

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

MITSUBISHI MOTORS CORPORATION
2024 MITSUBISHI OUTLANDER 5-DOOR SUV

NHTSA No: M20245600

PREPARED BY:
APPLUS IDIADA KARCO ENGINEERING, LLC.
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JULY 11, 2024

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
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July 11, 2024

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

TECHNICAL REPORT DOCUMENTATION PAGE

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				14. Sponsoring Agency Code NRM-100																												
15. Supplementary Notes																																
16. Abstract A 32.2 km/h 75° rigid pole side NCAP impact test was conducted on the subject 2024 Mitsubishi Outlander 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 Applus IDIADA KARCO Engineering, LLC. facility in Adelanto, California on June 26, 2024. The impact velocity was 32.13 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 36.7°C. The target vehicle's maximum post-test static crush was 349 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>403.847</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td>g</td> <td>82</td> <td>39.088</td> </tr> <tr> <td>Total Pelvic Force (Sum of Acetabular and Iliac Forces)</td> <td>N</td> <td>5525</td> <td>2475.376</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38</td> <td>18.995</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td>mm</td> <td>45</td> <td>16.872</td> </tr> </tbody> </table>						Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)		1000	403.847	Resultant Lower Spine Acceleration	g	82	39.088	Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	2475.376	Maximum Thoracic Rib Deflection	mm	38	18.995	Maximum Abdominal Rib Deflection	mm	45	16.872
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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 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 Mitsubishi Outlander 5-Door SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated March 2020.

SUMMARY

A rigid pole side impact test was conducted on a 2024 Mitsubishi Outlander 5-Door SUV. The subject vehicle was towed into the rigid pole at an angle of 75.6° and a velocity of 32.13 km/h. The test was conducted by Applus IDIADA KARCO Engineering, LLC. in Adelanto, California on June 26, 2024. Pre- and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in Appendix A of this report.

One 299 (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 299 (SID-IIs) was instrumented accordingly:

- Primary and Redundant Head CG tri-axial accelerometers
- Thorax upper, middle and lower rib displacement potentiometers
- Abdomen upper and lower rib displacement potentiometers
- Lower spine (12) 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	403.847
Lower Spine (T12) Resultant Acceleration	g	82	39.088
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2475.376
Maximum Thoracic Rib Deflection	mm	38*	18.995
Maximum Abdominal Rib Deflection	mm	45*	16.872

**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	Yes		
Knee Airbag	Yes	Yes		
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: DRIVER CENTER AIRBAG DEPLOYED

SECTION 2

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20245600
Model Year	2024
Make	Mitsubishi
Model	Outlander
Body Style	5-Door SUV
VIN	JA4J3UA87RZ033278
Body Color	Red Diamond
Odometer Reading (km / mi)	71/44
Engine Displacement (L)	2.5
Type / No. of Cylinders	4 Cylinder
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	8
Overdrive	Yes
Final Drive	FWD
Roof Rack	No
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
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?

Yes; Page 3-7

DATA FROM CERTIFICATION LABEL

Manufactured By	Mitsubishi Motors Corporation
Date of Manufacture	Nov-23
Vehicle Type	MPV

GVWR (kg)	2355
GAWR Front (kg)	1210
GAWR Rear (kg)	1365

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Designated Seating Capacity	2	3	2	7
Capacity Weight (VCW) (kg)				525.0
DSC x 68 (kg)				476.0
Cargo Weight (RCLW) (kg)				49.0

A

B

A-B*

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

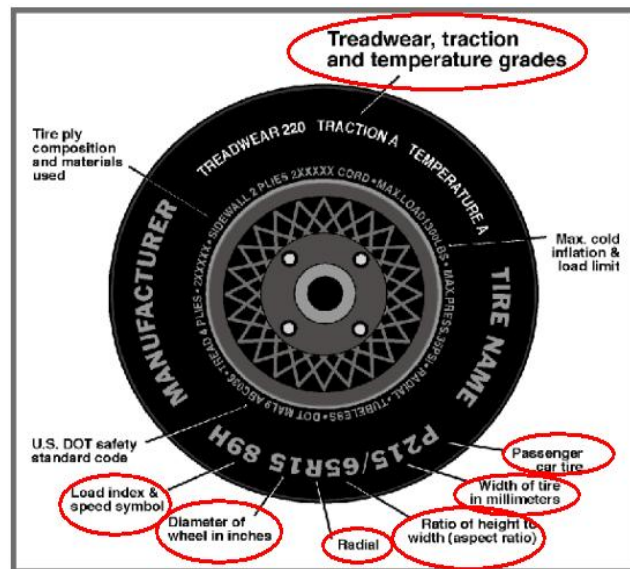
VEHICLE SEAT TYPE

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		Yes			Yes		

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	240
Recommended Tire Size	P235/60R18	P235/60R18
Tire Size on Vehicle	P235/60R18	P235/60R18
Tire Manufacturer	Falken	Falken
Tire Model	ZIEX ZE001A A/S	ZIEX ZE001A A/S
Treadware	360	360
Traction Grade	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	102H	102H
Tire Material	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
DOT Safety Code Left	IV4DC 3M2R4423	IV4DC 3M2R4423
DOT Safety Code Right	IV4DC 3M2R4423	IV4DC 3M2R4423

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	344	344	344	344
Tire Placard	kPa	240	240	240	240
Owner's Manual	kPa	240	240	240	240
As Tested	kPa	240	240	240	240

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	426.5	384.5		491.0	380.5		449.5	432.0	
Right	kg	528.5	301.0		487.5	373.0		522.0	335.0	
Ratio	%	58.2%	41.8%	100.0%	56.5%	43.5%	100.0%	55.9%	44.1%	100.0%
Total	kg	955.0	685.5	1640.5	978.5	753.5	1732.0	971.5	767.0	1738.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1640.5	A
Actual Weight of 1 SID II-s ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	49.0	C
Calculated Vehicle Target Wt (TVTW)	kg	1738.5	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)*	°	0.1	0.0	-0.1	Yes
Front Passenger Sill Angle (front-to-rear)*	°	2.9	2.2	-2.7	Yes
Front Bumper-Line Angle (left-to-right)**	°	0.0	0.1	0.2	Yes
Rear Bumper-Line Angle (left-to-right)**	°	2.0	1.5	-2.1	Yes
Vehicle CG (Aft of Front Axle)	mm	1130	1177	1193	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	-9	5	11	

*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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Rear Trim	1.5
Trunk Lid Cover	2.5
Third Row Seat	27.0
Foam	3.5
Head Rest	1.5

TEST SURFACE MARKINGS

	Distance from 75° Impact Location Line (mm)
Fore 25 mm target	0
Aft 25 mm target	0

DATA SHEET NO. 2**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA**Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24**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	4.6	0.0	2.3
Front Passenger Seat	4.0	0.0	2.0
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed

SEAT 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	2.3	681	Max			
			Mid	654	669	681
			Min			
Front Passenger Seat	2.0	763	Max			
			Mid	745	751	763
			Min			
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	9.6	729	Max			
			Mid	730	730	729
			Min			
Non-Struck Side Rear Seat	10.2	784	Max			
			Mid	783	784	784
			Min			
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

DATA SHEET NO. 2 ... (CONTINUED)

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

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

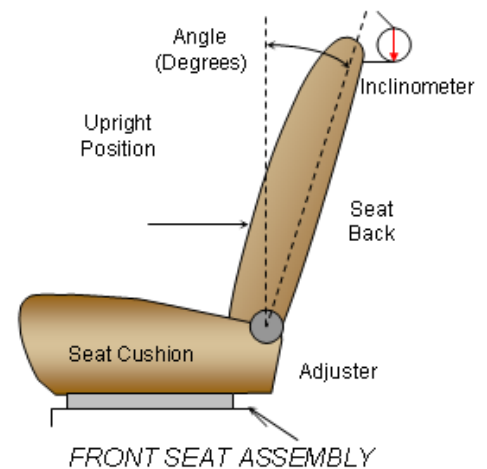
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	260	26	0	
Front Passenger Seat	240	26	0	
Front Center Seat				
Struck Side Rear Seat	240	22	240	22
Non-Struck Side Rear Seat	240	22	240	22
Rear Center Seat	240	22	240	22

*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	61.1	40	13.6	
Front Passenger Seat	57.7	40	13.1	
Front Center Seat				
Struck Side Rear Seat w/Seated Dummy	25.0	22	9.6	
Non-Struck Side Rear Seat	25.0	22	10.2	
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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600

Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

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	M1

HEAD RESTRAINT ADJUSTMENT

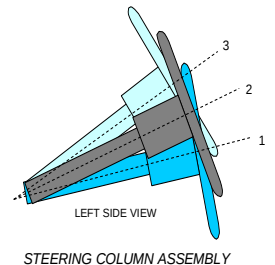
The driver's head restraint is adjusted to the lowest and most full forward in-use position.

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

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	61.2	79
Geometric Center - Position 2	64.0	106
Uppermost - Position 3	66.7	133
Telescoping Steering Wheel Travel		54
Test Position	64.0	106



DATA SHEET NO. 2 ... (CONTINUED)

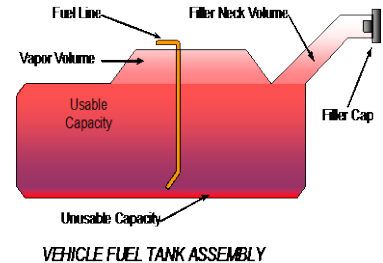
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600

Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

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

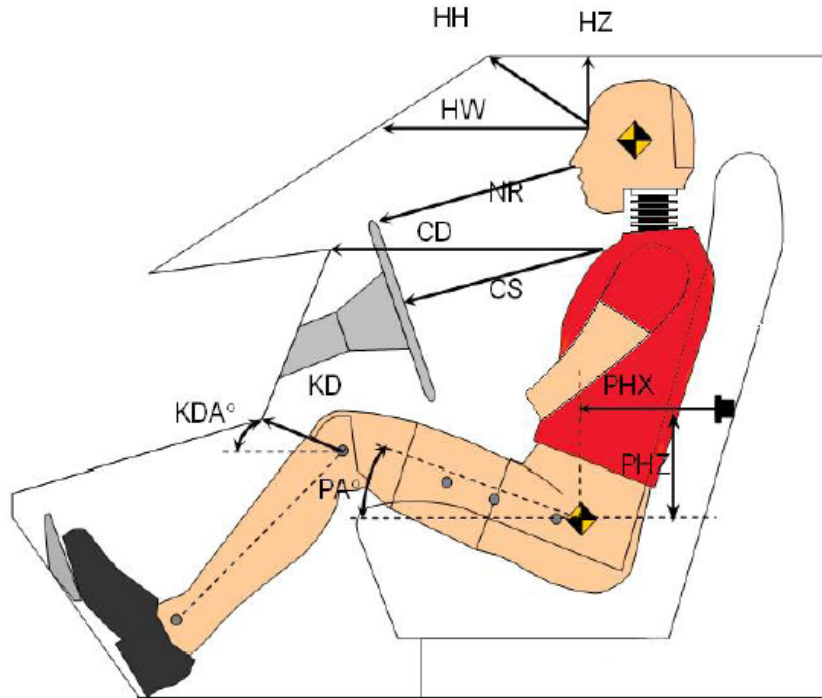
Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	55.00
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)*	
Usable Capacity of "Optional Tank" (see Owner's Manual)*	
93% of Usable Capacity	51.15
Actual amount of Solvent Used in Test	51.15
1/3 of Usable Capacity	18.33

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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



Driver Code	Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	316	
HW	Head to Windshield	671	
HZ	Head to Roof	212	
NR	Nose to Rim	228	
CD	Chest to Dash	406	
CS	Chest to Steering Wheel	147	
KD(L)/KDA(L)°	Left Knee to Dash	116	17.6
KD(R)/KDA(R)°	Right Knee to Dash	65	43.4
PAX°	Pelvic Tilt Angle (x-axis)		20.3
PAY°	Pelvic Tilt Angle (y-axis)		0.0
PHX	Hip Point to Striker (x-axis)	412	
PHZ	Hip Point to Striker (z-axis)	232	

DATA SHEET NO. 4

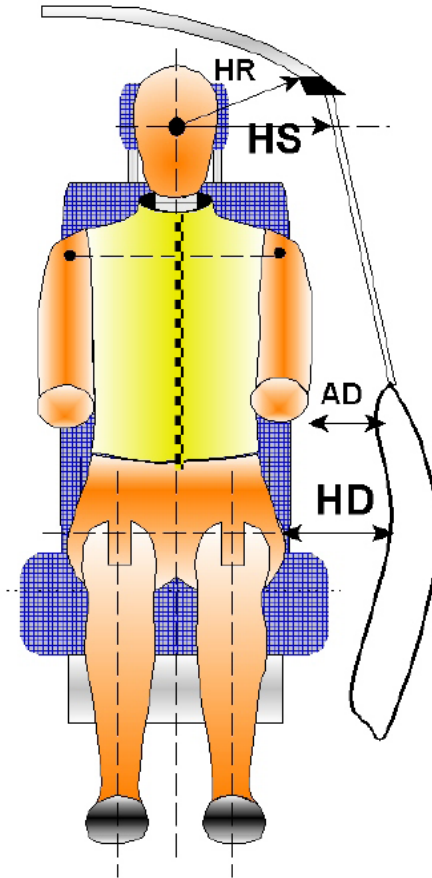
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV

NHTSA No. M20245600

Test Program: NCAP Side Pole Impact Test

Test Date: 06/26/24

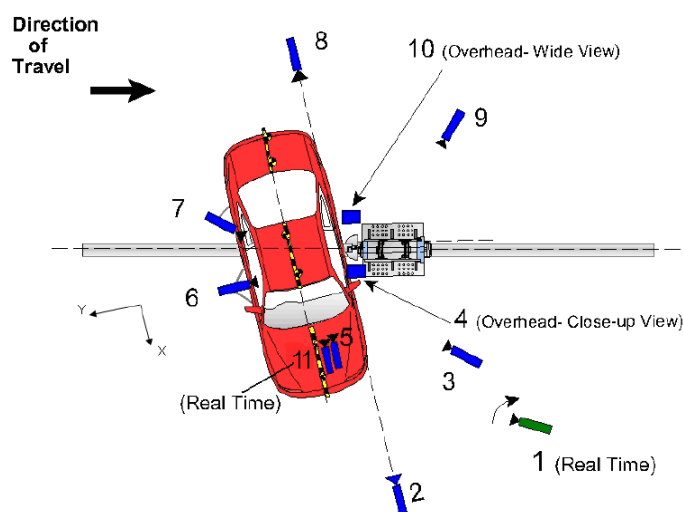


Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	256
HS	Head to Side Window	mm	378
AD	Arm to Door	mm	182
HD	Hip Point to Door	mm	178

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



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

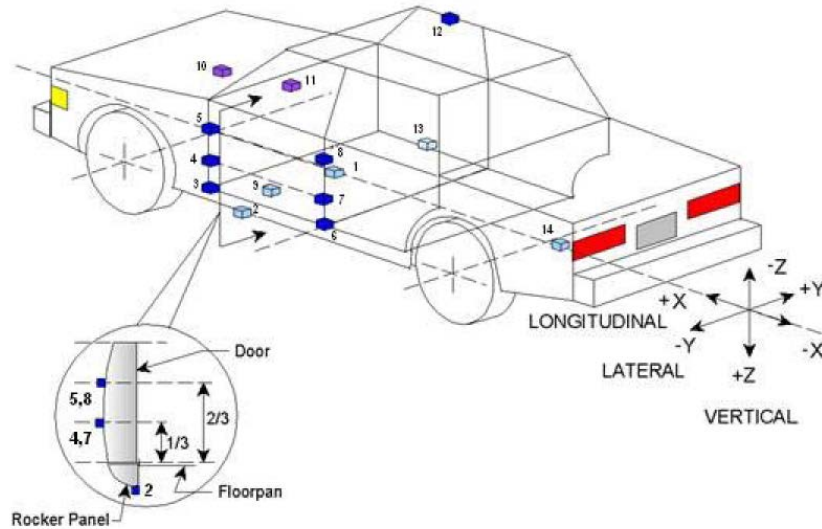
INSTRUMENTATION

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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

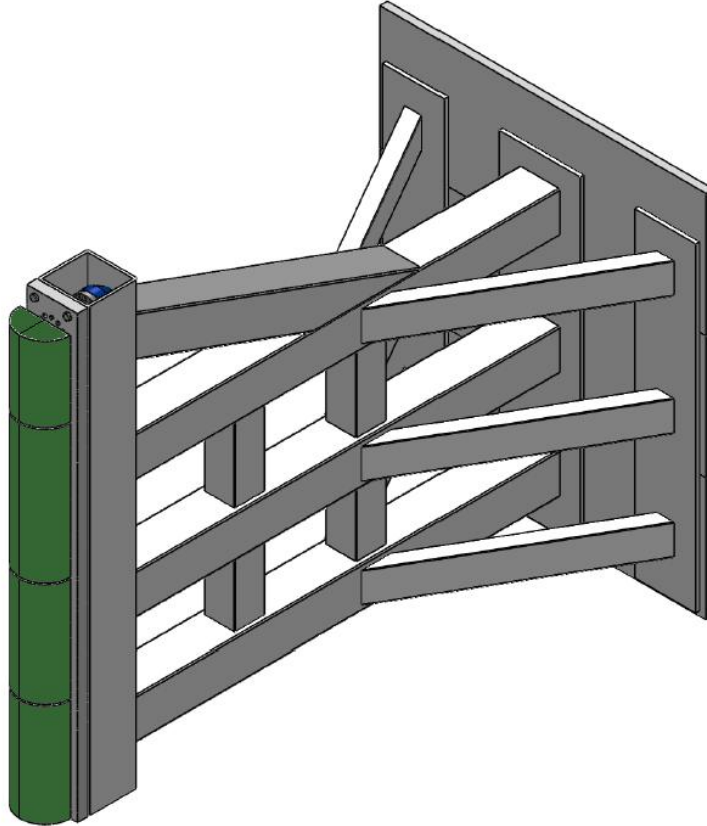


Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2110	0	-475
2	Left Floor Sill	2870	-675	-435
3	A-Pillar Sill	3180	-810	-190
4	A-Pillar Low	3180	-810	-360
5	A-Pillar Mid	3180	-810	-600
6	B-Pillar Sill	2010	-735	-190
7	B-Pillar Low	2010	-735	-350
8	B-Pillar Mid	2010	-735	-600
9	Driver Seat Track	2510	-580	-150
10	Engine Top	3880	100	-620
11	Firewall	3560	0	-590
12	Right Roof	2010	679	-1650
13	Right Floor Sill	2870	675	-435
14	Rear Floorpan	780	0	-475

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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	Curtain Air Bag, Frontal Air Bag, Center Air Bag
Top of Head	Curtain Air Bag, Center Air Bag
Left Side of Head	Curtain Air Bag, Frontal Air Bag
Back of Head	Headrest, Curtain Air Bag
Left Shoulder	Curtain Air Bag, Torso Air Bag
Upper Torso	Torso/Pelvis Air Bag, Seat Bolster
Lower Torso	Torso/Pelvis Air Bag, Seat Bolster
Left Hip	Torso/Pelvis Air Bag, Seat Bolster
Left Knee	None

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	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 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

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	None

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	Yes		
Knee Airbag	Yes	Yes		
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

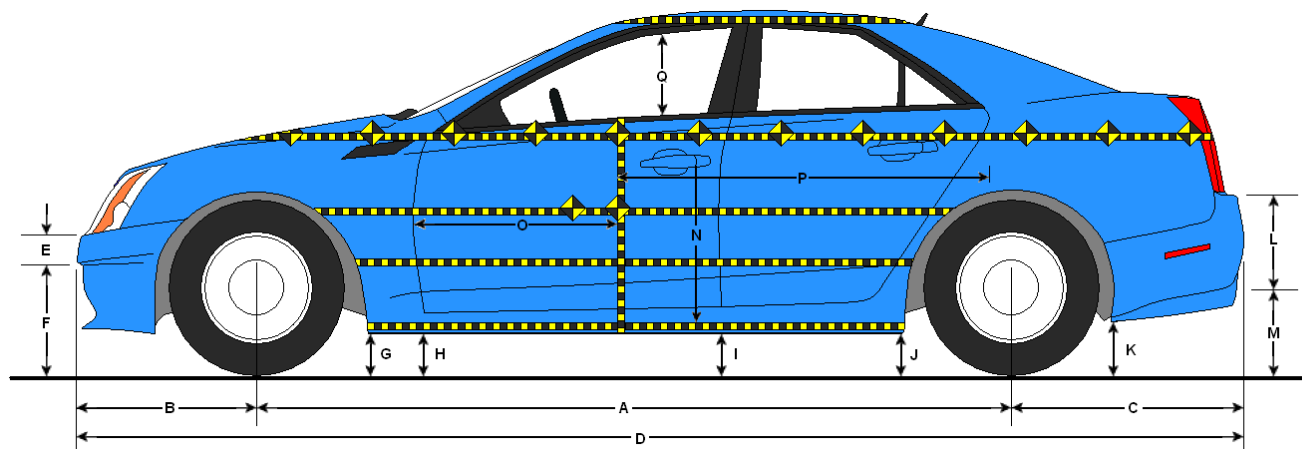
IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1029
Actual Impact Point (Aft of Front Axle)	mm		1017
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	12
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	75.6
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.13
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	

