

**REPORT NUMBER: SideNCAPPole-MGA-23-029**

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

**HONDA DEVELOPMENT & MANUFACTURING OF AMERICA, LLC  
2023 Honda Pilot LX 5-Door SUV  
NHTSA No.: O20235313**

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



**Test Date: July 14, 2023**

**Final Report Date: January 9, 2024**

**FINAL REPORT**

**U.S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Office of Crashworthiness Standards  
Mail Code: NRM-100  
1200 New Jersey Ave, SE  
Washington, DC 20590**

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Approval Date: January 9, 2024

FINAL REPORT ACCEPTANCE BY OCWS:

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

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

## TECHNICAL REPORT DOCUMENTATION PAGE

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<b>4. Title and Subtitle</b> Final Report of New Car Assessment Program Side Impact Pole Testing of a 2023 Honda Pilot LX 5-Door SUV NHTSA No.: O20235313		<b>5. Report Date</b> January 9, 2024																											
<b>7. Author(s)</b> Ben Fischer, Program Manager		<b>6. Performing Organization Code</b> MGA																											
<b>9. Performing Organization Name and Address</b> MGA Research Corporation 5000 Warren Road Burlington, WI 53105		<b>8. Performing Organization Report No.</b> SideNCAPPole-MGA-23-029																											
<b>12. Sponsoring Agency Name and Address</b> United States Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards Mail Code: NRM-100 1200 New Jersey Ave, SE Washington, DC 20590		<b>10. Work Unit No.</b>																											
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<b>15. Supplementary Notes</b>		<b>14. Sponsoring Agency Code</b> NRM-100																											
<b>16. Abstract</b> A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2023 Honda Pilot LX 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 the MGA Research Corporation facility in Burlington, Wisconsin on July 14, 2023.  The impact velocity was 32.18 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.3°C. The test vehicle post-test maximum crush was 259 mm at level 3. The test vehicle's performance was as follows:																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 55%;">Measurement Description</th> <th rowspan="2" style="width: 10%;">Units</th> <th colspan="2" style="width: 35%;">Driver ATD (SID-IIs)</th> </tr> <tr> <th style="width: 15%;">Threshold</th> <th style="width: 20%;">Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC<sub>36</sub>)</td> <td></td> <td style="text-align: center;">1000</td> <td style="text-align: center;">339.709</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td style="text-align: center;">g</td> <td style="text-align: center;">82</td> <td style="text-align: center;">34.279</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td style="text-align: center;">N</td> <td style="text-align: center;">5525</td> <td style="text-align: center;">1973.425</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">38*</td> <td style="text-align: center;">21.910</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">45*</td> <td style="text-align: center;">23.150</td> </tr> </tbody> </table>				Measurement Description	Units	Driver ATD (SID-IIs)		Threshold	Result	Head Injury Criteria (HIC <sub>36</sub> )		1000	339.709	Resultant Lower Spine Acceleration	g	82	34.279	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1973.425	Maximum Thoracic Rib Deflection	mm	38*	21.910	Maximum Abdomen Rib Deflection	mm	45*	23.150
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*Proposed IARV																													
The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite door(s) did not open during the side impact event.																													
<b>17. Key Words</b> New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		<b>18. Distribution Statement</b> Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division 1200 New Jersey Ave, SE Washington, DC 20590																											
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## SECTION 1 PURPOSE AND SUMMARY OF TEST

### PURPOSE

This side pole impact test is part of the MY 2023 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. 693JJ920D000017. The purpose of this test is to generate comparative side impact performance in a 2023 Honda Pilot LX 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 March 2020.

### SUMMARY

A rigid pole side impact test was conducted on a 2023 Honda Pilot LX 5-Door SUV. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.18 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin on July 14, 2023. 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 March 2020. 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
- Head Triaxial Angular Rate Sensors
- 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	Units	Driver ATD (SID-IIs)	
		Threshold	Result
Head Injury Criteria (HIC36)		1000	339.709
Resultant Lower Spine Acceleration	g	82	34.279
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1973.425
Maximum Thoracic Rib Deflection	mm	38*	21.910
Maximum Abdomen Rib Deflection	mm	45*	23.150

\*Proposed IARV

Supplemental restraint information is given below:

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

The test data can be found on the NHTSA website at [www.nhtsa.gov](http://www.nhtsa.gov)

#### GENERAL COMMENTS

Driver Head Angular Velocity Y recorded questionable data.

Driver Head Angular Velocity Z recorded questionable data.

Left B-Post at Sill Y recorded no valid data after 20ms.

Right Sill Y recorded no valid data after 10ms.

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

**SECTION 2**  
**OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS**

**DATA SHEET NO. 1  
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
Test Date: 7/14/2023

**TEST VEHICLE INFORMATION AND OPTIONS**

NHTSA No.	O20235313	Traction Control System (TCS)	Yes
Model Year	2023	Auto-Leveling System	No
Make	Honda	Automatic Door Locks (ADL)	Yes
Model	Pilot LX	Power Window Auto-Reverse	Yes
Body Style	5-Door SUV	Other Optional Feature	No
VIN	5FNYG2H20PB007834	Driver Front Airbag	Yes
Body Color	Crystal Black	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	13 km / 8 mi	Driver Head/Torso Airbag	No
Engine Displacement (L)	3.5 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	10	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	Yes
Power Seats	No	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	Yes
		Other Safety Restraint	N/A

Does owner's manual provide instruction to turn off automatic door locks?	Yes
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**DATA FROM CERTIFICATION LABEL**

Manufactured By	HONDA DEVELOPMENT & MANUFACTURING OF AMERICA, LLC	GVWR (kg)	2705
Date of Manufacture	04/'23	GAWR Front (kg)	1350
Vehicle Type	MPV	GAWR Rear (kg)	1435

**VEHICLE SEATING AND WEIGHT CAPACITY DATA**

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3	3	8	
Capacity Weight (VCW) (kg)				608	(A)
DSC x 68 kg				544	(B)
Rated Cargo and Luggage Weight (RCLW) (kg)				64	(A-B)

**VEHICLE SEAT TYPE**

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

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

**VEHICLE TIRE INFORMATION**



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	240
Recommended Tire Size	255/60R18	255/60R18
Tire Size on Vehicle	255/60R18	255/60R18
Tire Manufacturer	Hankook	Hankook
Tire Model	Dynapro HP2	Dynapro HP2
Treadwear	540	540
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Steel, 2 Polyester, 2 Nylon	2 Steel, 2 Polyester, 2 Nylon
Load Index/Speed Symbol	108H	108H
Tire Material	Rubber	Rubber
DOT Safety Code Left	OOT3R BUHA 1223	OOT3R BUHA 1123
DOT Safety Code Right	OOT3R BUHA 1223	OOT3R BUHA 1223

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

**TEST PRESSURES**

	Units	LF	RF	LR	RR
As Delivered	kPa	240	240	240	240
Tire Placard	kPa	240	240	240	240
Owner's Manual	kPa	240	240	240	240
As Tested	kPa	240	240	240	240

**TEST AXLE VEHICLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	587.5	397.0		604.5	444.5		603.5	454.5	
Right	kg	529.0	420.0		535.5	457.5		526.0	465.0	
Ratio	%	57.7%	42.3%		55.8%	44.2%		55.1%	44.9%	
Totals	kg	1116.5	817.0	1933.5	1140.0	902.0	2042.0	1129.5	919.5	2049.0

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1933.5	(A)
Actual Weight of 1 P572 ATD (SID-IIs) Used	kg	52	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	64	(C)
Calculated Test Vehicle Target Weight (TVTWT)	kg	2049.5	(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-back)*	deg	-0.4	0.0	-0.1	Yes
Front Pass. Door Sill Angle (front-to-back)*	deg	-0.1	0.1	0.2	Yes
Front Bumper Angle (left-to-right)**	deg	0.2	0.0	0.0	Yes
Rear Bumper Angle (left-to-right)**	deg	-0.1	0.0	0.0	Yes
Vehicle CG (Aft of Front Axle)	mm	1224	1279	1300	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	16	23	28	

\* 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 TVTWT**

Component Description	Units	Weight
Weight of Ballast Added	kg	18
Components Removed: none	kg	

Test height adjustable suspension setting, if applicable:	Not Applicable
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**DATA SHEET NO. 1 (CONTINUED)**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
Test Date: 7/14/2023

**TEST SURFACE MARKINGS**

	Distance from 75° Impact Location Line (mm)
Fore 25 mm Target	1008
Aft 25 mm Target	1000

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

**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	30.1	13.8	17.0
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	Forward-Most
Driver Seat	17.0	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: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

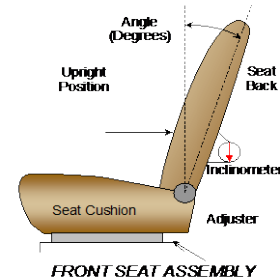
NHTSA No.: O20235313  
 Test Date: 7/14/2023

**SEAT FORE/AFT POSITIONS**

Seat	Total Fore/Aft Travel		Test Position from Forward-Most Position	
	mm	Detents (1 <sup>st</sup> as 1)	mm	Detent (1 <sup>st</sup> as 0)
Driver Seat	238	25	0	0
Front Passenger Seat	210	22	0	0
Front Center Seat				
Struck Side Rear Seat	150	16	150	15
Non-Struck Side Rear Seat	150	16	150	15
Rear Center Seat	150	16	150	15

**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 S1 – Vehicle Setup Information 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 (1 <sup>st</sup> as 1)	Degrees	Detent (1 <sup>st</sup> as 0)
Driver Seat	67.2	34	-6.3	1
Front Passenger Seat	64.4	35	-6.0	2
Front Center Seat				
Struck Side Rear Seat	14.2	7	5.7	0
Non-Struck Side Rear Seat	14.2	7	5.7	0
Rear Center Seat	14.2	7	5.7	0

All 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 S1 – Vehicle Setup Information.

	Total # of Positions	Placed in Position #
Driver Seat	4	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	0 (Lowest as 0) / Fixed Fore-Aft

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

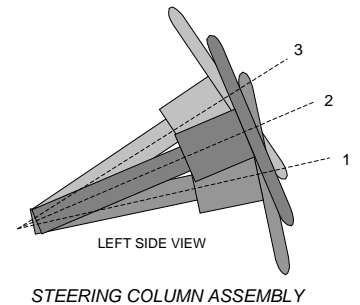
Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

**STEERING COLUMN ADJUSTMENT**

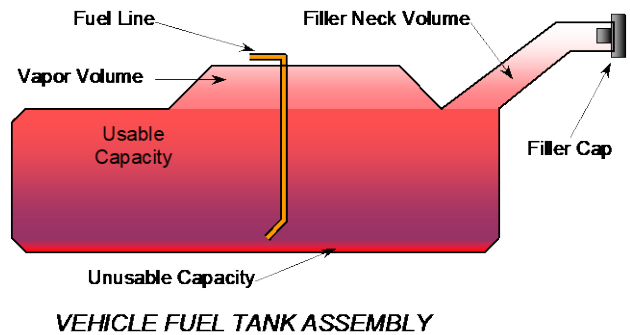
Steering wheel and column adjustments are made so that the steering wheel geometric locus is described when it moves through its full range of motion.

	Wheel Angle (°)	Fore/Aft Position (mm)
Lowermost, Position 1	68.0	
Geometric Center, Position 2	65.2	
Uppermost, Position 3	62.3	
Telescoping Steering Wheel Travel		62
Test Position	65.2	31



**FUEL PUMP**

The vehicle is equipped with an electronic fuel pump. With IG2 ignition position, the fuel pump will only run for less than 5 seconds. With the vehicle running, the fuel pump will continue to run. The filler neck is located on the driver's side.



**FUEL TANK CAPACITY DATA**

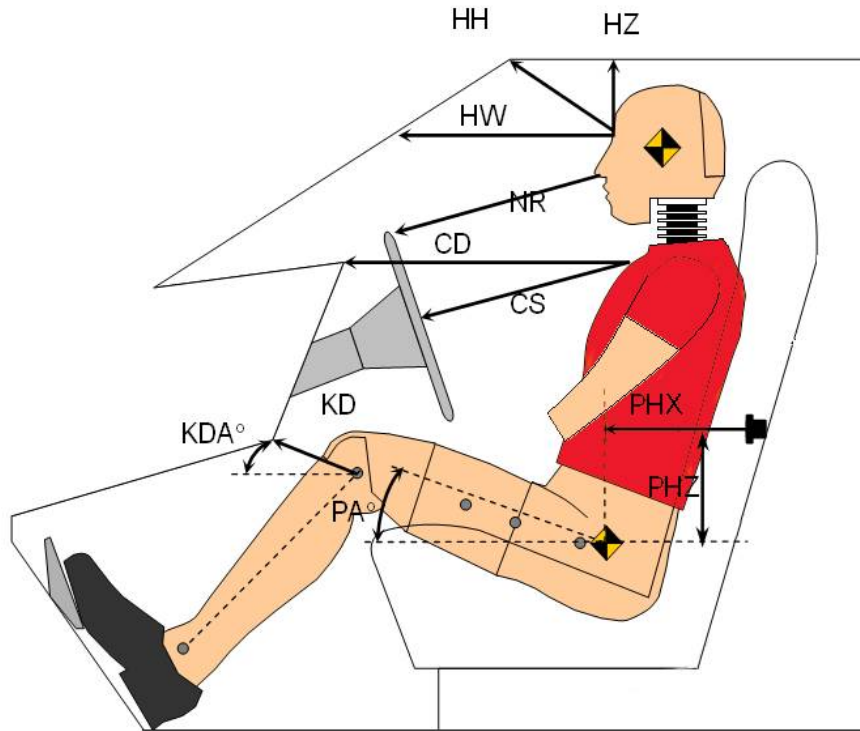
	Liters
Usable Capacity of Standard Tank (see S1 – Vehicle Setup Information)	70.0
Usable Capacity of Optional Tank (see S1 – Vehicle Setup Information)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	70.0
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	65.1
Actual Amount of Solvent Used	65.1
1/3 of Usable Capacity	23.3

Is the actual amount of solvent used in the test equal to 93%  $\pm$  1% of the Usable Capacity stated in S1 – Vehicle Setup Information? **YES**

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
Test Date: 7/14/2023



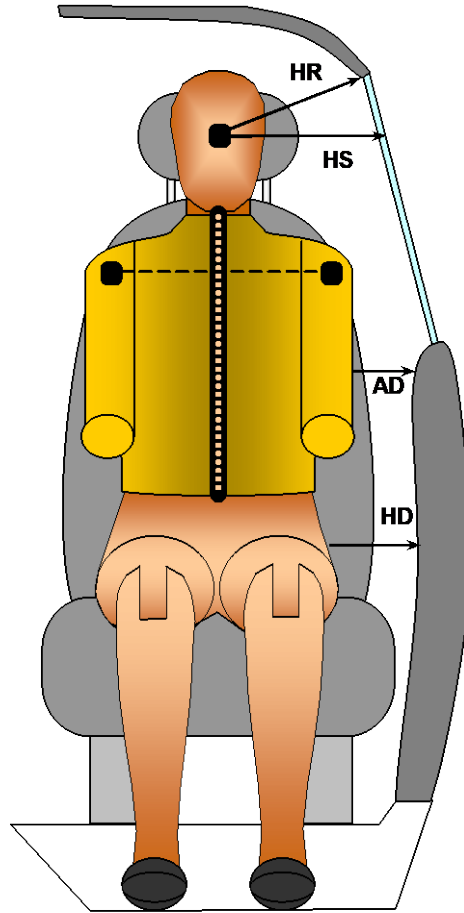
**LEFT SIDE VIEW**

Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	351	
HW	Head to Windshield	641	
HZ	Head to Roof Liner	235	
NR	Nose to Rim/Seat Back	227	
CD	Chest to Dashboard/Seat Back	410	
CS	Chest to Steering Wheel	158	
KDL / KDAL	Left Knee to Dash/Seat Back	154	31.9
KDR / KDAL	Right Knee to Dash/Seat Back	160	32.0
PAX	Pelvic Tilt Angle X		20.2
PAY	Pelvic Tilt Angle Y		-0.4
PHX	Hip Point to Striker (X-Axis)	338	
PHZ	Hip Point to Striker (Z-Axis)	170	

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023



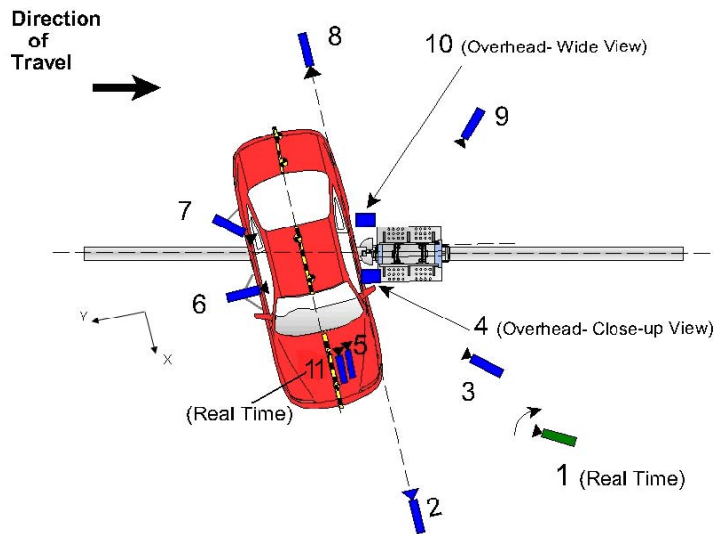
**FRONT VIEW OF DUMMY**

Code	Measurement Description	Driver
		Length (mm)
HR	Head to Side Header	272
HS	Head to Side Window	393
AD	Arm to Door	183
HD	Hip Point to Door	164

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023



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

No.	Camera View	Coordinates* (mm)			Lens (mm)	Frame Rate (fps)
		X	Y	Z		
1	Real-Time Pan View					30
2	Front Ground Level	5590	-45	-1755	24	1000
3	Impact Side 45° Forward	4085	-1800	-1795	12	1000
4	Overhead Closeup	0	0	-6700	85	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-6255	-25	-1860	24	1000
9	Impact Side 45° Rearward	-2870	-3220	-1895	12	1000
10	Overhead Wide View	-250	410	-6540	12	1000
11	Real-Time Dummy Front View					30

\*All measurements accurate to ±6 mm

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

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

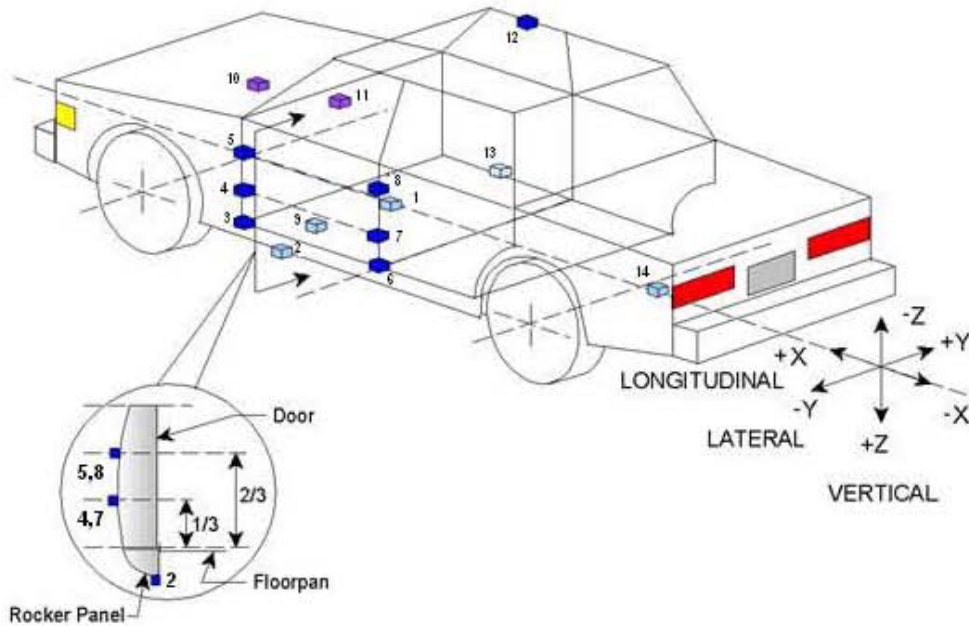
**INSTRUMENTATION**

	Number of Channels
Driver Dummy	21
Vehicle Structure	18
Pole Load Cells	8
Total	47

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023



**TEST VEHICLE ACCELEROMETER LOCATIONS**

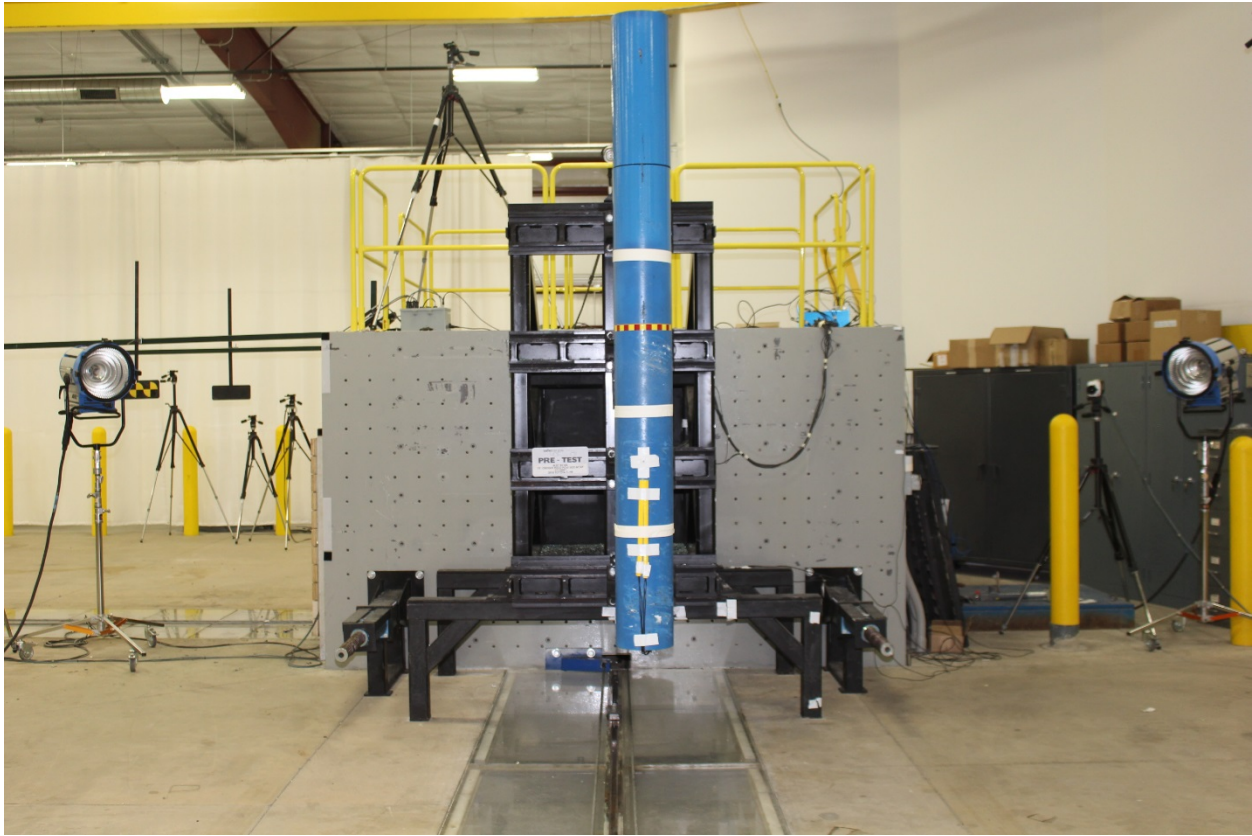
No.	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2739	0	-416
2	Left Floor Sill	3289	-783	-293
3	A Pillar Sill	3539	-783	-295
4	A Pillar Low	3489	-857	-615
5	A Pillar Mid	3489	-858	-860
6	B Pillar Sill	2451	-783	-297
7	B Pillar Low	2371	-782	-681
8	B Pillar Mid	2372	-783	-906
9	Driver Seat Track	2584	-422	-419
10	Engine Top	4245	0	-913
11	Firewall	3975	0	-1042
12	Right Roof	2527	560	-1715
13	Right Sill	3284	783	-307
14	Rear Floorpan	1143	0	-576

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: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023



254 mm Diameter Rigid Pole

<b>Load Cell Locations</b>	
<b>ID</b>	<b>Height from Impact Surface (mm)</b>
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: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

**TEST DUMMY INFORMATION AND CONTACT POINTS**

Description	Driver Dummy (SID-IIs)
Face	Curtain Airbag, Seatback
Top of Head	Curtain Airbag, Headrest, Seatback
Left Side of Head	Curtain Airbag, Headrest
Back of Head	Curtain Airbag, Headrest, Seatback
Left Shoulder	Side Torso/Pelvis Airbag
Upper Torso	Side Torso/Pelvis Airbag, Seatback
Lower Torso	Side Torso/Pelvis Airbag, Seatback
Left Hip	Side Torso/Pelvis Airbag, Seat Cushion
Left Knee	None

**POST-TEST DOOR PERFORMANCE**

Description	Struck Side		Non-Struck Side		Rear Hatch
	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)					

**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	No Separation
Windshield Damage	Cracked
Side Window Damage	LF window broken
Other Notable Effects	None

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

**SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION**

Restraint Type	Struck Side Driver		Struck Side Left 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	
Side Airbag (Other)				
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes		Yes	
Other:				

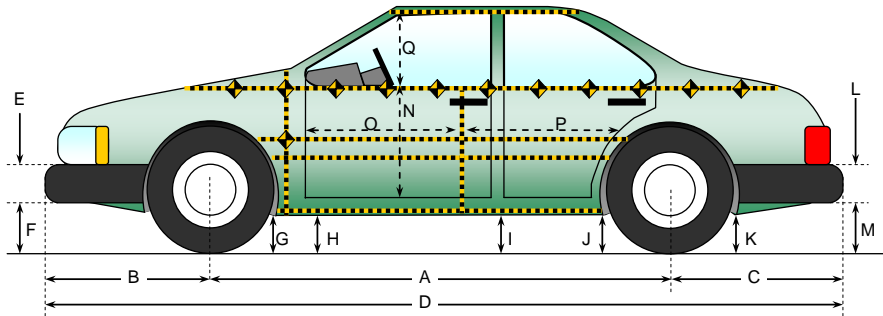
**SPEED, ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA**

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1095
Actual Impact Point (Aft of Front Axle)	mm		1095
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	0
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	degrees	75 +/- 3	75.2
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.18
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.27

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
Test Date: 7/14/2023



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

**LEFT SIDE VIEW**

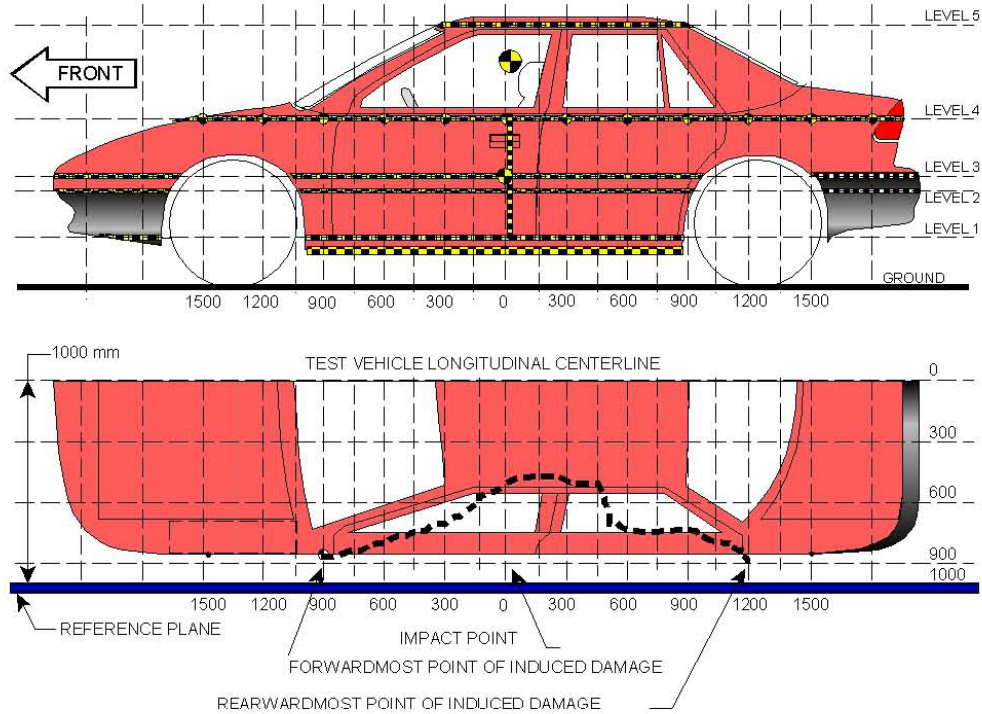
**VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION**

Code	Measurement Description	Pre-Test	Post-Test	Change
A	Wheelbase	2896	2850	-46
B	Front Axle to FSOV	1023	1028	5
C	Rear Axle to RSOV	1143	1172	29
D	Total Vehicle Length at Centerline	5062	5050	-12
E	Front Bumper Thickness	128	128	0
F	Front Bumper Bottom to Ground	258	262	4
G	Sill Height at Front Wheel Well	275	263	-12
H	Sill Height at Front Door Leading Edge	259	246	-13
I	Sill Height at B-Pillar	274	278	4
J1	Sill Height at Rear Wheel Well	280	287	7
J2	Pinch Weld Height at Rear Wheel Well	259	264	5
K	Sill Height Aft of Rear Wheel Well	300	302	2
L	Rear Bumper Thickness	84	84	0
M	Rear Bumper Bottom to Ground	363	344	-19
N	Sill Height to Bottom of Front Window Sill	761	755	-6
O	Front Door Leading Edge to Impact CL	603	600	-3
P	Rear Door Trailing Edge to Impact CL	1359	1415	56
Q	Front Window Opening	465	430	-35
R	Right Side Length	4014	4014	0
S	Left Side Length	4014	3963	-51
T	Vehicle Width at B-Pillars	2022	2005	-17
U	Front Wheel Track Width	1709		
V	Rear Wheel Track Width	1717		

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
Test Date: 7/14/2023



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	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	451	197	75
2	Mid Door	711	254	75
3	Occupant H-Point	735	259	75
4	Window Sill	1097	241	0
5	Window Top	1670	93	0

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023

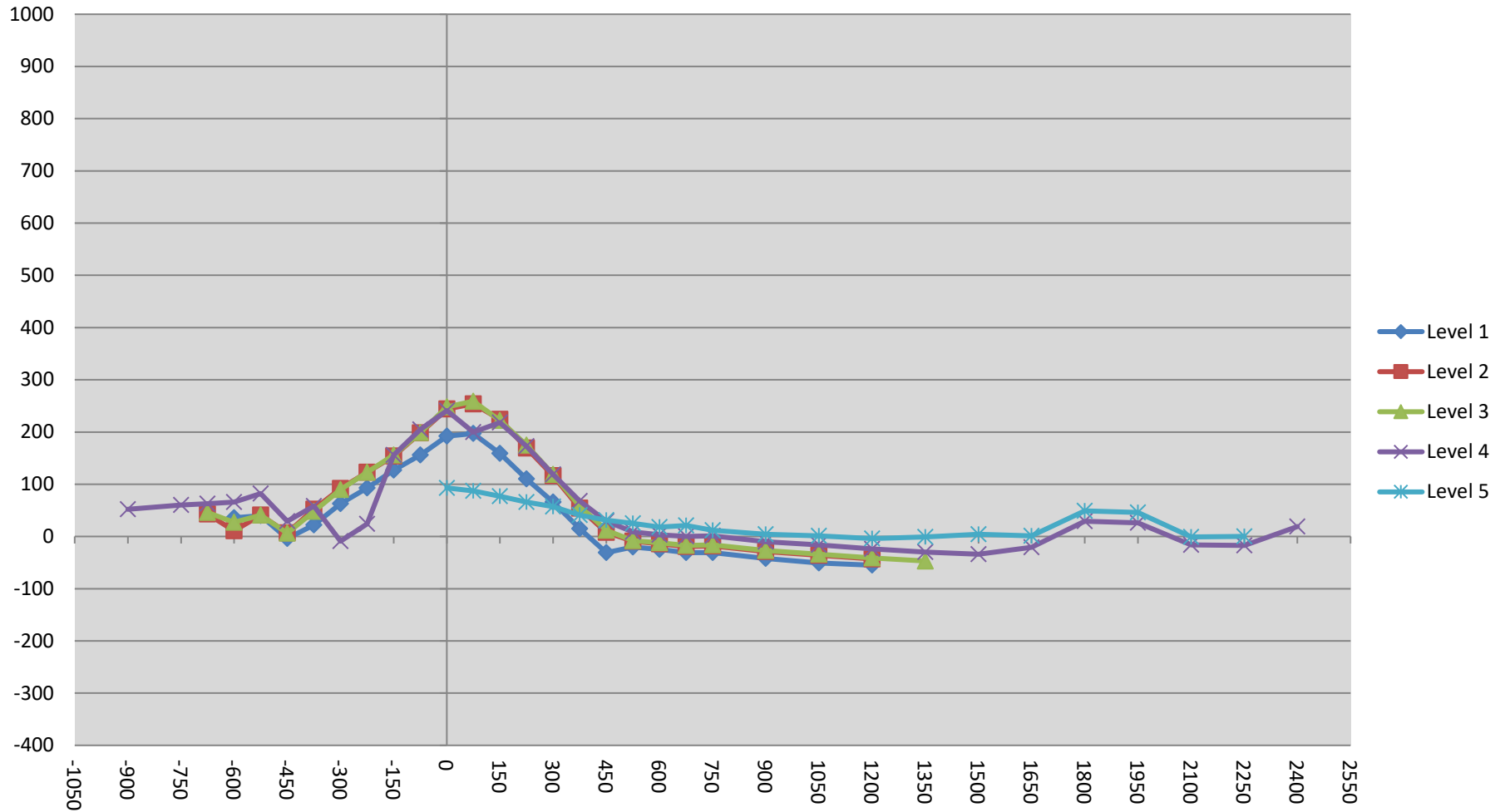
Pre-test measurements are taken when the vehicle is in the “As Tested” weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point.

	Pre-Test					Post-Test					Exterior Crush				
	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															
-1050															
-900				191					243					52	
-825															
-750				179					239					60	
-675		117	113	175			160	159	238			43	46	63	
-600	147	114	113	174		183	125	140	240		36	11	27	66	
-525	145	118	117	172		185	159	158	254		40	41	41	82	
-450	146	120	119	171		142	127	125	200		-4	7	6	29	
-375	154	121	120	170		176	173	168	228		22	52	48	58	
-300	155	122	120	170		218	214	210	161		63	92	90	-9	
-225	156	122	121	169		249	245	244	193		93	123	123	24	
-150	155	122	121	169		282	276	277	325		127	154	156	156	
-75	155	123	121	166		311	321	320	371		156	198	199	205	
0	155	123	121	165	425	347	367	369	406	518	192	244	248	241	93
75	155	123	121	164	415	352	377	380	364	502	197	254	259	200	87
150	155	123	121	162	408	314	347	343	380	485	159	224	222	218	77
225	156	123	121	161	406	266	292	296	334	472	110	169	175	173	66
300	156	123	121	161	405	222	239	240	280	462	66	116	119	119	57
375	157	123	121	160	403	172	177	179	228	444	15	54	58	68	41
450	158	123	121	160	403	127	131	133	189	434	-31	8	12	29	31
525	156	123	121	160	402	136	114	113	169	427	-20	-9	-8	9	25
600	157	123	121	160	401	132	109	109	163	419	-25	-14	-12	3	18
675	159	123	121	159	400	128	104	104	159	421	-31	-19	-17	0	21
750	160	123	121	158	400	129	105	105	159	412	-31	-18	-16	1	12
825															
900	161	122	120	158	400	119	93	93	148	404	-42	-29	-27	-10	4
1050	159	121	119	156	400	108	85	85	140	401	-51	-36	-34	-16	1
1200	144	117	116	156	405	89	74	75	132	401	-55	-43	-41	-24	-4
1350			119	155	409			72	125	408			-47	-30	-1
1500				158	414				124	418				-34	4
1650				160	420				139	421				-21	1
1800				166	429				195	478				29	49
1950				169	441				195	487				26	46
2100				175	458				159	457				-16	-1
2250				183	482				166	482				-17	0
2400				195					214					19	
2550															
2700															

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

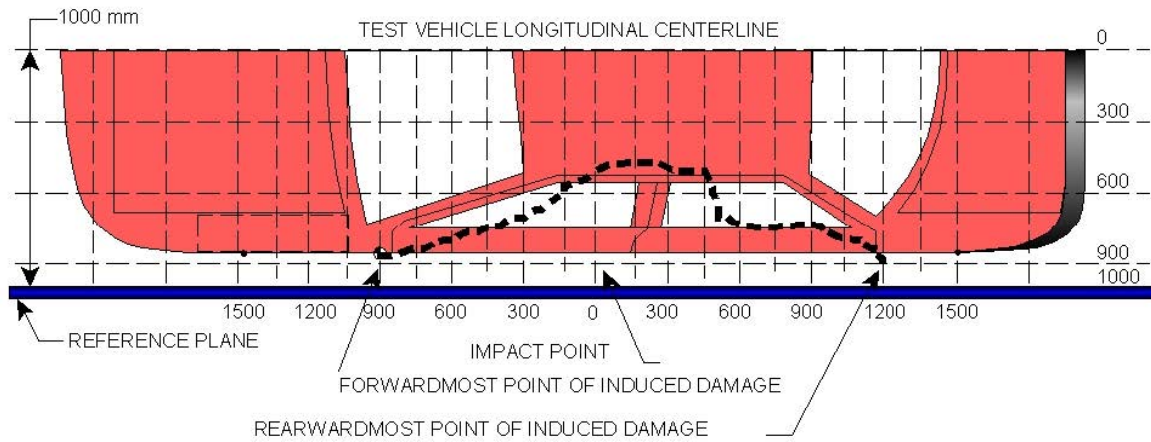
NHTSA No.: O20235313  
 Test Date: 7/14/2023



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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023



**VEHICLE DAMAGE PROFILE DISTANCES**

DPD	Distance from Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	500	4	121	92	-29
2	270	4	121	238	117
3	40	4	121	357	236
4	-190	4	121	243	122
5	-420	4	119	99	-20
6	-650	4	113	77	-36

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

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
Test Program: NCAP Side Pole Impact Test

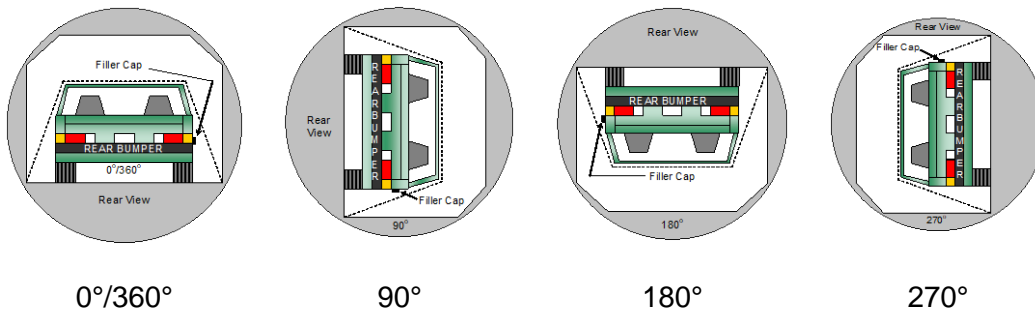
NHTSA No.: O20235313  
Test Date: 7/14/2023

Test Time: 11:58 am

Temperature: 21.3°C

- A. From impact until vehicle motion ceases: (Maximum Allowable = 1 ounce) 0.0 oz.  
B. For the 5 minute period after motion ceases: (Maximum Allowable = 5 ounces) 0.0 oz.  
C. For the following 25 minutes: (Maximum Allowable = 1 ounce / minute) None  
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°	112	300	412
180° to 270°	108	300	408
270° to 360°	112	300	412

**FMVSS 301 ROLLOVER SPILLAGE TABLE (UNITS IN OUNCES)**

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0.0	0.0	0.0	
90° to 180°	0.0	0.0	0.0	
180° to 270°	0.0	0.0	0.0	
270° to 360°	0.0	0.0	0.0	

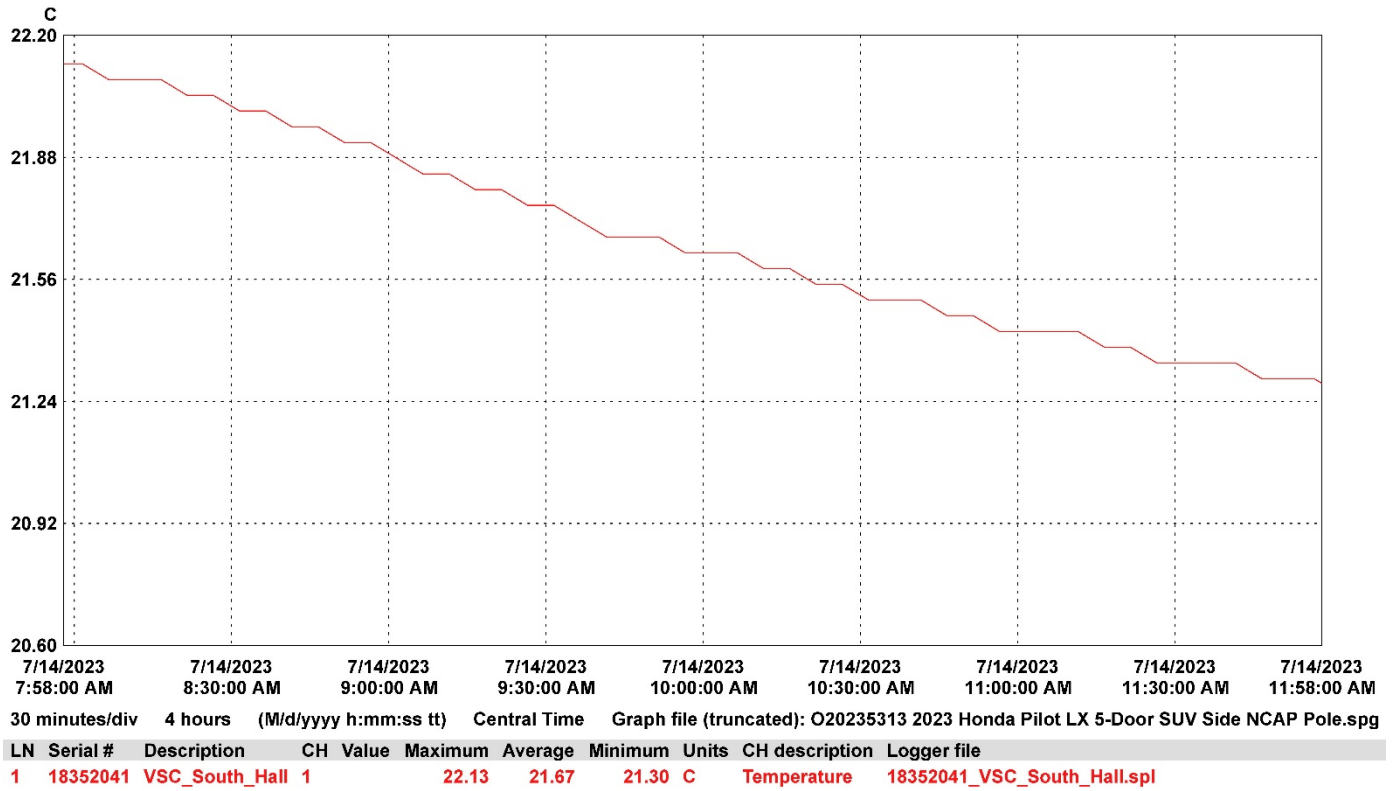
**ROLLOVER SOLVENT SPILLAGE LOCATION TABLE**

