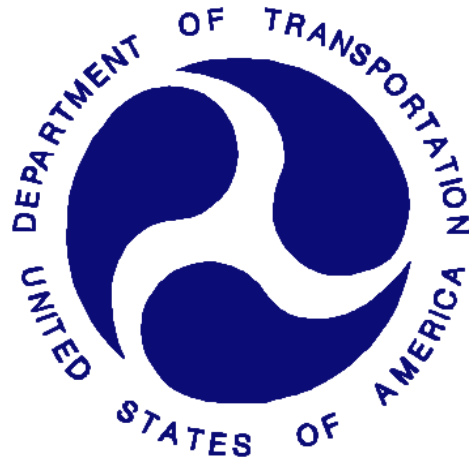


REPORT NUMBER: SPNCAP-MGA-2014-010

**NEW CAR ASSESSMENT PROGRAM (NCAP)
Side Impact Pole Test**

**TOYOTA MOTOR CORPORATION
2014 Lexus IS250 4-Dr Sedan
NHTSA No.: M20145101**

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



Test Date: August 13, 2013

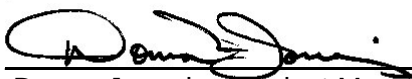
Final Report Date: August 30, 2013

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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Prepared by: 
Donna Janovicz, Project Manager

Approved by: 
Ben Fischer, Project Engineer

Approval Date: August 30, 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. SPNCAP-MGA-2014-010		2. Government Accession No.		3. Recipient's Catalog No.																											
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact Pole Testing of a 2014 Lexus IS250 4-Dr Sedan, NHTSA No.: M20145101		5. Report Date August 30, 2013		6. Performing Organization Code MGA																											
		8. Performing Organization Report No. SPNCAP-MGA-2014-010																													
7. Author(s) Donna Janovicz, Project Manager Ben Fischer, Project Engineer		10. Work Unit No.																													
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105																															
12. Sponsoring Agency Name and Address United States Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NVS-111) 1200 New Jersey Ave, SE, Room W43-410 Washington, DC 20590		11. Contract or Grant No. DTNH22-09-D-00124																													
		13. Type of Report and Period Covered: Final Test Report August 13, 2013 to August 30, 2013																													
15. Supplementary Notes		14. Sponsoring Agency Code NVS-111																													
		16. Abstract A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2014 Lexus IS250 4-Dr Sedan in accordance with the specifications of the Office of Crashworthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. The test was conducted at MGA Research Corporation, in Burlington, Wisconsin, on August 13, 2013. The impact velocity was 32.0 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 22.1°C. The test vehicle post-test maximum crush was 375 mm at level 3. The test vehicle's performance was as follows: <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Driver 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>295</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>Gs</td> <td>82</td> <td>39</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td>3586</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>16</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td>24</td> </tr> </tbody> </table> *Proposed IARV The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.						Driver ATD (SID-IIs)		Measurement Description	Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	295	Resultant Lower Spine Acceleration	Gs	82	39	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3586	Maximum Thoracic Rib Deflection	mm	38*	16	Maximum Abdomen Rib Deflection	mm
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17. Key Words New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave, SE Washington, DC 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833																													
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SECTION 1

TEST PURPOSE AND PROCEDURE

This side impact test is part of the MY 2014 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 2014 Lexus IS250 4-Dr Sedan. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated September 2012.

SECTION 2 SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2014 Lexus IS250 4-Dr Sedan. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.0 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin, on August 13, 2013. Pre-test and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in Appendix A of this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure dated September 2012. Camera locations and other pertinent camera information are included in this report.

The Part 572V (SID-IIs) dummy was instrumented accordingly:

Primary and Redundant Head CG Triaxial Accelerometers
 Thorax Upper, Middle, and Lower Rib Displacement Potentiometers
 Abdomen Upper Rib and Lower Rib Displacement Potentiometers
 Lower Spine (T12) Triaxial Accelerometers
 Iliac Load Cell
 Acetabulum Load Cell

Appendix B contains the vehicle and 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.

Injury readings for the SID-IIs dummy were recorded as follows:

Measurement Description	Driver ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/A	1000	295
Resultant Lower Spine Acceleration	Gs	82	39
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3586
Maximum Thoracic Rib Deflection	mm	38*	16
Maximum Abdominal Rib Deflection	mm	45*	24

*Proposed IARV

Supplemental restraint information is given below:

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Abdomen/Pelvis Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes		No	
Other				

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

GENERAL COMMENTS

Left Floor Sill Y is questionable.

Left Lower A-Post Y is questionable.

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

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
Test Date: 8/13/2013

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20145101	Traction Control System (TCS)	Yes
Model Year	2014	Auto-Leveling System	No
Make	Lexus	Automatic Door Locks (ADL)	Yes
Model	IS250	Power Window Auto-Reverse	Yes
Body Style	Sedan	Other Optional Feature	N/A
VIN	JTHBF1D21E5005967	Driver Front Airbag	Yes
Body Color	Silver Lining Metallic	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	180 / 112	Driver Head/Torso Airbag	No
Engine Displacement (L)	2.5	Driver Torso Airbag	No
Type/No. Cylinders	6	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Longitudinal	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	Yes
Transmission Speeds	6	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	Rear	Rear Pass. Torso Airbag	No
Roof Rack	No	Rear Pass. Torso/Pelvis Airbag	Yes
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 instructions to turn off automatic door locks?	Yes
--	-----

DATA FROM CERTIFICATION LABEL

Manufactured By	Toyota Motor Corporation	GVWR (kg)	2100
Date of Manufacture	06/13	GAWR Front (kg)	1089
Vehicle Type	Passenger Car	GAWR Rear (kg)	1154

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	(A)
Capacity Weight (VCW) (kg)				372	(B)
DSC x 68.04 kg				340	(A-B)
Rated Cargo and Luggage Weight (RCLW) (kg)				32	

VEHICLE SEAT TYPE

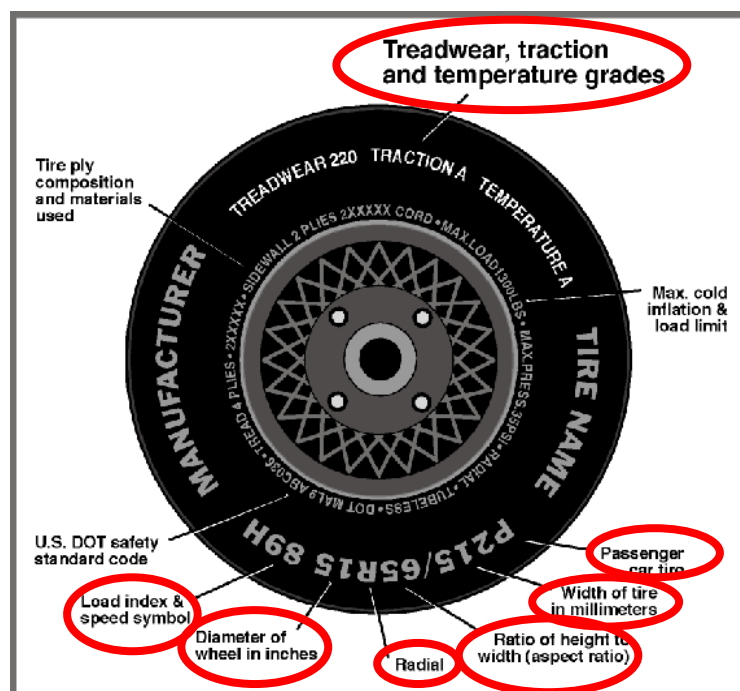
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X						X
Rear or Second Row			X		X		
Third Row Seat							

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

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	250	250
Recommended Tire Size	P225/40R18	P255/35R18
Tire Size on Vehicle	P225/40R18	P255/35R18
Tire Manufacturer	Bridgestone	Bridgestone
Tire Model	Turanza	Turanza
Treadwear	140	140
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	3 Polyester	3 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Nylon	2 Polyester, 2 Steel, 1 Nylon
Load Index/Speed Symbol	88Y	90Y
Tire Material	Rubber	Rubber
DOT Safety Code Left	ELT7 DKJ 2413	ELT5 DKJ 2213
DOT Safety Code Right	ELT7 DKJ 2413	ELT5 DKJ 2213

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

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kpa	250	250	250	250
Tire Placard	kpa	250	250	250	250
Owner's Manual	kpa				
As Tested	kpa	250	250	250	250

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	431.8	392.8		450.0	419.2		448.2	431.8	
Right	kg	423.2	384.7		432.7	407.3		424.1	412.3	
Ratio	%	52.4	47.6		51.6	48.4		50.8	49.2	
Totals	kg	855.0	777.5	1632.5	882.7	826.5	1709.2	872.3	844.1	1716.4

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1632.5	(A)
Actual Weight of 1 P572V ATD (SID-IIs) ATD Used	kg	52.2	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	32	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1716.7	(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	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	deg	-0.2	-0.1	-0.1	Yes
Front Pass. Sill Angle (front-to-rear)*	deg	-0.4	-0.2	-0.1	Yes
Front Bumper Angle (left-to-right)**	deg	0.0	0.0	-0.1	Yes
Rear Bumper Angle (left-to-right)**	deg	0.0	0.0	-0.1	Yes
Vehicle CG (Aft of Front Axle)	mm	1332	1352	1375	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	7	13	19	

*ND=Nose Down (-), NU=Nose Up (+) ** LD=Left Down (-), LU=Left Up (+)

*** The "As Tested" vehicle attitude measurements must be equal to or between the "As Delivered" and "Fully Loaded" vehicle attitude measurements.

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast (if any)	0.0
Taillights, right rear door trim panel, rear floor mats, rear headrests, right front headrest, right rear door speaker and weather stripping, right front door weather stripping, rear hatch weather stripping.	10.9

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

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the forward-most, mid-height, 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	27.9	15.9	21.9
Front Passenger Seat	22.8	9.2	16.0
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	21.9	24	Max	48	48	48
	21.9	24	Mid	24	24	24
	21.9	24	Min	0	0	0
Front Passenger Seat	16.0	25	Max	50	50	50
	16.0	25	Mid	25	25	25
	16.0	25	Min	0	0	0
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: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

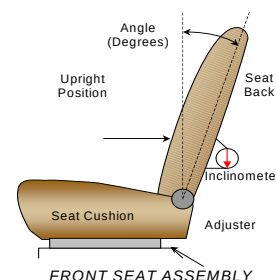
NHTSA No. M20145101
 Test Date: 8/13/2013

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	260		0	
Front Passenger Seat	260		0	
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck-side rear passenger seat back is positioned in accordance with the information provided by the manufacturer on Form No. 1 for the 5th percentile female dummy in a Side NCAP MDB test. The rear center and non-struck side rear passenger's seat back is set to match the struck-side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Vertical	
	Degrees	Detents	Degree	Detent
Driver Seat w/Seated Dummy	52.1		*	Full Forward
Front Passenger Seat	52.1		*	Full Forward
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

*Measurement could not be taken due to headrest interference with the roof.

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	4 detents (1 st as 1)	0 (uppermost as 0)

HEAD RESTRAINT ADJUSTMENT

Head restraints are adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	1	Lowest

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

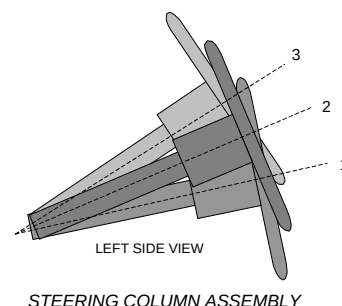
Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013

STEERING COLUMN ADJUSTMENT

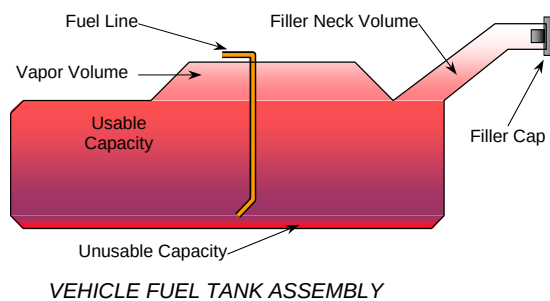
Steering wheel and column adjustments are made so that the steering wheel geometric locus is described when it moves through its full range of motion.

	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	70.8	252
Geometric Center, Position 2	69.1	232
Uppermost, Position 3	67.4	212
Telescoping Steering Wheel Travel		40
Test Position	69.1	232



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 is activated when the ignition is turned on. The fuel pipe is on the left side.



FUEL TANK CAPACITY DATA

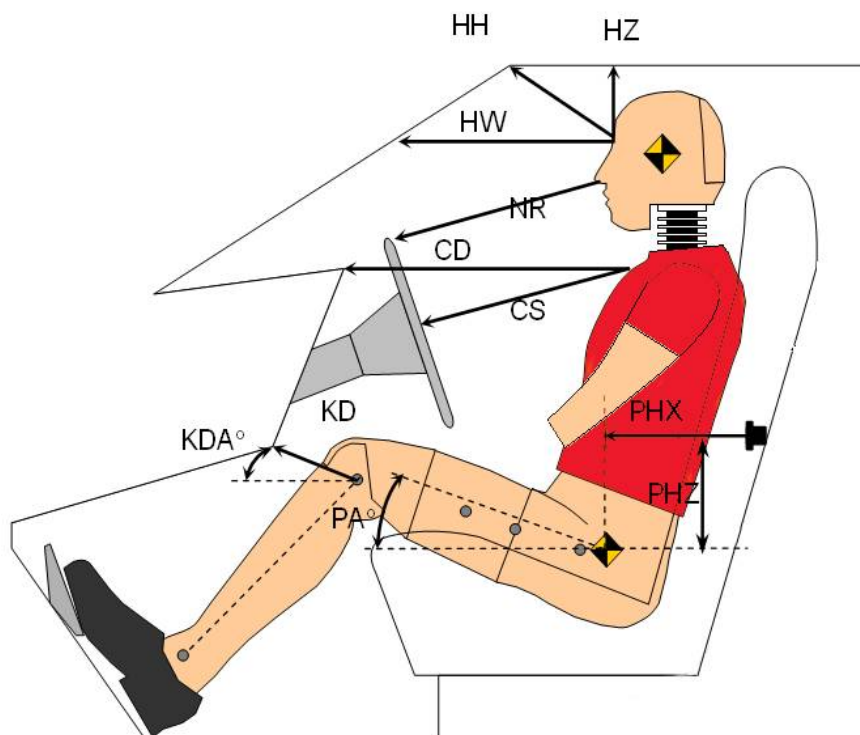
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	66.2
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	66.3
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	61.6
Actual Amount of Solvent Used	61.7
1/3 of Usable Capacity	22.1

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: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013



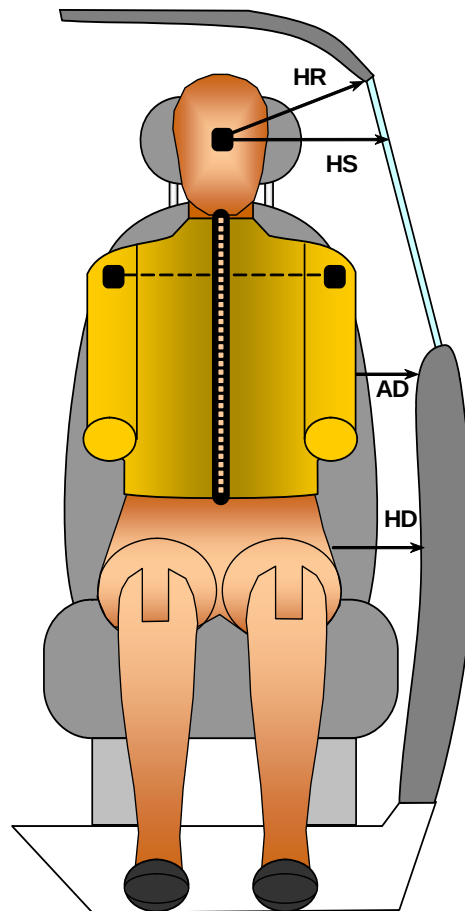
LEFT SIDE VIEW

Code	Measurement Description	Driver S/N 296	
		Length (mm)	Angle (°)
HH	Head to Header	225	
HW	Head to Windshield	520	
HZ	Head to Roof Liner	146	
NR	Nose to Rim	218	
CD	Chest to Dashboard	398	
CS	Chest to Steering Wheel	173	
KDL/KDAL°	Left Knee to Dash	121	33.7
KDR/KDAR°	Right Knee to Dash	108	25.6
PAX°	Pelvic Tilt Angle (X-Axis)		22.3
PAY°	Pelvic Tilt Angle (Y-Axis)		-0.7
PHX	Hip Point to Striker (X-Axis)	303	
PHZ	Hip Point to Striker (Z-Axis)	210	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013



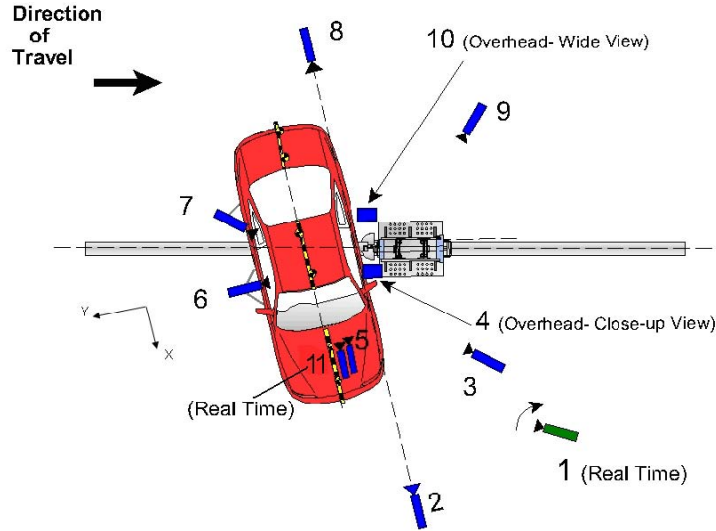
FRONT VIEW OF DUMMY

Code	Measurement Description	Driver S/N 296
		Length (mm)
HR	Head to Side Header	200
HS	Head to Side Window	331
AD	Arm to Door	167
HD	Hip Point to Door	176

DATA SHEET NO. 5 CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
Test Date: 8/13/2013



Reference: (from Point of Impact for X and Y; from Ground for Z):
+X = Forward of Impact, + Y = Right of Impact, +Z = Down

Camera No.	View	Coordinates (mm)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real-Time Pan View					30
2	Front Ground Level	-70	6080	-1840	24	1000
3	Impact Side 45° Forward	-2390	5260	-1930	20	1000
4	Overhead Closeup	120	0	-4420	50	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-70	-6850	-1820	24	1000
9	Impact Side 45° Rearward	-4420	-3910	-1980	20	1000
10	Overhead Wide View	280	0	-4610	14	1000
11	Real-Time Dummy Front View					30

* All measurements accurate to ± 6 mm

Note: Vehicle was at a 75° angle to the rigid pole.

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

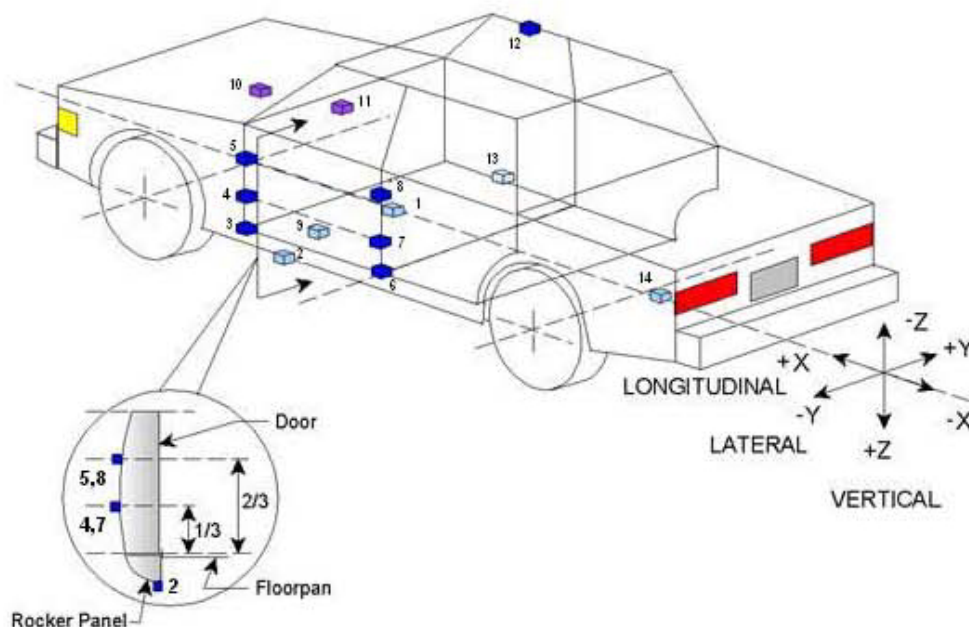
INSTRUMENTATION

	Number of Channels
Driver Dummy	16
Vehicle Structure	18
Pole Load Cells	8
TOTAL	42

DATA SHEET NO. 6
VEHICLE ACCELEROMETER DATA

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013



	Accelerometer Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2626	173	-268
2	Left Floor Sill	2782	-736	-202
3	A Pillar Sill	3319	-743	-195
4	A Pillar Low	3224	-807	-527
5	A Pillar Mid	3233	-795	-718
6	B Pillar Sill	2028	-739	-202
7	B Pillar Low	2068	-711	-492
8	B Pillar Mid	2068	-711	-730
9	Driver Seat Track	2256	-395	-265
10	Engine Top	3863	-61	-868
11	Firewall	3473	43	-899
12	Right Roof	2050	503	-1440
13	Right Floor Sill	2782	736	-200
14	Rear Floorpan	217	0	-260

Reference:

X – Test Vehicle Rear Bumper (+forward)
 Y – Test Vehicle Centerline (+ to right)
 Z – Ground Plane (+ down)

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
Test Date: 8/13/2013



254 mm Diameter Rigid Pole

Load Cell Locations	
ID	Height From Impact Surface (mm)
1	182
2	470
3	698
4	986
5	1212
6	1641
7	1854
8	2053

DATA SHEET NO. 8
POST-TEST OBSERVATIONS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
Test Date: 8/13/2013

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Driver SID-IIs Dummy
Face	Curtain Airbag
Top of Head	Curtain Airbag
Left Side of Head	Curtain Airbag
Back of Head	Curtain Airbag, Headrest
Left Shoulder	Side Airbag, Seatback
Upper Torso	Side Airbag
Lower Torso	Side Airbag, Seatback
Left Hip	Side Airbag, Seatback, Seatpan
Left Knee	None

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	Cracked
Side Window Damage	Left Front Window Broken
Other Notable Effects	None

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

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
Test Date: 8/13/2013

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Abdomen/Pelvis Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes		No	
Other				

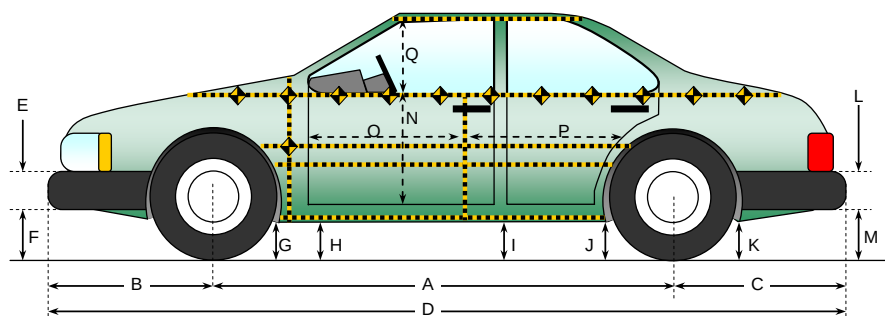
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1260
Actual Impact Point (Aft of Front Axle)	mm		1263
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	-3
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	deg	75 +/- 3	75
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.0
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.1

DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
Test Date: 8/13/2013



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

LEFT SIDE VIEW

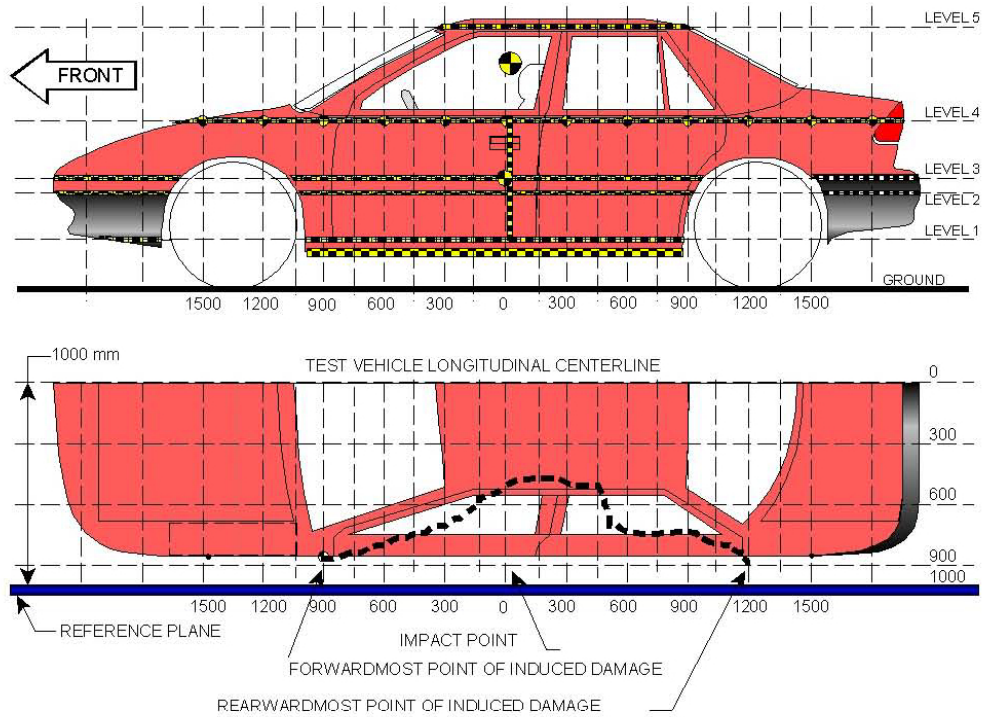
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2796	2690	106
B	Front Axle to FSOV	830	830	0
C	Rear Axle to RSOV	1042	1042	0
D	Total Vehicle Length at Centerline	4668	4562	106
E	Front Bumper Thickness	100	100	0
F	Front Bumper Bottom to Ground	174	177	-3
G	Sill Height at Front Wheel Well	194	171	23
H	Sill Height at Front Door Leading Edge	195	160	35
I	Sill Height at B-Pillar	198	211	-13
J1	Sill Height at Rear Wheel Well	200	214	-14
J2	Pinch Weld Height at Rear Wheel Well	200	213	-13
K	Sill Height Aft of Rear Wheel Well	207	208	-1
L	Rear Bumper Thickness	177	177	0
M	Rear Bumper Bottom to Ground	281	270	11
N	Sill Height to Bottom of Front Window Sill	764	745	19
O	Front Door Leading Edge to Impact CL	661	657	4
P	Rear Door Trailing Edge to Impact CL	1287	1313	-26
Q	Front Window Opening	395	355	40
R	Right Side Length	3744	3740	4
S	Left Side Length	3744	3628	116
T	Vehicle Width at B-Pillars	1780	1654	126

DATA SHEET NO. 10 **VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013



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

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	220	304	0
2	Occupant Hip Point	504	357	75
3	Mid Door	630	375	75
4	Window Sill	943	284	75
5	Window Top	1350	78	0

DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013

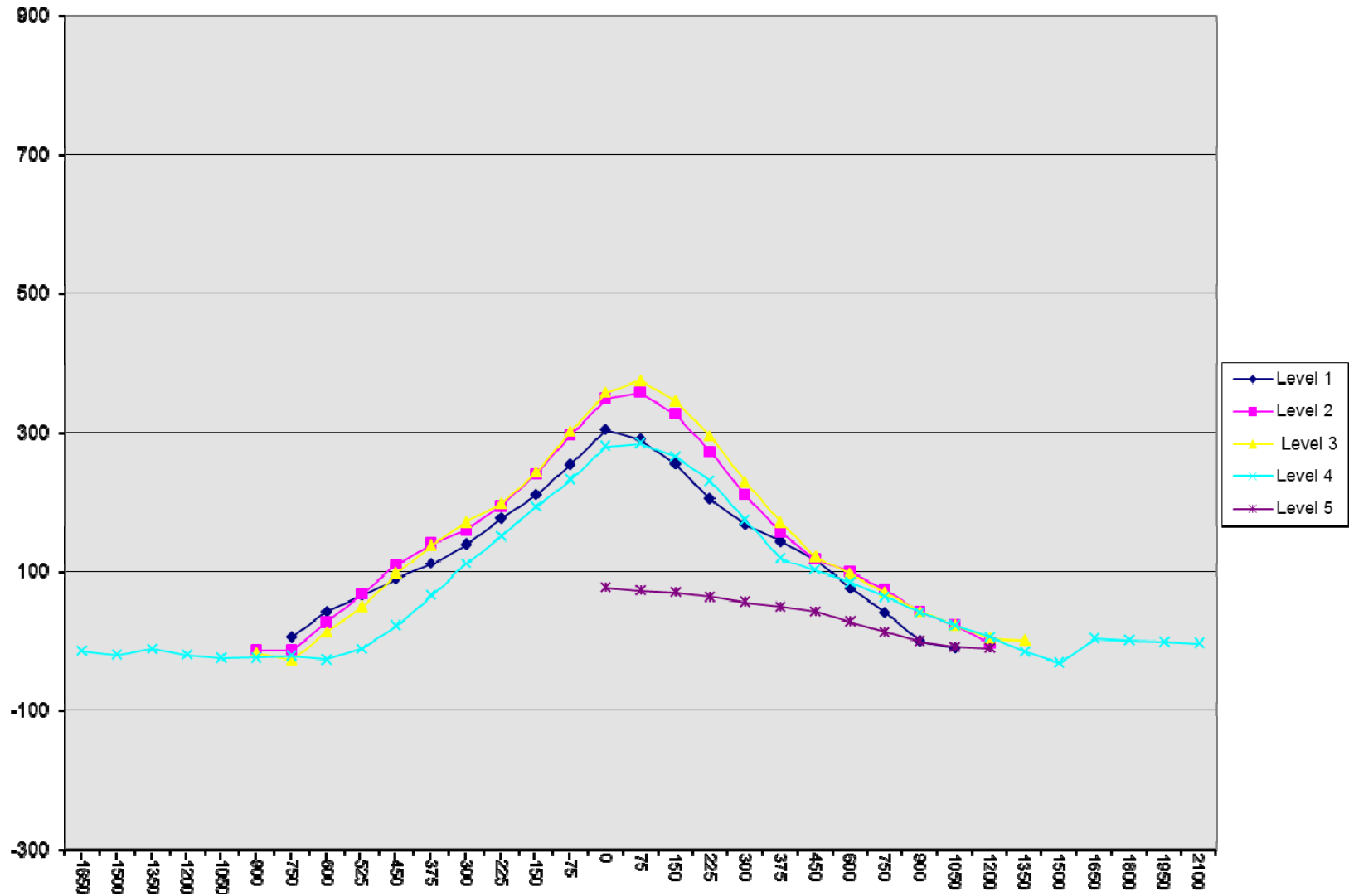
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1650				483					470					-13	
-1500				462					443					-19	
-1350				440					430					-10	
-1200				419					400					-19	
-1050				398					375					-23	
-900		208	205	377			196	189	355			-12	-16	-22	
-750	242	209	208	362		249	197	182	342		7	-12	-26	-20	
-600	245	211	207	349		289	239	221	324		44	28	14	-25	
-525	246	212	207	343		313	280	257	333		67	68	50	-10	
-450	247	212	206	336		338	323	304	359		91	111	98	23	
-375	252	212	206	329		364	353	345	396		112	141	139	67	
-300	255	213	207	322		395	373	378	434		140	160	171	112	
-225	257	213	207	316		433	407	404	468		176	194	197	152	
-150	260	214	207	307		470	454	449	500		210	240	242	193	
-75	263	215	207	302		517	511	509	534		254	296	302	232	
0	264	216	208	295	559	568	565	565	575	637	304	349	357	280	78
75	262	216	208	294	548	552	573	583	578	622	290	357	375	284	74
150	260	218	209	293	542	515	544	554	558	613	255	326	345	265	71
225	257	219	210	293	535	461	491	505	523	600	204	272	295	230	65
300	253	219	211	288	532	421	429	440	462	589	168	210	229	174	57
375	247	221	212	289	528	392	378	383	409	579	145	157	171	120	51
450	242	223	213	288	530	361	342	336	390	574	119	119	123	102	44
600	237	227	218	287	530	314	327	315	373	559	77	100	97	86	29
750	241	232	223	289	533	283	307	294	354	547	42	75	71	65	14
900	256	235	228	290	538	257	278	272	332	539	1	43	44	42	1
1050	259	236	232	293	551	251	260	256	317	544	-8	24	24	24	-7
1200		212	226	296	572		210	231	303	563		-2	5	7	-9
1350			198	303				200	289				2	-14	
1500				309					279					-30	
1650				319					324					5	
1800				332					334					2	
1950				347					347					0	
2100				370					368					-2	

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 pile grid is established prior to the test based on an estimated impact point. The final distance from impact is determined after the final dummy positioning and the pole is aligned with the center of gravity of the dummy's head.

DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
Test Program: NCAP Side Pole Impact Test

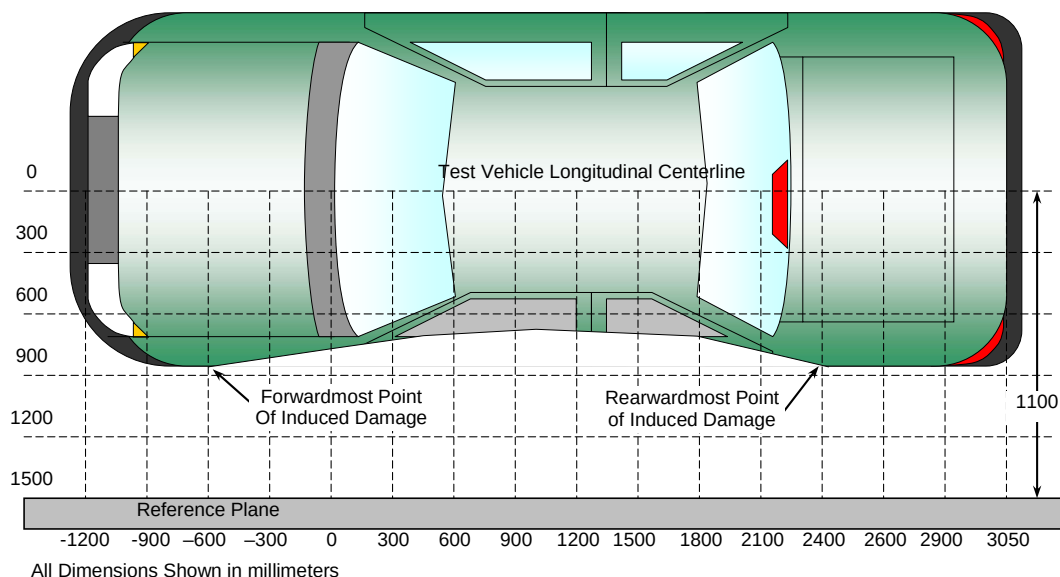
NHTSA No. M20145101
Test Date: 8/13/2013



DATA SHEET NO. 10 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point (mm)	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	750	289	415	126
2	450	288	463	175
3	150	307	657	350
4	-150	307	603	296
5	-450	247	439	192
6	-750	362	425	63

DATA SHEET NO. 11
FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

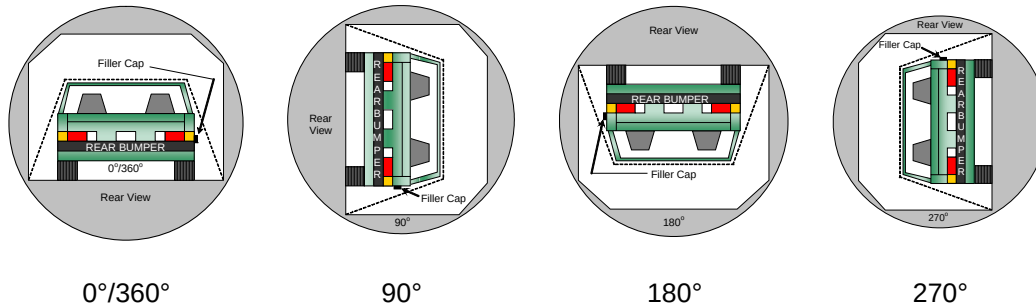
NHTSA No. M20145101
 Test Date: 8/13/2013

Test Time: 11:35 am

Temperature: 22.1°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°	113	300	413
90° to 180°	112	300	412
180° to 270°	107	300	407
270° to 360°	114	300	414

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

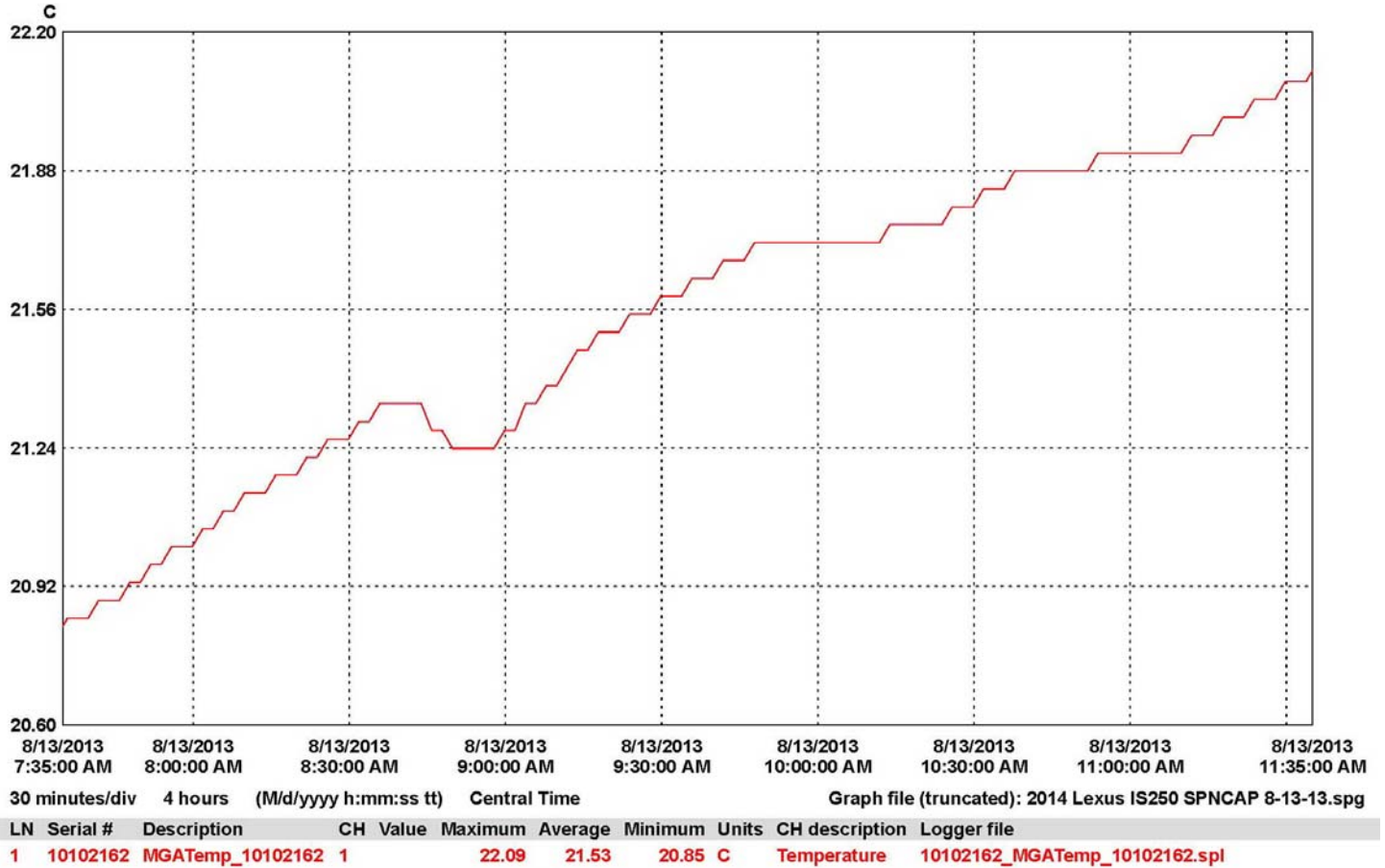
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 12
DUMMY/VEHICLE TEMPERATURE STABILIZATION DATA

Test Vehicle: 2014 Lexus IS250 4-Dr Sedan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20145101
 Test Date: 8/13/2013



APPENDIX A
PHOTOGRAPHS

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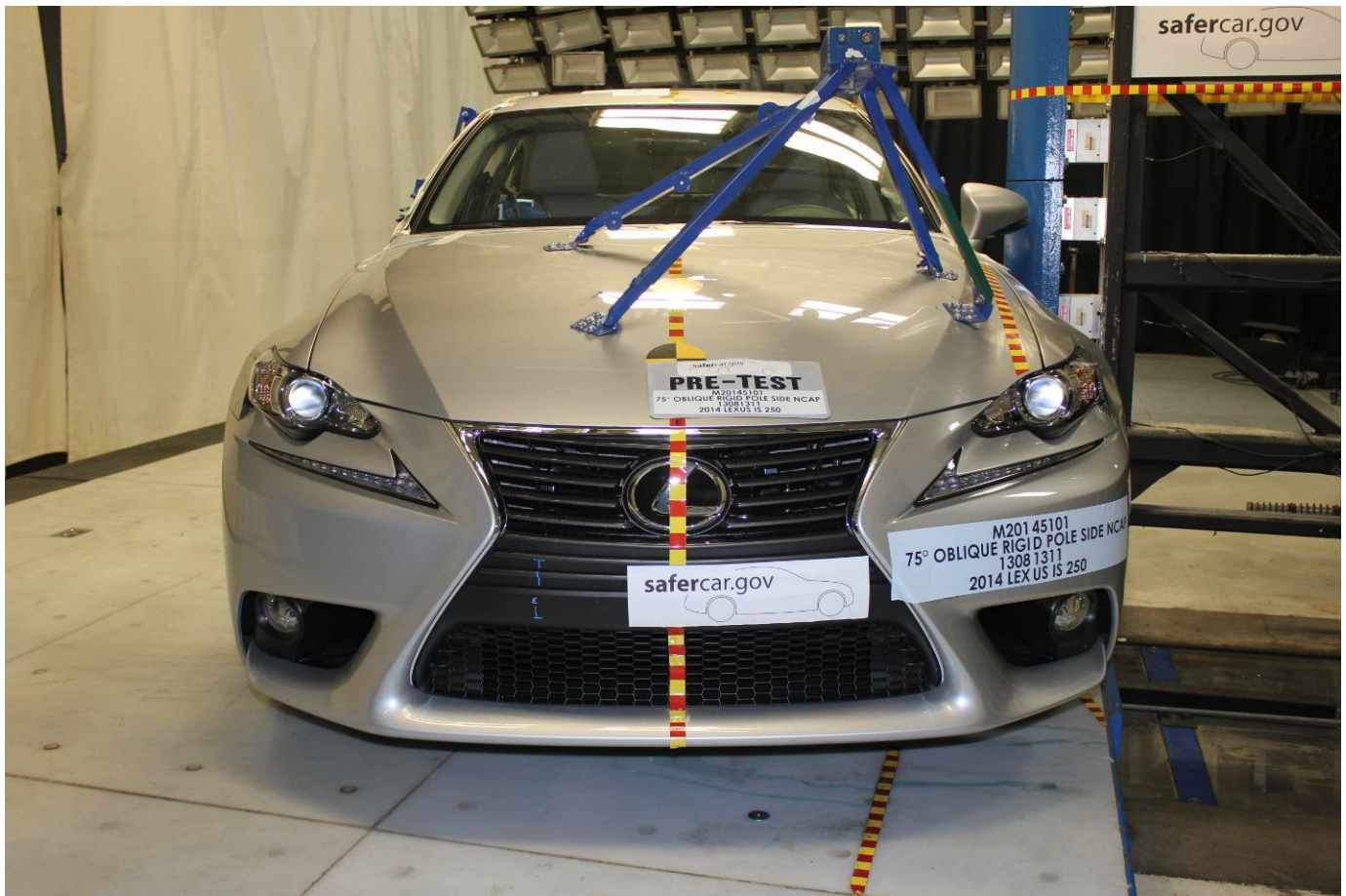
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As Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



As Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle



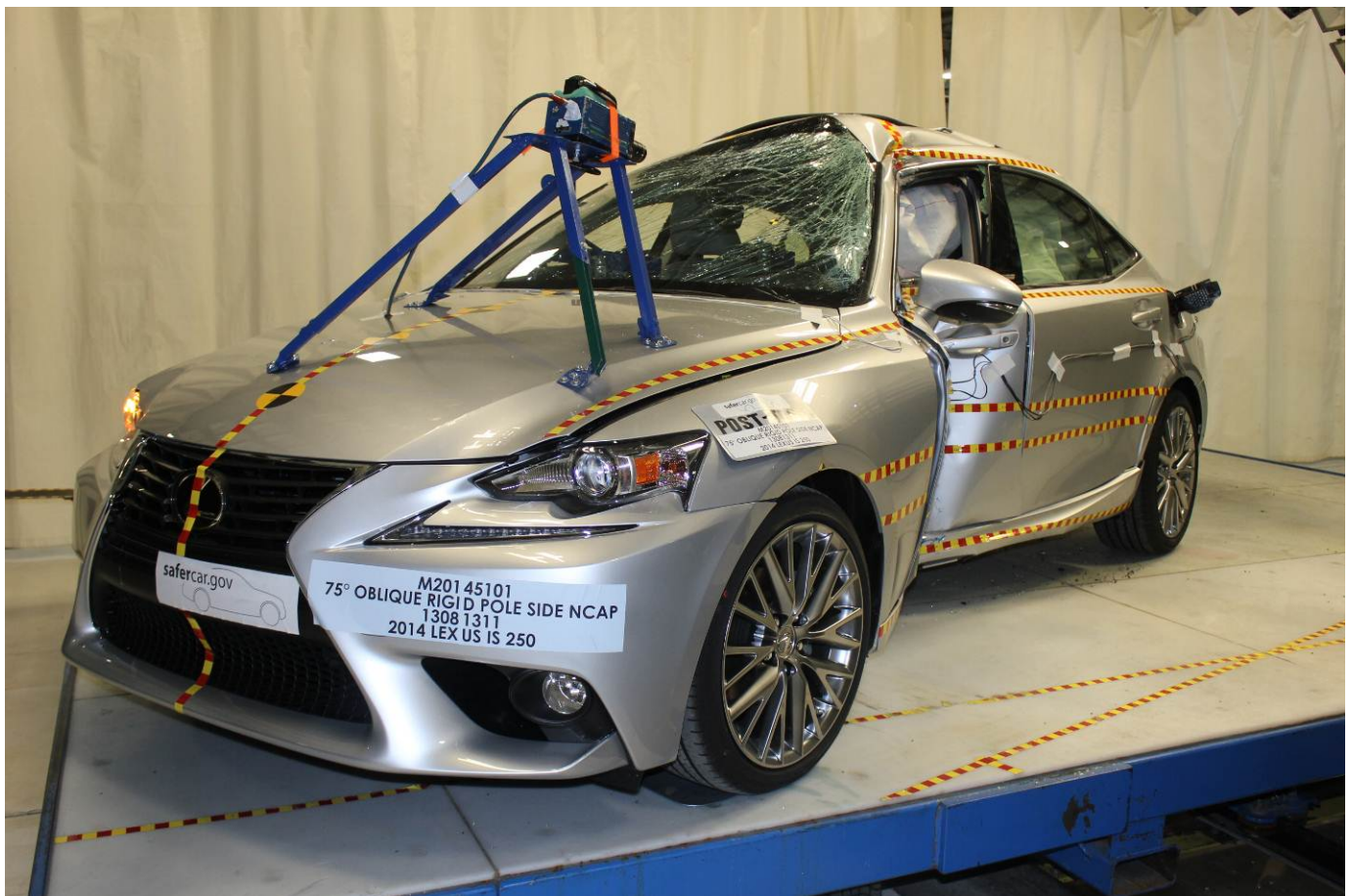
Pre-Test Frontal View of Test Vehicle



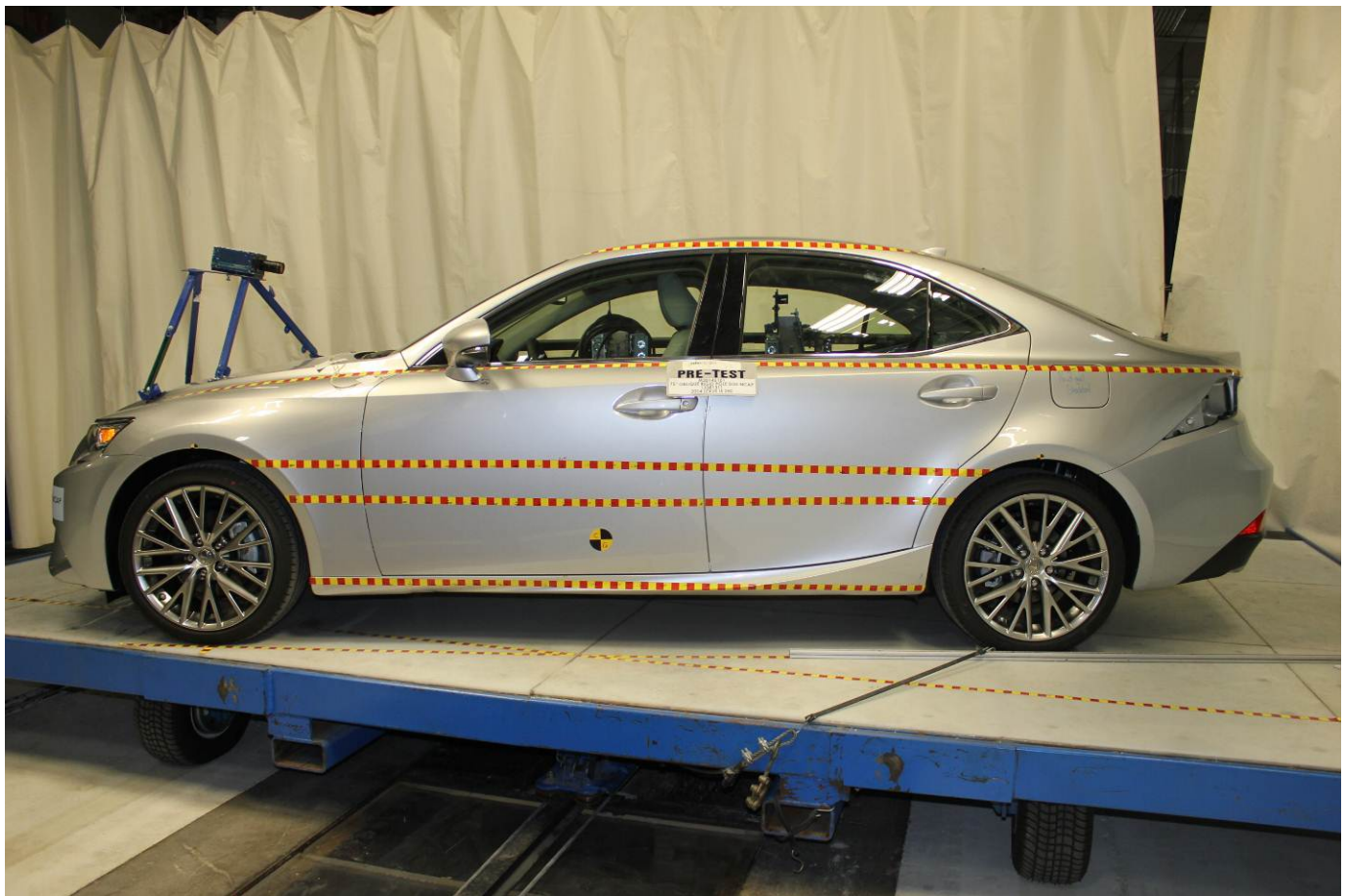
Post-Test Frontal View of Test Vehicle



Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle



Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle



Pre-Test Left Side View of Test Vehicle



Post-Test Left Side View of Test Vehicle



Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



Pre-Test Rear View of Test Vehicle



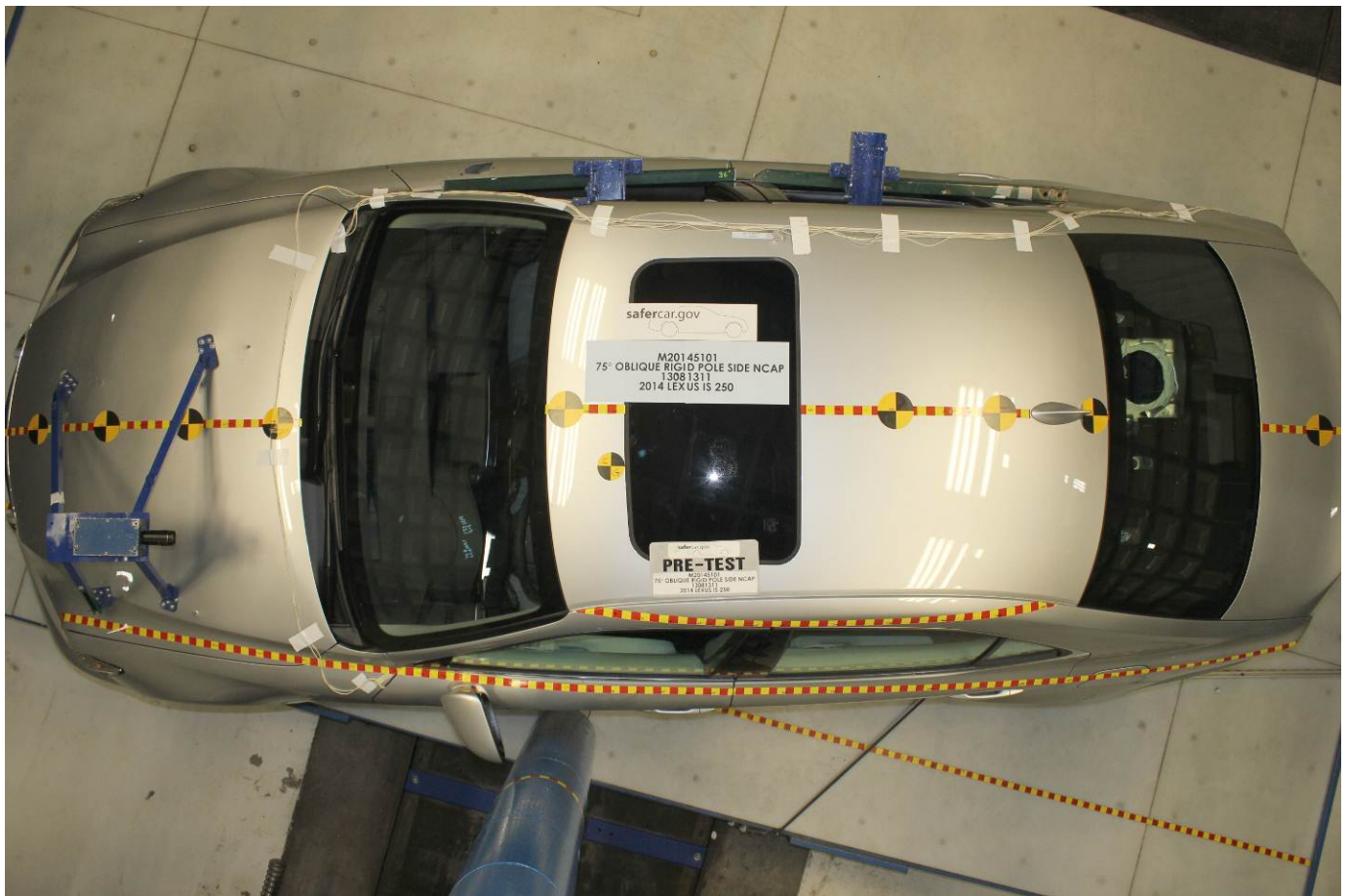
Post-Test Rear View of Test Vehicle



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 Pole Positioned Against Side of Vehicle



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



Pre-Test Close-Up View of Impact Point Target



Post-Test Close-Up View of Impact Point Target Showing Impact Location



Pre-Test Front Close-Up View of Dummy Head and Chest



Post-Test Front Close-Up View of Dummy



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



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



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



Pre-Test Front View of Seat Back Prior to Dummy Positioning



Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



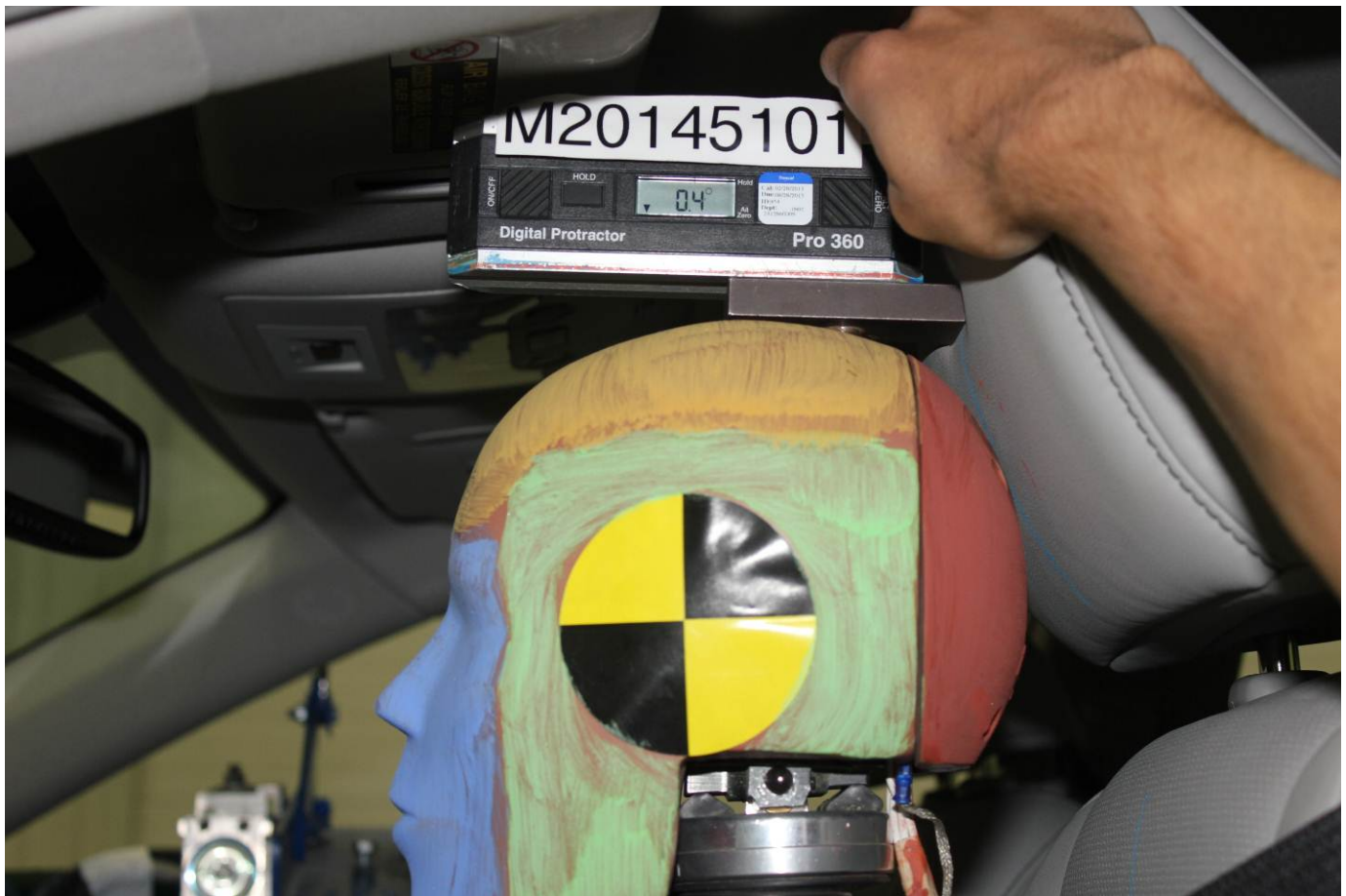
Pre-Test Front View of Seat Pan Prior to Dummy Positioning



Pre-Test Overhead View of Dummy Thighs on Seat Pan



Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket



Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level



Pre-Test Placement of Dummy's Feet



Pre-Test View of Belt Anchorage for 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

PHOTOGRAPH NOT APPLICABLE

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



Pre-Test Dummy and Door Clearance View



Post-Test Dummy and Door Clearance View



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



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



Pre-Test Inner Door Panel View



Post-Test Inner Door Panel View Showing Dummy Contact Location



Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



Post-Test Dummy Close-Up Head Contact with Side Air Bag View



Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



Post-Test Dummy Close-Up Torso Contact with Side Air Bag View



Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View



Post-Test Dummy Close-Up Pelvis Contact with Side Air Bag View

PHOTOGRAPH NOT APPLICABLE

Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View



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



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



Close-Up View of Vehicle's Certification Label



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



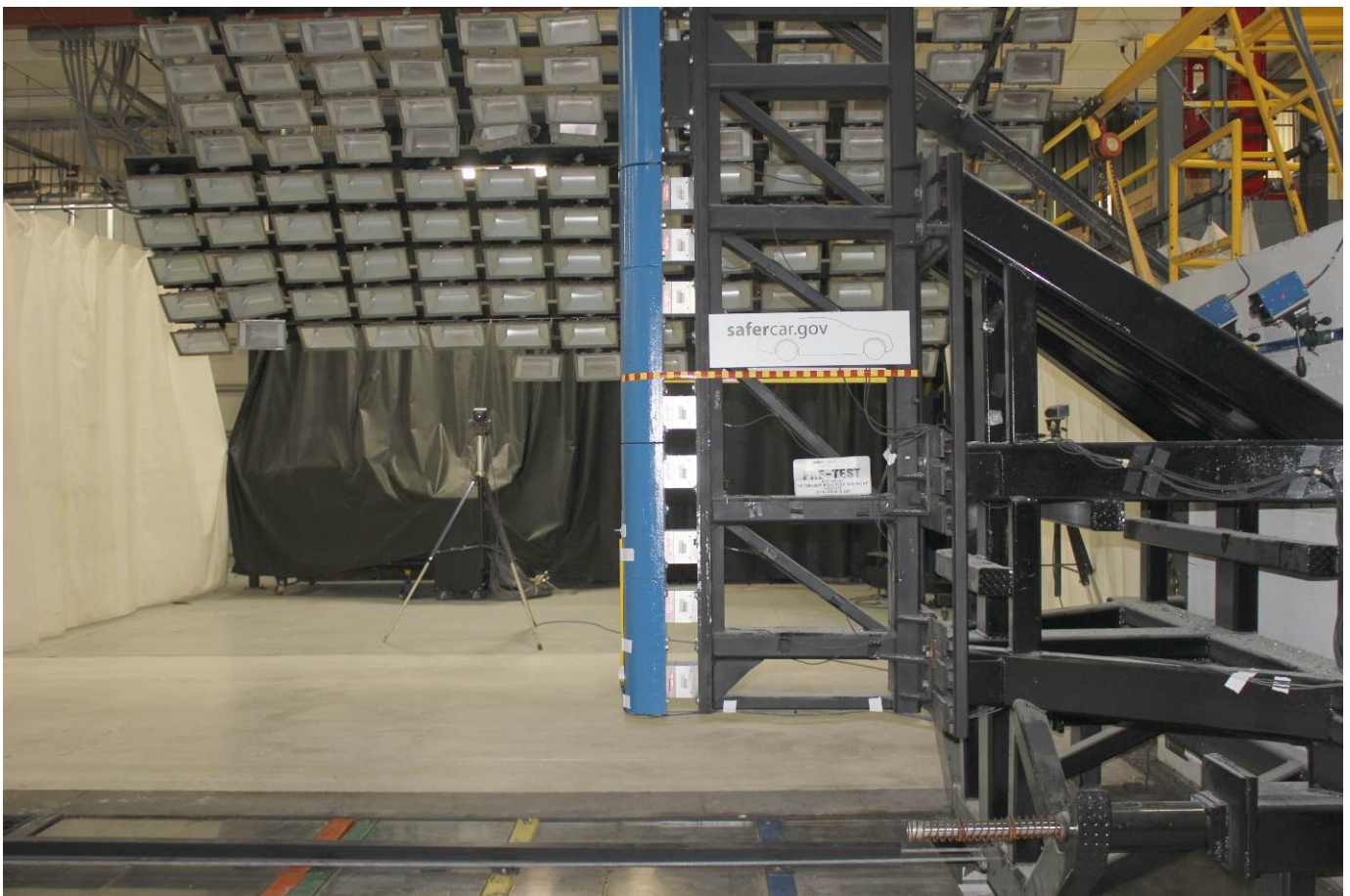
Close-Up View of Load Carrying Capacity Reduced Label



Pre-Test Pole Barrier Front View



Post-Test Pole Barrier Front View



Pre-Test Pole Barrier Side View



Post-Test Pole Barrier Side View

PHOTOGRAPH NOT APPLICABLE

Pre-Test Ballast View



Post-Test Primary and Redundant Speed Trap Read-Out



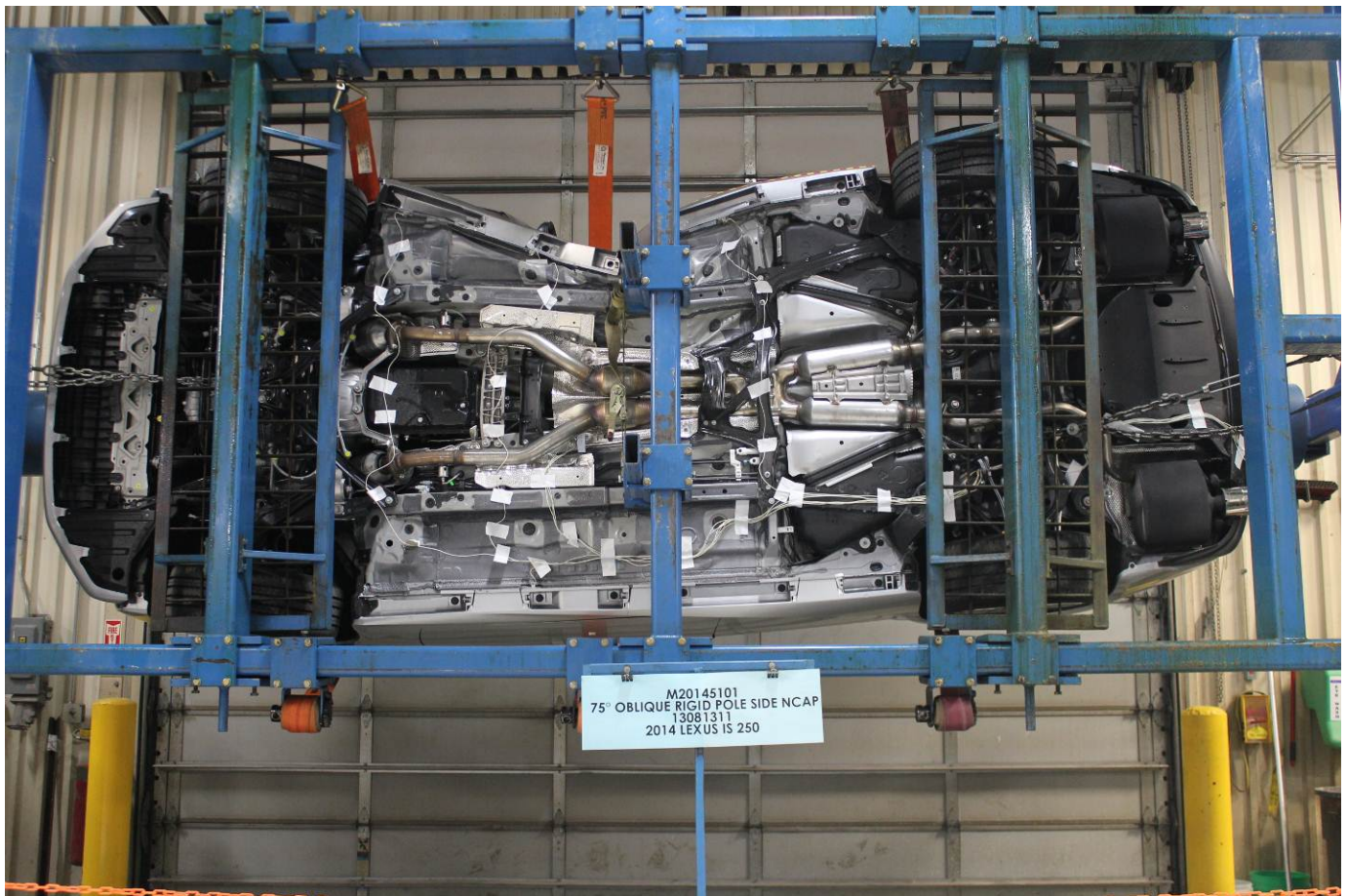
FMVSS No. 301 Static Rollover 0 Degrees



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

LEXUS
The Pursuit of Perfection

DESCRIPTION 2014 / 9502A IS250 4-DR SEDAN
COLOR SILVER LINING MET
VIN JTHBF1D21E5005967
PORT/PLANT Long Beach, CA

Dealer Name / Address:
LEXUS OF TULSA
4210 SOUTH MEMORIAL DR
TULSA OK74145

STANDARD EQUIPMENT & INSTALLED OPTIONS

STANDARD FEATURES 2.5-liter V8- 24 valve, dual overhead cam (DOHC), - Direct Injection, Variable Valve Timing (VVT-i), 204 Horsepower, 185 lb-ft Torque 6 speed automatic transmission- paddle shifters, - Electronic Control with Intelligence (ECT-i) - Drive Mode Select- ECO, Normal, Sport & Snow modes - Double wishbone front & multi-link rear suspension - Vehicle Dynamics Integrated Management (VDIM) - Anti-Lock Braking System (ABS), Electronic - Brakeforce Distribution (EBD) & Brake Assist (BA) 17" Aluminum Wheels- 225/45R17 All-Season tires, - Location specific tire pressure monitoring system - High Intensity Discharge Headlamps (HID) low & high beams, LED Daytime Running Lights (DRLs) - Dual Chrome Exhaust - Power Tilt/Slide Moonroof w/One-Touch Open/Close - SmartAccess with Push-Button Start/Stop - Rear View Mirror- Auto Dimming, HomeLink Garage Door Opener - Driver Seat: 10-way power, (including 2-way lumbar) Passenger seat 8-way power - Folding rear seats (60/40 Split) - Multi Information Display(MID)- full color display includes Audio, Phone and Trip Information - Lexus Premium Display Audio System- - HD Radio with real-time traffic and weather, - Gracelote album art, MP3 player USB integration,	- SiriusXM Satellite Radio (90-day trial subscription) - Bluetooth hands free phone & media streaming - Airbags 10: Driver & Front passenger: Front, Knee & Side (8), Rear Side (2), Side Curtain (2) - Safety Connect- Automatic Collision Notification, Stolen Vehicle Location, Emergency Assist Button (SOS), & Enhanced Roadside Assistance (1-year trial subscription included)
---	---

MANUFACTURER'S SUGGESTED RETAIL PRICE

** Backup Camera	350.00
** 18" Aluminum Alloy Wheels	935.00
Mesh design, Liquid Graphite Finish, FR225/40R18 RR255/35/R18, Summer Tires	328.00
** Trunk Mat, Cargo Net, Whl Locks & Rear Bumper App	

\$ 35,950.00

Fuel Economy and Environment

Fuel Economy

24 MPG
combined city/hwy

21 MPG
city

30 MPG
highway

4.2 gallons per 100 miles

Annual fuel Cost
\$2,350

You spend \$250 more in fuel costs over 5 years compared to the average new vehicle.

GOVERNMENT 5-STAR SAFETY RATINGS

This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.

DELIVERY, PROCESSING AND HANDLING FEE 895.00

TOTAL **\$ 38,458.00**

SUB-TOTAL **\$ 37,563.00**

APPLICABLE FEDERAL TAXES NOT INCLUDED

Manufacturer's suggested retail price includes manufacturer's recommended pre-delivery service.

License and title fees, state, local and applicable federal taxes, and dealer-installed options and accessories are not included in the manufacturer's suggested retail price.

LEXUS NEW VEHICLE LIMITED WARRANTY

Limited warranty coverage highlights include:

- * 4yr / 50,000 mile basic coverage
- * 6yr / 70,000 mile powertrain coverage
- * 6yr / Unlimited mile corrosion performance warranty

See your Warranty and Services Guide for details.

LEXUS IS PLEASED TO OFFER THE FOLLOWING OWNER SUPPORT PACKAGE WITH EACH NEW LEXUS

- * 24 hour, 365 day/yr. roadside assistance plan
- * Complimentary 1st and 2nd scheduled maintenance services
- * Lodging for emergency breakdowns 100 miles from home

An extended service contract may be available for this vehicle. Ask dealer for details.

198A80 426 MDT3 B2612 R

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

Monroney Label

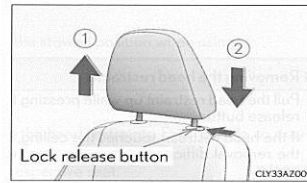
Head restraints

Head restraints are provided for all seats.

Front seats

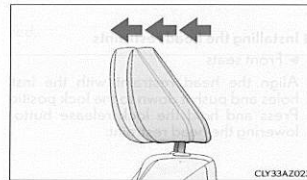
◆ Vertical adjustment

- ① Up
Pull the head restraints up.
- ② Down
Push the head restraint down while pressing the lock release button.



◆ Horizontal adjustment (if equipped)

The position of the head restraint can be adjusted forward in 4 stages. If the head restraint is pulled forward from the foremost position, it will return to the rearmost position.



3
Operation of each component

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



Post-Test View of Shattered Vehicle Inner Door Panel

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS
Driver Dummy Instrumentation Plots

		<u>Page No.</u>
Figure No. 1.	Driver Head CG Acceleration (X) vs. Time	B-1
Figure No. 2.	Driver Head CG Acceleration (Y) vs. Time	B-1
Figure No. 3.	Driver Head CG Acceleration (Z) vs. Time	B-1
Figure No. 4.	Driver Head CG Resultant Acceleration (X) vs. Time	B-1
Figure No. 5.	Driver Lower Spine T12 Acceleration (X) vs. Time	B-2
Figure No. 6.	Driver Lower Spine T12 Acceleration (Y) vs. Time	B-2
Figure No. 7.	Driver Lower Spine T12 Acceleration (Z) vs. Time	B-2
Figure No. 8.	Driver Lower Spine T12 Resultant Acceleration vs. Time	B-2
Figure No. 9.	Driver Iliac Wing Force on Impact Side (Y) vs. Time	B-3
Figure No. 10.	Driver Acetabulum Force on Impact Side (Y) vs. Time	B-3
Figure No. 11.	Driver Total Pelvis Force on Impact Side (Y) vs. Time	B-3

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 Dummy Instrumentation Data

Driver Head CG Redundant Acceleration (X) vs. Time

Driver Head CG Redundant Acceleration (Y) vs. Time

Driver Head CG Redundant Acceleration (Z) vs. Time

Driver Upper Thorax Rib Deflection (Y)

Driver Middle Thorax Rib Deflection (Y)

Driver Lower Thorax Rib Deflection (Y)

Driver Upper Abdomen Rib Deflection (Y)

Driver Lower Abdomen Rib Deflection (Y)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)

Vehicle Center of Gravity Acceleration (Y)

Vehicle Center of Gravity Acceleration (Z)

Left Floor Sill Acceleration (Y)

Left A-Pillar Sill Acceleration (Y)

Left Lower A-Pillar Acceleration (Y)

Left Mid A-Pillar Acceleration (Y)

Left B-Pillar Sill Acceleration (Y)

Left Lower B-Pillar Acceleration (Y)

Left Mid B-Pillar Acceleration (Y)

Driver Seat Track at Dummy Hip Point Acceleration (Y)

Engine Top Acceleration (X)

Engine Top Acceleration (Y)

Firewall Center Acceleration (Y)

Right Roof at Vertical Impact Reference Line Acceleration (Y)

Right Sill at Vertical Impact Reference Line Acceleration (Y)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (X)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (Y)

Pole Instrumentation Data

Load Cell Pole Barrier #1 Force (Y)

Load Cell Pole Barrier #2 Force (Y)

Load Cell Pole Barrier #3 Force (Y)

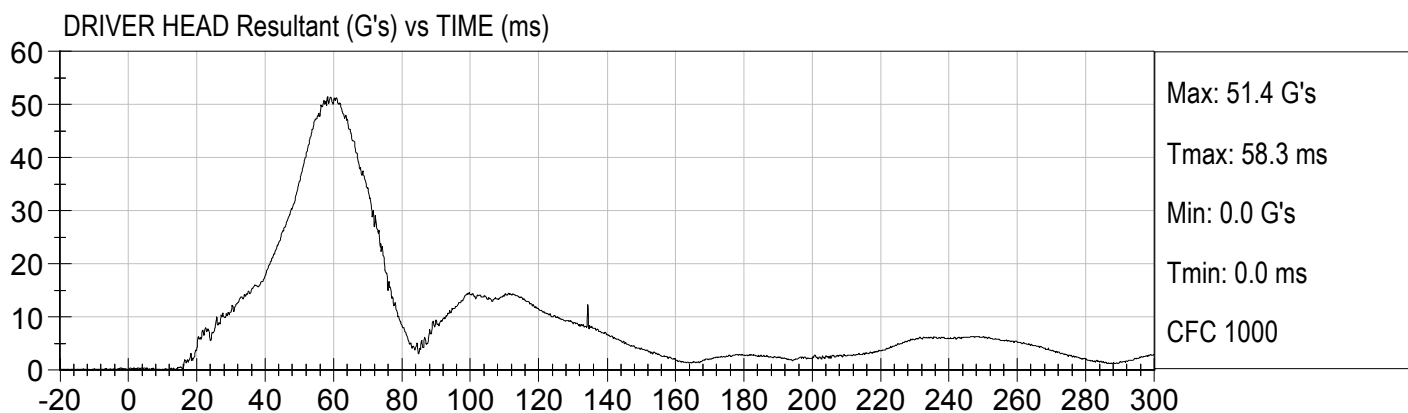
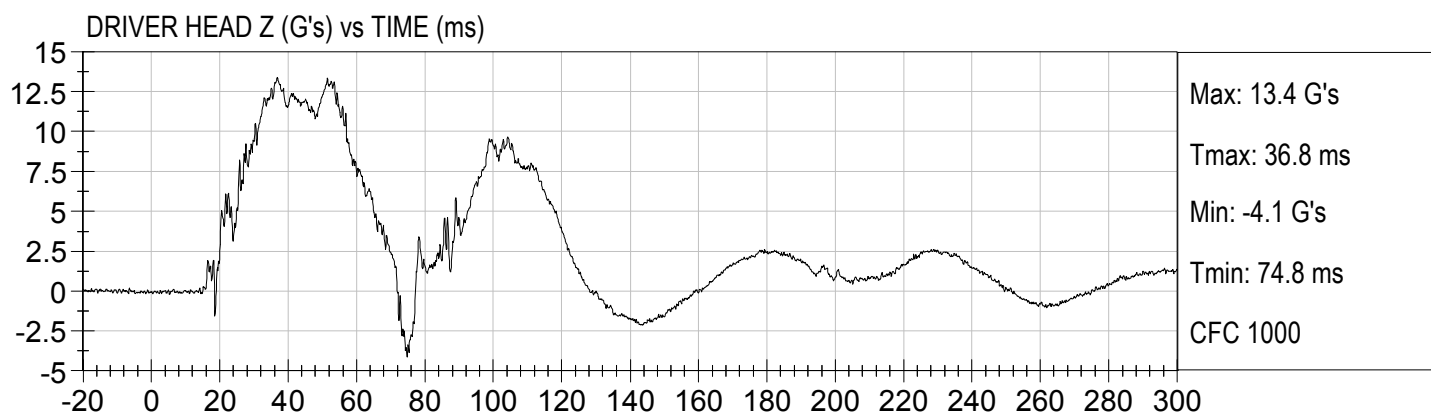
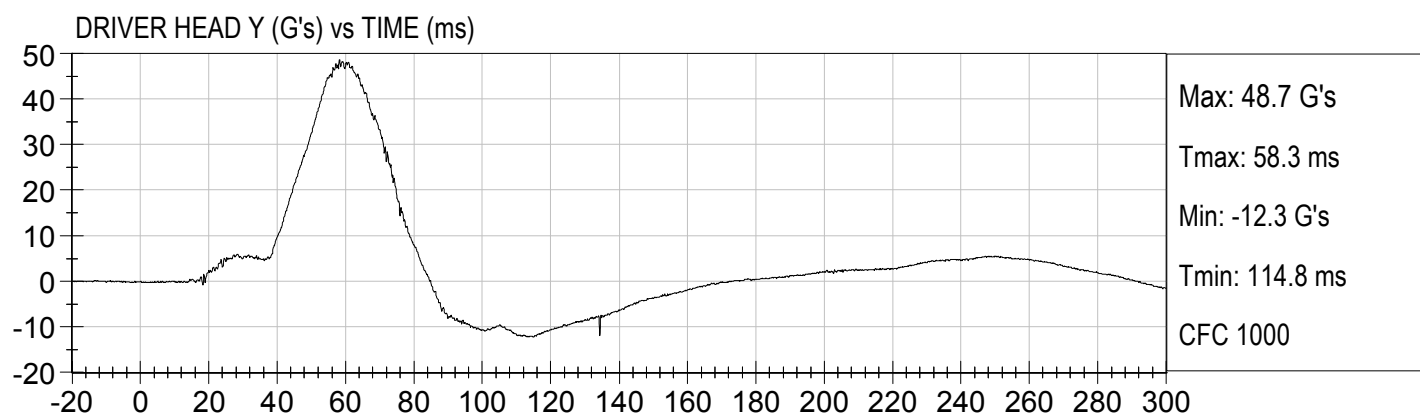
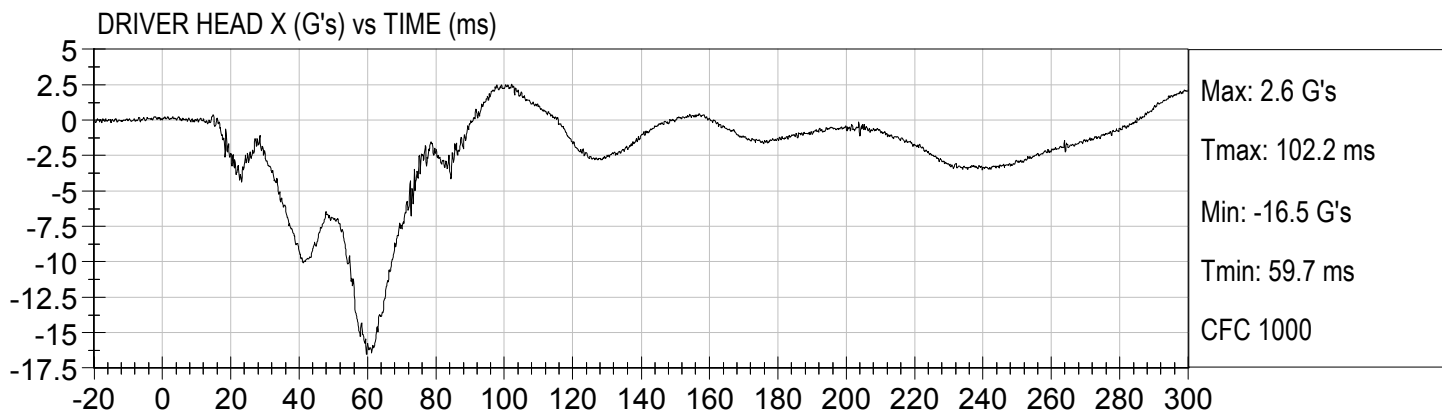
Load Cell Pole Barrier #4 Force (Y)

