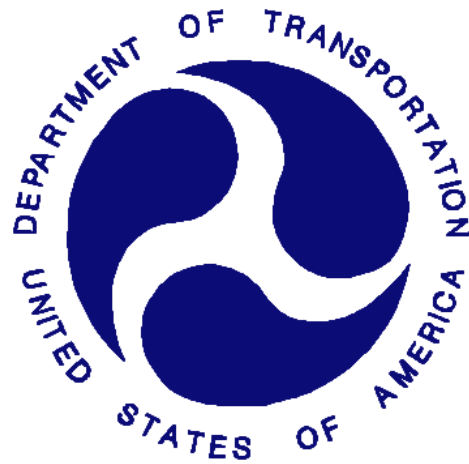


**REPORT NUMBER: SPNCAP-MGA-2016-023**

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

**FCA US LLC.  
2016 Dodge Journey SE 5-Door SUV  
NHTSA No.: M20160306**

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



**Test Date: October 20, 2015**

**Final Report Date: October 27, 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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Prepared by:   
Ben Fischer, Project Engineer

Approved by:   
Dave Winkelbauer, Project Manager

Approval Date: October 27, 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**

1. Report No. SPNCAP-MGA-2016-023		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 2016 Dodge Journey SE 5-Door SUV, NHTSA No.: M20160306		5. Report Date October 27, 2015		6. Performing Organization Code MGA																												
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7. Author(s) Ben Fischer, Project Engineer		9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105		11. Contract or Grant No. DTNH22-14-D-00353																												
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 October 20, 2015 to October 27, 2015		14. Sponsoring Agency Code NVS-111																												
		15. Supplementary Notes																														
<p>16. Abstract</p> <p>A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2016 Dodge Journey SE 5-Door 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 October 20, 2015.</p> <p>The impact velocity was 32.24 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 22.0°C. The test vehicle post-test maximum crush was 414 mm at level 3. The test vehicle's performance was as follows:</p> <table border="1" data-bbox="284 1129 1388 1423"> <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 (HIC<sub>36</sub>)</td> <td>N/A</td> <td>1000</td> <td>209</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>Gs</td> <td>82</td> <td>51</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td>4237</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>25</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td>37</td> </tr> </tbody> </table> <p>*Proposed IARV</p> <p>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.</p>						Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC <sub>36</sub> )	N/A	1000	209	Resultant Lower Spine Acceleration	Gs	82	51	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	4237	Maximum Thoracic Rib Deflection	mm	38*	25	Maximum Abdomen Rib Deflection	mm	45*	37
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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: <a href="mailto:tis@nhtsa.dot.gov">tis@nhtsa.dot.gov</a> FAX: 202-493-2833																														
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**SECTION 1**  
**TEST PURPOSE AND PROCEDURE**

This side impact test is part of the MY 2016 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-14-D-00353. The purpose of this test is to generate comparative side impact performance in a 2016 Dodge Journey SE 5-Door 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 2016 Dodge Journey SE 5-Door SUV. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.24 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin on October 20, 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 <sub>36</sub> )	N/A	1000	209
Resultant Lower Spine Acceleration	Gs	82	51
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	4237
Maximum Thoracic Rib Deflection	mm	38*	25
Maximum Abdominal Rib Deflection	mm	45*	37

\*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](http://www.nhtsa.dot.gov)

### **GENERAL COMMENTS**

None.

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: 2016 Dodge Journey SE 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
Test Date: 10/20/2015

**TEST VEHICLE INFORMATION AND OPTIONS**

NHTSA No.	M20160306	Traction Control System (TCS)	Yes
Model Year	2016	Auto-Leveling System	No
Make	Dodge	Automatic Door Locks (ADL)	Yes
Model	Journey SE	Power Window Auto-Reverse	Yes
Body Style	5-Door SUV	Other Optional Feature	N/A
VIN	3C4PDCAB0GT104389	Driver Front Airbag	Yes
Body Color	Granite Crystal Metallic	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	79km / 49mi	Driver Head/Torso Airbag	No
Engine Displacement (L)	2.4	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	4	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	FWD	Rear Pass. Torso Airbag	No
Roof Rack	Yes	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	No	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?	No
--	----

**DATA FROM CERTIFICATION LABEL**

Manufactured By	FCA US LLC.	GVWR (kg)	2271
Date of Manufacture	08/15	GAWR Front (kg)	1248
Vehicle Type	MPV	GAWR Rear (kg)	1339

**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**

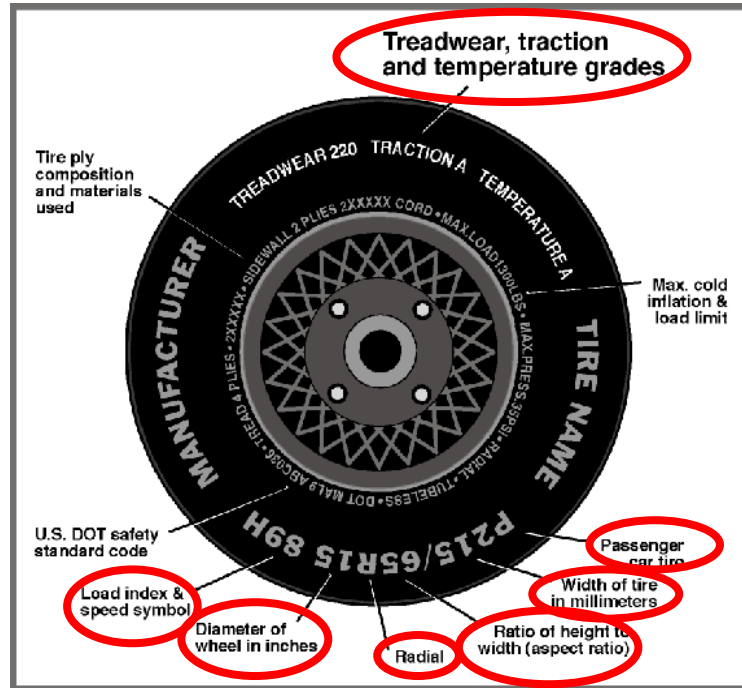
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X					X	
Rear or Second Row			X			X	
Third Row Seat							

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

**VEHICLE TIRE INFORMATION**



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	250	250
Recommended Tire Size	225/65R17	225/65R17
Tire Size on Vehicle	225/65R17	225/65R17
Tire Manufacturer	Kumho	Kumho
Tire Model	Solus KH16	Solus KH16
Treadwear	440	440
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Nylon	2 Polyester, 2 Steel, 1 Nylon
Load Index/Speed Symbol	100H	100H
Tire Material	Rubber	Rubber
DOT Safety Code Left	C0E6 YP5M 1915	C0E6 YP5M 1915
DOT Safety Code Right	C0E6 YP5M 2115	C0E6 YP5M 2015

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

**TEST PRESSURES**

	Units	LF	RF	LR	RR
As Delivered	kpa	270	275	280	275
Tire Placard	kpa	250	250	250	250
Owner's Manual	kpa	250	250	250	250
As Tested	kpa	250	250	250	250

**TEST VEHICLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	509.5	392.0		530.5	431.0		530.5	439.0	
Right	kg	476.0	386.0		478.0	420.0		477.0	421.0	
Ratio	%	55.9	44.1		54.2	45.8		53.9	46.1	
Totals	kg	985.5	778.0	1763.5	1008.5	851.0	1859.5	1007.5	860.0	1867.5

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1763.5	(A)
Actual Weight of 1 P572V ATD (SID-IIs) ATD Used	kg	52	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	52	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1867.5	(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	-0.6	-0.4	-0.4	Yes
Front Pass. Sill Angle (front-to-rear)*	deg	-1.1	-0.9	-0.9	Yes
Front Bumper Angle (left-to-right)**	deg	0.0	0.0	-0.1	Yes
Rear Bumper Angle (left-to-right)**	deg	0.0	0.0	0.0	Yes
Vehicle CG (Aft of Front Axle)	mm	1277	1324	1333	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	18	27	30	

\*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)	None
None	

Test height adjustable suspension setting, if applicable:	Not Applicable
---	----------------

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

**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	19.4	15.4	17.4
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	17.4	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Front Passenger Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
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: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

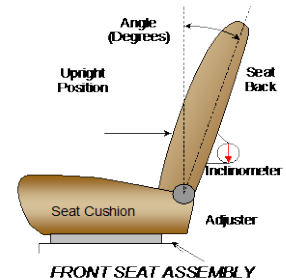
NHTSA No. M20160306  
 Test Date: 10/20/2015

**SEAT FORE/AFT POSITIONS**

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	222	34 (1 <sup>st</sup> as 1)	0	0 <sup>th</sup> (1 <sup>st</sup> as 0)
Front Passenger Seat	235	34 (1 <sup>st</sup> as 1)	0	0 <sup>th</sup> (1 <sup>st</sup> as 0)
Front Center Seat				
Struck Side Rear Seat	122	13 (1 <sup>st</sup> as 1)	122	12 <sup>th</sup> (1 <sup>st</sup> as 0)
Non-Struck Side Rear Seat	122	13 (1 <sup>st</sup> as 1)	122	12 <sup>th</sup> (1 <sup>st</sup> as 0)
Rear Center Seat	122	13 (1 <sup>st</sup> as 1)	122	12 <sup>th</sup> (1 <sup>st</sup> as 0)

**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 5<sup>th</sup> 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	74.1	38 (1 <sup>st</sup> as 1)	6.0	5 <sup>th</sup> (1 <sup>st</sup> as 0)
Front Passenger Seat	76.2	39 (1 <sup>st</sup> as 1)	5.3	5 <sup>th</sup> (1 <sup>st</sup> as 0)
Front Center Seat				
Struck Side Rear Seat	22.0	12 (1 <sup>st</sup> as 1)	2.7	0 <sup>th</sup> (1 <sup>st</sup> as 0)
Non-Struck Side Rear Seat	22.0	12 (1 <sup>st</sup> as 1)	2.7	0 <sup>th</sup> (1 <sup>st</sup> as 0)
Rear Center Seat	22.0	12 (1 <sup>st</sup> as 1)	2.7	0 <sup>th</sup> (1 <sup>st</sup> as 0)

Seat back angles measured on outboard 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	5 detents (1 <sup>st</sup> as 1)	0 <sup>th</sup> (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	5 (1 <sup>st</sup> as 1)	0 <sup>th</sup> (Lowest as 0) / Full-Forward

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

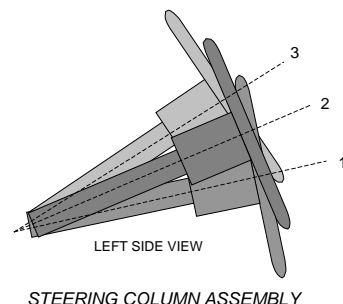
Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

**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.

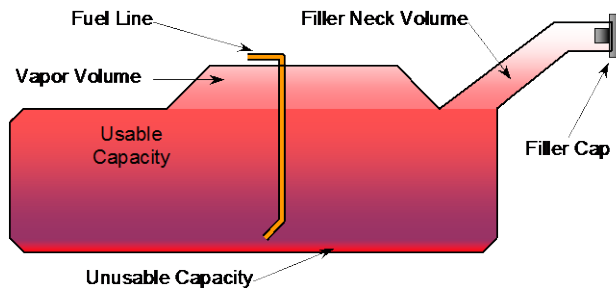
	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	67.3	166
Geometric Center, Position 2	64.5	191
Uppermost, Position 3	61.6	216
Telescoping Steering Wheel Travel		50
Test Position	64.5	191



**FUEL PUMP**

Describe the fuel pump type, details about how it operates and the location of the fuel filler pipe.

The electric fuel pump turns on when the key is in the "ON" position. The fuel filler neck is on the driver's side.



VEHICLE FUEL TANK ASSEMBLY

**FUEL TANK CAPACITY DATA**

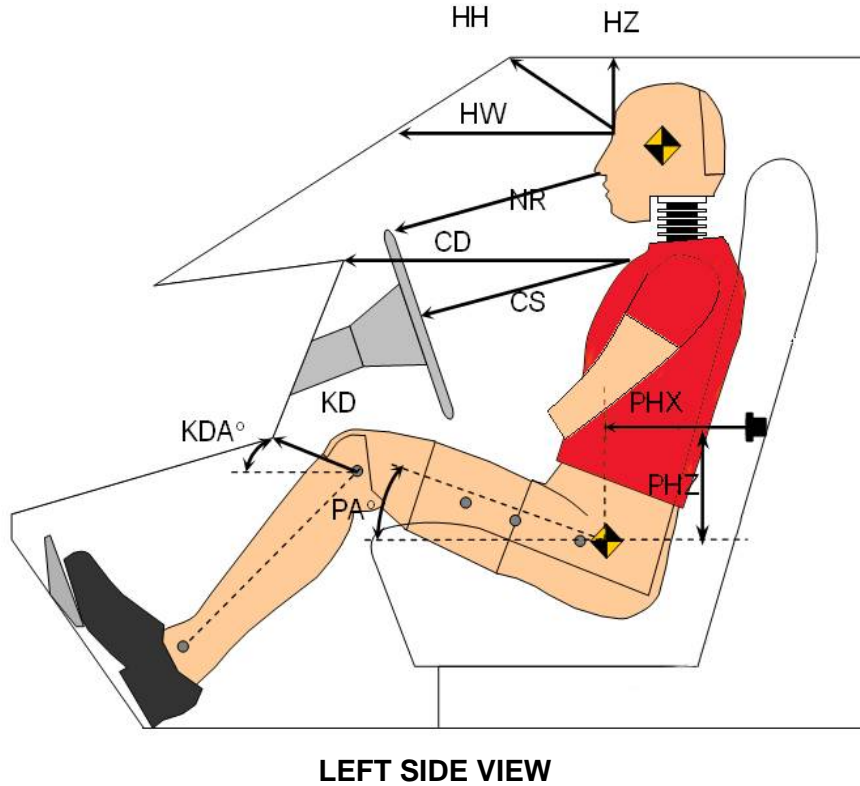
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	77.6
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	77.6
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	72.2
Actual Amount of Solvent Used	72.3
1/3 of Usable Capacity	25.9

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

**.DATA SHEET NO. 3  
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS**

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

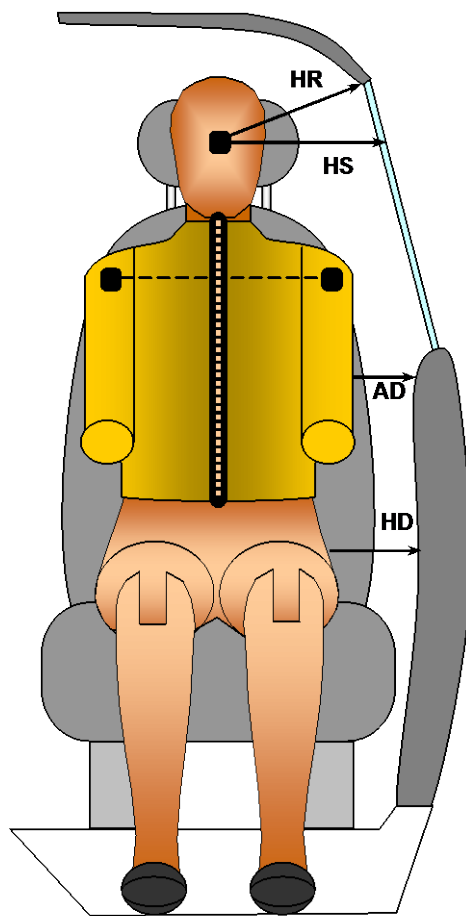


Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	304	
HW	Head to Windshield	682	
HZ	Head to Roof Liner	272	
NR	Nose to Rim	248	
CD	Chest to Dashboard	430	
CS	Chest to Steering Wheel	176	
KDL/KDAL°	Left Knee to Dash	125	29.4
KDR/KDAR°	Right Knee to Dash	115	30.1
PAX°	Pelvic Tilt Angle (X-Axis)		20.5
PAY°	Pelvic Tilt Angle (Y-Axis)		0.6
PHX	Hip Point to Striker (X-Axis)	327	
PHZ	Hip Point to Striker (Z-Axis)	115	

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015



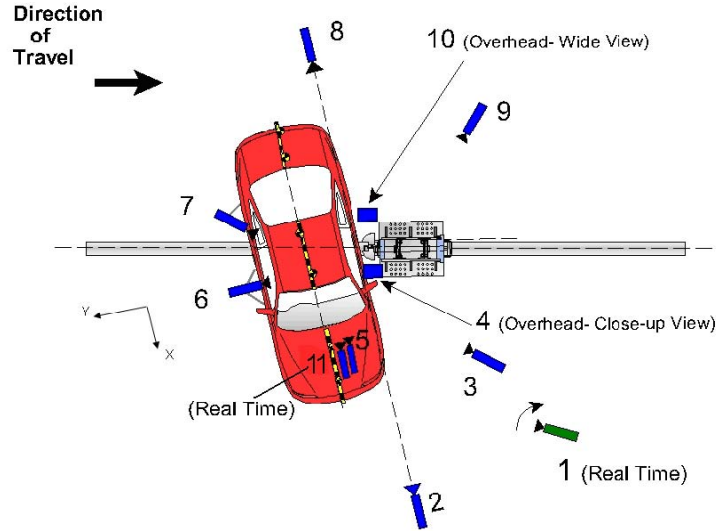
**FRONT VIEW OF DUMMY**

Code	Measurement Description	Driver
		Length (mm)
HR	Head to Side Header	259
HS	Head to Side Window	396
AD	Arm to Door	147
HD	Hip Point to Door	165

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015



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	5820	-120	-1770	24	1000
3	Impact Side 45° Forward	4030	-2230	-1850	20	1000
4	Overhead Closeup	0	0	-4890	50	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-6130	-90	-1780	24	1000
9	Impact Side 45° Rearward	-3060	-3760	-1910	20	1000
10	Overhead Wide View	-80	190	-4910	14	1000
11	Real-Time Dummy Front View					30

\*All measurements accurate to  $\pm 6$  mm

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

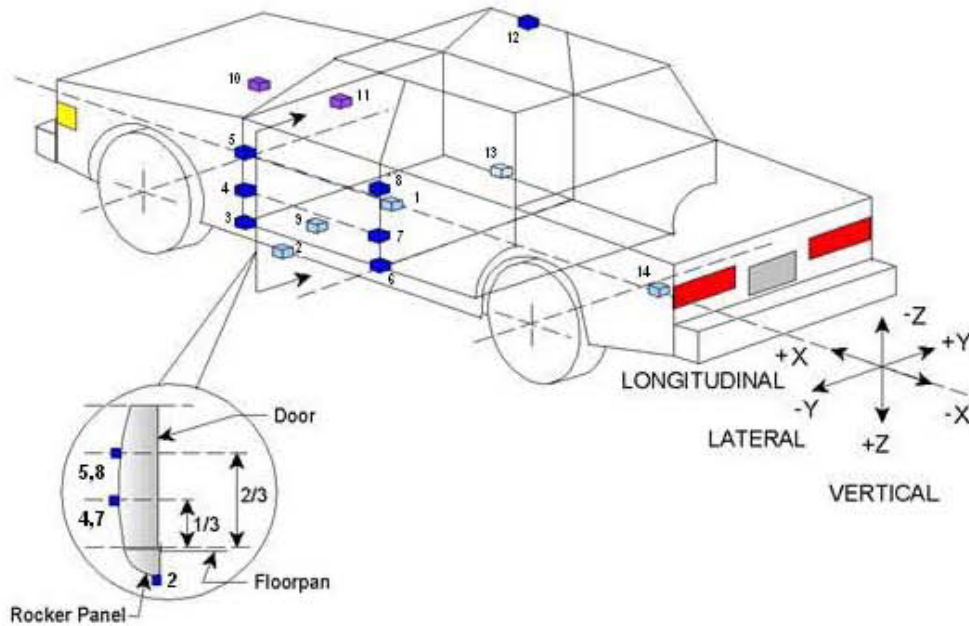
Explain why camera(s) did not operate as intended: None

INSTRUMENTATION	Number of Channels
Driver Dummy	19
Vehicle Structure	18
Pole Load Cells	8
<b>TOTAL</b>	<b>45</b>

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015



	Accelerometer Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2456	193	-284
2	Left Floor Sill	3015	-727	-265
3	A Pillar Sill	3366	-730	-264
4	A Pillar Low	3294	-822	-600
5	A Pillar Mid	3297	-824	-890
6	B Pillar Sill	2235	-730	-283
7	B Pillar Low	2201	-732	-673
8	B Pillar Mid	2161	-748	-907
9	Driver Seat Track	2530	-384	-327
10	Engine Top	4078	39	-964
11	Firewall	3909	0	-1088
12	Right Roof	2255	636	-1665
13	Right Floor Sill	3015	727	-266
14	Rear Floorpan	1289	0	-673

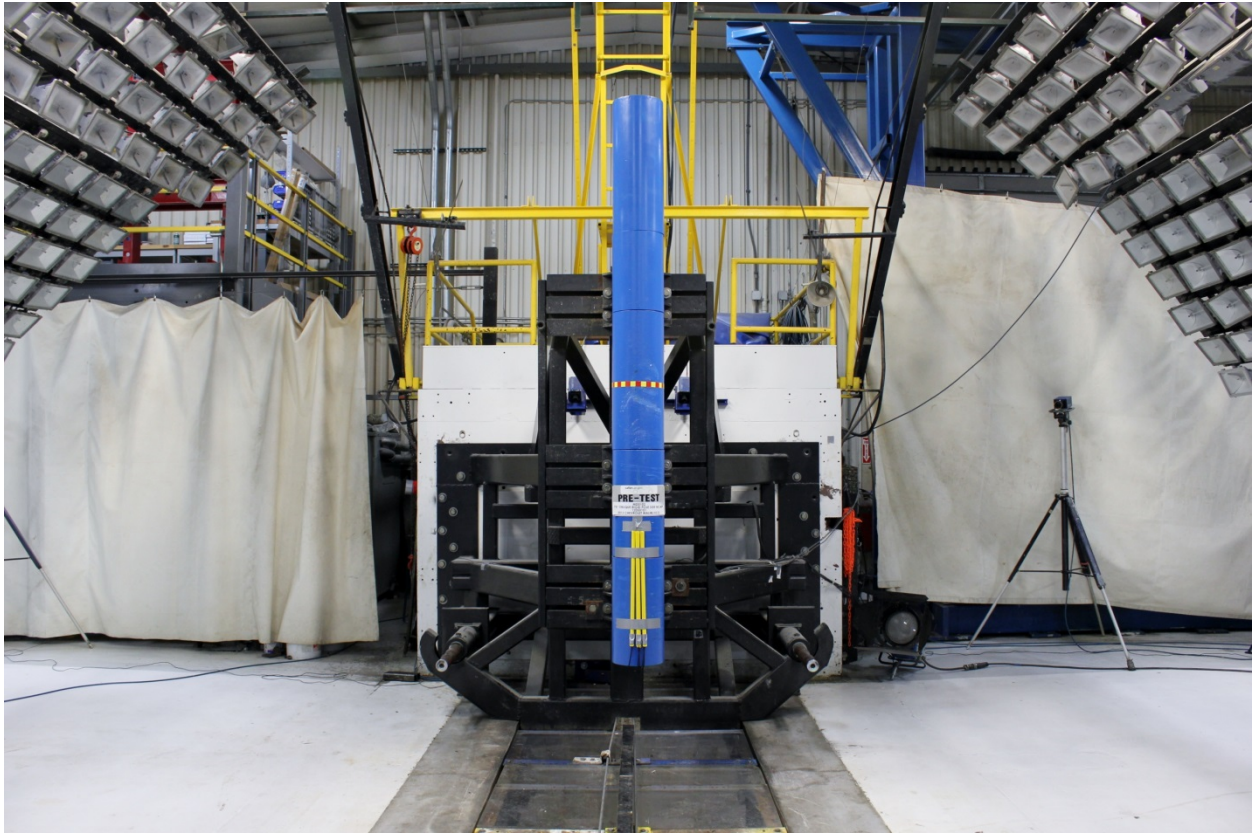
Reference:

- 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: 2016 Dodge Journey SE 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
Test Date: 10/20/2015



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: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

**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	Door Panel
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: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

**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				

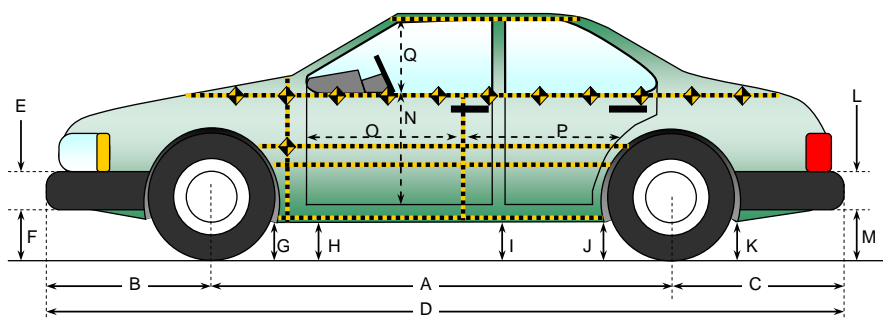
**VEHICLE SPEED, VEHICLE ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA**

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1137
Actual Impact Point (Aft of Front Axle)	mm		1129
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	8
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	32.24
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.32

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
Test Date: 10/20/2015



All measurements in (mm) with tolerance of  $\pm 3$  mm

**LEFT SIDE VIEW**

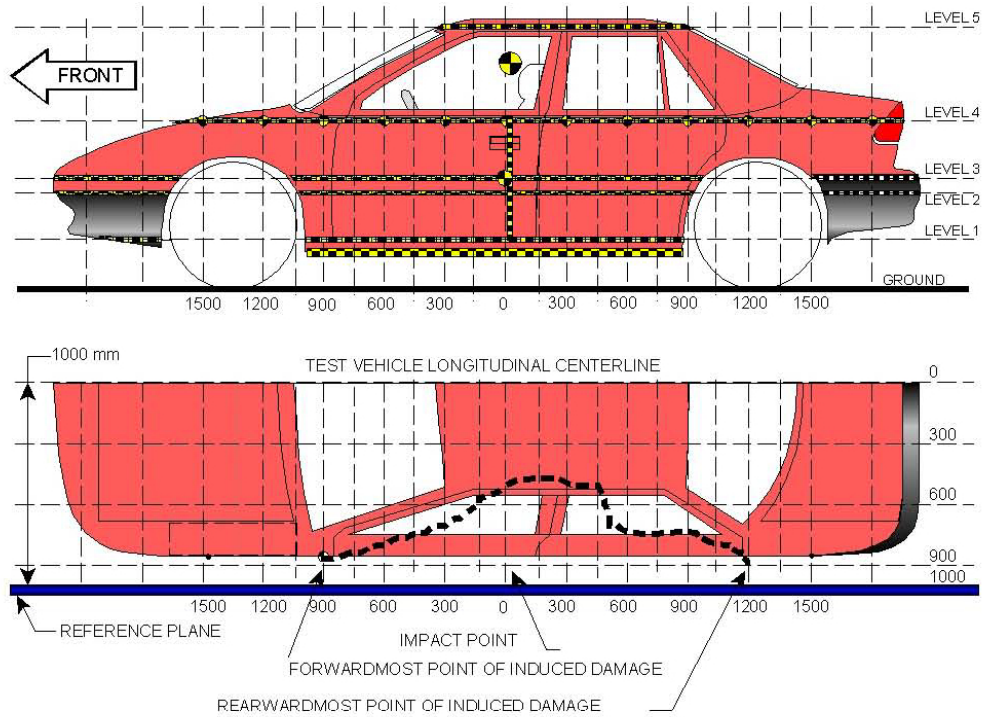
**VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION**

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2896	2798	98
B	Front Axle to FSOV	995	1068	-73
C	Rear Axle to RSOV	1004	1003	1
D	Total Vehicle Length at Centerline	4895	4869	26
E	Front Bumper Thickness	110	110	0
F	Front Bumper Bottom to Ground	273	302	-29
G	Sill Height at Front Wheel Well	243	223	20
H	Sill Height at Front Door Leading Edge	243	217	26
I	Sill Height at B-Pillar	262	271	-9
J1	Sill Height at Rear Wheel Well	272	285	-13
J2	Pinch Weld Height at Rear Wheel Well	270	282	-12
K	Sill Height Aft of Rear Wheel Well	300	305	-5
L	Rear Bumper Thickness	114	114	0
M	Rear Bumper Bottom to Ground	388	391	-3
N	Sill Height to Bottom of Front Window Sill	771	807	-36
O	Front Door Leading Edge to Impact CL	672	495	177
P	Rear Door Trailing Edge to Impact CL	1495	1396	99
Q	Front Window Opening	432	406	26
R	Right Side Length	3851	3862	-11
S	Left Side Length	3851	3710	141
T	Vehicle Width at B-Pillars	1830	1707	123

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015



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	425	372	0
2	Occupant Hip Point	695	412	0
3	Mid Door	732	414	0
4	Window Sill	1053	393	0
5	Window Top	1602	188	0

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015

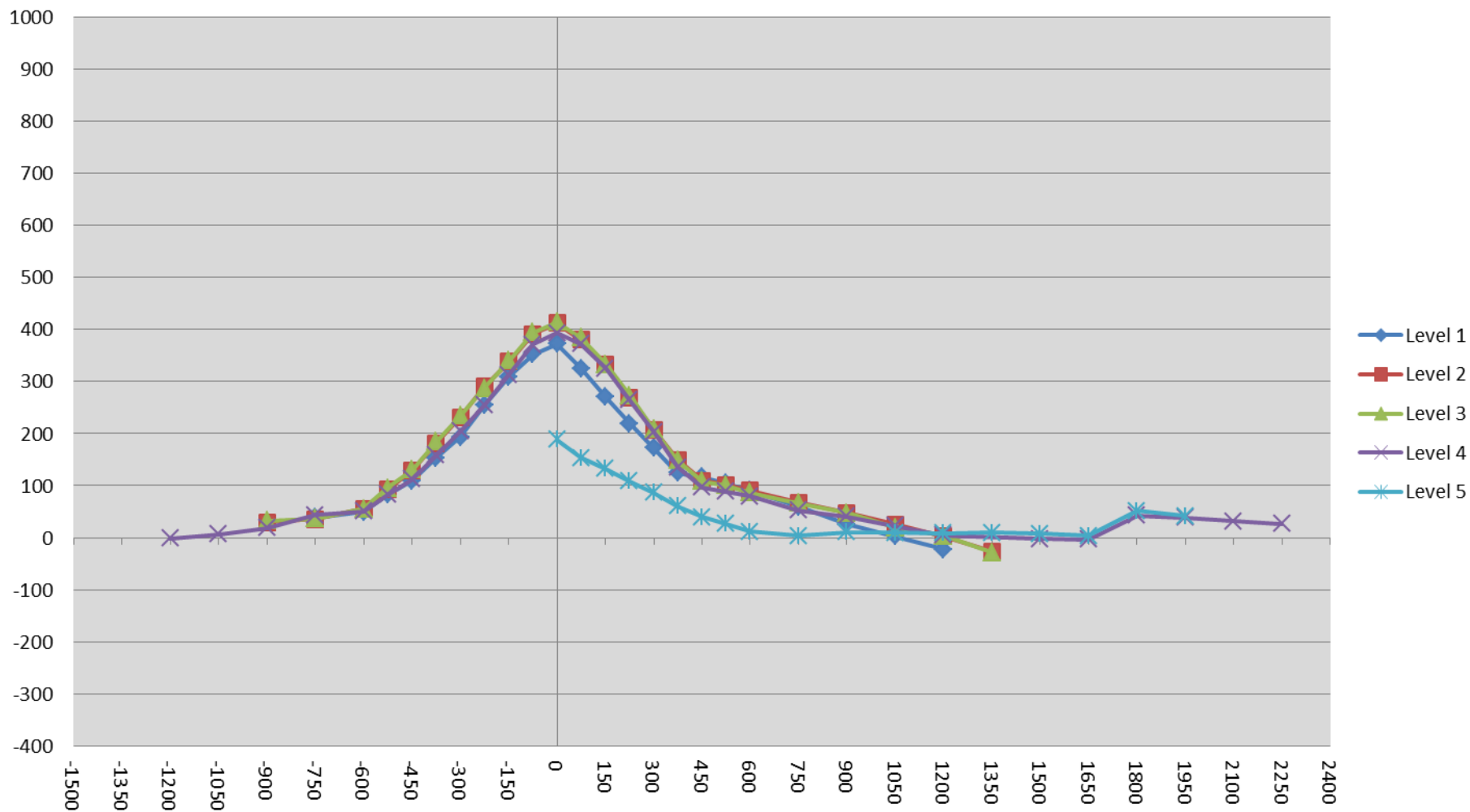
	Pre-Test					Post-Test					Difference					
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
-2700																
-2550																
-2400																
-2250																
-2100																
-1950																
-1800																
-1650																
-1500																
-1350																
-1200				302					301						-1	
-1050				281					287						6	
-900		168	168	264			197	200	282			29	32	18		
-825																
-750	199	186	192	249		238	222	229	293		39	36	37	44		
-675																
-600	220	190	189	241		269	245	244	291		49	55	55	50		
-525	219	190	188	236		302	282	283	319		83	92	95	83		
-450	218	188	187	232		327	317	317	344		109	129	130	112		
-375	217	187	186	228		370	368	370	386		153	181	184	158		
-300	215	187	185	224		408	418	419	428		193	231	234	204		
-225	215	187	185	220		469	477	472	474		254	290	287	254		
-150	214	186	184	212		523	524	524	525		309	338	340	313		
-75	214	186	184	210		566	577	578	581		352	391	394	371		
0	213	186	184	210	460	585	598	598	603	648	372	412	414	393	188	
75	213	186	185	206	454	538	566	569	578	607	325	380	384	372	153	
150	213	186	185	205	452	483	519	518	530	584	270	333	333	325	132	
225	214	187	185	202	456	433	456	458	466	564	219	269	273	264	108	
300	214	188	186	201	456	386	395	394	404	542	172	207	208	203	86	
375	213	188	187	201	454	337	337	335	336	515	124	149	148	135	61	
450	213	189	188	203	455	329	298	296	299	495	116	109	108	96	40	
525	213	190	189	204	455	317	291	289	292	482	104	101	100	88	27	
600	214	192	190	204	455	304	282	276	284	467	90	90	86	80	12	
675																
750	216	195	193	207	457	276	263	260	260	461	60	68	67	53	4	
825																
900	220	200	197	210	459	246	248	245	251	470	26	48	48	41	11	
1050	223	204	202	214	462	226	230	222	237	472	3	26	20	23	10	
1200	200	208	207	219	471	178	211	211	224	480	-22	3	4	5	9	
1350		182	187		475		156	159		485		-26	-28		10	
1500				230	481				228	489					-2	8
1650				237	493				234	497					-3	4
1800				244	505				287	557					43	52
1950				250	524				289	566					39	42
2100				258					290						32	
2250				267					294						27	
2400																
2550																
2700																

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: 2016 Dodge Journey SE 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

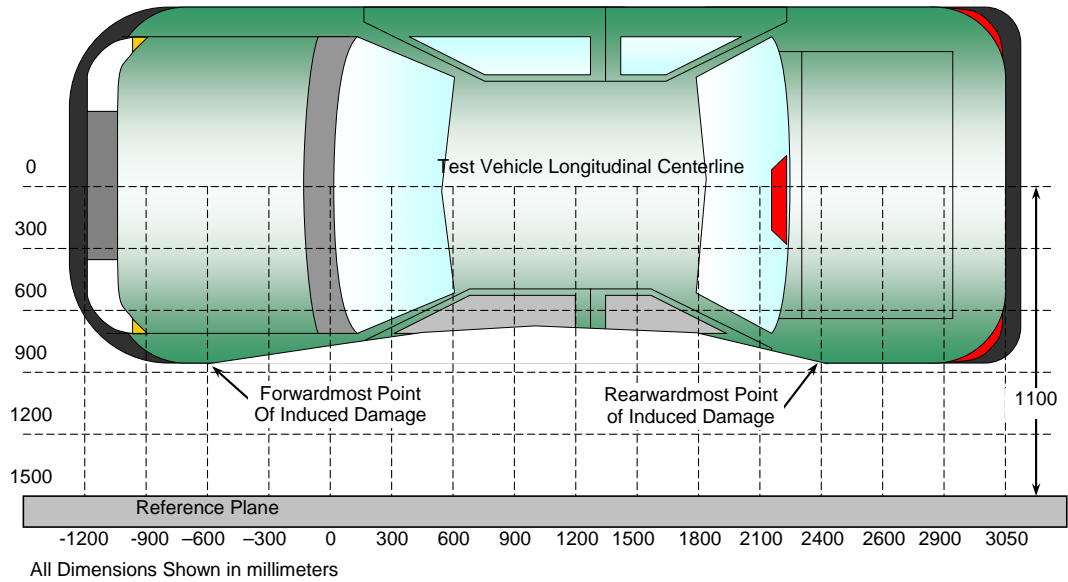
NHTSA No. M20160306  
Test Date: 10/20/2015



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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015



**TOP VIEW**

**DAMAGE PROFILE DISTANCES**

DPD	Distance from Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	500	3	189	293	104
2	240	3	185	451	266
3	-20	3	184	600	416
4	-280	3	186	416	230
5	-540	3	189	258	69
6	-700	3	173	201	28

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

Test Vehicle: 2016 Dodge Journey SE 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

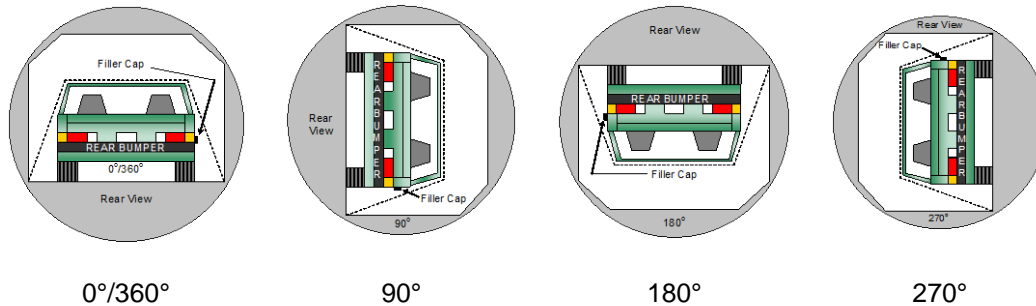
NHTSA No. M20160306  
Test Date: 10/20/2015

Test Time: 11:03 a.m.

Temperature: 22.0°C

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

**FMVSS 301 STATIC ROLLOVER DATA**



**ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS**

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

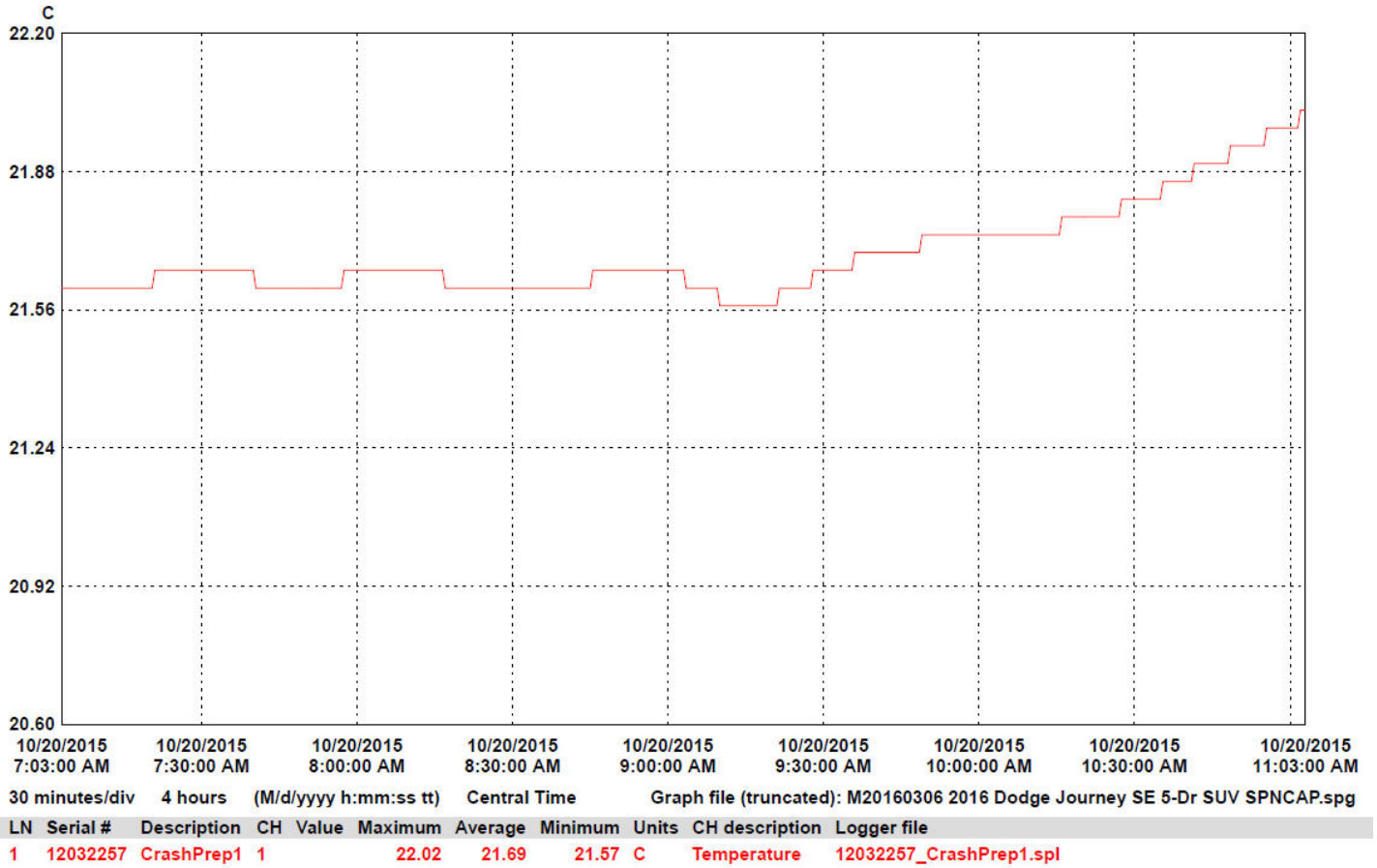
**ROLLOVER SOLVENT SPILLAGE LOCATION TABLE**

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: 2016 Dodge Journey SE 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No. M20160306  
 Test Date: 10/20/2015



**APPENDIX A  
PHOTOGRAPHS**

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Photo No. 001 - As Delivered Right Front ¼ View of Test Vehicle



