

**REPORT NUMBER: SideNCAPPole-KAR-24-005**  
**NEW CAR ASSESSMENT PROGRAM (NCAP)**  
**SIDE IMPACT POLE TEST**

**VINFAST TRADING AND PRODUCTION JOINT STOCK COMPANY**  
**2024 VINFAST VF8 ECO 5-DOOR SUV**

**NHTSA No: M20244701**

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



**JULY 26, 2024**

**FINAL REPORT**

**PREPARED FOR:**  
**U.S. DEPARTMENT OF TRANSPORTATION**  
**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**  
**OFFICE OF CRASHWORTHINESS STANDARDS**  
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**WASHINGTON, D.C. 20590**

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Approval Date: \_\_\_\_\_ July 26, 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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		<b>15. Supplementary Notes</b>																												
<b>16. Abstract</b> A 32.2 km/h 75° rigid pole side NCAP impact test was conducted on the subject 2024 VinFast VF8 Eco 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 July 12, 2024.  The impact velocity was 32.10 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 37.8°C. The target vehicle's maximum post-test static crush was 195 mm located at level 3. The test vehicle's occupant performance data is as follows:																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 35%;">Measurement Description</th> <th colspan="3">Driver ATD (SID-IIs)</th> </tr> <tr> <th style="width: 15%;">Units</th> <th style="width: 15%;">Threshold</th> <th style="width: 35%;">Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC<sub>36</sub>)</td> <td></td> <td style="text-align: center;">1000</td> <td style="text-align: center;">258.101</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td style="text-align: center;">g</td> <td style="text-align: center;">82</td> <td style="text-align: center;">41.753</td> </tr> <tr> <td>Total Pelvic Force (Sum of Acetabular and Iliac Forces)</td> <td style="text-align: center;">N</td> <td style="text-align: center;">5525</td> <td style="text-align: center;">3011.533</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">38</td> <td style="text-align: center;">26.678</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">45</td> <td style="text-align: center;">27.705</td> </tr> </tbody> </table>				Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC <sub>36</sub> )		1000	258.101	Resultant Lower Spine Acceleration	g	82	41.753	Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	3011.533	Maximum Thoracic Rib Deflection	mm	38	26.678	Maximum Abdominal Rib Deflection	mm	45	27.705
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<b>17. Key Words</b> New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		<b>18. Distribution Statement</b> Copies of this report are available from: National Highway Traffic Safety 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 VinFast VF8 Eco 5-Door SUV. 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 VinFast VF8 Eco 5-Door SUV. The subject vehicle was towed into the rigid pole at an angle of 74.3° and a velocity of 32.10 km/h. The test was conducted by Applus IDIADA KARCO Engineering, LLC. in Adelanto, California on July 12, 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 308 (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 308 (SID-IIs) was instrumented accordingly:

- Primary and redundant head CG tri-axial accelerometers
- Head angular rate sensors
- 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 <sub>36</sub> )		1000	258.101
Lower Spine (T12) Resultant Acceleration	g	82	41.753
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3011.533
Maximum Thoracic Rib Deflection	mm	38*	26.678
Maximum Abdominal Rib Deflection	mm	45*	27.705

\*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 Air Bag	Yes	No	No	
Center Air Bag	Yes	Yes	No	
Knee Air Bag	Yes	No	No	
Side Air Bag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Air Bag 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 AIR BAG DEPLOYED**

## SECTION 2

### OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

### 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 <sup>2</sup>	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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

#### TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20244701
Model Year	2024
Make	VinFast
Model	VF8
Body Style	5-Door SUV
VIN	RLLV1AEB5RH004360
Body Color	Jet Black
Odometer Reading (km / mi)	174/108
Engine Displacement (L)	N/A
Type / No. of Cylinders	N/A
Engine Placement	Dual Motor
Transmission Type	Automatic
Transmission Speeds	1
Overdrive	Yes
Final Drive	AWD
Roof Rack	No
Sunroof / T-Top	No
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 Air Bag	Yes
Driver Curtain Air Bag	Yes
Driver Head/Torso Air Bag	No
Driver Torso Air Bag	No
Driver Torso/Pelvis Air Bag	Yes
Driver Pelvis Air Bag	No
Driver Knee Air Bag	Yes
Rear Pass. Curtain Air Bag	Yes
Rear Pass. Head/Torso Air bag	No
Rear Pass. Torso Air Bag	No
Rear Pass. Torso/Pelvis Air Bag	Yes
Rear Pass. Pelvis Air Bag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	Driver Center Air Bag

