

REPORT NUMBER: SINCAP-MGA-2013-034

**NEW CAR ASSESSMENT PROGRAM (NCAP)
Moving Deformable Barrier Side Impact Test**

**NISSAN MOTOR CO., LTD.
2013 Infiniti JX35 SUV
NHTSA No.: ND5205**

**MGA RESEARCH CORPORATION
5000 Warren Road
Burlington, WI 53105**



Test Date: November 15, 2012

Final Report Date: January 3, 2013

FINAL REPORT

**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, DC 20590**

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Approved by: 
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Approval Date: January 3, 2013

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-MGA-2013-034	2. Government Accession No.	3. Recipient's Catalog No.																																																					
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact MDB Testing of a 2013 Infiniti JX35 SUV; NHTSA No.: ND5205		5. Report Date January 3, 2013																																																					
		6. Performing Organization Code MGA																																																					
7. Author(s) Donna Janovicz, Project Manager Ben Fischer, Project Engineer		8. Performing Organization Report No. SINCAP-MGA-2013-034																																																					
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105		10. Work Unit No.																																																					
		11. Contract or Grant No. DTNH22-09-D-00124																																																					
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		13. Type of Report and Period Covered: Final Test Report November 15, 2012 to January 3, 2013																																																					
		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 2013 Infiniti JX35 SUV in accordance with the specifications of the Office of Crashworthiness Standards NCAP Side Laboratory Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on November 15, 2012. The impact velocity of the Moving Deformable Barrier (MDB) was 62.3 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.1° C. The target vehicle post-test maximum crush was 269 mm at level 3. The test vehicle's performance was as follows: <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th colspan="3">Driver ATD (ES-2re)</th> </tr> <tr> <th>Measurement Description</th> <th>Units</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td>79</td> </tr> <tr> <td>Maximum Thorax Rib Deflection</td> <td>mm</td> <td>44</td> <td>21</td> </tr> <tr> <td>Total Abdominal Force</td> <td>N</td> <td>2500</td> <td>588</td> </tr> <tr> <td>Pubic Symphysis Force</td> <td>N</td> <td>6000</td> <td>2229</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th colspan="3">Passenger ATD (SID-IIs)</th> </tr> <tr> <th>Measurement Description</th> <th>Units</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td>109</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>Gs</td> <td>82</td> <td>38</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td>2941</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>6</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td>22</td> </tr> </tbody> </table> *Proposed IARV					Driver ATD (ES-2re)			Measurement Description	Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	79	Maximum Thorax Rib Deflection	mm	44	21	Total Abdominal Force	N	2500	588	Pubic Symphysis Force	N	6000	2229		Passenger ATD (SID-IIs)			Measurement Description	Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	109	Resultant Lower Spine Acceleration	Gs	82	38	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2941	Maximum Thoracic Rib Deflection	mm	38*	6	Maximum Abdomen Rib Deflection	mm	45*	22
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19. Security Classification of Report Unclassified	20. Security Classification of Page Unclassified	21. No. of Pages 225	22. Price																																																				

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SECTION 1

TEST PURPOSE AND PROCEDURE

This moving deformable barrier side impact test is part of the MY 2013 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-09-D-00124. The purpose of this test is to generate comparative side impact performance in a 2013 Infiniti JX35 SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Laboratory Test Procedure dated September 2012.

SECTION 2 SUMMARY OF TEST RESULTS

A 2013 Infiniti JX35 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 62.3 km/h. 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 MGA Research Corporation in Burlington, Wisconsin, on November 15, 2012. Pretest 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 NCAP Side Laboratory Test Procedure dated September 2012. The side impact event was documented by eleven (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 Triaxial 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) Triaxial Accelerometers
Pubic Symphysis Y-Axis Load Cell

PASSENGER ATD (SID-IIs)

Primary and Redundant Head CG Triaxial 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) Triaxial Accelerometers
Acetabulum and Iliac Wing Y-Axis Load Cells

Appendix B contains the dummy response data. Dummy configuration and performance verification data can be found in Appendix C of this report. Appendix D contains the test equipment and instrumentation calibration data.

Dummy Injury readings were recorded as follows:

DUMMY INJURY VALUES

Measurement Description	Driver ATD (ES-2re)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/A	1000	79
Maximum Thorax Rib Deflection	mm	44	21
Total Abdominal Force	N	2500	588
Pubic Symphysis Force	N	6000	2229

Measurement Description	Passenger ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/A	1000	109
Resultant Lower Spine Acceleration	Gs	82	38
Total Pelvic Force	N	5525	2941
Maximum Thoracic Rib Deflection	mm	38*	6
Maximum Abdomen Rib Deflection	mm	45*	22

*Proposed IARV

Supplemental restraint information is given below:

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No			
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Abdomen/Pelvis Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other				

The test data can be found on the NHTSA website at www.nhtsa.dot.gov

GENERAL COMMENTS

There was no valid data collected for:

Left Lower B-Post Y after 5ms

Left Mid B-Post Y after 5ms

Driver Seat Track Y after 8ms

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

SECTION 3
OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	ND5205	Traction Control System (TCS)	Yes
Model Year	2013	Auto-Leveling System	No
Make	Infiniti	Automatic Door Locks (ADL)	Yes
Model	JX35	Power Window Auto-Reverse	Yes
Body Style	MPV	Other Optional Feature	N/A
VIN	5N1AL0MN0DC325149	Driver Front Airbag	Yes
Body Color	Liquid Platinum	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	98 / 61	Driver Head/Torso Airbag	No
Engine Displacement (L)	3.5	Driver Torso Airbag	No
Type/No. Cylinders	6	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Lateral	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	No
Transmission Speeds	CVT	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	Front	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	No
Power Seats	Yes	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	No
		Other Safety Restraint	N/A

Does owner's manual provide instruction to turn off automatic door locks?	No
---	----

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Co., Ltd.	GVWR (kg)	2715
Date of Manufacture	10/12	GAWR Front (kg)	1325
Vehicle Type	MPV	GAWR Rear (kg)	1415

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3	2	7	
Capacity Weight (VCW) (kg)				521	(A)
DSC x 68.04 kg				476	(B)
Rated Cargo and Luggage Weight (RCLW)				45	(A-B)

VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X						X
Rear or Second Row			X			w/lever	
Third Row Seat			X			w/lever	

Test Vehicle: 2013 Infiniti JX35 SUV
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The diagram shows a cross-section of a tire with the following labels and specifications:

- Treadwear, traction and temperature grades:** TREADWEAR 220, TRACTION A, TEMPERATURE A
- Tire ply composition and materials used:** 2 PLYS 2XXXXX CORD • MAX LOAD 1300 LBS • MAX PRESS 35 PSI • RADIAL • TUBELESS • DOT M49 ASRC6 • FIELD 4 PLYS • 2XXXXX SIDEWALL
- Max. cold inflation & load limit:** (Indicated by a line pointing to the tire's outer edge)
- Manufacturer:** (Indicated by a line pointing to the word "MANUFACTURER" on the sidewall)
- Tire Name:** (Indicated by a line pointing to the word "TIRE NAME" on the sidewall)
- U.S. DOT safety standard code:** (Indicated by a line pointing to the code "DOT M49 ASRC6")
- Load index & speed symbol:** (Indicated by a line pointing to the code "89H")
- Diameter of wheel in inches:** (Indicated by a line pointing to the code "15")
- Ratio of height to width (aspect ratio):** (Indicated by a line pointing to the code "65")
- Radial:** (Indicated by a line pointing to the word "RADIAL")
- Width of tire in millimeters:** (Indicated by a line pointing to the code "215")
- Passenger car tire:** (Indicated by a line pointing to the code "R")

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	230	230
Recommended Tire Size	235/65R18	235/65R18
Tire Size on Vehicle	235/65R18	235/65R18
Tire Manufacturer	Michelin	Michelin
Tire Model	Latitude	Latitude
Treadwear	620	620
Traction	A	A
Temperature Grade	B	B
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	106T	106T
Tire Material	Rubber	Rubber
DOT Safety Code Left	B9MB 002X	B9MB 002X
DOT Safety Code Right	B9MB 002X	B9MB 002X

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

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kpa	230	230	230	230
Tire Placard	kpa	230	230	230	230
Owner's Manual	kpa				
As Tested	kpa	230	230	230	230

MDB TIRE SPECIFICATIONS

	Requirement	Units	LF	RF	LR	RR
Tire Size	P205/75R15	N/A	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire	200 ± 21	kPa	220	220	220	220

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	552.9	439.5		606.0	505.3		590.1	520.7	
Right	kg	540.7	419.6		551.1	457.7		542.1	473.6	
Ratio	%	56.0	44.0		54.6	45.4		53.2	46.8	
Totals	kg	1093.6	859.1	1952.7	1157.1	963.0	2120.1	1132.2	994.3	2126.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1952.7	(A)
Sum of Actual Weight of 2 P572 ATDs Used	kg	129.3	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	45	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2127.0	(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**

TEST VEHICLE ATTITUDES AND CG

	Units	Fully Loaded	As Tested	Meets Requirement***
Left Front	mm	811	809	Yes
Right Front	mm	822	818	Yes
Right Rear	mm	824	829	Yes
Left Rear	mm	810	820	Yes
Vehicle CG (Aft of Front Axle)	mm	1356	1318	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	37	40	

*** 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.

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

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Weight of Ballast, if any	44.0
Right taillight, jack & tools, rear carpet, cargo trim, cargo storage container, 3 rd row seats.	54.4

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

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the mid-track, lowest, mid-angle position. The struck-side rear passenger's seat, rear center seat, and non-struck side rear passenger's seats should be set to the rear-most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	18.3	9.9	14.1
Front Passenger Seat	9.5	7.3	8.4
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCR Height (mm)	SCR Height Position	SCR Height (mm)		
				Rear- most	Mid- Fore/Aft	Forward- Most
Driver Seat	14.1	0	Max	40	40	40
	14.1	0	Mid	20	20	20
	14.1	0	Min	0	0	0
Front Passenger Seat	8.4	Fixed	Max	Fixed	Fixed	Fixed
	8.4	Fixed	Mid	Fixed	Fixed	Fixed
	8.4	Fixed	Min	Fixed	Fixed	Fixed
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	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed

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

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

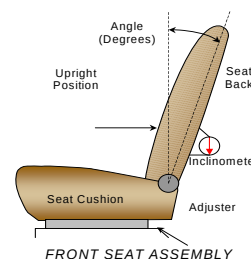
NHTSA No. ND5205
 Test Date: 11/15/2012

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	240		120	
Front Passenger Seat	240		120	
Front Center Seat				
Struck Side Rear Seat	140	15 (1 st as 1)	140	14 (1 st as 0)
Non-Struck Side	140	15 (1 st as 1)	140	14 (1 st as 0)
Rear Center Seat	140	15 (1 st as 1)	140	14 (1 st as 0)

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned to the manufacturer's designated design angle. The front passenger's seat back is positioned in a similar manner as the driver's seat back. The struck side rear seat back is adjusted following Appendix C, "Positioning Dummies in the Test Vehicle" in the NCAP Laboratory Test Procedure dated September 2012. The rear center and non-struck side rear outboard seat backs are positioned to match the struck side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Vertical	
	Degrees	Detents	Degrees	Detent
Driver Seat w/Seated Dummy	69.3		-1.4	
Front Passenger Seat	77.0		-1.4	
Front Center Seat				
Struck Side Rear Seat	20.6	11 (1 st as 1)	3.6	0 (1 st as 0)
Non-Struck Side Rear Seat	20.6	11 (1 st as 1)	3.6	0 (1 st as 0)
Rear Center Seat	20.6	11 (1 st as 1)	3.6	0 (1 st as 0)

DATA SHEET NO. 2 (CONTINUED)

SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012

SEAT BELT ANCHORAGE ADJUSTMENT

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

	Total # of Positions	Placed in Position #
Driver Seat	5 detents (1 st as 1)	0 (uppermost as 0)
Rear Seat	4 detents (1 st as 1)	0 (uppermost as 0)

HEAD RESTRAINT ADJUSTMENT

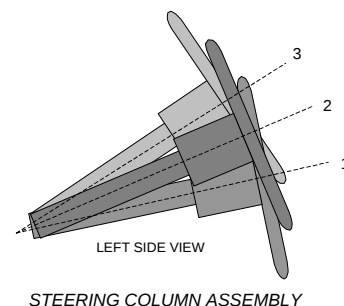
The driver's head restraint is adjusted to the highest and most full forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	5	Highest
Rear Seat	3	Lowest

STEERING COLUMN ADJUSTMENT

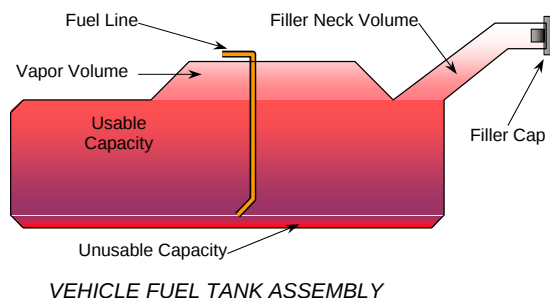
Steering wheel and column adjustments are made so that the steering wheel Ogeometric locus is described when it moves through its full range of motion.

	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	68.0	186
Geometric Center, Position 2	63.5	161
Uppermost, Position 3	59.0	136
Telescoping Steering Wheel Travel		50
Test Position	63.5	161



FUEL PUMP

Describe the fuel pump type, details about how it operates and the location of the fuel filler pipe. The vehicle is equipped with an electric fuel pump. The fuel pump will pump fuel for 1.0 seconds after the ignition is switched to "ON", while the engine is running, and for 1.5 seconds after the engine stops running. The fuel pipe is on the left side.



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

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012

FUEL TANK CAPACITY DATA

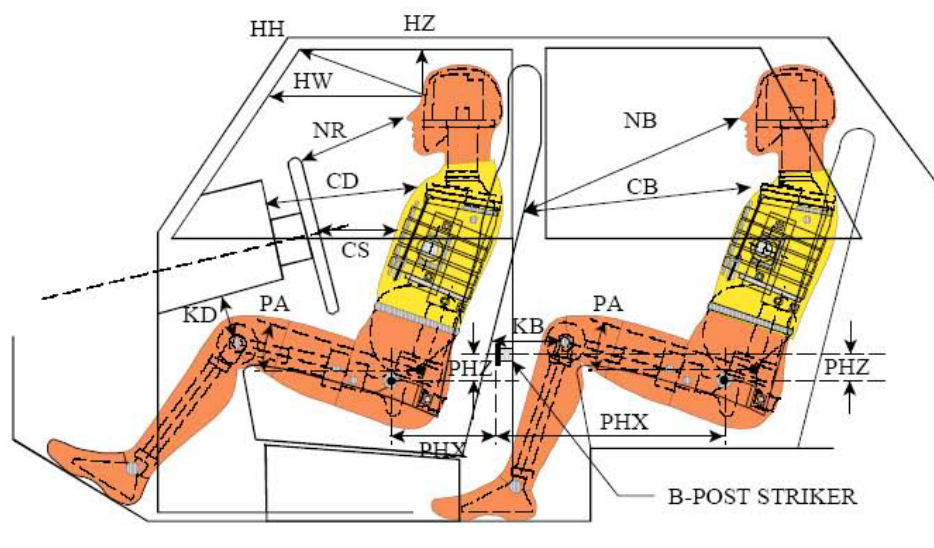
	Liters
Usable Capacity of "Standard" Tank (see Form No. 1)	73.1
Usable Capacity of "Optional" Tank (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	74.0
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	68.0
Actual Amount of Solvent Used	67.8
1/3 of Usable Capacity	24.4

Is the actual amount of solvent used in the test equal to 93% $\pm$ 1%
 of the Usable Capacity stated in Form No. 1? **YES**

DATA SHEET NO. 3 DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

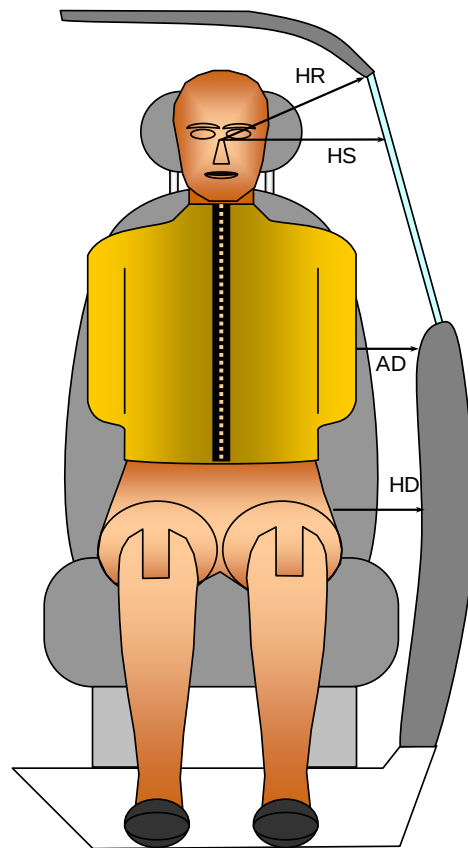
DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Pass. Code	Measurement Description	Driver S/N 032		Passenger S/N 296	
			Length (mm)	Angle(°)	Length (mm)	Angle(°)
HH		Head to Header	366	17.8		
HW		Head to Windshield	712			
HZ	HZ	Head to Roof Liner	171		267	
NR	NB	Nose to Rim/Seat Back	442	16.5	610	13.2
CD	CB	Chest to Dashboard/Seat Back	570	5.7	596	6.3
CS		Chest to Steering Wheel	332	8.8		
KDL	KBL	Left Knee to Dash/Seat Back	153	28.1	336	21.5
KDR	KBR	Right Knee to Dash/Seat Back	144	28.7	338	20.6
PAX	PAX	Pelvic Tilt Angle X		21.3		22.5
	PAY	Pelvic Tilt Angle Y		-0.9		-1.1
PHX	PHX	Hip Point to Striker (X-Axis)	249		320	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	145		151	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012



FRONT VIEW OF DUMMY

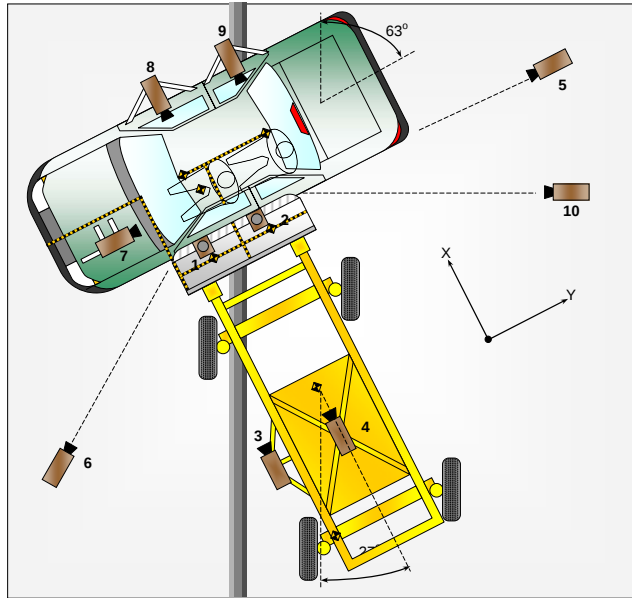
DUMMY LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver S/N 032	Passenger S/N 296
HR	Head to Side Header	mm	229	262
HS	Head to Side Window	mm	348	370
AD	Arm to Door	mm	102	193
HD	Hip Point to Door	mm	143	188

DATA SHEET NO. 5 CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012



CAMERA LOCATIONS AND DATA

No.	Camera View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X*	Y*	Z*		
1	Overhead Overall	140	210	-5050	14	1000
2	Overhead Close-Up	100	70	-5040	20	1000
3	Left Impact Point (MDB)				50	1000
4	Side Overall (MDB)				16	1000
5	Rear	80	4910	-1210	24	1000
6	Left Front	3740	-4210	-1200	24	1000
7	Driver Front (OB)				16	1000
8	Driver Side (OB)				8	1000
9	Passenger Side (OB)				8	1000
10	Real Time Left Rear					30
11	Real Time Inrun					30

Reference: Impact Point projected to Ground; +X = To Front of MDB, + Y = To Right of MDB, +Z = Down

* All measurements accurate to ± 6 mm

Explain why camera(s) did not operate as intended: None

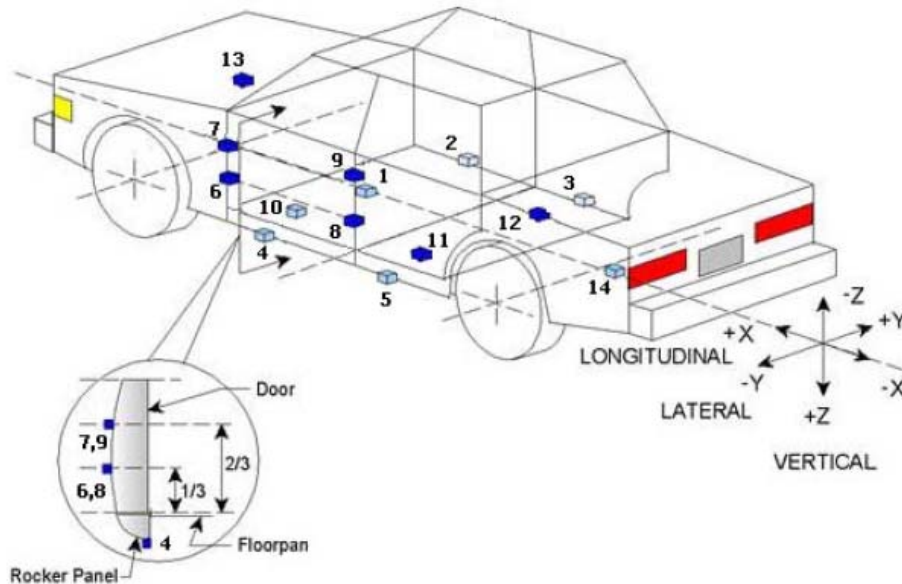
INSTRUMENTATION

Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	23
MDB Accelerometers	5
MDB Contacts	2
Total	62

DATA SHEET NO. 6 **TEST VEHICLE ACCELEROMETER LOCATIONS**

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012



TEST VEHICLE ACCELEROMETER LOCATIONS

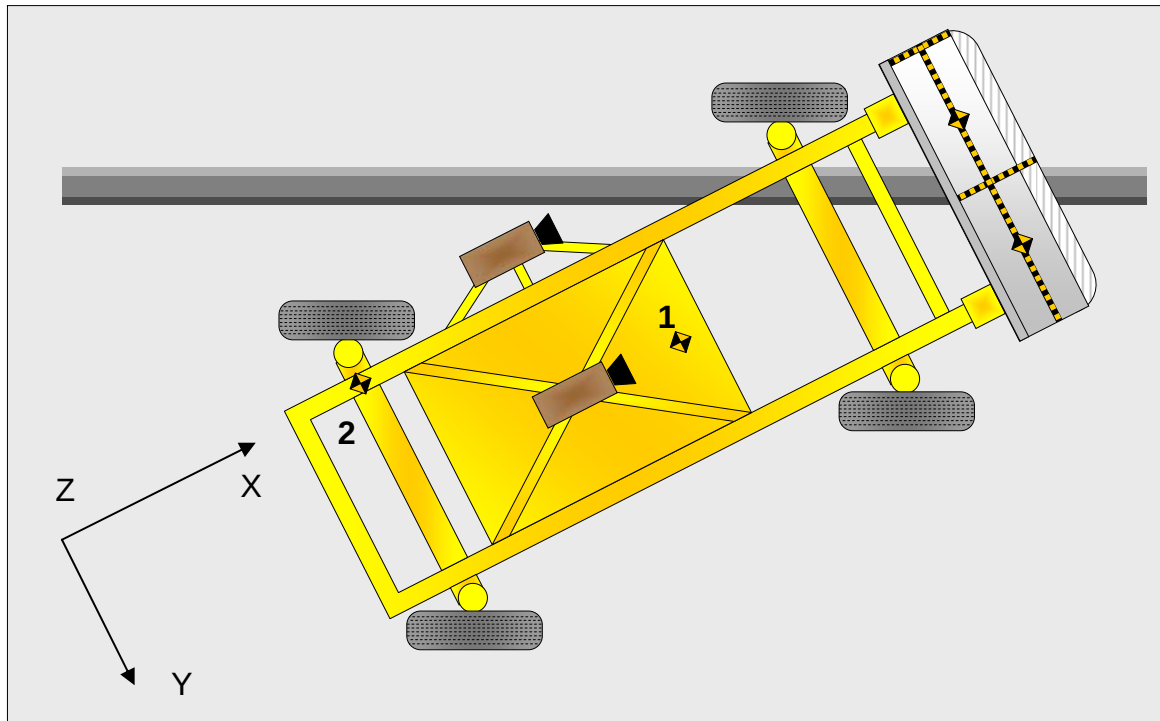
Accelerometer Location				
No.	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2605	0	-392
2	Right Sill at Front Seat	2685	788	-315
3	Right Sill at Rear Seat	1942	795	-325
4	Left Sill at Front Door	2762	-788	-311
5	Left Sill at Rear Door	1892	-795	-315
6	Left Lower A-Post	3435	-861	-761
7	Left Middle A-Post	3451	-836	-1004
8	Left Lower B-Post	2284	-770	-728
9	Left Middle B-Post	2273	-760	-981
10	Front Seat Track	2576	-576	-517
11	Rear Seat Structure	1824	-510	-530
12	Rt. Rear Occ. Compartment	1913	371	-605
13	Engine Block	4115	62	-926
14	Rear Above Axle	927	0	-703

Reference: X – Rear Surface of Vehicle (+ forward)
Y - Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 7
MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012



MDB ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	MDB CG	-1105	0	-330
2	MDB Rear	-2580	-650	-625

Reference: X - MDB Face (+ forward)
 Y - MDB Centerline (+ to right)
 Z - Ground Plane (+ down)

DATA SHEET NO. 8
POST-TEST OBSERVATIONS

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat Dummy (ES-2re)	Rear Seat Dummy (SID-IIs)
Face	Curtain Airbag	Curtain Airbag
Top of Head	Curtain Airbag, Headliner	Curtain Airbag
Left Side of Head	Curtain Airbag	Curtain Airbag
Back of Head	Headliner, Headrest	Curtain Airbag, Center Headrest
Left Shoulder	Curtain Airbag, Side Airbag	Door Panel
Upper Torso	Side Airbag, Seatback	None
Lower Torso	Side Airbag, Seatback	Door Panel
Left Hip	Side Airbag, Seatpan	Door Panel
Left Knee	Door Panel	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 or Latches	No	No	No	No	No
Latch or 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

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Side Window Damage	None
Other Notable Effects	None

DATA SHEET NO. 8 (CONTINUED)
POST-TEST OBSERVATIONS

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
Test Date: 11/15/2012

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No			
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Abdomen/Pelvis Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other				

IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		2901
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		508
Actual Impact Point (Aft of Front Axle)	mm		516
Horizontal Offset (+forward / -rearward)	mm	+/- 50 of intended impact point	-8
Vertical Offset (+down / -up)	mm	+/- 20 of intended impact point	+7

DATA SHEET NO. 9
MDB SUMMARY OF RESULTS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheelbase of Framework Carriage	2592
CG Location aft of Front Axle	1129

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	411.8	281.6	
Right	kg	356.8	311.3	
Ratio	%	56.5	43.5	
Totals	kg	768.6	592.9	1361.5

SPEED AND ANGLE AT IMPACT DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.3
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.3
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.9
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	63.4
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26 to 28	26.6

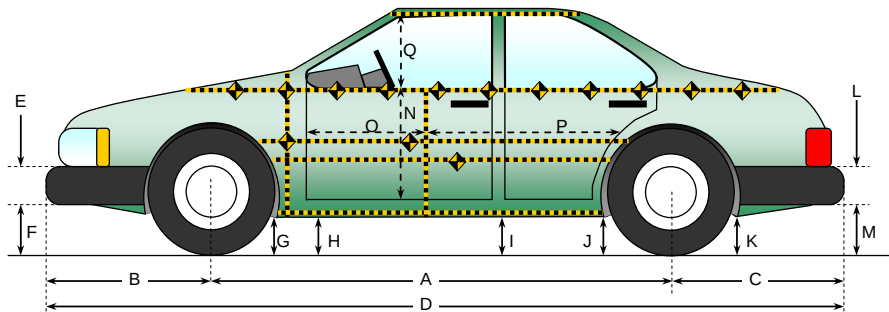
MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Vertical Location			From Centerline		Maximum Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	197
B	Top of Bumper	533	800	Right	119
C	Mid-Level	686	200	Right	105
D	Top of Stack	813	200	Right	133

DATA SHEET NO. 10
TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012



All measurements in (mm) with tolerance of ± 3 mm

LEFT SIDE VIEW

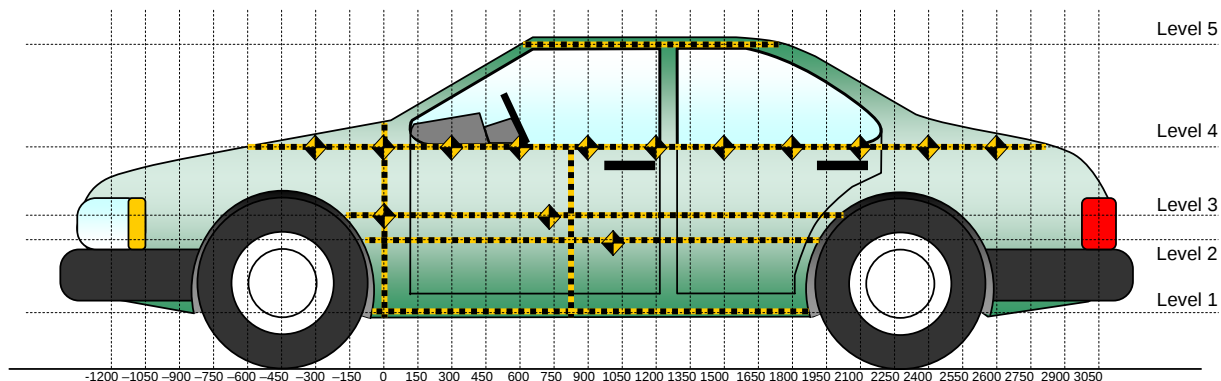
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2901	2877	24
B	Front Axle to FSOV	980	1014	-34
C	Rear Axle to RSOV	1109	1080	29
D	Total Length at Centerline	4990	4971	19
E	Front Bumper Thickness	135	135	0
F	Front Bumper Bottom to Ground	192	188	4
G	Sill Height at Front Wheel Well	295	302	-7
H	Sill Height at Front Door Leading Edge	296	298	-2
I	Sill Height at B Pillar	299	328	-29
J1	Sill Height at Rear Wheel Well	296	324	-28
J2	Pinch Weld Height at Rear Wheel Well	296	320	-24
K	Sill Height Aft of Rear Wheel Well	317	324	-7
L	Rear Bumper Thickness	70	70	0
M	Rear Bumper Bottom to Ground	437	453	-16
N	Sill Height to Window Bottom Sill	830	715	115
O	Front Door Leading Edge to Impact CL	861	741	120
P	Rear Door Trailing Edge to Impact CL	1304	1220	84
Q	Front Window Opening	487	566	-79
R	Right Side Length	3686	3686	0
S	Left Side Length	3686	3660	26
T	Vehicle Width at B Post	1945	1773	172

DATA SHEET NO. 11 **TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012



All Measurements Shown in mm

LEFT SIDE VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	393	170	1050
2	Occupant Hip Point	719	268	1500
3	Mid Door	744	269	1650
4	Window Sill	1109	90	1200
5	Window Top	1660	6	900

Note: The measurements are taken along the vertical impact reference line.
 Vehicle measurements forward of the vertical impact reference line are negative.

DATA SHEET NO. 11 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012

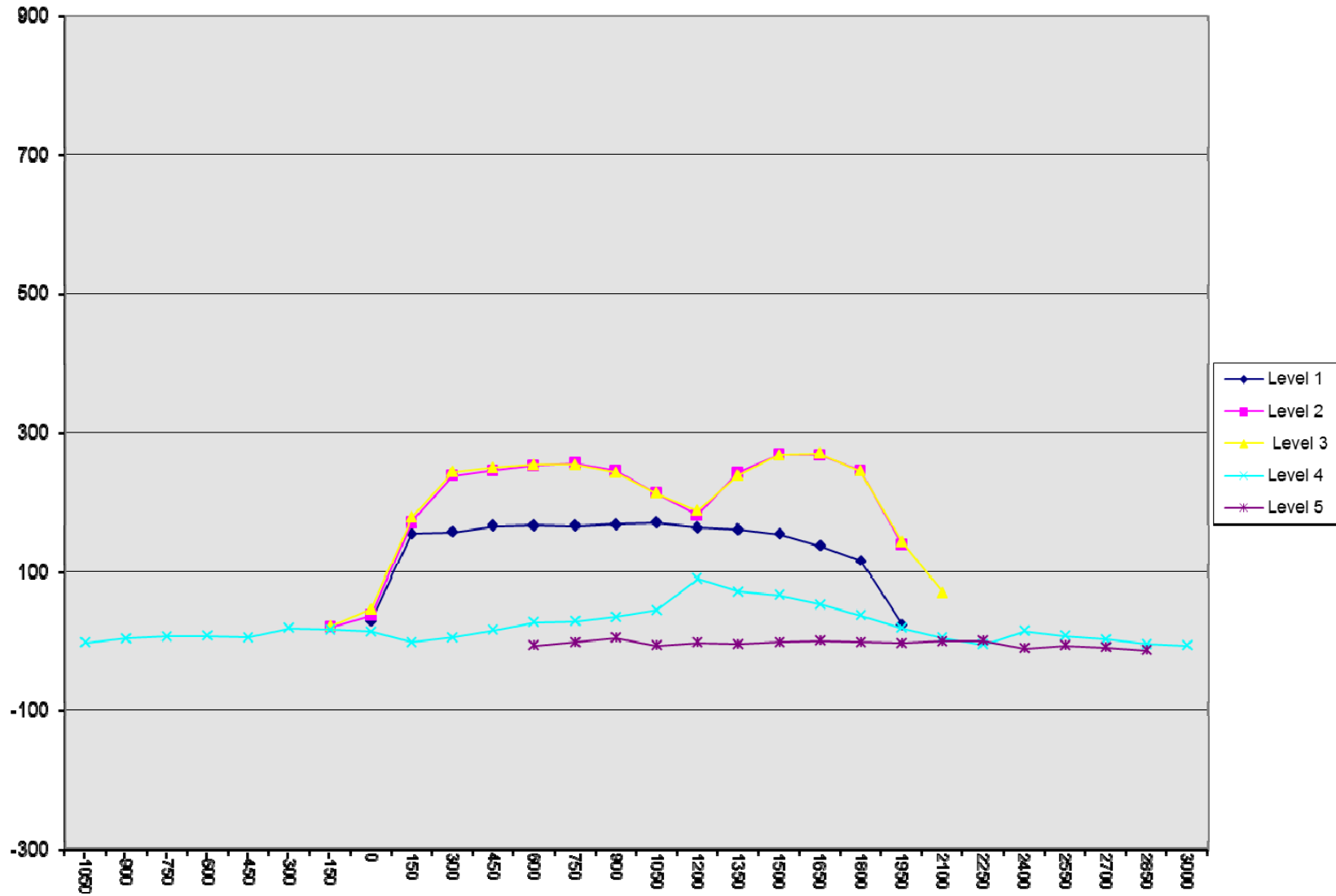
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1050				361					360					-1	
-900				320					325					5	
-750				287					295					8	
-600				265					274					9	
-450				249					256					7	
-300				238					258					20	
-150		127	125	238			148	148	256			21	23	18	
0	156	133	131	235		186	171	178	250		30	38	47	15	
150	169	139	137	232		325	310	314	232		156	171	177	0	
300	170	138	137	227		328	375	380	234		158	237	243	7	
450	166	138	137	216		332	383	386	233		166	245	249	17	
600	166	138	136	205	494	333	390	389	233	489	167	252	253	28	-5
750	164	135	136	198	482	330	390	389	228	482	166	255	253	30	0
900	162	135	135	185	464	330	380	377	221	470	168	245	242	36	6
1050	158	135	134	180	464	328	347	346	226	459	170	212	212	46	-5
1200	158	135	134	174	464	322	316	321	264	463	164	181	187	90	-1
1350	158	134	132	169	460	319	376	370	241	457	161	242	238	72	-3
1500	159	134	132	167	460	314	402	399	234	460	155	268	267	67	0
1650	160	132	130	170	460	298	399	399	224	462	138	267	269	54	2
1800	160	130	130	173	465	277	375	374	211	465	117	245	244	38	0
1950	157	125	125	178	471	182	265	269	198	469	25	140	144	20	-2
2100			125	184	476			196	190	477			71	6	1
2250				190	492				186	494				-4	2
2400				196	504				212	495				16	-9
2550				203	517				212	512				9	-5
2700				210	525				214	517				4	-8
2850				223	546				220	534				-3	-12
3000				245					240					-5	

NOTE: Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point.

DATA SHEET NO. 11 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2013 Infiniti JX35 SUV
Test Program: NCAP Side MDB Impact Test

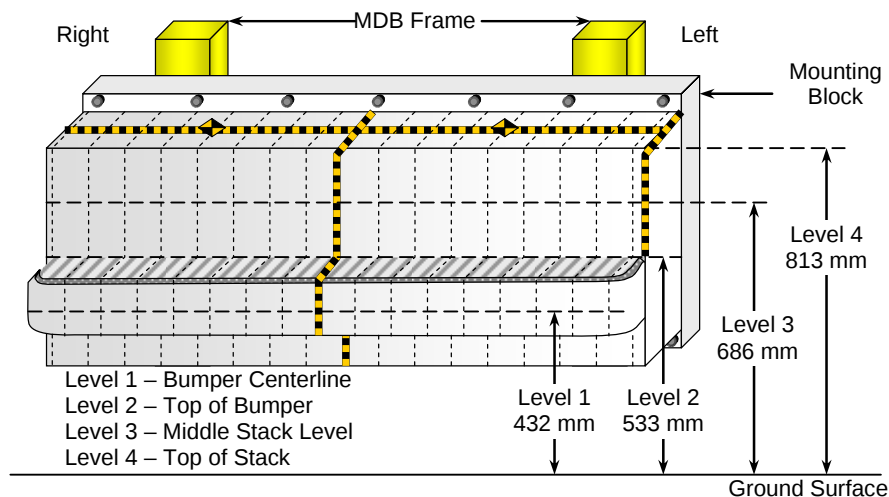
NHTSA No. ND5205
Test Date: 11/15/2012



DATA SHEET NO. 12
MDB EXTERIOR STATIC CRUSH MEASUREMENTS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012



FRONT VIEW

DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center (mm)								C _L	Distance Left of Center (mm)							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
4	48	42	44	50	72	100	133	122	91	84	70	74	75	70	80	95	113
3	47	35	33	33	43	69	105	93	66	44	39	52	56	43	46	59	89
2	119	109	91	82	70	67	67	78	77	74	94	97	100	105	108	108	110
1	189	196	191	187	186	184	182	184	186	184	185	187	187	187	188	193	197

DATA SHEET NO. 13
FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

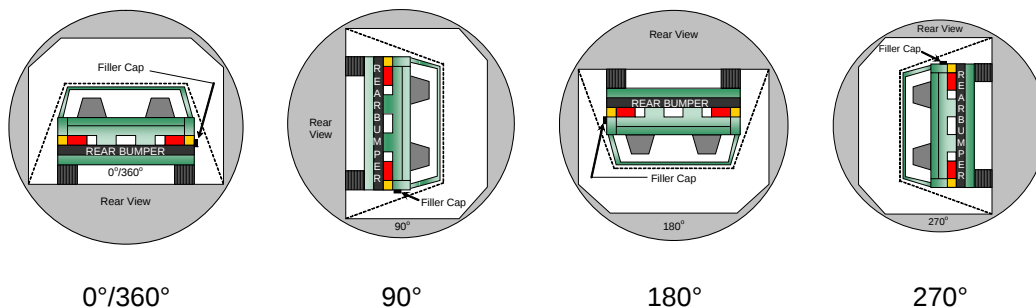
NHTSA No. ND5205
 Test Date: 11/15/2012

Test Time: 2:27 pm

Temperature: 21.1° C

- A. From impact until vehicle motion ceases: 0 oz.
 (Maximum Allowable = 1 ounce)
 B. For the 5 minute period after motion ceases: None
 (Maximum allowable = 5 ounces)
 C. For the following 25 minutes: None
 (Maximum allowable = 1 oz./minute)
 D. Spillage Details: None

FMVSS 301 STATIC ROLLOVER DATA



ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	110	300	410
90° to 180°	111	300	411
180° to 270°	110	300	410
270° to 360°	111	300	411

FMVSS 301 ROLLOVER SPILLAGE TABLE (units in ounces)

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eight Minute
0° to 90°	0	0	0	0
90° to 180°	0	0	0	0
180° to 270°	0	0	0	0
270° to 360°	0	0	0	0

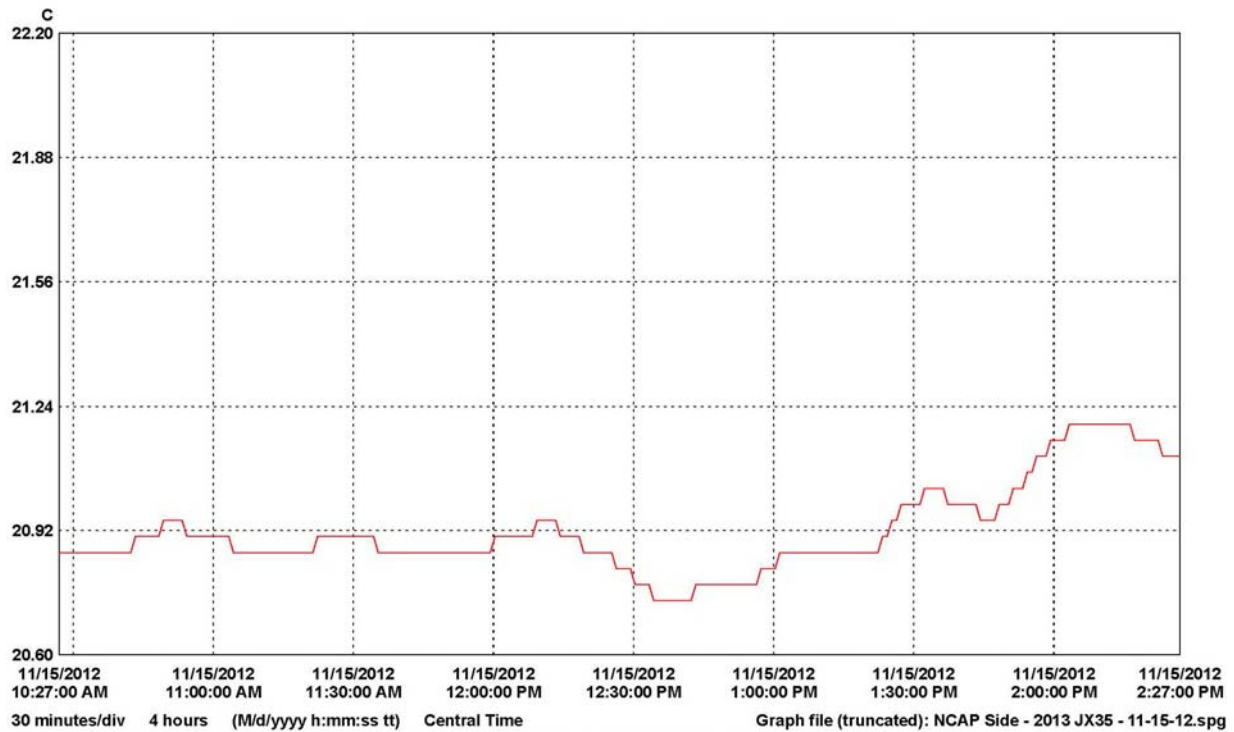
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	
90° to 180°	
180° to 270°	
270° to 360°	

DATA SHEET NO. 14
DUMMY/VEHICLE TEMPERATURE STABILIZATION DATA

Test Vehicle: 2013 Infiniti JX35 SUV
 Test Program: NCAP Side MDB Impact Test

NHTSA No. ND5205
 Test Date: 11/15/2012



LN	Serial #	Description	CH	Value	Maximum	Average	Minimum	Units	CH description	Logger file
1	10102056	Crash	1		21.19	20.92	20.74	C	Temperature	10102056_Crash.spl

APPENDIX A
PHOTOGRAPHS

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As Delivered Right Front Three-Quarter View of Test Vehicle



As Delivered Left Rear Three-Quarter View of Test Vehicle



Pre-Test Frontal View of Test Vehicle



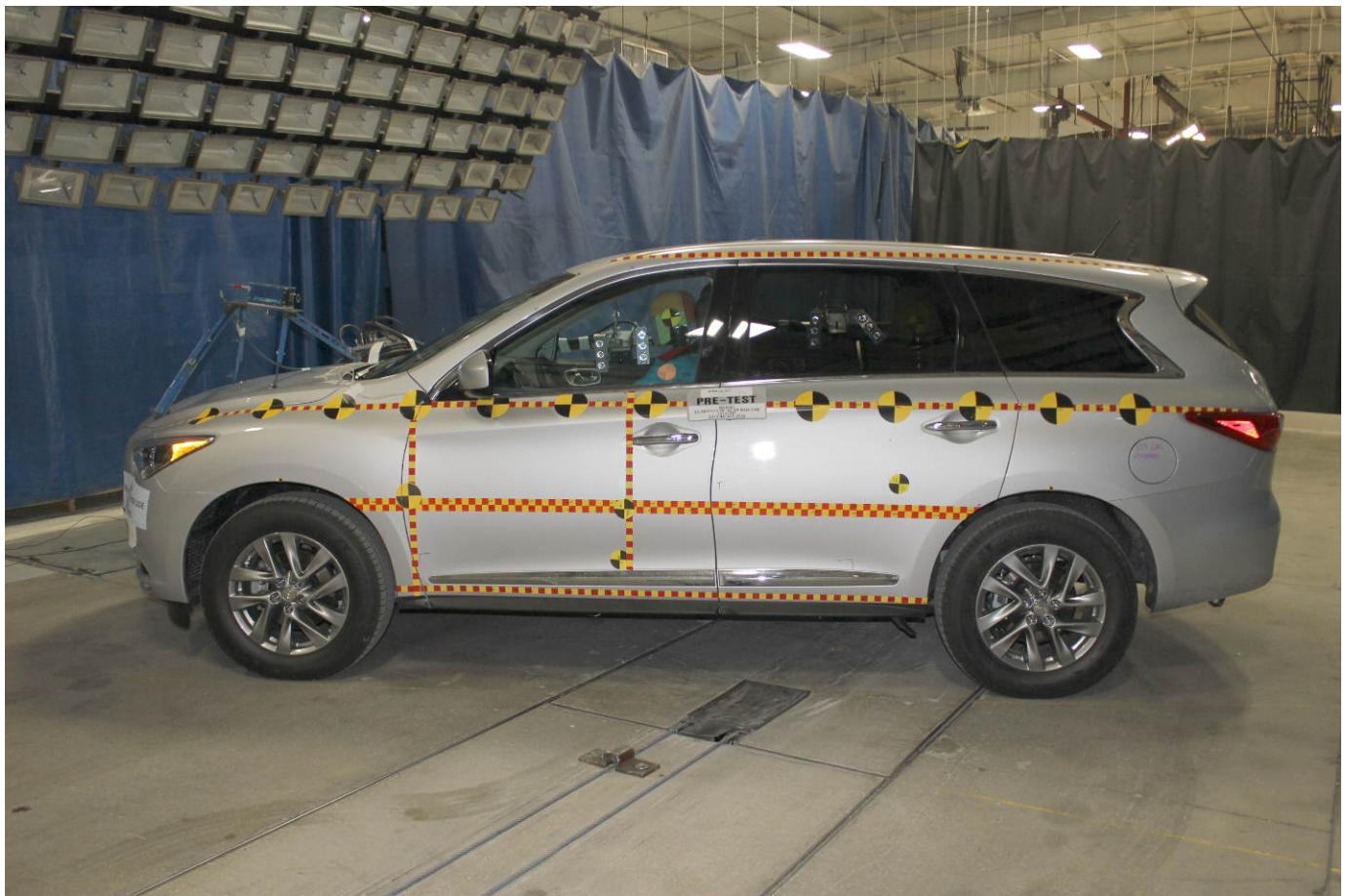
Post-Test Frontal View of Test Vehicle



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



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



Pre-Test Left Side View of Test Vehicle



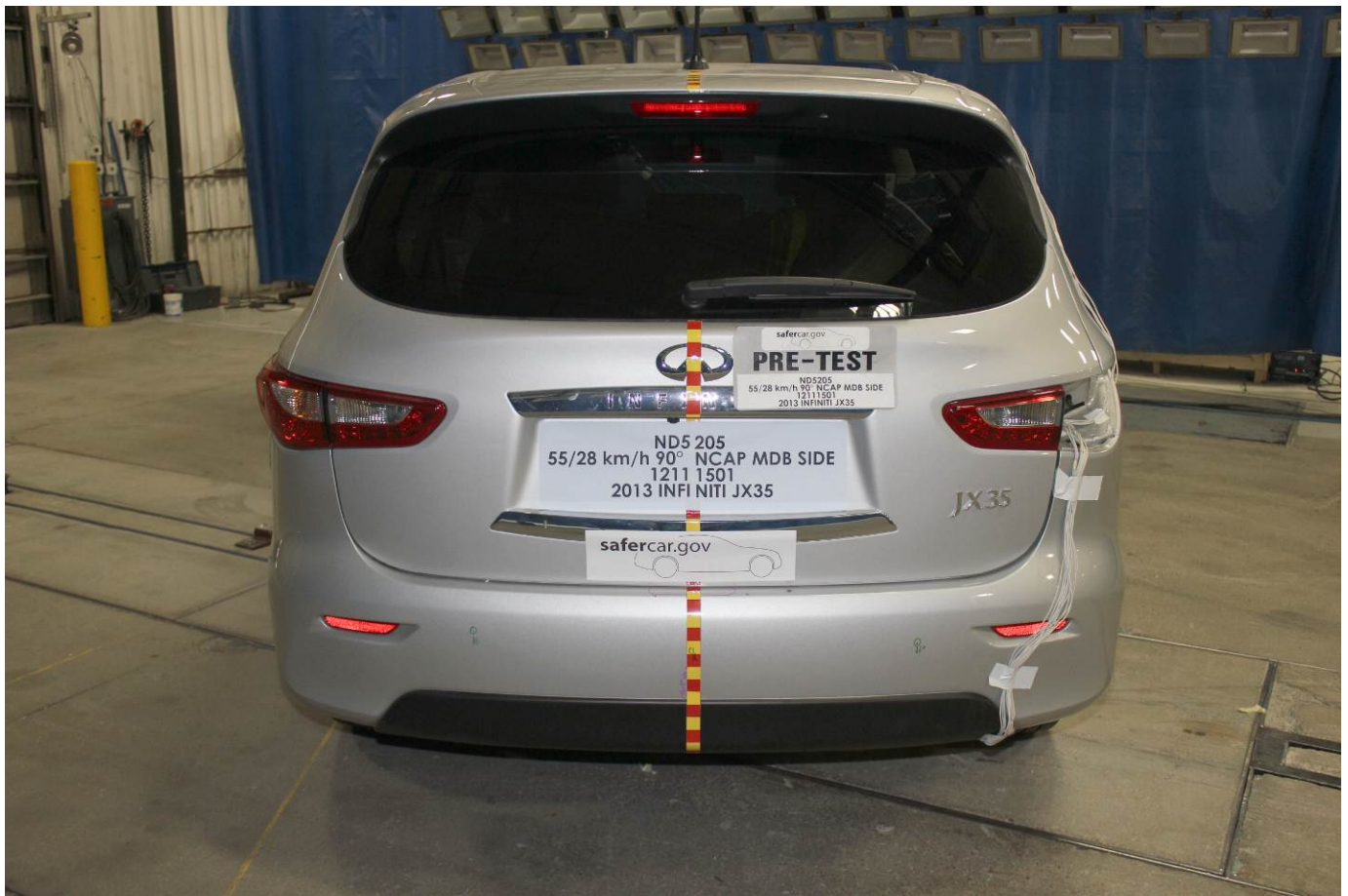
Post-Test Left Side View of Test Vehicle



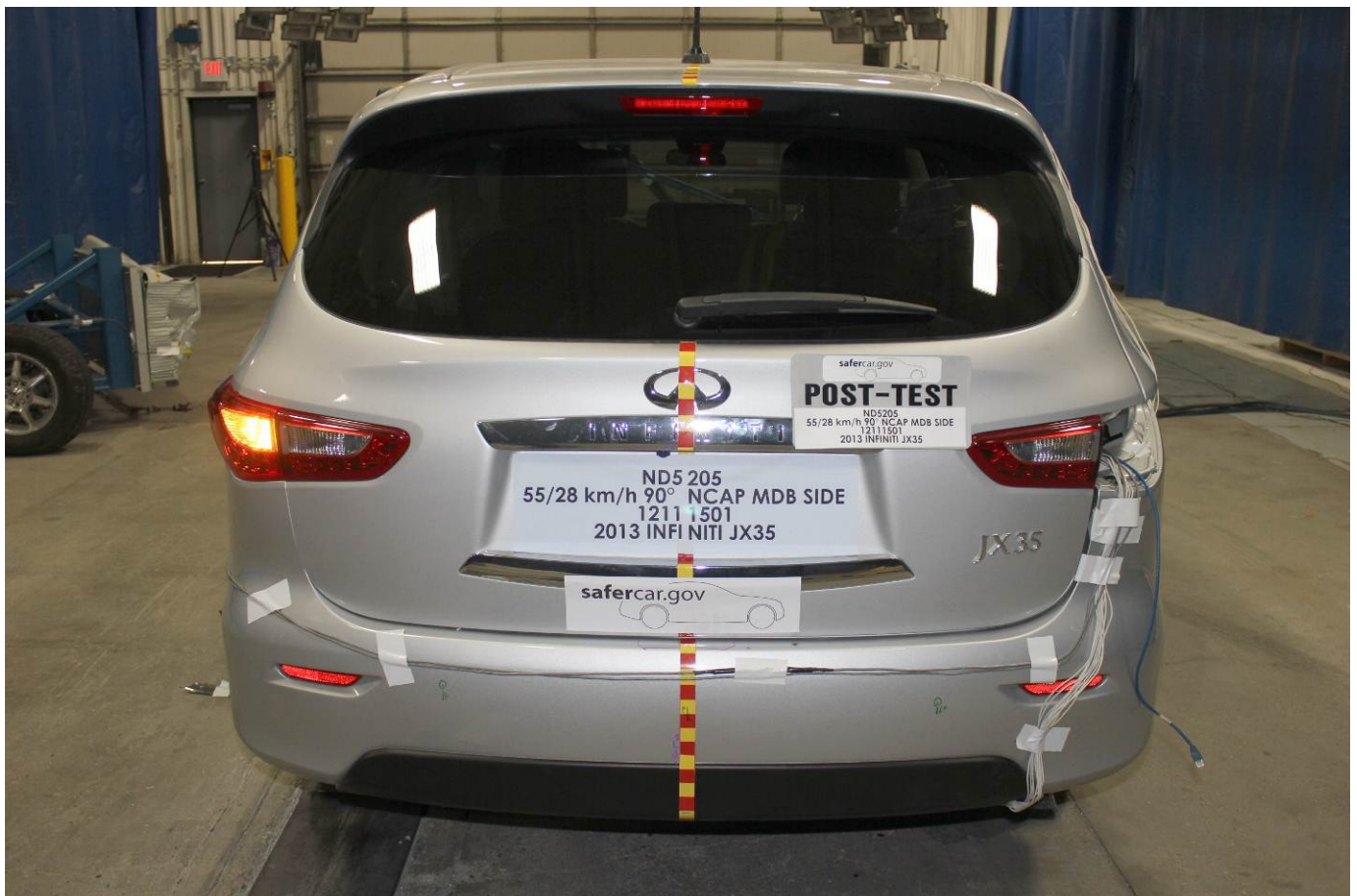
Pre-Test Left Three-Quarter Rear View of Test Vehicle



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



Pre-Test Rear View of Test Vehicle



Post-Test Rear View of Test Vehicle



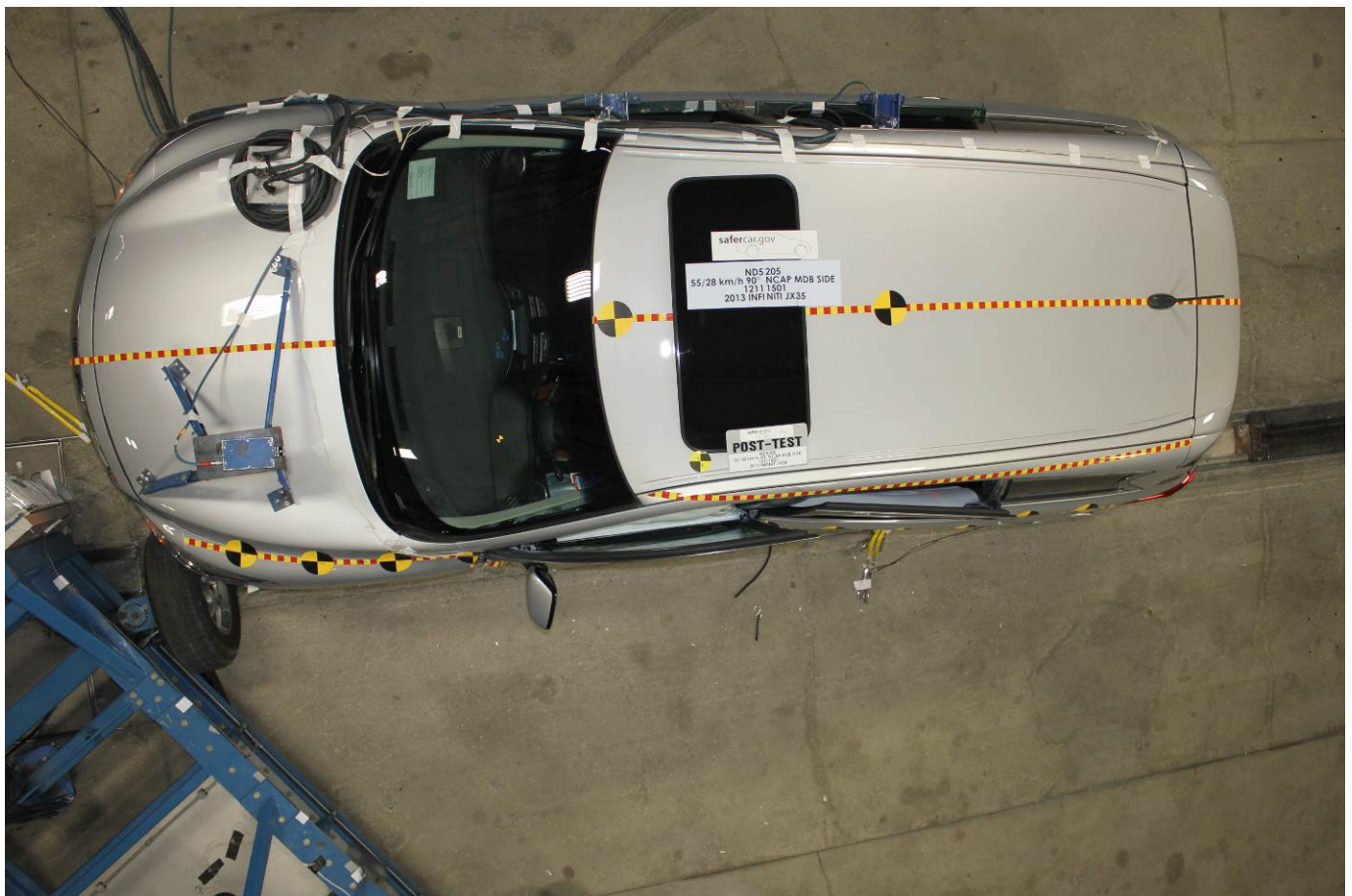
Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle



Pre-Test Overhead View of Test Area



Post-Test Overhead View of Test Area



Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle



Pre-Test Right Side View of MDB Positioned Against Side of Test Vehicle



Pre-Test Close-Up View of Impact Point Target



Post-Test Close-Up View of Impact Point Target



Pre-Test Left Front Door Latch Close-Up



Post-Test Left Front Door Latch Close-Up



Pre-Test Left Rear Door Latch Close-Up



Post-Test Left Rear Door Latch Close-Up



Pre-Test Front Close-Up View of Driver Dummy



Post-Test Front Close-Up View of Driver Dummy



Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking



Pre-Test Left Side View of Driver Dummy Shoulder and Door Top View



Post-Test Left Side View of Driver Dummy Shoulder and Door Top View



Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning



Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning



Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan



Pre-Test Placement of Driver Dummy's Feet



Pre-Test View of Belt Anchorage for Driver Dummy



Pre-Test Left Side View of Steering Wheel



Pre-Test View of Disengaged Parking Brake



Pre-Test View of Parking Brake



Pre-Test Close-Up Left Side View of Driver Seat Track



Pre-Test Close-Up Left Side View of Driver Seat Back



Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Pre-Test Driver Dummy and Door Clearance View



Post-Test Driver Dummy and Door Clearance View



Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Post-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Pre-Test Driver Inner Door Panel View



Post-Test Driver Inner Door Panel View



Post-Test Driver Dummy Close-up Head Contact with Vehicle Interior View



Post-Test Driver Dummy Close-up Head Contact with Vehicle Interior View



Post-Test Driver Dummy Close-up Head Contact with Side Airbag View



Post-Test Driver Dummy Close-up Torso Contact with Vehicle Interior View



Post-Test Driver Dummy Close-up Torso Contact with Side Airbag View



Post-Test Driver Dummy Close-up Pelvis Contact with Vehicle Interior View



Post-Test Driver Dummy Close-up Pelvis Contact with Side Airbag View



Post-Test Driver Dummy Close-up Knee Contact View



Pre-Test Left Side View of Rear Passenger Dummy Showing Belt and Chalking



Pre-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Post-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning



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



Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning



Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan



Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket



Pre-Test View of Rear Passenger Dummy's Head Showing Dummy's Head is Level



Pre-Test Placement of Rear Passenger Dummy's Feet



Pre-Test View of Belt Anchorage for Rear Passenger Dummy



Pre-Test Close-Up Left Side View of Rear Passenger Seat Track



Pre-Test Close-Up Left Side View of Rear Passenger Seat Back



Pre-Test Close-up View of Rear Passenger Seat Back or Head Restraint



Pre-Test Rear Passenger Dummy and Door Clearance View



Post-Test Rear Passenger Dummy and Door Clearance View



Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Pre-Test Rear Passenger Inner Door Panel View



Post-Test Rear Passenger Inner Door Panel View



Post-Test Rear Passenger Dummy Close-up Head Contact with Vehicle Interior View



Post-Test Rear Passenger Dummy Close-up Head Contact with Side Airbag View



Post-Test Rear Passenger Dummy Close-up Torso Contact with Vehicle Interior View



Post-Test Rear Passenger Dummy Close-up Torso Contact with Vehicle Interior View

PHOTOGRAPH NOT APPLICABLE

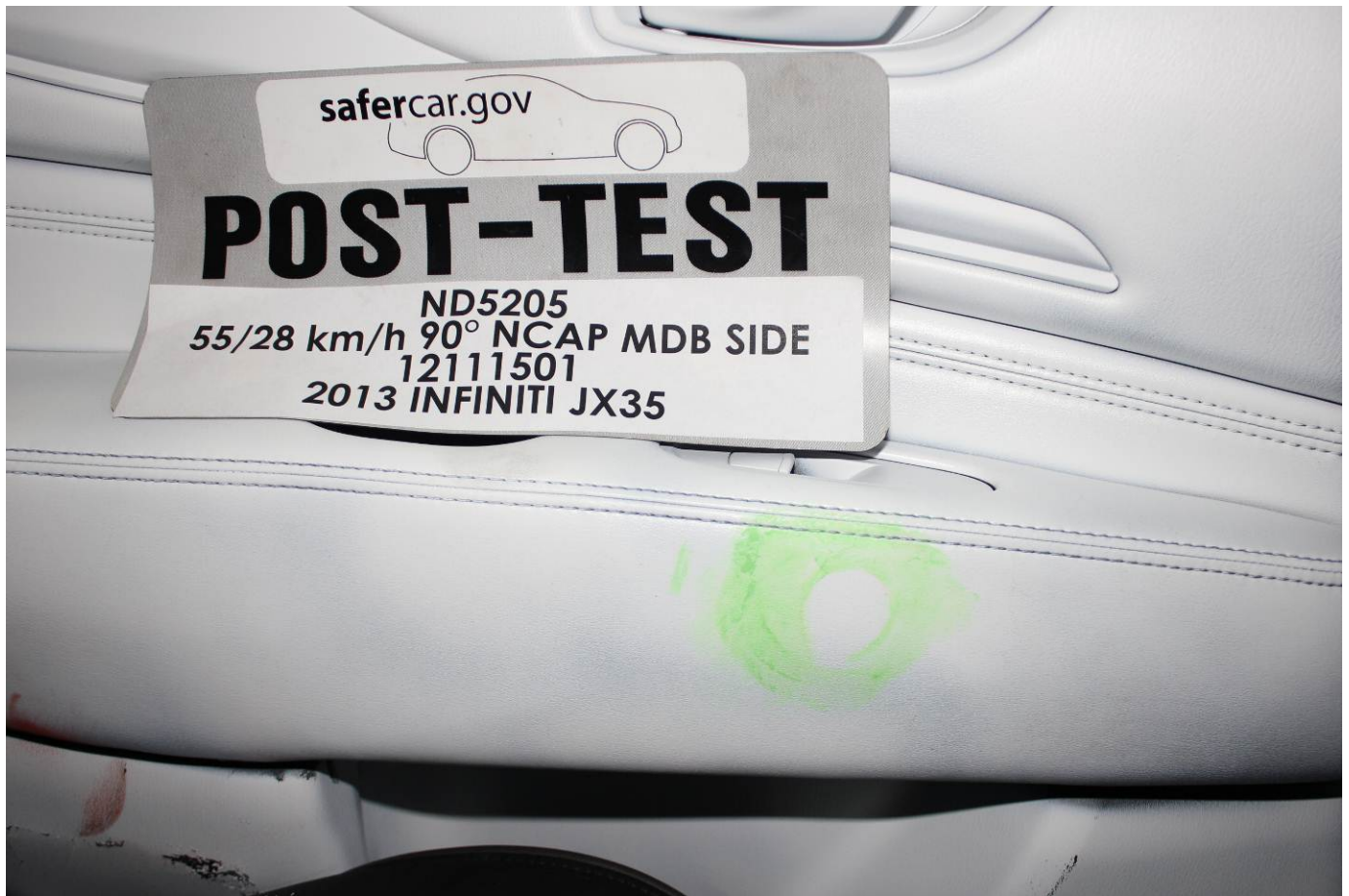
Post-Test Rear Passenger Dummy Close-up Torso Contact with Side Airbag View



Post-Test Rear Passenger Dummy Close-up Pelvis Contact with Vehicle Interior View

PHOTOGRAPH NOT APPLICABLE

Post-Test Rear Passenger Dummy Close-up Pelvis Contact with Side Airbag View



Post-Test Rear Passenger Dummy Close-up Knee Contact View



Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Pre-Test Front View of MDB Impactor Face



Post-Test Front View of MDB Impactor Face



Pre-Test Top View of MDB Impactor Face



Post-Test Top View of MDB Impactor Face



Pre-Test Left Side View of MDB Impactor Face



Post-Test Left Side View of MDB Impactor Face



Pre-Test Right Side View of MDB Impactor Face



Post-Test Right Side View of MDB Impactor Face



Close-Up View of Vehicle's Certification Label



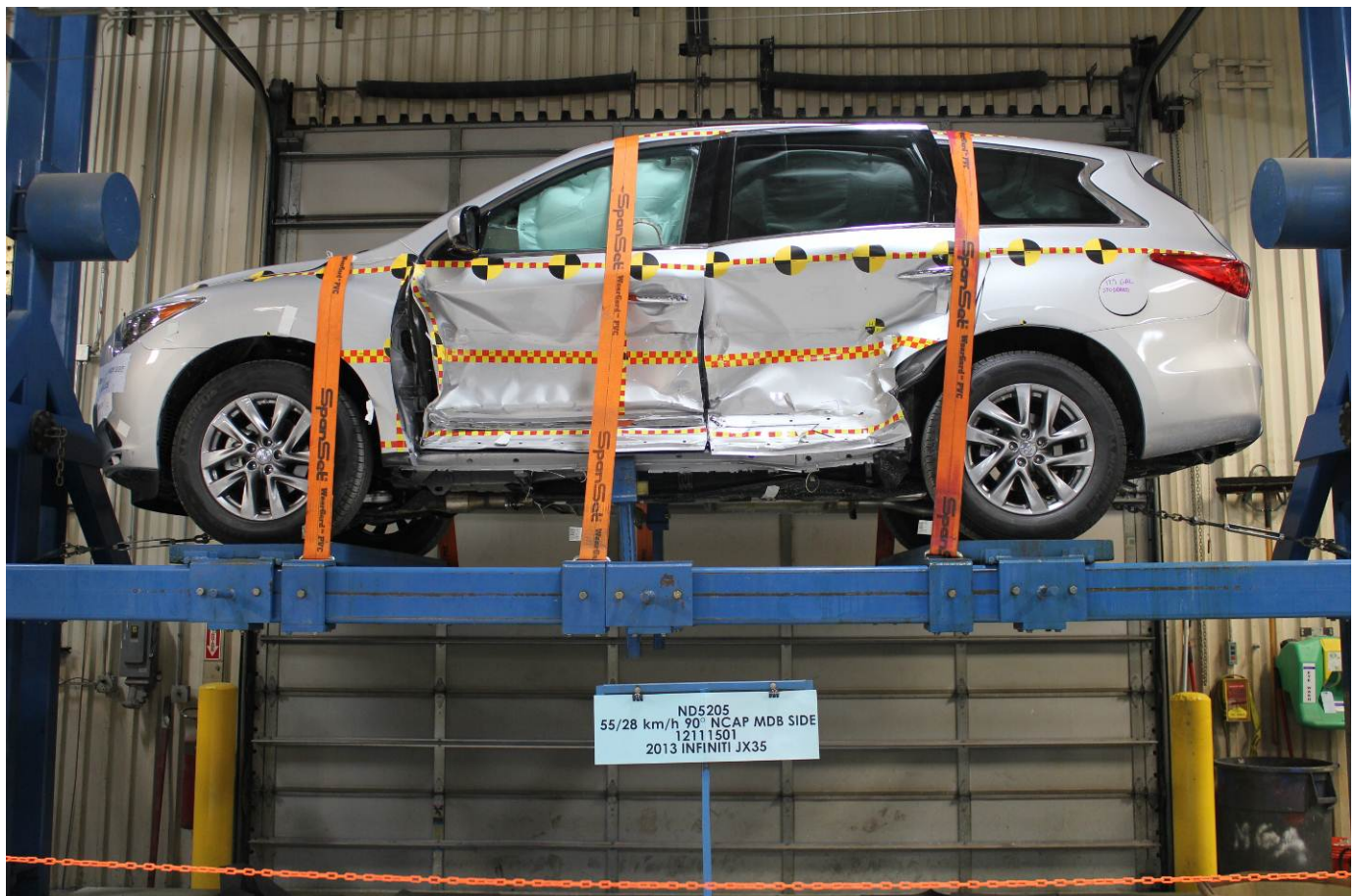
Close-Up View of Vehicle's Tire Information Placard or Label



Pre-Test Ballast View



Post-Test Primary and Redundant Speed Trap Read-Out



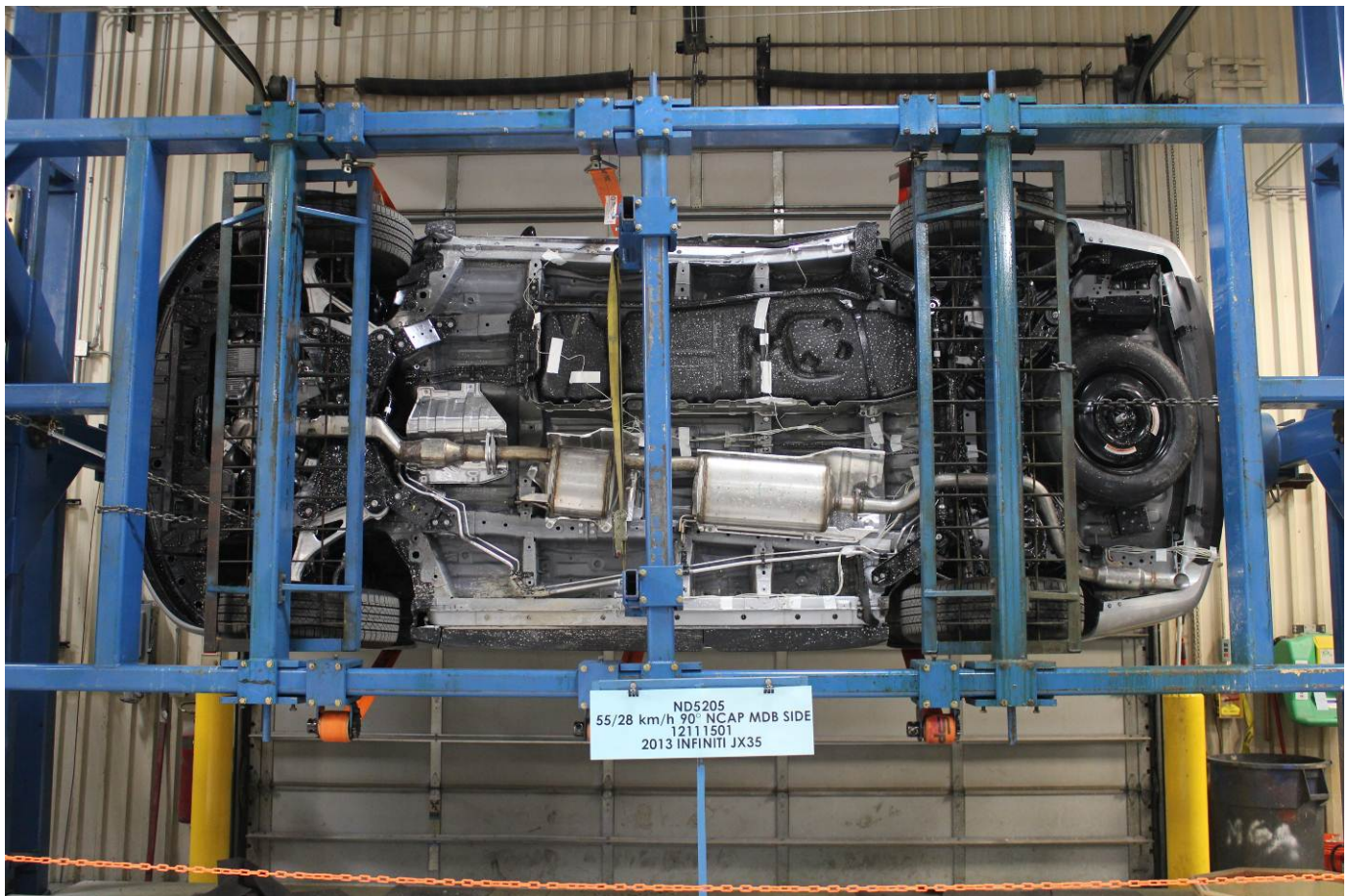
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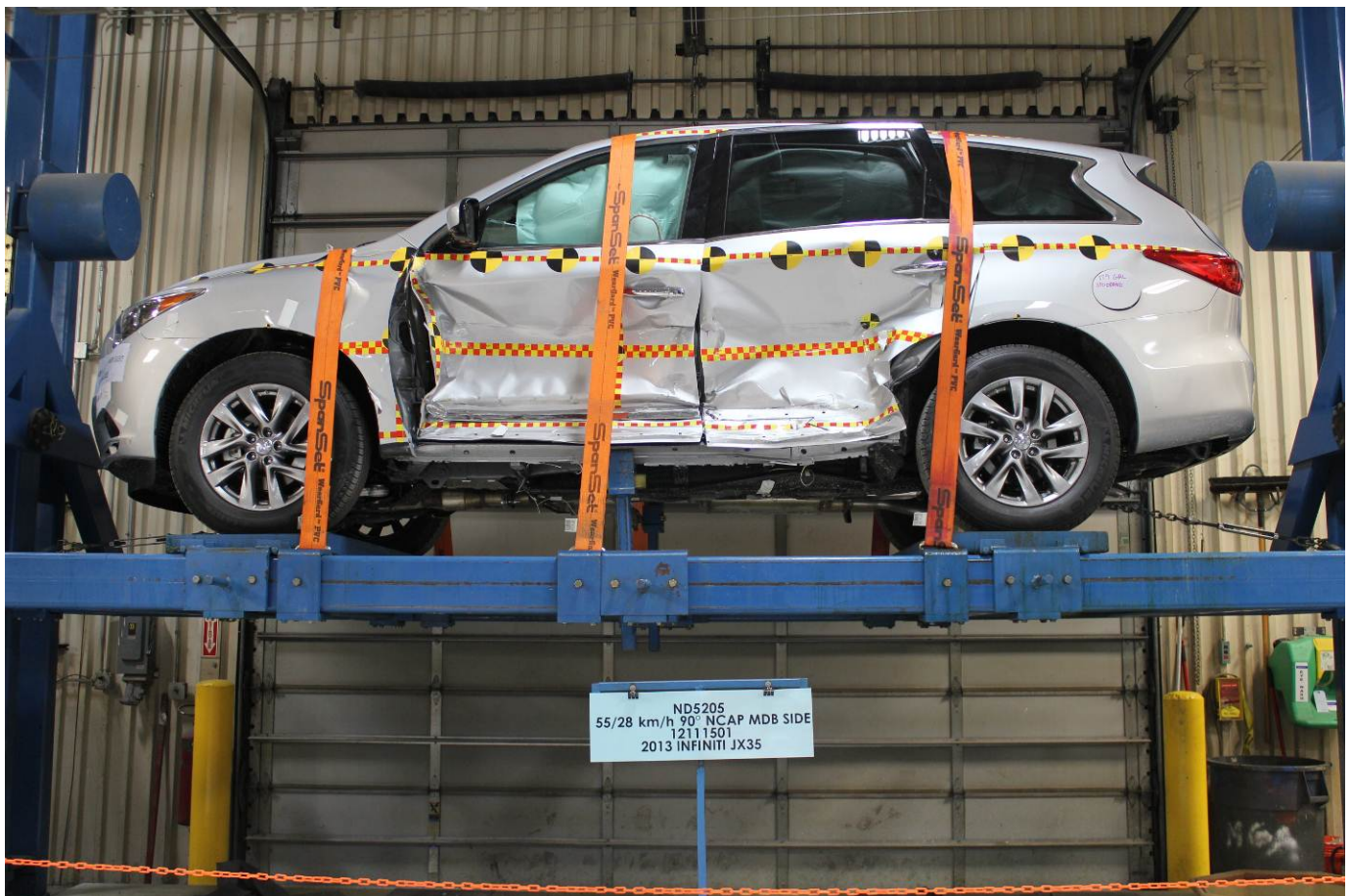
FMVSS No. 301 Static Rollover 90 Degrees



FMVSS No. 301 Static Rollover 180 Degrees



FMVSS No. 301 Static Rollover 270 Degrees



FMVSS No. 301 Static Rollover 360 Degrees



Impact Event



2013 JX35 FWD

CHOOSE TO BE INSPIRED

Standard Equipment Included at No Extra Charge

PERFORMANCE:

3.5-liter V6 engine
285 horsepower
248 lb-ft torque
Front-wheel drive
Infiniti Drive Mode Selector with Standard, Sport, Snow, and Eco modes, controls throttle response and transmission mapping
Continuously Variable Transmission (CVT) with manual shift mode
18-inch, 5-spoke/split aluminum-alloy wheels with 235/65R18 all-season tires
Independent strut front and multi-link rear suspension
Front and rear stabilizer bars

LUXURY:

Leather-appointed seats
Heated 8-way power driver's seat
Heated 6-way power passenger front seat
Multi-mode second-row seat with easy third-row access
60/40-split folding/reclining/sliding second-row bench seat
50/50-split folding/reclining third-row seat
Kasane Washi interior trim
Automatic on/off High Intensity Discharge (HID) bi-functional xenon headlights
Front fog lights
Power sliding tinted glass moonroof with one-touch open/close, tilt feature and sliding sunshade
Tri-Zone Automatic Temperature Control
Rear-seat heater vents under first and second-row seats
Rear console-mounted and third-row side trim air vents
Sequential welcome lighting
Power remote rear liftgate
Power tilt/telescopic steering column
Power folding and heated outside mirrors

TECHNOLOGY:

RearView Monitor
7-inch color vehicle information display
Infiniti Intelligent Key
Illuminated Push Button Ignition
Bluetooth® Hands-free Phone System
6-speaker audio system with AM/FM/CD with MP3 playback capability
Infiniti Intelligent-View Display
USB connection port for iPod® interface and other compatible devices
SiriusXM™ Satellite Radio***
Auxiliary audio/video input jacks in center console

SAFETY AND SECURITY:

Driver and Front Passenger, Side-Impact, and Curtain Air Bags with rollover sensor
3-point height adjustable front seat belts with pretensioners and load limiters
Lower Anchors and Tethers for Children (LATCH)(second-row outboard only)
Child seat top tether anchor on second-row center seat, and third-row passenger's side seat
4-wheel Anti-Lock Braking System (ABS)
Brake Assist
Electronic Brake force Distribution
Vehicle Dynamic Control (VDC) with Traction Control System (TCS)
Tire Pressure Monitoring System (TPMS) with Tire Inflation Indicator
Vehicle Security System
Infiniti Vehicle Immobilizer System

***3 months of SiriusXM™ Service included; subscription sold separately; not available to buyers in AK or HI; some features not available in all markets.

