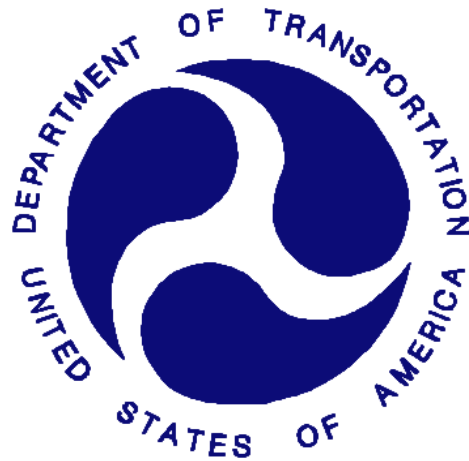


REPORT NUMBER: SINCAP-MCW-12-07

**NEW CAR ASSESSMENT PROGRAM (SINCAP)
MOVING DEFORMABLE BARRIER SIDE IMPACT TEST**

**HONDA OF AMERICA MFG., INC.
2012 ACURA MDX 5-DOOR SUV
NHTSA NUMBER: MC 5308**

**PREPARED BY:
MEDICAL COLLEGE OF WISCONSIN
5000 WEST NATIONAL AVENUE
RESEARCH 151
MILWAUKEE, WISCONSIN 53295**



TEST DATE: 10 JANUARY 2012

REPORT DATE: 23 JANUARY 2012

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NVS-111
1200 NEW JERSEY AVE, SE, ROOM W43-410
WASHINGTON, D.C. 20590**

Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2012

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Prepared by: Maureen M. J. [Signature]

Date: 3/12/2012

Approved by: [Signature]

Date: 8 MAR 2012

FINAL REPORT ACCEPTANCE BY OCWS:

Division Chief, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

COTR, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

Technical Report Documentation Page

1. Report No. SINCAP-MCW-12-07	2. Government Accession No.	3. Recipient's Catalog No.																																												
4. Title and Subtitle Final report of New Car Assessment Program Side Impact MDB Test of a 2012 Acura MDX 5-Door SUV NHTSA No. MC 5308	5. Report Date January 23, 2012	6. Performing Organization Code MCW																																												
	8. Performing Organization Report No. MCW-DOT-12SN07																																													
7. Author(s) Frank A. Pintar, Ph. D, Project Manager Mark Meyer, Project Engineer	10. Work Unit No.																																													
9. Performing Organization Name and Address Medical College of Wisconsin 5000 W. National Ave. Research 151 Milwaukee, WI 53295	11. Contract or Grant No. DTNH22-09-D-00123																																													
	13. Type of Report and Period Covered: Final Test Report Jan. 10 to Jan. 23, 2012																																													
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NVS-111) 1200 New Jersey Ave, SE, Room W43-410 Washington, D.C. 20590	14. Sponsoring Agency Code NVS-111																																													
	15. Supplementary Notes																																													
16. Abstract A 55/28 km/h 90° Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2012 Acura MDX 5-Door SUV in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at the Medical College of Wisconsin (MCW) facility in Milwaukee, Wisconsin on 10 January 2012. The impact velocity of the Moving Deformable Barrier (MDB) was 62.2 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20 °C. The target vehicle's post test maximum static crush was 226 mm at level 3. The test vehicle's performance is as follows: <table border="1" data-bbox="162 1302 1380 1806"> <thead> <tr> <th></th> <th>Units</th> <th>IARV</th> <th>DRIVER ATD (ES-2re)</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/a</td> <td>1000</td> <td>62</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>44</td> <td>19</td> </tr> <tr> <td>Total Abdominal Force</td> <td>N</td> <td>2500</td> <td>540</td> </tr> <tr> <td>Public Symphysis Force</td> <td>N</td> <td>6000</td> <td>1418</td> </tr> </tbody> </table> <table border="1" data-bbox="162 1512 1380 1806"> <thead> <tr> <th></th> <th>Units</th> <th>IARV</th> <th>Pass. ATD (SID-IIs)</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/a</td> <td>1000</td> <td>125</td> </tr> <tr> <td>Lower Spine Resultant Acceleration</td> <td>G's</td> <td>82</td> <td>40</td> </tr> <tr> <td>Total Pelvic Force (sum of Acetabular and Iliac forces)</td> <td>N</td> <td>5525</td> <td>3887</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38</td> <td>18</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td>mm</td> <td>45</td> <td>19</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.				Units	IARV	DRIVER ATD (ES-2re)	Head Injury Criteria (HIC ₃₆)	N/a	1000	62	Maximum Thoracic Rib Deflection	mm	44	19	Total Abdominal Force	N	2500	540	Public Symphysis Force	N	6000	1418		Units	IARV	Pass. ATD (SID-IIs)	Head Injury Criteria (HIC ₃₆)	N/a	1000	125	Lower Spine Resultant Acceleration	G's	82	40	Total Pelvic Force (sum of Acetabular and Iliac forces)	N	5525	3887	Maximum Thoracic Rib Deflection	mm	38	18	Maximum Abdominal Rib Deflection	mm	45	19
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Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2012

Technical Report Documentation Page (CONTINUED)

17. Key Words New Car Assessment Program (NCAP) Side impact MDB ES-2re SID-IIs		18. Distribution Statement Copies of this report are available from : National Highway Traffic Safety Administration Technical Information Service Division, NPO-411 1200 New Jersey Ave, SE, Room E12-100 Washington, D.C. 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 164	22. Price

Form DOT F1700.7 (8-72)

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Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2012

SECTION 1

TEST PURPOSE AND PROCEDURE

This moving deformable barrier side impact test is part of the MY 2012 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number DTNH22-09-D-00123. The purpose of this test is to generate comparative side impact performance in a 2012 Acura MDX 5-Door SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated August 2011.

SECTION 2 SUMMARY OF TEST RESULTS

A 2012 Acura MDX 5-Door SUV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.2 km/h (38.7 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by The Medical College of Wisconsin in Milwaukee, Wisconsin, on January 10, 2012. Pre test and post test photographs of the test vehicle, the MDB, and the dummies (ES-2re and SID-IIs) are included in this report.

Dummies were placed in the driver and left rear designated seating positions according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated August 2011. The side impact event was documented by 11 cameras. Camera locations are included in this report.

The dummies were instrumented in the following manner:

DRIVER ATD (ES-2re)

- Primary and Redundant Head CG Tri-Axial Accelerometers
- Chest, Upper Rib, Middle Rib, and Lower Rib Y-Axis Displacement Potentiometers
- Abdomen Forward, Middle, and Rear Y-Axis Load Cells
- Lower Spine (T₁₂) Tri-Axial Accelerometers
- Pubic Symphysis Y-Axis Load Cell

PASSENGER ATD (SID-IIs)

- Primary and Redundant Head CG Tri-Axial Accelerometers
- Chest, Upper Rib, Middle Rib, and Lower Rib Y-Axis Displacement Potentiometers
- Abdomen Upper Rib and Lower Rib Y-Axis Displacement Potentiometers
- Lower Spine (T₁₂) Tri-Axial Accelerometers
- Acetabulum and Iliac Wing Y-Axis Load Cells

Supplemental restraint information is given below:

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION				
Restraint type	Left Front (Driver)		Left Rear (Passenger)	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	Did Not Deploy	No	N/a
Knee Airbag	No	N/a	No	N/a
Side Curtain Airbag	Yes	Deployed	Yes	Deployed
Side Torso/Abdomen/Pelvis Airbag	Yes	Deployed	No	N/a
Seat Belt Pretensioner	Yes	Deployed	Yes	Deployed
Seat Belt Load Limiter	Yes	N/a	No	N/a
Other	N/a	N/a	N/a	N/a

SECTION 2
SUMMARY OF TEST RESULTS (CONTINUED)

Dummy injury values were recorded as follows:

DRIVER DUMMY INJURY VALUES			
Measurement Description	Driver ATD (ES-2re)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/a	1000	62
Maximum Thorax Rib Deflection	mm	44	19
Combined Abdominal Force	N	2500	540
Pubic Symphysis Force	N	6000	1418

PASSENGER DUMMY INJURY VALUES			
Measurement Description	Passenger ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/a	1000	125
Lower Spine (T ₁₂) Resultant Acceleration	G's	82	40
Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	3887
Maximum Thoracic Rib Deflection	mm	38*	18
Maximum Abdominal Rib Deflection	mm	45*	19

**Proposed IARV*

GENERAL COMMENTS

The offboard front/oblique camera data was lost.

SECTION 3 OCCUPANT AND VEHICLE INFORMATION

PRE TEST

Data Sheet No. 1 – General Test and Vehicle Parameter Data
Data Sheet No. 2 – Seat, Seat Belt, Steering Wheel Adjustment and Fuel System Data
Data Sheet No. 3 – Dummy Longitudinal Clearance Dimensions
Data Sheet No. 4 – Dummy Lateral Clearance Dimensions
Data Sheet No. 5 – Camera and Instrumentation Data
Data Sheet No. 6 – Test Vehicle Accelerometer Locations
Data Sheet No. 7 – MDB Accelerometer Locations

POST TEST

Data Sheet No. 8 – Post-Test Observations
Data Sheet No. 9 – MDB Summary of Results
Data Sheet No. 10 – Test Vehicle Profile Measurements
Data Sheet No. 11 – Test Vehicle Exterior Crush Measurements
Data Sheet No. 12 – MDB Exterior Static Crush Measurements
Data Sheet No. 13 – FMVSS No. 301 Static Rollover Results
Data Sheet No. 14 – Dummy/Vehicle Temperature and Humidity Stabilization Data

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

VEHICLE INFORMATION		VEHICLE OPTIONS	
NHTSA No.	MC 5308	Traction Control System (TCS)	Yes
Model Year	2012	Auto-Leveling System	No
Make	Acura	Automatic Door Locks (ADL)	Yes
Model	MDX	Power Window Auto-Reverse	No
Body Style	SUV	Other Optional Features	Yes
VIN	2HNYD2H2XCH501366	Driver Front Airbag	Yes
Body Color	Grigio	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	54 mi	Driver Head/Torso Airbag	No
Engine Displacement (L)	3.7	Driver Torso Airbag	No
Type/No. of Cylinders	6	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Lateral	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	No
Transmission Speeds	5	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	AWD	Rear Pass. Torso Airbag	No
Roof Rack	No	Rear Pass. Torso/Pelvis Airbag	No
Sunroof/T-Top	Yes	Rear Pass. Pelvis Airbag	No
Running Boards	No	Driver Seat Belt Pretensioner	Yes
Tilt Steering Wheel	Yes	Rear Pass. Seat Belt Pretensioner	Yes
Power Seats	Yes	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	No
All-Wheel Drive (AWD)	Yes	Other Safety Restraint	None Noted

Does owner's manual provide instructions to turn off automatic door locks? Yes

DATA FROM CERTIFICATION LABEL			
Manufactured By	Honda of America Mfg., Inc.	GVWR (kg)	2699.8
Date of Manufacture	Oct. 2011	GAWR Front(kg)	1310.0
Vehicle Type	Sport Utility Vehicle	GAWR Rear (kg)	1440.2

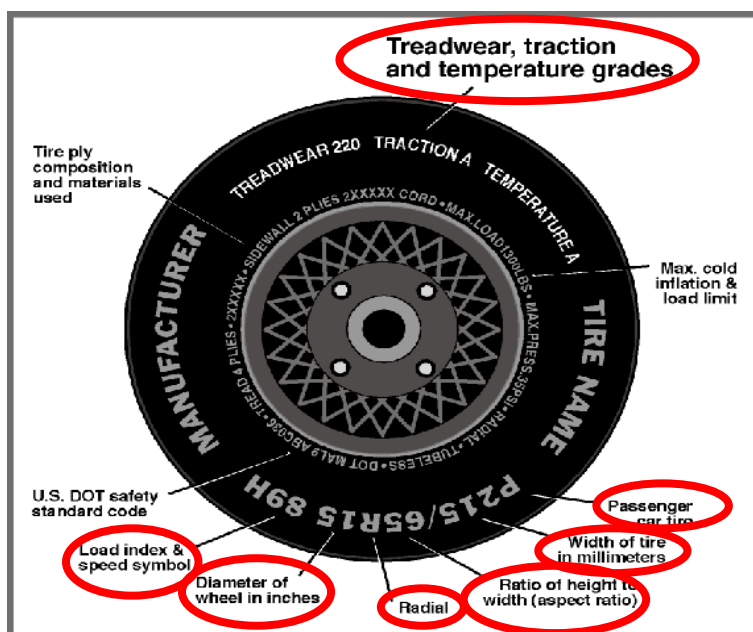
VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION				
	Front	Rear	Third	Total
Designated Seating Capacity (DSC)	2	3	2	7
Capacity Weight (VCW) (kg)				521.6
DSC X 68.04 (kg)				476.3
Cargo Weight (RCLW) (kg)				45.3

(A)
 (B)
 (A-B)

**DATA SHEET NO. 1
 GENERAL TEST AND VEHICLE PARAMETER DATA (CONTINUED)**

VEHICLE SEAT TYPE							
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						W/ Lever	W/ Knob
Front Seat	X					X	
Rear or Second Row Seat			X	X	X	N/a	
Third Row Seat			X	X	X	N/a	

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA (CONTINUED)



TIRE PLACARD INFORMATION		
Measured Parameter	Front	Rear
Recommended Cold Tire Pressure (kPa)	220	220
Recommended Tire Size	255/55R18	255/55R18

TIRE SIDEWALL INFORMATION		
Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	300	300
Tire Size on Vehicle	255/55R18	255/55R18
Tire Manufacturer	Bridgestone	Bridgestone
Tire Name	Dueler HL	Dueler HL
Tire Type	Passenger	Passenger
Tire Width	255	255
Aspect Ratio	55	55
Radial	Yes	Yes
Wheel Diameter	18	18
Load Index/Speed Symbol	105 H	105 H
Treadware	400	400
Traction Grade	B	B
Temperature Grade	B	B
Tire Material	Polyester, Steel, Nylon	Polyester, Steel, Nylon

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA (CONTINUED)

TIRE PRESSURES					
	Units	LF	RF	LR	RR
As Delivered	kpa	221	220	220	220
Tire Placard	kpa	220	220	220	220
Owner's Manual	kpa	220	220	220	220
As Tested	kpa	220	220	220	220

MDB TIRE SPECIFICATIONS						
	Units	Requirement	LF	RF	LR	RR
Tire Size		P205/75R15	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire Pressure	kPa	200 +/- 21	200	200	200	200

TEST VEHICLE AXLE WEIGHTS										
	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	594.0	457.5		610.1	548.8		640.5	529.3	
Right	kg	569.0	452.9		576.1	502.1		577.4	497.1	
Ratio	%	56.1	43.9		53.0	47.0		54.3	45.7	
Totals	kg	1163.0	910.4	2073.4	1186.2	1050.9	2237.1	1217.9	1026.4	2244.3

TARGET TEST WEIGHT CALCULATION			
	Units		
Total Delivered Weight (UVW)	kg	2073.4	(A)
Sum of Actual Weight of 2 P572 ATDs used	kg	125.6	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	45.3	(C)
Calculated Target Vehicle Test Weight (TVTW)	kg	2244.3	(A + B + C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 kg)?

Yes

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA (CONTINUED)

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW	
Ballast	Weight (kg)
Removed entire exhaust, non-struck side door panels, non-struck side door glass, non-struck side floor compartment, jack & tools, rear tail-light, and plastic motor cover to rear to achieve calculated "As Tested" weight.	64.0

TEST VEHICLE ATTITUDE AND CG				
Measurement description	Units	Fully Loaded	As Tested	Meets Requirement***
LF	mm	828	834	Yes
RF	mm	838	841	Yes
RR	mm	834	834	Yes
LR	mm	843	848	Yes
Vehicle CG (Aft of Front Axle)	mm	1259.5	1293.7	
Vehicle CG (Left(+))/Right(-) from Longitudinal Centerline)	mm	41.9	35.6	

***The "As Tested" vehicle attitude measurements must be equal to or within +/- 10 mm of the "Fully Loaded" vehicle attitude measurements at each wheel well. "Yes" or "No" is indicated.

DATA SHEET NO. 2
SEAT ADJUSTMENT, FUEL SYSTEMS, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

SCRL ANGLE RANGE			
Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	11.3°	-2.0°	4.7°
Front Passenger Seat	11.0°	-2.0°	4.5°
Front Center Seat*			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat*			

*If applicable

SCRL ANGLE RANGE						
Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCR Height (mm)	SCR Height Position	SCR Height (mm)		
				Rearmost	Mid-Fore / Aft	Forward- Most
Driver's Seat	4.7	-85.6	Max	-104.5	-115.7	-127.0
	4.7	-85.6	Mid	-89.5	-100.6	-111.4
	4.7	-85.6	Min	-74.5	-85.6	-95.8
Front Passenger Seat	4.5	Not Measured	Max	Not Measured	Not Measured	Not Measured
	4.5	Not Measured	Mid	Not Measured	Not Measured	Not Measured
	4.5	Not Measured	Min	Not Measured	Not Measured	Not Measured
Front Center Seat*			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Rear Center Seat*			Max			
			Mid			
			Min			

*If applicable

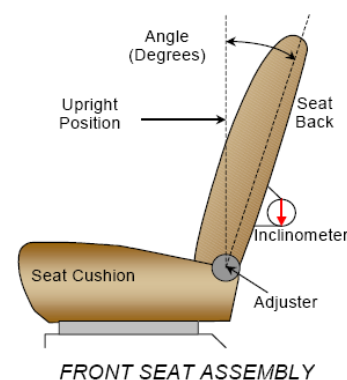
DATA SHEET NO. 2
SEAT ADJUSTMENT, FUEL SYSTEMS, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA (CONTINUED)

SEAT FORE/AFT TRAVEL				
Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents*	mm	Detents*
Driver Seat	240	N/a	120	N/a
Front Passenger Seat	240	N/a	120	N/a
Front Center Seat*				
Struck Side Rear Seat	Fixed	N/a	Fixed	N/a
Non-Struck Side Rear Seat	Fixed	N/a	Fixed	N/a
Rear Center Seat*				

*If applicable

Seat Back Angle Adjustment

The driver's seat back is positioned to the manufacturer's designated design angle. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck side rear seat back is positioned such that the dummy's head is level. The rear center and non-struck side rear outboard seat backs are positioned in a similar manner as the struck-side rear seat back.



SEAT BACK ANGLE ADJUSTMENT				
Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degrees	Detents*
Driver Seat w/ Seated Dummy	52.0	N/a	12.7	N/a
Front Passenger Seat	51.9	N/a	12.7	N/a
Front Center Seat*				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat*				

*If applicable

DATA SHEET NO. 2

SEAT ADJUSTMENT, FUEL SYSTEMS, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA (CONTINUED)

Seat Belt Anchorage Adjustment

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1.

SEAT BELT ANCHORAGE ADJUSTMENT		
	Total No. of Positions	Placed in Position No.
Driver Seat	4	H
Rear Seat	Fixed	As Positioned

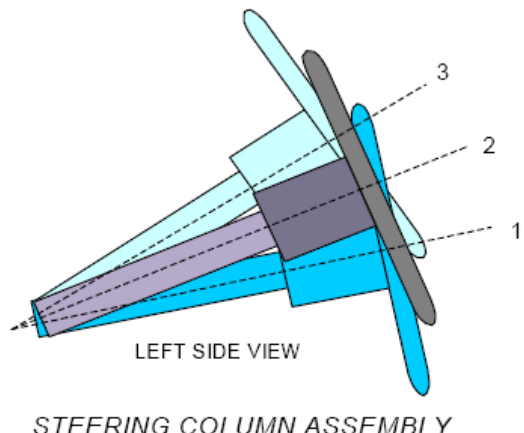
Head Restraint Adjustment

The driver's head restraint is adjusted to the highest and most forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

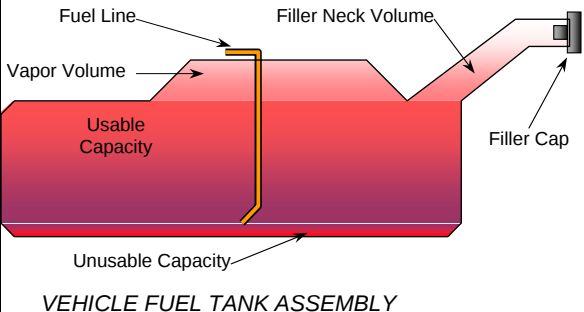
HEAD RESTRAINT ADJUSTMENT		
	Total No. of Positions	Placement
Driver Seat	7	Highest Position
Rear Seat	2	Lowest Detent

Steering Column Adjustment

Steering wheel and column adjustments are made so that the steering wheel hub is at the center of its geometric locus it describes when it moves through its full range of motion.

STEERING COLUMN ADJUSTMENT			
	Degrees	Fore/Aft Position (mm)	
Lowermost, Pos. No. 1	20.4	22 mm	
Geometric Center, Pos. No. 2	23.2	22 mm	
Uppermost, Pos. No. 3	26.0	22 mm	
Telescoping Steering Wheel Travel	23.2	43 mm	
Test Position	23.2	22 mm	

DATA SHEET NO. 2
SEAT ADJUSTMENT, FUEL SYSTEMS, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA (CONTINUED)

FUEL TANK CAPACITY DATA			
Description	Units	Value	
Usable Capacity of "Standard Tank"	L	79.5	
Usable Capacity of "Optional Tank"	L	0.0	
Usable Capacity of Standard Tank	L	79.5	
Usable Capacity of Optional Tank	L	0.0	
93% of Usable Capacity	%	73.9	
Actual Amount of Solvent Used in Test	L	73.9	
1/3 of Usable Capacity	26.5		

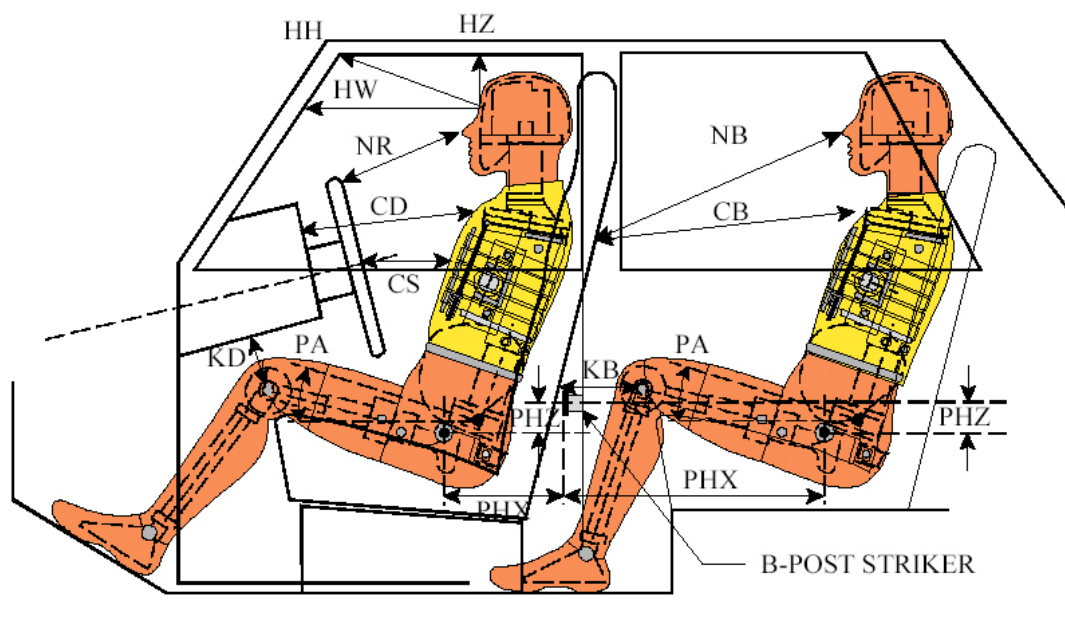
Fuel Pump

The vehicle is equipped with an electronic fuel pump. Key is "ON" position. The fuel pump is on the left side.

Is the Actual Amount of Solvent Used in the test equal to 93% +/- 1% of the Usable Capacity stated in on Form No. 1?

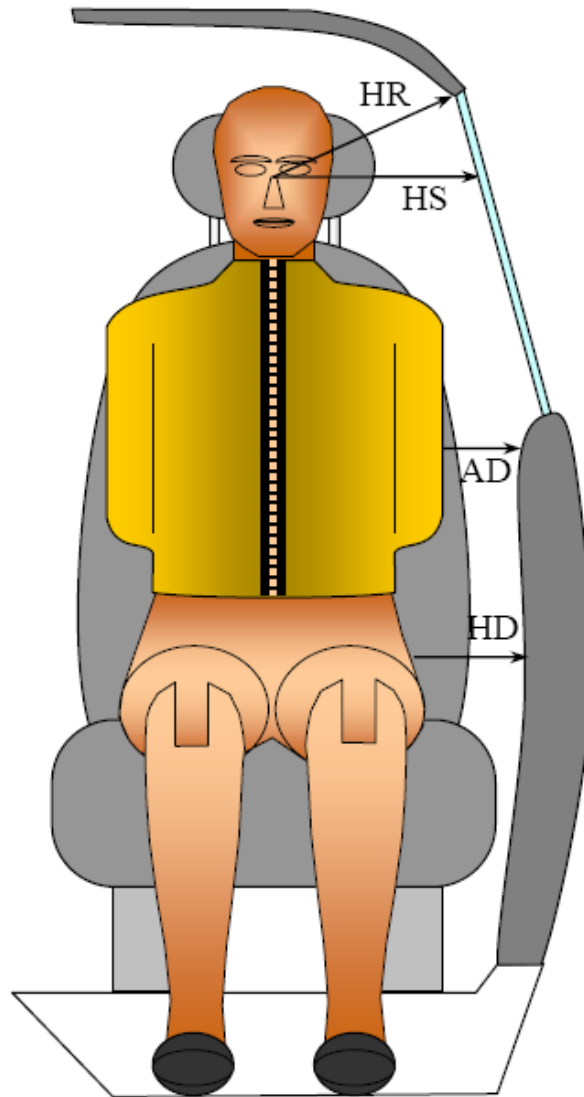
Yes

DATA SHEET NUMBER 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS



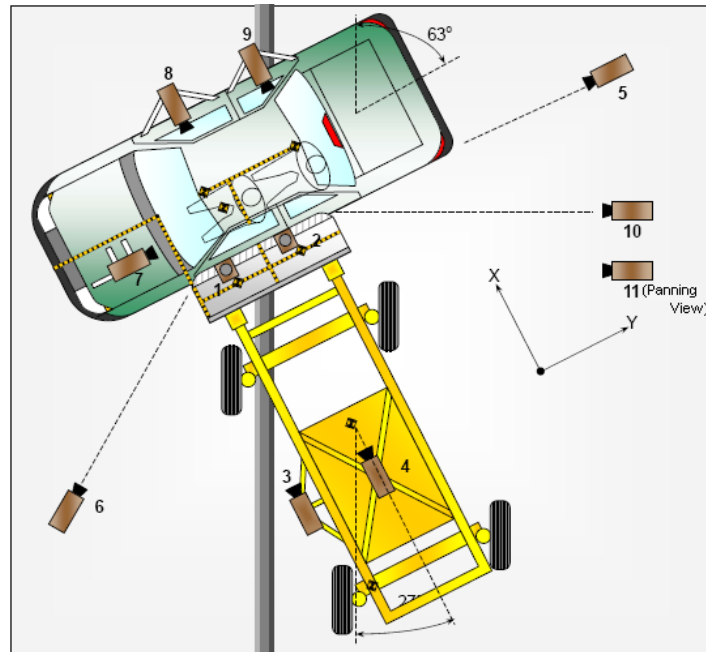
DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION						
Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length (mm)	Angle	Length (mm)	Angle
HH		Header to Header	377			
HW		Header to Windshield	665			
HZ	HZ	Head to Roof	223		271	
NR	NB	Nose to Rim/Seat Back	430		574	
CD	CB	Chest to Dash/Seat Back	561		533	
CS		Chest to Steering Wheel	344			
KD(L)/KDA(L)°	KB(L)/KBA(L)°	Left Knee to Dash/Seat Back	163	19.7	308	12.0
KD(R)/KDA(R)°	KB(R)/KBA(R)°	Right Knee to Dash/Seat Back	160	19.4	305	11.8
PAX°	PAX°	Pelvic Tilt Angle X		0.0		0.0
	PAY°	Pelvic Tilt Angle Y		18.3		18.0
PHX	PHX	Hip Point to Striker (X-Axis)	234.5		333.7	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	129.1		189.5	

DATA SHEET NUMBER 4
DUMMY LATERAL CLEARANCE DIMENSIONS



DUMMY LATERAL CLEARANCE MEASUREMENTS INFORMATION				
Code	Description	Units	Driver	Passenger
HR	Head to Side Header	mm	228	268
HS	Head to Side Window	mm	447	280
AD	Arm to Door	mm	202	159
HD	Hip Point to Door	mm	160	179

DATA SHEET 5 CAMERA AND INSTRUMENTATION DATA



	View	Coordinates †			Lens Length mm	Operating Frame Rate fps
		X	Y	Z		
		mm	mm	mm		
1	Overhead Overall	1756	2218	-6060	10	1000
2	Overhead Close-up	985	776	-5911	25	1000
3	Left Impact Point (MDB)	-2287	-169	-784	25	1000
4	Side Overall (MDB)	-2152	914	-1298	12.5	1000
5	Rear	4587	11194	-1338	50	1000
6	Left Front	-4042	-2691	-1420	25	1000
7	Driver Front (OB)				12.5	1000
8	Driver Side (OB)				12.5	1000
9	Passenger Side (OB)				12.5	1000
10	Real-time Left Rear				N/a	24
11	Real – Time In-run				N/a	24

Origin

X

Y

Z

Impact Point

Impact Point

Ground

Orientation

X

Y

Z

+(X) To Front of MDB

+(Y) To Right of MDB

+(Z) Down

*All measurements accurate to +/- 6 mm

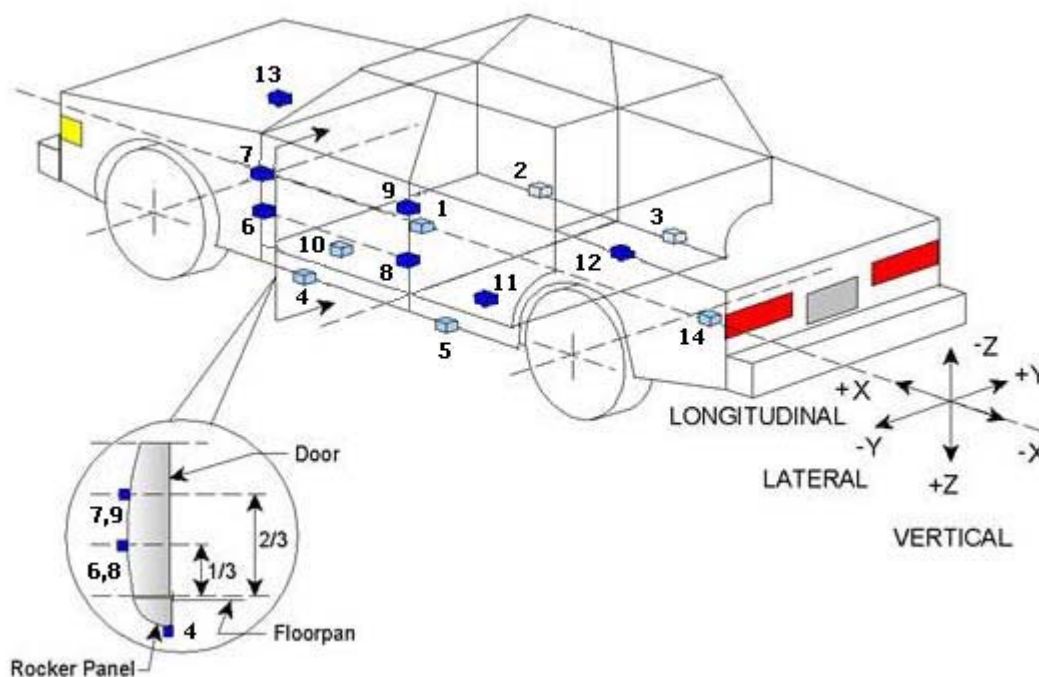
DATA SHEET 5
CAMERA AND INSTRUMENTATION DATA (CONTINUED)

Why did the cameras not operate?

The off-board left front camera did not fire. _____

INSTRUMENTATION	
Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	23
MDB Accelerometers	5
Total	60

DATA SHEET 6
TEST VEHICLE ACCELEROMETER LOCATIONS

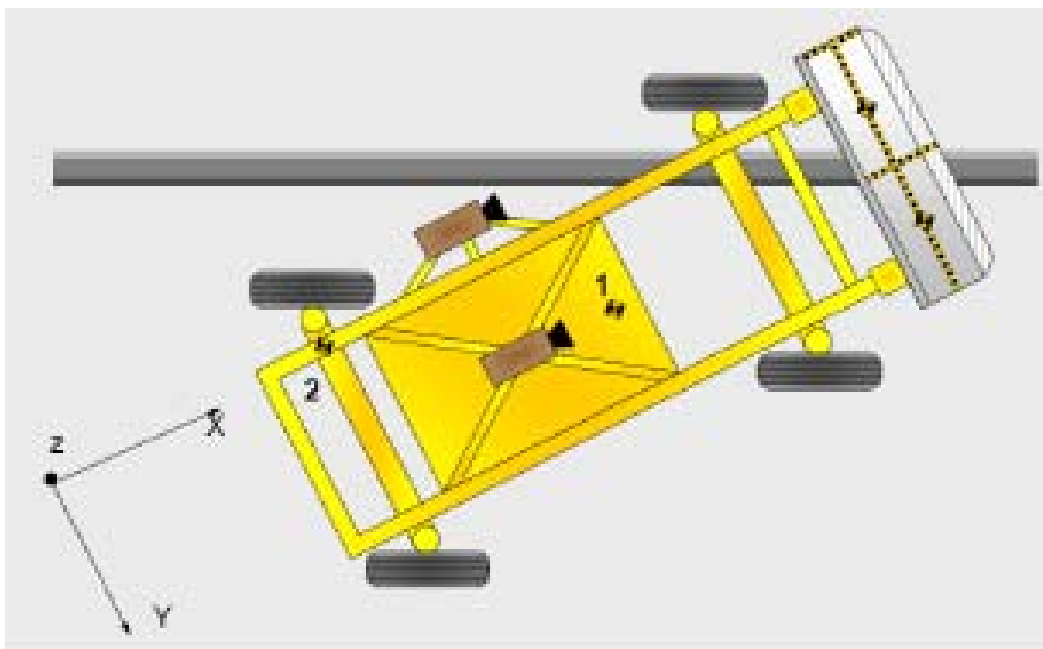


TEST VEHICLE ACCELEROMETER LOCATIONS				
Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Vehicle CG	2956.2	37.3	205.4
2	Right Sill at Front Seat	2803.0	788.0	300.1
3	Right Sill at Rear Seat	1828.5	782.2	295.0
4	Left Sill at Front Door	2949.6	-790.4	314.9
5	Left Sill at Rear Door	1919.4	-788.9	304.9
6	A-Post Lower	3365.9	-893.6	-18.7
7	A-Post Middle	3336.9	-885.8	-208.4
8	B-Post Lower	2308.2	-897.7	-27.8
9	B-Post Middle	2333.1	-894.6	-210.1
10	Front Seat Track	2490.5	-590.9	132.1
11	Rear Seat Structure	1674.7	-633.4	72.1
12	Rt. Rear Occ. Compartment	1947.8	222.0	35.2
13	Engine Block	4087.1	118.3	-266.6
14	Rear Above Axle	874.6	83.5	29.2

Reference:

X - Rear surface of vehicle (+ forward)
Y - Vehicle centerline (+ right)
Z - Ground plane (+ down)

DATA SHEET 7
MDB ACCELEROMETER LOCATIONS



MDB ACCELEROMETER LOCATIONS				
Loc No.	Accelerometer Locations	Coordinates (mm)		
		X	Y	Z
1	MDB CG	1113	-1	311
2	MDB Rear	2812	-614	585

Reference

X - Face of MDB (+ forward)
Y - MDB centerline (+ to right)
Z - Ground plane (+ down)

**DATA SHEET NUMBER 8
 POST-TEST OBSERVATIONS**

TEST DUMMY INFORMATION AND CONTACT POINTS		
Dummy Body Part	Front Seat Dummy (ES-2re)	Rear Seat Dummy (SID-IIs)
Face	To Side Curtain Airbag	To Side Curtain Airbag
Top of Head	To Side Curtain Airbag	To Side Curtain Airbag
Left Side of Head	To Side Curtain Airbag	To Side Curtain Airbag
Back of Head	Along Head Rest to the Side Curtain Airbag	Rebounds Into Head Rest
Left Shoulder	To Side Curtain Airbag	To Interior Door Panel
Upper Torso	To Seat Mounted Side Airbag	To Interior Door Panel
Lower Torso	To Seat Mounted Side Airbag	To Interior Door Panel
Left Hip	Into Side of Seat and Seat Mounted Side Airbag	To Interior Door Panel
Left Knee	To Interior Door Panel	To Interior Door Panel

POST TEST DOOR PERFORMANCE					
Description	Struck Side		Non-Struck Side		Rear Hatch/ Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges of Latches	No	No	No	No	No
Latch of Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	N/a	N/a	N/a	N/a	N/a

POST TEST SEAT PERFORMANCE				
Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	No	No	No
Seat Disengagement from Floor Pan	No	No	No	No
Seat Back Movement from Initial Position	No	No	No	No
Seat Back Collapse	No	No	No	No

**DATA SHEET NUMBER 8
 POST-TEST OBSERVATIONS (CONTINUED)**

POST TEST STRUCTURAL OBSERVATIONS	
Critical Areas of Performance	Observations/Conclusions
Pillar Performance	No Damage
Sill Separation	Max Sill Separation of 109 mm at B-Pillar Along Upper Window Sill
Windshield Damage	No Damage
Window Damage	No Damage
Other Notable Effects	None Noted

SUPPLEMENTAL RESTRAINT INFORMATION				
Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes – Steering Wheel	Did Not Deploy		
Knee Airbag	No	N/a		
Side Curtain Airbag	Yes – Side Header	Deployed Properly	Yes – Side Header	Deployed Properly
Side Torso/Abdomen/Pelvis Airbag	Yes – Seat Back	Deployed Properly	No	N/a
Seat Belt Pretensioner	Yes	Deployed Properly	Yes	Deployed Properly
Seat Belt Load Limiter	Yes	N/a	No	N/a
Other	No	N/a	No	N/a

IMPACT POINT LOCATION DATA			
Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		2754
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		437
Actual Impact Point (Aft of Front Axle)	mm		429
Horizontal Offset (+ forward / - rear)	mm	+/- 50 of Intended Impact Point	8
Vertical Offset (+ down / - up)	mm	+/- 20 of Intended Impact Point	7

DATA SHEET NUMBER 9
MDB SUMMARY OF RESULTS

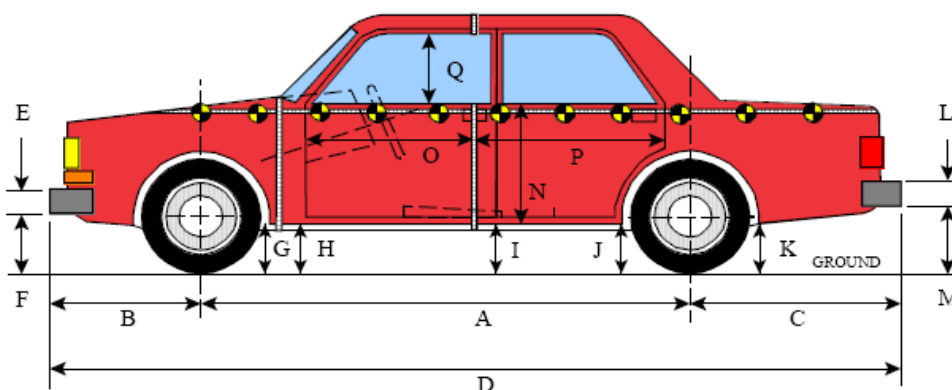
MDB SPECIFICATIONS	
Measurement Description	Length (mm)
Overall Width of Framework Carriage	1250
Overall Length Including Honeycomb Frame	4116
Wheel Base of Framework Carriage	2578
CG Location of Front Axle	1112

MDB WEIGHTS				
	Units	Front Axle	Rear Axle	Total
Left	kg	421.4	257.6	679.0
Right	kg	337.0	343.8	680.8
Ratio	%	55.8	44.2	100.0
Totals	kg	758.4	601.4	1359.8

SPEED AND ANGLE AT IMPACT DATA			
Measured parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.2
Trap No. 2 Velocity (Secondary)	km/h	61.1 to 62.7	62.2
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90
MDB Forward Line of Motion to Target Vehicle	degrees	62.5 to 63.5	63.0
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26 to 28	27.0

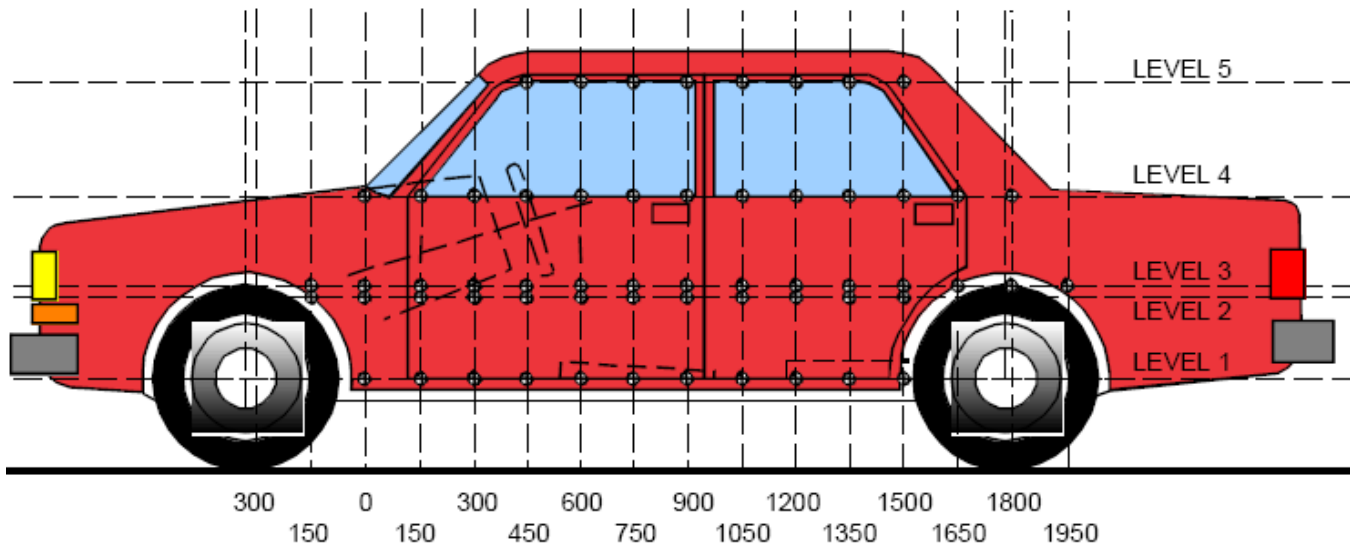
MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE					
Vertical Location			From Centerline		Maximum Crush
Row	Description	Height	Distance	Direction	
A	Bottom of Barrier	280	800	Right	203
B	Bottom of Bumper	328	800	Right	180
C	Top of Bumper	530	800	Right	147
D	Top of Barrier	835	800	Right	151

DATA SHEET NUMBER 10
TEST VEHICLE PROFILE MEASUREMENTS



VEHICLE PRE - AND POST - TEST MEASUREMENT INFORMATION				
Code	Description	Pre test	Post test	Difference
		mm	mm	mm
A	Wheelbase	2754	2717	-37
B	Front Axle to FSOV	645	648	3
C	Rear Axle to RSOV	791	791	0
D	Total Length at Centerline	4865	4844	-21
E	Front Bumper Thickness	312	312	0
F	Front Bumper Bottom to Ground	350	355	5
G	Sill Height at Front Wheel Well	222	220	-2
H	Sill Height at Front Door Leading Edge	317	312	-5
I	Sill Height at B-Pillar	325	317	-8
J1	Sill Height at Rear Wheel Well	327	326	-1
J2	Pinch Weld Height at Rear Wheel Well	298	283	-15
K	Sill Height Aft of Rear Wheel Well	317	306	-11
L	Rear Bumper Thickness	148	148	0
M	Rear Bumper Bottom to Ground	488	466	-22
N	Sill Height to Bottom of Front Window Sill	809	802	-7
O	Front Door Leading Edge to Impact C/L	1045	1016	-29
P	Rear Door Trailing Edge to Impact C/L	1070	1039	-31
Q	Front Window Opening	477	464	-13
R	Right Side Length	4190	4195	5
S	Left Side Length	4190	4156	-34
T	Vehicle Width at B-Pillar	1973	1842	-131

