

REPORT NUMBER: SideNCAPPole-KAR-24-006
NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST

HYUNDAI MOTOR CORPORATION
2024 GENESIS G80 AWD 3.5T 4-DOOR SEDAN

NHTSA No: O20244200

PREPARED BY:
APPLUS IDIADA KARCO ENGINEERING, LLC.
9270 HOLLY ROAD
ADELANTO, CA 92301



NOVEMBER 08, 2023

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NRM-110
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15. Supplementary Notes																																
16. Abstract A 32.20 km/h 75° rigid pole side NCAP impact test was conducted on the subject 2024 Genesis G80 AWD 3.5T 4-Door Sedan 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 Applus IDIADA KARCO Engineering, LLC. facility in Adelanto, California on October 25, 2023. The impact velocity was 32.43 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 22.2°C. The target vehicle's maximum post-test static crush was 322 mm located at level 3. The test vehicle's occupant performance data is as follows: <table border="1"> <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></td> <td>1000</td> <td>194.672</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>g</td> <td>82</td> <td>31.194</td> </tr> <tr> <td>Total Pelvic Force (Sum of Acetabular and Iliac Forces)</td> <td>N</td> <td>5525</td> <td>2534.672</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38</td> <td>28.275</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td>mm</td> <td>45</td> <td>14.722</td> </tr> </tbody> </table>						Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)		1000	194.672	Resultant Lower Spine Acceleration	g	82	31.194	Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	2534.672	Maximum Thoracic Rib Deflection	mm	38	28.275	Maximum Abdominal Rib Deflection	mm	45	14.722
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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 Admin. Office of Crashworthiness Standards (NRM-100) 1200 New Jersey Ave., SE Washington, DC 20590																												
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SECTION 1

TEST PURPOSE AND SUMMARY OF TEST

PURPOSE

This side pole impact test is part of the 2024 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number 693JJ920D000015. The purpose of this test is to generate comparative side impact performance in a 2024 Genesis G80 AWD 3.5T 4-Door Sedan. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure date March 2020.

SUMMARY

A rigid pole side impact test was conducted on a 2024 Genesis G80 AWD 3.5T 4-Door Sedan. The subject vehicle was towed into the rigid pole at an angle of 75.3° and a velocity of 32.43 km/h. The test was conducted by Applus IDIADA KARCO Engineering, LLC. in Adelanto, California on October 25, 2023. Pre- 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. The side impact event was documented by 12 cameras. Camera locations and other pertinent camera information are included in this report.

The Part 572V (SID-IIs) was instrumented accordingly:

- Primary and Redundant Head CG Tri-axial Accelerometers
- Head triaxial angular rate sensors
- Thorax Upper, Middle and Lower Rib Displacement Potentiometers
- Abdomen Upper and Lower Rib Displacement Potentiometers
- Lower Spine (T12) Tri-axial 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.

SECTION 1 ...(CONTINUED)
TEST PURPOSE AND SUMMARY OF TEST

Injury readings for the SID-IIs dummy were recorded as follows:

Measurement Description	Units	Driver ATD (SID-IIs)	
		IARV	Result
Head Injury Criteria (HIC ₃₆)		1000	194.672
Lower Spine (T12) Resultant Acceleration	g	82	31.194
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2534.672
Maximum Thoracic Rib Deflection	mm	38*	28.275
Maximum Abdominal Rib Deflection	mm	45*	14.722

**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 Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes

GENERAL COMMENTS: NONE

SECTION 2

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

CONVERSION FACTORS

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	miles/hr	km/hr	1.609344
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.574
Pressure	Tire Pressures	lbf/in ²	kPa	6.895
Temperature	General Use	°F	°C	$=(T_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf-ft	N•m	1.355

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	O20244200
Model Year	2024
Make	Genesis
Model	G80 AWD 3.5T
Body Style	4-Door Sedan
VIN	KMTGB4SD6RU200095
Body Color	Black
Odometer Reading (km / mi)	26 / 16
Engine Displacement (L)	3.5
Type / No. of Cylinders	6 Cylinder
Engine Placement	Longitudinal
Transmission Type	Automatic
Transmission Speeds	8
Overdrive	Yes
Final Drive	AWD
Roof Rack	Yes
Sunroof / T-Top	Yes
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks	Yes
Power Window Auto-Reverse	Yes
Other Optional Feature	Yes
Driver Front Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	Yes
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	Yes
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	Yes

Does Owner's Manual provide instructions to turn off automatic door locks?

No

DATA FROM CERTIFICATION LABEL

Manufactured By	Hyundai Motor Company
Date of Manufacture	May-23
Vehicle Type	Passenger Car

GVWR (kg)	2525
GAWR Front (kg)	1300
GAWR Rear (kg)	1405

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity	2	3		5	
Capacity Weight (VCW) (kg)				400.0	A
DSC x 68 (kg)				340.0	B
Cargo Weight (RCLW) (kg)				60.0	A-B*

*For trucks or MPVs, if A-B>136, RCLW=136 kg

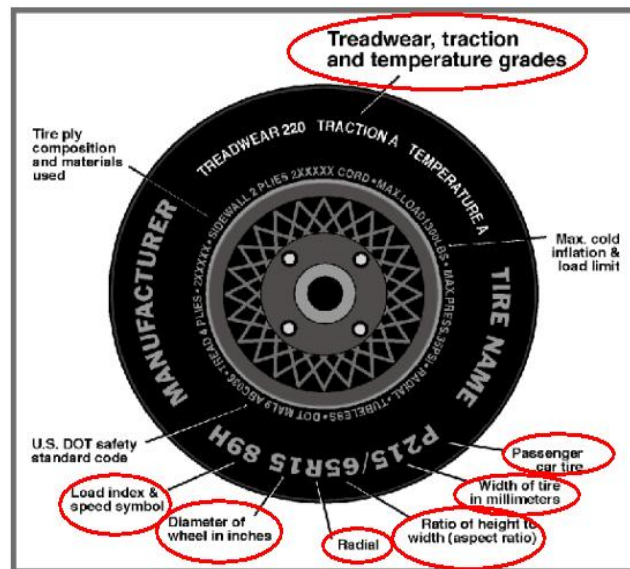
VEHICLE SEAT TYPE

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

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	345	345
Cold Pressure (kPa)	250	250
Recommended Tire Size	245/40 R20	275/35 R20
Tire Size on Vehicle	245/40 R20	275/35 R20
Tire Manufacturer	Pirelli	Pirelli
Tire Model	P-Zero	P-Zero
Treadware	500	500
Traction Grade	A	A
Temperature Grade	A	A
Tire Plies Sidewall	Polyester	Polyester
Tire Plies Body	2 Polyester, 2 Steel, 2 Polyamide	2 Polyester, 2 Steel, 2 Polyamide
Load Index/Speed Symbol	99W	102
Tire Material	Polyester, Steel, Polyamide	Polyester, Steel, Polyamide
DOT Safety Code Left	T0169K	V0738D
DOT Safety Code Right	T0169K	V0738D

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	250	250	250	250
Tire Placard	kPa	250	250	250	250
Owner's Manual	kPa	250	250	250	250
As Tested	kPa	250	250	250	250

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	543.5	480.0		569.0	519.0		556.5	542.0	
Right	kg	528.0	476.0		523.0	520.0		525.5	512.5	
Ratio	%	52.8%	47.2%	100.0%	51.2%	48.8%	100.0%	50.6%	49.4%	100.0%
Total	kg	1071.5	956.0	2027.5	1092.0	1039.0	2131.0	1082.0	1054.5	2136.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	2027.5	A
Actual Weight of 1 SID II-s ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	60.0	C
Calculated Vehicle Target Wt (TVTW)	kg	2136.5	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 -9.0 kg)? ☒ Yes ☐ No

TEST VEHICLE ATTITUDE AND CG

Measurement Description	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	°	0.4	0.3	0.3	Yes
Front Passenger Sill Angle (front-to-rear)*	°	0.6	0.6	0.6	Yes
Front Bumper-Line Angle (left-to-right)**	°	0.4	0.4	0.4	Yes
Rear Bumper-Line Angle (left-to-right)**	°	0.1	0.1	0.1	Yes
Vehicle CG (Aft of Front Axle)	mm	1416	1464	1482	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	8	17	23	

*ND=Nose Down (-), NU=Nose Up (+) **LD=Left Down (-), LU=Left Up (+)

***The "As Tested" vehicle attitude angle measurements must be within "As Delivered" and the "Fully Loaded" vehicle attitude measurements at each location. Indicate "Yes" or "No" for "Meets Requirement"

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Rear Trim	7.0
Spare Tire	21.0

TEST SURFACE MARKINGS

	Distance from 75° Impact Location Line (mm)
Fore 25 mm target	53
Aft 25 mm target	52

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

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and 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 seat should be set to the rear most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	8.8	0.0	4.4
Front Passenger Seat	8.6	0.0	4.3
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)		
				Rearmost	Mid Fore/Aft	Forwardmost
Driver Seat	4.4	654	Max	657	673	657
			Mid	623	636	654
			Min	588	600	617
Front Passenger Seat	4.3	633	Max	634	646	662
			Mid	607	617	633
			Min	580	589	603
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: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23

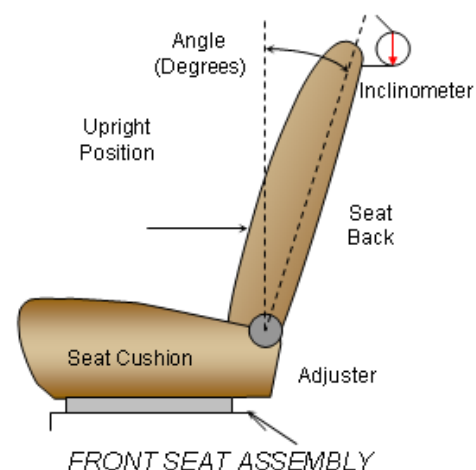
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	256		0	
Front Passenger Seat	234		0	
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

*Detent zero (0) is the forward most detent

SEAT BACK ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front passenger's seat back is positioned in a similar manner to the driver's seat. The struck side rear passenger seat back is positioned in accordance with the information provided by the manufacturer in Form 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 back angle is measured using an inclinometer along the bottom of the headrest post.



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degree	Detent*
Driver Seat w/Seated Dummy	52.4		7.2	
Front Passenger Seat	65.7		7.2	
Front Center Seat				
Struck Side Rear Seat w/Seated Dummy	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

*Detent zero (0) is the forward most detent

DATA SHEET NO. 2 ... (CONTINUED)

SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1. The positions are marked H, M2, M1, L from top to bottom.

	Total No. of Positions	Placed in Position
Driver Seat	4	H

HEAD RESTRAINT ADJUSTMENT

The driver's head restraint is adjusted to the lowest and most full forward in-use position.

	Total No. of Positions	Placed in Position
Driver Seat	4	L

DATA SHEET NO. 2 ... (CONTINUED)

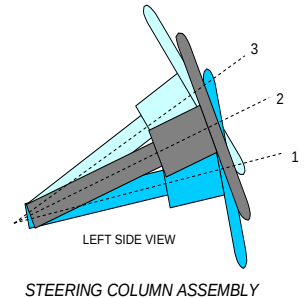
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

STEERING COLUMN ADJUSTMENT

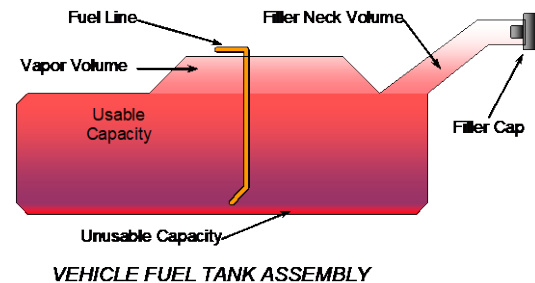
Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.

	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	18.6	78
Geometric Center - Position 2	20.6	102
Uppermost - Position 3	22.6	126
Telescoping Steering Wheel Travel		48
Test Position	20.6	102



FUEL PUMP

The vehicle is equipped with an electric fuel pump. The pump will work at "ignition on" until pressure in the system has reached working pressure in the system; then it will stop pumping fuel until the engine has been started.



FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	65.11
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)*	
Usable Capacity of "Optional Tank" (see Owner's Manual)*	
93% of Usable Capacity	60.55
Actual amount of Solvent Used in Test	60.55
1/3 of Usable Capacity	21.70

Is the Actual Amount of Solvent Used in the test equal to 93% $\pm$ 1% of the Usable Capacity stated in the Form No. 1? ☒ Yes ☐ No

DATA SHEET NO. 3

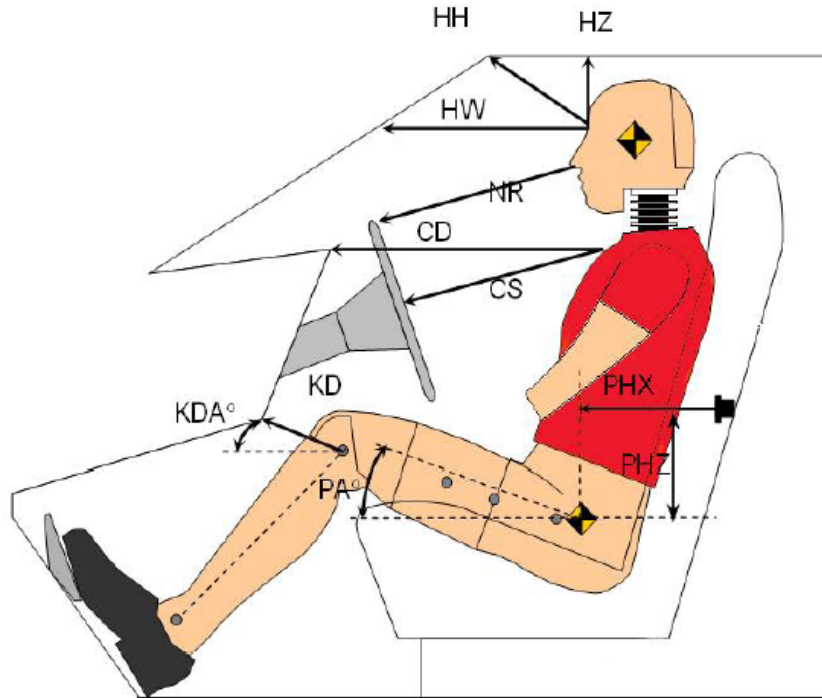
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23



Driver Code	Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	217	
HW	Head to Windshield	545	
HZ	Head to Roof	175	
NR	Nose to Rim	232	
CD	Chest to Dash	412	
CS	Chest to Steering Wheel	165	
KD(L)/KDA(L)°	Left Knee to Dash	130	24.9
KD(R)/KDA(R)°	Right Knee to Dash	115	25.3
PAX°	Pelvic Tilt Angle (x-axis)		21.7
PAY°	Pelvic Tilt Angle (y-axis)		0.1
PHX	Hip Point to Striker (x-axis)	294	
PHZ	Hip Point to Striker (z-axis)	192	

DATA SHEET NO. 4

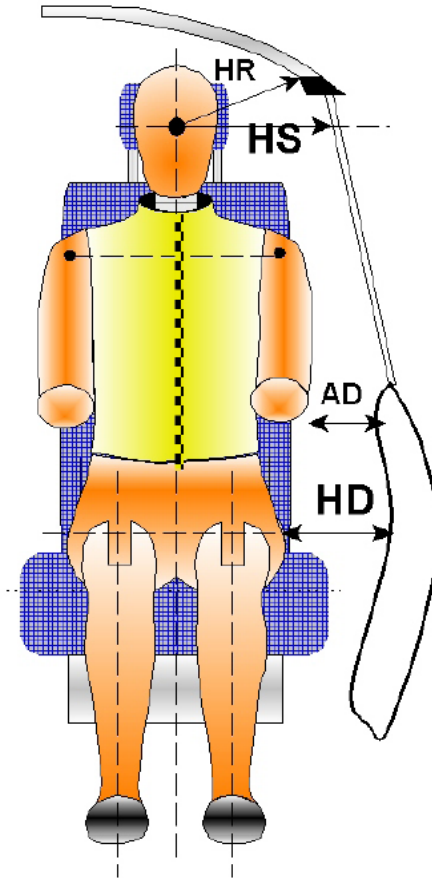
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23

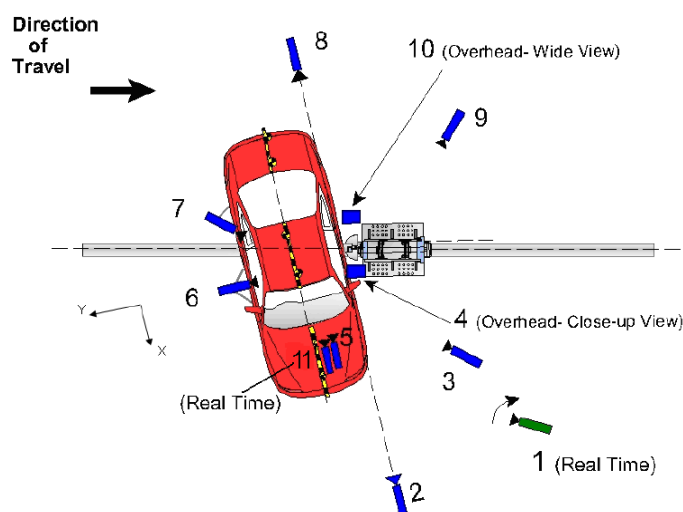


Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	255
HS	Head to Side Window	mm	289
AD	Arm to Door	mm	194
HD	Hip Point to Door	mm	185

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23



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

Camera No.	View	Coordinates (m)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real Time Pan View of Impact	8.89	46.57	-3.04		30
2	Front Ground Level - Impact View	8.34	-0.05	-0.93	35	1000
3	Impact Side 45° - Forward Pole View	4.10	-2.15	-1.15	25	1000
4	Overhead Close-Up View of Impact	0.00	0.00	-5.79	35	1000
5	On-Board - Dummy Front View	-1.18	-0.84	-0.83	8	1000
6	On-Board - Dummy Side View	-1.19	-0.84	-0.82	6	1000
7	On-Board - Dummy Rear Oblique View	0.90	-0.92	-0.55	6	1000
8	Rear Ground Level - Impact View	-1.30	1.68	-1.26	35	1000
9	Impact Side 45° - Rearward Pole View	-8.02	0.04	-1.01	25	1000
10	Overhead Wide View of Impact	-0.06	0.22	-5.79	15	1000
11	Real Time Dummy Front View	0.88	-0.96	-0.54		30

*All measurements accurate to ± 6 mm

NOTE: Vehicle is at a 75 angle to the rigid pole.

If applicable, explain why camera(s) did not operate as intended: N/A

INSTRUMENTATION

Driver Dummy Channels	19
Vehicle Structure Accelerometers	18
Pole Load Cells	8
Total	45

DATA SHEET NO. 6

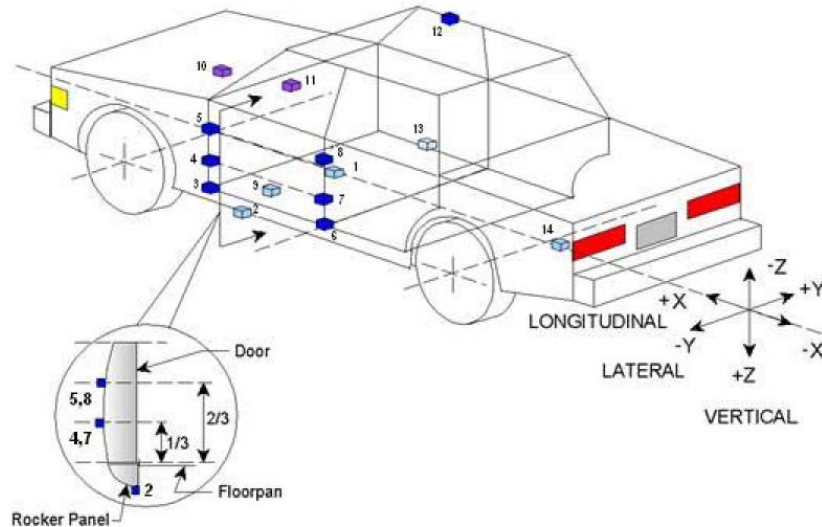
TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23

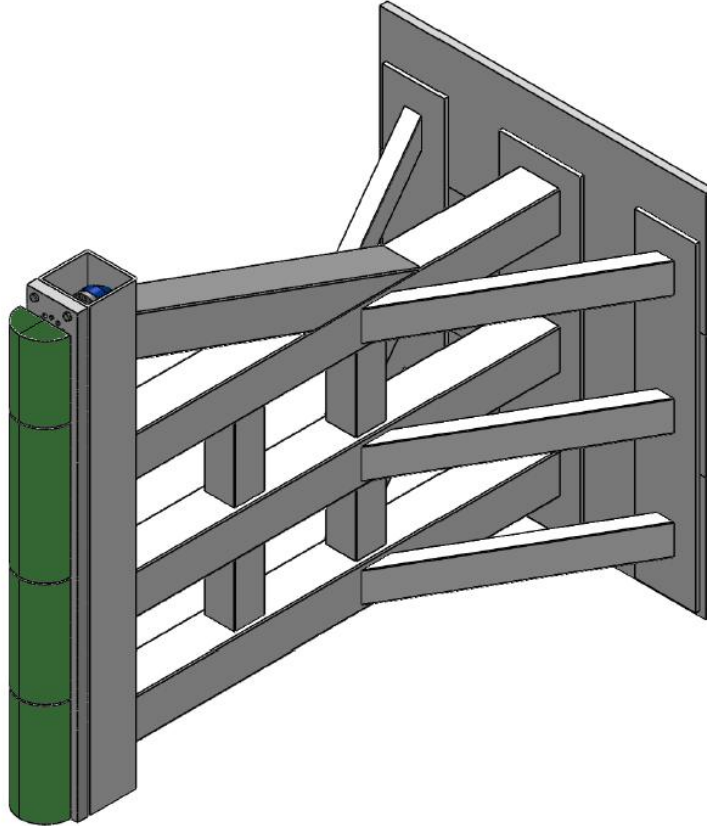


Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2801	0	-400
2	Left Floor Sill	1922	-800	-230
3	A-Pillar Sill	1550	-860	-390
4	A-Pillar Low	1550	-860	-590
5	A-Pillar Mid	1555	-860	-790
6	B-Pillar Sill	2640	-860	-370
7	B-Pillar Low	2640	-860	-550
8	B-Pillar Mid	2645	-860	-830
9	Driver Seat Track	2280	-610	-330
10	Engine Top	1030	90	-980
11	Firewall	1310	300	-960
12	Right Roof	2410	350	-1470
13	Right Floor Sill	1922	800	-230
14	Rear Floorpan	2840	430	-220

Reference: X – Rear surface of vehicle (+ forward)
Y – Vehicle centerline (+ to right)
Z – Ground plane (+ down)

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23



ID	Units	Height From Ground
1	mm	87
2	mm	468
3	mm	648
4	mm	978
5	mm	1168
6	mm	1651
7	mm	1816
8	mm	2057