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

**DATA SHEET NO. 12  
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA**

Test Vehicle: 2023 Honda Pilot LX 5-Door SUV  
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: O20235313  
 Test Date: 7/14/2023



**APPENDIX A  
PHOTOGRAPHS**

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



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



Photo No. 006 - Post-Test Left Front Three-Quarter 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 Three-Quarter View of Test Vehicle



Photo No. 010 - Post-Test Left Rear Three-Quarter View of Test Vehicle



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

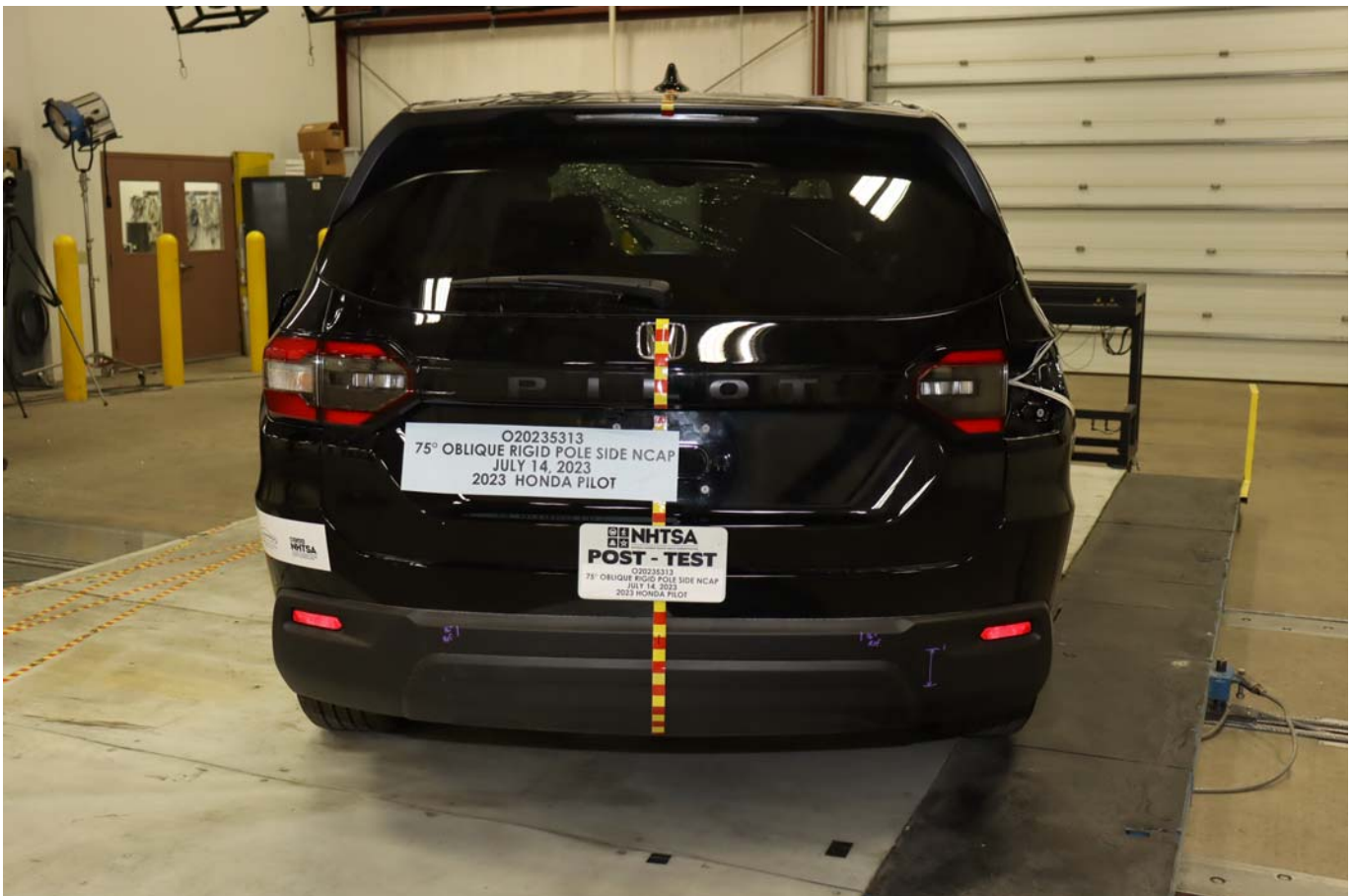


Photo No. 012 - Post-Test Rear View of Test Vehicle



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



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

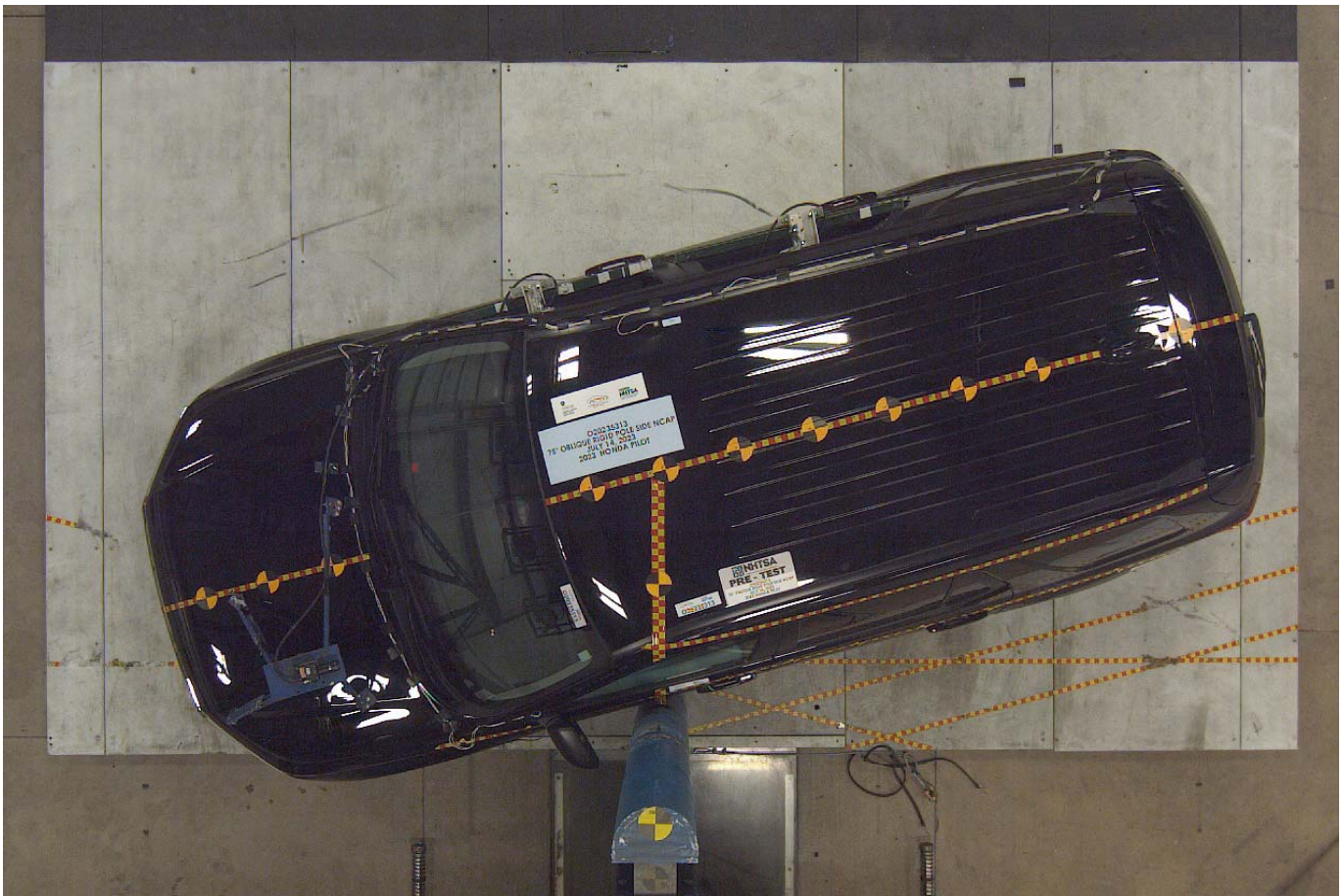


Photo No. 015 - Pre-Test Overhead View of Test Area

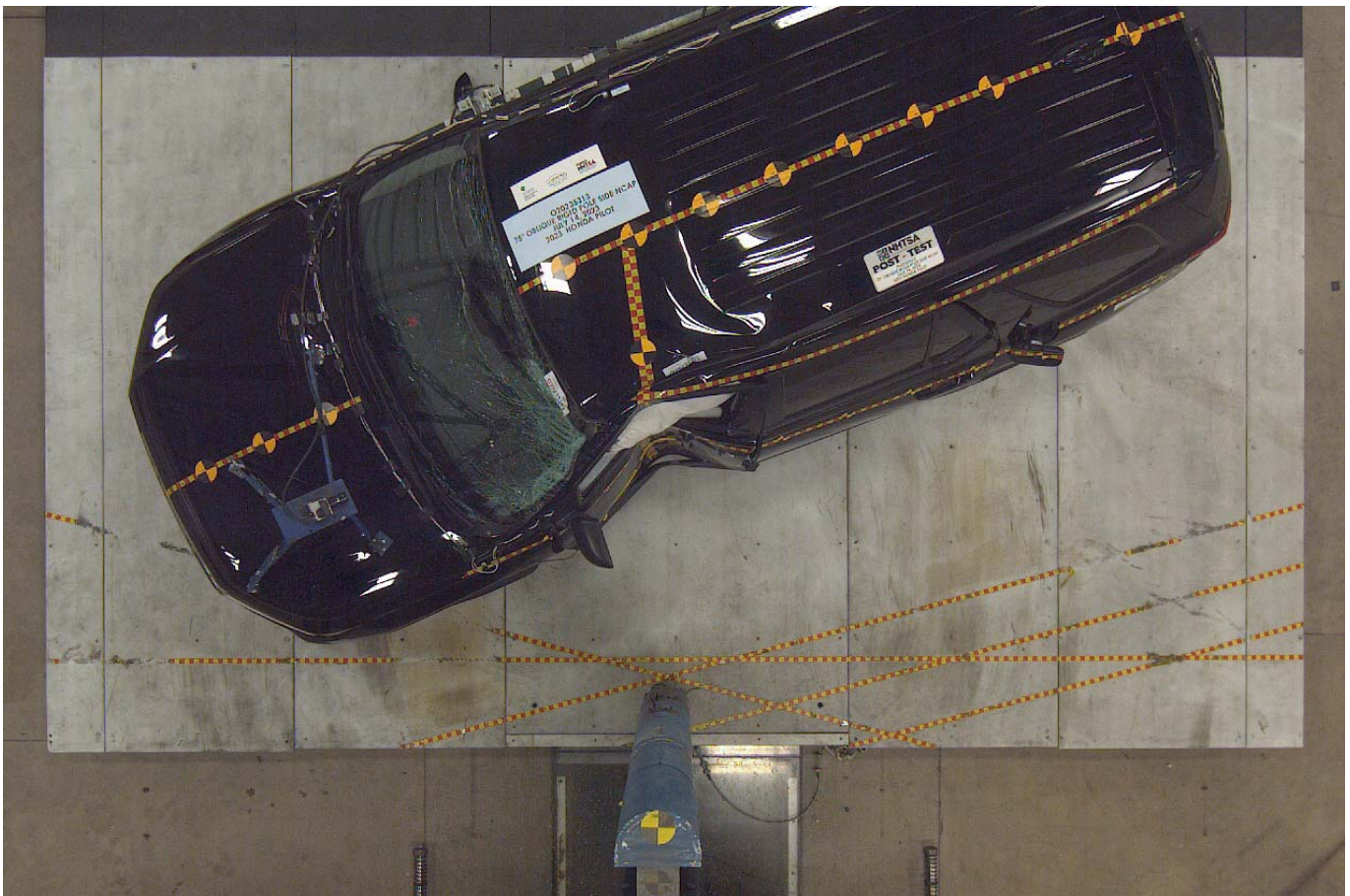


Photo No. 016 - Post-Test Overhead View of Test Area



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

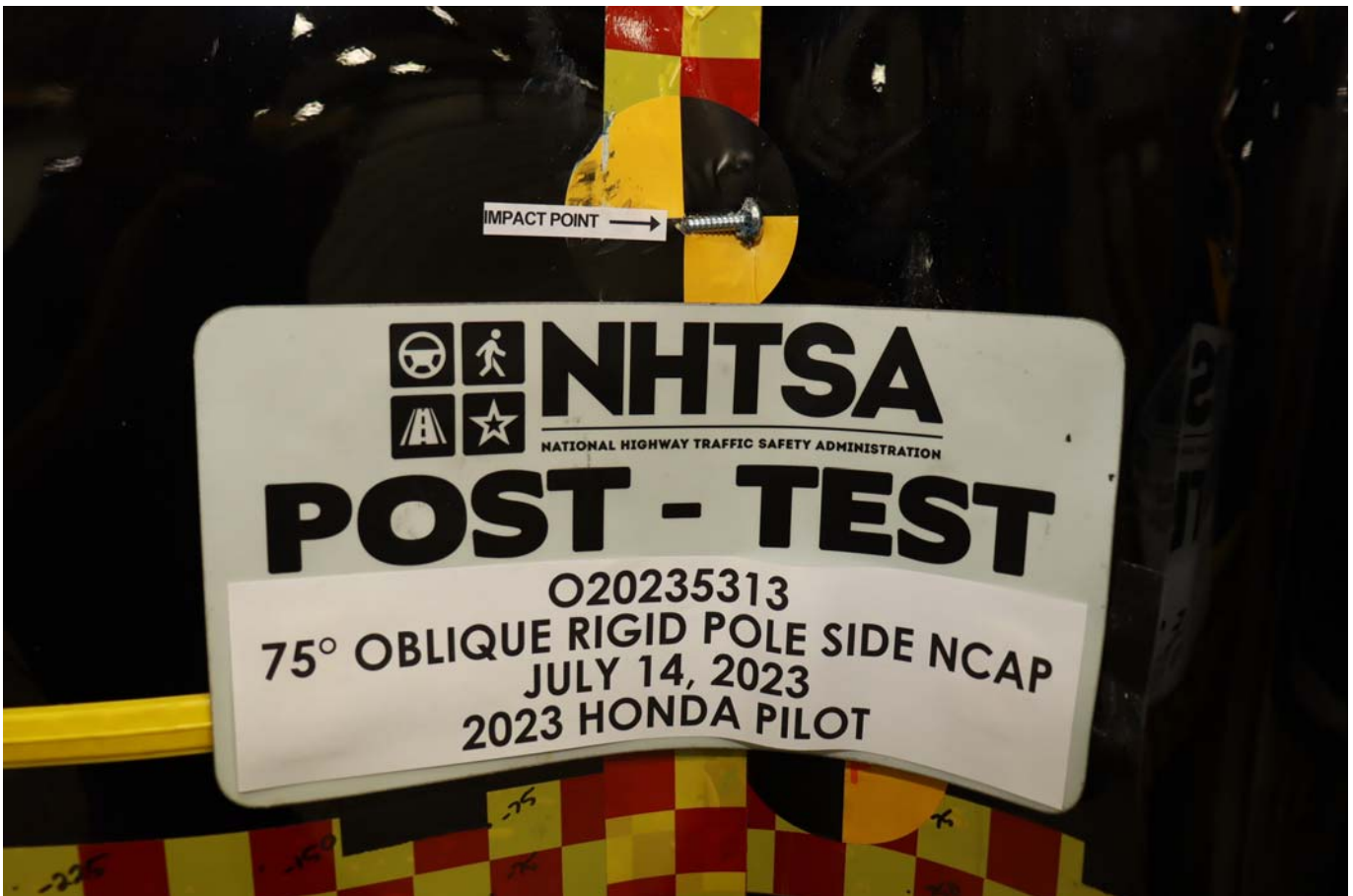


Photo No. 020 - Post-Test Close-Up View of Impact Point Target Showing Impact Location



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

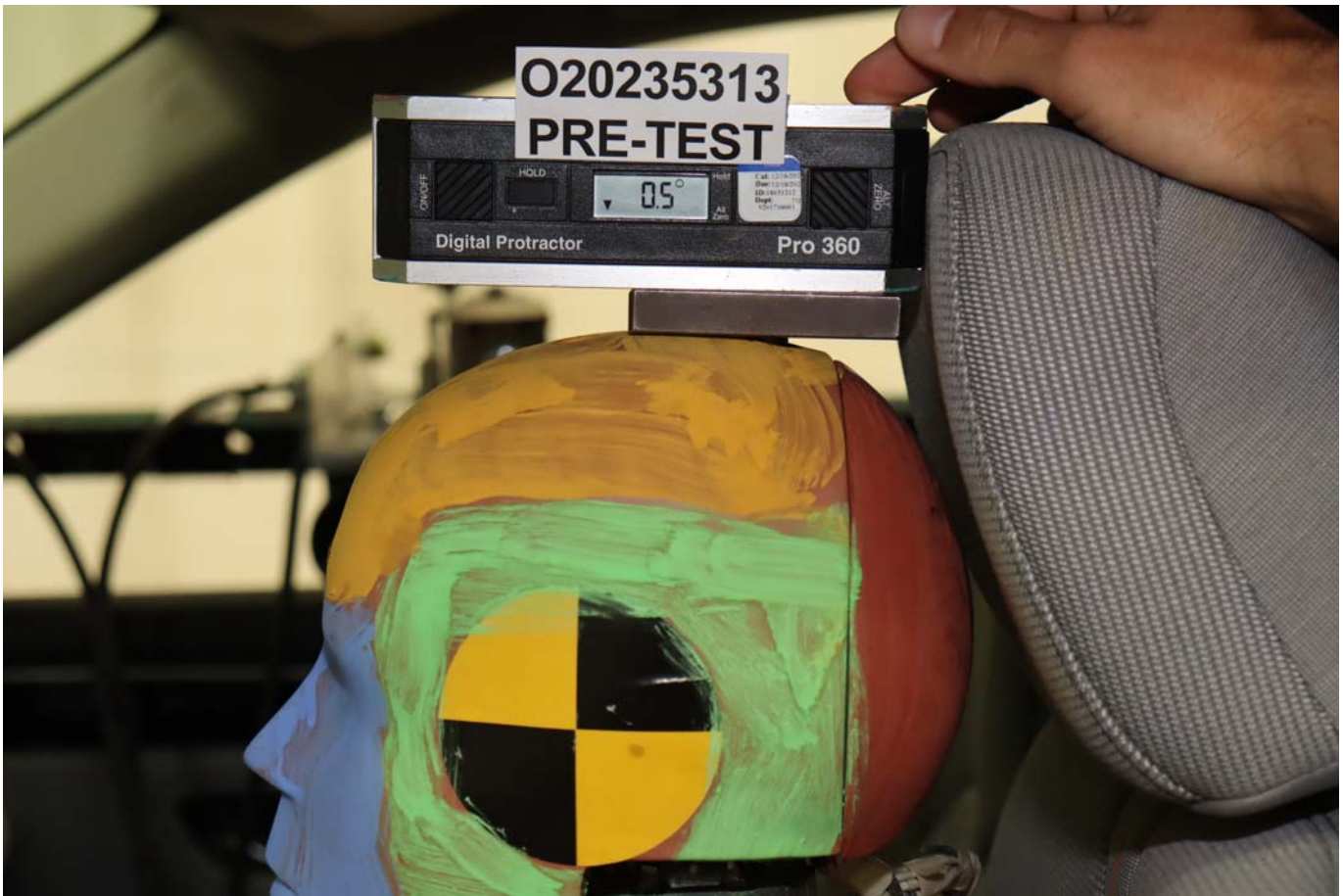


Photo No. 031 - Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level



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



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

**PHOTOGRAPH NOT APPLICABLE**

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



Photo No. 053 - Post-Test Right Side View of Dummy and Rear Seat of Occupant Compartment

**PHOTOGRAPH NOT APPLICABLE**

Photo No. 054 - Post-Test Inner Rear Passenger Torso Air Bag Deployment View



Photo No. 055 - Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



Photo No. 056 - Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Photo No. 057 - Close-Up View of Vehicle's Certification Label



Photo No. 058 - Close-Up View of Vehicle's Tire Information Placard or Label



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



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



Photo No. 061 - Pre-Test Pole Barrier Side View



Photo No. 062 - Post-Test Pole Barrier Side View



Photo No. 063 - Pre-Test Ballast View



Photo No. 064 - Post-Test Primary and Redundant Speed Trap Read-Out



Photo No. 065 - FMVSS Photo No. 301 Static Rollover 0 Degrees



Photo No. 066 - FMVSS Photo No. 301 Static Rollover 90 Degrees



Photo No. 067 - FMVSS Photo No. 301 Static Rollover 180 Degrees



Photo No. 068 - FMVSS Photo No. 301 Static Rollover 270 Degrees



Photo No. 069 - FMVSS Photo No. 301 Static Rollover 360 Degrees



Photo No. 070 - Impact Event



### 2023 PILOT 2WD LX

EXT: CRYSTAL BLACK P ENGINE NUMBER: J35Y8-1040691  
INT: GRAY

#### STANDARD EQUIPMENT AT NO EXTRA COST

- TECHNICAL FEATURES\***
  - 285hp 3.5-Liter V6 Engine with Variable Cylinder Management (VCM)
  - 10-Speed Automatic Transmission
  - Integrated Drive Modes (Normal / Econ / Snow / Tow)
  - Hill Start Assist
  - Hill Descent Control
- SAFETY FEATURES\***
  - Driver's and Front Passenger's Airbags
  - Driver's and Front Passenger's Side Airbags
  - Three Row Side Curtain Airbags
  - Driver's and Front Passenger's Knee Airbags
  - Vehicle Stability Assist (VSA)
  - Anti-Lock Braking System (ABS)
  - Electronic Brake Distribution (EBD)
  - ACE Body Structure
  - Tire Pressure Monitoring System
  - LED Daytime Running Lights
  - LATCH System for Child Seats
- INTERIOR FEATURES\***
  - Audio System with 7 Speakers
  - 7" Color Touchscreen with Multi-View Rear Camera
  - TFT Meter Display
  - Apple CarPlay/Android Auto Integration
  - USB Audio Interface
  - Push-Button Start
  - Push Button Shifter
  - Ti-Zone Automatic Climate Control
  - One-Touch Second Row Seats

- EXTERIOR FEATURES\***
  - 18" Alloy Wheels
  - 255/60 R18 All-Season Tires
  - Auto High-Beam
  - Power Door Mirrors
  - Rear Privacy Glass
  - Smart Entry System with Security System
  - Walk Away Auto Lock
- HONDA SENSING\***
  - Adaptive Cruise Control (ACC)
  - Collision Mitigation Braking System (CMBS)
  - Lane Keeping Assist System (LKAS)
  - Road Departure Mitigation (RDM)
  - Traffic Jam Assist

Manufacturer's Suggested Retail Price **\$35,950.00**

Full Tank of Fuel **No Charge**

-Honda Roadside Assistance  
3YR/36K Mile Warranty Term

**POST PRODUCTION OPTIONS**  
Function Package 405.00  
Cargo Cover  
Cargo Net  
First Aid Kit

Destination and Handling 1,345.00

**TOTAL VEHICLE PRICE**  
(includes Pre-Delivery Service)

**\$37,700.00**

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

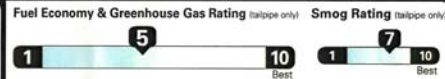
### EPA DOT Fuel Economy and Environment Gasoline Vehicle

**Fuel Economy**  
**22** MPG  
combined city/hwy  
19 city  
27 highway  
4.5 gallons per 100 miles

Small SUVs range from 14 to 123 MPG. The best vehicle rates 132 MPG.

**You spend \$2,000**  
in fuel costs over 5 years compared to the average new vehicle.

**Annual fuel cost \$2,000**



Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 28 MPG and costs \$6,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.95 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

**fuel economy.gov**  
Calculate personalized estimates and compare vehicles



#### PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE  
U.S./Canadian Parts Content: **60 %**

Major Sources of Foreign Parts Content:  
**MEXICO 15 %**

NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

FOR THIS VEHICLE  
Final Assembly Point:  
**LINCOLN, ALABAMA USA**  
Country of Origin: Engine:  
**U.S.A**  
Transmission:  
**U.S.A**

#### GOVERNMENT 5-STAR SAFETY RATING

**Overall Vehicle Score Not Rated**

Based on the combined ratings of frontal, side and rollover. Should ONLY be compared to other vehicles of similar size and weight.

**Frontal Crash** Driver Passenger **Not Rated**  
**Not Rated**

**Side Crash** Front seat **Not Rated**  
Rear seat **Not Rated**

**Rollover** **Not Rated**

Star Ratings range from 1 to 5 stars (\*\*\*\*\* with 5 being the highest. Source: National Highway Traffic Safety Administration (NHTSA) [www.safercar.gov](http://www.safercar.gov) or 1-888-327-4238

SPORT HONDA  
3201 AUTOMOBILE BLVD.  
SILVER SPRING, MD 20904

PORT OF ENTRY: ALABAMA  
DELIVERY POINT: JERSEY  
SHIP#:   
ROW/SPACE: E08-007  
TRANS.METHOD: E62 TALLADEGA  
L40 ANNAPOLIS JCT

ORIG. DLR: 206772  
REF.NO: 42864  
HN CODE: HN-B579  
EMISSION: 50 STATE  
CONTROL NO: 100626  
DEALER: 206772

VIN: 5FNYG2H20PB007834



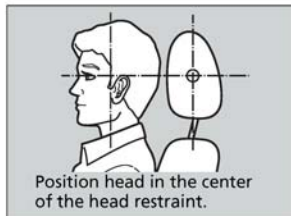
Photo No. 071 - Monroney Label

►► Seats ► Head Restraints

## Head Restraints

Your vehicle is equipped with head restraints in all seating positions.

### Adjusting the Front and Second Row Outer Seat Head Restraint Positions



Head restraints are most effective for protection against whiplash and other rear-impact crash injuries when the center of the back of the occupant's head rests against the center of the restraint. The tops of the occupant's ears should be level with the center height of the restraint.

### Adjusting the Front and Second Row Outer Seat Head Restraint Positions

#### WARNING

Improperly positioning head restraints reduces their effectiveness and increases the likelihood of serious injury in a crash.

Make sure head restraints are in place and positioned properly before driving.

In order for the head restraint system to work properly:

- Do not hang any items on the head restraints, or from the restraint legs.
- Do not place any objects between an occupant and the seat-back.
- Install each restraint in its proper location.

Controls

Continued

253

Photo No. 072 - Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



Photo No. 073 - 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.gov](http://www.nhtsa.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)

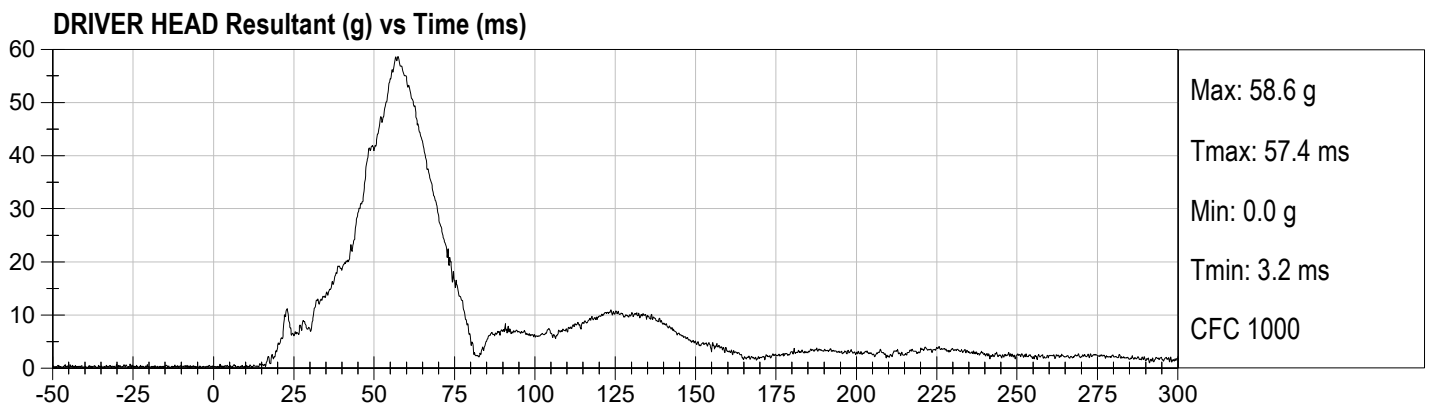
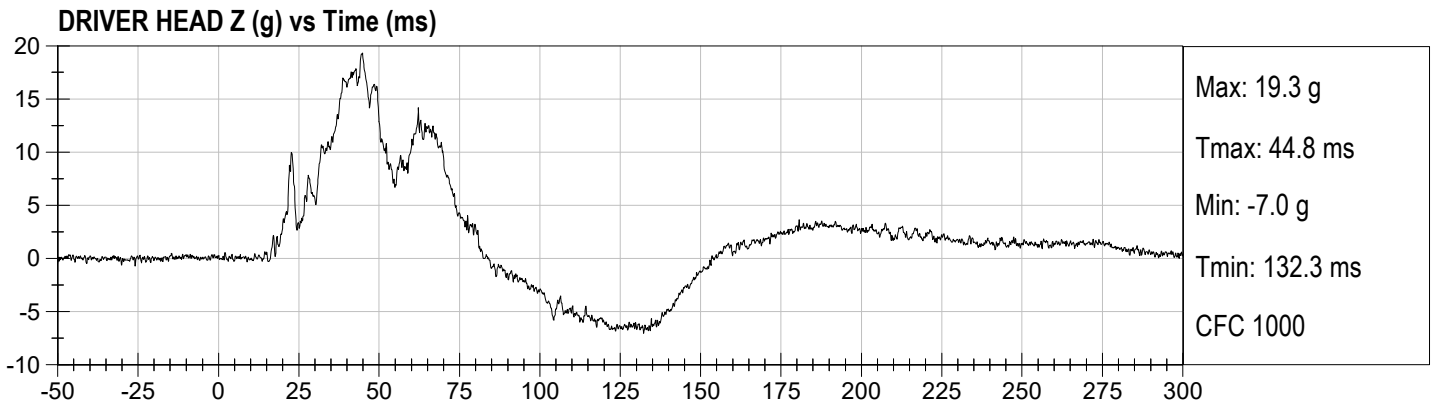
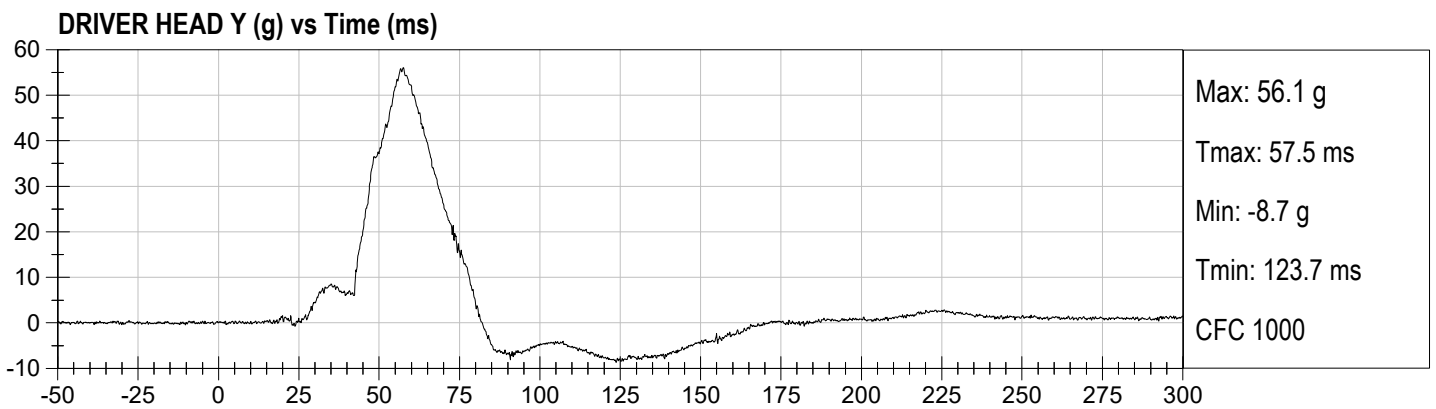
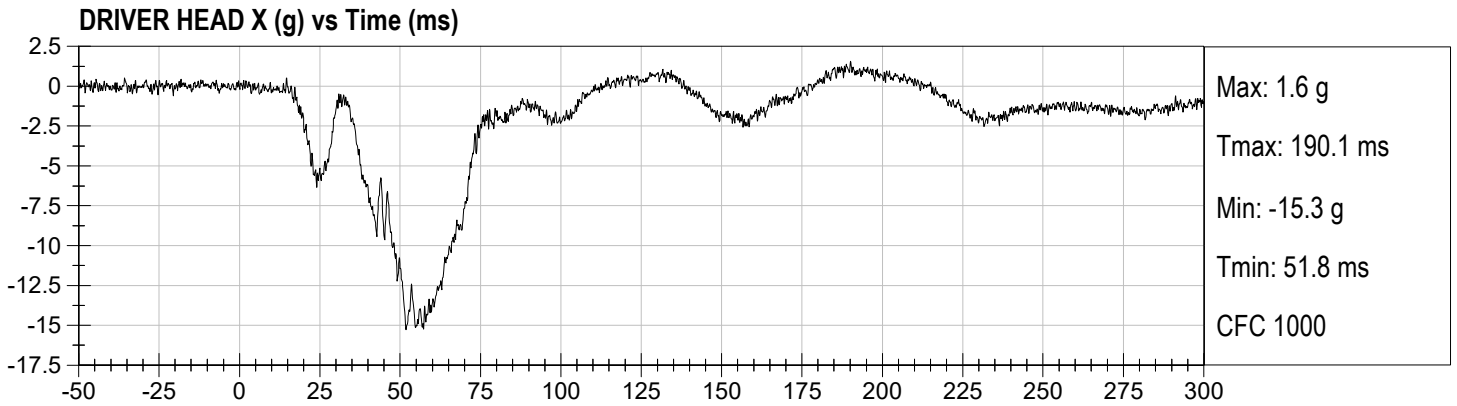
Load Cell Pole Barrier #4 Force (Y)

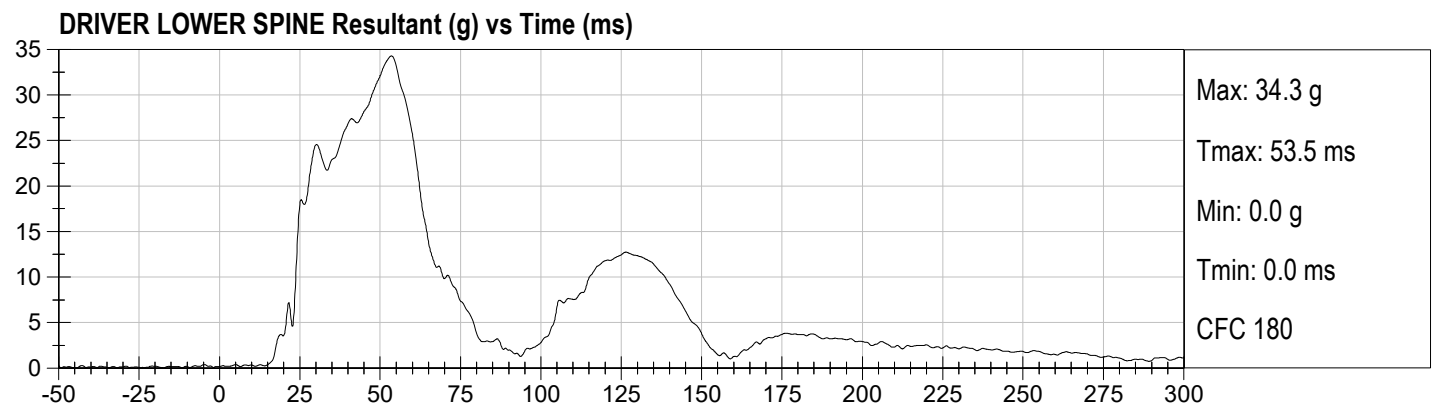
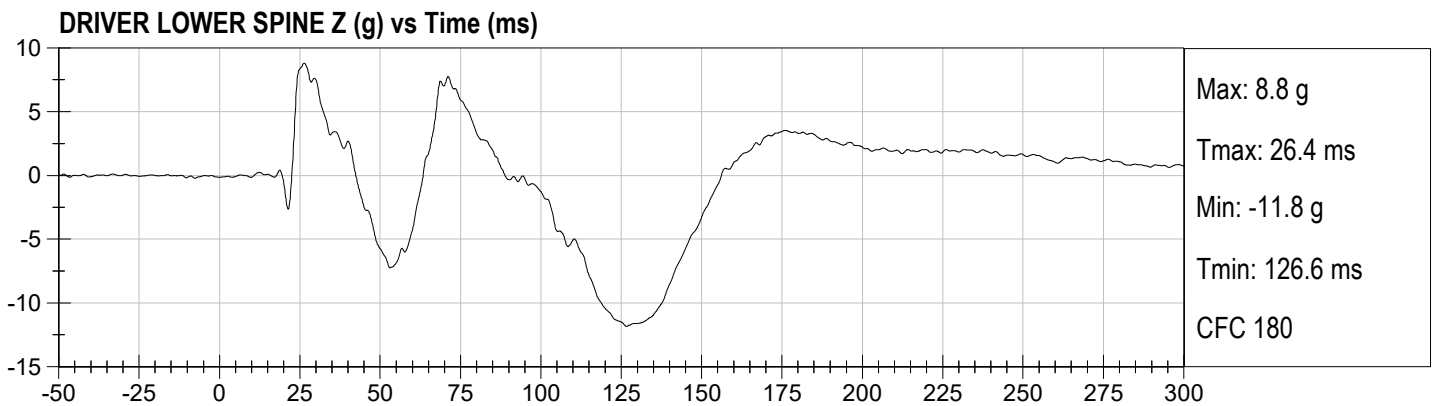
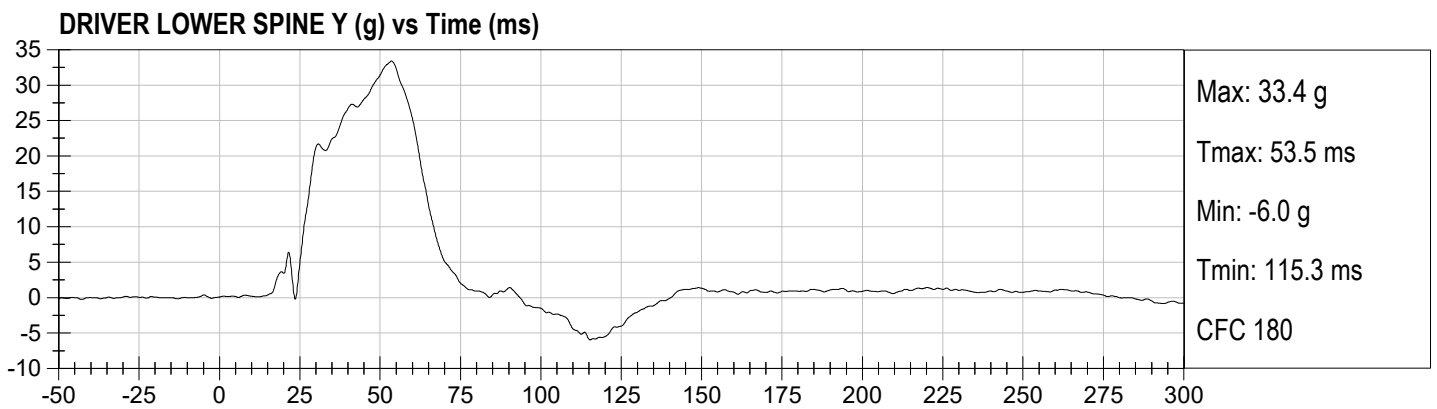
Load Cell Pole Barrier #5 Force (Y)

Load Cell Pole Barrier #6 Force (Y)

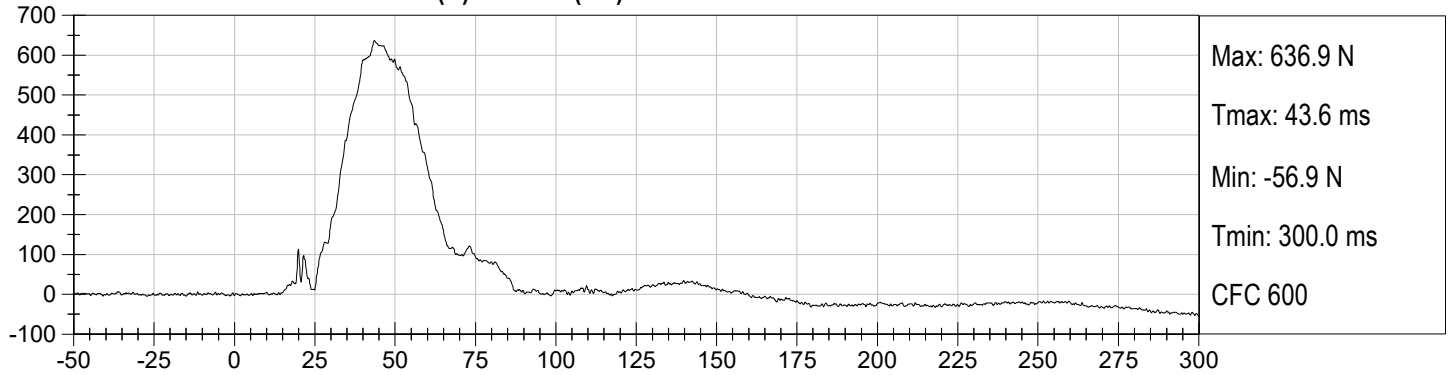
Load Cell Pole Barrier #7 Force (Y)