DATA SHEET NO. 9

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



LEFT SIDE VIEW

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

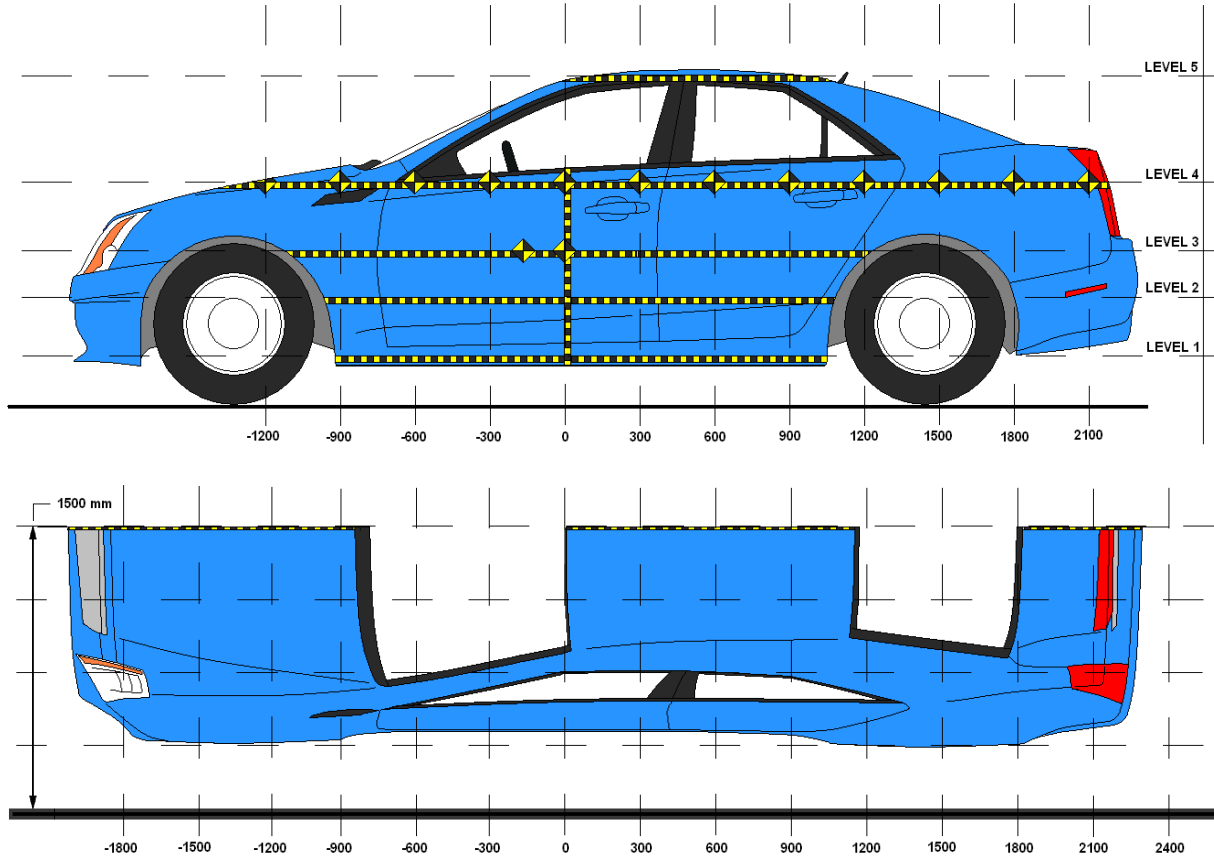
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Description	Pre-Test	Post-Test	Change
A	Wheelbase	2705	2647	-58
B	Front Axle to FSOV	970	1002	32
C	Rear Axle to RSOV	1027	1031	4
D	Total Length at Centerline	4702	4680	-22
E	Front Bumper Thickness	82	81	-1
F	Front Bumper Bottom to Ground	408	405	-3
G	Sill Height at Front Wheel Well	649	683	34
H	Sill Height at Front Door Leading Edge	655	689	34
I	Sill Height at B-Pillar	544	550	6
J1	Sill Height at Rear Wheel Well	674	665	-9
J2	Pinch Weld Height at Rear Wheel Well	669	678	9
K	Sill Height Aft of Rear Wheel Well	623	622	-1
L	Rear Bumper Thickness	184	185	1
M	Rear Bumper Bottom to Ground	456	459	3
N	Sill Height to Bottom of Front Window Sill	708	731	23
O	Front Door Leading Edge to Impact CL	577	449	-128
P	Rear Door Trailing Edge to Impact CL	1599	1504	-95
Q	Front Window Opening	417	404	-13
R	Right Side Length	3252	3266	14
S	Left Side Length	3257	3178	-79
T	Vehicle Width at B-Pillar	1721	1677	-44

DATA SHEET NO. 10

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



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

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	106	329	0
2	Occupant H-Point	438	342	0
3	Mid-Door	495	349	0
4	Window Sill	786	321	0
5	Window Top	1296	105	0

DATA SHEET NO. 10 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

	Pre-Test (mm)					Post-Test (mm)					Crush (mm)				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900				658					615					-43	
-750			564	648				547	611				-17	-37	
-600		567	565	638			558	554	608			-9	-11	-30	
-450	591	571	570	628		629	593	604	674		38	22	34	46	
-300	594	578	574	621		726	710	710	742		132	132	136	121	
-150	594	583	578	617		828	828	829	832		234	245	251	215	
0	594	585	579	611	881	923	927	928	932	986	329	342	349	321	105
150	595	587	581	608	869	895	904	905	914	951	300	317	324	306	82
300	596	589	582	605	867	780	785	784	805	918	184	196	202	200	51
450	597	590	583	606	868	692	680	686	722	904	95	90	103	116	36
600	599	591	583	605	870	670	659	651	668	893	71	68	68	63	23
750	602	592	585	608	871	652	642	637	658	886	50	50	52	50	15
900	604	590	584	612	874	634	621	621	649	884	30	31	37	37	10
1050	603	584	581	615	879	616	593	598	639	888	13	9	17	24	9
1200	600	576	574	619	883	595	577	573	630	885	-5	1	-1	11	2
1350			573	621	888			570	620	893			-3	-1	5
1500				621	894				607	899				-14	5
1650				620	901				626	906				6	5
1800				622	911				628	915				6	4
1950				631					636					5	
2100				641					646					5	
2250				654					660					6	
2400															
2550															
2700															
2850															

DATA SHEET NO. 10 ... (CONTINUED)

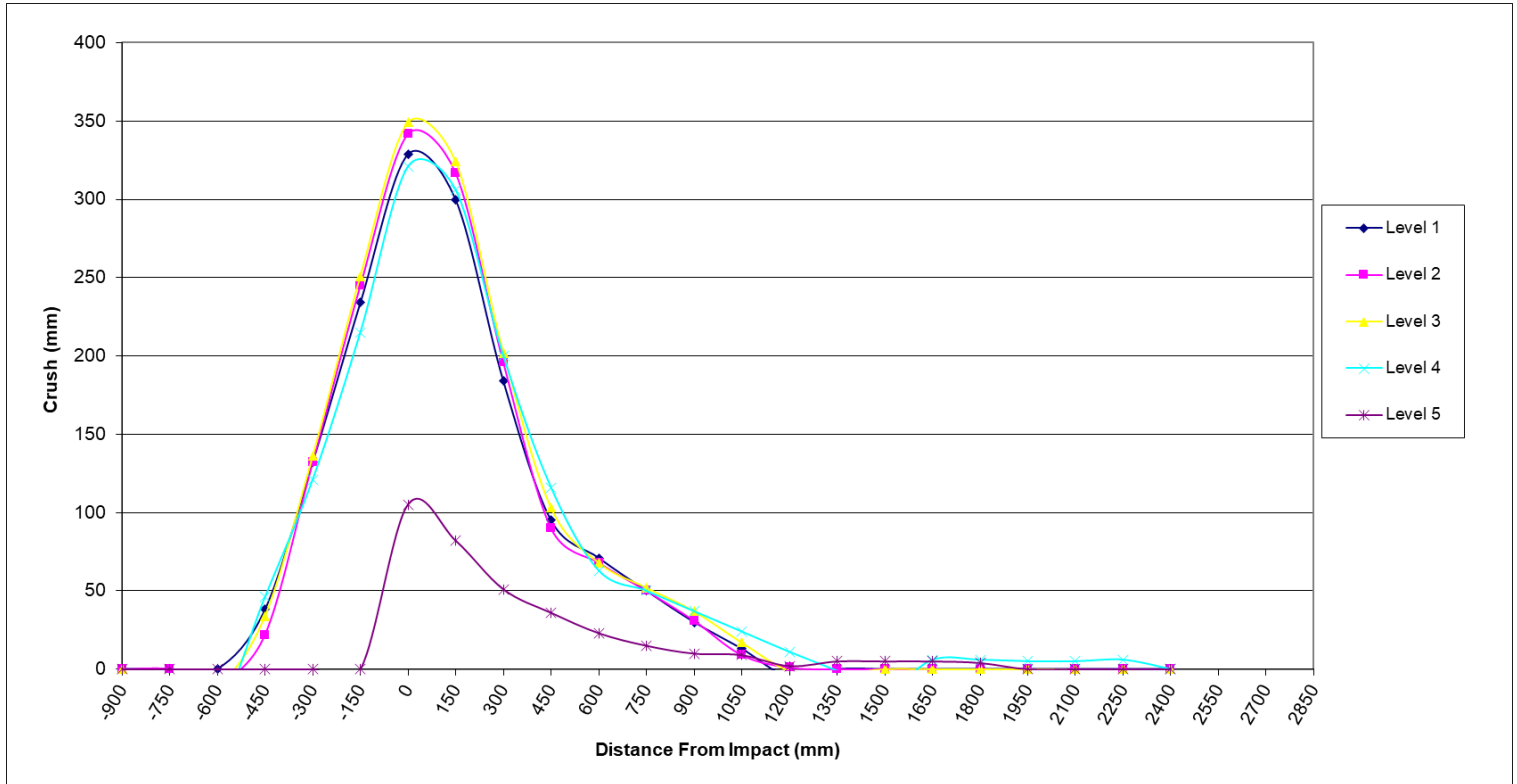
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV

NHTSA No. M20245600

Test Program: NCAP Side Pole Impact Test

Test Date: 06/26/24

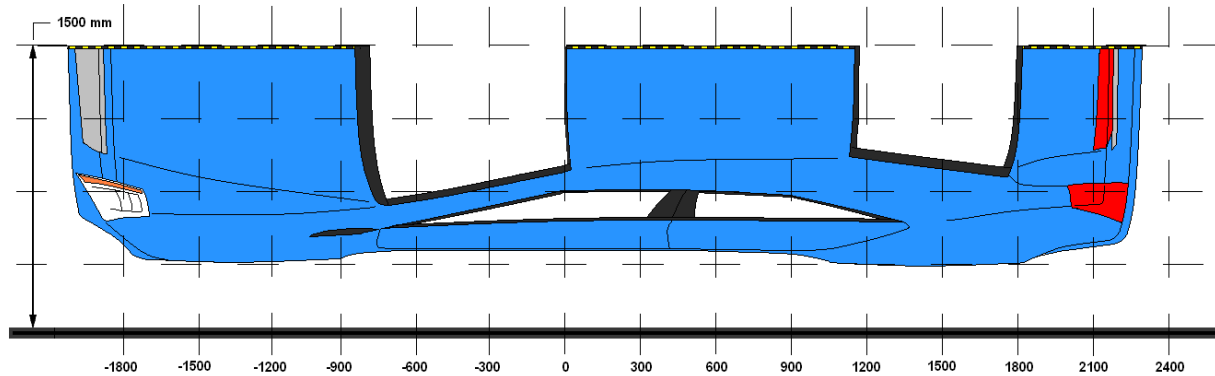


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600

Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24



DPD	Distance From Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	1950	4	631	636	5
2	1350	5	888	893	5
3	750	3	585	637	52
4	300	3	582	784	202
5	-300	3	574	710	136
6	-900	4	658	615	-43

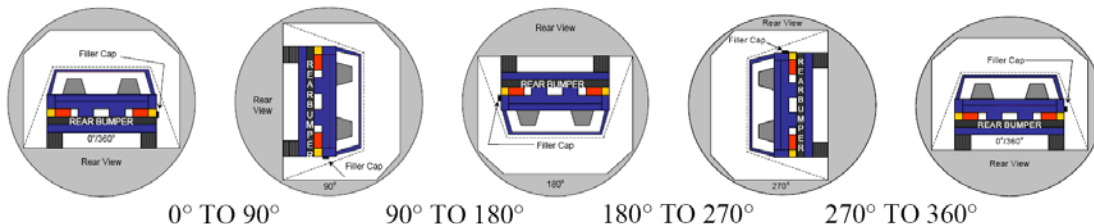
DATA SHEET NO. 12

FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV NHTSA No. M20245600
 Test Program: NCAP Side Pole Impact Test Test Date: 06/26/24

Temperature at Time of Impact: 36.7° C Test Time: 3:00 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°	84	300	384
90° To 180°	85	300	385
180° To 270°	80	300	380
270° To 360°	80	300	380

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

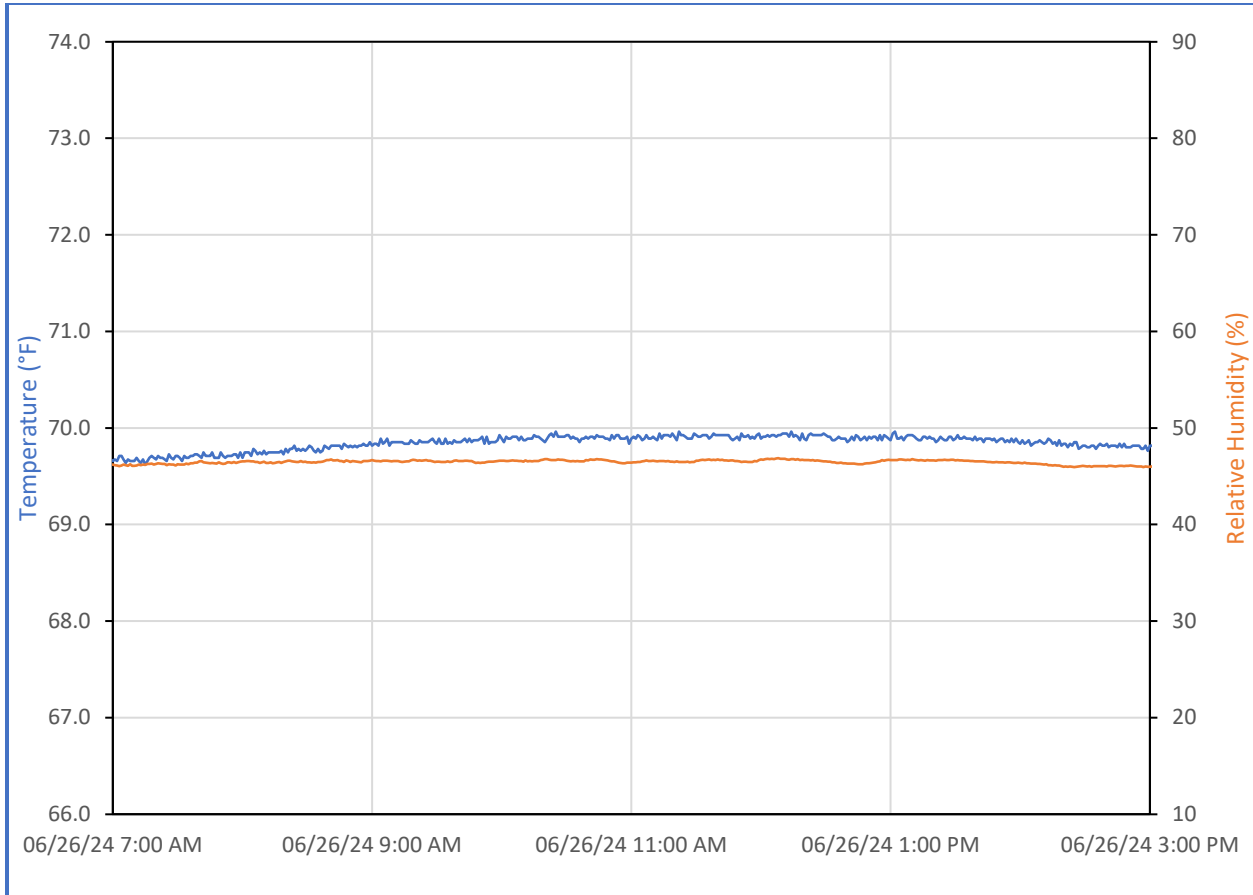
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2024 Mitsubishi Outlander 5-Door SUV

NHTSA No. M20245600

Test Program: NCAP Side Pole Impact Test

Test Date: 06/26/24



APPENDIX A
PHOTOGRAPHS

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FIGURE 1. As-Delivered Right Front 3/4 View of Test Vehicle



FIGURE 2. As-Delivered Left Rear 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 3/4 View of Test Vehicle



FIGURE 6. Post-Test Left Front 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 3/4 View of Test Vehicle



FIGURE 10. Post-Test Left Rear 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 View of Dummy Head and Shoulders in Relation to Head Restraint



FIGURE 28. Pre-Test Frontal 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 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

