

REPORT NUMBER: SPNCAP-MGA-2017-011

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

**FCA US LLC
2017 Chrysler Pacifica LX Minivan
NHTSA No.: O20170301**

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



Test Date: October 7, 2016

Final Report Date: November 3, 2016

FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Crashworthiness Standards
Mail Code: NRM-110
1200 New Jersey Ave, SE
Room W43-410
Washington, DC 20590**

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Approval Date: November 3, 2016

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

Technical Report Documentation Page

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16. Abstract A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2017 Chrysler Pacifica LX Minivan 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 7, 2016. The impact velocity was 32.29 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 22.2°C. The test vehicle post-test maximum crush was 324 mm at level 3. The test vehicle's performance was as follows: <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th colspan="3">Driver ATD (SID-IIs)</th> </tr> <tr> <th>Units</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td>N/A</td> <td>1000</td> <td>293</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>Gs</td> <td>82</td> <td>50</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td>2739</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td>23</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td>27</td> </tr> </tbody> </table> *Proposed IARV The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.				Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	293	Resultant Lower Spine Acceleration	Gs	82	50	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2739	Maximum Thoracic Rib Deflection	mm	38*	23	Maximum Abdomen Rib Deflection	mm	45*	27
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17. Key Words New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave, SE Washington, DC 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833																												
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SECTION 1

TEST PURPOSE AND PROCEDURE

This side impact test is part of the MY 2017 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 2017 Chrysler Pacifica LX Minivan. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated October 2015.

SECTION 2 SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2017 Chrysler Pacifica LX Minivan. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.29 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin on October 7, 2016. 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 October 2015. 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	293
Resultant Lower Spine Acceleration	Gs	82	50
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2739
Maximum Thoracic Rib Deflection	mm	38*	23
Maximum Abdominal Rib Deflection	mm	45*	27

*Proposed IARV

Supplemental restraint information is given below:

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

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

GENERAL COMMENTS

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: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	O20170301	Traction Control System (TCS)	Yes
Model Year	2017	Auto-Leveling System	No
Make	Chrysler	Automatic Door Locks (ADL)	Yes
Model	Pacifica LX	Power Window Auto-Reverse	Yes
Body Style	Minivan	Other Optional Feature	N/A
VIN	2C4RC1CG9HR522057	Driver Front Airbag	Yes
Body Color	Velvet Red Pearl	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	151km / 94mi	Driver Head/Torso Airbag	No
Engine Displacement (L)	3.6 L	Driver Torso Airbag	No
Type/No. Cylinders	V6	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Lateral	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	Yes
Transmission Speeds	9	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	FWD	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 Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	No
		Other Restraint Feature	N/A

Does owner's manual provide instructions to turn off automatic door locks?	Yes
--	-----

DATA FROM CERTIFICATION LABEL

Manufactured By	FCA US LLC	GVWR (kg)	2724
Date of Manufacture	05/16	GAWR Front (kg)	1339
Vehicle Type	MPV	GAWR Rear (kg)	1452

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	(A)
Capacity Weight (VCW) (kg)				375	(B)
DSC x 68.04 kg				340	(A-B)
Rated Cargo and Luggage Weight (RCLW) (kg)				35	

VEHICLE SEAT TYPE

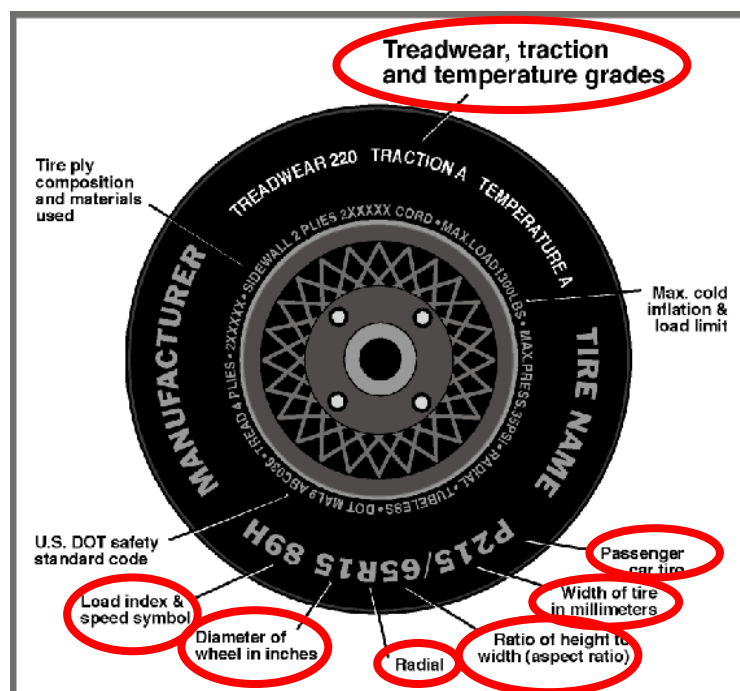
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X					w/ Lever	Driver Only
Rear or Second Row	X					w/ Lever	
Third Row Seat			X			w/ Lever	

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	250	250
Recommended Tire Size	235/65R17	235/65R17
Tire Size on Vehicle	235/65R17	235/65R17
Tire Manufacturer	Yokohama	Yokohama
Tire Model	Avid S34	Avid S34
Treadwear	460	460
Traction	B	B
Temperature Grade	B	B
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	104T	104T
Tire Material	Rubber	Rubber
DOT Safety Code Left	4UL8 PKX 0216	4UL8 PKX 0216
DOT Safety Code Right	4UL8 PKX 0216	4UL8 PKX 0216

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kpa	275	280	260	260
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	537.5	445.0		555.5	481.0		555.0	489.0	
Right	kg	579.5	393.5		584.5	424.5		583.0	425.5	
Ratio	%	57.1%	42.9%		55.7%	44.3%		55.4%	44.6%	
Totals	kg	1117.0	838.5	1955.5	1140.0	905.5	2045.5	1138.0	914.5	2052.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1955.5	(A)
Actual Weight of 1 P572V ATD (SID-IIs) ATD Used	kg	52	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	45	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2052.5	(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	-1.2	-1.2	-1.0	Yes
Front Pass. Sill Angle (front-to-rear)*	deg	-1.9	-1.7	-1.6	Yes
Front Bumper Angle (left-to-right)**	deg	-0.1	0.2	0.3	Yes
Rear Bumper Angle (left-to-right)**	deg	-0.7	-0.7	-0.7	Yes
Vehicle CG (Aft of Front Axle)	mm	1328	1371	1379	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	4	12	15	

*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)	
LR/RR Door Trim, RR Speaker, LR/RR Tail Light, RR Window Glass, Cargo Area Trim/Carpet	20

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016

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	20.4	9.4	14.9
Front Passenger Seat	Fixed	Fixed	Fixed
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat			
Rear Center Seat	Fixed	Fixed	Fixed

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRIP Height (mm)	SCRIP Height Position	SCRIP Height (mm)		
				Rear- most	Mid- Fore/Aft	Forward- Most
Driver Seat	14.9	25	Max	50	50	50
			Mid	25	25	25
			Min	0	0	0
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			Max			
			Mid			
			Min			
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: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

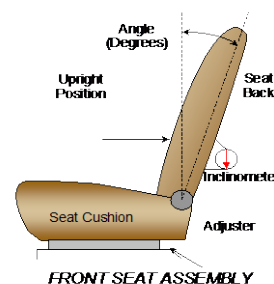
NHTSA No. O20170301
 Test Date: 10/7/2016

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	220		0	
Front Passenger Seat	220	33 (1 st as 1)	0	0 th (1 st as 0)
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat				
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	71.9		-3.4	
Front Passenger Seat	70.0	36 (1 st as 1)	-3.3	4 th (1 st as 0)
Front Center Seat				
Struck Side Rear Seat	31.0	16 (1 st as 1)	16.6	0 th (1 st as 0)
Non-Struck Side Rear Seat				
Rear Center Seat	31.0	16 (1 st as 1)	16.6	0 th (1 st 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 st as 1)	0 (Uppermost as 0)

HEAD RESTRAINT ADJUSTMENT

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

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

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

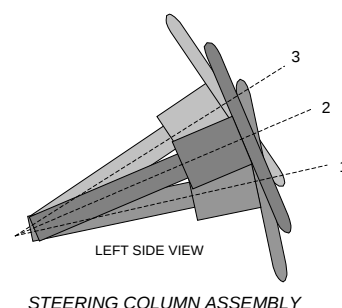
Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016

STEERING COLUMN ADJUSTMENT

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

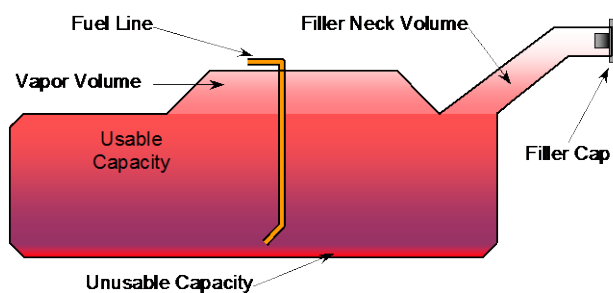
	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	70.3	195
Geometric Center, Position 2	68.0	255
Uppermost, Position 3	65.6	225
Telescoping Steering Wheel Travel		60
Test Position	68.0	225



FUEL PUMP

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

The test vehicle is equipped with an electronic fuel pump. The fuel pump starts pumping fuel when the key is in "ON" position. The filler neck is located on the driver's side.



FUEL TANK CAPACITY DATA

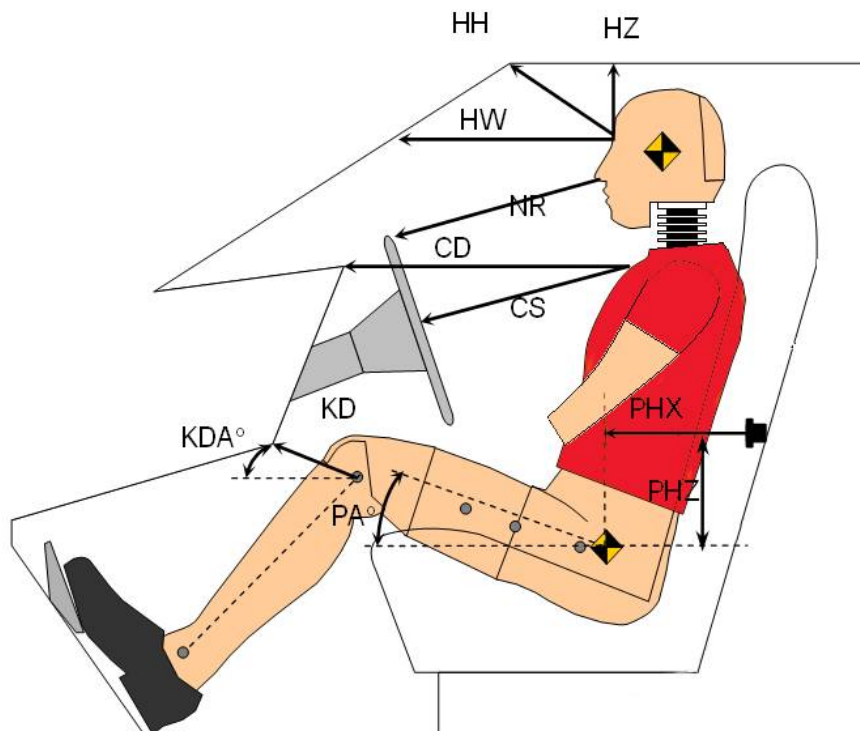
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	71.9
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	71
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	66.9
Actual Amount of Solvent Used	66.6
1/3 of Usable Capacity	24.0

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: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016



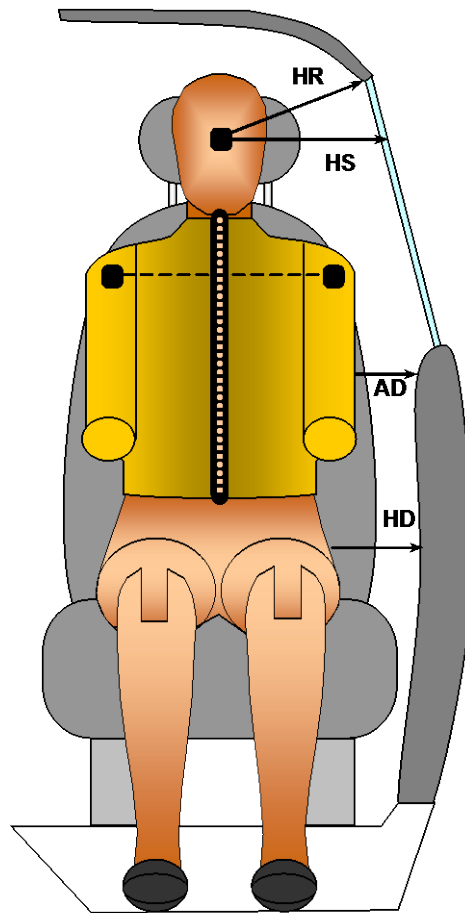
LEFT SIDE VIEW

Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	291	
HW	Head to Windshield	611	
HZ	Head to Roof Liner	202	
NR	Nose to Rim	253	
CD	Chest to Dashboard	437	
CS	Chest to Steering Wheel	200	
KDL/KDAL°	Left Knee to Dash	148	55.0
KDR/KDAR°	Right Knee to Dash	145	56.9
PAX°	Pelvic Tilt Angle (X-Axis)		21.4
PAY°	Pelvic Tilt Angle (Y-Axis)		-0.9
PHX	Hip Point to Striker (X-Axis)	350	
PHZ	Hip Point to Striker (Z-Axis)	69	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016



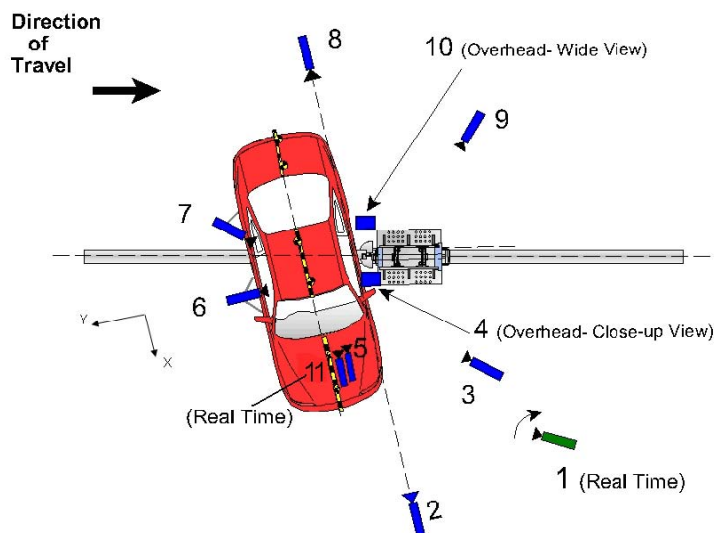
FRONT VIEW OF DUMMY

Code	Measurement Description	Driver
		Length (mm)
HR	Head to Side Header	268
HS	Head to Side Window	397
AD	Arm to Door	191
HD	Hip Point to Door	169

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
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 Test Date: 10/7/2016



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

Camera No.	View	Coordinates (mm)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real-Time Pan View					30
2	Front Ground Level	-70	6120	-1810	24	1000
3	Impact Side 45° Forward	-2320	5130	-1960	20	1000
4	Overhead Close-Up	90	0	-4420	50	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-80	-7010	-1860	24	1000
9	Impact Side 45° Rearward	-4400	-3880	-1970	20	1000
10	Overhead Wide View	330	0	-4610	14	1000
11	Real-Time Dummy Front View					30

*All measurements accurate to ± 6 mm

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

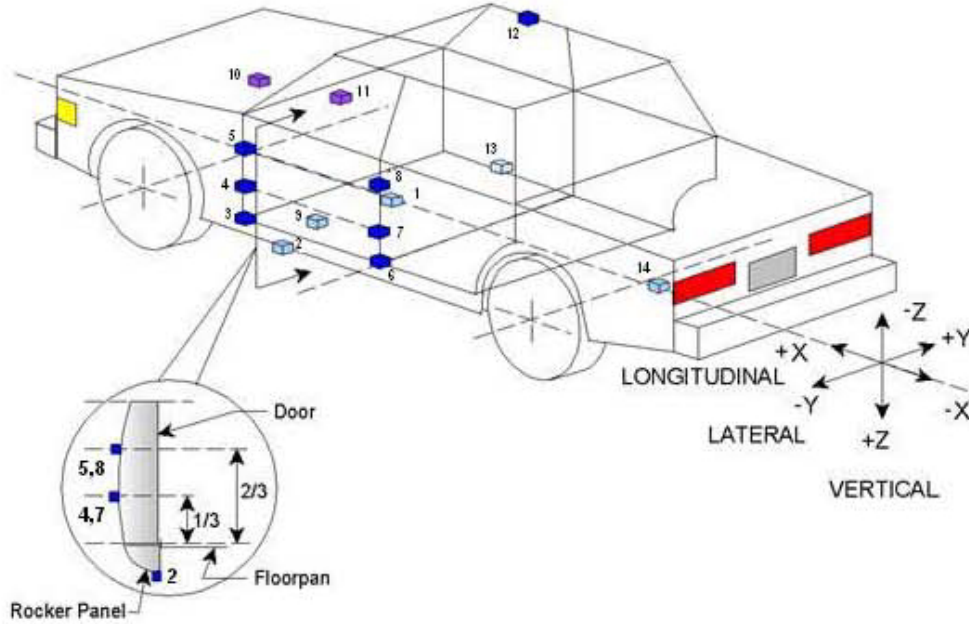
Explain why camera(s) did not operate as intended: None

INSTRUMENTATION	Number of Channels
Driver Dummy	19
Vehicle Structure	16
Pole Load Cells	8
TOTAL	43

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

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Test Date: 10/7/2016



	Accelerometer Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2784	280	-327
2	Left Floor Sill	3312	-800	-204
3	A Pillar Sill	3734	-800	-203
4	A Pillar Low	3654	-907	-612
5	A Pillar Mid	3656	-904	-815
6	B Pillar Sill	2565	-800	-205
7	B Pillar Low	2609	-846	-645
8	B Pillar Mid	2612	-831	-872
9	Driver Seat Track	2870	-396	-411
10	Engine Top	4508	30	-930
11	Firewall	4255	-18	-994
12	Right Roof	2690	592	-1690
13	Right Floor Sill	3326	800	-200
14	Rear Floorpan	845	0	-470

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: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016



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: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016

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
Upper Torso	Side Airbag, Seat Back
Lower Torso	Side Airbag, Seat Back
Left Hip	Side Airbag
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	Broken
Side Window Damage	Left Front Window Broken
Other Notable Effects	None

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016

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				

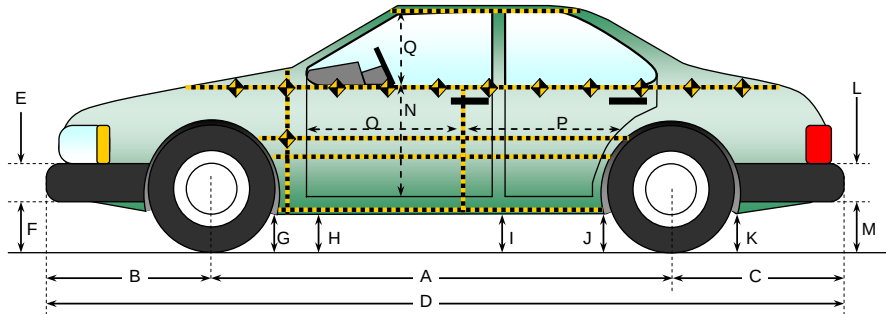
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1065
Actual Impact Point (Aft of Front Axle)	mm		1068
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	-3
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	deg	75 +/- 3	75
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.29
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.30

DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016



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

LEFT SIDE VIEW

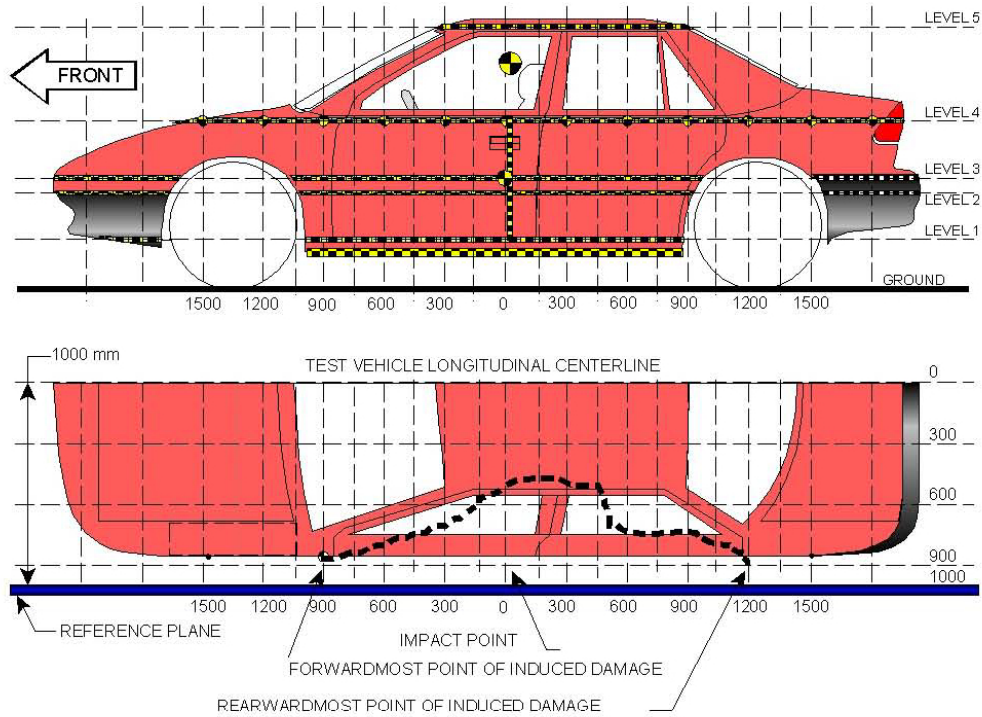
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	3096	3023	73
B	Front Axle to FSOV	947	996	-49
C	Rear Axle to RSOV	1128	1130	-2
D	Total Vehicle Length at Centerline	5171	5149	22
E	Front Bumper Thickness	150	150	0
F	Front Bumper Bottom to Ground	176	199	-23
G	Sill Height at Front Wheel Well	185	191	-6
H	Sill Height at Front Door Leading Edge	182	180	2
I	Sill Height at B-Pillar	182	201	-19
J1	Sill Height at Rear Wheel Well	174	195	-21
J2	Pinch Weld Height at Rear Wheel Well	174	181	-7
K	Sill Height Aft of Rear Wheel Well	241	259	-18
L	Rear Bumper Thickness	110	110	0
M	Rear Bumper Bottom to Ground	257	255	2
N	Sill Height to Bottom of Front Window Sill	870	856	14
O	Front Door Leading Edge to Impact CL	535	408	127
P	Rear Door Trailing Edge to Impact CL	1683	1611	72
Q	Front Window Opening	454	423	31
R	Right Side Length	4384	4403	-19
S	Left Side Length	4384	4301	83
T	Vehicle Width at B-Pillars	2022	1938	84

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016



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	276	254	75
2	Occupant Hip Point	670	317	75
3	Mid Door	741	324	75
4	Window Sill	1052	271	75
5	Window Top	1620	93	150

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016

	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				276					268					-8	
-1050				246					238					-8	
-900				221					210					-11	
-825															
-750			89	210				94	198				5	-12	
-675															
-600		97	99	203			72	85	200			-25	-14	-3	
-525	132	103	105	198		82	85	91	198		-50	-18	-14	0	
-450	138	106	106	197		136	124	126	214		-2	18	20	17	
-375	141	108	107	193		165	162	164	236		24	54	57	43	
-300	141	108	107			193	197	200			52	89	93		
-225	141	108	107	184		222	236	249	292		81	128	142	108	
-150	141	107	105	180		259	285	287	325		118	178	182	145	
-75	140	105	103	175		307	333	338	362		167	228	235	187	
0	140	104	101	170		369	386	392	415		229	282	291	245	
75	140	102	99	167		394	419	423	438		254	317	324	271	
150	139	100	97	164	433	385	414	417	432	526	246	314	320	268	93
225	138	100	96	162	422	334	375	376	386	499	196	275	280	224	77
300	136	99	95	159	415	280	319	316	335	482	144	220	221	176	67
375	136	98	94	157	412	236	264	267	287	471	100	166	173	130	59
450	135	97	93	155	408	191	217	214	242	459	56	120	121	87	51
525	135	96	92	154	405	144	160	159	205	447	9	64	67	51	42
600	135	97	93	153	405	170	144	140	203	426	35	47	47	50	21
675															
750	138	98	94	151	403	157	131	128	189	415	19	33	34	38	12
825															
900	138	99	95	149	402	146	122	119	178	408	8	23	24	29	6
1050	138	100	96	146	400	140	119	116	171	405	2	19	20	25	5
1200	140	101	98	144	401	126	107	104	156	395	-14	6	6	12	-6
1350	137	101	101	141	400	113	99	97	146	392	-24	-2	-4	5	-8
1500	128	101	101	140	400	89	84	82	133	385	-39	-17	-19	-7	-15
1650		96	97	140	399		62	67	120	400		-34	-30	-20	1
1800			95	144	401			76	130	401			-19	-14	0
1950				148	405				150	419				2	14
2100				150	411				148	417				-2	6
2250				158	423				153	426				-5	3
2400				169	439				160	439				-9	0
2550				182	460				175	462				-7	2
2700				200	481				193	483				-7	2

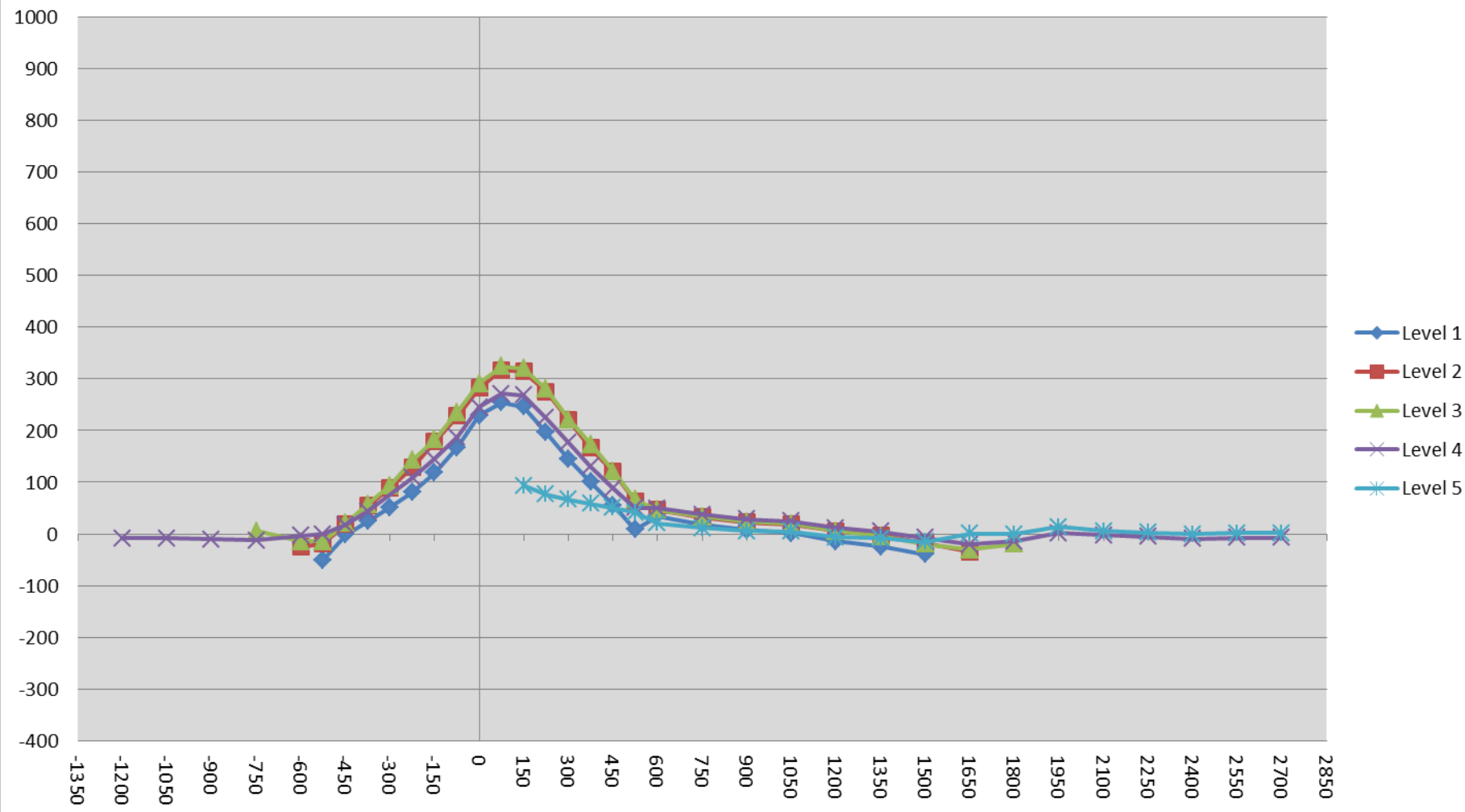
Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush pile grid is established prior to the test based on an estimated impact point. The final distance from impact is determined after the final dummy positioning and the pole is aligned with the center of gravity of the dummy's head.

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
Test Date: 10/7/2016

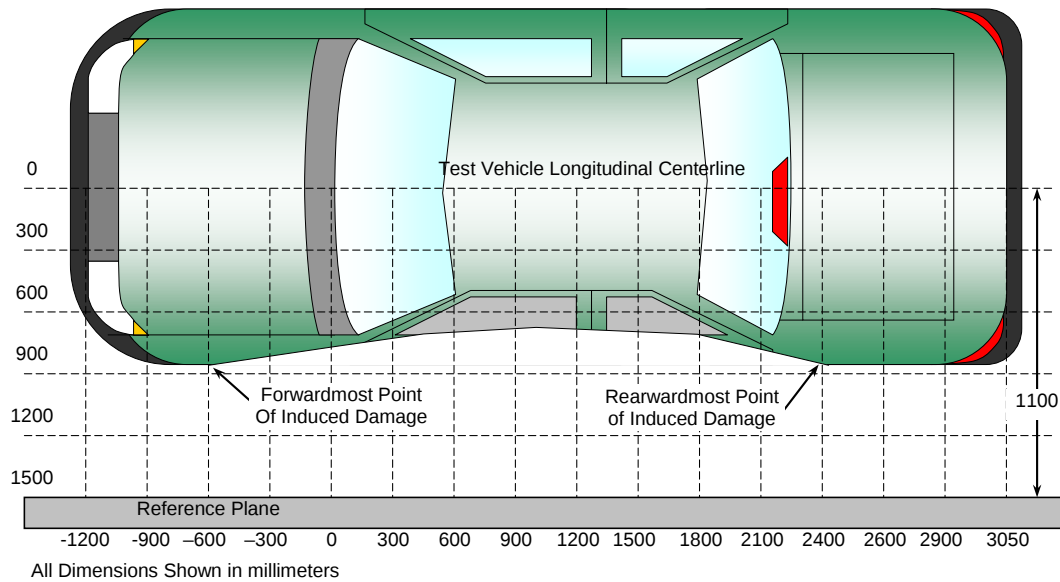
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DATA SHEET NO. 11 **VEHICLE DAMAGE PROFILE DISTANCES**

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	550	3	93	141	48
2	255	3	94	278	184
3	-40	3	98	424	326
4	-335	3	104	325	221
5	-630	3	107	191	84
6	-925	3	102	80	-22

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

Test Vehicle: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

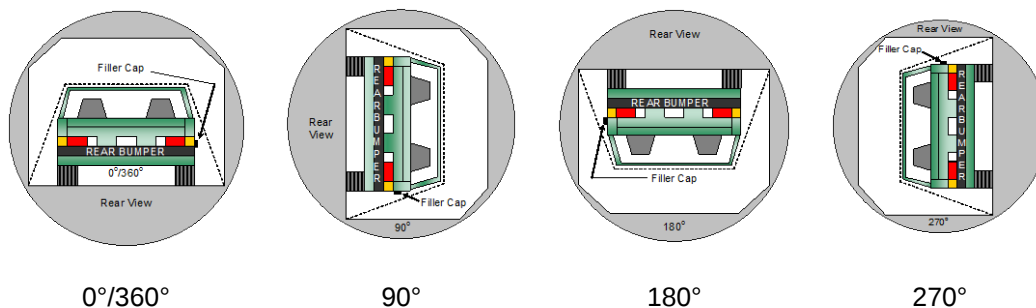
NHTSA No. O20170301
 Test Date: 10/7/2016

Test Time: 9:09 a.m.

Temperature: 22.2°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°	112	300	412
90° to 180°	110	300	410
180° to 270°	106	300	406
270° to 360°	112	300	412

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

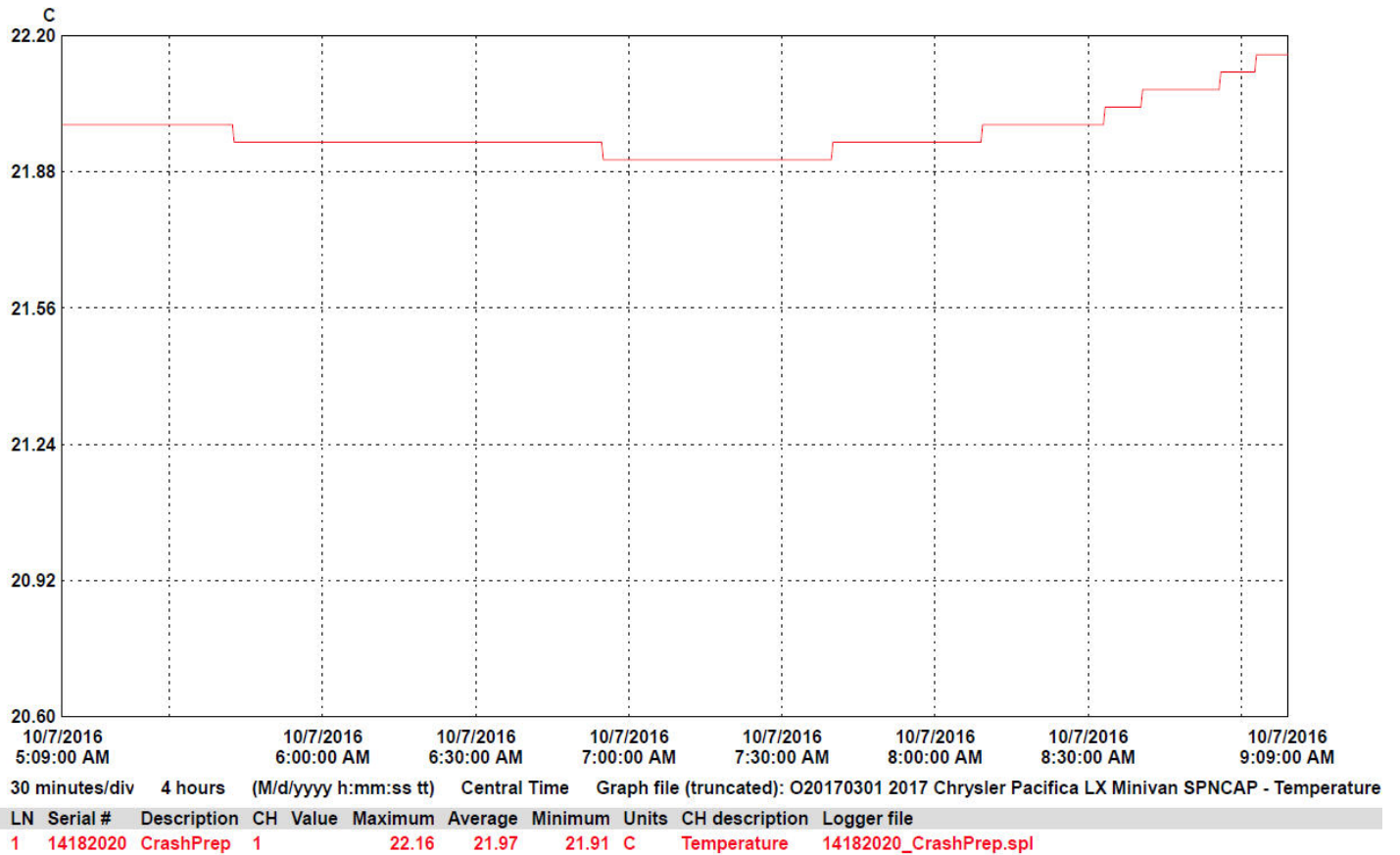
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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: 2017 Chrysler Pacifica LX Minivan
 Test Program: NCAP Side Pole Impact Test

NHTSA No. O20170301
 Test Date: 10/7/2016



**APPENDIX A
PHOTOGRAPHS**

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Photo No. 001 - As Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