DATA SHEET NO. 8**POST-TEST OBSERVATIONS**

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	Curtain Air Bag
Top of Head	Curtain Air Bag
Left Side of Head	Curtain Air Bag
Back of Head	Headrest
Left Shoulder	Torso/Pelvis Air Bag
Upper Torso	Torso/Pelvis Air Bag, Seat
Lower Torso	Torso/Pelvis Air Bag, Seat
Left Hip	Torso/Pelvis Air Bag, Seat
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	
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	
Latch or Hinge System Pulled Out of Their Anchorages	No	No	No	No	
Disengaged from Latched Position	No	No	No	No	
Latch Separated from Striker	No	No	No	No	
Jammed Shut	Yes	Yes	No	No	
If Door Opened at Striker, Record Width of Opening at Striker (mm)	No	No	No	No	

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No		No	
Seat Disengagement from Floor Pan	No	No	No	No
Seat Back Movement from Initial Position	No	No	No	No
Seat Back Collapse	No	No	No	No

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

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Sill Separation	None
Windshield Damage	Broken
Side Window Damage	Broken
Other Notable Effects	Roof Glass Broken

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 Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes

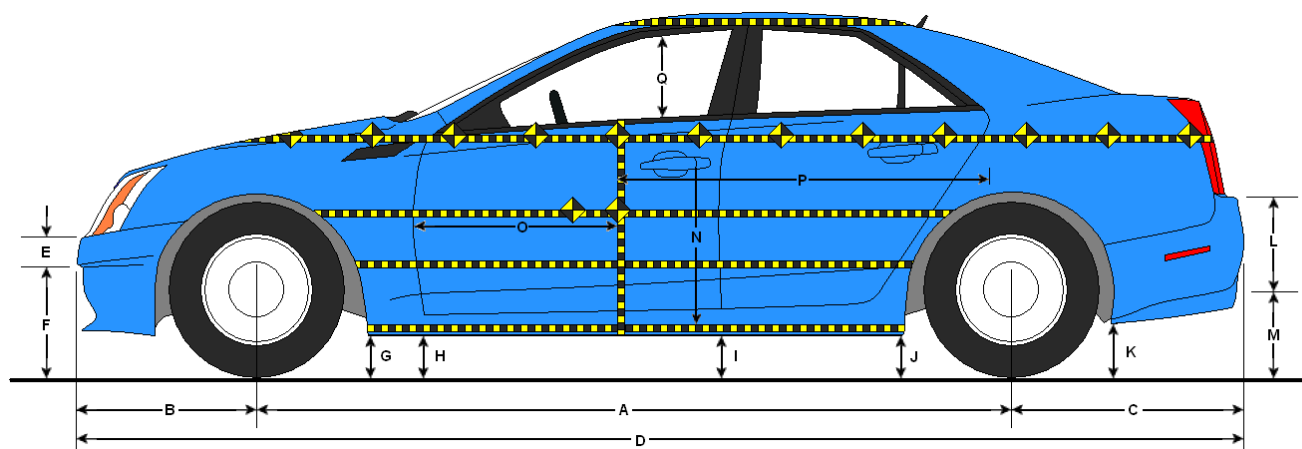
IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1356
Actual Impact Point (Aft of Front Axle)	mm		1356
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	0
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	75.3
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.43
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.39

DATA SHEET NO. 9

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23



LEFT SIDE VIEW

All measurements in mm with tolerance of $\pm 3\text{mm}$

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	3003	2958	-45
B	Front Axle to FSOV	841	857	16
C	Rear Axle to RSOV	1145	1159	14
D	Total Length at Centerline	4991	4974	-17
E	Front Bumper Thickness	153	153	0
F	Front Bumper Bottom to Ground	487	460	-27
G	Sill Height at Front Wheel Well	327	329	3
H	Sill Height at Front Door Leading Edge	331	344	13
I	Sill Height at B-Pillar	310	325	15
J1	Sill Height at Rear Wheel Well	349	413	64
J2	Pinch Weld Height at Rear Wheel Well	225	259	33
K	Sill Height Aft of Rear Wheel Well	344	343	-1
L	Rear Bumper Thickness	239	239	0
M	Rear Bumper Bottom to Ground	457	457	0
N	Sill Height to Bottom of Front Window Sill	667	663	-4
O	Front Door Leading Edge to Impact CL	668	585	-83
P	Rear Door Trailing Edge to Impact CL	1543	1461	-82
Q	Front Window Opening	372	404	32
R	Right Side Length	3490	3494	4
S	Left Side Length	3485	3495	9
T	Vehicle Width at B-Pillar	1879	1751	-128

DATA SHEET NO. 10

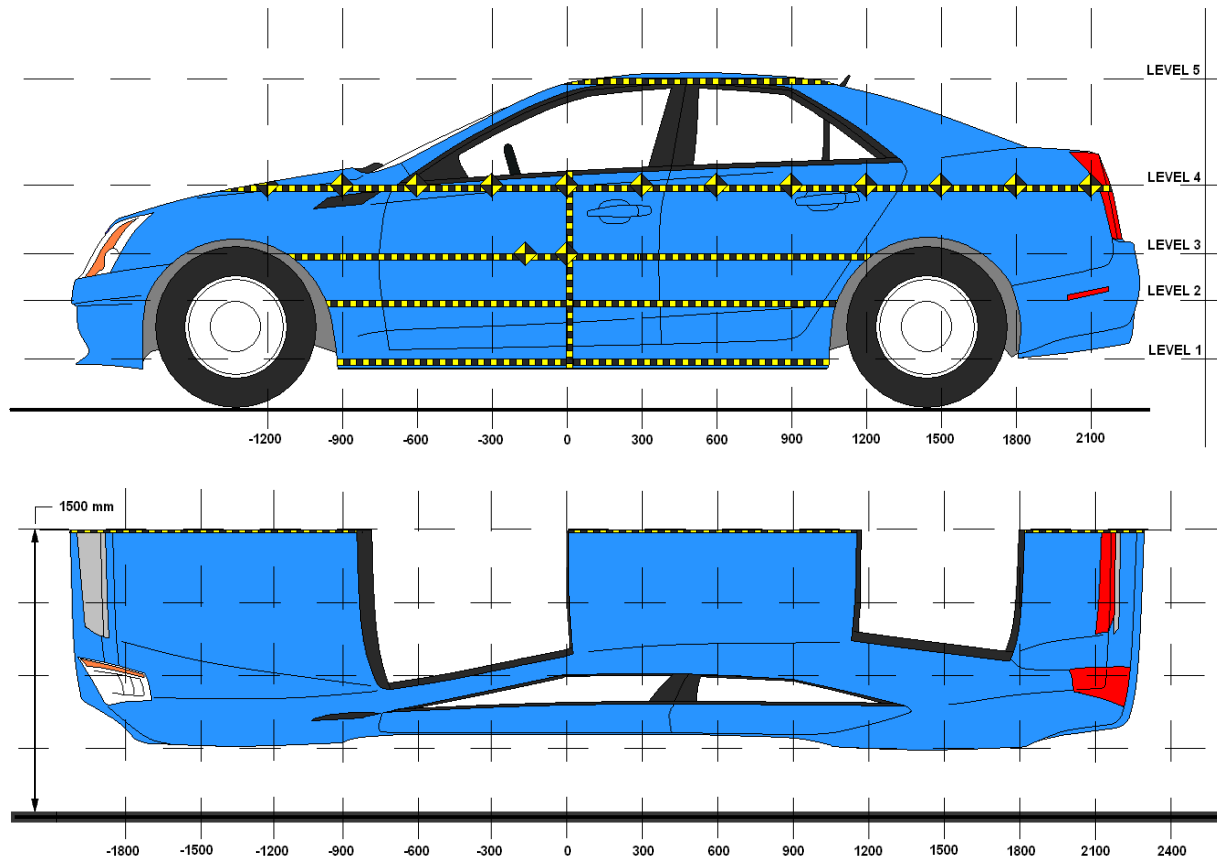
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23



NOTE: All measurements in mm with tolerance of ± 3 mm

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	287	241	0
2	Occupant H-Point	600	303	0
3	Mid-Door	676	322	0
4	Window Sill	986	289	150
5	Window Top	1441	146	-150

DATA SHEET NO. 10 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200
 Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

	Pre-Test (mm)					Post-Test (mm)					Difference (mm)				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900	588	558	558			553	547	547			-35	-11	-11		
-750	598	566	565	685		571	561	559	686		-27	-5	-6	1	
-600	601	572	567	660		595	591	586	673		-6	19	19	13	
-450	602	575	568	651		633	659	656	707		31	84	88	56	
-300	604	575	568	641		683	713	715	753		79	138	147	112	
-150	605	574	566	638	876	749	779	787	815	1022	144	205	221	177	146
0	605	574	564	635	884	846	877	886	916	1007	241	303	322	281	123
150	605	573	563	634	888	842	873	883	923	989	237	300	320	289	101
300	605	574	563	634	892	770	764	773	822	975	165	190	210	188	83
450	605	575	565	635	898	724	710	700	763	961	119	135	135	128	63
600	603	577	567	635	897	686	682	673	740	946	83	105	106	105	49
750	601	578	569	637	898	649	652	645	724	936	48	74	76	87	38
900	601	576	569	640	901	612	620	617	706	930	11	44	48	66	29
1050	598	569	565	644	908	575	587	589	690	930	-23	18	24	46	22
1200	580	557	557	649	916	523	553	559	671	932	-57	-4	2	22	16
1350			545	655				524	656				-21	1	
1500				661					638					-23	
1650				670					667					-3	
1800															
1950															
2100															
2250															
2400															
2550															
2700															
2850															

DATA SHEET NO. 10 ... (CONTINUED)

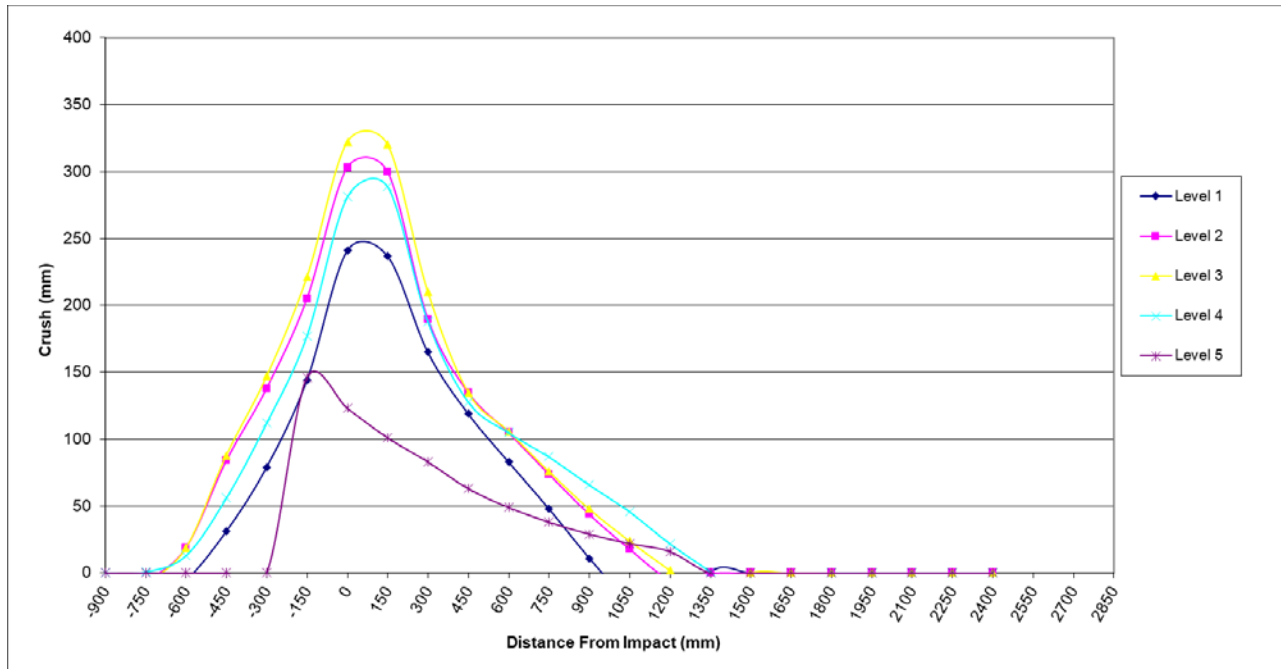
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23

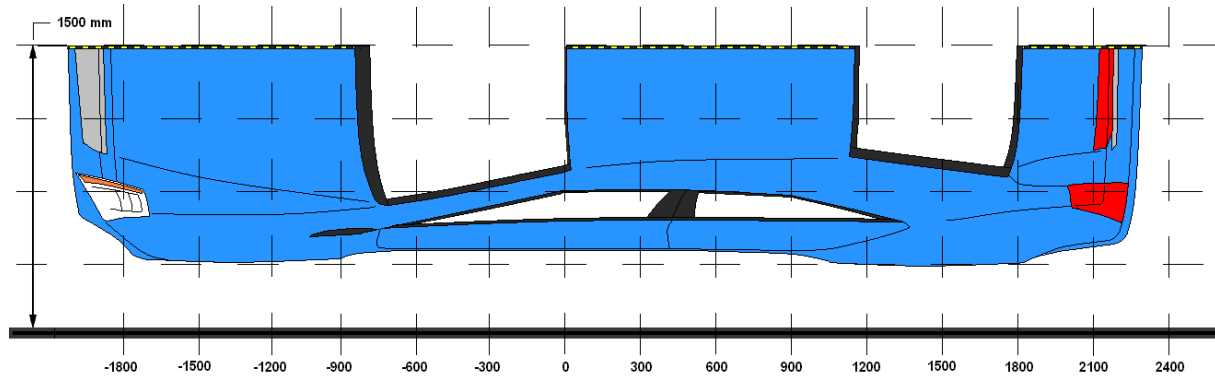


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test Test Date: 10/25/23



DPD	Distance From Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	1650	4	670	667	-3
2	1200	4	649	671	22
3	600	3	567	673	106
4	150	3	563	883	320
5	-450	3	568	656	88
6	-900	3	558	547	-11

DATA SHEET NO. 12

FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

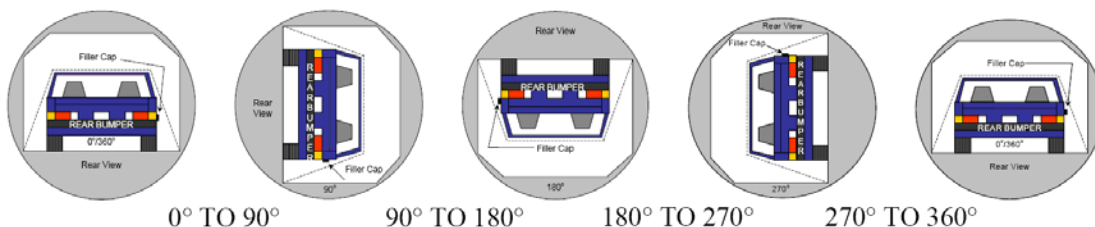
Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23

Temperature at Time of Impact: 22.2° C

Test Time: 2:00 PM

- A. From impact until vehicle motion ceases: 0 oz.
(Maximum allowable = 1 oz.)
- B. For the 5 minute period after motion ceases: 0 oz.
(Maximum allowable = 5 oz.)
- C. For the following 25 minutes: 0 oz.
(Maximum allowable = 1 oz./minute)
- D. Spillage Details: There was no Stoddard solvent spillage.



SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	80	300	380
90° To 180°	84	300	384
180° To 270°	82	300	382
270° To 360°	81	300	381

FMVSS 301 SPILLAGE TABLE

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

SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 13

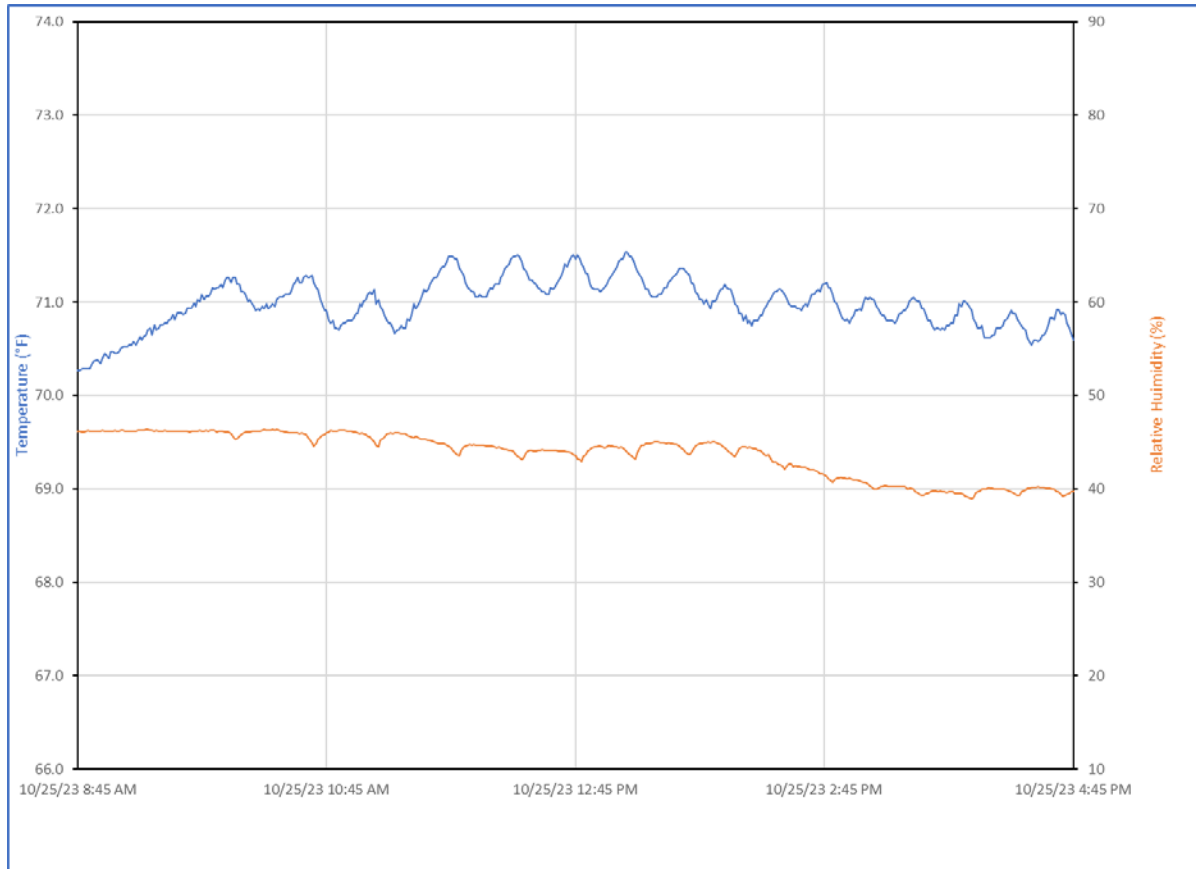
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2024 Genesis G80 AWD 3.5T 4-Door Sedan

NHTSA No. O20244200

Test Program: NCAP Side Pole Impact Test

Test Date: 10/25/23



APPENDIX A
PHOTOGRAPHS

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FIGURE 1. As-Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 2. As-Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle

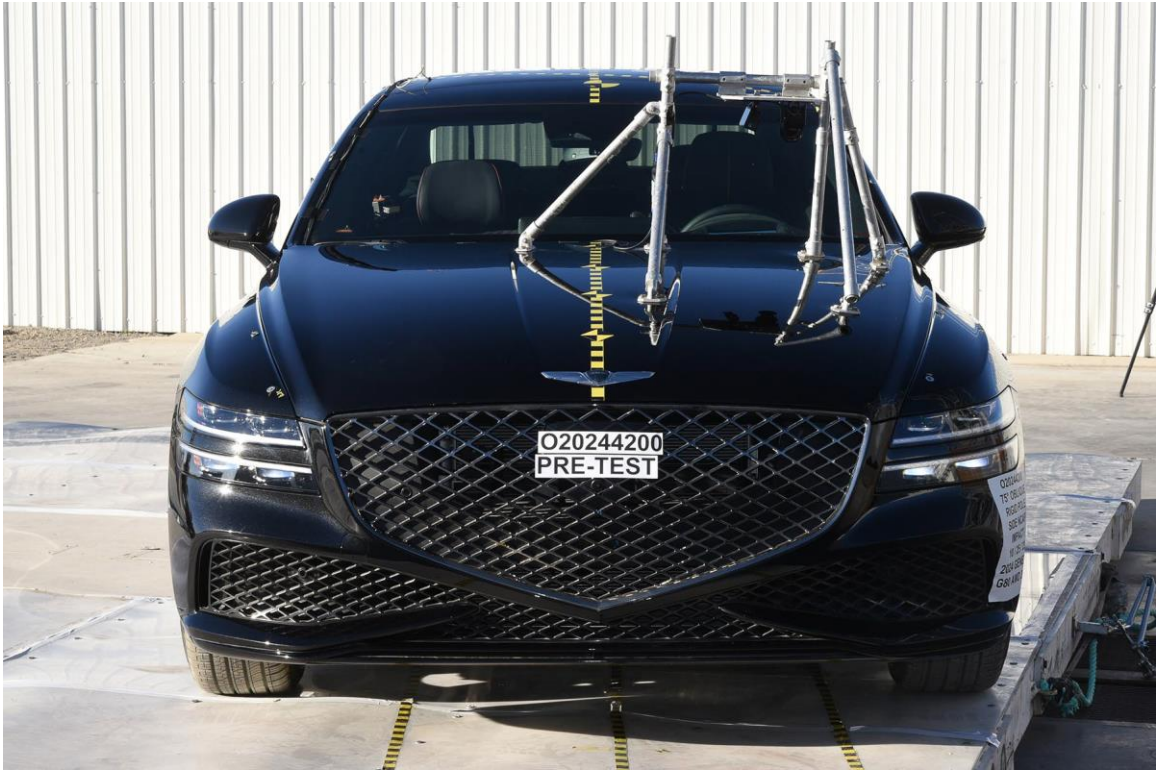


FIGURE 3. Pre-Test Frontal View of Test Vehicle

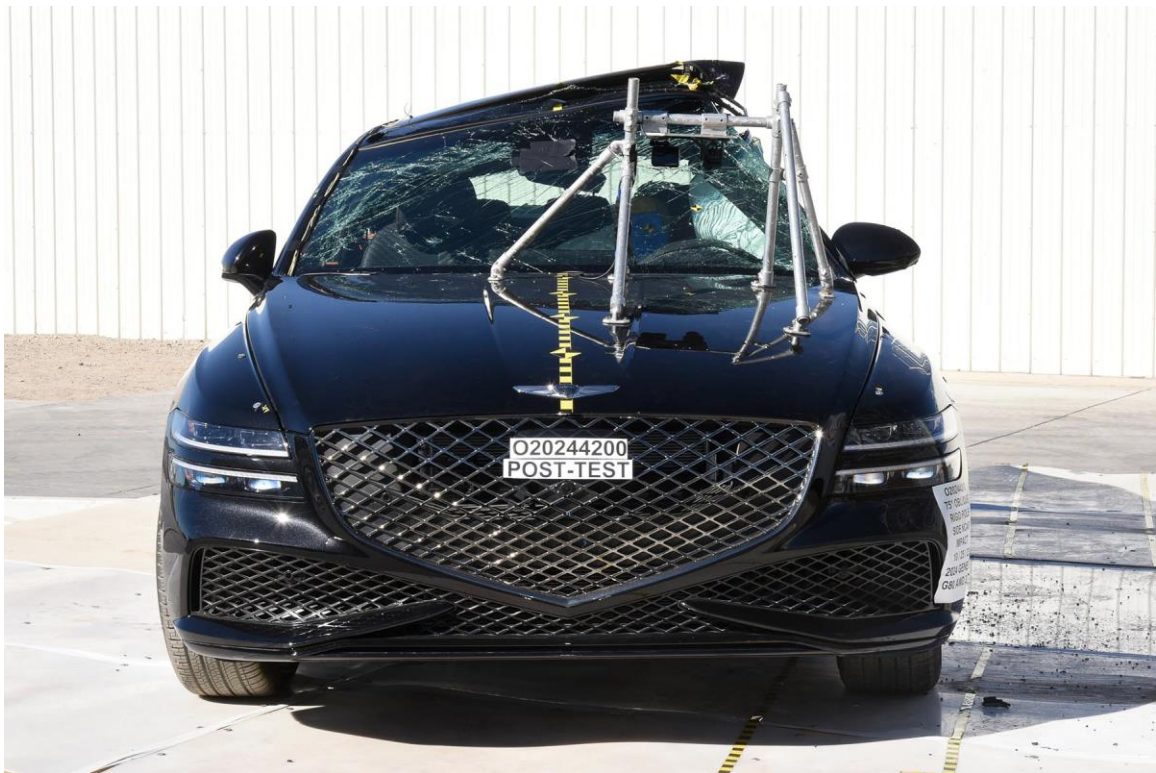


FIGURE 4. Post-Test Frontal View of Test Vehicle



FIGURE 5. Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 6. Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 7. Pre-Test Left Side View of Test Vehicle



