

REPORT NUMBER: SPNCAP-MGA-2015-051

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

**TOYOTA MOTOR CORPORATION
2015 Lexus NX 200t F Sport 5-Dr SUV
NHTSA No.: O20155101**

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



Test Date: January 27, 2015

Final Report Date: April 6, 2015

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: April 6, 2015

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

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16. Abstract A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2015 Lexus NX 200t F Sport 5-Dr SUV 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 January 27, 2015. The impact velocity was 32.2 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20.7°C. The test vehicle post-test maximum crush was 389 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 rowspan="2">Measurement Description</th> <th colspan="3">Driver ATD (SID-IIs)</th> </tr> <tr> <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>542</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>3682</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>15</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td>22</td> </tr> </tbody> </table> *Proposed IARV The 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.						Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	542	Resultant Lower Spine Acceleration	Gs	82	38	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3682	Maximum Thoracic Rib Deflection	mm	38*	15	Maximum Abdomen Rib Deflection	mm	45*	22
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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 2015 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 2015 Lexus NX 200t F Sport 5-Dr SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated September 2013.

SECTION 2 SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2015 Lexus NX 200t F Sport 5-Dr SUV. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.2 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin on January 27, 2015. 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 2013. 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	542
Resultant Lower Spine Acceleration	Gs	82	38
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3682
Maximum Thoracic Rib Deflection	mm	38*	15
Maximum Abdominal Rib Deflection	mm	45*	22

*Proposed IARV

Supplemental restraint information is given below:

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	
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 Mid B-Post Y has no valid data after 8 ms.

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: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	O20155101	Traction Control System (TCS)	Yes
Model Year	2015	Auto-Leveling System	No
Make	Lexus	Automatic Door Locks (ADL)	Yes
Model	NX 200t	Power Window Auto-Reverse	Yes
Body Style	SUV	Other Optional Feature	N/A
VIN	JTJYARBZ8F2001438	Driver Front Airbag	Yes
Body Color	Atomic Silver	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	14 / 9	Driver Head/Torso Airbag	No
Engine Displacement (L)	2.0	Driver Torso Airbag	No
Type/No. Cylinders	4	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Lateral	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	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 Restraint Feature	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)	2310
Date of Manufacture	11/14	GAWR Front (kg)	1270
Vehicle Type	MPV	GAWR Rear (kg)	1270

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	(A)
Capacity Weight (VCW) (kg)				402	(B)
DSC x 68.04 kg				340	(A-B)
Rated Cargo and Luggage Weight (RCLW) (kg)				62	

VEHICLE SEAT TYPE

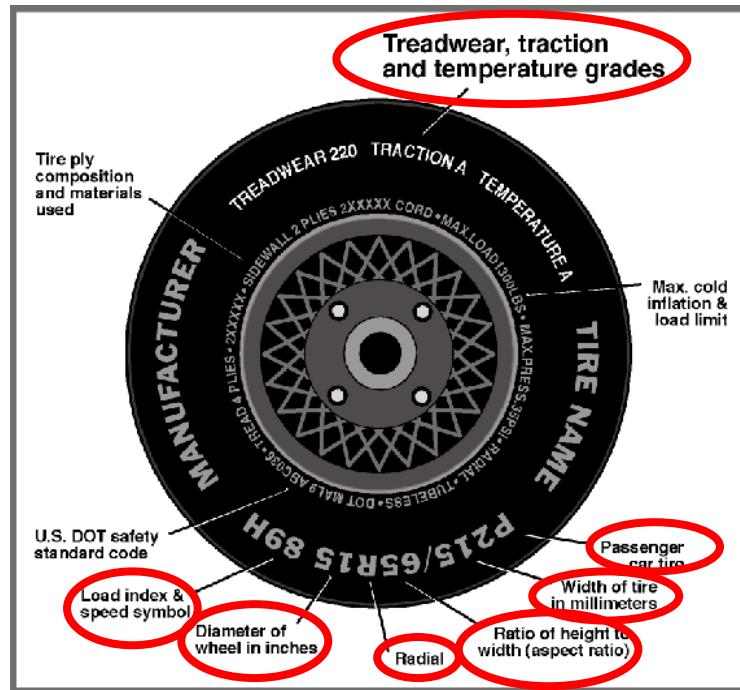
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X						X
Rear or Second Row			X			w/lever	
Third Row Seat							

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

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	220	220
Recommended Tire Size	235/55R18	235/55R18
Tire Size on Vehicle	235/55R18	235/55R18
Tire Manufacturer	Bridgestone	Bridgestone
Tire Model	Dueler	Dueler
Treadwear	260	260
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	100V	100V
Tire Material	Rubber	Rubber
DOT Safety Code Left	H47C CMD 4314	H47C CMD 4314
DOT Safety Code Right	H47C CMD 4314	H47C CMD 4314

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

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kpa	221	234	227	234
Tire Placard	kpa	220	220	220	220
Owner's Manual	kpa				
As Tested	kpa	220	220	220	220

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	551.5	367.5		562.0	420.0		565.5	421.5	
Right	kg	498.5	356.5		507.0	392.5		498.0	402.5	
Ratio	%	59.2	40.8		56.8	43.2		56.3	43.7	
Totals	kg	1050.0	724.0	1774.0	1069.0	812.5	1881.5	1063.5	824.0	1887.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1774.0	(A)
Actual Weight of 1 P572V ATD (SID-IIs) ATD Used	kg	52.2	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	62	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1888.2	(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	-0.1	-0.1	0.1	Yes
Front Pass. Sill Angle (front-to-rear)*	deg	-0.2	-0.2	0.0	Yes
Front Bumper Angle (left-to-right)**	deg	-0.2	-0.3	-0.3	Yes
Rear Bumper Angle (left-to-right)**	deg	-0.4	-0.4	-0.4	Yes
Vehicle CG (Aft of Front Axle)	mm	1090	1153	1166	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	28	34	36	

*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)	24.0
None	0.0

Test height adjustable suspension setting, if applicable:	Not Applicable
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DATA SHEET NO. 2
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015

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	24.5	12.5	18.5
Front Passenger Seat	23.4	11.4	17.4
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	18.5	20	Max	40	40	40
			Mid	20	20	20
			Min	0	0	0
Front Passenger Seat	17.4	20	Max	40	40	40
			Mid	20	20	20
			Min	0	0	0
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

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

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

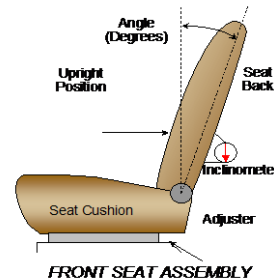
NHTSA No. O20155101
 Test Date: 1/27/2015

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	240		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	51.6		-4.5	
Front Passenger Seat	55.8		-4.5	
Front Center Seat				
Struck Side Rear Seat	22.2	13 (1 st as 1)	3.9	0 th (1 st as 0)
Non-Struck Side Rear Seat	22.2	13 (1 st as 1)	3.9	0 th (1 st as 0)
Rear Center Seat	22.2	13 (1 st as 1)	3.9	0 th (1 st as 0)

Seat back angles measured on headrest post.

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	Fixed	Not Applicable

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

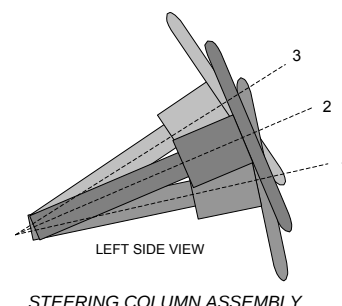
Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
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 Test Date: 1/27/2015

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.

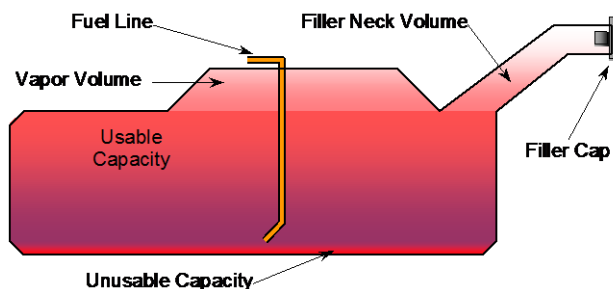
	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	66.3	238
Geometric Center, Position 2	64.8	217
Uppermost, Position 3	63.3	196
Telescoping Steering Wheel Travel		42
Test Position	64.8	217



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.



VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY DATA

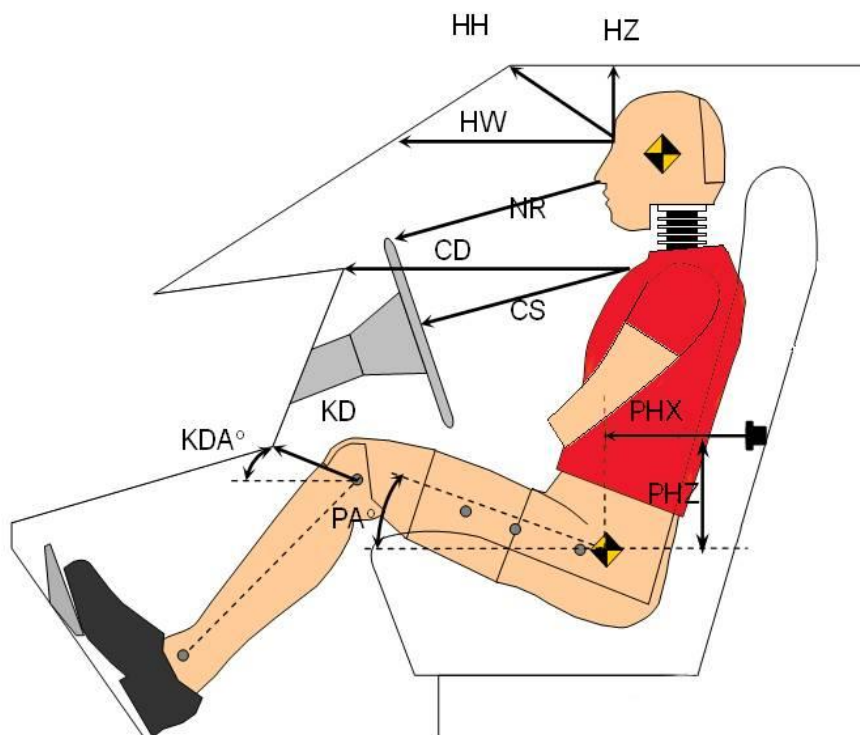
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	60.2
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	60.0
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	56.0
Actual Amount of Solvent Used	56.0
1/3 of Usable Capacity	20.1

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: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015



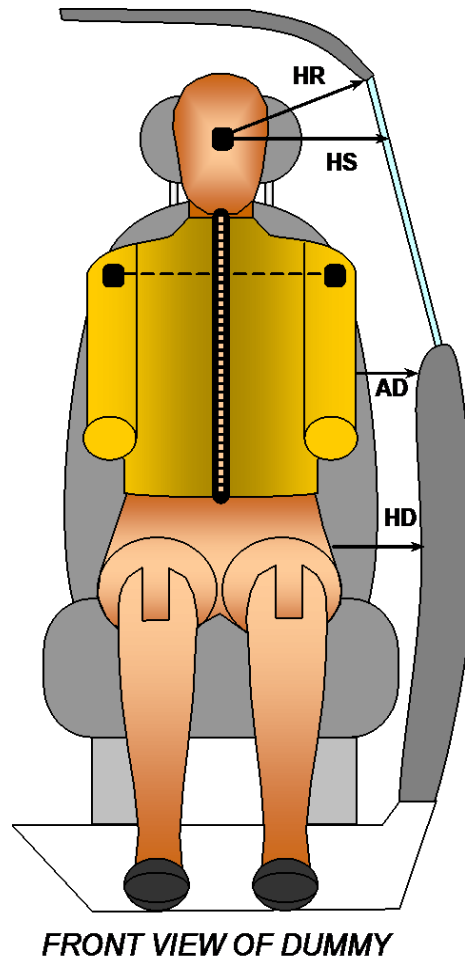
LEFT SIDE VIEW

Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	252	
HW	Head to Windshield	589	
HZ	Head to Roof Liner	178	
NR	Nose to Rim	238	
CD	Chest to Dashboard	399	
CS	Chest to Steering Wheel	180	
KDL/KDAL°	Left Knee to Dash	110	22.8
KDR/KDAR°	Right Knee to Dash	114	33.7
PAX°	Pelvic Tilt Angle (X-Axis)		21.8
PAY°	Pelvic Tilt Angle (Y-Axis)		1.3
PHX	Hip Point to Striker (X-Axis)	331	
PHZ	Hip Point to Striker (Z-Axis)	215	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
Test Date: 1/27/2015

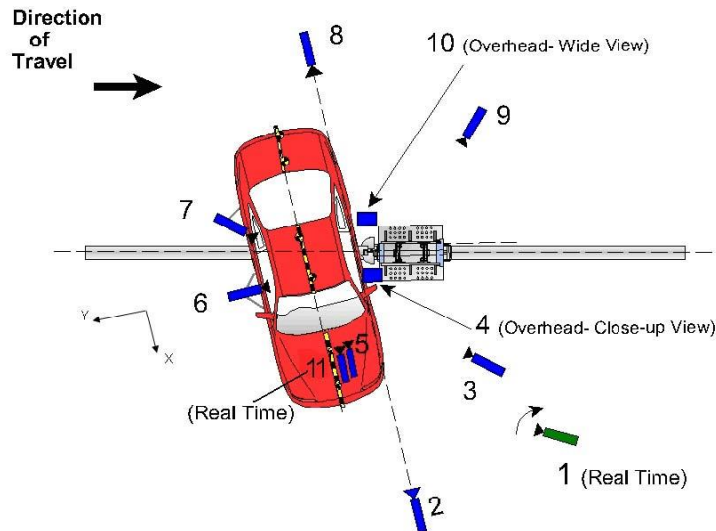


Code	Measurement Description	Driver
		Length (mm)
HR	Head to Side Header	244
HS	Head to Side Window	376
AD	Arm to Door	178
HD	Hip Point to Door	170

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
Test Date: 1/27/2015



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	-60	5310	-1670	24	1000
3	Impact Side 45° Forward	-2530	5310	-1670	20	1000
4	Overhead Closeup	50	0	-4520	50	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-60	-5450	-1690	24	1000
9	Impact Side 45° Rearward	-3400	-3270	-1760	20	1000
10	Overhead Wide View	540	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.

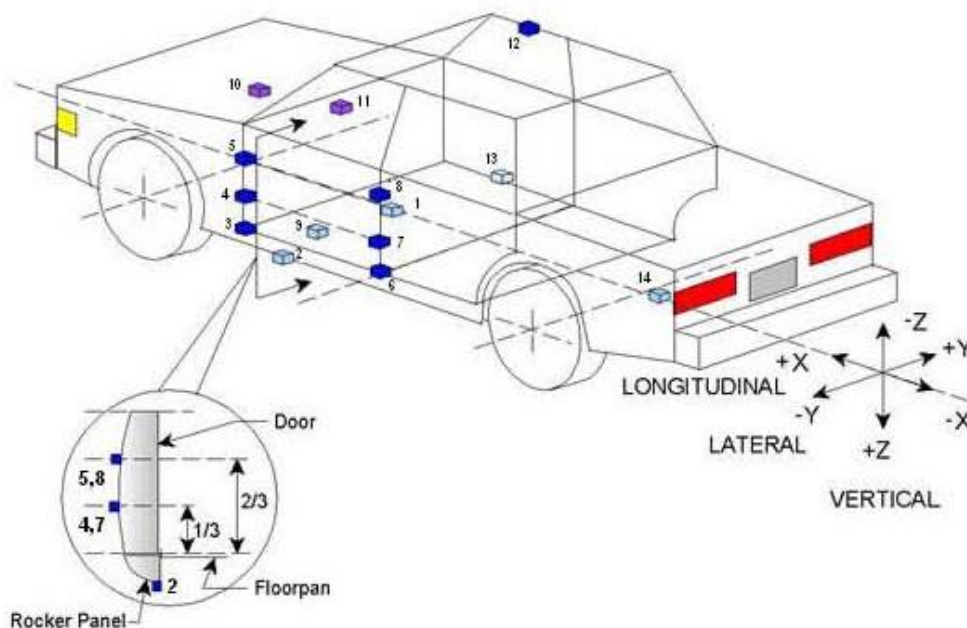
Explain why camera(s) did not operate as intended: None

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: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015



	Accelerometer Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2355	85	-318
2	Left Floor Sill	2750	-745	-278
3	A Pillar Sill	3112	-744	-279
4	A Pillar Low	3106	-836	-606
5	A Pillar Mid	3118	-836	-905
6	B Pillar Sill	2098	-743	-276
7	B Pillar Low	2076	-719	-695
8	B Pillar Mid	2073	-738	-916
9	Driver Seat Track	2195	-384	-393
10	Engine Top	3789	8	-904
11	Firewall	3567	0	-974
12	Right Roof	1957	604	-1602
13	Right Floor Sill	2728	745	-274
14	Rear Floorpan	890	60	-612

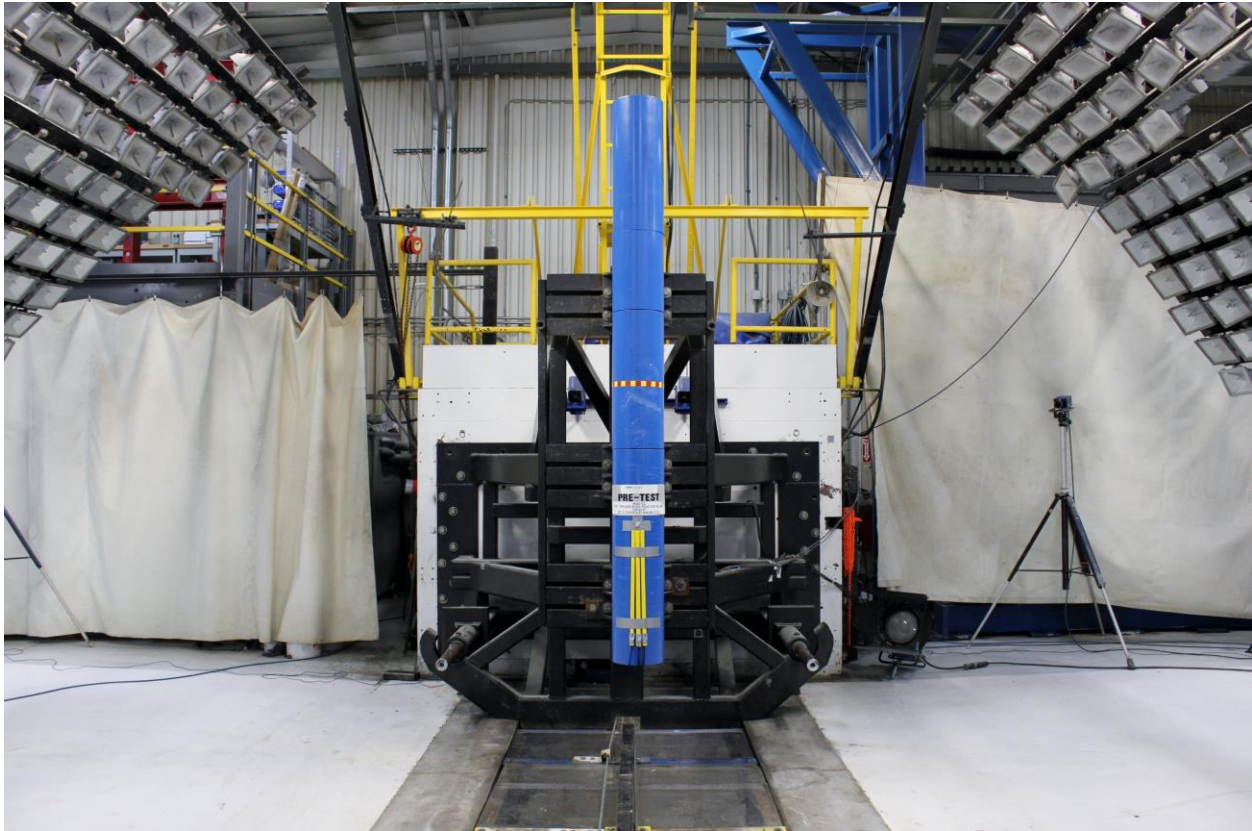
Reference:

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: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
Test Date: 1/27/2015



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: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
Test Date: 1/27/2015

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, Seatback
Lower Torso	Side Airbag, Seatback
Left Hip	Side Airbag, Seatpan
Left Knee	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	Cracked
Side Window Damage	Left Front Window Broken
Other Notable Effects	None

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

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
Test Date: 1/27/2015

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

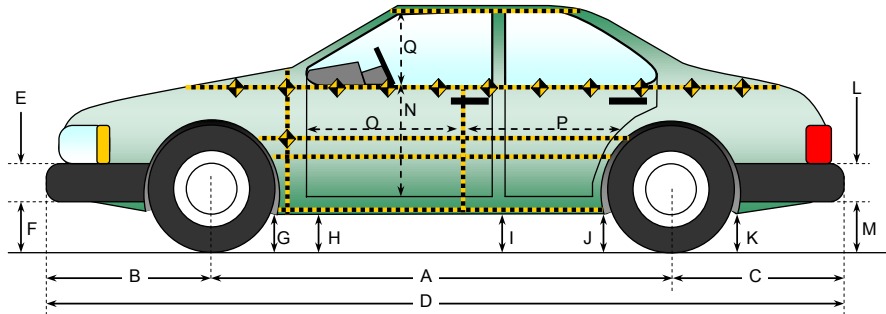
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1093
Actual Impact Point (Aft of Front Axle)	mm		1098
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	-5
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	32.15
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.17

DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
Test Date: 1/27/2015



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

LEFT SIDE VIEW

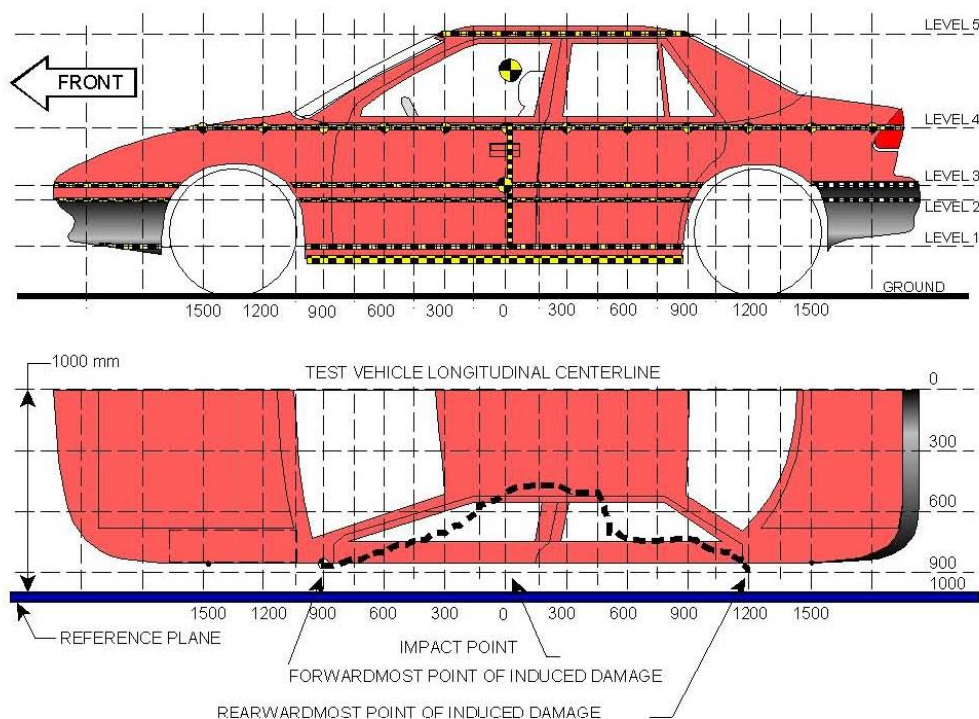
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2670	2582	88
B	Front Axle to FSOV	985	1046	-61
C	Rear Axle to RSOV	975	980	-5
D	Total Vehicle Length at Centerline	4630	4608	22
E	Front Bumper Thickness	60	60	0
F	Front Bumper Bottom to Ground	277	321	-44
G	Sill Height at Front Wheel Well	258	250	8
H	Sill Height at Front Door Leading Edge	257	250	7
I	Sill Height at B-Pillar	258	276	-18
J1	Sill Height at Rear Wheel Well	238	263	-25
J2	Pinch Weld Height at Rear Wheel Well	237	256	-19
K	Sill Height Aft of Rear Wheel Well	290	296	-6
L	Rear Bumper Thickness	110	110	0
M	Rear Bumper Bottom to Ground	384	375	9
N	Sill Height to Bottom of Front Window Sill	924	885	39
O	Front Door Leading Edge to Impact CL	604	458	146
P	Rear Door Trailing Edge to Impact CL	1342	1200	142
Q	Front Window Opening	344	293	51
R	Right Side Length	3695	3708	-13
S	Left Side Length	3695	3581	114
T	Vehicle Width at B-Pillars	1814	1707	107

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

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015



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	342	328	0
2	Mid Door	675	387	75
3	Occupant Hip Point	699	389	75
4	Window Sill	1074	336	75
5	Window Top	1520	139	0

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

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015

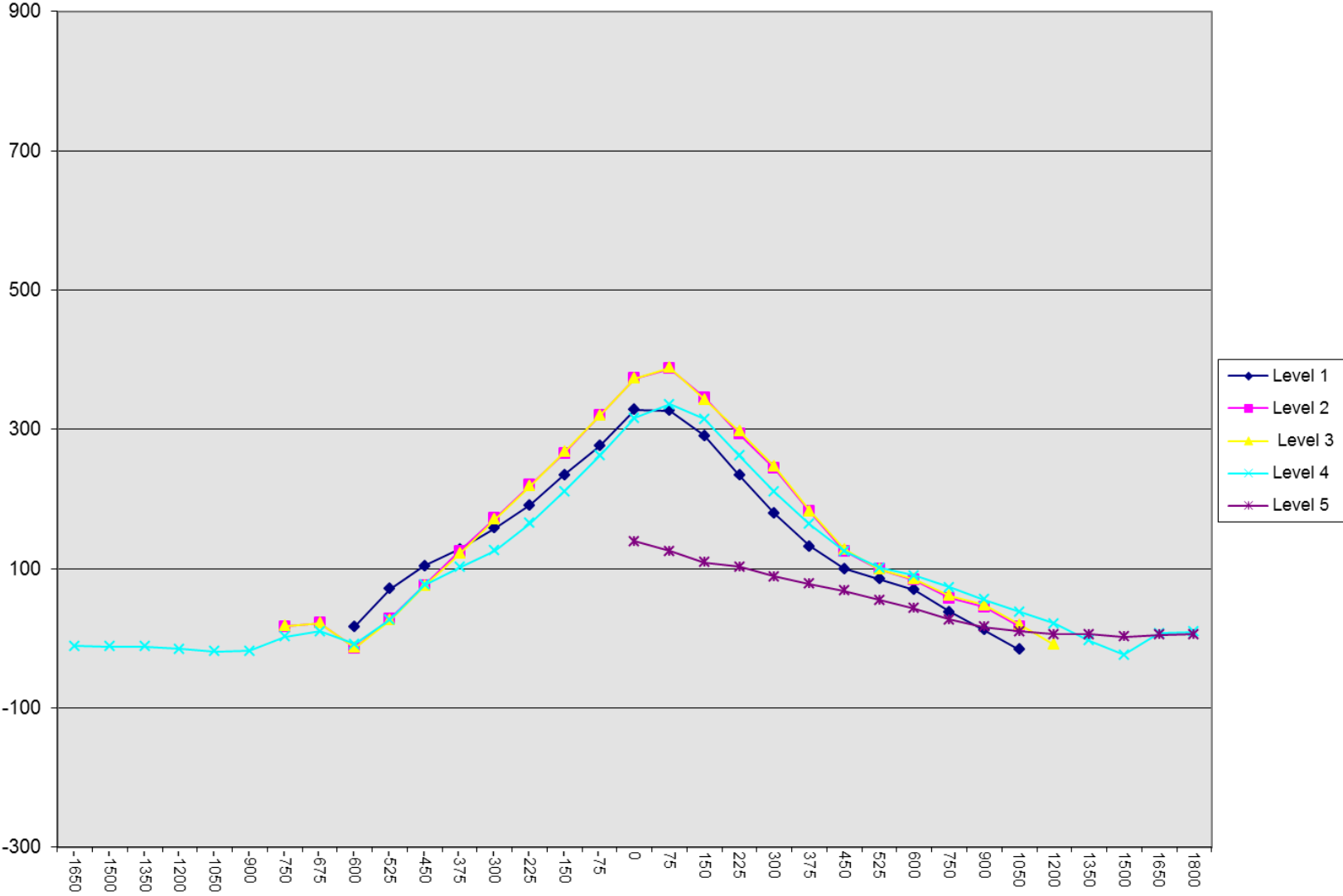
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1650				506					495					-11	
-1500				446					434					-12	
-1350				391					379					-12	
-1200				344					329					-15	
-1050				312					293					-19	
-900				298					280					-18	
-750		176	176	290			193	194	292			17	18	2	
-675		182	182	287			204	204	297			22	22	10	
-600	220	185	186	283		237	171	173	275		17	-14	-13	-8	
-525	230	185	186	279		301	213	212	306		71	28	26	27	
-450	234	184	184	275		338	260	259	352		104	76	75	77	
-375	235	183	182	271		363	308	304	373		128	125	122	102	
-300	234	183	181	267		392	355	352	393		158	172	171	126	
-225	234	182	181	260		425	402	400	425		191	220	219	165	
-150	232	184	182	255		467	450	450	466		235	266	268	211	
-75	231	185	184	250		507	505	504	512		276	320	320	262	
0	230	186	185	246	487	558	559	558	562	626	328	373	373	316	139
75	230	189	187	241	482	557	576	576	577	607	327	387	389	336	125
150	229	191	190	236	475	520	537	533	551	584	291	346	343	315	109
225	229	193	192	232	469	463	486	489	494	572	234	293	297	262	103
300	229	196	194	226	466	408	440	441	436	555	179	244	247	210	89
375	228	199	198	220	464	360	381	381	384	542	132	182	183	164	78
450	225	202	200	216	462	325	327	328	341	530	100	125	128	125	68
525	225	205	203	210	462	310	304	302	311	517	85	99	99	101	55
600	224	209	206	209	465	294	293	291	299	508	70	84	85	90	43
750	226	216	214	214	467	264	274	275	287	494	38	58	61	73	27
900	232	221	219	222	472	244	266	267	278	488	12	45	48	56	16
1050	239	207	209	231	479	223	224	229	269	489	-16	17	20	38	10
1200		190	188	242	496		181	179	263	502		-9	-9	21	6
1350				271	516				268	522				-3	6
1500				267	544				243	546				-24	2
1650				280	567				287	572				7	5
1800				292	594				301	600				9	6

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: 2015 Lexus NX 200t F Sport 5-Dr SUV
Test Program: NCAP Side Pole Impact Test

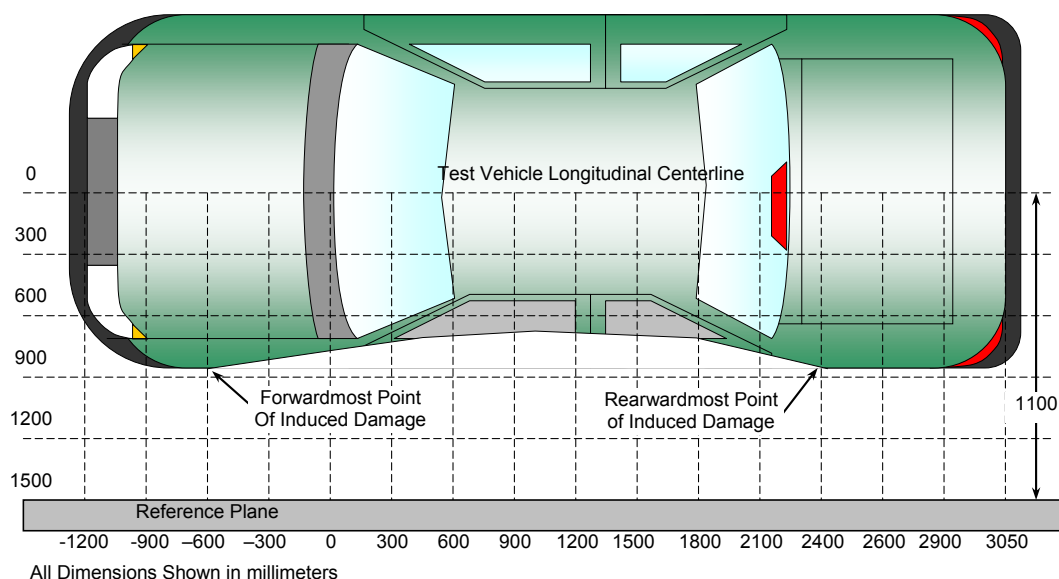
NHTSA No. O20155101
Test Date: 1/27/2015



DATA SHEET NO. 11 **VEHICLE DAMAGE PROFILE DISTANCES**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	475	3	201	307	106
2	255	3	192	476	284
3	30	3	185	572	387
4	-185	3	182	426	244
5	-405	3	183	285	102
6	-625	3	185	206	21

DATA SHEET NO. 12
FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

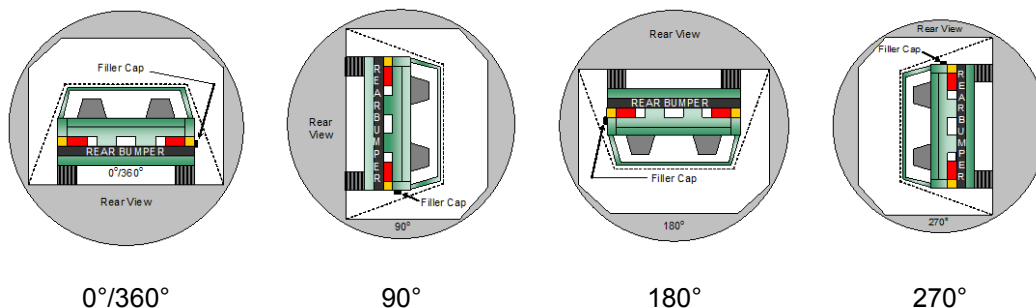
NHTSA No. O20155101
 Test Date: 1/27/2015

Test Time: 10:25 am

Temperature: 20.7°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°	111	300	411
90° to 180°	112	300	412
180° to 270°	107	300	407
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

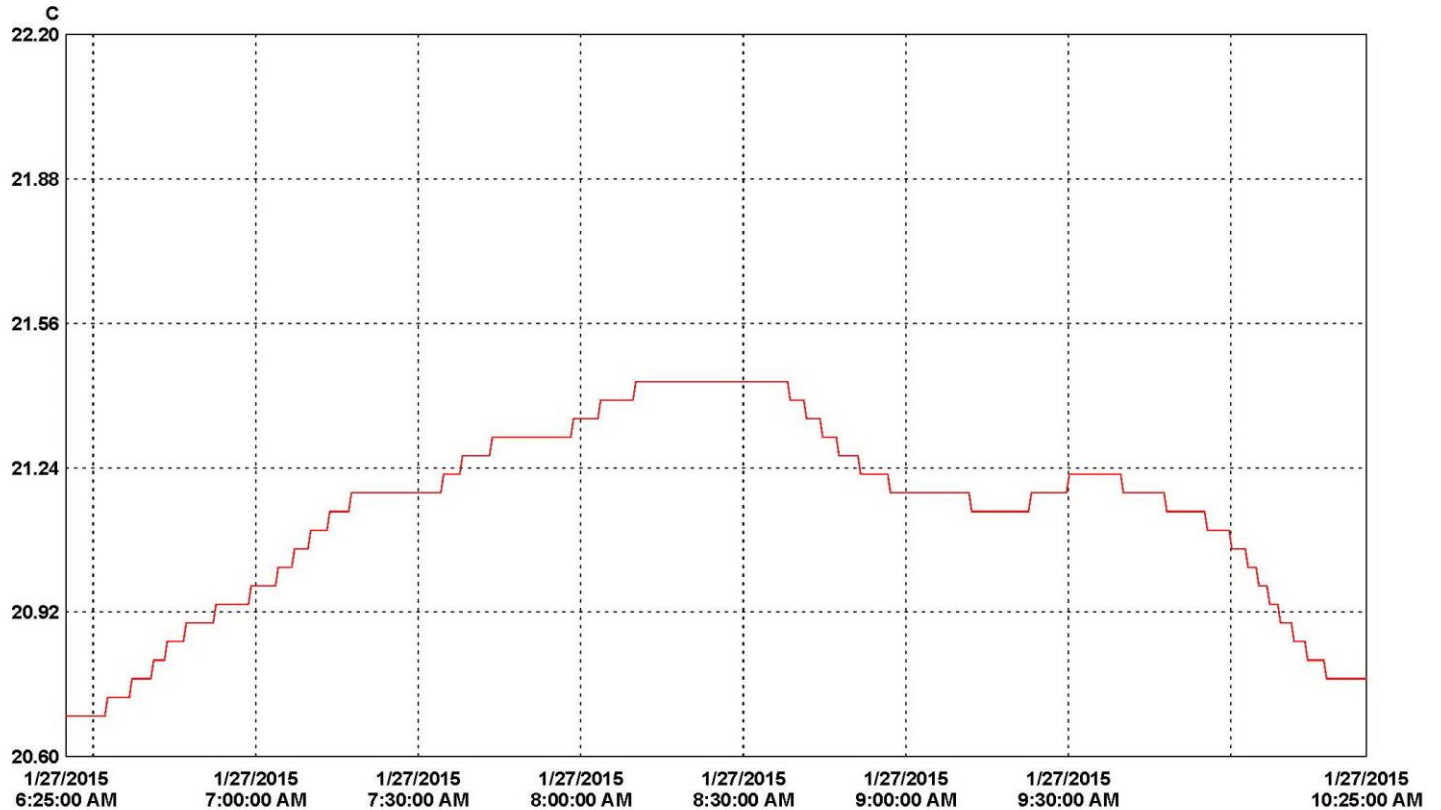
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 13
DUMMY/VEHICLE TEMPERATURE STABILIZATION DATA

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20155101
 Test Date: 1/27/2015



LN	Serial #	Description	CH	Value	Maximum	Average	Minimum	Units	CH description	Logger file
1	14182020	Crash1	1		21.43	21.14	20.69	C	Temperature	14182020_Crash1.spl
LN	Logger file				ID #	Security	Created by	Creation time		
1	C:\Program Files (x86)\Veriteq Instruments\VLLog 4.4\2015 NCAP\14182020_Crash1.spl									

**APPENDIX A
PHOTOGRAPHS**

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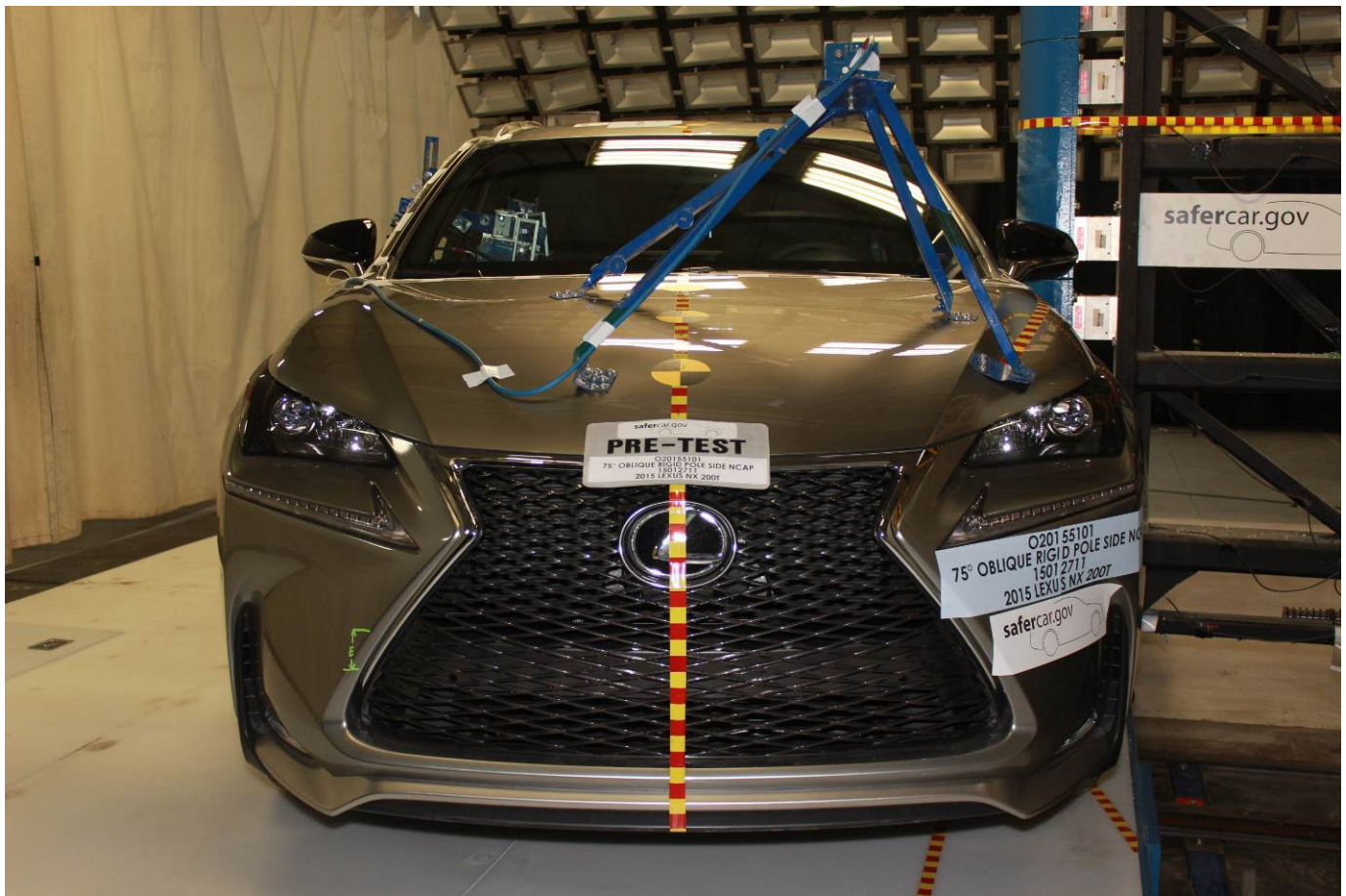
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As Delivered Right Front ¾ View of Test Vehicle



As Delivered Left Rear ¾ 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



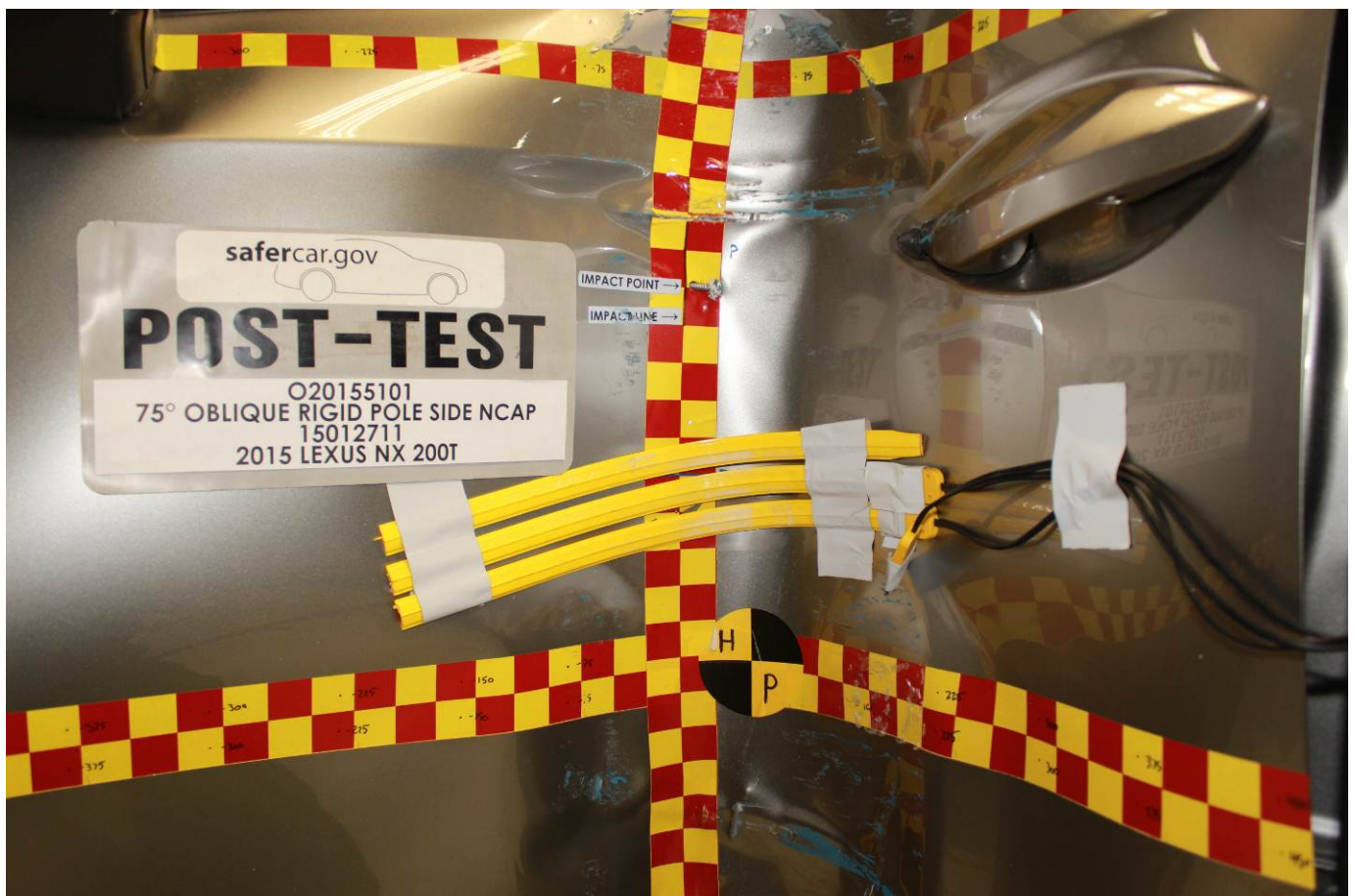
Pre-Test Left Side View of Pole Positioned Against Side of Vehicle