++ Optional equipment replaces standard equipment

Manufacturer's Suggested Retail Base Price:	\$40,650.00
Options Included by Manufacturer	
CARGO PACKAGE	205.00
ILLUMINATED KICKPLATES	305.00
DESTINATION CHARGES	950.00
Total	\$42,110.00

*Does not include dealer installed options and accessories, local taxes or license fees. This label has been applied pursuant to federal law. Do not remove prior to delivery to the ultimate purchaser.

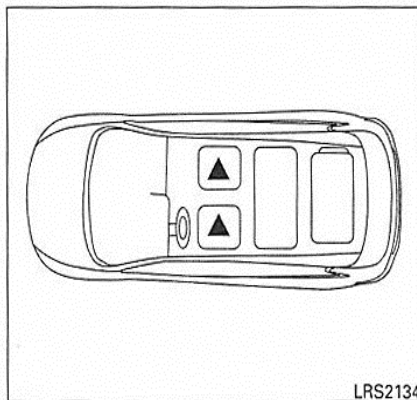
EPA DOT Fuel Economy and Environment		Gasoline Vehicle
Fuel Economy 21 MPG combined city/hwy 18 city 24 highway 4.8 gallons per 100 miles		Small SUVs range from 16 to 32 MPG. The best vehicle rates 112 MPG. You spend \$1,900 more in fuel costs over 5 years compared to the average new vehicle.
Annual fuel cost \$2,700		Fuel Economy & Greenhouse Gas Rating (tailpipe only) Smog Rating (tailpipe only) 1 5 10 Best This vehicle emits 432 grams CO ₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also causes emissions. Learn more at fueleconomy.gov.
Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 23 MPG and costs \$11,600 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.80 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.		
fueleconomy.gov Calculate personalized estimates and compare vehicles		
GOVERNMENT 5-STAR SAFETY RATINGS		
Overall Vehicle Score Not Rated Based on the combined ratings of frontal, side and rollover. Should ONLY be compared to other vehicles of similar size and weight.		
Frontal Crash Based on the risk of injury in a frontal impact. Should ONLY be compared to other vehicles of similar size and weight.	Driver Passenger Not Rated Not Rated	Not Rated Not Rated
Side Crash Based on the risk of injury in a side impact.	Front seat Not Rated Rear seat Not Rated	Not Rated Not Rated
Rollover 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		
TOTAL OWNERSHIP EXPERIENCE Every Infiniti Vehicle includes Infiniti's: • 4-Year/60,000 Mile Basic Limited Warranty Coverage ** • 6-Year/70,000 Mile Powertrain Limited Warranty Coverage ** • 7-Year/Unlimited Mileage Corrosion Limited Warranty Coverage ** • 24-hour Roadside Assistance ** • Complimentary Service Loan Car *** • Infiniti Personal Assistant *** *** Please see the Infiniti Warranty Information booklet for details. *** Please ask your Infiniti retailer for details.		
VEHICLE COLORS: EXT: LIQUID PLATINUM INT: GRAPHITE FINAL ASSEMBLY POINT: SMYRNA TRANSPORT METHOD: TRUCK DEALER: WARREN HENRY INFINITI 20850 N.W. 2ND AVENUE MIAMI FL 33169		VIN: 5N1AL0MN0DC325149 EMS: 50 STATE EMISSIONS MDL: 84113-325149 K23-G OPT: C-C03M92N92S55266
20121008225533AS70052		

Monroney Label

HEAD RESTRAINTS (1st row only)

⚠ WARNING

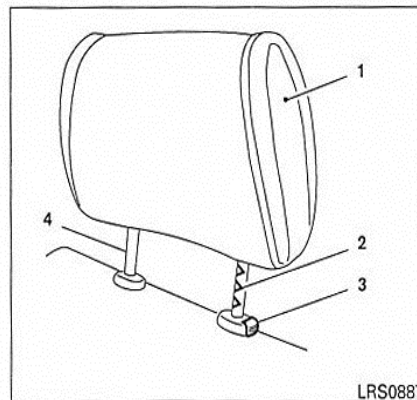
Head restraints supplement the other vehicle safety systems. They may provide additional protection against injury in certain rear end collisions. Adjust the head restraints properly, as specified in this section. Check the adjustment after someone else uses the seat. Do not attach anything to the head restraint stalks or remove the head restraint. Do not use the seat if the head restraint has been removed. If the head restraint was removed, reinstall and properly adjust the head restraint before an occupant uses the seating position. Failure to follow these instructions can reduce the effectiveness of the head restraints. This may increase the risk of serious injury or death in a collision.



LRS2134

The illustration shows the seating positions equipped with head restraints. The first row head restraints are adjustable.

▲ Indicates the seating position is equipped with a head restraint.



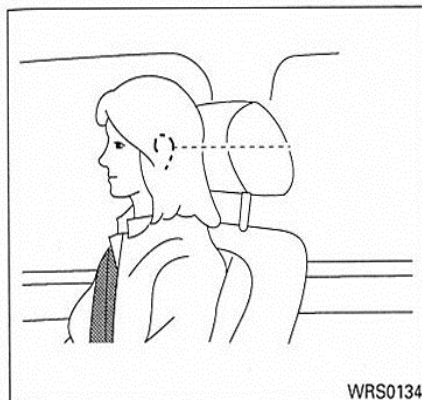
LRS0887

Components

1. Head restraint
2. Adjustment notches
3. Lock knob
4. Stalks

1-8 Safety—Seats, seat belts and supplemental restraint system

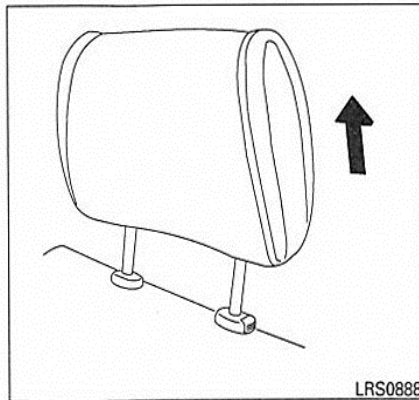
Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



WRS0134

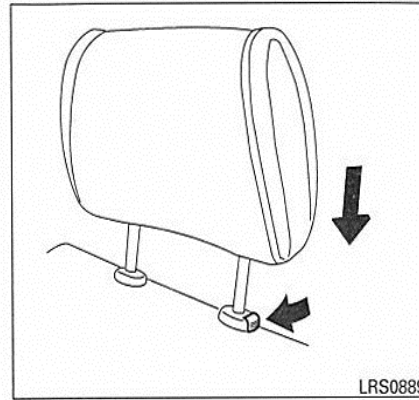
Adjustment

Adjust the head restraint so the center is level with the center of the seat occupant's ears.



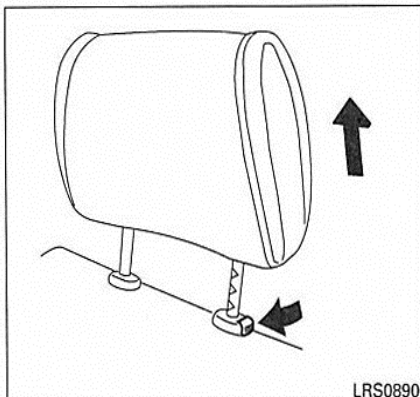
LRS0888

To raise the head restraint, pull it up.



LRS0889

To lower, push and hold the lock knob and push the head restraint down.

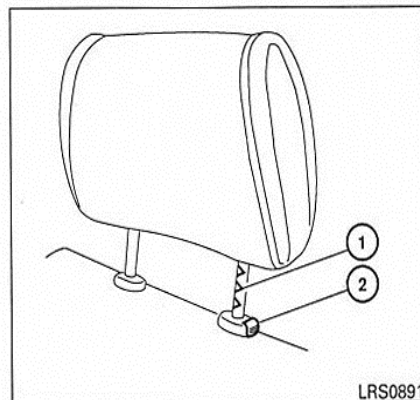


Removal (head restraints without Dual head restraint DVD system only)

Use the following procedure to remove the adjustable head restraints.

1. Pull the head restraint up to the highest position.
2. Push and hold the lock knob.
3. Remove the head restraint from the seat.
4. Store the head restraint properly so it is not loose in the vehicle.

5. Reinstall and properly adjust the head restraint before an occupant uses the seating position.



Install

1. Align the head restraint stalks with the holes in the seat. Make sure the head restraint is facing the correct direction. The stalk with the adjustment notches (1) must be installed in the hole with the lock knob (2).
2. Push and hold the lock knob and push the head restraint down.
3. Properly adjust the head restraint before an occupant uses the seating position.

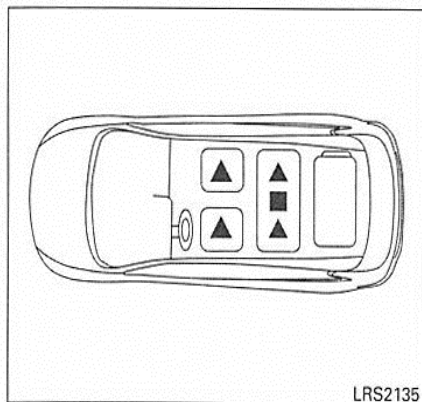
1-10 Safety—Seats, seat belts and supplemental restraint system

Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

HEAD RESTRAINTS (2nd row)

WARNING

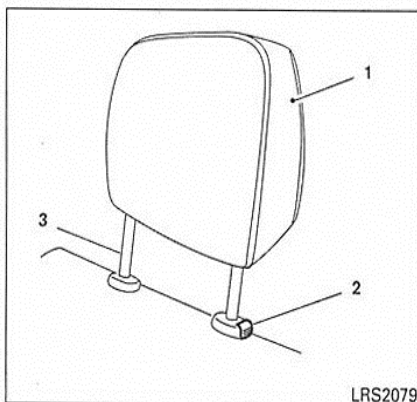
Head restraints supplement the other vehicle safety systems. They may provide additional protection against injury in certain rear end collisions. Adjust the head restraints properly, as specified in this section. Check the adjustment after someone else uses the seat. Do not attach anything to the head restraint stalks or remove the head restraint. Do not use the seat if the head restraint has been removed. If the head restraint was removed, reinstall and properly adjust the head restraint before an occupant uses the seating position. Failure to follow these instructions can reduce the effectiveness of the head restraints. This may increase the risk of serious injury or death in a collision.



The illustration shows the seating positions equipped with head restraints. The second row head restraints are removable but not adjustable.

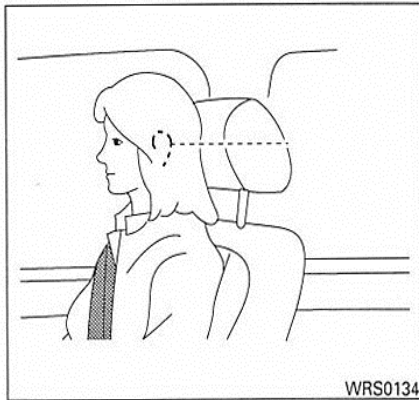
▲ Indicates the seating position is equipped with a head restraint.

■ Indicates the seating position is equipped with an adjustable headrest.



Components

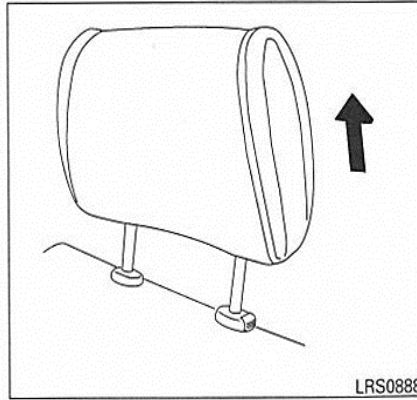
1. Head restraint
2. Lock knob
3. Stalks



WRS0134

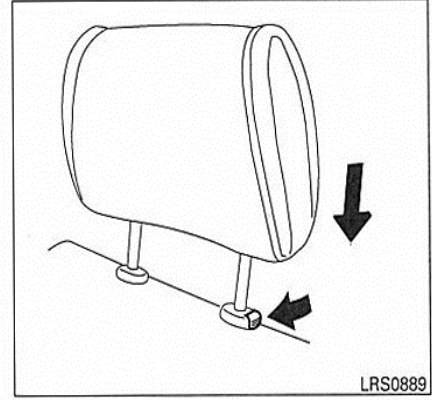
Adjustment

Adjust the head restraint so the center is level with the center of the seat occupant's ears.



LRS0888

To raise the head restraint, pull it up.

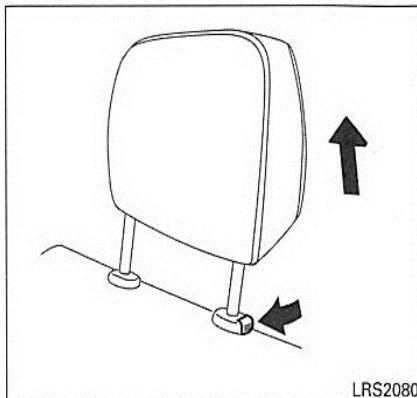


LRS0889

To lower, push and hold the lock knob and push the head restraint down.

1-12 Safety—Seats, seat belts and supplemental restraint system

Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

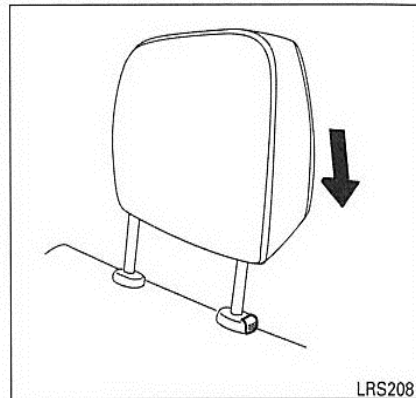


LRS2080

Removal

Use the following procedure to remove the head restraints.

1. Adjust the seat or seatback as necessary.
2. Push and hold the lock knob(s).
3. Pull the head restraint up until it is removed from the seat.
4. Store the head restraint properly so it is not loose in the vehicle.
5. Reinstall the head restraint and properly adjust the seat or seatback before an occupant uses the seating position.



LRS2081

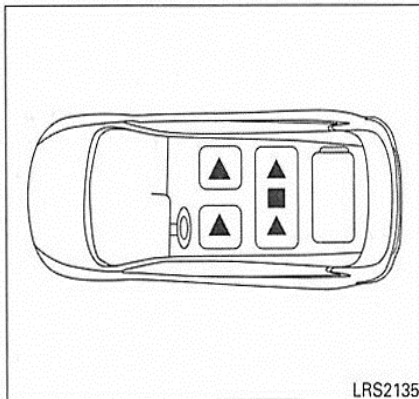
Install

1. Align the head restraint stalks with the holes in the seat. Make sure the head restraint is facing the correct direction.
2. Push the head restraint down until it locks in place.

ADJUSTABLE HEADREST

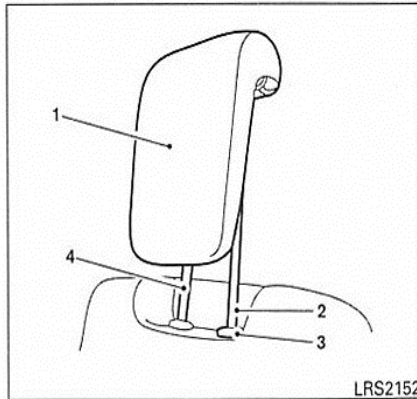
⚠ WARNING

The adjustable headrests supplement the other vehicle safety systems. They may provide additional protection against injury in certain rear end collisions. Adjust the headrests properly, as specified in this section. Check the adjustment after someone else uses the seat. Do not attach anything to the adjustable headrest stalks or remove the adjustable headrests. Do not use the seat if the adjustable headrests have been removed. If the headrest was removed, reinstall and properly adjust the headrest before an occupant uses the seating position. Failure to follow these instructions can reduce the effectiveness of the adjustable headrests. This may increase the risk of serious injury or death in a collision.



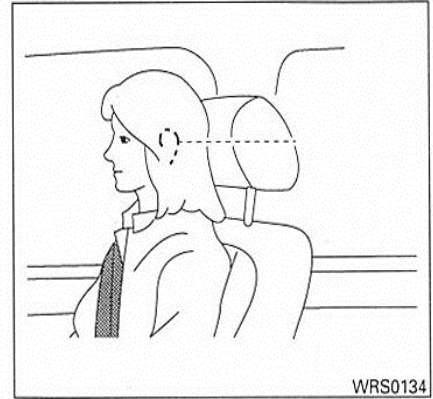
The illustration shows the seating positions equipped with adjustable headrests. All of the headrests are adjustable.

■ Indicates the seating position is equipped with an adjustable headrest.



Components

1. Adjustable headrest
2. Adjustment notches
3. Lock knob
4. Stalks

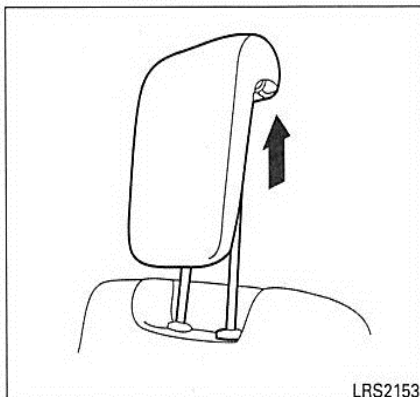


Adjustment

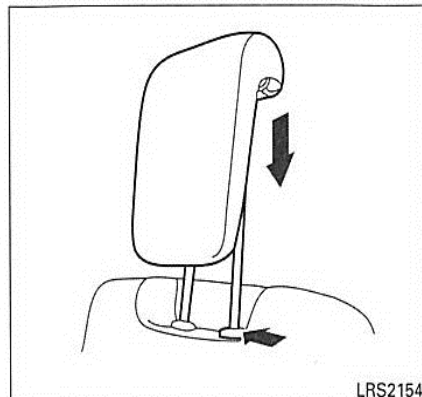
Adjust the headrest so the center is level with the center of the seat occupant's ears.

1-14 Safety—Seats, seat belts and supplemental restraint system

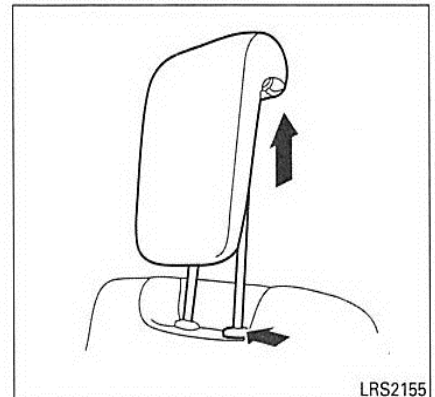
Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



To raise the headrest, pull it up.



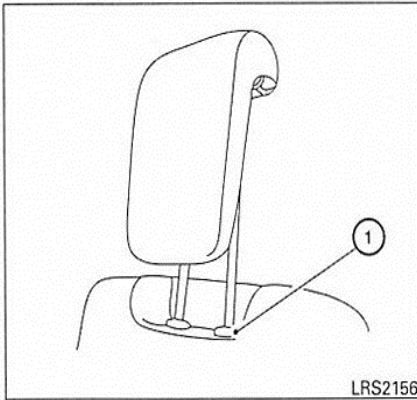
To lower, push and hold the lock knob and push the headrest down.



Removal

Use the following procedure to remove the adjustable headrests.

1. Pull the headrest up to the highest position.
2. Push and hold the lock knob.
3. Remove the headrest from the seat.
4. Store the headrest properly so it is not loose in the vehicle.
5. Reinstall and properly adjust the headrest before an occupant uses the seating position.



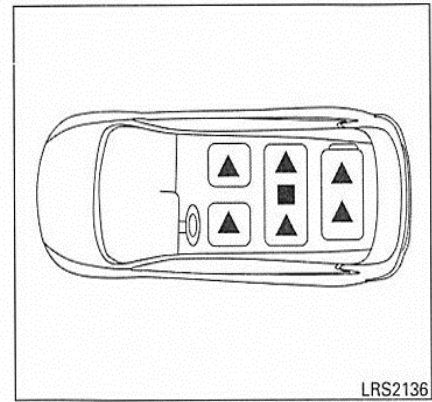
Install

1. Align the headrest stalks with the holes in the seat. Make sure the headrest is facing the correct direction. The stalk with the adjustment notches must be installed in the hole with the lock knob ①.
2. Push and hold the lock knob and push the headrest down.
3. Properly adjust the headrest before an occupant uses the seating position.

HEAD RESTRAINTS (3rd row)

⚠ WARNING

Head restraints supplement the other vehicle safety systems. They may provide additional protection against injury in certain rear end collisions. Adjust the head restraints properly, as specified in this section. Check the adjustment after someone else uses the seat. Do not attach anything to the head restraint stalks or remove the head restraint. Do not use the seat if the head restraint has been removed. If the head restraint was removed, reinstall and properly adjust the head restraint before an occupant uses the seating position. Failure to follow these instructions can reduce the effectiveness of the head restraints. This may increase the risk of serious injury or death in a collision.



The illustration shows the seating positions equipped with head restraints. The third row head restraints are removable but not adjustable.

▲ Indicates the seating position is equipped with a head restraint.

■ Indicates the seating position is equipped with an adjustable headrest.

1-16 Safety—Seats, seat belts and supplemental restraint system

Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

APPENDIX B

DUMMY RESPONSE DATA PLOTS

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Driver Dummy Instrumentation Plots

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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 Track 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)

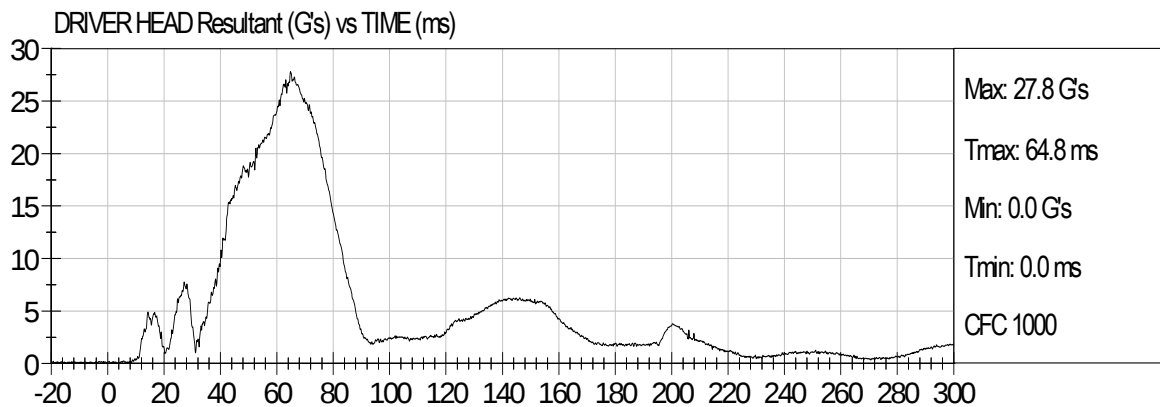
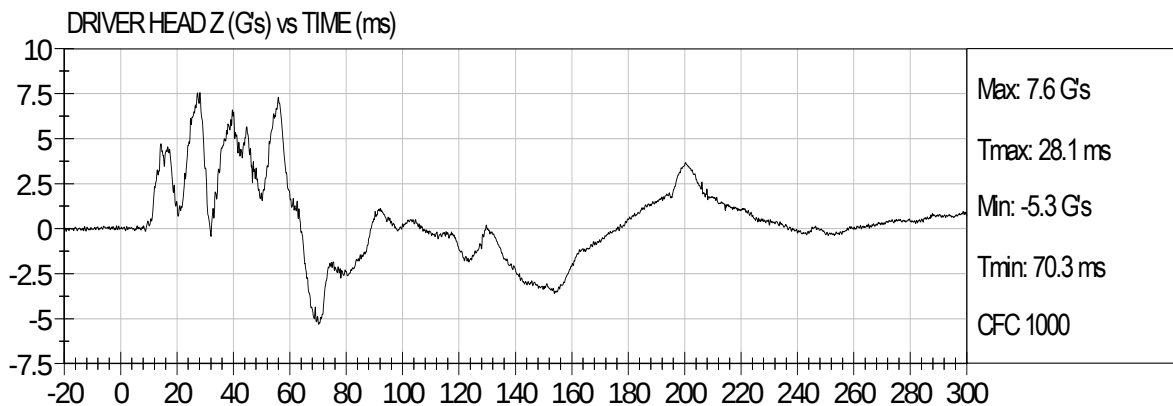
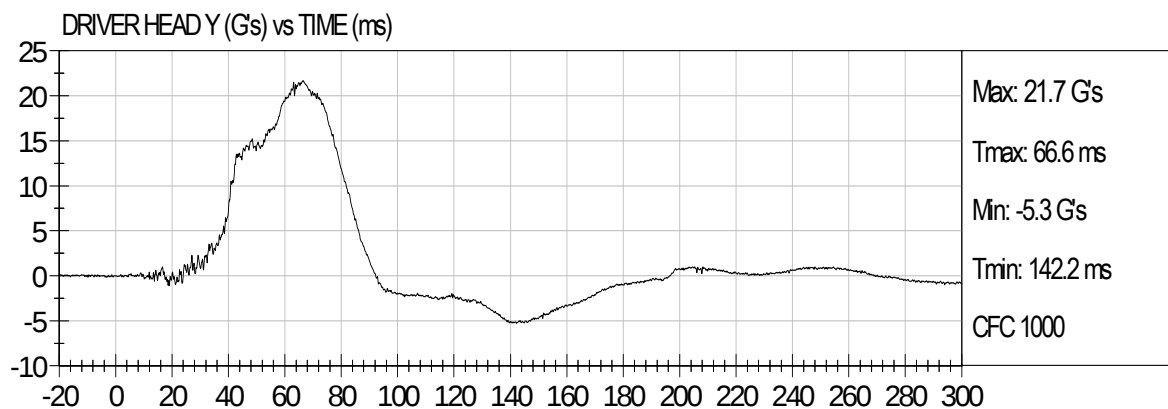
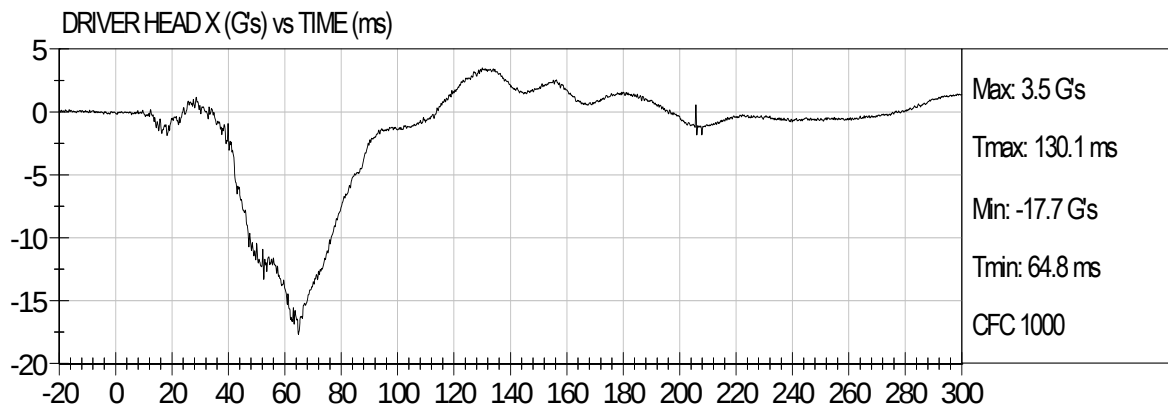
Left MDB Contact Switch

Right MDB Contact Switch



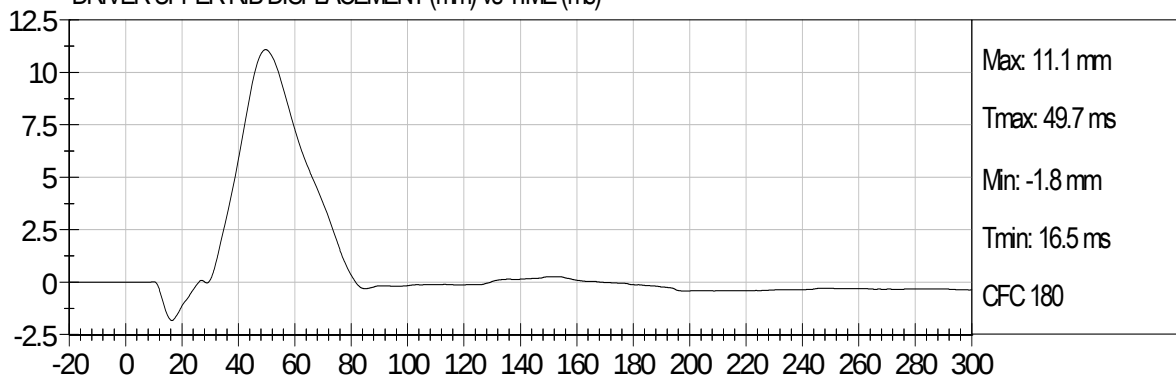
55/28 km/h 90° NCAP MDB Side Impact
2013 Infiniti JX35 - ND5205

Test Date: 11/15/2012
Speed: 38.7 mph (62.3 km/h)

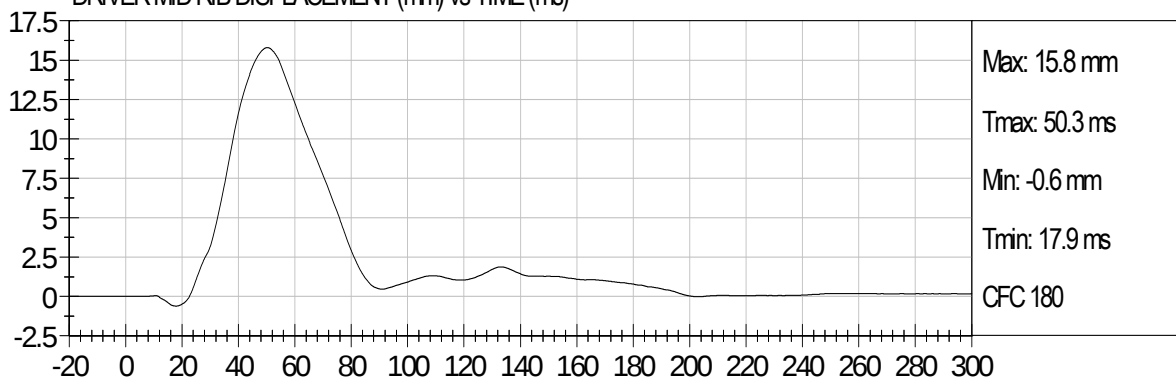




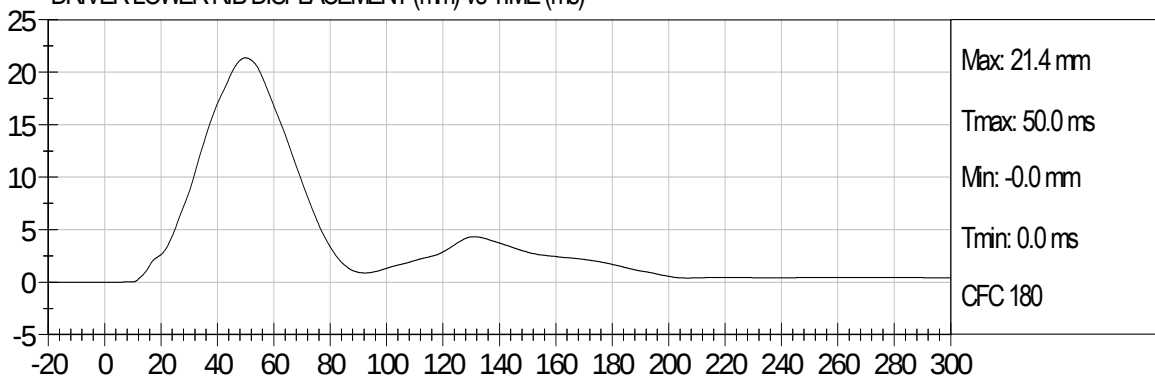
DRIVER UPPER RIB DISPLACEMENT (mm) vs TIME (ms)



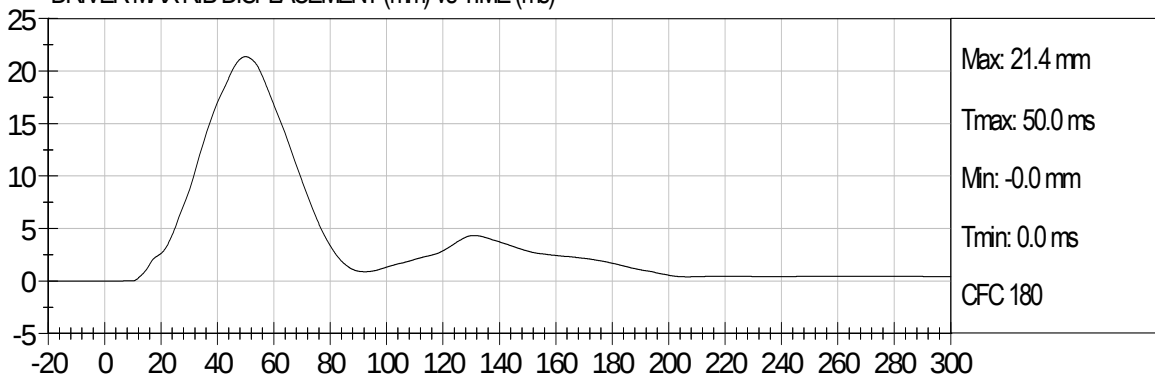
DRIVER MID RIB DISPLACEMENT (mm) vs TIME (ms)

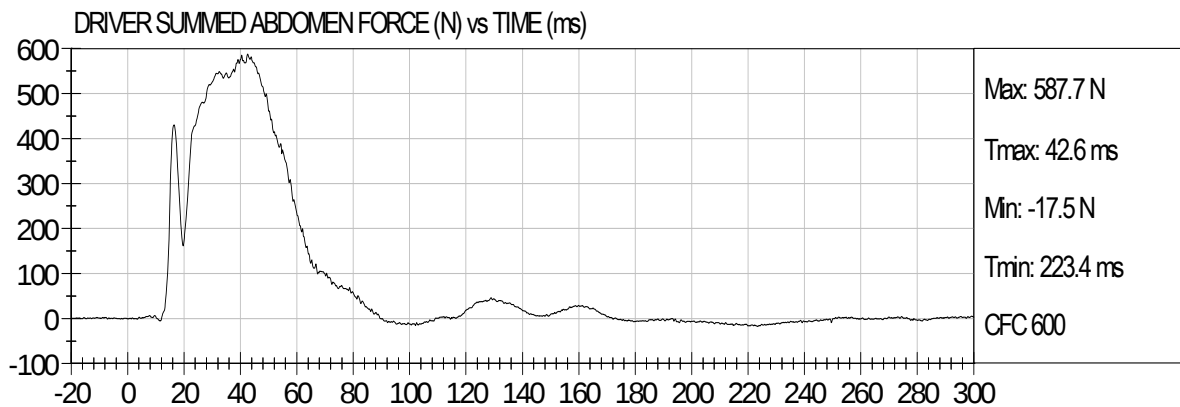
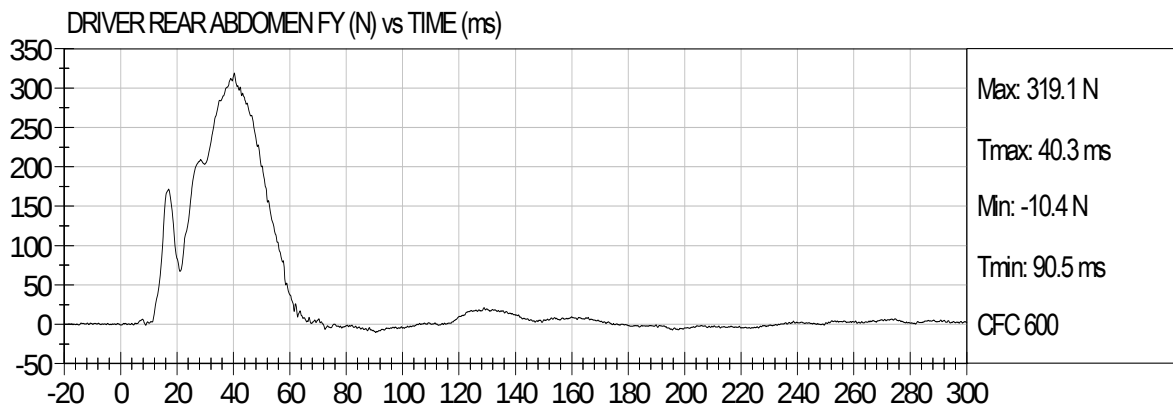
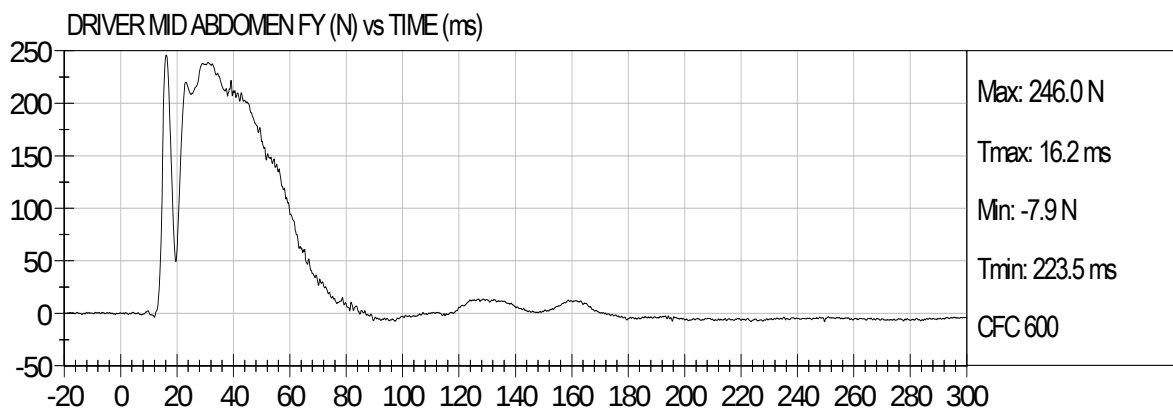
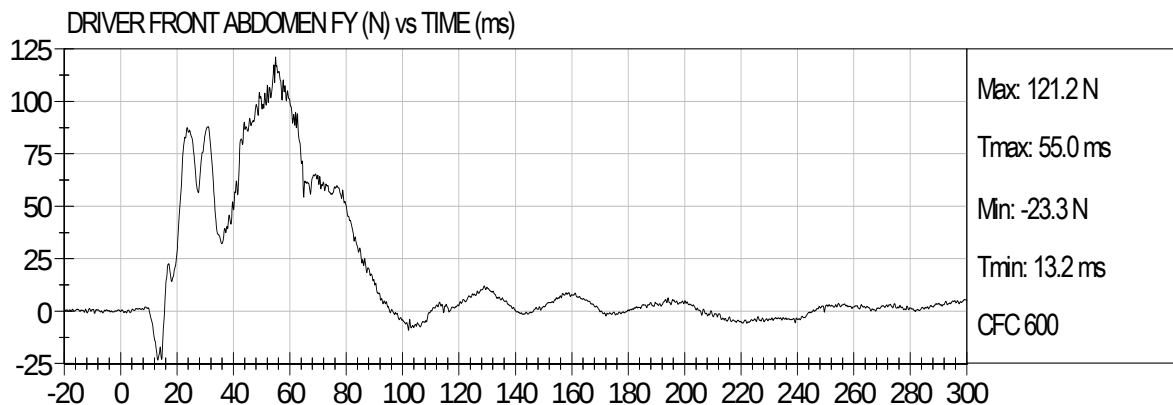


DRIVER LOWER RIB DISPLACEMENT (mm) vs TIME (ms)



DRIVER MAX RIB DISPLACEMENT (mm) vs TIME (ms)

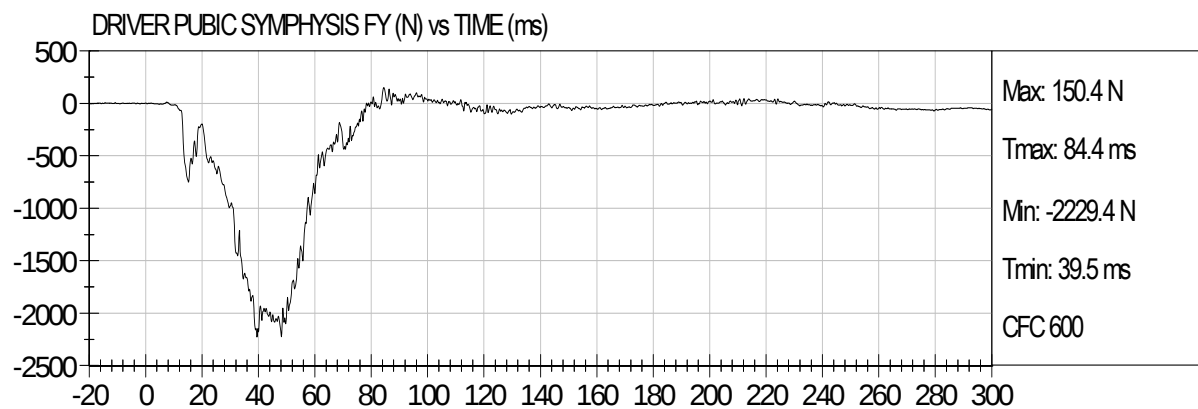






55/28 km/h 90° NCAP MDB Side Impact
2013 Infiniti JX35 - ND5205

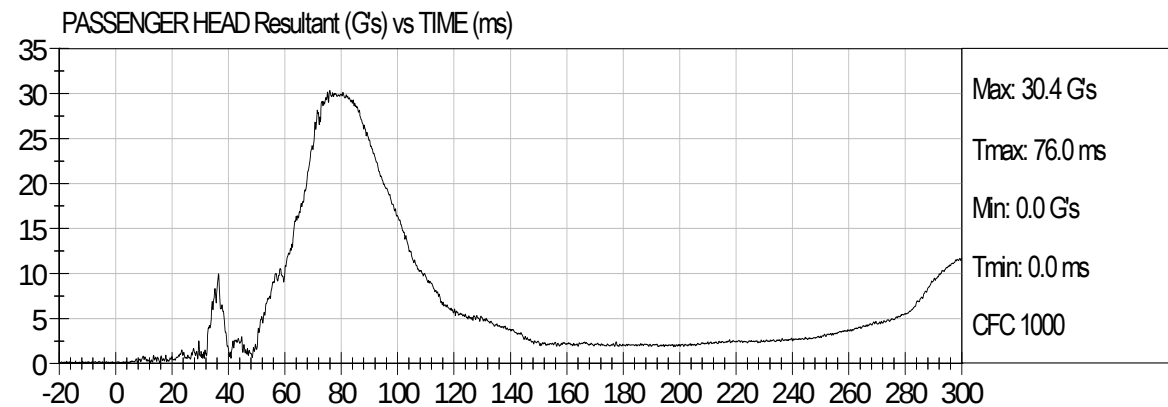
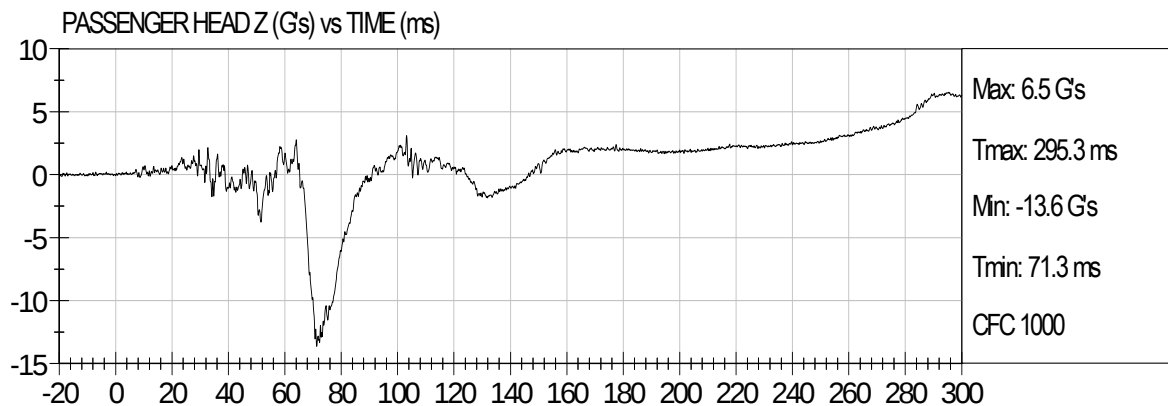
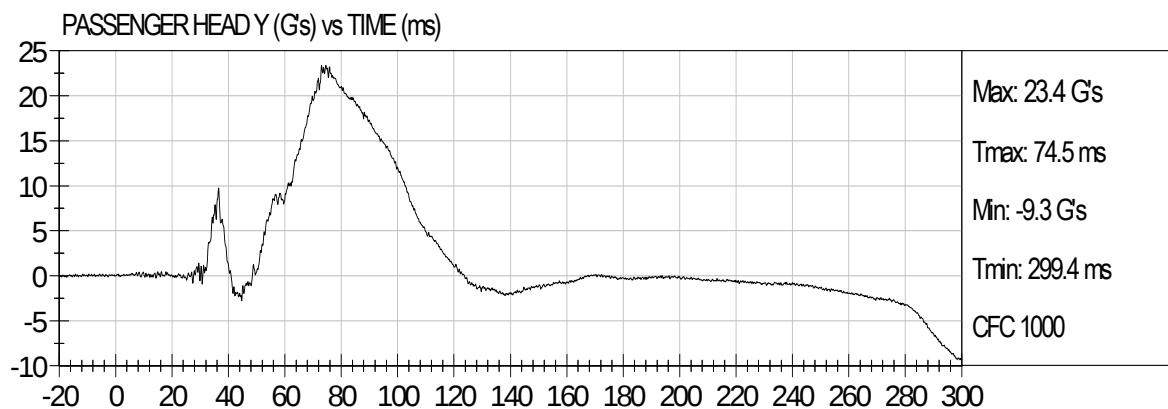
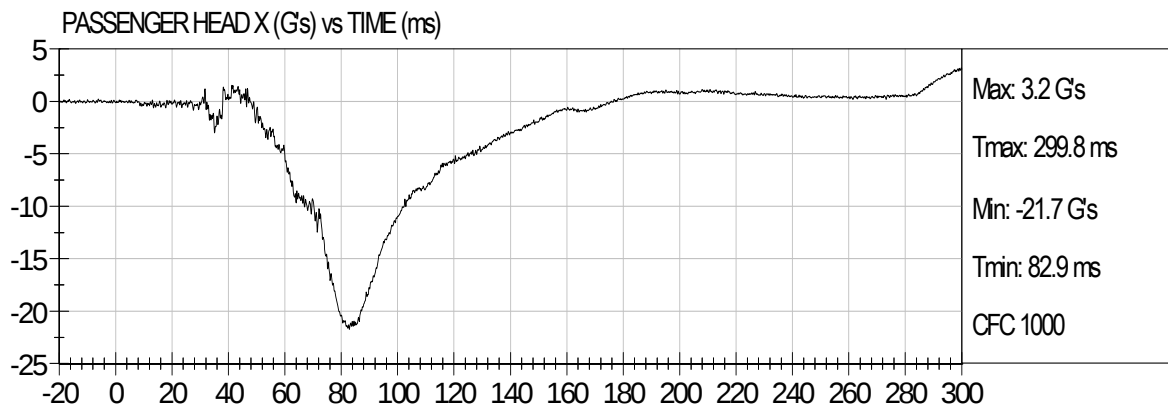
Test Date: 11/15/2012
Speed: 38.7 mph (62.3 km/h)





55/28 km/h 90° NCAP MDB Side Impact
2013 Infiniti JX35 - ND5205

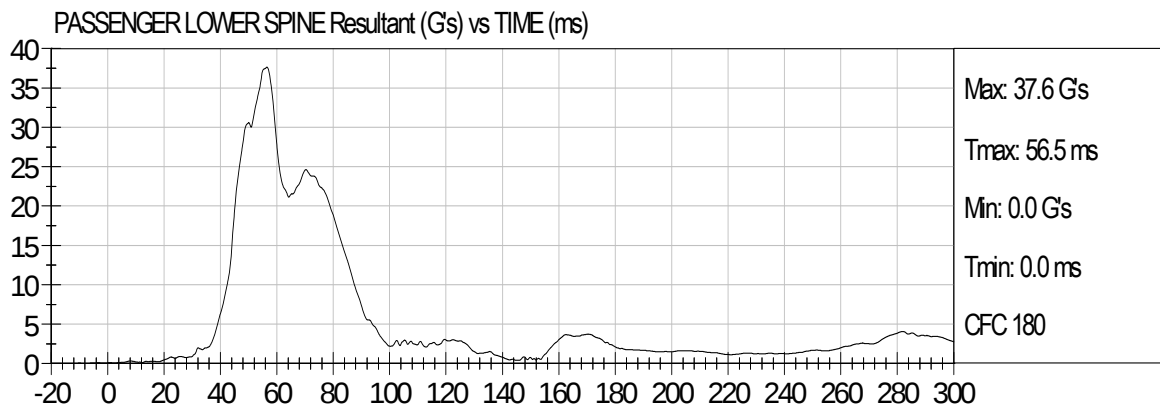
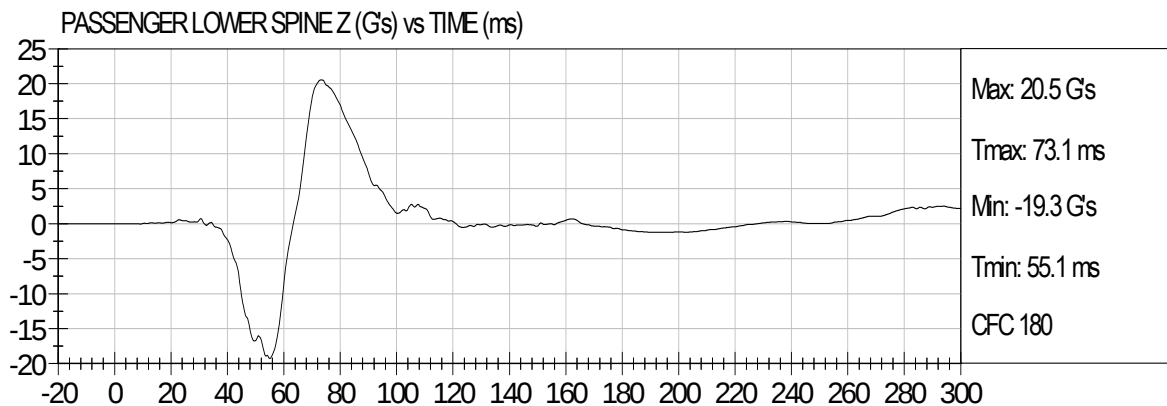
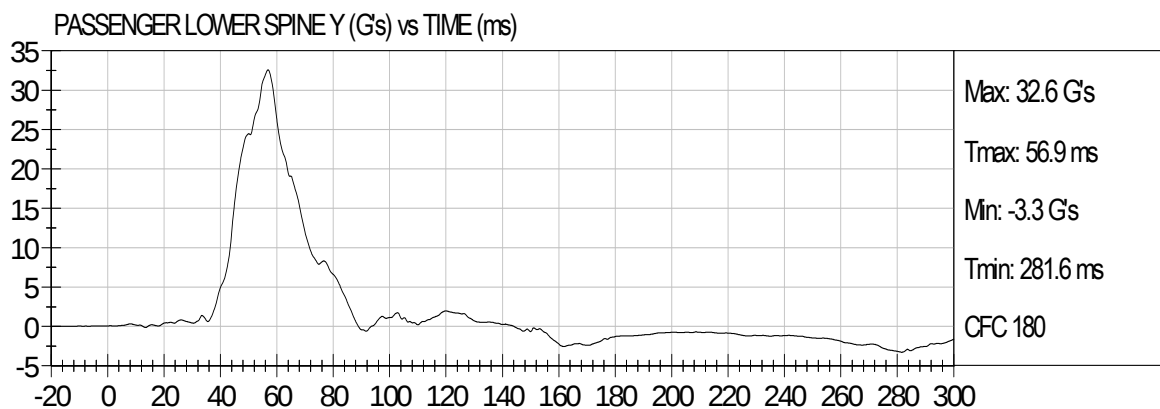
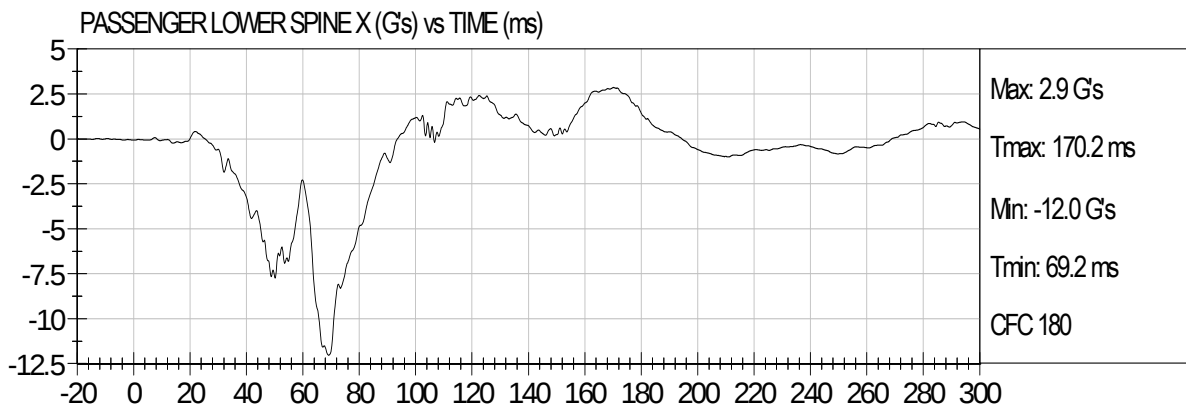
Test Date: 11/15/2012
Speed: 38.7 mph (62.3 km/h)





55/28 km/h 90° NCAP MDB Side Impact
2013 Infiniti JX35 - ND5205

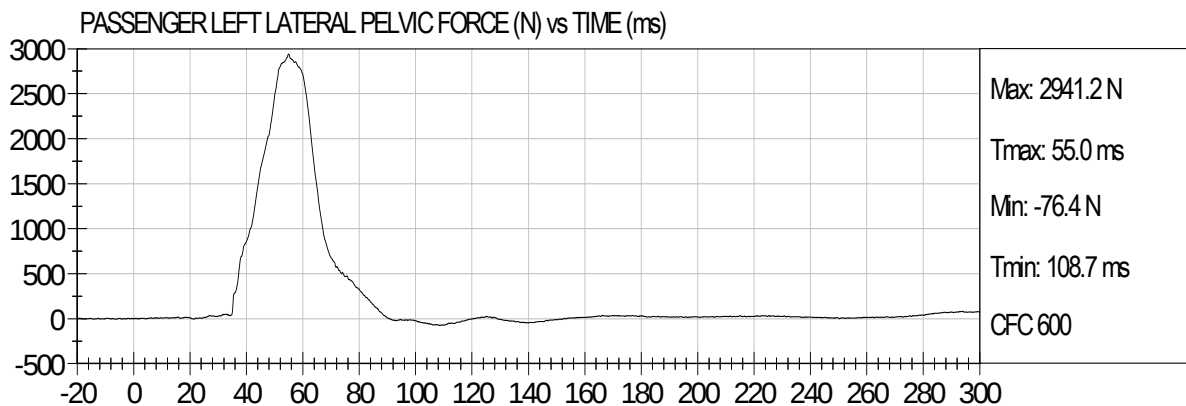
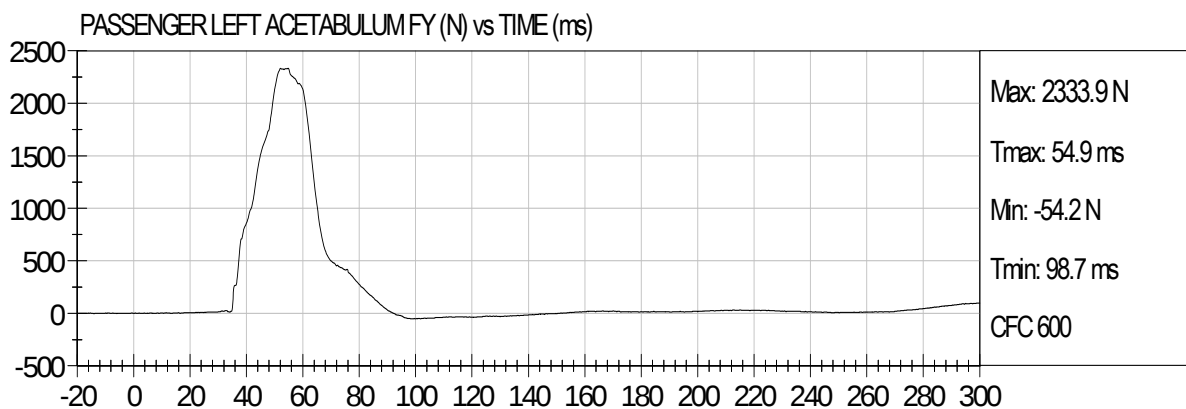
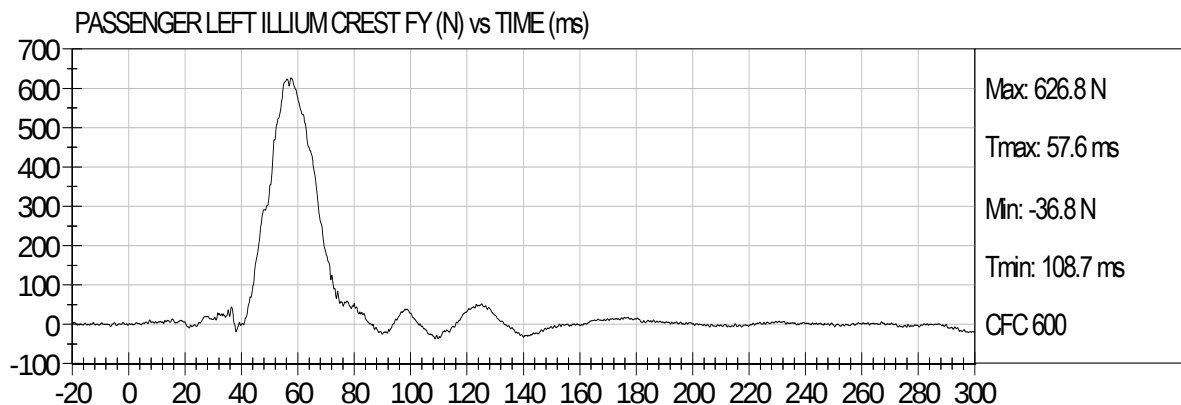
Test Date: 11/15/2012
Speed: 38.7 mph (62.3 km/h)





55/28 km/h 90° NCAP MDB Side Impact
2013 Infiniti JX35 - ND5205

Test Date: 11/15/2012
Speed: 38.7 mph (62.3 km/h)



APPENDIX C

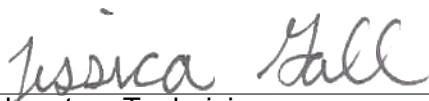
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

ES-2re External Measurements
SN: 032

No.	Name	Spec. (mm)	Result	Pass/Fail
1	Sitting Height	900 - 918	915	Pass
2	Seat to Shoulder Joint	558 - 572	568	Pass
3	Seat to Lower Face of Thoracic Spine Box	346 - 356	355	Pass
4	Seat to Hip Joint (center of bolt)	97 - 103	98	Pass
5	Sole to Seat, Sitting	333 - 451	440	Pass
6	Head Width	152 - 158	157	Pass
7	Shoulder/Arm Width	461 - 479	464	Pass
8	Thorax Width	322 - 332	323	Pass
9	Abdomen Width	273 - 287	281	Pass
10	Pelvis Lap Width	359 - 373	370	Pass
11	Head Depth	196 - 206	203	Pass
12	Thorax Depth	262 - 272	264	Pass
13	Abdomen Depth	194 - 204	196	Pass
14	Pelvis Depth	235 - 245	236	Pass
15	Back of Buttocks to Hip Joint (center of bolt)	150 - 160	151	Pass
16	Back of Buttocks to Front Knee	597 - 615	607	Pass

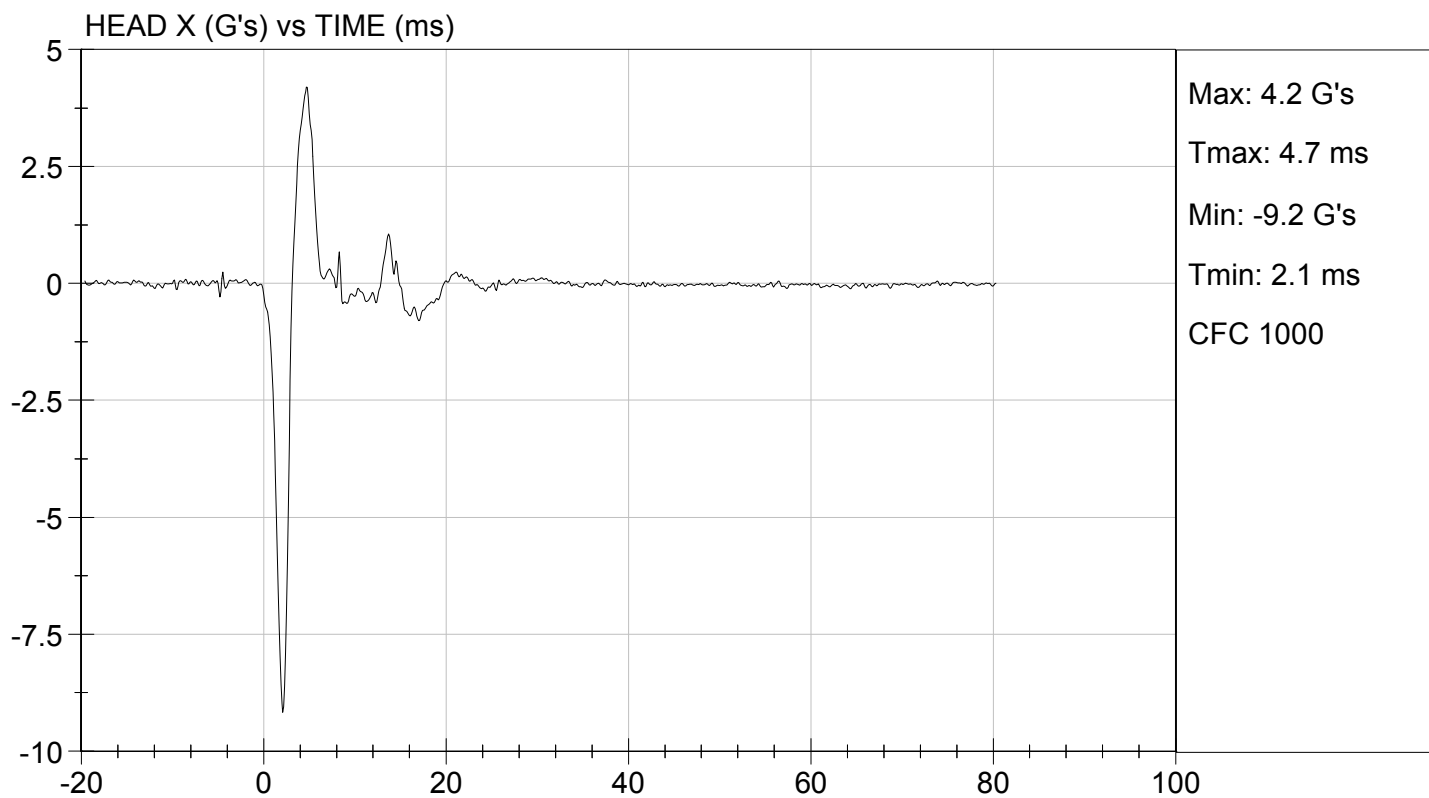
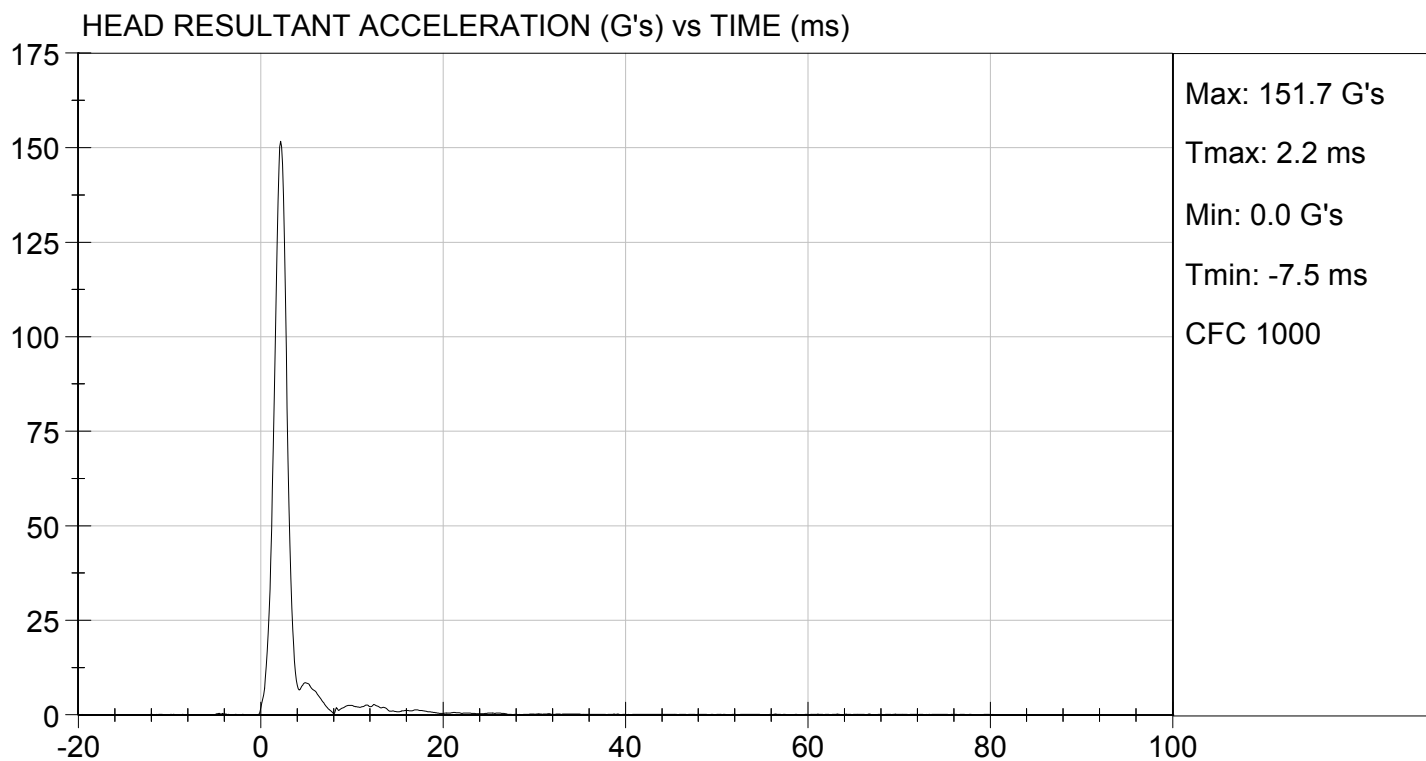
MGA RESEARCH CORPORATION**HEAD DROP TEST****ES-2re DUMMY****ATD Serial No:** 032**Test ID:** D124331

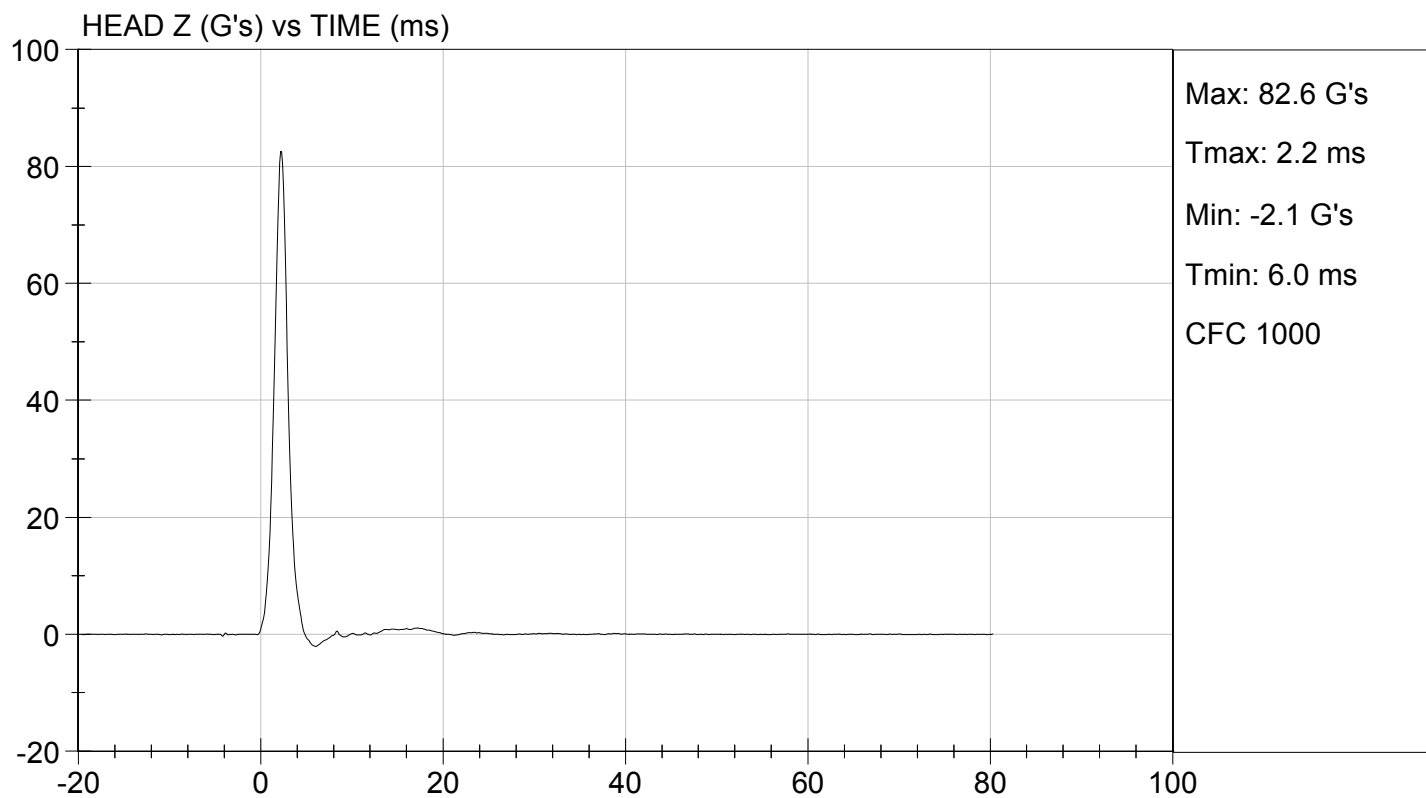
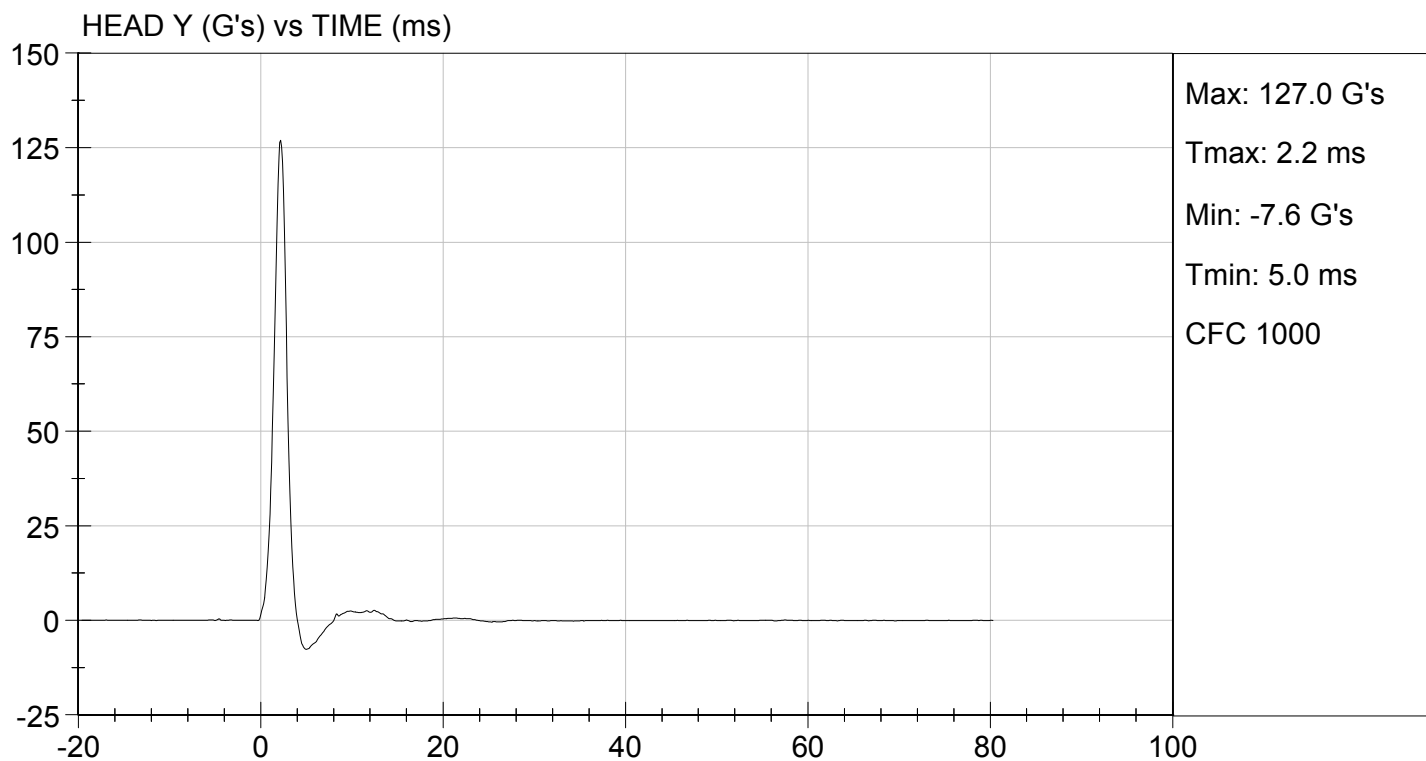
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	125 to 155	152	Pass
Peak Longitudinal Acceleration	G's	<= +/- 15.0	-9.2	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 15% of peak	Yes	Pass
			Overall Test Results	Pass


Laboratory Technician

11/12/2012
Test Date


Approved By



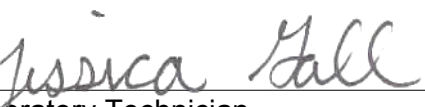


MGA RESEARCH CORPORATION
NECK PENDULUM TEST
ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124332

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity		%	10 to 70	28	Pass
Pendulum Speed		m/s	3.30 to 3.50	3.41	Pass
Pendulum Velocity	1 ms	m/s	-0.05 to 0.00	-0.01	Pass
	3 ms	m/s	-0.25 to -0.375	-0.33	Pass
	14 ms	m/s	-3.20 to -3.70	-3.29	Pass
	17 ms	m/s	>= -3.70	-3.20	Pass
Maximum Flexion Angle		deg	49.0 to 59.0	52.0	Pass
Time of Maximum Flexion Angle		ms	54.0 to 66.0	59.6	Pass
Head Rotation Decay Time to 0 Degree		ms	53.0 to 88.0	56.9	Pass
Overall Results					Pass


