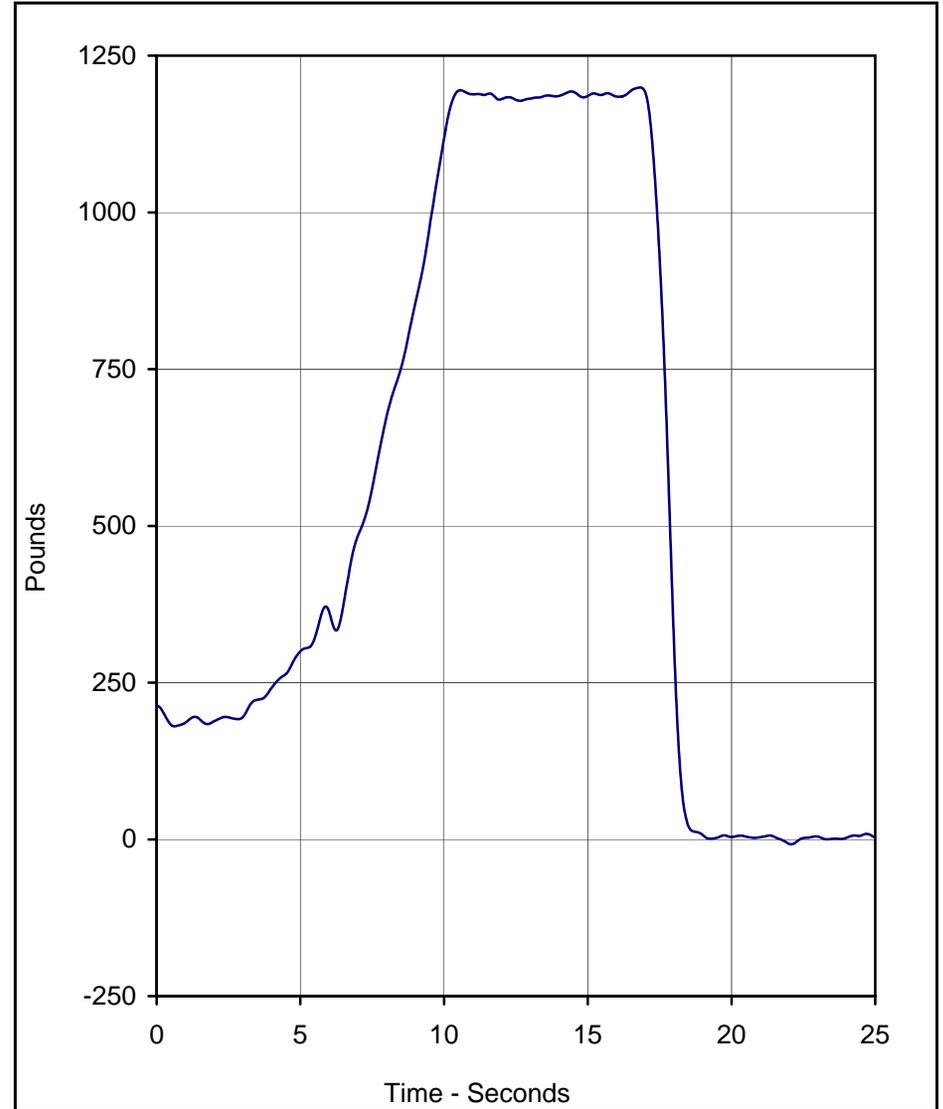
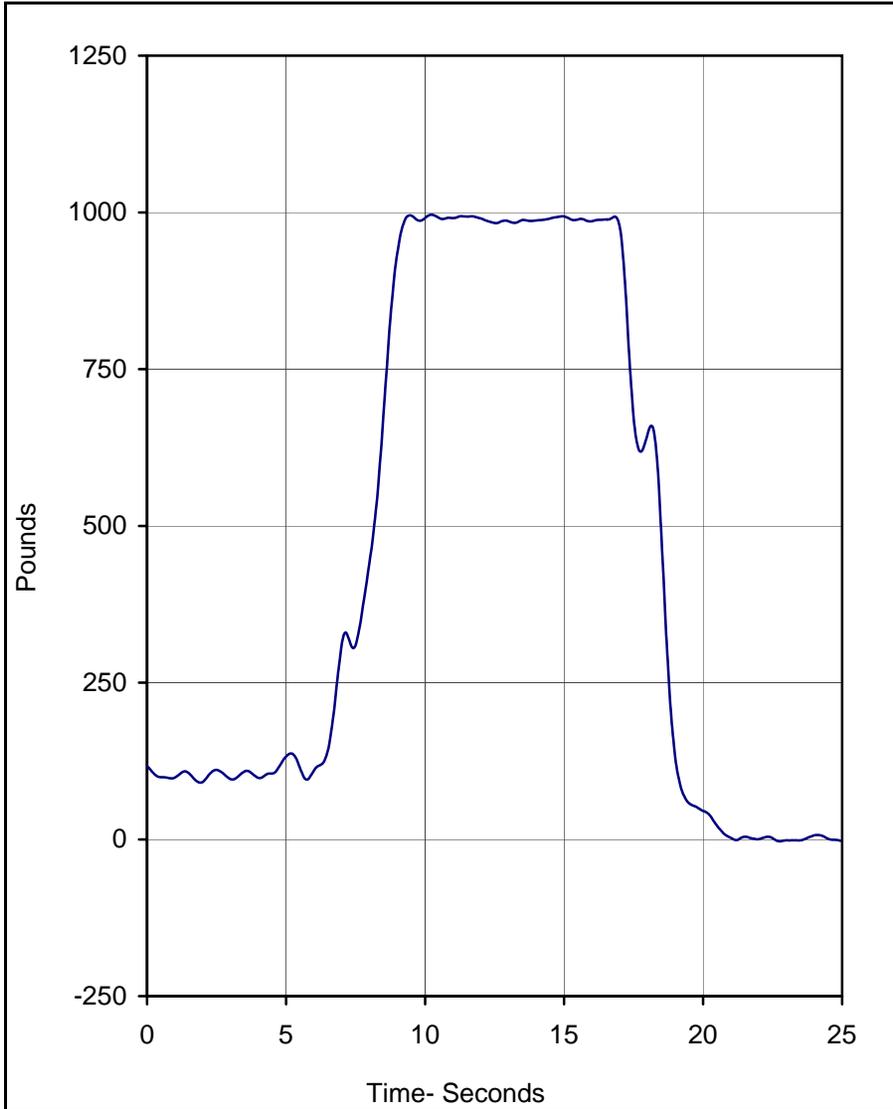
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	995.7	14.5	-7.2	22.8	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1194.6	14.7	-11.6	23.1	1