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



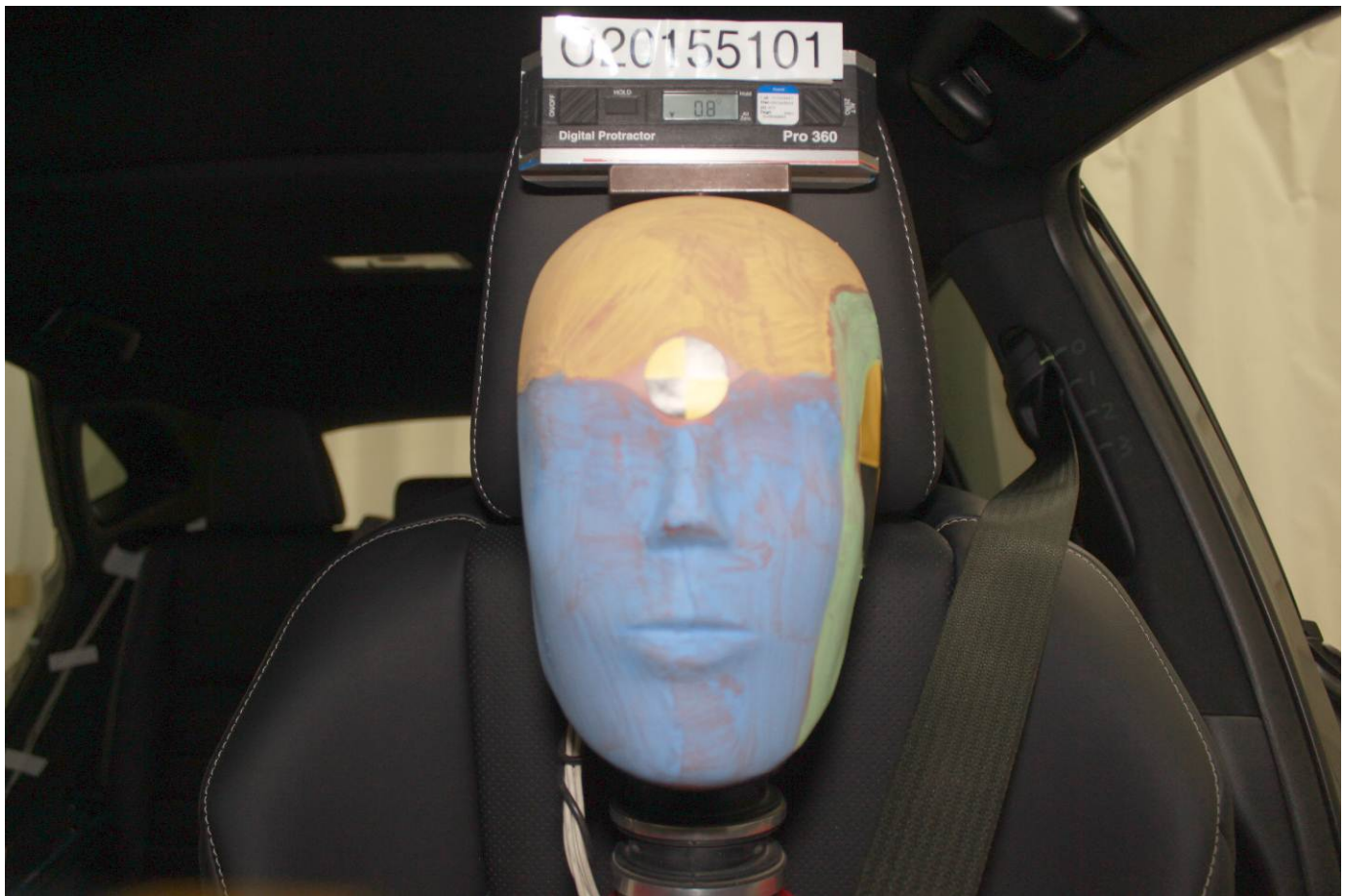
Pre-Test Left Side View of Dummy Shoulder and Door Top View



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



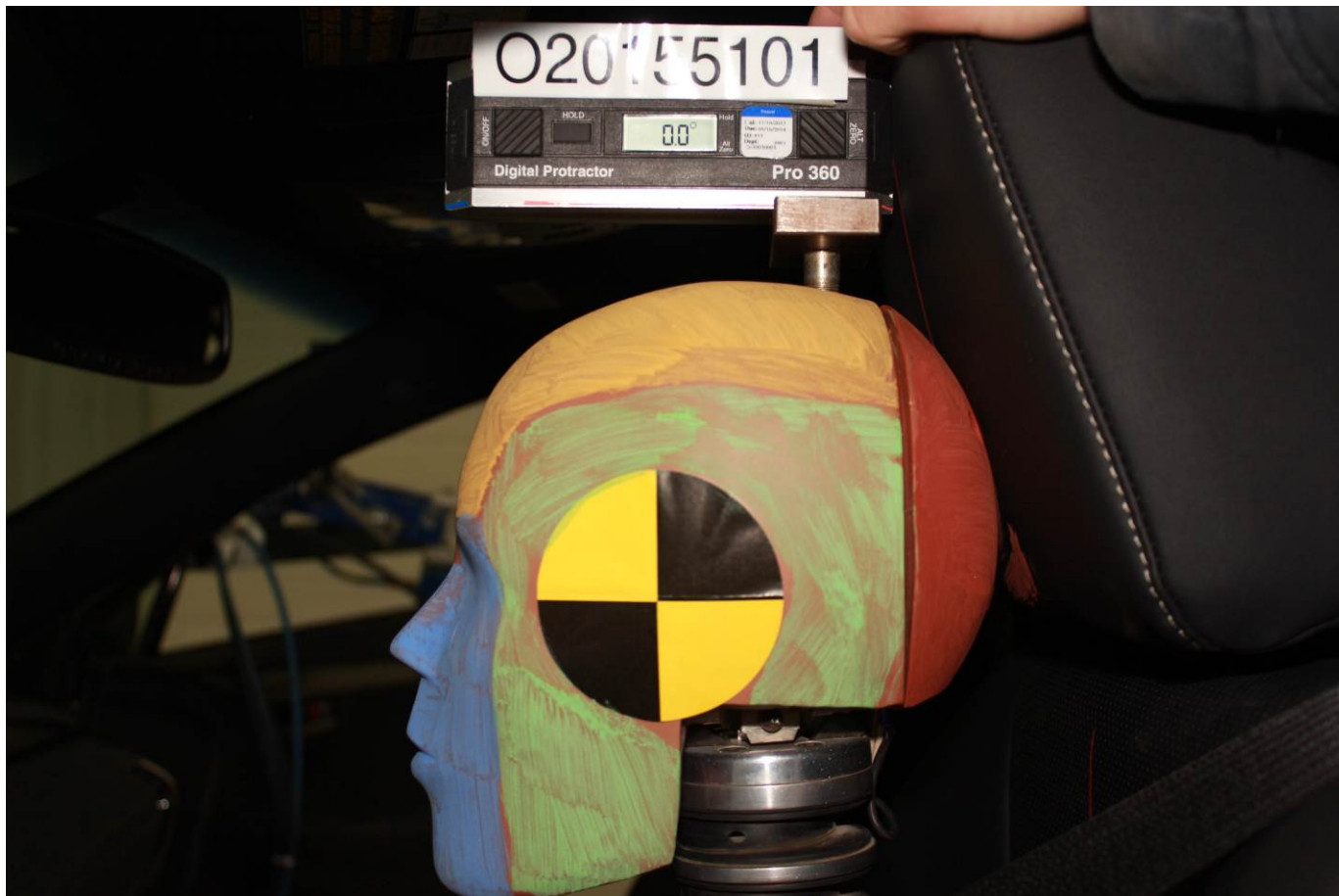
Pre-Test Front View of Seat Pan Prior to Dummy Positioning



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



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



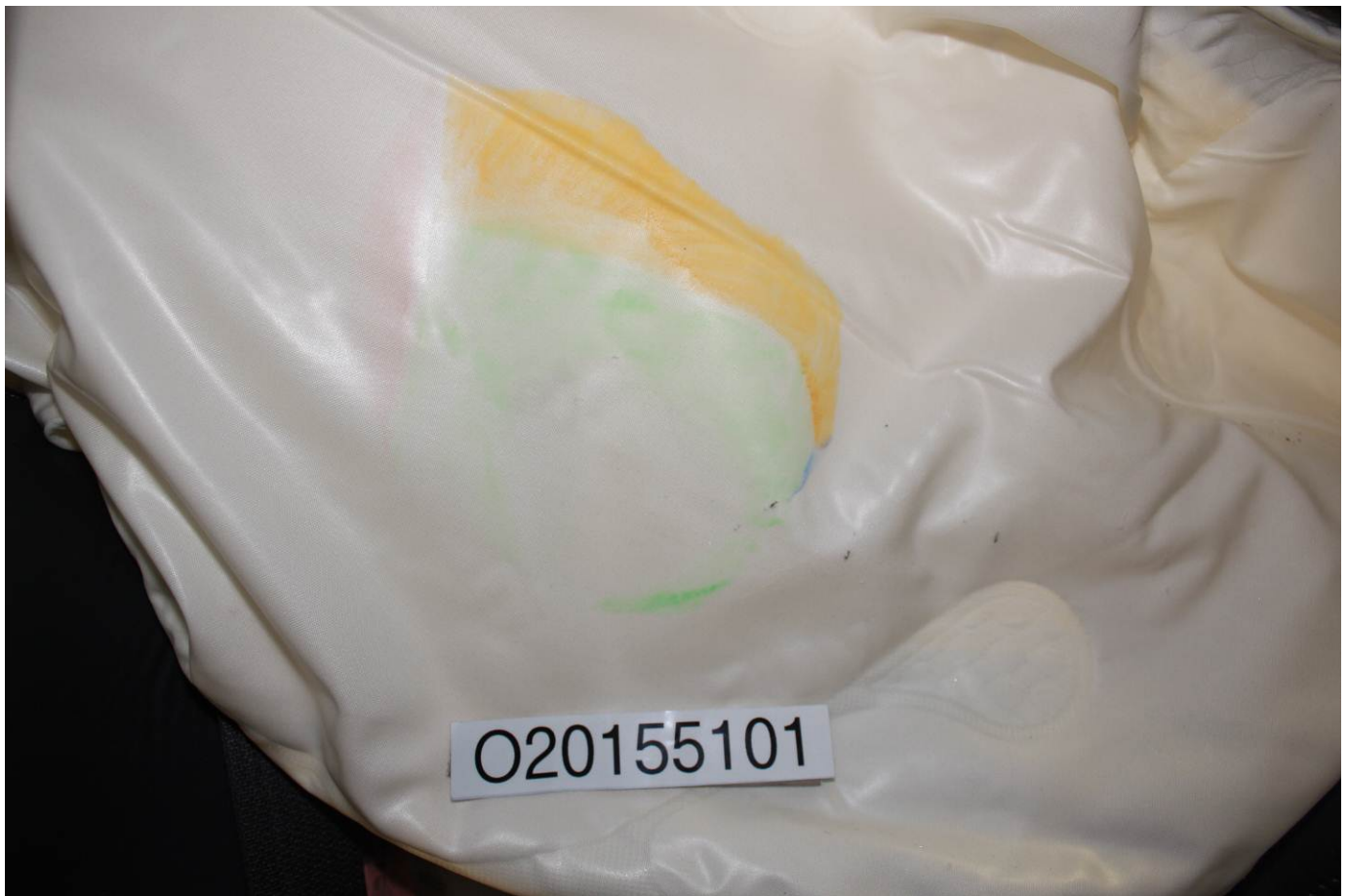
Pre-Test Inner Door Panel View



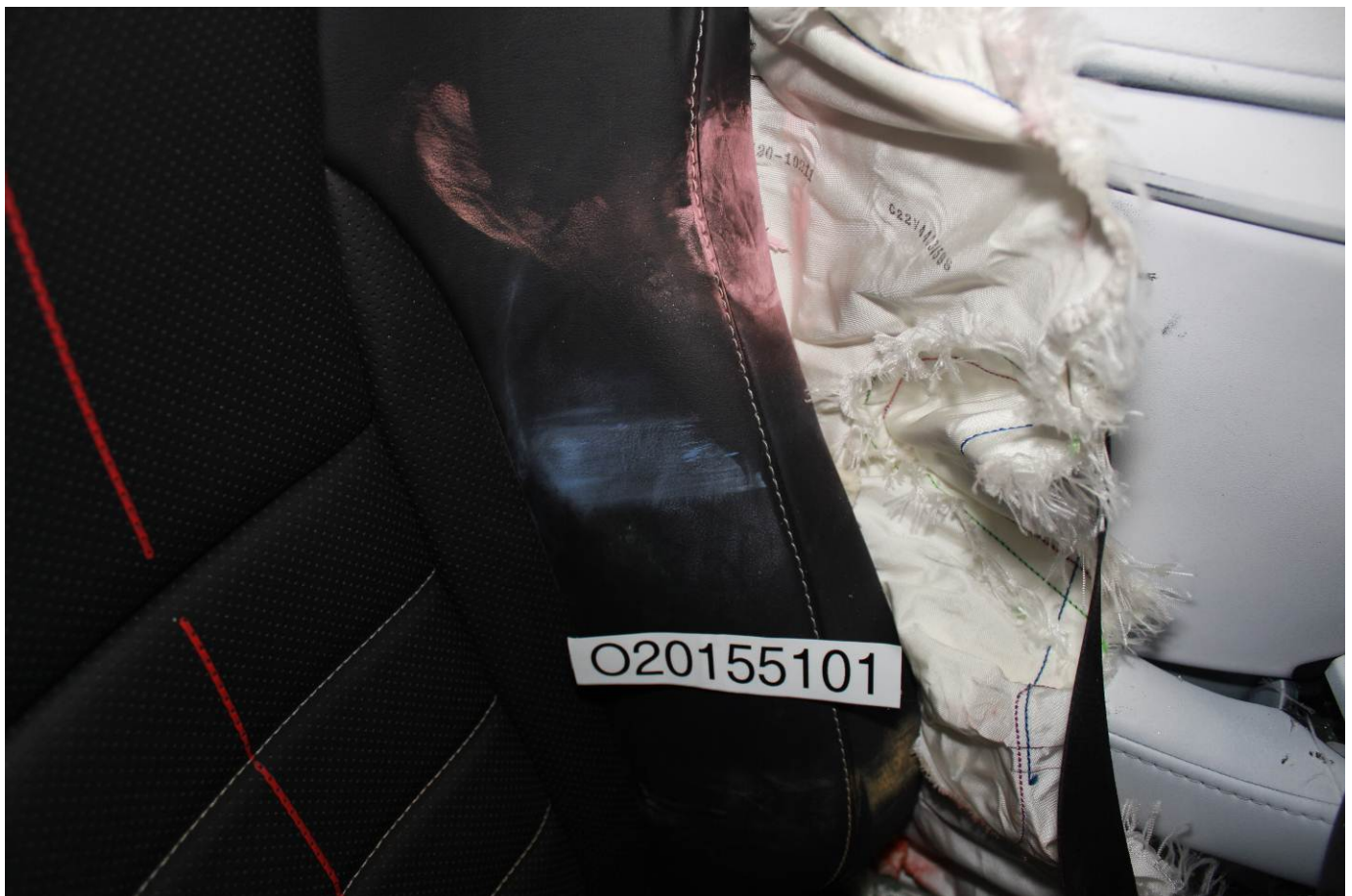
Post-Test Inner Door Panel View Showing Dummy Contact Location



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



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 Vehicle's Load Carrying Capacity Reduced Label



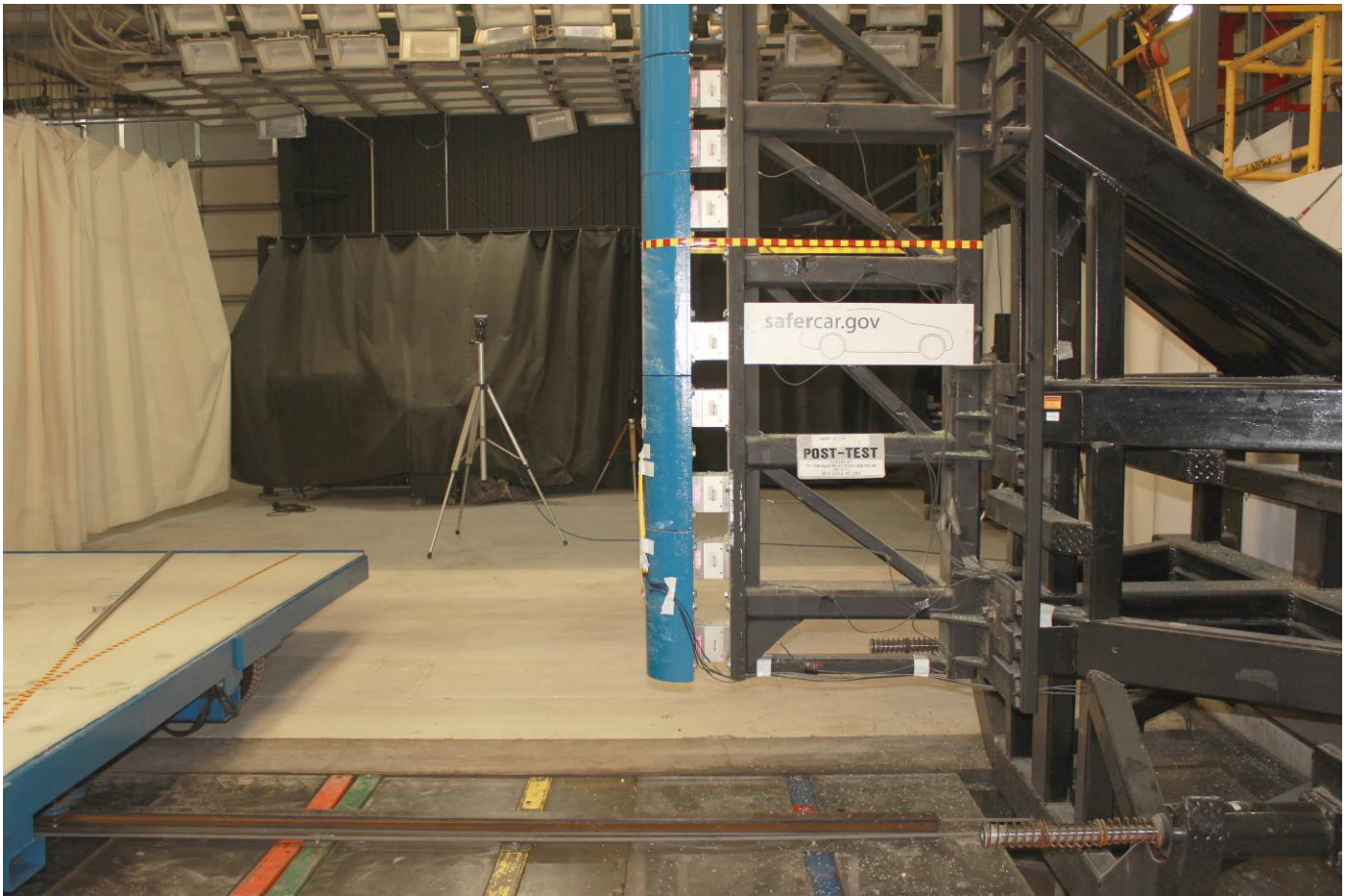
Pre-Test Pole Barrier Front View



Post-Test Pole Barrier Front View



Pre-Test Pole Barrier Side View



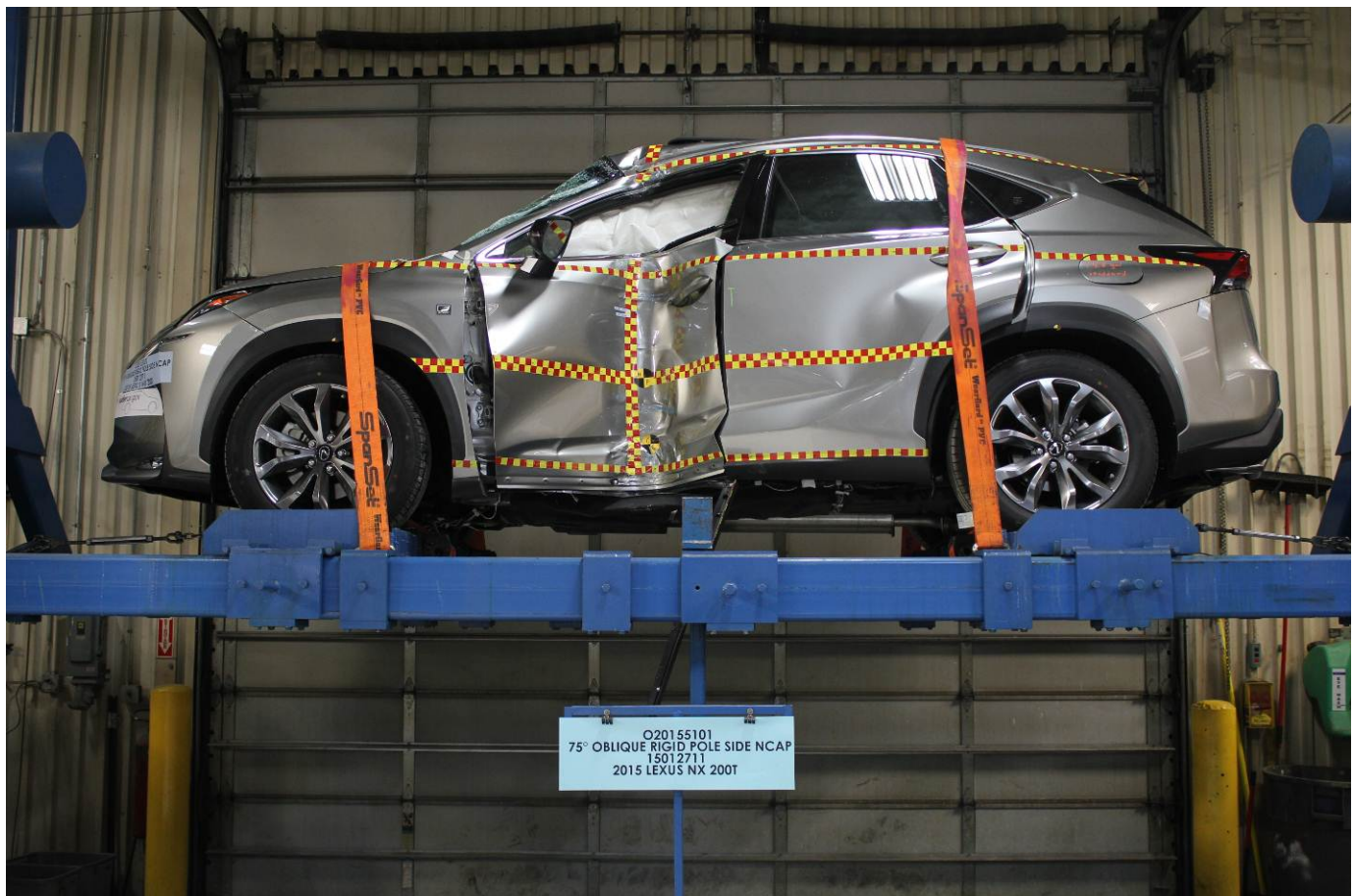
Post-Test Pole Barrier Side View



Pre-Test Ballast View



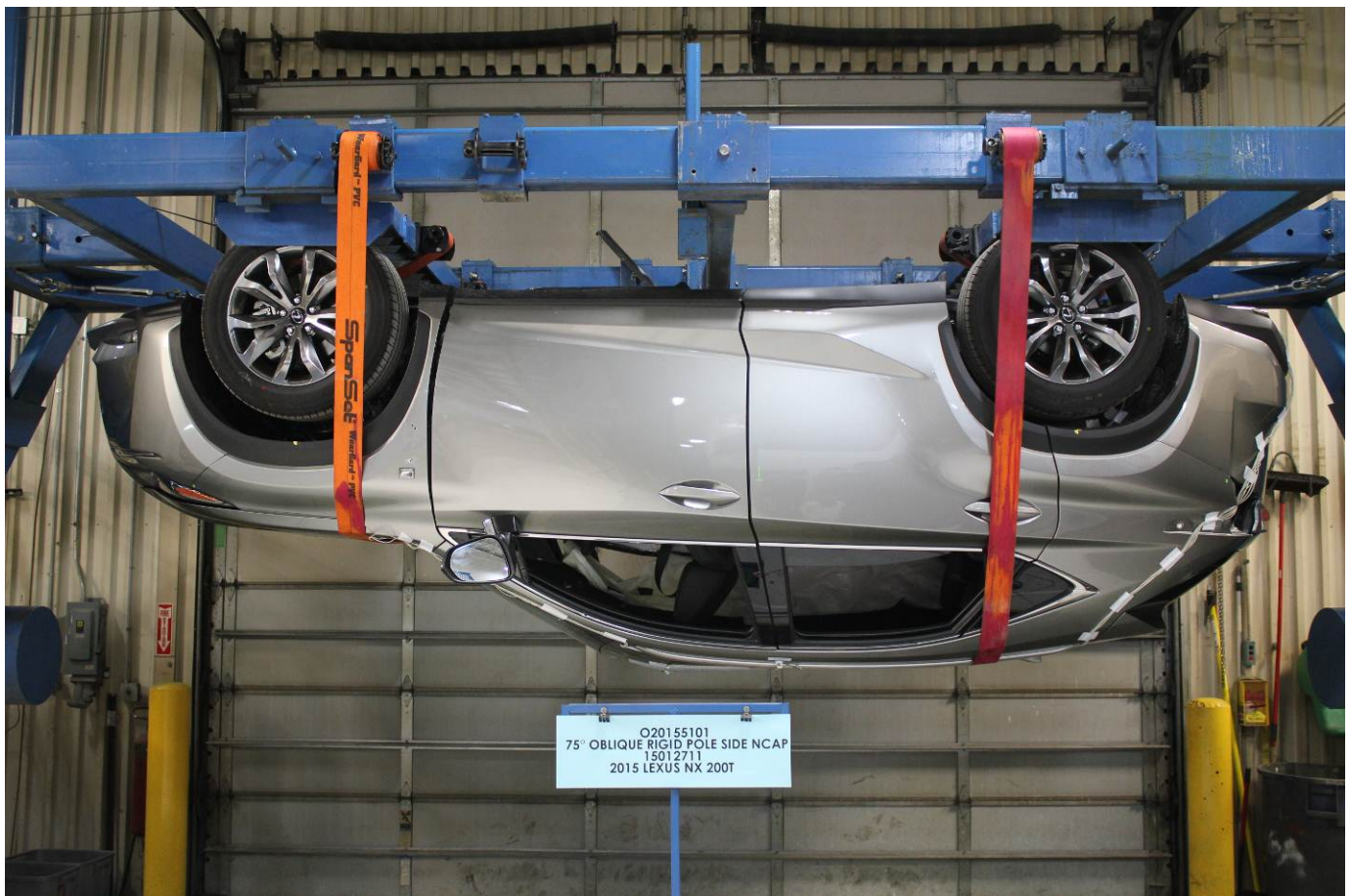
Post-Test Primary and Redundant Speed Trap Read-Out



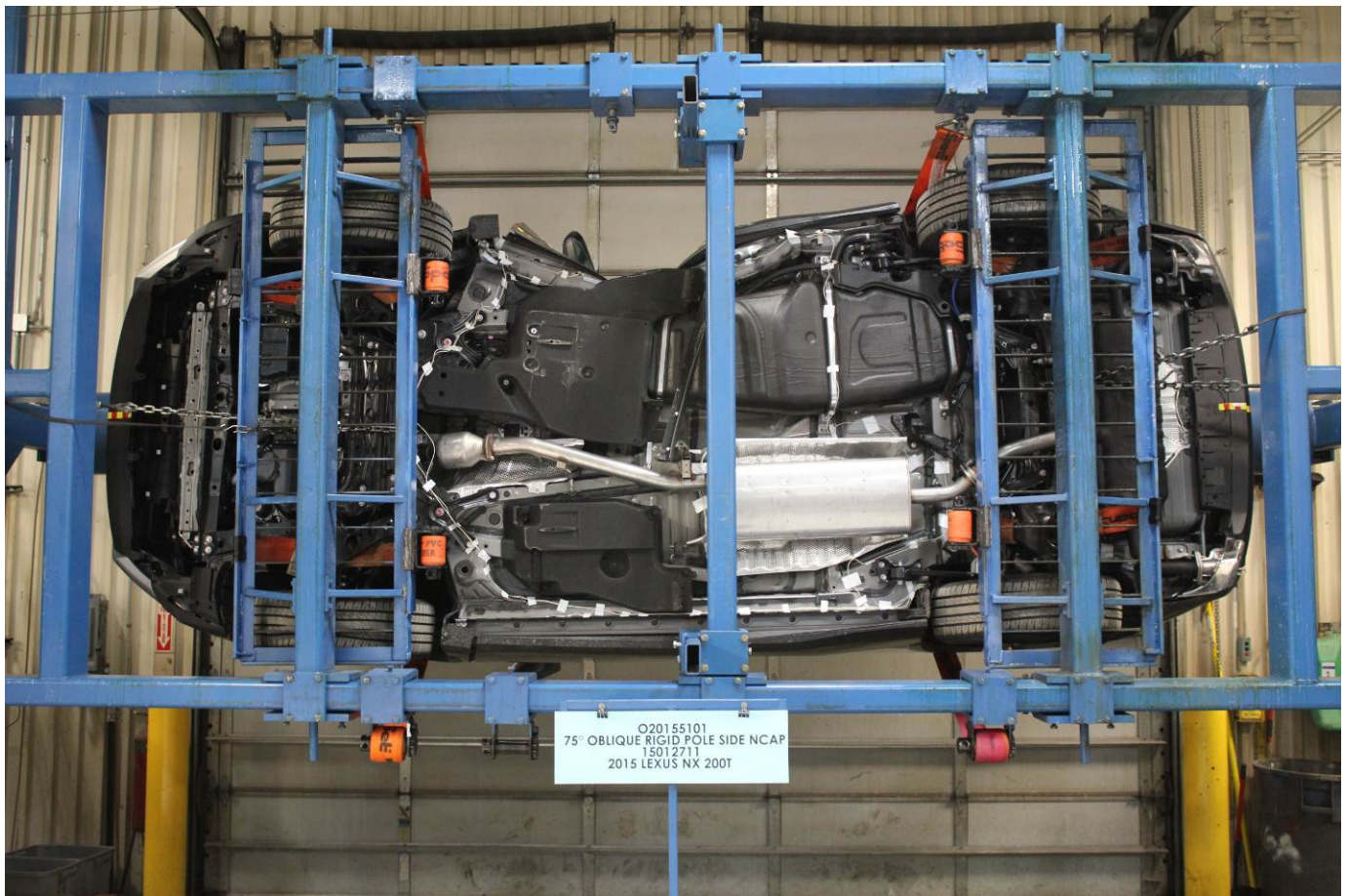
FMVSS No. 301 Static Rollover 0 Degrees



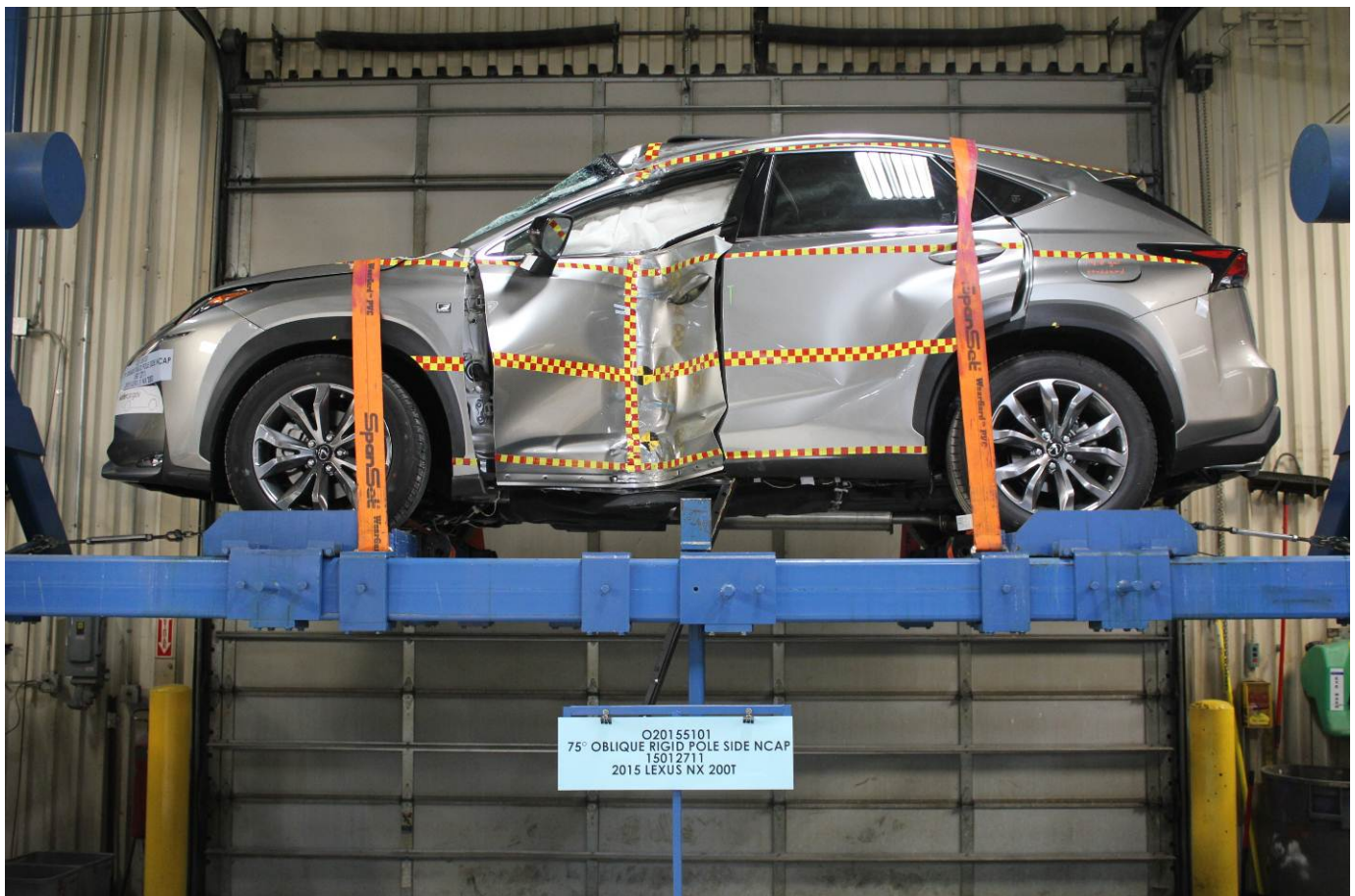
FMVSS No. 301 Static Rollover 90 Degrees



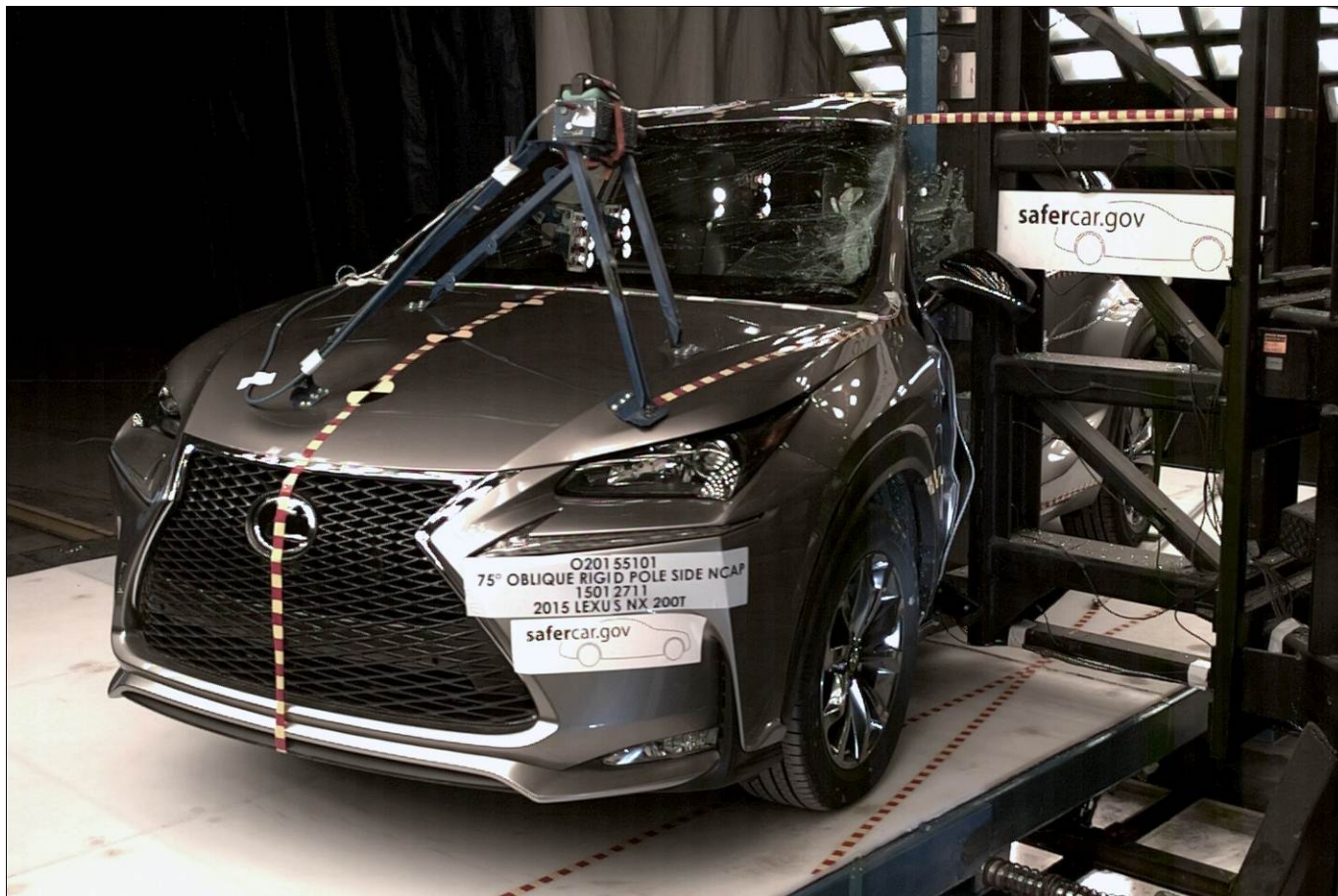
FMVSS No. 301 Static Rollover 180 Degrees



FMVSS No. 301 Static Rollover 270 Degrees



FMVSS No. 301 Static Rollover 360 Degrees



Impact Event

LEXUS
The Pursuit of Perfection

DESCRIPTION 2015 / 9830A NX 200t F SPORT
COLOR ATOMIC SILVER
VIN JTJYARBZ8F200143B
PORT/PLANT Long Beach, CA

Dealer Name / Address:
 LEXUS SAN DIEGO
 4970 KEARNY MESA ROAD
 SAN DIEGO CA 92111

STANDARD EQUIPMENT & INSTALLED OPTIONS

STANDARD FEATURES

- 2.0 Liter Turbo 16-Valve DOHC, Dual VVT-i
- 235 HP, 258 lb-ft Torque
- 6-Speed Automatic Transmission
- Location-Specific Tire Pressure Monitoring System
- 8 Airbags- Driver, Front, Knee & Side (3); Front Passenger; Cushion, & Side (3), Side Curtain (2)
- Anti-Lock Braking System (ABS) with Electronic Brakeforce Distribution (EBD) & Brake Assist
- Vehicle Theft-Deterrent System
- Lexus Enform Safety Connect: Automatic Collision Notification, Stolen Vehicle Location, Emergency Assist Button (EAS), and Enhanced Roadside Assistance (1-year trial subscription included)
- Backup Camera
- 8-speaker Lexus Display Audio System, HD Radio w/Time Tagging and Real-Time Traffic & Weather, USB iPod/iPad Control, SiriusXM Satellite Radio (3-month All Access trial subscription included)
- Auto Dual Zone Climate Control Sys w/Rear Vents

- Driver Seat: 10-Way Power (including 2-Way Lumbar); Passenger: 8-Way Power; Manual Tilt-and-Telescopic Steering Column
- SmartAccess Entry System with Push Button Start/Stop
- 4.2" Full Color Multi-Information Display w/Driving Information, Audio & Outside Temp Display
- Electrochromic (Auto-Dimming) Inside Rear View Mirror
- Carpeted Floor Mats

F SPORT Features:

- Sport-Tuned Suspension, F SPORT NuLuxe Seats, Metallic Sport Trim, Perforated Leather Trimmed F SPORT Steering Wheel w/ Paddle Shifters, Cornering Front Fog & Driving Lamps, Premium LED Daytime Running Lights, F SPORT Door Scuff Plate, Active Sound Control, 18" F SPORT Wheels with All-Season Tires (225/60R18)

MANUFACTURER'S SUGGESTED RETAIL PRICE

Qi-Compatible Wireless Charger	220.00
Lexus HomeLink Garage Door Opener	125.00
18" F SPORT Wheel w/Summer Tires (235/55R18)	75.00
Navigation Package Includes: Remote Touch Interface, Lexus Enform Remote, Lexus Enform Destination (includes 1-year trial subscription), App Suite (complimentary), 10-Speaker Lexus Premium Sound System	2,140.00
Electrochromic (Auto-Dimming) Outer Mirrors with Blind Spot Monitor (BSM), Rear Cross Traffic Alert, Reverse Tilt, Heated, Memory	660.00
Intuitive Parking Assist	500.00
Power Back Door	900.00
Premium F SPORT Package: Heated Front Seats, Power Tilt & Slide Moonroof, Memory Power Tilt/Telescopic Steering Column, Power 10-Way Driver Seat including Lumbar Support	2,045.00
Preferred Package Includes: Cargo Mat, Cargo Mat, Key Glove, Wheel Locks, & Rear Bumper Protector	389.00

\$ 36,580.00

EPA DOT Fuel Economy and Environment

Fuel Economy

25 **22** **28**

combined city/hwy city highway

4.0 gallons per 100 miles

Annual fuel cost \$2,300

Gasoline Vehicle

You spend \$500 more in fuel costs over 5 years compared to the average new vehicle.

Fuel Economy & Greenhouse Gas Rating (tailpipe only) **Smog Rating** (tailpipe only)

6 **5**

This vehicle emits 367 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only) producing and discharging full life cycle emissions less than 100 grams CO2e per mile.

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.

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
 • 8yr / unlimited mile corrosion perforation 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, 24/7 emergency roadside assistance plan
 • Complimentary first and 2nd scheduled maintenance services
 • Leasing the emergency breakdown 100 miles from home

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

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

344E08 251 2E01 C1018

Monroney Label

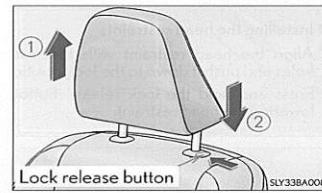
Head restraints

Head restraints are provided for all seats.

Front seats

► Vertical adjustment

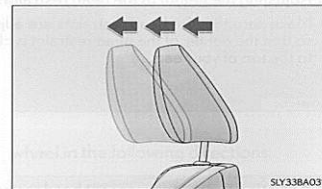
- ① Up
Pull the head restraints up.
- ② Down
Push the head restraint down while pressing the lock release button.



► Angle adjustment (if equipped)

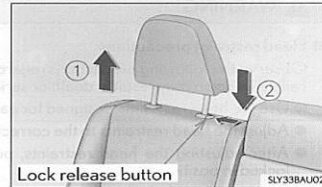
The position of the head restraint can be adjusted forward in 4 stages.

If the head restraint is pulled forward from the foremost position, it will return to the rearmost position.



Rear seats

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



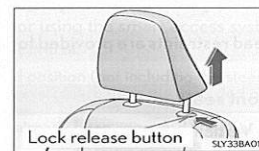
3 Operation of each component

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

■ Removing the head restraints

Pull the head restraint up while pressing the lock release button.

If the head restraint touches the ceiling, making the removal difficult, change the seat height or angle. (→P. 137, 138)



■ Installing the head restraints

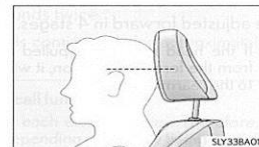
Align the head restraint with the installation holes and push it down to the lock position.

Press and hold the lock release button when lowering the head restraint.



■ Adjusting the height of the head restraints (front seats)

Make sure that the head restraints are adjusted so that the center of the head restraint is closest to the top of your ears.



■ Adjusting the center rear seat head restraint

Always raise the head restraint one level from the stowed position when using.

⚠ WARNING

■ Head restraint precautions

Observe the following precautions regarding the head restraints. Failure to do so may result in death or serious injury.

- Use the head restraints designed for each respective seat.
- Adjust the head restraints to the correct position at all times.
- After adjusting the head restraints, push down on them and make sure they are locked in position.
- Do not drive with the head restraints removed.