 Laboratory Technician

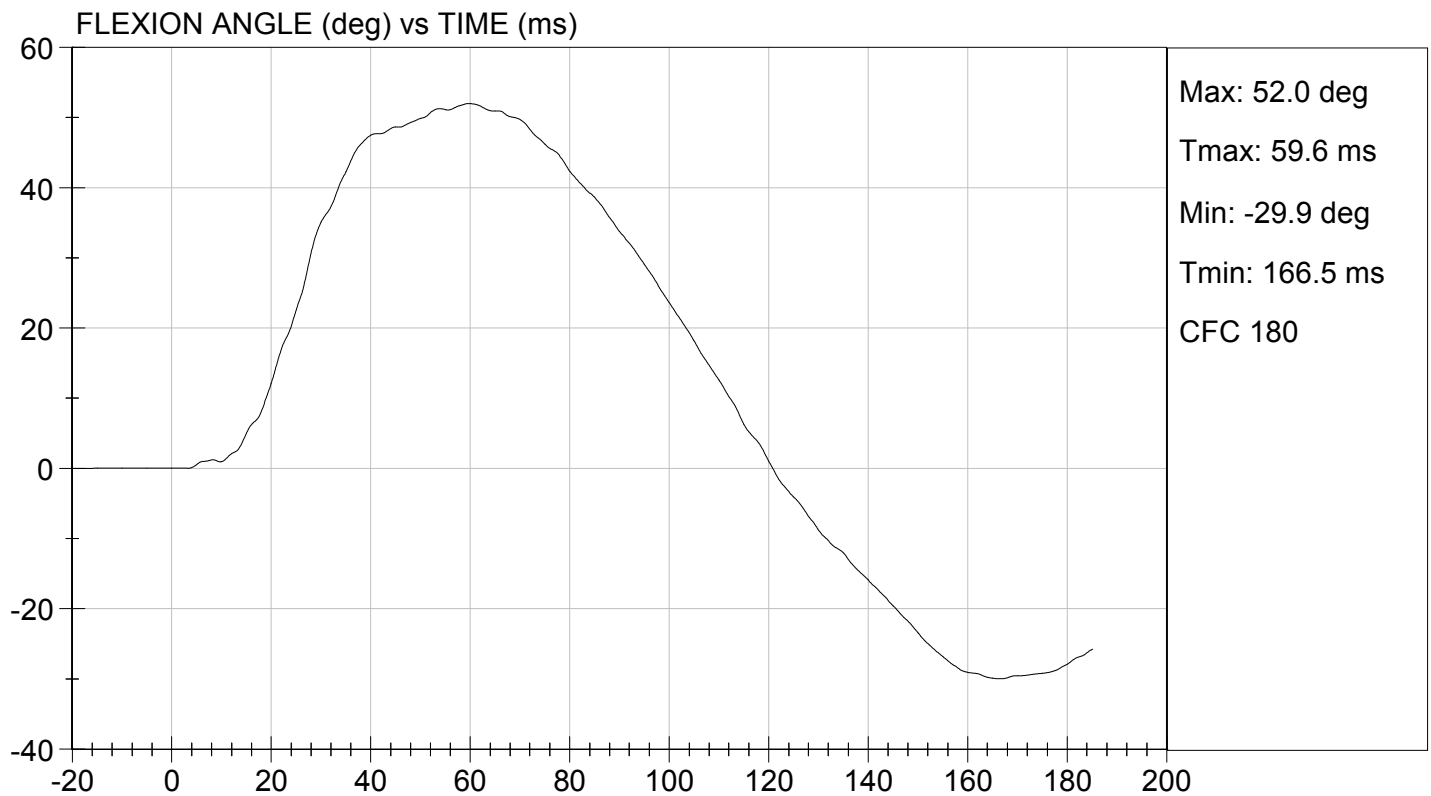
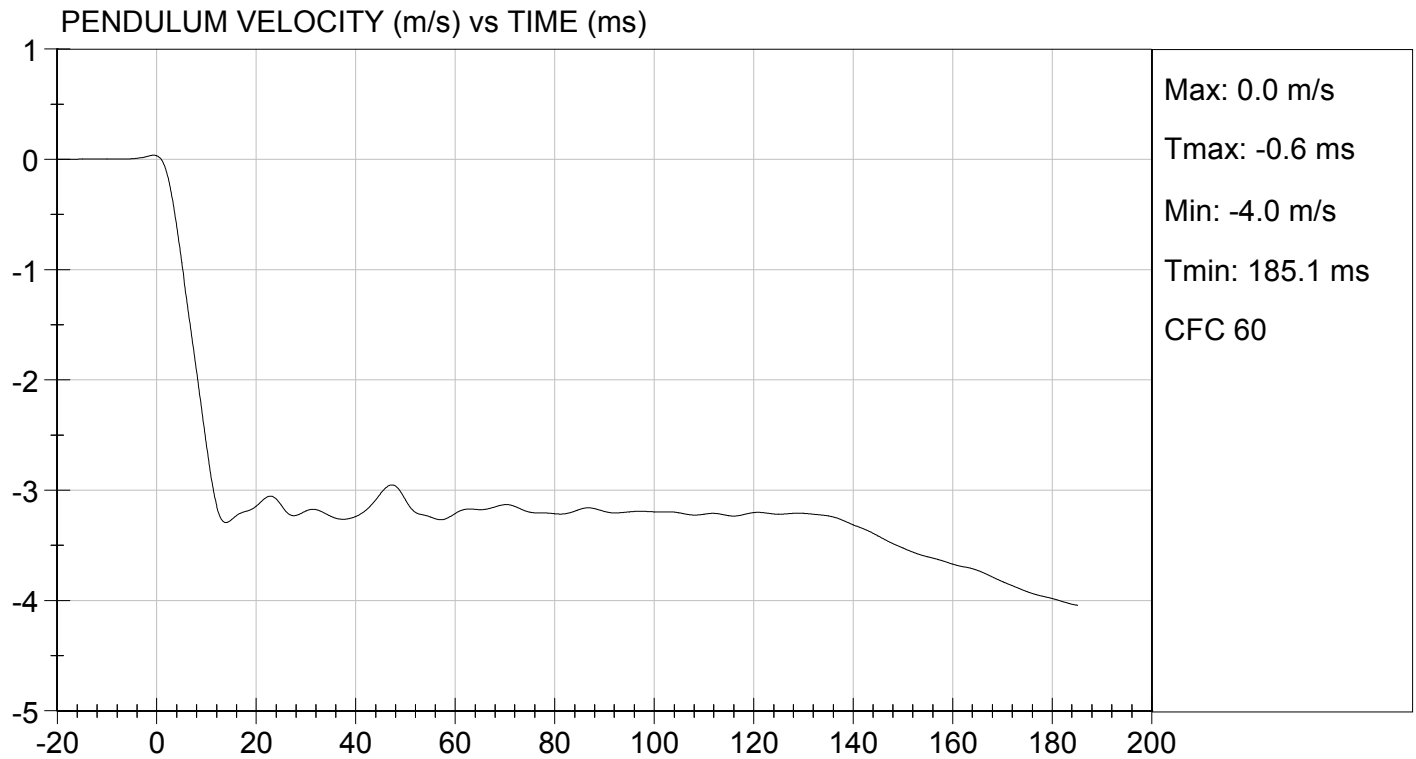
11/12/2012
 Test Date


 Approved By



TEST DESC: NECK BENDING
VELOCITY: 11.19 ft/s, 3.41 m/s

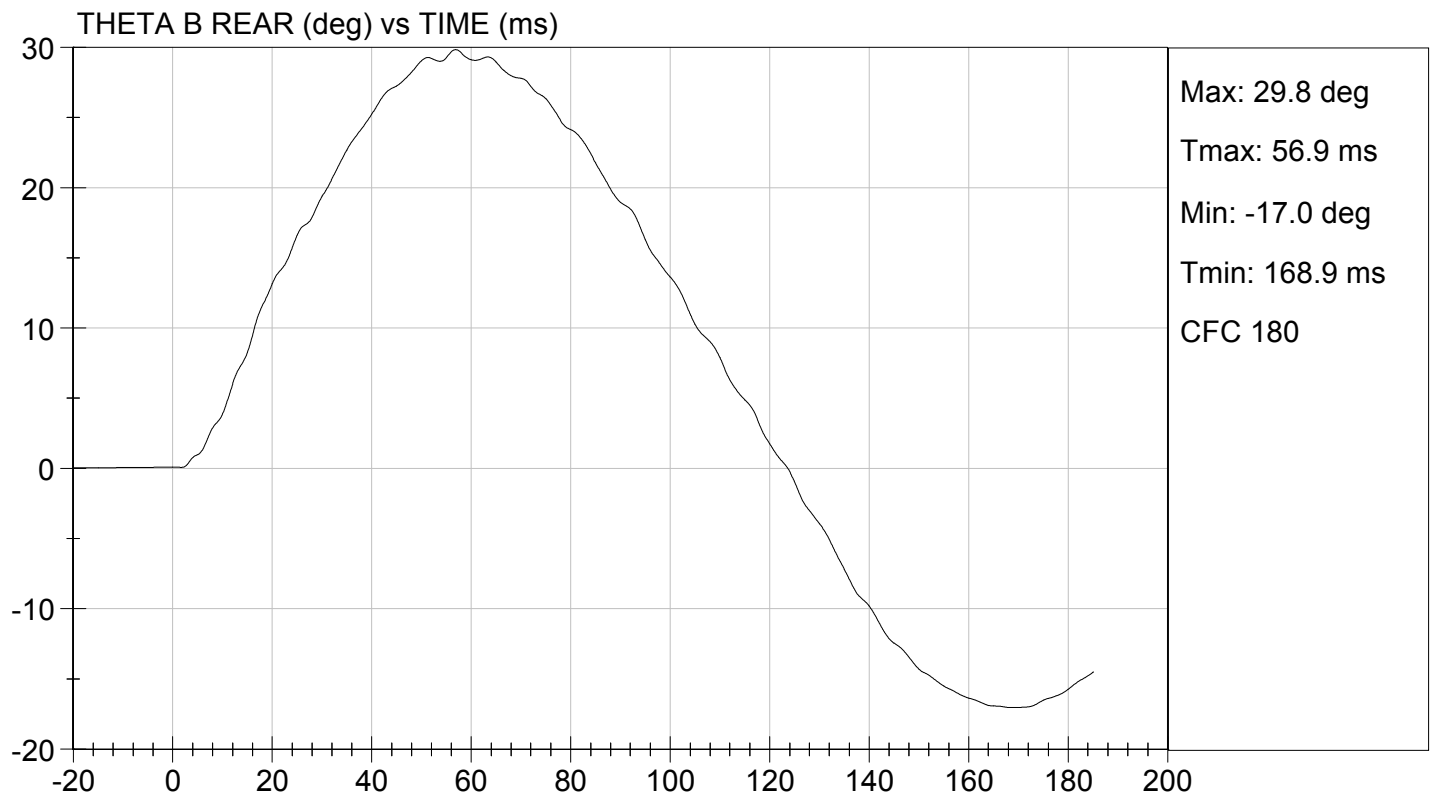
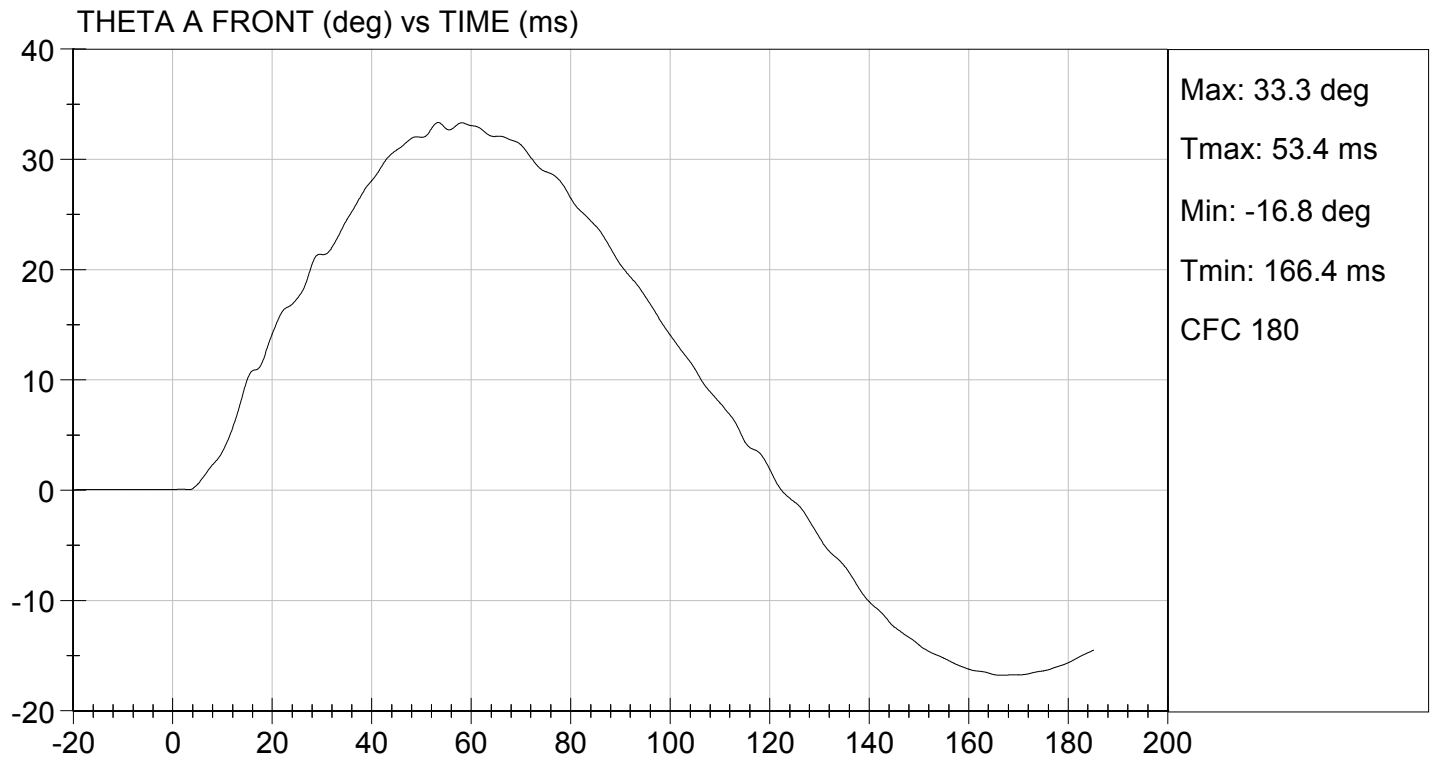
TEST DATE: 11/12/2012
TEST #: D124332





TEST DESC: NECK BENDING
VELOCITY: 11.19 ft/s, 3.41 m/s

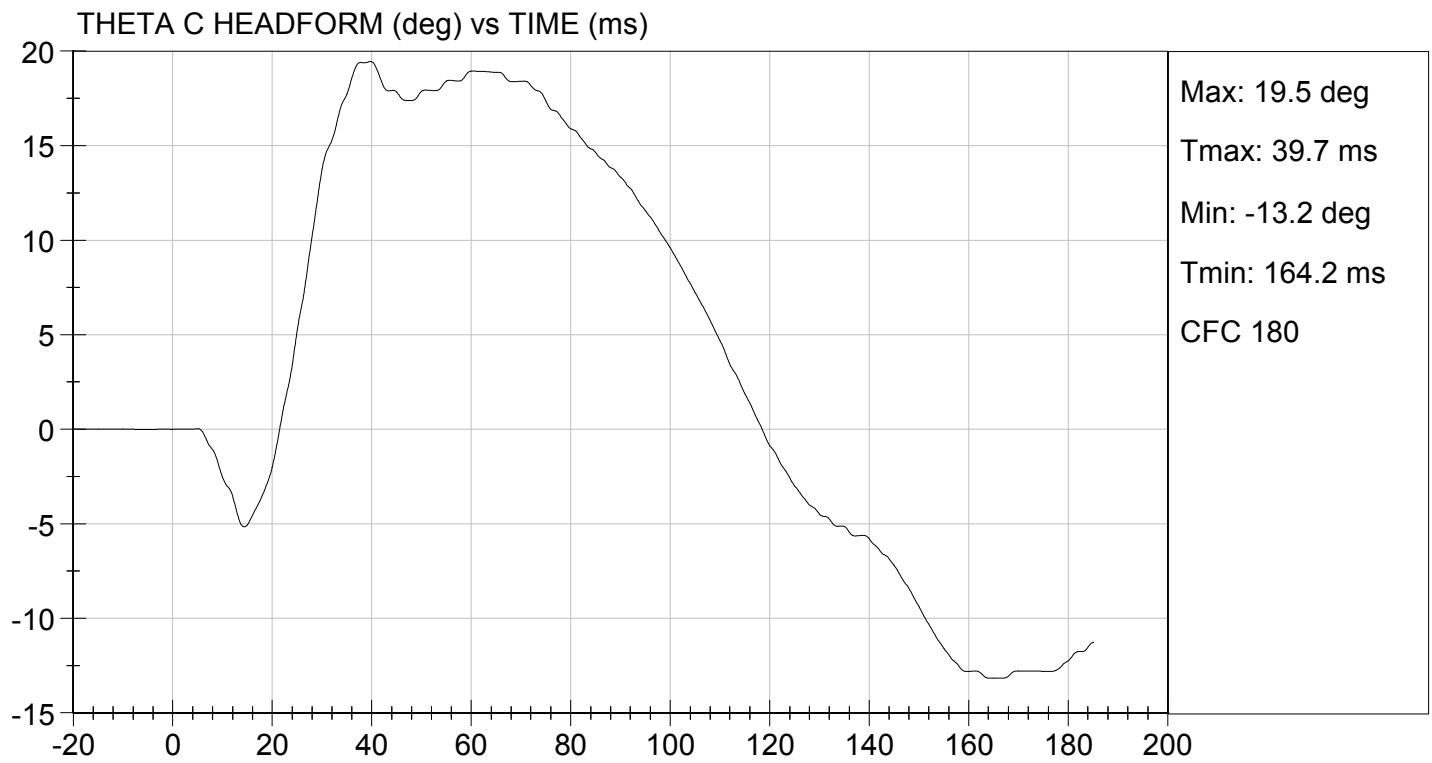
TEST DATE: 11/12/2012
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TEST DESC: NECK BENDING
VELOCITY: 11.19 ft/s, 3.41 m/s

TEST DATE: 11/12/2012
TEST #: D124332



MGA RESEARCH CORPORATION

SHOULDER IMPACT TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124333

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Pendulum Speed	m/s	4.20 to 4.40	4.3	Pass
Peak Impactor Acceleration	G's	7.5 to 10.5	9.3	Pass
Overall Test Results				Pass


Laboratory Technician

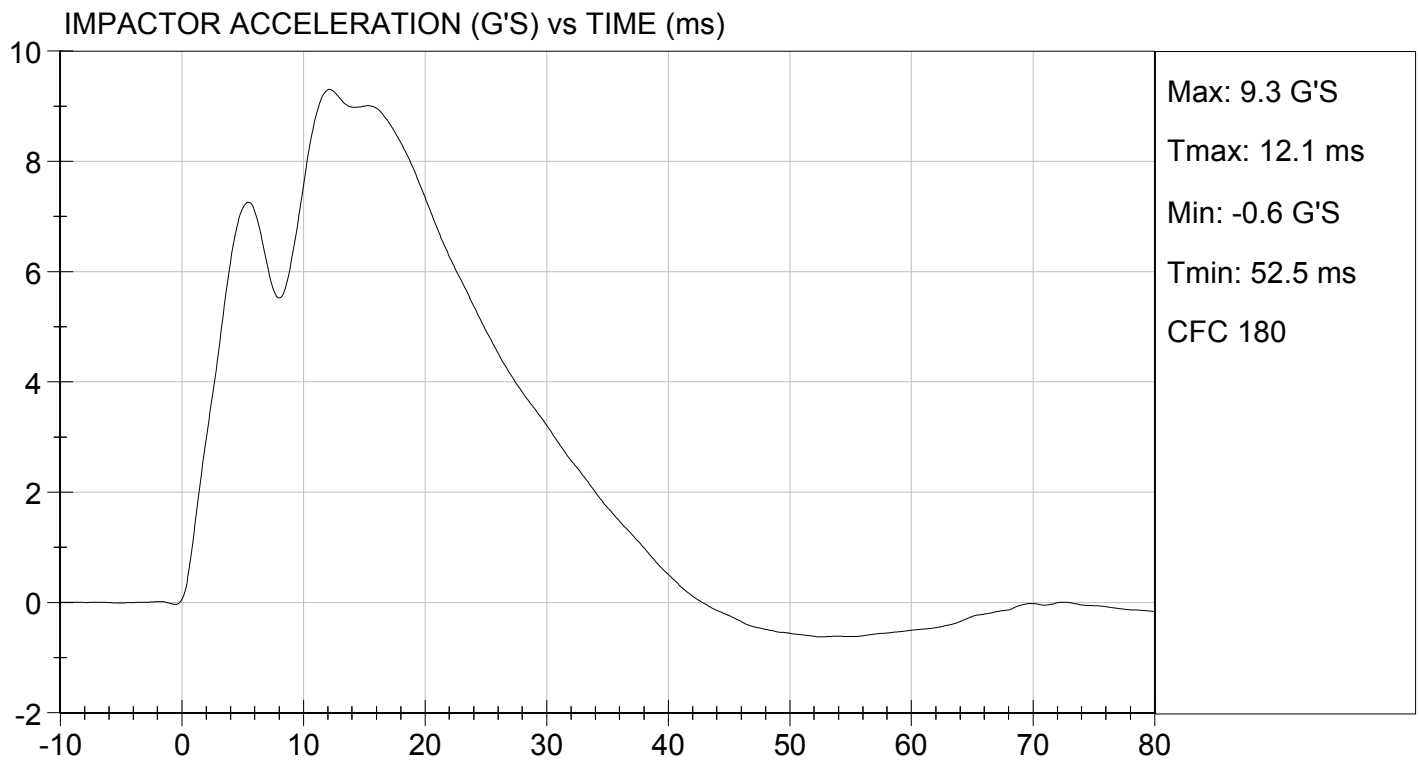
11/12/2012
Test Date


Approved By



TEST DESC: SHOULDER IMPACT
VELOCITY: 14.12 ft/s, 4.3 m/s

TEST DATE: 11/12/2012
TEST #: D124333



MGA RESEARCH CORPORATION

UPPER RIB TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124334

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Displacement at 459 mm	mm	36.0 to 40.0	37.2	Pass
Displacement at 815 mm	mm	46.0 to 51.0	48.6	Pass
Overall Test Results				Pass

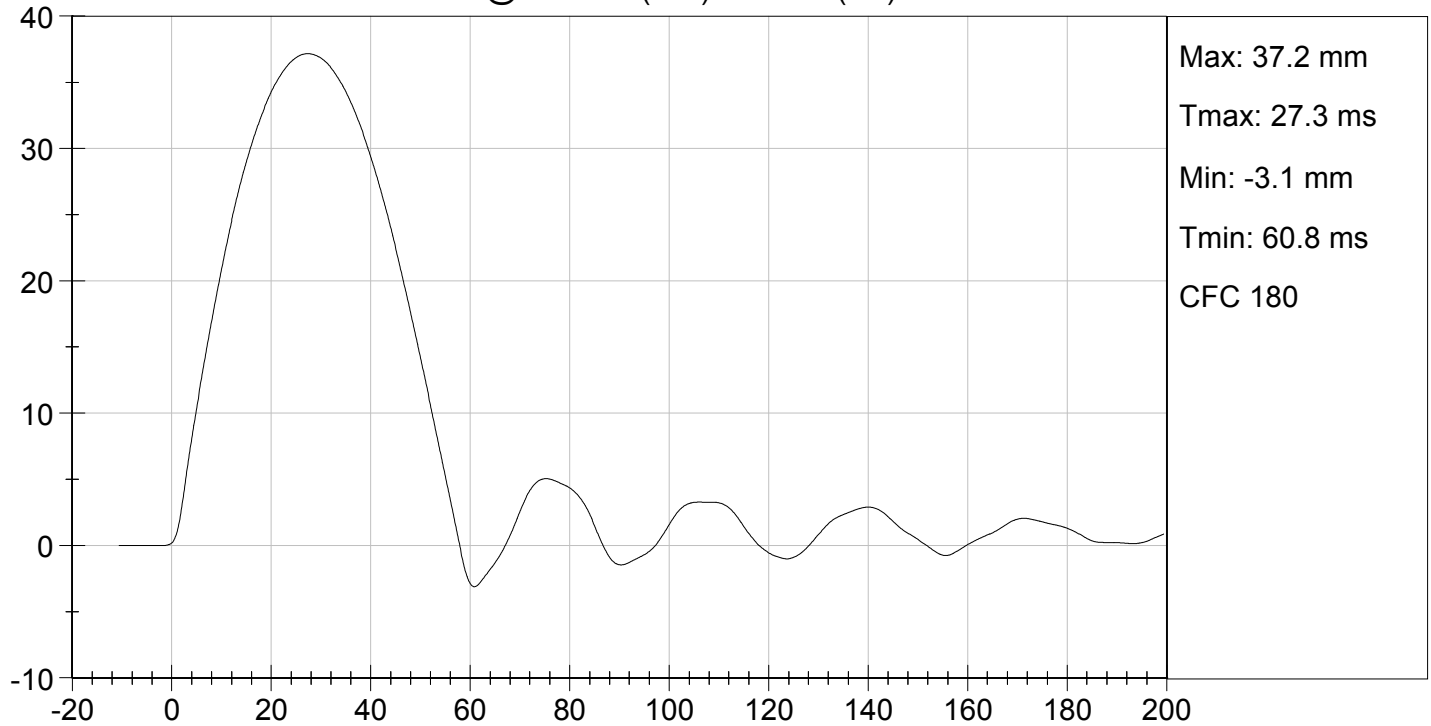

Laboratory Technician

11/12/2012
Test Date

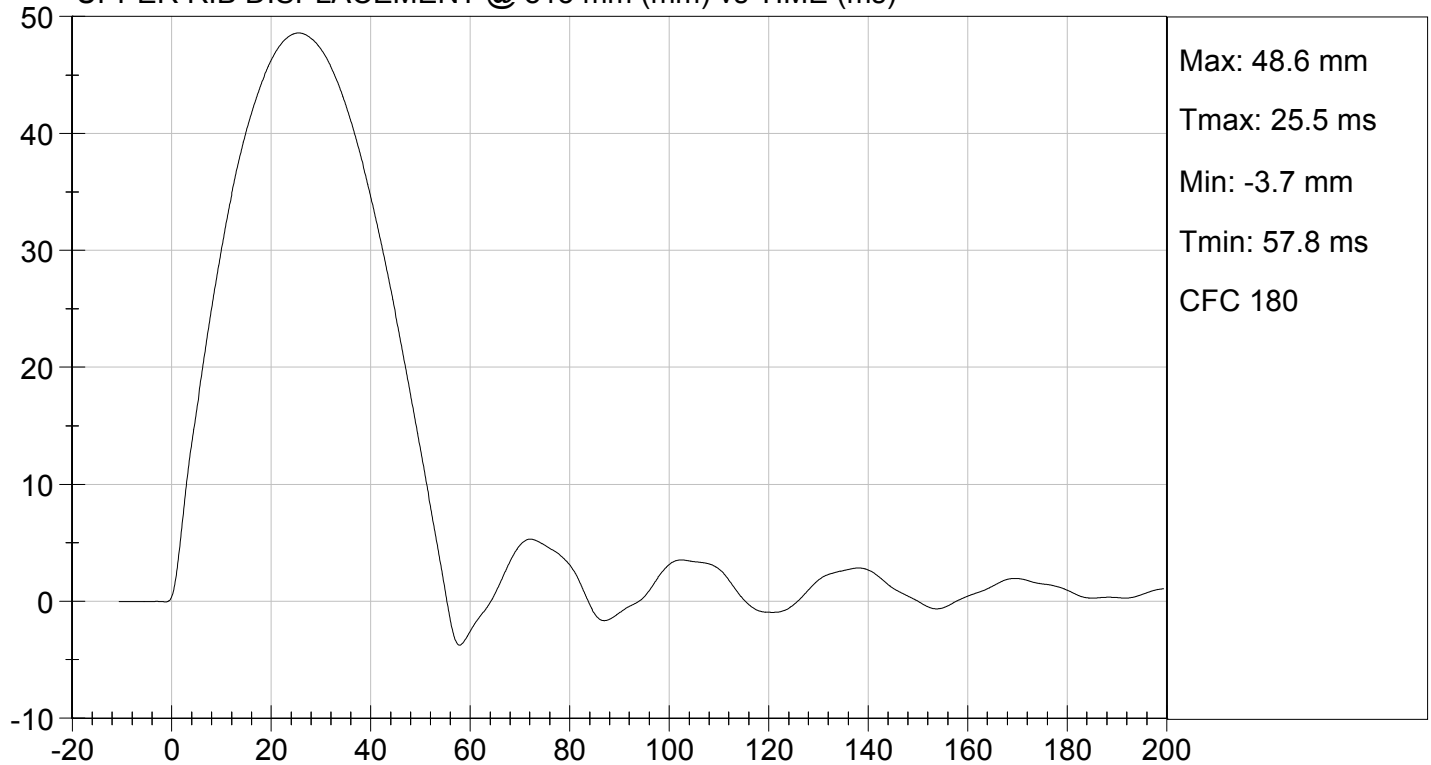

Approved By



UPPER RIB DISPLACEMENT @ 459 mm (mm) vs TIME (ms)



UPPER RIB DISPLACEMENT @ 815 mm (mm) vs TIME (ms)



MGA RESEARCH CORPORATION

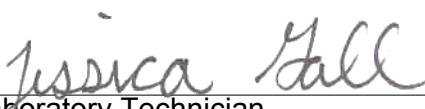
MID RIB TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124335

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Displacement at 459 mm	mm	36.0 to 40.0	37.1	Pass
Displacement at 815 mm	mm	46.0 to 51.0	47.9	Pass
Overall Test Results				Pass

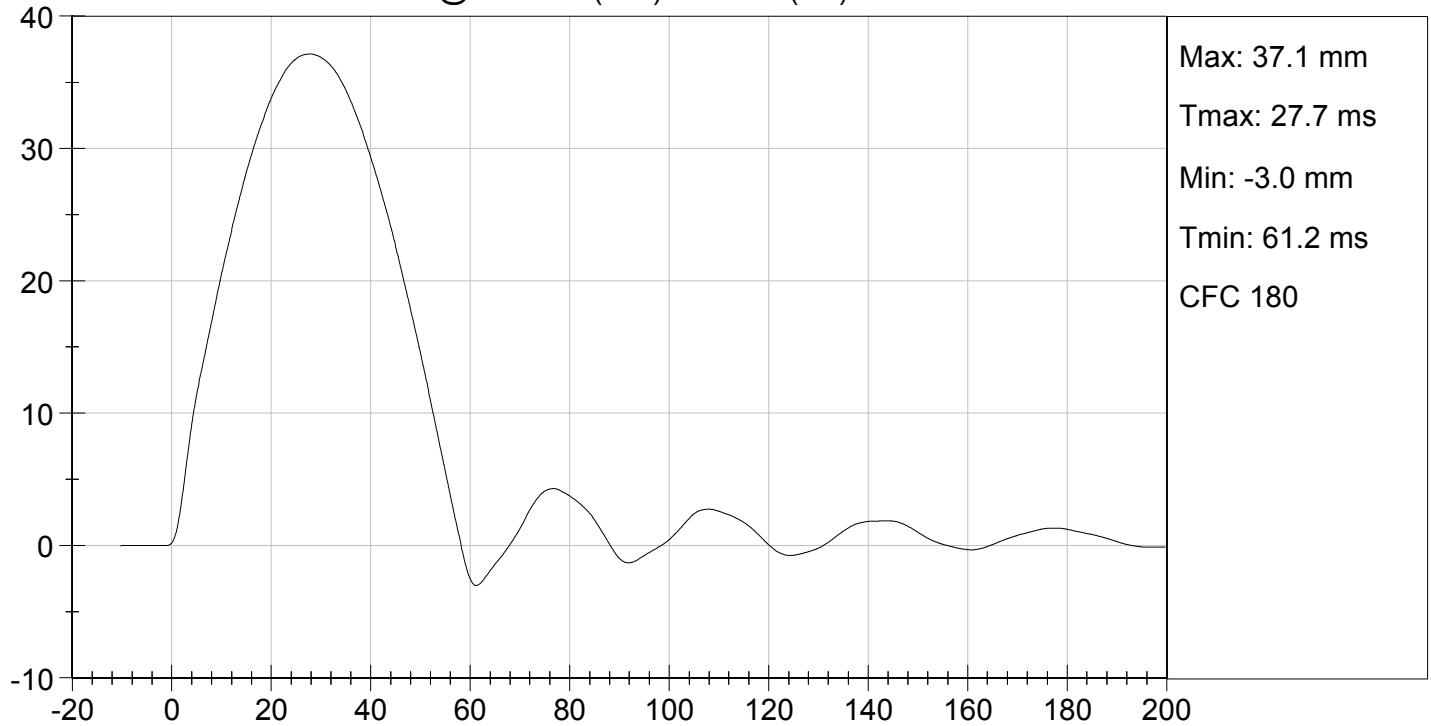

Laboratory Technician

11/12/2012
Test Date

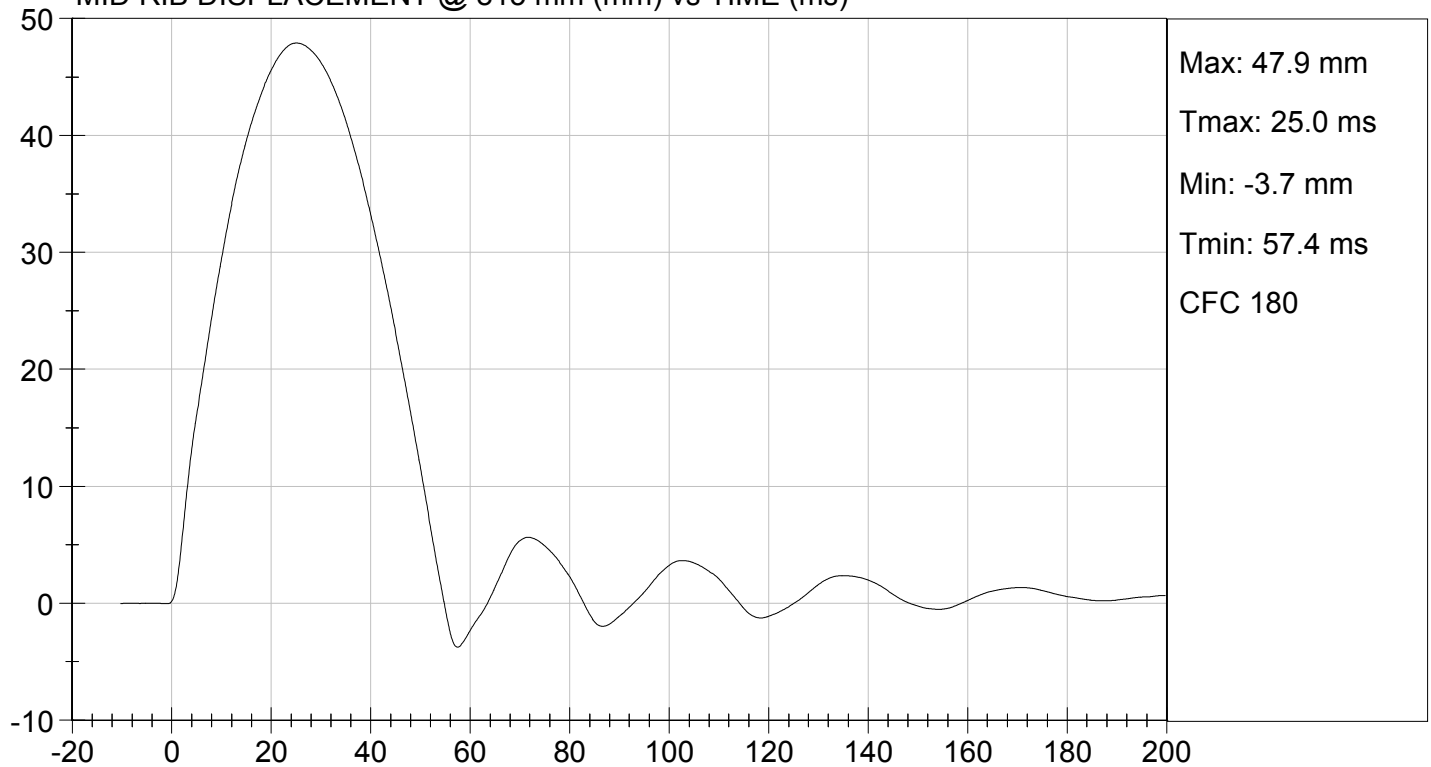

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MID RIB DISPLACEMENT @ 459 mm (mm) vs TIME (ms)



MID RIB DISPLACEMENT @ 815 mm (mm) vs TIME (ms)



MGA RESEARCH CORPORATION

LOWER RIB TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124336

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Displacement at 459 mm	mm	36.0 to 40.0	37.6	Pass
Displacement at 815 mm	mm	46.0 to 51.0	47.8	Pass
Overall Test Results				Pass

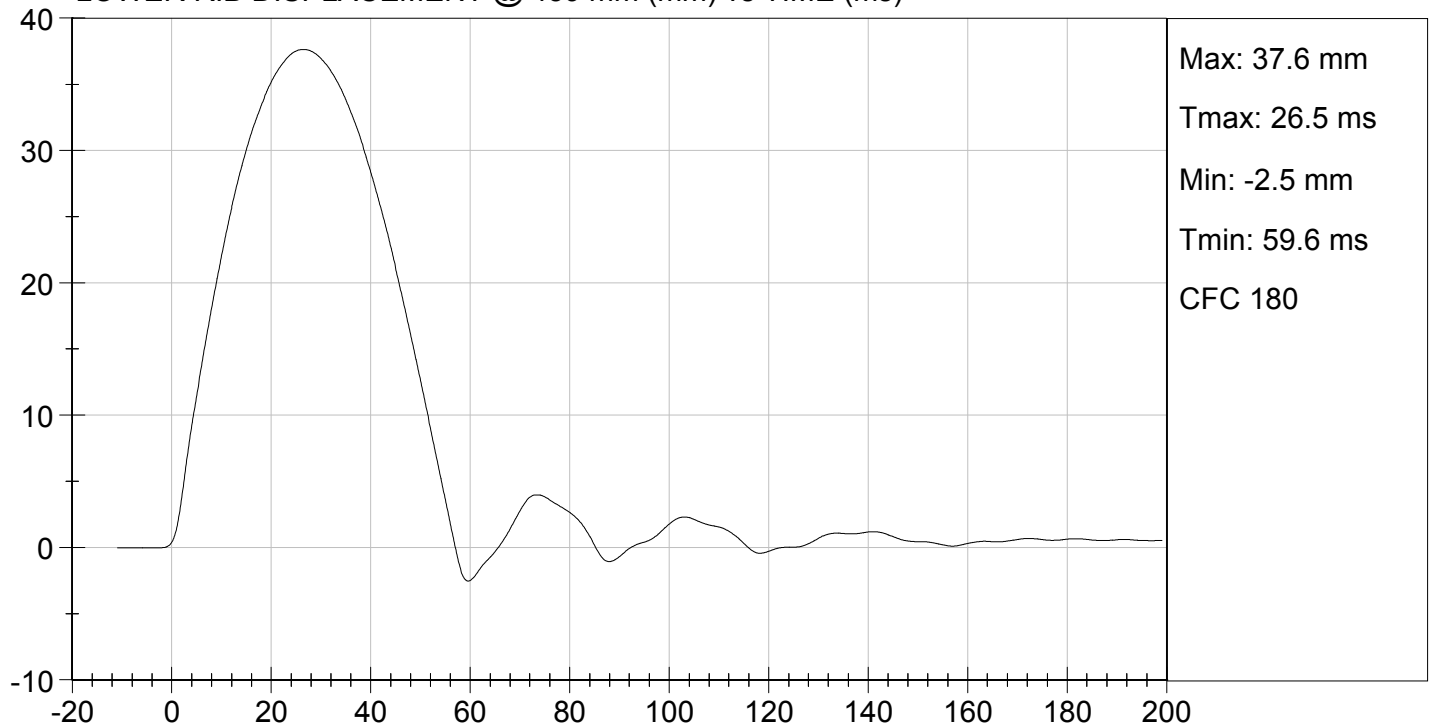

Laboratory Technician

11/12/2012
Test Date

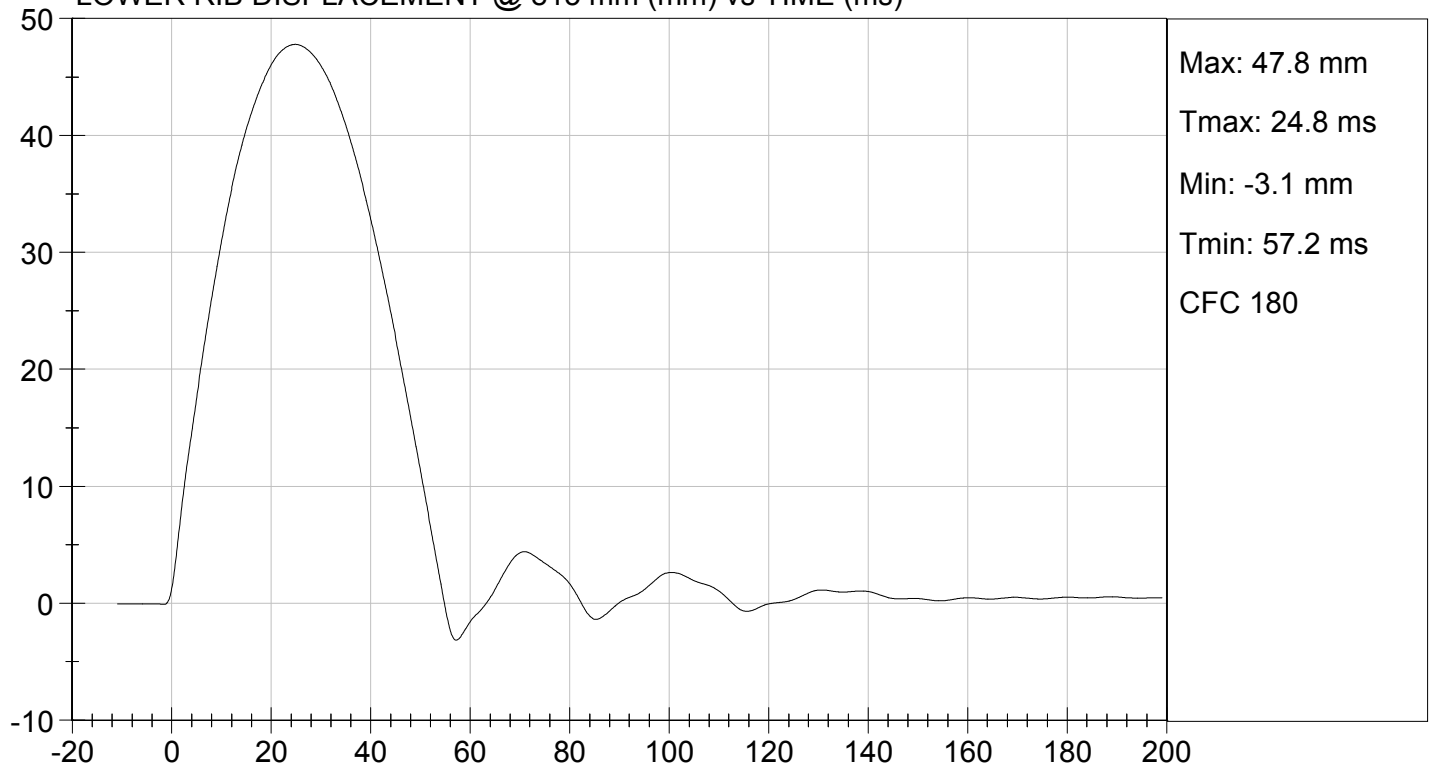

Approved By



LOWER RIB DISPLACEMENT @ 459 mm (mm) vs TIME (ms)



LOWER RIB DISPLACEMENT @ 815 mm (mm) vs TIME (ms)



MGA RESEARCH CORPORATION**THORAX IMPACT TEST****ES-2re DUMMY****ATD Serial No:** 032**Test I.D:** D124330

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	25	Pass
Probe Speed	m/s	5.40 to 5.60	5.58	Pass
Maximum Impactor Force (after 6 ms)	N	5100 to 6200	5128	Pass
Upper Rib Displacement	mm	34.0 to 41.0	36.5	Pass
Middle Rib Displacement	mm	37.0 to 45.0	39.4	Pass
Lower Rib Displacement	mm	37.0 to 44.0	38.6	Pass
Overall Test Results				Pass


Laboratory Technician

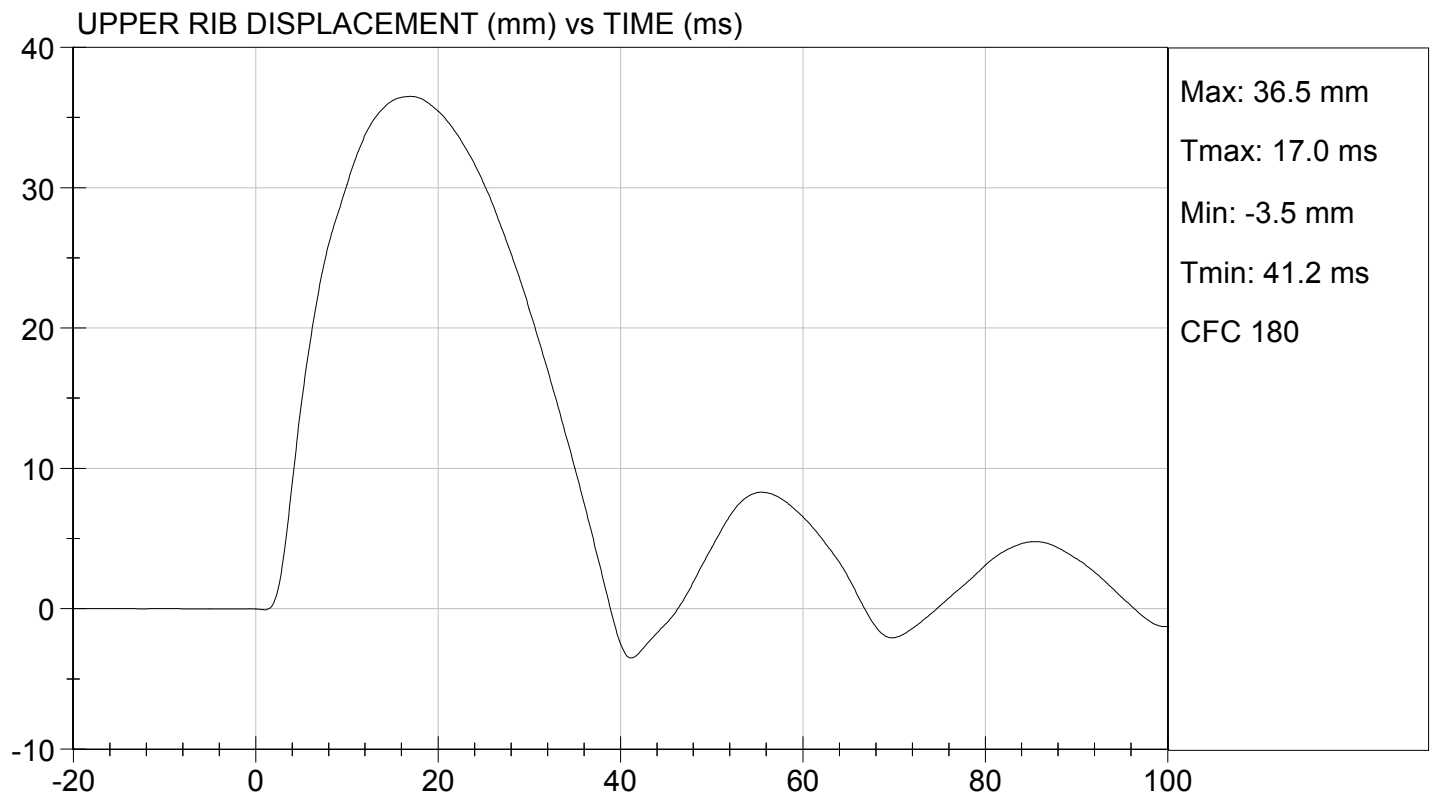
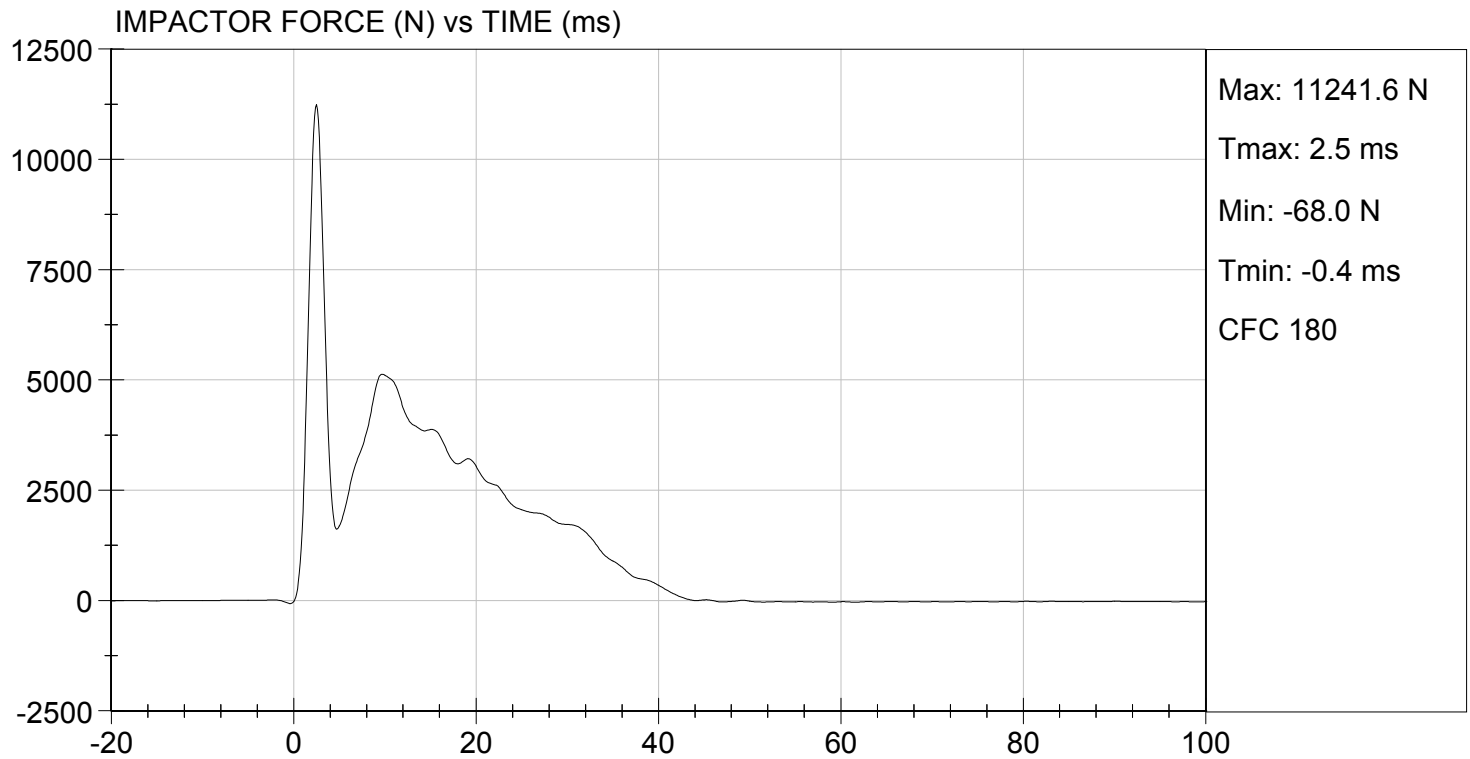
11/12/2012
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 18.31 ft/s, 5.58 m/s

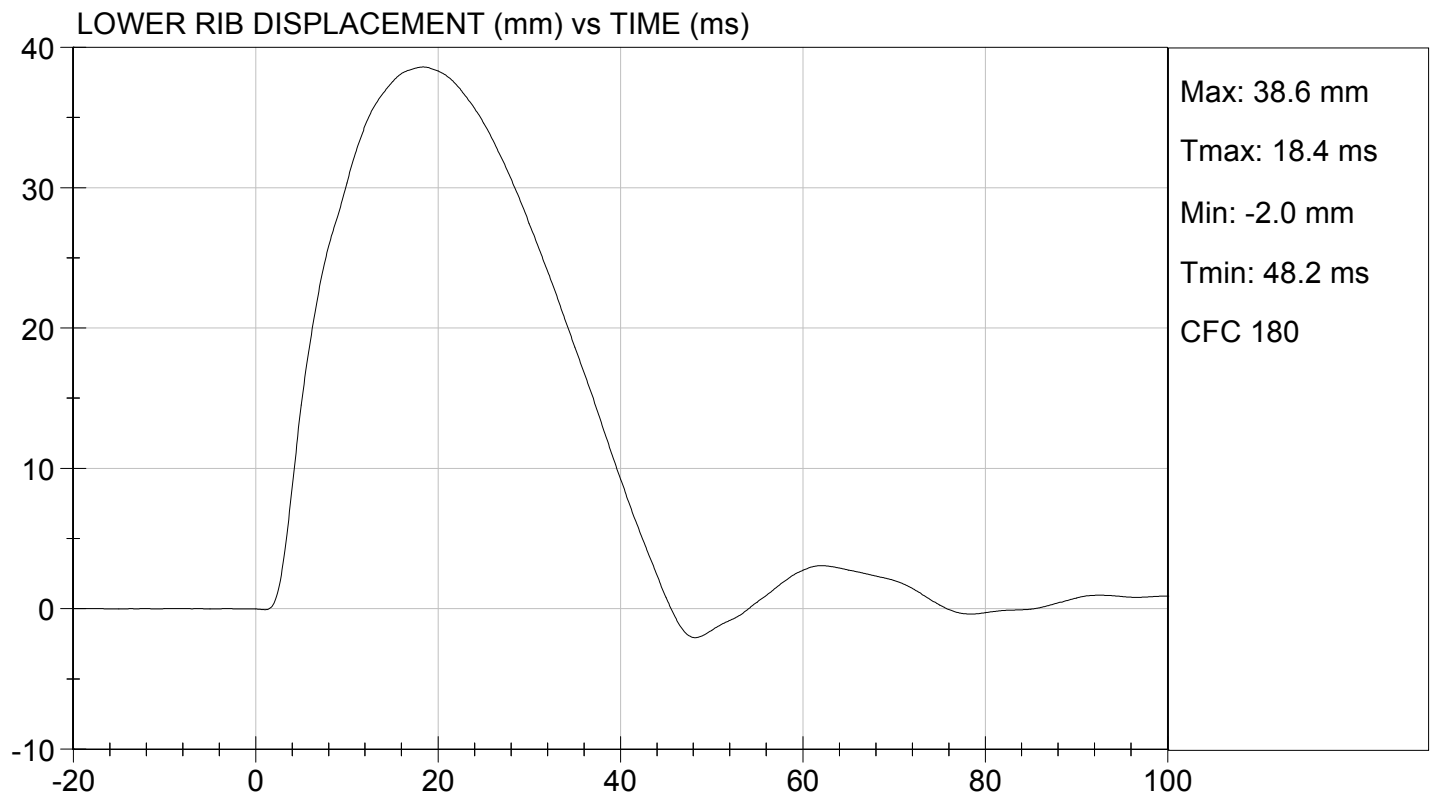
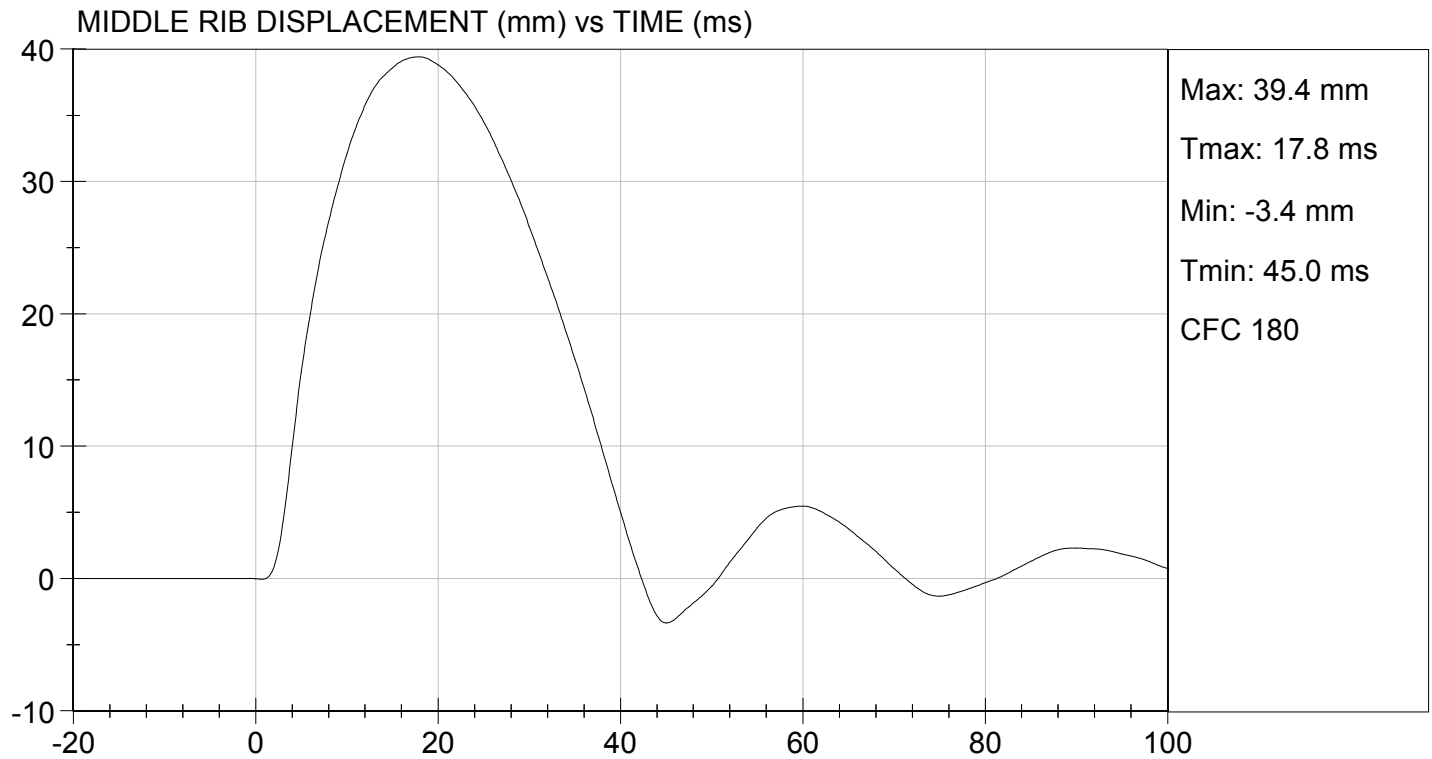
TEST DATE: 11/12/2012
TEST #: D124330





TEST DESC: THORAX IMPACT
VELOCITY: 18.31 ft/s, 5.58 m/s

TEST DATE: 11/12/2012
TEST #: D124330



MGA RESEARCH CORPORATION

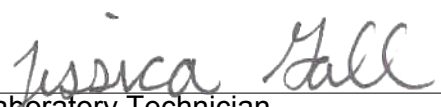
ABDOMEN TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124337

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Probe Speed	m/s	3.90 to 4.10	4.06	Pass
Maximum Impactor Force	N	4000 to 4800	4306	Pass
Time of Maximum Impactor Force	ms	10.6 to 13.0	11.2	Pass
Maximum Total Abdomen Force	N	2200 to 2700	2452	Pass
Time of Maximum Abdomen Force	ms	10.0 to 12.3	11.2	Pass
Overall Test Results				Pass


Laboratory Technician

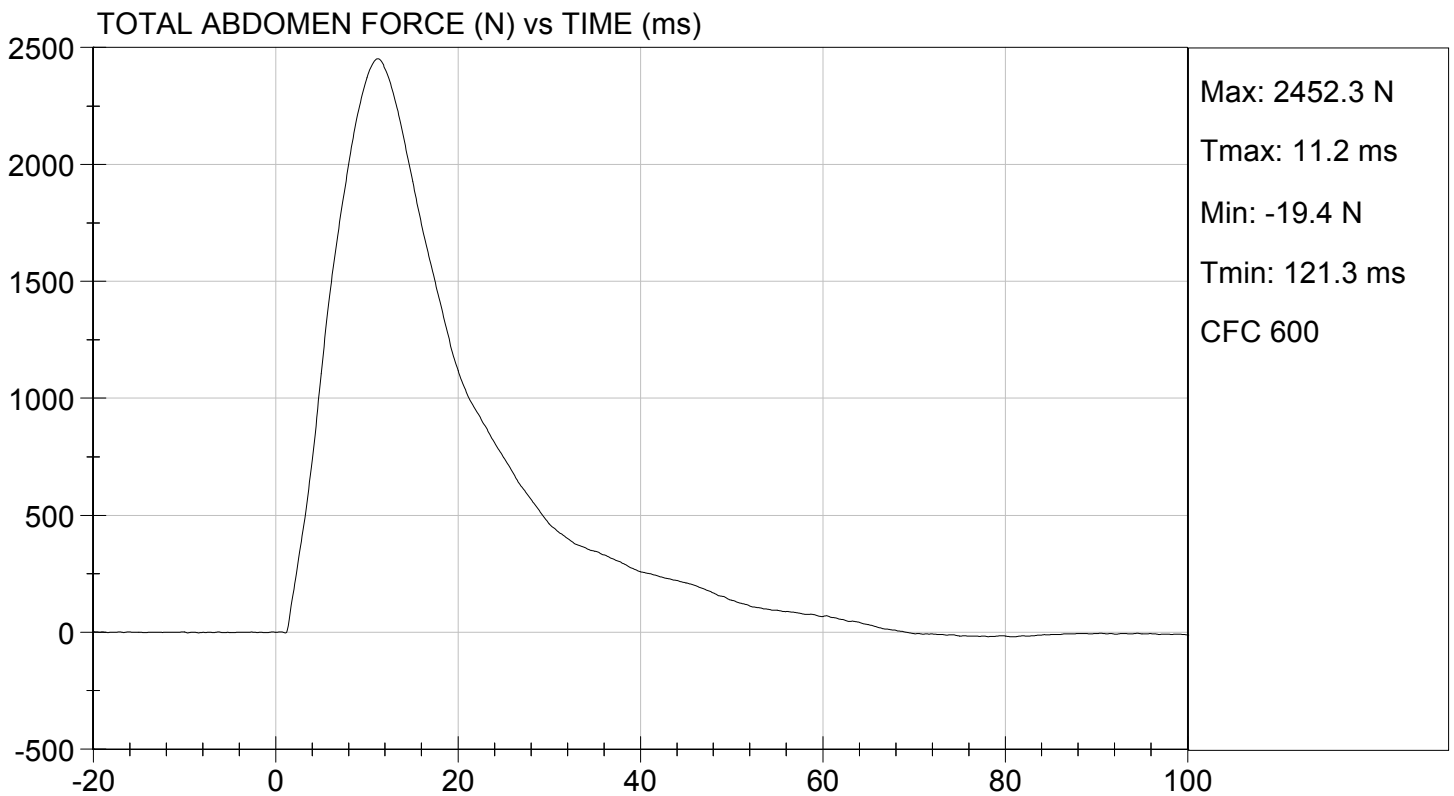
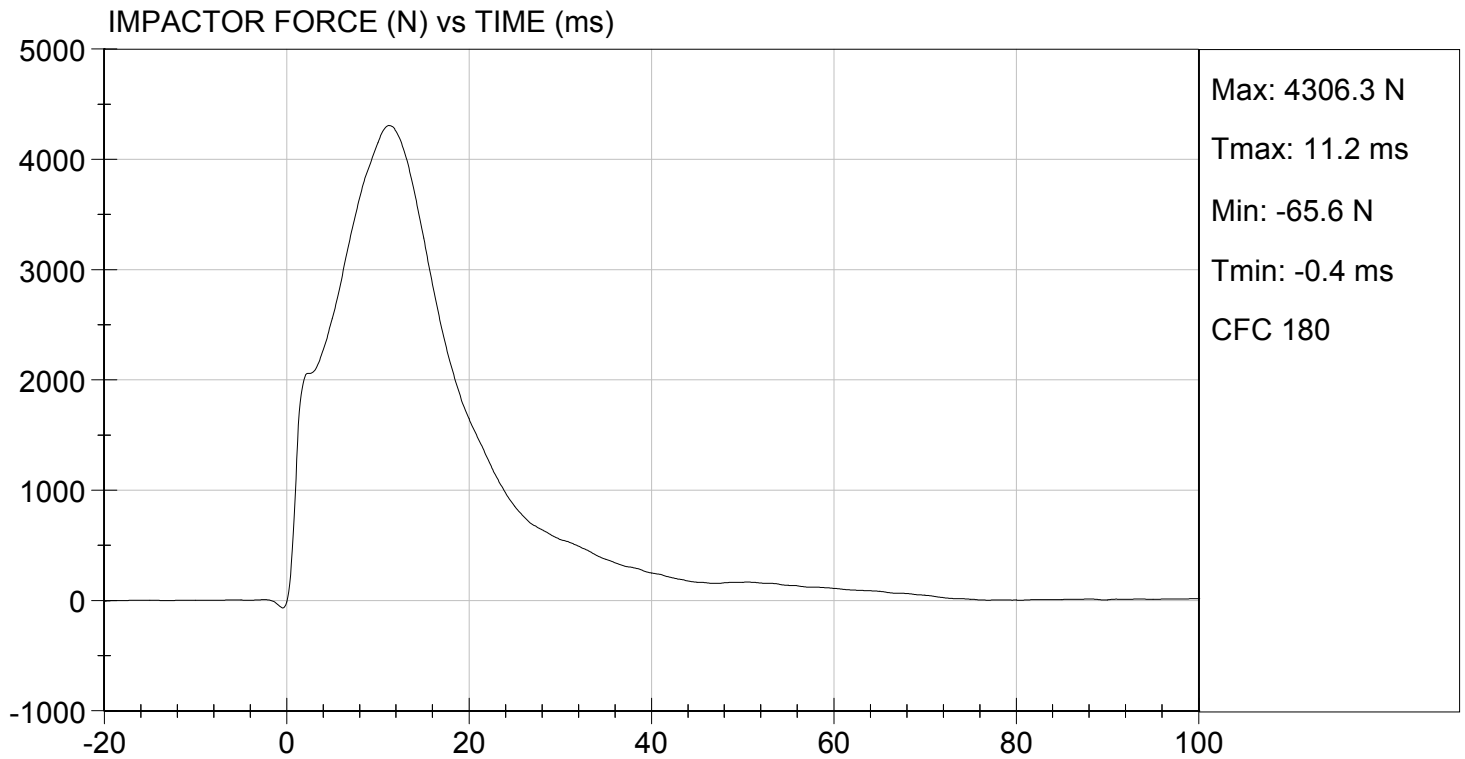
11/12/2012
Test Date


Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.33 ft/s, 4.06 m/s

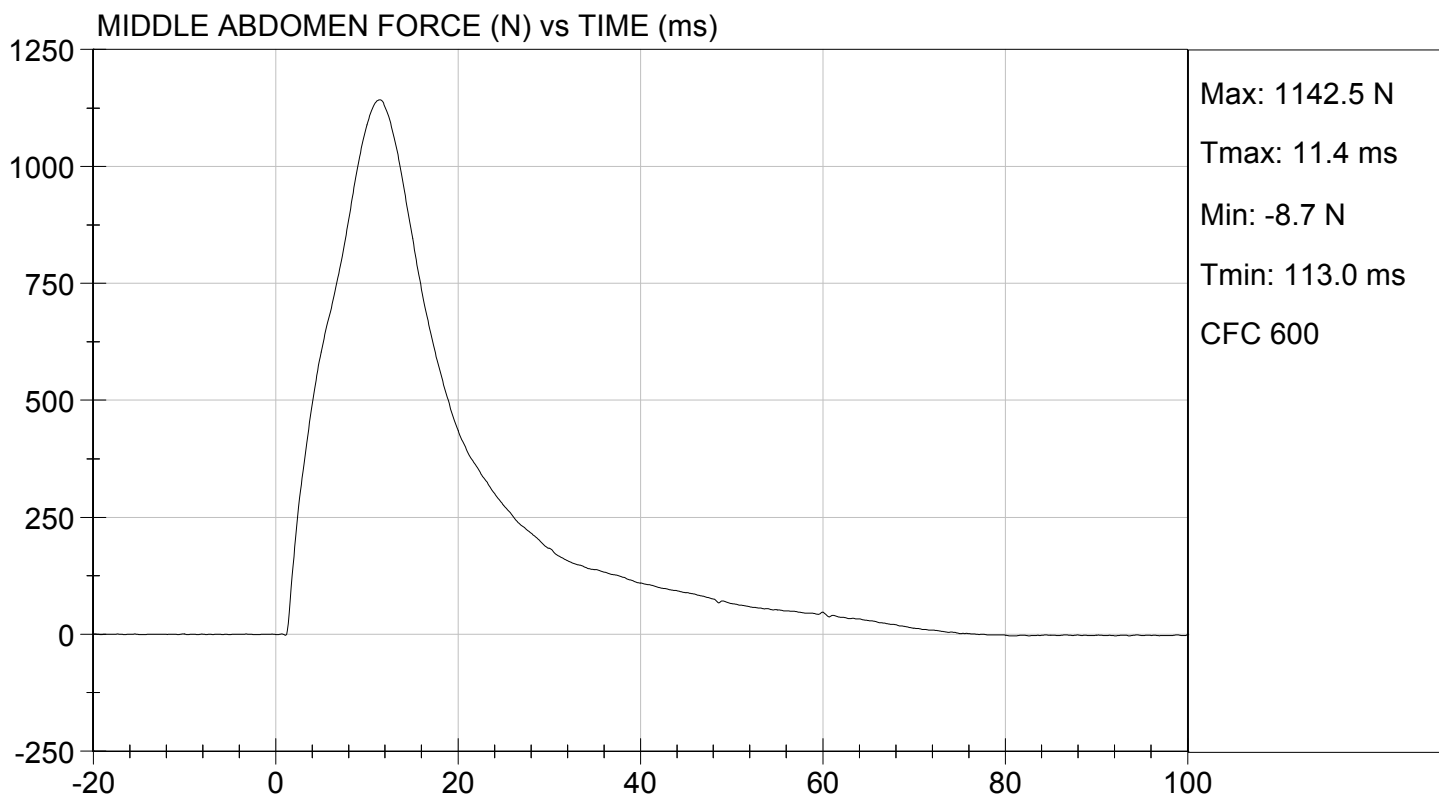
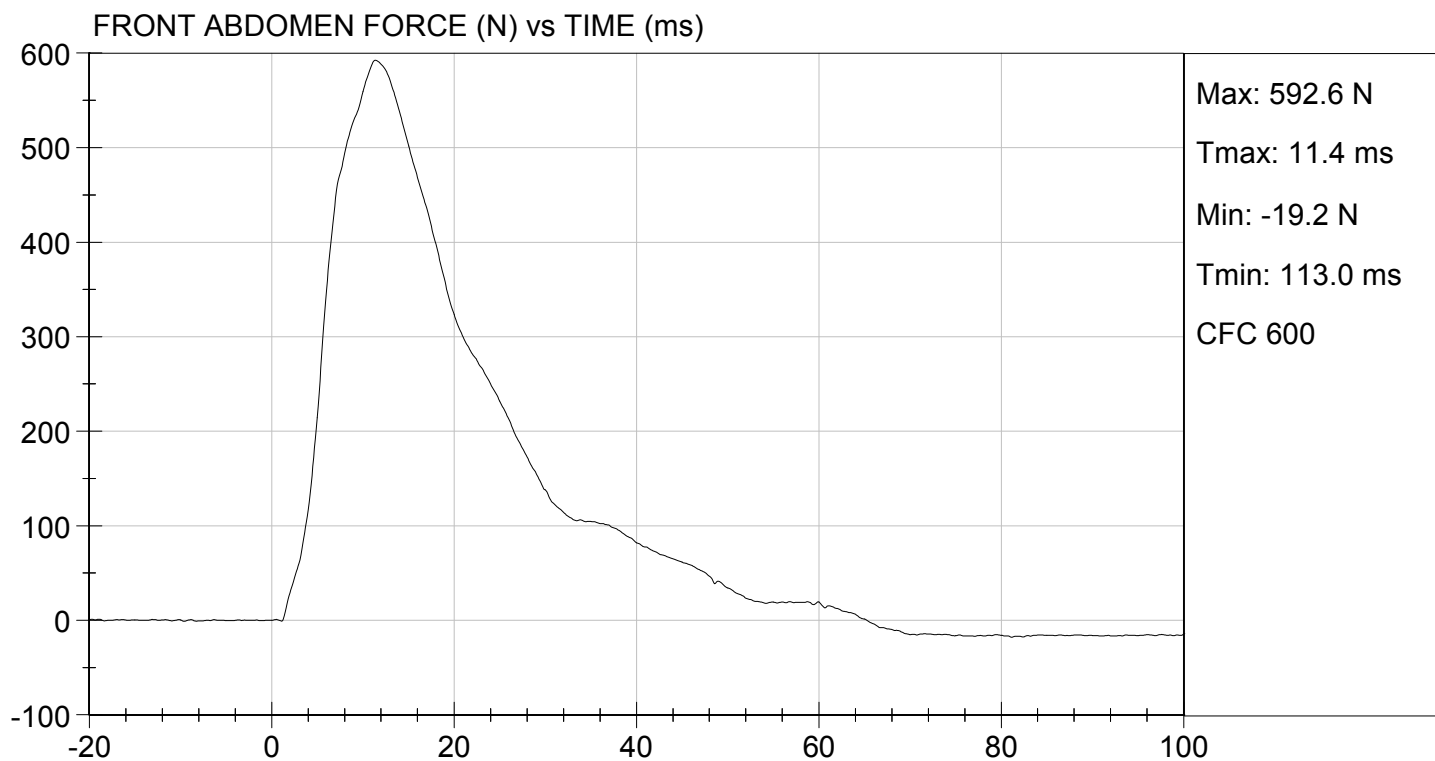
TEST DATE: 11/12/2012
TEST #: D124337





TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.33 ft/s, 4.06 m/s

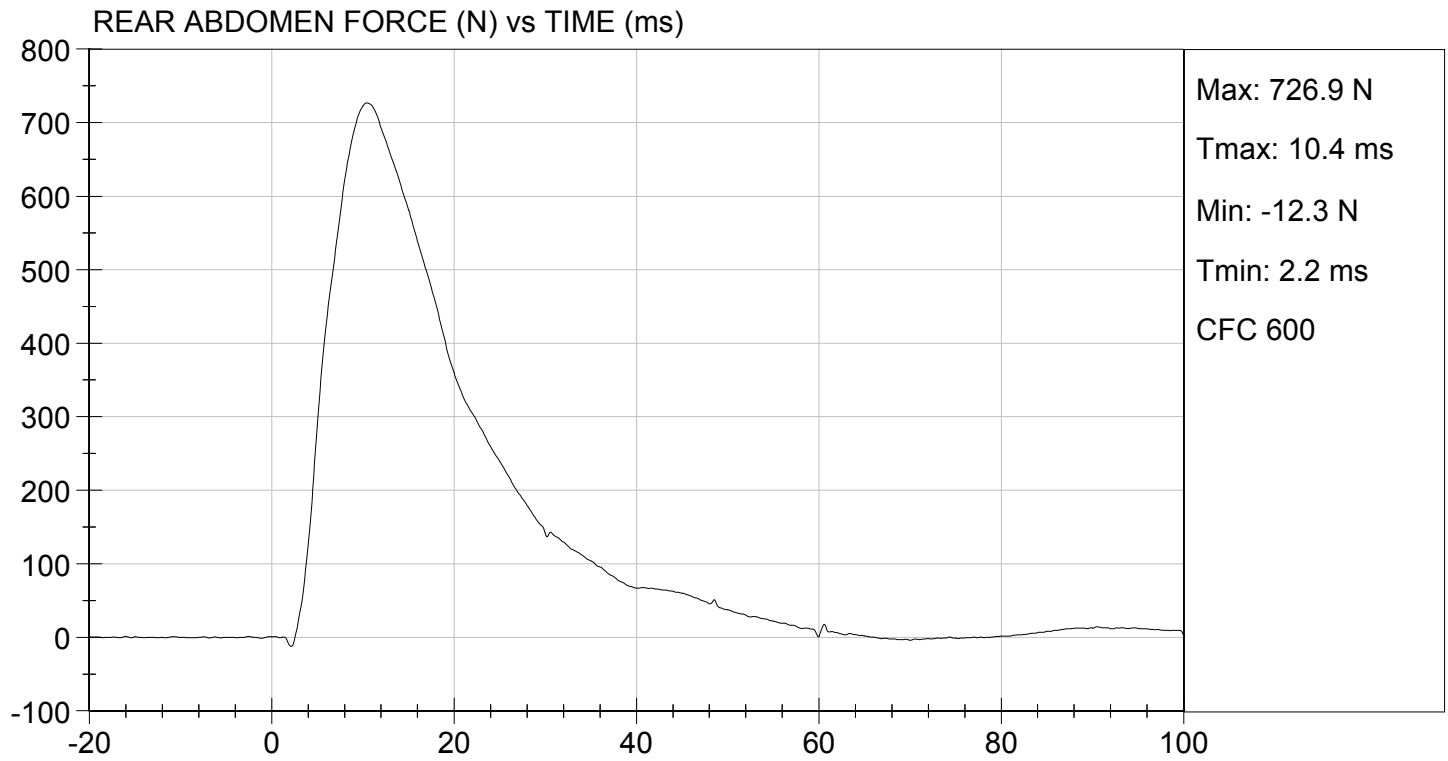
TEST DATE: 11/12/2012
TEST #: D124337





TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.33 ft/s, 4.06 m/s

TEST DATE: 11/12/2012
TEST #: D124337



MGA RESEARCH CORPORATION
LUMBAR SPINE TEST
ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124338

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity		%	10 to 70	28	Pass
Pendulum Speed		m/s	5.95 to 6.15	6.12	Pass
Pendulum Velocity	1 ms	m/s	-0.05 to 0.00	-0.00	Pass
	3.7 ms	m/s	-0.425 to -0.24	-0.401	Pass
	27 ms	m/s	-6.50 to -5.80	-5.89	Pass
	30 ms	m/s	>= -6.50	-5.80	Pass
Maximum Flexion Angle		deg	45.0 to 55.0	46.3	Pass
Time of Maximum Flexion Angle		ms	39.0 to 53.0	41.4	Pass
Headform Rotation Decay to Initial Position		ms	37 to 57	44	Pass
Overall Results					Pass