Photo No. 002 - As Delivered Left Rear ¼ View of Test Vehicle

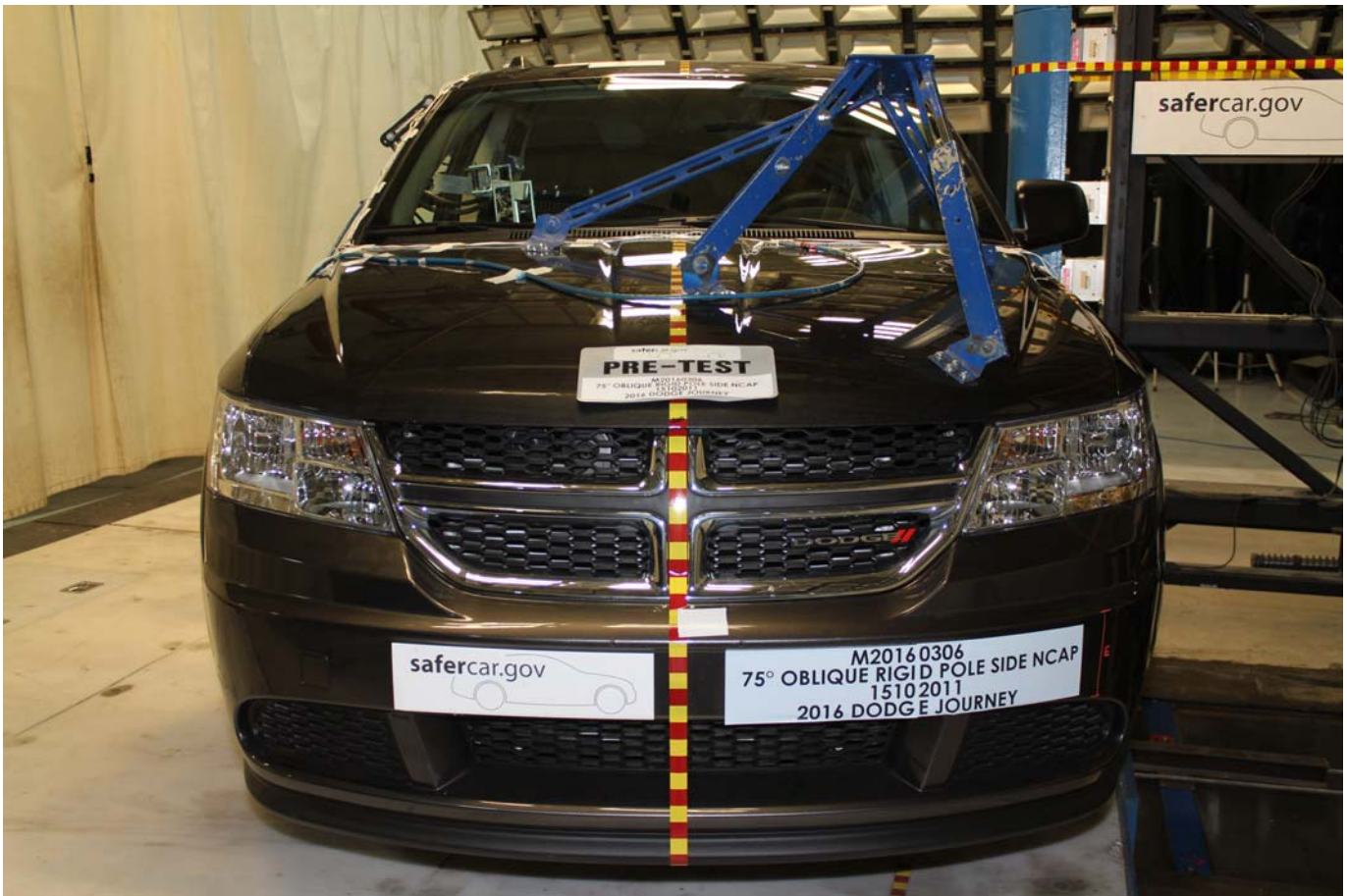


Photo No. 003 - Pre-Test Frontal View of Test Vehicle

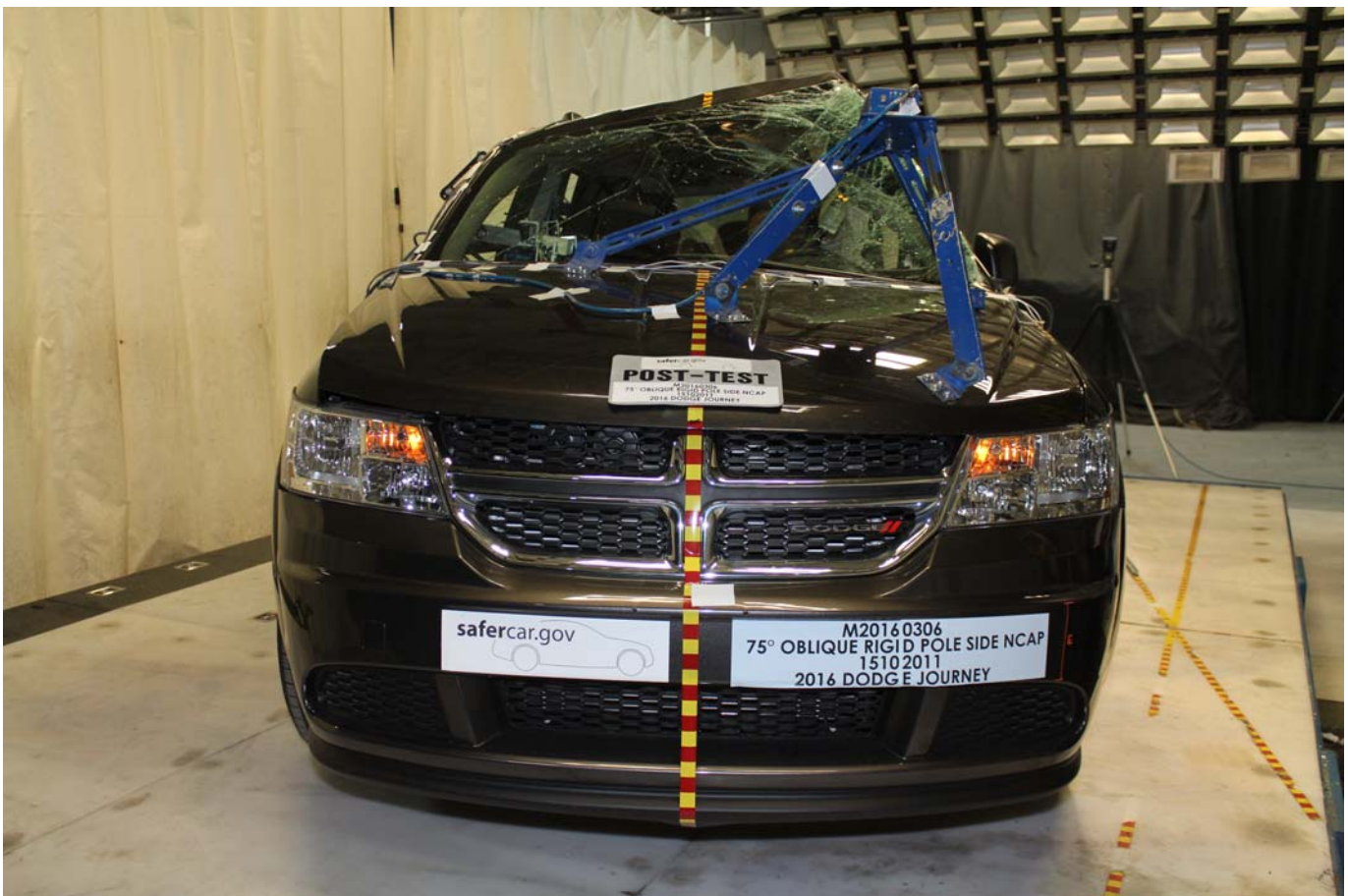


Photo No. 004 - Post-Test Frontal View of Test Vehicle



Photo No. 005 - Pre-Test Left Front  $\frac{3}{4}$  View of Test Vehicle



Photo No. 006 - Post-Test Left Front  $\frac{3}{4}$  View of Test Vehicle



Photo No. 007 - Pre-Test Left Side View of Test Vehicle



Photo No. 008 - Post-Test Left Side View of Test Vehicle



Photo No. 009 - Pre-Test Left Rear  $\frac{3}{4}$  View of Test Vehicle



Photo No. 010 - Post-Test Left Rear  $\frac{3}{4}$  View of Test Vehicle



Photo No. 011 - Pre-Test Rear View of Test Vehicle



Photo No. 012 - Post-Test Rear View of Test Vehicle

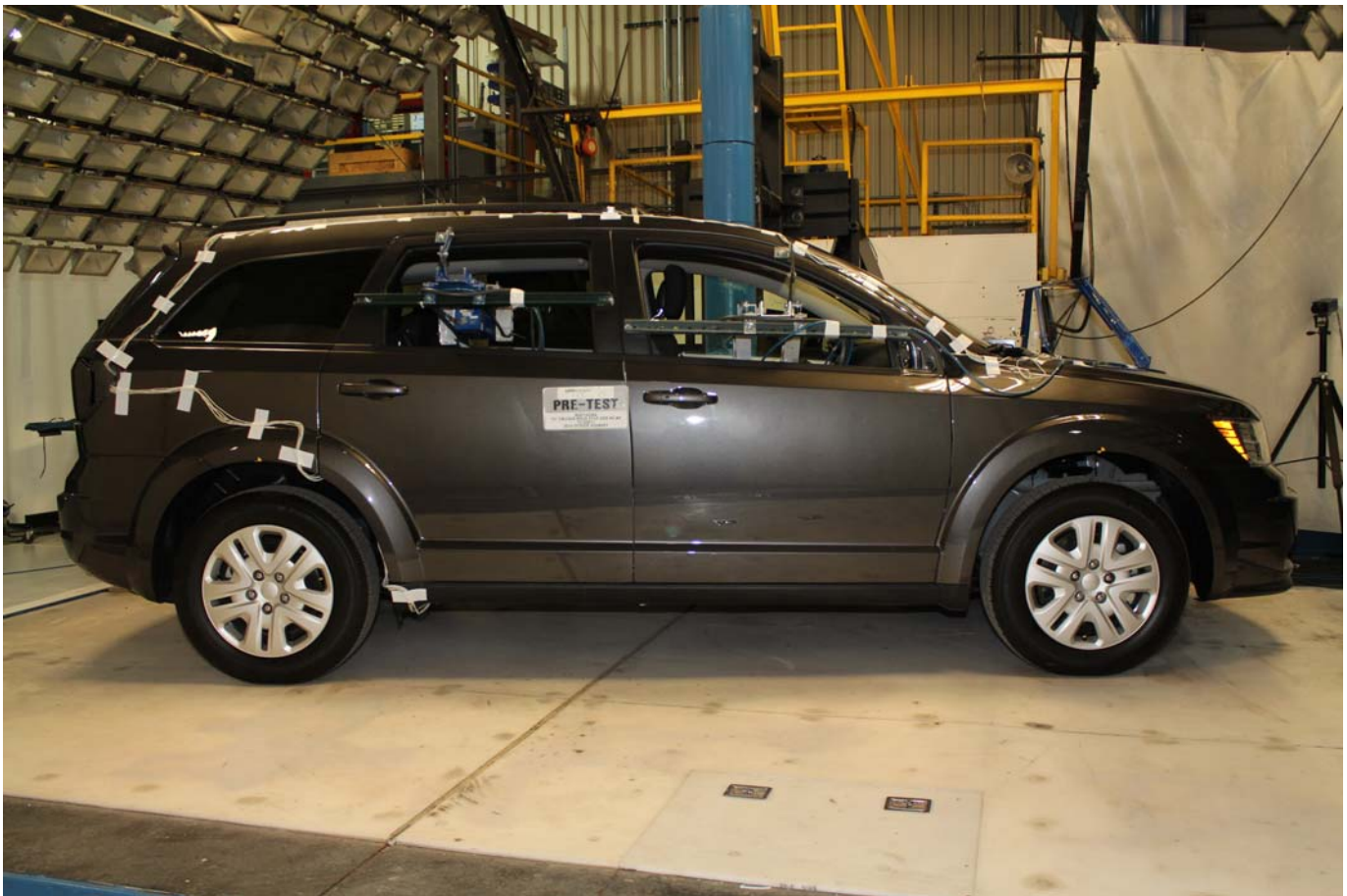


Photo No. 013 - Pre-Test Right Side View of Test Vehicle

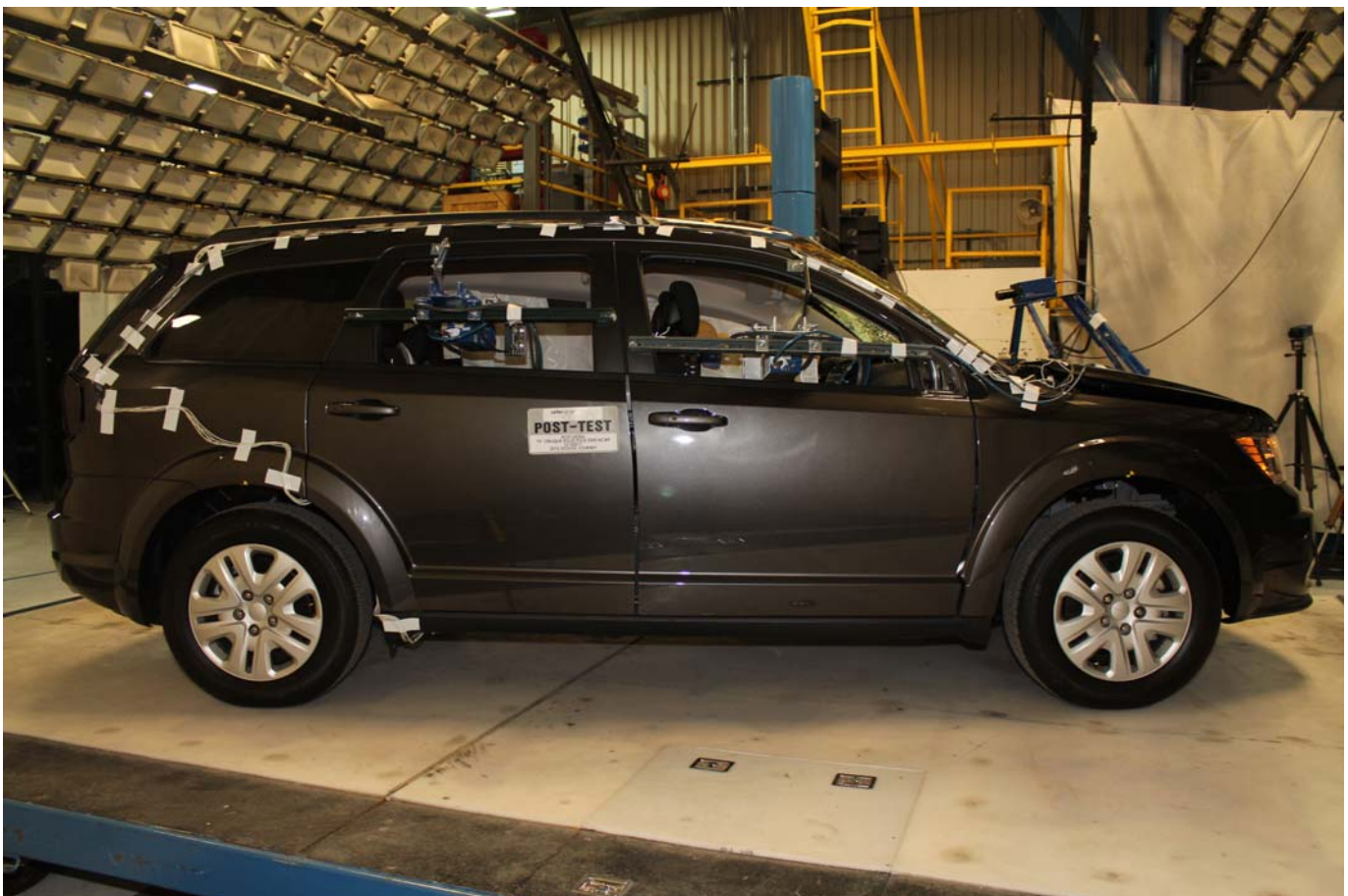


Photo No. 014 - Post-Test Right Side View of Test Vehicle

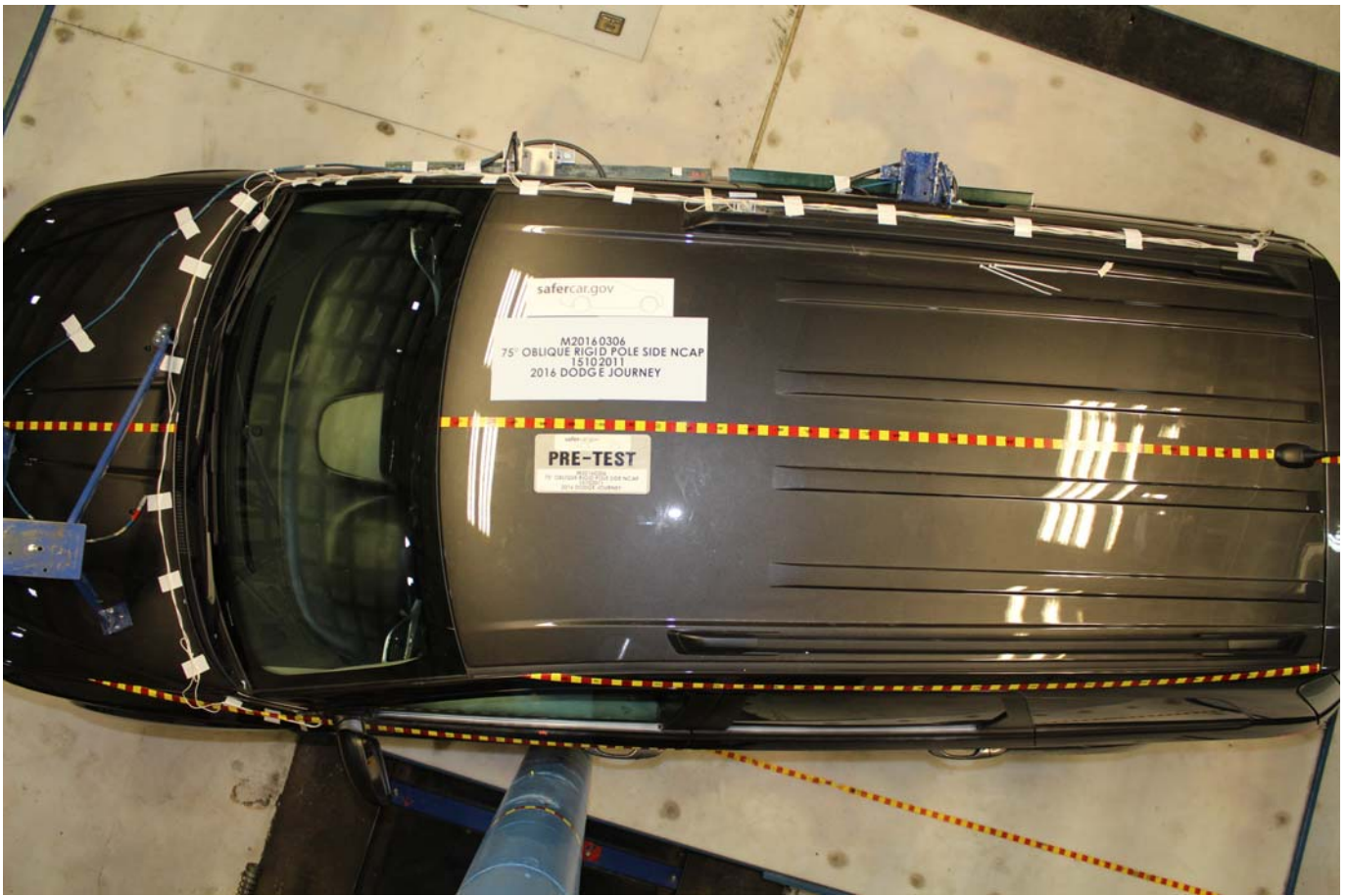


Photo No. 015 - Pre-Test Overhead View of Test Area



Photo No. 016 - Post-Test Overhead View of Test Area



Photo No. 017 - Pre-Test Left Side View of Pole Positioned Against Side of Vehicle



Photo No. 018 - Pre-Test Right Side View of Pole Positioned Against Side of Vehicle



Photo No. 019 - Pre-Test Close-Up View of Impact Point Target

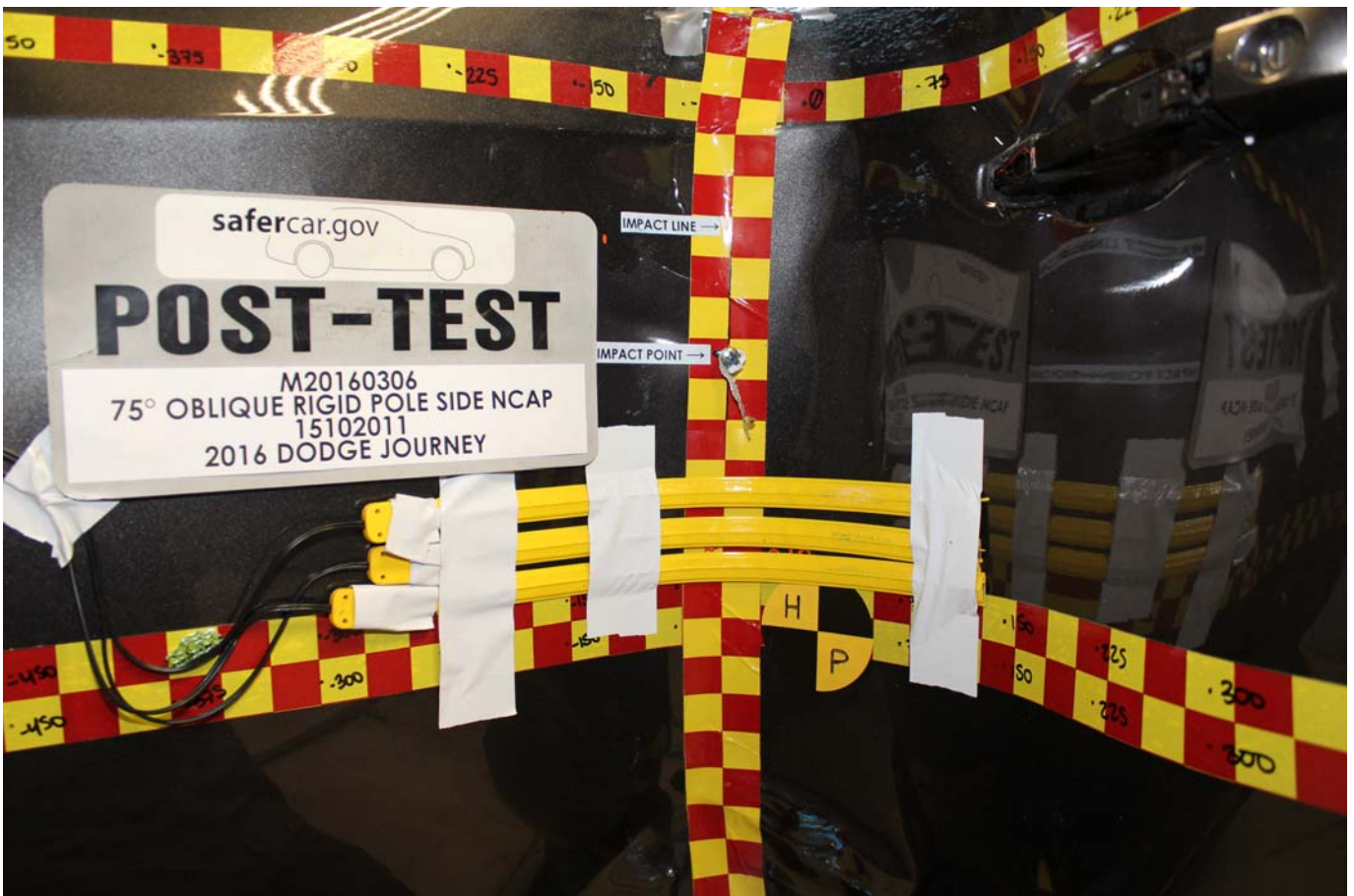


Photo No. 020 - Post-Test Close-Up View of Impact Point Target Showing Impact Location



Photo No. 021 - Pre-Test Front Close-Up View of Dummy Head and Chest



Photo No. 022 - Post-Test Front Close-Up View of Dummy



Photo No. 023 - Pre-Test Left Side View of Dummy Showing Belt and Chalking



Photo No. 024 - Pre-Test Left Side View of Dummy Shoulder and Door Top View



Photo No. 025 - Post-Test Left Side View of Dummy Shoulder and Door Top View



Photo No. 026 - Pre-Test Front View of Seat Back Prior to Dummy Positioning



Photo No. 027 - Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



Photo No. 028 - Pre-Test Front View of Seat Pan Prior to Dummy Positioning



Photo No. 029 - Pre-Test Overhead View of Dummy Thighs on Seat Pan



Photo No. 030 - Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket



Photo No. 031 - Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level



Photo No. 032 - Pre-Test Placement of Dummy's Feet



Photo No. 033 - Pre-Test View of Belt Anchorage for Dummy



Photo No. 034 - Pre-Test Left Side View of Steering Wheel



Photo No. 035 - Pre-Test View of Disengaged Parking Brake



Photo No. 036 - Pre-Test View of Parking Brake



Photo No. 037 - Pre-Test Close-Up Left Side View of Driver Seat Track



Photo No. 038 - Pre-Test Close-Up Left Side View of Driver Seat Back



Photo No. 039 - Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Photo No. 040 - Pre-Test Dummy and Door Clearance View

PHOTOGRAPH NOT AVAILABLE

Photo No. 041 - Post-Test Dummy and Door Clearance View



Photo No. 042 - Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment



Photo No. 043 - Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment



Photo No. 044 - Pre-Test Inner Door Panel View



Photo No. 045 - Post-Test Inner Door Panel View Showing Dummy Contact Location



Photo No. 046 - Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



Photo No. 047 - Post-Test Dummy Close-Up Head Contact with Side Air Bag View



Photo No. 048 - Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



Photo No. 049 - Post-Test Dummy Close-Up Torso Contact with Side Air Bag View



Photo No. 050 - Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View

**PHOTOGRAPH NOT APPLICABLE**

Photo No. 051 - Post-Test Dummy Close-Up Pelvis Contact with Side Air Bag View



Photo No. 052 - Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View



Photo No. 053 - Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

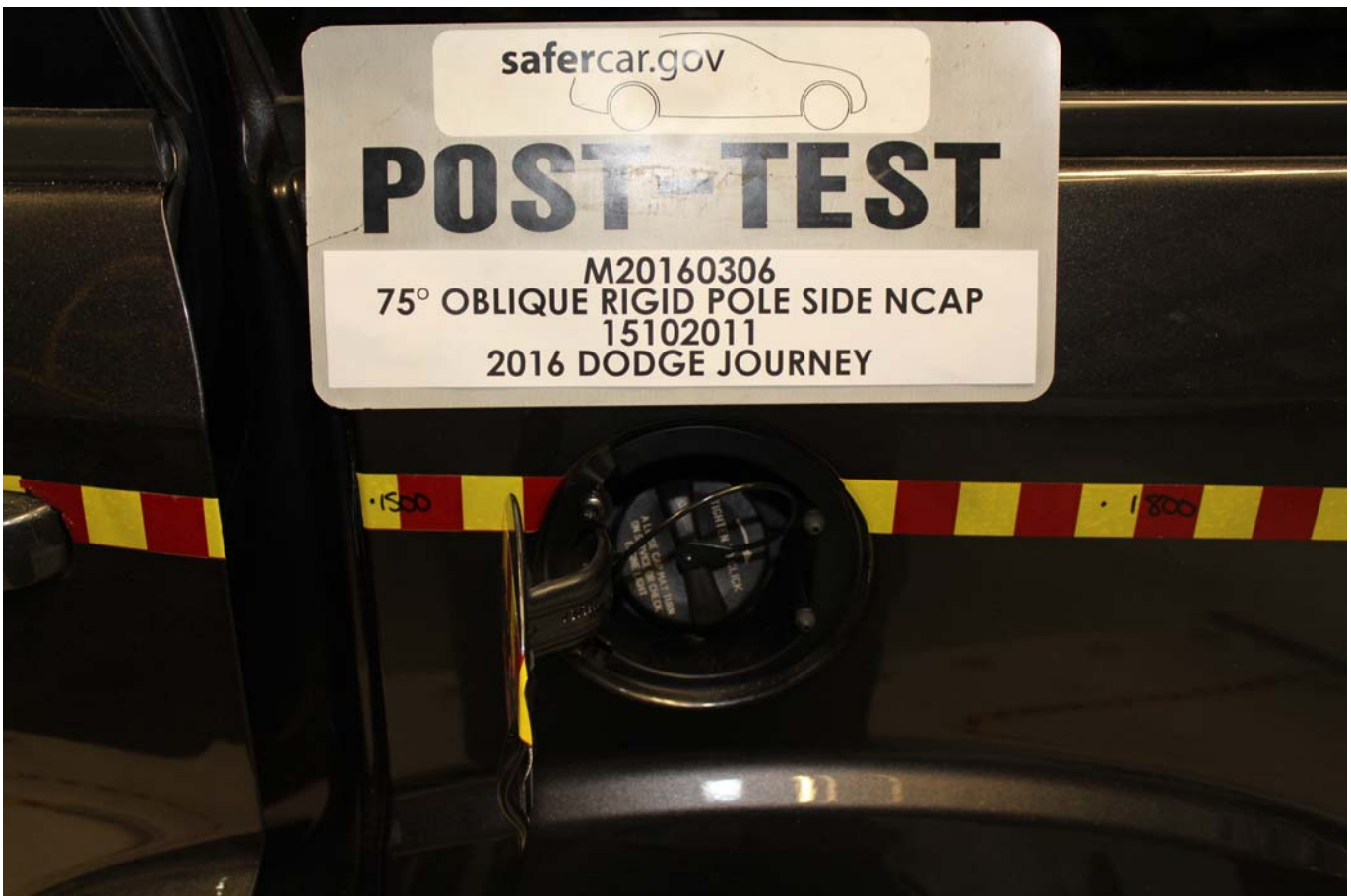


Photo No. 054 - Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Photo No. 055 - Close-Up View of Vehicle's Certification Label