FIGURE 8. Post-Test Left Side View of Test Vehicle



FIGURE 9. Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



FIGURE 10. Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle

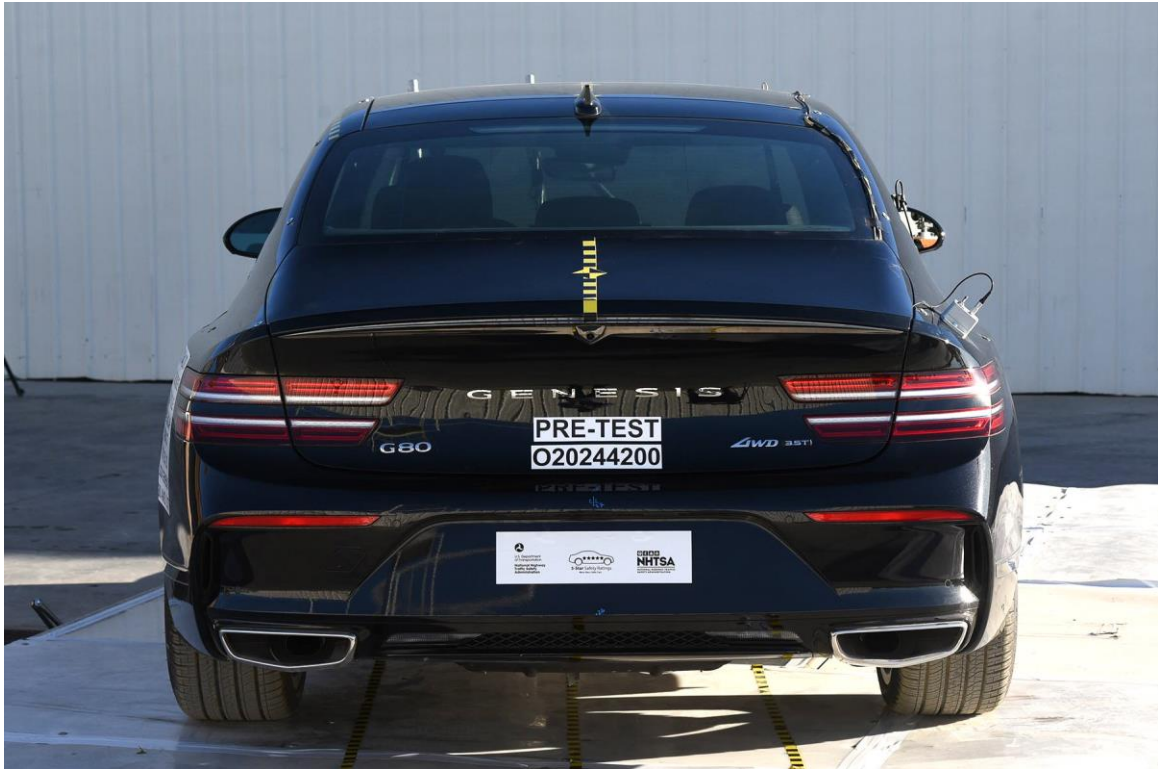


FIGURE 11. Pre-Test Rear View of Test Vehicle



FIGURE 12. Post-Test Rear View of Test Vehicle



FIGURE 13. Pre-Test Right Side View of Test Vehicle



FIGURE 14. Post-Test Right Side View of Test Vehicle



FIGURE 15. Pre-Test Overhead View of Test Area



FIGURE 16. Post-Test Overhead View of Test Area



FIGURE 17. Pre-Test Left Side View of Pole Positioned Against Side of Vehicle



FIGURE 18. Pre-Test Right Side View of Pole Positioned Against Side of Vehicle



FIGURE 19. Pre-Test Close-Up View of Impact Point Target



FIGURE 20. Post-Test Close-Up View of Impact Point Target Showing Impact Location



FIGURE 21. Pre-Test Front Close-Up View of Dummy Head and Chest



FIGURE 22. Post-Test Front Close-Up View of Dummy



FIGURE 23. Pre-Test Left Side View of Dummy Showing Belt and Chalking



FIGURE 24. Pre-Test Left Side View of Dummy Shoulder and Door Top View

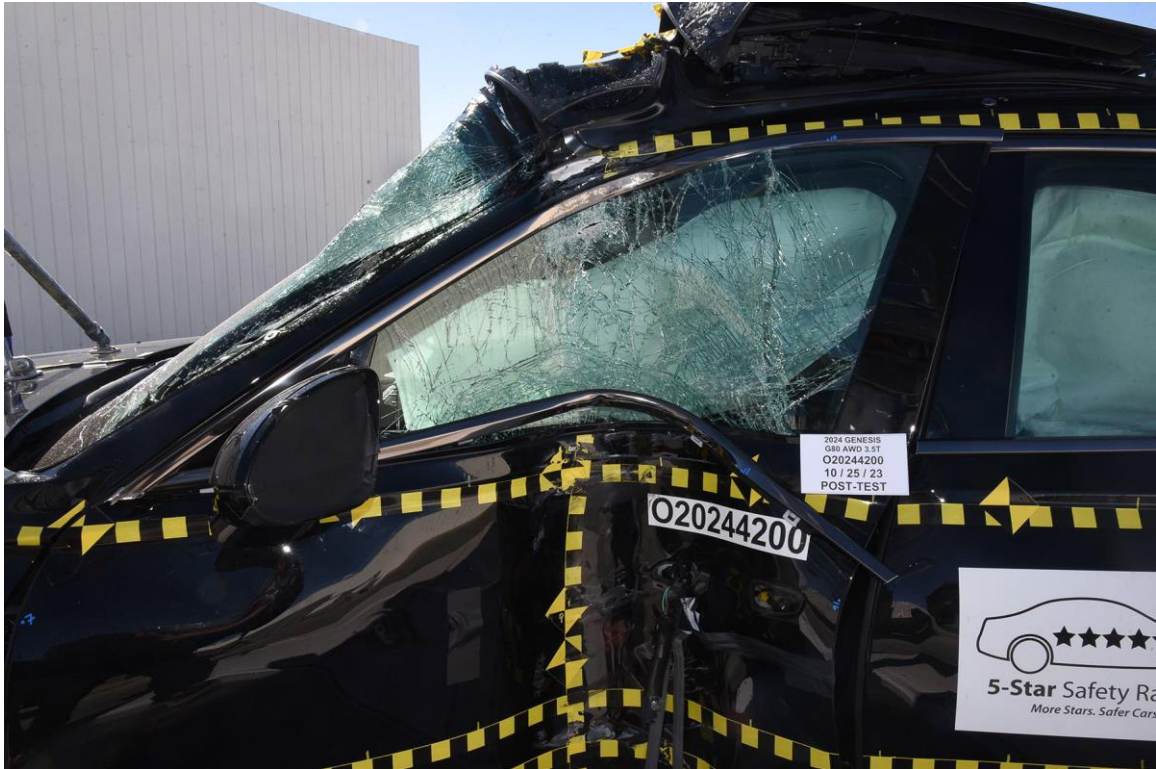


FIGURE 25. Post-Test Left Side View of Dummy Shoulder and Door Top View



FIGURE 26. Pre-Test Frontal View of Seat Back Prior to Dummy Positioning



FIGURE 27. Pre-Test Frontal Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



FIGURE 28. Pre-Test Overhead View of Seat Pan Prior to Dummy Positioning



FIGURE 29. Pre-Test Overhead View of Dummy Thighs on Seat Pan



FIGURE 30. Pre-Test Left Side View of Dummy's Neck
Showing Position of Adjustable Neck Bracket



FIGURE 31. Pre-Test Left Side View of Dummy's Head
Showing Dummy's Head is Level



FIGURE 32. Pre-Test Placement of Dummy's Feet



FIGURE 33. Pre-Test View of Belt Anchorage for Dummy

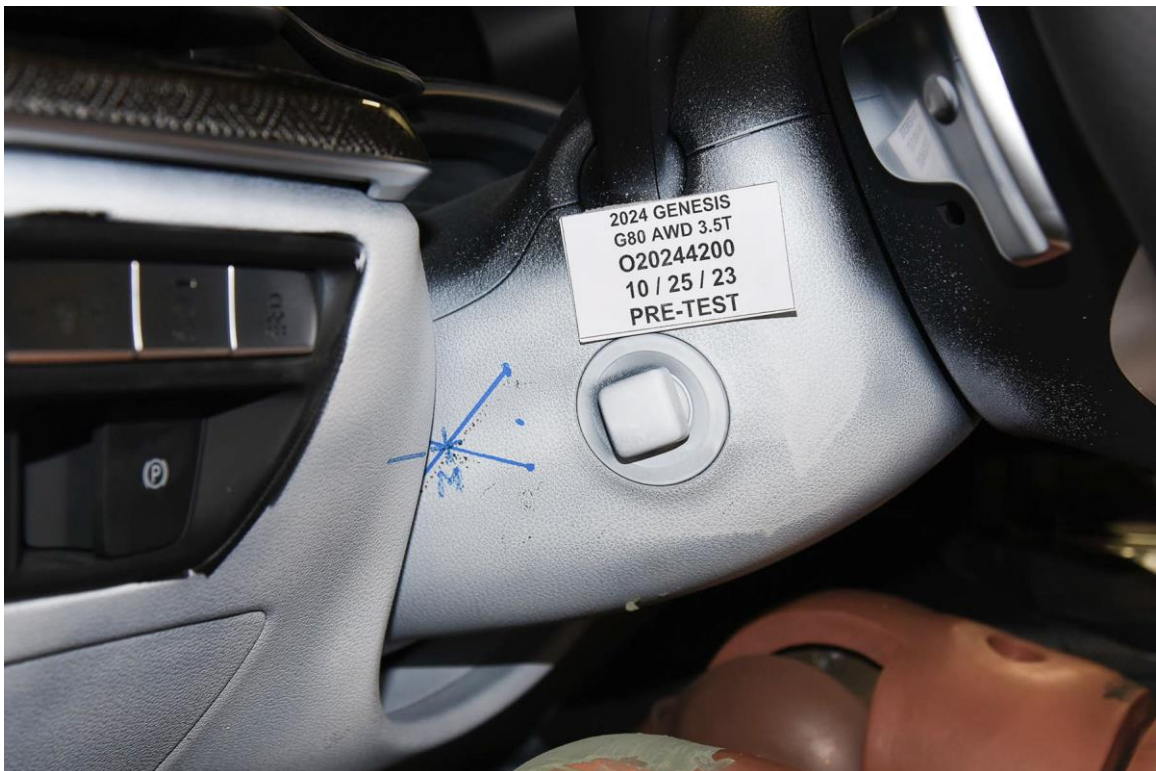


FIGURE 34. Pre-Test Left Side View of Steering Wheel



FIGURE 35. View of Disengaged Parking Brake



FIGURE 36. Pre-Test View of Parking Brake



FIGURE 37. Pre-Test Close-Up Left Side View of Driver Seat Track

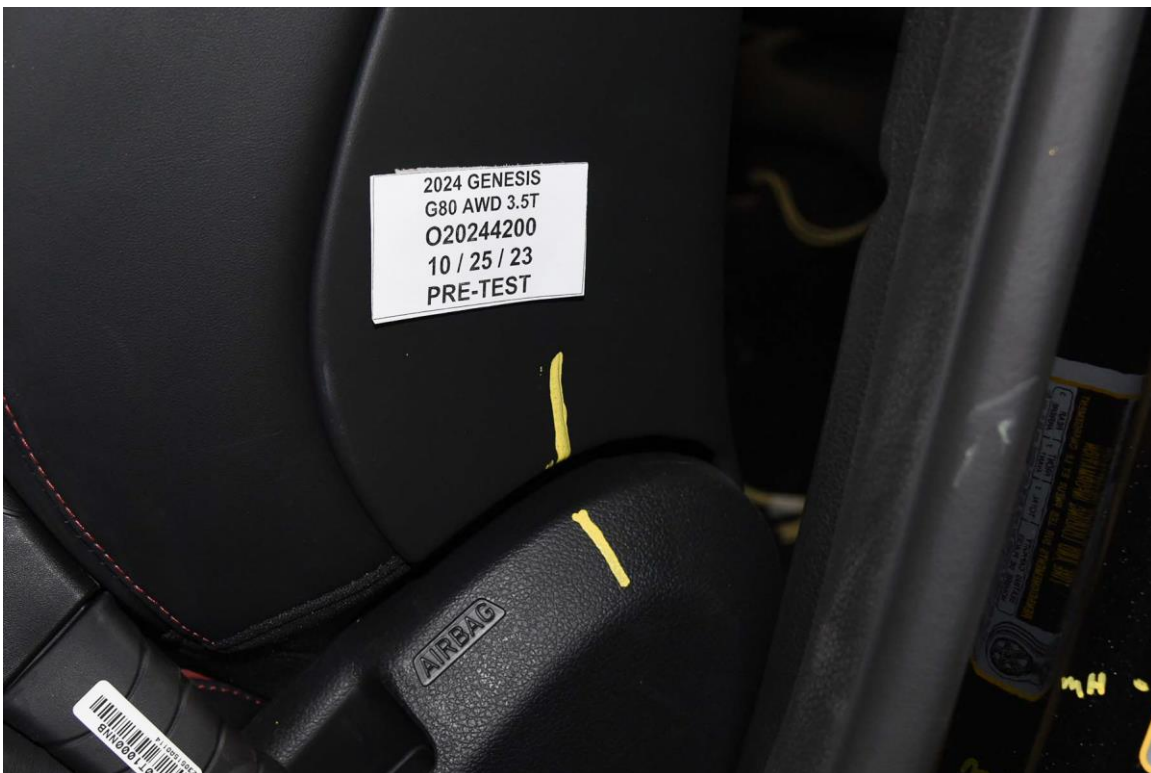


FIGURE 38. Pre-Test Close-Up Left Side View of Driver Seat Back



FIGURE 39. Pre-Test Close-Up View of Driver Seat Back or Head Restraint



FIGURE 40. Pre-Test Dummy and Door Clearance View



FIGURE 41. Post-Test Dummy and Door Clearance View



FIGURE 42. Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment



FIGURE 43. Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment



FIGURE 44. Pre-Test Inner Door Panel View



FIGURE 45. Post-Test Inner Door Panel View Showing Dummy Contact Locations



FIGURE 46. Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



FIGURE 47. Post-Test Dummy Close-Up Head Contact With Side Airbag View



FIGURE 48. Post-Test Dummy Close-Up Torso Contact With Vehicle Interior View



FIGURE 49. Post-Test Dummy Close-Up Torso Contact With Side Airbag View



FIGURE 50. Post-Test Dummy Close-Up Pelvis Contact With Vehicle Interior View



FIGURE 51. Post-Test Dummy Close-Up Pelvis Contact With Side Airbag View



FIGURE 52. Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View



FIGURE 53. Post-Test Right Side View of Dummy and Rear Seat of Occupant Compartment



FIGURE 54. Pre-Test Inner Rear Passenger Torso Airbag Deployment View



FIGURE 55. Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 56. Post-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 57. Close-Up View of Vehicle's Certification Label



FIGURE 58. Close-Up View of Vehicle's Tire Information Placard or Label



FIGURE 59. Pre-Test Pole Barrier Front View



FIGURE 60. Post-Test Pole Barrier Front View



FIGURE 61. Pre-Test Pole Barrier Side View



FIGURE 62. Post-Test Pole Barrier Side View



FIGURE 63. Pre-Test Ballast View



FIGURE 64. Post-Test Primary and Redundant Speed Trap Read-Out



FIGURE 65. FMVSS No. 301 Static Rollover 0 Degrees

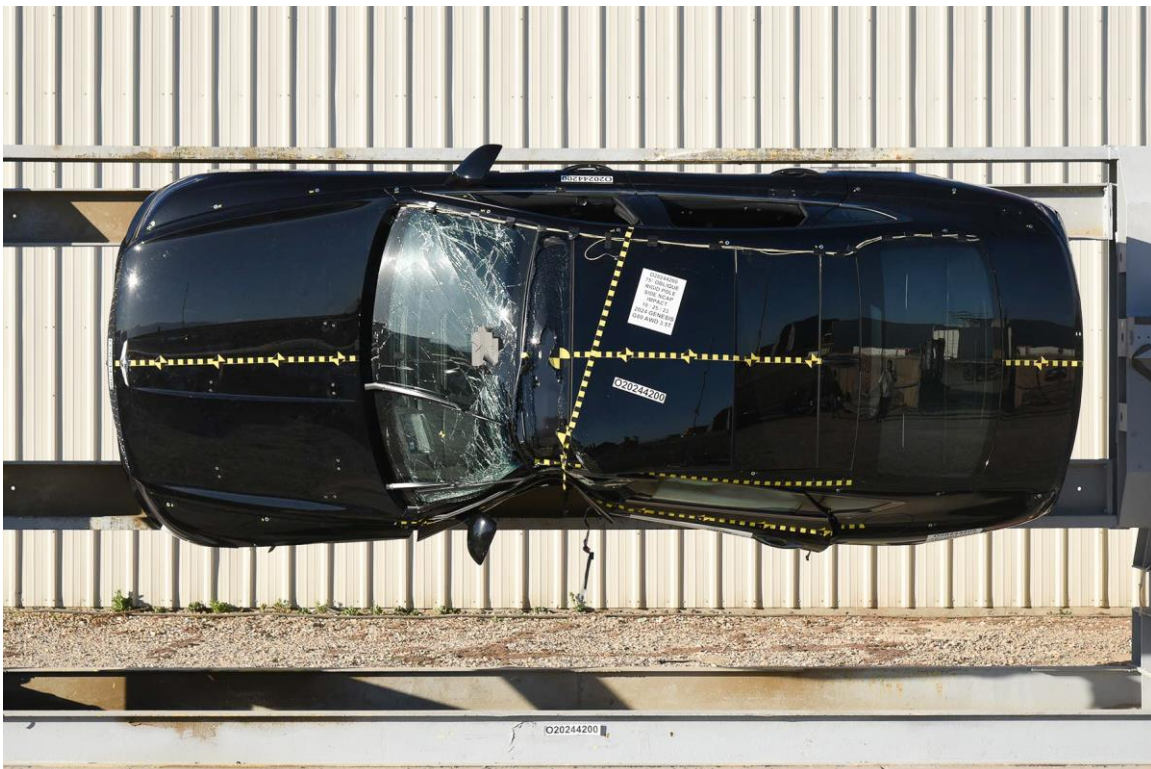


FIGURE 66. FMVSS No. 301 Static Rollover 90 Degrees



FIGURE 69. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 70. Impact Event

2024 G80 AWD 3.5T SPORT PRESTIGE

STANDARD FEATURES:

ADVANCED SAFETY TECHNOLOGY

- Forward Collision-Avoidance Assist
- Lane Keeping Assist
- Lane Following Assist
- Driver Attention Warning
- Blind-Spot Collision-Avoidance Assist
- Rear Cross-Traffic Collision-Avoidance Assist
- Parking Distance Warning
- Rearview Camera
- Safe Exit Assist

POWERTRAIN TECHNOLOGY

- 3.5L Twin Turbo V6 (375 HP / 391 lb.-ft.)
- 8-speed Automatic Transmission
- Electronically Controlled Suspension w/ Road Preview

EXTERIOR

- Sport Appearance
- 19-inch Sport Alloy Wheels
- Panoramic Sunroof
- Power Hands-Free Smart Trunk w/ Auto Open
- Power-folding ECM Outside Mirrors w/ Genesis Logo Puddle Lamps
- High Beam Assist

COMFORT & CONVENIENCE

- Leather Seating Surfaces
- Sport Aluminum Trim
- Leathette Wrapped Upper Instrument Panel
- Power Front Seats with 4-Way Power Lumbar
- Heated & Ventilated Front Seats
- Heated Rear Seats
- Heated Power Tilt & Telescoping Steering Wheel
- Smart Cruise Control
- Intelligent Speed Limit Assist

COMFORT & CONVENIENCE (cont.)

- Highway Driving Assist
- 8" Digital Cluster + Analog Gauges

MULTIMEDIA & CONNECTIVITY

- 14.5" Navigation System w/ AM/FM/HD Radio*
- SiriusXM Radio* w/90-day trial subscription; Not Available in AK & HI
- Apple CarPlay* & Android Auto (TM)
- Genesis Connected Services

Additional Standard Features

- Carpeted Floor Mats
- Full Tank of Gas

GENESIS WARRANTY

- 5-year/60,000-mile New Vehicle Warranty*
- 10-year/100,000-mile Powertrain Warranty*
- 7-year/Unlimited-mile Anti-perforation Warranty*
- Limited warranties, see dealer for details

THE GENESIS EXPERIENCE

- 3 Yr / 36K Complimentary Maintenance
- 3 Yr / 36K Complimentary Service Valet*
- 3 Yr Complimentary Map Care
- Complimentary Genesis Connected Services*
- *Exclusions may apply, see retailer for details

Manufacturer's Suggested Retail Price: \$64,000.00

ADDED FEATURES:

- *Vik Black(PH3) Paint \$575.00
- *Advanced Package \$2,950.00
- Surround View Monitor
- Blind-Spot View Monitor
- Advanced Rear Occupant Alert
- Power Cushion Extension, Bolster, and Ergo Motion (Driver)
- 3-Zone Climate Control
- Power Rear Sunshade
- Lexicon® Premium Audio
- Genesis Digital Key
- Wireless Phone Charger

***Prestige Package \$5,900.00**

- 20-inch Sport Alloy Wheels
- Rear Wheel Steering
- Nappa Leather Seating Surfaces
- Microfiber Suede Headliner & Pillars
- Carbon Fiber Trim
- 12.3" 3D Digital Instrument Cluster
- Head-Up Display
- Remote Smart Parking Assist
- Parking Collision-Avoidance Assist - Reverse
- Forward Attention Warning

Accessories

- *Cargo Tray, Reversible \$160.00
- *First Aid Kit \$45.00
- *All Season Fitted Liners \$220.00
- *Wheel Locks \$85.00

SOLD TO: NY770
GENESIS OF ITHACA
320 ELMIRA ROAD
ITHACA NY 14850

SHIPPED TO: NY770

VIN: KMT0B4SD6RU200095
ENGINE: G60SPA19809
EXTERIOR COLOR: VIK BLACK
INTERIOR/SEAT COLOR: OMBLACK W/ RED
MODEL: S1472465
PORT OF ENTRY: PH
TRANSPORT: TRUCK
ACCESSORY WEIGHT: 0 lbs. / 0 kgs.