Photo No. 002 - As Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle

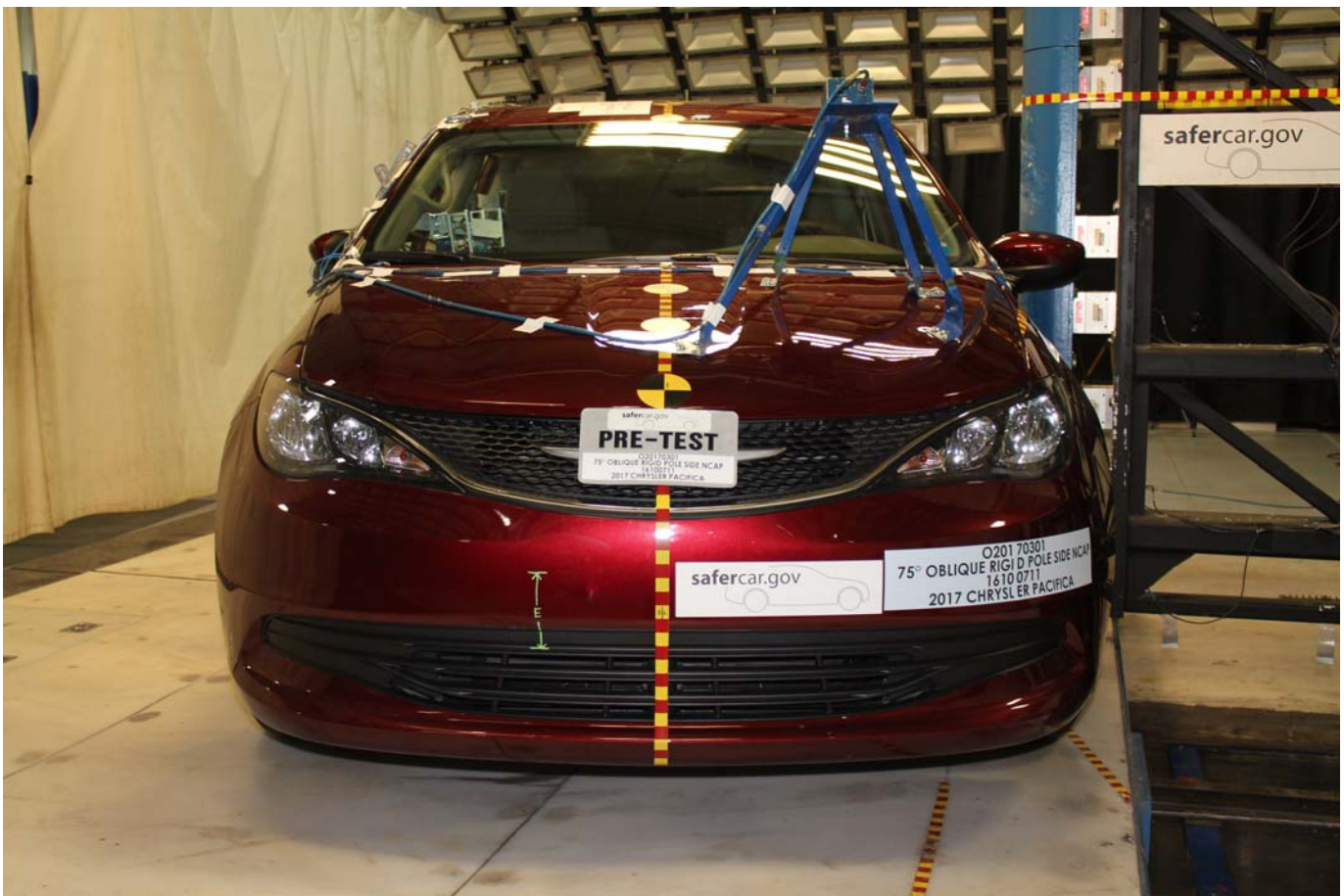


Photo No. 003 - Pre-Test Frontal View of Test Vehicle



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

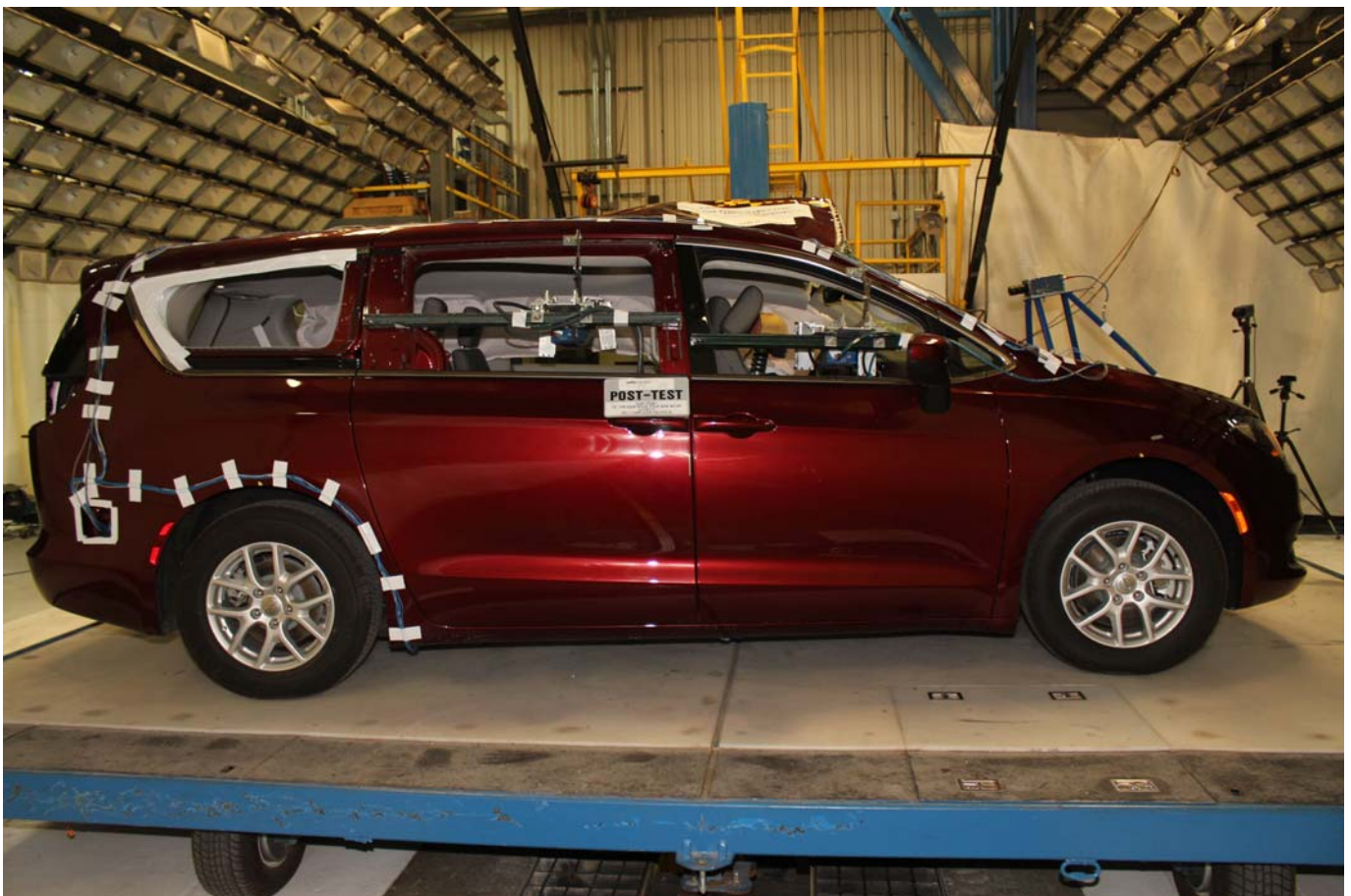


Photo No. 014 - Post-Test Right Side View of Test Vehicle

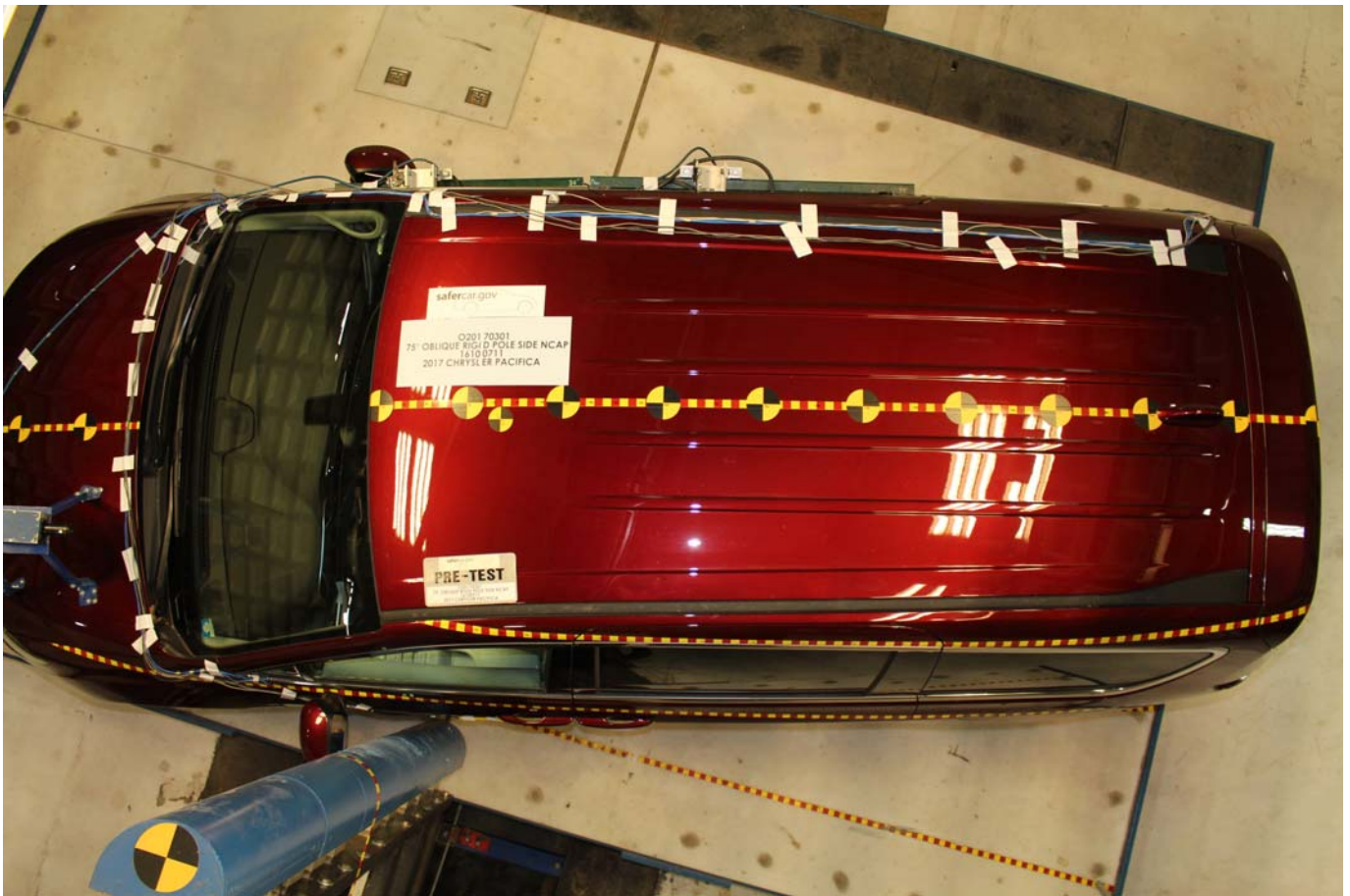


Photo No. 015 - Pre-Test Overhead View of Test Area



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

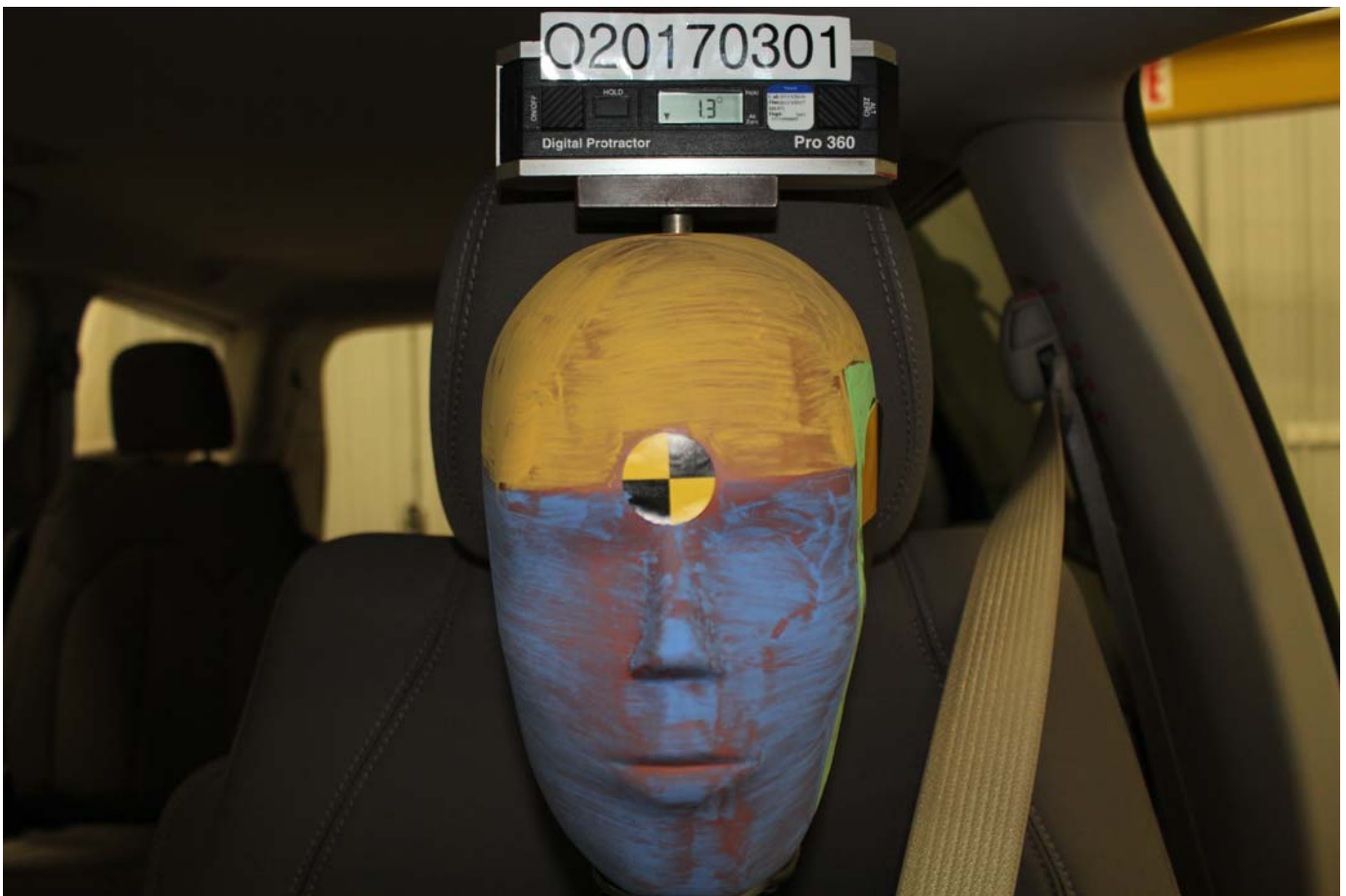


Photo No. 027 - Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



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

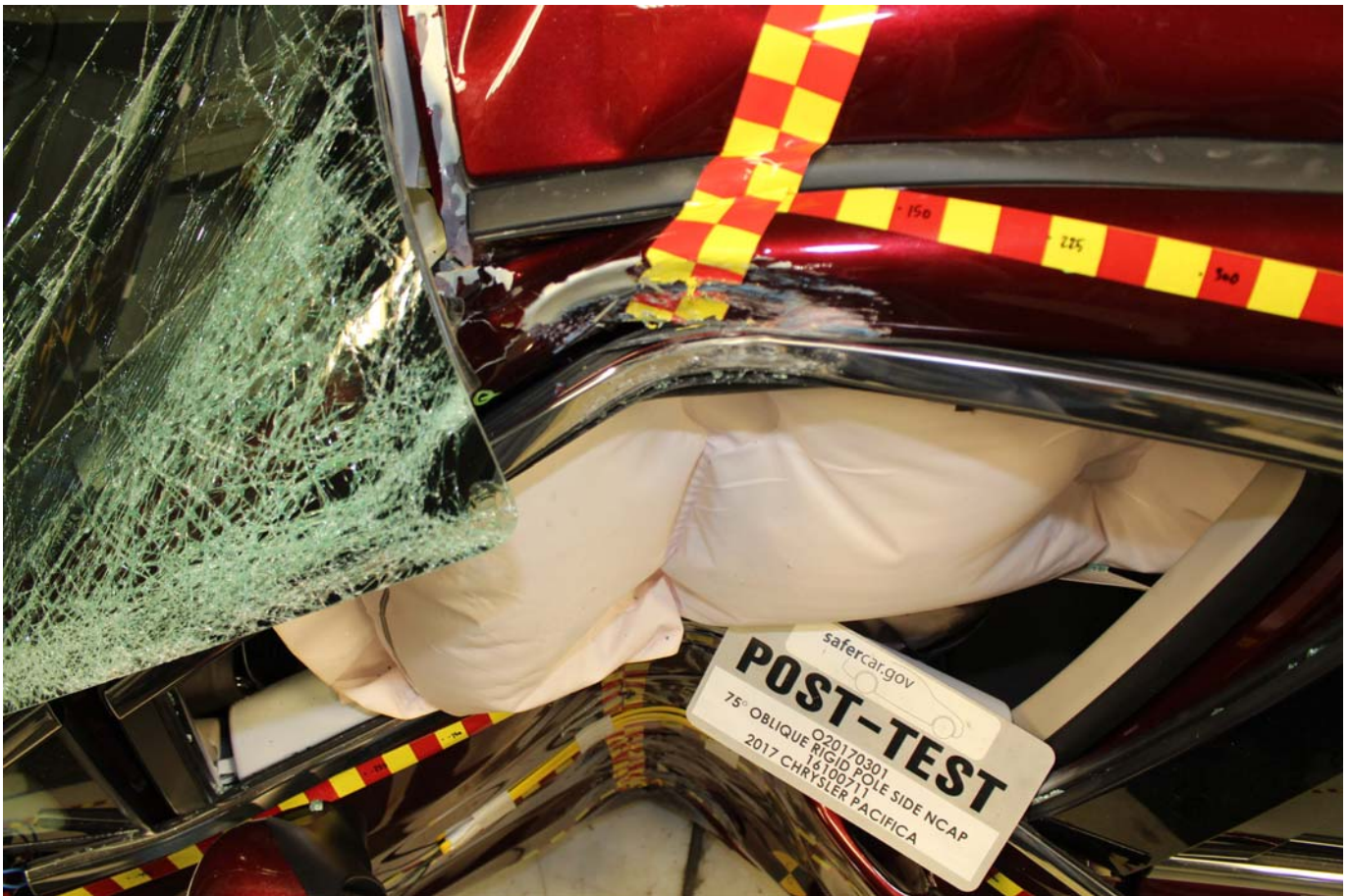


Photo No. 041 - Post-Test Dummy and Door Clearance View



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

PHOTOGRAPH NOT APPLICABLE

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



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

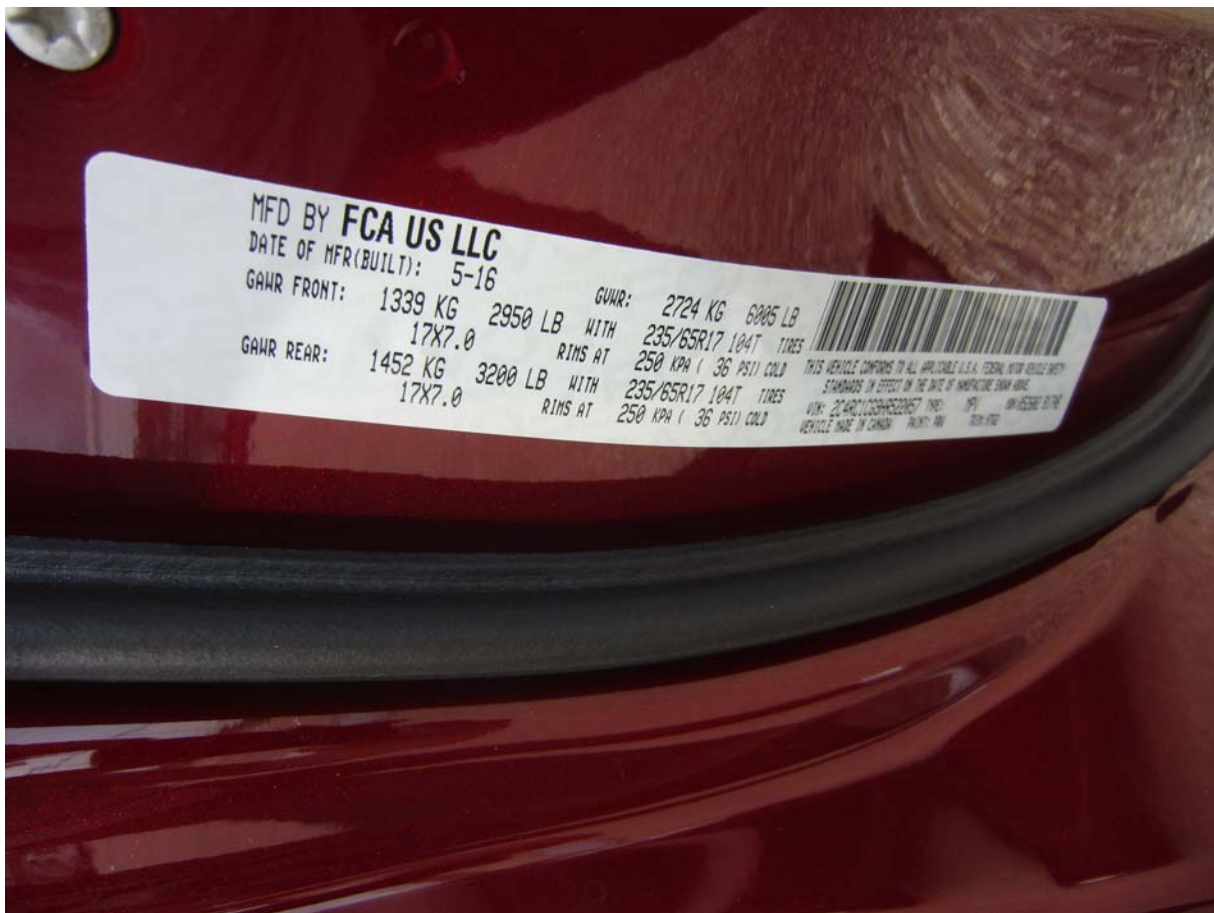


Photo No. 055 - Close-Up View of Vehicle's Certification Label

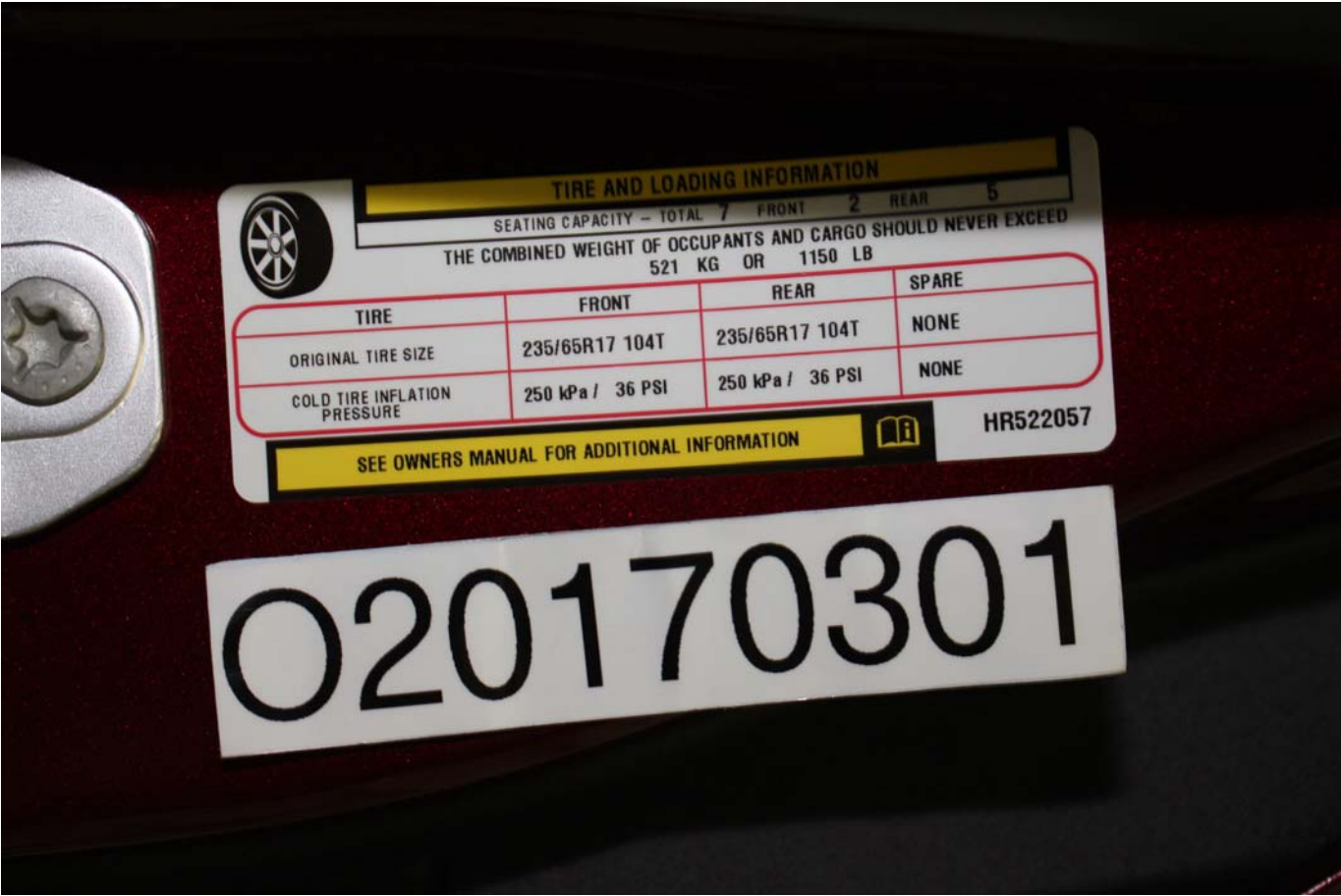


Photo No. 056 - Close-Up View of Vehicle's Tire Information Placard or Label



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

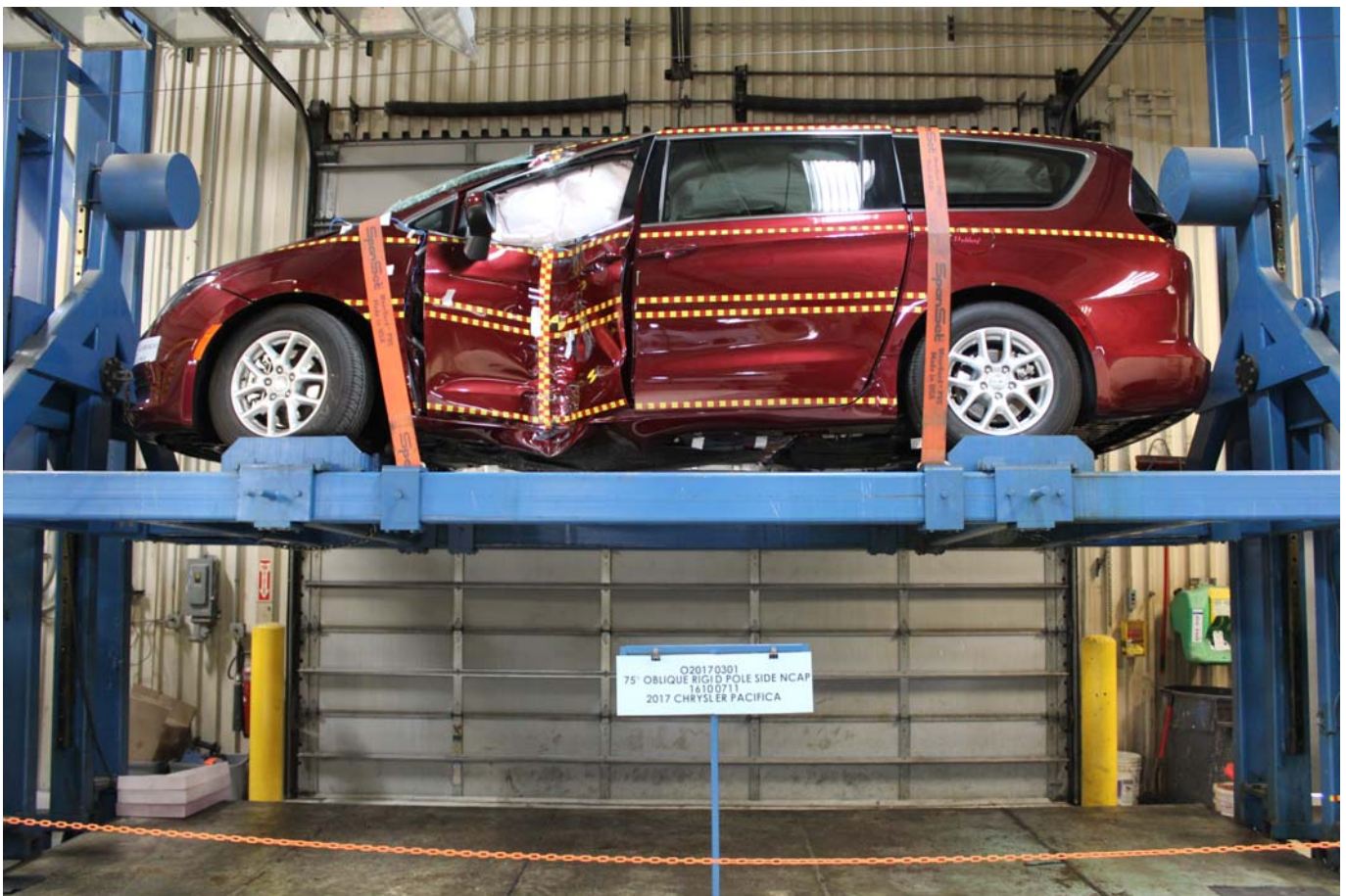


Photo No. 063 - FMVSS No. 301 Static Rollover 0 Degrees



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

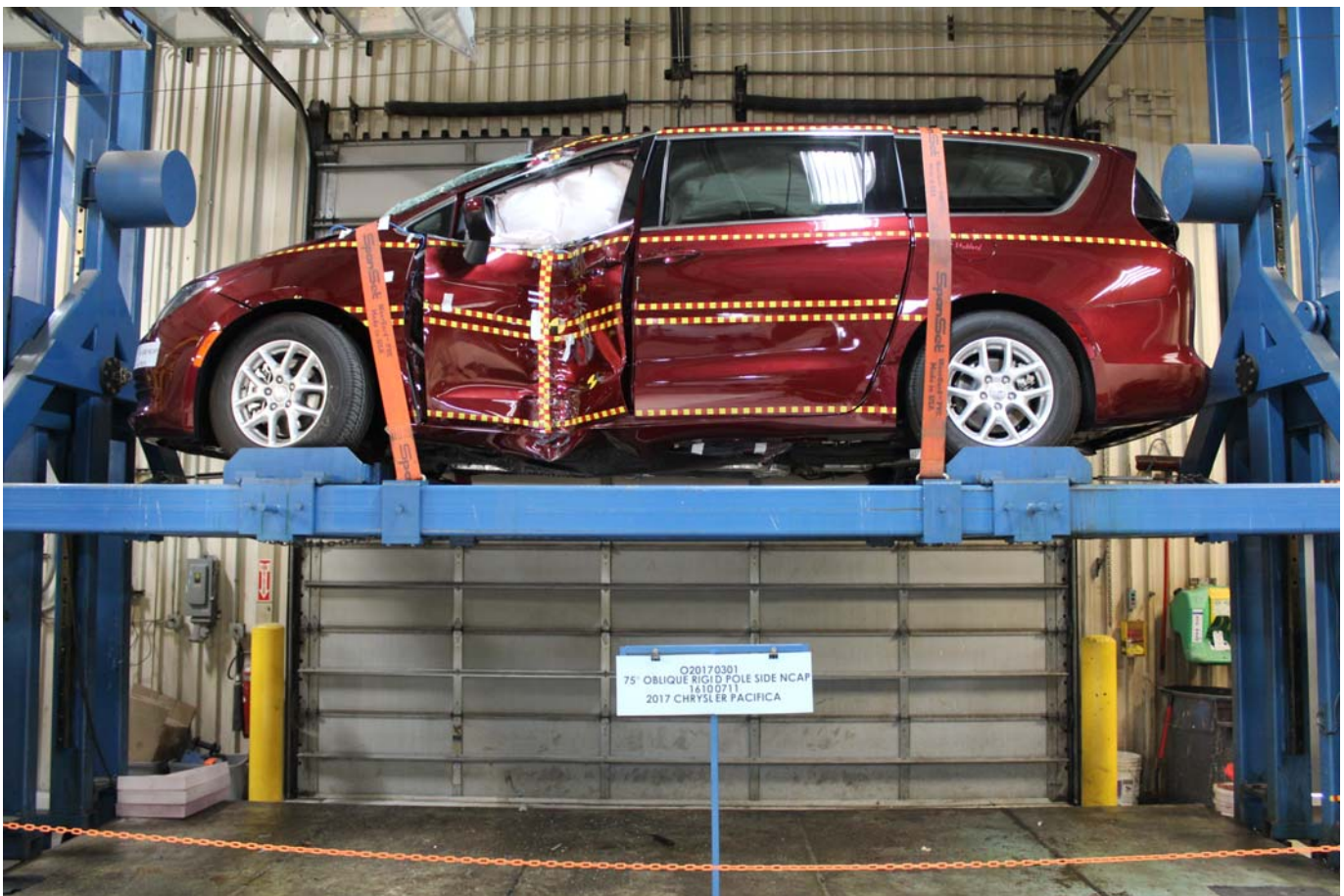


Photo No. 067 - FMVSS No. 301 Static Rollover 360 Degrees



Photo No. 068 - Impact Event



2017

PACIFICA LX

For more information visit: www.chrysler.com
or call 1-800-CHRYSLER

FCA US LLC

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 PREPARATIONBase Price: **\$28,595****CHRYSLER PACIFICA LX**Exterior Color: Velvet Red Pearl Coat Exterior Paint
Interior Color: Cognac / Alloy / Toffee Interior Colors
Interior: Cloth Low-Back Bucket Seats
Engine: 3.6L V6 24V VVT Engine
Transmission: 9-Speed FWD Automatic Transmission**STANDARD EQUIPMENT (UNLESS REPLACED BY OPTIONAL EQUIPMENT)****FUNCTIONAL/SAFETY FEATURES**Advanced Multistage Front Airbags
Driver Inflatable Knee-Bolster Airbag
Passenger Inflatable Knee-Bolster Air Bag
Supplemental Side-Curtain Airbags in All Rows
Supplemental Front Seat-Mounted Side Airbags
LATCH Ready Child Seat Anchor System
ParkView™ Rear Back-Up Camera
Electric Power Steering
Capless Fuel Filler
Active Noise Cancellation
Electronic Stability Control
Speed Control
Electric Park Brake
Smart Brake
Rainy Day Braking
Ready Alert Braking
Anti-Lock 4-Wheel Disc Brakes
Keyless Enter-N-Go™
Tire Inflator Kit (No Compact Spare)**INTERIOR FEATURES**Active Noise Cancellation
2nd-Row and 3rd-Row Stow'n Go Seats
Second-Row In Floor Storage Bins
Driver Seat Stow'n Assist
Power 8-Way Driver Seat
Power 4-Way Driver Lumbar Adjust
Power Door Locks
Power Front Windows w/ 1-Touch Up and Down Feature
Second-Row Power Windows
5.0-Inch Touchscreen Display
Uconnect® 5.0

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

VIN: 2C4-RC1CG9HR-522057 LA-1006 5394 0057



SHIP TO: 44618 33

DRIVERS VILLAGE, INC.

5885 E CHURCH DR

CICERO NY 13009-8604

CICERO NY 13009-8604

SHIP TO: 02 44618

DRIVERS VILLAGE, INC.

5885 E CHURCH DR

CICERO NY 13009-8604

CICERO NY 13009-8604

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, IS BASED ON PRICE OF OPTION IF PURCHASED SEPARATELY.

6 Speakers
Integrated Voice Command with Bluetooth®
12-Volt Auxiliary Power Outlet
Steering Wheel Mounted Audio Controls
Rear View Mirror with Microphone
Tilt / Telescope Steering Column
3-Zone Manual Control Front / Rear Air Conditioning
Front Easy Clean Floor Mats**EXTERIOR FEATURES**17-Inch x 7-Inch Aluminum Wheels
235/65R17 BSW All Season Tires
Power Heated Exterior Mirrors w/ Manual Fold-Away
High Beam Daytime Running Headlamps
Incandescent Stop Tail Lamps
Sliding Passenger-Side Door with Glass
Sliding Driver-Side Door with Glass
Sunscreen Glass
Halogen Headlamps**OPTIONAL EQUIPMENT (May Replace Standard Equipment)**

Customer Preferred Package 25E

DESTINATION CHARGE

\$995

TOTAL PRICE: * \$29,590**WARRANTY COVERAGE**5-year or 60,000-mile Powertrain Limited Warranty.
3-year or 36,000-mile Basic Limited Warranty.
Ask Dealer for a copy of the limited warranties or see your owner's manual for details.**5 YEAR/60,000 MILE
POWERTRAIN WARRANTY****EPA DOT Fuel Economy and Environment****Fuel Economy**
22 MPG
combined city/hwy
4.5 gallons per 100 milesThese estimates reflect new EPA methods beginning with 2017 models.
Minimum range from 19 to 23 MPG.
The best vehicle rates 119 MPG.**Gasoline Vehicle****You spend
\$1,250
more in fuel costs
over 5 years
compared to the
average new vehicle.****Annual fuel cost
\$1,650****Fuel Economy & Greenhouse Gas Rating (tailpipe only)**1 5 10 Best
This vehicle emits 416 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates greenhouse gases. Learn more at fuelconomy.gov.**Smog Rating (tailpipe only)**1 6 10 Best
This vehicle emits 416 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates greenhouse gases. Learn more at fuelconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 26 MPG and cost \$7,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.46 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**

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

Source: National Highway Traffic Safety Administration (NHTSA)
www.safercar.gov or 1-888-327-4236**PARTS CONTENT INFORMATION**FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 72%
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.FOR THIS VEHICLE:
FINAL ASSEMBLY POINT:
WINDSOR, ONTARIO, CANADA
COUNTRY OF ORIGIN:
ENGINE: MEXICO
TRANSMISSION: UNITED STATES**GETTING STARTED****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 installed and 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.

Head Restraints — Front Seats

The front driver and passenger seats are equipped with four-way head restraints.

To raise the head restraint, pull upward on the head restraint. To lower the head restraint, push the adjustment button, located at the base of the head restraint, and push downward on the head restraint. Front head restraints are also adjustable forward and rearward.

NOTE:

To remove the head restraint, raise it as far as it can go then push the release button and the adjustment button at the base of each post while pulling the head restraint up. Seatback angle may need to be adjusted to fully remove the head restraint. To reinstall the head restraint, put the head restraint posts into the holes and push downward. Then adjust the head restraint to the appropriate height.

WARNING!

- A loose head restraint thrown forward in a collision or hard stop could cause serious injury or death to occupants of the vehicle. Always securely stow removed head restraints in a location outside the occupant compartment.
- ALL the head restraints MUST be reinstalled in the vehicle to properly protect the occupants. Follow the re-installation instructions above prior to operating the vehicle or occupying a seat.

Head Restraints — Second Row

The second row outboard head restraints are non-adjustable. The removable 8th passenger seat (if equipped) has an adjustable head restraint.

GETTING STARTED**Head Restraints — Third Row**

The outboard head restraints can be manually folded forward for improved visibility while in reverse. Pull the release strap to fold them forward.

NOTE:

- The head restraints must be raised manually when occupying the third row.
- Do not fold if there are passengers seated in the third row seats.

The head restraint in the center position can be raised and lowered for tether routing or height adjustment. Refer to "Occupant Restraint Systems" in "Safety" in your Owner's Manual on the DVD for further information.

Power Folding Third Row Head Restraints — If Equipped

For improved visibility, the third row outboard head restraints can be folded using the Uconnect System.

Press the "Controls" button located on the bottom of the Uconnect display.

Press the Head Restraint Fold button to power fold the third row head restraints.

NOTE:

- The head restraints can be folded downward using the Head Restraint button or using the manual release strap. The head restraints must be raised manually when occupying the third row.
- Do not fold if there are passengers seated in the third row seats.

FRONT SEATS**Manual Adjustment (Front Seats)****WARNING!**

- Adjusting a seat while the vehicle is moving is dangerous. The sudden movement of the seat could cause you to lose control. The seat belt might not be adjusted properly and you could be injured. Adjust the seat only while the vehicle is parked.
- Do not ride with the seatback reclined so that the shoulder belt is no longer resting against your chest. In a collision you could slide under the seat belt and be seriously or even fatally injured. Use the recliner only when the vehicle is parked.

Photo No. 069 - Monroney Label

Photo No. 070 - Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

PHOTOGRAPH NOT APPLICABLE

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

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

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at www.NHTSA.dot.gov

Additional Driver Dummy Instrumentation Data

Driver Head CG Redundant Acceleration (X) vs. Time
Driver Head CG Redundant Acceleration (Y) vs. Time
Driver Head CG Redundant Acceleration (Z) vs. Time
Driver 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)

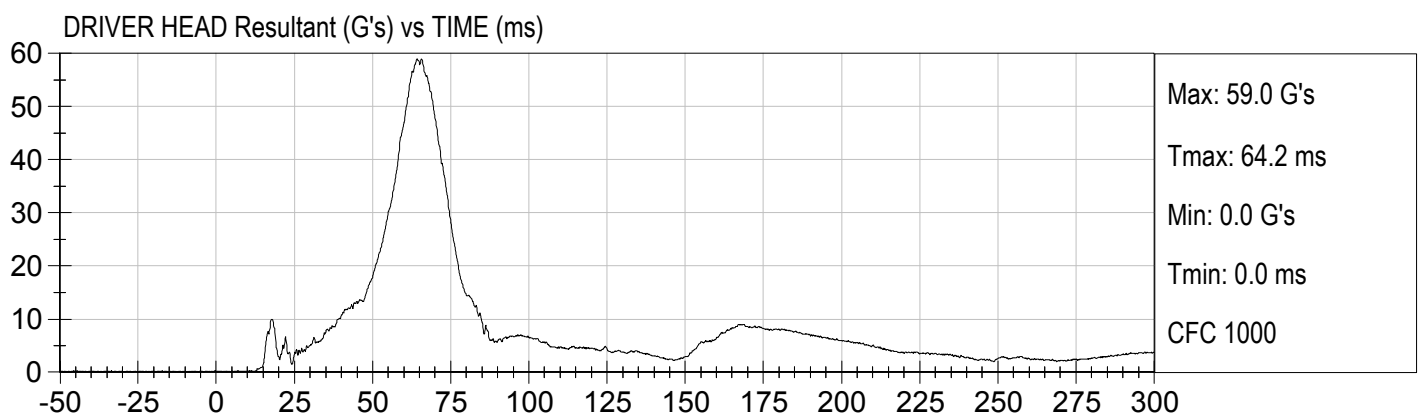
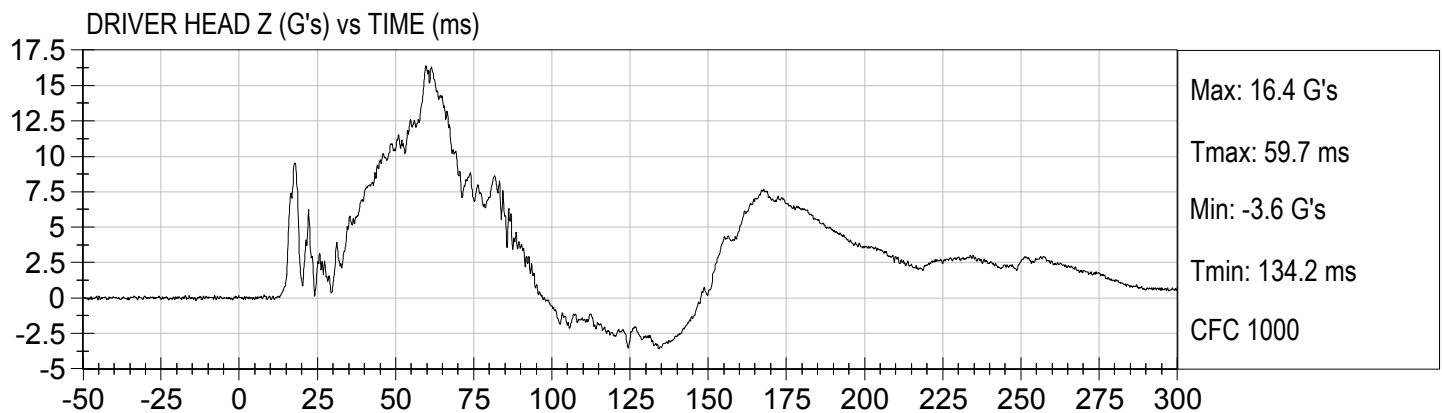
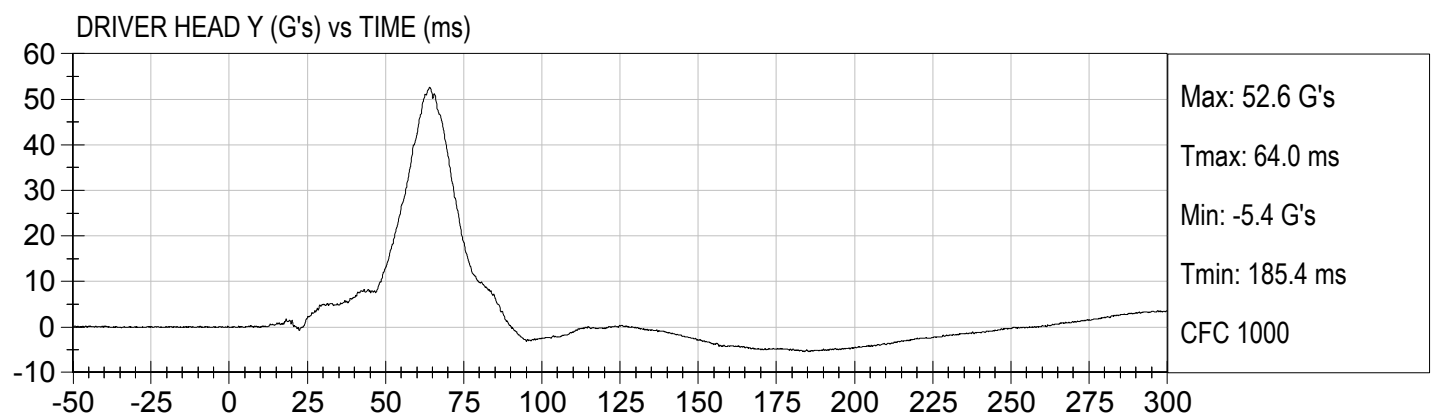
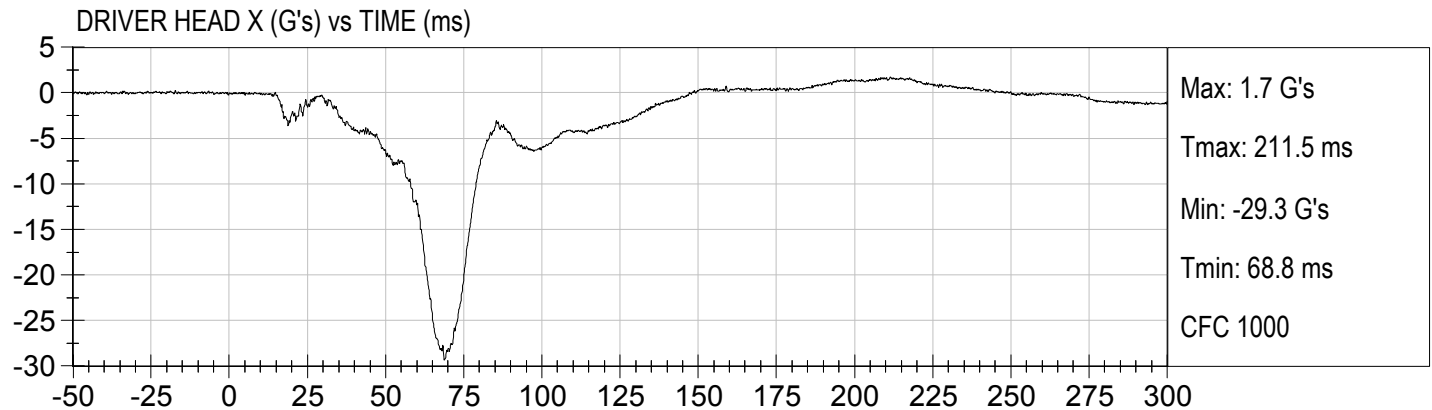
Load Cell Pole Barrier #4 Force (Y)