Photo No. 056 - Close-Up View of Vehicle's Tire Information Placard or Label



Photo No. 057 - Pre-Test Pole Barrier Front View

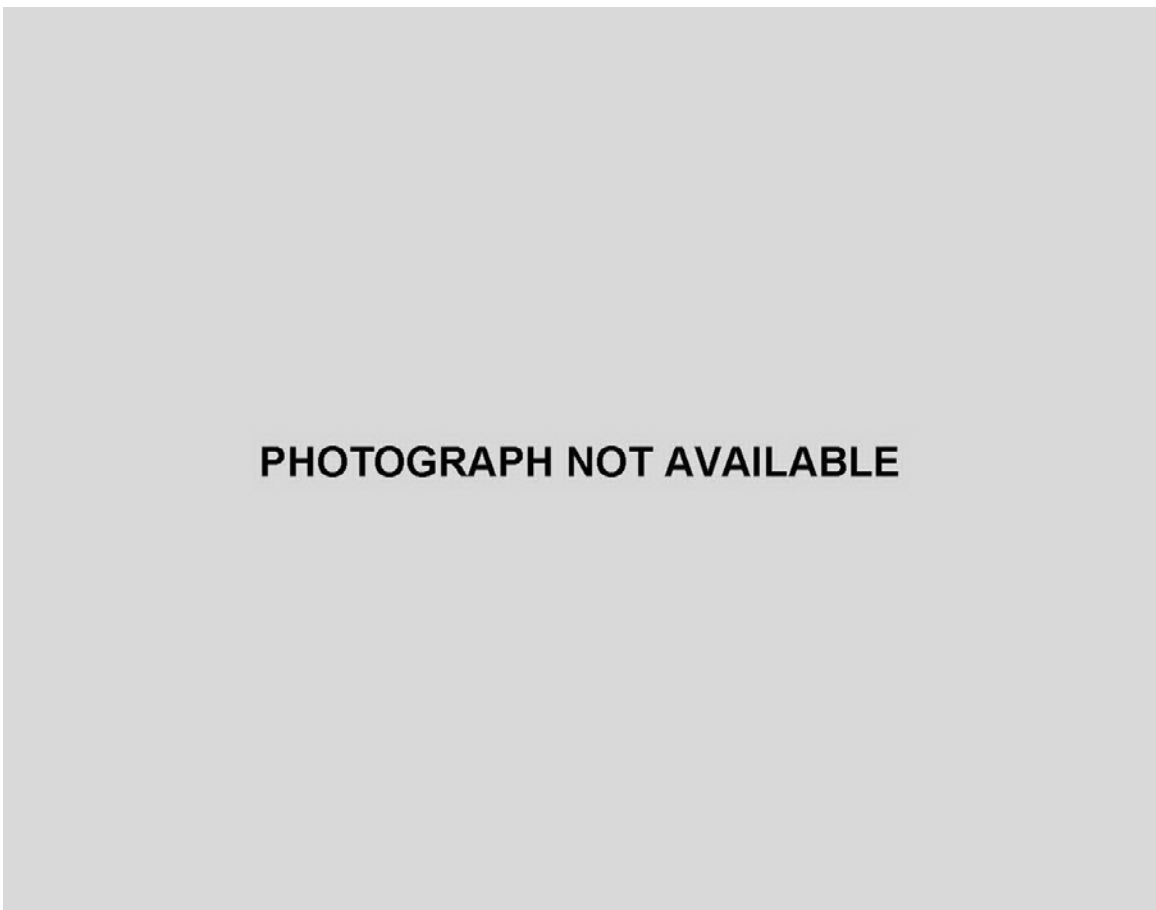


Photo No. 058 - Post-Test Pole Barrier Front View

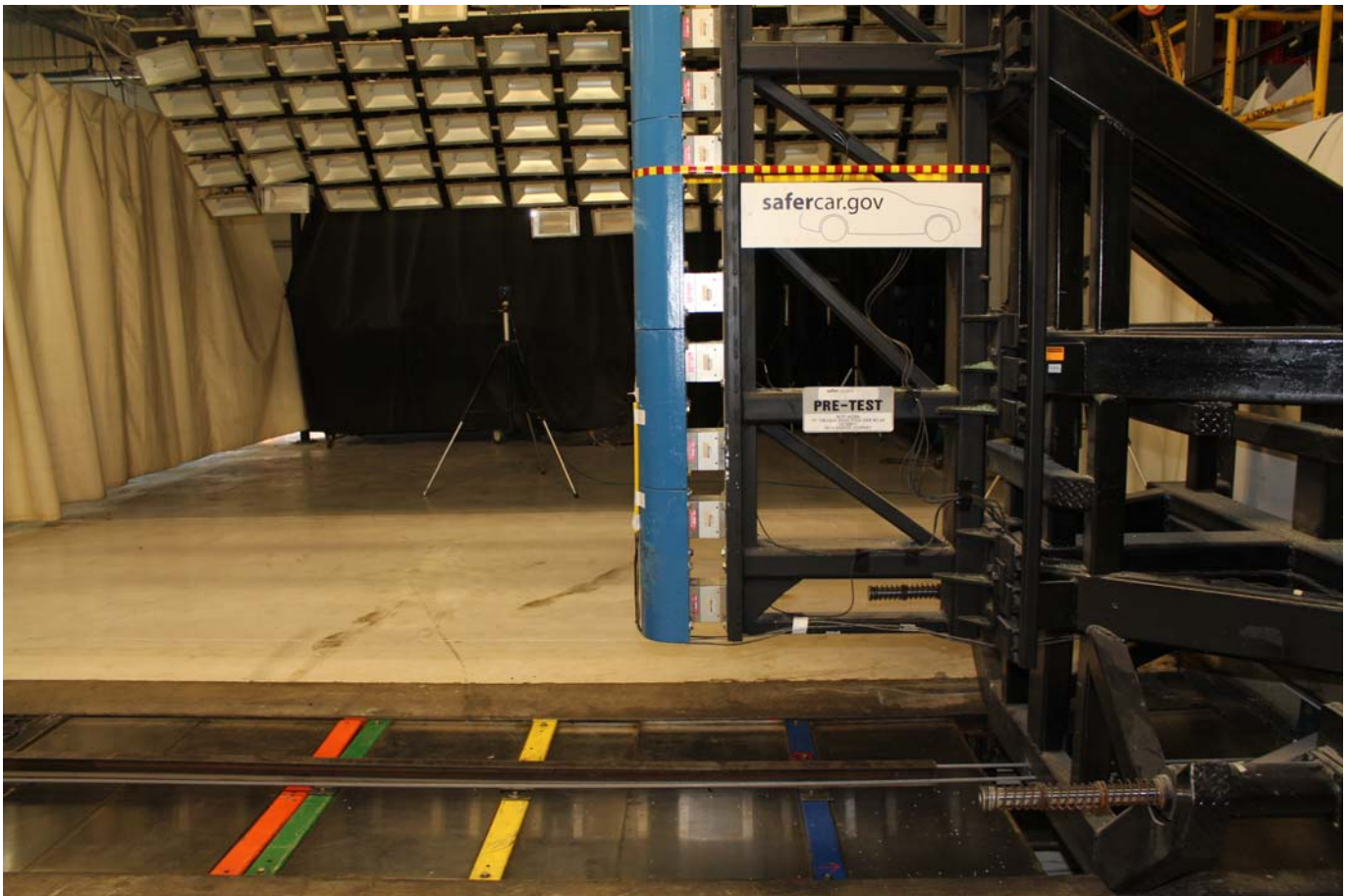


Photo No. 059 - Pre-Test Pole Barrier Side View

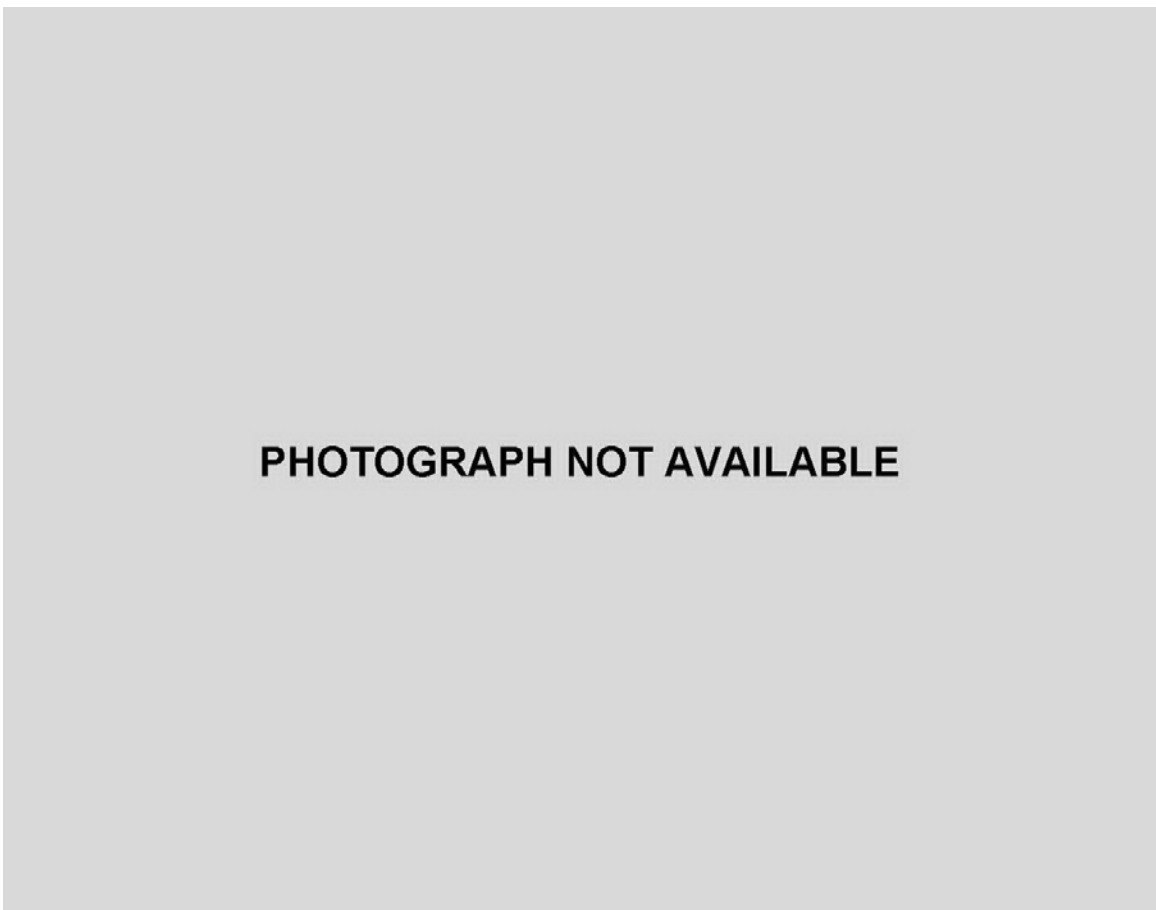


Photo No. 060 - Post-Test Pole Barrier Side View

PHOTOGRAPH NOT APPLICABLE

Photo No. 061 - Pre-Test Ballast View

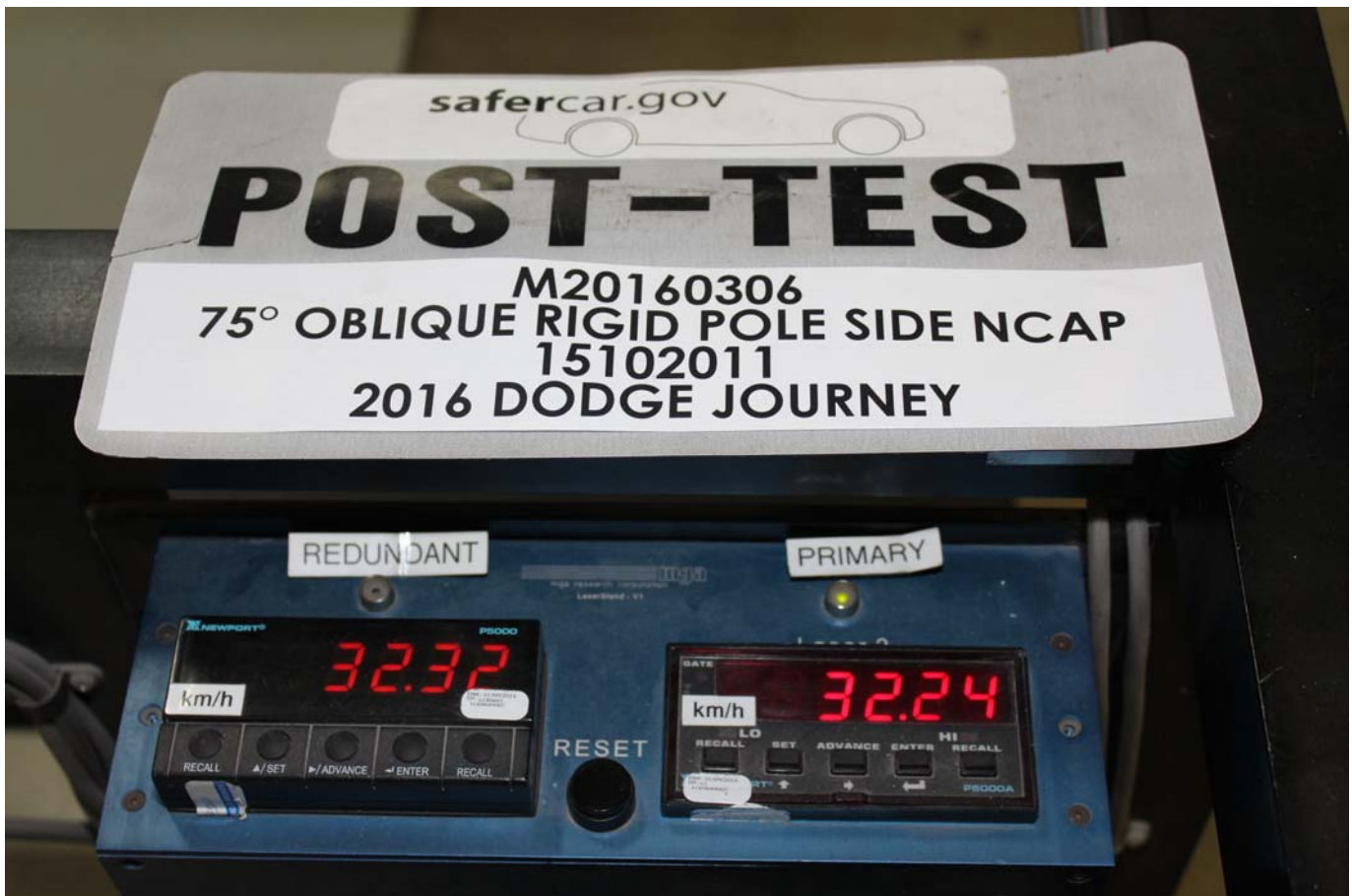


Photo No. 062 - Post-Test Primary and Redundant Speed Trap Read-Out

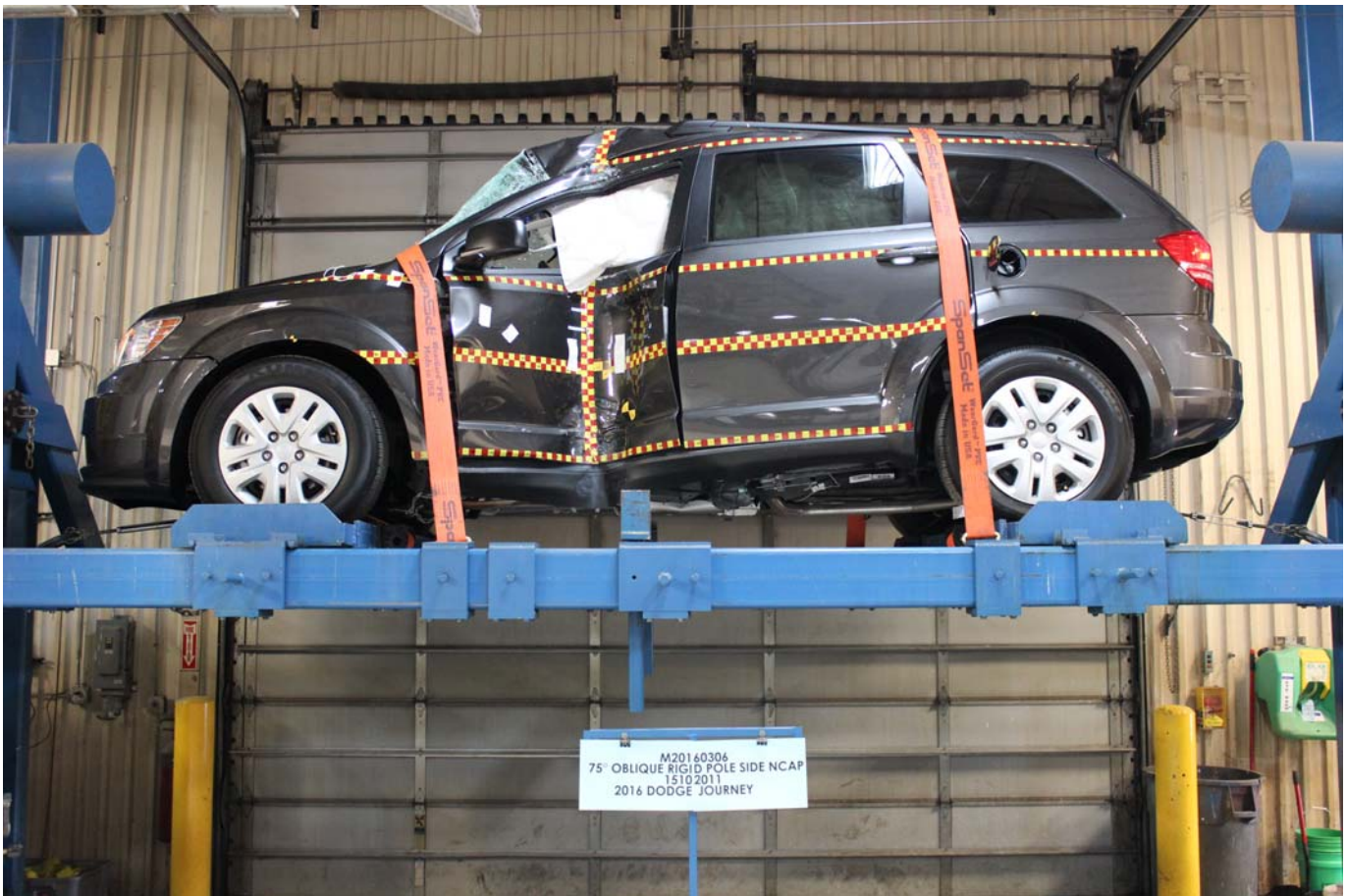


Photo No. 063 - FMVSS No. 301 Static Rollover 0 Degrees

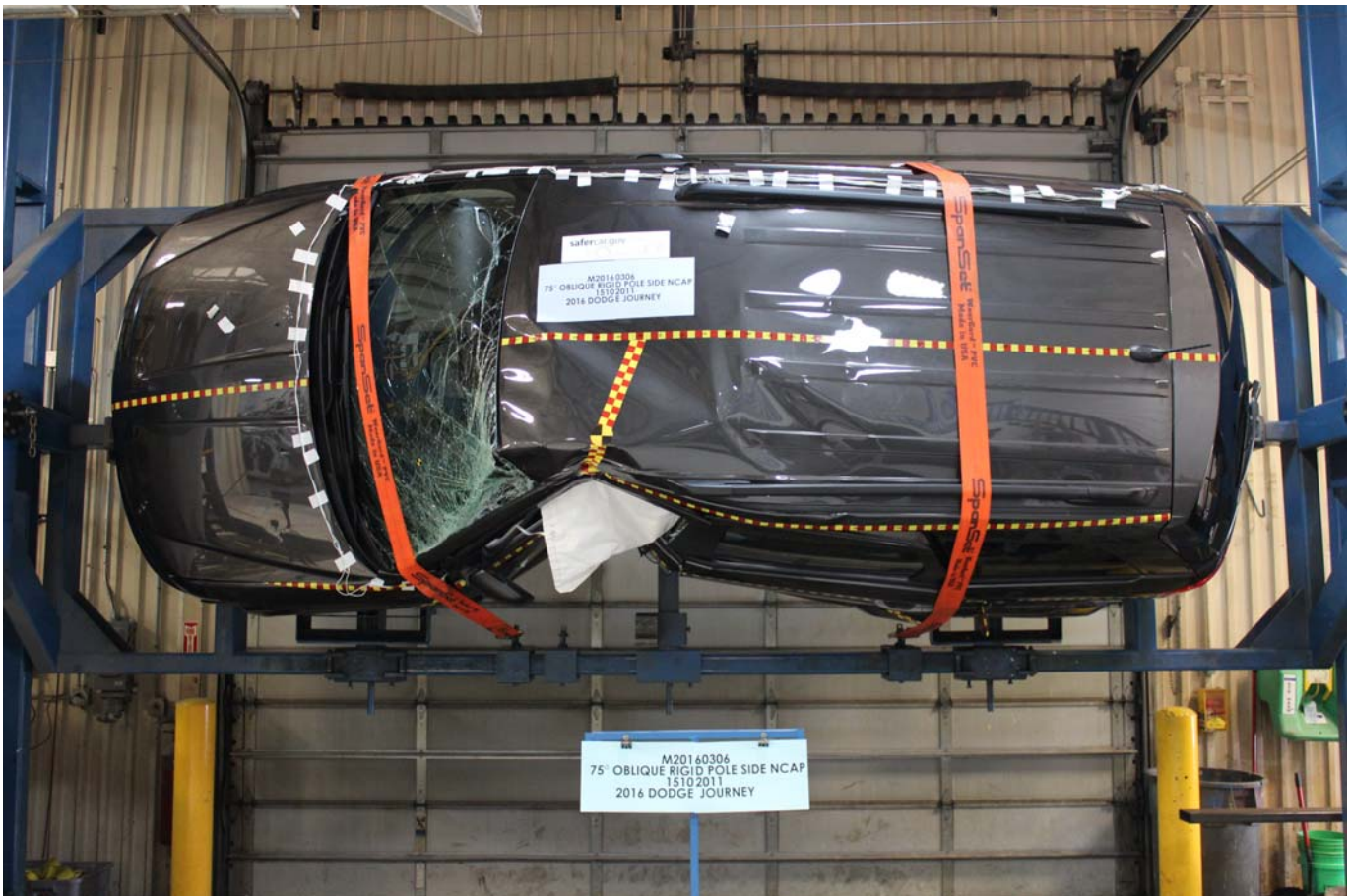


Photo No. 064 - FMVSS No. 301 Static Rollover 90 Degrees

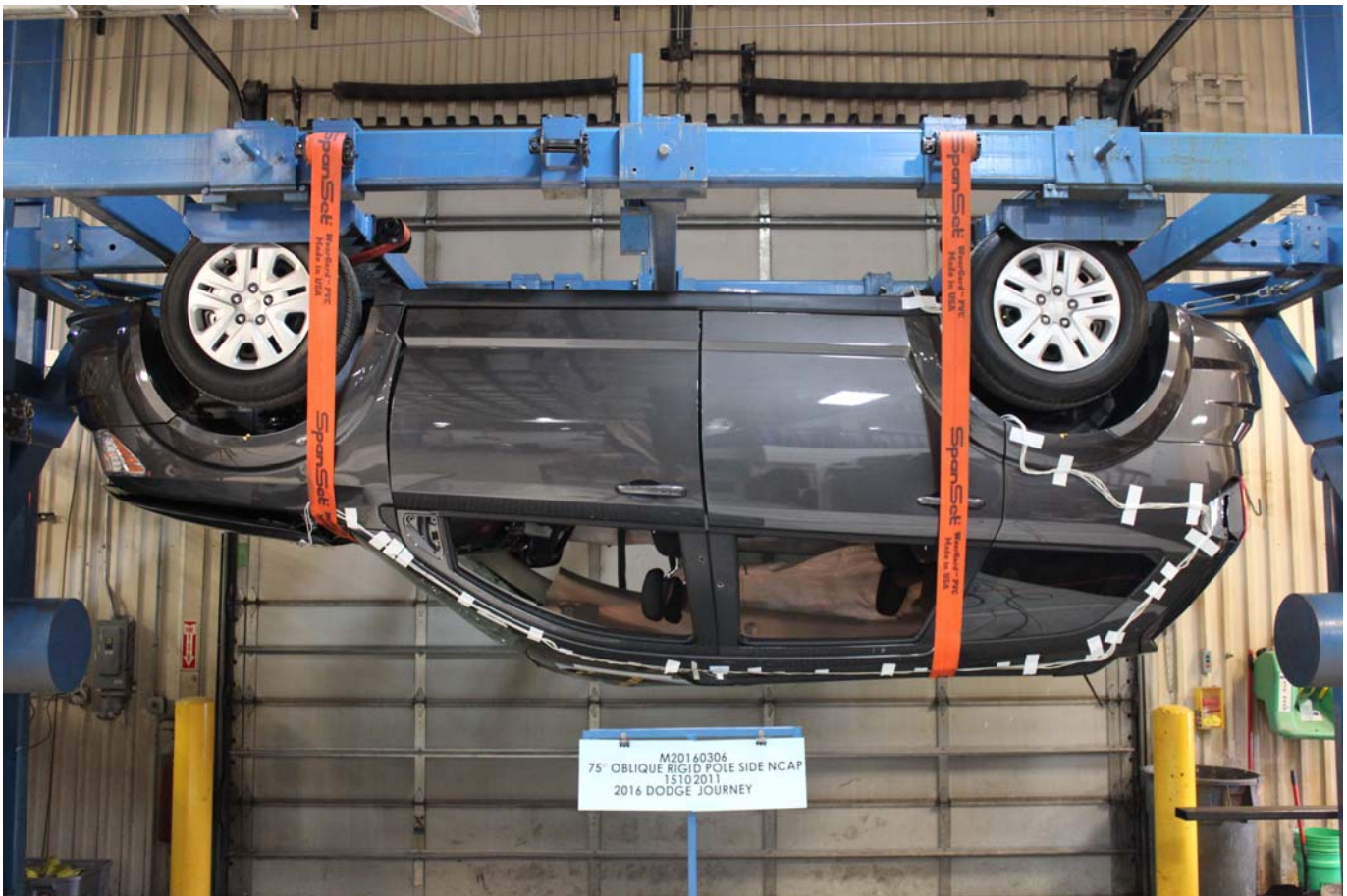


Photo No. 065 - FMVSS No. 301 Static Rollover 180 Degrees



Photo No. 066 - FMVSS No. 301 Static Rollover 270 Degrees

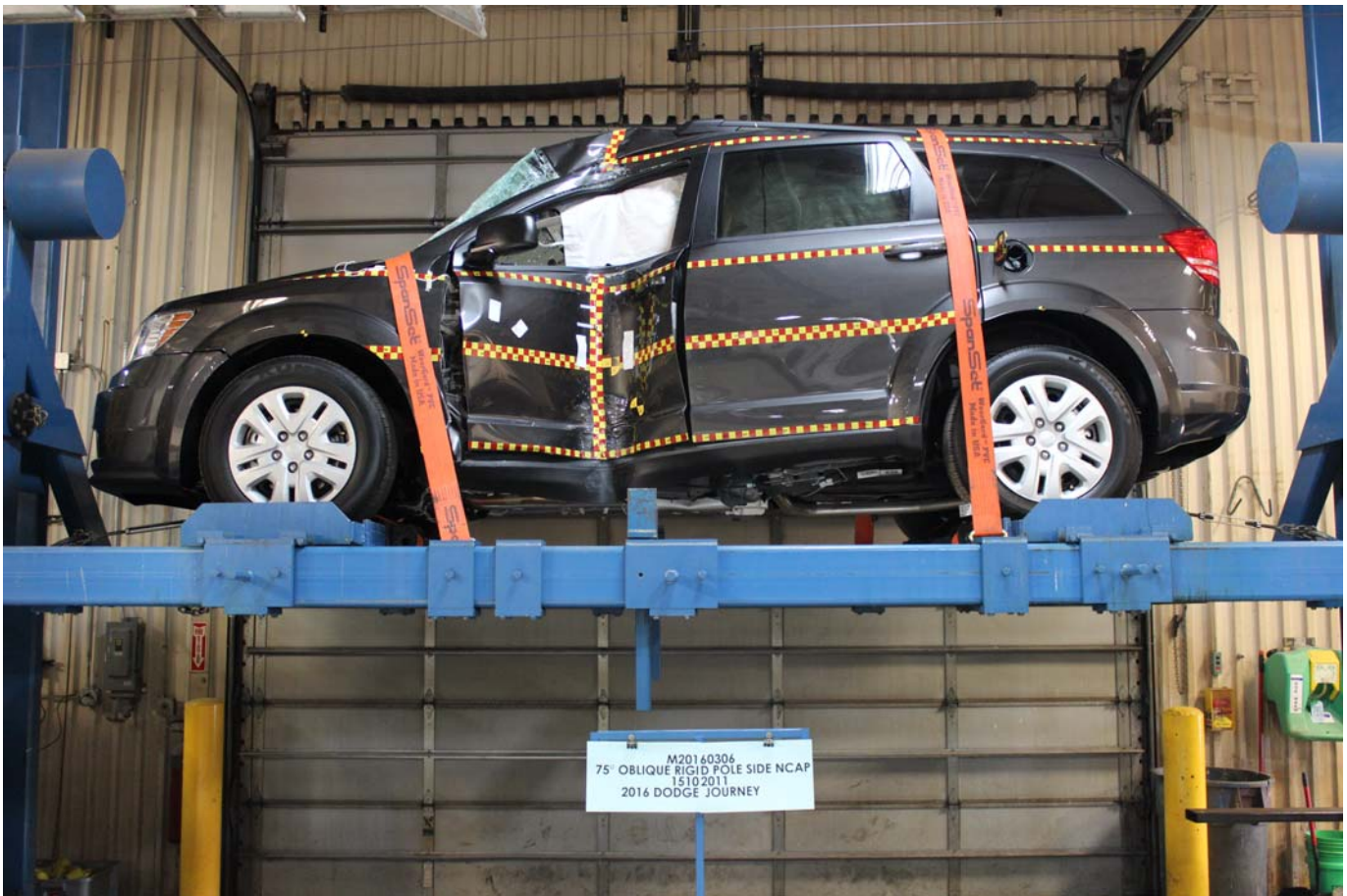


Photo No. 067 - FMVSS No. 301 Static Rollover 360 Degrees



Photo No. 068 - Impact Event



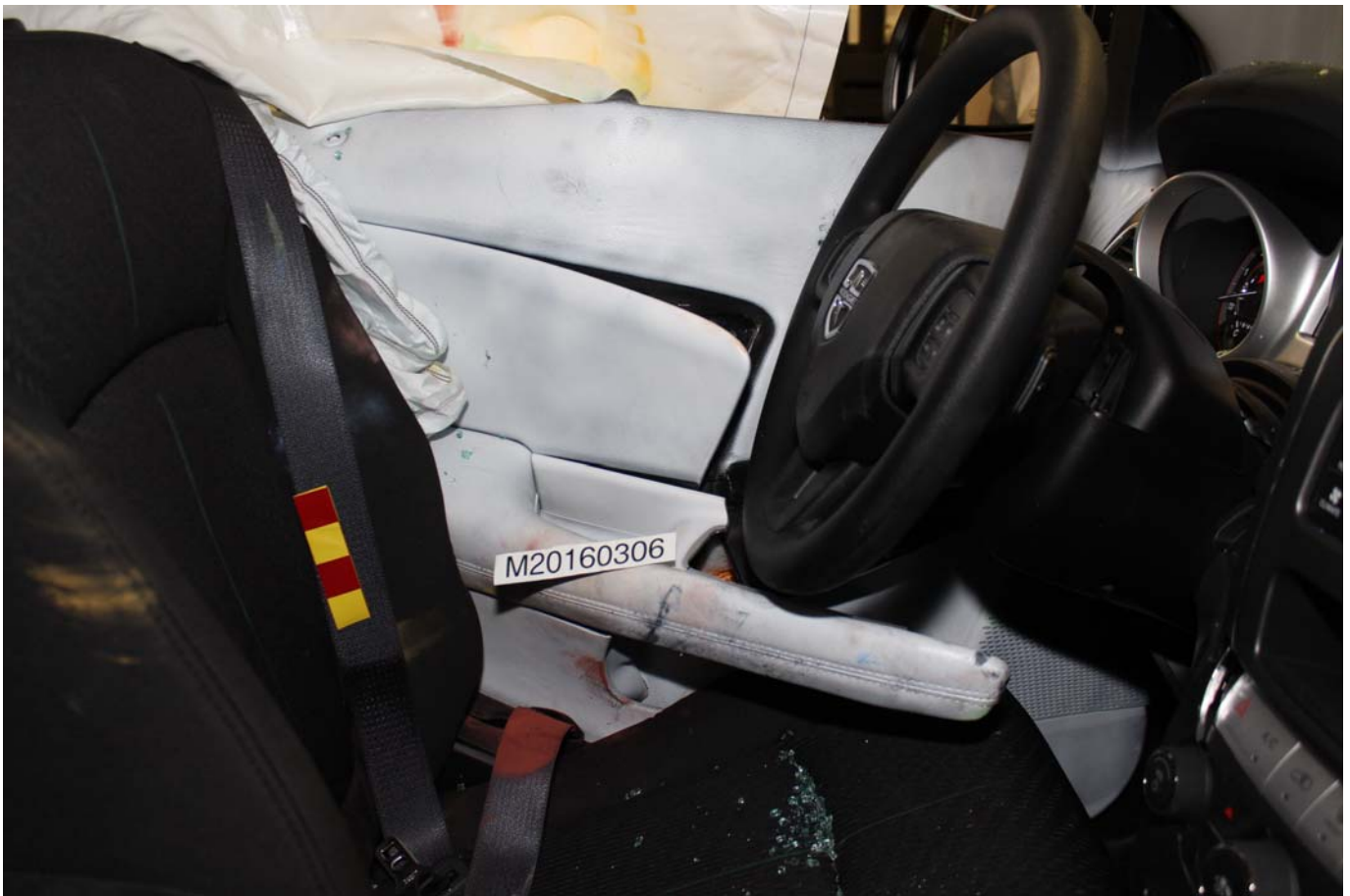


Photo No. 071 - Post-Test View of Shattered Vehicle Inner Door Panel

**APPENDIX B**  
**DUMMY RESPONSE DATA PLOTS**

**TABLE OF DATA PLOTS**  
**Driver Dummy Instrumentation Plots**

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Figure No. 3.	Driver Head CG Acceleration (Z) vs. Time	B-1
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**The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at [www.NHTSA.dot.gov](http://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 Head Angular Velocity X (Deg/Sec) vs. Time

Driver Head Angular Velocity Y (Deg/Sec) vs. Time

Driver Head Angular Velocity Z (Deg/Sec) 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)

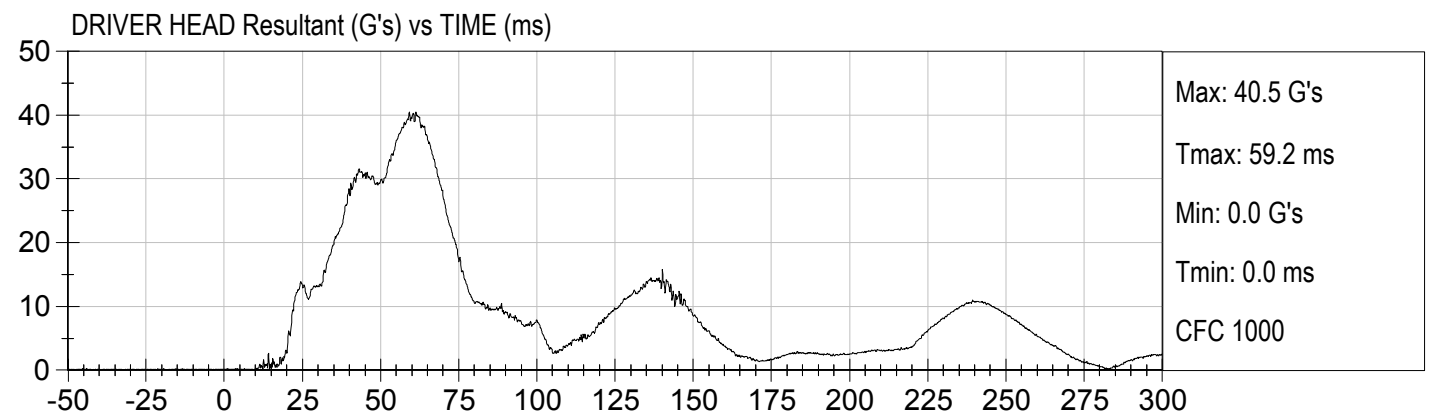
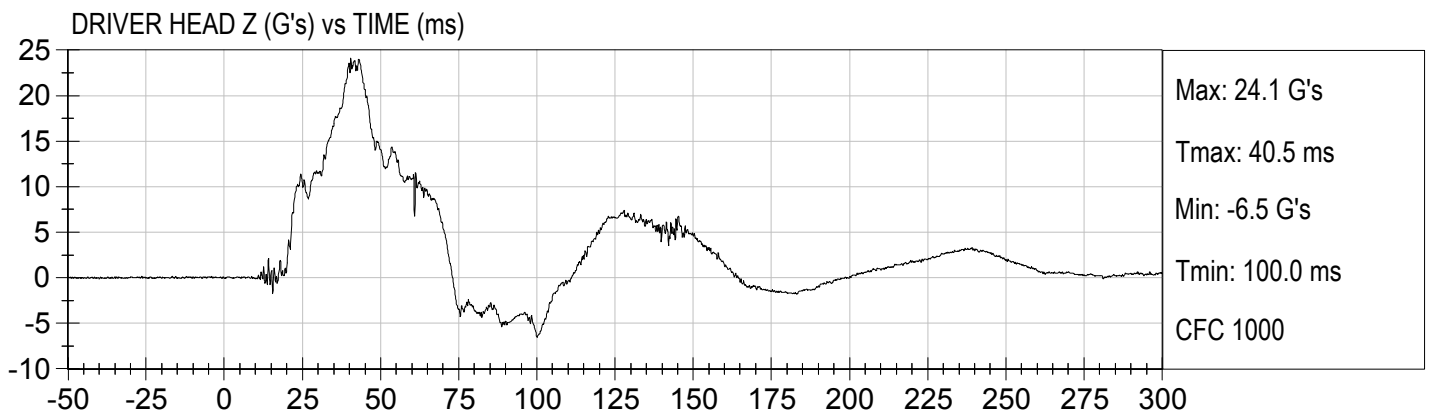
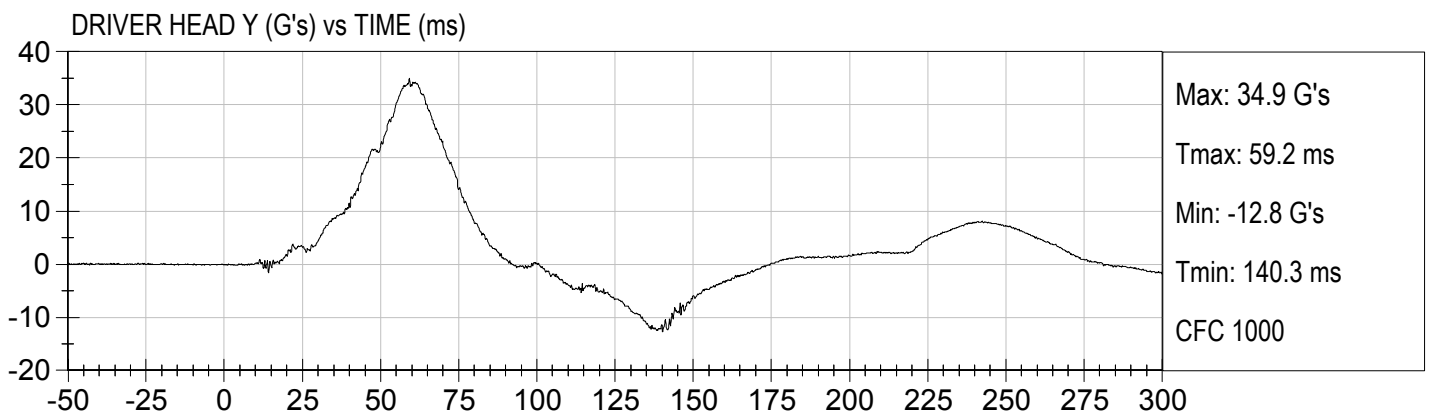
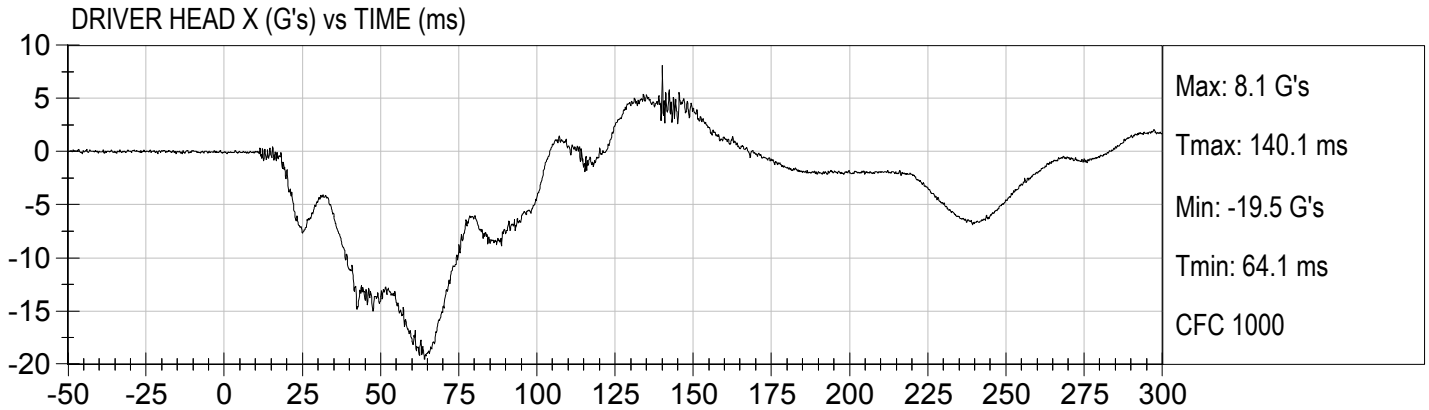
Load Cell Pole Barrier #4 Force (Y)

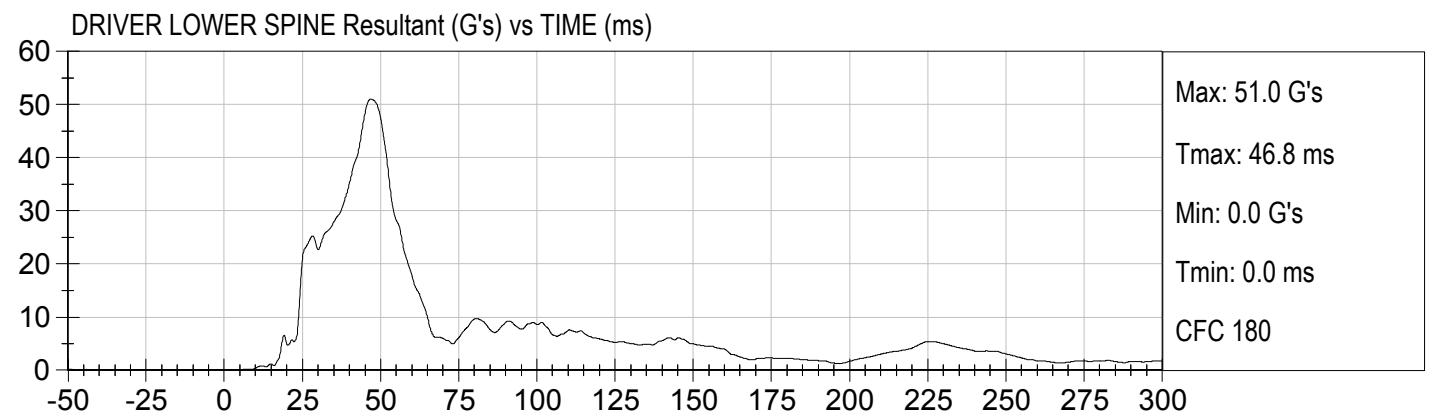
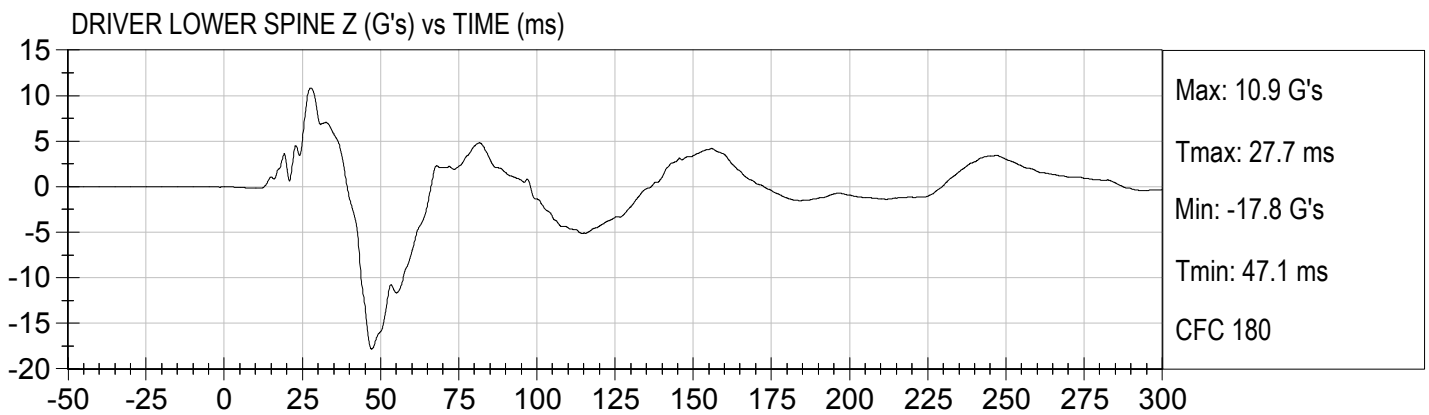
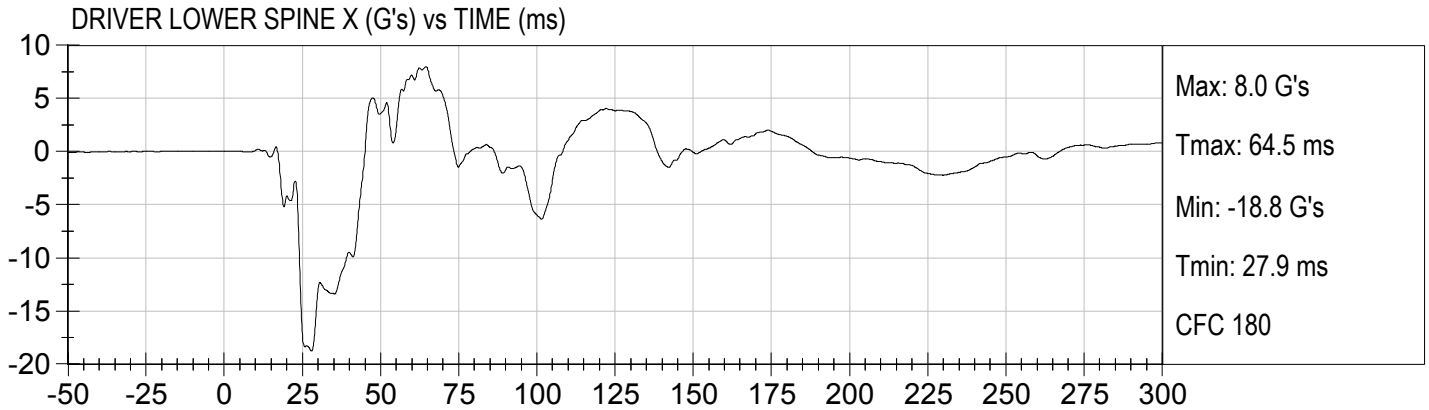
Load Cell Pole Barrier #5 Force (Y)

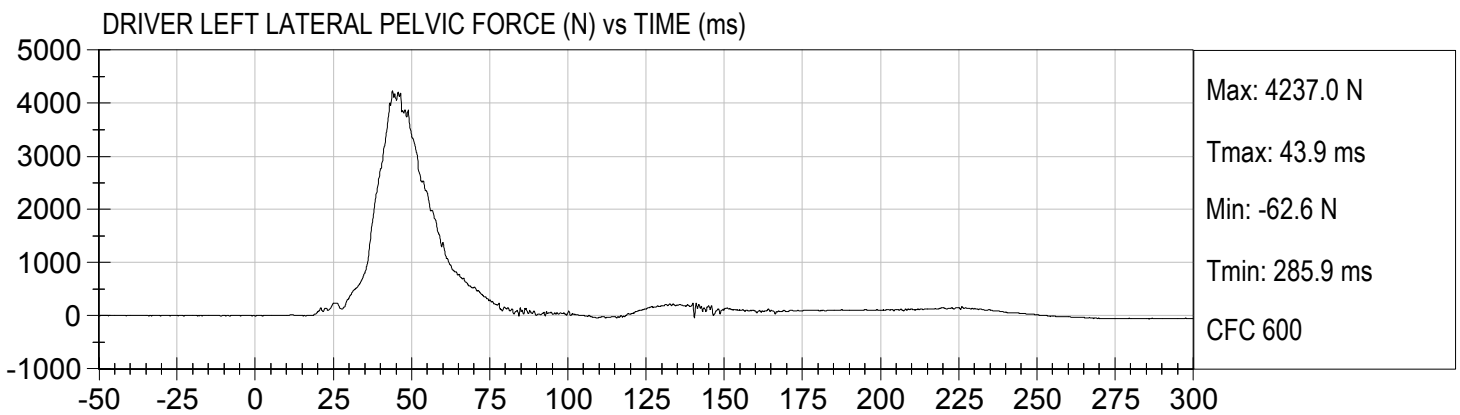
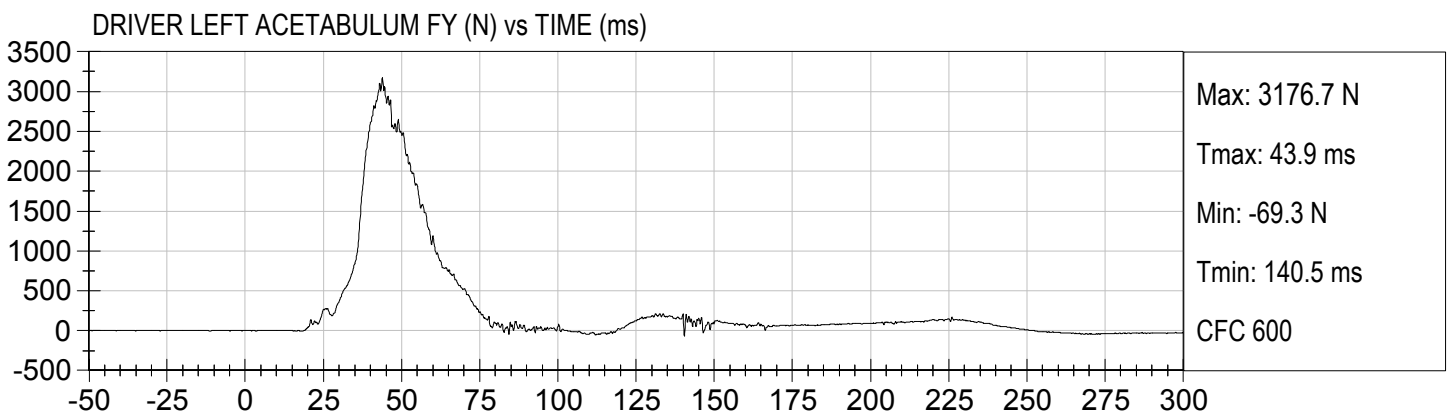
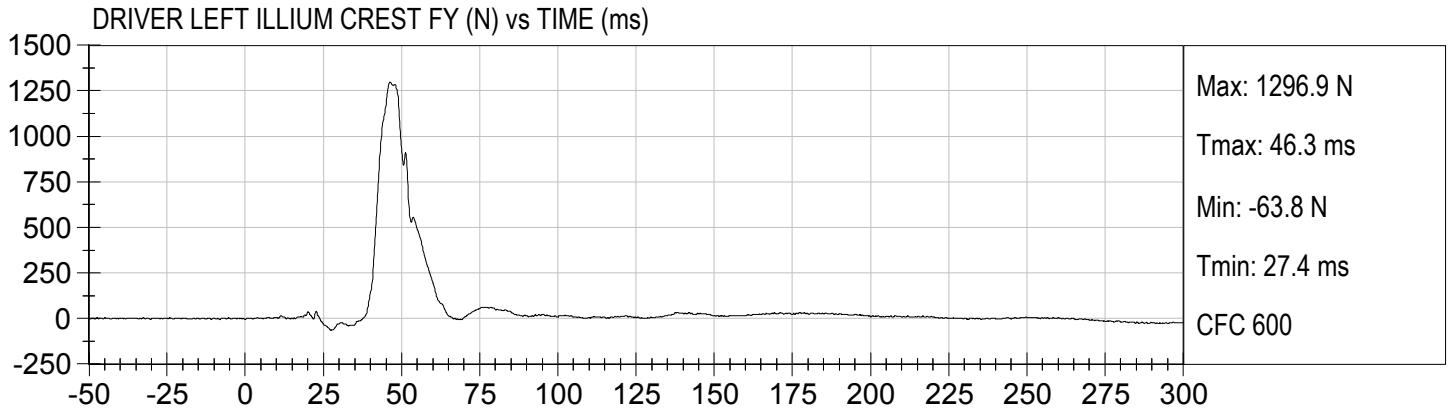
Load Cell Pole Barrier #6 Force (Y)

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**

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

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

**ATD Serial No:** 306

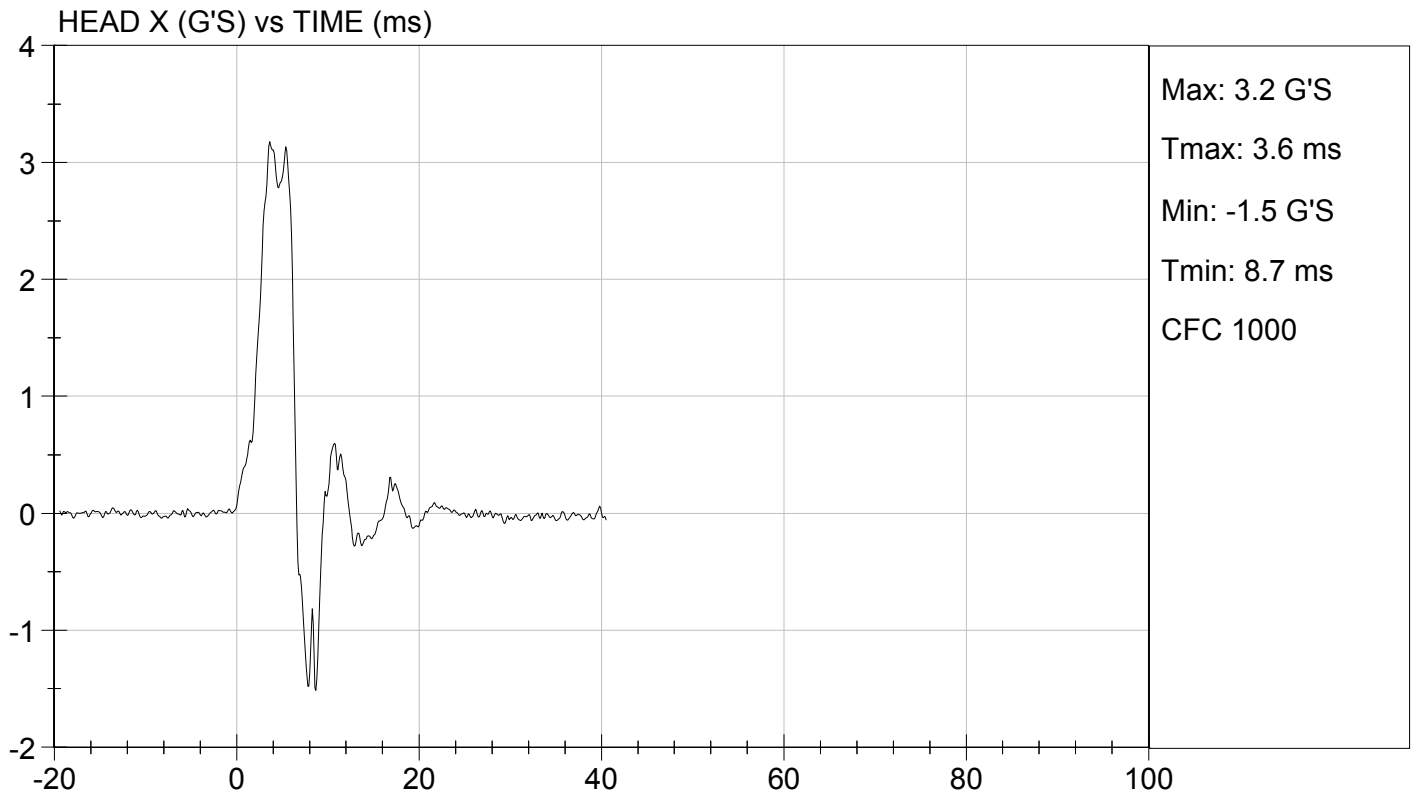
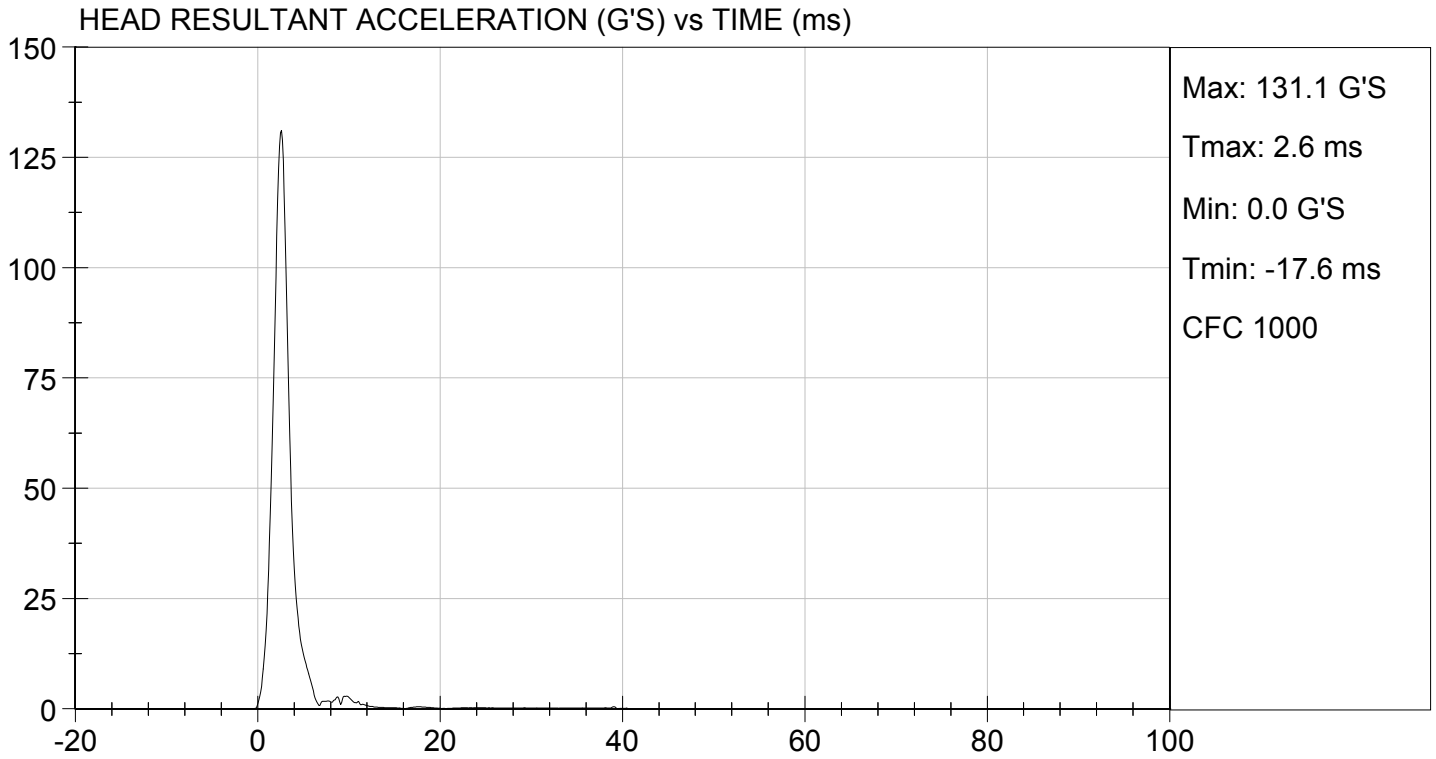
**Test ID:** D153131

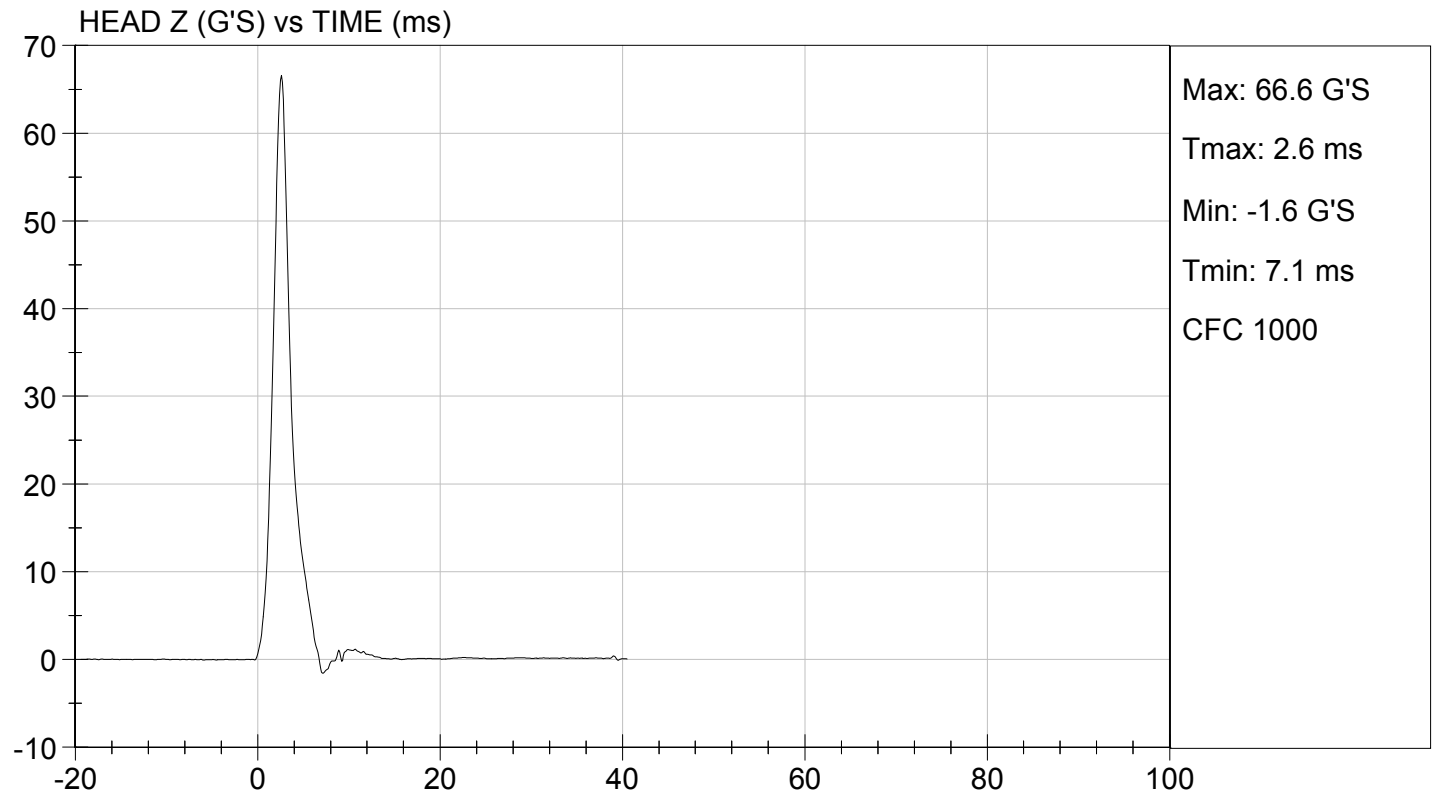
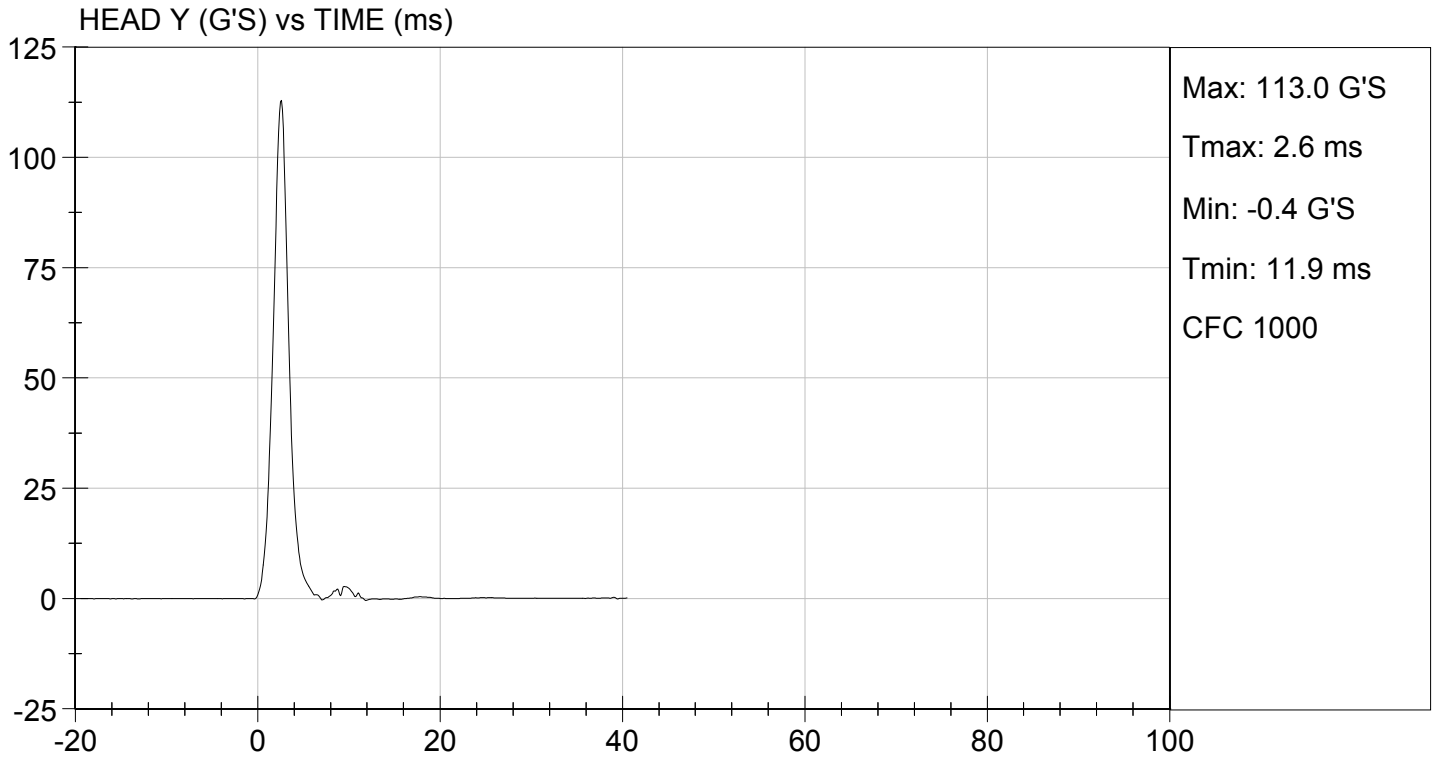
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	47	Pass
Peak Resultant Acceleration	G's	115 to 137	131	Pass
Peak Longitudinal Acceleration	G's	+/- 15	3.2	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
<b>Overall Test Results</b>				<b>Pass</b>

*David Schoedel*  
Laboratory Technician

10/06/2015  
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.:** D153132

Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.7	Pass	
Humidity	%	10 to 70	47	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.58	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.54	Pass
	15 ms	m/s	3.30 to 4.10	3.59	Pass
	20 ms	m/s	4.40 to 5.40	4.75	Pass
	25 ms	m/s	5.40 to 6.10	5.68	Pass
	25-100 ms	m/s	5.50 to 6.20	5.82	Pass
Maximum D-Plane Rotation	deg	71 to 81	77	Pass	
Time of Maximum D-Plane Rotation	ms	50 to 70	62	Pass	
Maximum Occipital Condyle Moment	Nm	-44 to -36	-40	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	116	Pass	
<b>Overall Test Results</b>				<b>Pass</b>	