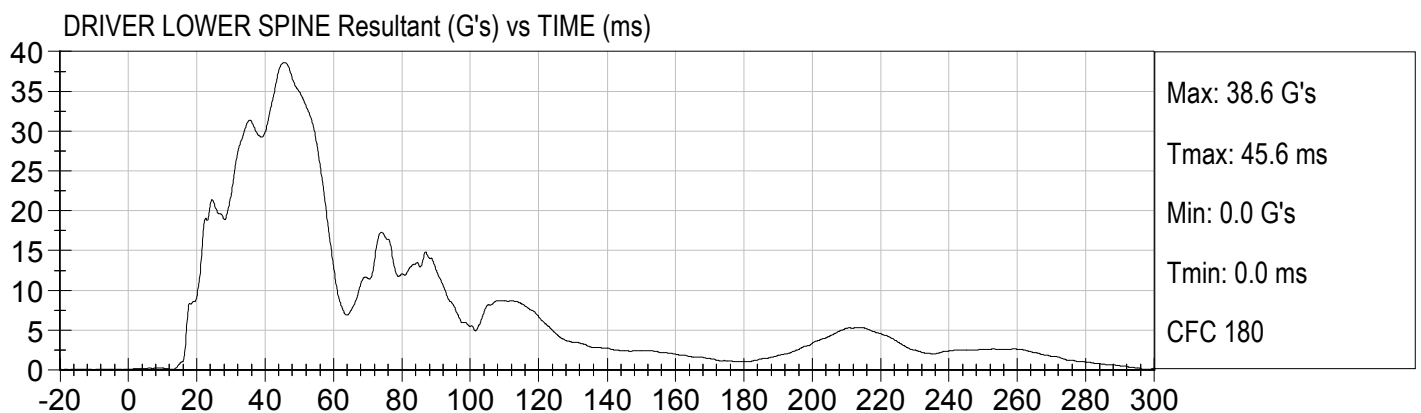
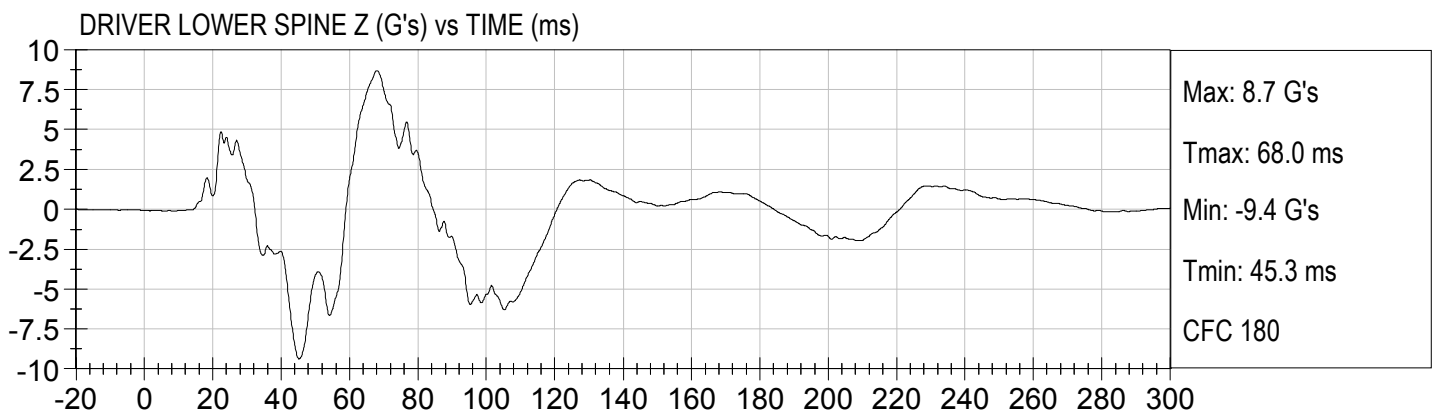
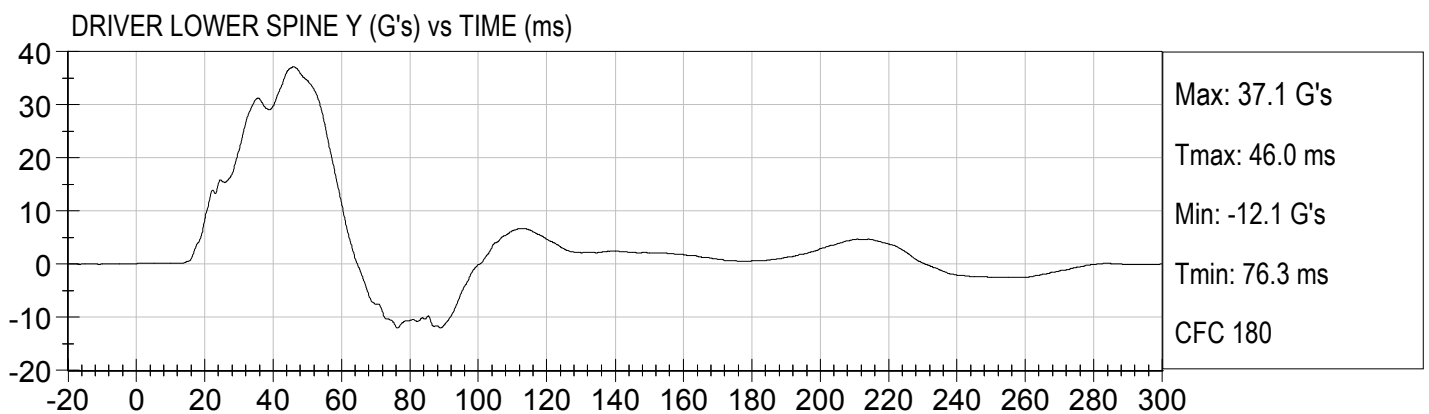
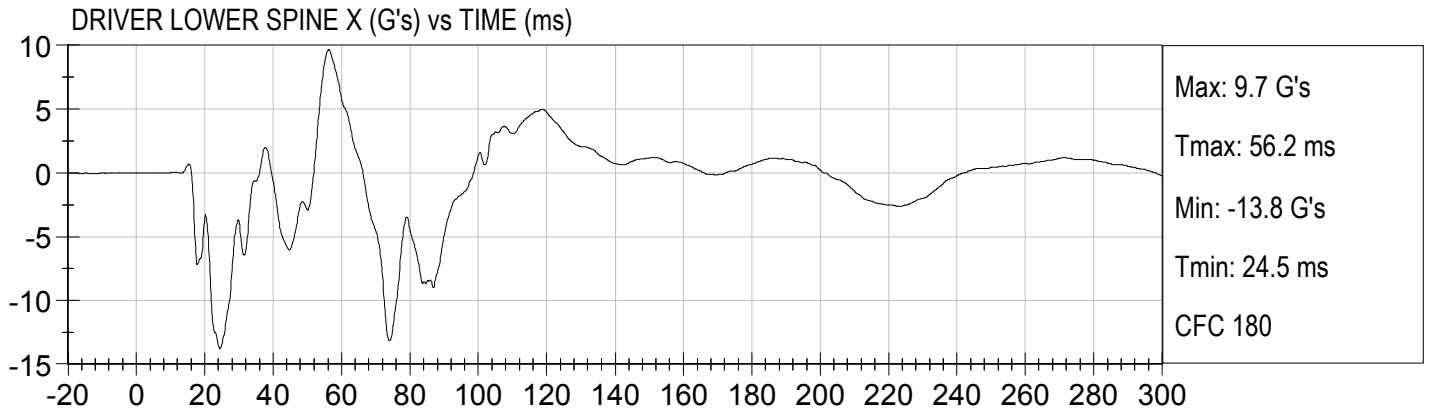
Load Cell Pole Barrier #5 Force (Y)

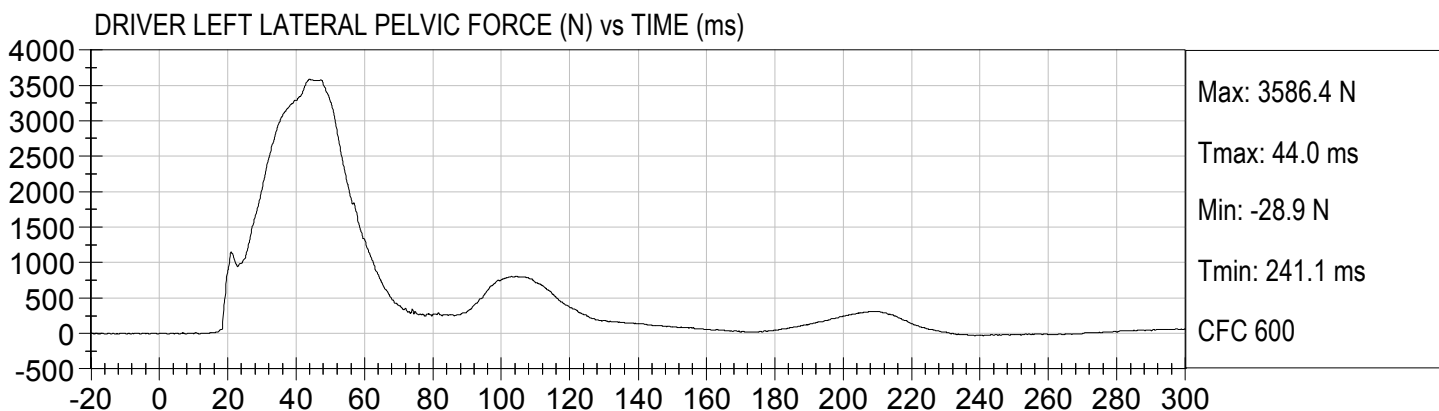
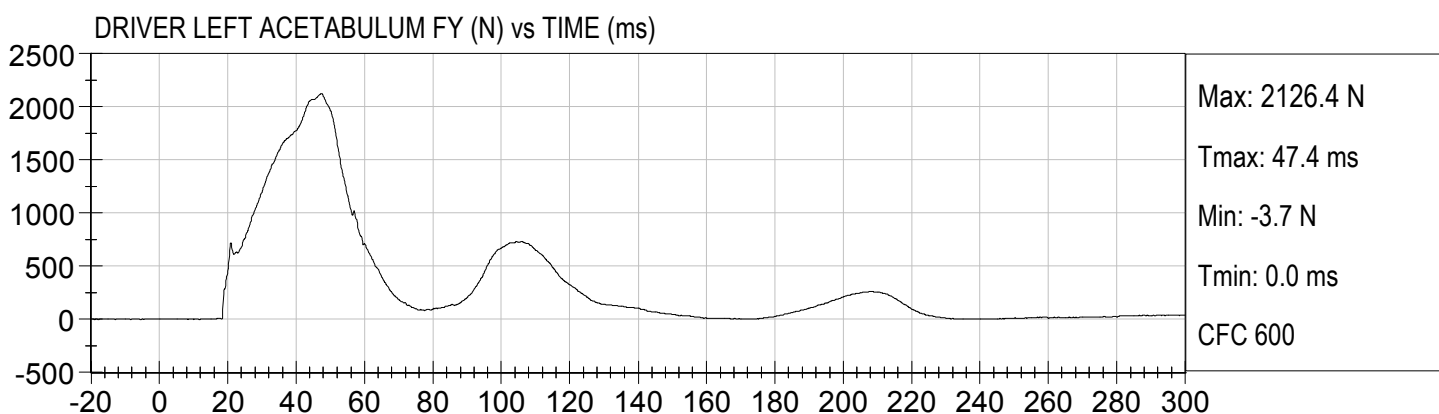
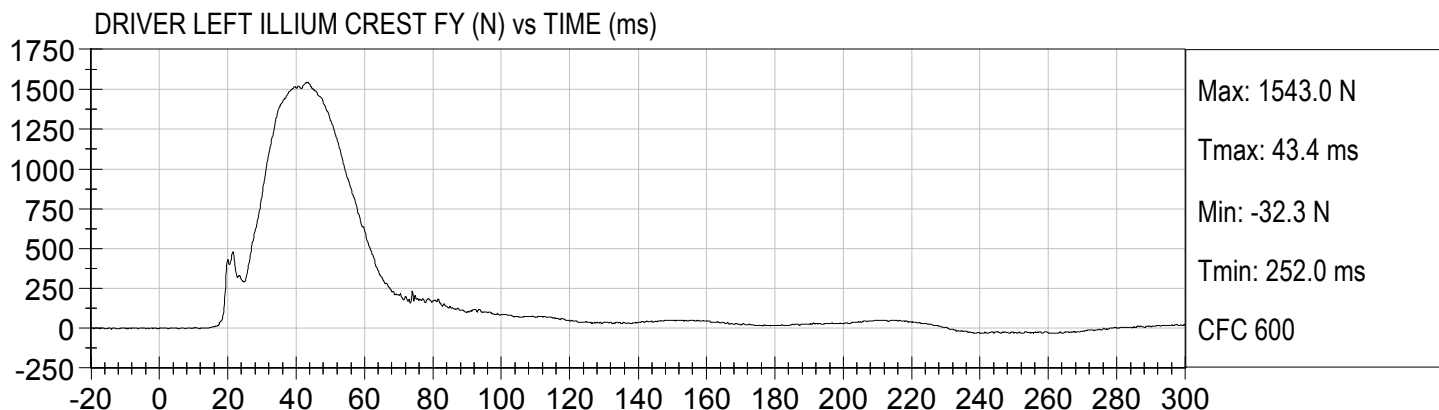
Load Cell Pole Barrier #6 Force (Y)

Load Cell Pole Barrier #7 Force (Y)

Load Cell Pole Barrier #8 Force (Y)







APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SID-IIsD External Measurements
SN: 296

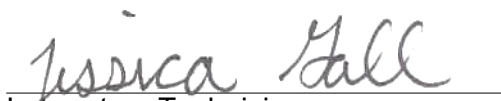
No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	784	Pass
B	Shoulder Pivot Height	437 - 453	442	Pass
C	H-point Height	79 - 89	83	Pass
D	H-point from Seatback	141 - 151	145	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	121	Pass
G	Head Breadth	140 - 148	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

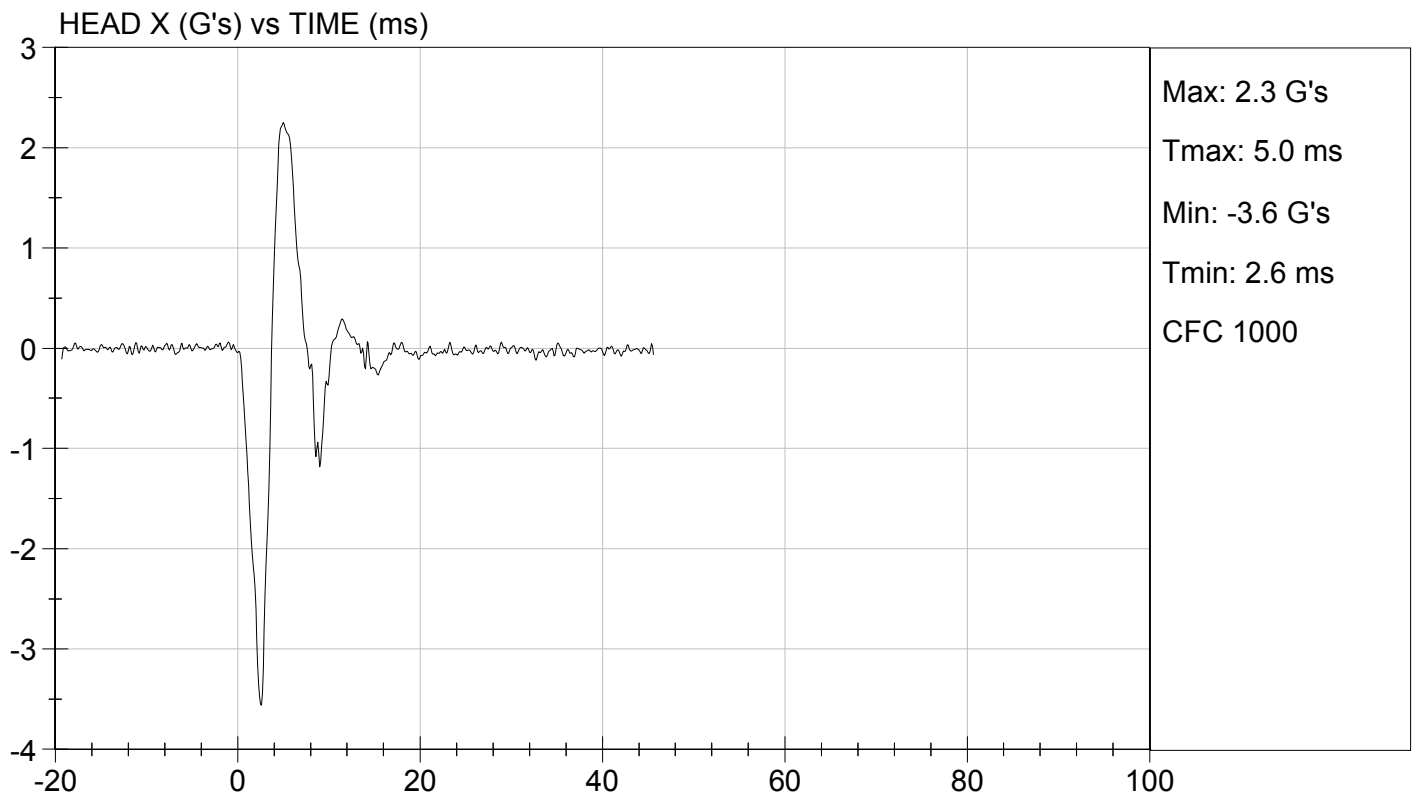
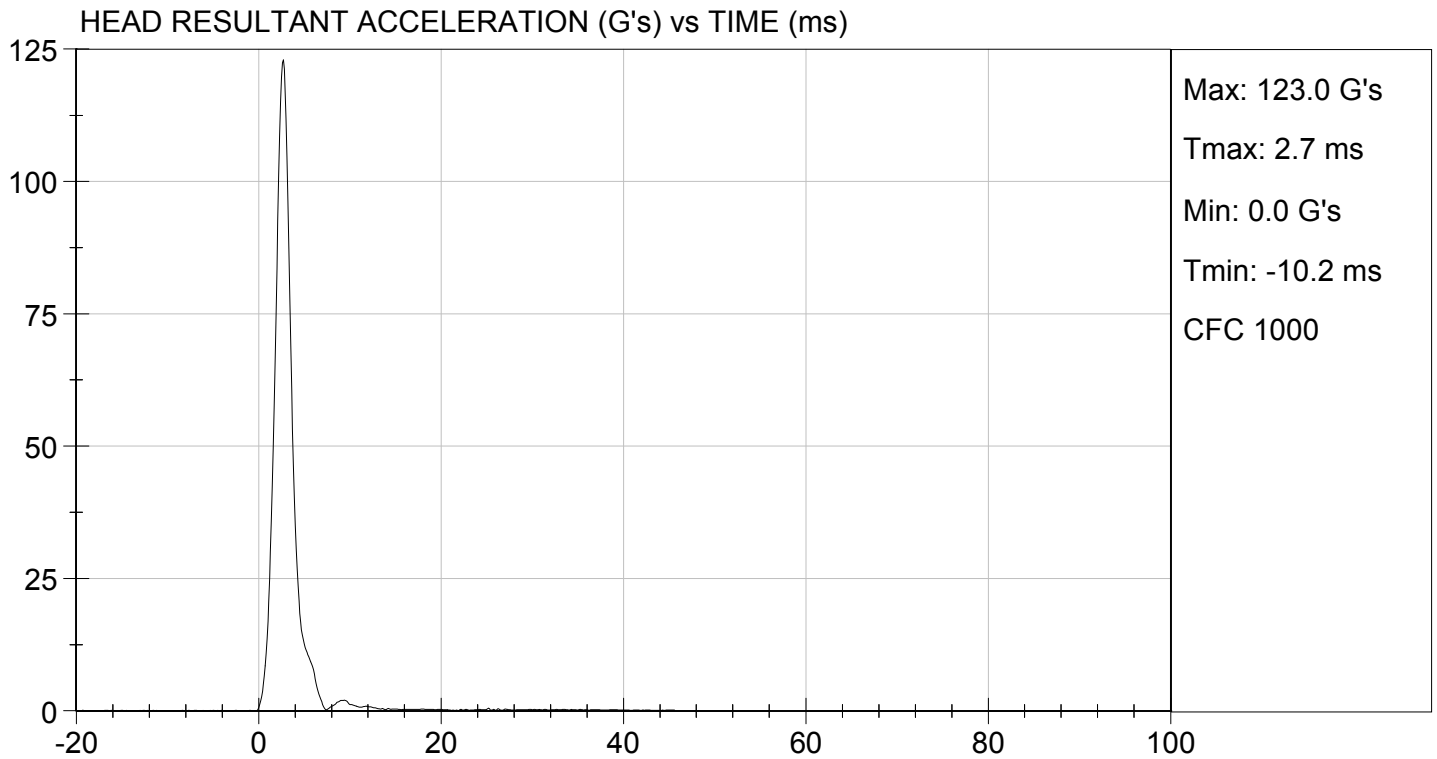
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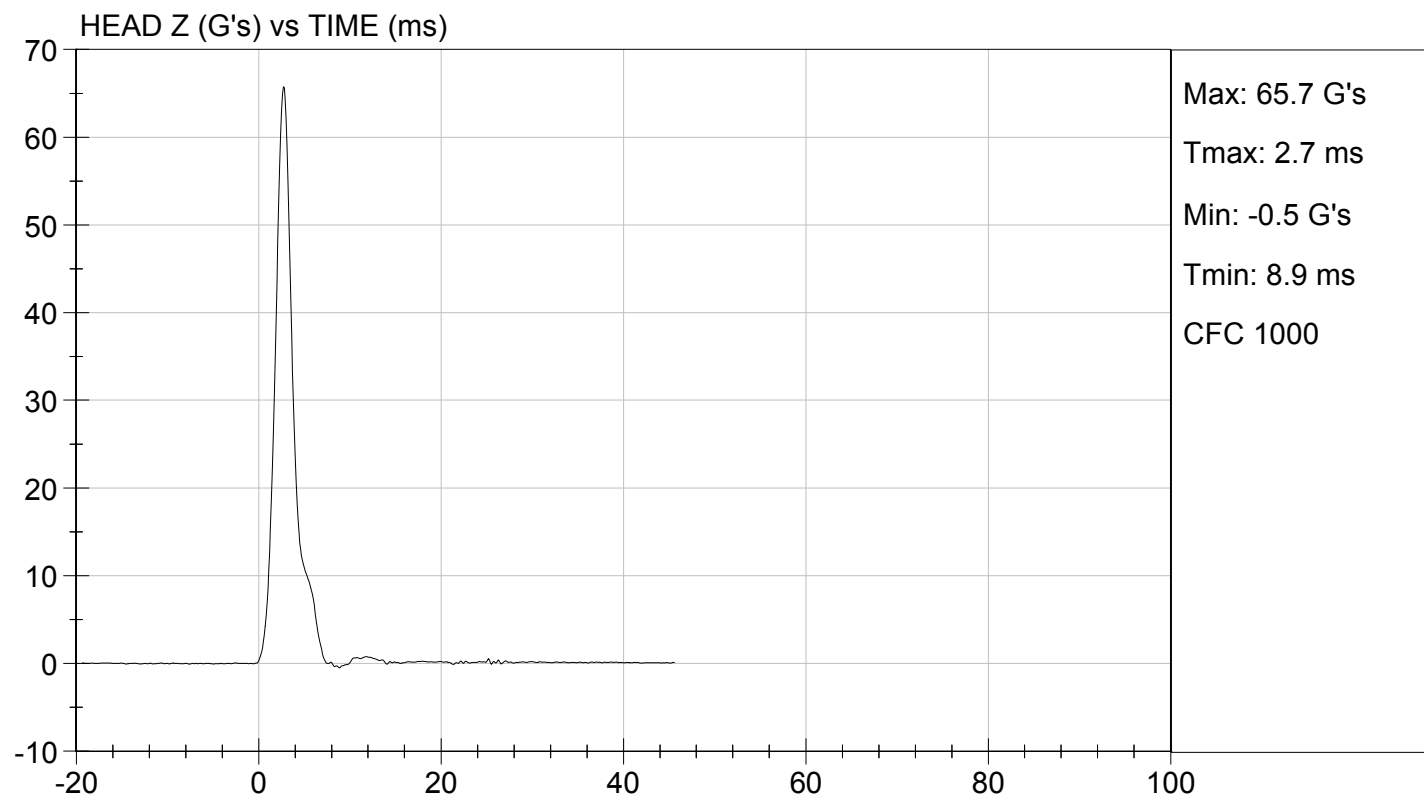
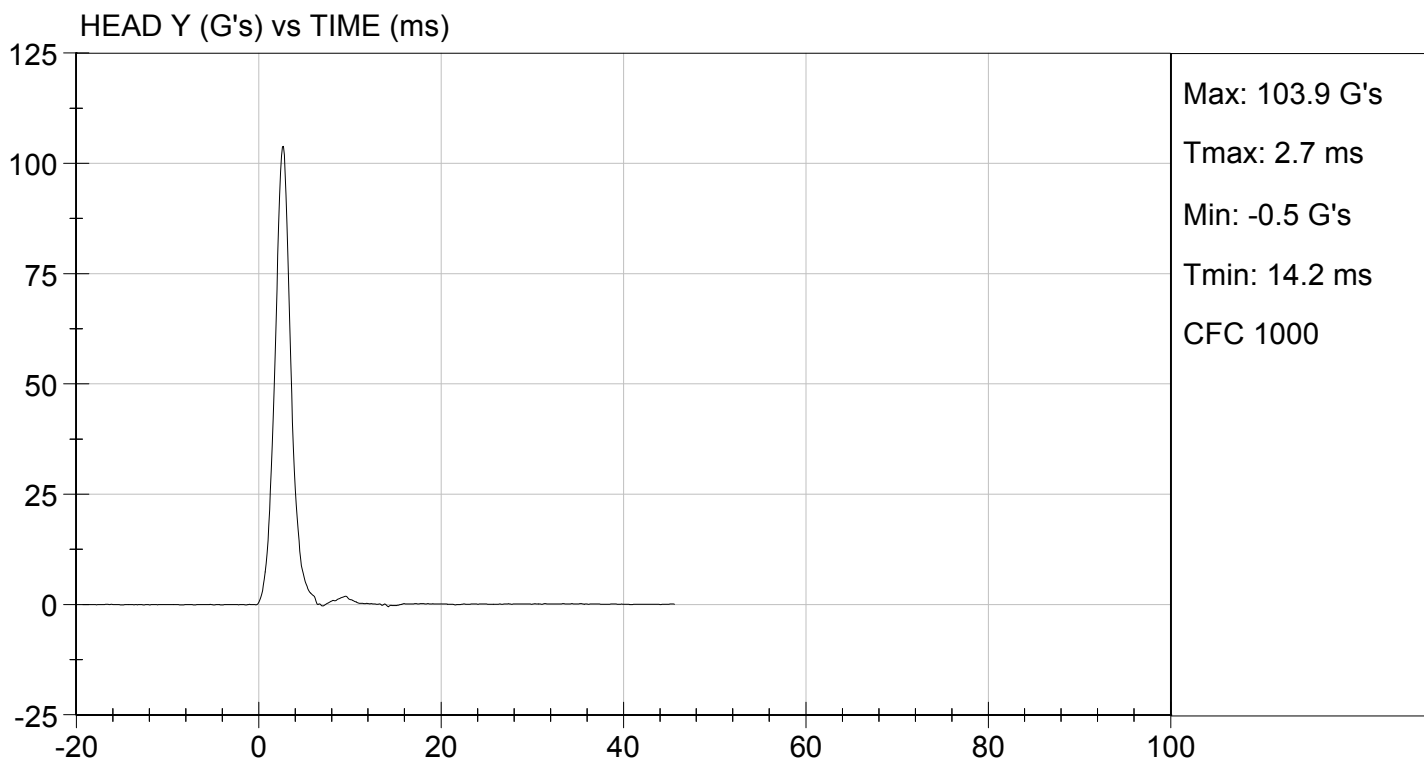
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	47	Pass
Peak Resultant Acceleration	G's	115 to 137	123	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-3.6	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
			Overall Test Results	Pass


Laboratory Technician

07/31/2013
Test Date


Approved By





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

ATD Serial No: 296

Test I.D: D132522

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.3	Pass
Humidity		%	10 to 70	47	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.48	Pass
	15 ms	m/s	3.30 to 4.10	3.51	Pass
	20 ms	m/s	4.40 to 5.40	4.64	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	73	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	62	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-39	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	115	Pass
Overall Test Results					Pass

Jessica Gall
Laboratory Technician

07/31/2013

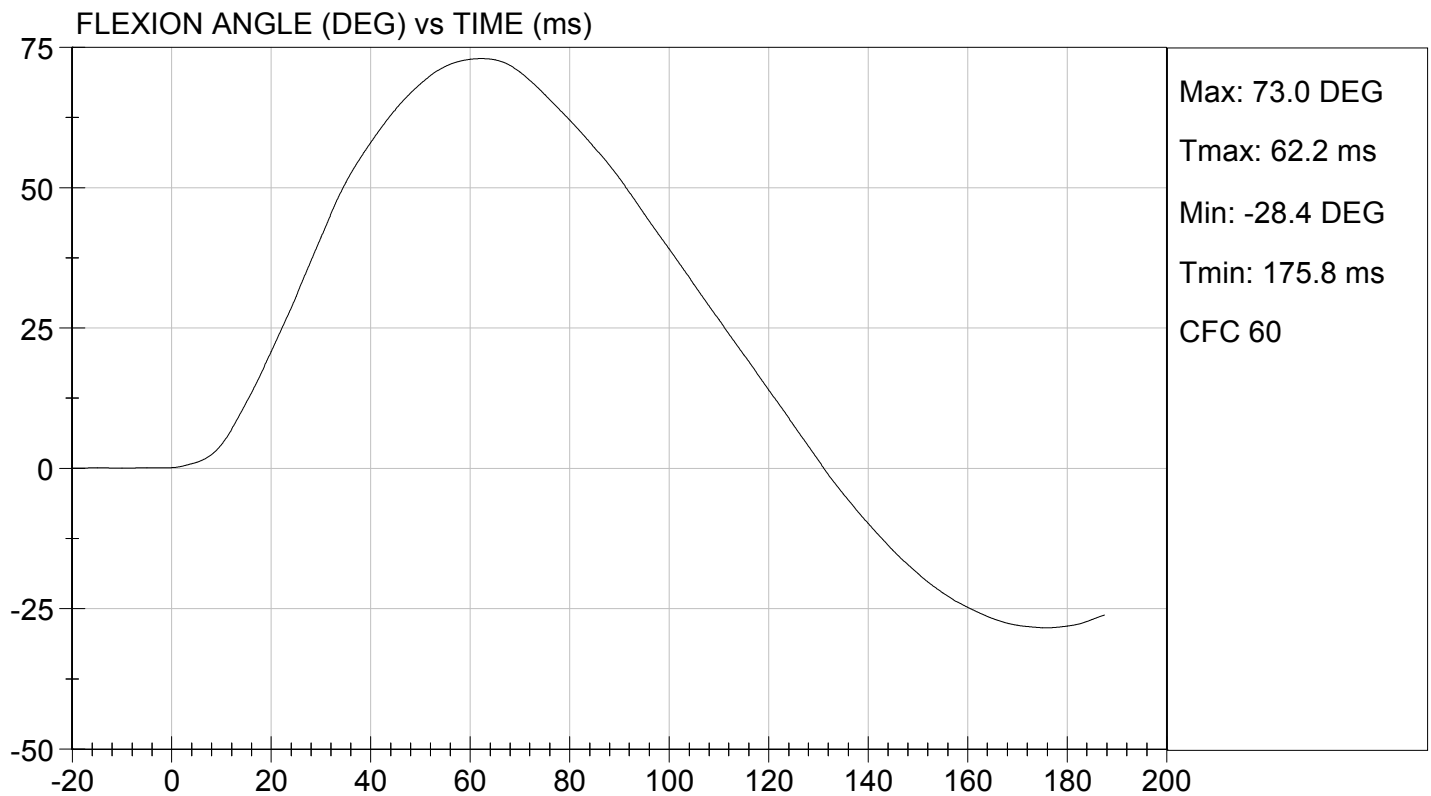
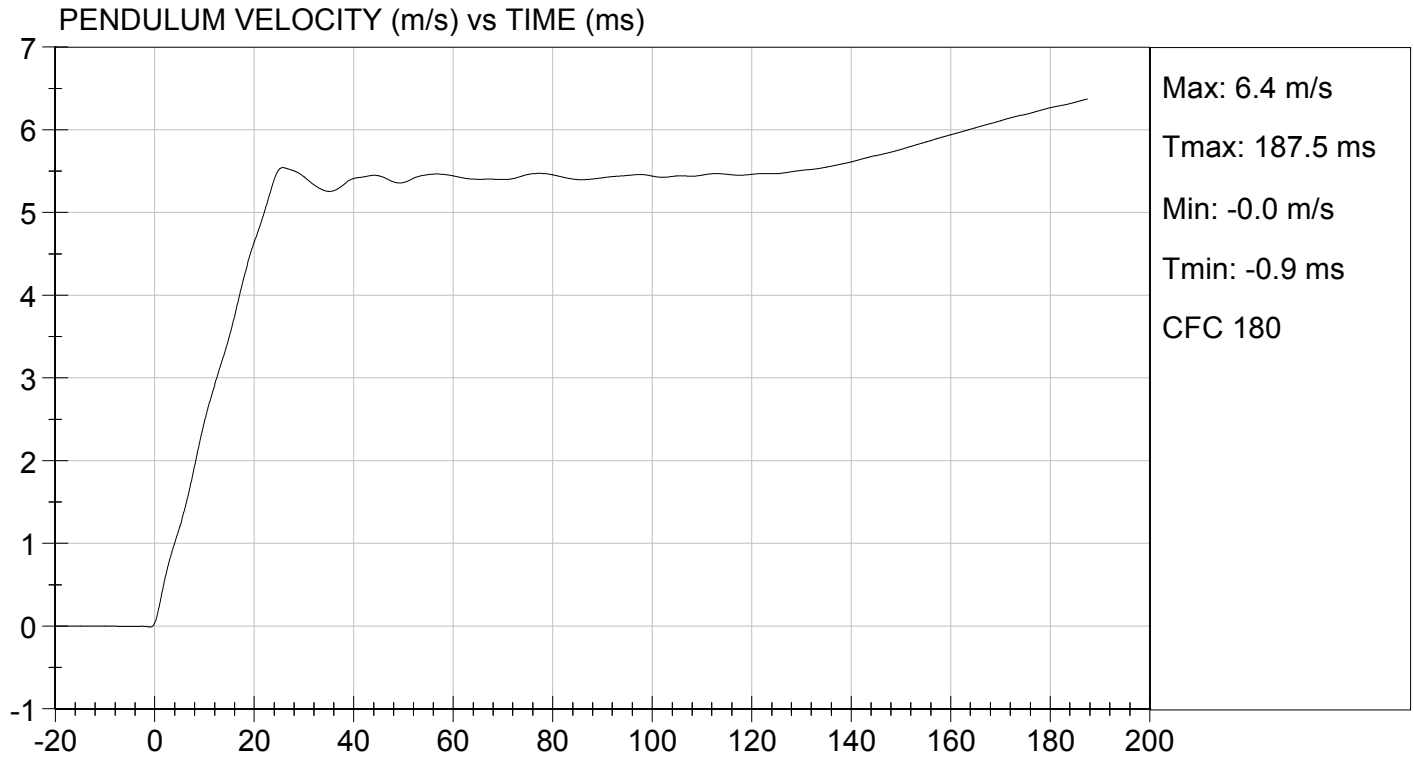
Test Date

David Winkelbauer
Approved By



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

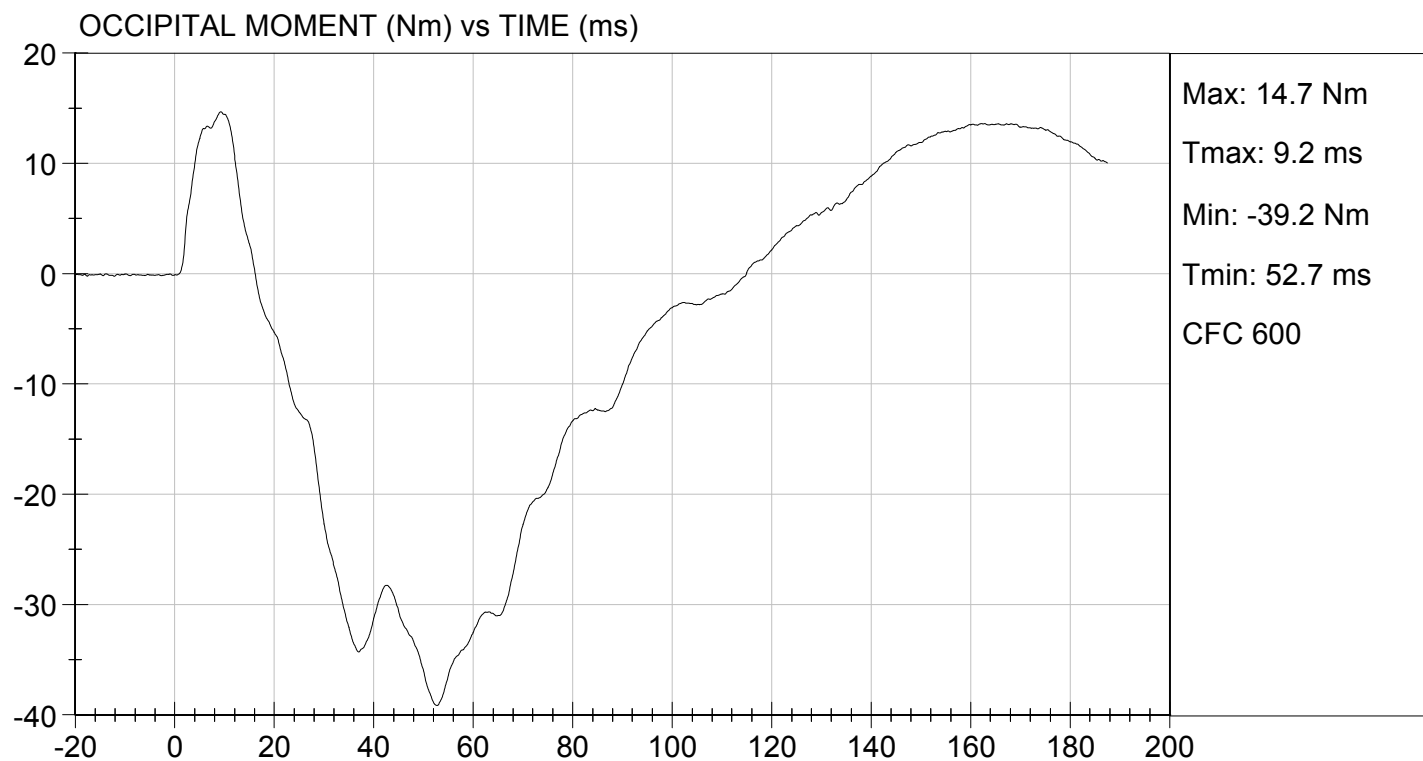
TEST DATE: 07/31/2013
TEST #: D132522





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

TEST DATE: 07/31/2013
TEST #: D132522

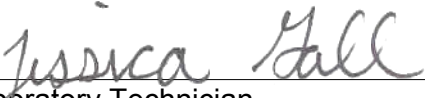


MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test ID: D132523

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	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


Laboratory Technician

07/31/2013

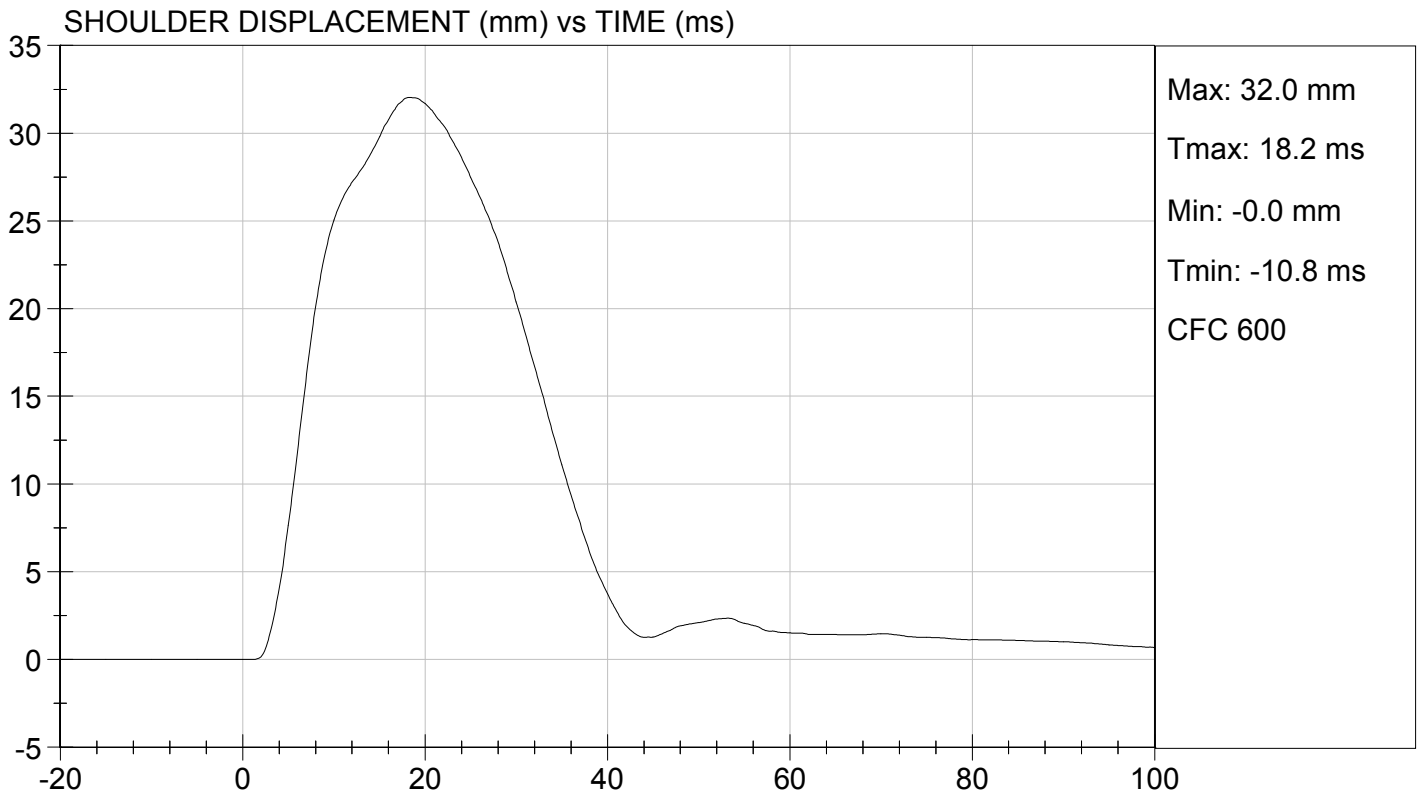
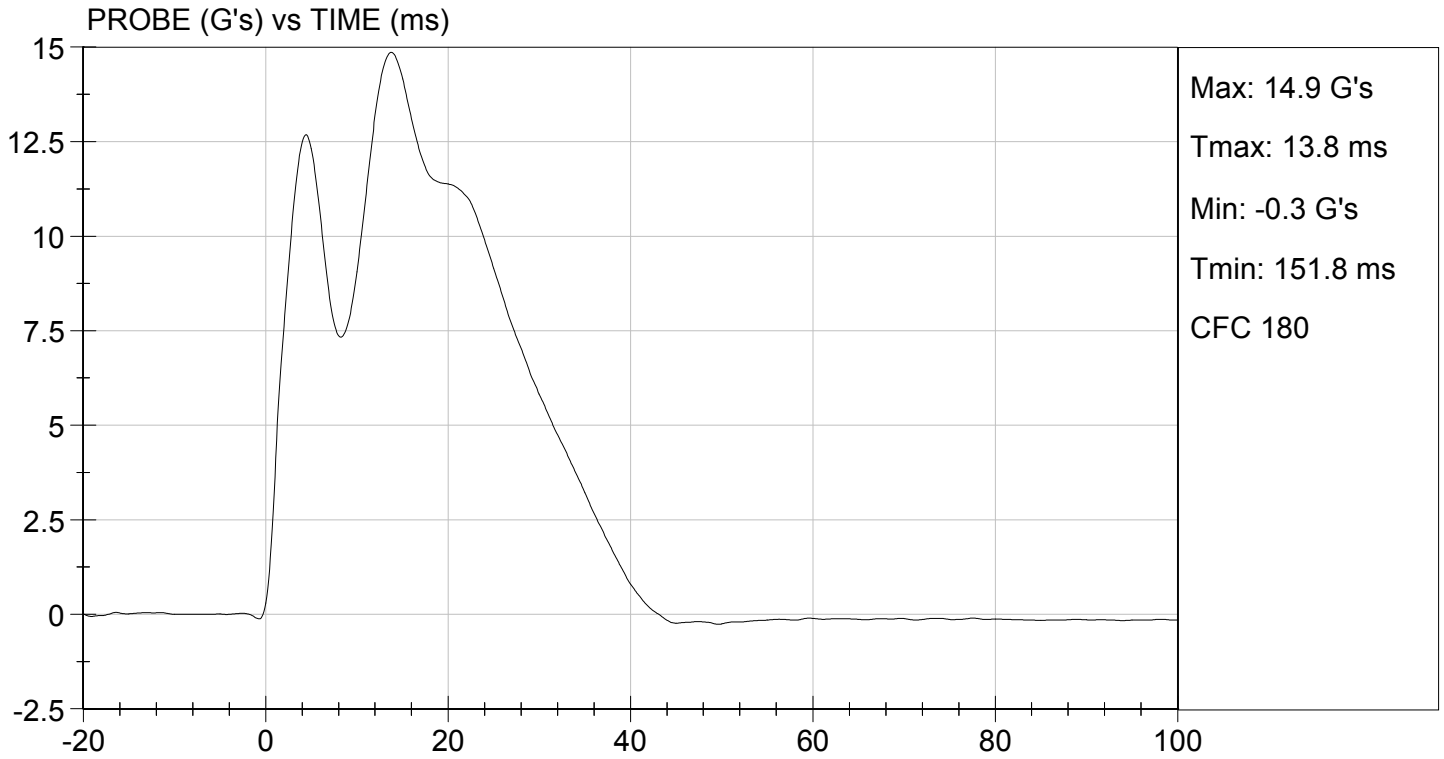
Test Date