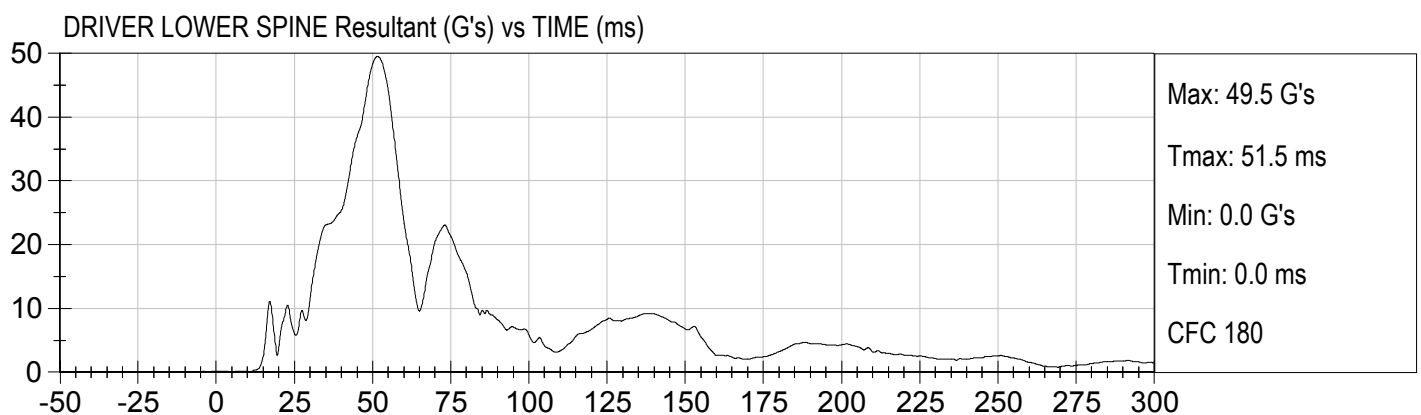
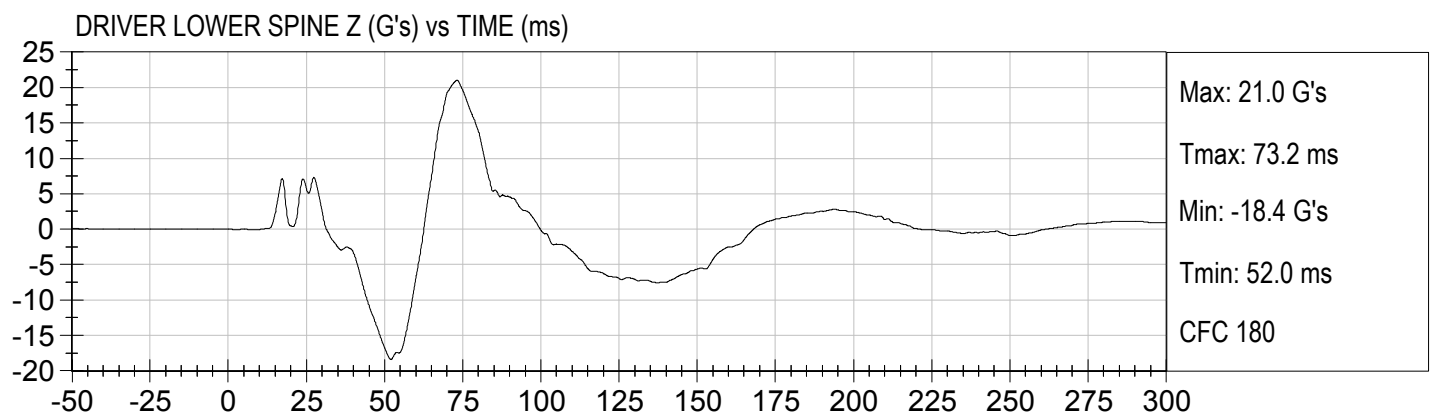
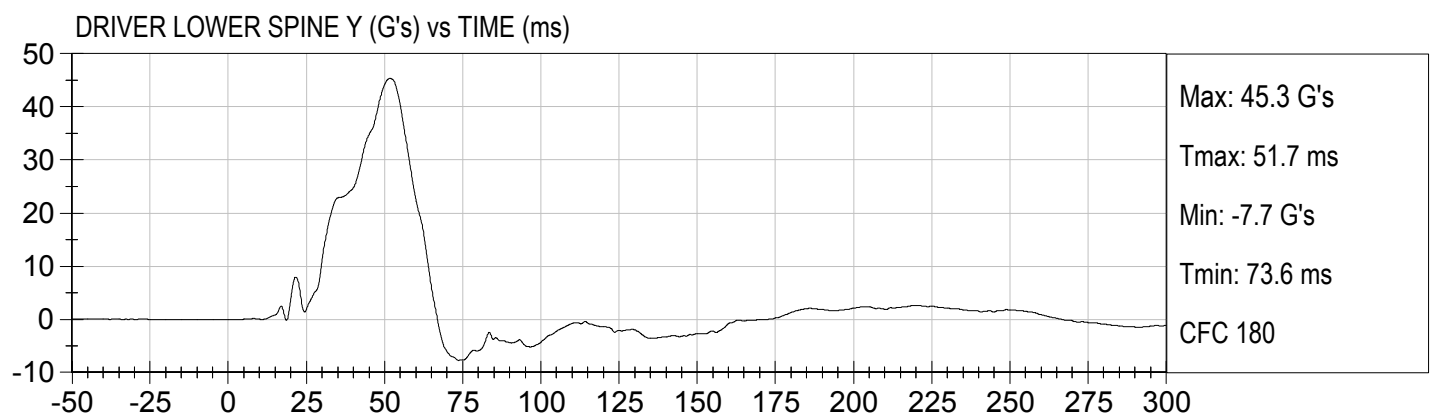
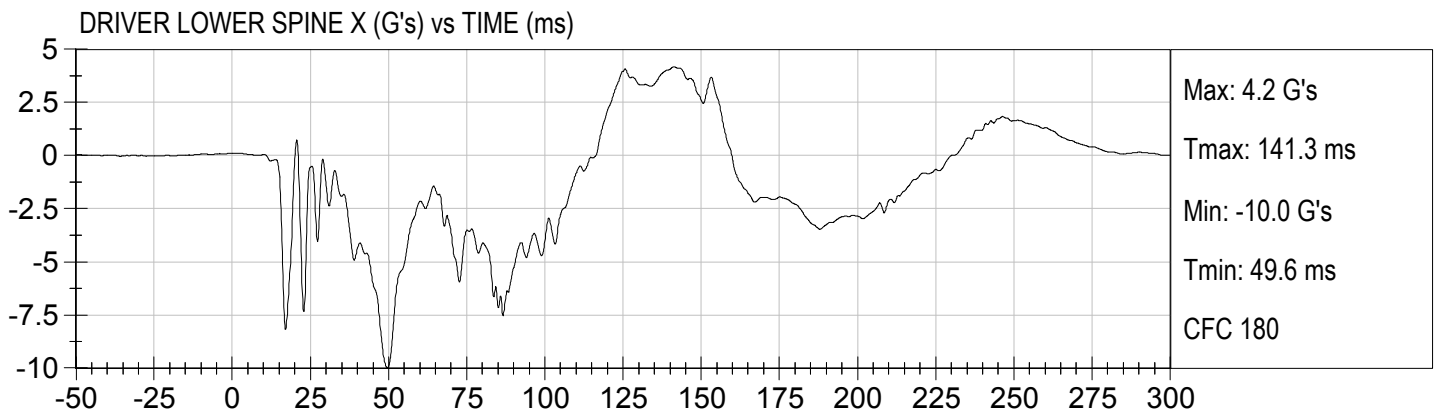
Load Cell Pole Barrier #5 Force (Y)

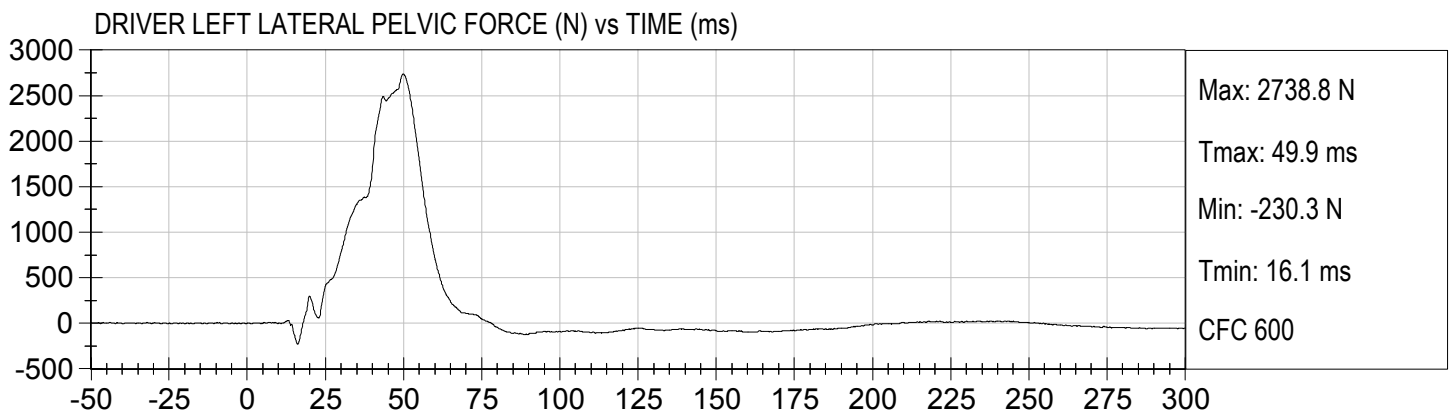
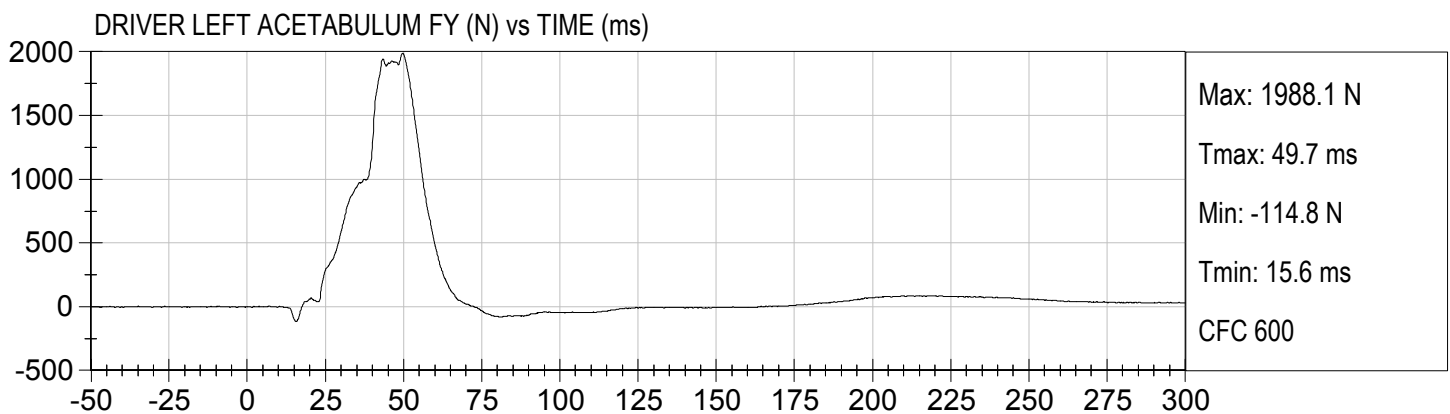
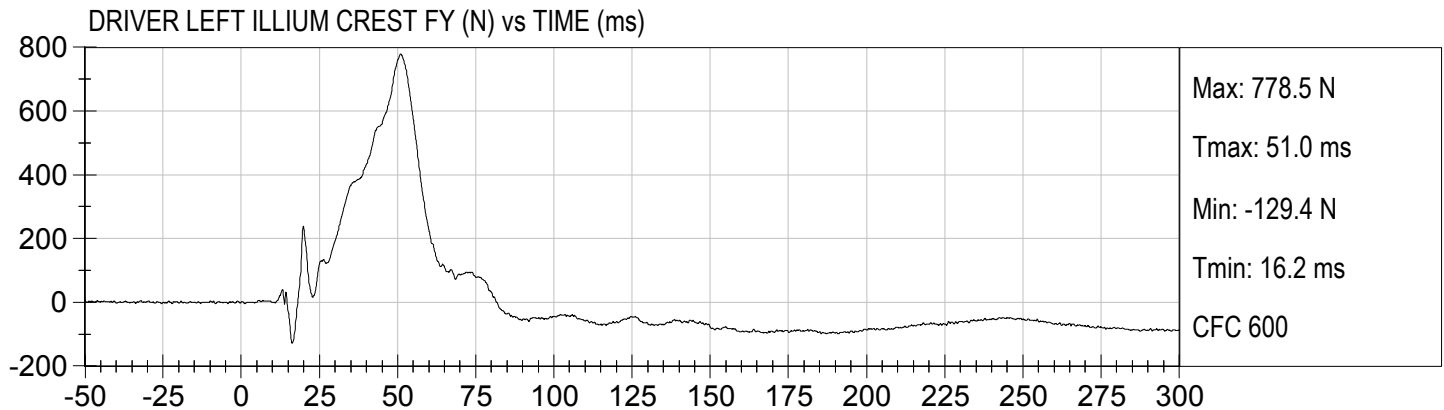
Load Cell Pole Barrier #6 Force (Y)

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: 296

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

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

ATD Serial No: 296

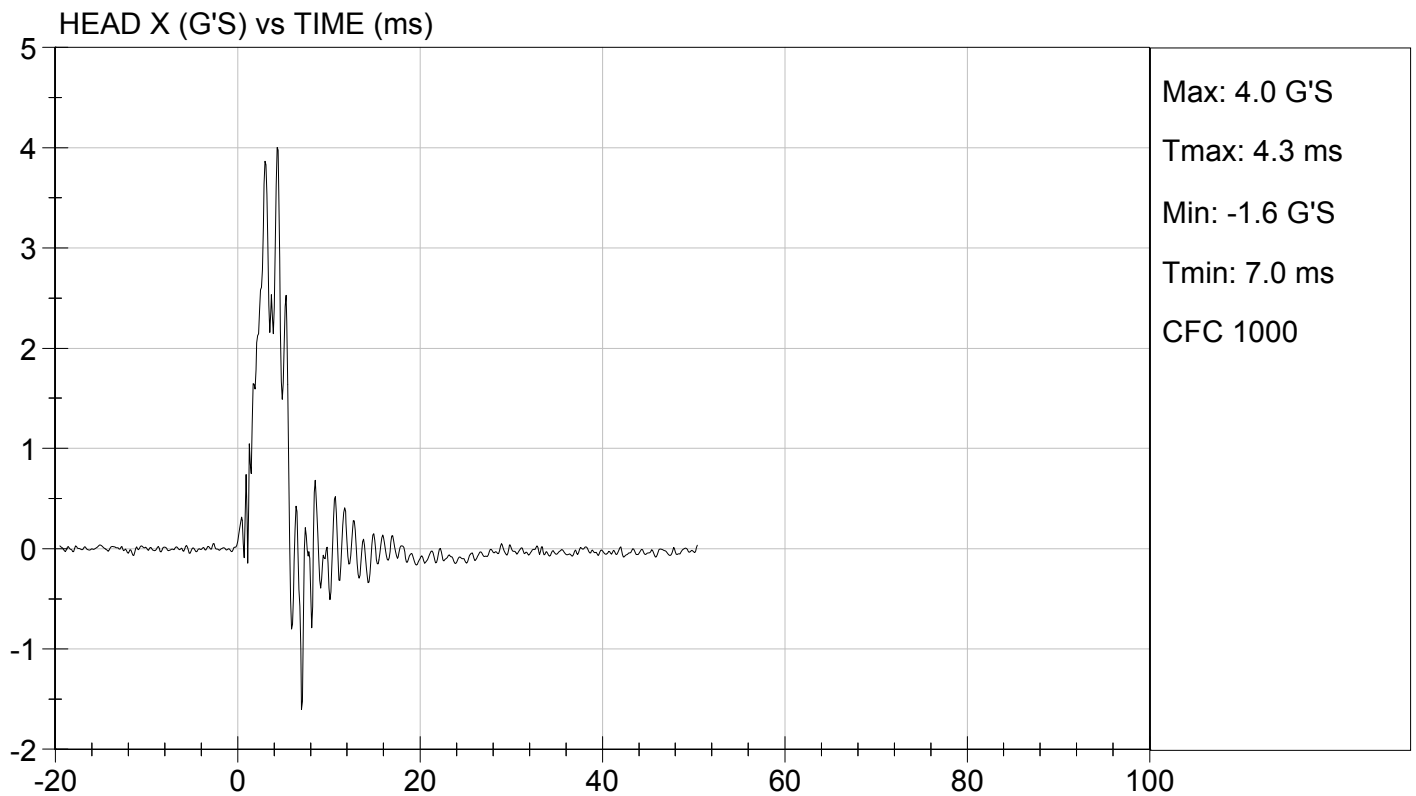
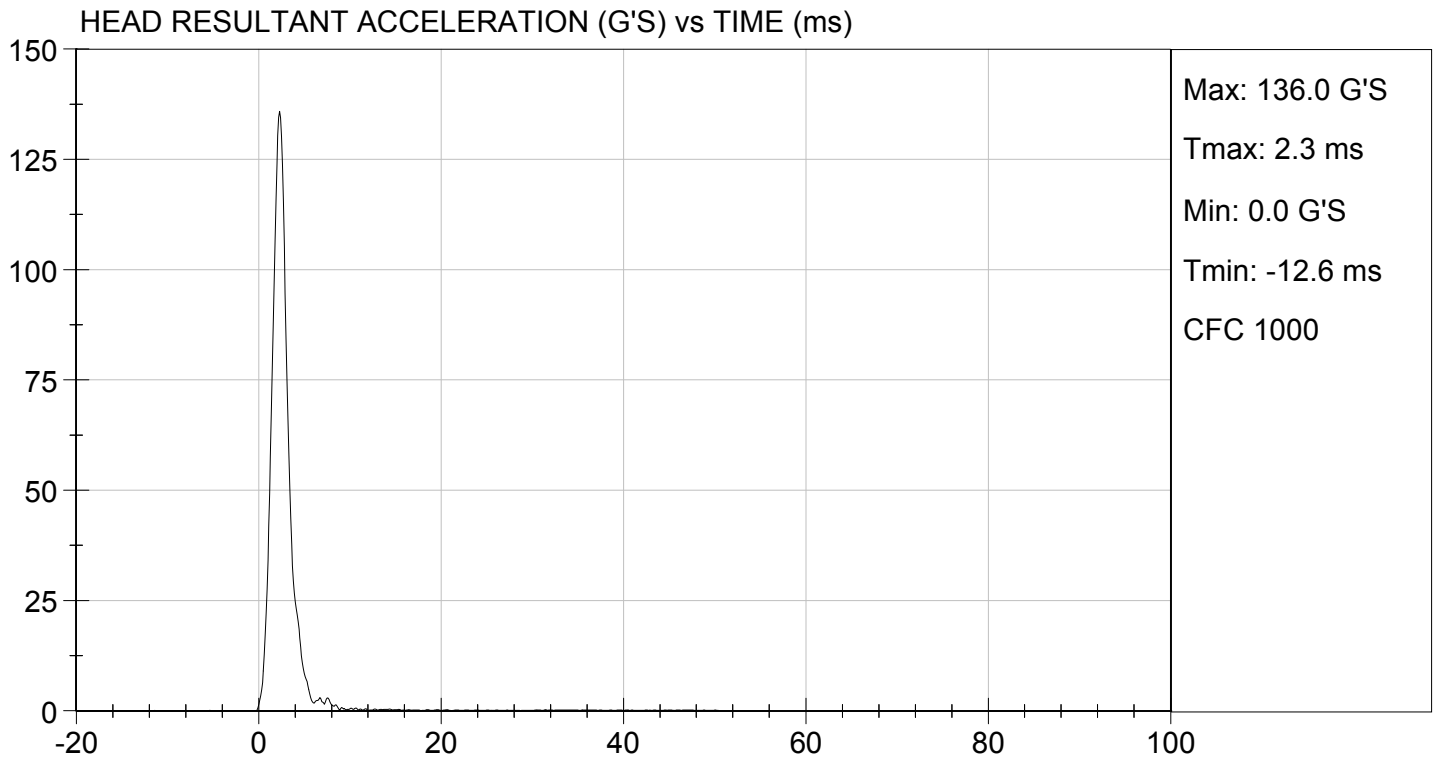
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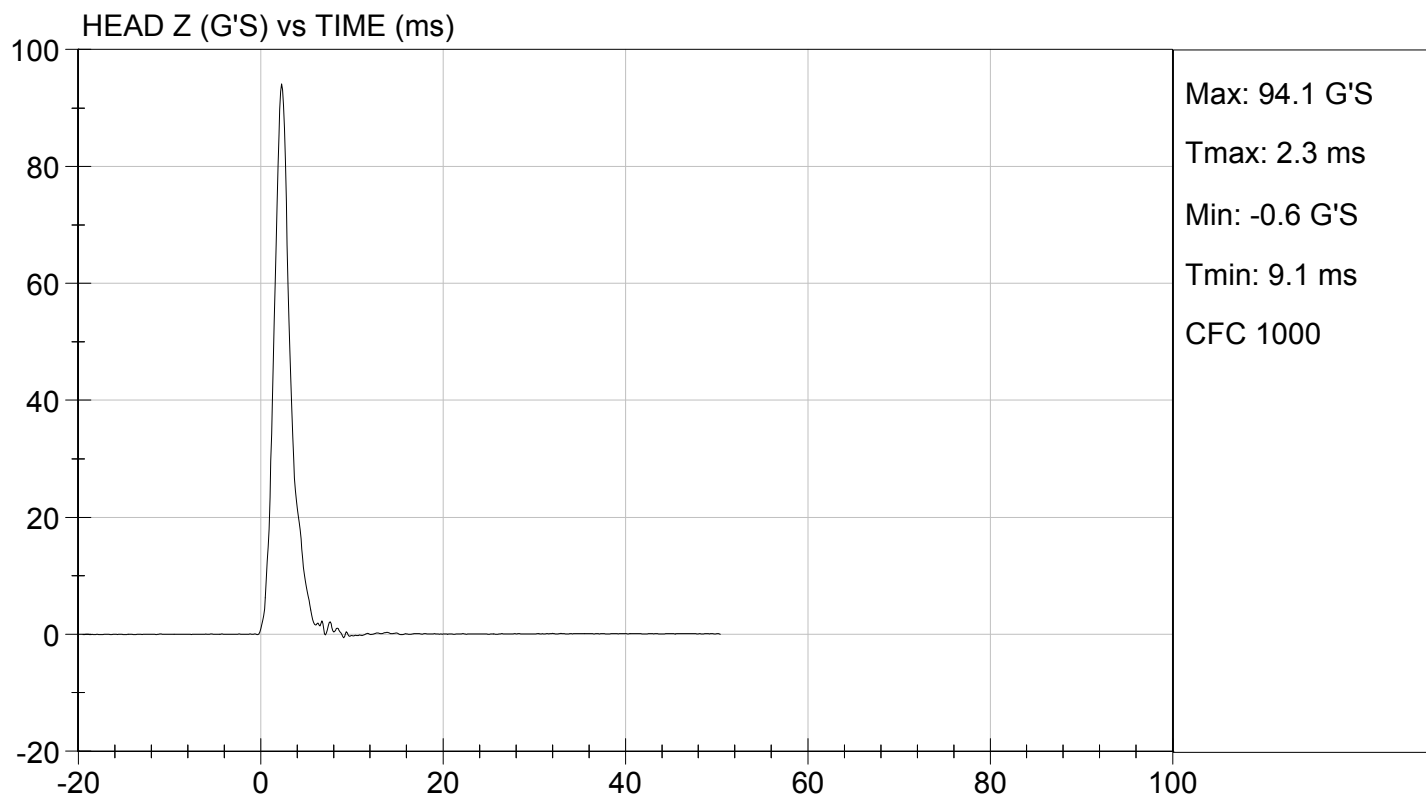
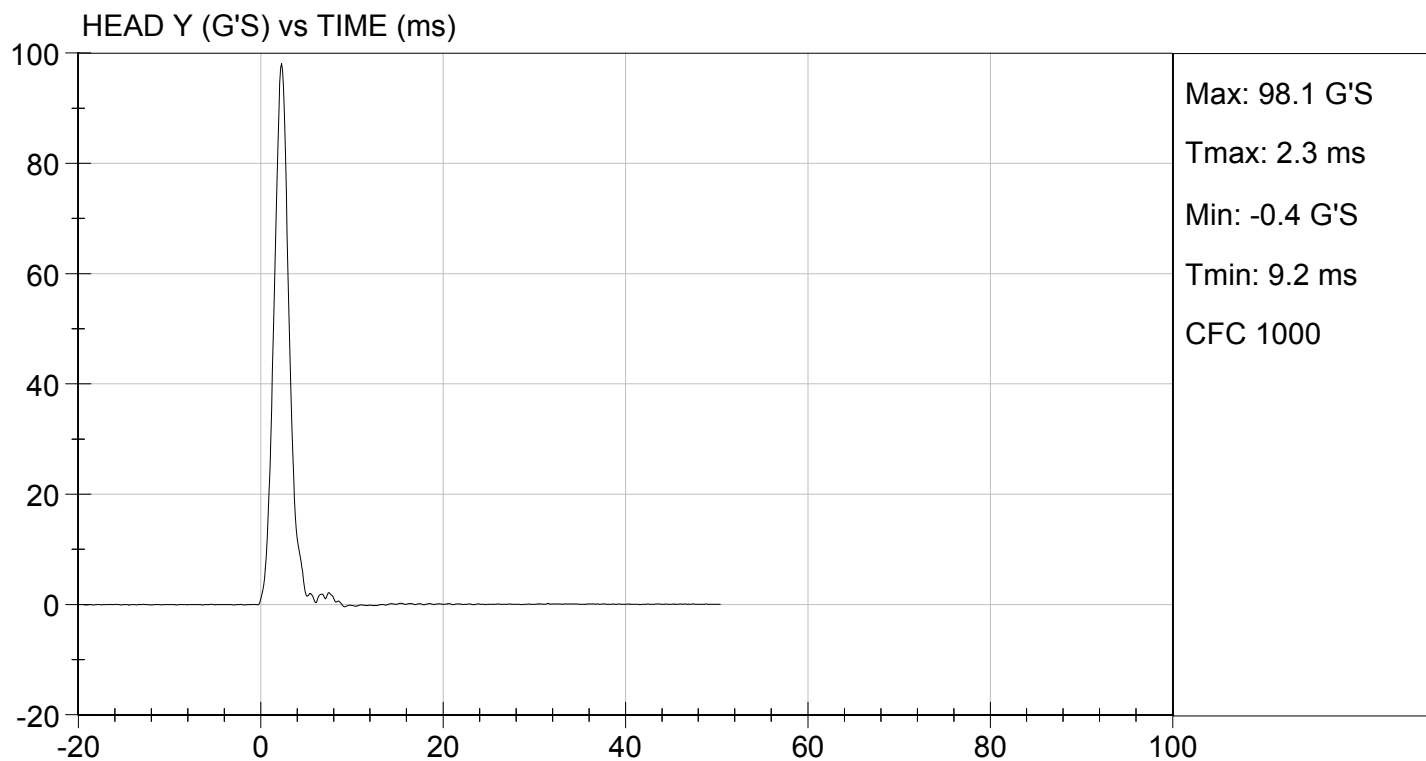
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Peak Resultant Acceleration	G's	115 to 137	136	Pass
Peak Longitudinal Acceleration	G's	+/- 15	4.0	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results			Pass	


Laboratory Technician

09/28/2016
Test Date

Approved By





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

ATD Serial No: 296

Test I.D: D163292

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.8	Pass
Humidity		%	10 to 70	43	Pass
Impact Velocity		m/s	5.51 to 5.63	5.58	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.60	Pass
	15 ms	m/s	3.30 to 4.10	3.82	Pass
	20 ms	m/s	4.40 to 5.40	5.17	Pass
	25 ms	m/s	5.40 to 6.10	5.48	Pass
	25-100 ms	m/s	5.50 to 6.20	5.51	Pass
Maximum D-Plane Rotation		deg	71 to 81	72	Pass
Time of Maximum D-Plane Rotation		ms	50 to 70	61	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-41	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	112	Pass
Overall Test Results					Pass

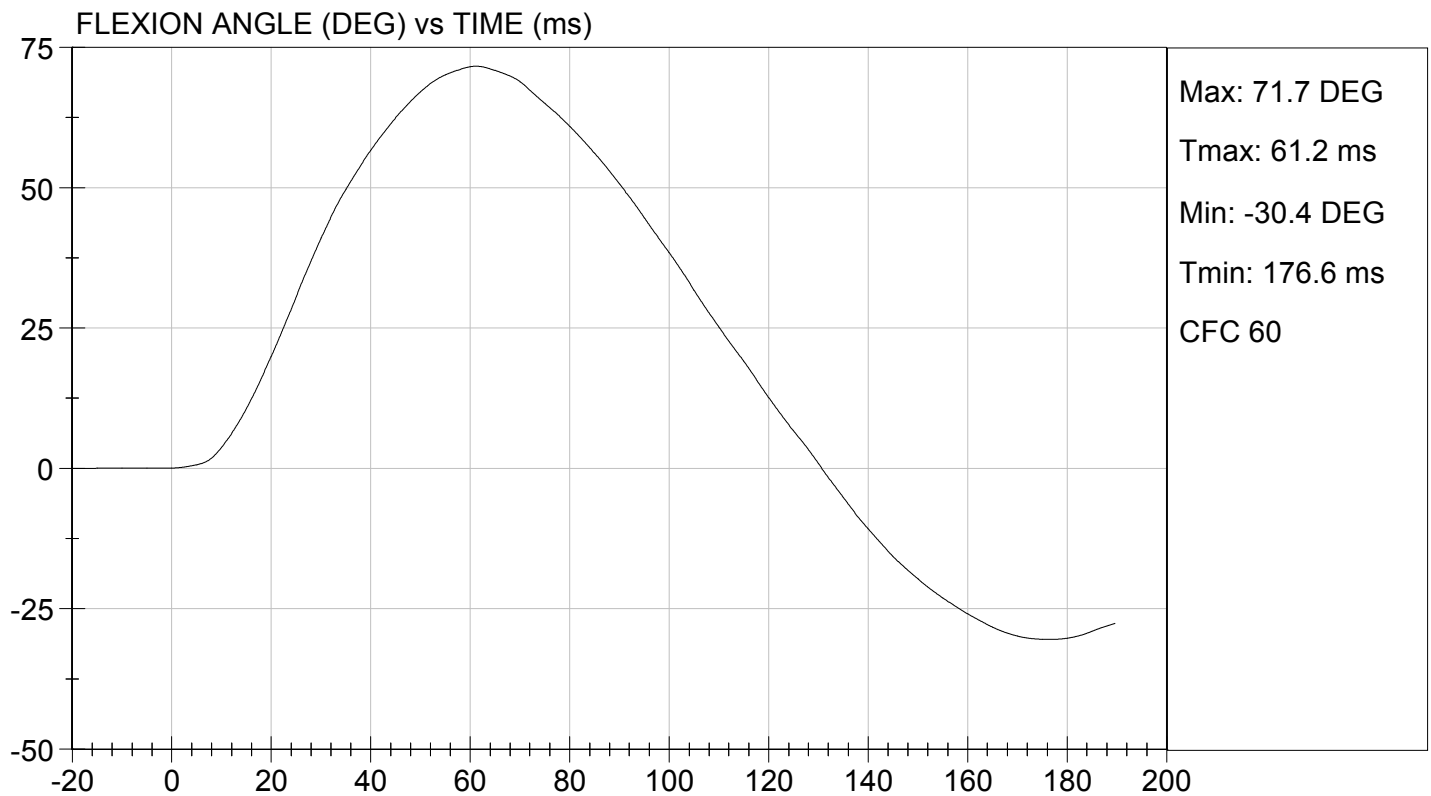
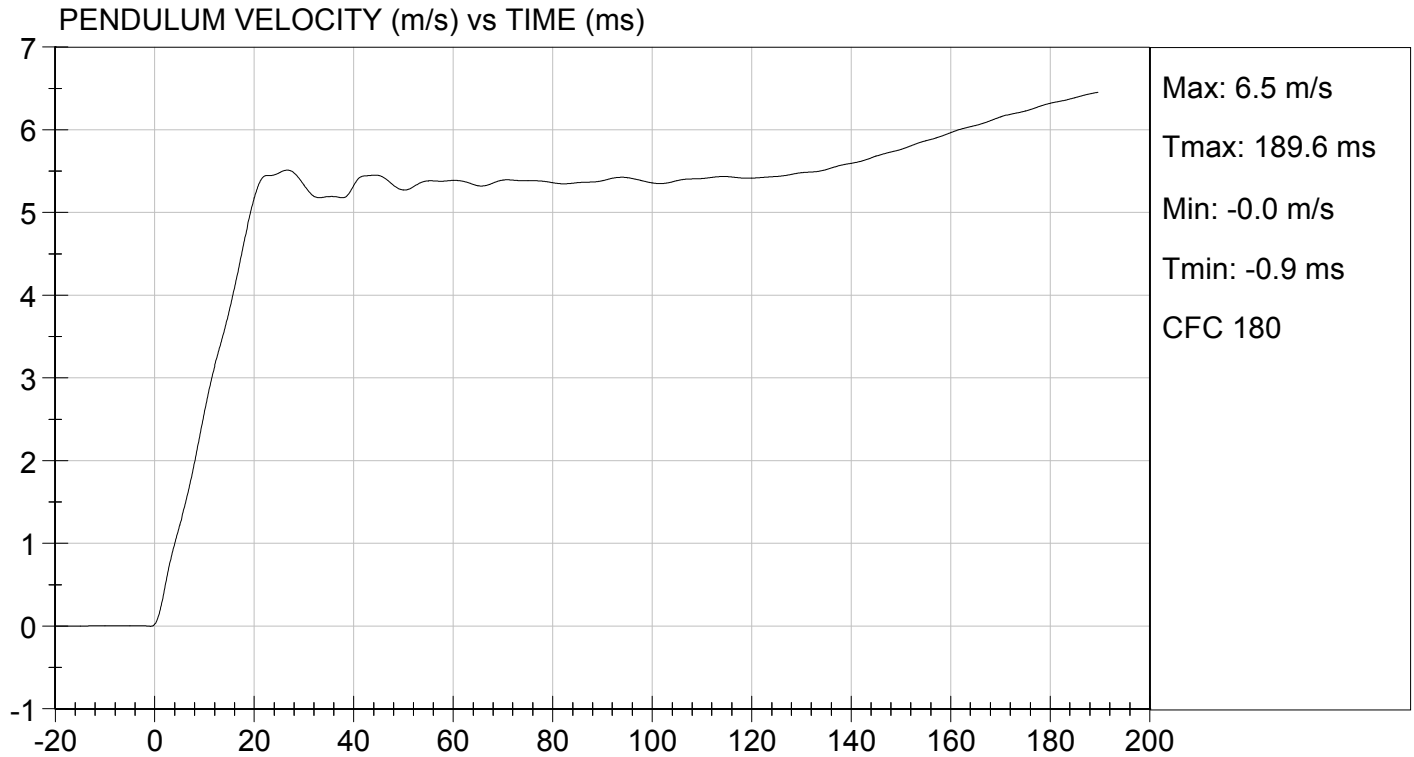


Laboratory Technician

09/28/2016

Test Date

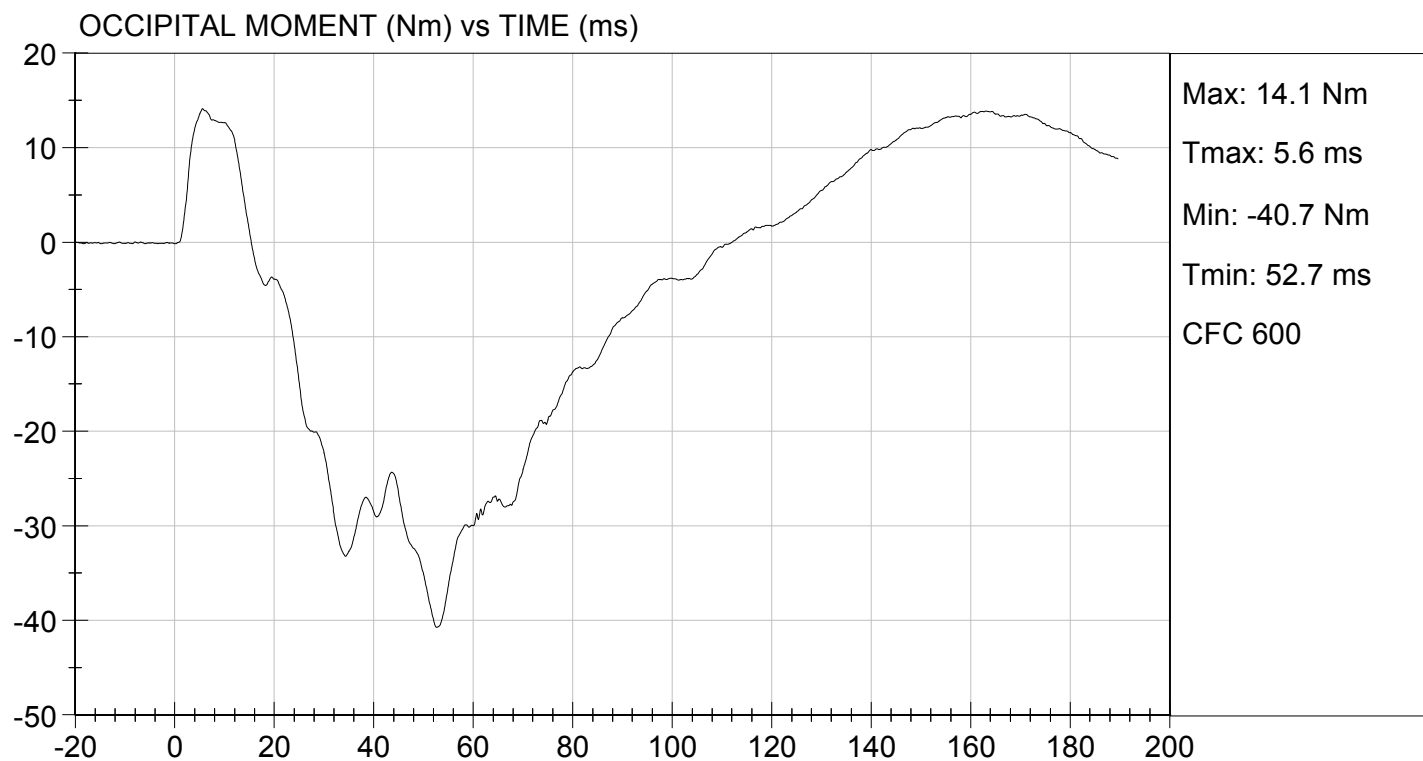
Approved By





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

TEST DATE: 09/28/2016
TEST #: D163292

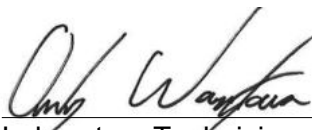


MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

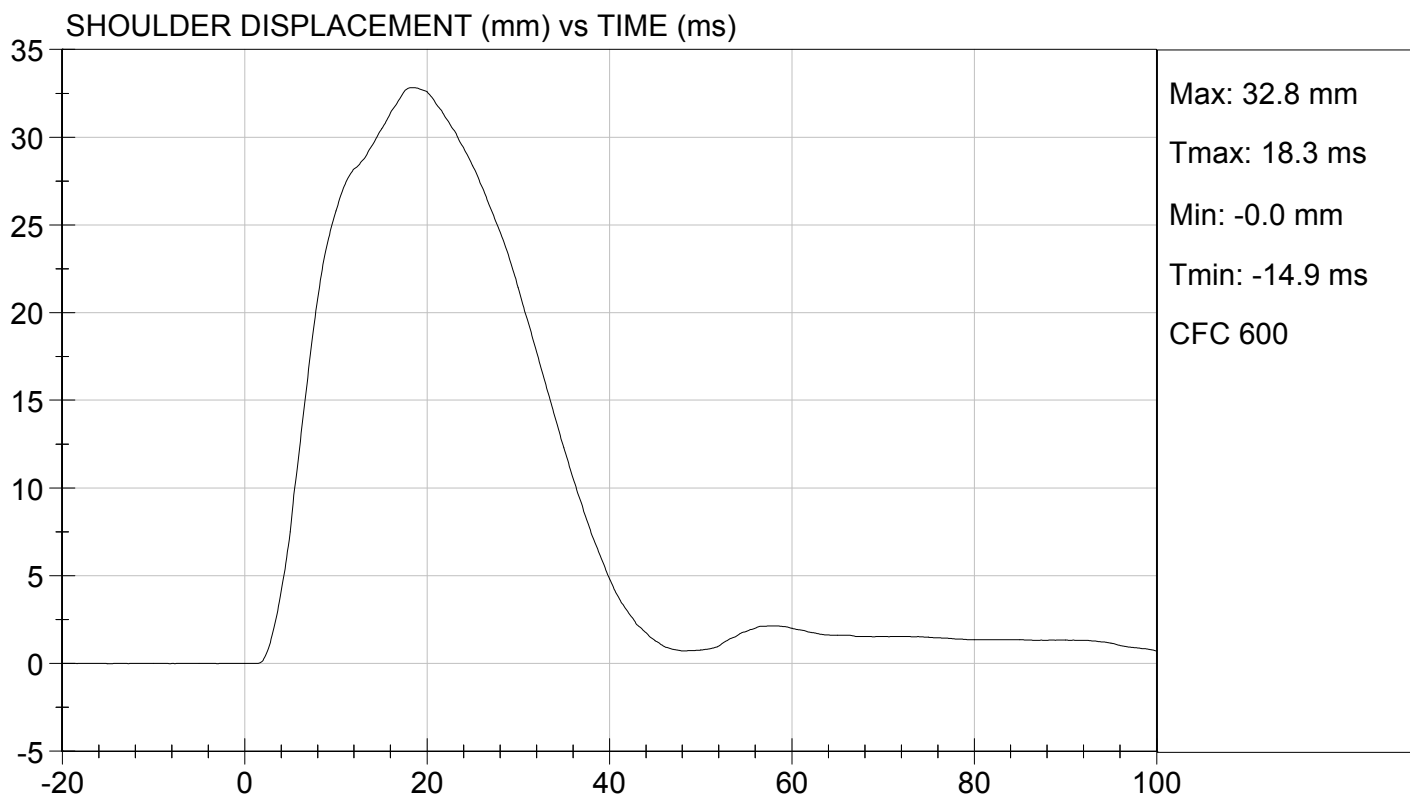
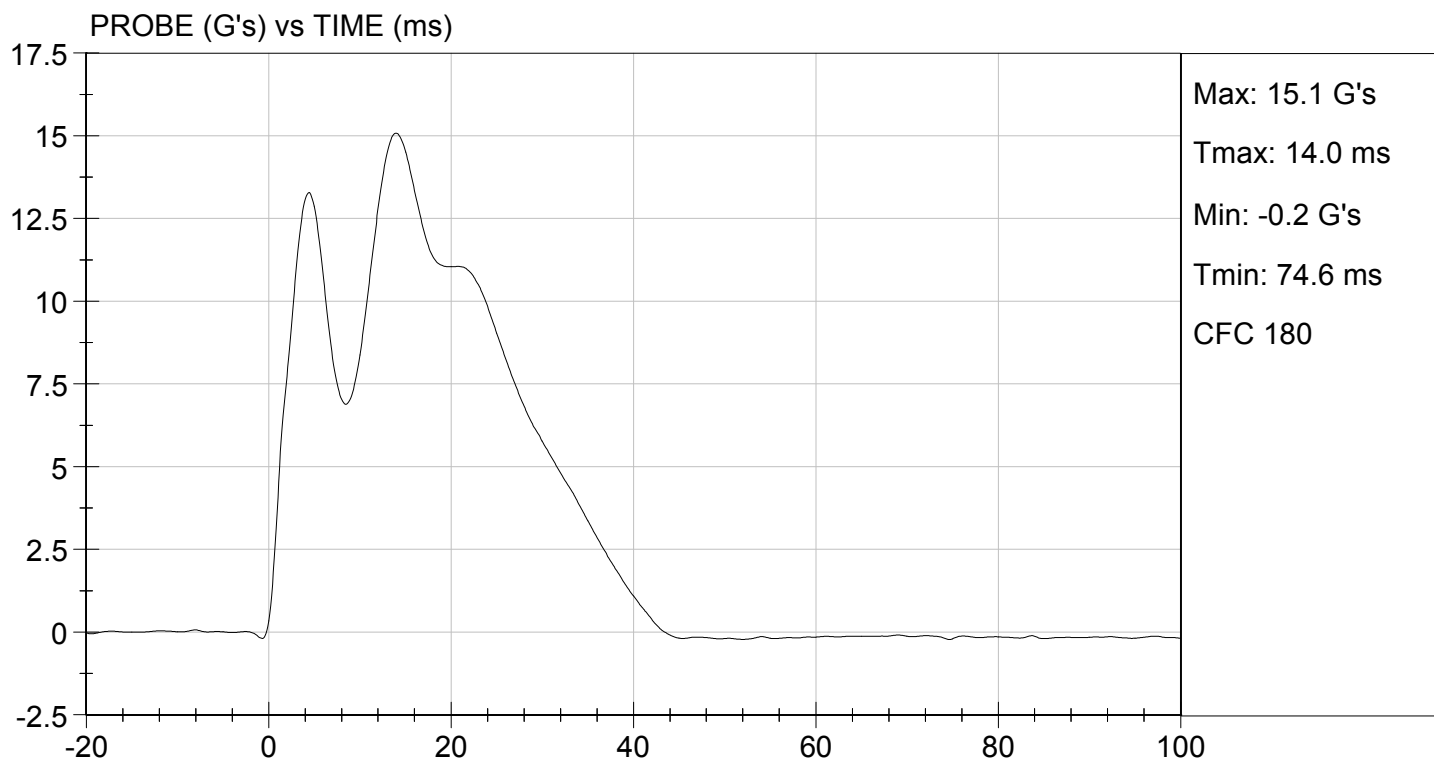
Test ID: D163293