DATA SHEET NUMBER 11
VEHICLE EXTERIOR CRUSH MEASUREMENTS



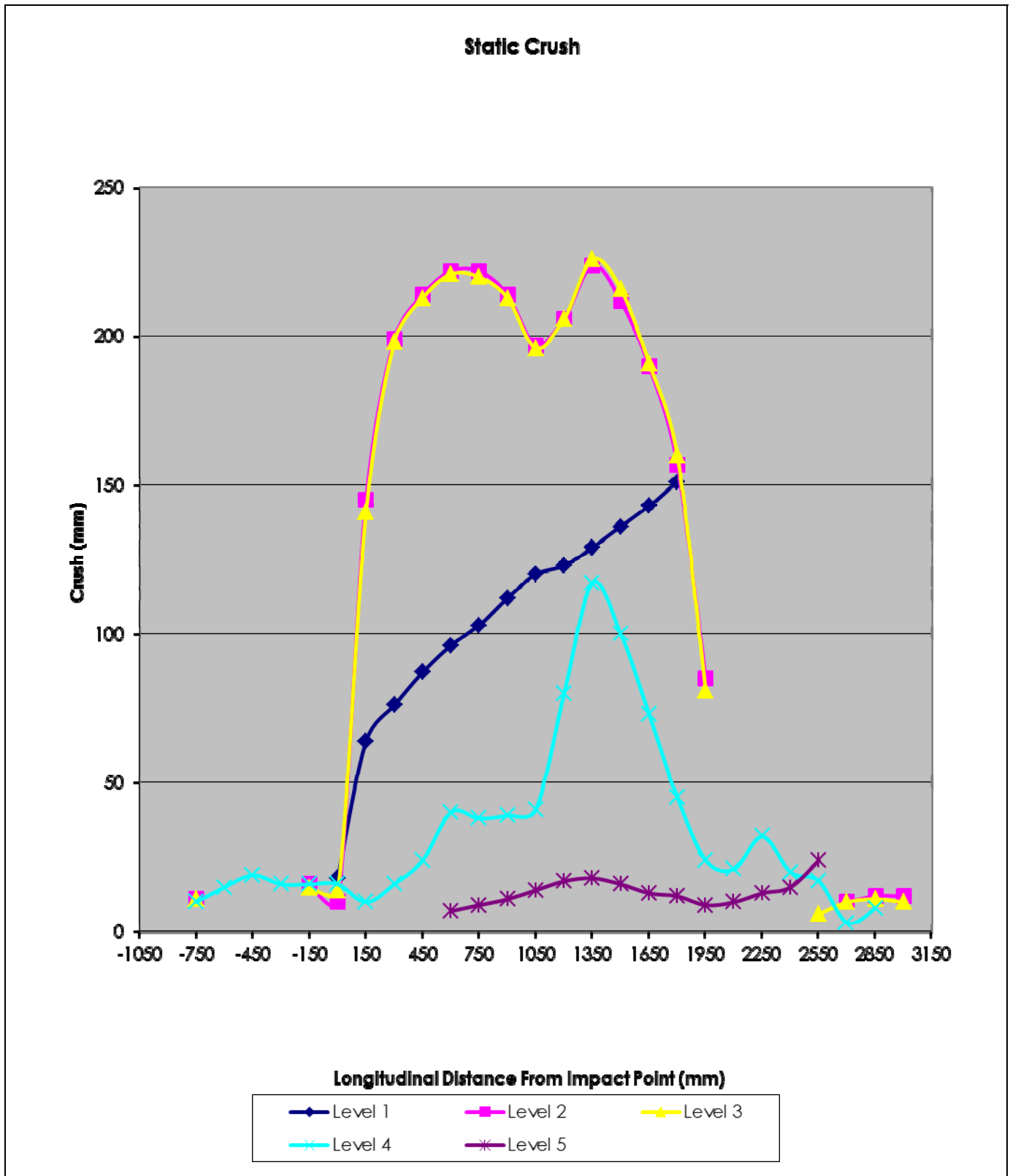
LEFT SIDE VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS				
Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	342	151	1800
2	Occupant Hip Point	740	224	1350
3	Mid-Door	758	226	1350
4	Window Sill	1100	117	1350
5	Window Top	1631	24	2550

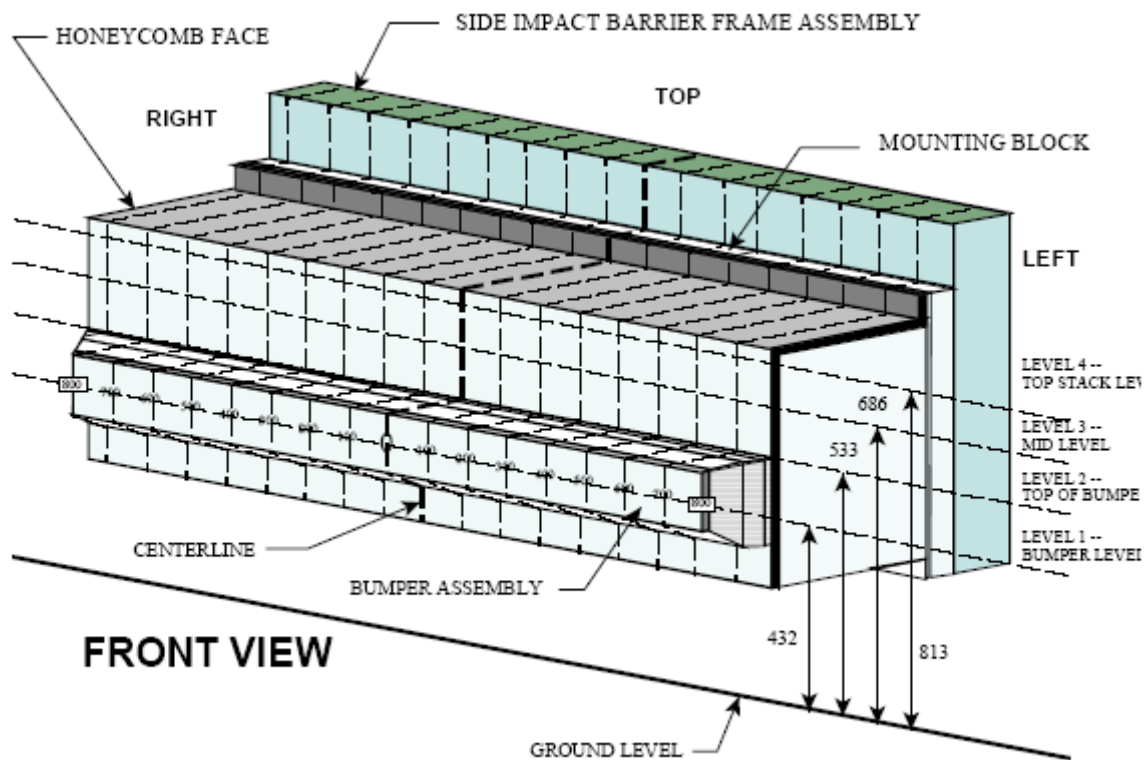
DATA SHEET NUMBER 11
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS (CONTINUED)

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL																
Level		1			2			3			4			5		
		Pre	Post	Crush	Pre	Post	Crush	Pre	Post	Crush	Pre	Post	Crush	Pre	Post	Crush
DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT	-1050															
	-900															
	-750				177	188	11	181	192	11	379	389	10			
	-600										355	370	15			
	-450										336	355	19			
	-300										321	337	16			
	-150				170	186	16	172	187	15	309	325	16			
	0	200	218	18	184	194	10	185	199	14	299	315	16			
	150	247	311	64	188	333	145	188	329	141	279	289	10			
	300	250	326	76	185	384	199	184	382	198	270	286	16			
	450	249	336	87	182	396	214	182	395	213	265	289	24			
	600	248	344	96	180	402	222	180	401	221	257	297	40	501	508	7
	750	246	349	103	178	400	222	178	398	220	250	288	38	486	495	9
	900	245	357	112	178	392	214	177	390	213	244	283	39	484	495	11
	1050	243	363	120	178	375	197	178	374	196	242	283	41	482	496	14
	1200	242	365	123	179	385	206	178	384	206	241	321	80	481	498	17
	1350	241	370	129	180	404	224	180	406	226	240	357	117	481	499	18
	1500	240	376	136	182	394	212	182	398	216	240	340	100	481	497	16
	1650	240	383	143	185	375	190	185	376	191	241	314	73	482	495	13
	1800	242	393	151	185	342	157	185	345	160	242	287	45	485	497	12
	1950				168	253	85	170	251	81	250	274	24	491	500	9
	2100										246	267	21	496	506	10
	2250										252	284	32	503	516	13
	2400										260	280	20	514	529	15
	2550							162	168	6	269	286	17	527	551	24
	2700				182	192	10	183	193	10	281	284	3			
	2850				223	235	12	225	236	11	296	304	8			
	3000				259	271	12	262	272	10						
	3150															
	3330															

DATA SHEET NUMBER 11
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS (CONTINUED)



DATA SHEET NUMBER 12
MDB EXTERIOR STATIC CRUSH MEASUREMENTS



NOTE: Dimensions are shown in millimeters, mm

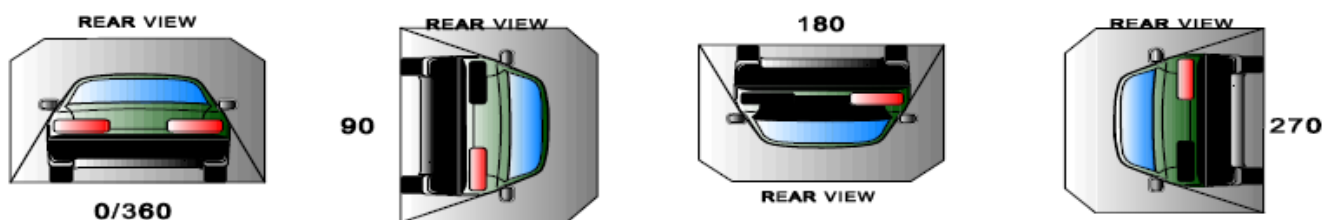
DEFORMABLE BARRIER STATIC CRUSH																	
	Distance Left of Center								C _L	Distance Right of Center							
	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	189	182	172	165	162	160	160	163	162	164	166	168	171	179	192	195	203
2	120	123	119	115	114	115	112	103	96	99	106	105	116	136	159	172	180
3	114	82	70	65	66	71	79	87	105	121	125	97	94	101	113	123	147
4	149	106	94	83	75	71	78	83	93	113	139	99	81	83	96	118	151

FMVSS 301 STATIC ROLLOVER RESULTS

Temperature at Time of Impact: 20° C Test Time: 2:20 pm

STODDARD SOLVENT SPILLAGE MEASUREMENTS				
Period	Description	Maximum Allowable Spillage	Spillage	
			Amount	Location
A	From Impact Until Vehicle Motion Ceases	1 oz	0	N/a
B	5 Minutes After Vehicle Motion Ceases	5 oz	0	N/a
C	Next 25 Minutes	1 oz/minute	0	N/a
D	Spillage Details:			

FMVSS 301 STATIC ROLLOVER



ROLLOVER SOLVENT COLLECTION TIME TABLE			
Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	64	300	364
90° to 180°	66	300	366
180° to 270°	65	300	365
270° to 360°	65	300	365

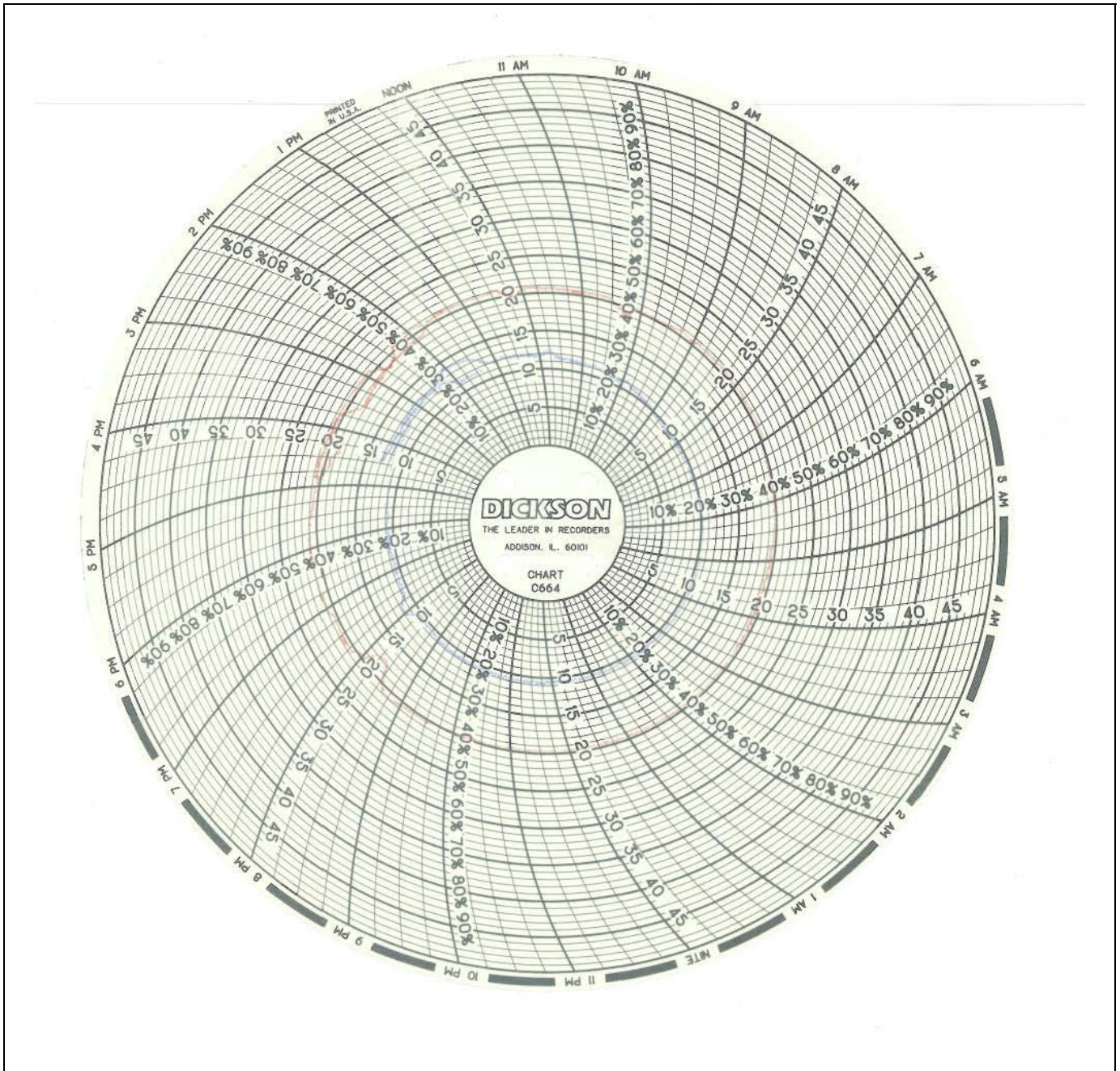
FMVSS 301 STATIC ROLLOVER RESULTS (CONTINUED)

FMVSS No. 301 Rollover Spillage Table				
	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0	0	0	N/a
90° to 180°	0	0	0	N/a
180° to 270°	0	0	0	N/a
270° to 360°	0	0	0	N/a

FMVSS No. 301 Static Rollover - Spillage				
	First five minutes (oz)	Sixth minute (oz)	Seventh minute (oz)	Eighth minute (oz)
Max allowable leakage	5.0	1.0	1.0	1.0
0° to 90°	0	0	0	N/a
90° to 180°	0	0	0	N/a
180° to 270°	0	0	0	N/a
270° to 360°	0	0	0	N/a

Rollover Solvent Spillage Location Table	
Test Phase	Spillage Location
0° to 90°	N/a
90° to 180°	N/a
180° to 270°	N/a
270° to 360°	N/a

DATA SHEET 14
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA



Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2010

APPENDIX A PHOTOGRAPHS

LIST OF PHOTOGRAPHS

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No. 082	Pre-Test Front View of MDB Impactor Face	A-45
No. 083	Post-Test Front View of MDB Impactor Face	A-46
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No. 096	FMVSS No. 301 Static Rollover 180°	A-52
No. 097	FMVSS No. 301 Static Rollover 270°	A-53
No. 098	FMVSS No. 301 Static Rollover 360°	A-53
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No. 102	Left Rear Passenger Head Restraint Use and Adjustment Information From Vehicle's Owner Manual Impact event	A-55



Figure A-1: As-Delivered Right Front 3-4 View of Test Vehicle



Figure A-2: As-Delivered Left Rear 3-4 View of Test Vehicle



Figure A-3: Pre-Test Frontal View of the Test Vehicle



Figure A-4: Post-Test Frontal View of Test Vehicle

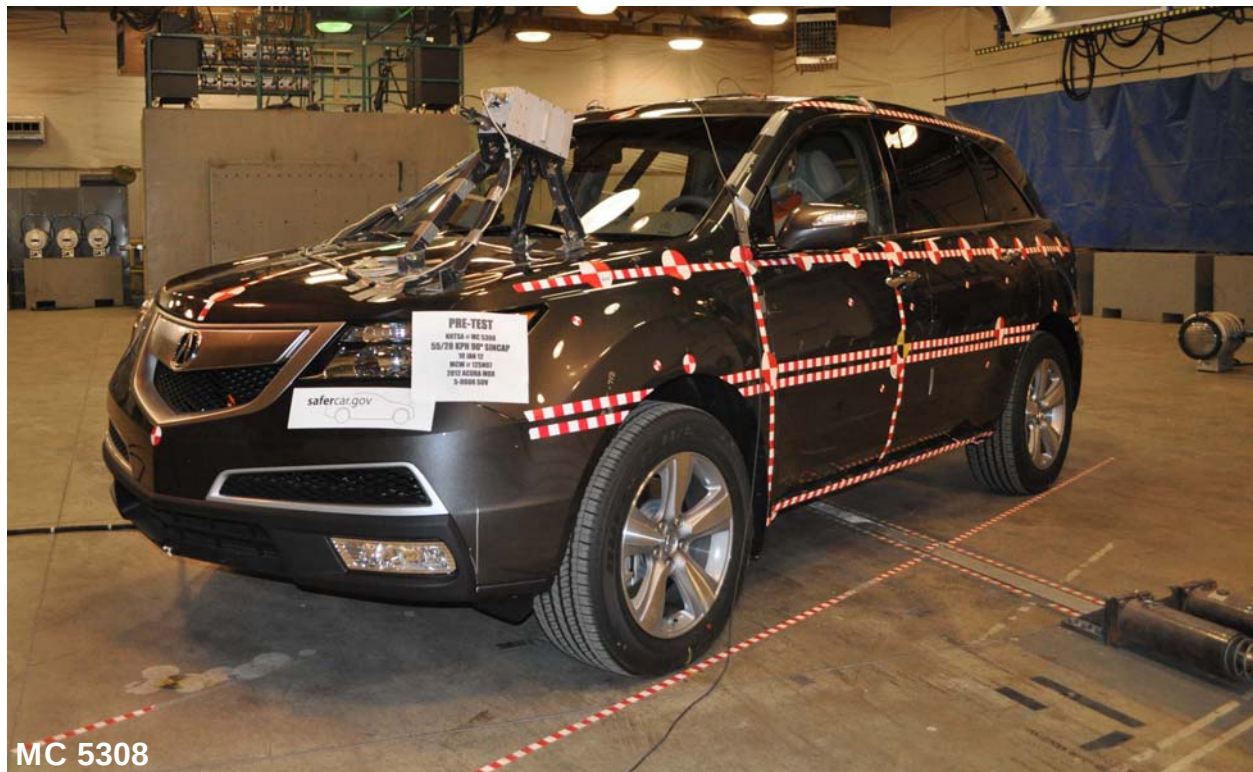


Figure A-5: Pre-Test Left Front 3-4 View of Test Vehicle

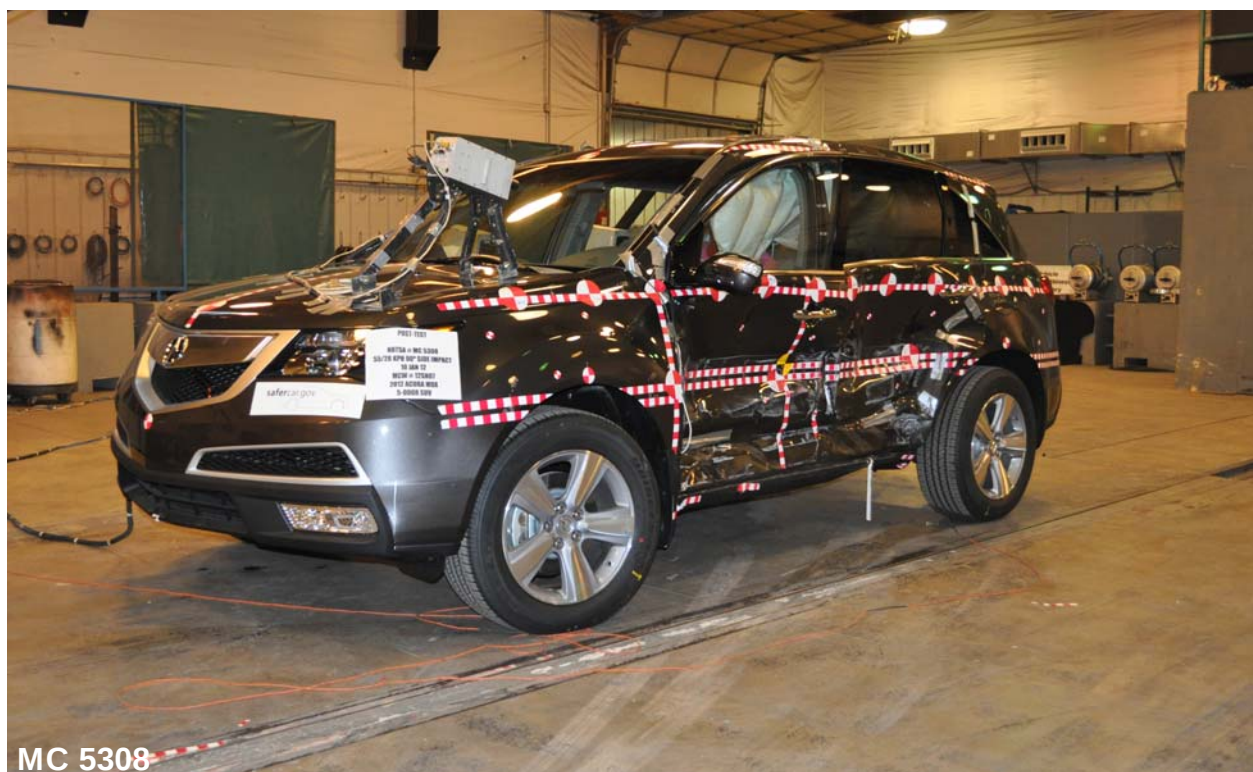


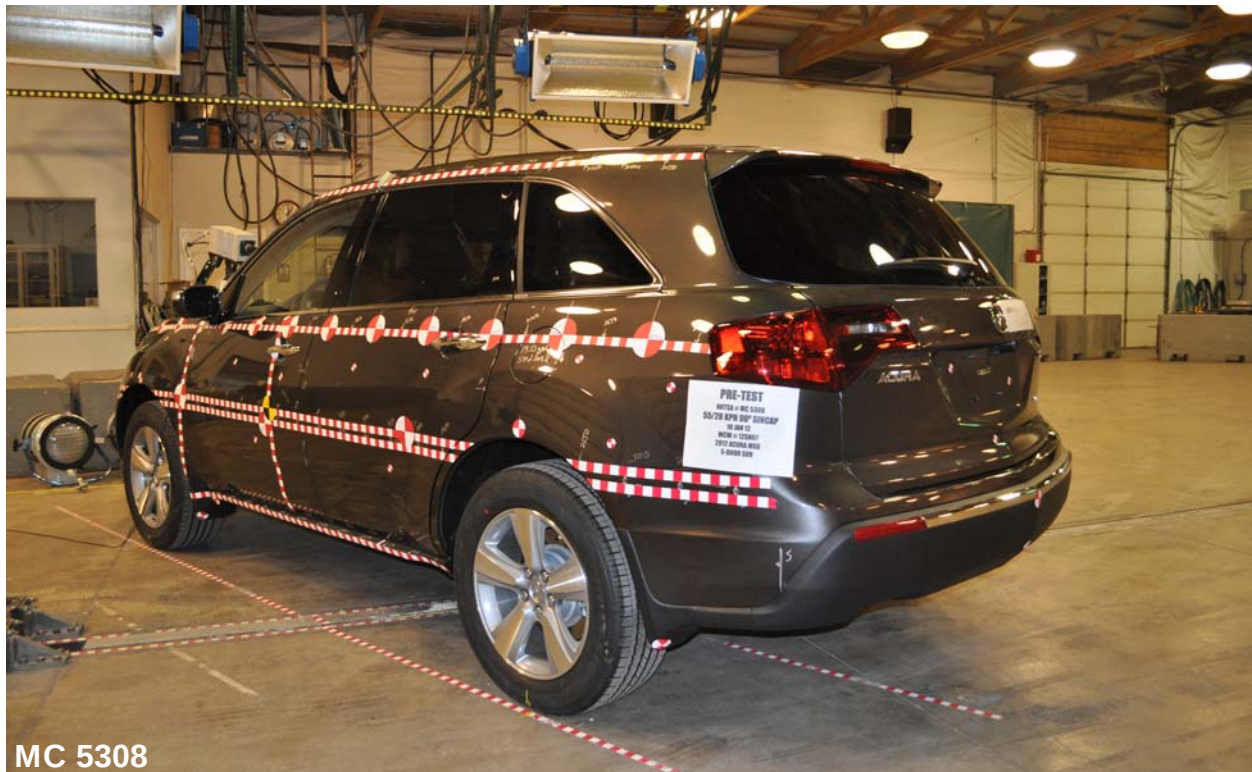
Figure A-6: Post-Test Left Front 3-4 View of Test Vehicle



Figure A-7: Pre-Test Left Side View of Test Vehicle



Figure A-8: Post-Test Left Side View of Test Vehicle



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Figure A-9: Pre-Test Left Rear 3-4 View of Test Vehicle



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Figure A-10: Post-Test Left Rear 3-4 View of Test Vehicle



Figure A-11: Pre-Test Rear View of Test Vehicle

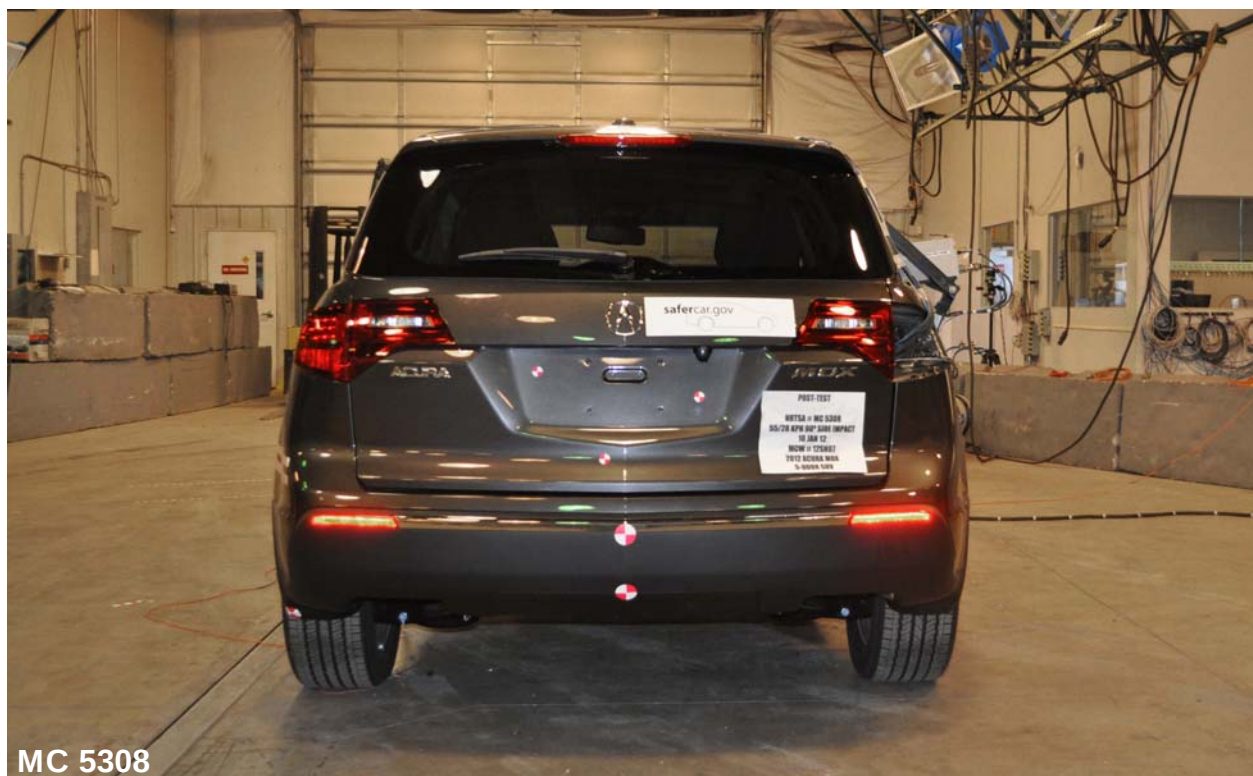


Figure A-12: Post-Test Rear View of Test Vehicle



Figure A-13: Pre-Test Right Side View of Test Vehicle



Figure A-14: Post-Test Right Side View of Test Vehicle



Figure A-15: Pre-Test Overhead View of Test Area

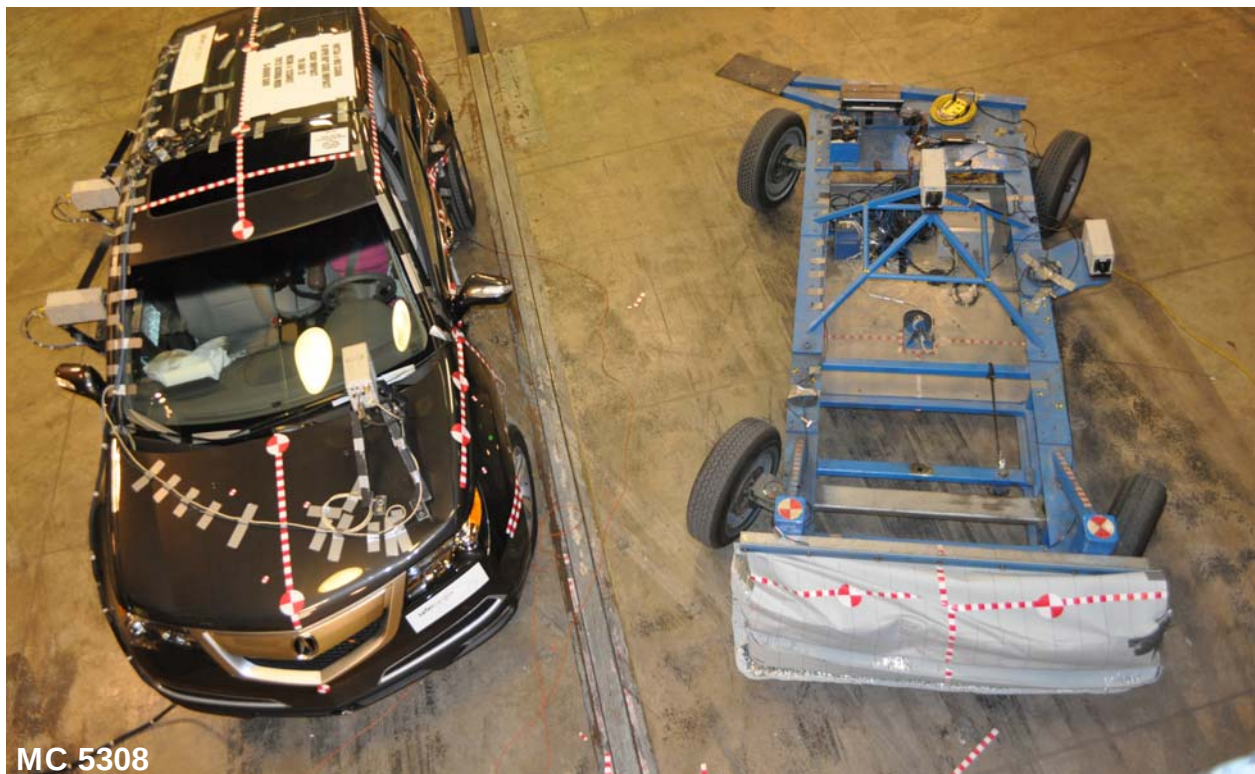


Figure A-16: Post-Test Overhead View of Test Area



Figure A-17: Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle



Figure A-18: Pre-Test Right Side View of MDB Positioned Against Side of Test Vehicle



Figure A-19: Pre-Test Close-Up View of Impact Point Target



Figure A-20: Post-Test Close-Up View of Impact Point Target



Figure A-21: Pre-Test Left Front Door Latch Close-Up



Figure A-22: Post-Test Left Front Door Latch Close-Up

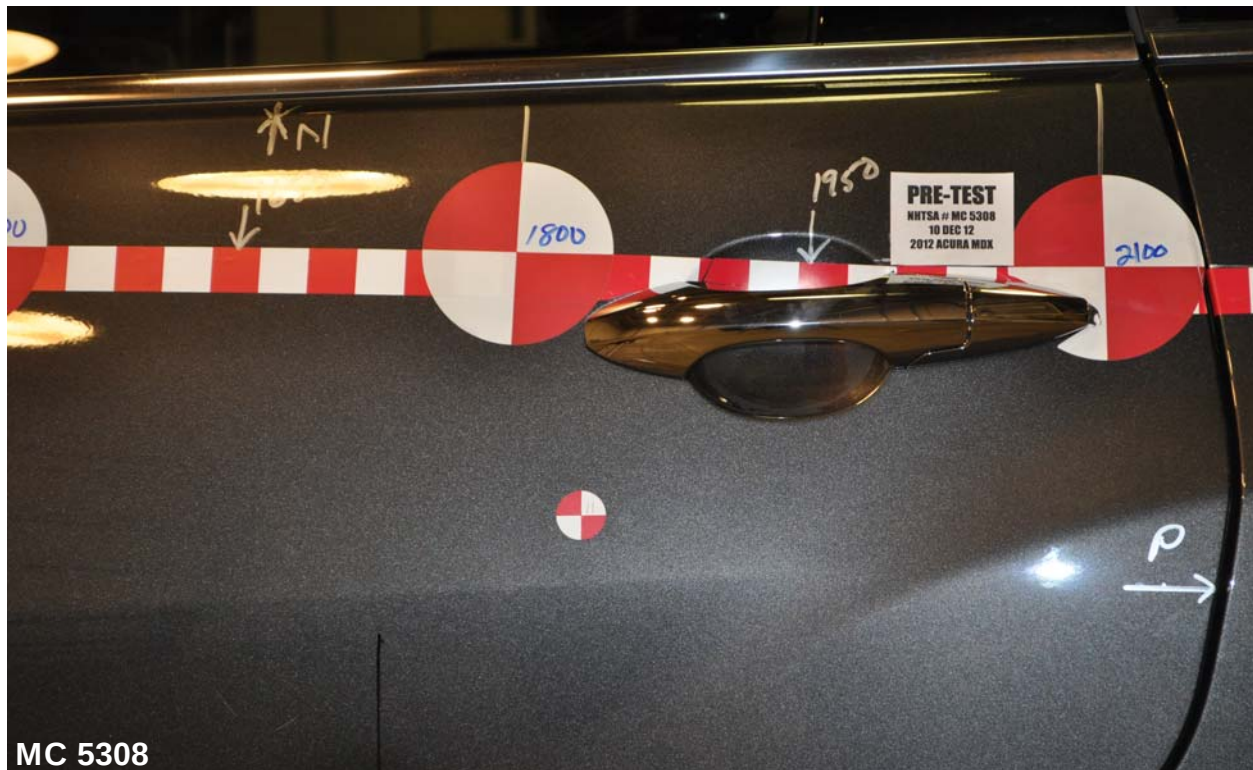


Figure A-23: Pre-Test Left Rear Door Latch Close-Up



Figure A-24: Post-Test Left Rear Door Latch Close-Up

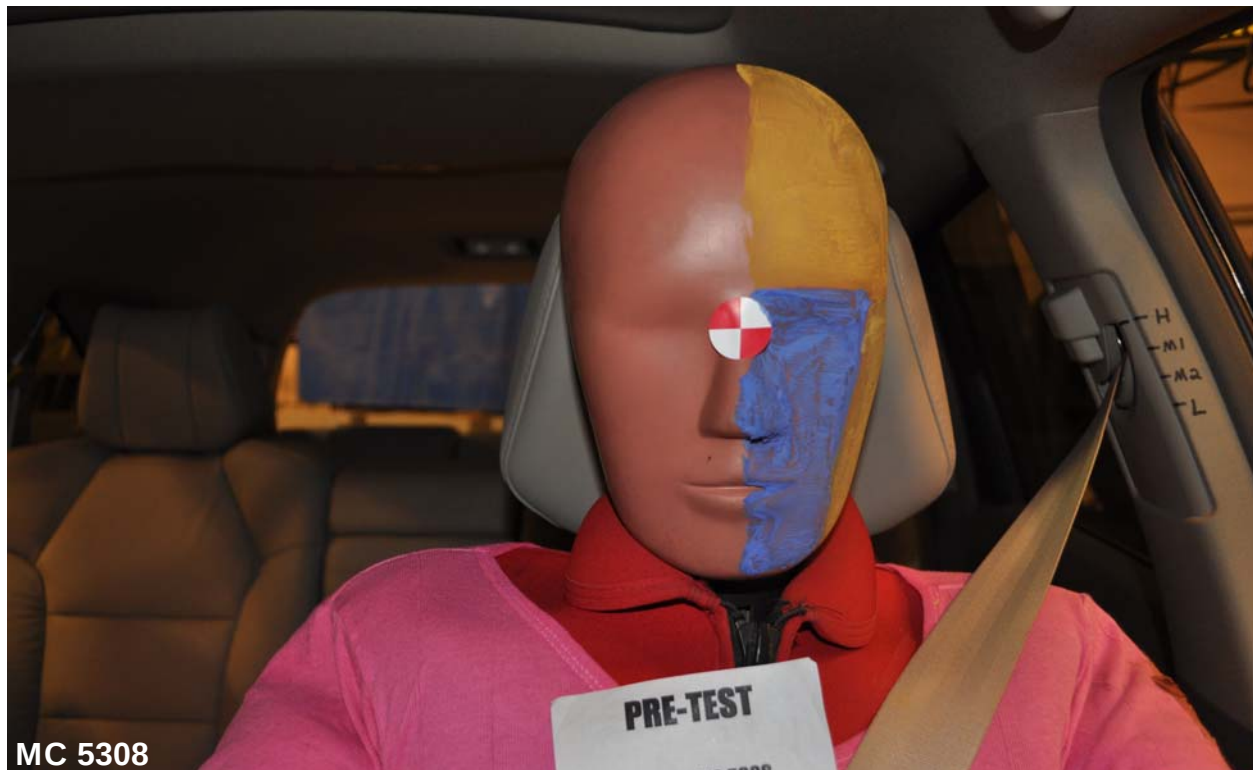


Figure A-25: Pre-Test Front Close-Up View of Driver Dummy



Figure A-26: Post-Test Front Close-Up View of Driver Dummy



Figure A-27: Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking

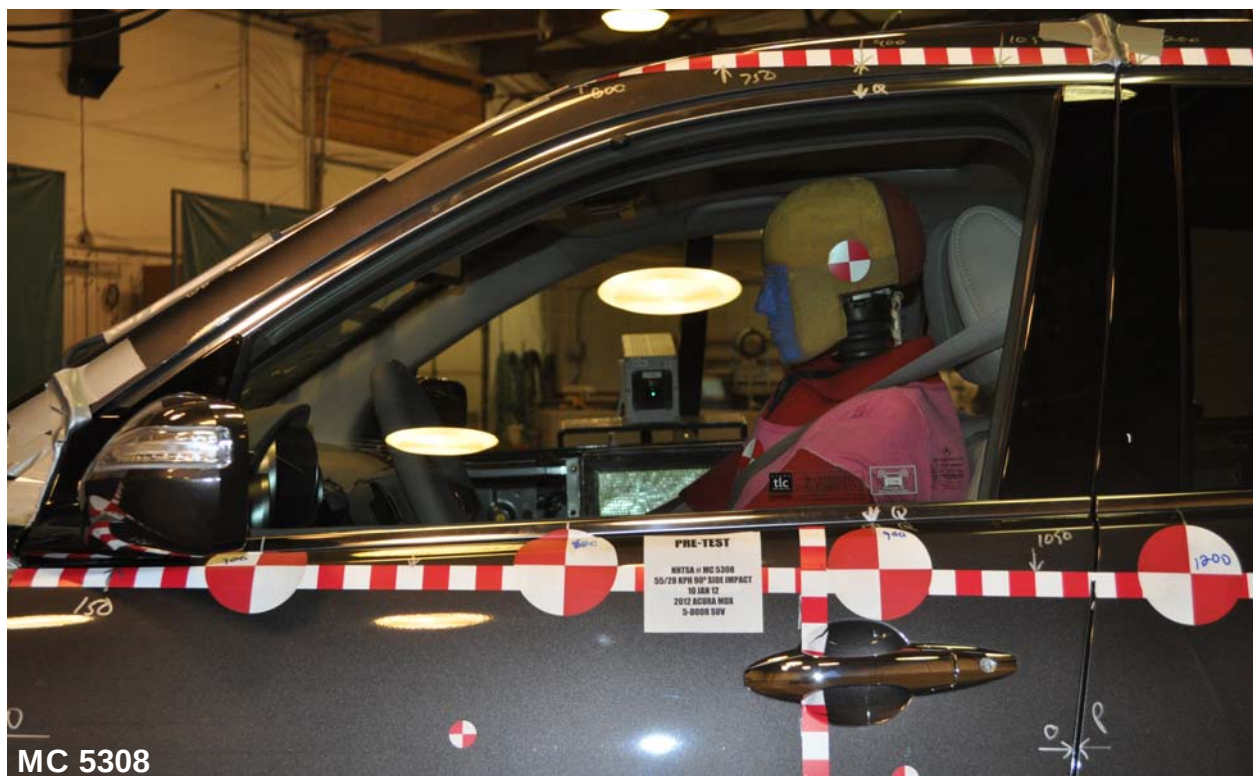


Figure A-28: Pre-Test Left Side View of Driver Dummy Shoulder and Door Top View



Figure A-29: Post-Test Left Side View of Driver Dummy Shoulder and Door Top View



Figure A-30: Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning



Figure A-31: Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



Figure A-32: Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning



Figure A-33: Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan



Figure A-34: Pre-Test Placement of Driver Dummy's Feet



Figure A-35: Pre-Test View of Belt Anchorage for Driver Dummy



Figure A-36: Pre-Test Left Side View of Steering Wheel



Figure A-37: View of Disengaged Parking Brake



Figure A-38: Pre-Test View of Parking Brake



Figure A-39: Pre-Test Close-Up Left Side View of Driver Seat Track

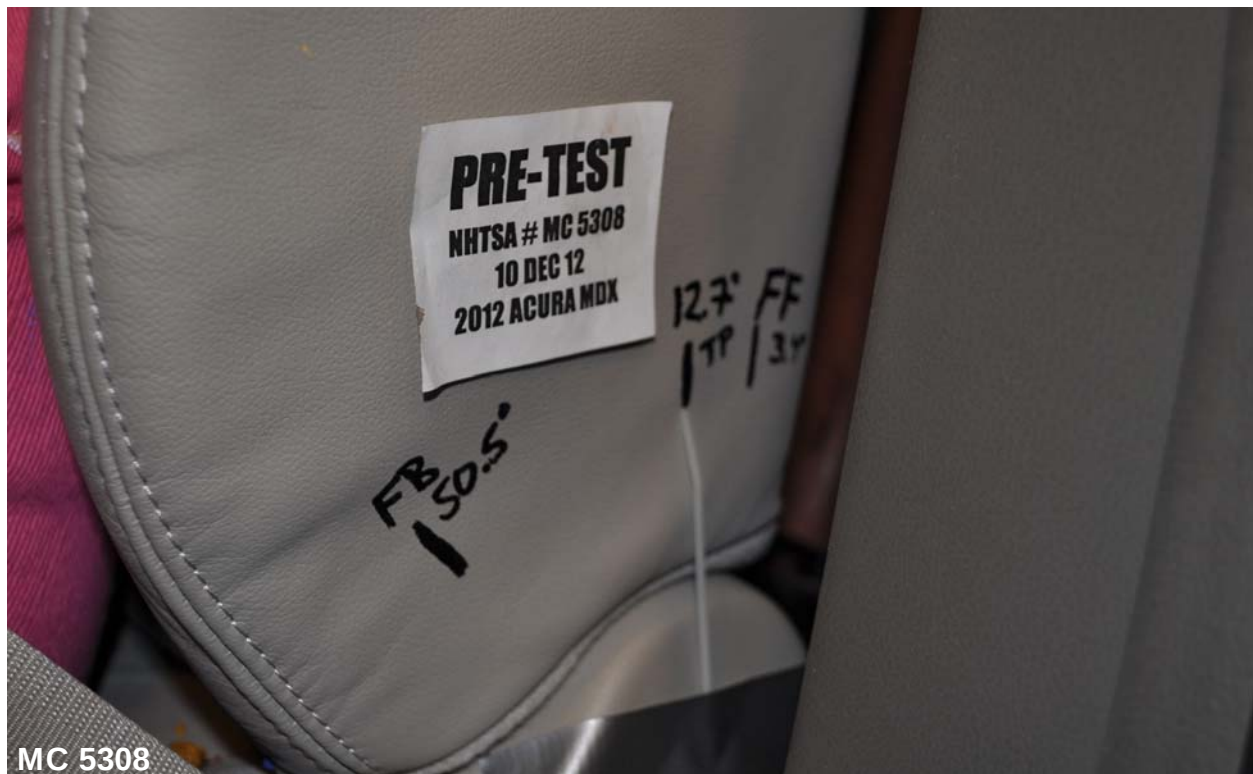


Figure A-40: Pre-Test Close-Up Left Side View of Driver Seat Back



Figure A-41: Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Figure A-42: Pre-Test Driver Dummy and Door Clearance View