Approved By



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

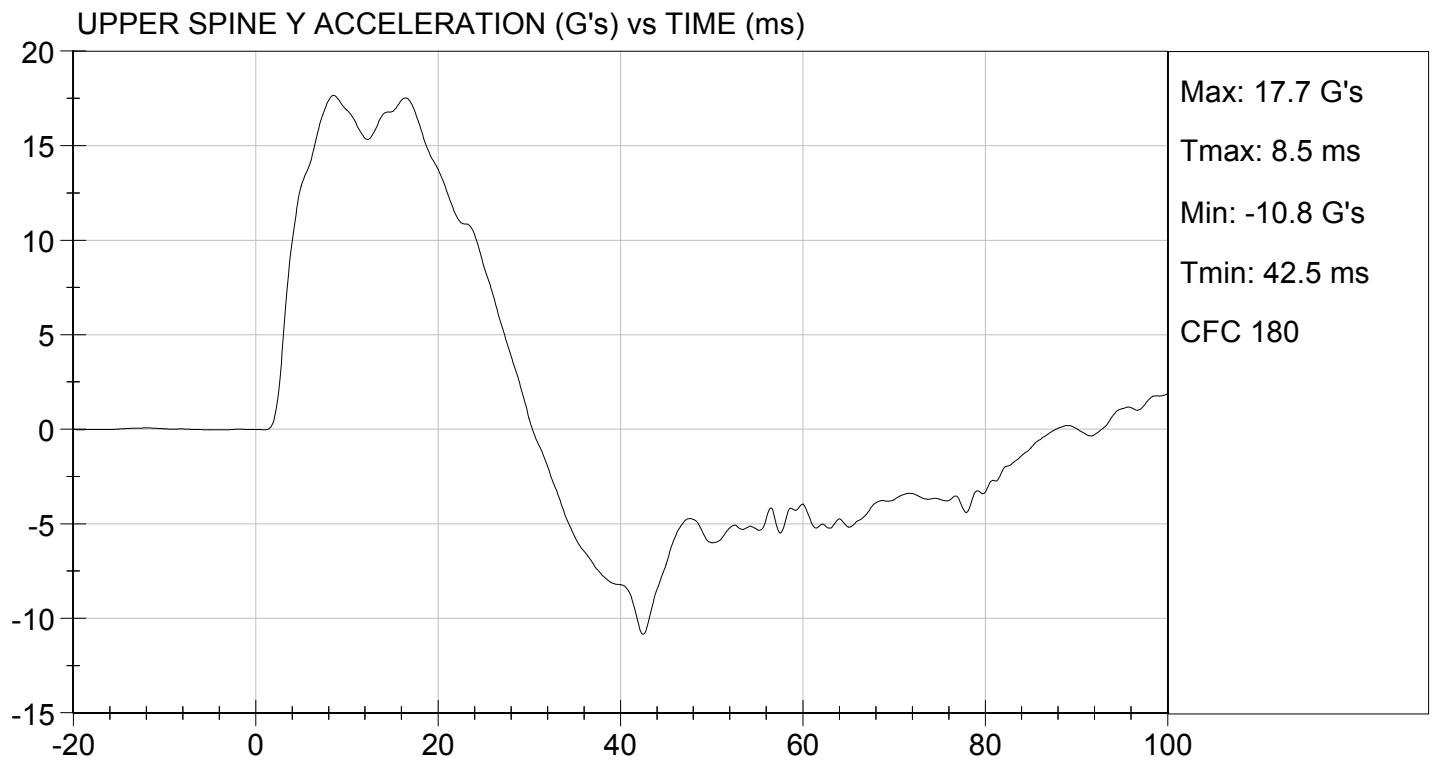
TEST DATE: 07/31/2013
TEST #: D132523





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

TEST DATE: 07/31/2013
TEST #: D132523

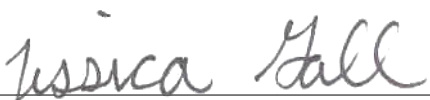


MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

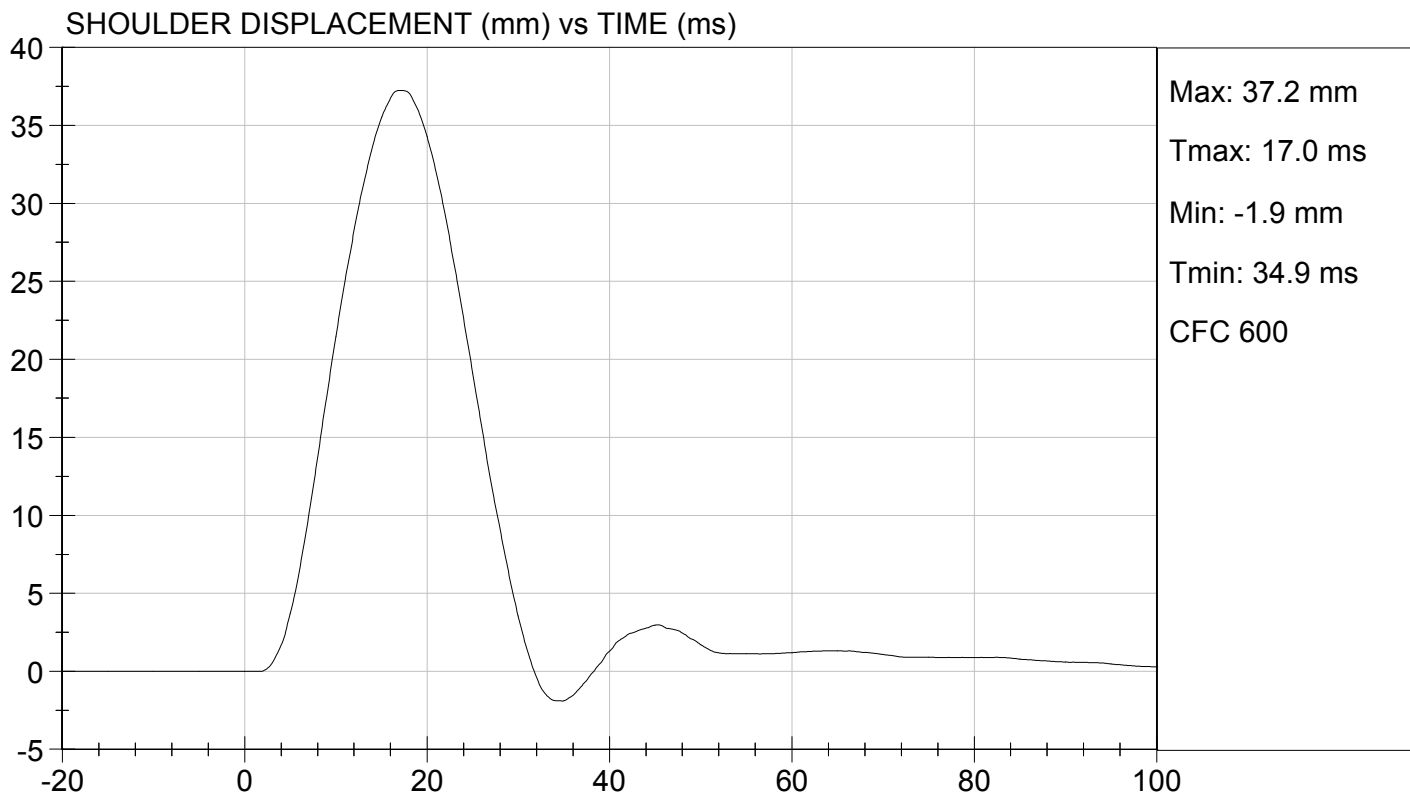
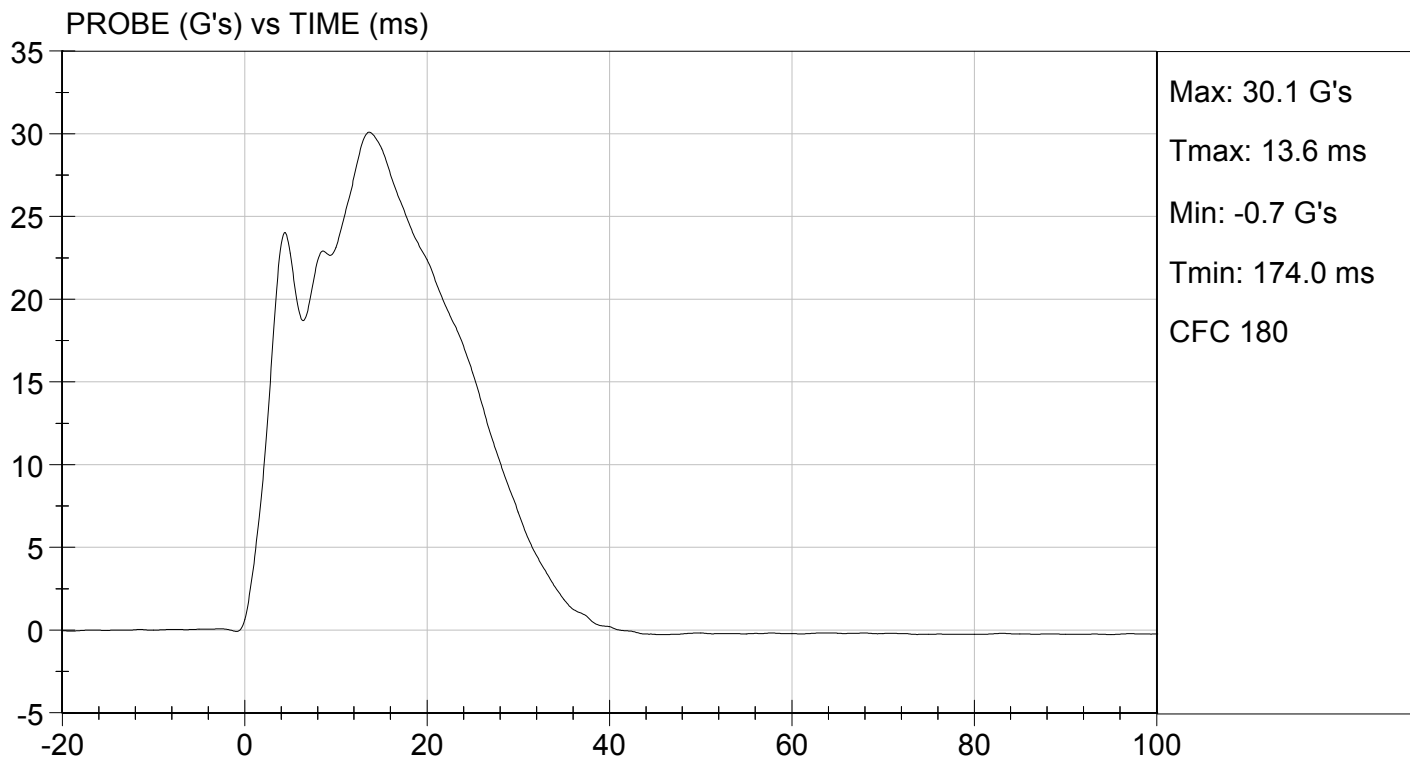
Test I.D: D132524

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	48	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	37	Pass
Upper Rib Displacement	mm	25 to 32	28	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	36	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	31	Pass
Overall Test Results				Pass


 Laboratory Technician

07/31/2013
 Test Date

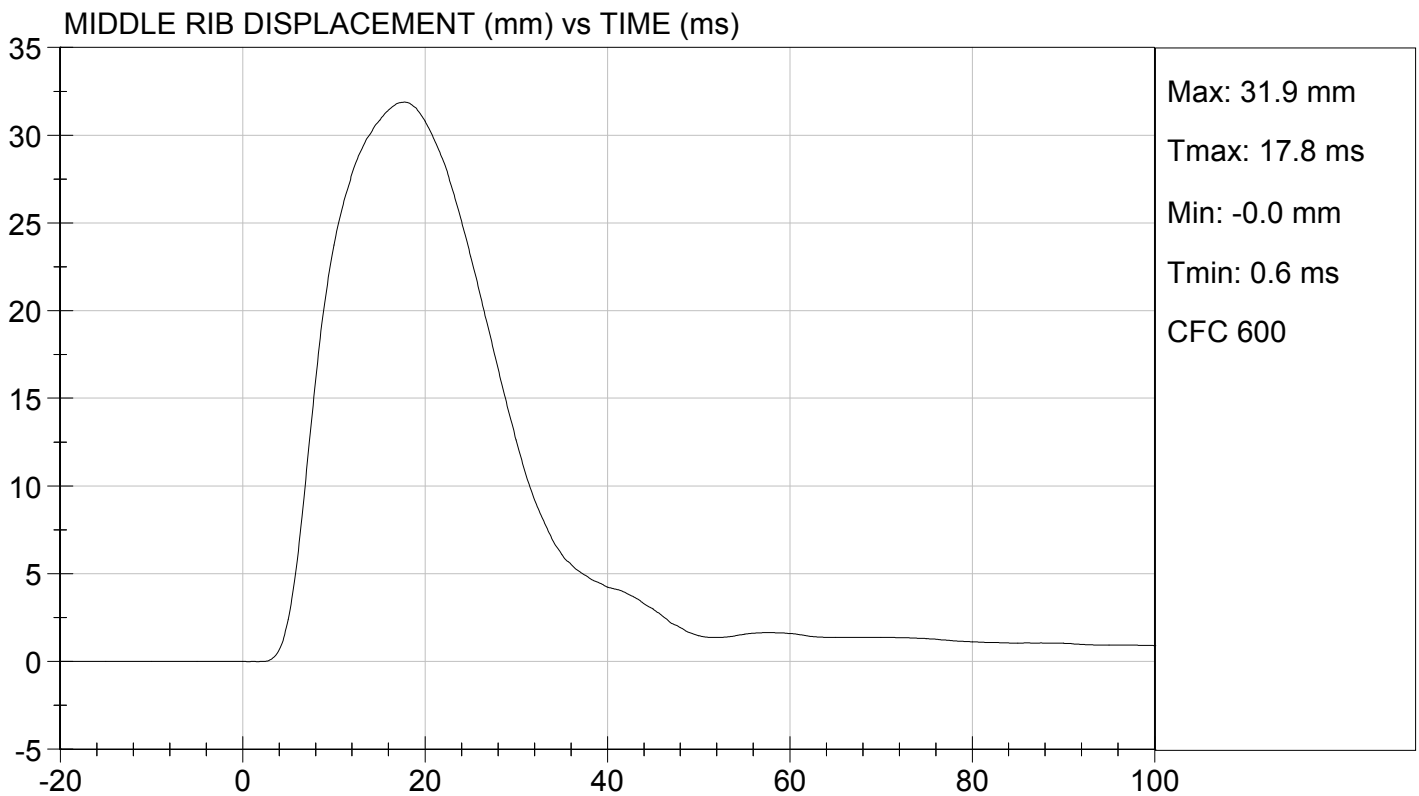
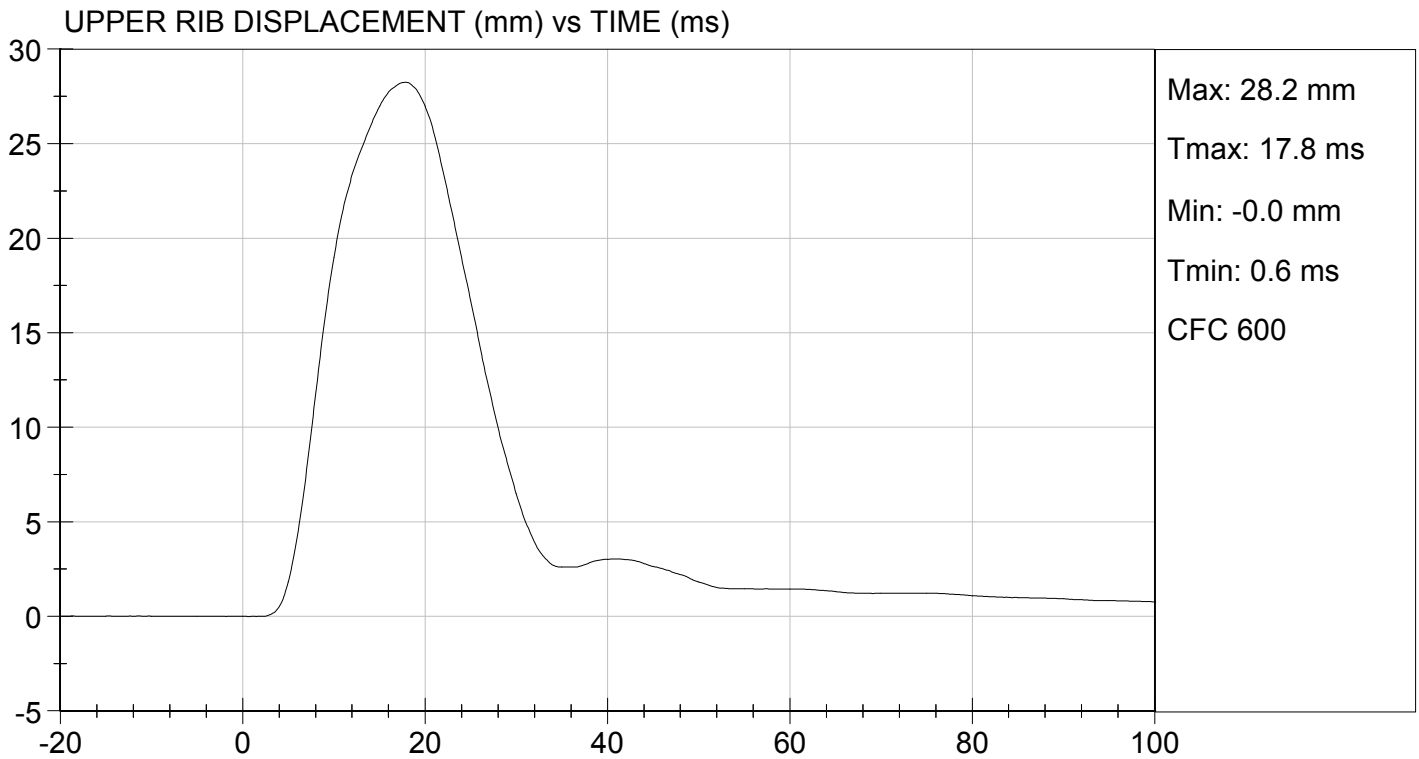

 Approved By





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

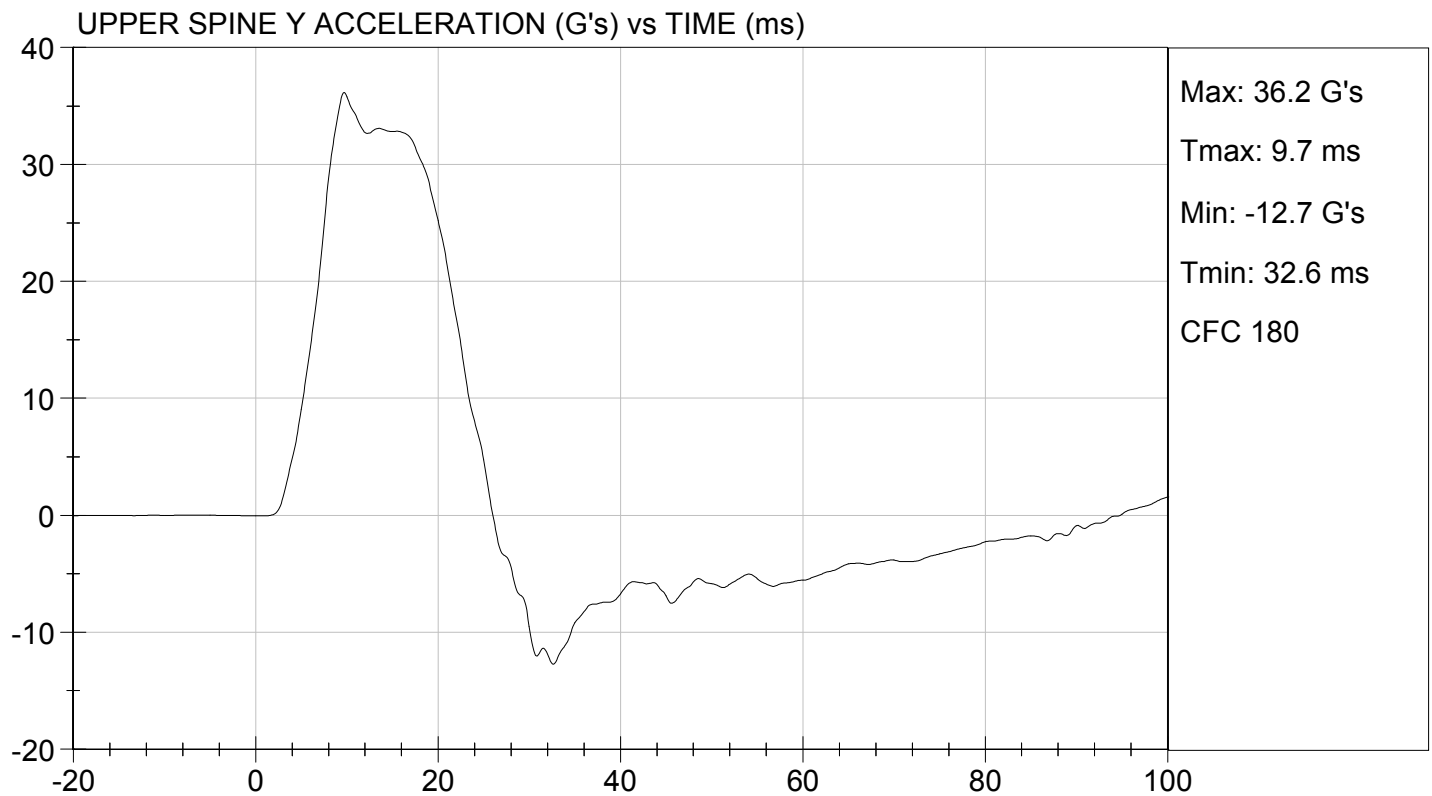
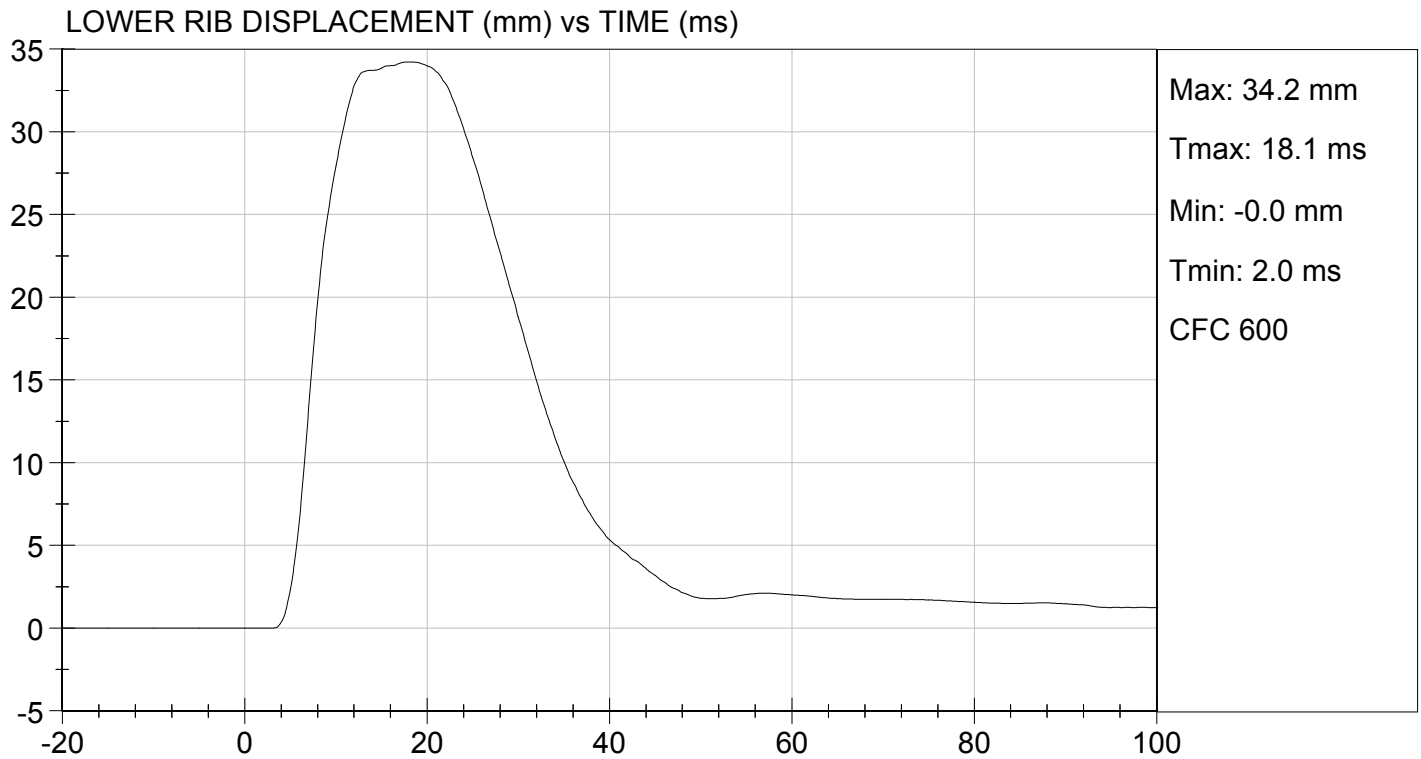
TEST DATE: 07/31/2013
TEST #: D132524





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

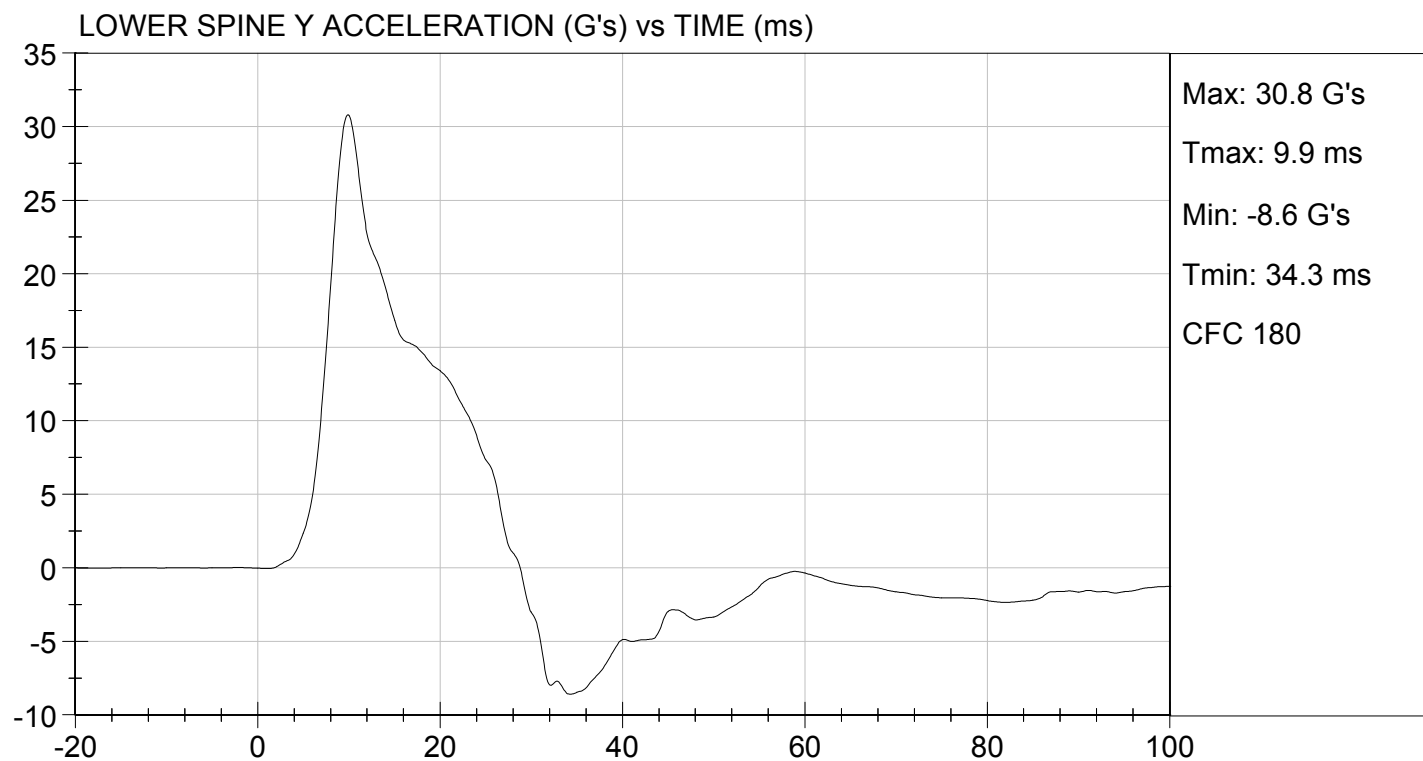
TEST DATE: 07/31/2013
TEST #: D132524





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

TEST DATE: 07/31/2013
TEST #: D132524

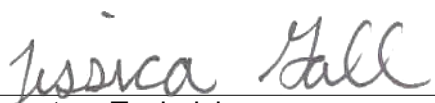


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D132525

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	48	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	14 to 18	14	Pass
Upper Rib Displacement	mm	32 to 40	37	Pass
Middle Rib Displacement	mm	39 to 45	41	Pass
Lower Rib Displacement	mm	35 to 43	38	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

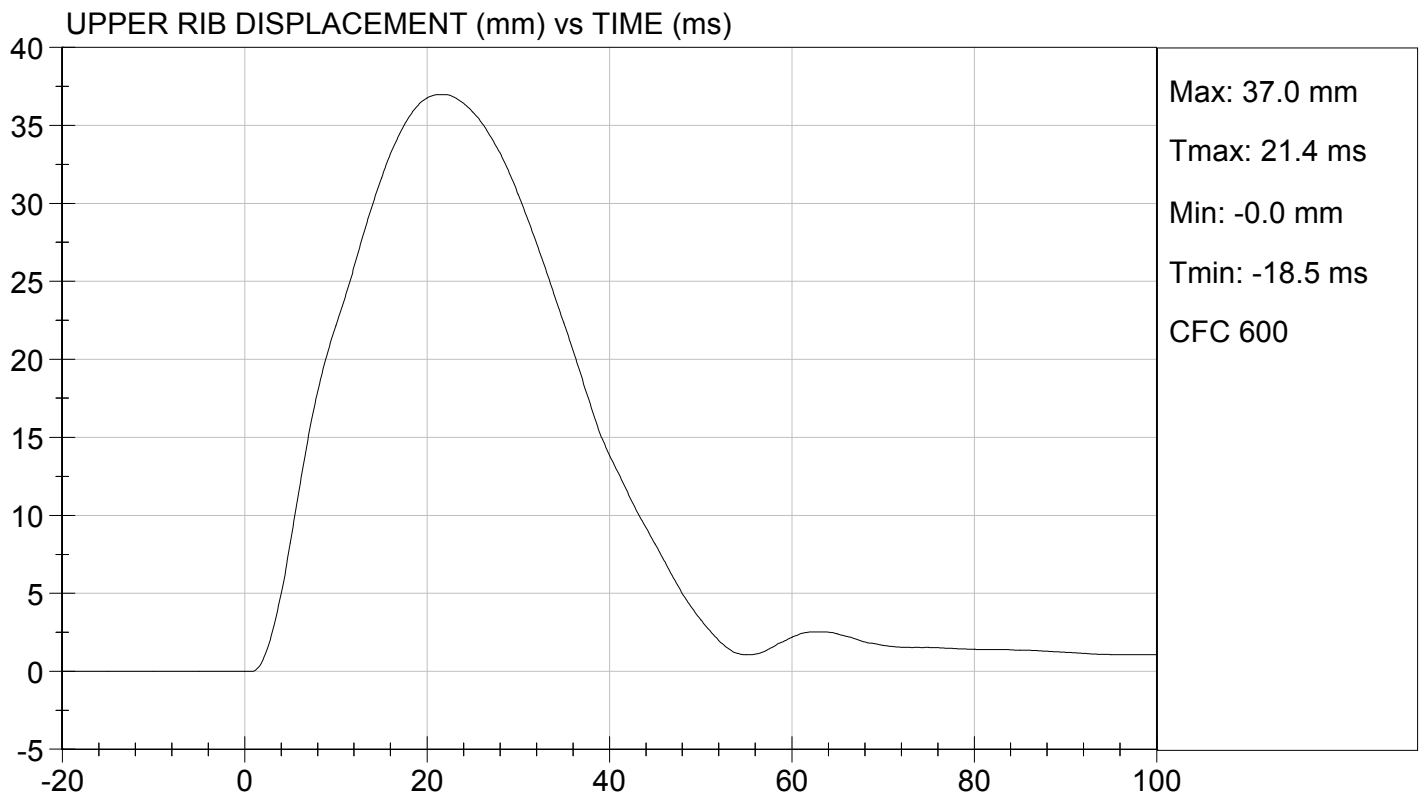
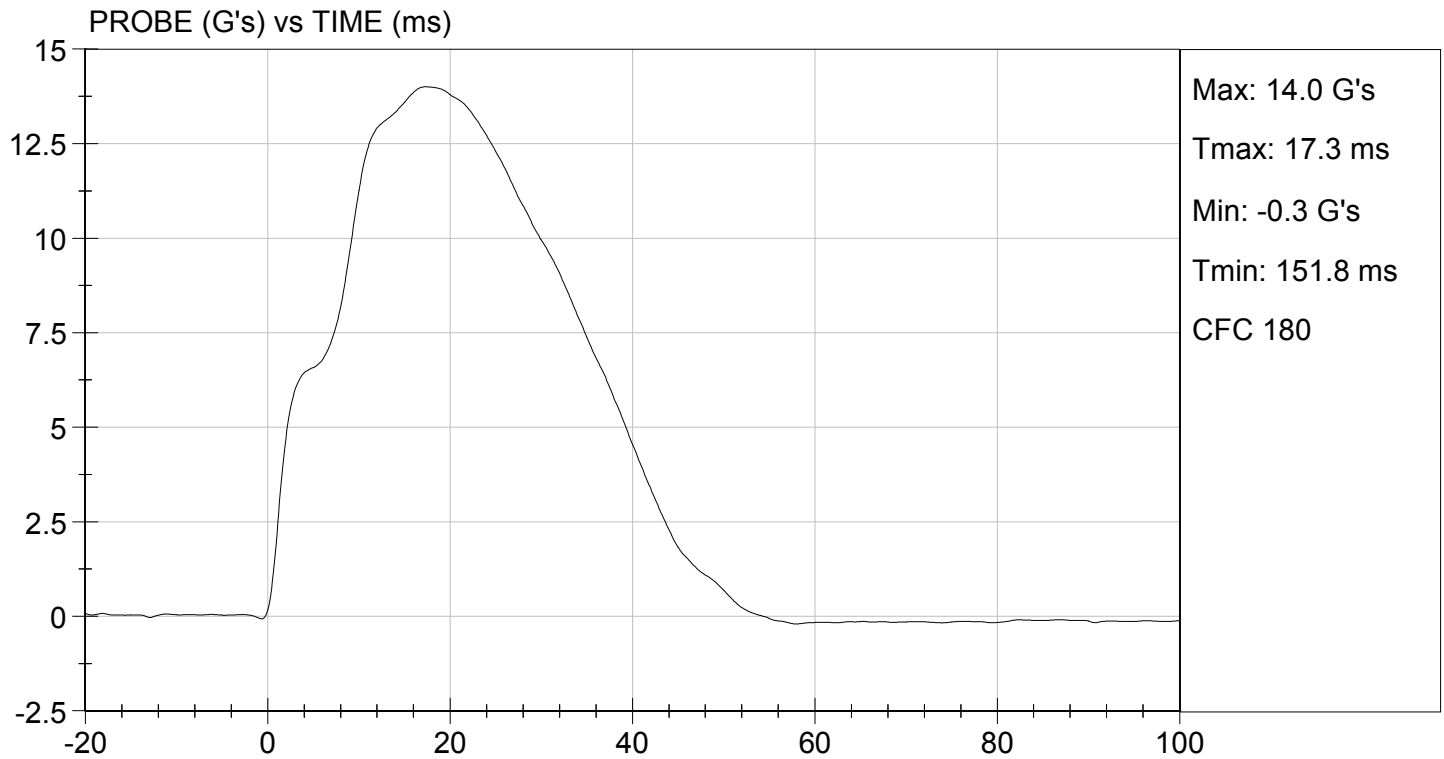
07/31/2013
 Test Date


 Approved By



TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 07/31/2013
TEST #: D132525

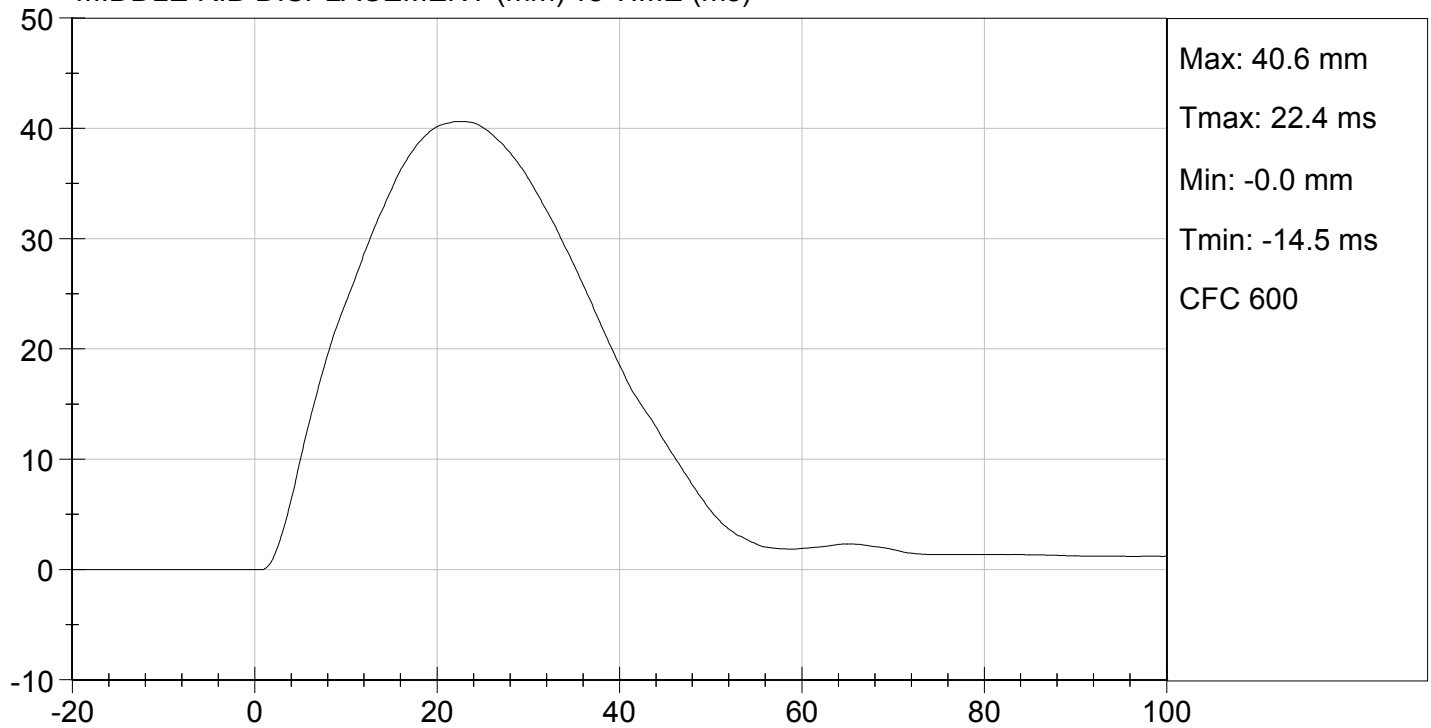




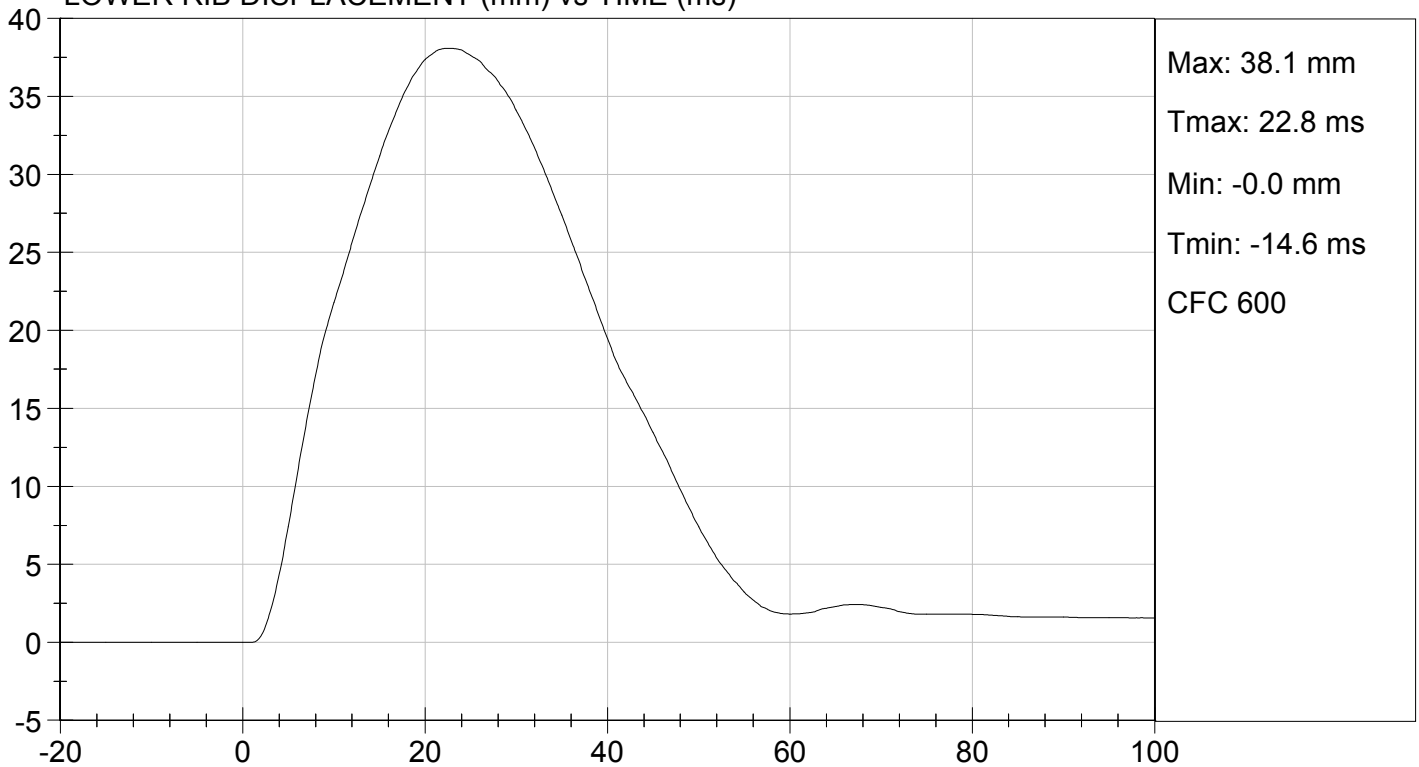
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 07/31/2013
TEST #: D132525

MIDDLE RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER RIB DISPLACEMENT (mm) vs TIME (ms)