EMISSIONS:
This vehicle is certified to meet emission requirements in all 50 states

INLAND FREIGHT & HANDLING: \$1,195.00

TOTAL PRICE: \$75,130.00

223 A 1794QPLATI

EPA DOT Fuel Economy and Environment

Fuel Economy

19 MPG
combined city/hwy

17 city
25 highway

5.3 gallons per 100 miles

Large Cars range from 14 to 140 MPG.
The best vehicle rates 140 MPG.

You spend \$7,250 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$3,400

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 \$8,750 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$4.25 per gallon. *EPA's 15 miles per gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuel economy.gov
Calculate personalized estimates and compare vehicles

Fuel Economy & Greenhouse Gas Rating (tailpipe only)

4 (Best)

This vehicle emits 480 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and transporting fuel also create emissions, learn more at fuel-economy.gov.

Smog Rating (tailpipe only)

5 (Best)

Search QR Code

GOVERNMENT 5-STAR SAFETY RATINGS

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

Source: National Highway Traffic Safety Administration (NHTSA).
www.safercar.gov or 1-888-327-4236

Manufacturer's suggested retail price includes manufacturer's recommended pre-delivery service. Gasoline license and title fees state and local taxes and dealer installed options and accessories are not included in the manufacturer's suggested retail price. This label has been affixed to this vehicle by Genesis Motor America, pursuant to the requirements of 15 U.S.C. 1231 et seq, which prohibits its removal or alteration prior to delivery to the consumer purchaser.

Scan this QR code for general model information and options

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE: U.S./CANADIAN PARTS CONTENT: 2 %

MAJOR SOURCES OF FOREIGN PARTS CONTENT: KOREA: 80 %

FOR THIS VEHICLE: FINAL ASSEMBLY POINT: ULSAN, KOREA

COUNTRY OF ORIGIN:

ENGINE: KOREA TRANSMISSION: KOREA

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

FIGURE 71. Monroney Label

Front seat head restraints

The driver's and front passenger's seats are equipped with adjustable head restraints for the passengers safety and comfort.

Adjusting the height up and down

To raise the head restraint:

1. Pull it up to the desired position (1).

To lower the head restraint:

1. Push and hold the release button (2) on the head restraint support.
2. Lower the head restraint to the desired position (3).

Forward and rearward adjustment

The head restraint can be adjusted forward to 3 different positions by pulling the head restraint forward to the desired detent. To adjust the head restraint to it's furthest rearwards position, pull it fully forward to the farthest position and release it.

NOTICE

If you recline the seatback towards the front with the head restraint and seat cushion raised, the head restraint may come in contact with the sunvisor or other parts of the vehicle.

FIGURE 72. Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



FIGURE 73. Post-Test View of Shattered Vehicle Inner Door Panel

APPENDIX B
DUMMY RESPONSE DATA

TABLE OF DATA PLOTS

Plot		Page
1	Driver Head Acceleration (X) Primary	B-1
2	Driver Head Acceleration (Y) Primary	B-1
3	Driver Head Acceleration (Z) Primary	B-1
4	Driver Head Acceleration Primary Resultant	B-1
5	Driver Lower Spine T12 Acceleration (X)	B-2
6	Driver Lower Spine T12 Acceleration (Y)	B-2
7	Driver Lower Spine T12 Acceleration (Z)	B-2
8	Driver Lower Spine T12 Acceleration Resultant	B-2
9	Driver Acetabulum Force on Impact Side (Y)	B-3
10	Driver Iliac Wing Force on Impact Side (Y)	B-3
11	Driver Total Pelvis Force on Impact Side (Y)	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

Additional Driver Dummy Instrumentation Data

Driver Head Acceleration Redundant (X)

Driver Head Acceleration Redundant (Y)

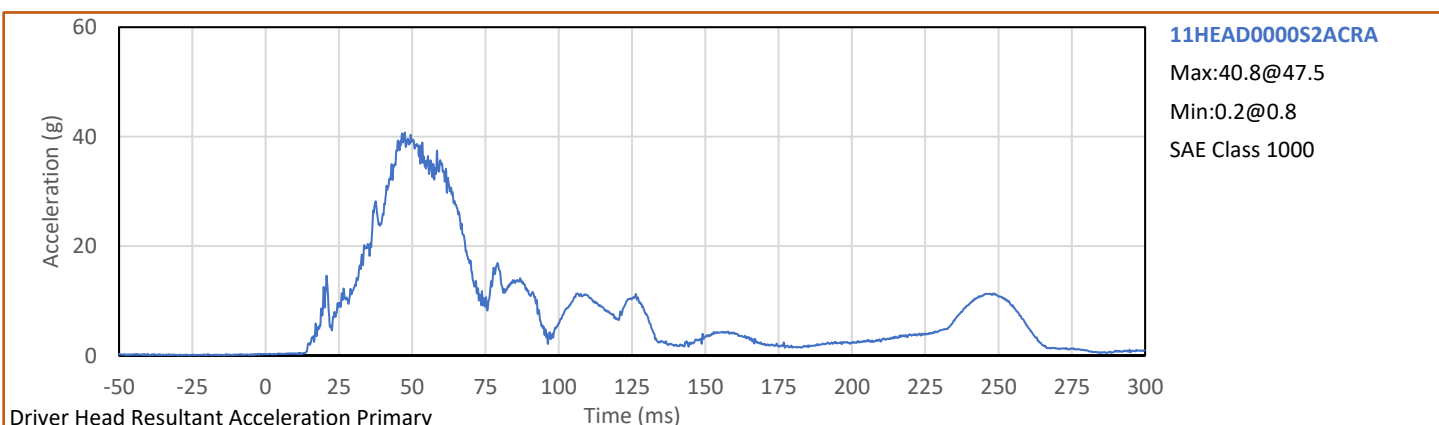
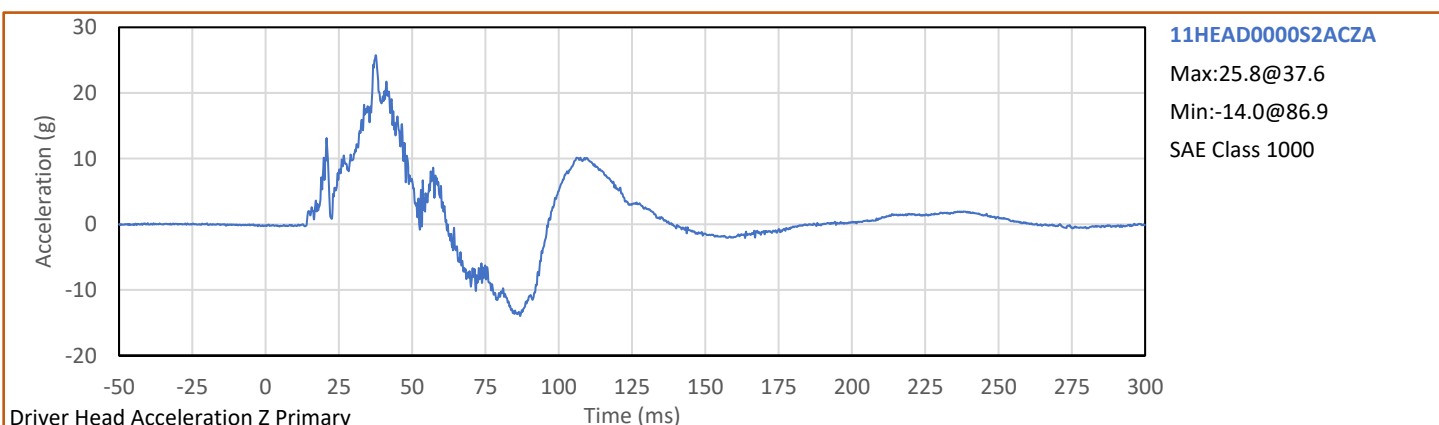
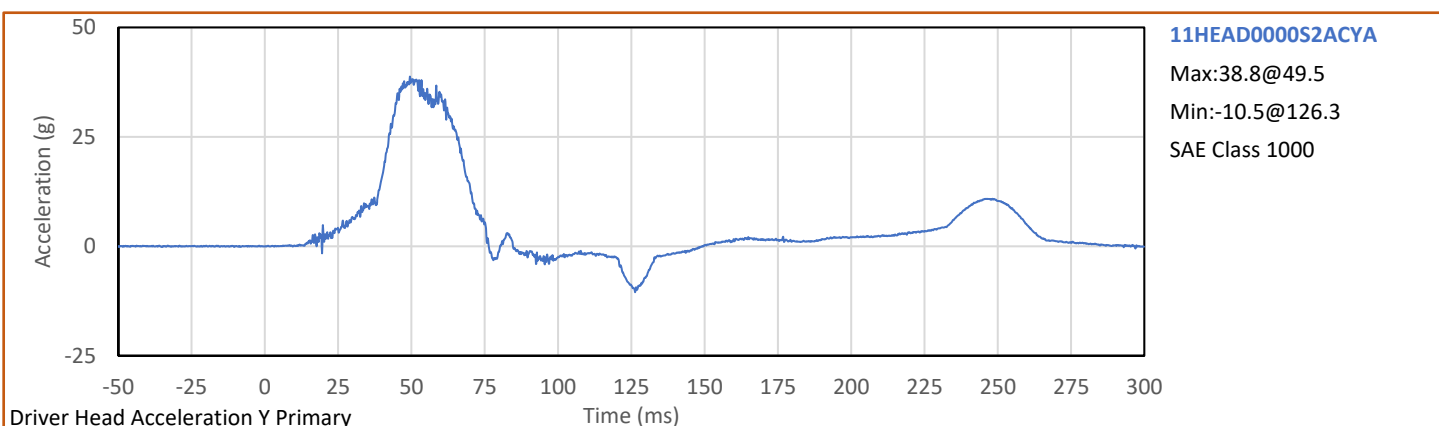
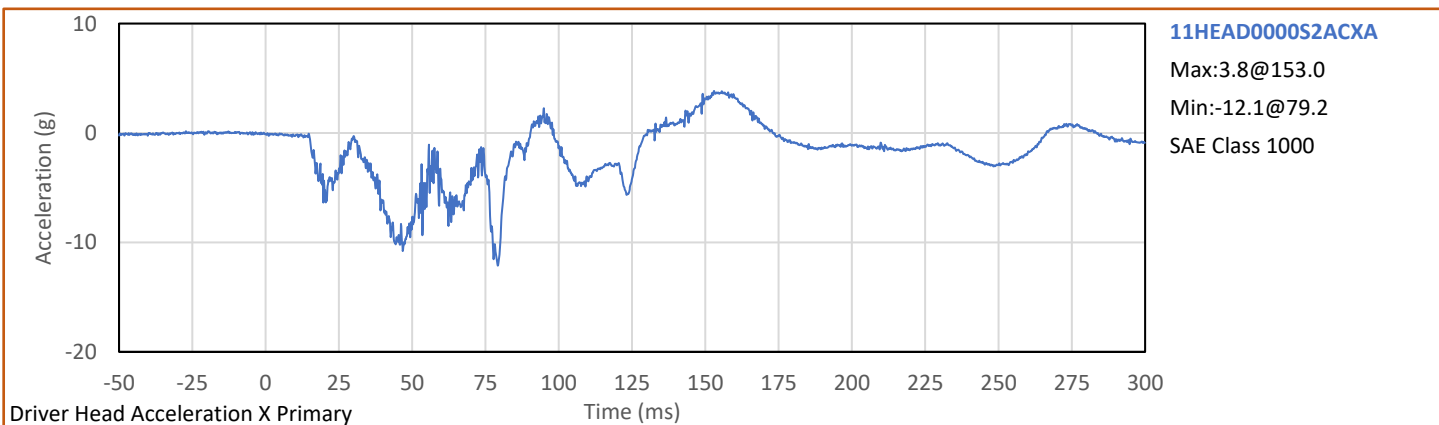
Driver Head Acceleration Redundant (Z)

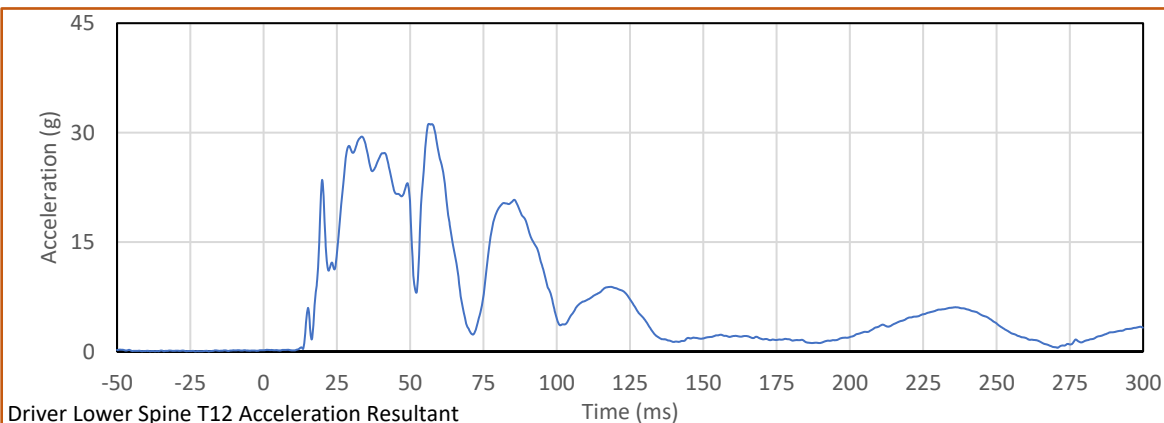
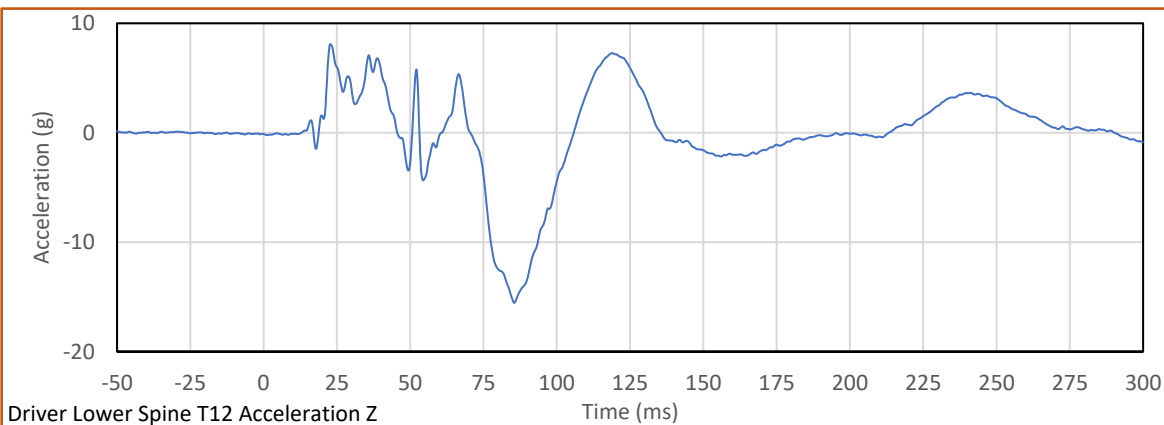
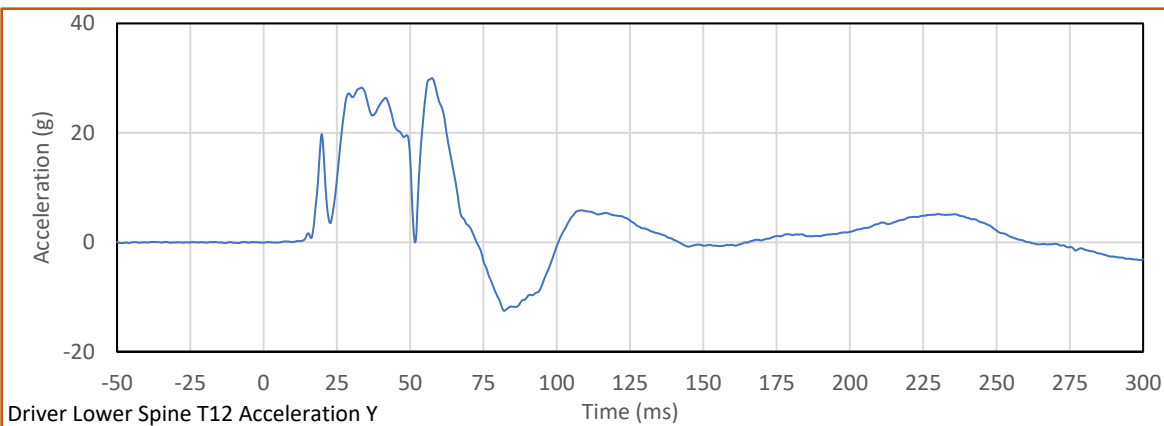
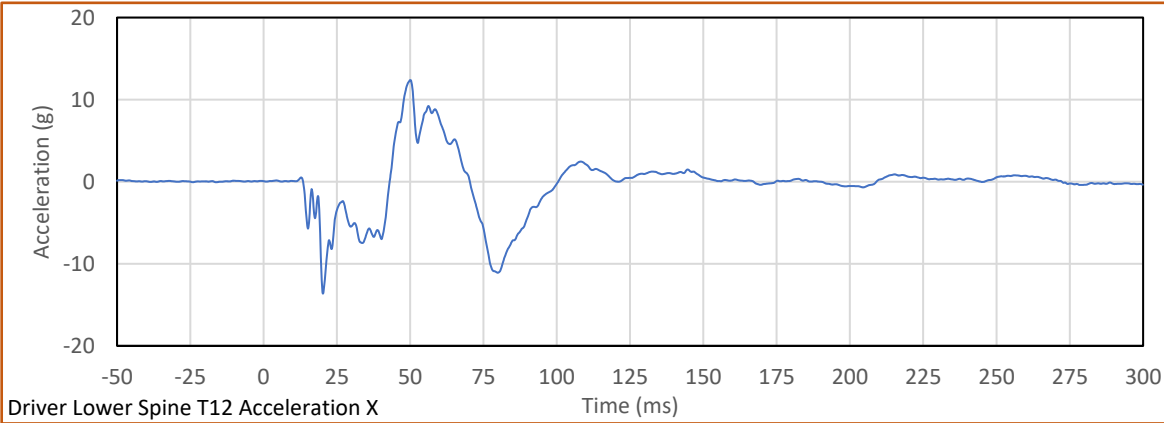
Vehicle Instrumentation Data

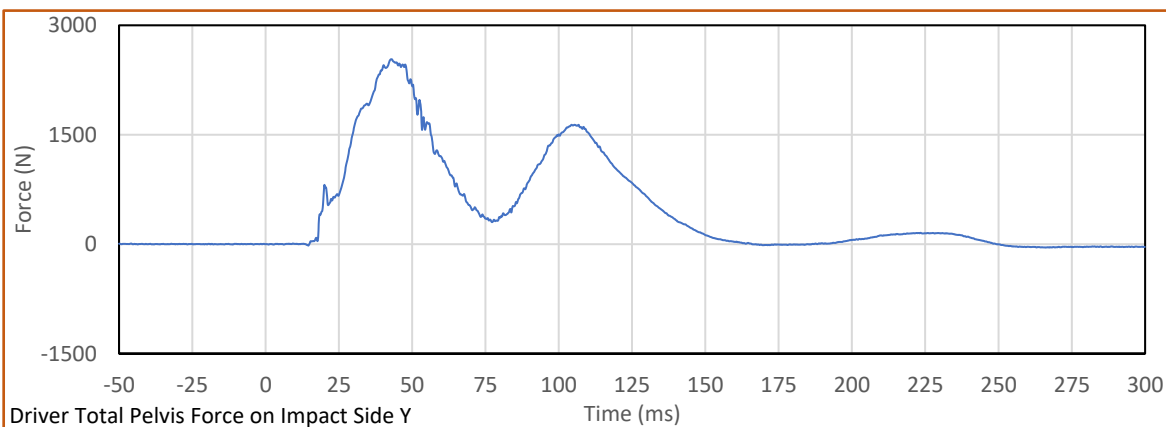
Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Left Floor Sill Acceleration (Y)
Left A-Pillar Sill Acceleration (Y)
Left Lower A-Pillar Acceleration (Y)
Left Mid A-Pillar Acceleration (Y)
Left B-Pillar Sill Acceleration
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
ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
Pre-Test ATD Qualification and Performance Verification
SID-IIs Small Side Impact ATD, Left Side Configuration
S/N: 299

ATD Serial No.: 299

Test Date: 2023-10-16

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	40	Pass
A - Sitting Height	mm	772	788	780	Pass
B - Shoulder Pivot Height	mm	437	453	450	Pass
C - Hpoint Height	mm	79	89	85	Pass
D - H Point From Seatback	mm	141	151	149	Pass
E - Shoulder Pivot From Backline	mm	97	107	102	Pass
F - Thigh Clearance	mm	119	135	125	Pass
G - Head Breadth	mm	140	148	148	Pass
H - Head Back From Backline	mm	40	46	44	Pass
I - Head Depth	mm	178	188	183	Pass
J - Head Circumference	mm	541	551	548	Pass
K - Buttock To Knee Length	mm	514	540	522	Pass
L - Popliteal Height	mm	343	369	353	Pass
K - Knee Pivot To Floor Height	mm	392	409	406	Pass
N - Buttock Popliteal Length	mm	416	442	431	Pass
O - Chest Depth W/O Jacket	mm	195	211	201	Pass
P - Foot Length	mm	216	232	224	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	319	Pass
R - Arm Length	mm	249	259	254	Pass
S - Knee Joint To Seatback	mm	477	493	486	Pass
V - Shoulder Width	mm	341	357	349	Pass
W - Foot Width	mm	78	94	83	Pass
Y - Chest Circumference W/Jacket	mm	851	881	876	Pass
Z - Waist Circumference	mm	761	791	780	Pass
				Overall Test Results	Pass

Technician:



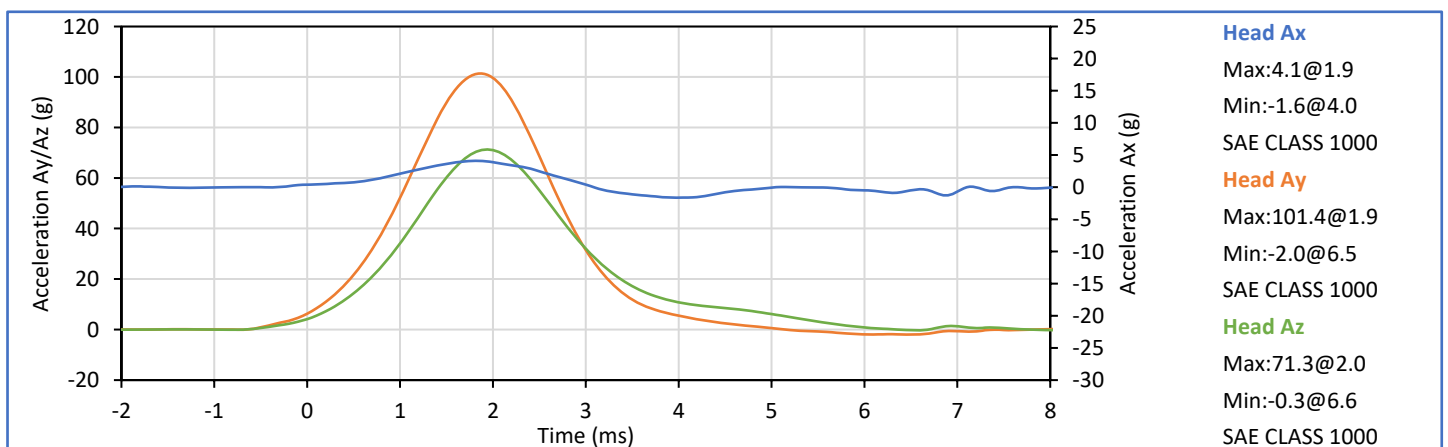
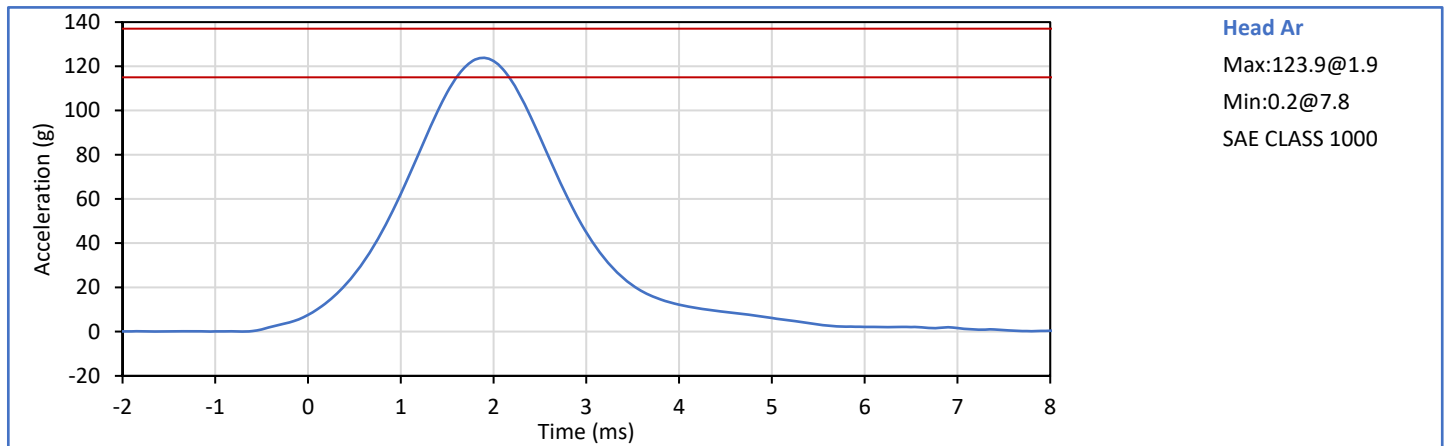
G. Fuentes

Approved By:



J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Relative Humidity	%	10	70	45	Pass
Peak Resultant Acceleration	g	115.0	137.0	123.9	Pass
Peak Head Ax	g	-15.0	15.0	4.1	Pass
Oscillations After Main Pulse	%	0.0	15.0	1.8	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
			Overall Test Results	Pass	



Technician:

G. Fuentes

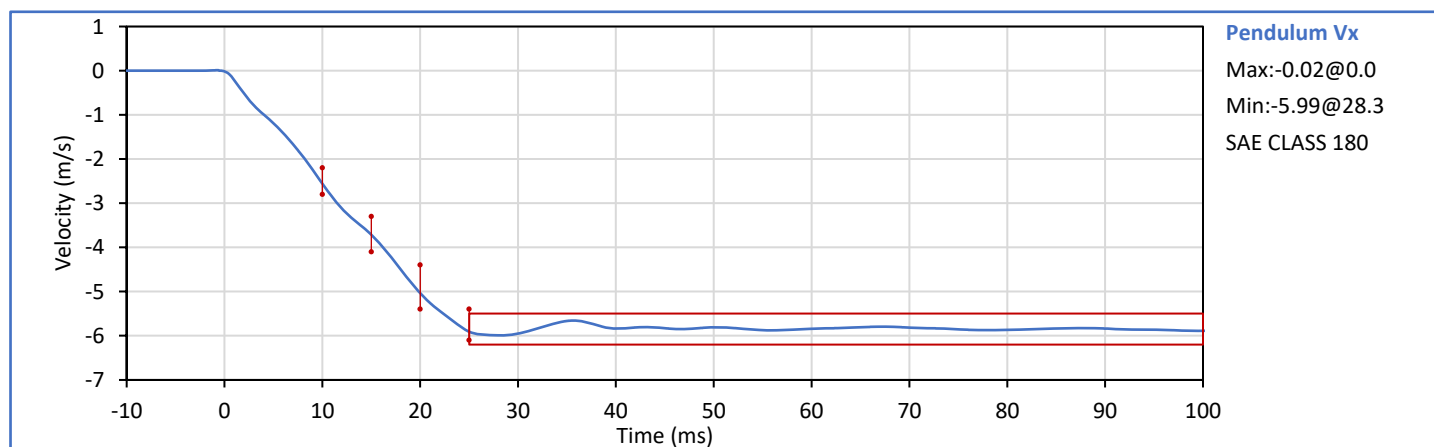
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Pendulum Velocity	m/s	5.51	5.63	5.58	Pass
Pendulum Decel at 10 ms	m/s	-2.80	-2.20	-2.56	Pass
Pendulum Decel at 15 ms	m/s	-4.10	-3.30	-3.72	Pass
Pendulum Decel at 20 ms	m/s	-5.40	-4.40	-5.04	Pass
Pendulum Decel at 25 ms	m/s	-6.10	-5.40	-5.91	Pass
Pendulum Decel from 25-100 ms	m/s	-6.20	-5.50	-5.99/-5.66	Pass
Peak "D" Plane Rotation	deg	-81.0	-71.0	-76.1	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	59.7	Pass
Peak Occ. Condyle Moment	Nm	36.0	44.0	41.8	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	111.0	Pass
				Overall Test Results	Pass



Technician:

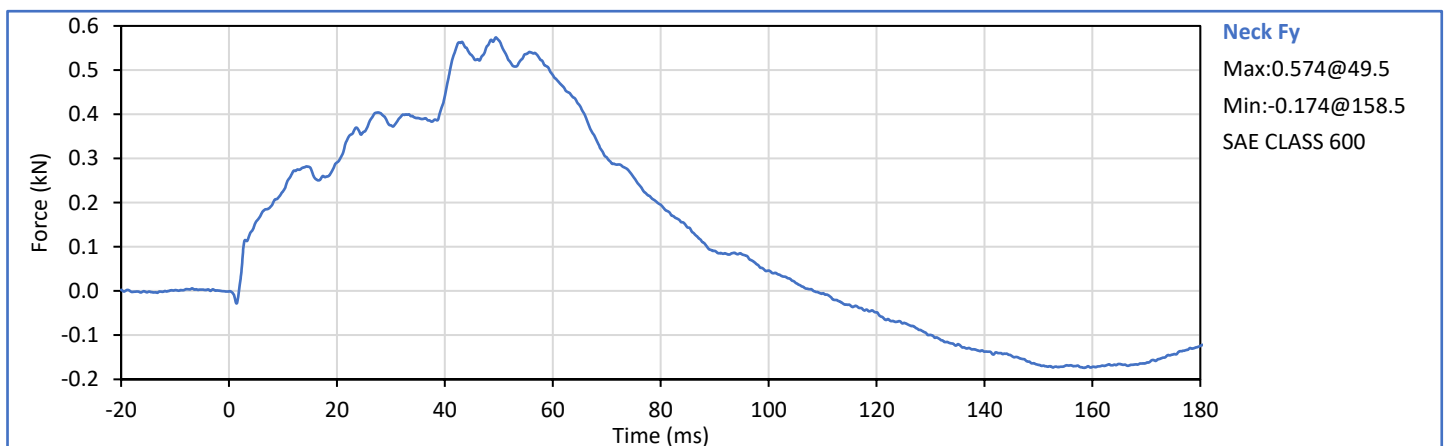
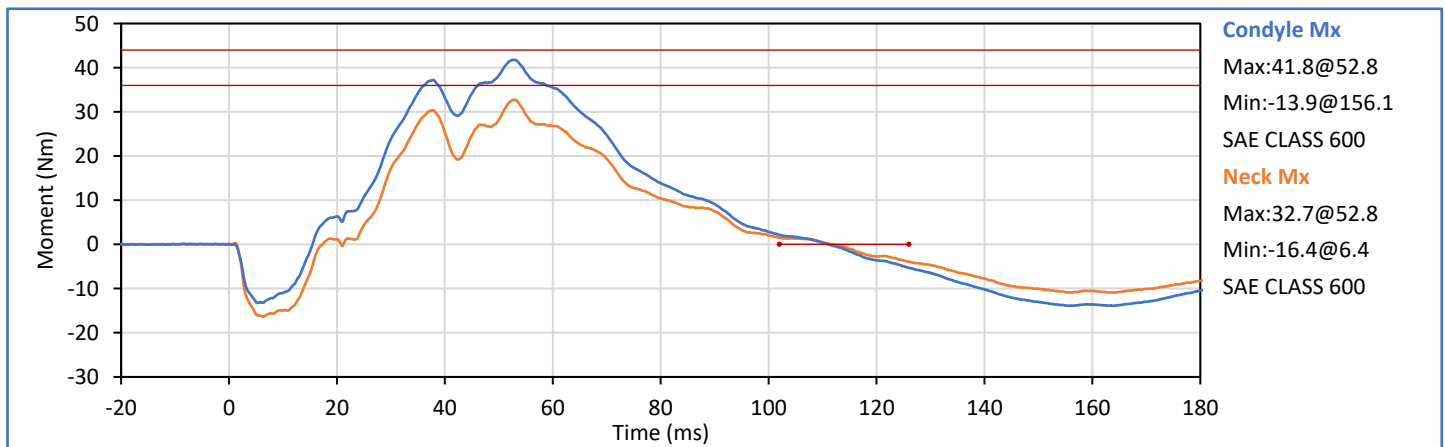
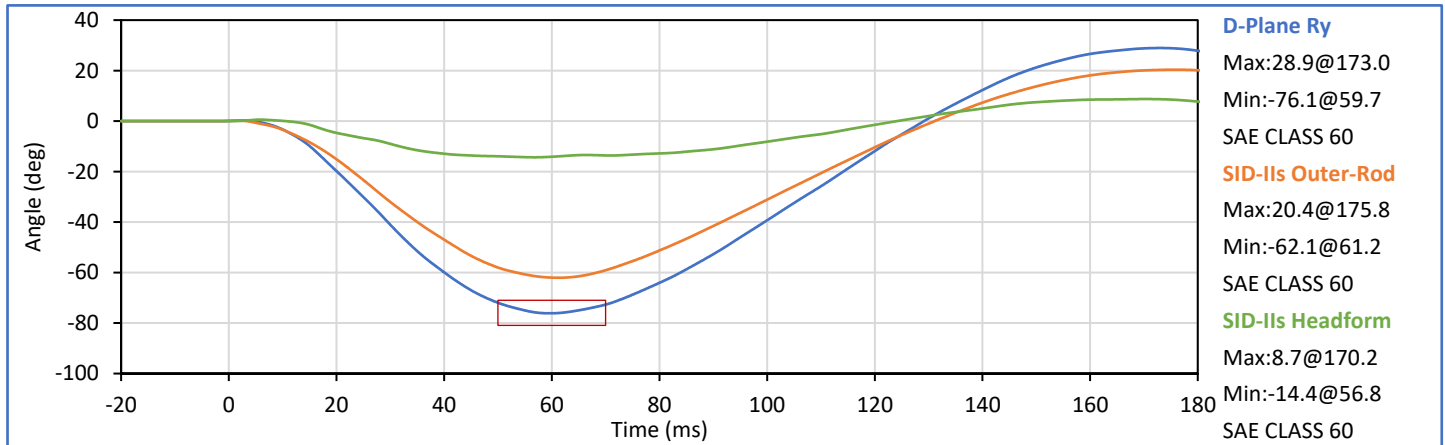
G. Fuentes

G. Fuentes

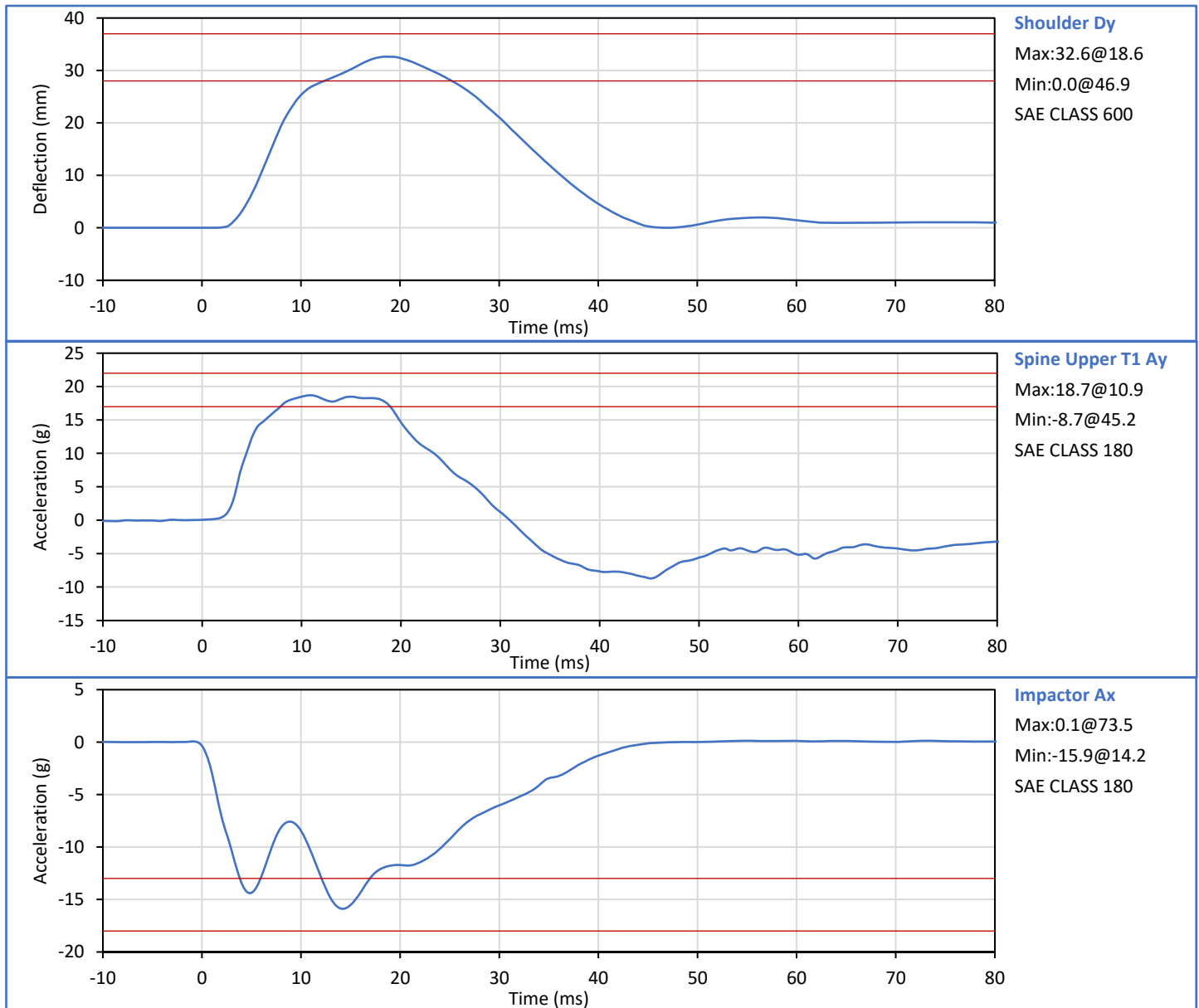
Approved By:

J. Hernandez

J. Hernandez



Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Shoulder Dy	mm	28.0	37.0	32.6	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.7	Pass
Peak Impactor Ax	g	-18.0	-13.0	-15.9	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

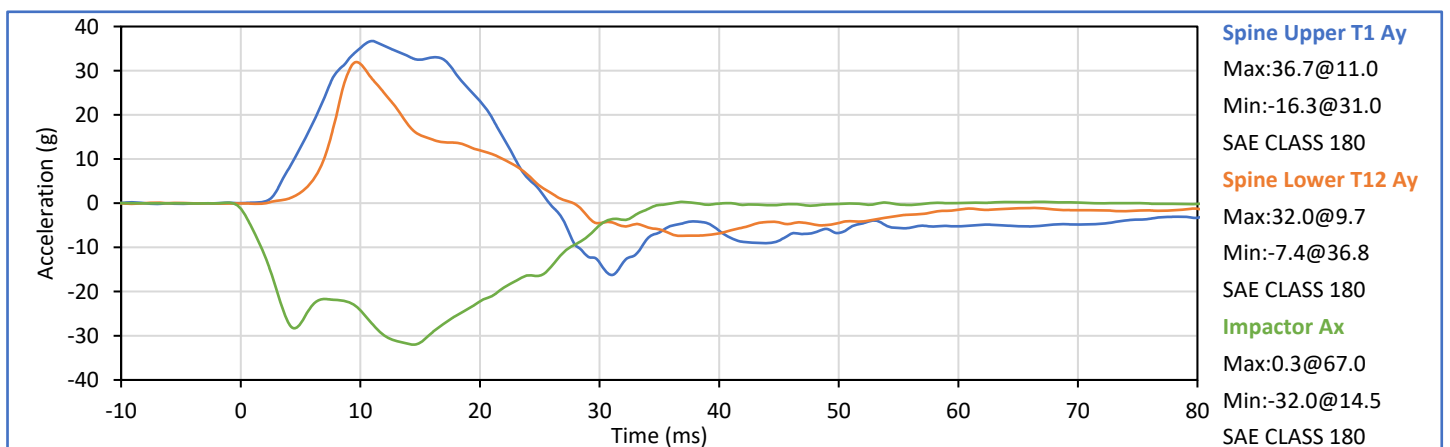
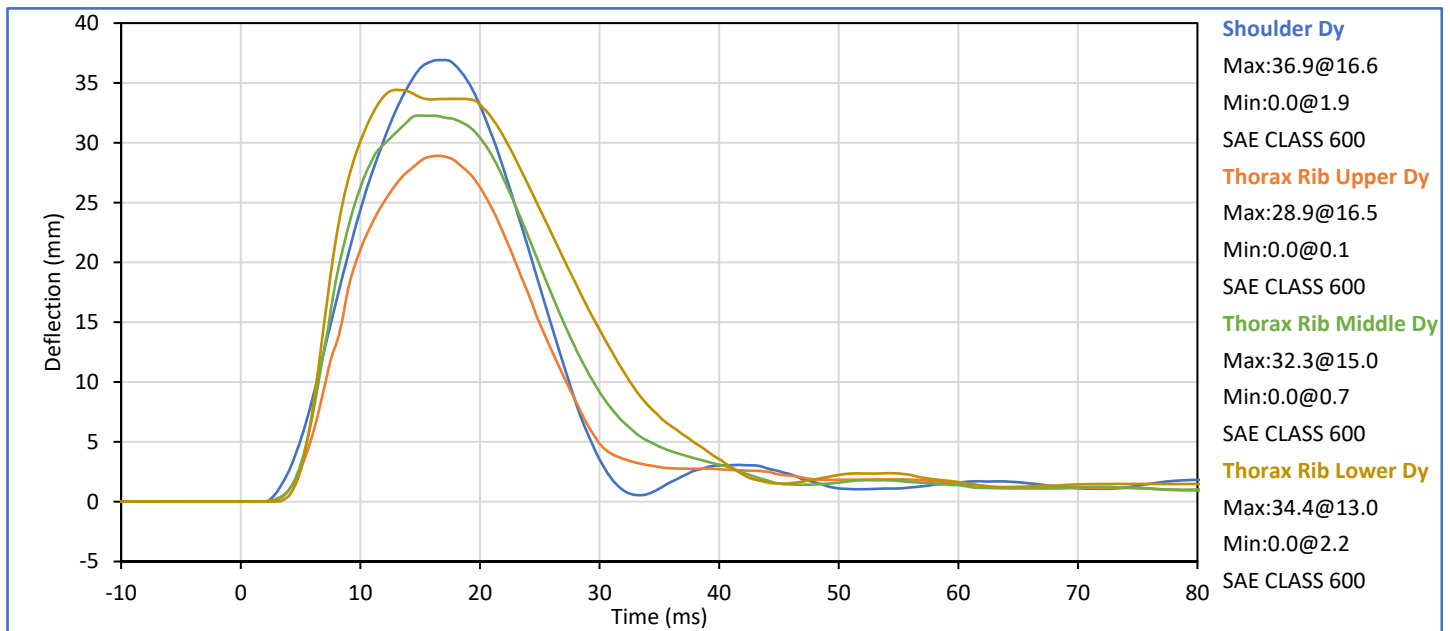
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Shoulder Dy	mm	31.0	40.0	36.9	Pass
Peak Upper Rib Dy	mm	25.0	32.0	28.9	Pass
Peak Middle Rib Dy	mm	30.0	36.0	32.3	Pass
Peak Lower Rib Dy	mm	32.0	38.0	34.4	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	36.7	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	32.0	Pass
Peak Impactor Ax	g	-36.0	-30.0	-32.0	Pass
Overall Test Results				Pass	Pass



Technician:

G. Fuentes

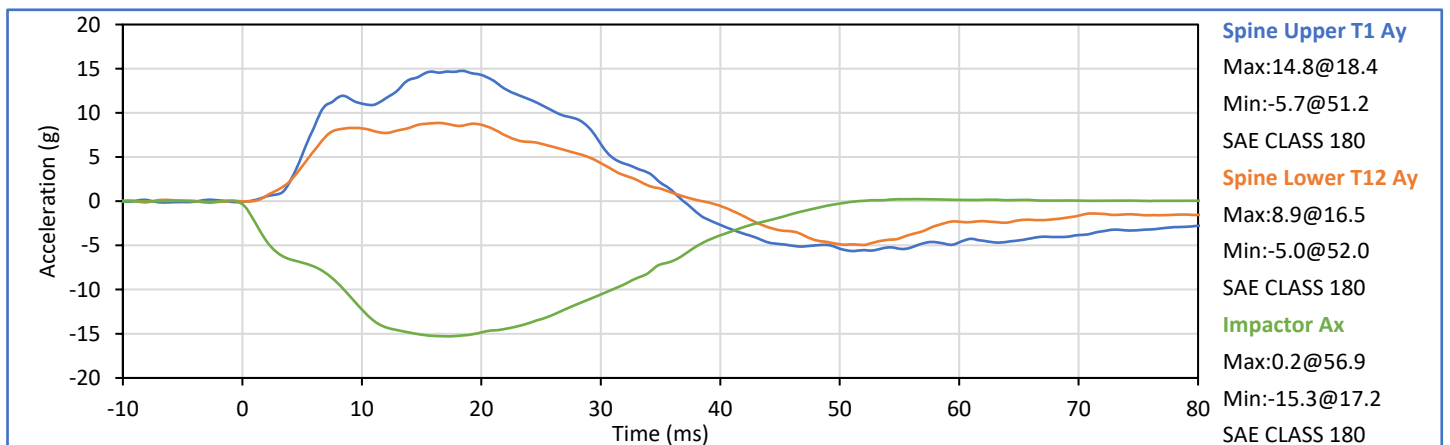
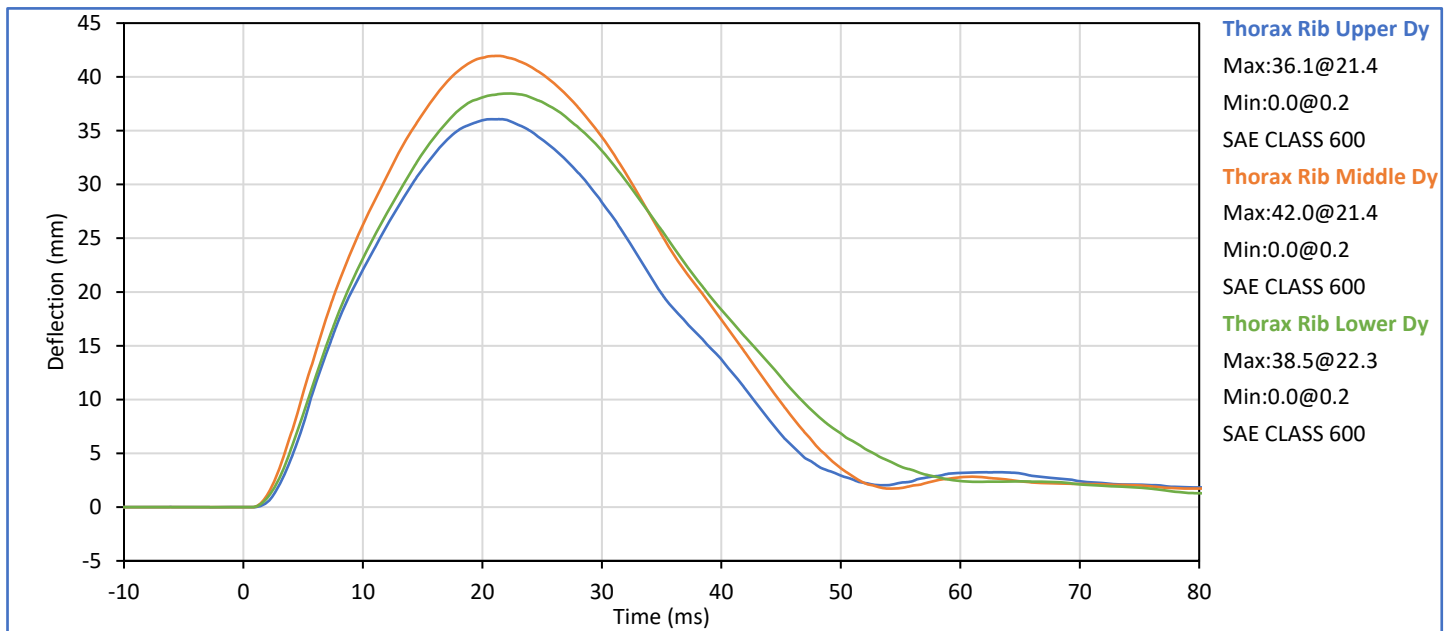
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Thorax Rib Upper Dy	mm	32.0	40.0	36.1	Pass
Peak Thorax Rib Middle Dy	mm	39.0	45.0	42.0	Pass
Peak Thorax Rib Lower Dy	mm	35.0	43.0	38.5	Pass
Peak Spine Upper T1 Ay	g	13.0	17.0	14.8	Pass
Peak Spine Lower T12 Ay	g	7.0	11.0	8.9	Pass
Peak Impactor Ax	g	-18.0	-14.0	-15.3	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

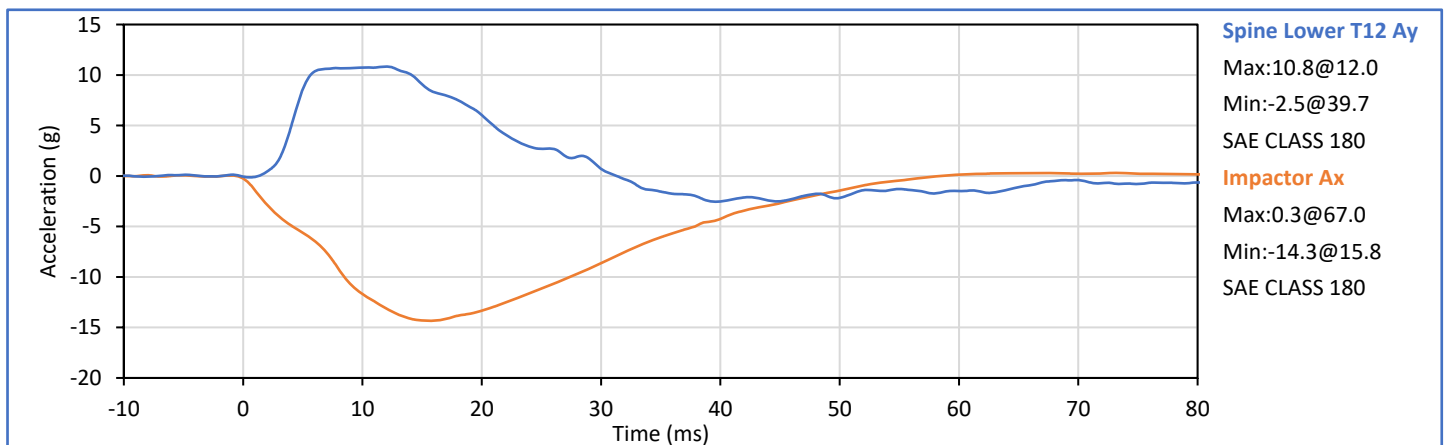
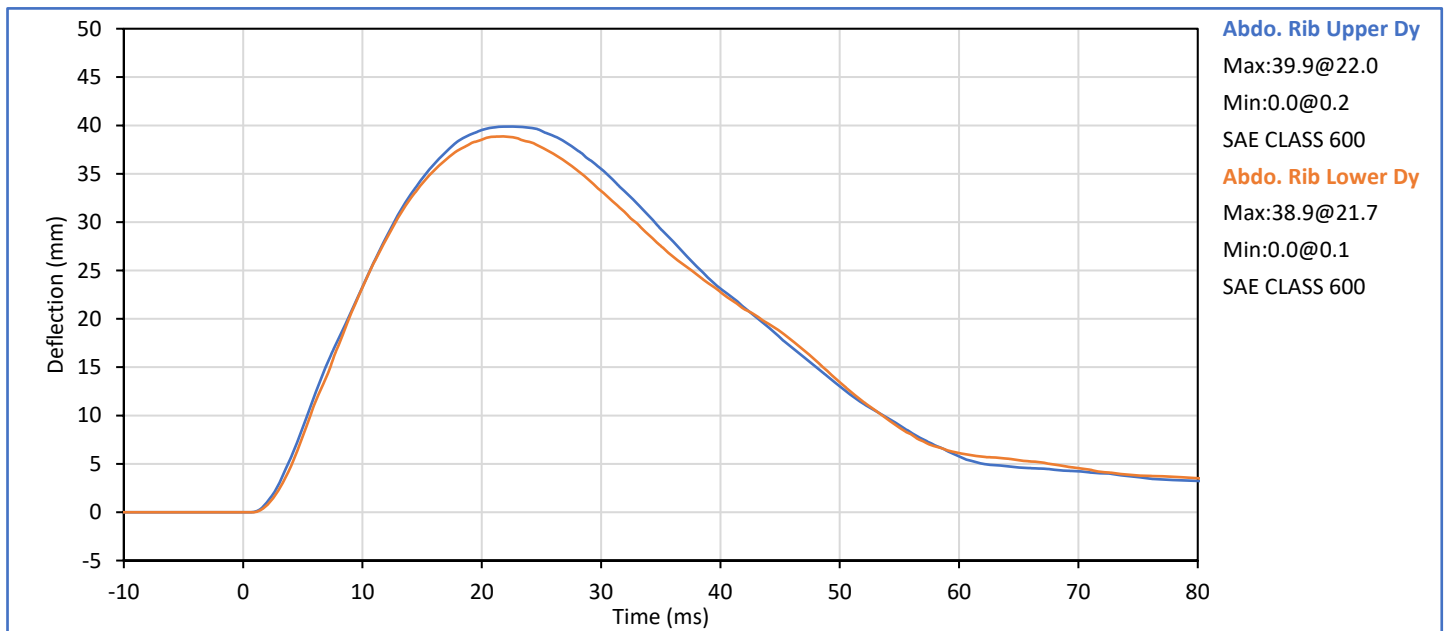
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	39.9	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	38.9	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	10.8	Pass
Peak Impactor Ax	g	-16.0	-12.0	-14.3	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

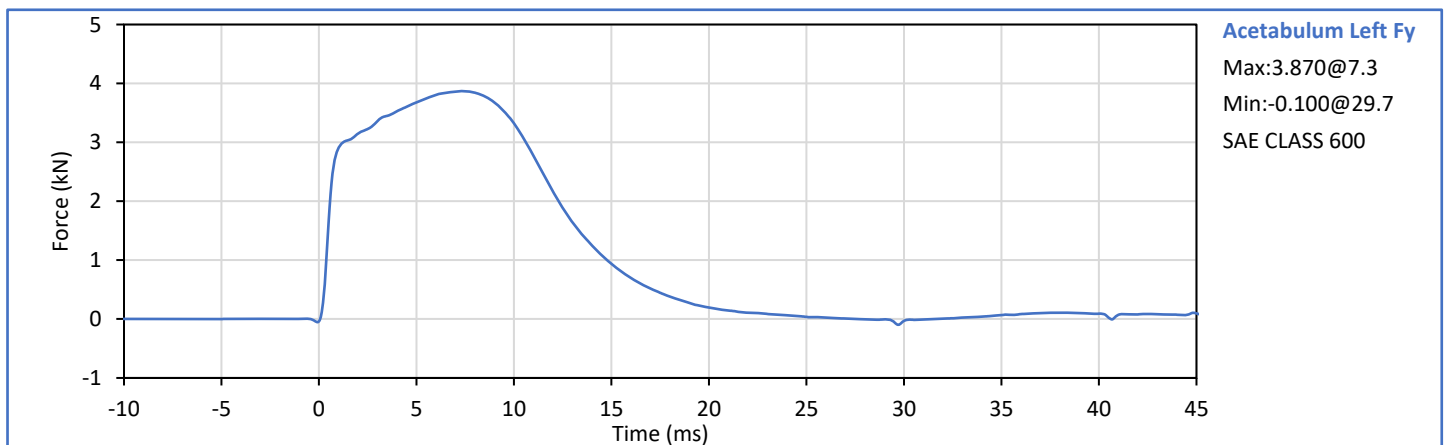
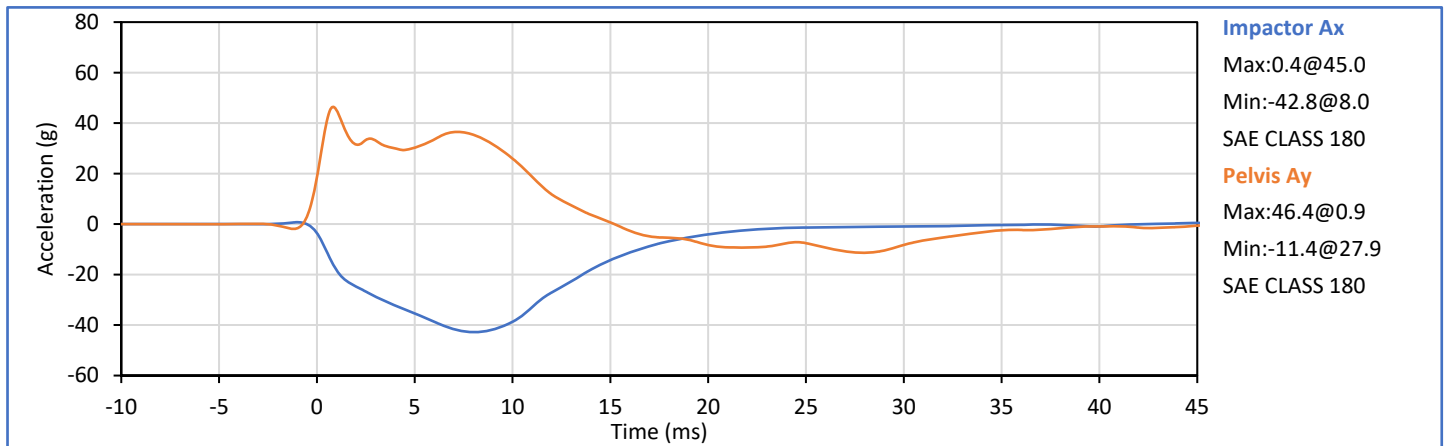
J. Hernandez

ATD Serial No.: 299

Test Date: 2023-10-21

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Acetabulum Fy	kN	3.60	4.30	3.87	Pass
Pelvis Ay after 6ms	g	34.0	42.0	36.6	Pass
Peak Impactor Ax	g	-47.0	-38.0	-42.8	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 14732



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

ATD Serial No.: 299

Test Date: 2023-10-21

Pelvis Plug S/N: 14732



SID-IIs Pelvis Plug Certification Test

Plug S/N 14732

Test Number 16699

Report Number 16745

Test Date 12/23/2020 10:00:22 AM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	272.73	50.00	600.00
Force @ 1.5 mm (N)	1,239.21	850.00	1,400.00
Force @ 2.5 mm (N)	1,501.75	1,306.00	1,618.00
Force @ 3.0 mm (N)	1,535.47	1,361.00	1,673.00

Testing Machine STM-20 5965542

Load Cell S/N (FI360947), Units (LBS) 1000

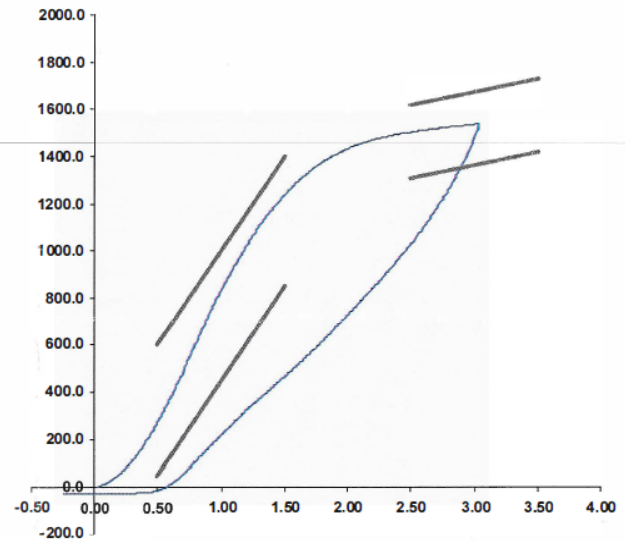
Preload Value (-N) 22.24

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 23-Dec-20
SACO Research

By: DX Date: 12/23/20

SACO Research 41735 Elm St, #401 Murrieta, CA 92562 Tel 310-694-2082 FAX

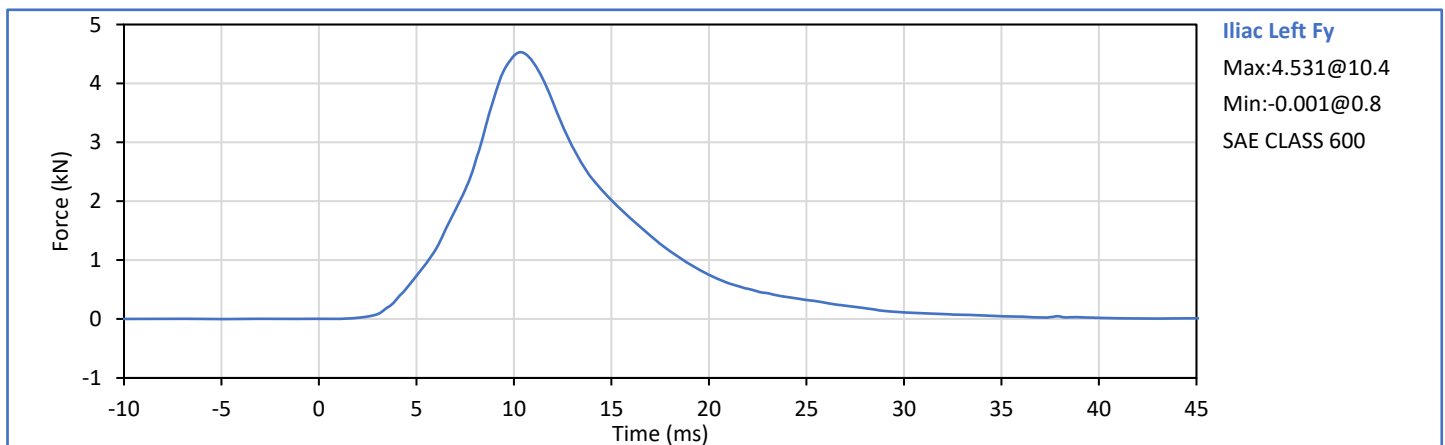
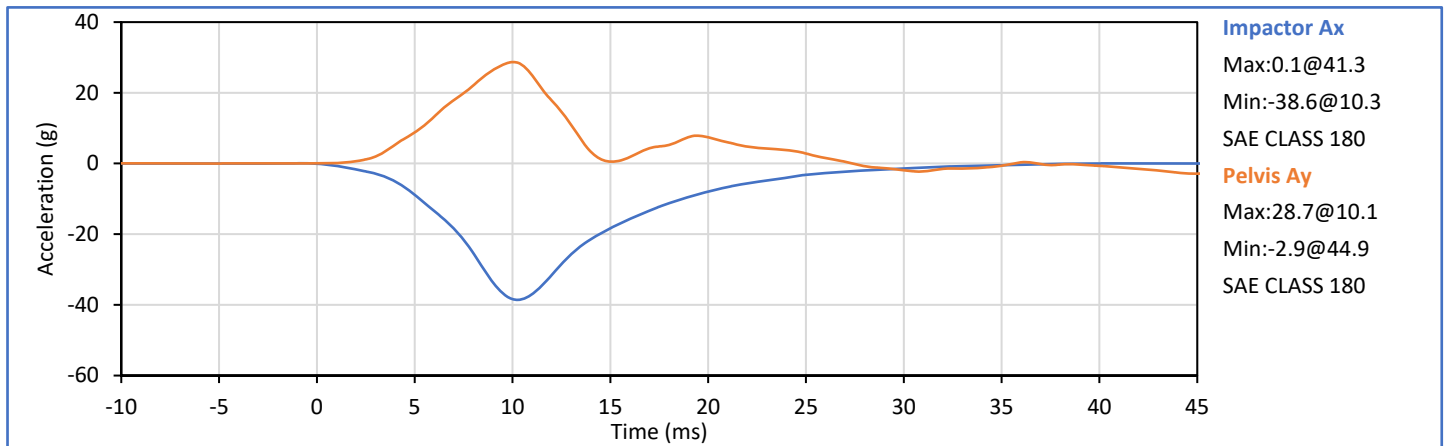
ATD Serial No.: 299

Test Date: 2023-10-24

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.31	Pass
Peak Iliac Fy	kN	4.10	5.10	4.53	Pass
Peak Pelvis Ay	g	28.0	39.0	34.7	Pass
Peak Impactor Ax	g	-45.0	-36.0	-38.6	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 12228 *

* Plug is not impacted and remains certified



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

APPENDIX C
Post-Test ATD Qualification and Performance Verification
SID-IIs Small Side Impact ATD, Left Side Configuration
S/N: 299

ATD Serial No.: 299

Test Date: 2023-10-27

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	45	Pass
A - Sitting Height	mm	772	788	783	Pass
B - Shoulder Pivot Height	mm	437	453	450	Pass
C - Hpoint Height	mm	79	89	83	Pass
D - H Point From Seatback	mm	141	151	150	Pass
E - Shoulder Pivot From Backline	mm	97	107	103	Pass
F - Thigh Clearance	mm	119	135	127	Pass
G - Head Breadth	mm	140	148	147	Pass
H - Head Back From Backline	mm	40	46	43	Pass
I - Head Depth	mm	178	188	182	Pass
J - Head Circumference	mm	541	551	547	Pass
K - Buttock To Knee Length	mm	514	540	525	Pass
L - Popliteal Height	mm	343	369	358	Pass
K - Knee Pivot To Floor Height	mm	392	409	402	Pass
N - Buttock Popliteal Length	mm	416	442	436	Pass
O - Chest Depth W/O Jacket	mm	195	211	207	Pass
P - Foot Length	mm	216	232	225	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	322	Pass
R - Arm Length	mm	249	259	255	Pass
S - Knee Joint To Seatback	mm	477	493	489	Pass
V - Shoulder Width	mm	341	357	352	Pass
W - Foot Width	mm	78	94	85	Pass
Y - Chest Circumference W/Jacket	mm	851	881	870	Pass
Z - Waist Circumference	mm	761	791	777	Pass
				Overall Test Results	Pass

Technician:



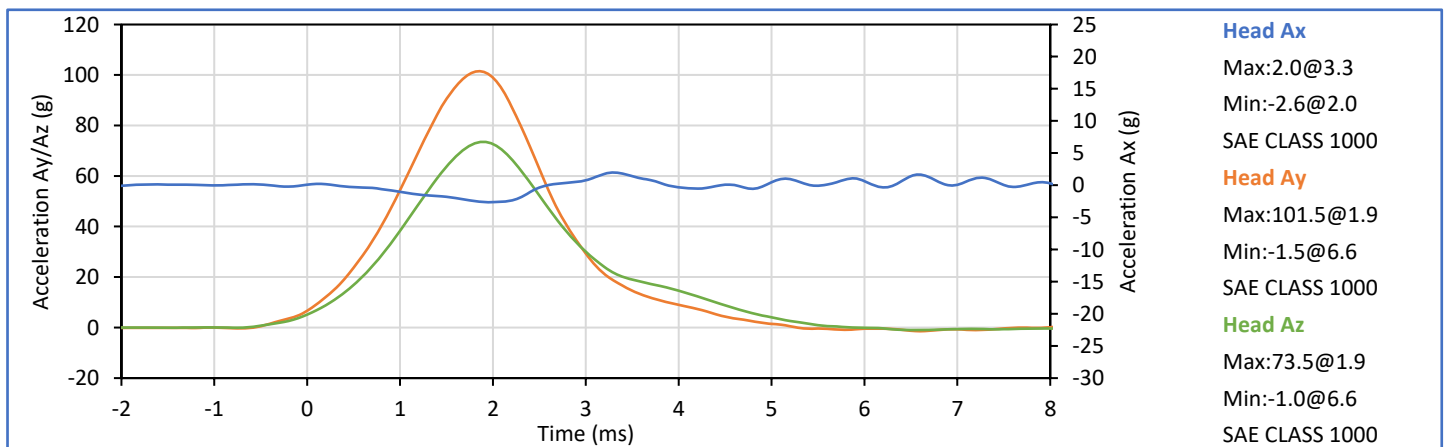
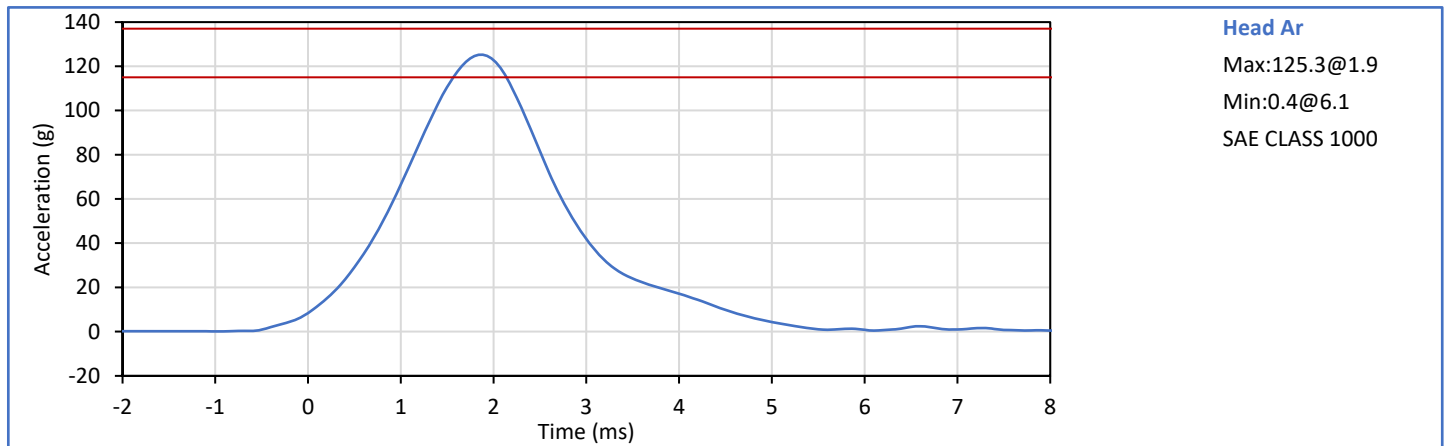
G. Fuentes

Approved By:



J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Relative Humidity	%	10	70	45	Pass
Peak Resultant Acceleration	g	115.0	137.0	125.3	Pass
Peak Head Ax	g	-15.0	15.0	-2.6	Pass
Oscillations After Main Pulse	%	0.0	15.0	1.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
			Overall Test Results		Pass



Technician:

G. Fuentes

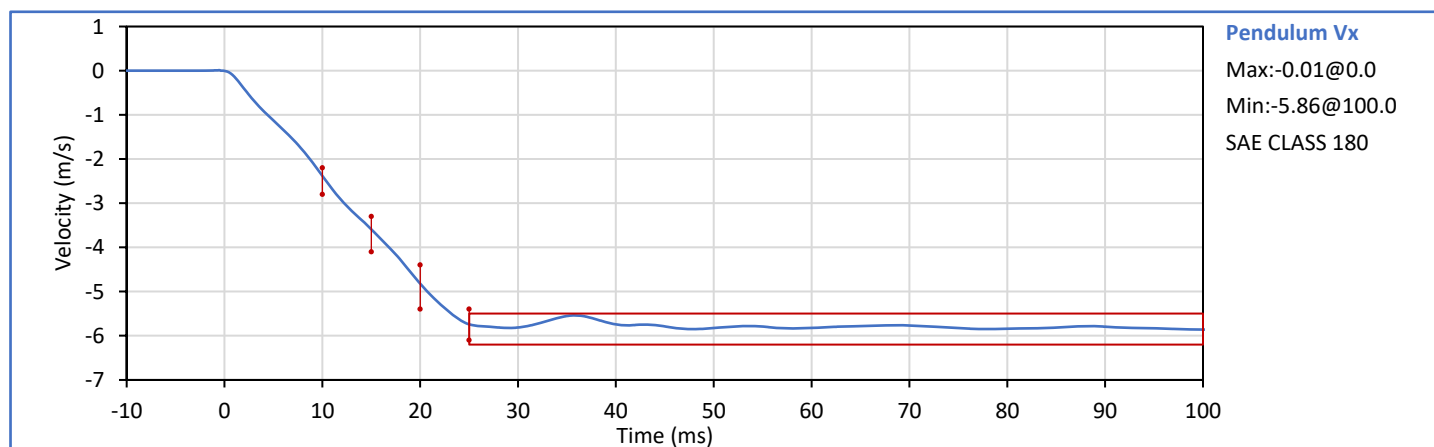
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Pendulum Velocity	m/s	5.51	5.63	5.55	Pass
Pendulum Decel at 10 ms	m/s	-2.80	-2.20	-2.38	Pass
Pendulum Decel at 15 ms	m/s	-4.10	-3.30	-3.59	Pass
Pendulum Decel at 20 ms	m/s	-5.40	-4.40	-4.82	Pass
Pendulum Decel at 25 ms	m/s	-6.10	-5.40	-5.74	Pass
Pendulum Decel from 25-100 ms	m/s	-6.20	-5.50	-5.86/-5.54	Pass
Peak "D" Plane Rotation	deg	-81.0	-71.0	-76.4	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	60.4	Pass
Peak Occ. Condyle Moment	Nm	36.0	44.0	42.0	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	113.9	Pass
Overall Test Results					Pass



Technician:

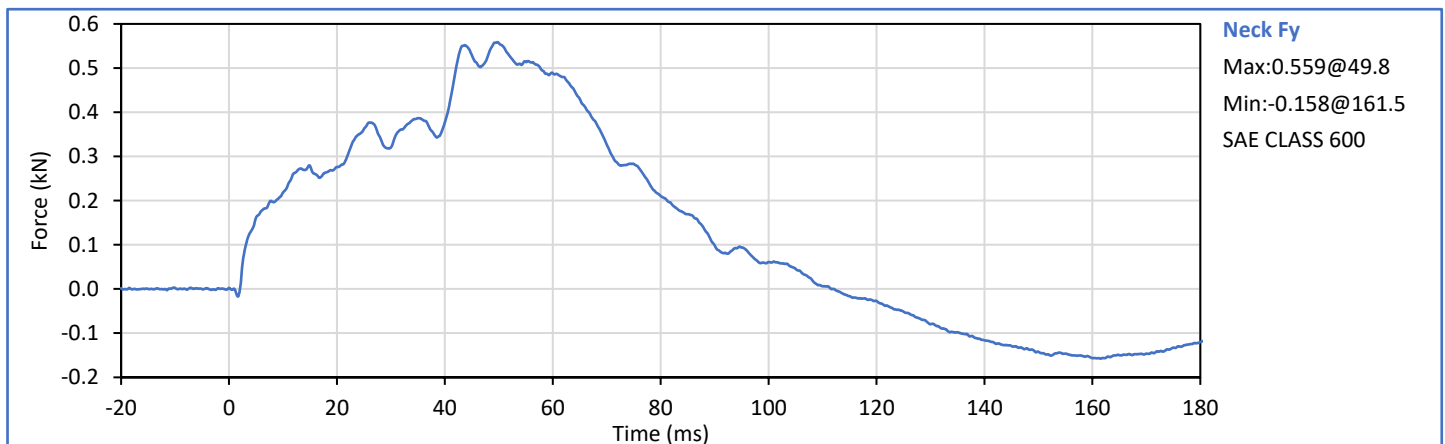
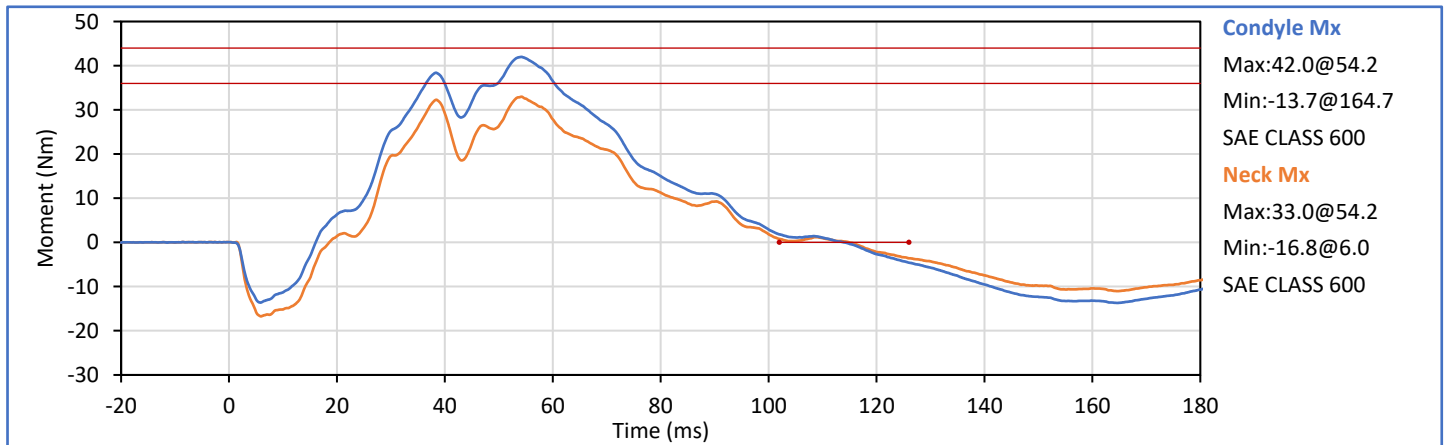
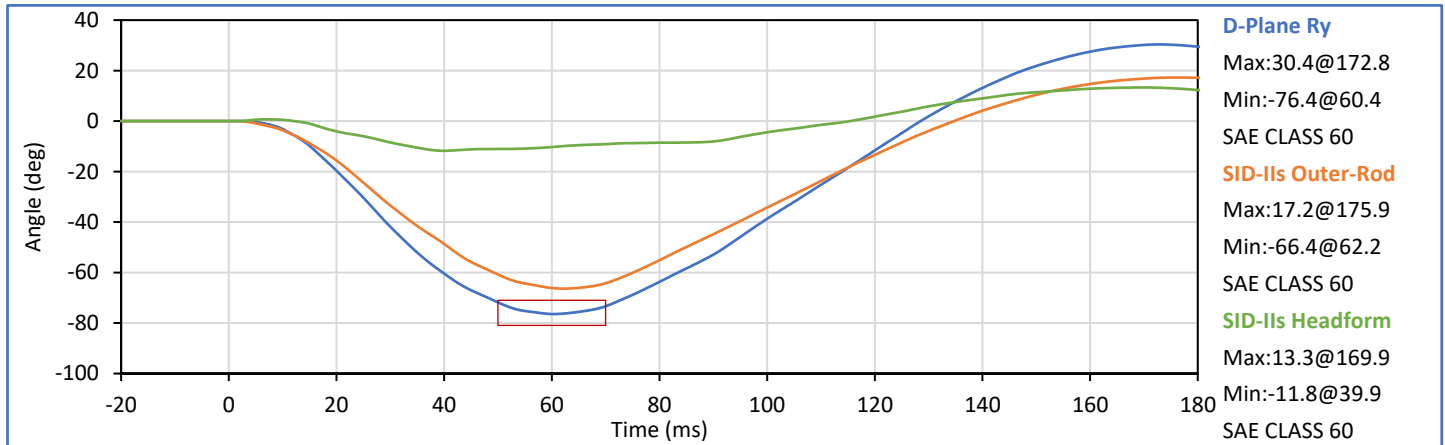
G. Fuentes

G. Fuentes

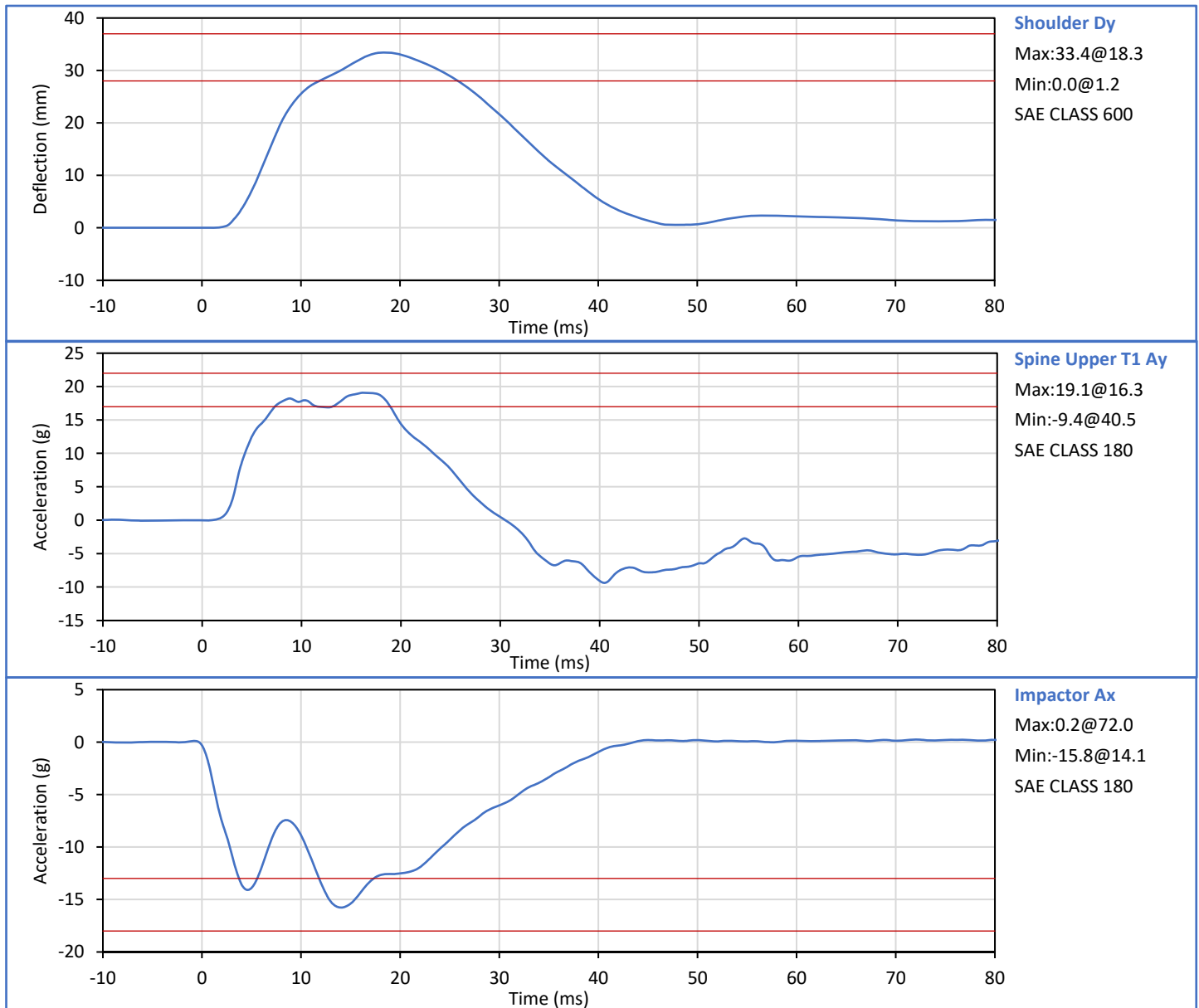
Approved By:

J. Hernandez

J. Hernandez



Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Shoulder Dy	mm	28.0	37.0	33.4	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	19.1	Pass
Peak Impactor Ax	g	-18.0	-13.0	-15.8	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

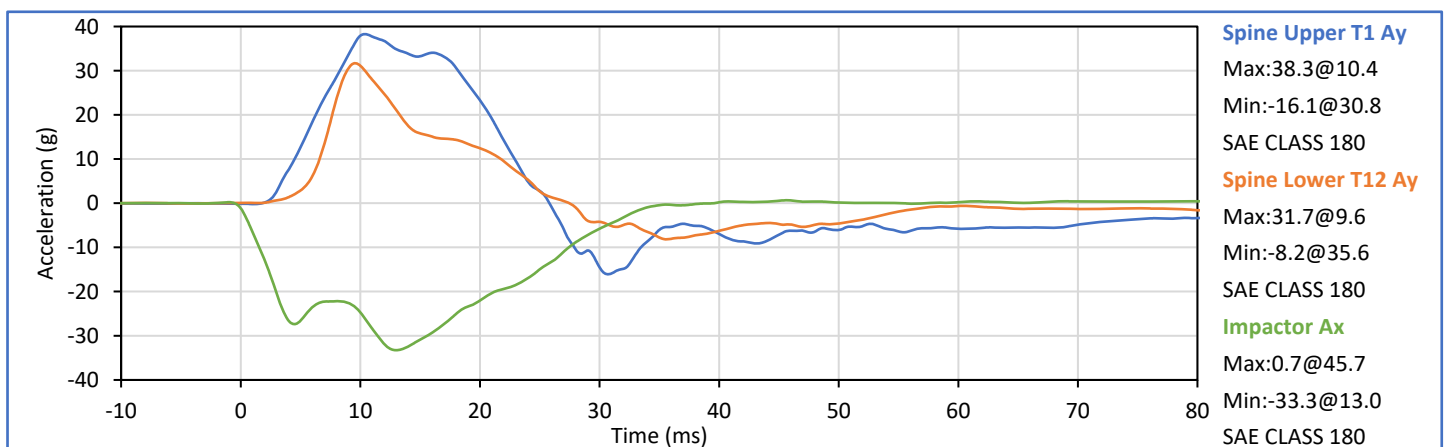
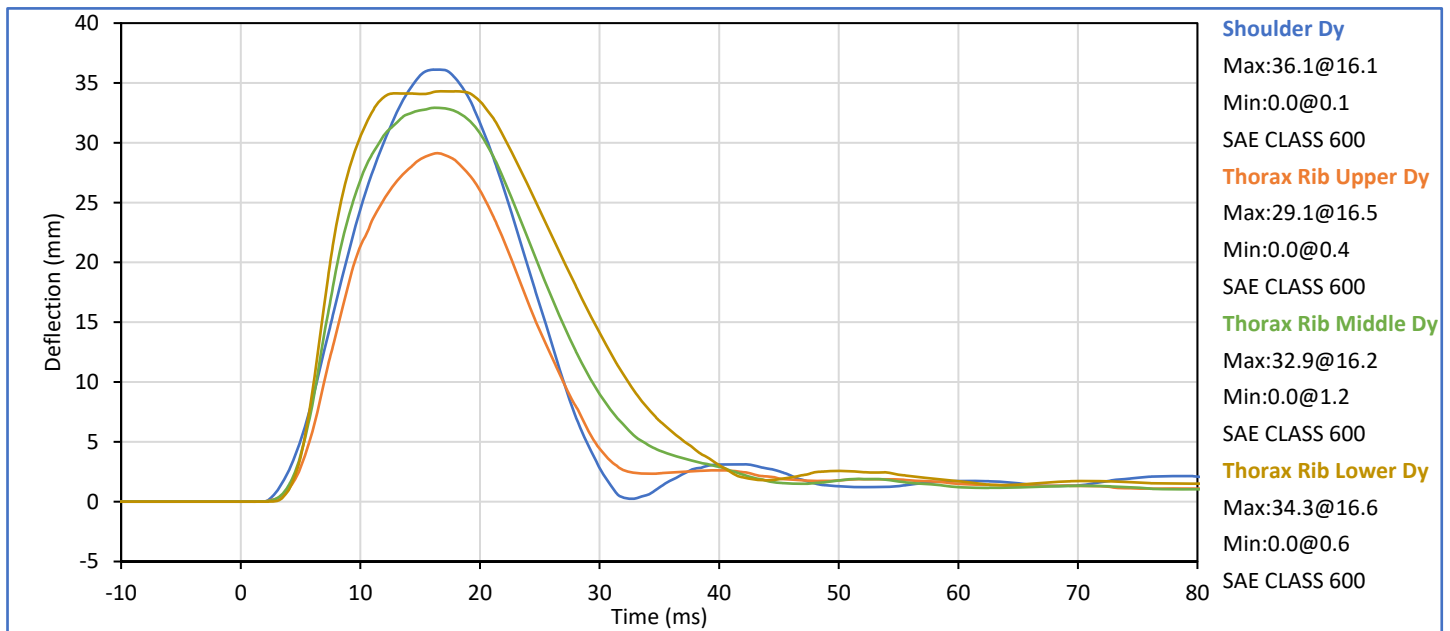
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Shoulder Dy	mm	31.0	40.0	36.1	Pass
Peak Upper Rib Dy	mm	25.0	32.0	29.1	Pass
Peak Middle Rib Dy	mm	30.0	36.0	32.9	Pass
Peak Lower Rib Dy	mm	32.0	38.0	34.3	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	38.3	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	31.7	Pass
Peak Impactor Ax	g	-36.0	-30.0	-33.3	Pass
Overall Test Results				Pass	Pass



Technician:

G. Fuentes

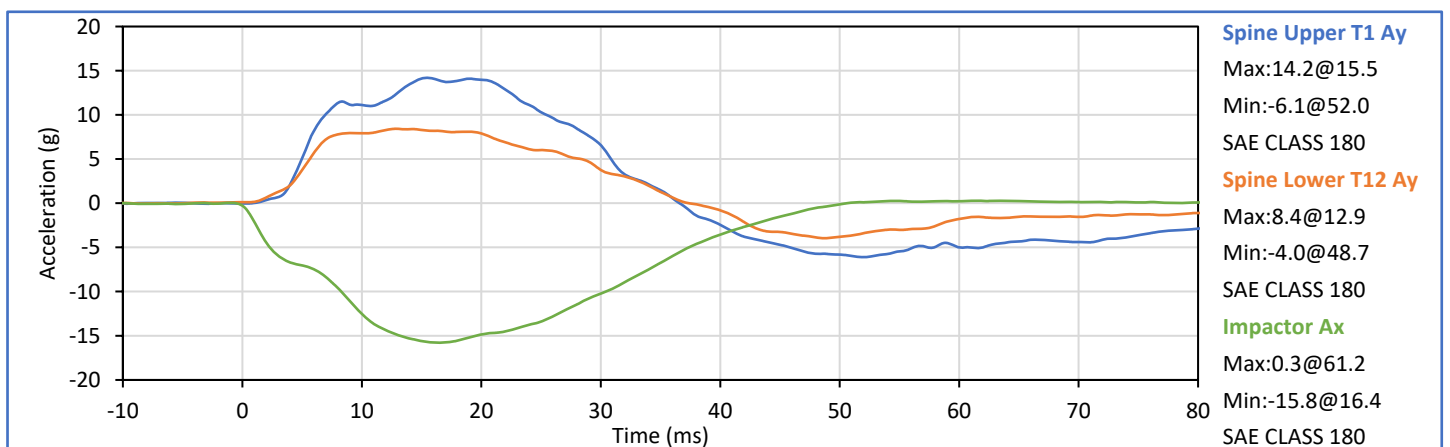
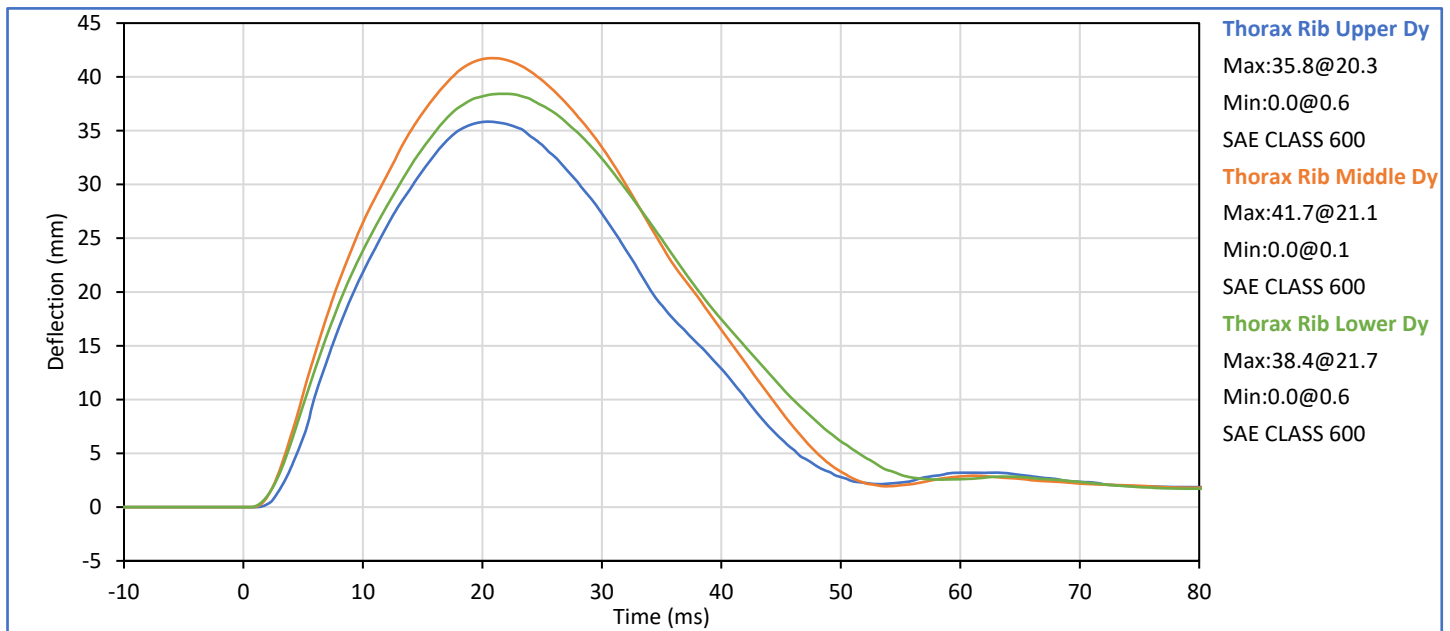
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Thorax Rib Upper Dy	mm	32.0	40.0	35.8	Pass
Peak Thorax Rib Middle Dy	mm	39.0	45.0	41.7	Pass
Peak Thorax Rib Lower Dy	mm	35.0	43.0	38.4	Pass
Peak Spine Upper T1 Ay	g	13.0	17.0	14.2	Pass
Peak Spine Lower T12 Ay	g	7.0	11.0	8.4	Pass
Peak Impactor Ax	g	-18.0	-14.0	-15.8	Pass
Overall Test Results				Pass	Pass



Technician:

G. Fuentes

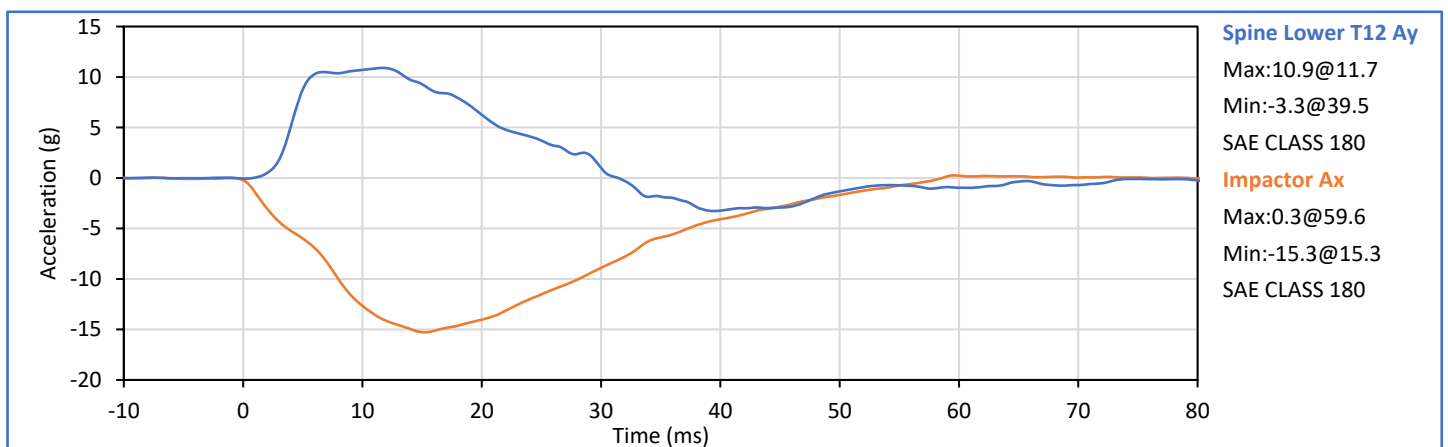
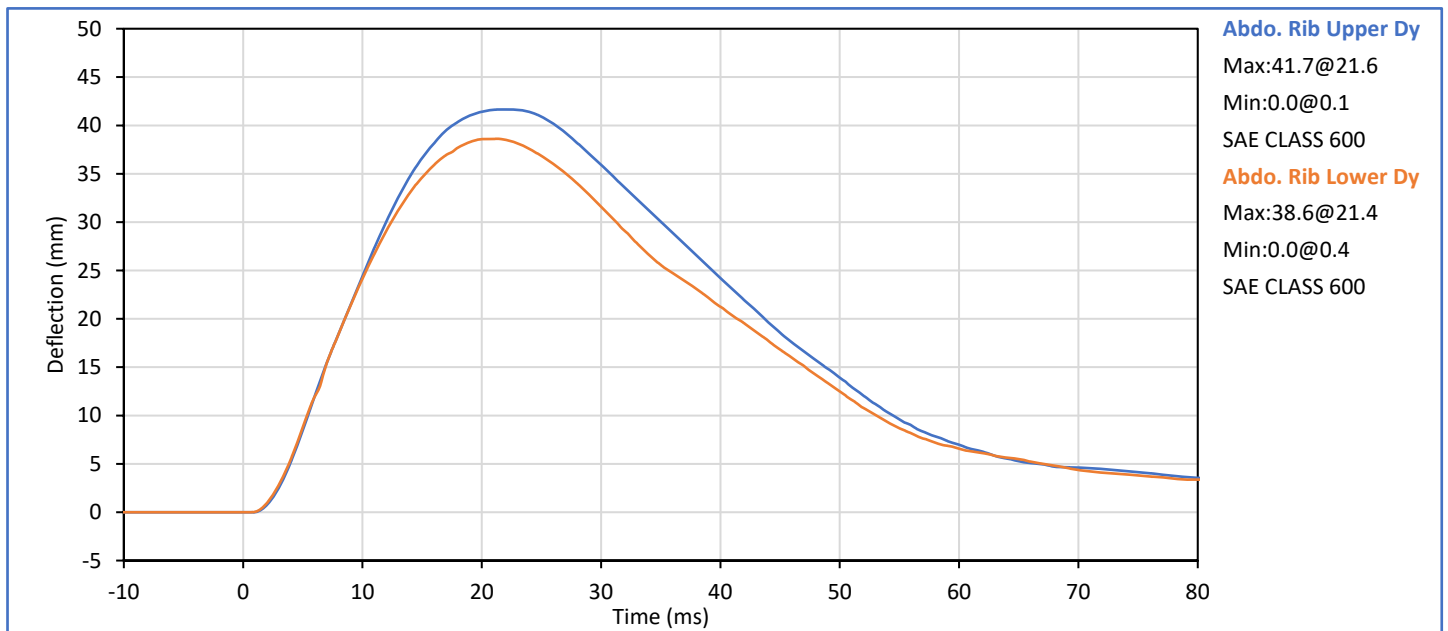
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.31	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	41.7	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	38.6	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	10.9	Pass
Peak Impactor Ax	g	-16.0	-12.0	-15.3	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

G. Fuentes

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J. Hernandez

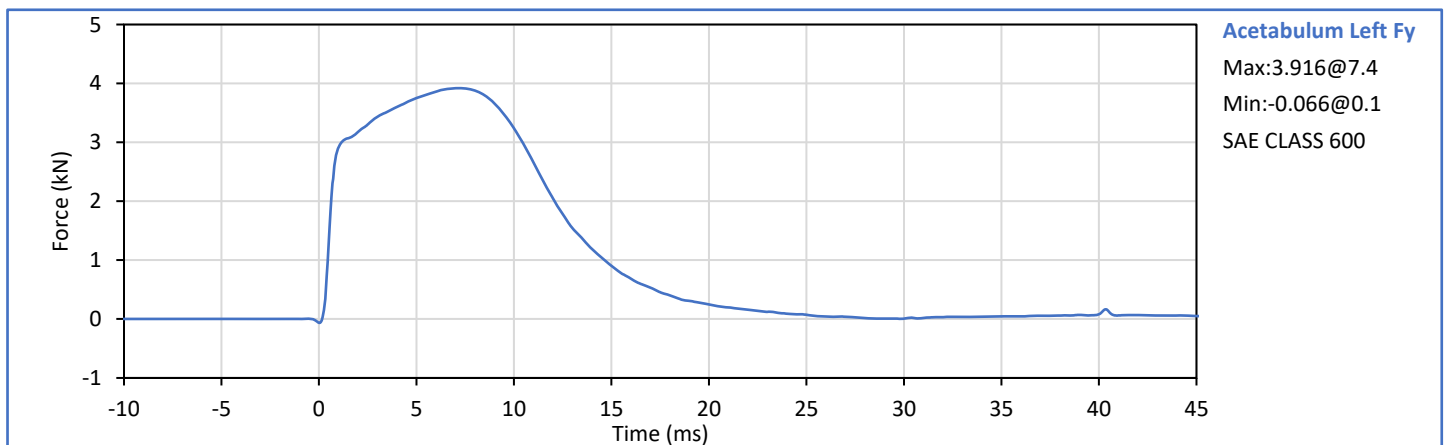
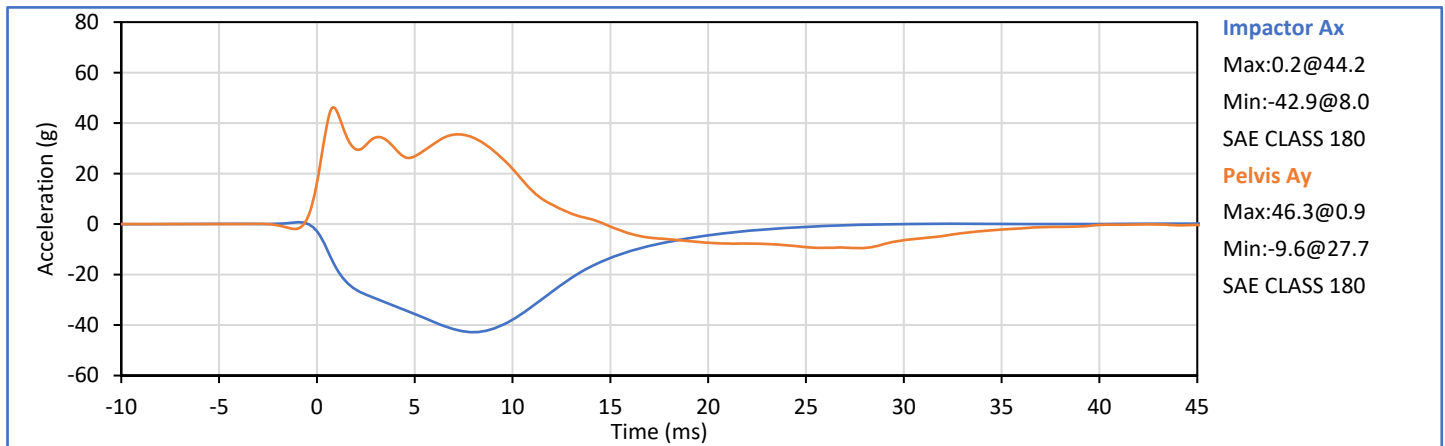
J. Hernandez

ATD Serial No.: 299

Test Date: 2023-10-31

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Impactor Velocity	m/s	6.60	6.80	6.72	Pass
Peak Acetabulum Fy	kN	3.60	4.30	3.92	Pass
Pelvis Ay after 6ms	g	34.0	42.0	35.5	Pass
Peak Impactor Ax	g	-47.0	-38.0	-42.9	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 14835



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

ATD Serial No.: 299

**SID-IIs Small Side Impact ATD
Pelvis Acetabulum Impact**

Test Date: 2023-10-31

Pelvis Plug S/N: 14835



SID-IIs Pelvis Plug Certification Test

Plug S/N 14835

Test Number 16808

Report Number 16854

Test Date 12/29/2020 1:59:08 PM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	258.32	50.00	600.00
Force @ 1.5 mm (N)	1,207.32	850.00	1,400.00
Force @ 2.5 mm (N)	1,473.65	1,306.00	1,618.00
Force @ 3.0 mm (N)	1,512.22	1,361.00	1,673.00

Testing Machine STM-20 5965542

Load Cell S/N (FI360947), Units (LBS) 1000

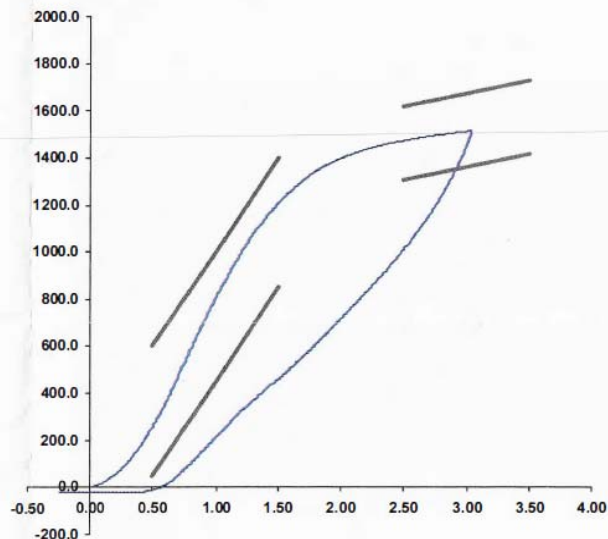
Preload Value (-N) 22.24

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 29-Dec-20
SACO Research

By: DC Date: 12/29/2020

SACO Research 41735 Elm St, #401 Murrieta, CA 92562 Tel 310-694-2082 FAX

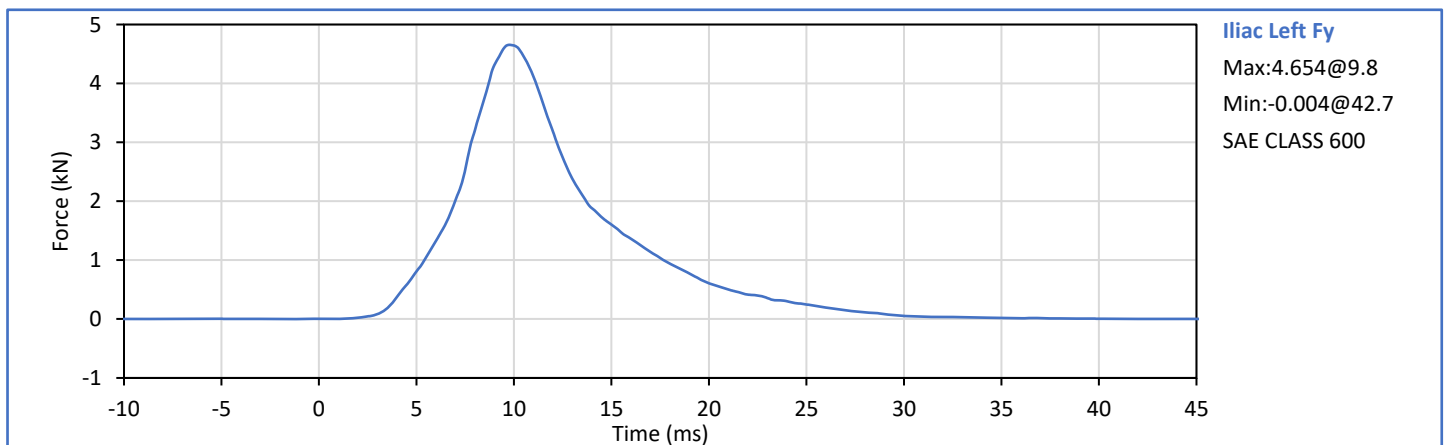
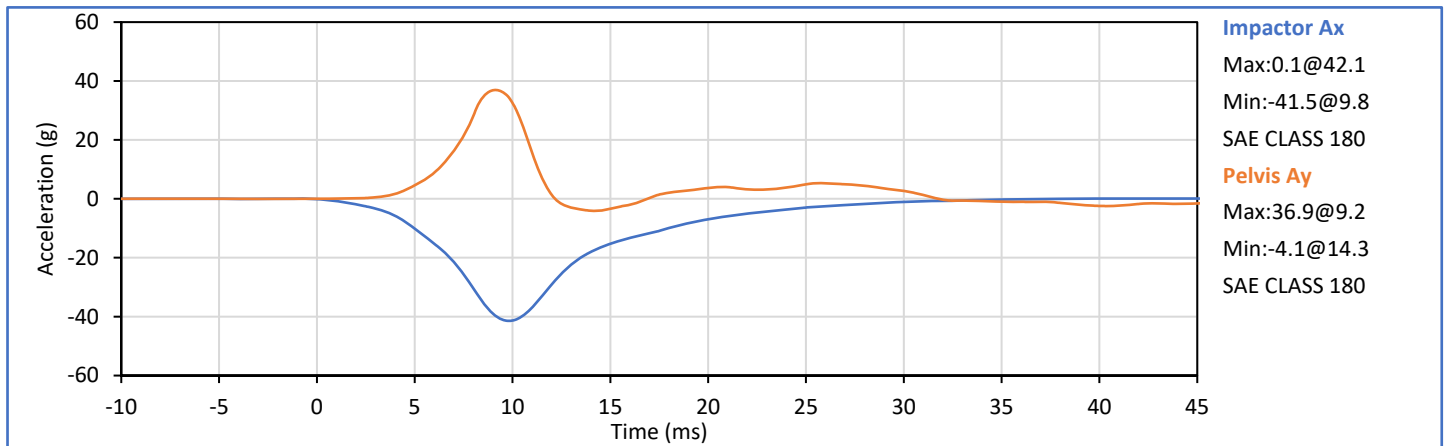
ATD Serial No.: 299

Test Date: 2023-10-31

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	29	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Iliac Fy	kN	4.10	5.10	4.65	Pass
Peak Pelvis Ay	g	28.0	39.0	34.7	Pass
Peak Impactor Ax	g	-45.0	-36.0	-41.5	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 12228 *

* Plug is not impacted and remains certified



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 - Driver ATD Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Head Acceleration X Primary	P51929	Endevco	7264C-2k	2023-10-11
Head Acceleration Y Primary	P50086	Endevco	7264C-2k	2023-10-11
Head Acceleration Z Primary	P51931	Endevco	7264C-2k	2023-10-11
Head Acceleration X Redundant	P68604	Endevco	7264C-2k	2023-10-10
Head Acceleration Y Redundant	P51934	Endevco	7264C-2k	2023-10-11
Head Acceleration Z Redundant	P58736	Endevco	7264C-2k	2023-10-11
Head Rotation Rate X	ARS7510	DTS	ARS PRO-8k (2kHz)	2023-04-07
Head Rotation Rate Y	ARS7573	DTS	ARS PRO-8k (2kHz)	2023-04-07
Head Rotation Rate Z	ARS15689	DTS	ARS PRO-18k (2kHz)	2023-03-13
Upper Thorax Rib Deflection Y	1143	Servo	08TCI-3725	2023-10-15
Middle Thorax Rib Deflection Y	1075	Servo	08TCI-3725	2023-10-15
Lower Thorax Rib Deflection Y	1213	Servo	08TCI-3725	2023-10-15
Upper Abdomen Rib Deflection Y	1218	Servo	08TCI-3725	2023-10-15
Lower Abdomen Rib Deflection Y	1177	Servo	08TCI-3725	2023-10-15
Lower Spine T12 Acceleration X	P58761	Endevco	7264C-2k	2023-10-12
Lower Spine T12 Acceleration Y	P50077	Endevco	7264C-2k	2023-10-12
Lower Spine T12 Acceleration Z	P58795	Endevco	7264C-2k	2023-10-12
Iliac Wing Impact Side Force Y	278 (Iliac)	R.A. Denton	3228J	2023-02-16
Acetabulum Impact Side Force Y	260 (Acetabulum)	R.A. Denton	3249J	2023-02-16

Table 2 - Vehicle Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Vehicle CG Ax	M10902	Endevco	758H-2k	2023-06-30
Vehicle CG Ay	M11268	Endevco	758H-2k	2023-07-07
Vehicle CG Az	M11127	Endevco	758H-2k	2023-06-26
Left Floor Sill Ay	M11271	Endevco	758H-2k	2023-06-28
A-Pillar Sill Ay	M11078	Endevco	758H-2k	2023-06-29
A-Pillar Low Ay	M11086	Endevco	758H-2k	2023-06-27
A-Pillar Mid Ay	M10905	Endevco	758H-2k	2023-06-25
B-Pillar Sill Ay	M11235	Endevco	758H-2k	2023-07-05
B-Pillar Low Ay	M11055	Endevco	758H-2k	2023-06-30
B-Pillar Mid Ay	M11130	Endevco	758H-2k	2023-07-06
Driver Seat Track at H-Point Ay	M11280	Endevco	758H-2k	2023-06-29
Engine Top Ax	M11168	Endevco	758H-2k	2023-06-25
Engine Top Ay	M11065	Endevco	758H-2k	2023-06-23
Firewall Ay	M11183	Endevco	758H-2k	2023-06-26
Right Roof Ay	M11269	Endevco	758H-2k	2023-06-27
Right Floor Sill Ay	M11260	Endevco	758H-2k	2023-09-07
Rear Floorpan Ax	M11085	Endevco	758H-2k	2023-06-23
Rear Floorpan Ay	M11163	Endevco	758H-2k	2023-06-24

Table 3 - Barrier Pole Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Barrier Pole 01 Fx	131822A	Interface	1220AF-50k	2021-11-04
Barrier Pole 02 Fx	132304A	Interface	1220AF-50k	2021-11-04
Barrier Pole 03 Fx	19477	Interface	1220AF-50k	2021-11-04
Barrier Pole 04 Fx	19325	Interface	1220AF-50k	2021-11-04
Barrier Pole 05 Fx	131827A	Interface	1220AF-50k	2021-11-04
Barrier Pole 06 Fx	132302A	Interface	1220AF-50k	2021-11-05
Barrier Pole 07 Fx	19267	Interface	1220AF-50k	2021-11-05
Barrier Pole 08 Fx	19321	Interface	1220AF-50k	2021-11-05