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



Post-Test View of Shattered Vehicle Inner Door Panel

APPENDIX B
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)

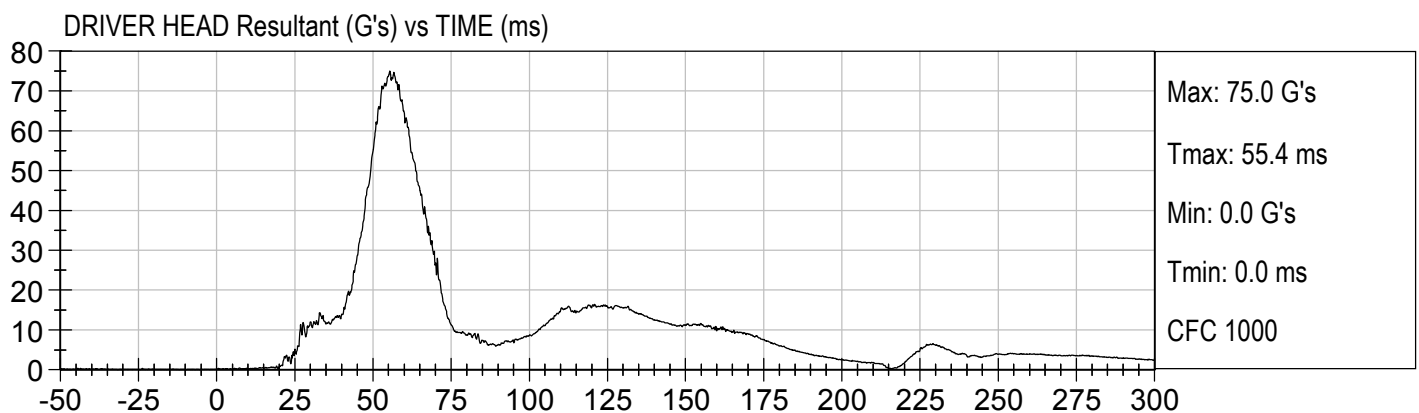
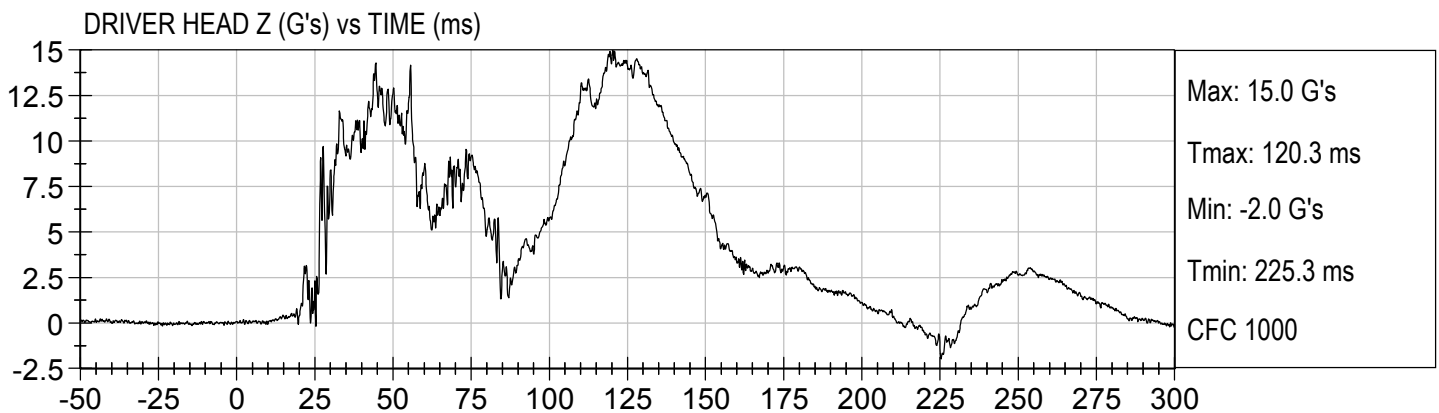
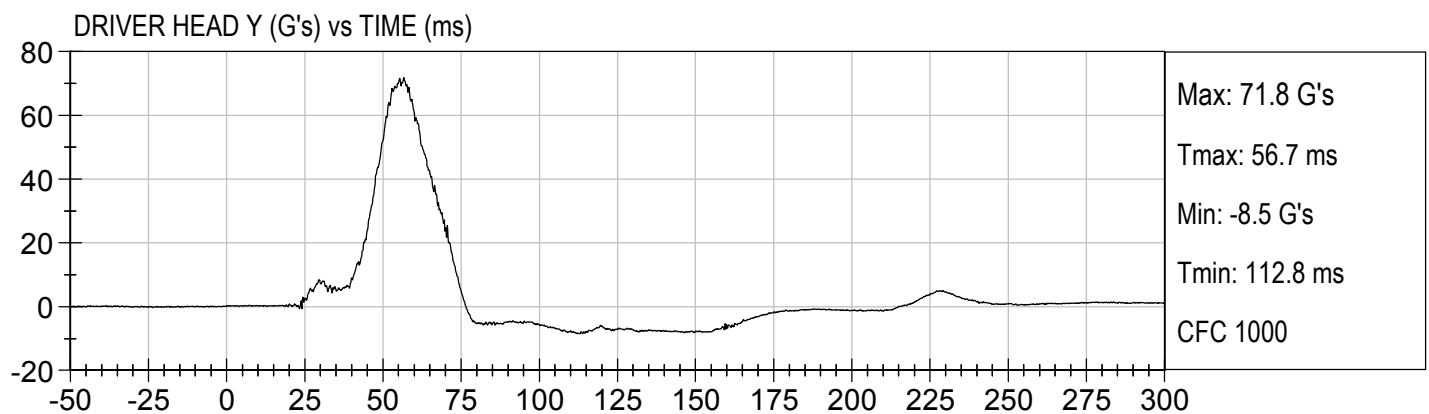
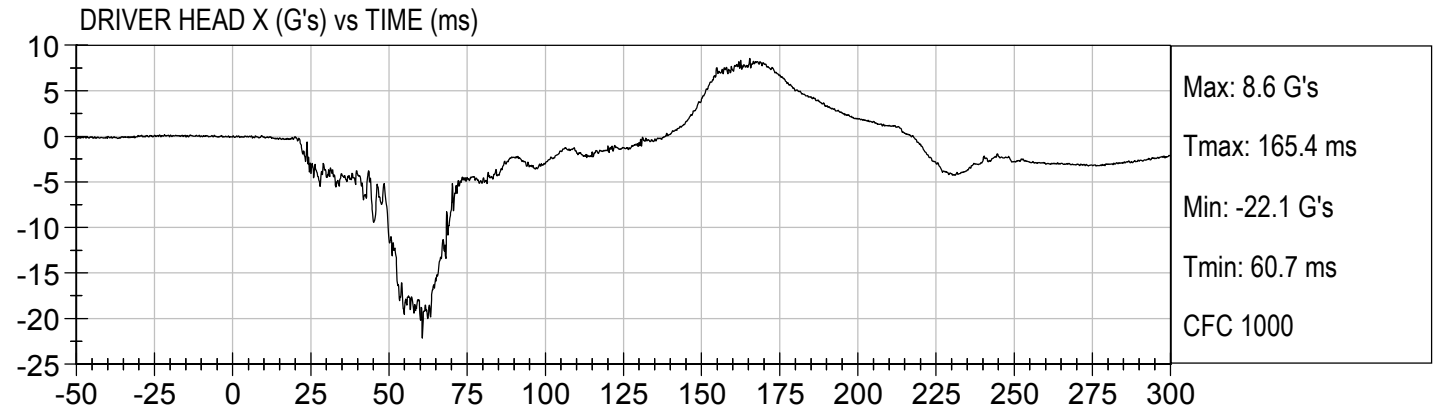
Load Cell Pole Barrier #4 Force (Y)

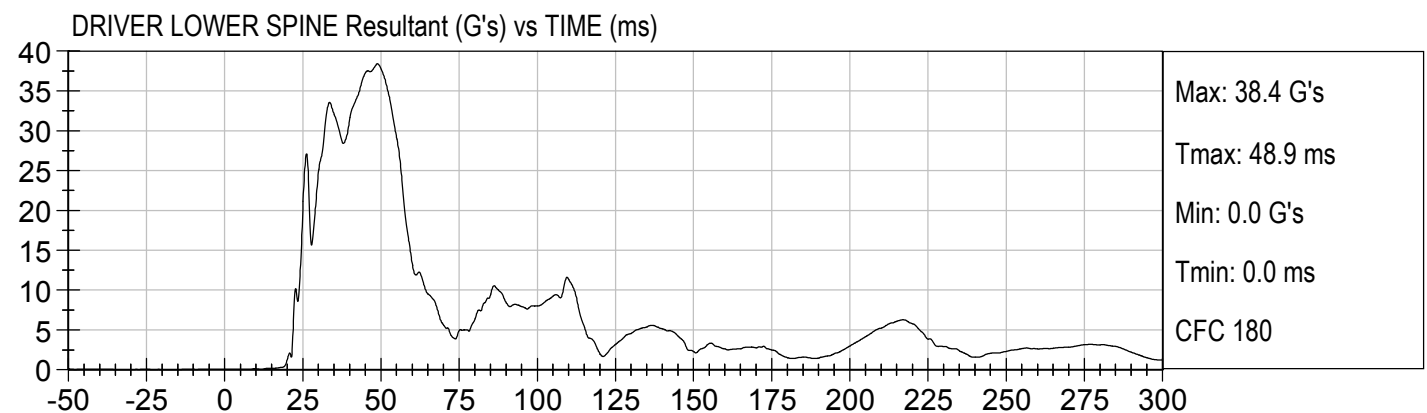
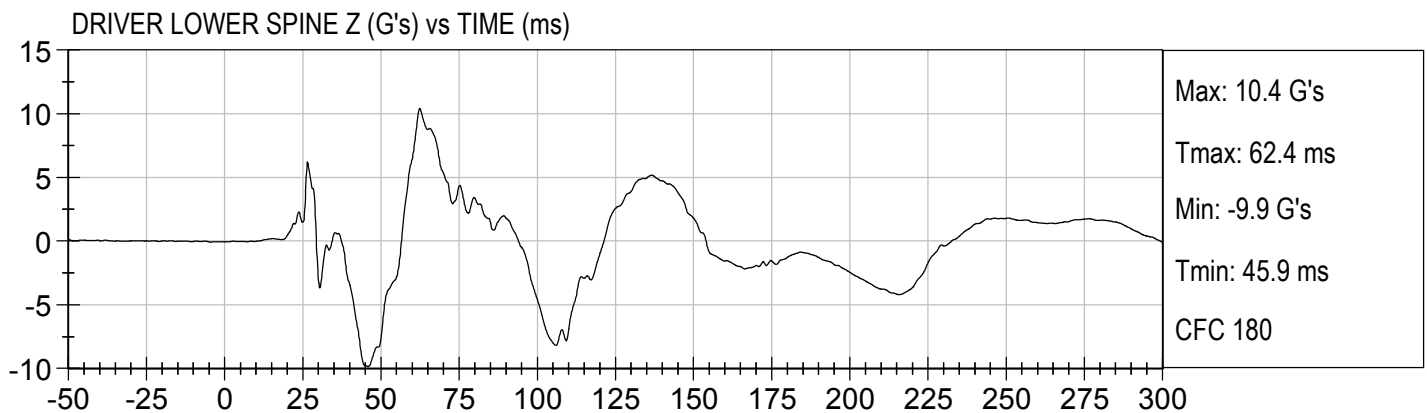
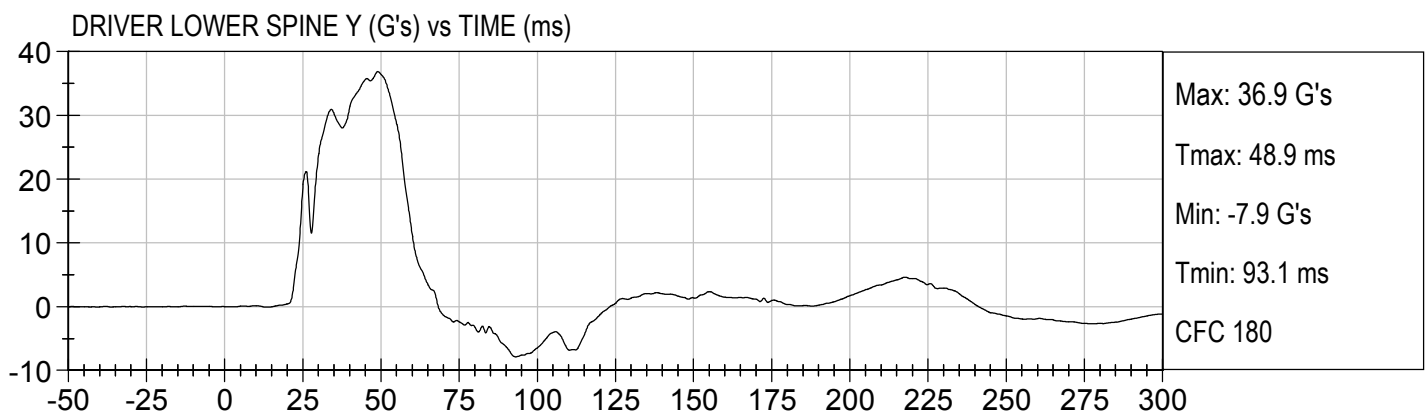
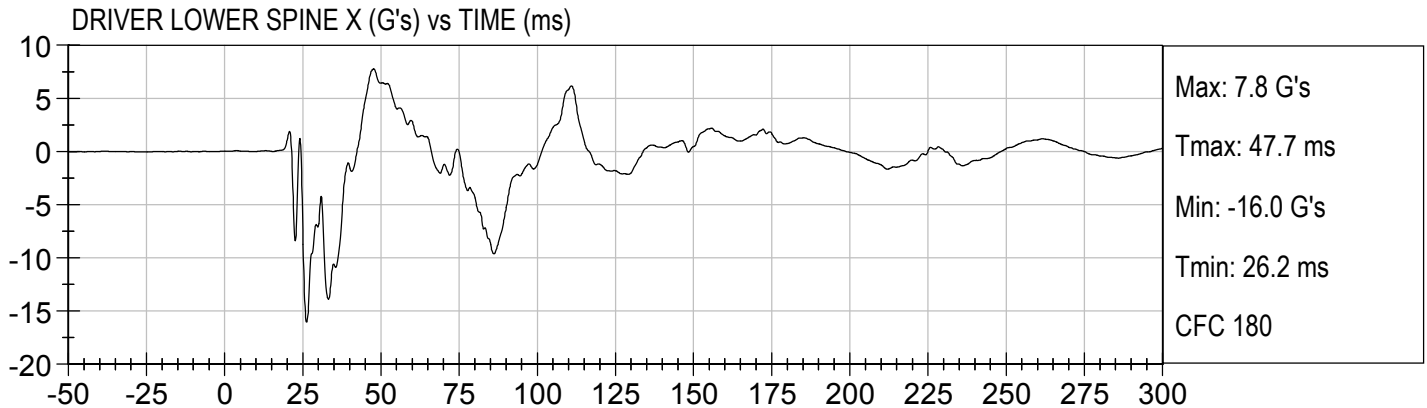
Load Cell Pole Barrier #5 Force (Y)

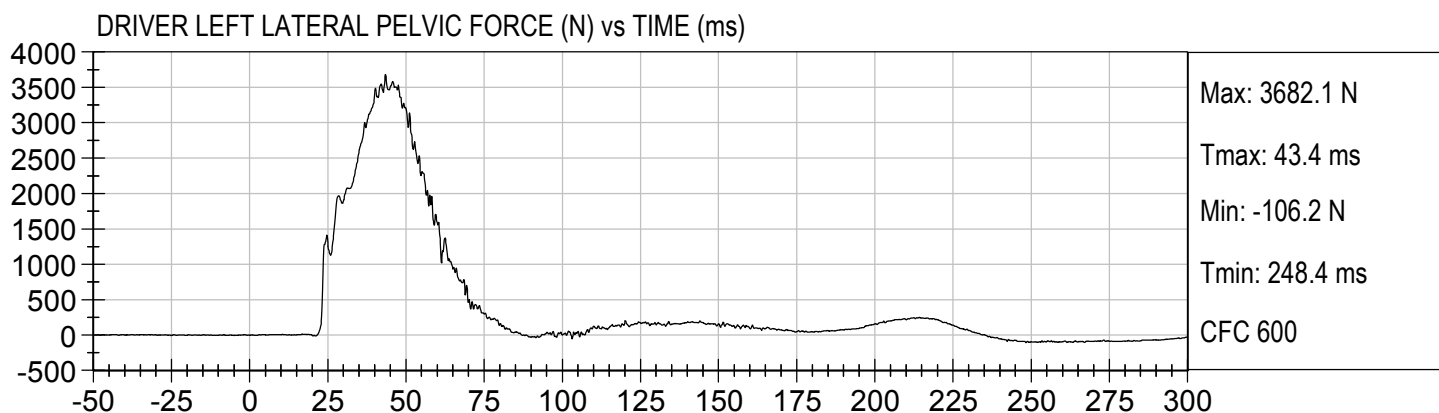
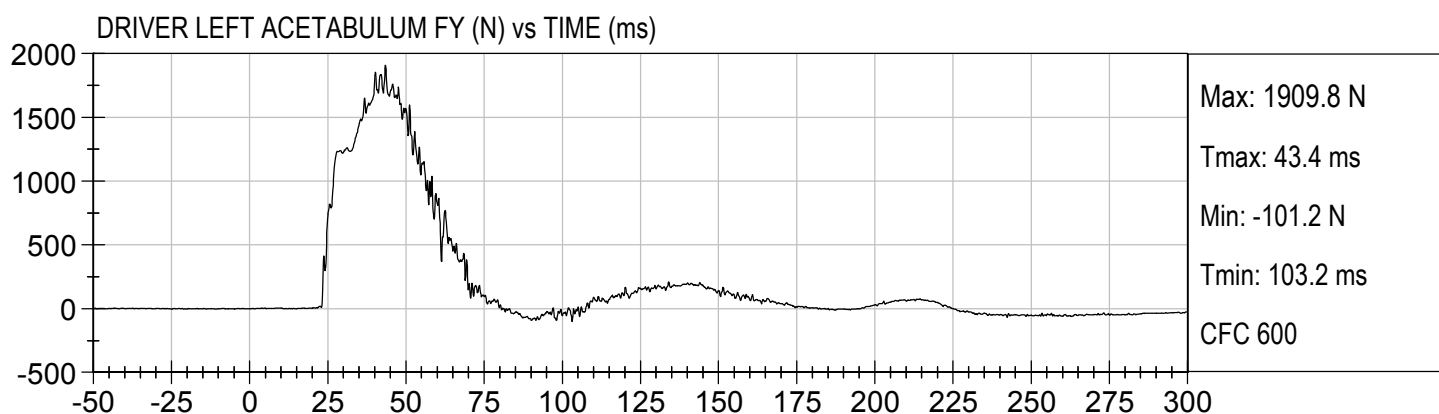
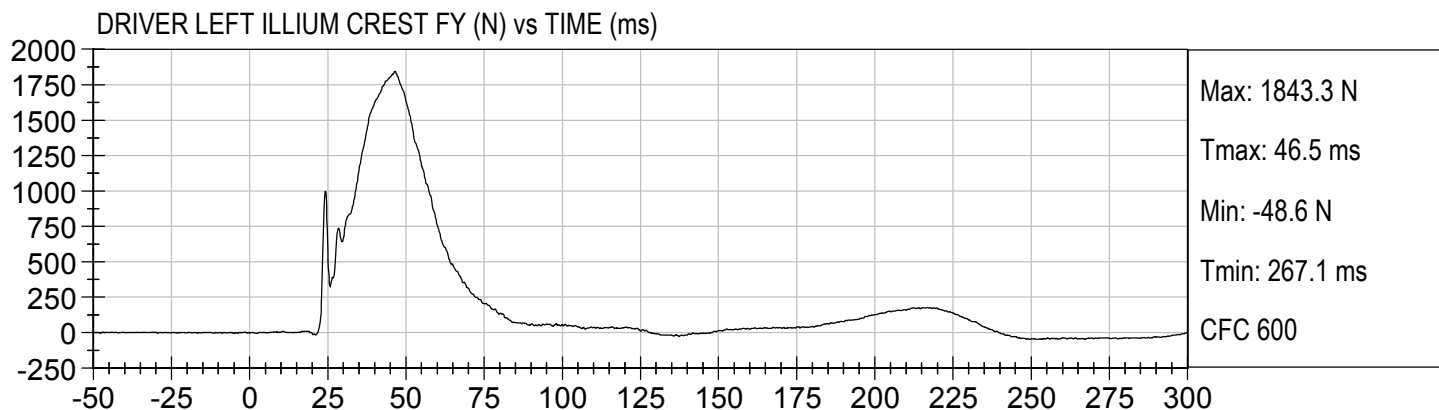
Load Cell Pole Barrier #6 Force (Y)

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: 306

No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	785	Pass
B	Shoulder Pivot Height	437 - 453	449	Pass
C	H-point Height	79 - 89	86	Pass
D	H-point from Seatback	141 - 151	147	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	120	Pass
G	Head Breadth	140 - 148	141	Pass
H	Head Back from Backline	40 - 46	45	Pass
I	Head Depth	178 - 188	182	Pass
J	Head Circumference	541 - 551	550	Pass
K	Buttock to Knee Length	514 - 540	538	Pass
L	Popliteal Height	343 - 369	349	Pass
M	Knee Pivot to Floor Height	392 - 409	394	Pass
N	Buttock Popliteal Length	416 - 442	435	Pass
O	Chest Depth w/o Jacket	195 - 211	198	Pass
P	Foot Length	216 - 232	222	Pass
Q	Hip Breadth (w/ pelvic plugs)	313 - 323	317	Pass
R	Arm Length	249 - 259	250	Pass
S	Knee Joint to Seatback	477 - 493	483	Pass
V	Shoulder Width	341 - 357	351	Pass
W	Foot Width	78 - 94	82	Pass
Y	Chest Circumference w/ jacket	851 - 881	863	Pass
Z	Waist Circumference	761 - 791	782	Pass

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

ATD Serial No: 306

Test ID: D15171

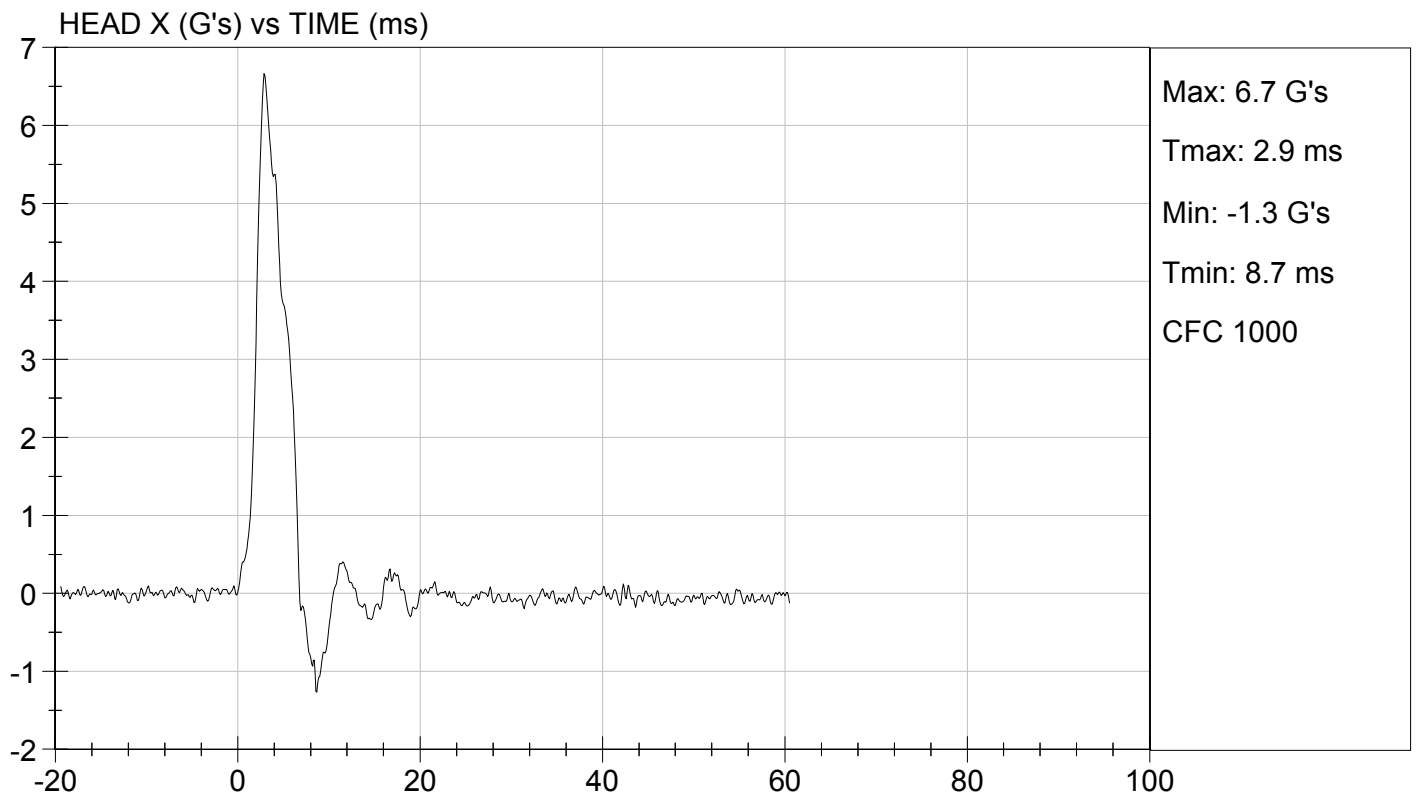
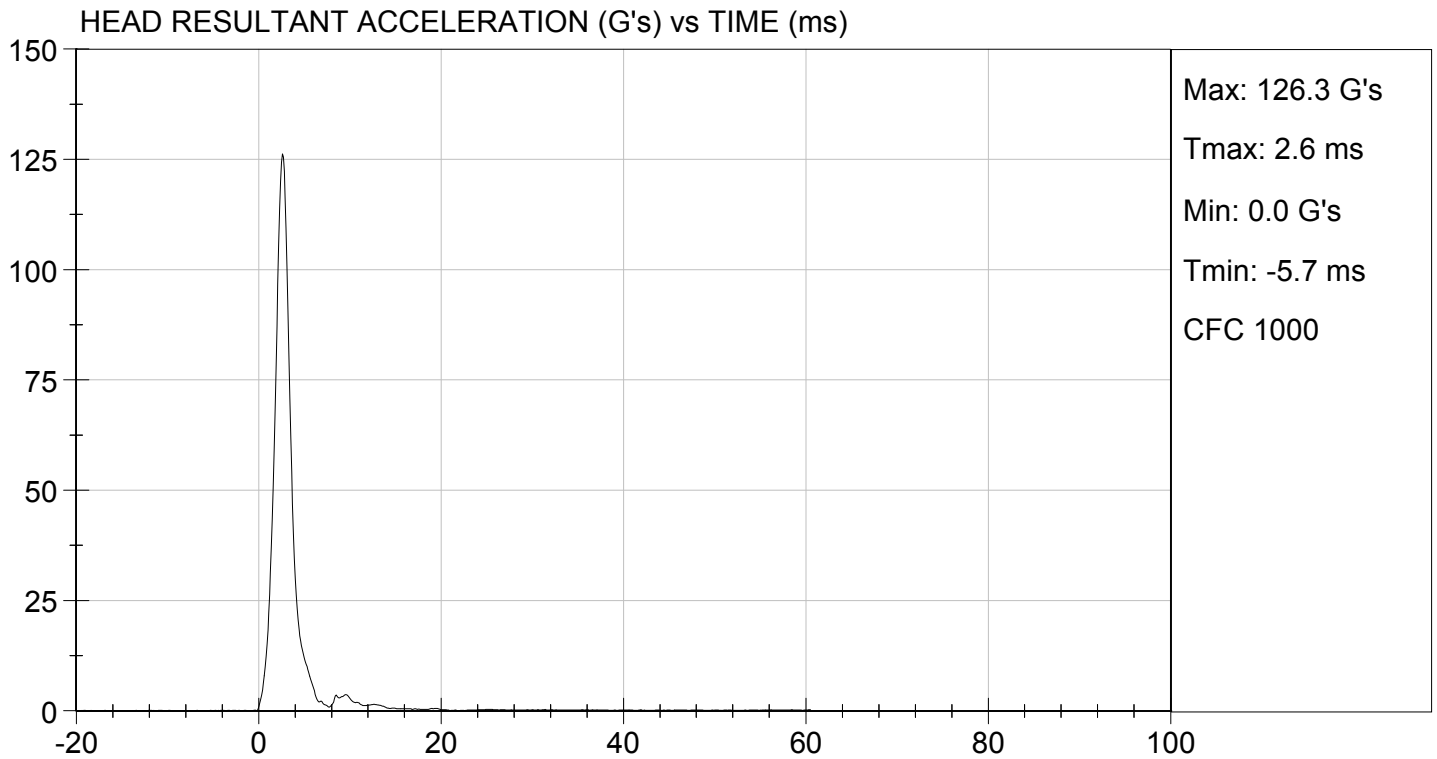
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	24	Pass
Peak Resultant Acceleration	G's	115 to 137	126	Pass
Peak Longitudinal Acceleration	G's	+/- 15	6.7	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
			Overall Test Results	Pass

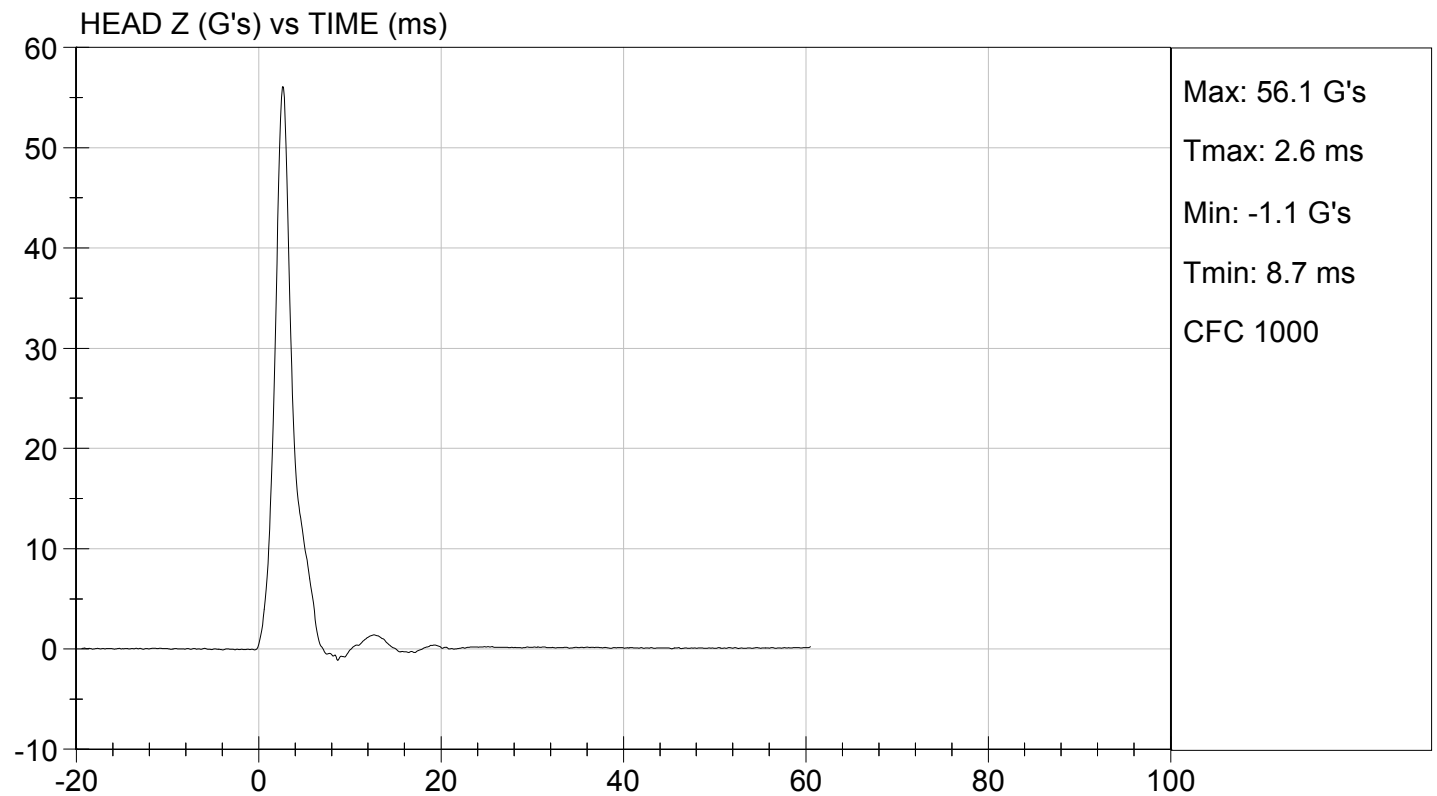
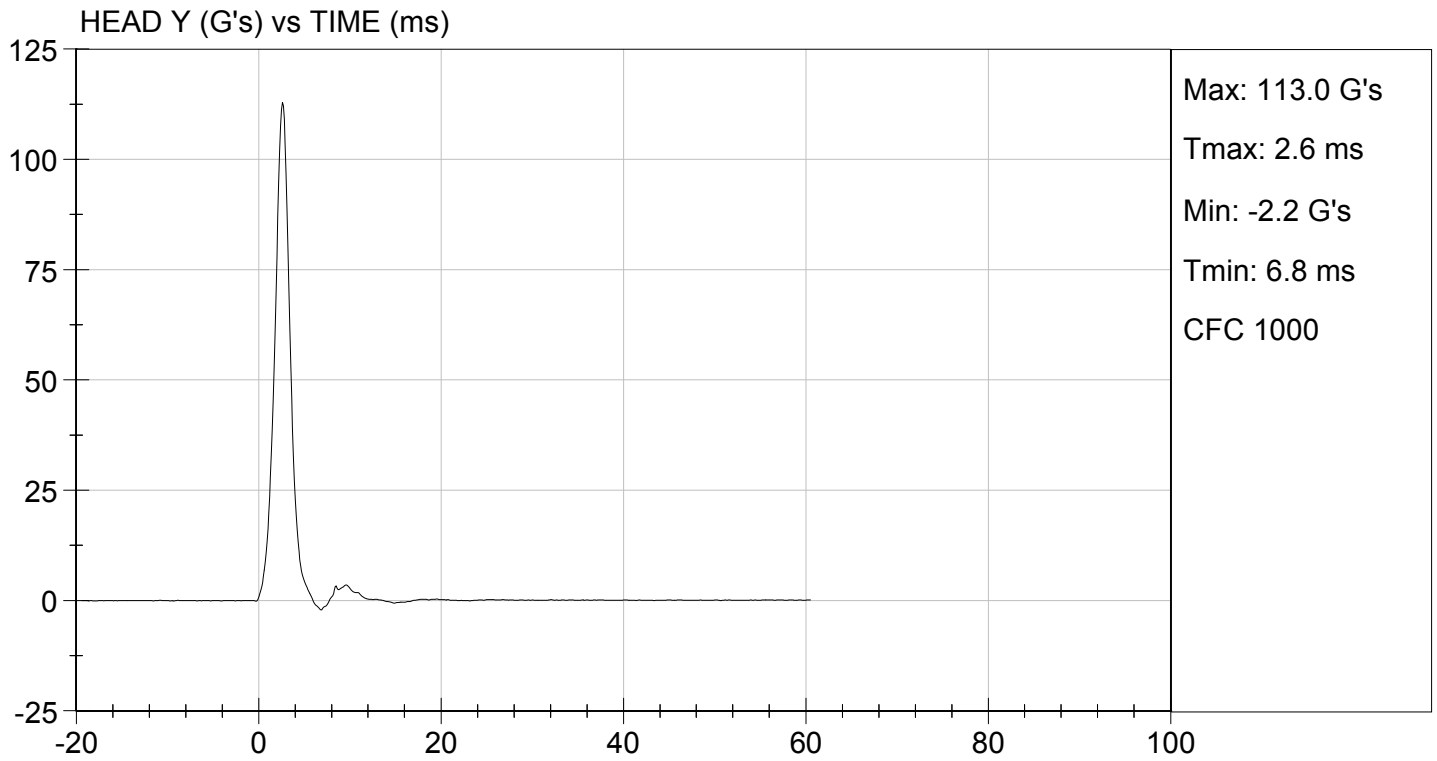
Maxime Chamberland
Laboratory Technician

01/22/2015

Test Date

Jessica Hall
Approved By





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

ATD Serial No: 306

Test I.D: D15172

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.7	Pass
Humidity		%	10 to 70	24	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.42	Pass
	15 ms	m/s	3.30 to 4.10	3.44	Pass
	20 ms	m/s	4.40 to 5.40	4.55	Pass
	25 ms	m/s	5.40 to 6.10	5.45	Pass
	25-100 ms	m/s	5.50 to 6.20	5.57	Pass
Maximum D-Plane Rotation		deg	71 to 81	73	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	60	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

David Schoedel
Laboratory Technician

01/22/2015

Test Date

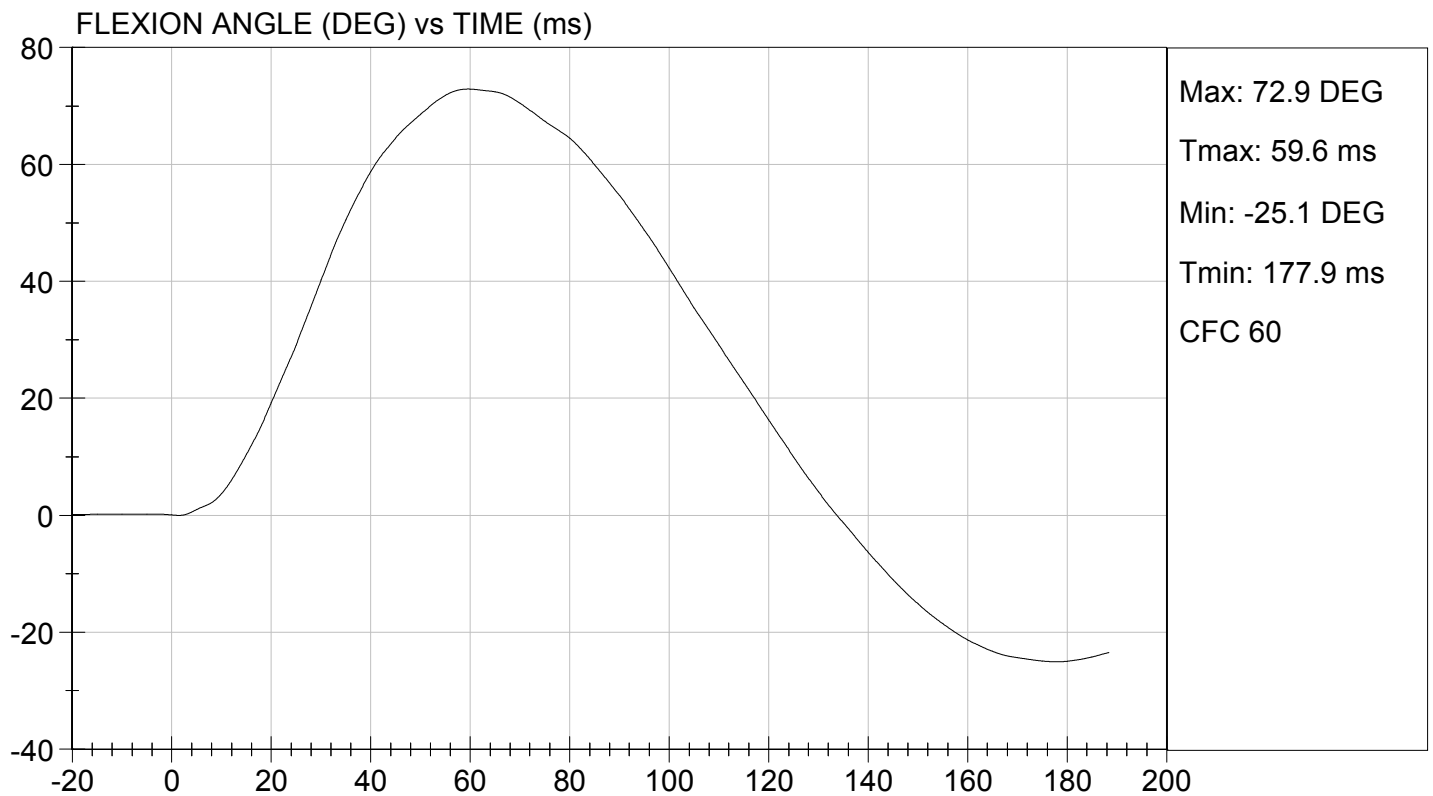
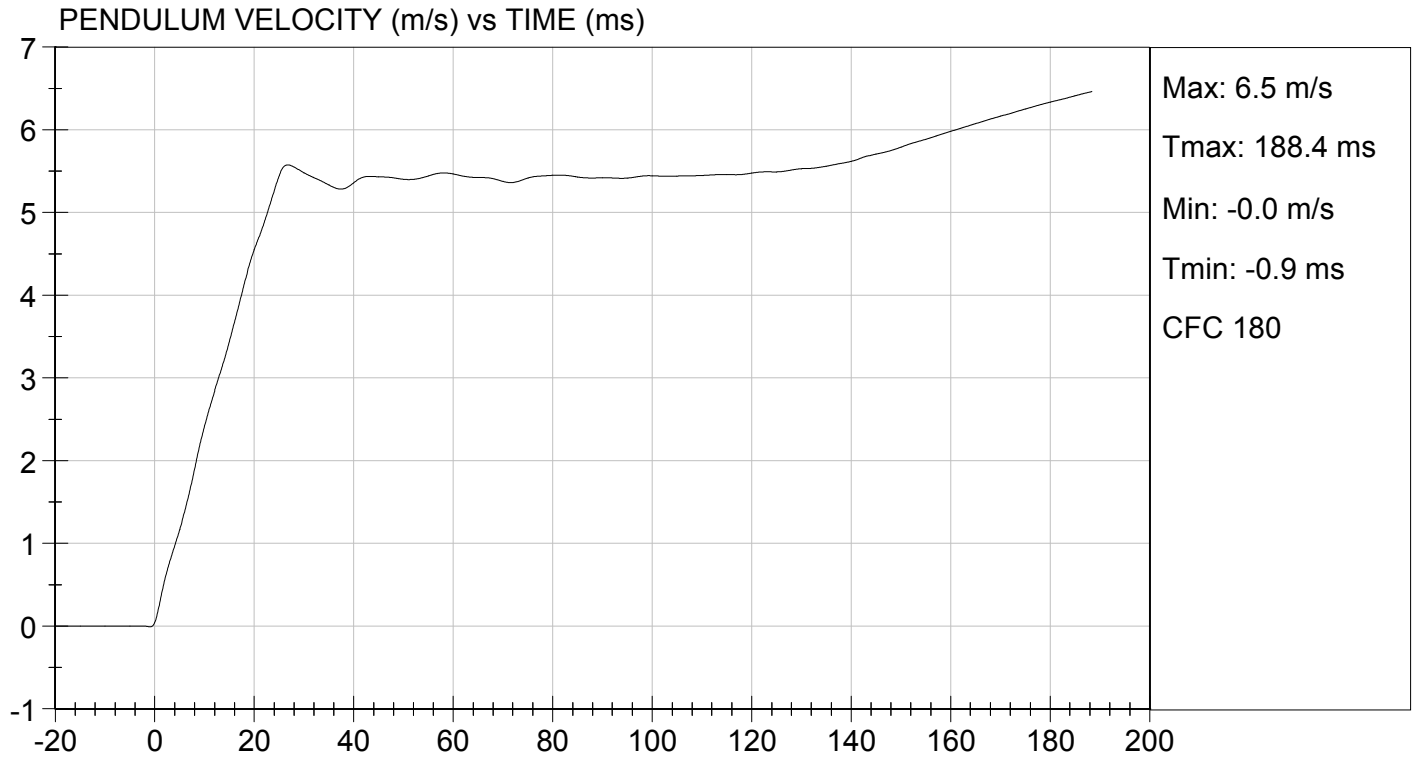
Jessica Hall
Approved By