Test Program: FMVSS 207 Fwd Seat Frame and Adj. (Front)
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/19/06
 Project No.: C60303





Curve Description	CURNO	Type
Driver Seat	001	FIL

Curve Description	CURNO	Type
Pass. Seat	002	FIL

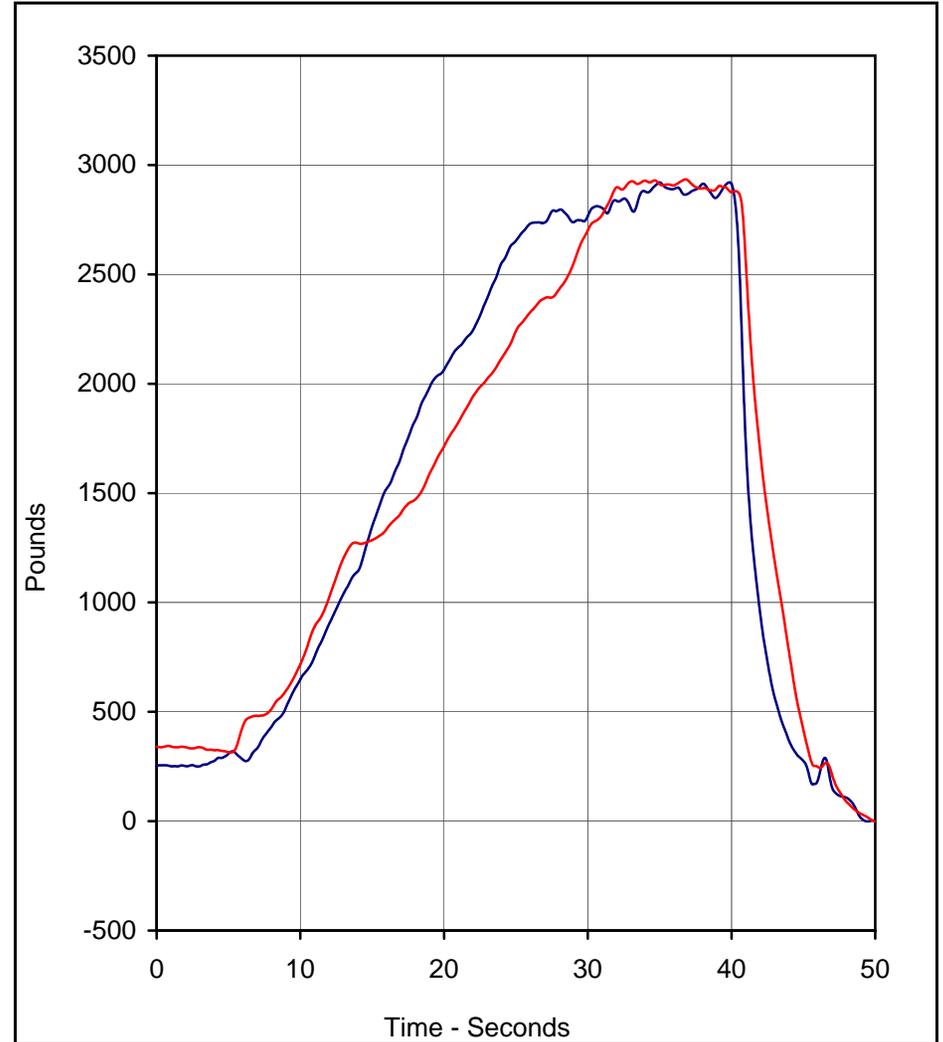
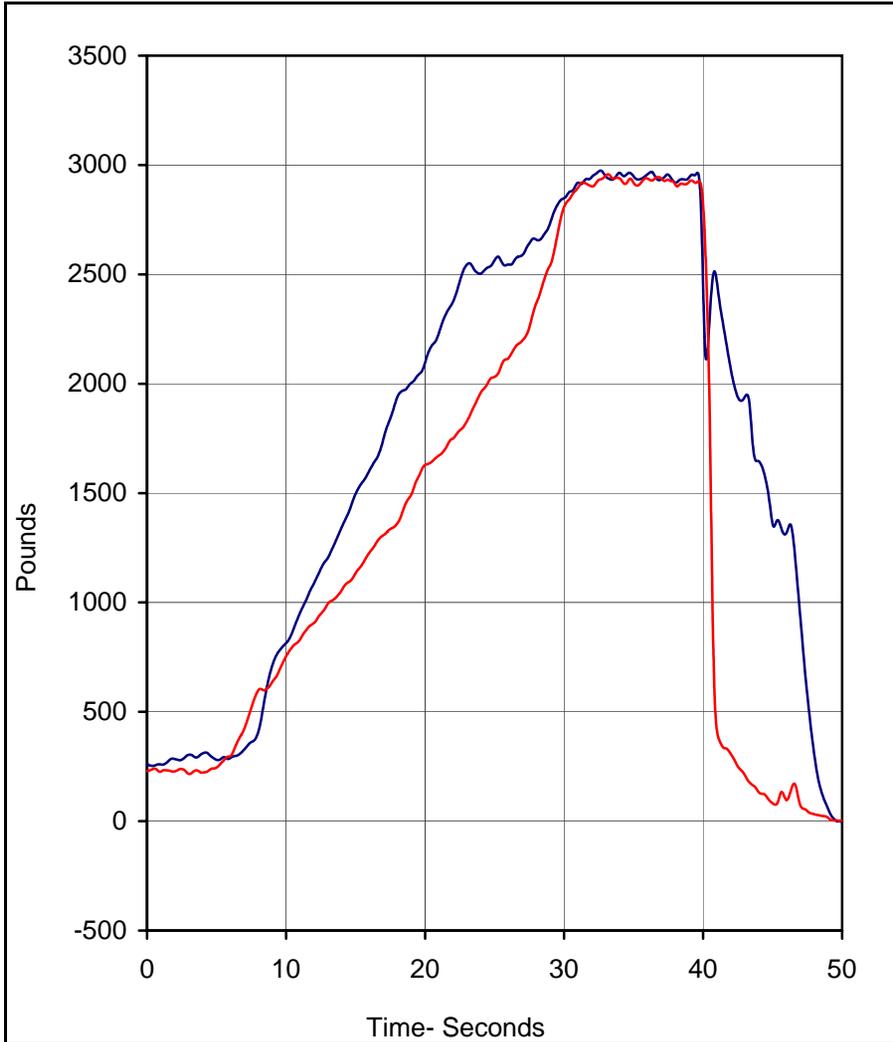
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	996.3	10.3	-3.1	22.8	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1199.2	16.9	-7.8	22.1	1

Test Program: FMVSS 207 Aft Seat Frame and Adj. (Front)
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/20/06
 Project No.: C60303