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	42	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	33	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass


Laboratory Technician

09/28/2016
Test Date

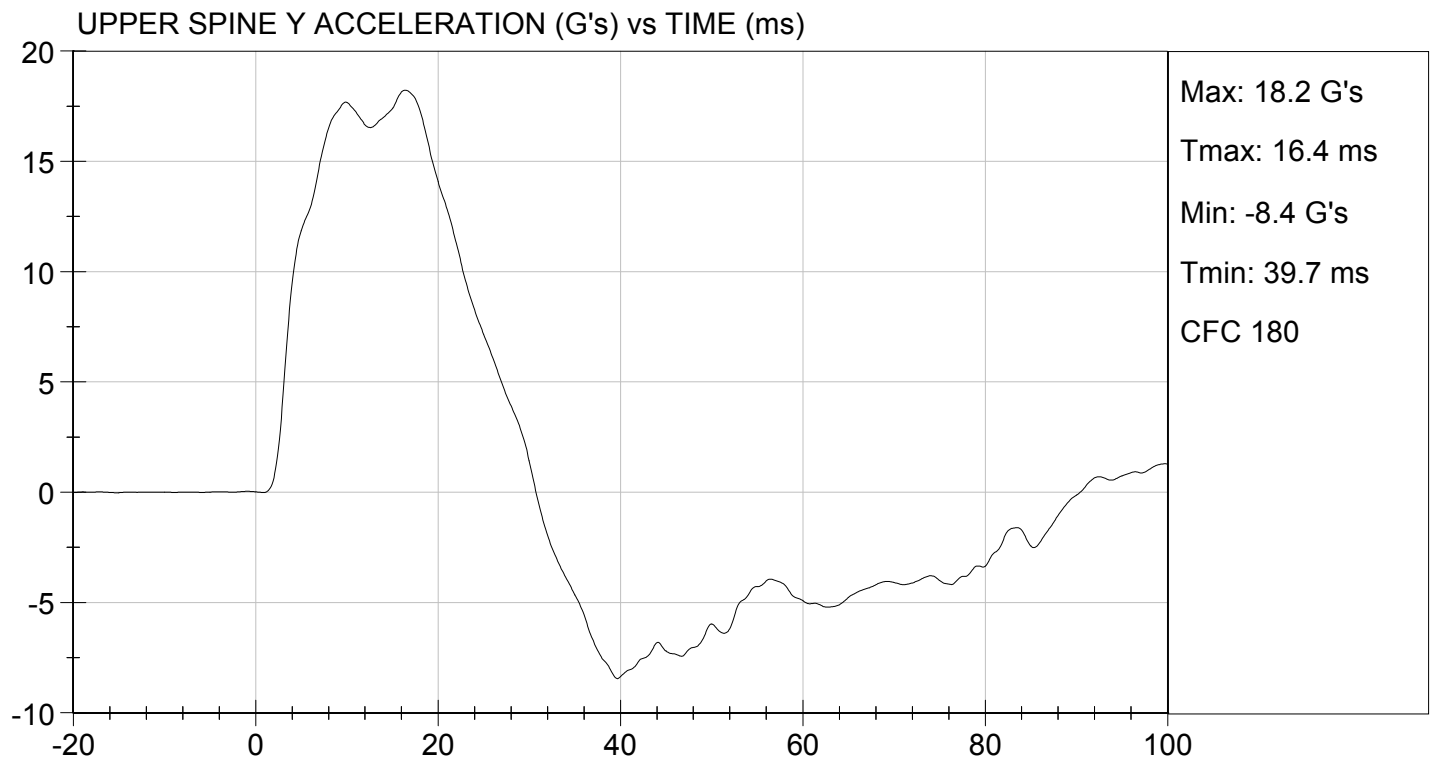
Approved By





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

TEST DATE: 09/28/2016
TEST #: D163293

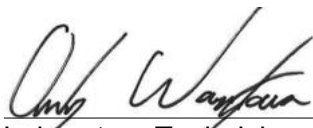


MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163294

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	42	Pass
Impact Velocity	m/s	6.60 to 6.80	6.60	Pass
Maximum Probe Acceleration	G's	30 to 36	31	Pass
Shoulder Displacement	mm	31 to 40	40	Pass
Upper Rib Displacement	mm	25 to 32	29	Pass
Middle Rib Displacement	mm	30 to 36	31	Pass
Lower Rib Displacement	mm	32 to 38	32	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	36	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	32	Pass
Overall Test Results				Pass


Laboratory Technician

09/28/2016

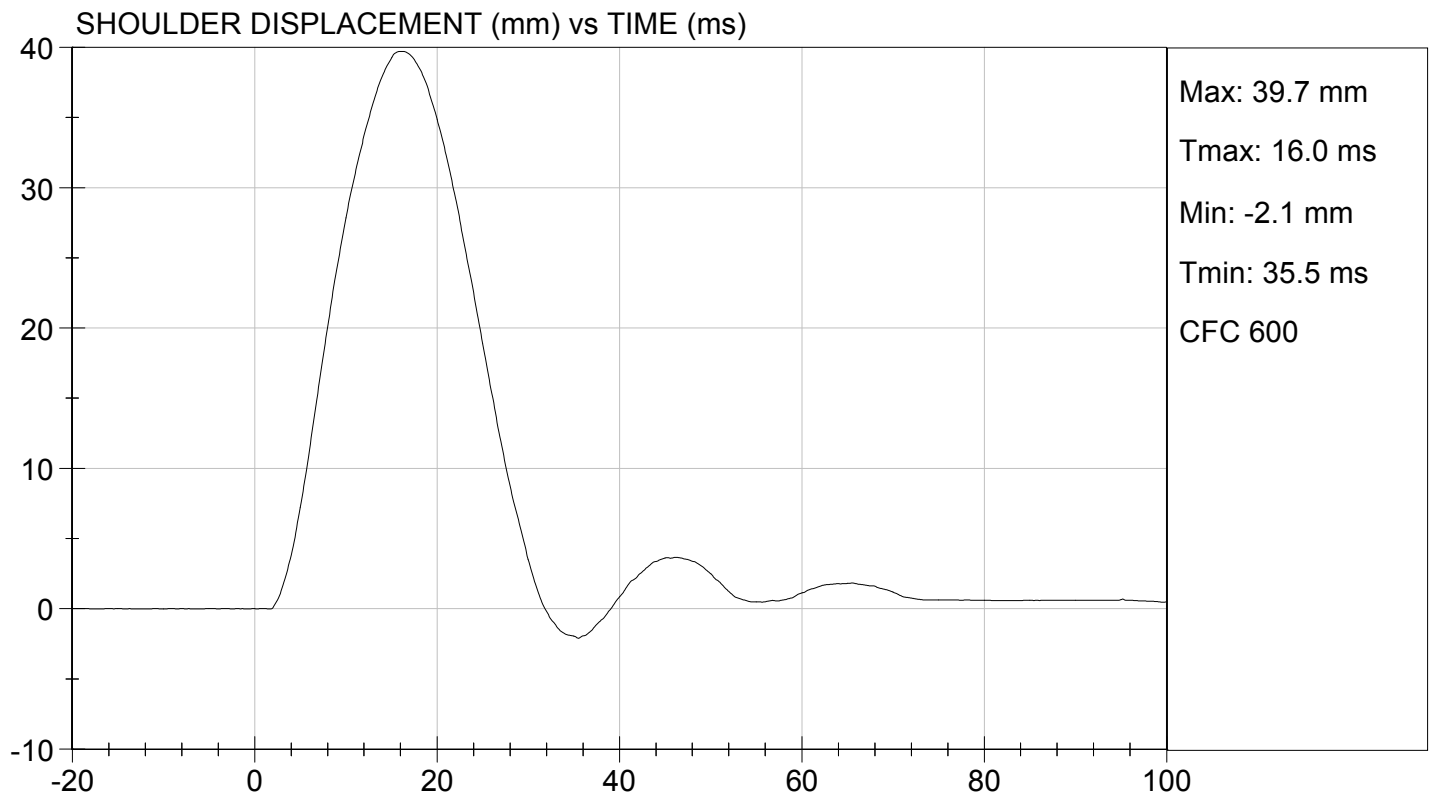
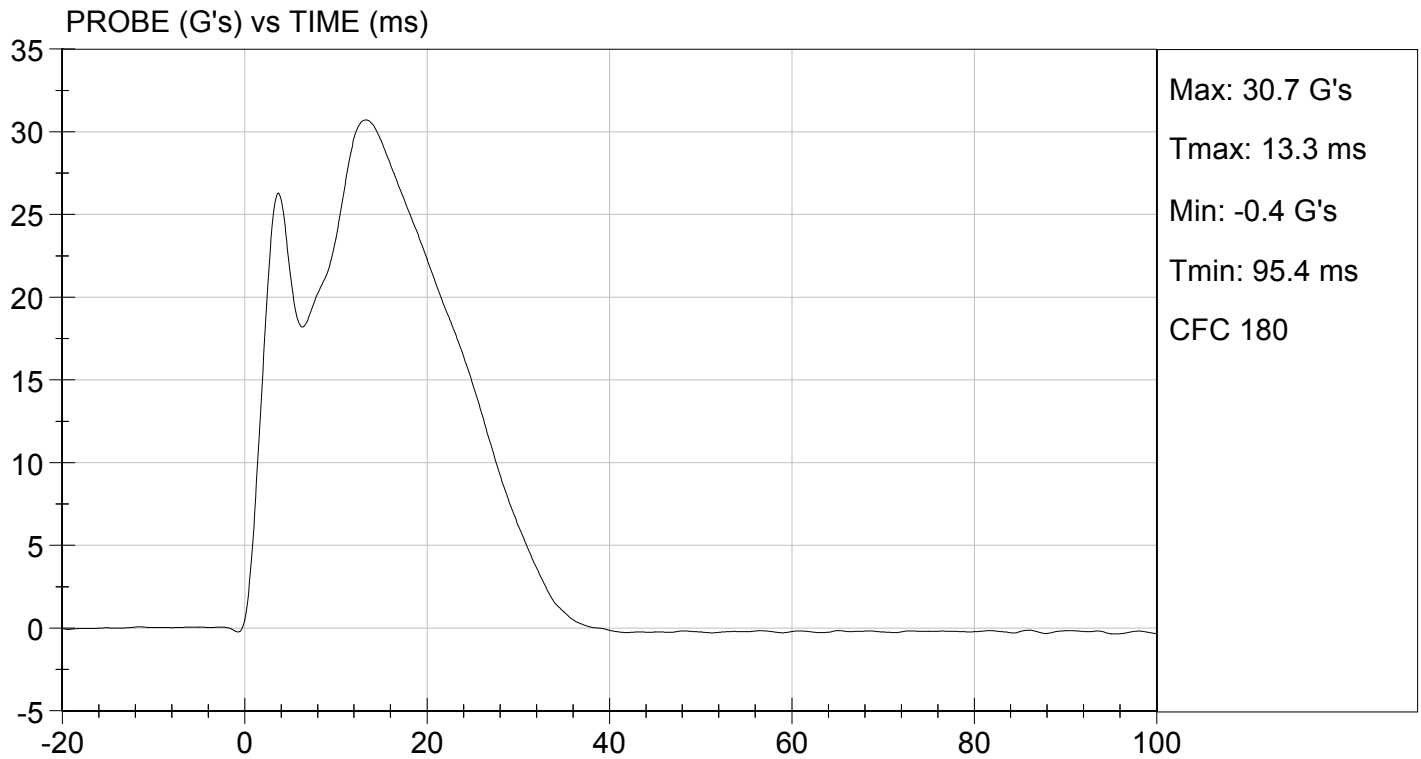
Test Date

Approved By _____



TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.65 ft/s, 6.60 m/s

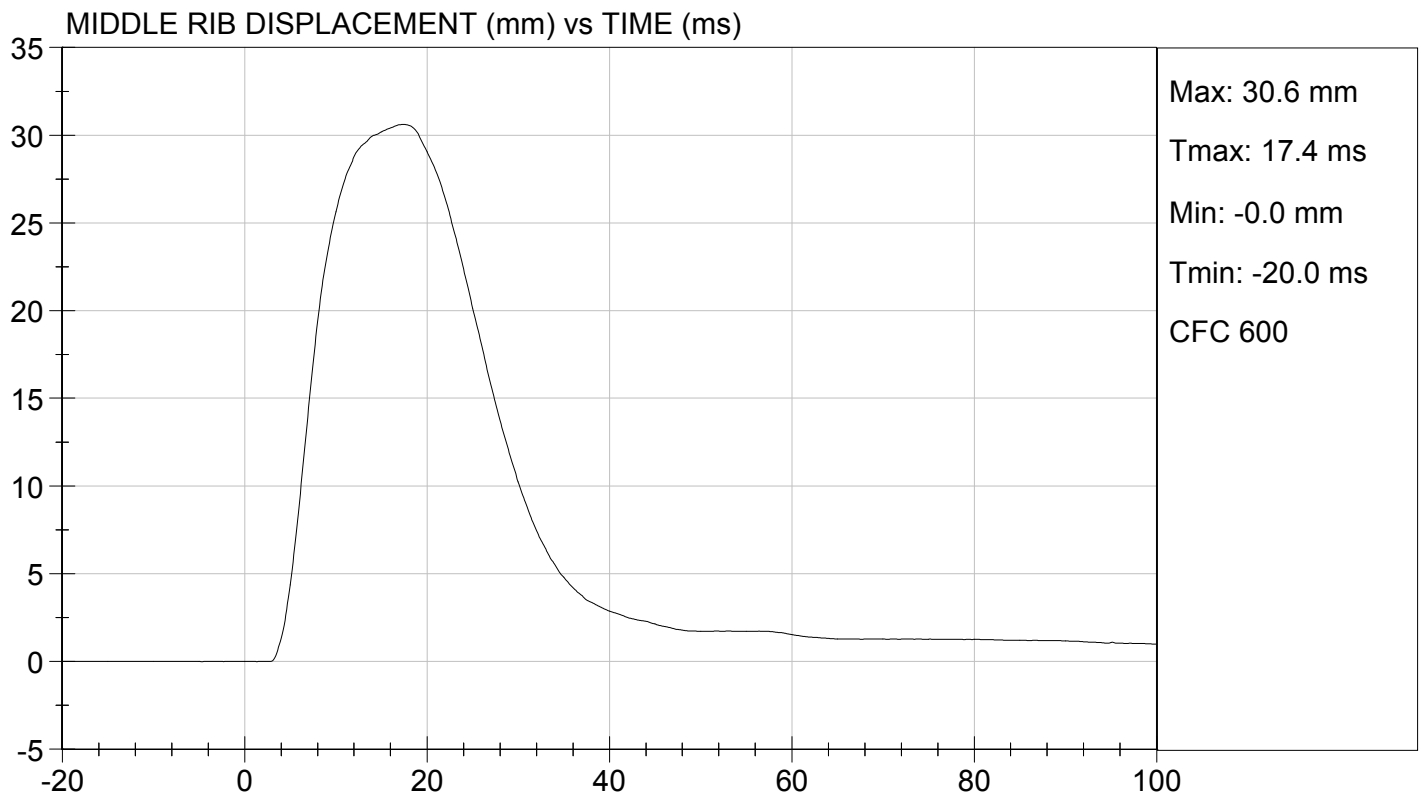
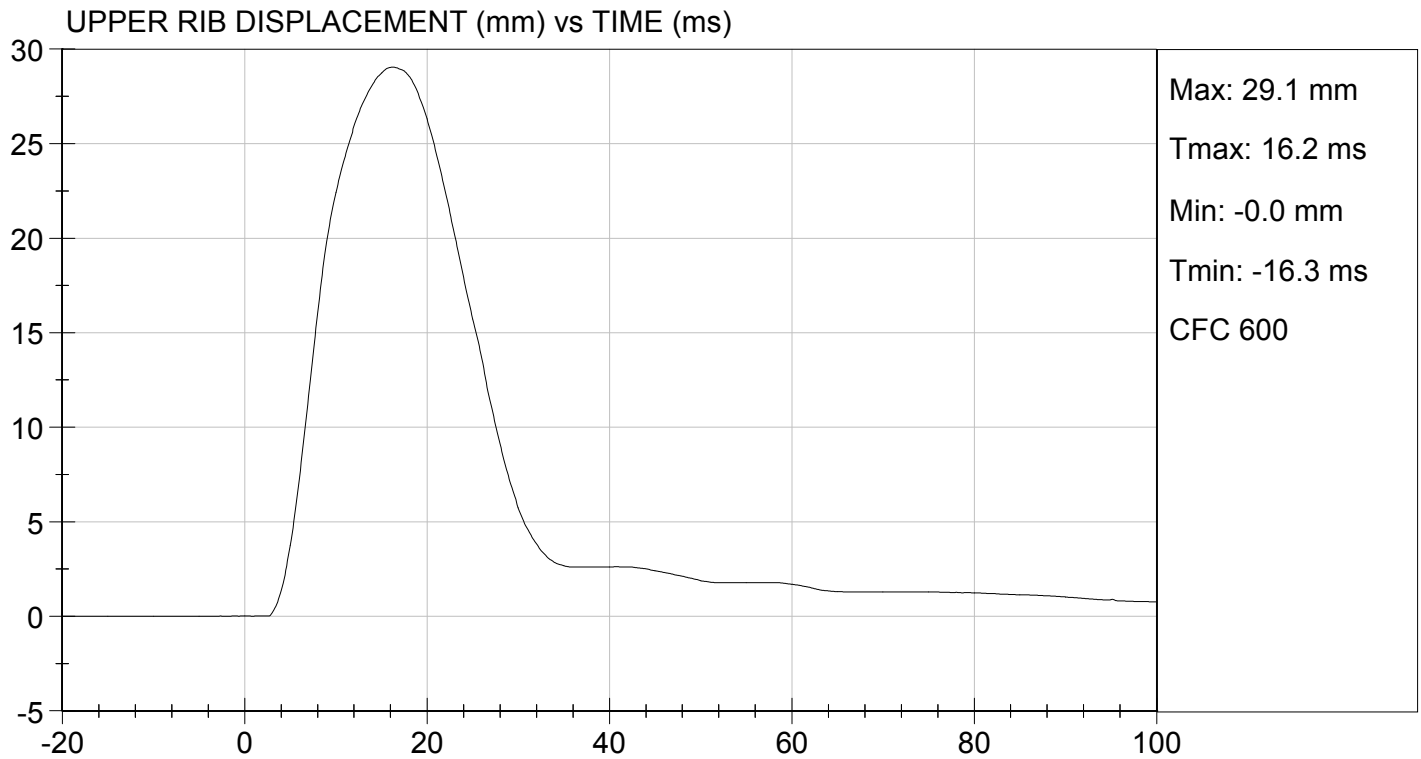
TEST DATE: 09/28/2016
TEST #: D163294





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.65 ft/s, 6.60 m/s

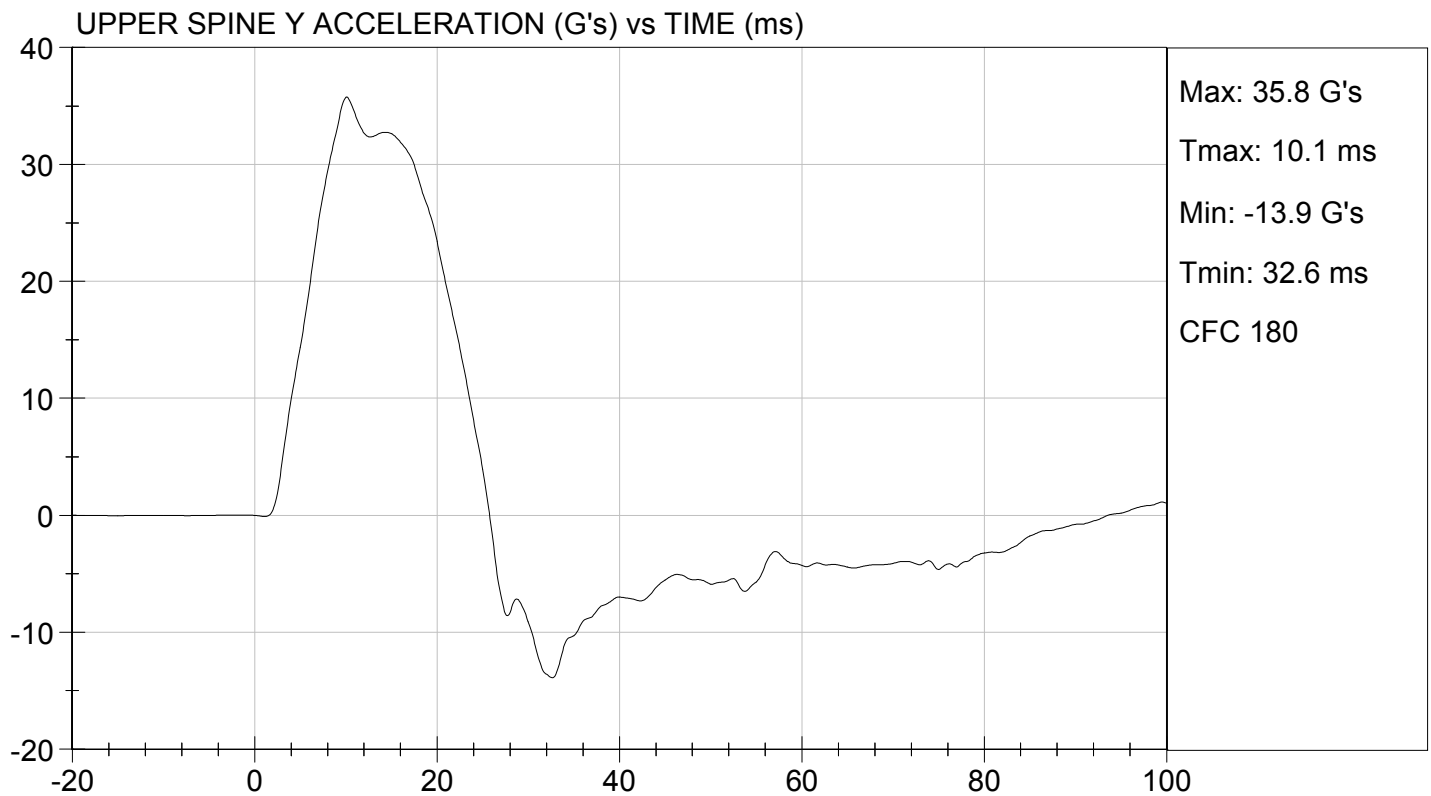
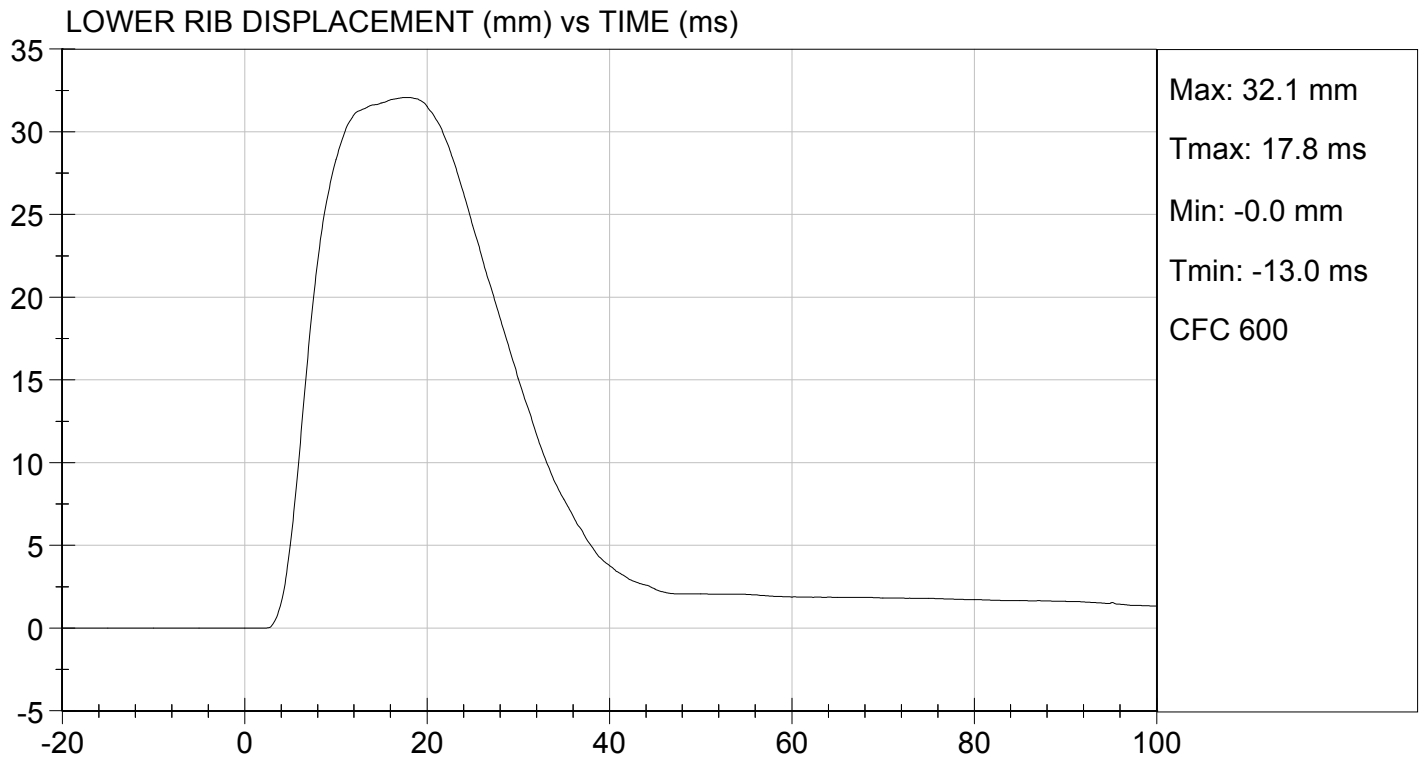
TEST DATE: 09/28/2016
TEST #: D163294





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.65 ft/s, 6.60 m/s

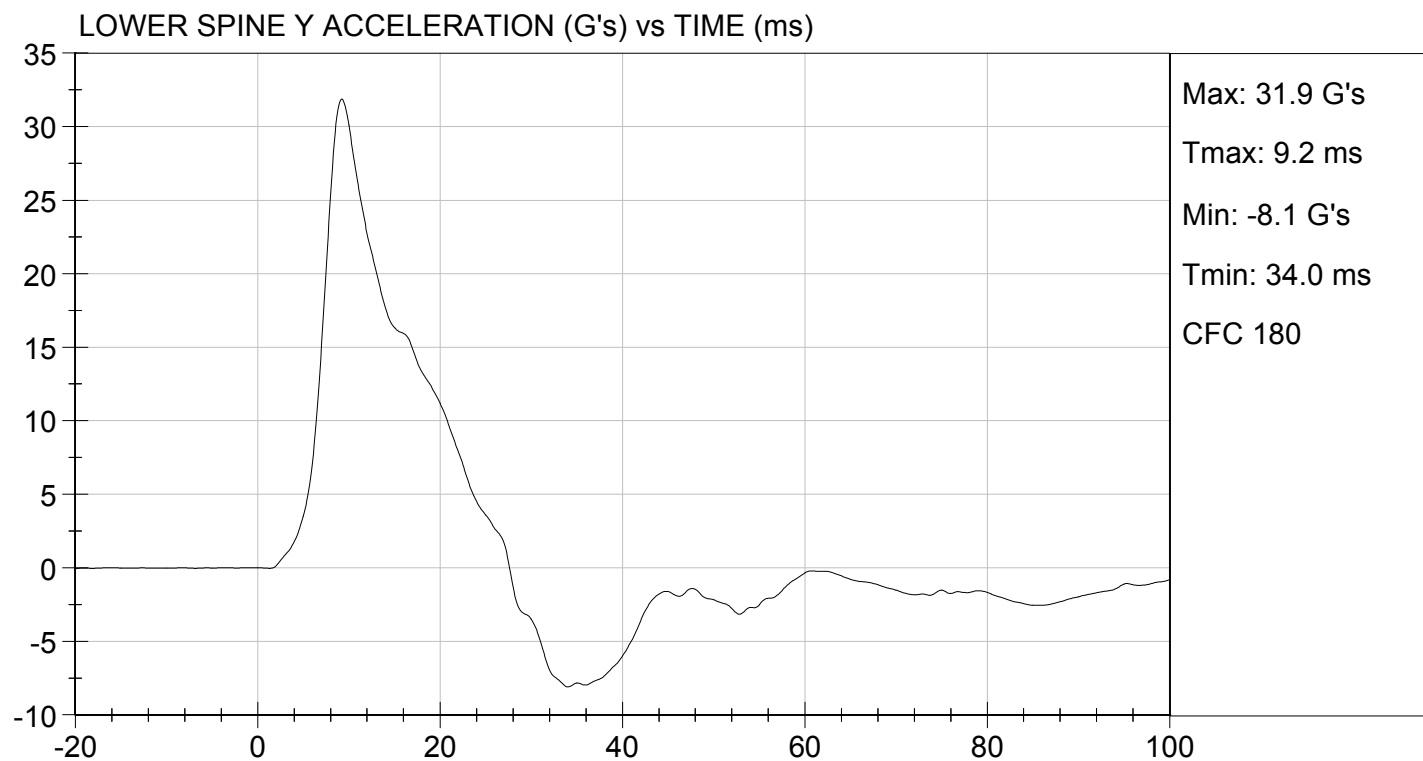
TEST DATE: 09/28/2016
TEST #: D163294





TEST DESC: THORAX IMPACT WITH ARM
VELOCITY: 21.65 ft/s, 6.60 m/s

TEST DATE: 09/28/2016
TEST #: D163294

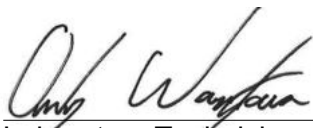


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163295

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	42	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	35	Pass
Middle Rib Displacement	mm	39 to 45	40	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	9	Pass
Overall Test Results				Pass


Laboratory Technician

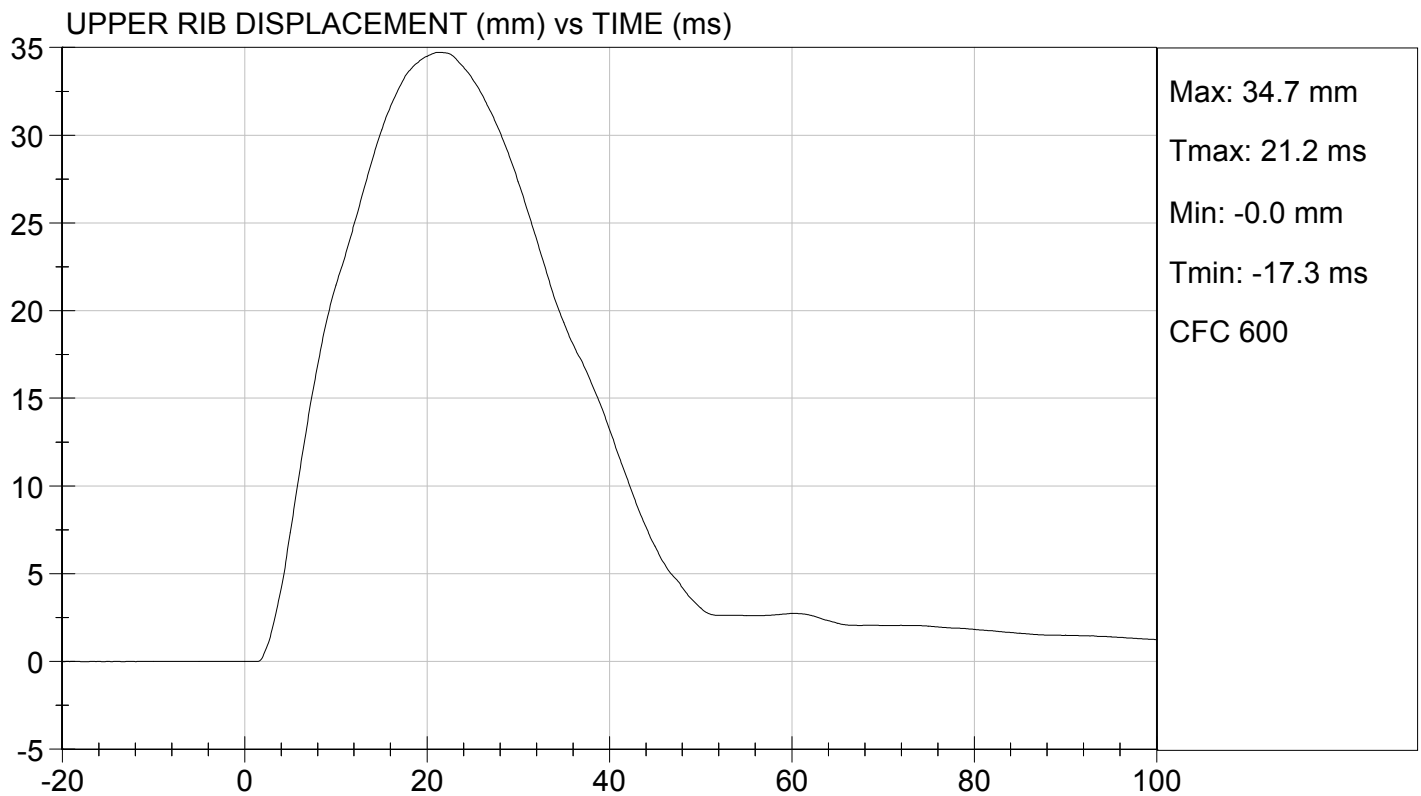
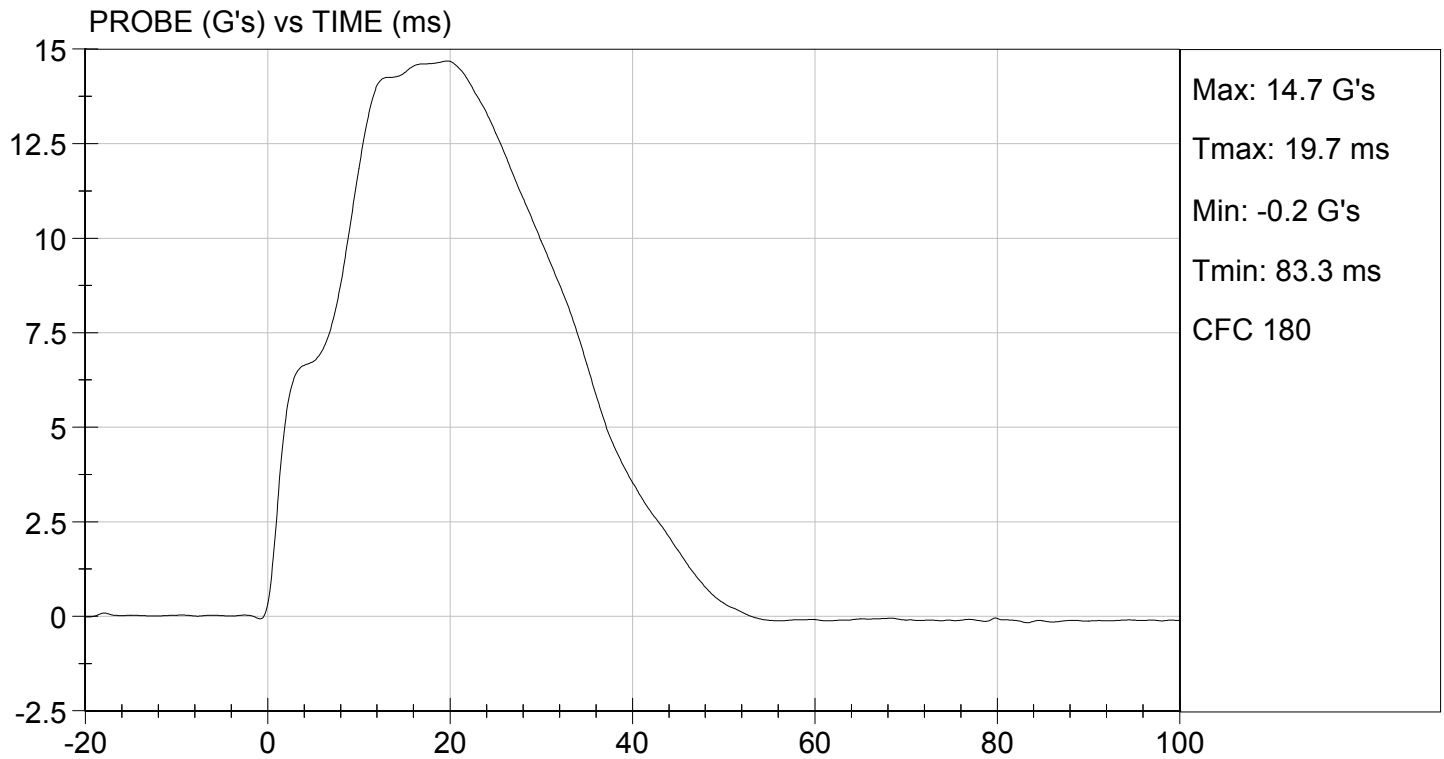
09/28/2016
Test Date

Approved By



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

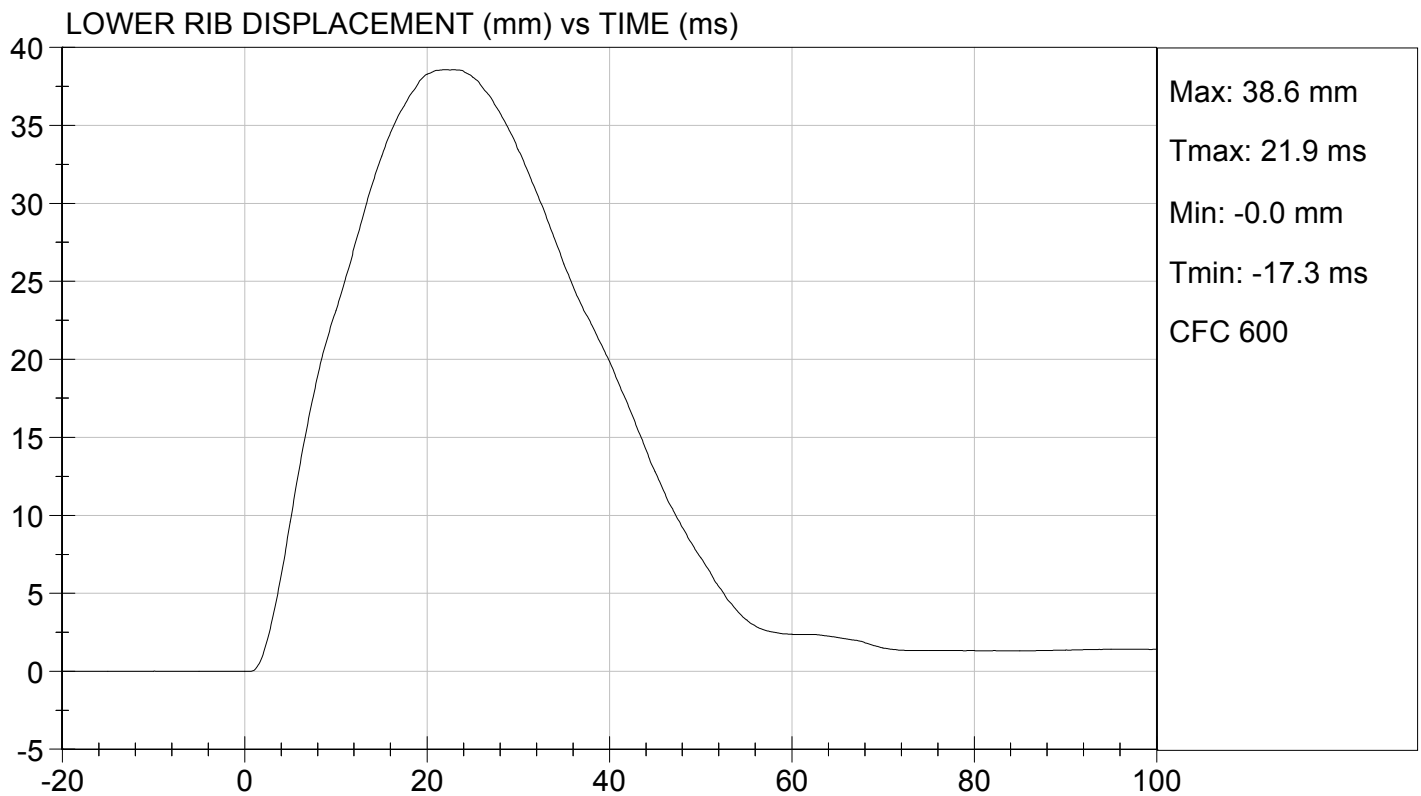
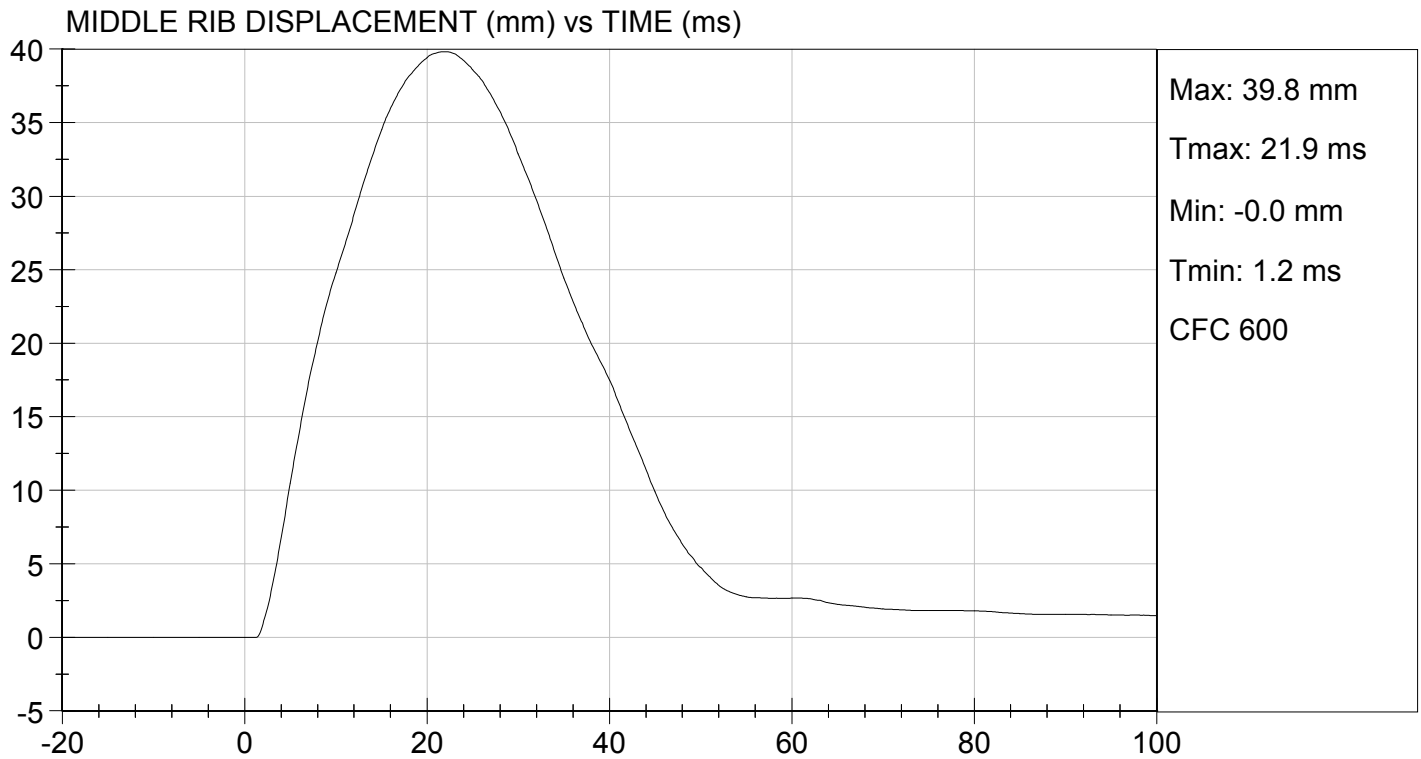
TEST DATE: 09/28/2016
TEST #: D163295