Load Cell Pole Barrier #8 Force (Y)

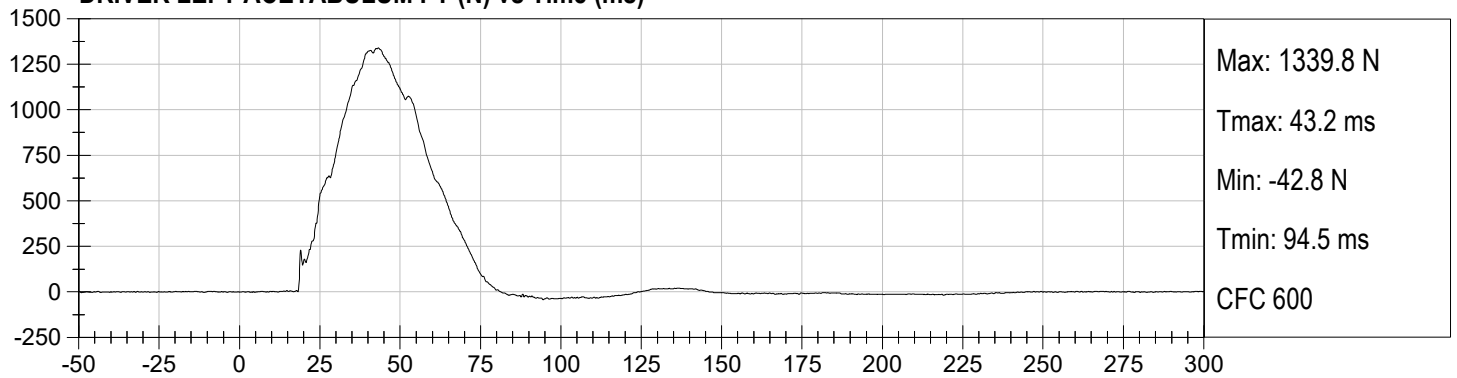




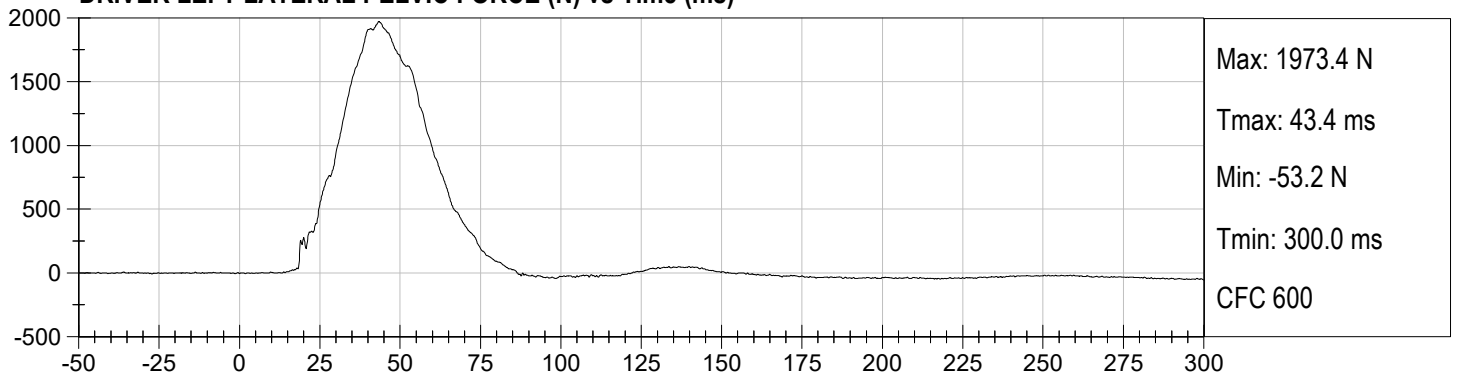
**DRIVER LEFT ILIUM CREST FY (N) vs Time (ms)**



**DRIVER LEFT ACETABULUM FY (N) vs Time (ms)**



**DRIVER LEFT LATERAL PELVIC FORCE (N) vs Time (ms)**



**APPENDIX C**  
**DUMMY QUALIFICATION AND PERFORMANCE VERIFICATION**

**QUALIFICATION TEST RESULTS**

**PRE-TEST**

**SID-IIS 5<sup>TH</sup> PERCENTILE FEMALE - DRIVER ATD**

**SID-IIsD External Measurements**  
**SN: 296**

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

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

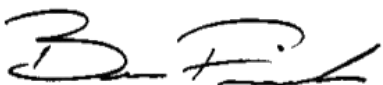
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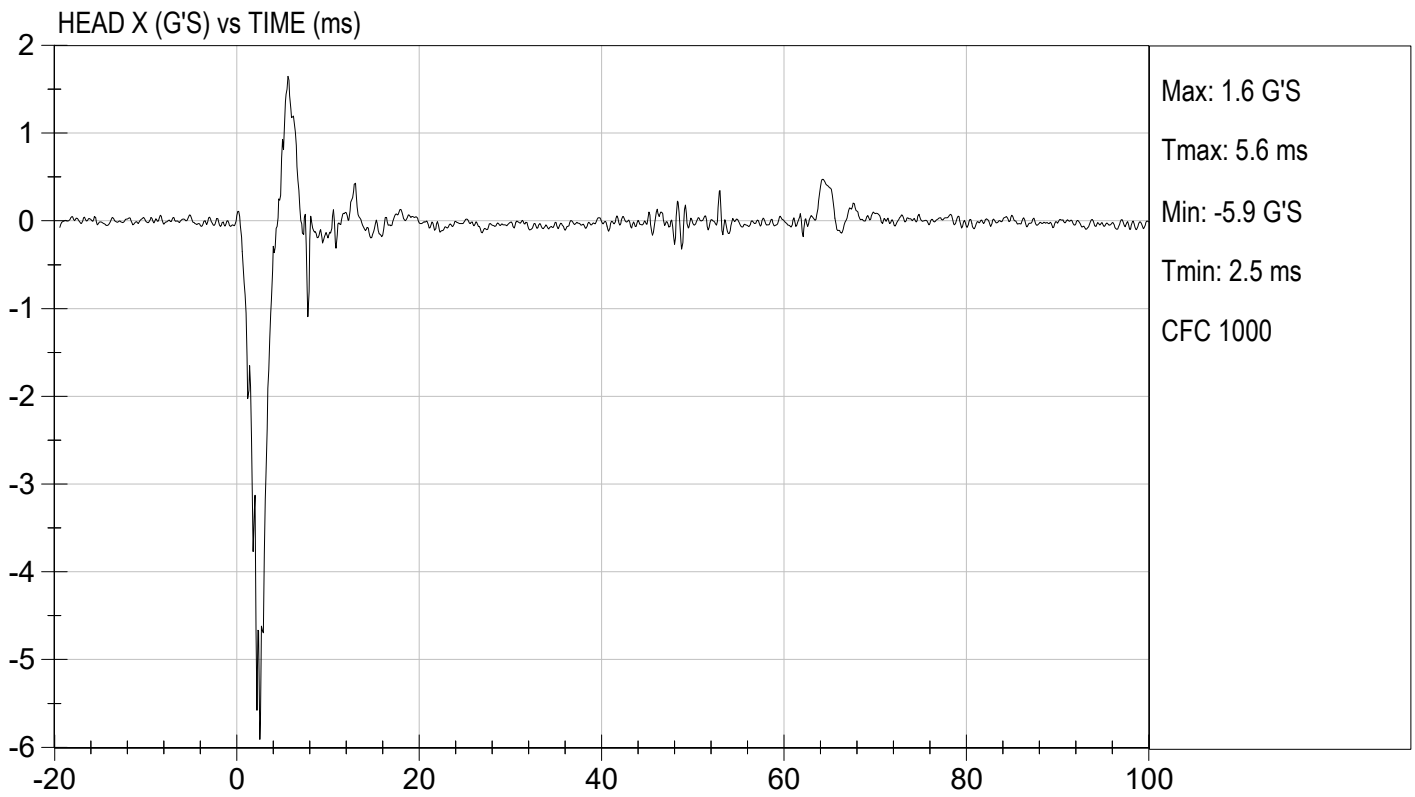
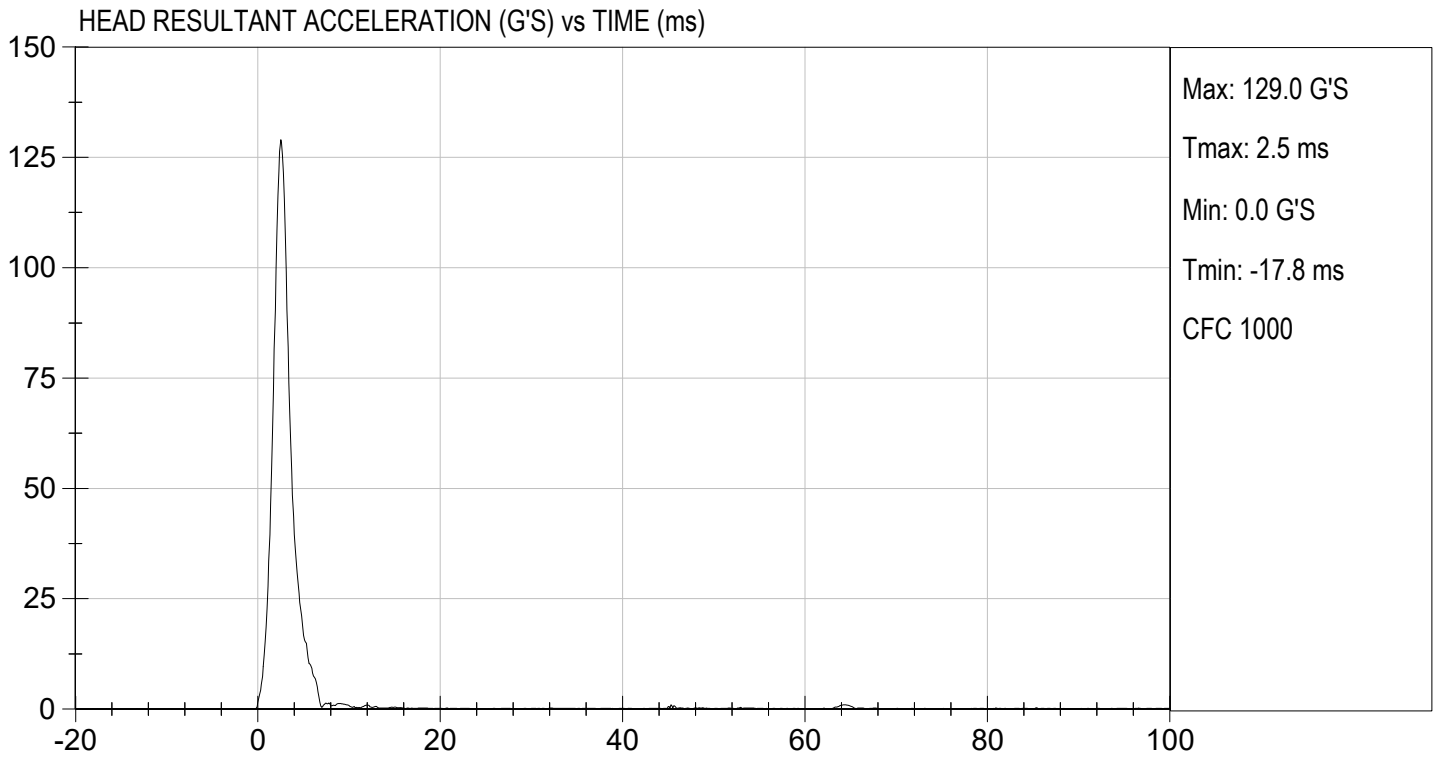
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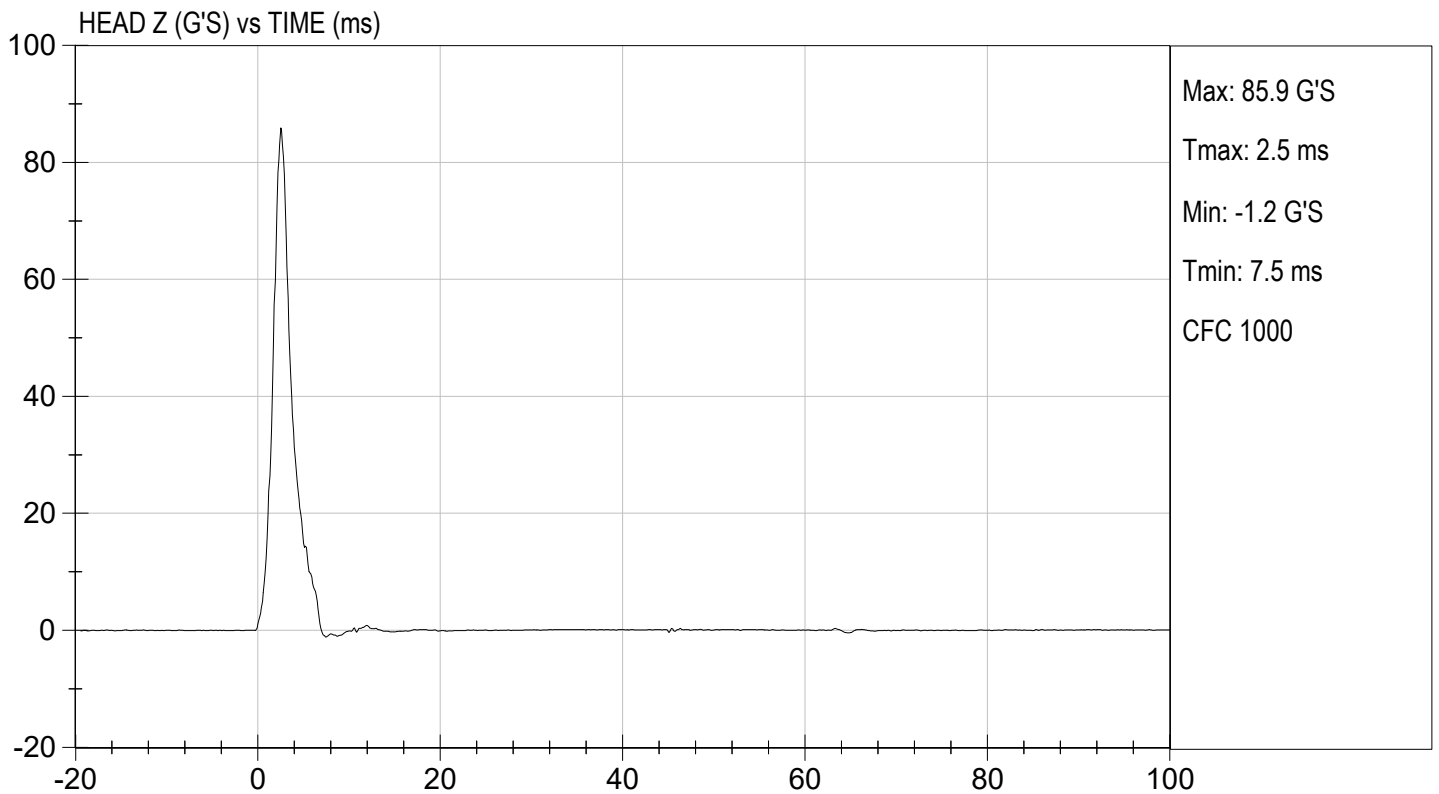
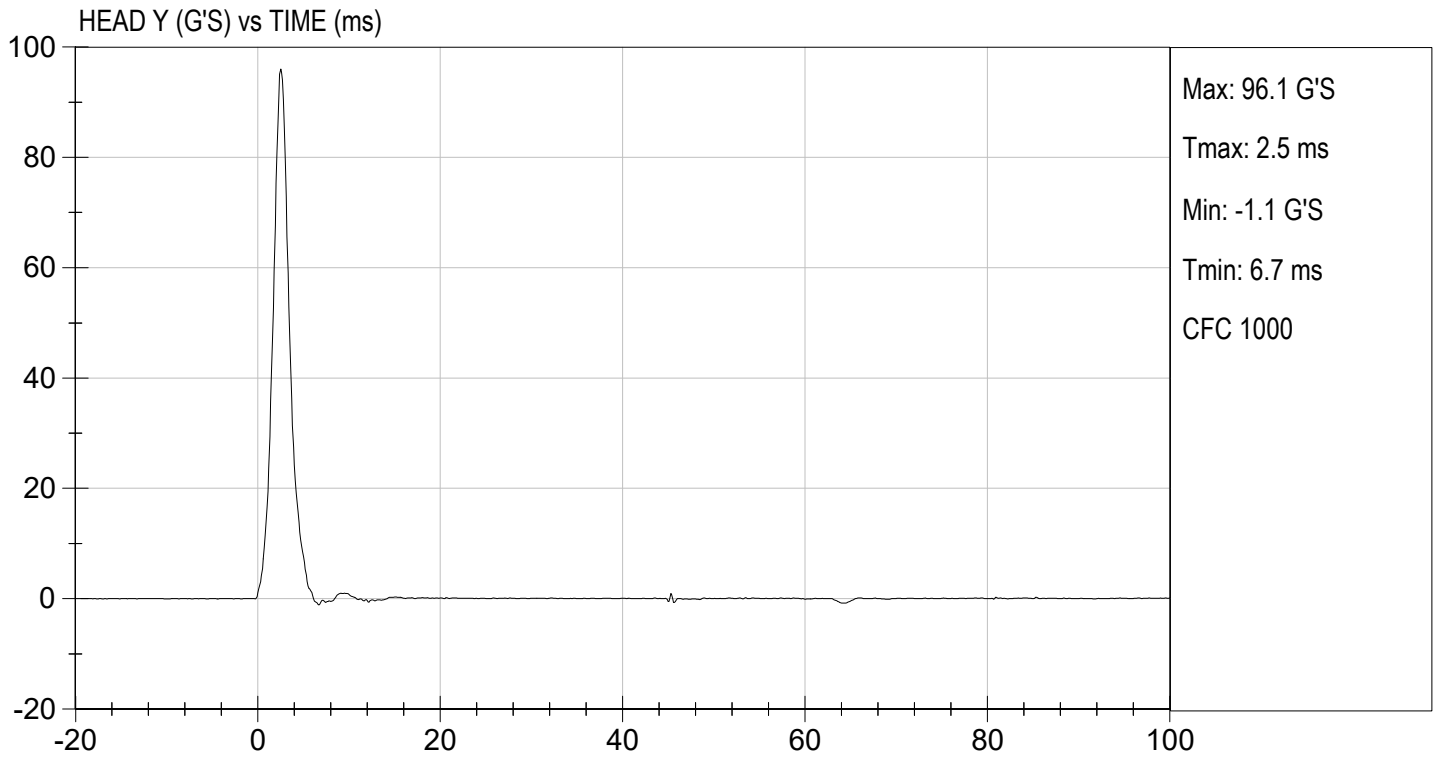
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Peak Resultant Acceleration	G's	115 to 137	129	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-5.9	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass

  
 Laboratory Technician

06/17/2023  
 Test Date

  
 Approved By





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

ATD Serial No: 296

Test I.D: D231542

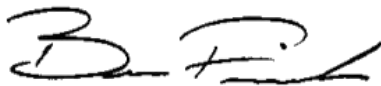
Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.4	Pass	
Humidity	%	10 to 70	40	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.58	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.35	Pass
	15 ms	m/s	3.30 to 4.10	3.64	Pass
	20 ms	m/s	4.40 to 5.40	5.19	Pass
	25 ms	m/s	5.40 to 6.10	5.74	Pass
	25-100 ms	m/s	5.50 to 6.20	5.77	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	-38	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	119	Pass	
Overall Test Results				Pass	



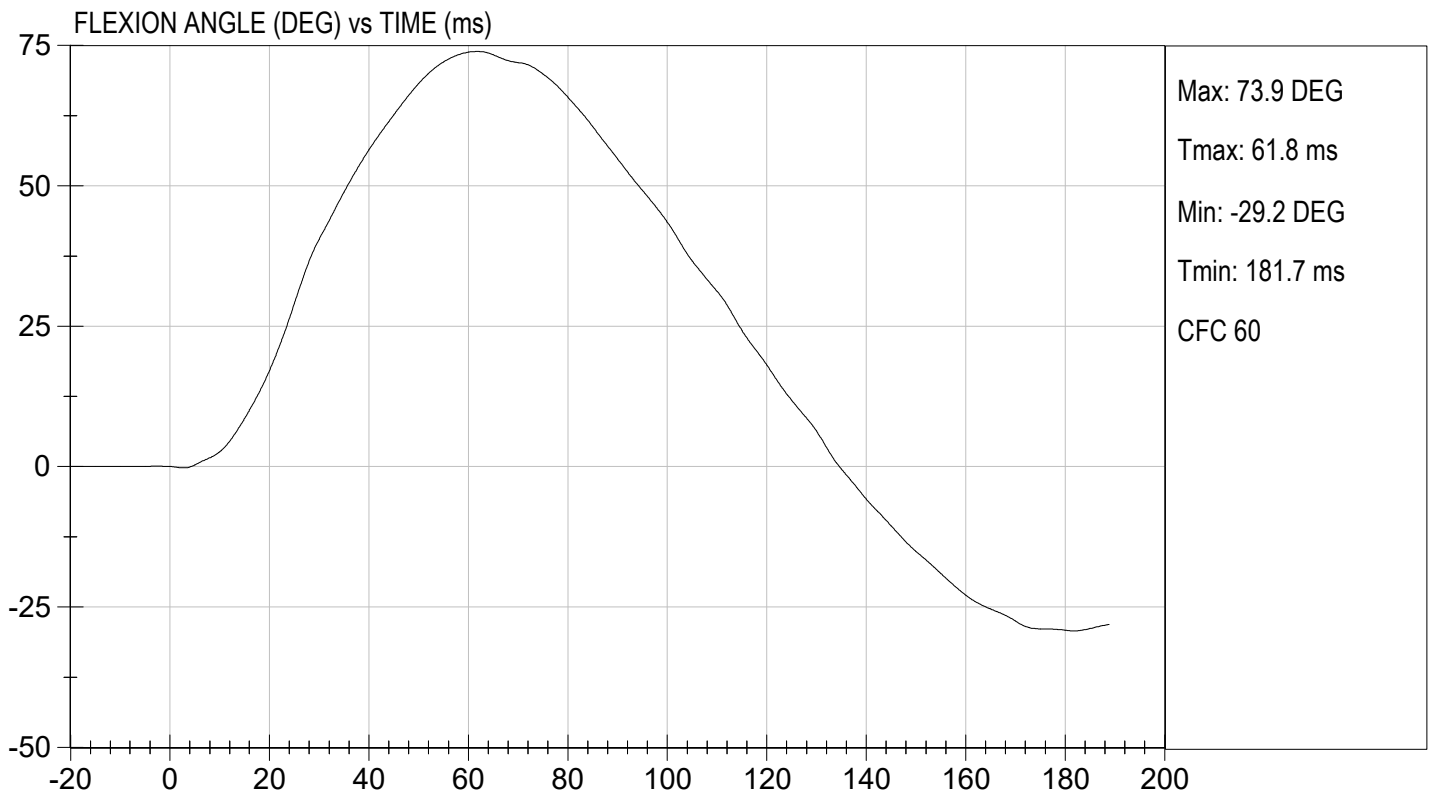
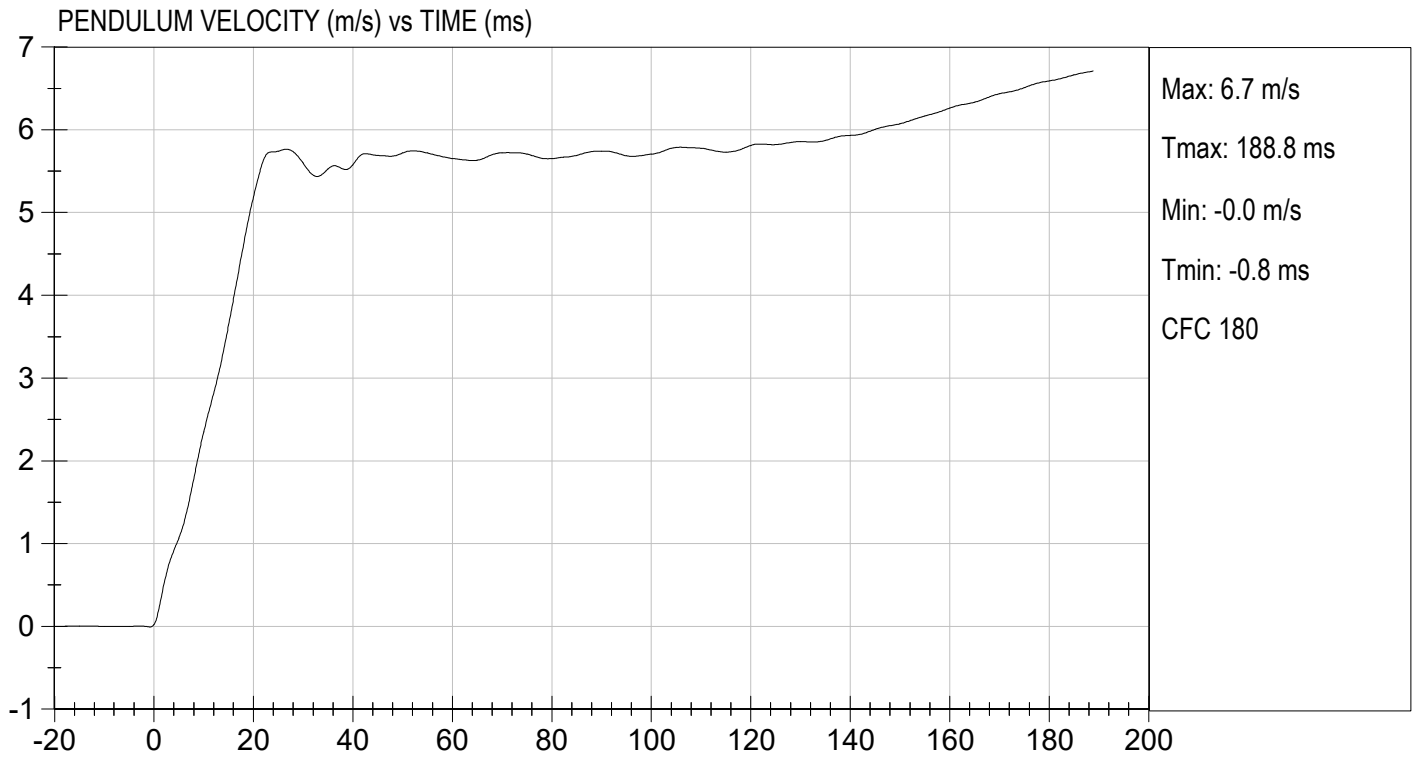
Laboratory Technician

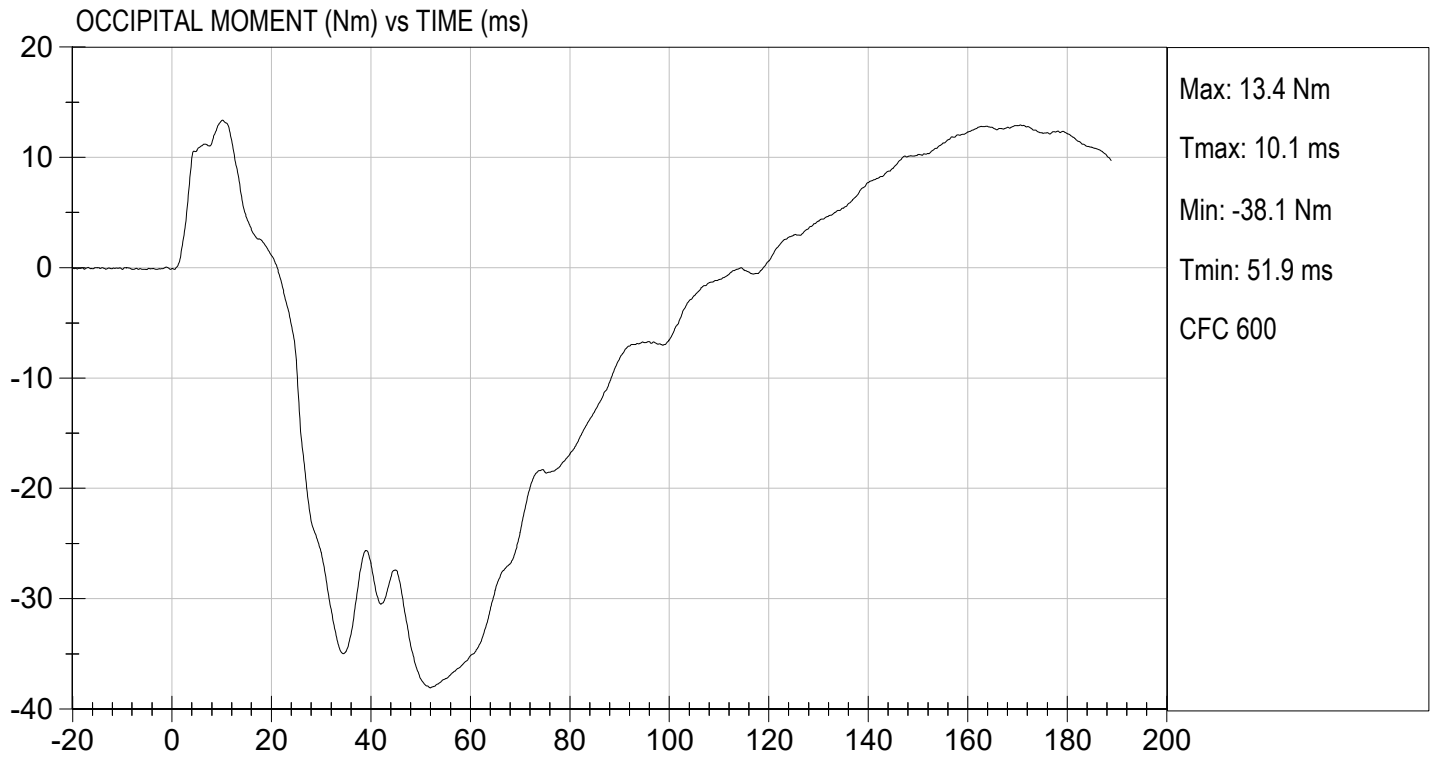
06/17/2023

Test Date



Approved By





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

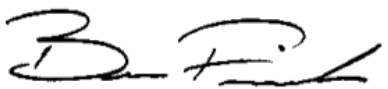
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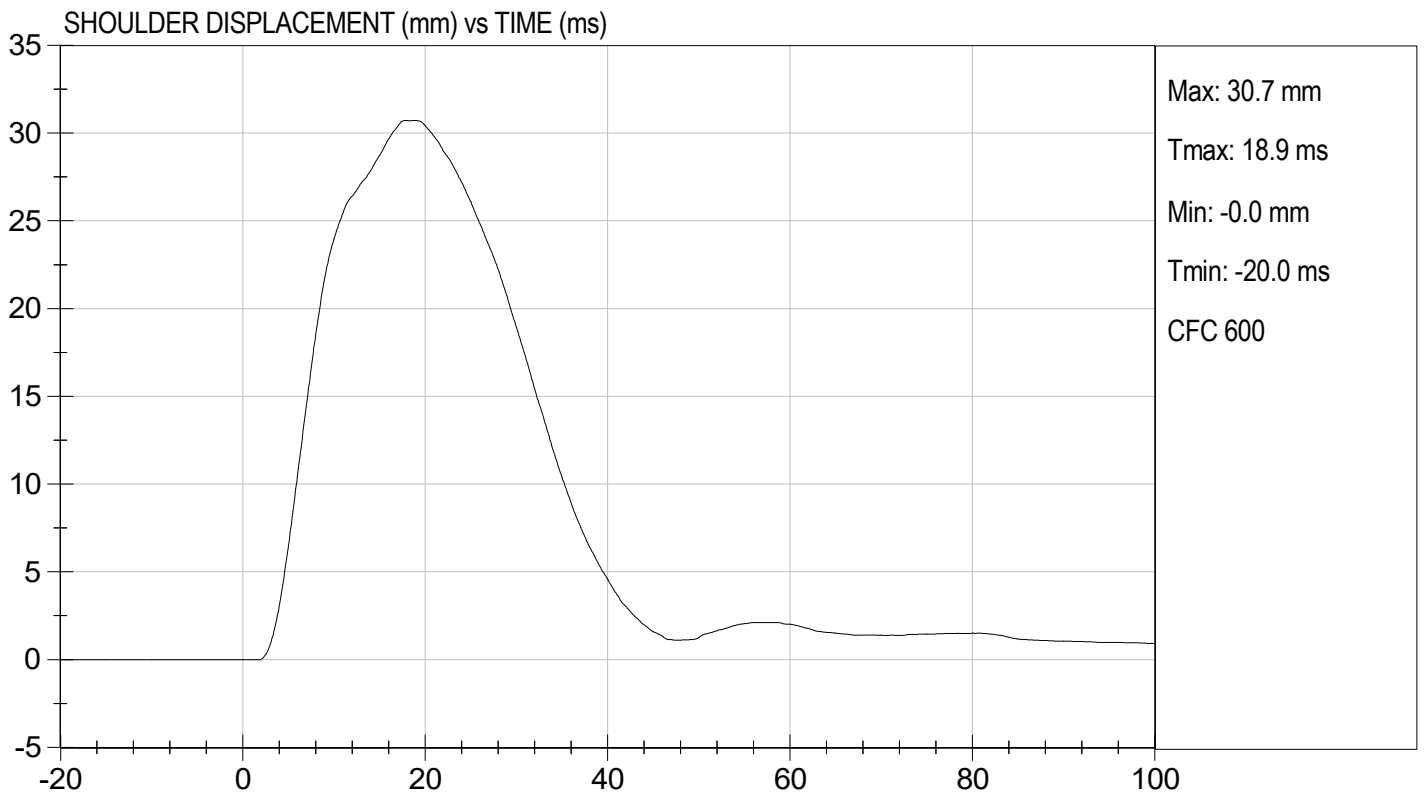
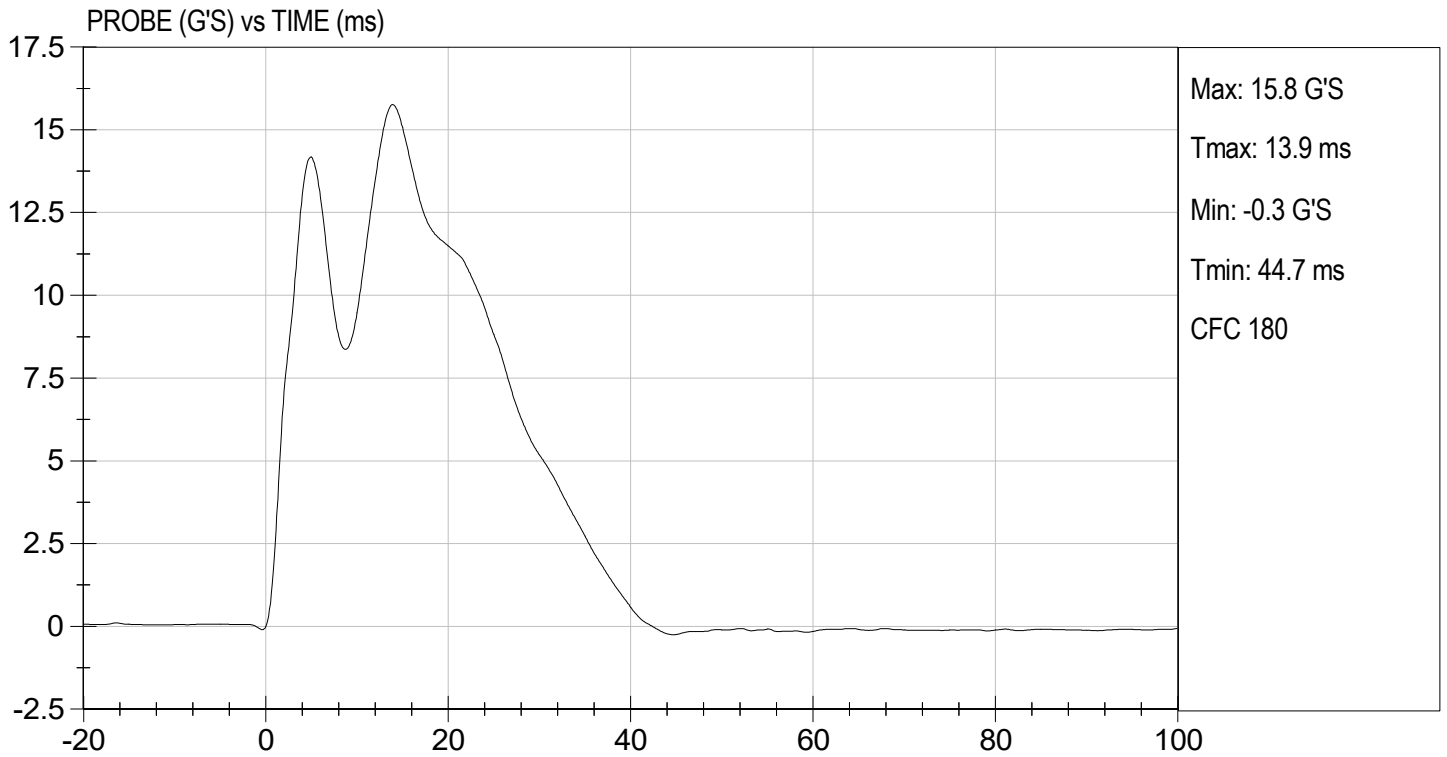
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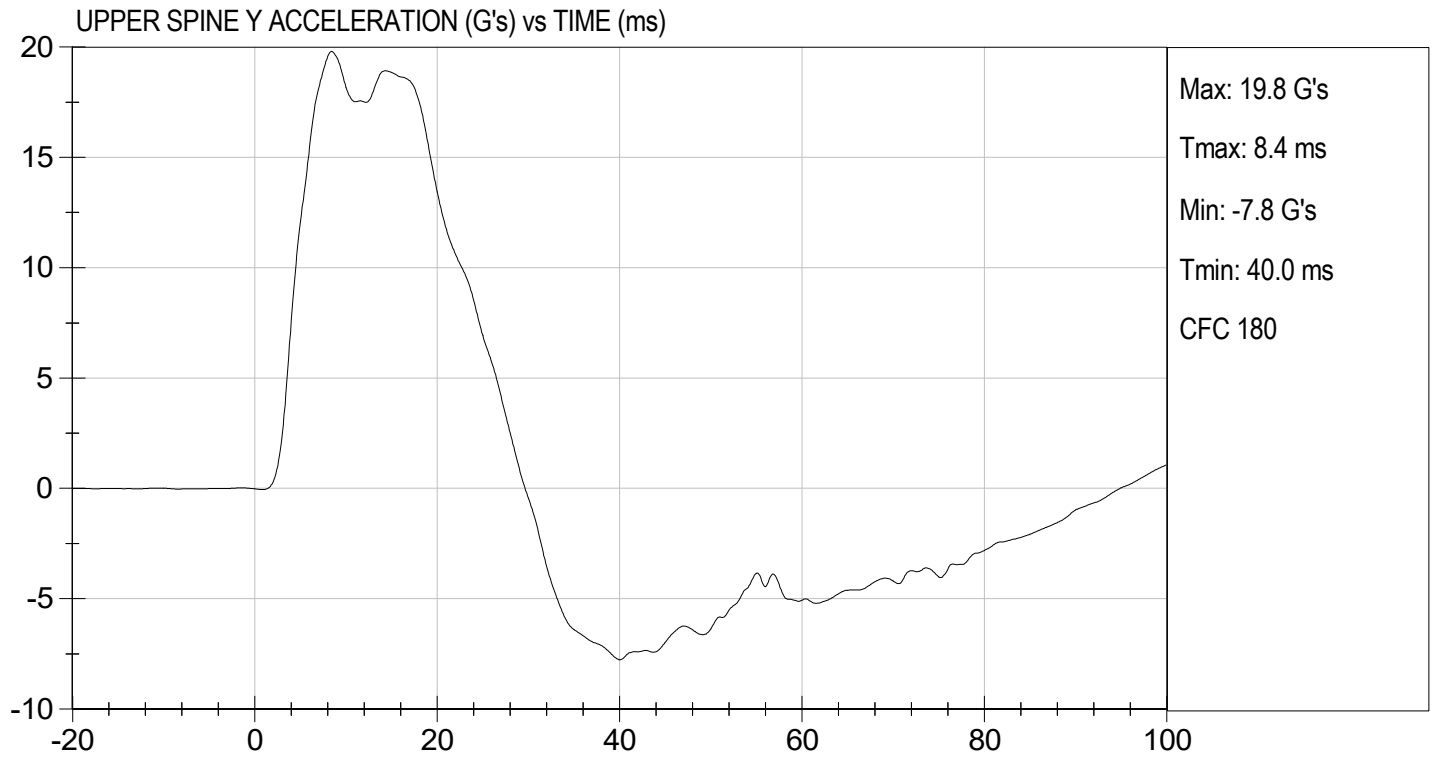
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	13 to 18	16	Pass
Shoulder Displacement	mm	28 to 37	31	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	20	Pass
Overall Test Results				Pass