TEST DESC: NECK BENDING
VELOCITY: 18.32 ft/s, 5.58 m/s

TEST DATE: 01/22/2015

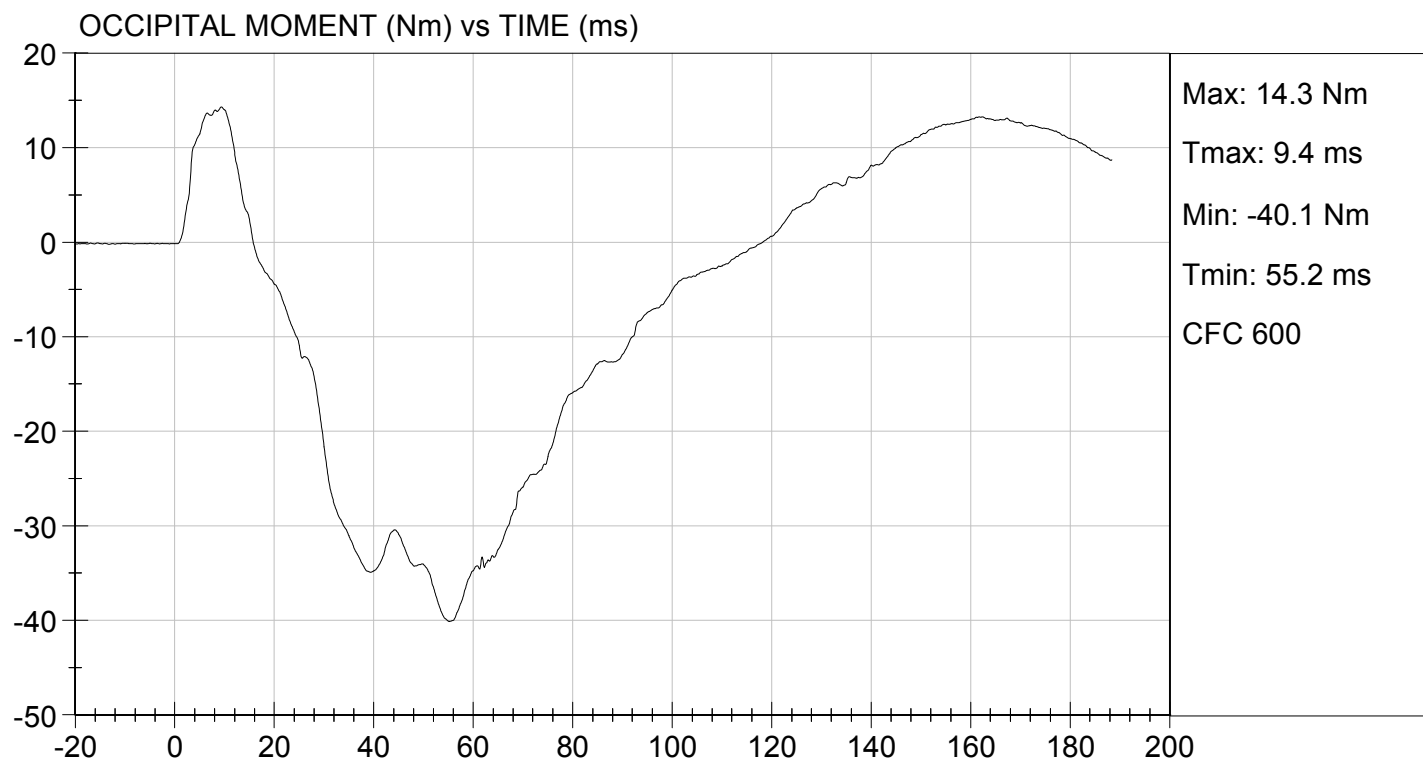
TEST #: D15172





TEST DESC: NECK BENDING
VELOCITY: 18.32 ft/s, 5.58 m/s

TEST DATE: 01/22/2015
TEST #: D15172



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

ATD Serial No: 306

Test ID: D15173

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
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	13 to 18	14	Pass
Shoulder Displacement	mm	28 to 37	29	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/22/2015

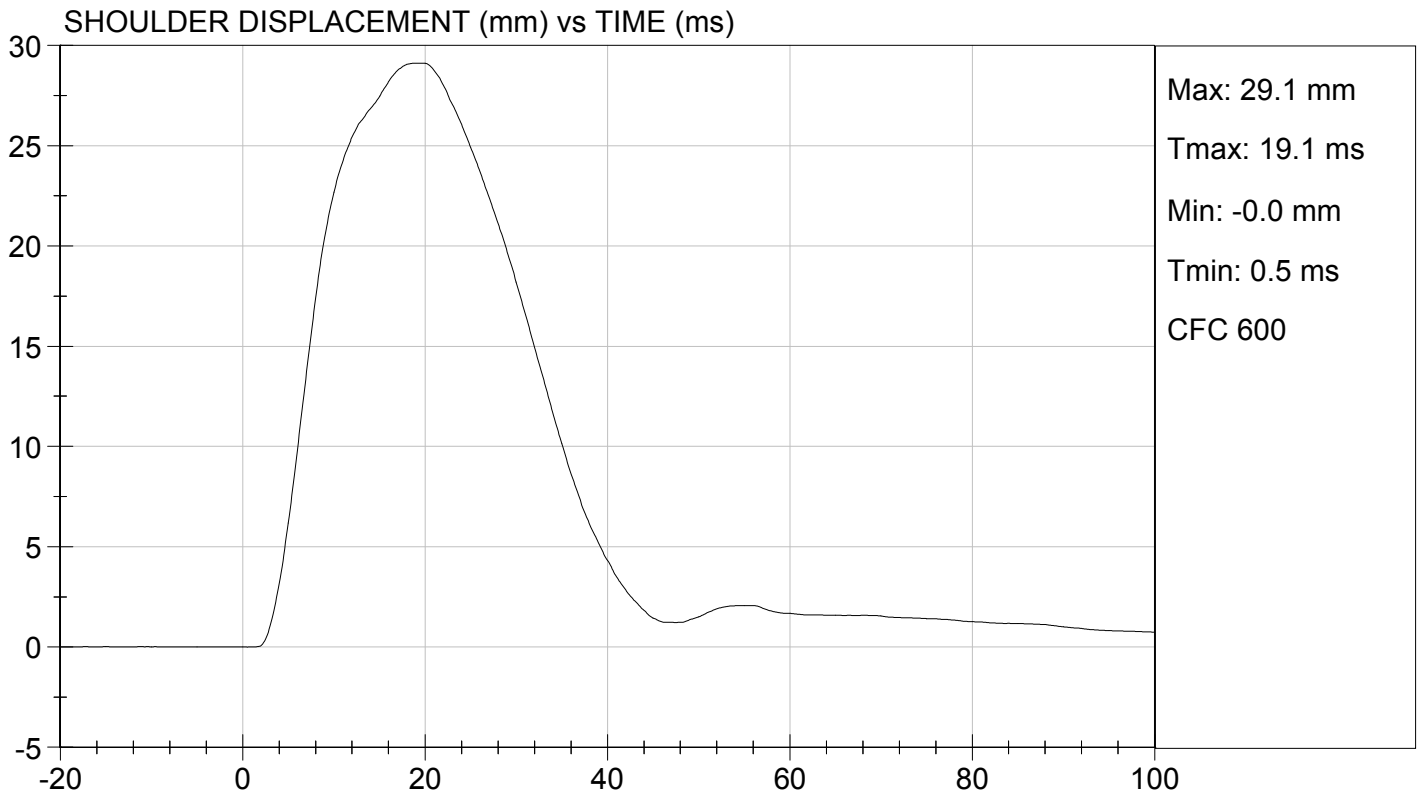
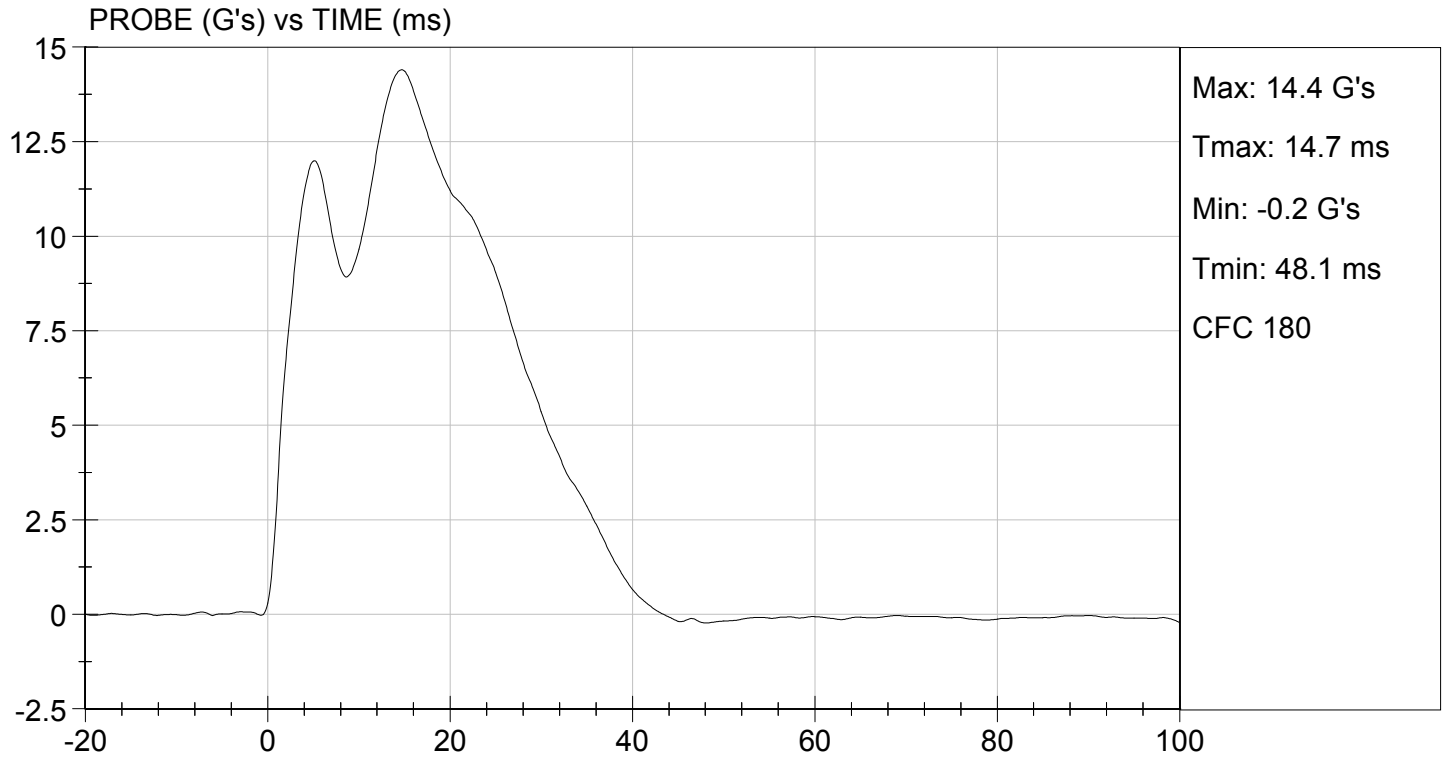
Test Date

Jessica Hall
Approved By



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

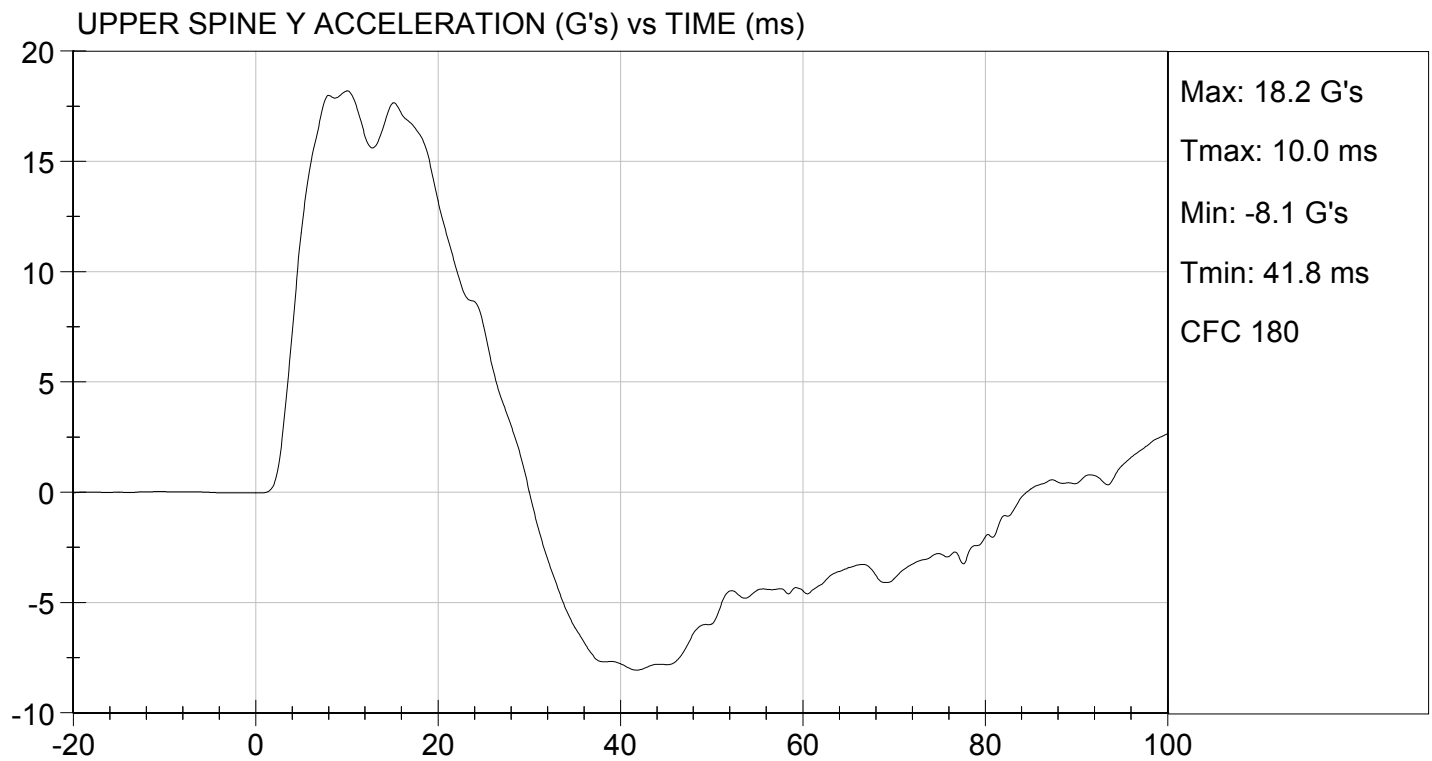
TEST DATE: 01/22/2015
TEST #: D15173





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

TEST DATE: 01/22/2015
TEST #: D15173



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

ATD Serial No: 306

Test I.D: D15174

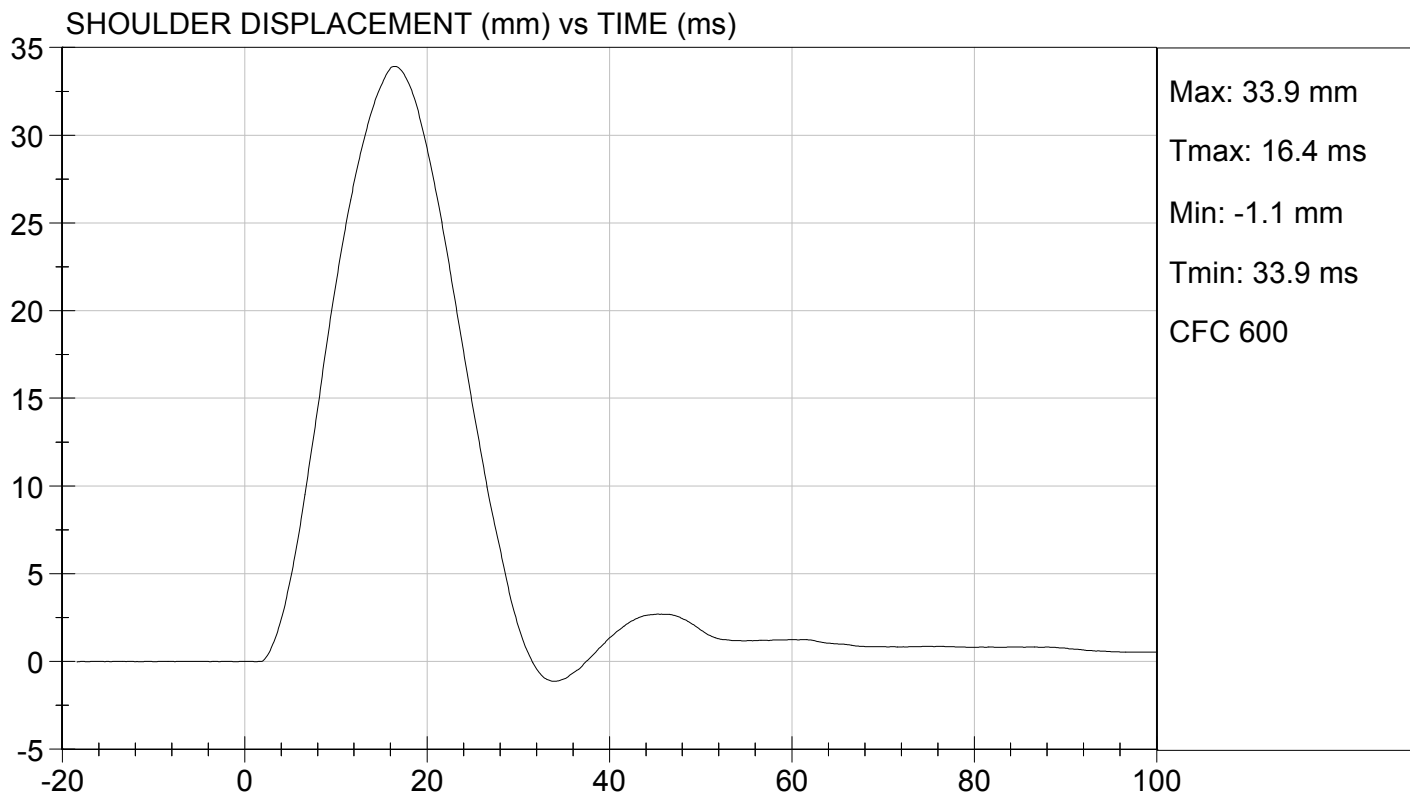
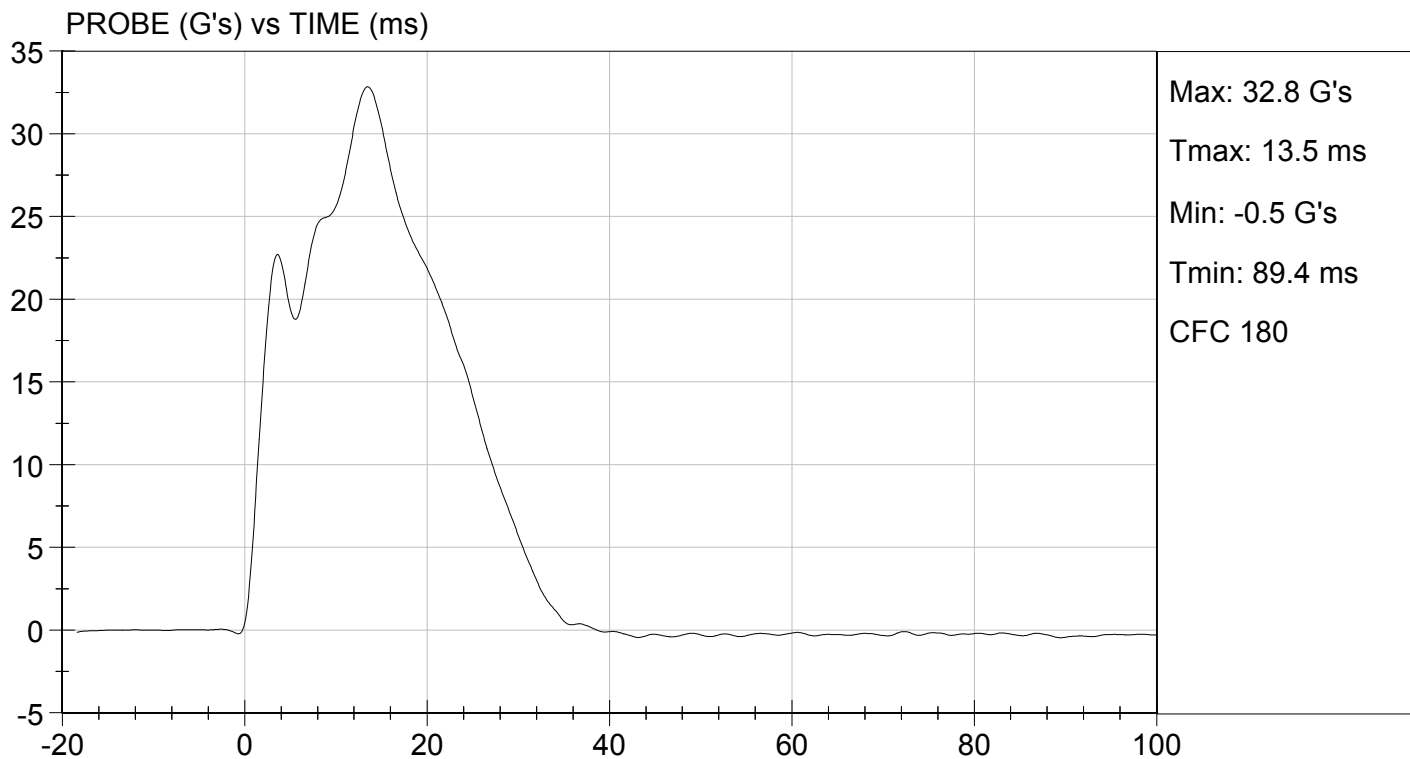
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	24	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	30 to 36	33	Pass
Shoulder Displacement	mm	31 to 40	34	Pass
Upper Rib Displacement	mm	25 to 32	28	Pass
Middle Rib Displacement	mm	30 to 36	31	Pass
Lower Rib Displacement	mm	32 to 38	35	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	38	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	32	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/22/2015

Test Date

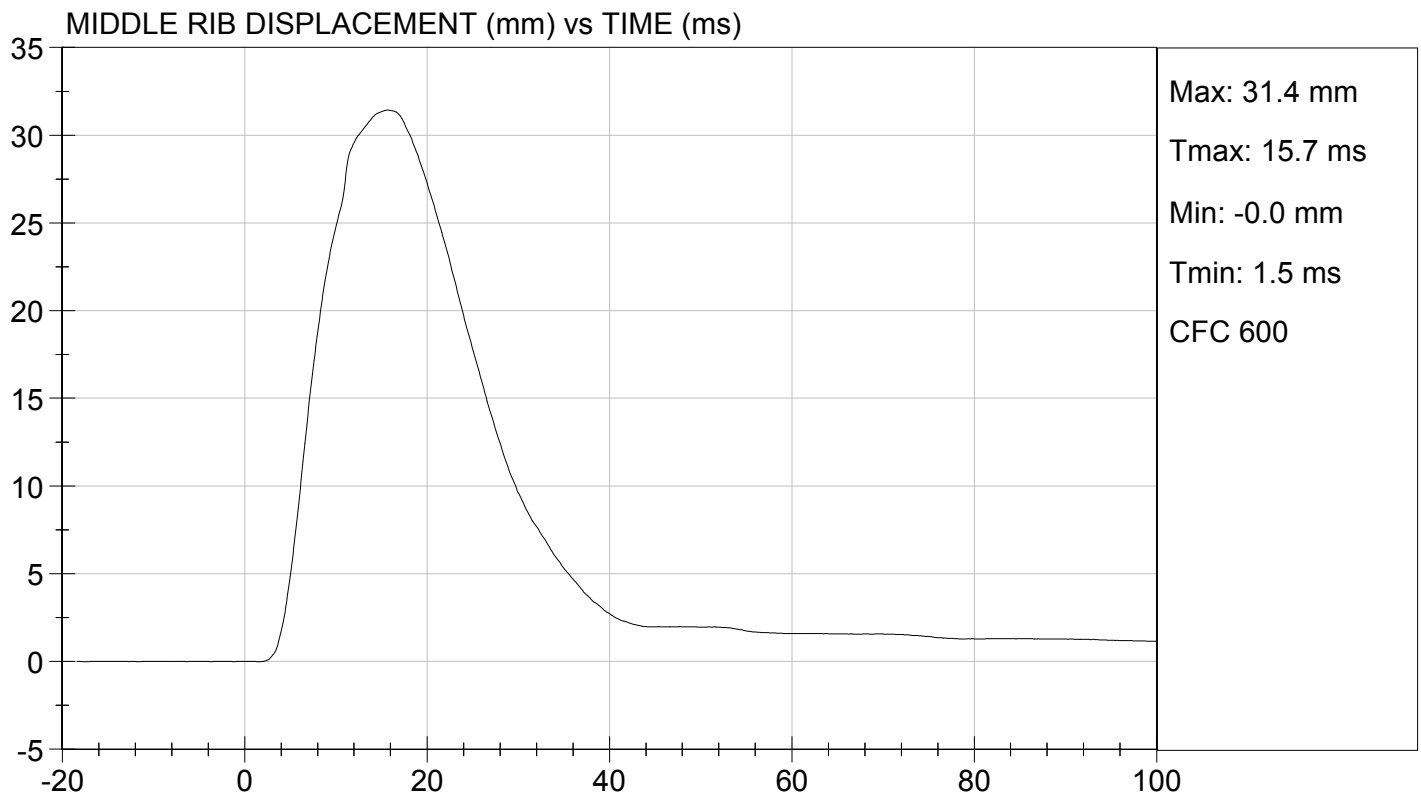
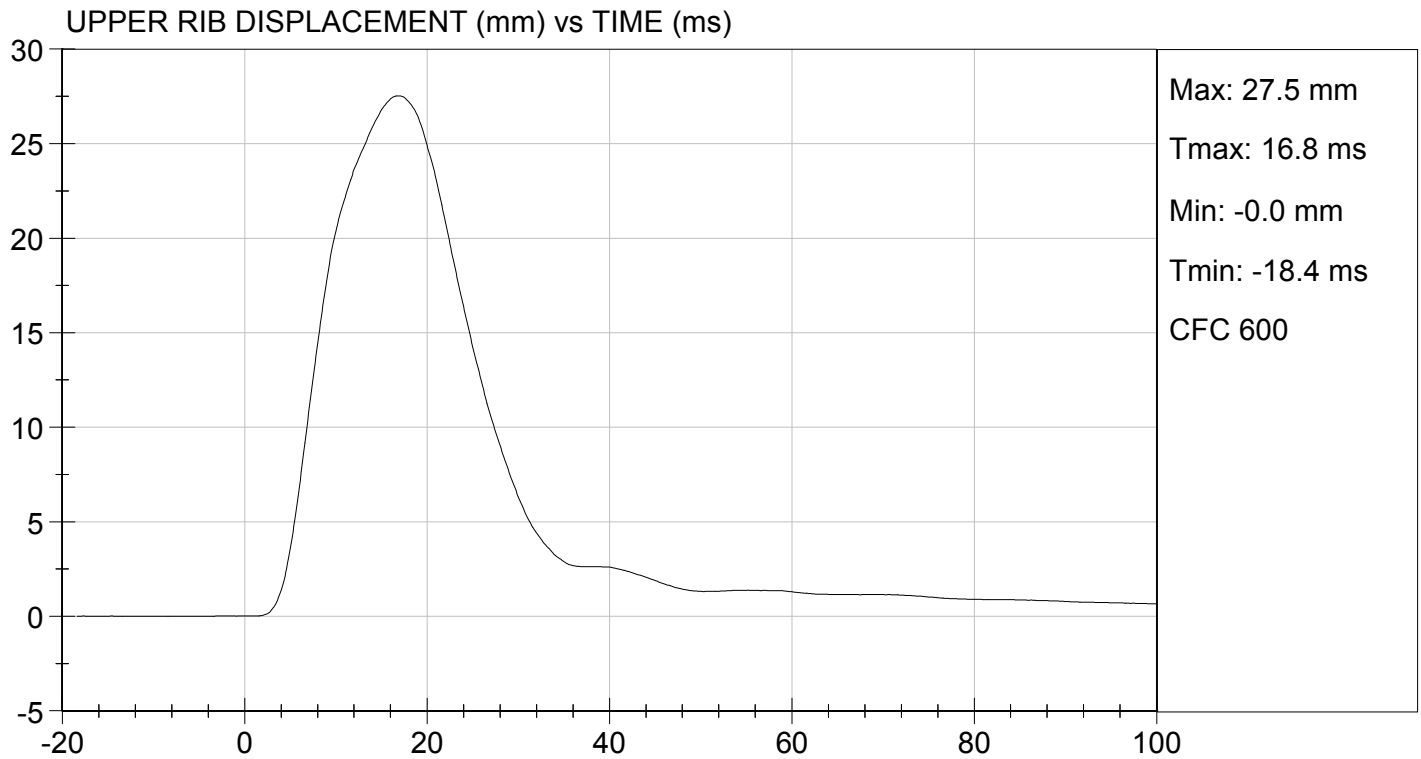
Jessica Hall
Approved By





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

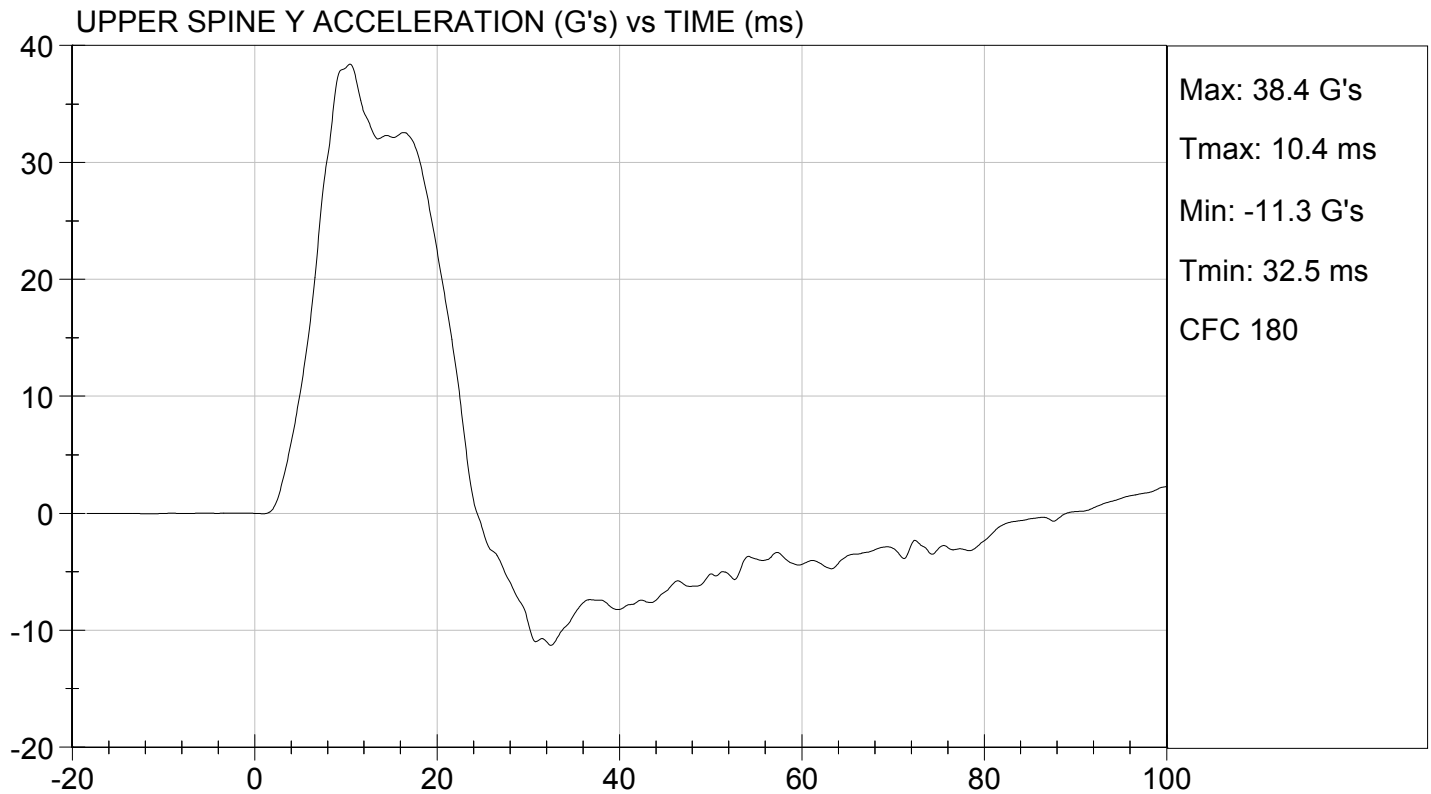
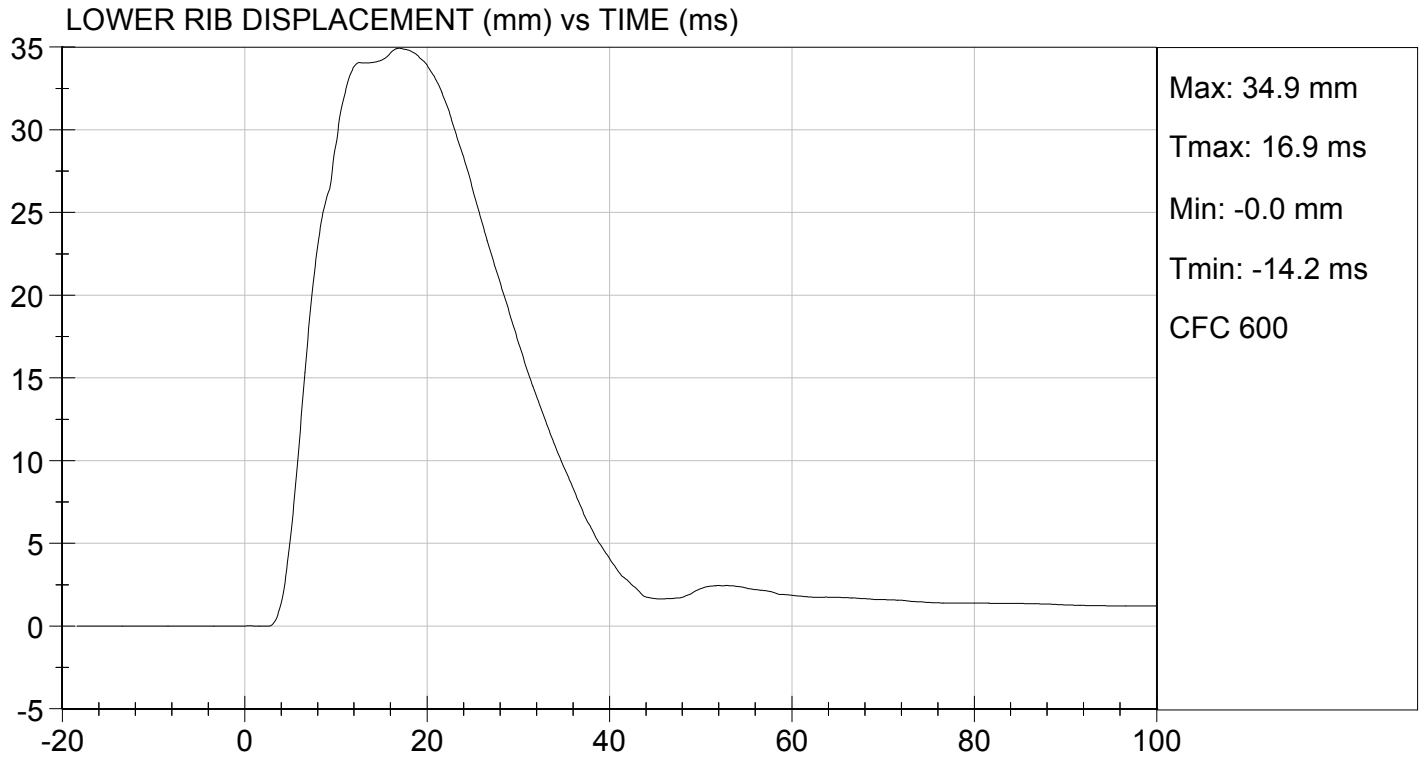
TEST DATE: 01/22/2015
TEST #: D15174





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

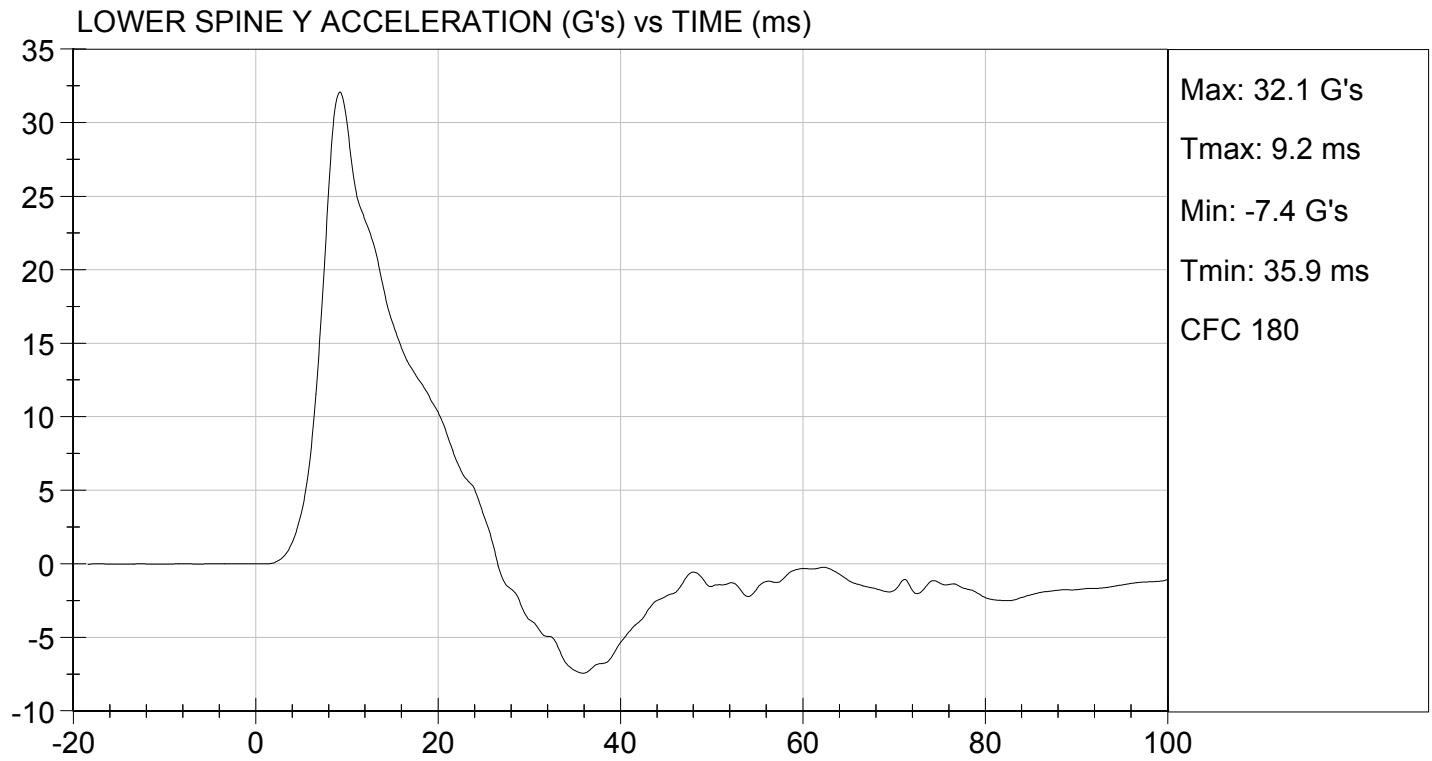
TEST DATE: 01/22/2015
TEST #: D15174





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

TEST DATE: 01/22/2015
TEST #: D15174



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

ATD Serial No: 306

Test I.D: D15175

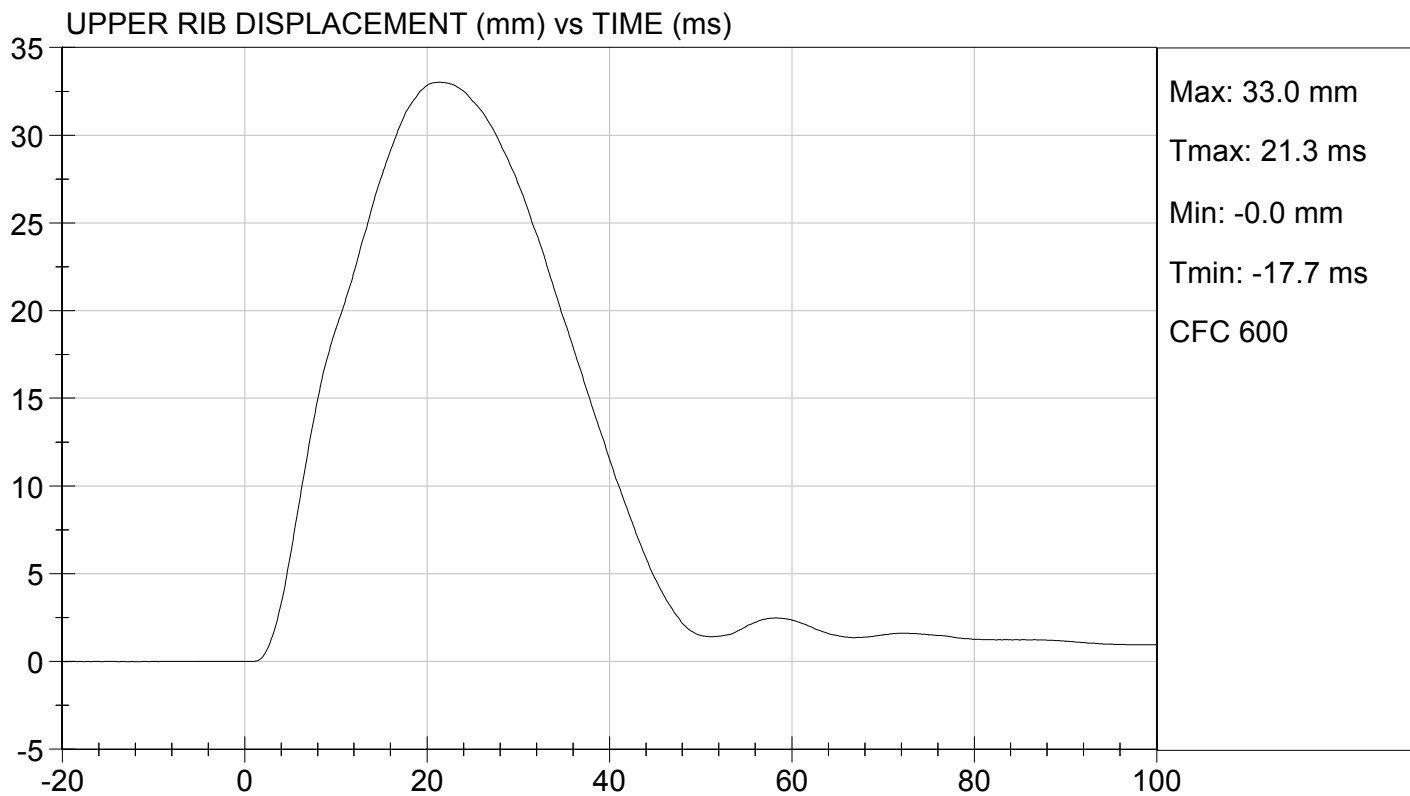
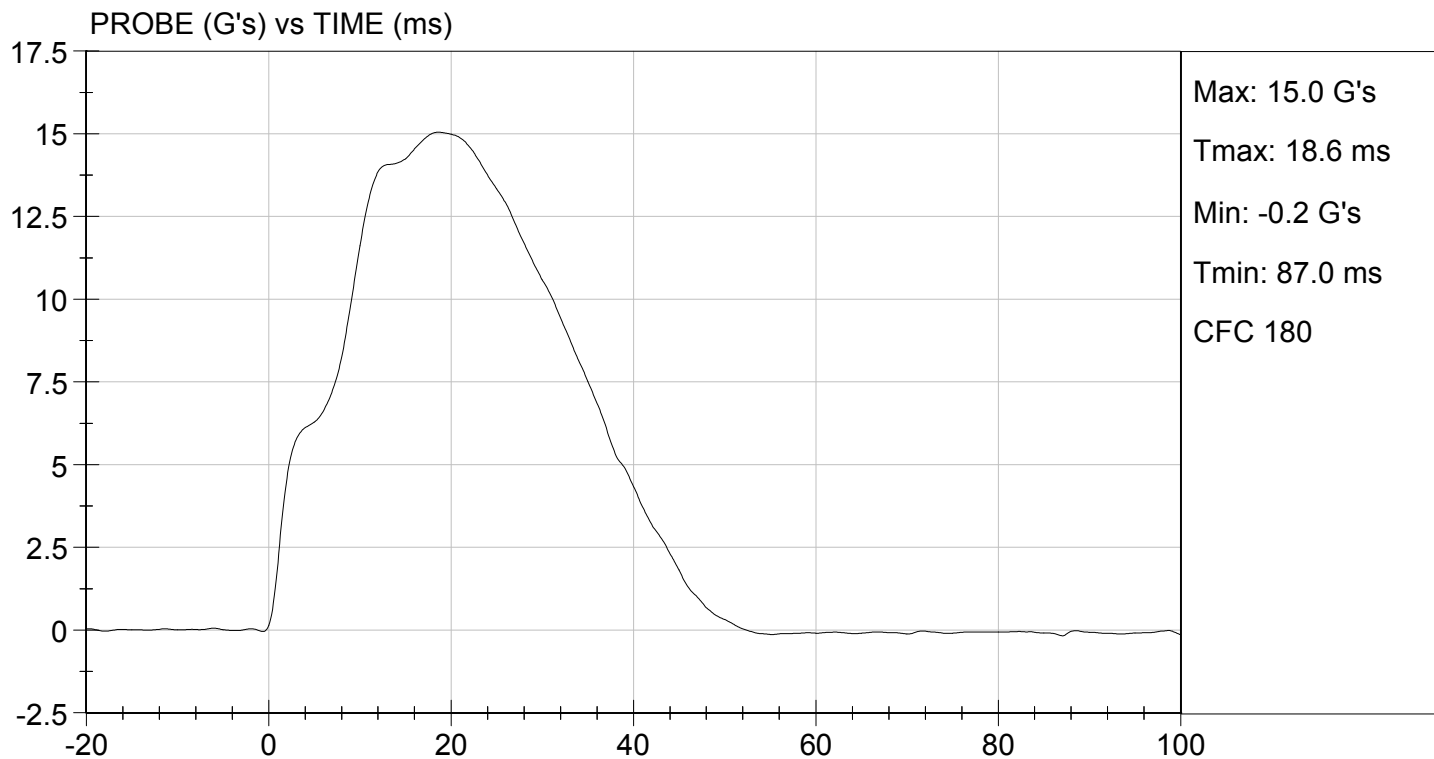
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	24	Pass
Impact Velocity	m/s	4.20 to 4.40	4.20	Pass
Maximum Probe Acceleration	G's	14 to 18	15	Pass
Upper Rib Displacement	mm	32 to 40	33	Pass
Middle Rib Displacement	mm	39 to 45	39	Pass
Lower Rib Displacement	mm	35 to 43	40	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