Figure A-43: Post-Test Driver Dummy and Door Clearance View



Figure A-44: Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Figure A-45: Post-Test Right Side View of Driver Dummy and Front Seat Occupant Compartment



Figure A-46: Pre-Test Driver Inner Door Panel View



Figure A-47: Post-Test Driver Inner Door Panel View Showing Driver Dummy Contact Locations



Figure A-48: Post-Test Driver Dummy Close-Up Head Contact With Vehicle Interior View



Figure A-49: Post-Test Driver Dummy Close-Up Head Contact with Side Airbag View

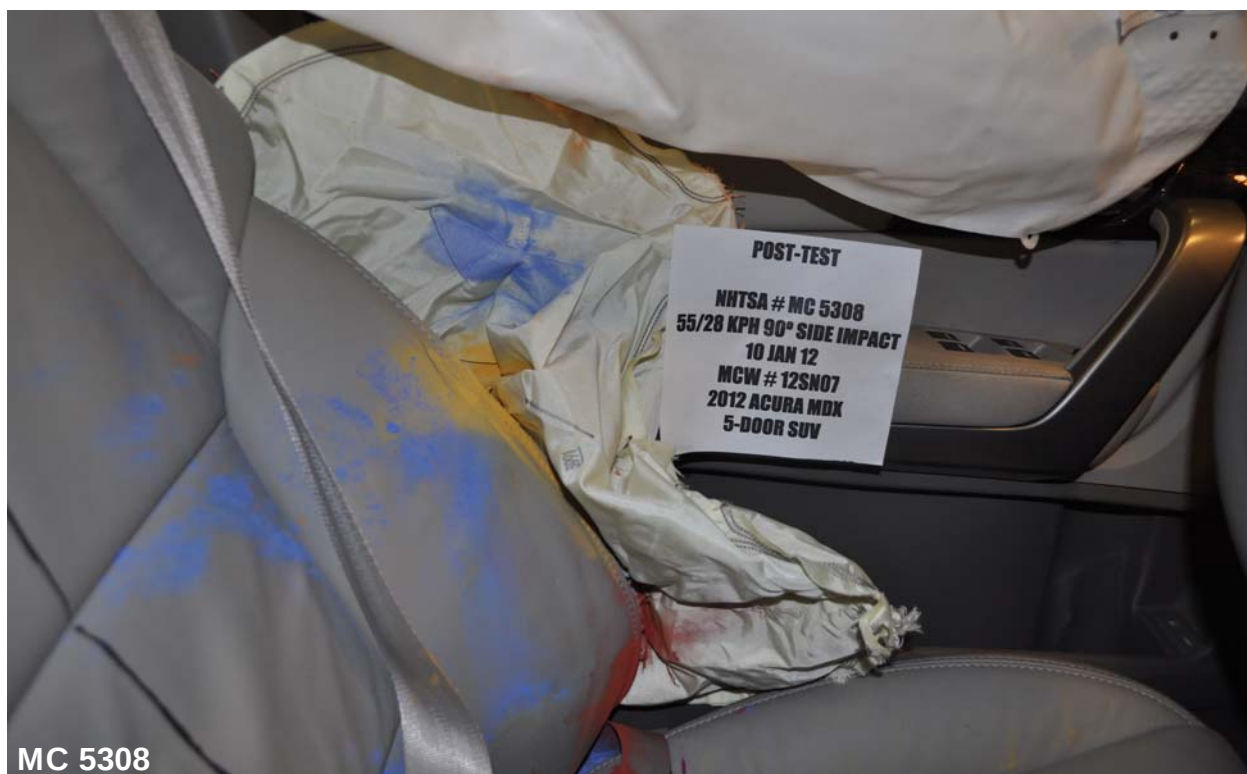


Figure A-50: Post-Test Driver Dummy Close-Up Torso Contact with Vehicle Interior View

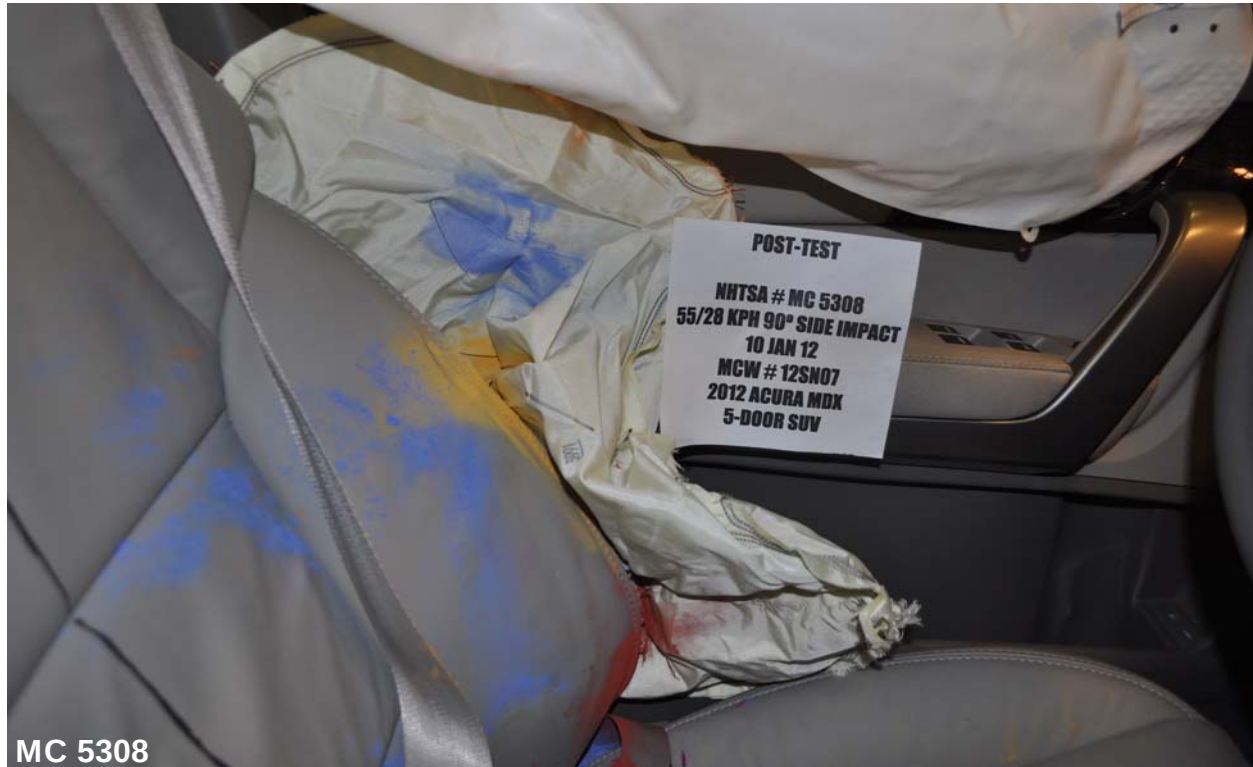


Figure A-51: Post-Test Driver Dummy Close-Up Torso Contact with Side Air Bag View

Not Applicable

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Figure A-52: Post-Test Driver Dummy Close-Up Pelvis Contact With Vehicle Interior View - N/a



Figure A-53: Post-Test Driver Dummy Close-Up Pelvis Contact with Side Airbag View



Figure A-54: Pre-Test Left Side View of Rear Passenger Dummy Showing Belt and Chalking



Figure A-55: Pre-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Figure A-56: Post-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Figure A-57: Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning

Not Taken

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Figure A-58: Pre-Test Frontal View of Rear Passenger Dummy Head and Shoulders in Relation to Head Restraint



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Figure A-59: Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning



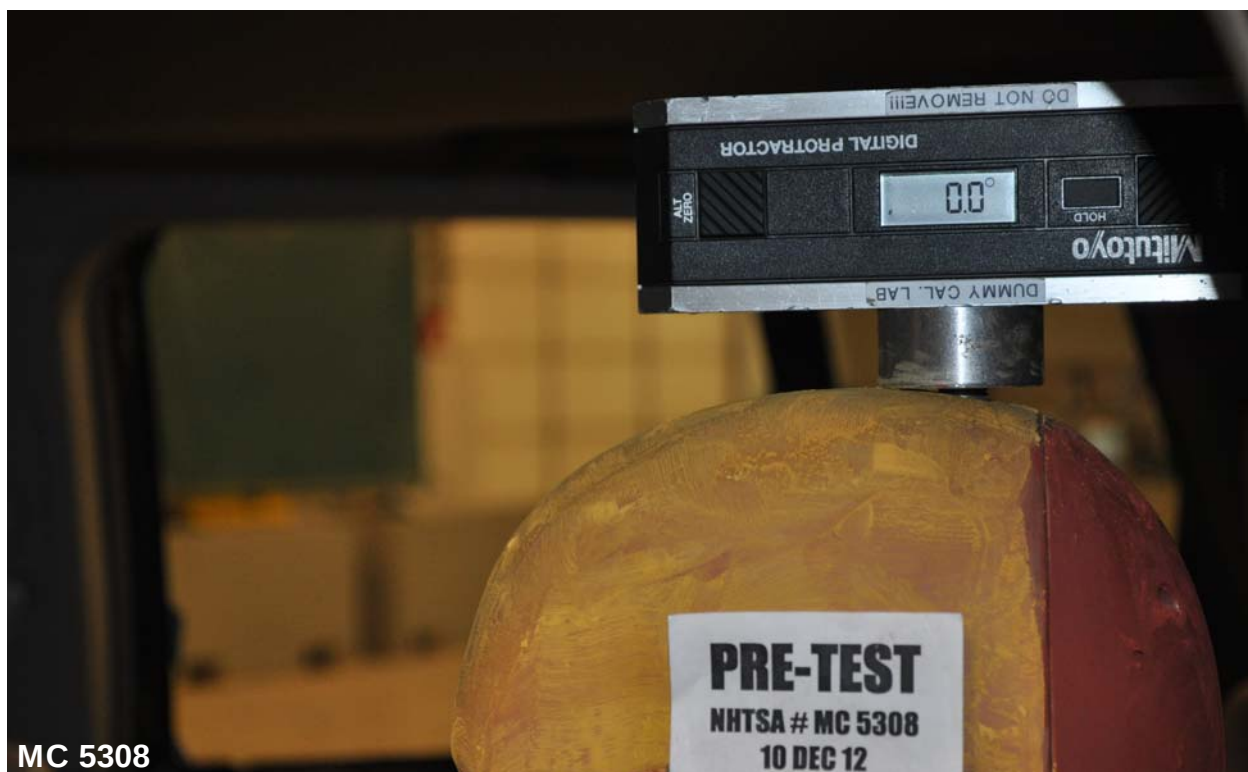
MC 5308

Figure A-60: Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan



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Figure A-61: Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket



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Figure A-62: Pre-Test View of Rear Passenger Dummy's Head Showing Dummy's Head is Level



Figure A-63: Pre-Test Placement of Rear Passenger Dummy's Feet



Figure A-64: Pre-Test View of Belt Anchorage for Rear Passenger Dummy



Figure A-65: Pre-Test Close-Up Left Side View of Rear Passenger Seat Track



Figure A-66: Pre-Test Close-Up Left Side View of Rear Passenger Seat Back

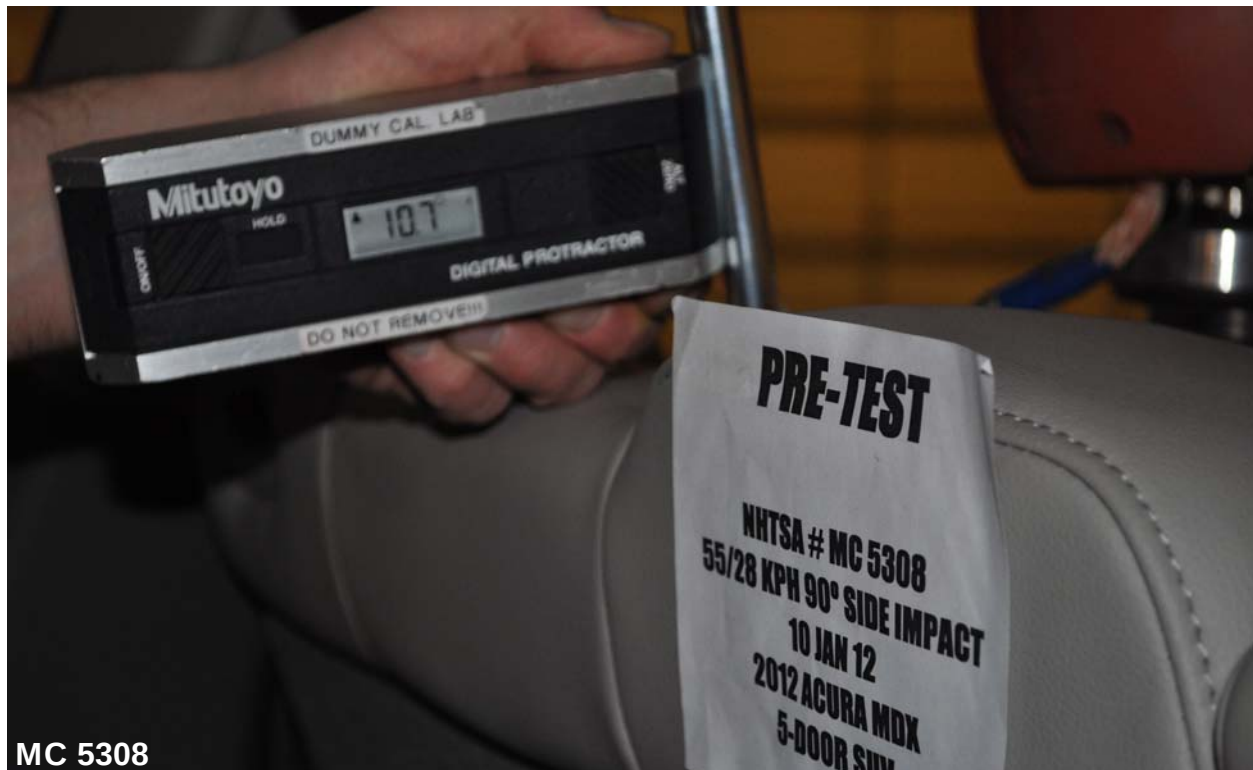


Figure A-67: Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint



Figure A-68: Pre-Test Rear Passenger Dummy and Door Clearance View



Figure A-69: Post-Test Rear Passenger Dummy and Door Clearance View



Figure A-70: Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Figure A-71: Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment

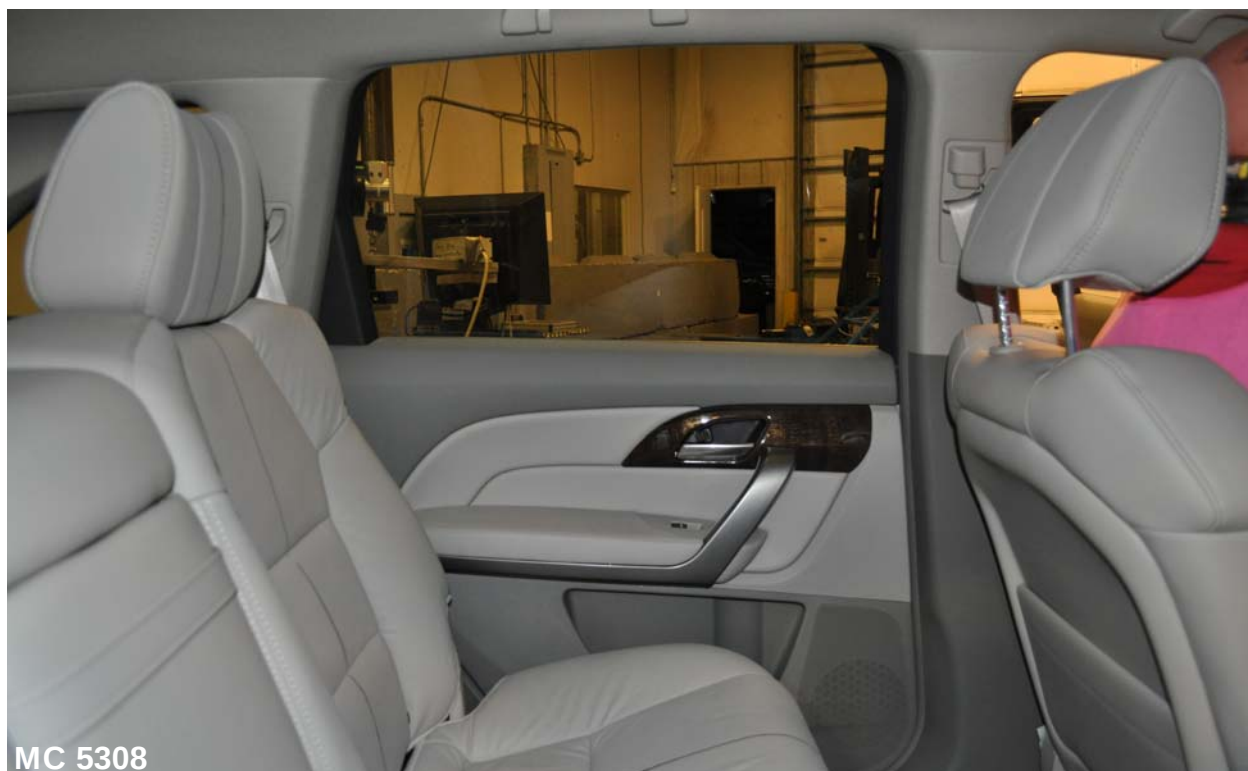


Figure A-72: Pre-Test Rear Passenger Inner Door Panel View



Figure A-73: Post-Test Rear Passenger Inner Door Panel View Showing Dummy Contact Locations

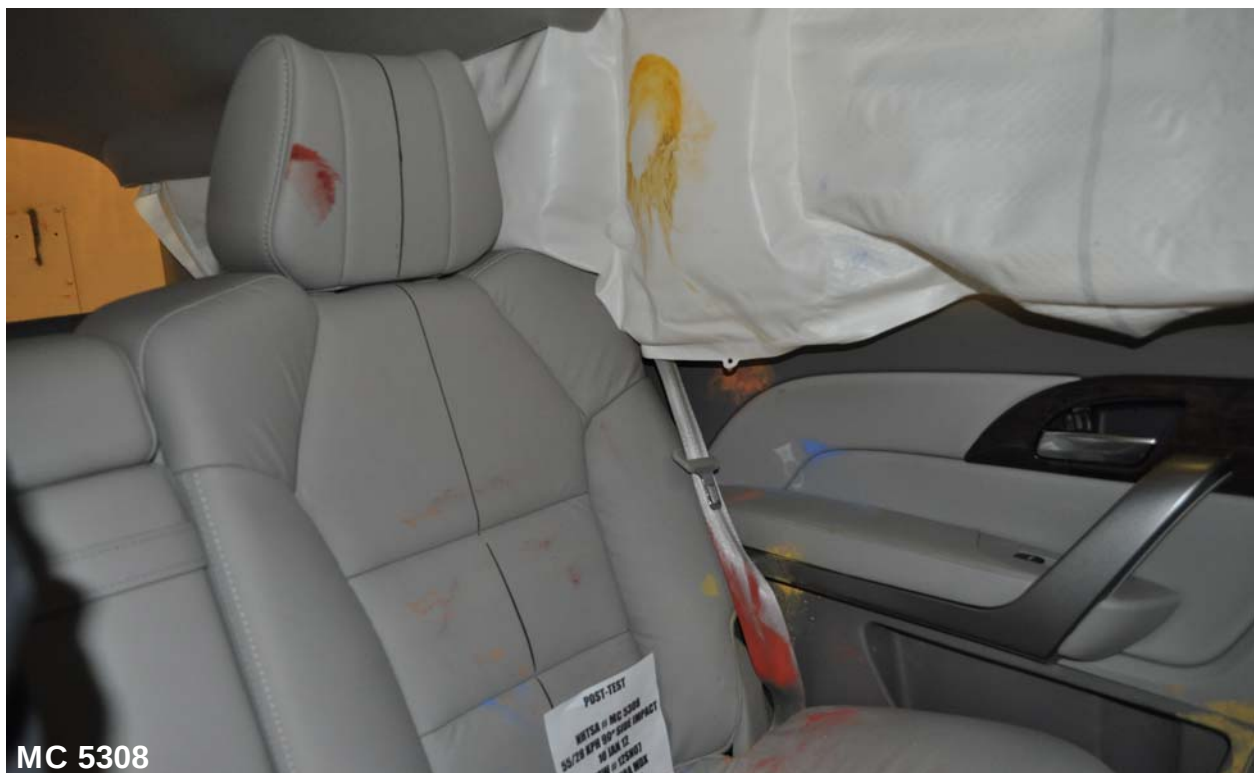


Figure A-74: Post-Test Rear Passenger Dummy Close-Up Head Contact with Vehicle Interior View



Figure A-75: Post-Test Rear Passenger Dummy Close-Up Head Contact with Side Airbag View

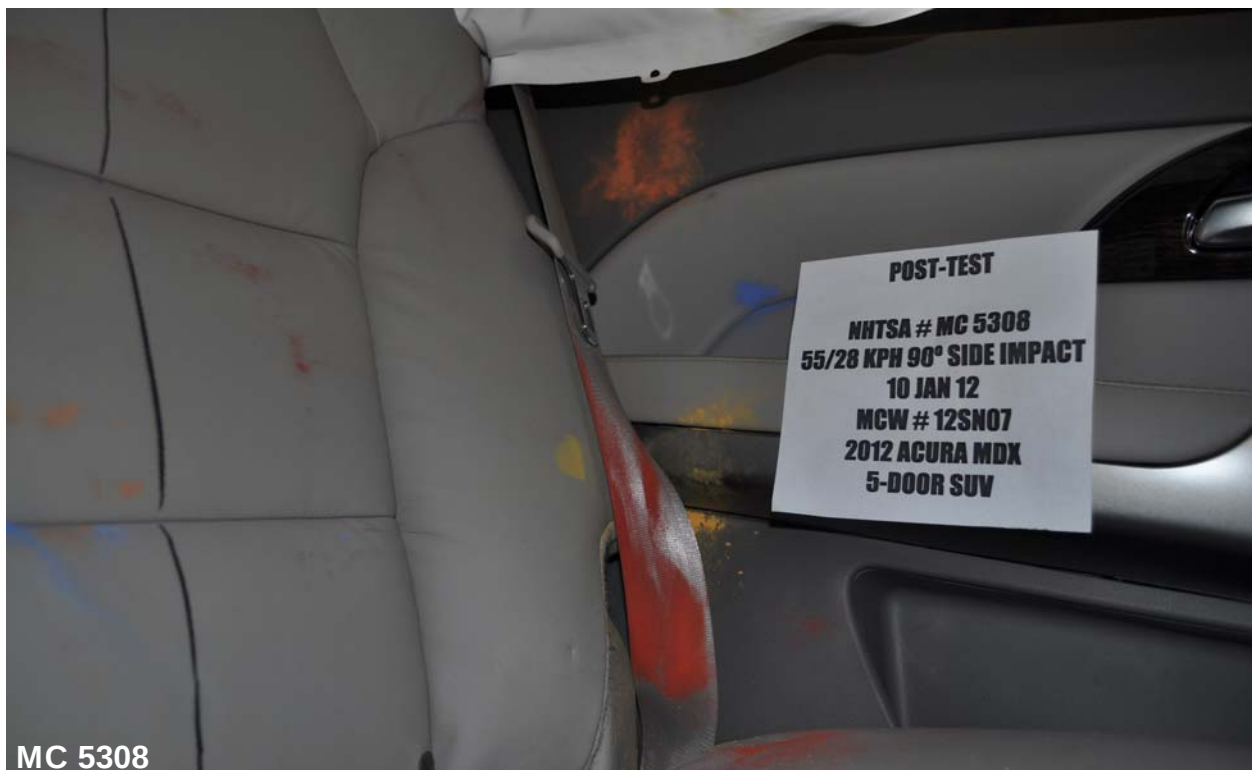


Figure A-76: Post-Test Rear Passenger Dummy Close-Up Torso Contact with Vehicle Interior View

Not Applicable

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Figure A-77: Post-Test Rear Passenger Dummy Close-Up Torso Contact with Side Airbag View - N/a



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Figure A-78: Post-Test Rear Passenger Dummy Close-up Pelvis Contact with Vehicle Interior View

Not Applicable

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Figure A-79: Post-Test Rear Passenger Dummy Close-Up Pelvis Contact with Side Airbag View



Figure A-80: Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



Figure A-81: Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Figure A-82: Pre-Test Front View of MDB Impactor Face



Figure A-83: Post-Test Front View of MDB Impactor Face



Figure A-84: Pre-Test Top View of MDB Impactor Face



Figure A-85: Post-Test Top View of MDB Impactor Face



Figure A-86: Pre-Test Left Side View of MDB Impactor Face



Figure A-87: Post-Test Left Side View of MDB Impactor Face



Figure A-88: Pre-Test Right Side View of MDB Impactor Face



Figure A-89: Post-Test Right Side View of MDB Impactor Face



Figure A-90: Close-Up View of Vehicle's Certification Label



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Figure A-91: Close-Up View of Vehicle's Tire Information Placard or Label



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Figure A-92: Pre-Test Ballast View



Figure A-93: Post-Test Primary and Redundant Speed Trap Read-Out



Figure A-94: FMVSS No. 301 Static Rollover 0 Degrees

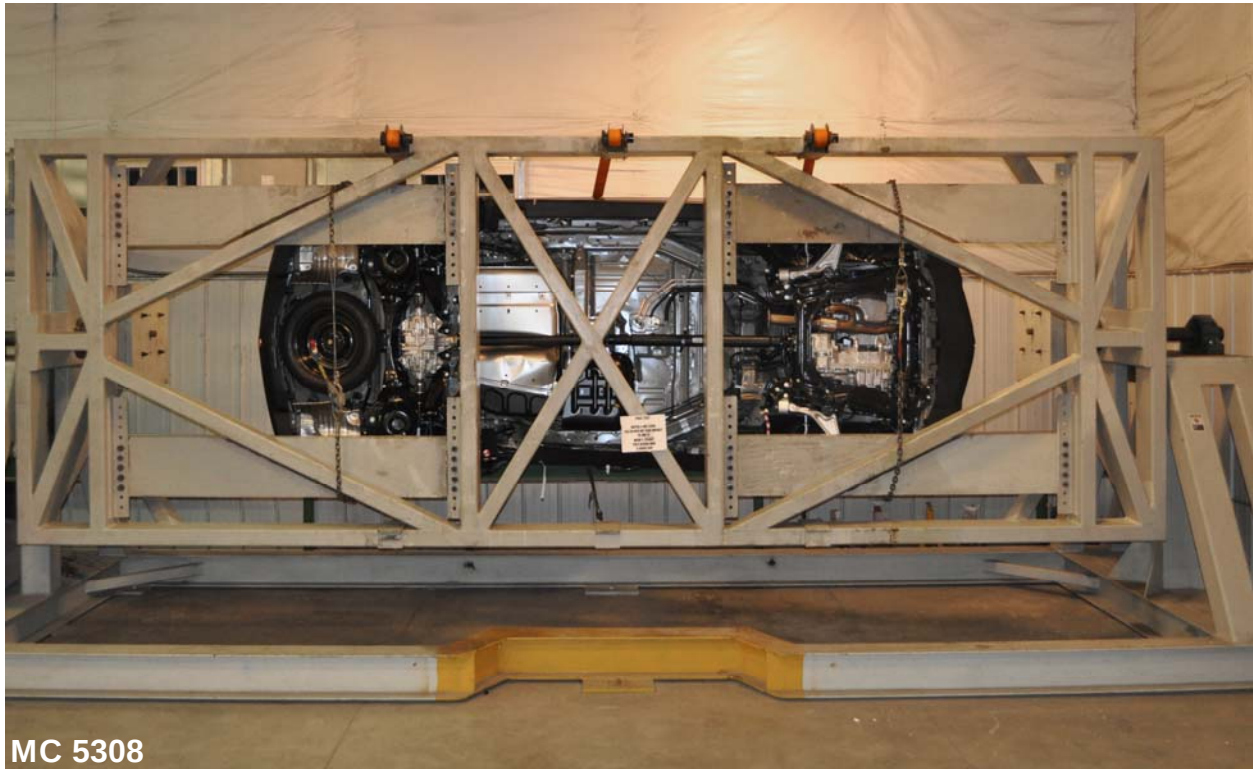


Figure A-95: FMVSS No. 301 Static Rollover 90 Degrees



Figure A-96: FMVSS No. 301 Static Rollover 180 Degrees



Figure A-97: FMVSS No. 301 Static Rollover 270 Degrees



Figure A-98: FMVSS No. 301 Static Rollover 360 Degrees



Figure A-99: Impact Event

		2012 MDX VEHICLE NUMBER: 2HNYD2H2XCH501366 ENGINE NUMBER: J37A1-6002004 EXT: DRIGIO M. CONTROL NUMBER: 886948 INT: TAUPJE	
STANDARD EQUIPMENT AT NO EXTRA COST * TECHNICAL FEATURES * • 300hp 3.7-Liter SOHC 24-Valve VTEC V6 Engine • 6-Speed Automatic Transmission with Sequential SportShift • Paddle Shifters • SH-AWD System • 4-Wheel Disc Brakes • MacPherson Strut Front Suspension • Rear Multi-Link Suspension • Variable-Assist Rack-and-Pinion Power Steering • Immobilizer Throttle-Descent System * SAFETY FEATURES * • Driver's and Front Passenger's Dual-Stage Airbags (SRS) • Driver's and Front Passenger's Side Airbags • Side Curtain Airbags with Rollover Sensor • Vehicle Stability Assist (VSA) • Anti-Lock Braking System (ABS) • Electronic Brake Distribution (EBD) • Brake Assist • 3-Point Seat Belts • Front Seat Belts with Automatic Retracting System • Active Front Head Restraints • Tire Pressure Monitoring System • ACE Body Structure • Side-Impact Door Beams • Day Time Running Lights (DRL) • LATCH System for Child Seats		* INTERIOR FEATURES * • Sport Seats with Leather Trim • Acura Premium Sound System with 8 Speakers and AM/FM/6-Disc In-Dash CD • XM Satellite Radio • MP3/Auxiliary Input Jack • Driver Recognition Memory System • Driver's 10-Way Power Seat • Front Passenger's 8-Way Power Seat • Heated Front Seats • HomeLink System • Bluetooth HandsFreeLink with Air Filtration System • Acura Personalized Settings • Auto Dimming Rearview Mirror with Rearview Camera Display * EXTERIOR FEATURES * • Power Tailgate • Power Moonroof with Tilt Feature • 18" x 8.0" Alloy Wheels • P255/55 R18 All-Season Tires • Xenon HID Headlights • Fog Lights • Heated Power Door Mirrors with Turn Indicators • Remote Entry with Security System	
		Manufacturer's Suggested Retail Price \$42,930.00 MSRP includes: • 4YR/50K Mile Powertrain Warranty • 4YR/50K Mile Ltd Vehicle Warranty • Full Tank of Fuel • 3 Months Free XM Radio Service • XM Radio is available in the 48 contiguous states	
		Destination and Handling 885.00 TOTAL VEHICLE PRICE (Includes Pre-Delivery Service) \$43,815.00 License and title fees, state and local taxes and dealer options and accessories are not included in the manufacturer's suggested retail price.	
Environmental Performance Protect the environment, choose vehicles with higher scores: Global Warming Score 5 Smog Score 5 1 = Average new vehicle, 10 = Cleanest		ACURA OF BROOKFIELD 19180 BLUEMOUND RD WAUKESHA, WI 53186 PORT OF ENTRY: BUFFALO DELIVERY POINT: CHICAGO SHIP: 906-002 TRANS METHOD: N90 ELWOOD VIN: 2HNYD2H2XCH501366 ORG. DL#: 251015 REF. NO: 40388 HN CODE: AL-5525 EMISSION: 50 STATE DEALER: 251015	
Environmental Performance Score is based on a primary comparison to other vehicles in the same class. Score is determined by the California Air Resources Board. For more information, visit www.airresourcesboard.org or www.dmv.ca.gov for the Air Resources Board.		EPA Fuel Economy Estimates CITY MPG 16 Expected range for most drivers 13 to 19 MPG Estimated Annual Fuel Cost \$3,294 based on 15,000 miles at \$3.95 per gallon HIGHWAY MPG 21 Expected range for most drivers 17 to 25 MPG Combined Fuel Economy 18 This Vehicle 18, All SUVs 10 to 32 Your actual mileage will vary depending on how you drive and maintain your vehicle. See the FREE Fuel Economy Guide at dealers or www.fueleconomy.gov	
Environmental Performance Score is based on a primary comparison to other vehicles in the same class. Score is determined by the California Air Resources Board. For more information, visit www.airresourcesboard.org or www.dmv.ca.gov for the Air Resources Board.		PARTS CONTENT INFORMATION FOR VEHICLES IN THIS CARLINE: U.S./Canadian Parts Content: 65 % Major Sources of Foreign Parts Content: JAPAN 25 % NOTE: Parts content does not include final assembly, distribution or other non-parts costs.	
Environmental Performance Score is based on a primary comparison to other vehicles in the same class. Score is determined by the California Air Resources Board. For more information, visit www.airresourcesboard.org or www.dmv.ca.gov for the Air Resources Board.		GOVERNMENT SAFETY RATINGS Frontal Crash ★★★★★ Driver Passenger ★★★★★ Star ratings based on the risk of injury in a frontal impact. Frontal ratings should ONLY be compared to other vehicles of similar size and weight. Side Crash Not Rated Front seat Not Rated Rear seat Not Rated Star ratings based on the risk of injury in a side impact. Rollover ★★★★ Star ratings based on the risk of rollover in a single vehicle crash. Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest. Source: National Highway Traffic Safety Administration (NHTSA). www.safercar.gov or 1-888-327-4236	
Environmental Performance Score is based on a primary comparison to other vehicles in the same class. Score is determined by the California Air Resources Board. For more information, visit www.airresourcesboard.org or www.dmv.ca.gov for the Air Resources Board.		FOR THIS VEHICLE Final Assembly Plant: ALLISTON, ONTARIO CANADA Country of Origin: Engine: U.S.A. Transmission: JAPAN	

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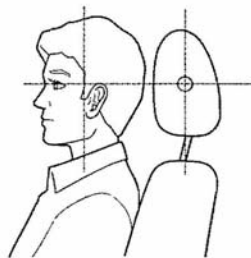
Figure A-100: Monroney Label

Seats

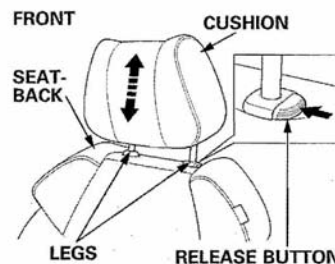
Head Restraints

See page 15 for important safety information and a warning about improperly positioning head restraints.

Your vehicle is equipped with head restraints in all seating positions to help protect you and your passengers from the likelihood of whiplash and other injuries.



They are most effective when you adjust them so the center of the back of the occupant's head rests against the center of the restraint.



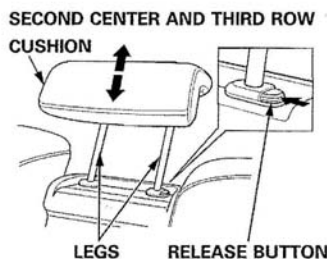
Adjusting the Head Restraint

The head restraints adjust for height. You need both hands to adjust the restraint. Do not attempt to adjust it while driving. To raise it, pull upward. To lower the restraint, push the release button sideways, and push the restraint down.

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Figure A-101: Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

Seats



Removing the Head Restraint

To remove a head restraint for cleaning or repair, pull it up as far as it will go. Push the release button, then pull the restraint out of the seat-back.

When reinstalling a head restraint, put the legs back in place. Then adjust it to the appropriate height while pressing the release button. Make sure the head restraint locks in position when you reinstall it.

WARNING

Failure to reinstall, or correctly reinstall, the head restraints can result in severe injury during a crash.

Always replace the head restraints before driving.

Instruments and Controls

CONTINUED

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Figure A-102: Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January11, 2012

APPENDIX B
DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS

The following plots are provided in the test report

Data Plot	Description	Page
1	Driver Head Acceleration (X) Primary vs. Time	B-4
2	Driver Head Acceleration (Y) Primary vs. Time	B-5
3	Driver Head Acceleration (Z) Primary vs. Time	B-6
4	Driver Head Resultant Acceleration Primary vs. Time	B-7
5	Driver Upper Thorax Rib Deflection (Y) vs. Time	B-8
6	Driver Middle Thorax Rib Deflection (Y) vs. Time	B-9
7	Driver Lower Thorax Rib Deflection (Y) vs. Time	B-10
8	Driver Thorax Rib Deflection Maximum vs. Time	B-11
9	Driver Anterior Abdominal Force (Y) vs. Time	B-12
10	Driver Middle Abdominal Force (Y) vs. Time	B-13
11	Driver Posterior Abdominal Force (Y) vs. Time	B-14
12	Driver Total Abdominal Force (Y) vs. Time	B-15
13	Driver Pubic Symphysis Force (Y) vs. Time	B-16
14	Passenger Head Acceleration (X) Primary vs. Time	B-17
15	Passenger Head Acceleration (Y) Primary vs. Time	B-18
16	Passenger Head Acceleration (Z) Primary vs. Time	B-19
17	Passenger Head Resultant Acceleration Primary vs. Time	B-20
18	Passenger Lower Spine T ₁₂ Acceleration (X) vs. Time	B-21
19	Passenger Lower Spine T ₁₂ Acceleration (Y) vs. Time	B-22
20	Passenger Lower Spine T ₁₂ Acceleration (Z) vs. Time	B-23
21	Passenger Lower Spine T ₁₂ Resultant Acceleration vs. Time	B-24
22	Passenger Iliac Force on Impact Side (Y) vs. Time	B-25
23	Passenger Acetabulum Force on Impact Side (Y) vs. Time	B-26
24	Passenger Total Pelvic Force on Impact Side (Y) vs. Time	B-27

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at www.NHTSA.dot.gov.