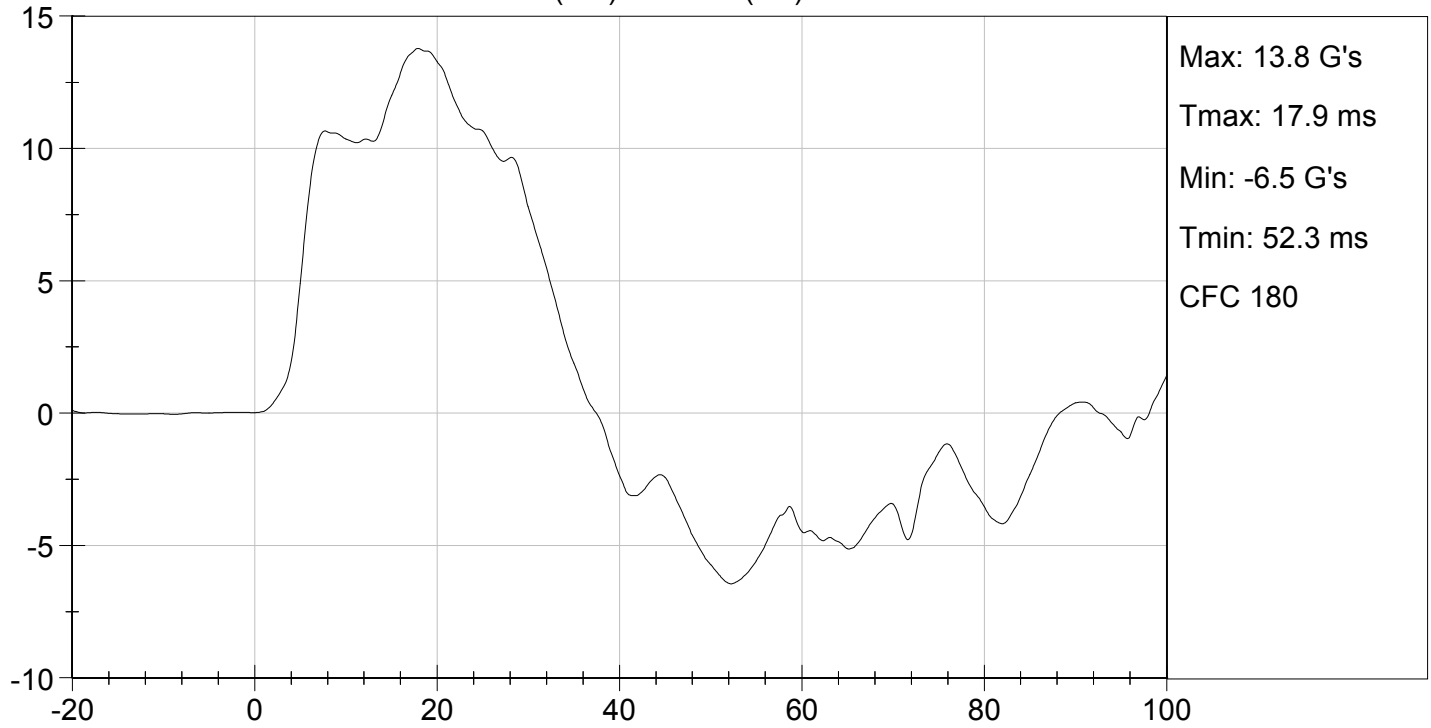




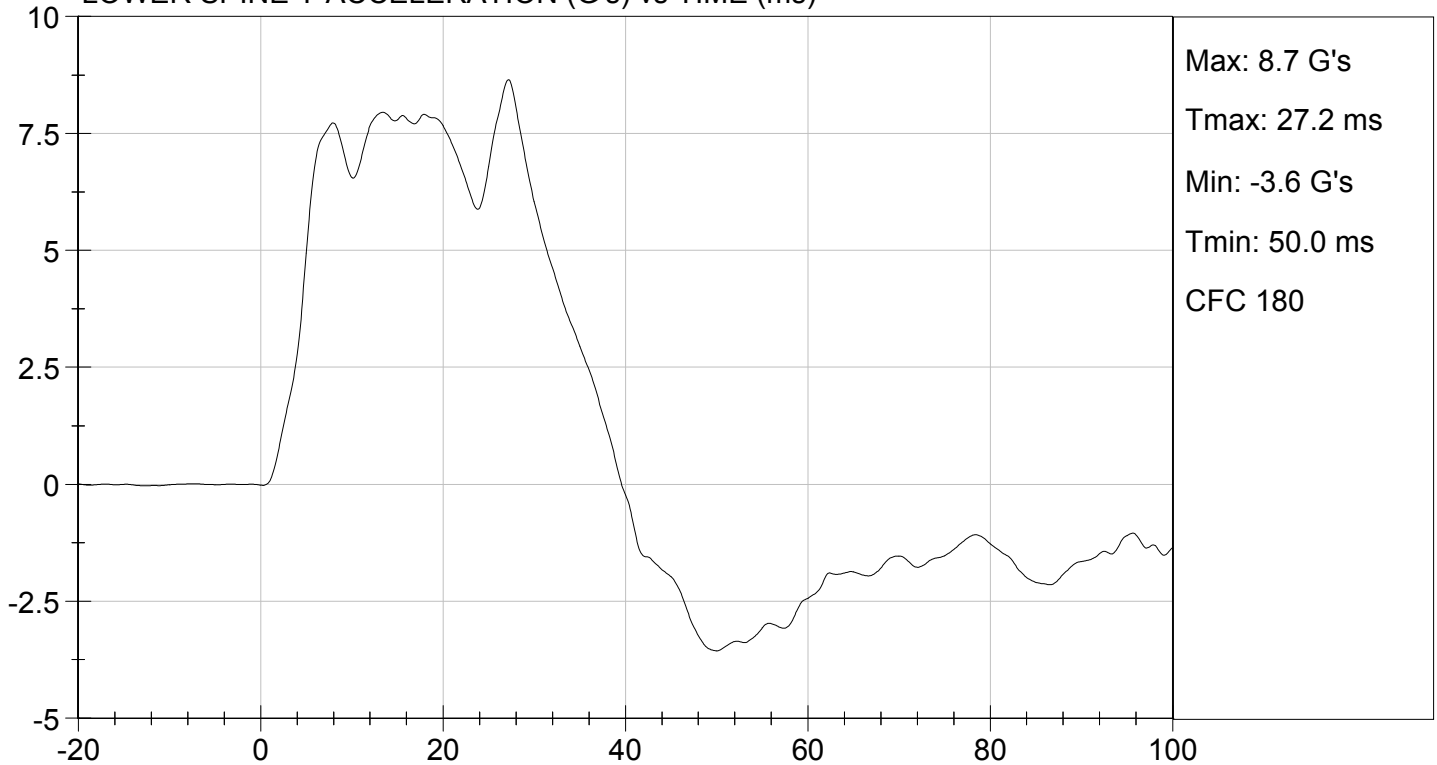
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 07/31/2013
TEST #: D132525

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: D132526

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	48	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	39	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	39	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	10	Pass
Overall Test Results				Pass


Laboratory Technician

07/31/2013

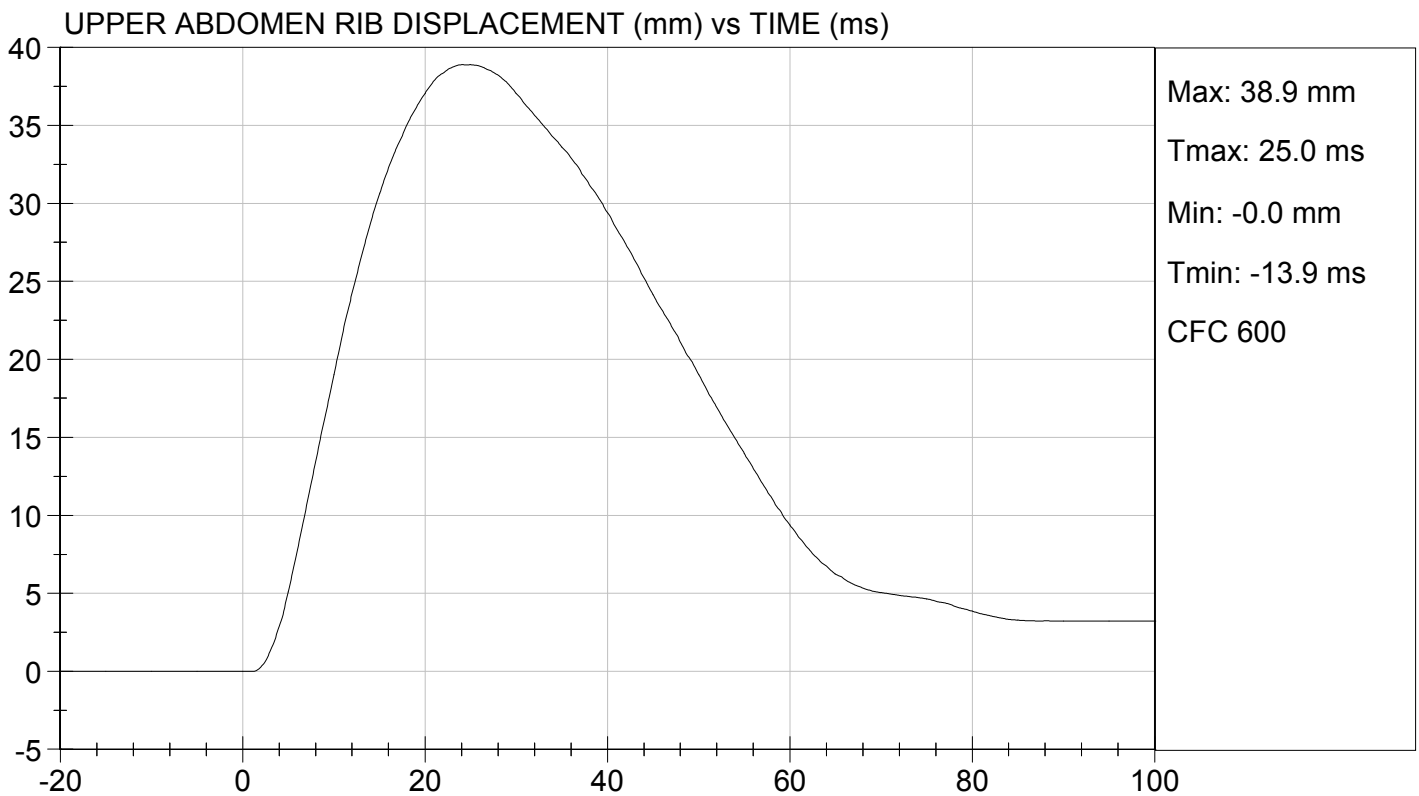
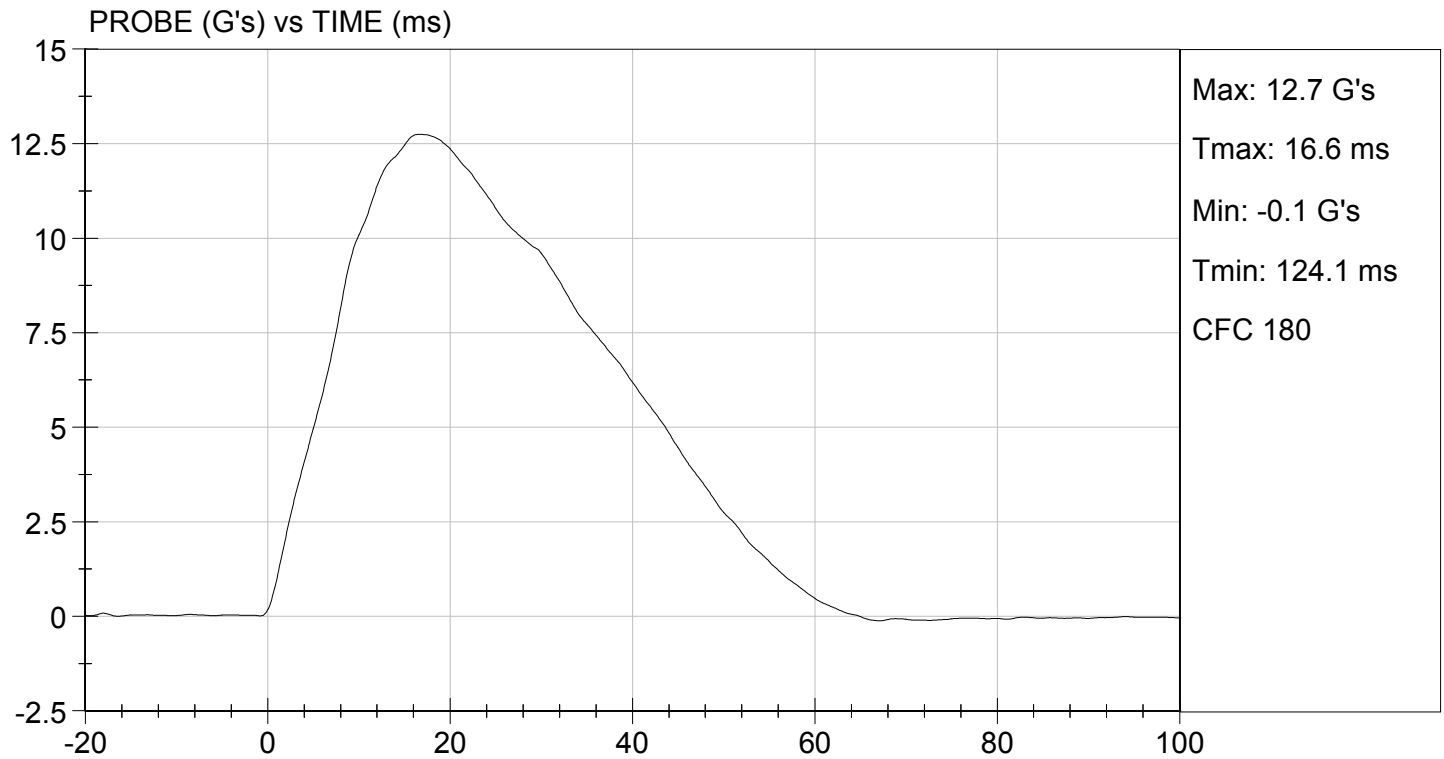
Test Date


Approved By



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

TEST DATE: 07/31/2013
TEST #: D132526

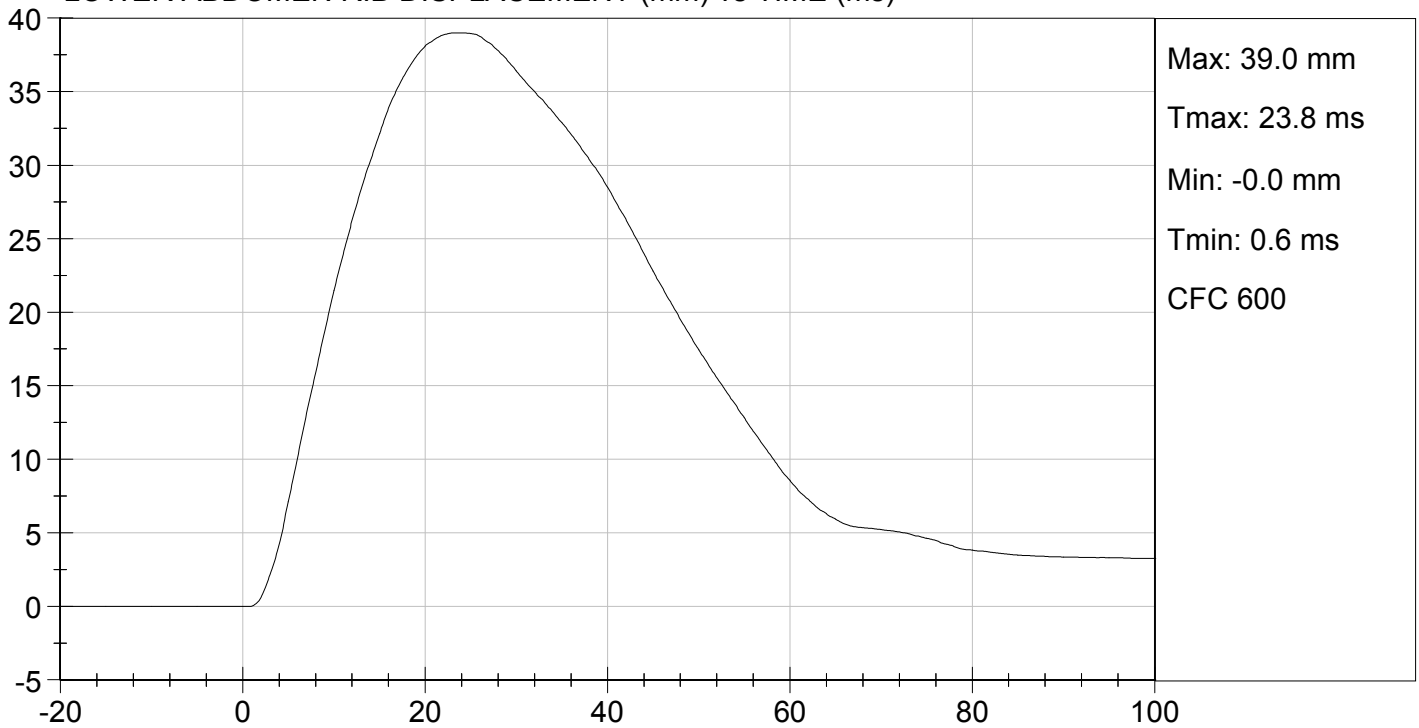




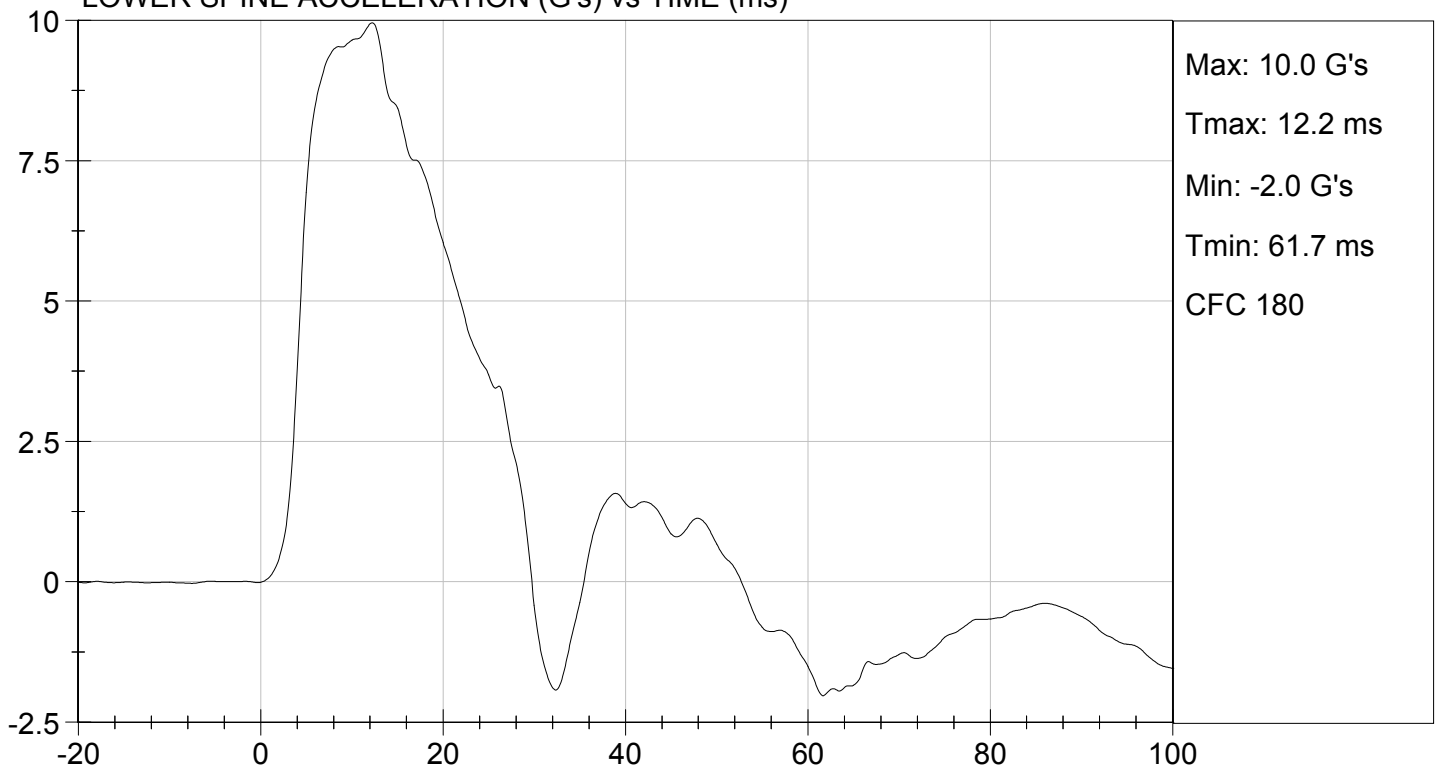
TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 07/31/2013
TEST #: D132526

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: D132527

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	48	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	4,137	Pass
Overall Test Results				Pass


Laboratory Technician

07/31/2013

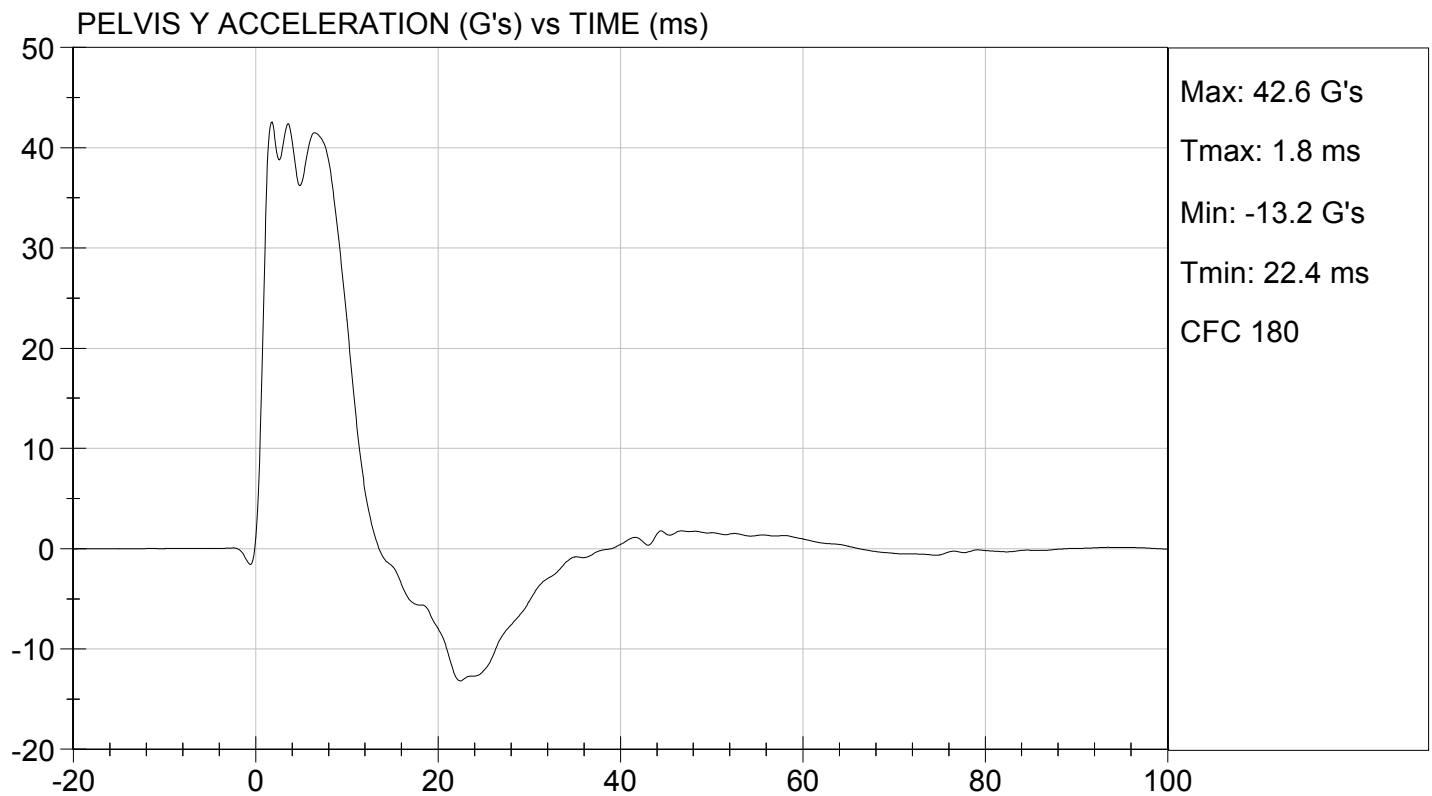
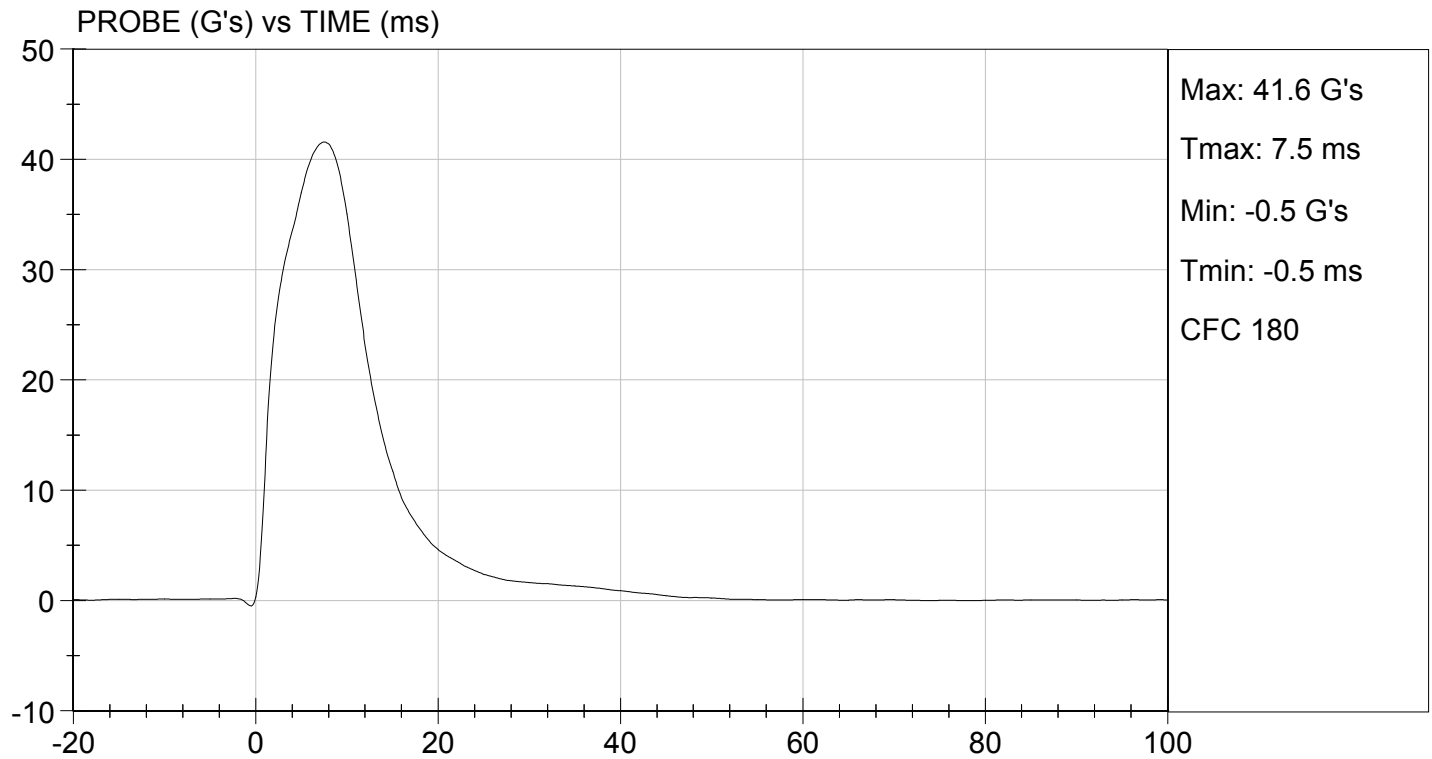
Test Date


Approved By



TEST DESC: PELVIS IMPACT
VELOCITY: 21.93 ft/s, 6.68 m/s

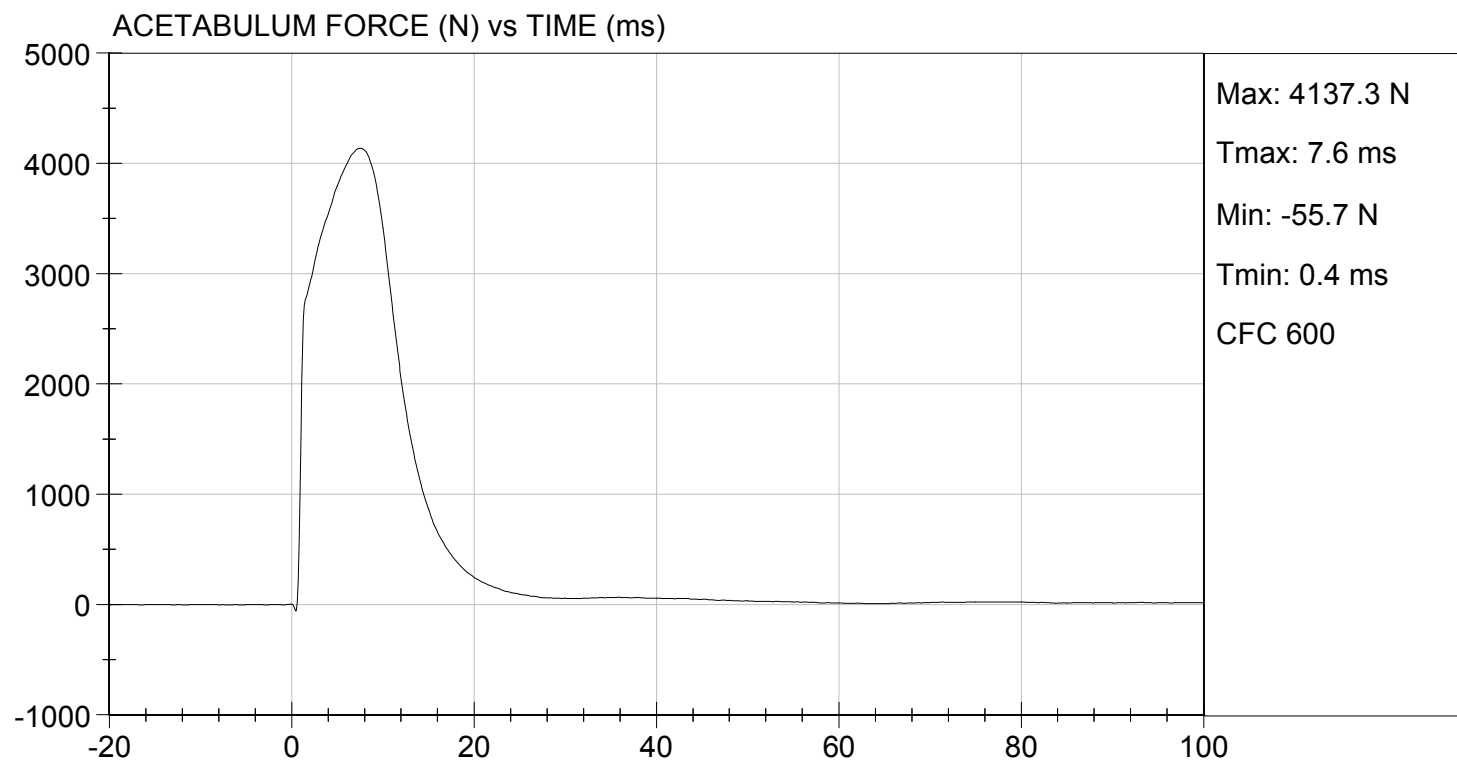
TEST DATE: 07/31/2013
TEST #: D132527





TEST DESC: PELVIS IMPACT
VELOCITY: 21.93 ft/s, 6.68 m/s

TEST DATE: 07/31/2013
TEST #: D132527



MGA RESEARCH CORPORATION

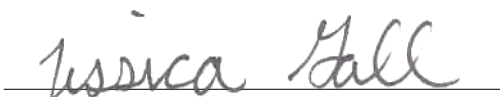
ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D132528

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	48	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	36 to 45	41	Pass
Pelvis Y Acceleration	G's	28 to 39	37	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	5,073	Pass
Overall Test Results				Pass


Laboratory Technician

07/31/2013

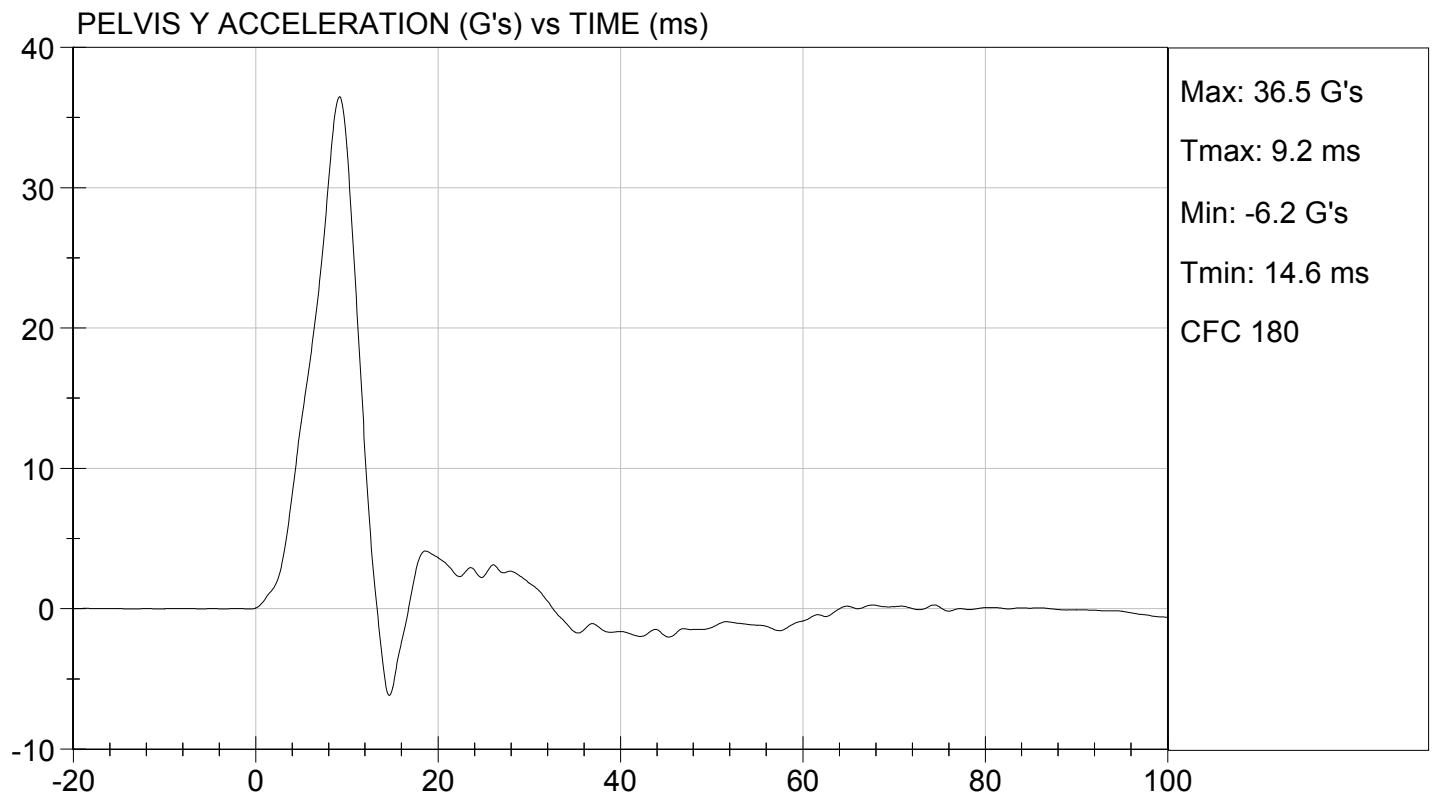
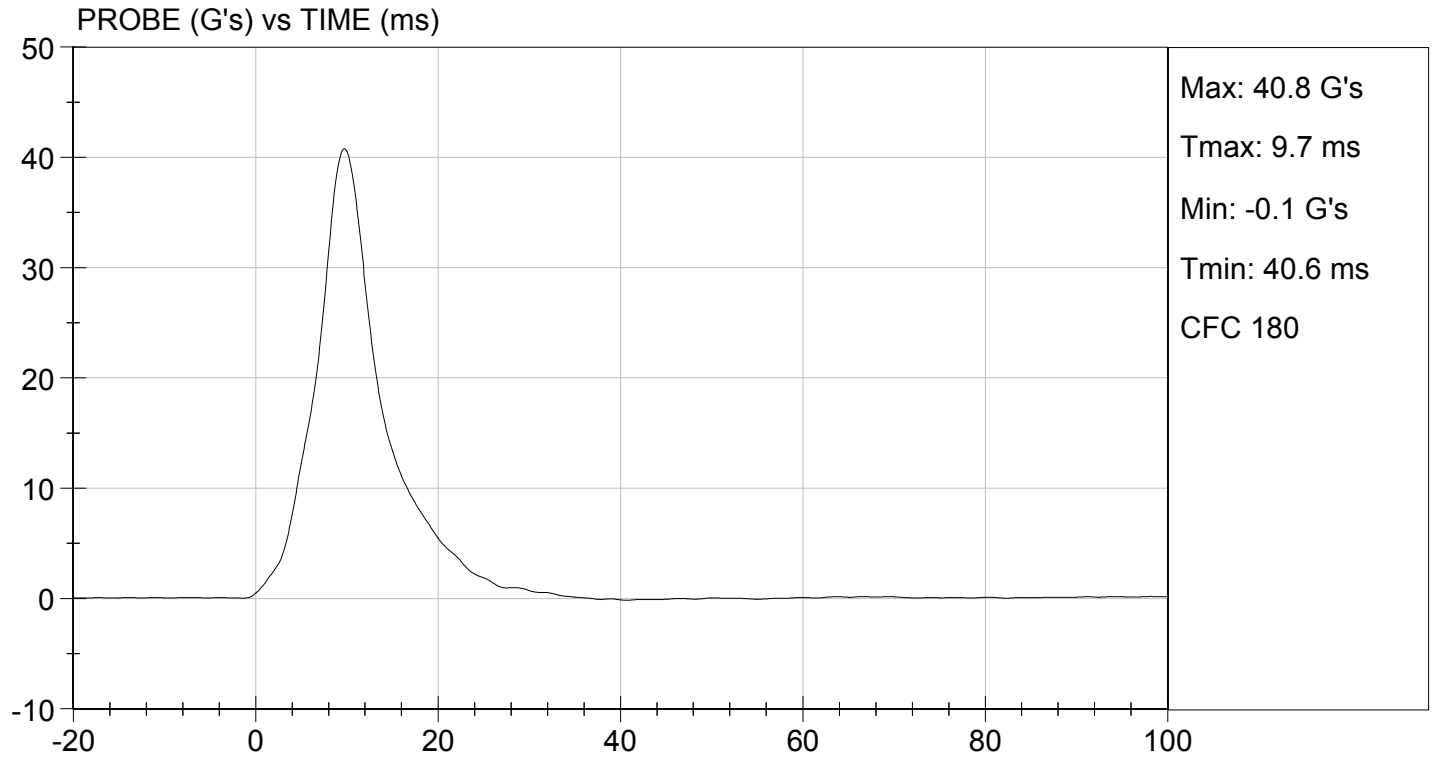
Test Date