 Laboratory Technician

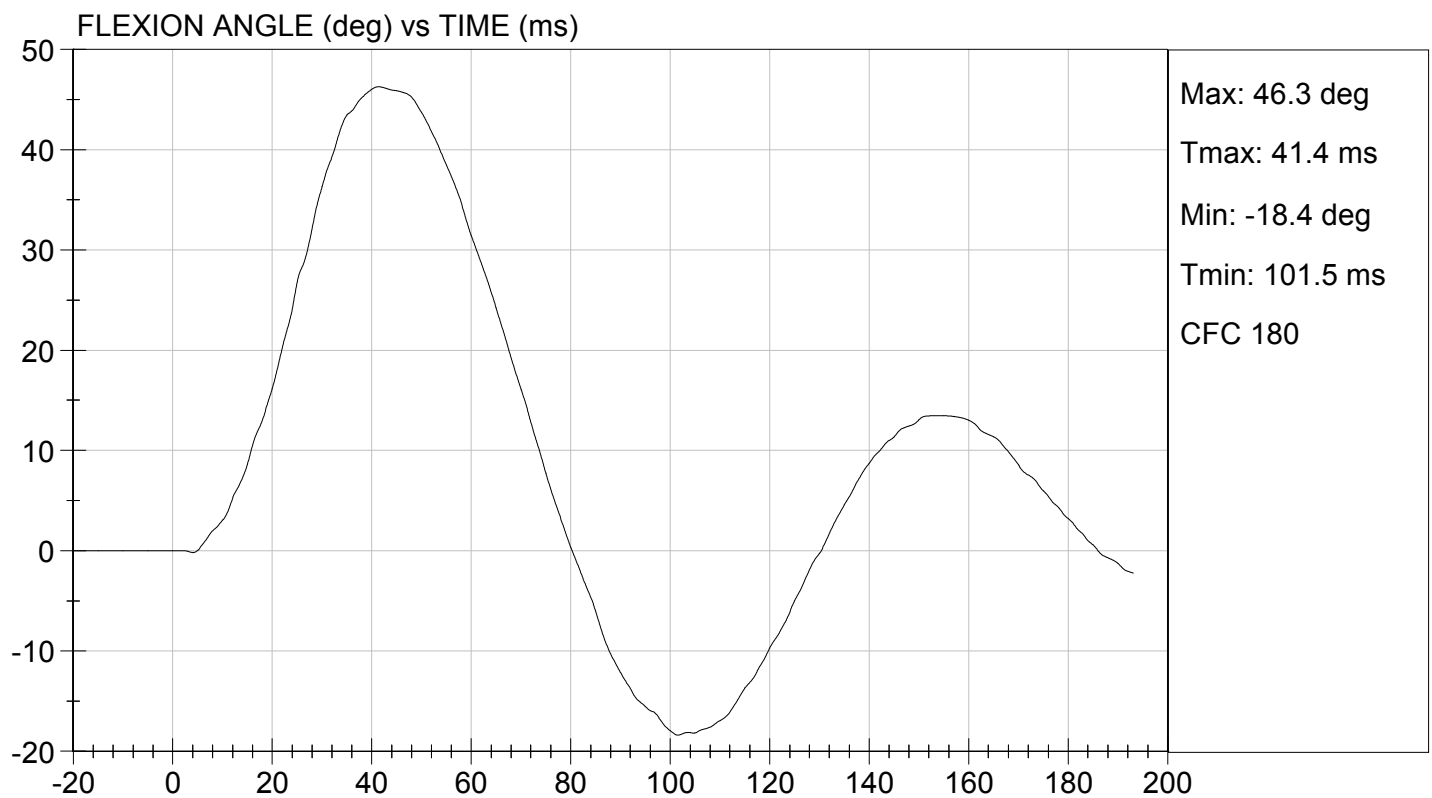
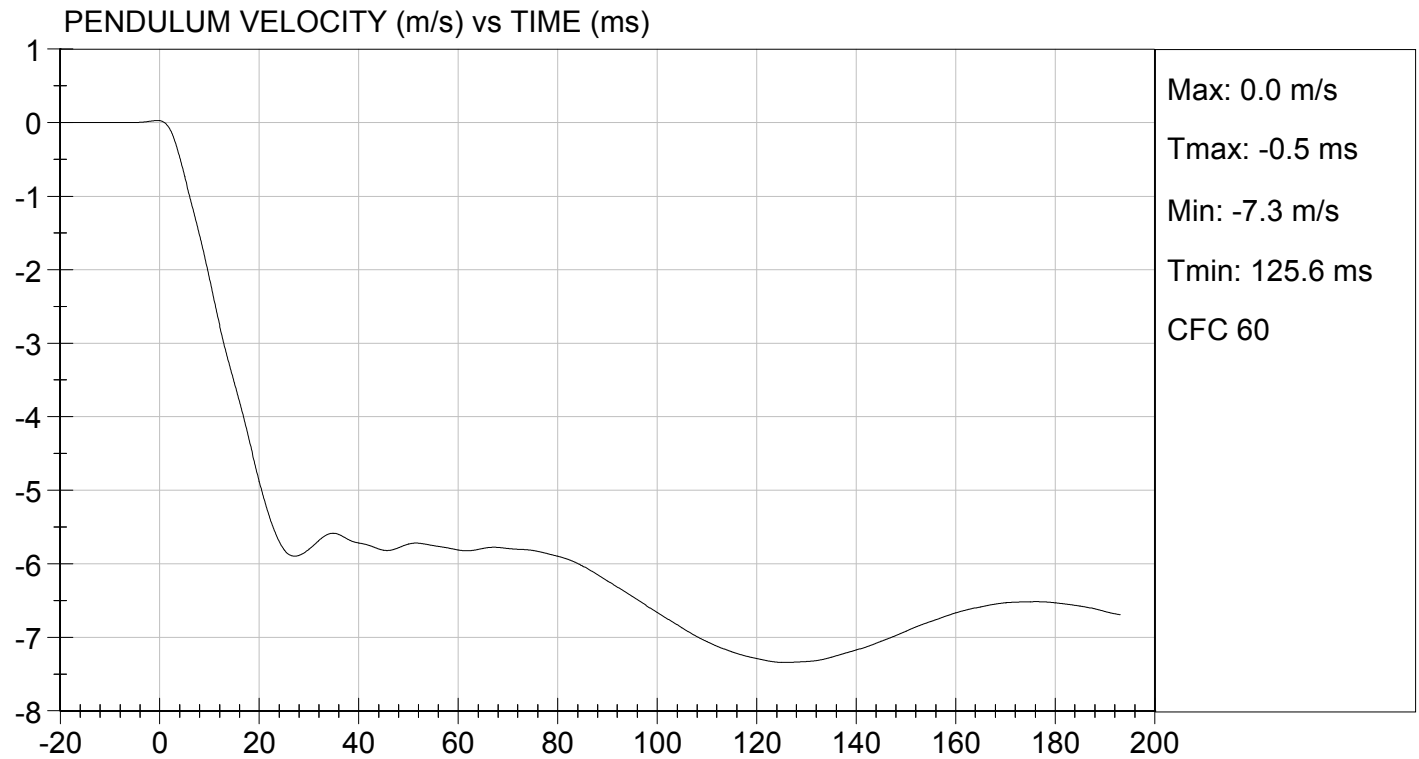
11/12/2012
 Test Date


 Approved By



TEST DESC: LUMBAR BENDING
VELOCITY: 20.08 ft/s, 6.12 m/s

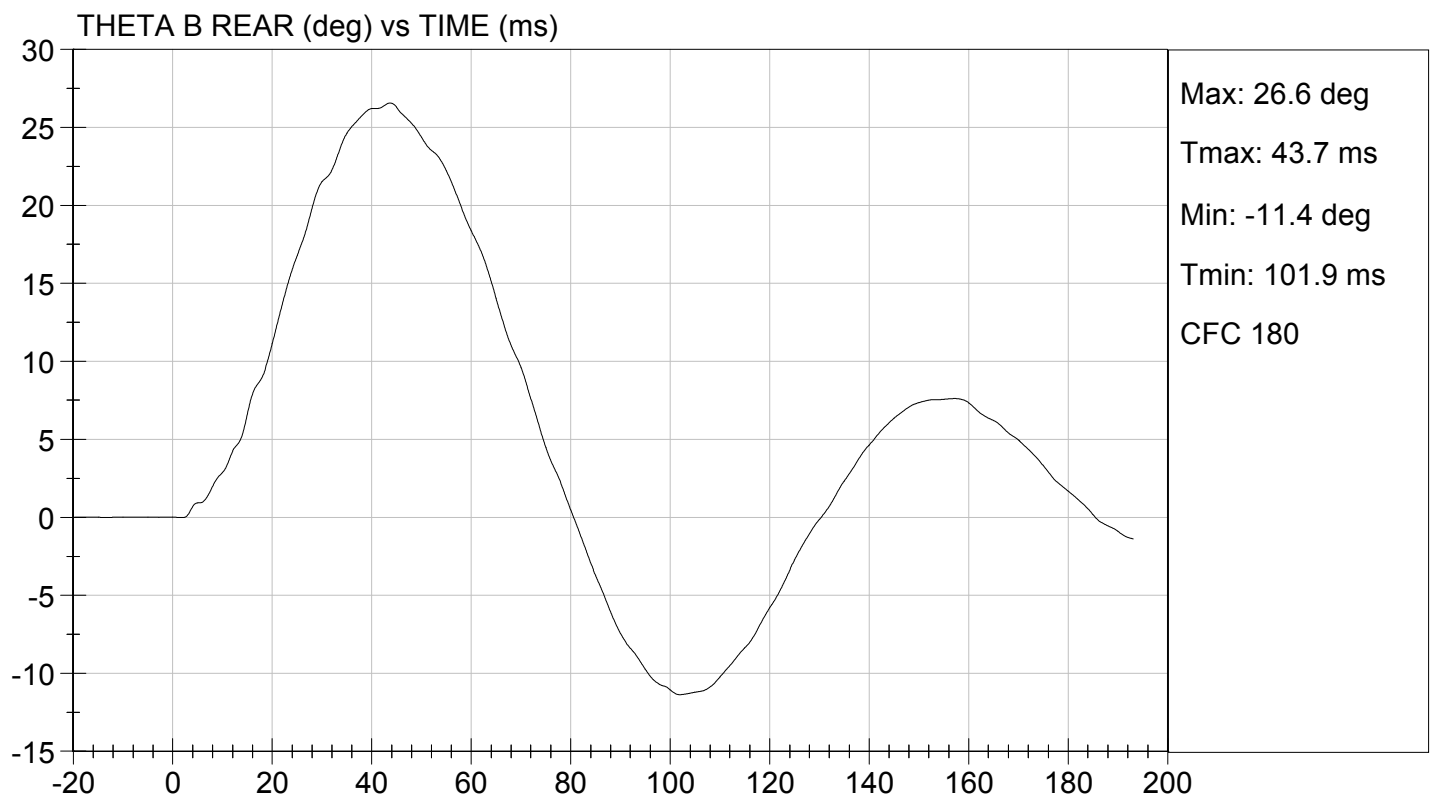
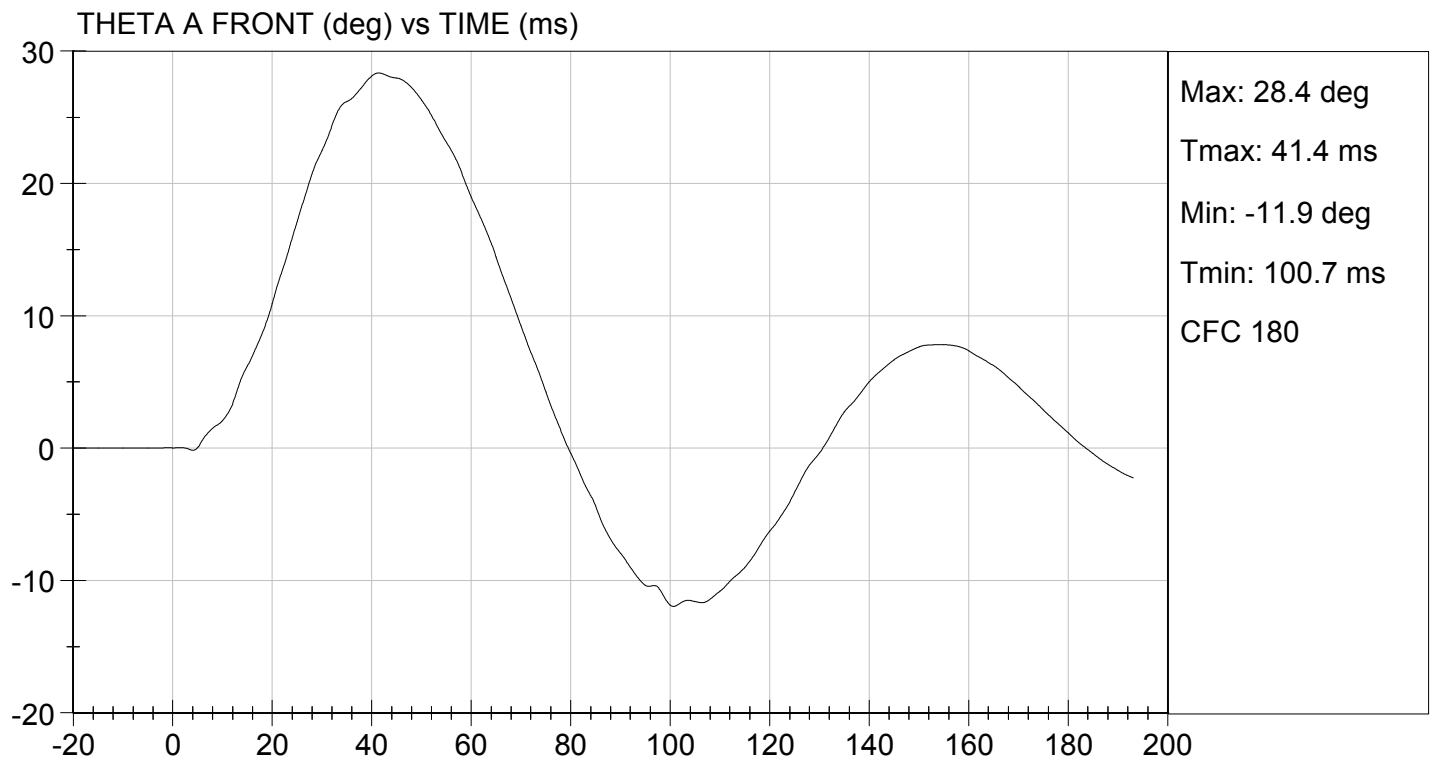
TEST DATE: 11/12/2012
TEST #: D124338





TEST DESC: LUMBAR BENDING
VELOCITY: 20.08 ft/s, 6.12 m/s

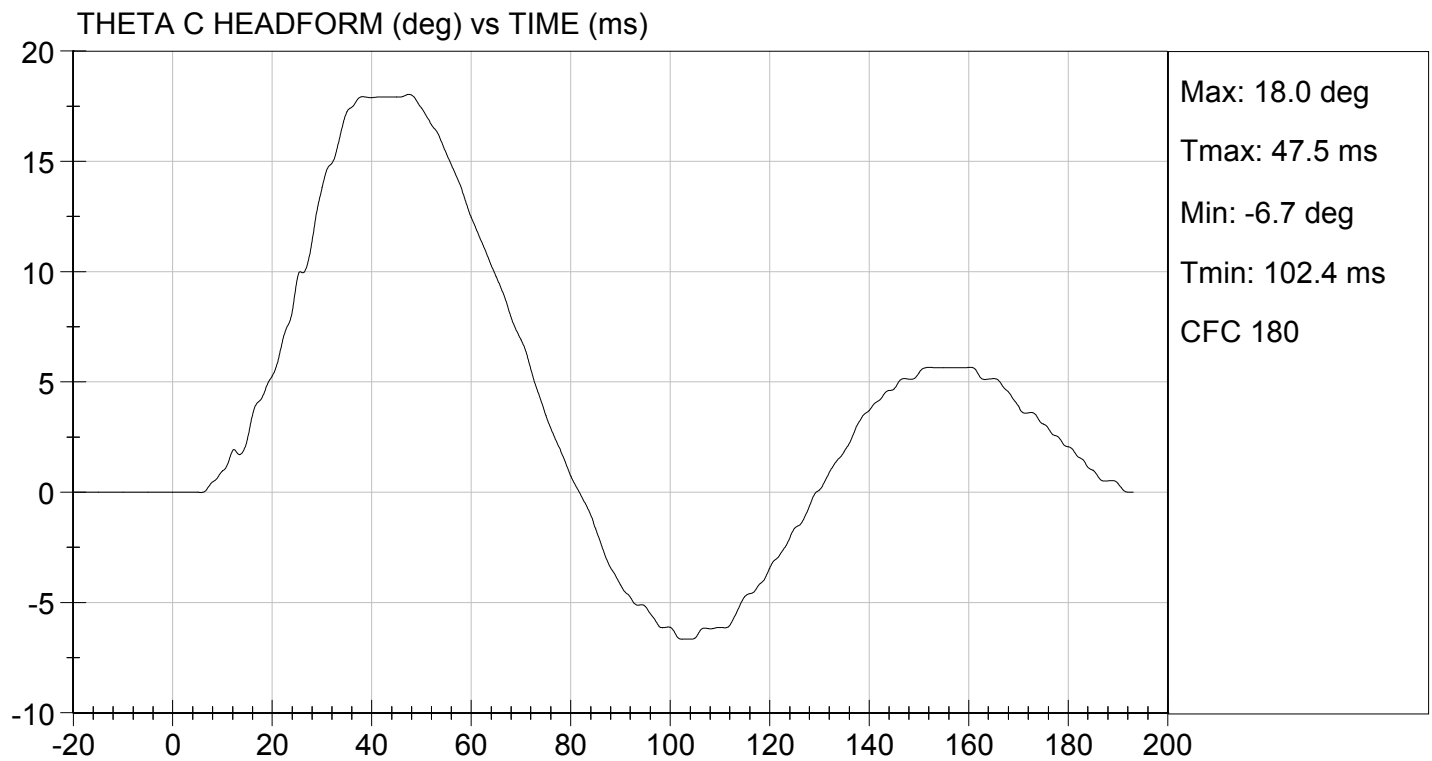
TEST DATE: 11/12/2012
TEST #: D124338





TEST DESC: LUMBAR BENDING
VELOCITY: 20.08 ft/s, 6.12 m/s

TEST DATE: 11/12/2012
TEST #: D124338



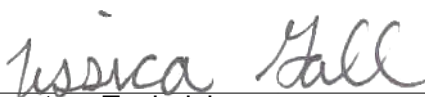
MGA RESEARCH CORPORATION

**PELVIS TEST
ES-2re DUMMY**

ATD Serial No: 032

Test I.D: D124339

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Probe Speed	m/s	4.20 to 4.40	4.30	Pass
Maximum Impactor Force	N	4700 to 5400	4858	Pass
Time of Maximum Impactor Force	ms	11.8 to 16.1	13.4	Pass
Maximum Pubic Force	N	1230 to 1590	1323	Pass
Time of Maximum Pubic Force	ms	12.2 to 17.0	14.2	Pass
Overall Test Results				Pass


Laboratory Technician

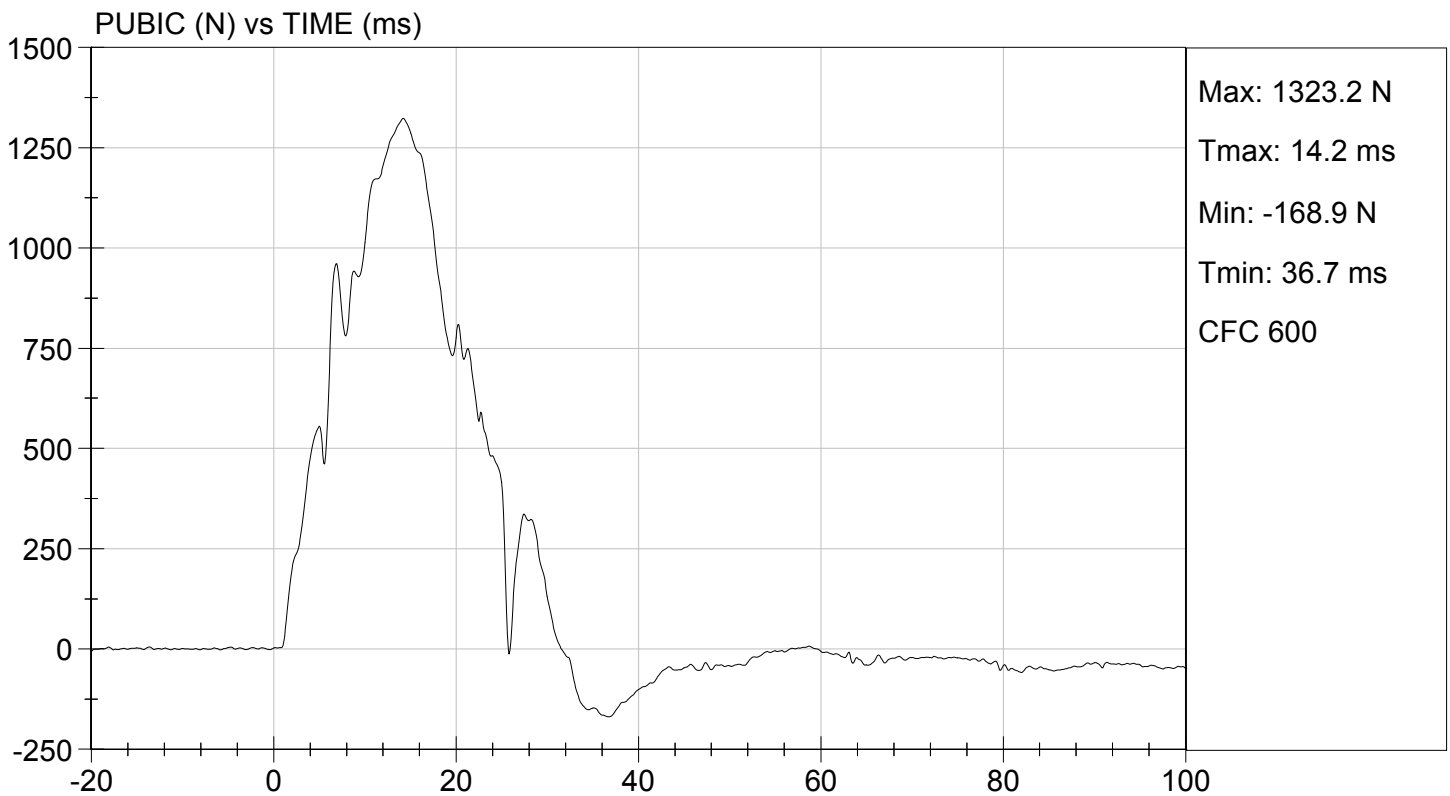
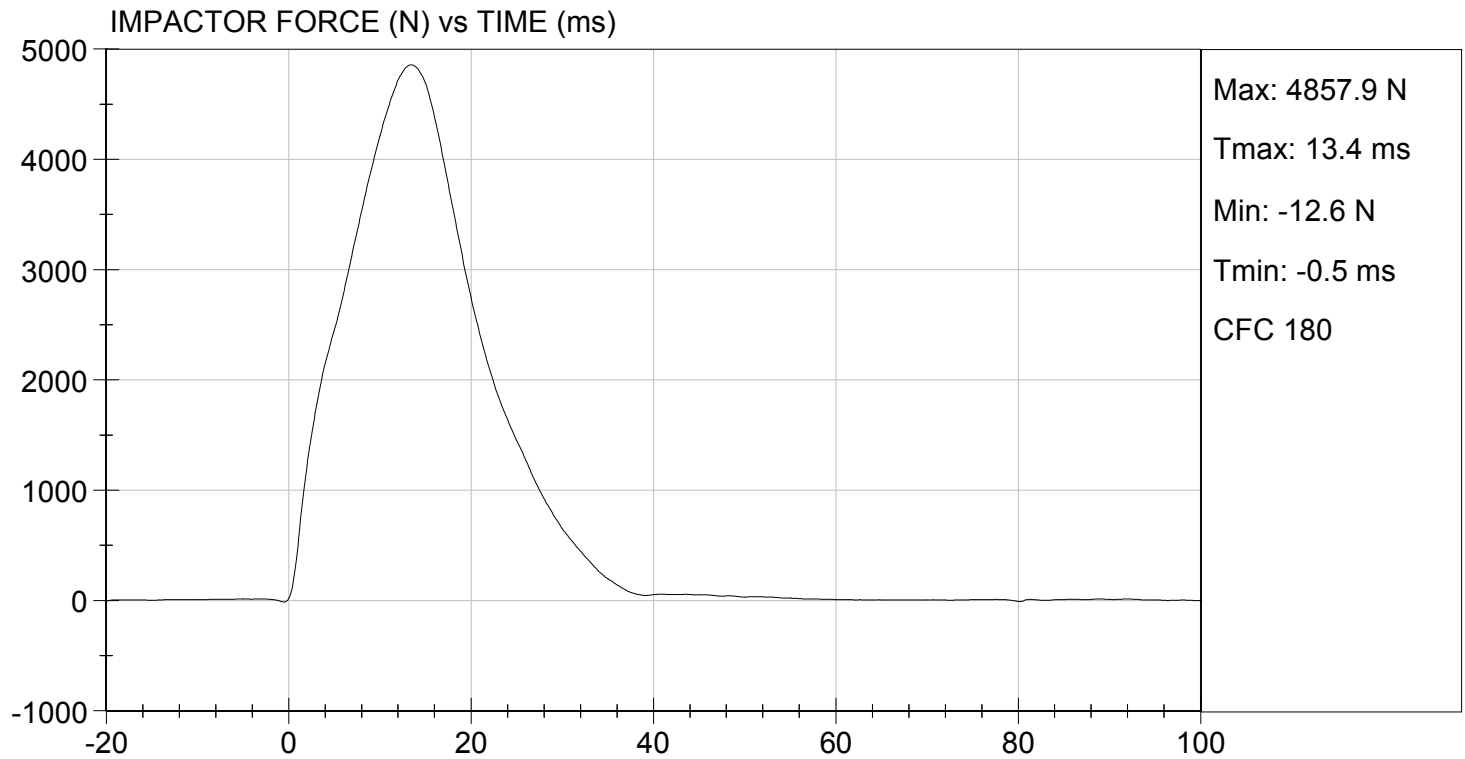
11/12/2012
Test Date


Approved By



TEST DESC: PELVIS IMPACT
VELOCITY: 14.12 ft/s, 4.3 m/s

TEST DATE: 11/12/2012
TEST #: D124339



MGA RESEARCH CORPORATION

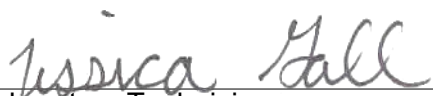
HEAD DROP TEST

ES-2re DUMMY

ATD Serial No: 032

Test ID: D124411

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Peak Resultant Acceleration	G's	125 to 155	151	Pass
Peak Longitudinal Acceleration	G's	<= +/- 15.0	-10.2	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 15% of peak	Yes	Pass
Overall Test Results				Pass

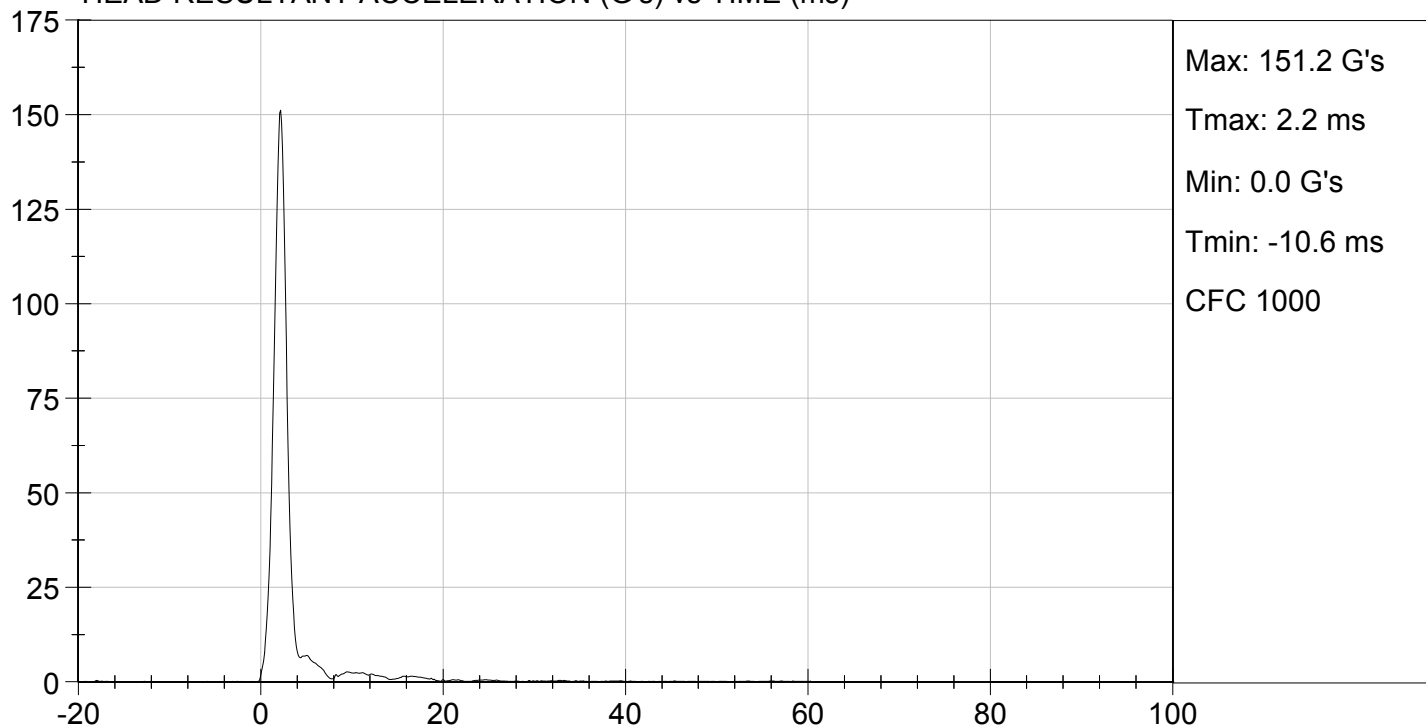

 Laboratory Technician

11/16/2012
 Test Date

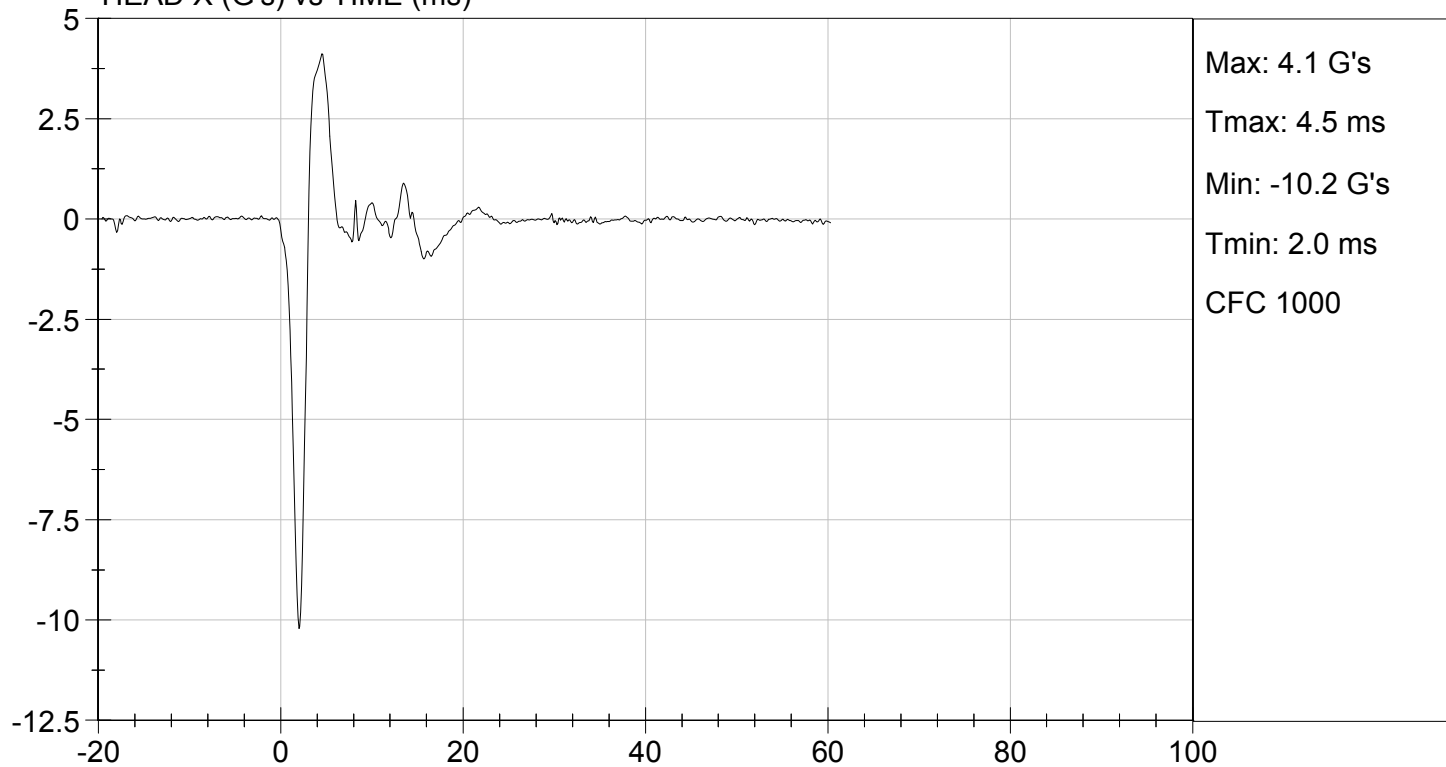

 Approved By

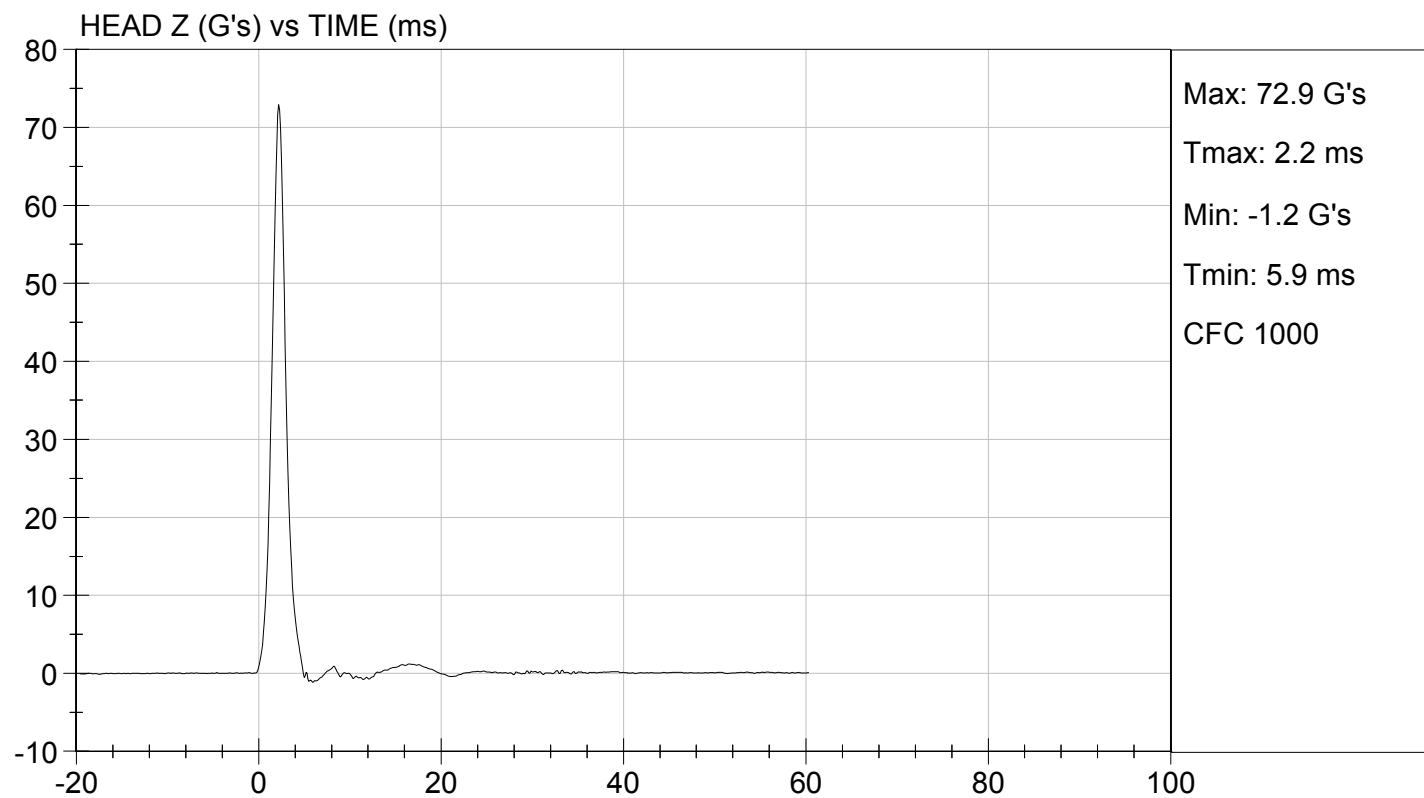
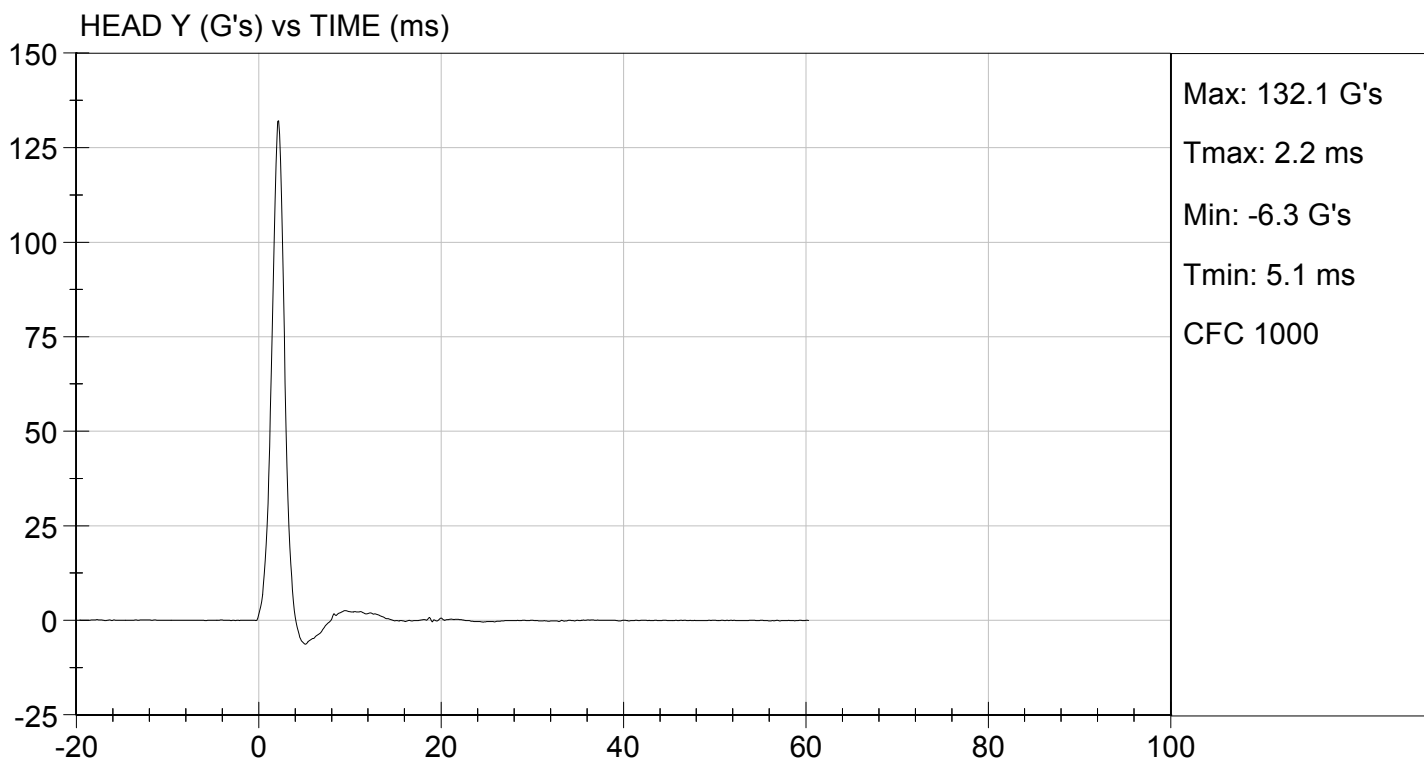


HEAD RESULTANT ACCELERATION (G's) vs TIME (ms)



HEAD X (G's) vs TIME (ms)



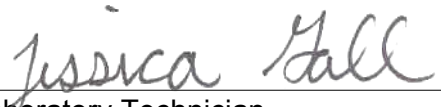


MGA RESEARCH CORPORATION
NECK PENDULUM TEST
ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124412

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	24	Pass
Pendulum Speed		m/s	3.30 to 3.50	3.41	Pass
Pendulum Velocity	1 ms	m/s	-0.05 to 0.00	-0.02	Pass
	3 ms	m/s	-0.25 to -0.375	-0.34	Pass
	14 ms	m/s	-3.20 to -3.70	-3.28	Pass
	17 ms	m/s	>= -3.70	-3.22	Pass
Maximum Flexion Angle		deg	49.0 to 59.0	51.8	Pass
Time of Maximum Flexion Angle		ms	54.0 to 66.0	56.6	Pass
Head Rotation Decay Time to 0 Degree		ms	53.0 to 88.0	56.3	Pass
Overall Results					Pass


 Laboratory Technician

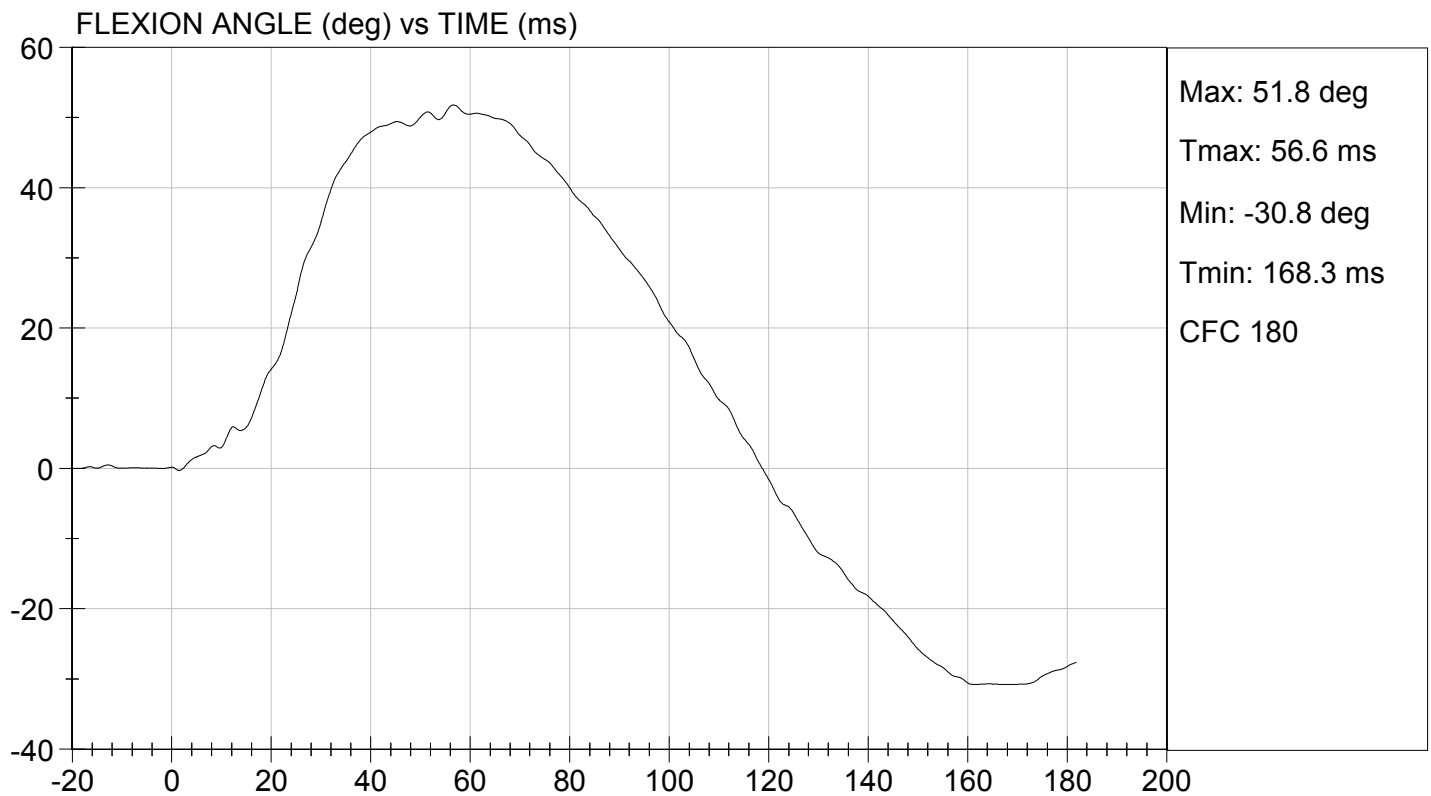
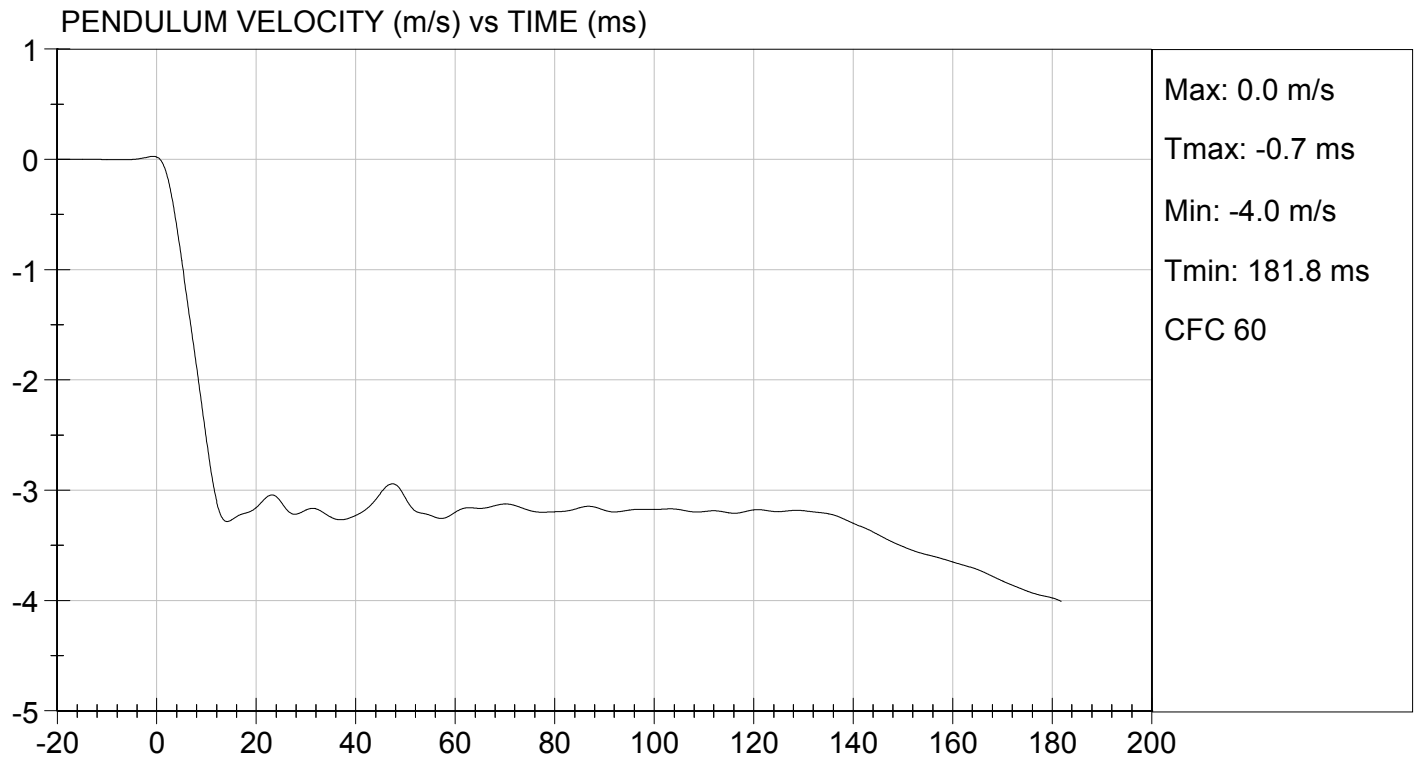
11/16/2012
 Test Date


 Approved By



TEST DESC: NECK BENDING
VELOCITY: 11.18 ft/s, 3.41 m/s

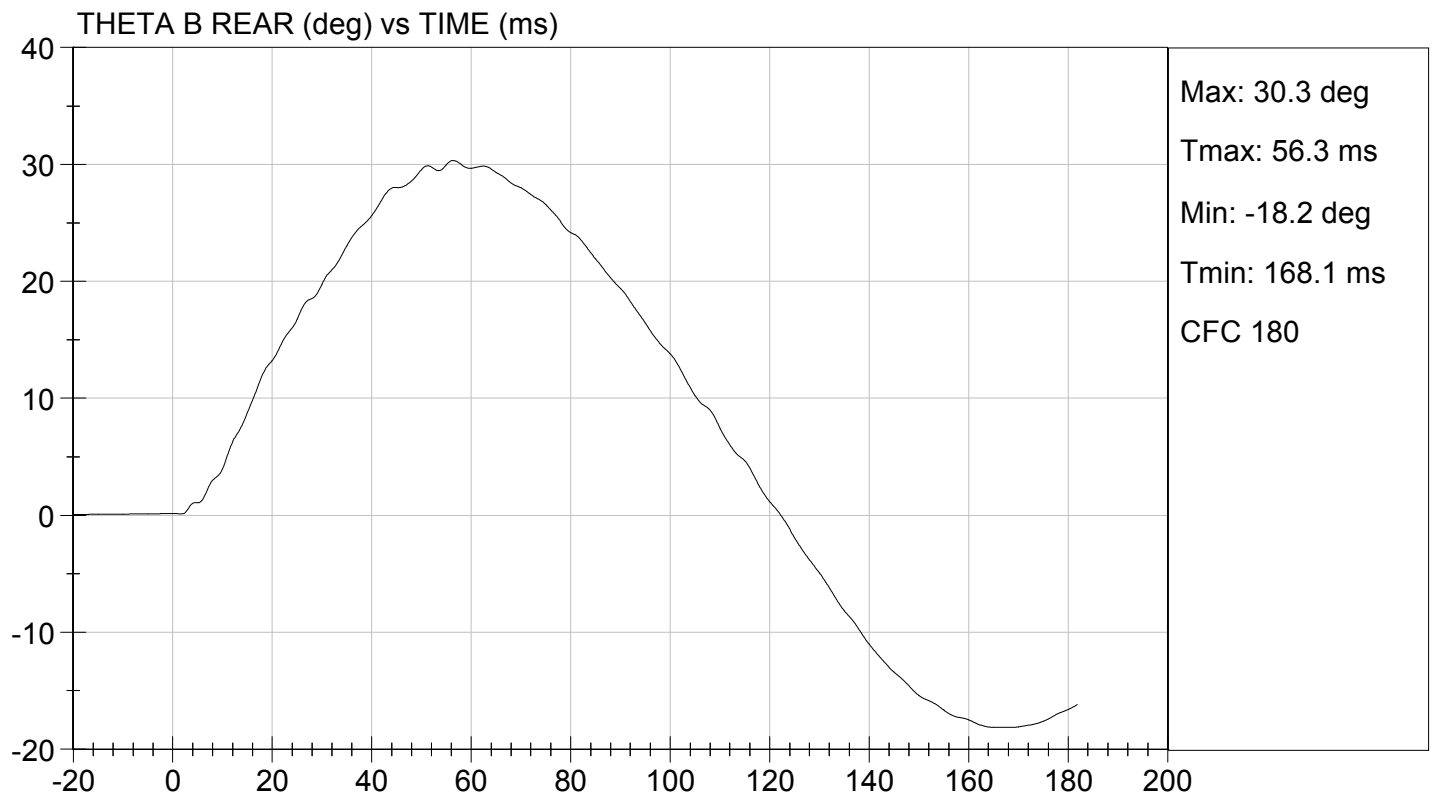
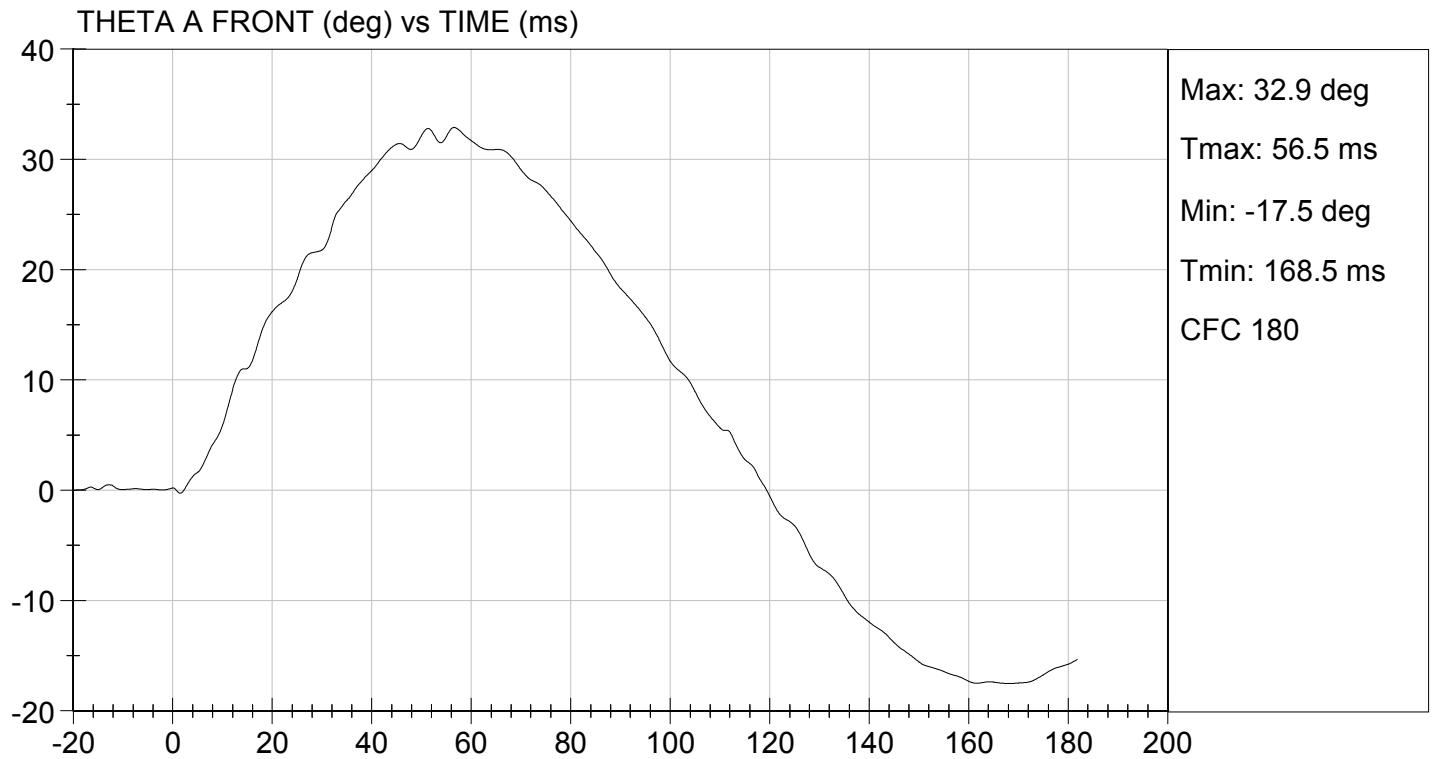
TEST DATE: 11/16/2012
TEST #: D124412





TEST DESC: NECK BENDING
VELOCITY: 11.18 ft/s, 3.41 m/s

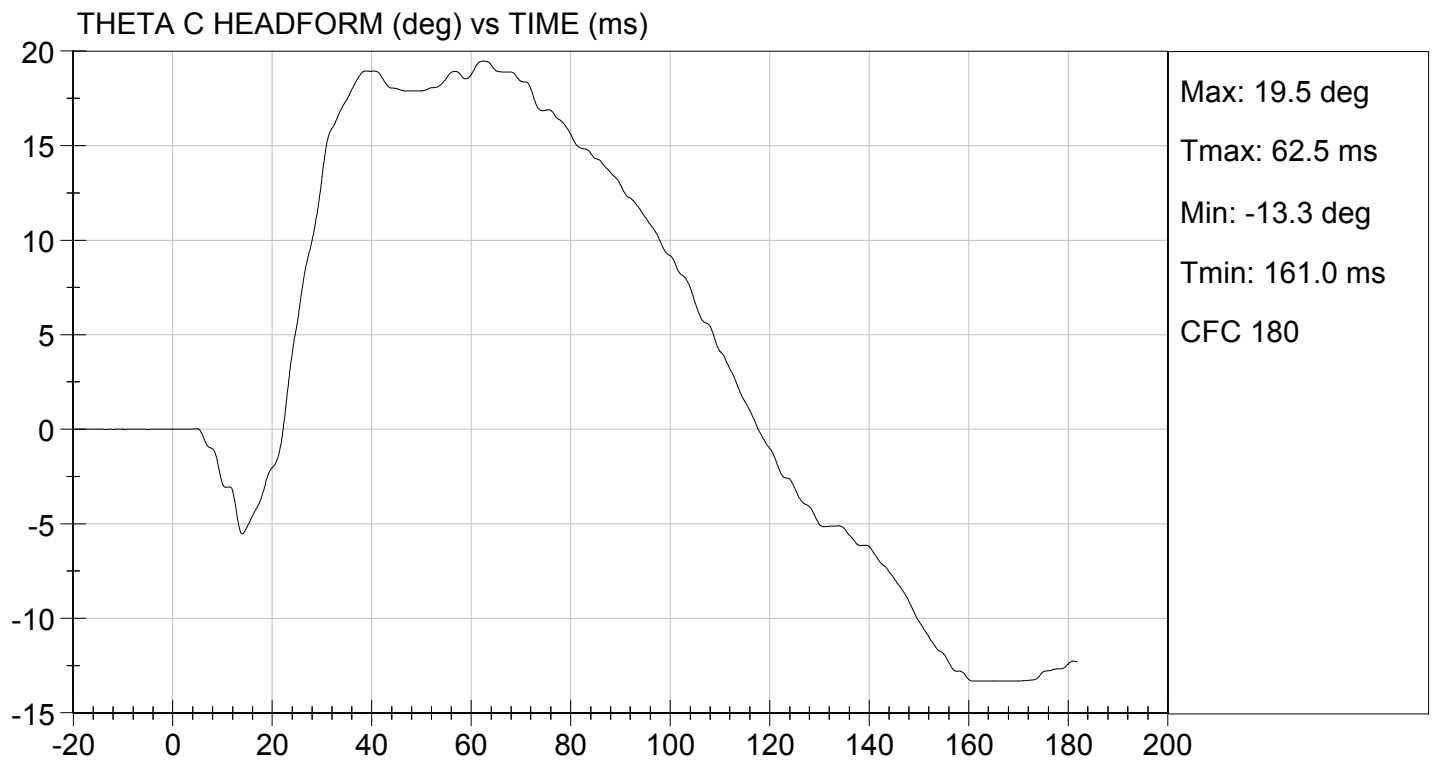
TEST DATE: 11/16/2012
TEST #: D124412





TEST DESC: NECK BENDING
VELOCITY: 11.18 ft/s, 3.41 m/s

TEST DATE: 11/16/2012
TEST #: D124412



MGA RESEARCH CORPORATION

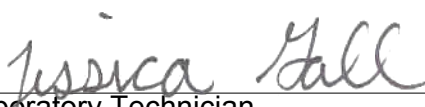
SHOULDER IMPACT TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124413

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Pendulum Speed	m/s	4.20 to 4.40	4.23	Pass
Peak Impactor Acceleration	G's	7.5 to 10.5	9.3	Pass
Overall Test Results				Pass


Laboratory Technician

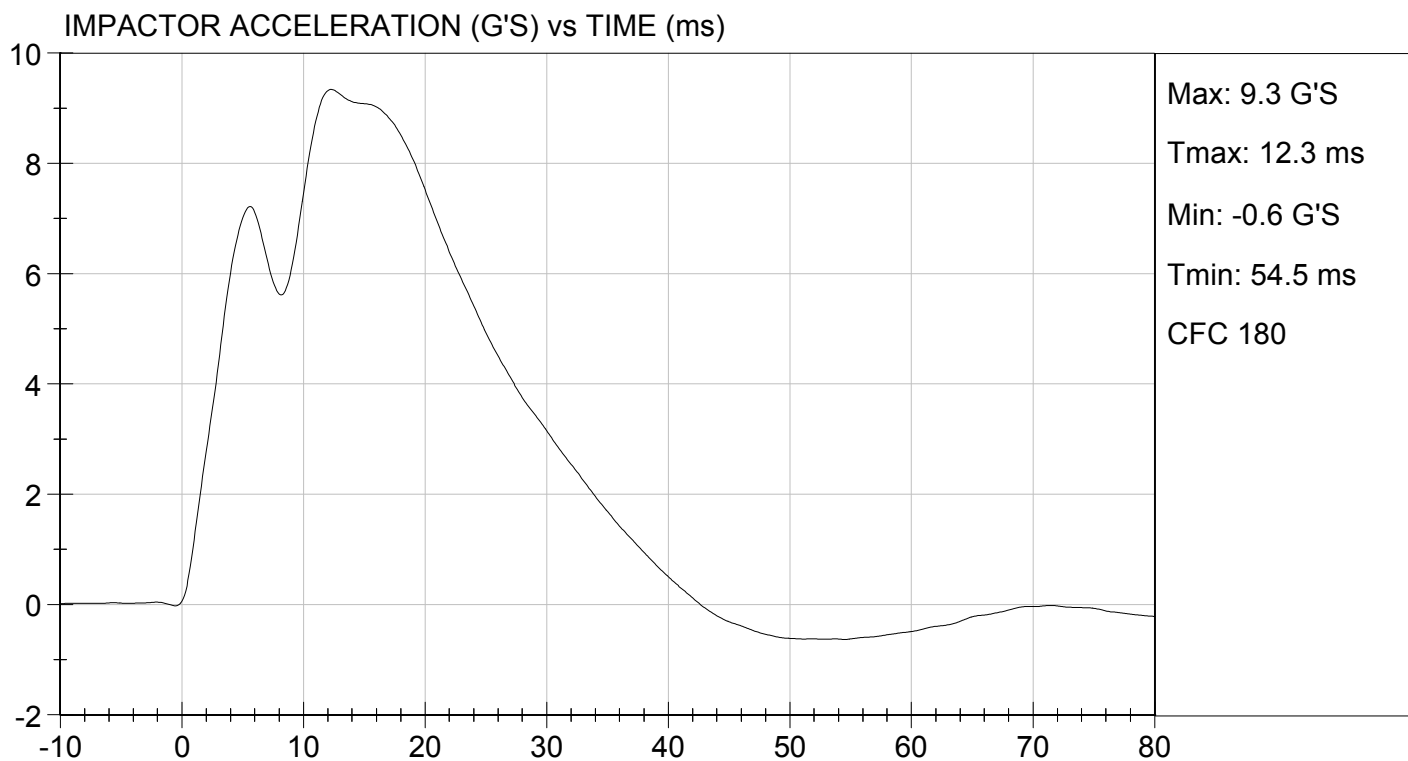
11/16/2012
Test Date


Approved By



TEST DESC: SHOULDER IMPACT
VELOCITY: 13.88 ft/s, 4.23 m/s

TEST DATE: 11/16/2012
TEST #: D124413



MGA RESEARCH CORPORATION

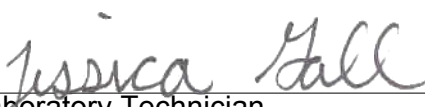
UPPER RIB TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124414

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Displacement at 459 mm	mm	36.0 to 40.0	37.7	Pass
Displacement at 815 mm	mm	46.0 to 51.0	48.4	Pass
Overall Test Results				Pass

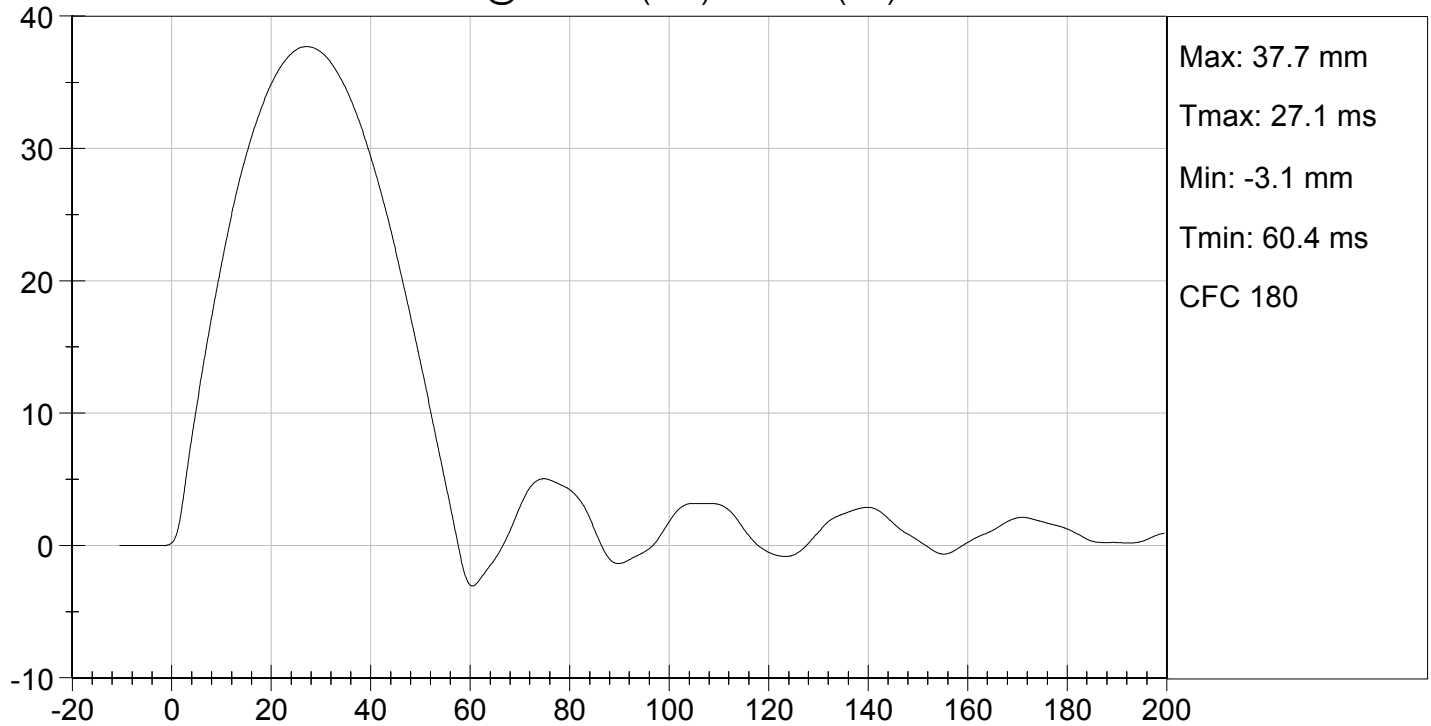

Laboratory Technician

11/16/2012
Test Date

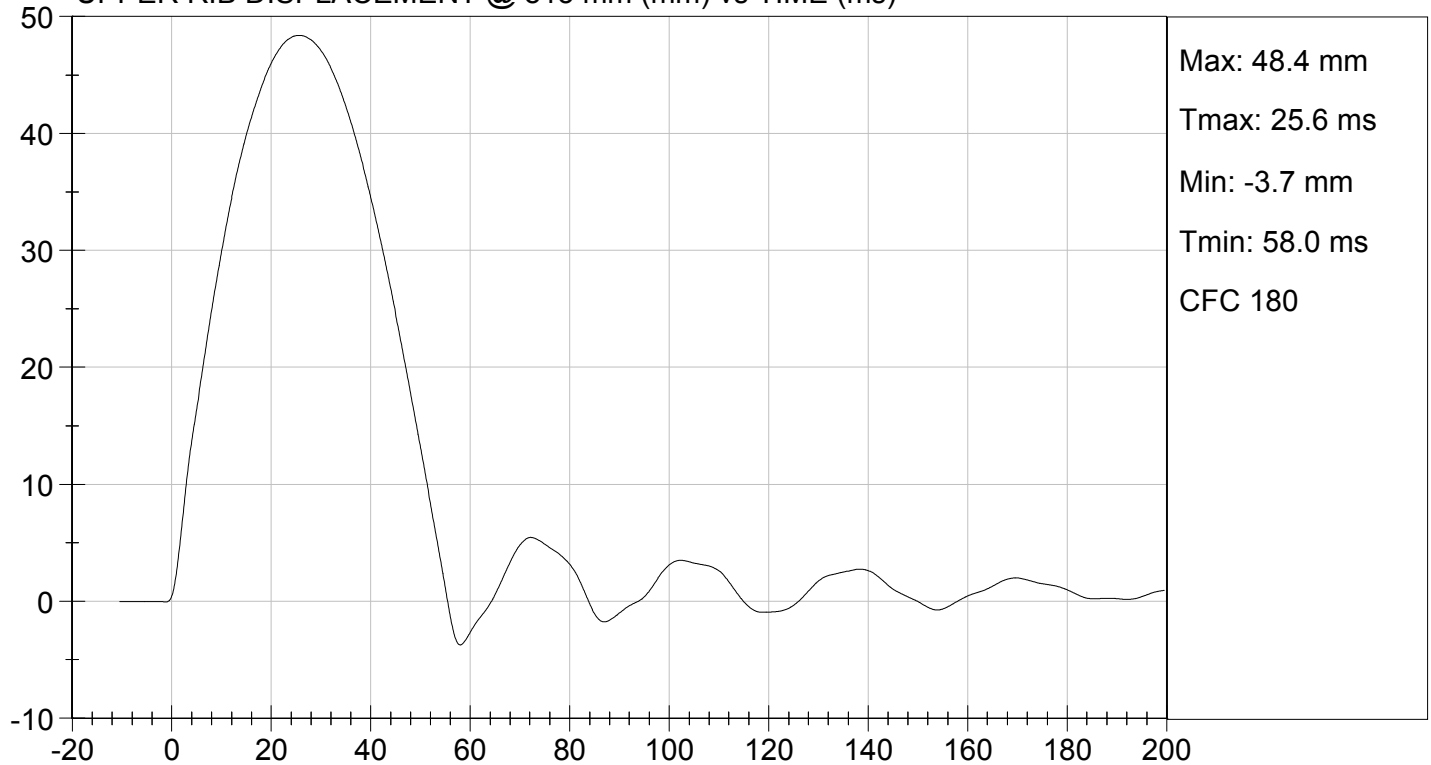

Approved By



UPPER RIB DISPLACEMENT @ 459 mm (mm) vs TIME (ms)



UPPER RIB DISPLACEMENT @ 815 mm (mm) vs TIME (ms)



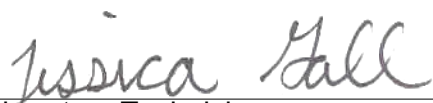
MGA RESEARCH CORPORATION

**MID RIB TEST
ES-2re DUMMY**

ATD Serial No: 032

Test I.D: D124415

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Displacement at 459 mm	mm	36.0 to 40.0	37.6	Pass
Displacement at 815 mm	mm	46.0 to 51.0	47.9	Pass
Overall Test Results				Pass

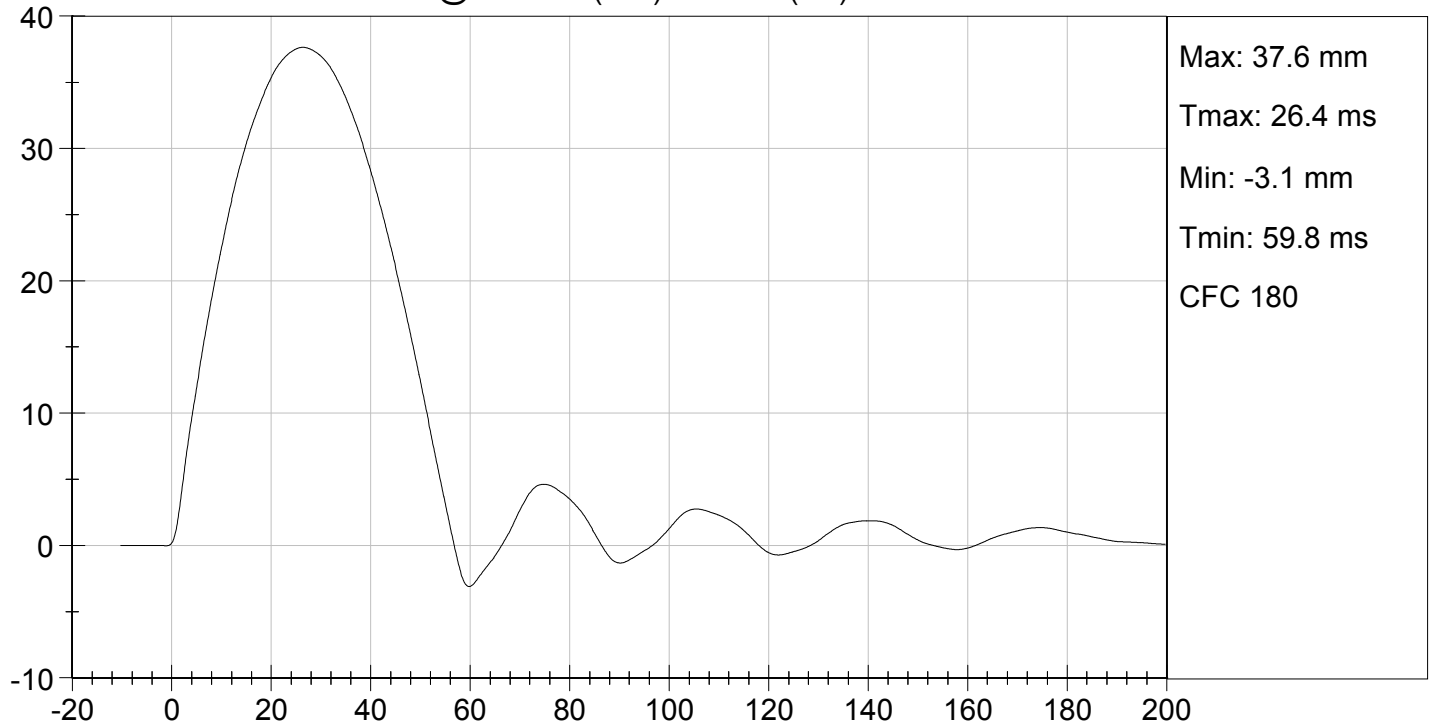

Laboratory Technician

11/16/2012
Test Date

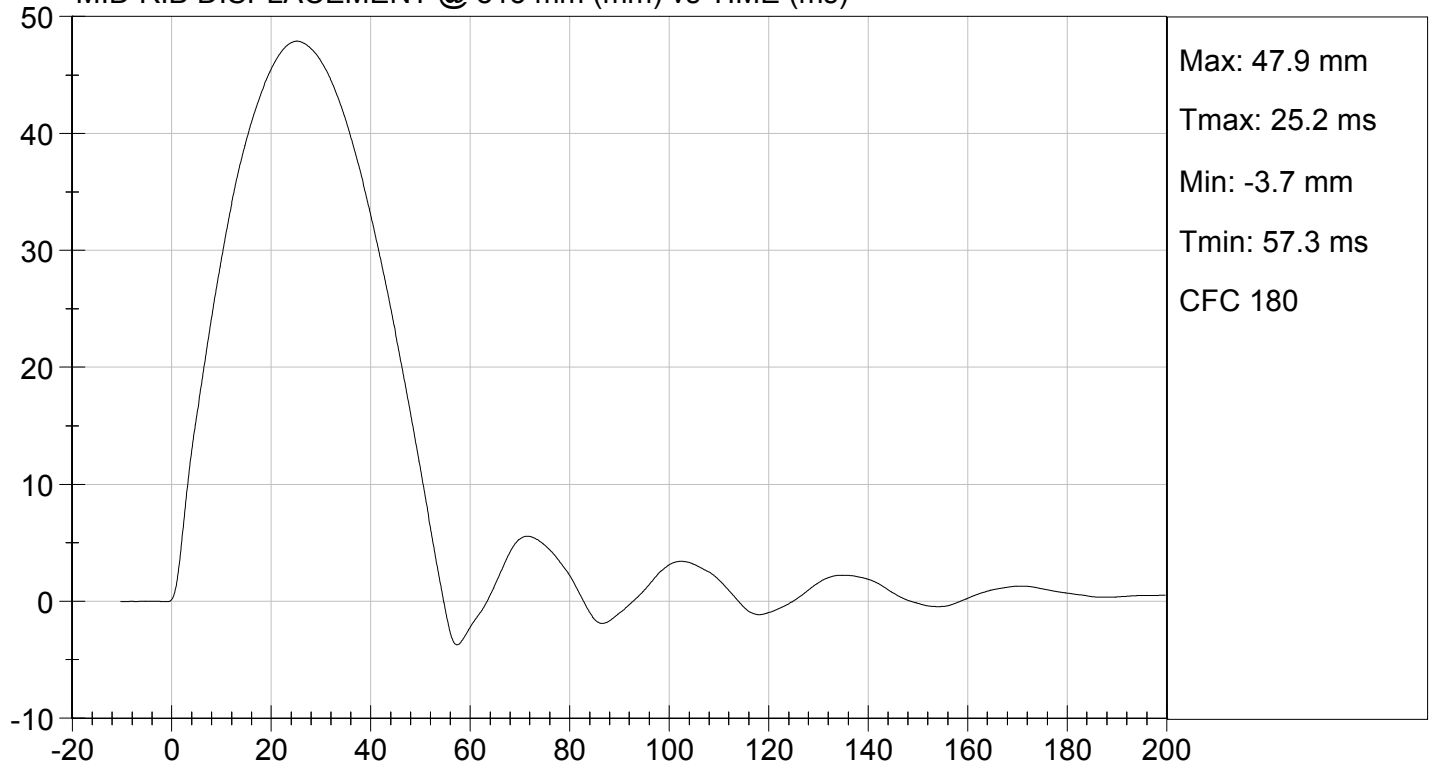

Approved By



MID RIB DISPLACEMENT @ 459 mm (mm) vs TIME (ms)



MID RIB DISPLACEMENT @ 815 mm (mm) vs TIME (ms)