  
Laboratory Technician

06/17/2023  
Test Date

  
Approved By





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

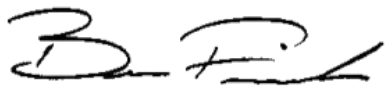
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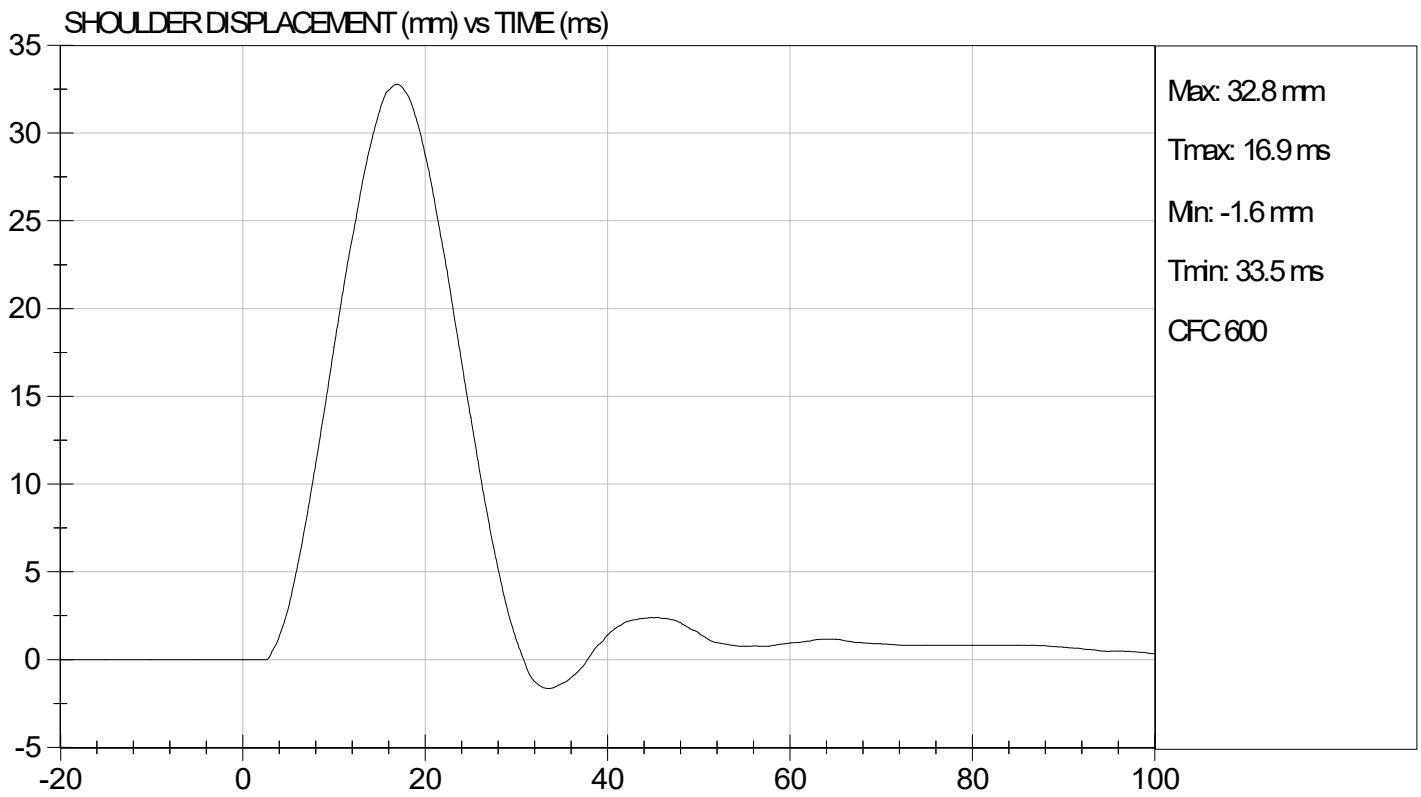
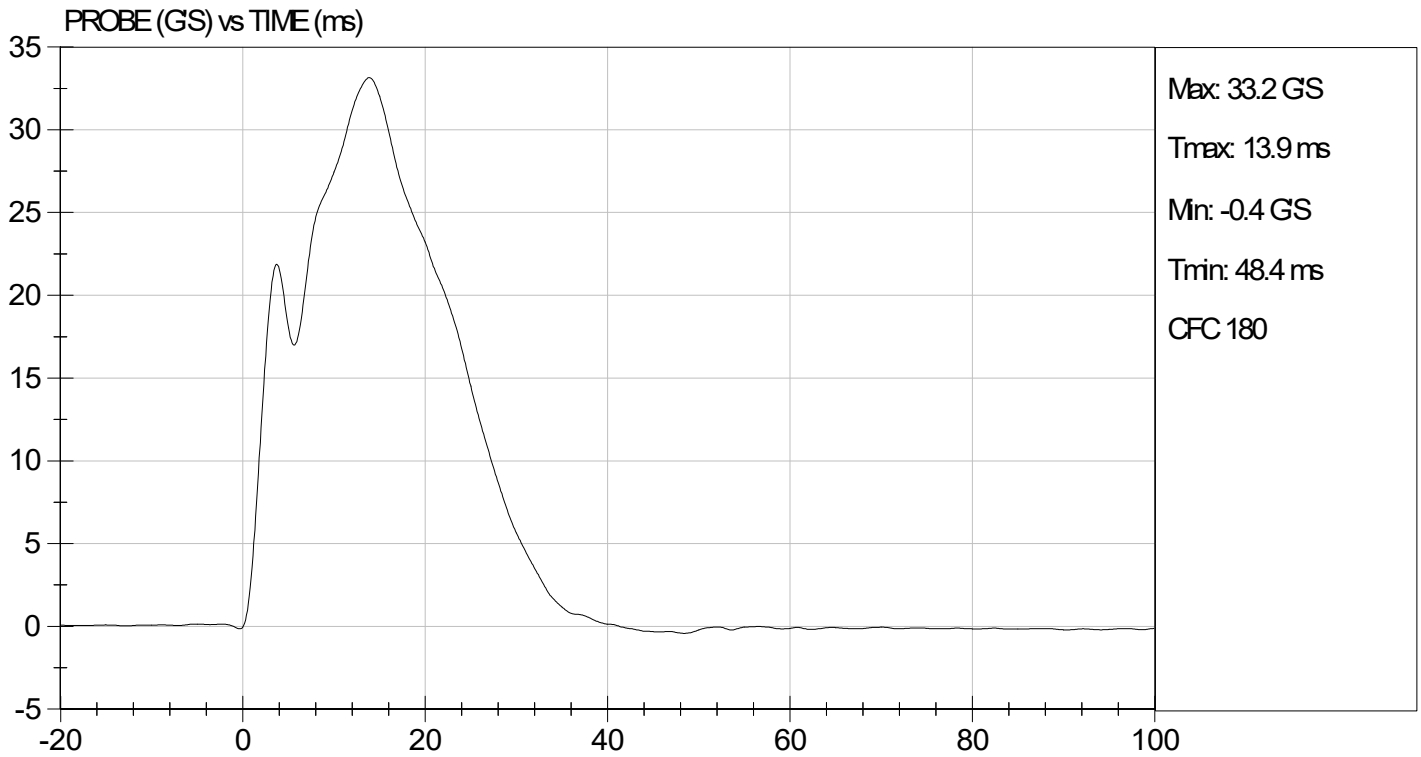
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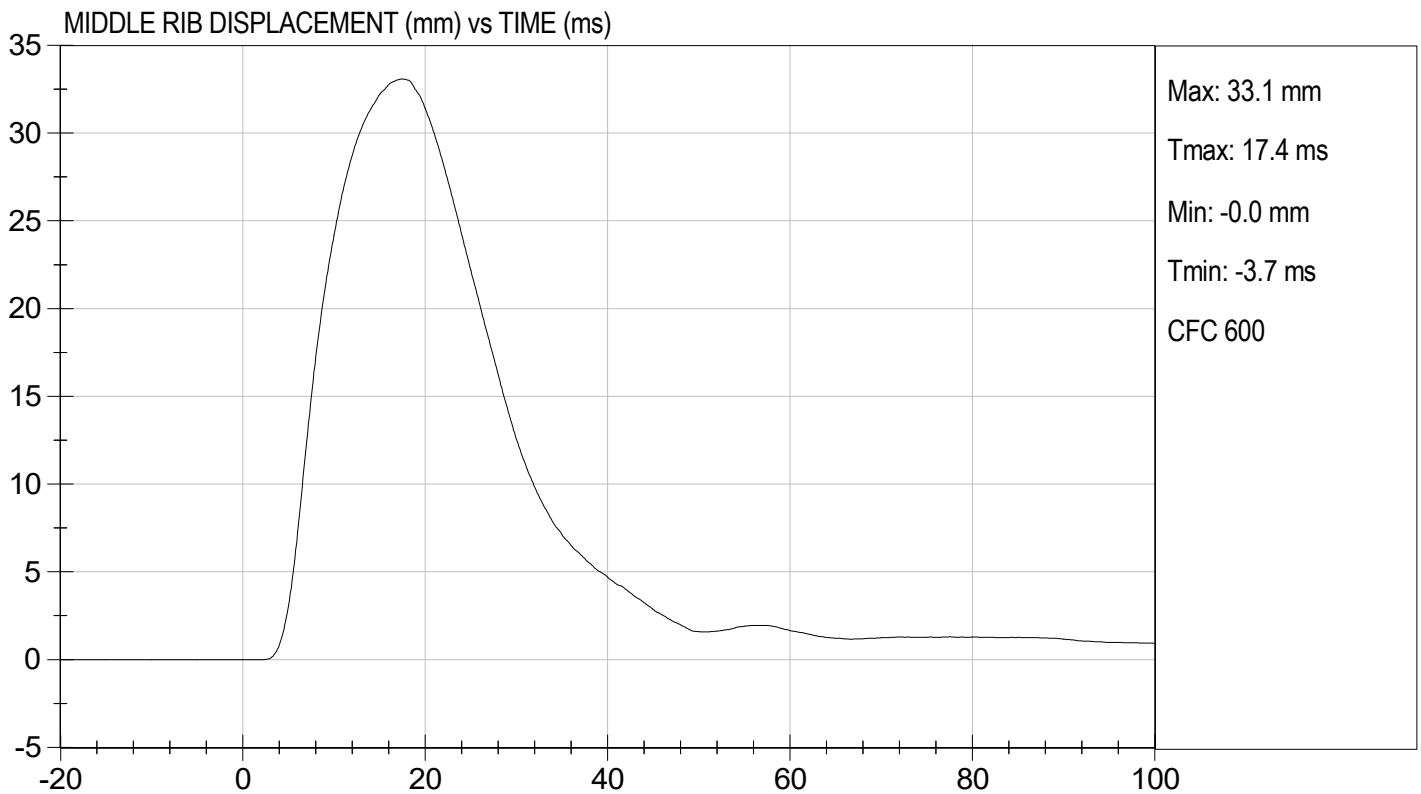
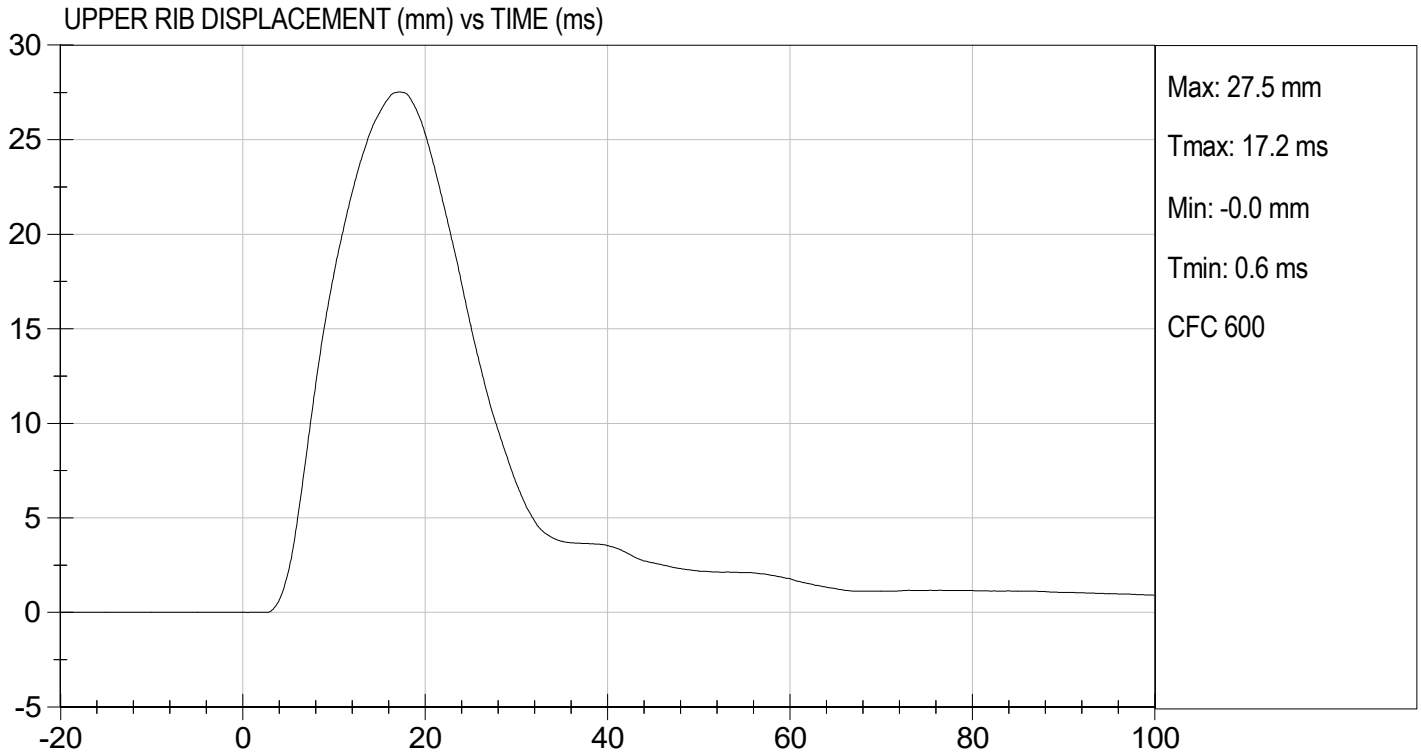
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.5	Pass
Humidity	%	10 to 70	40	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	33	Pass
Shoulder Displacement	mm	31 to 40	33	Pass
Upper Rib Displacement	mm	25 to 32	28	Pass
Middle Rib Displacement	mm	30 to 36	33	Pass
Lower Rib Displacement	mm	32 to 38	36	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	38	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	31	Pass
Overall Test Results				Pass

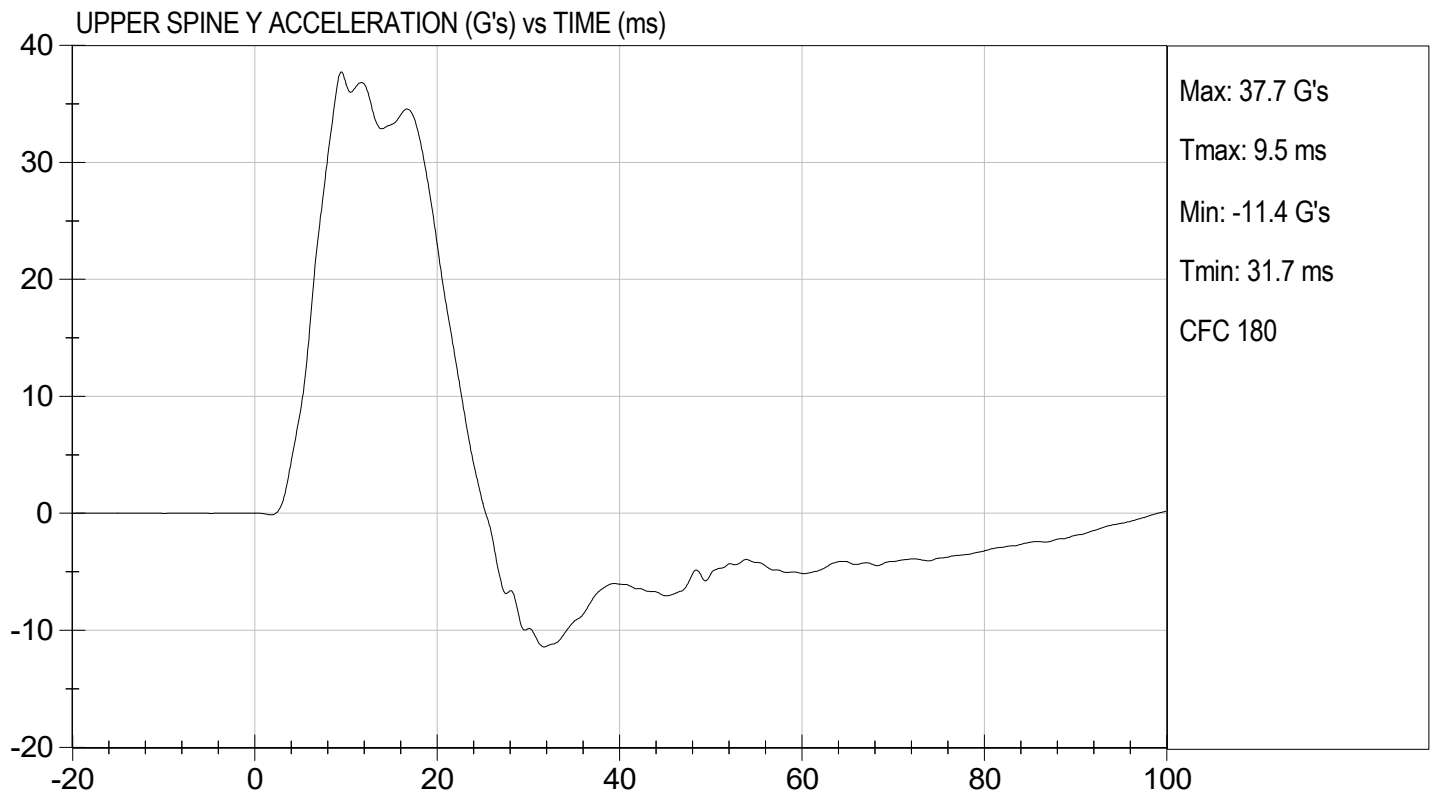
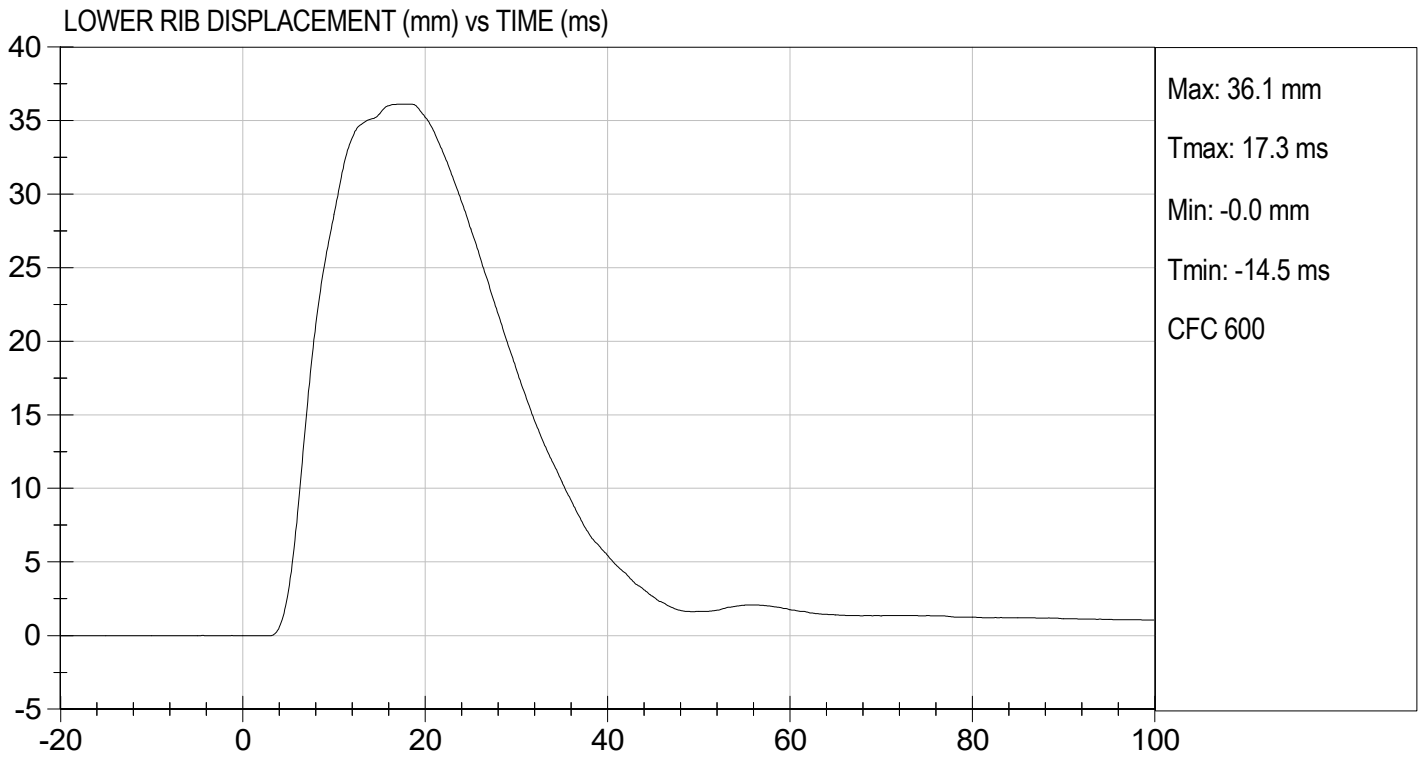
  
 Laboratory Technician

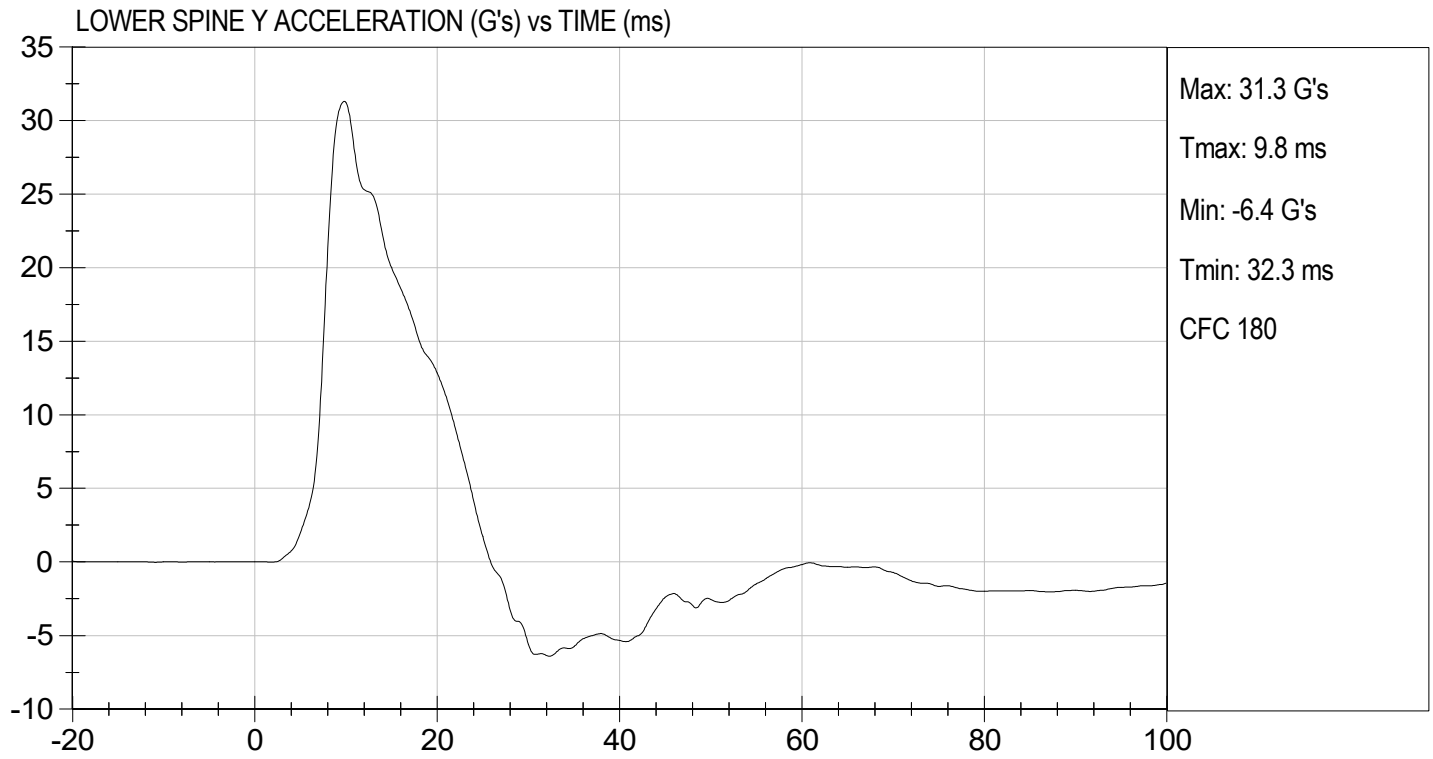
06/17/2023  
 Test Date

  
 Approved By









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

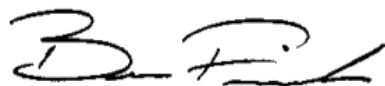
ATD Serial No: 296

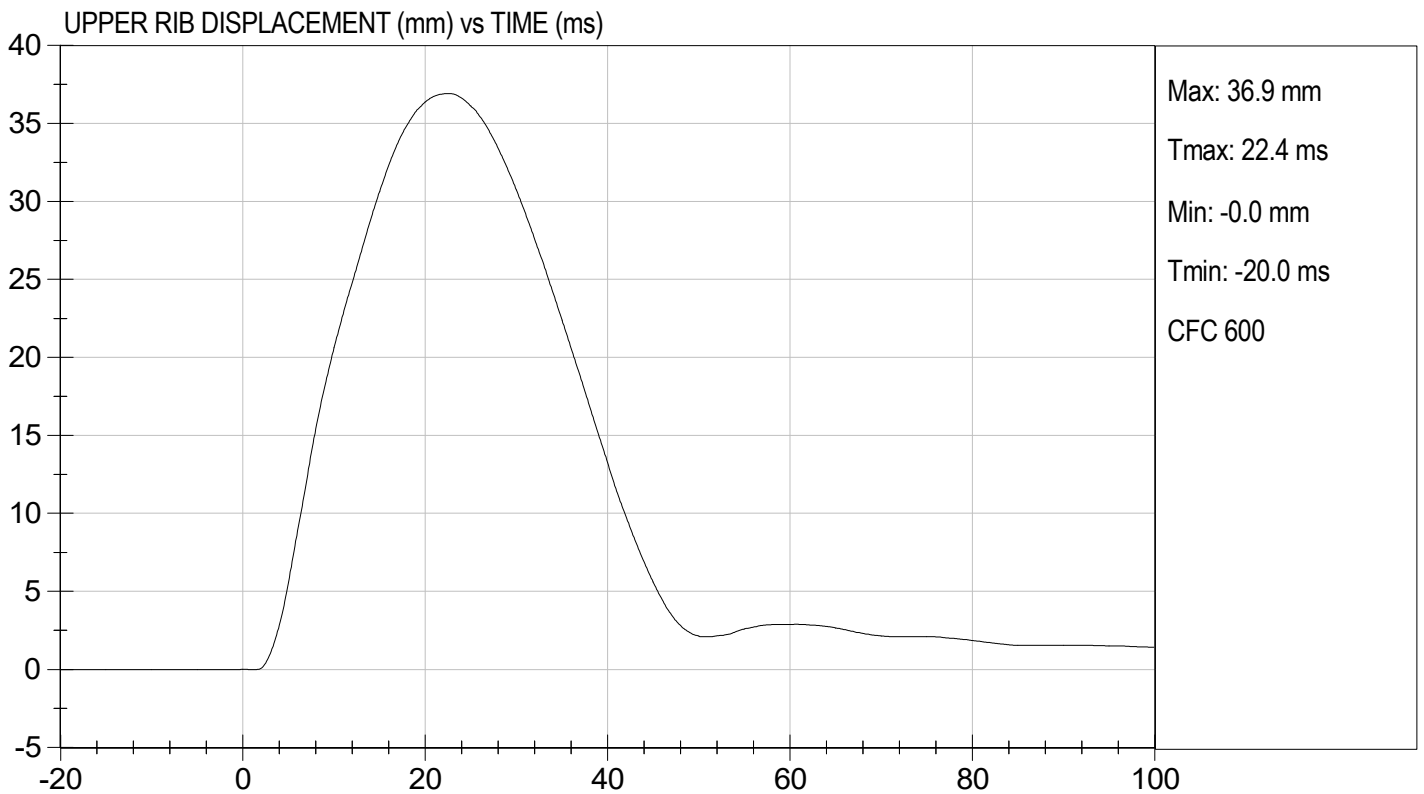
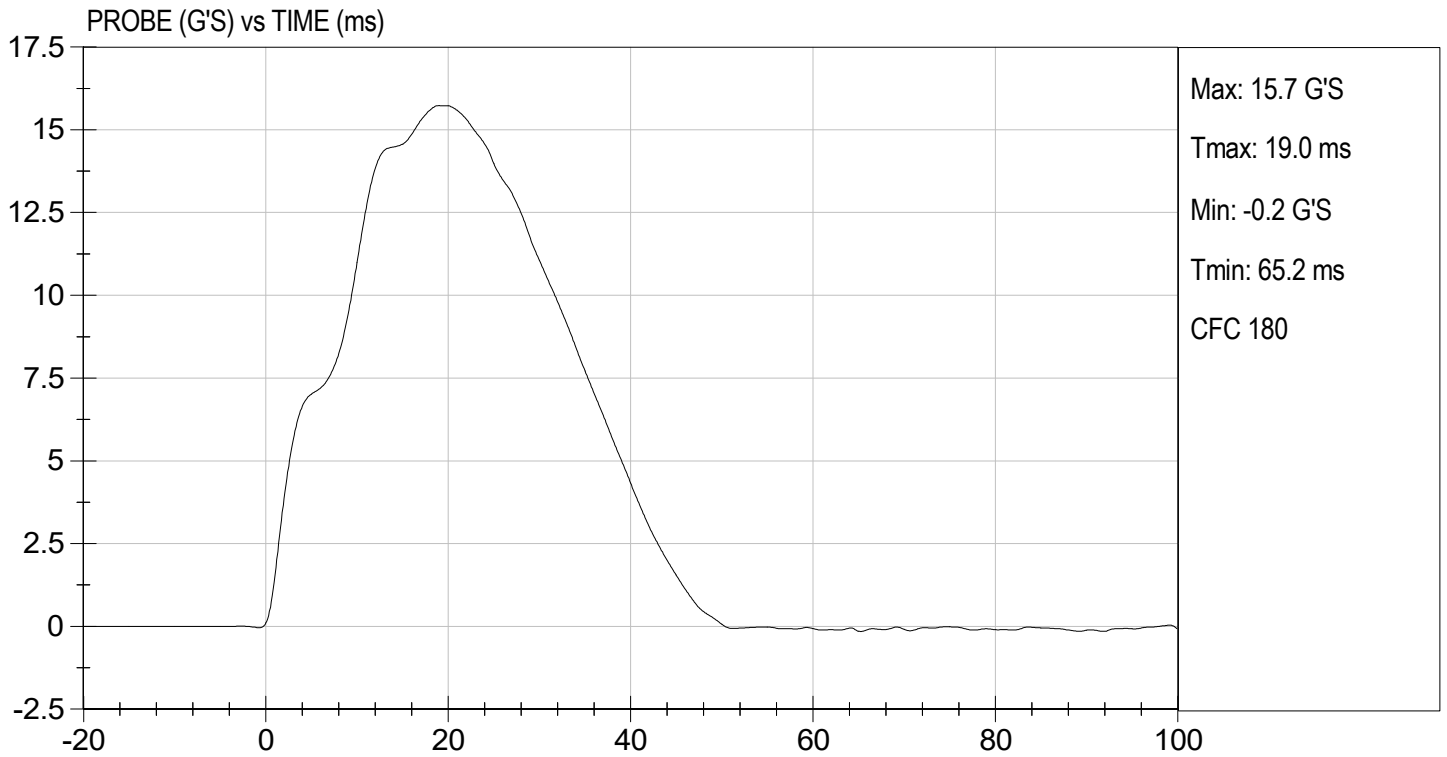
Test I.D: D231545

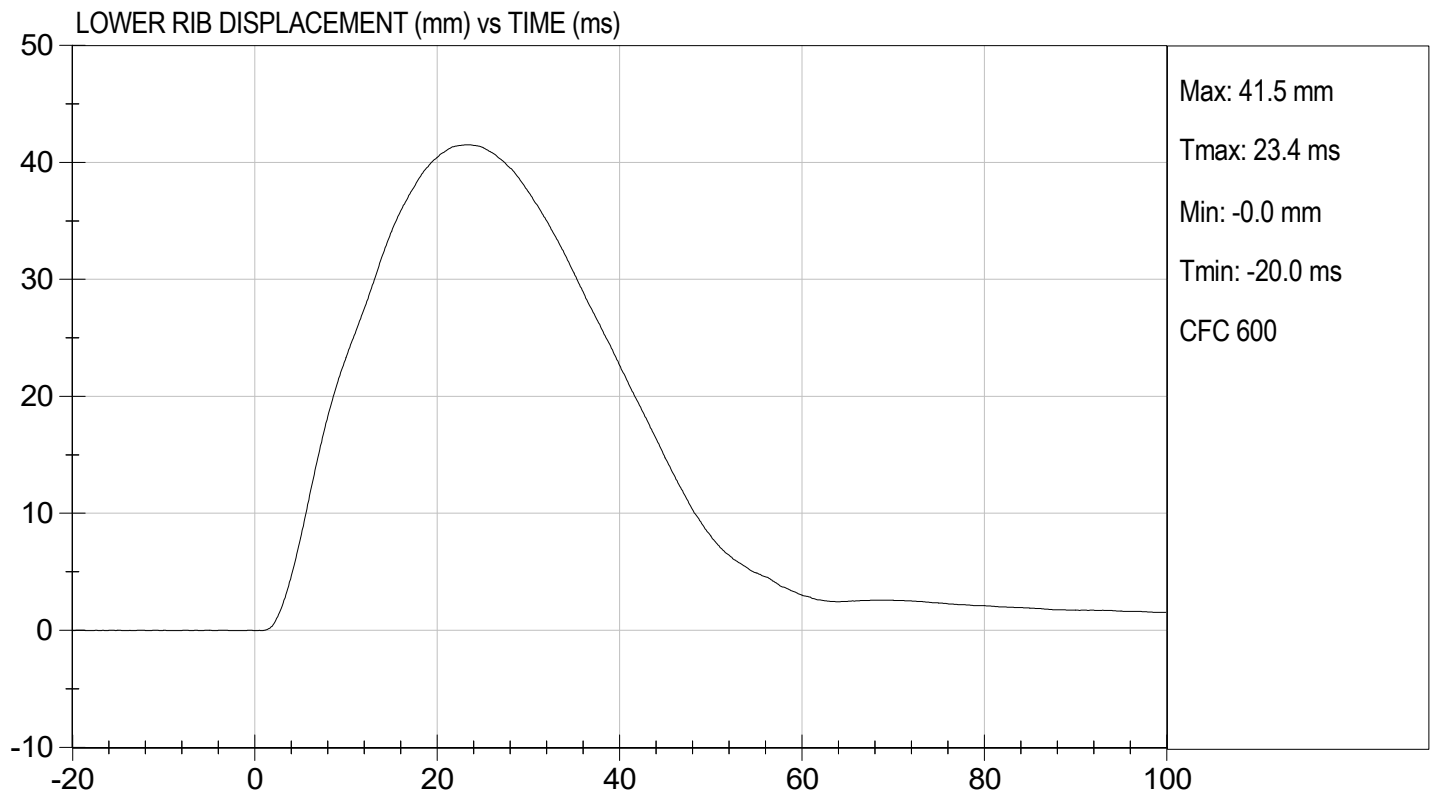
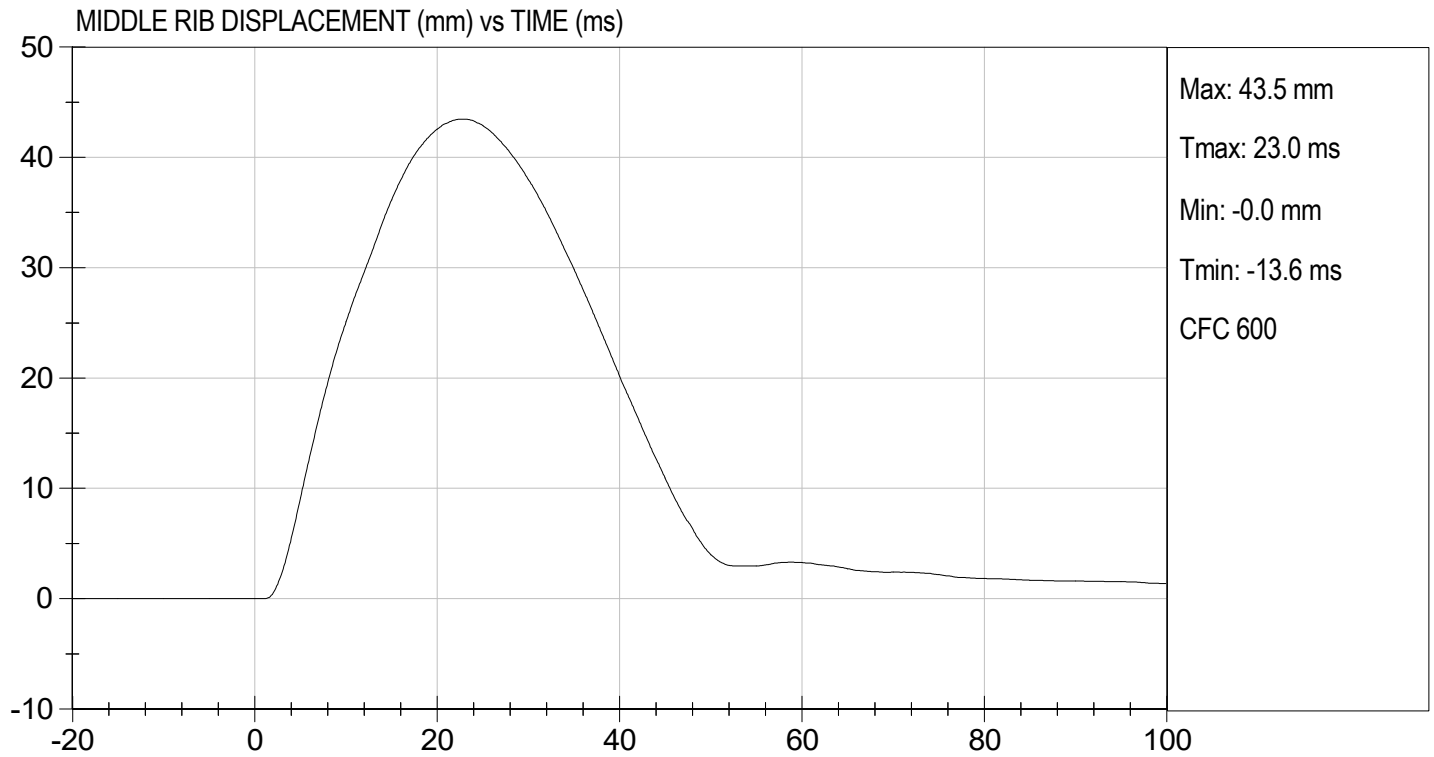
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	40	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	14 to 18	16	Pass
Upper Rib Displacement	mm	32 to 40	37	Pass
Middle Rib Displacement	mm	39 to 45	43	Pass
Lower Rib Displacement	mm	35 to 43	42	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

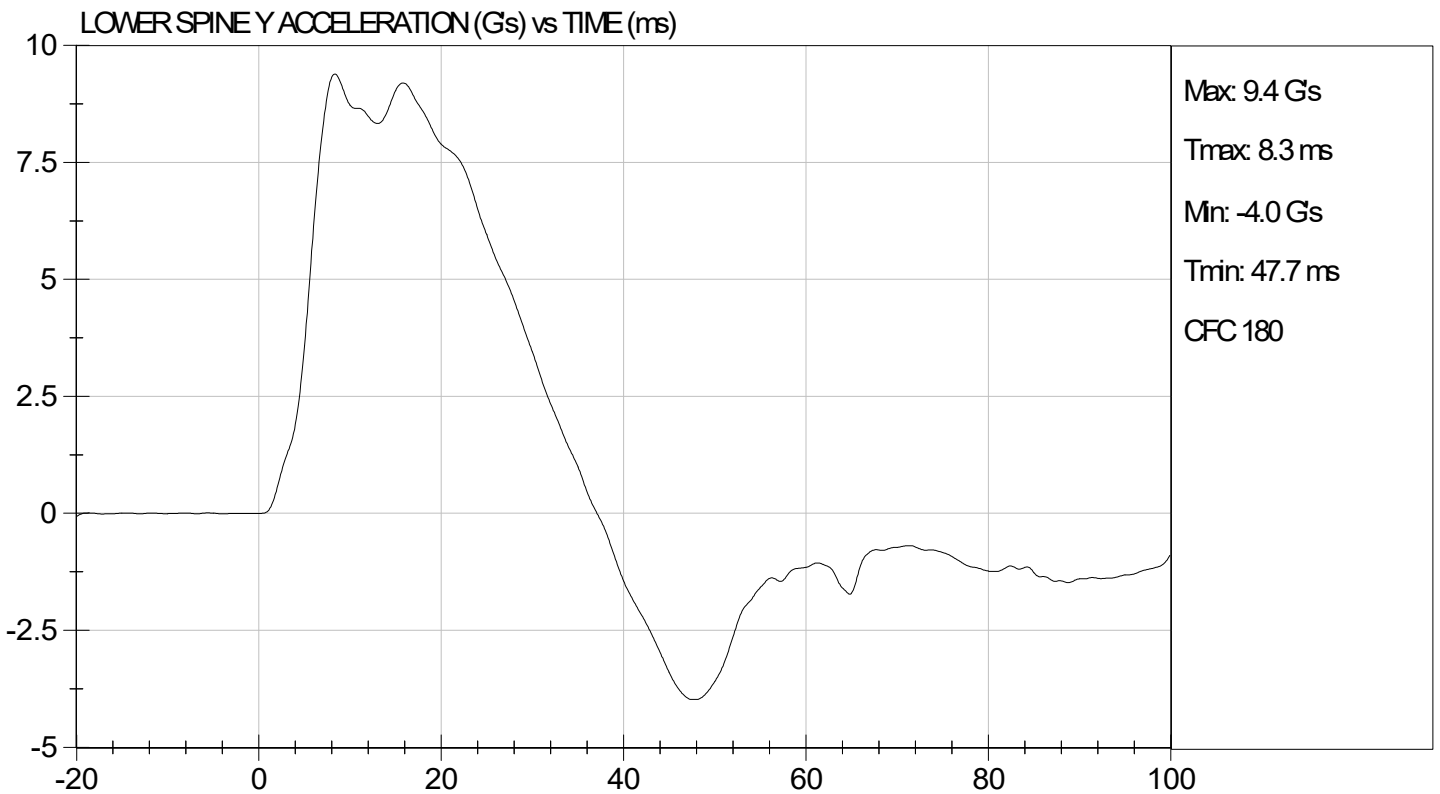
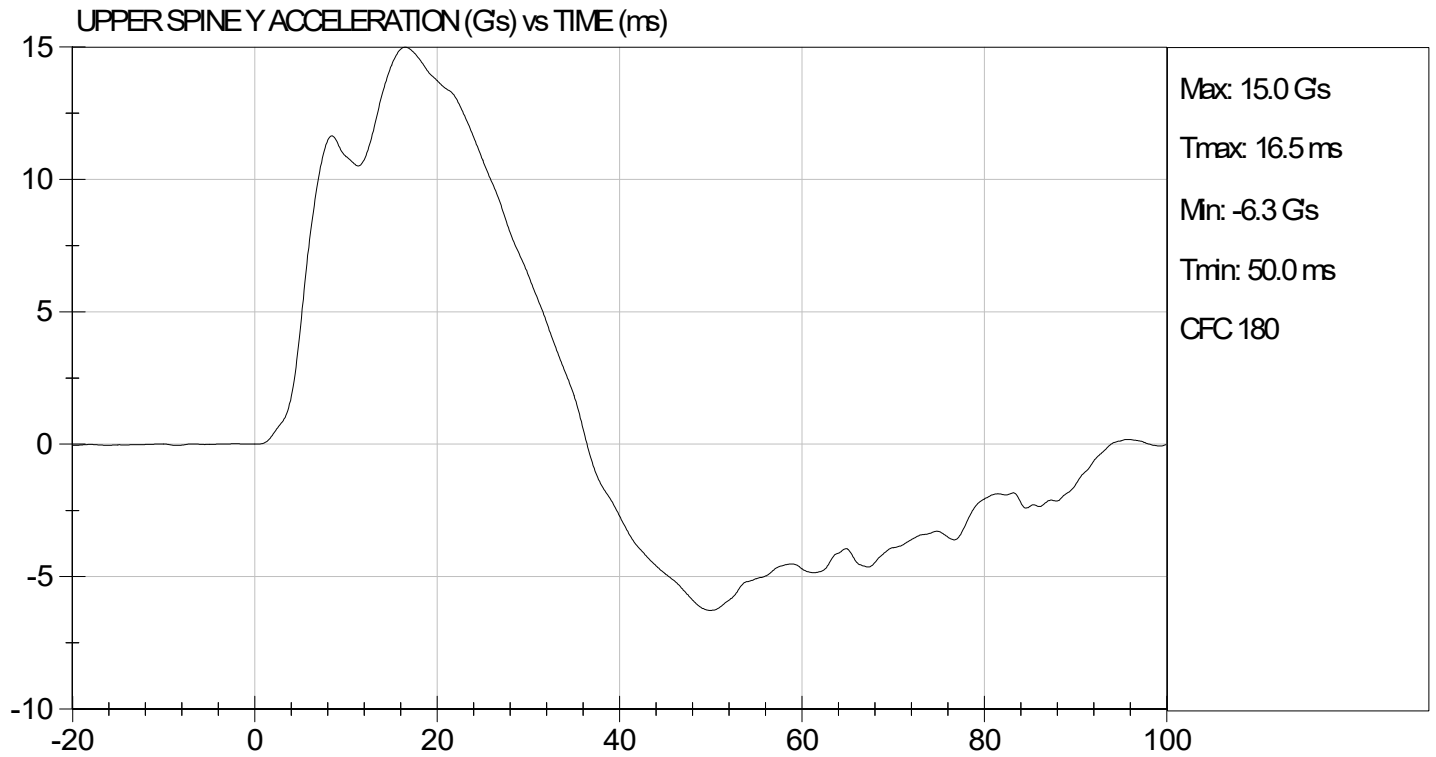
  