*David Schoedel*

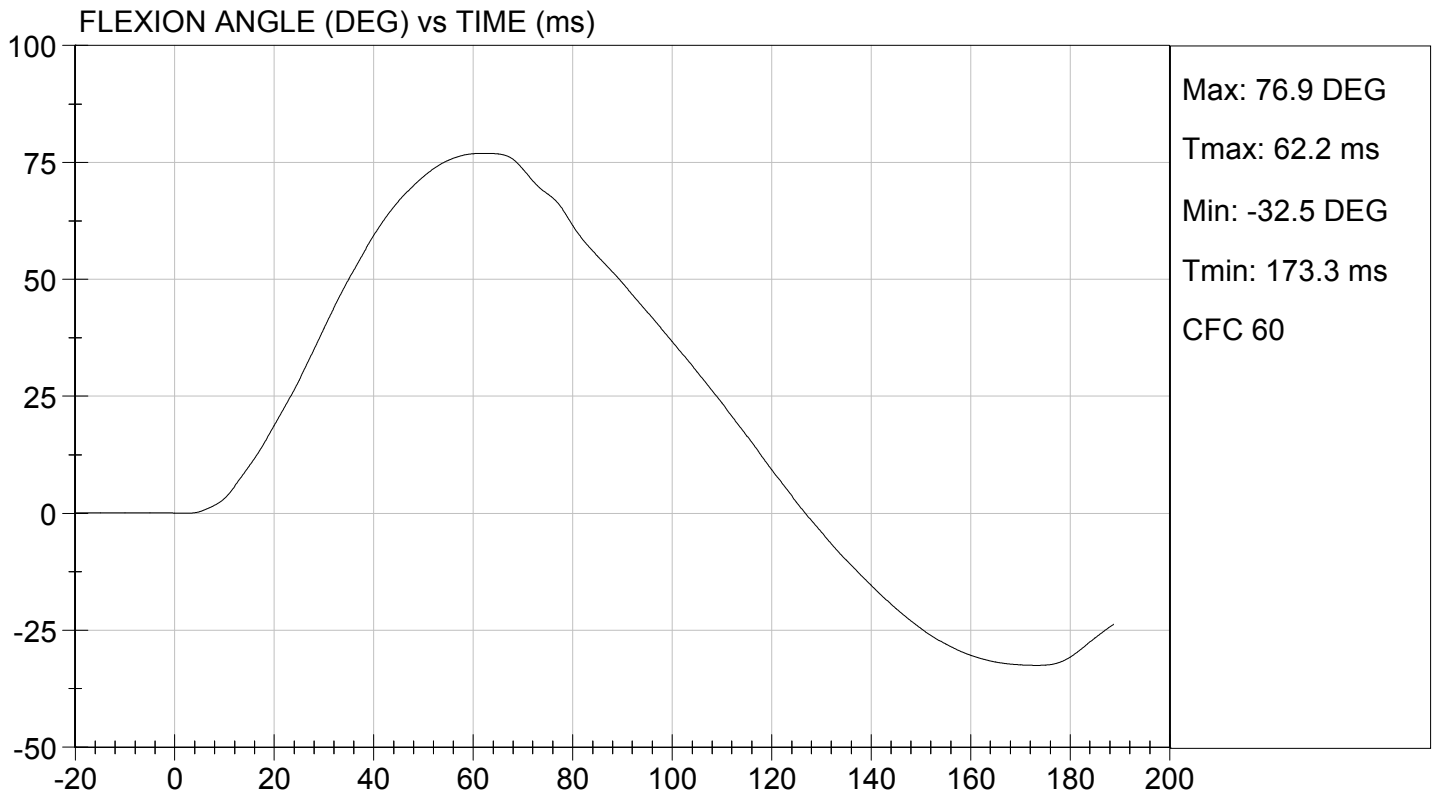
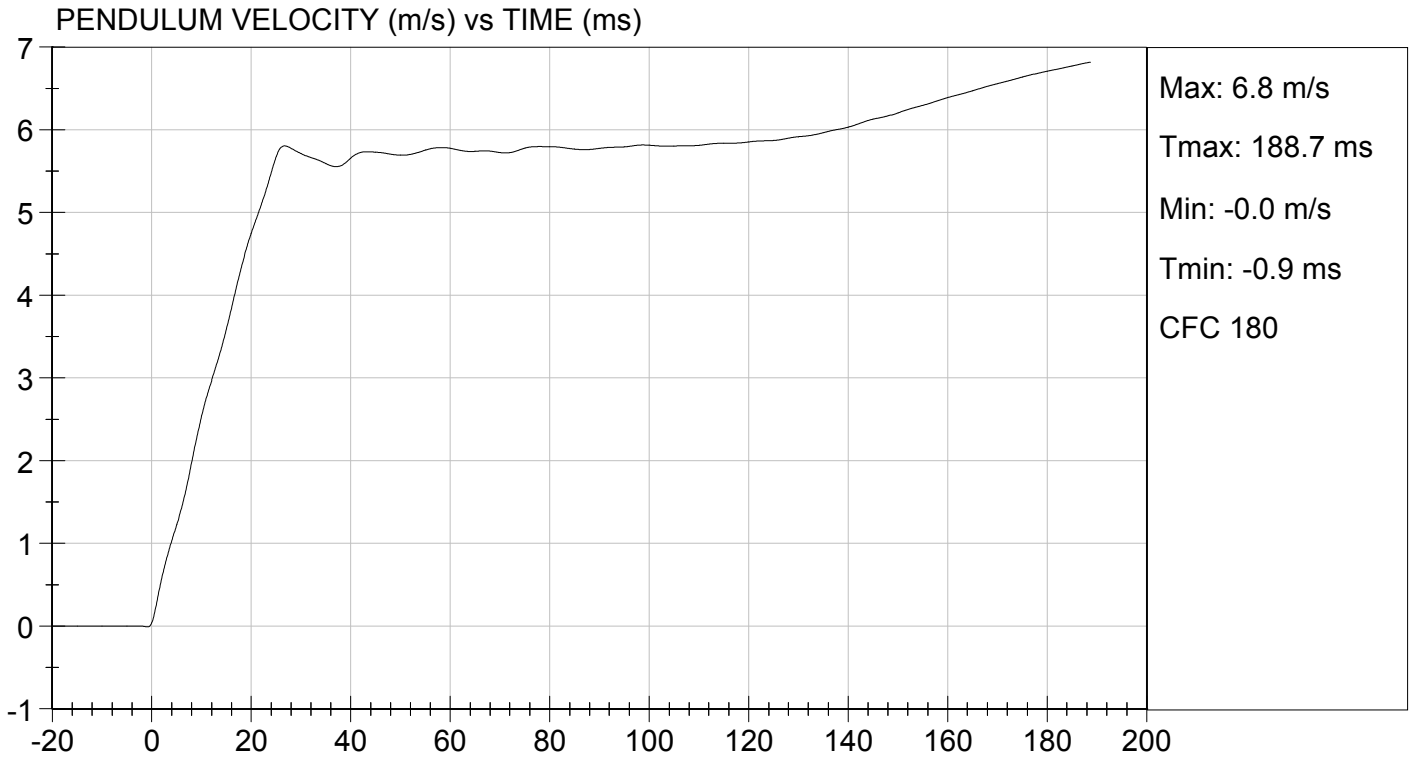
Laboratory Technician

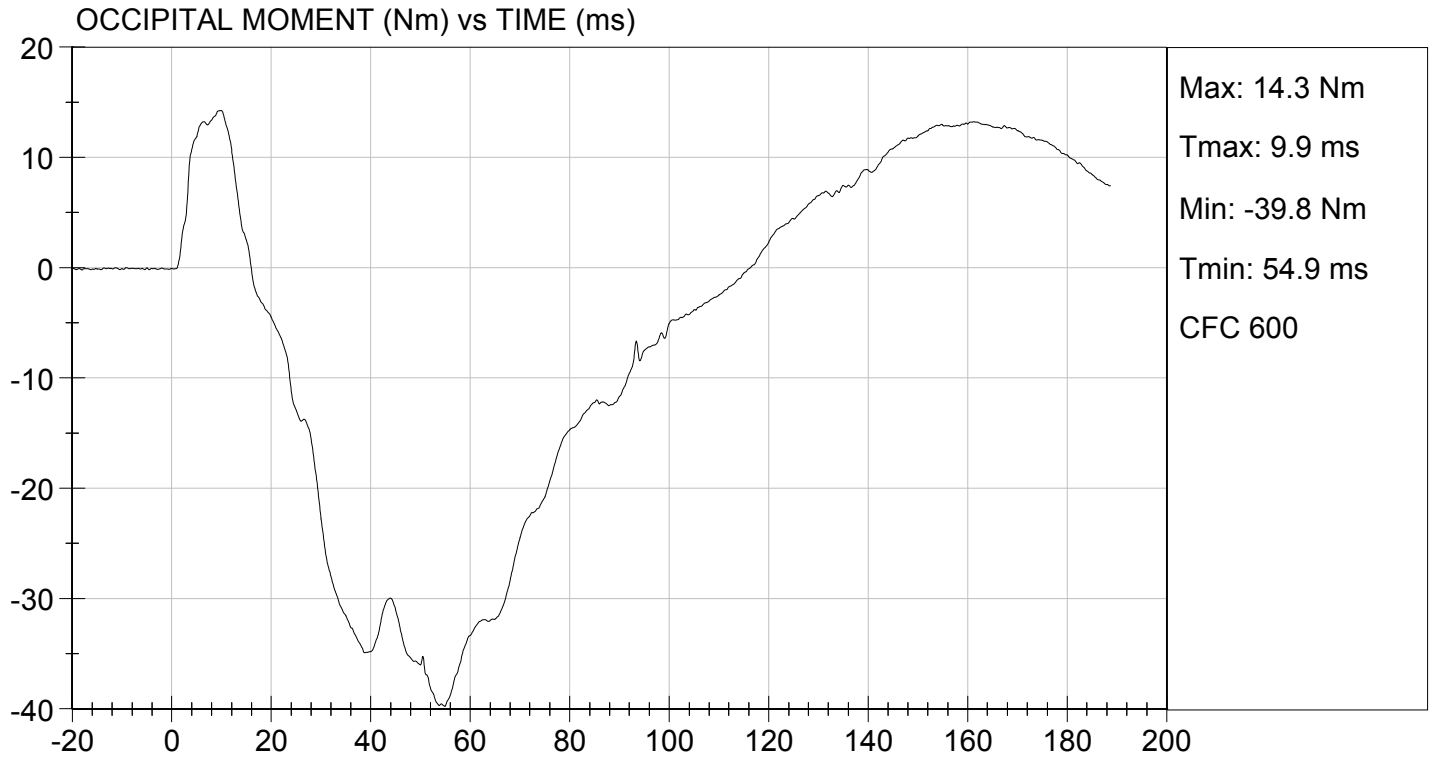
10/06/2015

Test Date

*Jessica Hall*

Approved By





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

**ATD Serial No:** 306

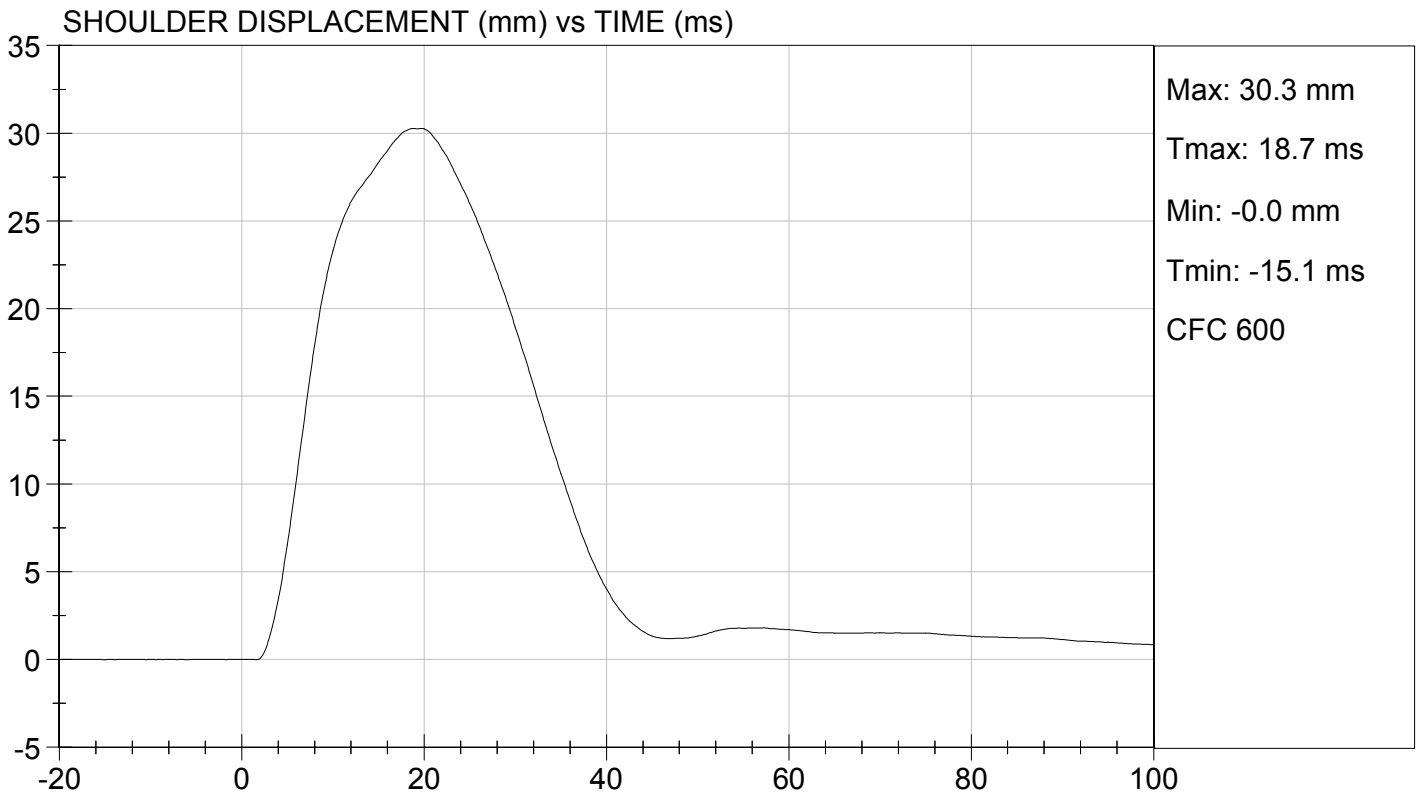
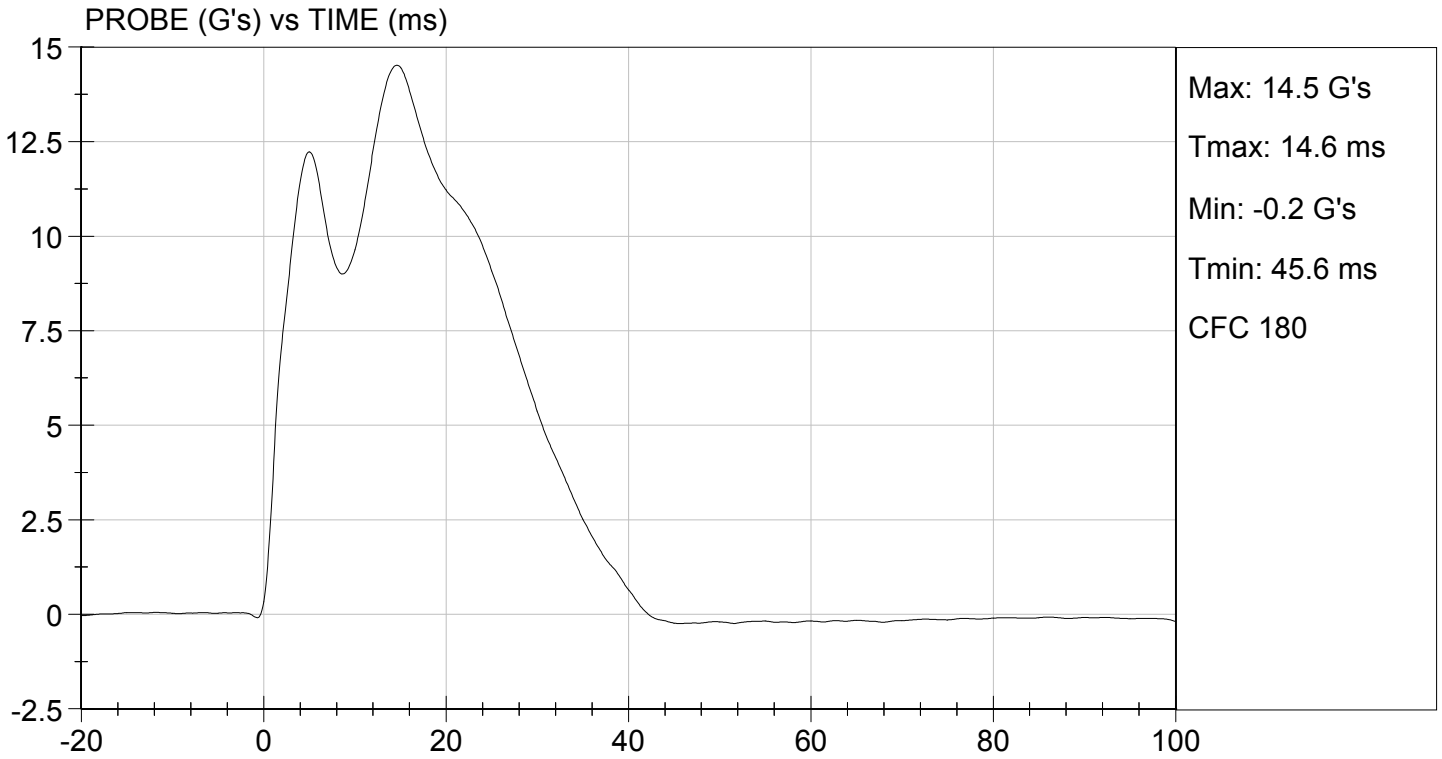
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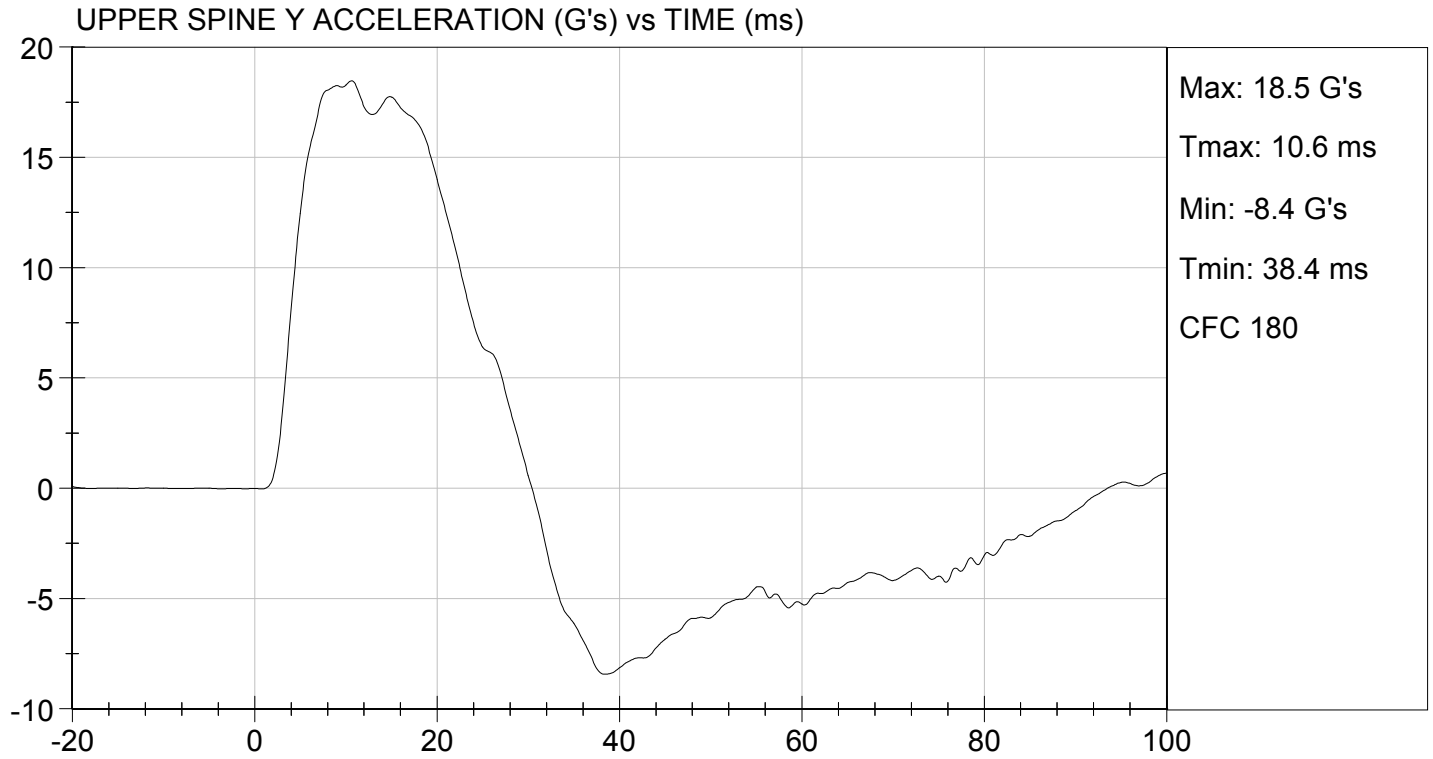
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	13 to 18	15	Pass
Shoulder Displacement	mm	28 to 37	30	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	19	Pass
<b>Overall Test Results</b>				Pass

David Schoedel  
Laboratory Technician

10/06/2015  
Test Date

Jessica Hall  
Approved By





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

**ATD Serial No:** 306

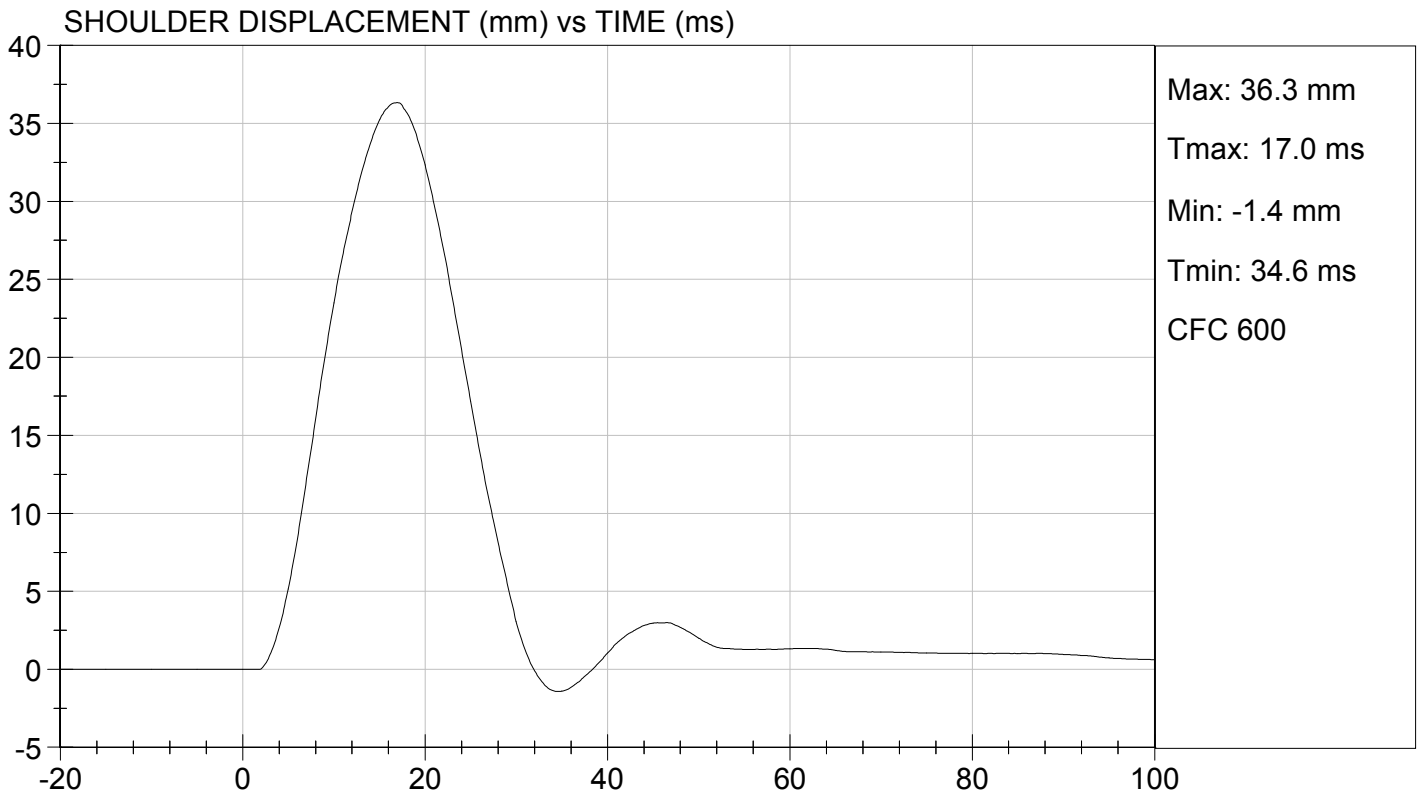
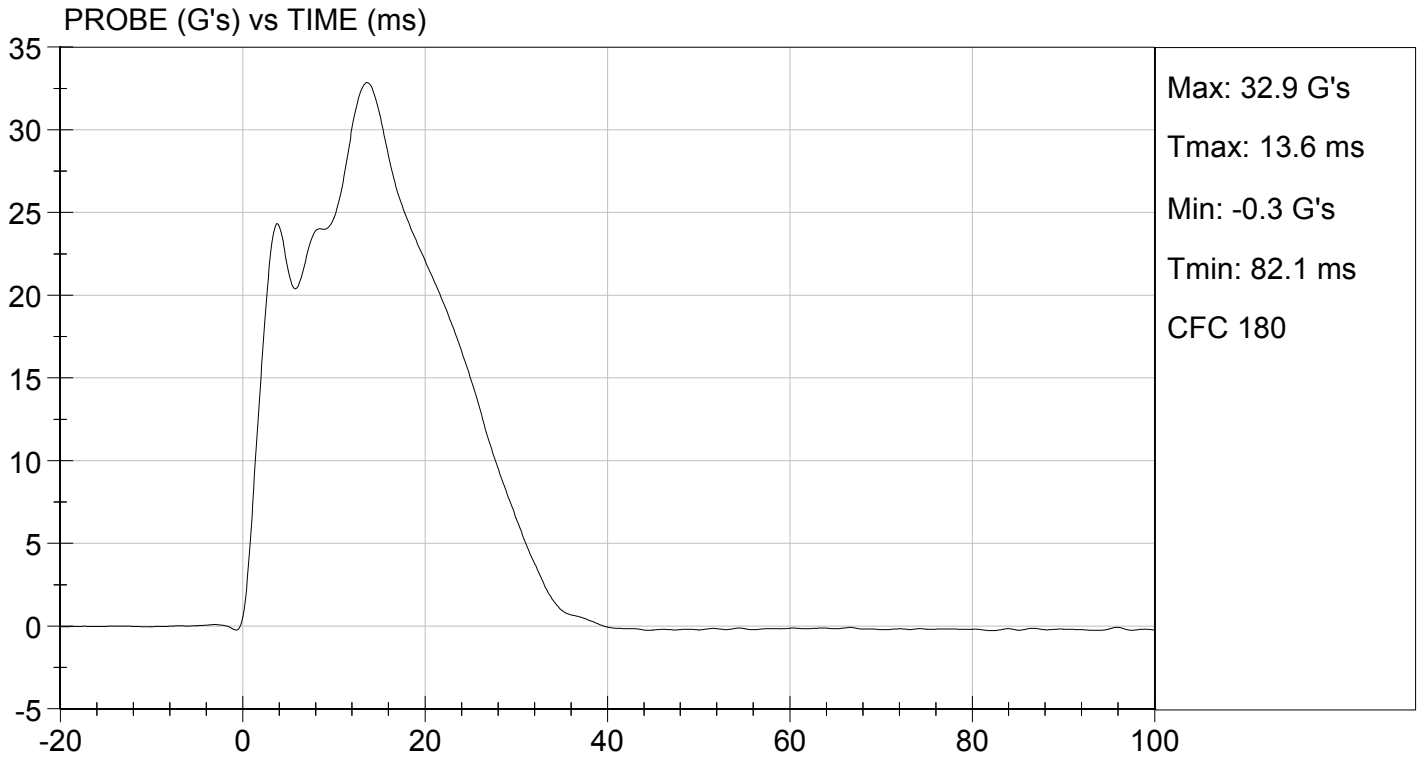
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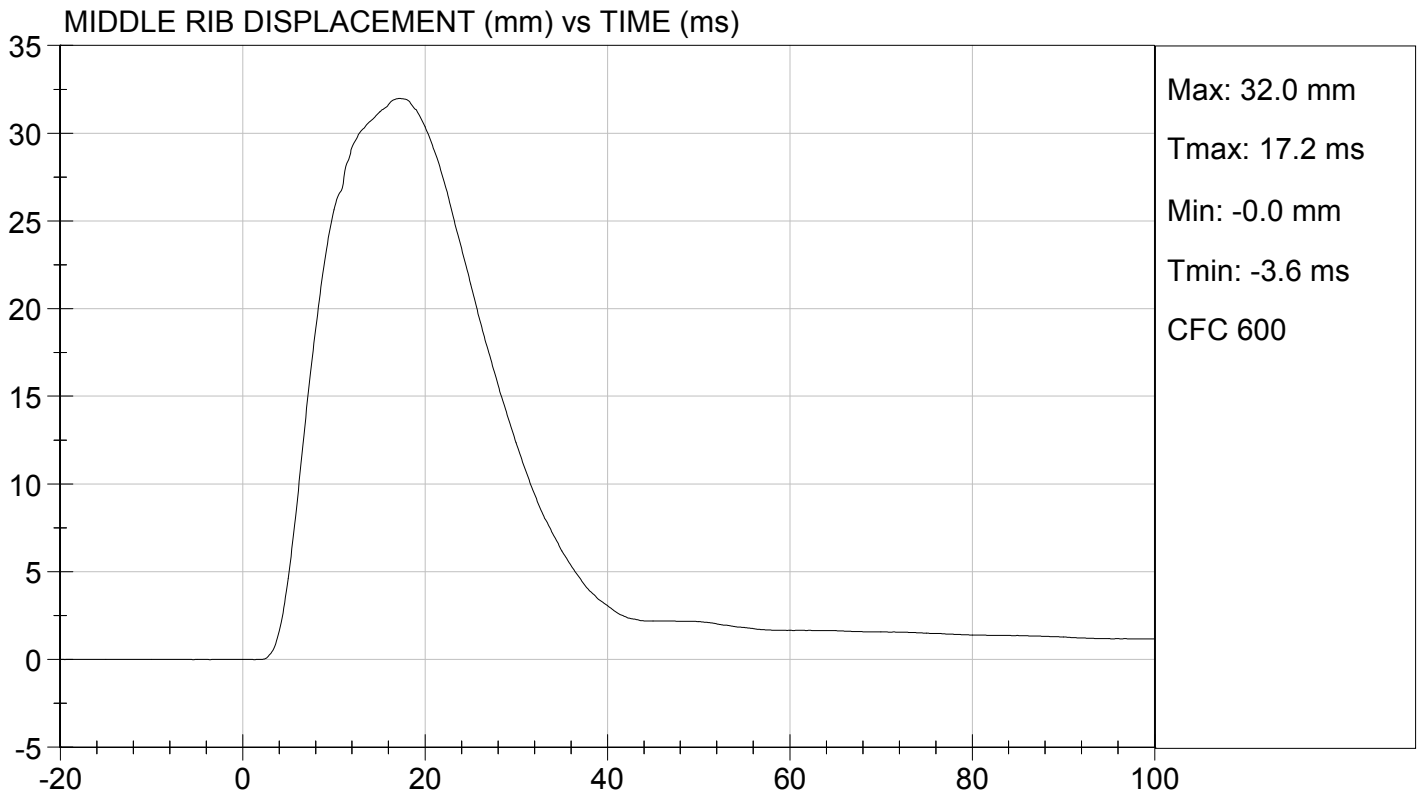
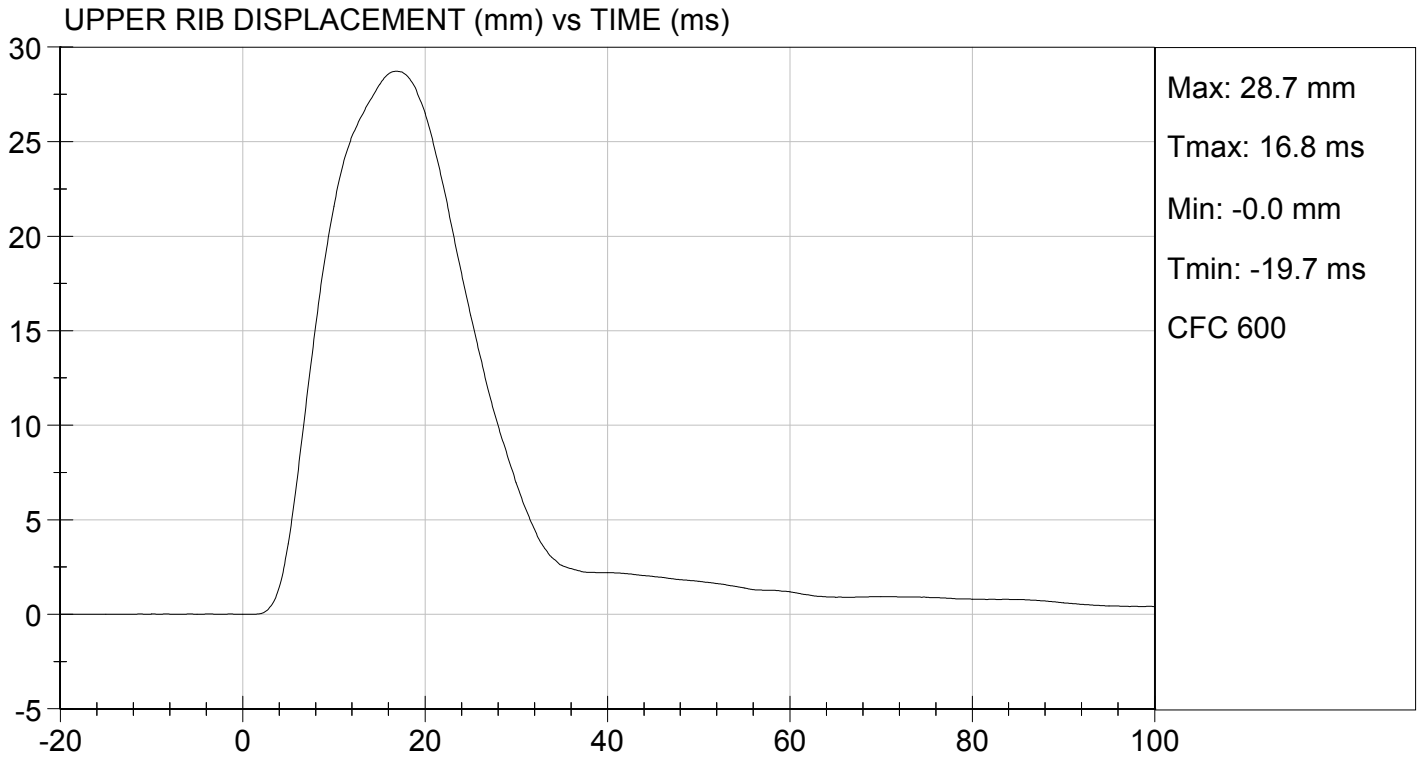
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	33	Pass
Shoulder Displacement	mm	31 to 40	36	Pass
Upper Rib Displacement	mm	25 to 32	29	Pass
Middle Rib Displacement	mm	30 to 36	32	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	32	Pass
<b>Overall Test Results</b>				<b>Pass</b>

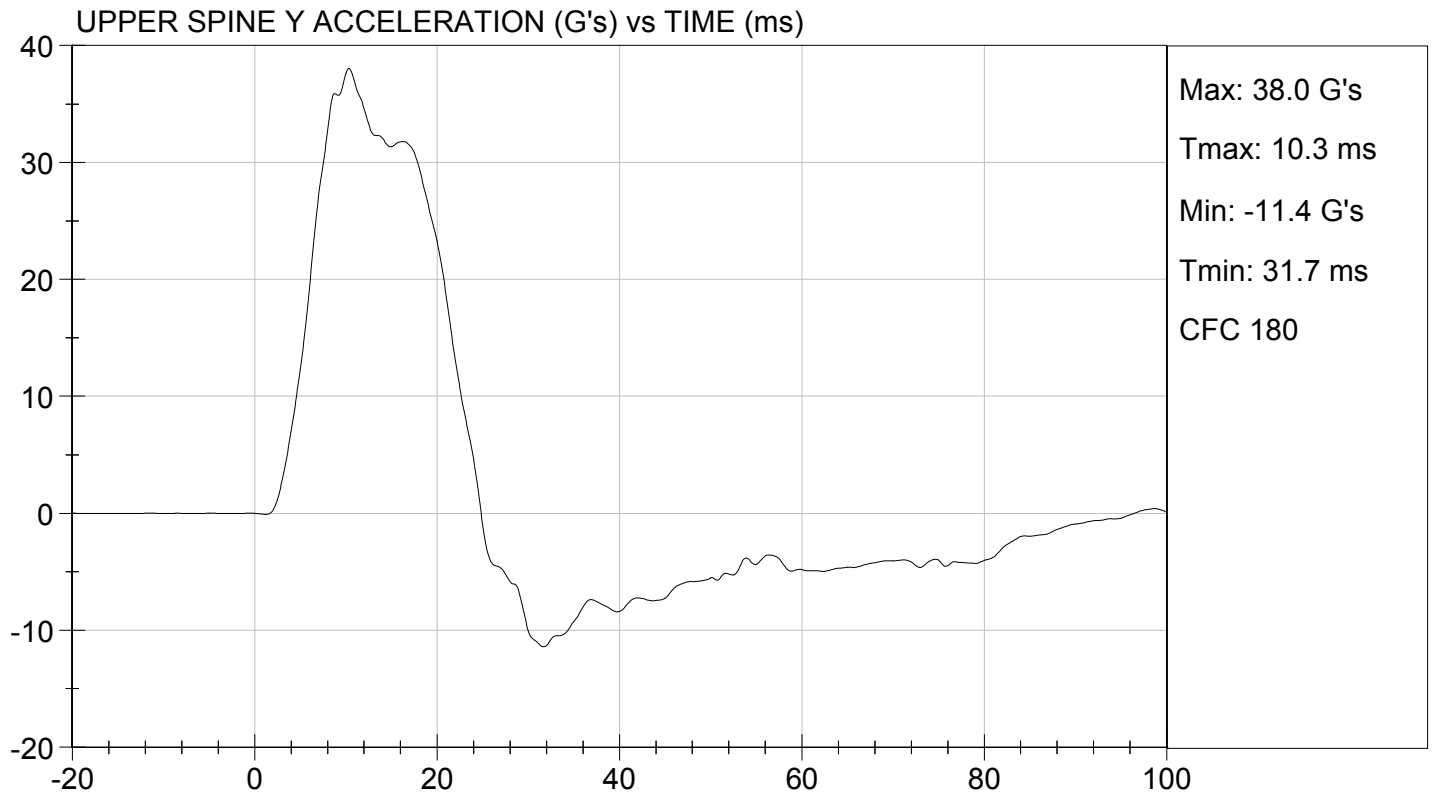
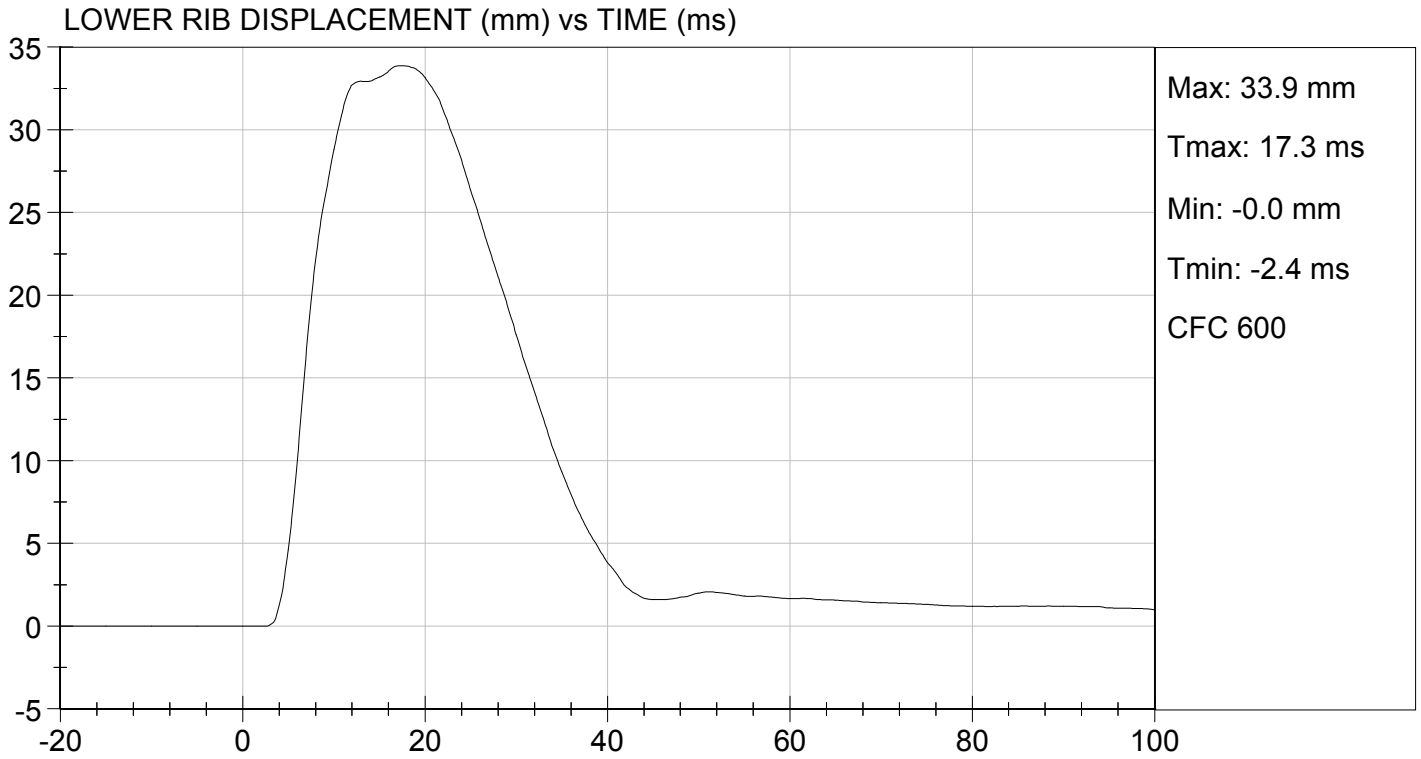
David Schoedel  
Laboratory Technician