MGA RESEARCH CORPORATION

LOWER RIB TEST

ES-2re DUMMY

ATD Serial No: 032

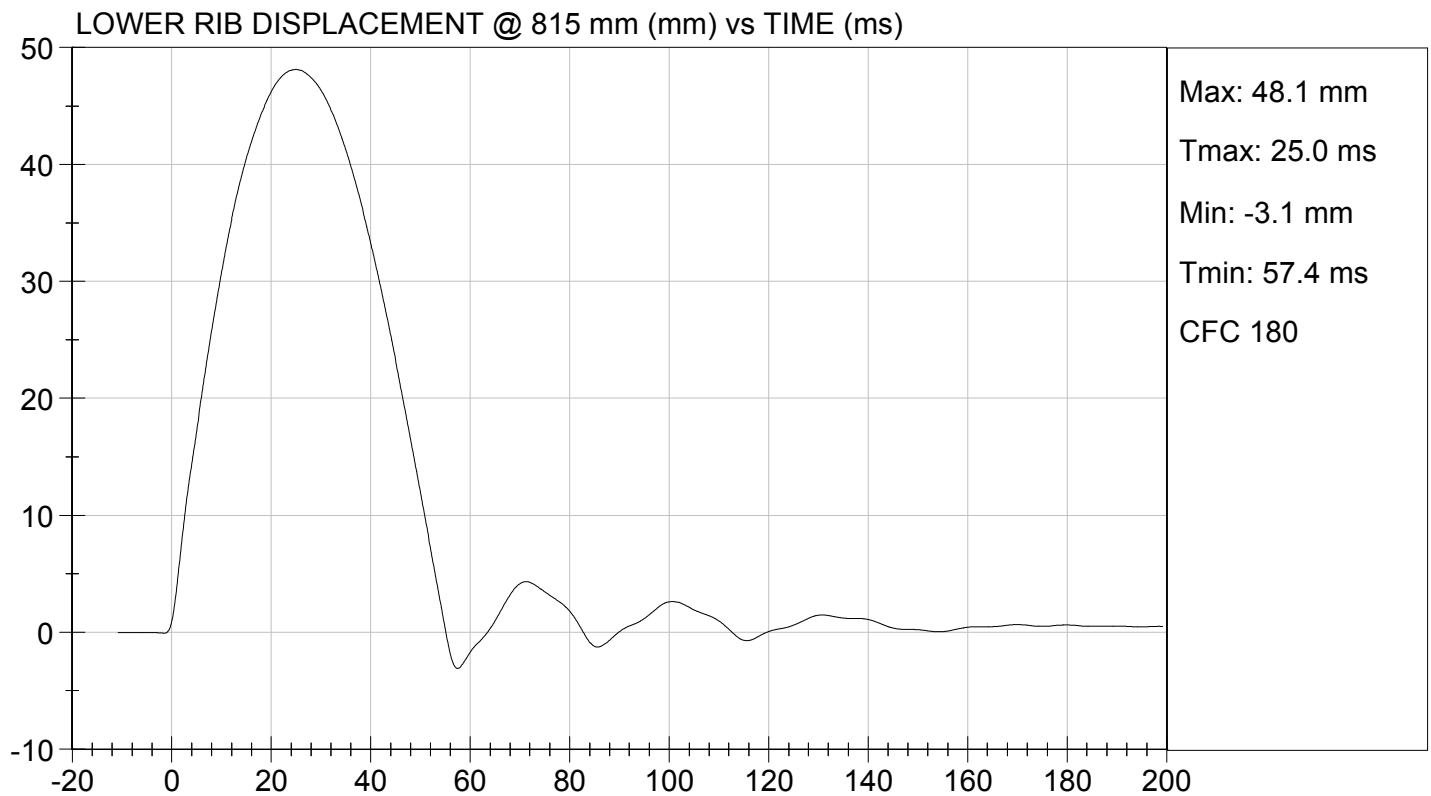
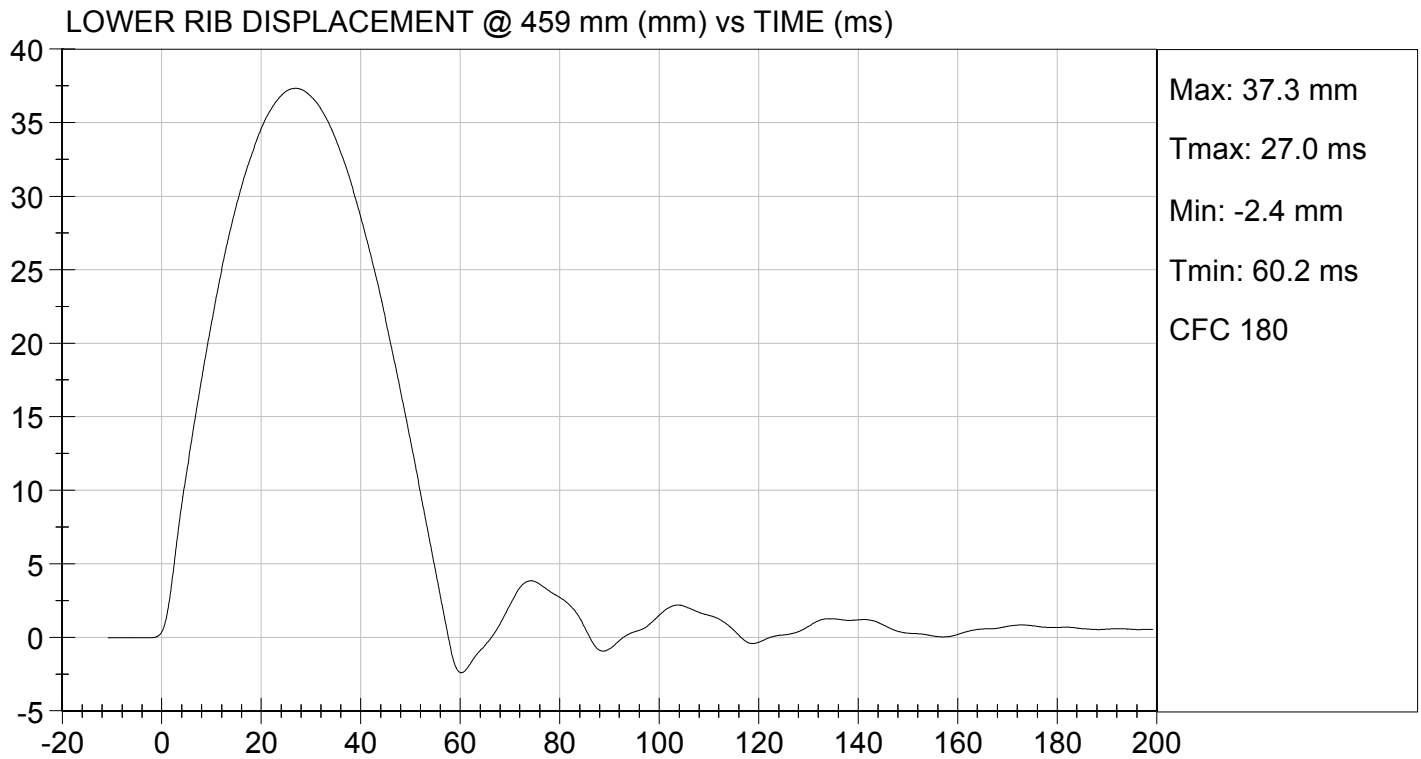
Test I.D: D124416

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Displacement at 459 mm	mm	36.0 to 40.0	37.3	Pass
Displacement at 815 mm	mm	46.0 to 51.0	48.1	Pass
Overall Test Results				Pass


Laboratory Technician

11/16/2012
Test Date


Approved By



MGA RESEARCH CORPORATION**THORAX IMPACT TEST****ES-2re DUMMY****ATD Serial No:** 032**Test I.D:** D124410

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	28	Pass
Probe Speed	m/s	5.40 to 5.60	5.58	Pass
Maximum Impactor Force (after 6 ms)	N	5100 to 6200	5254	Pass
Upper Rib Displacement	mm	34.0 to 41.0	36.3	Pass
Middle Rib Displacement	mm	37.0 to 45.0	39.4	Pass
Lower Rib Displacement	mm	37.0 to 44.0	38.8	Pass
Overall Test Results				Pass


Laboratory Technician

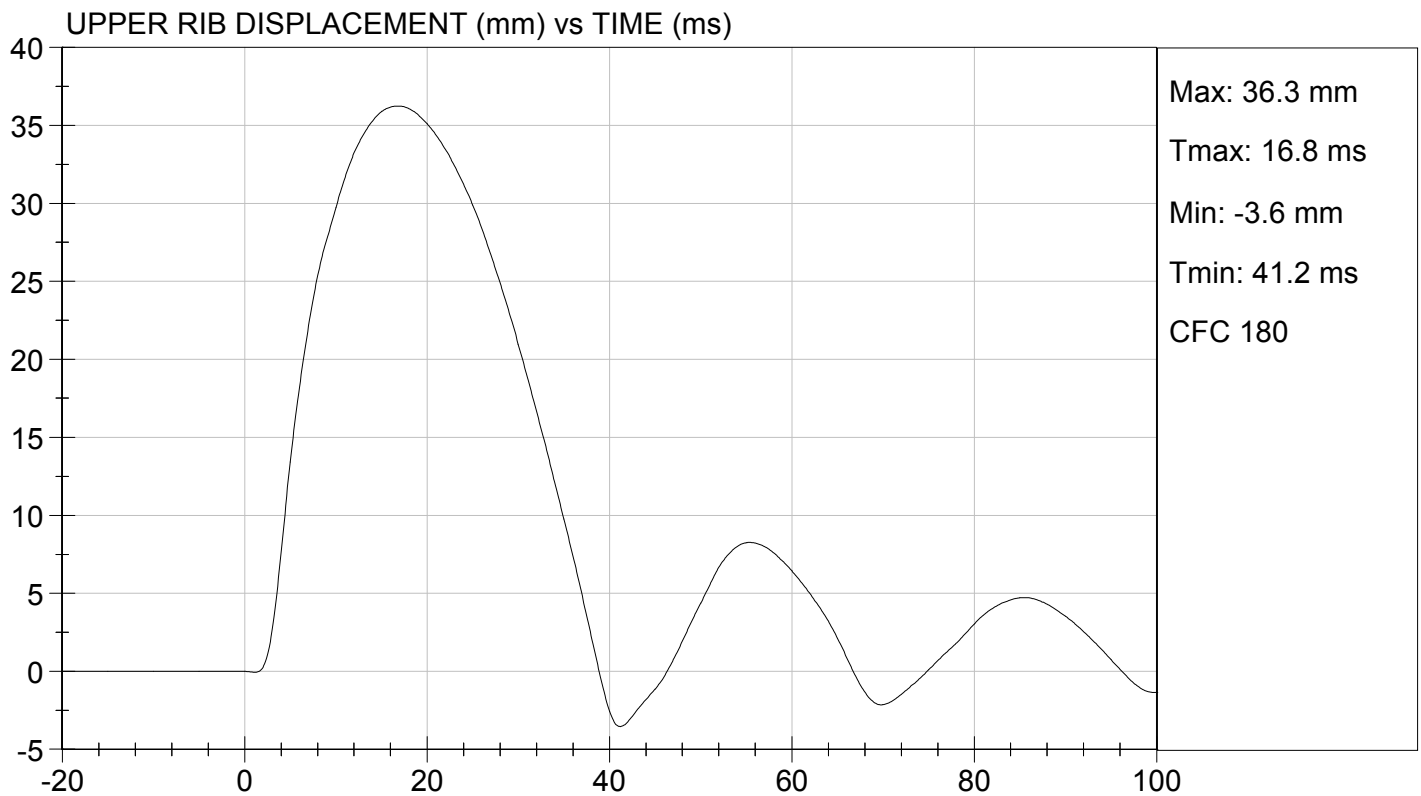
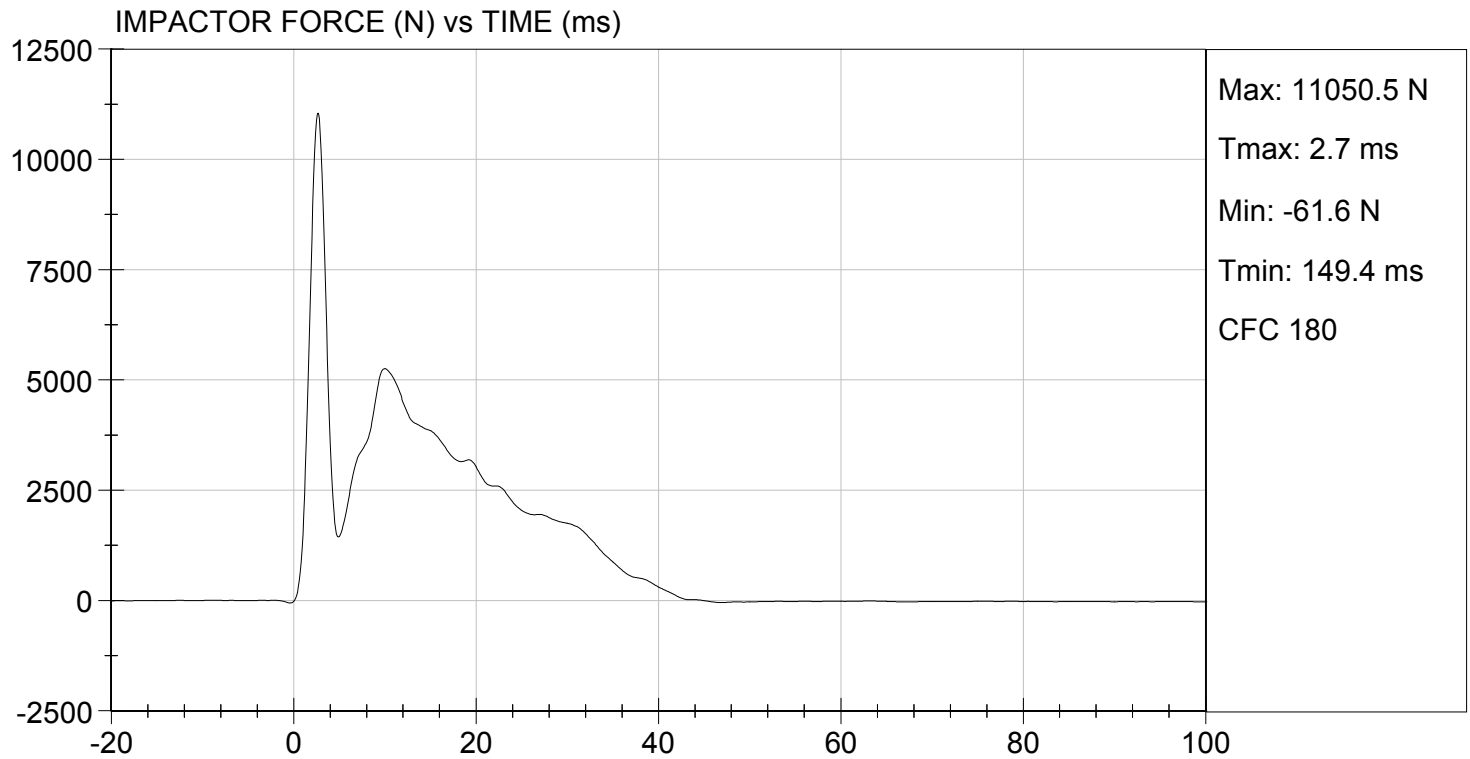
11/16/2012
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 18.31 ft/s, 5.58 m/s

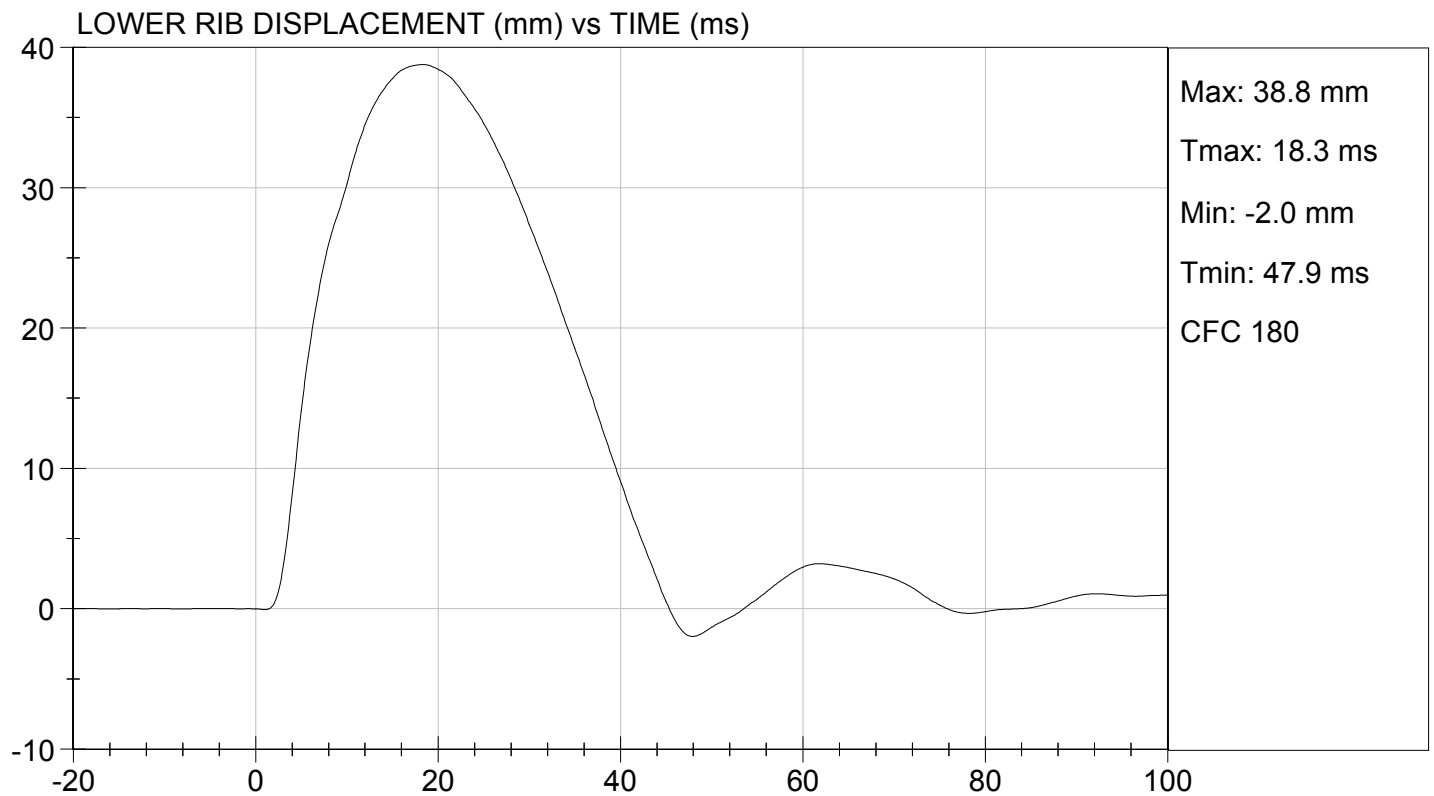
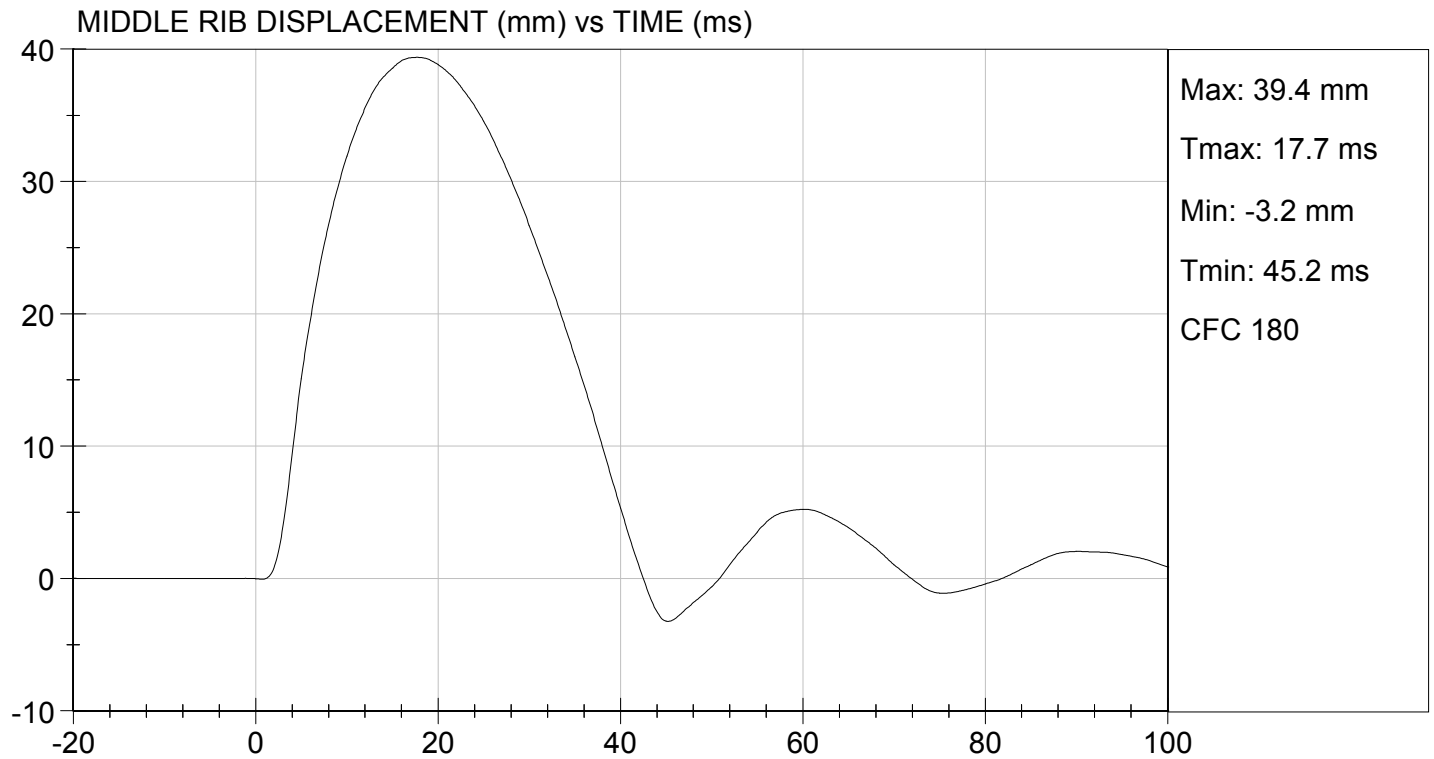
TEST DATE: 11/16/2012
TEST #: D124410





TEST DESC: THORAX IMPACT
VELOCITY: 18.31 ft/s, 5.58 m/s

TEST DATE: 11/16/2012
TEST #: D124410



MGA RESEARCH CORPORATION

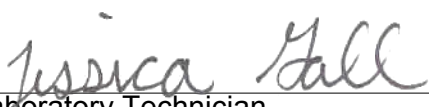
ABDOMEN TEST

ES-2re DUMMY

ATD Serial No: 032

Test I.D: D124417

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Probe Speed	m/s	3.90 to 4.10	4.03	Pass
Maximum Impactor Force	N	4000 to 4800	4347	Pass
Time of Maximum Impactor Force	ms	10.6 to 13.0	10.9	Pass
Maximum Total Abdomen Force	N	2200 to 2700	2472	Pass
Time of Maximum Abdomen Force	ms	10.0 to 12.3	11.1	Pass
Overall Test Results				Pass


Laboratory Technician

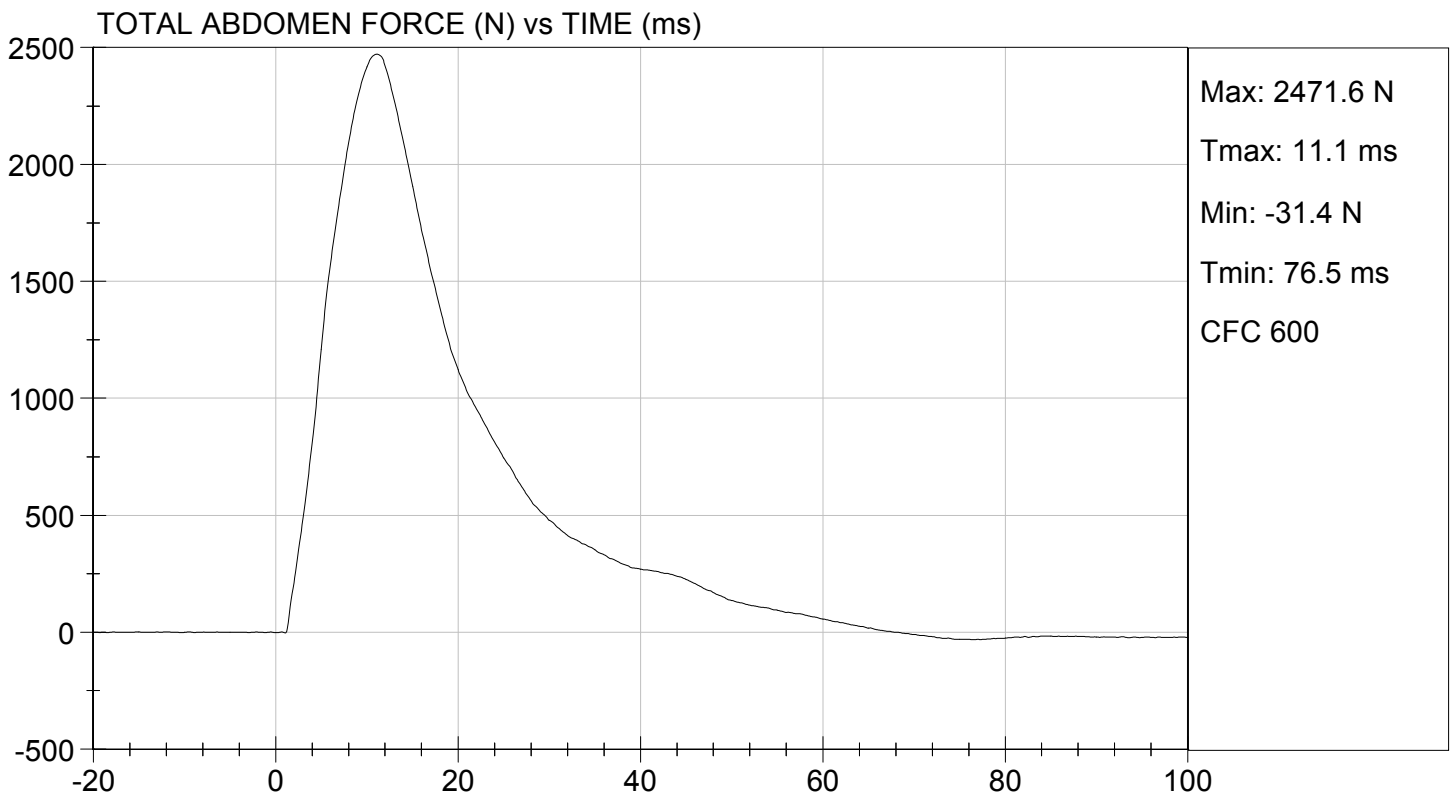
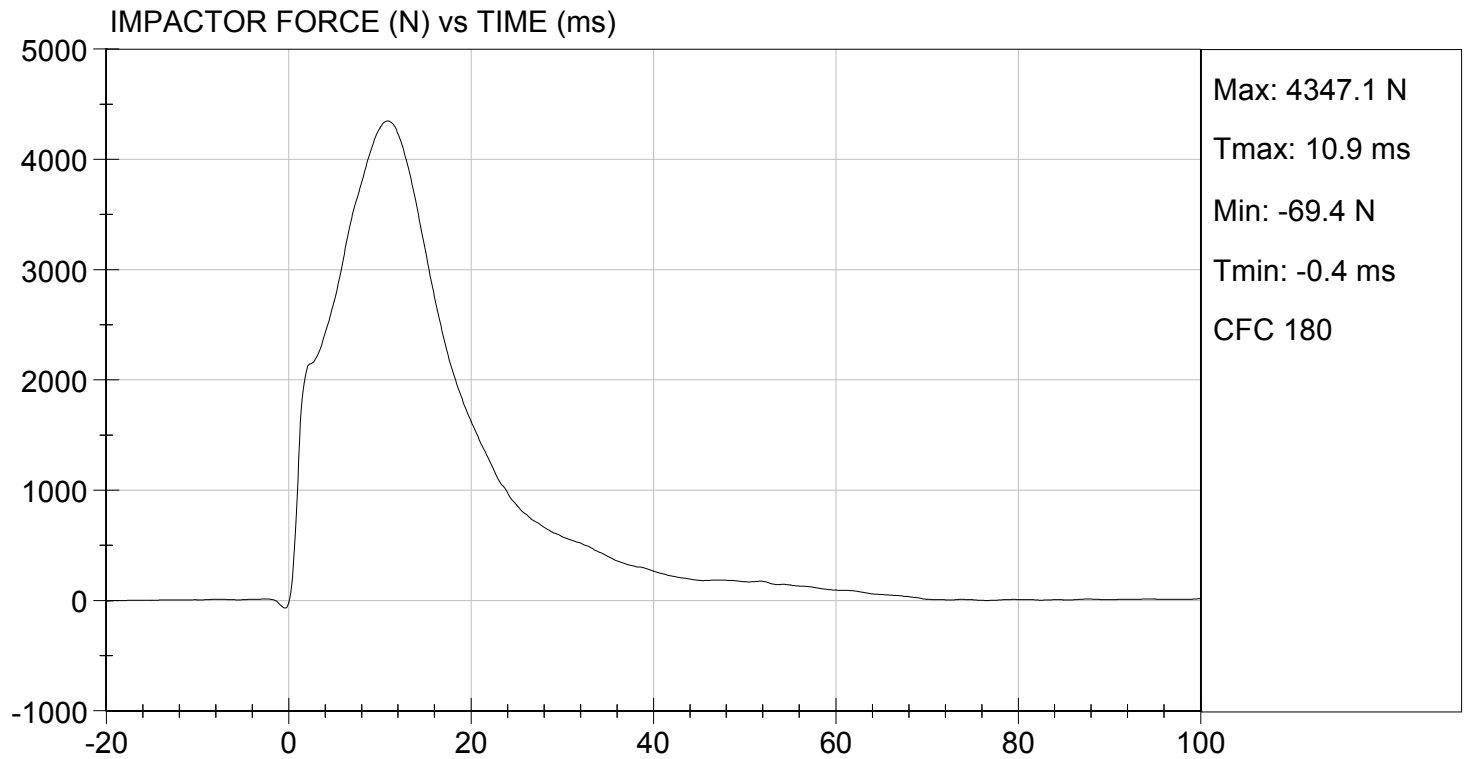
11/16/2012
Test Date


Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.23 ft/s, 4.03 m/s

TEST DATE: 11/16/2012
TEST #: D124417

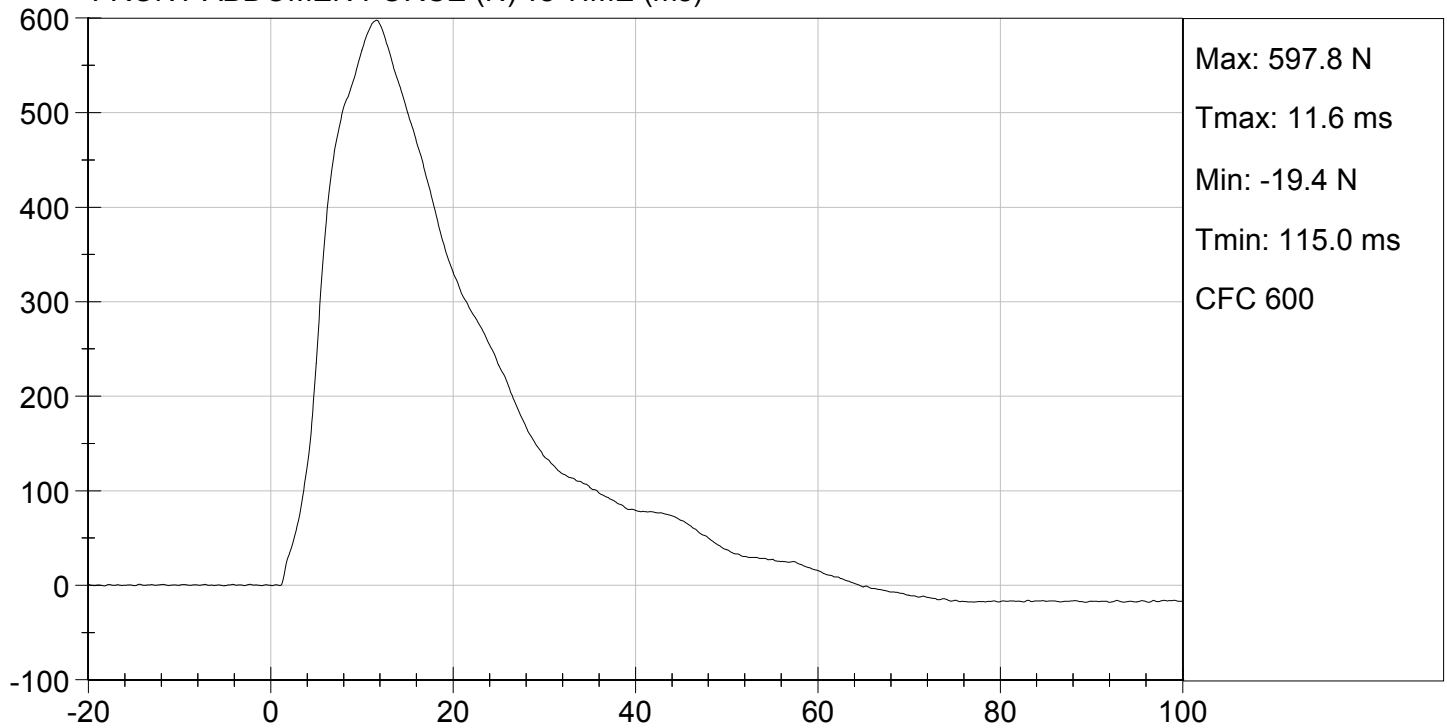




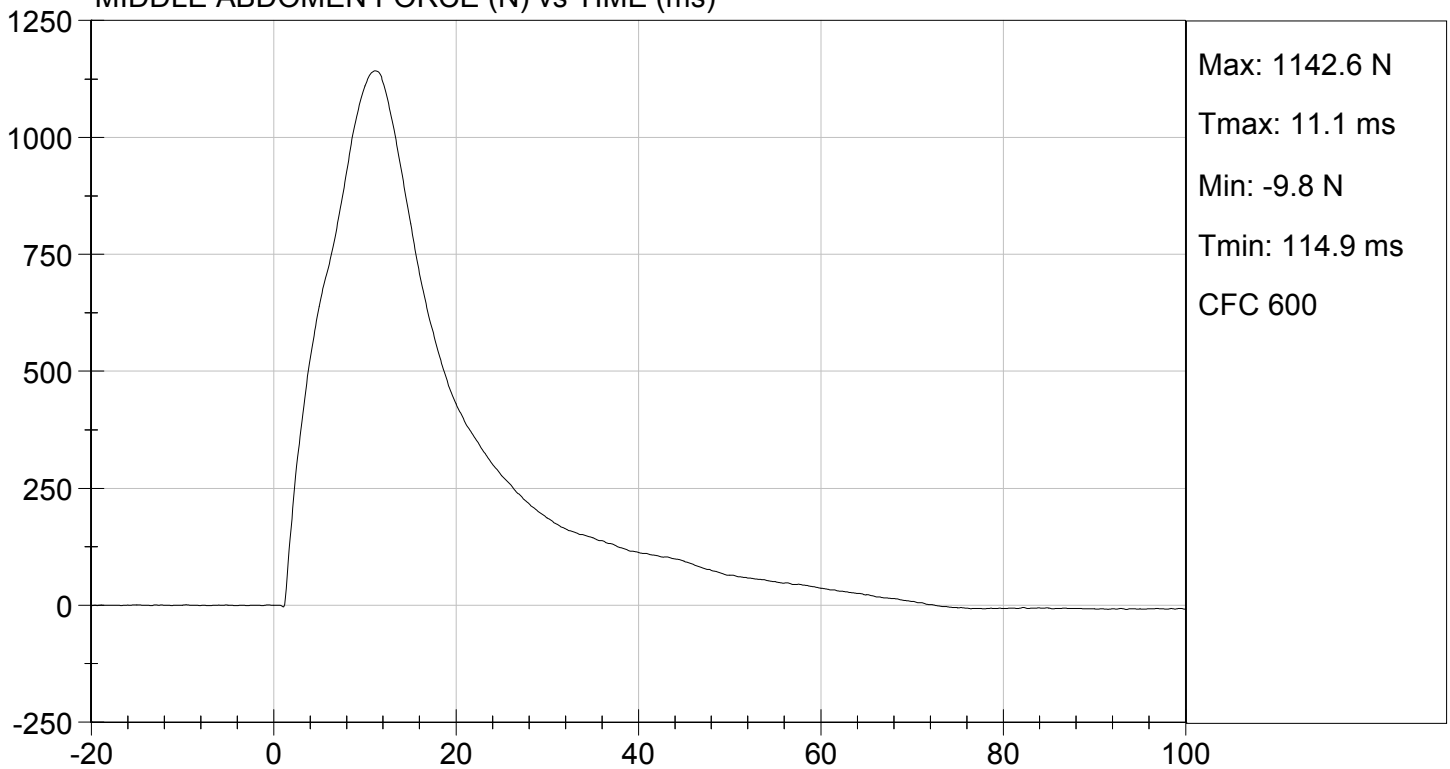
TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.23 ft/s, 4.03 m/s

TEST DATE: 11/16/2012
TEST #: D124417

FRONT ABDOMEN FORCE (N) vs TIME (ms)



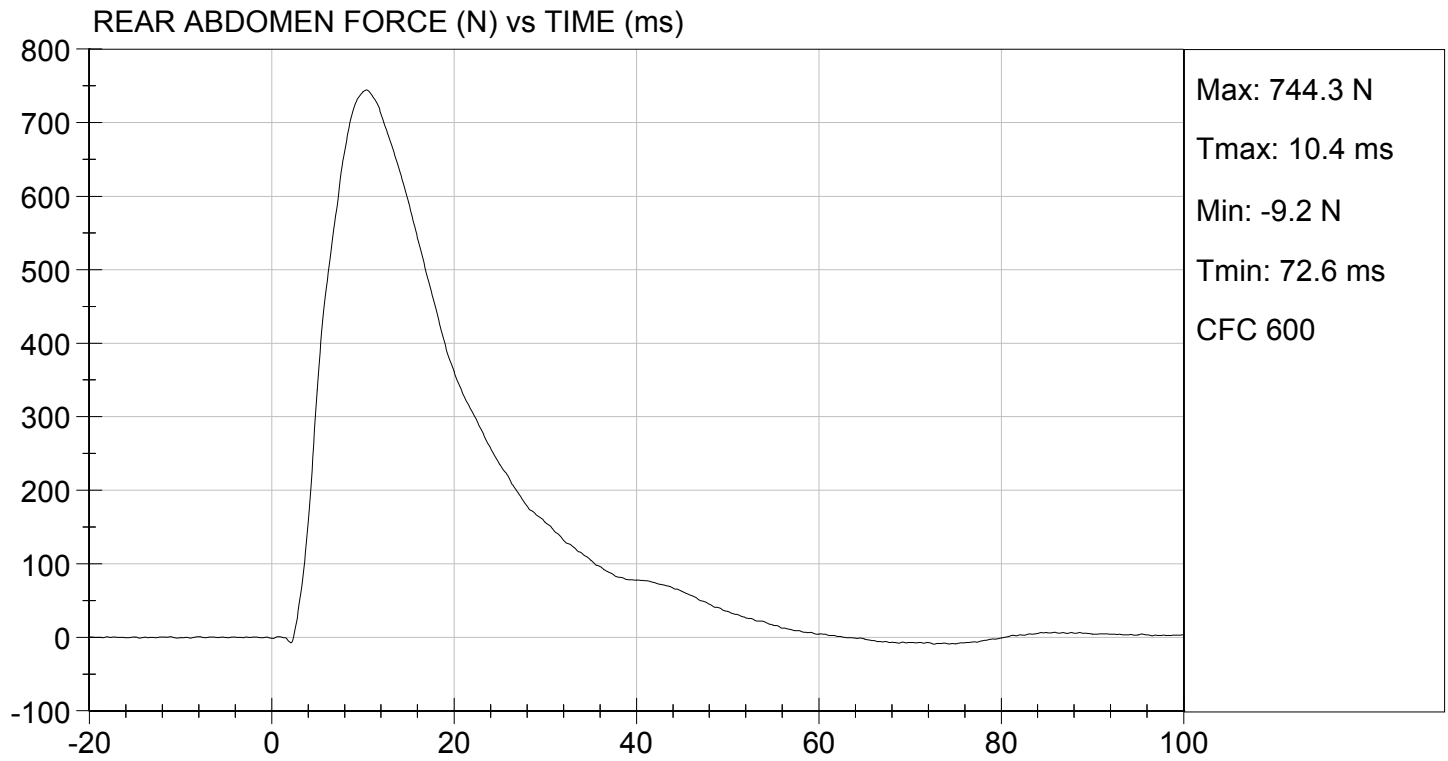
MIDDLE ABDOMEN FORCE (N) vs TIME (ms)





TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.23 ft/s, 4.03 m/s

TEST DATE: 11/16/2012
TEST #: D124417

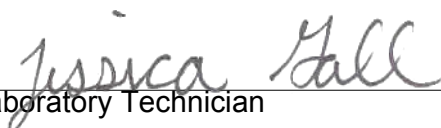


MGA RESEARCH CORPORATION
LUMBAR SPINE TEST
ES-2re DUMMY

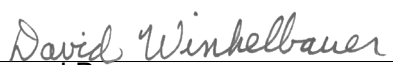
ATD Serial No: 032

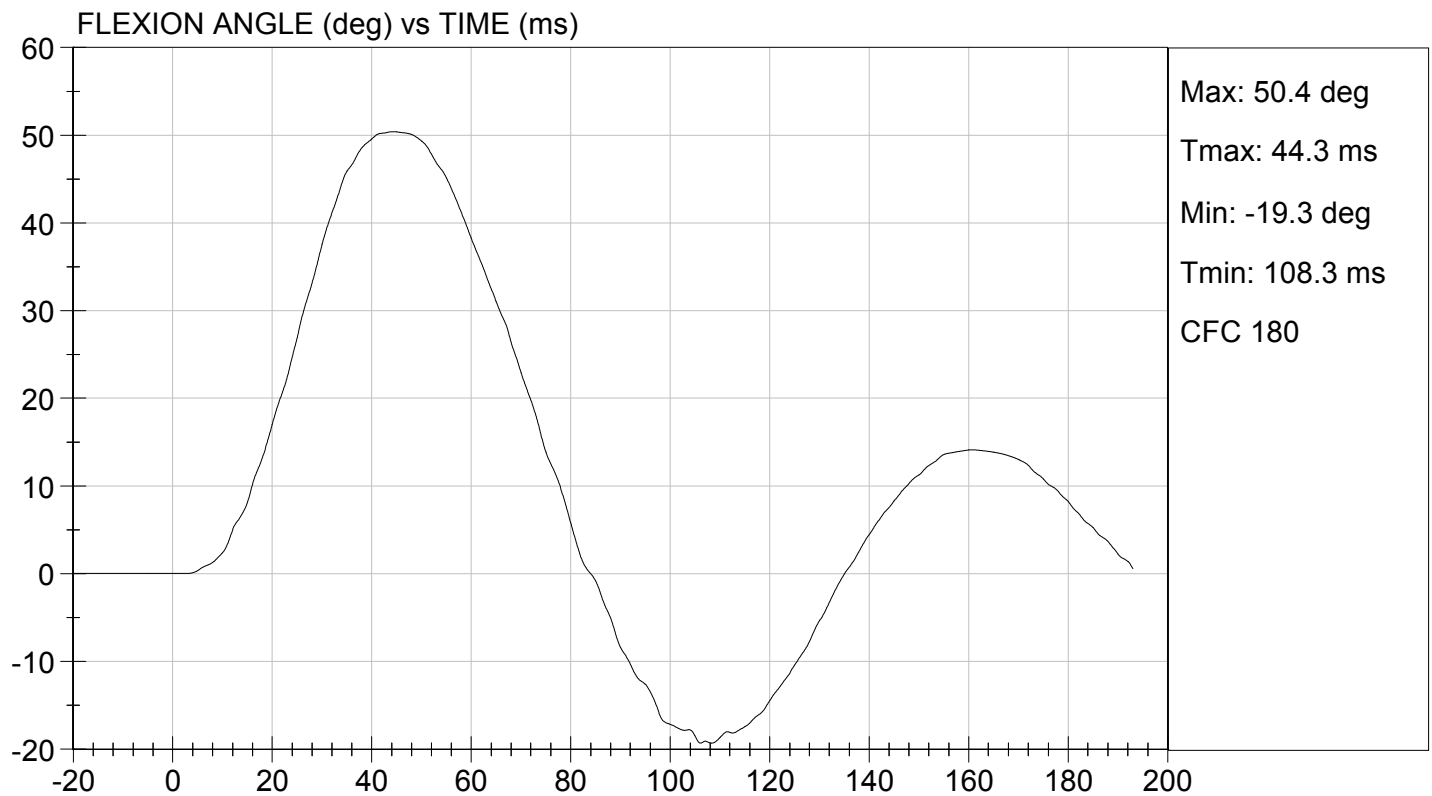
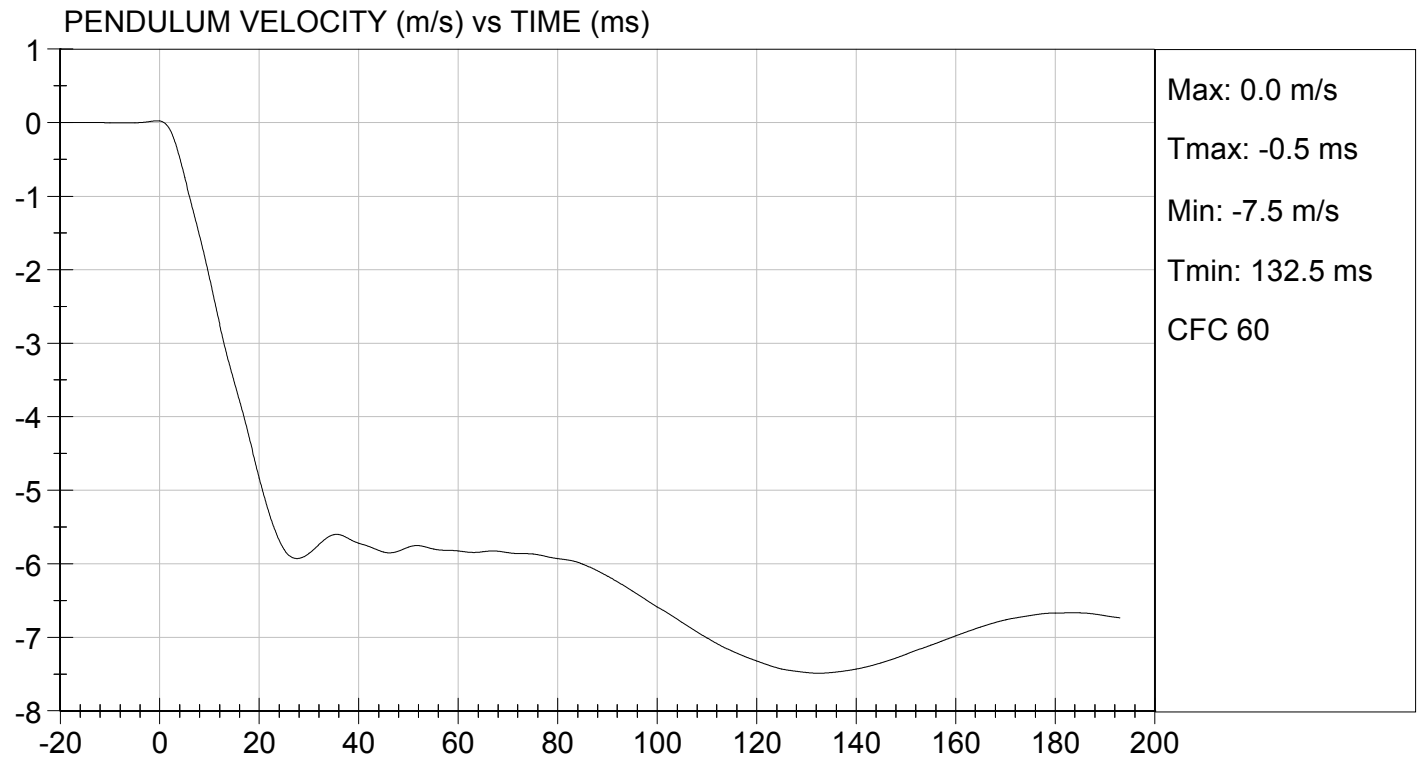
Test I.D: D124418

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Pendulum Speed		m/s	5.95 to 6.15	6.12	Pass
Pendulum Velocity	1 ms	m/s	-0.05 to 0.00	-0.01	Pass
	3.7 ms	m/s	-0.425 to -0.24	-0.409	Pass
	27 ms	m/s	-6.50 to -5.80	-5.92	Pass
	30 ms	m/s	>= -6.50	-5.86	Pass
Maximum Flexion Angle		deg	45.0 to 55.0	50.4	Pass
Time of Maximum Flexion Angle		ms	39.0 to 53.0	44.3	Pass
Headform Rotation Decay to Initial Position		ms	37 to 57	44	Pass
Overall Results					Pass


Laboratory Technician

11/15/2012
Test Date

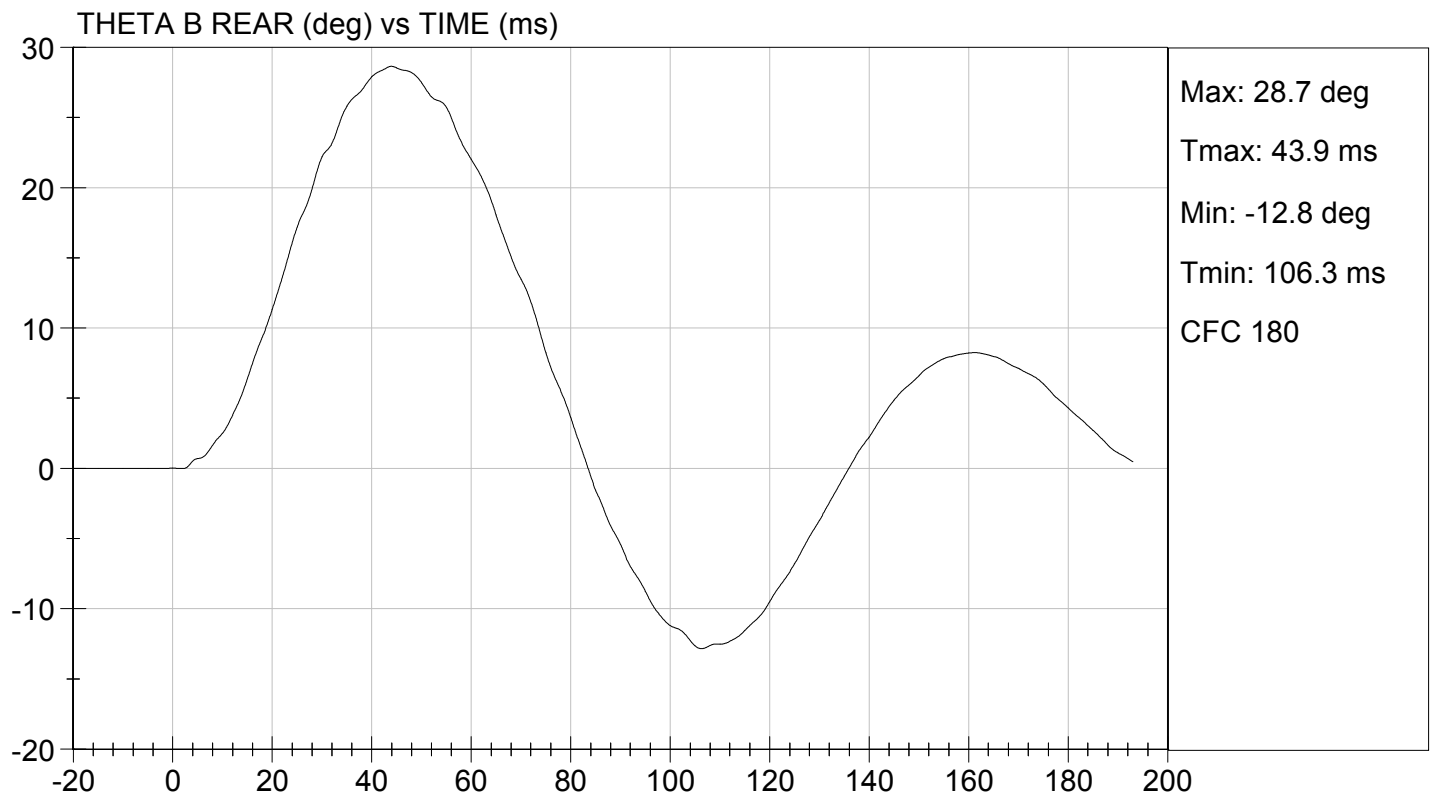
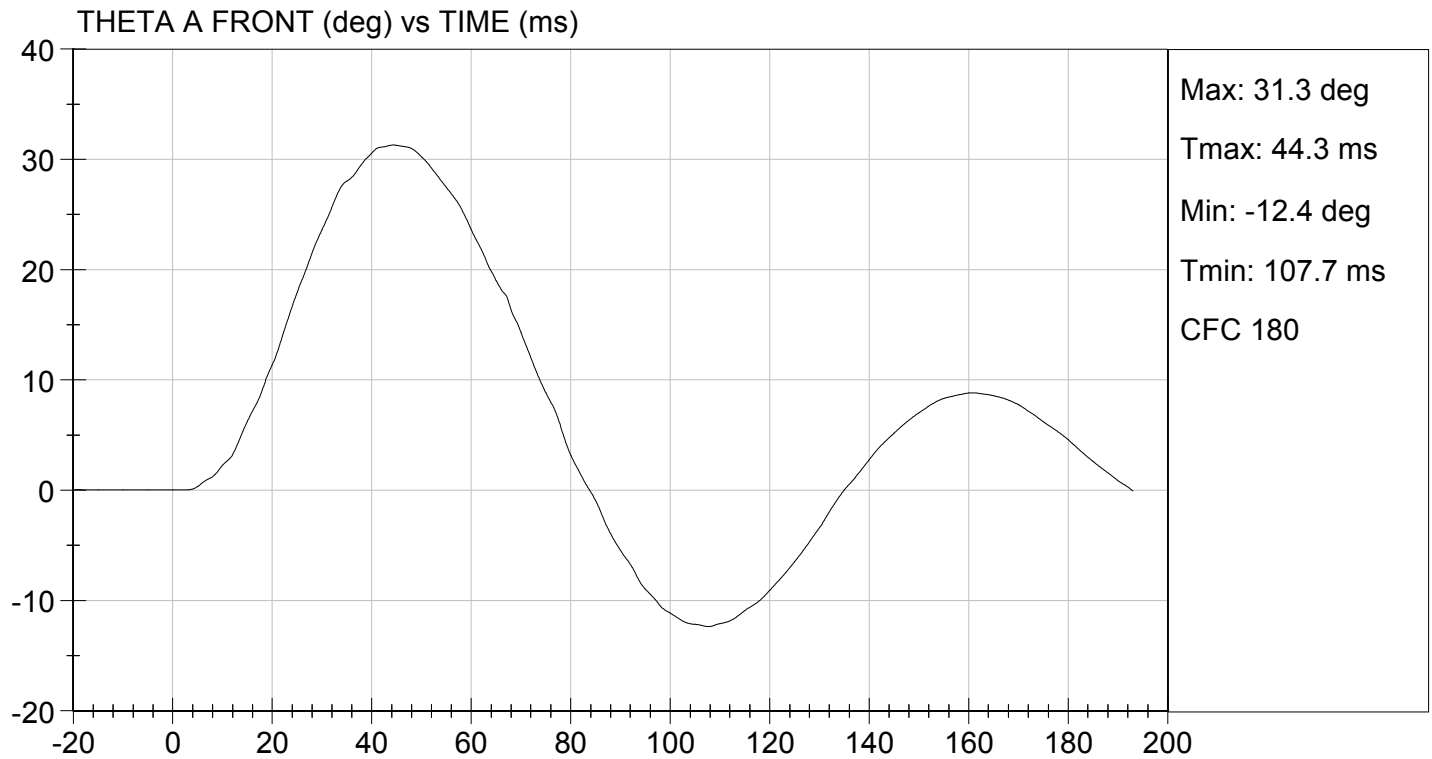

Approved By





TEST DESC: LUMBAR BENDING
VELOCITY: 20.08 ft/s, 6.12 m/s

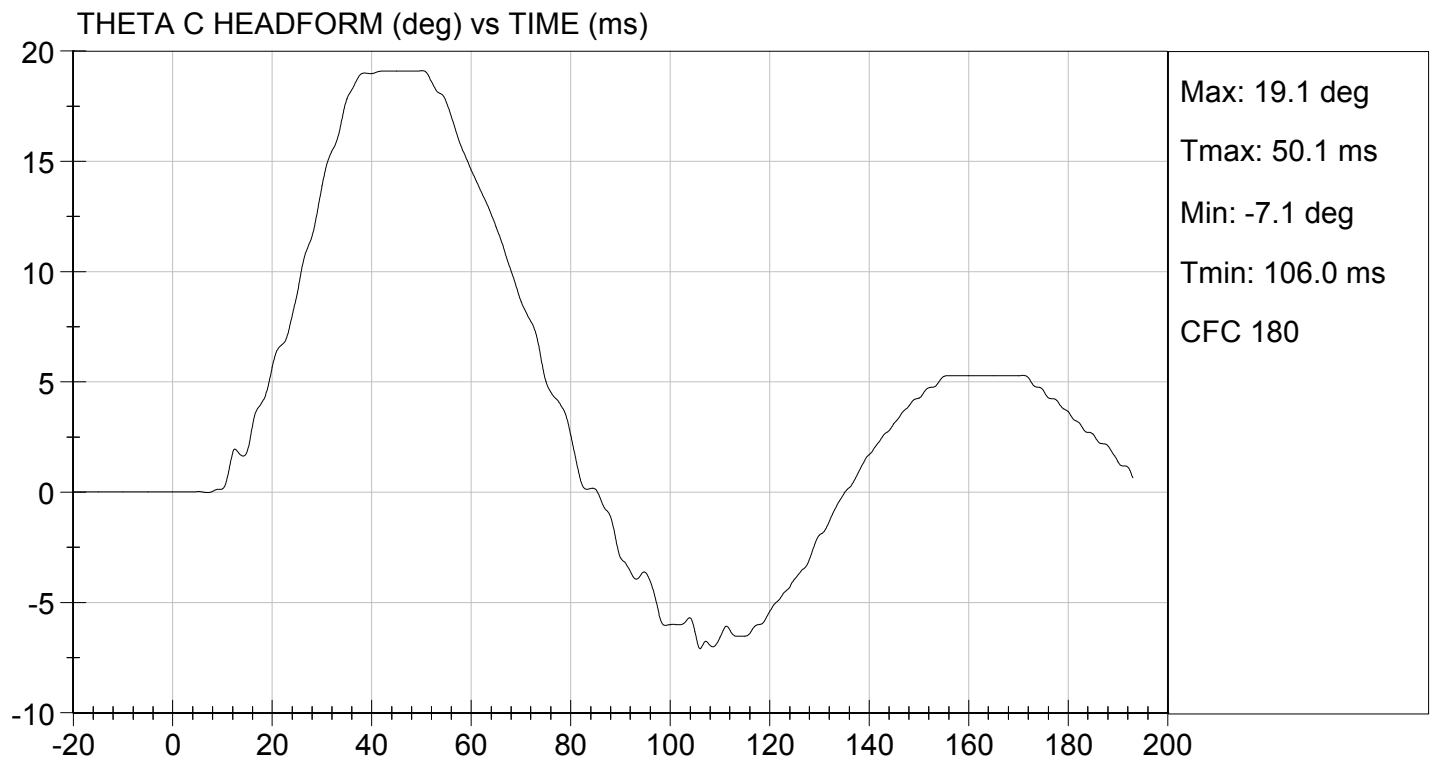
TEST DATE: 11/15/2012
TEST #: D124418





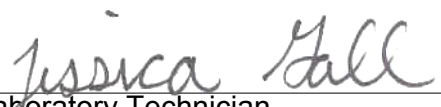
TEST DESC: LUMBAR BENDING
VELOCITY: 20.08 ft/s, 6.12 m/s

TEST DATE: 11/15/2012
TEST #: D124418



MGA RESEARCH CORPORATION**PELVIS TEST
ES-2re DUMMY****ATD Serial No:** 032**Test I.D:** D124419

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Probe Speed	m/s	4.20 to 4.40	4.34	Pass
Maximum Impactor Force	N	4700 to 5400	4863	Pass
Time of Maximum Impactor Force	ms	11.8 to 16.1	13.5	Pass
Maximum Pubic Force	N	1230 to 1590	1378	Pass
Time of Maximum Pubic Force	ms	12.2 to 17.0	14.2	Pass
Overall Test Results				Pass


Laboratory Technician

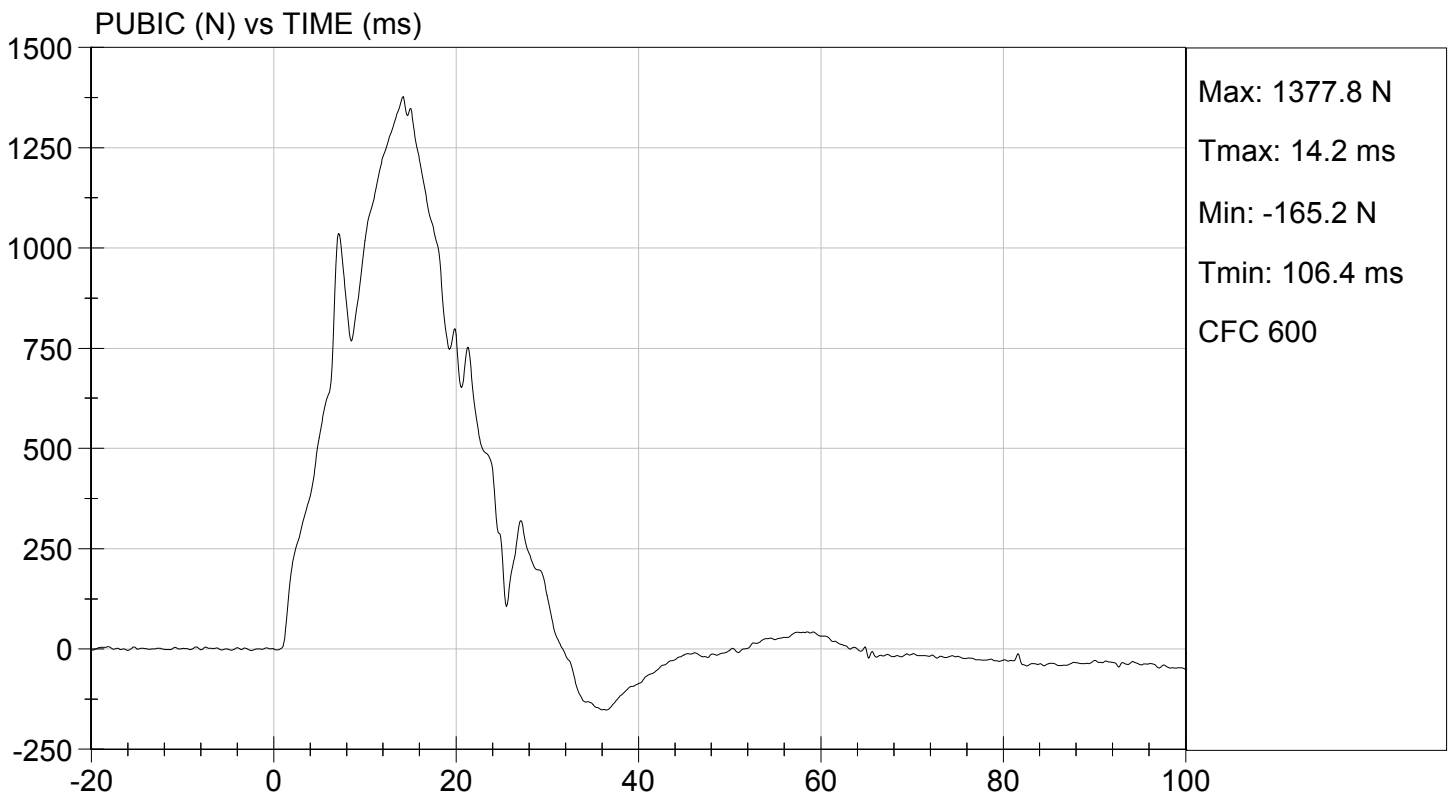
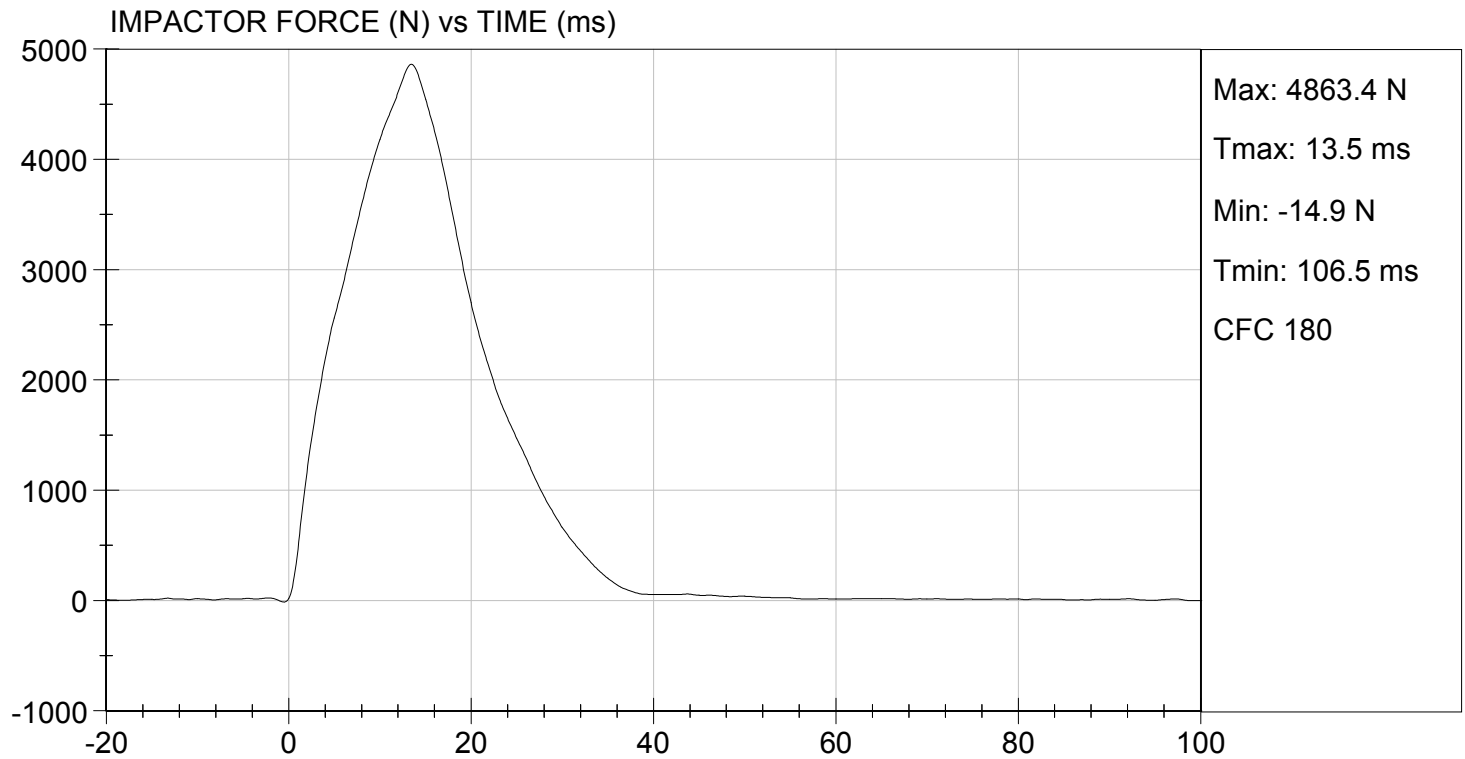
11/16/2012
Test Date


Approved By



TEST DESC: PELVIS IMPACT
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 11/16/2012
TEST #: D124419



SID-IIsD External Measurements
SN: 296

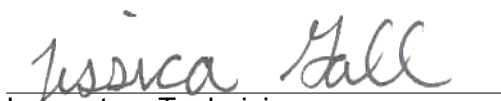
No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	784	Pass
B	Shoulder Pivot Height	437 - 453	442	Pass
C	H-point Height	79 - 89	83	Pass
D	H-point from Seatback	141 - 151	145	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	121	Pass
G	Head Breadth	140 - 148	142	Pass
H	Head Back from Backline	40 - 46	45	Pass
I	Head Depth	178 - 188	180	Pass
J	Head Circumference	541 - 551	548	Pass
K	Buttock to Knee Length	514 - 540	535	Pass
L	Popliteal Height	343 - 369	358	Pass
M	Knee Pivot to Floor Height	392 - 409	404	Pass
N	Buttock Popliteal Length	416 - 442	435	Pass
O	Chest Depth w/o Jacket	195 - 211	206	Pass
P	Foot Length	216 - 232	219	Pass
Q	Hip Breadth (w/ pelvic plugs)	313 - 323	316	Pass
R	Arm Length	249 - 259	250	Pass
S	Knee Joint to Seatback	477 - 493	481	Pass
V	Shoulder Width	341 - 357	346	Pass
W	Foot Width	78 - 94	85	Pass
Y	Chest Circumference w/ jacket	851 - 881	870	Pass
Z	Waist Circumference	761 - 791	772	Pass

MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test ID: D124321

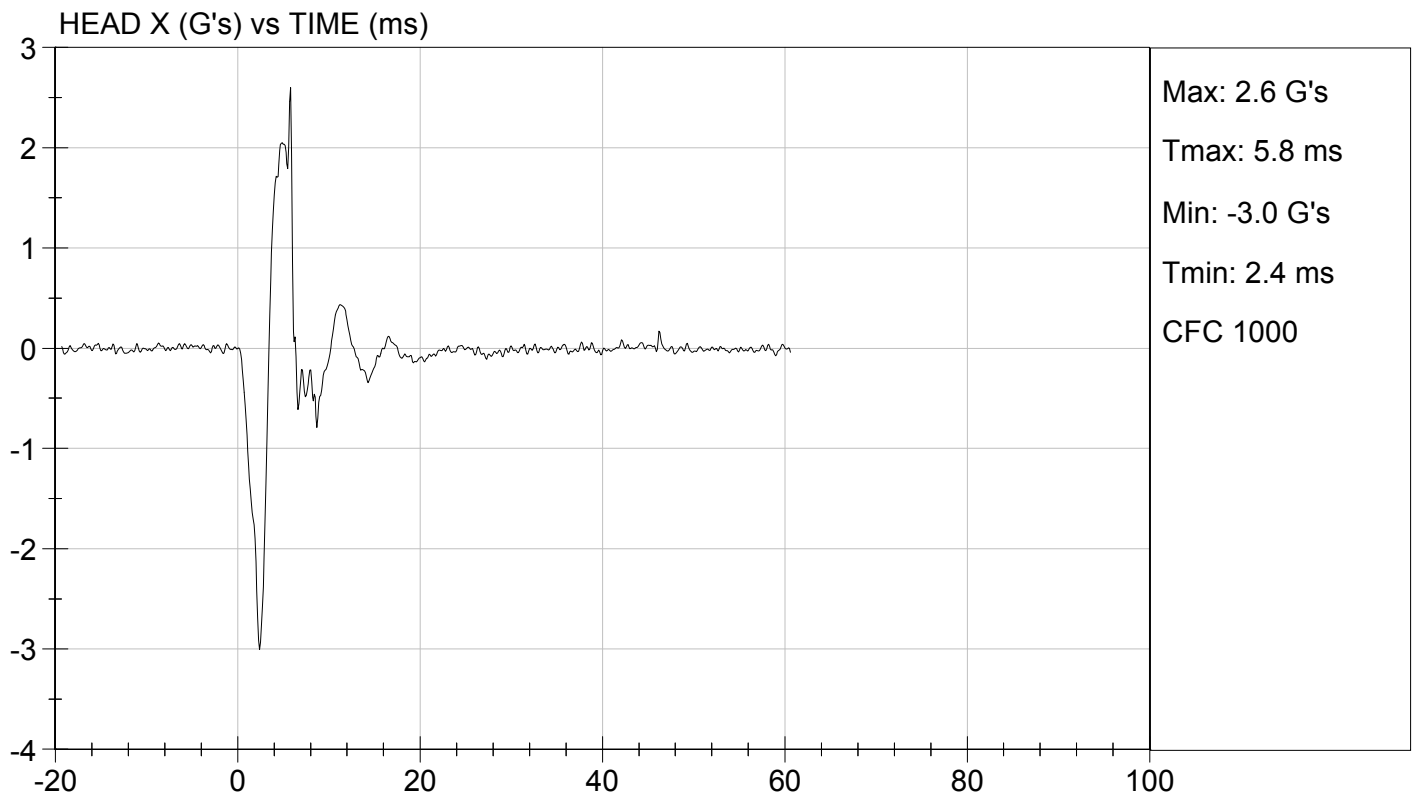
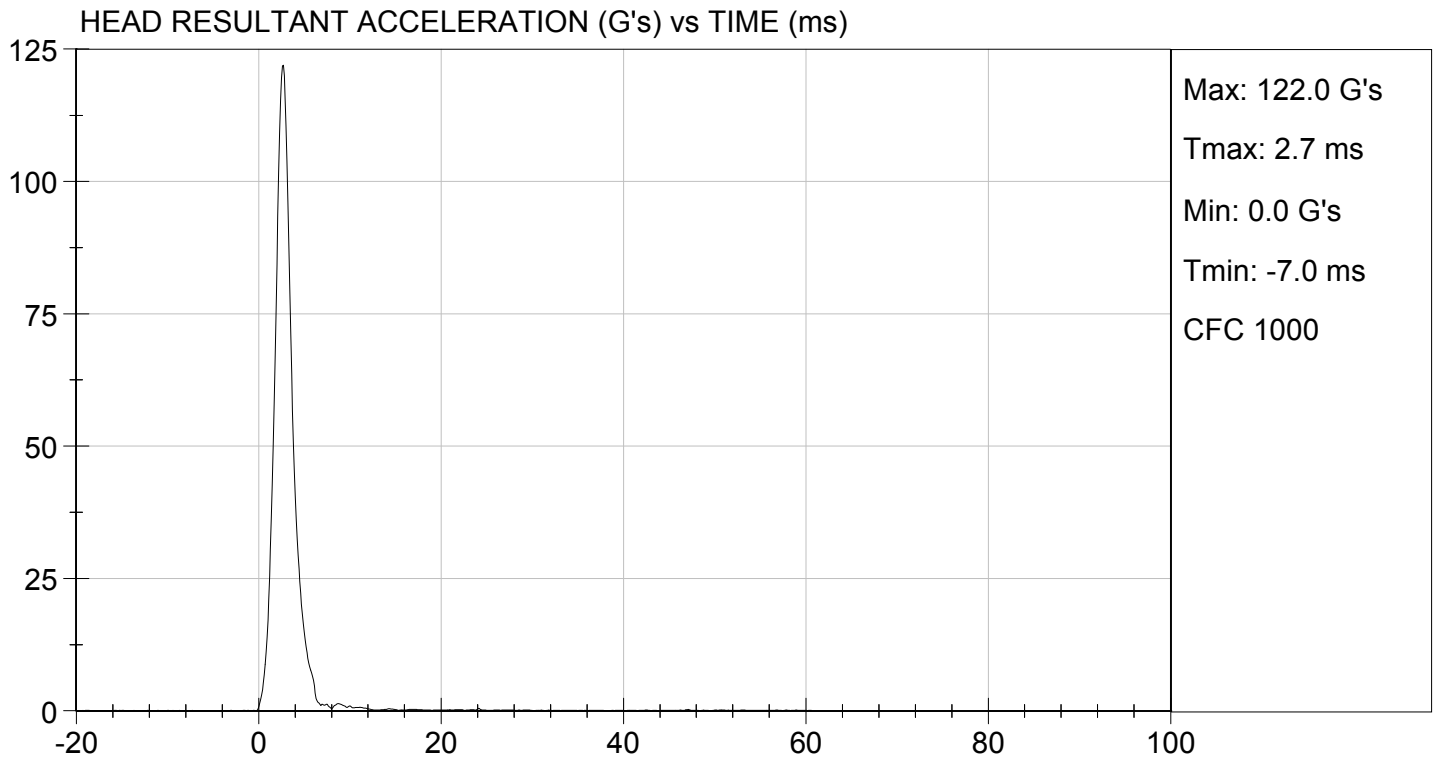
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	115 to 137	122	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-3.0	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results			Pass	

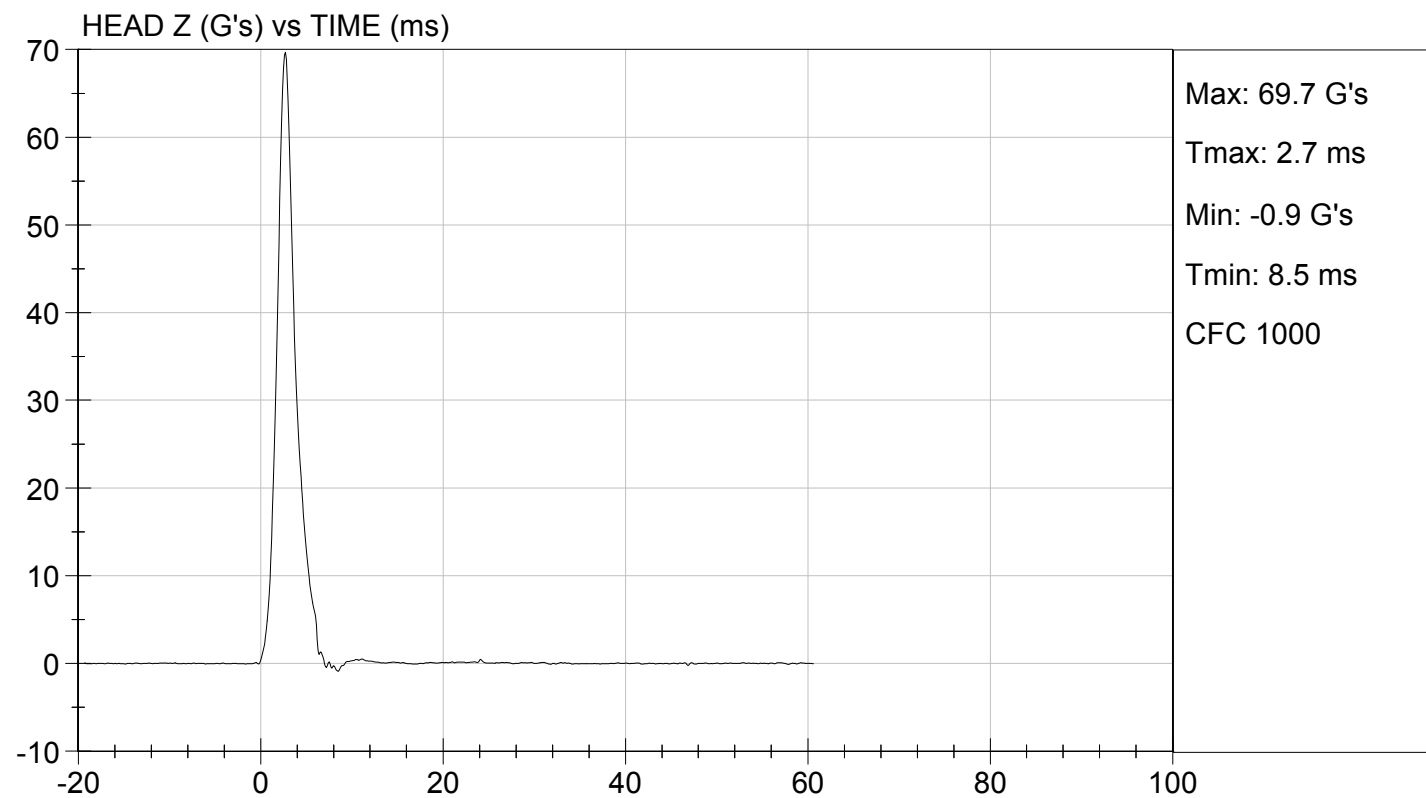
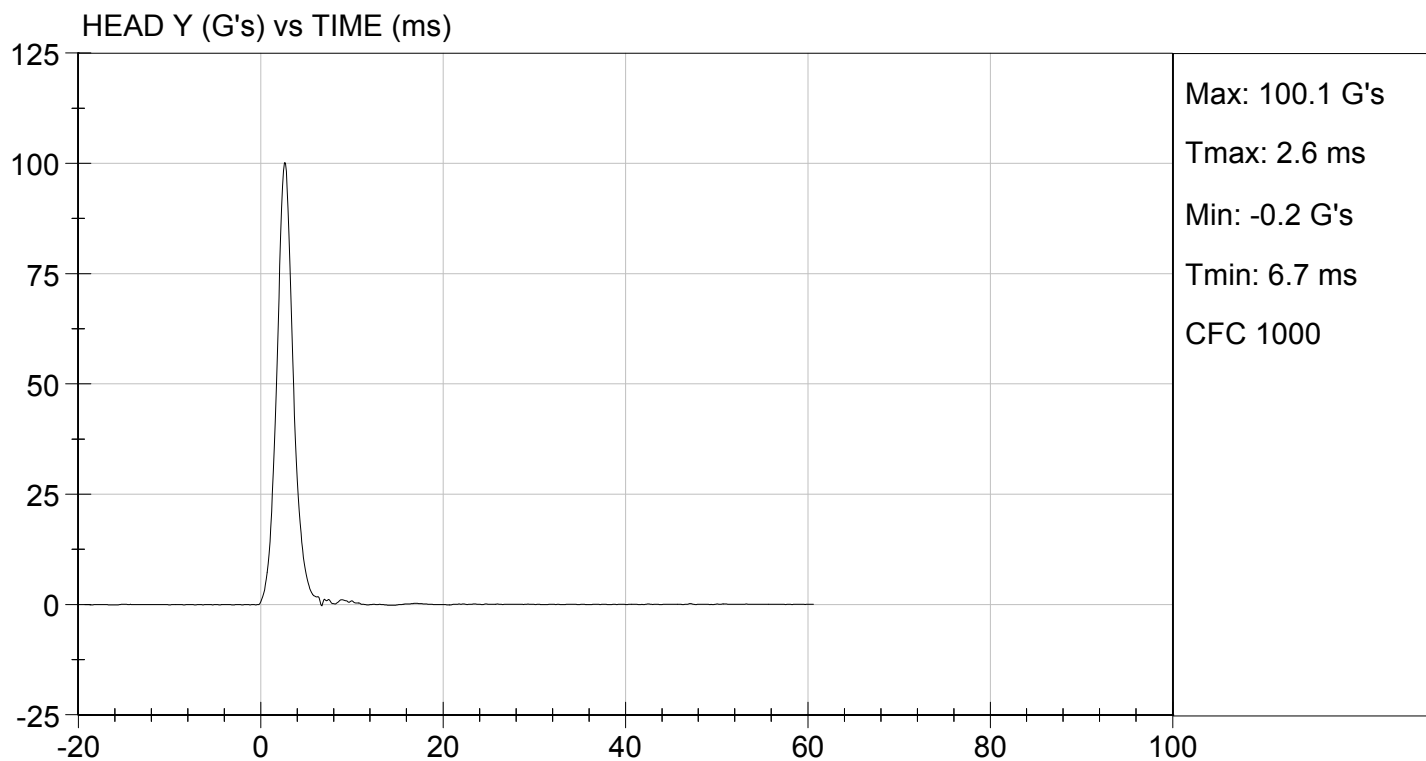