Additional Driver & Passenger Dummy Instrumentation Data

Driver Lower Spine T₁₂ Acceleration (X)
Driver Lower Spine T₁₂ Acceleration (Y)
Driver Lower Spine T₁₂ Acceleration (Z)
Passenger Upper Thorax Rib Deflection (Y)
Passenger Middle Thorax Rib Deflection (Y)
Passenger Lower Thorax Rib Deflection (Y)
Passenger Upper Abdomen Rib Deflection (Y)
Passenger Lower Abdomen Rib Deflection (Y)
Driver Head Acceleration Redundant (X)
Driver Head Acceleration Redundant (Y)
Driver Head Acceleration Redundant (Z)
Passenger Head Acceleration Redundant (X)
Passenger Head Acceleration Redundant (Y)
Passenger Head Acceleration Redundant (Z)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Right Side Sill at Front Seat Acceleration (X)
Right Side Sill at Front Seat Acceleration (Y)
Right Side Sill at Front Seat Acceleration (Z)
Right Side Sill at Rear Seat Acceleration (X)
Right Side Sill at Rear Seat Acceleration (Y)
Right Side Sill at Rear Seat Acceleration (Z)
Left Side Sill at Front Seat Acceleration (Y)
Left Side Sill at Rear Seat Acceleration (Y)
Lower A-Post Acceleration (Y)
Middle A-Post Acceleration (Y)
Lower B-Post Acceleration (Y)
Middle B-Post Acceleration (Y)
Front Seat Track Acceleration (Y)
Rear Seat Structure Acceleration (Y)
Right Rear Occupant Compartment Acceleration (Y)
Engine Block (X)
Engine Block (Y)
Rear Floorpan Above Axle Acceleration (X)
Rear Floorpan Above Axle Acceleration (Y)
Rear Floorpan Above Axle Acceleration (Z)

MDB Instrumentation Data

MDB Center of Gravity Acceleration (X)
MDB Center of Gravity Acceleration (Y)
MDB Center of Gravity Acceleration (Z)
MDB Rear Acceleration (X)
MDB Rear Acceleration (Y)
Left MDB Contact Switch
Right MDB Contact Switch

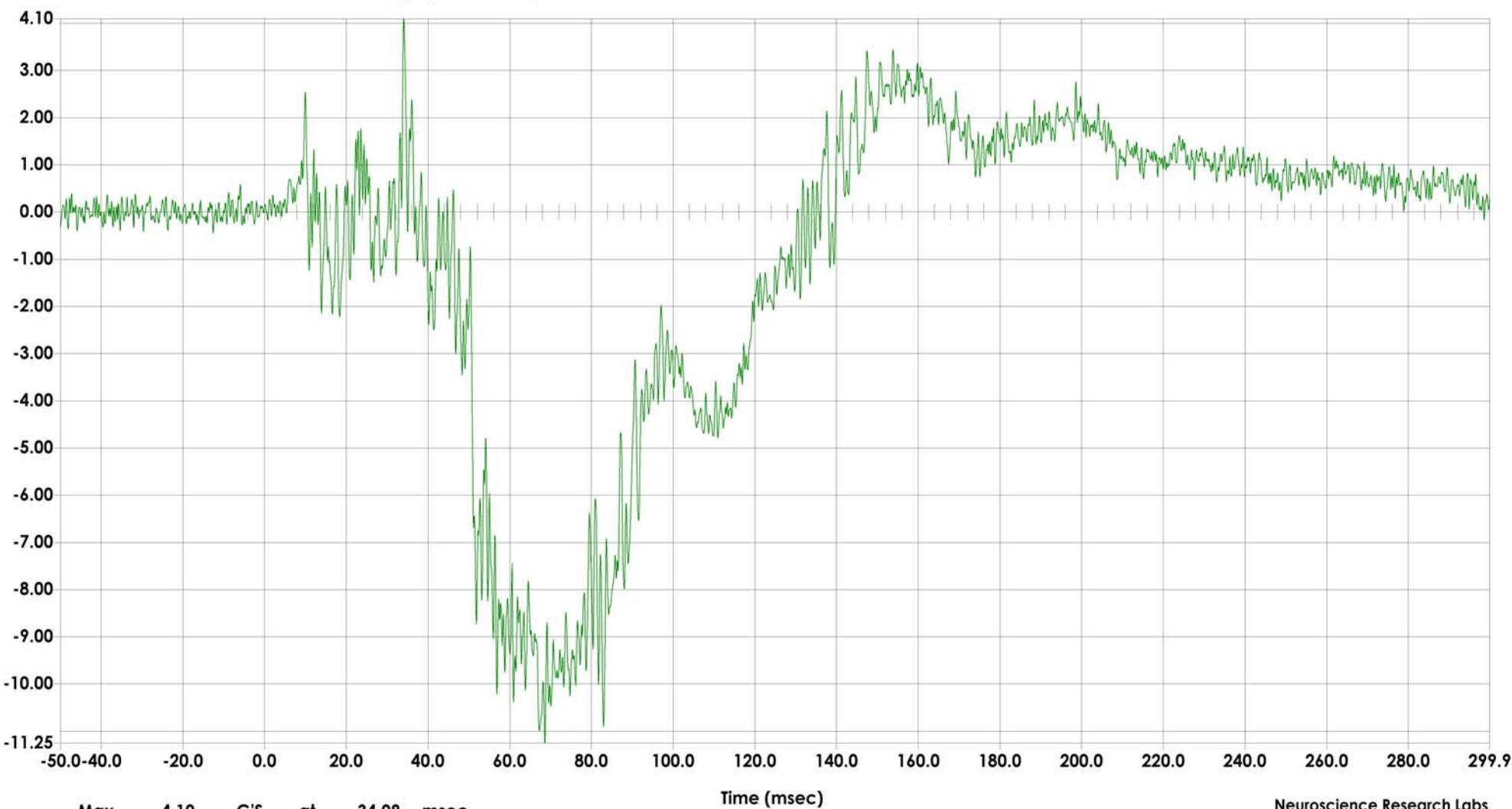
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Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location HDCG
Sensor Info ENDEVCO 7264-2000TZ
Serial Number J43494



G'S Driver Head Acceleration (X) Primary vs. Time



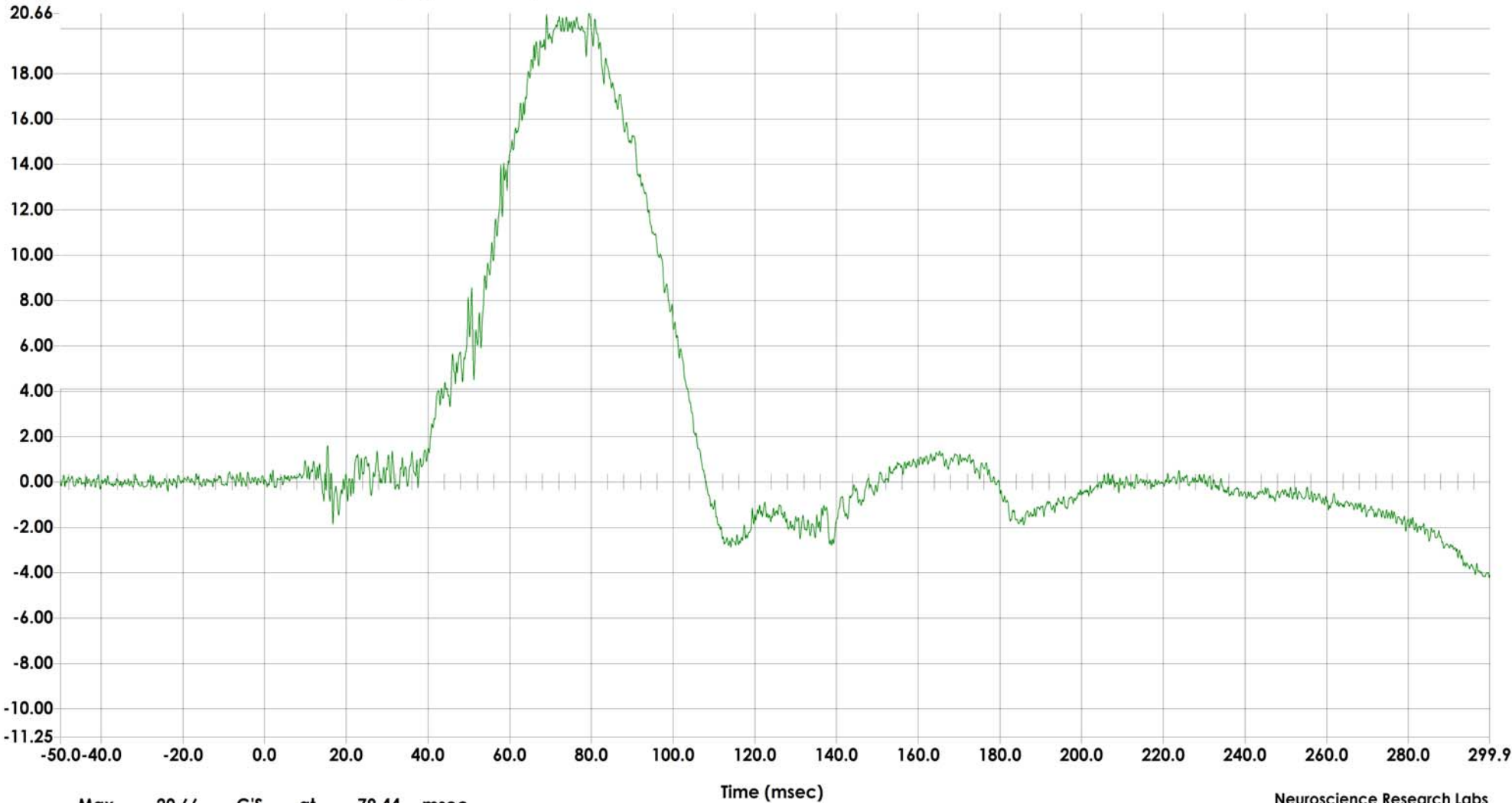
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location HDCG
Sensor Info ENDEVCO 7264-2000TZ
Serial Number J43475



G'S Driver Head Acceleration (Y) Primary vs. Time



Max 20.66 G'S at 79.44 msec
Min -4.18 G'S at 298.72 msec

MC 5308 Plot 002

Neuroscience Research Labs
5000 West National Ave
Research 151
Milwaukee, WI 53295

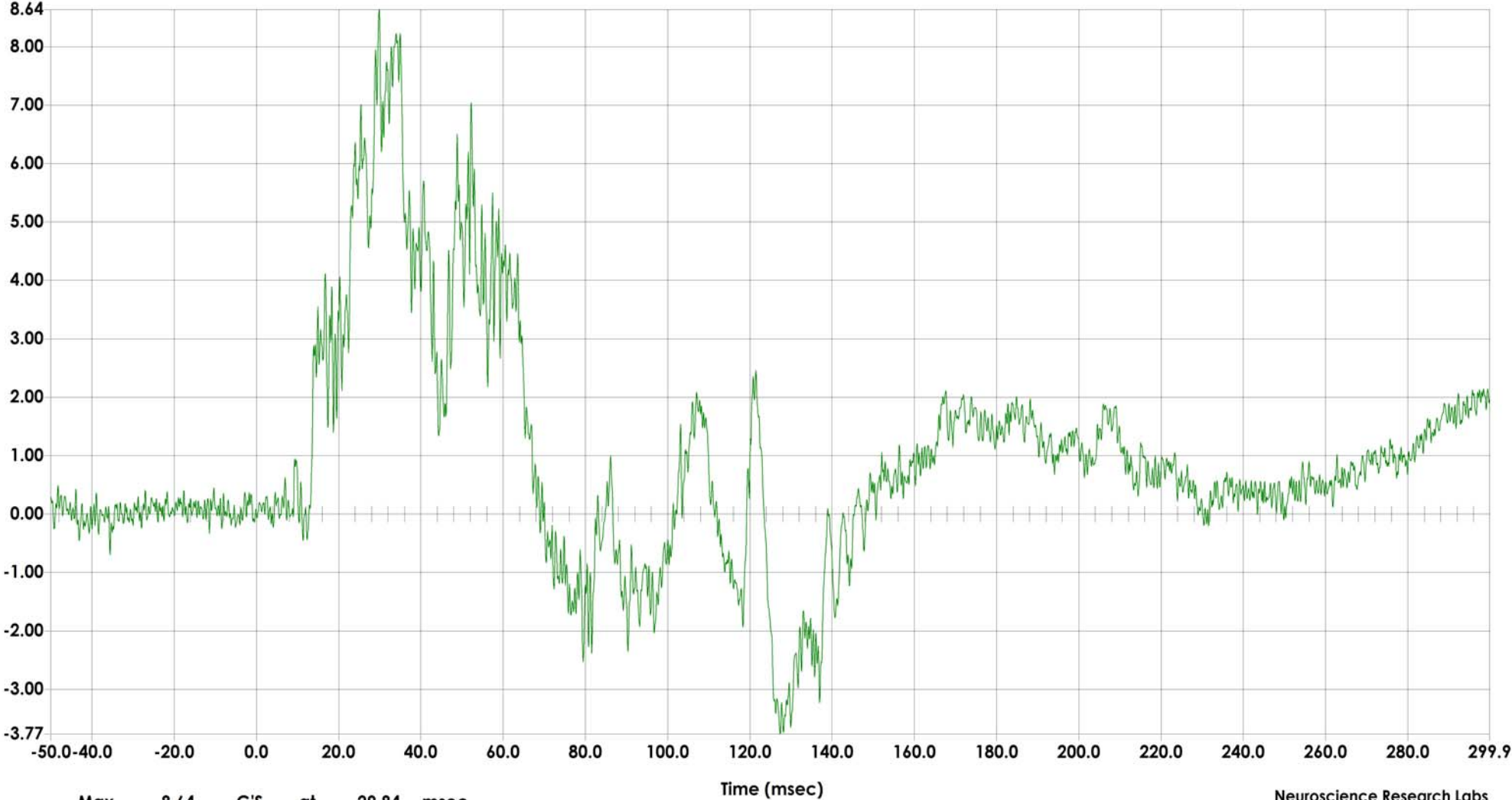
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location HDCG
Sensor Info ENDEVCO 7264-2000
Serial Number J43779



G'S Driver Head Acceleration (Z) Primary vs. Time



Max 8.64 G'S at 29.84 msec
Min -3.77 G'S at 127.36 msec

MC 5308 Plot 003

Neuroscience Research Labs
5000 West National Ave
Research 151
Milwaukee, WI 53295

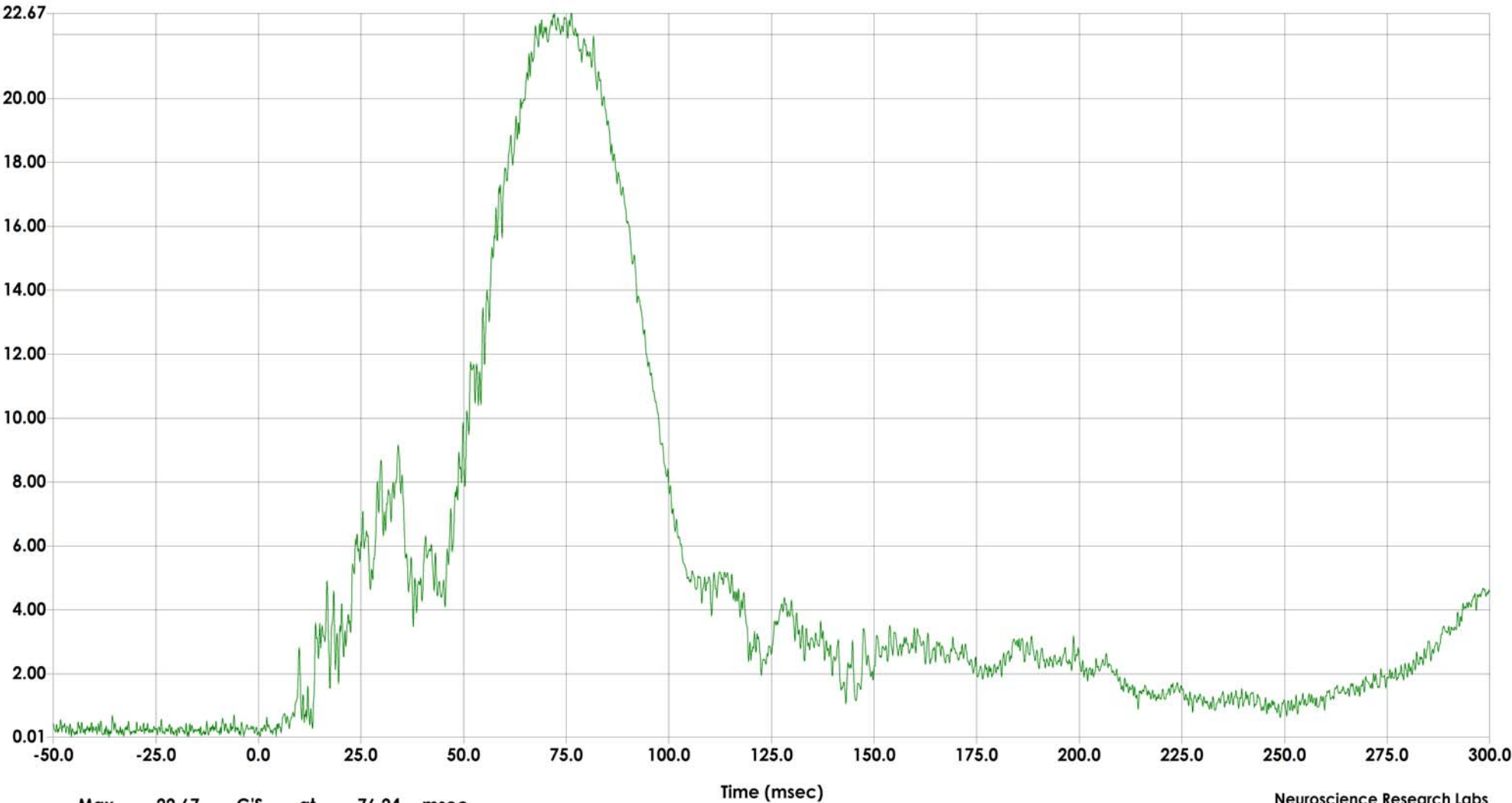
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4376
Pretrigger Points 626

Sensor Location
Sensor Info MCW Multiviewer
Serial Number 3.5.2j



G'S Driver Head Resultant Acceleration Primary vs. Time



Max 22.67 G'S at 76.24 msec
Min 0.01 G'S at -36.40 msec

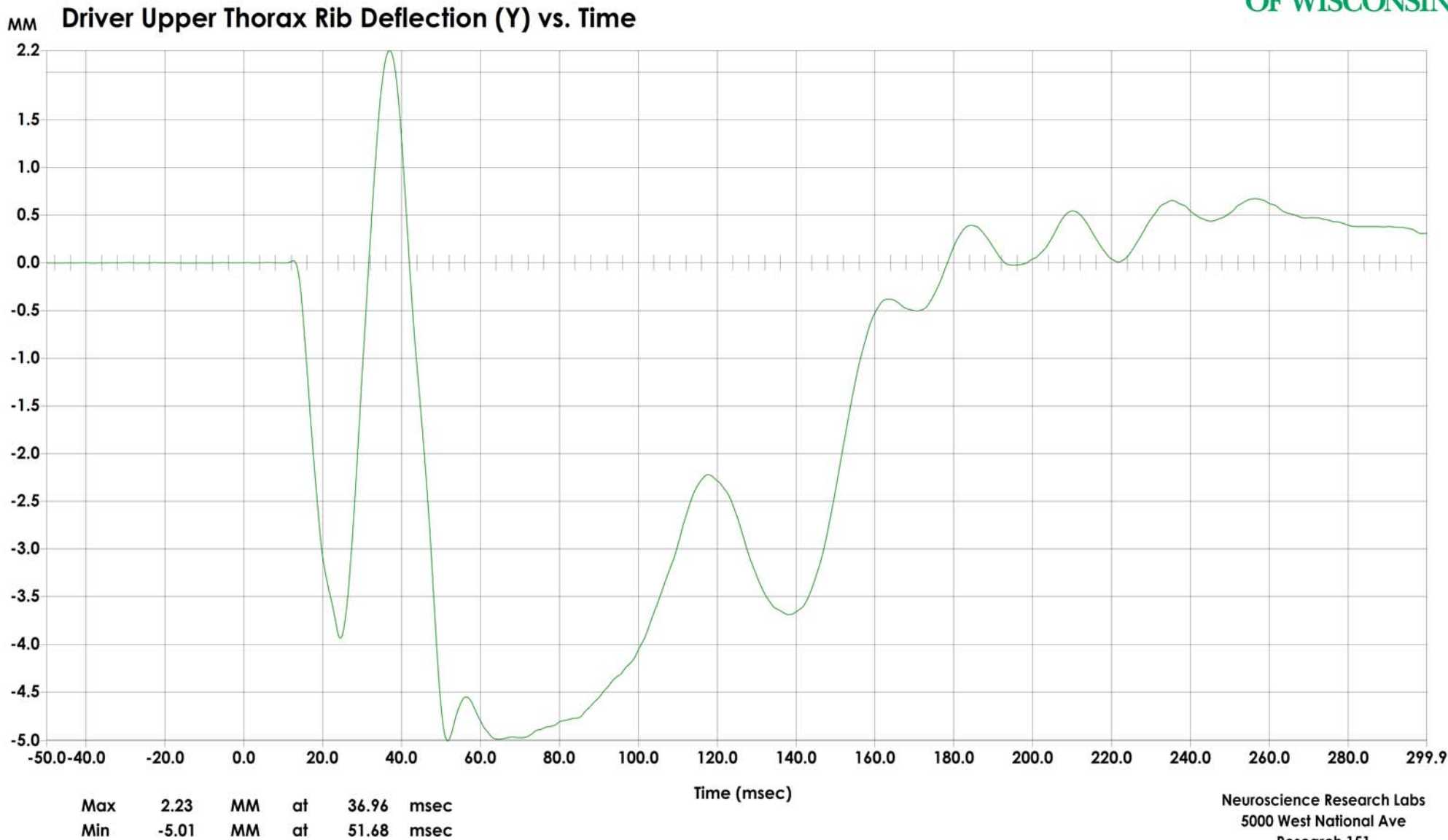
MC 5308 Plot 063

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Milwaukee, WI 53295

Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location RBLU
Sensor Info Denton
Serial Number 433

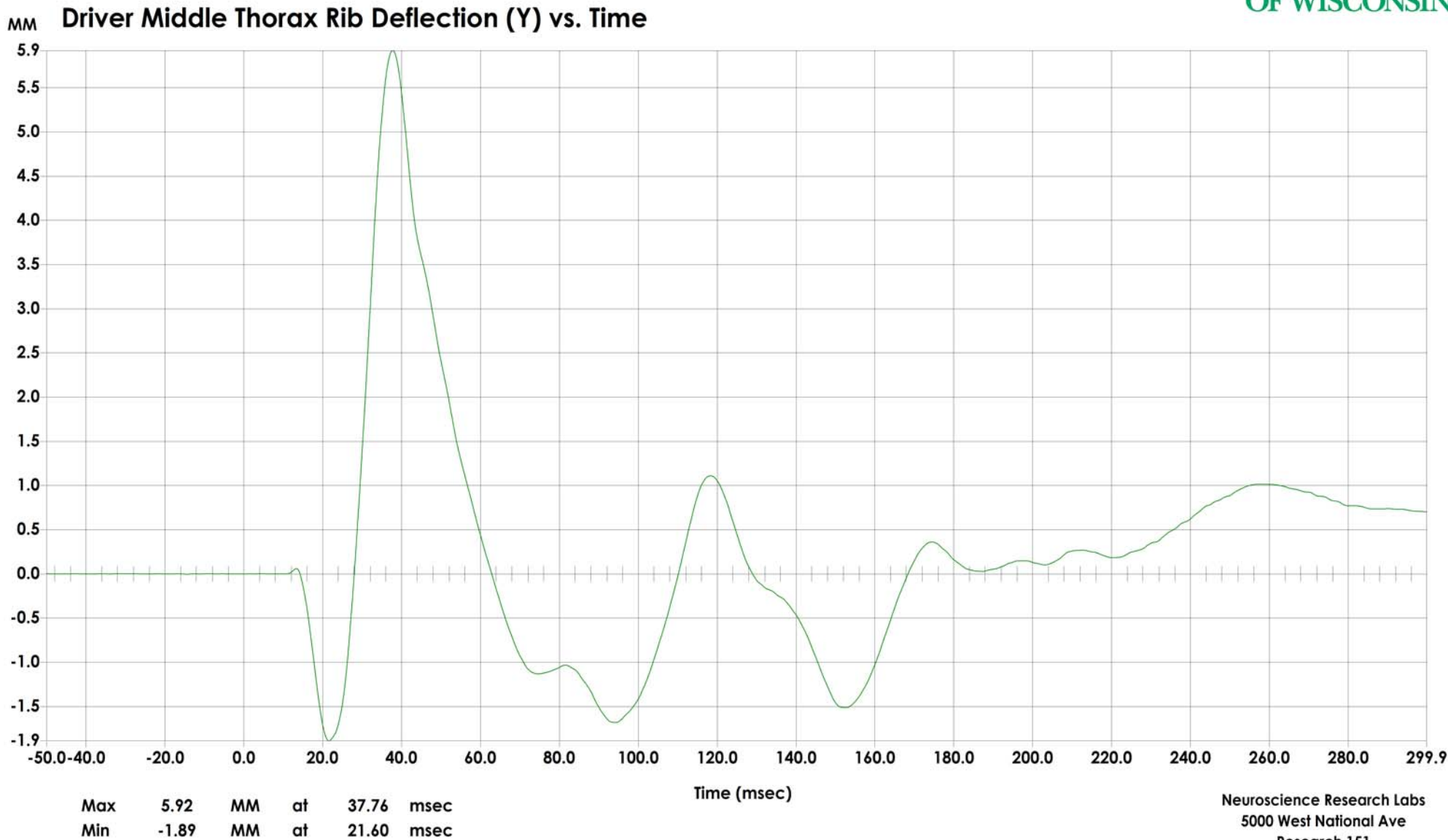


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Milwaukee, WI 53295

Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location RBLM
Sensor Info Denton
Serial Number 193

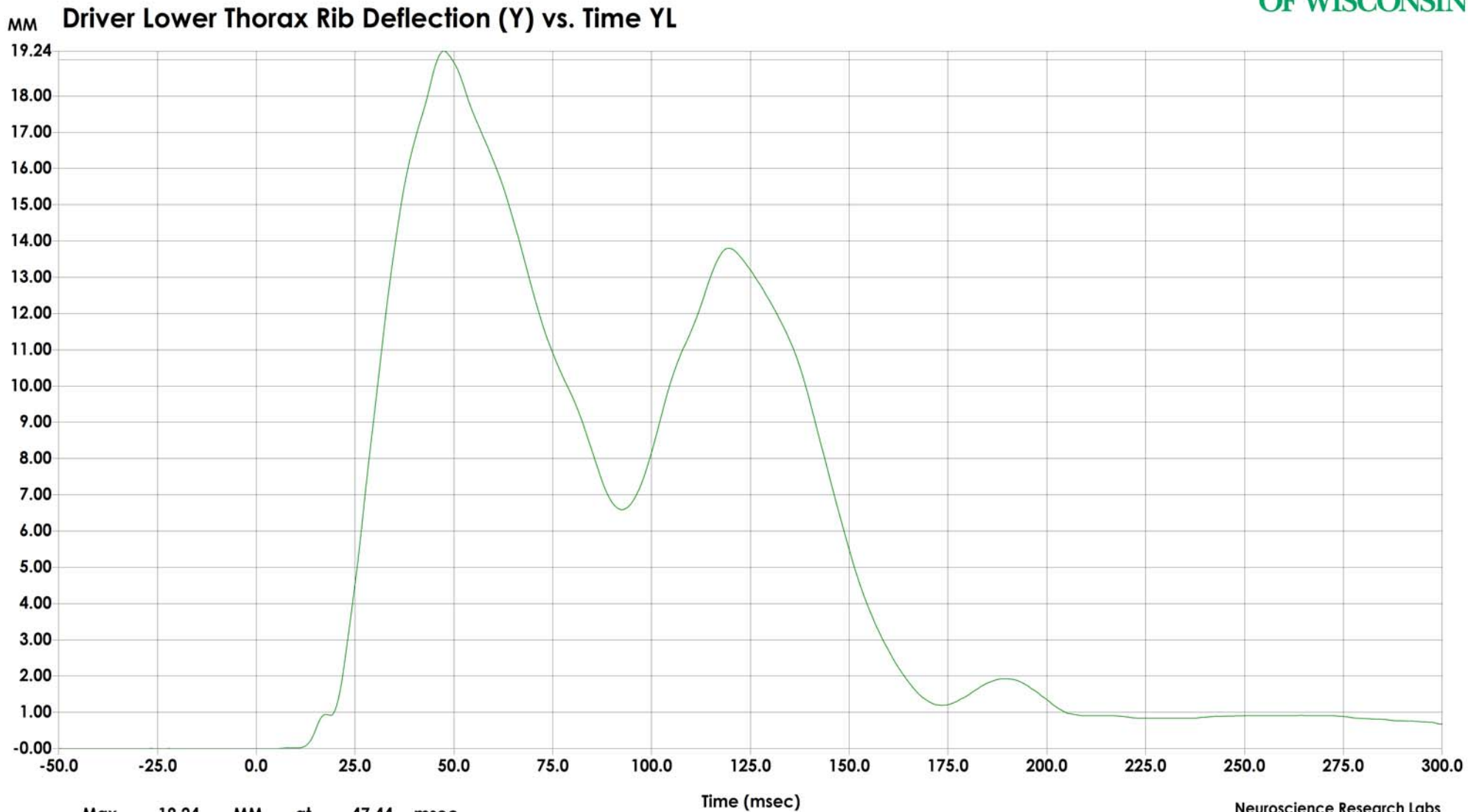


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Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4376
Pretrigger Points 626

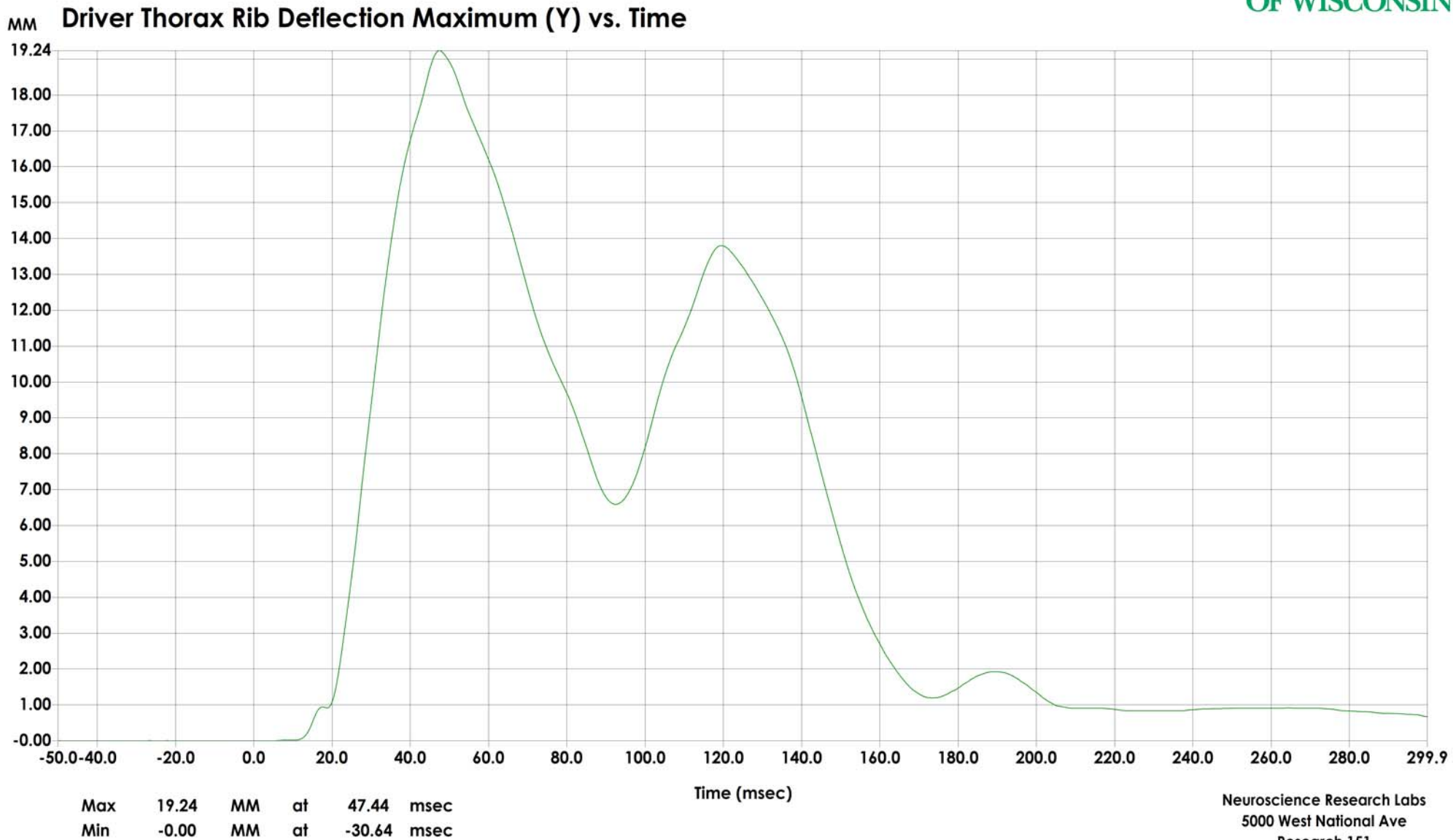
Sensor Location RBLL
Sensor Info Denton
Serial Number 191



Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location RBLL
Sensor Info Denton
Serial Number 191



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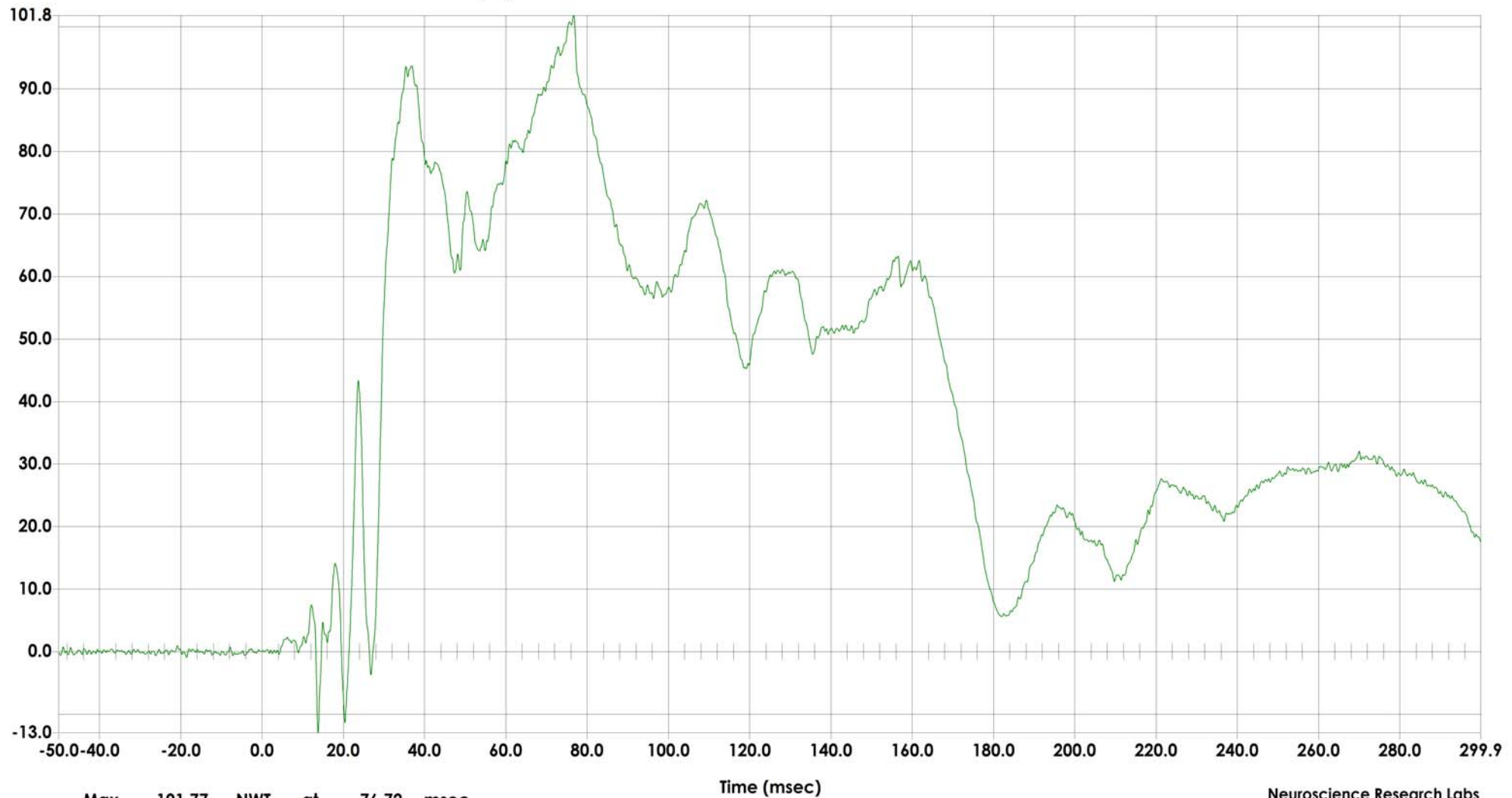
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location ESAF
Sensor Info Denton 2631
Serial Number 2631_1502



NWT Driver Abdomen Forward Force (Y) vs. Time



Max 101.77 NWT at 76.72 msec
Min -12.99 NWT at 13.84 msec

MC 5308 Plot 010

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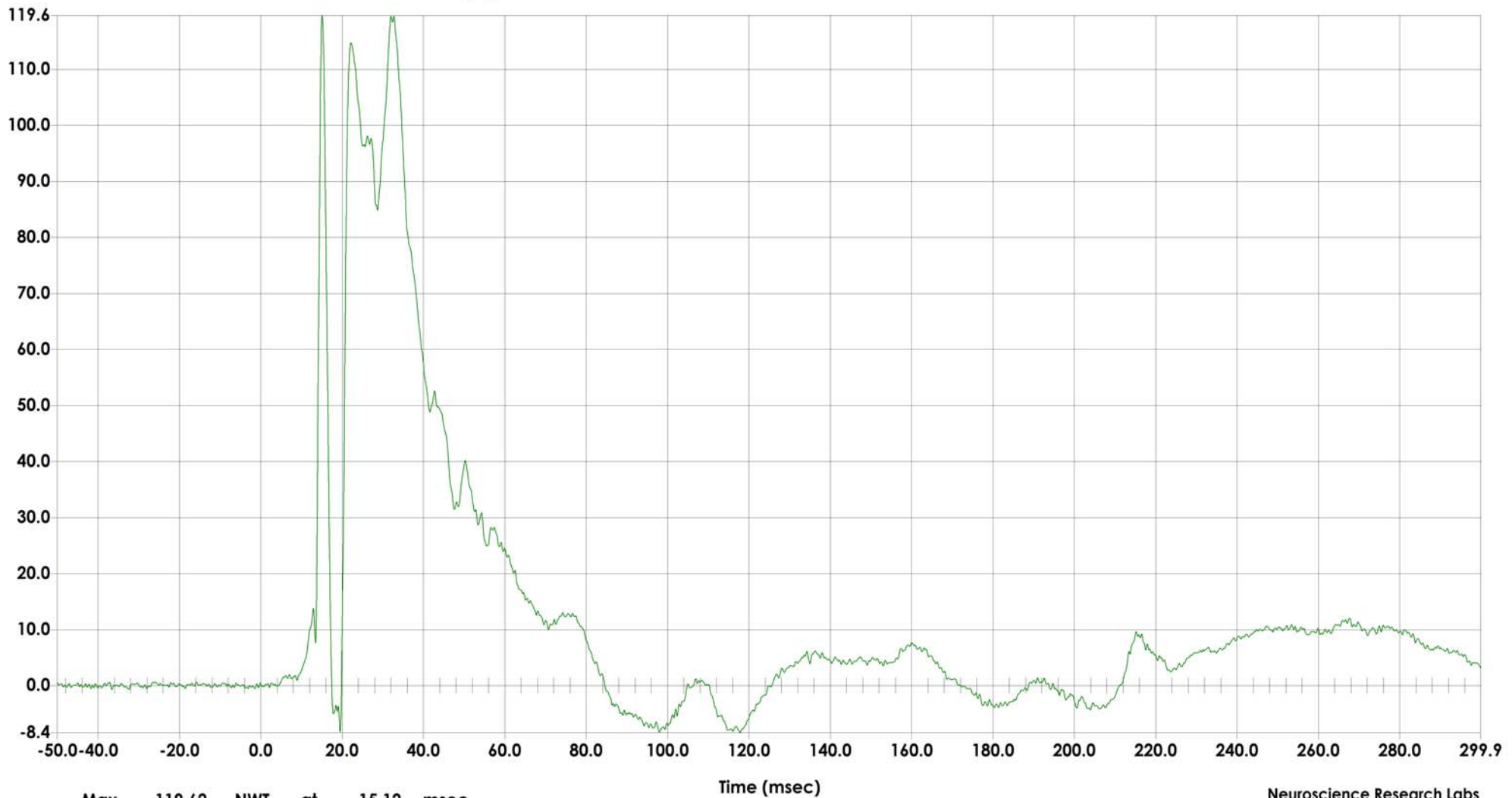
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location ESAM
Sensor Info Denton 2631
Serial Number 2631_1511



NWT Driver Abdomen Middle Force (Y) vs. Time



Max 119.62 NWT at 15.12 msec
Min -8.42 NWT at 117.84 msec

MC 5308 Plot 011

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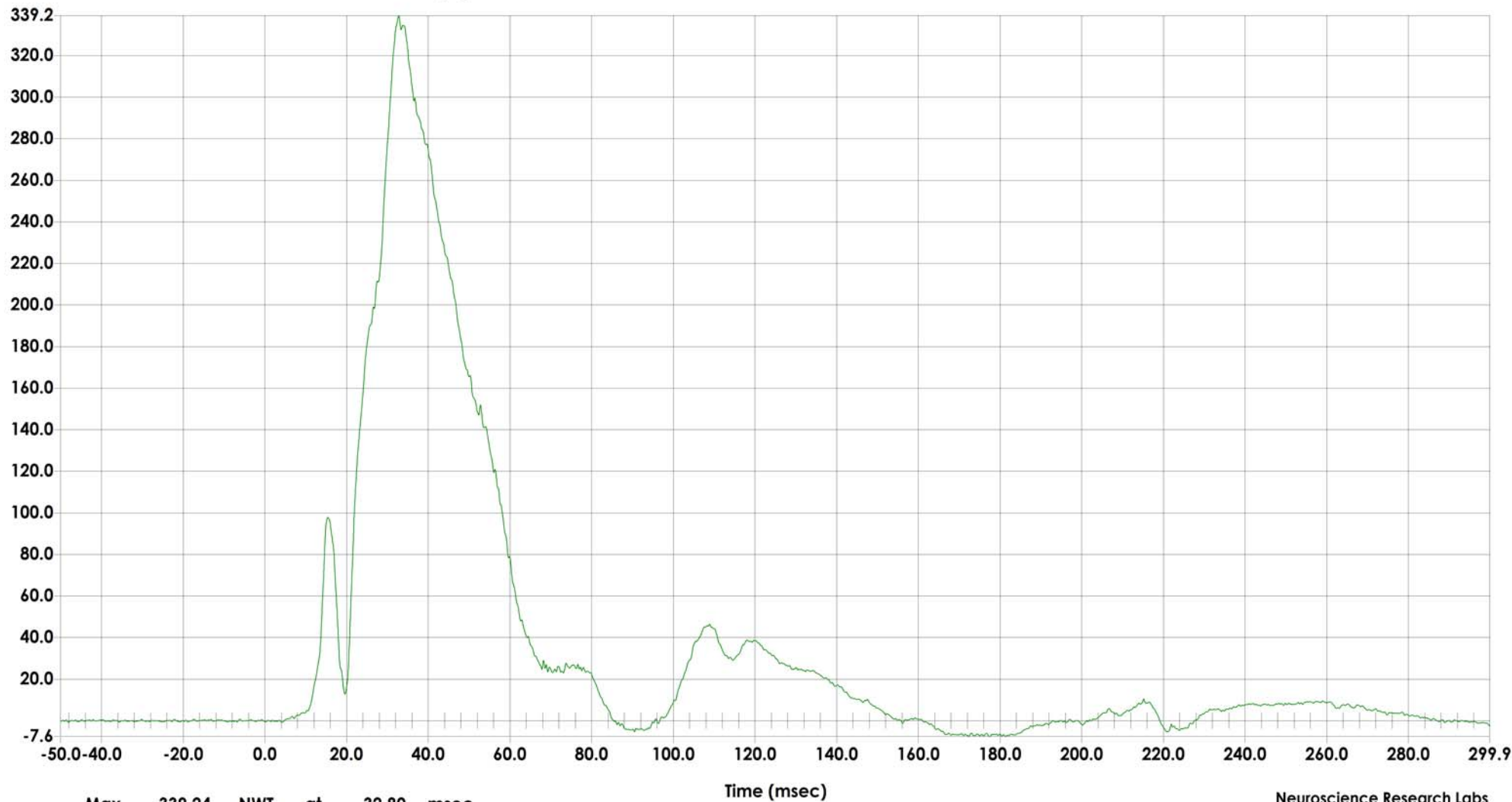
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location ESAR
Sensor Info Denton 2631
Serial Number 2631_1537



NWT Driver Abdomen Rear Force (Y) vs. Time



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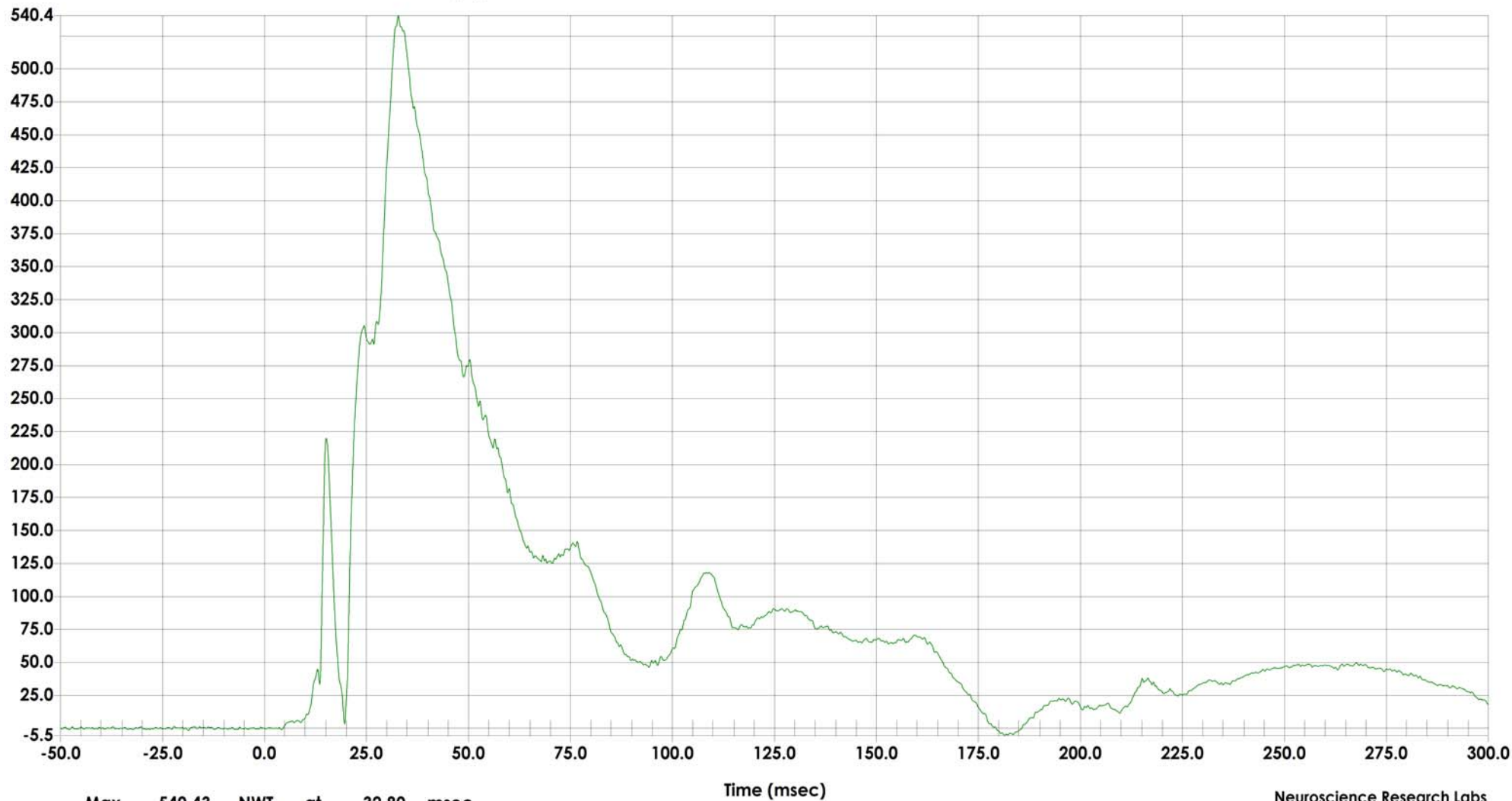
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4376
Pretrigger Points 626

Sensor Location
Sensor Info MCW Multiviewer
Serial Number 3.5.2j



NWT Driver Total Abdominal Force (Y) vs. Time



Max 540.43 NWT at 32.80 msec
Min -5.50 NWT at 181.44 msec

MC 5308 Plot 064

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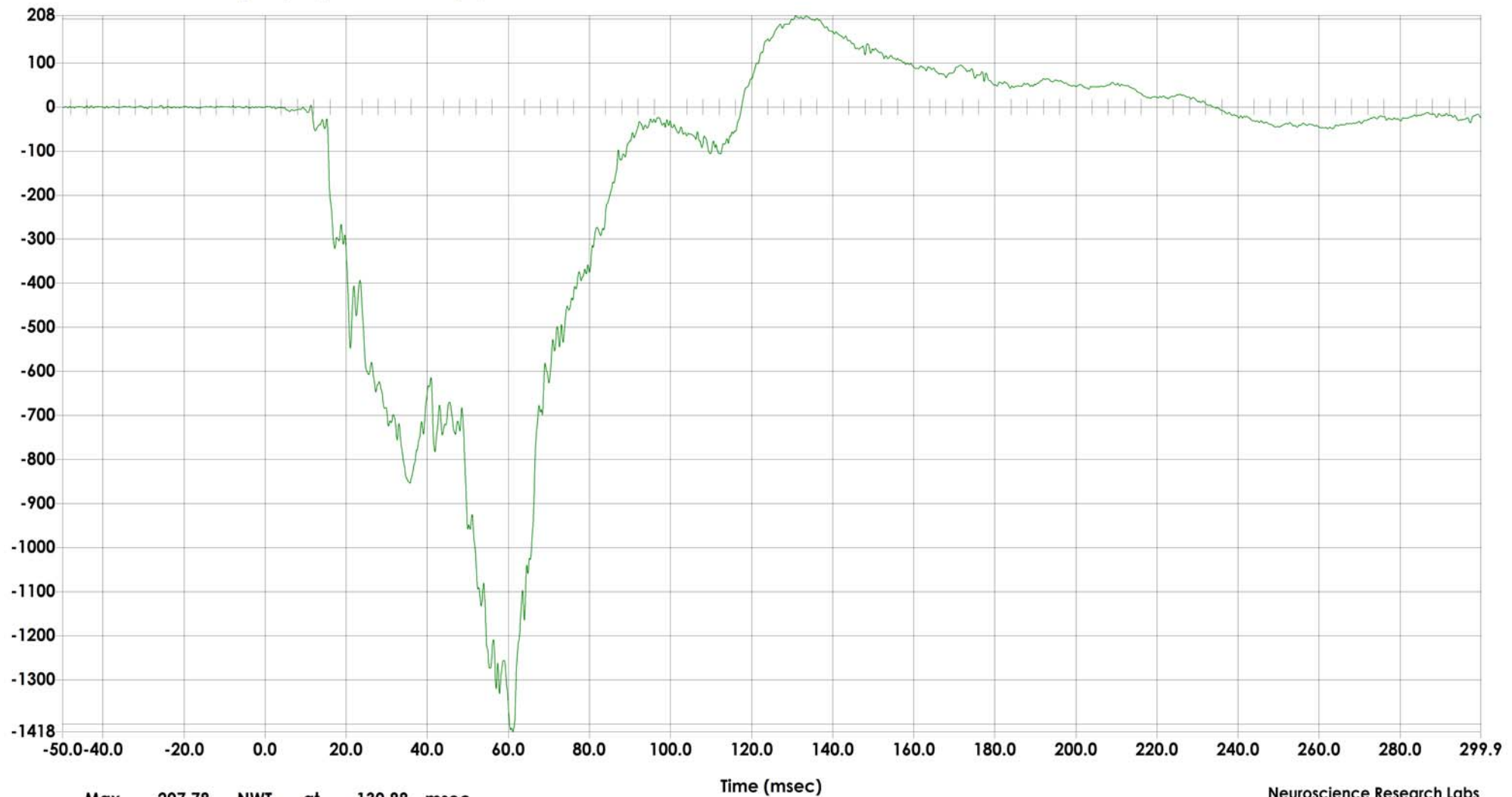
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location PVPS
Sensor Info Denton 3096JFL
Serial Number 3096_460