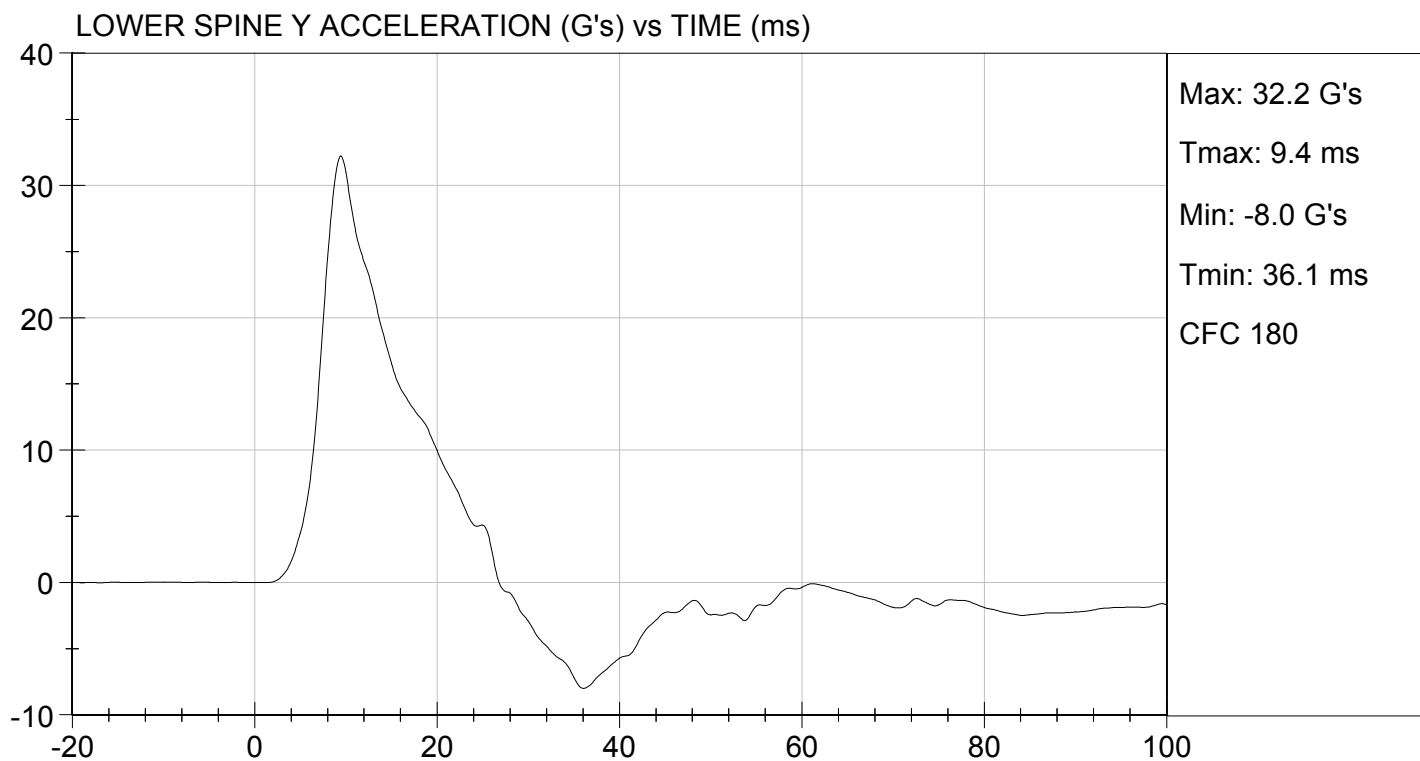
10/06/2015  
Test Date

Jessica Hall  
Approved By









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

**ATD Serial No:** 306

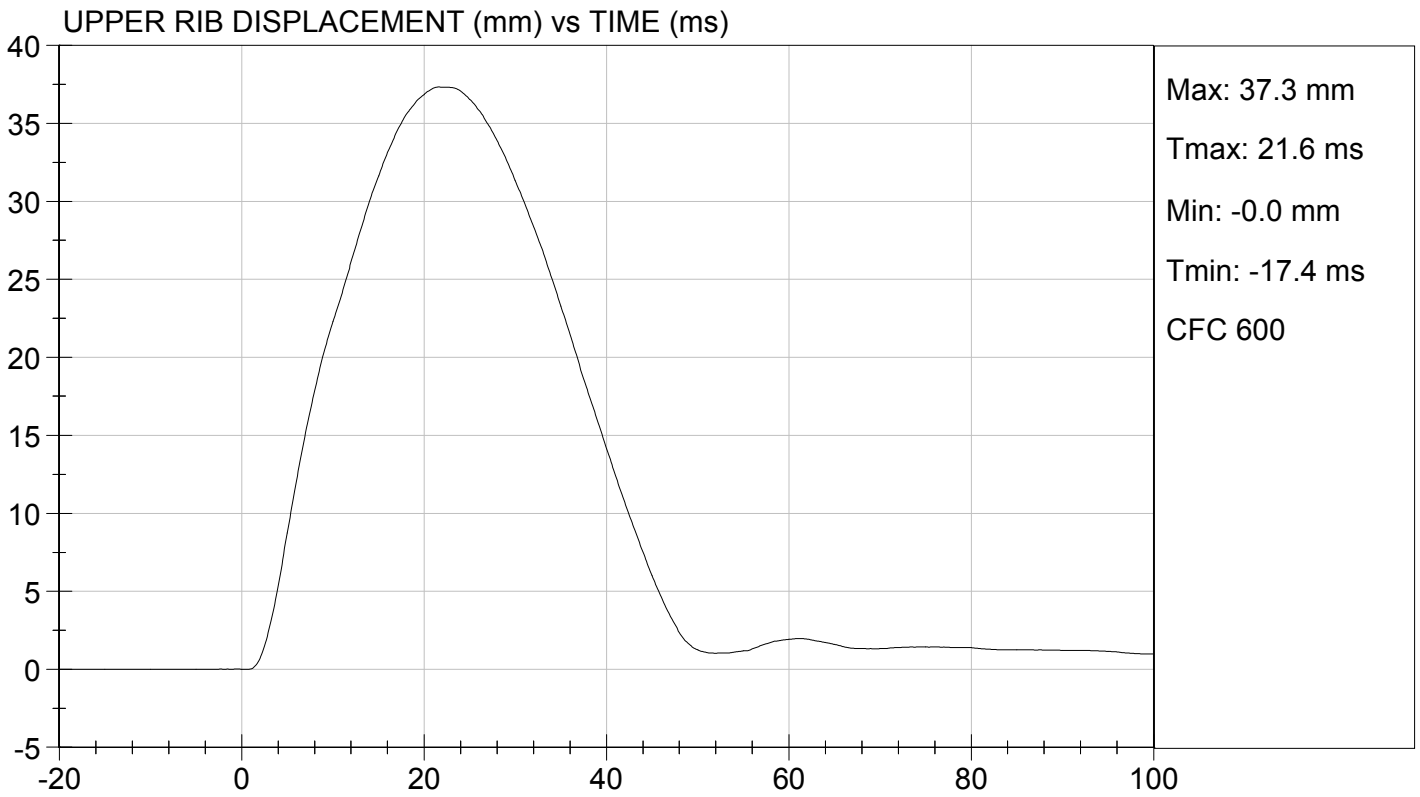
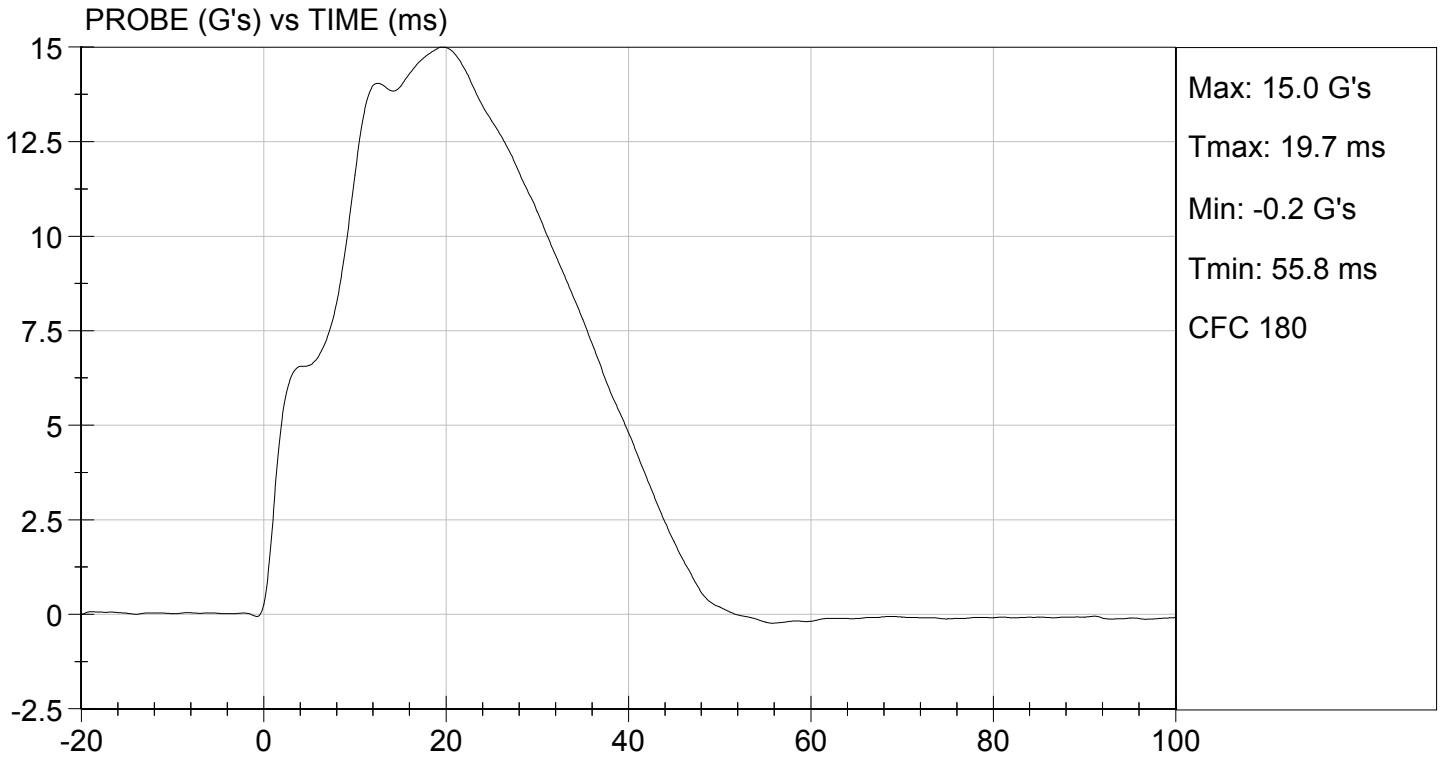
**Test I.D:** D153135

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	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	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	8	Pass
<b>Overall Test Results</b>				<b>Pass</b>

*David Schoedel*  
 \_\_\_\_\_  
 Laboratory Technician

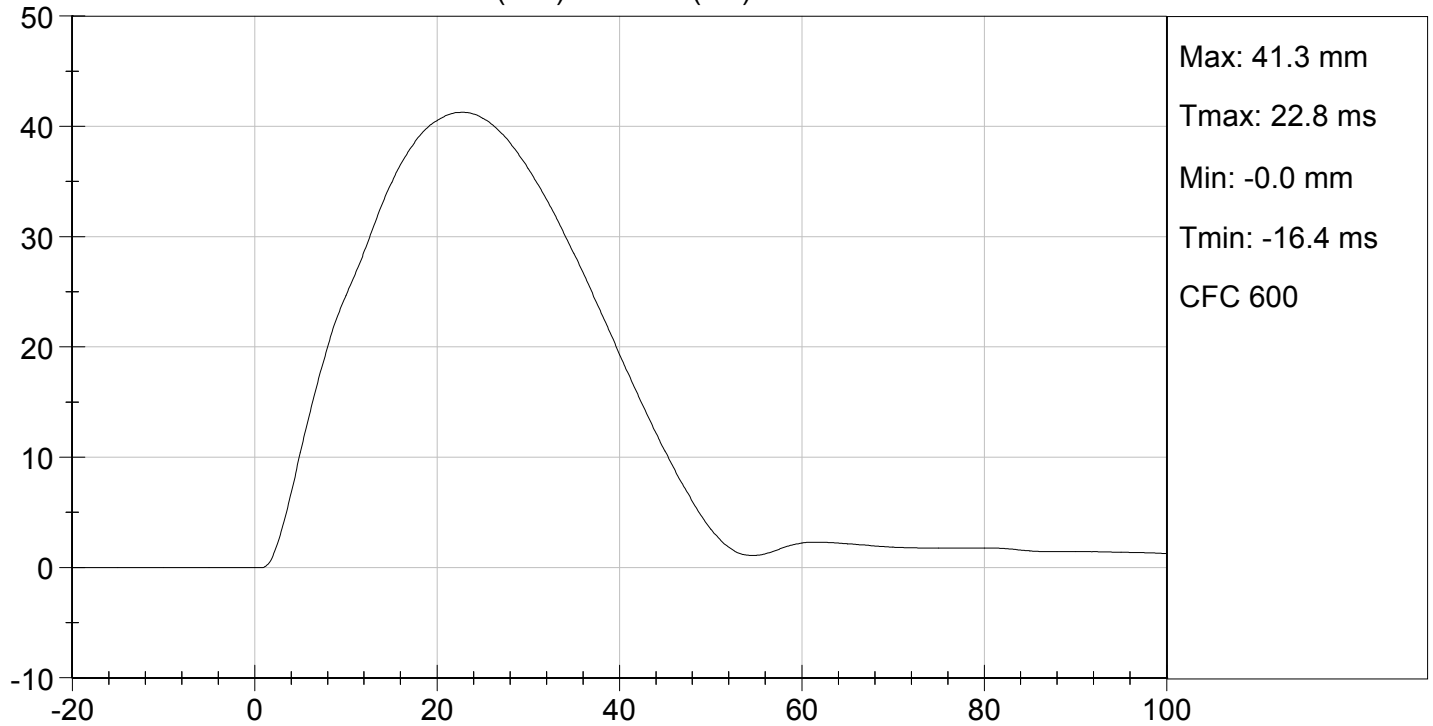
10/06/2015  
 \_\_\_\_\_  
 Test Date

*Jessica Hall*  
 \_\_\_\_\_  
 Approved By

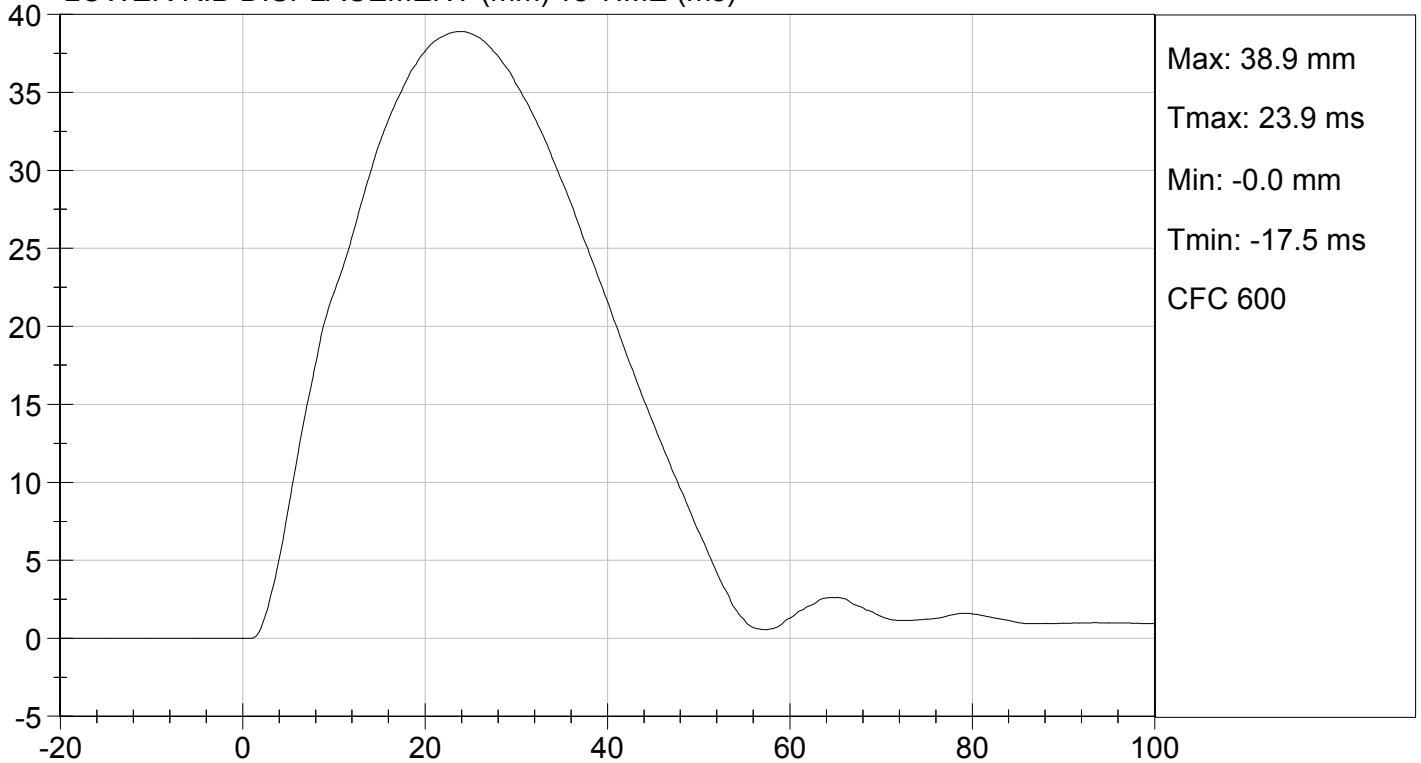




MIDDLE RIB DISPLACEMENT (mm) vs TIME (ms)

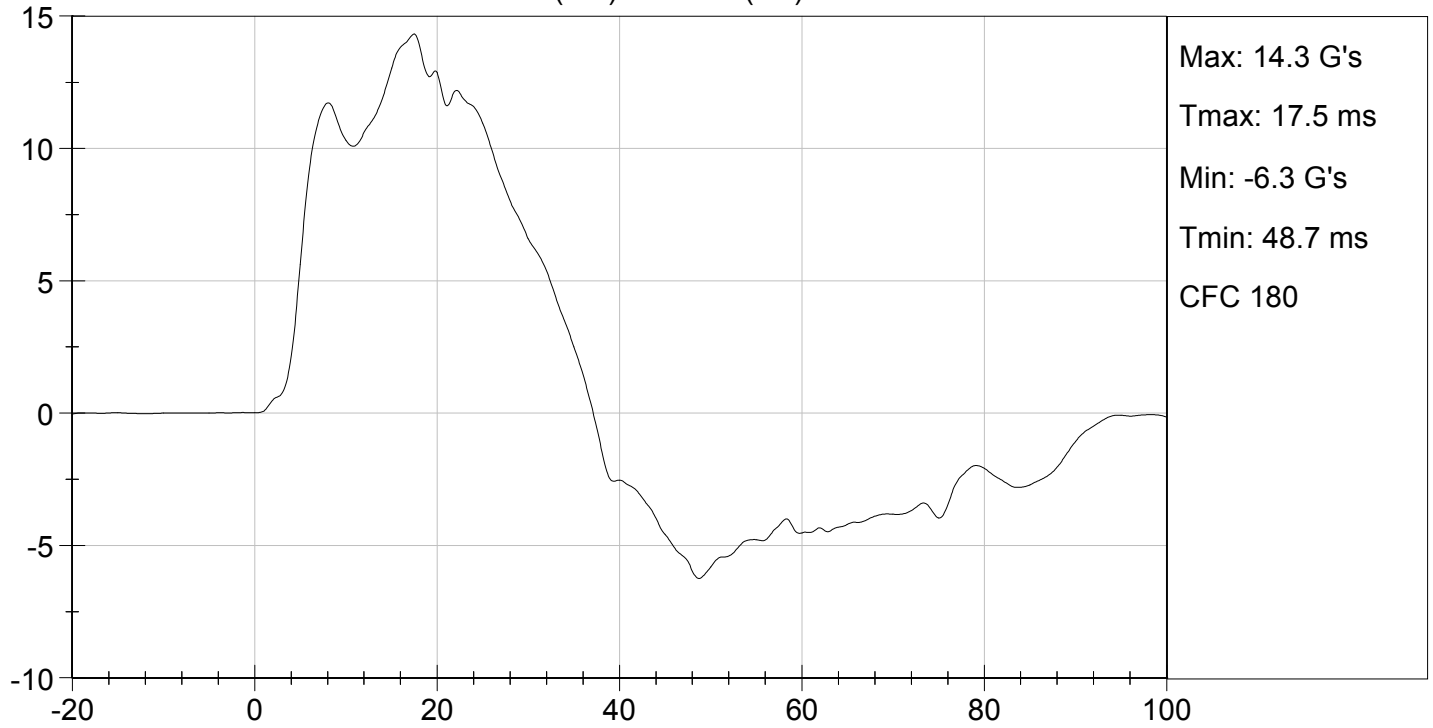


LOWER RIB DISPLACEMENT (mm) vs TIME (ms)

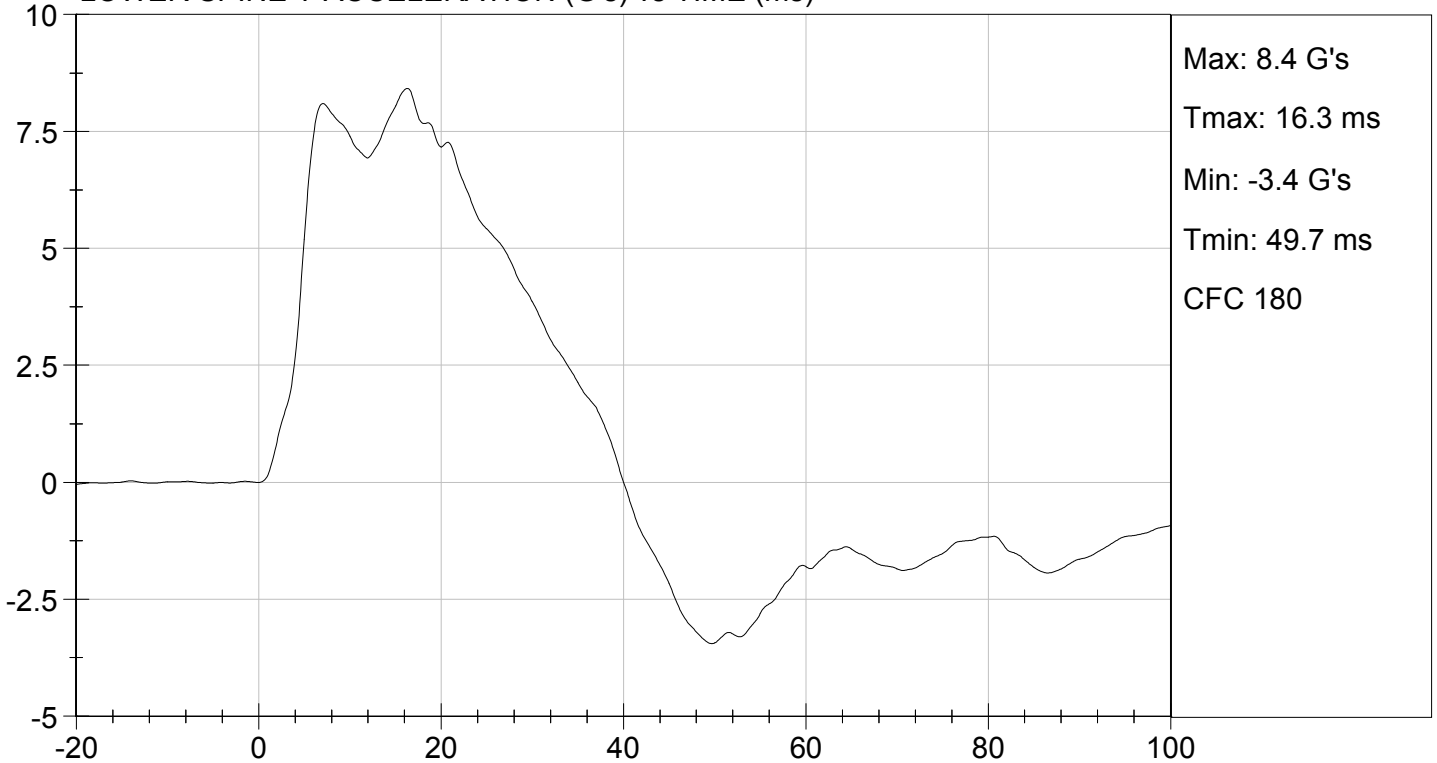




UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)



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: D153136

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	42	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	40	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass

*David Schoedel*

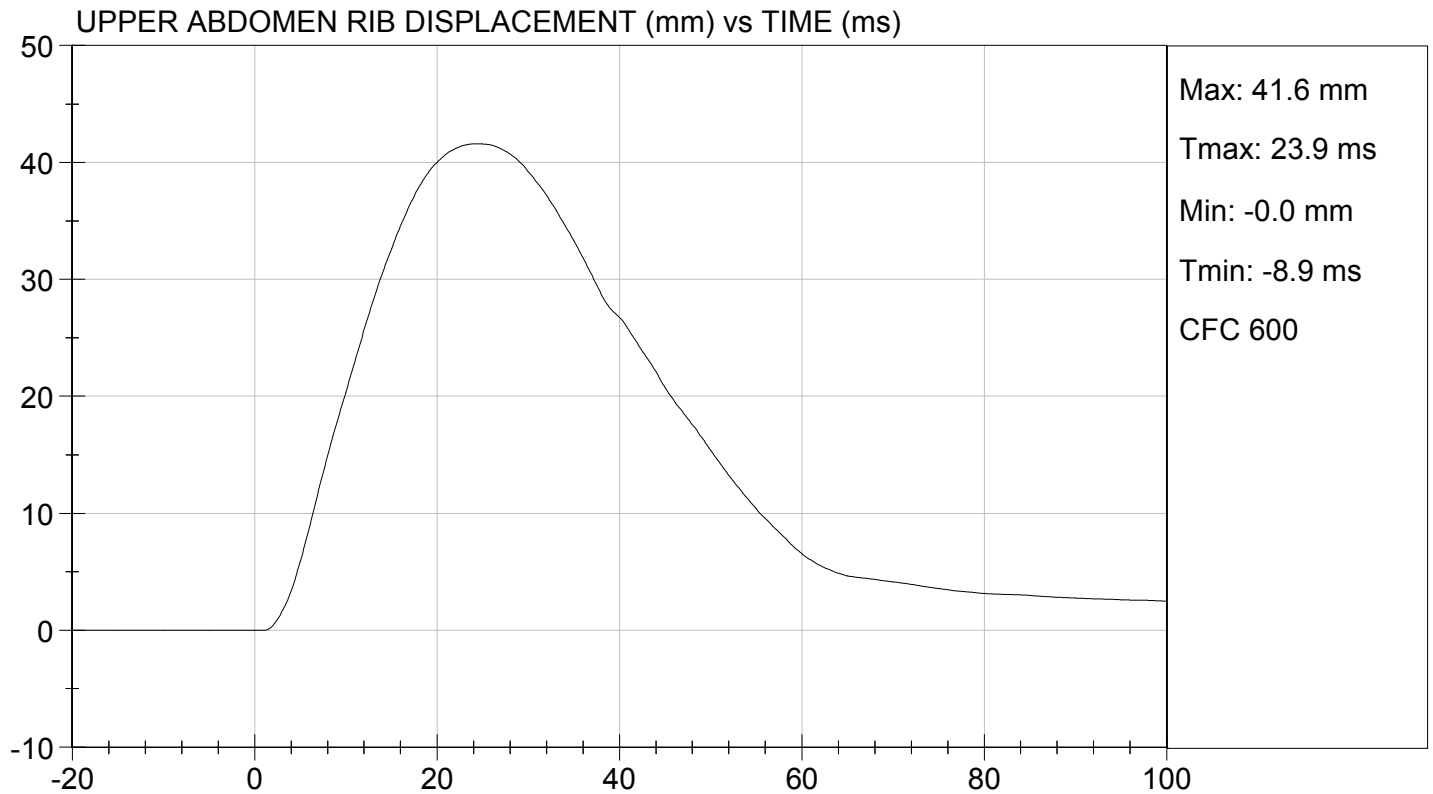
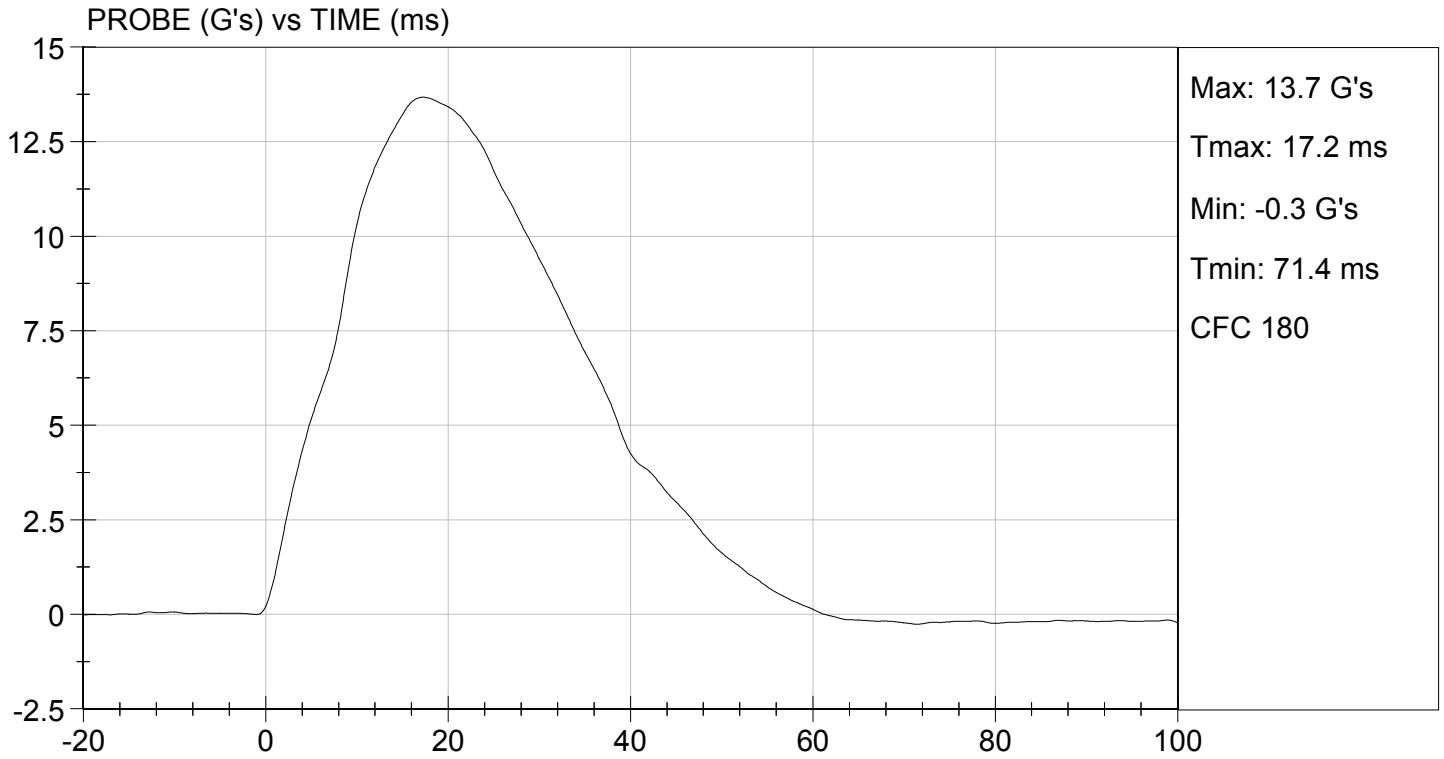
Laboratory Technician

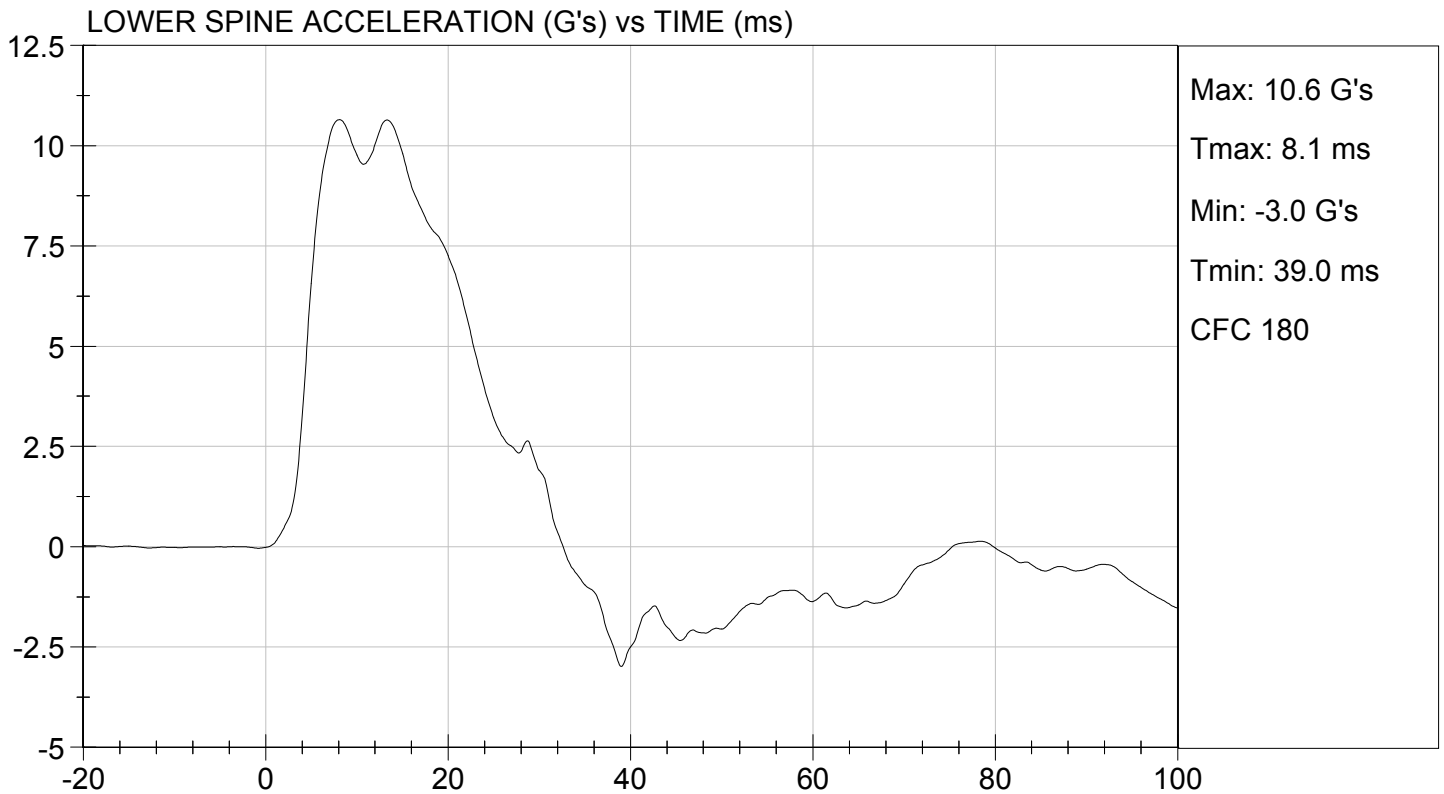
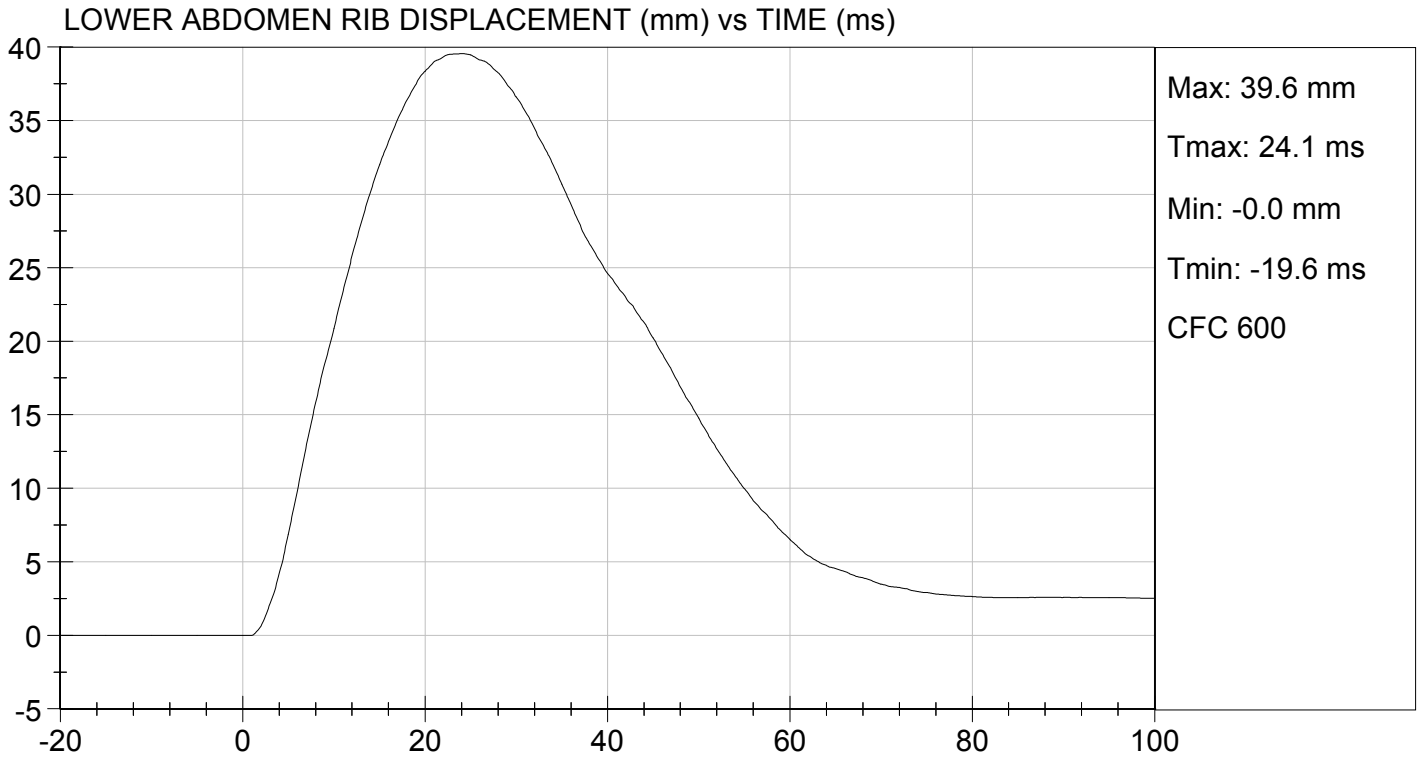
10/06/2015

Test Date

*Jessica Hall*

Approved By





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

**ATD Serial No:** 306

**Test I.D:** D153137

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	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	3,937	Pass
<b>Overall Test Results</b>				<b>Pass</b>

*David Schoedel*

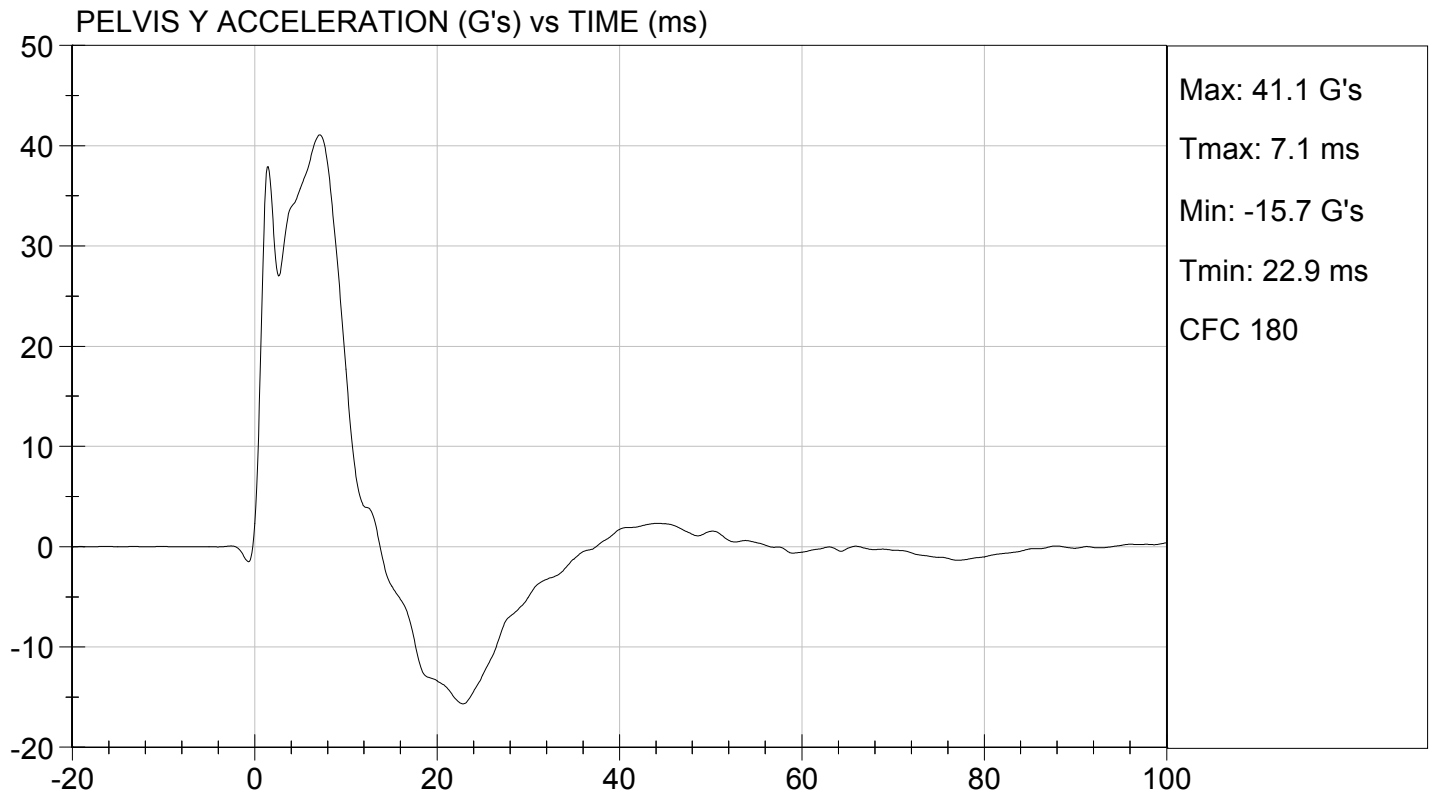
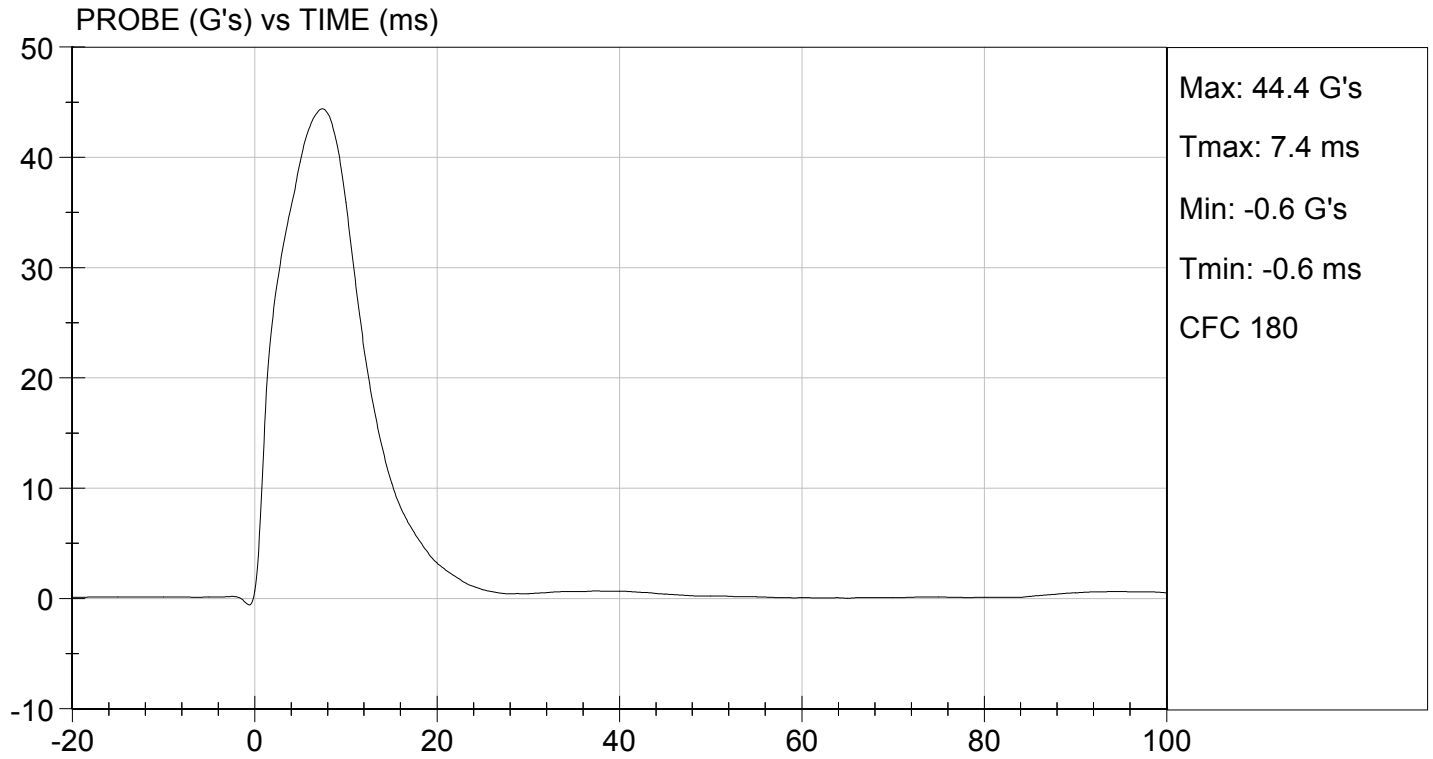
Laboratory Technician

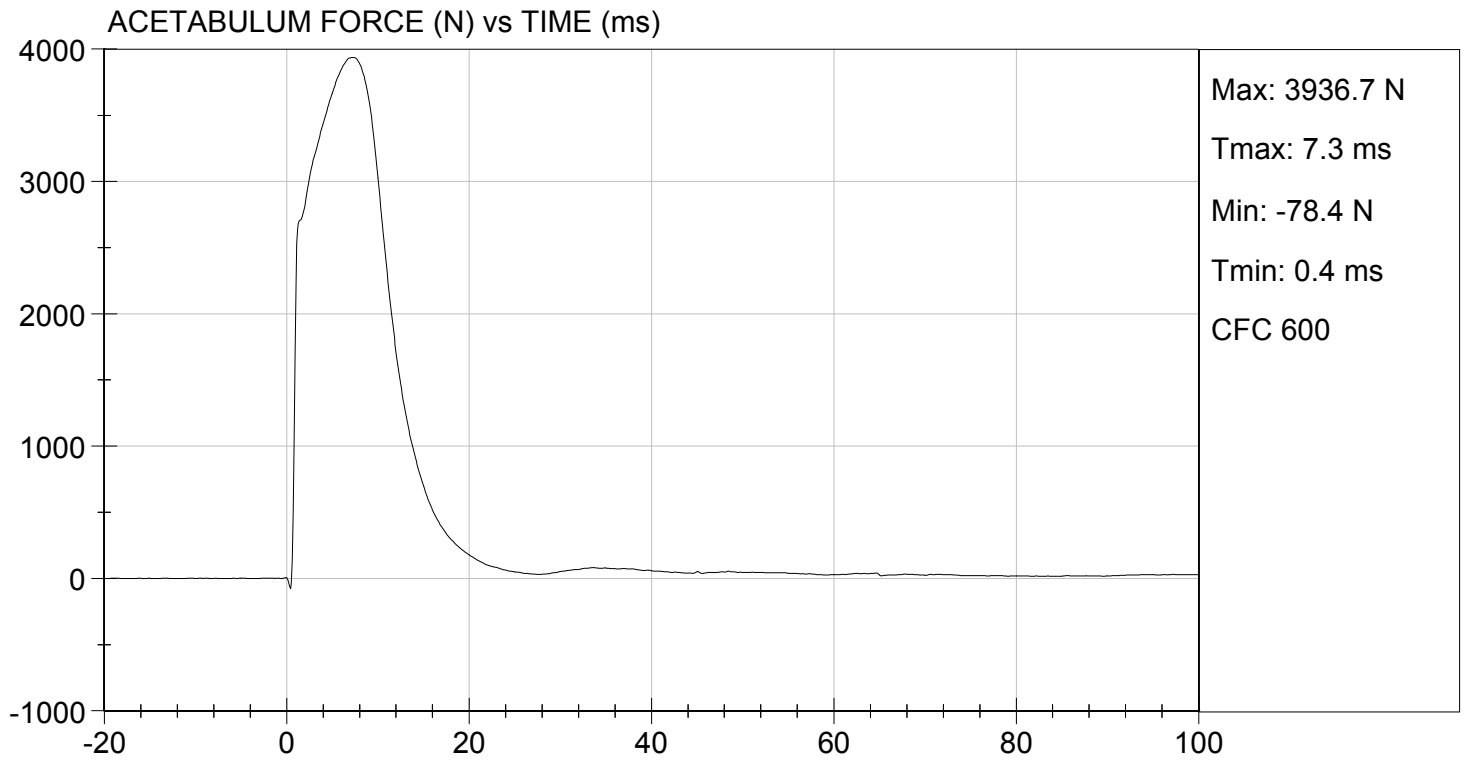
10/06/2015

Test Date

*Jessica Hall*

Approved By





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

**ATD Serial No:** 306

**Test I.D:** D153138

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	36 to 45	42	Pass
Pelvis Y Acceleration	G's	28 to 39	34	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,753	Pass
<b>Overall Test Results</b>				<b>Pass</b>

