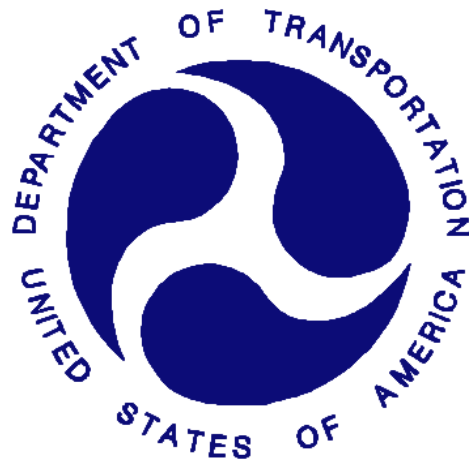


REPORT NUMBER: SPNCAP-MGA-2013-031

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

**CHRYSLER GROUP LLC
2013 Dodge Challenger SXT 2-Dr Coupe
NHTSA No.: MD0301**

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



Test Date: November 9, 2012


Final Report Date: December 19, 2012

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: December 19, 2012

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

Technical Report Documentation Page

1. Report No. SPNCAP-MGA-2013-031	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 2013 Dodge Challenger SXT 2-Dr Coupe, NHTSA No.: MD0301		5. Report Date December 19, 2012																												
		6. Performing Organization Code MGA																												
7. Author(s) Donna Janovicz, Project Manager Ben Fischer, Project Engineer		8. Performing Organization Report No. SPNCAP-MGA-2013-031																												
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105		10. Work Unit No.																												
		11. Contract or Grant No. DTNH22-09-D-00124																												
12. Sponsoring Agency Name and Address 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		13. Type of Report and Period Covered: Final Test Report November 9 to December 19, 2012																												
		14. Sponsoring Agency Code NVS-111																												
15. Supplementary Notes																														
16. Abstract A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2013 Dodge Challenger SXT 2-Dr Coupe 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 November 9, 2012. 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 20.9°C. The test vehicle post-test maximum crush was 427 mm at level 3. The test vehicle's performance was as follows:																														
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: left;">Measurement Description</th> <th colspan="3" style="text-align: center;">Driver ATD (SID-IIs)</th> </tr> <tr> <th style="text-align: center;">Units</th> <th style="text-align: center;">Threshold</th> <th style="text-align: center;">Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">1000</td> <td style="text-align: center;">383</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td style="text-align: center;">Gs</td> <td style="text-align: center;">82</td> <td style="text-align: center;">51</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td style="text-align: center;">N</td> <td style="text-align: center;">5525</td> <td style="text-align: center;">5525</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">38*</td> <td style="text-align: center;">18</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">45*</td> <td style="text-align: center;">32</td> </tr> </tbody> </table>				Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	383	Resultant Lower Spine Acceleration	Gs	82	51	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	5525	Maximum Thoracic Rib Deflection	mm	38*	18	Maximum Abdomen Rib Deflection	mm	45*	32
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*Proposed IARV																														
The door on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite door did not open during the side impact event.																														
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 2013 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-09-D-00124. The purpose of this test is to generate comparative side impact performance in a 2013 Dodge Challenger SXT 2-Dr Coupe. 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 2013 Dodge Challenger SXT 2-Dr Coupe. 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 November 9, 2012. 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	383
Resultant Lower Spine Acceleration	Gs	82	51
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	5525
Maximum Thoracic Rib Deflection	mm	38*	18
Maximum Abdominal Rib Deflection	mm	45*	32

*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	No			
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Abdomen/Pelvis Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other				

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

GENERAL COMMENTS

There was no valid data collected for:
Driver Seat Track Y after 20ms

Firewall Y is questionable from 41-43ms

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: 2013 Dodge Challenger SXT 2-Dr Coupe
Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
Test Date: 11/09/2012

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	MD0301	Traction Control System (TCS)	Yes
Model Year	2013	Auto-Leveling System	No
Make	Dodge	Automatic Door Locks (ADL)	Yes
Model	Challenger	Power Window Auto-Reverse	No
Body Style	Coupe	Other Optional Feature	N/A
VIN	2C3CDYAG8DH536244	Driver Front Airbag	Yes
Body Color	Redline Pearl	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	161 / 100	Driver Head/Torso Airbag	No
Engine Displacement (L)	3.6	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	No
Transmission Speeds	5	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	No
Sunroof/T-Top	No	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 only	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	Chrysler Group LLC	GVWR (kg)	2246
Date of Manufacture	SEP 12	GAWR Front (kg)	1275
Vehicle Type	Passenger Car	GAWR Rear (kg)	1275

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	
Capacity Weight (VCW) (kg)				392	(A)
DSC x 68.04 kg				340	(B)
Rated Cargo and Luggage Weight (RCLW) (kg)				52	(A-B)

VEHICLE SEAT TYPE

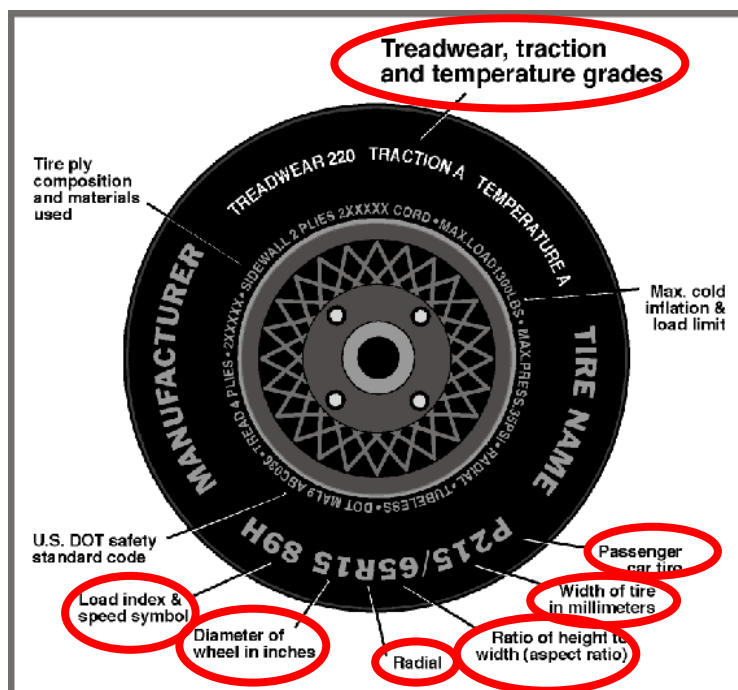
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X					w/lever	
Rear or Second Row		X			X		
Third Row Seat							

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

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	220	220
Recommended Tire Size	P235/55R18	P235/55R18
Tire Size on Vehicle	P235/55R18	P235/55R18
Tire Manufacturer	Michelin	Michelin
Tire Model	Pilot HX MXM4	Pilot HX MXM4
Treadwear	300	300
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	99V	99V
Tire Material	Rubber	Rubber
DOT Safety Code Left	B93J PN2X	B93J PN2X
DOT Safety Code Right	B93J PN2X	B93J PN2X

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

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kpa	220	220	220	220
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	453.6	426.4		465.4	465.8		473.6	473.0	
Right	kg	466.8	425.0		472.2	465.4		465.4	463.6	
Ratio	%	51.9	48.1		50.2	49.8		50.1	49.9	
Totals	kg	920.4	851.4	1771.8	937.6	931.2	1868.8	939.0	936.6	1875.6

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1771.8	(A)
Actual Weight of 1 P572V ATD (SID-IIs) ATD Used	kg	52.2	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	52	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1876.0	(A+B+C)

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

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	deg	-1.1	-0.9	-0.8	Yes
Front Pass. Sill Angle (front-to-rear)*	deg	-1.1	-1.0	-0.9	Yes
Front Bumper Angle (left-to-right)**	deg	-0.1	-0.1	-0.2	Yes
Rear Bumper Angle (left-to-right)**	deg	0.0	0.0	0.0	Yes
Vehicle CG (Aft of Front Axle)	mm	1420	1472	1476	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	-5	-3	8	

*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
Right taillight, right rear passenger window, spare tire and cover, rear trunk liner, jack & tools.	29.5

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

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012

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	19.2	12.2	15.7
Front Passenger Seat	Fixed	Fixed	Fixed
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 SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rear-most	Mid-Fore/Aft	Forward-Most
Driver Seat	15.7	27	Max	54	54	54
	15.7	27	Mid	27	27	27
	15.7	27	Min	0	0	0
Front Passenger Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
	Fixed	Fixed	Mid	Fixed	Fixed	Fixed
	Fixed	Fixed	Min	Fixed	Fixed	Fixed

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

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

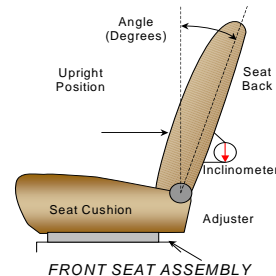
NHTSA No. MD0301
 Test Date: 11/09/2012

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	274		0	
Front Passenger Seat	220	22 (1 st as 0)	0	0 (1 st as 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	50.9		5.1	2 nd (1 st as 0)
Front Passenger Seat	50.2		5.2	2 nd (1 st as 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 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	Fixed	Not Applicable

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	4	Lowest

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

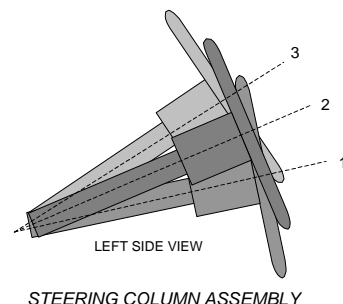
Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012

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.

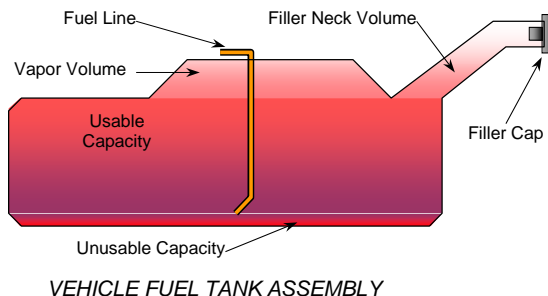
	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	69.8	152
Geometric Center, Position 2	67.3	122
Uppermost, Position 3	64.8	92
Telescoping Steering Wheel Travel		60
Test Position	67.3	122



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 starts pumping fuel when the key is in the "ON" position. The fuel pipe is on the left side.



FUEL TANK CAPACITY DATA

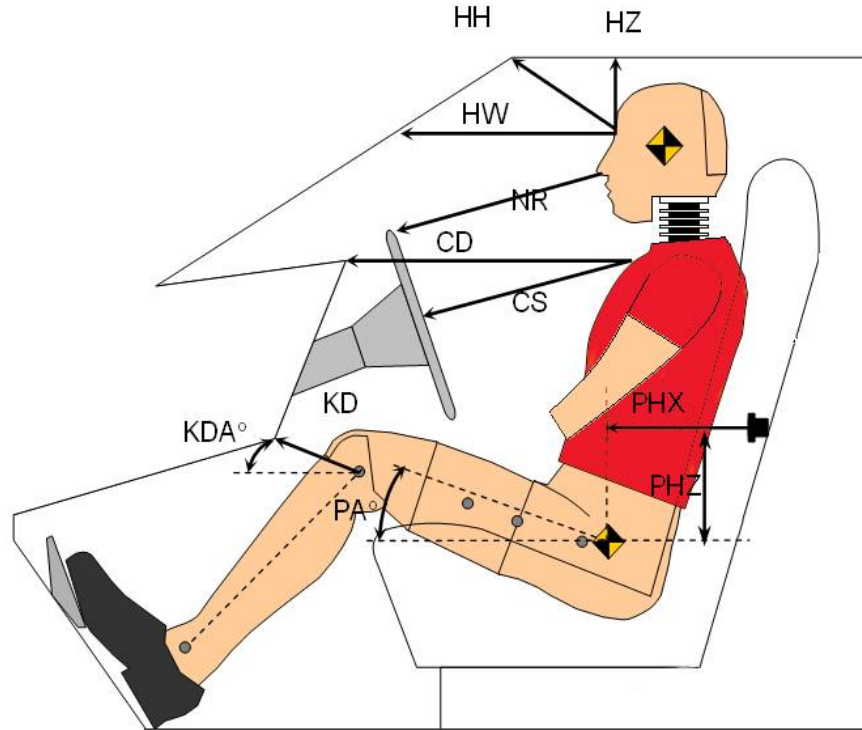
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	72.3
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	72.0
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	67.2
Actual Amount of Solvent Used	67.2
1/3 of Usable Capacity	24.1

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: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012



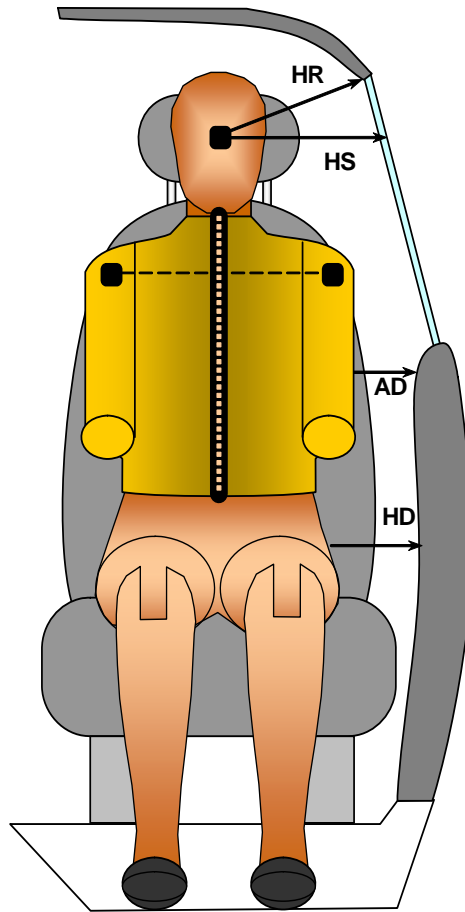
LEFT SIDE VIEW

Code	Measurement Description	Driver S/N 306	
		Length (mm)	Angle (°)
HH	Head to Header	278	
HW	Head to Windshield	593	
HZ	Head to Roof Liner	185	
NR	Nose to Rim	196	
CD	Chest to Dashboard	387	
CS	Chest to Steering Wheel	130	
KDL/KDAL°	Left Knee to Dash	109	36.8
KDR/KDAR°	Right Knee to Dash	112	36.0
PAX°	Pelvic Tilt Angle (X-Axis)		18.3
PAY°	Pelvic Tilt Angle (Y-Axis)		-0.2
PHX	Hip Point to Striker (X-Axis)	626	
PHZ	Hip Point to Striker (Z-Axis)	120	

**DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS**

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012



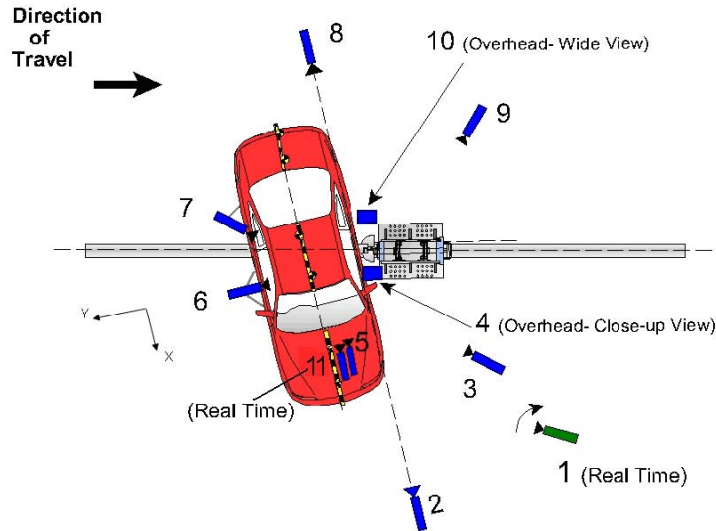
FRONT VIEW OF DUMMY

Code	Measurement Description	Driver S/N 306
		Length (mm)
HR	Head to Side Header	252
HS	Head to Side Window	388
AD	Arm to Door	203
HD	Hip Point to Door	175

**DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA**

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012



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	-100	6110	-1850	24	1000
3	Impact Side 45° Forward	-2460	5250	-1940	20	1000
4	Overhead Closeup	120	0	-4410	50	1000
5	Onboard – Driver Front				16	
6	Onboard – Driver Side				8	
7	Onboard – Driver Rear				8	
8	Rear Ground Level	-100	-6870	-1840	24	1000
9	Impact Side 45° Rearward	-4450	-3900	-1990	20	1000
10	Overhead Wide View	270	0	-4620	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: Not Applicable

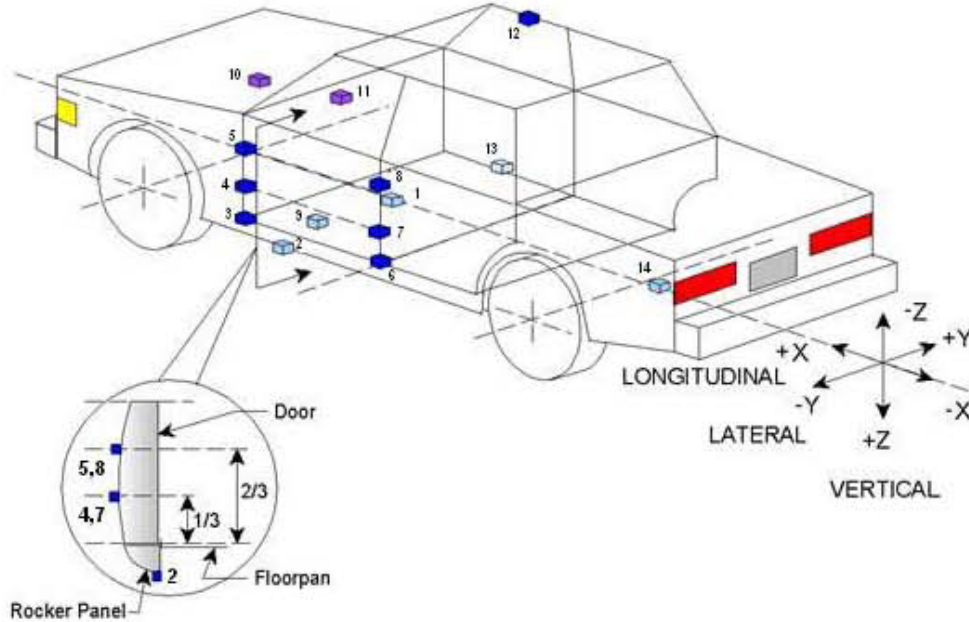
INSTRUMENTATION

	Number of Channels
Driver Dummy	22
Vehicle Structure	18
Pole Load Cells	8
TOTAL	48

DATA SHEET NO. 6
VEHICLE ACCELEROMETER DATA

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
Test Date: 11/09/2012



	Accelerometer Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2529	-160	-194
2	Left Floor Sill	2842	-770	-177
3	A Pillar Sill	3294	-774	-166
4	A Pillar Low	3292	-847	-512
5	A Pillar Mid	3301	-847	-766
6	B Pillar Sill	2069	-766	-190
7	B Pillar Low	2096	-759	-484
8	B Pillar Mid	2021	-764	-743
9	Driver Seat Track	2514	-556	-301
10	Engine Top	3999	-44	-955
11	Firewall	3872	0	-948
12	Right Roof	2003	526	-1456
13	Right Floor Sill	2844	770	-178
14	Rear Floorpan	665	-64	-300

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: 2013 Dodge Challenger SXT 2-Dr Coupe
Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
Test Date: 11/09/2012



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: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Driver SID-IIs Dummy
Face	Curtain Airbag
Top of Head	Curtain Airbag, Headliner
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, 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		Yes		Yes
Total Separation from Vehicle at Hinges or Latches	No		No		No
Latch or Hinge Systems Pulled Out of Their Anchorages	No		No		No
Disengaged from Latched Position	No		No		No
Latch Separated from Striker	No		No		No
Jammed Shut	Yes		No		No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	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	
Seat Disengagement from Floor Pan	No		No	
Seat Back Movement from Initial Position	No		No	
Seat Back Collapse	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: 2013 Dodge Challenger SXT 2-Dr Coupe
Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
Test Date: 11/09/2012

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	No			
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Abdomen/Pelvis Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other				

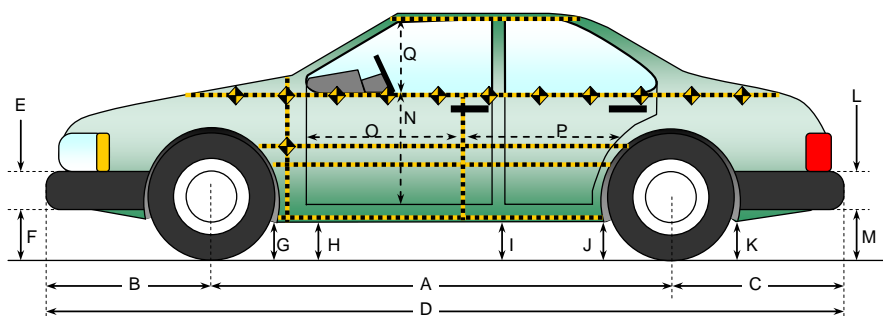
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1347
Actual Impact Point (Aft of Front Axle)	mm		1338
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	+9
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	32.2
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.3

**DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
Test Date: 11/09/2012



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

LEFT SIDE VIEW

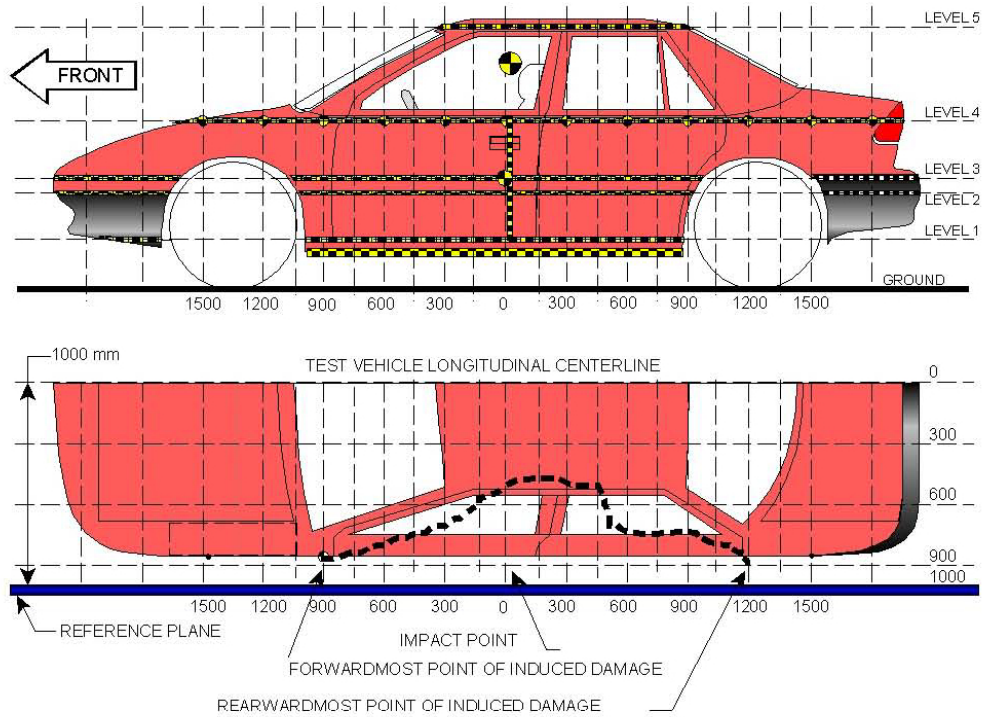
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2955	2805	150
B	Front Axle to FSOV	951	933	18
C	Rear Axle to RSOV	1118	1169	-51
D	Total Vehicle Length at Centerline	5024	4907	117
E	Front Bumper Thickness	110	110	0
F	Front Bumper Bottom to Ground	190	225	-35
G	Sill Height at Front Wheel Well	153	124	29
H	Sill Height at Front Door Leading Edge	153	127	26
I	Sill Height at B-Pillar	164	187	-23
J1	Sill Height at Rear Wheel Well	171	181	-10
J2	Pinch Weld Height at Rear Wheel Well	170	186	-16
K	Sill Height Aft of Rear Wheel Well	236	238	-2
L	Rear Bumper Thickness	198	198	0
M	Rear Bumper Bottom to Ground	394	379	15
N	Sill Height to Bottom of Front Window Sill	784	772	12
O	Front Door Leading Edge to Impact CL	673	670	3
P	Rear Door Trailing Edge to Impact CL	723	722	1
Q	Front Window Opening	347	311	36
R	Right Side Length	4633	4640	-7
S	Left Side Length	4633	4450	183
T	Vehicle Width at B-Pillars	1918	1907	11

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
Test Date: 11/09/2012



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)
1	Sill Top	285
2	Occupant Hip Point	578
3	Mid Door	645
4	Window Sill	986
5	Window Top	1343

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

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012

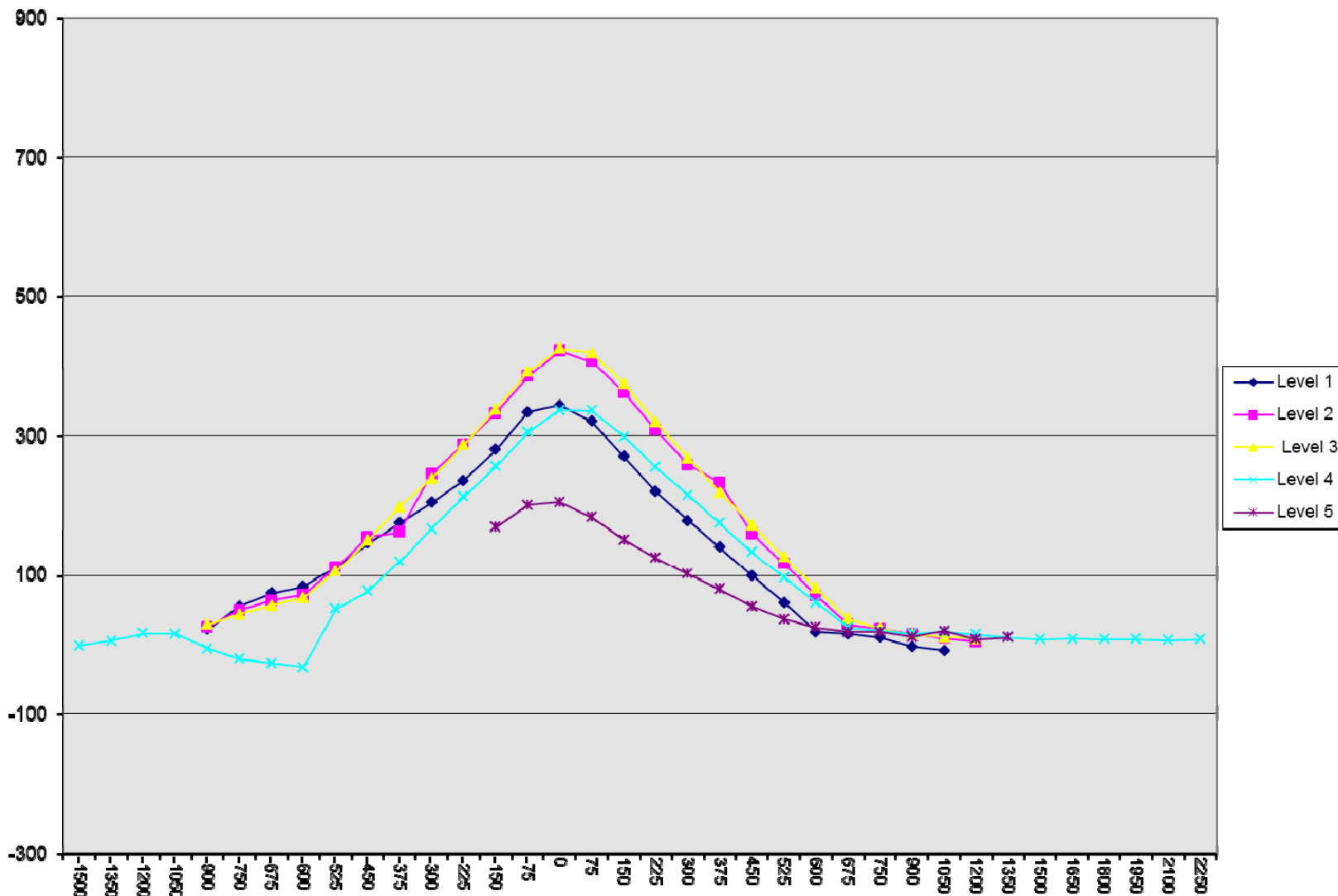
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1500				260					260					0	
-1350				255					262					7	
-1200				251					269					18	
-1050				248					265					17	
-900	228	164	156	245		251	191	186	241		23	27	30	-4	
-750	222	161	154	243		278	212	199	224		56	51	45	-19	
-675	219	160	153	243		294	225	211	218		75	65	58	-25	
-600	220	160	153	244		304	233	222	213		84	73	69	-31	
-525	219	159	152	246		331	271	258	299		112	112	106	53	
-450	219	158	151	245		366	314	302	323		147	156	151	78	
-375	219	157	150	245		394	319	348	365		175	162	198	120	
-300	219	156	150	243		423	402	389	410		204	246	239	167	
-225	219	155	149	242		455	443	436	455		236	288	287	213	
-150	218	155	149	241	436	498	488	487	497	605	280	333	338	256	169
-75	218	155	149	241	428	552	540	541	546	629	334	385	392	305	201
0	218	155	149	242	426	562	579	576	579	631	344	424	427	337	205
75	219	155	148	240	426	540	562	569	576	609	321	407	421	336	183
150	219	155	148	240	426	489	517	523	539	578	270	362	375	299	152
225	219	155	149	240	428	439	463	468	495	554	220	308	319	255	126
300	219	154	149	240	428	397	412	417	455	530	178	258	268	215	102
375	219	154	149	241	429	360	387	368	416	510	141	233	219	175	81
450	220	155	149	242	430	320	315	322	376	486	100	160	173	134	56
525	221	155	149	243	431	283	272	276	340	469	62	117	127	97	38
600	222	155	149	244	432	242	227	231	306	458	20	72	82	62	26
675	225	155	150	244	435	242	185	189	270	455	17	30	39	26	20
750	225	157	151	240	435	237	181	176	261	455	12	24	25	21	20
900	226	159	154	226	441	225	176	170	244	454	-1	17	16	18	13
1050	230	161	155	212	440	223	172	168	232	461	-7	11	13	20	21
1200		164	158	205	464		170	168	221	473		6	10	16	9
1350				205	484				217	496				12	12
1500				207					216					9	
1650				208					218					10	
1800				220					229					9	
1950				231					240					9	
2100				244					252					8	
2250				258					267					9	

NOTE: Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point. 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: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012



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

Test Vehicle: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

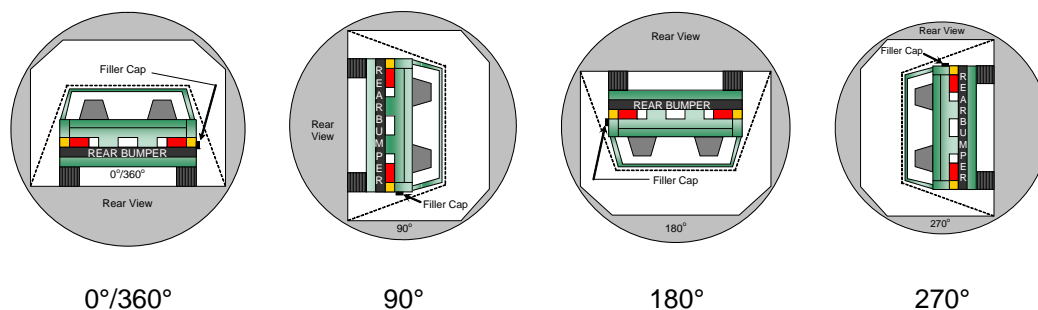
NHTSA No. MD0301
 Test Date: 11/09/2012

Test Time: 9:18 am

Temperature: 20.9 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°	110	300	410
180° to 270°	108	300	408
270° to 360°	109	300	409

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

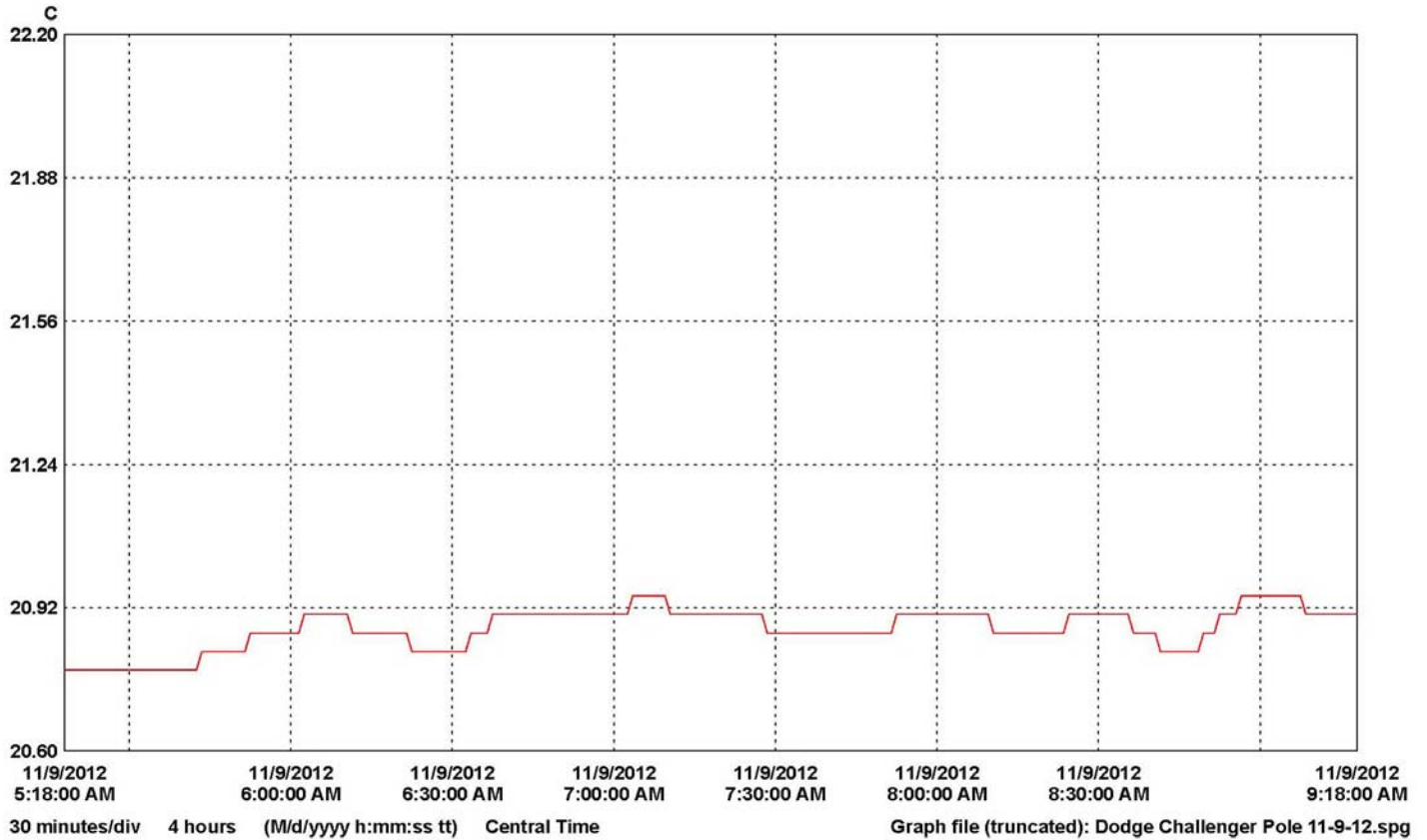
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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: 2013 Dodge Challenger SXT 2-Dr Coupe
 Test Program: NCAP Side Pole Impact Test

NHTSA No. MD0301
 Test Date: 11/09/2012



LN	Serial #	Description	CH	Value	Maximum	Average	Minimum	Units	CH description	Logger file
1	10102056	Crash Prep 1	1	20.95	20.87	20.78	C	Temperature	10102056_Crash_Prep_1.spl	

APPENDIX A
PHOTOGRAPHS

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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 3/4 View of Test Vehicle



Post-Test Left Front 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 ¾ View of Test Vehicle



Post-Test Left Rear ¾ View of Test Vehicle



Pre-Test Rear View of Test Vehicle



Post-Test Rear View of Test Vehicle



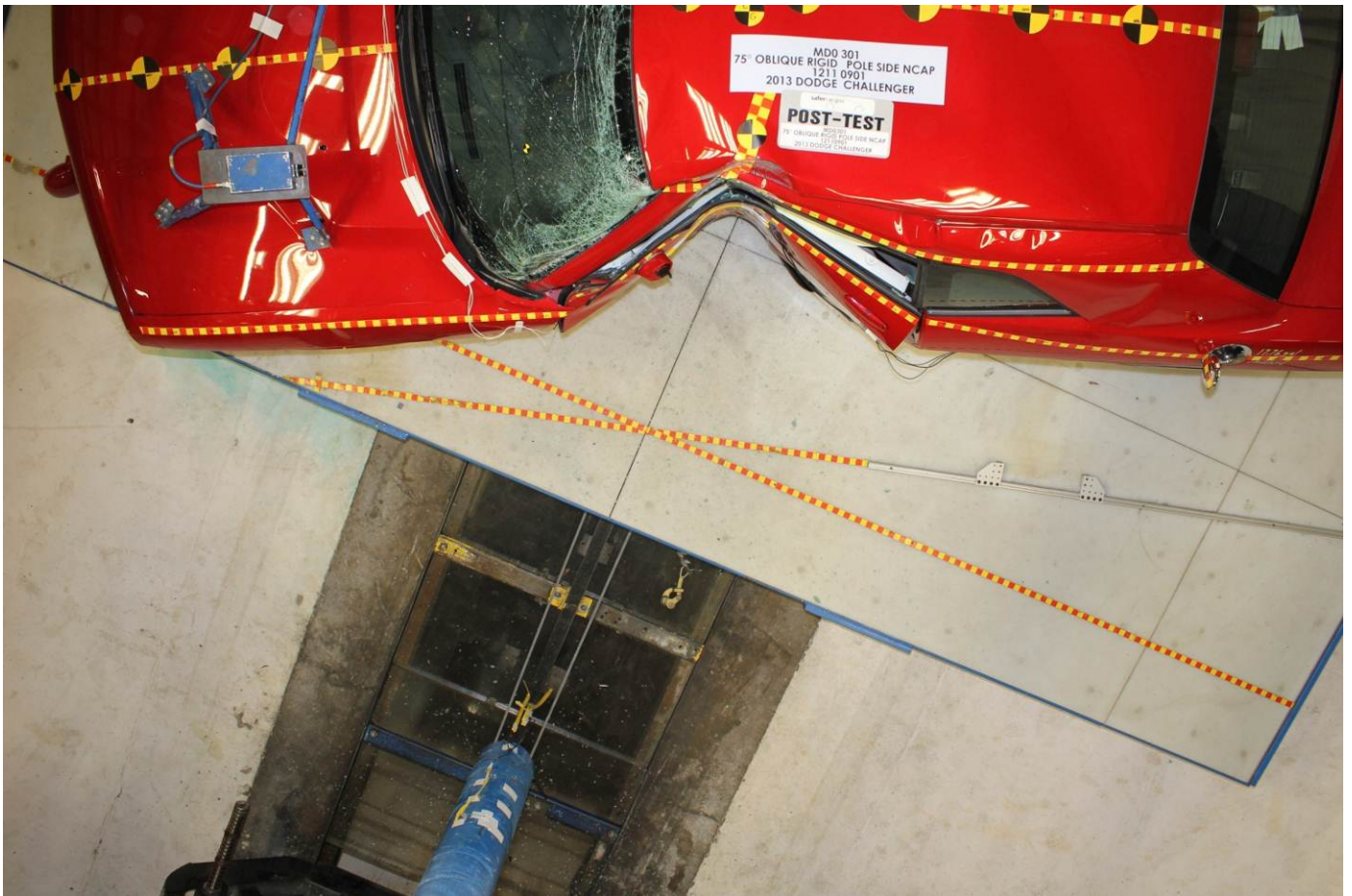
Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle



Pre-Test Overhead View of Test Area



Post-Test Overhead View of Test Area



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



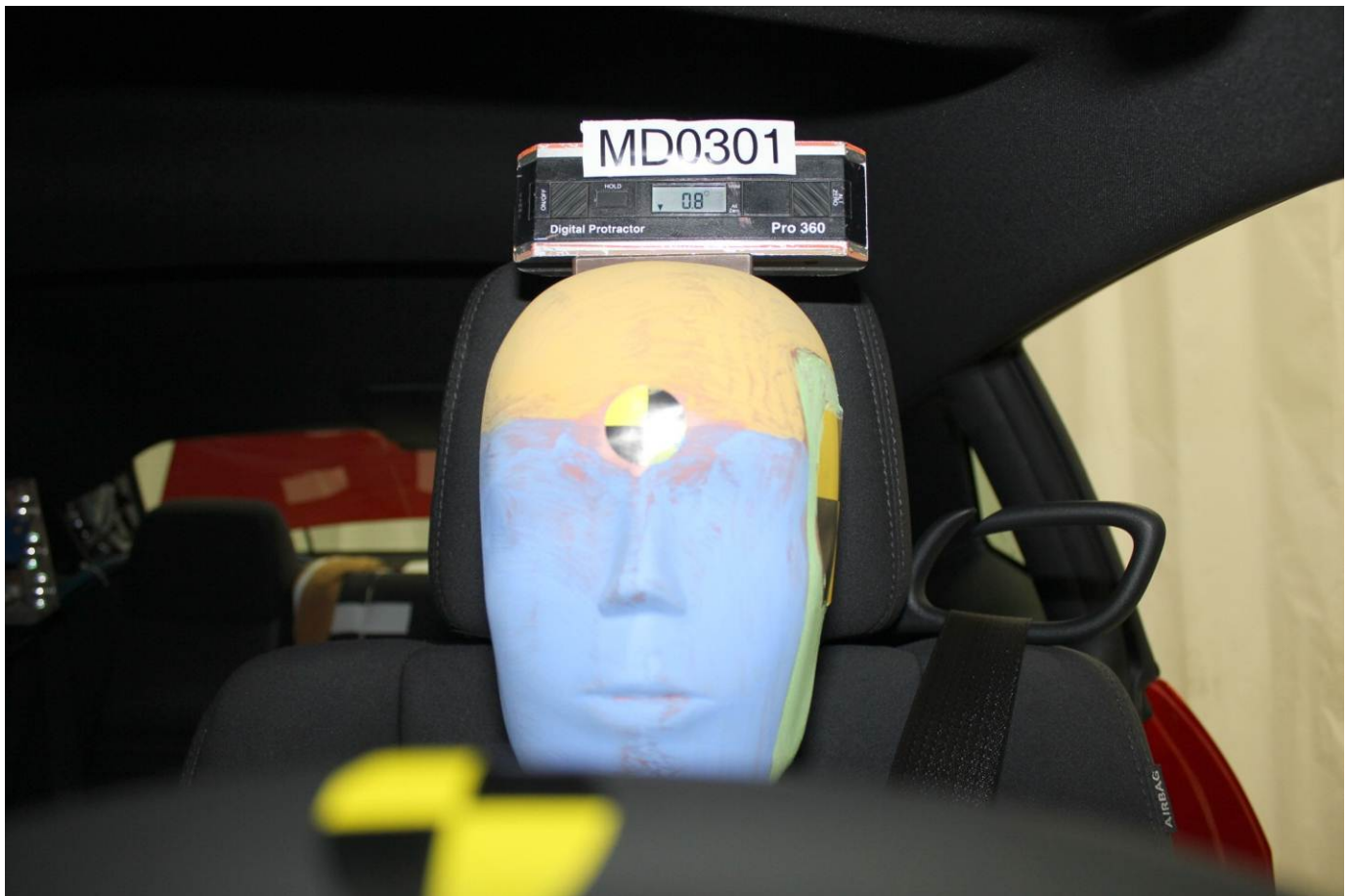
Post-Test Left Side View of Dummy Shoulder and Door Top View



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



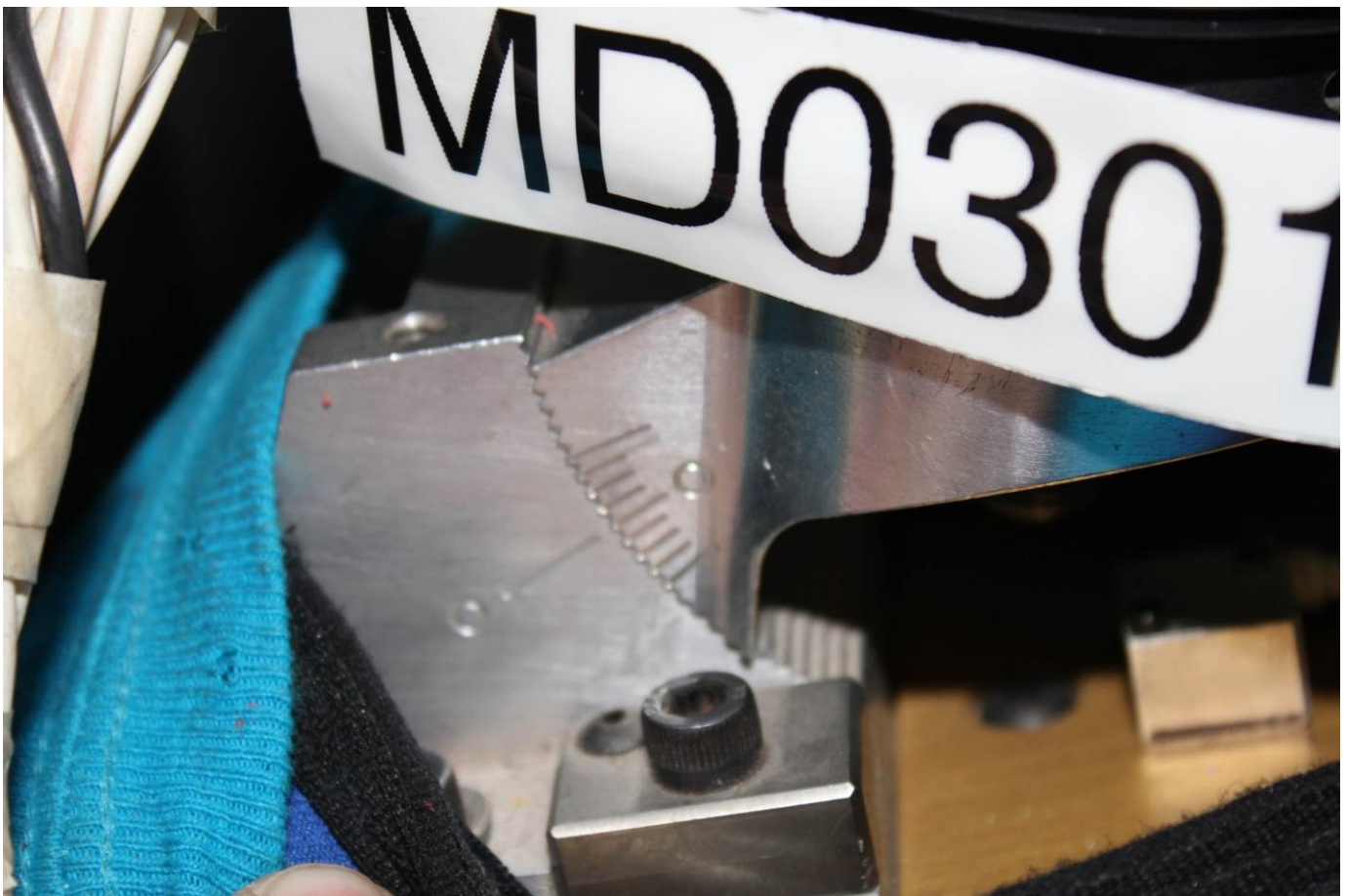
Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



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 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 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



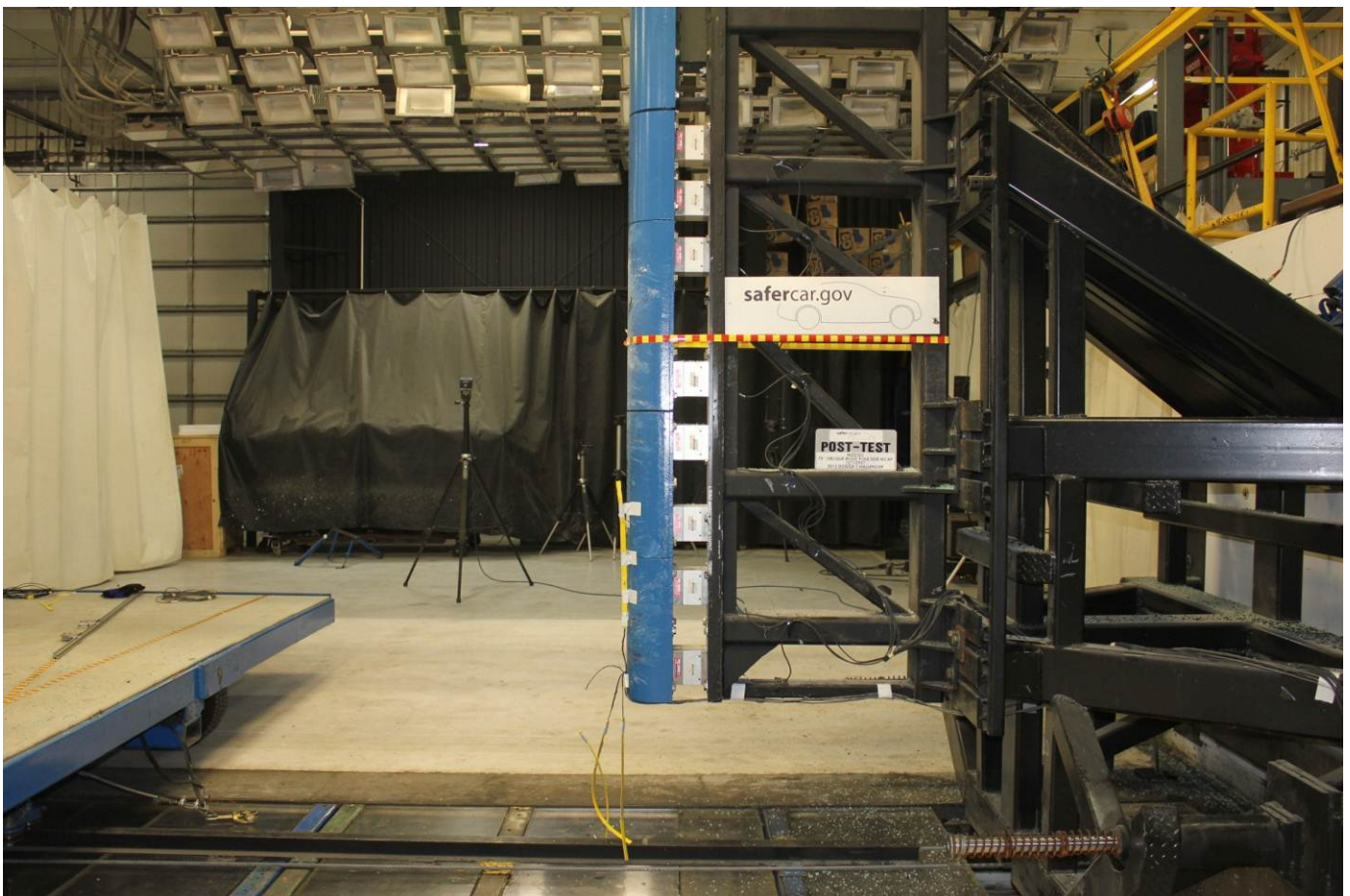
Pre-Test Pole Barrier Front View



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



MD0 301
75° OBLIQUE RIGID POLE SIDE NCAP
1211 0901
2013 DODGE CHALLENGER

FMVSS No. 301 Static Rollover 180 Degrees



MD0 301
75° OBLIQUE RIGID POLE SIDE NCAP
1211 0901
2013 DODGE CHALLENGER

FMVSS No. 301 Static Rollover 270 Degrees



FMVSS No. 301 Static Rollover 360 Degrees



Impact Event

2013 DODGE CHALLENGER SXT

For more information visit: www.dodge.com Chrysler Group LLC
or call 1-800-4ADODGE

THIS VEHICLE IS MANUFACTURED TO MEET SPECIFIC UNITED STATES REQUIREMENTS. THIS VEHICLE IS NOT MANUFACTURED FOR SALE OR REGISTRATION OUTSIDE OF THE UNITED STATES.

MANUFACTURER'S SUGGESTED RETAIL PRICE OF THIS MODEL INCLUDING DEALER PREPARATION

Base Price: \$25,495

DODGE CHALLENGER

Exterior Color: Redline 3-Coat Pearl Exterior Paint
Interior Color: Dark Slate Gray Interior Color
Interior: Cloth Low-Back Bucket Seats
Engine: 3.6-Liter V6 24-Valve VVT Engine
Transmission: 5-Speed Automatic Transmission

STANDARD EQUIPMENT (UNLESS REPLACED BY OPTIONAL EQUIPMENT)

FUNCTIONAL/SAFETY FEATURES
Advanced Multistage Front Airbags
Supplemental Side-Curtain Front and Rear Airbags
Supplemental Front Seat-Mounted Side Airbags
Electronic Stability Control
All Speed Traction Control
Hill Start Assist
Anti-Lock 4-Wheel Disc Brakes
Rain Brake Support
Ready Alert Braking
Electro-Hydraulic Power Steering
Towing Suspension
Sentry Key® Theft Deterrent System
Keyless Go
Speed Control
Power Trunk Lid Release
Illuminated Entry
140-MPH Primary Speedometer
Speed Sensitive Power Locks
Tire Pressure Monitor with Warning Lamp
19.1-Gallon Fuel Tank

INTERIOR FEATURES
Air Conditioning with Automatic Temperature Control
Power 6-Way Driver Seat
Power 4-Way Driver Lumbar Adjust
Rear 60 / 40 Folding Seat
Rear Armrest with Cup Holder Seat
Power Windows with Front One-Touch-Down Feature
Leather-Wrapped Shift Knob
Leather-Wrapped Steering Wheel
Tilt / Telescoping Steering Column
Steering Wheel Mounted Audio Controls

Uconnect® 130 AM/FM/CD/MP3
Audio Jack Input for Mobile Devices
6 Speakers
Electronic Vehicle Information Center
Floor Console with Armrest
12-Volt Center Console Power Outlet
Illuminated Cup Holders
LED Illuminated Interior Door Handles
Luxury Front and Rear Floor Mats

EXTERIOR FEATURES
P235/55R18 BSW All Season Performance Tires
18-Inch x 7.5-Inch Aluminum Wheels
Power Mirrors with Manual Fold-Away
Dual Rear Exhaust with Bright Tips
Bright Fuel Filler Door

OPTIONAL EQUIPMENT

Redline 3-Coat Pearl Exterior Paint \$500
Customer Preferred Package 26E

DESTINATION CHARGE

\$995

TOTAL PRICE: * \$26,990

WARRANTY COVERAGE

5-year or 100,000-mile Powertrain Limited Warranty.
3-year or 50,000-mile Basic Limited Warranty.
Roadside assistance; certain restrictions apply.
Ask Dealer for a copy of the limited warranties or see your owner's manual for details.

**5 YEAR / 100,000 MILE
POWERTRAIN WARRANTY**

Assembly Point/Port of Entry: BRAMPTON, ONTARIO, CANADA

VIN: 2C3CDYAG8DH-536244



SHIP TO: 68010 14
RIVER FRONT CHRYSLER JEEP DODGE
200 HANSEN BOULEVARD
NORTH ALABAMA IL 60542-8920

SOLE TO: 51 68010
RIVER FRONT CHRYSLER JEEP DODGE
200 HANSEN BOULEVARD
NORTH ALABAMA IL 60542-8920

THIS LABEL IS ADDED TO THIS VEHICLE TO COMPLY WITH FEDERAL LAW. THE LABEL CANNOT BE REMOVED OR ALTERED PRIOR TO DELIVERY TO THE ULTIMATE PURCHASER.
* STATE AND/OR LOCAL TAXES IF ANY, LICENSE AND TITLE FEES AND DEALER SUPPLIED AND INSTALLED OPTIONS AND ACCESSORIES ARE NOT INCLUDED IN THIS PRICE DISCOUNT IF ANY.
** BASED ON PRICE OF OPTION IF PURCHASED SEPARATELY.

EPA DOT Fuel Economy and Environment Gasoline Vehicle

Fuel Economy
21 MPG
combined city/hwy
4.8 gallons per 100 miles

City: 18 MPG
Highway: 27 MPG

Midsize cars range from 13 to 29 MPG
The best vehicle rates 112 MPG

You spend \$1,150
more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel COST \$2,550

Fuel Economy & Greenhouse Gas Rating (tailpipe only)
1 5 10 Best

Smog Rating (tailpipe only)
1 6 10 Best

This vehicle emits 425 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates emissions. Learn more at fuelconomy.gov

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. This average new vehicle gets 22 MPG and cost \$11,600 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.55 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Calculate personalized estimates and compare vehicles

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score	Not Rated
Based on the combined ratings of frontal, side, and rollover. Should ONLY be compared to other vehicles of similar size and weight. Safety concern: visit www.safercar.gov or call 1-888-327-4236 for more details.	
Frontal Crash	Driver Not Rated
	Passenger Not Rated
Based on the risk of injury in a frontal impact. Should ONLY be compared to other vehicles of similar size and weight.	
Side Crash	Front seat Not Rated
	Rear seat Not Rated
Based on the risk of injury in a side impact.	
Rollover	★★★★
Based on the risk of rollover in a single-vehicle crash.	

Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest.
Source: National Highway Traffic Safety Administration (NHTSA)
www.safercar.gov or 1-888-327-4236

The safety ratings above are based on Federal Government tests of particular vehicles equipped with certain features and options. The performance of this vehicle may differ.

Bumper Performance
This vehicle is equipped with bumper systems that can withstand a frontal barrier impact speed of 2.5 miles per hour and a rear barrier impact speed of 2.5 miles per hour with no more damage than allowed by the Federal bumper standard. The Federal bumper standard allows damage to the bumpers and attaching hardware and specifies barrier tests to be conducted at 2.5 miles per hour.

PARTS CONTENT INFORMATION FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 67 %
MAJOR SOURCES OF FOREIGN PARTS CONTENT:
MEXICO: 15 %
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.
FOR THIS VEHICLE:
FINAL ASSEMBLY POINT: BRAMPTON, ONTARIO, CANADA
COUNTRY OF ORIGIN: ENGINE: MEXICO
TRANSMISSION: UNITED STATES

Monroney Label

Head Restraints

Head restraints are designed to reduce the risk of injury by restricting head movement in the event of a rear impact. Head restraints should be adjusted so that the top of the head restraint is located above the top of your ear.

WARNING!

The head restraints for all occupants must be properly adjusted prior to operating the vehicle or occupying a seat. Head restraints should never be adjusted while the vehicle is in motion. Driving a vehicle with the head restraints improperly adjusted or removed could cause serious injury or death in the event of a collision.

Active Head Restraints — Front Seats

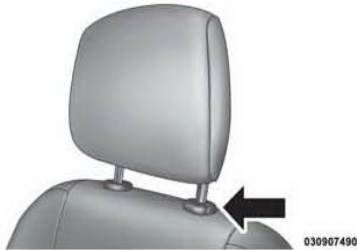
Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

Active Head Restraints — Front Seats

The front driver and passenger seats are equipped with Active Head Restraints (AHR). In the event of a rear impact the AHRs will automatically extend forward minimizing the gap between the back of the occupants head and the AHR.

The AHRs will automatically return to their normal position following a rear impact. If the AHRs do not return to their normal position see your authorized dealer immediately.

To raise the head restraint, pull upward on the head restraint. To lower the head restraint, press the push button, located at the base of the head restraint, and push downward on the head restraint.



Push Button

NOTE: The head restraints should only be removed by qualified technicians, for service purposes only. If either of the head restraints require removal, see your authorized dealer.

WARNING!

Do not place items over the top of the Active Head Restraint, such as coats, seat covers or portable DVD players. These items may interfere with the operation of the Active Head Restraint in the event of a collision and could result in serious injury or death.

Parent topic: [Head Restraints](#)

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 9 Axis Head CG Acceleration (X) vs. Time	B-1
Figure No. 2.	Driver 9 Axis Head CG Acceleration (Y) vs. Time	B-1
Figure No. 3.	Driver 9 Axis Head CG Acceleration (Z) vs. Time	B-1
Figure No. 4.	Driver 9 Axis 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 9 Axis Head X Arm Y

Driver 9 Axis Head X Arm Z

Driver 9 Axis Head Y Arm X

Driver 9 Axis Head Y Arm Z

Driver 9 Axis Head Z Arm X

Driver 9 Axis Head Z Arm Y

**Additional Driver Dummy Instrumentation Data
(Continued)**

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)

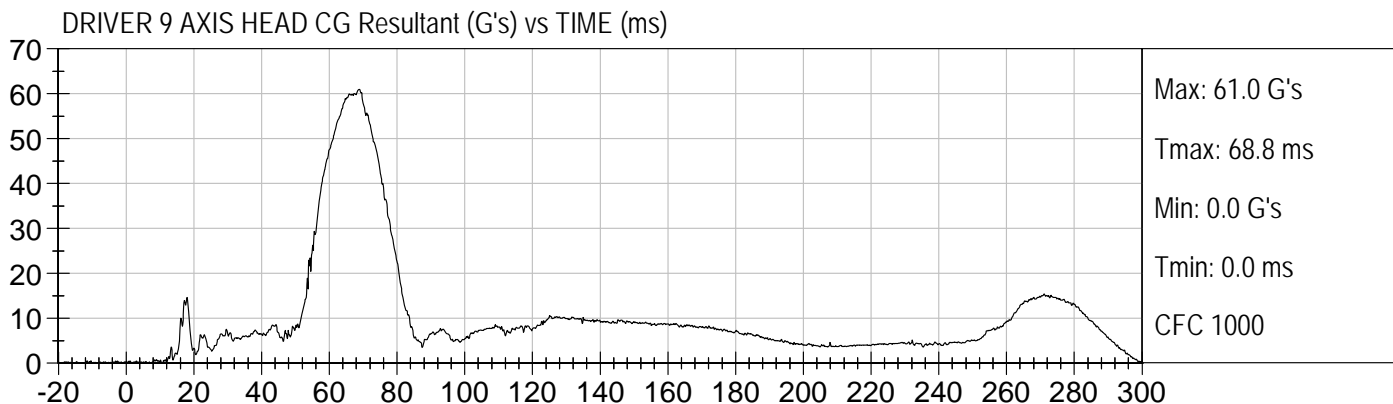
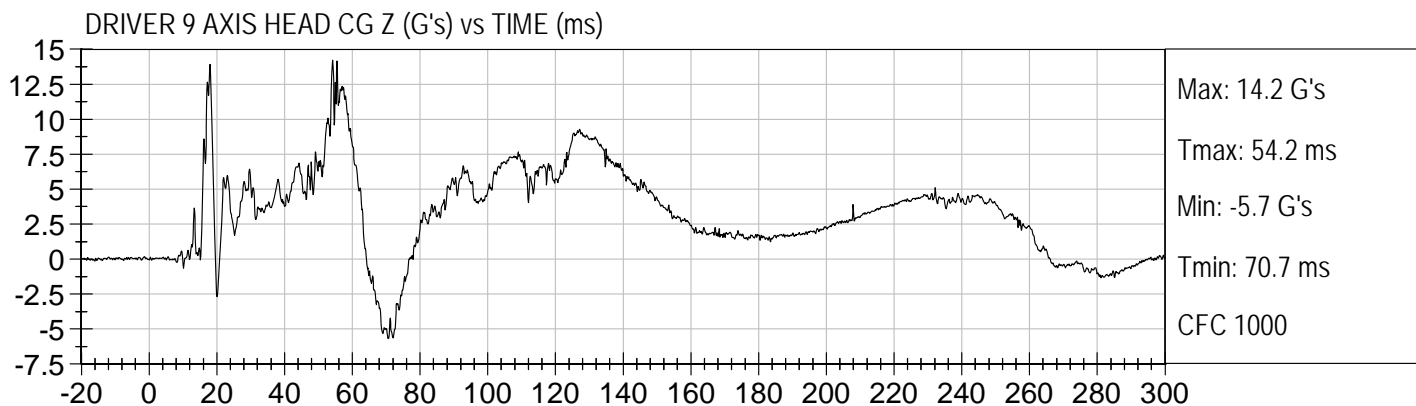
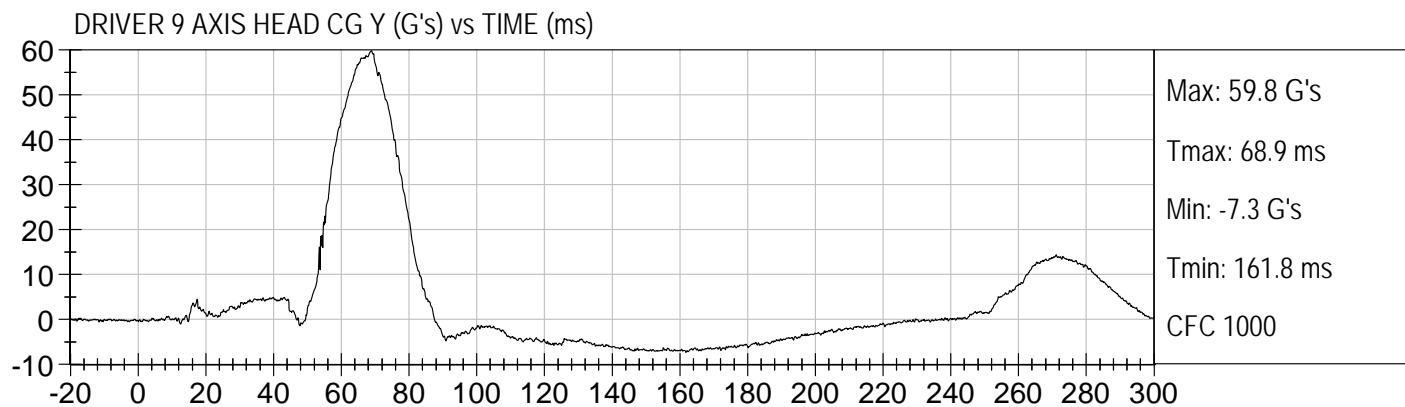
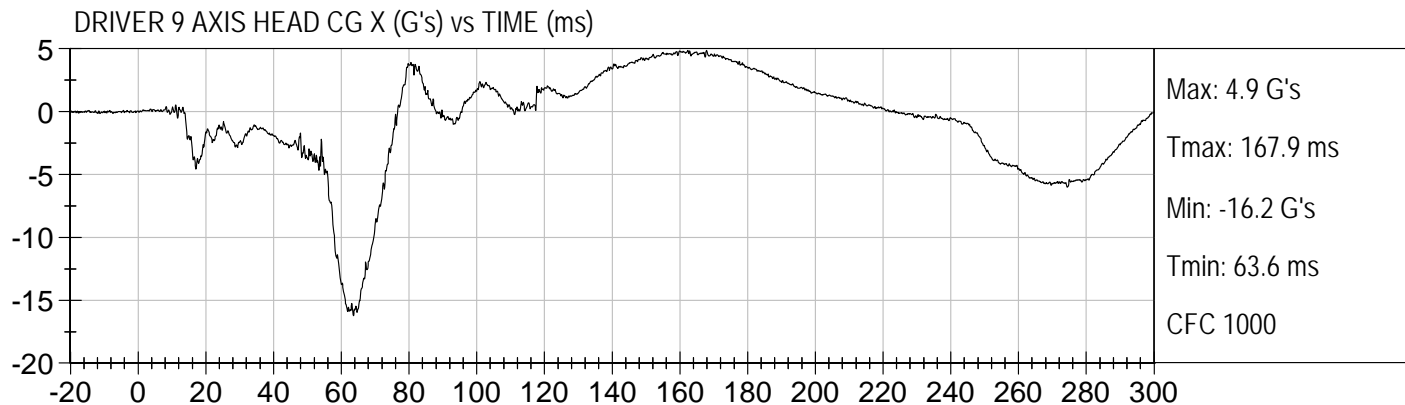
Load Cell Pole Barrier #4 Force (Y)

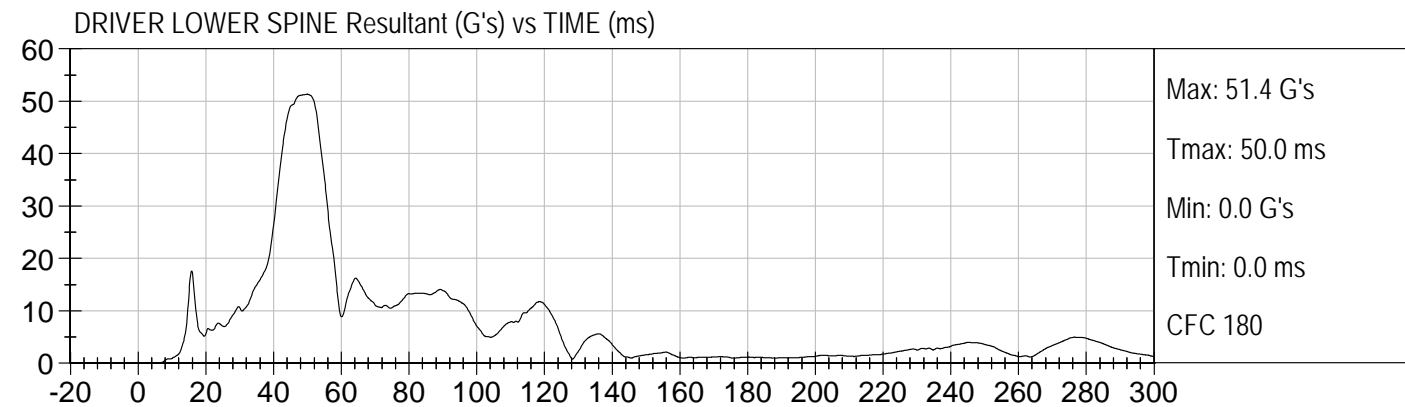
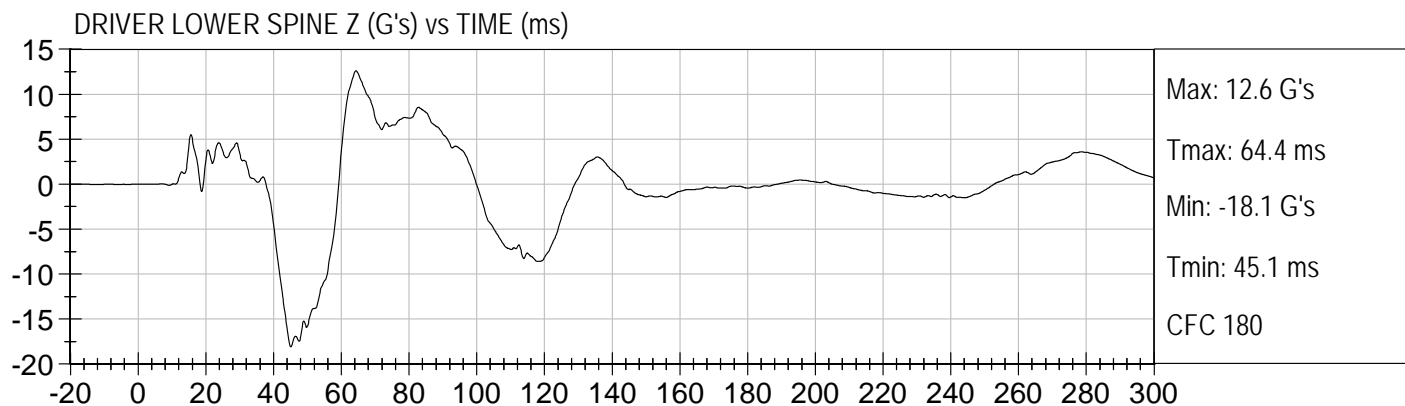
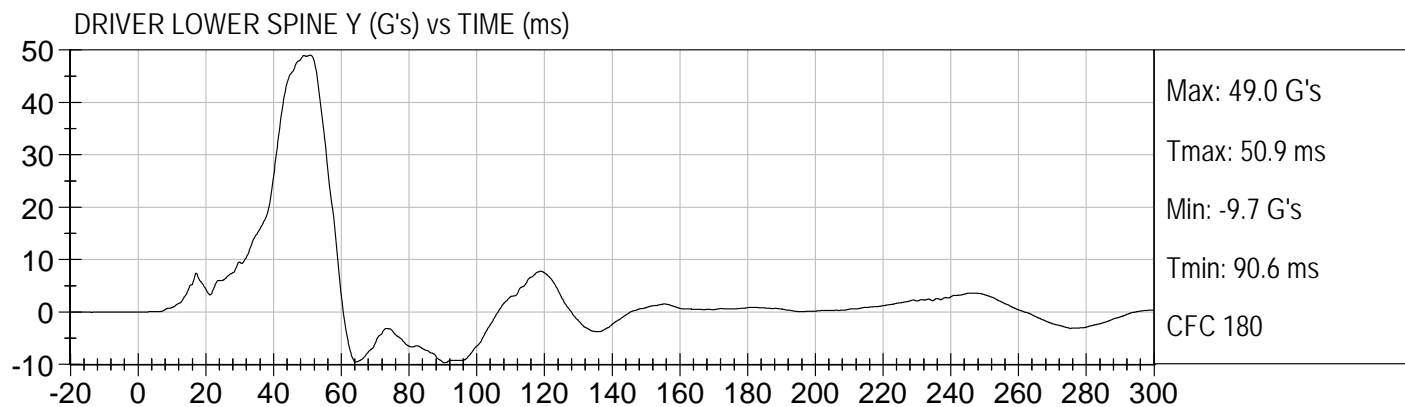
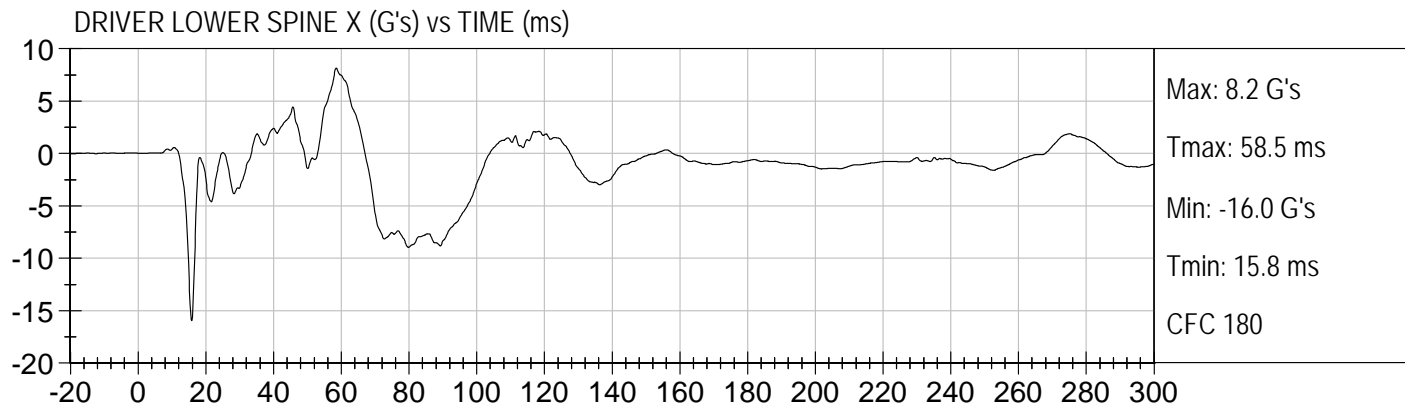
Load Cell Pole Barrier #5 Force (Y)

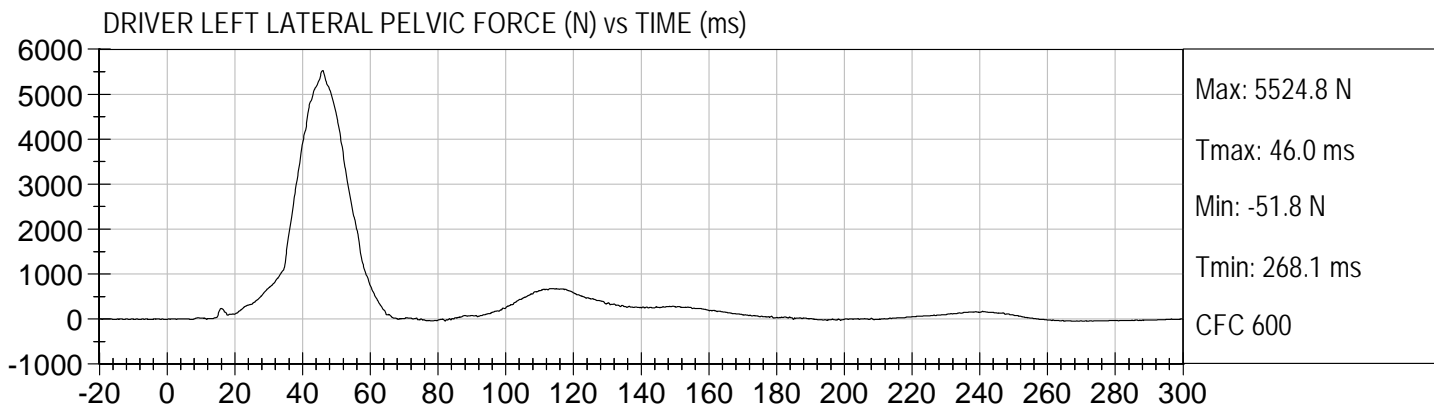
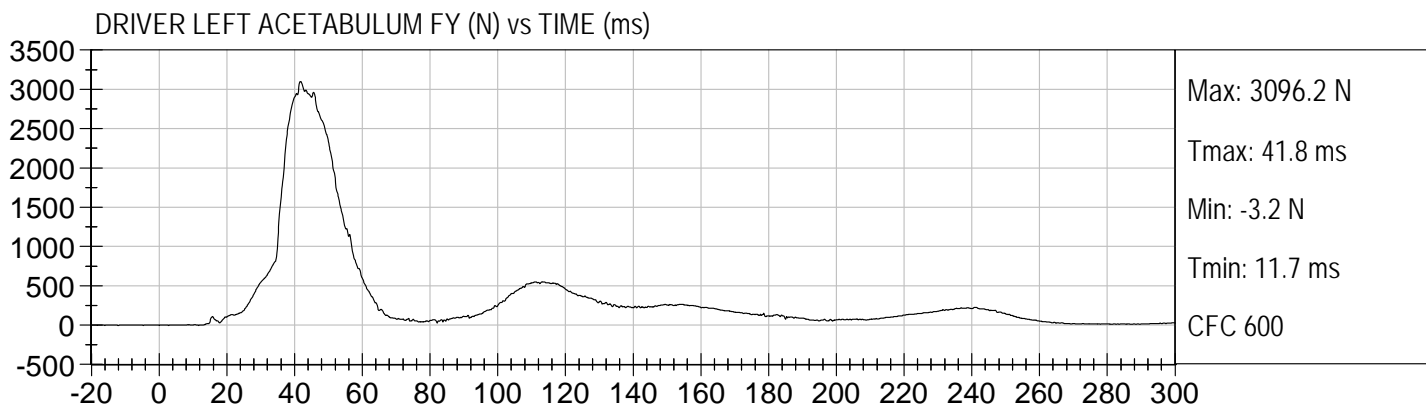
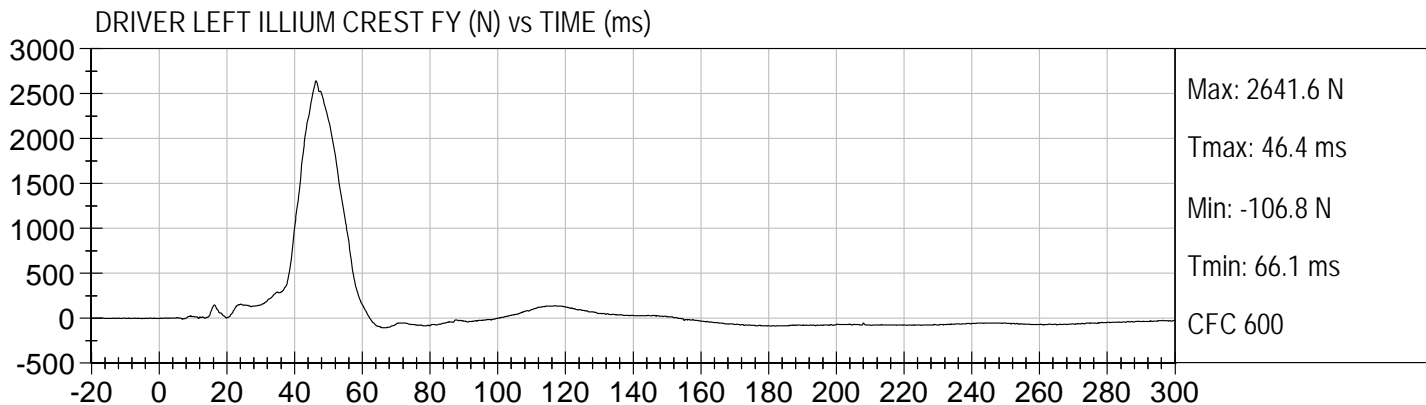
Load Cell Pole Barrier #6 Force (Y)