NWT Driver Pubic Symphysis Force (Y) vs. Time



Max 207.78 NWT at 130.88 msec
Min -1418.21 NWT at 61.12 msec

MC 5308 Plot 016

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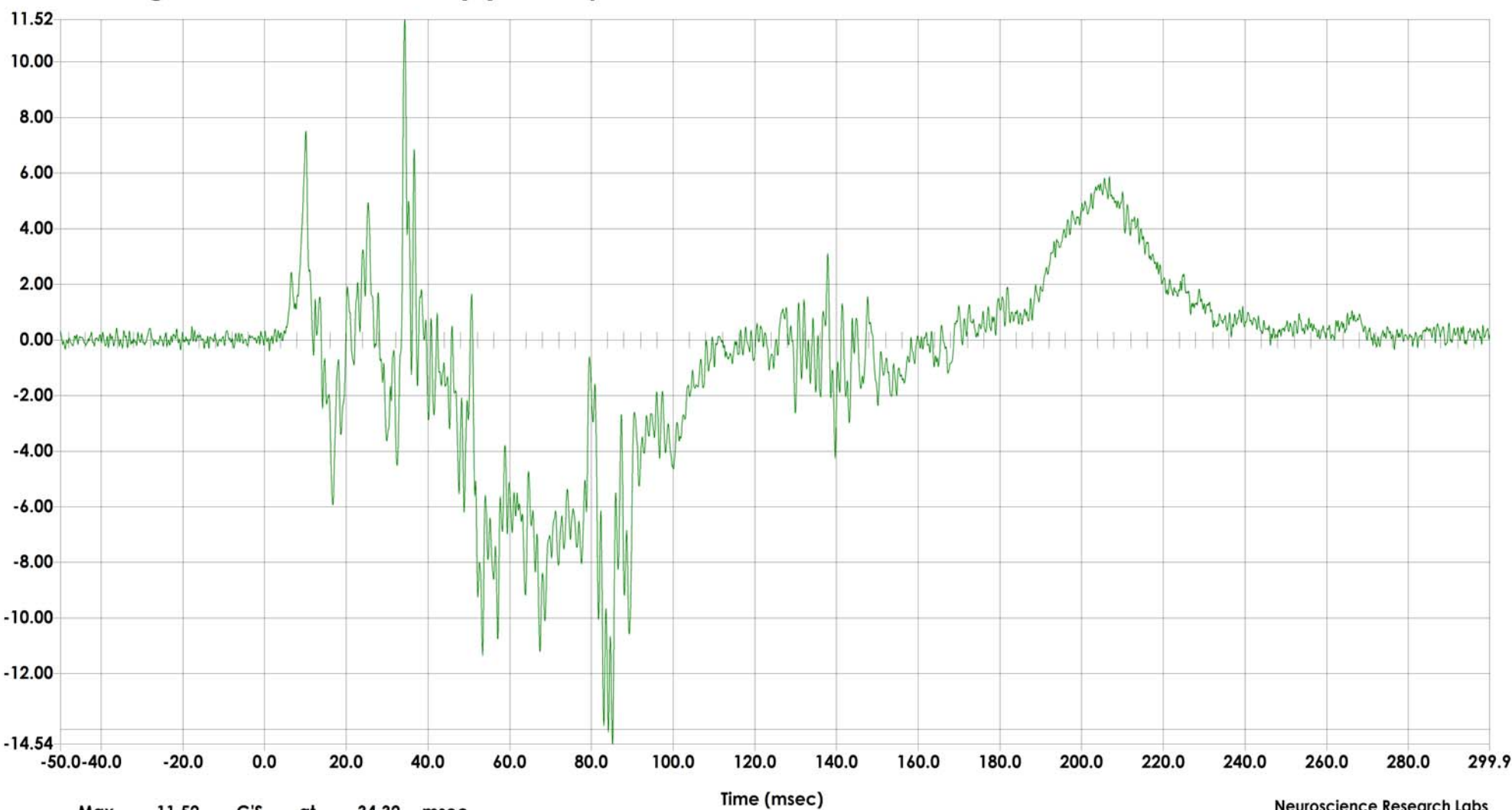
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location HDCG
Sensor Info ENDEVCO 7264C-2KTZ-2-240
Serial Number P22041



G'S Passenger Head Acceleration (X) Primary vs. Time



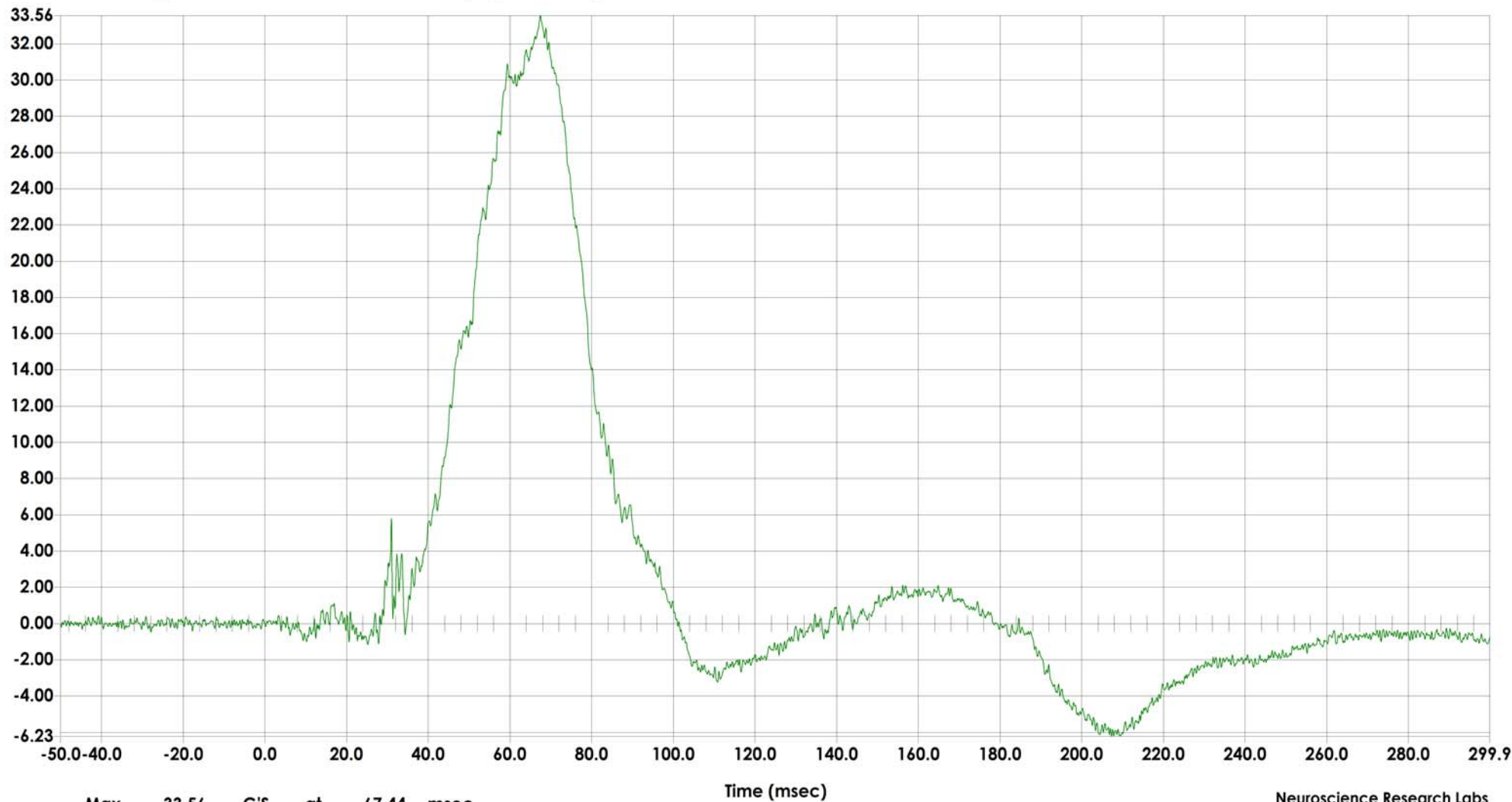
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location HDCG
Sensor Info ENDEVCO 7264C-2KTZ-2-240
Serial Number P24562



G'S Passenger Head Acceleration (Y) Primary vs. Time



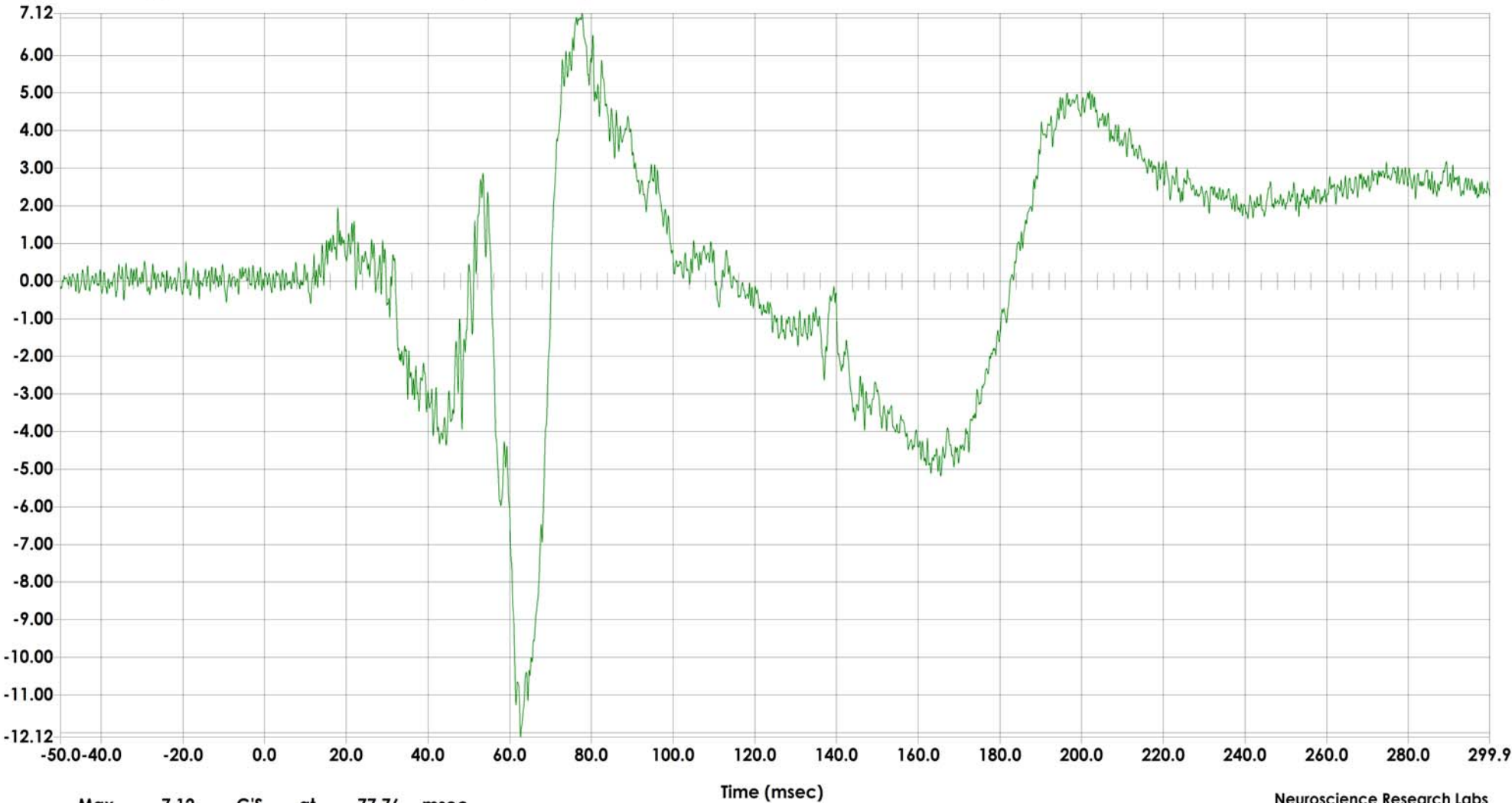
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location HDCG
Sensor Info ENDEVCO 7264C-2KTZ-2-300
Serial Number P22322



G'S Passenger Head Acceleration (Z) Primary vs. Time



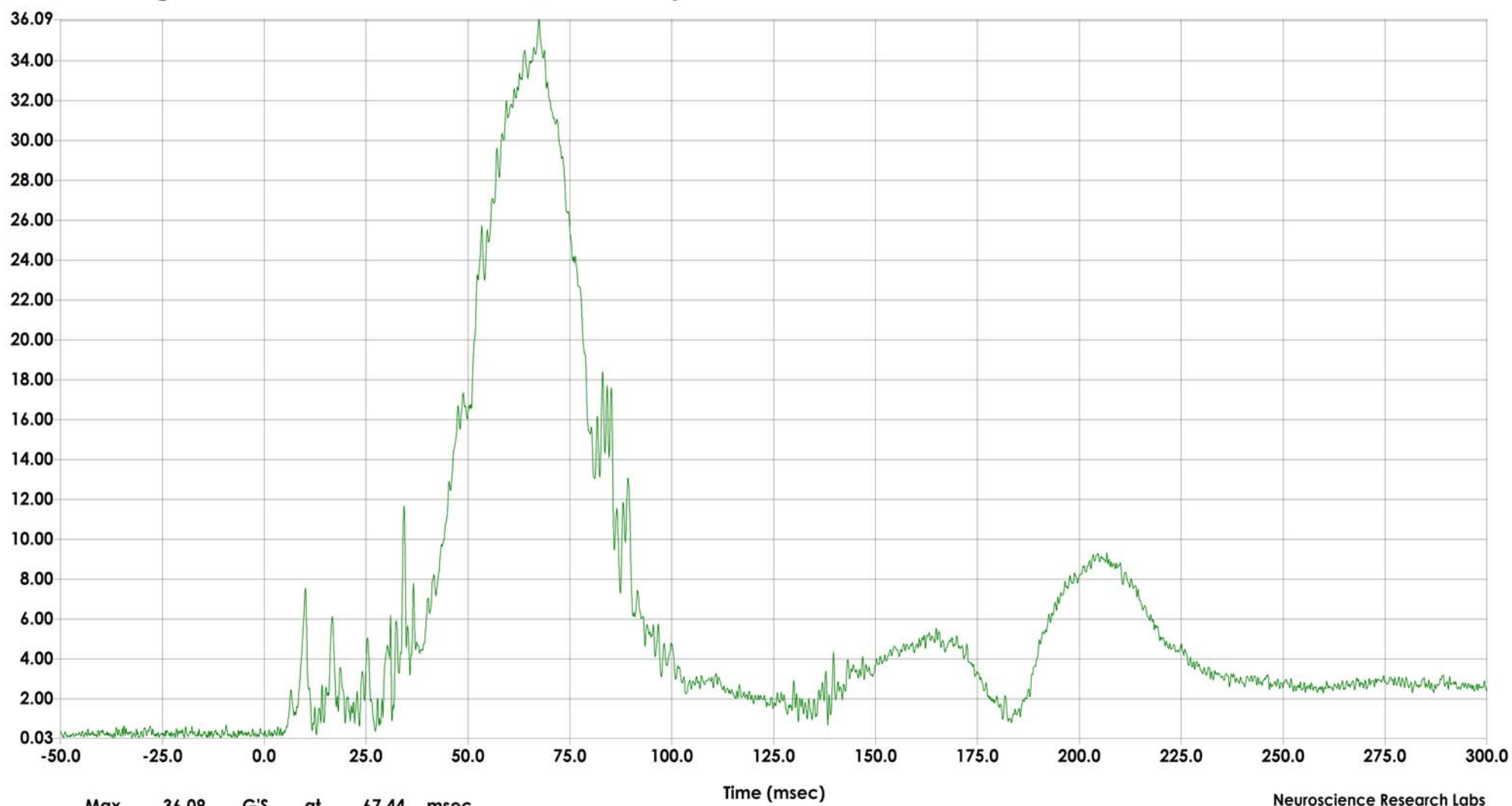
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC1000
Sampling Rate (Hz) 12500
Number of Points 4376
Pretrigger Points 626

Sensor Location
Sensor Info MCW Multiviewer
Serial Number 3.5.2j



G'S Passenger Head Resultant Acceleration Primary vs. Time



Max 36.09 G'S at 67.44 msec
Min 0.03 G'S at -19.60 msec

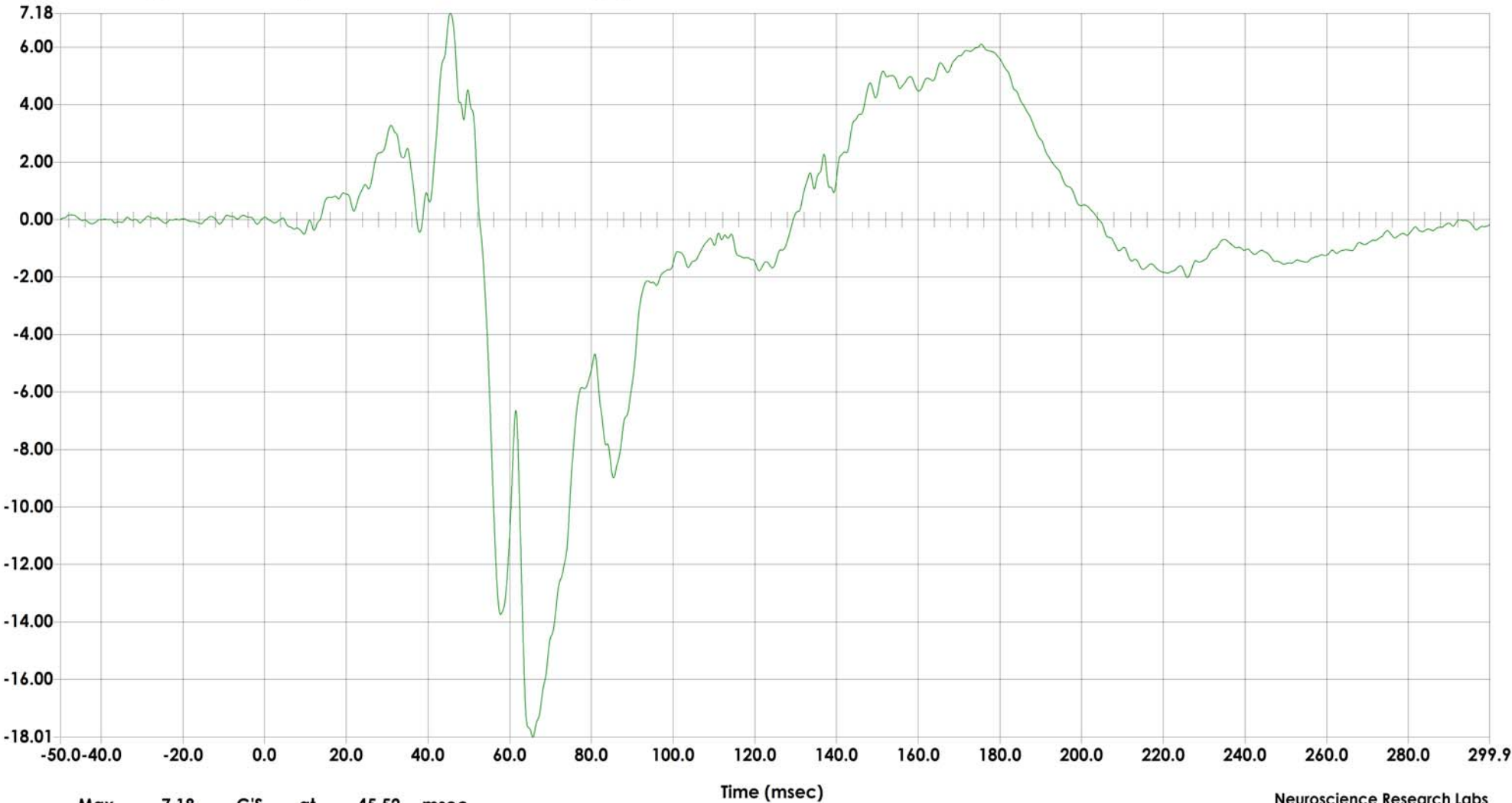
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location SPNL
Sensor Info ENDEVCO 7264C-2KTZ-2-240
Serial Number P21661



G'S Passenger Lower Spine T12 Acceleration (X) vs. Time



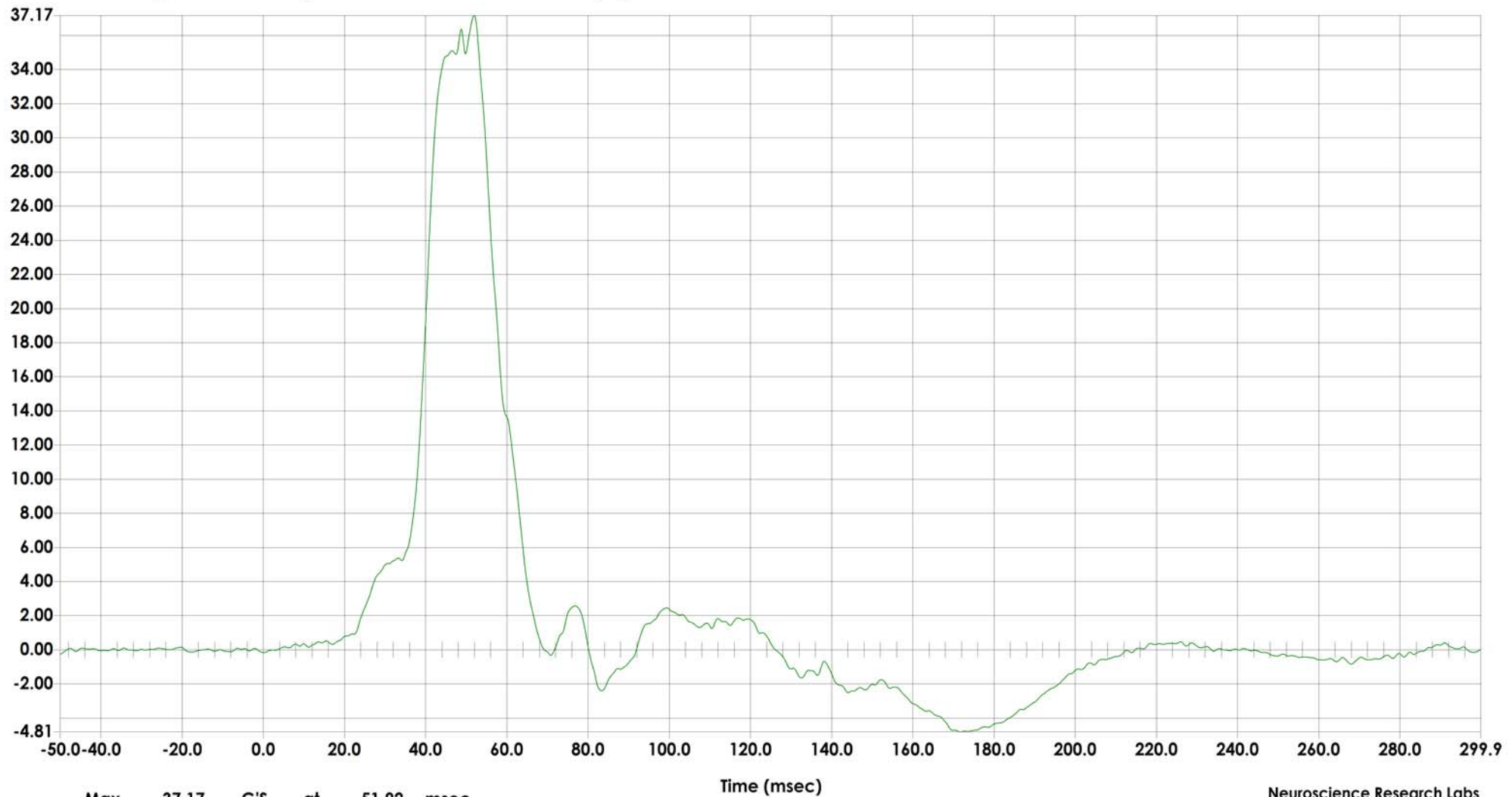
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location SPNL
Sensor Info ENDEVCO 7264C-2KTZ-2-240
Serial Number P24682



G'S Passenger Lower Spine T12 Acceleration (Y) vs. Time



Max 37.17 G'S at 51.92 msec
Min -4.81 G'S at 171.68 msec

MC 5308 Plot 029

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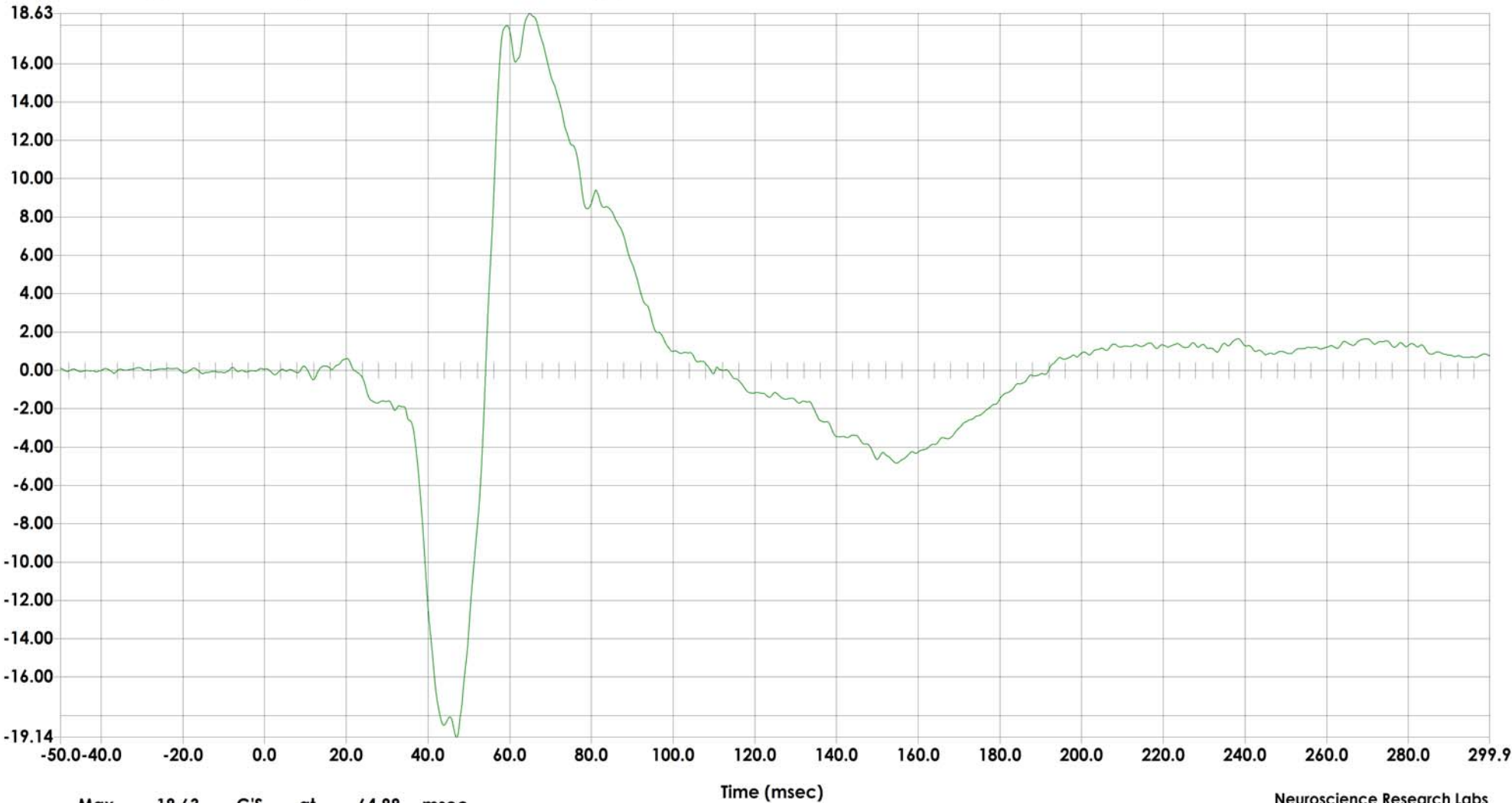
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location SPNL
Sensor Info ENDEVCO 7264C-2KTZ-2-240
Serial Number P21788



G'S Passenger Lower Spine T12 Acceleration (Z) vs. Time



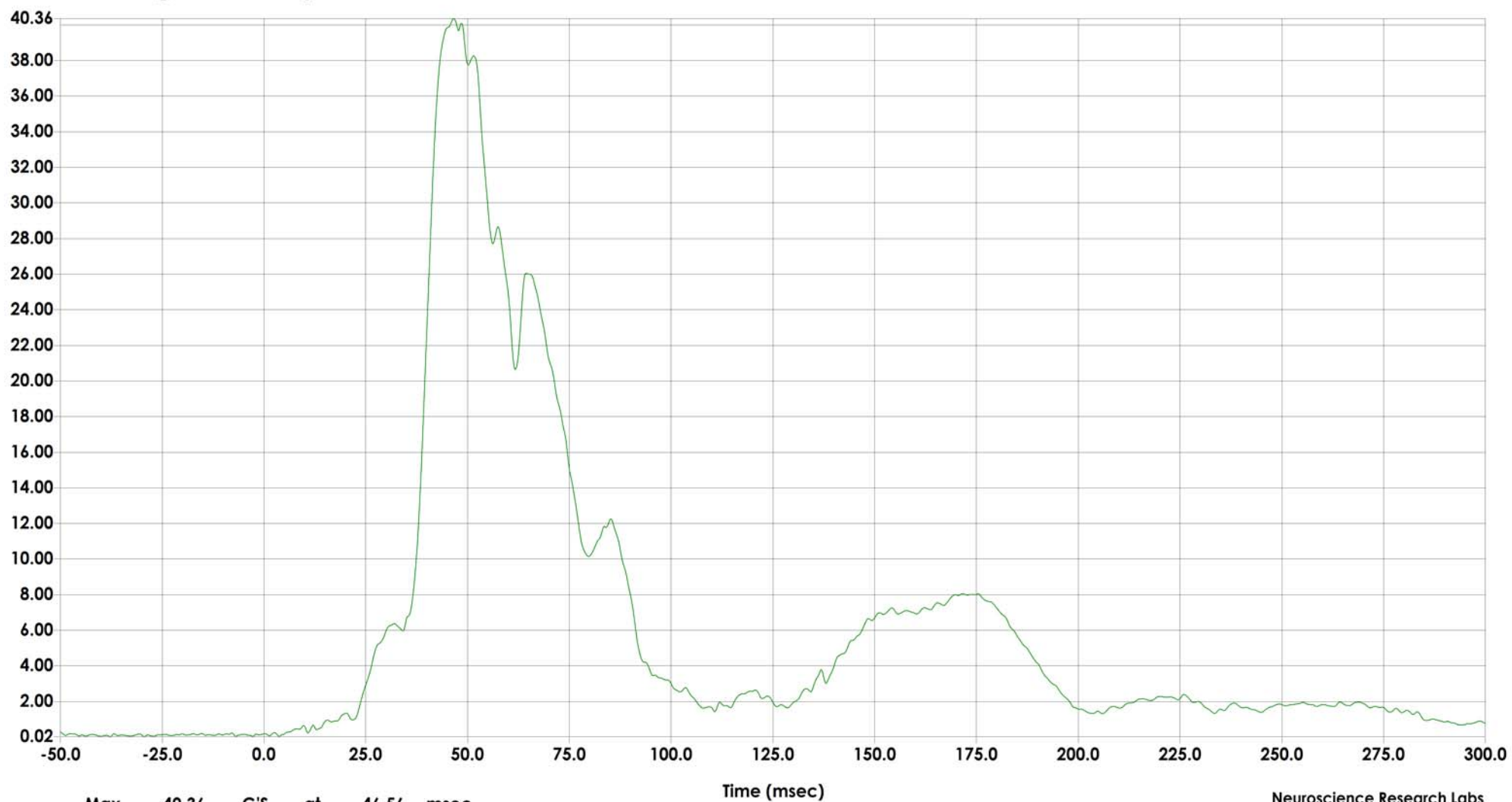
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC180
Sampling Rate (Hz) 12500
Number of Points 4376
Pretrigger Points 626

Sensor Location
Sensor Info MCW Multiviewer
Serial Number 3.5.2j



G'S Passenger Lower Spine T12 Resultant Acceleration vs. Time



Max 40.36 G'S at 46.56 msec
Min 0.02 G'S at -29.44 msec

MC 5308 Plot 065

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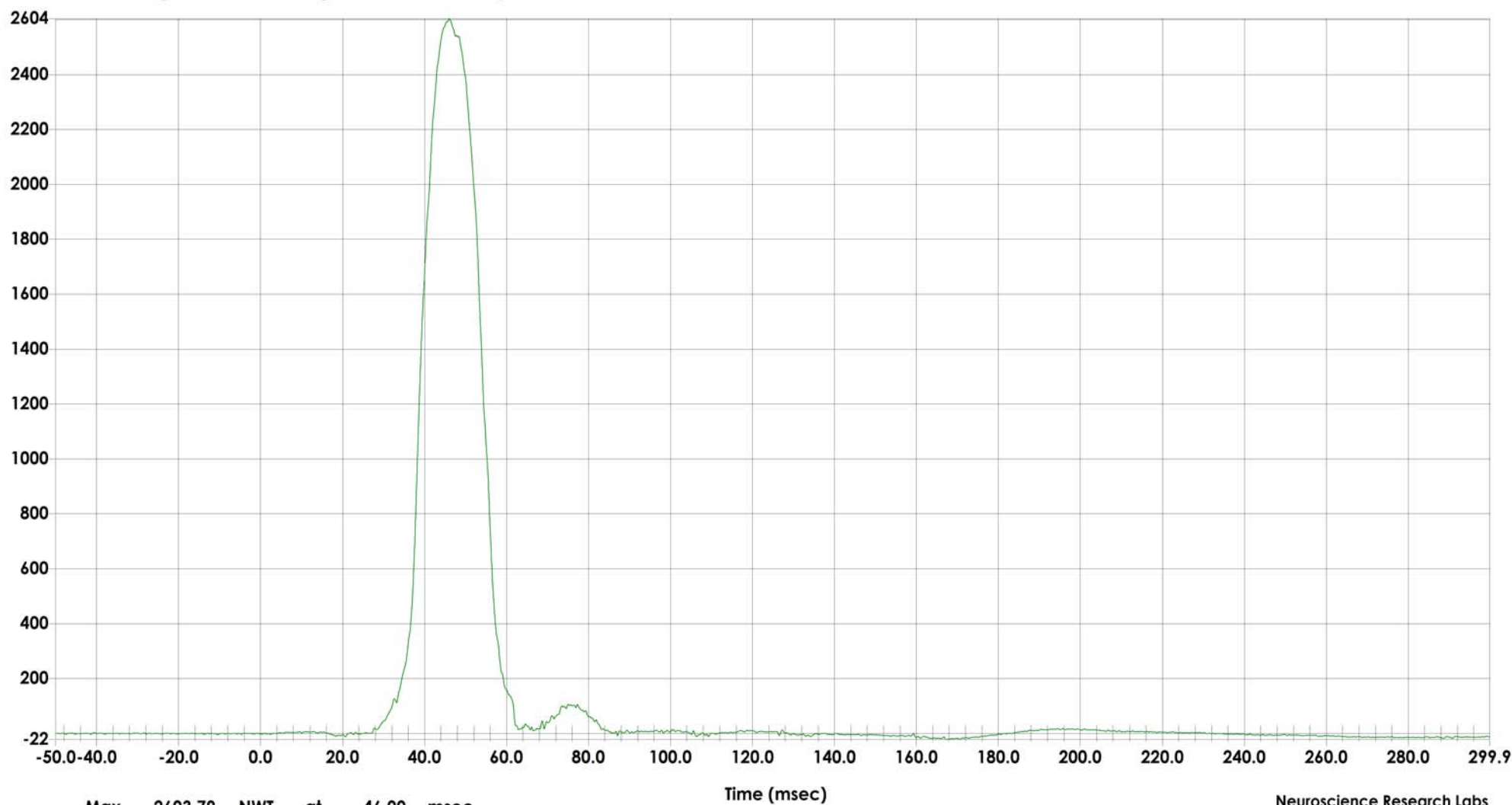
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location PVIL
Sensor Info Denton 3228J
Serial Number 3228J_283



NWT Passenger Iliac Wing Force on Impact Side vs. Time



Max 2603.79 NWT at 46.00 msec
Min -21.87 NWT at 167.36 msec

MC 5308 Plot 031

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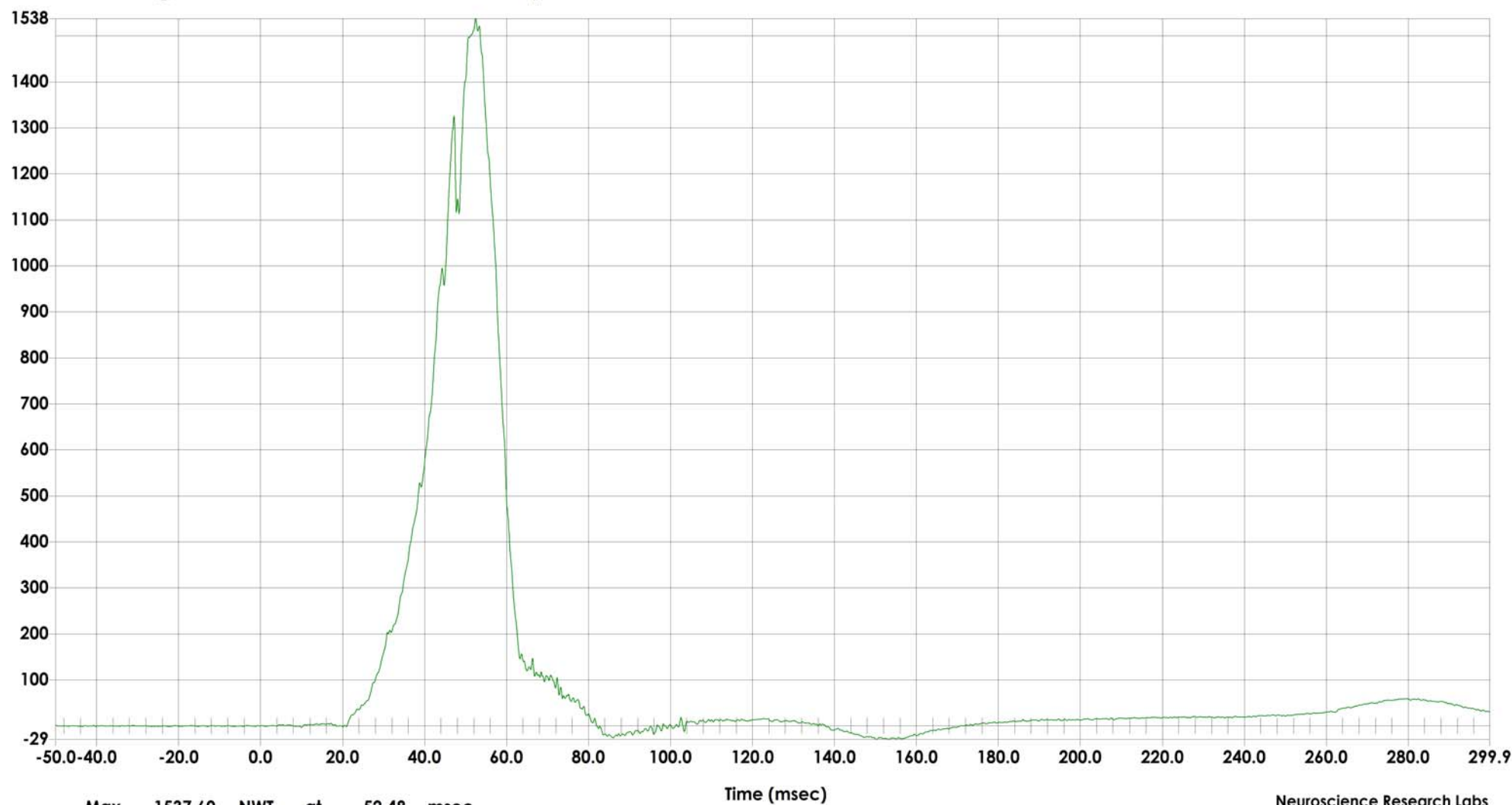
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4375
Pretrigger Points 625

Sensor Location PVAL
Sensor Info Denton 3249J
Serial Number 3249J_270



NWT Passenger Acetabulum Force on Impact Side vs. Time



Max 1537.60 NWT at 52.48 msec
Min -29.48 NWT at 150.24 msec

MC 5308 Plot 032

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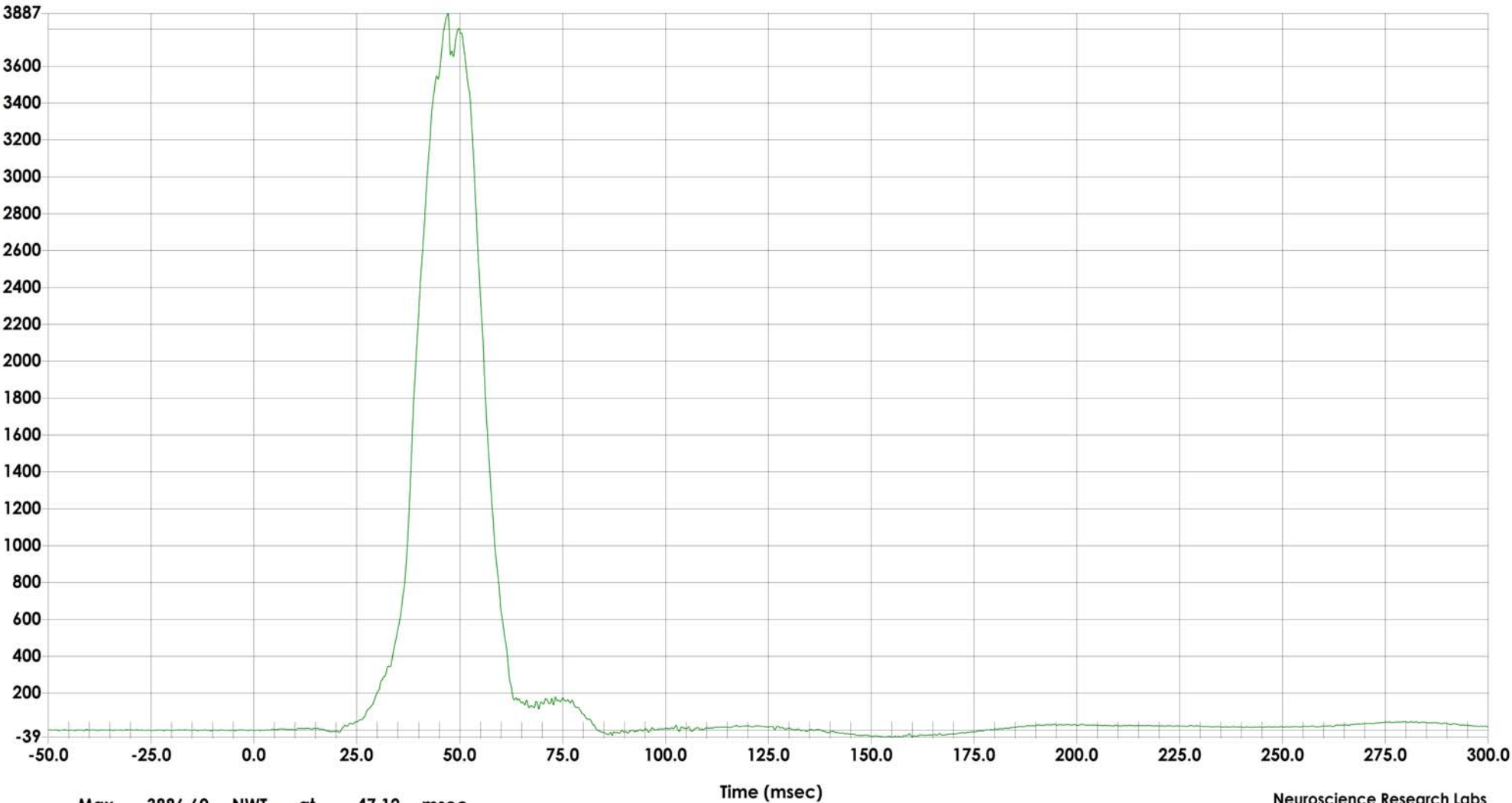
Test ID MC 5308
Date 01-10-2012
Description 2012 Acura MDX 5-Door SINCAP