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

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

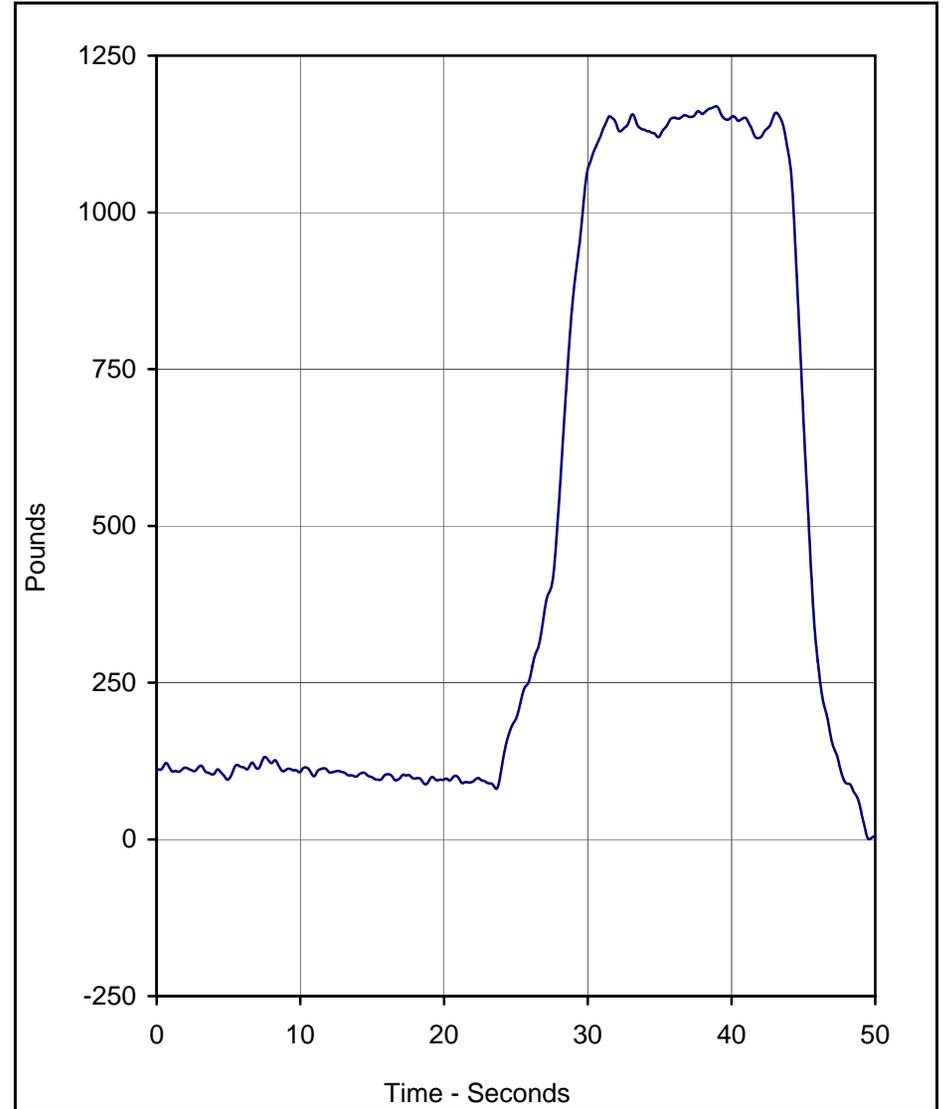
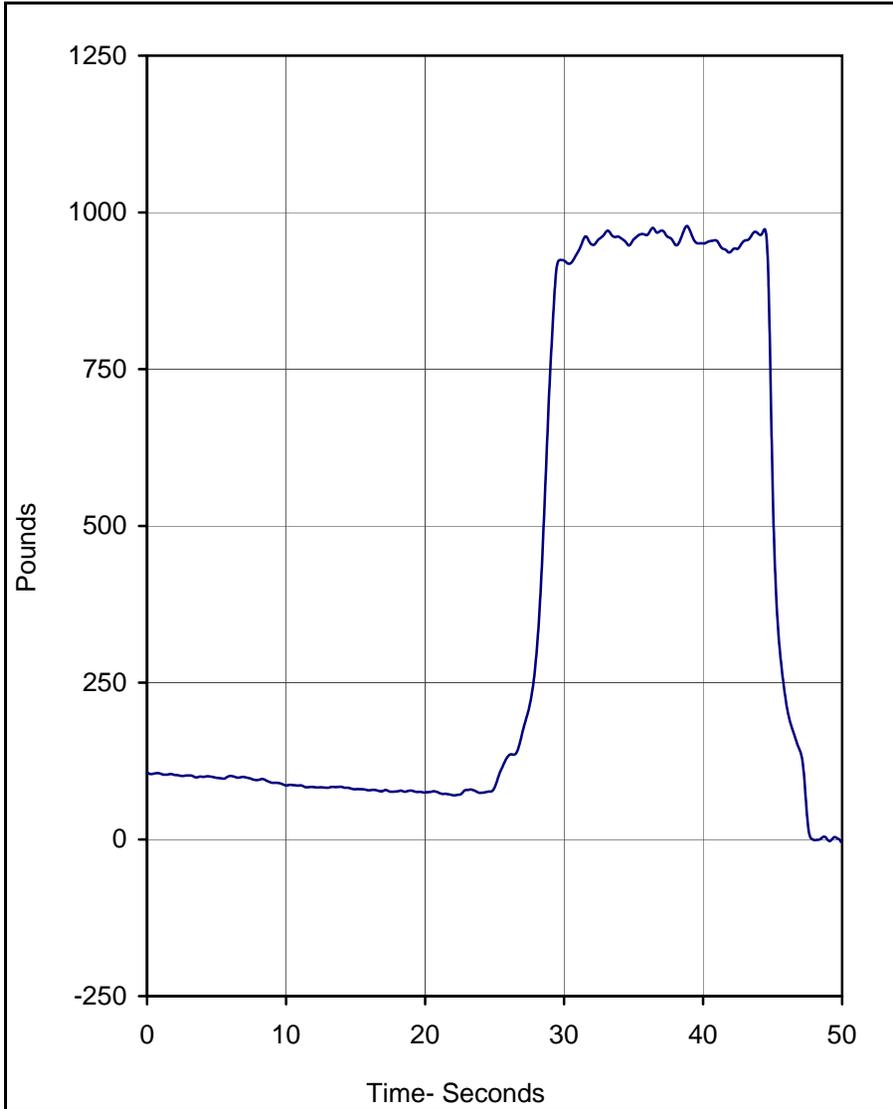
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2974.7	32.7	-1.9	50.0	1
Pounds	2957.5	33.2	1.6	49.9	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	2920.8	39.9	-0.9	49.5	1
Pounds	2934.5	36.8	-1.0	50.0	1