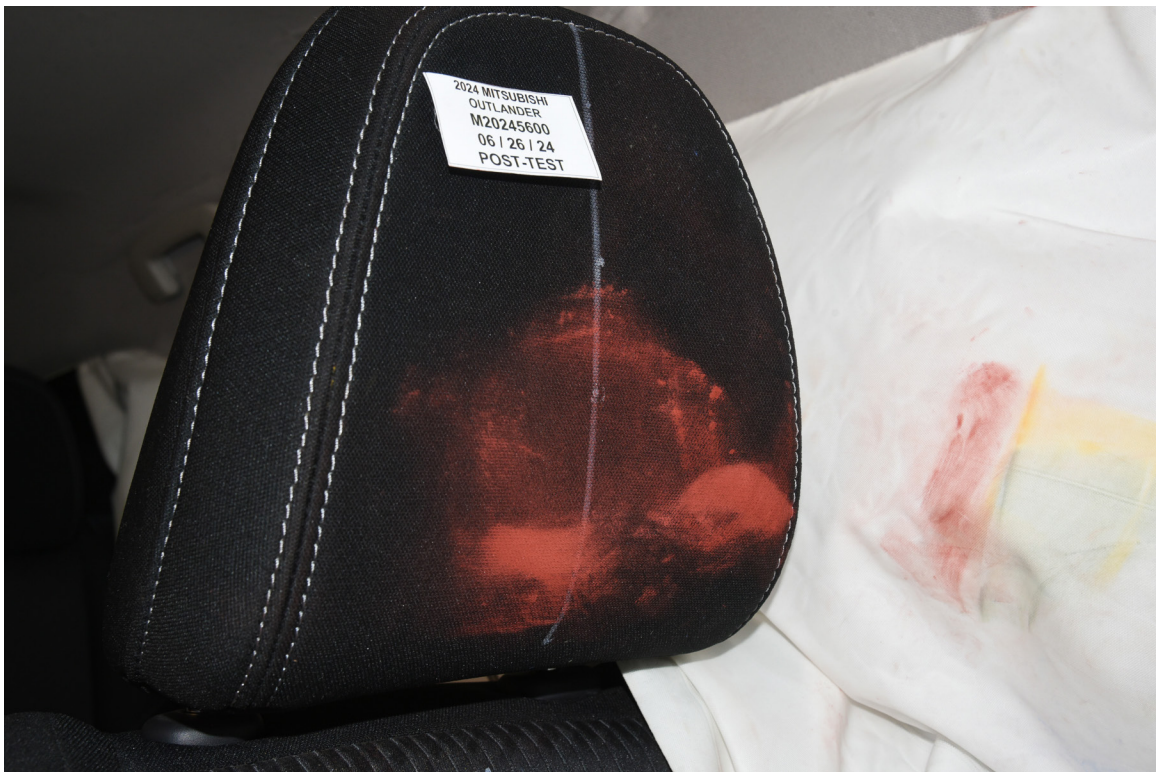


FIGURE 46. Post-Test Dummy Close-Up Head Contact With Vehicle Interior View



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

Photograph Not Applicable
No Driver Dummy Close-Up Knee Contact

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

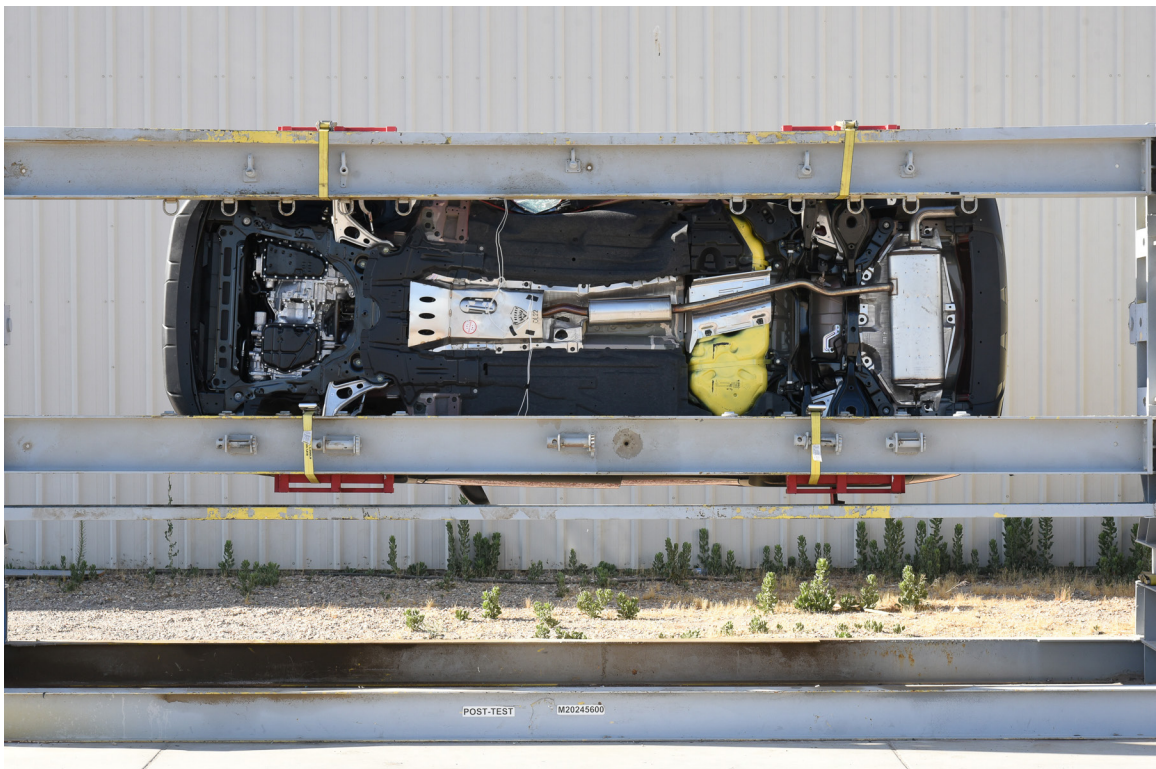


FIGURE 66. FMVSS No. 301 Static Rollover 90 Degrees



FIGURE 69. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 70. Impact Event

2024 OUTLANDER ES 2.5 2WD
4-DOOR SUV
RED DIAMOND / BLACK

2.5L DOHC 4-CYLINDER DIRECT-INJECTION
CONTINUOUSLY VARIABLE TRANSMISSION
50-STATE EMISSIONS STANDARD

Mechanical Features

- 2.5L DOHC 4-cylinder Direct-Injection
- 9-Speed Continuously Variable Transmission (CVT)
- Shift by wire
- Paddle shifters

Exterior Features

- LED low and high beam headlights
- LED daytime running lights
- Automatic headlights
- Body-colored side mirrors w/ LED turn indicators
- Rear window defogger with timer
- Capless fuel filler
- 18-inch alloy wheels
- P235/60 R18 all-season tires
- Tire repair kit

Interior Features

- Fabric seating surfaces
- 40:20:40 split type 2nd row seat with folding function
- 7 Passenger seating

Convenience Features

- 8.0" Smartphone-Link Display Audio (SDA)
- Apple CarPlay®
- Google Android Auto®
- SXM audio with 30-day SXM All Access subscription
- 7.0" Multi-information display
- 6 speakers
- Bluetooth® wireless technology
- Steering wheel audio and phone controls
- Steering wheel voice recognition control
- Front 1x USB-C and 1x USB-A
- Drive mode selector (Tarmac, Gravel, Snow, Normal, Eco)
- Dual-zone automatic climate control
- Remote keyless entry
- Push button start

Safety & Security

- Anti-lock Braking System (ABS) with Electronic Brakeforce Distribution (EBD) and brake assist
- Electronic parking brake with auto hold
- Active Stability Control (ASC)
- 180 Start Assist (ISA)
- Trailer Stability Assist (TSA)
- Tire Pressure Monitoring System (TPMS) w/ tire fill notification
- Automatic High Beam (AHB)
- Forward Collision Mitigation (FCM) with pedestrian detection
- Driver Attention Alert (DAA)
- Blind Spot Warning (BSW) w/ Lane Change Assist (LCA)
- Rear Cross Traffic Alert (RCTA)
- Rear Automatic Emergency Braking (Rear AEB)
- Rear parking sensors
- Cruise control
- Advanced dual-stage front airbags
- Driver and passenger SRS knee airbags

Safety & Security (cont'd)

- Side curtain SRS airbags
- Rear outer-booster seat-mounted SRS side airbags
- Front seat-mounted SRS Center airbag
- Adjustable front seat shoulder belt anchors
- Three-point seatbelts with pretensioner for driver, passenger, outer sides of 2nd row seat
- LATCH (Lower Anchors and Tethers for Children) for 2nd row
- Seatbelt reminder for all seating positions
- Child safety rear door locks
- Anti-theft alarm system
- Anti-theft engine immobilizer
- Rear seat alert

Additional Equipment

Full Tank of Gas INCLUDED

Mitsubishi Connect Subscriptions INCLUDED

- 24-month trial from the date of vehicle delivery (enrollment required)
- Safeguard Services
- Remote Services

Mitsubishi Motors Confidence INCLUDED

- 10-Year/100,000-Mile Limited Powertrain Warranty
- 5-Year/Unlimited-Mile Roadside Assistance
- 2-Year/30,000-Mile Limited Maintenance (3 Oil Changes, 9 Tire Rotations and 1 Cabin Filter)
- See Participating Retailer for Details

Red Diamond Paint \$595.00

Tonneau Cover \$205.00

Chrome Wheel Locks \$95.00

Chrome Hood Emblem \$140.00

Welcome Package \$175.00

- Touch Up Paint Pen (Body Color)
- Console Tray Mat
- Floor Mats, Carpet
- Vehicle Manuals Binder

All-Weather Essentials \$230.00

- Cargo Mat, Removable
- All-Weather Floor Mats

MSRP: \$28,395.00

Total Additional Equipment: \$1,440.00

Subtotal: \$29,835.00

Destination/Handling: \$1,445.00

Total MSRP: \$31,280.00

Visit us at www.mitsubishiusa.com

EPA DOT Fuel Economy and Environment Gasoline Vehicle

Fuel Economy **27** MPG combined city/hwy
3.7 gallons per 100 miles

Small SUVs range from 14 to 123 MPG. The best vehicle rates 140 MPG.

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

Annual fuel Cost \$2,000

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

Smog Rating (tailpipe only) **7** Best

This vehicle emits 327 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions, learn more at fuelconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 24 MPG and costs \$9750 to fuel over 5 years. Cost estimates are based on 15000 miles per year at \$3.60 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score Not Rated

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

Frontal Crash Driver ★★★★★ Passenger ★★★★★

Based on the risk of injury in a frontal impact. Should ONLY be compared to other vehicles of similar size and weight.

Side Crash Front seat Not Rated Rear seat Not Rated

Based on the risk of injury in a side impact.

Rollover ★★★★★

Based on the risk of rollover in a single-vehicle crash.

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

10-year 100,000-mile LIMITED POWERTRAIN WARRANTY

10"/100,000" POWERTRAIN 7"/100,000" ANTI-CORROSION/PERFORATION 5"/60,000" 5"/UNLIMITED" MAJOR SOURCE OF WEAR PARTS

Ports Content Information

For vehicles in this carline:
U.S./Canadian Parts Content: 5% Foreign Parts Content: JAPAN 82%

For this vehicle:
Final Assembly Point: OKAZAKI, JAPAN
Country of Origin: JAPAN
Engine: JAPAN
Transmission: JAPAN

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

Ship To: (GBA) VICTORVILLE MITSUBISHI 1529 RAMONA AVE. VICTORVILLE, CA 92382 Sold To: (Same unless indicated)

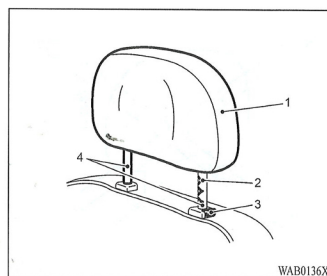
95487

Cumulative Accessory Weight is 32.1 lbs

Method of Transport: TRUCK HUENEME, CA VIN: JA4J3UA87R2033278 Route Code: TMP

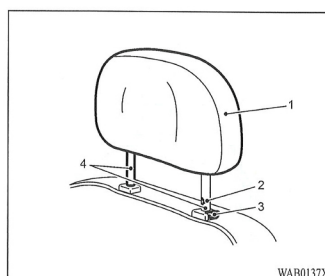
Gasoline, license and title fees, applicable federal, state and local taxes and dealer and distributor installed options and accessories are not included in the manufacturer's suggested retail price. This label has been applied to this vehicle pursuant to federal law and cannot be moved or altered prior to delivery to the ultimate purchaser.

FIGURE 71. Monroney Label



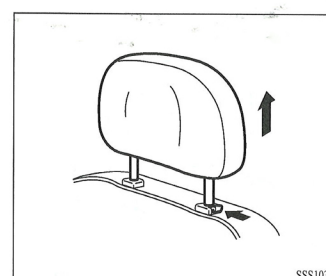
ADJUSTABLE HEAD RESTRAINT COMPONENTS

1. Removable head restraint
2. Multiple notches
3. Lock knob
4. Stalks



NON-ADJUSTABLE HEAD RESTRAINT COMPONENTS

1. Removable head restraint
2. Single notch
3. Lock knob
4. Stalks



REMOVE

Use the following procedure to remove the head restraint.

1. Pull the head restraint up to the highest position.
2. Push and hold the lock knob.
3. Remove the head restraint from the seat.
4. Store the head restraint properly in a secure place so it is not loose in the vehicle.
5. Reinstall and properly adjust the head restraint before an occupant uses the seating position.

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)

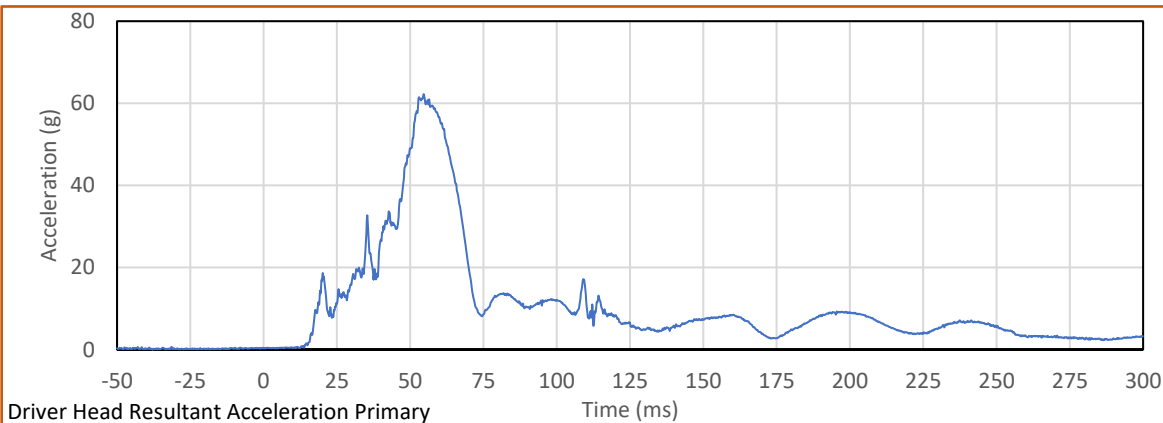
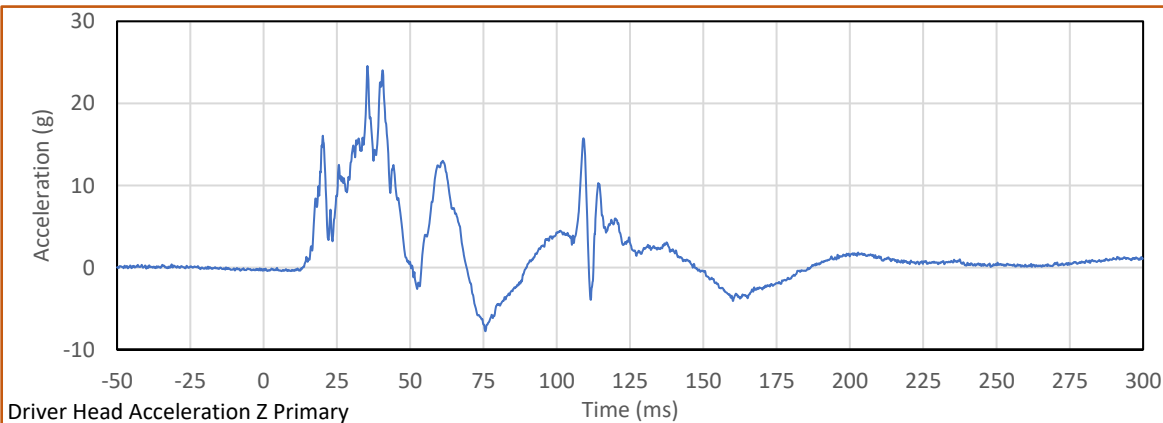
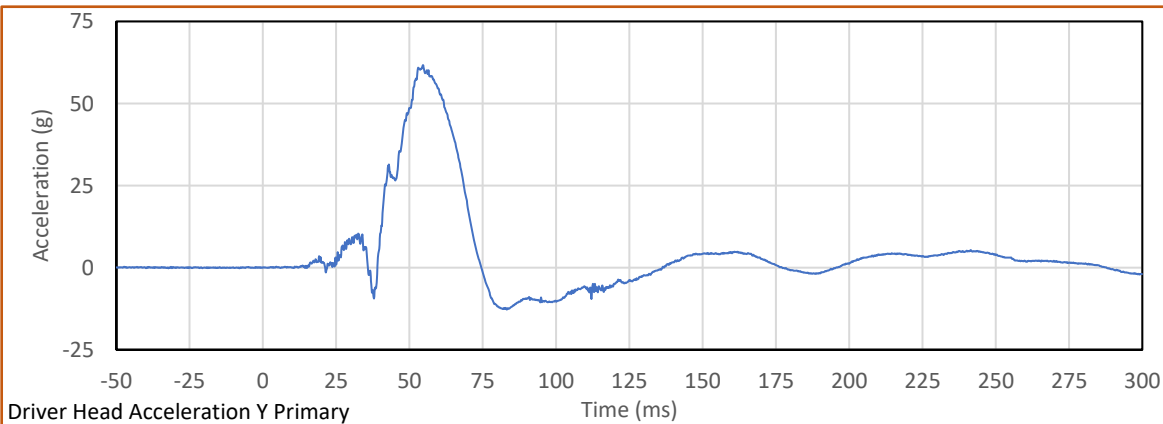
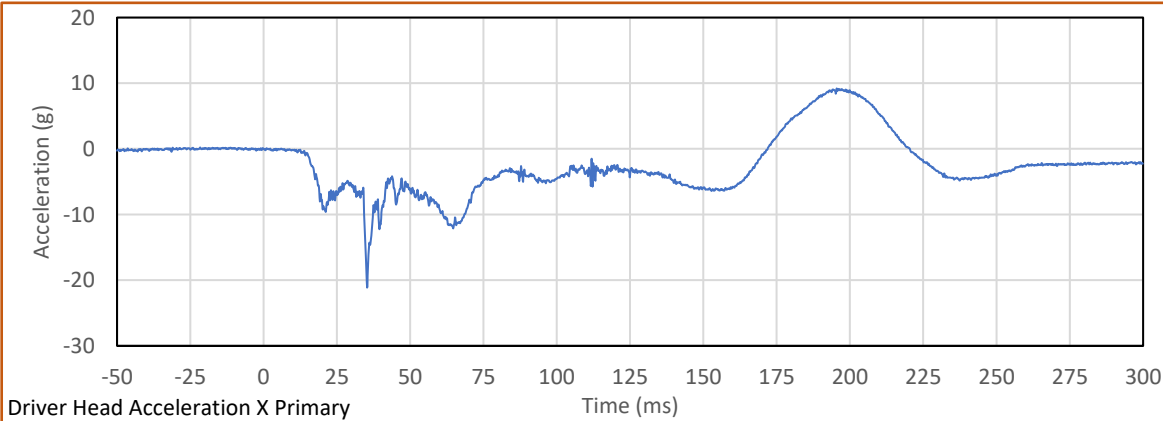
Driver Head Acceleration Redundant (Z)