Laboratory Technician

11/12/2012

Test Date


Approved By





MGA RESEARCH CORPORATION
LATERAL NECK PENDULUM TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124322

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	22.0	Pass
Humidity		%	10 to 70	29	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.78	Pass
	15 ms	m/s	3.30 to 4.10	3.93	Pass
	20 ms	m/s	4.40 to 5.40	5.25	Pass
	25 ms	m/s	5.40 to 6.10	5.52	Pass
	25-100 ms	m/s	5.50 to 6.20	5.54	Pass
Maximum D-Plane Rotation		deg	71 to 81	74	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	60	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-42	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	114	Pass
Overall Test Results				Pass	


 Laboratory Technician

11/12/2012

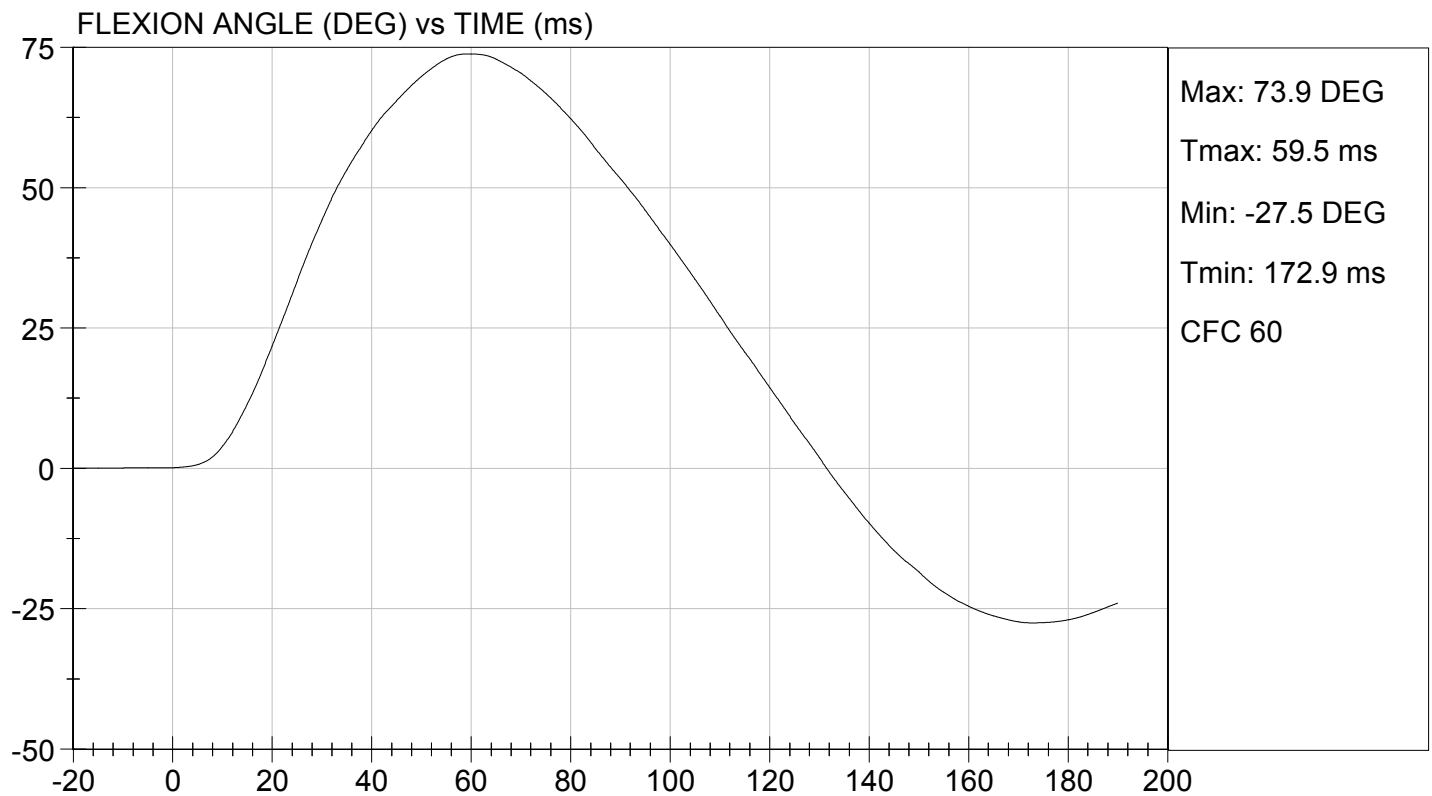
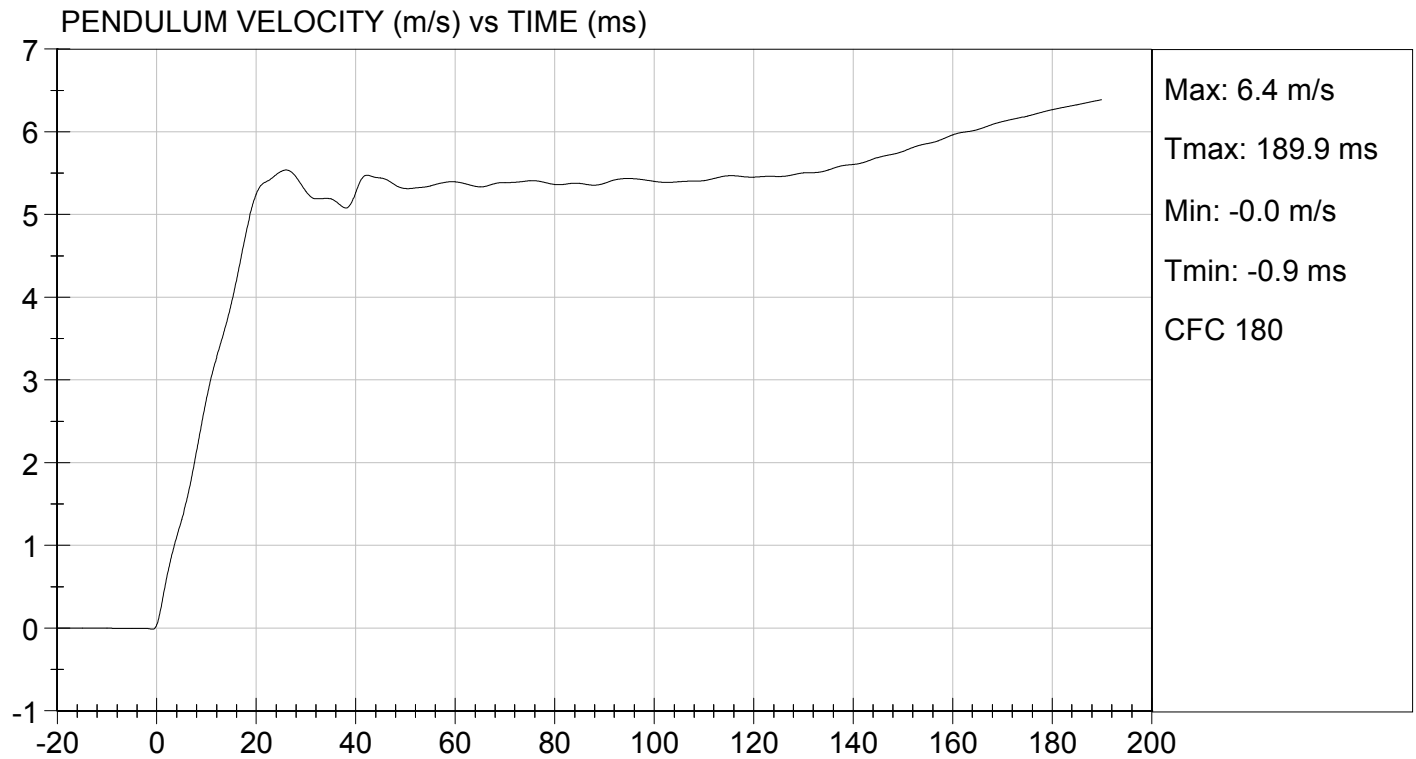
Test Date


 Approved By



TEST DESC: NECK BENDING
VELOCITY: 18.31 ft/s, 5.58 m/s

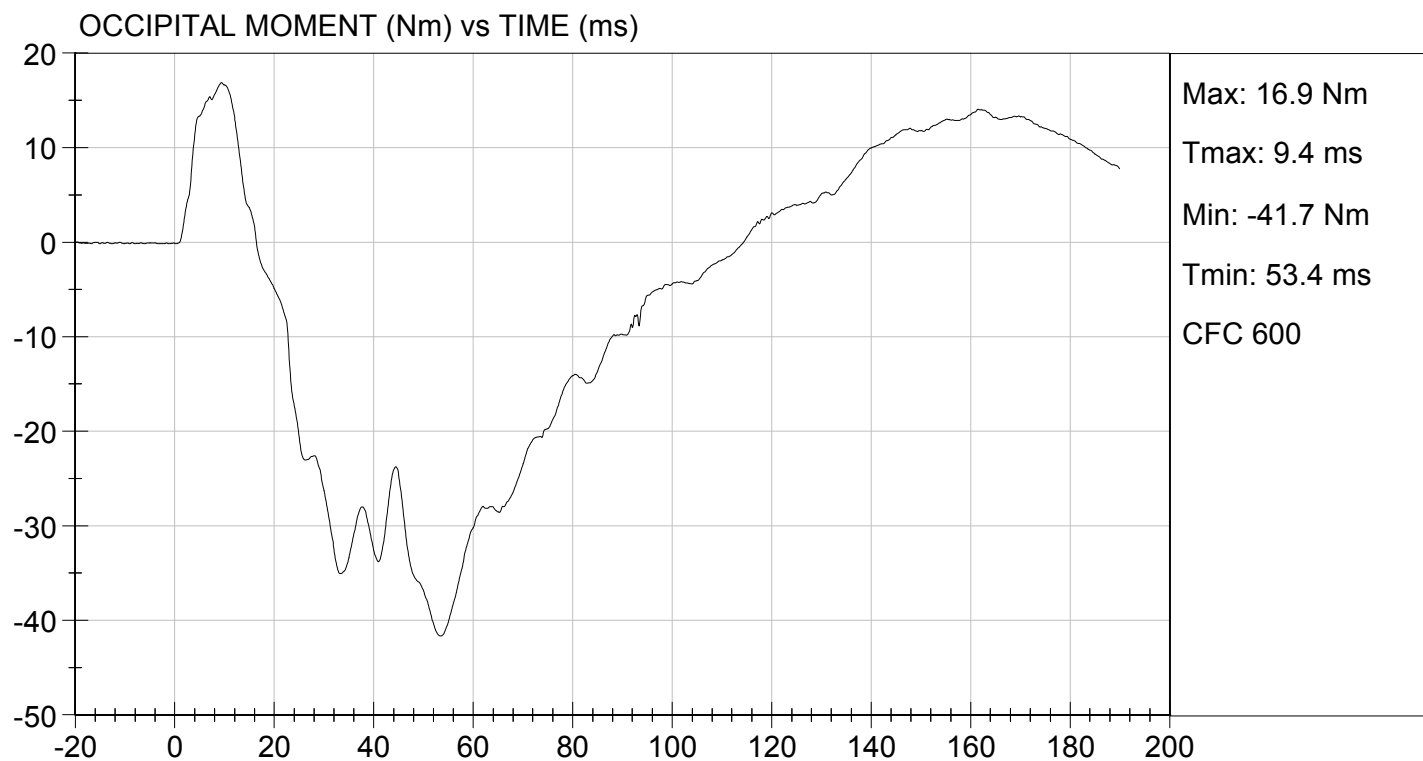
TEST DATE: 11/12/2012
TEST #: D124322





TEST DESC: NECK BENDING
VELOCITY: 18.31 ft/s, 5.58 m/s

TEST DATE: 11/12/2012
TEST #: D124322

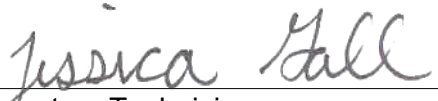


MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test ID: D124323

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	13 to 18	15	Pass
Shoulder Displacement	mm	28 to 37	28	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
			Overall Test Results	Pass


Laboratory Technician

11/09/2012

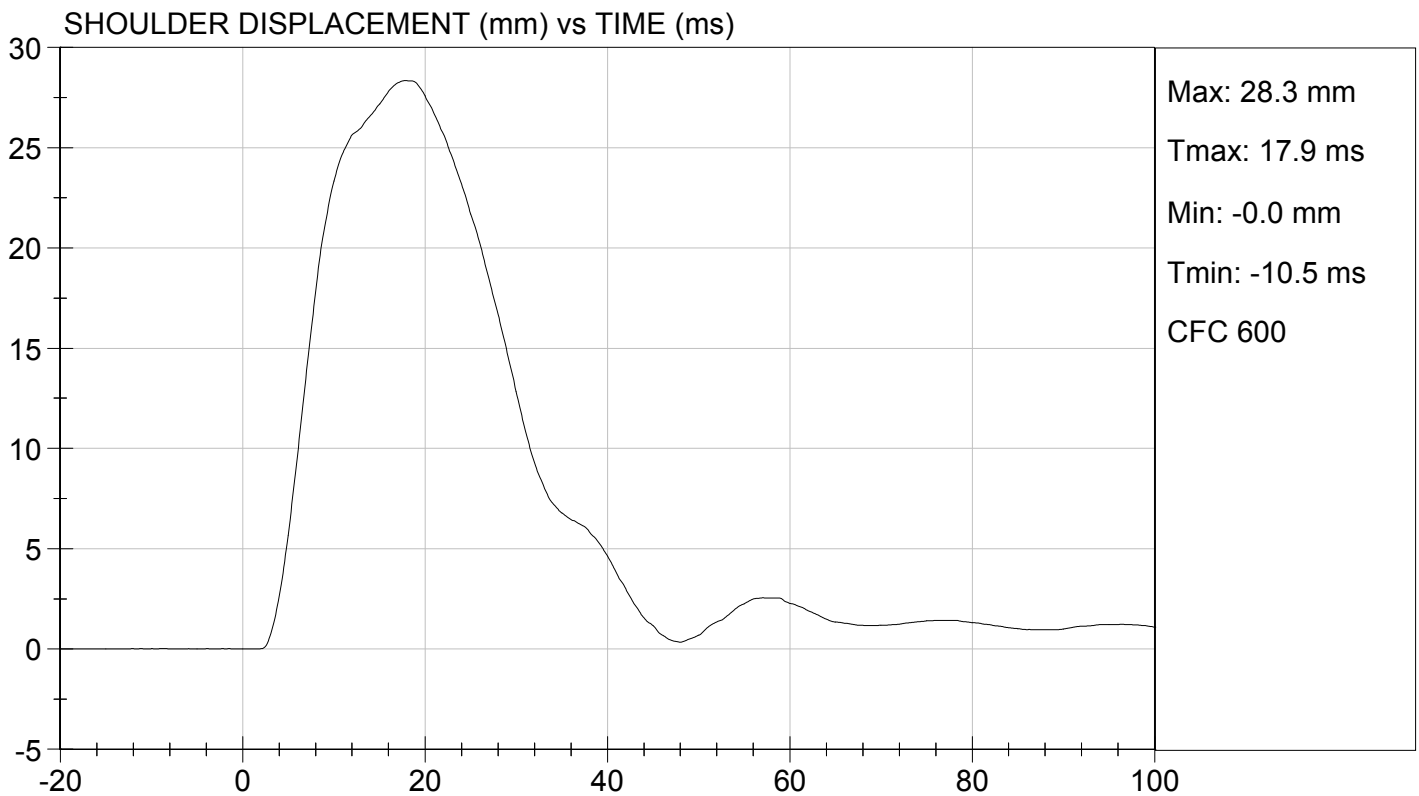
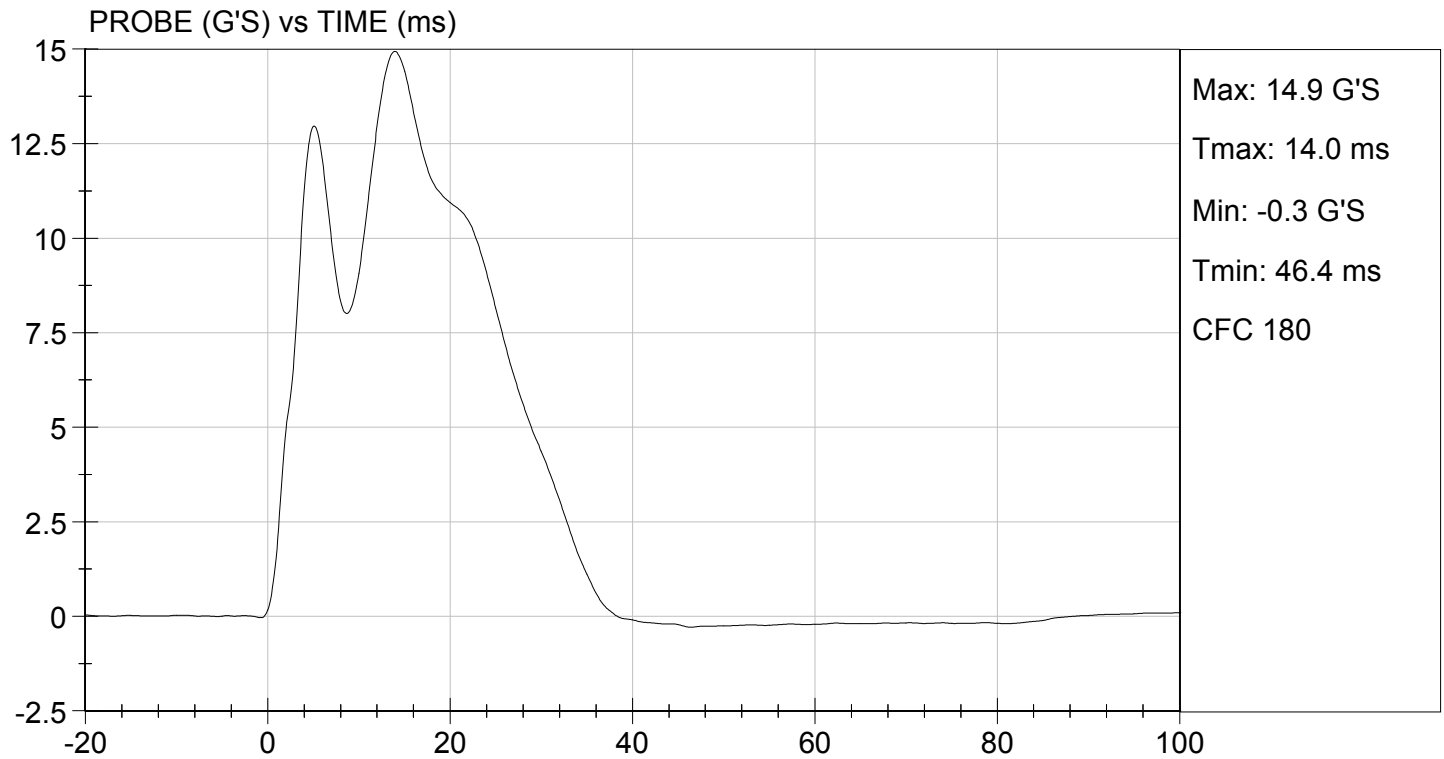
Test Date


Approved By



TEST DESC: SHOULDER IMPACT
VELOCITY: 14.12 ft/s, 4.30 m/s

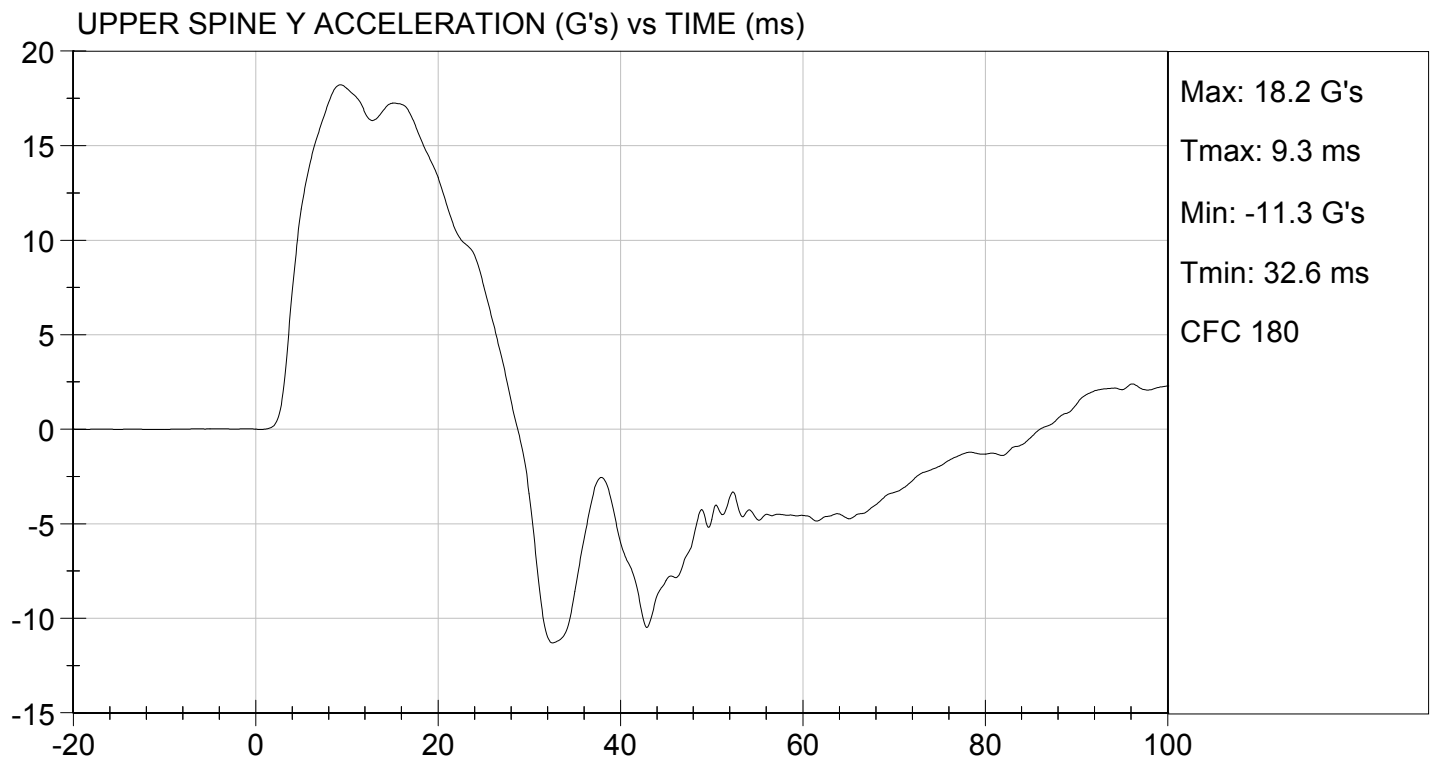
TEST DATE: 11/09/2012
TEST #: D124323





TEST DESC: SHOULDER IMPACT
VELOCITY: 14.12 ft/s, 4.30 m/s

TEST DATE: 11/09/2012
TEST #: D124323



MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

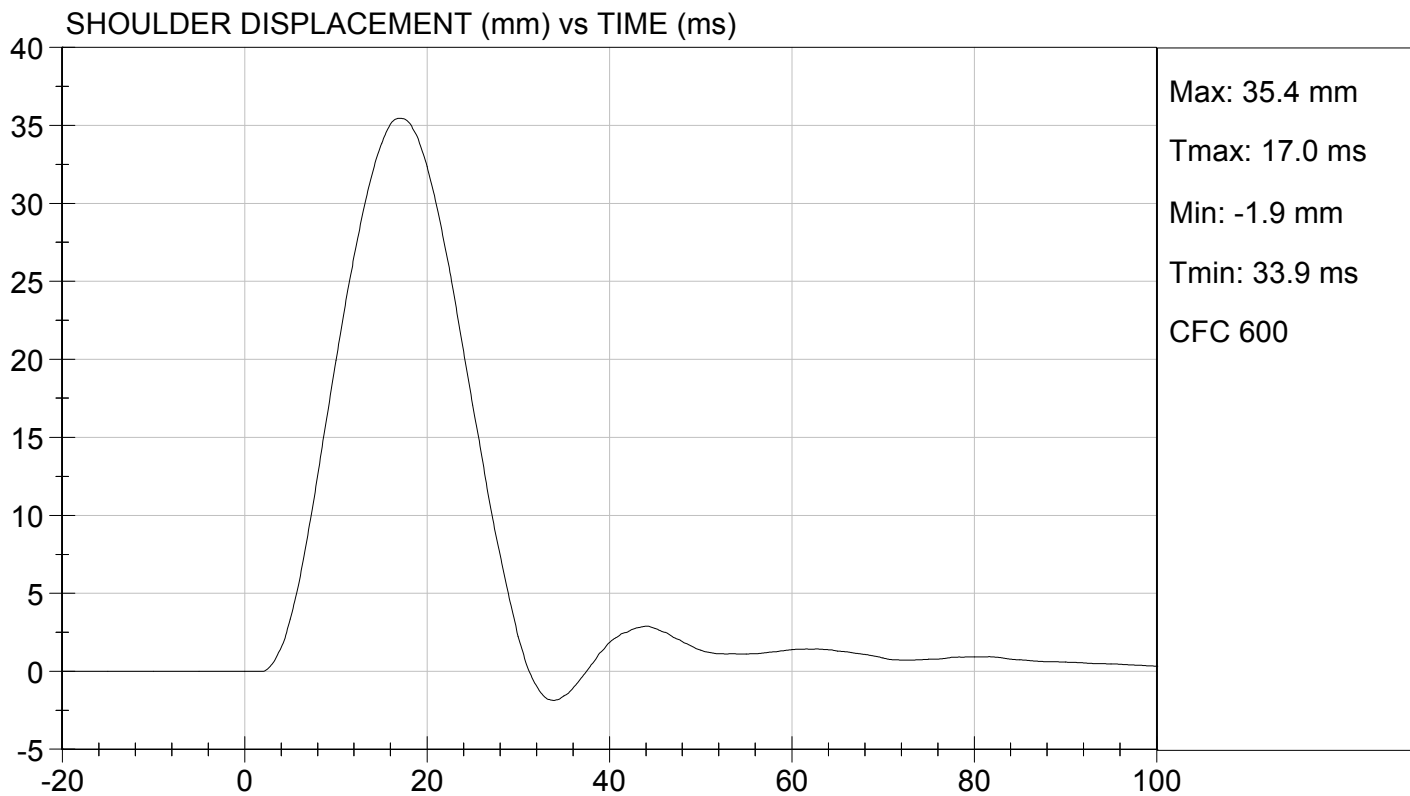
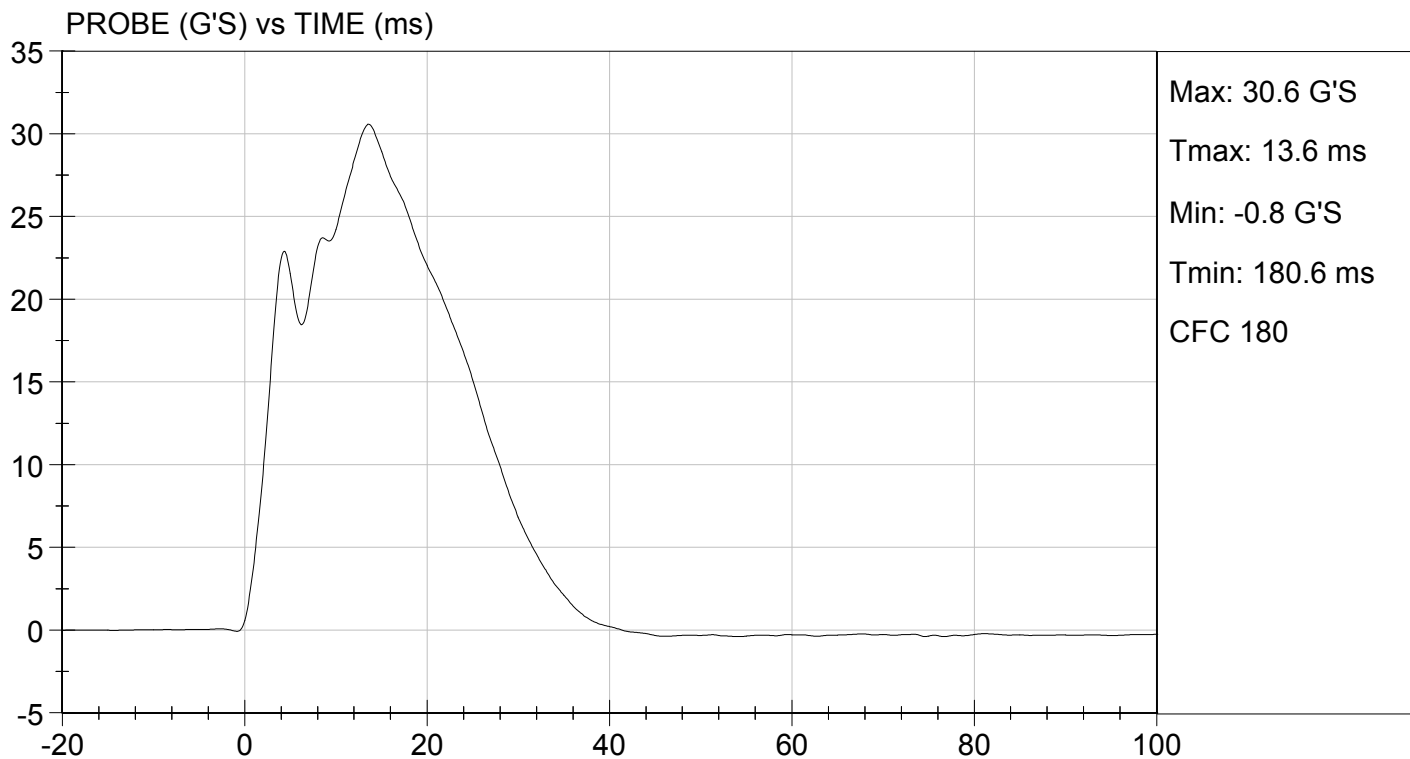
Test I.D: D124324

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	31	Pass
Shoulder Displacement	mm	31 to 40	35	Pass
Upper Rib Displacement	mm	25 to 32	27	Pass
Middle Rib Displacement	mm	30 to 36	32	Pass
Lower Rib Displacement	mm	32 to 38	34	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	37	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	29	Pass
Overall Test Results				Pass


Laboratory Technician

11/12/2012
Test Date

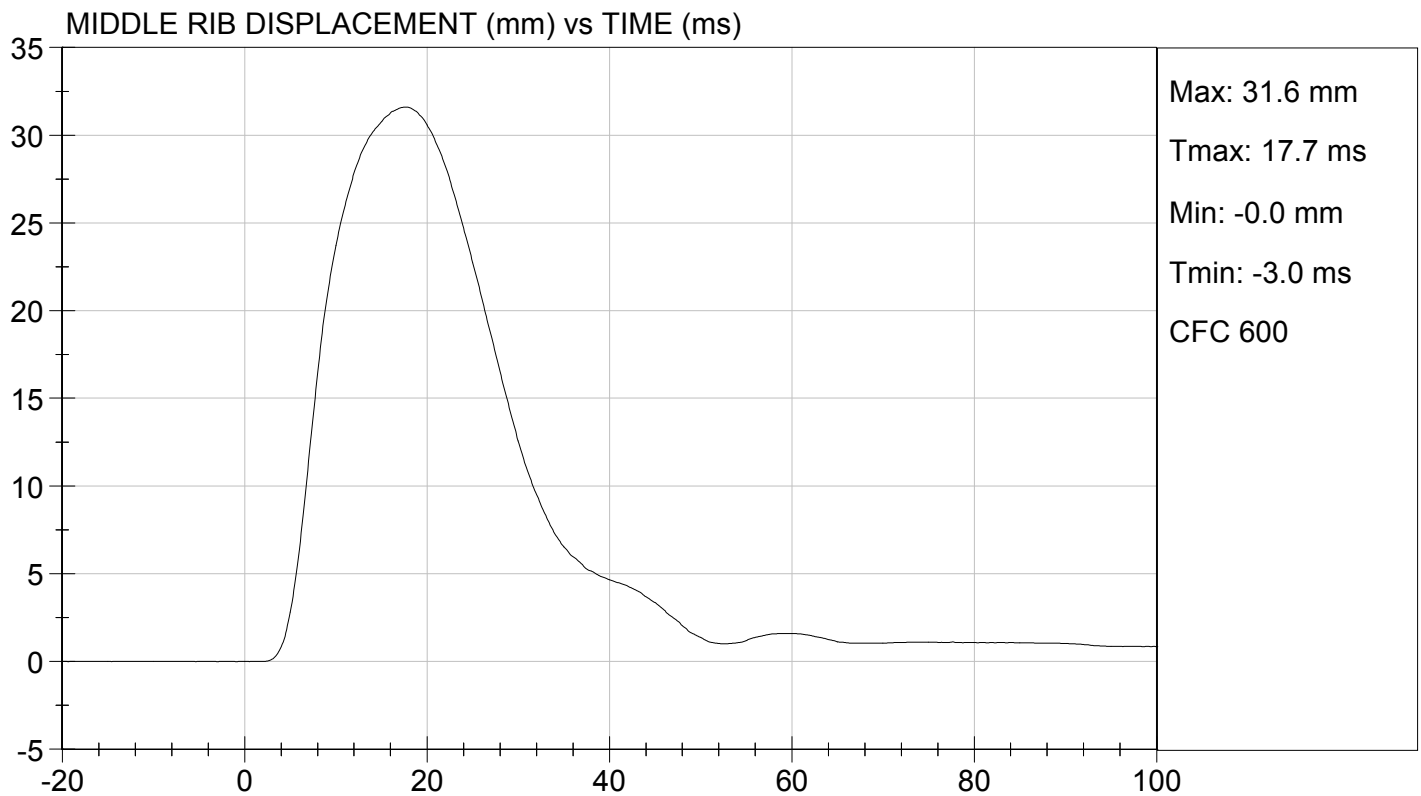
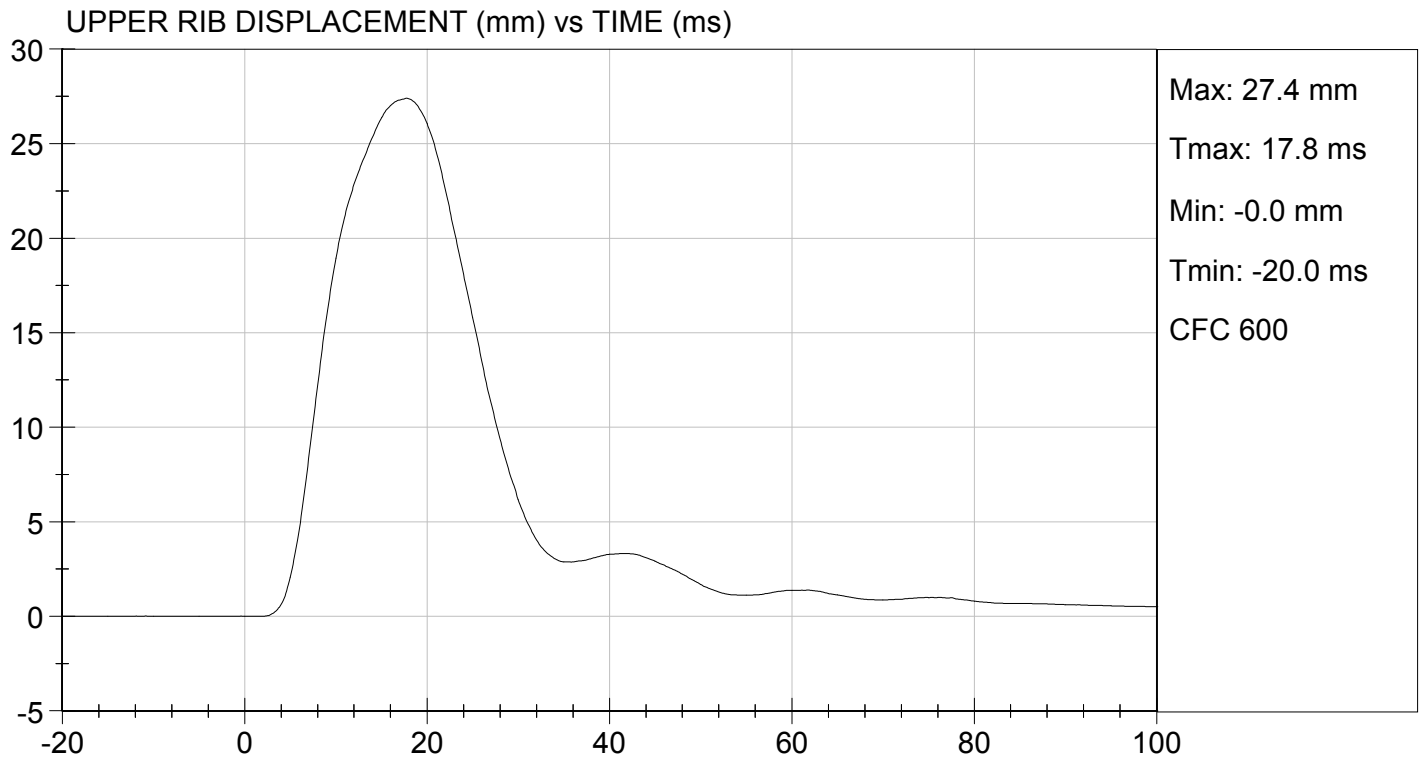

Approved By





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 11/12/2012
TEST #: D124324

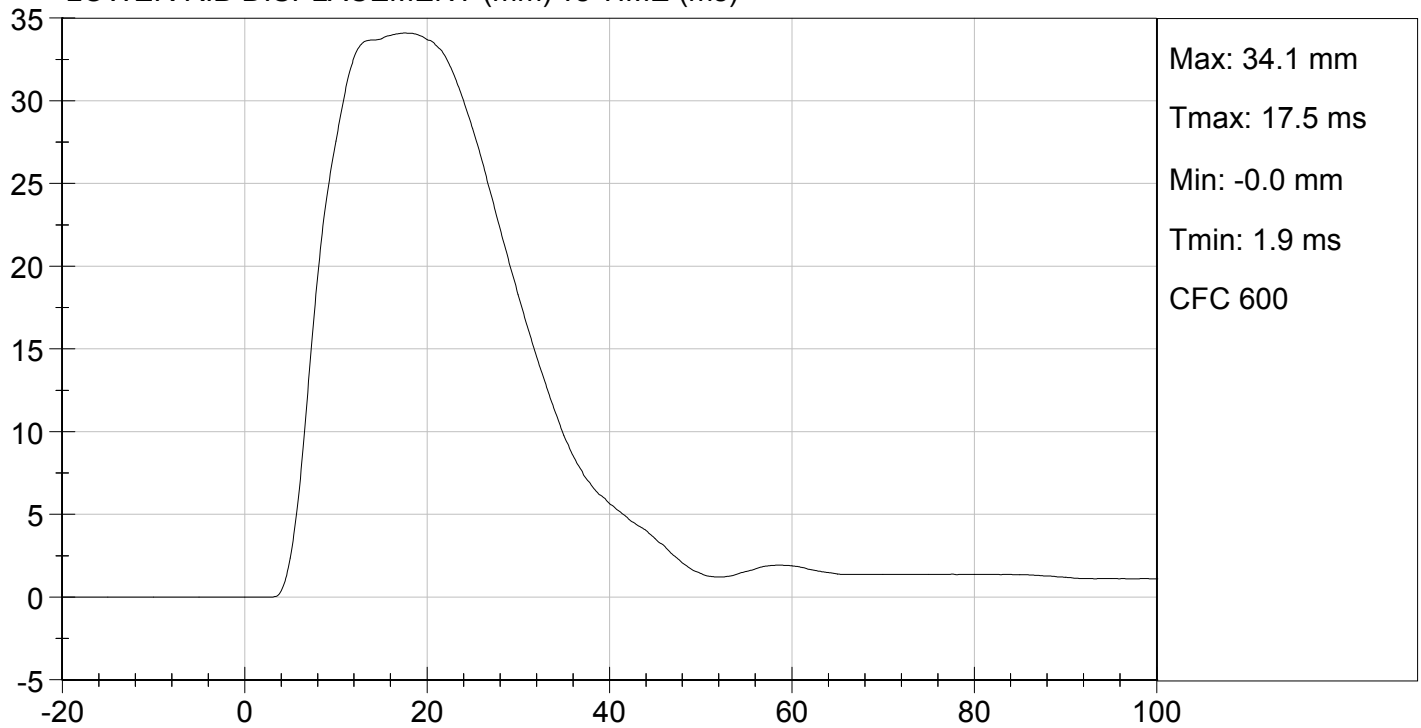




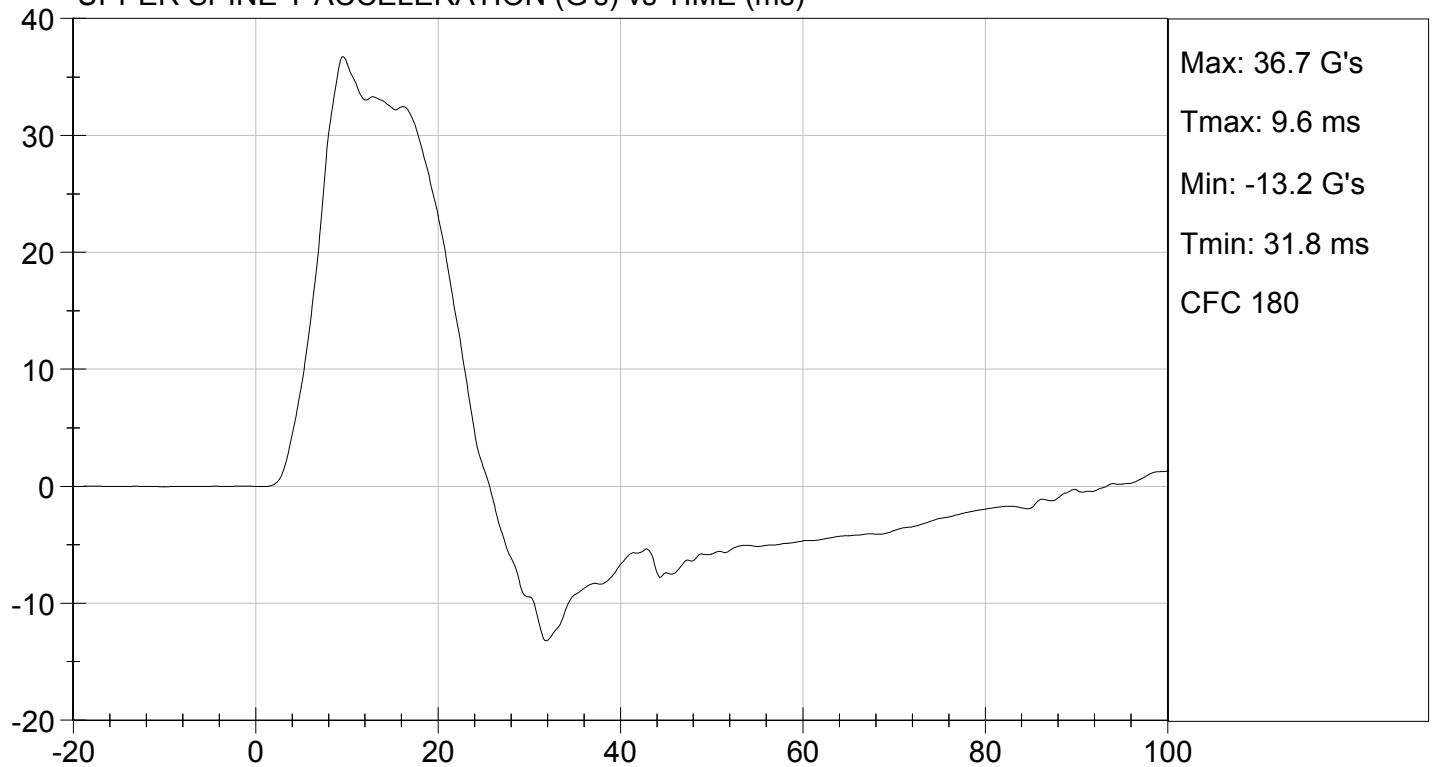
TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 11/12/2012
TEST #: D124324

LOWER RIB DISPLACEMENT (mm) vs TIME (ms)



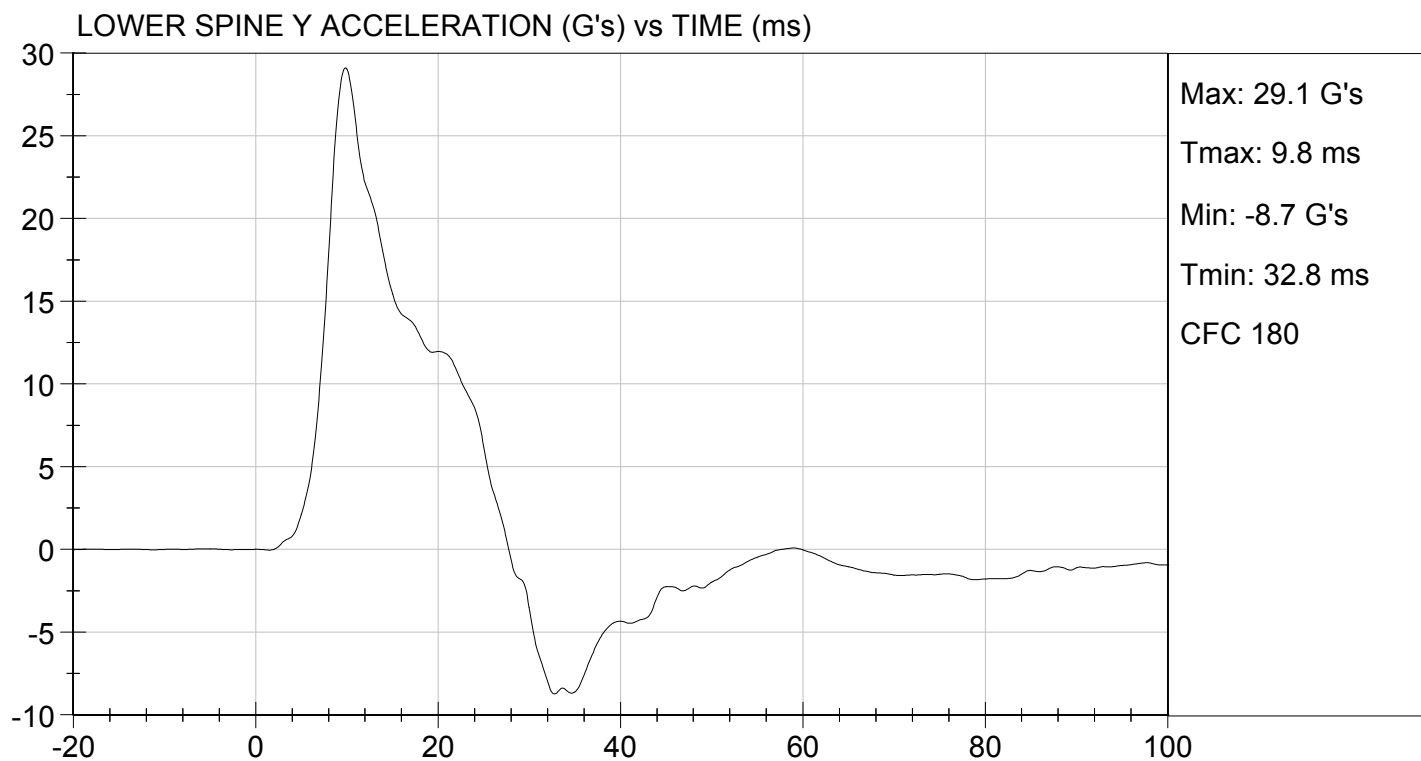
UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 11/12/2012
TEST #: D124324

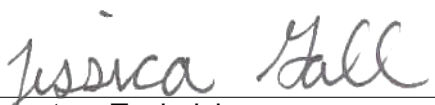


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

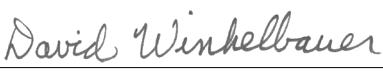
ATD Serial No: 296

Test I.D: D124325

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.4	Pass
Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	14 to 18	14	Pass
Upper Rib Displacement	mm	32 to 40	39	Pass
Middle Rib Displacement	mm	39 to 45	43	Pass
Lower Rib Displacement	mm	35 to 43	39	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	8	Pass
Overall Test Results				Pass


 Laboratory Technician

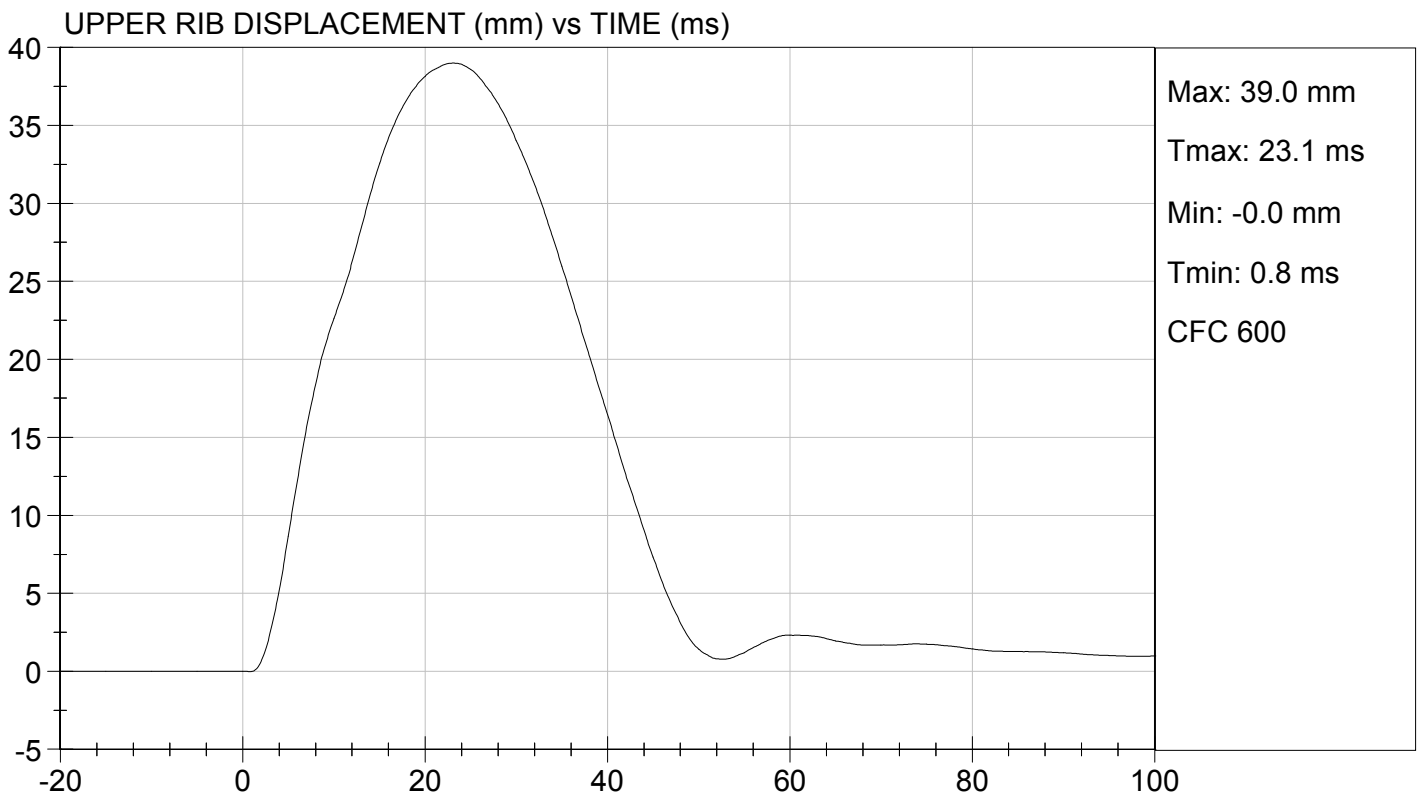
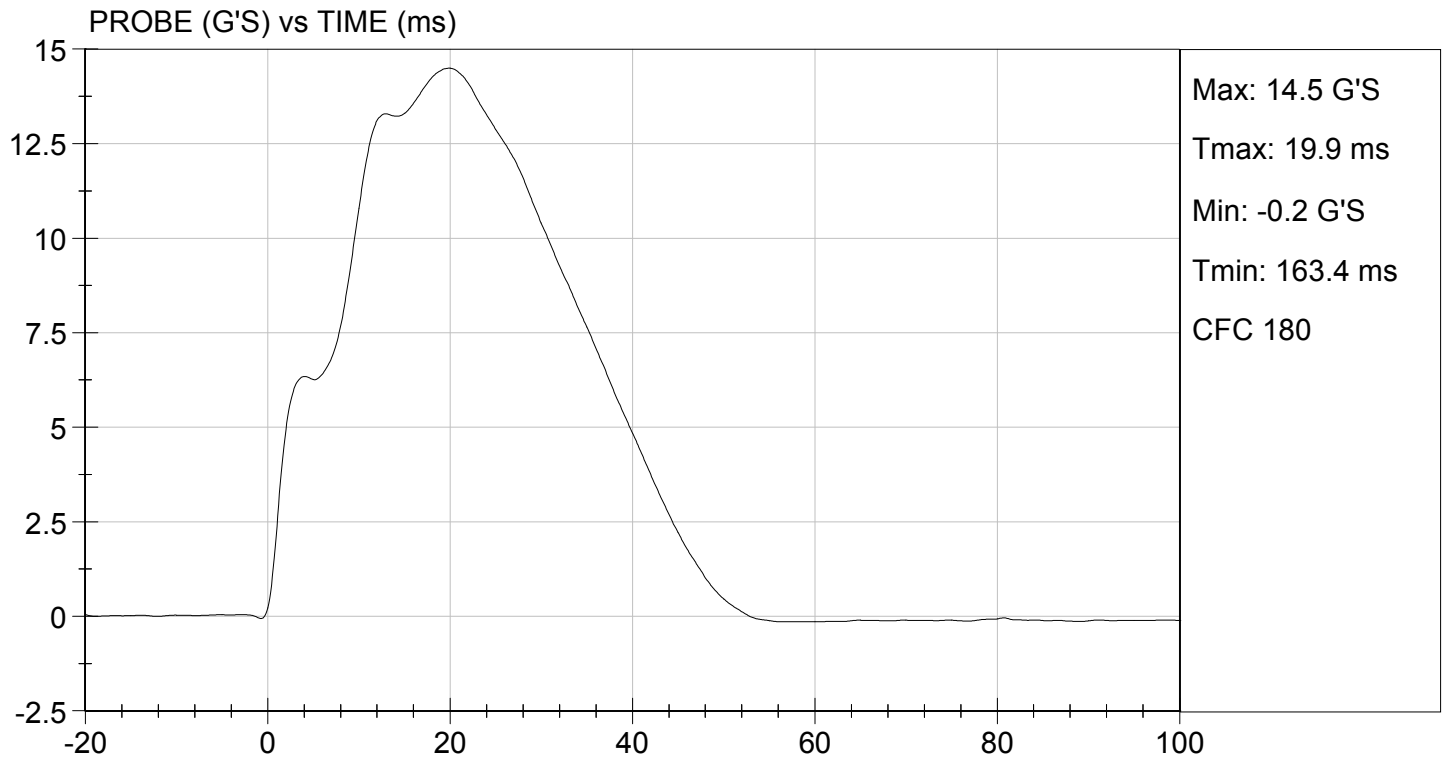
11/09/2012
 Test Date


 Approved By



TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 11/09/2012
TEST #: D124325

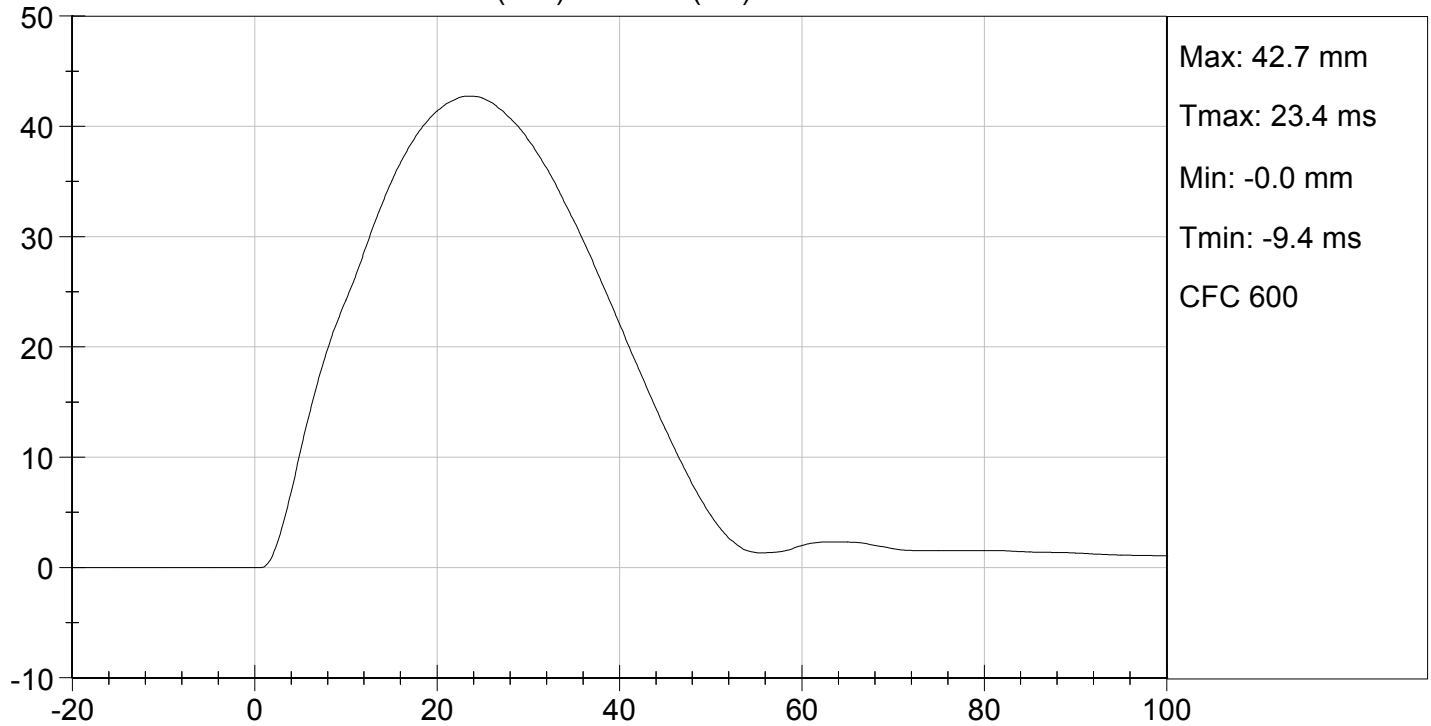




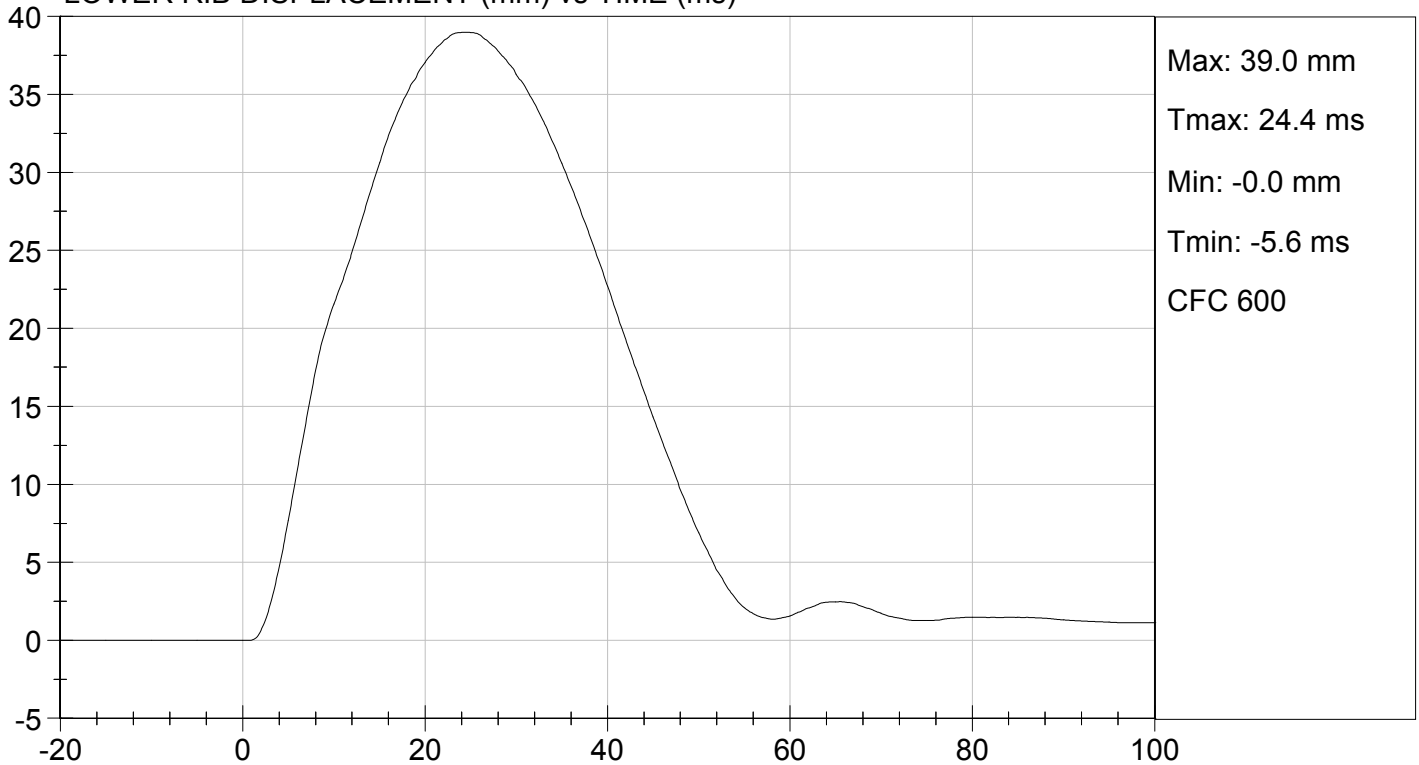
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 11/09/2012
TEST #: D124325

MIDDLE RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER RIB DISPLACEMENT (mm) vs TIME (ms)

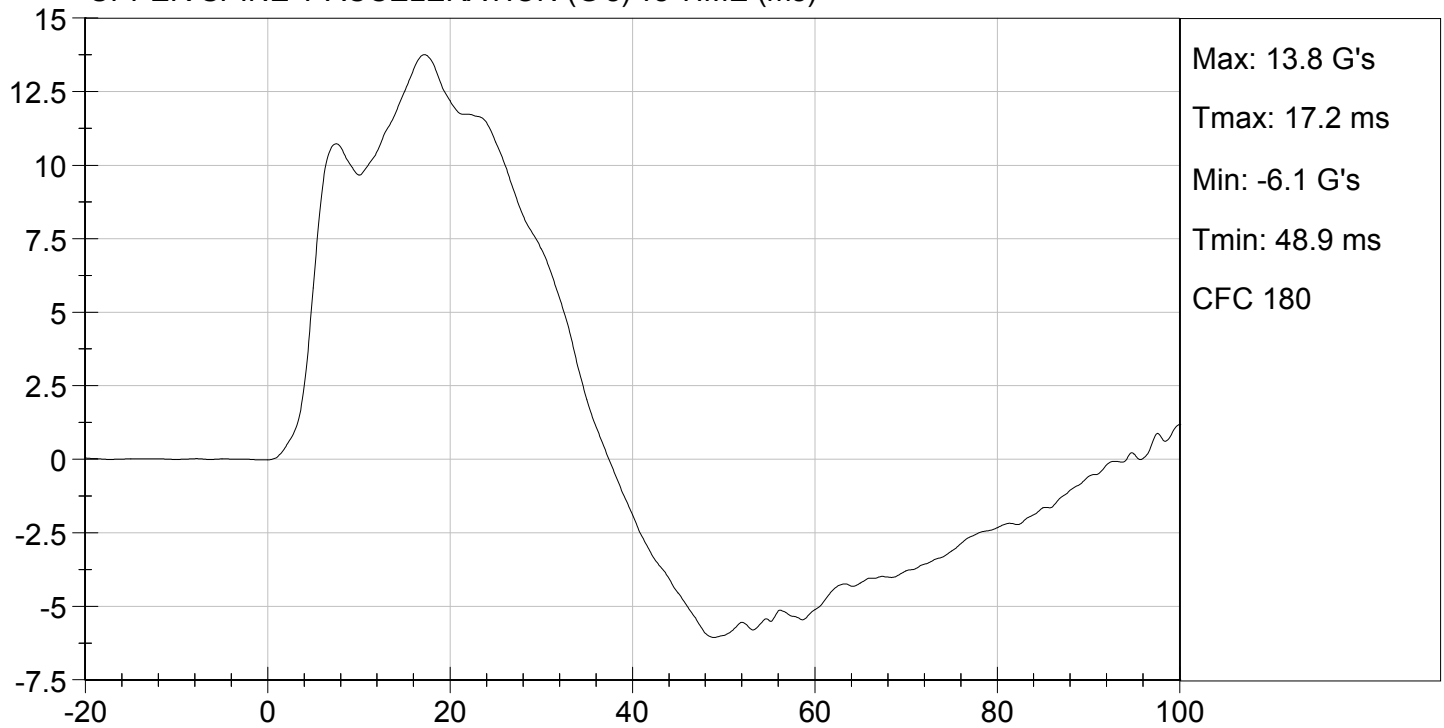




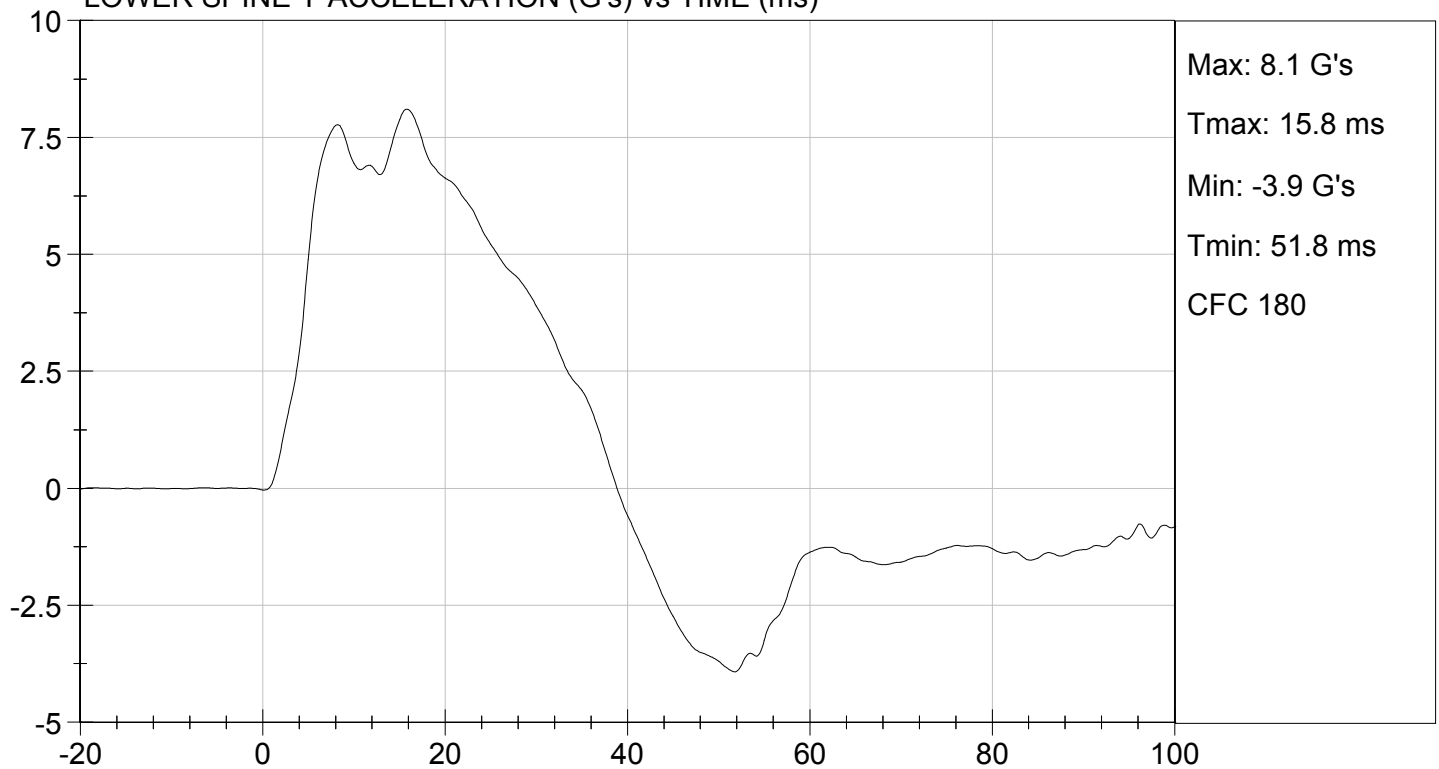
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 11/09/2012
TEST #: D124325

UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)



LOWER SPINE Y ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION

ABDOMINAL IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124326

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.4	Pass
Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	44	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	43	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	9	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

11/09/2012

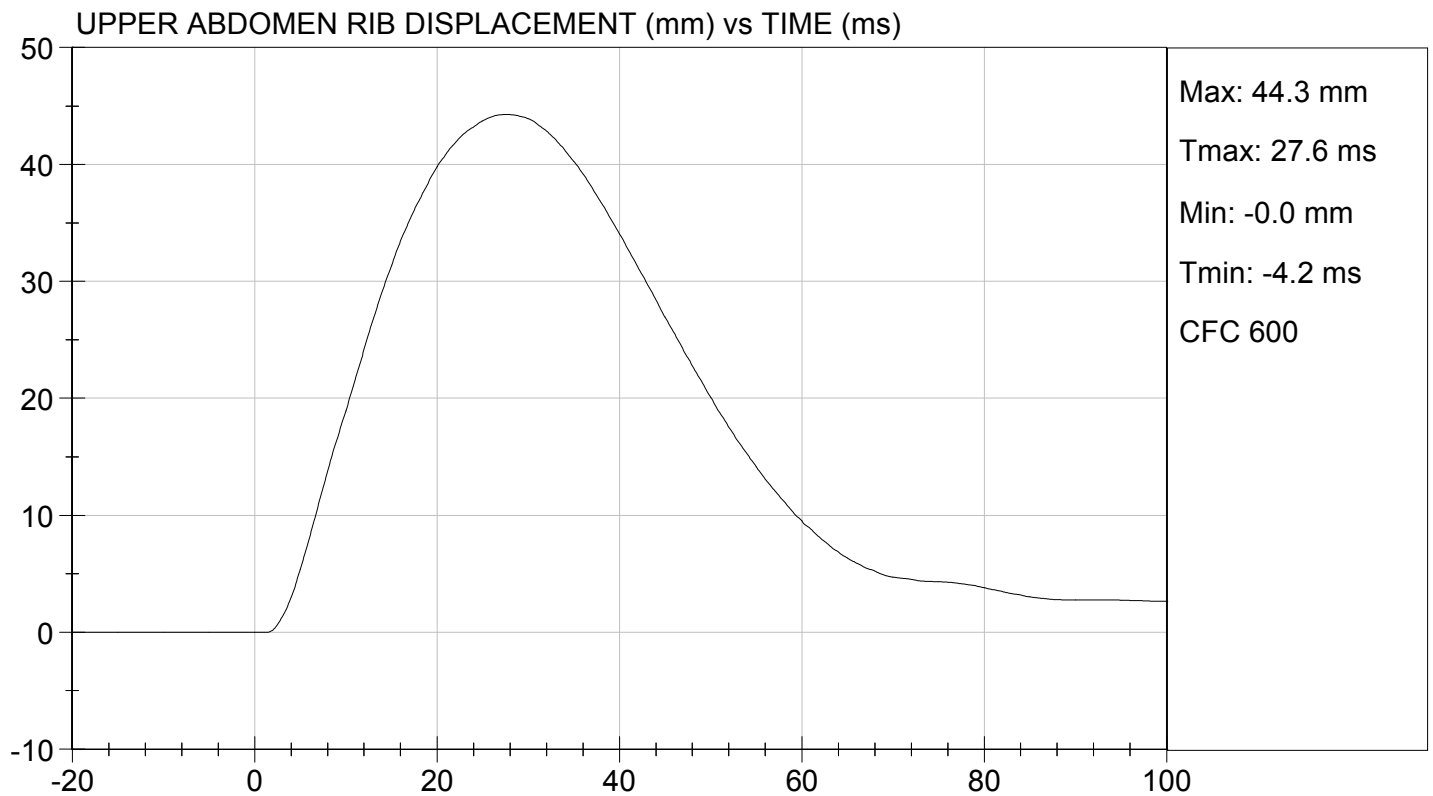
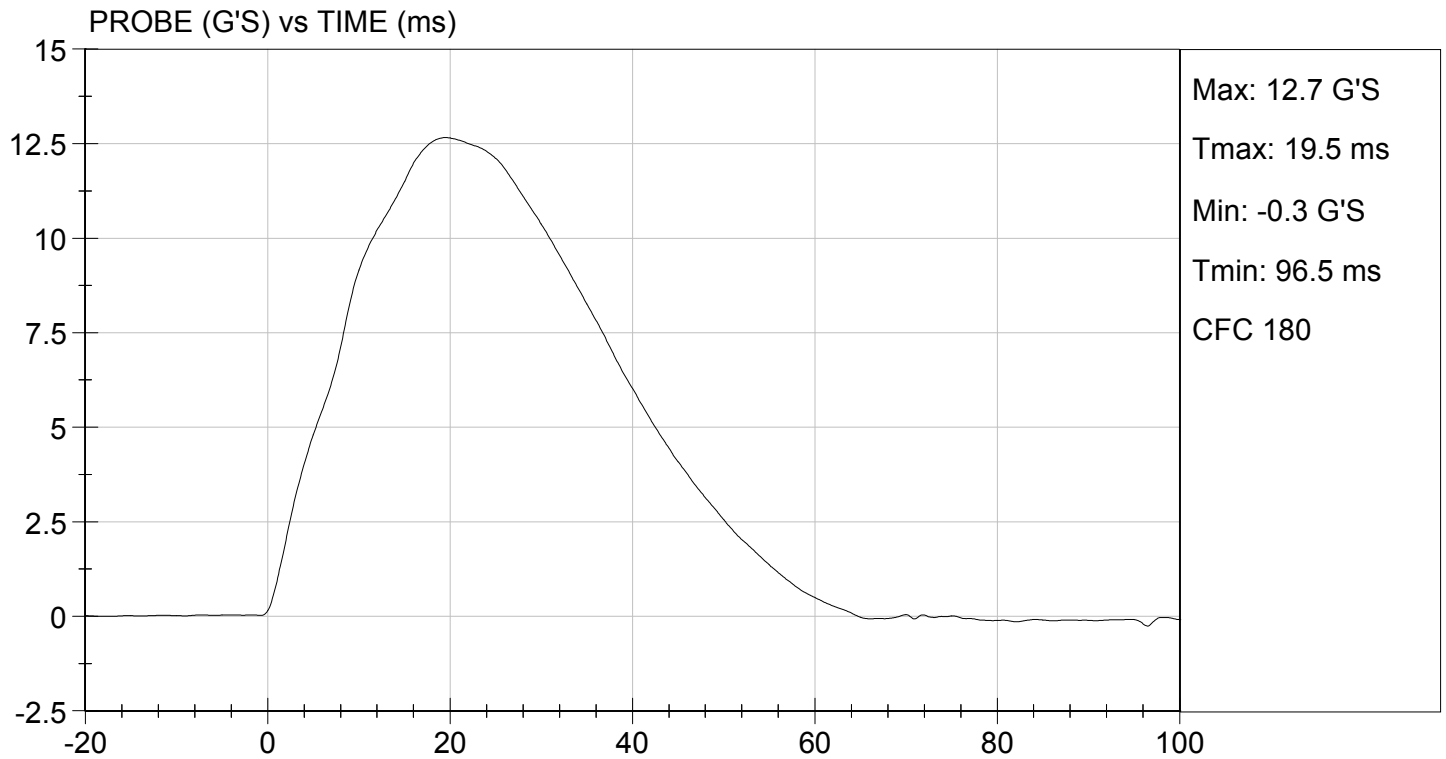
Test Date

David Winkelbauer
Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.12 ft/s, 4.30 m/s