Filter CFC600
Sampling Rate (Hz) 12500
Number of Points 4376
Pretrigger Points 626

Sensor Location
Sensor Info MCW Multiviewer
Serial Number 3.5.2j



NWT Passenger Total Pelvic Force on Impact Side (Y) vs. Time



Max 3886.60 NWT at 47.12 msec
Min -38.58 NWT at 155.20 msec

MC 5308 Plot 066

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Milwaukee, WI 53295

Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2012

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE DATA

TABLE 1
EXTERNAL MEASUREMENTS (ES-IIre)

ES-IIre Serial Number F038 Test Sequences 4 & 5

TEST PARAMETER	SPEC.	PRE		POST	
Date	-	12/20/11		1/17/12	
Sequential Test Number	-	4		5	
		Result	Pass/Fail	Result	Pass/Fail
Temperature (°C)	20.6-22.2	20.7	Pass	20.8	Pass
Relative Humidity (%)	10-70	37.9	Pass	21.4	Pass
Sitting Height	900 - 918	912	Pass	915	Pass
Seat to Shoulder Joint	558 -572	564	Pass	563	Pass
Seat to Lower Face of Thoracic Spine Box	346 -356	355	Pass	350	Pass
Seat to Hip Joint (Center of Bolt)	97 - 103	100	Pass	98	Pass
Sole to Seat, Sitting	433 - 451	441	Pass	440	Pass
Head Width	152 -158	154	Pass	154	Pass
Shoulder/Arm Width	461 - 479	472	Pass	476	Pass
Thorax Width	322 - 332	325	Pass	325	Pass
Abdomen Width	273 - 287	281	Pass	281	Pass
Pelvis/Lap Width	359 - 373	361	Pass	362	Pass
Head Depth	196 - 206	201	Pass	201	Pass
Thorax Depth	262 - 272	270	Pass	268	Pass
Abdomen Depth	194 - 204	202	Pass	201	Pass
Pelvis Depth	235 - 245	241	Pass	239	Pass
Back of Buttocks to Hip Joint (Center of Bolt)	150 - 160	157	Pass	158	Pass
Back of Buttocks to Front Knee	597 - 615	610	Pass	605	Pass

TABLE 2
HEAD DROP TEST (ES-Ilre)

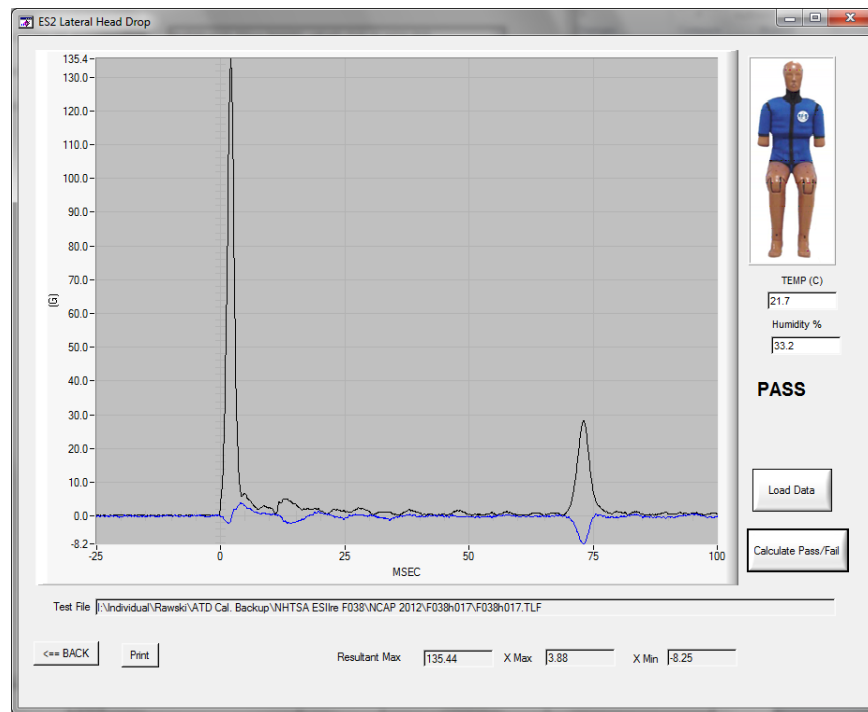
ES-Ilre Serial Number F038

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/16/11		1/12/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Head Assembly Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	21.7	Pass	21.3	Pass
	Min		20.7	Pass	20.6	Pass
Humidity (%) – During Soak	Max	10.0-70.0	41.0	Pass	33.0	Pass
	Min		33.2	Pass	24.5	Pass
Temperature – During Test (°C)		20.6-22.2	21.7	Pass	20.6	Pass
Humidity – During Test (%)		10-70	33.2	Pass	24.5	Pass
Peak Head Resultant Acceleration (G)		125-155	135.4	Pass	147.4	Pass
Peak Head X Acceleration (G)		<15	3.9	Pass	3.9	Pass
Unimodal (Oscillation) (Yes/No)		<15%	-	Yes	-	Yes

TABLE 2
HEAD DROP TEST (ES-Ilre) (CONTINUED)

PRE-TEST



POST-TEST

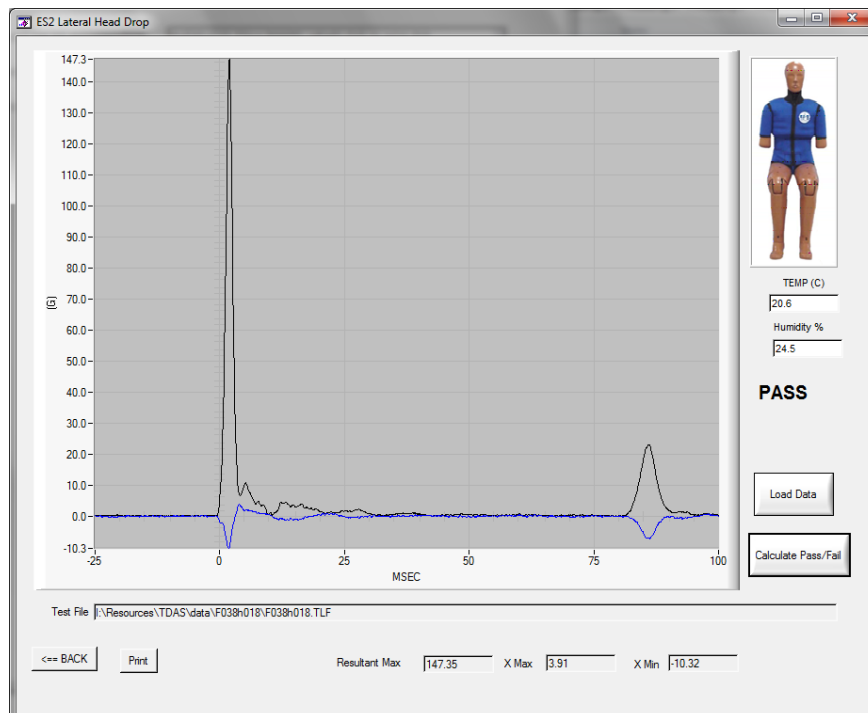


TABLE 3
NECK PENDULUM TEST (ES-IIre)

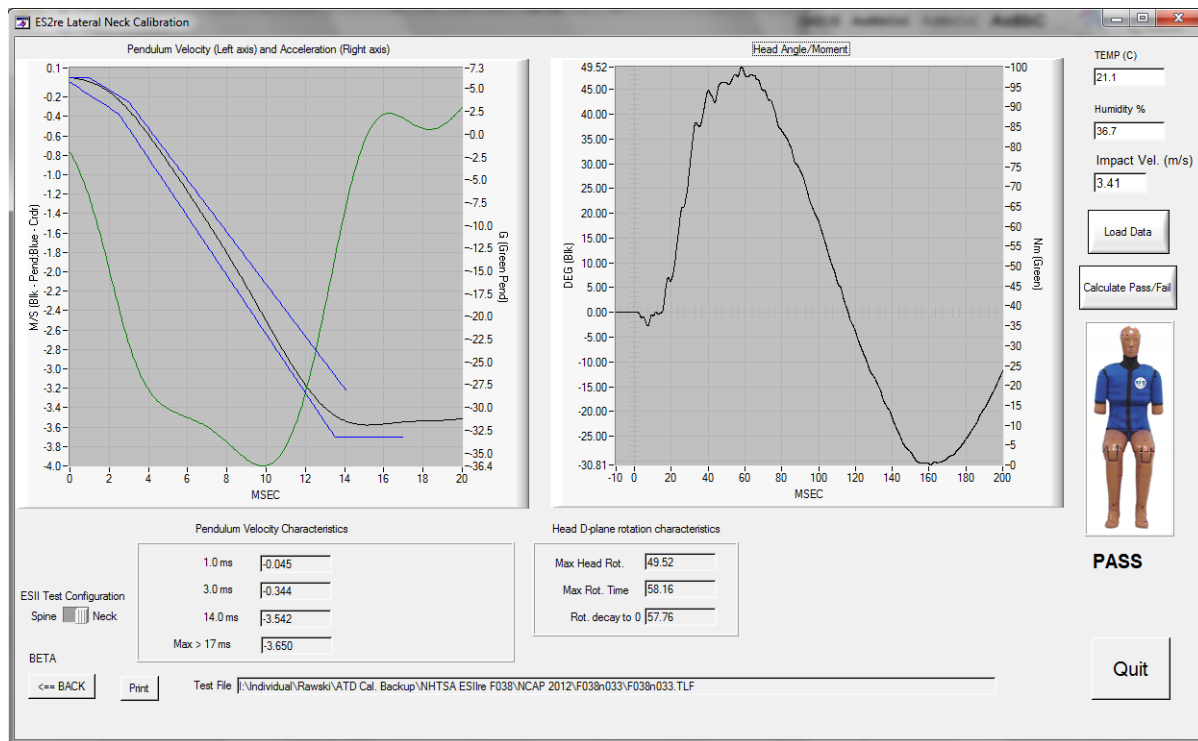
ES-IIre Serial Number F038

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/16/11		1/12/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Neck Assembly Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	21.7	Pass	20.9	Pass
	Min		20.7	Pass	20.6	Pass
Humidity (%) – During Soak	Max	10.0-70.0	41.0	Pass	30.7	Pass
	Min		33.2	Pass	25.9	Pass
Temperature – During Test (°C)		20.6-22.2	21.1	Pass	20.6	Pass
Humidity – During Test (%)		10-70	36.7	Pass	25.9	Pass
Pendulum Velocity (m/s)		3.3-3.5	3.41	Pass	3.41	Pass
Pendulum Velocity Corridors (m/s)	0-1.0 ms	(-0.05)-0.00	-0.045	Pass	-0.045	Pass
	2.5-3.0 ms	(-0.375) - (-0.25)	-0.344	Pass	-0.342	Pass
	13.5-14.0 ms	(-3.7) - (-3.20)	-3.54	Pass	-3.52	Pass
	Max > 17 ms	-3.7	-3.65	Pass	-3.60	Pass
Max D-Plane rotation (deg)		49-59	49.5	Pass	53.9	Pass
Time of Max D-Plane Rotation (ms)		54-66	58.2	Pass	58.4	Pass
Time of Moment Decay from Peak to 0 Nm (ms)		53-88	57.8	Pass	57.9	Pass

TABLE 3
NECK PENDULUM TEST (ES-IIre) (CONTINUED)

PRE-TEST



POST-TEST

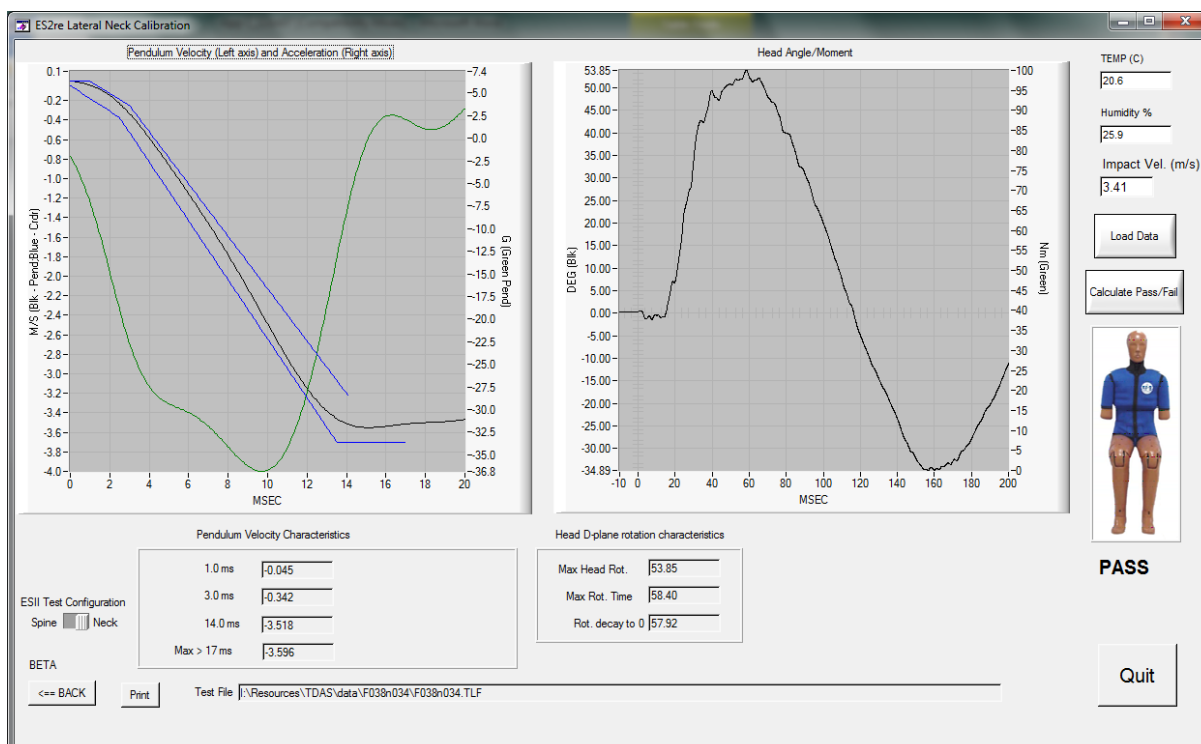


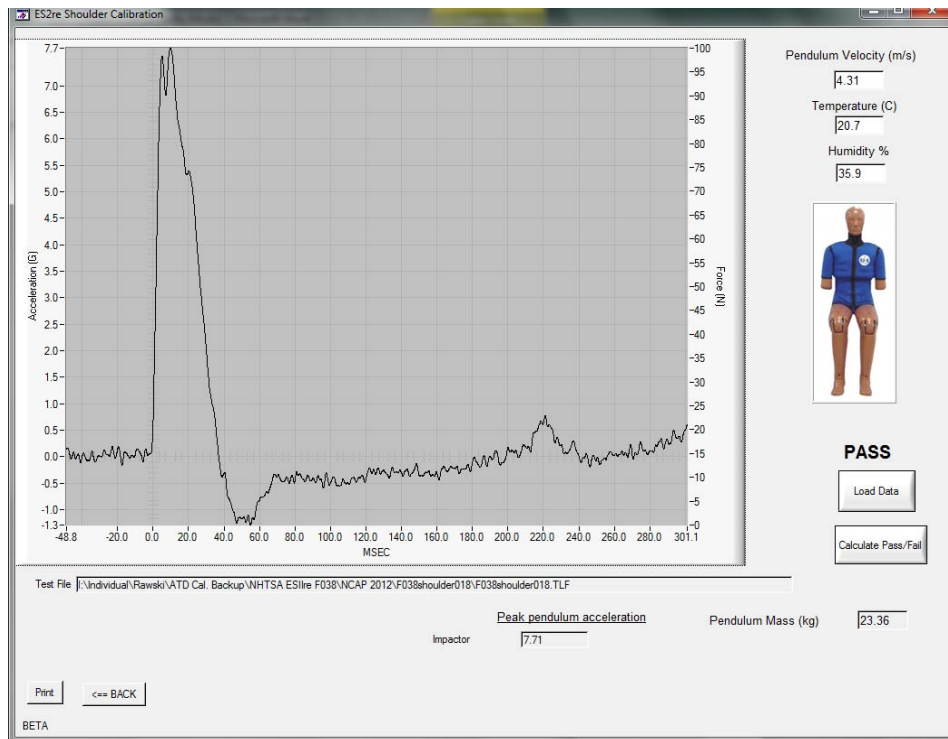
TABLE 4
SHOULDER IMPACT TEST (ES-Ilre)

ES-Ilre Serial Number F038 Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	22.2	Pass
	Min		20.7	Pass	21.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.0	Pass
Humidity – During Test (%)		10-70	35.9	Pass	19.2	Pass
Pendulum Velocity (m/s)		4.2-4.4	4.31	Pass	4.31	Pass
Peak Impactor Acceleration (G)		7.5-10.5	7.7	Pass	8.0	Pass

TABLE 4
SHOULDER IMPACT TEST (ES-IIre) (CONTINUED)

PRE-TEST



POST-TEST

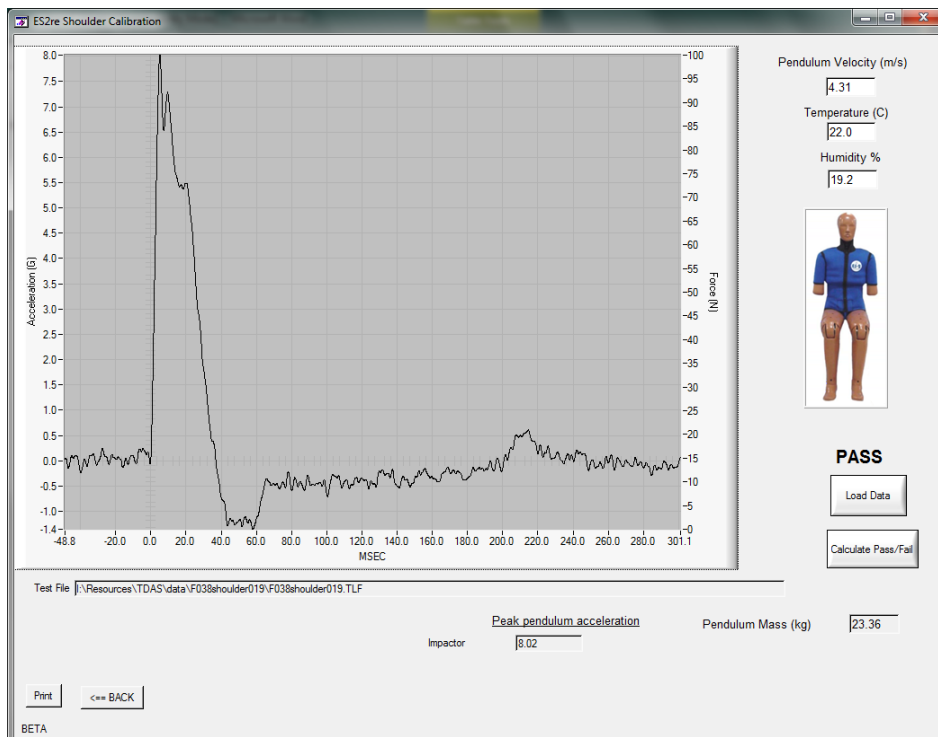


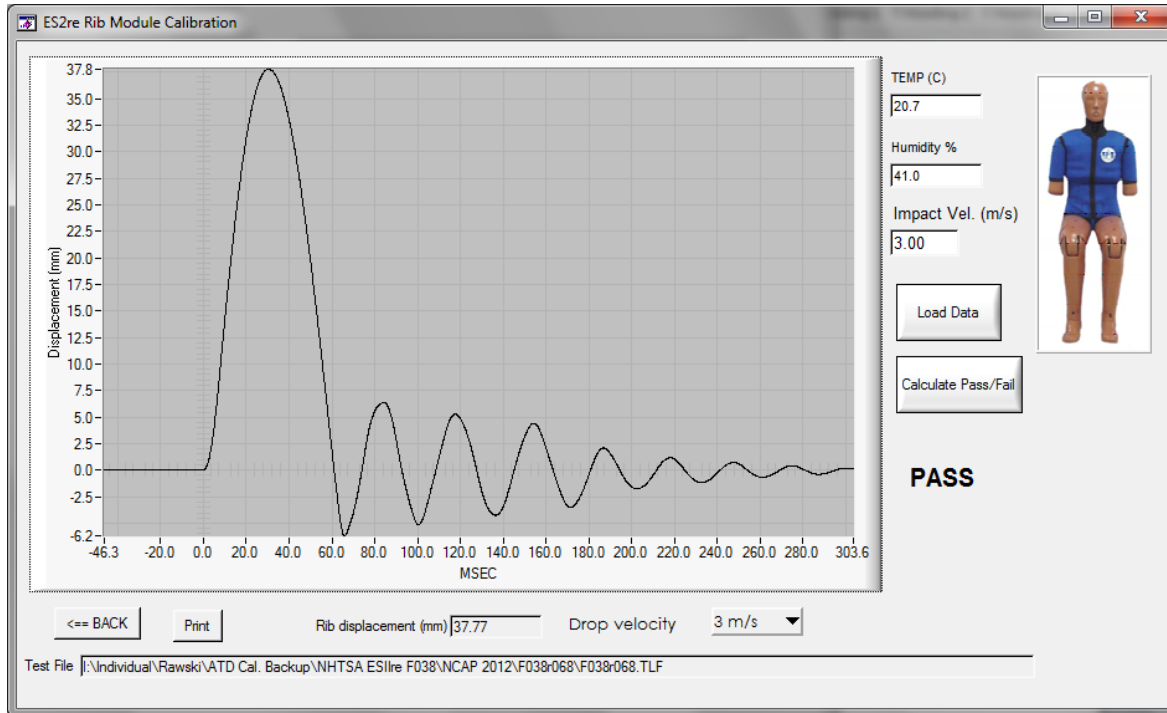
TABLE 5
THORAX – UPPER RIB DROP TEST (ES-Ilre)

ES-Ilre Serial Number F038 Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/15/11		1/11/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Upper Rib Drop Module Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	21.3	Pass
	Min		20.7	Pass	20.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	41.5	Pass	33.0	Pass
	Min		41.0	Pass	26.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	21.3	Pass
Humidity – During Test (%)		10-70	41.0	Pass	33.0	Pass
1 st Test - Drop Height 459 ± 5 mm		36-40	37.8	Pass	38.2	Pass
2 nd Test - Drop Height 815 ± 5 mm		46-51	49.1	Pass	49.3	Pass

TABLE 5
THORAX – UPPER RIB DROP TEST (ES-IIre) (CONTINUED)
3.00 m/s

PRE-TEST



POST-TEST

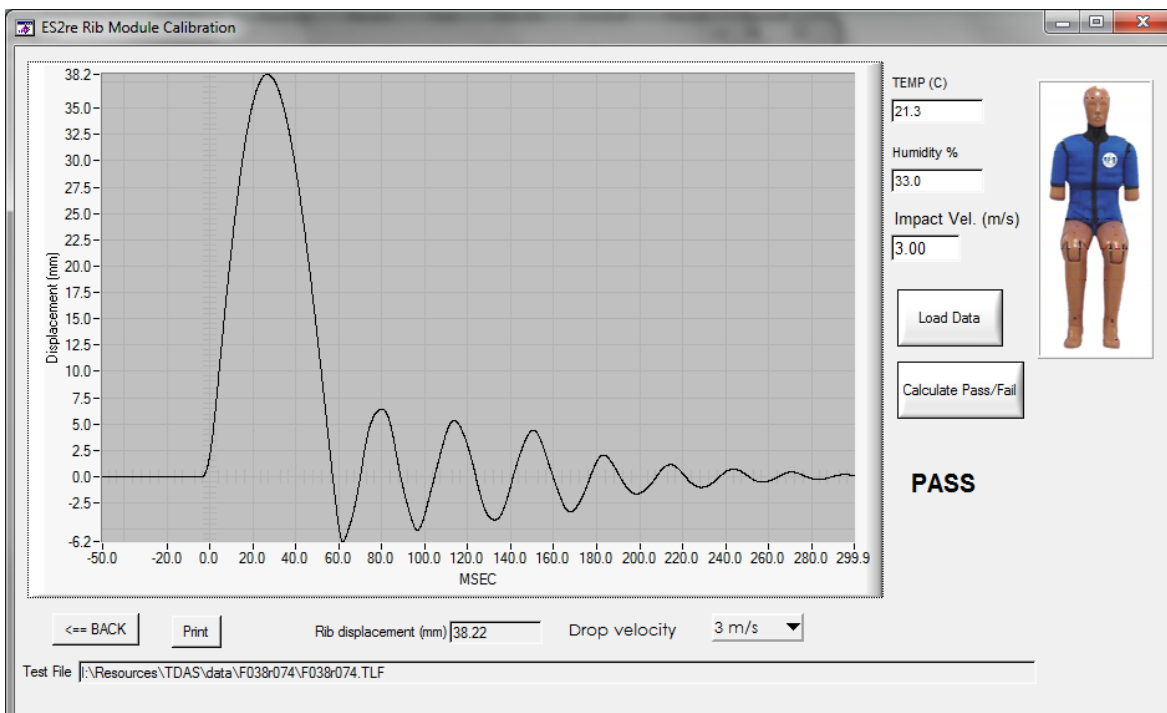
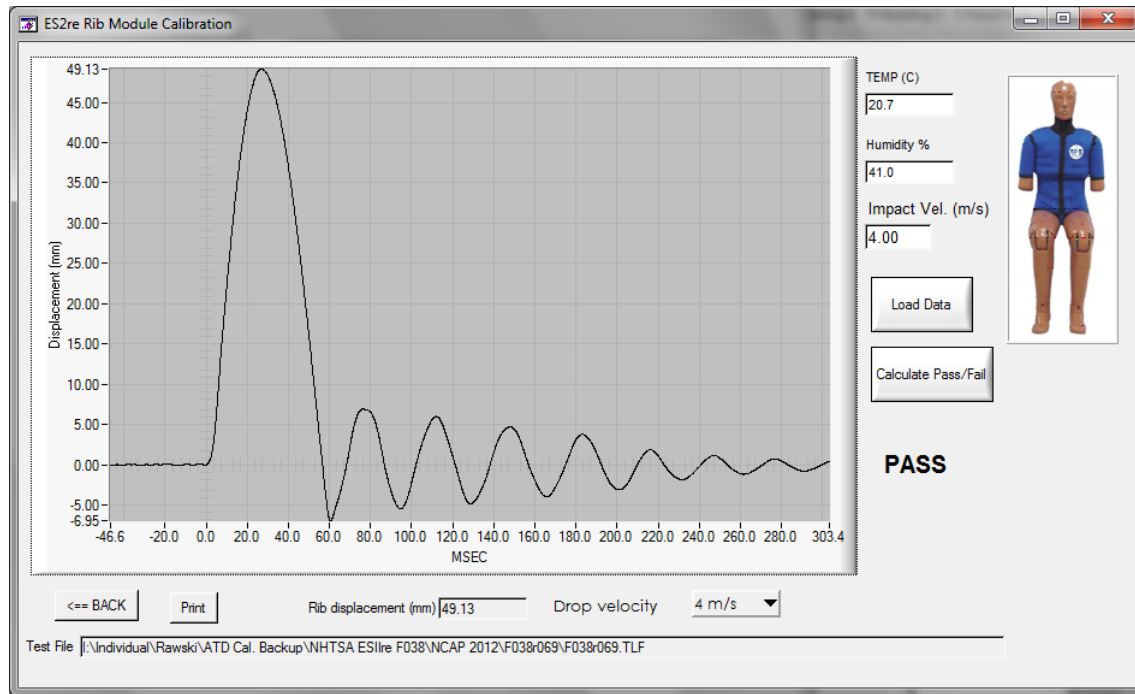


TABLE 5
THORAX – UPPER RIB DROP TEST (ES-IIre) (CONTINUED)
4.00 m/s

PRE-TEST



POST-TEST

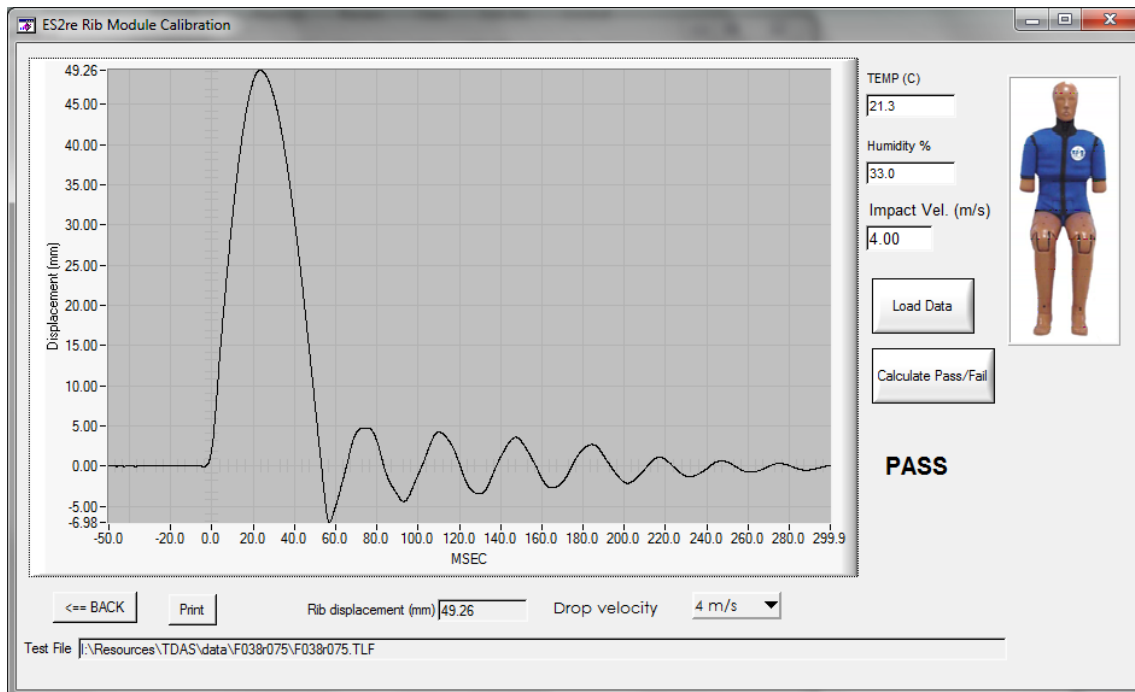


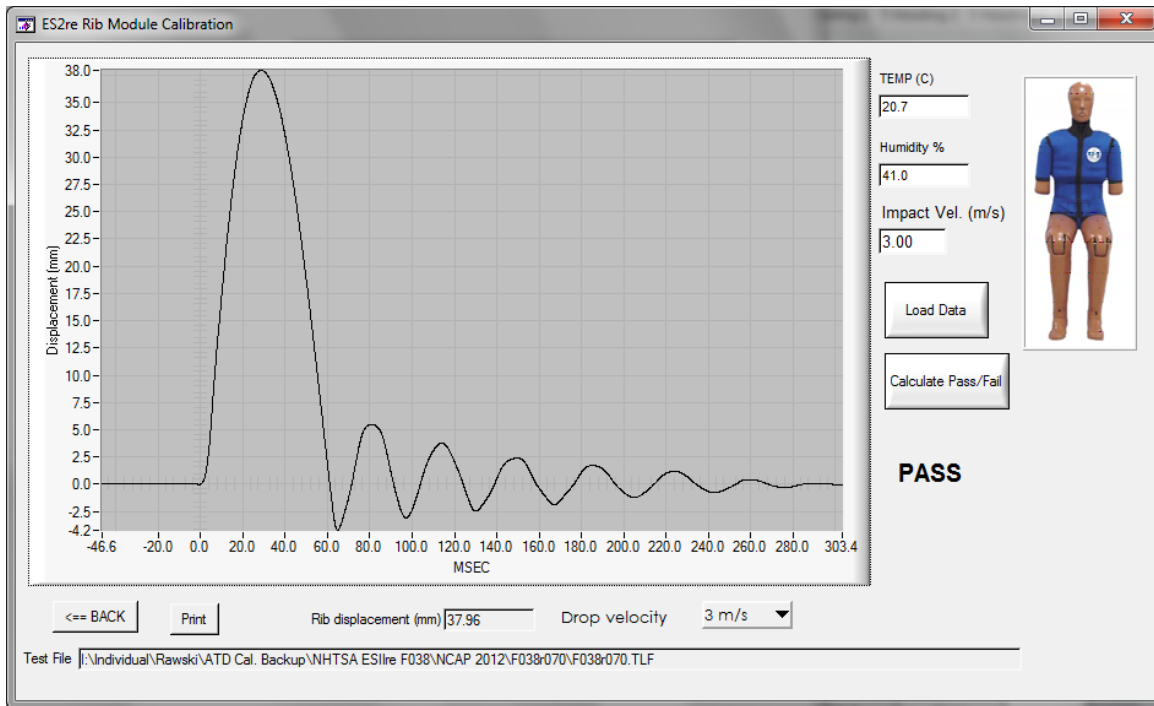
TABLE 6
THORAX – MIDDLE RIB DROP TEST (ES-Ilre)

ES-Ilre Serial Number F038 Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/15/11		1/11/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Middle Rib Drop Module Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	21.3	Pass
	Min		20.7	Pass	20.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	41.5	Pass	33.0	Pass
	Min		41.0	Pass	26.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	21.3	Pass
Humidity – During Test (%)		10-70	41.0	Pass	33.0	Pass
1 st Test - Drop Height 459 ± 5 mm		36-40	38.0	Pass	37.9	Pass
2 nd Test - Drop Height 815 ± 5 mm		46-51	49.8	Pass	49.8	Pass

TABLE 6
THORAX – MIDDLE RIB DROP TEST (ES-IIre) (CONTINUED)
3.00 m/s

PRE-TEST



POST-TEST

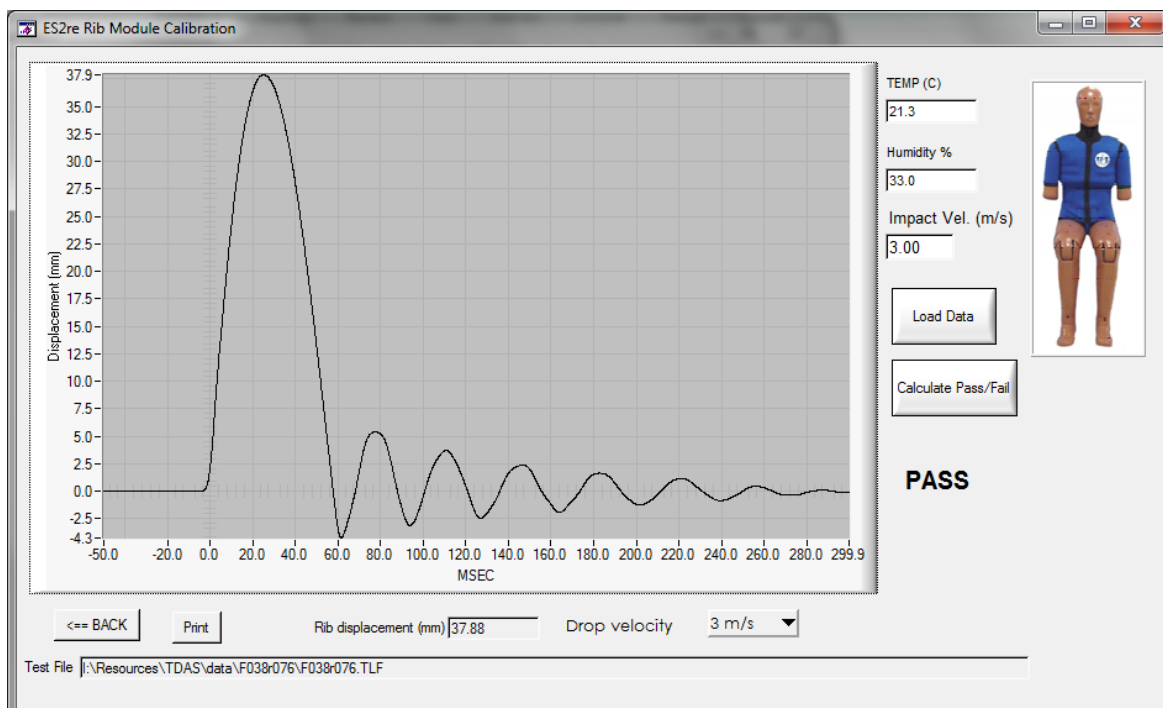
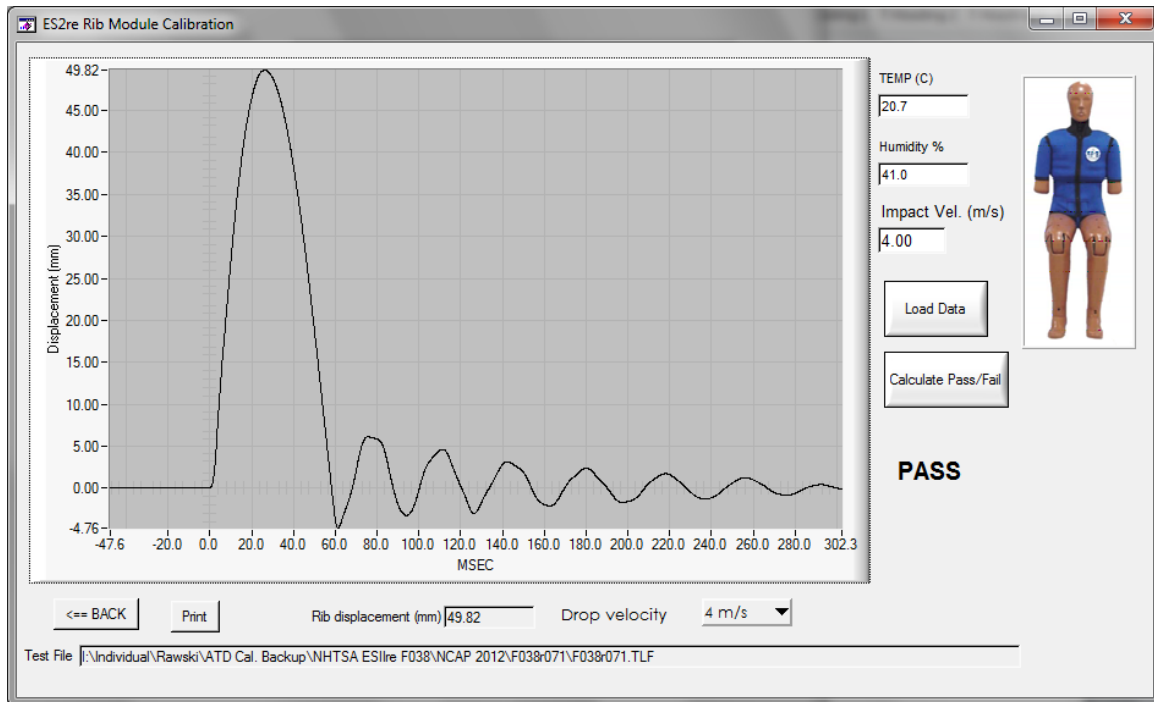


TABLE 6
THORAX – MIDDLE RIB DROP TEST (ES-IIre) (CONTINUED)
4.00 m/s

PRE-TEST



POST-TEST

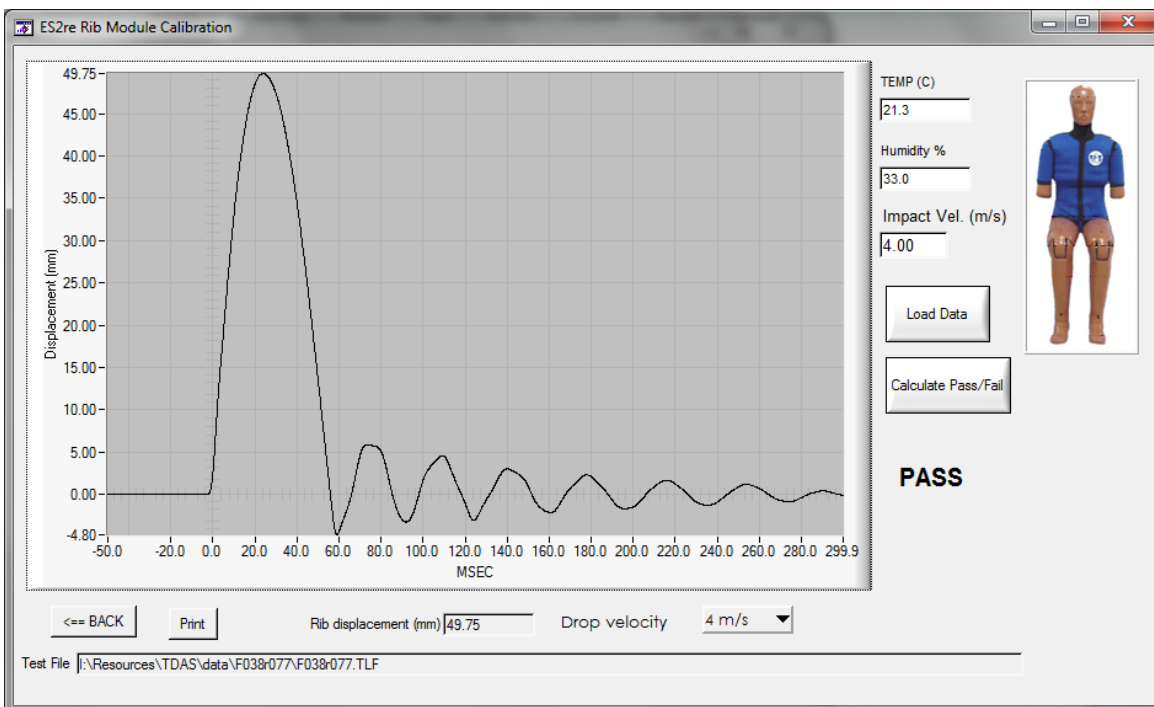


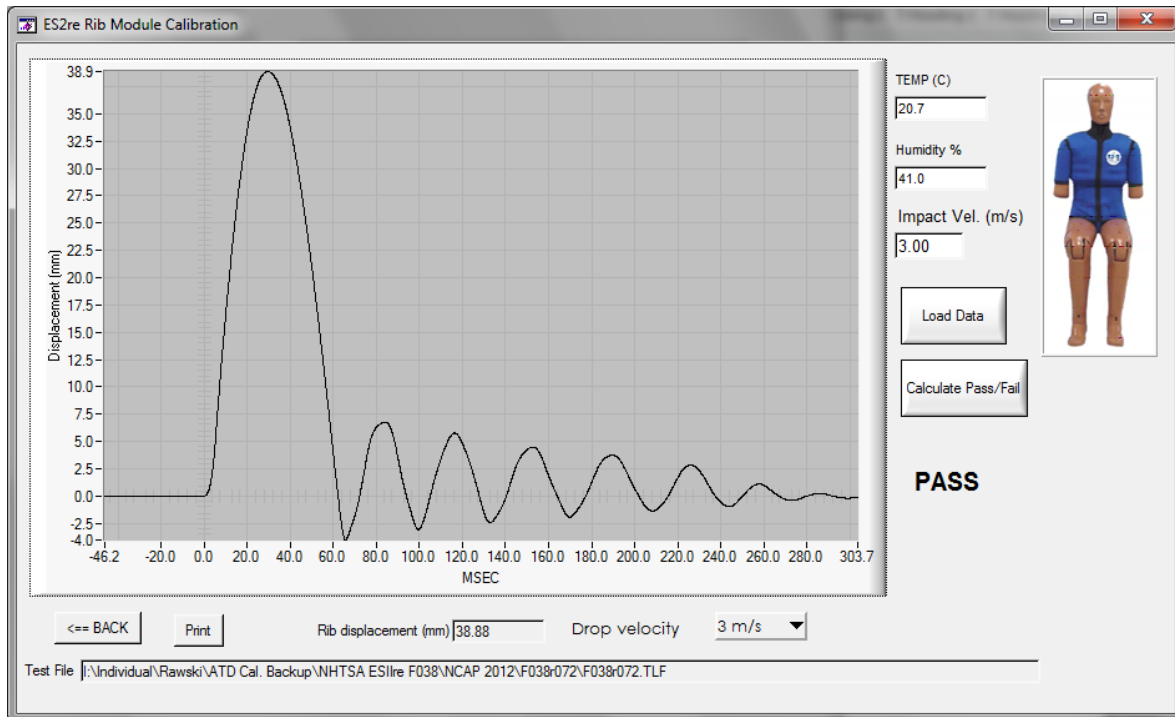
TABLE 7
THORAX – LOWER RIB DROP TEST (ES-IIre)