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

TEST DATE: 09/28/2016
TEST #: D163295

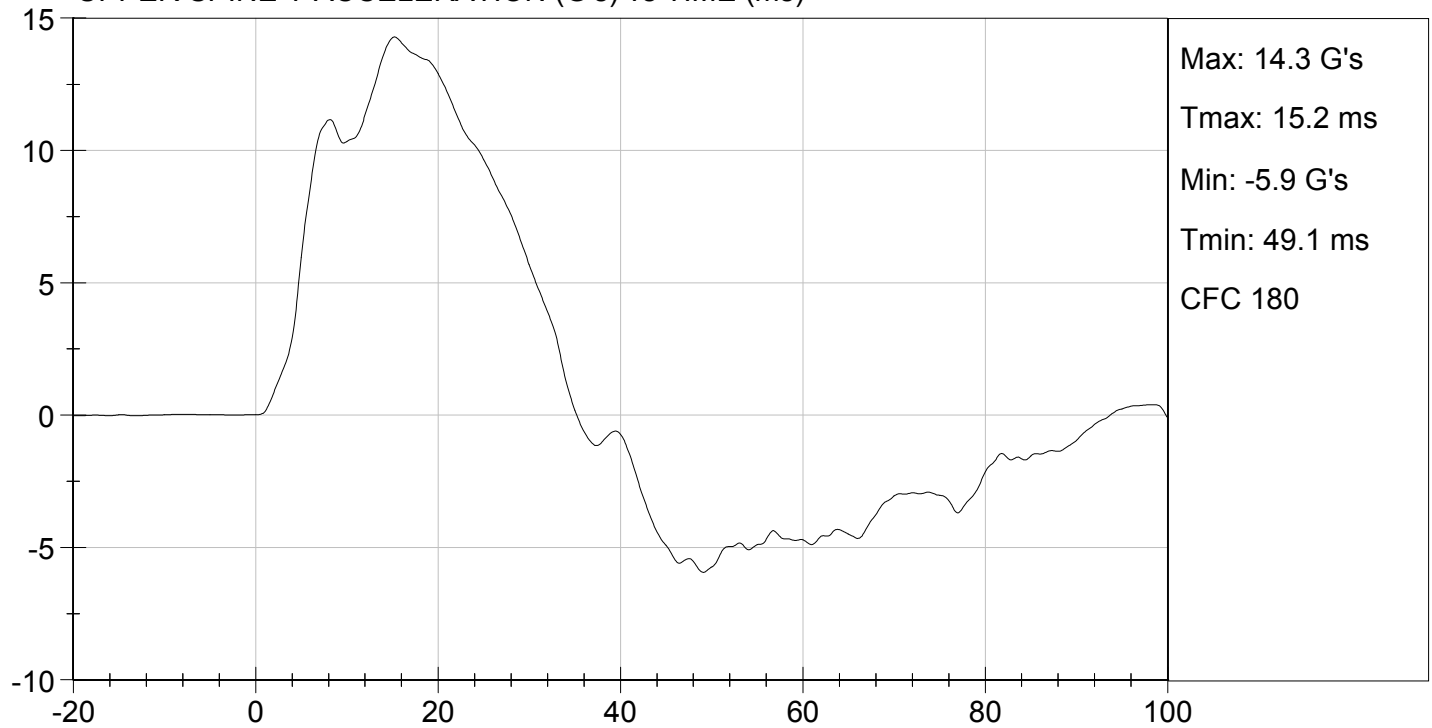




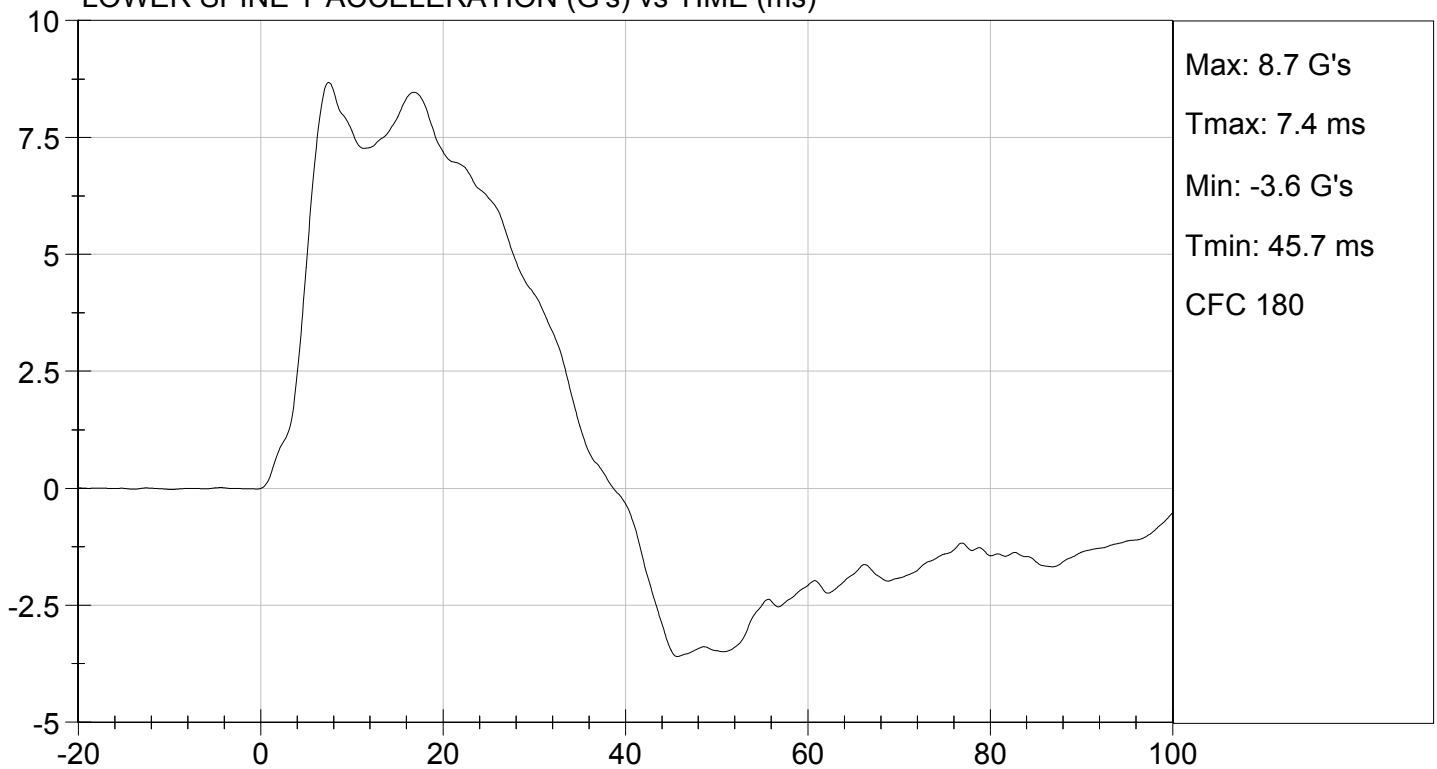
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 13.89 ft/s, 4.23 m/s

TEST DATE: 09/28/2016
TEST #: D163295

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



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



MGA RESEARCH CORPORATION

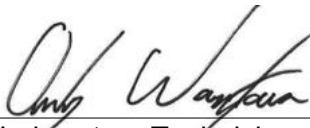
ABDOMINAL IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163296

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	42	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	40	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	39	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass



Laboratory Technician

09/28/2016

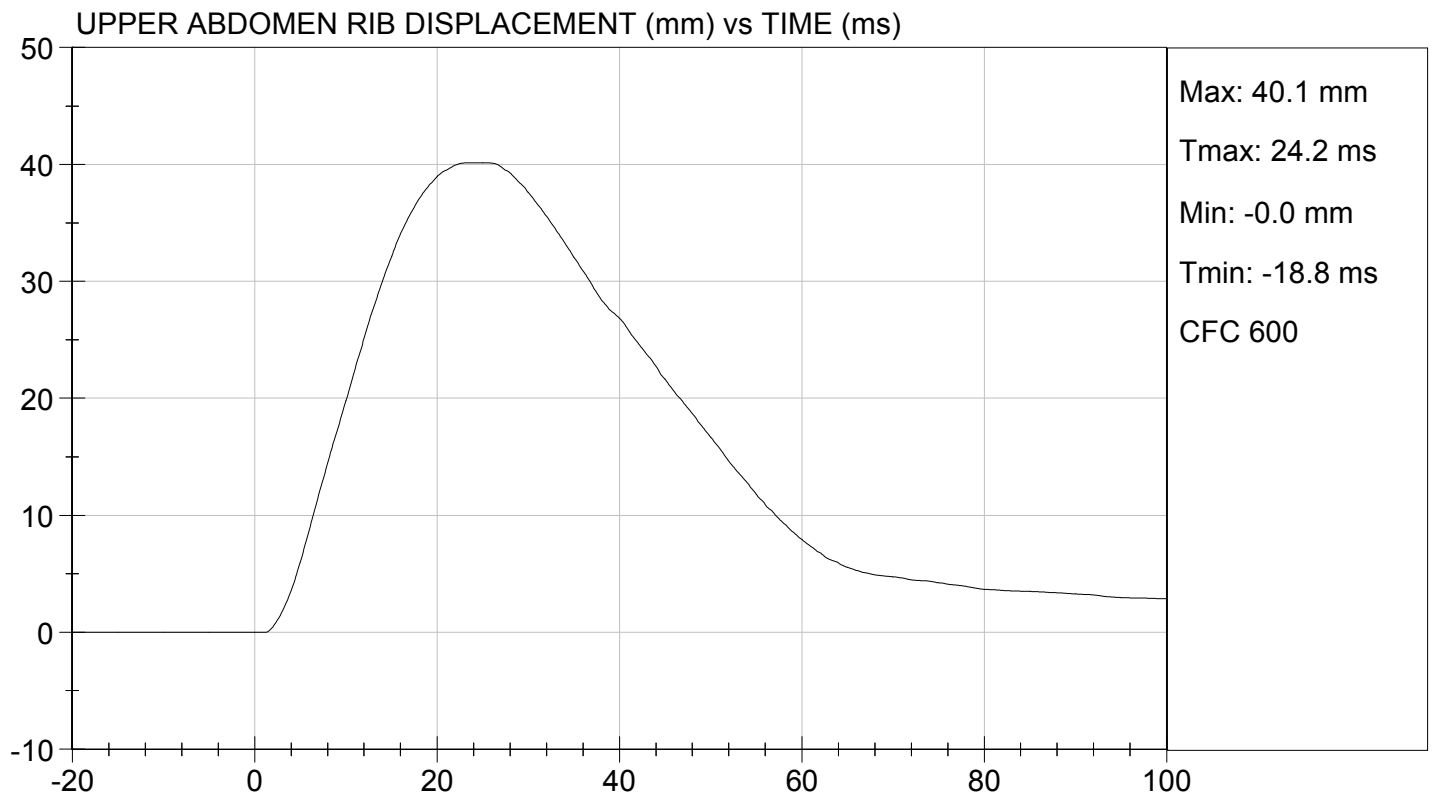
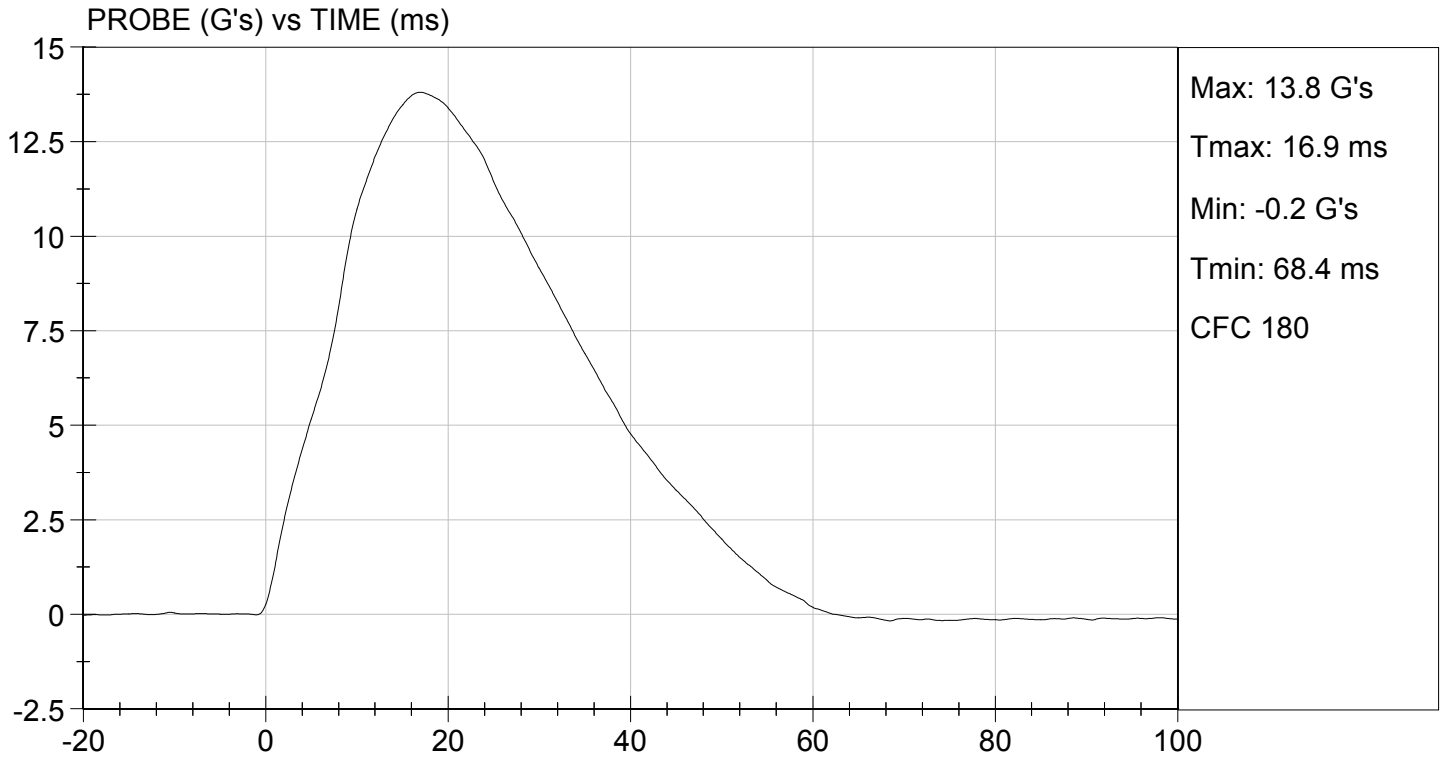
Test Date

Approved By _____



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

TEST DATE: 09/28/2016
TEST #: D163296

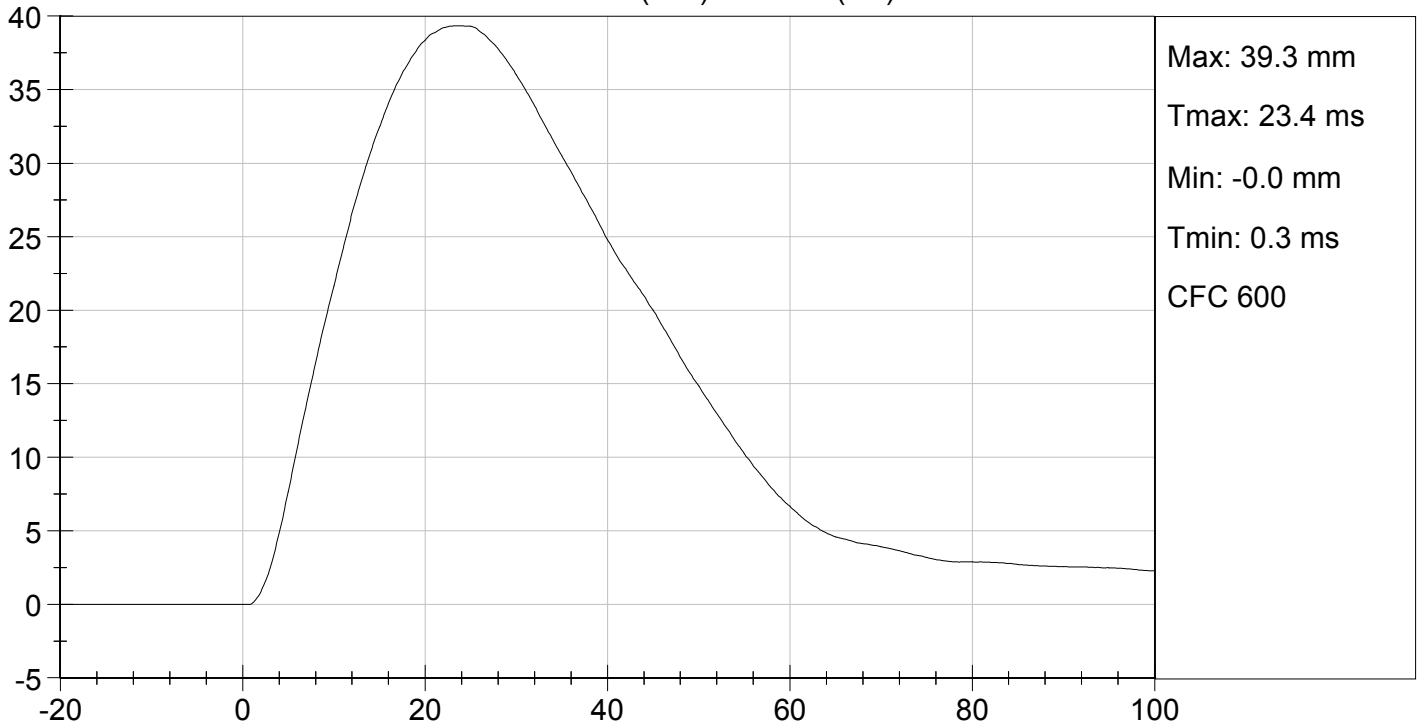




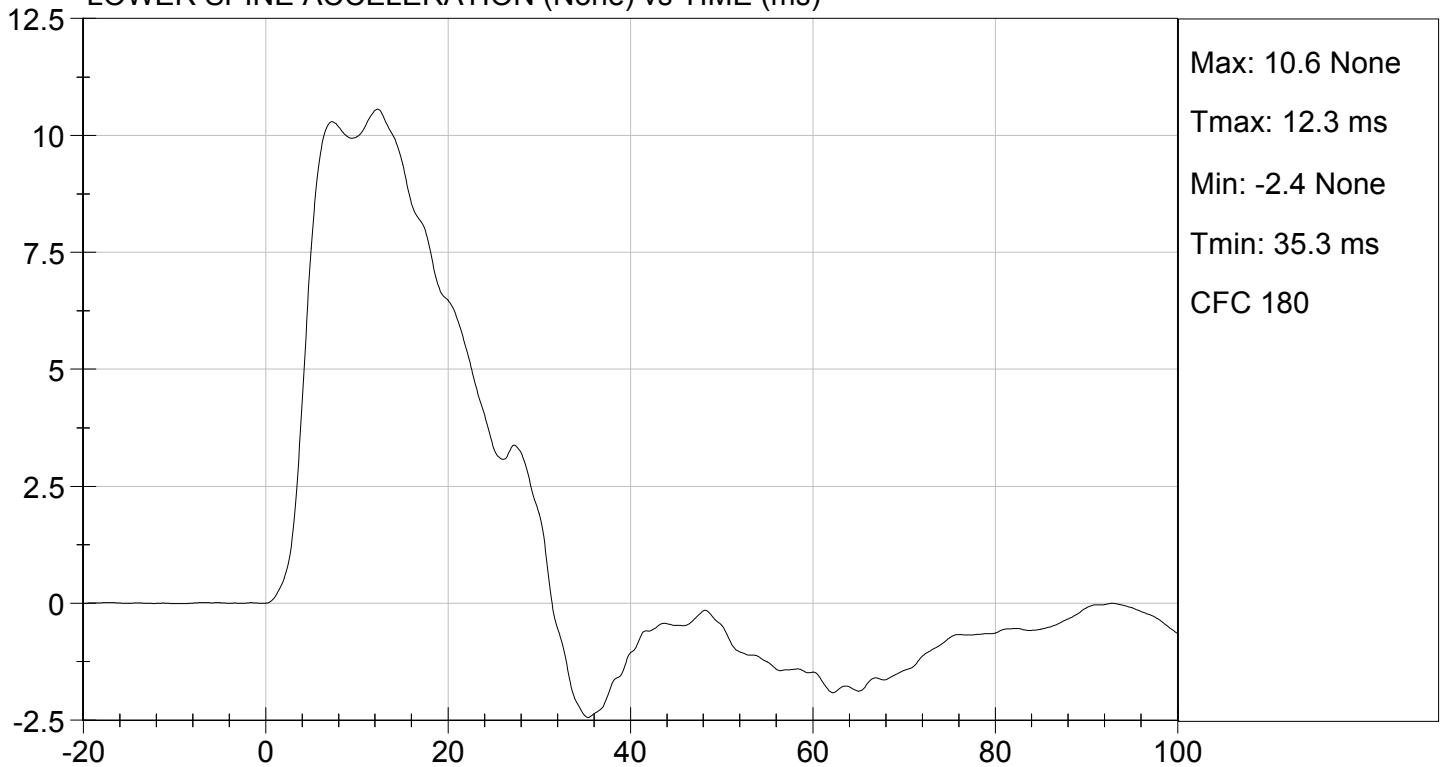
TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.25 ft/s, 4.34 m/s

TEST DATE: 09/28/2016
TEST #: D163296

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



LOWER SPINE ACCELERATION (None) vs TIME (ms)



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163297

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	42	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	42	Pass
Peak Acetabulum Force	N	3600 to 4300	4,108	Pass
Overall Test Results				Pass

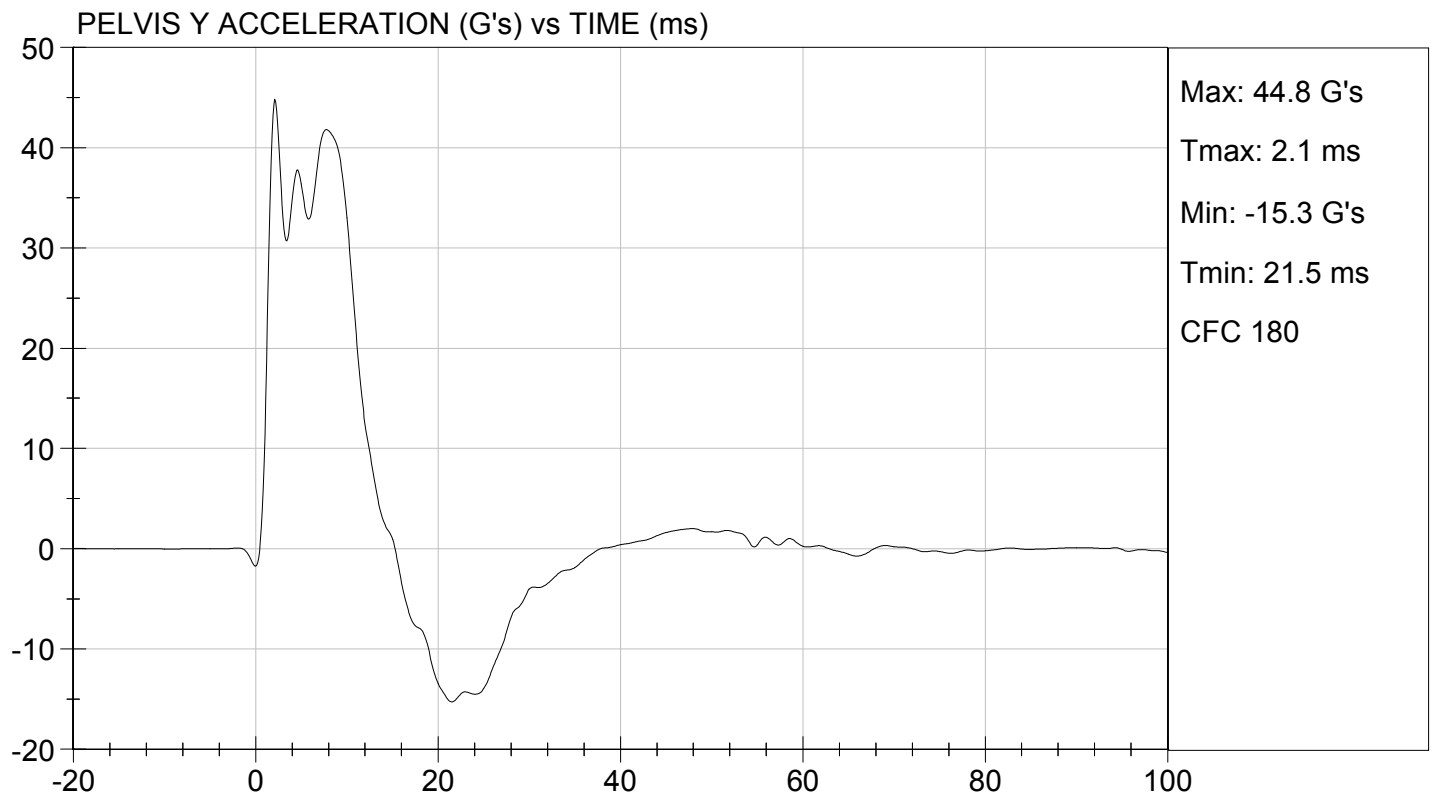
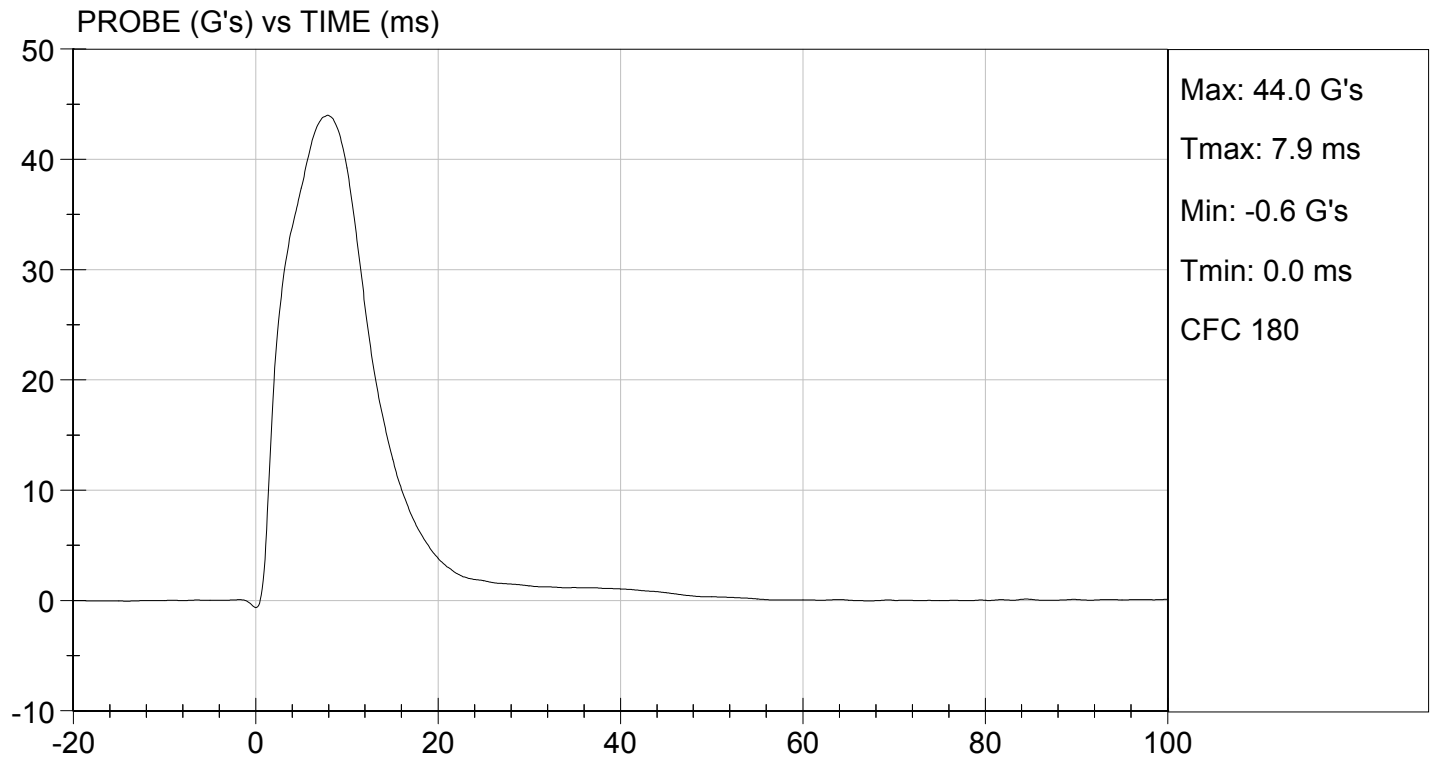


Laboratory Technician

09/28/2016

Test Date

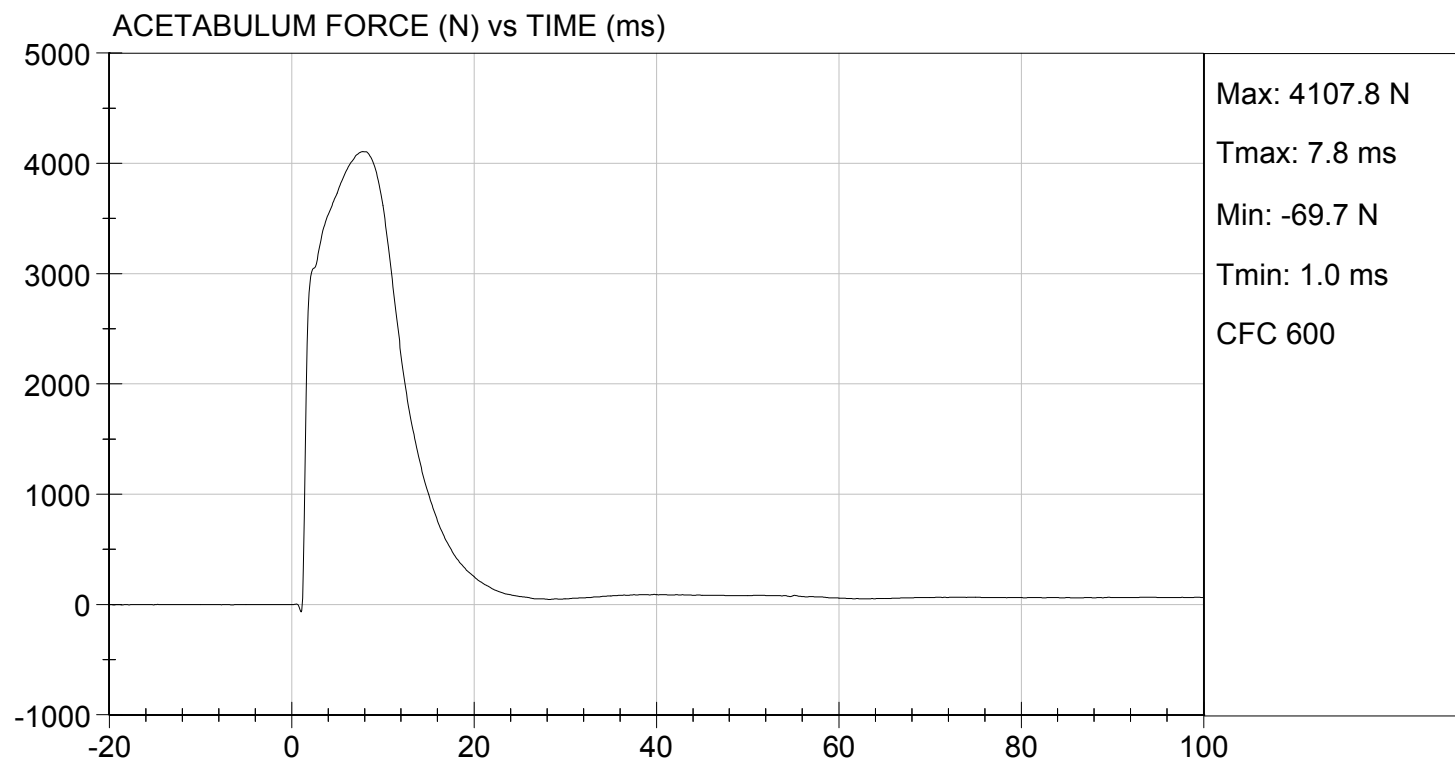
Approved By _____





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

TEST DATE: 09/28/2016
TEST #: D163297



MGA RESEARCH CORPORATION

ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163298

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	42	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	36 to 45	37	Pass
Pelvis Y Acceleration	G's	28 to 39	30	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,238	Pass
Overall Test Results				Pass


Laboratory Technician

09/28/2016

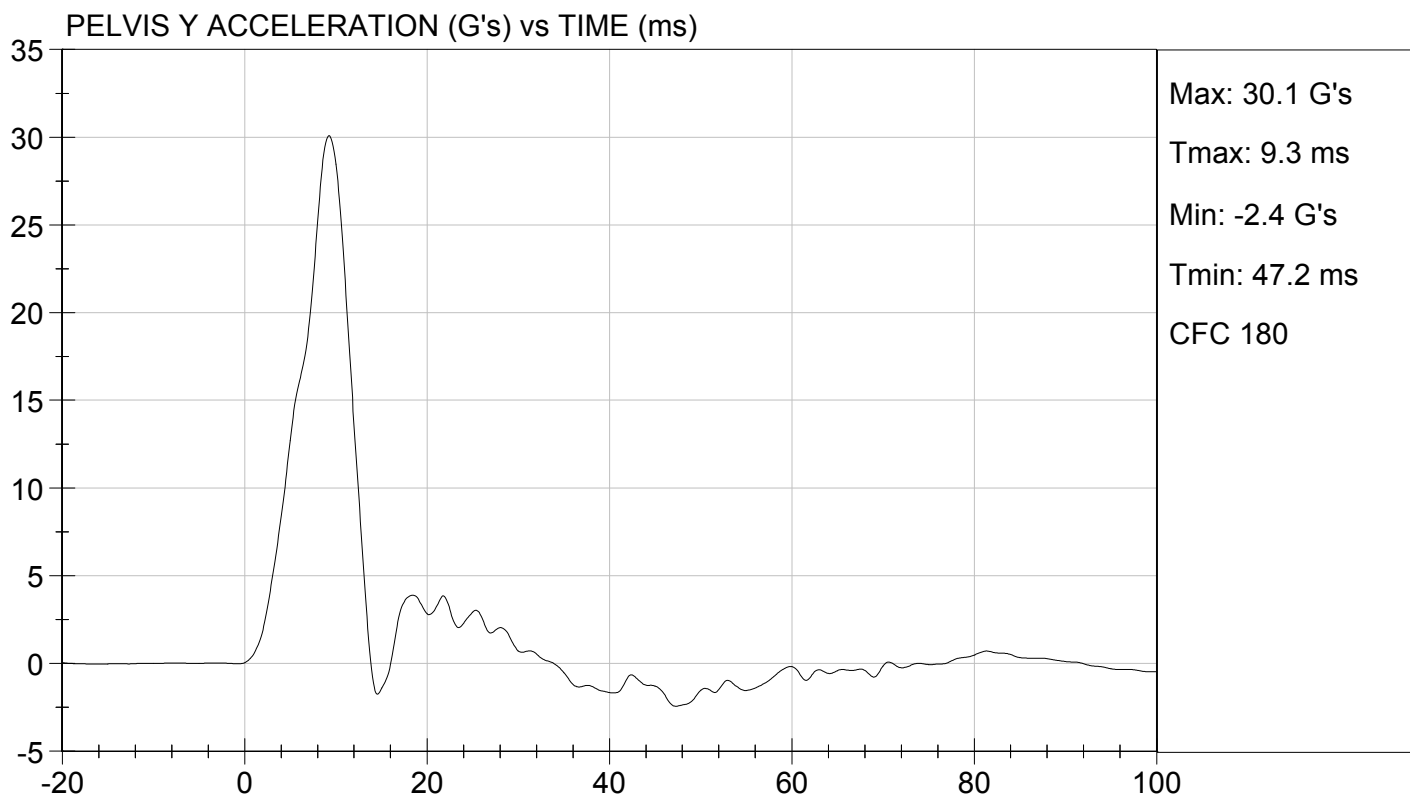
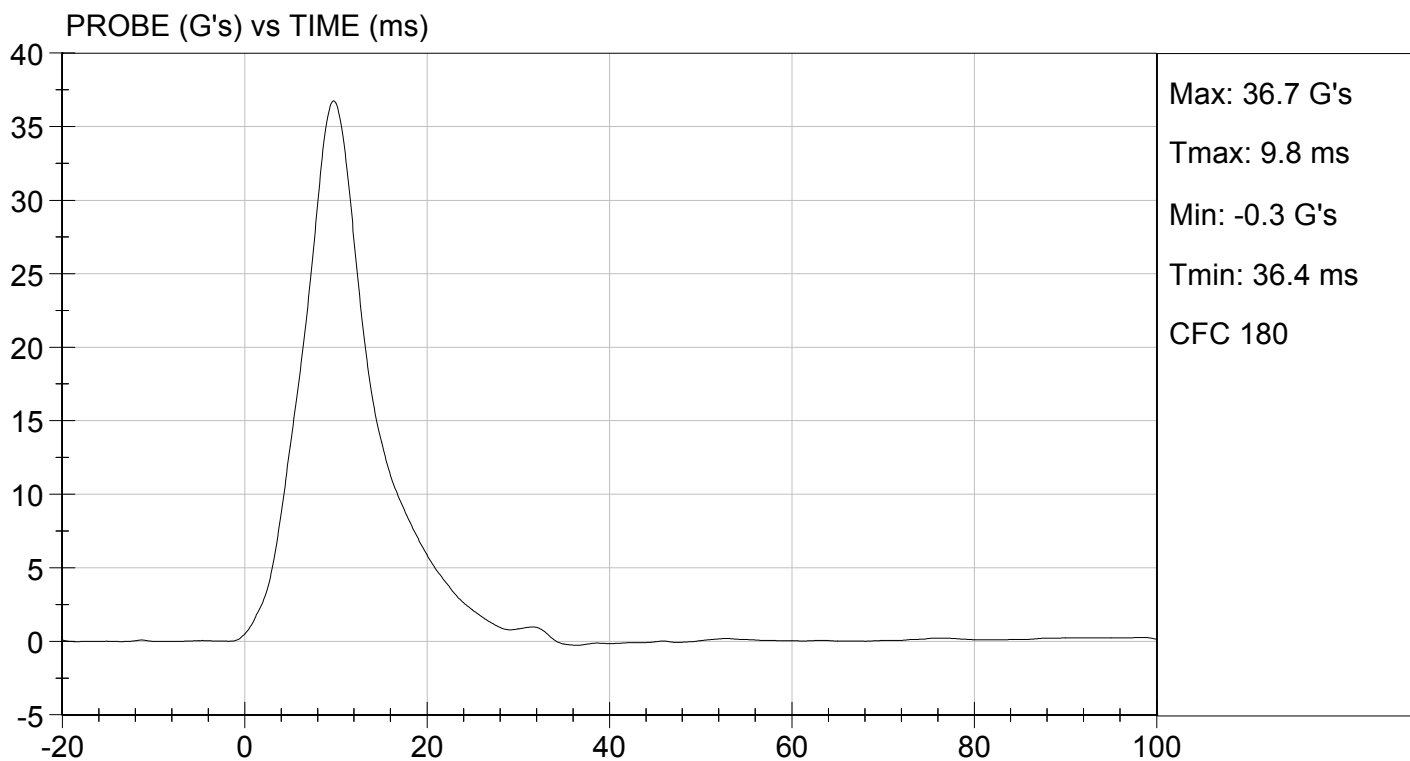
Test Date