*David Schoedel*

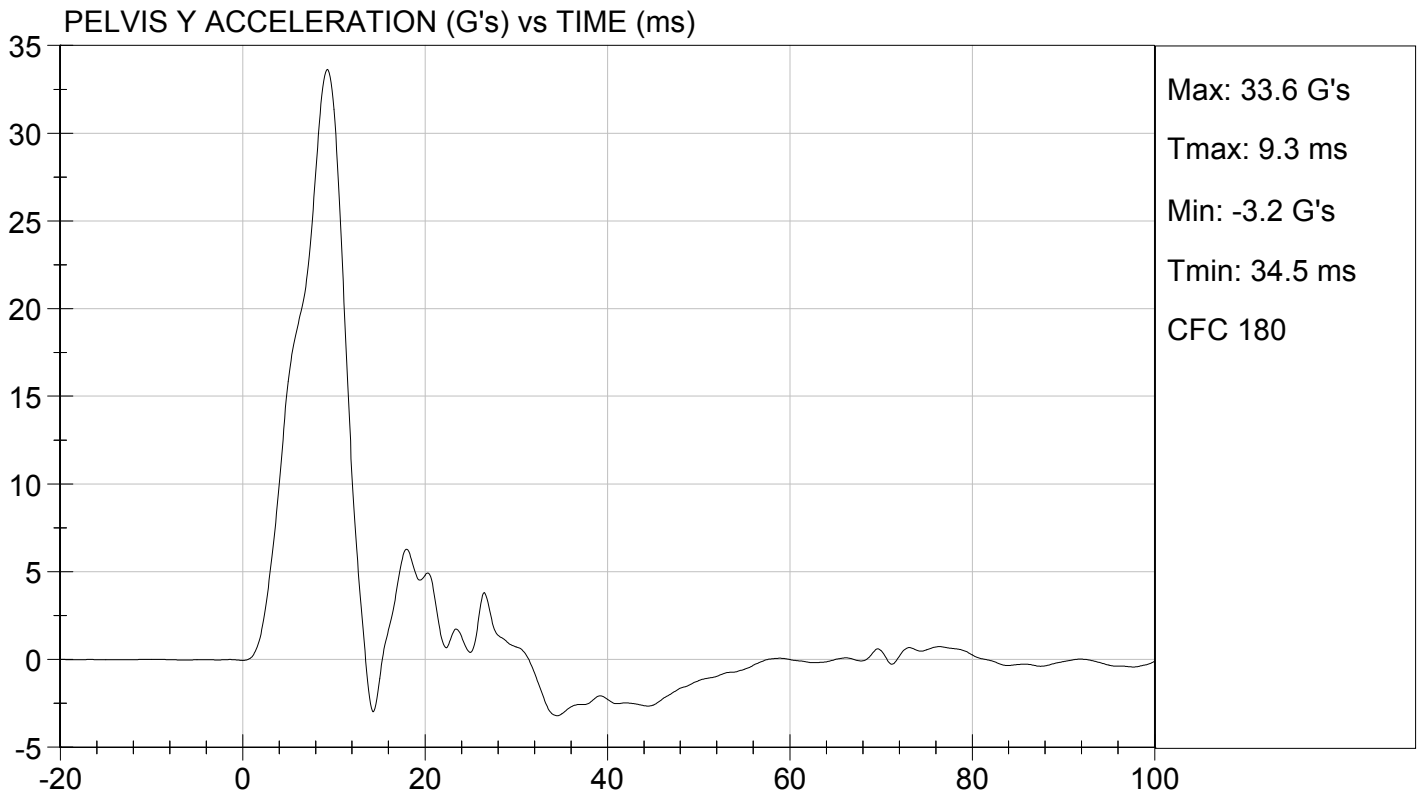
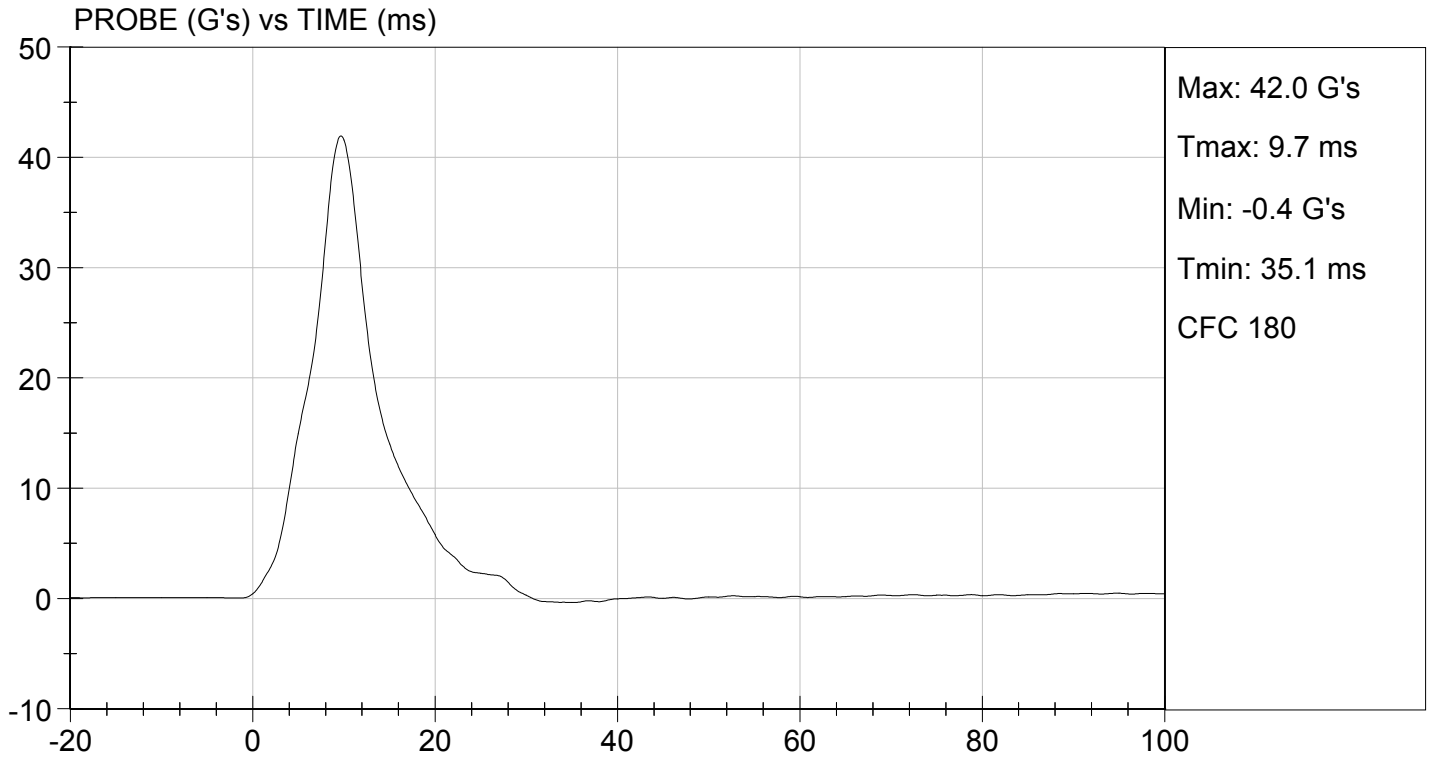
Laboratory Technician

10/06/2015

Test Date

*Jessica Hall*

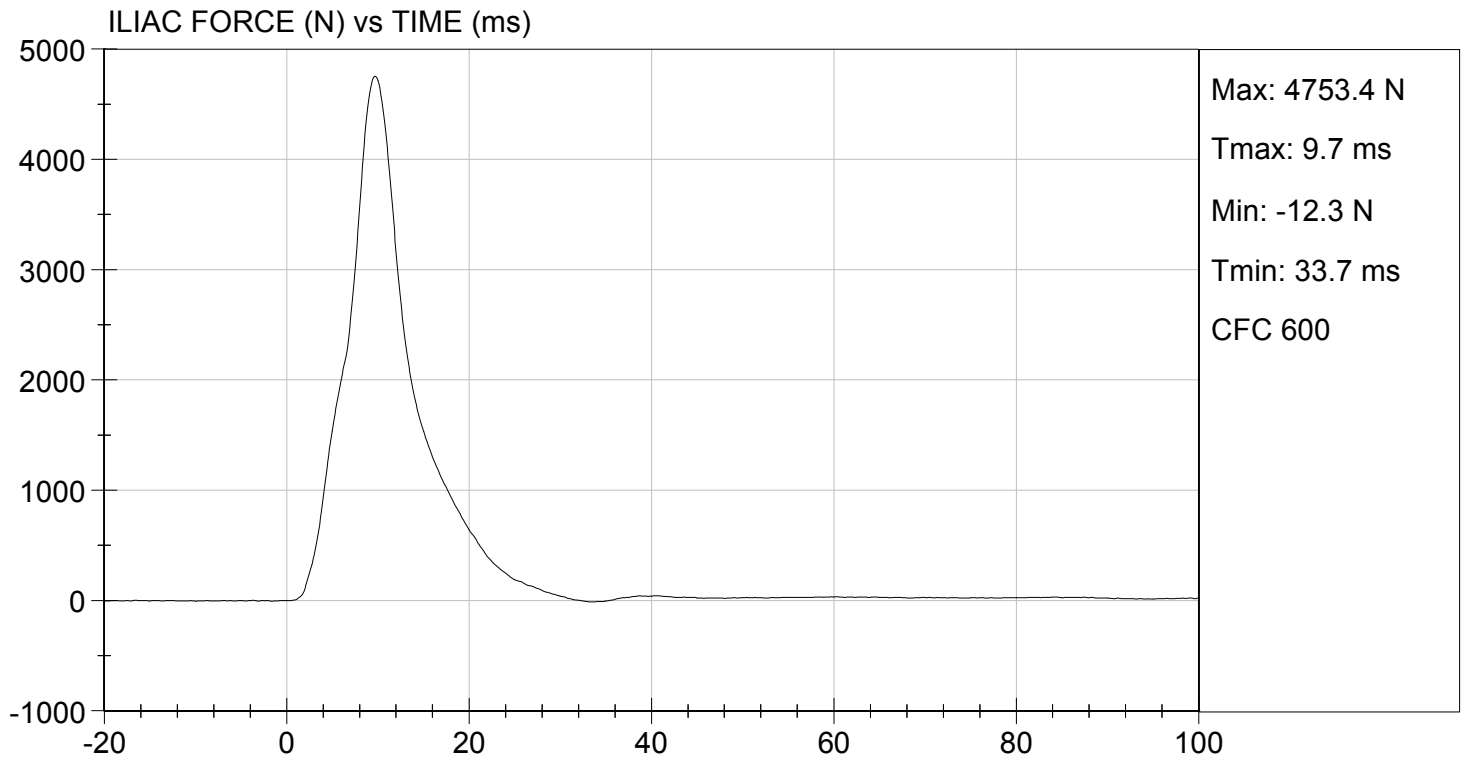
Approved By





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

TEST DATE: 10/06/2015  
TEST #: D153138



**SID-IIsD External Measurements**  
**SN: 306**

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

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

ATD Serial No: 306

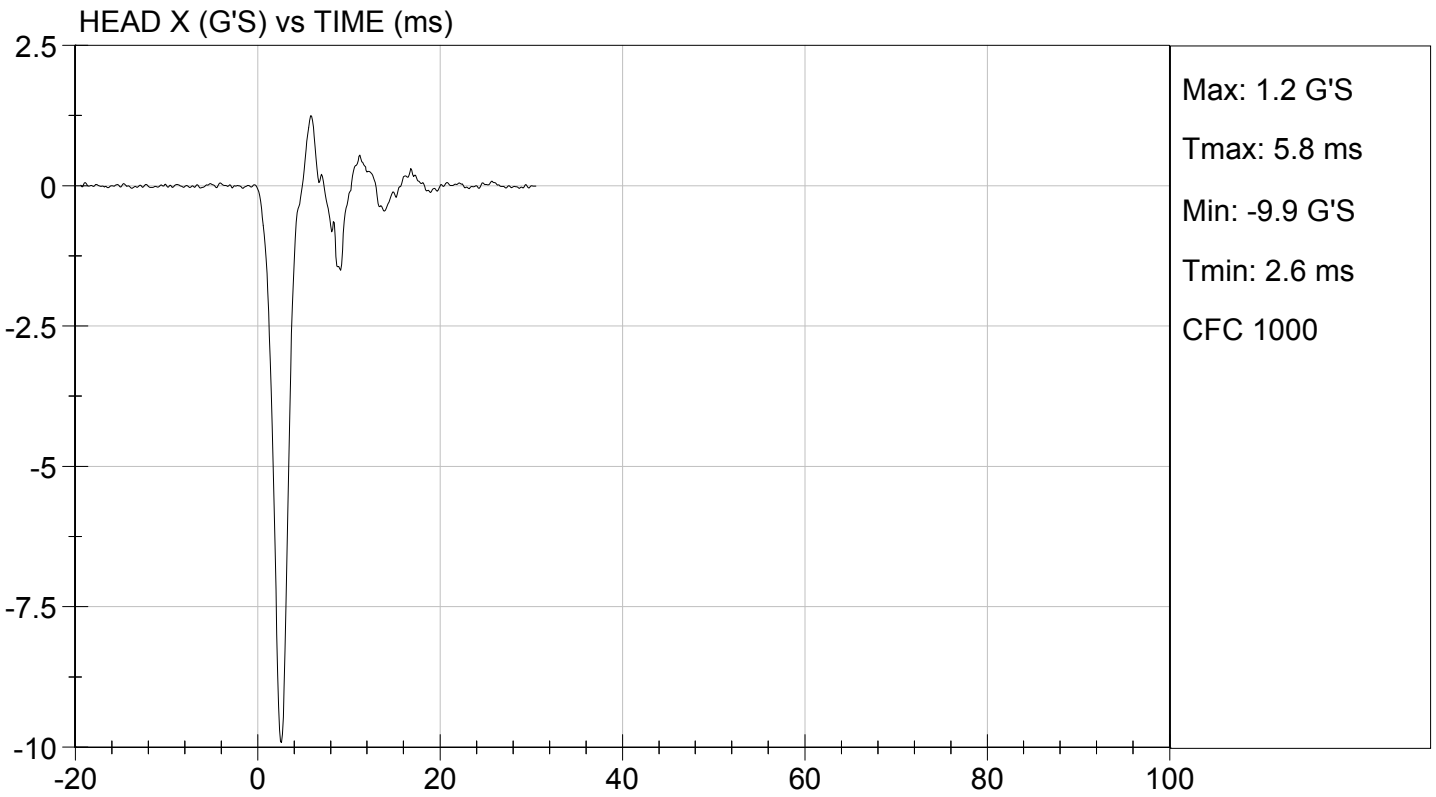
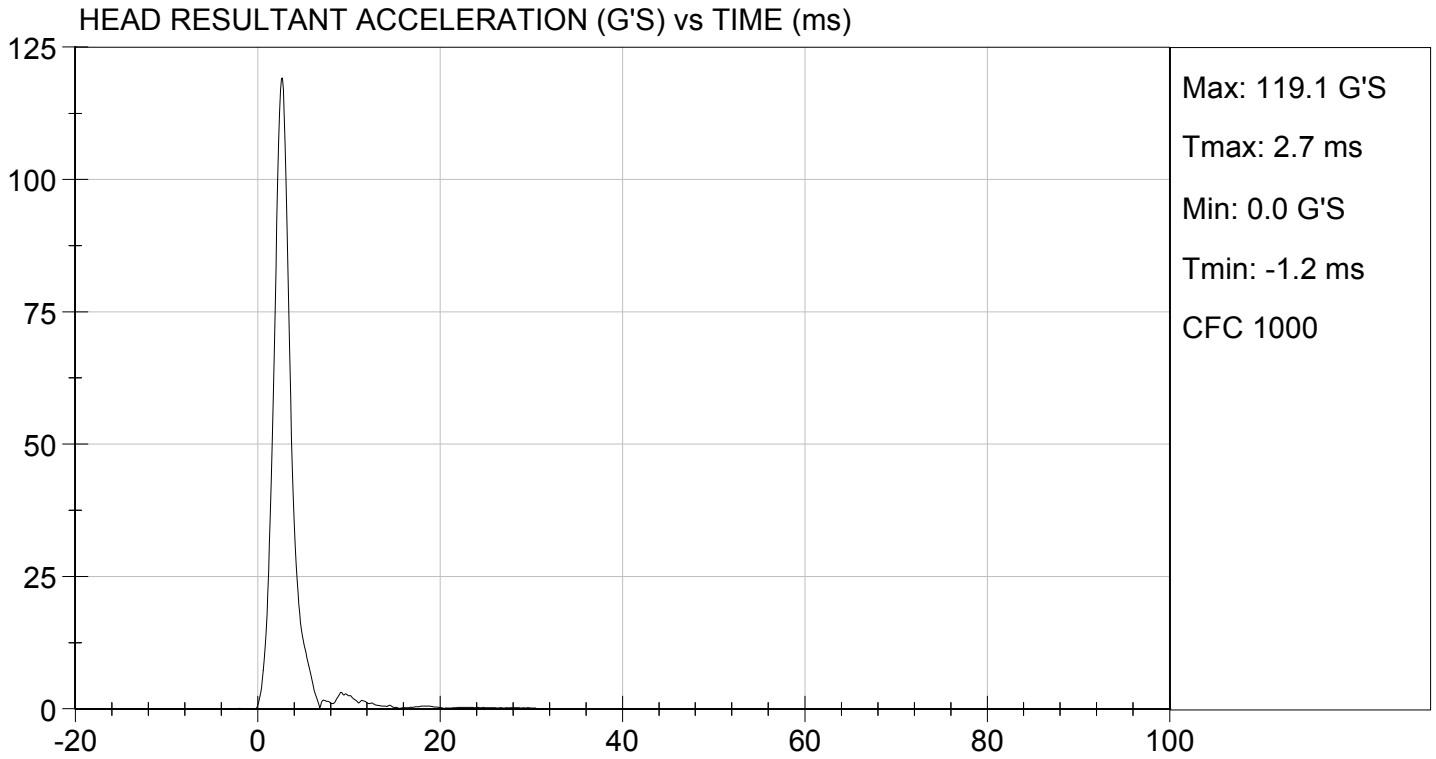
Test ID: D153331

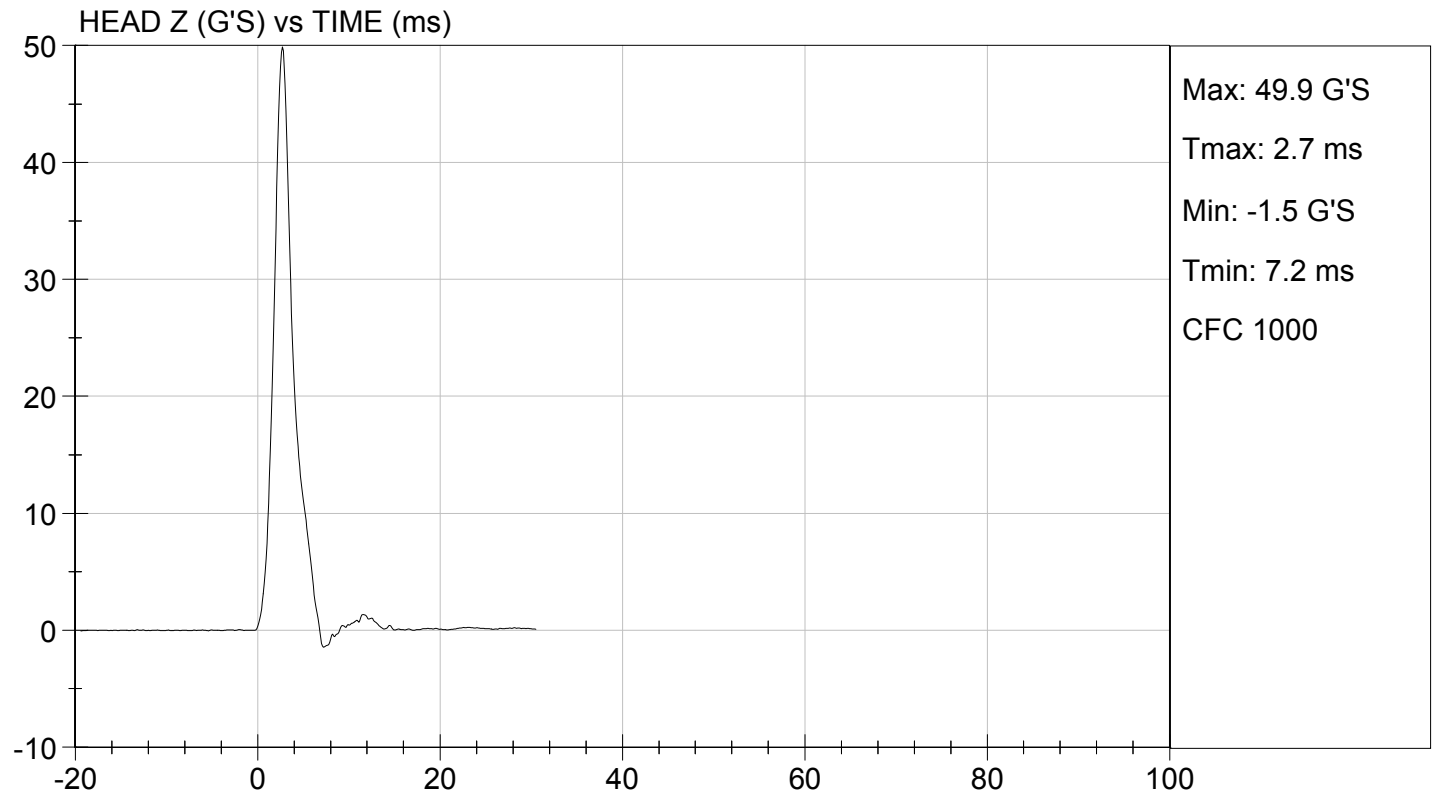
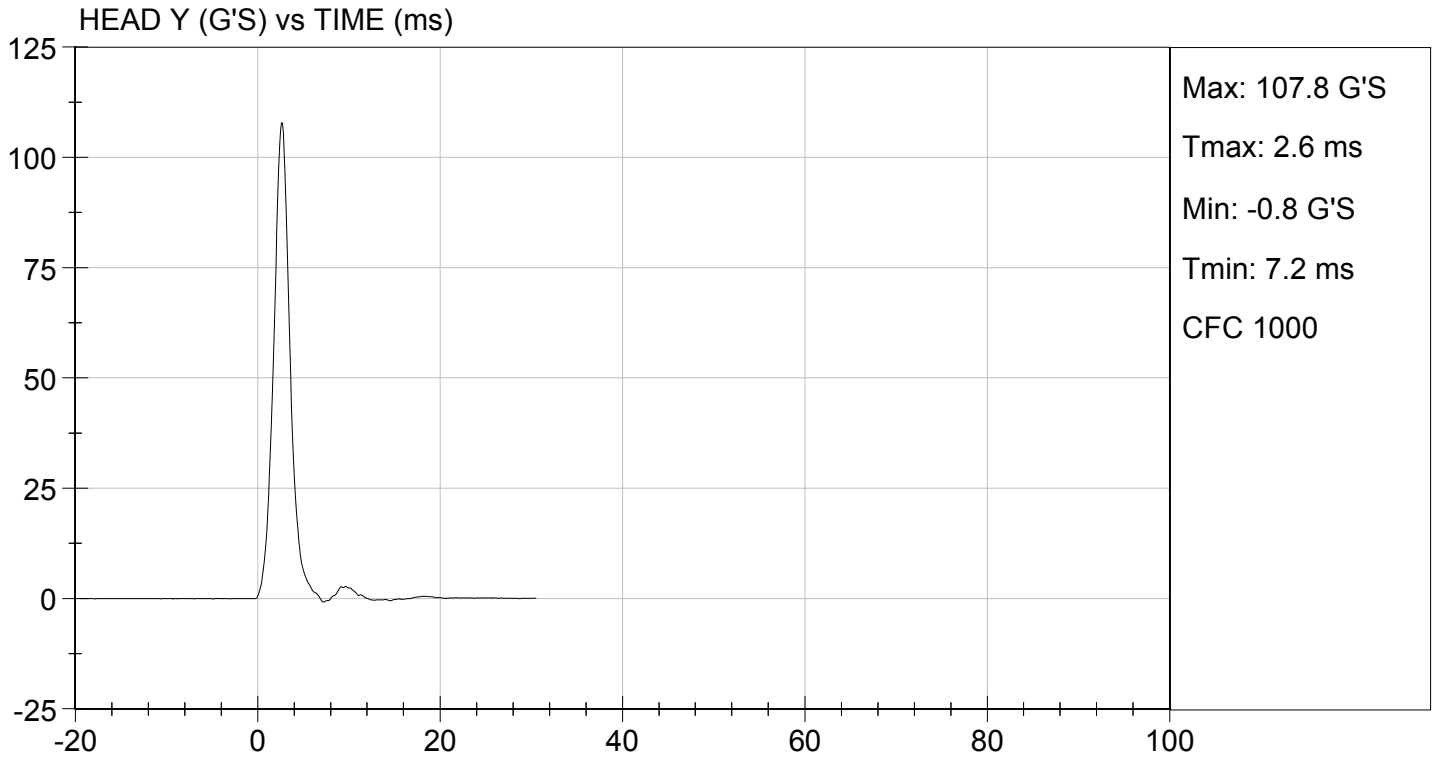
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Peak Resultant Acceleration	G's	115 to 137	119	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-9.9	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass

*David Schoedel*  
Laboratory Technician

10/20/2015  
Test Date

*Jessica Hall*  
Approved By





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

**ATD Serial No:** 306

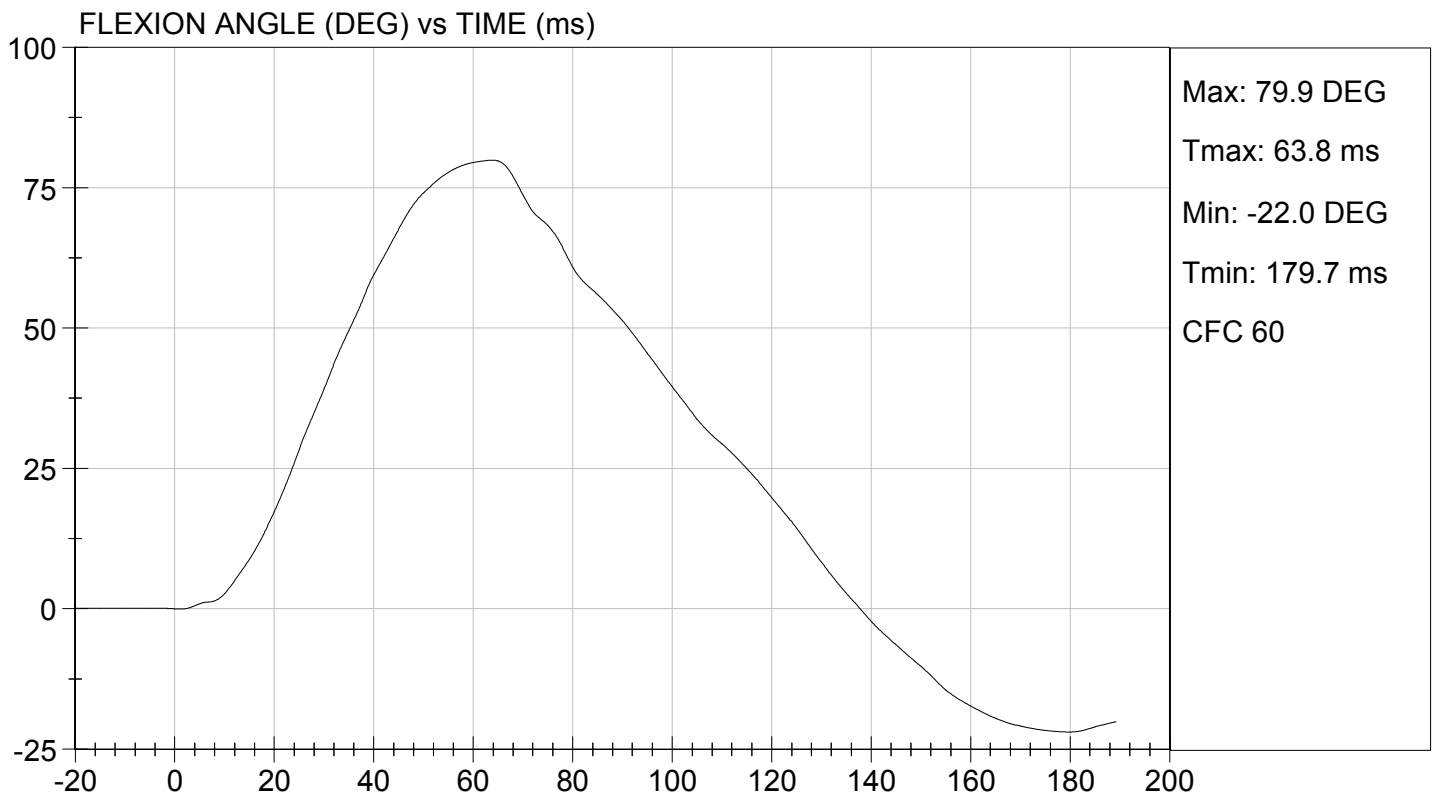
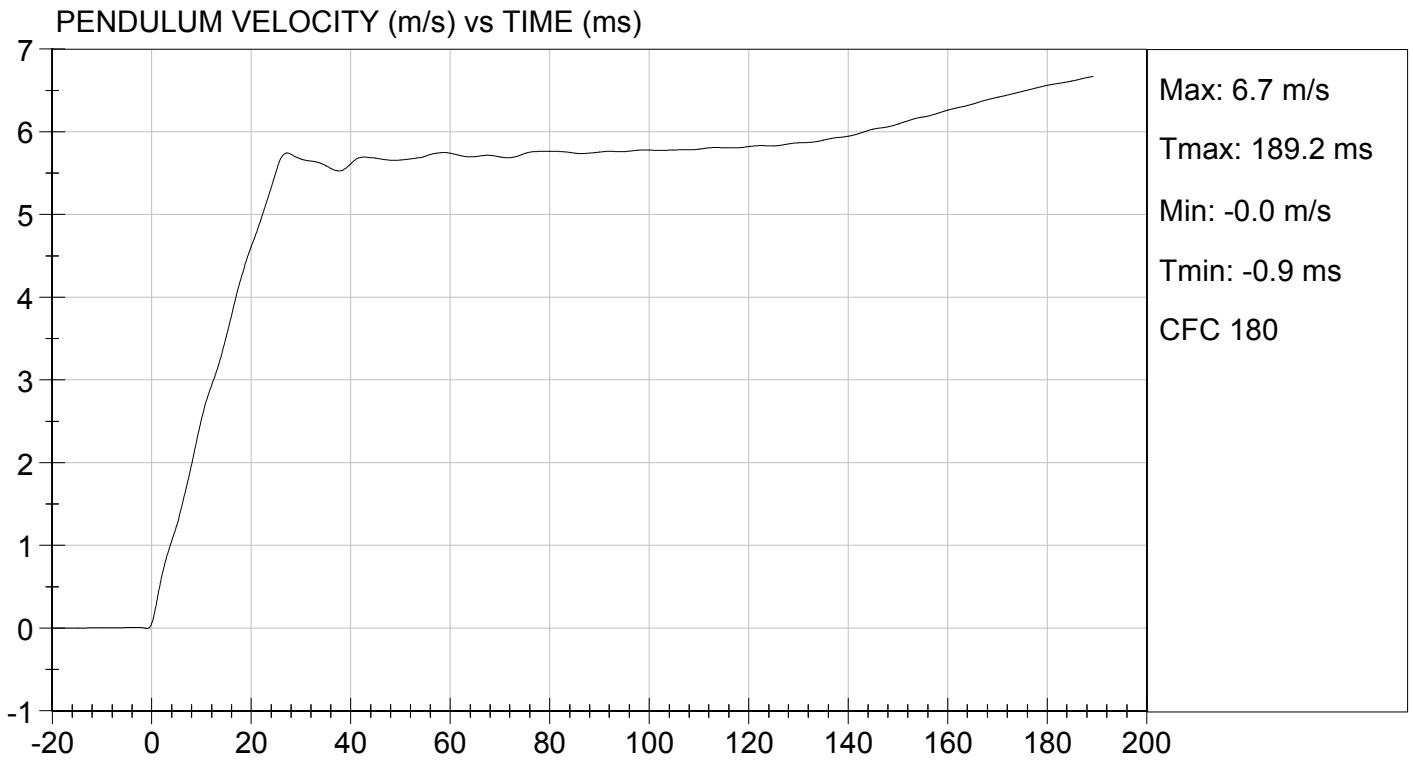
**Test I.D.:** D153332

Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.5	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	2.53	Pass
	15 ms	m/s	3.30 to 4.10	3.53	Pass
	20 ms	m/s	4.40 to 5.40	4.61	Pass
	25 ms	m/s	5.40 to 6.10	5.53	Pass
	25-100 ms	m/s	5.50 to 6.20	5.78	Pass
Maximum D-Plane Rotation	deg	71 to 81	80	Pass	
Time of Maximum D-Plane Rotation	ms	50 to 70	64	Pass	
Maximum Occipital Condyle Moment	Nm	-44 to -36	-39	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	118	Pass	
<b>Overall Test Results</b>				<b>Pass</b>	

*David Schoedel*  
 \_\_\_\_\_  
 Laboratory Technician

10/20/2015  
 \_\_\_\_\_  
 Test Date

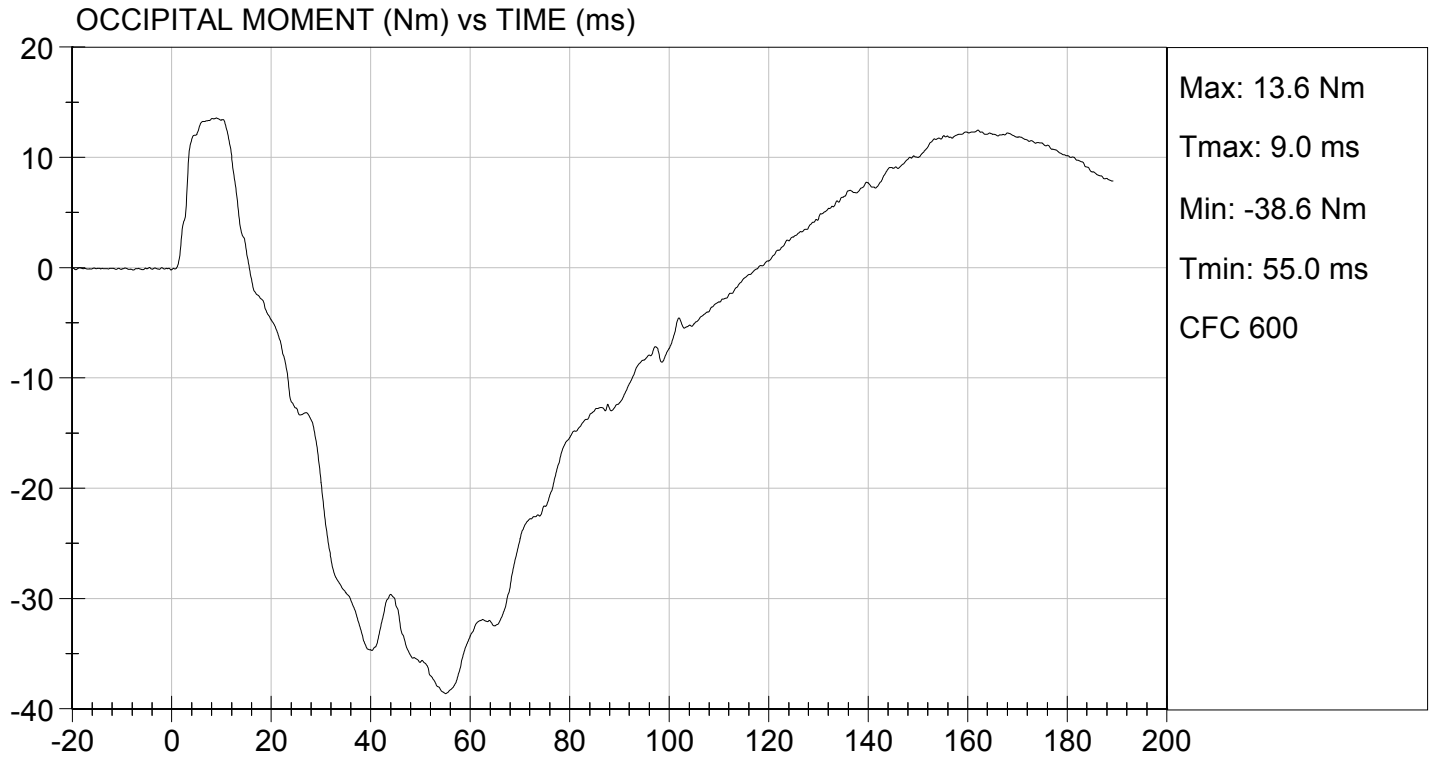
*Jessica Hall*  
 \_\_\_\_\_  
 Approved By





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

TEST DATE: 10/20/2015  
TEST #: D153332



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

ATD Serial No: 306

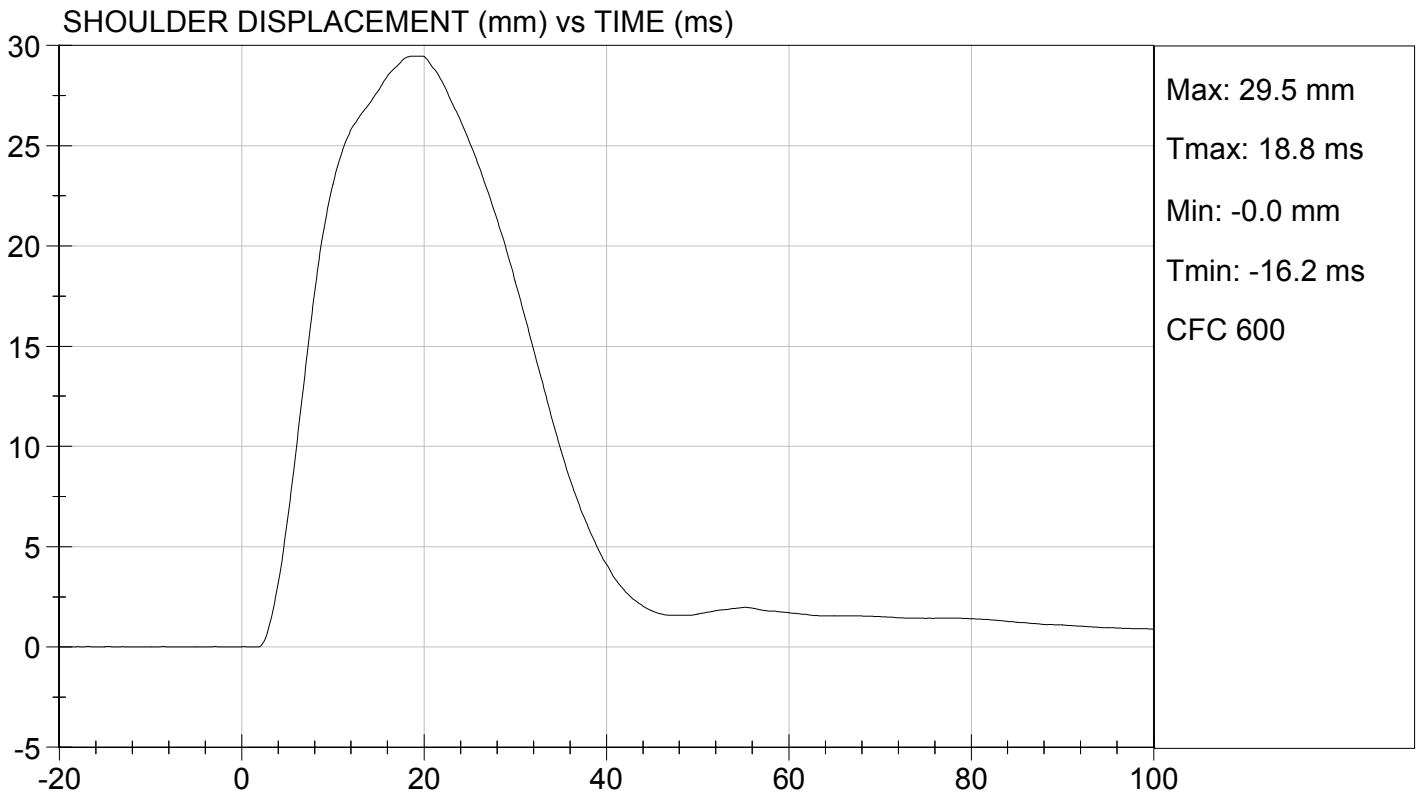
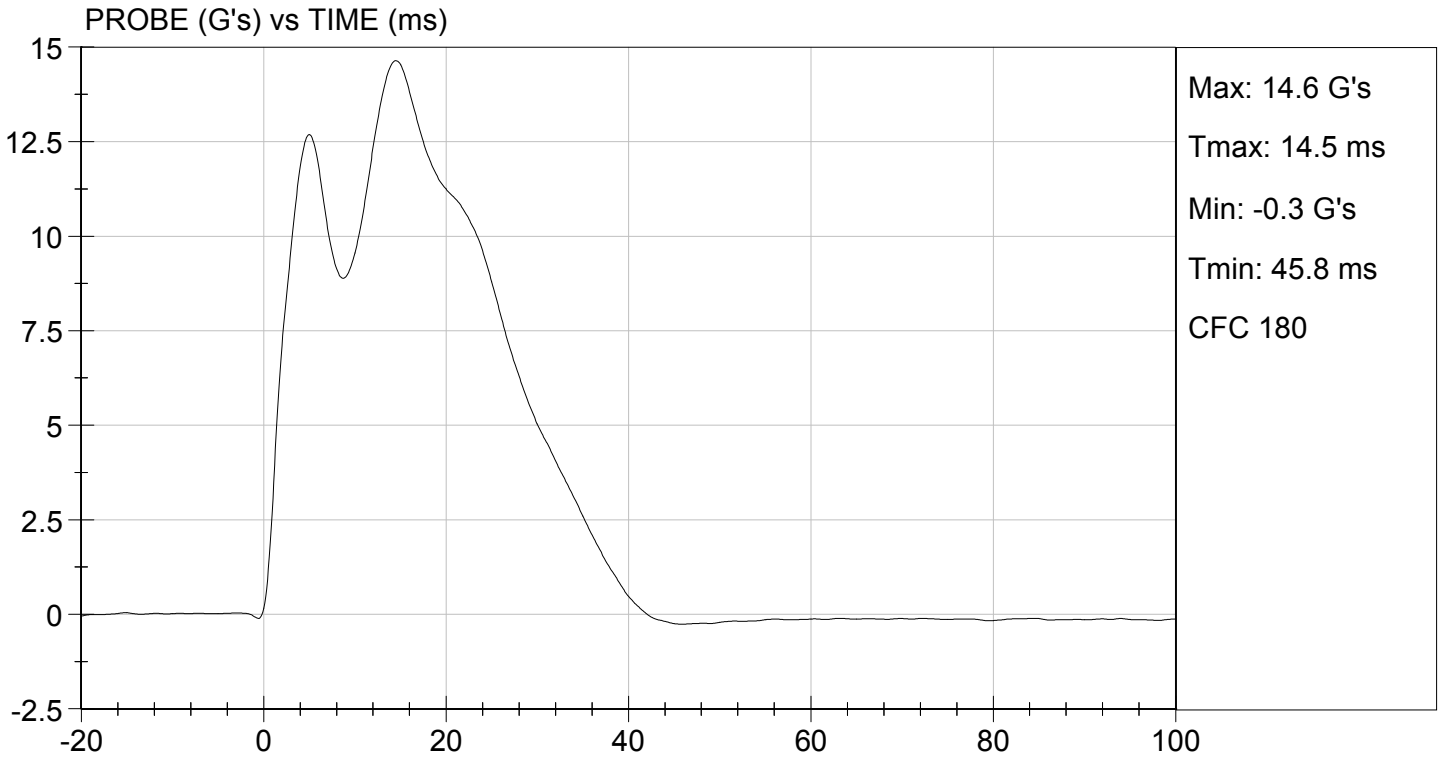
Test ID: D153333

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	36	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	30	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	19	Pass
Overall Test Results				Pass