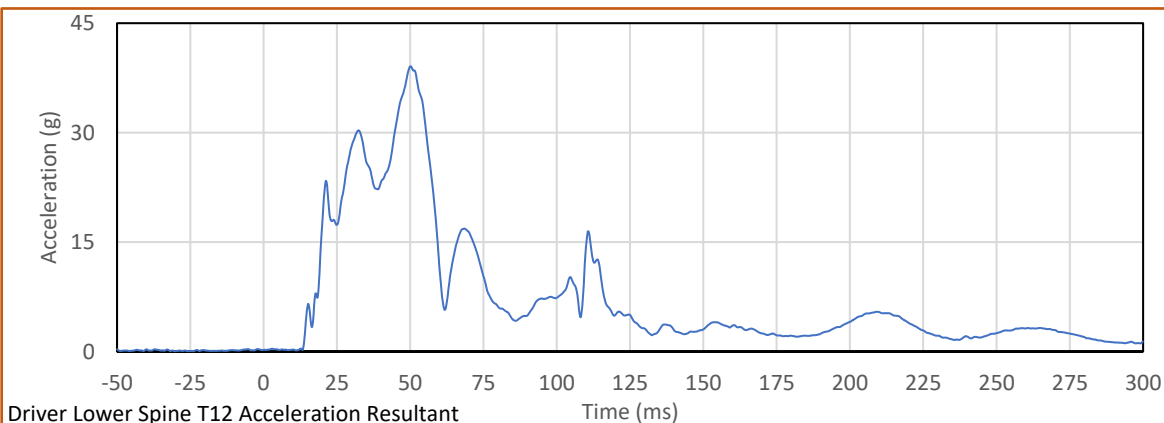
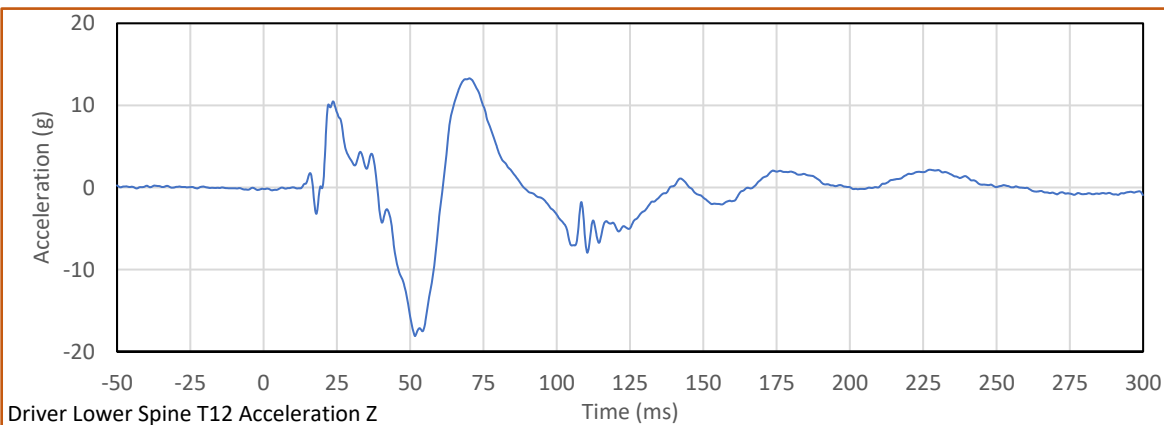
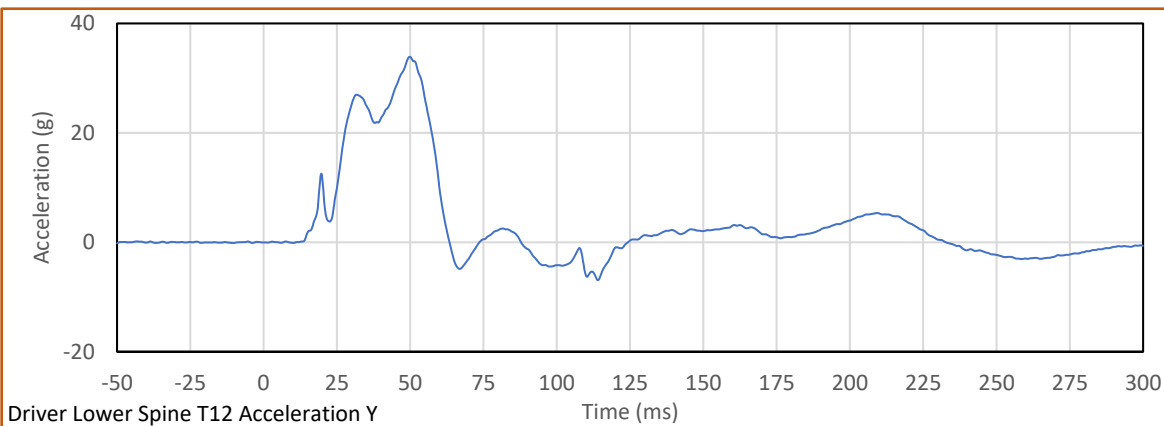
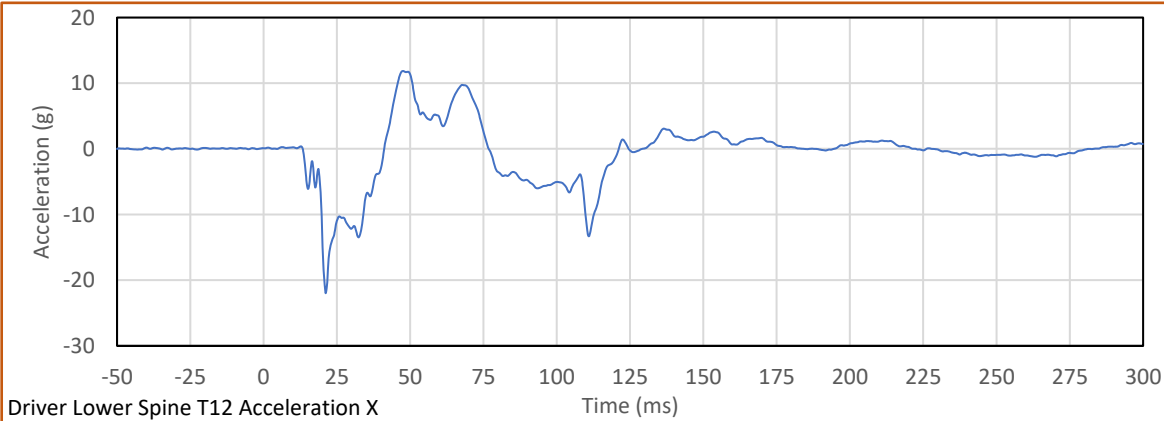
Vehicle Instrumentation Data

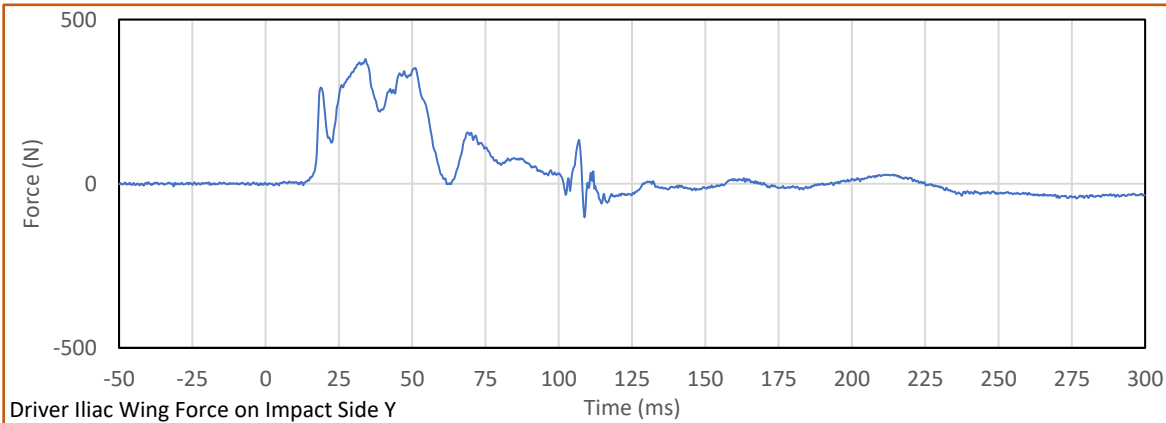
Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Left Floor Sill Acceleration (Y)
Left A-Pillar Sill Acceleration (Y)
Left Lower A-Pillar Acceleration (Y)
Left Mid A-Pillar Acceleration (Y)
Left B-Pillar Sill Acceleration
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: 308

ATD Serial No.: 308

Test Date: 2024-06-11

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	41	Pass
A - Sitting Height	mm	772	788	784	Pass
B - Shoulder Pivot Height	mm	437	453	450	Pass
C - Hpoint Height	mm	79	89	82	Pass
D - H Point From Seatback	mm	141	151	146	Pass
E - Shoulder Pivot From Backline	mm	97	107	105	Pass
F - Thigh Clearance	mm	119	135	128	Pass
G - Head Breadth	mm	140	148	144	Pass
H - Head Back From Backline	mm	40	46	44	Pass
I - Head Depth	mm	178	188	182	Pass
J - Head Circumference	mm	541	551	548	Pass
K - Buttock To Knee Length	mm	514	540	524	Pass
L - Popliteal Height	mm	343	369	360	Pass
K - Knee Pivot To Floor Height	mm	392	409	400	Pass
N - Buttock Popliteal Length	mm	416	442	426	Pass
O - Chest Depth W/O Jacket	mm	195	211	204	Pass
P - Foot Length	mm	216	232	223	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	319	Pass
R - Arm Length	mm	249	259	257	Pass
S - Knee Joint To Seatback	mm	477	493	488	Pass
V - Shoulder Width	mm	341	357	349	Pass
W - Foot Width	mm	78	94	87	Pass
Y - Chest Circumference W/Jacket	mm	851	881	866	Pass
Z - Waist Circumference	mm	761	791	775	Pass
				Overall Test Results	Pass

Technician:



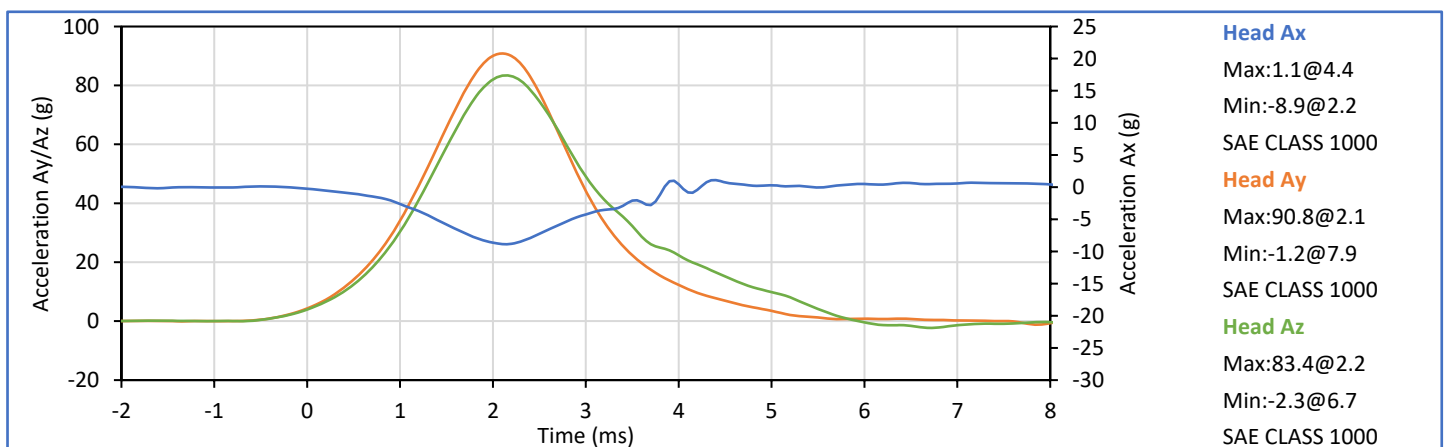
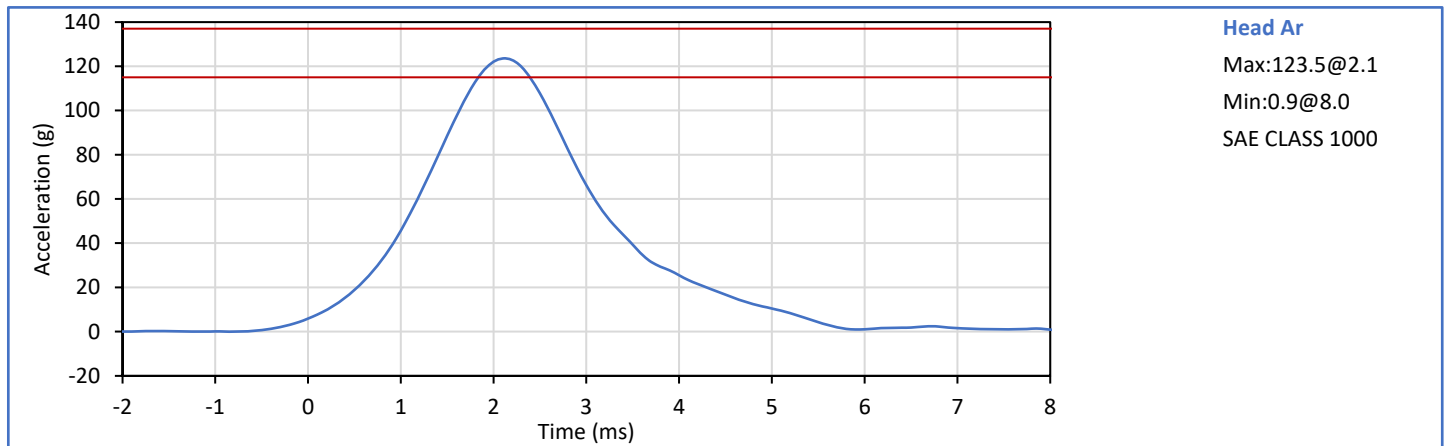
G. Fuentes

Approved By:



J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.6	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Peak Resultant Acceleration	g	115.0	137.0	123.5	Pass
Peak Head Ax	g	-15.0	15.0	-8.9	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

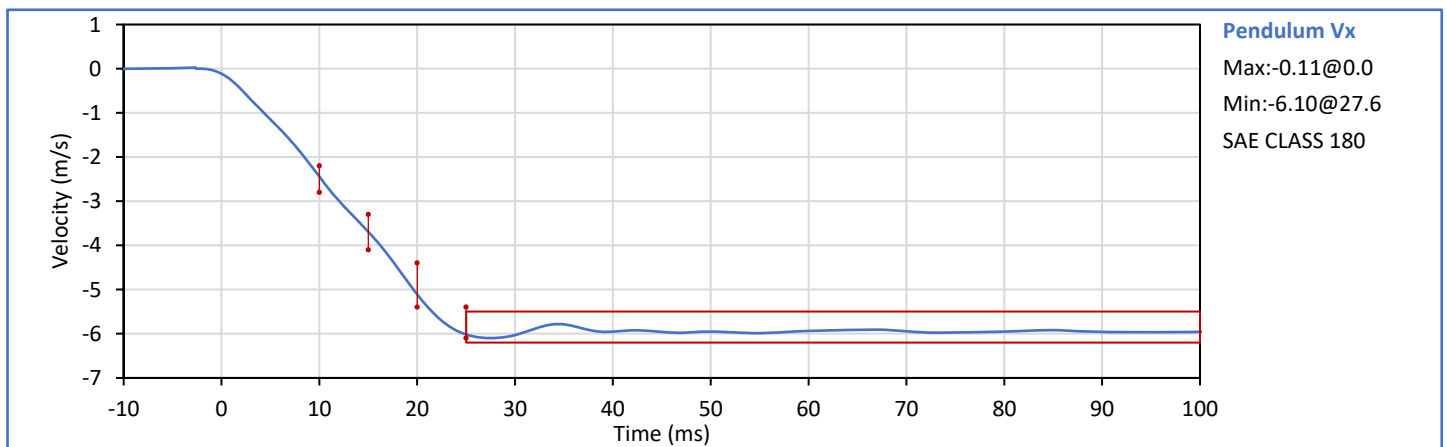
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	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	-2.44	Pass
Pendulum Decel at 15 ms	m/s	-4.10	-3.30	-3.69	Pass
Pendulum Decel at 20 ms	m/s	-5.40	-4.40	-5.11	Pass
Pendulum Decel at 25 ms	m/s	-6.10	-5.40	-6.02	Pass
Pendulum Decel from 25-100 ms	m/s	-6.20	-5.50	-6.1/-5.78	Pass
Peak "D" Plane Rotation	deg	-81.0	-71.0	-74.5	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	59.5	Pass
Peak Occ. Condyle Moment	Nm	36.0	44.0	41.5	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	115.6	Pass
				Overall Test Results	Pass



Technician:

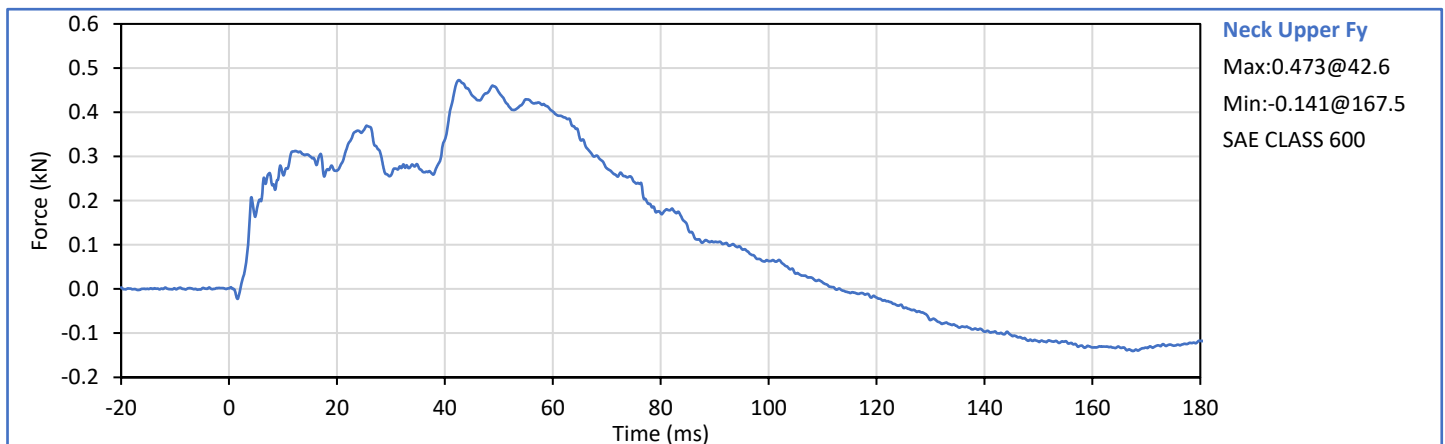
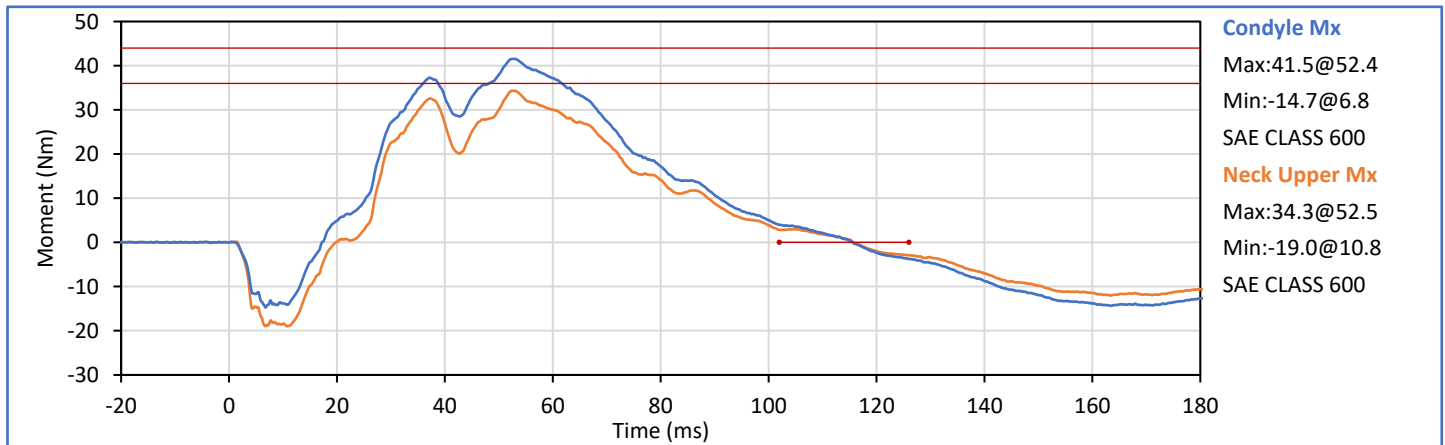
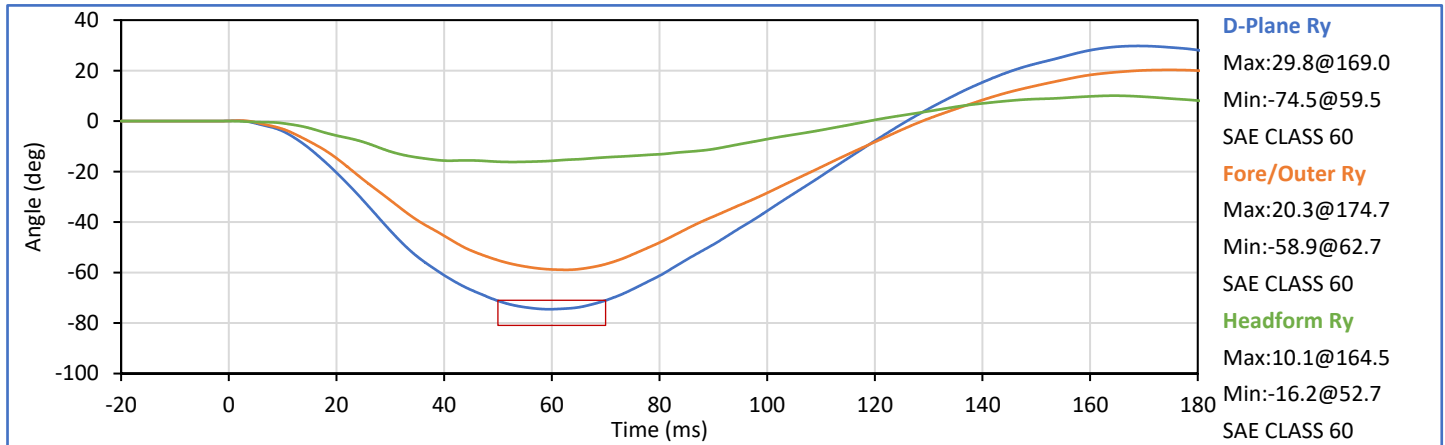
G. Fuentes