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

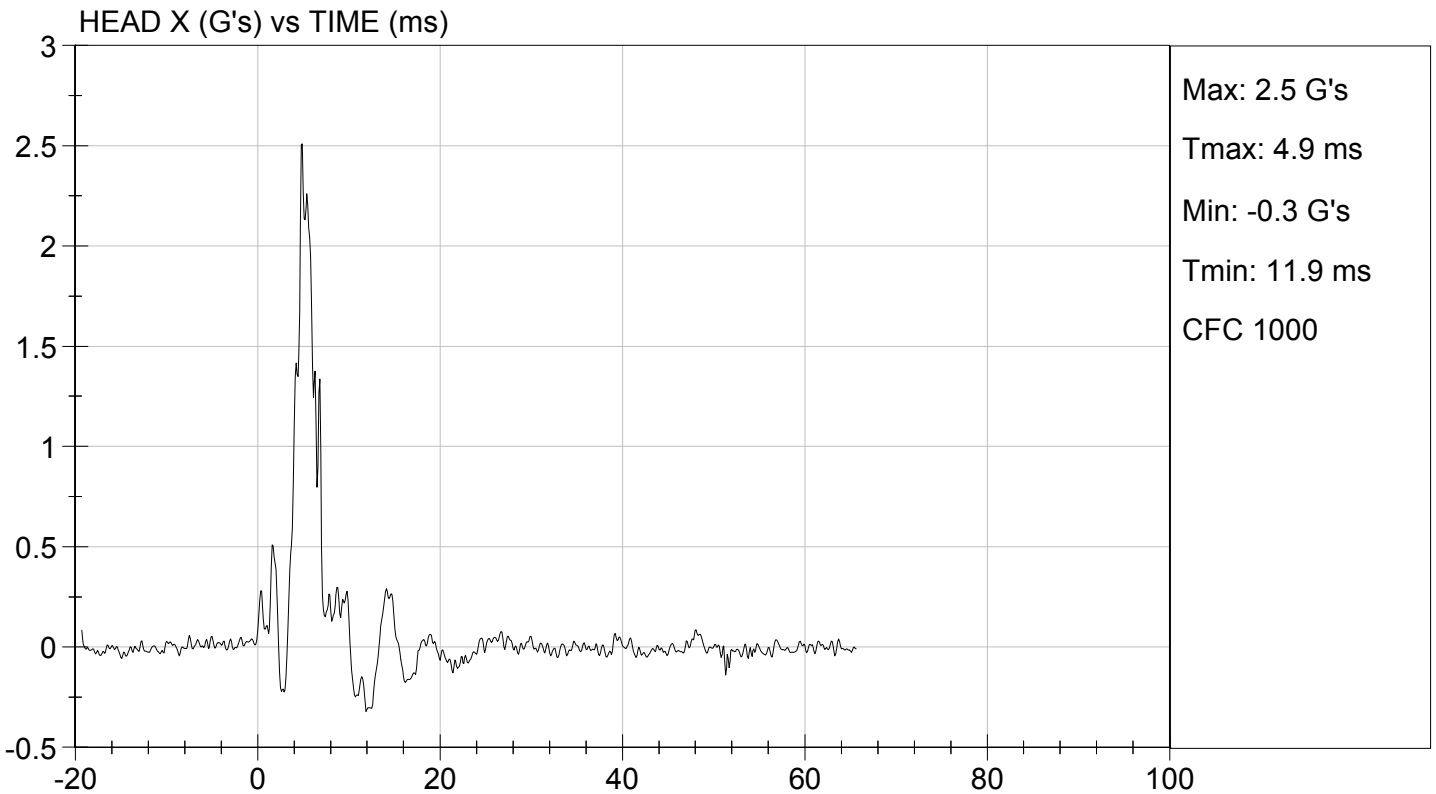
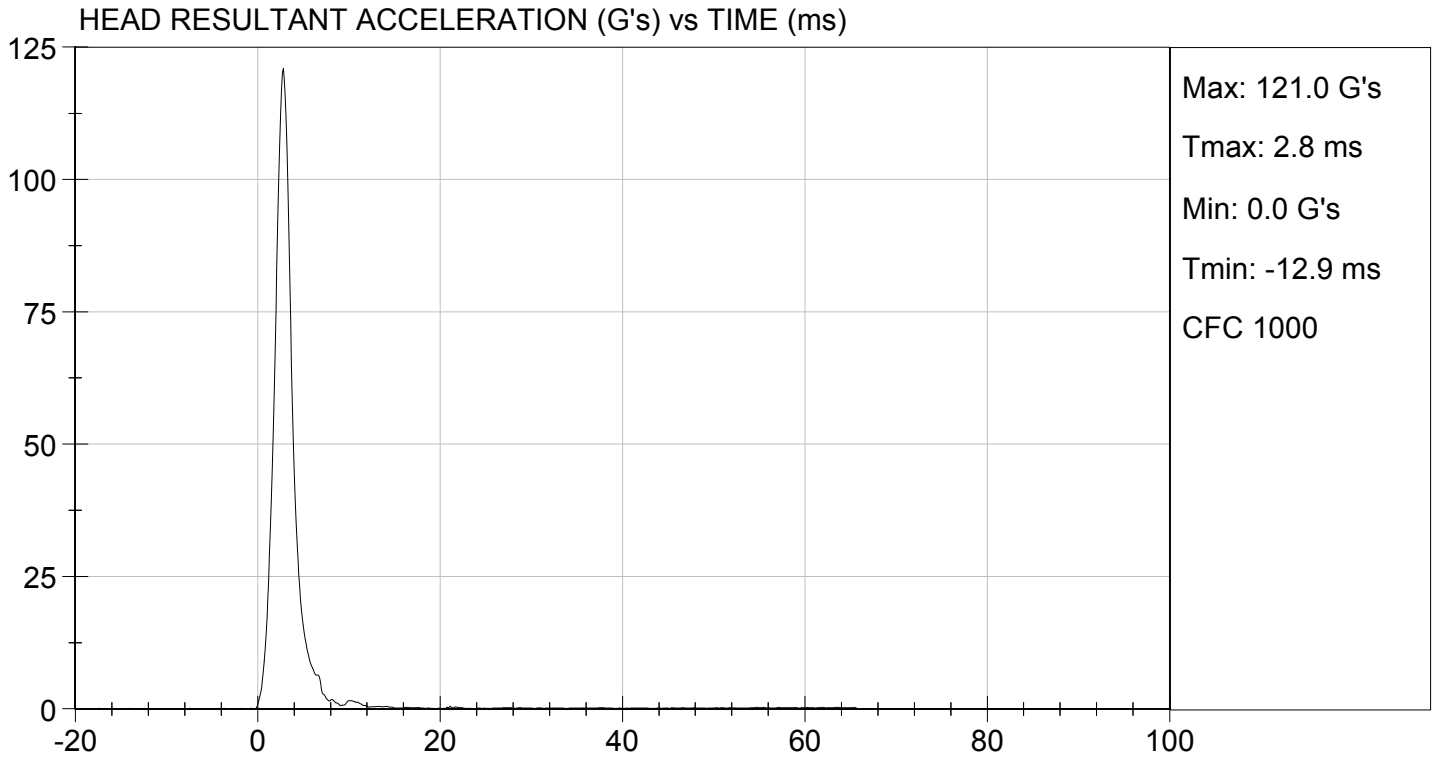
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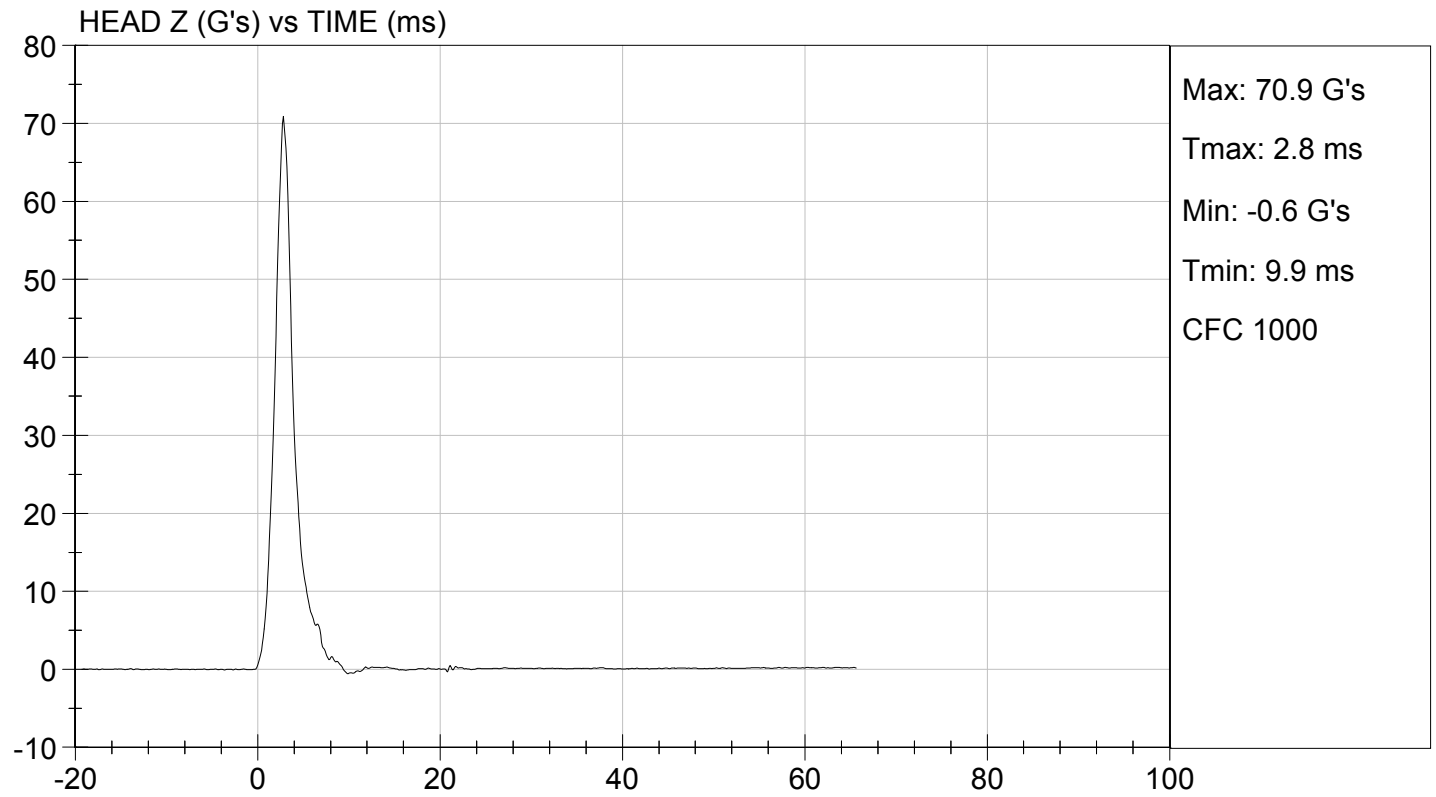
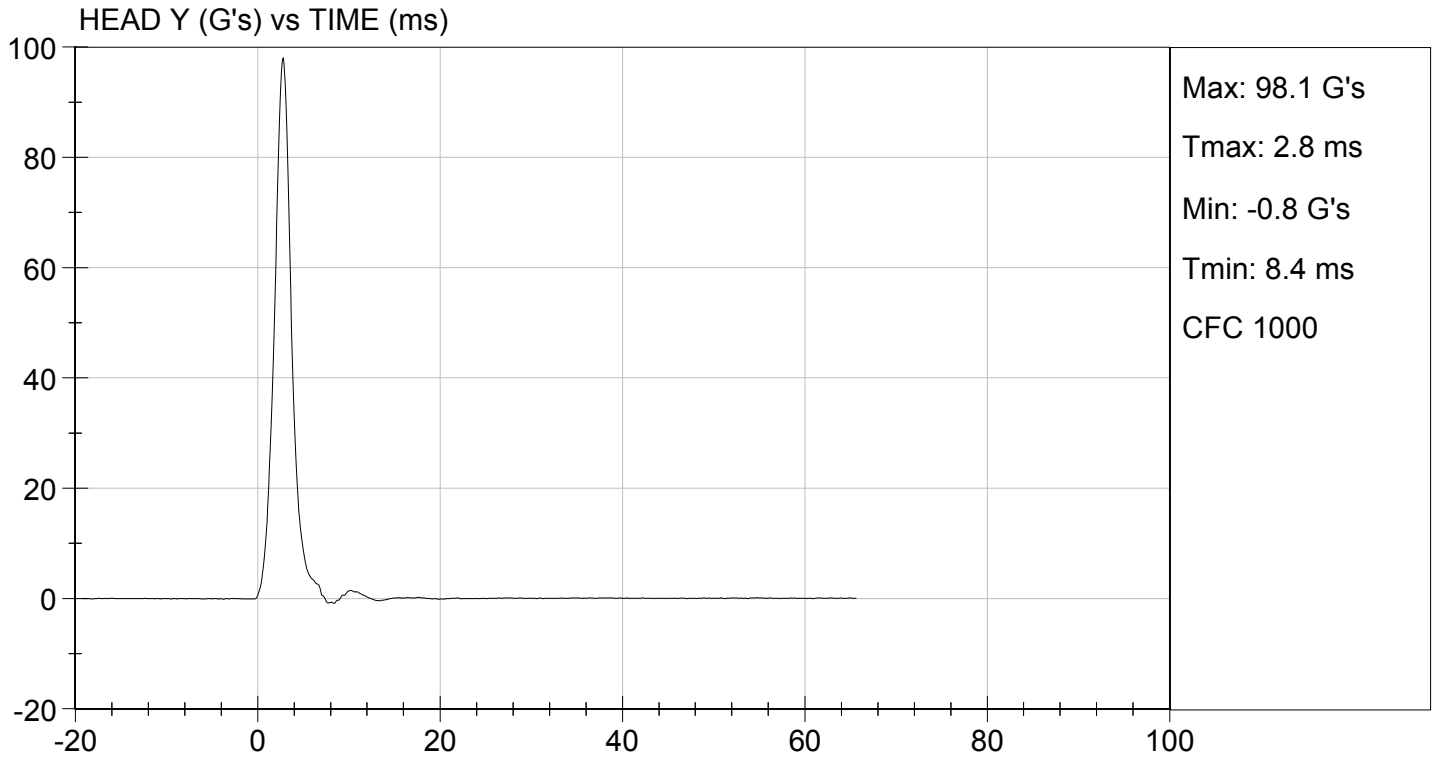
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	22.0	Pass
Laboratory Relative Humidity	%	10 to 70	53	Pass
Peak Resultant Acceleration	G's	115 to 137	121	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.5	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

10/25/2012
Test Date


Approved By





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

ATD Serial No: 306

Test I.D.: D124062

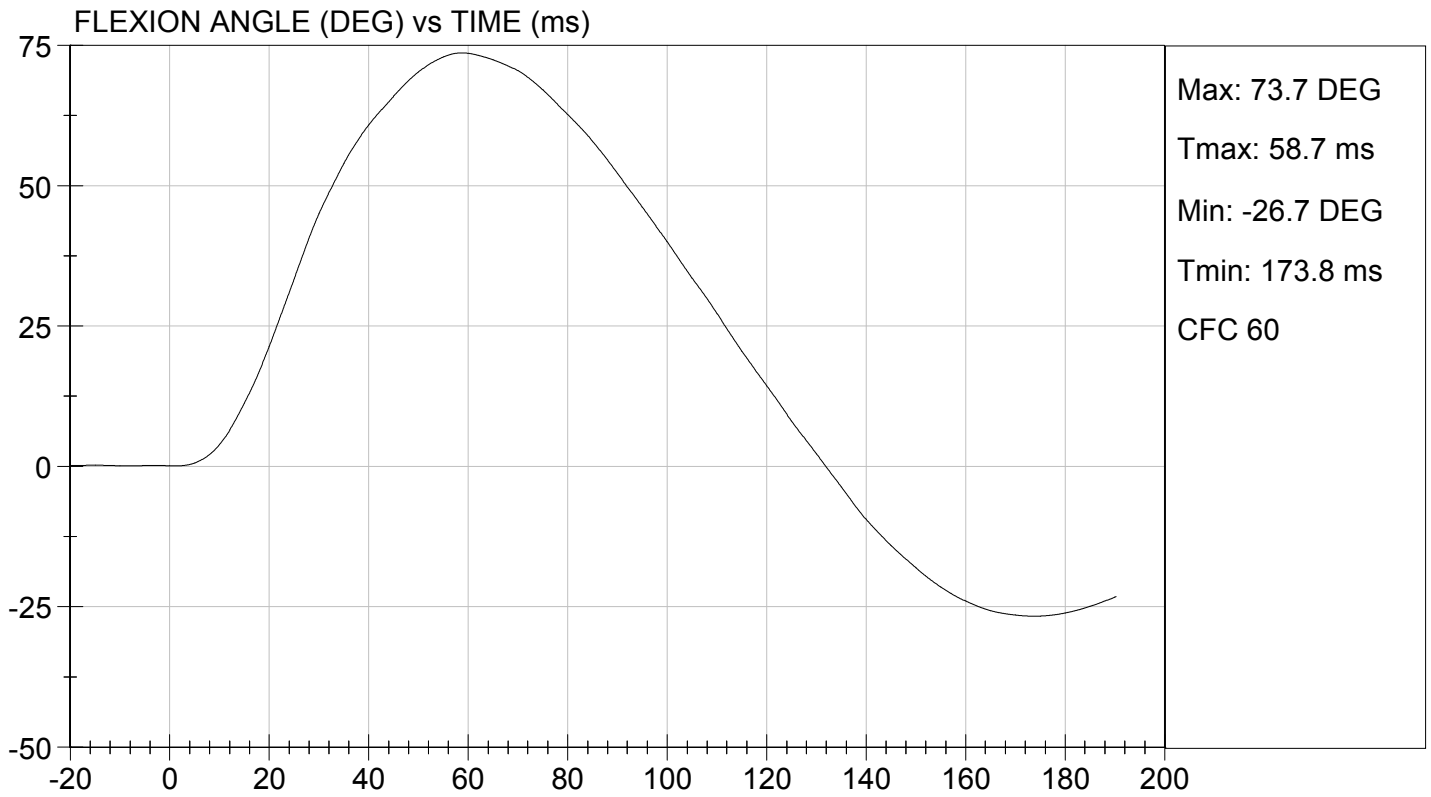
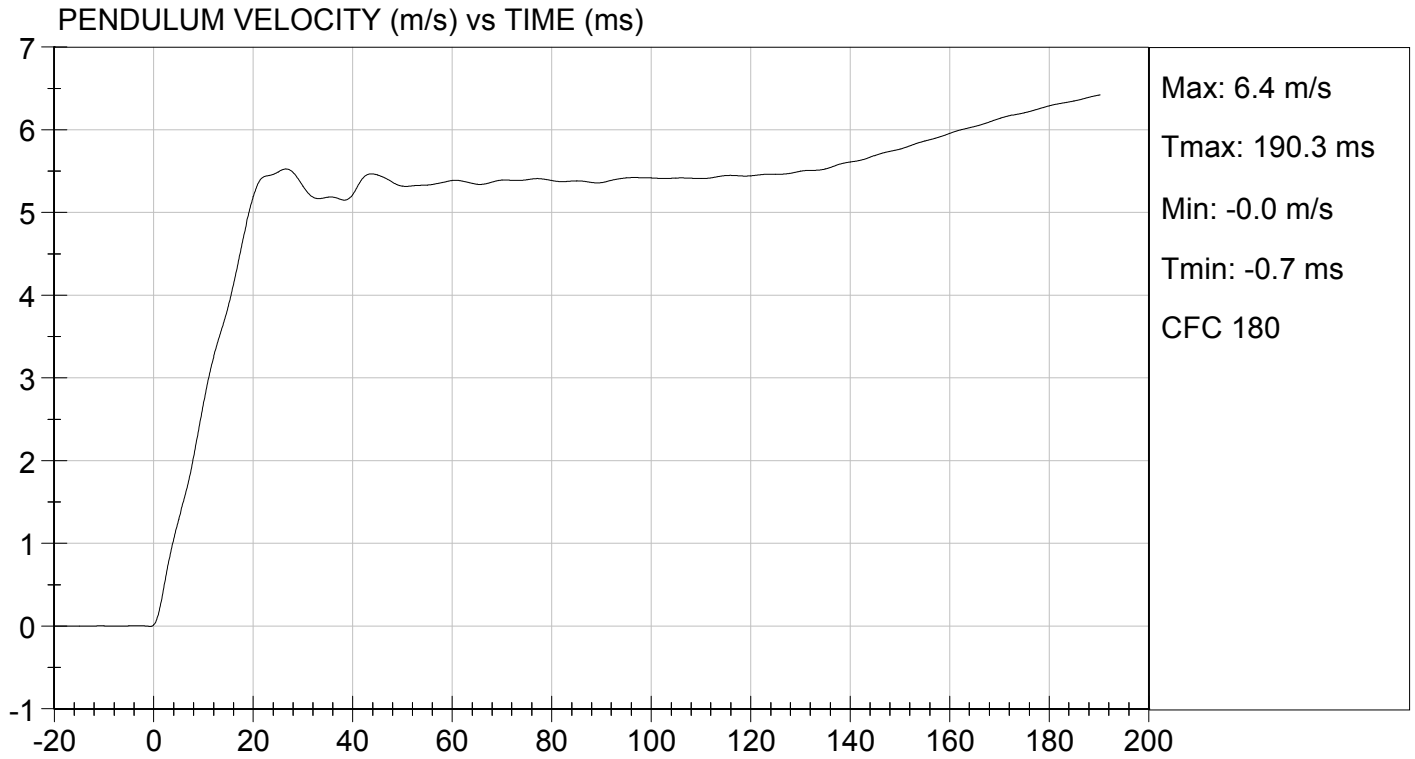
Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	22.0	Pass	
Humidity	%	10 to 70	53	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.58	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.70	Pass
	15 ms	m/s	3.30 to 4.10	3.88	Pass
	20 ms	m/s	4.40 to 5.40	5.19	Pass
	25 ms	m/s	5.40 to 6.10	5.49	Pass
	25-100 ms	m/s	5.50 to 6.20	5.53	Pass
Maximum D-Plane Rotation	deg	71 to 81	74	Pass	
Time of Maximum D-Plane Rotation	ms	50 to 70	59	Pass	
Maximum Occipital Condyle Moment	Nm	-44 to -36	-43	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	115	Pass	
Overall Test Results				Pass	

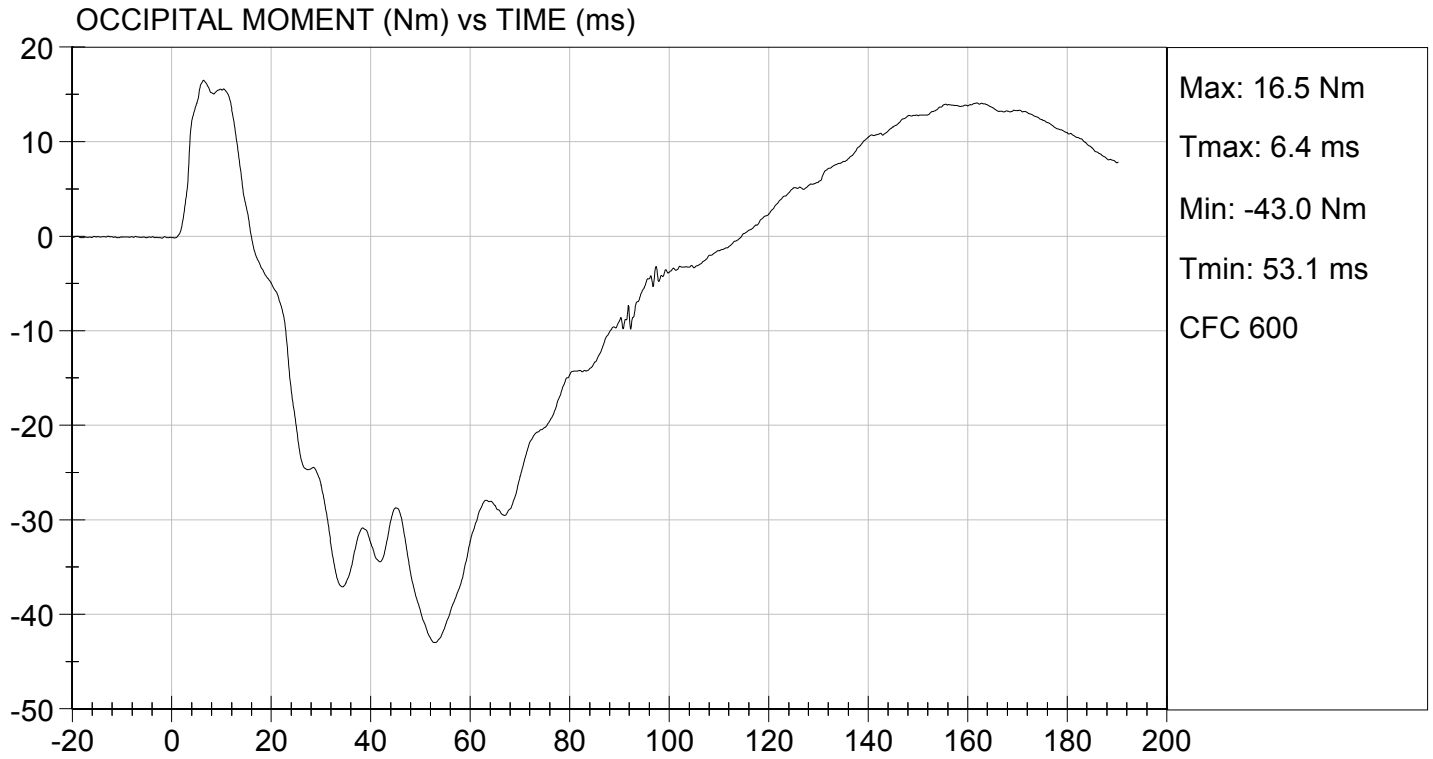
Jessica Hall
Laboratory Technician

10/25/2012

Test Date

David Winkelbauer
Approved By





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

ATD Serial No: 306

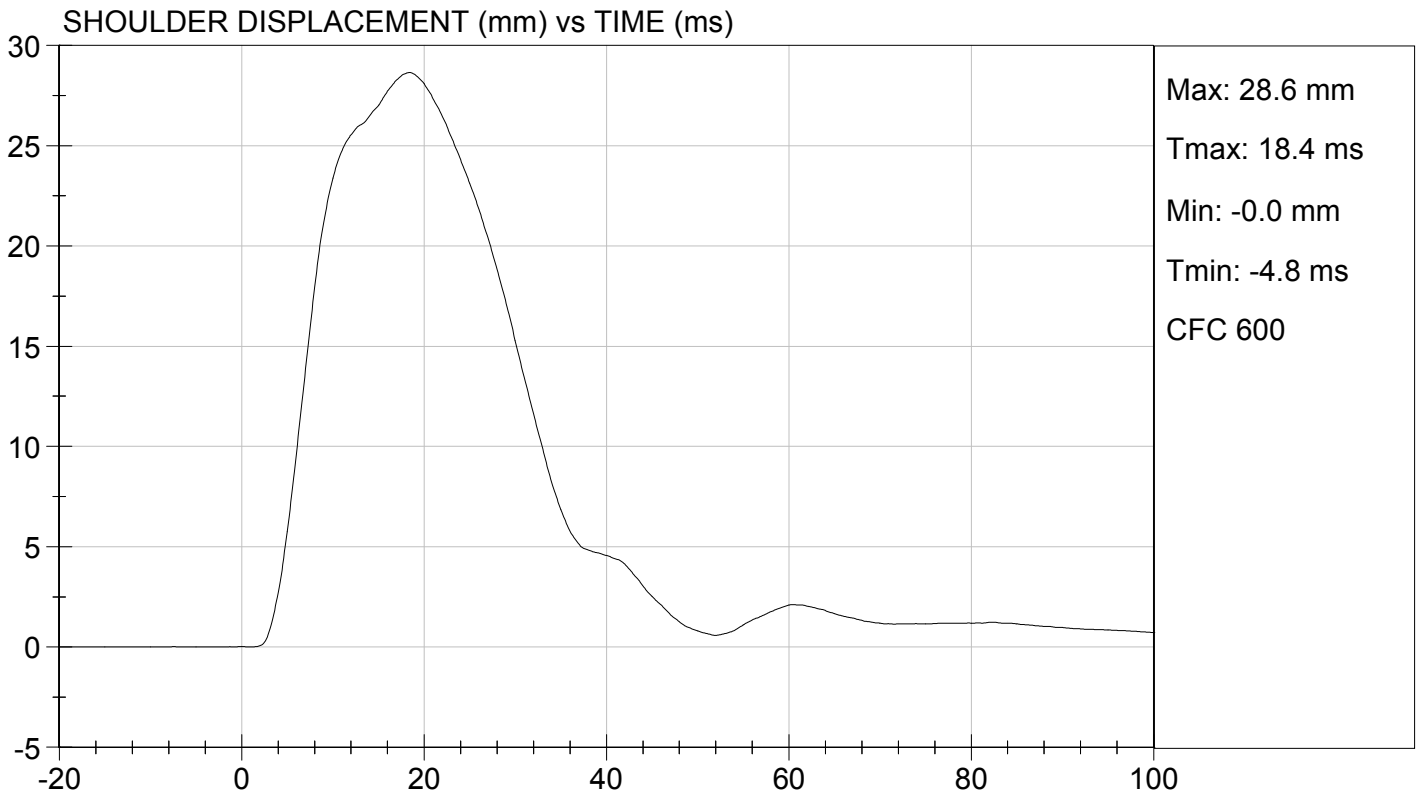
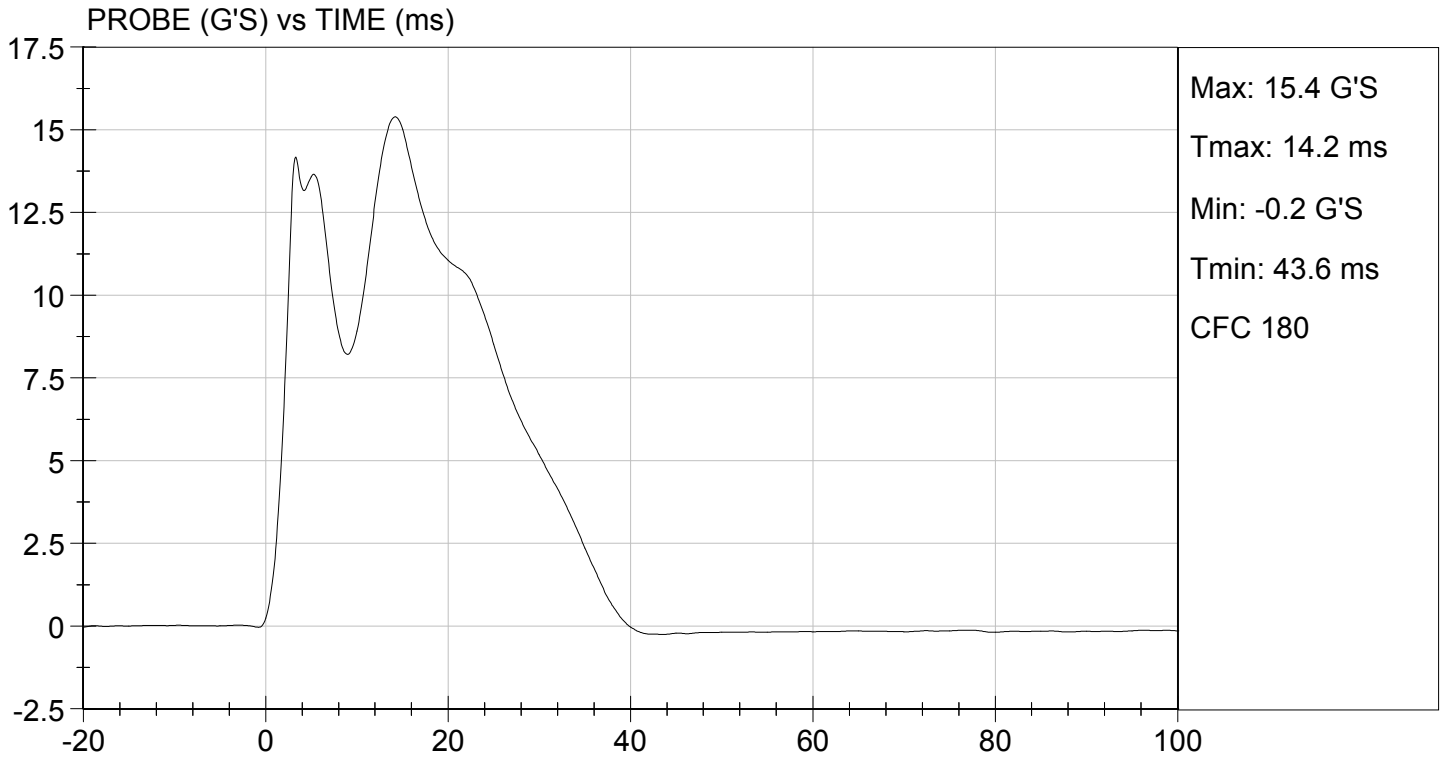
Test ID: D124063

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	53	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	29	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