Approved By



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

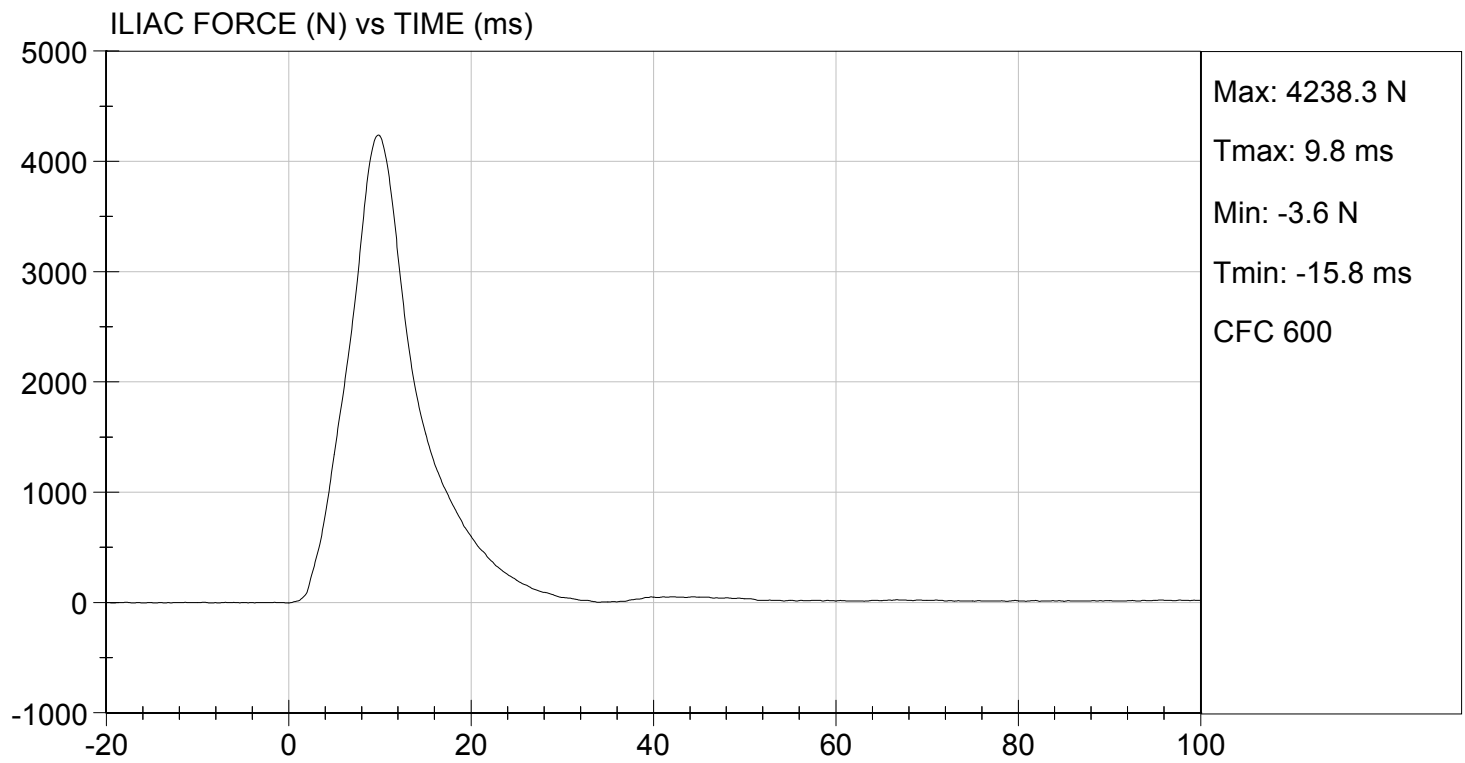
TEST DATE: 09/28/2016
TEST #: D163298





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

TEST DATE: 09/28/2016
TEST #: D163298



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

ATD Serial No: 296

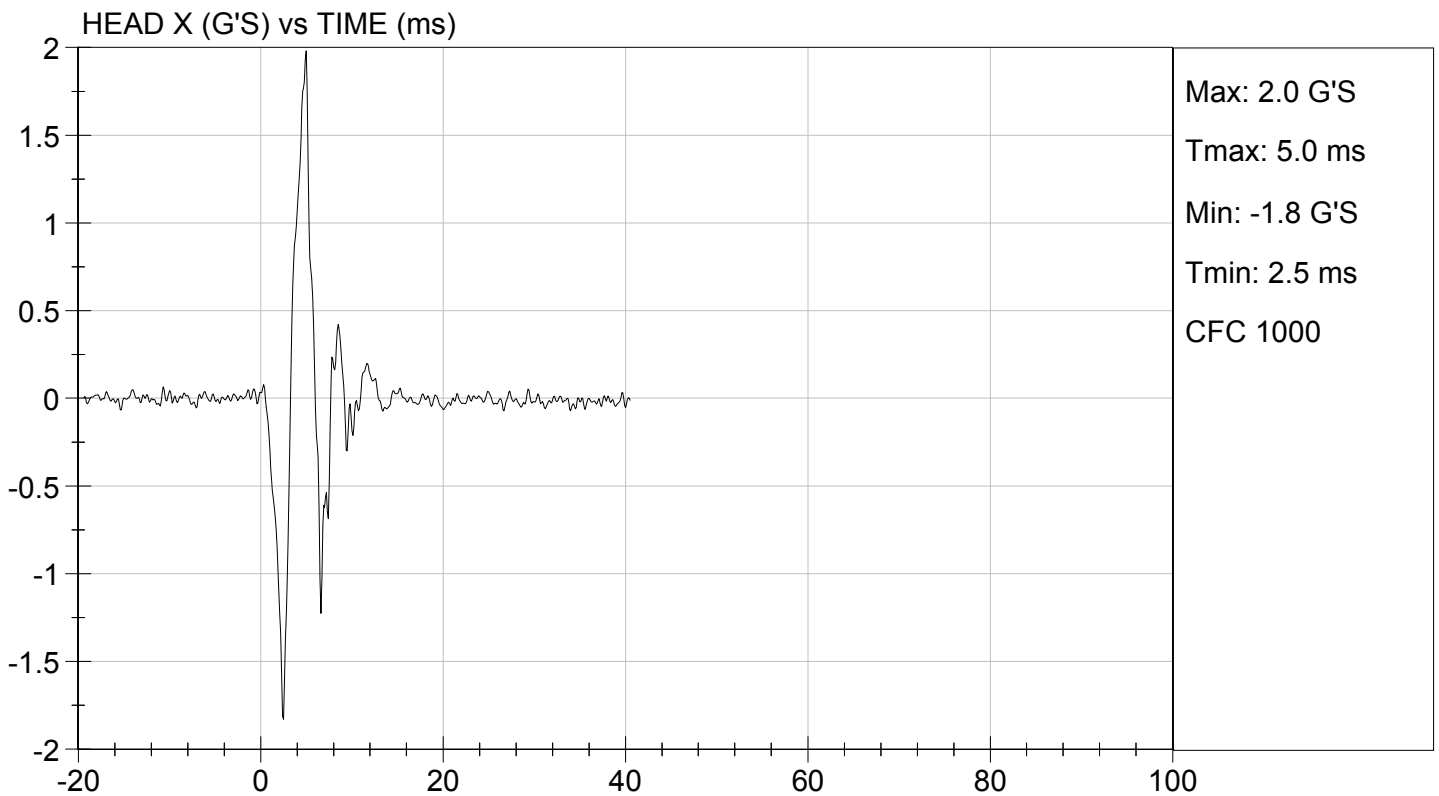
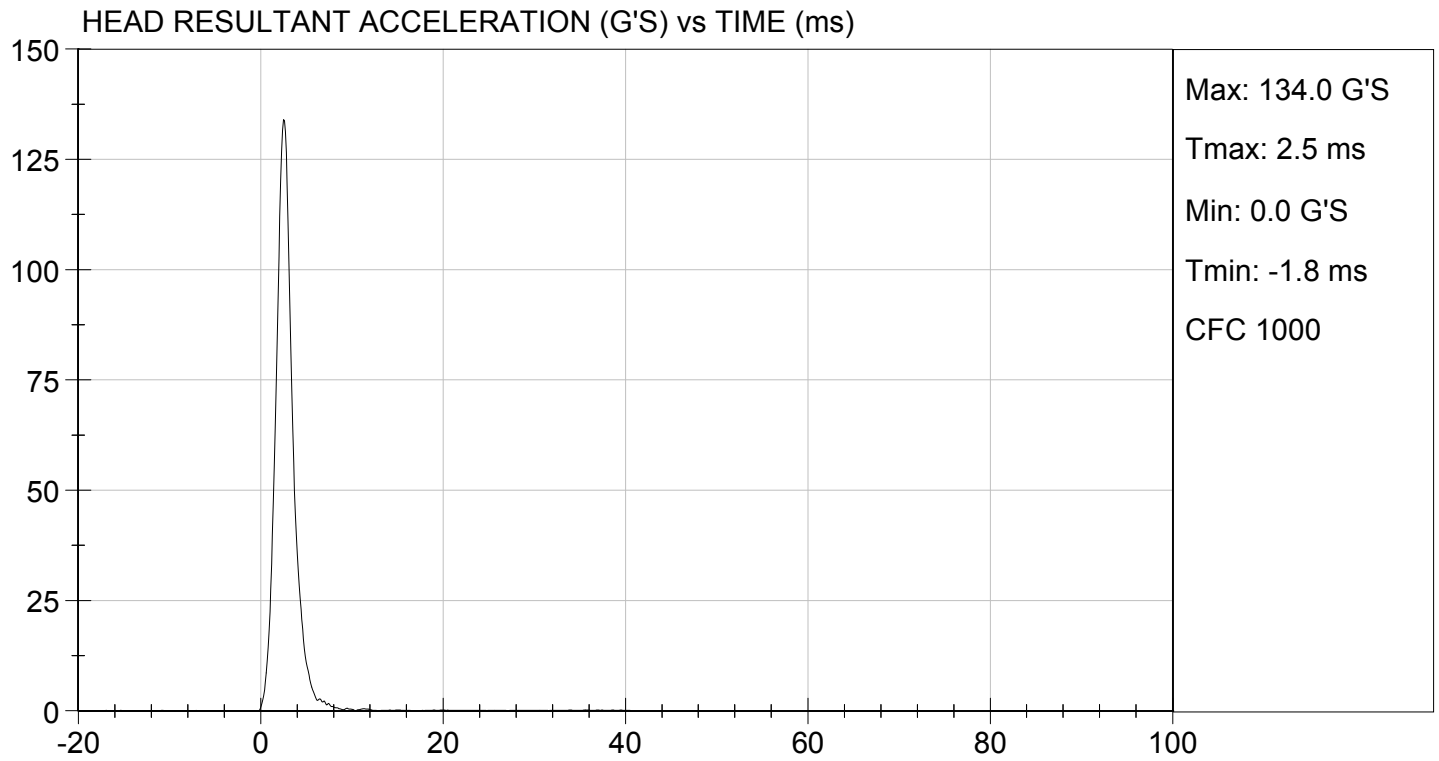
Test ID: D163411

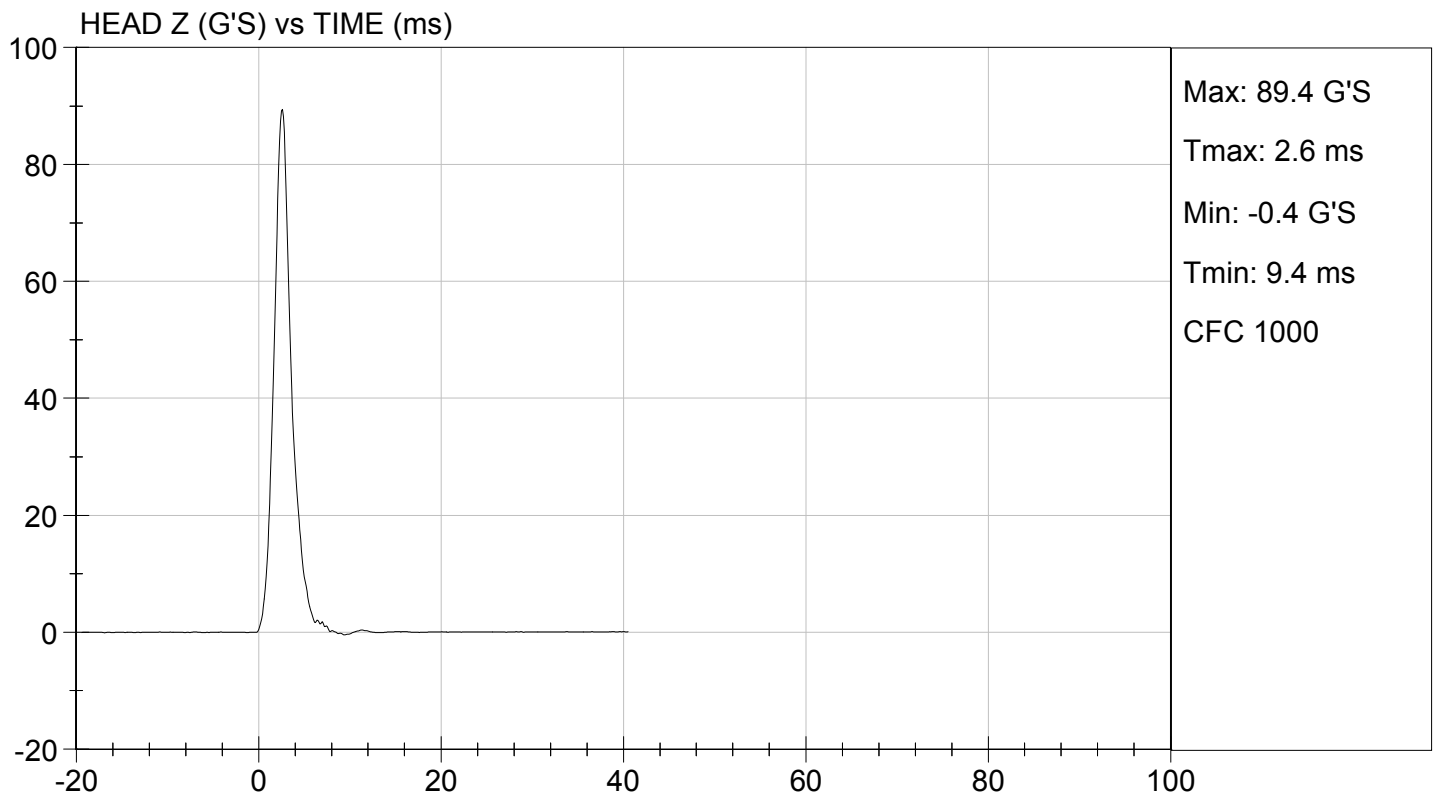
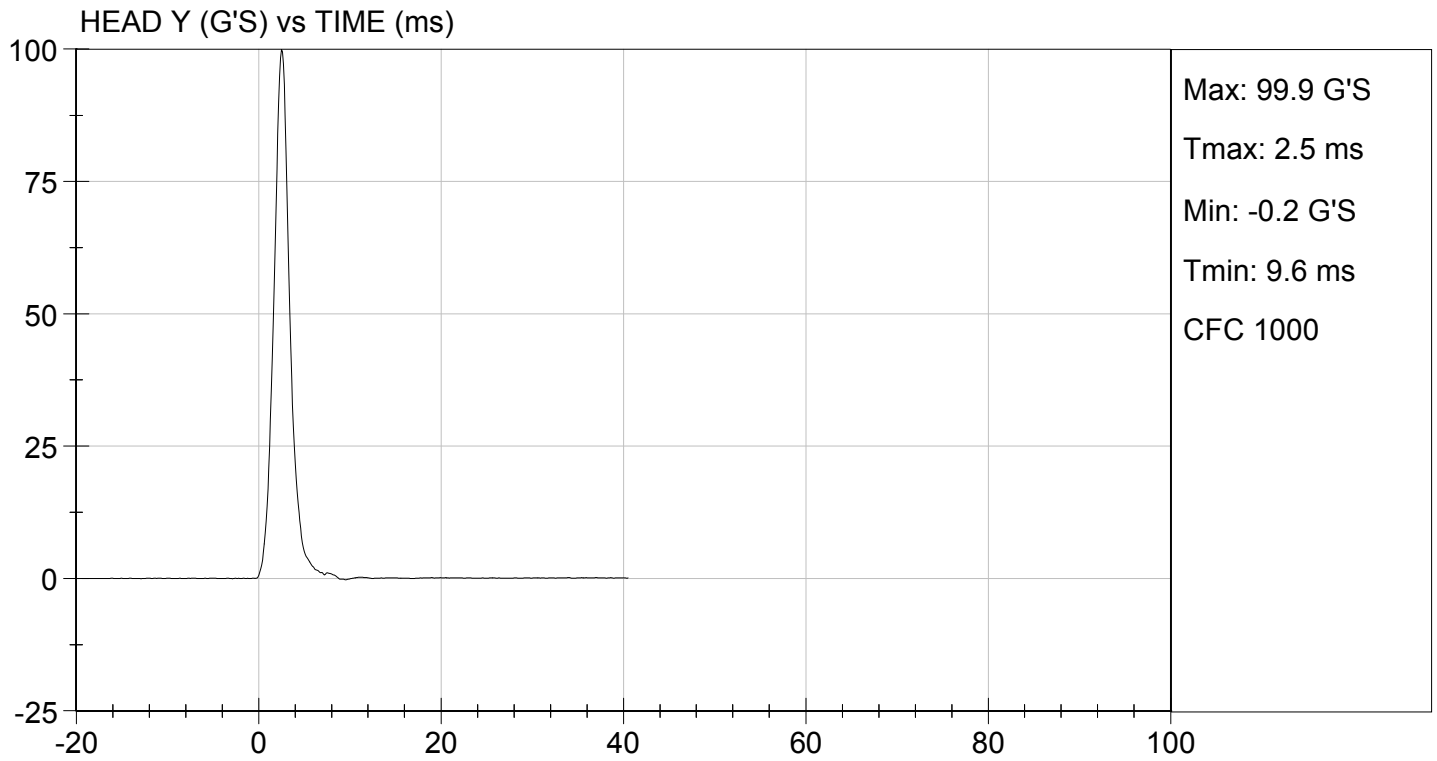
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	53	Pass
Peak Resultant Acceleration	G's	115 to 137	134	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.0	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
			Overall Test Results	Pass


Laboratory Technician

10/07/2016
Test Date

Approved By





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

ATD Serial No: 296

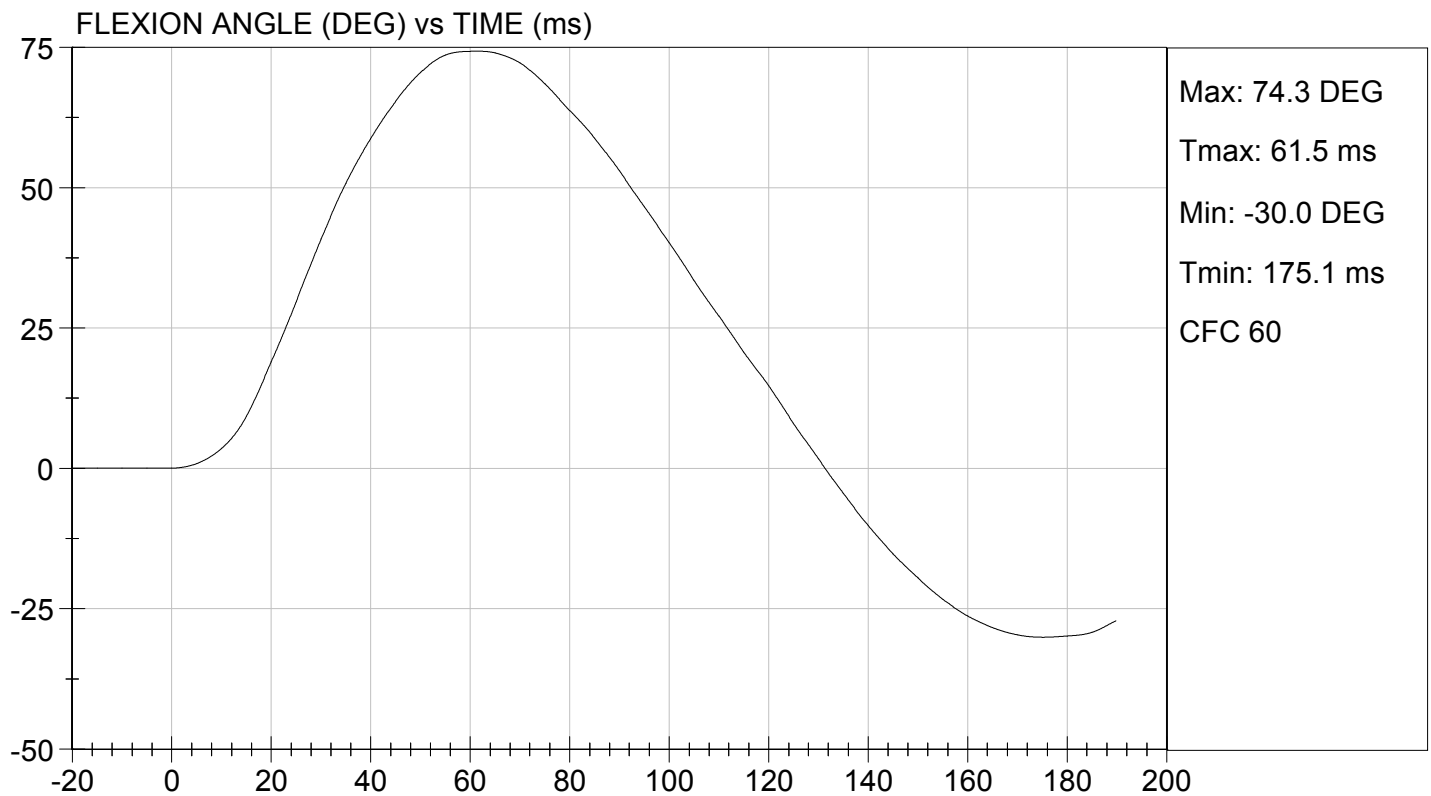
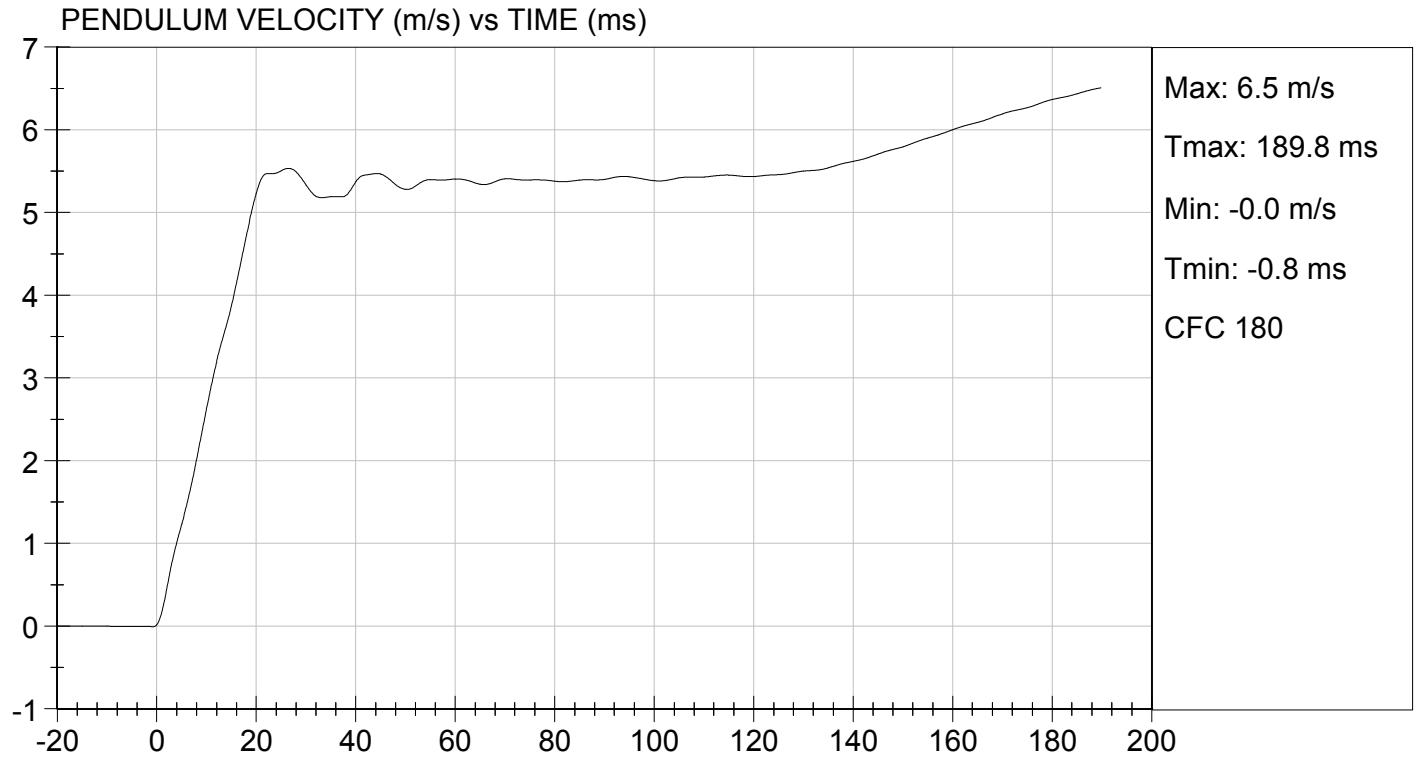
Test I.D: D163412

Tested Parameter		Units	Specification	Result	Pass/Fail
Temperature		deg C	20.6 to 22.2	21.7	Pass
Humidity		%	10 to 70	54	Pass
Impact Velocity		m/s	5.51 to 5.63	5.52	Pass
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.63	Pass
	15 ms	m/s	3.30 to 4.10	3.87	Pass
	20 ms	m/s	4.40 to 5.40	5.23	Pass
	25 ms	m/s	5.40 to 6.10	5.51	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	62	Pass
Maximum Occipital Condyle Moment		Nm	-44 to -36	-40	Pass
Time of Moment Decay to 0 Nm		ms	102 to 126	113	Pass
Overall Test Results					Pass


 Laboratory Technician

10/07/2016
 Test Date

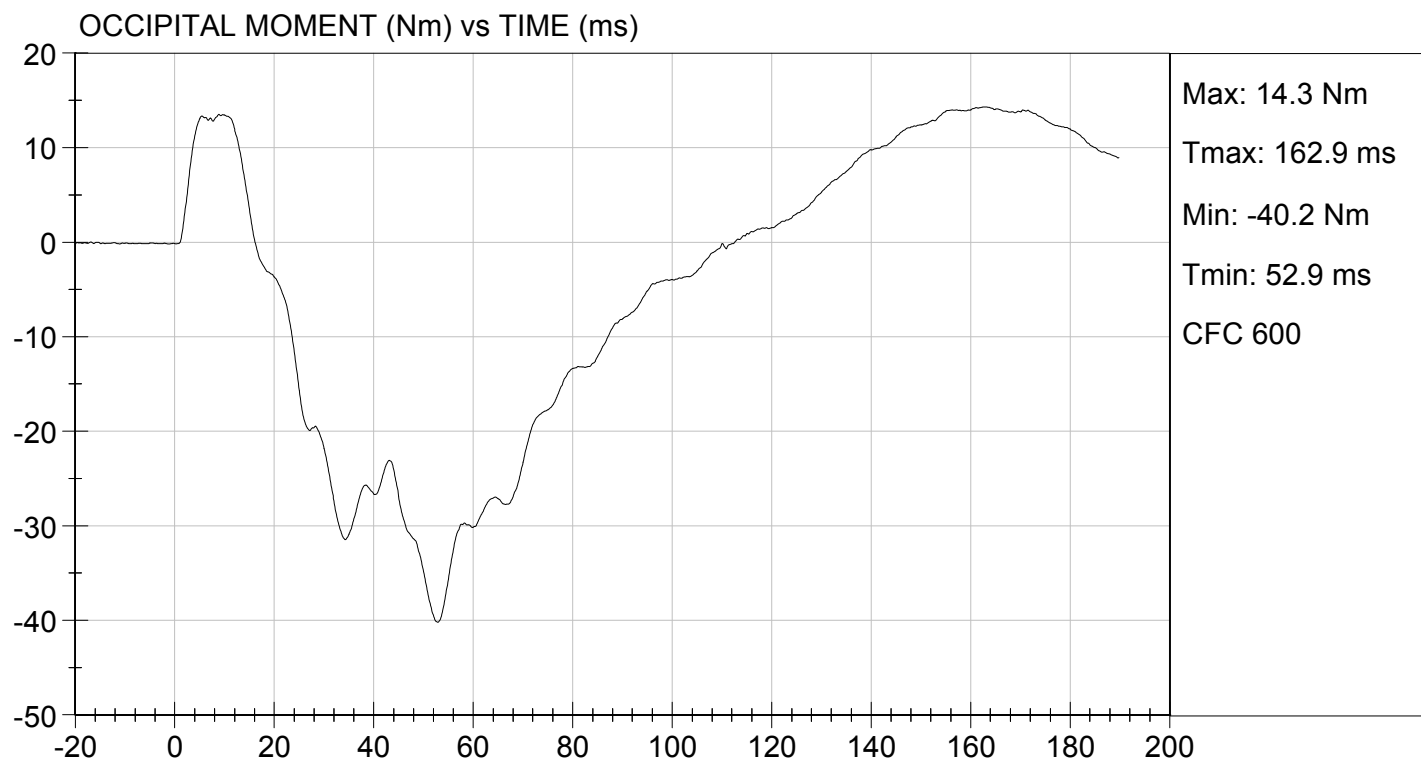
 Approved By





TEST DESC: NECK BENDING
VELOCITY: 18.12 ft/s, 5.52 m/s

TEST DATE: 10/07/2016
TEST #: D163412

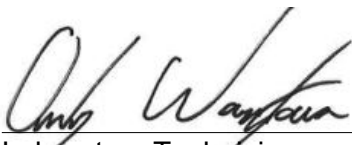


MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test ID: D163413

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.6	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	33	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass


Laboratory Technician

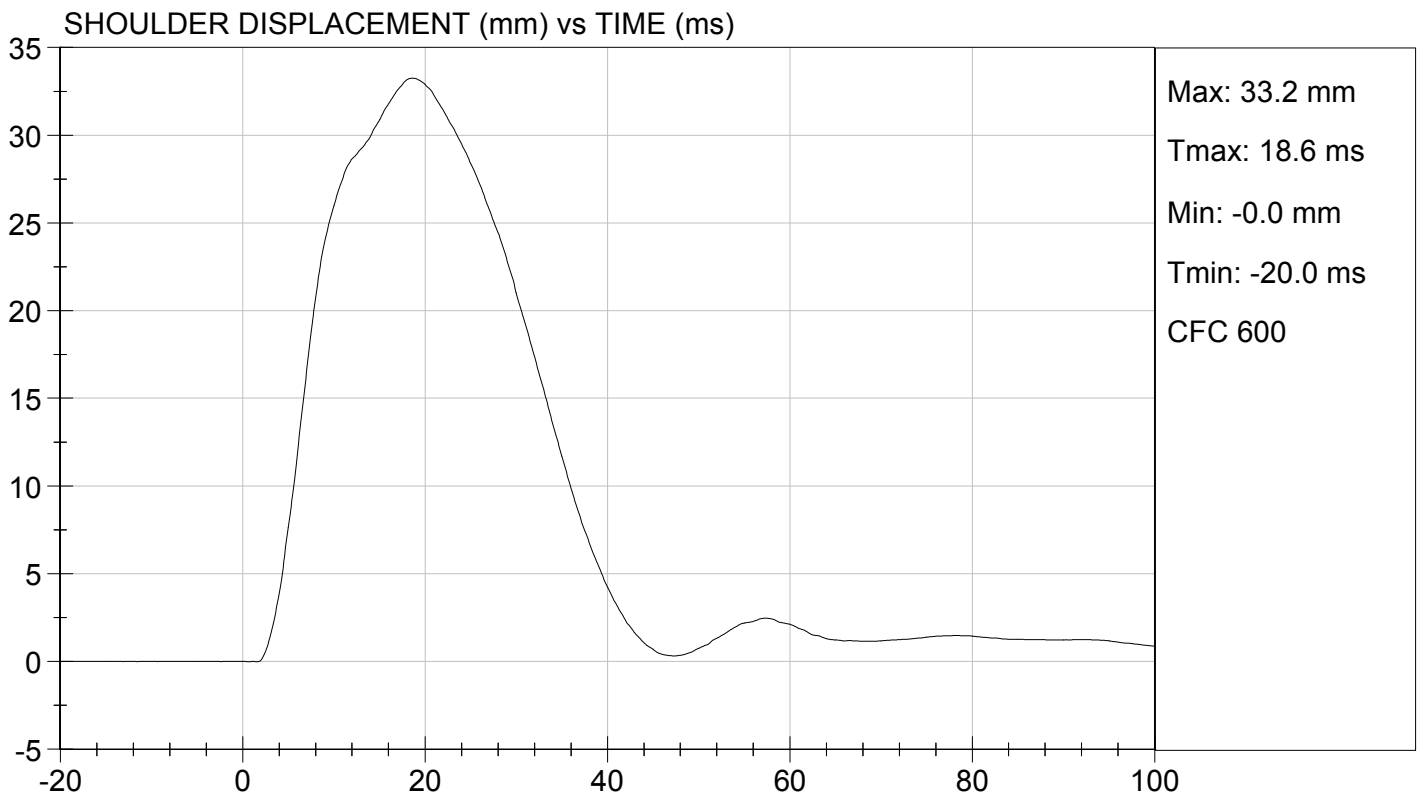
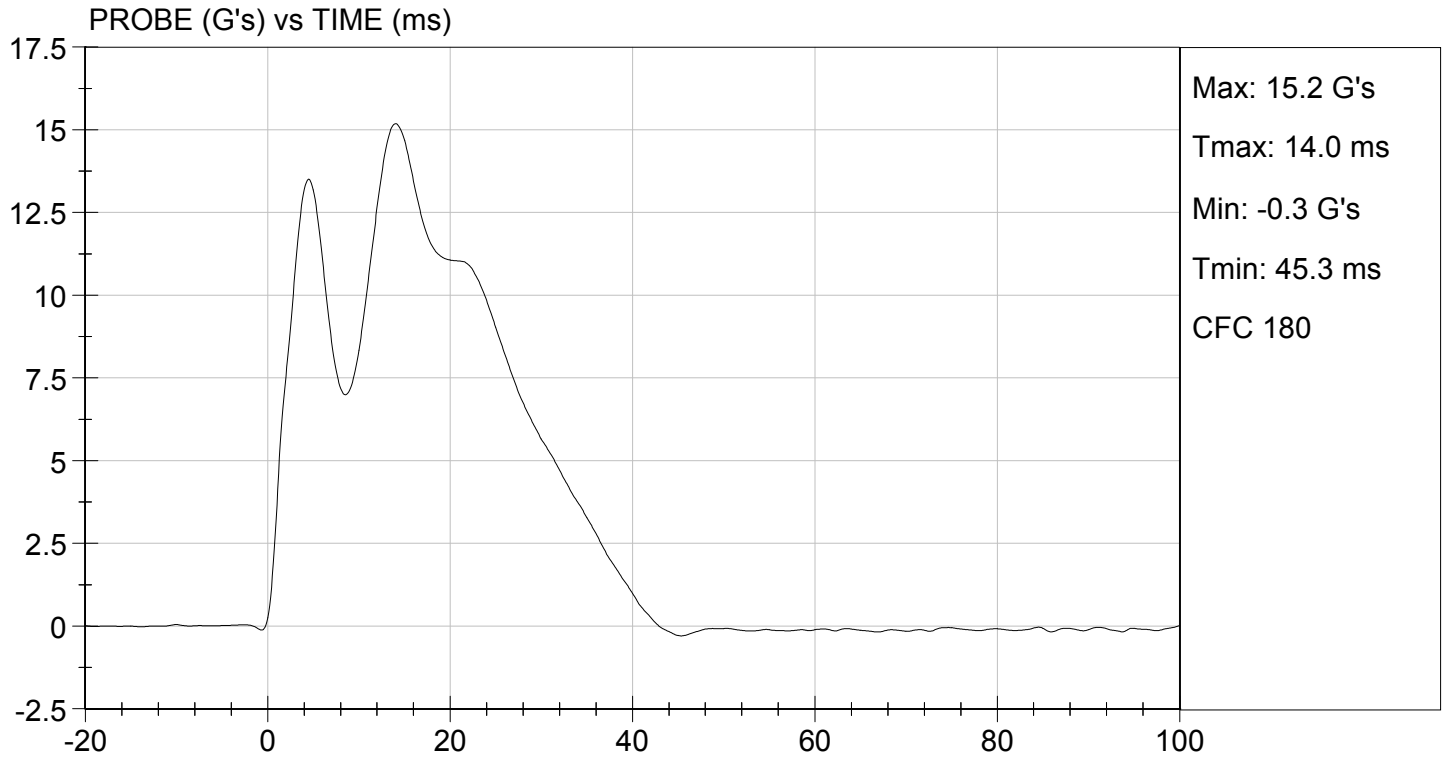
10/07/2016
Test Date

Approved By



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

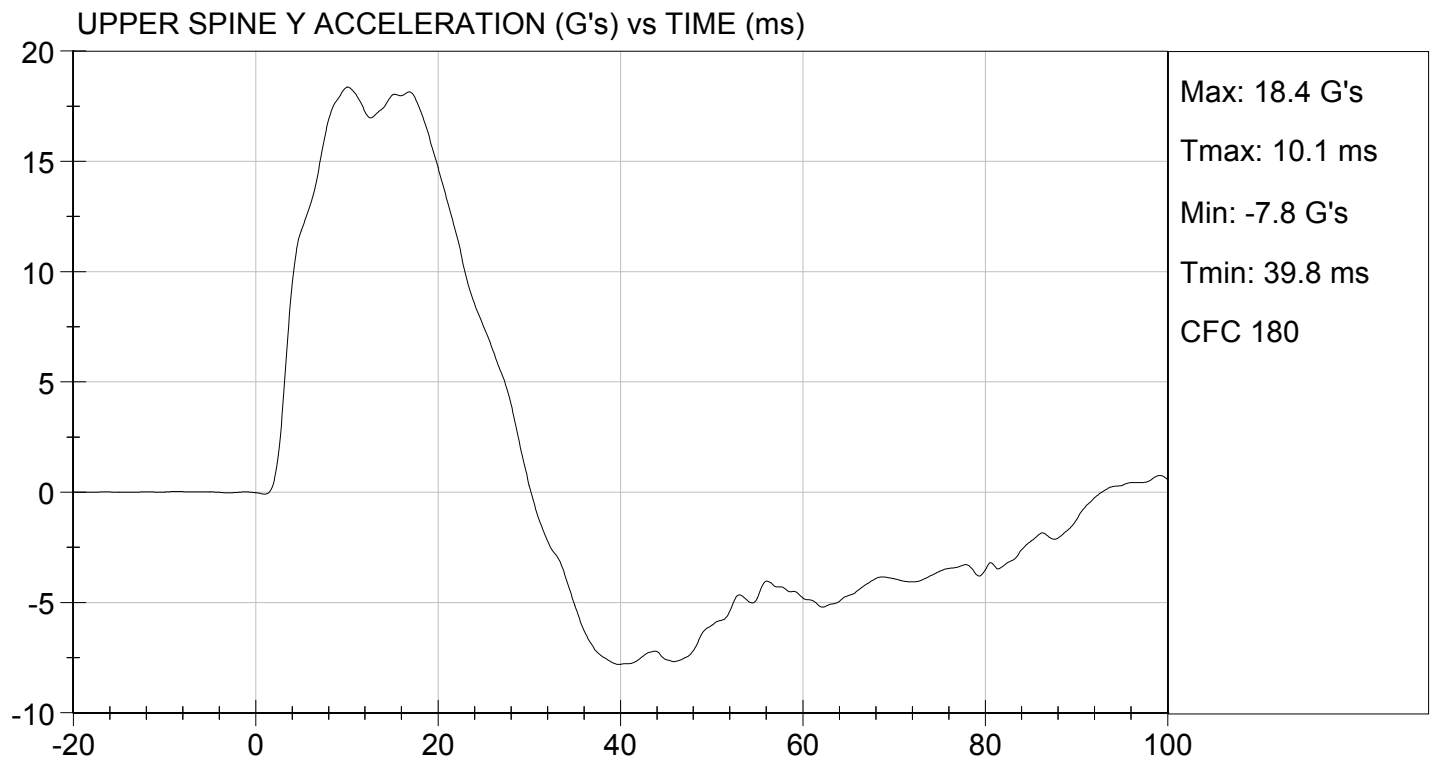
TEST DATE: 10/07/2016
TEST #: D163413





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

TEST DATE: 10/07/2016
TEST #: D163413



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

ATD Serial No: 296

Test I.D: D163414

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	31	Pass
Shoulder Displacement	mm	31 to 40	40	Pass
Upper Rib Displacement	mm	25 to 32	29	Pass
Middle Rib Displacement	mm	30 to 36	31	Pass
Lower Rib Displacement	mm	32 to 38	33	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	37	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	32	Pass
Overall Test Results				Pass


Laboratory Technician

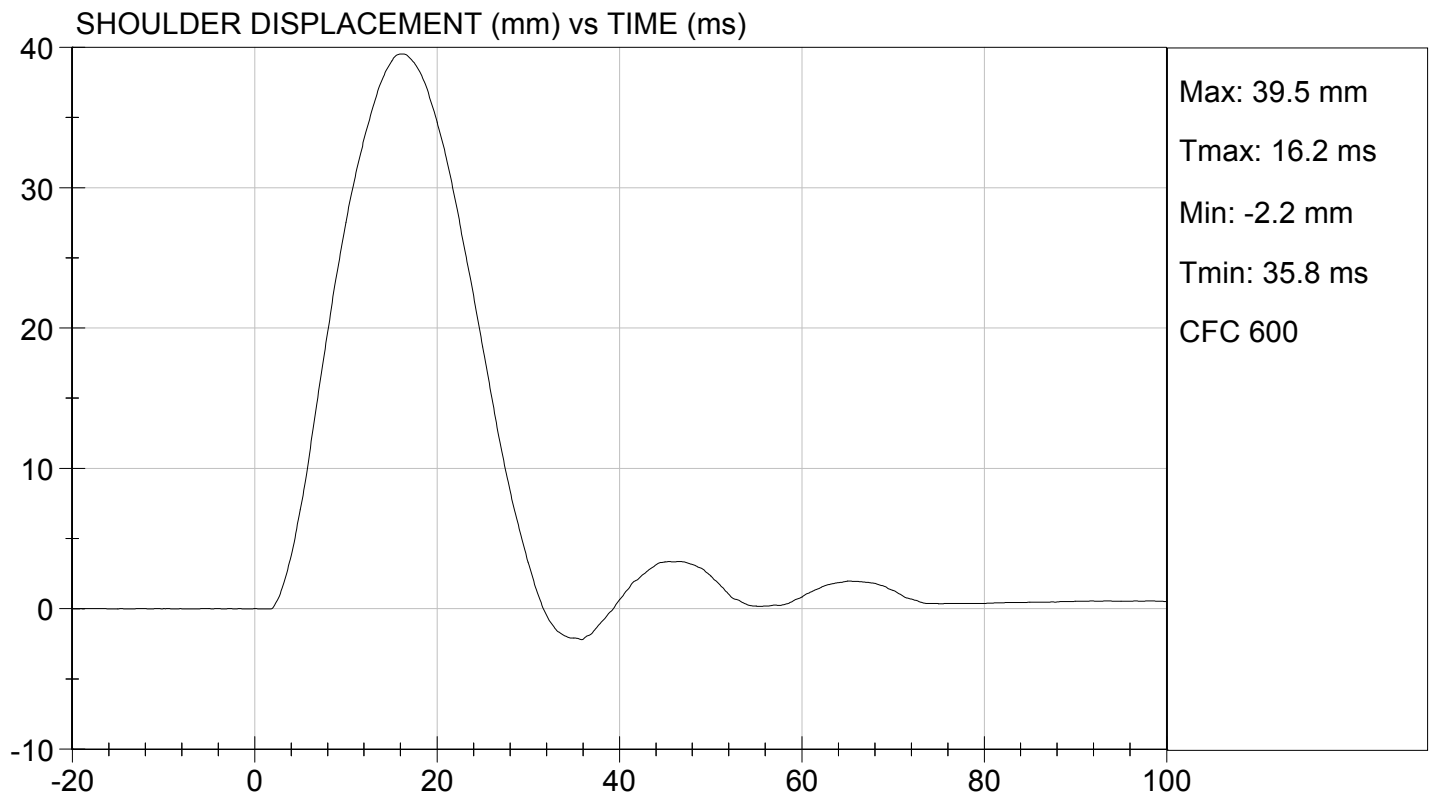
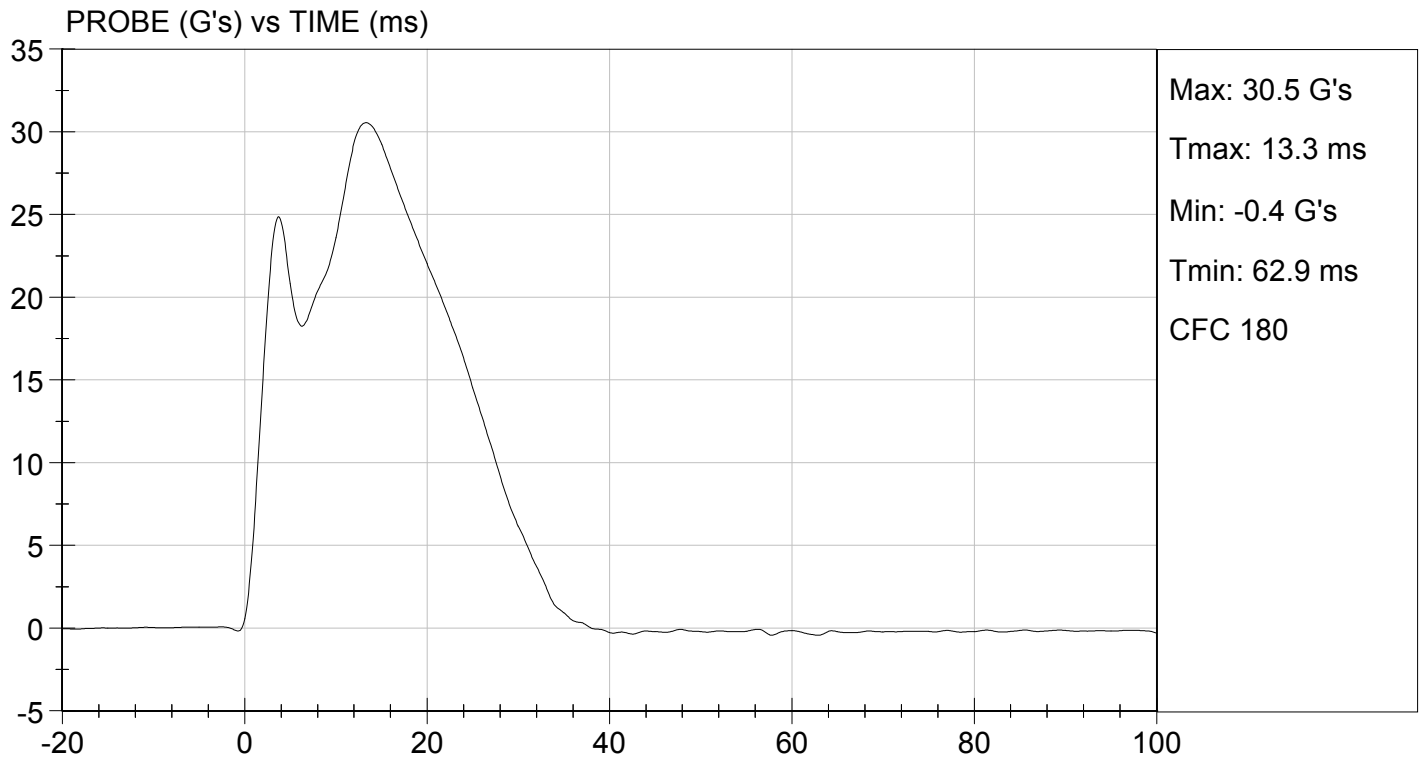
10/07/2016
Test Date