G. Fuentes

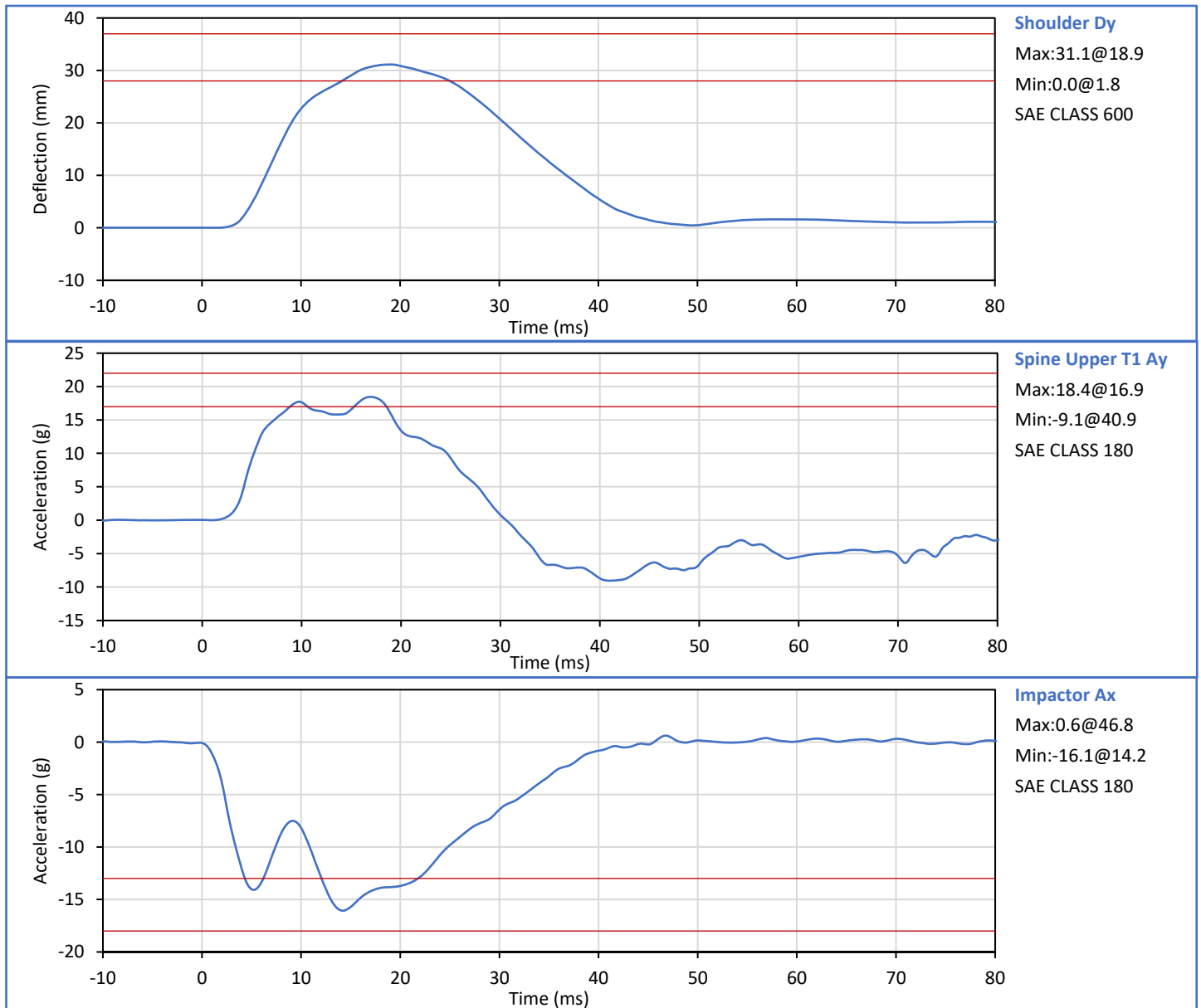
Approved By:

J. Hernandez

J. Hernandez



Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.9	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	31.1	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.4	Pass
Peak Impactor Ax	g	-18.0	-13.0	-16.1	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

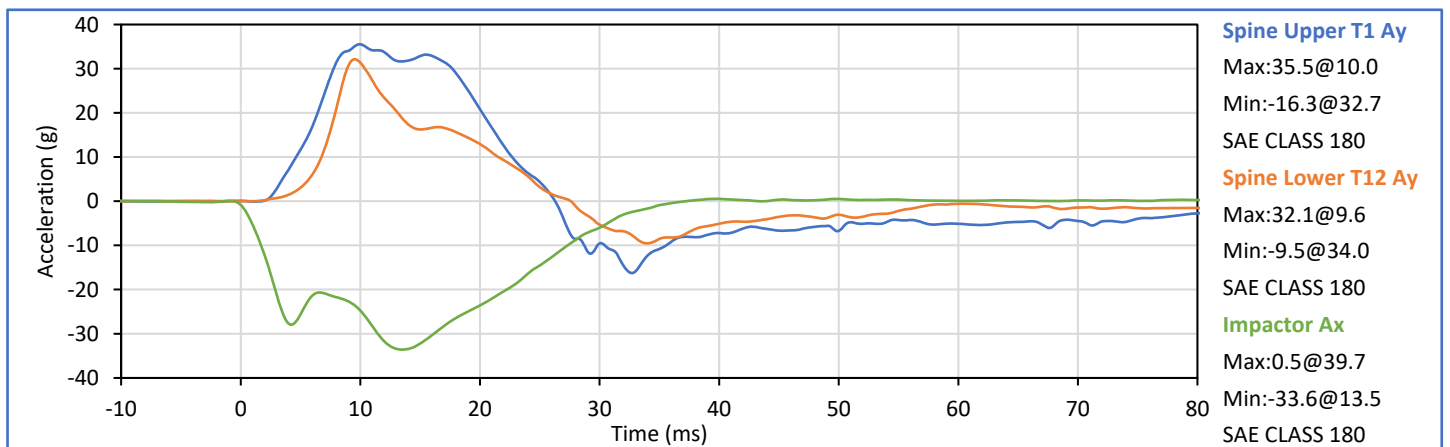
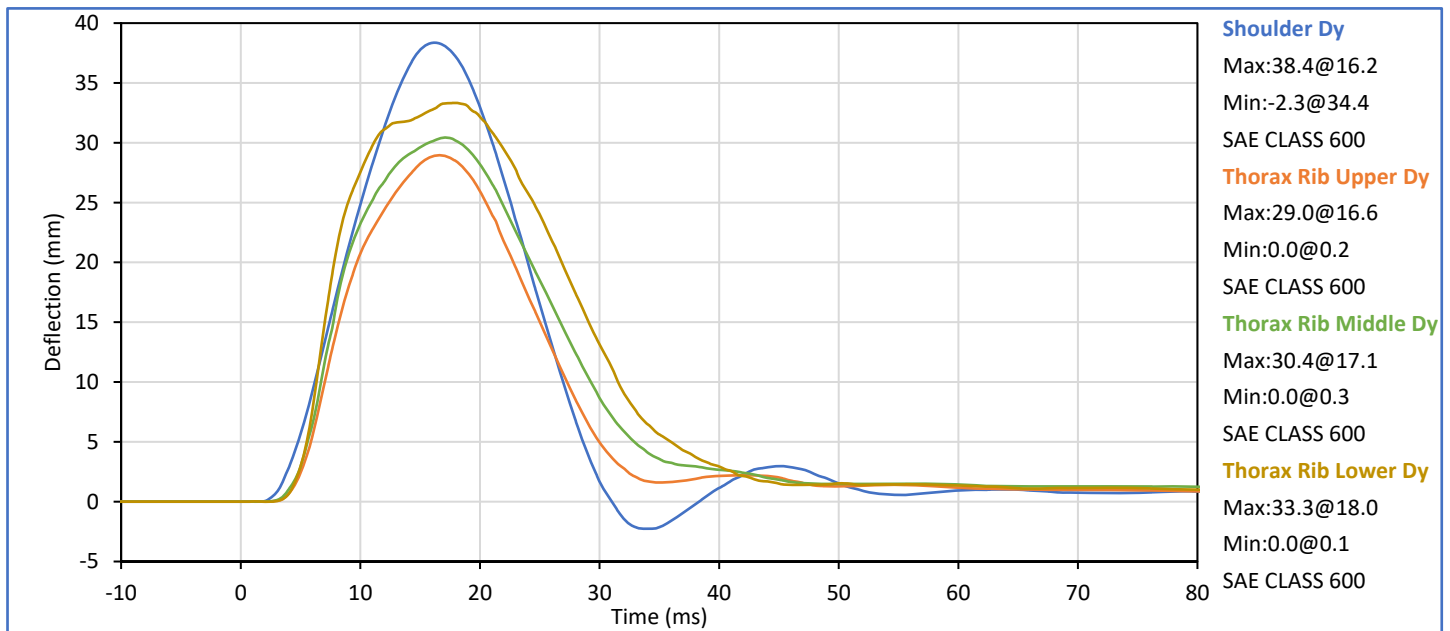
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.9	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Impactor Velocity	m/s	6.60	6.80	6.68	Pass
Peak Shoulder Dy	mm	31.0	40.0	38.4	Pass
Peak Upper Rib Dy	mm	25.0	32.0	29.0	Pass
Peak Middle Rib Dy	mm	30.0	36.0	30.4	Pass
Peak Lower Rib Dy	mm	32.0	38.0	33.3	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	35.5	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	32.1	Pass
Peak Impactor Ax	g	-36.0	-30.0	-33.6	Pass
Overall Test Results				Pass	Pass



Technician:

G. Fuentes

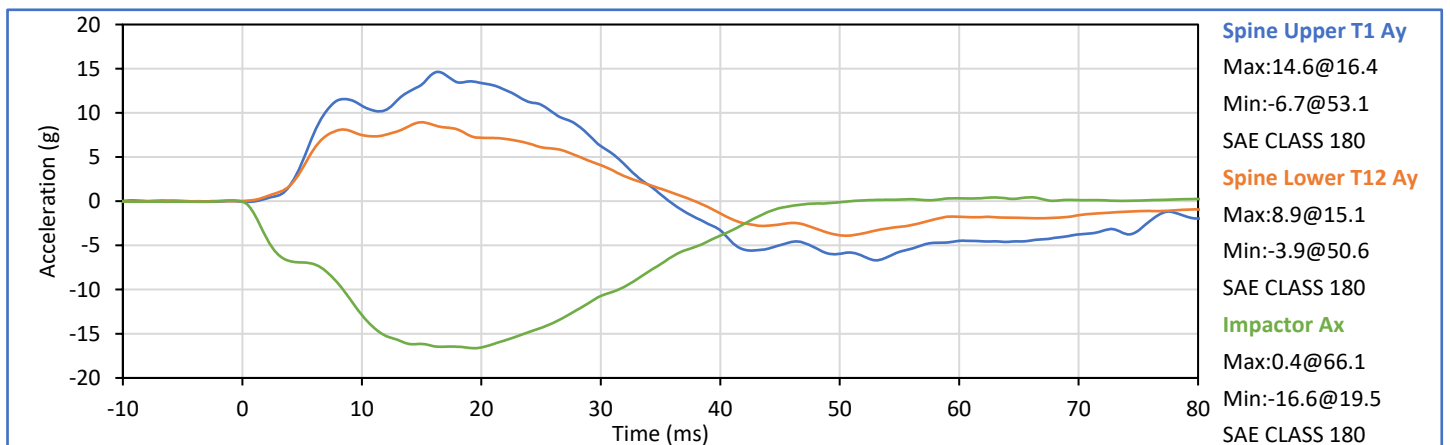
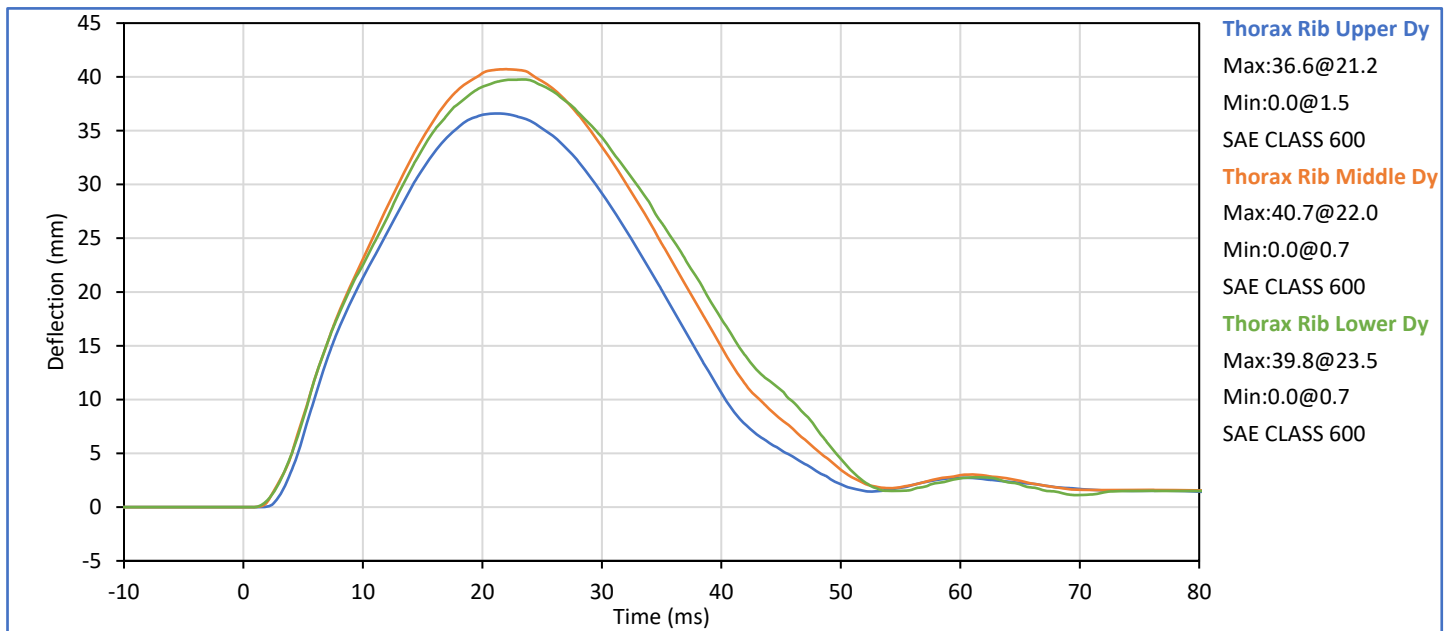
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.30	Pass
Peak Thorax Rib Upper Dy	mm	32.0	40.0	36.6	Pass
Peak Thorax Rib Middle Dy	mm	39.0	45.0	40.7	Pass
Peak Thorax Rib Lower Dy	mm	35.0	43.0	39.8	Pass
Peak Spine Upper T1 Ay	g	13.0	17.0	14.6	Pass
Peak Spine Lower T12 Ay	g	7.0	11.0	8.9	Pass
Peak Impactor Ax	g	-18.0	-14.0	-16.6	Pass
Overall Test Results				Pass	Pass



Technician:

G. Fuentes

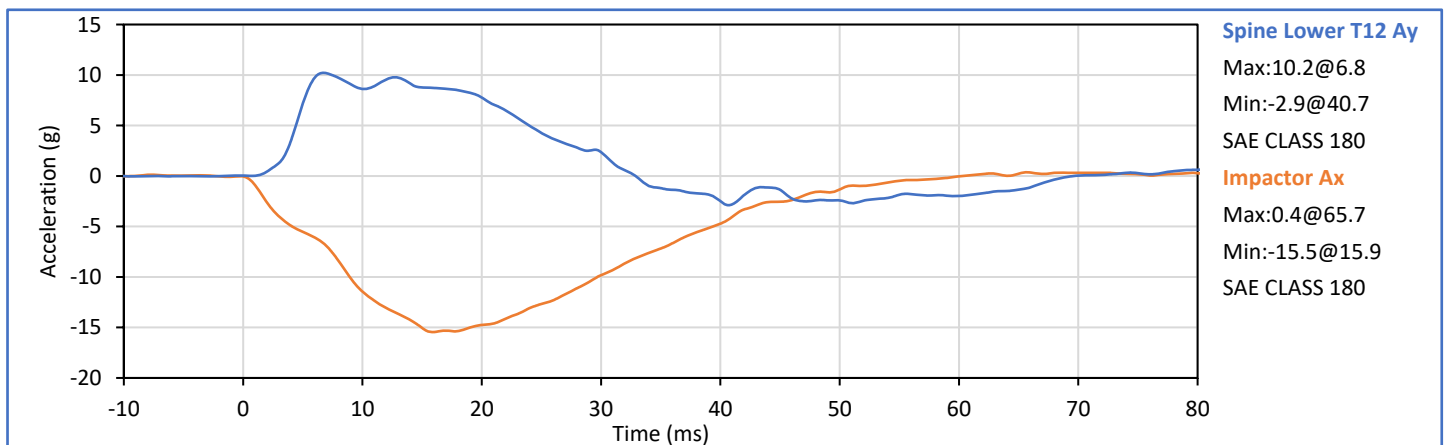
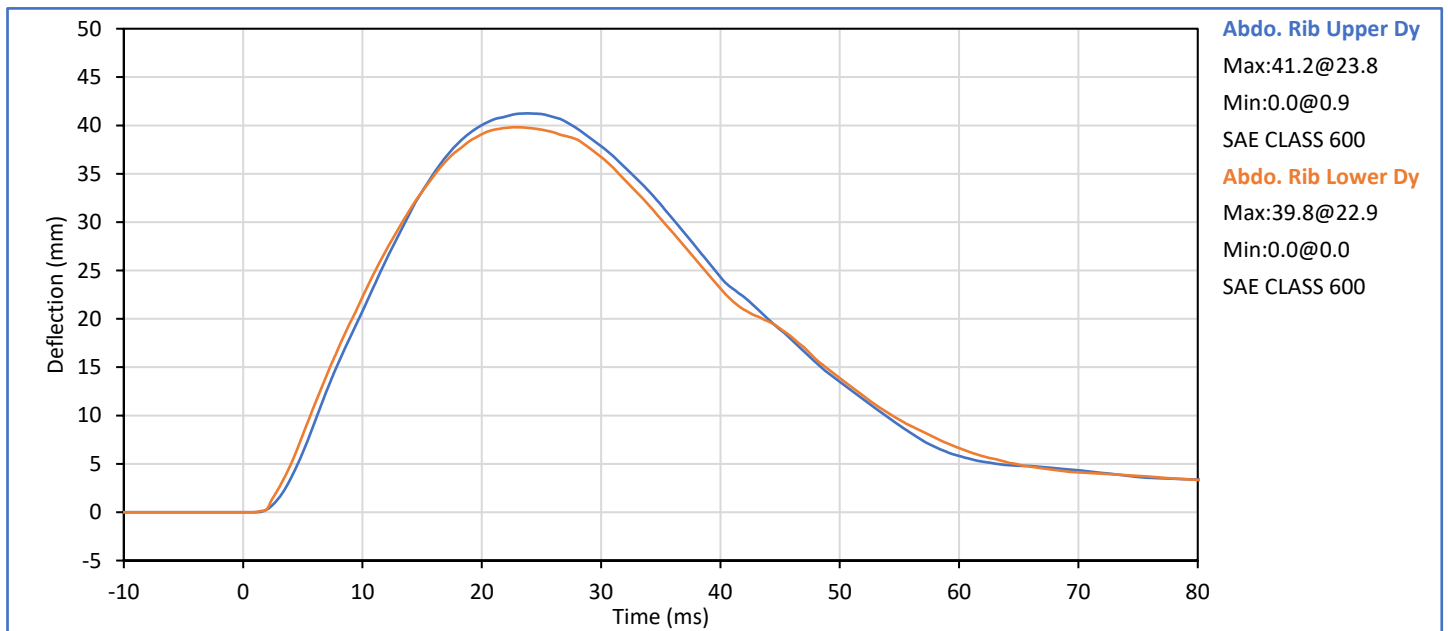
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.0	Pass
Laboratory Relative Humidity	%	10	70	43	Pass
Impactor Velocity	m/s	4.20	4.40	4.35	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	41.2	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	39.8	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	10.2	Pass
Peak Impactor Ax	g	-16.0	-12.0	-15.5	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