Test Program: FMVSS 207/210 Front Seats
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/20/06
 Project No.: C60303





Curve Description	CURNO	Type
Driver Seat	003	FIL

Curve Description	CURNO	Type
Passenger Seat	006	FIL

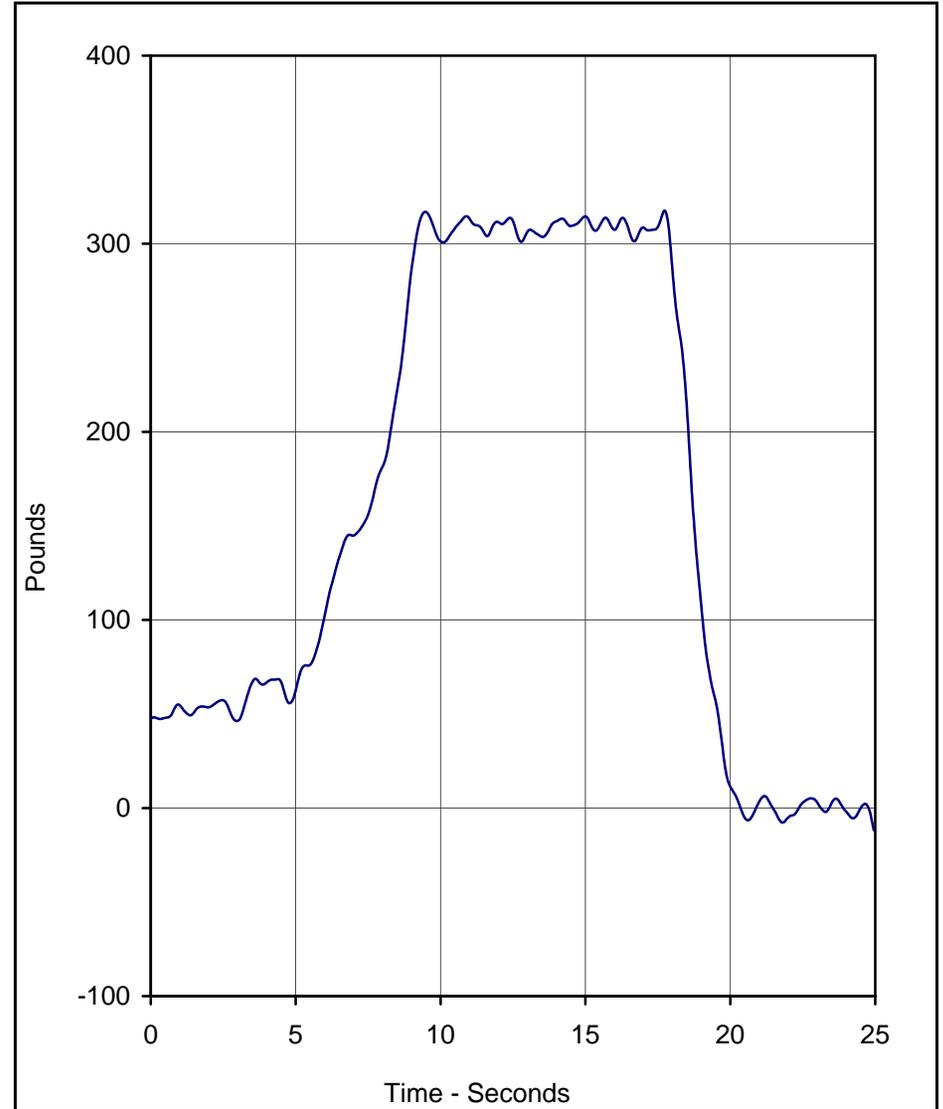
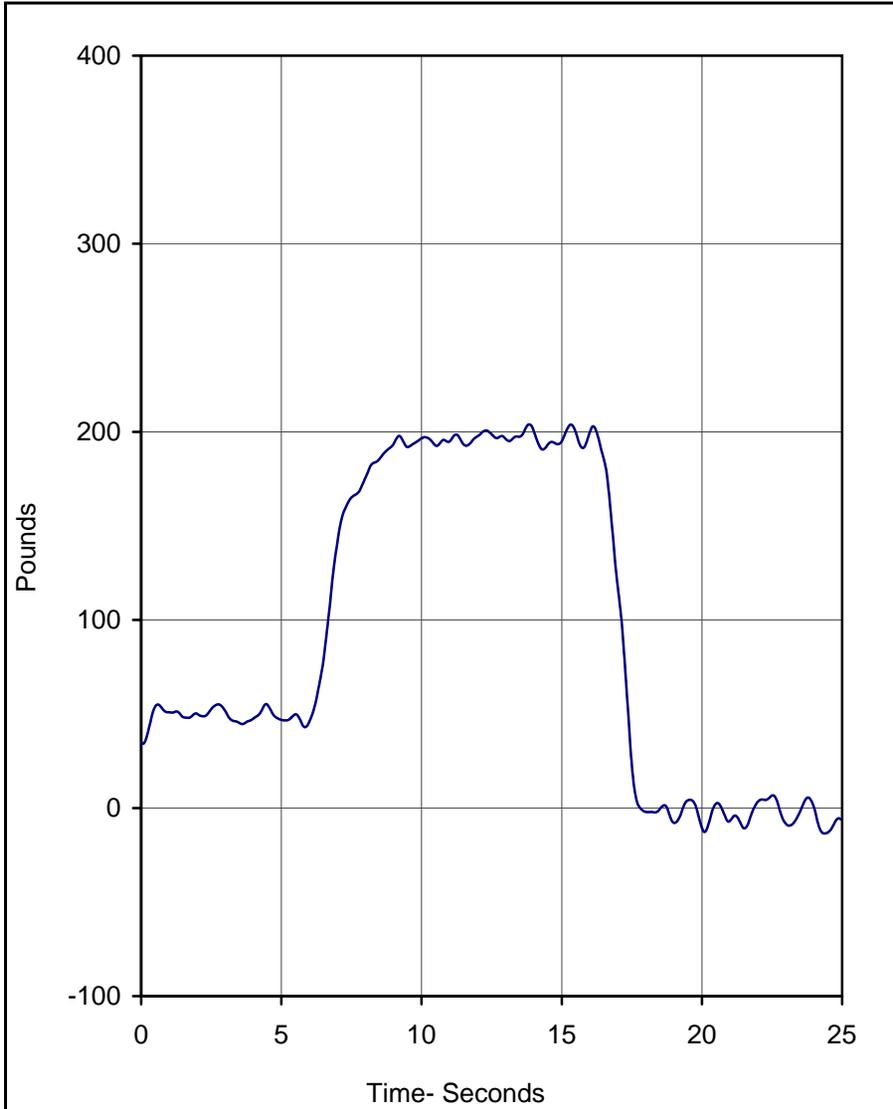
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	978.3	38.9	-4.7	50.0	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1169.2	39.0	0.3	49.6	1