 Laboratory Technician

06/17/2023  
 Test Date

  
 Approved By







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

ATD Serial No: 296

Test I.D: D231546

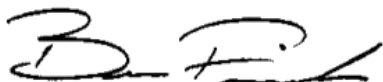
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	40	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	43	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	39	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	12	Pass
Overall Test Results				Pass



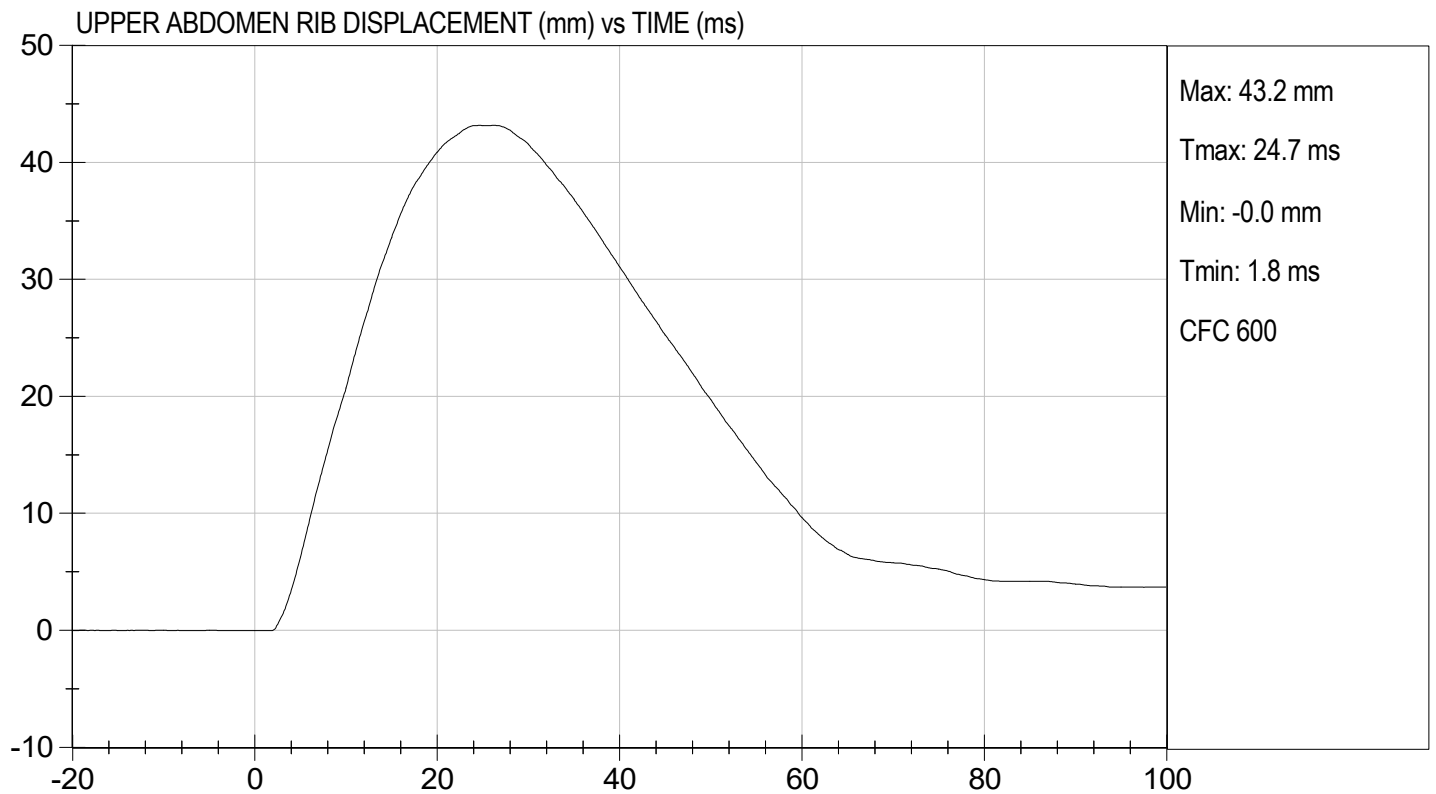
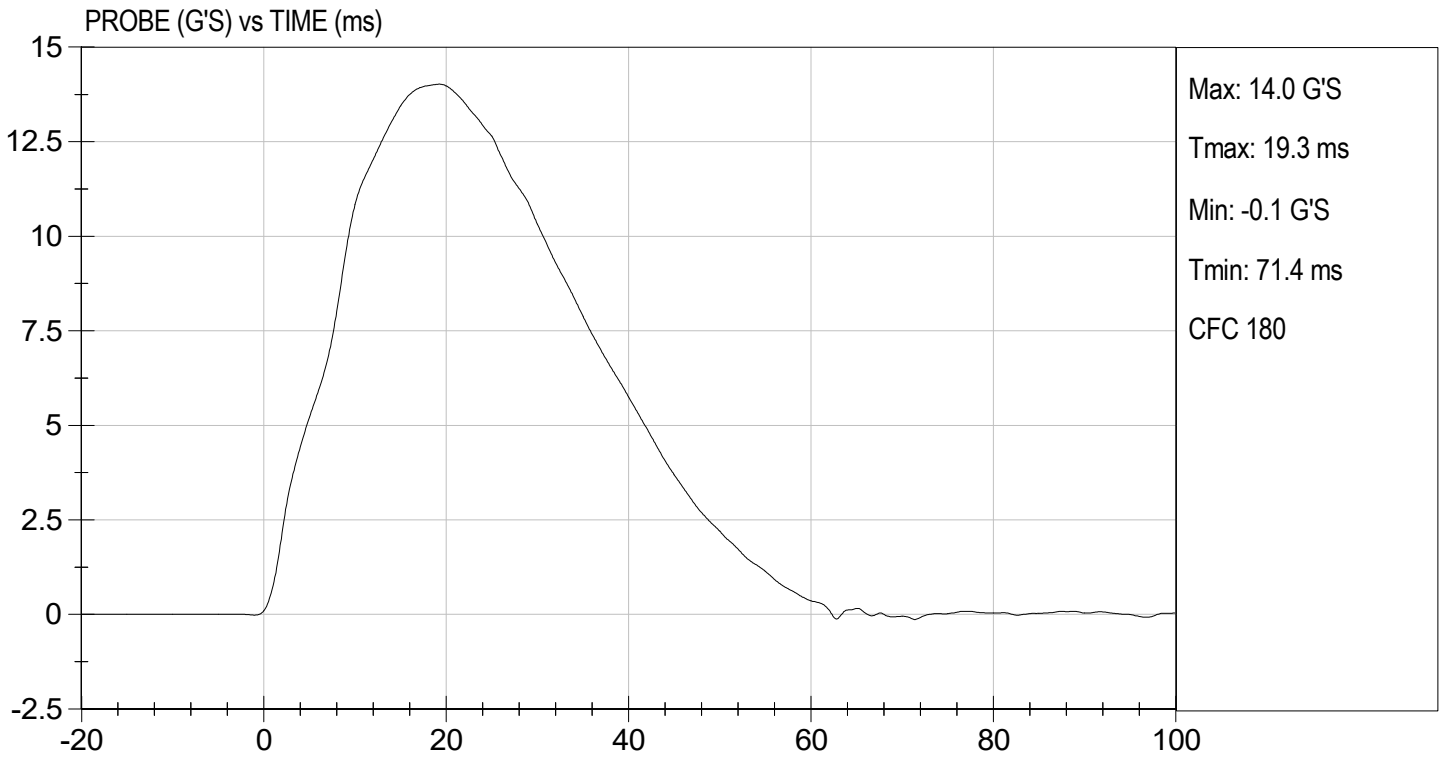
Laboratory Technician

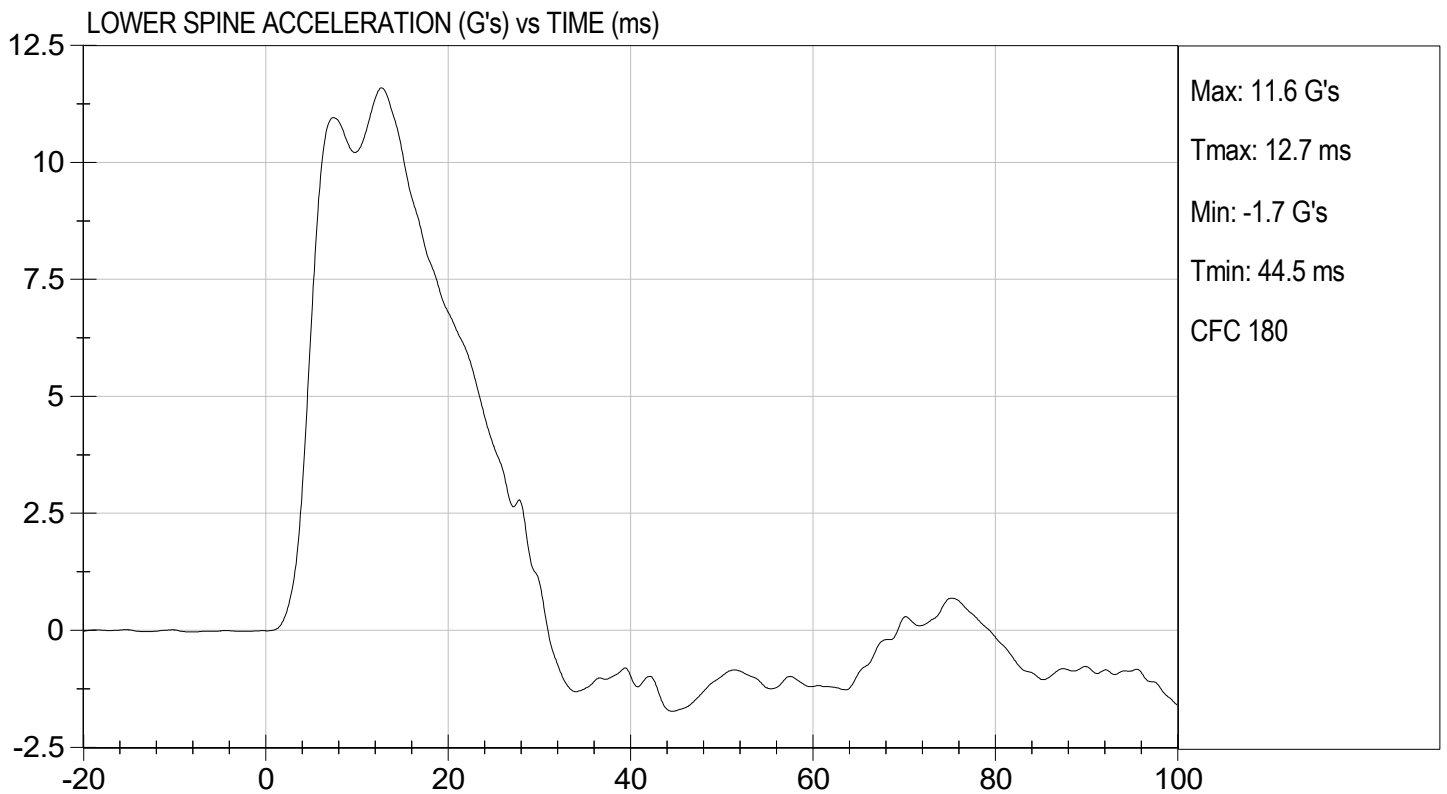
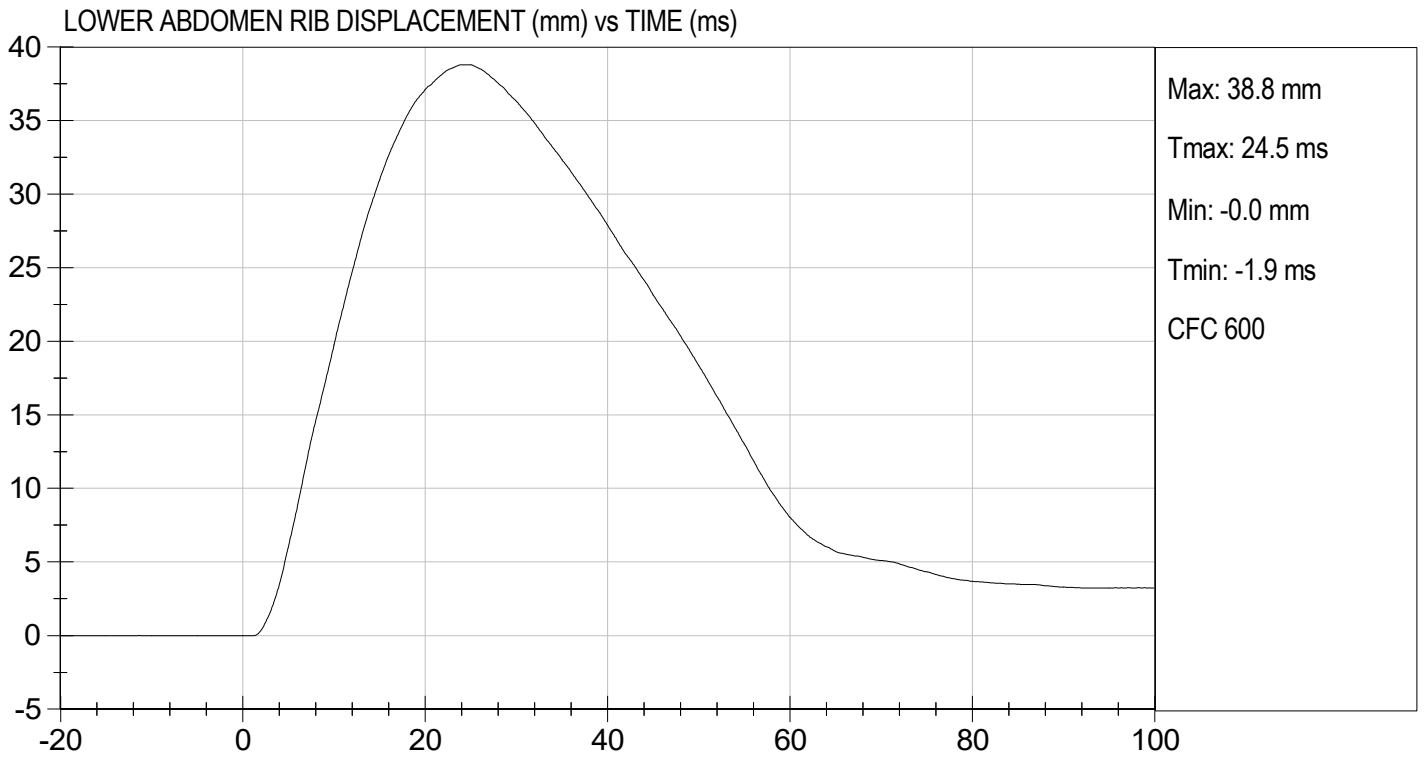
06/17/2023

Test Date



Approved By





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

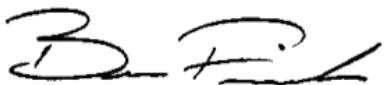
ATD Serial No: 296

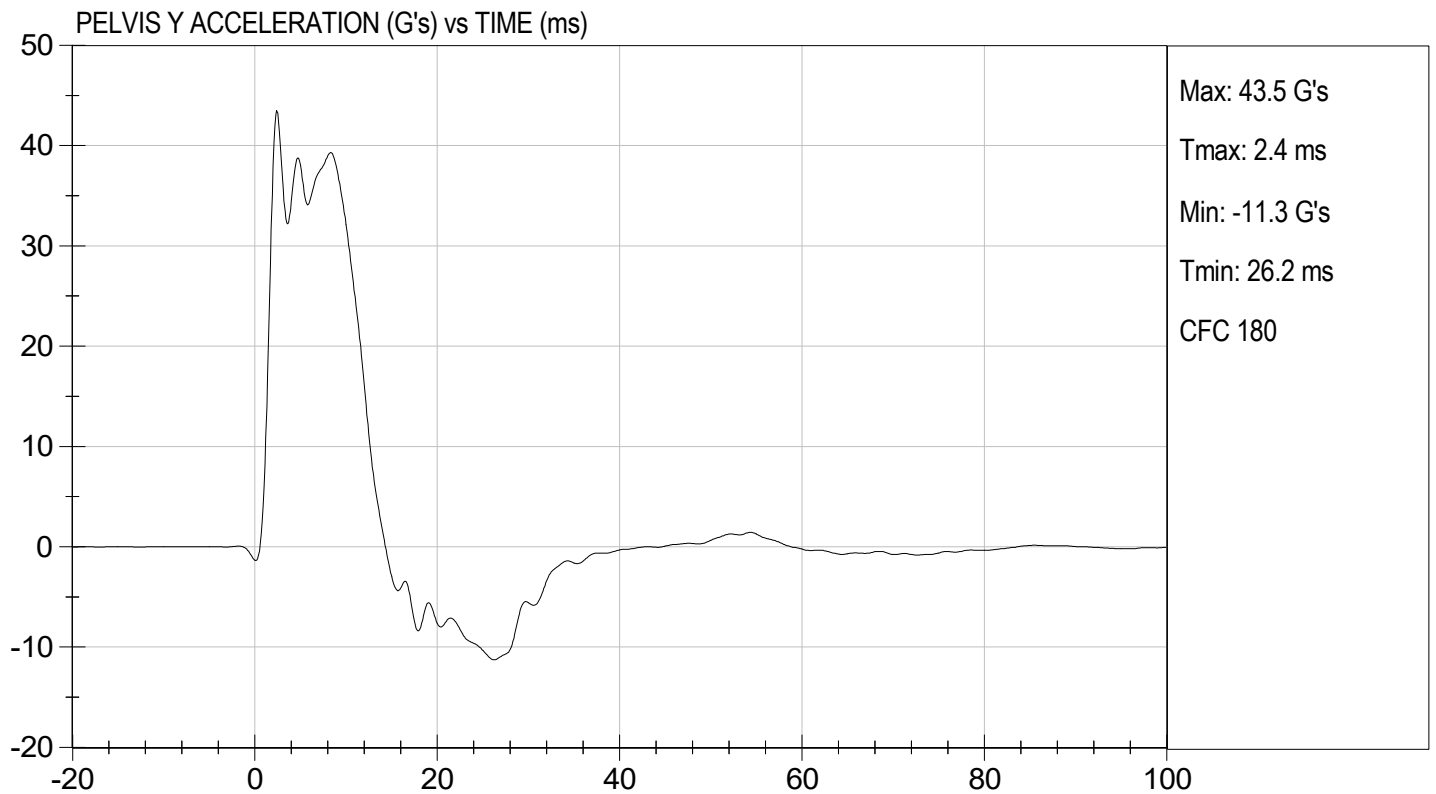
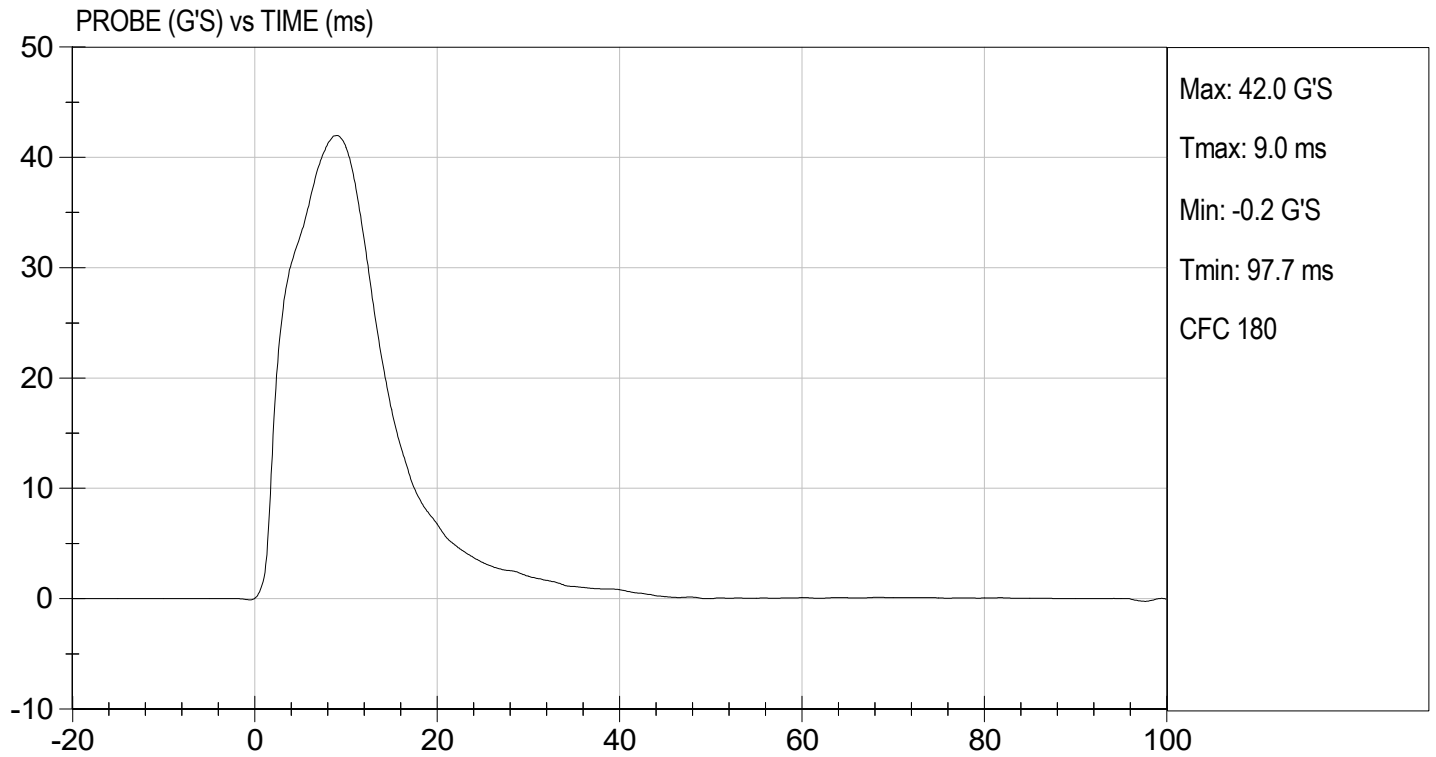
Test I.D: D231547

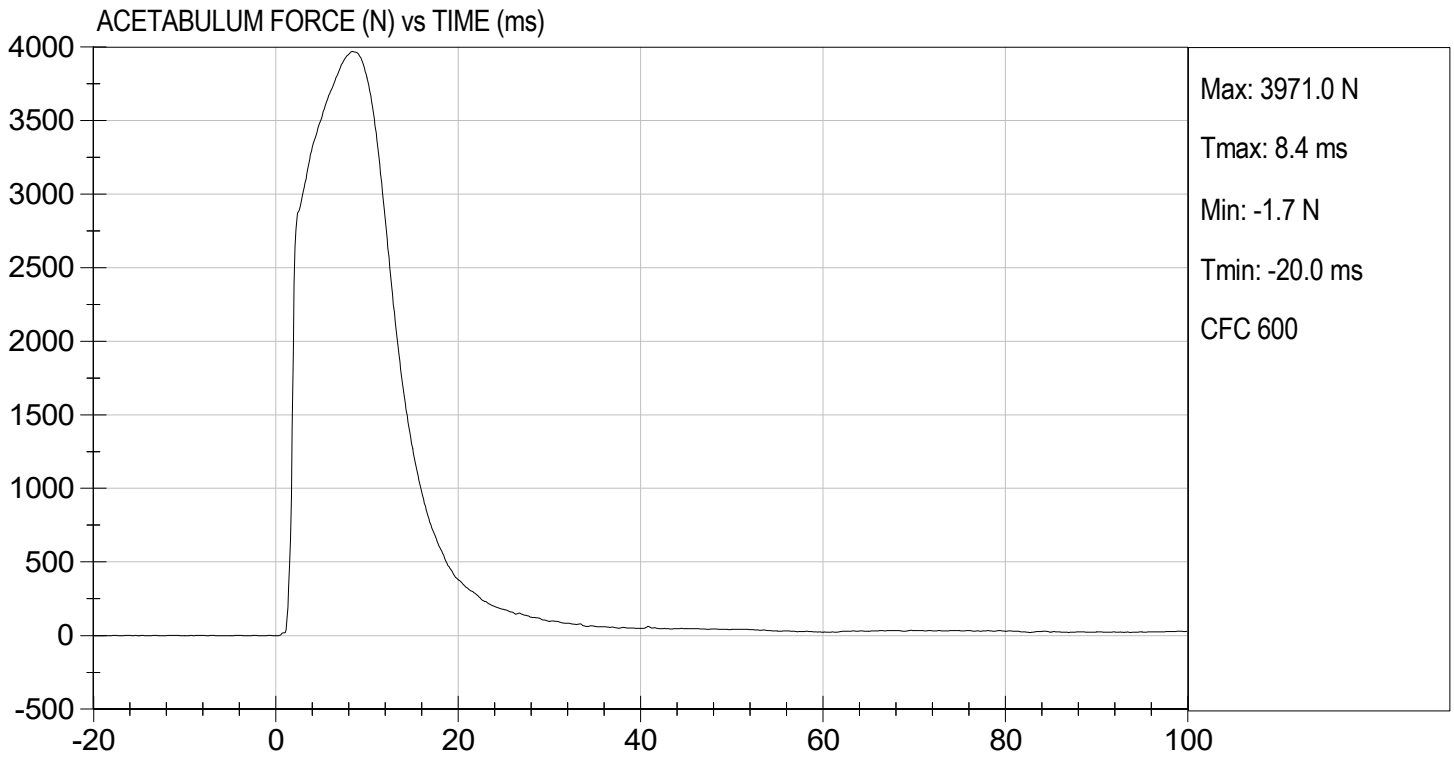
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.8	Pass
Humidity	%	10 to 70	40	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	38 to 47	42	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	39.3	Pass
Peak Acetabulum Force	N	3600 to 4300	3,971	Pass
Overall Test Results				Pass

  
 Laboratory Technician

06/17/2023  
 Test Date

  
 Approved By





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

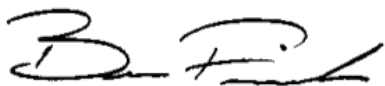
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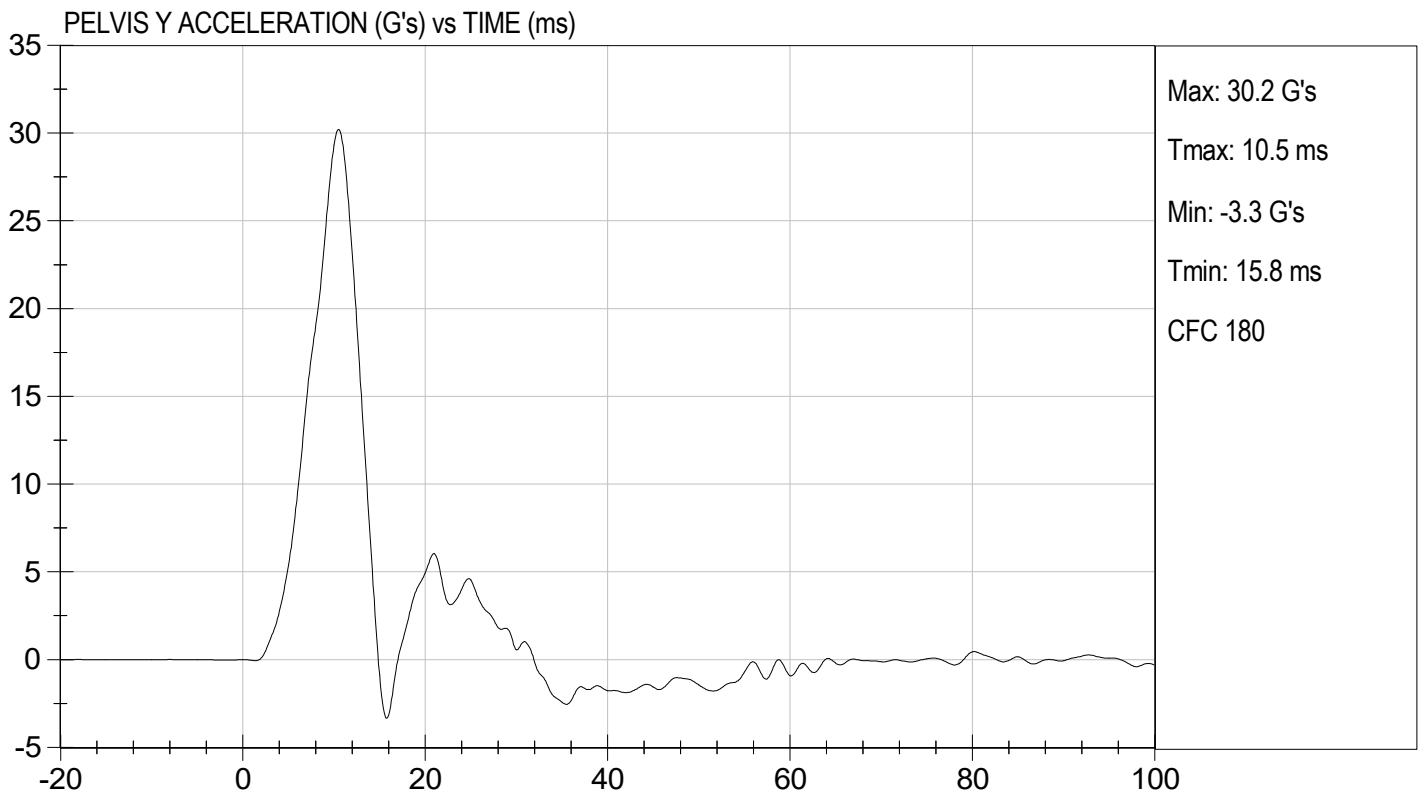
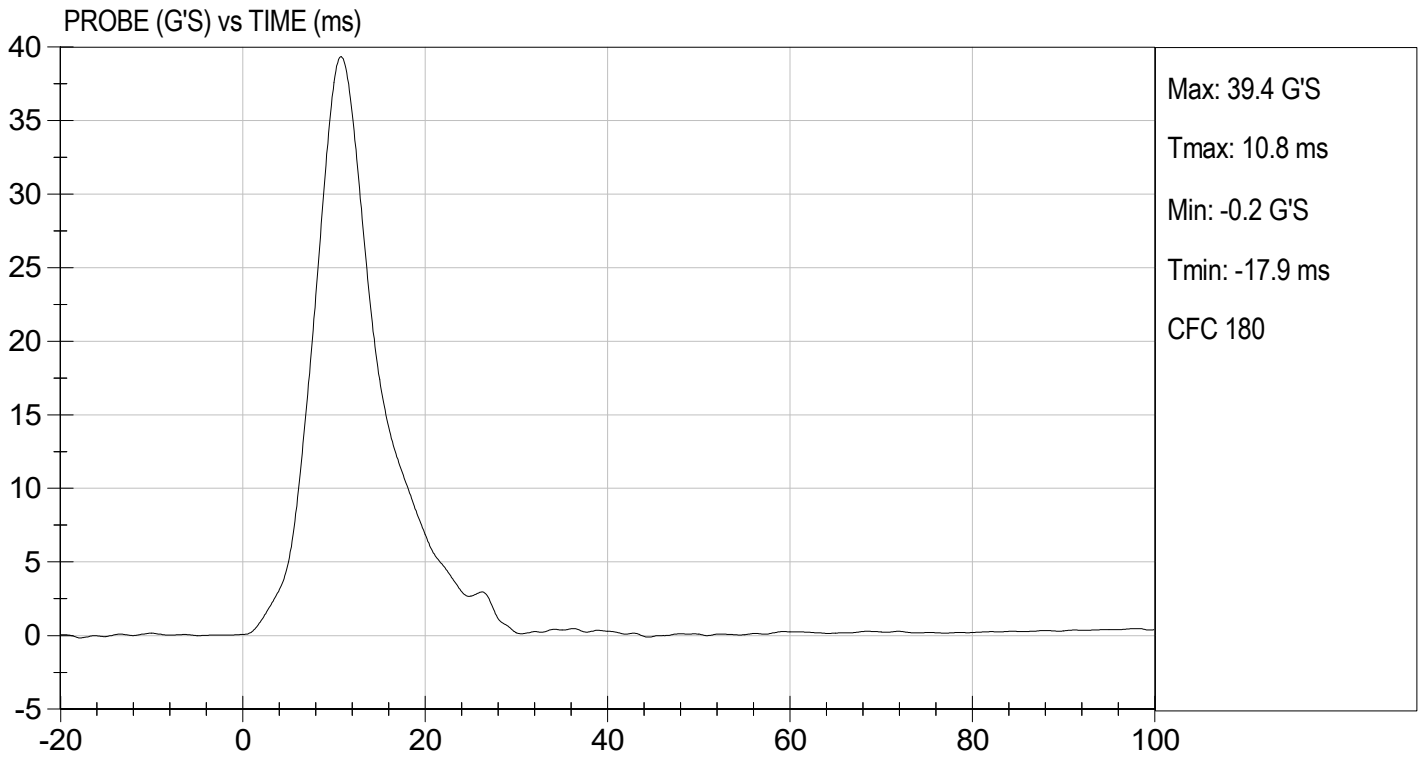
Test I.D: D231548

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	40	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	36 to 45	39	Pass
Pelvis Y Acceleration	G's	28 to 39	30	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,552	Pass
Overall Test Results				Pass

  
 Laboratory Technician

06/17/2023  
 Test Date

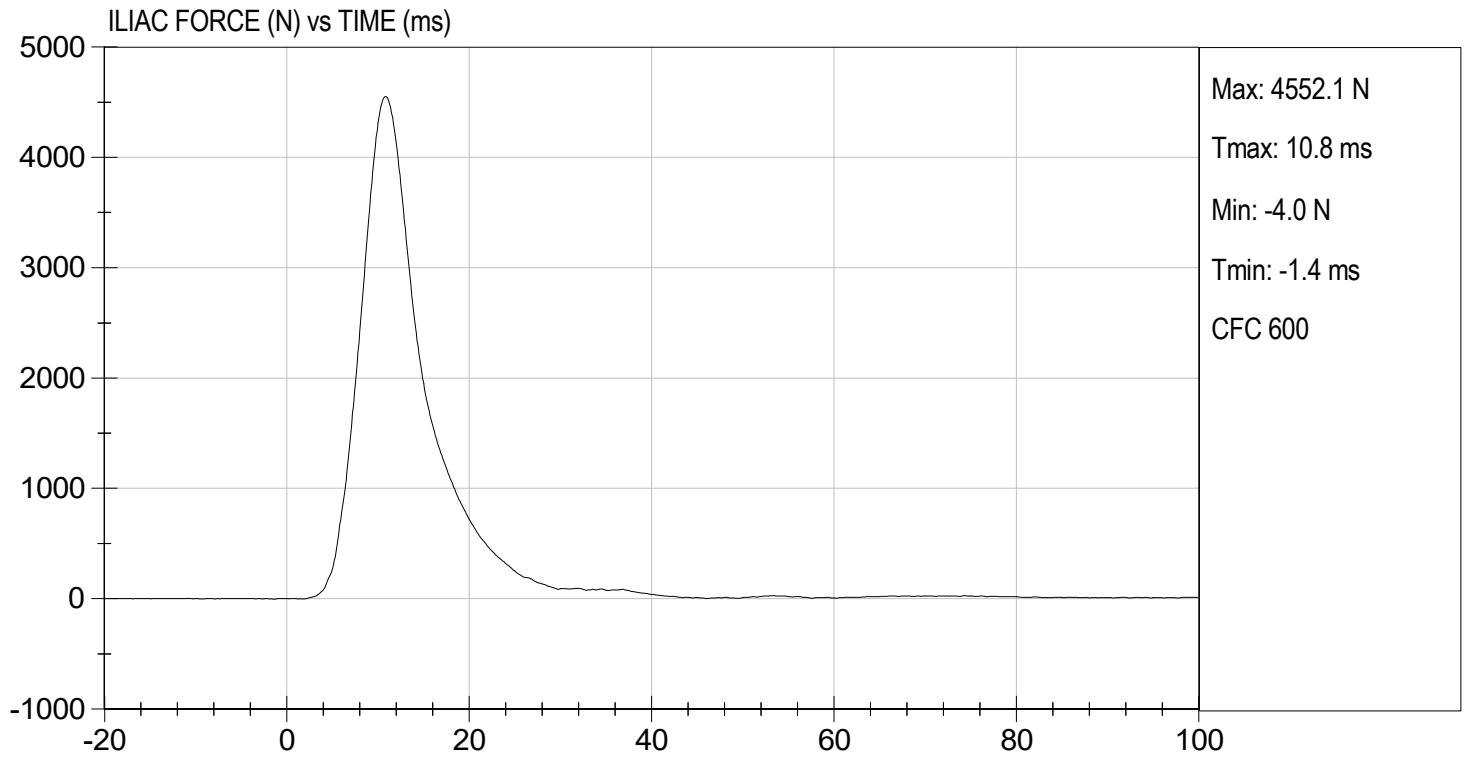
  
 Approved By





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

TEST DATE: 06/17/2023  
TEST #: D231548



**QUALIFICATION TEST RESULTS**

**POST-TEST**

**SID-IIS 5<sup>TH</sup> PERCENTILE FEMALE - DRIVER ATD**

**SID-IIsD External Measurements**  
**SN: 296**

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

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

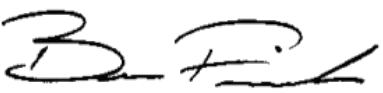
ATD Serial No: 296

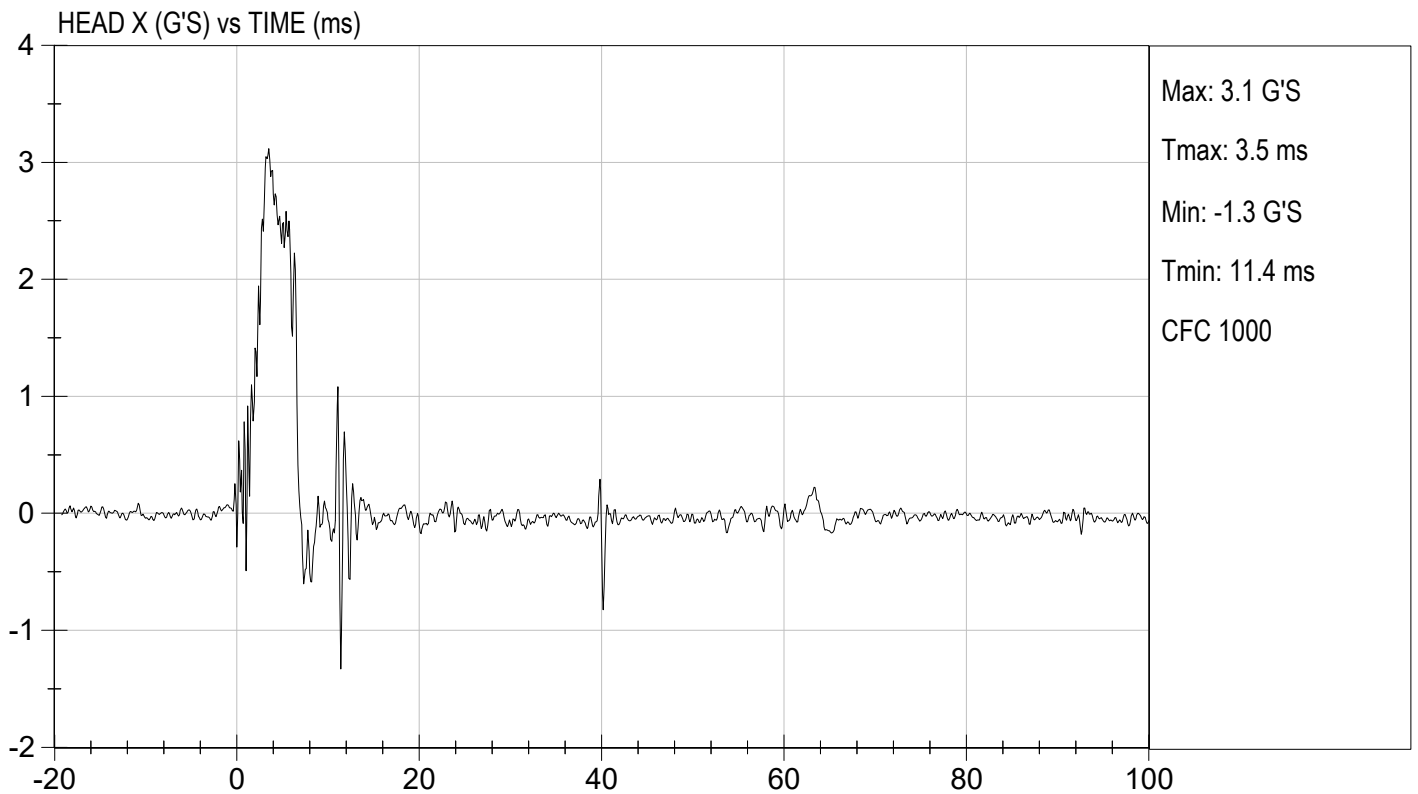
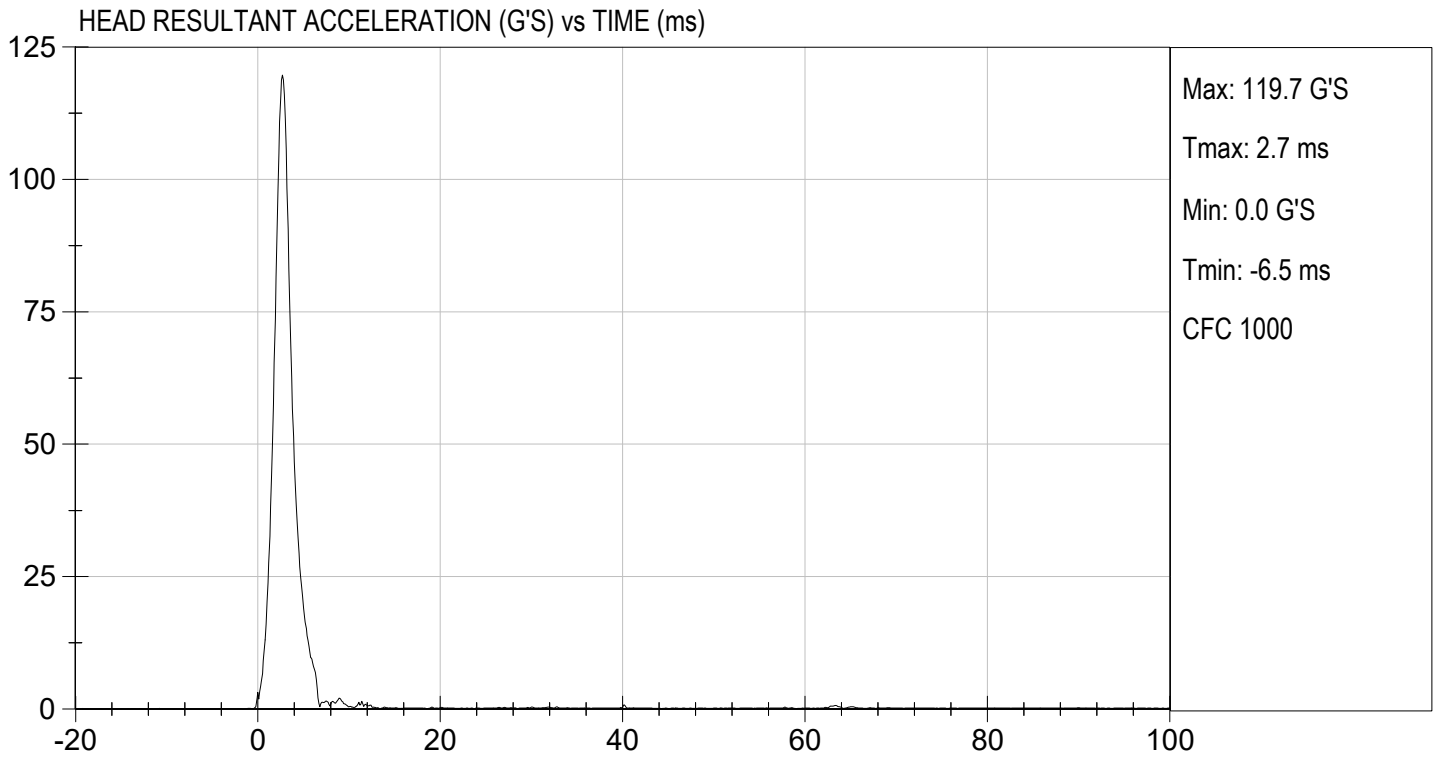
Test ID: D231771