Approved By



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

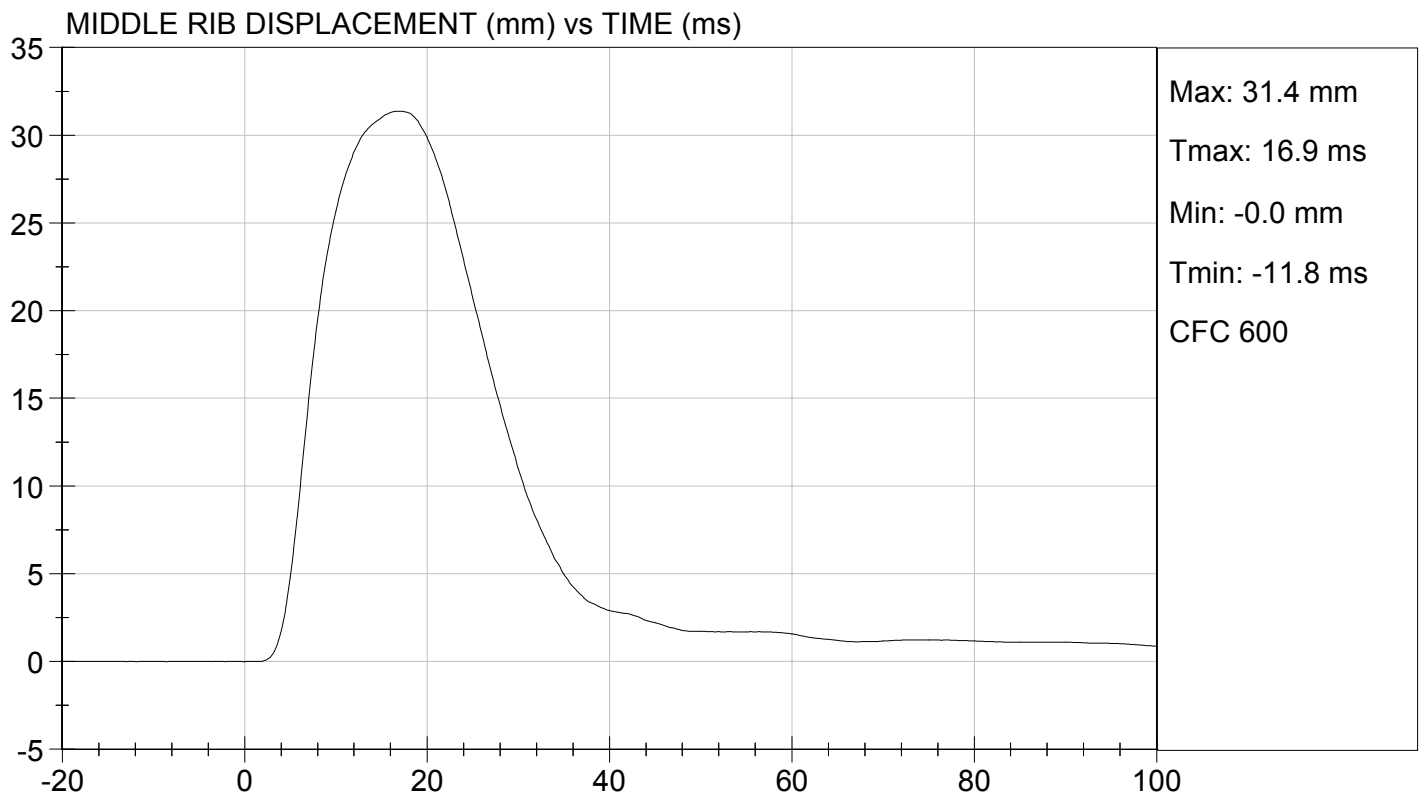
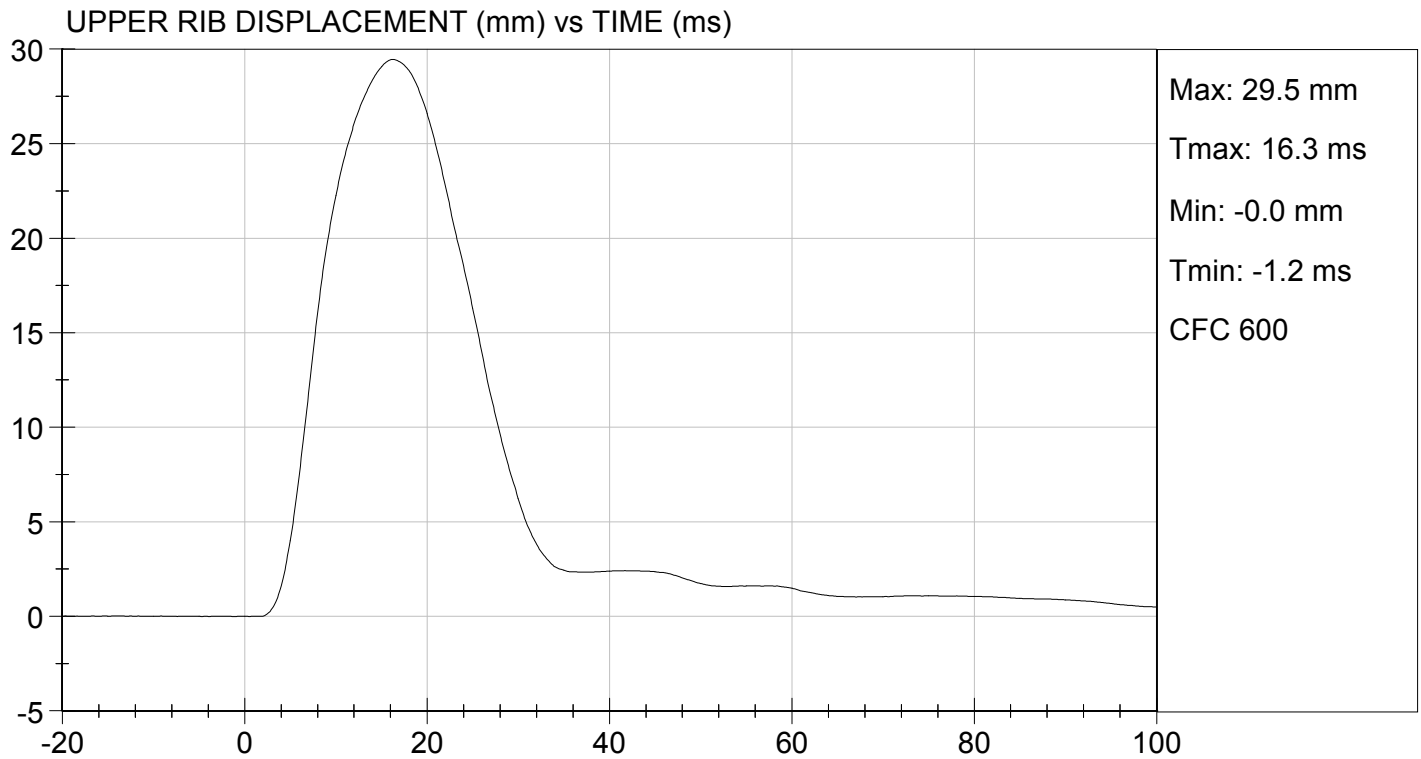
TEST DATE: 10/07/2016
TEST #: D163414





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

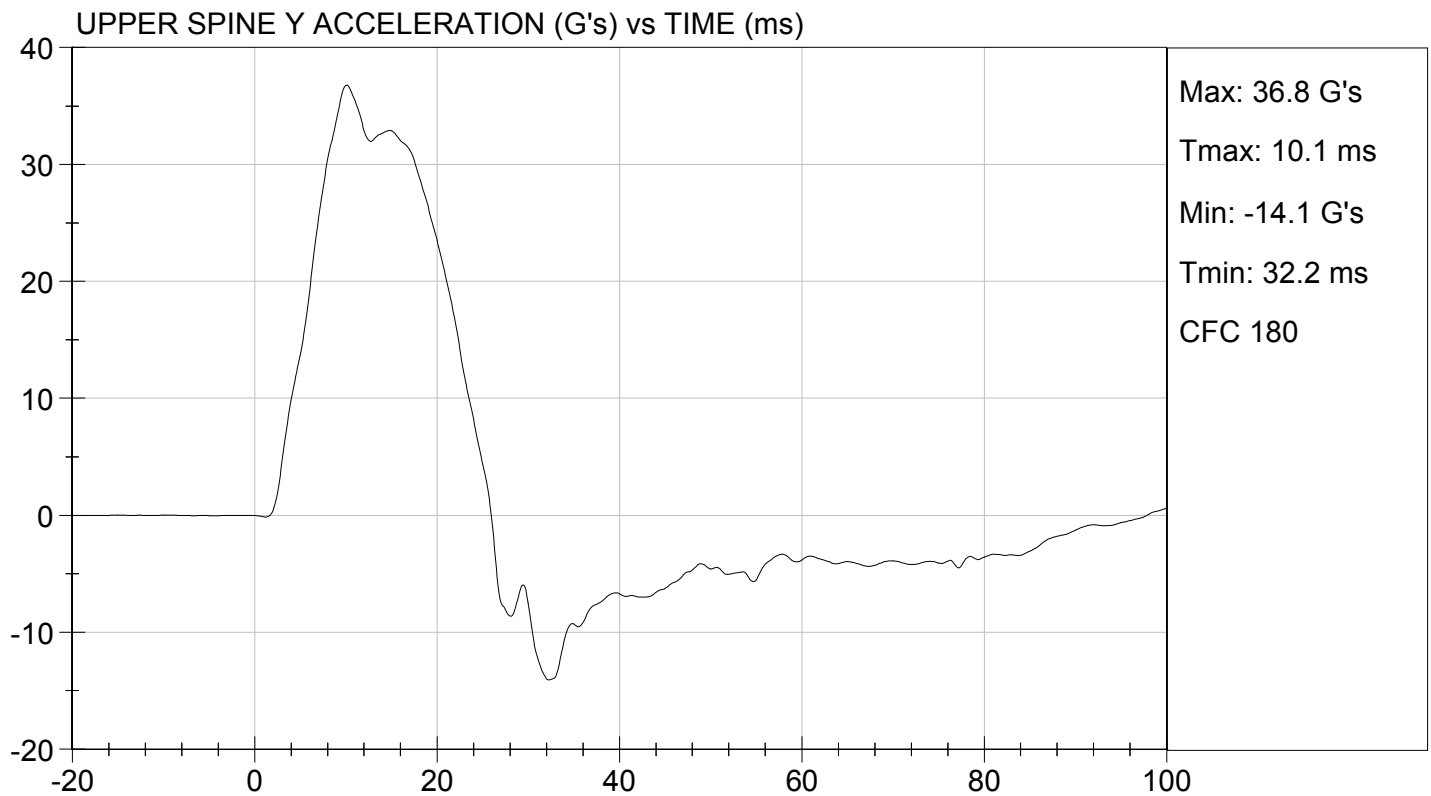
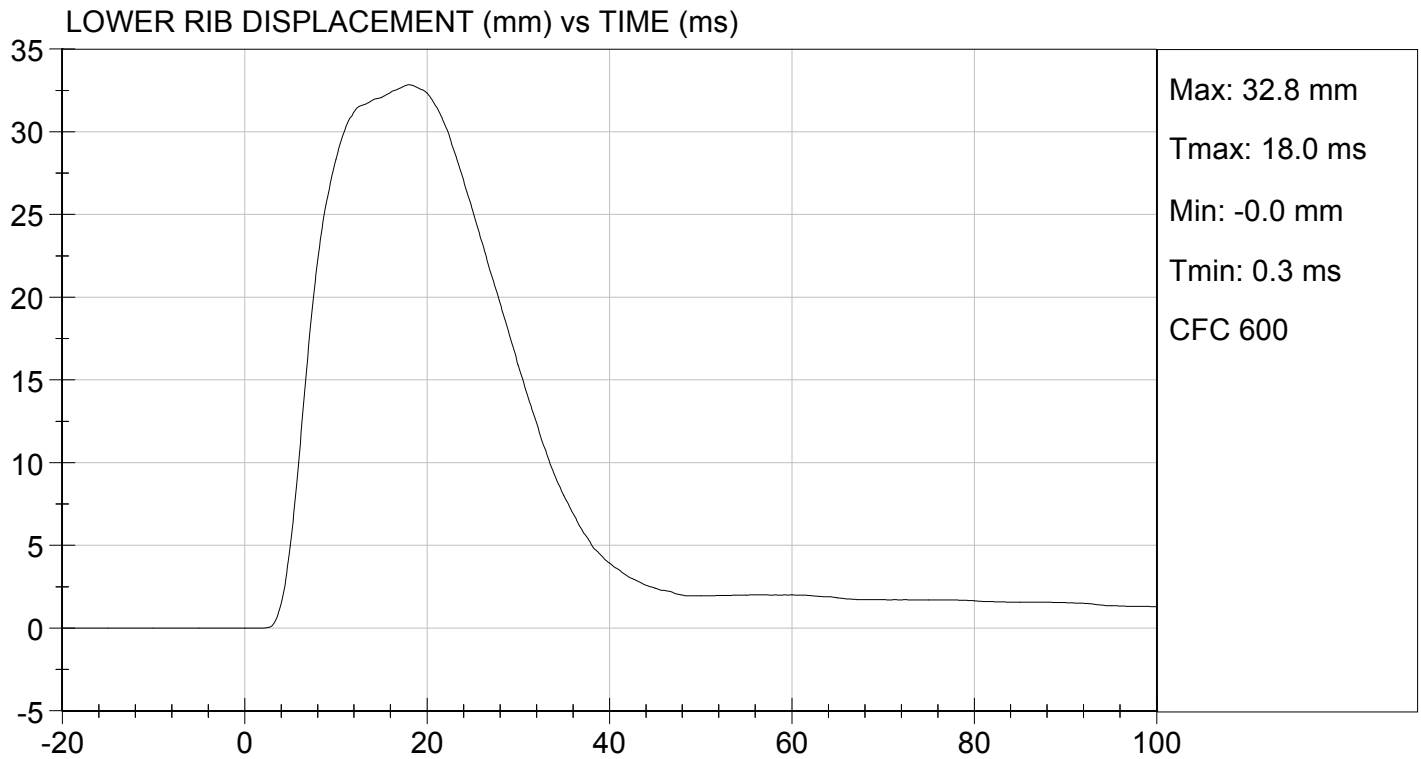
TEST DATE: 10/07/2016
TEST #: D163414





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

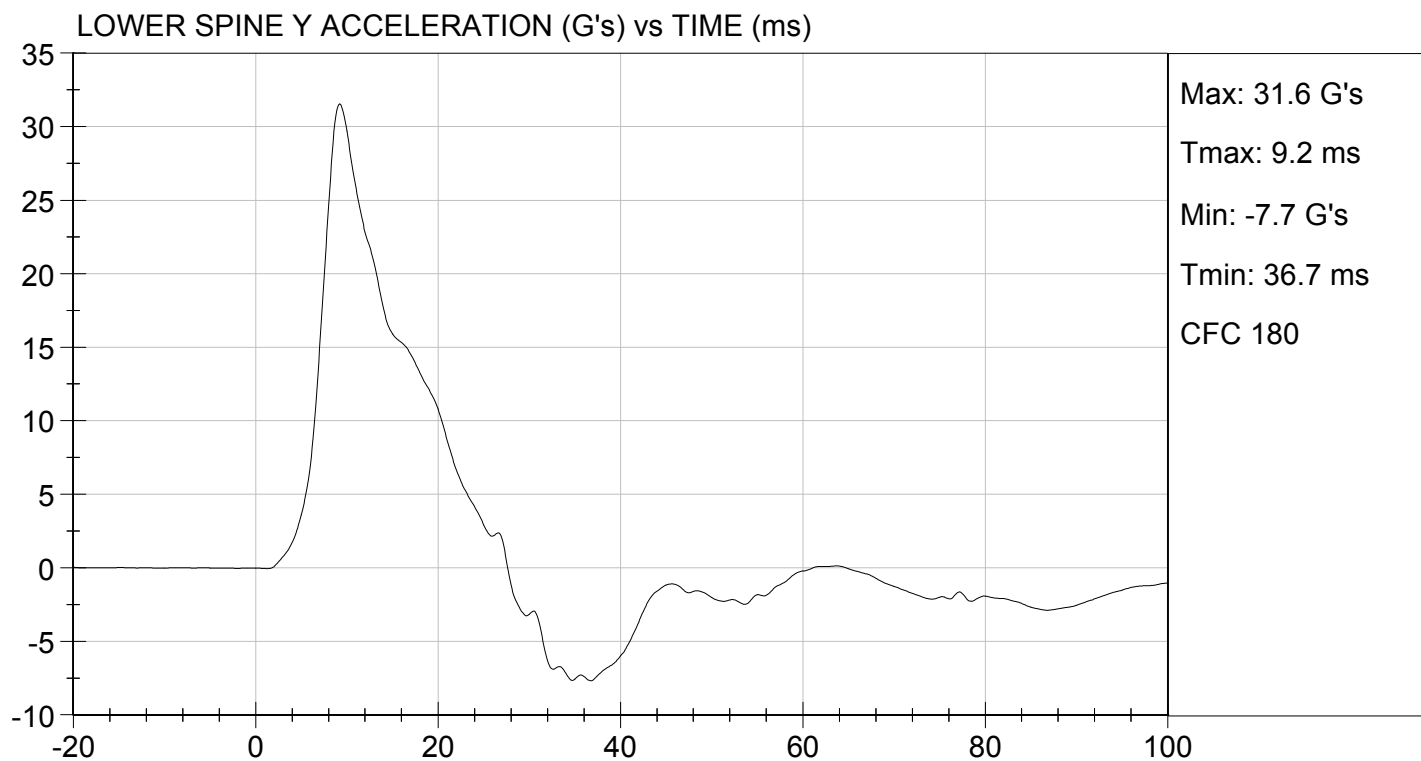
TEST DATE: 10/07/2016
TEST #: D163414





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

TEST DATE: 10/07/2016
TEST #: D163414

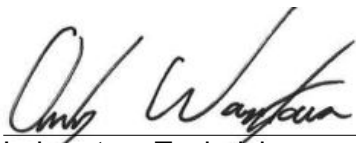


MGA RESEARCH CORPORATION
THORAX (WITHOUT ARM) IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163415

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	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	41	Pass
Lower Rib Displacement	mm	35 to 43	40	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



Laboratory Technician

10/07/2016

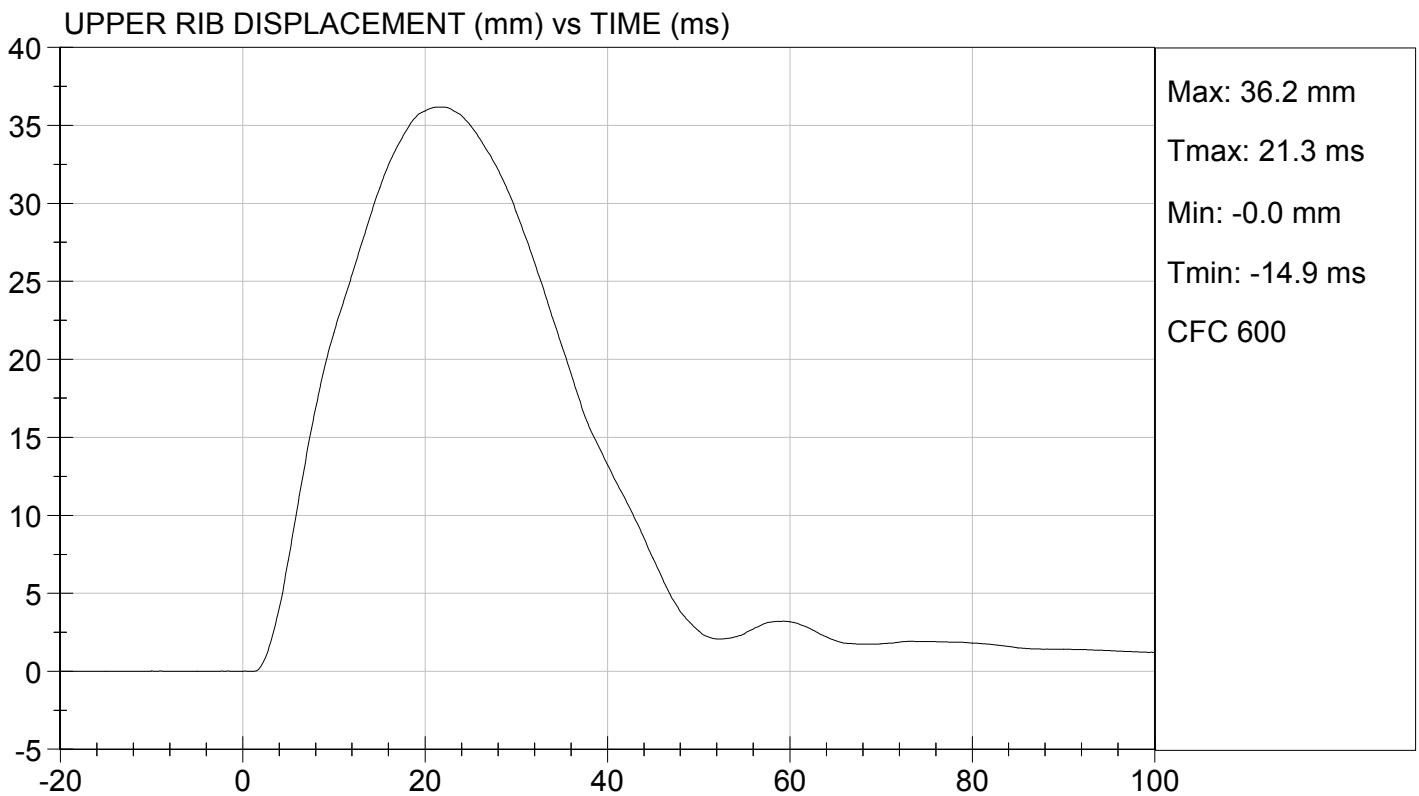
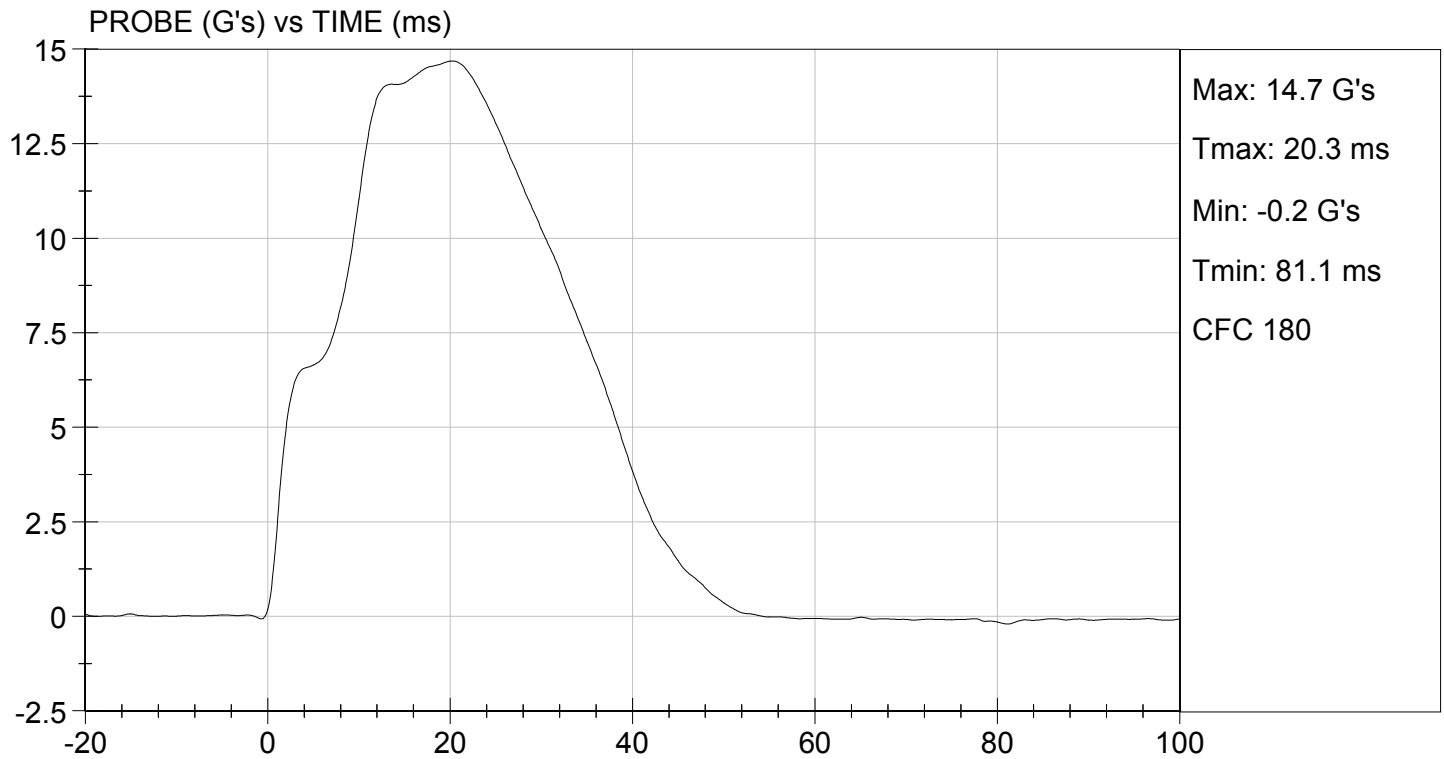
Test Date

Approved By



TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.01 ft/s, 4.27 m/s

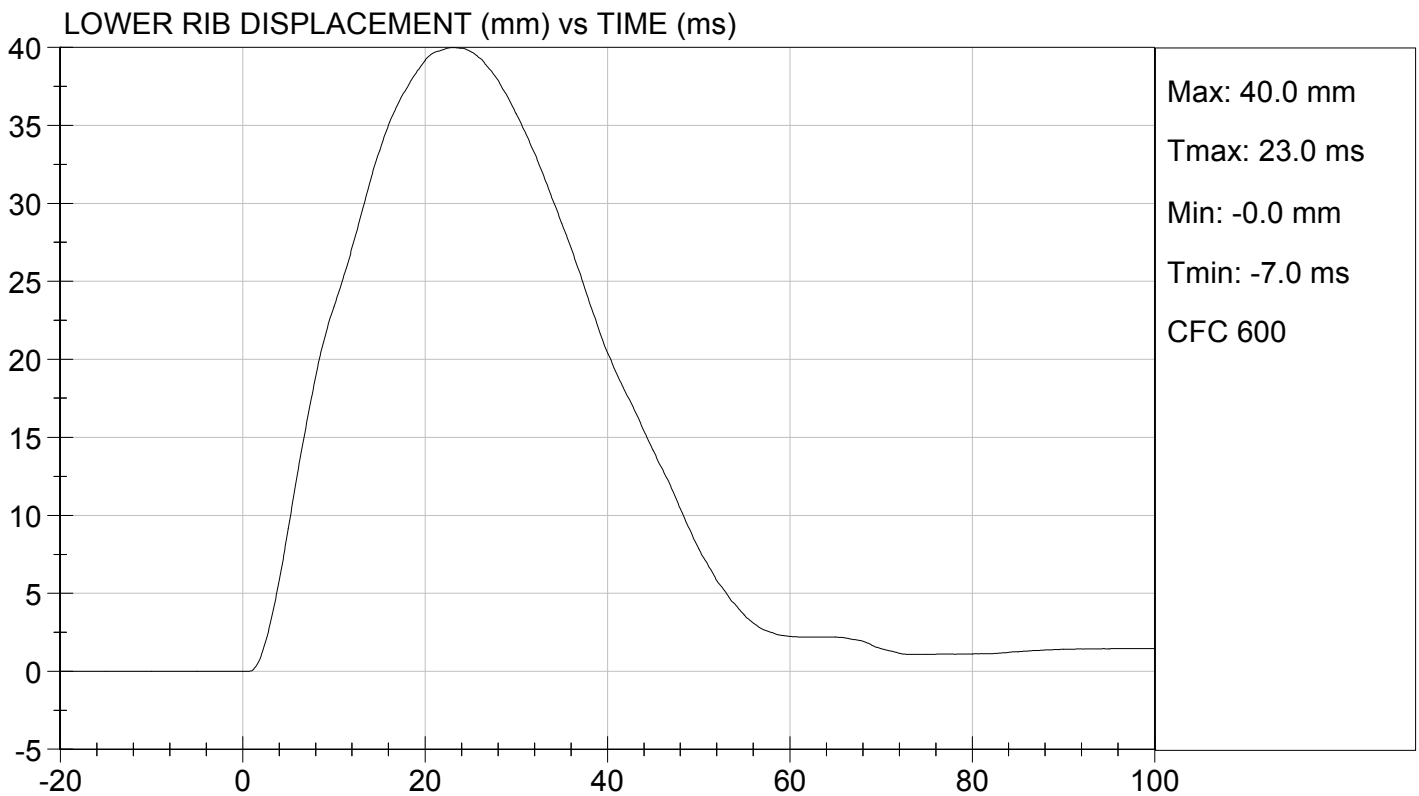
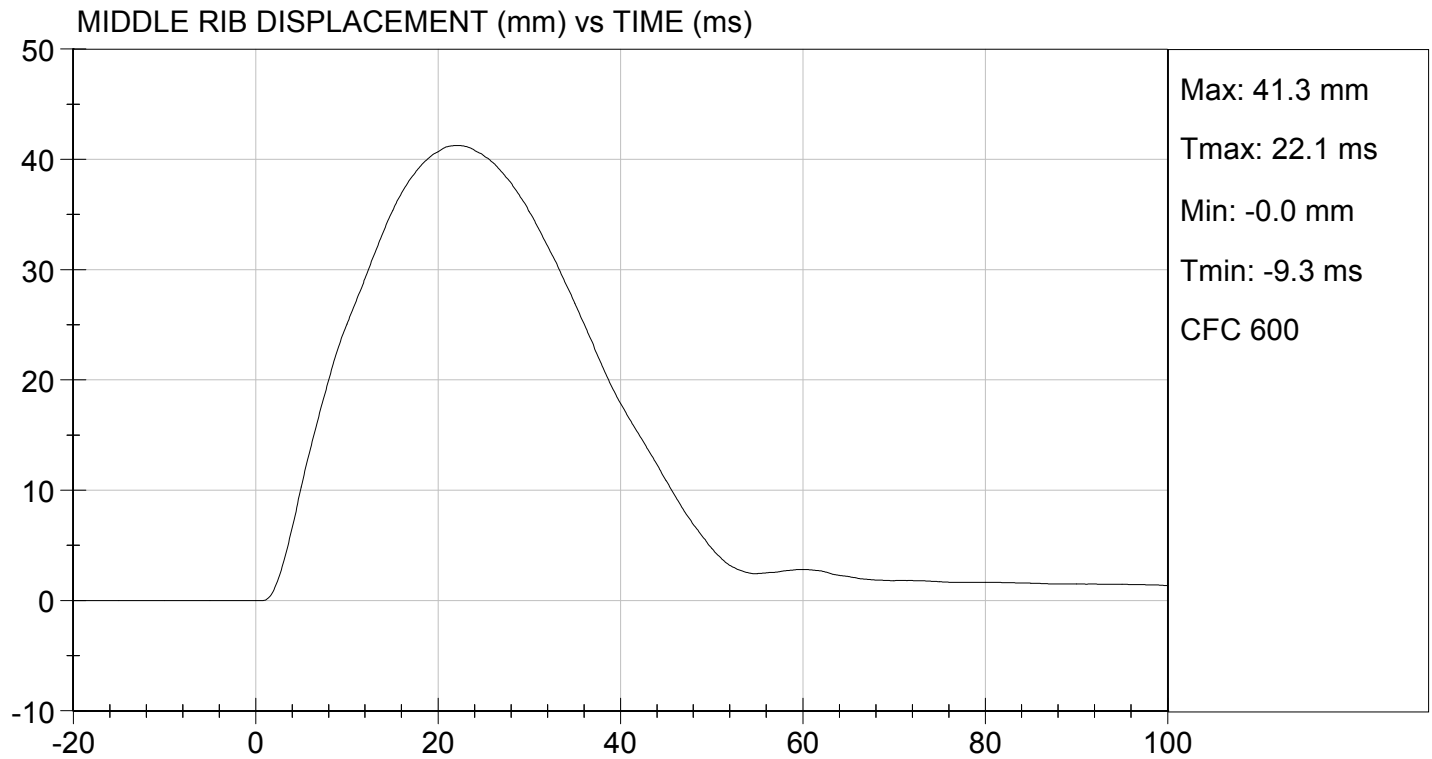
TEST DATE: 10/07/2016
TEST #: D163415





TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.01 ft/s, 4.27 m/s

TEST DATE: 10/07/2016
TEST #: D163415

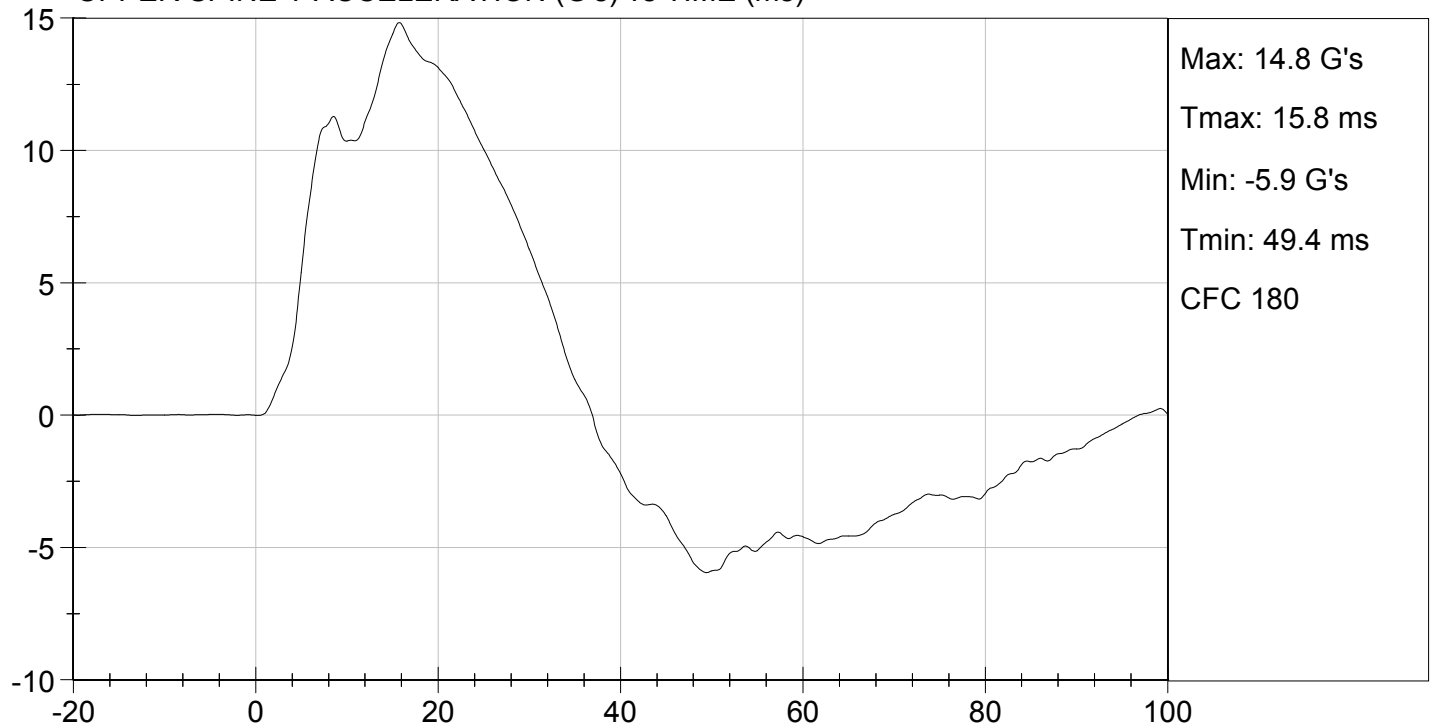




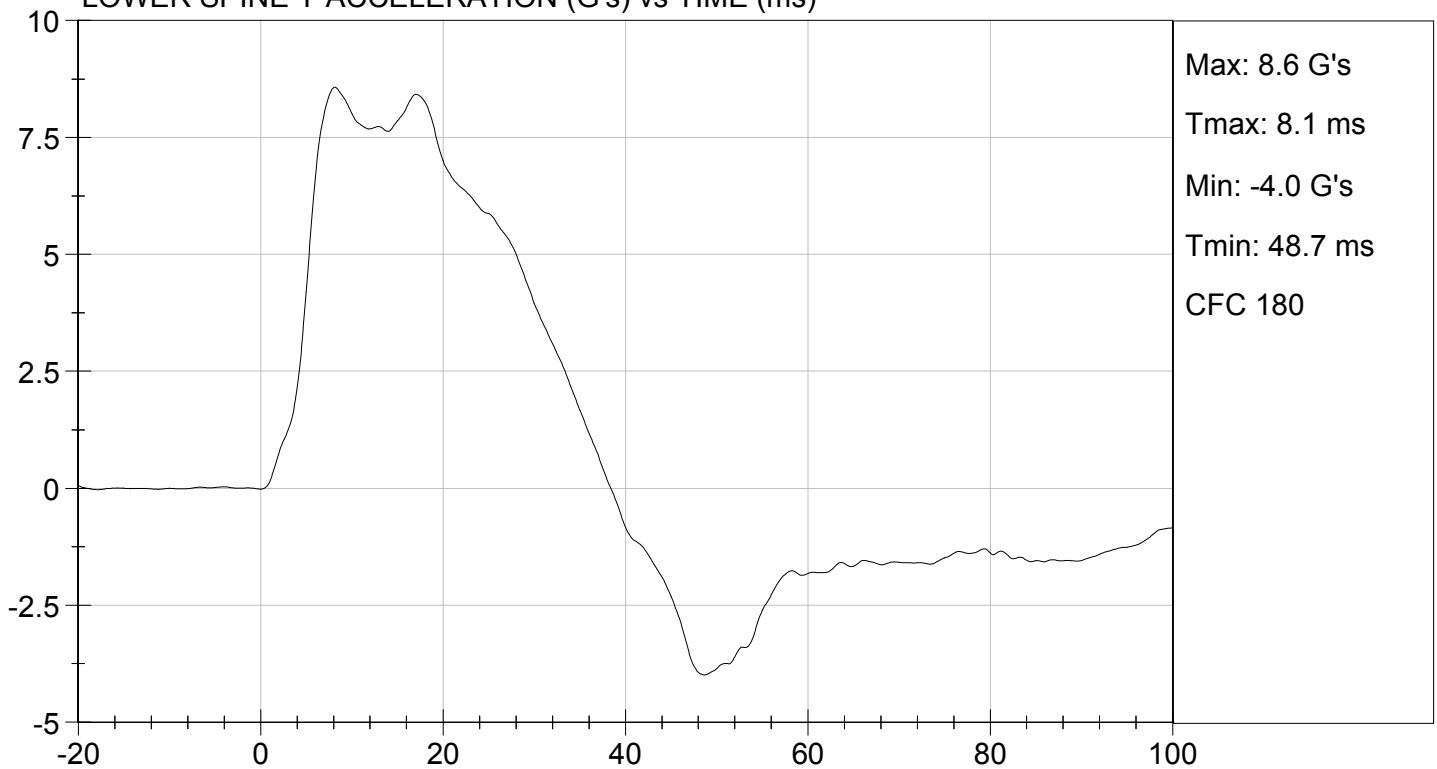
TEST DESC: THORAX IMPACT WITHOUT ARM
VELOCITY: 14.01 ft/s, 4.27 m/s

TEST DATE: 10/07/2016
TEST #: D163415

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



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



MGA RESEARCH CORPORATION

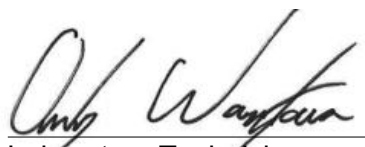
ABDOMINAL IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163416

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	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	39	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	10	Pass
Overall Test Results				Pass


Laboratory Technician

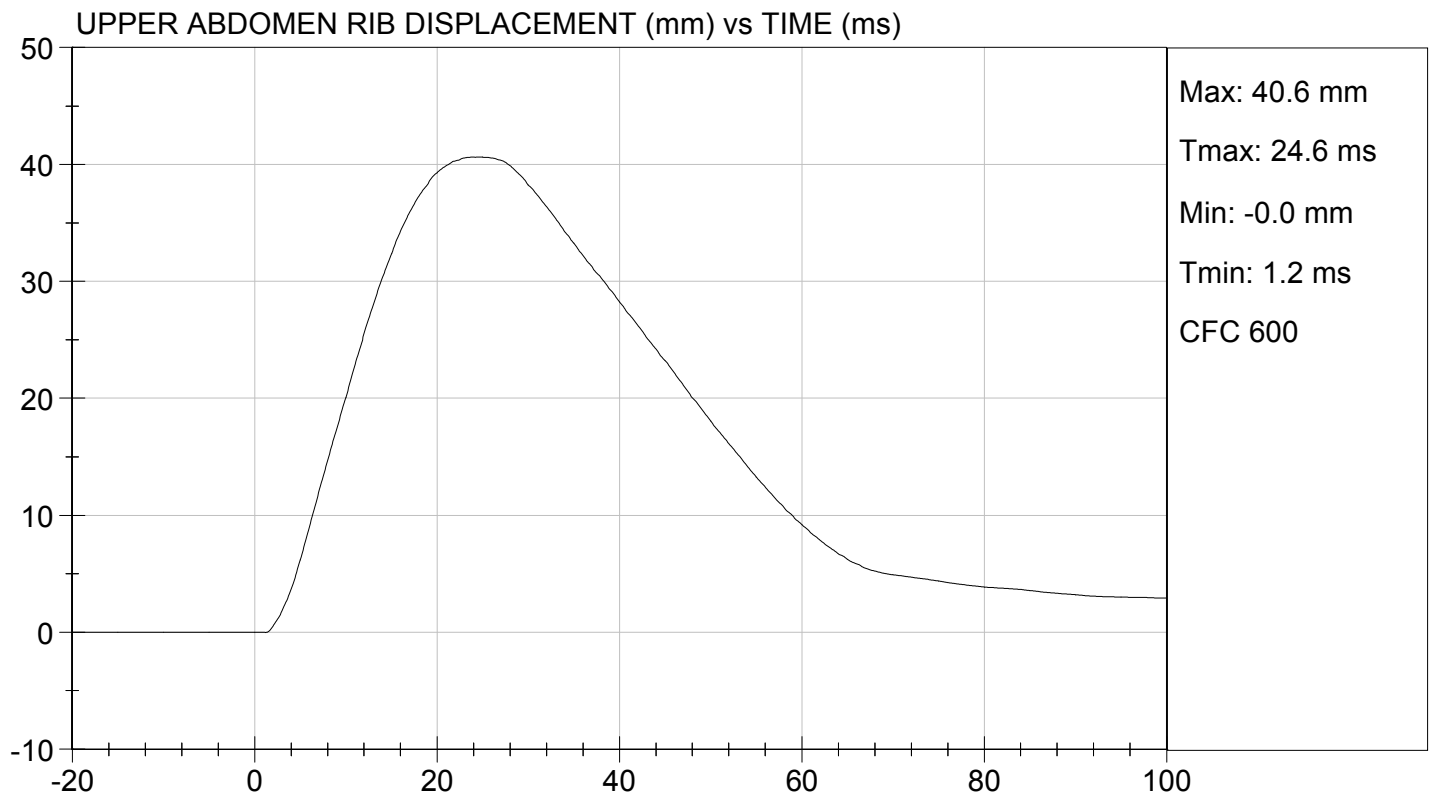
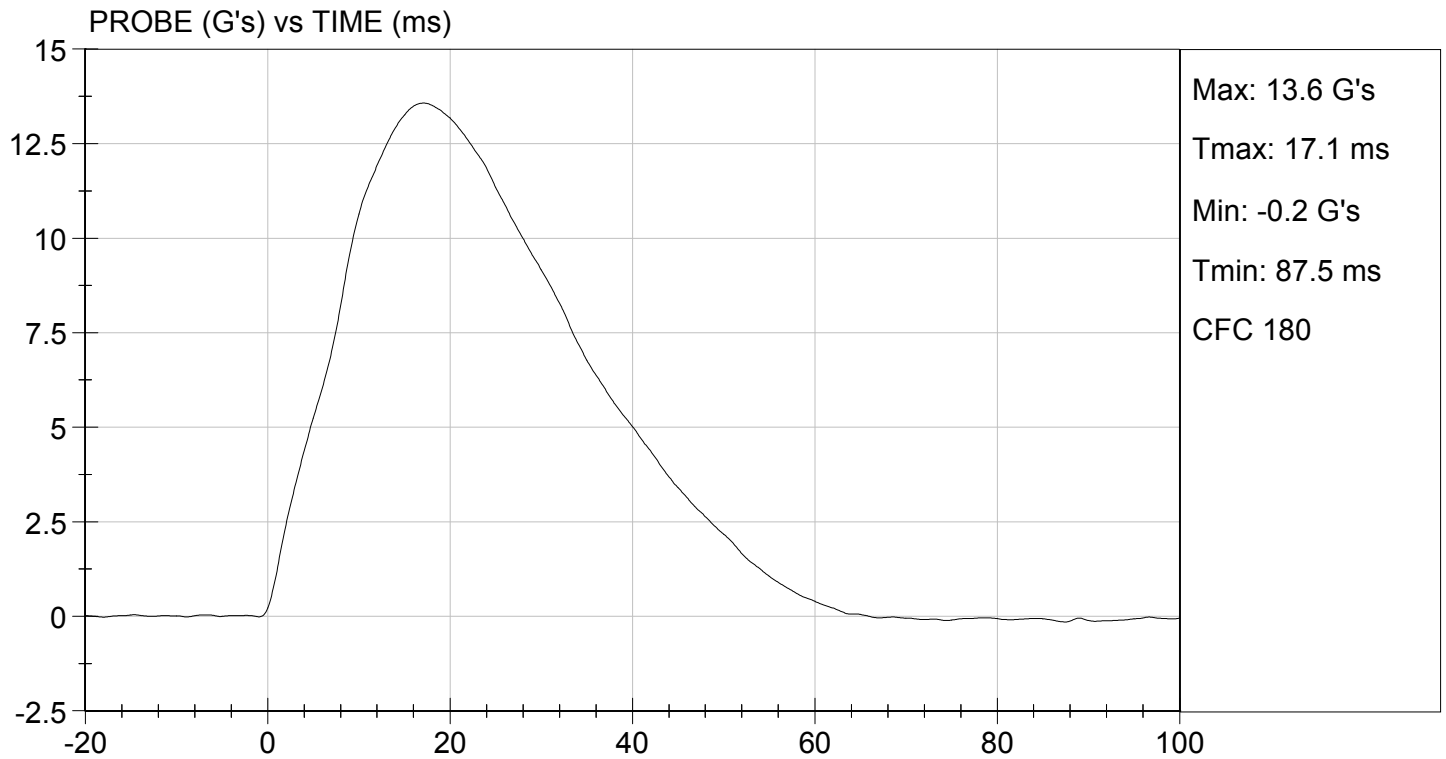
10/07/2016
Test Date