ES-IIre Serial Number F038 Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/15/11		1/11/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Lower Rib Drop Module Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	21.3	Pass
	Min		20.7	Pass	20.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	41.5	Pass	33.0	Pass
	Min		41.0	Pass	26.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	21.3	Pass
Humidity – During Test (%)		10-70	41.0	Pass	33.0	Pass
1 st Test - Drop Height 459 ± 5 mm		36-40	38.9	Pass	38.9	Pass
2 nd Test - Drop Height 815 ± 5 mm		46-51	49.6	Pass	49.3	Pass

TABLE 7
THORAX – LOWER RIB DROP TEST (ES-Ilre) (CONTINUED)
3.00 m/s

PRE-TEST



POST-TEST

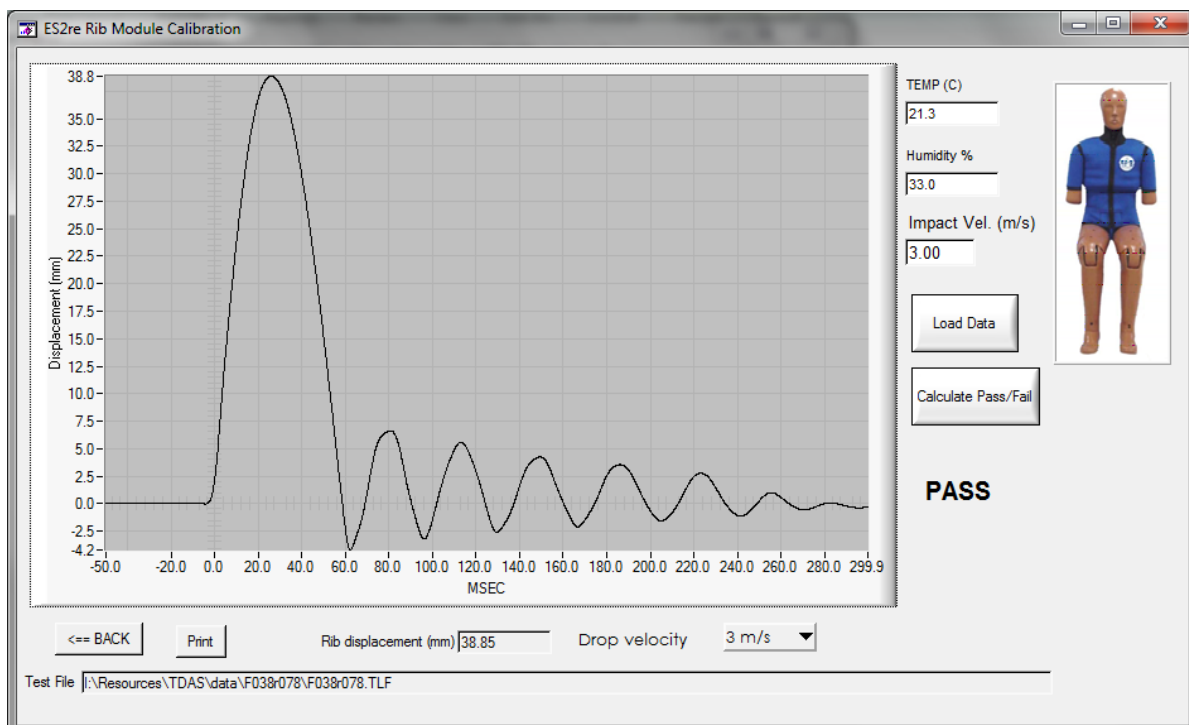
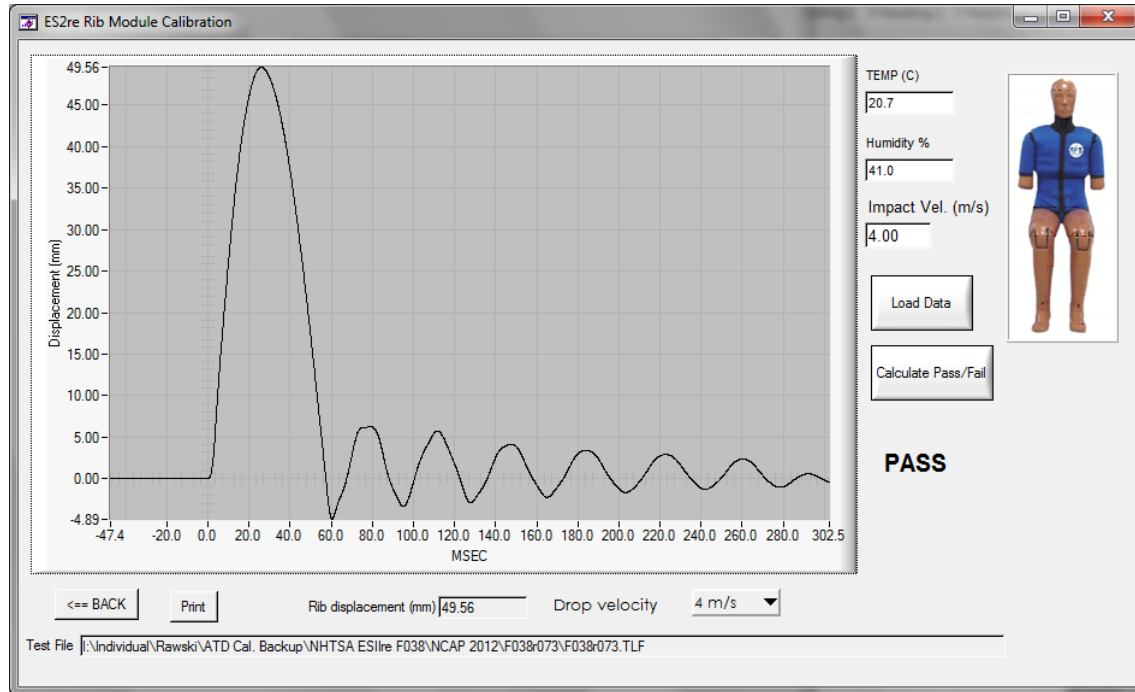


TABLE 7
THORAX – LOWER RIB DROP TEST (ES-Ilre) (CONTINUED)
4.00 m/s

PRE-TEST



POST-TEST

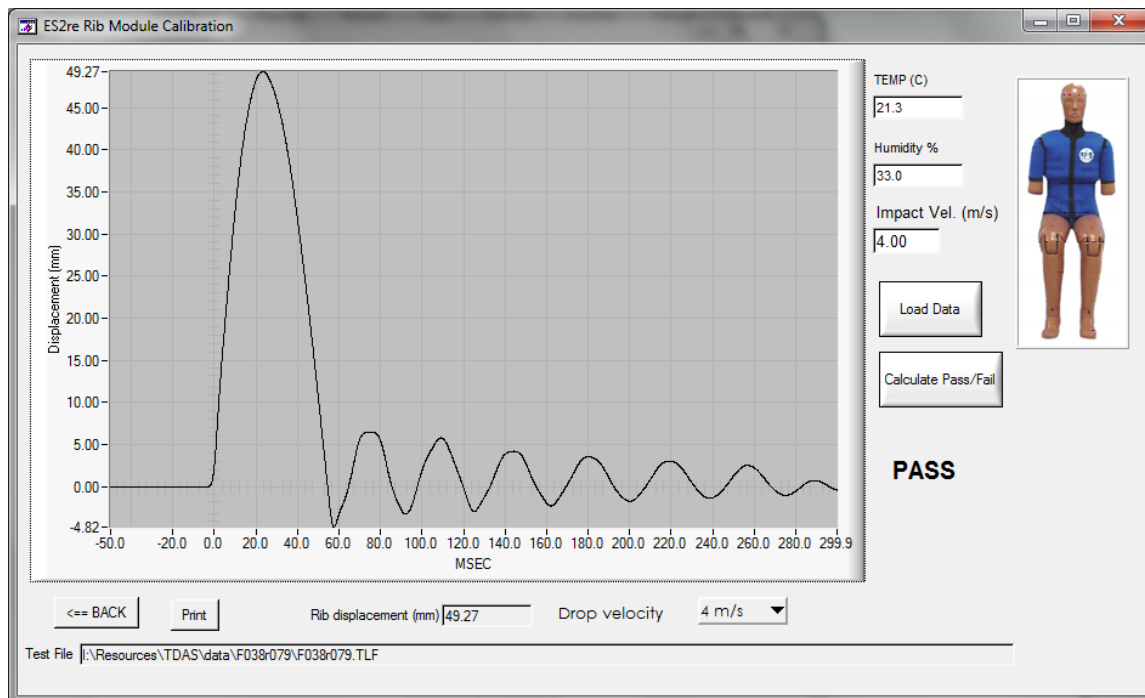


TABLE 8
THORAX – FULL BODY IMPACT TEST (ES-Ilre)

ES-Ilre Serial Number F038 Test Sequences 4 & 5

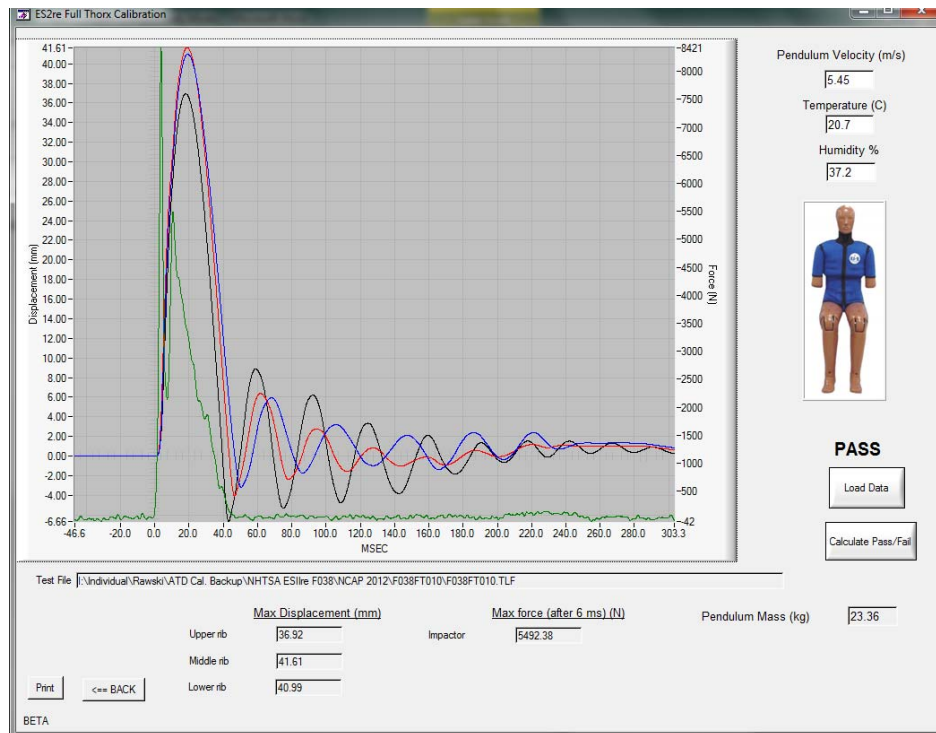
TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	22.2	Pass
	Min		20.7	Pass	21.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.0	Pass
Humidity – During Test (%)		10-70	37.2	Pass	20.1	Pass
Peak Impactor Velocity (m/s)		5.4-5.6	5.45	Pass	5.45	Pass
Peak Upper Rib Deflection (mm)		34-41	36.9	Pass	37.9	Pass
Peak Middle Rib Deflection (mm)		37-45	41.6	Pass	42.1	Pass
Peak Lower Rib Deflection (mm)		37-44	41.0	Pass	41.4	Pass
Peak Impactor Force (>6ms) (kN)		5.1-6.2	5.50	Pass	5.40	Pass

Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2012

TABLE 8
THORAX – FULL BODY IMPACT TEST (ES-IIre)

PRE-TEST



POST-TEST

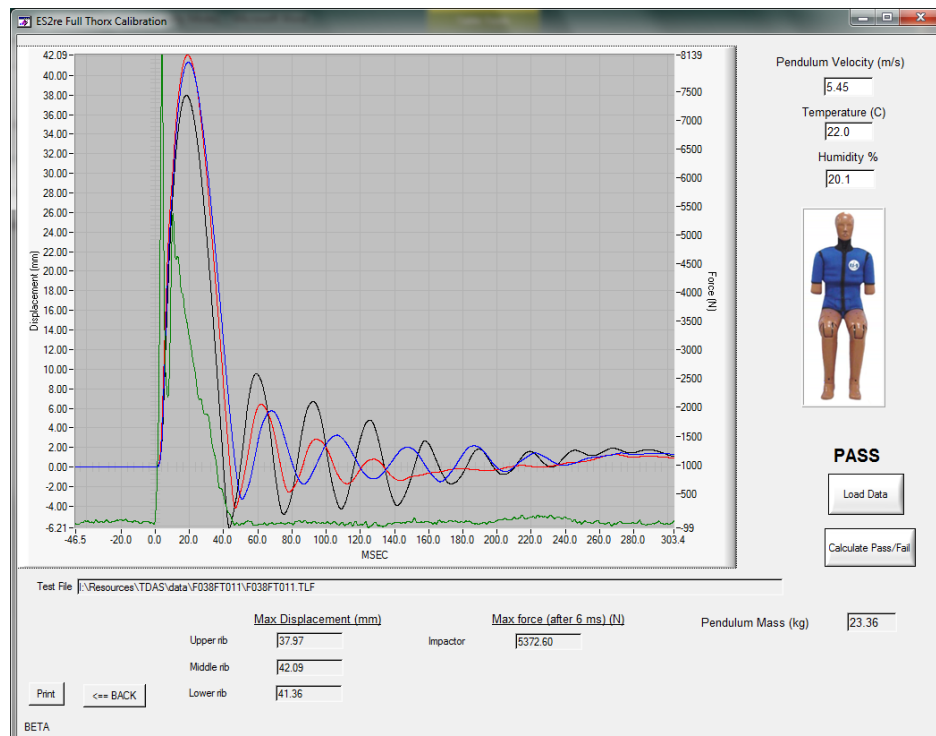


TABLE 9
ABDOMEN IMPACT TEST (ES-IIre)

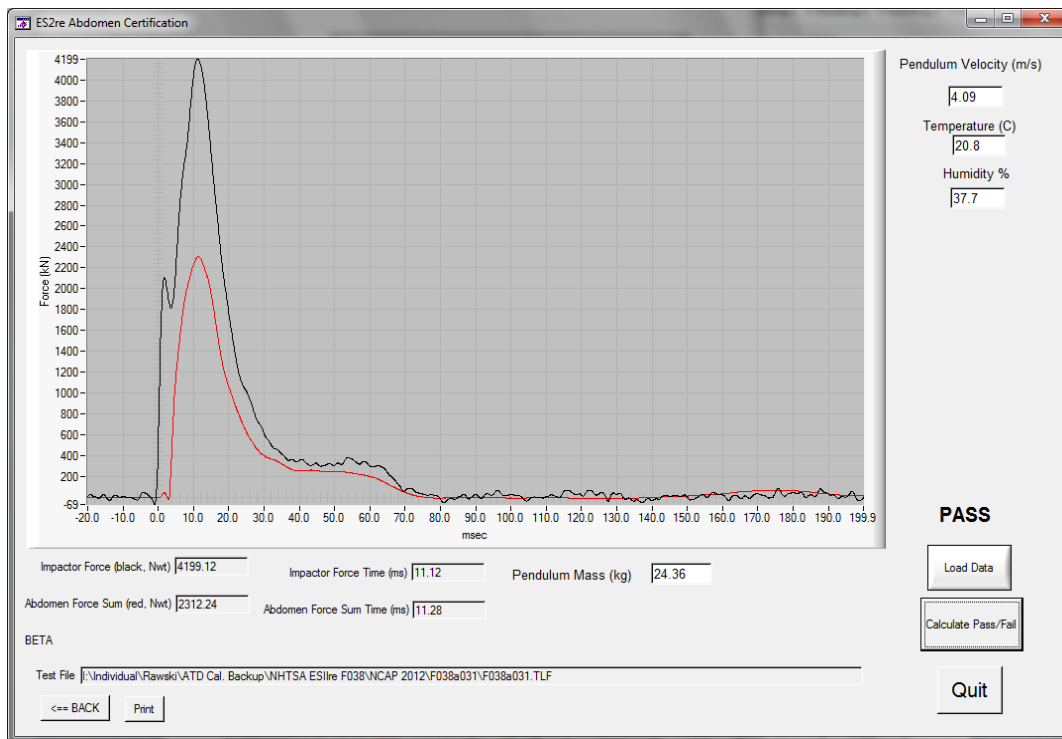
ES-IIre Serial Number F038

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	22.2	Pass
	Min		20.7	Pass	21.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.8	Pass	21.9	Pass
Humidity – During Test (%)		10-70	37.7	Pass	22.8	Pass
Peak Impactor Velocity (m/s)		3.9-4.1	4.09	Pass	4.09	Pass
Sum of Abdominal Forces (kN)		2.2-2.7	2.31	Pass	2.42	Pass
Time of Abdominal Forces (ms)		10-12.3	11.3	Pass	10.6	Pass
Peak Impactor Force (kN)		4.0-4.8	4.20	Pass	4.43	Pass
Time of Peak Impactor Force (ms)		10.6-13.0	11.1	Pass	11.0	Pass

TABLE 9
ABDOMEN IMPACT TEST (ES-IIre) (CONTINUED)

PRE-TEST



POST-TEST

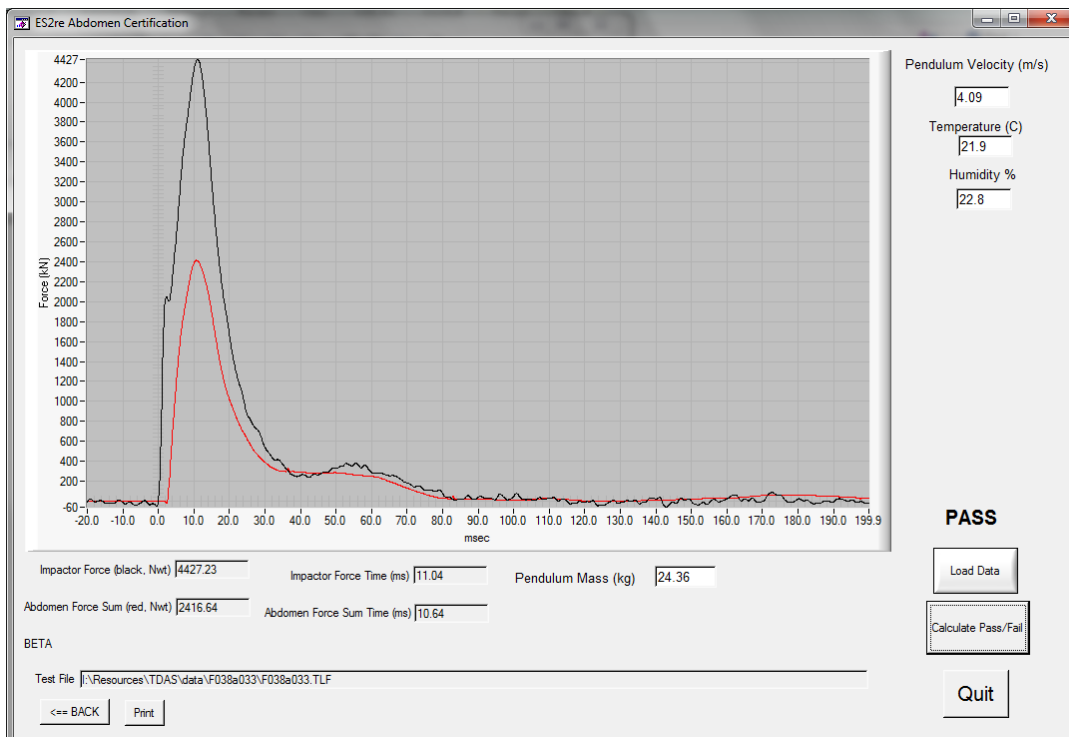


TABLE 10
LUMBAR SPINE FLEXION TEST (ES-Ilre)

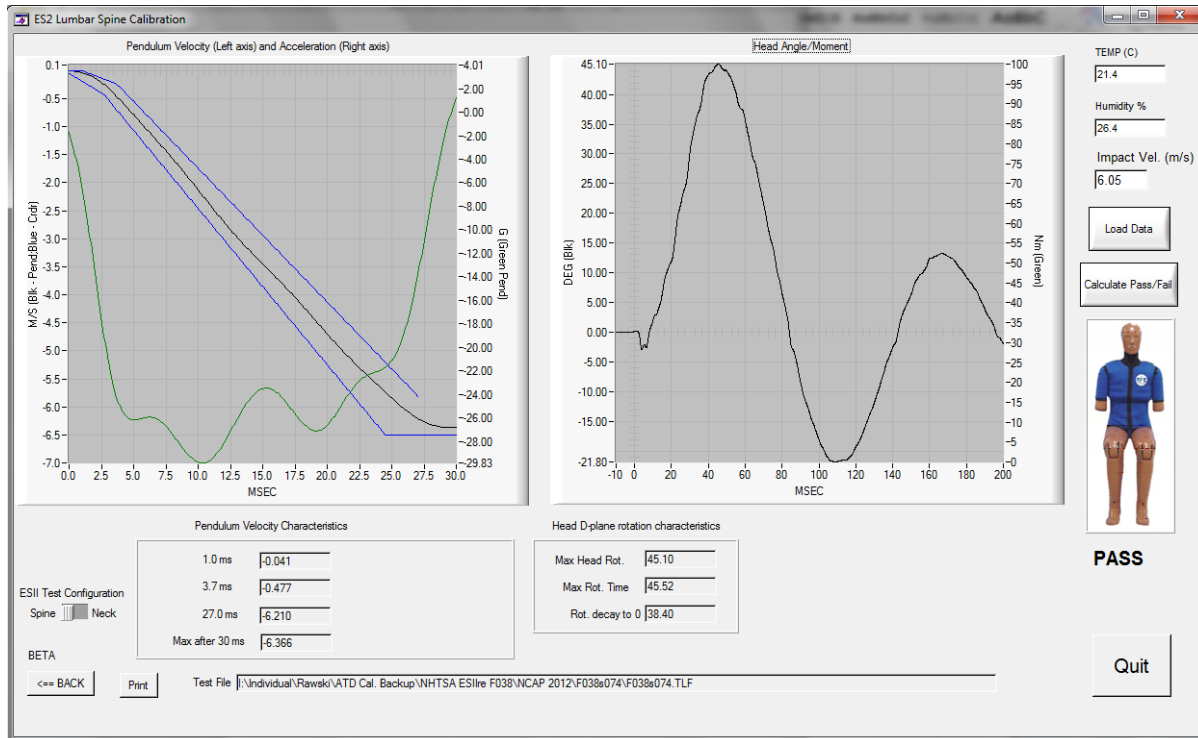
ES-Ilre Serial Number F038

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/19/11		1/12/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Lumbar Spine Assembly Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	21.4	Pass	20.9	Pass
	Min		20.8	Pass	20.6	Pass
Humidity (%) – During Soak	Max	10.0-70.0	26.4	Pass	30.7	Pass
	Min		18.1	Pass	25.9	Pass
Temperature – During Test (°C)		20.6-22.2	21.4	Pass	20.6	Pass
Humidity – During Test (%)		10-70	26.4	Pass	27.1	Pass
Pendulum Velocity (m/s)		5.95-6.15	6.05	Pass	6.05	Pass
Pendulum Velocity Corridors (m/s)	0-1.0 ms	(-0.05)-0.00	-0.041	Pass	-0.043	Pass
	2.7-3.7 ms	(-0.425) - (-0.24)	-0.477	Pass	-0.464	Pass
	24.5-27.0 ms	(-6.50) - (-5.80)	-6.21	Pass	-5.92	Pass
	Max after 30 ms	-6.50	-6.37	Pass	-6.25	Pass
Maximum Headform Flexion Angle (deg)		50 ± 5	45.1	Pass	46.7	Pass
Time at Maximum Flexion Angel (ms)		39-53	45.5	Pass	43.6	Pass
Time of Decay to Zero Angle from Peak (ms)		37-57	38.4	Pass	39.2	Pass

TABLE 10
LUMBAR SPINE FLEXION TEST (ES-IIre) (CONTINUED)

PRE-TEST



POST-TEST

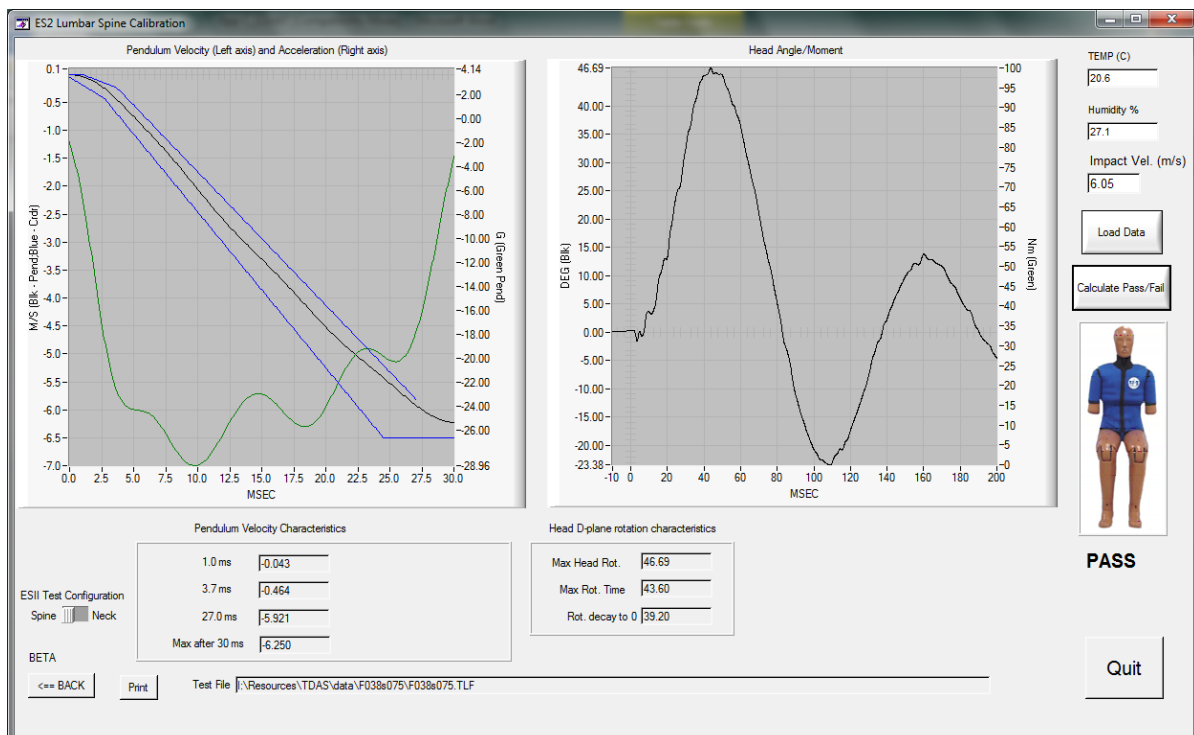


TABLE 11
PELVIS IMPACT TEST (ES-IIre)

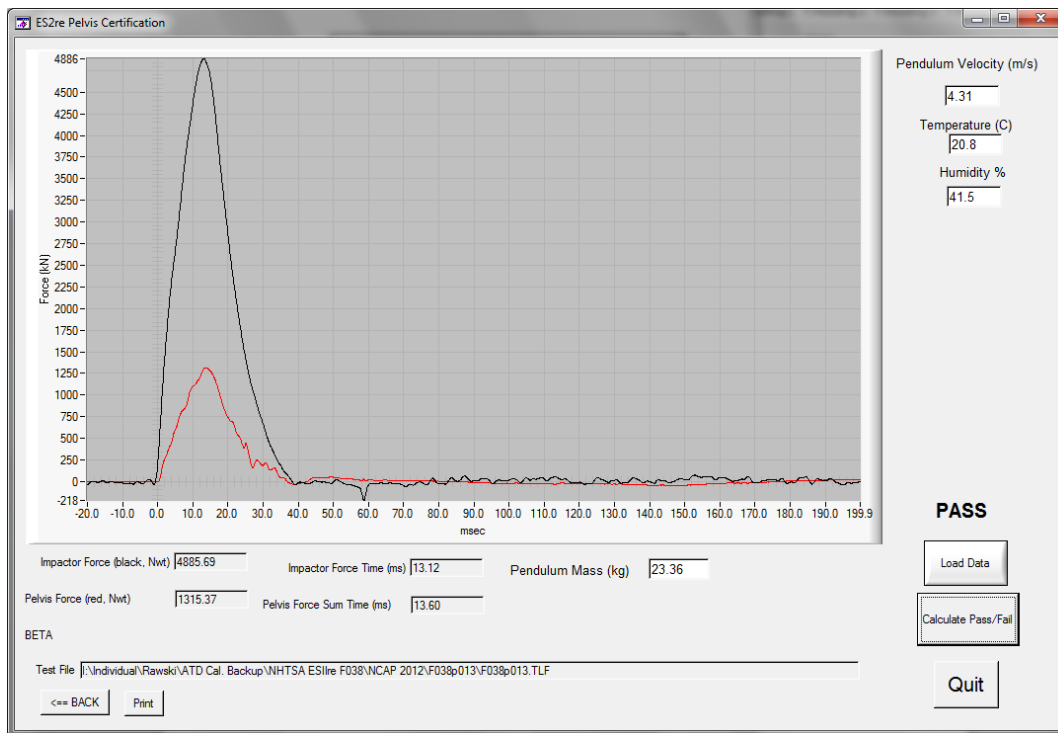
ES-IIre Serial Number F038

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/15/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature (°C) – During Soak	Max	20.6-22.2	20.8	Pass	22.2	Pass
	Min		20.7	Pass	21.9	Pass
Humidity (%) – During Soak	Max	10.0-70.0	41.5	Pass	31.1	Pass
	Min		41.0	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.8	Pass	22.0	Pass
Humidity – During Test (%)		10-70	41.5	Pass	22.9	Pass
Pendulum Velocity (m/s)		4.2-4.4	4.31	Pass	4.31	Pass
Peak Impactor Force (kN)		4.7 – 5.4	4.89	Pass	4.89	Pass
Time at Peak Force (ms)		11.8-16.1	13.1	Pass	13.4	Pass
Peak Pubic Symphysis Force (kN)		1.23-1.59	1.31	Pass	1.32	Pass
Time at Peak Force (ms)		12.2-17.0	13.6	Pass	14.4	Pass

TABLE 11
PELVIS IMPACT TEST (ES-Ilre) (CONTINUED)

PRE-TEST



POST-TEST

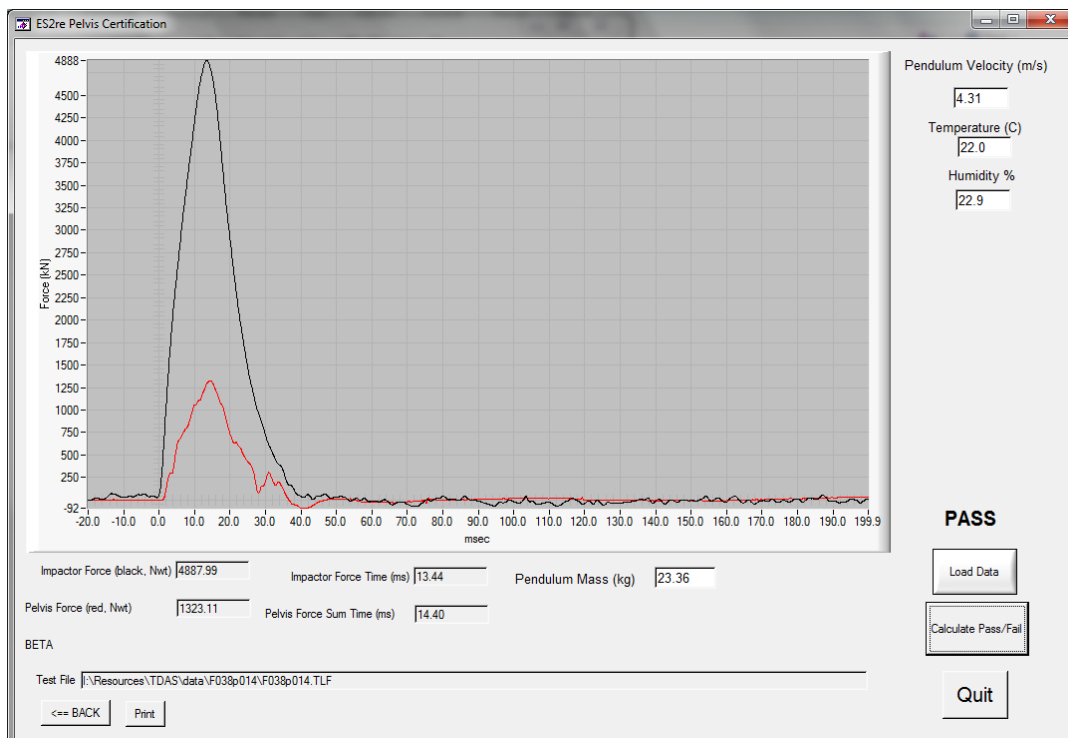


TABLE 1
EXTERNAL MEASUREMENTS (SID-IIs)

SIDIIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER	SPEC.	PRE		POST	
Date	-	12/20/11		1/17/12	
Sequential Test Number	-	4		5	
		Result	Pass/Fail	Result	Pass/Fail
Temperature (°C)	20.6-22.2	20.7	Pass	20.8	Pass
Relative Humidity (%)	10-70	40.6	Pass	21.2	Pass
Sitting Height	772 – 788	774	Pass	774	Pass
Shoulder Pivot Height	437 – 453	444	Pass	443	Pass
H-Point Height	79 – 89	85	Pass	86	Pass
H-Point from Seat Back	141 – 151	145	Pass	145	Pass
Shoulder Pivot from Backline	97 – 107	102	Pass	100	Pass
Thigh Clearance	119 – 135	122	Pass	121	Pass
Head Breadth	140 – 148	144	Pass	142	Pass
Head Back from Backline	40 – 46	45	Pass	43	Pass
Head Depth	178 – 188	182	Pass	181	Pass
Head Circumference	541 – 551	545	Pass	542	Pass
Buttock to Knee Length	514 – 540	526	Pass	521	Pass
Popliteal Height	343 – 369	360	Pass	345	Pass
Knee Pivot to Floor Height	392 – 409	395	Pass	402	Pass
Buttock Popliteal Length	416 – 442	427	Pass	432	Pass
Chest Depth w/o Jacket	195 – 211	205	Pass	208	Pass
Foot Length	216 – 232	220	Pass	219	Pass
Hip Breadth	313 – 323	318	Pass	316	Pass
Arm Length	249 – 259	255	Pass	254	Pass
Knee Joint to Seat Back	477 – 493	485	Pass	485	Pass
Shoulder Width	341 – 357	346	Pass	351	Pass
Foot Width	78 – 94	82	Pass	84	Pass
Chest Circumference w/Jacket	851 – 881	856	Pass	854	Pass
Waist Circumference	761 – 791	779	Pass	780	Pass

TABLE 2
HEAD DROP TEST (SID-IIs)

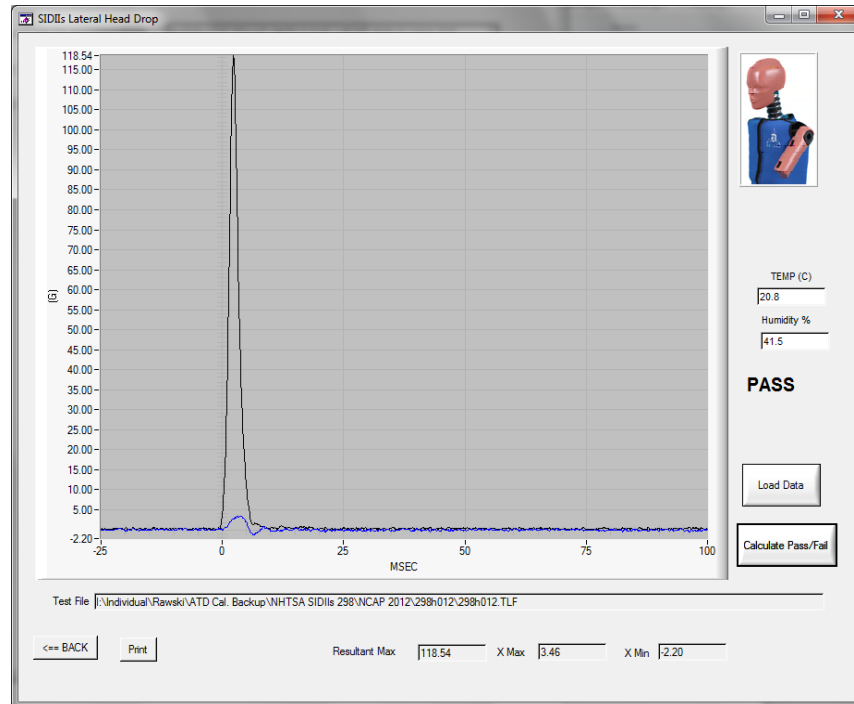
SIDIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/15/11		1/12/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Head Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.8	Pass	20.9	Pass
	Min		20.7	Pass	20.6	Pass
Humidity(%) – During Soak	Max	10.0-70.0	41.5	Pass	30.7	Pass
	Min		41.0	Pass	25.9	Pass
Temperature – During Test (°C)		20.6-22.2	20.8	Pass	20.9	Pass
Humidity – During Test (%)		10-70	41.5	Pass	30.7	Pass
Peak Head Resultant Acceleration (G)		115-137	118.5	Pass	118.2	Pass
Peak Head X Acceleration (G)		<15	3.5	Pass	1.6	Pass
Unimodal (Oscillation) (Yes/No)		<15%	-	Yes	-	Yes

TABLE 2
HEAD DROP TEST (SID-IIIs) (CONTINUED)

PRE-TEST



POST-TEST

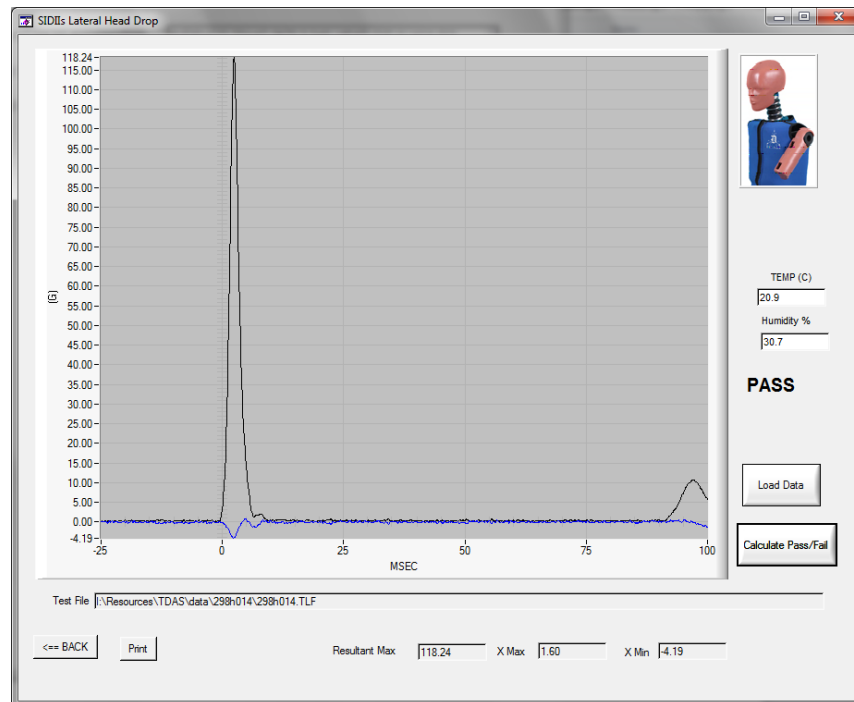


TABLE 3
LATERAL NECK PENDULUM TEST (SID-IIIs)

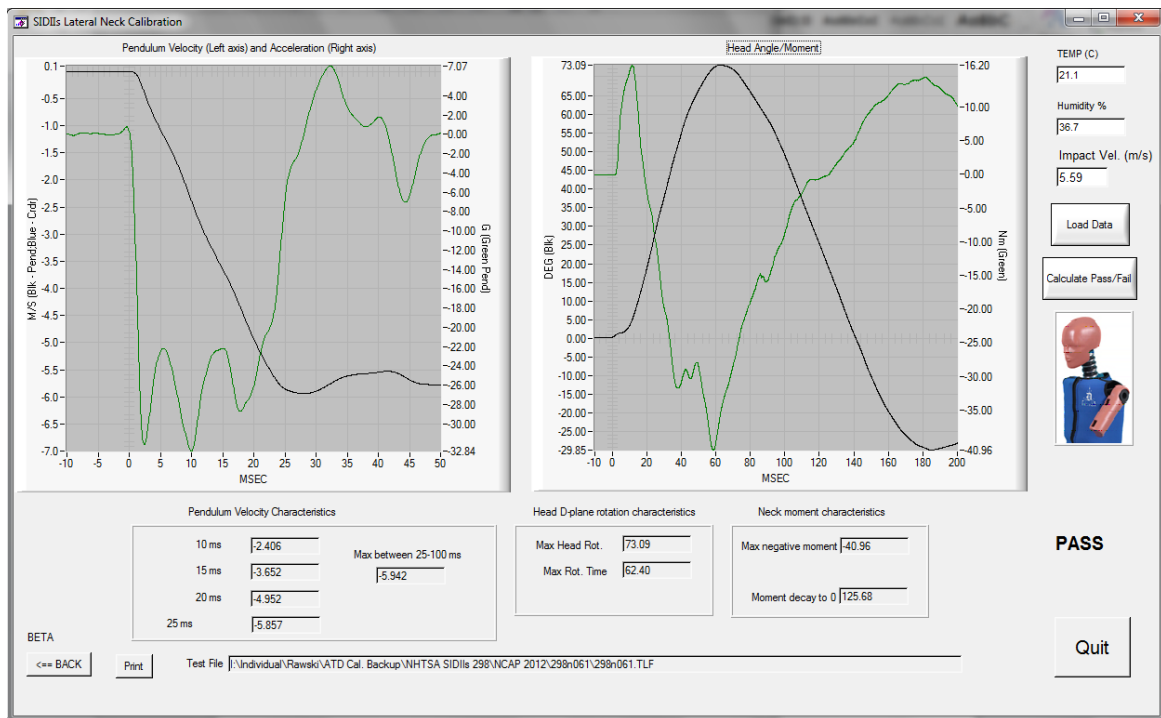
SIDIIIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/16/11		1/12/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Neck Assembly Soak Time (min)		≥ 240	240	Pass	240	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	21.1	Pass	20.9	Pass
	Min		20.7	Pass	20.6	Pass
Humidity(%) – During Soak	Max	10.0-70.0	36.7	Pass	30.7	Pass
	Min		33.2	Pass	25.9	Pass
Temperature – During Test (°C)		20.6-22.2	21.1	Pass	20.9	Pass
Humidity – During Test (%)		10-70	36.7	Pass	28.7	Pass
Pendulum Velocity (m/s)		5.51-5.63	5.6	Pass	5.58	Pass
Pendulum Deceleration (G)	10 ms	2.20-2.80	2.41	Pass	2.33	Pass
	15 ms	3.30-4.10	3.65	Pass	3.45	Pass
	20 ms	4.40-5.40	4.95	Pass	4.68	Pass
	25 ms	5.40-6.10	5.9	Pass	5.68	Pass
	25-100 ms	5.50-6.20	5.86	Pass	5.85	Pass
Maximum D-Plane rotation (deg)		71-81	73.1	Pass	72.2	Pass
Time of Maximum D-Plane Rotation (ms)		50-70	62.4	Pass	64.9	Pass
Peak Occ. Condyle Moment (Nm)		36-44	41.0	Pass	39.9	Pass
Time of Moment Decay (ms)		102-126	126.0	Pass	124.0	Pass

TABLE 3
LATERAL NECK PENDULUM TEST (SID-IIIs) (CONTINUED)