TEST DATE: 11/09/2012
TEST #: D124326

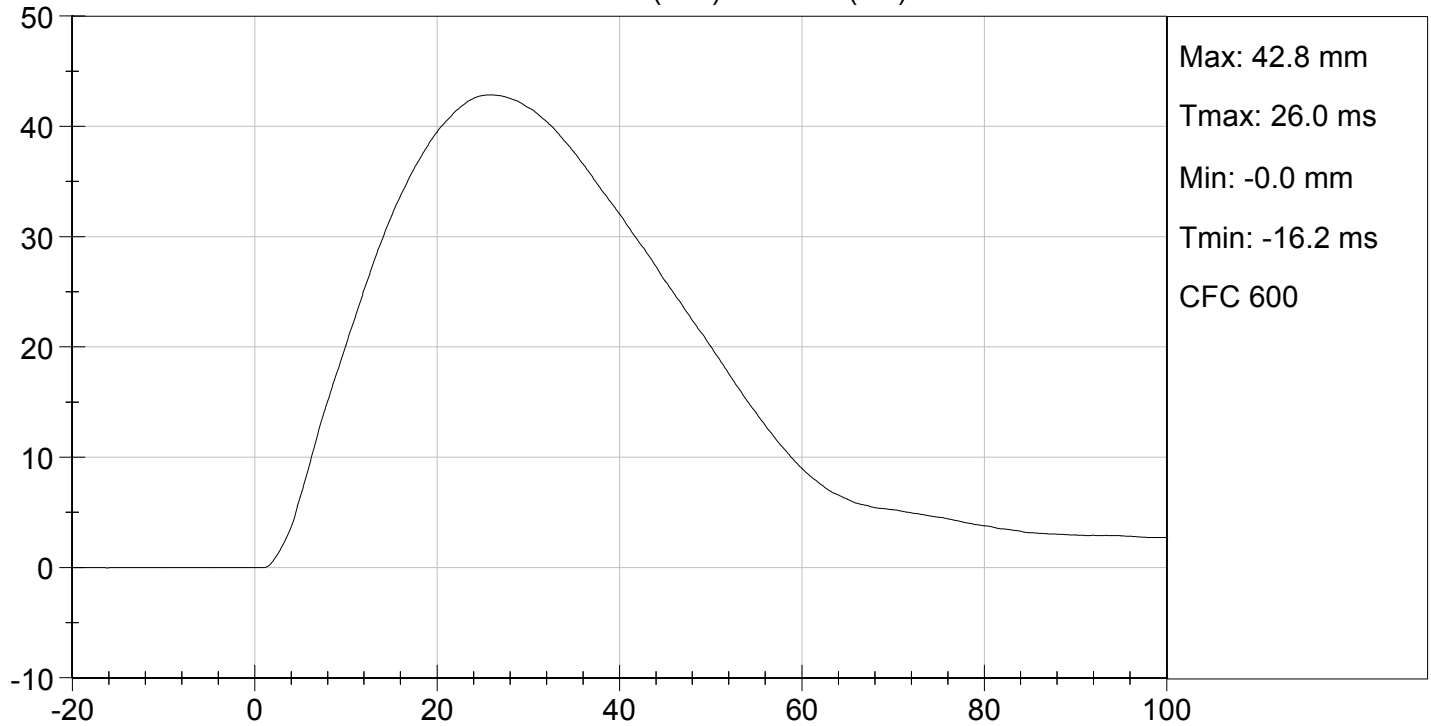




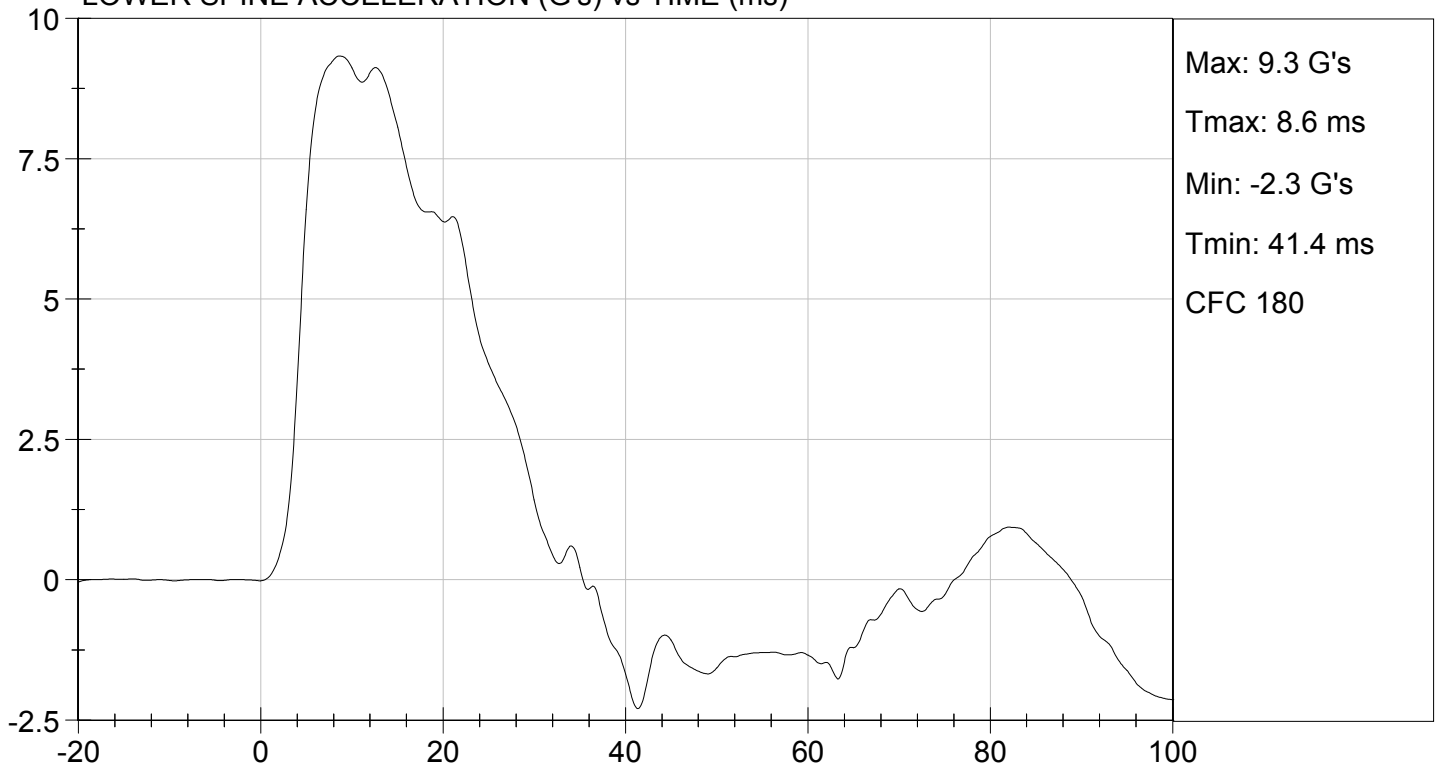
TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.12 ft/s, 4.30 m/s

TEST DATE: 11/09/2012
TEST #: D124326

LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER SPINE ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124327

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	43	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	41	Pass
Peak Acetabulum Force	N	3600 to 4300	3,802	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

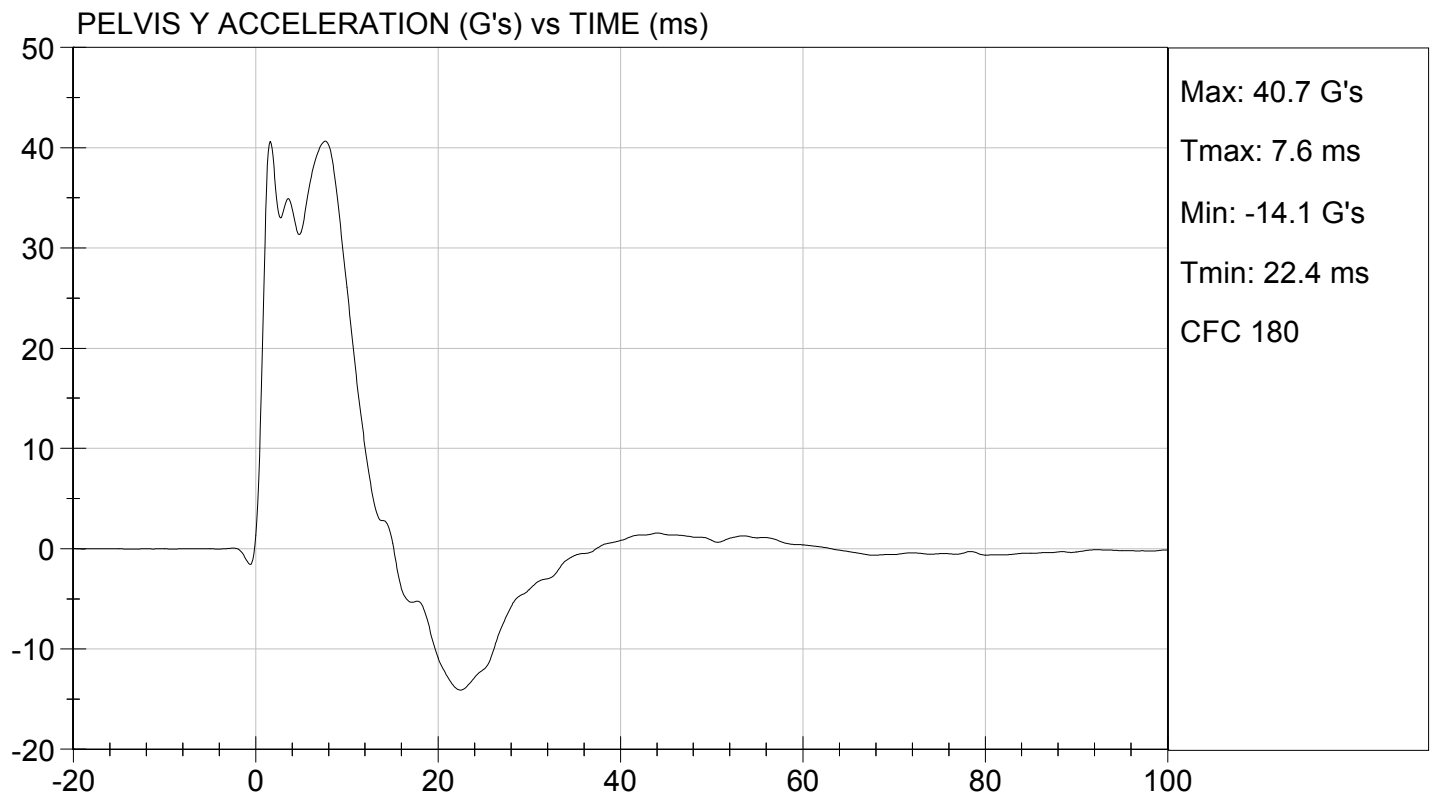
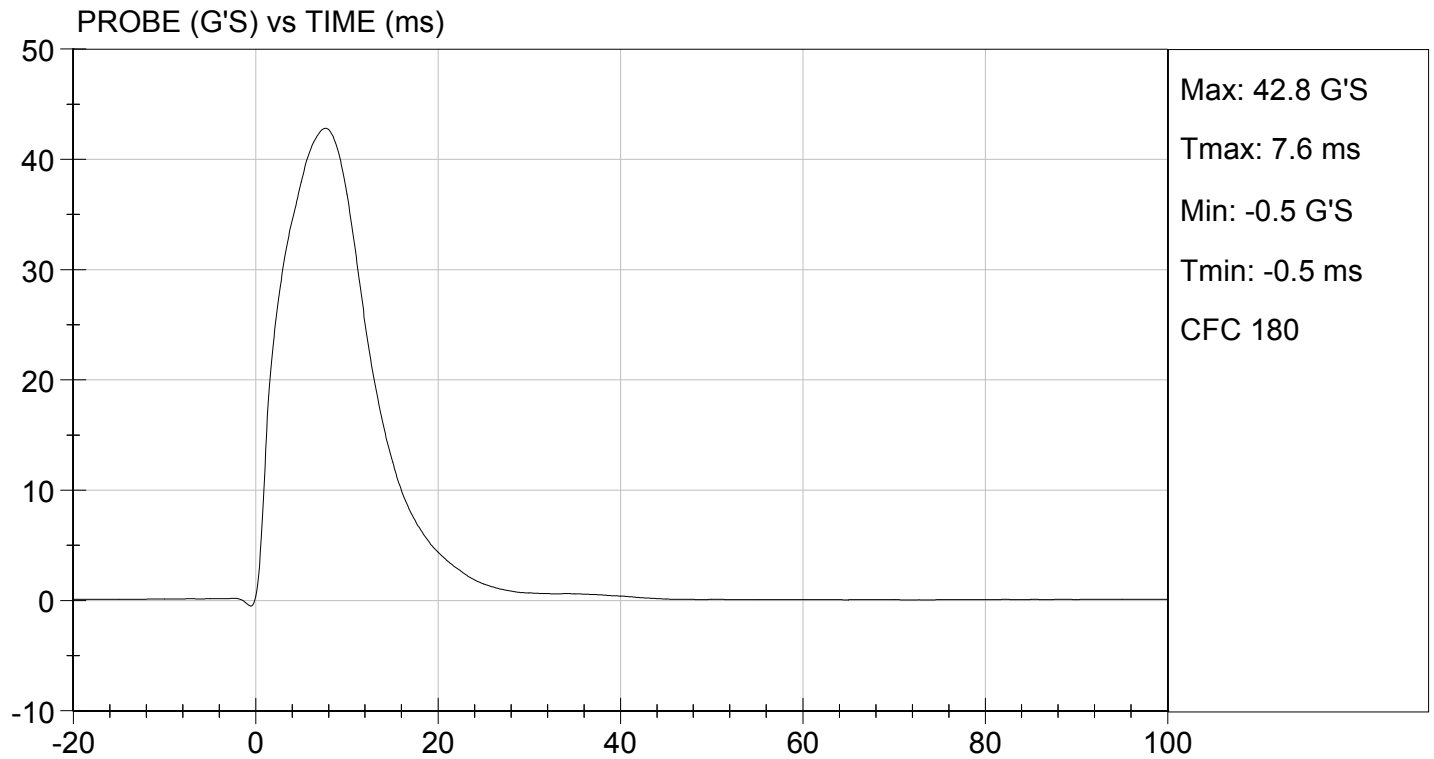
11/12/2012
Test Date

David Winkelbauer
Approved By



TEST DESC: PELVIS IMPACT
VELOCITY: 21.90 ft/s, 6.68 m/s

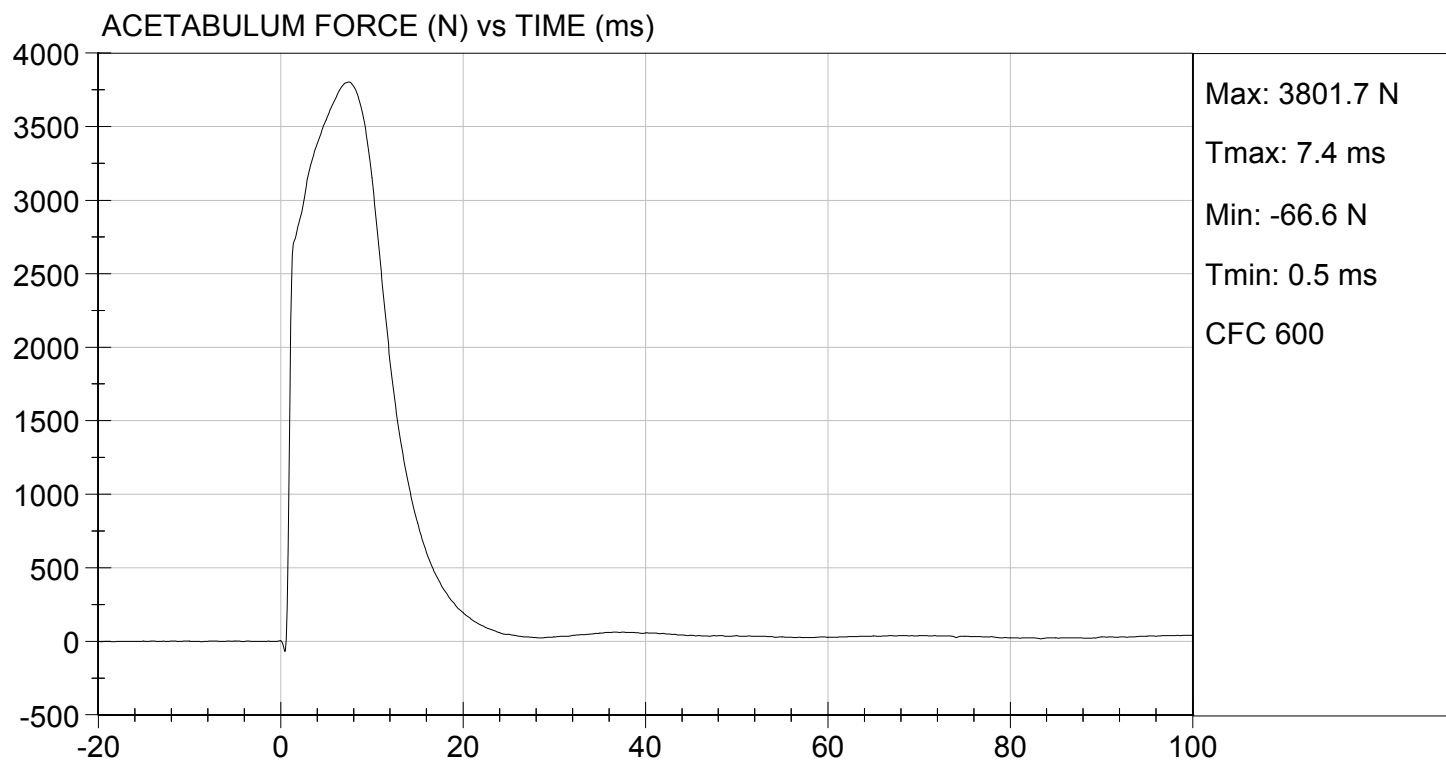
TEST DATE: 11/12/2012
TEST #: D124327





TEST DESC: PELVIS IMPACT
VELOCITY: 21.90 ft/s, 6.68 m/s

TEST DATE: 11/12/2012
TEST #: D124327



MGA RESEARCH CORPORATION

ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124328

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	36 to 45	40	Pass
Pelvis Y Acceleration	G's	28 to 39	34	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,790	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

11/12/2012

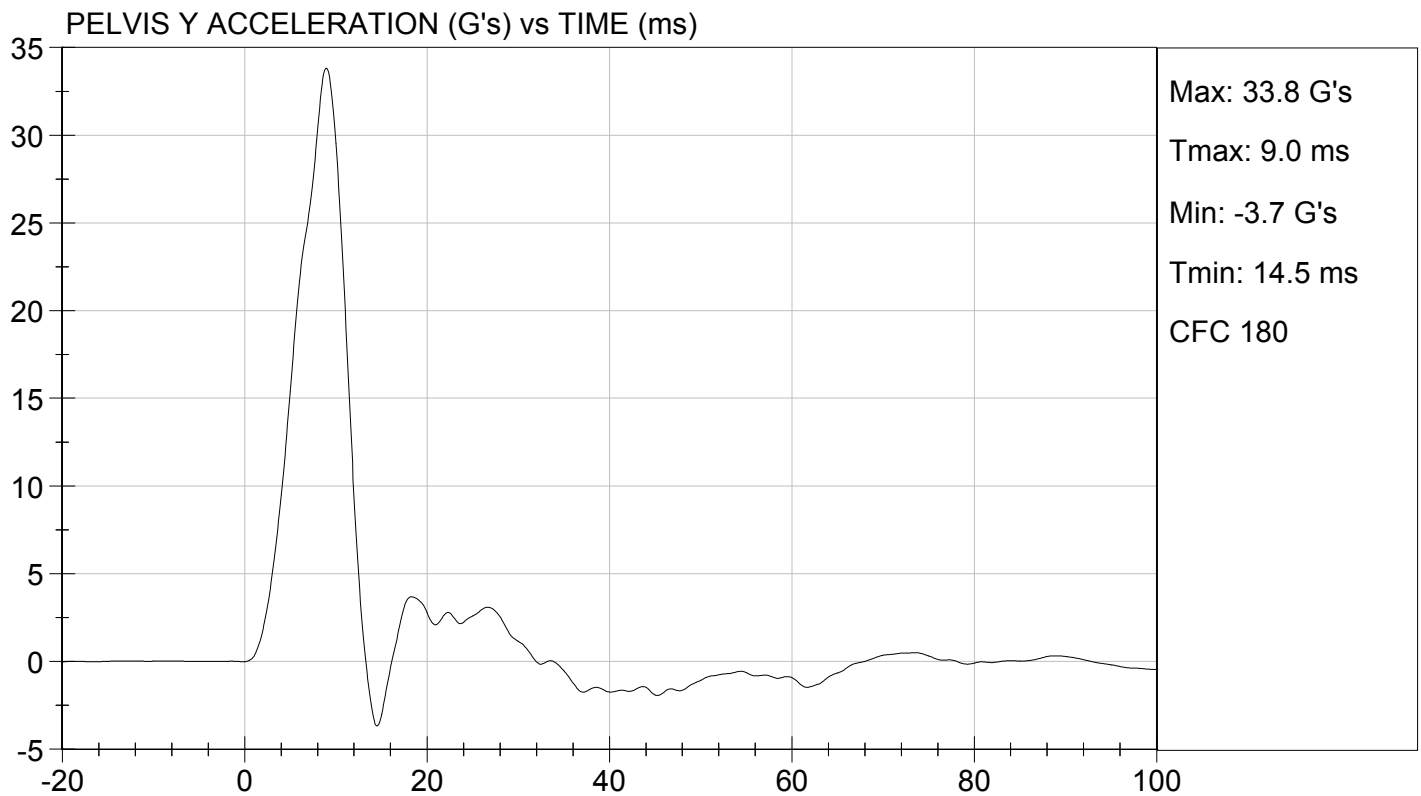
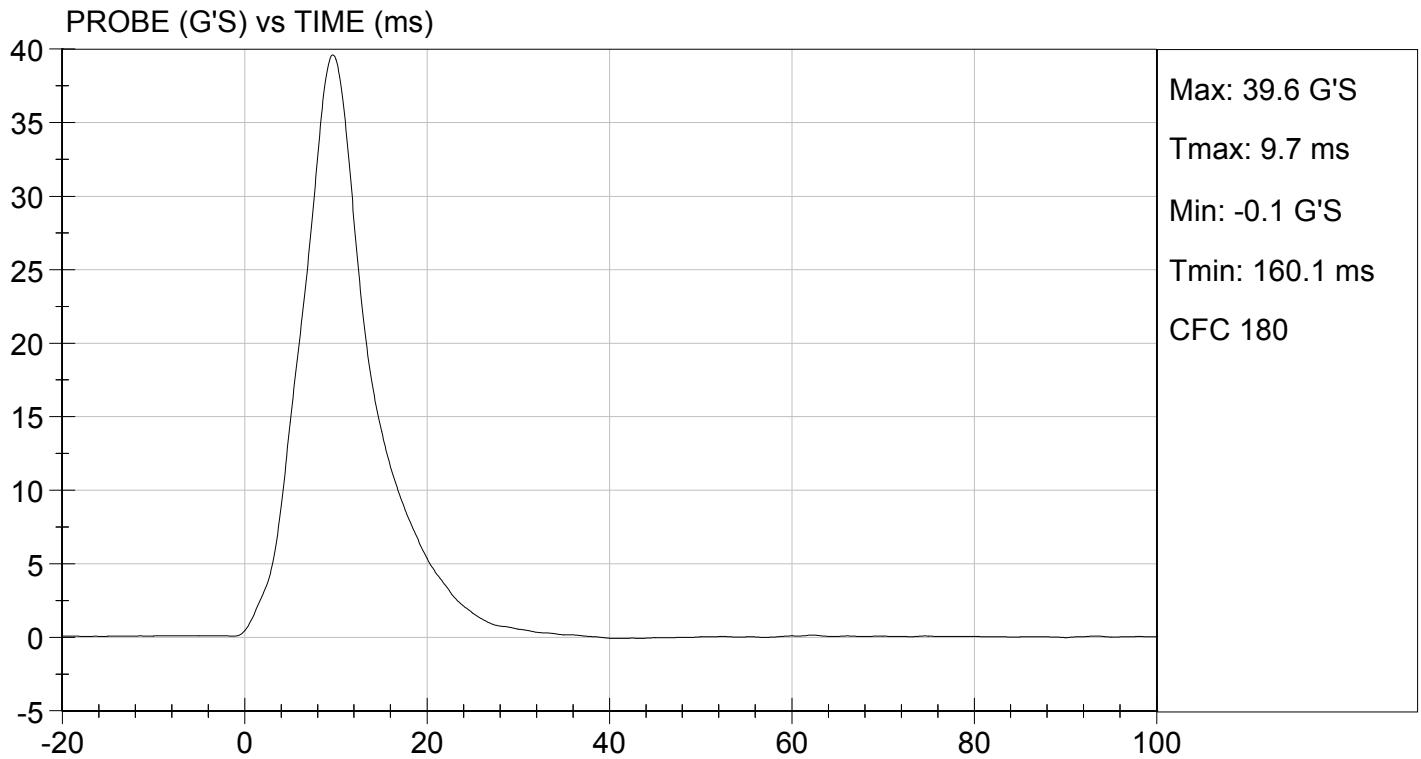
Test Date

David Winkelbauer
Approved By



TEST DESC: ILLIAC
VELOCITY: 14.01 ft/s, 4.27 m/s

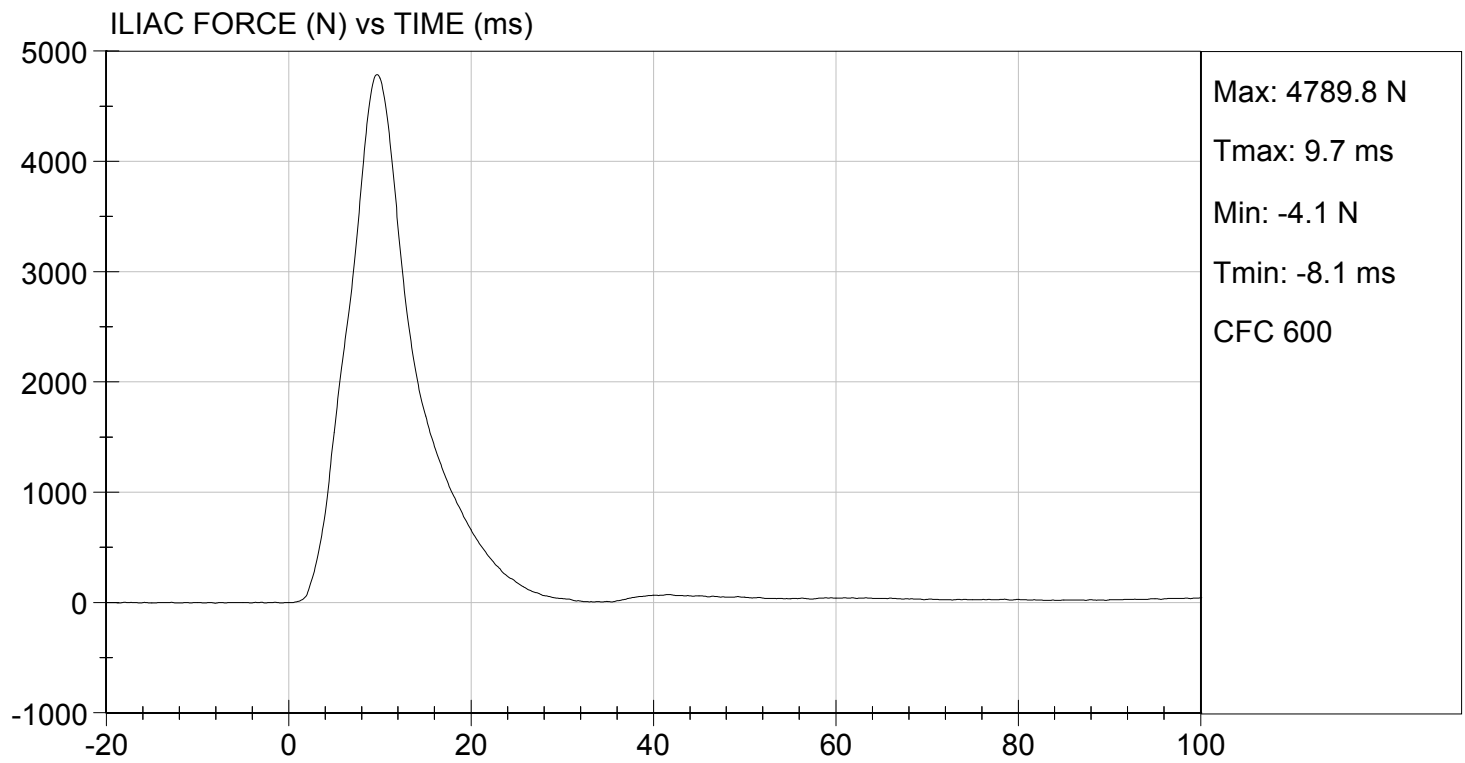
TEST DATE: 11/12/2012
TEST #: D124328





TEST DESC: ILLIAC
VELOCITY: 14.01 ft/s, 4.27 m/s

TEST DATE: 11/12/2012
TEST #: D124328

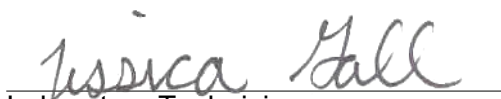


MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

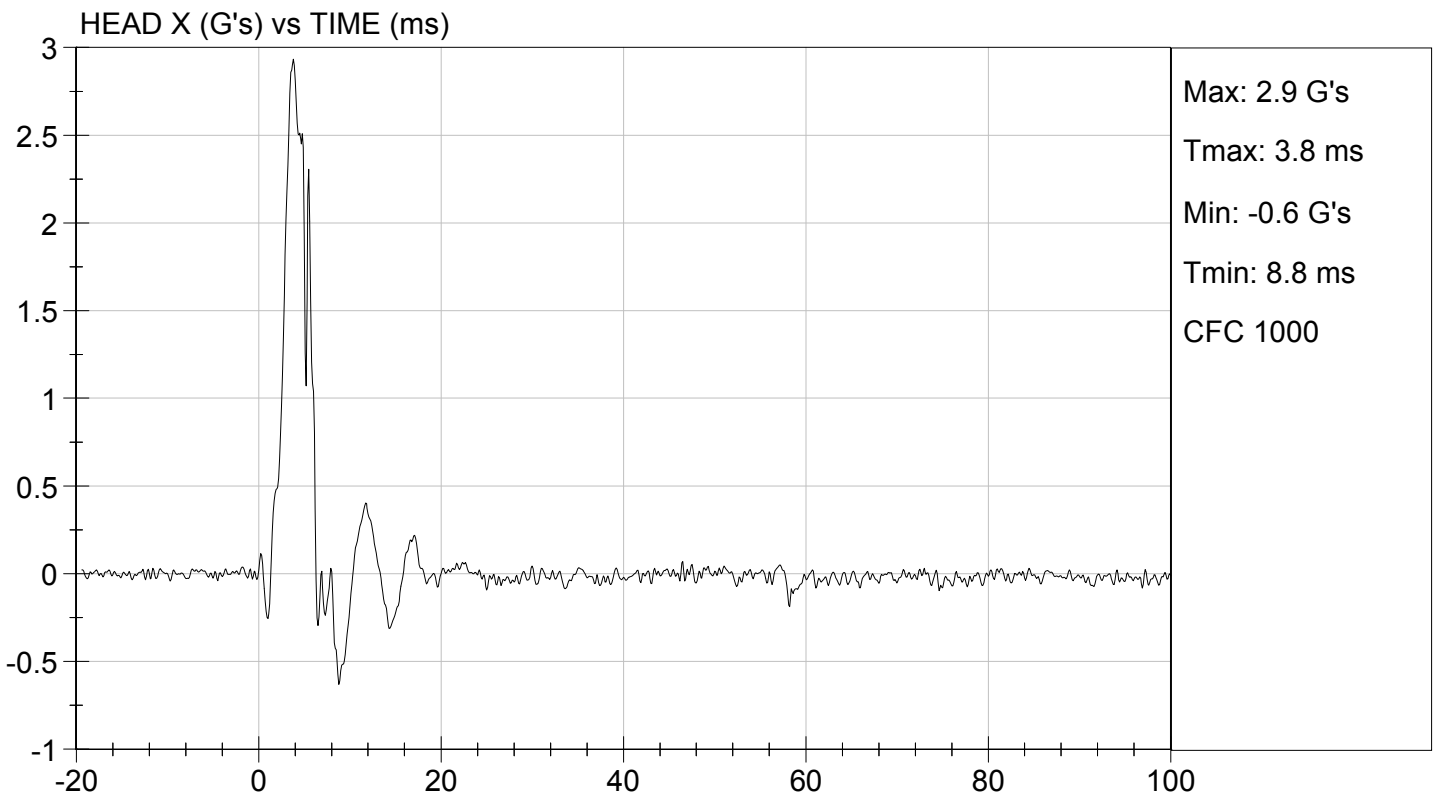
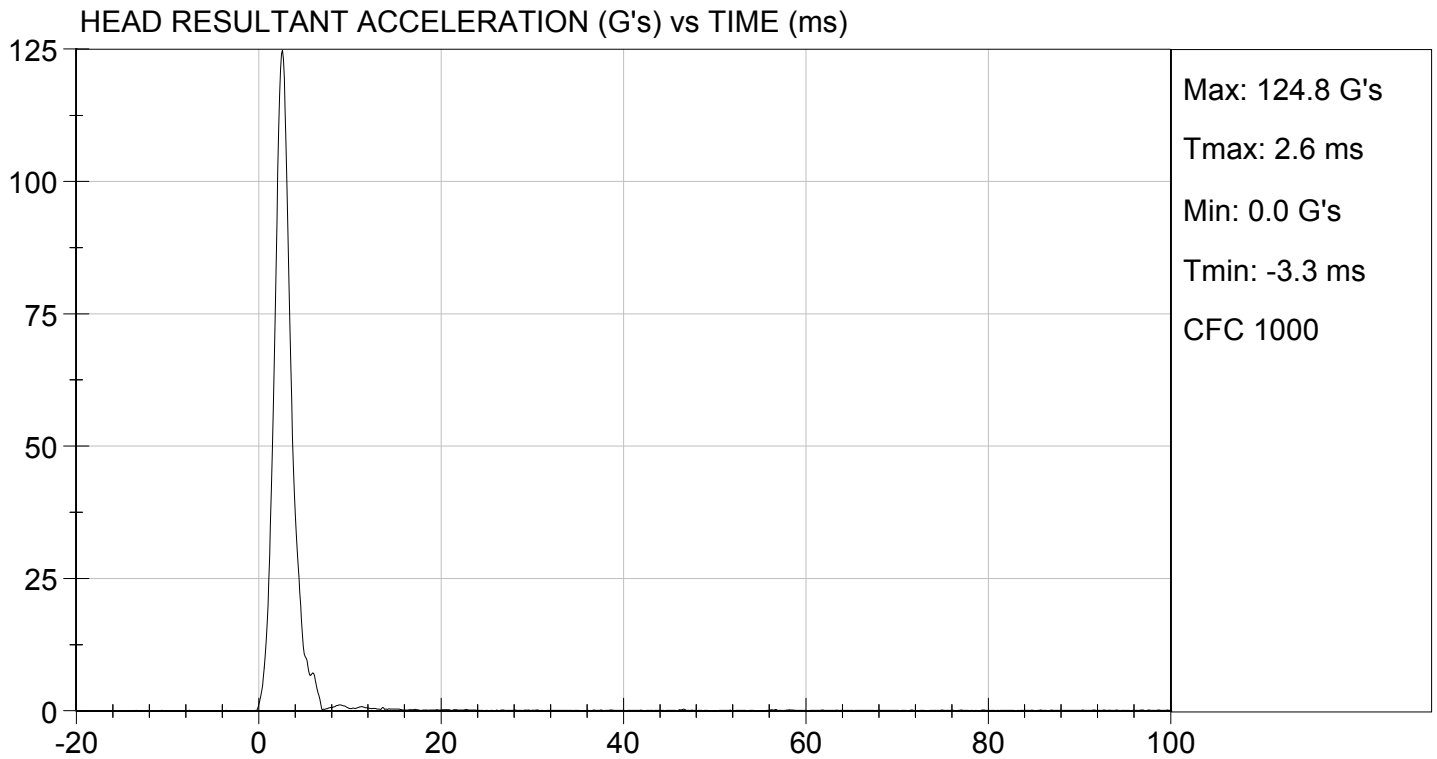
Test ID: D124421

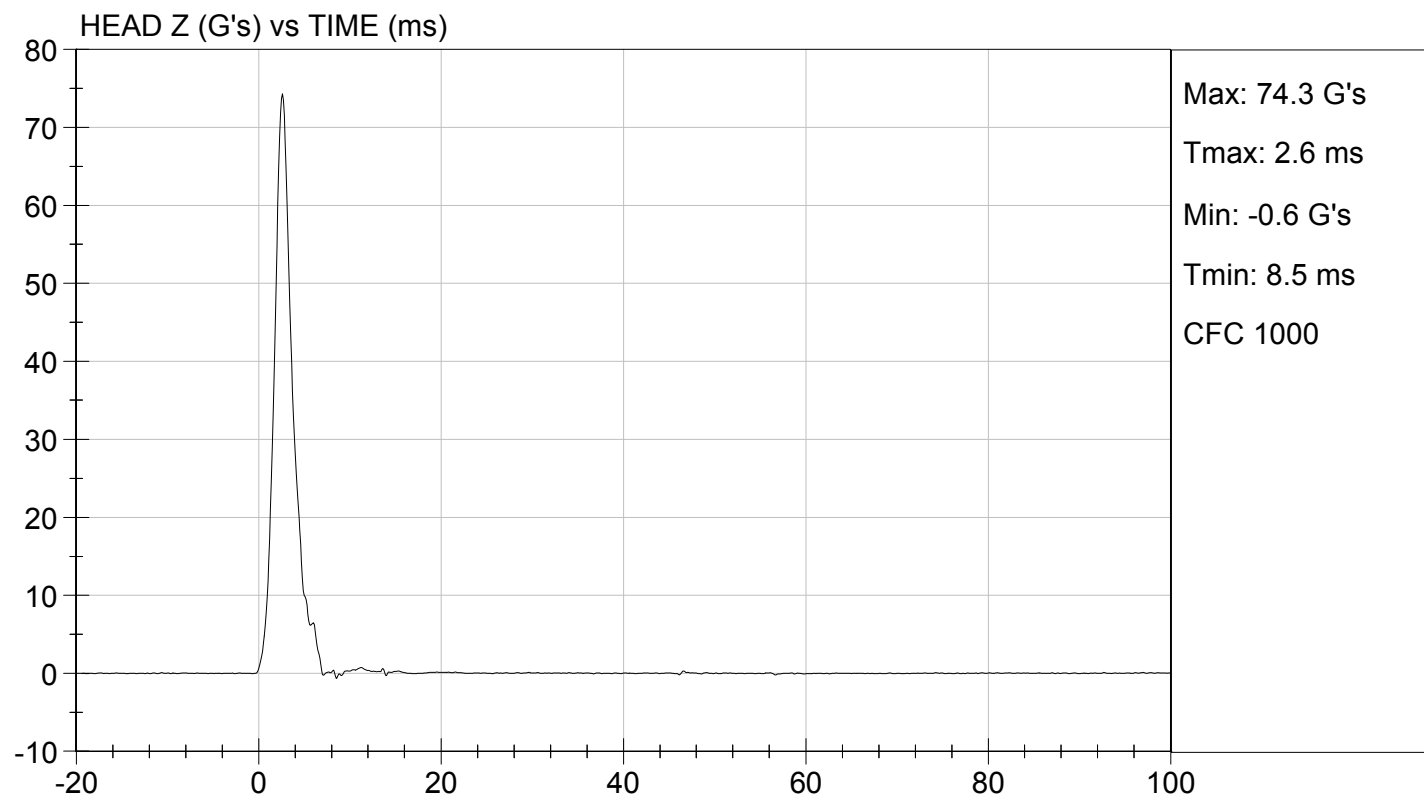
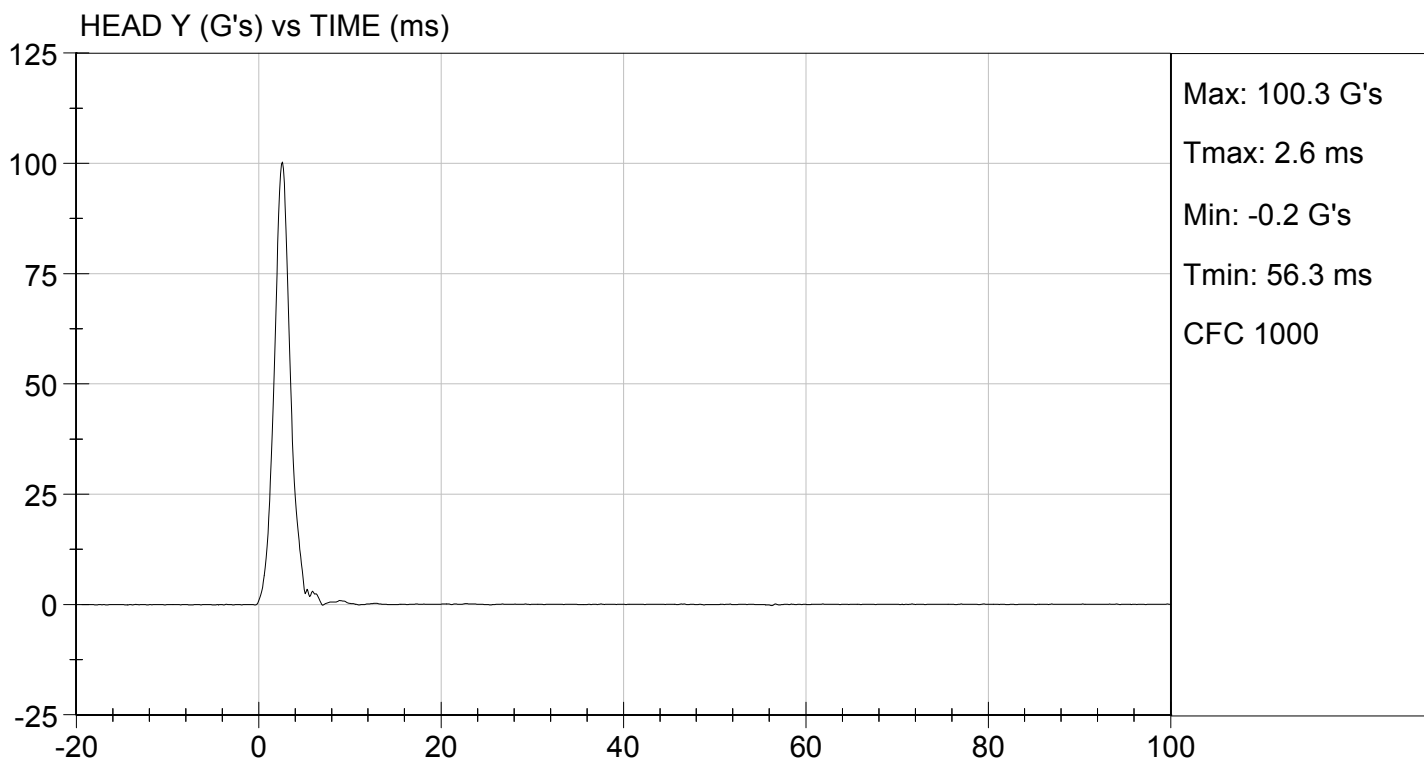
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	29	Pass
Peak Resultant Acceleration	G's	115 to 137	125	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.9	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
			Overall Test Results	Pass


Laboratory Technician

11/16/2012
Test Date


Approved By





MGA RESEARCH CORPORATION
LATERAL NECK PENDULUM TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124422

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	22.0	Pass
Humidity		%	10 to 70	30	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.64	Pass
	15 ms	m/s	3.30 to 4.10	3.84	Pass
	20 ms	m/s	4.40 to 5.40	5.06	Pass
	25 ms	m/s	5.40 to 6.10	5.48	Pass
	25-100 ms	m/s	5.50 to 6.20	5.58	Pass
Maximum D-Plane Rotation		deg	71 to 81	73	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	62	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-40	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	118	Pass
Overall Test Results				Pass	

Jessica Hall
Laboratory Technician

11/16/2012

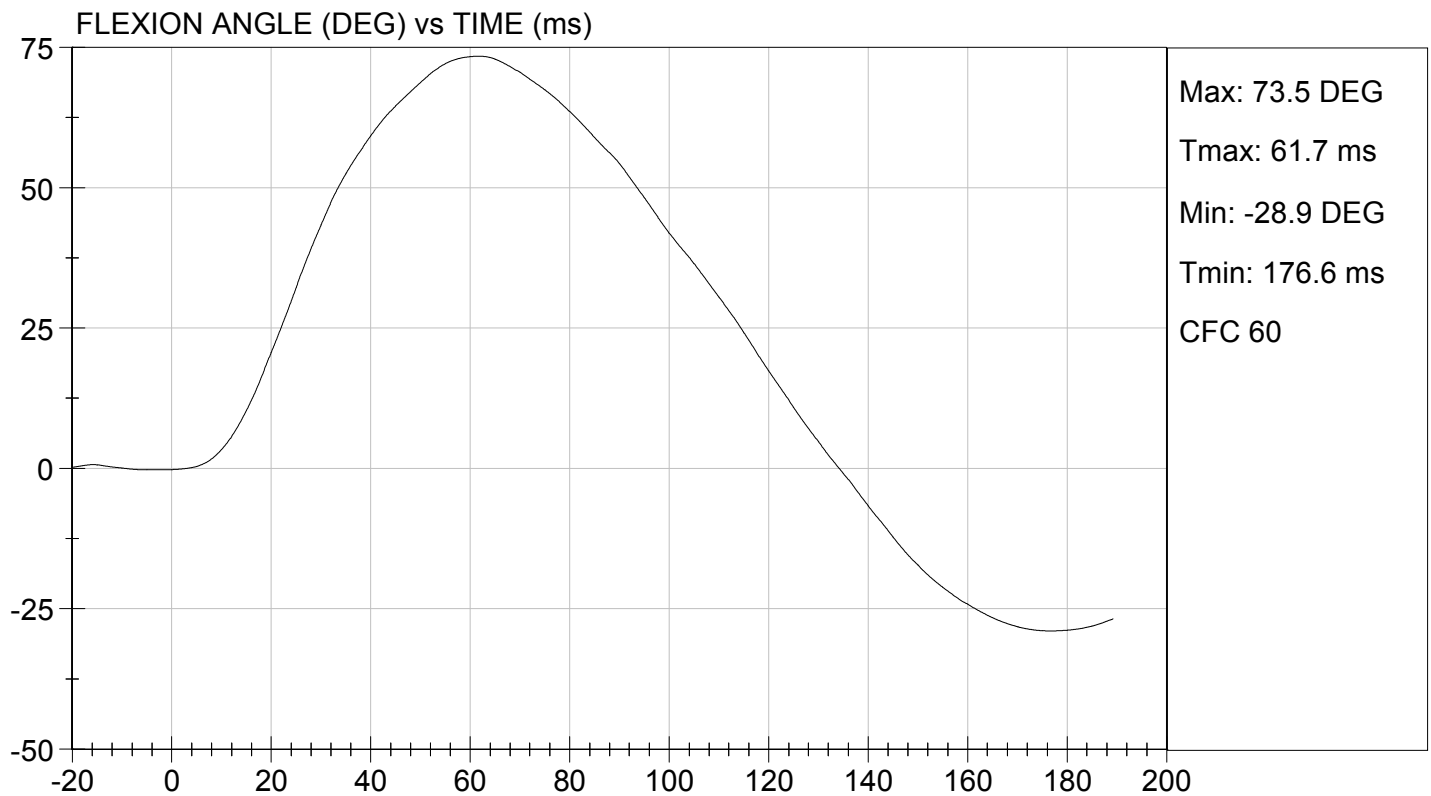
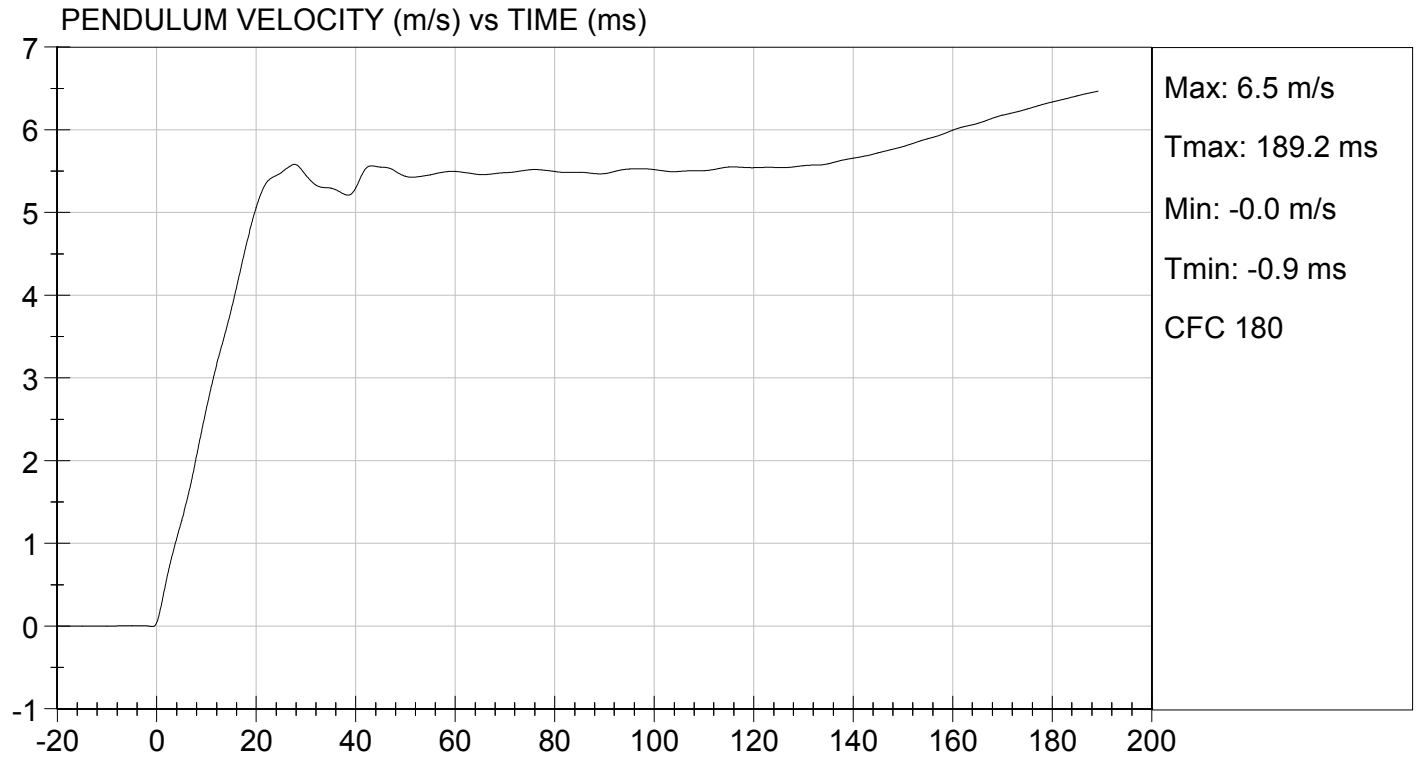
Test Date

David Winkelbauer
Approved By



TEST DESC: NECK BENDING
VELOCITY: 18.31 ft/s, 5.58 m/s

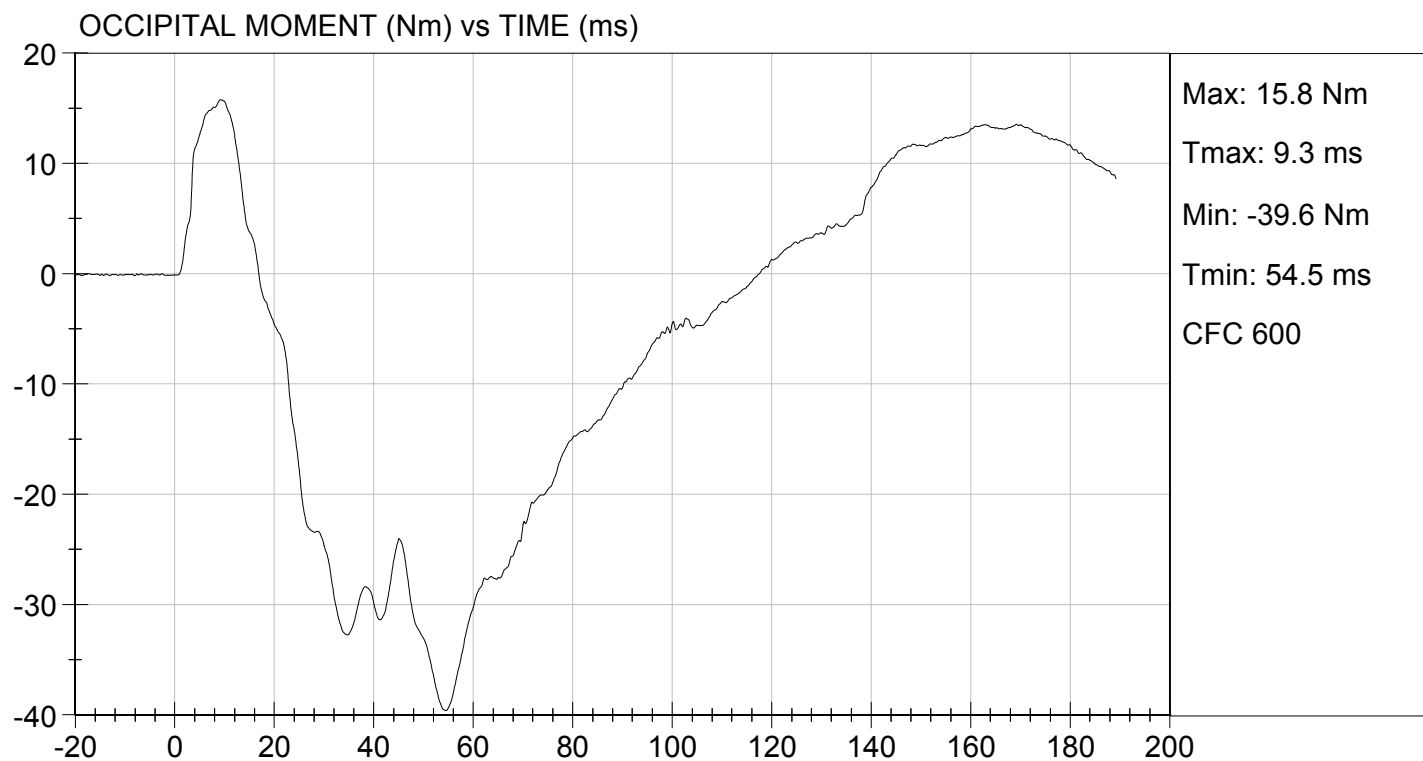
TEST DATE: 11/16/2012
TEST #: D124422





TEST DESC: NECK BENDING
VELOCITY: 18.31 ft/s, 5.58 m/s

TEST DATE: 11/16/2012
TEST #: D124422



MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test ID: D124423

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	13 to 18	15	Pass
Shoulder Displacement	mm	28 to 37	32	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

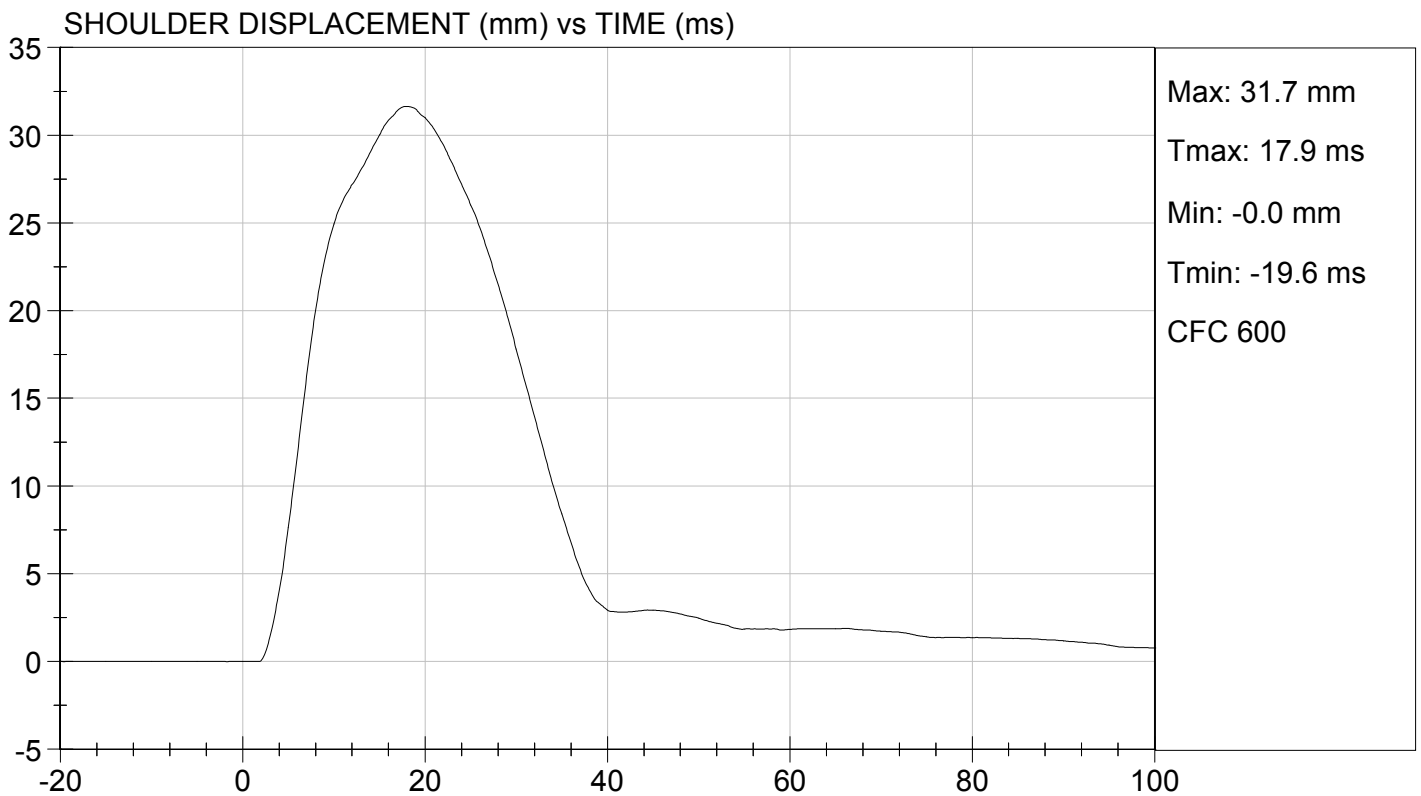
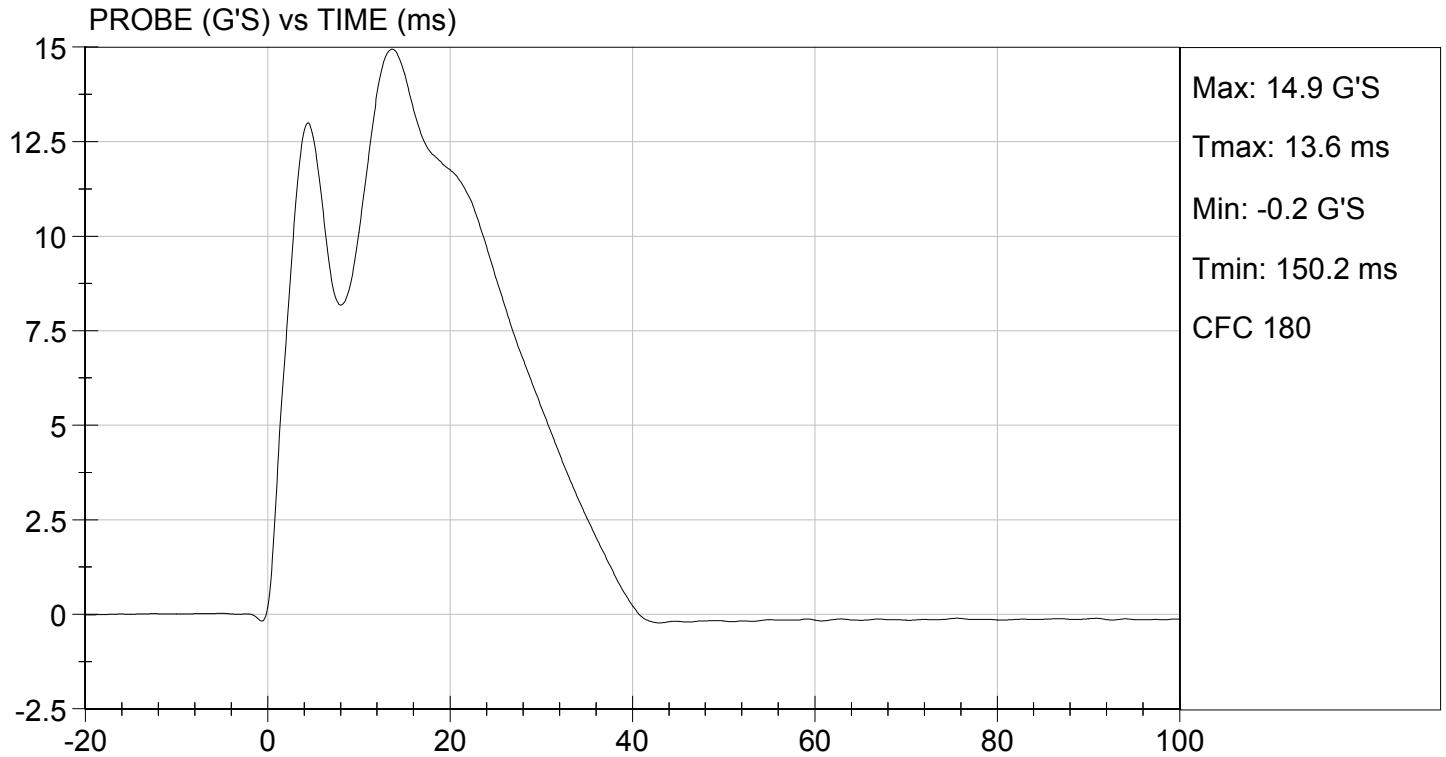
11/15/2012
Test Date

David Winkelbauer
Approved By



TEST DESC: SHOULDER IMPACT
VELOCITY: 14.37 ft/s, 4.38 m/s

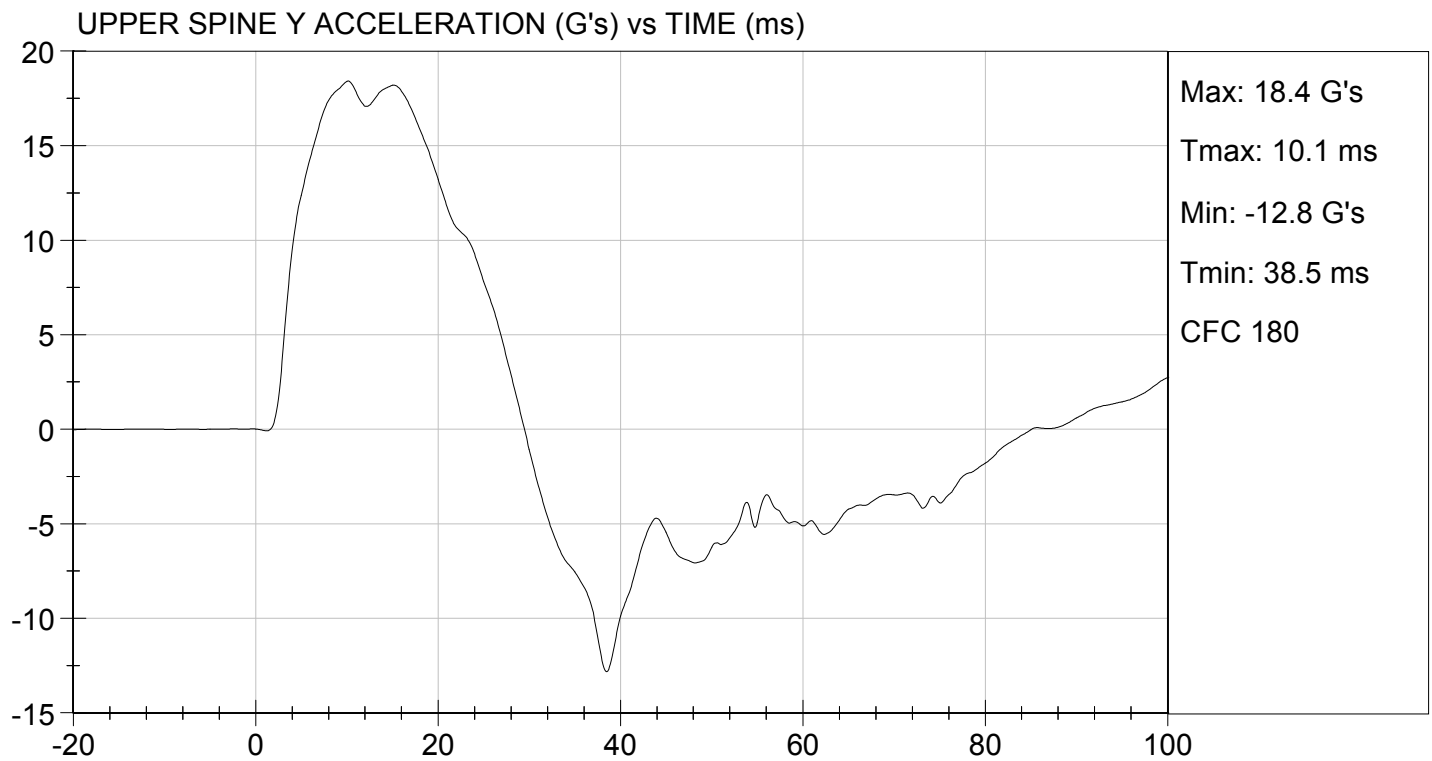
TEST DATE: 11/15/2012
TEST #: D124423





TEST DESC: SHOULDER IMPACT
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 11/15/2012
TEST #: D124423

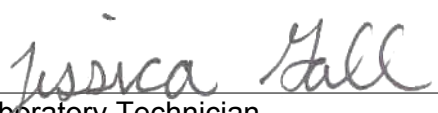


MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

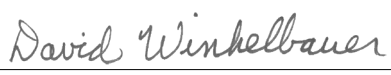
ATD Serial No: 296

Test I.D: D124424

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	22.0	Pass
Humidity	%	10 to 70	26	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	30	Pass
Shoulder Displacement	mm	31 to 40	36	Pass
Upper Rib Displacement	mm	25 to 32	29	Pass
Middle Rib Displacement	mm	30 to 36	33	Pass
Lower Rib Displacement	mm	32 to 38	35	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	36	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	31	Pass
Overall Test Results				Pass


Laboratory Technician

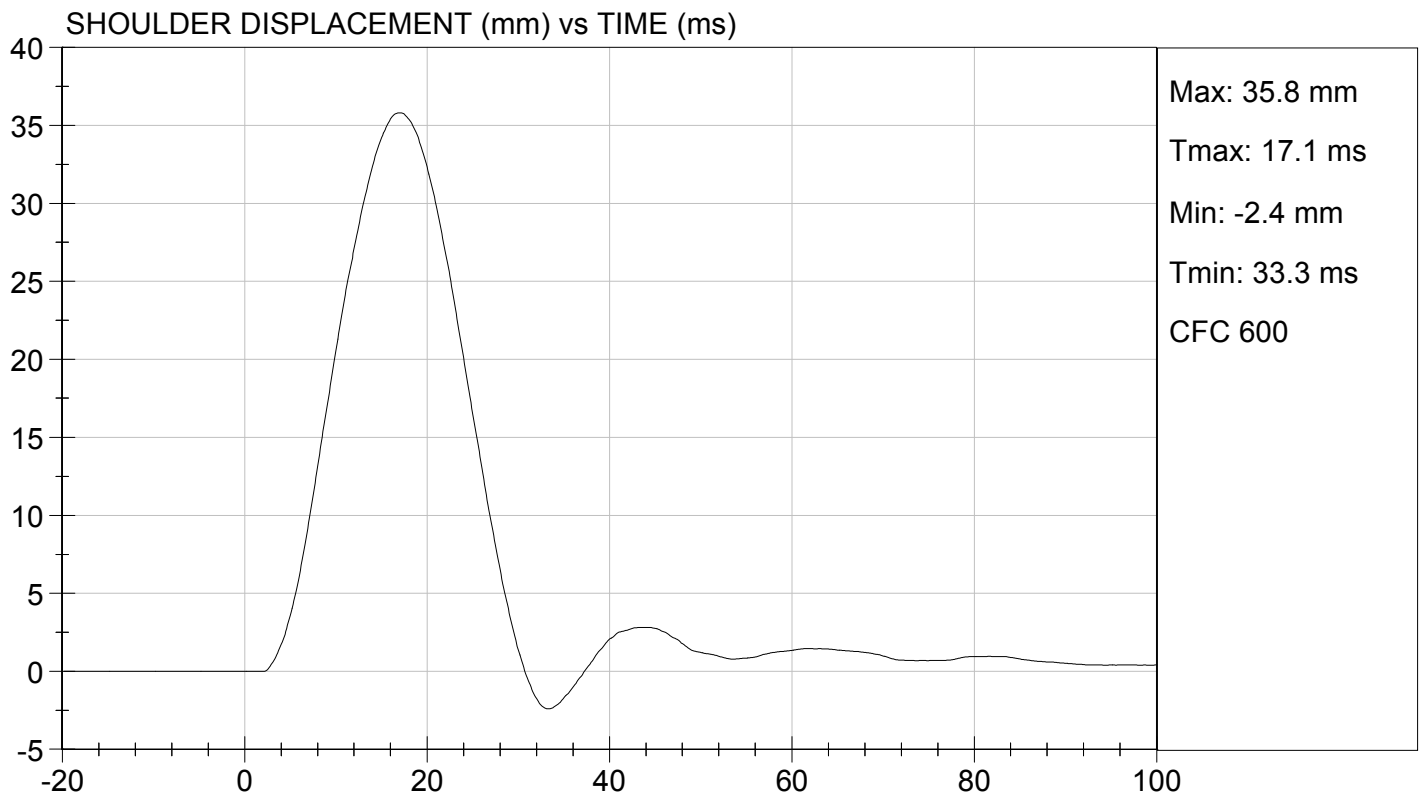
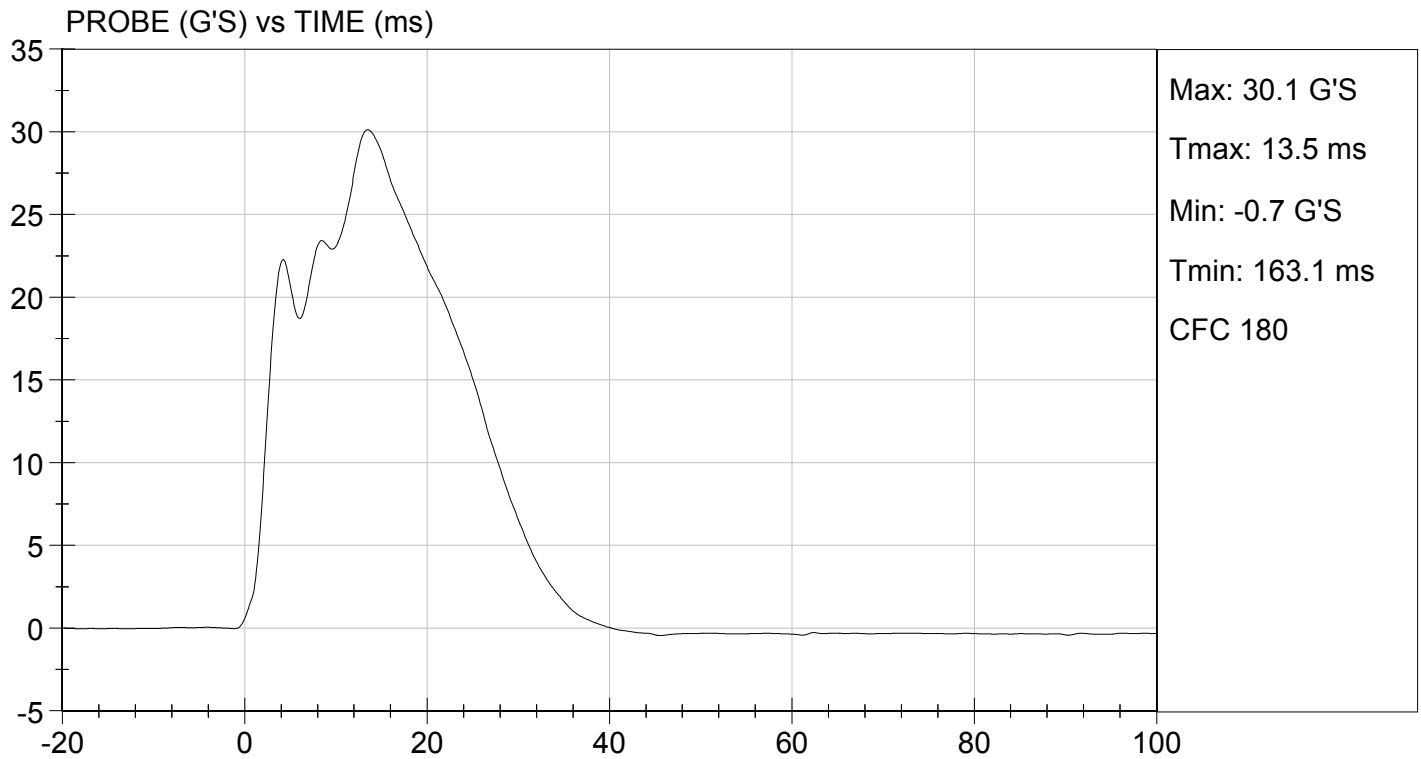
11/15/2012
Test Date


Approved By



TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

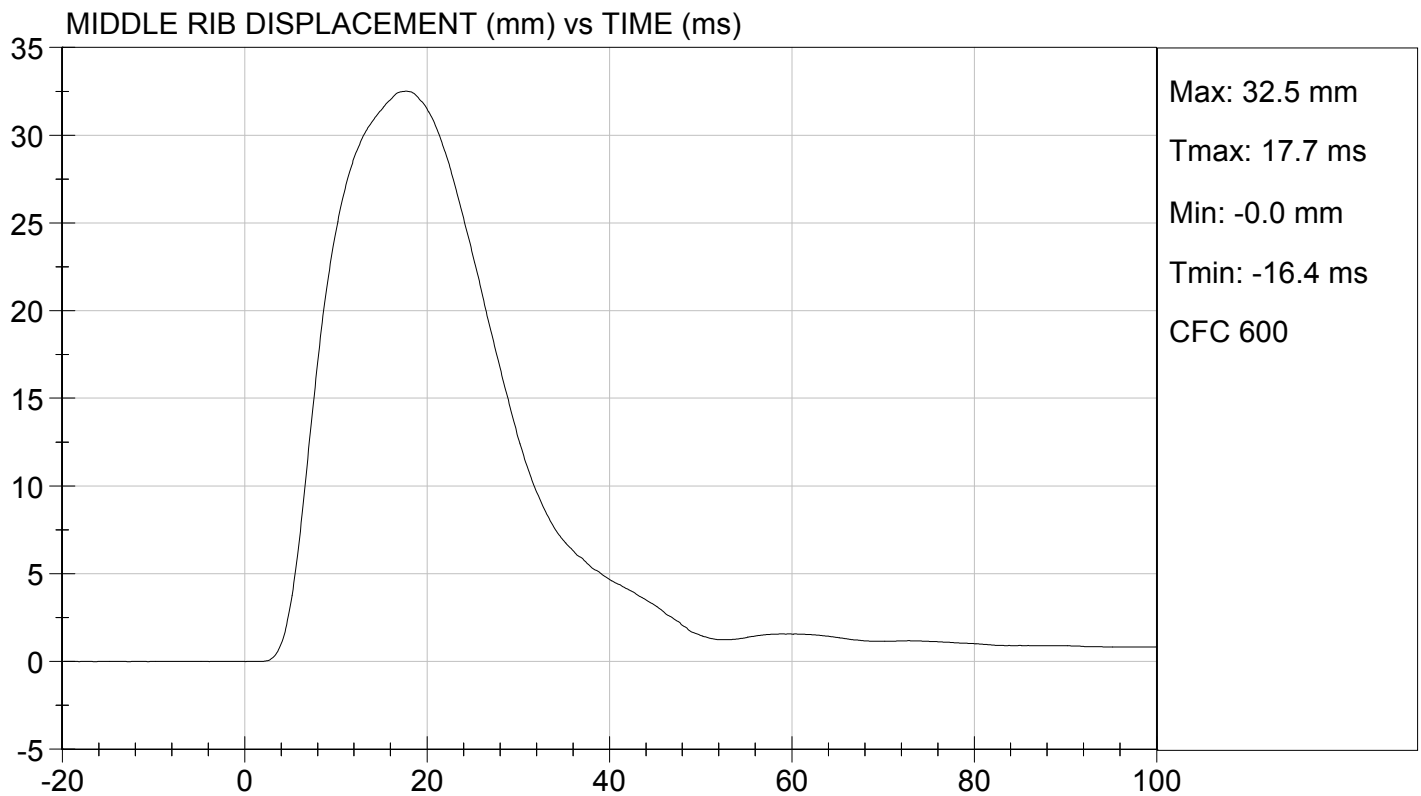
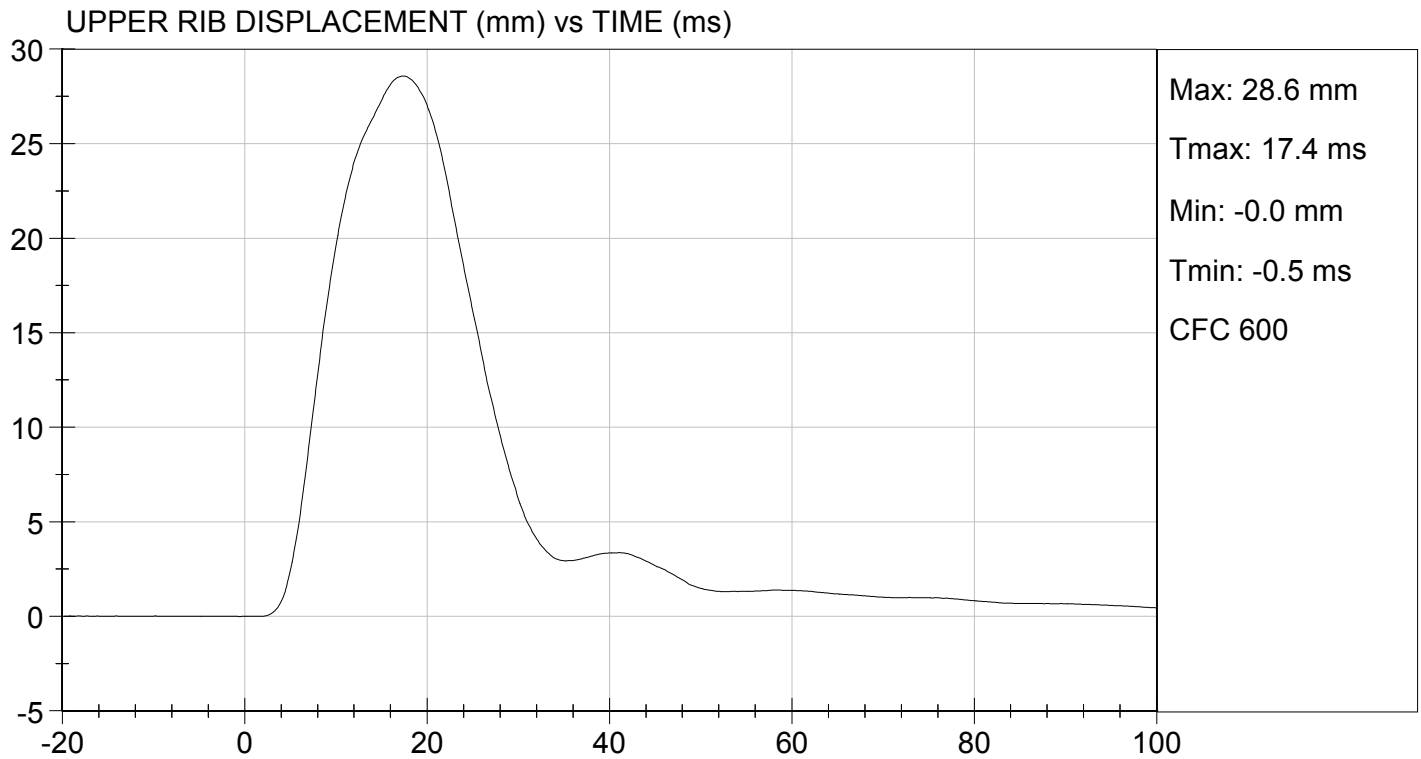
TEST DATE: 11/15/2012
TEST #: D124424