Approved By _____



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

TEST DATE: 10/07/2016
TEST #: D163416

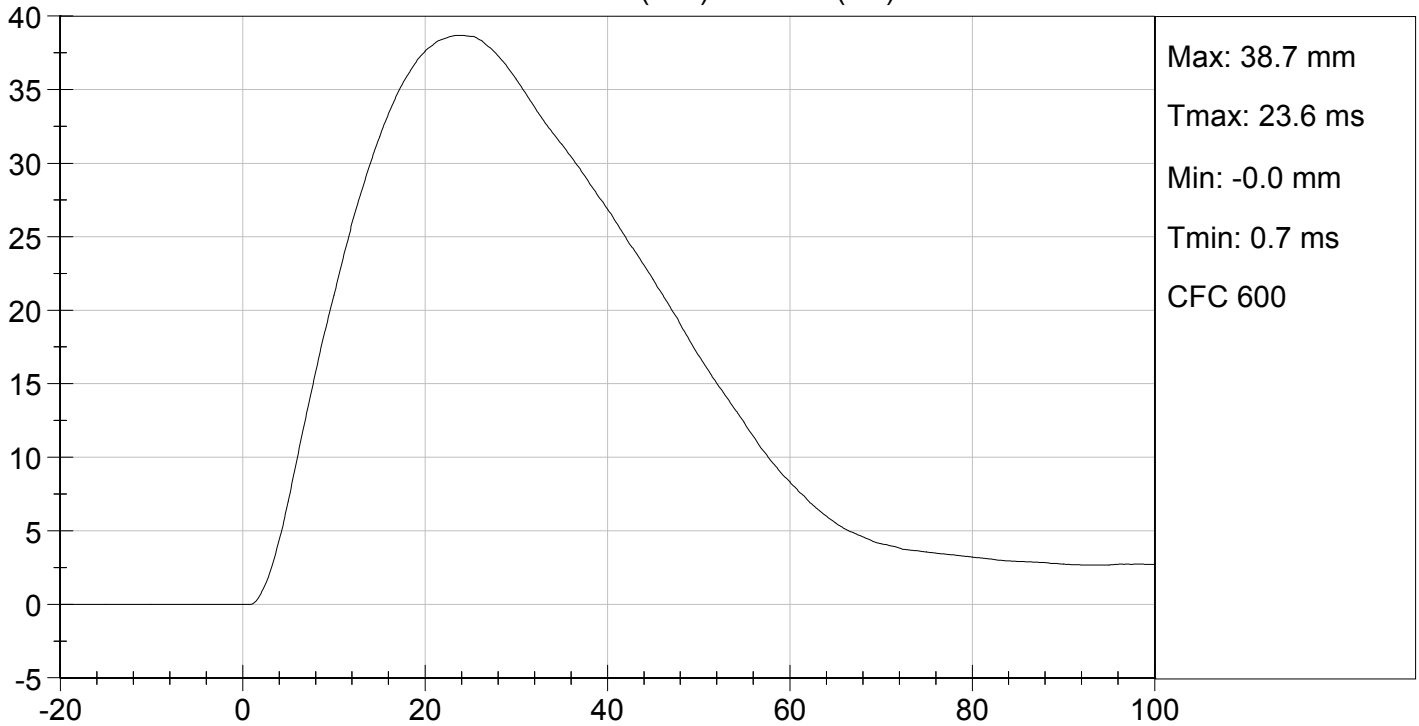




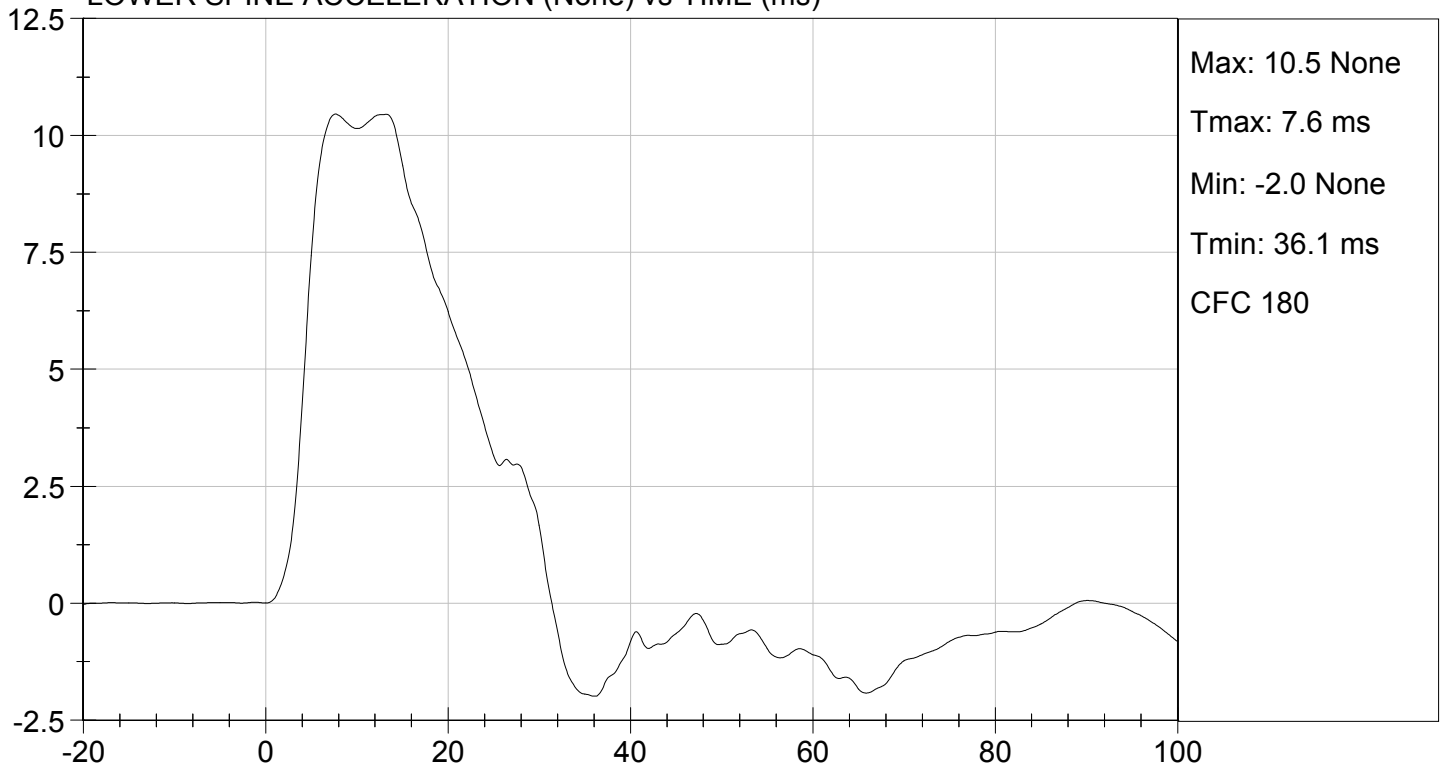
TEST DESC: ABDOMEN IMPACT
VELOCITY: 14.37 ft/s, 4.38 m/s

TEST DATE: 10/07/2016
TEST #: D163416

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



LOWER SPINE ACCELERATION (None) vs TIME (ms)



MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

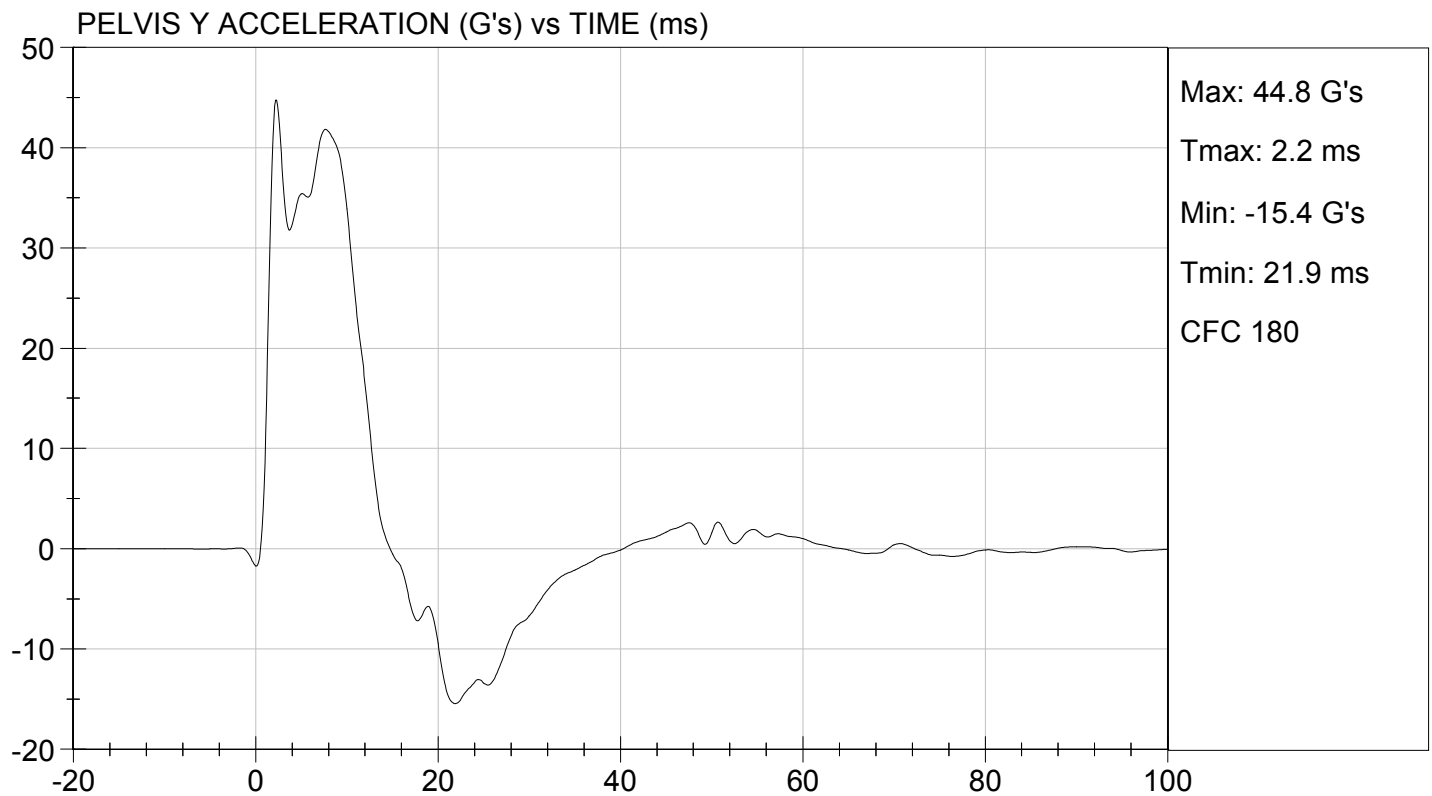
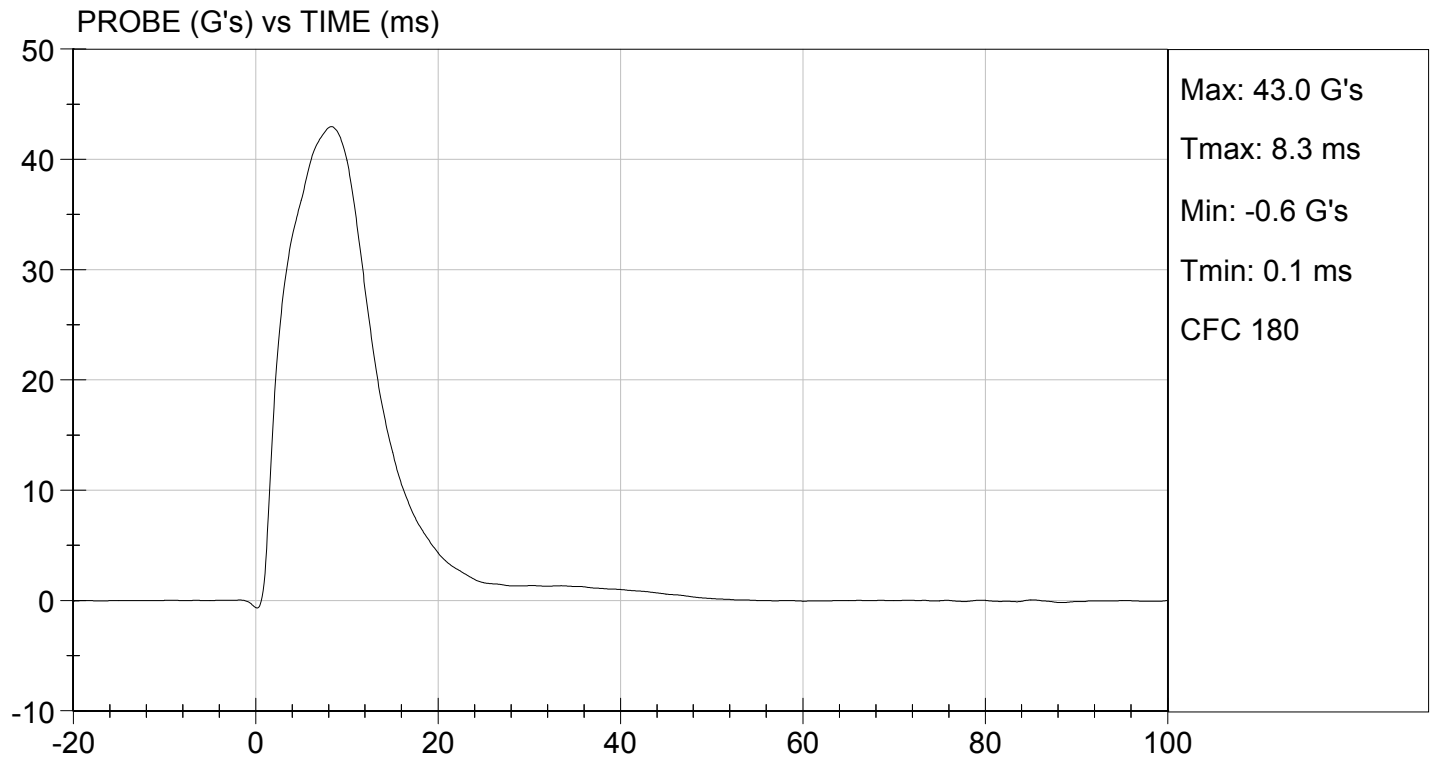
Test I.D: D163417

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	43	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	42	Pass
Peak Acetabulum Force	N	3600 to 4300	3,909	Pass
Overall Test Results				Pass


Laboratory Technician

10/07/2016
Test Date

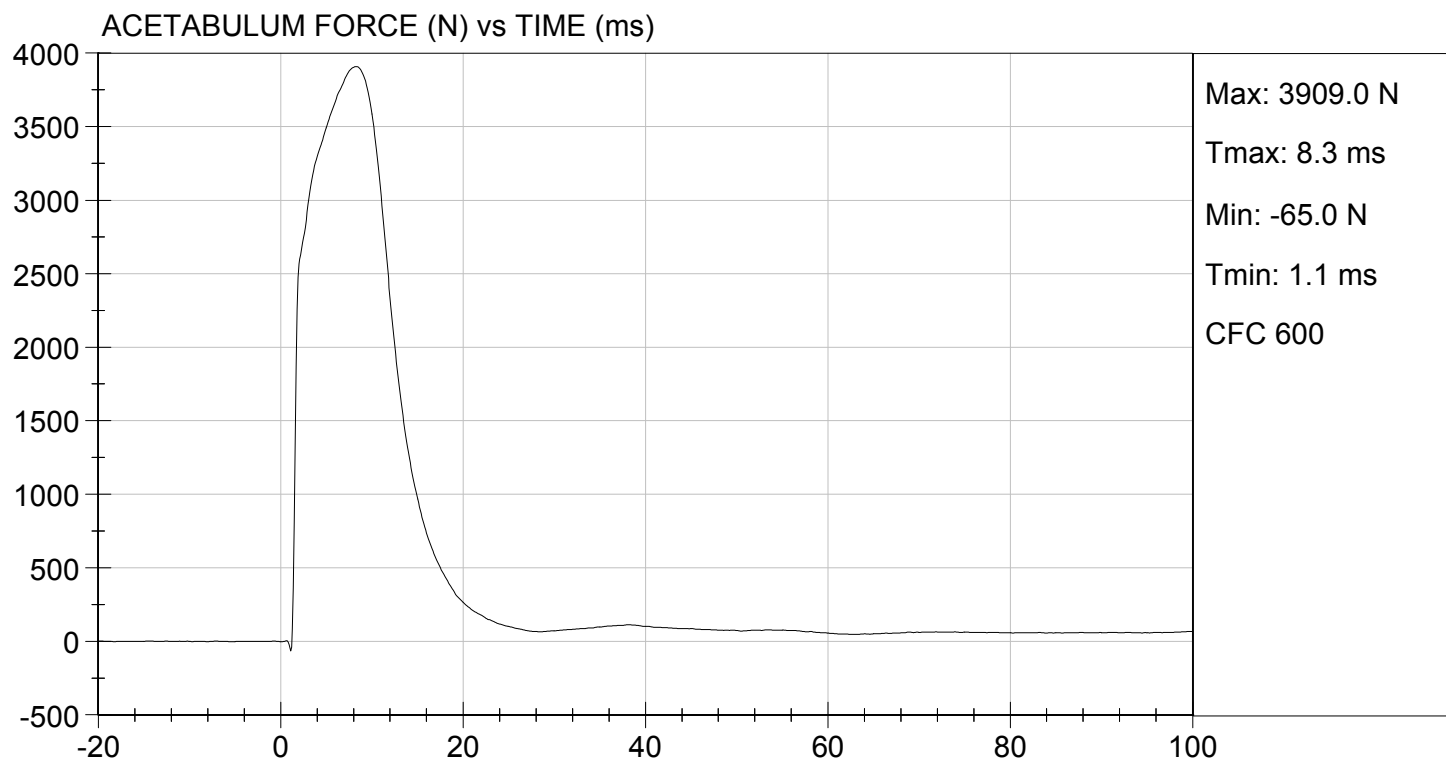
Approved By _____





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

TEST DATE: 10/07/2016
TEST #: D163417



MGA RESEARCH CORPORATION

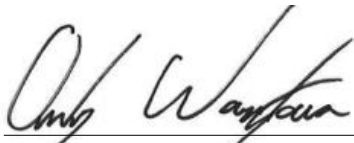
ILIAC IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

ATD Serial No: 296

Test I.D: D163418

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	53	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	36 to 45	37	Pass
Pelvis Y Acceleration	G's	28 to 39	28	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,120	Pass
Overall Test Results				Pass



Laboratory Technician

10/07/2016

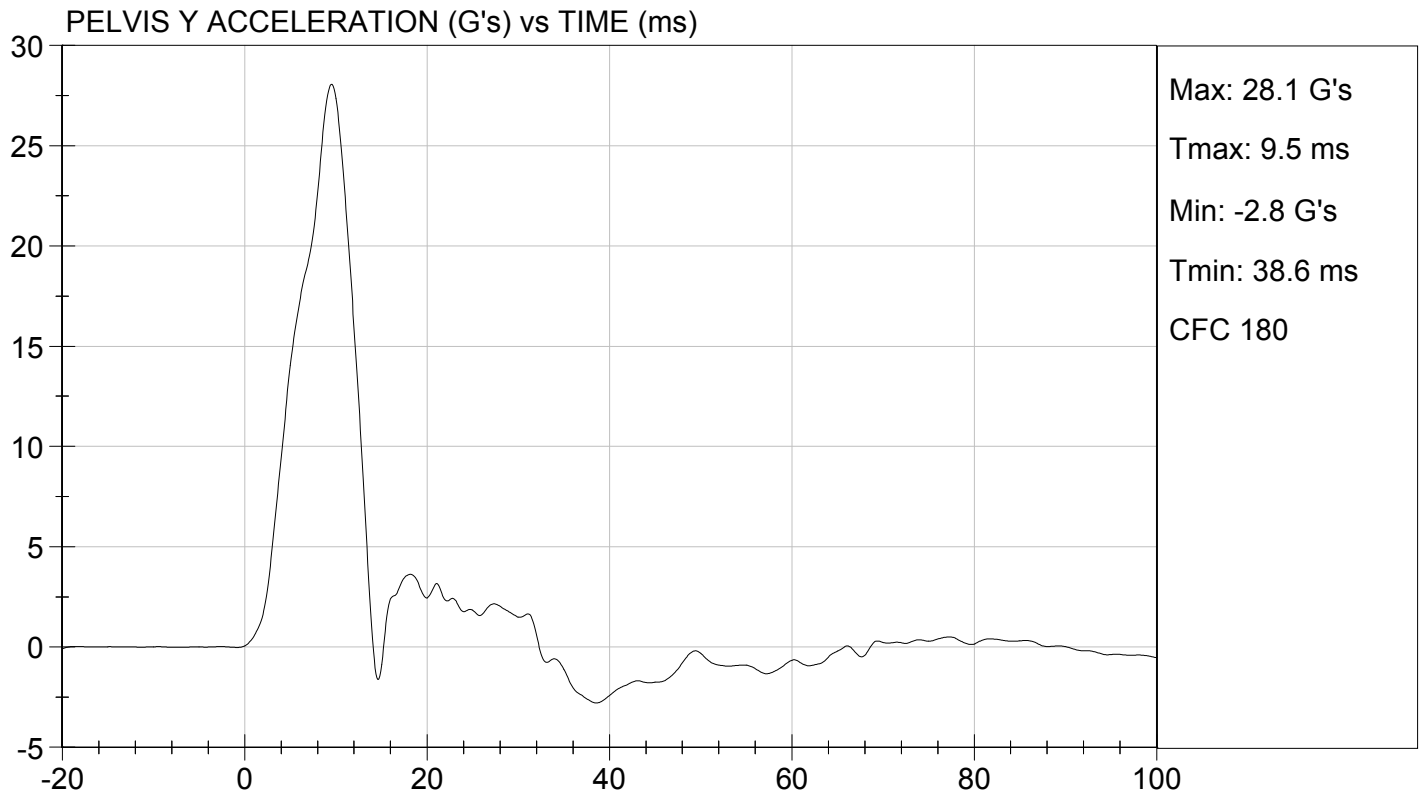
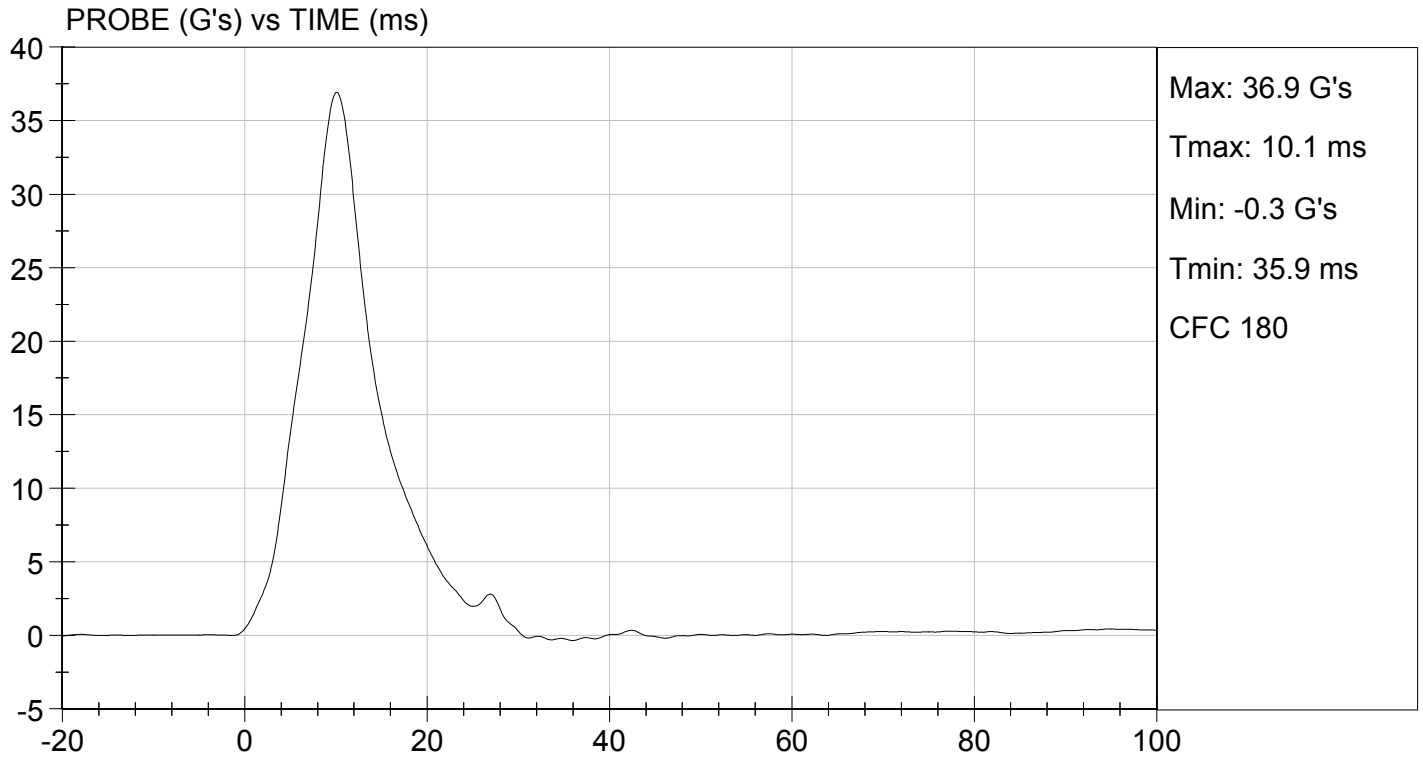
Test Date

Approved By



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

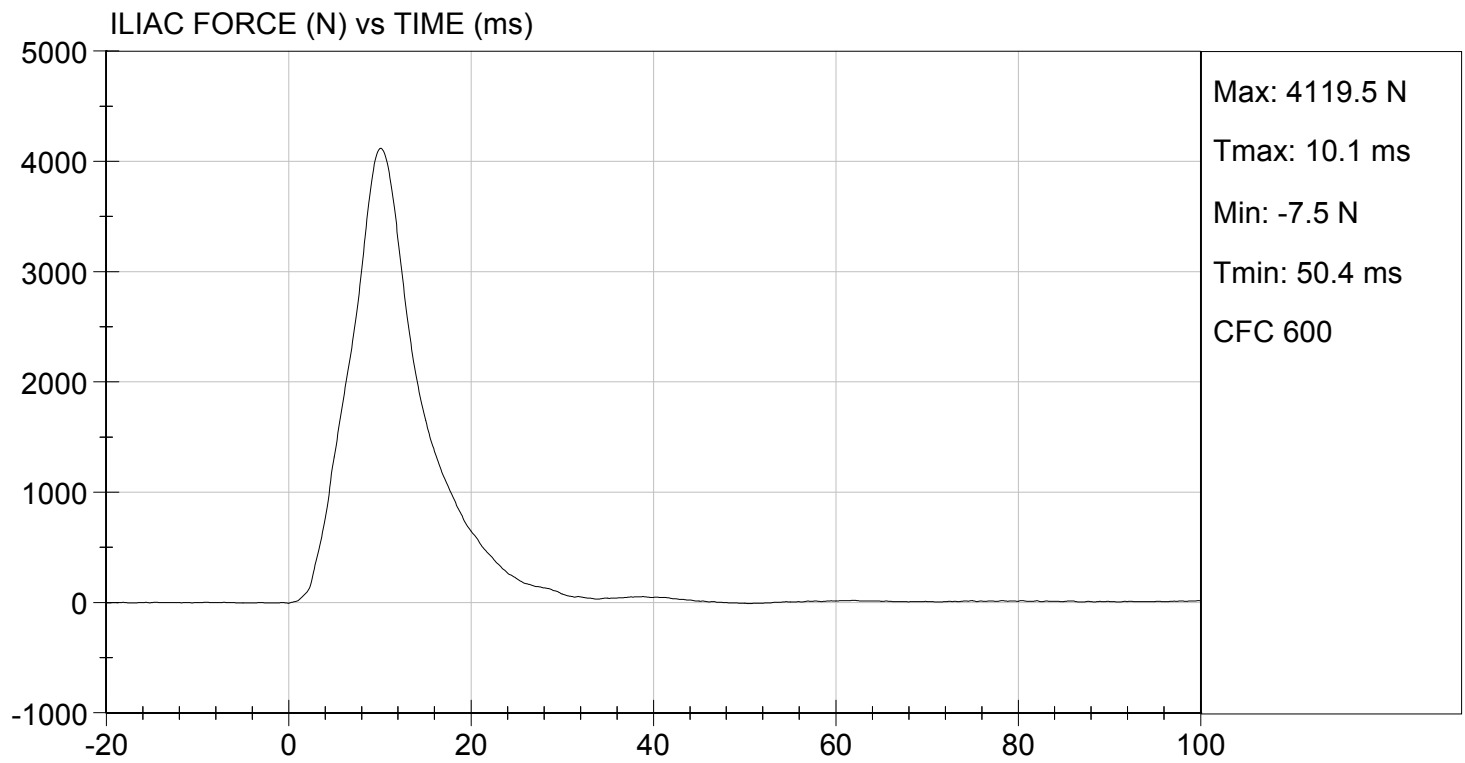
TEST DATE: 10/07/2016
TEST #: D163418



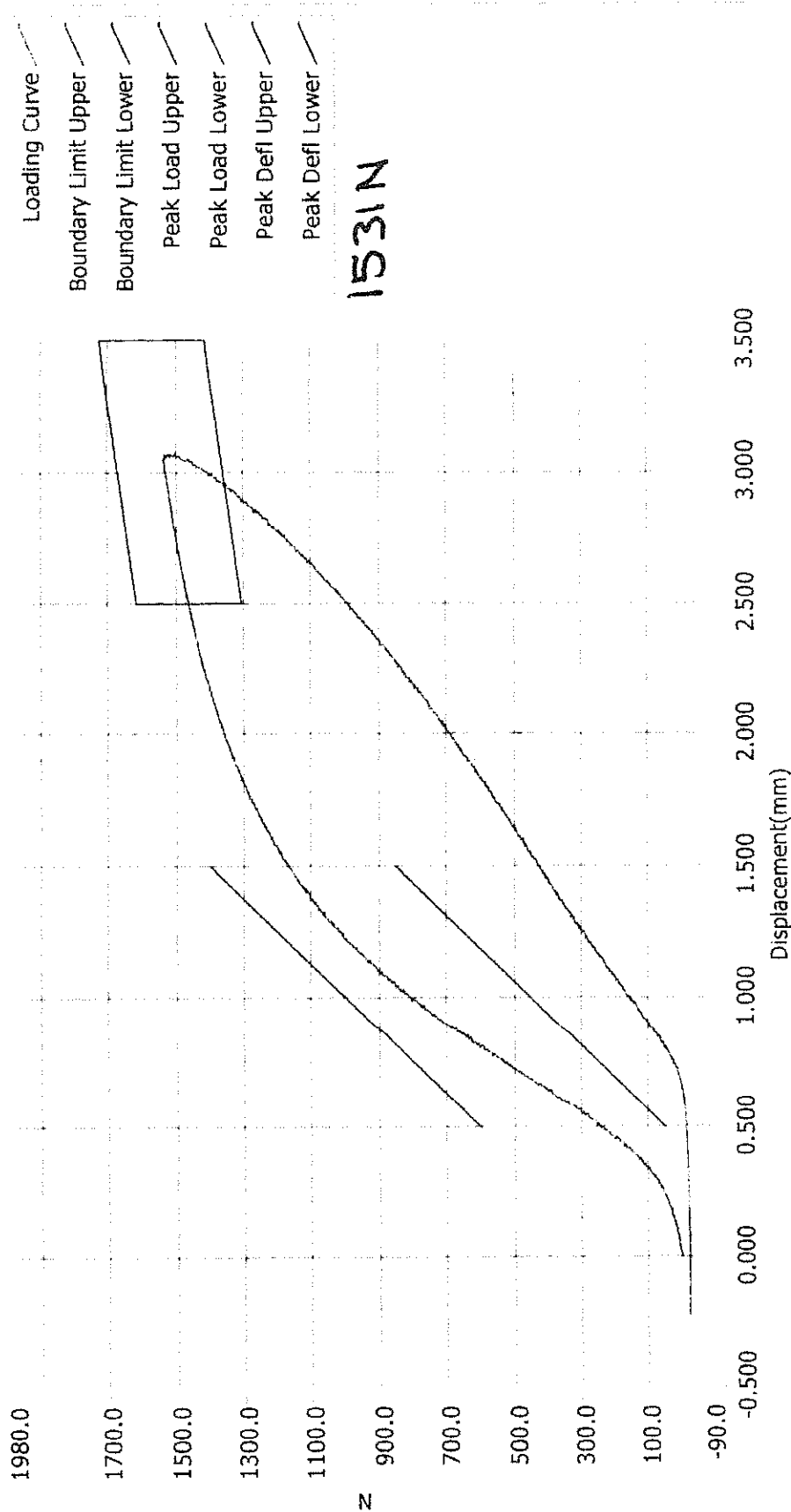


TEST DESC: ILLIAC
VELOCITY: 14.12 ft/s, 4.30 m/s

TEST DATE: 10/07/2016
TEST #: D163418



Resultant Data - SIDIIs Plug Compression



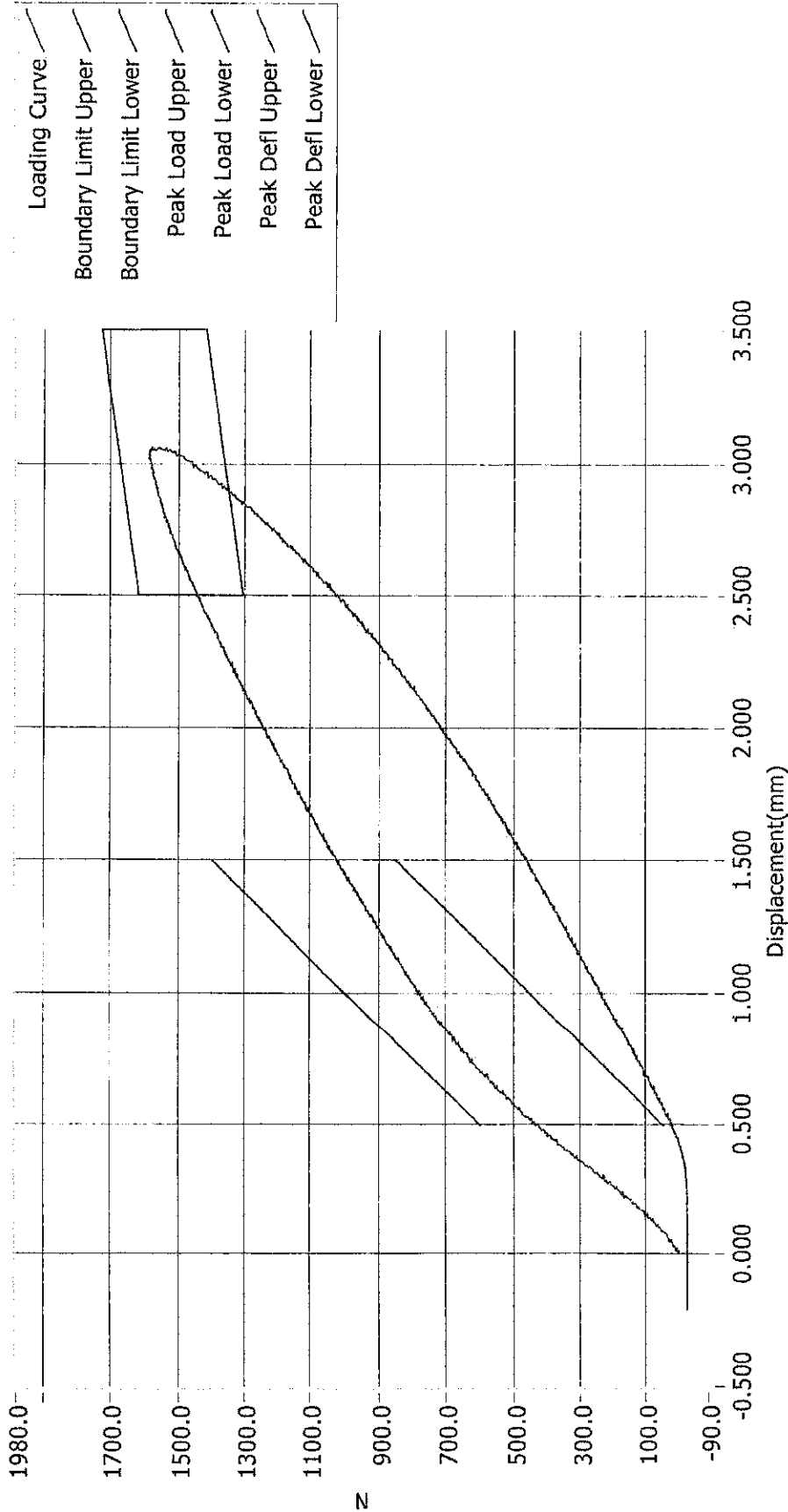
ATD Calibration Lab

<u>Test ID</u>	<u>Part Serial Number</u>	<u>Test Date</u>	<u>Test Time</u>
	63018	1/18/2013	10:40 PM
<u>Cert ID</u>	<u>ATD Serial Number</u>	<u>ATD Type</u>	
	N/A	SIDIIs	

Current Date : 1/18/2013

Current Time : 22:40:39

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>
	81236	12/8/2014	5:27 PM
<u>Cert ID</u>	<u>ATD Serial Number</u>	<u>ATD Type</u>	
	N/A	SIDIIs	

Current Date : 12/8/2014

Current Time : 17:30:42

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 – Dummy Instrumentation

				SID-IIs S/N 296			
				Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers				X	P79001	Endevco	06/30/16
				Y	P79004	Endevco	06/30/16
				Z	P88681	Endevco	06/30/16
				Xr	P79003	Endevco	06/30/16
				Yr	P88680	Endevco	06/30/16
				Zr	P88682	Endevco	06/30/16
Head Angular Rate Sensors				X	ARS7413	DTS	07/15/14
				Y	ARS7421	DTS	07/15/14
				Z	ARS7423	DTS	07/15/14
Displacement Potentiometers	Thoracic Rib	Upper	Y	G012	FTSS	07/01/16	
		Middle	Y	G1163	FTSS	07/01/16	
		Lower	Y	G1158	FTSS	07/01/16	
	Abdominal Rib	Upper	Y	G1146	FTSS	07/01/16	
		Lower	Y	G1126	FTSS	07/01/16	
Lower Spine Accelerometers (T12)				X	P86724	Endevco	06/30/16
				Y	P86725	Endevco	06/30/16
				Z	P86726	Endevco	06/30/16
Acetabulum Load Cell				Y	ACG4285	FTSS	12/22/15
Iliac Wing Load Cell				Y	IWG3023	FTSS	12/22/15
Pelvis Plug (struck side)					63018	FTSS	01/18/13
Pelvis Plug (non-struck side)					81236	FTSS	12/08/14

Table 2 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	PCB324	PCB	04/22/16
Vehicle Center of Gravity	Y	PCB325	PCB	04/22/16
Vehicle Center of Gravity	Z	PCB326	PCB	04/22/16
Left Floor Sill	Y	PCB447	PCB	08/22/16
A-Pillar Sill	Y	PCB351	PCB	04/22/16
A-Pillar Low	Y	PCB887	PCB	09/29/16
A-Pillar Mid	Y	PCB888	PCB	09/29/16
B-Pillar Sill	Y	PCB322	PCB	09/06/16
B-Pillar Low	Y	PCB594	PCB	06/20/16
B-Pillar Mid	Y	PCB632	PCB	06/20/16
Driver Seat	Y	P95084	Endevco	06/01/16
Engine Top	X	PCB803	PCB	08/11/16
Engine Top	Y	PCB802	PCB	08/11/16
Firewall	Y	P66859	Endevco	06/24/16
Right Roof	Y	P90634	Endevco	08/22/16
Right Floor Sill	Y	P87552	Endevco	07/08/16
Rear Floorpan	X	PCB824	PCB	09/29/16
Rear Floorpan	Y	PCB823	PCB	09/29/16

Table 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	07/25/16
Load Cell 2	DG6278	FTSS	07/25/16
Load Cell 3	DG6279	FTSS	07/25/16
Load Cell 4	DG6280	FTSS	07/25/16
Load Cell 5	DG6281	FTSS	07/25/16
Load Cell 6	DG6283	FTSS	07/25/16
Load Cell 7	DG6284	FTSS	07/25/16
Load Cell 8	DG6582	FTSS	07/25/16