David Schoedel  
Laboratory Technician

10/20/2015  
Test Date

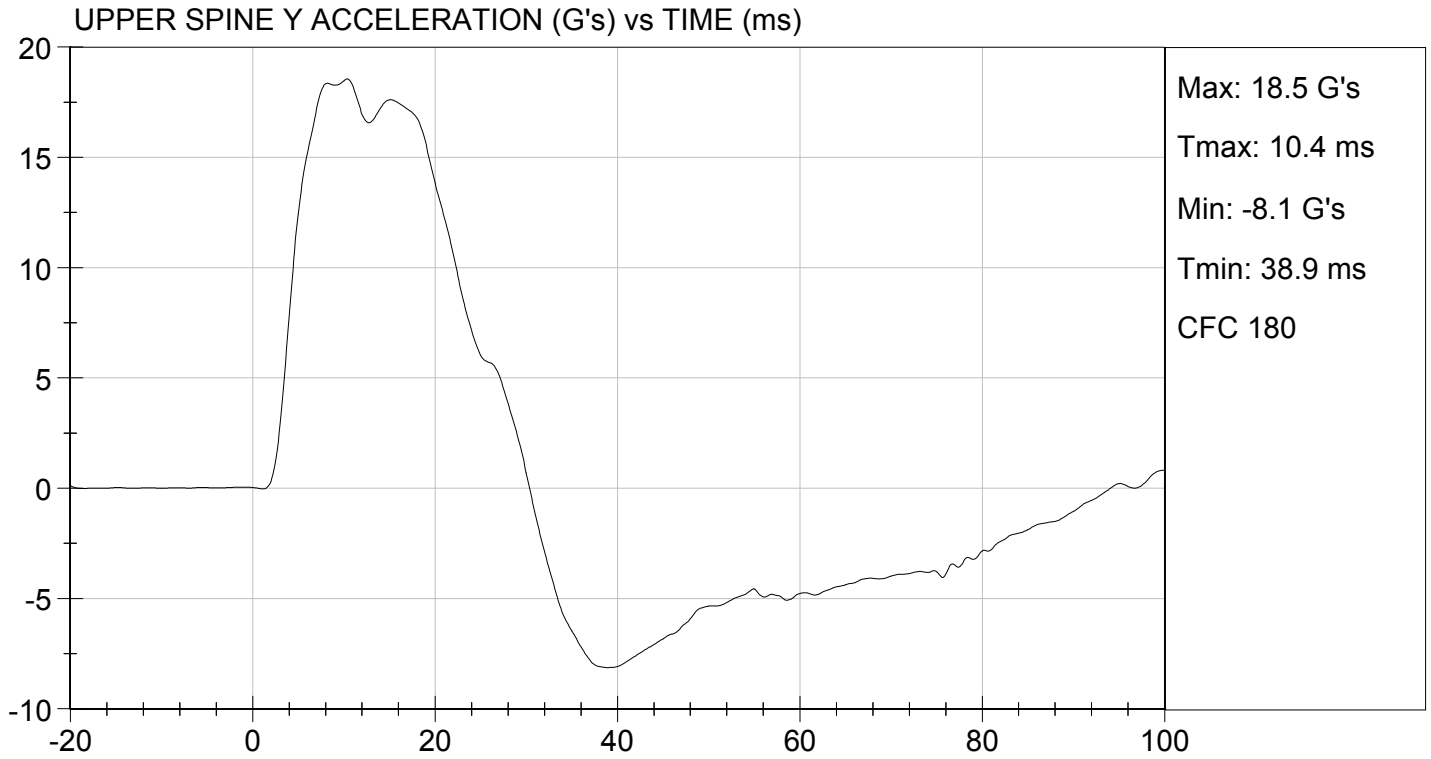
Jessica Hall  
Approved By





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

TEST DATE: 10/20/2015  
TEST #: D153333



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

**ATD Serial No:** 306

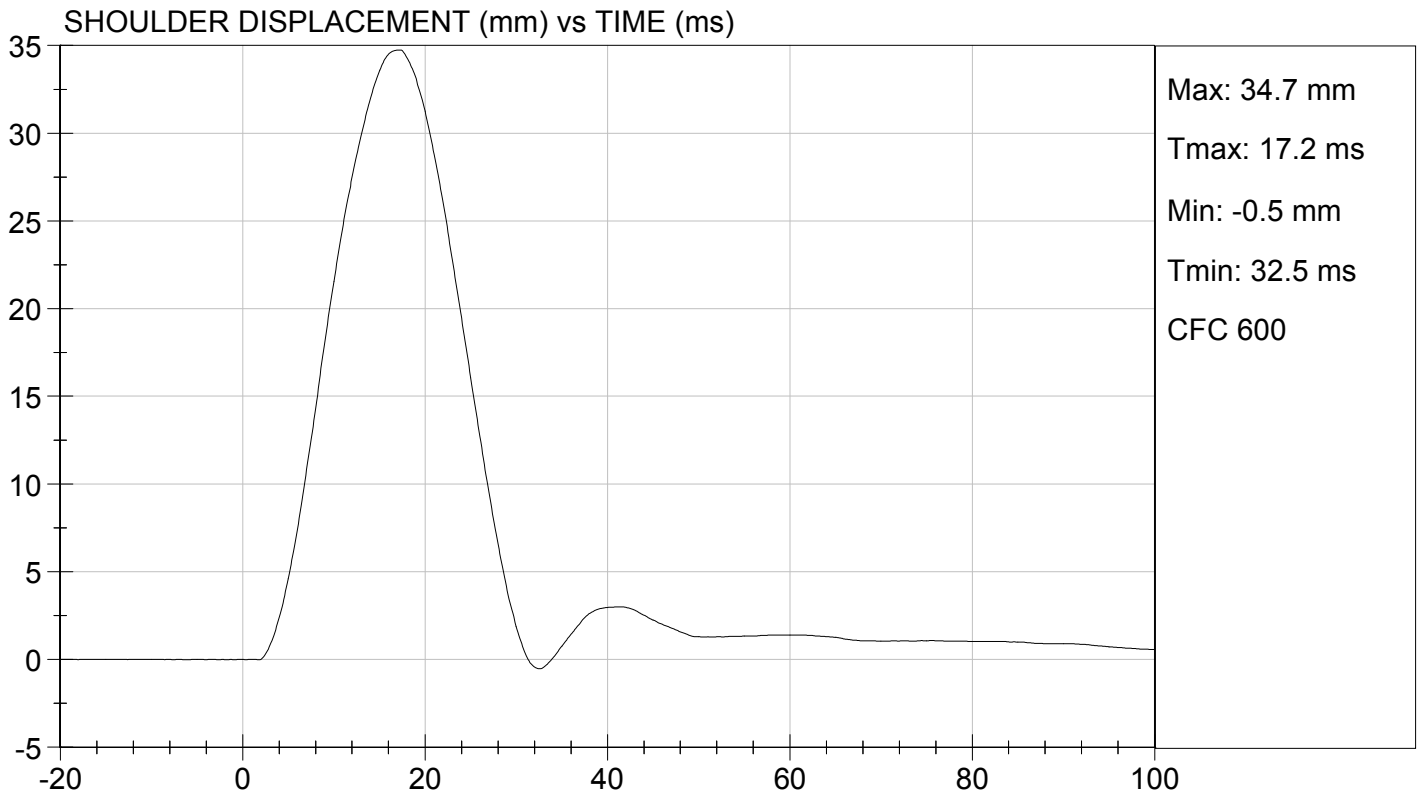
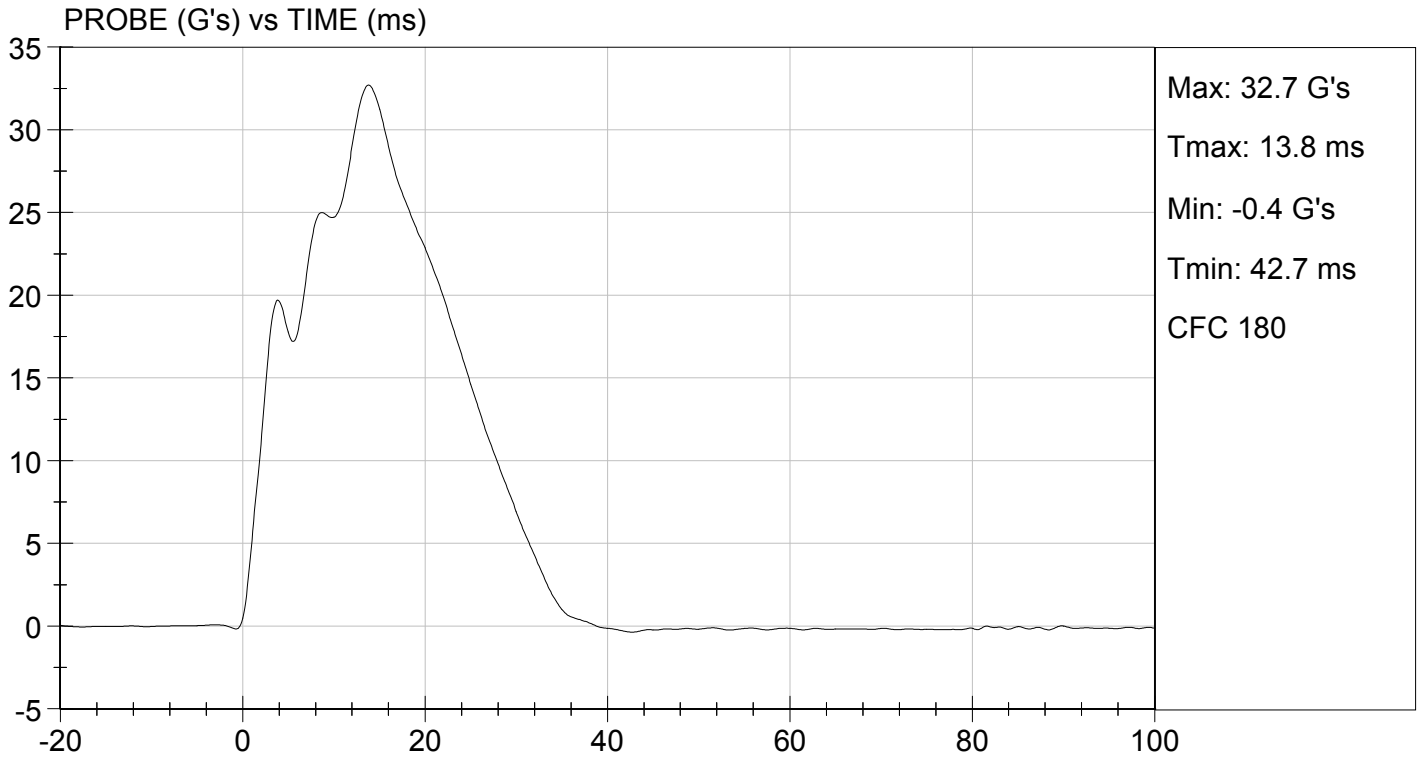
**Test I.D.:** D153334

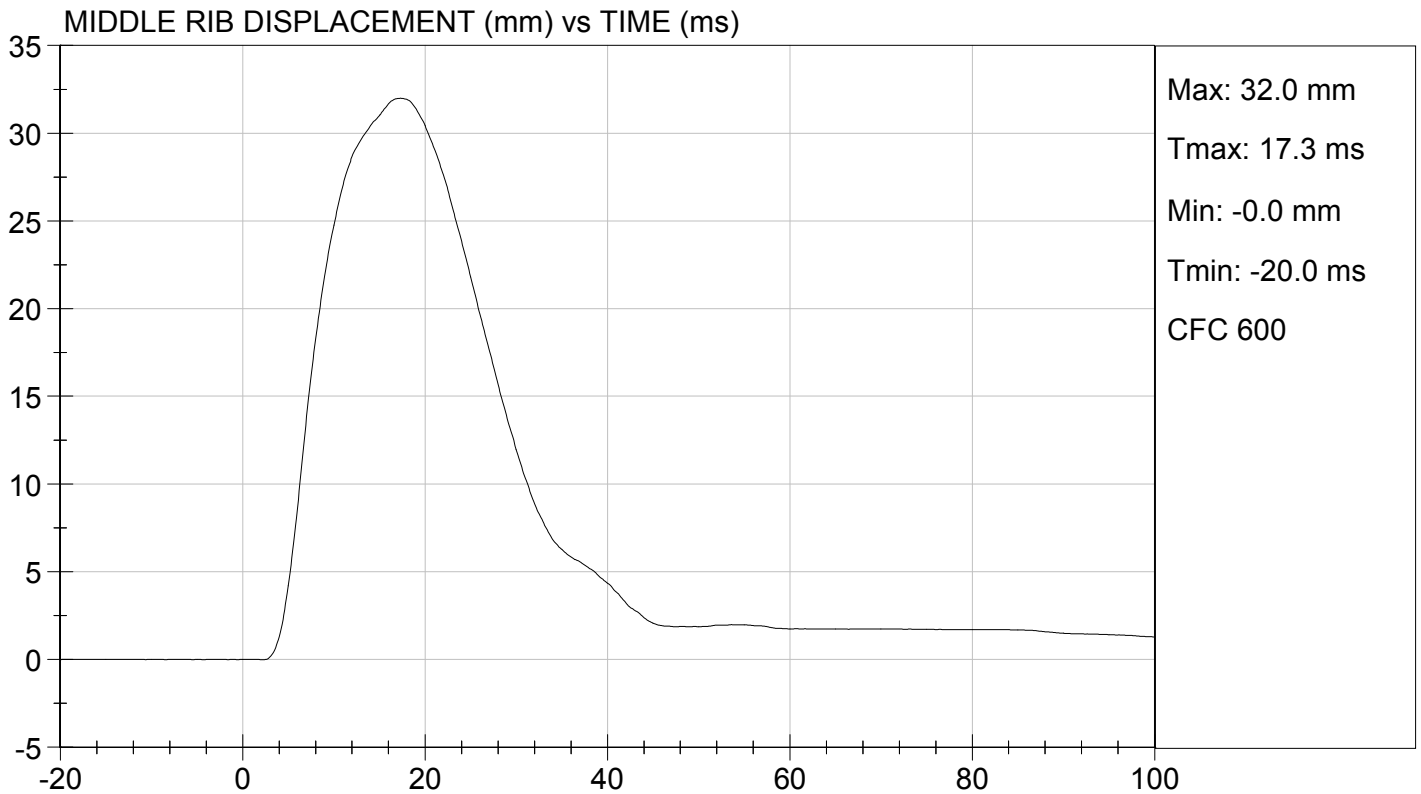
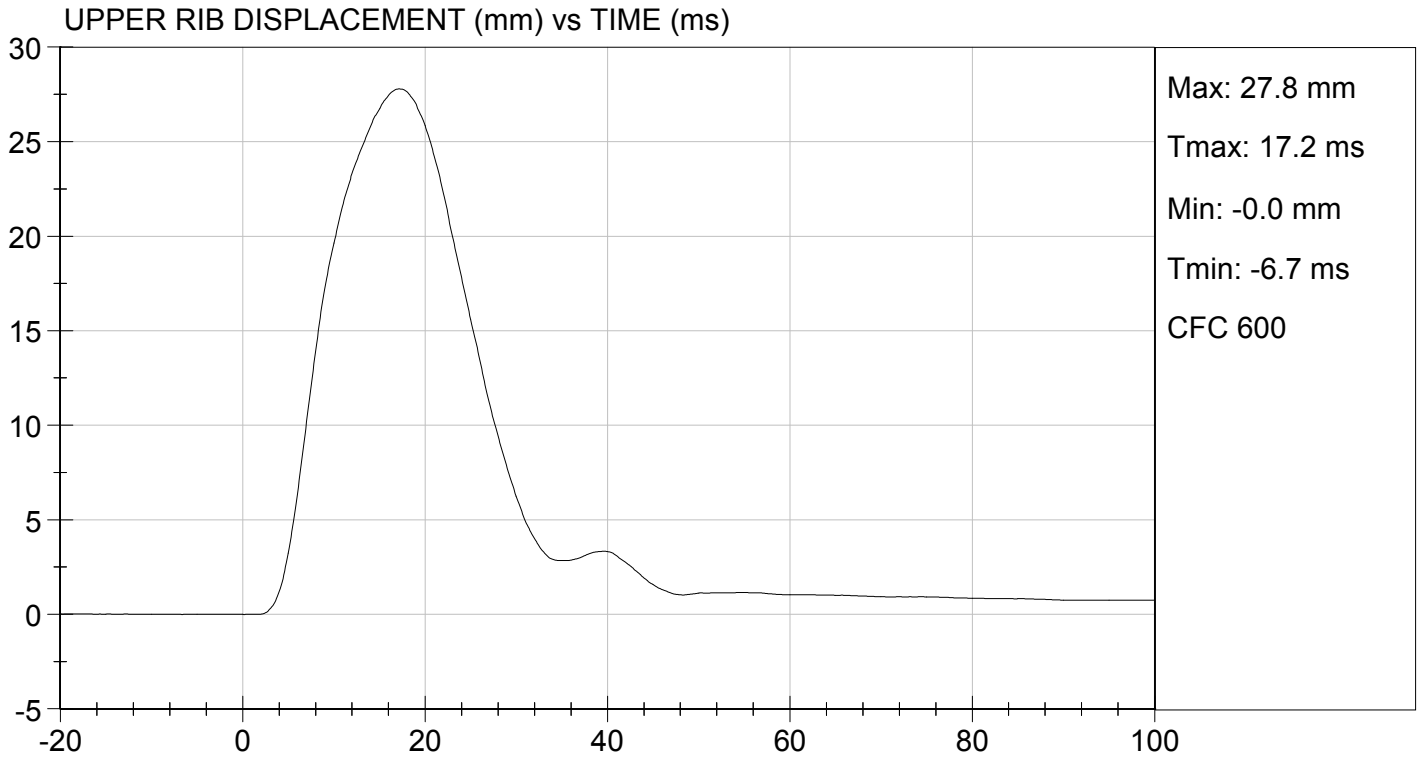
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	33	Pass
Shoulder Displacement	mm	31 to 40	35	Pass
Upper Rib Displacement	mm	25 to 32	28	Pass
Middle Rib Displacement	mm	30 to 36	32	Pass
Lower Rib Displacement	mm	32 to 38	35	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	36	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	33	Pass
Overall Test Results				Pass

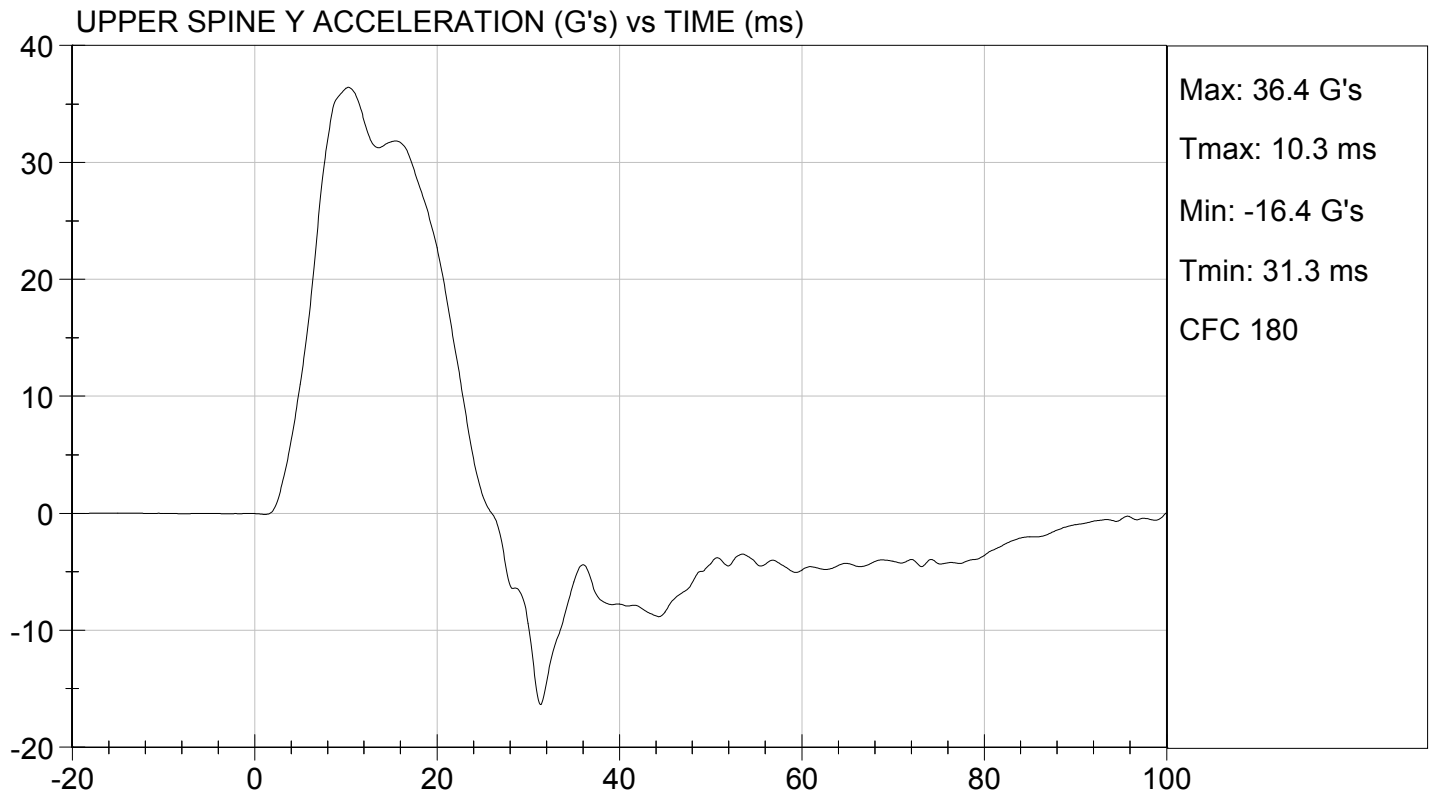
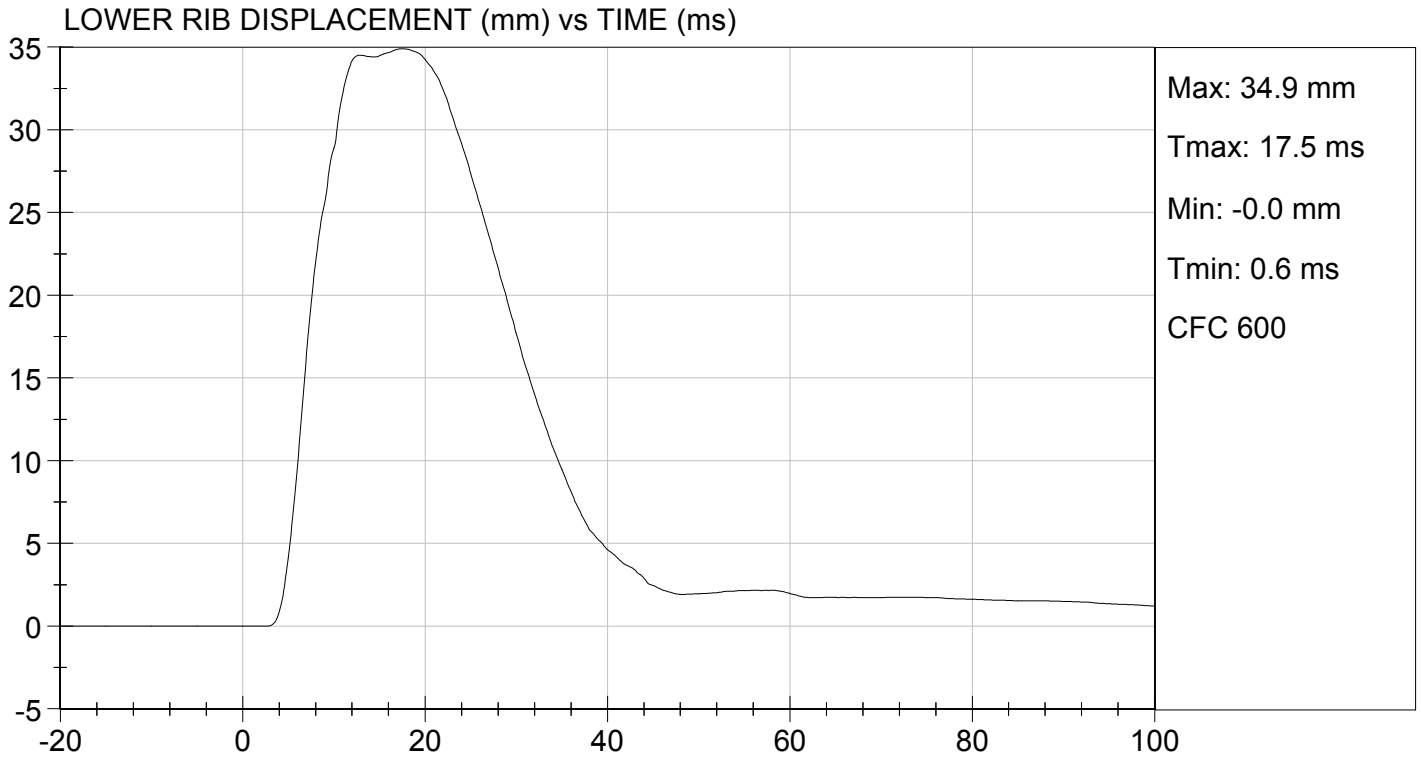
David Schoedel  
Laboratory Technician

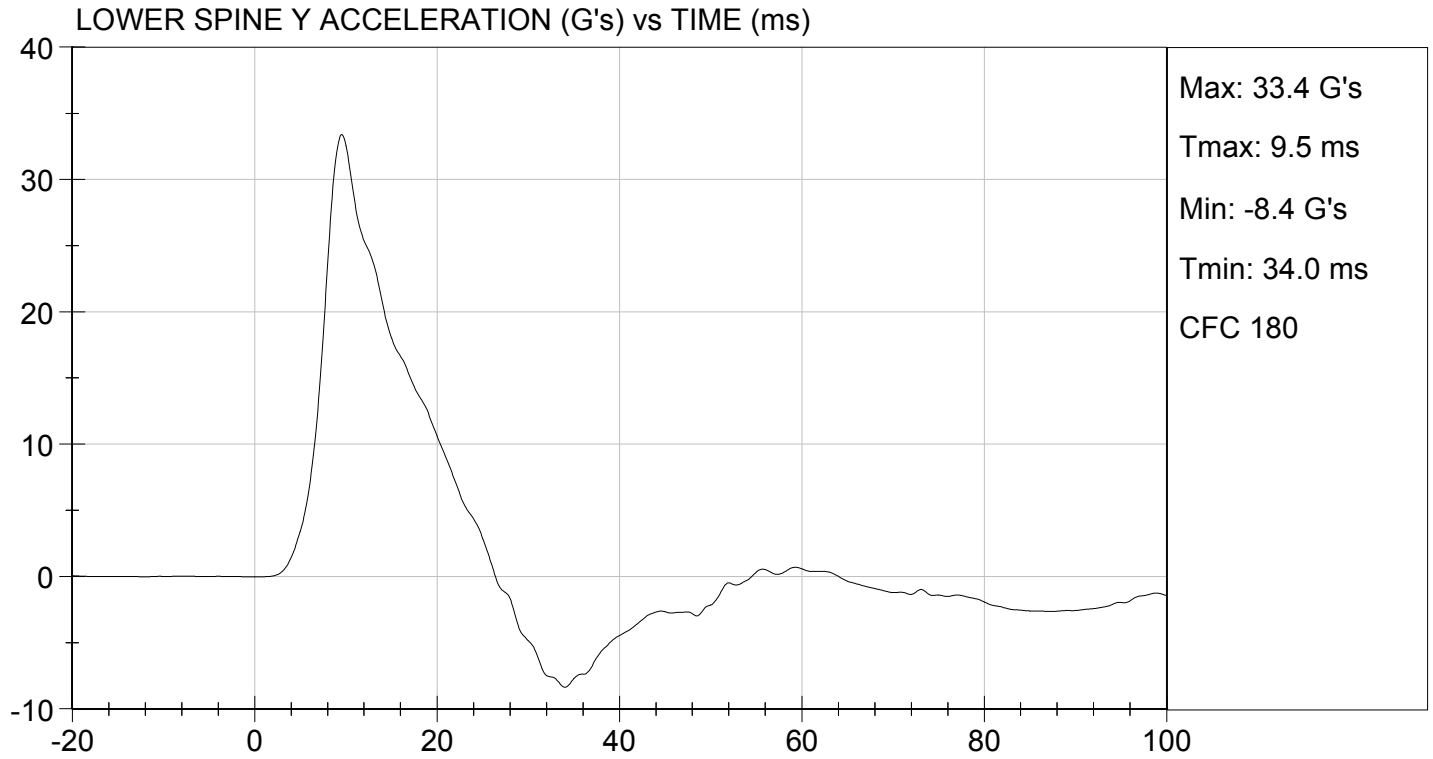
10/20/2015  
Test Date

Jessica Hall  
Approved By









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

**ATD Serial No:** 306

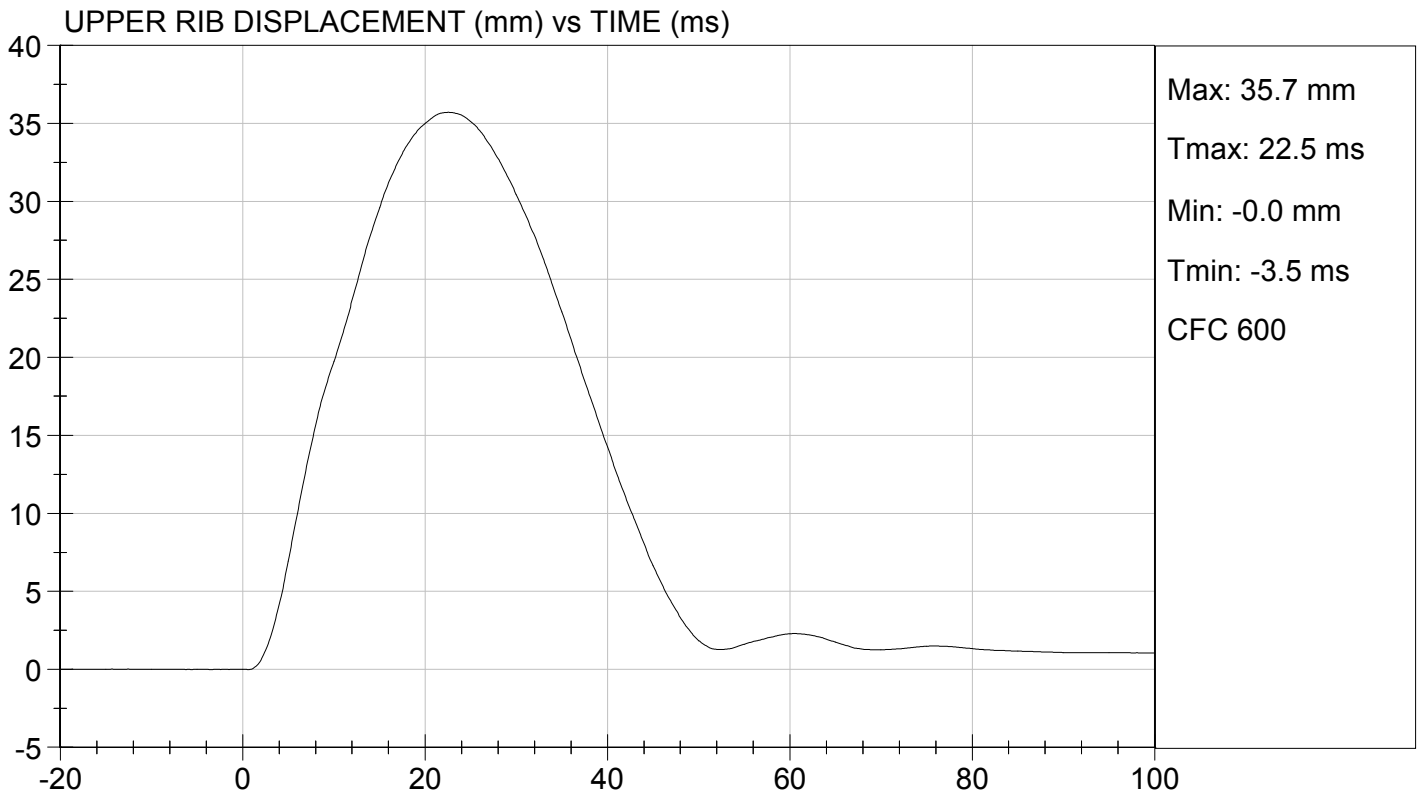
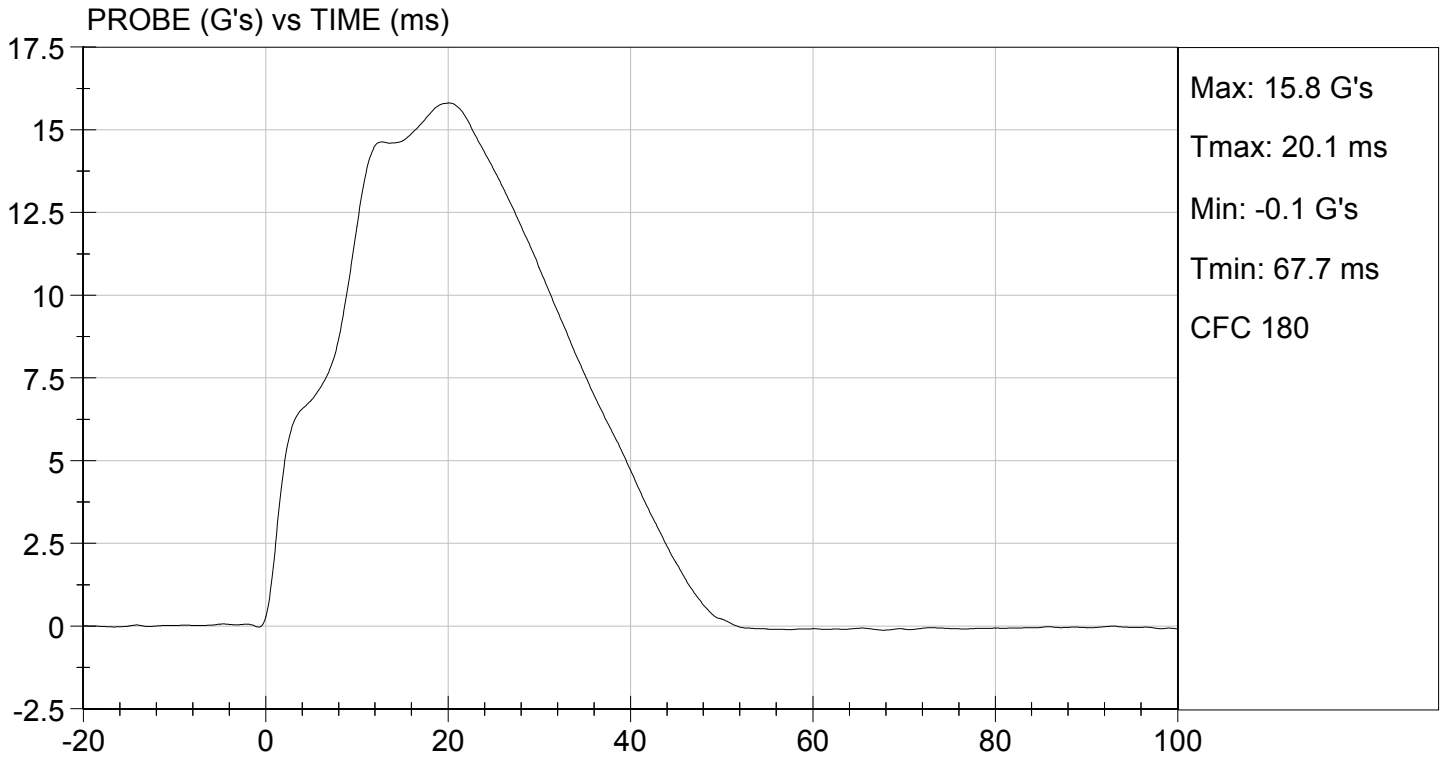
**Test I.D:** D153335

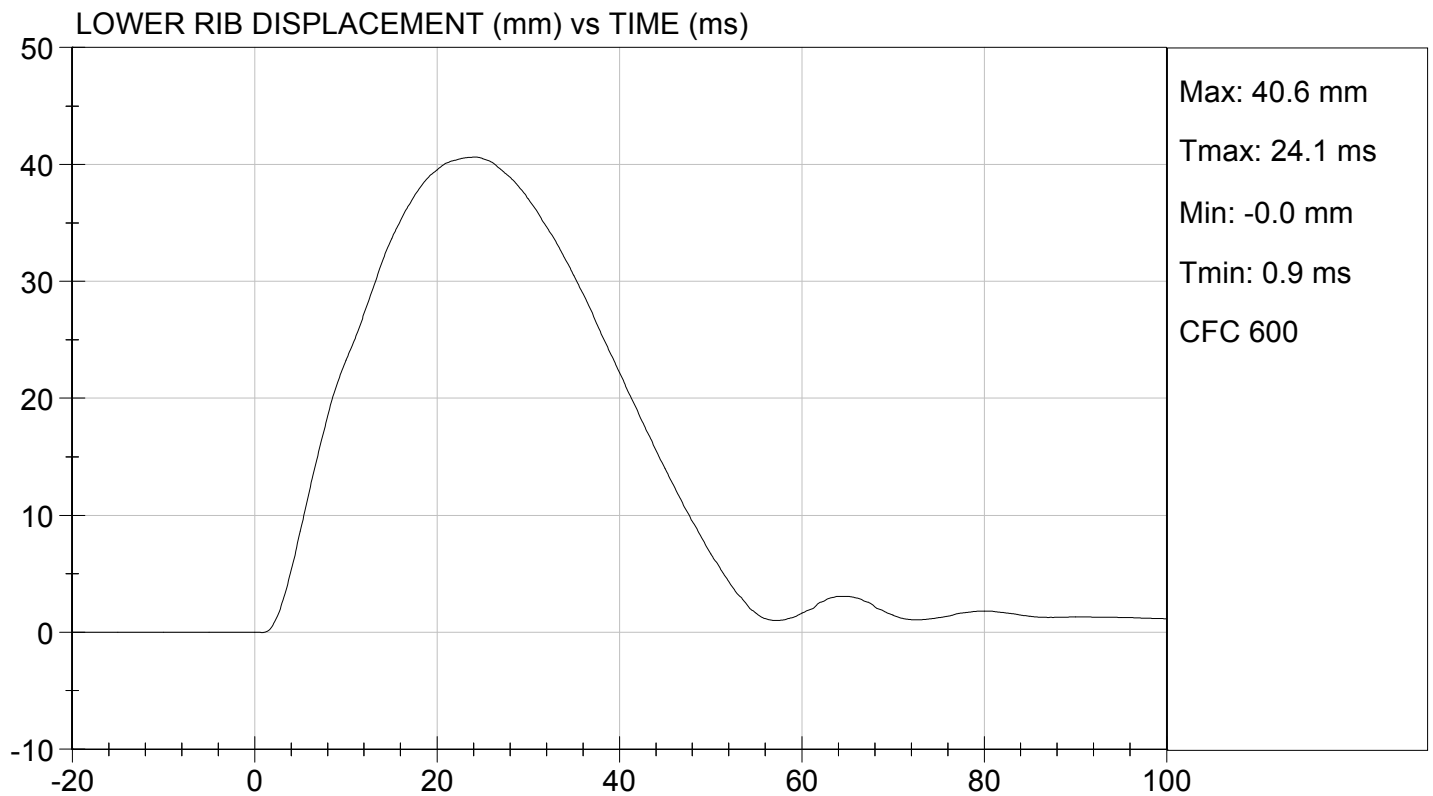
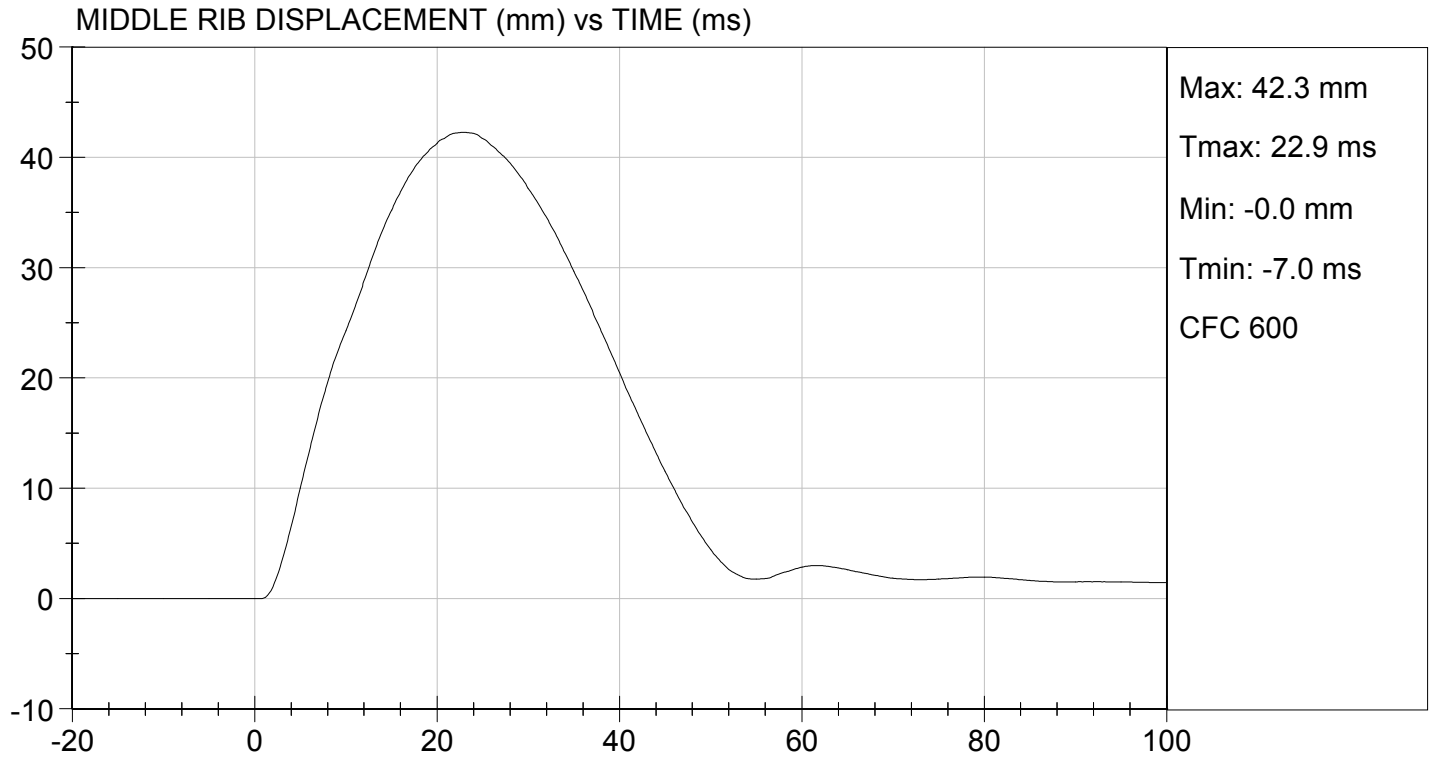
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	14 to 18	16	Pass
Upper Rib Displacement	mm	32 to 40	36	Pass
Middle Rib Displacement	mm	39 to 45	42	Pass
Lower Rib Displacement	mm	35 to 43	41	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	10	Pass
<b>Overall Test Results</b>				<b>Pass</b>

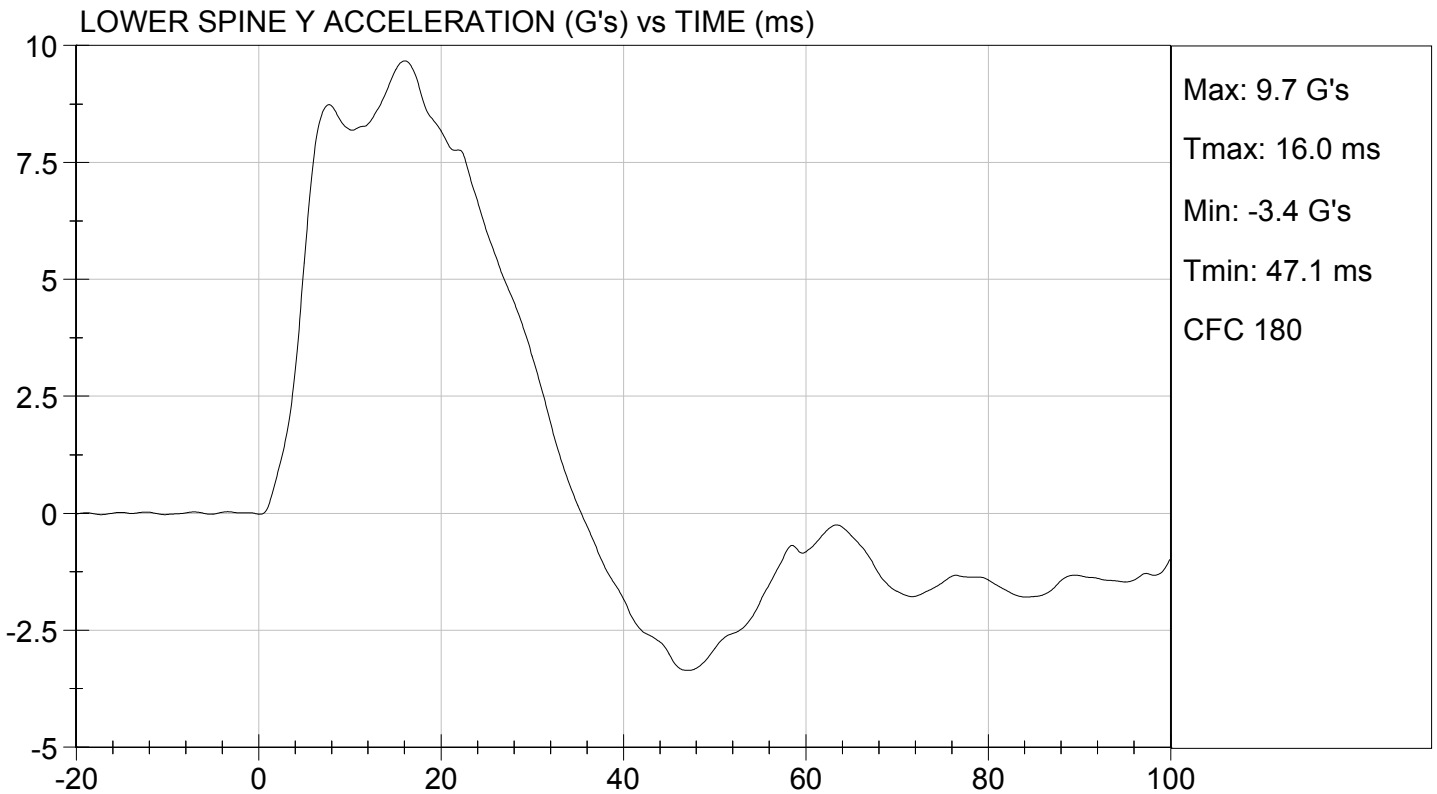
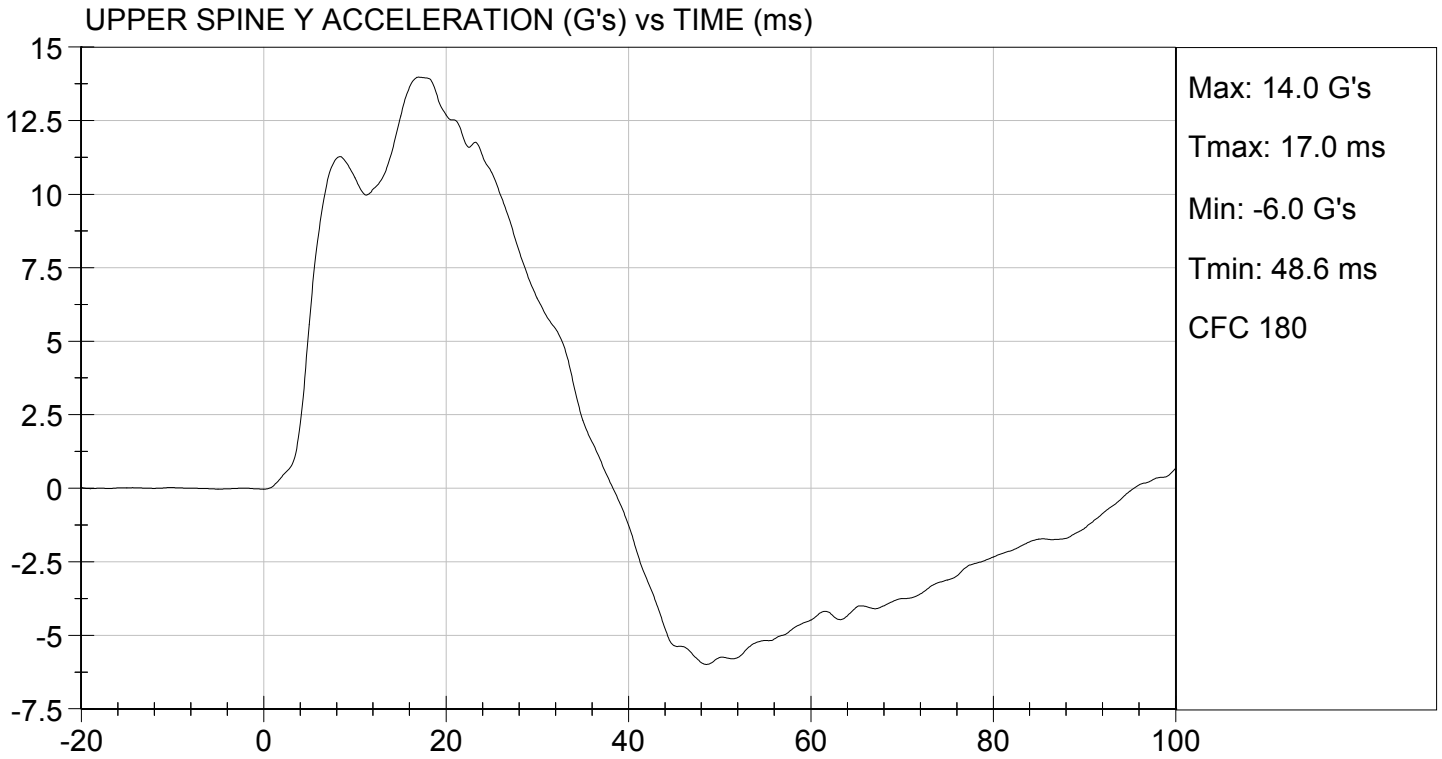
*David Schoedel*  
 \_\_\_\_\_  
 Laboratory Technician