Approved By



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

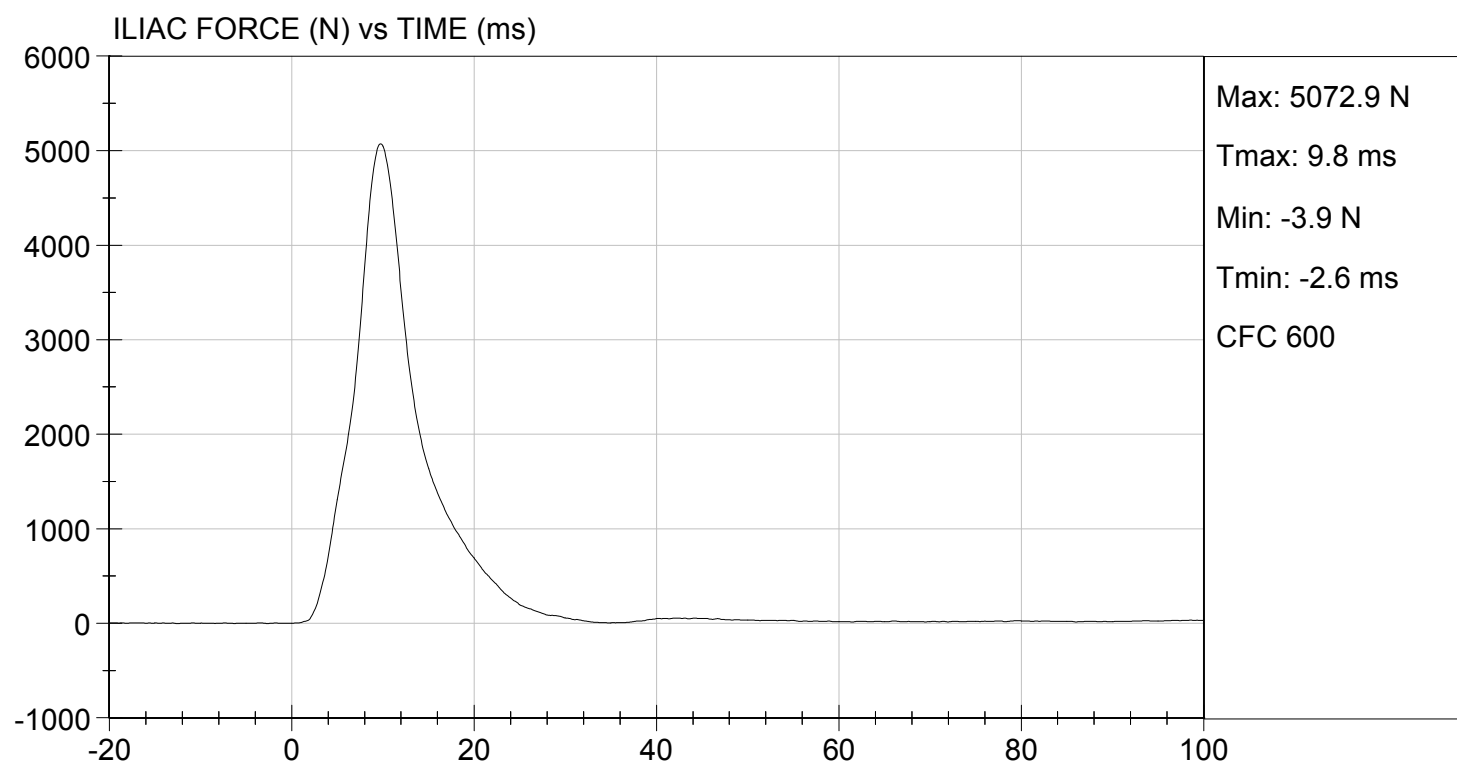
TEST DATE: 07/31/2013
TEST #: D132528





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

TEST DATE: 07/31/2013
TEST #: D132528

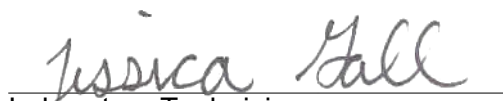


MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test ID: D132681

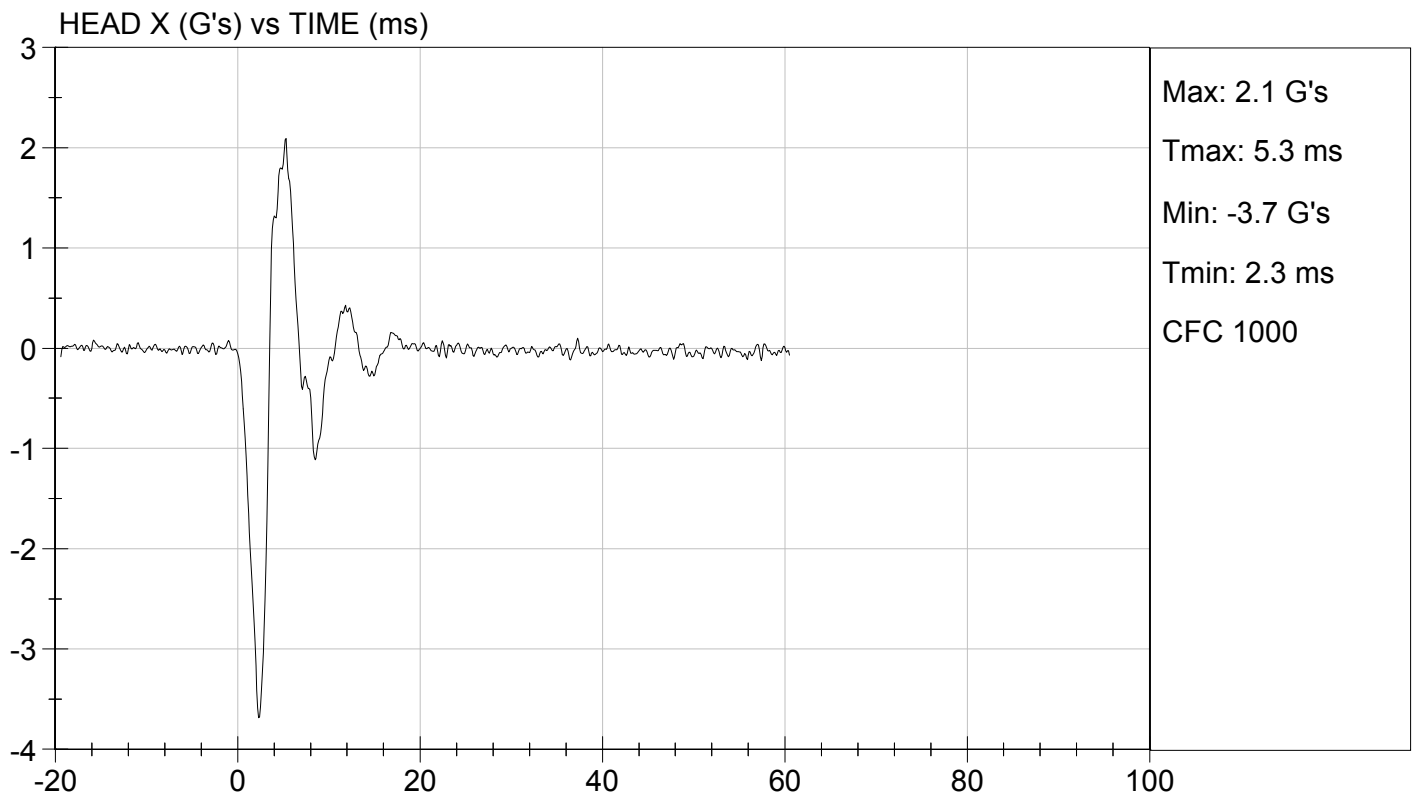
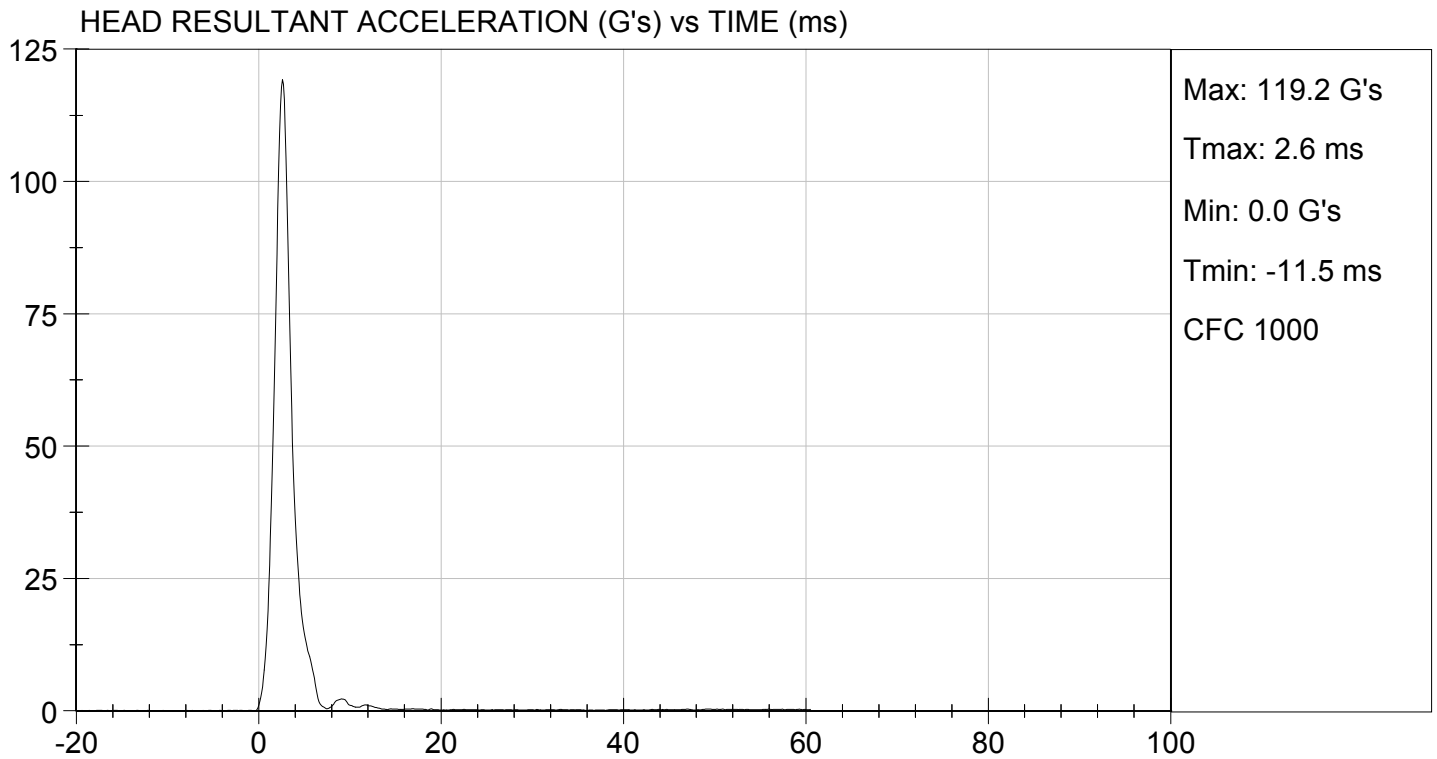
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	20.6	Pass
Laboratory Relative Humidity	%	10 to 70	43	Pass
Peak Resultant Acceleration	G's	115 to 137	119	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-3.7	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
			Overall Test Results	Pass

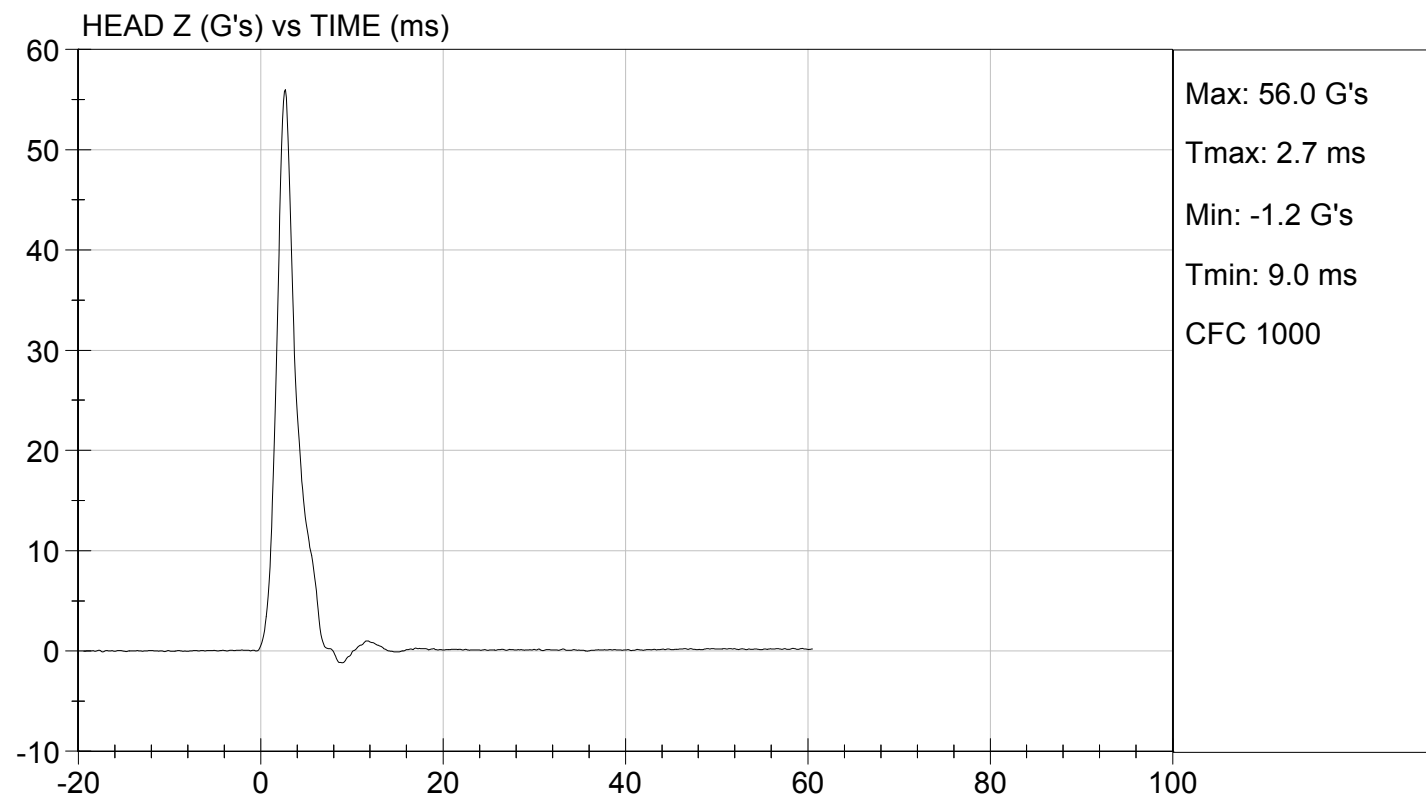
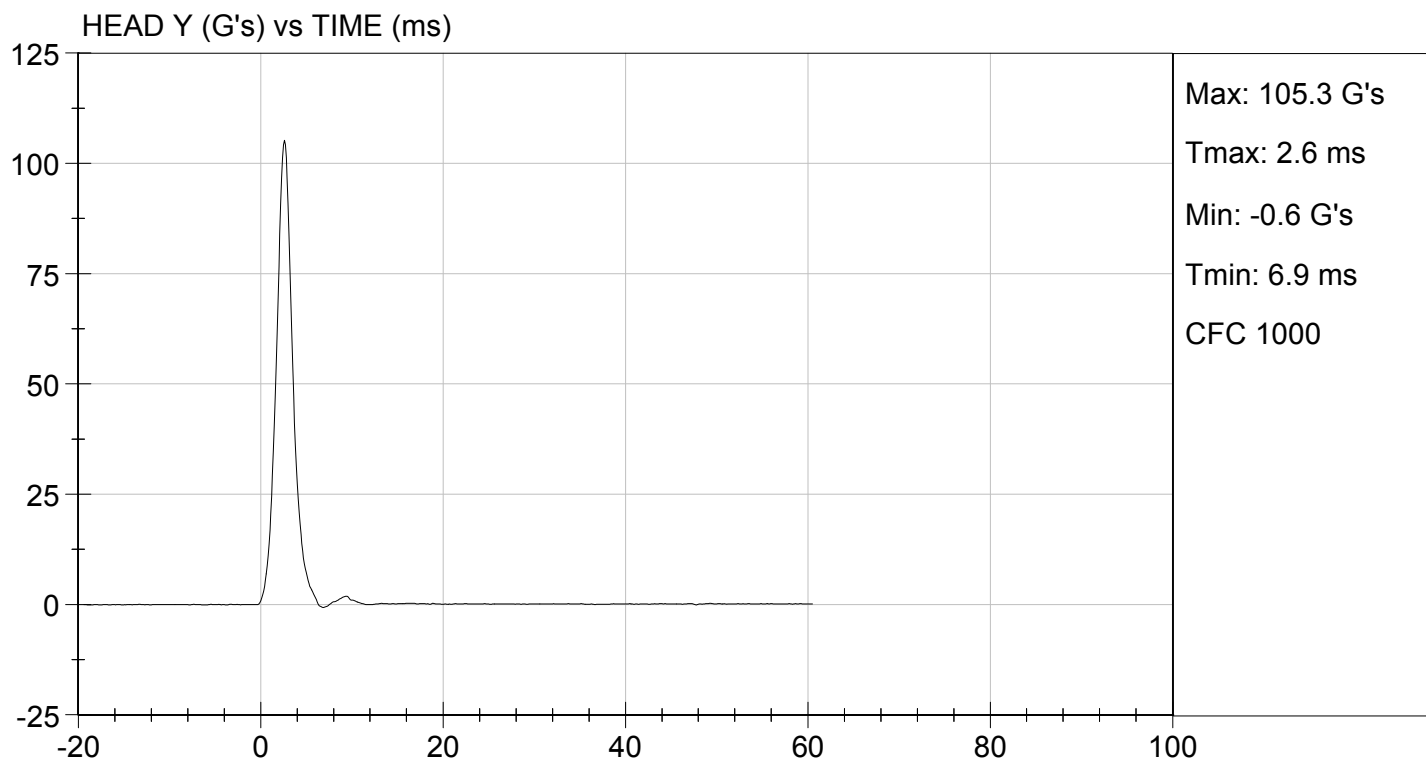

Laboratory Technician

08/13/2013

Test Date


Approved By



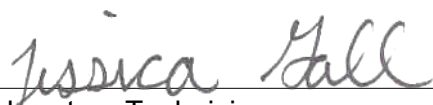


MGA RESEARCH CORPORATION
LATERAL NECK PENDULUM TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D132682

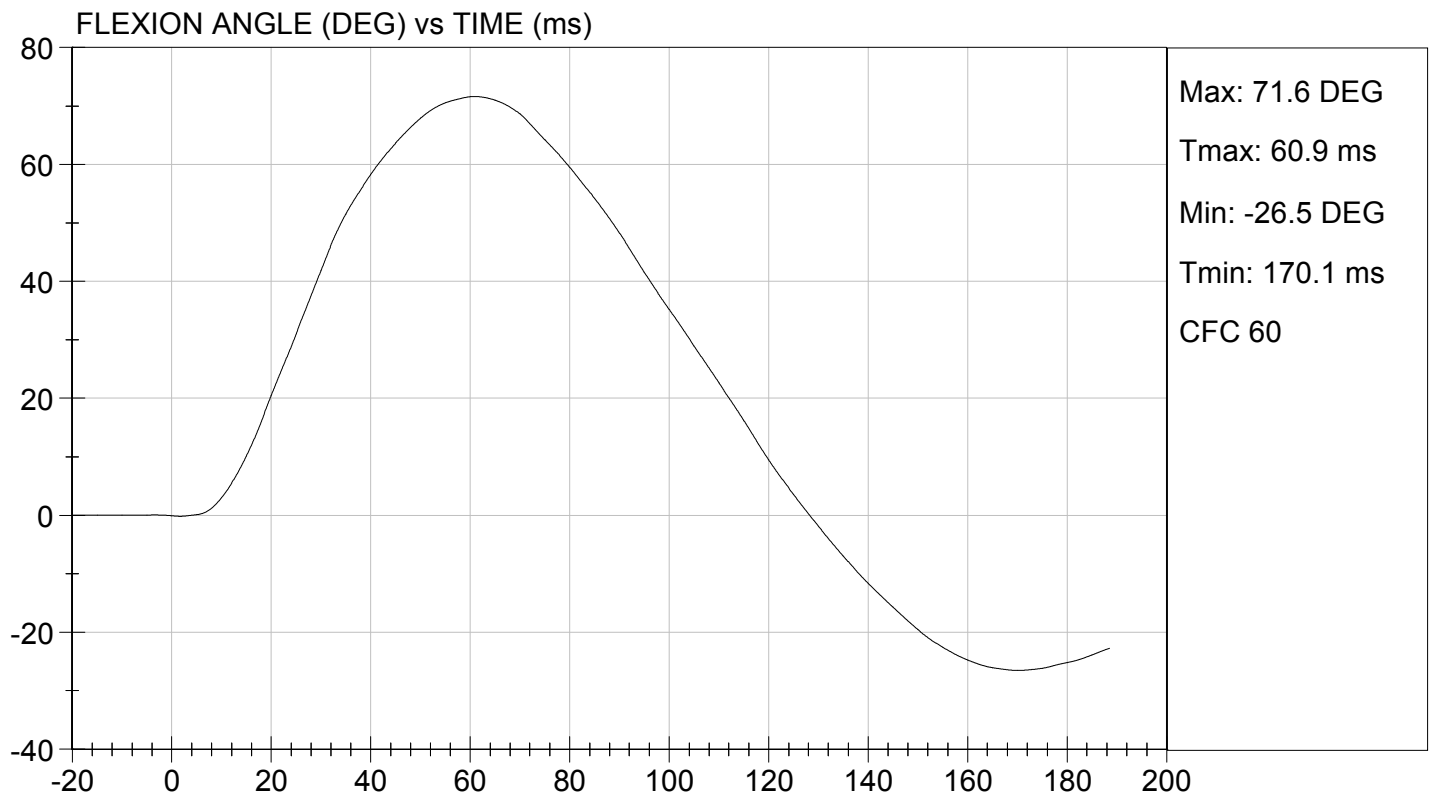
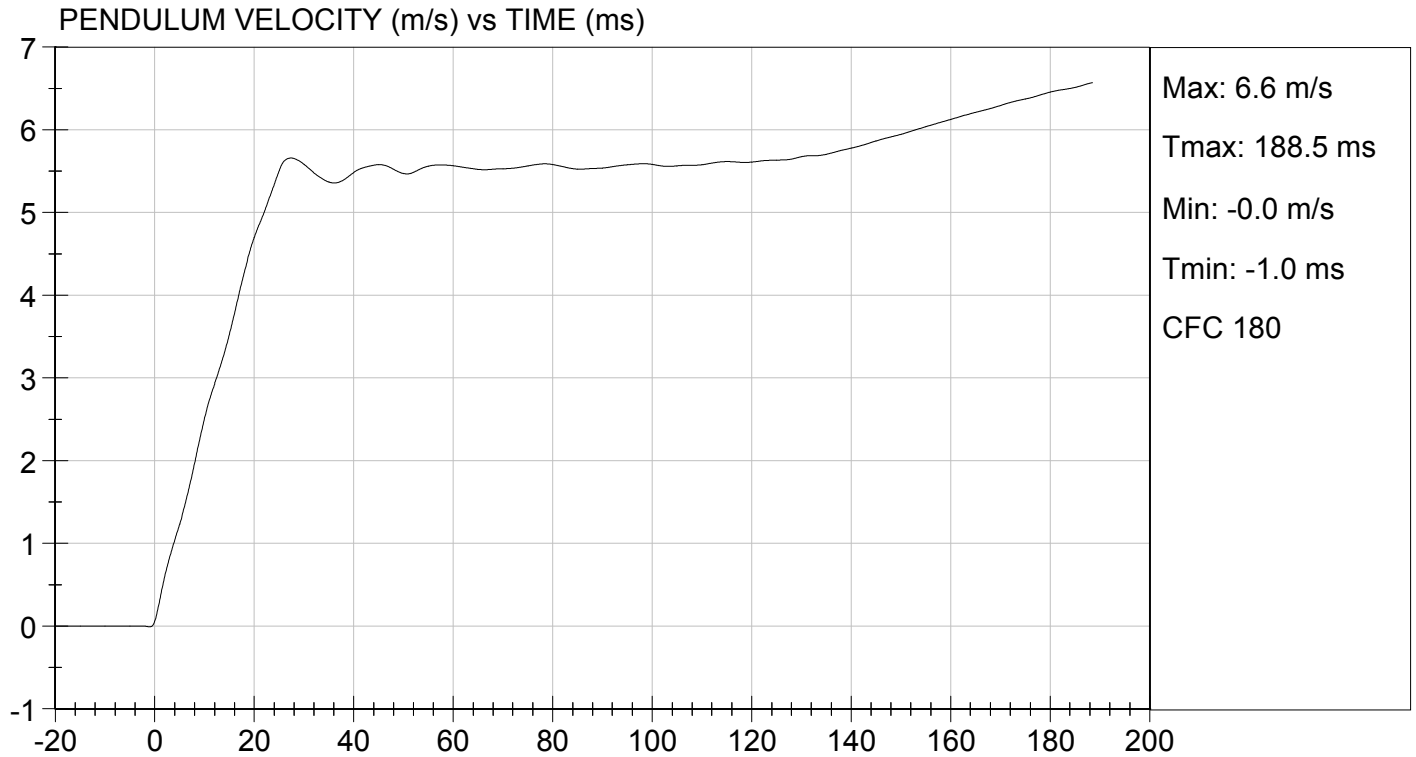
Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.7	Pass
Humidity		%	10 to 70	47	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.52	Pass
	15 ms	m/s	3.30 to 4.10	3.53	Pass
	20 ms	m/s	4.40 to 5.40	4.70	Pass
	25 ms	m/s	5.40 to 6.10	5.51	Pass
	25-100 ms	m/s	5.50 to 6.20	5.66	Pass
Maximum D-Plane Rotation		deg	71 to 81	72	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	61	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-41	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	113	Pass
Overall Test Results					Pass


 Laboratory Technician

08/13/2013

Test Date

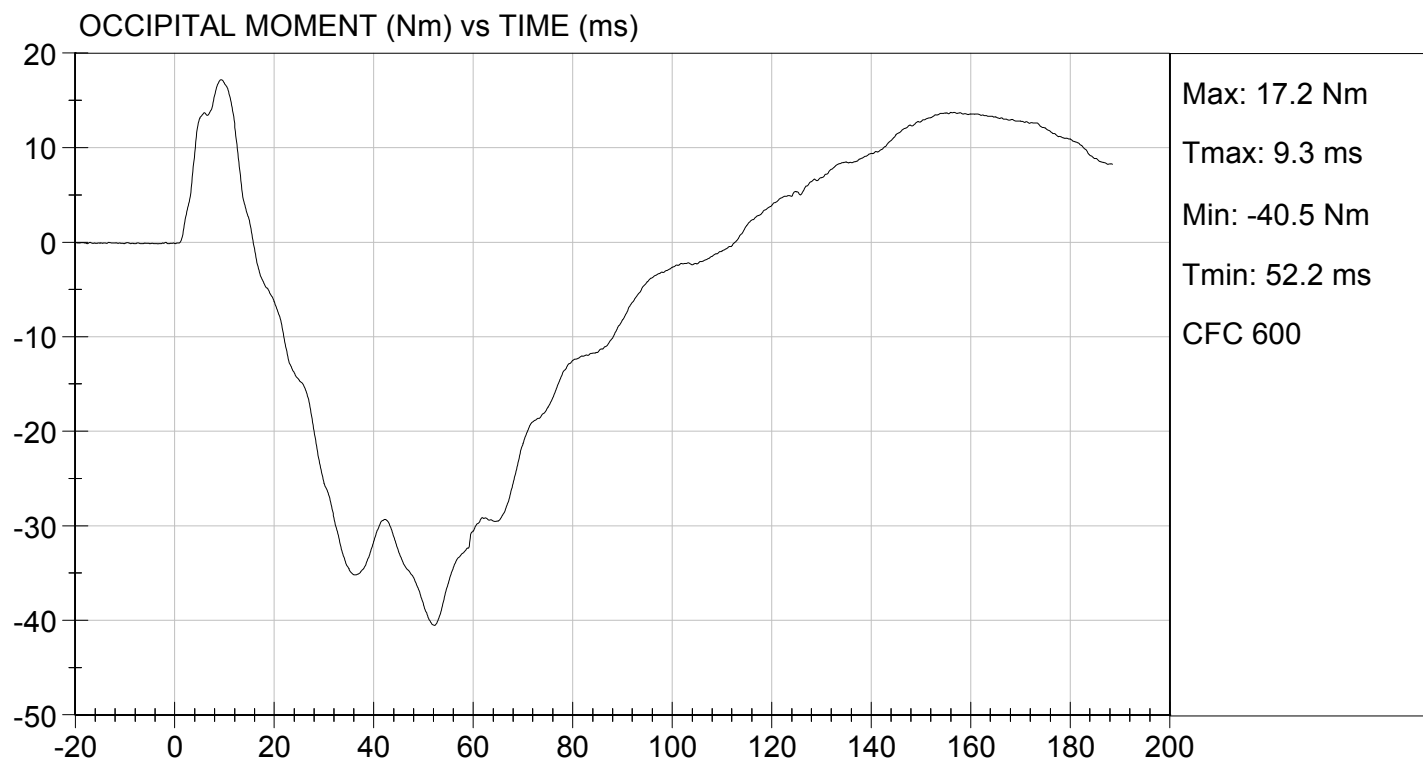

 Approved By





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

TEST DATE: 08/13/2013
TEST #: D132682



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

ATD Serial No: 296

Test ID: D132683

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	20.6	Pass
Laboratory Relative Humidity	%	10 to 70	43	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	33	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

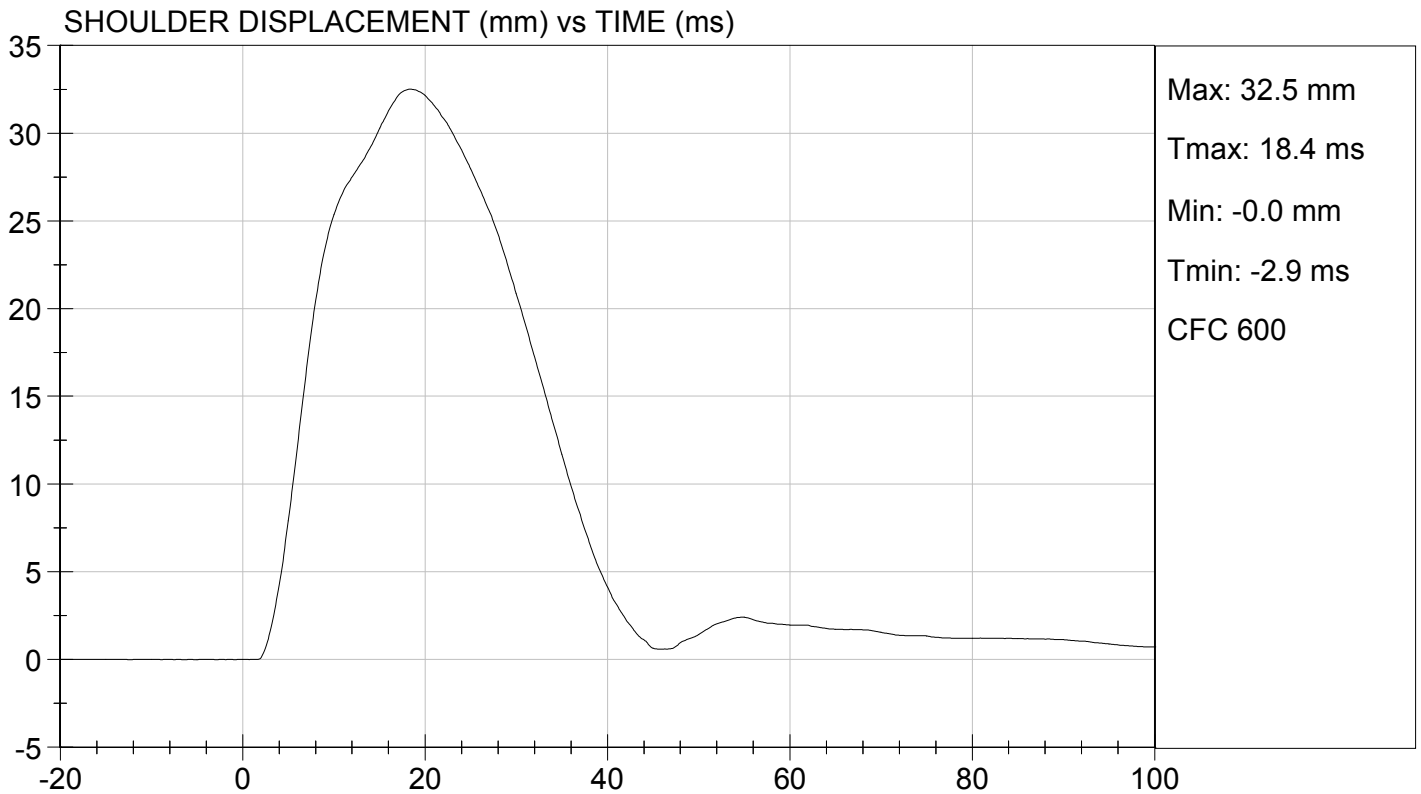
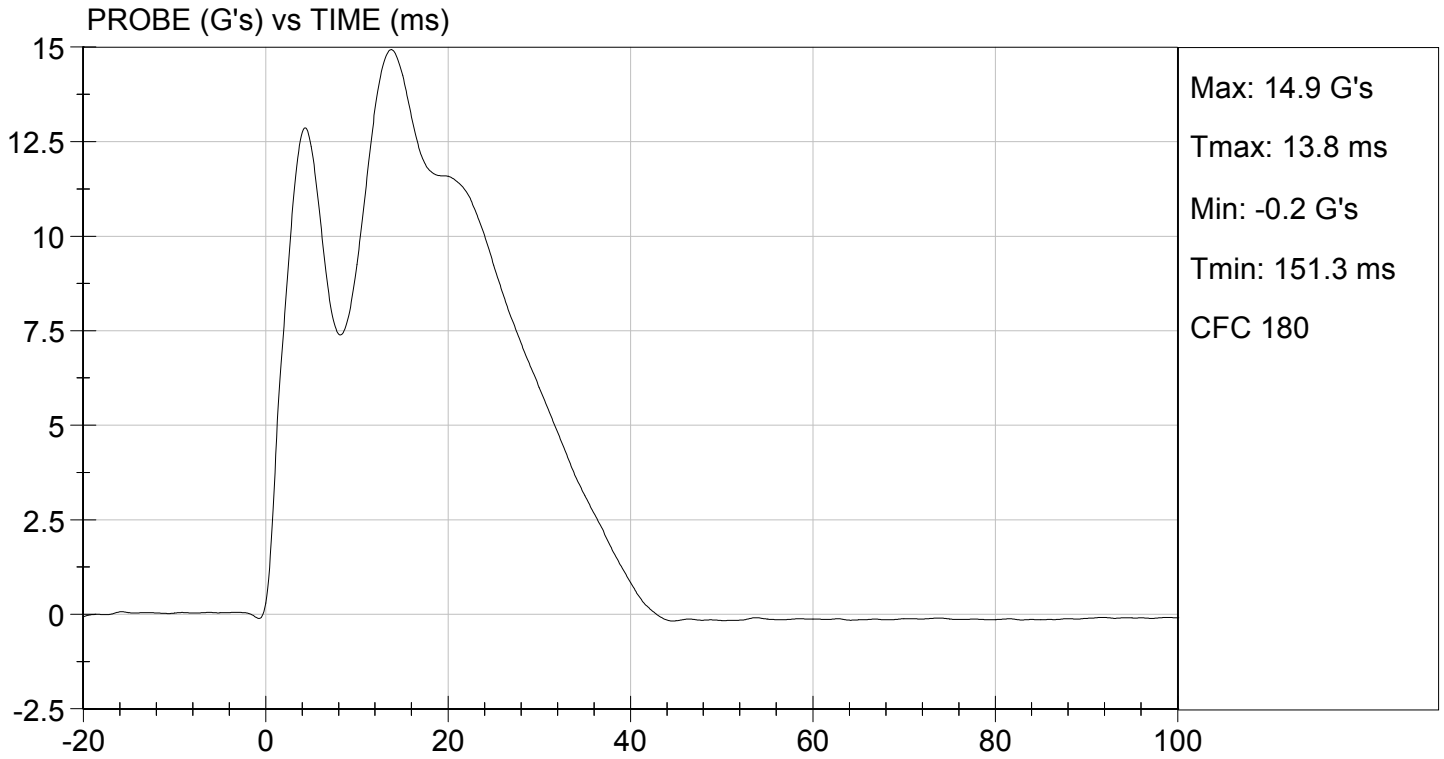
08/13/2013
Test Date

David Winkelbauer
Approved By



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

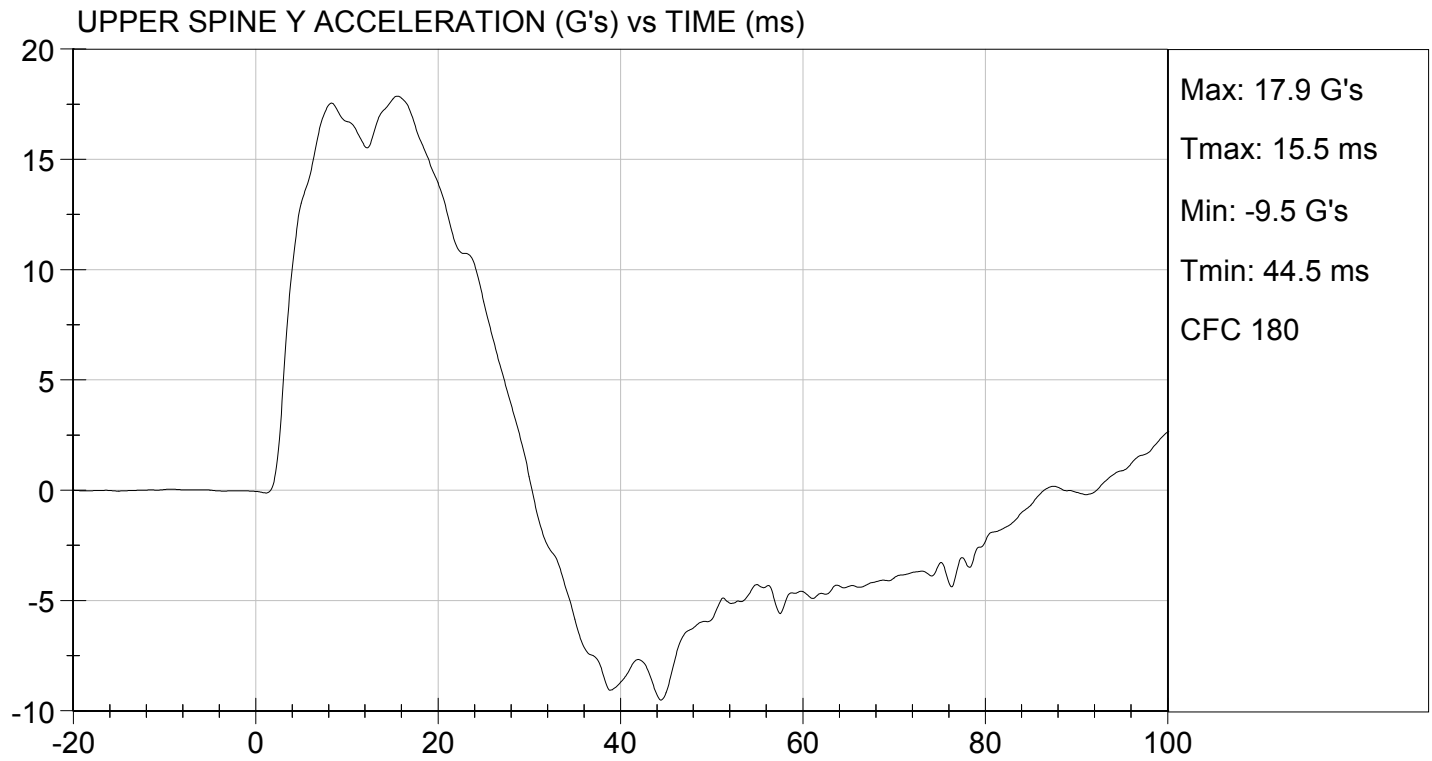
TEST DATE: 08/13/2013
TEST #: D132683





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

TEST DATE: 08/13/2013
TEST #: D132683

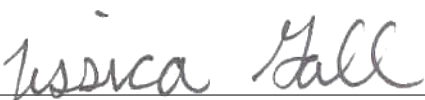


MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

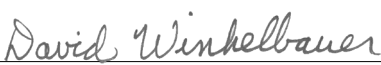
ATD Serial No: 296

Test I.D: D132684

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	20.6	Pass
Humidity	%	10 to 70	43	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	37	Pass
Upper Rib Displacement	mm	25 to 32	28	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	36	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	33	Pass
Overall Test Results				Pass


Laboratory Technician

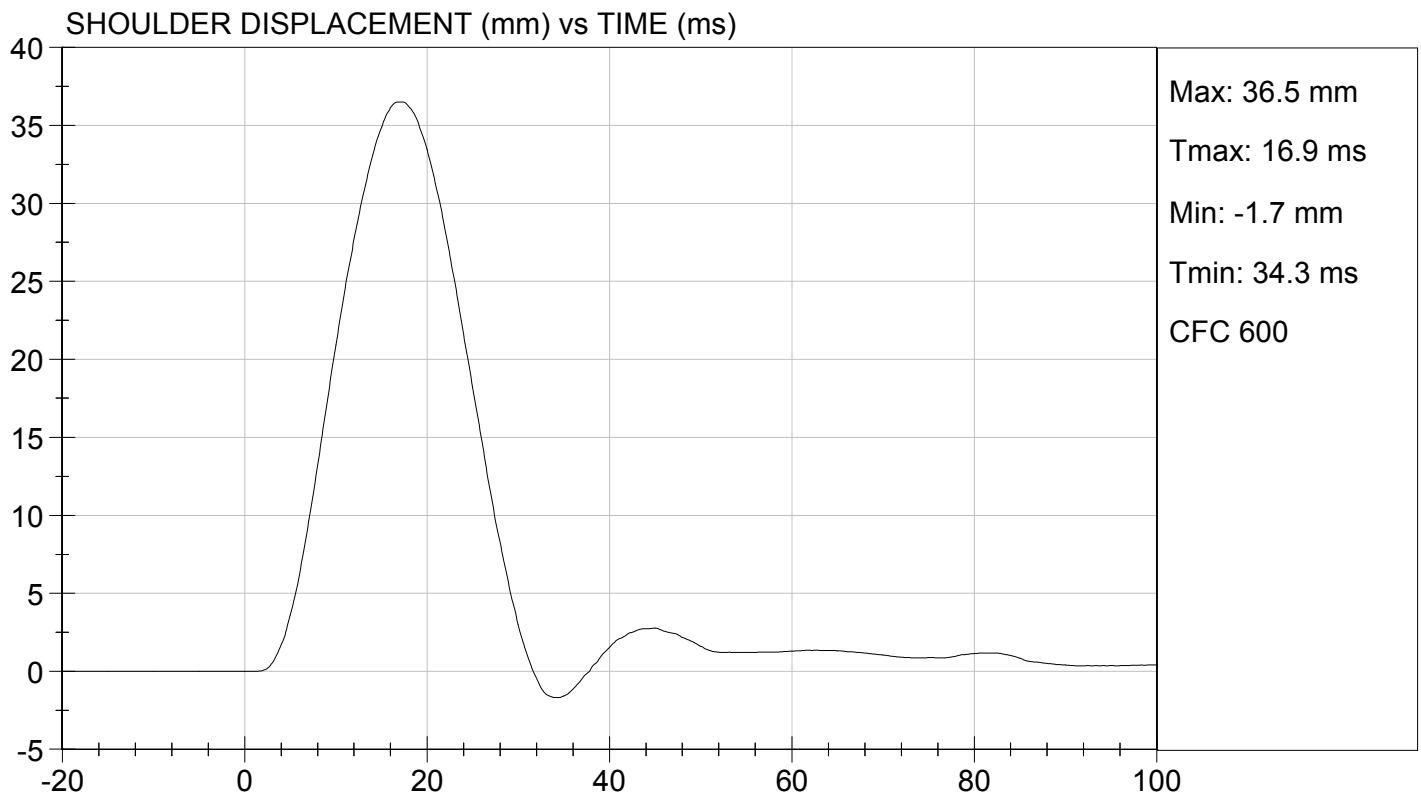
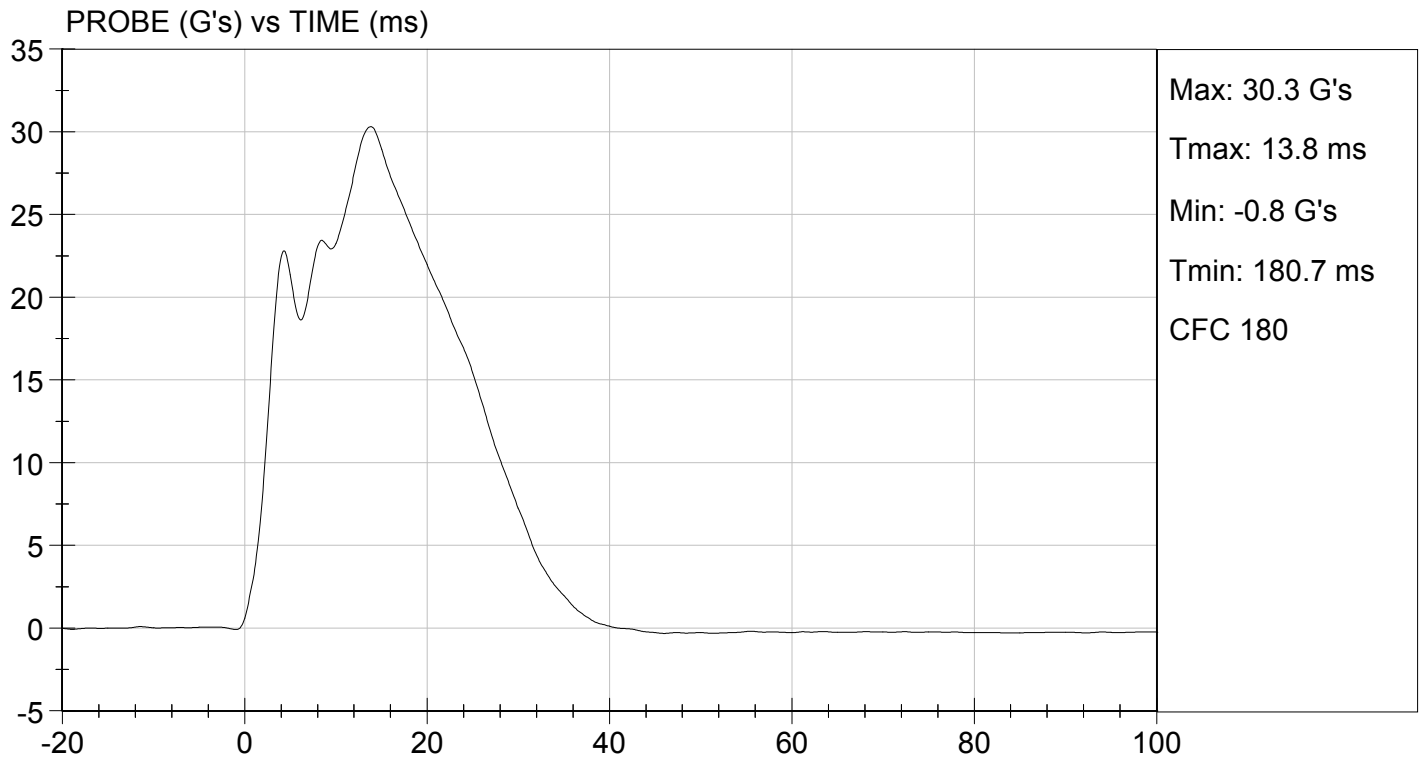
08/13/2013
Test Date