David Schoedel
Laboratory Technician

01/22/2015

Test Date

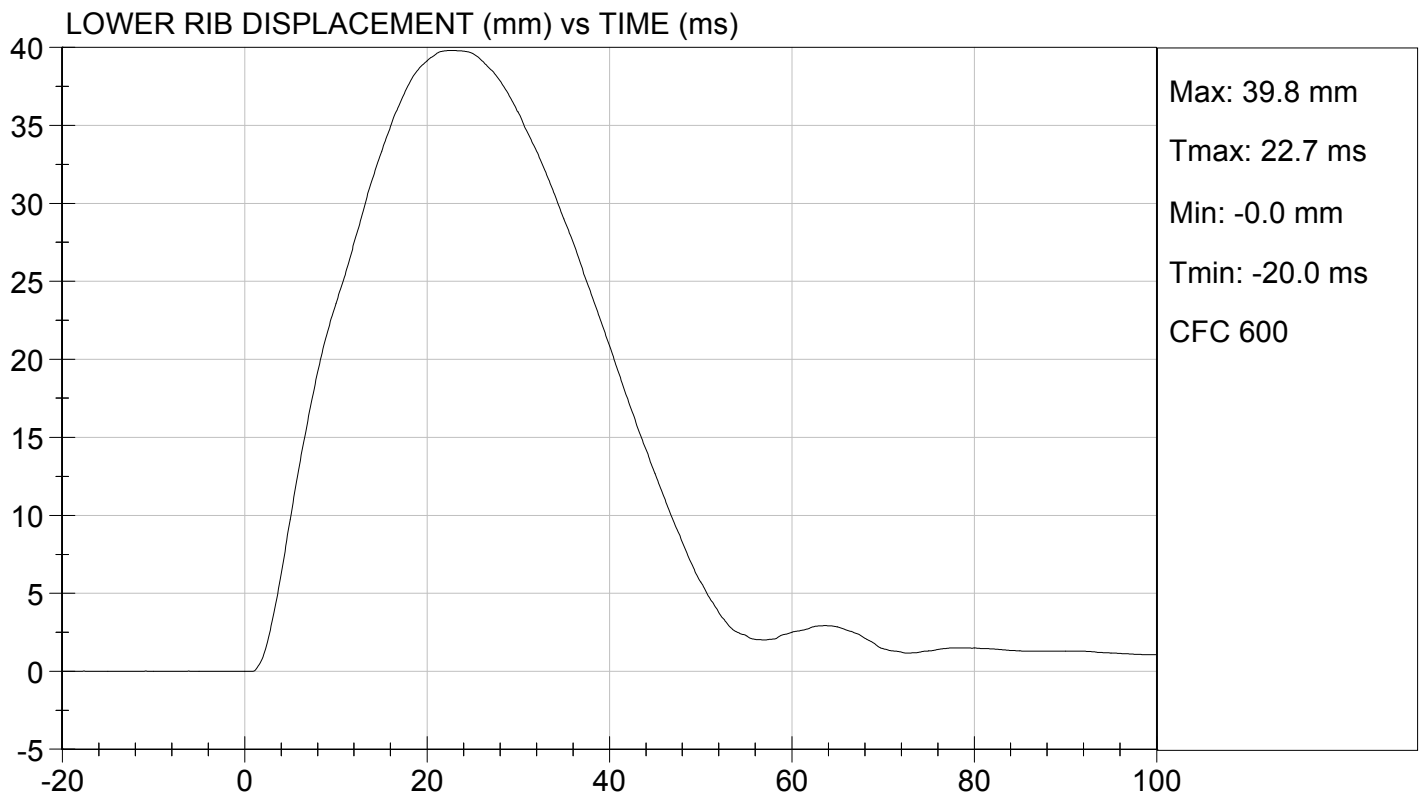
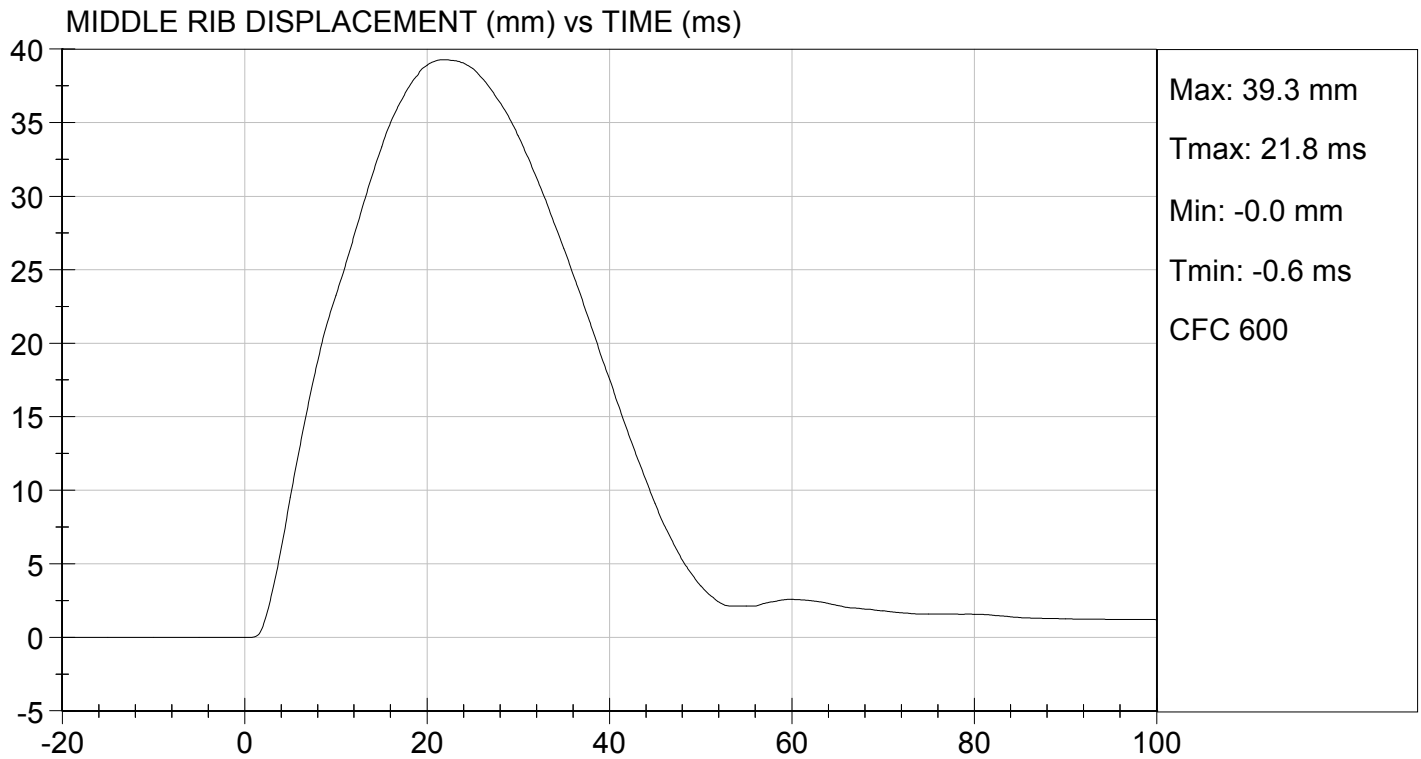
Jessica Hall
Approved By





TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 13.77 ft/s, 4.20 m/s

TEST DATE: 01/22/2015
TEST #: D15175

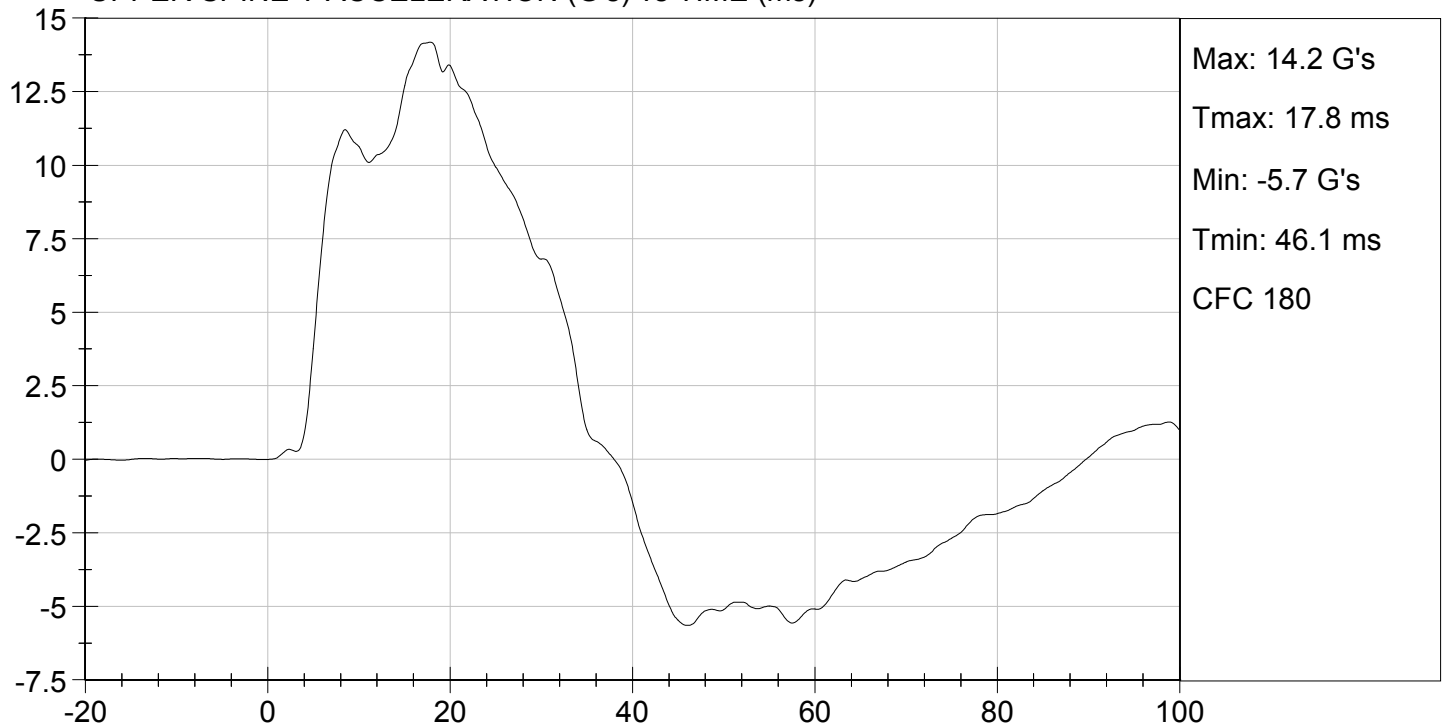




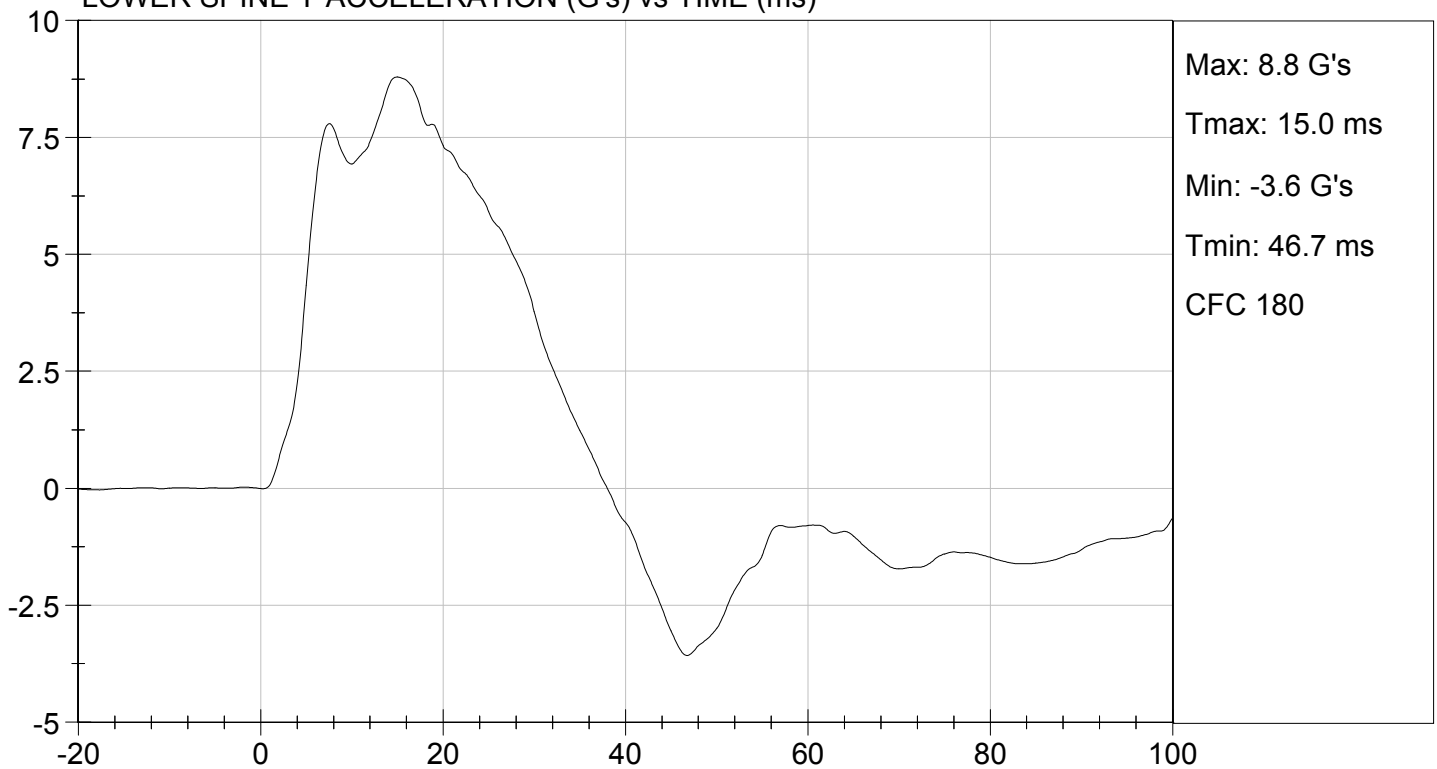
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 13.77 ft/s, 4.20 m/s

TEST DATE: 01/22/2015
TEST #: D15175

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: 306

Test I.D: D15176

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	24	Pass
Impact Velocity	m/s	4.20 to 4.40	4.20	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	38	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	40	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	10	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/22/2015

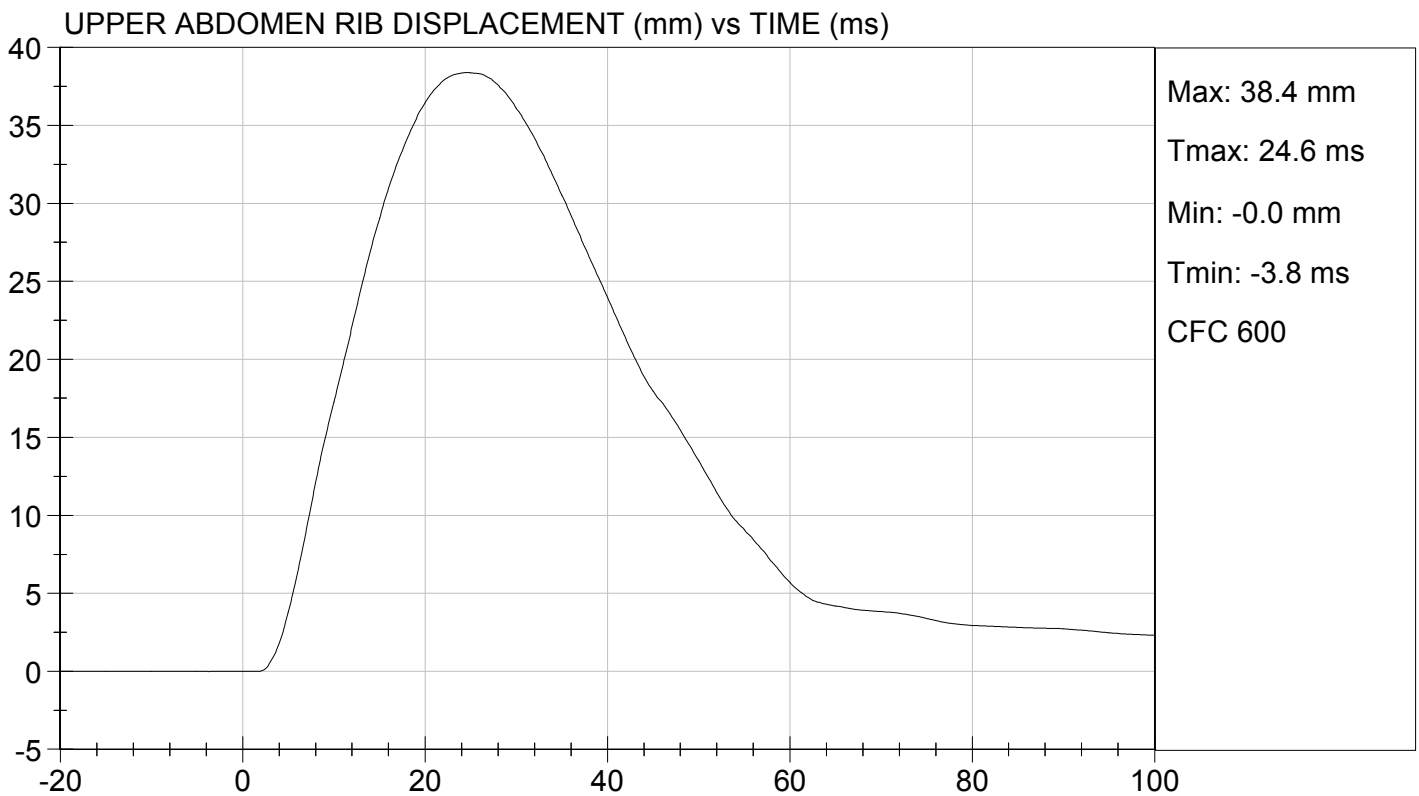
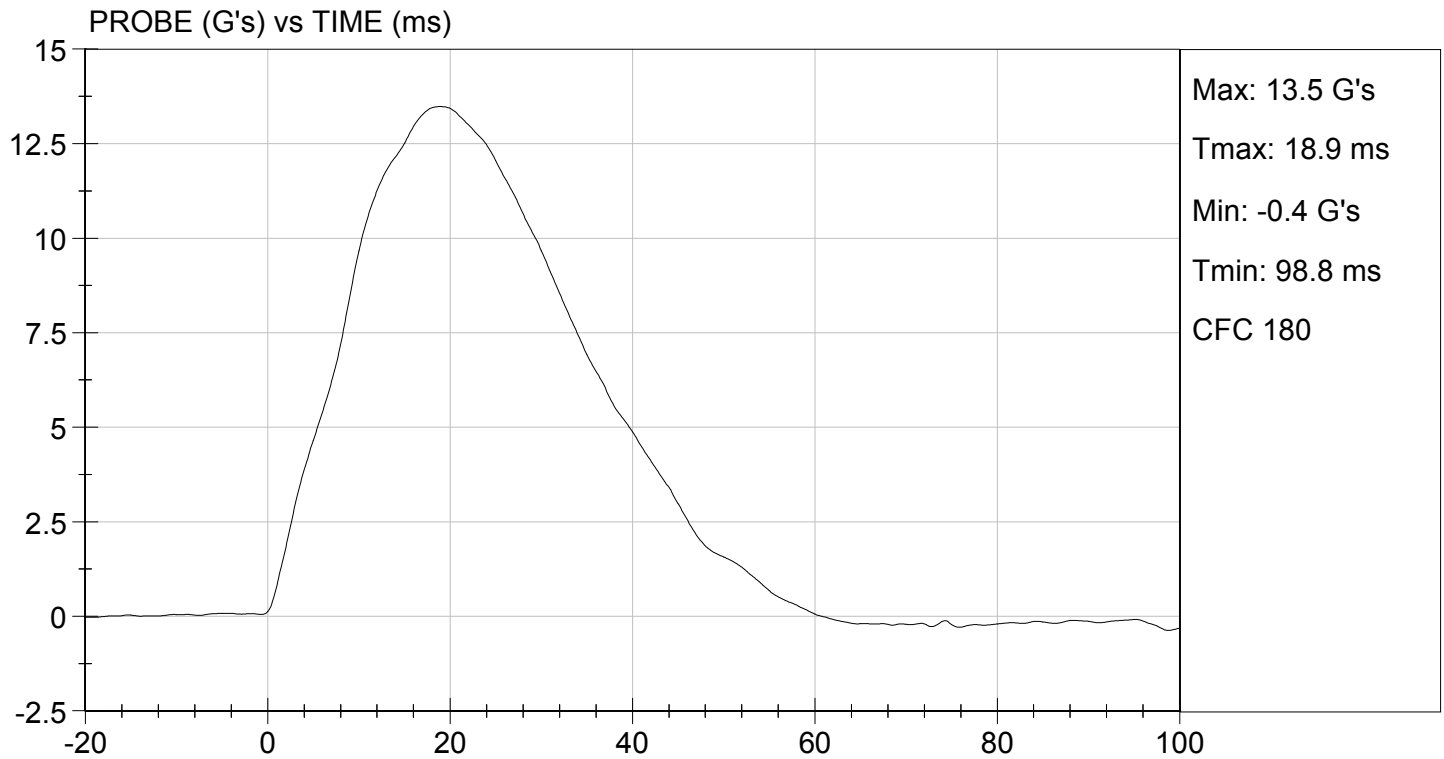
Test Date

Jessica Hall
Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.77 ft/s, 4.20 m/s

TEST DATE: 01/22/2015
TEST #: D15176

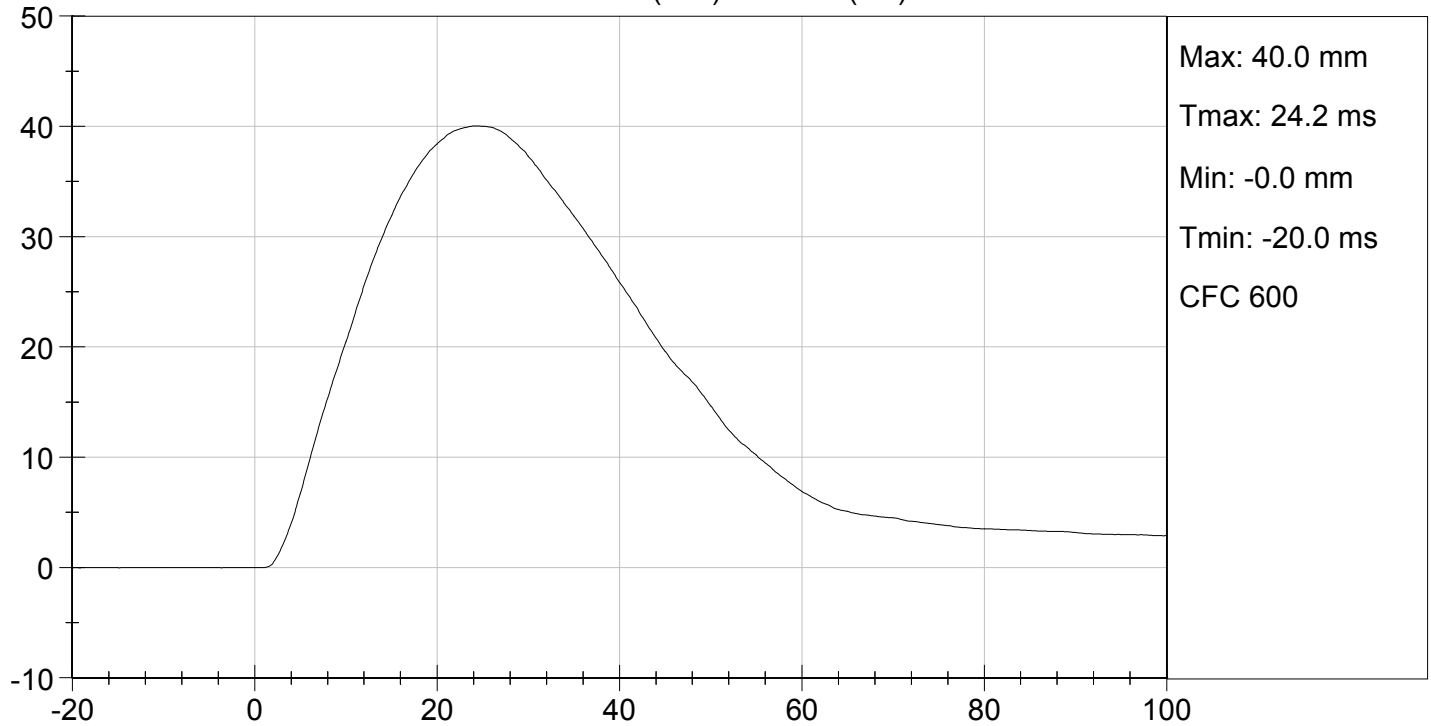




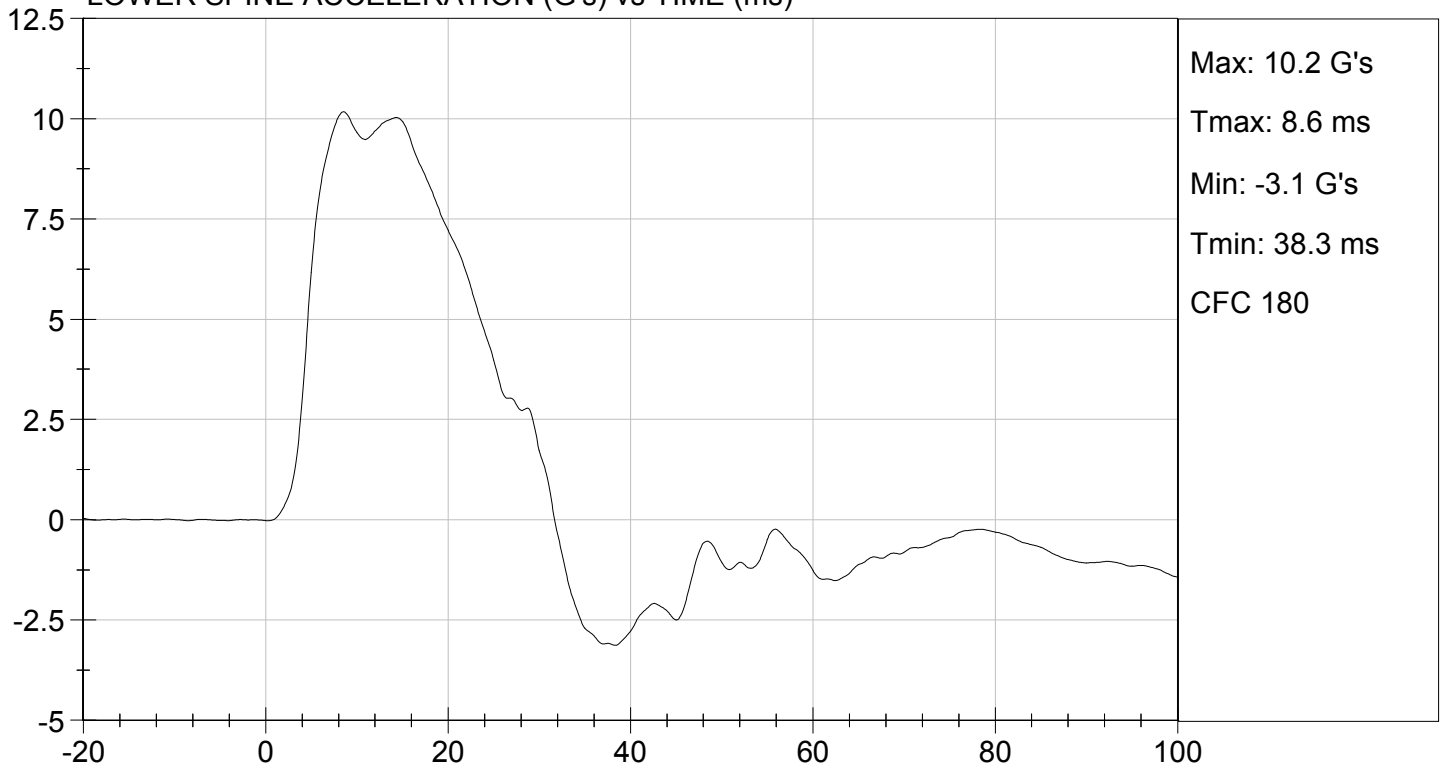
TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.77 ft/s, 4.20 m/s

TEST DATE: 01/22/2015
TEST #: D15176

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: 306

Test I.D: D15177

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	24	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	45	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	40	Pass
Peak Acetabulum Force	N	3600 to 4300	4,169	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/22/2015

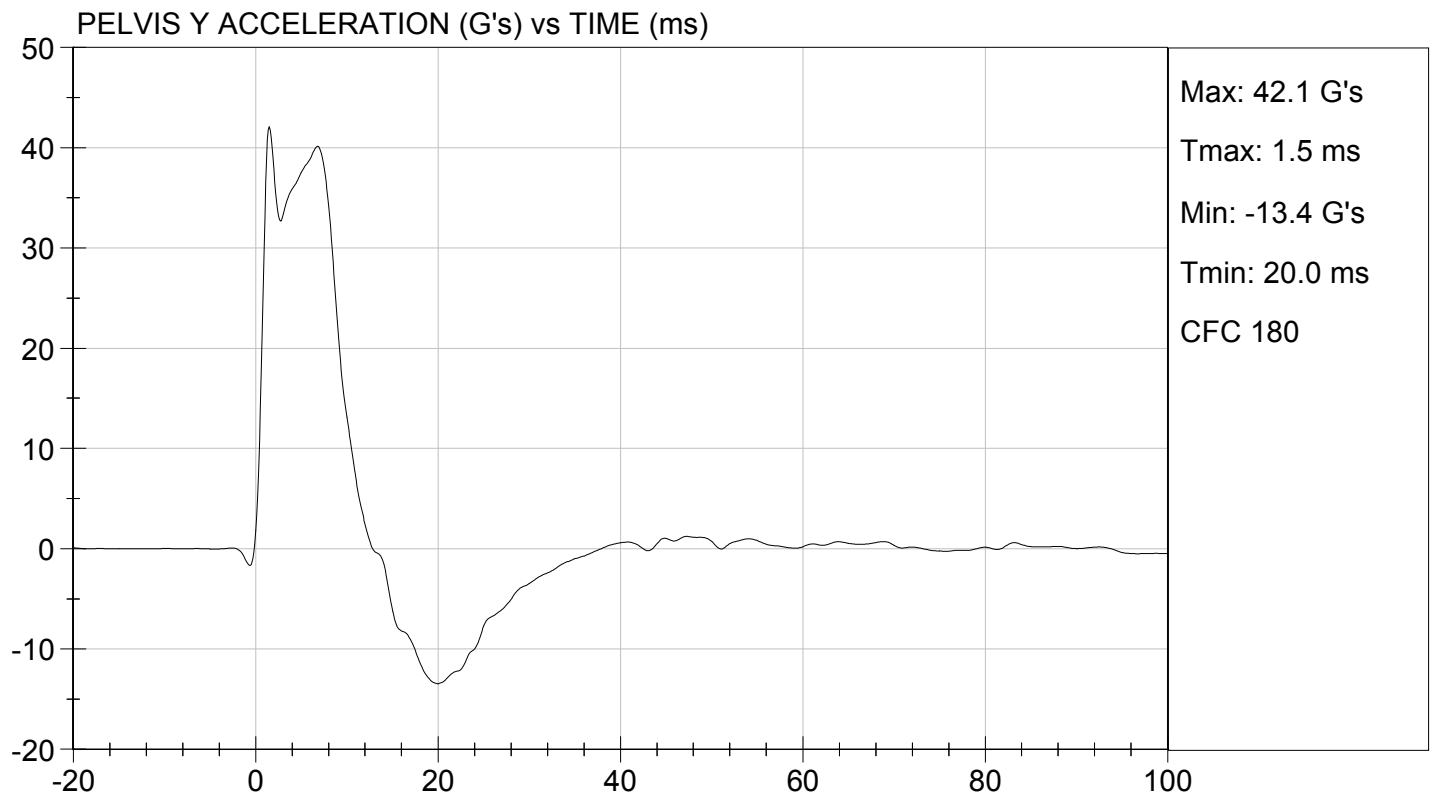
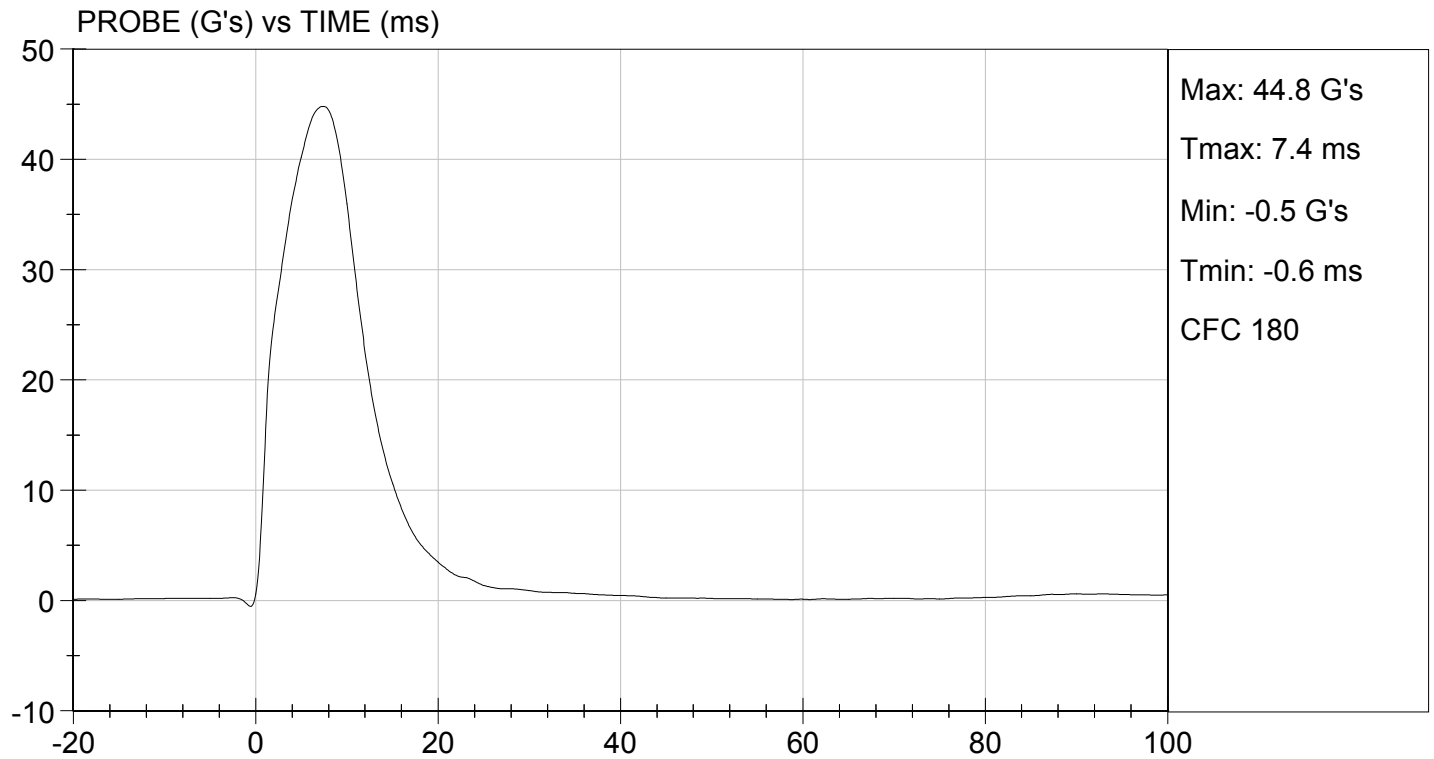
Test Date

Jessica Hall
Approved By



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

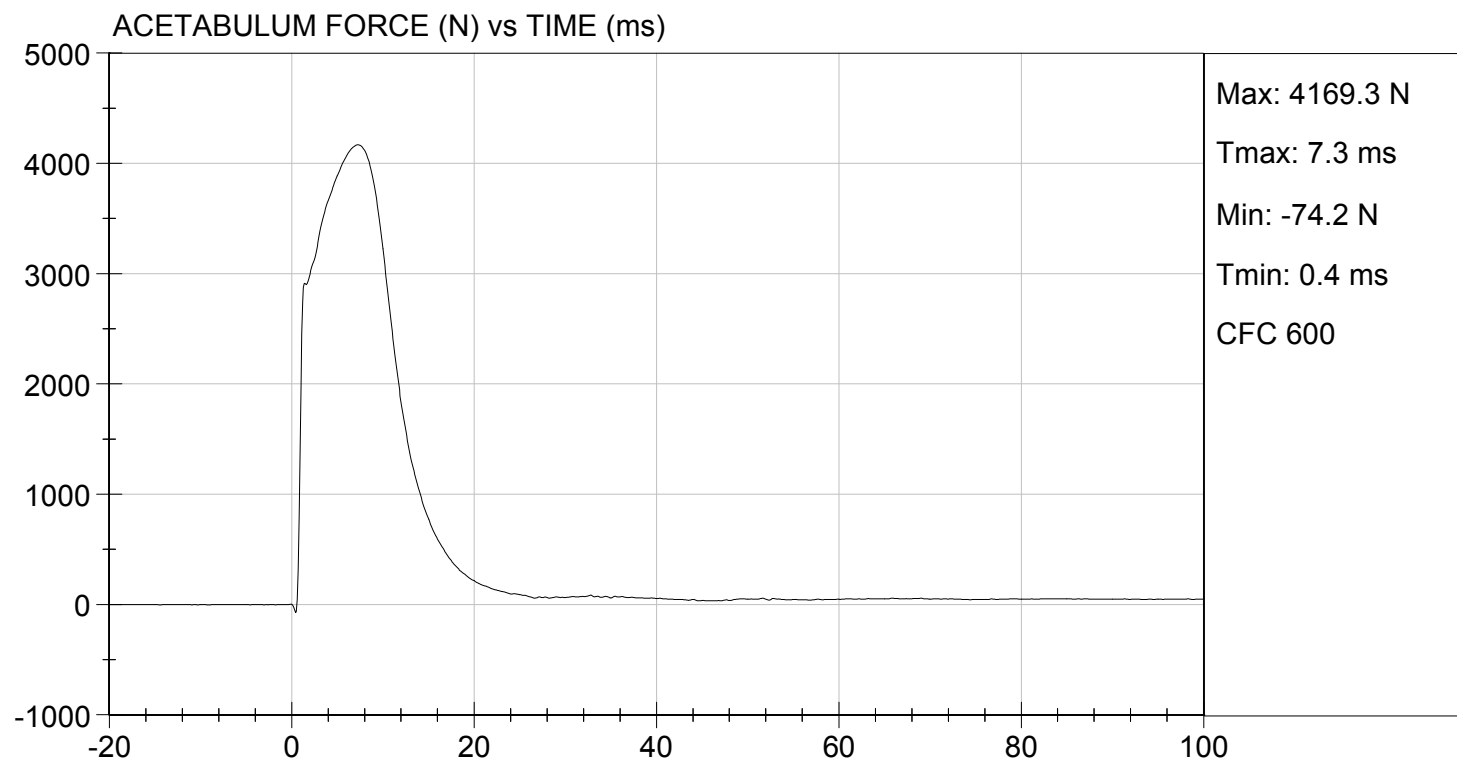
TEST DATE: 01/22/2015
TEST #: D15177





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

TEST DATE: 01/22/2015
TEST #: D15177



MGA RESEARCH CORPORATION

ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D15178

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	24	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	36 to 45	41	Pass
Pelvis Y Acceleration	G's	28 to 39	33	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,893	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/22/2015

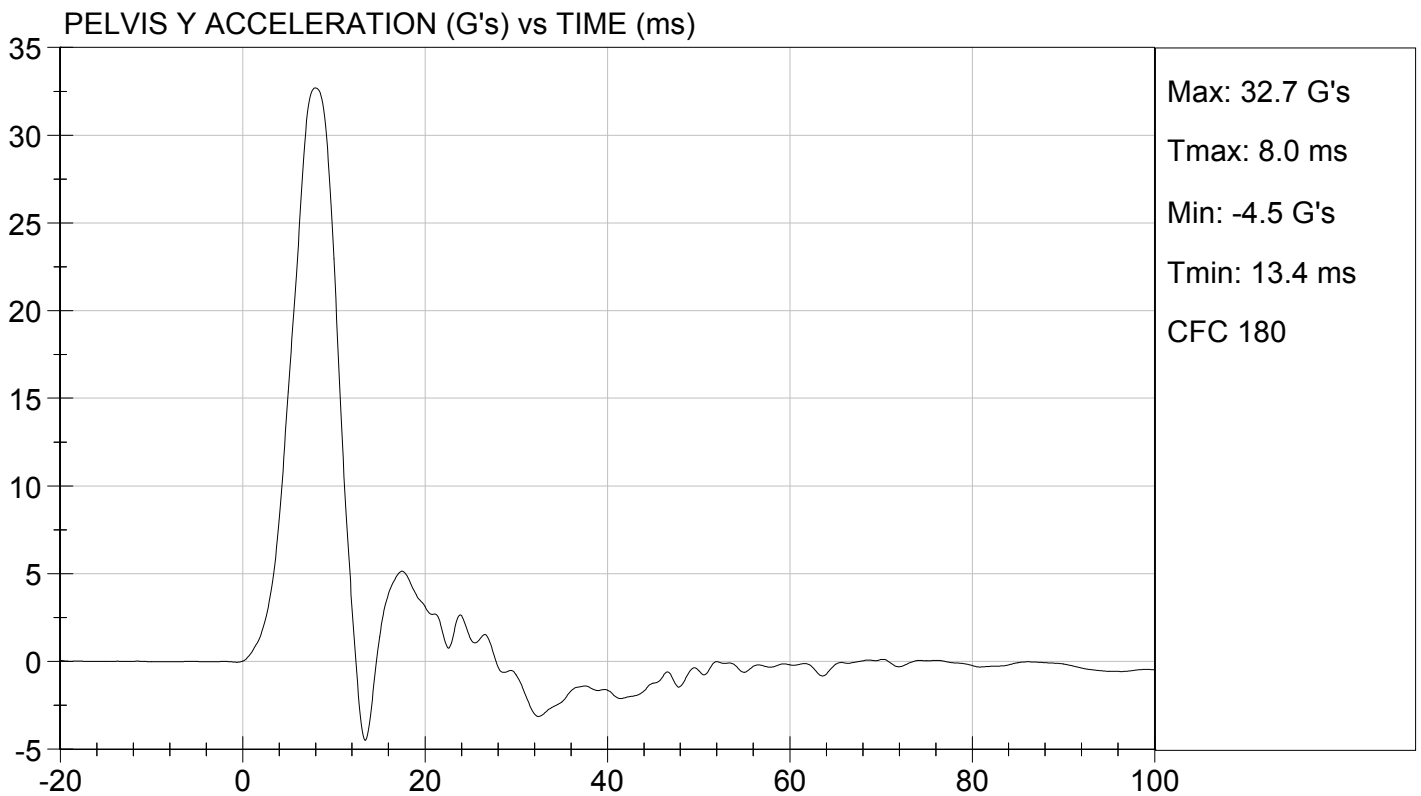
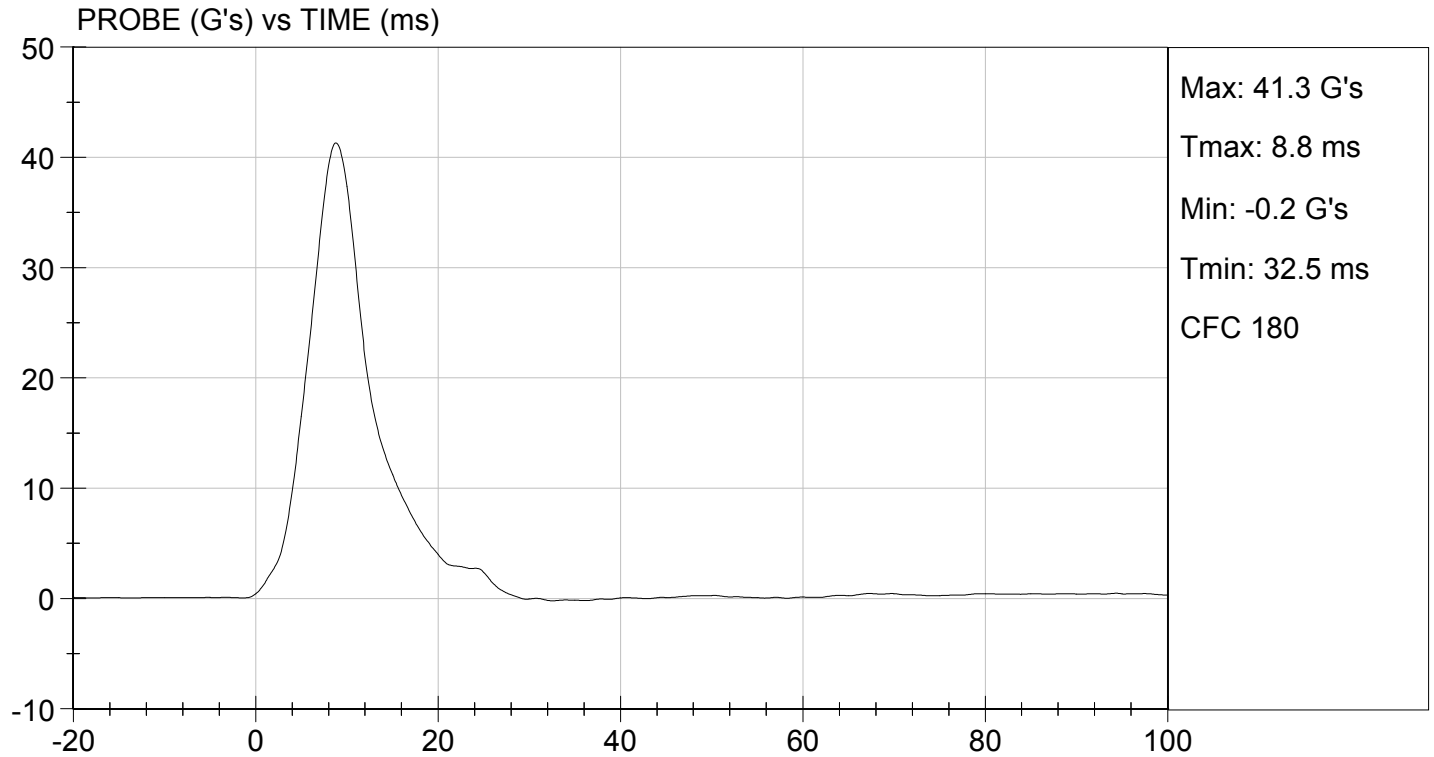
Test Date