10/25/2012
Test Date

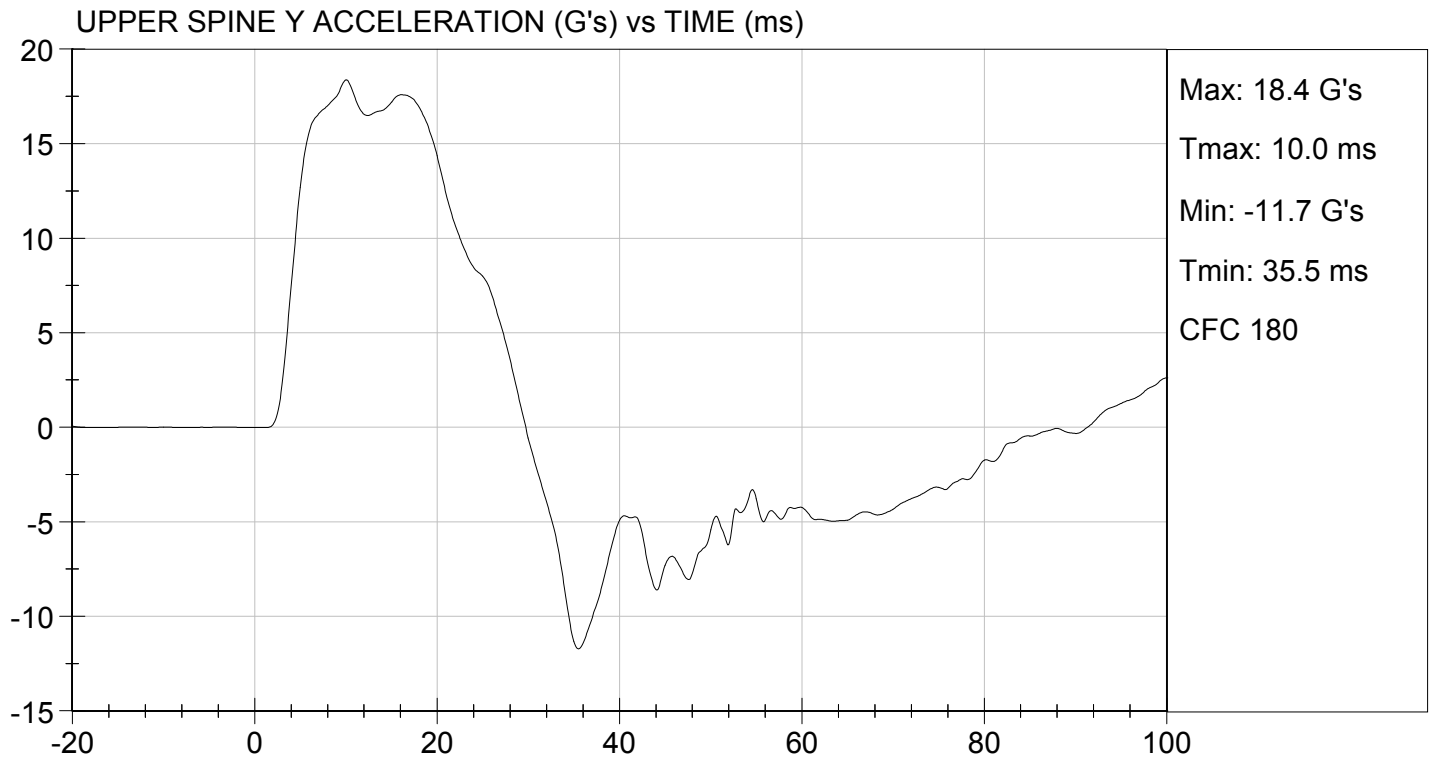
David Winkelbauer
Approved By





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

TEST DATE: 10/25/2012
TEST #: D124063



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

ATD Serial No: 306

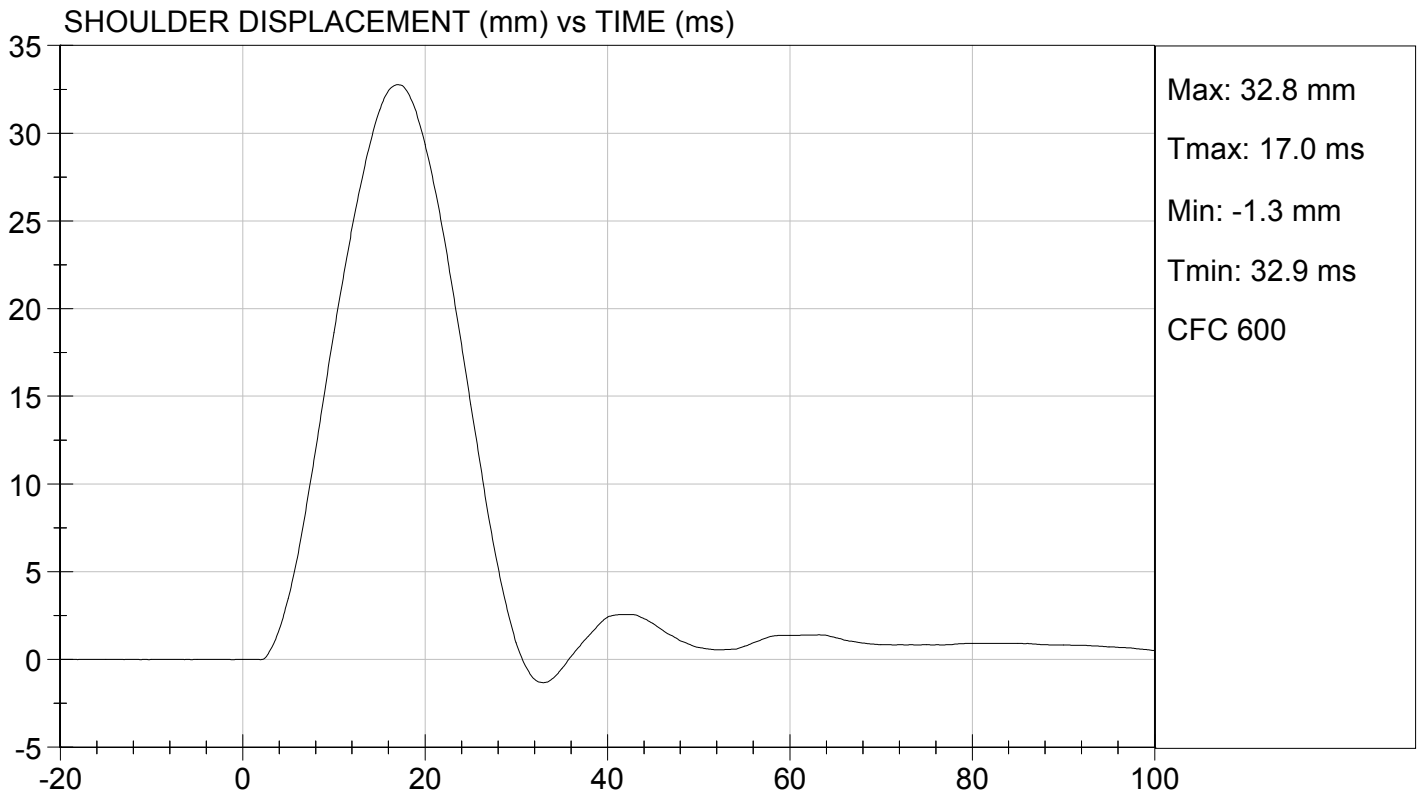
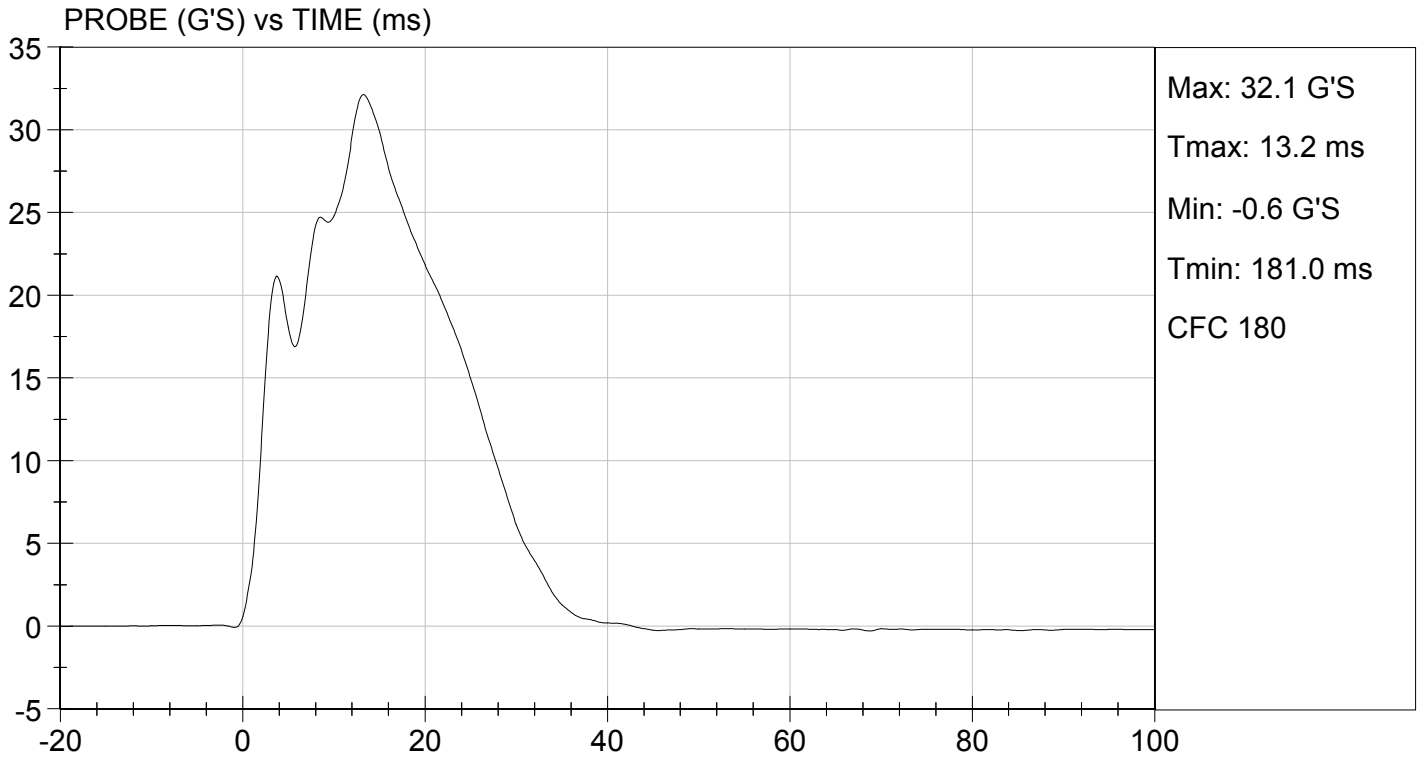
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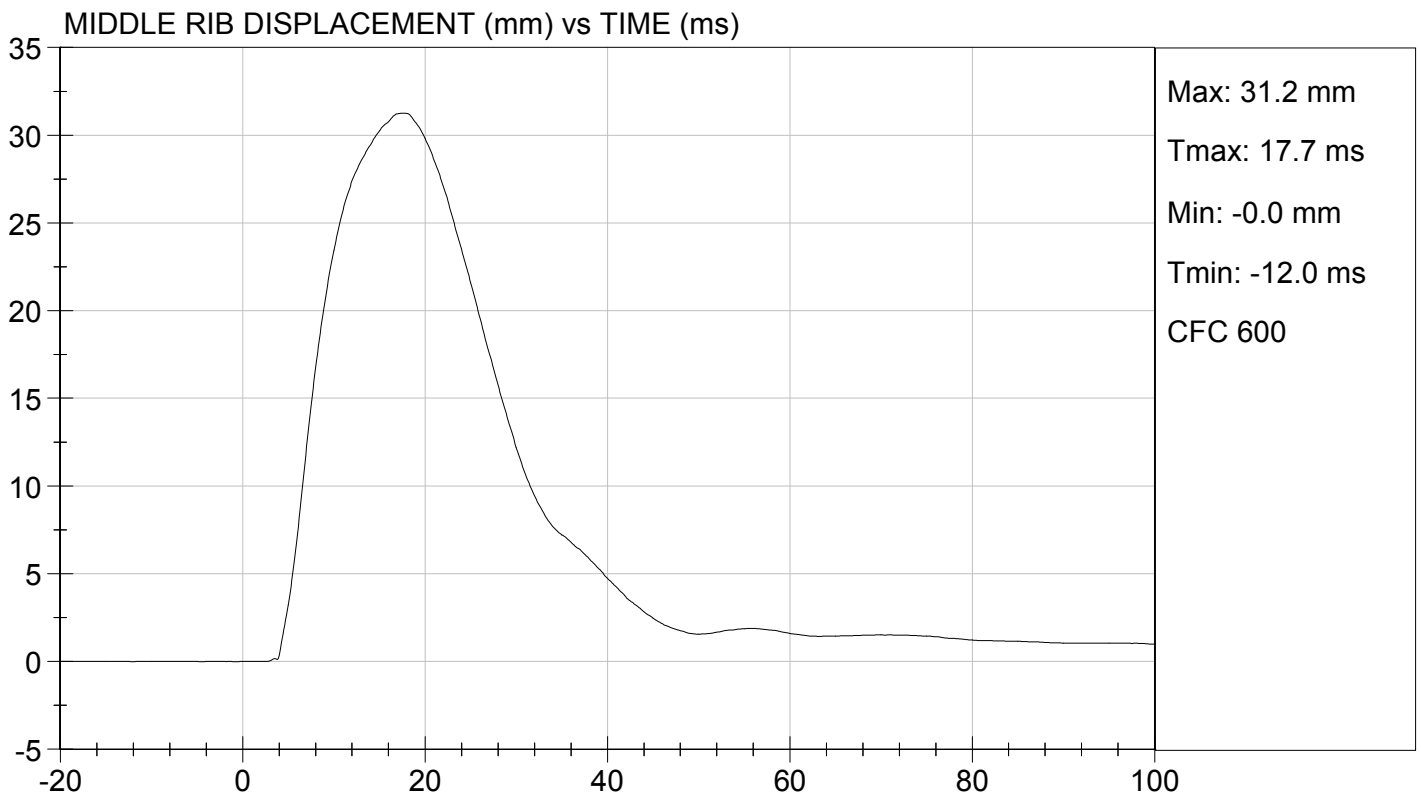
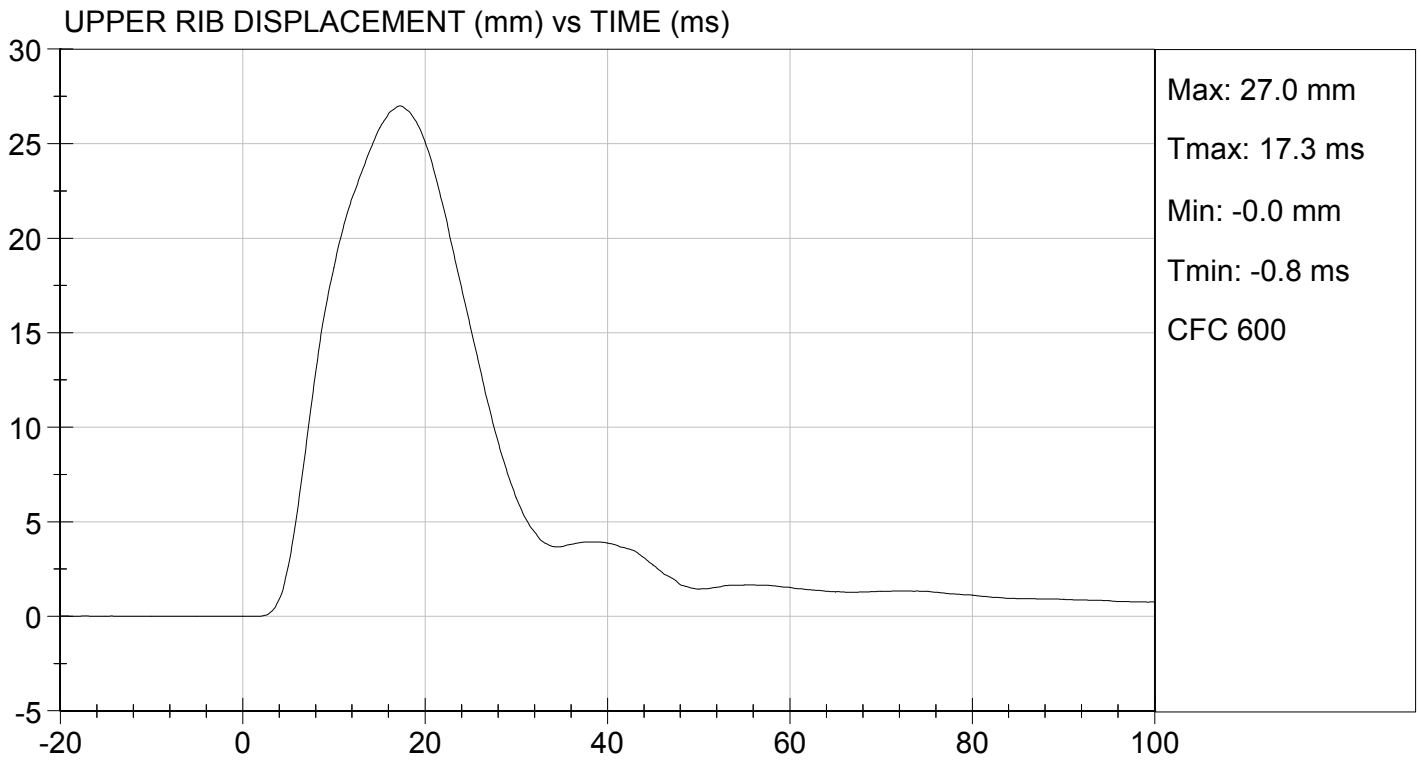
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	30 to 36	32	Pass
Shoulder Displacement	mm	31 to 40	33	Pass
Upper Rib Displacement	mm	25 to 32	27	Pass
Middle 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	38	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	30	Pass
Overall Test Results				Pass

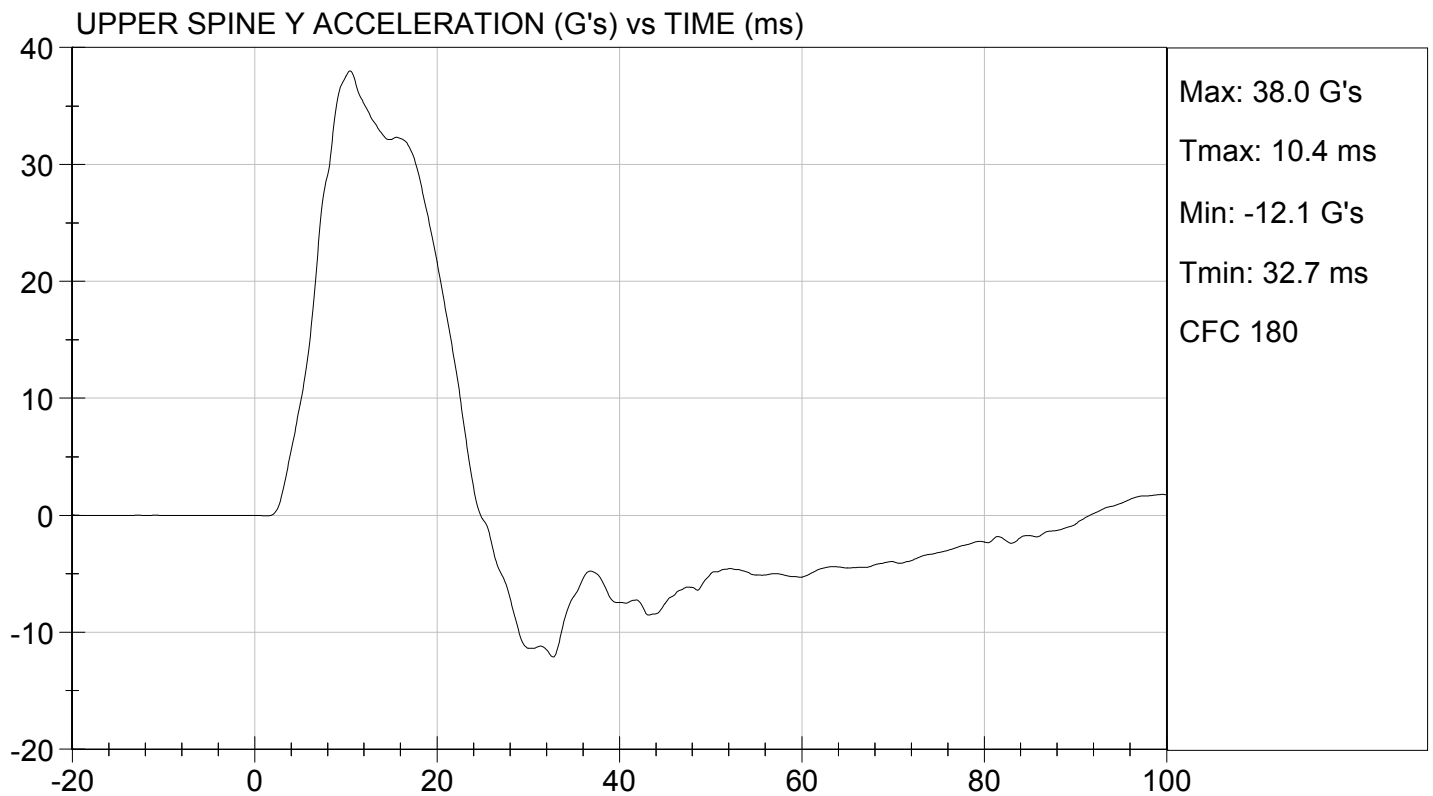
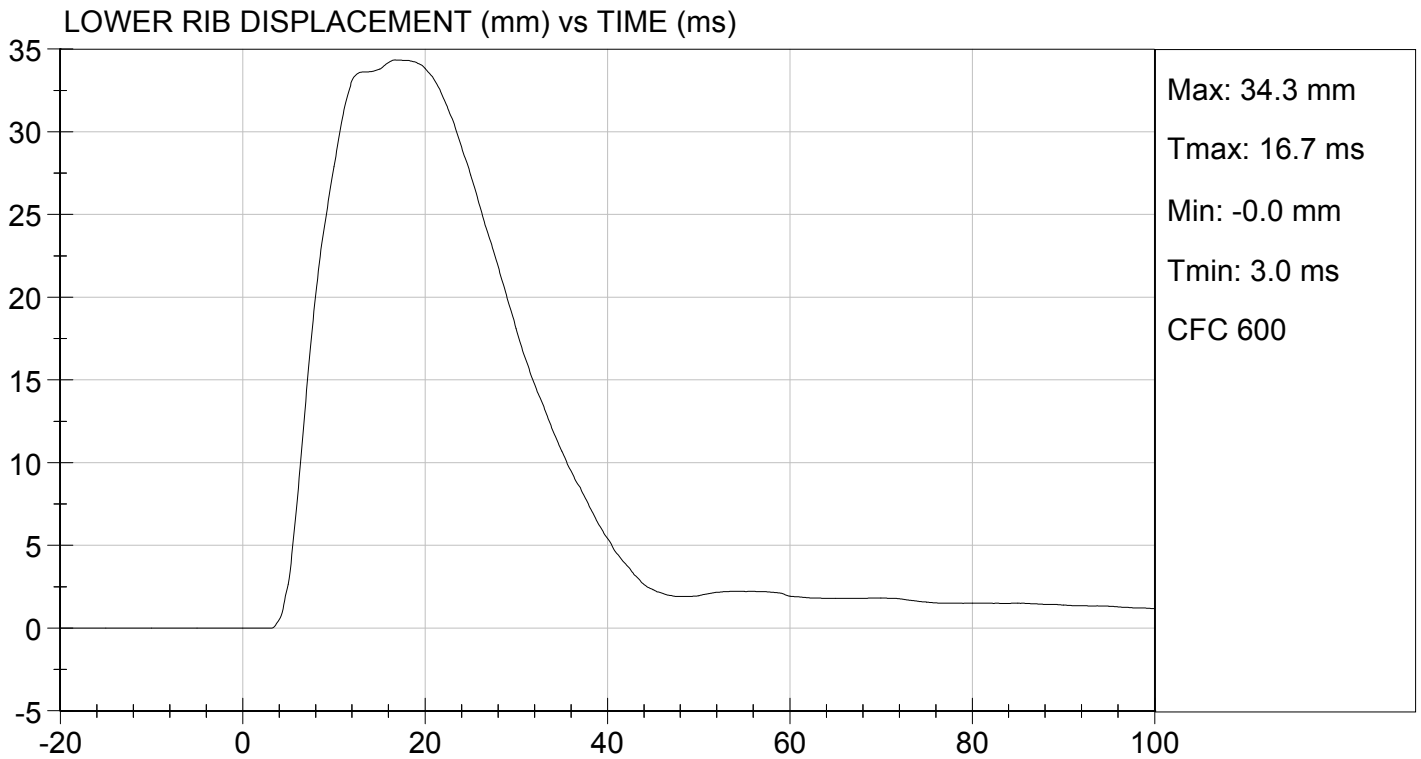

Laboratory Technician

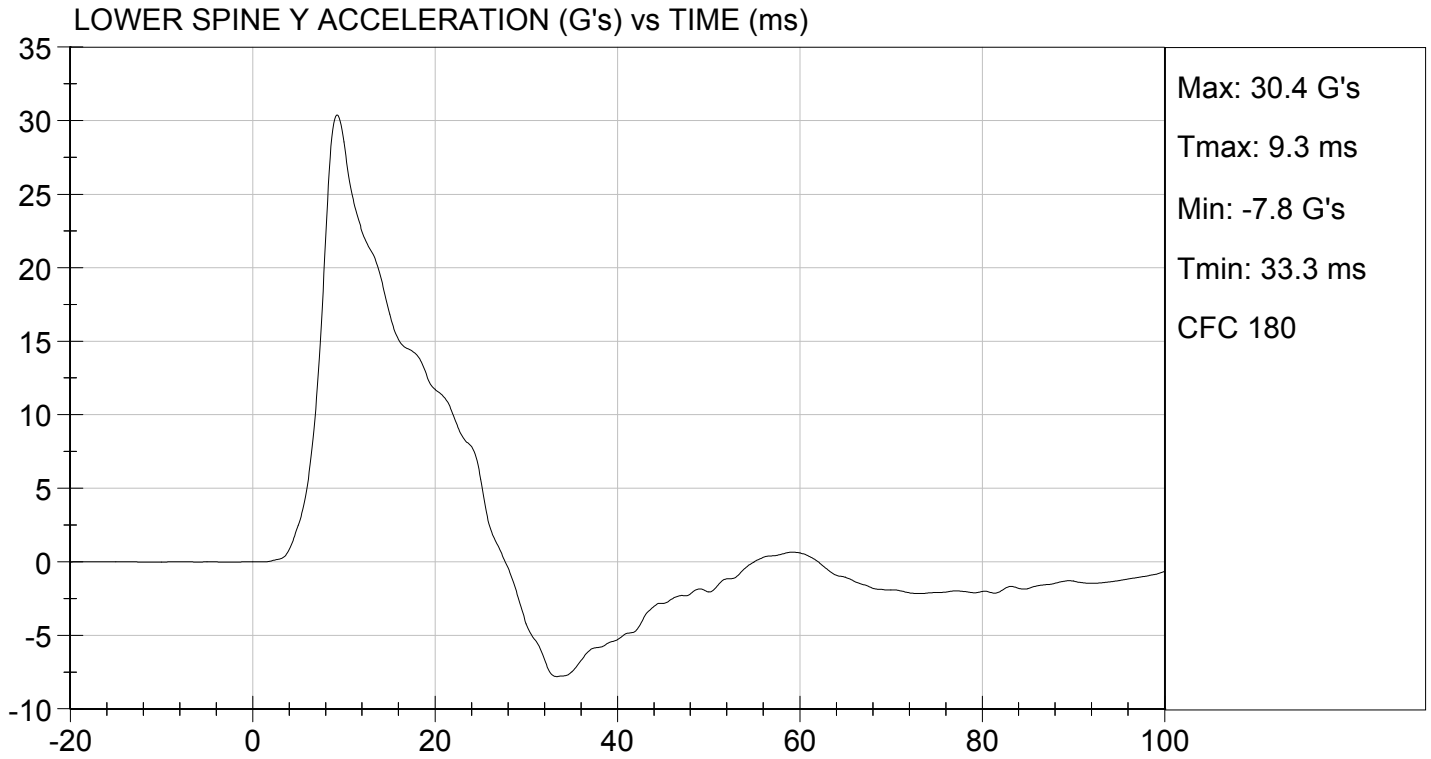
10/25/2012
Test Date


Approved By









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

ATD Serial No: 306

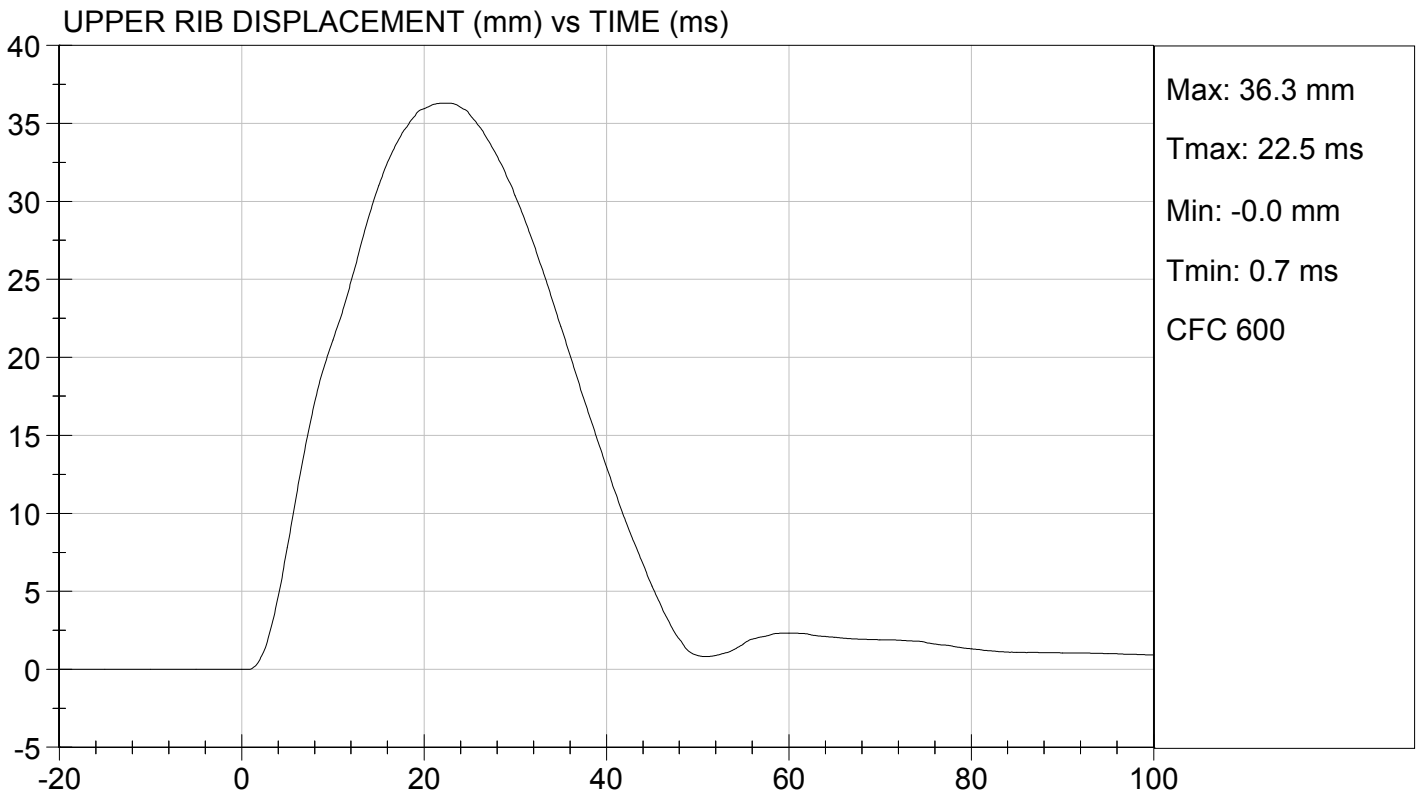
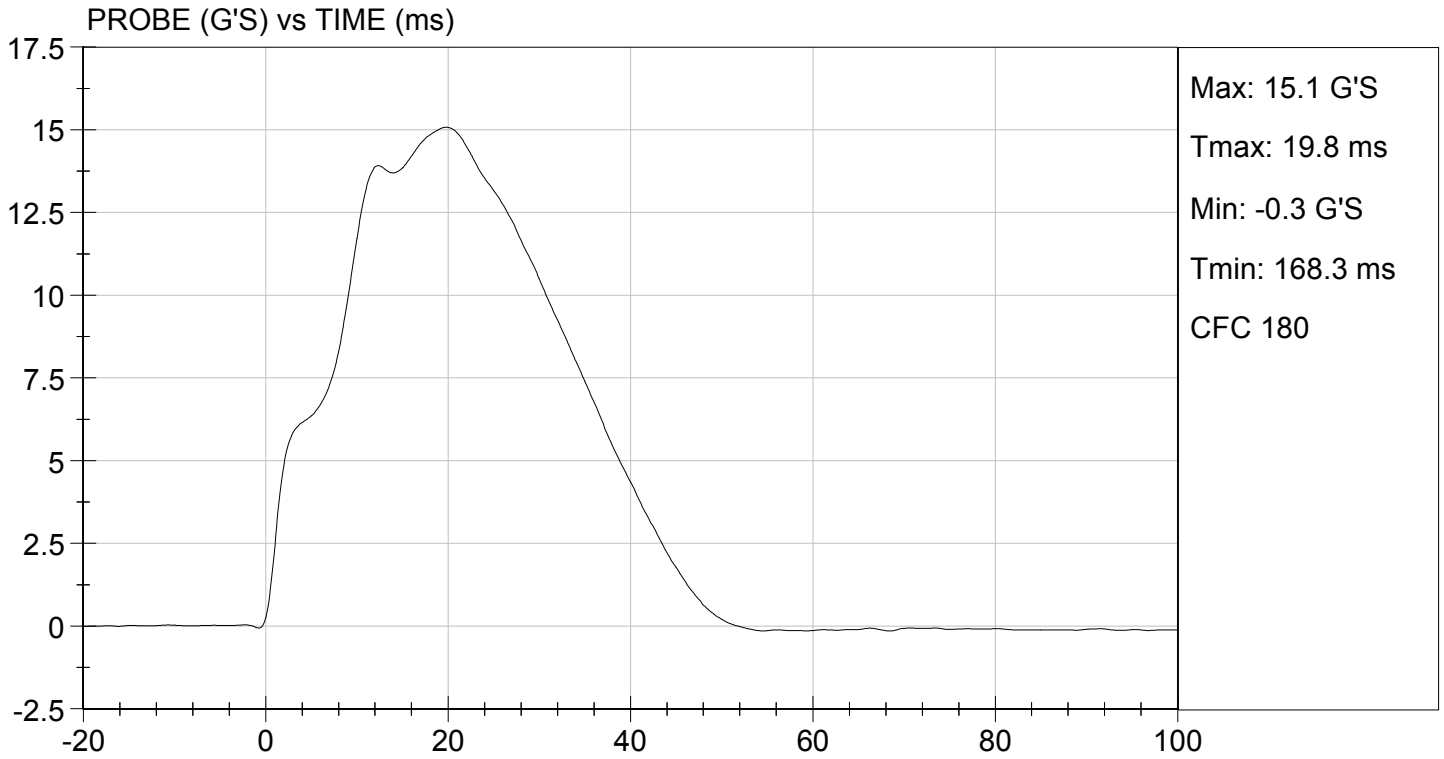
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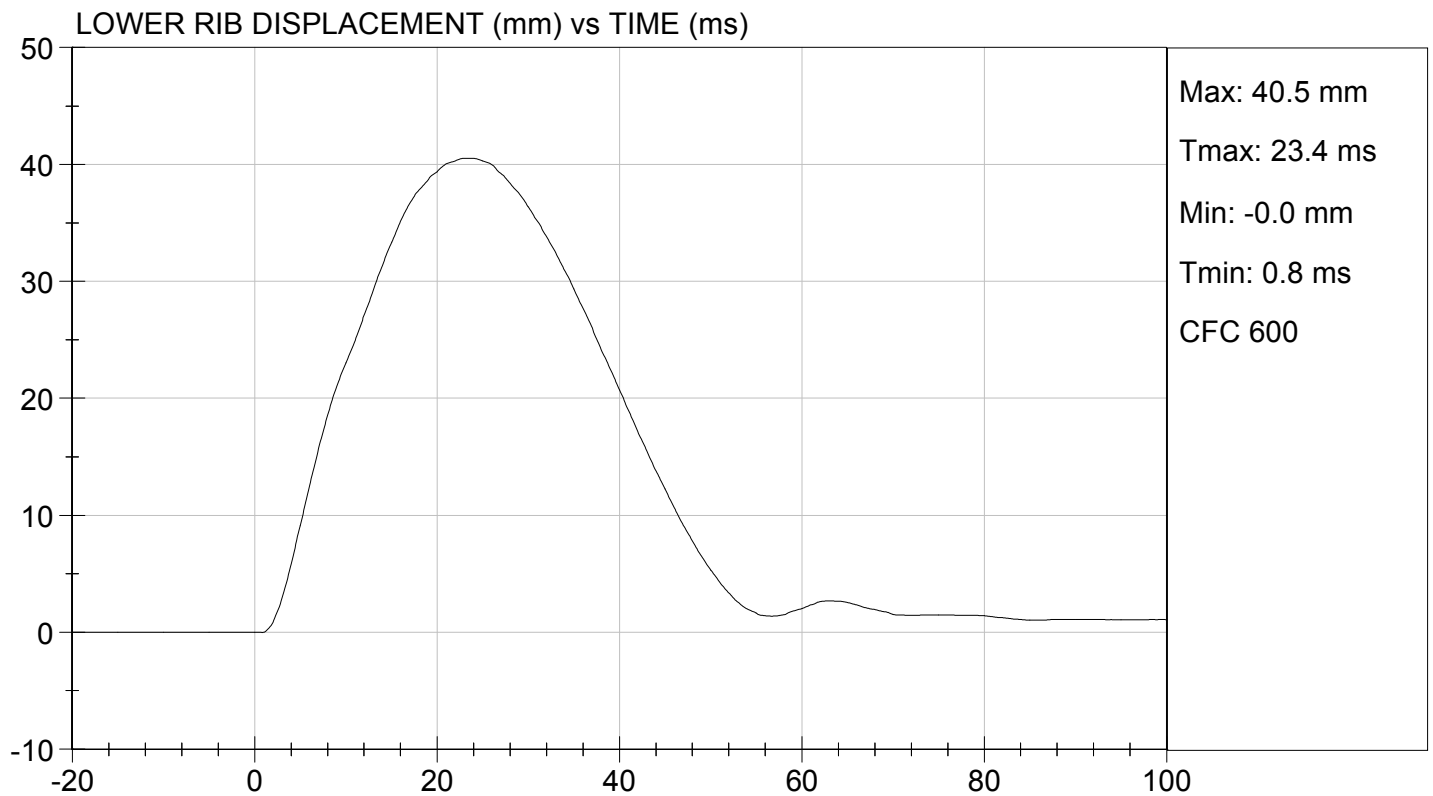
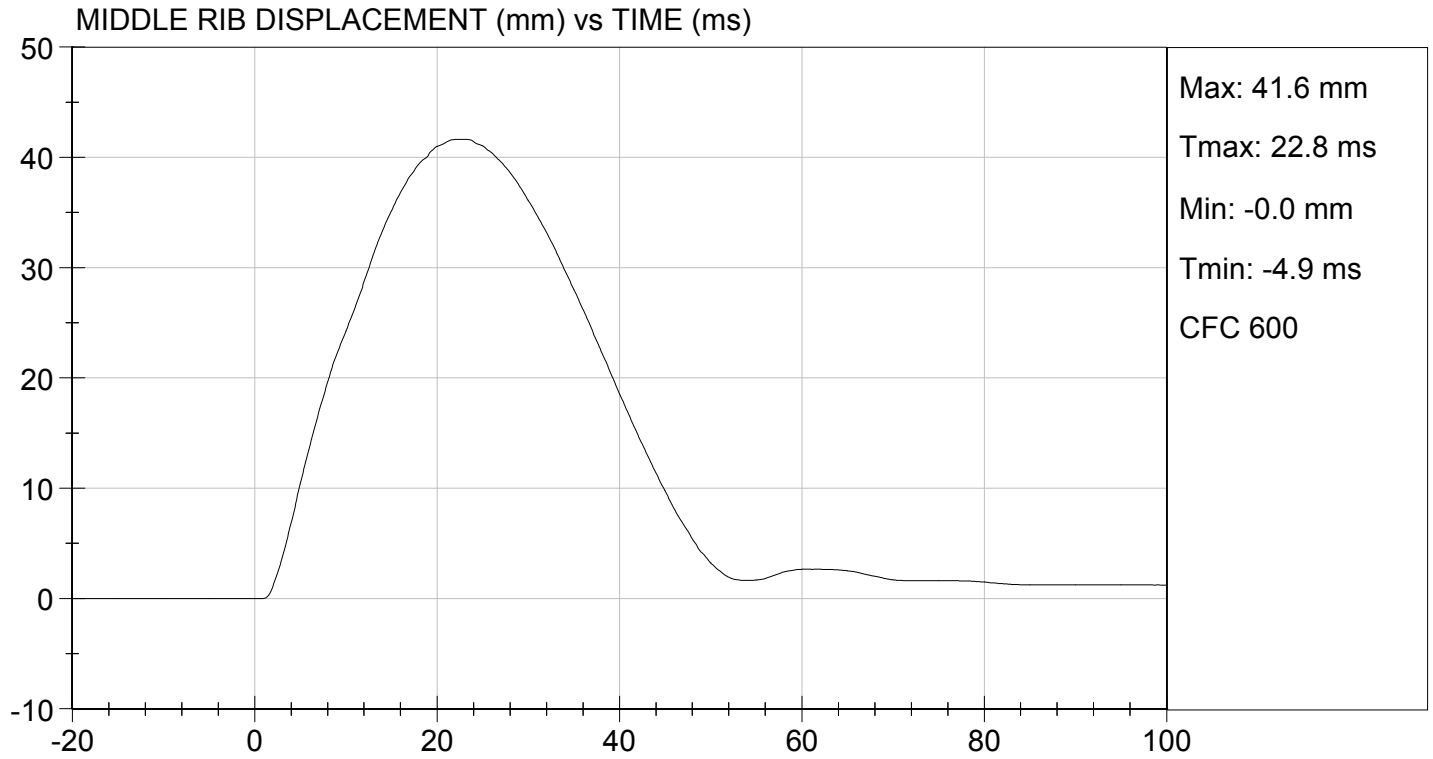
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	14 to 18	15	Pass
Upper Rib Displacement	mm	32 to 40	36	Pass
Middle Rib Displacement	mm	39 to 45	42	Pass
Lower Rib Displacement	mm	35 to 43	41	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	15	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	9	Pass
Overall Test Results				Pass

Jessica Hall
 Laboratory Technician

10/25/2012
 Test Date

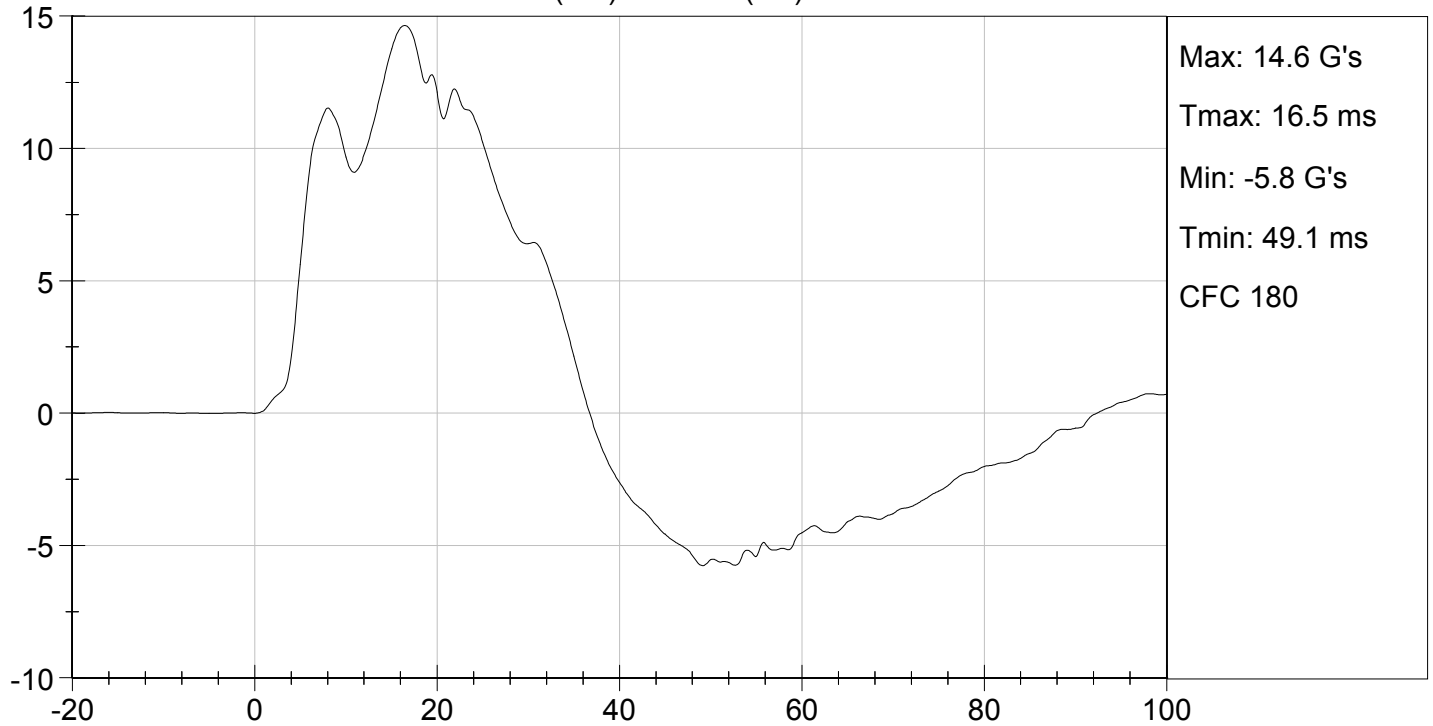
David Winkelbauer
 Approved By



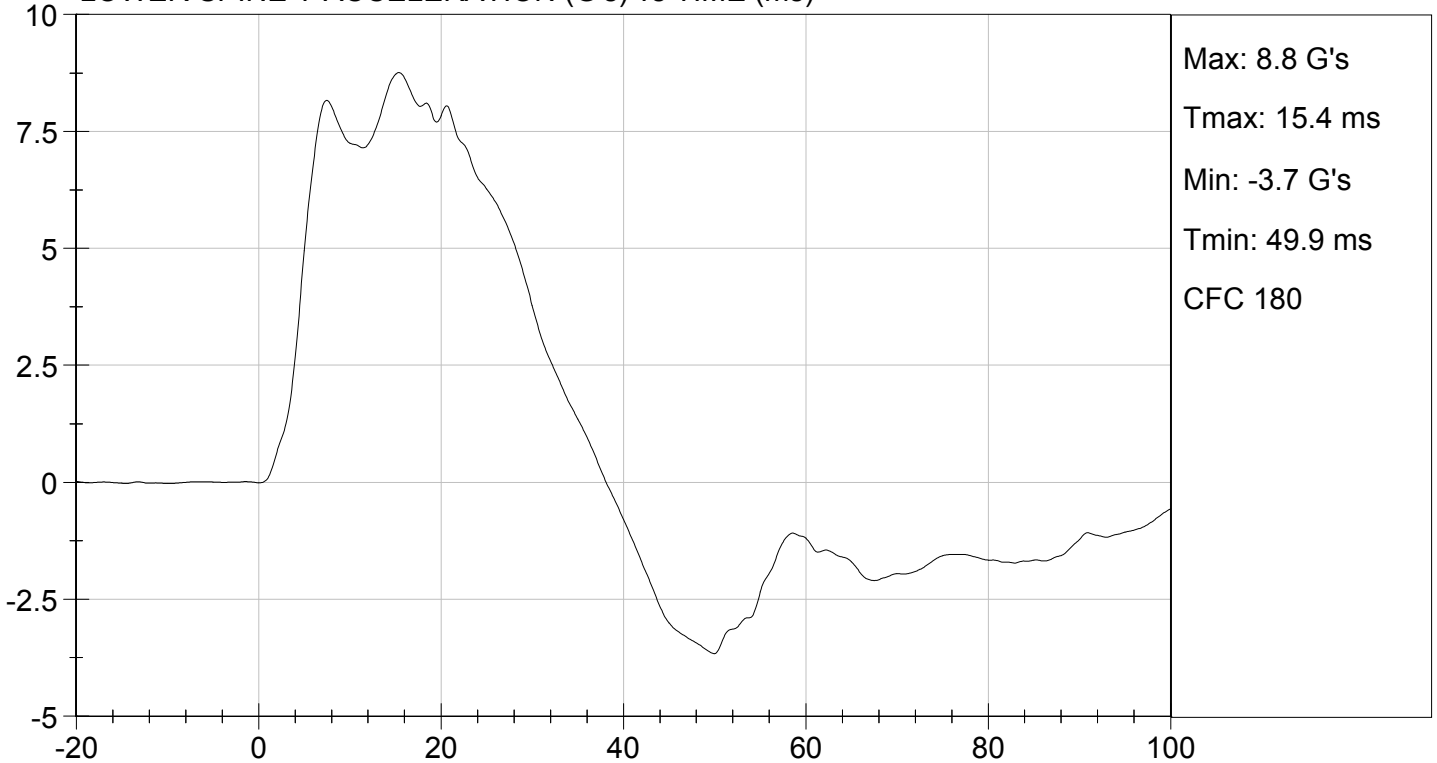




UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)