PRE-TEST



POST-TEST

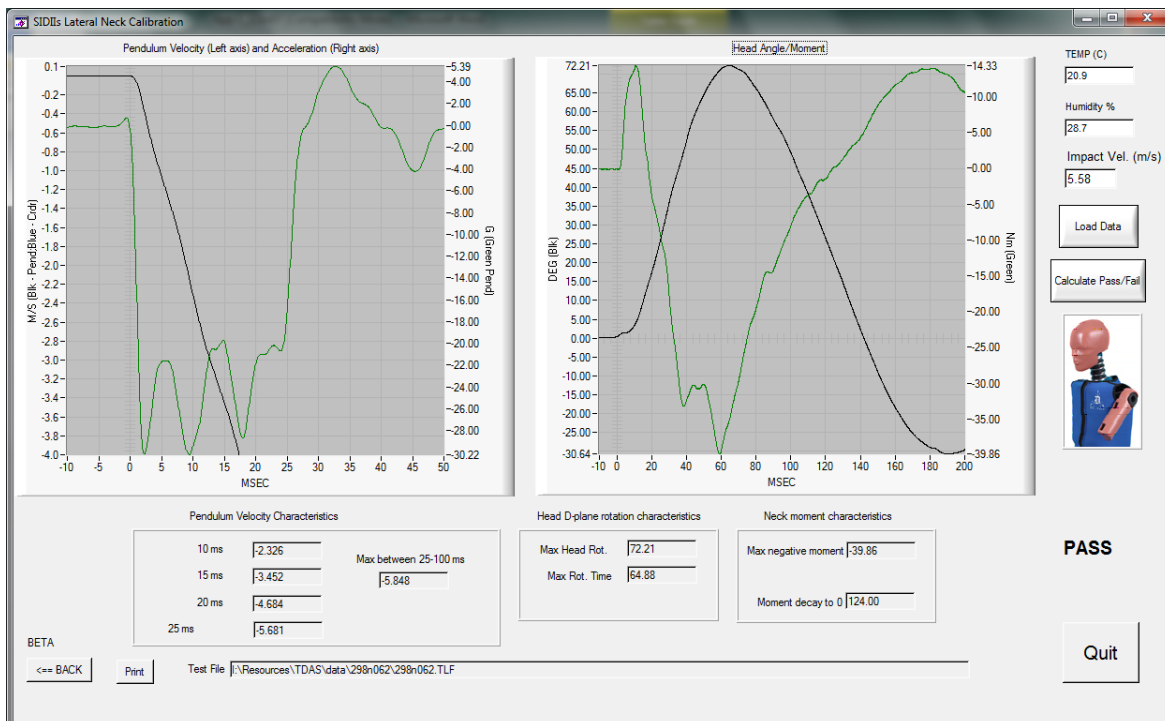


TABLE 4
SHOULDER IMPACT TEST (SID-IIs)

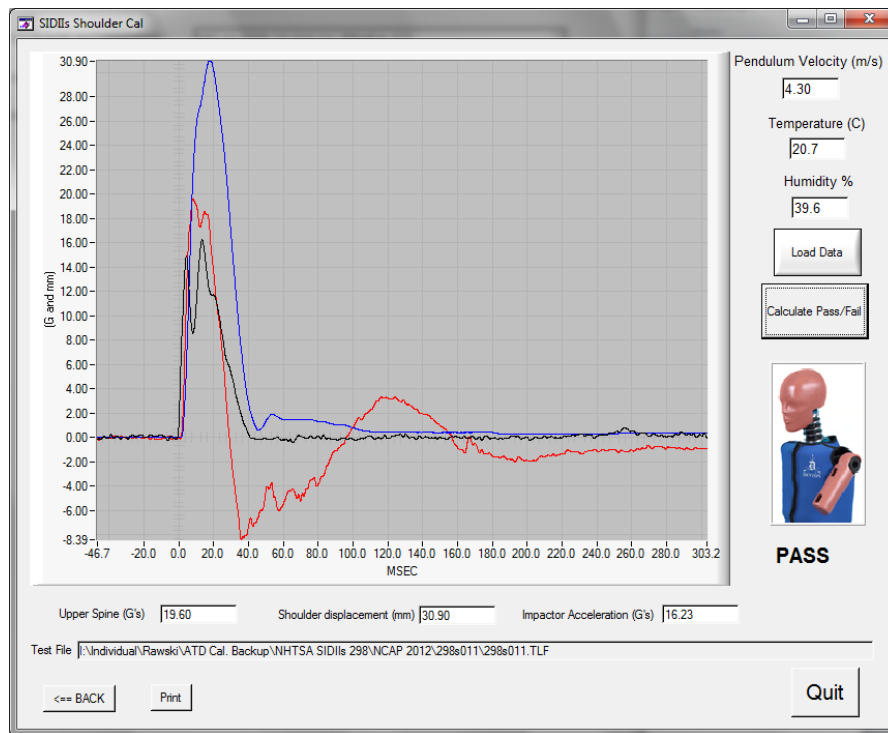
SIDIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 180	180	Pass	180	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.7	Pass	22.2	Pass
	Min		20.6	Pass	21.9	Pass
Humidity(%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.0	Pass
Relative Humidity – During Test (%)		10-70	39.6	Pass	26.7	Pass
Impactor Velocity (m/s)		4.2-4.4	4.3	Pass	4.3	Pass
Peak Shoulder Deflection (mm)		28-37	31.0	Pass	32.1	Pass
Peak Lateral Spine (T1) Acceleration Y (G)		17-22	20.0	Pass	19.4	Pass
Peak Impactor Acceleration (G)		13-18	16.2	Pass	16.2	Pass

TABLE 4
SHOULDER IMPACT TEST (SID-IIIs) (CONTINUED)

PRE-TEST



POST-TEST

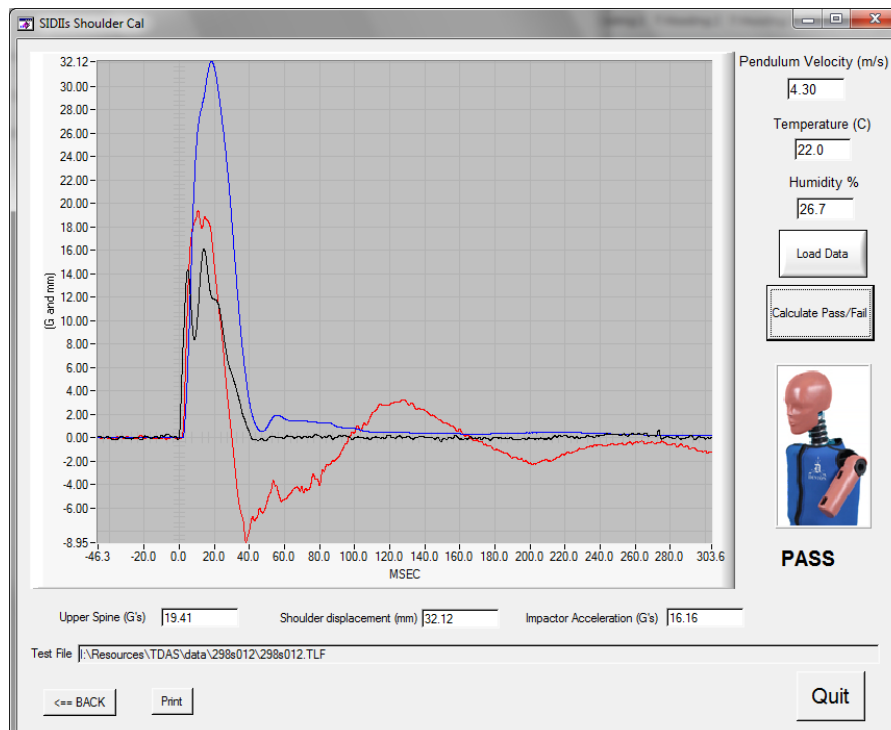


TABLE 5
THORAX (WITH ARM) IMPACT TEST (SID-IIs)

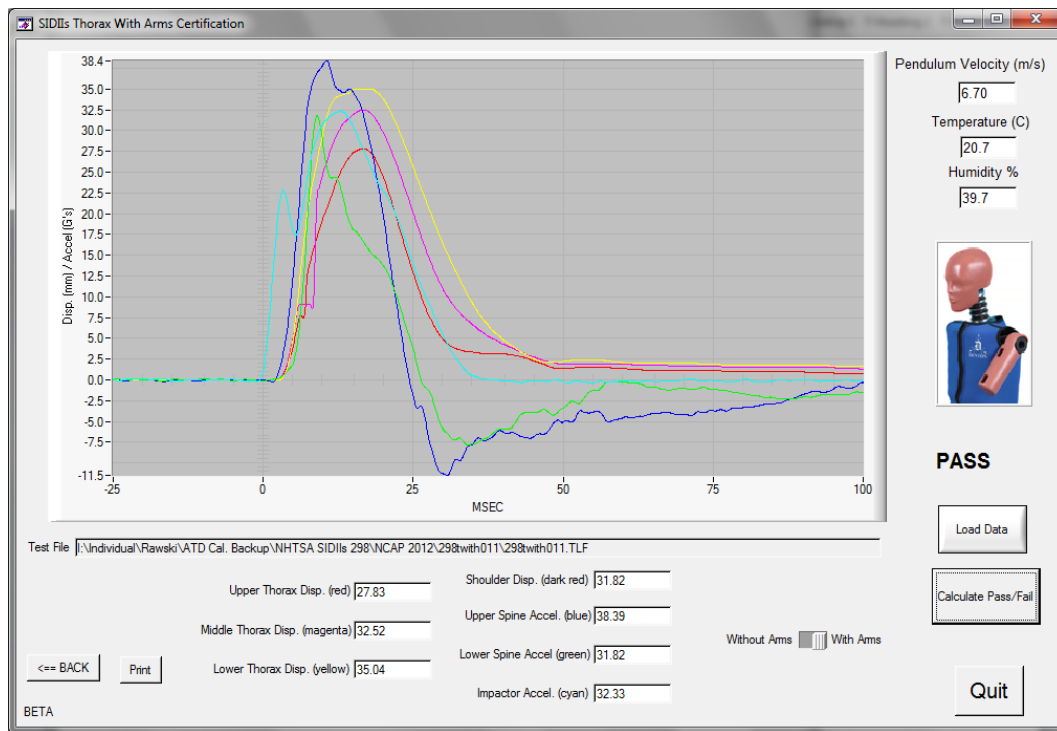
SIDIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 180	180	Pass	180	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.7	Pass	22.2	Pass
	Min		20.6	Pass	21.9	Pass
Humidity(%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.2	Pass
Relative Humidity – During Test (%)		10-70	39.7	Pass	27.0	Pass
Impactor Velocity (m/s)		6.6-6.8	6.70	Pass	6.70	Pass
Peak Shoulder Deflection (mm)		31-40	31.8	Pass	33.1	Pass
Peak Upper Rib Deflection (mm)		25-32	27.8	Pass	29.1	Pass
Peak Middle Rib Deflection (mm)		30-36	32.5	Pass	32.9	Pass
Peak Lower Rib Deflection (mm)		32-38	35.0	Pass	34.6	Pass
Peak Upper Spine (T1) Acceleration Y (G)		34-43	38.4	Pass	38.8	Pass
Peak Lower Spine (T12) Acceleration Y (G)		29-37	31.8	Pass	33.1	Pass
Peak Impactor Acceleration (G)		30-36	32.3	Pass	32.1	Pass

TABLE 5
THORAX (WITH ARM) IMPACT TEST (SID-IIs) (CONTINUED)

PRE-TEST



POST-TEST

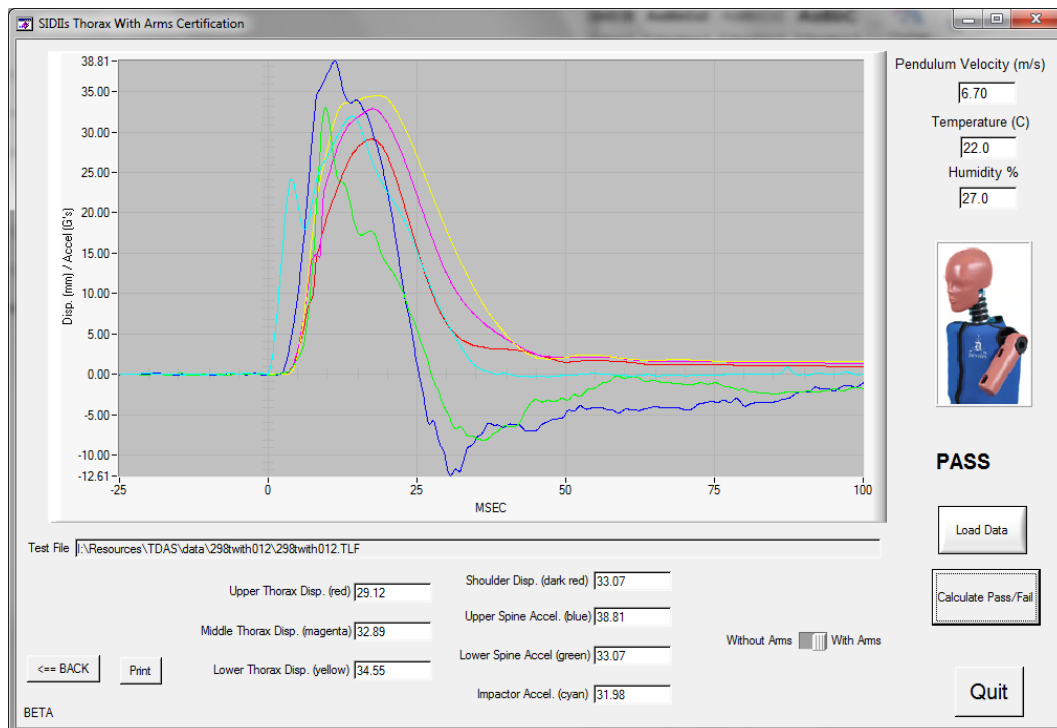


TABLE 6
THORAX (WITHOUT ARM) IMPACT TEST (SID-IIs)

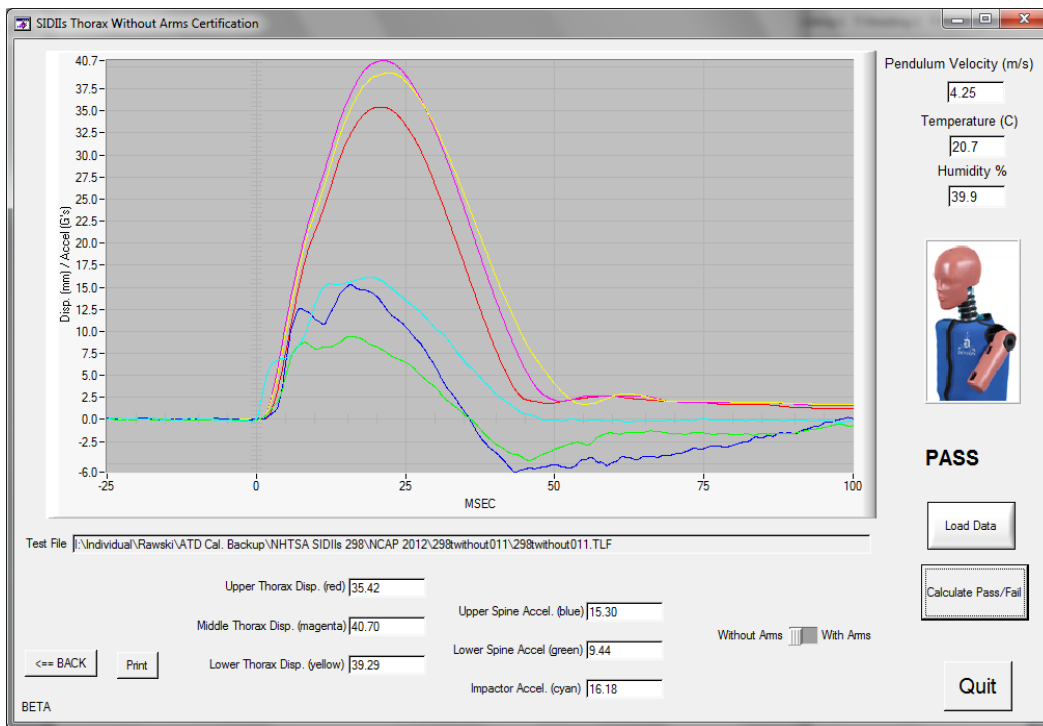
SIDIIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 180	180	Pass	180	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.7	Pass	22.2	Pass
	Min		20.6	Pass	21.9	Pass
Humidity(%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.0	Pass
Relative Humidity – During Test (%)		10-70	39.9	Pass	27.3	Pass
Impactor Velocity (m/s)		4.2-4.4	4.25	Pass	4.25	Pass
Peak Upper Rib Deflection (mm)		32-40	35.4	Pass	35.2	Pass
Peak Middle Rib Deflection (mm)		39-45	40.7	Pass	41.0	Pass
Peak Lower Rib Deflection (mm)		35-43	39.3	Pass	40.4	Pass
Peak Upper Spine (T1) Acceleration Y (G)		13-17	15.3	Pass	15.1	Pass
Peak Lower Spine (T12) Acceleration Y (G)		7-11	9.44	Pass	9.66	Pass
Peak Impactor Acceleration (G)		14-18	16.2	Pass	15.7	Pass

TABLE 6
THORAX (WITHOUT ARM) IMPACT TEST (SID-IIs) (CONTINUED)

PRE-TEST



POST-TEST

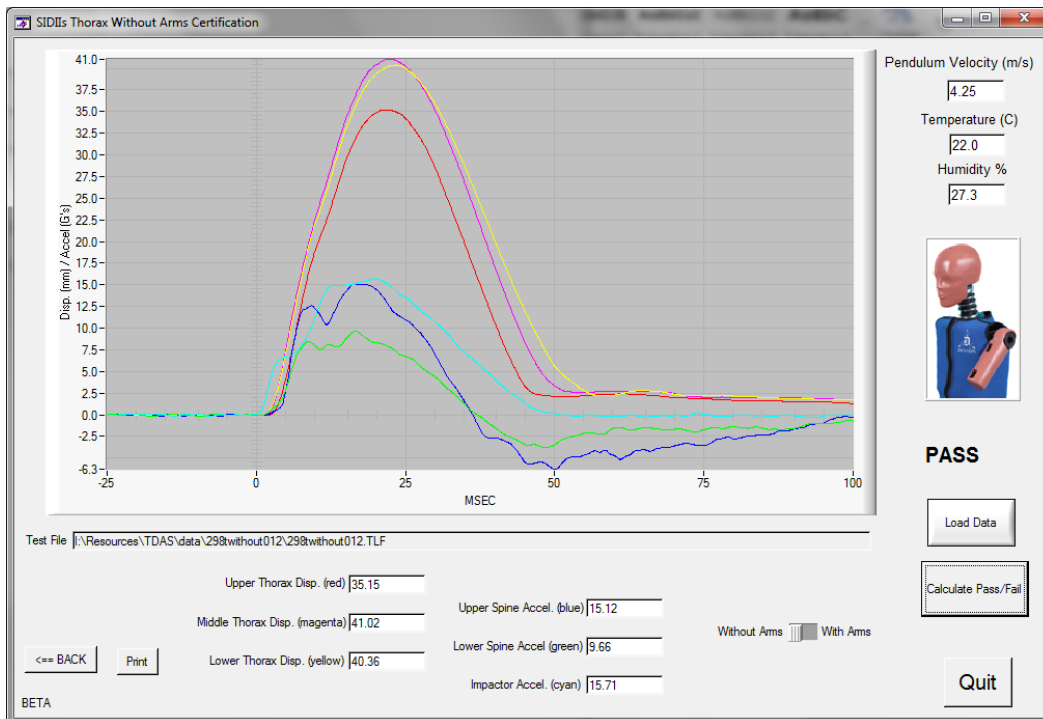


TABLE 7
ABDOMEN IMPACT TEST (SID-IIs)

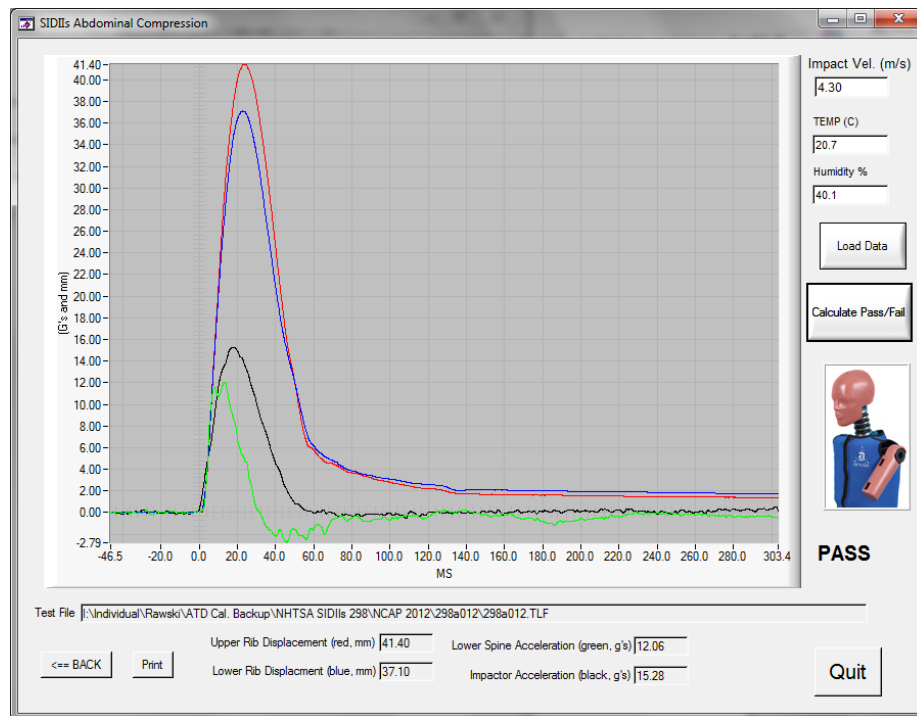
SIDIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 180	180	Pass	180	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.7	Pass	22.2	Pass
	Min		20.6	Pass	21.9	Pass
Humidity(%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.2	Pass
Relative Humidity – During Test (%)		10-70	40.1	Pass	27.5	Pass
Impactor Velocity (m/s)		4.2-4.4	4.3	Pass	4.3	Pass
Peak Upper Abdominal Rib Deflection (mm)		36-47	41.4	Pass	42.8	Pass
Peak Lower Abdominal Rib Deflection (mm)		33-44	37.1	Pass	39.8	Pass
Peak Lower Spine (T12) Acceleration Y (G)		9-14	12.1	Pass	11.6	Pass
Peak Impactor Acceleration (G)		12-16	15.3	Pass	14.1	Pass

TABLE 7
ABDOMEN IMPACT TEST (SID-IIs) (CONTINUED)

PRE-TEST



POST-TEST

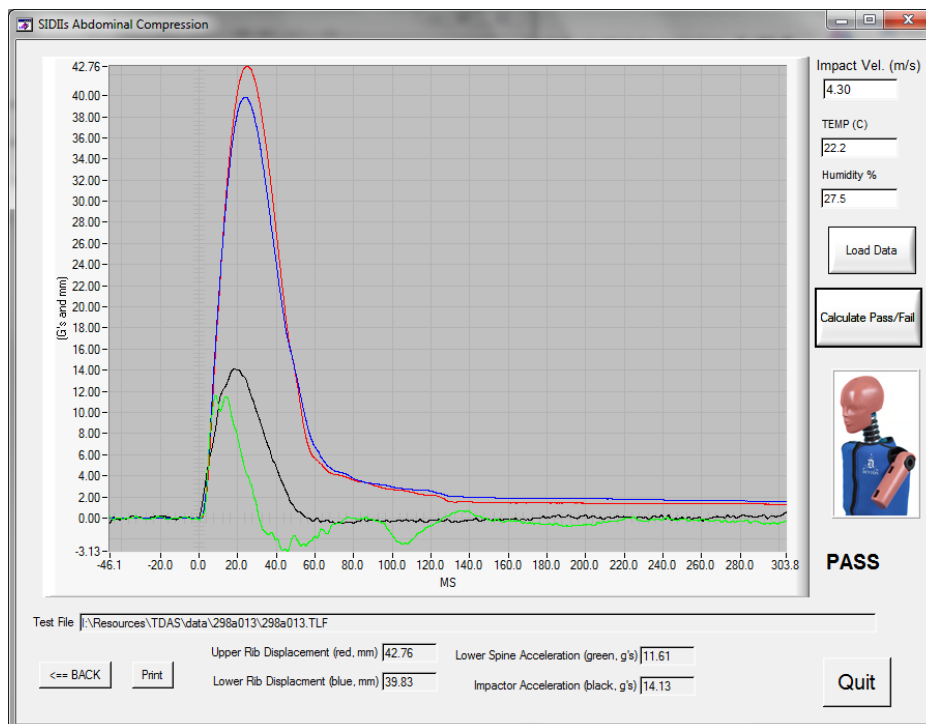
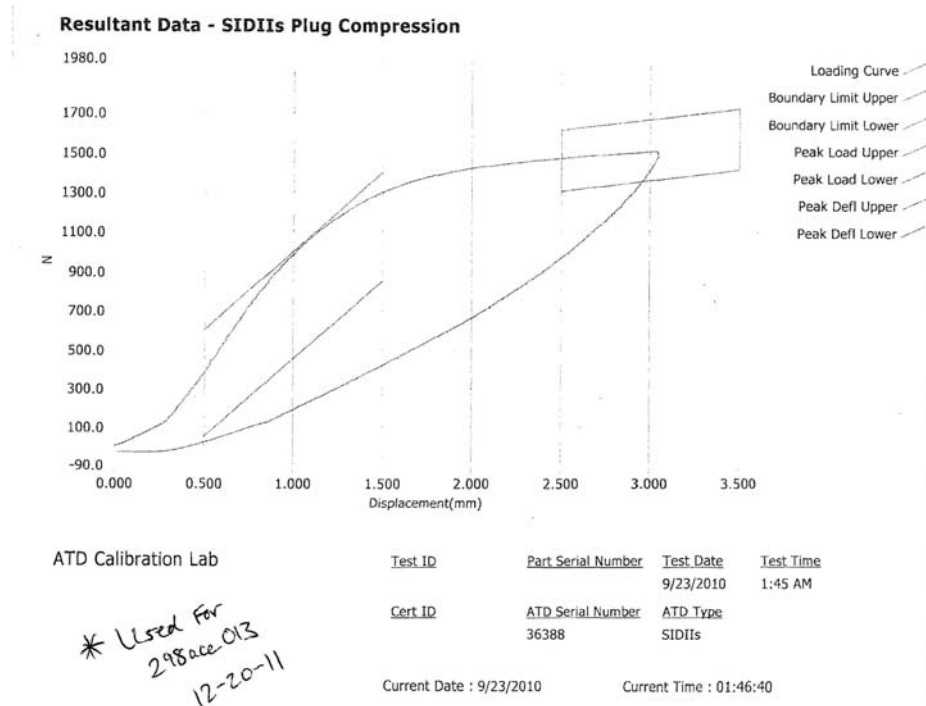


TABLE 8
PELVIS PLUG QUASI-STATIC TEST (SID-IIs)

PRE-Test



POST-TEST

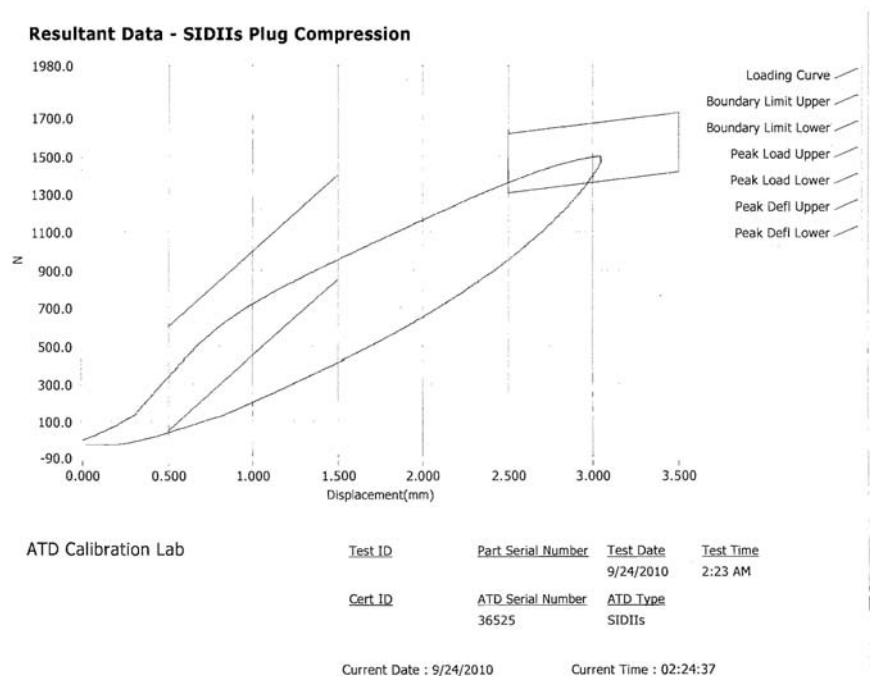


TABLE 9
PELVIS ACETABULUM IMPACT TEST (SID-IIs)

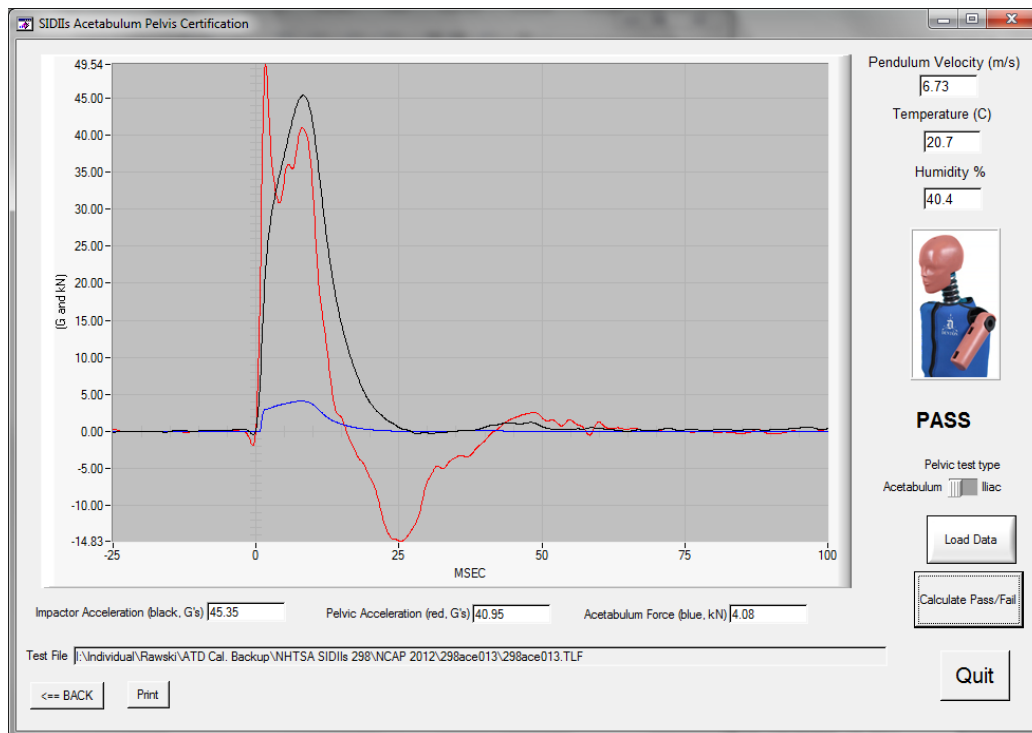
SIDIs Serial Number 298

Test Sequences 4 & 5

TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Results	Pass/Fail
Dummy Soak Time (min)		≥ 180	180	Pass	180	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.7	Pass	22.2	Pass
	Min		20.6	Pass	21.9	Pass
Humidity(%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.2	Pass
Humidity – During Test (%)		10-70	40.4	Pass	27.5	Pass
Impactor Velocity (m/s)		6.6-6.8	6.73	Pass	6.73	Pass
Peak Impactor Acceleration (G)		38-47	45.4	Pass	44.8	Pass
Pelvis Acceleration Y after 6ms (G)		34-42	41.0	Pass	40.2	Pass
Peak Acetabulum Force (kN)		3.60-4.30	4.10	Pass	3.88	Pass
Pelvis Plug Serial No. 36388 (Pre) No. (Post) 36525						

TABLE 9
PELVIS ACETABULUM IMPACT TEST (SID-IIIs) (CONTINUED)

PRE-TEST



POST-TEST

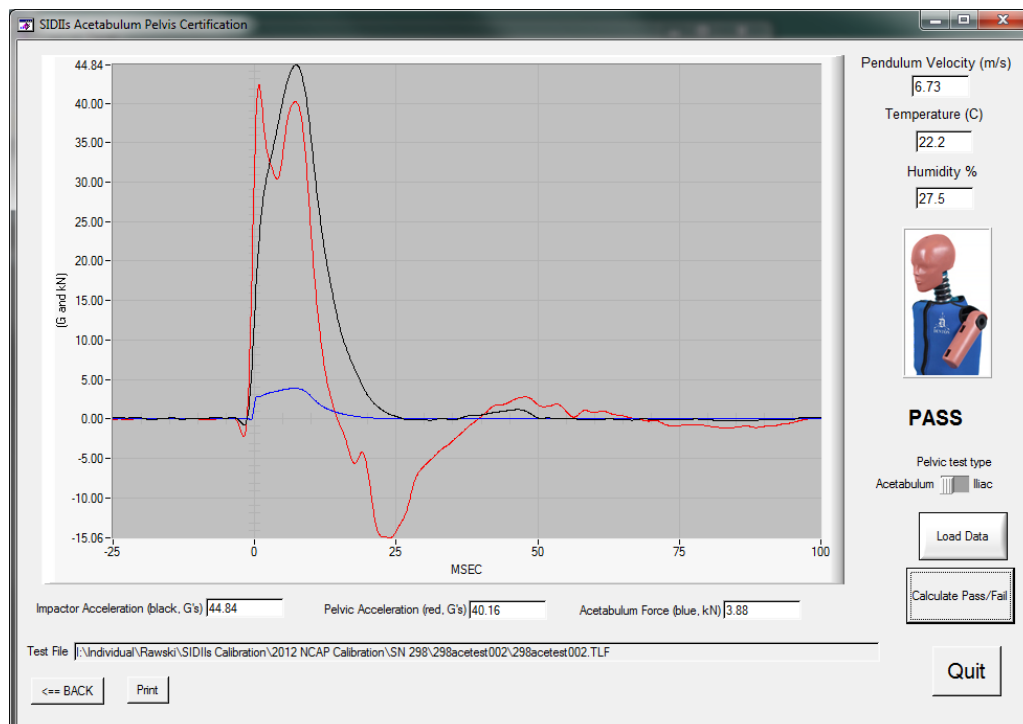


TABLE 10
PELVIS ILIAC IMPACT TEST (SID-IIs)

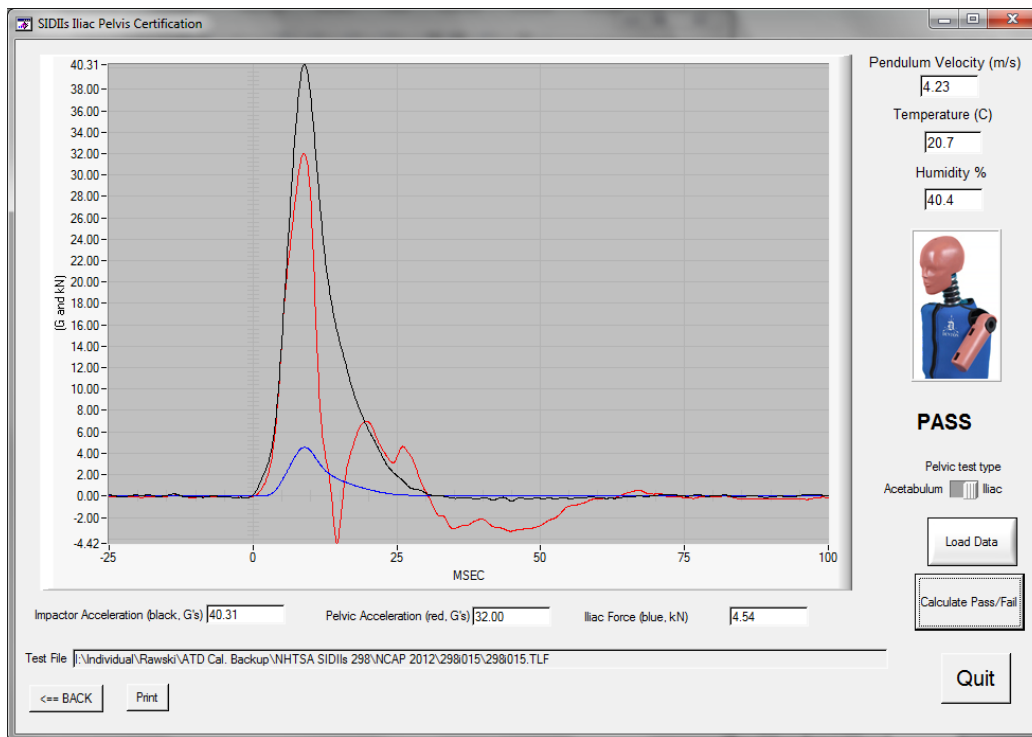
SIDIs Serial Number 298

Test Sequences 4 & 5

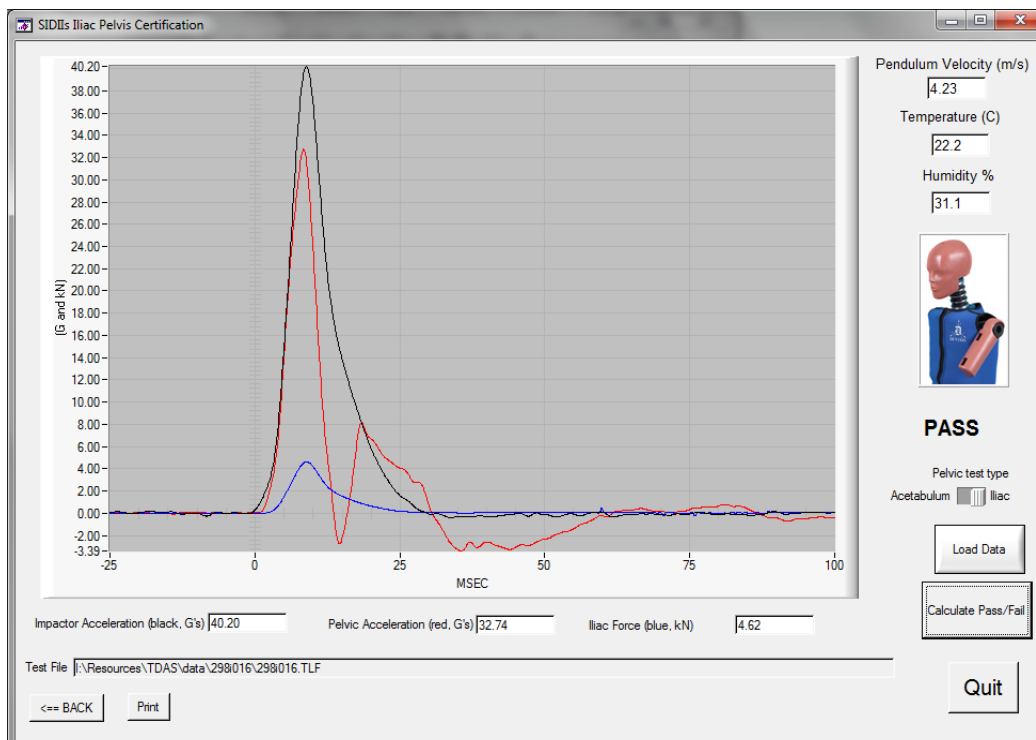
TEST PARAMETER		SPEC.	PRE		POST	
Date		-	12/20/11		1/16/12	
Sequential Test Number		-	4		5	
			Result	Pass/Fail	Result	Pass/Fail
Dummy Soak Time (min)		≥ 180	180	Pass	180	Pass
Temperature(°C) – During Soak	Max	20.6-22.2	20.7	Pass	22.2	Pass
	Min		20.6	Pass	21.9	Pass
Humidity(%) – During Soak	Max	10.0-70.0	40.4	Pass	31.1	Pass
	Min		35.9	Pass	19.2	Pass
Temperature – During Test (°C)		20.6-22.2	20.7	Pass	22.2	Pass
Humidity – During Test (%)		10-70	40.4	Pass	31.1	Pass
Pendulum Velocity (m/s)		4.2-4.4	4.23	Pass	4.23	Pass
Peak Impactor Acceleration (G)		36-45	40.3	Pass	40.2	Pass
Pelvis Acceleration Y (G)		28-39	32.0	Pass	32.7	Pass
Peak Iliac Force Y (N)		4.10-5.10	4.54	Pass	4.62	Pass
Pelvis Plug Serial No. 36388 (Pre) No. 36525 (Post)						

TABLE 10
PELVIS ILIAC IMPACT TEST (SID-IIIs) (CONTINUED)

PRE-TEST



POST-TEST



Test Vehicle: 2012 Acura MDX 5-Door SUV
Test Program: SINCAP

NHTSA Number: MC 5308
Test Date: January 10, 2012

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 - DUMMY INSTRUMENTATION – ES-IIre					
		ES-IIre S/N: F038			
		Serial Number	Manufacturer	Calibration Date	
Head Accelerometers		X	J43494	Endevco	25/APR/2011
		Y	J43475	Endevco	25/APR/2011
		Z	J43779	Endevco	25/APR/2011
		X _R	J21551	Endevco	25/APR/2011
		Y _R	J43432	Endevco	25/APR/2011
		Z _R	12104	Endevco	25/APR/2011
Thoracic Rib Displacement Potentiometers	Upper	Y	433	Denton	08/APR/2011
	Middle	Y	193	Denton	08/APR/2011
	Lower	Y	191	Denton	08/APR/2011
Abdomen Load Cells	Forward	Y	1502	Denton	07/APR/2011
	Middle	Y	1511	Denton	07/APR/2011
	Rear	Y	1537	Denton	07/APR/2011
Lower Spine Accelerometers (T ₁₂)		X	12112	Endevco	25/APR/2011
		Y	P21586	Endevco	25/APR/2011
		Z	P21580	Endevco	25/APR/2011
Pubic Symphosis Load Cell		Y	460	Denton	08/DEC/2010

TABLE 2 - DUMMY INSTRUMENTATION – SID-IIs						
			SID-IIs S/N: 298			
			Serial Number	Manufacturer	Calibration Date	
Head Accelerometers		X	P22041	Endevco	25/APR/2011	
		Y	P24562	Endevco	25/APR/2011	
		Z	P22322	Endevco	25/APR/2011	
		X _R	P24124	Endevco	25/APR/2011	
		Y _R	P21575	Endevco	25/APR/2011	
		Z _R	12132	Endevco	25/APR/2011	
Displacement Potentiometers	Shoulder		Y	1095	FTSS	07/APR/2011
	Thoracic Rib	Upper	Y	1181	Denton	07/APR/2011
		Middle	Y	1203	Denton	07/APR/2011
		Lower	Y	486	Denton	07/APR/2011
	Abdominal Rib	Upper	Y	717	Denton	07/APR/2011
		Lower	Y	1215	Denton	07/APR/2011
Lower Spine Accelerometers (T ₁₂)		X	P21661	Endevco	25/APR/2011	
		Y	P24682	Endevco	25/APR/2011	
		Z	P21788	Endevco	25/APR/2011	
Acetabulum Load Cell		Y	270	Denton	07/APR/2011	
Iliac Wing Load Cell		Y	283	Denton	07/APR/2011	
Pelvis Plug (Struck-Side)				FTSS	22/SEP/11	
Pelvis Plug (Non-Struck-Side)			36388	FTSS	23/SEP/11	

TABLE 3 - VEHICLE INSTRUMENTATION					
			Serial Number	Manufacturer	Calibration Date
1	Vehicle Center of Gravity	X	P21785	Endevco	22/SEP/2011
	Vehicle Center of Gravity	Y	P21608	Endevco	22/SEP/2011
	Vehicle Center of Gravity	Z	P21605	Endevco	22/SEP/2011
2	Right Sill at Front Seat	X	A011321	MSI	22/SEP/2011
	Right Sill at Front Seat	Y	A011331	MSI	22/SEP/2011
	Right Sill at Front Seat	Z	A011312	MSI	22/SEP/2011
3	Right Sill at Rear Seat	X	12096	Endevco	22/SEP/2011
	Right Sill at Rear Seat	Y	12118	Endevco	22/SEP/2011
	Right Sill at Rear Seat	Z	12111	Endevco	22/SEP/2011
4	Left Sill at Front Door	Y	A086980	MSI	22/SEP/2011
5	Left Sill at Rear Door	Y	A086968	MSI	22/SEP/2011
6	Left A-Post Lower	Y	A086987	MSI	22/SEP/2011
7	Left A-Post Middle	Y	A086973	MSI	22/SEP/2011
8	Left B-Post Lower	Y	A086972	MSI	22/SEP/2011
9	Left B-Post Middle	Y	A086978	MSI	22/SEP/2011
10	Front Seat Track	Y	A011644	MSI	22/SEP/2011
11	Rear Seat Track or Structure	Y	A086977	MSI	22/SEP/2011
12	Right Rear Occ. Compartment	Y	J32662	Endevco	22/SEP/2011
13	Engine Block	X	P13835	Endevco	22/SEP/2011
	Engine Block	Y	P12746	Endevco	22/SEP/2011
14	Rear Floorpan Above Axle	X	98L98H31-Z05	Endevco	22/SEP/2011
	Rear Floorpan Above Axle	Y	98G98E11-K02	Endevco	22/SEP/2011
	Rear Floorpan Above Axle	Z	98G98D22-Z15	Endevco	22/SEP/2011

TABLE 4 - MDB INSTRUMENTATION				
		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	12115	Endevco	13/OCT/2011
MDB Center of Gravity	Y	12149	Endevco	13/OCT/2011
MDB Center of Gravity	Z	P21898	Endevco	13/OCT/2011
Left Frame at Rear Axle Centerline	X	P22339	Endevco	13/OCT/2011
Left Frame at Rear Axle Centerline	Y	P22539	Endevco	13/OCT/2011