Jessica Hall
Approved By



TEST DESC: ILLIAC
VELOCITY: 13.89 ft/s, 4.23 m/s

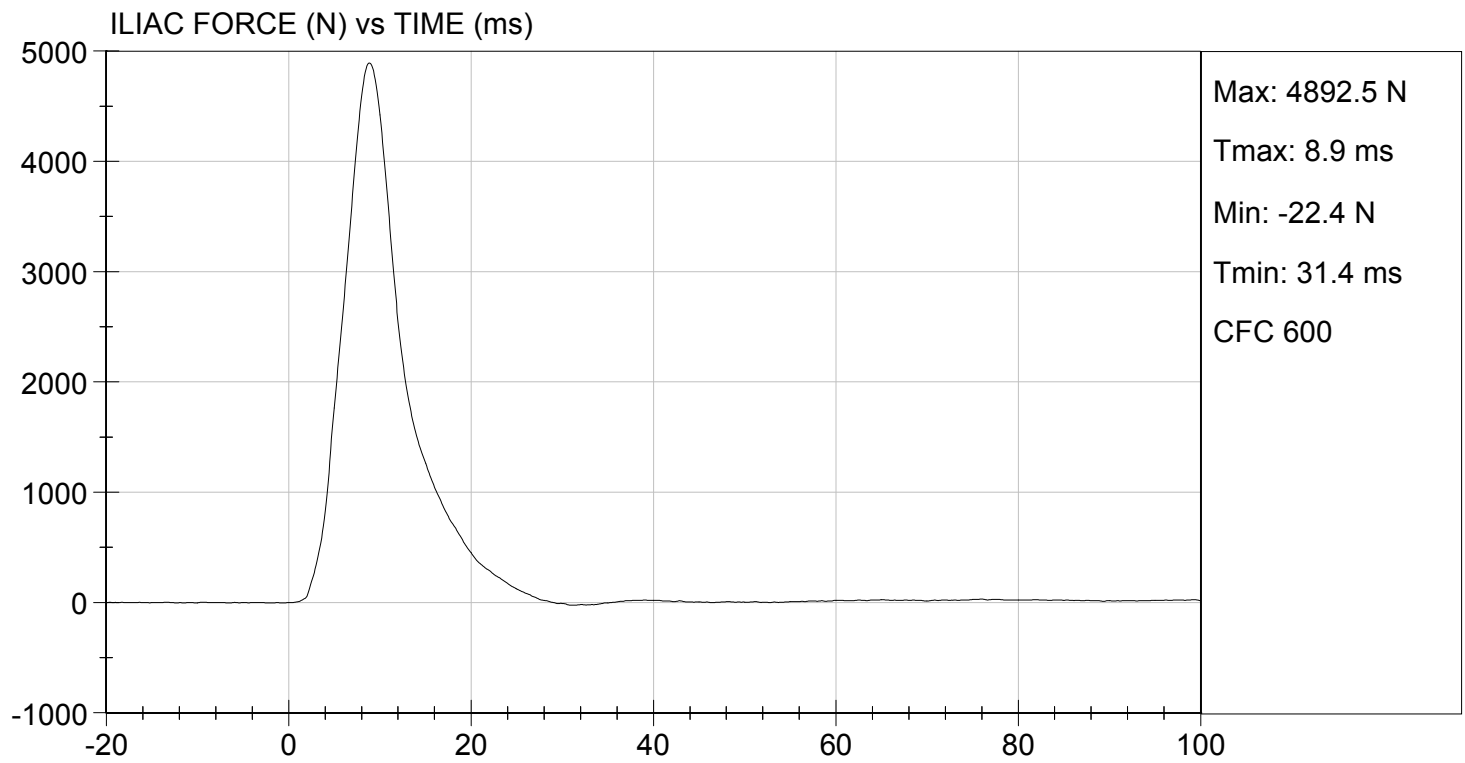
TEST DATE: 01/22/2015
TEST #: D15178





TEST DESC: ILLIAC
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 01/22/2015
TEST #: D15178



SID-IIsD External Measurements
SN: 306

No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	785	Pass
B	Shoulder Pivot Height	437 - 453	449	Pass
C	H-point Height	79 - 89	86	Pass
D	H-point from Seatback	141 - 151	147	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	120	Pass
G	Head Breadth	140 - 148	141	Pass
H	Head Back from Backline	40 - 46	45	Pass
I	Head Depth	178 - 188	182	Pass
J	Head Circumference	541 - 551	550	Pass
K	Buttock to Knee Length	514 - 540	538	Pass
L	Popliteal Height	343 - 369	349	Pass
M	Knee Pivot to Floor Height	392 - 409	394	Pass
N	Buttock Popliteal Length	416 - 442	435	Pass
O	Chest Depth w/o Jacket	195 - 211	198	Pass
P	Foot Length	216 - 232	222	Pass
Q	Hip Breadth (w/ pelvic plugs)	313 - 323	317	Pass
R	Arm Length	249 - 259	250	Pass
S	Knee Joint to Seatback	477 - 493	483	Pass
V	Shoulder Width	341 - 357	351	Pass
W	Foot Width	78 - 94	82	Pass
Y	Chest Circumference w/ jacket	851 - 881	863	Pass
Z	Waist Circumference	761 - 791	782	Pass

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

ATD Serial No: 306

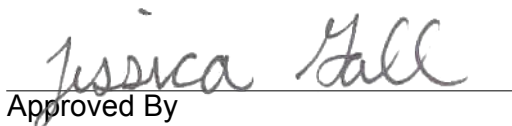
Test ID: D15261

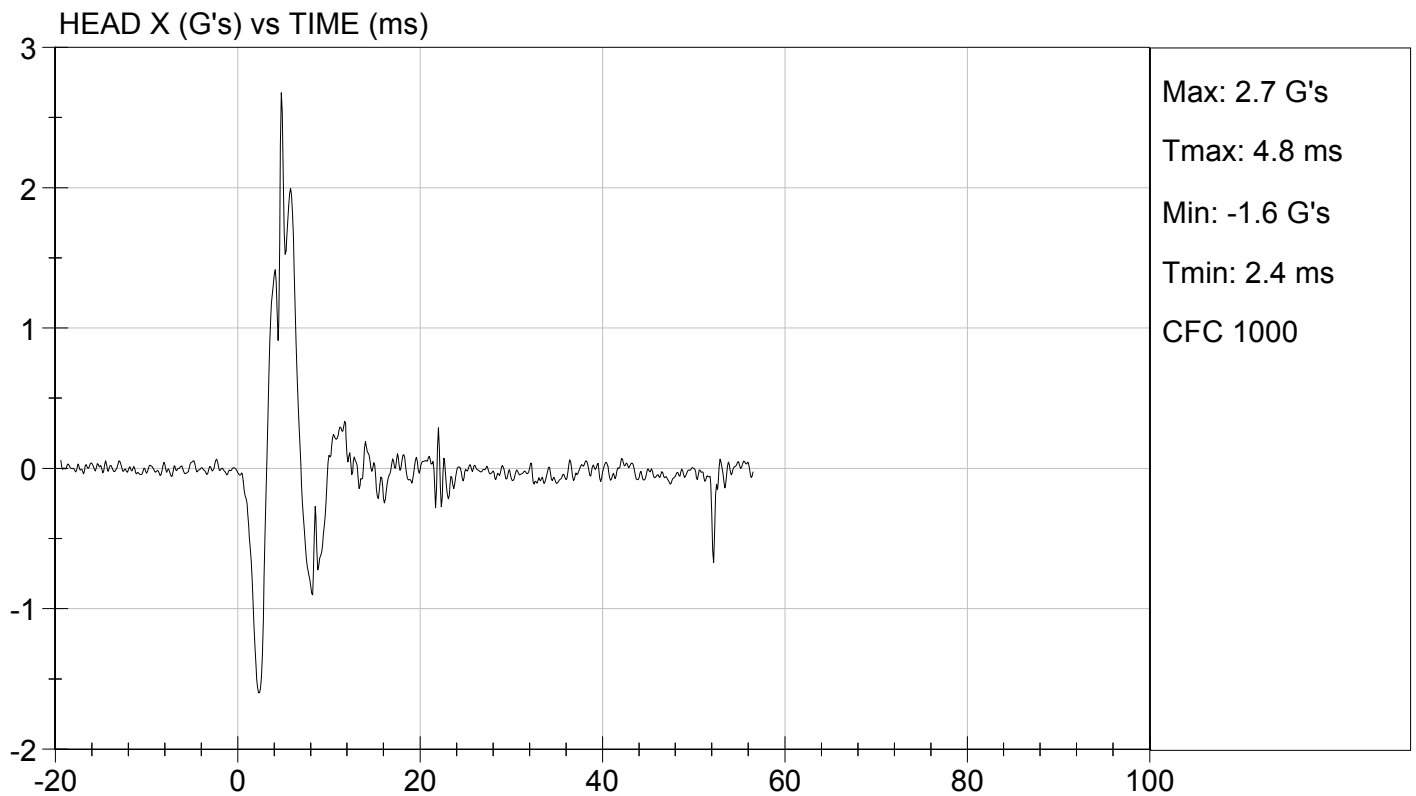
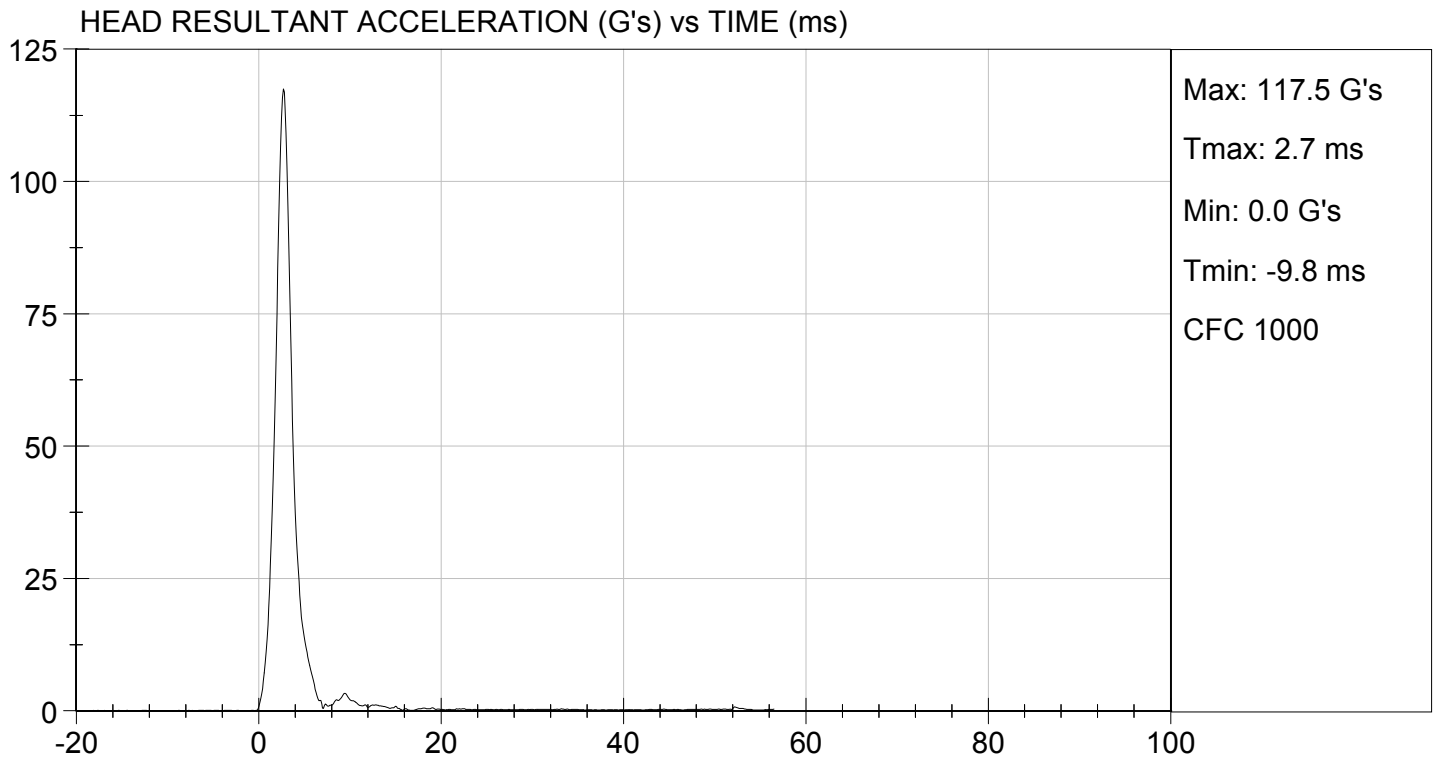
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	22	Pass
Peak Resultant Acceleration	G's	115 to 137	118	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.7	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
			Overall Test Results	Pass

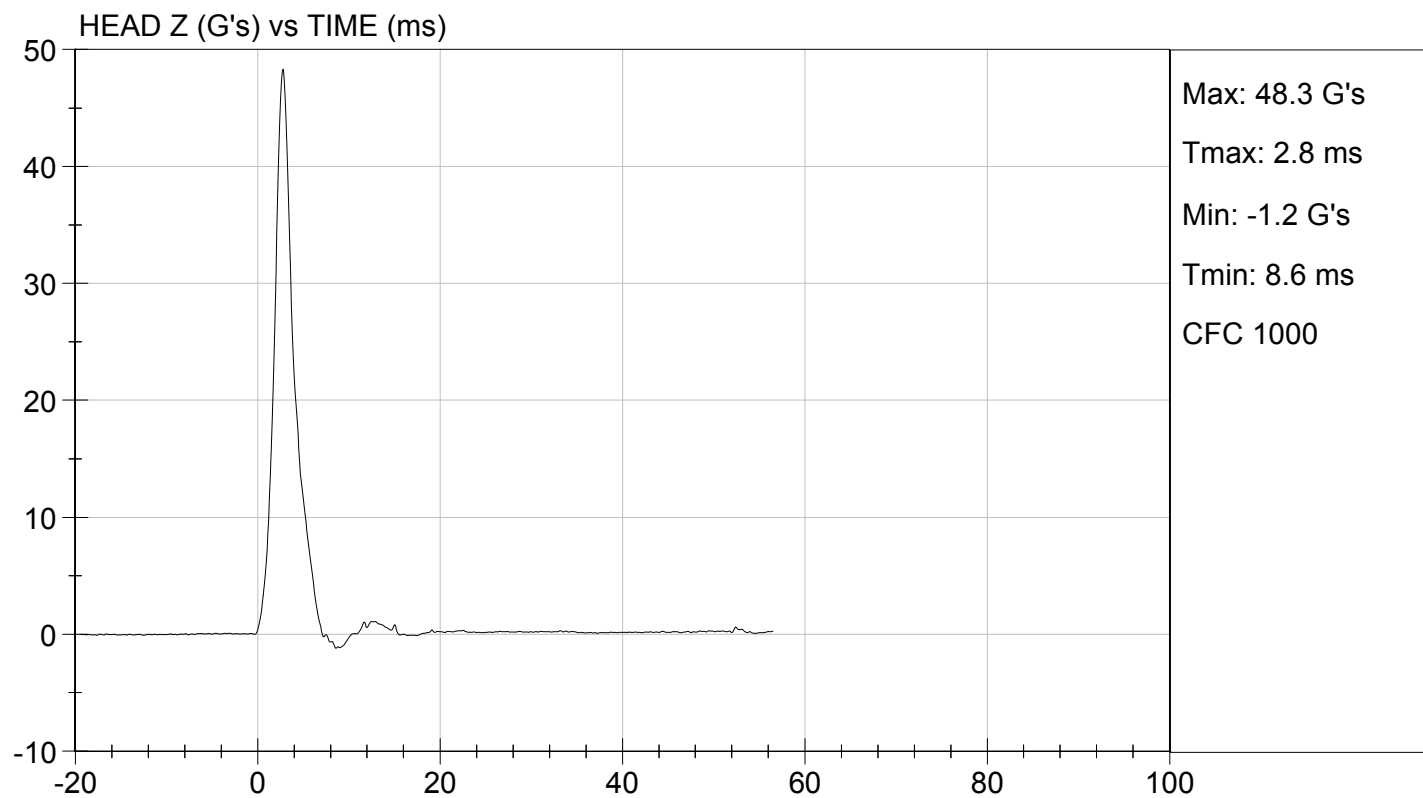
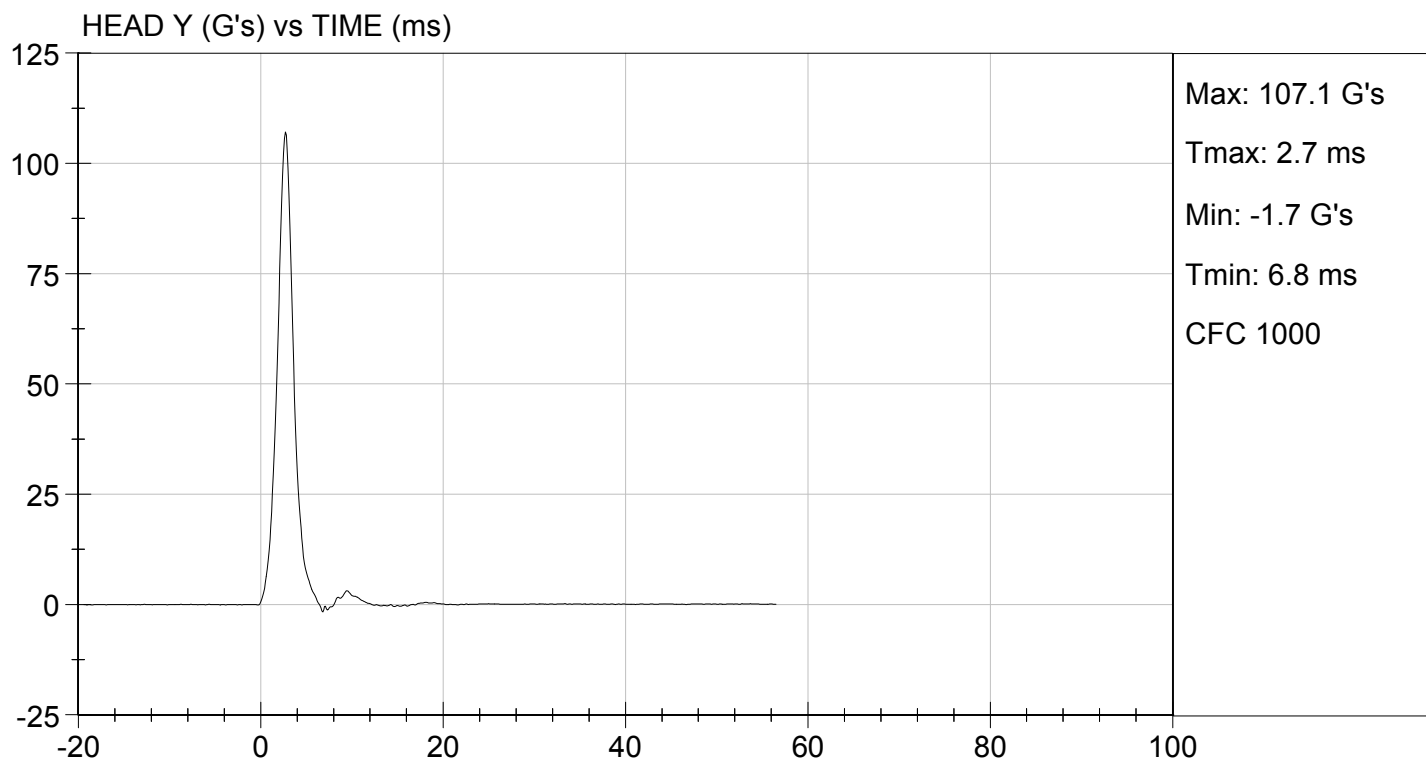

Laboratory Technician

01/27/2015

Test Date


Approved By





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

ATD Serial No: 306

Test I.D: D15262

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.4	Pass
Humidity		%	10 to 70	24	Pass
Impact Velocity		m/s	5.51 to 5.63	5.63	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.59	Pass
	15 ms	m/s	3.30 to 4.10	3.66	Pass
	20 ms	m/s	4.40 to 5.40	4.85	Pass
	25 ms	m/s	5.40 to 6.10	5.55	Pass
	25-100 ms	m/s	5.50 to 6.20	5.56	Pass
Maximum D-Plane Rotation		deg	71 to 81	76	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	63	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-38	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	126	Pass
Overall Test Results					Pass

David Schoedel
Laboratory Technician

01/27/2015

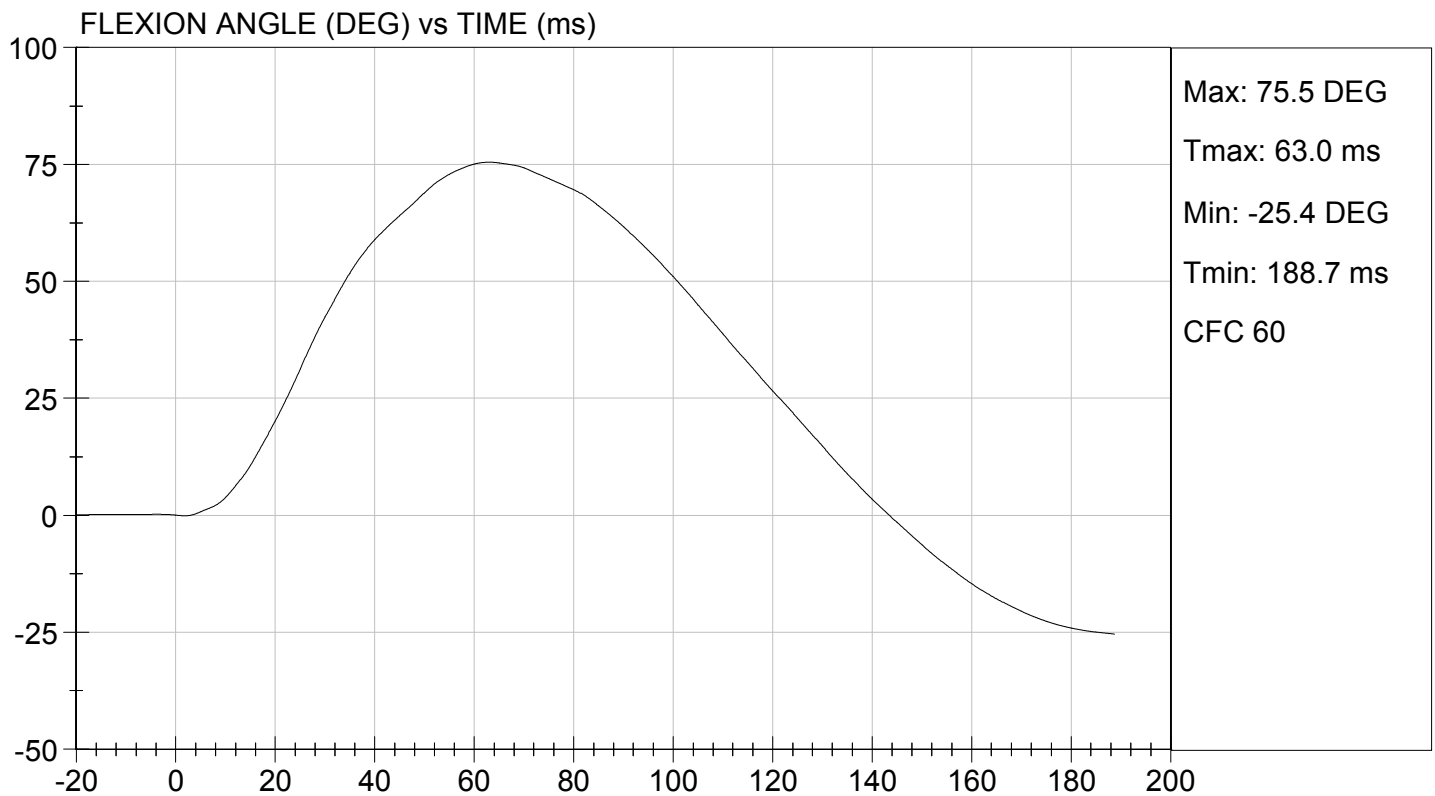
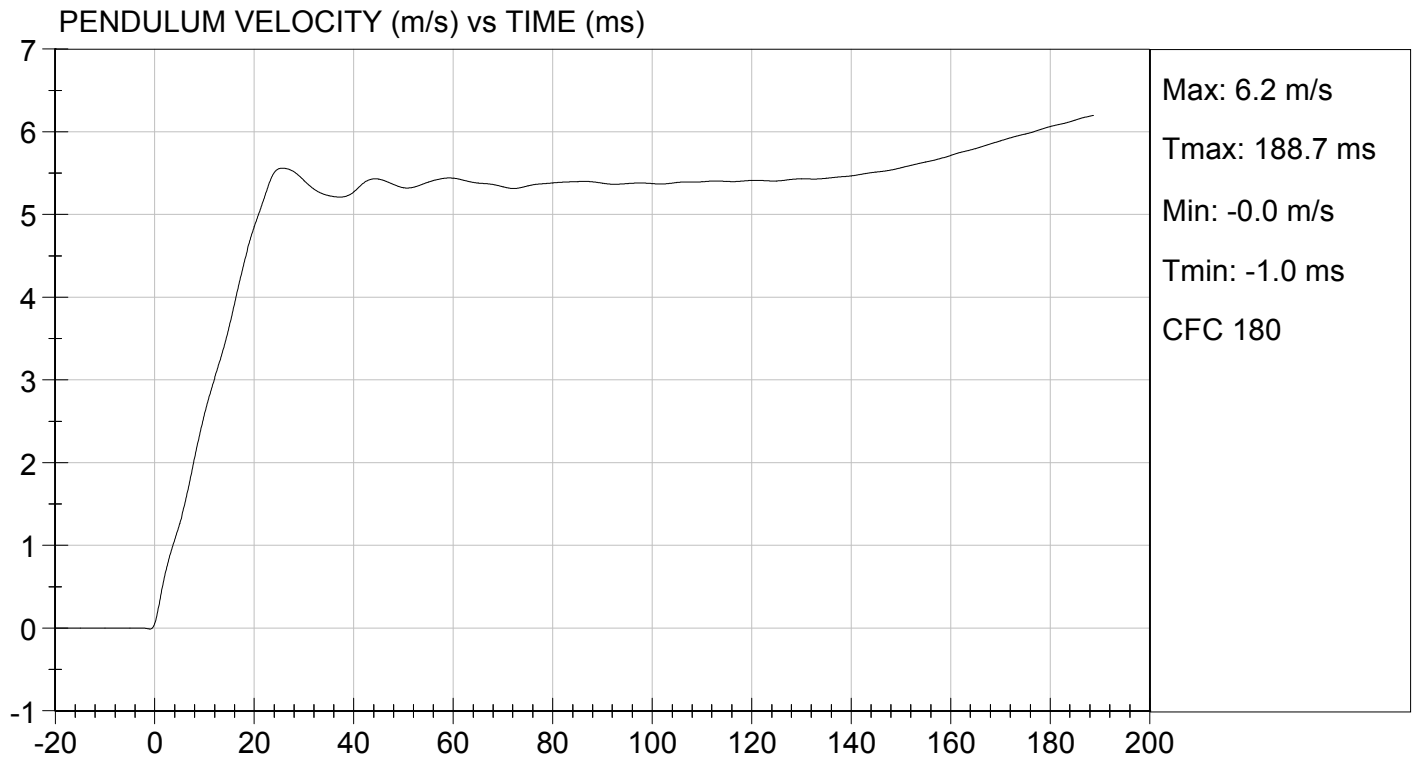
Test Date

Jessica Hall
Approved By



TEST DESC: NECK BENDING
VELOCITY: 18.47 ft/s, 5.63 m/s

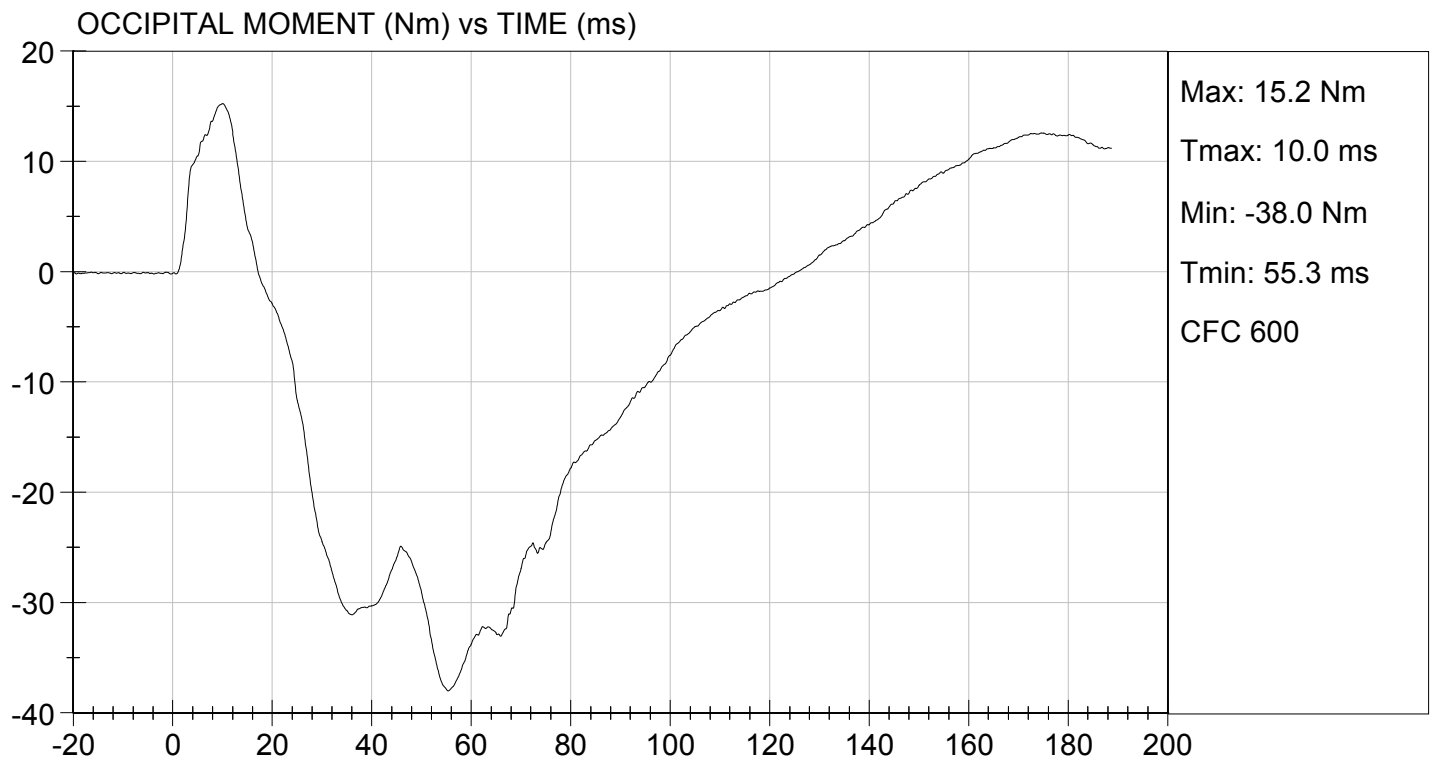
TEST DATE: 01/27/2015
TEST #: D15262





TEST DESC: NECK BENDING
VELOCITY: 18.47 ft/s, 5.63 m/s

TEST DATE: 01/27/2015
TEST #: D15262



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

ATD Serial No: 306

Test ID: D15263

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	22	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	29	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	20	Pass
			Overall Test Results	Pass

David Schoedel
Laboratory Technician

01/27/2015

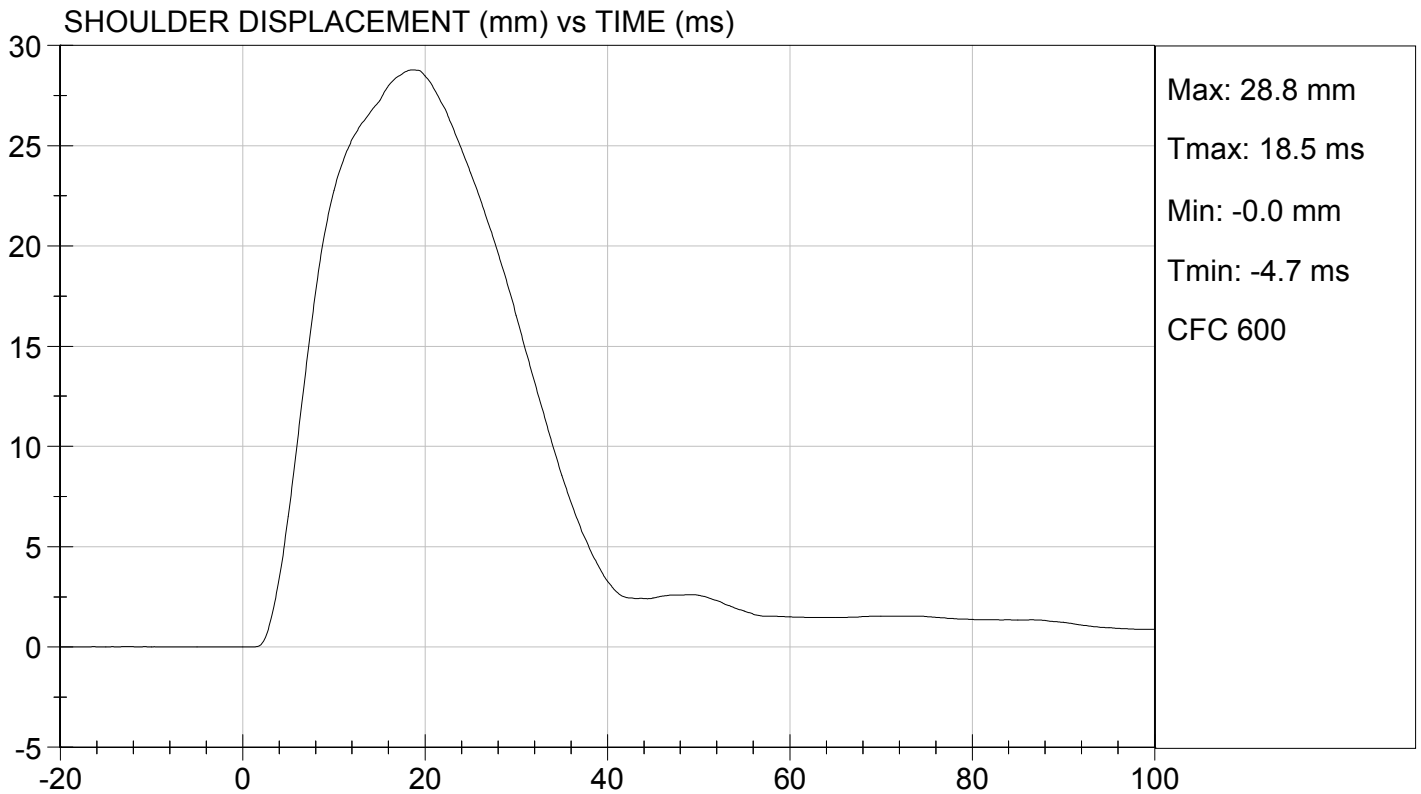
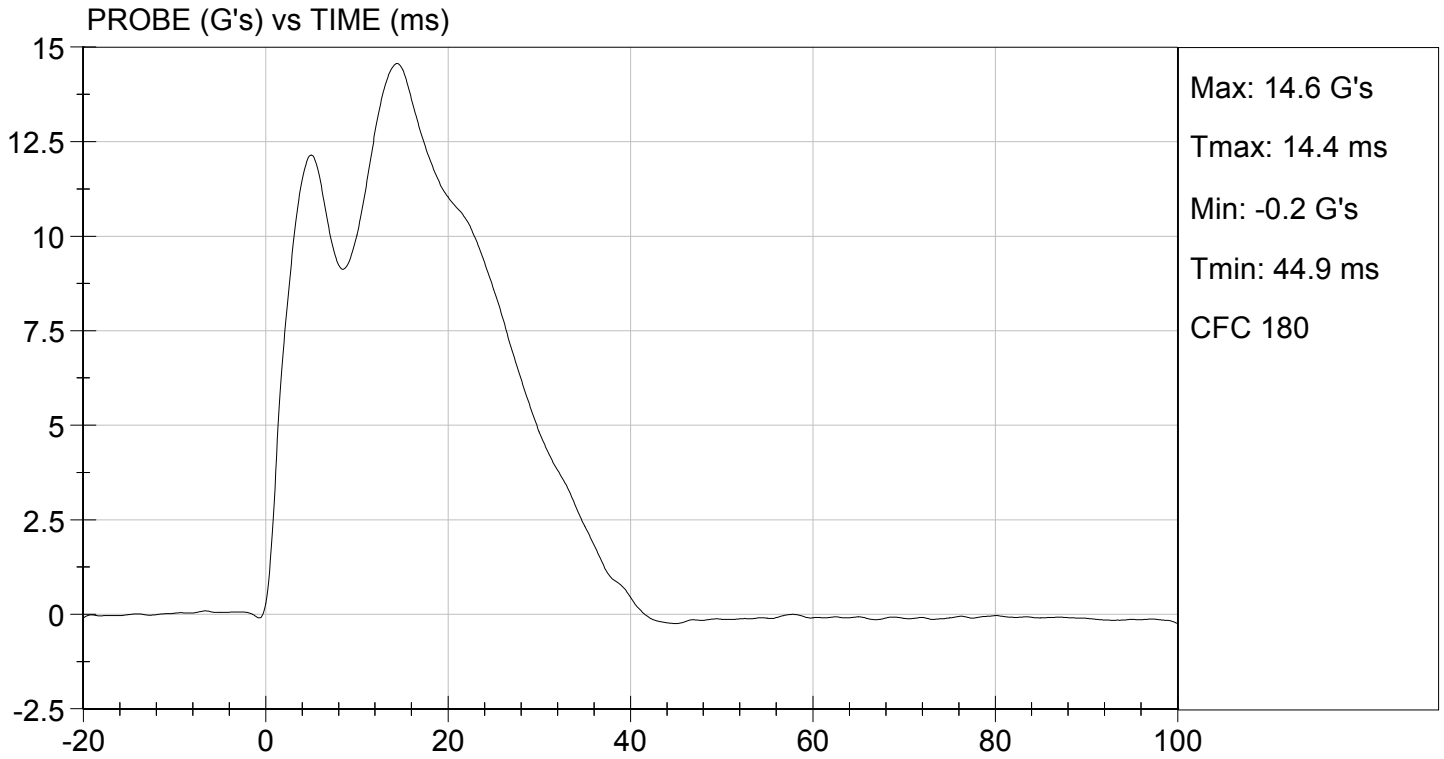
Test Date

Jessica Hall
Approved By



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

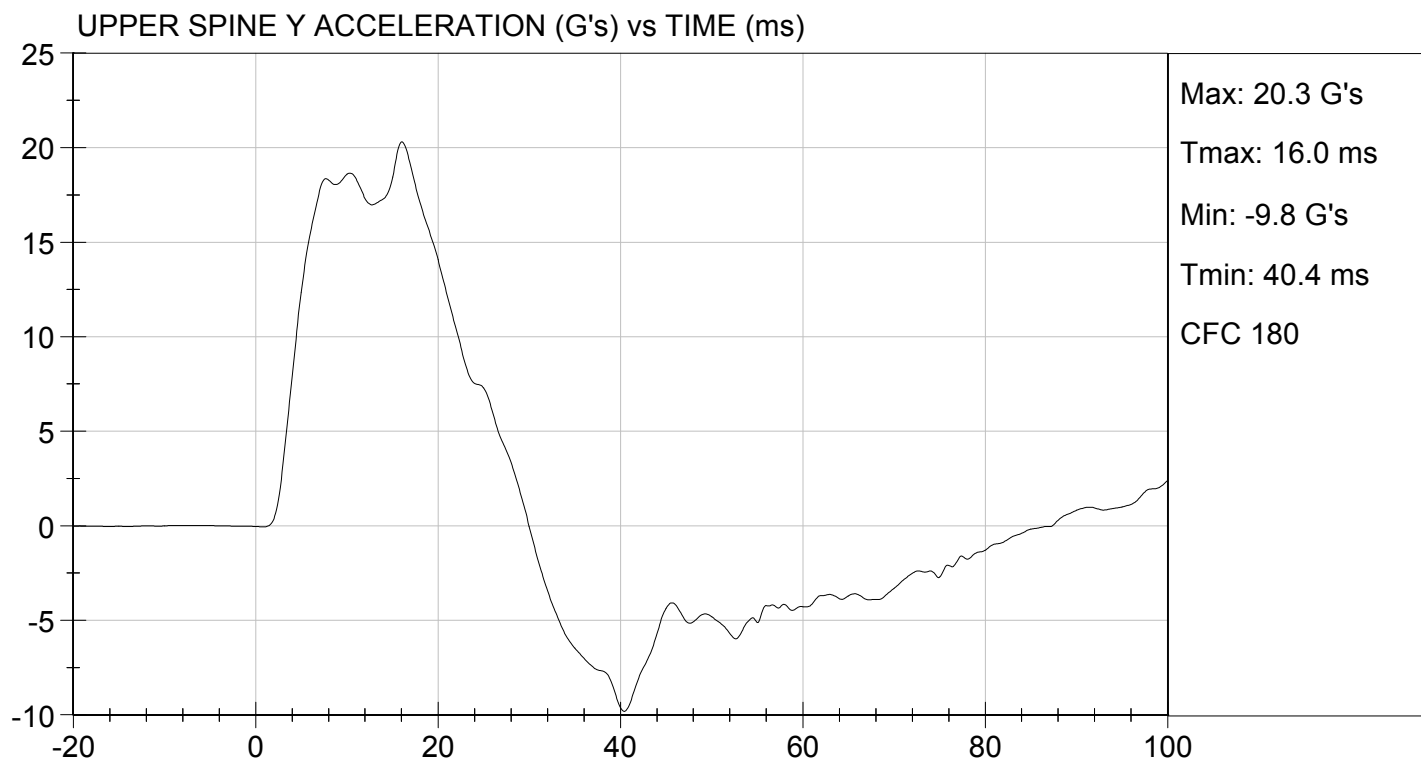
TEST DATE: 01/27/2015
TEST #: D15263





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

TEST DATE: 01/27/2015
TEST #: D15263



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

ATD Serial No: 306

Test I.D: D15264

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	22	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	30 to 36	34	Pass
Shoulder Displacement	mm	31 to 40	35	Pass
Upper Rib Displacement	mm	25 to 32	28	Pass
Middle Rib Displacement	mm	30 to 36	31	Pass
Lower Rib Displacement	mm	32 to 38	34	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	39	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	33	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/27/2015