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

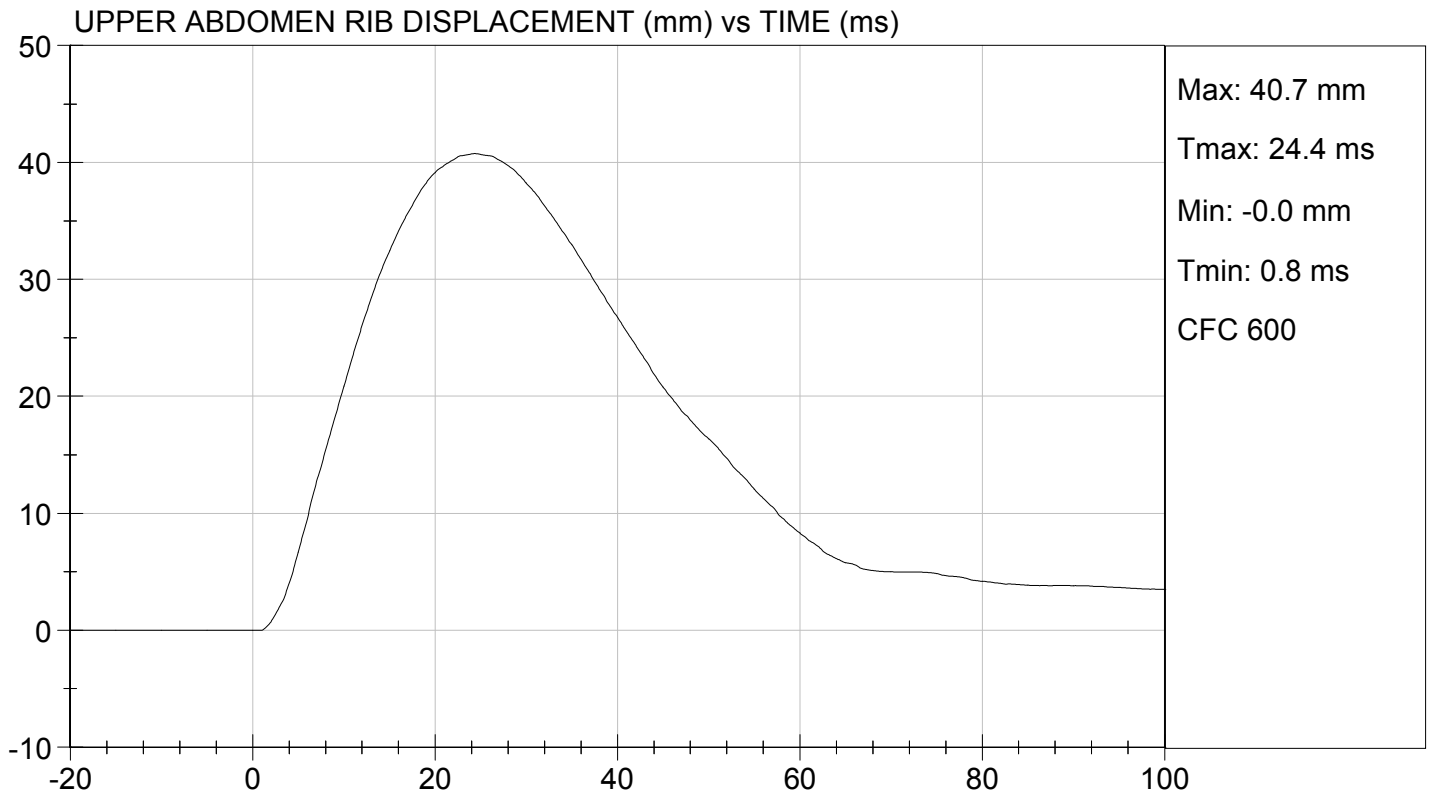
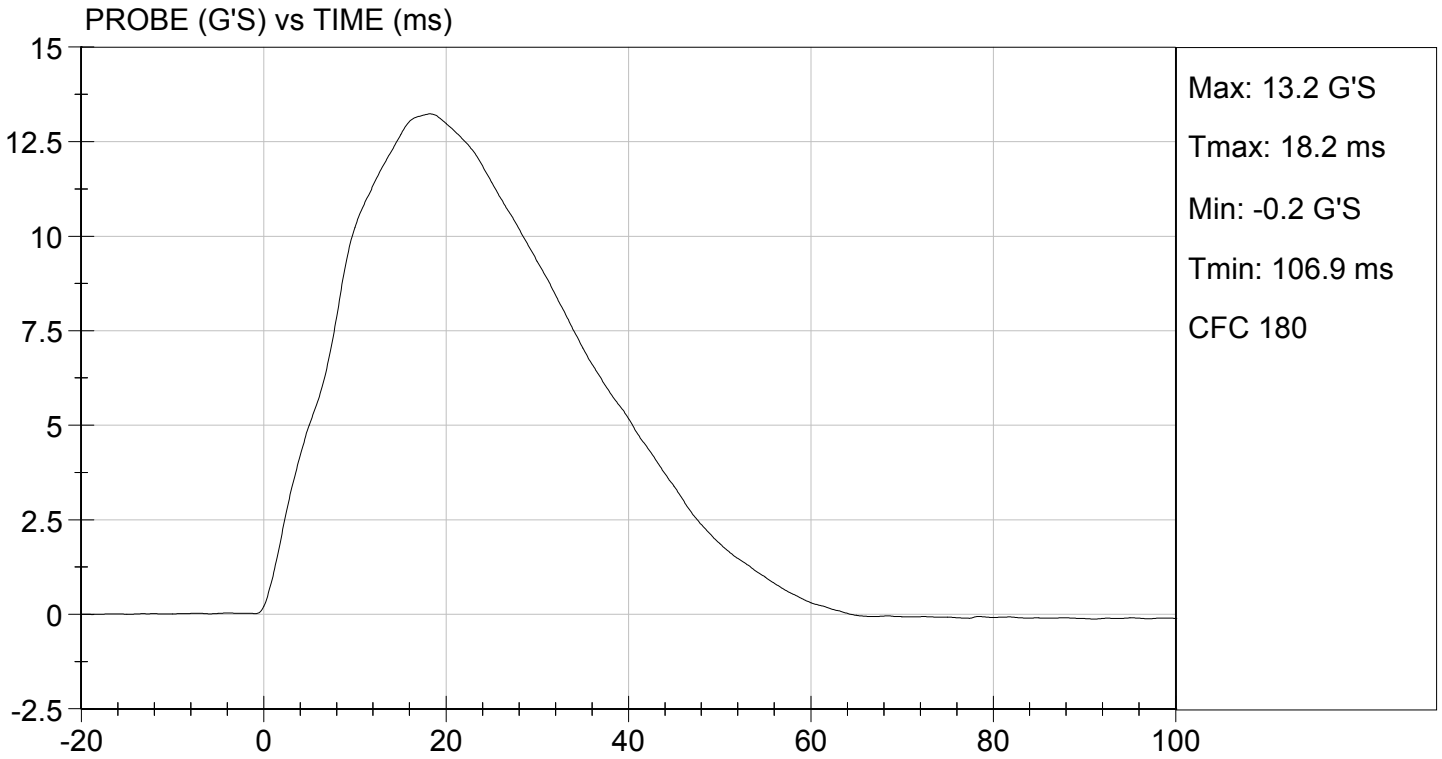
Test I.D: D124066

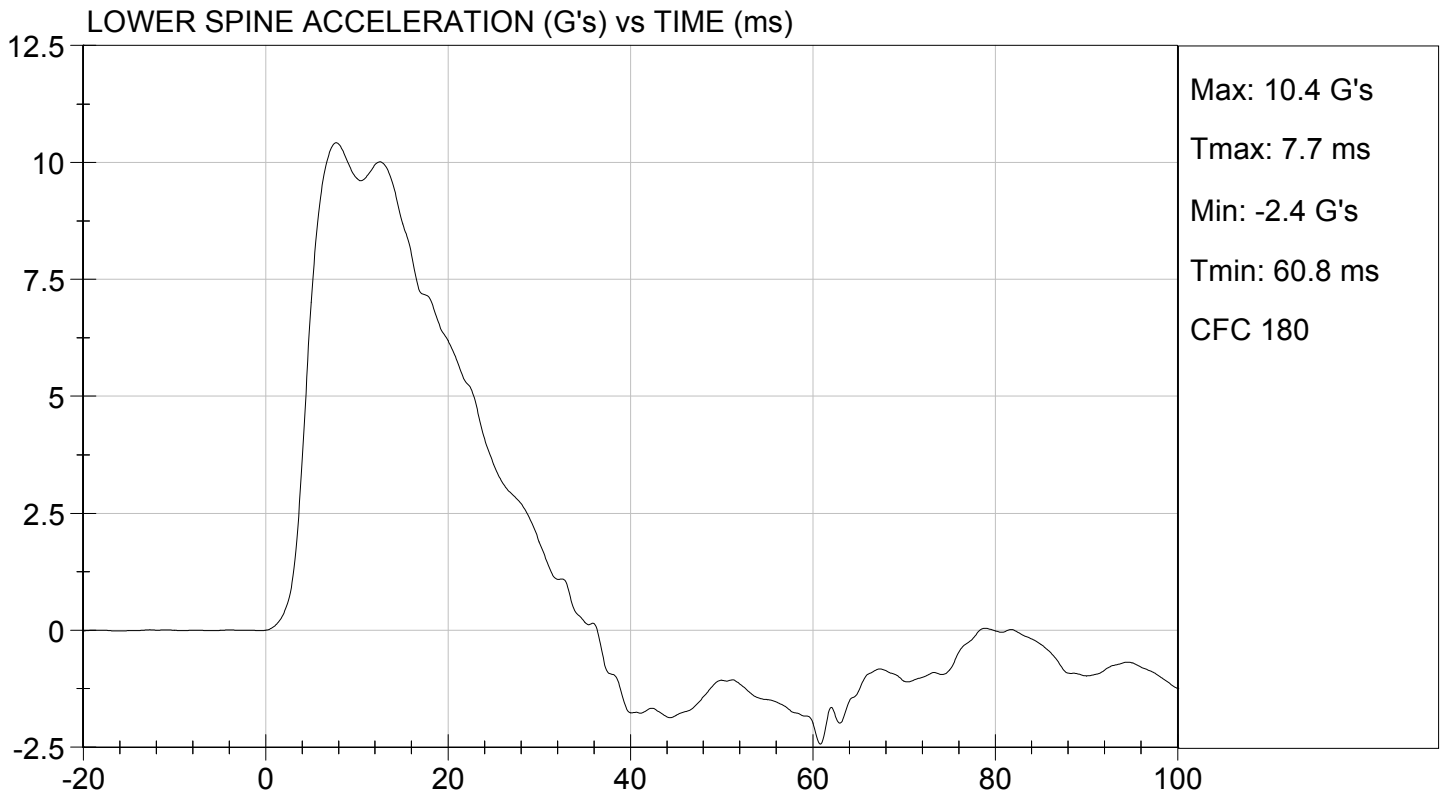
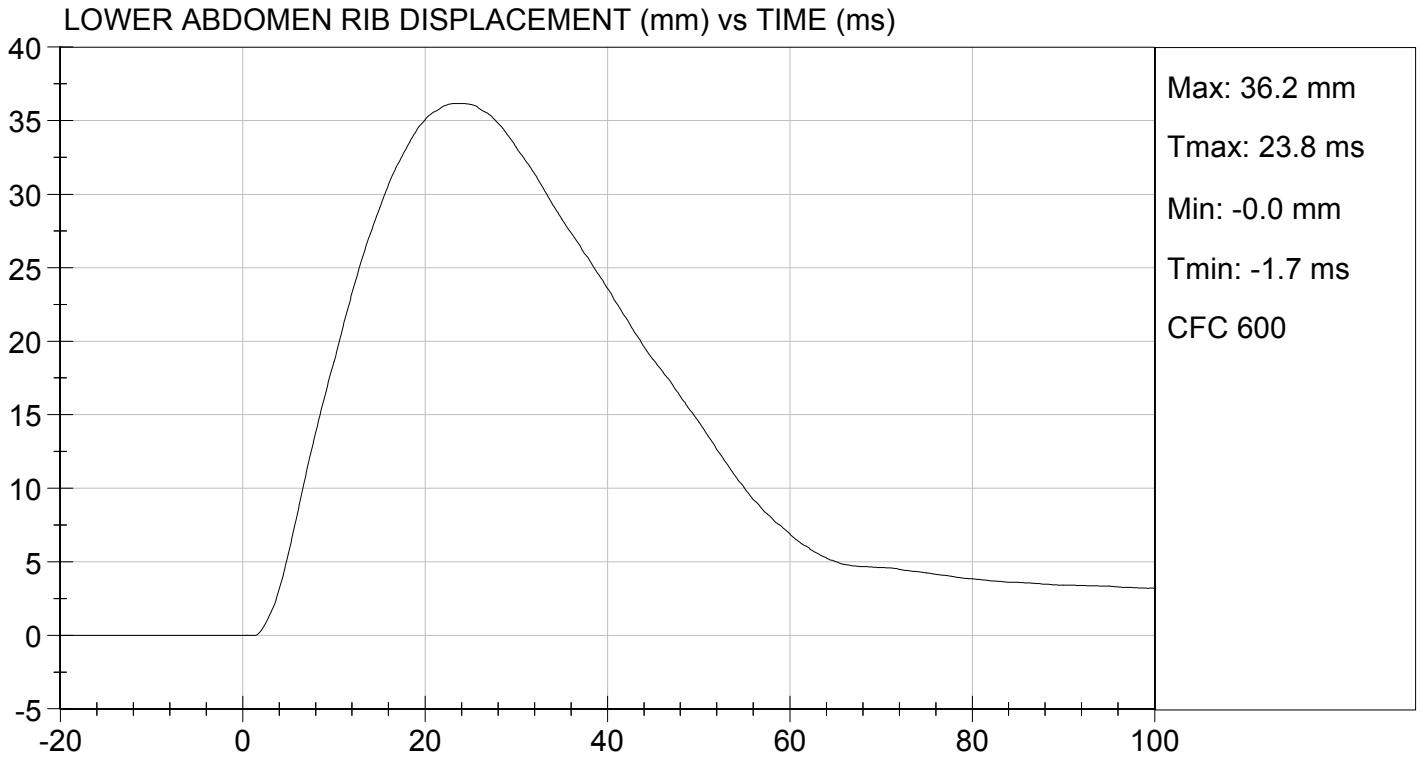
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	41	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	36	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	10	Pass
Overall Test Results				Pass

Jessica Hall
 Laboratory Technician

10/25/2012
 Test Date

David Winkelbauer
 Approved By





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

ATD Serial No: 306

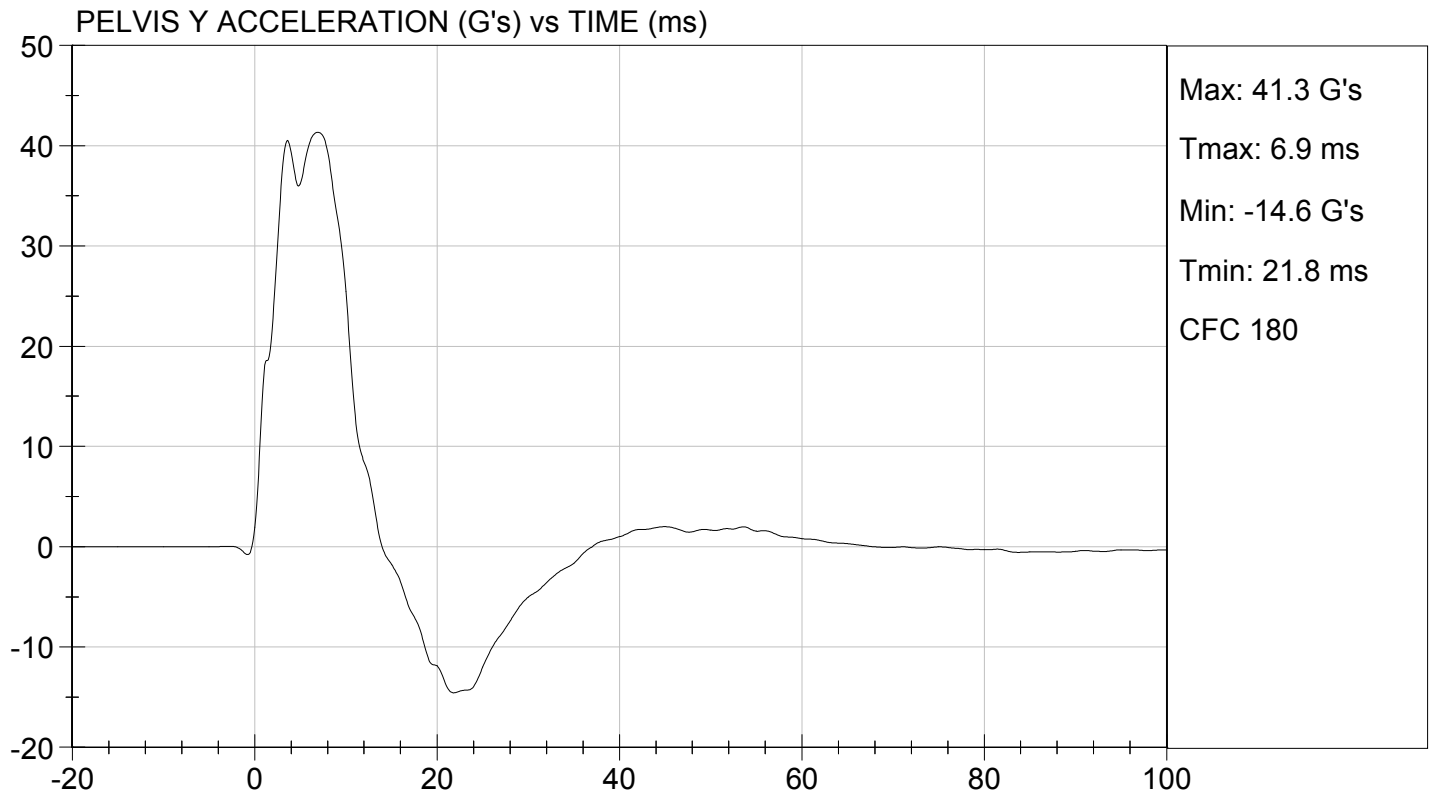
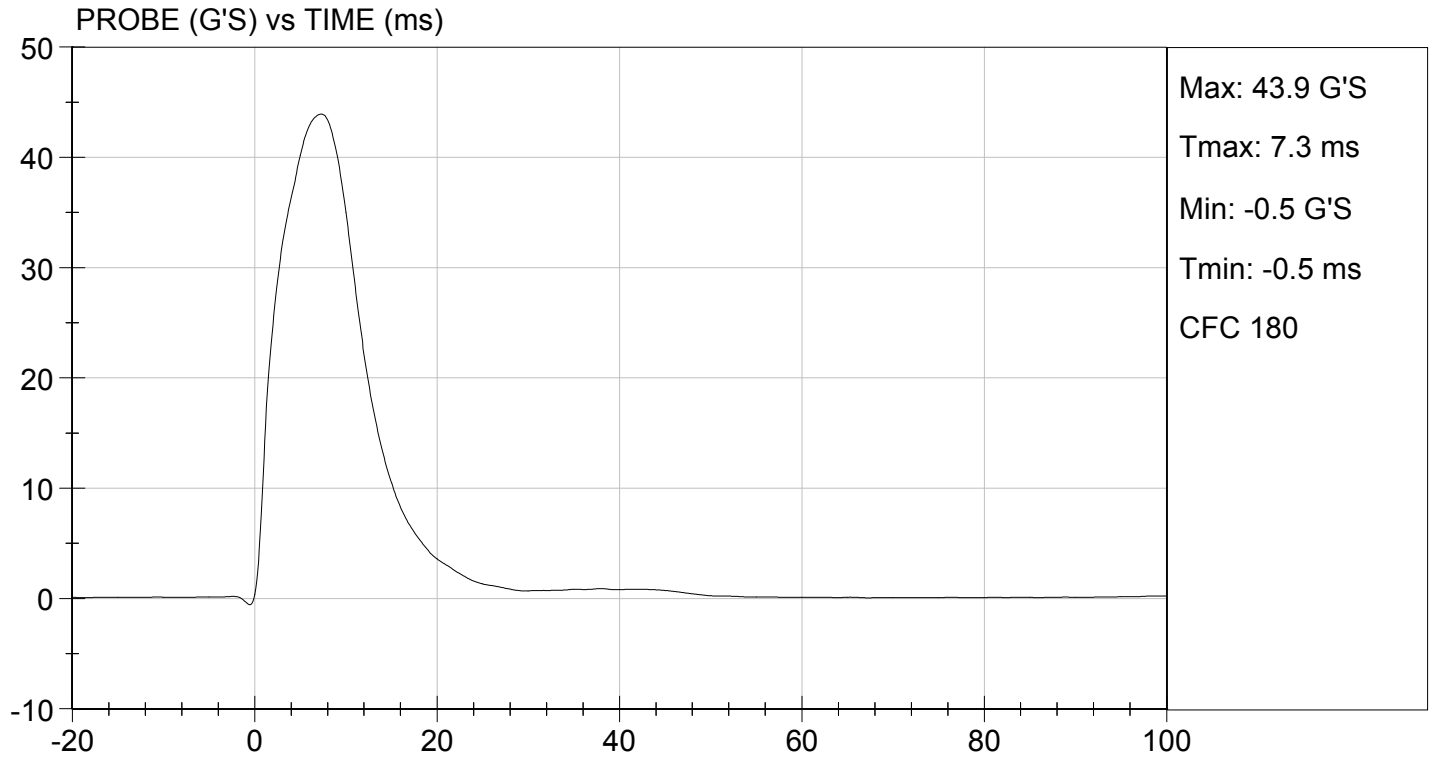
Test I.D: D124067

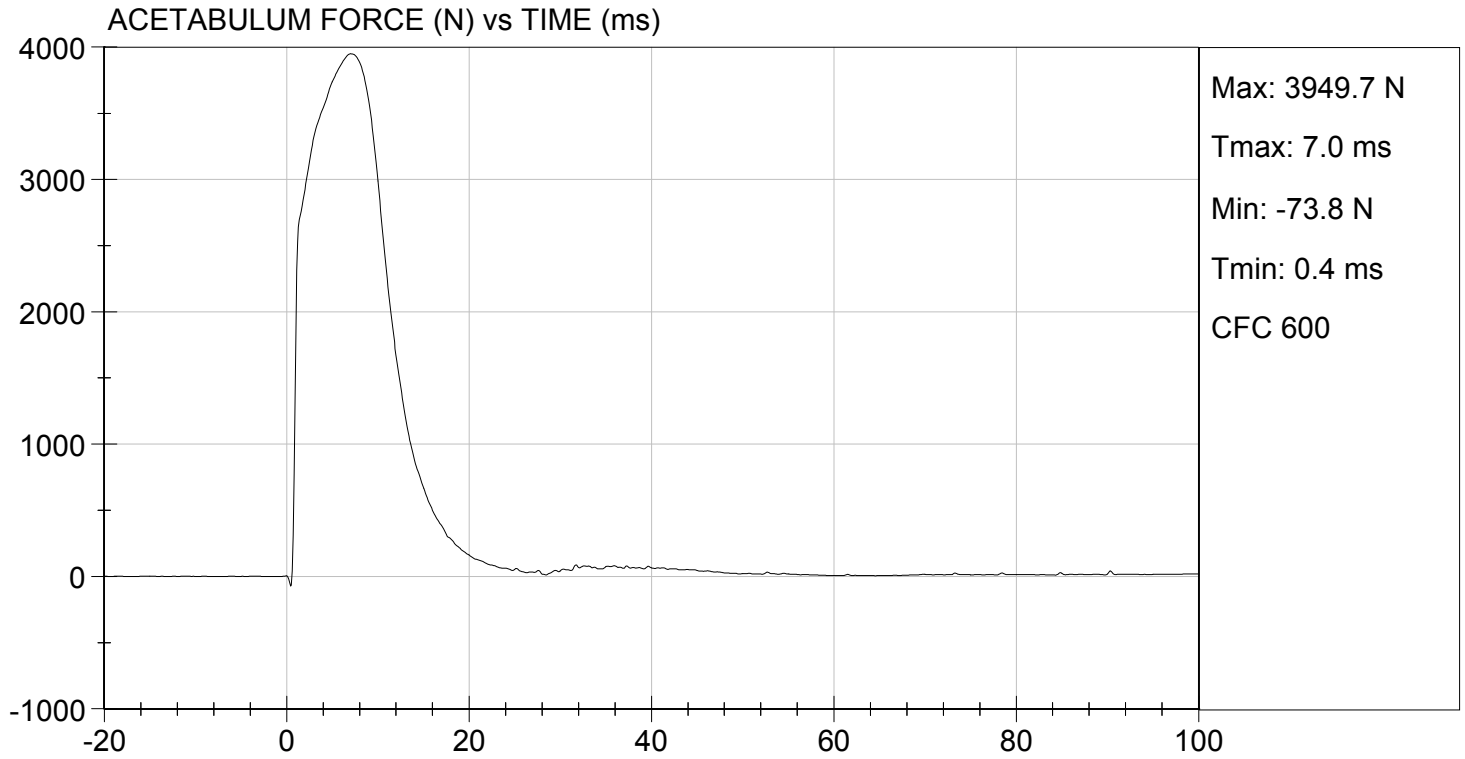
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	52	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	38 to 47	44	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	41	Pass
Peak Acetabulum Force	N	3600 to 4300	3,950	Pass
Overall Test Results				Pass

Jessica Gall
Laboratory Technician

10/25/2012
Test Date

David Winkelbauer
Approved By





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

ATD Serial No: 306

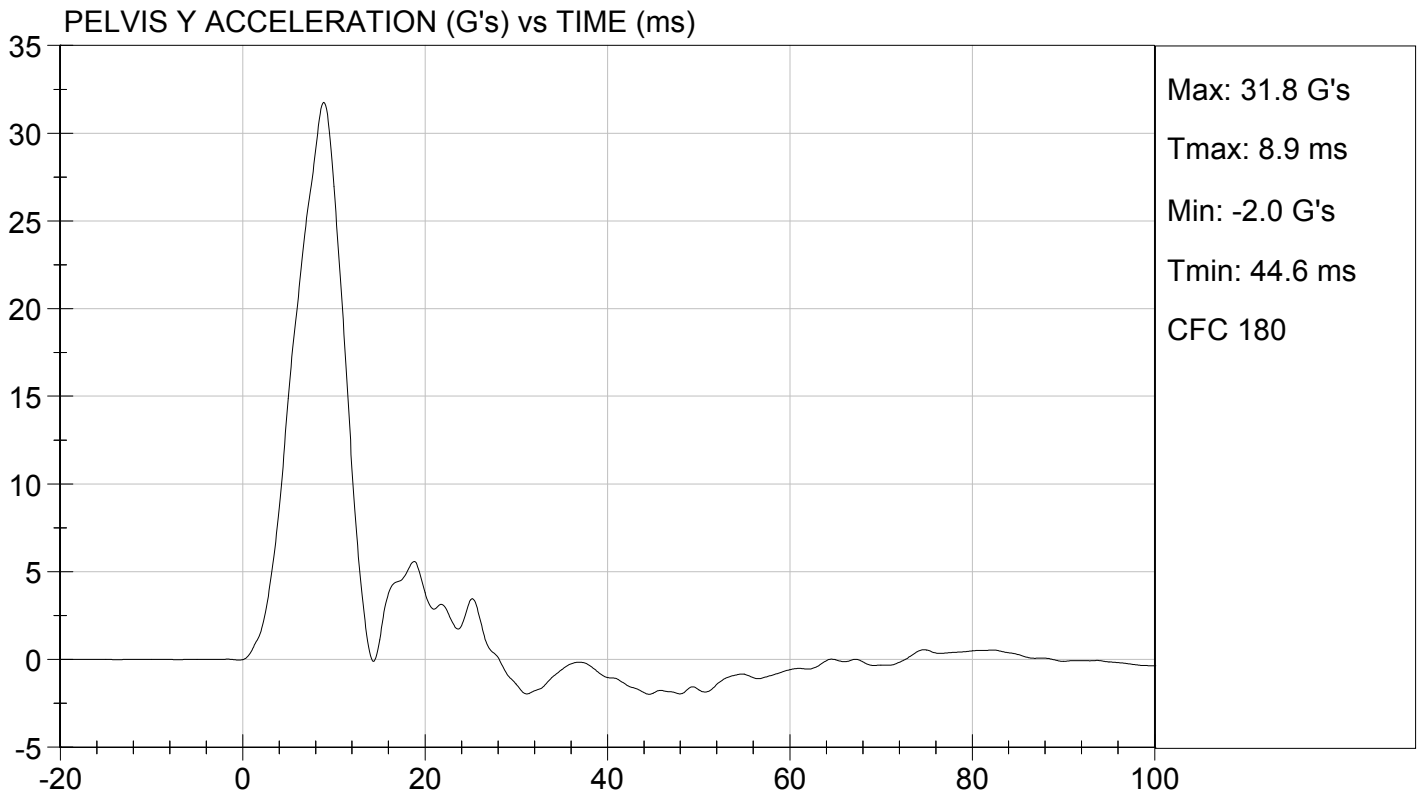
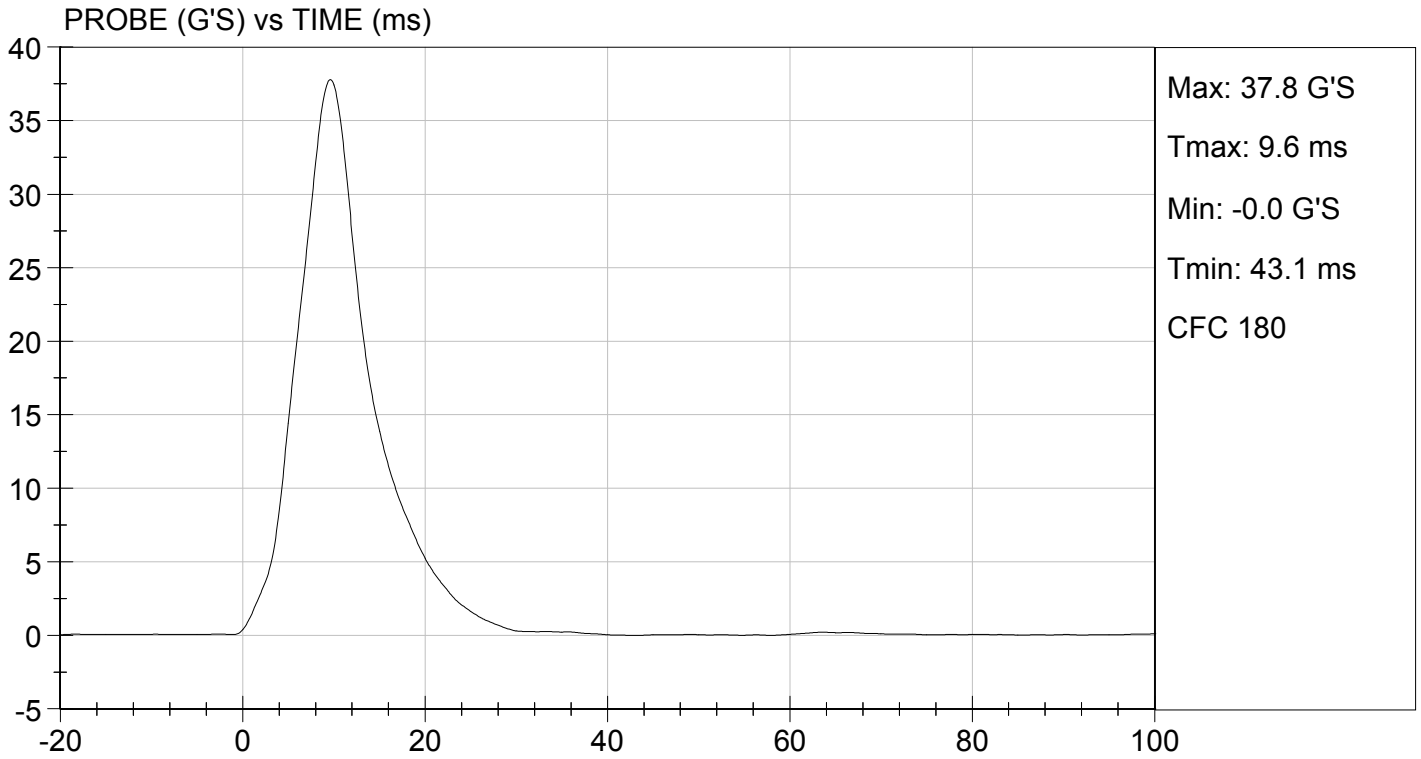
Test I.D: D124068

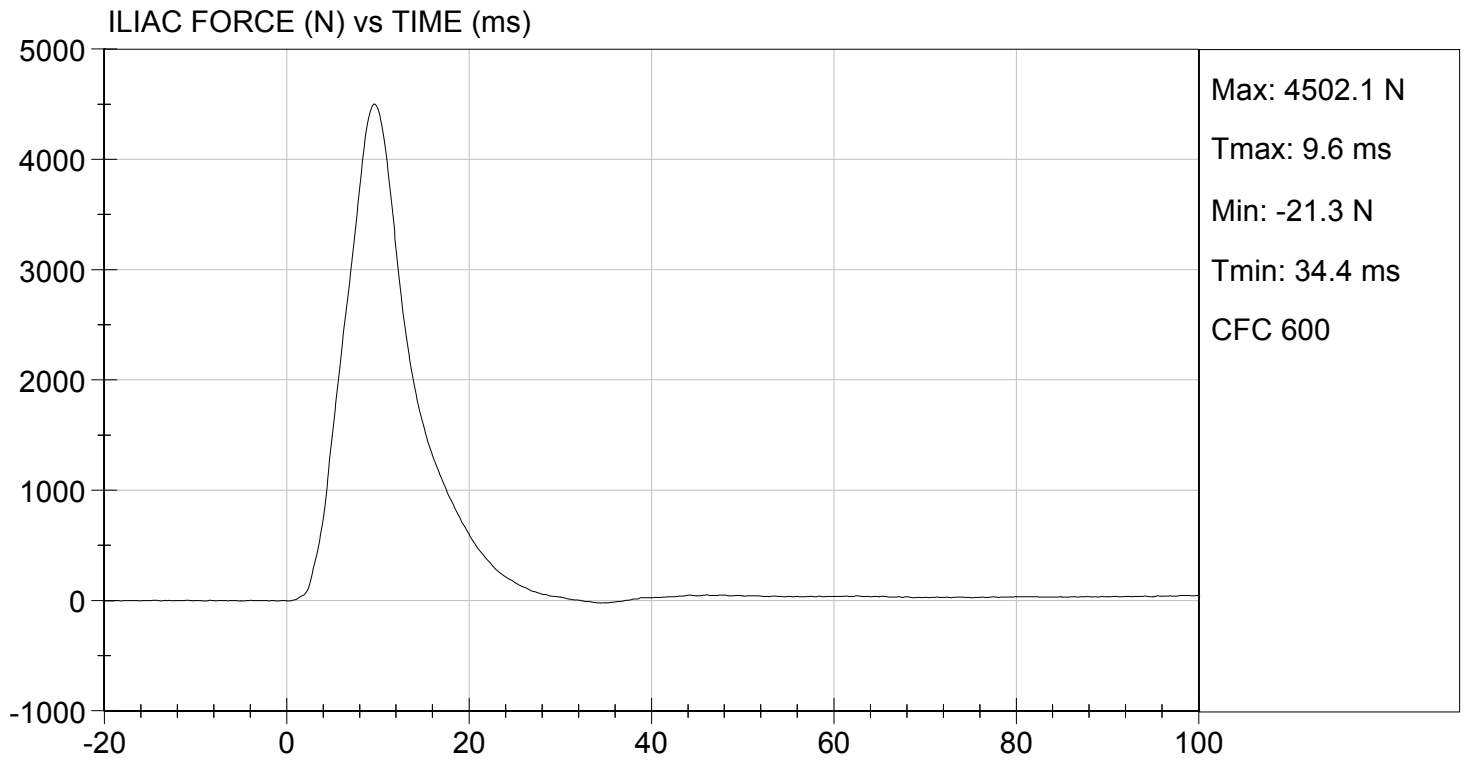
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	52	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	36 to 45	38	Pass
Pelvis Y Acceleration	G's	28 to 39	32	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,502	Pass
Overall Test Results				Pass

Jessica Hall
 Laboratory Technician

10/25/2012
 Test Date

David Winkelbauer
 Approved By





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

ATD Serial No: 306

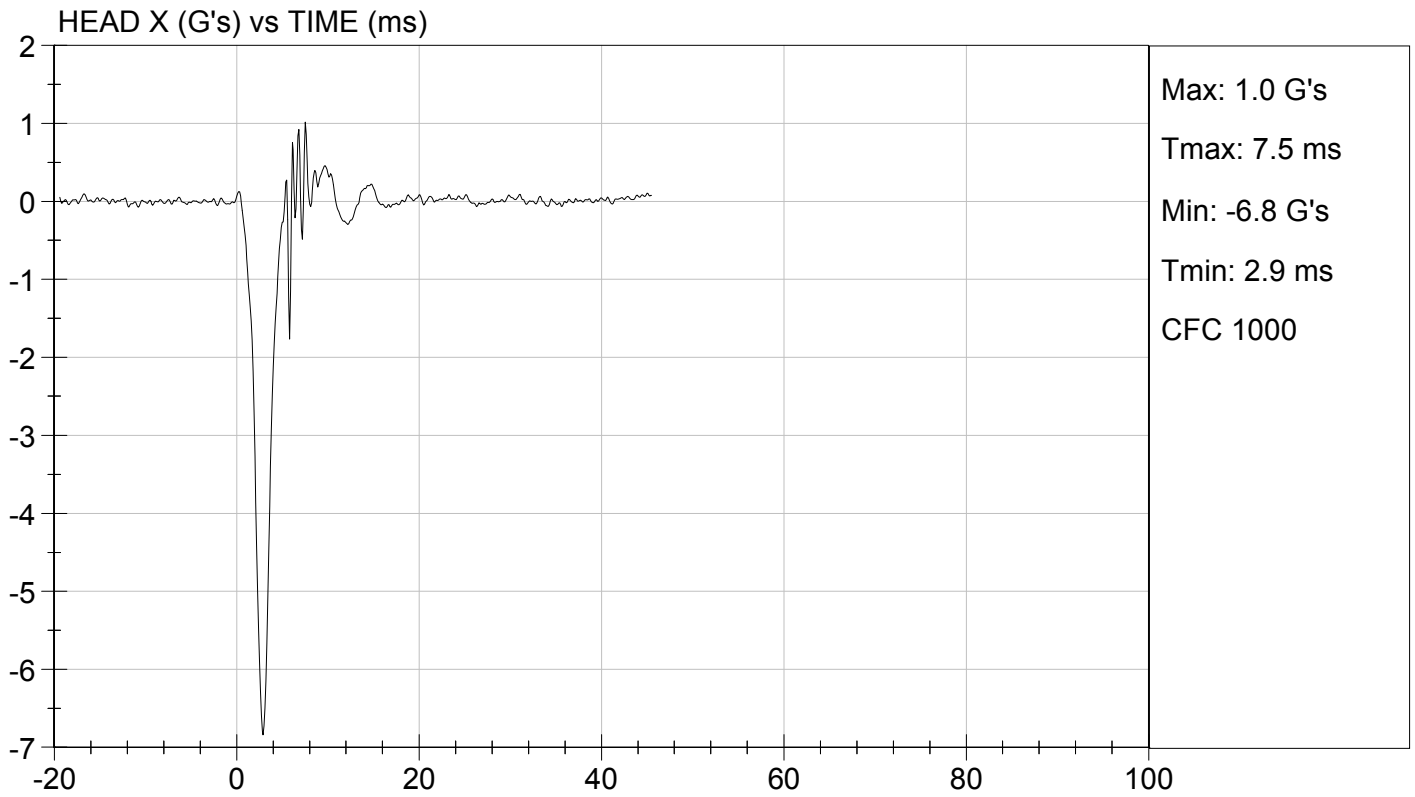
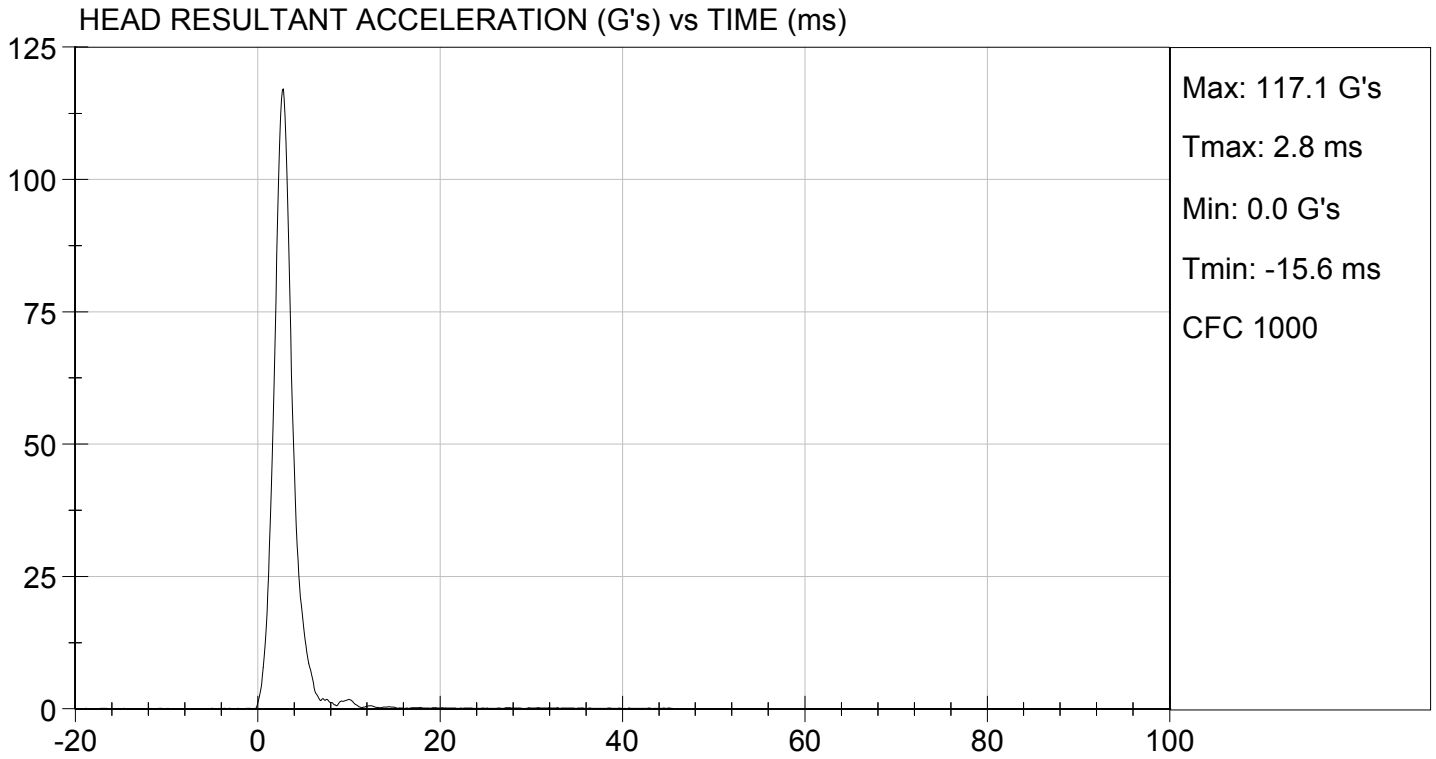
Test ID: D124301