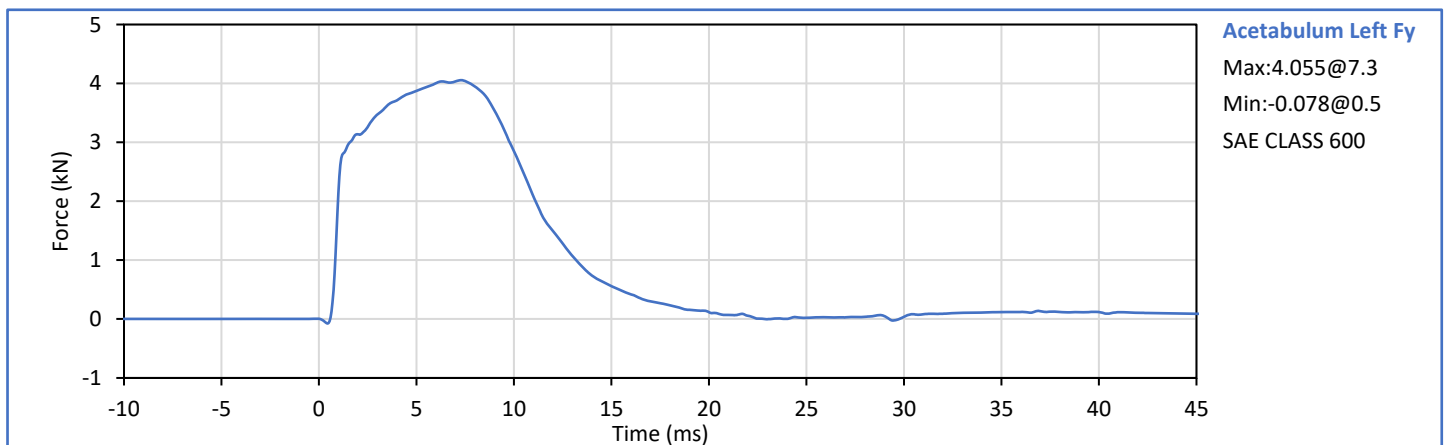
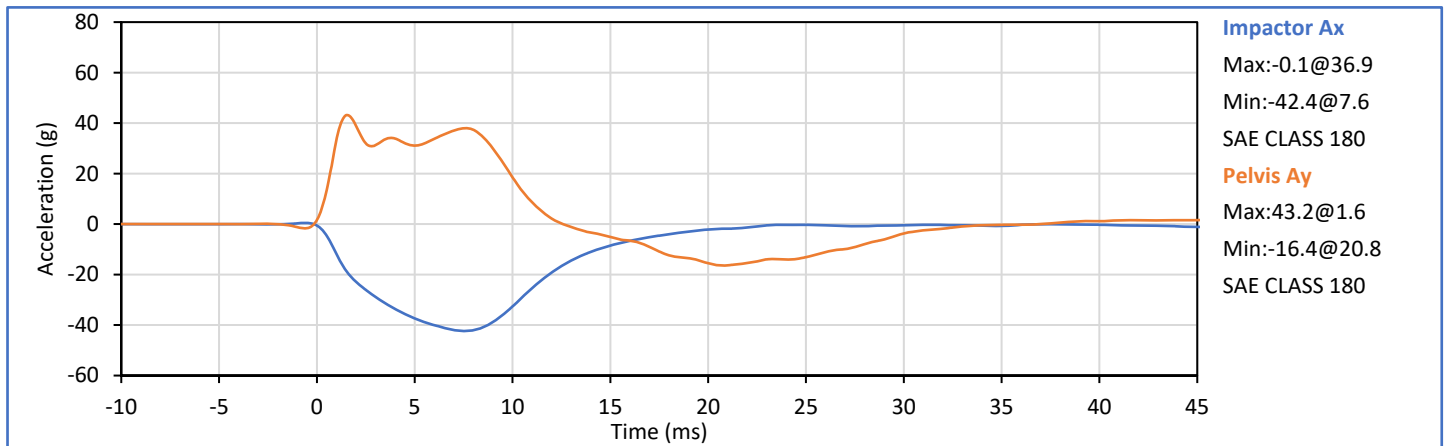
J. Hernandez

ATD Serial No.: 308

Test Date: 2024-06-11

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	41	Pass
Impactor Velocity	m/s	6.60	6.80	6.73	Pass
Peak Acetabulum Fy	kN	3.60	4.30	4.06	Pass
Pelvis Ay after 6ms	g	34.0	42.0	38.0	Pass
Peak Impactor Ax	g	-47.0	-38.0	-42.4	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 14714



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

ATD Serial No.: 308

Test Date: 2024-06-11

Pelvis Plug S/N: 14714



SID-IIs Pelvis Plug Certification Test

Plug S/N 14714

Test Number 16677

Report Number 16723

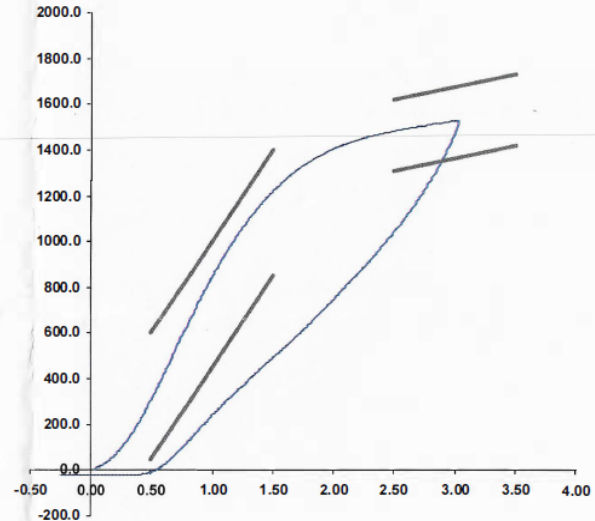
Test Date 12/22/2020 11:03:27 AM

Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	308.90	50.00 600.00
Force @ 1.5 mm (N)	1,219.51	850.00 1,400.00
Force @ 2.5 mm (N)	1,482.10	1,306.00 1,618.00
Force @ 3.0 mm (N)	1,526.94	1,361.00 1,673.00

Testing Machine STM-20 5965542
Load Cell S/N (F1360947), 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 146

Part Number 180-4450

Template No 107 22-Dec-20

SACO Research

By: DC Date: 12/22/20

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

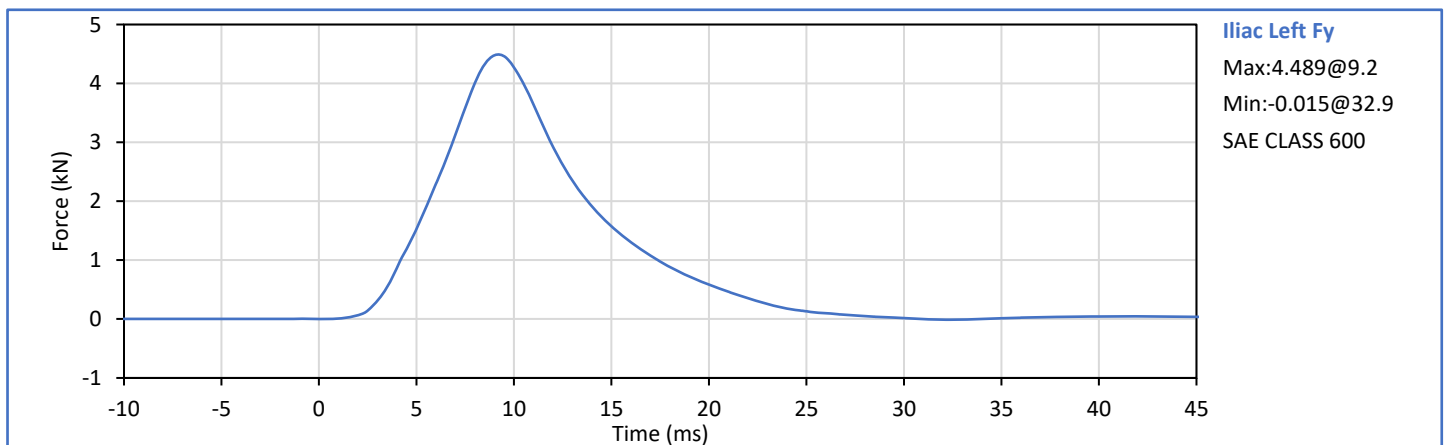
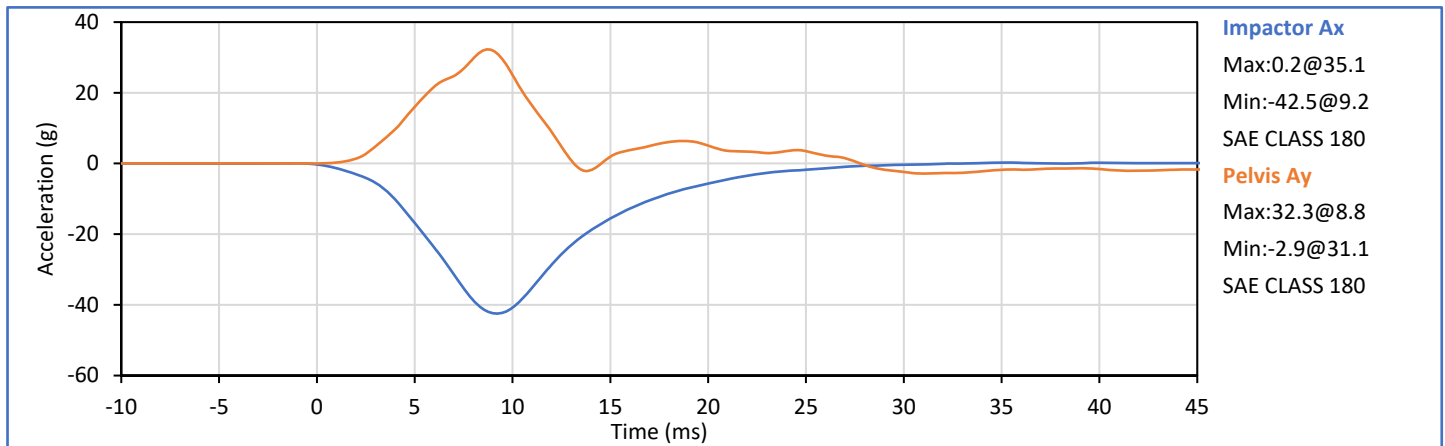
ATD Serial No.: 308

Test Date: 2024-06-11

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	41	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Iliac Fy	kN	4.10	5.10	4.49	Pass
Peak Pelvis Ay	g	28.0	39.0	34.7	Pass
Peak Impactor Ax	g	-45.0	-36.0	-42.5	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 C
Post-Test ATD Qualification and Performance Verification
SID-IIs Small Side Impact ATD, Left Side Configuration
S/N: 308

ATD Serial No.: 308

Test Date: 2024-06-27

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	46	Pass
A - Sitting Height	mm	772	788	786	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	147	Pass
E - Shoulder Pivot From Backline	mm	97	107	103	Pass
F - Thigh Clearance	mm	119	135	126	Pass
G - Head Breadth	mm	140	148	145	Pass
H - Head Back From Backline	mm	40	46	42	Pass
I - Head Depth	mm	178	188	185	Pass
J - Head Circumference	mm	541	551	549	Pass
K - Buttock To Knee Length	mm	514	540	530	Pass
L - Popliteal Height	mm	343	369	353	Pass
K - Knee Pivot To Floor Height	mm	392	409	402	Pass
N - Buttock Popliteal Length	mm	416	442	424	Pass
O - Chest Depth W/O Jacket	mm	195	211	200	Pass
P - Foot Length	mm	216	232	227	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	316	Pass
R - Arm Length	mm	249	259	258	Pass
S - Knee Joint To Seatback	mm	477	493	487	Pass
V - Shoulder Width	mm	341	357	350	Pass
W - Foot Width	mm	78	94	90	Pass
Y - Chest Circumference W/Jacket	mm	851	881	866	Pass
Z - Waist Circumference	mm	761	791	778	Pass
				Overall Test Results	Pass

Technician:



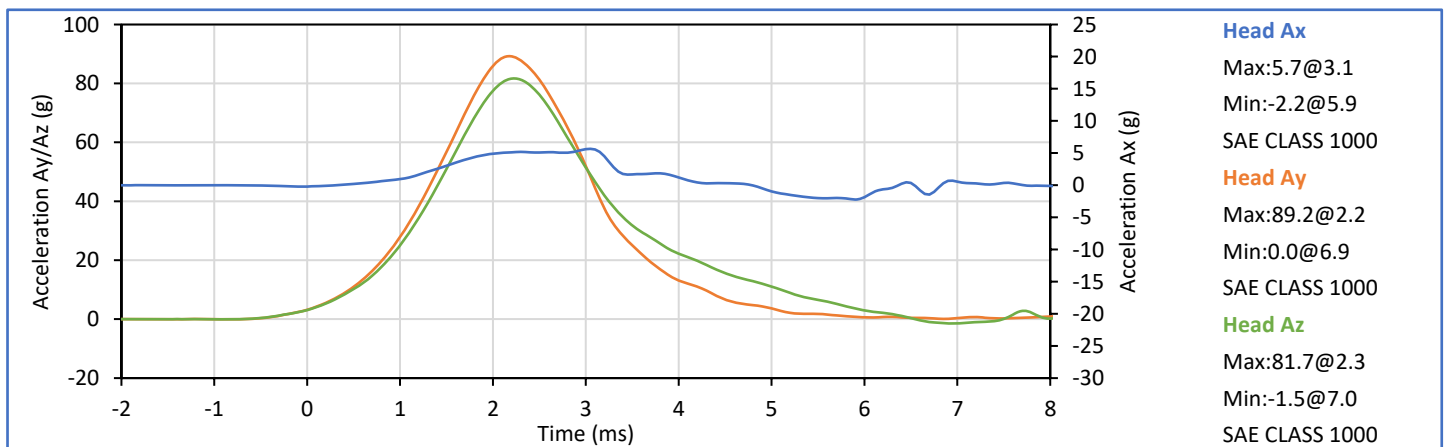
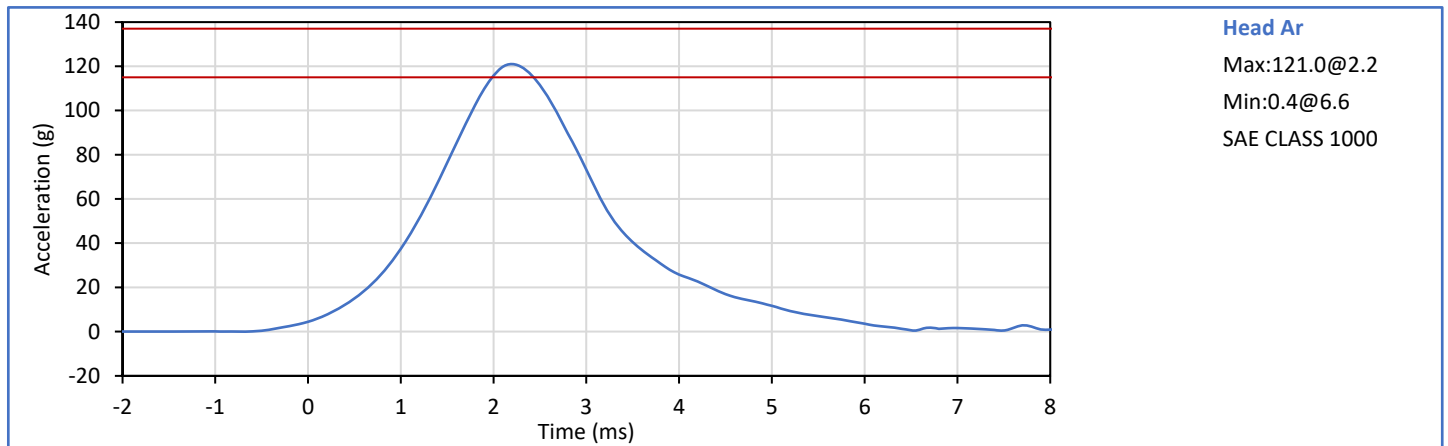
G. Fuentes

Approved By:



J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.6	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Peak Resultant Acceleration	g	115.0	137.0	121.0	Pass
Peak Head Ax	g	-15.0	15.0	5.7	Pass
Oscillations After Main Pulse	%	0.0	15.0	3.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
			Overall Test Results	Pass	



Technician:

G. Fuentes

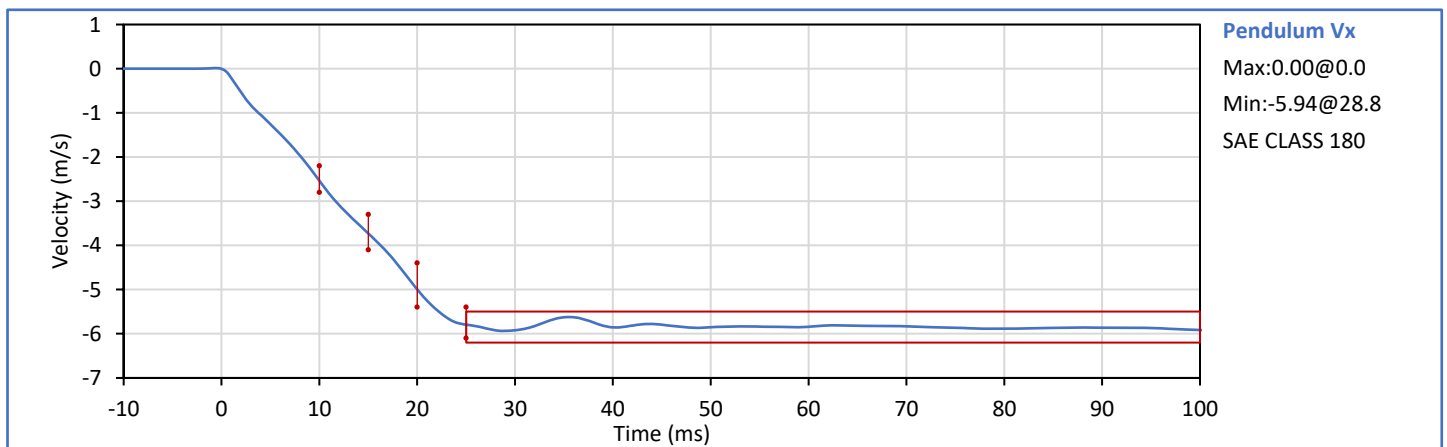
G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Pendulum Velocity	m/s	5.51	5.63	5.55	Pass
Pendulum Decel at 10 ms	m/s	-2.80	-2.20	-2.53	Pass
Pendulum Decel at 15 ms	m/s	-4.10	-3.30	-3.73	Pass
Pendulum Decel at 20 ms	m/s	-5.40	-4.40	-5.00	Pass
Pendulum Decel at 25 ms	m/s	-6.10	-5.40	-5.80	Pass
Pendulum Decel from 25-100 ms	m/s	-6.20	-5.50	-5.94/-5.62	Pass
Peak "D" Plane Rotation	deg	-81.0	-71.0	-73.6	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	53.9	Pass
Peak Occ. Condyle Moment	Nm	36.0	44.0	39.4	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	110.6	Pass
				Overall Test Results	Pass



Technician:

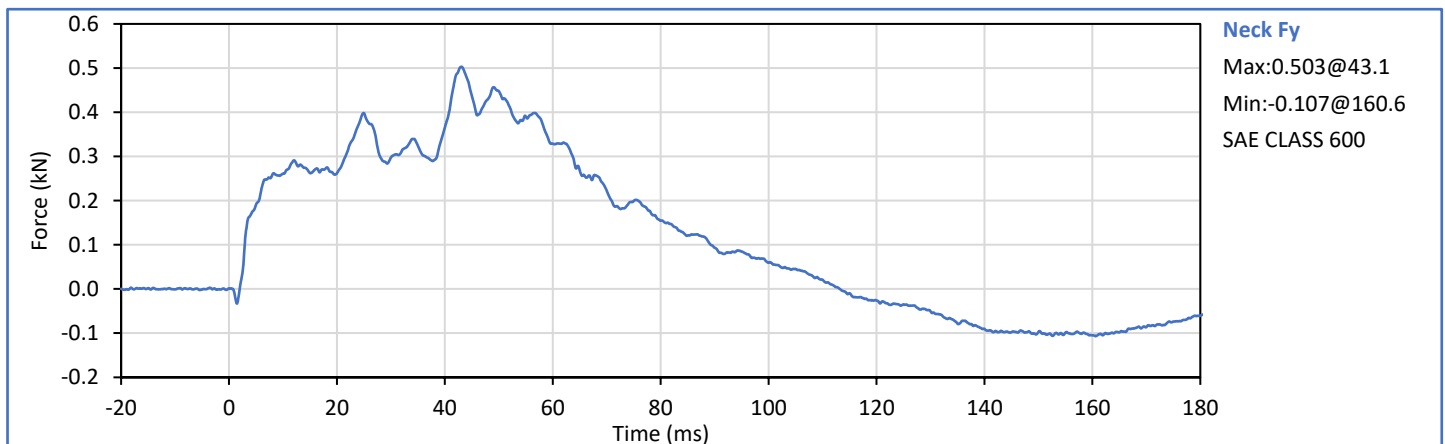
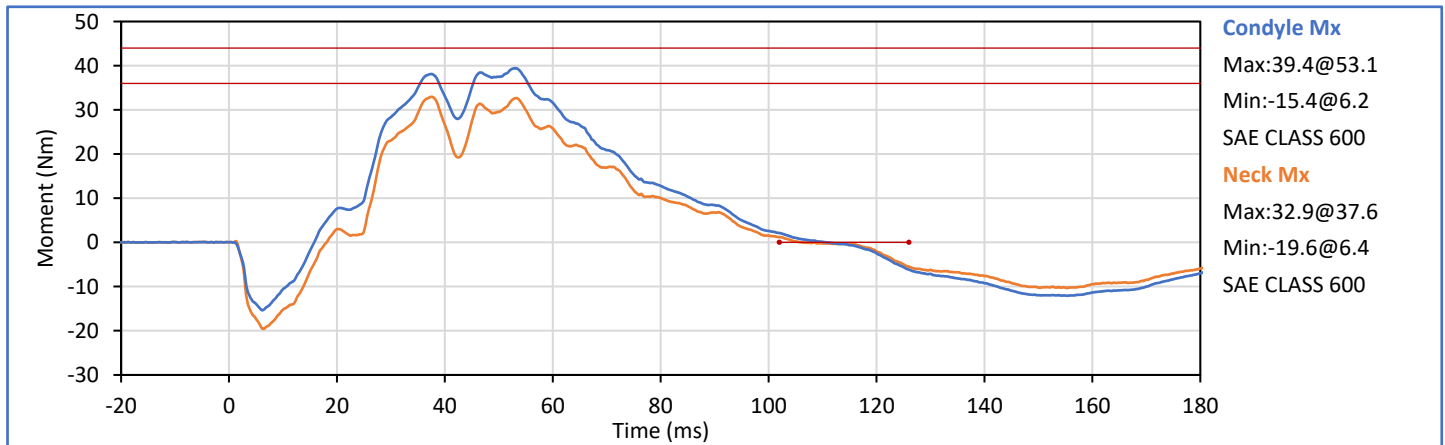
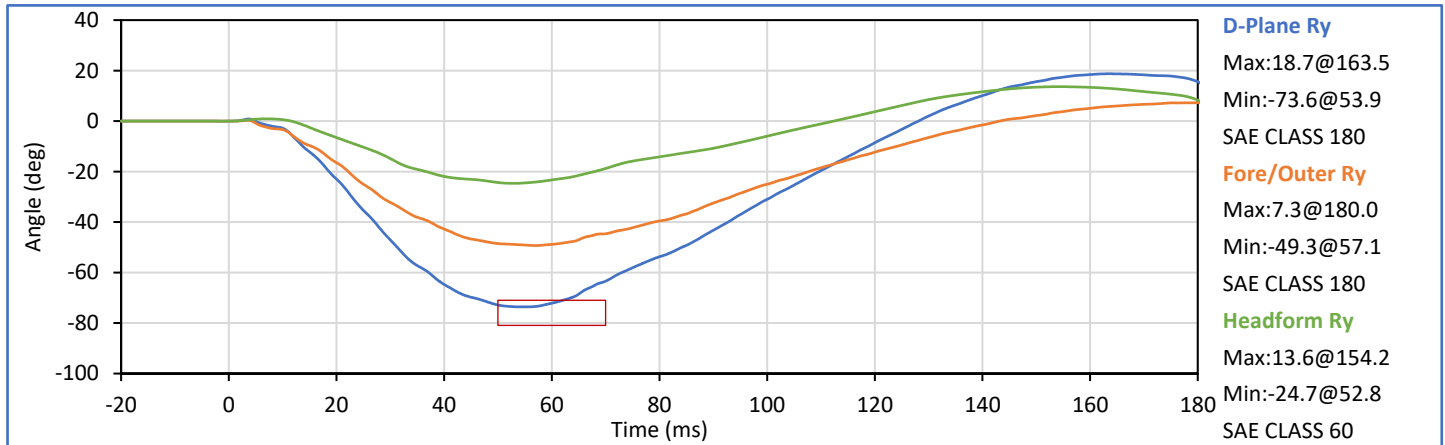
G. Fuentes

G. Fuentes

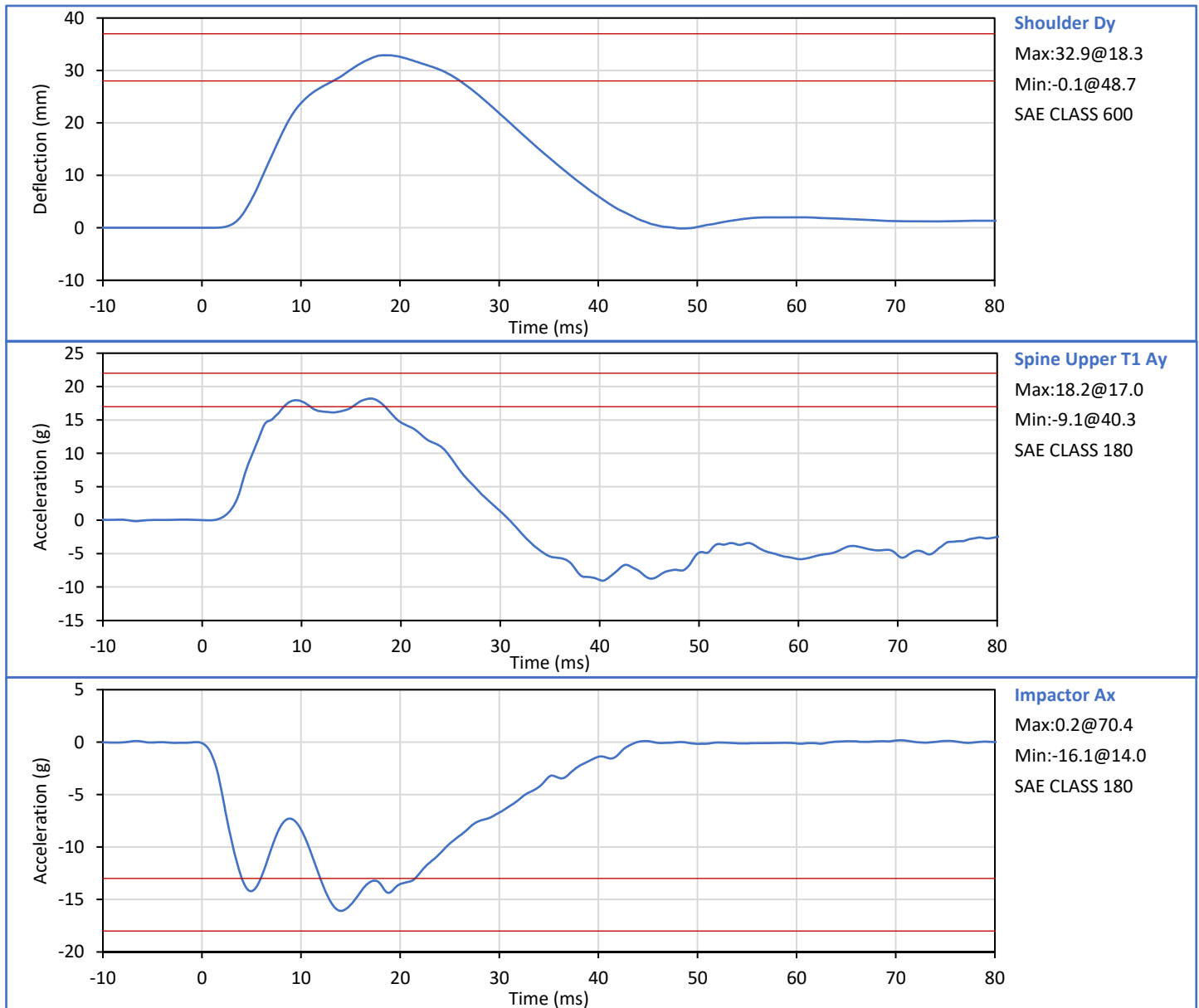
Approved By:

J. Hernandez

J. Hernandez



Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	48	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Shoulder Dy	mm	28.0	37.0	32.9	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.2	Pass
Peak Impactor Ax	g	-18.0	-13.0	-16.1	Pass
Overall Test Results					Pass



Technician:

G. Fuentes

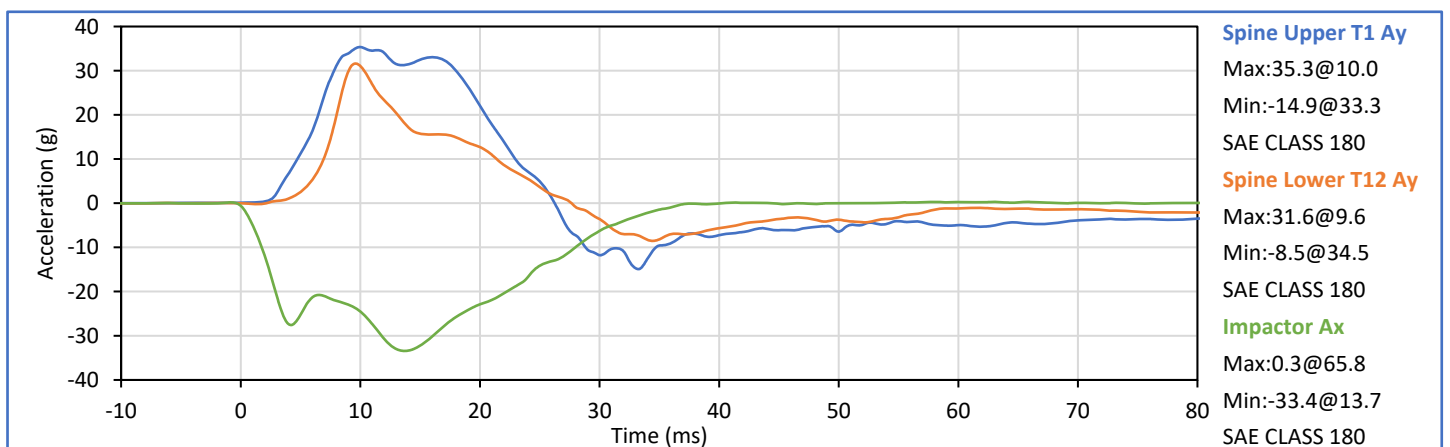
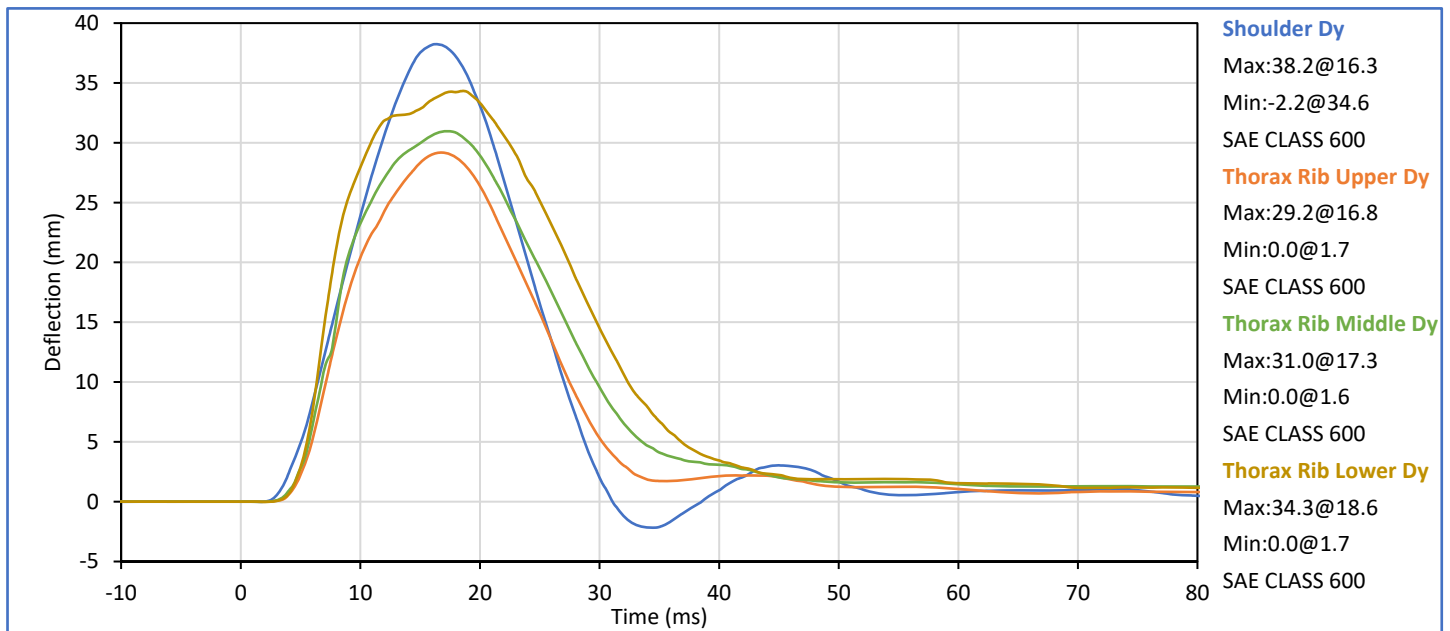
G. Fuentes

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	46	Pass
Impactor Velocity	m/s	6.60	6.80	6.68	Pass
Peak Shoulder Dy	mm	31.0	40.0	38.2	Pass
Peak Upper Rib Dy	mm	25.0	32.0	29.2	Pass
Peak Middle Rib Dy	mm	30.0	36.0	31.0	Pass
Peak Lower Rib Dy	mm	32.0	38.0	34.3	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	35.3	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	31.6	Pass
Peak Impactor Ax	g	-36.0	-30.0	-33.4	Pass
Overall Test Results				Pass	Pass



Technician:

G. Fuentes

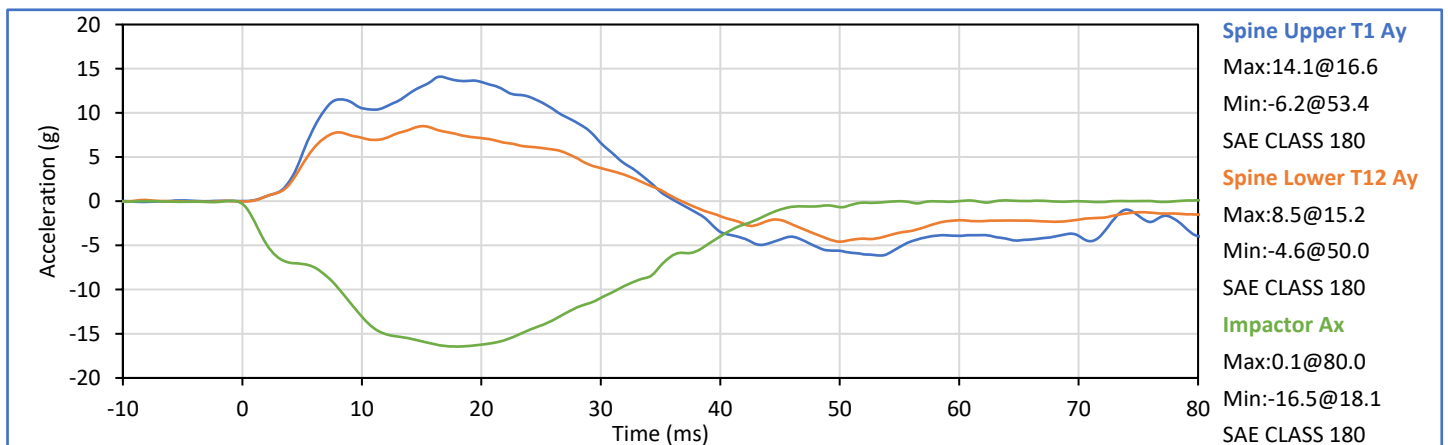
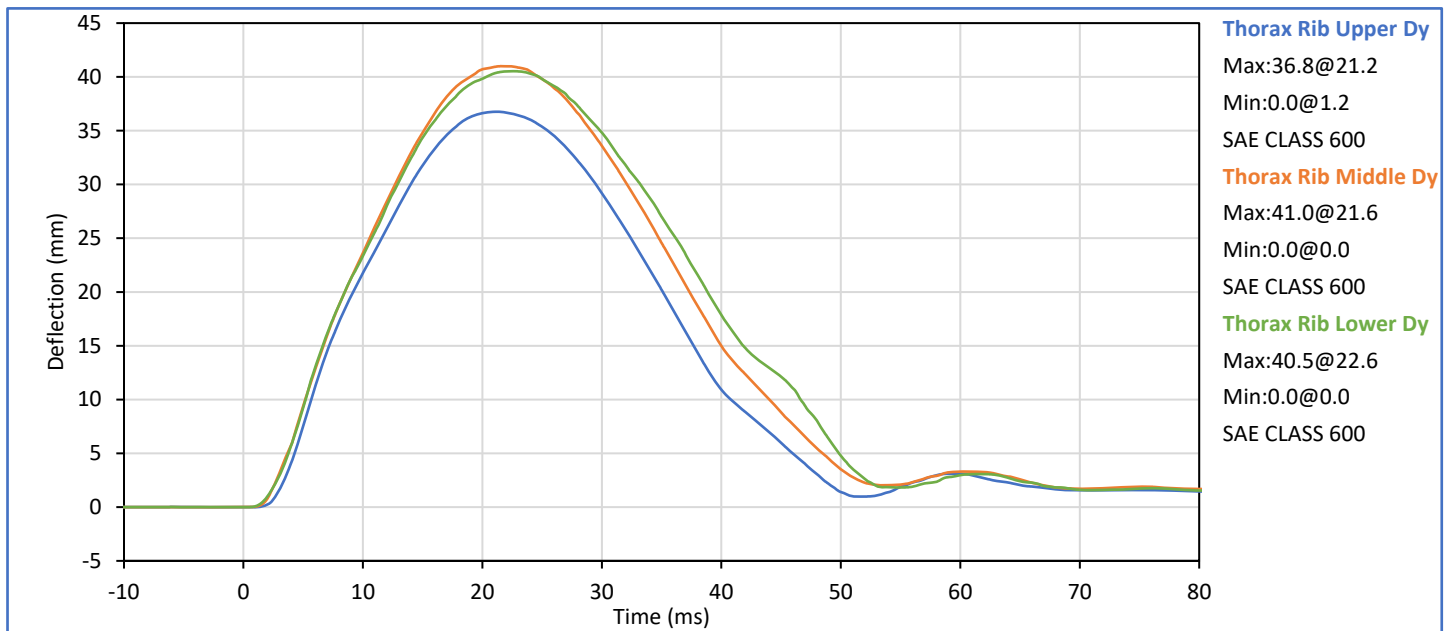
G. Fuentes

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	47	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Thorax Rib Upper Dy	mm	32.0	40.0	36.8	Pass
Peak Thorax Rib Middle Dy	mm	39.0	45.0	41.0	Pass
Peak Thorax Rib Lower Dy	mm	35.0	43.0	40.5	Pass
Peak Spine Upper T1 Ay	g	13.0	17.0	14.1	Pass
Peak Spine Lower T12 Ay	g	7.0	11.0	8.5	Pass
Peak Impactor Ax	g	-18.0	-14.0	-16.5	Pass
Overall Test Results				Pass	