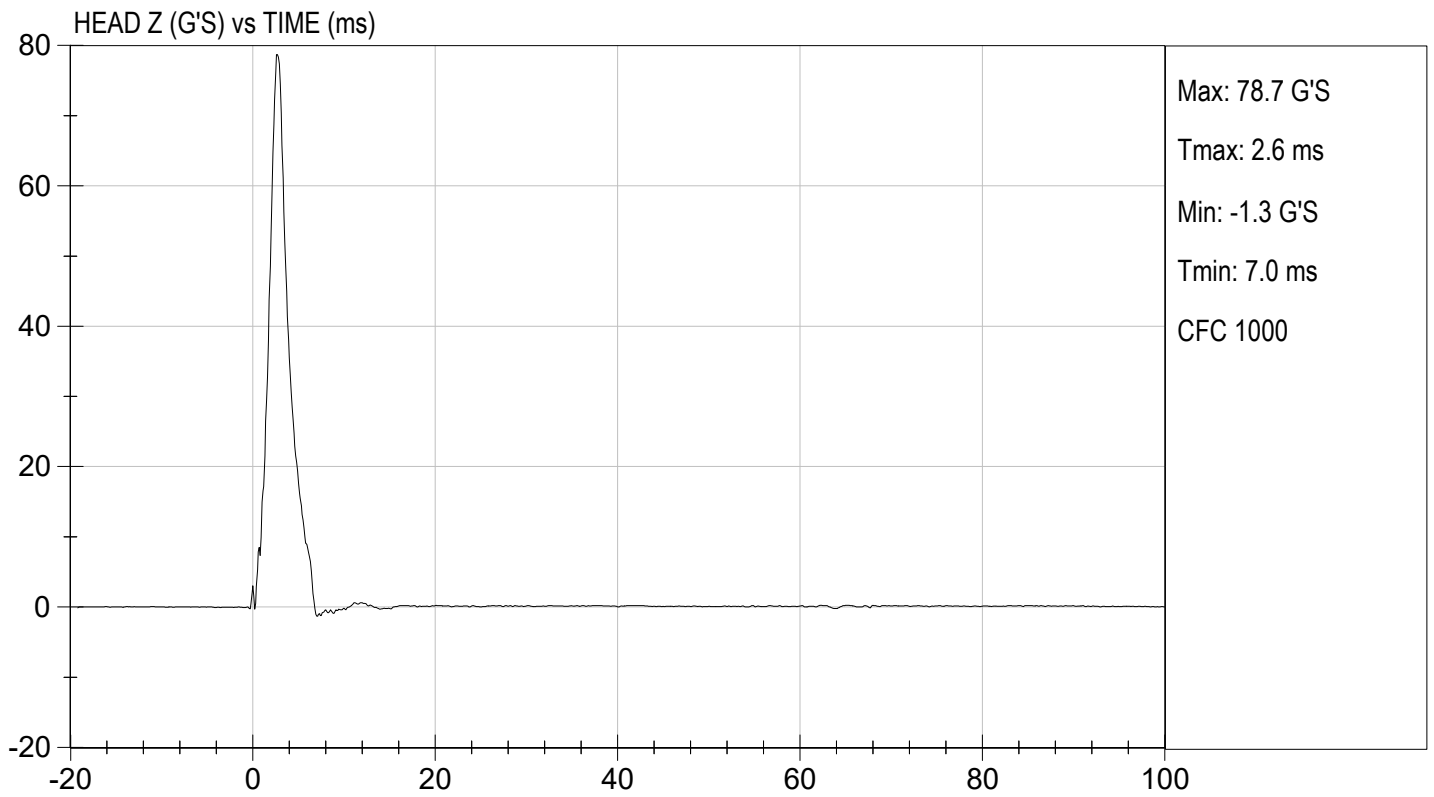
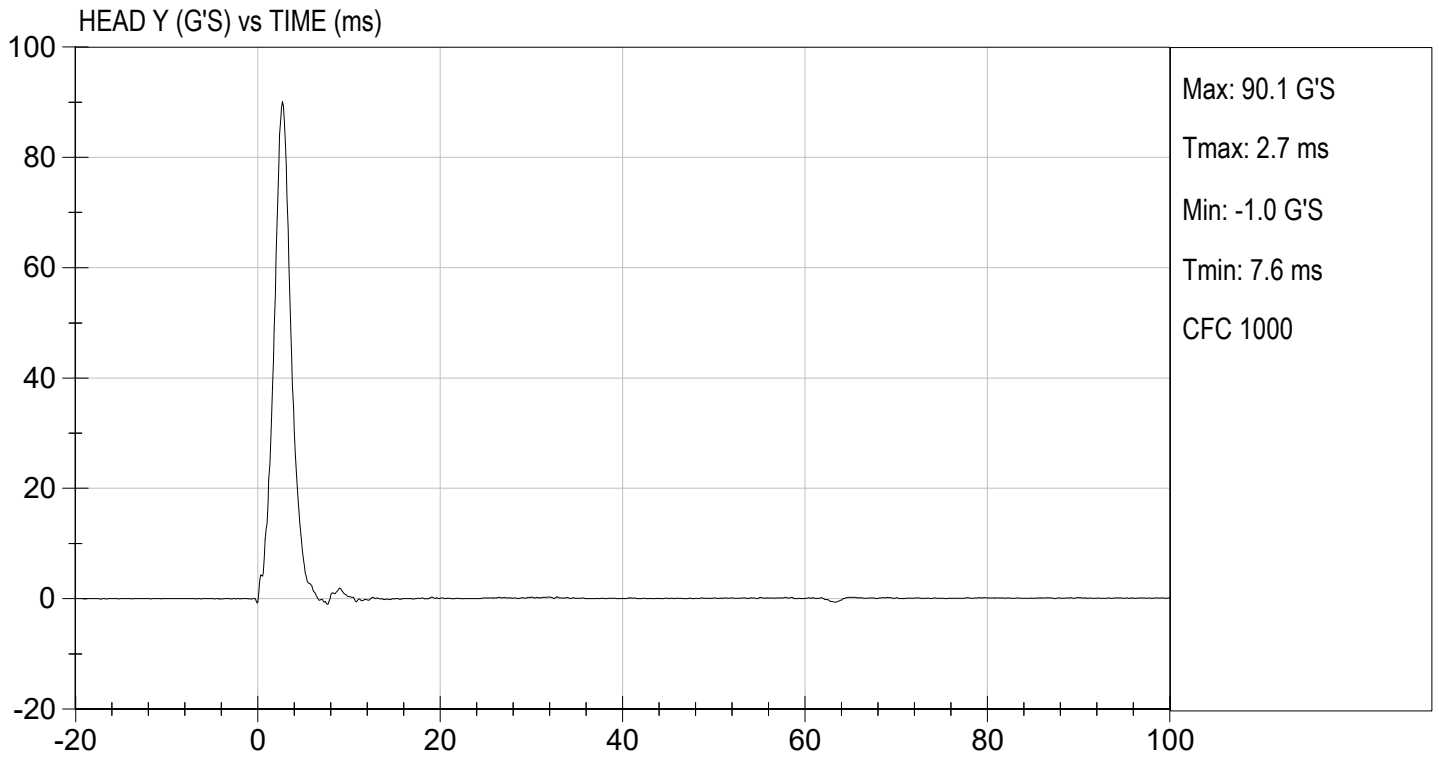
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	46	Pass
Peak Resultant Acceleration	G's	115 to 137	120	Pass
Peak Longitudinal Acceleration	G's	+/- 15	3.1	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass

  
 Laboratory Technician

07/15/2023  
 Test Date

  
 Approved By





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

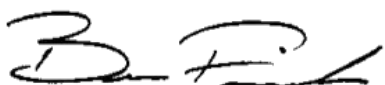
ATD Serial No: 296

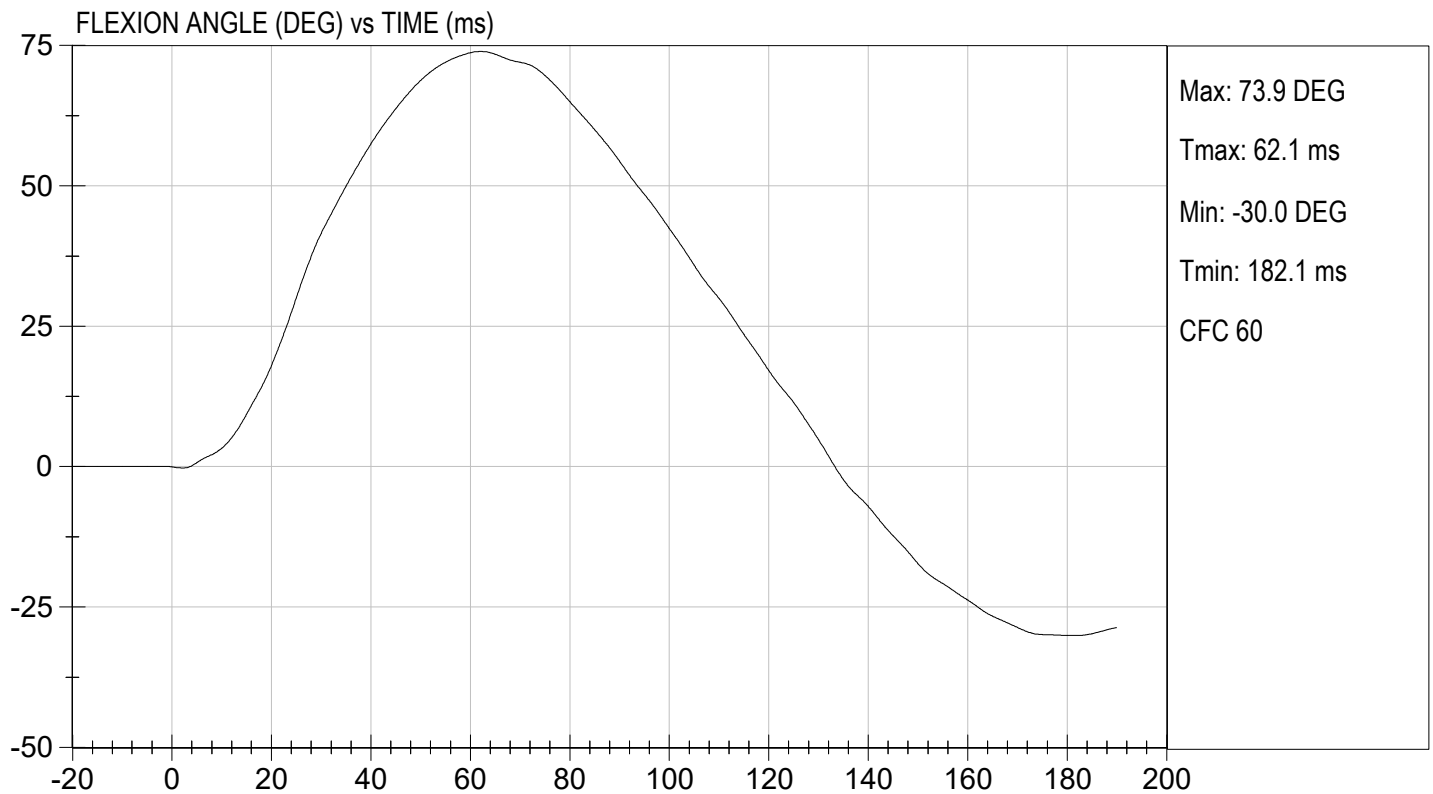
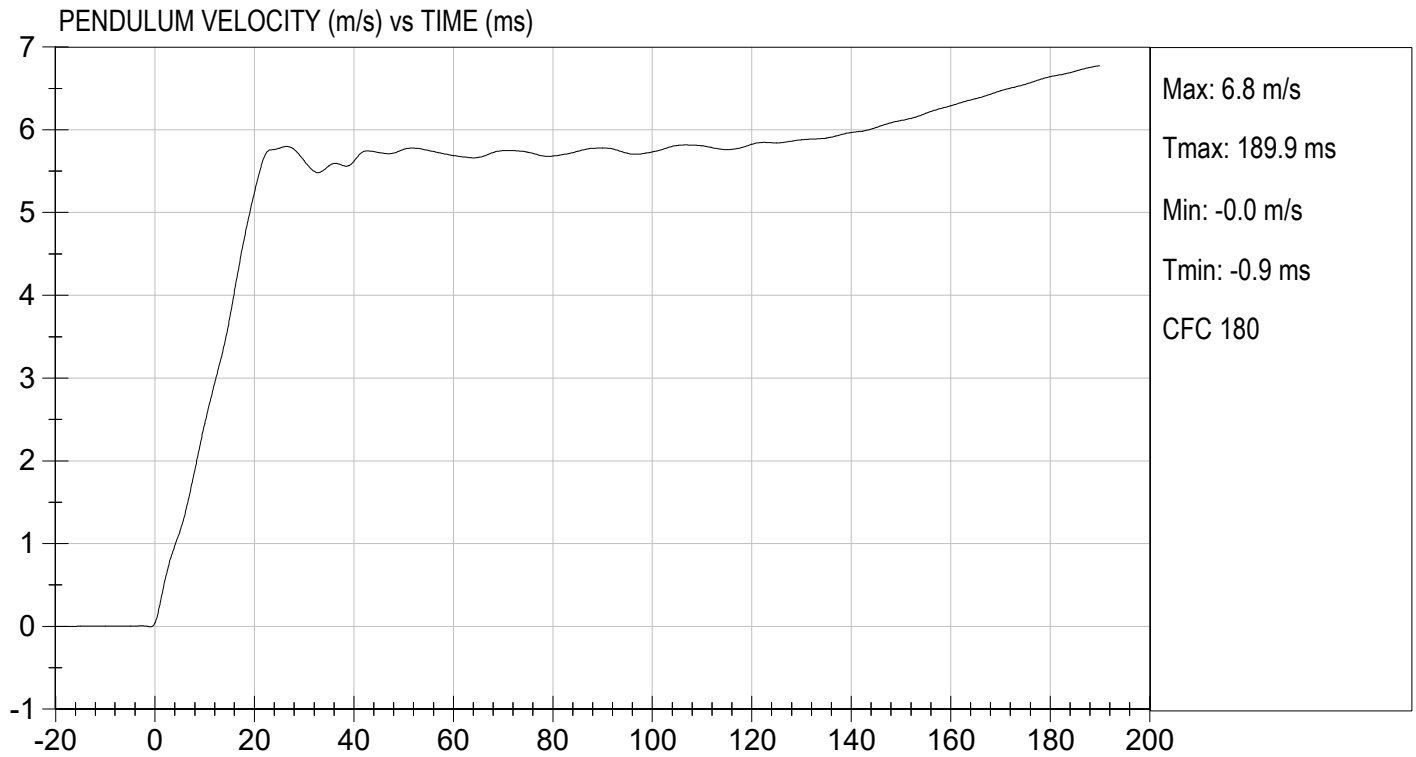
Test I.D.: D231772

Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.7	Pass	
Humidity	%	10 to 70	46	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.58	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.45	Pass
	15 ms	m/s	3.30 to 4.10	3.72	Pass
	20 ms	m/s	4.40 to 5.40	5.24	Pass
	25 ms	m/s	5.40 to 6.10	5.78	Pass
	25-100 ms	m/s	5.50 to 6.20	5.80	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	-38	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	113	Pass	
Overall Test Results				Pass	

  
 Laboratory Technician

07/15/2023  
 Test Date

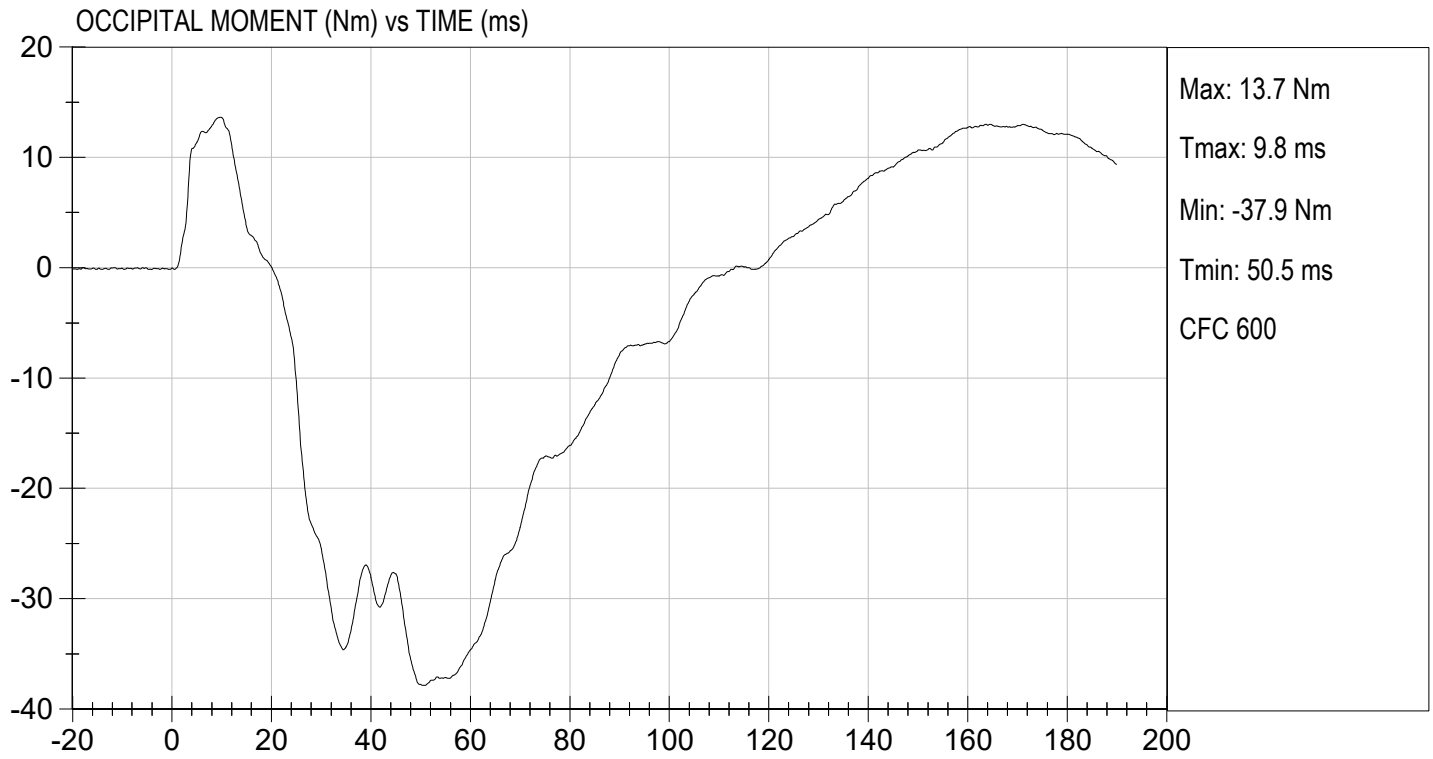
  
 Approved By





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

TEST DATE: 07/15/2023  
TEST #: D231772



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

ATD Serial No: 296

Test ID: D231773

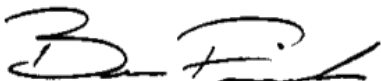
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Impact Velocity	m/s	4.20 to 4.40	4.39	Pass
Maximum Probe Acceleration	G's	13 to 18	16	Pass
Shoulder Displacement	mm	28 to 37	31	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	20	Pass
Overall Test Results				Pass



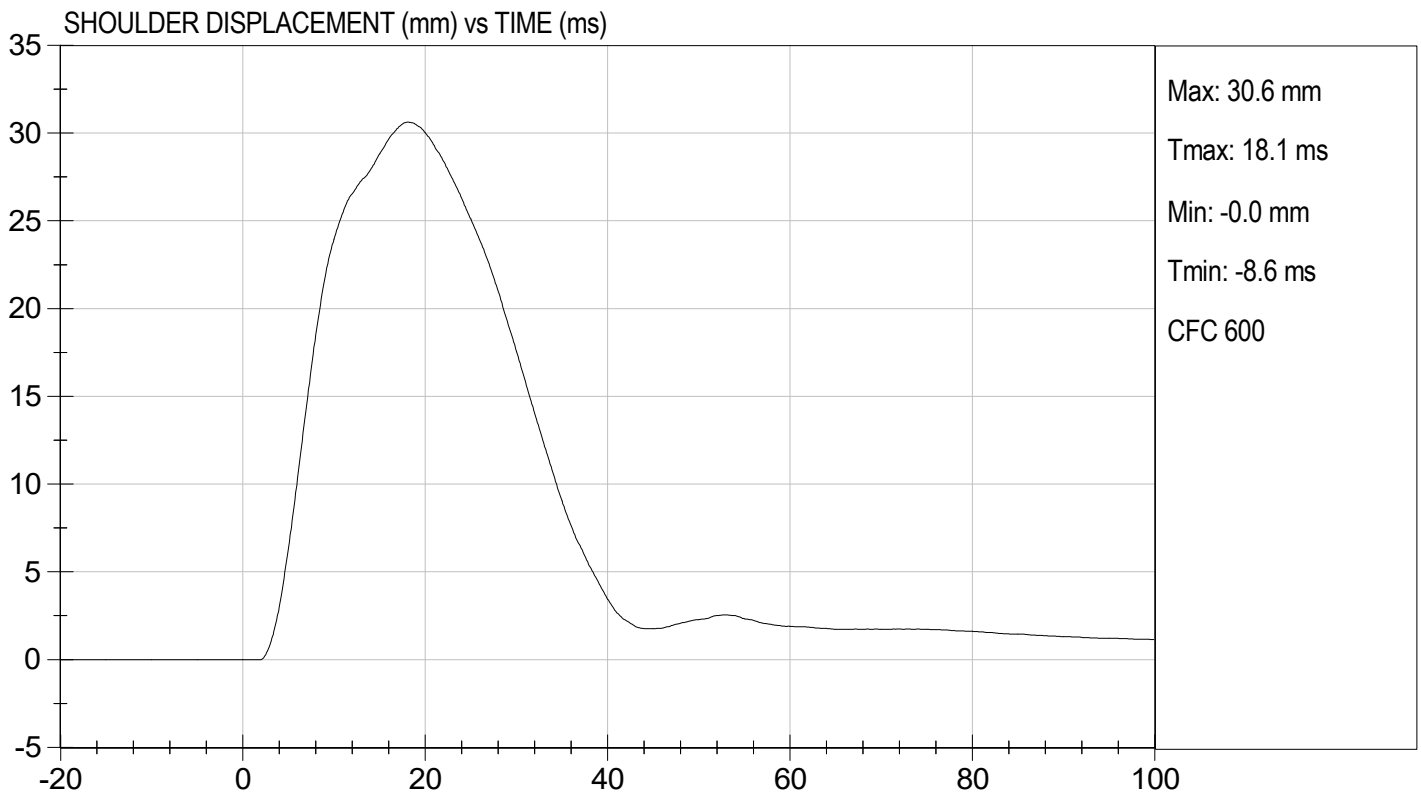
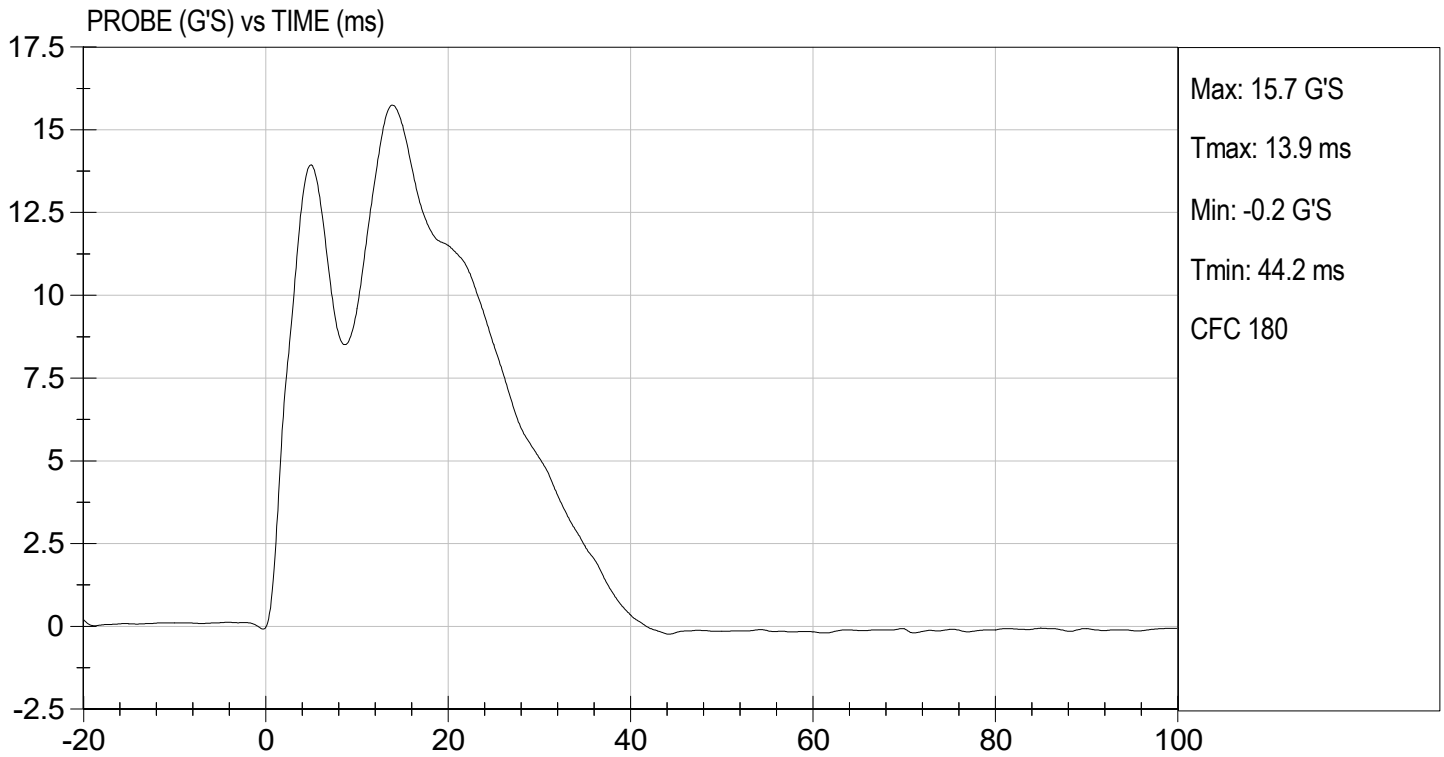
Laboratory Technician

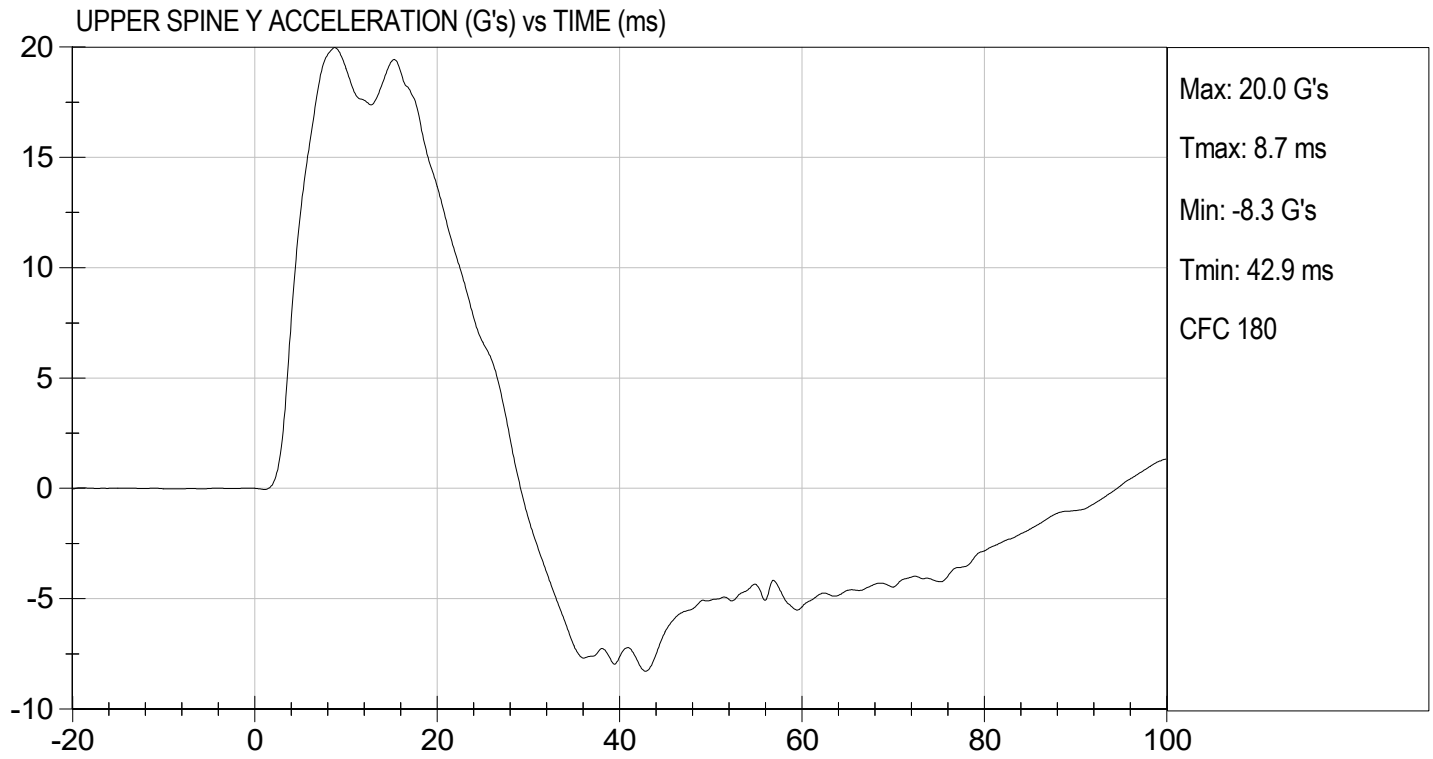
07/15/2023

Test Date



Approved By





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

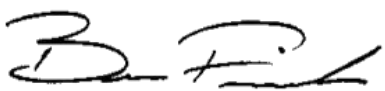
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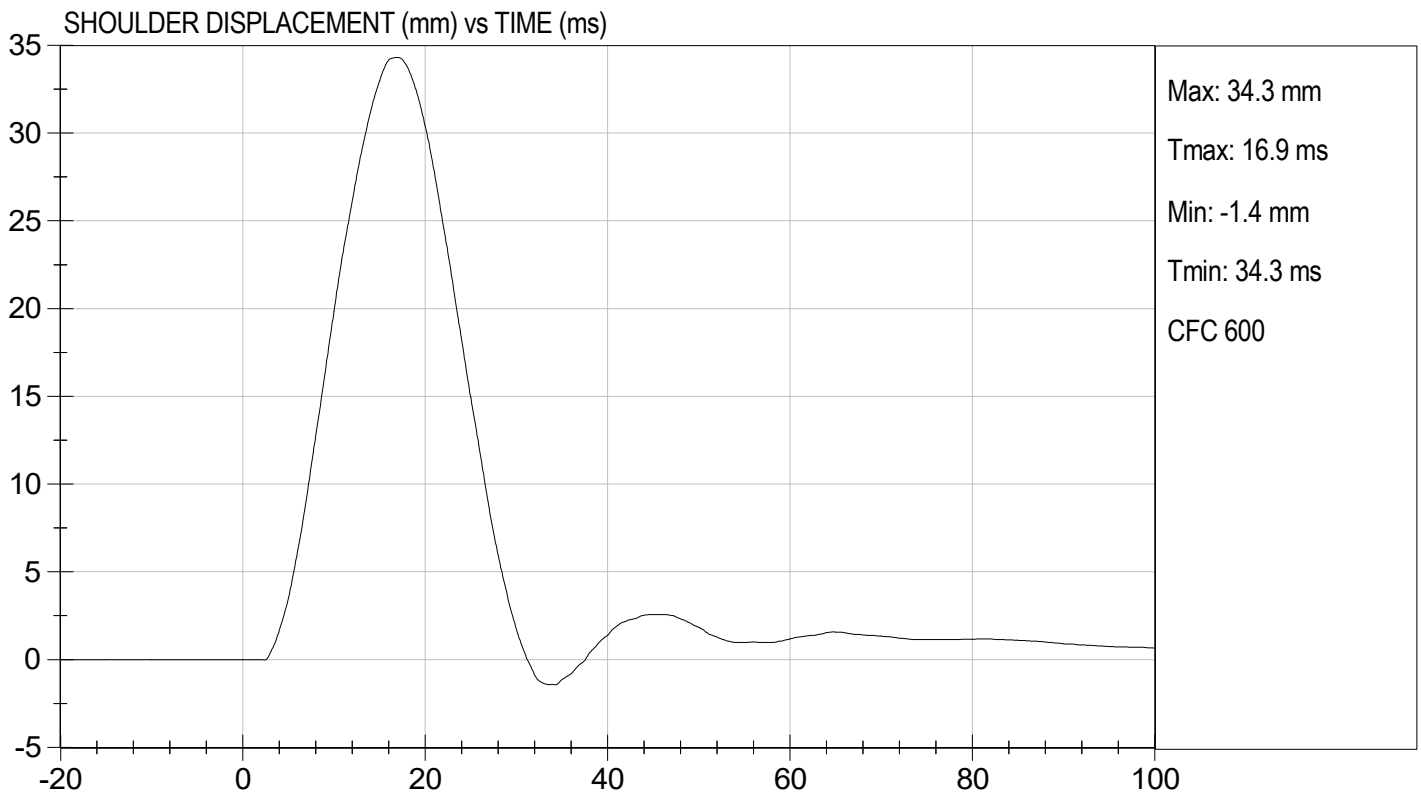
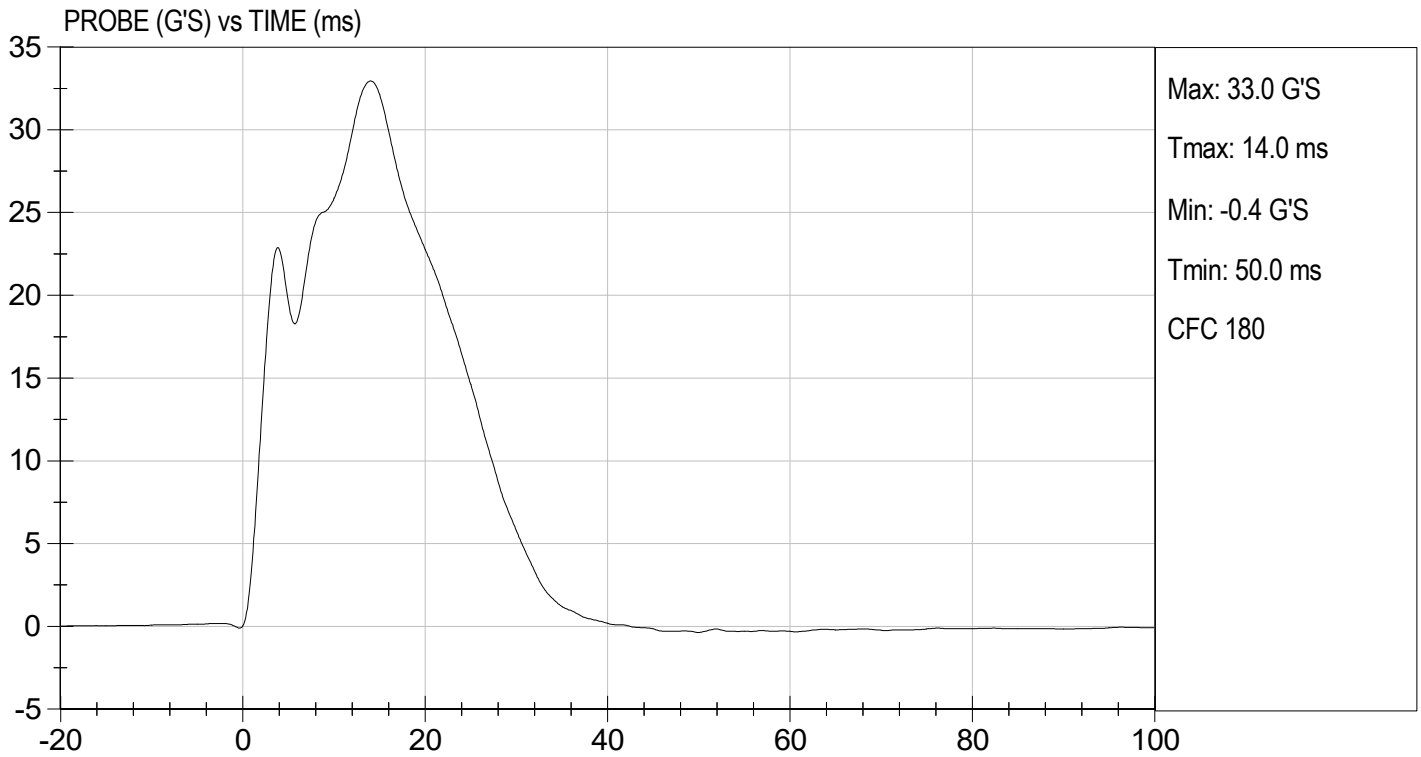
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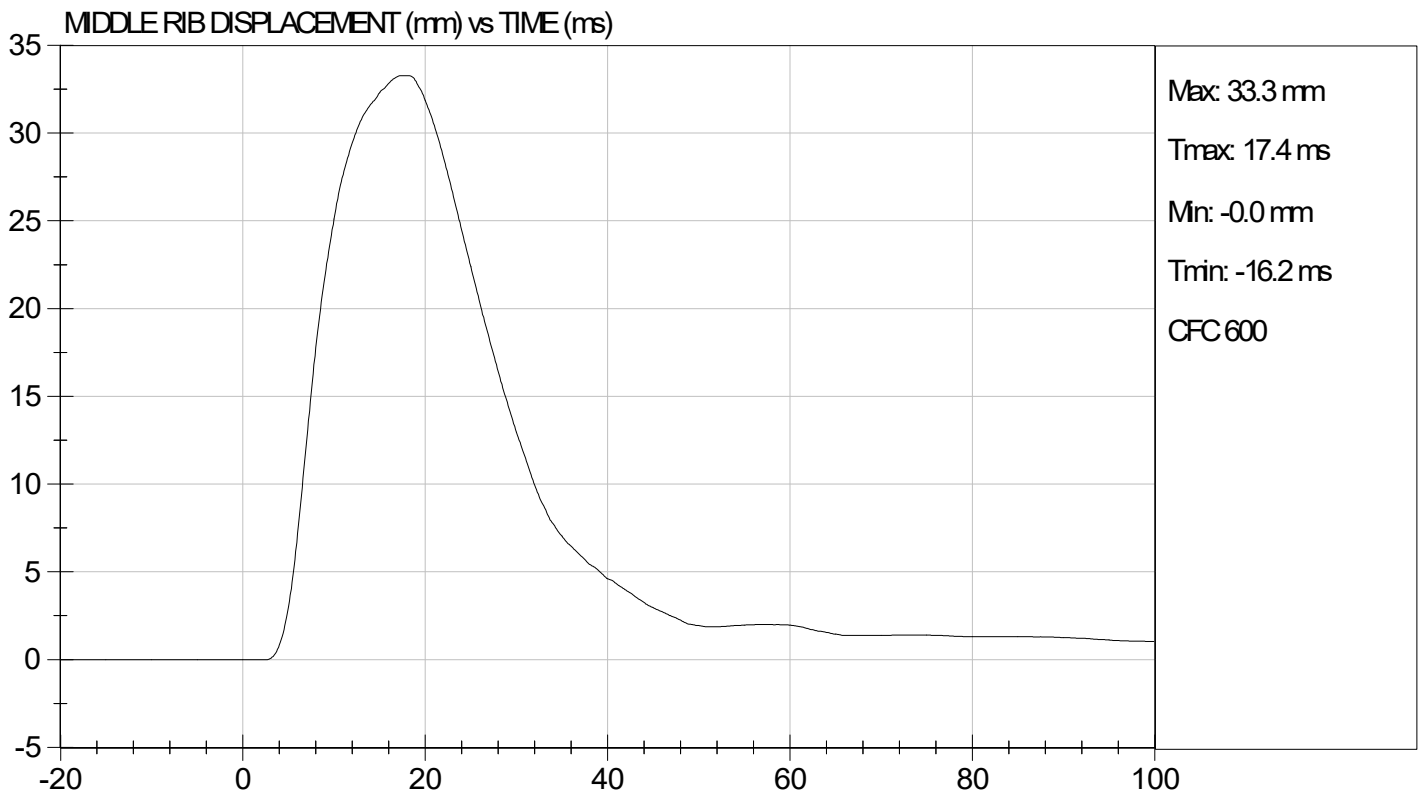
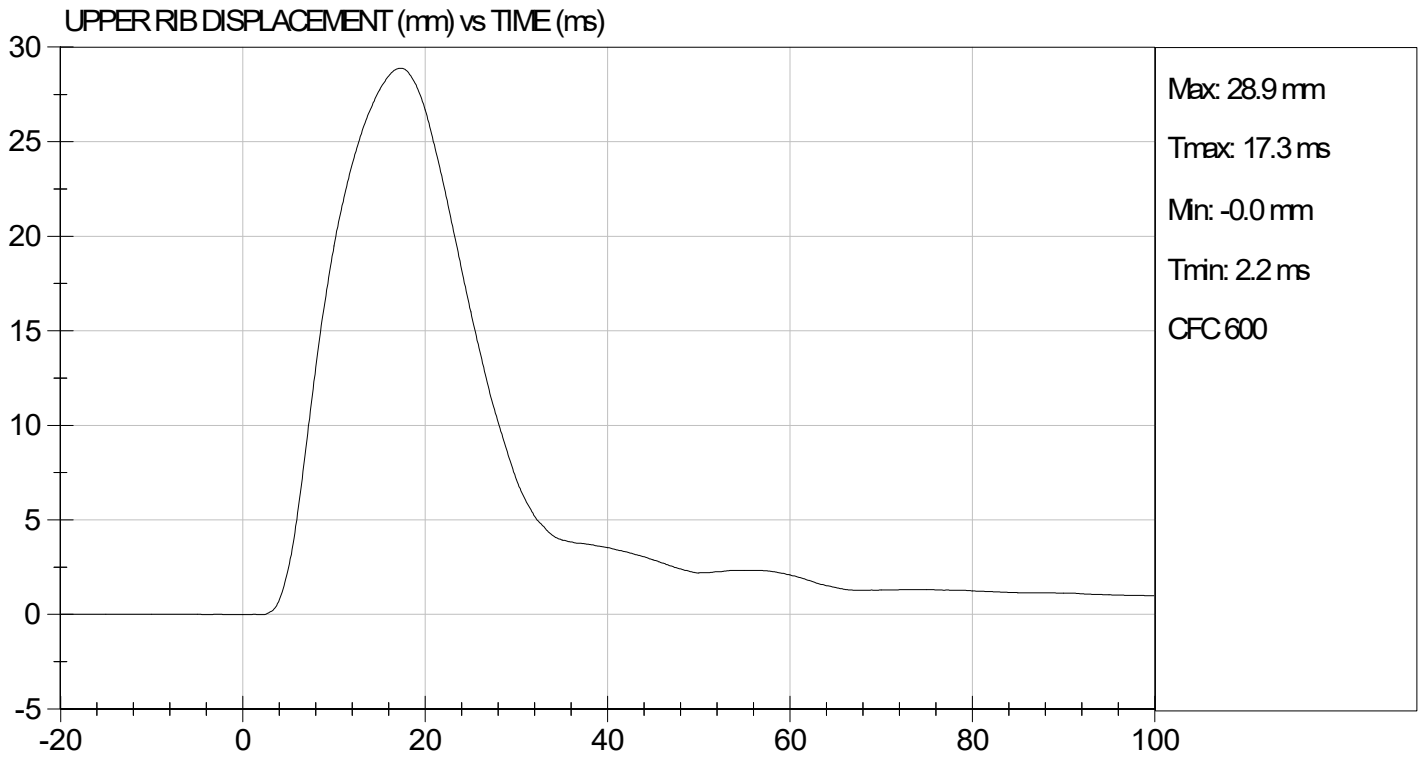
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	46	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	33	Pass
Shoulder Displacement	mm	31 to 40	34	Pass
Upper Rib Displacement	mm	25 to 32	29	Pass
Middle Rib Displacement	mm	30 to 36	33	Pass
Lower Rib Displacement	mm	32 to 38	35	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	38	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	32	Pass
Overall Test Results				Pass