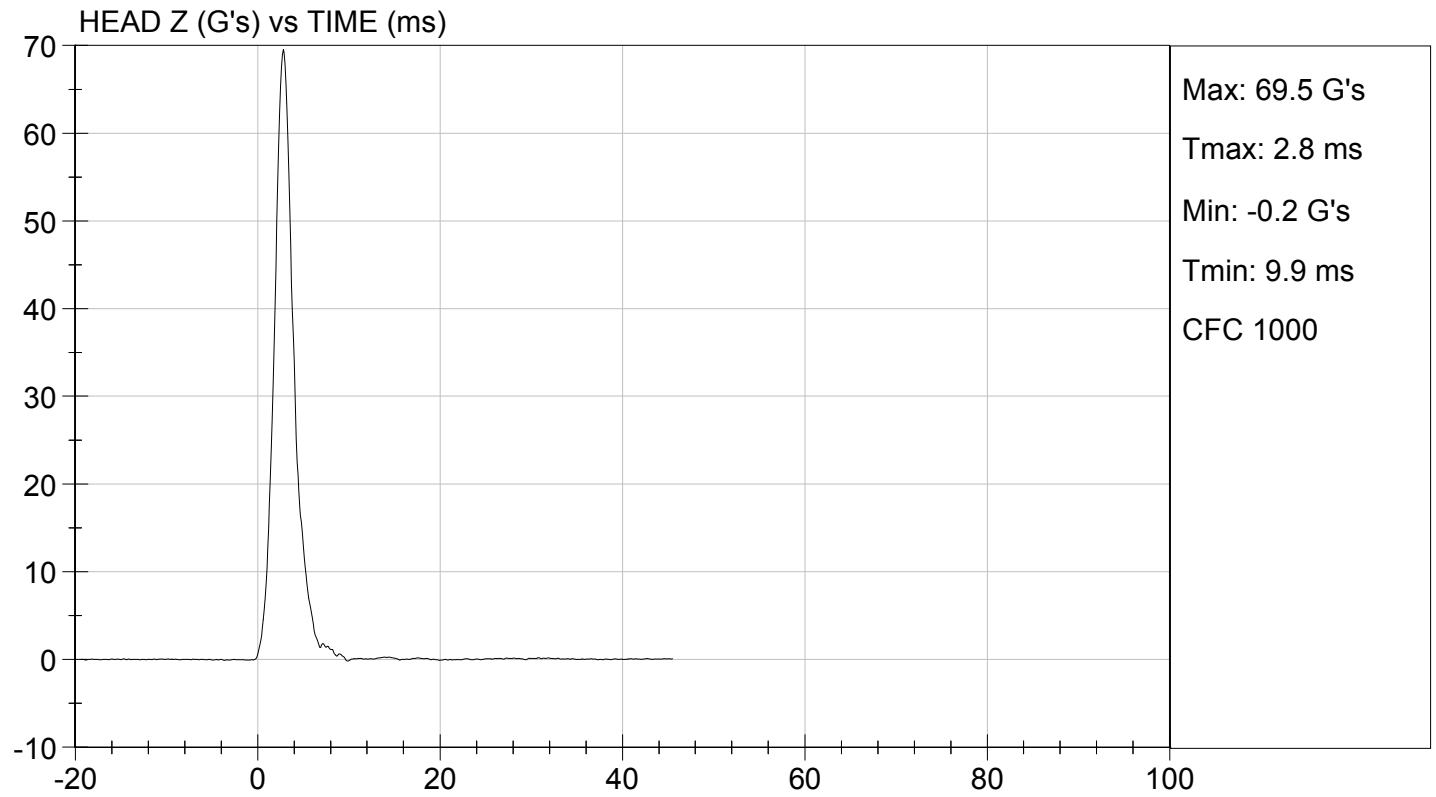
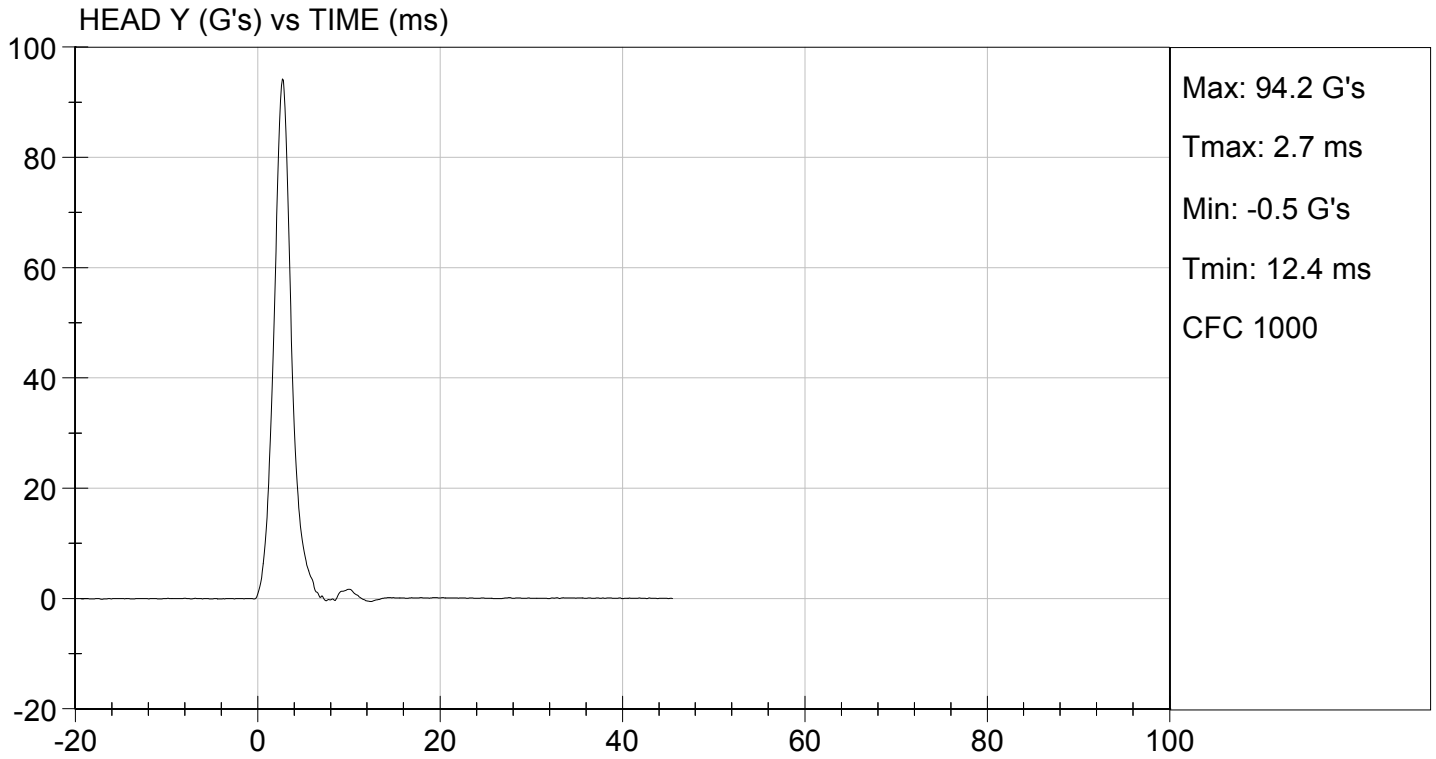
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Peak Resultant Acceleration	G's	115 to 137	117	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-6.8	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

11/09/2012
Test Date

David Winkelbauer
Approved By





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

ATD Serial No: 306

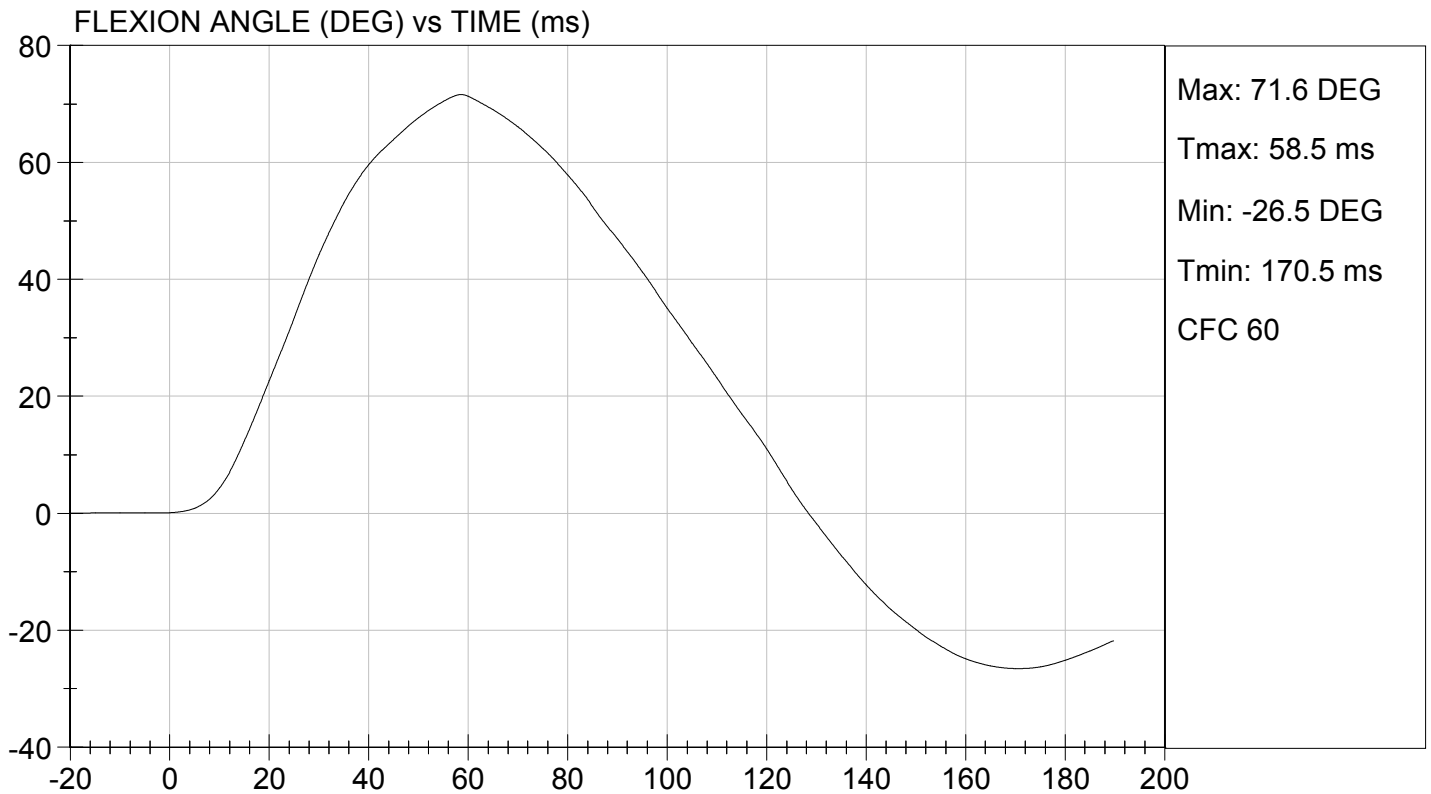
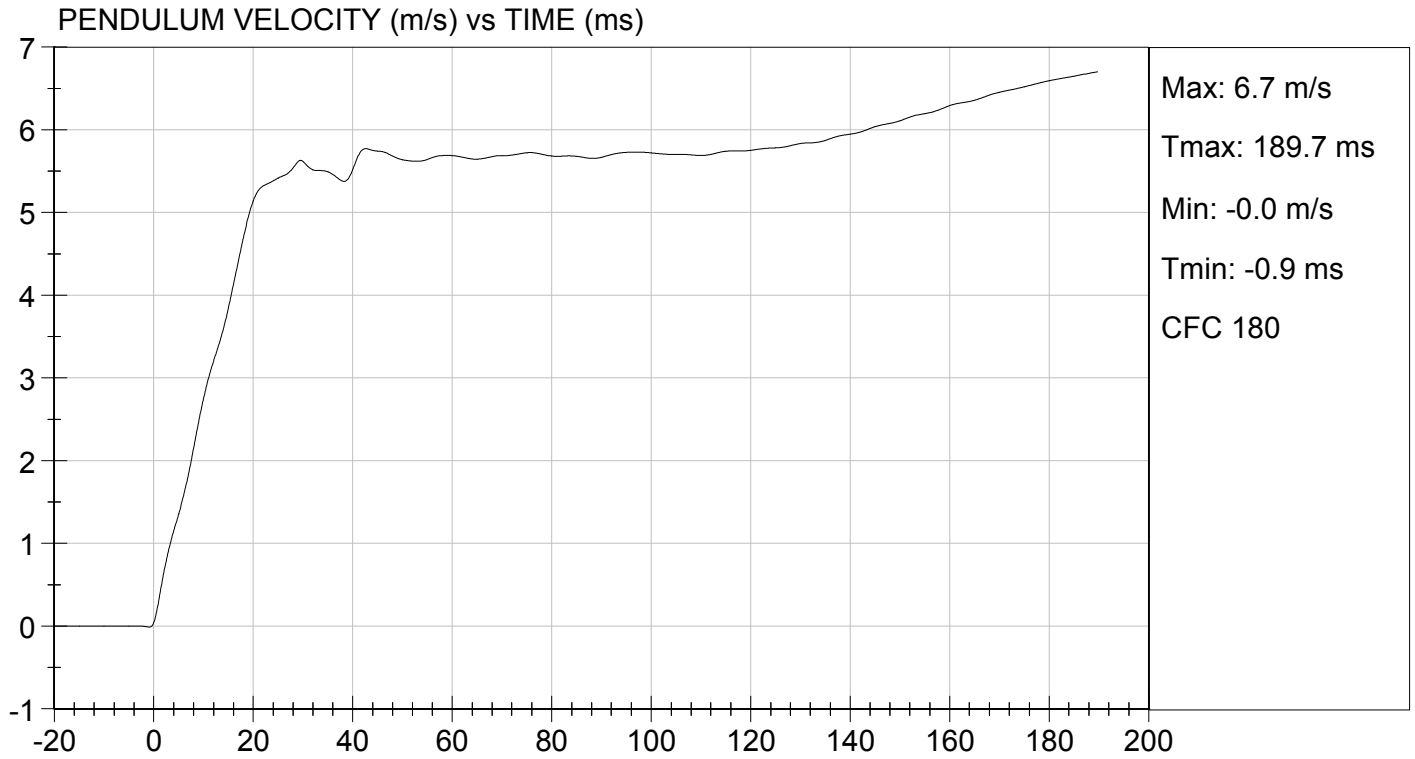
Test I.D.: D124302

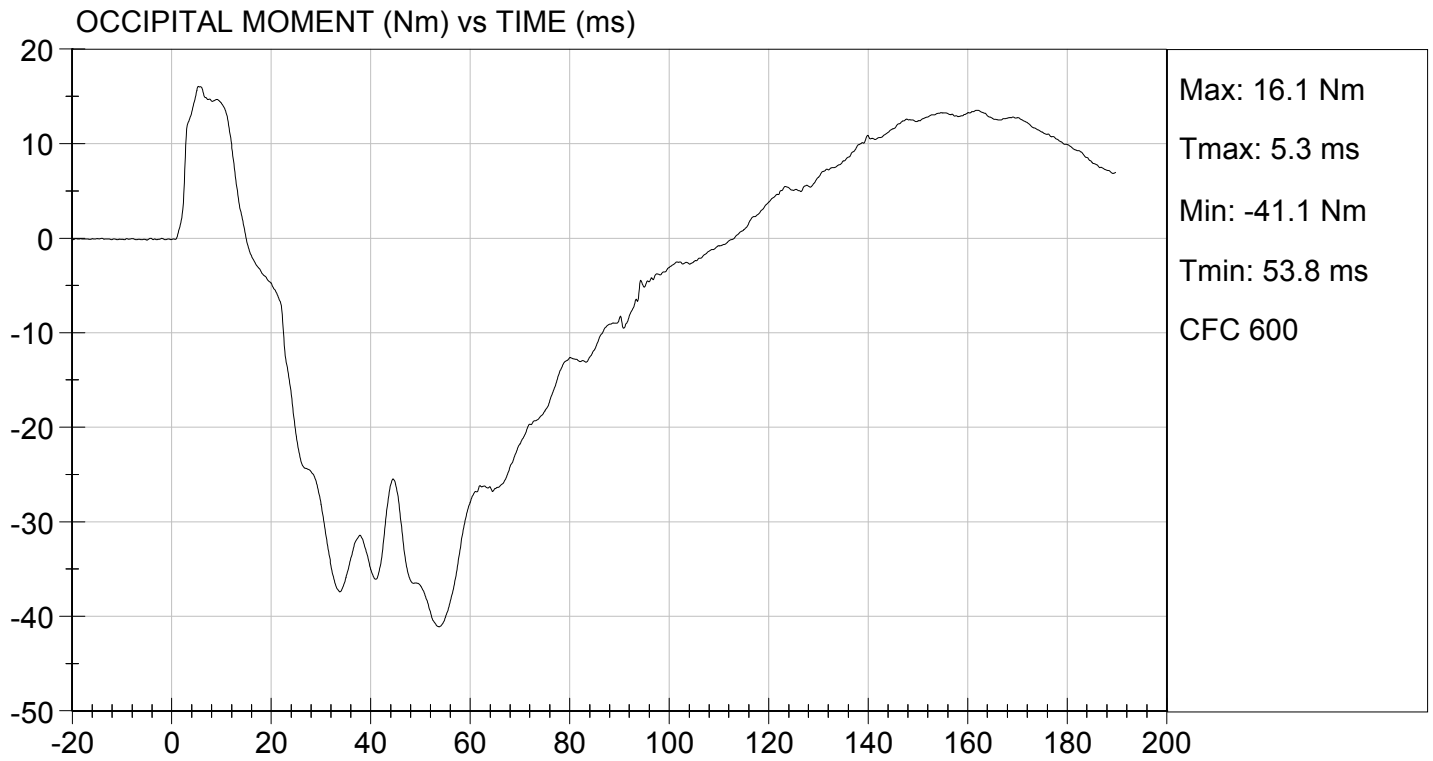
Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.8	Pass	
Humidity	%	10 to 70	32	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.58	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.76	Pass
	15 ms	m/s	3.30 to 4.10	3.85	Pass
	20 ms	m/s	4.40 to 5.40	5.14	Pass
	25 ms	m/s	5.40 to 6.10	5.42	Pass
	25-100 ms	m/s	5.50 to 6.20	5.77	Pass
Maximum D-Plane Rotation	deg	71 to 81	72	Pass	
Time of Maximum D-Plane Rotation	ms	50 to 70	59	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	

Jessica Gall
Laboratory Technician

11/09/2012
Test Date

David Winkelbauer
Approved By





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

ATD Serial No: 306

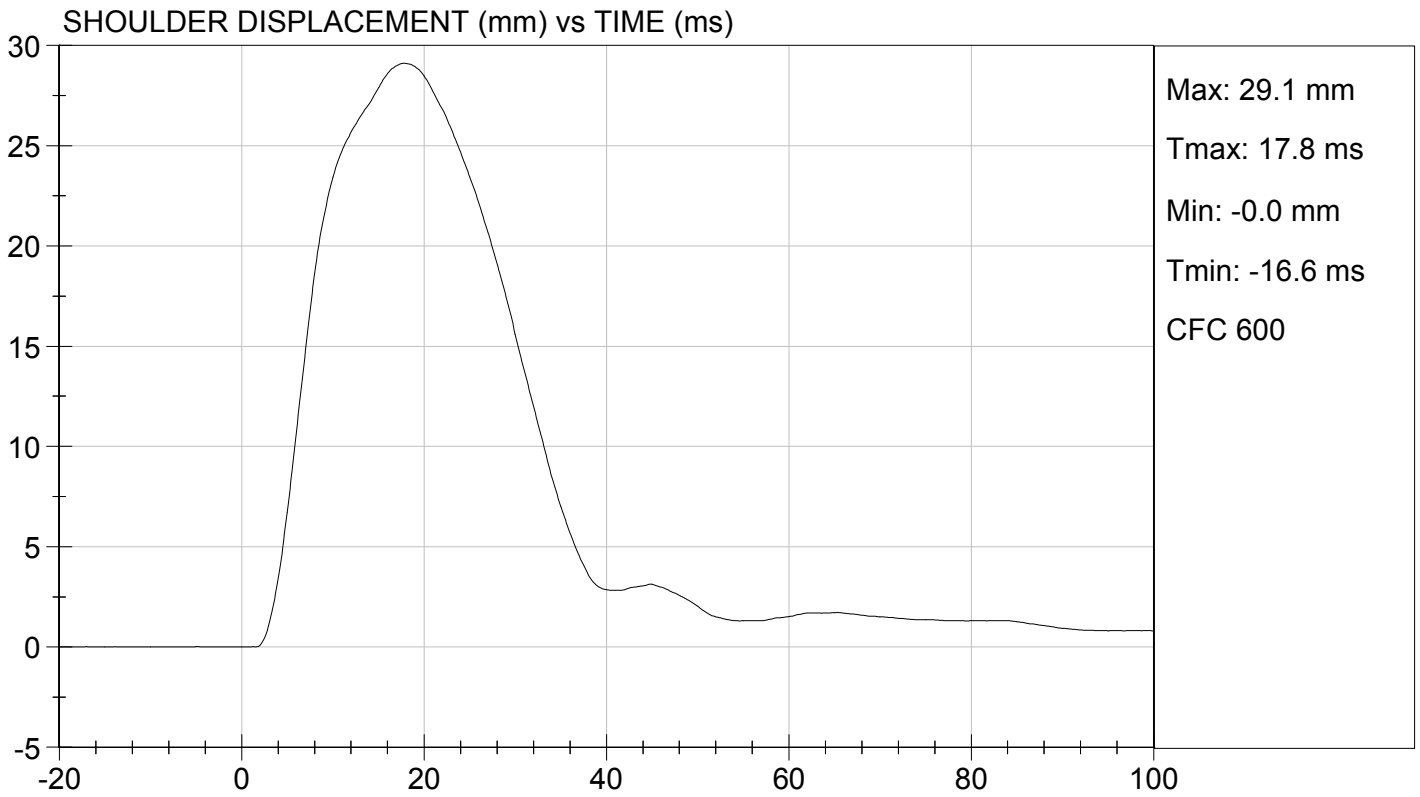
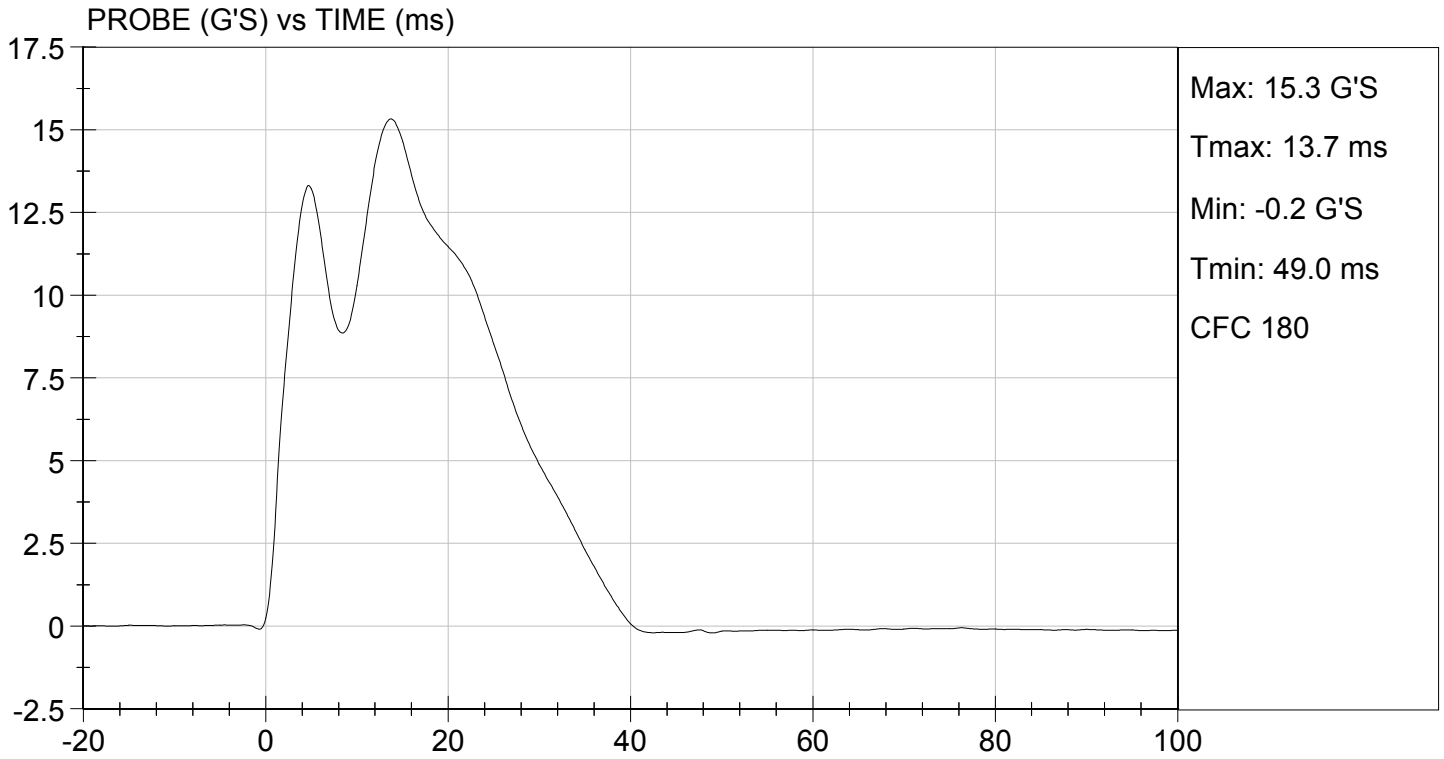
Test ID: D124303

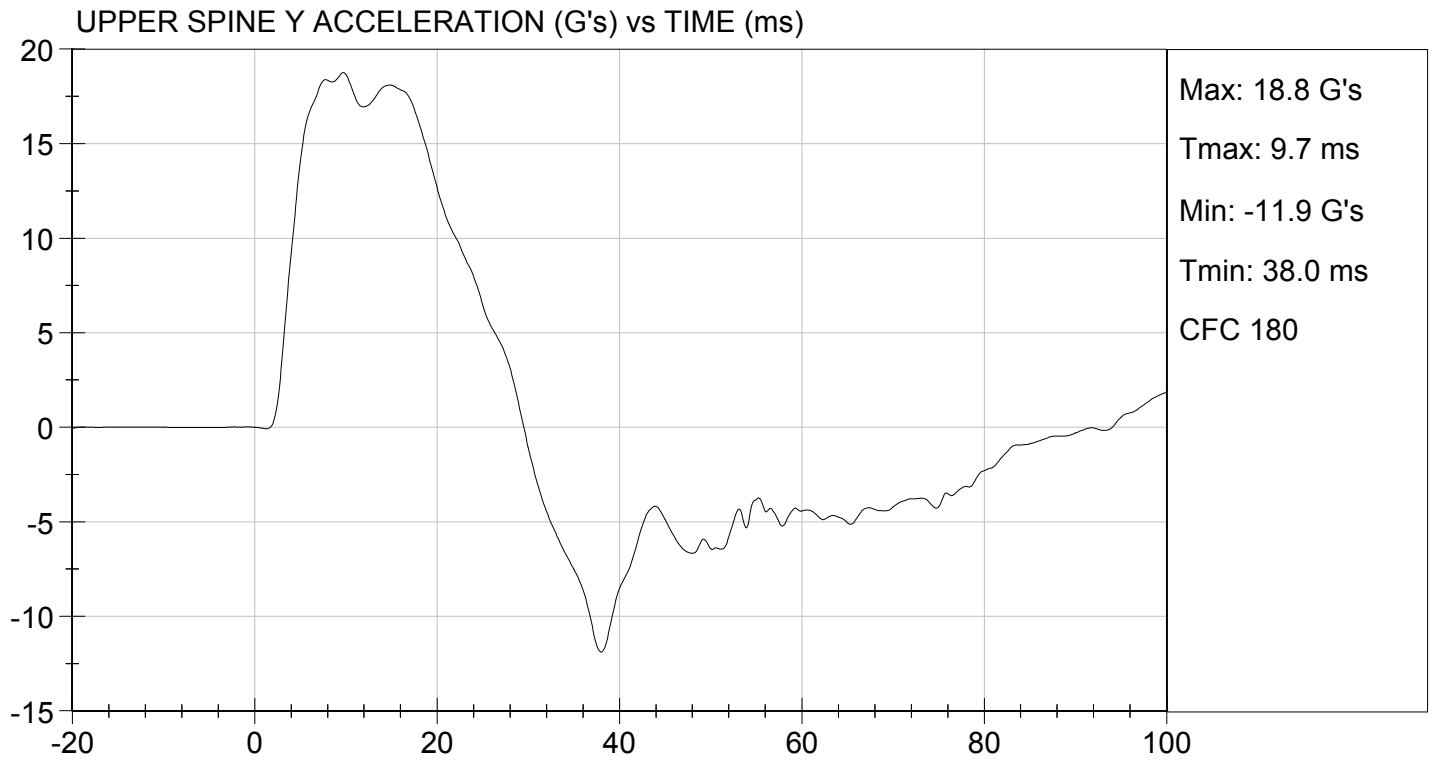
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	13 to 18	15	Pass
Shoulder Displacement	mm	28 to 37	29	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	19	Pass
Overall Test Results				Pass

Jessica Hall
Laboratory Technician

11/09/2012
Test Date

David Winkelbauer
Approved By





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

ATD Serial No: 306

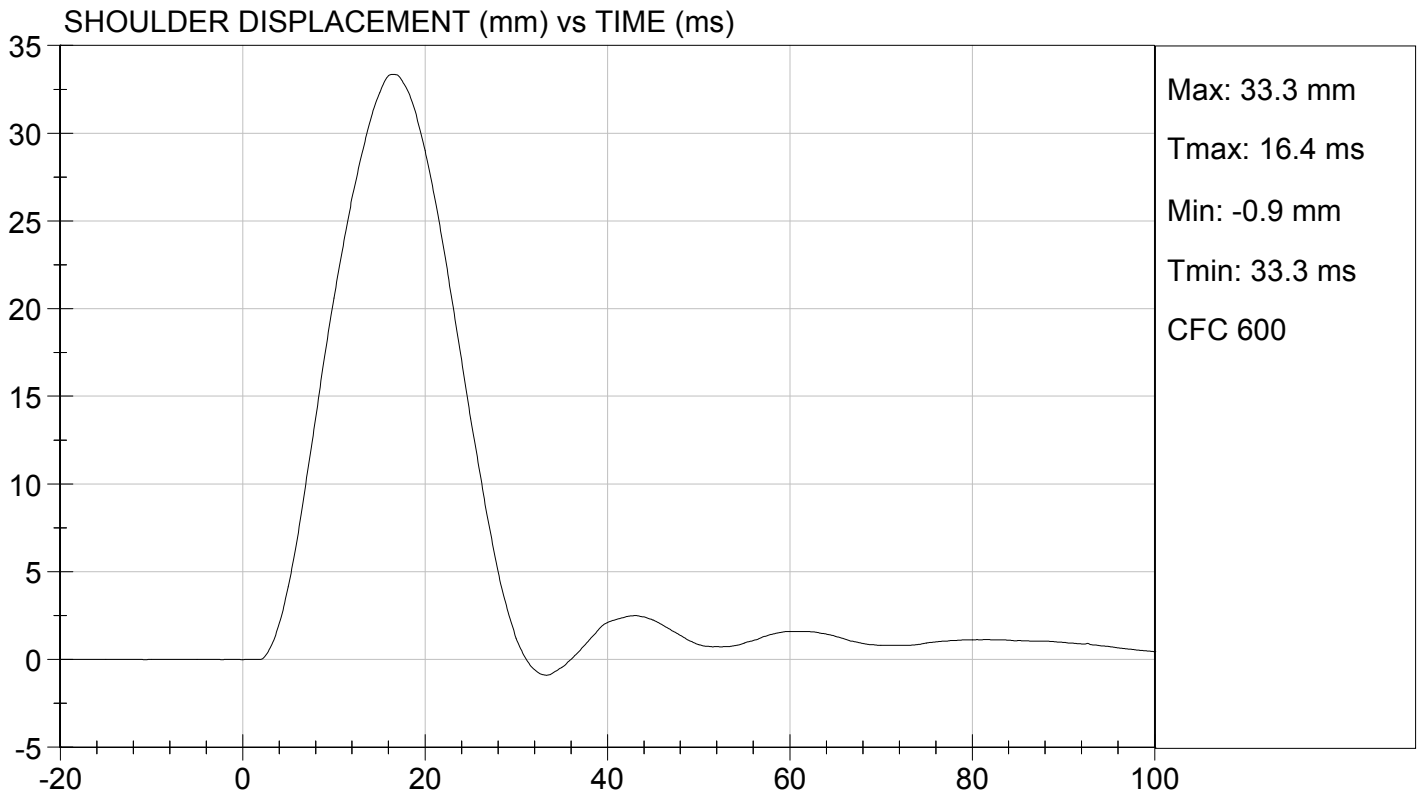
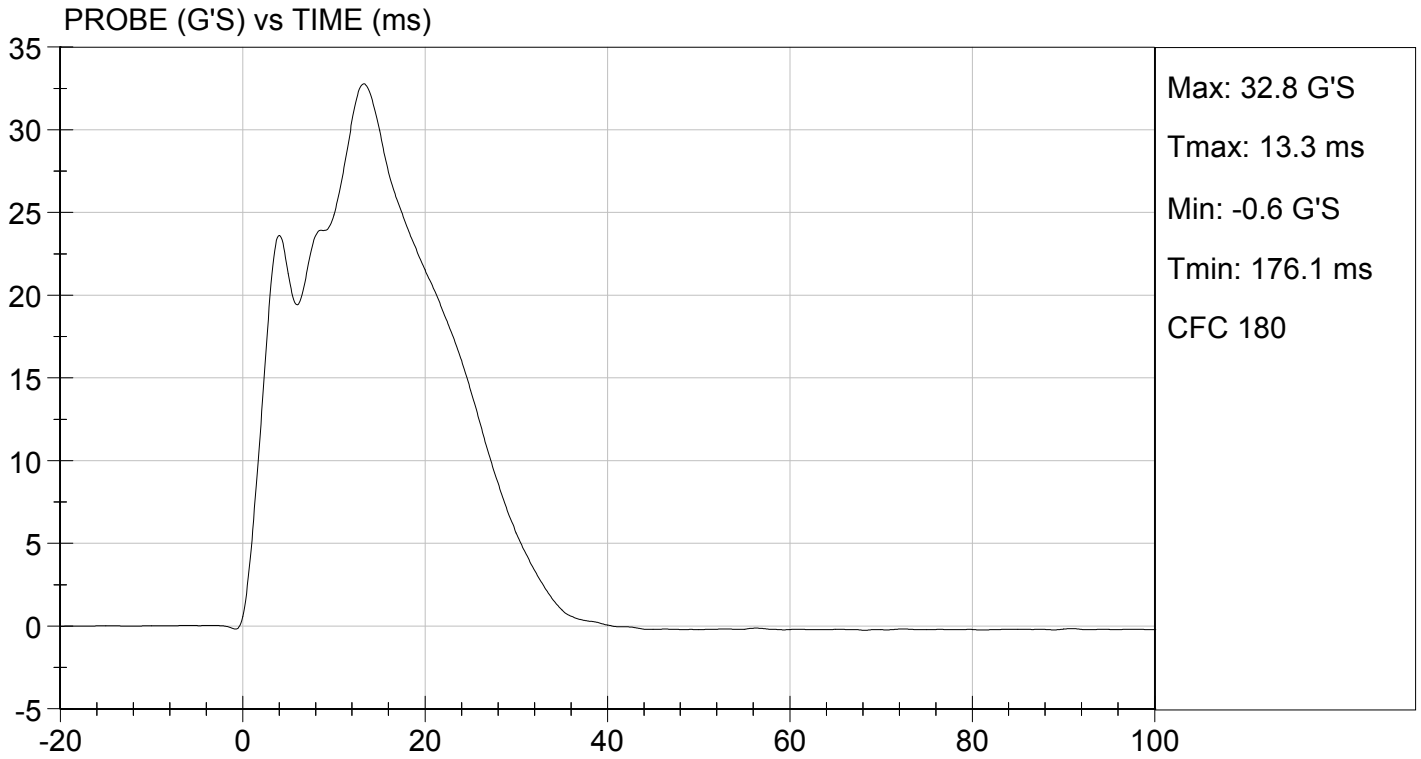
Test I.D: D124304