Test Program: FMVSS 207/210 Front Seats
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/20/06
 Project No.: C60303





Curve Description	CURNO	Type
Aft Moment (Rear Bench Seat)	001	FIL

Curve Description	CURNO	Type
Fwd Load on Seatback (Rear Bench Seat)	002	FIL

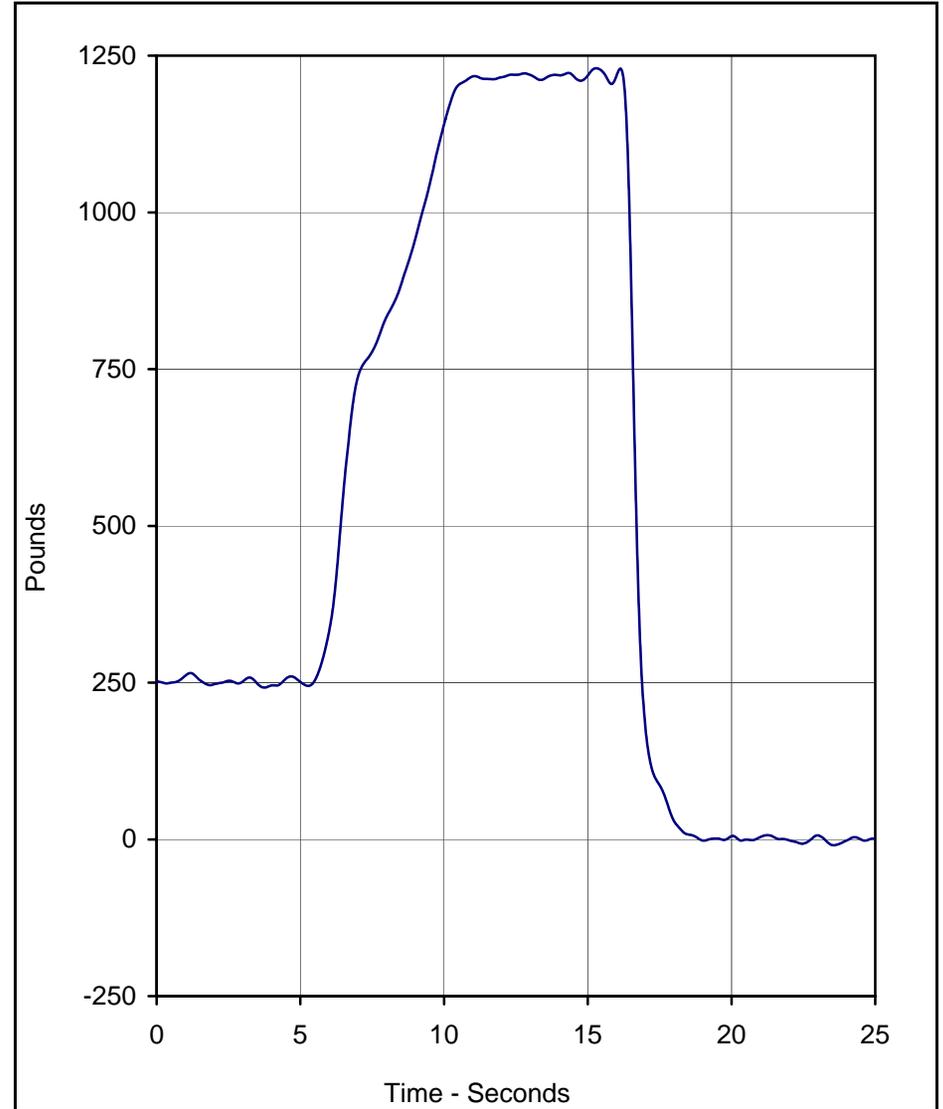
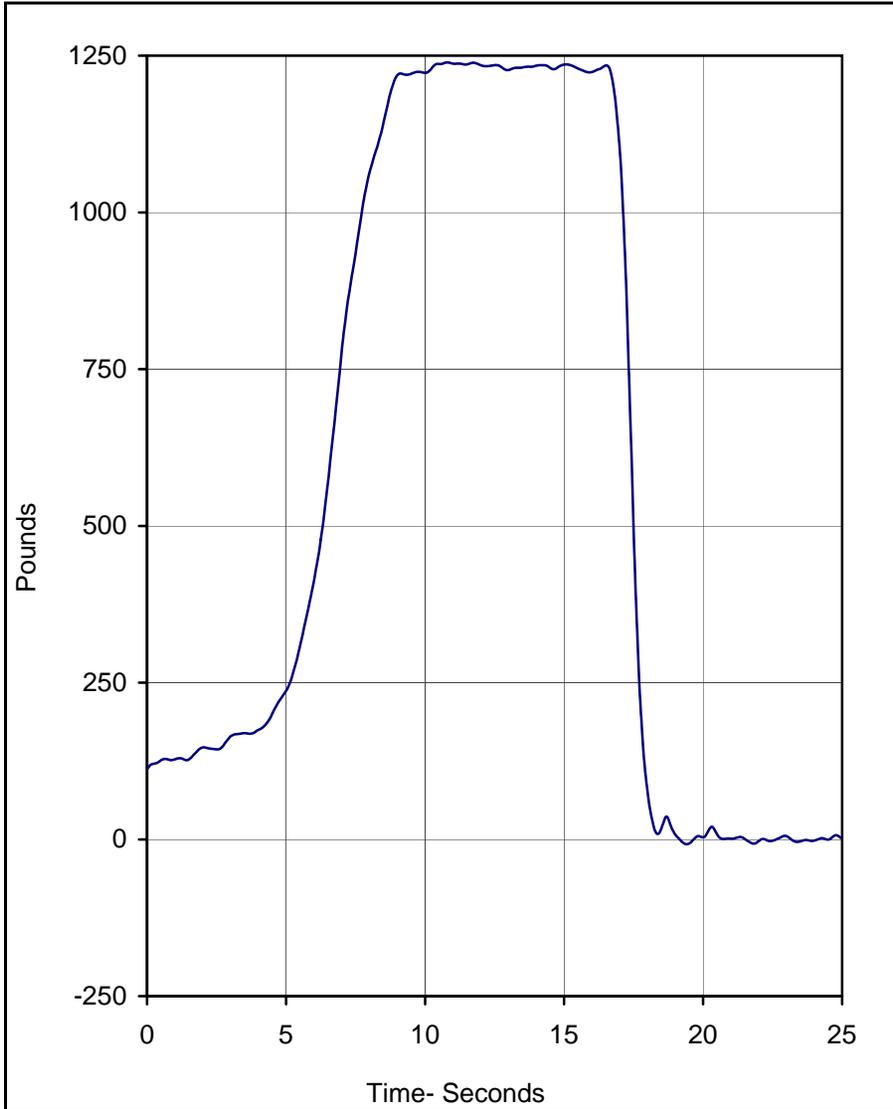
Units	Max	Time	Min	Time	Filter (Hz)
Pounds	204.0	13.9	-13.5	24.4	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	317.5	17.8	-11.8	25.0	1