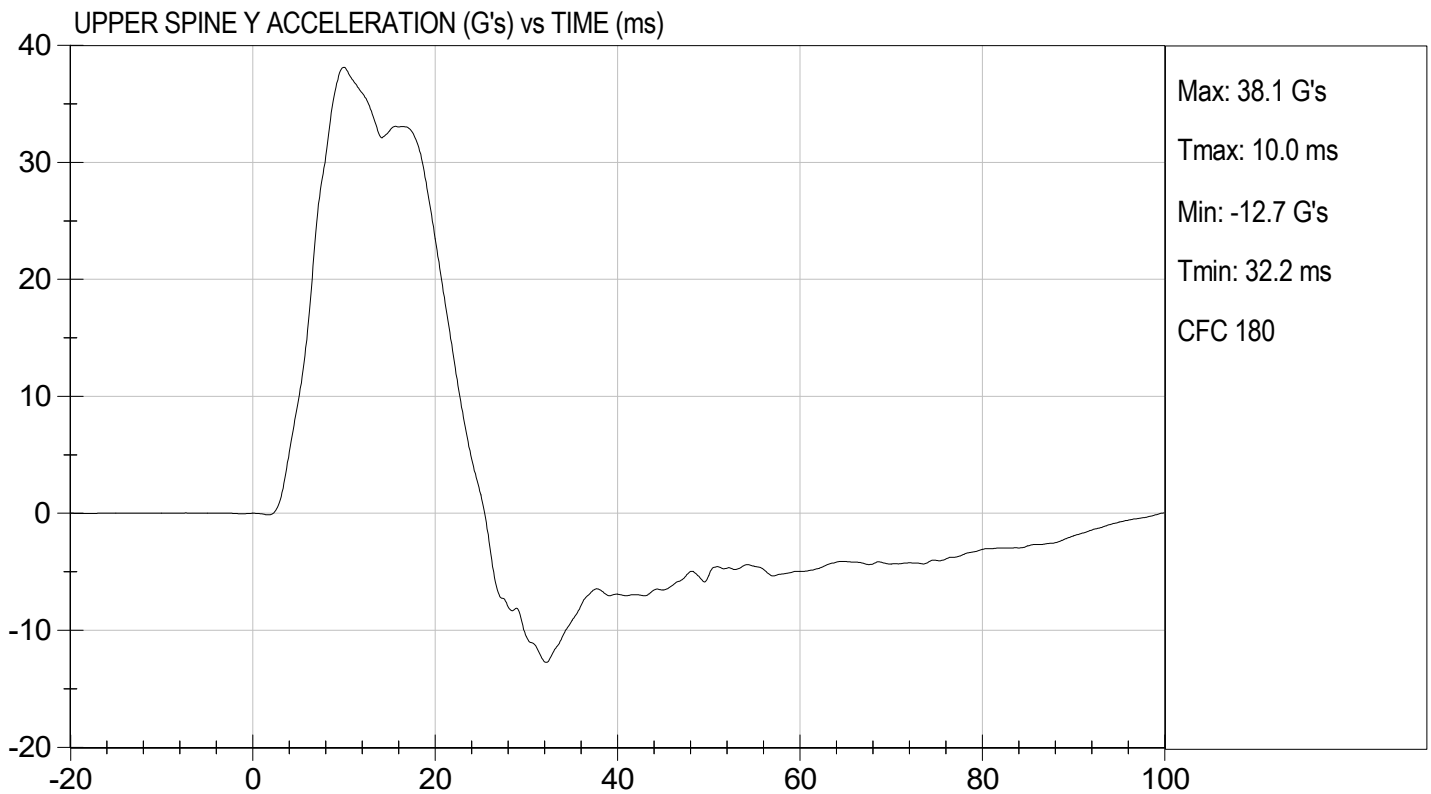
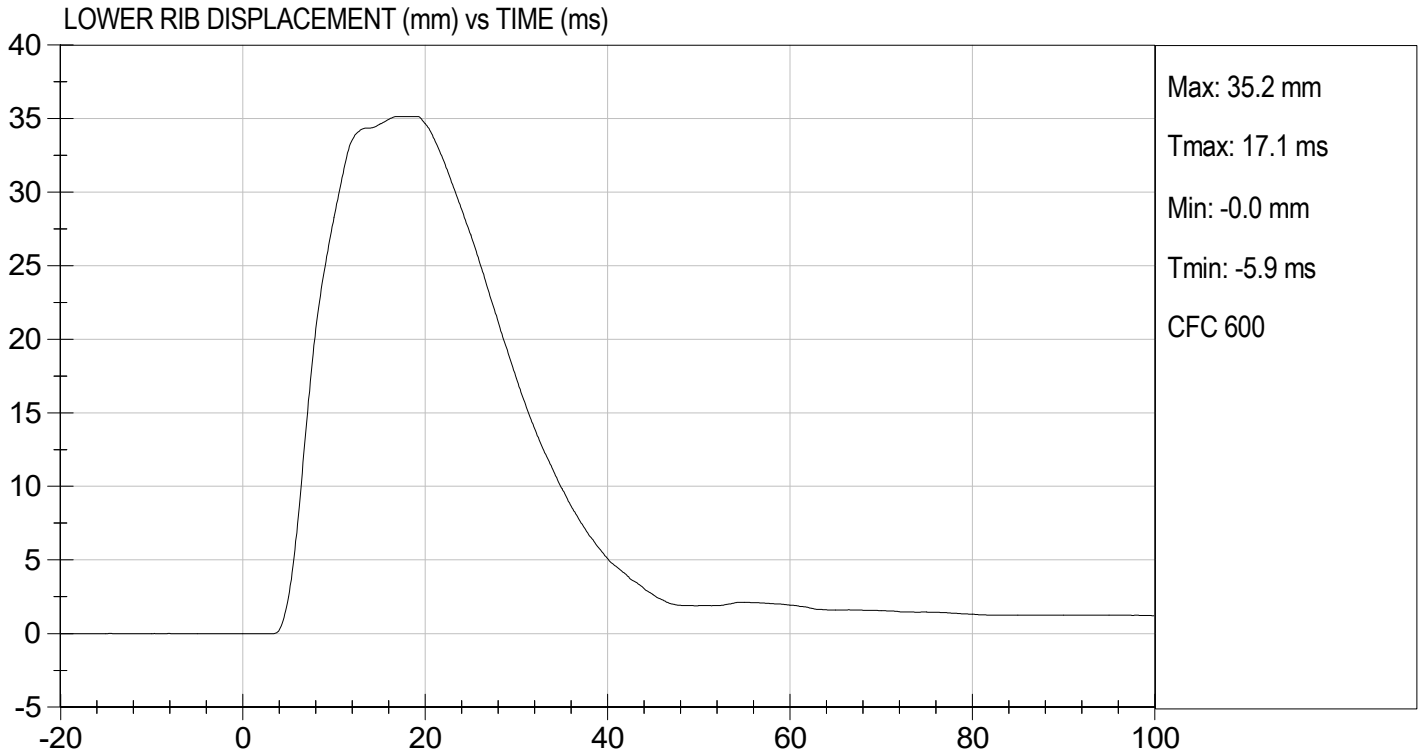
  
 Laboratory Technician

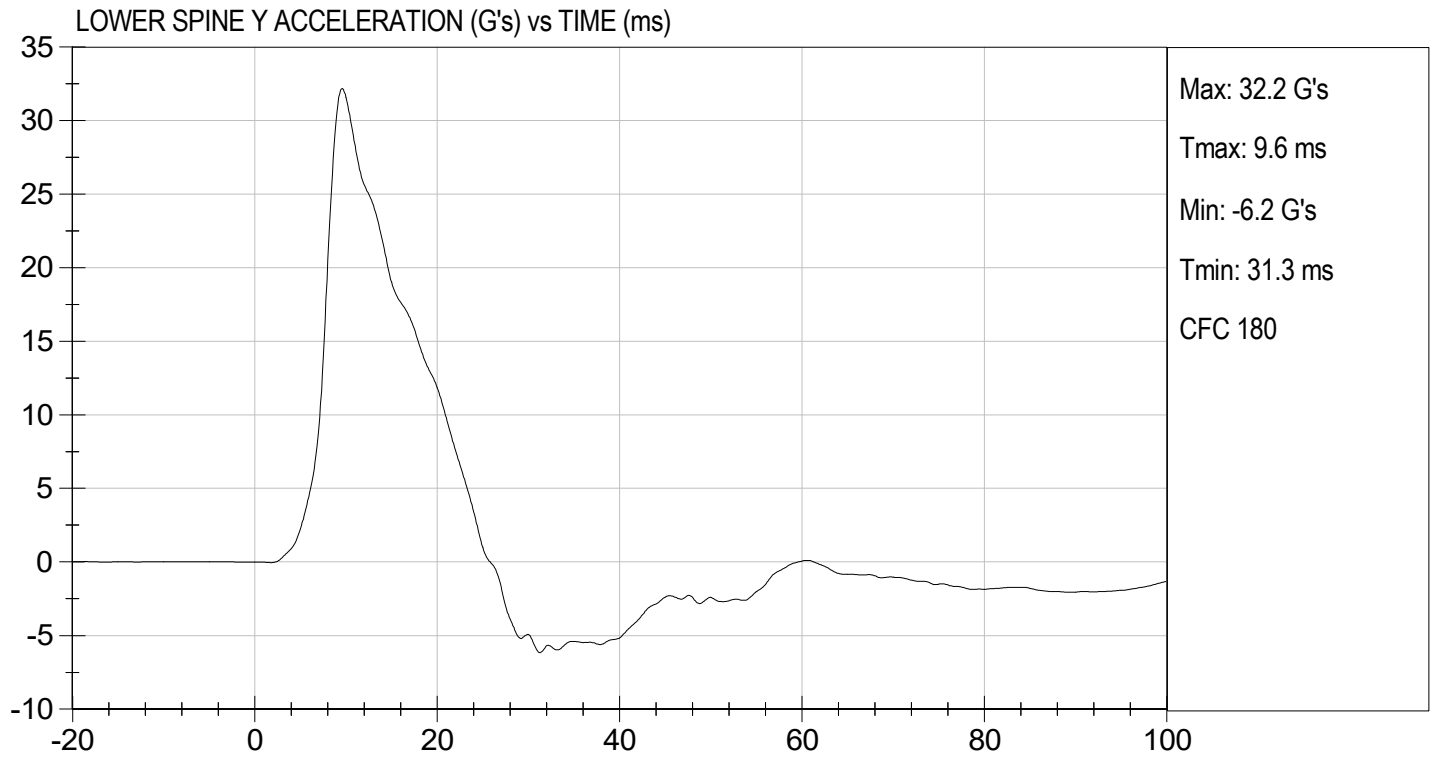
07/15/2023  
 Test Date

  
 Approved By









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

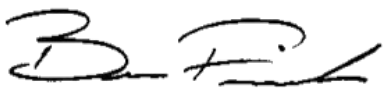
ATD Serial No: 296

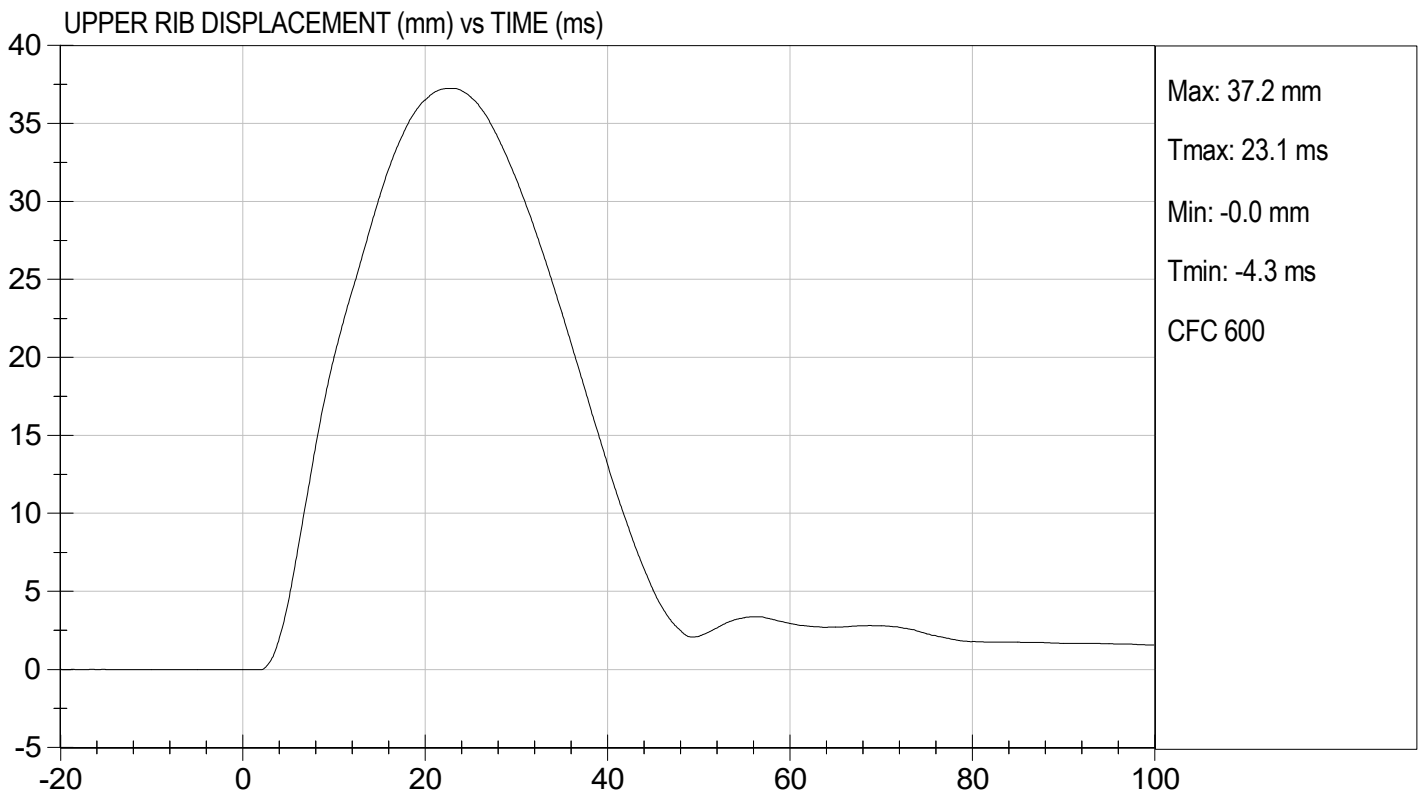
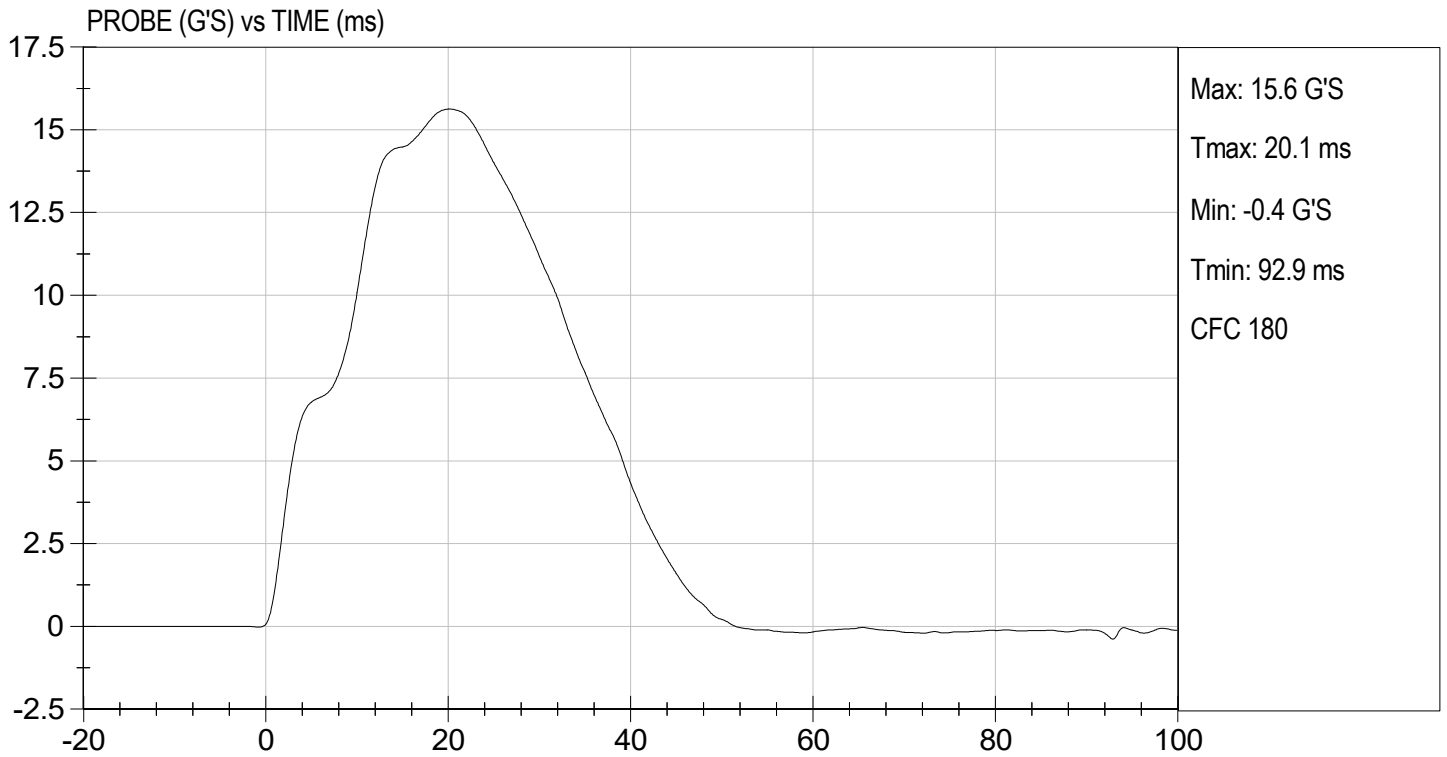
Test I.D: D231775

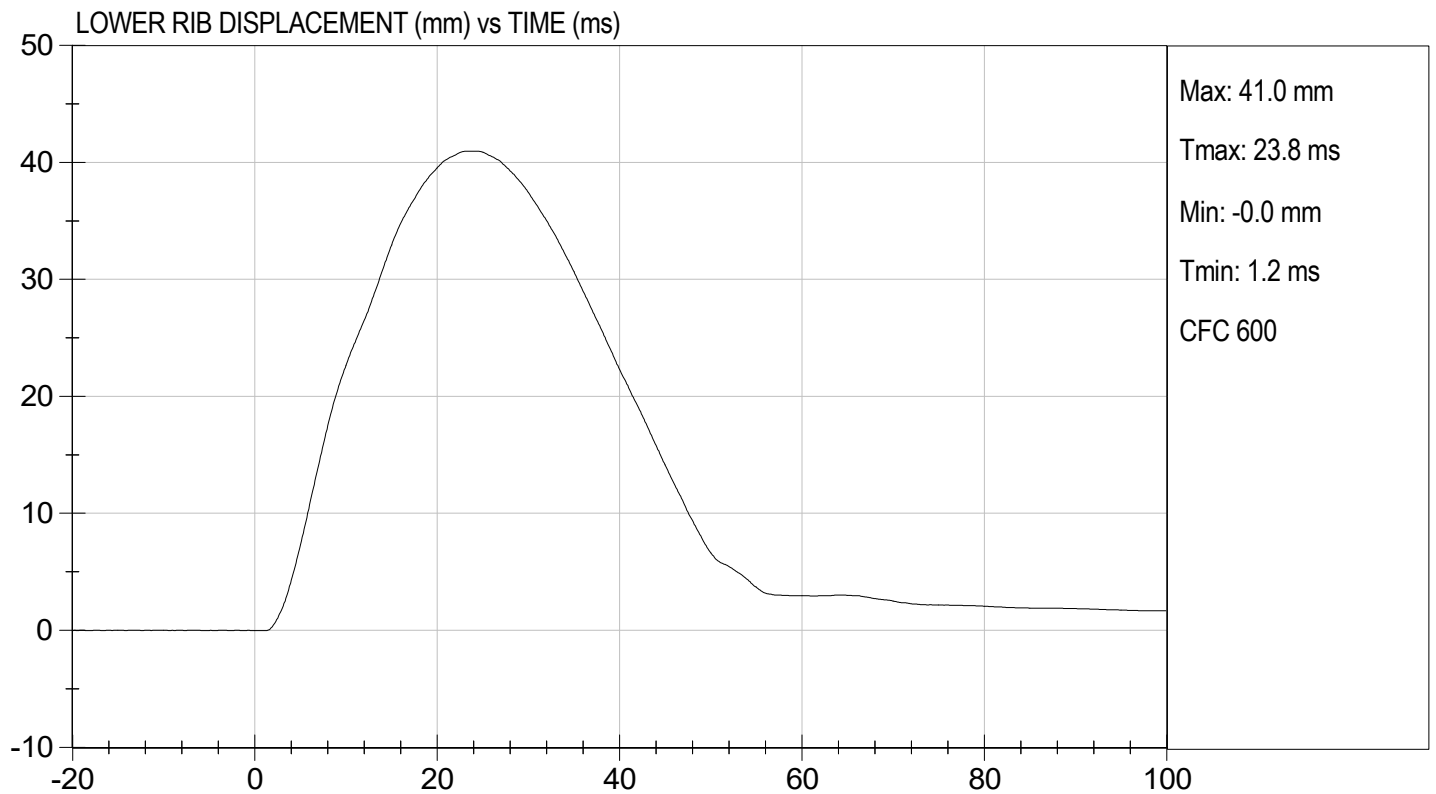
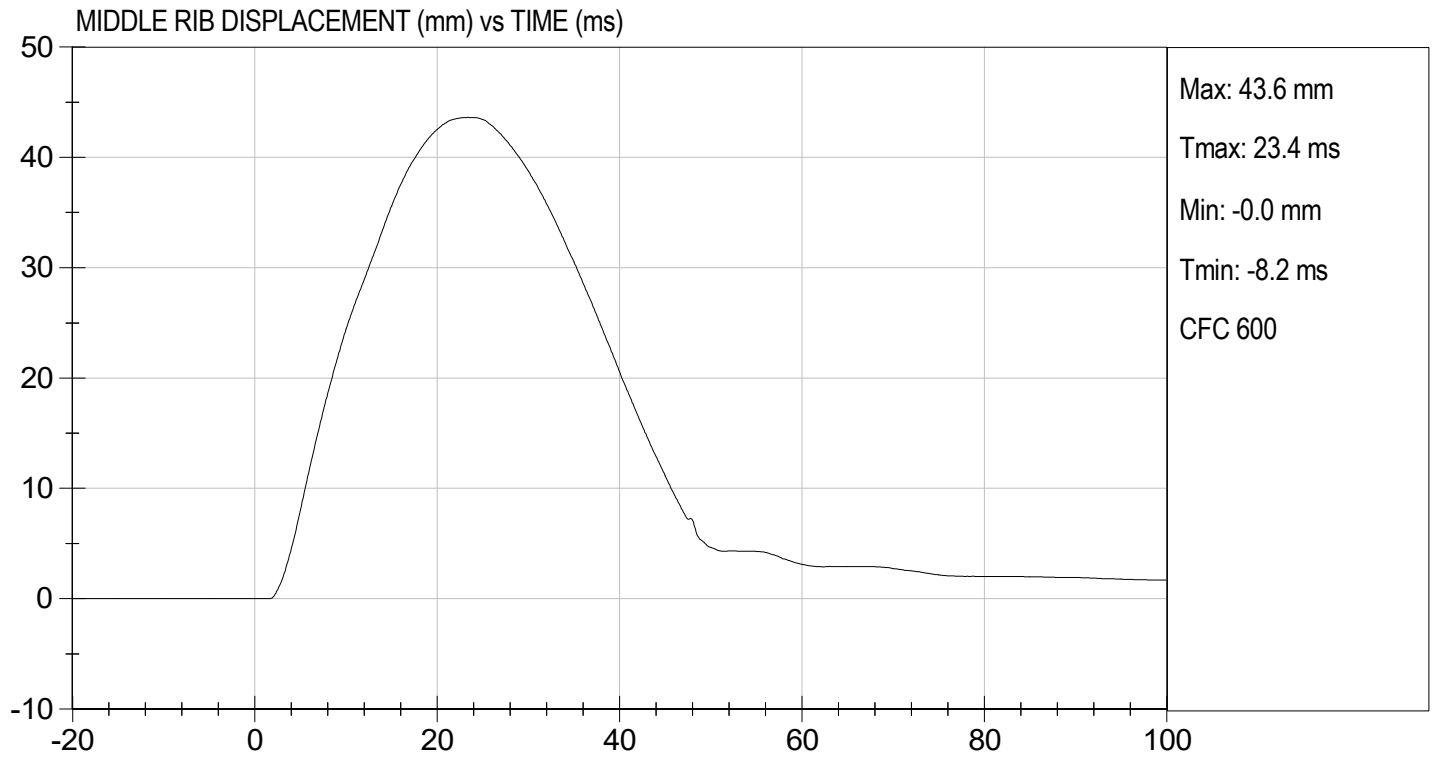
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	45	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	14 to 18	16	Pass
Upper Rib Displacement	mm	32 to 40	37	Pass
Middle Rib Displacement	mm	39 to 45	44	Pass
Lower Rib Displacement	mm	35 to 43	41	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	15	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	9	Pass
Overall Test Results				Pass

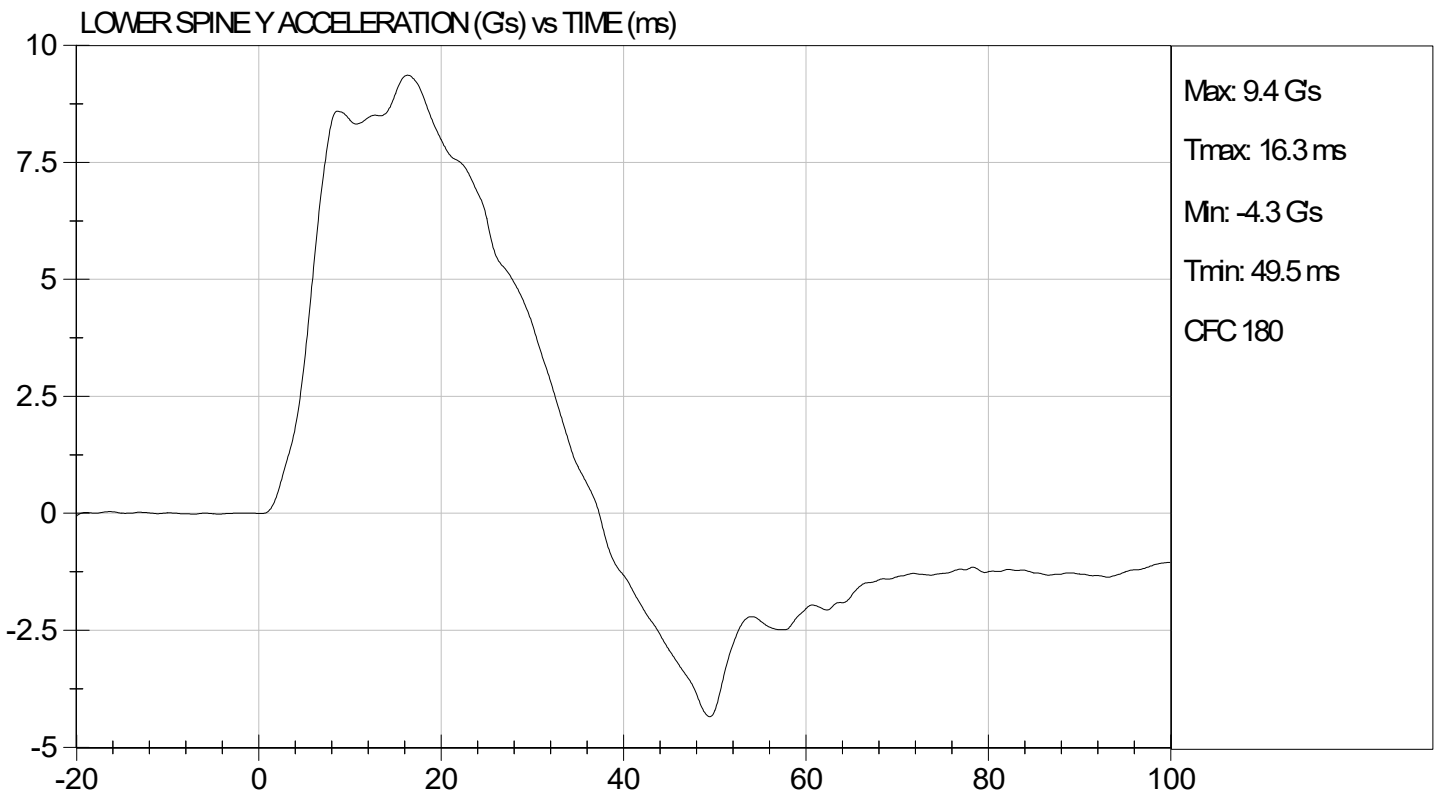
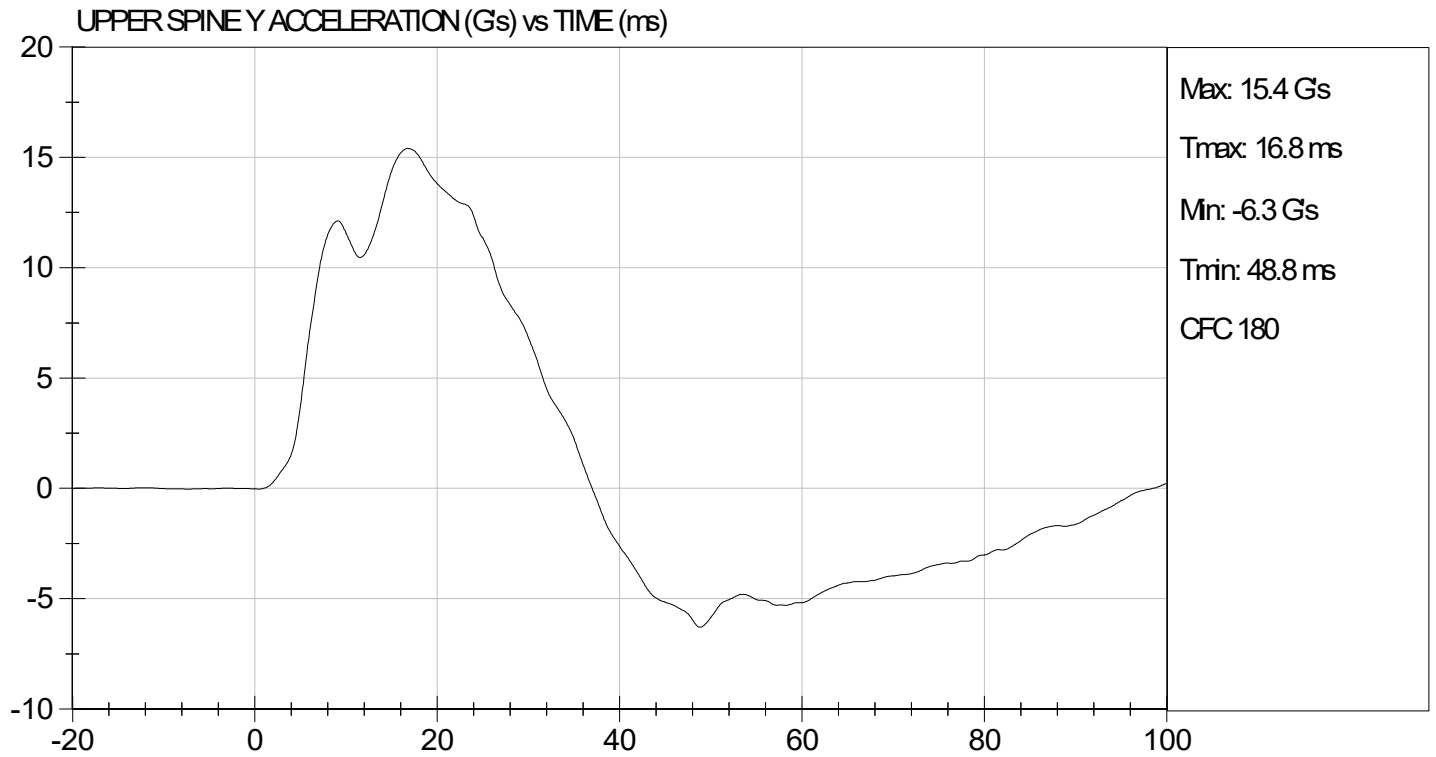
  
 Laboratory Technician

07/15/2023  
 Test Date

  
 Approved By







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

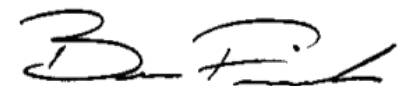
ATD Serial No: 296

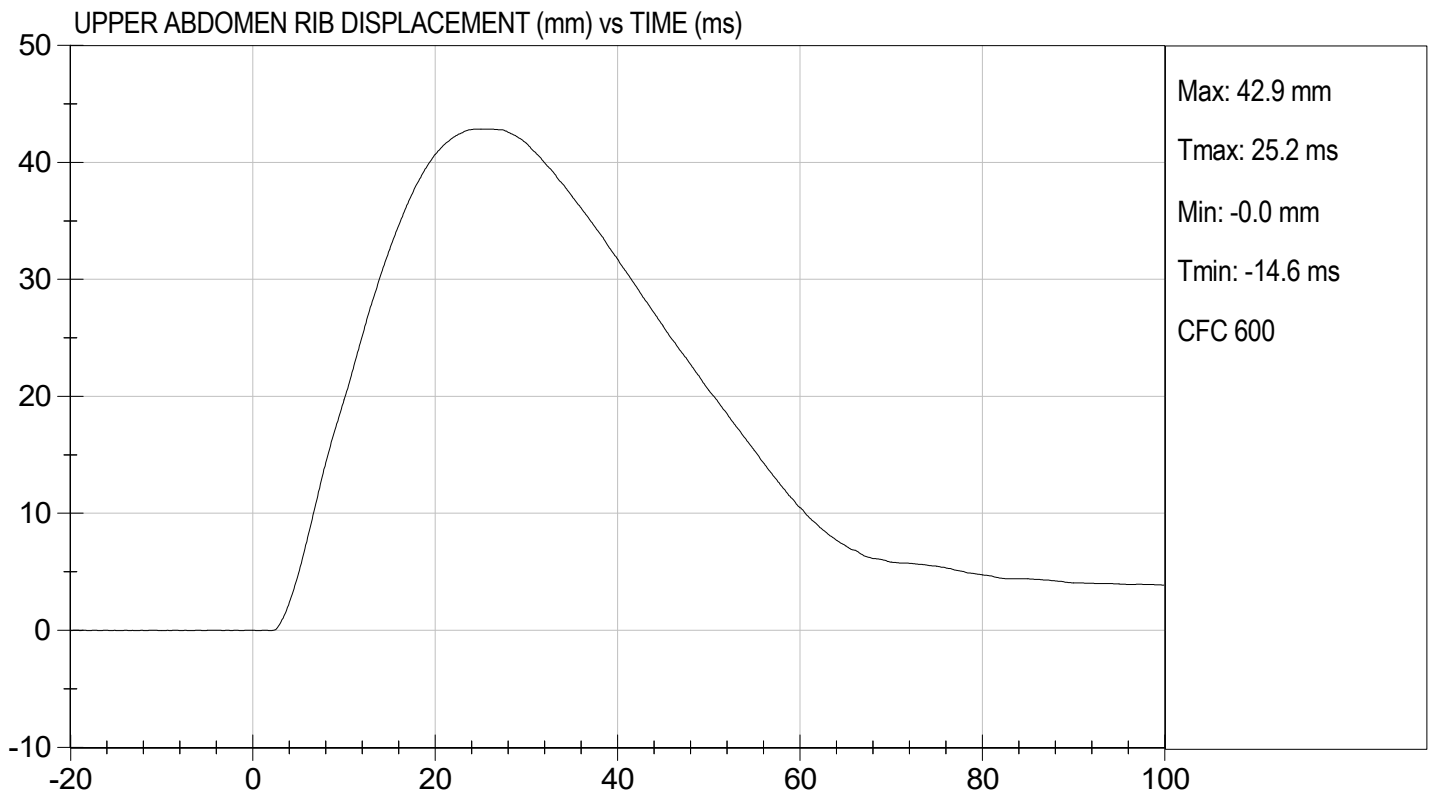
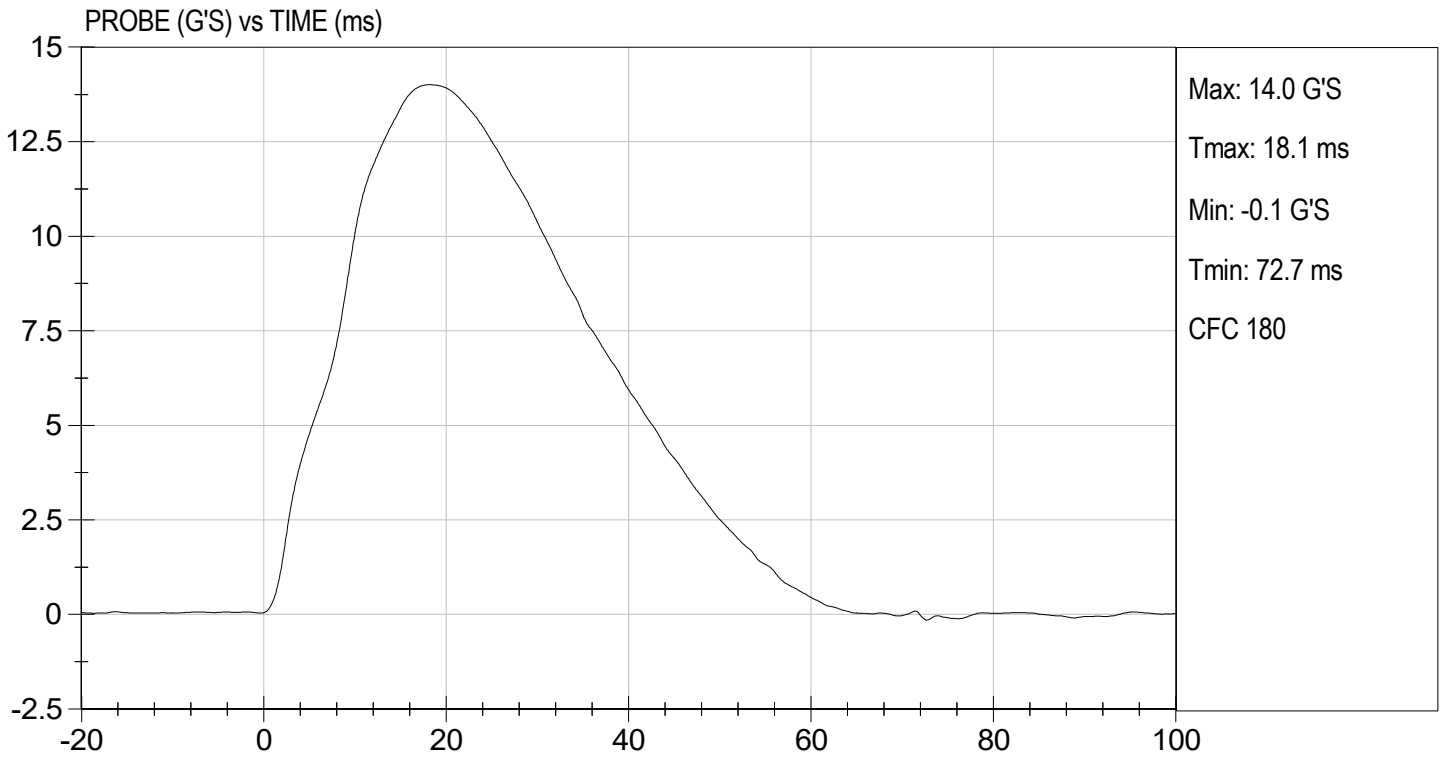
Test I.D: D231776