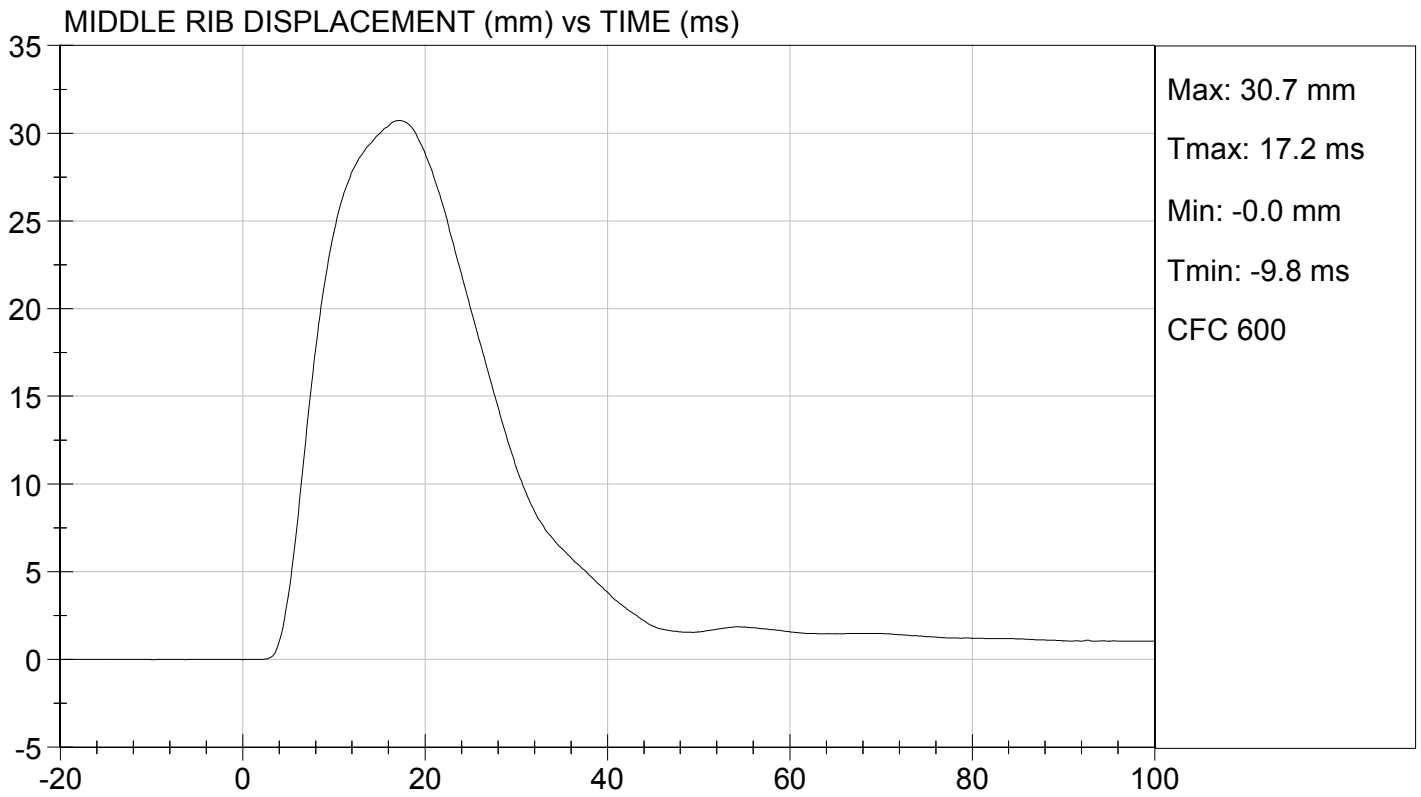
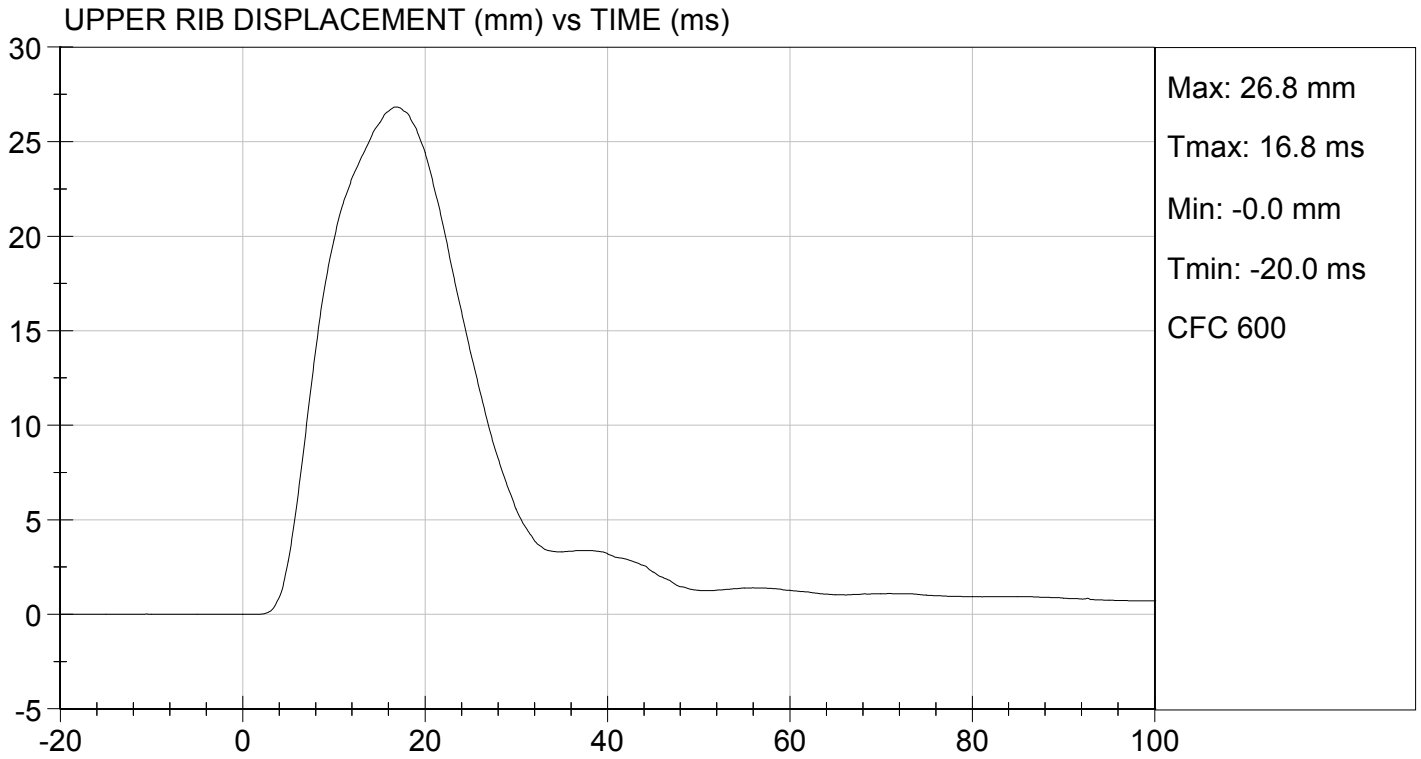
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	30 to 36	33	Pass
Shoulder Displacement	mm	31 to 40	33	Pass
Upper Rib Displacement	mm	25 to 32	27	Pass
Middle 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

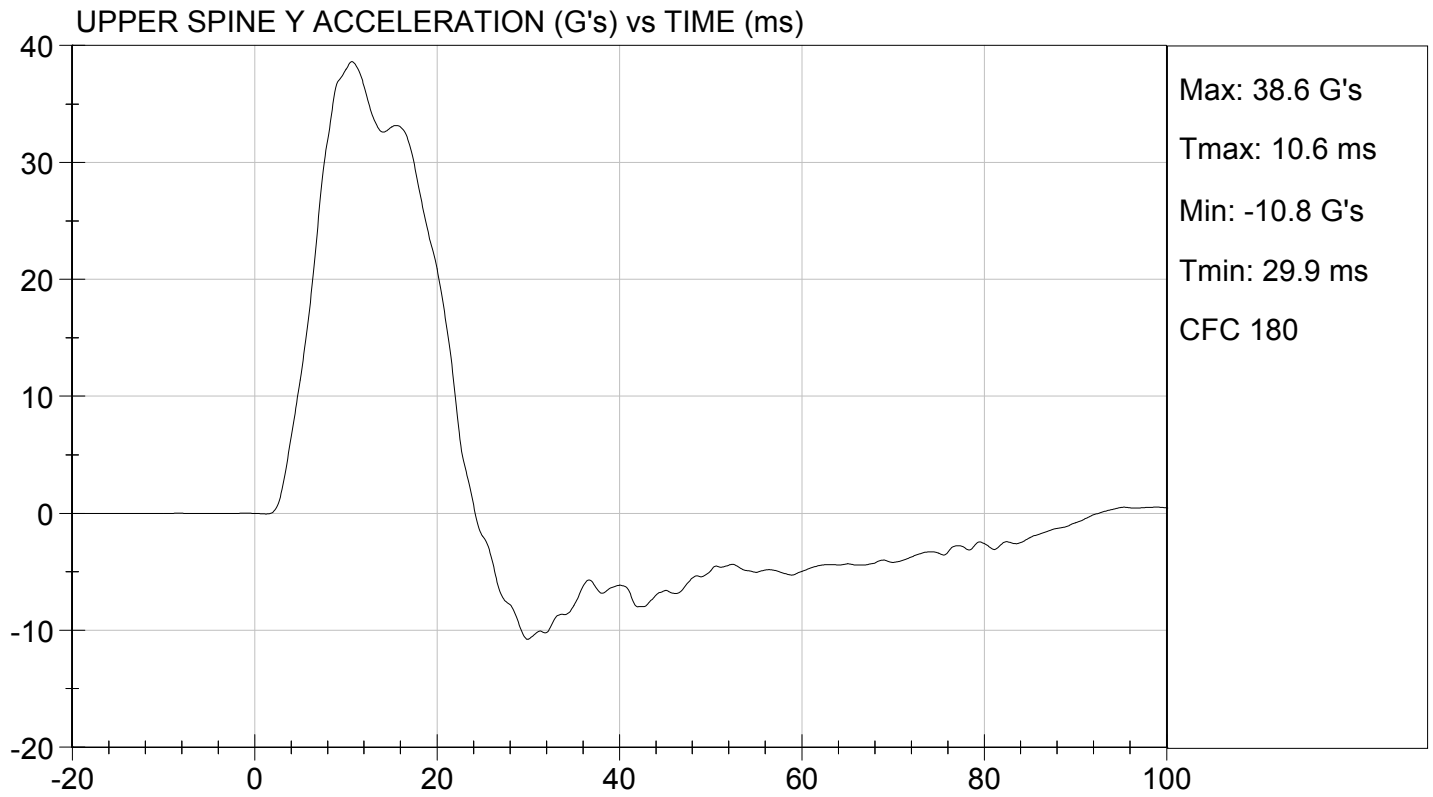
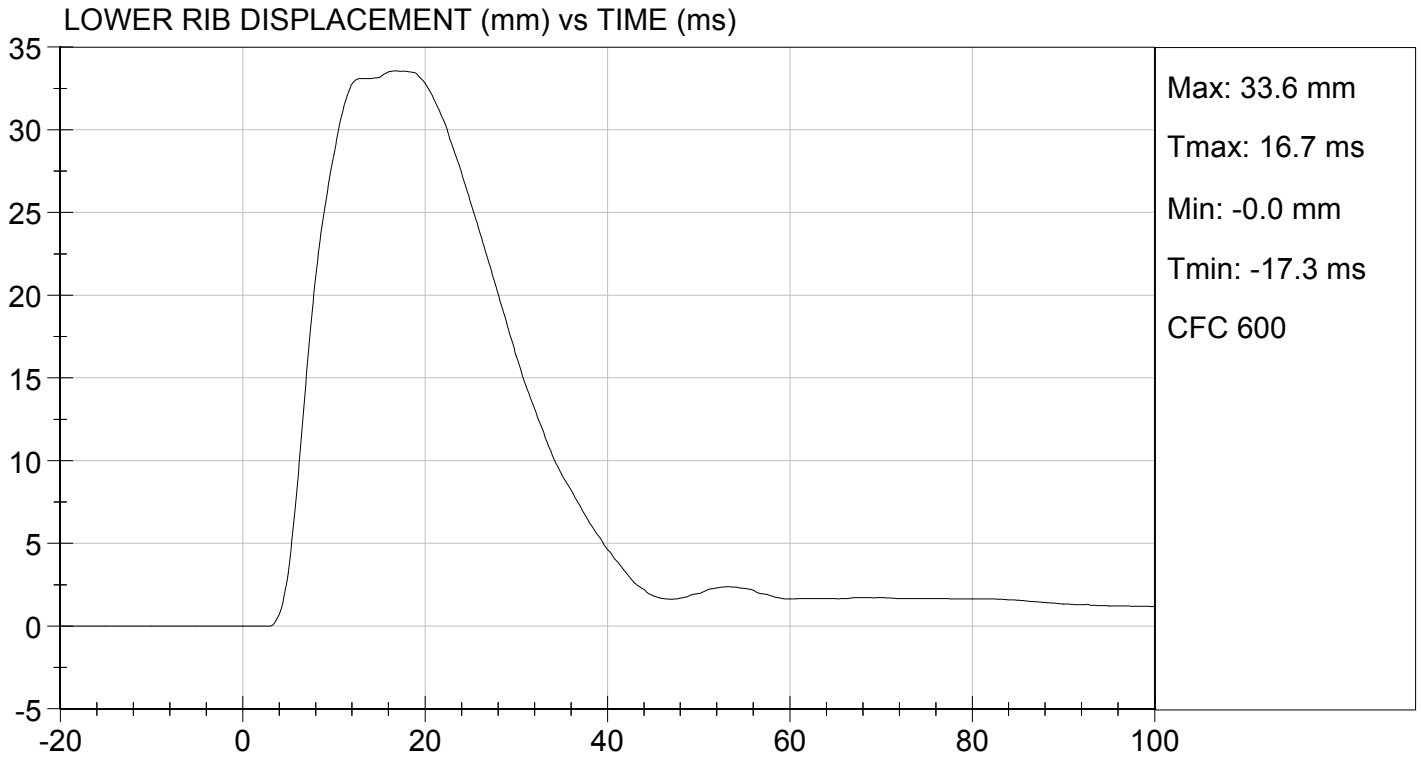
Jessica Gall
Laboratory Technician

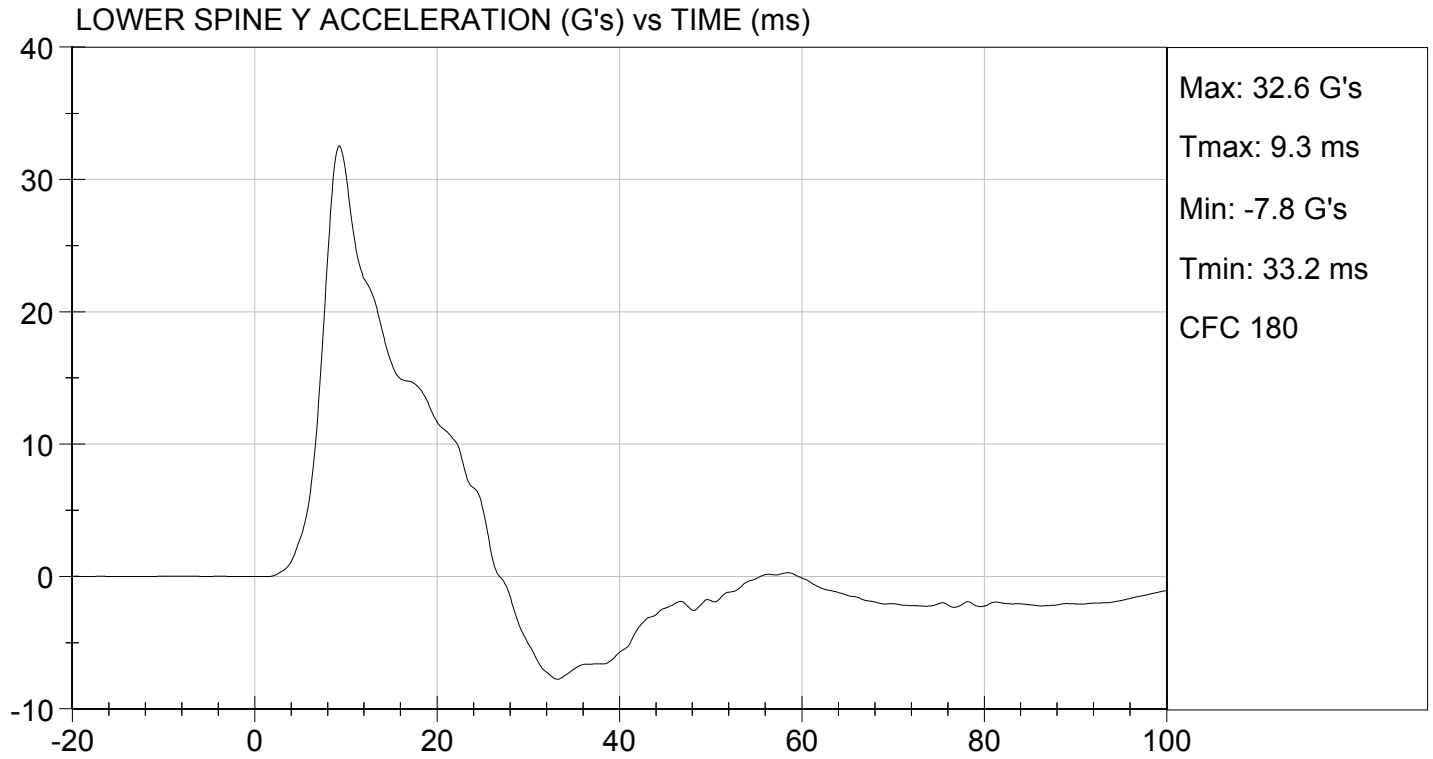
11/09/2012
Test Date

David Winkelbauer
Approved By









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

ATD Serial No: 306

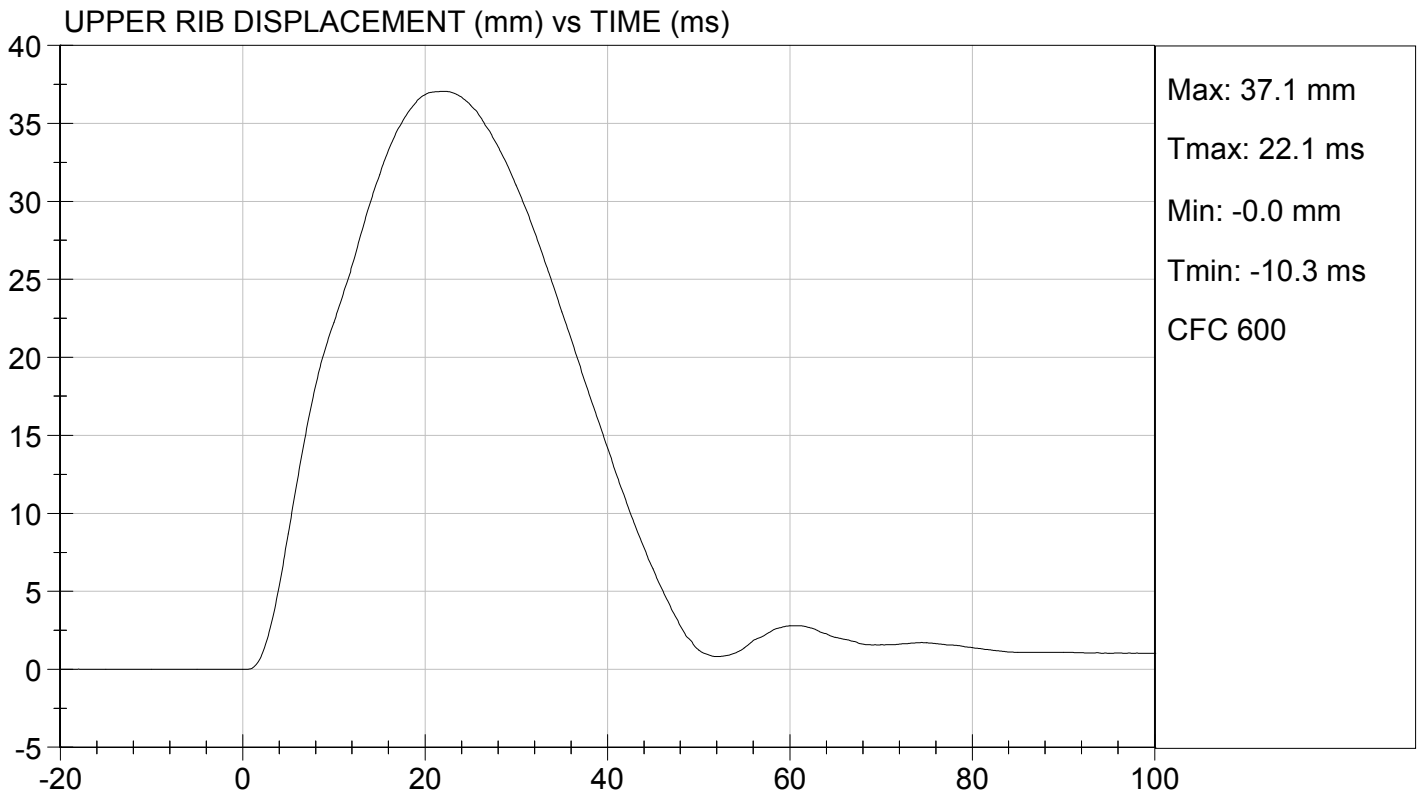
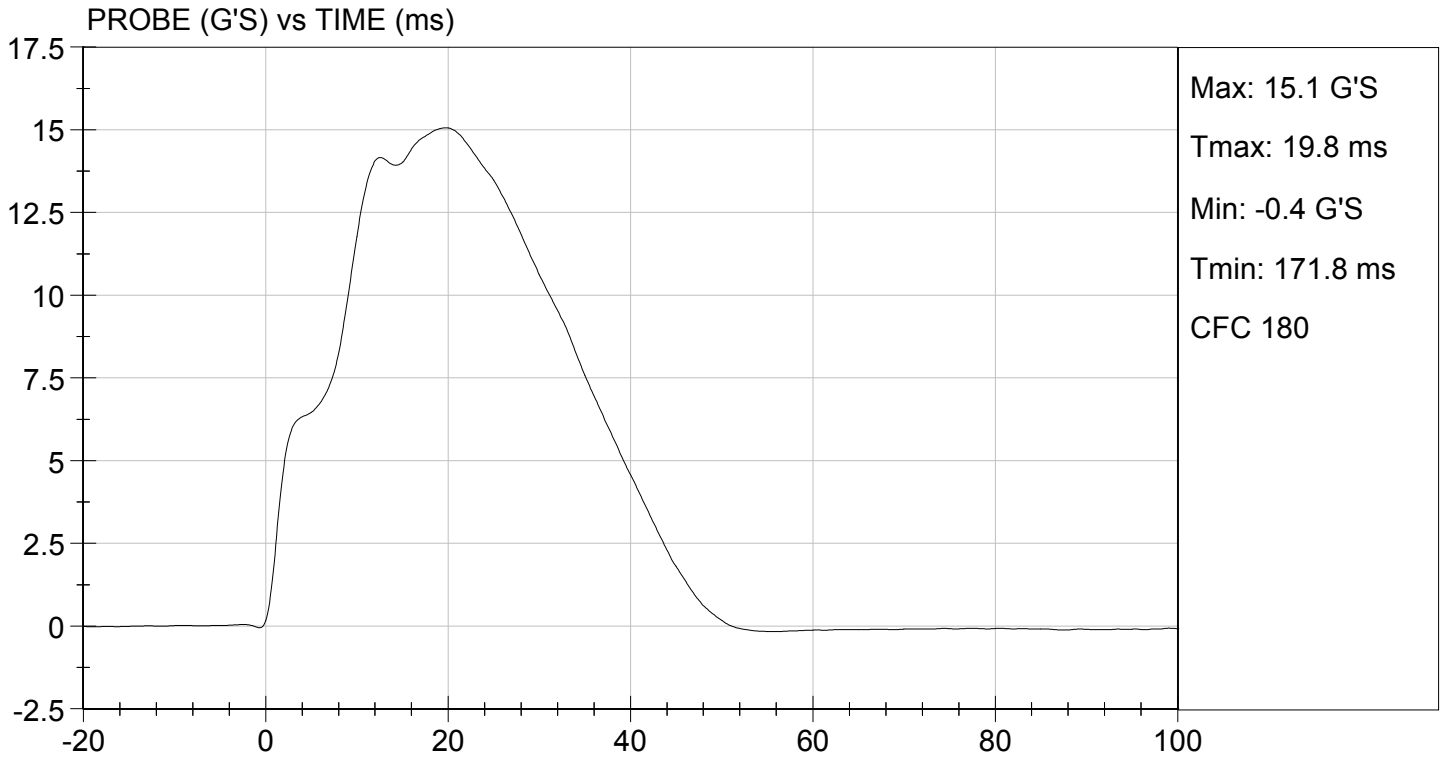
Test I.D: D124305

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	14 to 18	15	Pass
Upper Rib Displacement	mm	32 to 40	37	Pass
Middle Rib Displacement	mm	39 to 45	41	Pass
Lower Rib Displacement	mm	35 to 43	39	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	15	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	9	Pass
Overall Test Results				Pass

Jessica Hall
 Laboratory Technician

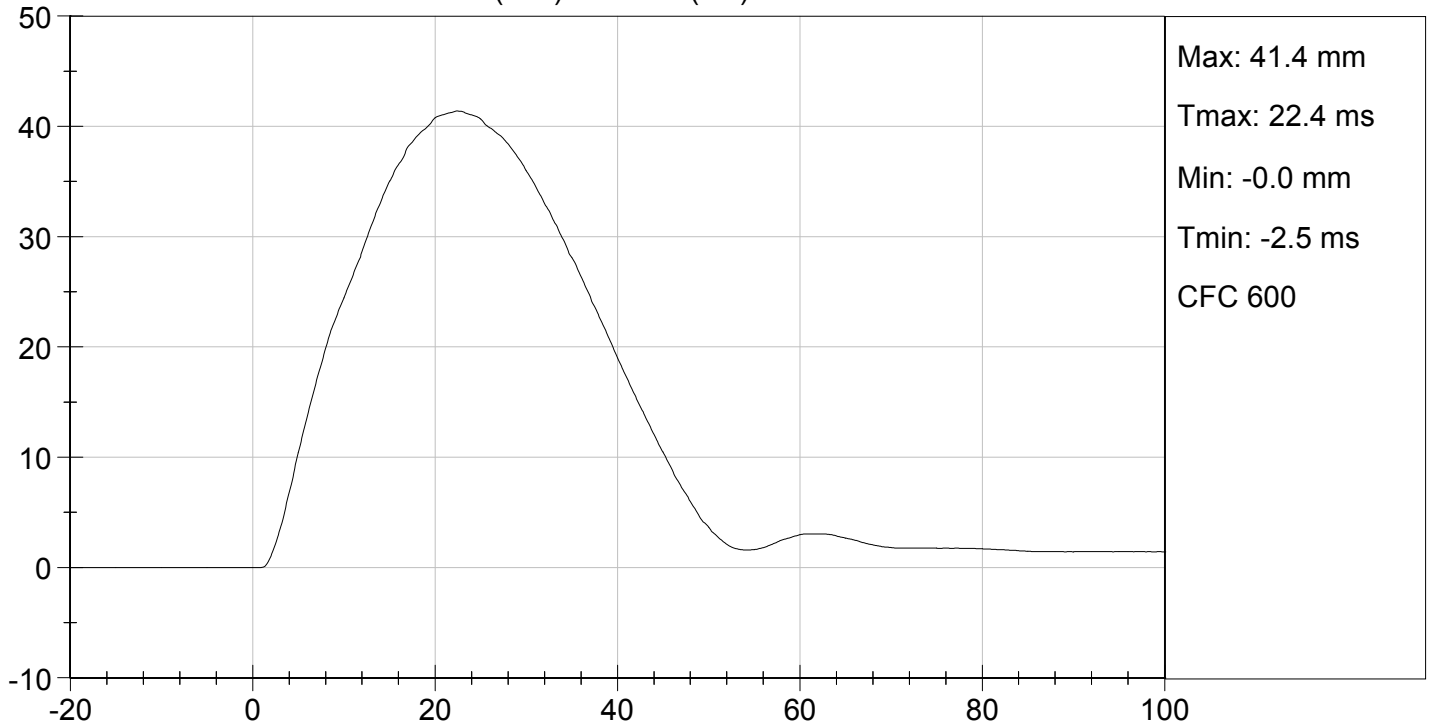
11/09/2012
 Test Date

David Winkelbauer
 Approved By

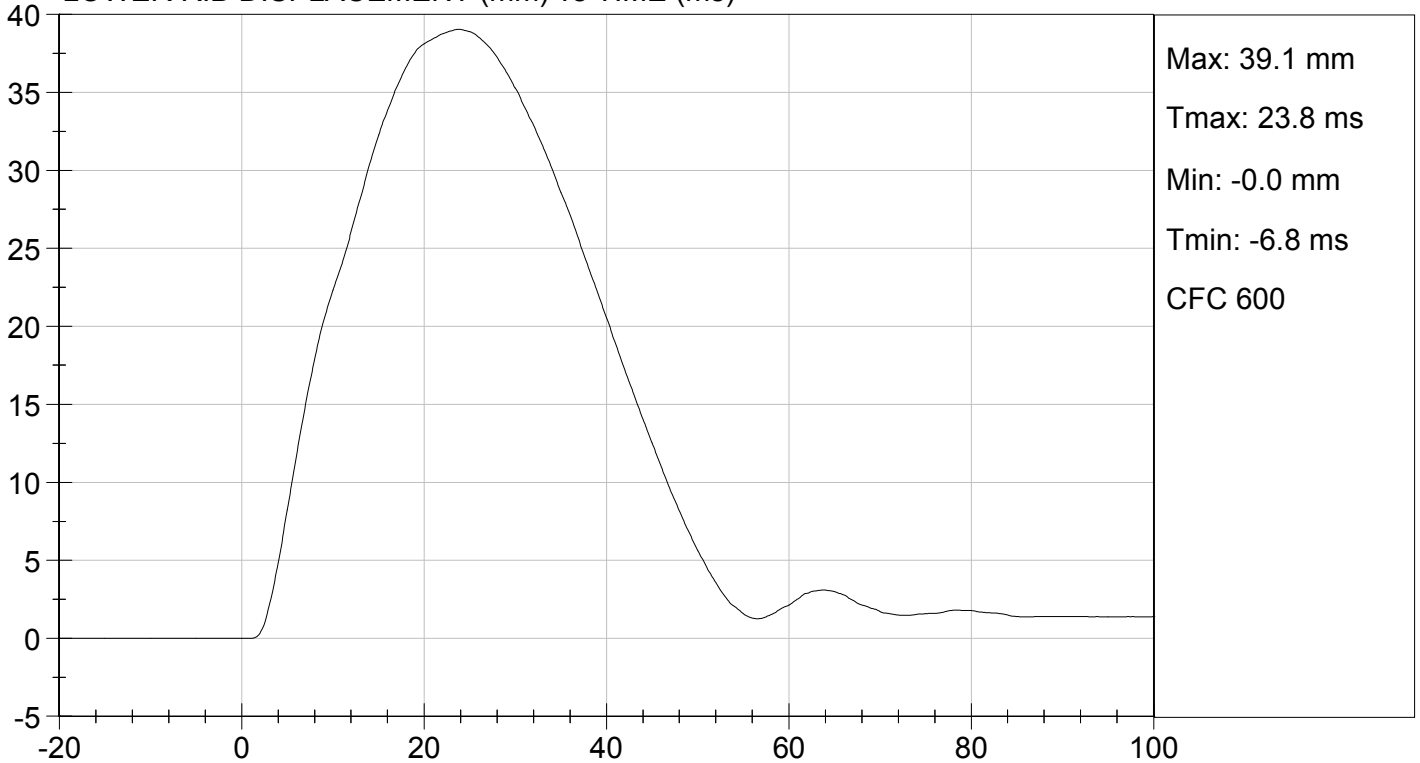




MIDDLE RIB DISPLACEMENT (mm) vs TIME (ms)

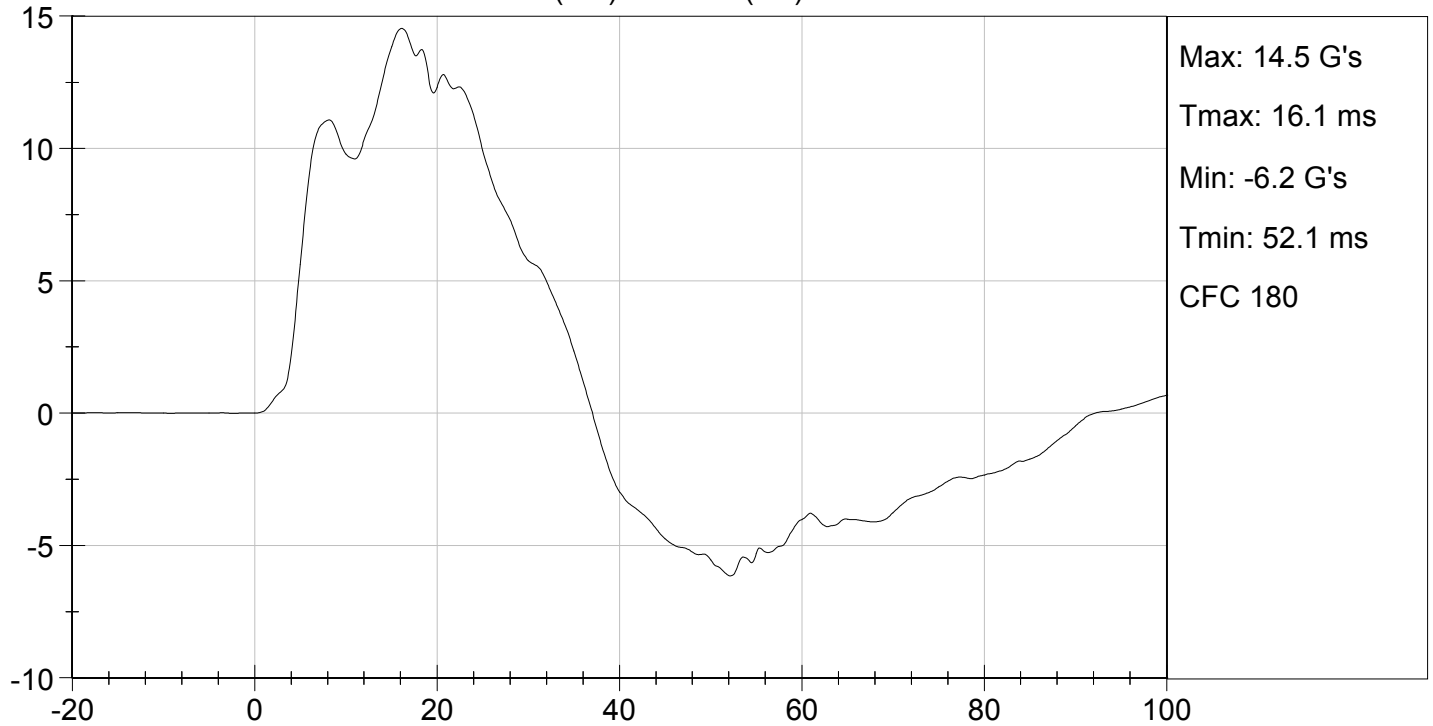


LOWER RIB DISPLACEMENT (mm) vs TIME (ms)

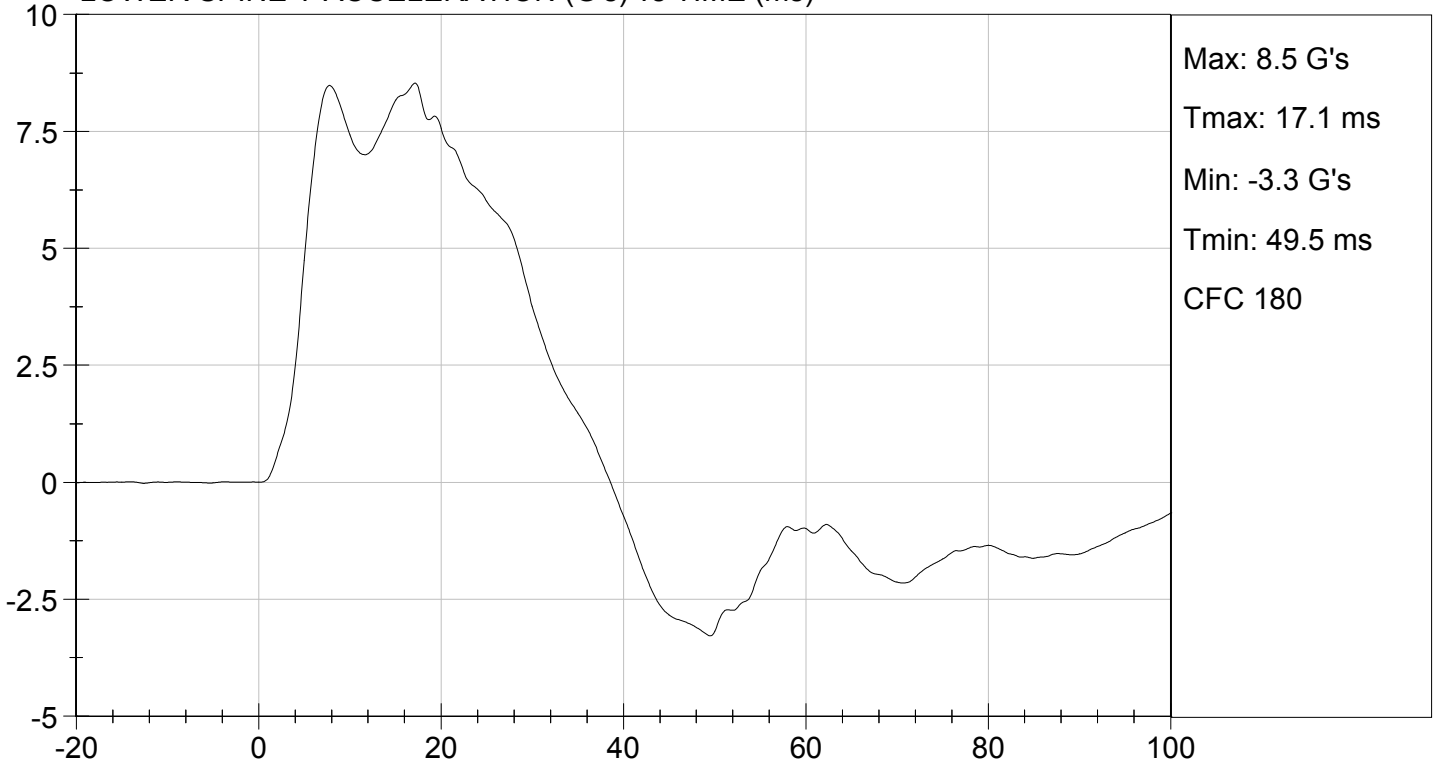




UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)



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

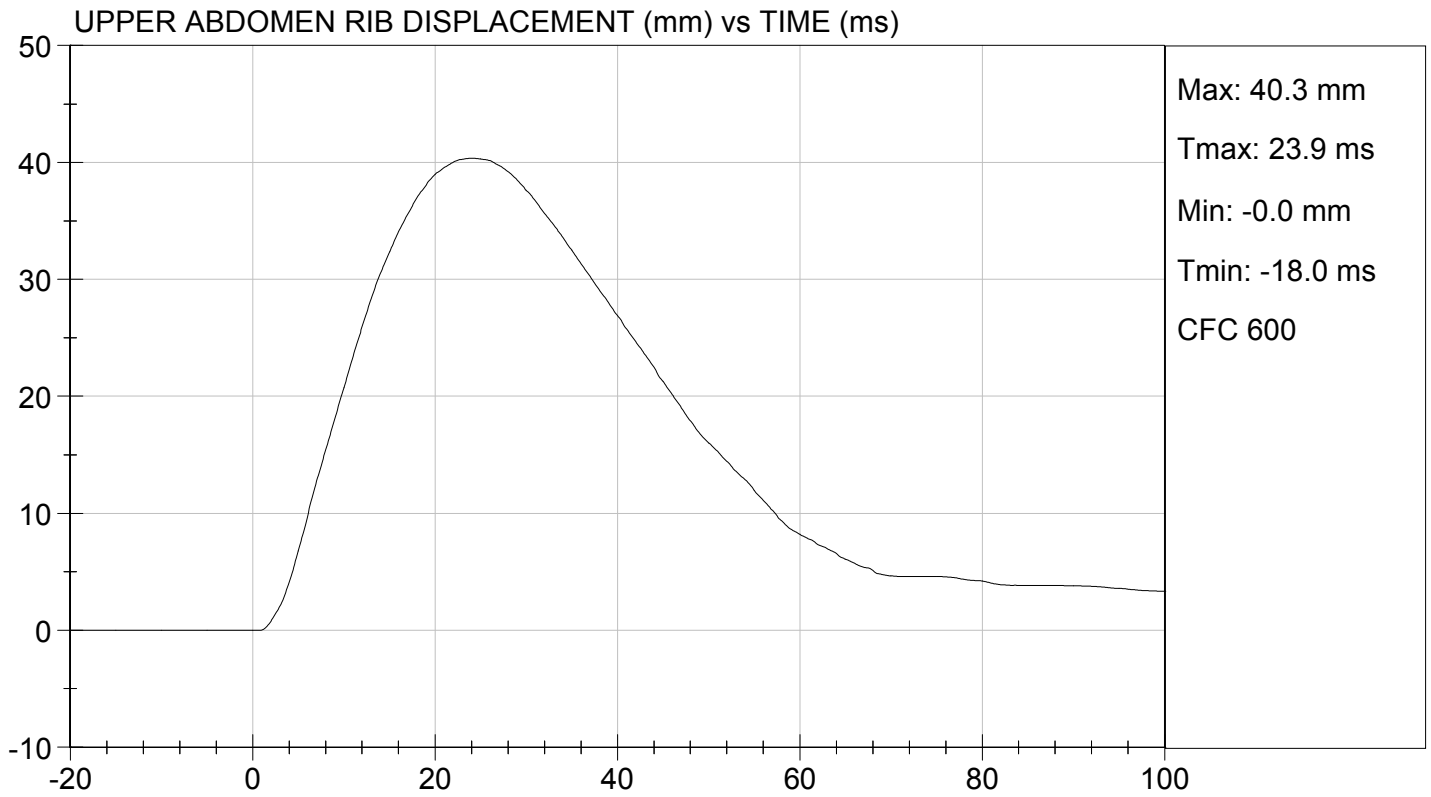
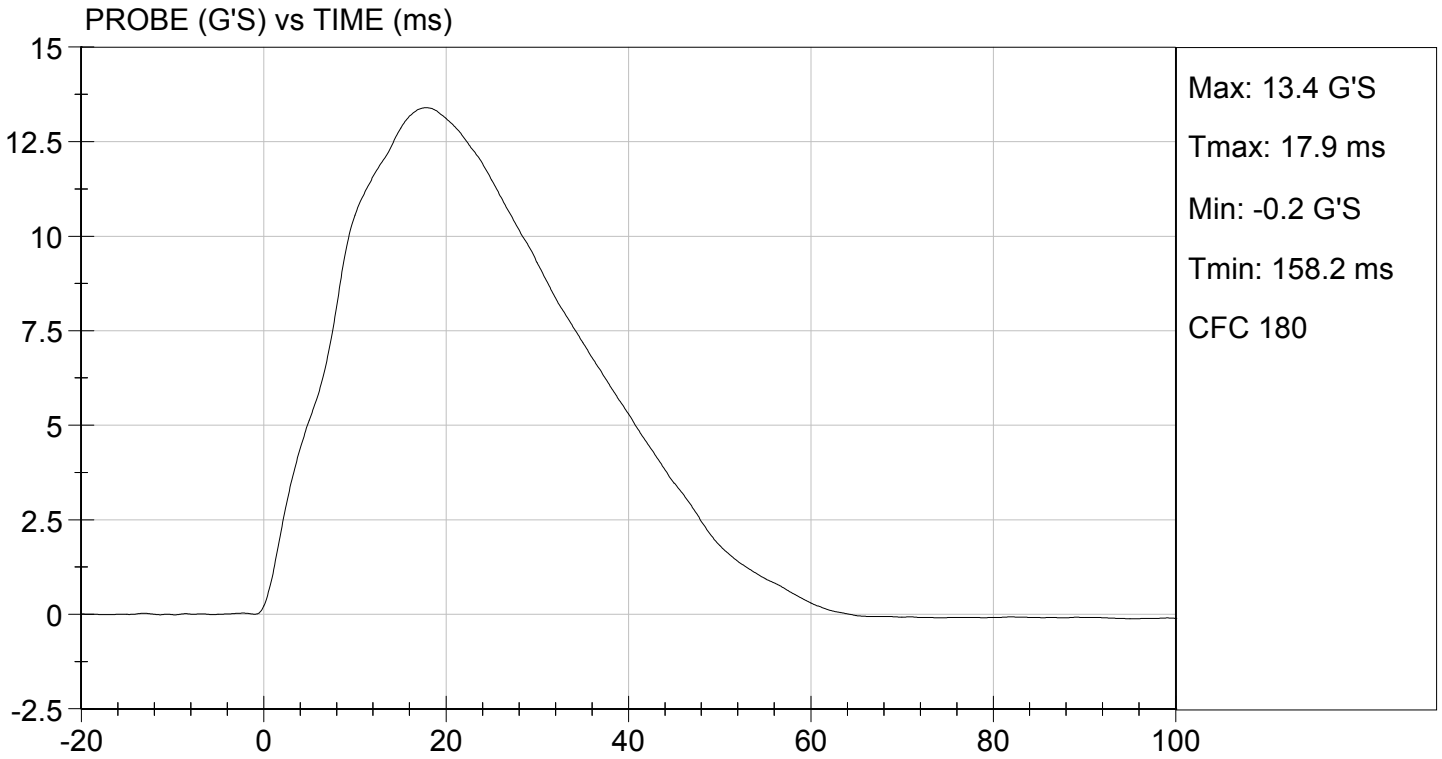
Test I.D: D124306