10/20/2015  
 \_\_\_\_\_  
 Test Date

*Jessica Hall*  
 \_\_\_\_\_  
 Approved By







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

ATD Serial No: 306

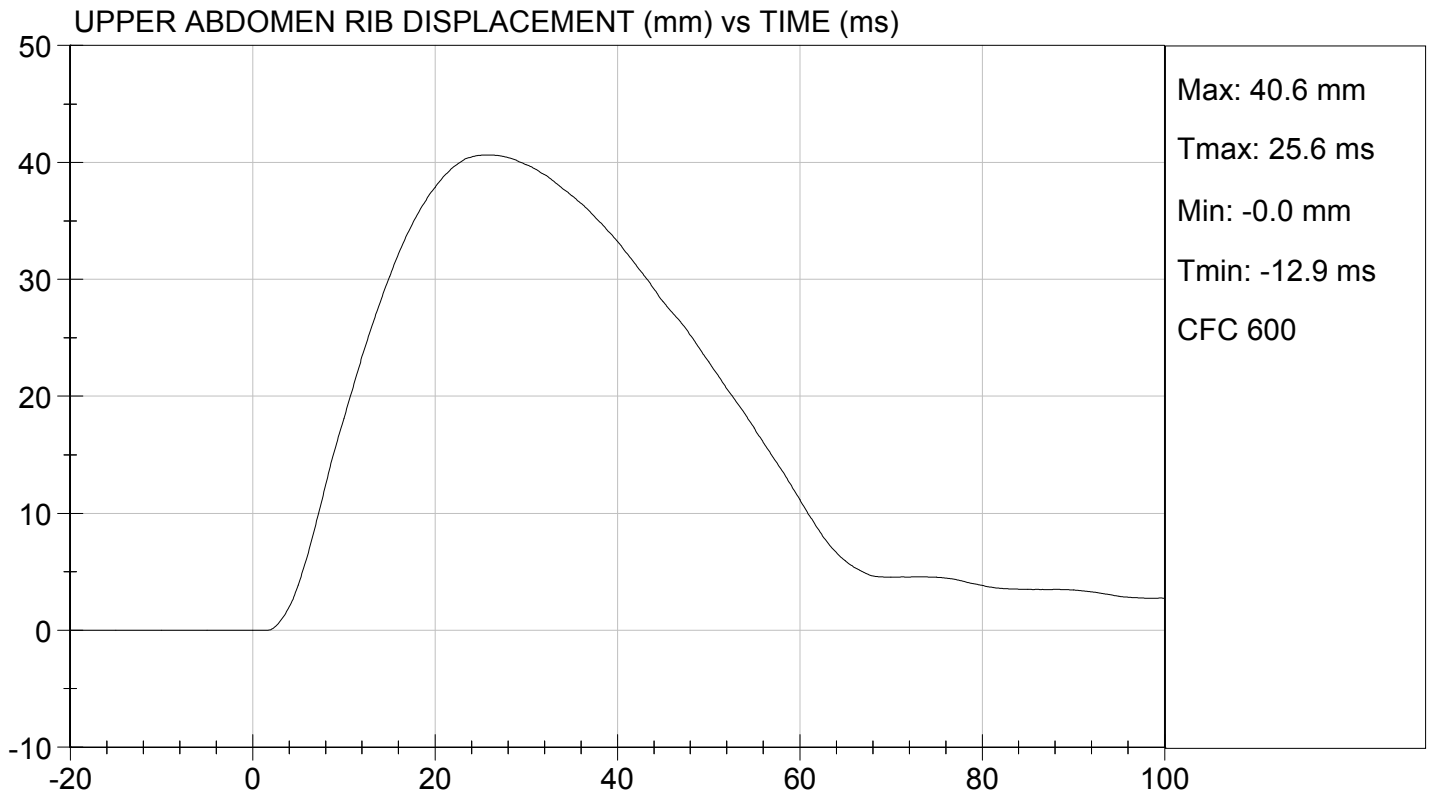
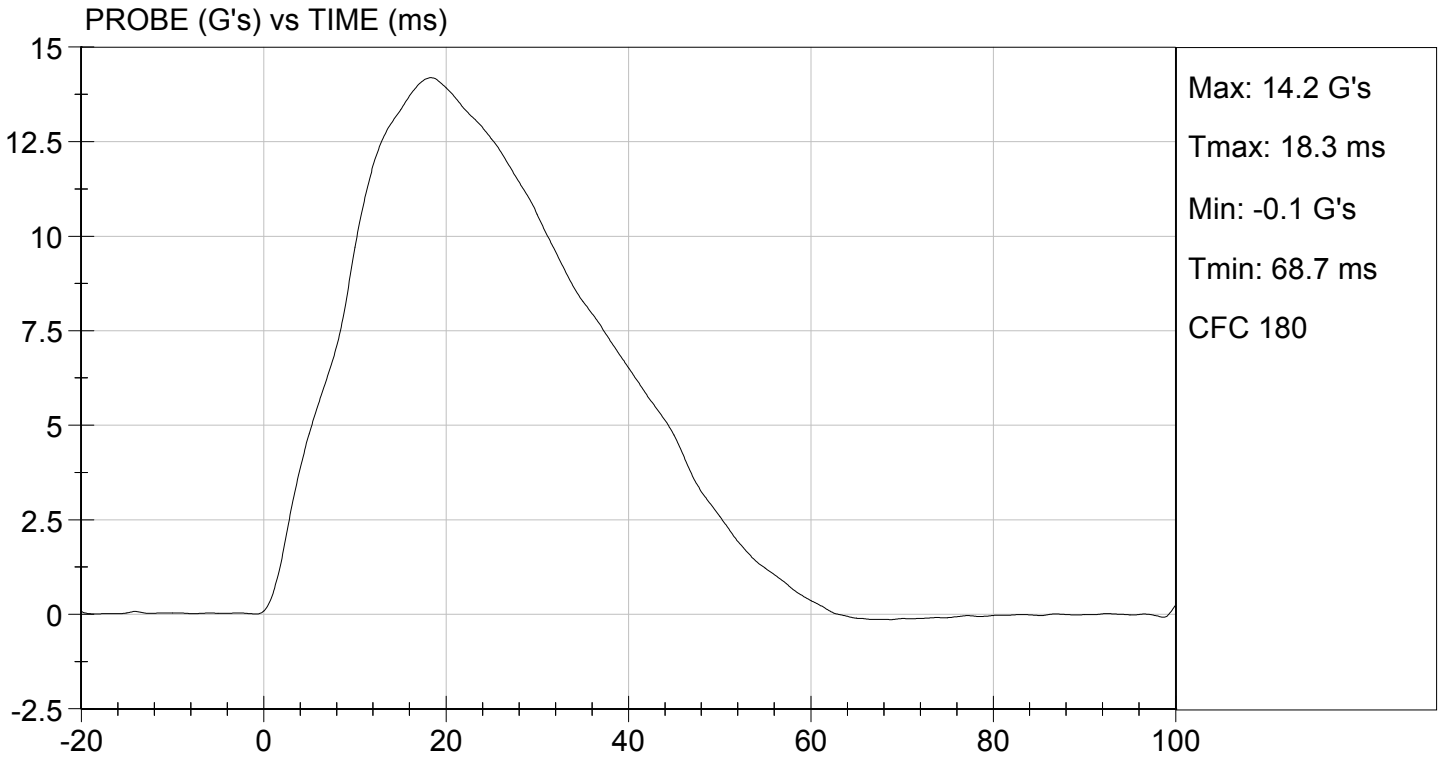
Test I.D: D153336

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	41	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	41	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass

*David Schoedel*  
 \_\_\_\_\_  
 Laboratory Technician

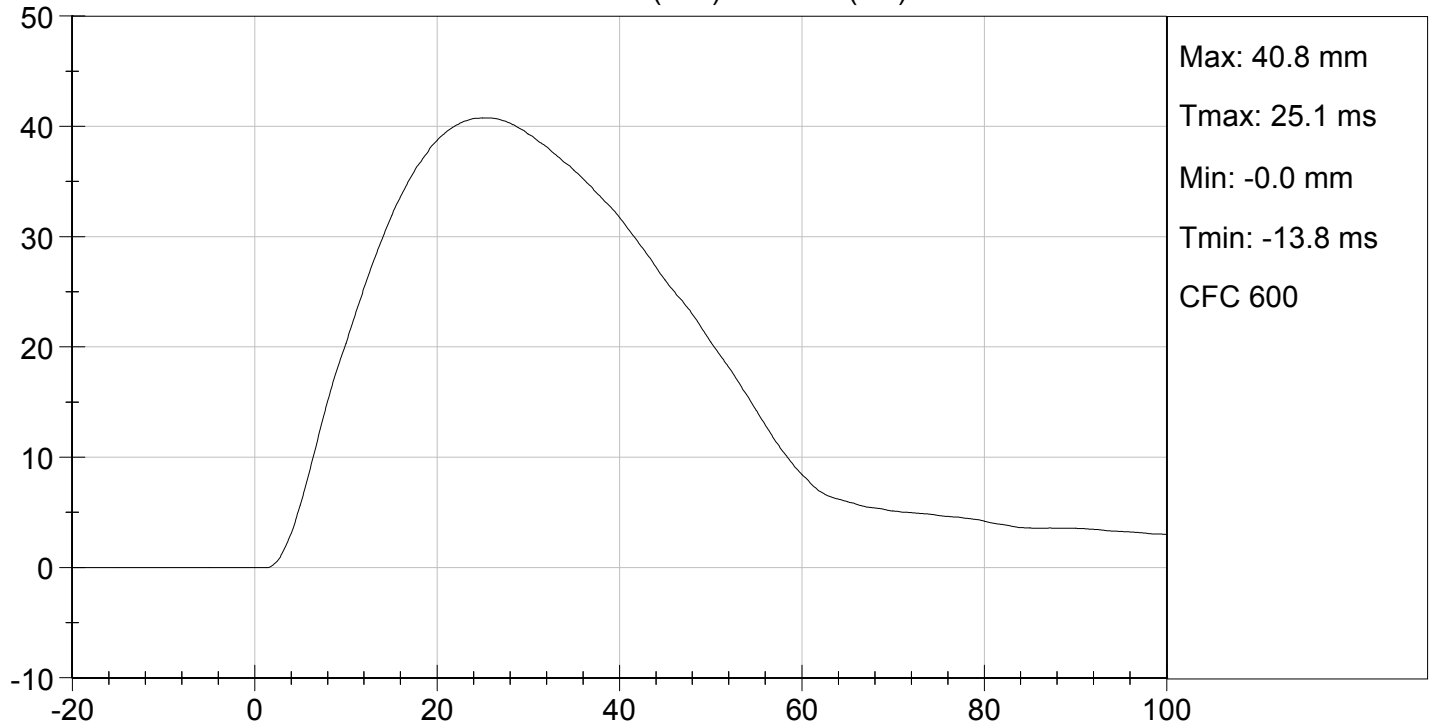
10/20/2015  
 \_\_\_\_\_  
 Test Date

*Jessica Hall*  
 \_\_\_\_\_  
 Approved By

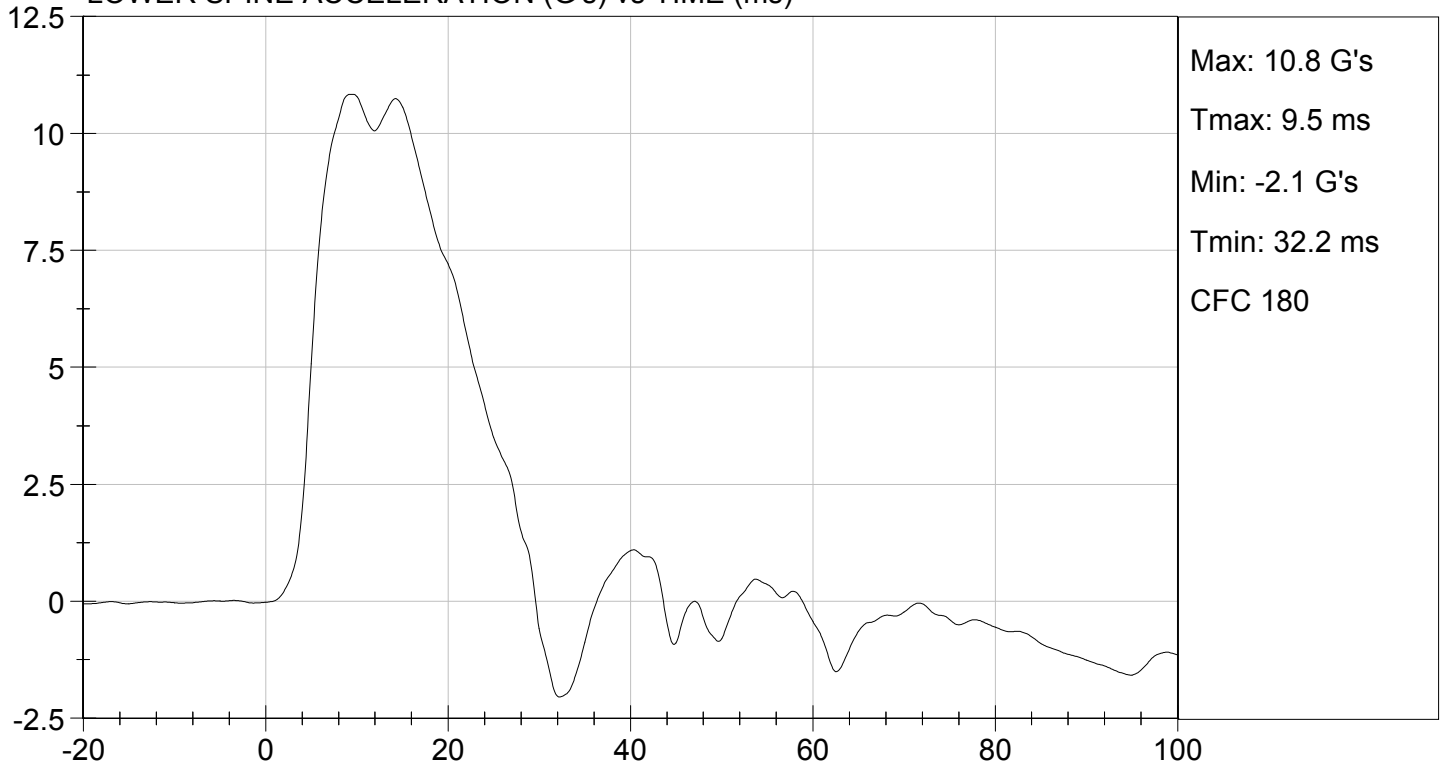




LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



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



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

**ATD Serial No:** 306

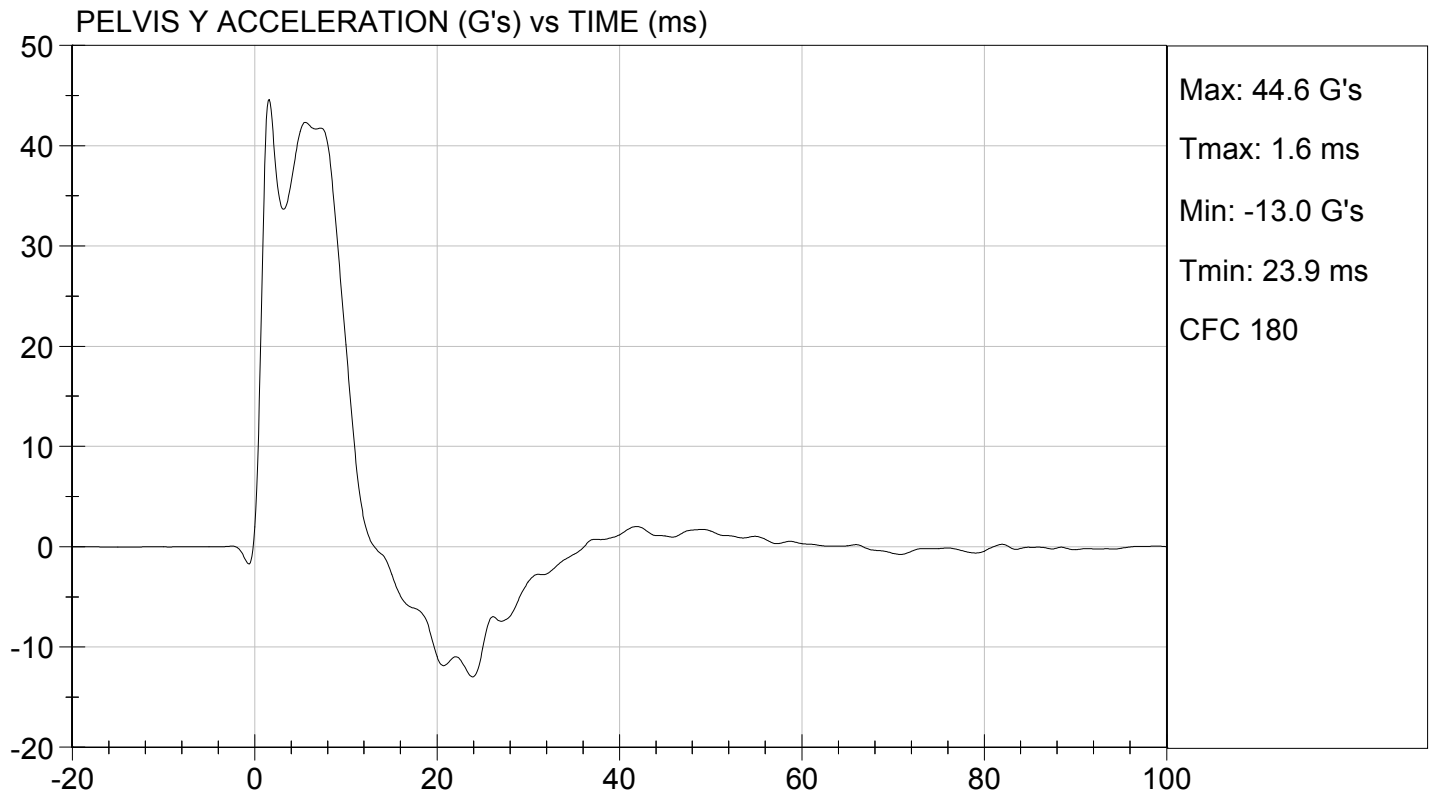
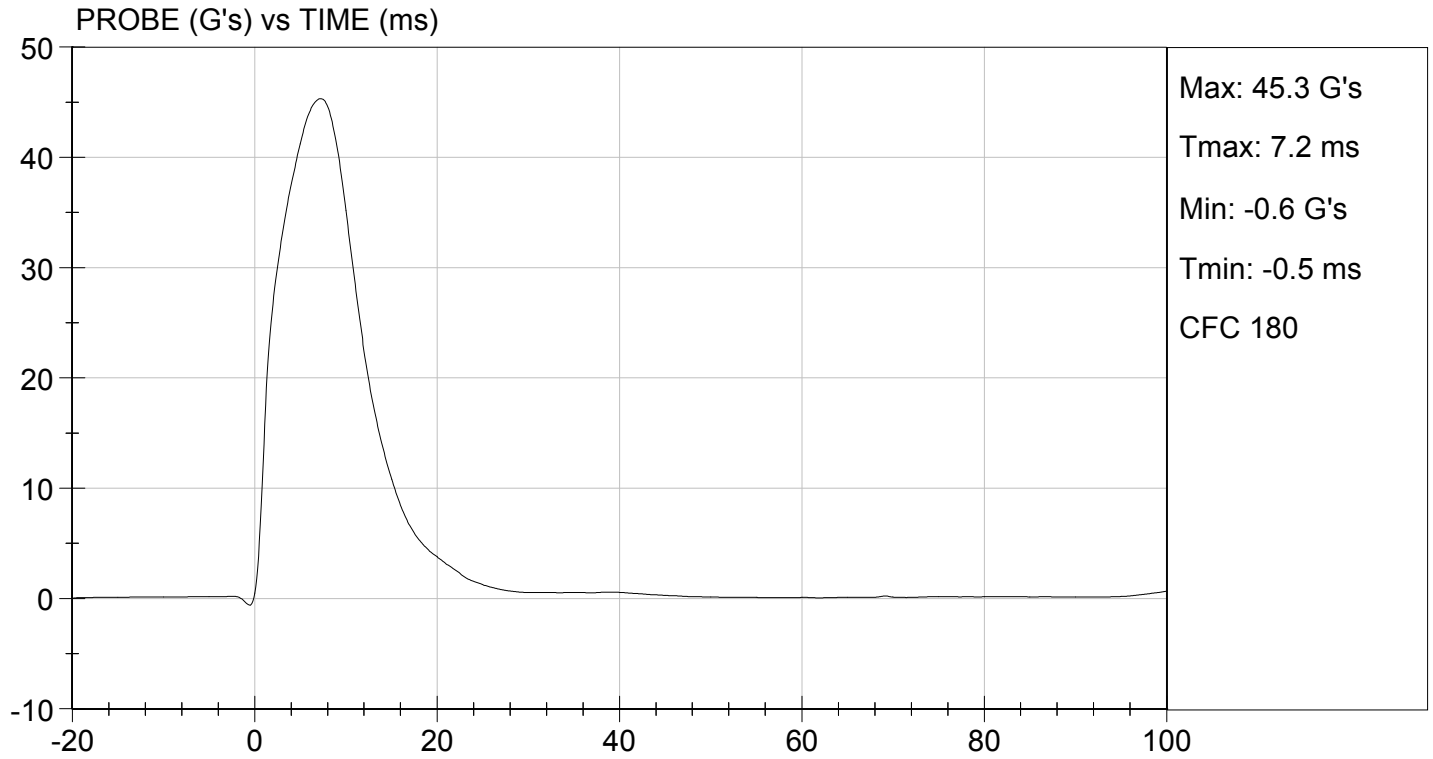
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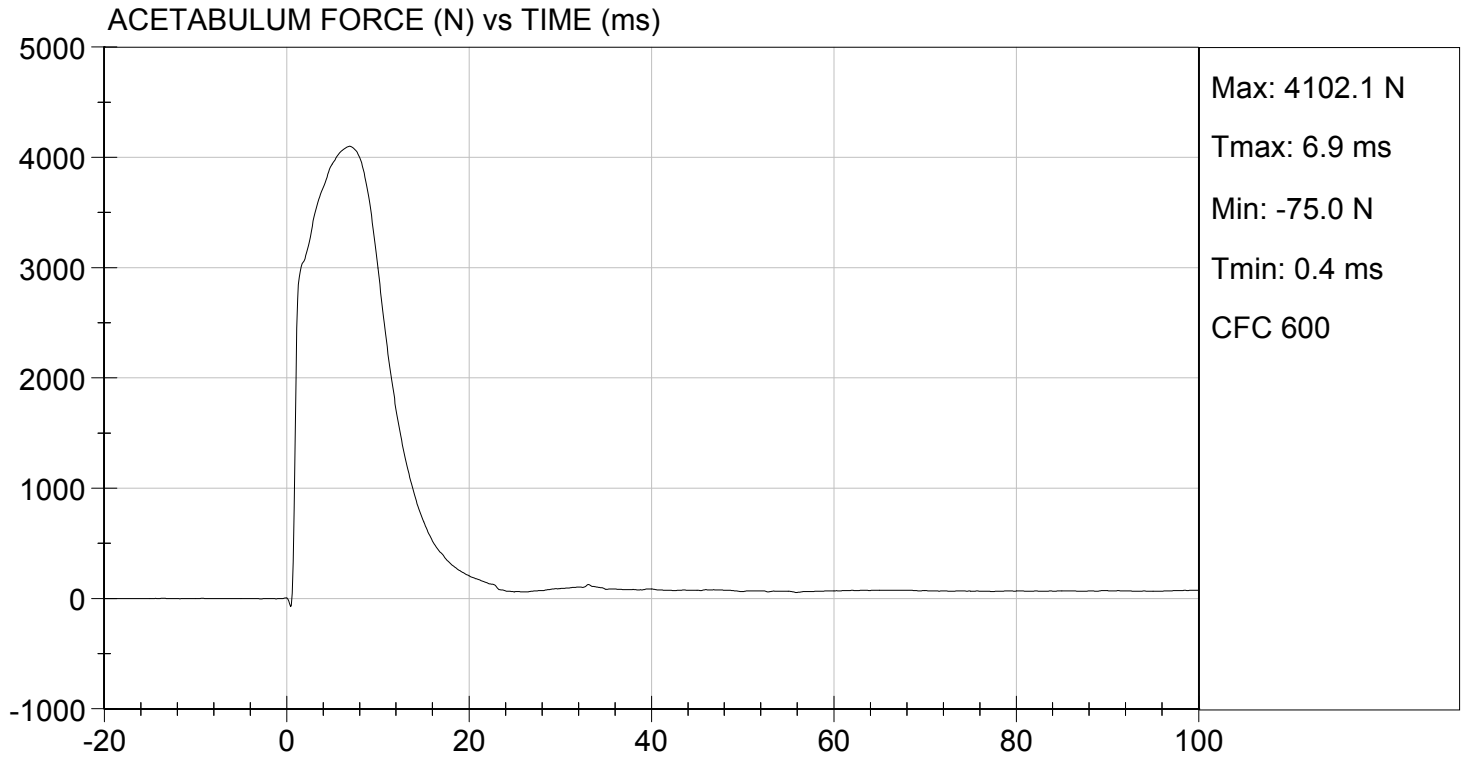
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	36	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	45	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	42	Pass
Peak Acetabulum Force	N	3600 to 4300	4,102	Pass
<b>Overall Test Results</b>				<b>Pass</b>

*David Schoedel*  
 \_\_\_\_\_  
 Laboratory Technician

10/20/2015  
 \_\_\_\_\_  
 Test Date

*Jessica Hall*  
 \_\_\_\_\_  
 Approved By





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

**ATD Serial No:** 306

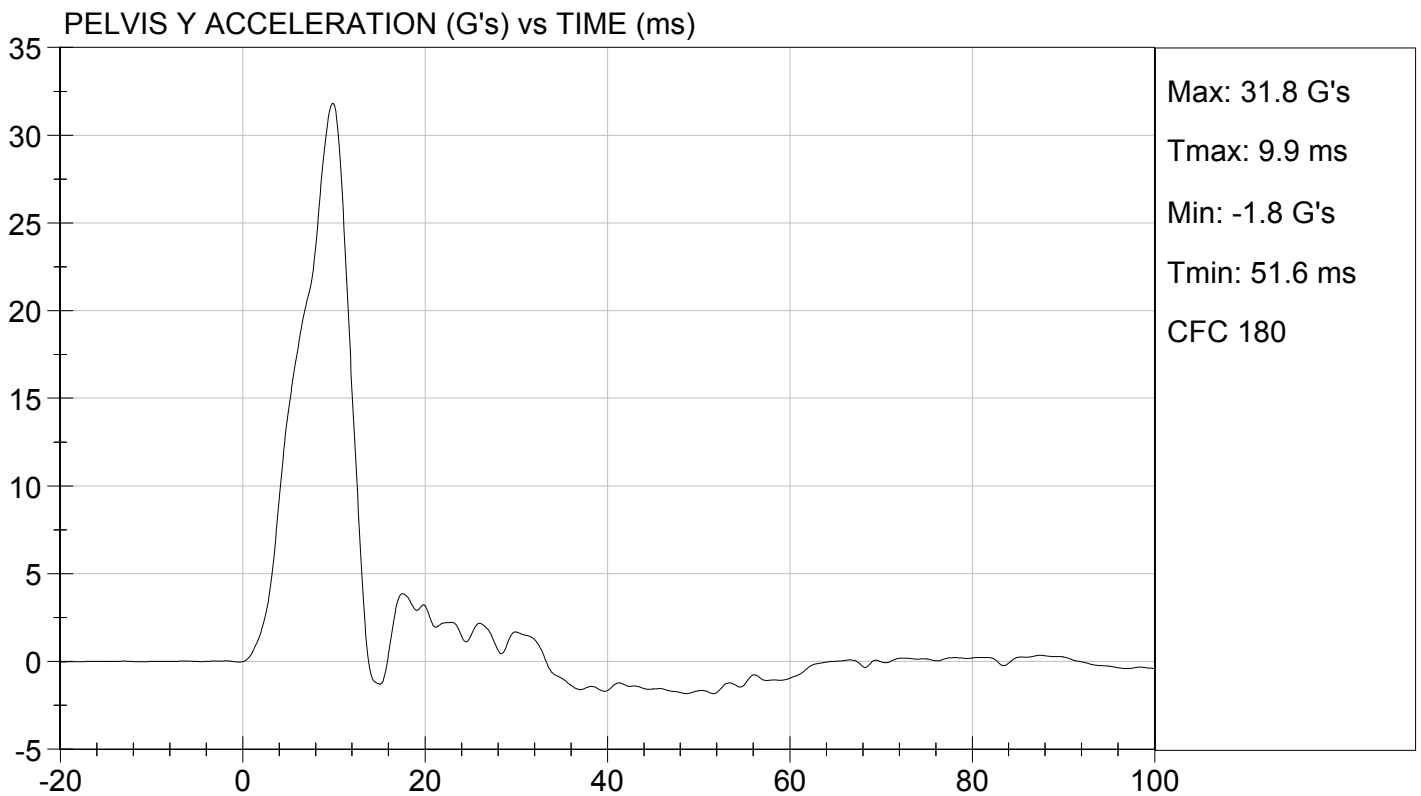
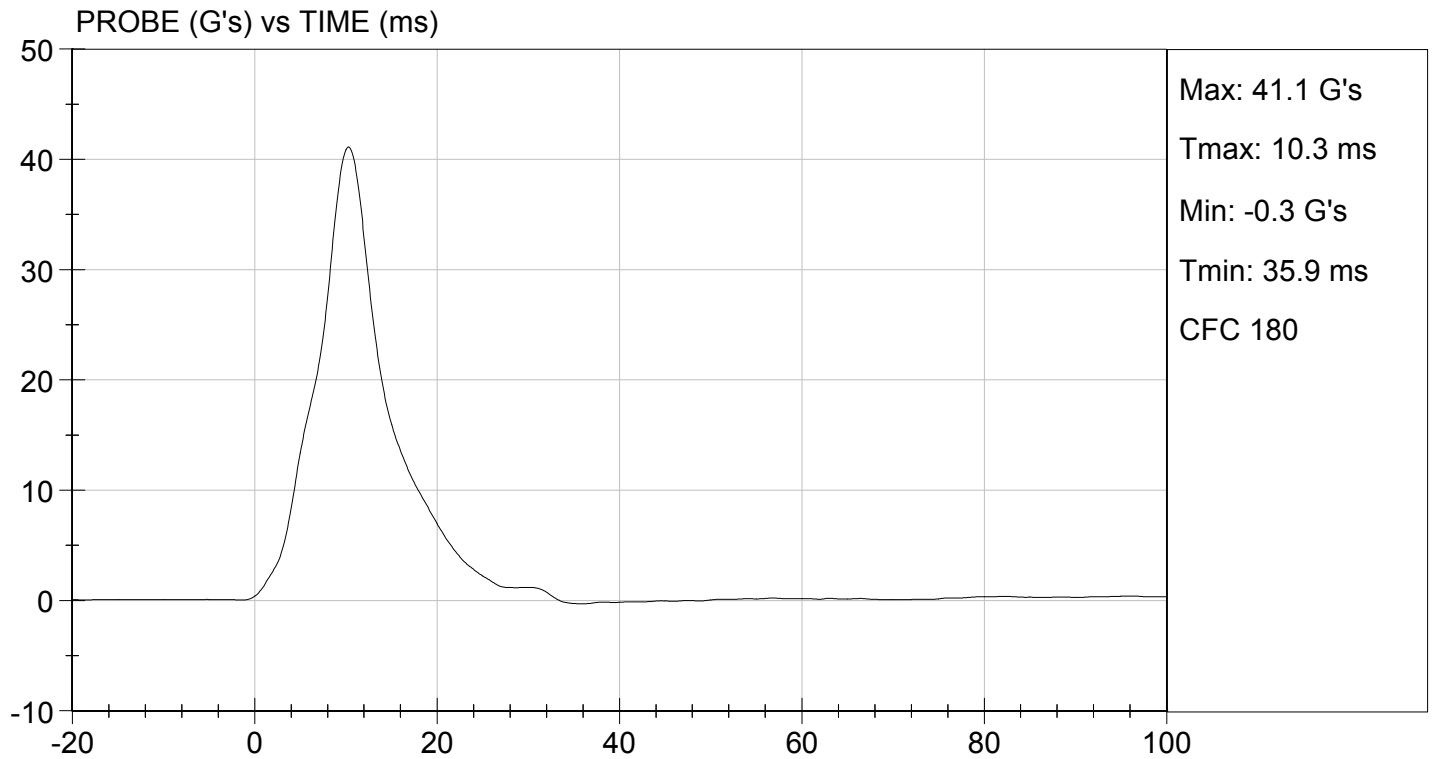
**Test I.D:** D153338

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.9	Pass
Humidity	%	10 to 70	36	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	32	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,680	Pass
<b>Overall Test Results</b>				<b>Pass</b>

*David Schoedel*  
 \_\_\_\_\_  
 Laboratory Technician

10/20/2015  
 \_\_\_\_\_  
 Test Date

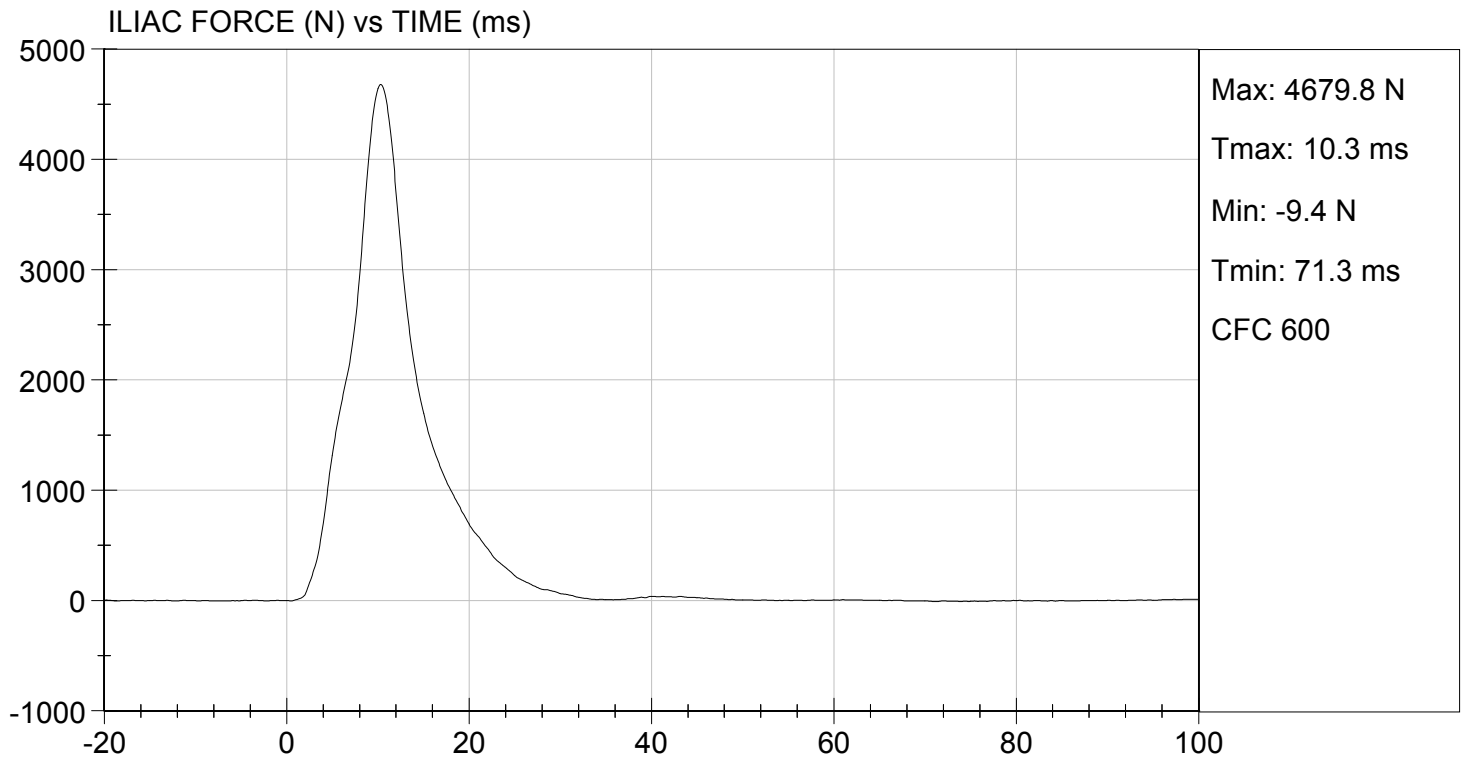
*Jessica Hall*  
 \_\_\_\_\_  
 Approved By



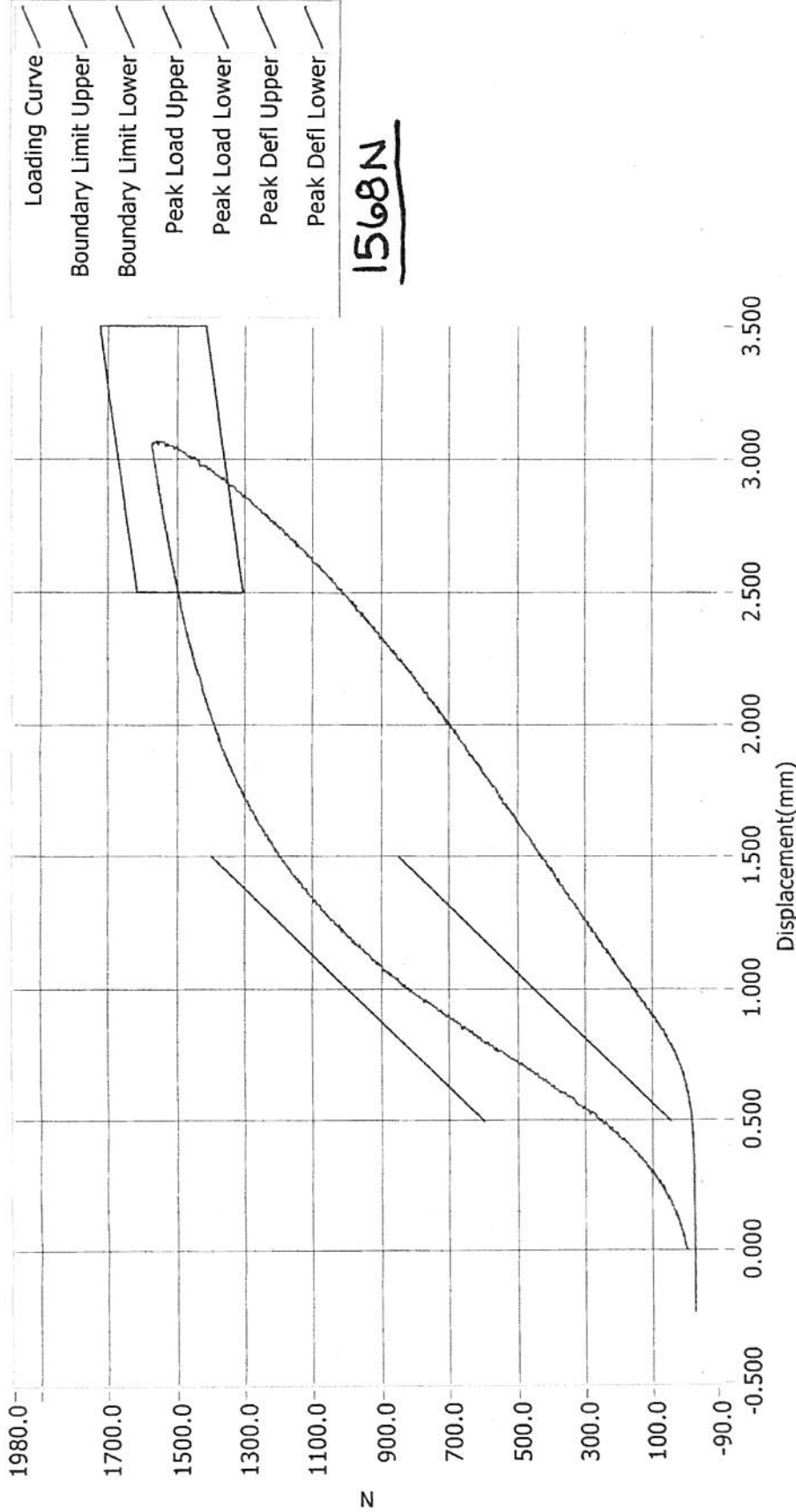


TEST DESC: ILLIAC  
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 10/20/2015  
TEST #: D153338



# Resultant Data - SIDIIs Plug Compression

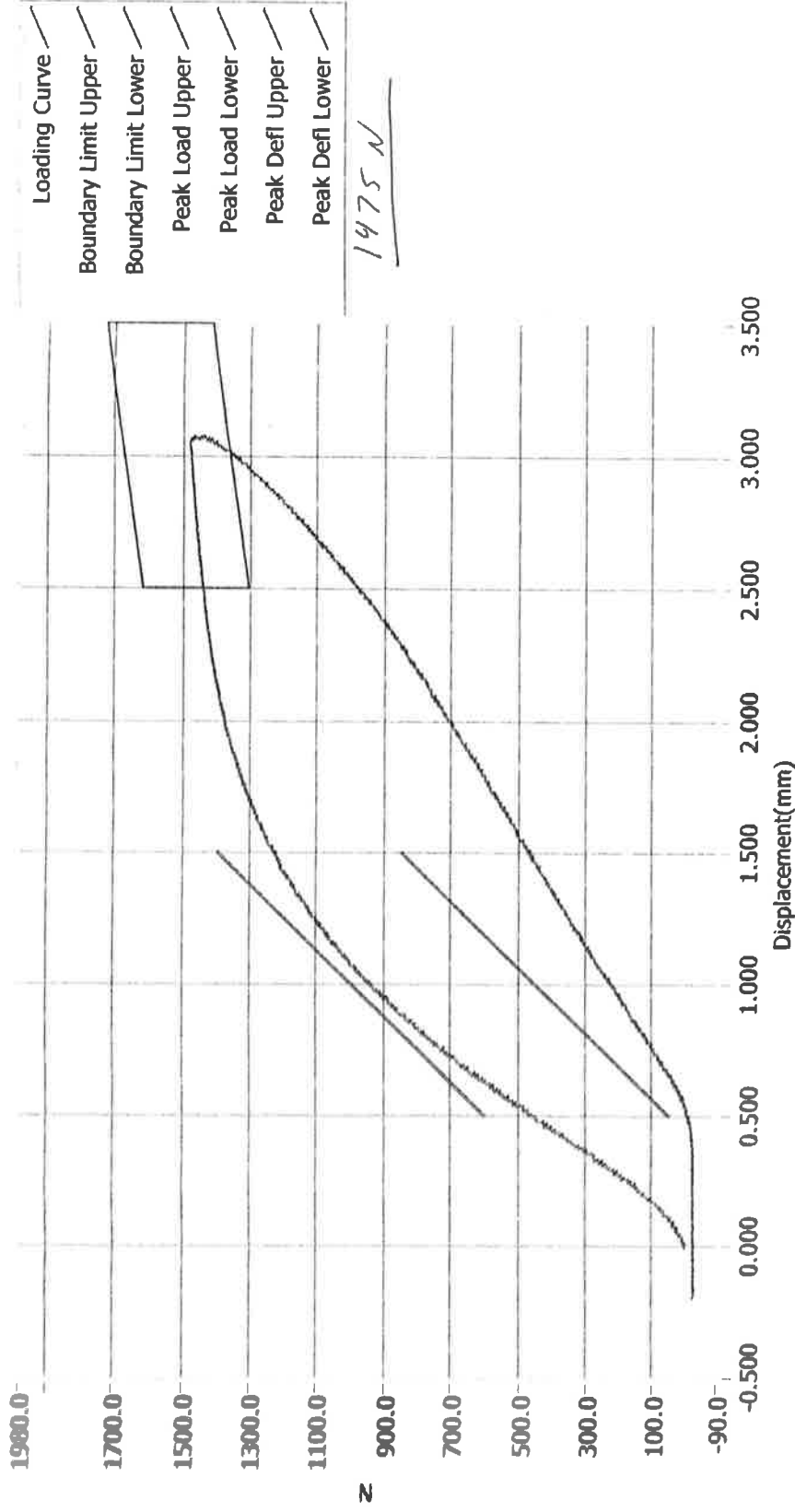


ATD Calibration Lab

<u>Test ID</u>	<u>Part Serial Number</u>	<u>Test Date</u>	<u>Test Time</u>
	63299	1/24/2013	8:49 PM
<u>Cert ID</u>	<u>ATD Serial Number</u>	<u>ATD Type</u>	
	N/A	SIDIIs	

Current Date : 1/24/2013      Current Time : 20:50:27

# Resultant Data - SIDIIs Plug Compression



## ATD Calibration Lab

Test ID	Part Serial Number	Test Date	Test Time
	71157	12/18/2013	10:16 PM
Cert ID	ATD Serial Number	ATD Type	
	N/A	SIDIIs	

Current Date : 12/18/2013

Current Time : 22:17:04

**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	04/22/15
			Y	P79685	Endevco	04/22/15
			Z	P79686	Endevco	04/22/15
			Xr	P79745	Endevco	04/22/15
			Yr	P79746	Endevco	04/22/15
			Zr	P79747	Endevco	04/22/15
Head Angular Rate Sensors			X	ARS7416	DTS	07/15/14
			Y	ARS7442	DTS	07/15/14
			Z	ARS7475	DTS	07/08/14
Displacement Potentiometers	Thoracic Rib	Upper	Y	G033	FTSS	04/15/15
		Middle	Y	G1261	FTSS	04/15/15
		Lower	Y	G1270	FTSS	04/15/15
	Abdominal Rib	Upper	Y	G032	FTSS	04/15/15
		Lower	Y	G1304	FTSS	04/15/15
Lower Spine Accelerometers (T12)			X	P79819	Endevco	04/22/15
			Y	P79821	Endevco	04/22/15
			Z	P79822	Endevco	04/22/15
Acetabulum Load Cell			Y	ACG111	FTSS	04/08/15
Iliac Wing Load Cell			Y	IWG226	FTSS	04/08/15
Pelvis Plug (struck side)				63299	FTSS	01/24/13
Pelvis Plug (non-struck side)				71157	FTSS	12/18/13

**Table 2 – Vehicle Instrumentation**

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P82599	Endevco	08/19/15
Vehicle Center of Gravity	Y	P82600	Endevco	08/13/15
Vehicle Center of Gravity	Z	P82598	Endevco	08/13/15
Left Floor Sill	Y	P90621	Endevco	10/07/15
A-Pillar Sill	Y	P90622	Endevco	10/07/15
A-Pillar Low	Y	P90616	Endevco	10/07/15
A-Pillar Mid	Y	P90617	Endevco	10/07/15
B-Pillar Sill	Y	P77623	Endevco	10/01/15
B-Pillar Low	Y	P78693	Endevco	08/12/15
B-Pillar Mid	Y	P78692	Endevco	08/12/15
Driver Seat	Y	P86961	Endevco	07/02/15
Engine Top	X	P85142	Endevco	10/01/15
Engine Top	Y	P85141	Endevco	10/01/15
Firewall	Y	P78945	Endevco	08/20/15
Right Roof	Y	P79659	Endevco	10/01/15
Right Floor Sill	Y	P78808	Endevco	05/27/15
Rear Floorpan	X	P88146	Endevco	05/27/15
Rear Floorpan	Y	P88145	Endevco	10/02/15

**Table 3 – Pole Instrumentation**

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	07/22/15
Load Cell 2	DG6278	FTSS	07/22/15
Load Cell 3	DG6279	FTSS	07/22/15
Load Cell 4	DG6280	FTSS	07/22/15
Load Cell 5	DG6281	FTSS	07/22/15
Load Cell 6	DG6283	FTSS	07/22/15
Load Cell 7	DG6284	FTSS	07/22/15
Load Cell 8	DG6582	FTSS	07/22/15