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 11/15/2012
TEST #: D124424

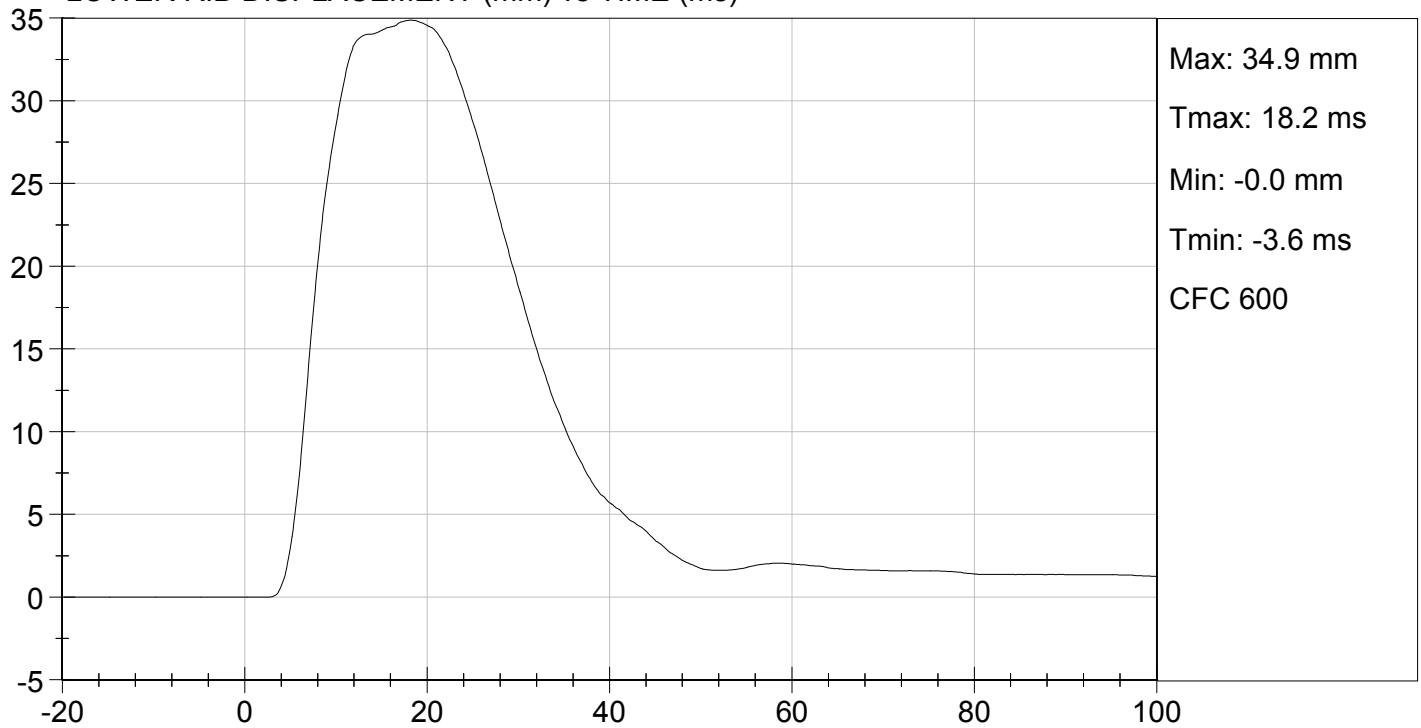




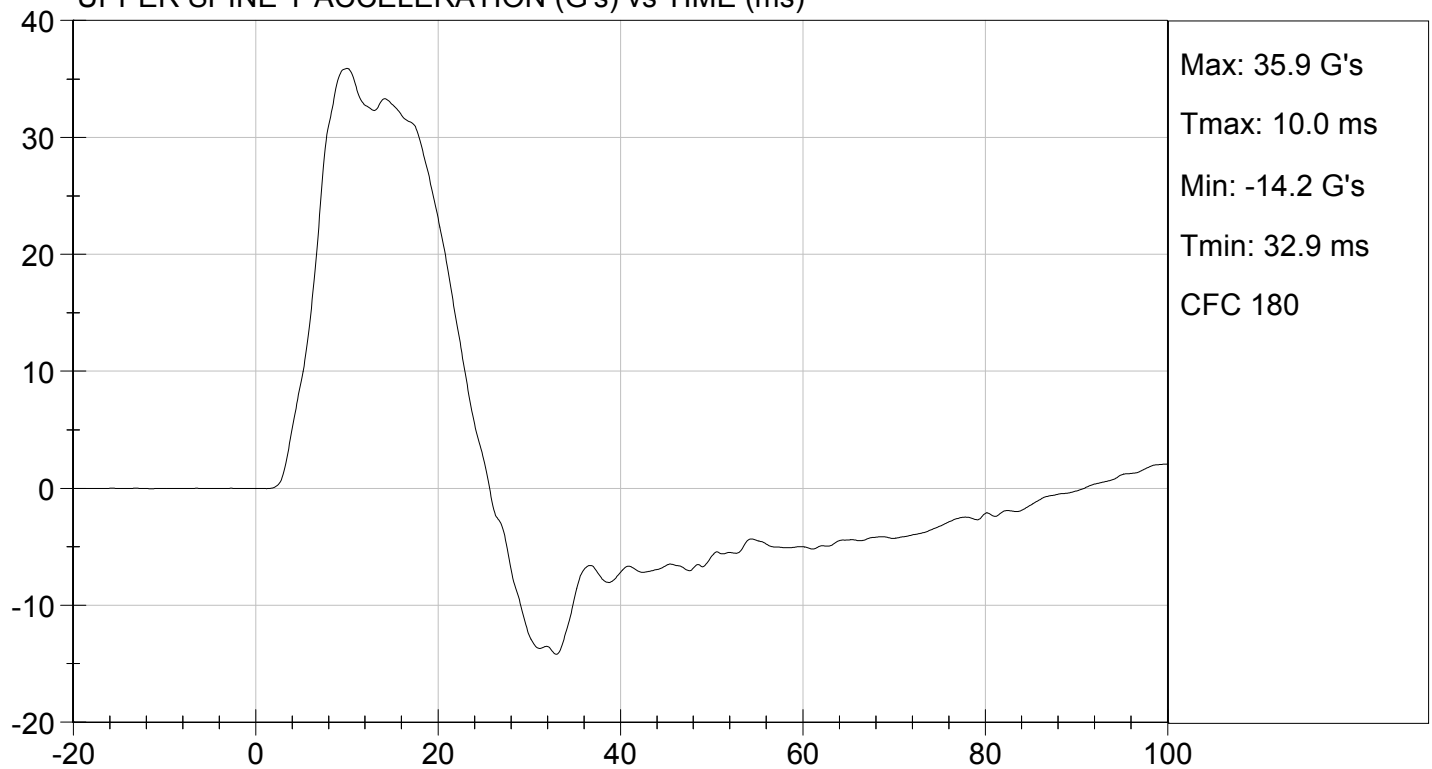
TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 11/15/2012
TEST #: D124424

LOWER RIB DISPLACEMENT (mm) vs TIME (ms)



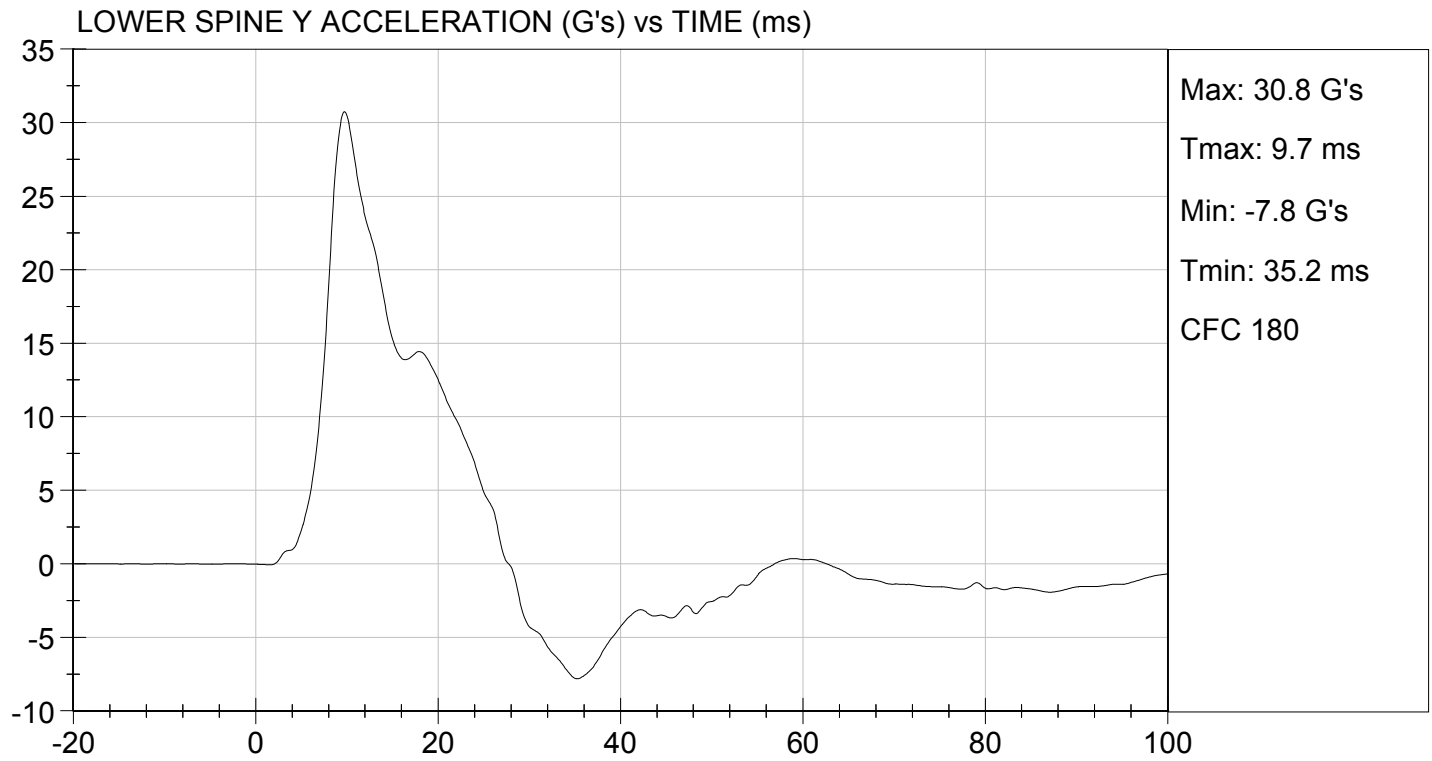
UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 11/15/2012
TEST #: D124424

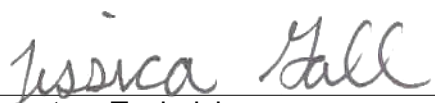


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124425

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	26	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	14 to 18	15	Pass
Upper Rib Displacement	mm	32 to 40	37	Pass
Middle Rib Displacement	mm	39 to 45	43	Pass
Lower Rib Displacement	mm	35 to 43	42	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	9	Pass
Overall Test Results				Pass


 Laboratory Technician

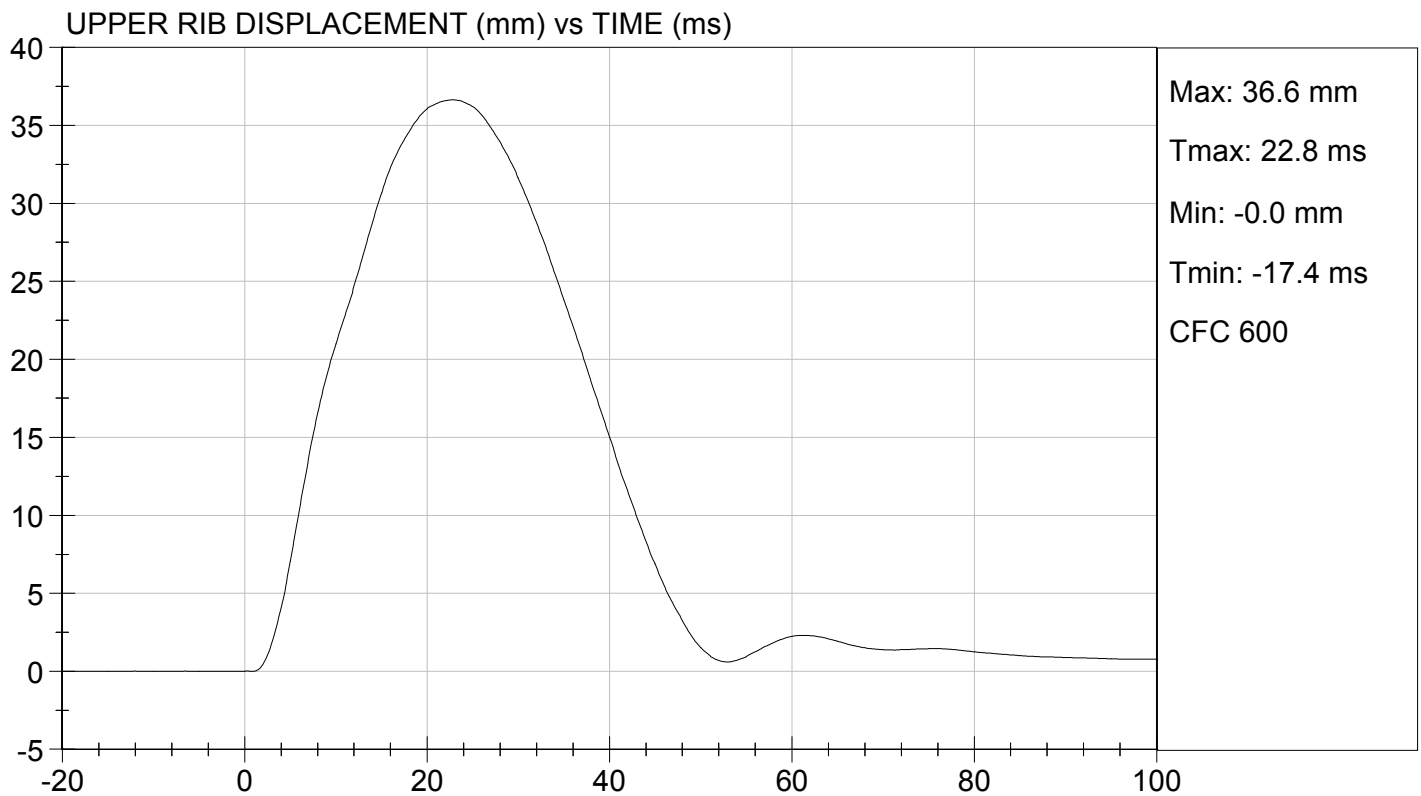
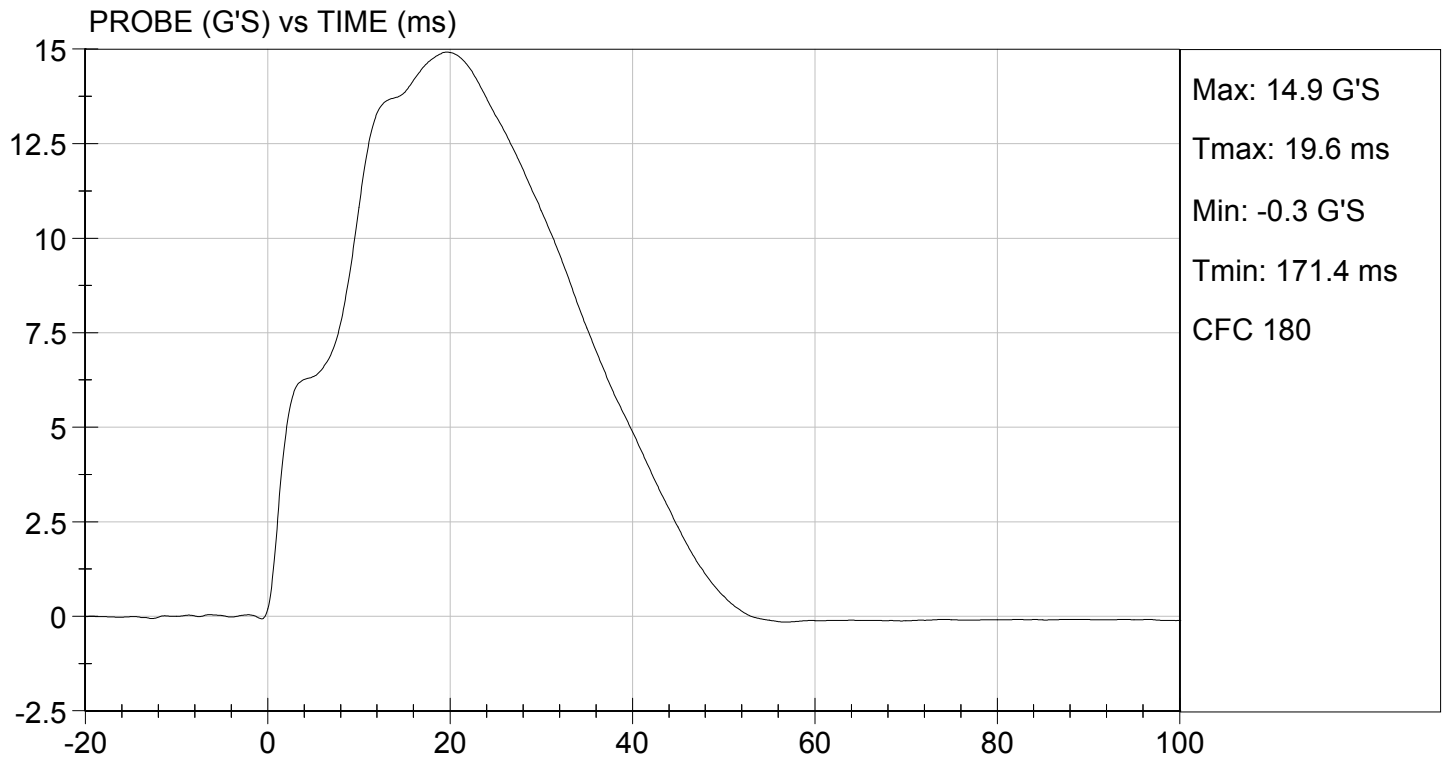
11/15/2012
 Test Date


 Approved By



TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 11/15/2012
TEST #: D124425

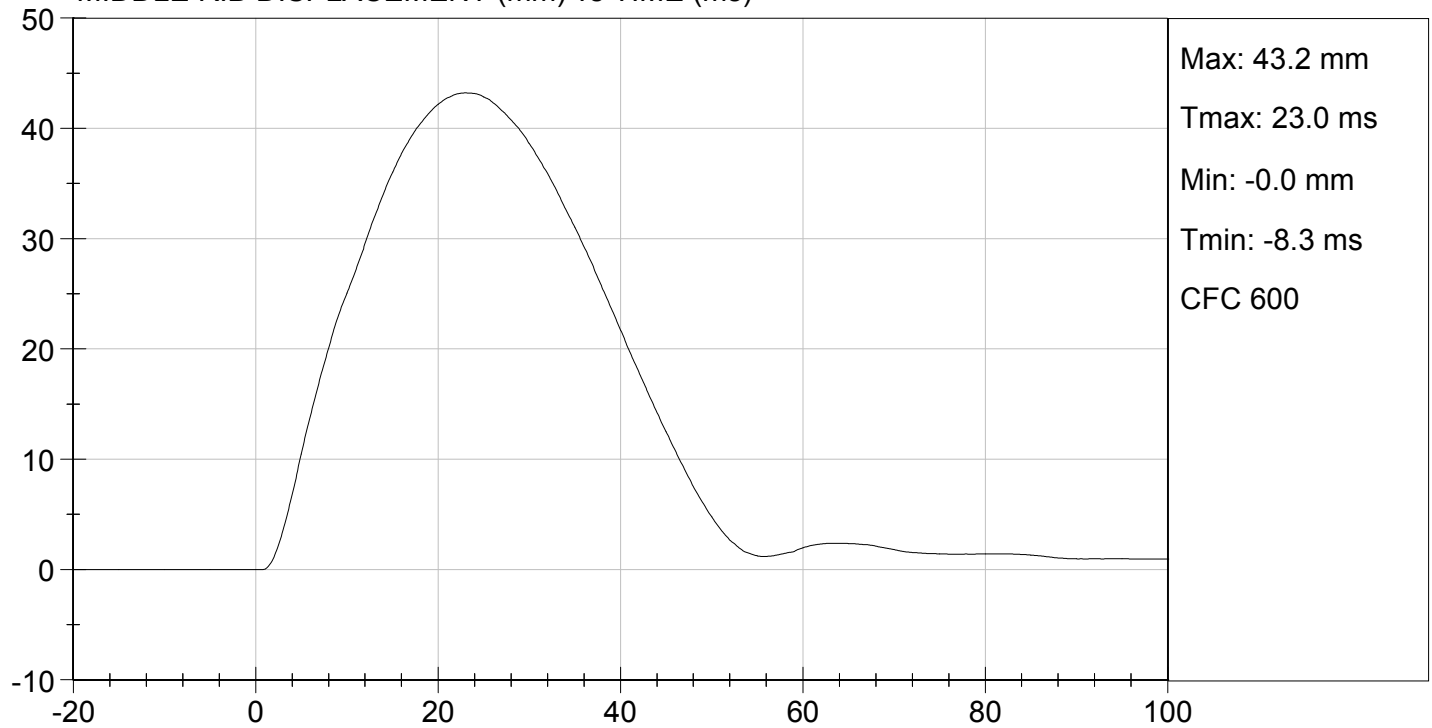




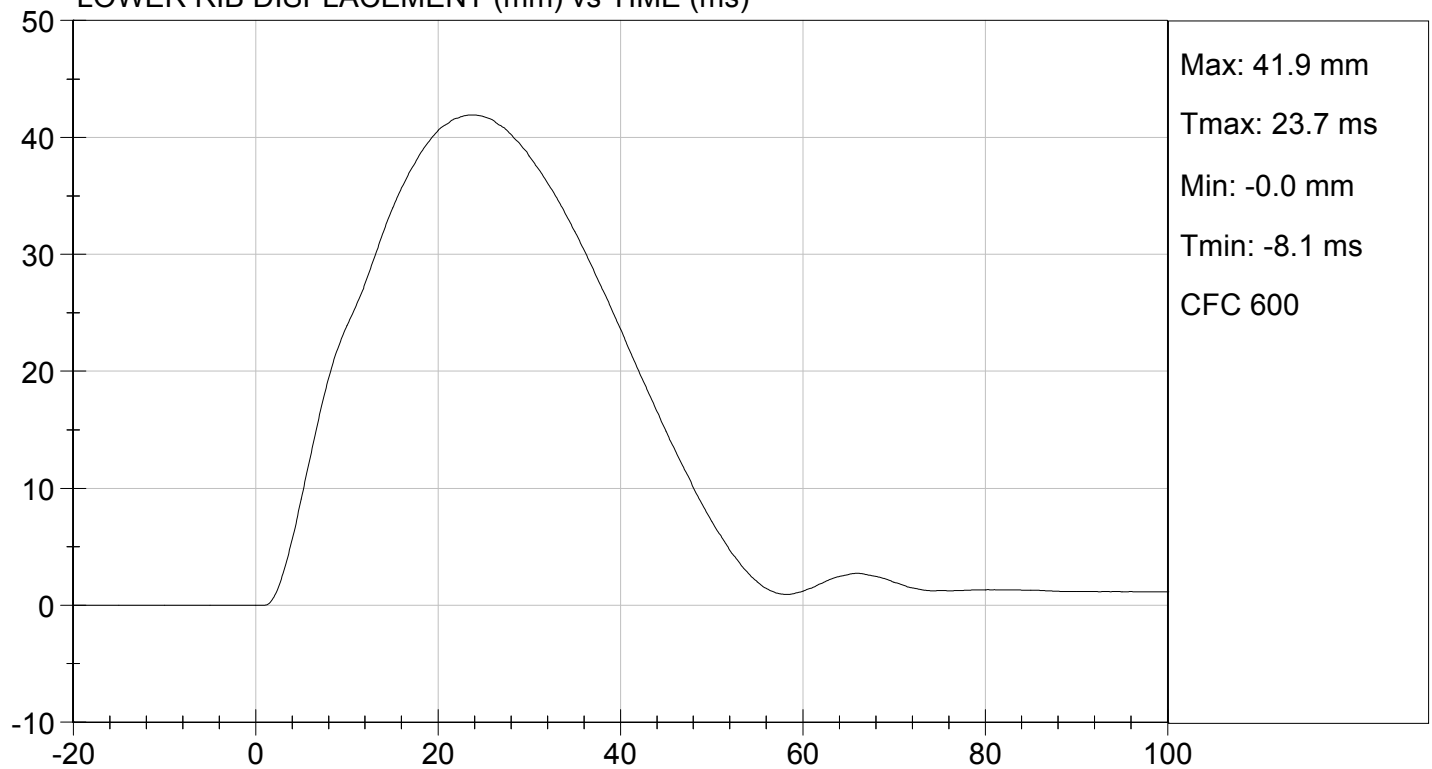
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 11/15/2012
TEST #: D124425

MIDDLE RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER RIB DISPLACEMENT (mm) vs TIME (ms)

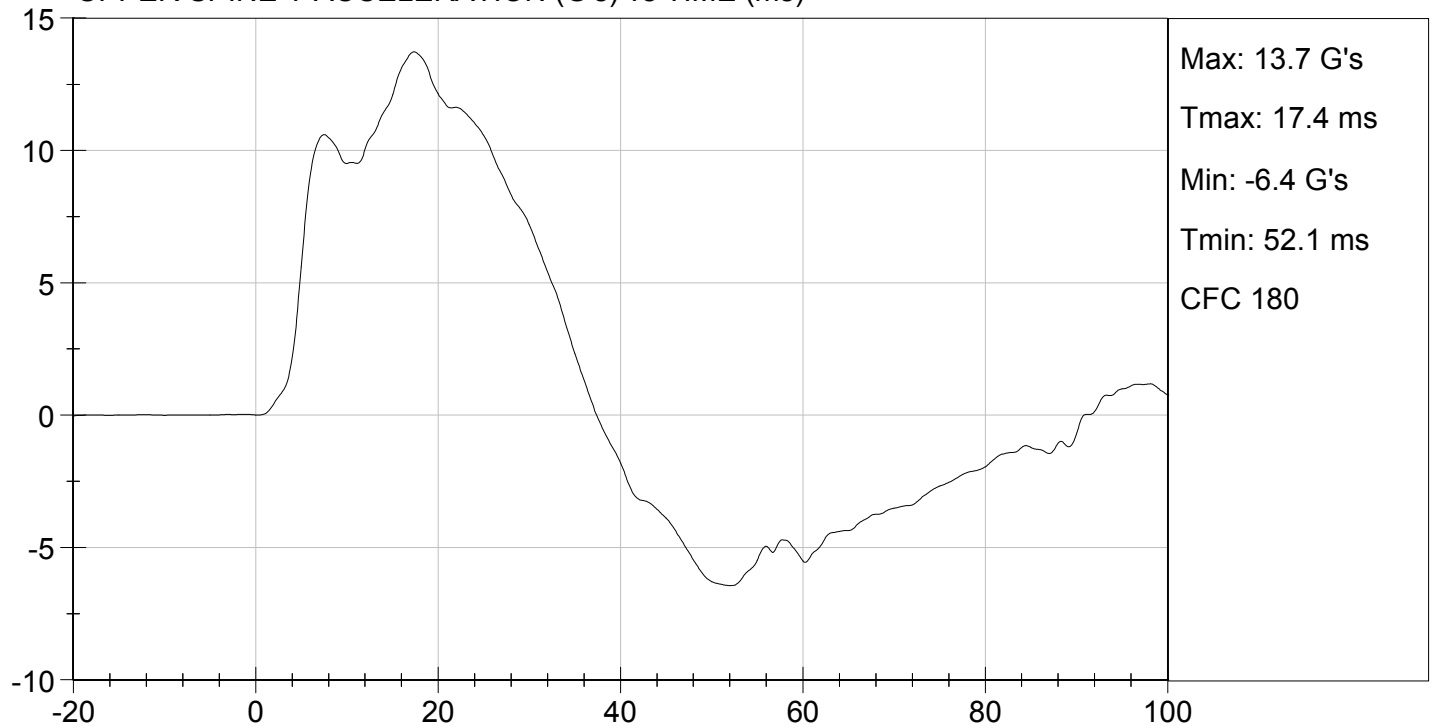




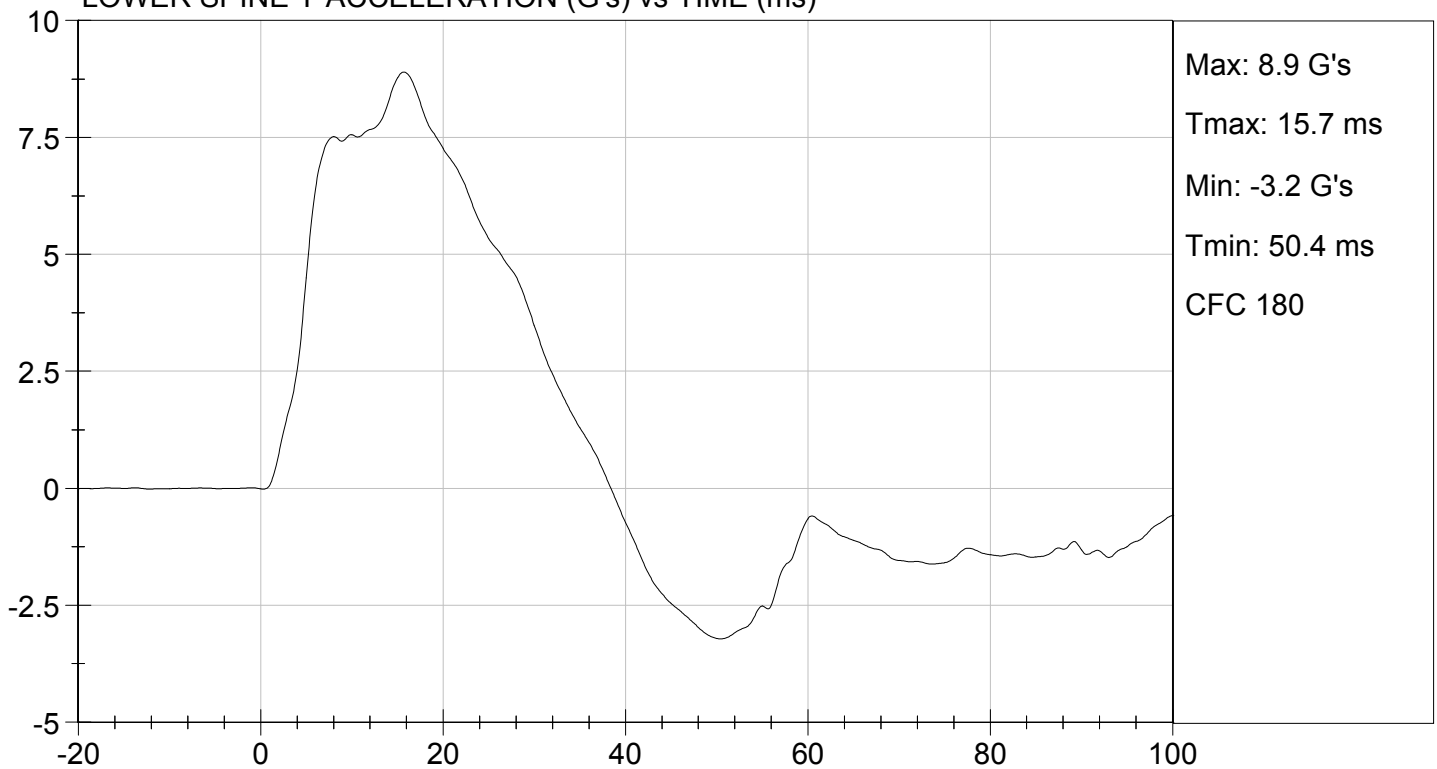
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 11/15/2012
TEST #: D124425

UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)



LOWER SPINE Y ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION

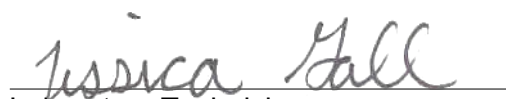
ABDOMINAL IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124426

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	26	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	41	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	41	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	10	Pass
Overall Test Results				Pass


Laboratory Technician

11/15/2012

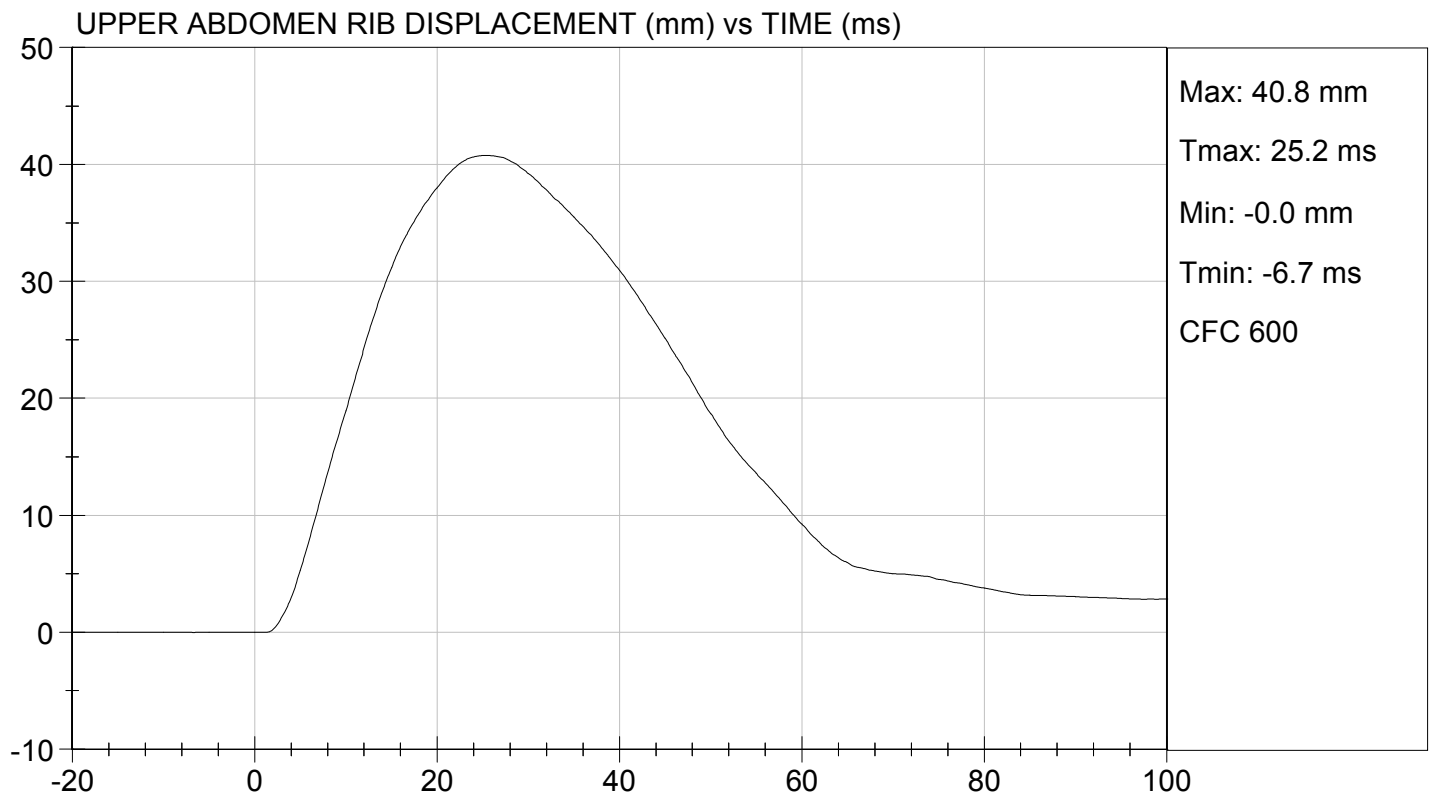
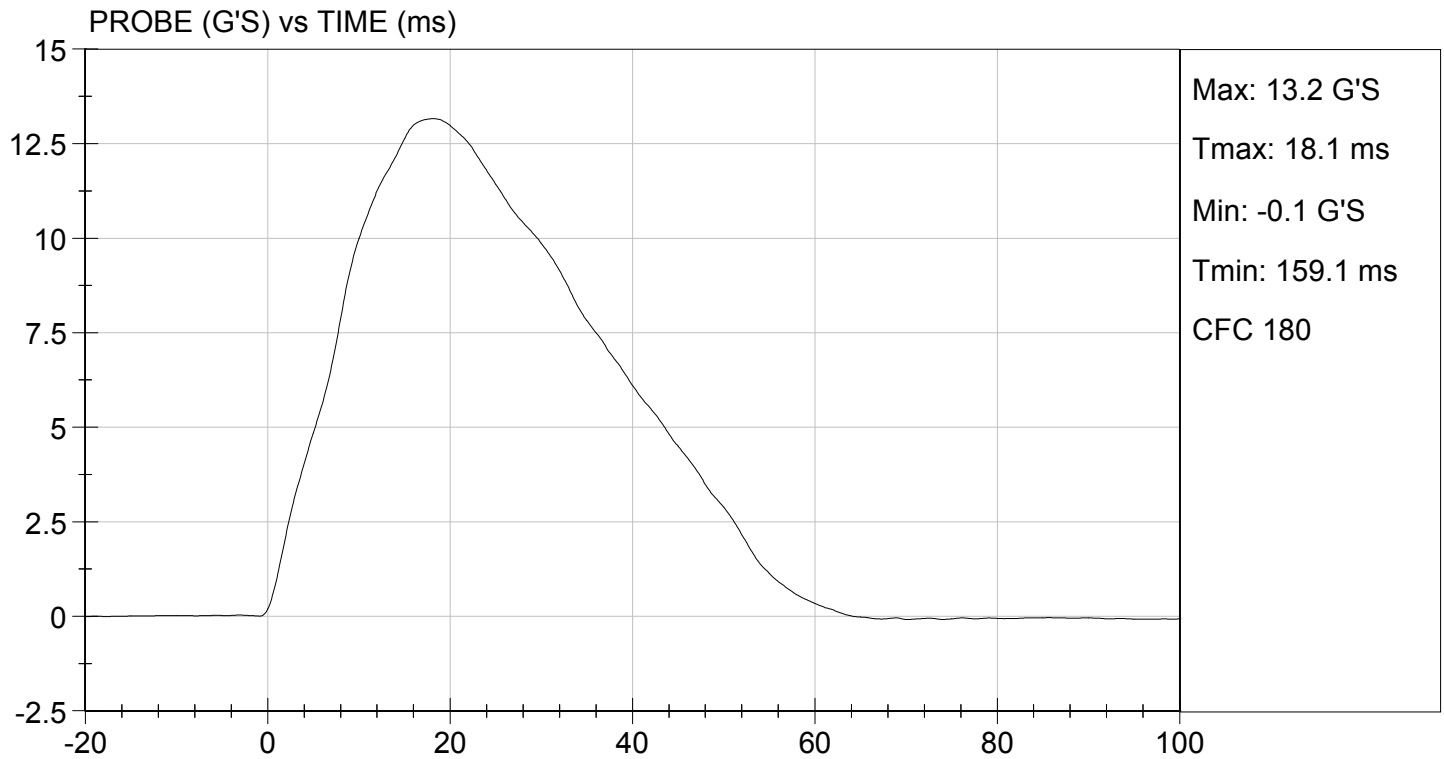
Test Date


Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 11/15/2012
TEST #: D124426

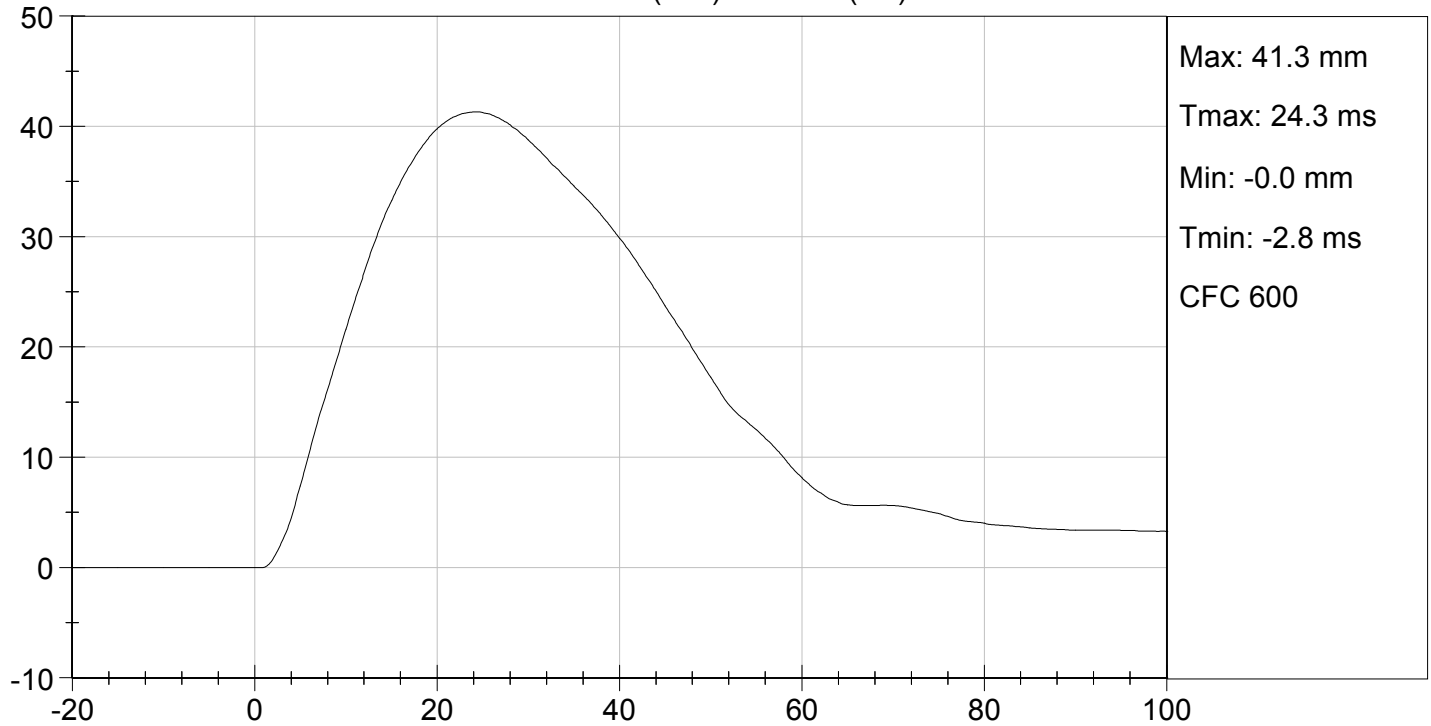




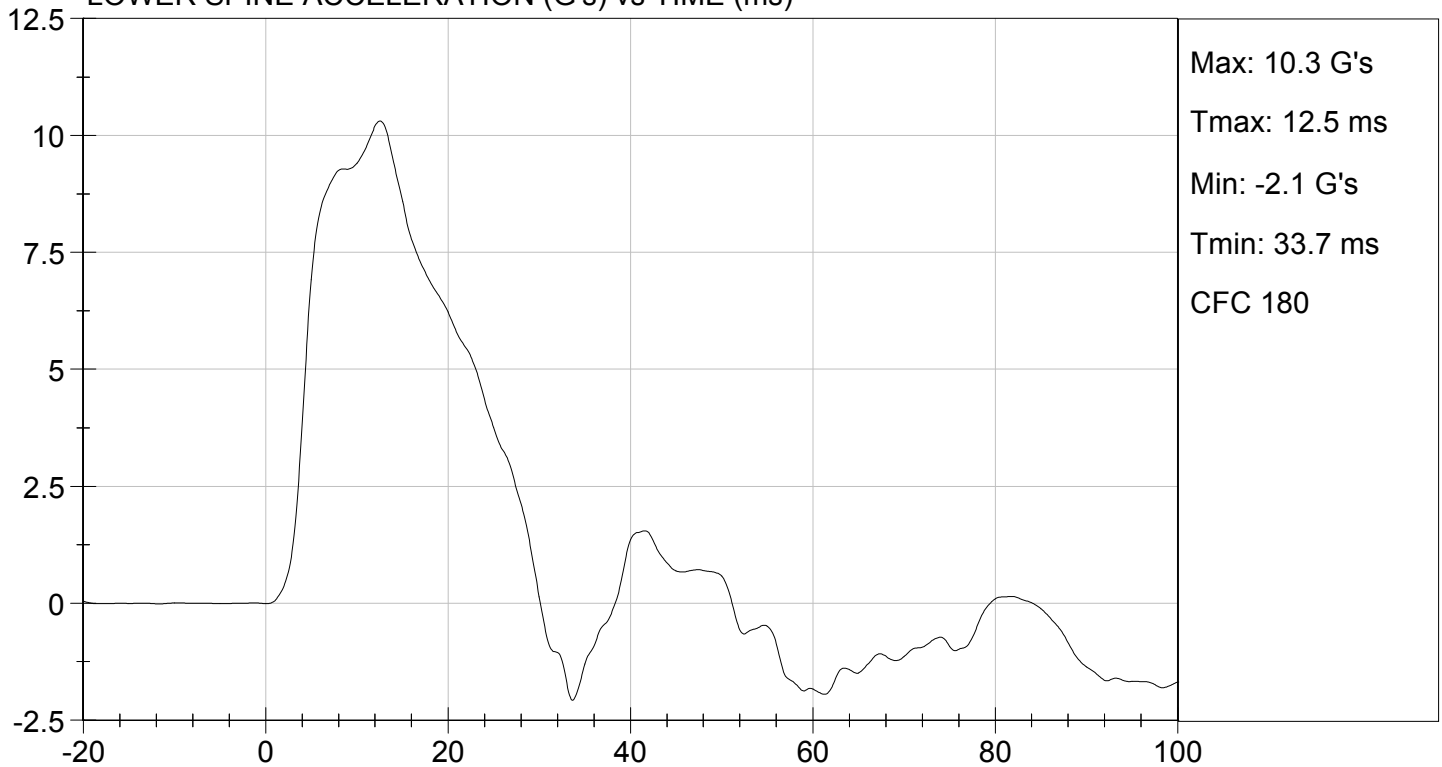
TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 11/15/2012
TEST #: D124426

LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER SPINE ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124427

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	26	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	42	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	41	Pass
Peak Acetabulum Force	N	3600 to 4300	3,754	Pass
Overall Test Results				Pass

Jessica Gall
Laboratory Technician

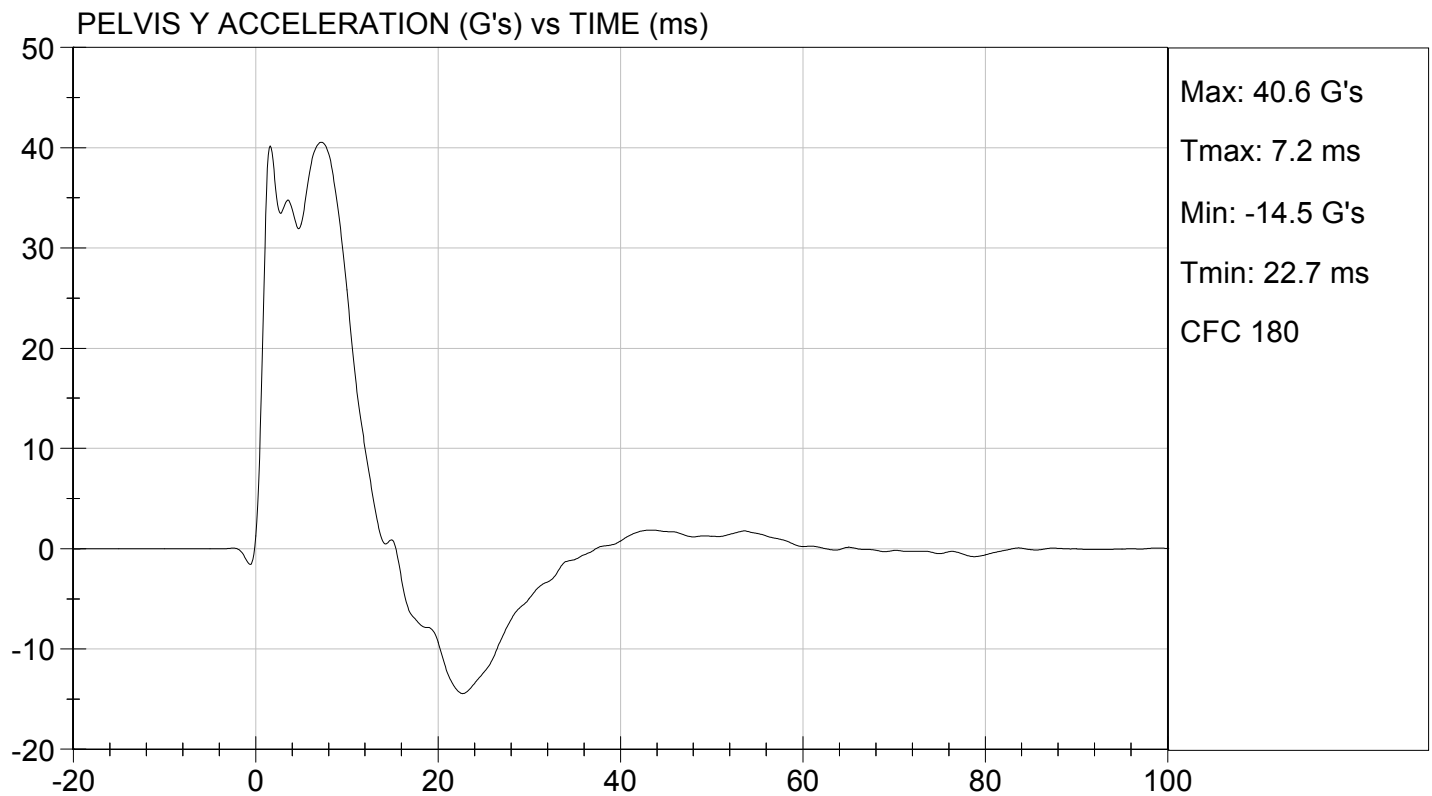
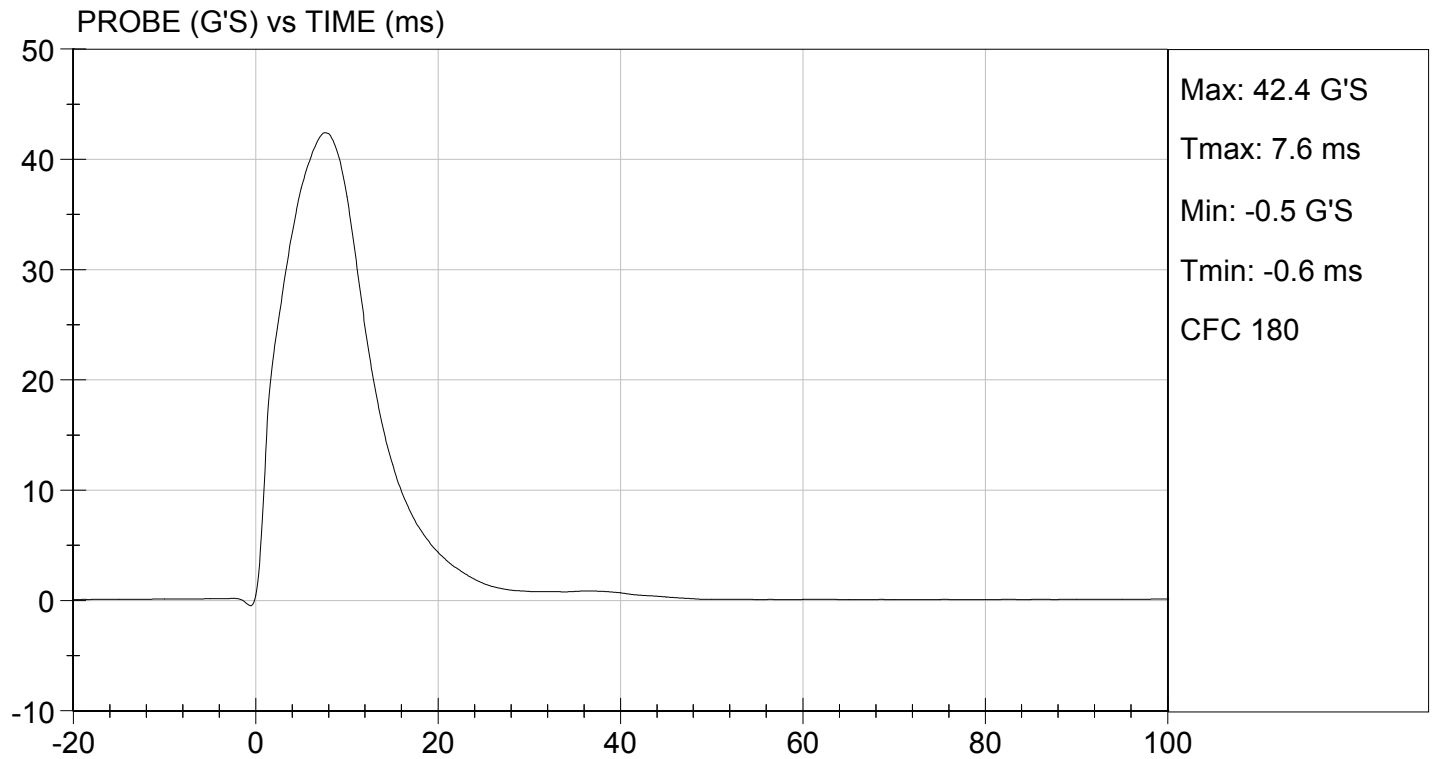
11/16/2012
Test Date

David Winkelbauer
Approved By



TEST DESC: PELVIS IMPACT
VELOCITY: 21.90 ft/s, 6.68 m/s

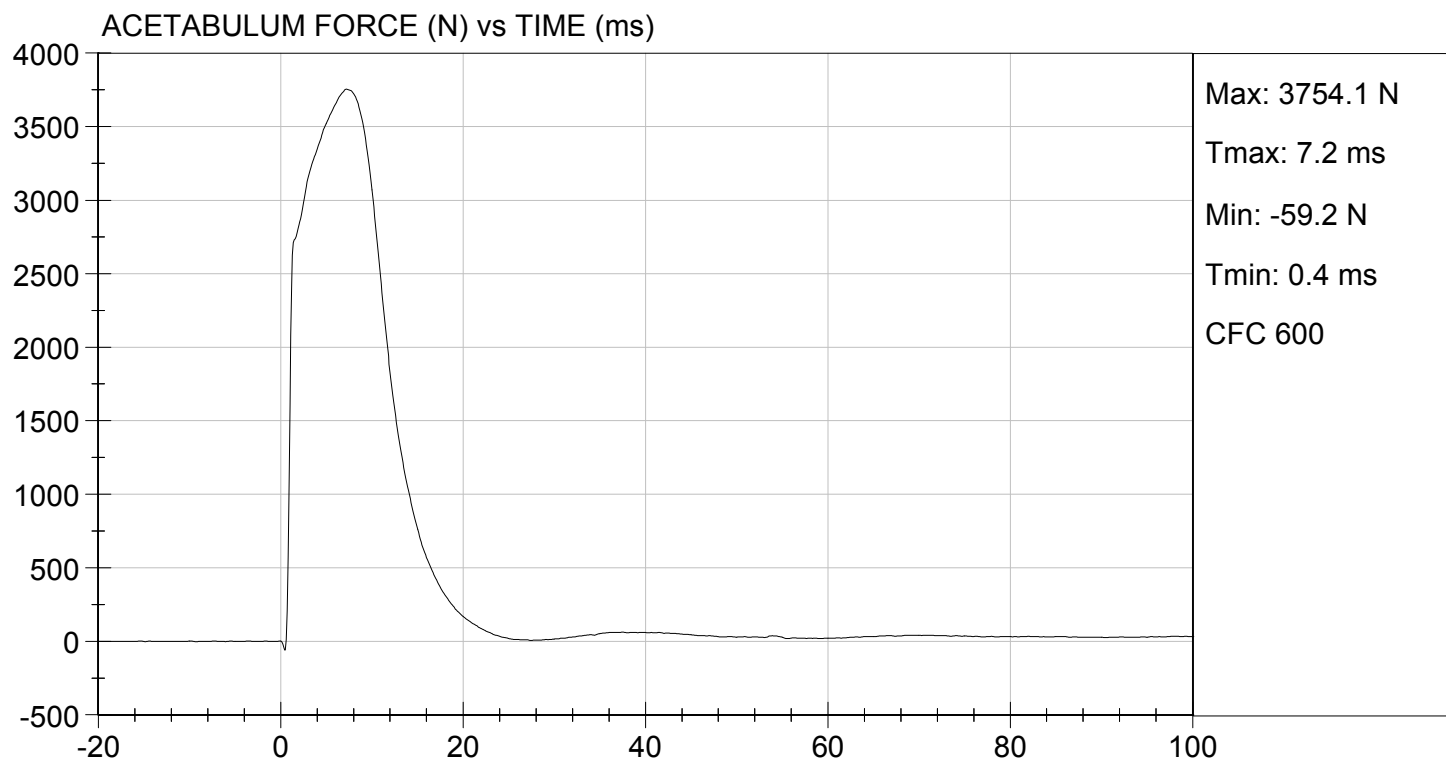
TEST DATE: 11/16/2012
TEST #: D124427





TEST DESC: PELVIS IMPACT
VELOCITY: 21.90 ft/s, 6.68 m/s

TEST DATE: 11/16/2012
TEST #: D124427



MGA RESEARCH CORPORATION

ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D124428

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	26	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	36 to 45	39	Pass
Pelvis Y Acceleration	G's	28 to 39	33	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,706	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

11/16/2012

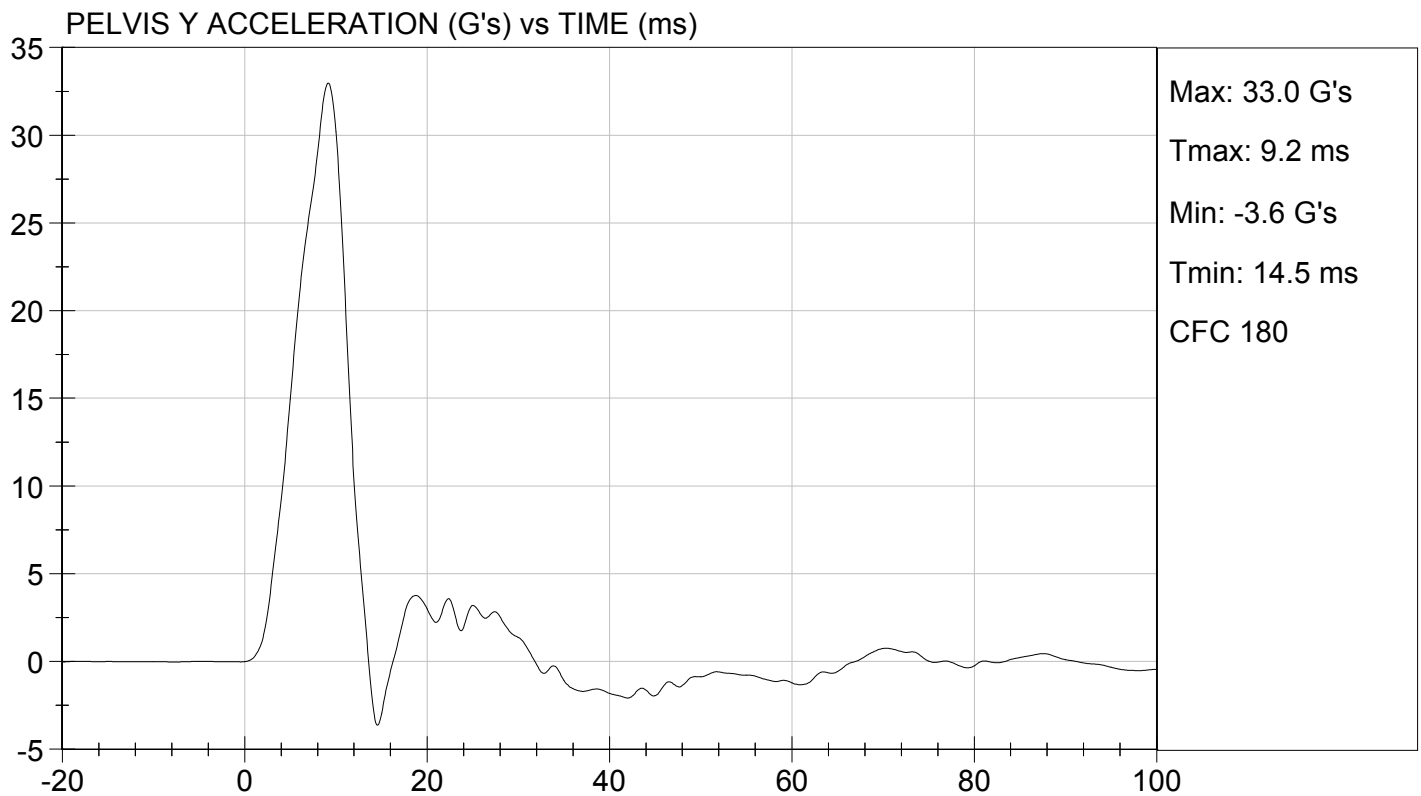
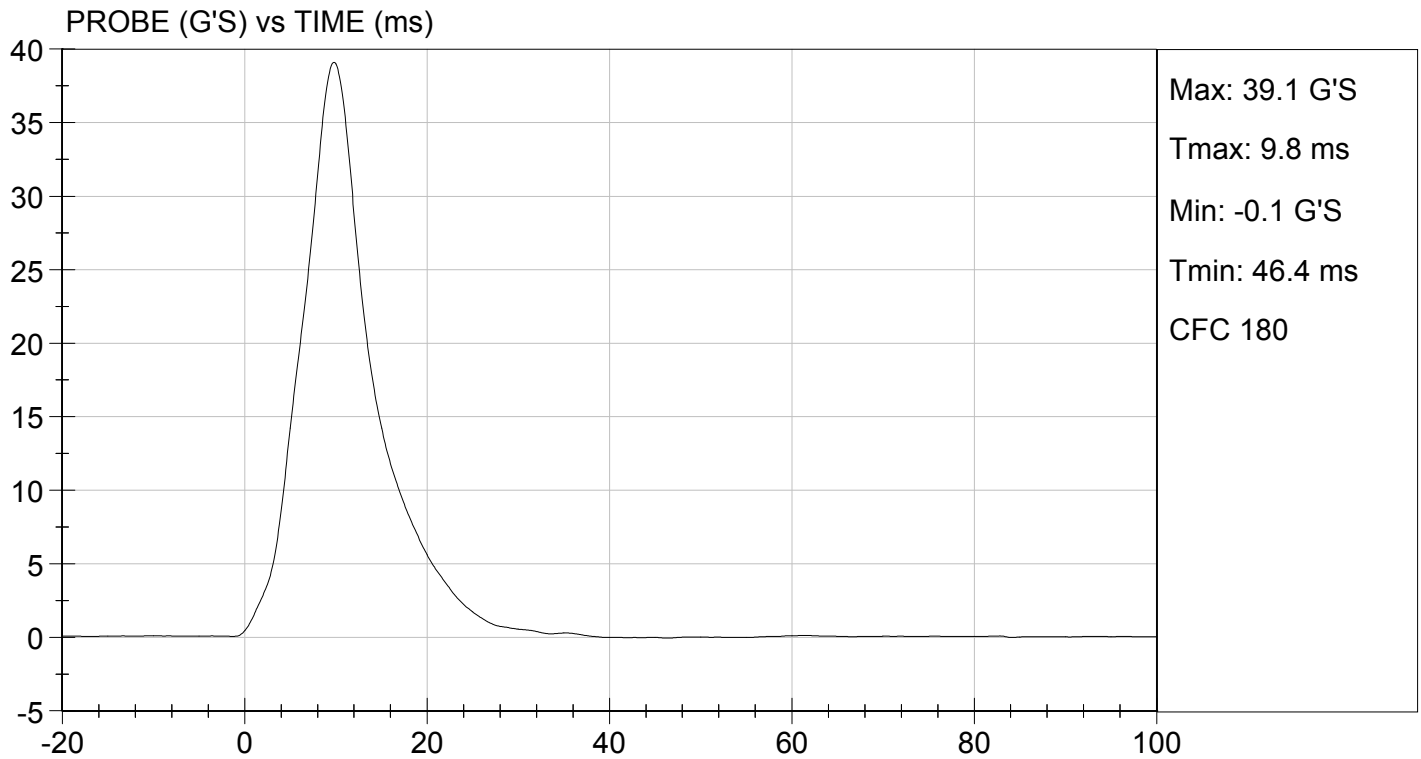
Test Date

David Winkelbauer
Approved By



TEST DESC: ILLIAC
VELOCITY: 14.12 ft/s, 4.30 m/s

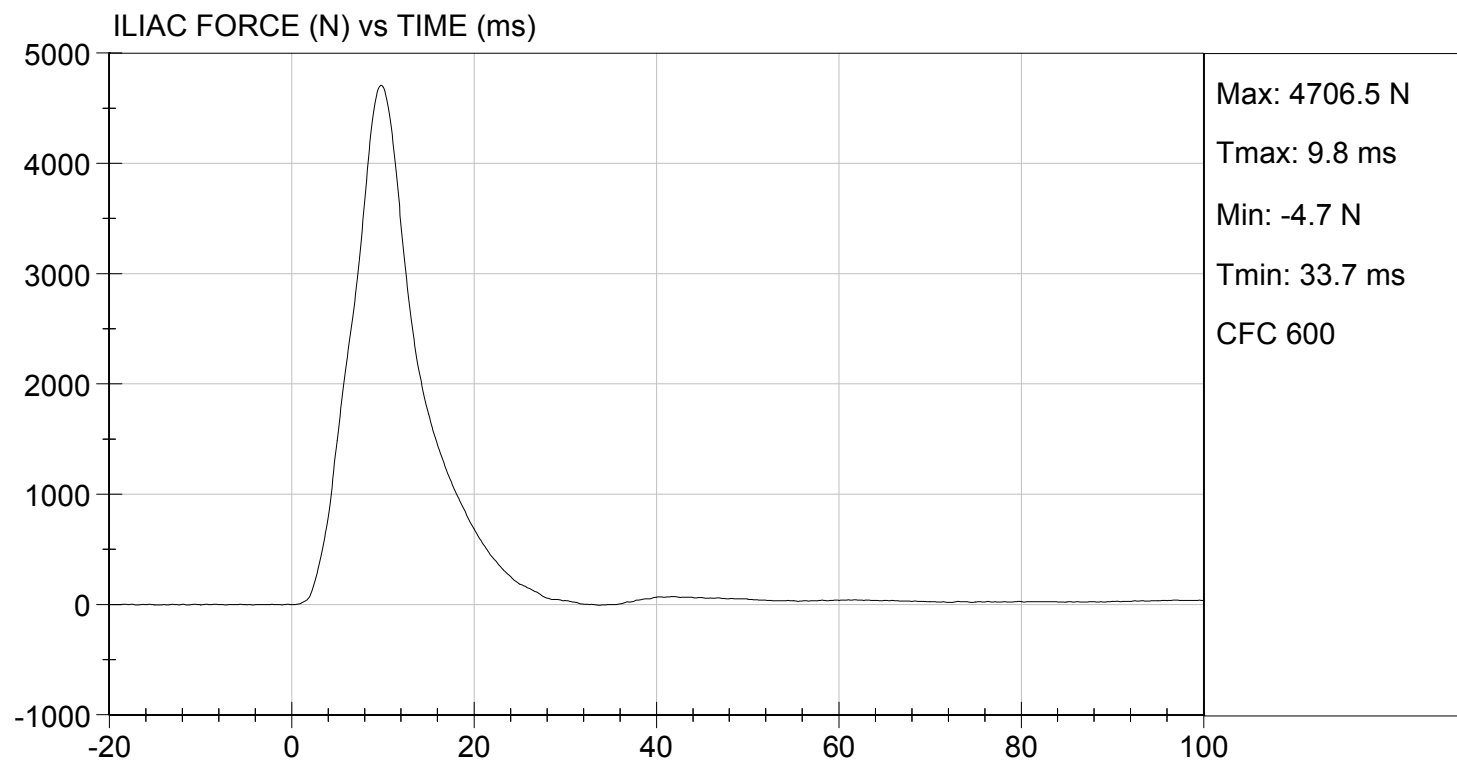
TEST DATE: 11/16/2012
TEST #: D124428



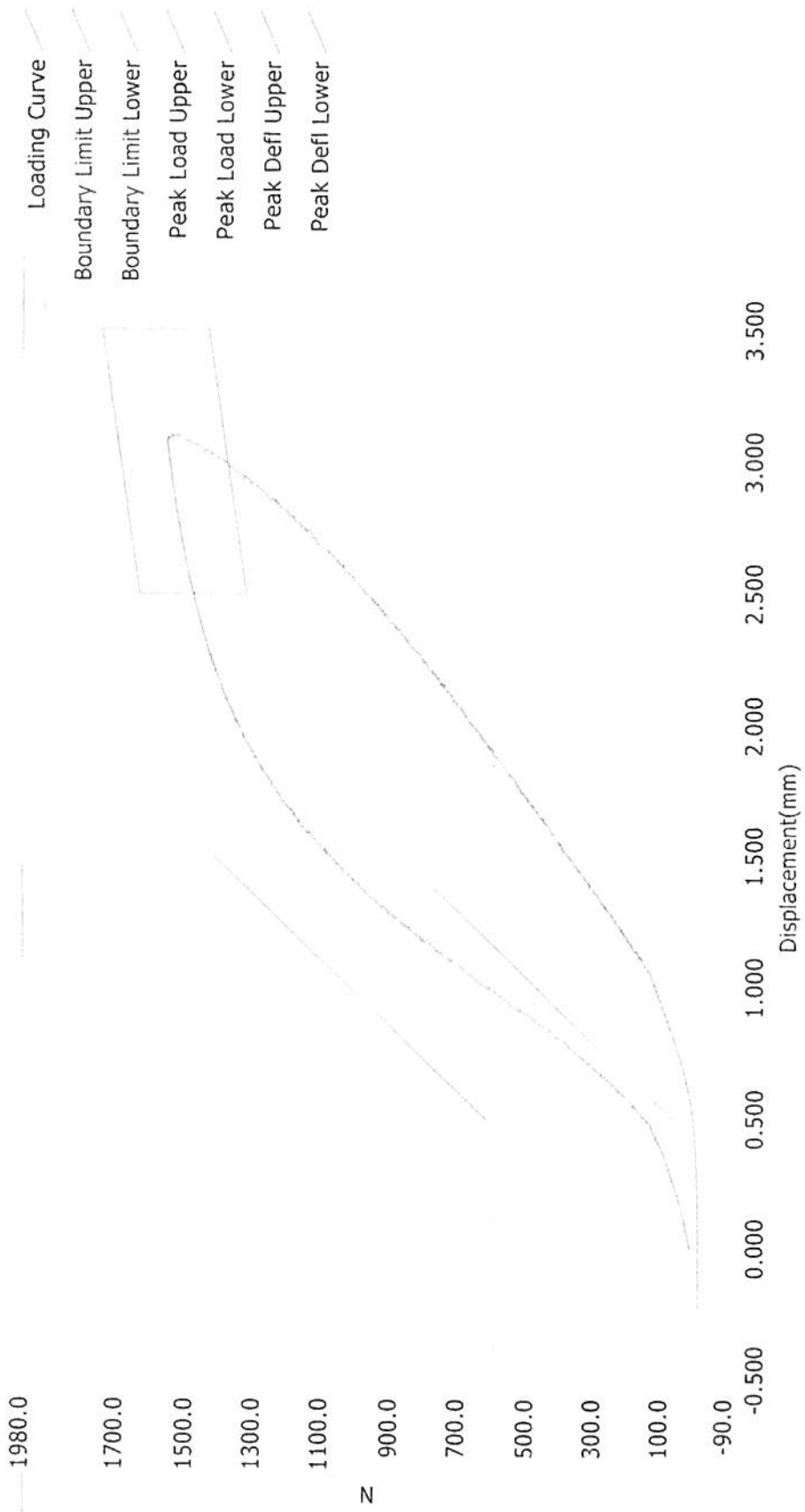


TEST DESC: ILLIAC
VELOCITY: 14.12 ft/s, 4.30 m/s

TEST DATE: 11/16/2012
TEST #: D124428



Resultant Data - SIDIIs Plug Compression



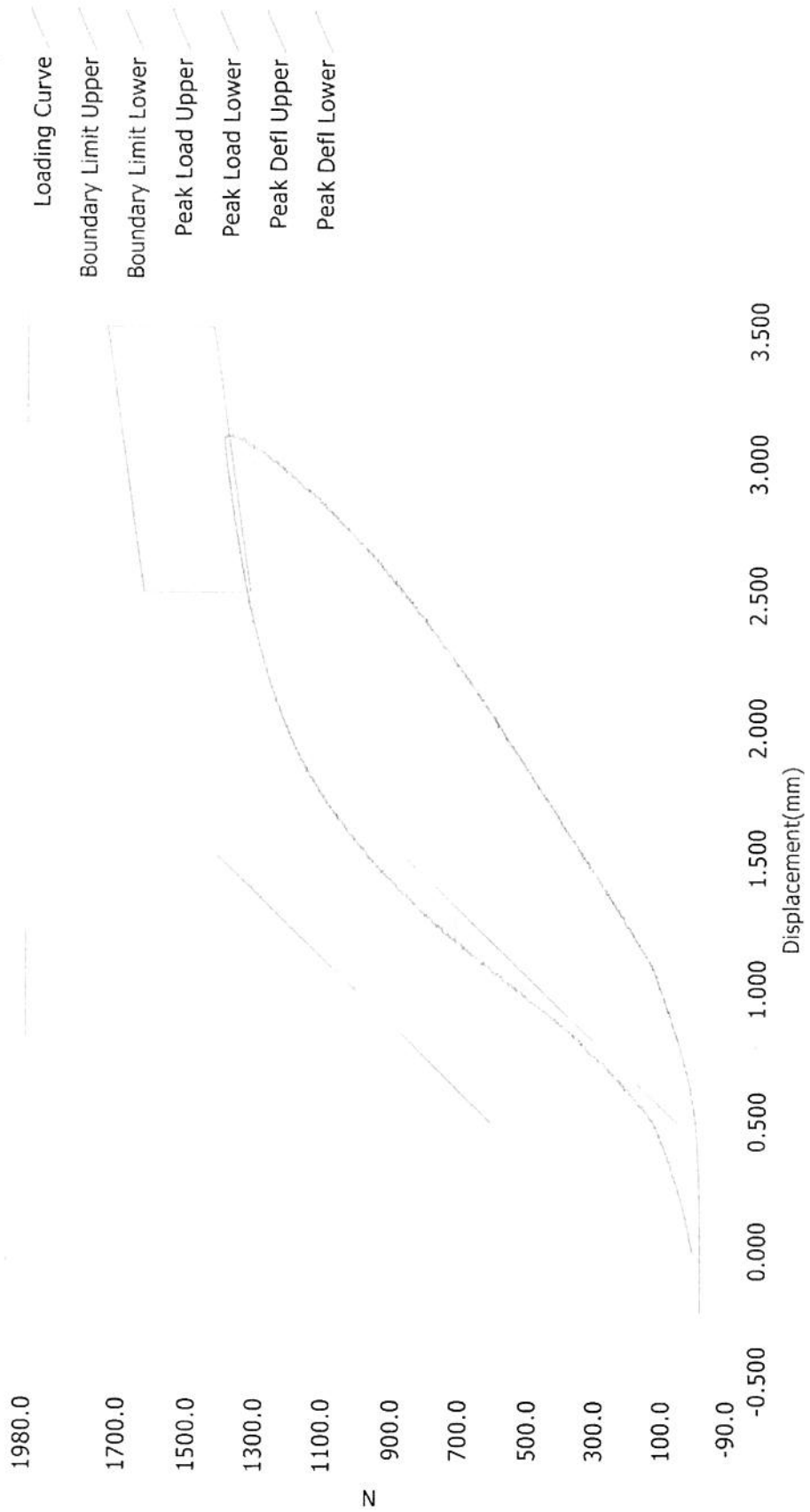
ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	47746	10/28/2011	12:53 AM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 10/28/2011

Current Time : 00:54:15

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	47678	10/27/2011	11:16 PM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation (ES-2re)

			ES-2re S/N 032		
			Serial Number	Manufacturer	Calibration Date
Head Accelerometers		X	P72799	Endevco	09/28/12
		Y	P72800	Endevco	09/28/12
		Z	P72801	Endevco	09/28/12
Head Accelerometers		Xr	P72802	Endevco	09/28/12
		Yr	P72803	Endevco	09/28/12
		Zr	P72804	Endevco	09/28/12
Thorax Rib Displacement Potentiometers	Upper	Y	G176	Honeywell	10/19/12
	Middle	Y	G169	Honeywell	10/19/12
	Lower	Y	G164	Honeywell	10/19/12
Abdomen Load Cells	Forward	Y	ABG1532	Denton	01/03/12
	Middle	Y	ABG1534	Denton	01/03/12
	Rear	Y	ABG1535	Denton	01/03/12
Lower Spine Accelerometers (T12)		X	P77693	Endevco	10/12/12
		Y	P77714	Endevco	10/12/12
		Z	P77736	Endevco	10/12/12
Pubic Symphysis Load Cell		Y	PG461	Denton	01/03/12

Table 2 – Dummy Instrumentation (SID-IIs)

			SID-IIs S/N 296			
			Serial Number	Manufacturer	Calibration Date	
Head Accelerometers			X	P78696	Endevco	10/12/12
			Y	P78698	Endevco	10/12/12
			Z	P78699	Endevco	10/12/12
Head Accelerometers			Xr	P78700	Endevco	10/12/12
			Yr	P78701	Endevco	10/12/12
			Zr	P78708	Endevco	10/12/12
Displacement Potentiometers	Thoracic Rib	Upper	Y	G012	Servo	10/15/12
		Middle	Y	G1163	FTSS	10/15/12
		Lower	Y	G1158	FTSS	10/15/12
	Abdominal Rib	Upper	Y	G1146	FTSS	10/15/12
		Lower	Y	G1126	FTSS	10/15/12
Lower Spine Accelerometers (T12)			X	P78690	Endevco	10/12/12
			Y	P78693	Endevco	10/12/12
			Z	P78694	Endevco	10/12/12
Acetabulum Load Cell			Y	ACG268	Denton	01/11/12
Iliac Wing Load Cell			Y	IWG282	Denton	12/23/11
Pelvis Plug (struck side)				47746	FTSS	10/28/11
Pelvis Plug (non-struck side)				47678	FTSS	10/27/11

Table 3 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P77766	Endevco	07/23/12
Vehicle Center of Gravity	Y	P77764	Endevco	07/23/12
Vehicle Center of Gravity	Z	P77765	Endevco	07/23/12
Right Sill at Front Seat	X	P66580	Endevco	05/23/12
Right Sill at Front Seat	Y	P66579	Endevco	05/23/12
Right Sill at Front Seat	Z	P66581	Endevco	05/23/12
Right Sill at Rear Seat	X	P66528	Endevco	07/18/12
Right Sill at Rear Seat	Y	P66527	Endevco	07/18/12
Right Sill at Rear Seat	Z	P66529	Endevco	07/18/12
Left Sill at Front Door	Y	P59290	Endevco	10/08/12
Left Sill at Rear Door	Y	P66793	Endevco	07/18/12
Left A-Post Lower	Y	P68845	Endevco	07/21/12
Left A-Post Middle	Y	P68846	Endevco	07/21/12
Left B-Post Lower	Y	P66817	Endevco	08/02/12
Left B-Post Middle	Y	P66816	Endevco	10/09/12
Front Seat Track	Y	P66521	Endevco	08/02/12
Rear Seat Track or Structure	Y	P66775	Endevco	07/31/12
Right Rear Occ. Compartment	Y	P67547	Endevco	05/07/12
Engine Block	X	P66522	Endevco	08/02/12
Engine Block	Y	P66523	Endevco	08/02/12
Rear Floorpan Above Axle	X	P77696	Endevco	07/31/12
Rear Floorpan Above Axle	Y	P77694	Endevco	07/31/12
Rear Floorpan Above Axle	Z	P77695	Endevco	07/31/12

Table 4 – MDB Instrumentation

		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	P59379	Endevco	06/12/12
MDB Center of Gravity	Y	P59380	Endevco	06/12/12
MDB Center of Gravity	Z	P59381	Endevco	06/12/12
Left Frame at Rear Axle Centerline	X	P59279	Endevco	06/12/12
Left Frame at Rear Axle Centerline	Y	P59280	Endevco	06/12/12