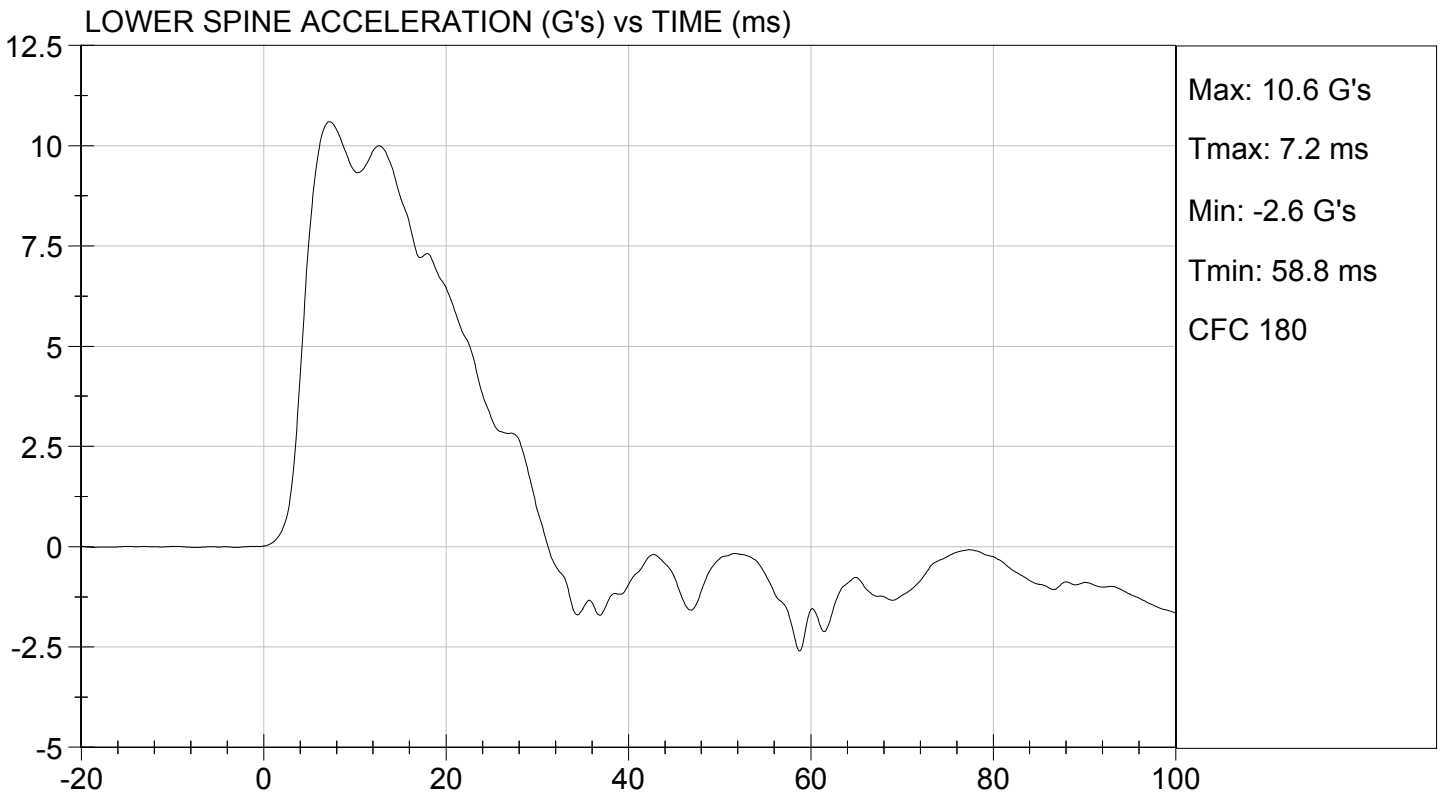
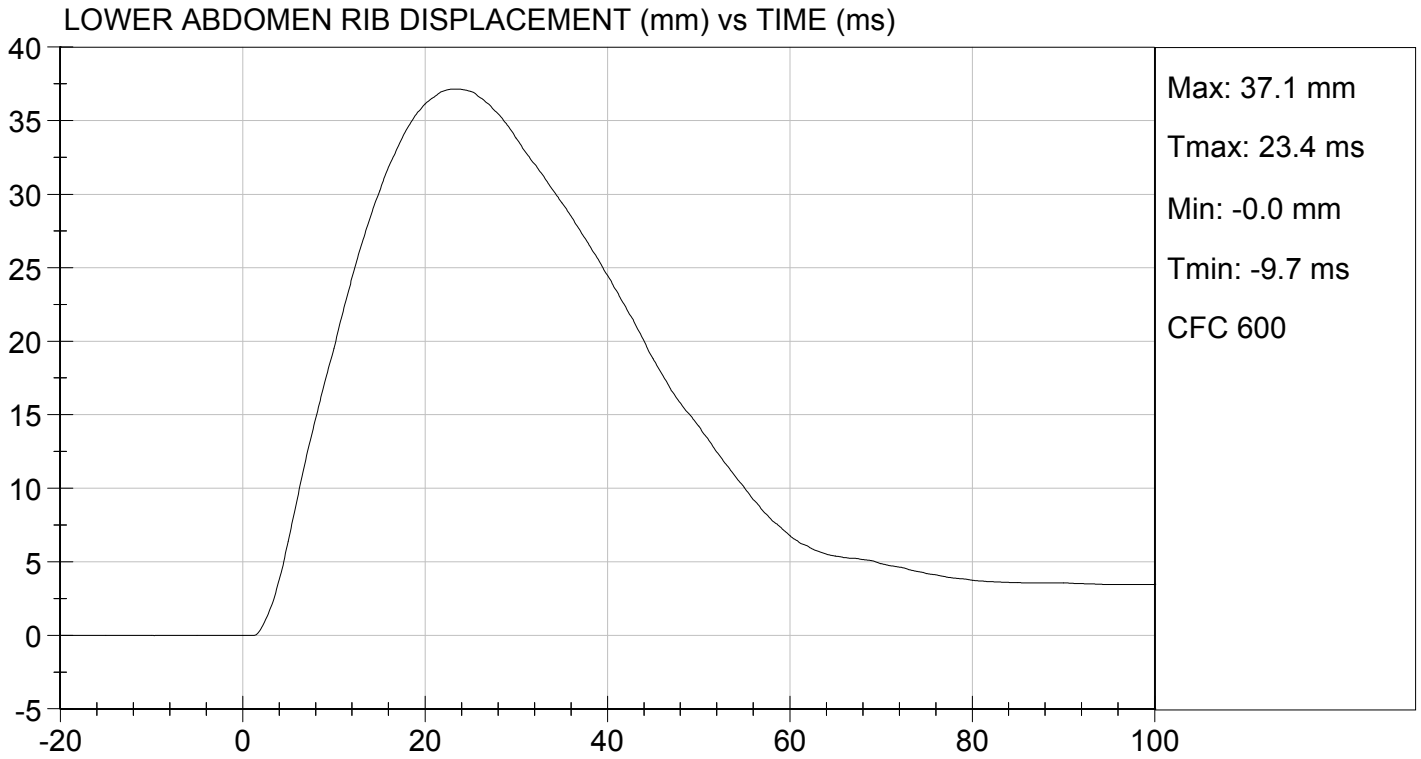
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	40	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	37	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass

Jessica Gall
 Laboratory Technician

11/09/2012
 Test Date

David Winkelbauer
 Approved By





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

ATD Serial No: 306

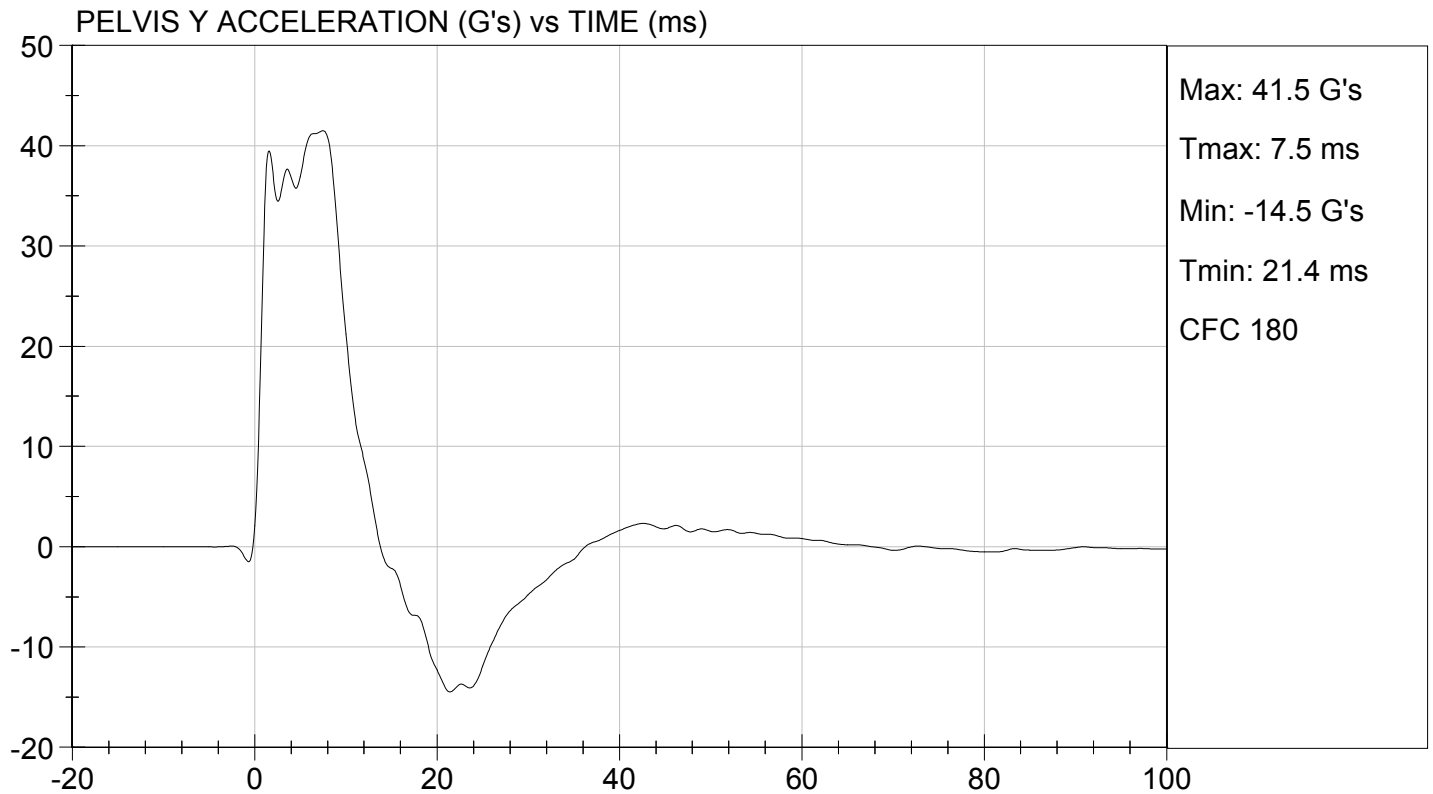
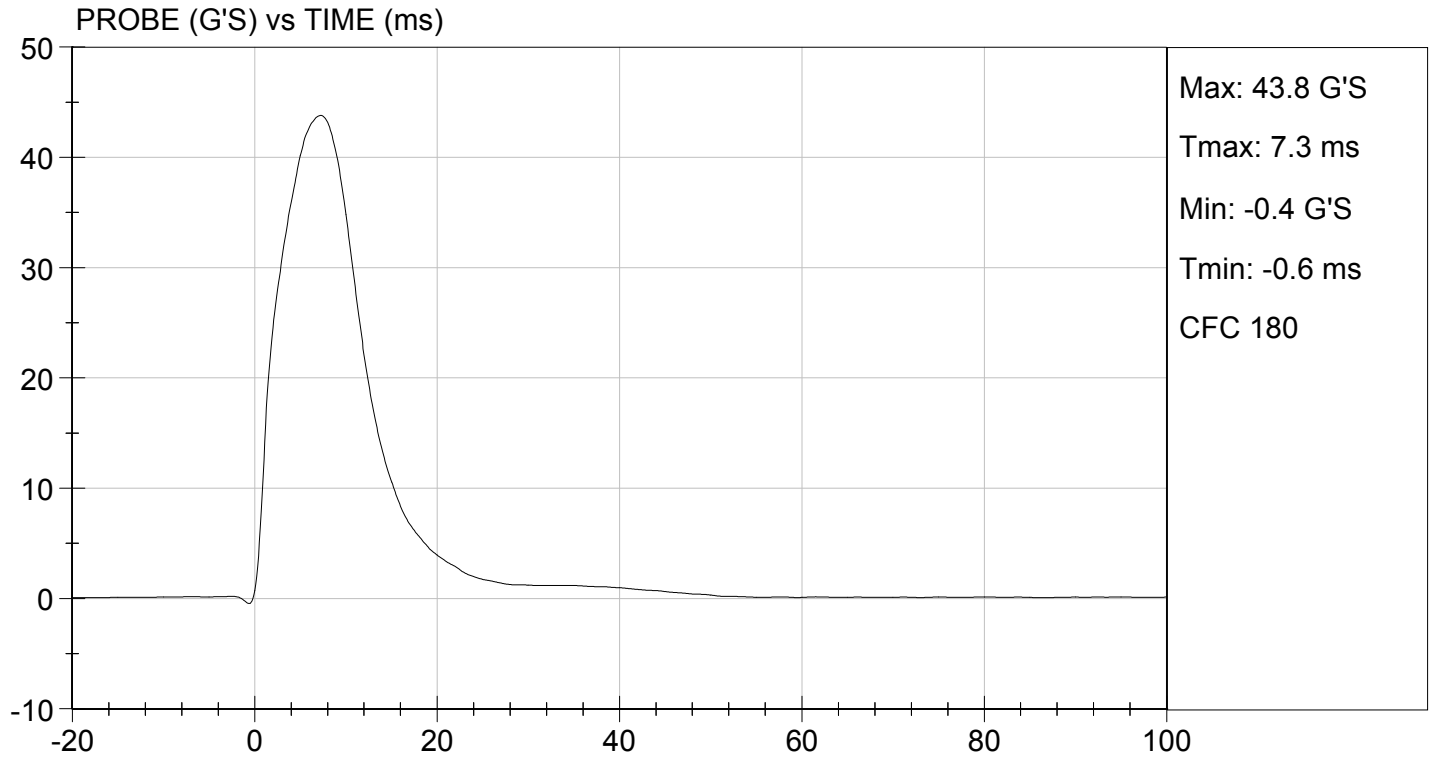
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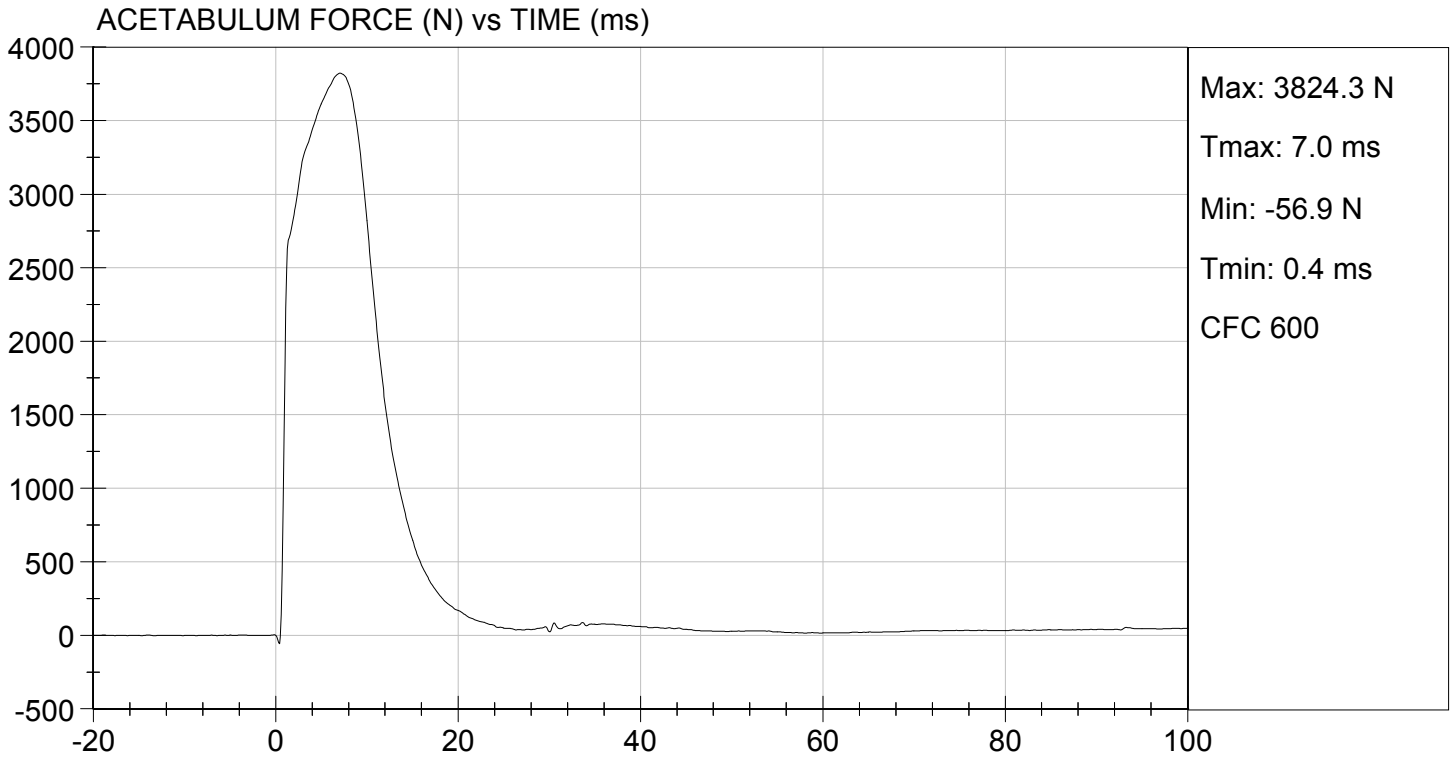
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	44	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	41	Pass
Peak Acetabulum Force	N	3600 to 4300	3,824	Pass
Overall Test Results				Pass

Jessica Gall
 Laboratory Technician

11/09/2012
 Test Date

David Winkelbauer
 Approved By





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

ATD Serial No: 306

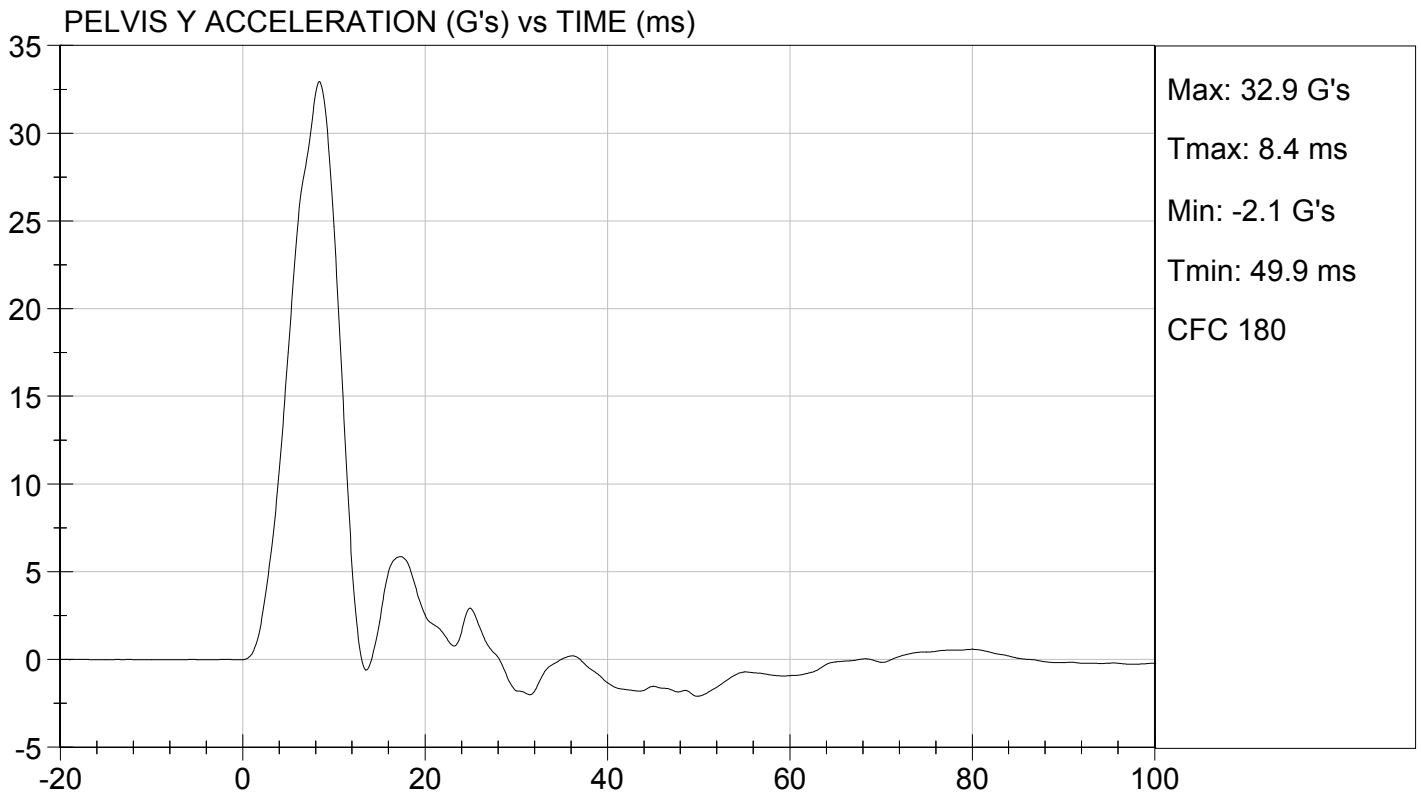
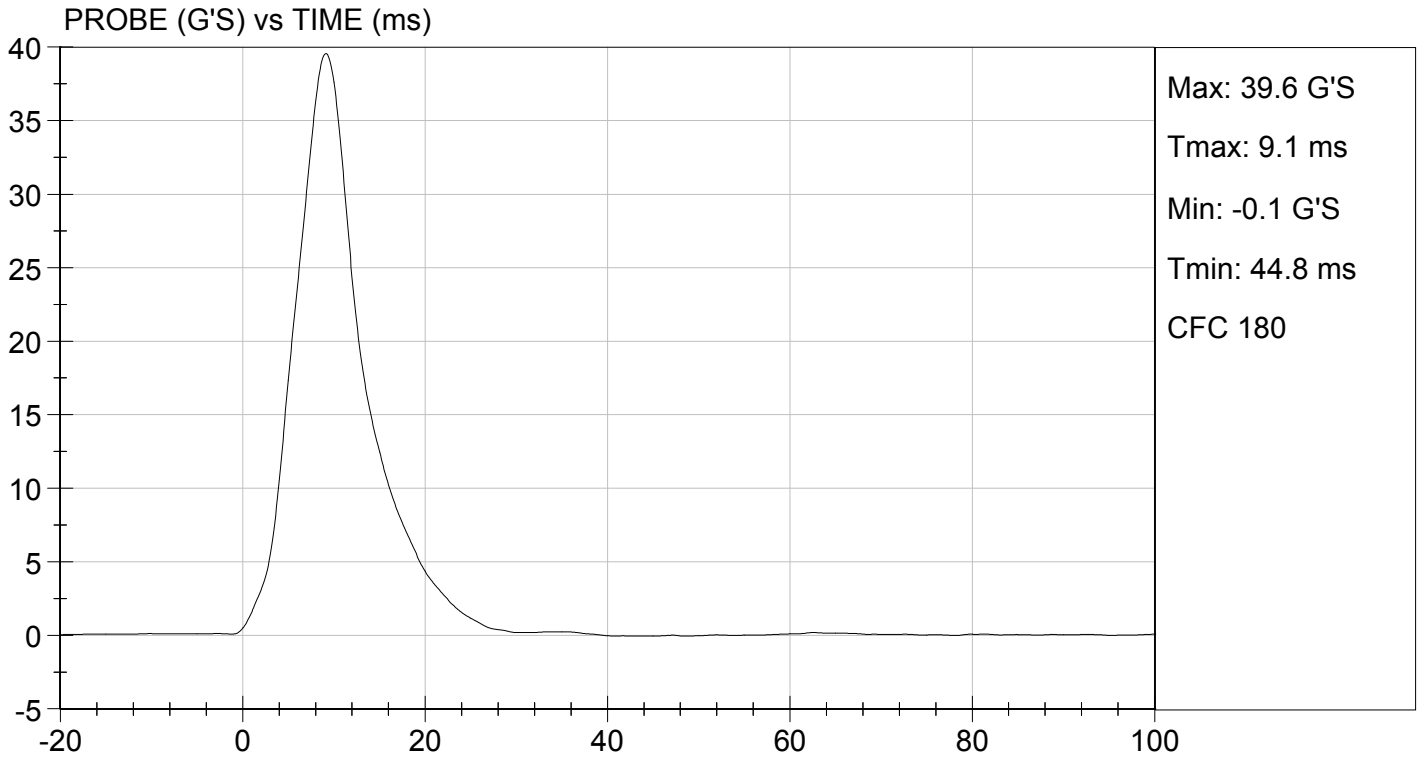
Test I.D: D124308

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	32	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	36 to 45	40	Pass
Pelvis Y Acceleration	G's	28 to 39	33	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,780	Pass
Overall Test Results				Pass

Jessica Hall
 Laboratory Technician

11/09/2012
 Test Date

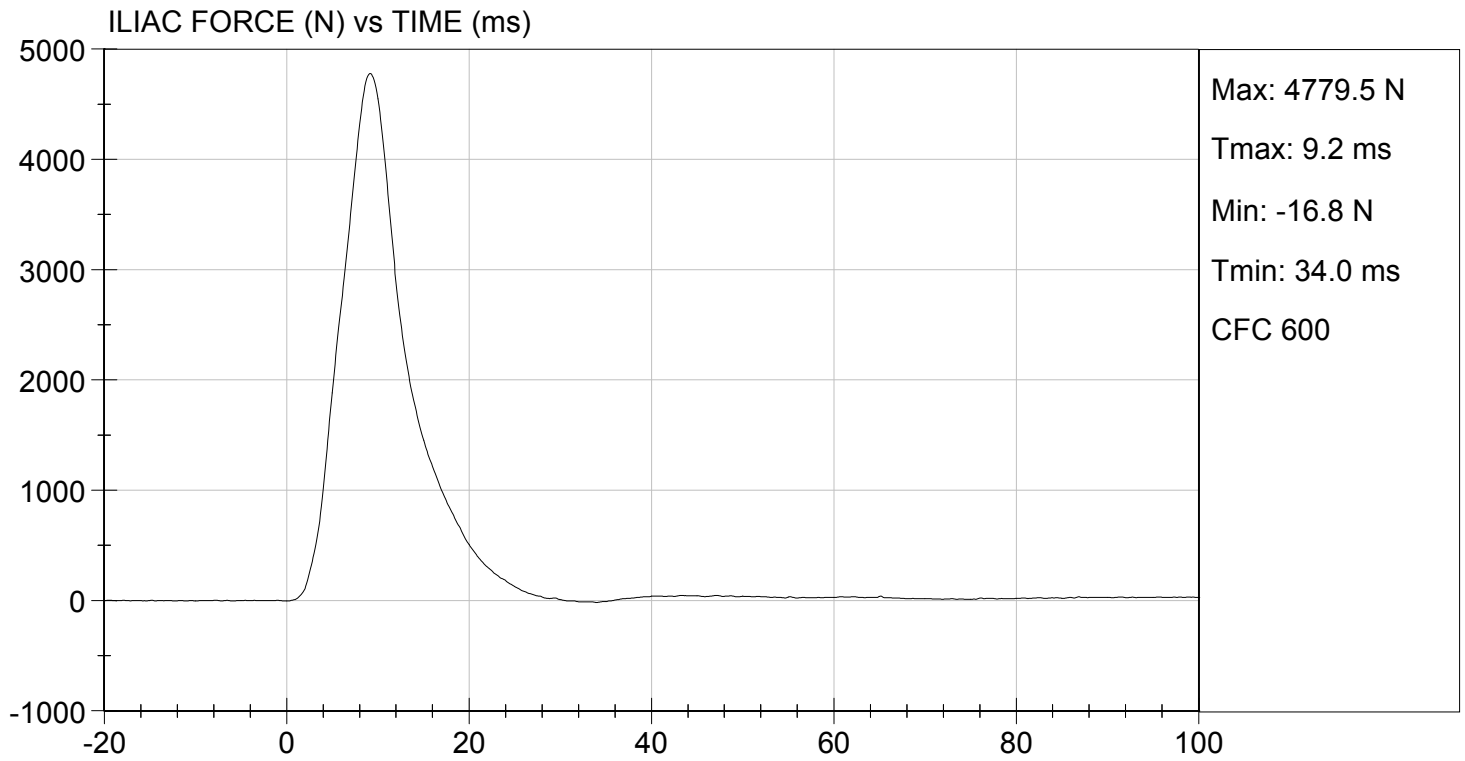
David Winkelbauer
 Approved By



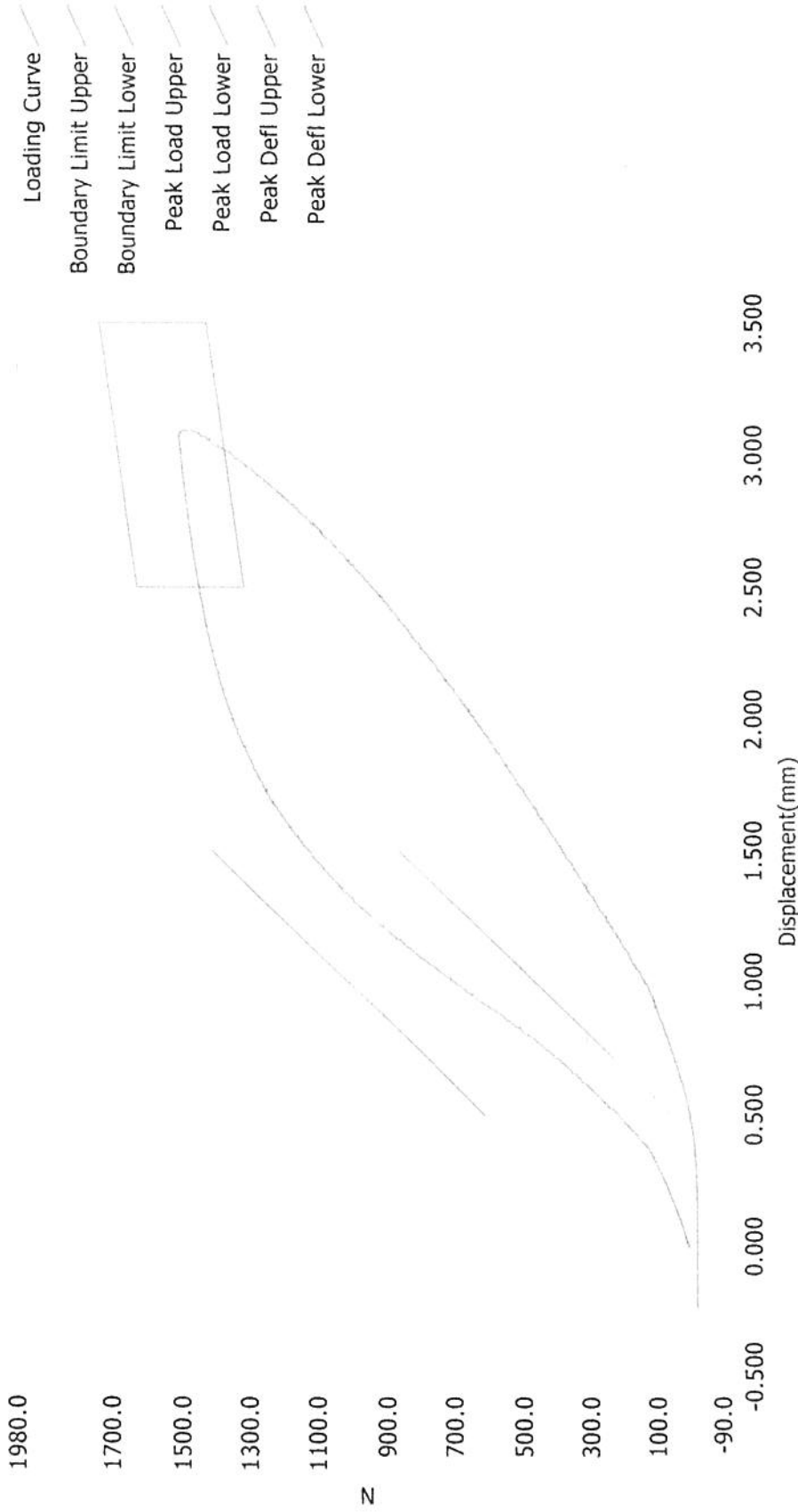


TEST DESC: ILLIAC
VELOCITY: 13.88 ft/s, 4.23 m/s

TEST DATE: 11/09/2012
TEST #: D124308



Resultant Data - SIDIIs Plug Compression

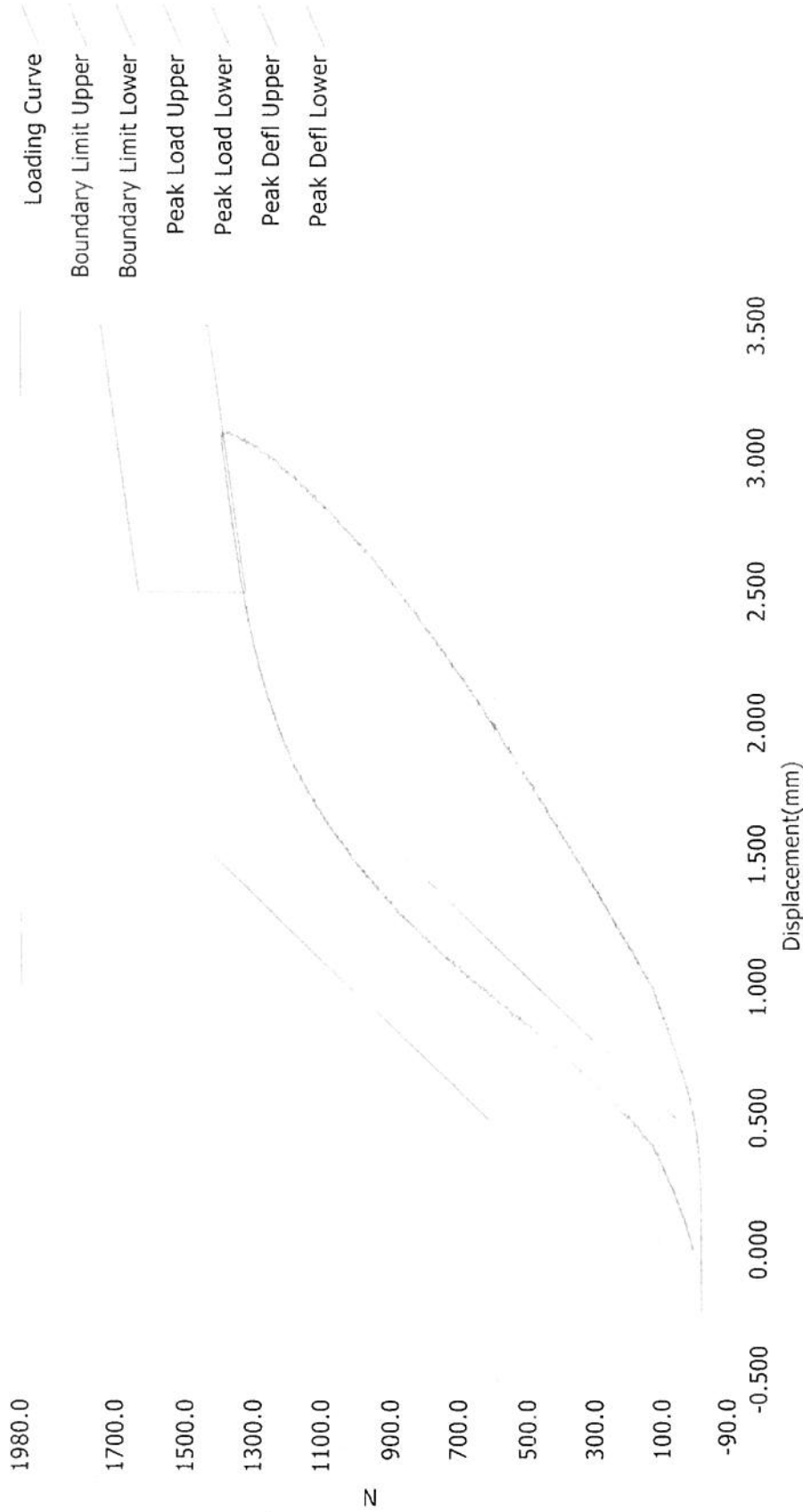


ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	46001	9/20/2011	9:20 PM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 9/20/2011 Current Time : 21:21:10

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	47546	10/27/2011	7:41 PM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 10/27/2011

Current Time : 19:43:03

APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation

			SID-IIs S/N 306			
			Serial Number	Manufacturer	Calibration Date	
9 Axis Head CG Accelerometers	Primary	X	P67884	Endevco	05/23/12	
		Y	P67886	Endevco	05/23/12	
		Z	P67887	Endevco	05/23/12	
Head CG Accelerometers	Redundant	X	P67888	Endevco	05/23/12	
		Y	P67889	Endevco	05/23/12	
		Z	P67890	Endevco	05/23/12	
9 Axis Head X		Y	P72788	Endevco	08/08/12	
		Z	P72789	Endevco	08/08/12	
9 Axis Head Y		X	P72790	Endevco	08/08/12	
		Z	P73705	Endevco	08/08/12	
9 Axis Head Z		X	P73707	Endevco	08/08/12	
		Y	P73708	Endevco	08/08/12	
Displacement Potentiometers	Thoracic Rib	Upper	Y	G1187	FTSS	05/23/12
		Middle	Y	G1261	FTSS	05/23/12
		Lower	Y	G1270	FTSS	05/23/12
	Abdominal Rib	Upper	Y	G1287	FTSS	05/23/12
		Lower	Y	G1304	FTSS	05/23/12
Lower Spine Accelerometers (T12)		X	P67508	Endevco	05/23/12	
		Y	P67510	Endevco	05/23/12	
		Z	P67511	Endevco	05/23/12	
Acetabulum Load Cell		Y	ACG111	FTSS	05/09/12	
Iliac Wing Load Cell		Y	IWG226	FTSS	05/14/12	
Pelvis Plug (struck side)			46001	FTSS	09/20/11	
Pelvis Plug (non-struck side)			47546	FTSS	10/27/11	

Table 2 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P66803	Endevco	07/21/12
Vehicle Center of Gravity	Y	P66801	Endevco	07/21/12
Vehicle Center of Gravity	Z	P66802	Endevco	07/21/12
Left Floor Sill	Y	P63503	Endevco	11/02/12
A-Pillar Sill	Y	P59277	Endevco	10/06/12
A-Pillar Low	Y	P66629	Endevco	10/08/12
A-Pillar Mid	Y	P63896	Endevco	10/18/12
B-Pillar Sill	Y	P66635	Endevco	10/22/12
B-Pillar Low	Y	P67590	Endevco	11/02/12
B-Pillar Mid	V	P66762	Endevco	11/02/12
Driver Seat	Y	P66627	Endevco	11/02/12
Engine Top	X	P67366	Endevco	11/02/12
Engine Top	Y	P67367	Endevco	11/02/12
Firewall	Y	P63280	Endevco	11/02/12
Right Roof	Y	P78894	Endevco	11/02/12
Right Floor Sill	Y	P49487	Endevco	11/02/12
Rear Floorpan	X	P68848	Endevco	07/21/12
Rear Floorpan	Y	P68847	Endevco	07/21/12

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	DG6282	FTSS	09/05/12