Test Program: FMVSS 207 Aft Moment (Rear)
 Test Program: FMVSS 207 Fwd Load on Seatback (Rear)
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/21/06
 Project No.: C60303





Curve Description	CURNO	Type
Fwd Seat Frame & Adj. (Rear Bench Seat)	001	FIL

Curve Description	CURNO	Type
Aft Seat Frame & Adj. (Rear Bench Seat)	002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1239.2	10.8	-7.6	19.4	1

Units	Max	Time	Min	Time	Filter (Hz)
Pounds	1230.0	15.3	-9.4	23.6	1

Test Program: FMVSS 207 Fwd Seat Frame & Adj. (Rear)
 Test Program: FMVSS 207 Aft Seat Frame & Adj. (Rear)
 Test Vehicle: 2006 Jeep Wrangler 2-Door MPV

Test Date: 9/21/06
 Project No.: C60303



APPENDIX C

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

FMVSS 207
Test Equipment List
9/19/06
2006 Jeep Wrangler 2-Door MPV

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	11/14/05	11/14/06
Load Cell	BLH	U3G1	49296	3K	± 1.0%	5/22/06	11/20/06
Load Cell	BLH	U-1C	N873	6K	± 1.0%	5/20/06	11/18/06
Load Cell	BLH	U-1C	11139	12K	± 1.0%	5/20/06	11/18/06
Load Cell	Alinco	342-E	22438-B	10K	± 1.0%	5/22/06	11/20/06
Load Cell	Alinco	342-E	22440-A	10K	± 1.0%	5/22/06	11/20/06
Load Cell	BLH	U3G1	81711A	10K	± 1.0%	5/22/06	11/20/06

C-1

207-KAR-06-003-NC