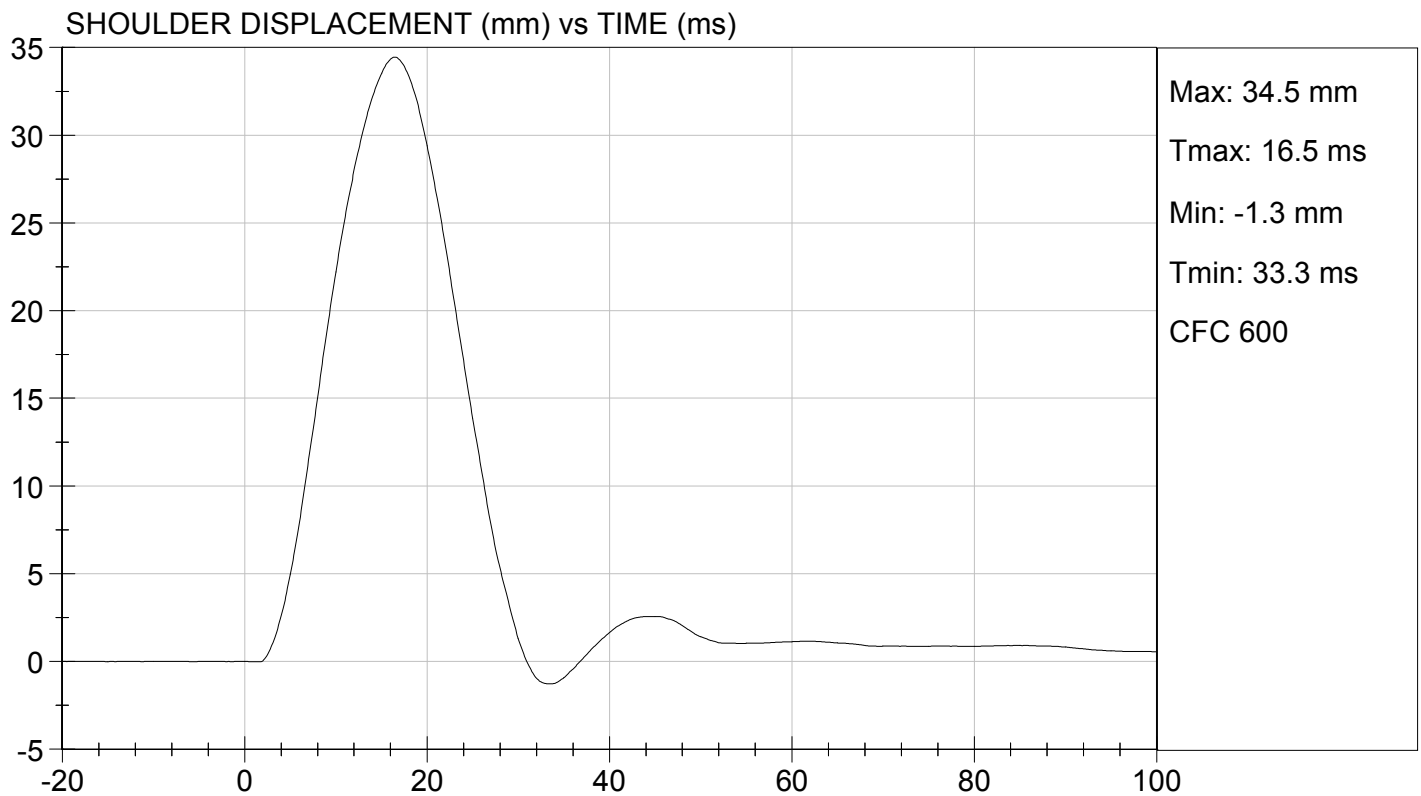
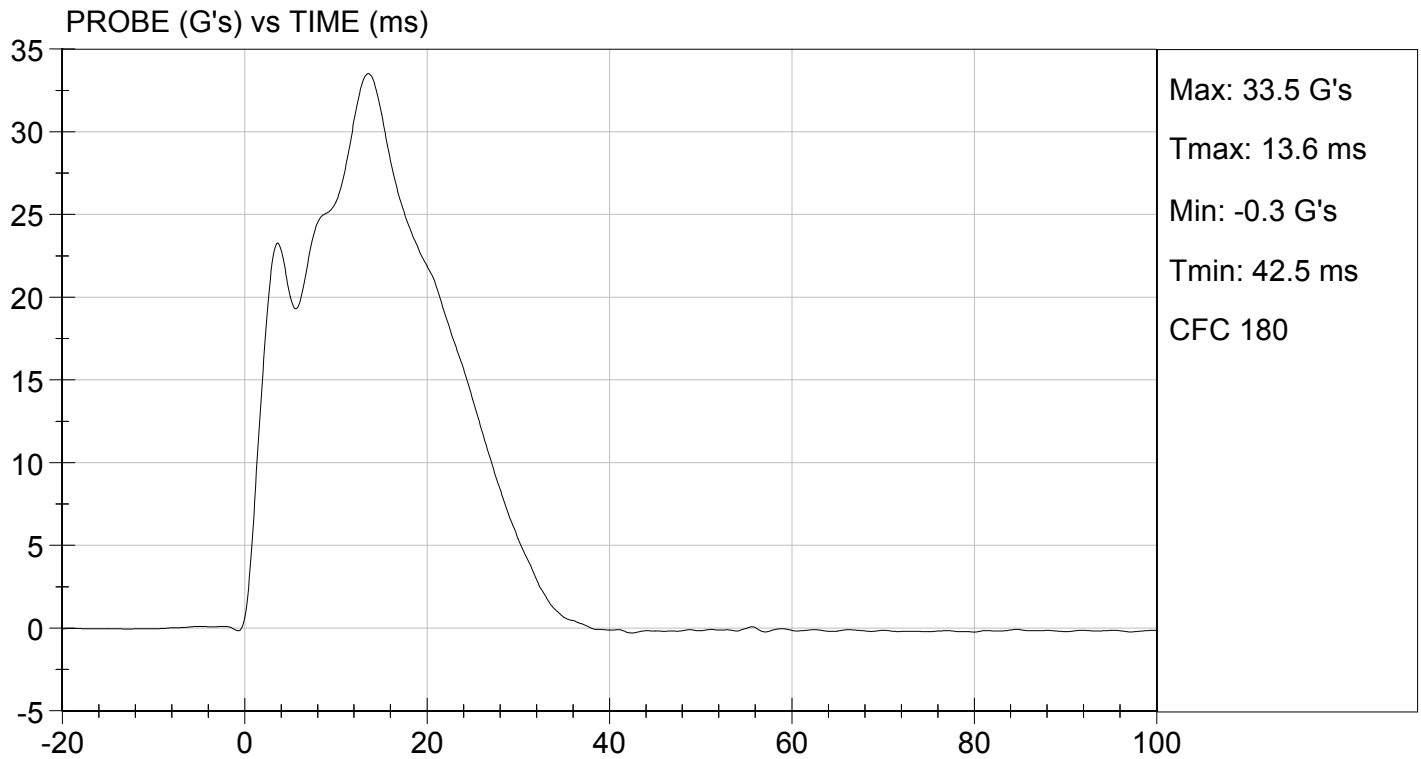
Test Date

Jessica Hall
Approved By



TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

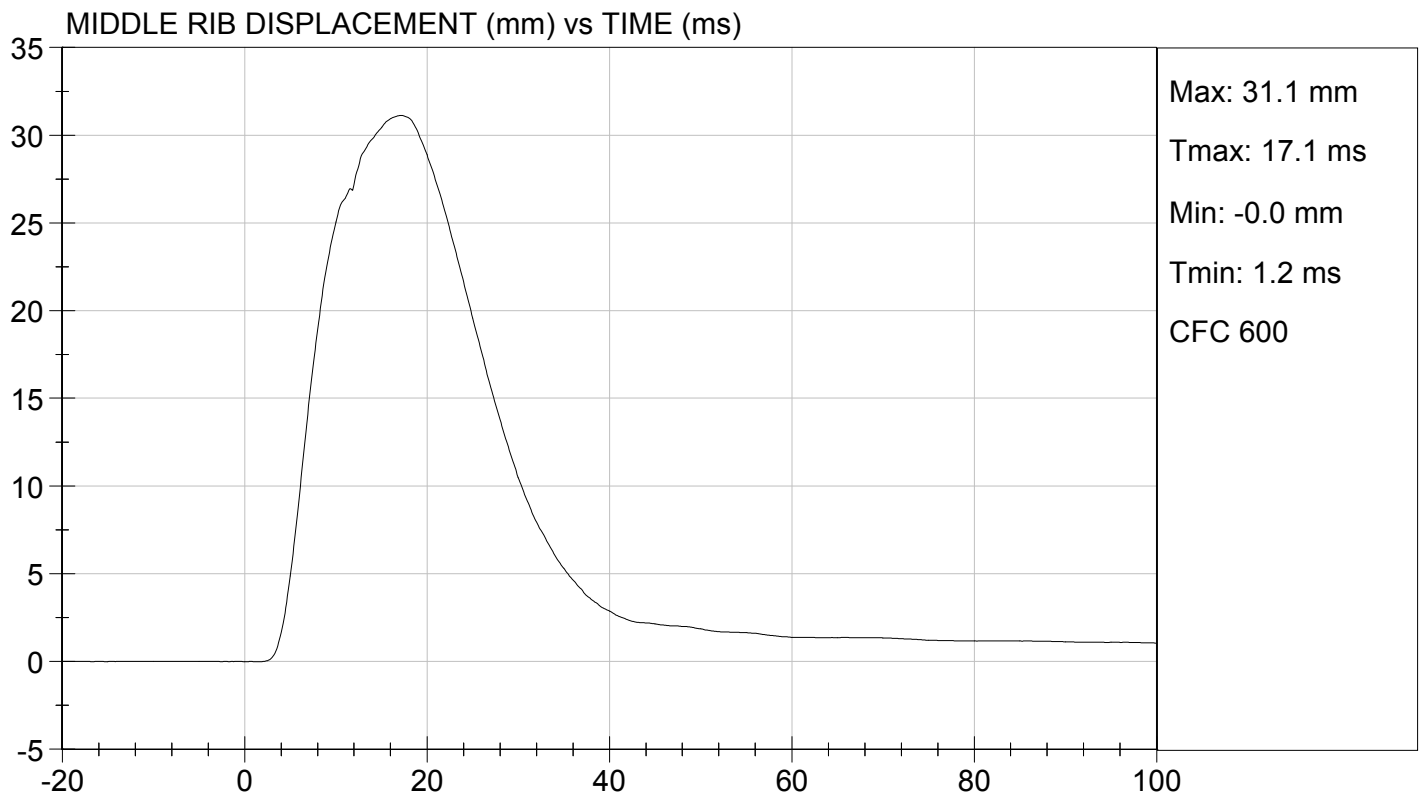
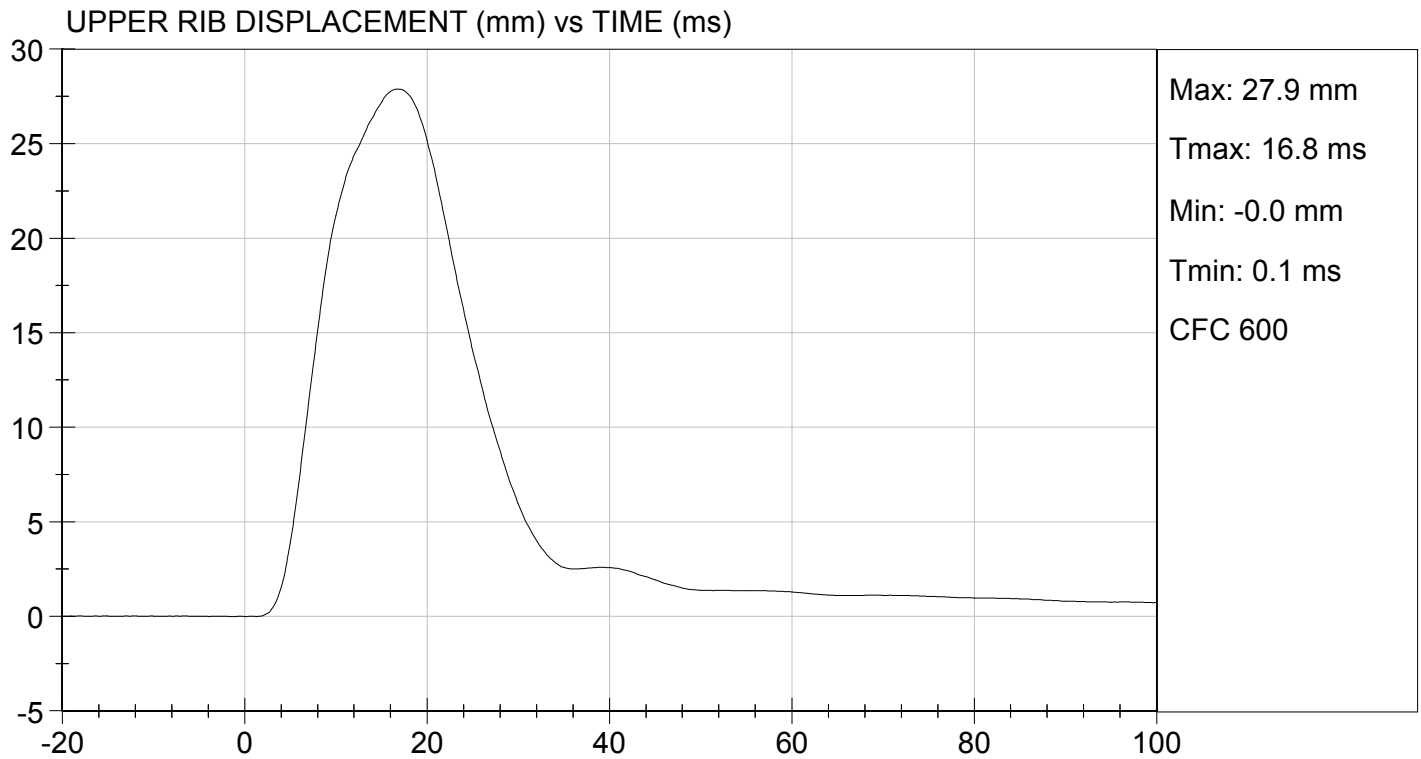
TEST DATE: 01/27/2015
TEST #: D15264





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

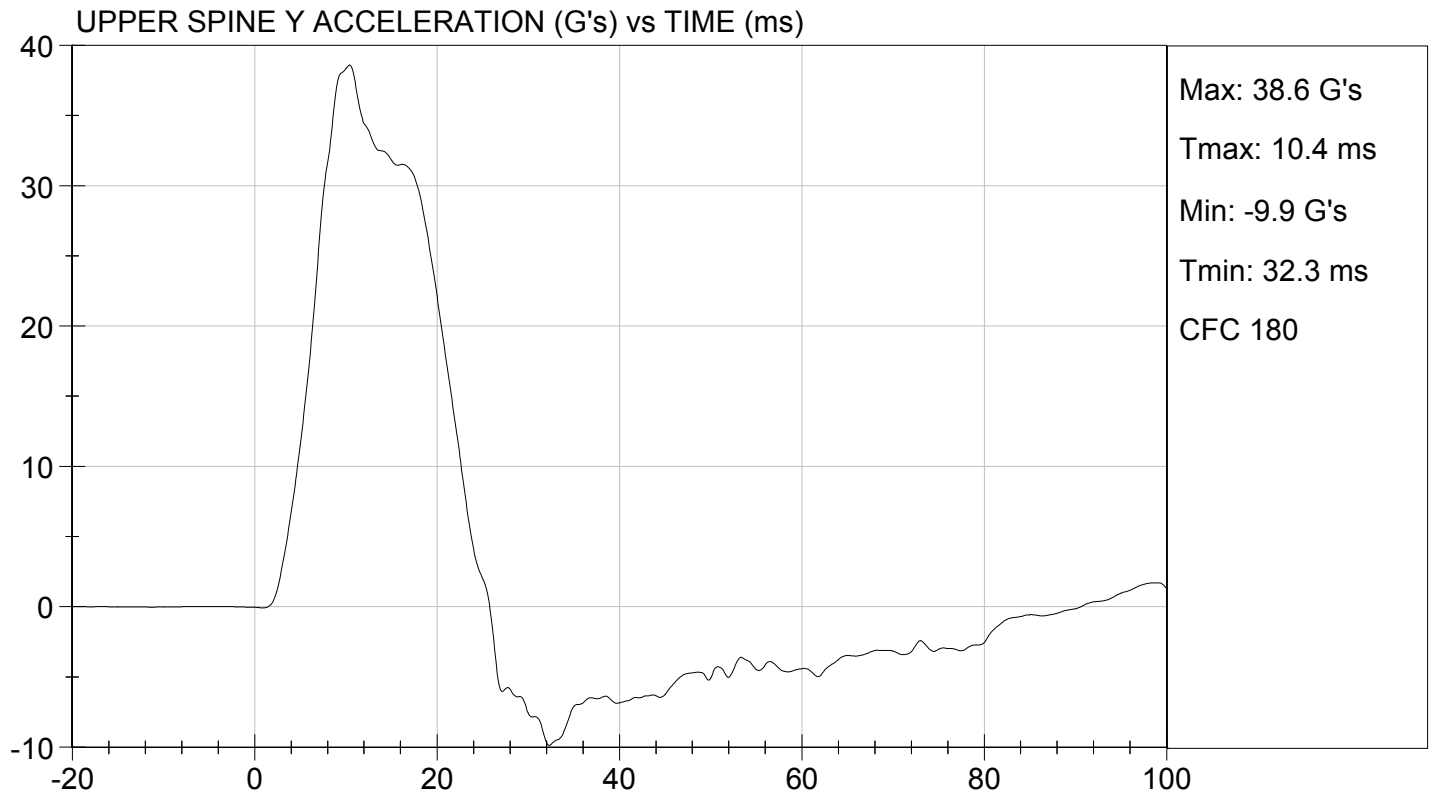
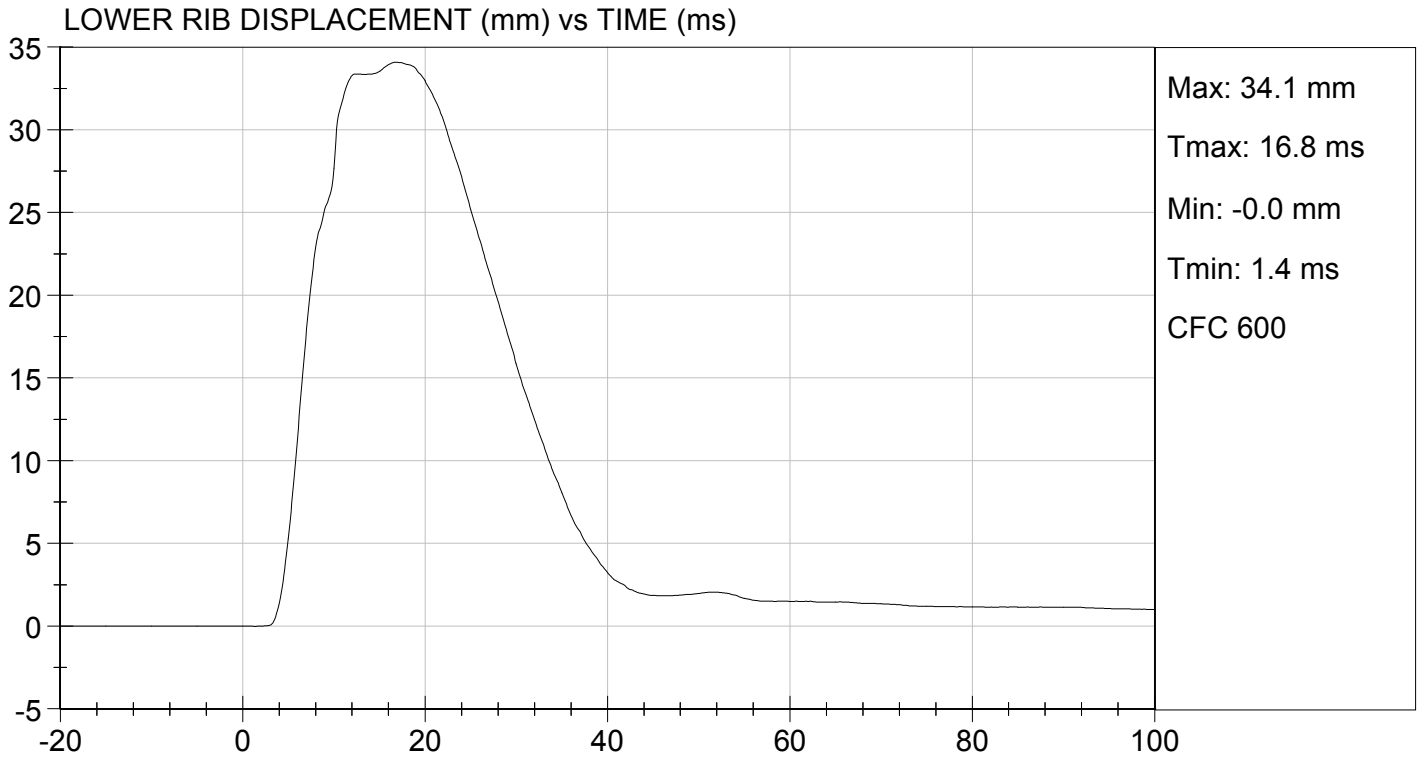
TEST DATE: 01/27/2015
TEST #: D15264





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

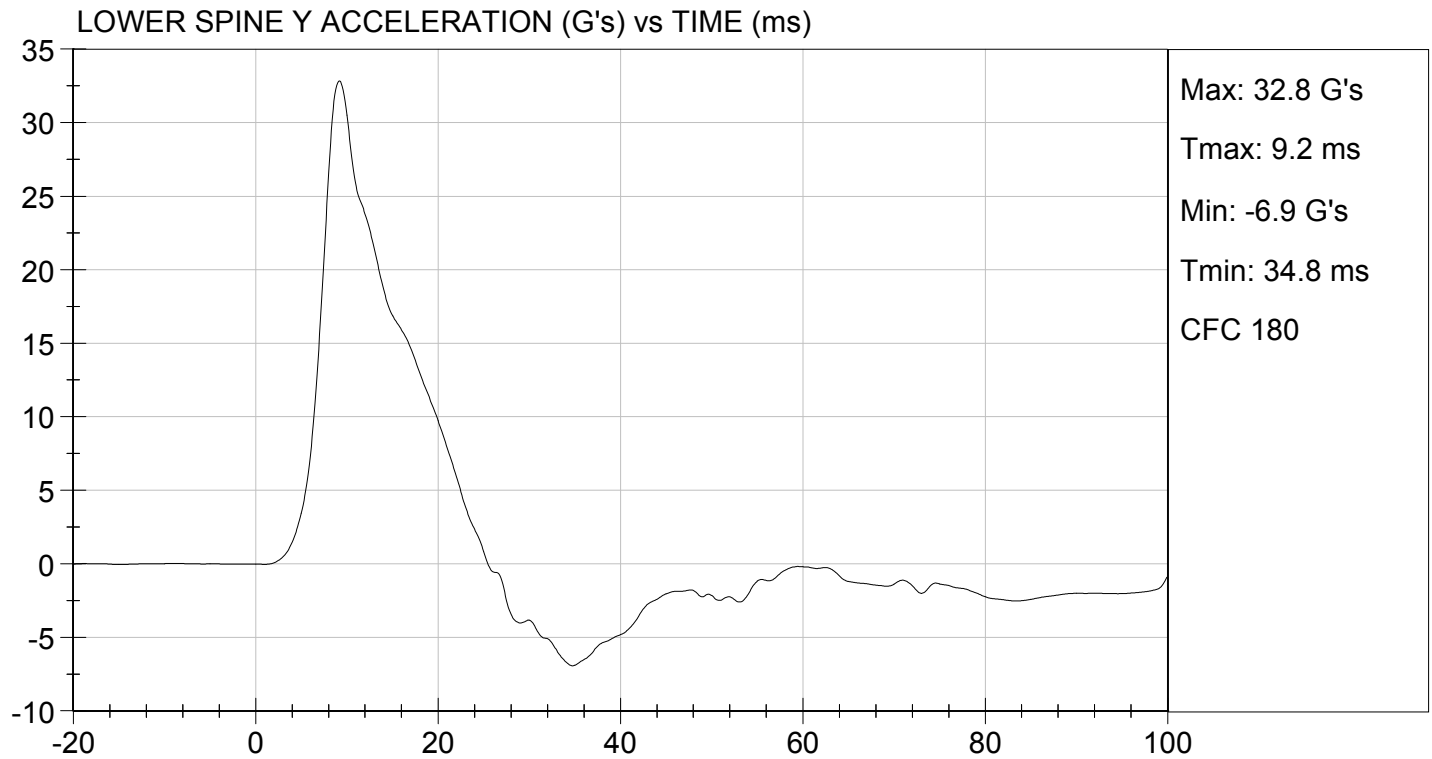
TEST DATE: 01/27/2015
TEST #: D15264





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.93 ft/s, 6.68 m/s

TEST DATE: 01/27/2015
TEST #: D15264

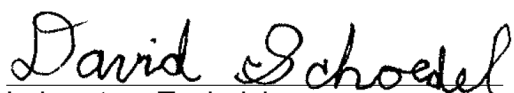


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

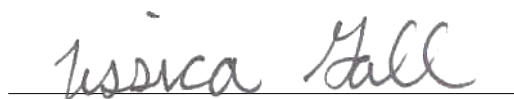
Test I.D: D15265

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	22	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	36	Pass
Middle Rib Displacement	mm	39 to 45	40	Pass
Lower Rib Displacement	mm	35 to 43	38	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	15	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	8	Pass
Overall Test Results				Pass


Laboratory Technician

01/27/2015

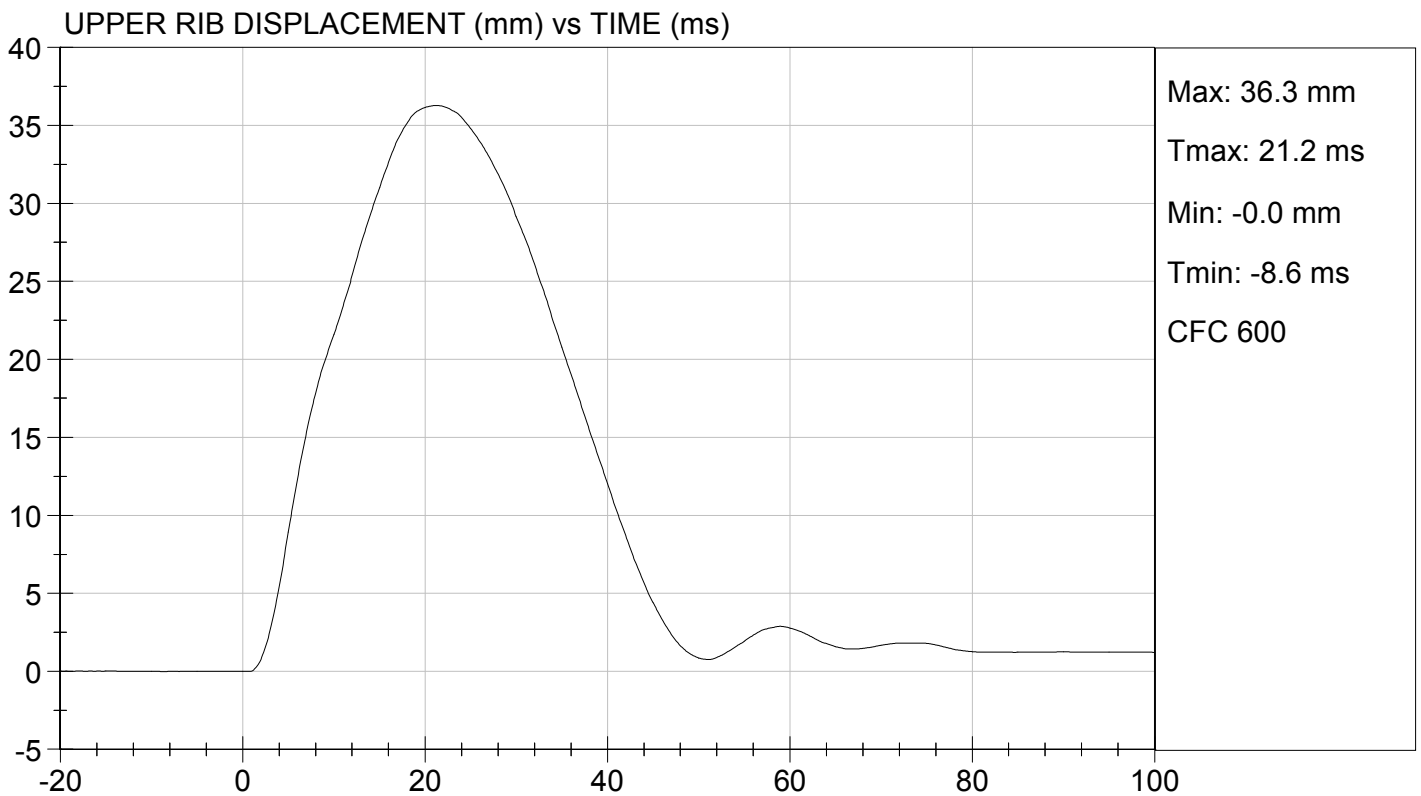
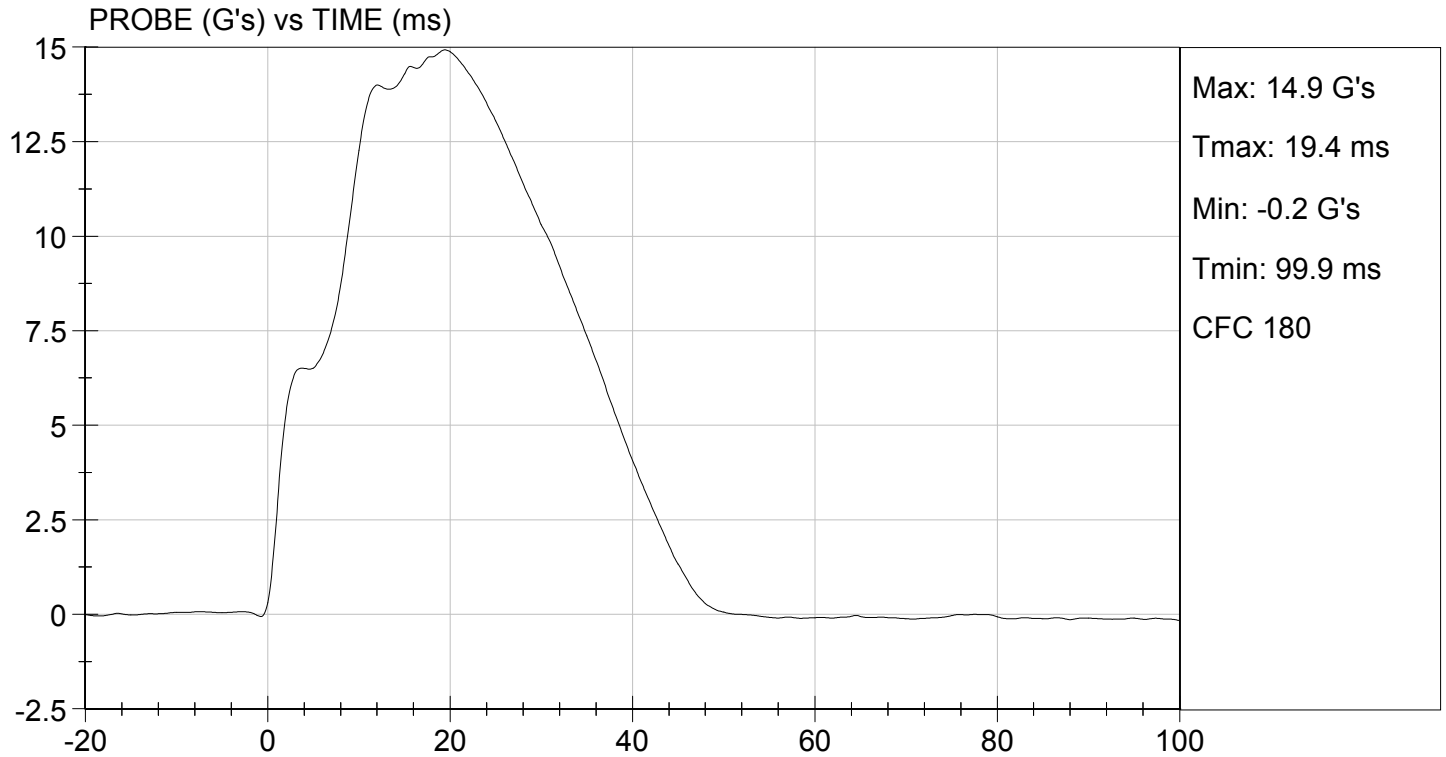
Test Date


Approved By



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

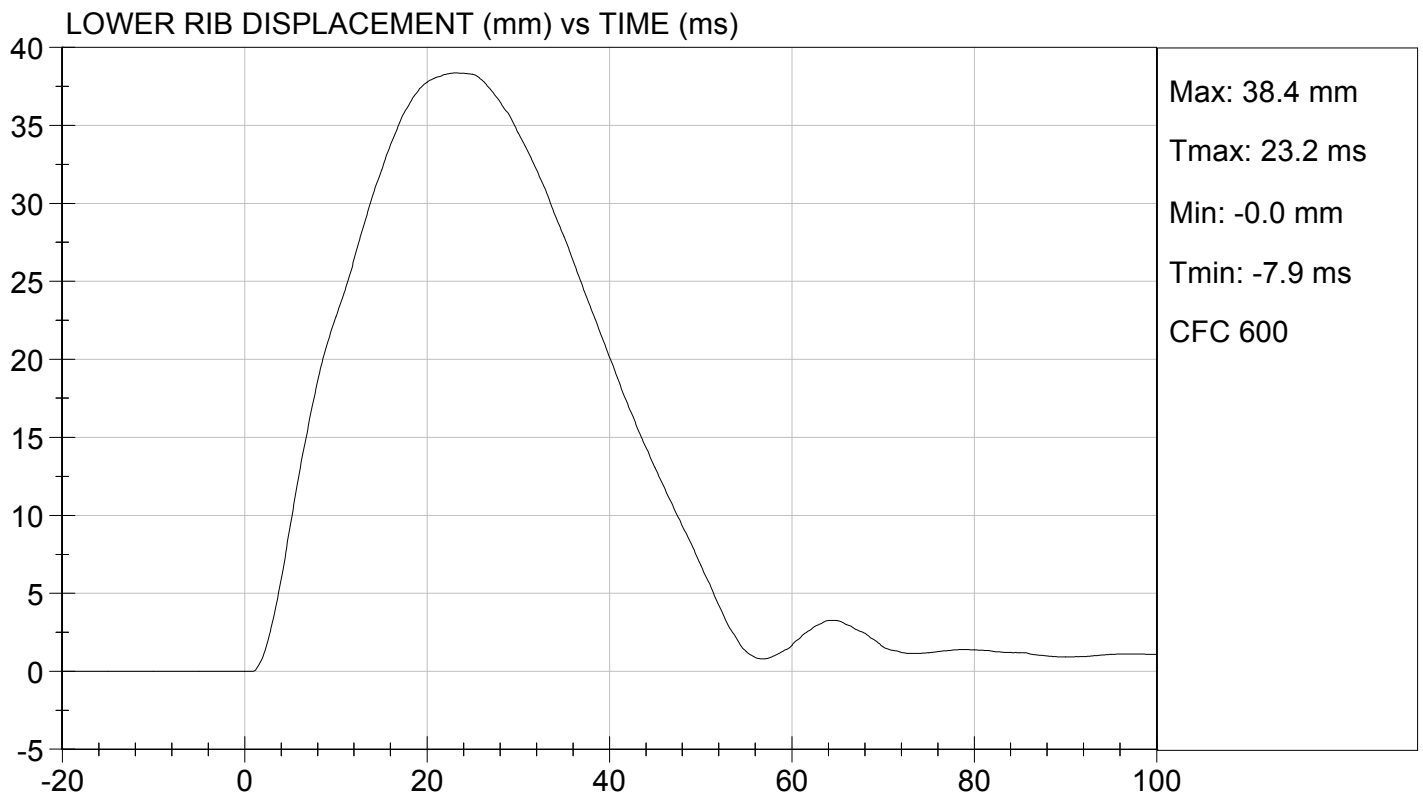
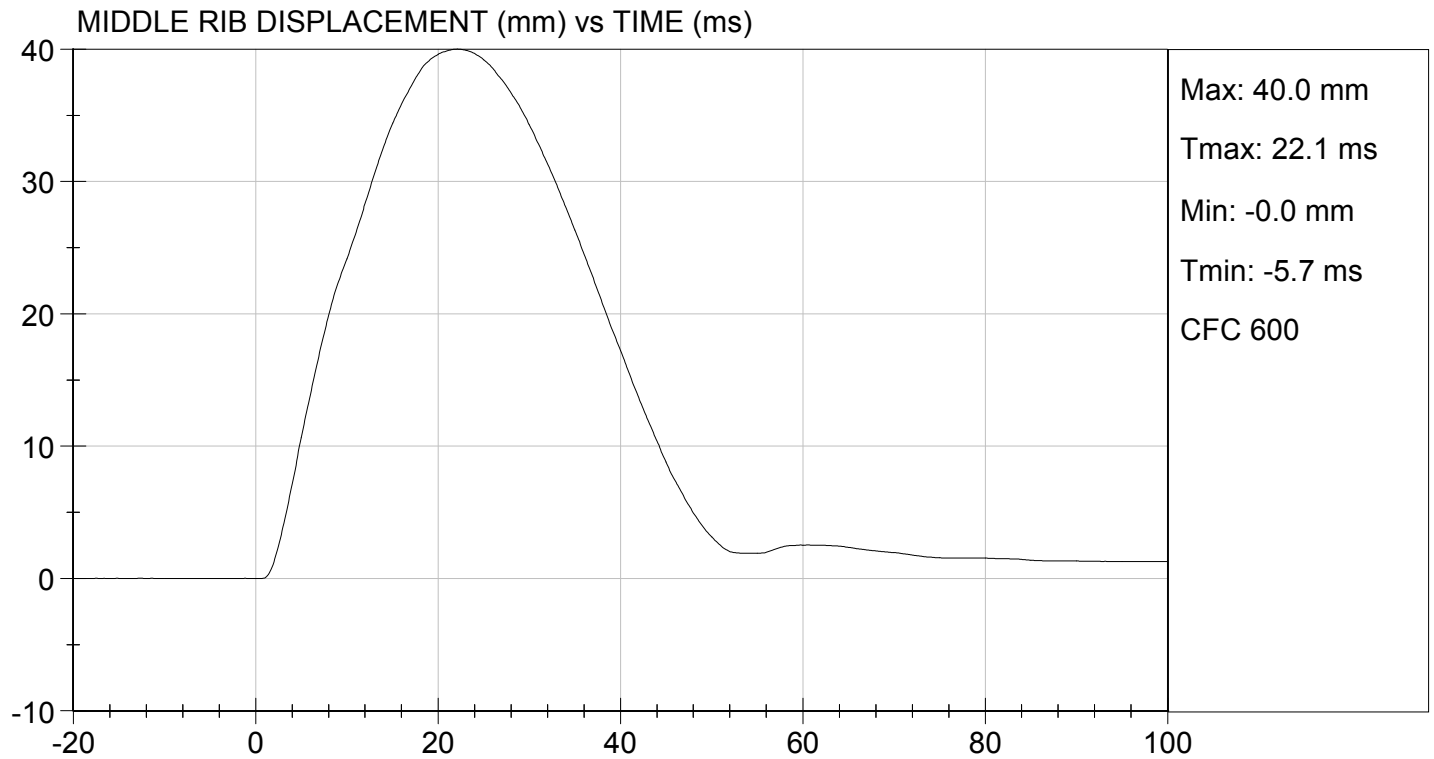
TEST DATE: 01/27/2015
TEST #: D15265





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

TEST DATE: 01/27/2015
TEST #: D15265

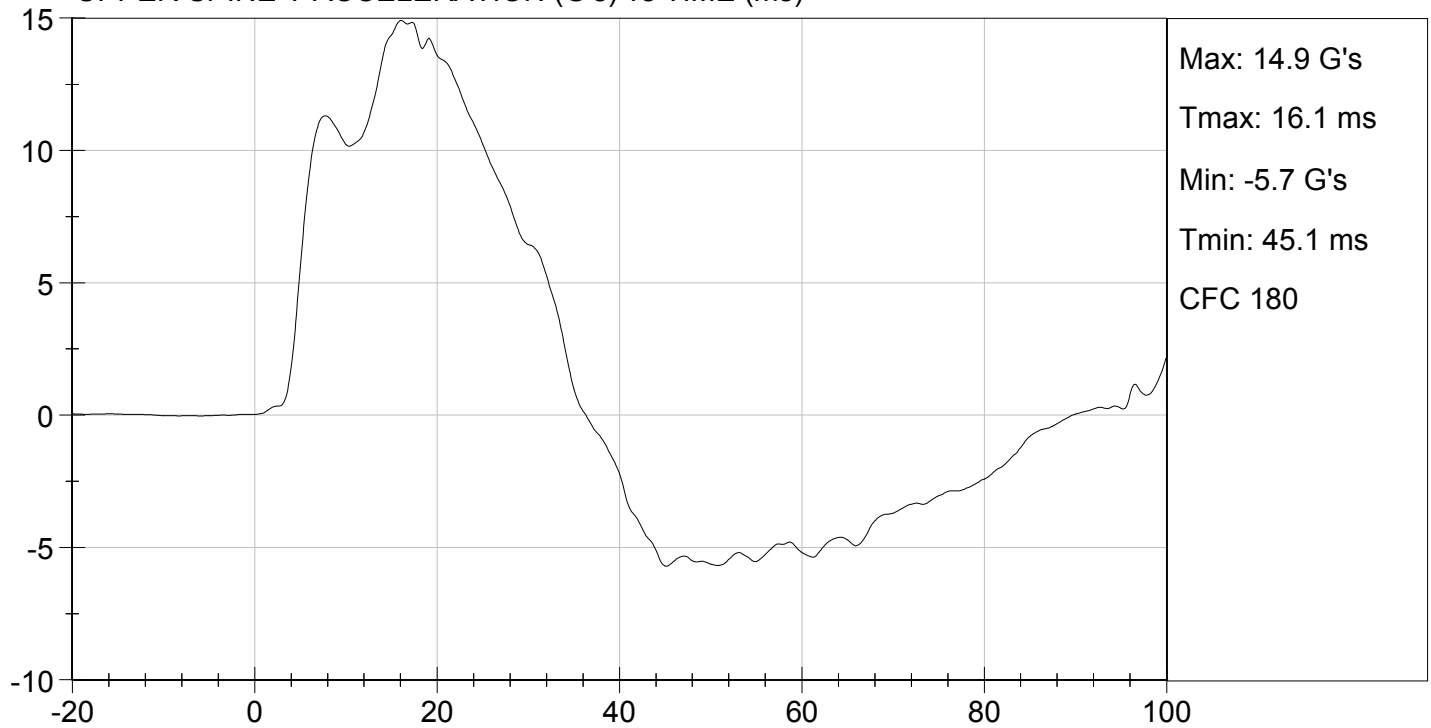




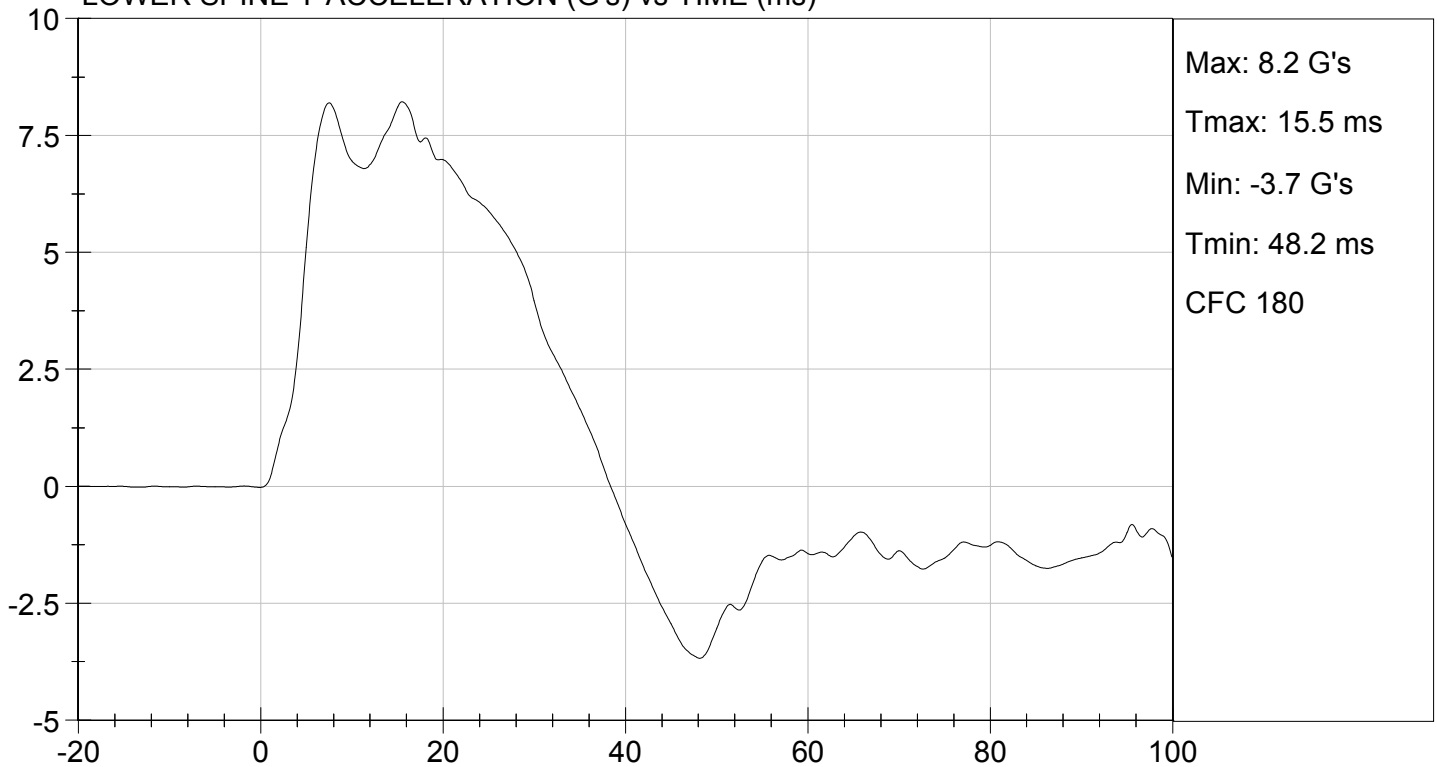
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 01/27/2015
TEST #: D15265

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: 306

Test I.D: D15266

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	22	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	40	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	38	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/27/2015