Approved By



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

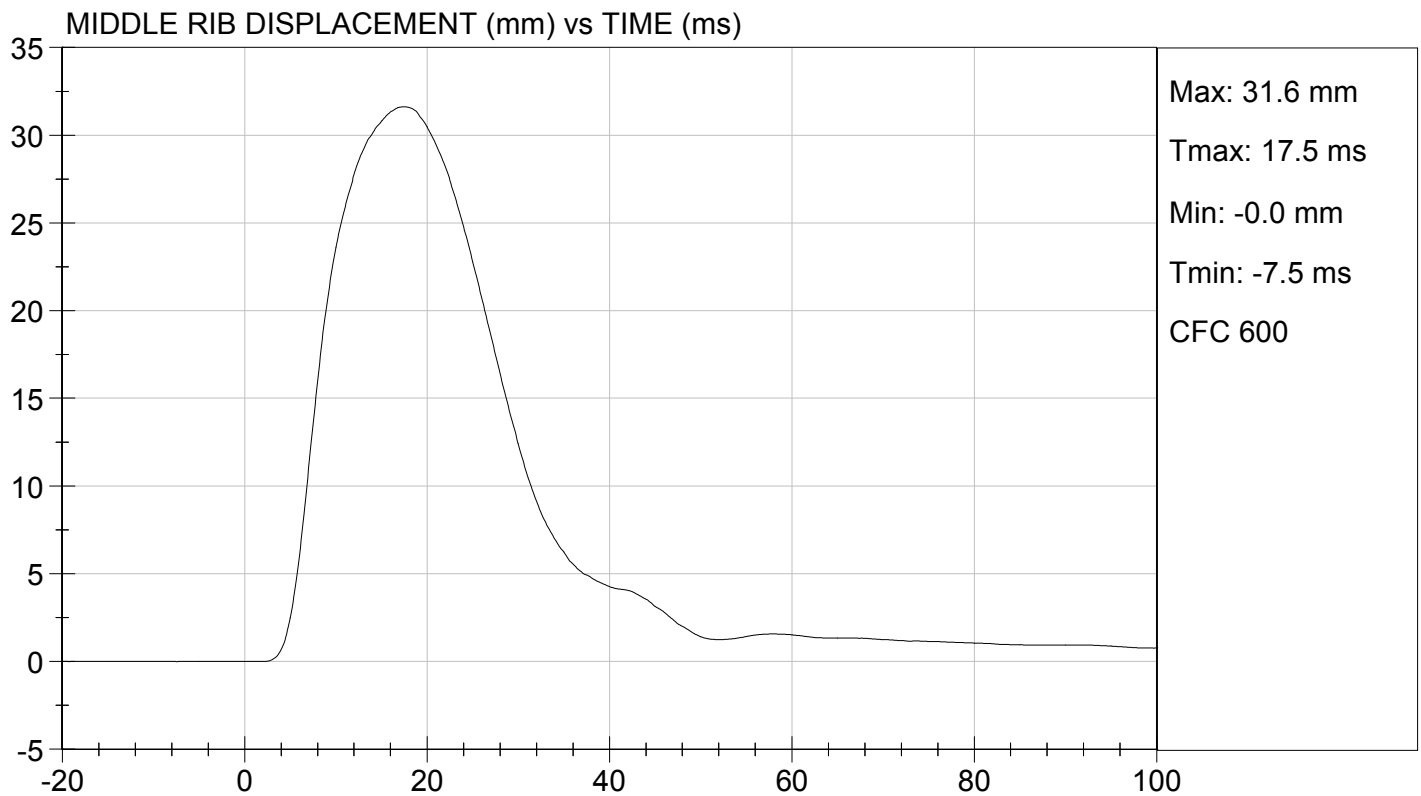
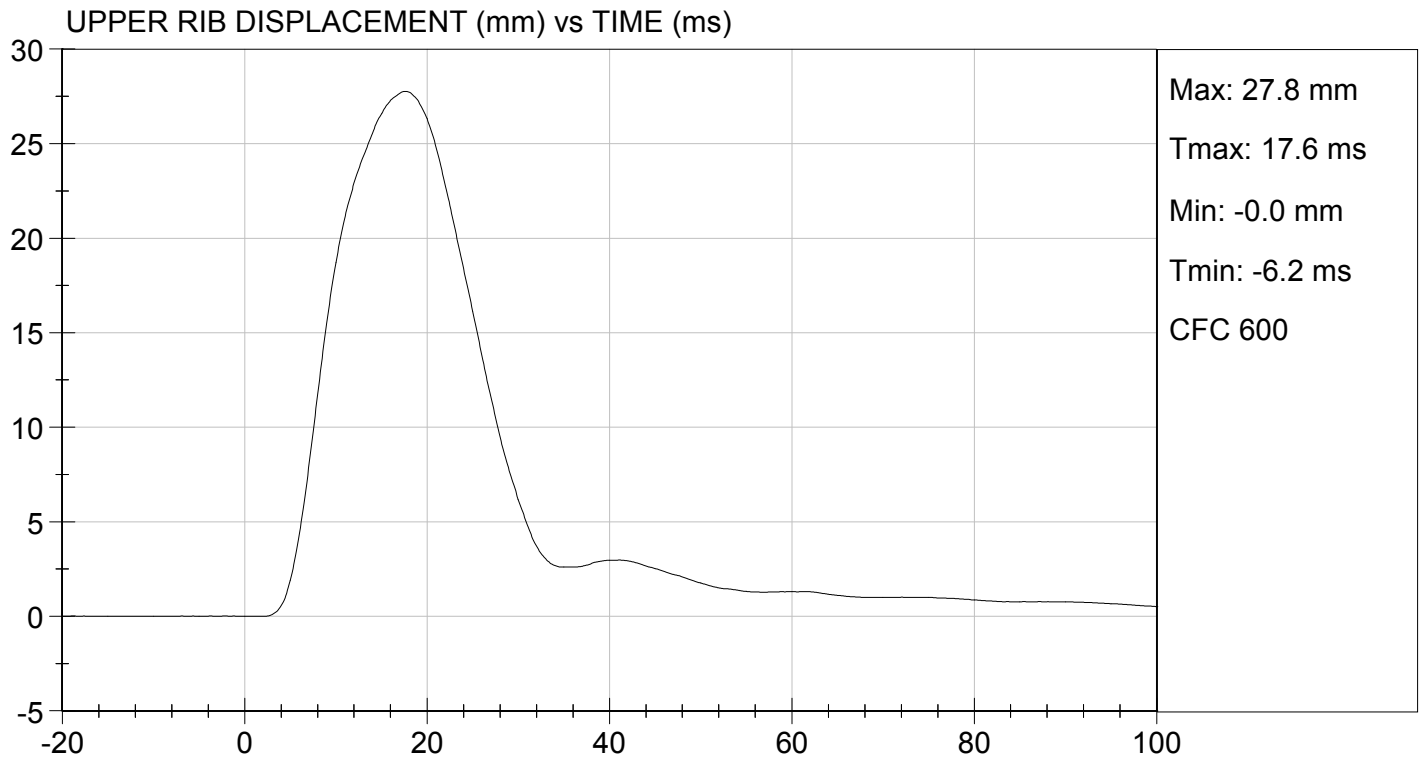
TEST DATE: 08/13/2013
TEST #: D132684





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

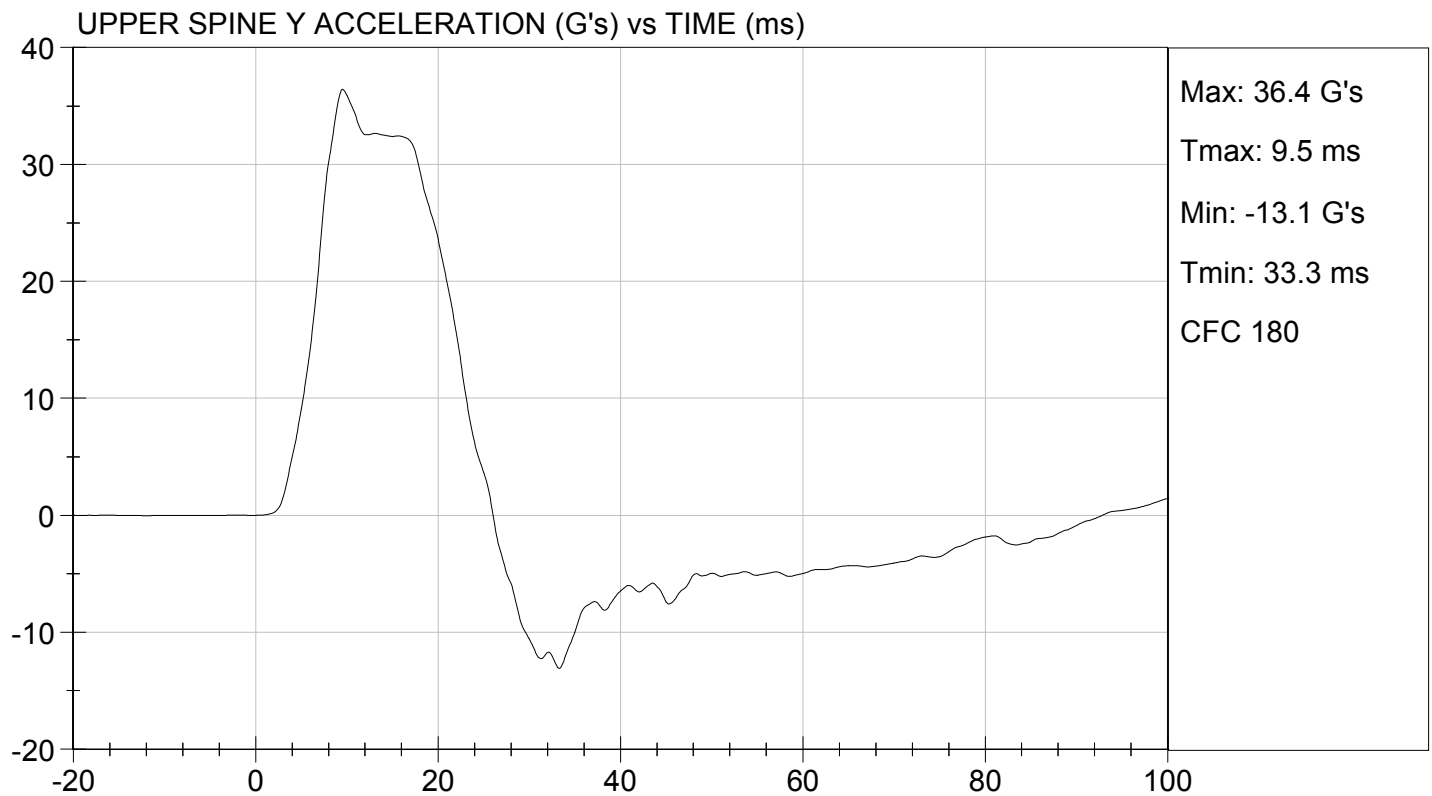
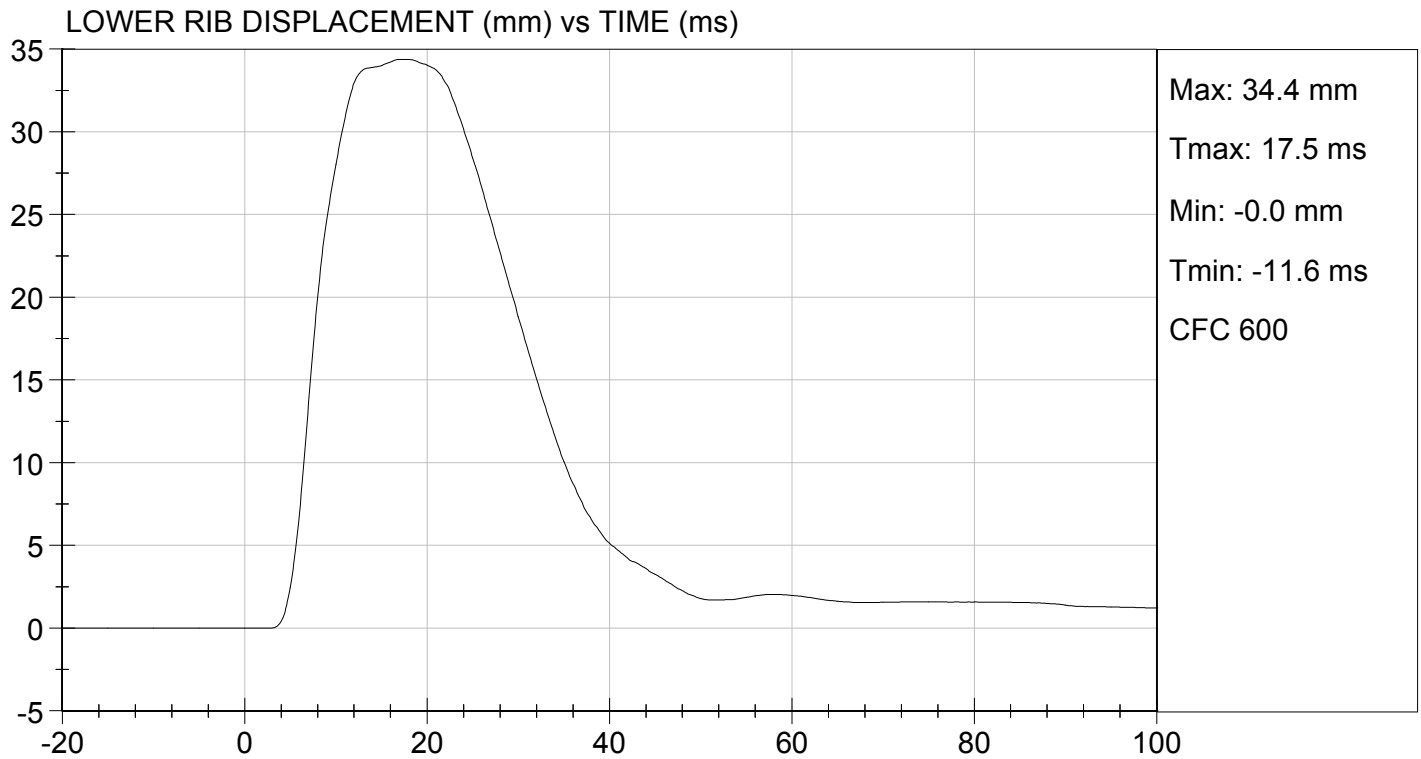
TEST DATE: 08/13/2013
TEST #: D132684





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

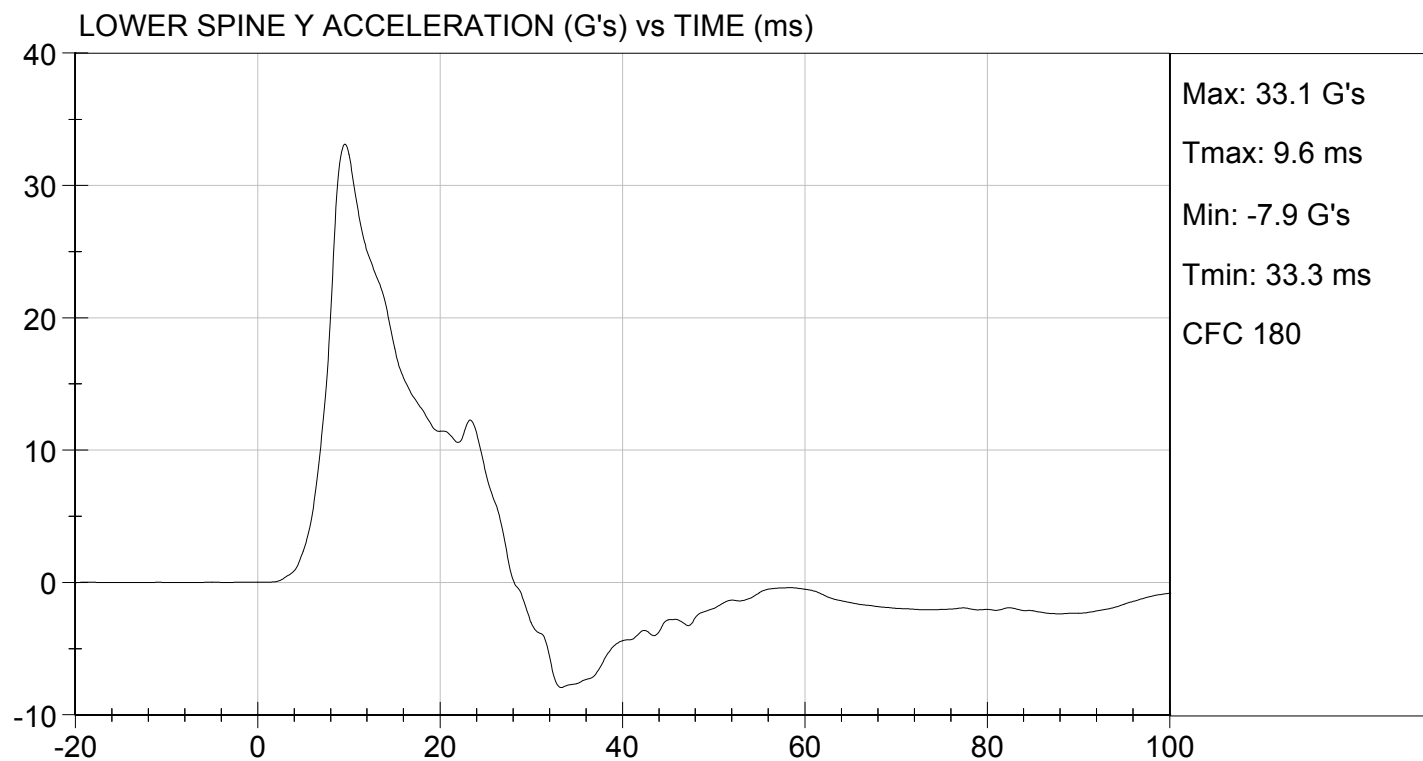
TEST DATE: 08/13/2013
TEST #: D132684





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

TEST DATE: 08/13/2013
TEST #: D132684

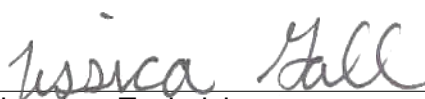


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D132685

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	20.6	Pass
Humidity	%	10 to 70	43	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	14 to 18	14	Pass
Upper Rib Displacement	mm	32 to 40	37	Pass
Middle Rib Displacement	mm	39 to 45	41	Pass
Lower Rib Displacement	mm	35 to 43	39	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	13	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	8	Pass
Overall Test Results				Pass


 Laboratory Technician

08/13/2013

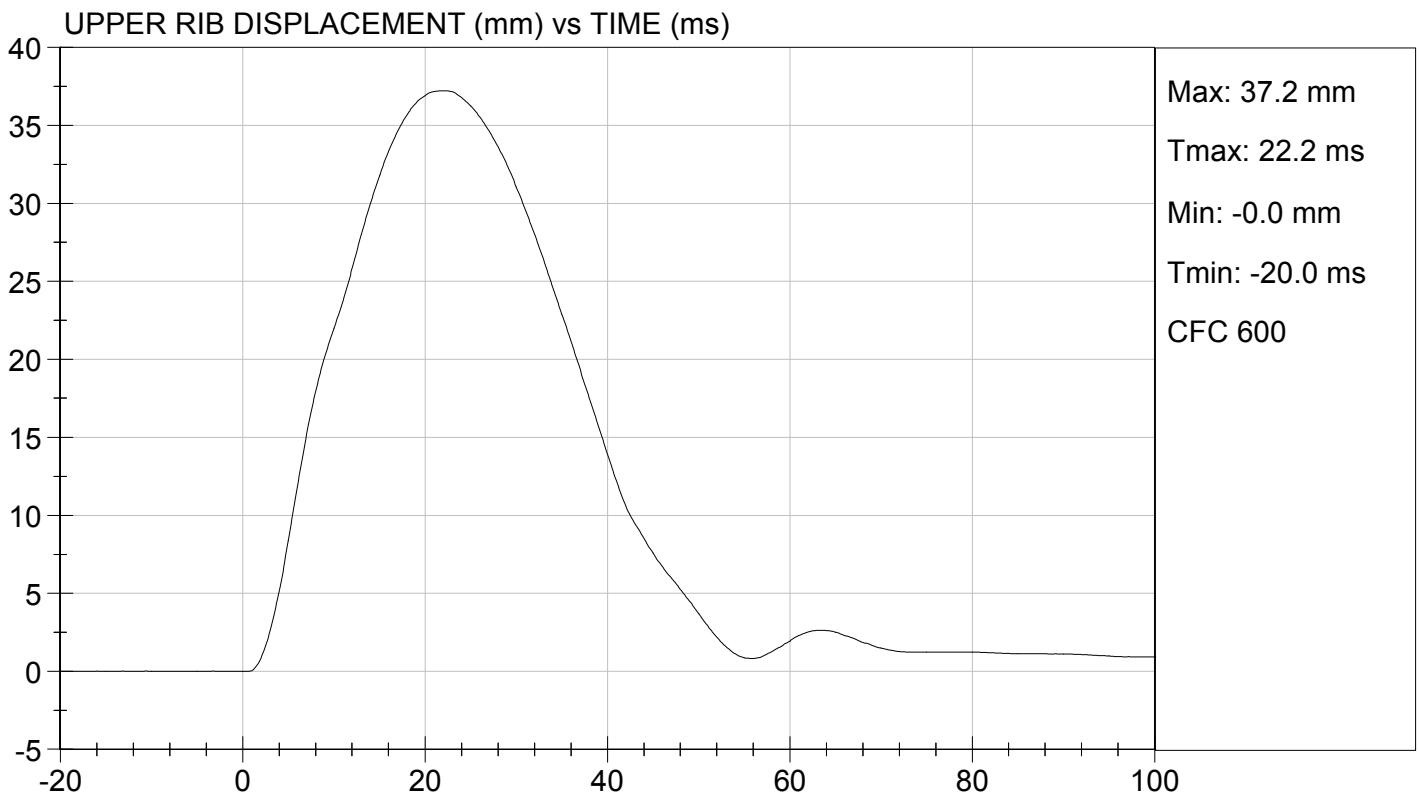
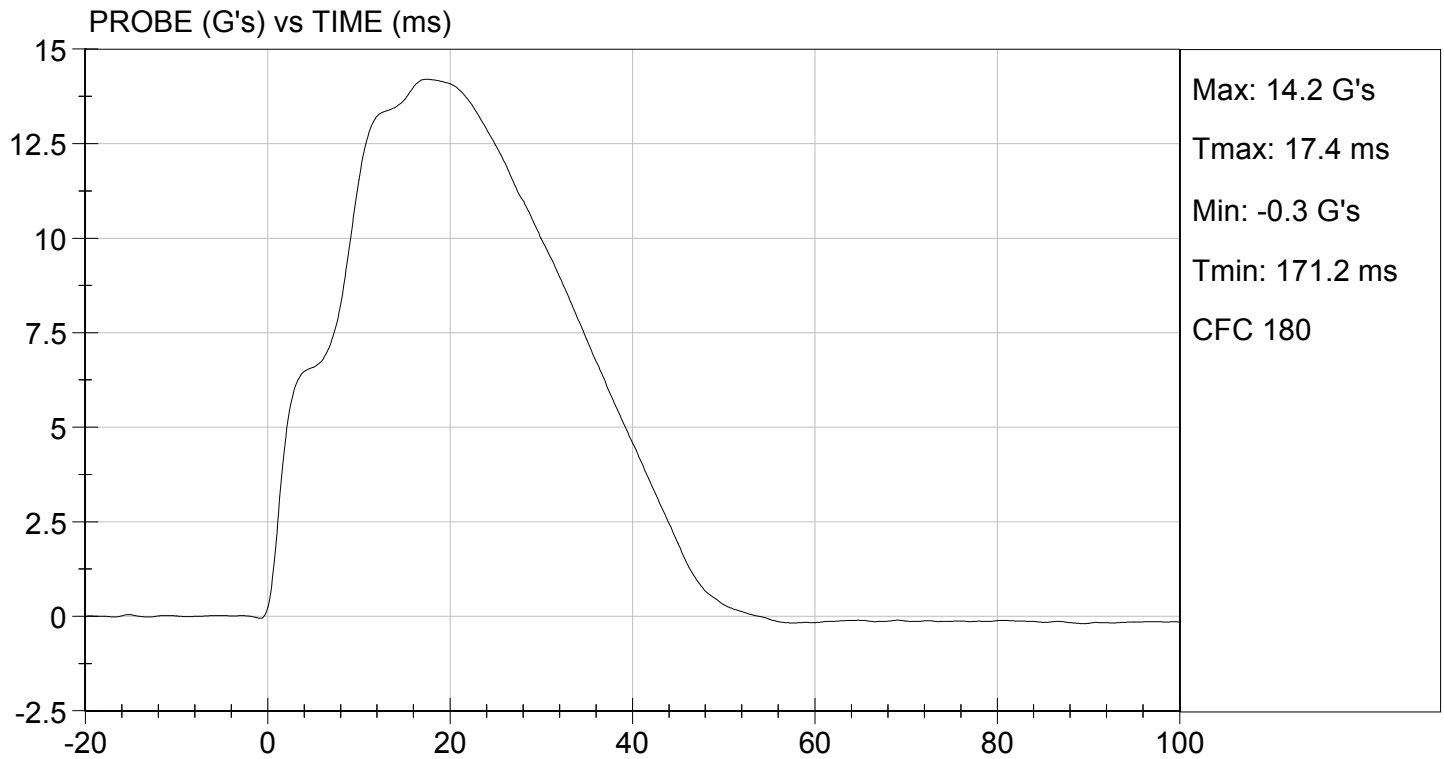
Test Date


 Approved By



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

TEST DATE: 08/13/2013
TEST #: D132685

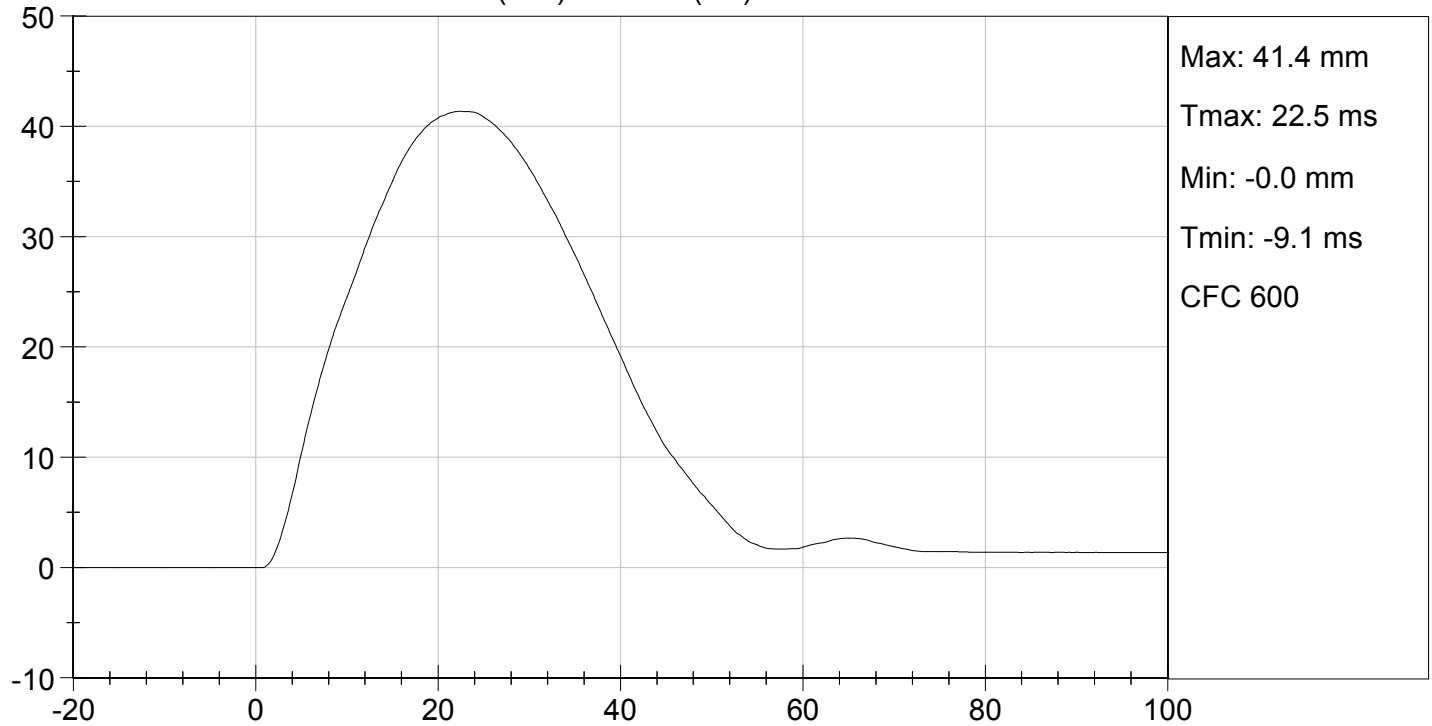




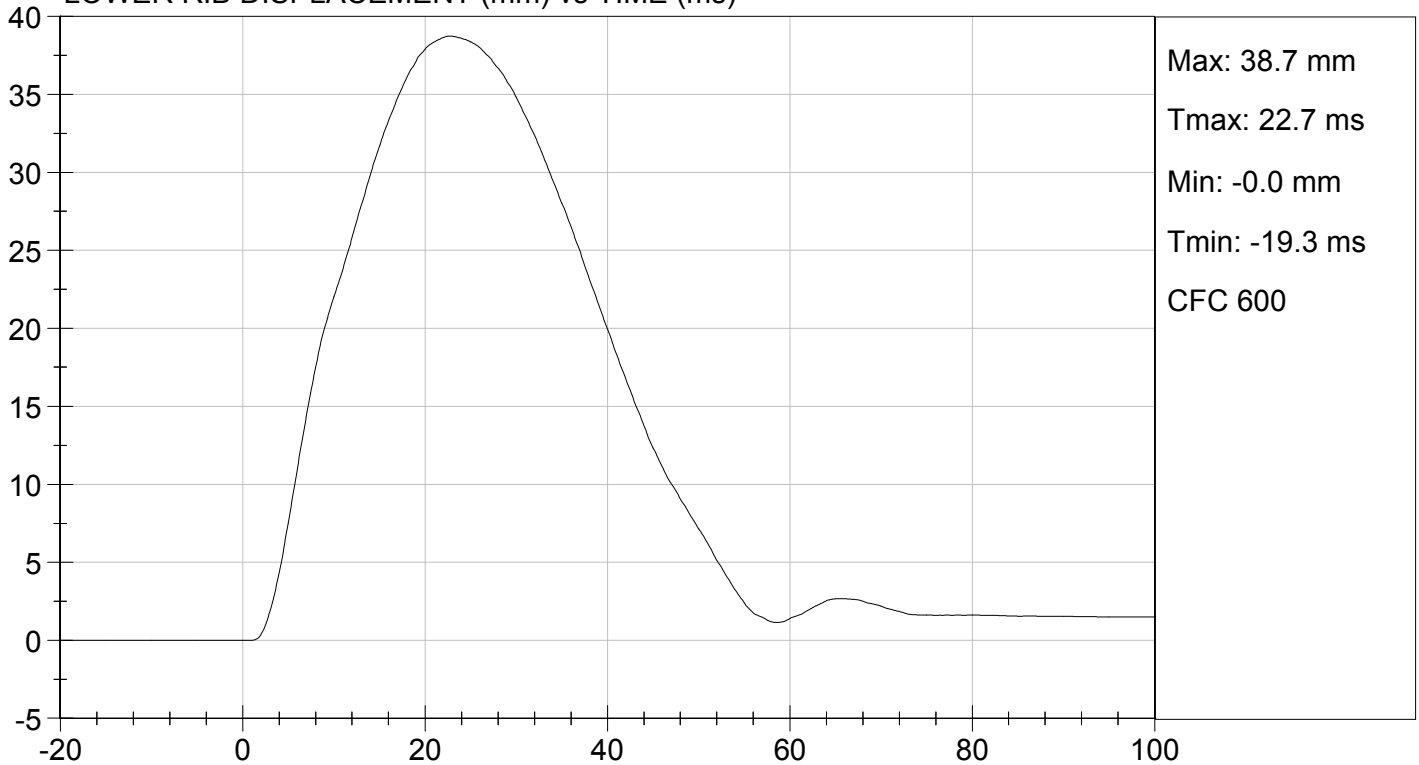
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 08/13/2013
TEST #: D132685

MIDDLE RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER RIB DISPLACEMENT (mm) vs TIME (ms)

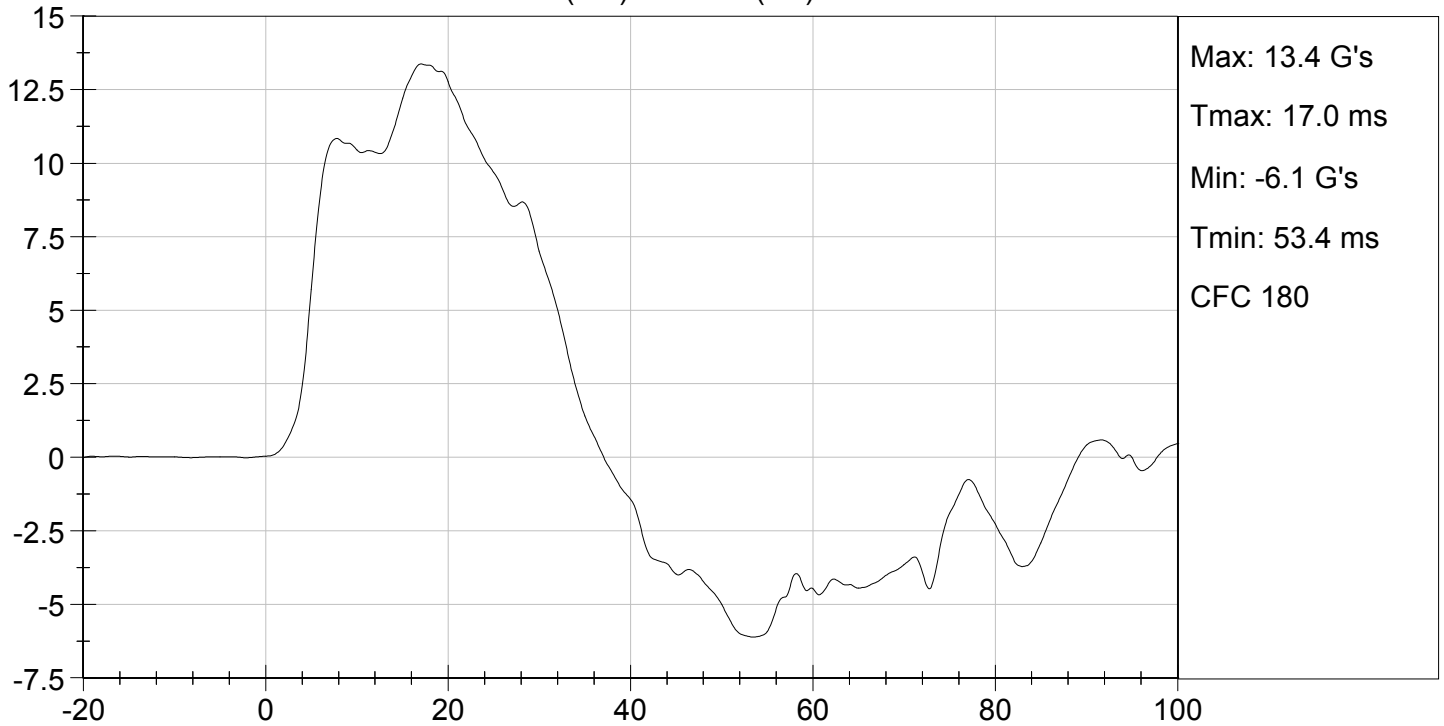




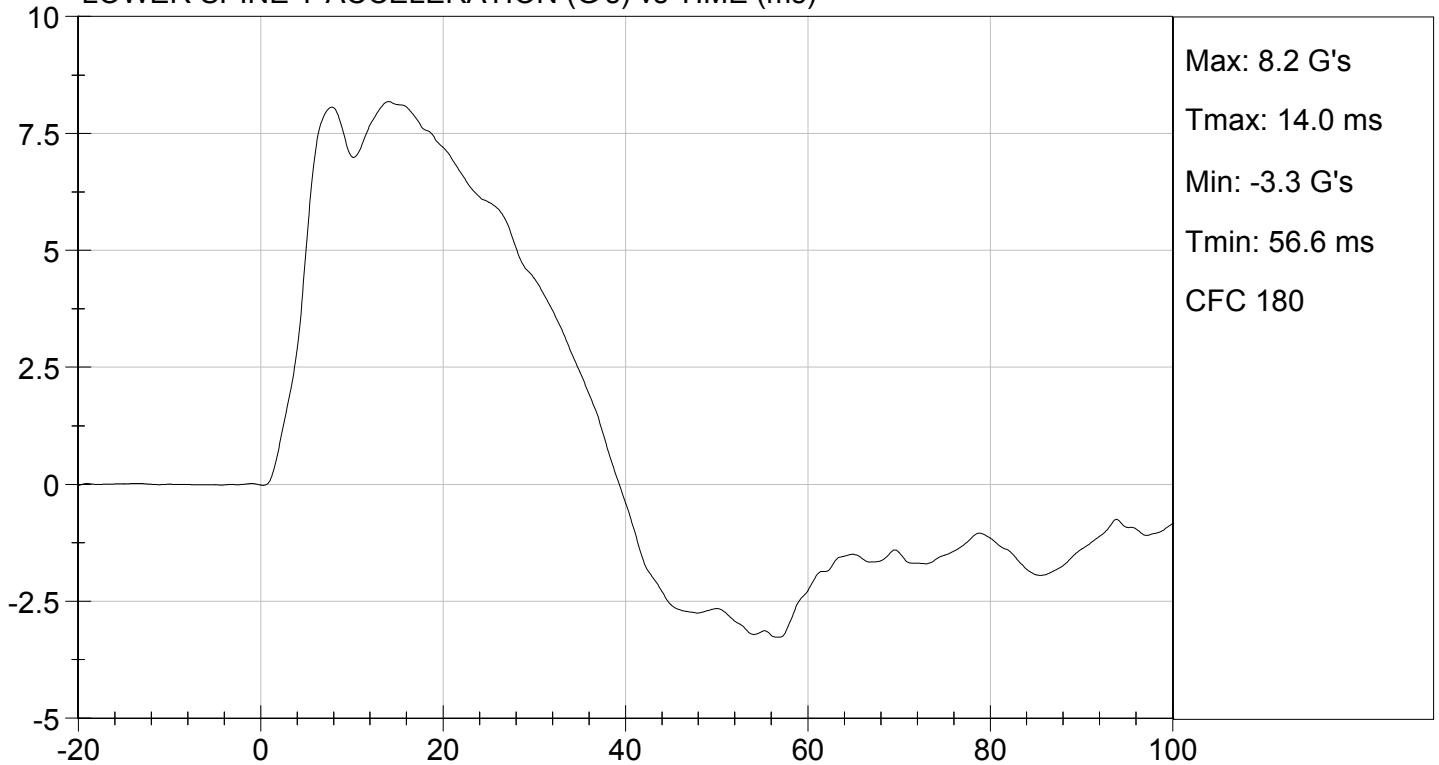
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 08/13/2013
TEST #: D132685

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



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



MGA RESEARCH CORPORATION

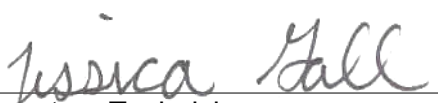
ABDOMINAL IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D132686

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	20.6	Pass
Humidity	%	10 to 70	43	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	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

08/13/2013

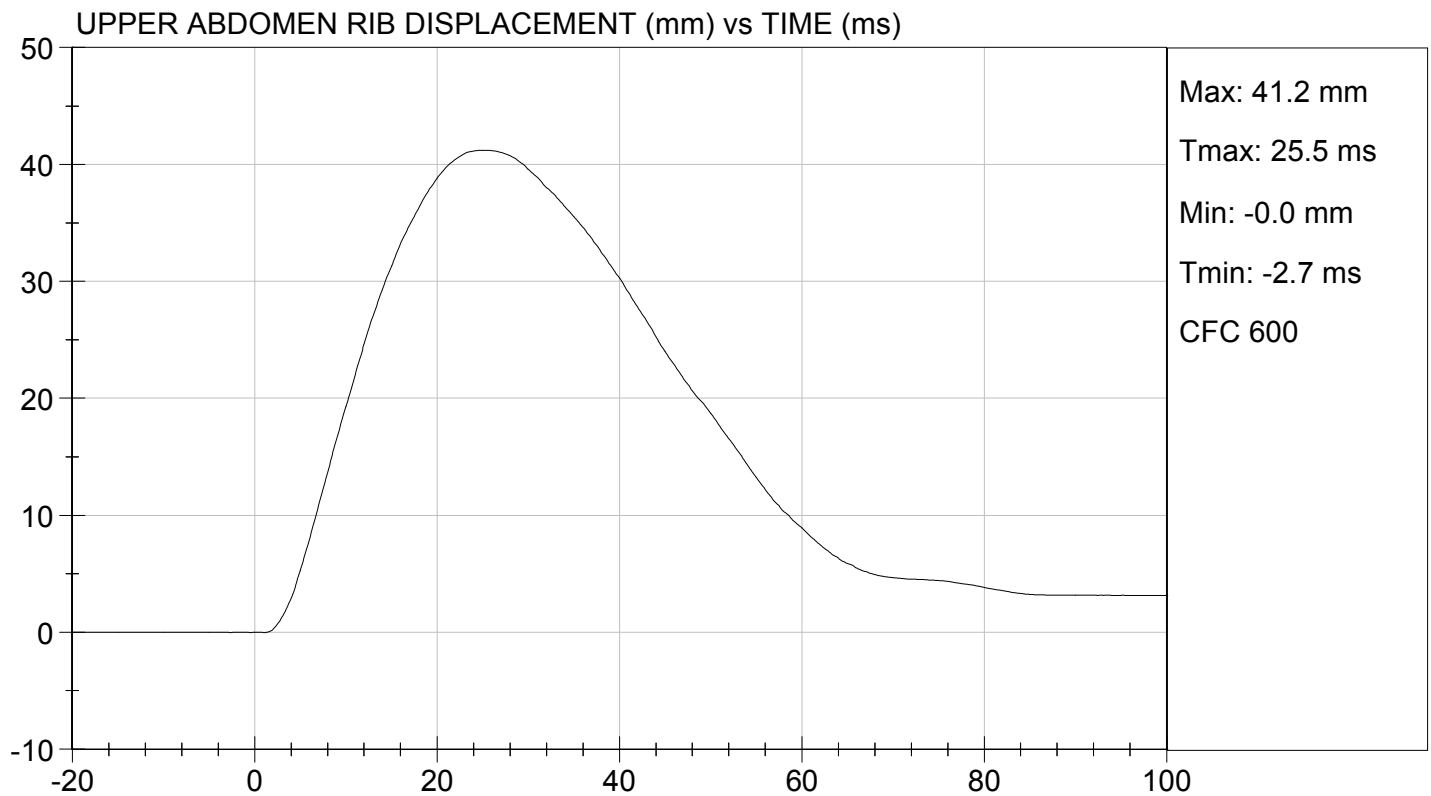
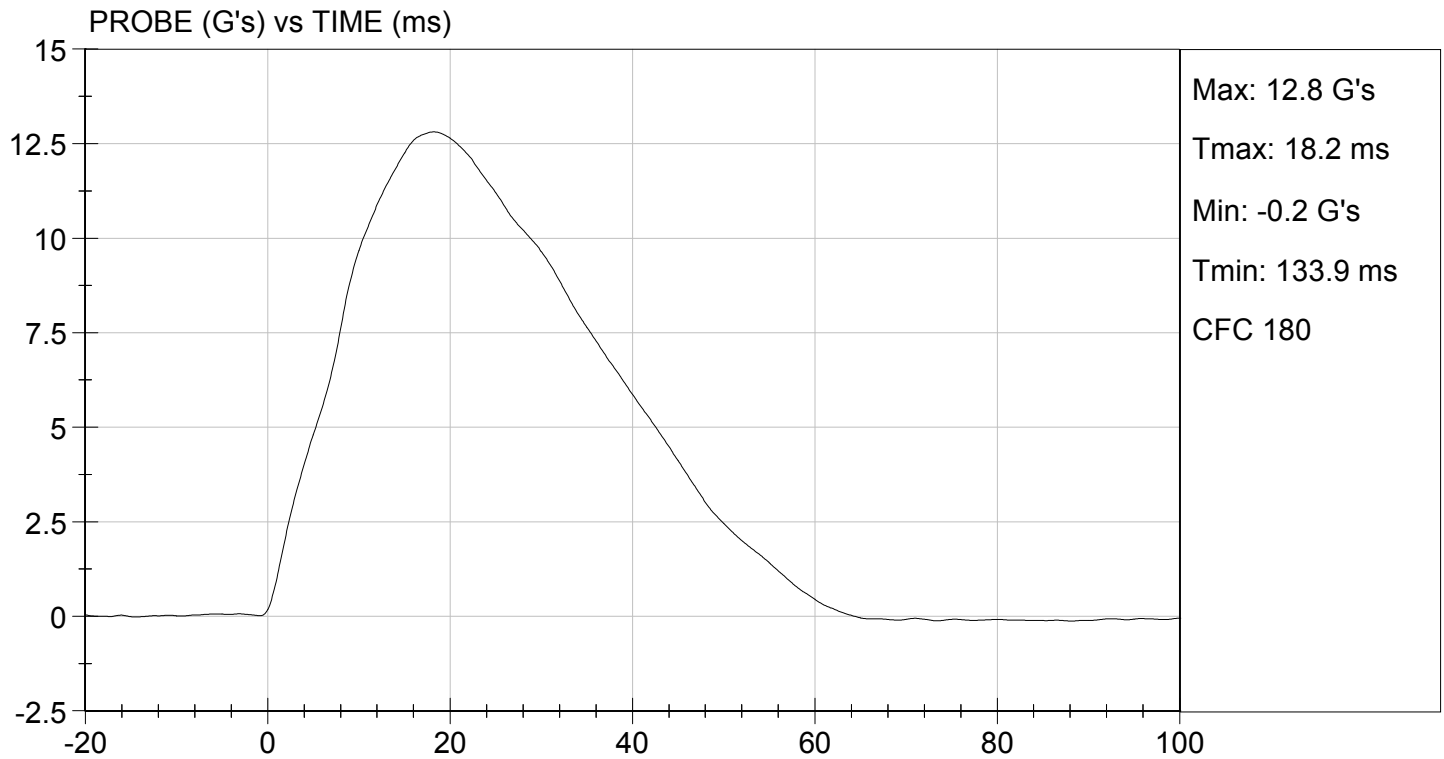
Test Date


Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.01 ft/s, 4.27 m/s

TEST DATE: 08/13/2013
TEST #: D132686

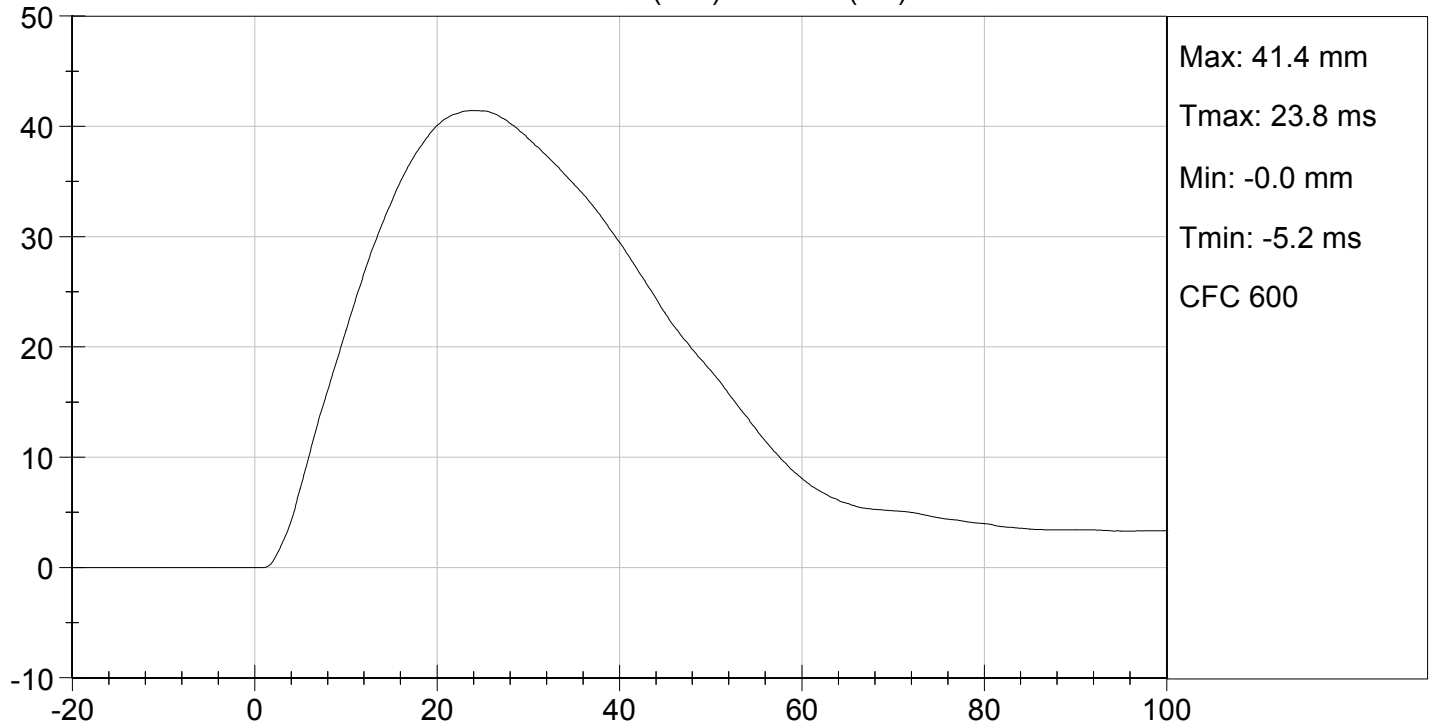




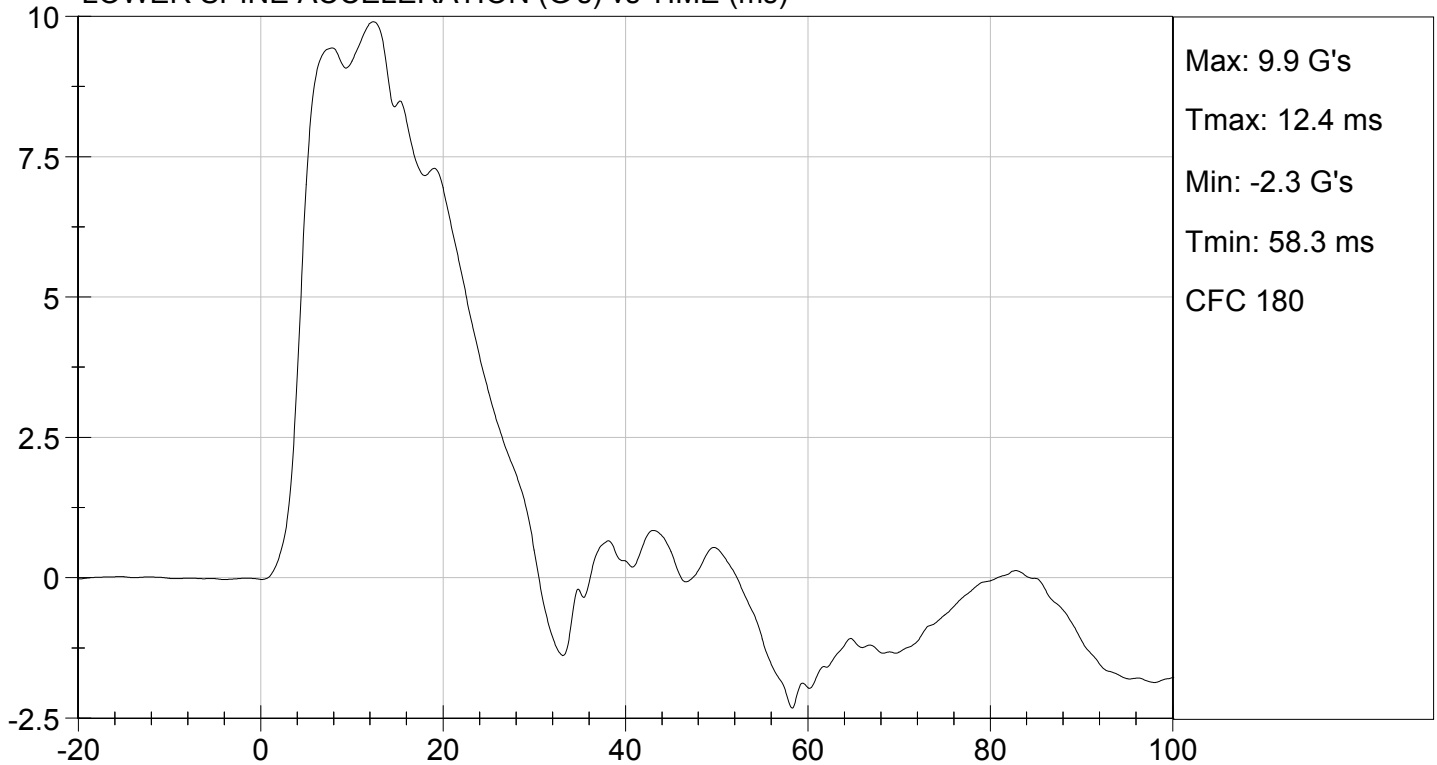
TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.01 ft/s, 4.27 m/s

TEST DATE: 08/13/2013
TEST #: D132686

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: D132687

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	20.6	Pass
Humidity	%	10 to 70	43	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	40	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	37	Pass
Peak Acetabulum Force	N	3600 to 4300	3,892	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

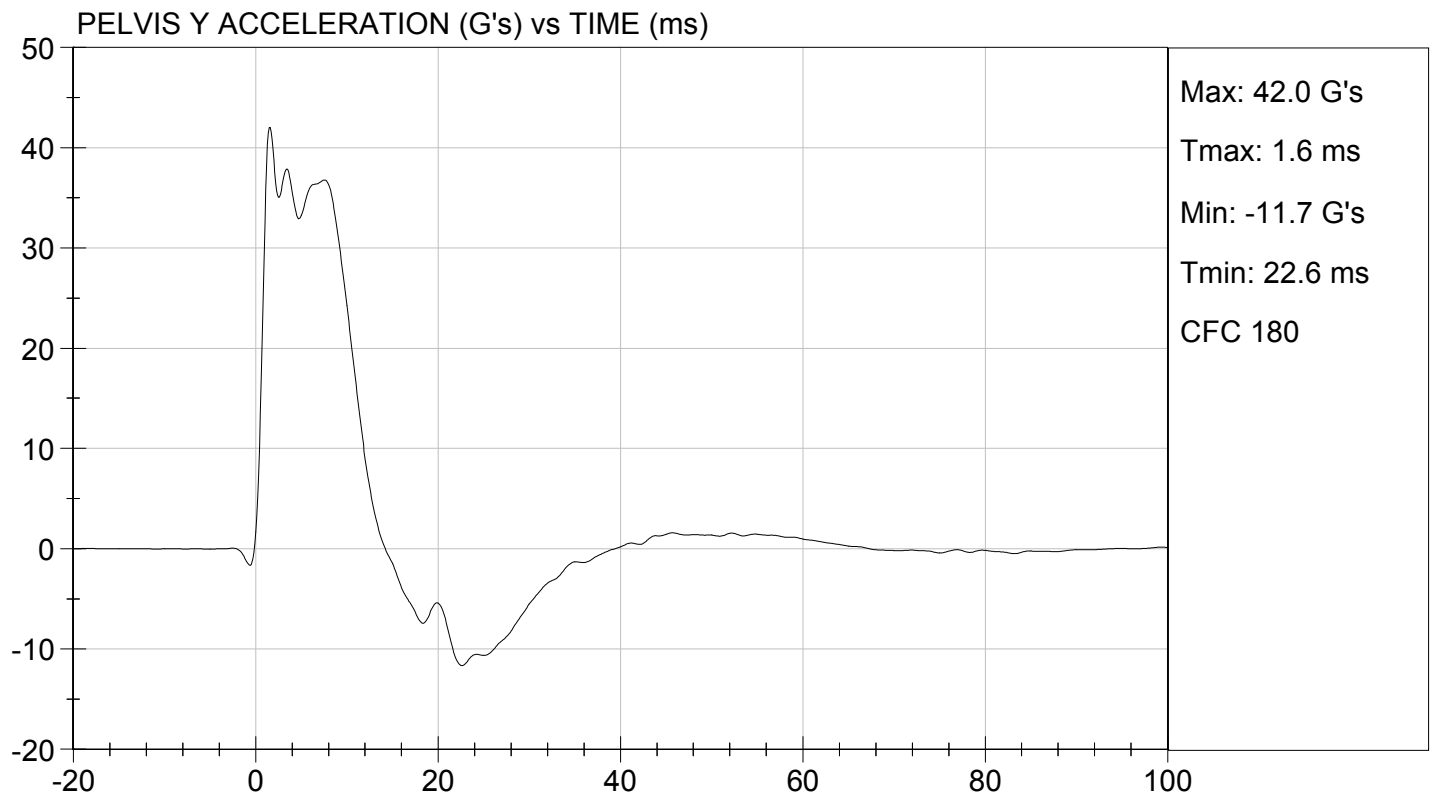
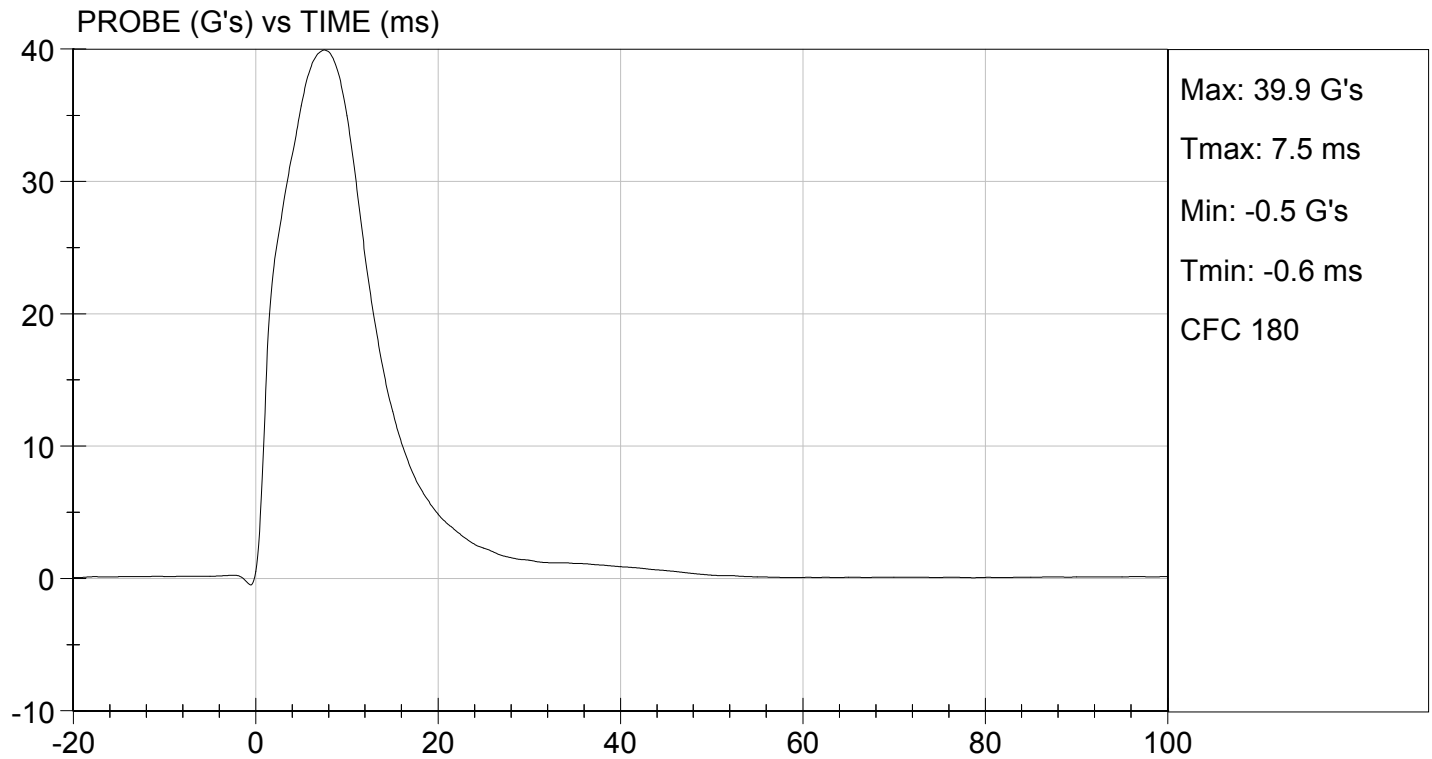
08/13/2013
Test Date

David Winkelbauer
Approved By



TEST DESC: PELVIS IMPACT
VELOCITY: 21.93 ft/s, 6.68 m/s

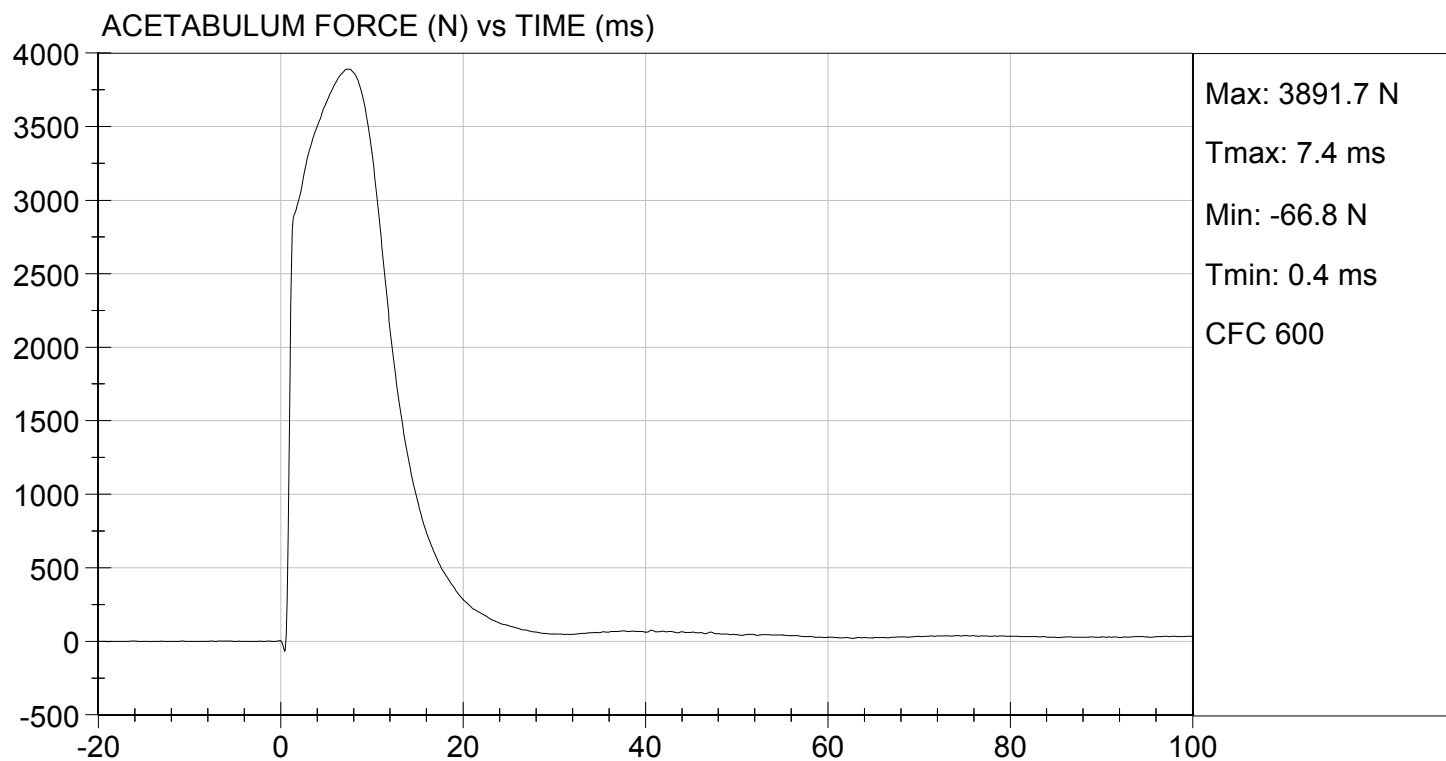
TEST DATE: 08/13/2013
TEST #: D132687





TEST DESC: PELVIS IMPACT
VELOCITY: 21.93 ft/s, 6.68 m/s

TEST DATE: 08/13/2013
TEST #: D132687



MGA RESEARCH CORPORATION

ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

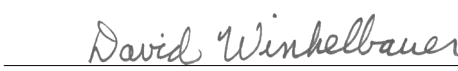
Test I.D: D132688

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	20.6	Pass
Humidity	%	10 to 70	43	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	36 to 45	41	Pass
Pelvis Y Acceleration	G's	28 to 39	38	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	5,093	Pass
Overall Test Results				Pass


Laboratory Technician

08/13/2013

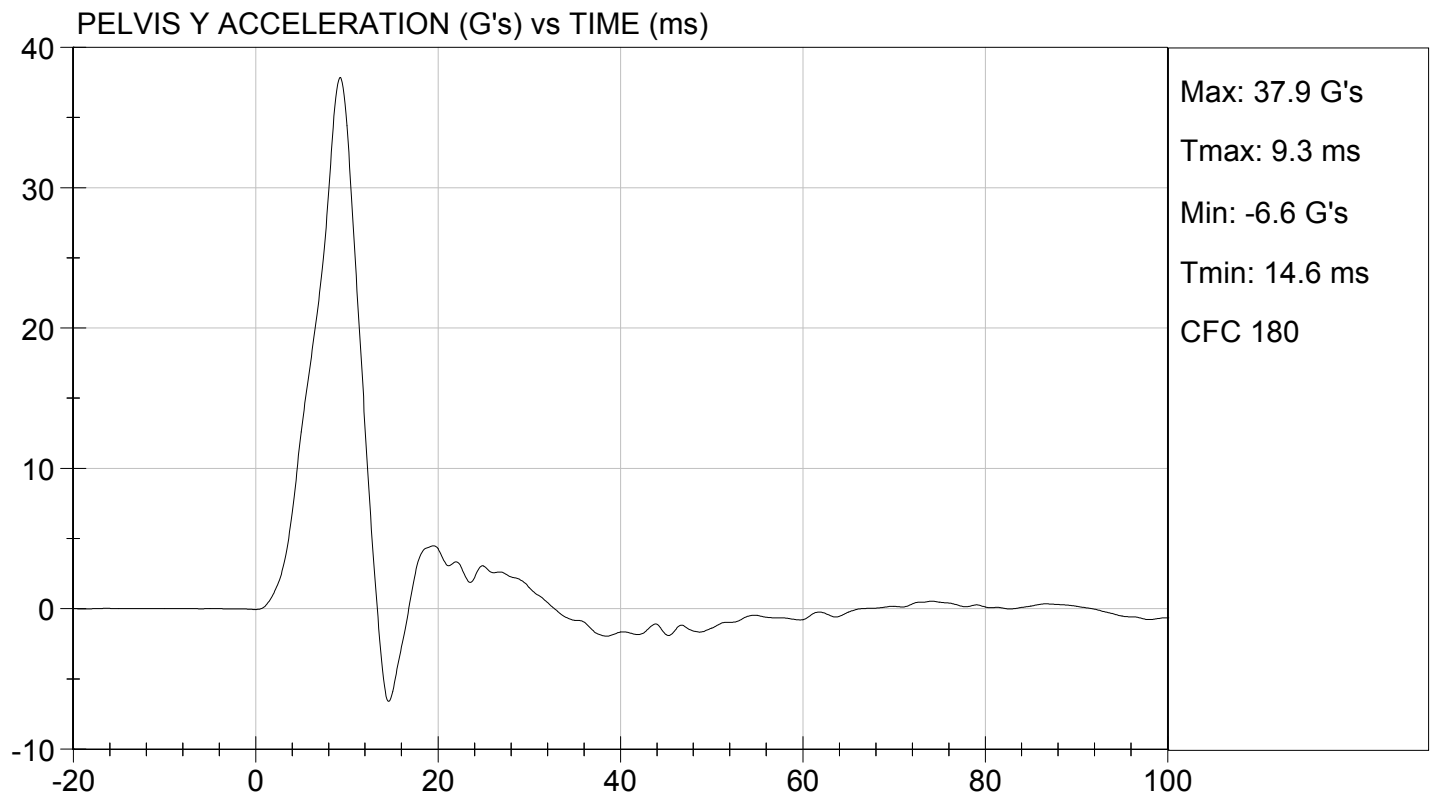
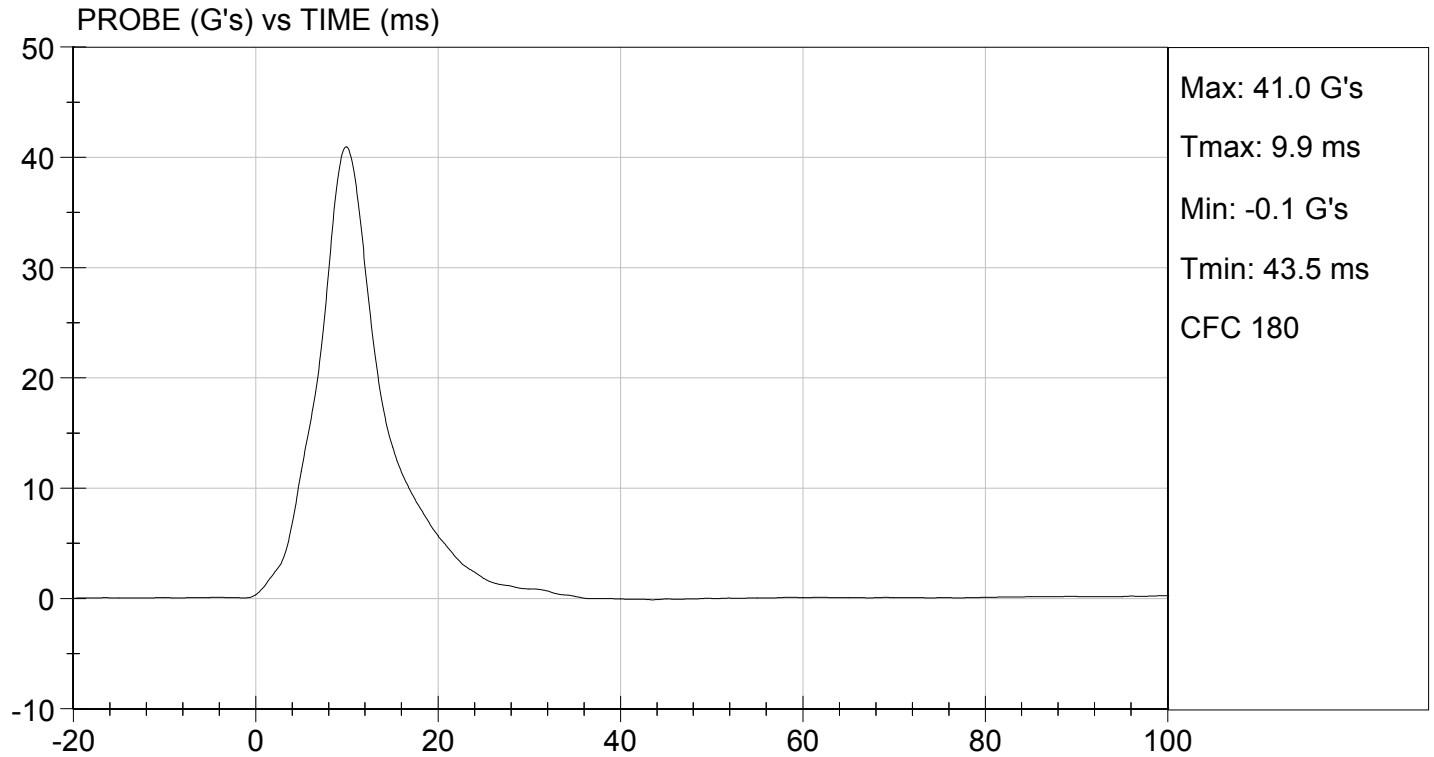
Test Date


Approved By



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

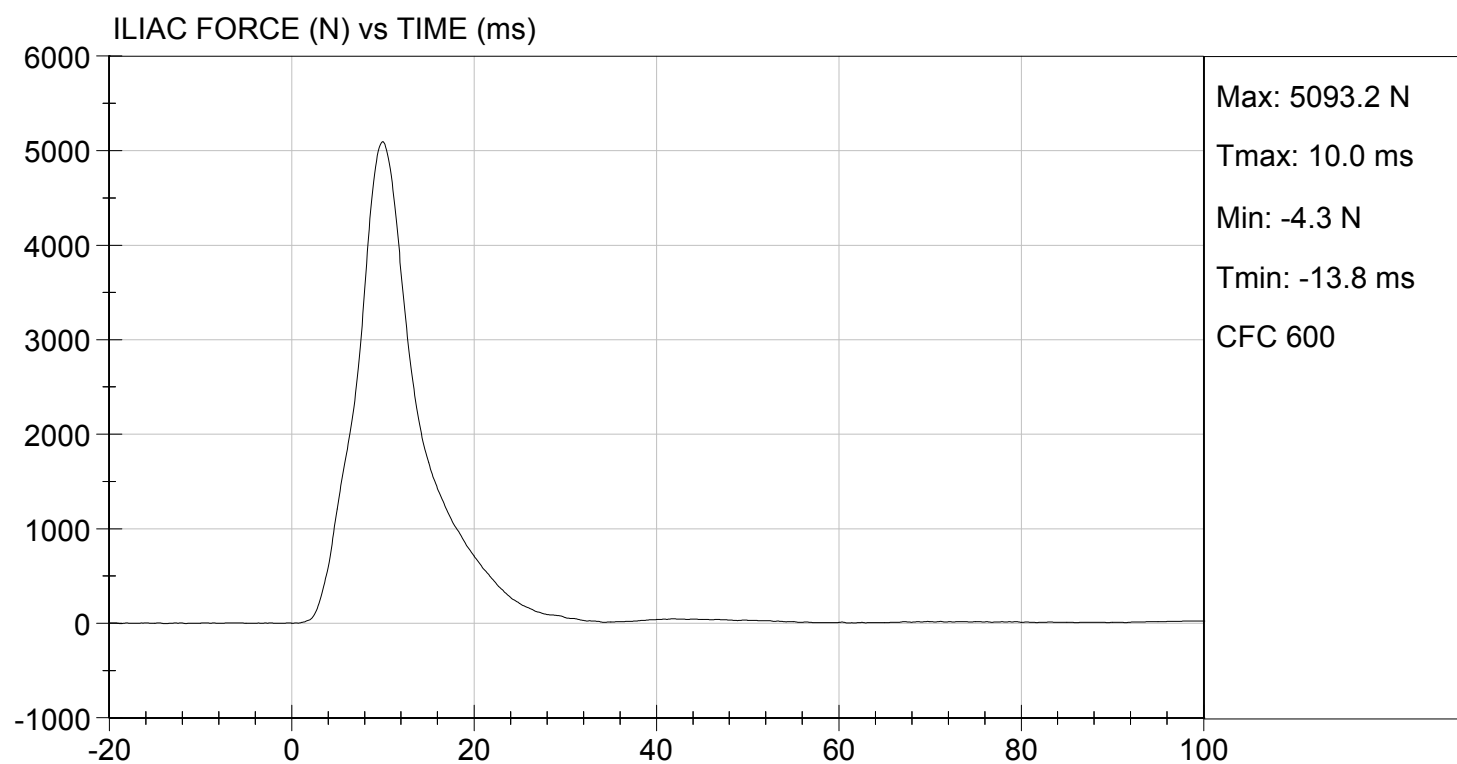
TEST DATE: 08/13/2013
TEST #: D132688



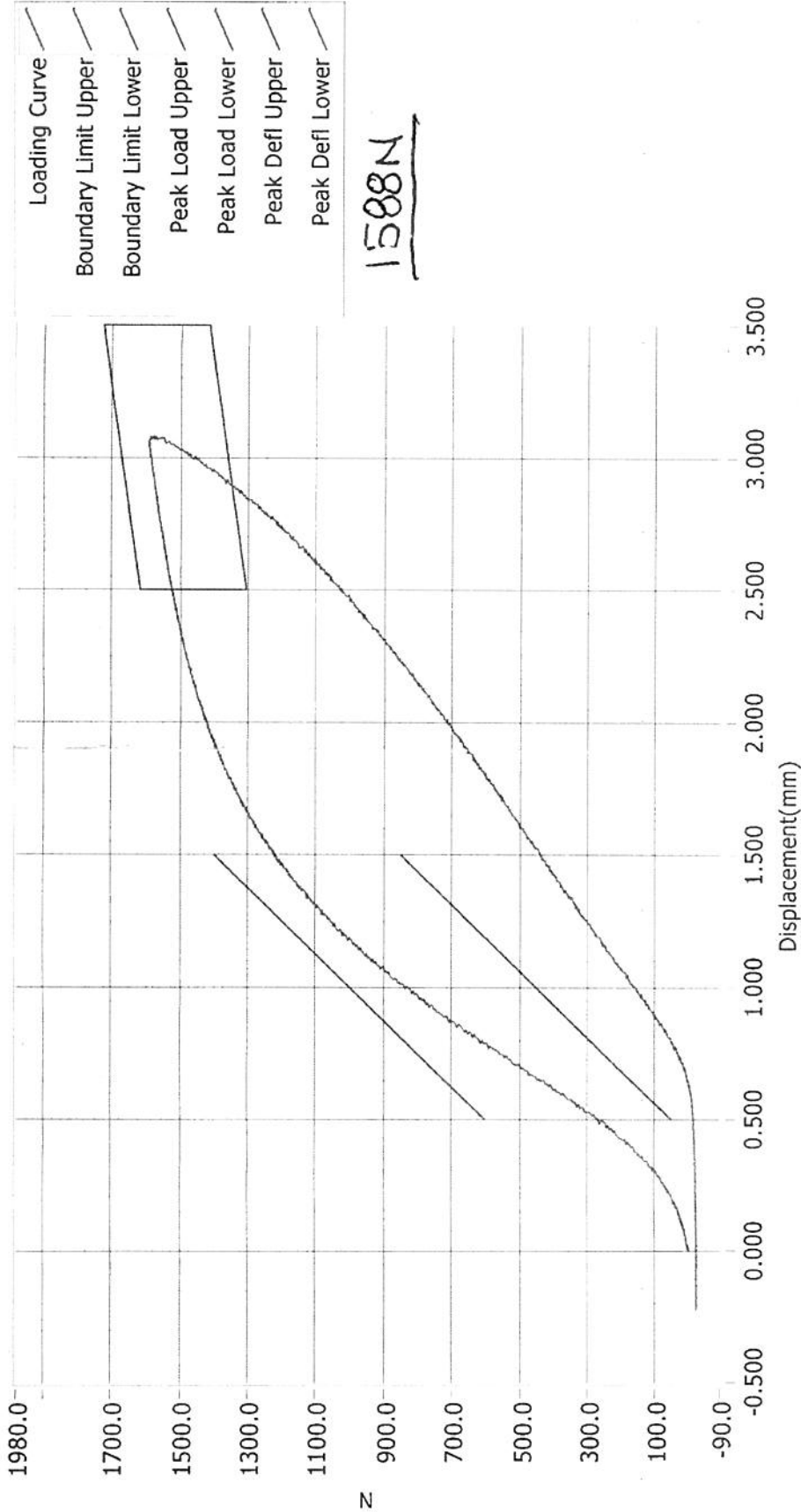


TEST DESC: ILLIAC
VELOCITY: 14.01 ft/s, 4.27 m/s

TEST DATE: 08/13/2013
TEST #: D132688



Resultant Data - SIDIIs Plug Compression



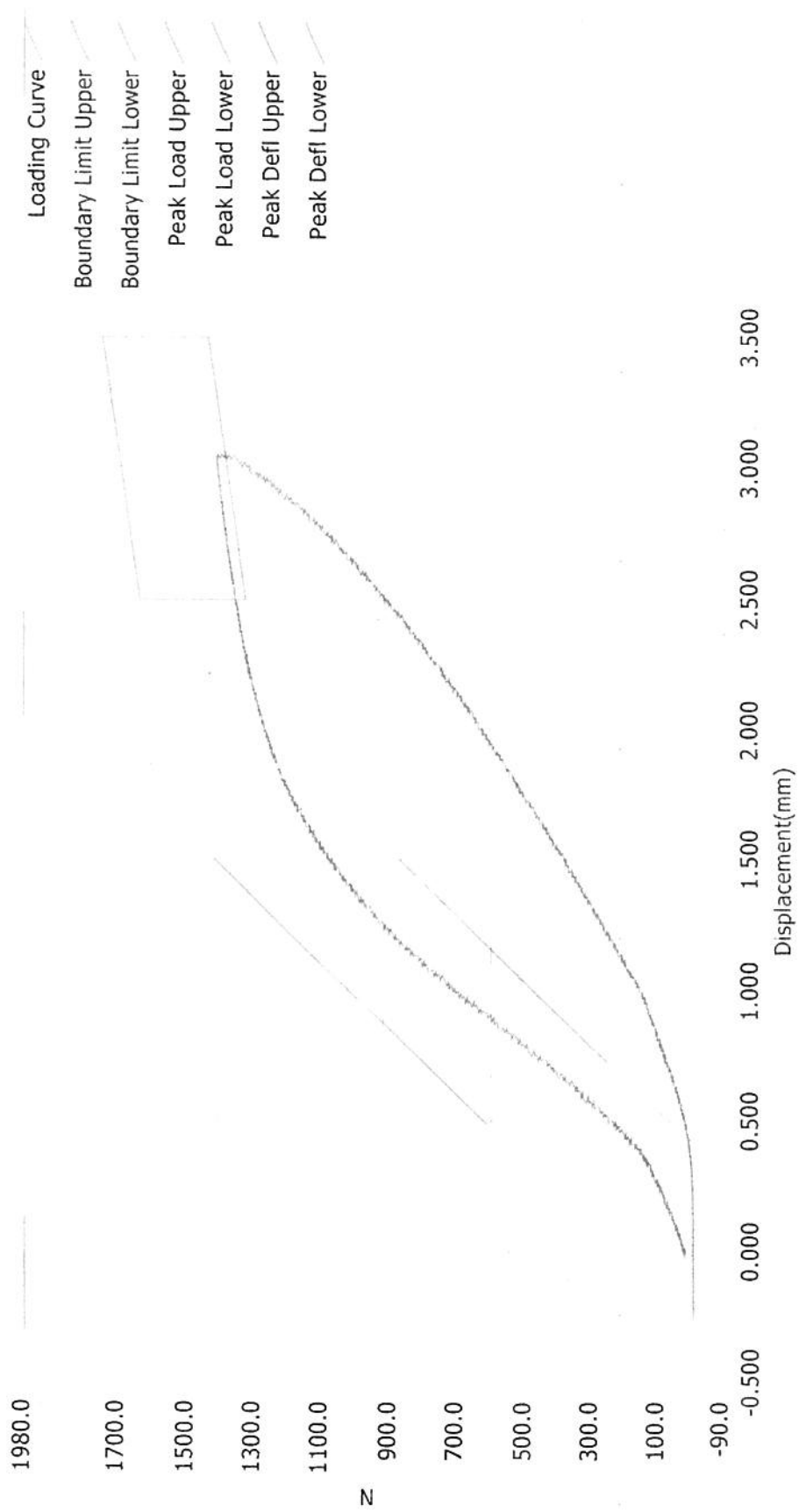
ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	62775	1/15/2013	12:54 AM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 1/15/2013

Current Time : 00:55:21

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	47108	10/15/2011	1:24 PM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 10/15/2011 Current Time : 13:24:55

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation

				SID-IIs S/N 296			
				Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers				X	P79623	Endevco	04/05/13
				Y	P79624	Endevco	04/05/13
				Z	P79625	Endevco	04/05/13
				Xr	P79627	Endevco	04/05/13
				Yr	P79637	Endevco	06/17/13
				Zr	P79629	Endevco	04/05/13
Displacement Potentiometers	Thoracic Rib	Upper	Y	G012	Servo	04/09/13	
		Middle	Y	G1163	FTSS	04/09/13	
		Lower	Y	G1158	FTSS	04/09/13	
	Abdominal Rib	Upper	Y	G1146	FTSS	04/09/13	
		Lower	Y	G1126	FTSS	04/09/13	
Lower Spine Accelerometers (T12)				X	P80109	Endevco	04/05/13
				Y	P80110	Endevco	04/05/13
				Z	P80111	Endevco	04/05/13
Acetabulum Load Cell				Y	ACG268	Denton	01/03/13
Iliac Wing Load Cell				Y	IWG282	Denton	01/03/13
Pelvis Plug (struck side)					62775	FTSS	01/15/13
Pelvis Plug (non-struck side)					47108	FTSS	10/15/11

Table 2 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P68851	Endevco	02/27/13
Vehicle Center of Gravity	Y	P68852	Endevco	02/27/13
Vehicle Center of Gravity	Z	P68853	Endevco	02/27/13
Left Floor Sill	Y	P67936	Endevco	06/10/13
A-Pillar Sill	Y	P78733	Endevco	04/03/13
A-Pillar Low	Y	P64023	Endevco	04/15/13
A-Pillar Mid	Y	P64022	Endevco	04/15/13
B-Pillar Sill	Y	P38350	Endevco	03/04/13
B-Pillar Low	Y	P74662	Endevco	07/24/13
B-Pillar Mid	V	P74661	Endevco	07/24/13
Driver Seat	Y	P63891	Endevco	04/15/13
Engine Top	X	P67869	Endevco	03/15/13
Engine Top	Y	P67870	Endevco	03/15/13
Firewall	Y	P67933	Endevco	06/10/13
Right Roof	Y	P78706	Endevco	07/24/13
Right Floor Sill	Y	P64012	Endevco	04/29/13
Rear Floorpan	X	P67889	Endevco	06/10/13
Rear Floorpan	Y	P67888	Endevco	06/10/13

Table 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	09/05/12
Load Cell 2	DG6278	FTSS	09/05/12
Load Cell 3	DG6279	FTSS	09/05/12
Load Cell 4	DG6280	FTSS	09/05/12
Load Cell 5	DG6281	FTSS	09/05/12
Load Cell 6	DG6283	FTSS	09/05/12
Load Cell 7	DG6284	FTSS	09/05/12
Load Cell 8	DG6582	FTSS	09/05/12