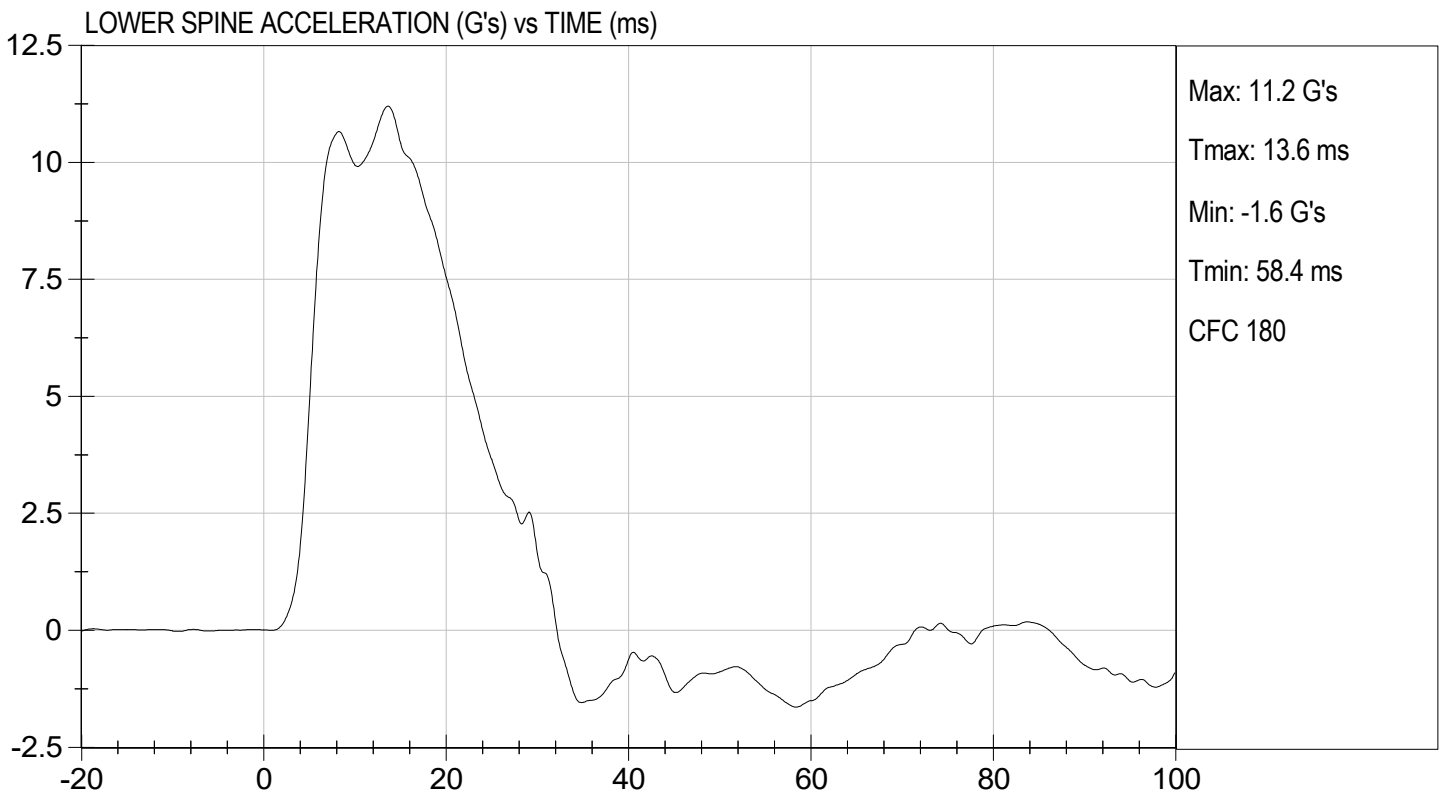
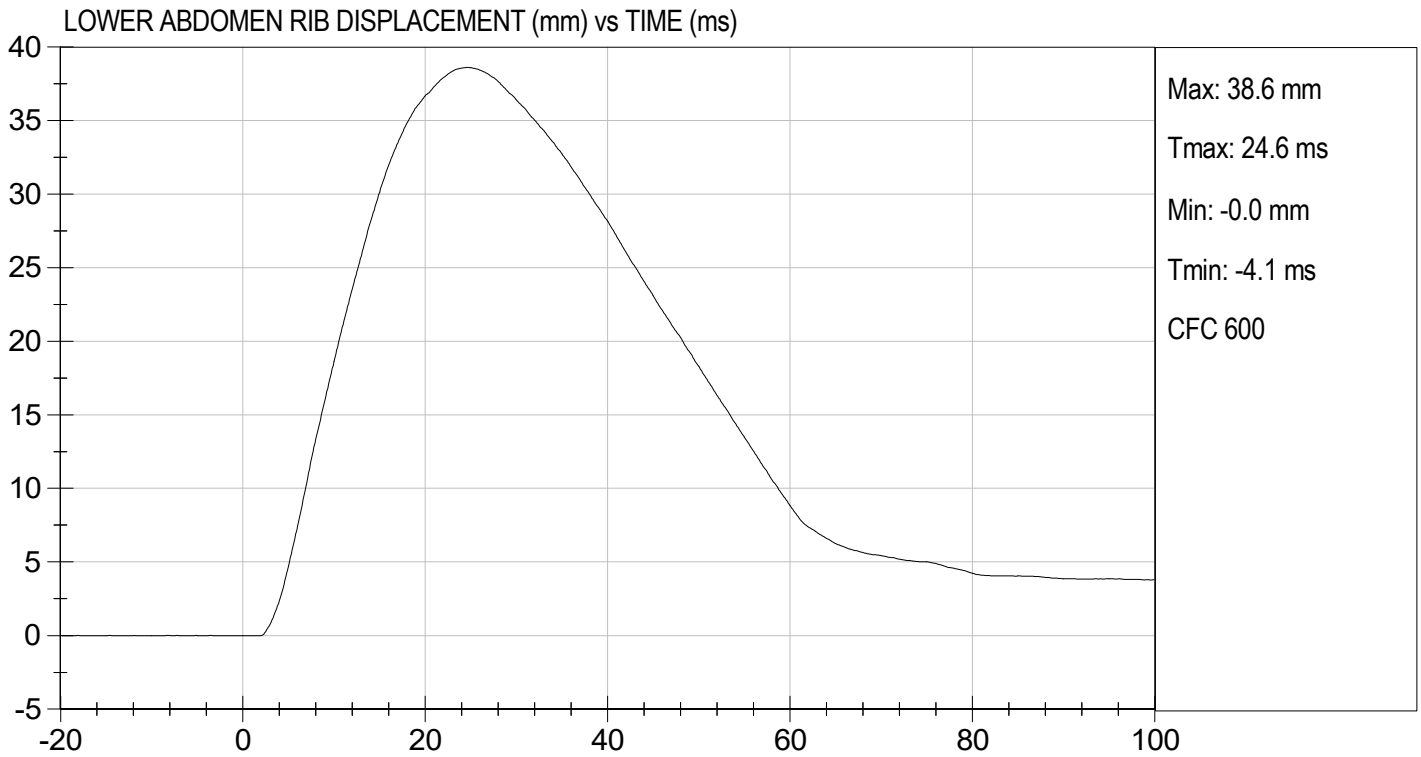
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	46	Pass
Impact Velocity	m/s	4.20 to 4.40	4.38	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	43	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	39	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass

  
 Laboratory Technician

07/15/2023  
 Test Date

  
 Approved By





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

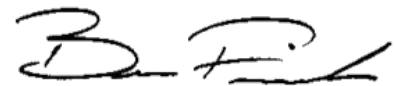
ATD Serial No: 296

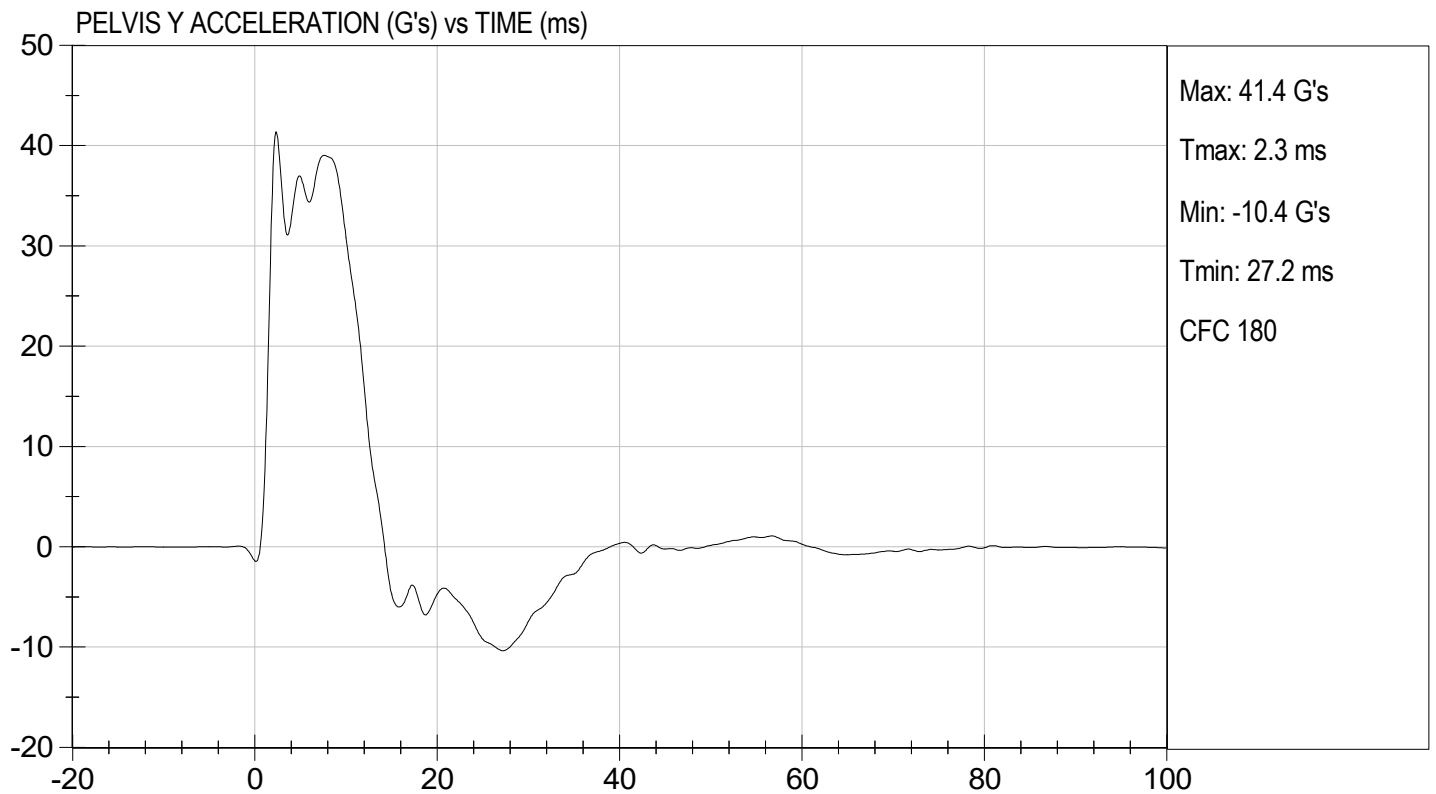
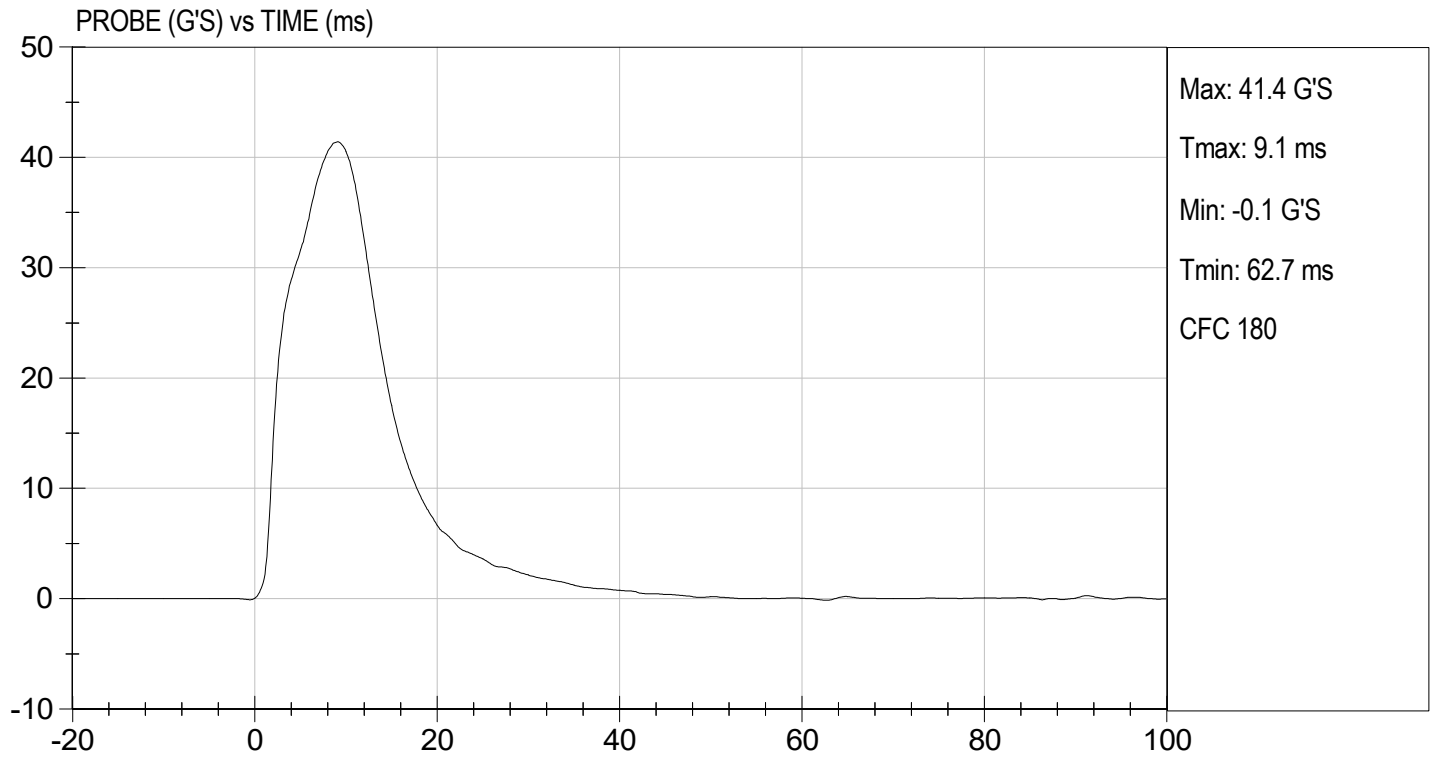
Test I.D: D231777

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Humidity	%	10 to 70	44	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	38 to 47	41	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	39.0	Pass
Peak Acetabulum Force	N	3600 to 4300	3,873	Pass
<b>Overall Test Results</b>				<b>Pass</b>

  
 Laboratory Technician

07/15/2023  
 Test Date

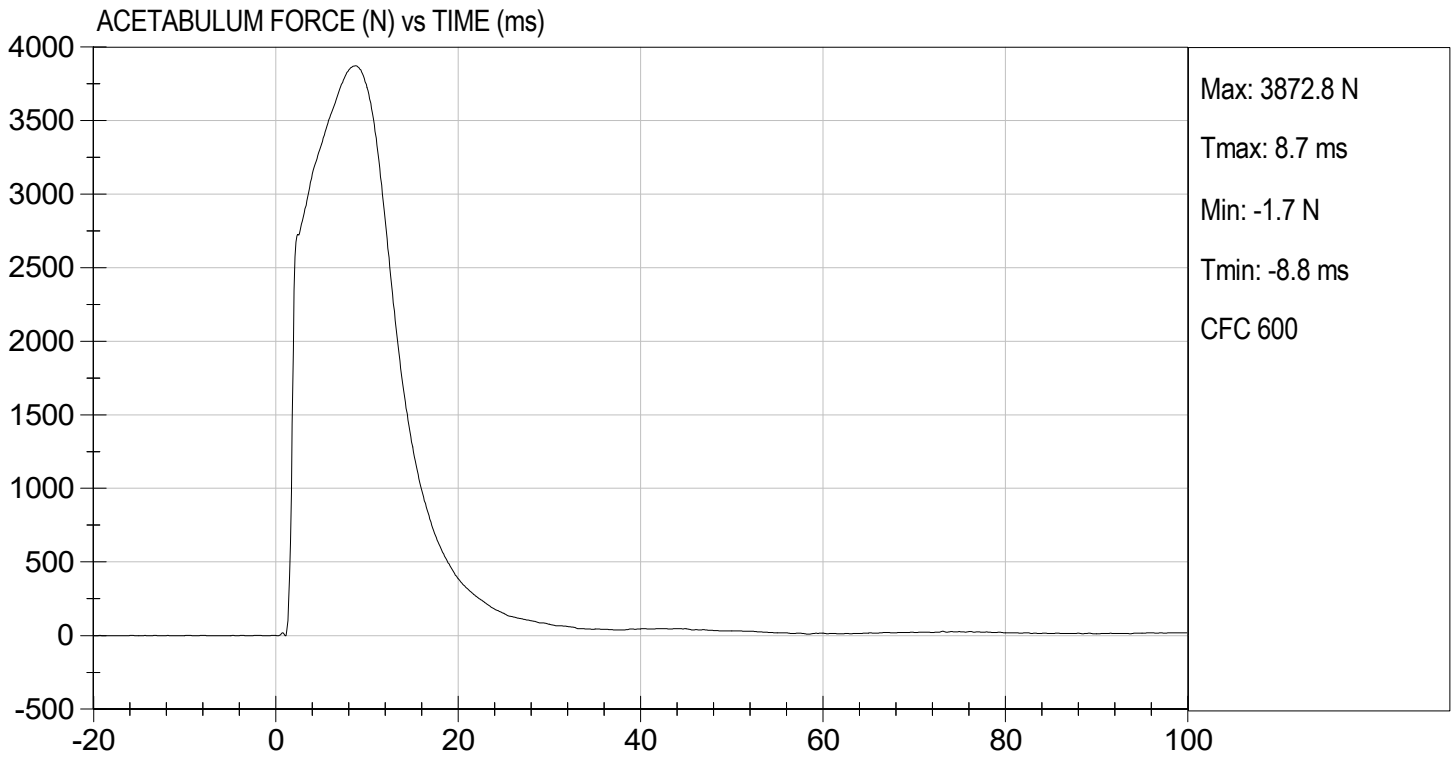
  
 Approved By





TEST DESC: PELVIS IMPACT  
VELOCITY: 22.22 ft/s, 6.77 m/s

TEST DATE: 07/15/2023  
TEST #: D231777



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

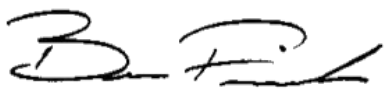
ATD Serial No: 296

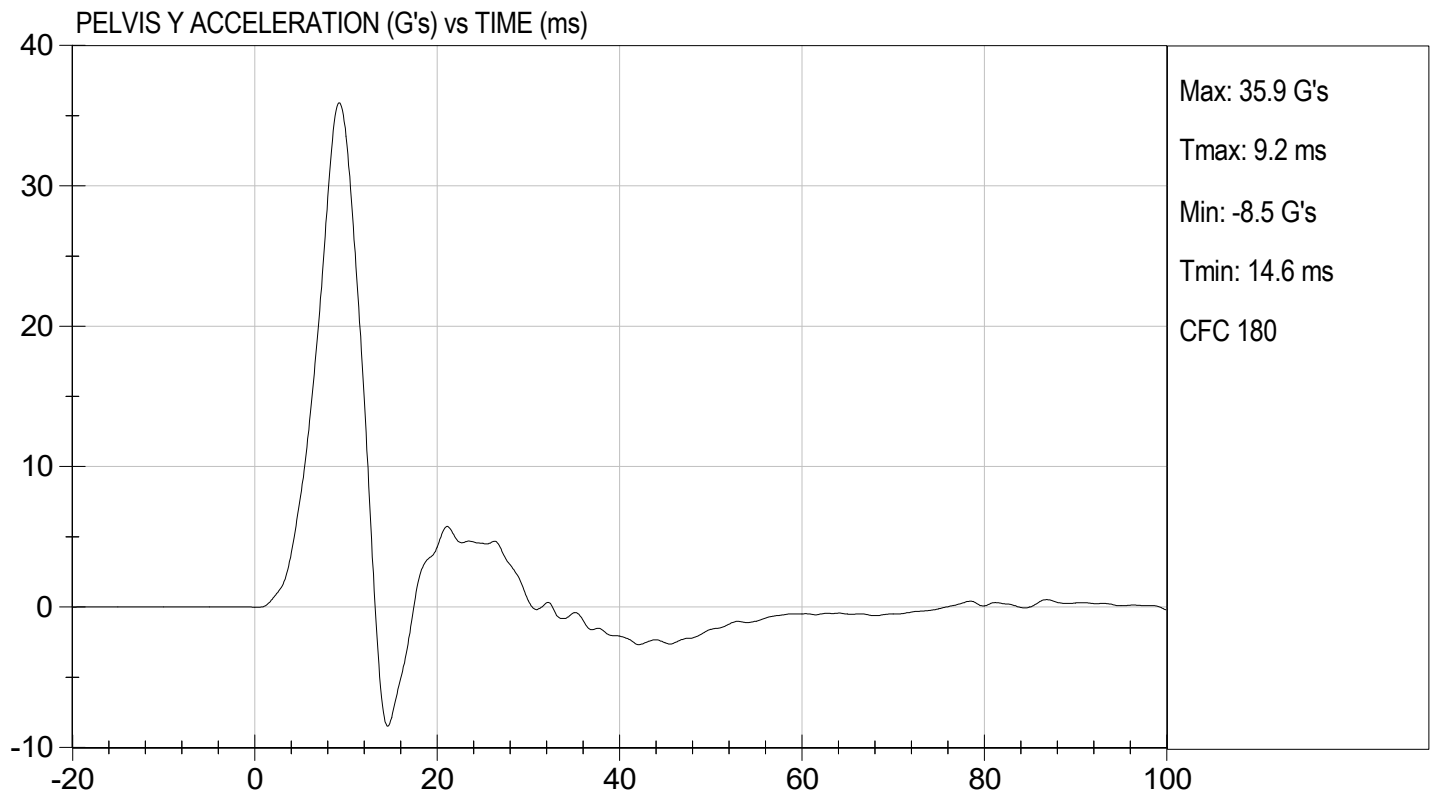
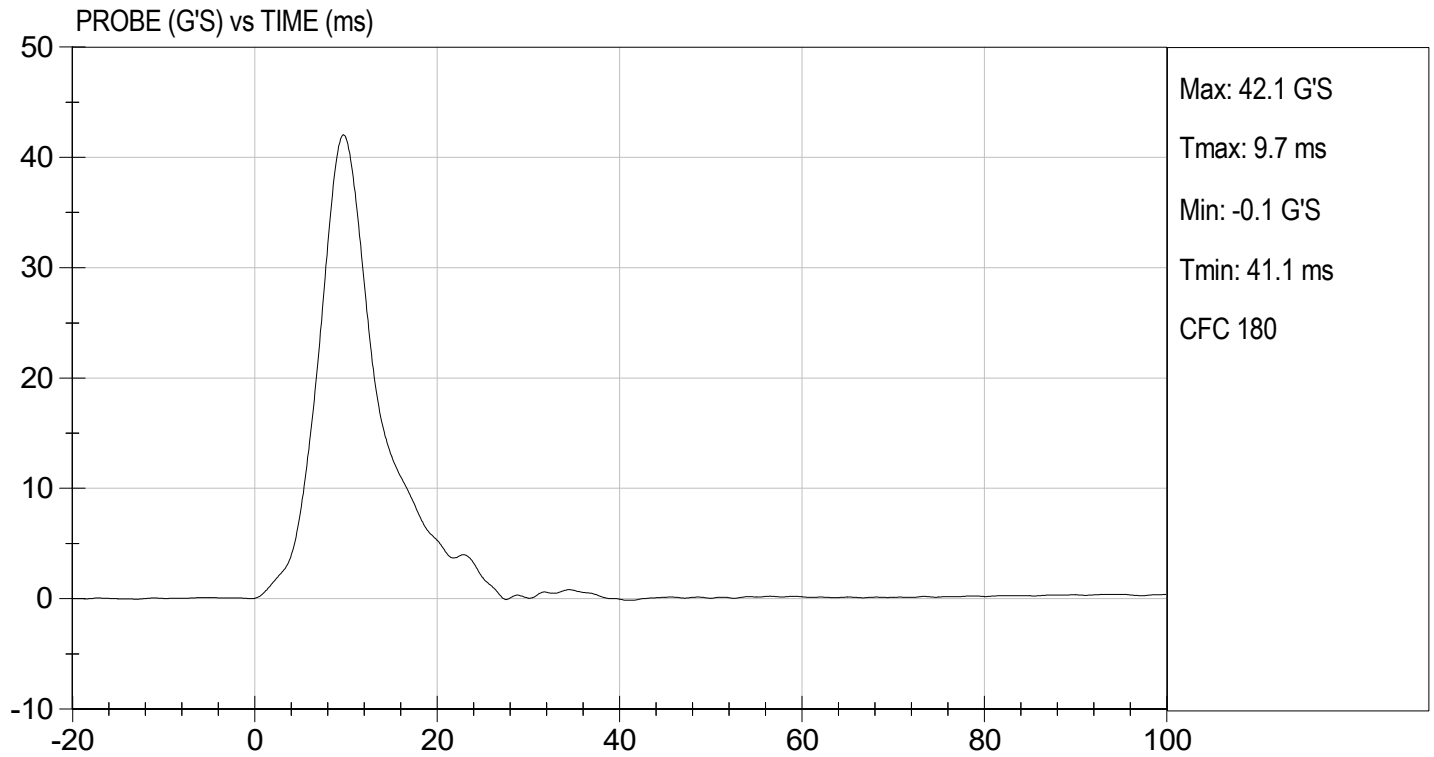
Test I.D: D231778

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.7	Pass
Humidity	%	10 to 70	46	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	36 to 45	42	Pass
Pelvis Y Acceleration	G's	28 to 39	36	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	5,056	Pass
Overall Test Results				Pass

  
 \_\_\_\_\_  
 Laboratory Technician

07/15/2023  
 \_\_\_\_\_  
 Test Date

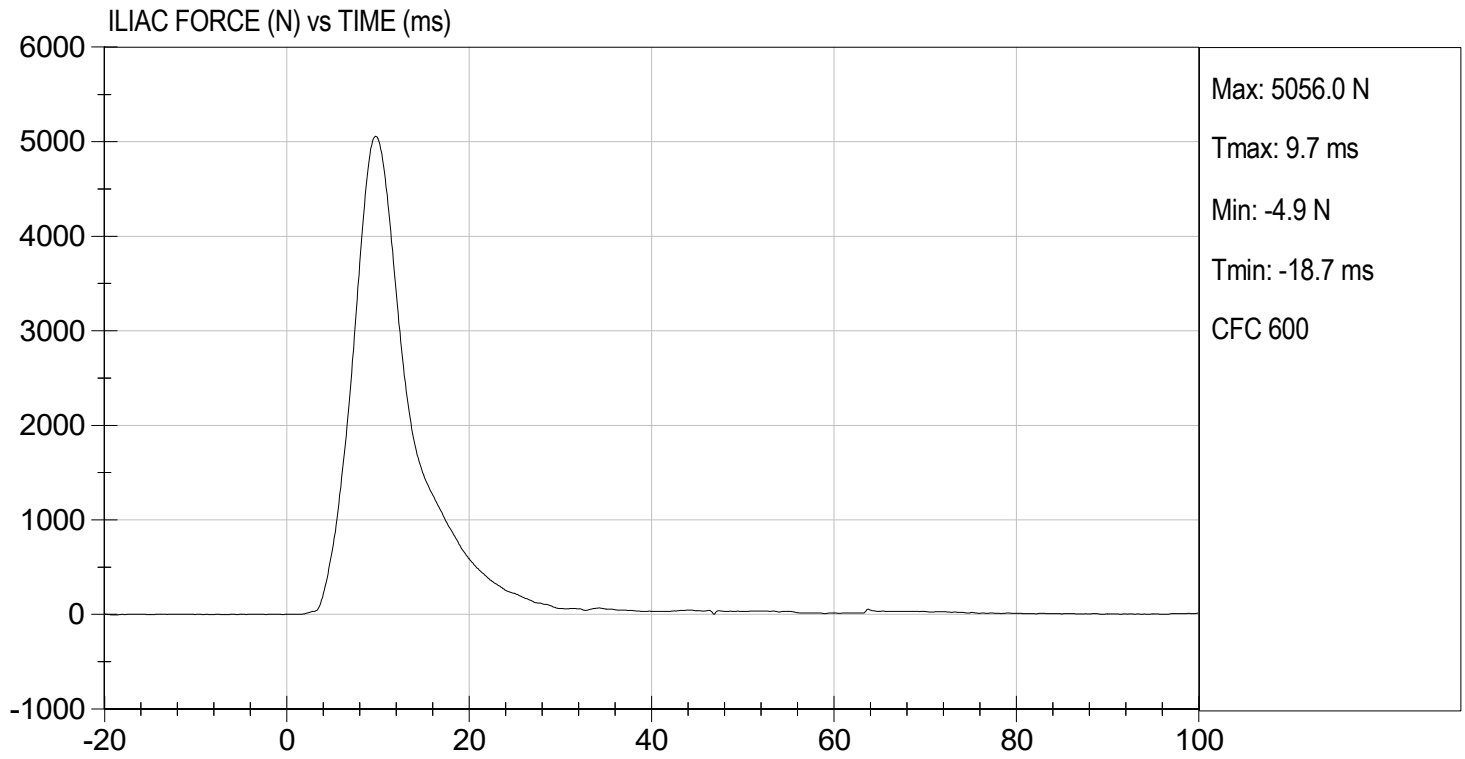
  
 \_\_\_\_\_  
 Approved By





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

TEST DATE: 07/15/2023  
TEST #: D231778





**SID-IIs Pelvis Plug Certification Test**

Plug S/N 15047

Test Number 17628

Report Number 17675

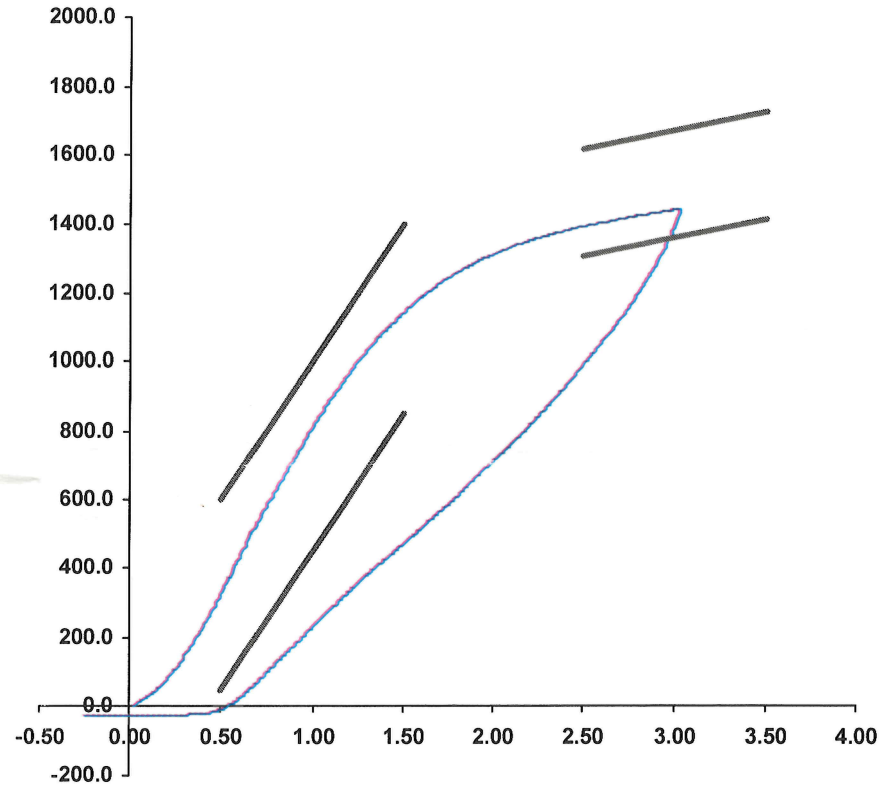
Test Date 2/5/2021 11:07:19 AM

	<u>Test Results</u>	<u>Spec Min</u>	<u>Spec Max</u>
Force @ 0.5 mm (N)	333	50	600
Force @ 1.5 mm (N)	1,142	850	1,400
Force @ 2.5 mm (N)	1,395	1,306	1,618
Force @ 3.0 mm (N)	1,444	1,361	1,673

Testing Machine STM-20 5965542  
 Load Cell S/N (F1360947), Units (LBS ) 1000  
 Crosshead Speed ( mm / min ) or Rate 12.7  
 Extension or Position Measured by XHD\_100 ( XHD100 )

Notes:

Force (-N) vs Extension (-mm)



Operator \_\_\_\_\_  
 Part Number 180-4450

Template No 107 05-Feb-21  
 SACO Research

By : DC Date : 2/5/2021



**SID-IIs Pelvis Plug Certification Test**

Plug S/N 14824

Test Number 17256

Report Number 17302

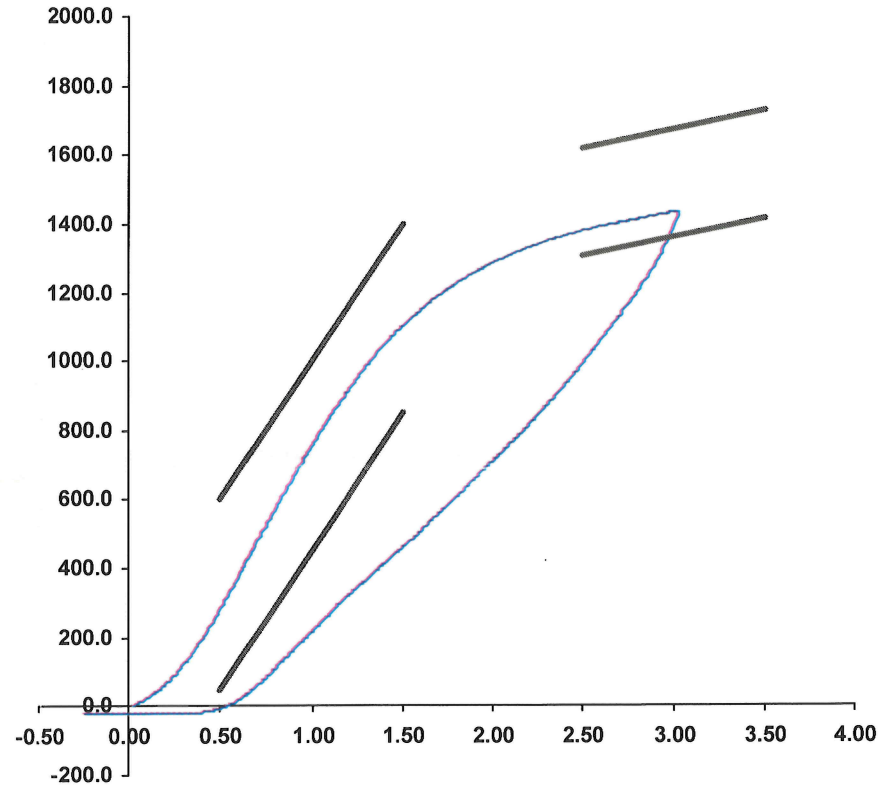
Test Date 1/28/2021 10:52:24 AM

	<u>Test Results</u>	<u>Spec Min</u>	<u>Spec Max</u>
Force @ 0.5 mm (N)	291	50	600
Force @ 1.5 mm (N)	1,100	850	1,400
Force @ 2.5 mm (N)	1,381	1,306	1,618
Force @ 3.0 mm (N)	1,433	1,361	1,673

Testing Machine STM-20 5965542  
 Load Cell S/N (FI360947), Units (LBS ) 1000  
 Crosshead Speed ( mm / min ) or Rate 12.7  
 Extension or Position Measured by XHD\_100 ( XHD100 )

Notes:

Force (-N) vs Extension (-mm)



Operator \_\_\_\_\_  
 Part Number 180-4450

Template No 107 28-Jan-21  
 SACO Research

By : DC Date : 1/28/2021

**APPENDIX D**  
**TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION**

**Table 1 – Dummy Instrumentation**

			SID-IIs S/N 296			
			Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers			X	P82109	Endevco	07/06/2023
			Y	P94783	Endevco	07/06/2023
			Z	P94786	Endevco	07/06/2023
			Xr	P94938	Endevco	07/06/2023
			Yr	P96854	Endevco	07/06/2023
			Zr	P97386	Endevco	07/06/2023
Head Angular Rate Sensors			X	ARS15213	DTS	04/07/2023
			Y	ARS15229	DTS	04/07/2023
			Z	ARS15231	DTS	04/07/2023
Displacement Potentiometers	Thoracic Rib	Upper	Y	G012	Servo	07/06/2023
		Middle	Y	G1163	FTSS	07/06/2023
		Lower	Y	G1158	FTSS	07/06/2023
	Abdominal Rib	Upper	Y	G1146	FTSS	07/06/2023
		Lower	Y	G1126	FTSS	07/06/2023
Lower Spine Accelerometers (T12)			X	P79614	Endevco	07/06/2023
			Y	P79439	Endevco	07/06/2023
			Z	P79418	Endevco	07/06/2023
Acetabulum Load Cell			Y	ACG269	Denton	04/20/2023
Iliac Wing Load Cell			Y	IWG282	Denton	04/20/2023
Pelvis Plug (struck side)				15047	SACO	02/05/2021
Pelvis Plug (non-struck side)				14824	SACO	01/22/2021

**Table 2 – Vehicle Instrumentation**

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	T35286	Endevco	04/12/2023
Vehicle Center of Gravity	Y	T35339	Endevco	04/12/2023
Vehicle Center of Gravity	Z	T35307	Endevco	04/06/2023
Left Floor Sill	Y	A421066	MSI	03/08/2023
A-Pillar Sill	Y	T32348	Endevco	05/02/2023
A-Pillar Low	Y	T25654	Endevco	06/08/2023
A-Pillar Mid	Y	T29884	Endevco	06/08/2023
B-Pillar Sill	Y	T32717	Endevco	02/10/2023
B-Pillar Low	Y	T34153	Endevco	04/13/2023
B-Pillar Mid	Y	T35250	Endevco	04/13/2023
Driver Seat	Y	A393848	MSI	02/08/2023
Engine Top	X	A340624	MSI	04/27/2023
Engine Top	Y	T22760	Endevco	04/27/2023
Firewall	Y	P68289	Endevco	02/24/2023
Right Roof	Y	T18387	Endevco	03/21/2023
Right Floor Sill	Y	A340714	MSI	03/21/2023
Rear Floorpan	X	T30584	Endevco	01/17/2023
Rear Floorpan	Y	T30605	Endevco	01/17/2023

**Table 3 – Pole Instrumentation**

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	07/30/2018
Load Cell 2	DG6278	FTSS	07/30/2018
Load Cell 3	DG6279	FTSS	07/30/2018
Load Cell 4	DG6280	FTSS	07/30/2018
Load Cell 5	DG6281	FTSS	07/30/2018
Load Cell 6	DG6283	FTSS	07/30/2018
Load Cell 7	DG6284	FTSS	07/30/2018
Load Cell 8	DG6582	FTSS	07/30/2018