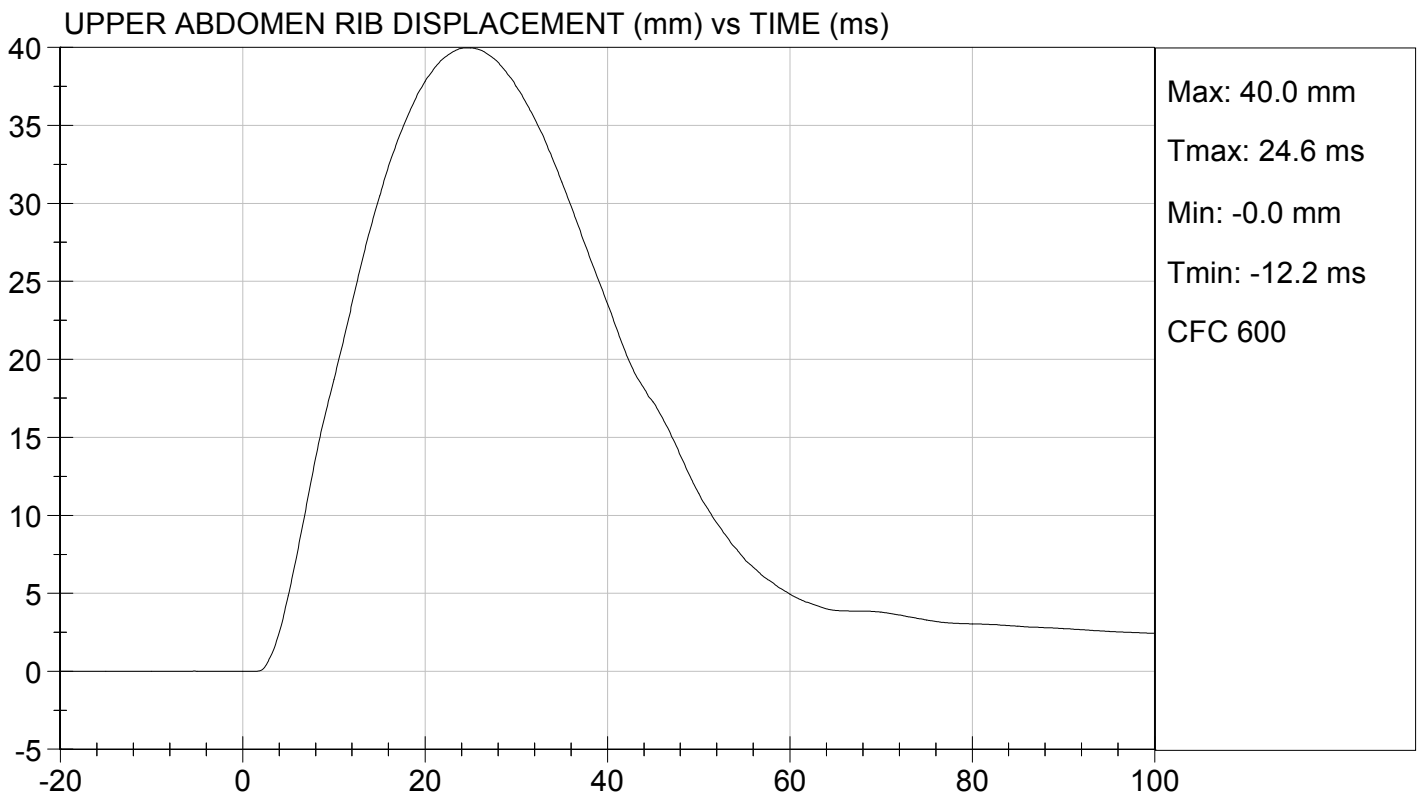
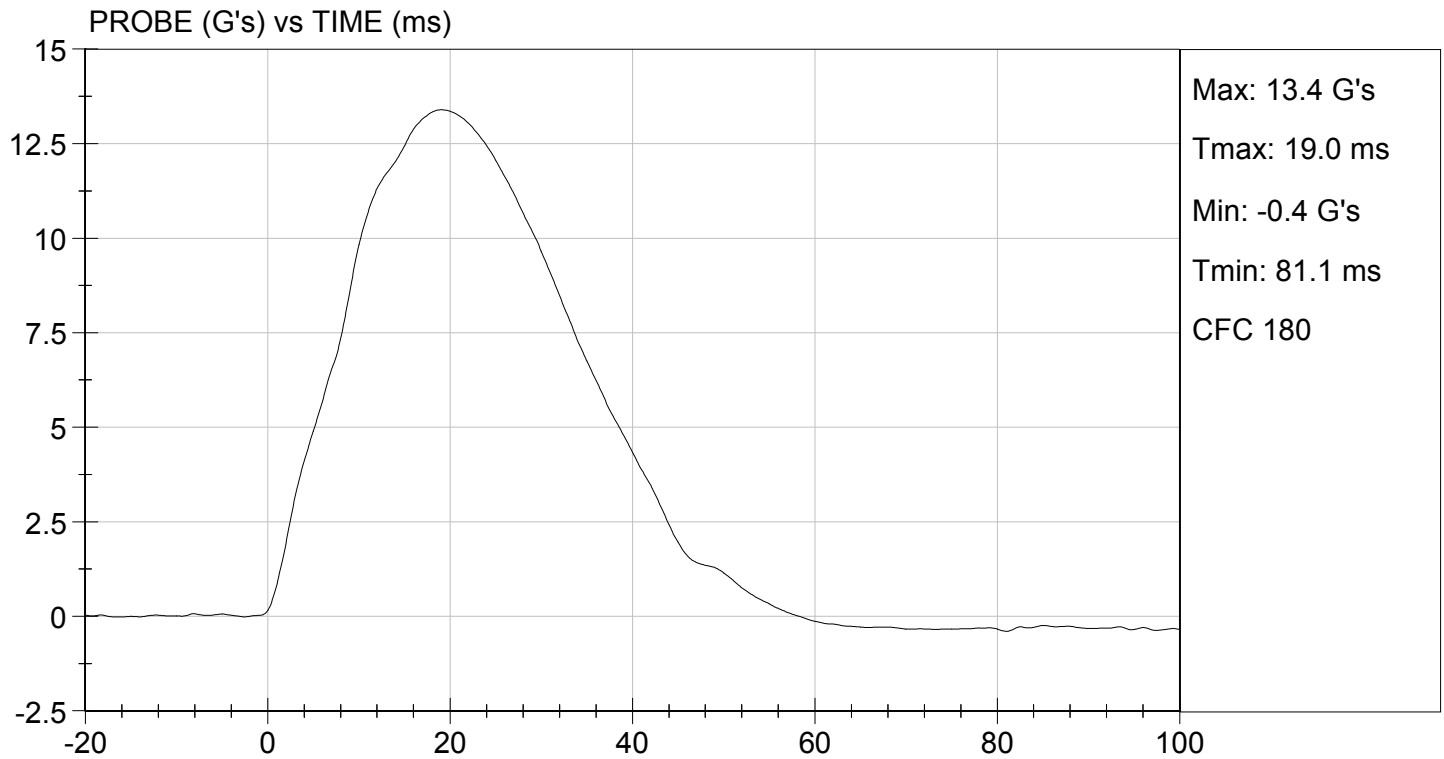
Test Date

Jessica Hall
Approved By



TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 01/27/2015
TEST #: D15266

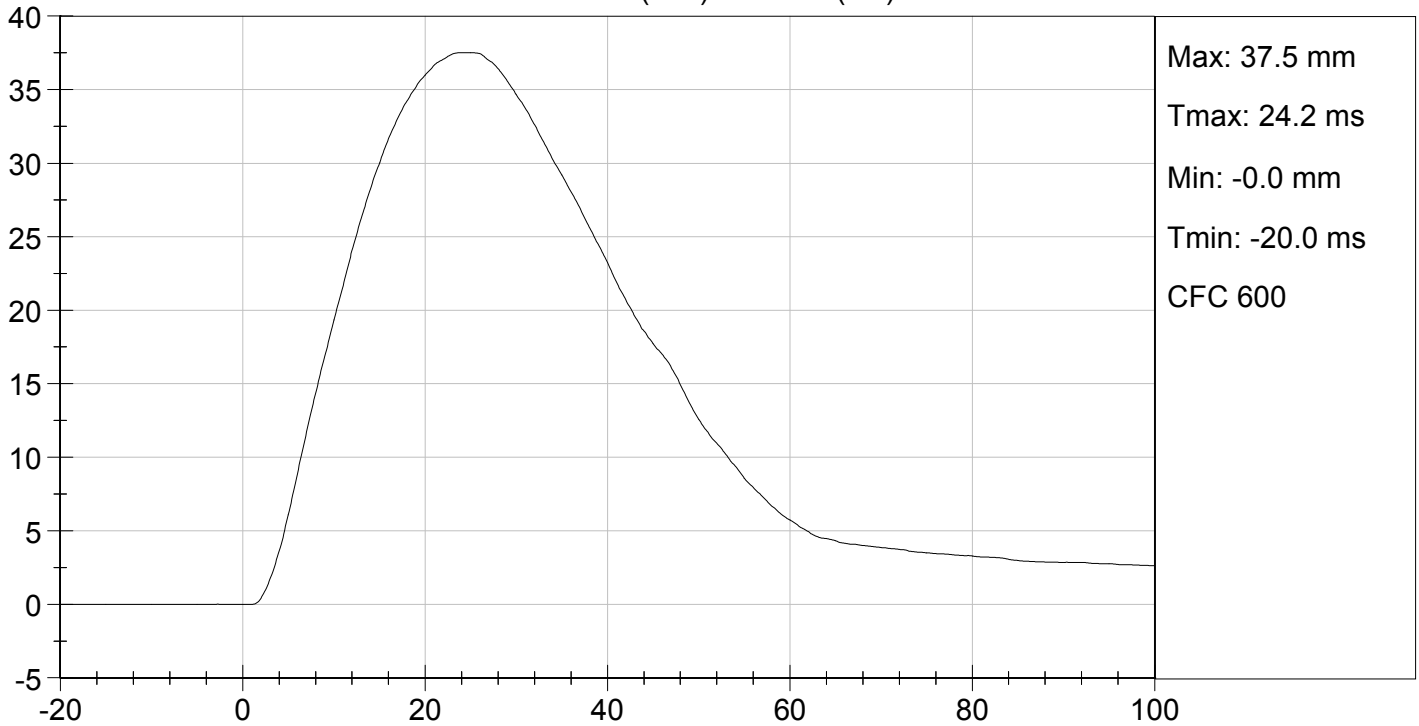




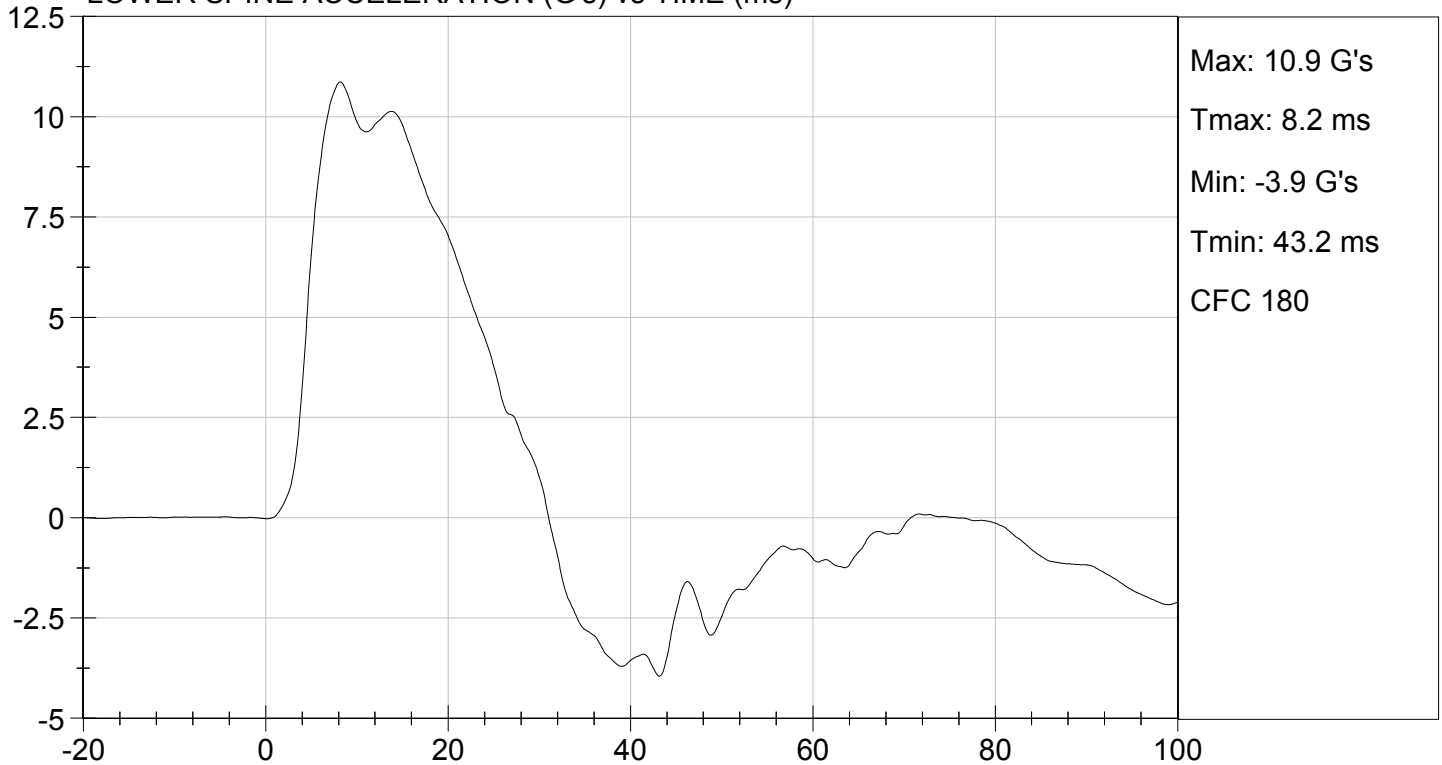
TEST DESC: ABDOMEN IMPACT
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 01/27/2015
TEST #: D15266

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: 306

Test I.D: D15267

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	22	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	45	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	42	Pass
Peak Acetabulum Force	N	3600 to 4300	4,253	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/27/2015

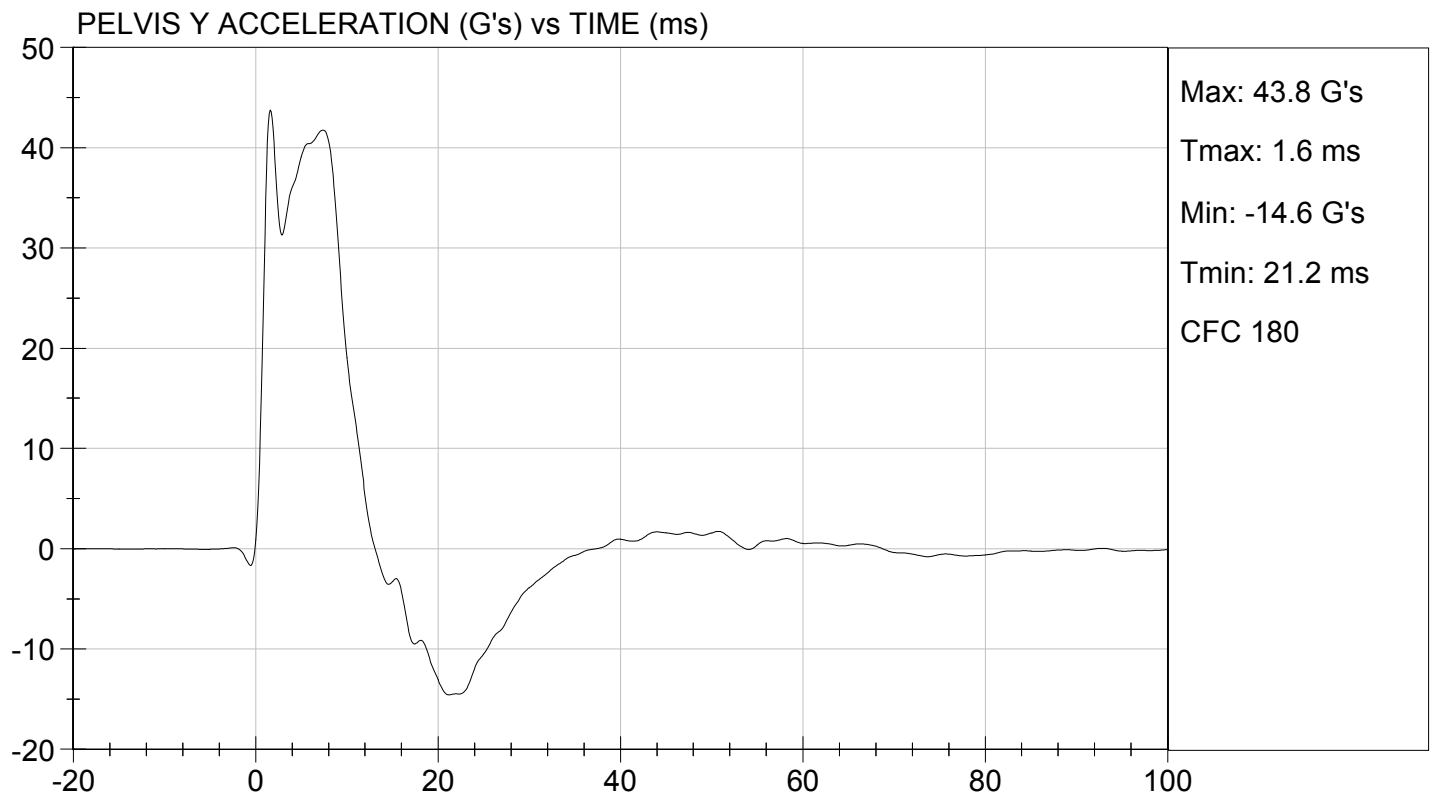
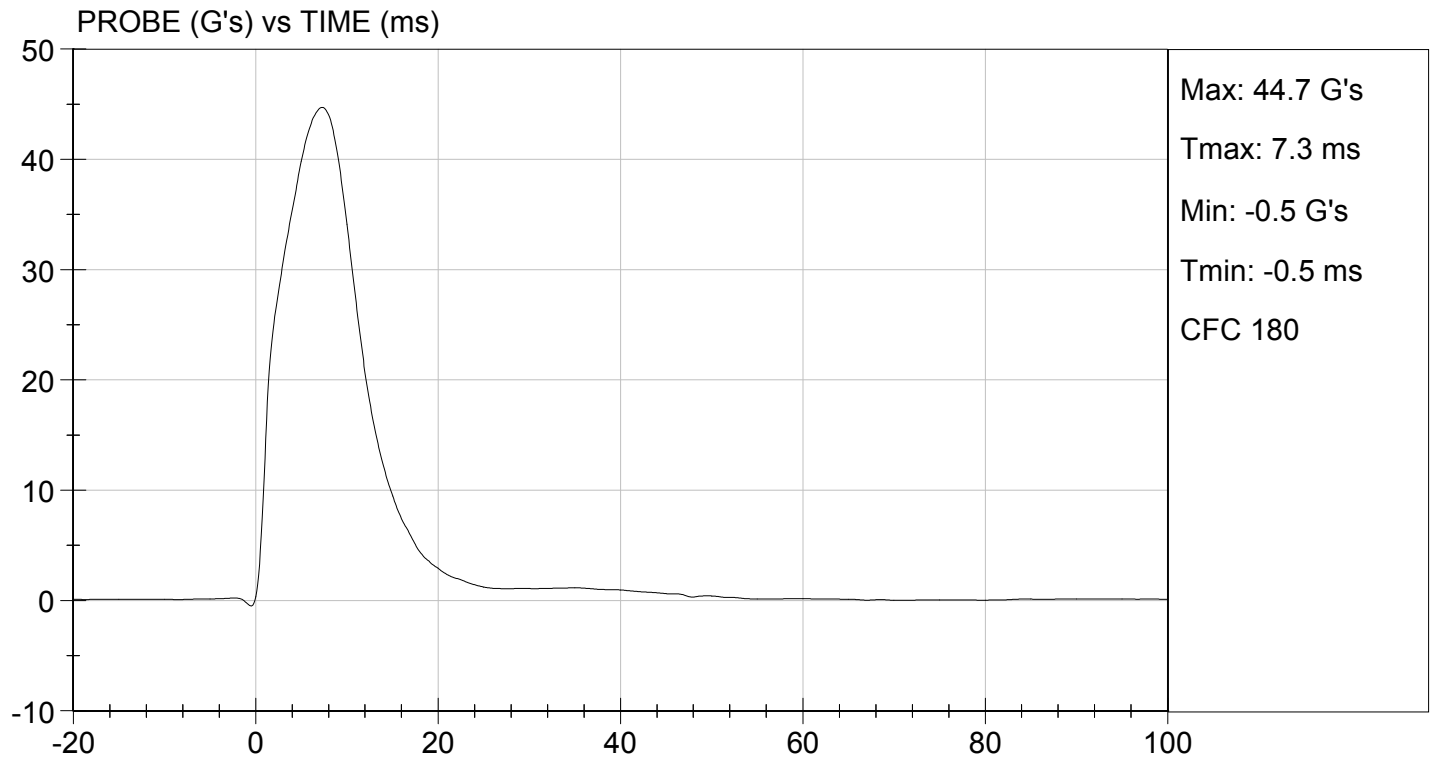
Test Date

Jessica Hall
Approved By



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

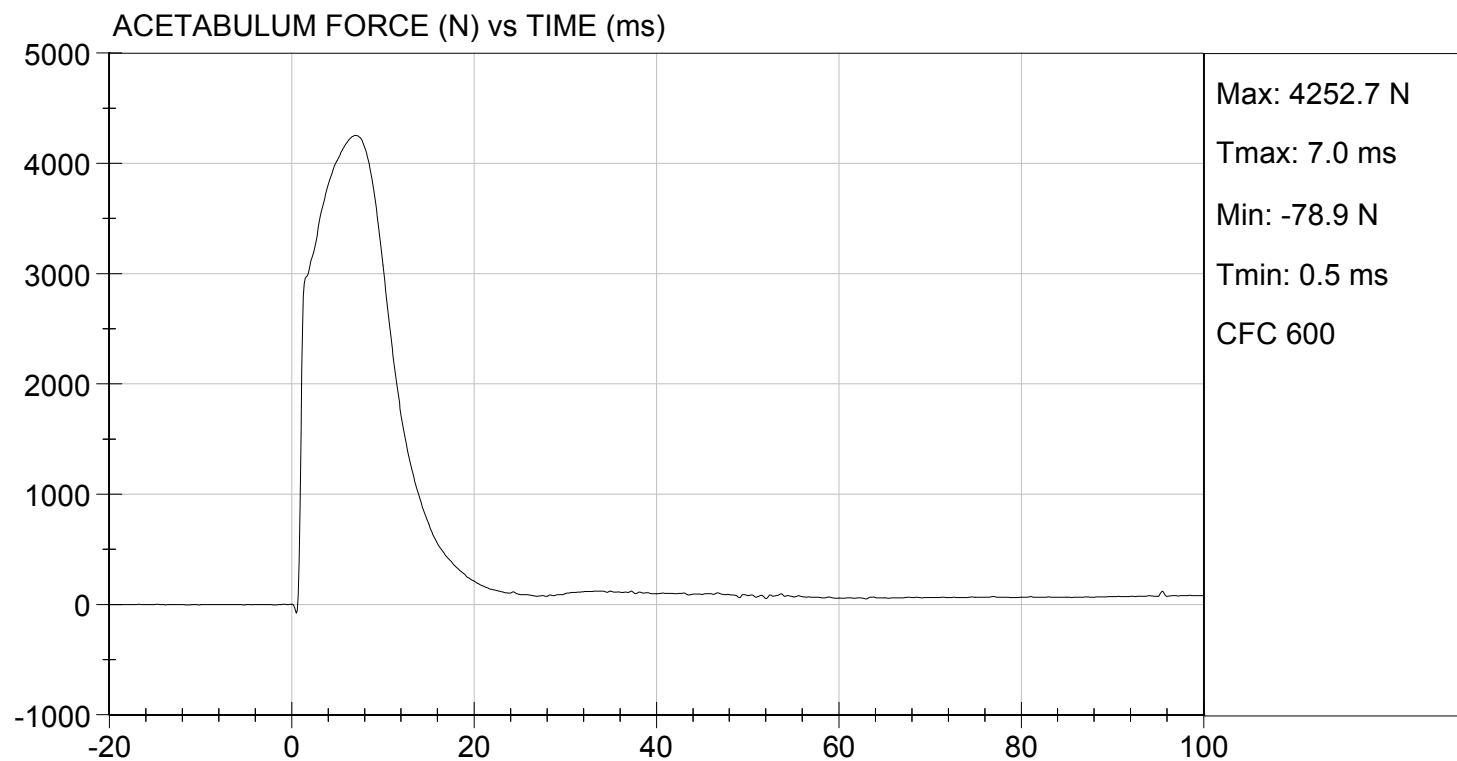
TEST DATE: 01/27/2015
TEST #: D15267





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

TEST DATE: 01/27/2015
TEST #: D15267



MGA RESEARCH CORPORATION

ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D15268

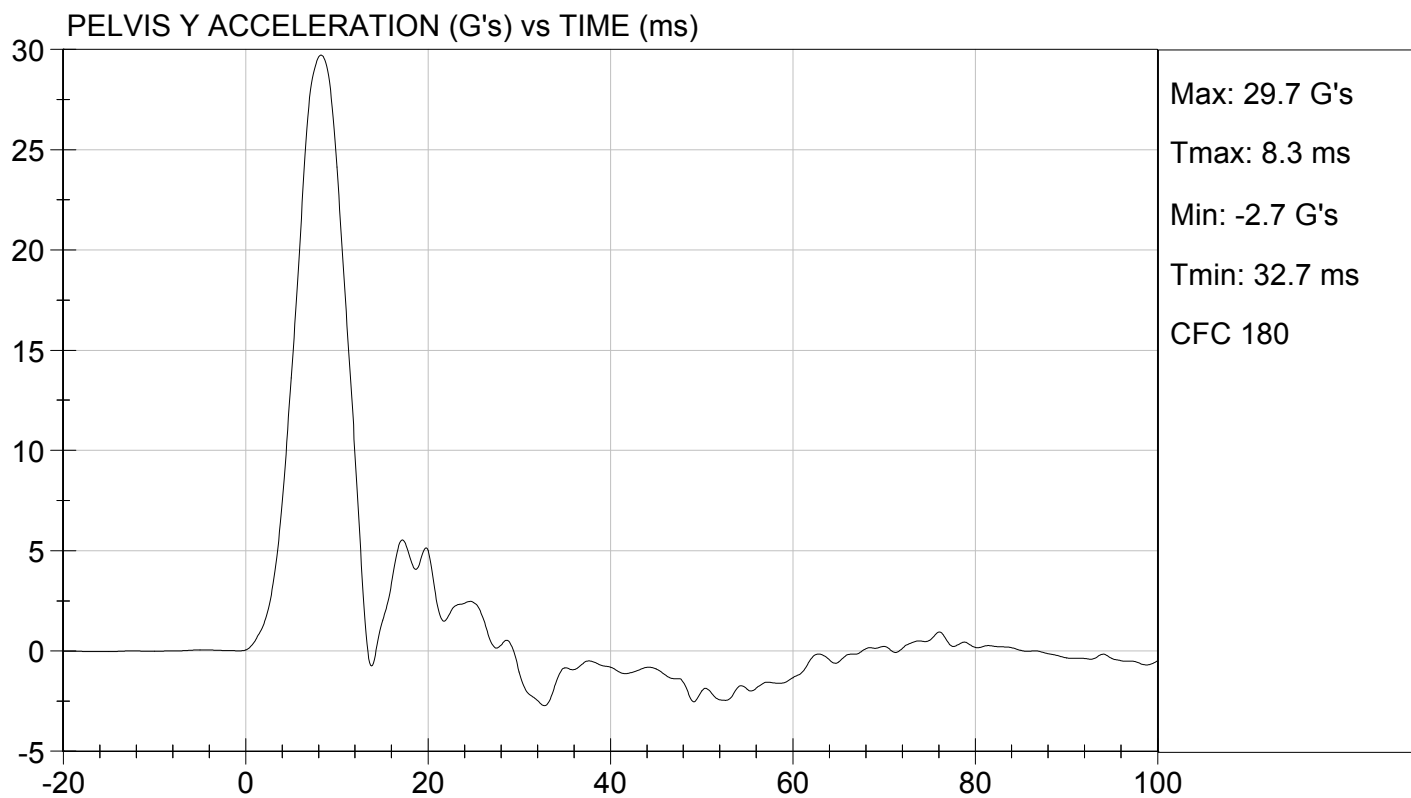
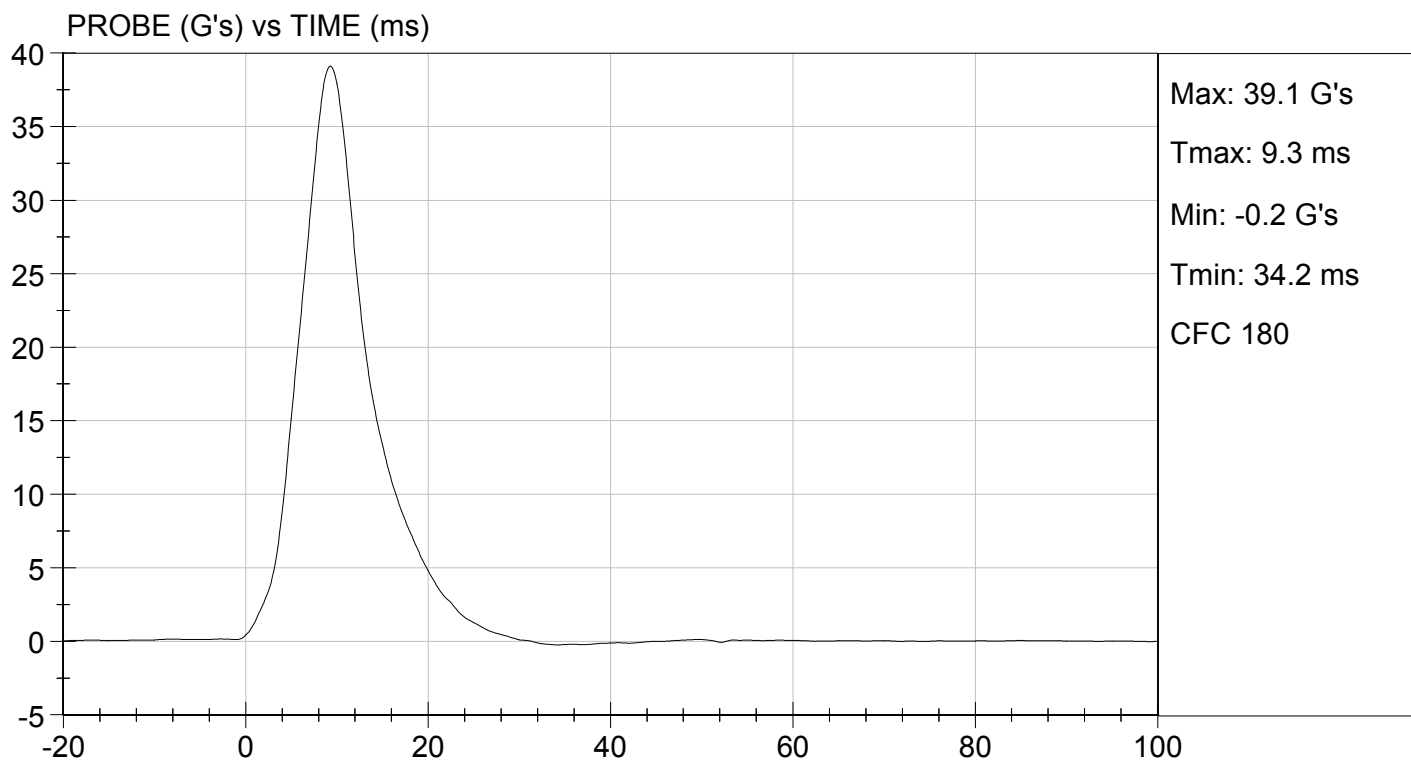
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	22	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	36 to 45	39	Pass
Pelvis Y Acceleration	G's	28 to 39	30	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,518	Pass
Overall Test Results				Pass

David Schoedel
Laboratory Technician

01/27/2015

Test Date

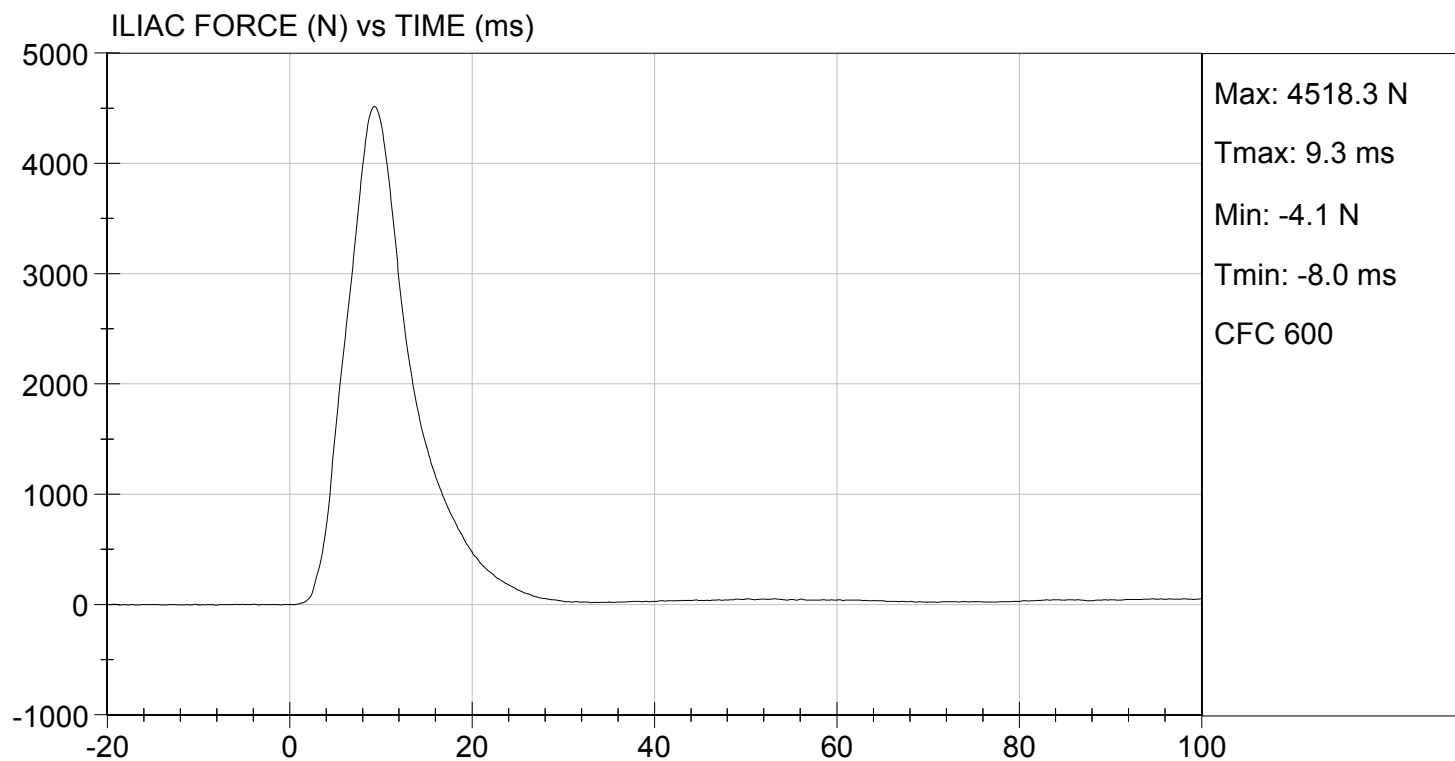
Jessica Hall
Approved By



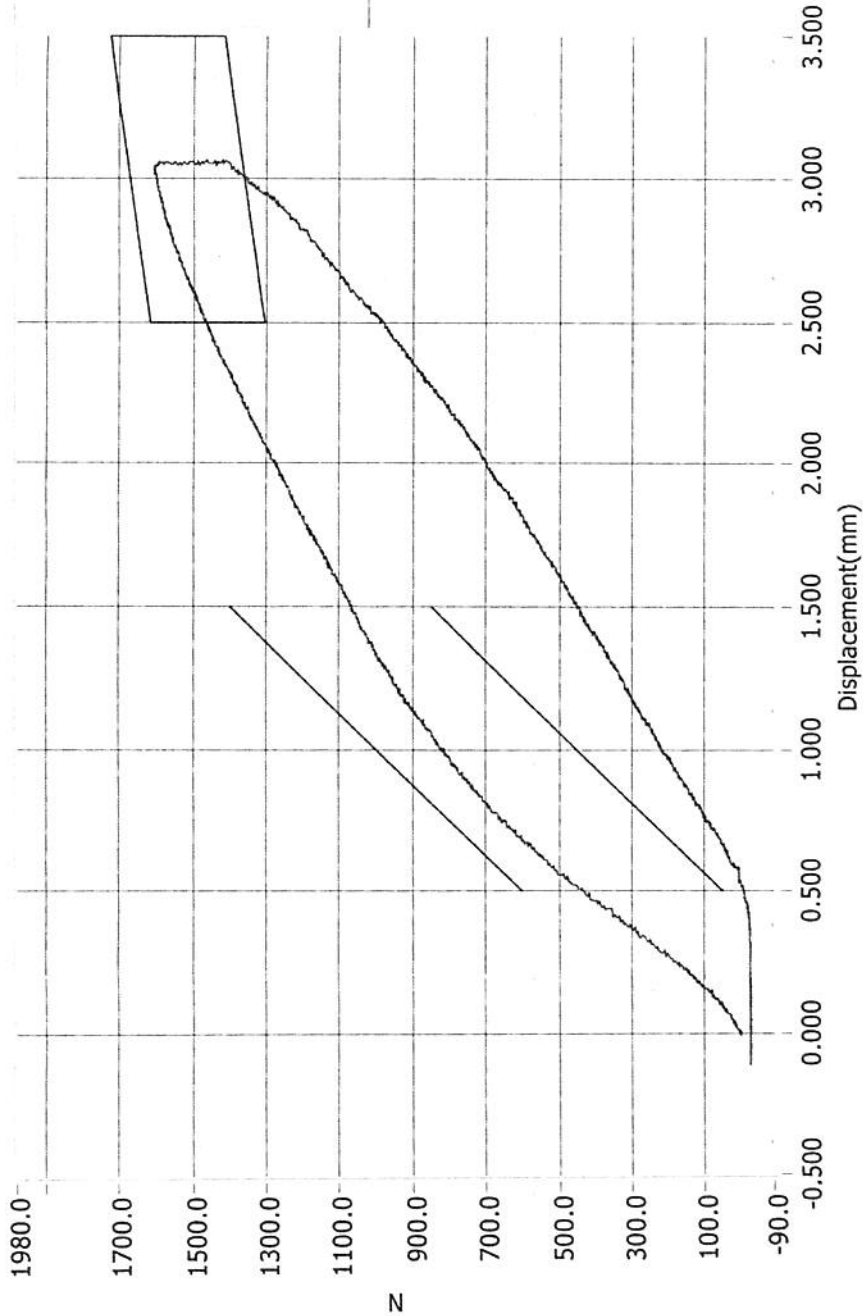


TEST DESC: ILLIAC
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 01/27/2015
TEST #: D15268



Resultant Data - SIDIIs Plug Compression

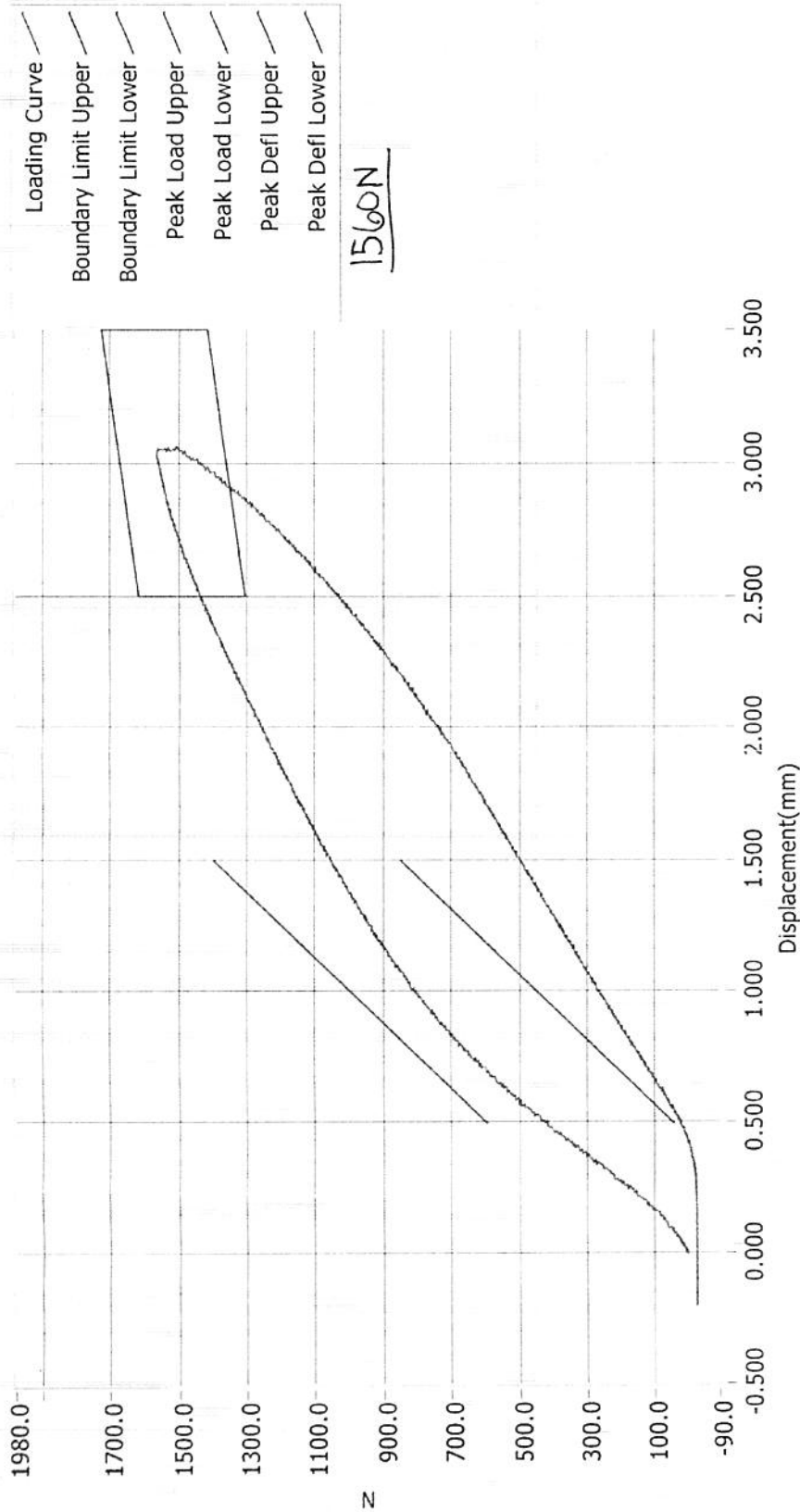


ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	71308	12/19/2013	8:40 PM
Cert ID	ATD Serial Number	ATD Type	SIDIIs
	N/A		

Current Date : 12/19/2013 Current Time : 20:41:14

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	70584	12/12/2013	7:32 PM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 12/12/2013

Current Time : 19:32:50

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation

				SID-IIs S/N 306			
				Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers				X	P79684	Endevco	10/21/14
				Y	P79685	Endevco	10/21/14
				Z	P79686	Endevco	10/21/14
				Xr	P79745	Endevco	10/21/14
				Yr	P79746	Endevco	10/21/14
				Zr	P79747	Endevco	10/21/14
Displacement Potentiometers	Thoracic Rib	Upper	Y	G033	FTSS	10/03/14	
		Middle	Y	G1261	FTSS	10/03/14	
		Lower	Y	G1270	FTSS	10/03/14	
	Abdominal Rib	Upper	Y	G032	FTSS	10/03/14	
		Lower	Y	G1304	FTSS	10/03/14	
Lower Spine Accelerometers (T12)				X	P82084	Endevco	09/11/14
				Y	P82085	Endevco	09/11/14
				Z	P82086	Endevco	09/11/14
Acetabulum Load Cell				Y	ACG111	FTSS	04/03/14
Iliac Wing Load Cell				Y	IWG226	FTSS	04/03/14
Pelvis Plug (struck side)					71318	FTSS	12/19/13
Pelvis Plug (non-struck side)					70584	FTSS	12/12/13

Table 2 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P78752	Endevco	12/09/14
Vehicle Center of Gravity	Y	P78751	Endevco	12/09/14
Vehicle Center of Gravity	Z	P78753	Endevco	12/09/14
Left Floor Sill	Y	P63923	Endevco	10/31/14
A-Pillar Sill	Y	P66750	Endevco	12/09/14
A-Pillar Low	Y	P67447	Endevco	11/11/14
A-Pillar Mid	Y	P78482	Endevco	09/23/14
B-Pillar Sill	Y	P66522	Endevco	08/18/14
B-Pillar Low	Y	P74670	Endevco	09/23/14
B-Pillar Mid	V	P78955	Endevco	12/02/14
Driver Seat	Y	P74010	Endevco	11/11/14
Engine Top	X	P78980	Endevco	01/05/15
Engine Top	Y	P78979	Endevco	01/05/15
Firewall	Y	P73734	Endevco	12/02/14
Right Roof	Y	P78741	Endevco	12/02/14
Right Floor Sill	Y	P66612	Endevco	11/11/14
Rear Floorpan	X	P77632	Endevco	08/25/14
Rear Floorpan	Y	P77633	Endevco	08/25/14

Table 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	08/12/14
Load Cell 2	DG6278	FTSS	08/12/14
Load Cell 3	DG6279	FTSS	08/12/14
Load Cell 4	DG6280	FTSS	08/12/14
Load Cell 5	DG6281	FTSS	08/12/14
Load Cell 6	DG6283	FTSS	08/12/14
Load Cell 7	DG6284	FTSS	08/12/14
Load Cell 8	DG6582	FTSS	08/12/14