Technician:

G. Fuentes

G. Fuentes

Approved By:

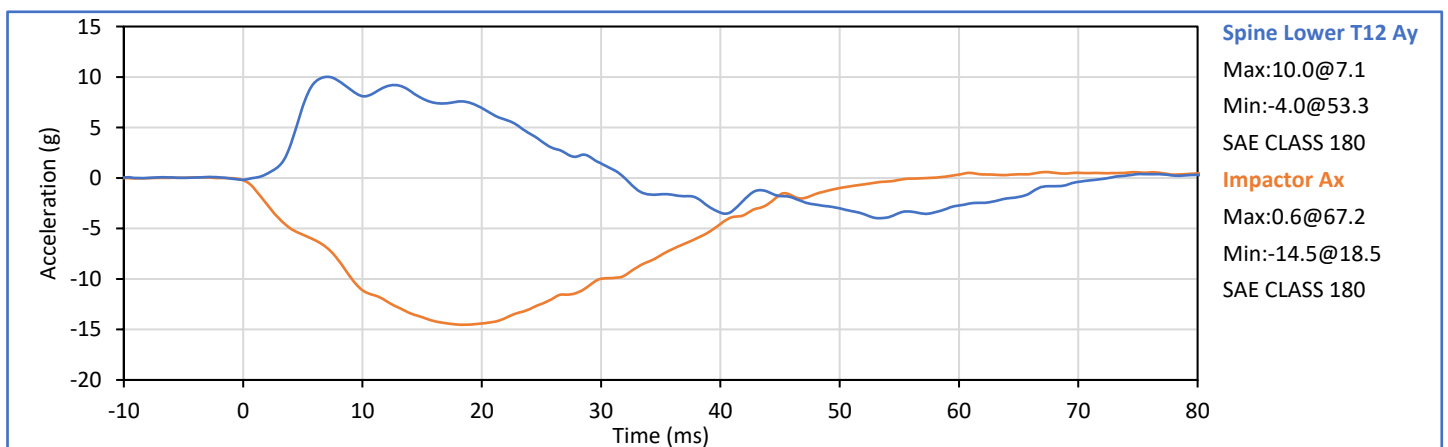
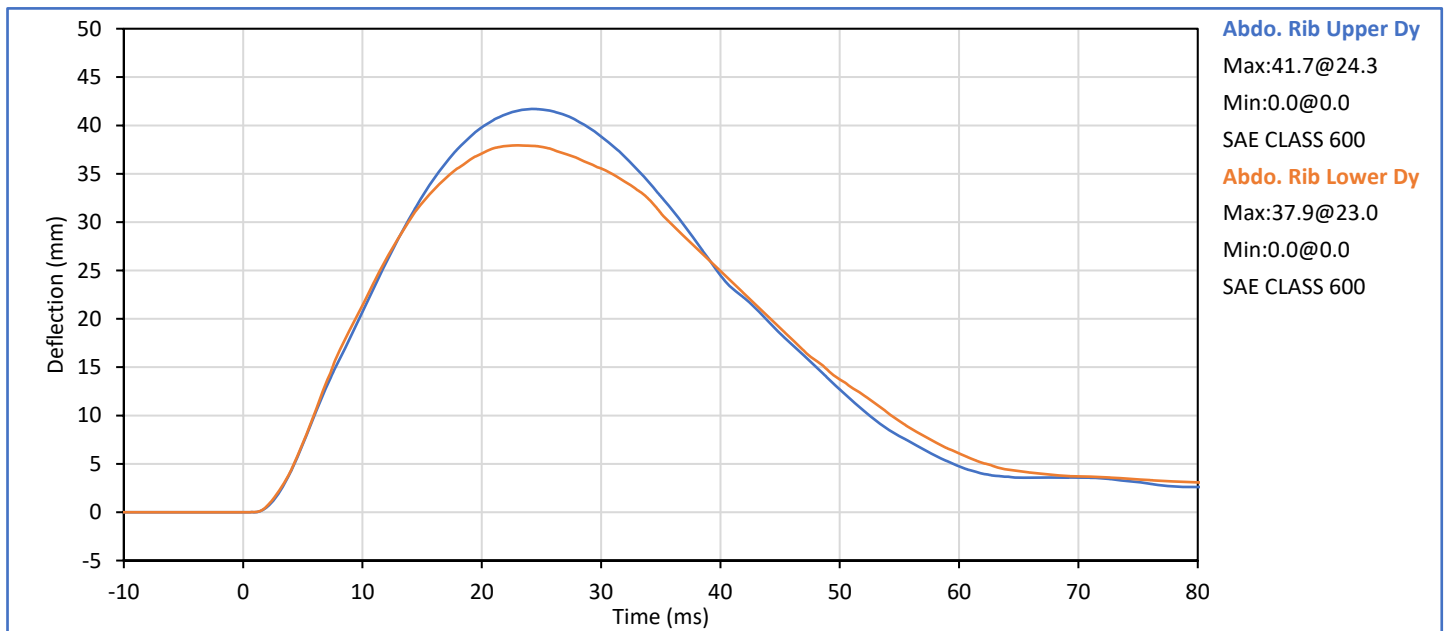
J. Hernandez

J. Hernandez

ATD Serial No.: 308

Test Date: 2024-06-28

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
Impactor Velocity	m/s	4.20	4.40	4.34	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	41.7	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	37.9	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	10.0	Pass
Peak Impactor Ax	g	-16.0	-12.0	-14.5	Pass
Overall Test Results					Pass



Technician: Mill LLS III
G. Fuentes

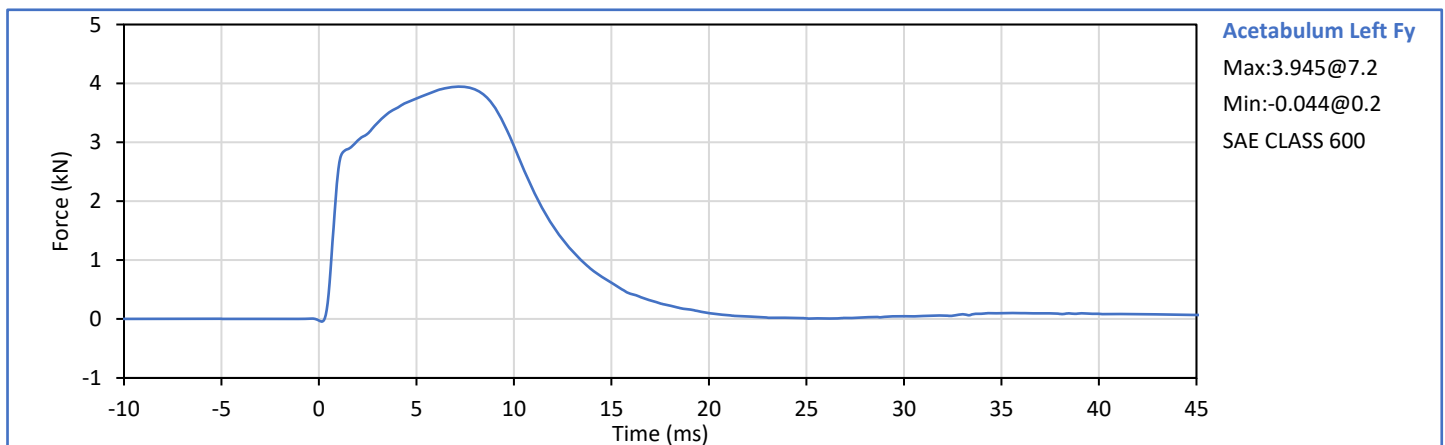
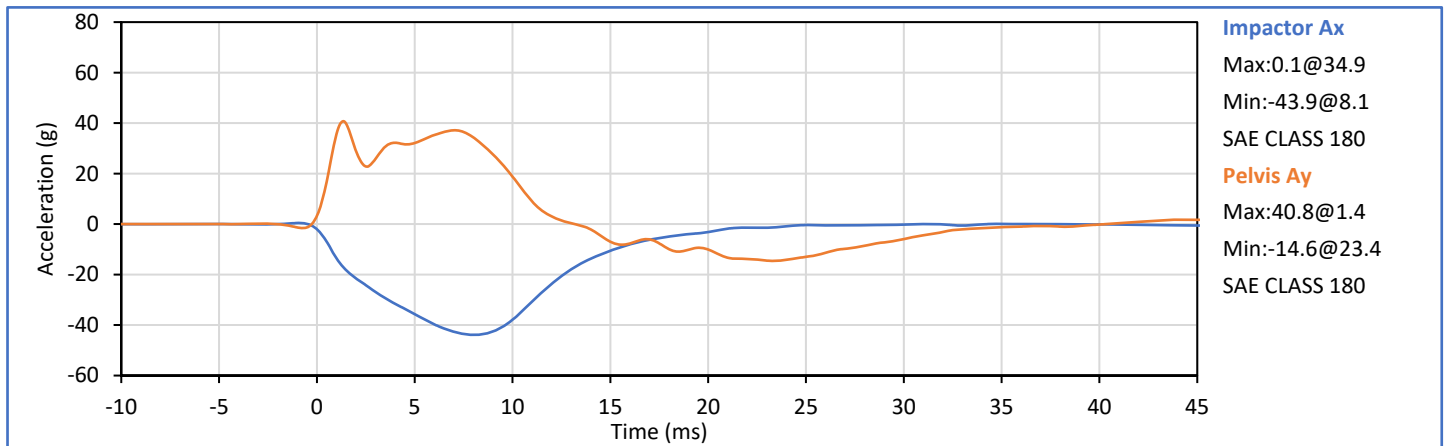
Approved By: J. Hernandez
J. Hernandez

ATD Serial No.: 308

Test Date: 2024-06-28

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	48	Pass
Impactor Velocity	m/s	6.60	6.80	6.73	Pass
Peak Acetabulum Fy	kN	3.60	4.30	3.95	Pass
Pelvis Ay after 6ms	g	34.0	42.0	37.2	Pass
Peak Impactor Ax	g	-47.0	-38.0	-43.9	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 14764



Technician:

G. Fuentes

G. Fuentes

Approved By:

J. Hernandez

J. Hernandez

ATD Serial No.: 308

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

Test Date: 2024-06-28

Pelvis Plug S/N: 14764



SID-IIs Pelvis Plug Certification Test

Plug S/N 14764

Test Number 16736

Report Number 16782

Test Date 12/28/2020 10:59:27 AM

	Test Results	Spec. Min	Spec. Max
Force @ 0.5 mm (N)	251.14	50.00	600.00
Force @ 1.5 mm (N)	1,158.83	850.00	1,400.00
Force @ 2.5 mm (N)	1,431.99	1,306.00	1,618.00
Force @ 3.0 mm (N)	1,460.14	1,361.00	1,673.00

Testing Machine STM-20 5965542

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

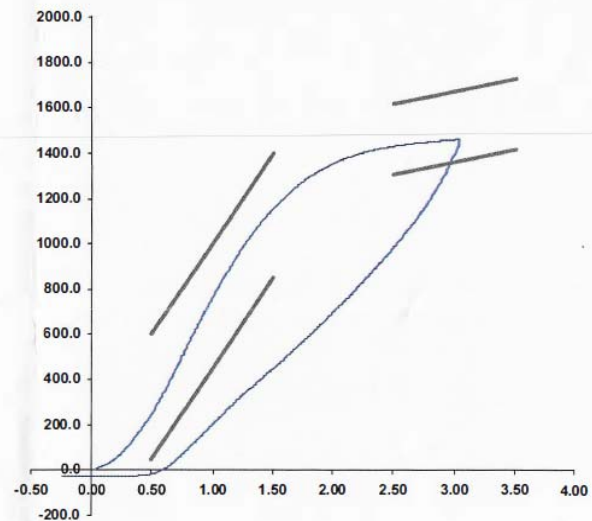
Preload Value (-N) 22.24

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 28-Dec-20
SACO Research

By: DC Date: 12/28/2020

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

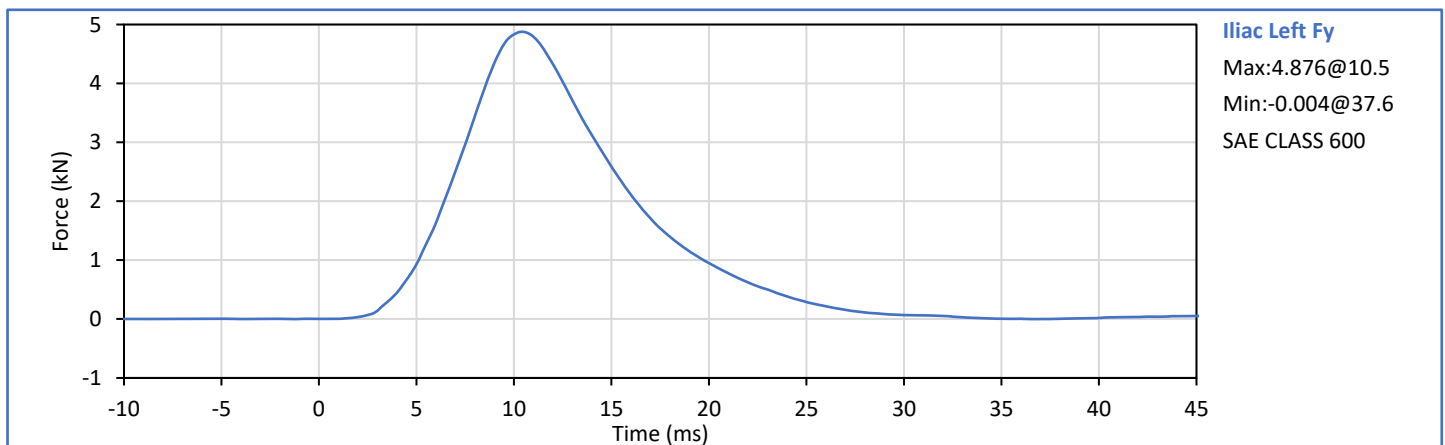
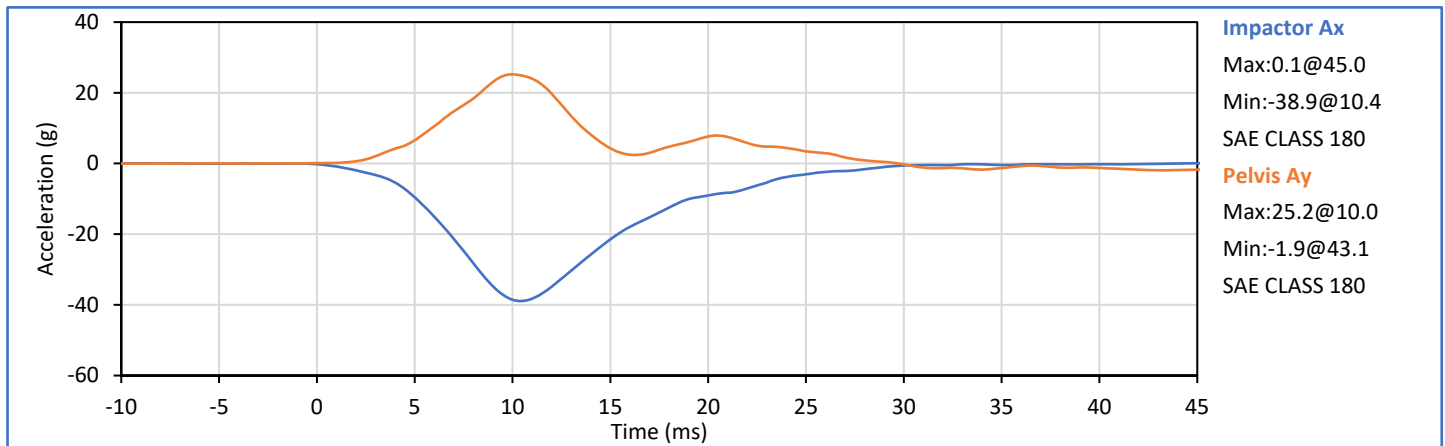
ATD Serial No.: 308

Test Date: 2024-07-01

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 Iliac Fy	kN	4.10	5.10	4.88	Pass
Peak Pelvis Ay	g	28.0	39.0	34.7	Pass
Peak Impactor Ax	g	-45.0	-36.0	-38.9	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	P63980	Endevco	7264C-2k	2024-06-04
Head Acceleration Y Primary	P58861	Endevco	7264C-2k	2024-06-04
Head Acceleration Z Primary	P51261	Endevco	7264C-2k	2024-06-04
Head Acceleration X Redundant	P58808	Endevco	7264C-2k	2024-06-04
Head Acceleration Y Redundant	P63310	Endevco	7264C-2k	2024-06-04
Head Acceleration Z Redundant	P49189	Endevco	7264C-2k	2024-06-04
Head Rotation Rate X	ARS14907	DTS	ARS PRO-18k (2kHz)	2023-11-15
Head Rotation Rate Y	ARS14936	DTS	ARS PRO-18k (2kHz)	2023-11-15
Head Rotation Rate Z	ARS5968	DTS	ARS PRO-18k (2kHz)	2023-11-15
Upper Thorax Rib Deflection Y	1249	Servo	08TCI-3725	2024-06-04
Middle Thorax Rib Deflection Y	1219	Servo	08TCI-3725	2024-06-04
Lower Thorax Rib Deflection Y	1221	Servo	08TCI-3725	2024-06-04
Upper Abdomen Rib Deflection Y	1252	Servo	08TCI-3725	2024-06-04
Lower Abdomen Rib Deflection Y	1233	Servo	08TCI-3725	2024-06-04
Lower Spine T12 Acceleration X	P52108	Endevco	7264C-2k	2024-06-04
Lower Spine T12 Acceleration Y	P63970	Endevco	7264C-2k	2024-06-04
Lower Spine T12 Acceleration Z	P51712	Endevco	7264C-2k	2024-06-04
Iliac Wing Impact Side Force Y	289 (Iliac)	R.A. Denton	3228J	2024-05-24
Acetabulum Impact Side Force Y	277 (Acetabulum)	R.A. Denton	3249J	2024-05-24

Table 2 - Vehicle Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Vehicle CG Ax	M11250	Endevco	758H-2k	2024-02-05
Vehicle CG Ay	M11246	Endevco	758H-2k	2024-02-07
Vehicle CG Az	M11048	Endevco	758H-2k	2024-02-05
Left Floor Sill Ay	M11278	Endevco	758H-2k	2024-02-09
A-Pillar Sill Ay	M11144	Endevco	758H-2k	2024-02-01
A-Pillar Low Ay	M11239	Endevco	758H-2k	2024-02-05
A-Pillar Mid Ay	M11124	Endevco	758H-2k	2024-02-08
B-Pillar Sill Ay	M11294	Endevco	758H-2k	2024-02-05
B-Pillar Low Ay	M11169	Endevco	758H-2k	2024-02-08
B-Pillar Mid Ay	M13705	Endevco	758H-2k	2024-02-09
Driver Seat Track at H-Point Ay	M11171	Endevco	758H-2k	2024-02-08
Engine Top Ax	M11082	Endevco	758H-2k	2024-02-01
Engine Top Ay	M11229	Endevco	758H-2k	2024-02-05
Firewall Ay	M11176	Endevco	758H-2k	2024-02-10
Right Roof Ay	M11284	Endevco	758H-2k	2024-02-09
Right Floor Sill Ay	M11101	Endevco	758H-2k	2024-02-10
Rear Floorpan Ax	M11186	Endevco	758H-2k	2024-02-09
Rear Floorpan Ay	M11137	Endevco	758H-2k	2024-02-01

Table 3 - Barrier Pole Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Barrier Pole 01 Fx	46760	Interface	1220FS-50k	2021-11-04
Barrier Pole 02 Fx	132304A	Interface	1220AF-50k	2021-11-04
Barrier Pole 03 Fx	131211A	Interface	1220AF-50k	2021-11-04
Barrier Pole 04 Fx	19346	Interface	1220AF-50k	2021-11-04
Barrier Pole 05 Fx	131827A	Interface	1220AF-50k	2021-11-04
Barrier Pole 06 Fx	19322	Interface	1220AF-50k	2021-11-05
Barrier Pole 07 Fx	132302A	Interface	1220AF-50k	2021-11-05
Barrier Pole 08 Fx	19345	Interface	1220AF-50k	2021-11-05