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

No

#### DATA FROM CERTIFICATION LABEL

Manufactured By	VinFast Trading and Production Joint Stock Company
Date of Manufacture	Mar-23
Vehicle Type	MPV

GVWR (kg)	2905
GAWR Front (kg)	1425
GAWR Rear (kg)	1590

#### VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Designated Seating Capacity	2	3		5
Capacity Weight (VCW) (kg)				450.0
DSC x 68 (kg)				340.0
Cargo Weight (RCLW) (kg)				110.0

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

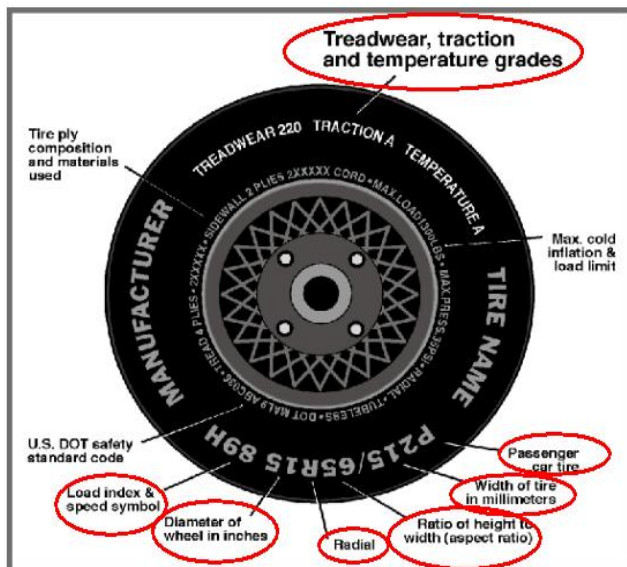
#### VEHICLE SEAT TYPE

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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	340	340
Cold Pressure (kPa)	260	280
Recommended Tire Size	225/55 R19	225/55 R19
Tire Size on Vehicle	225/55 R19	225/55 R19
Tire Manufacturer	Goodyear	Goodyear
Tire Model	Eagle Touring	Eagle Touring
Treadware	400	400
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	103H	103H
Tire Material	Rubber	Rubber
DOT Safety Code Left	1CEP JA3R 3122	1CEP JA3R 3122
DOT Safety Code Right	1CEP JA3R 3122	1CEP JA3R 3122

**DATA SHEET NO. 1 ... (CONTINUED)**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**TIRE PRESSURES**

	Units	LF	RF	LR	RR
As Delivered	kPa	260	260	280	280
Tire Placard	kPa	260	260	280	280
Owner's Manual	kPa	260	260	280	280
As Tested	kPa	260	260	280	280

**TEST VEHICLE AXLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	630.0	611.5		623.0	680.0		662.0	673.0	
Right	kg	611.5	609.0		647.5	664.0		616.5	669.0	
Ratio	%	50.4%	49.6%	100.0%	48.6%	51.4%	100.0%	48.8%	51.2%	100.0%
Total	kg	1241.5	1220.5	2462.0	1270.5	1344.0	2614.5	1278.5	1342.0	2620.5

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	2462.0	A
Actual Weight of 1 SID II-s ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	110.0	C
Calculated Vehicle Target Wt (TVTWT)	kg	2621.0	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)*	°	0.6	0.3	0.2	Yes
Front Passenger Sill Angle (front-to-rear)*	°	-0.1	0.3	0.4	Yes
Front Bumper-Line Angle (left-to-right)**	°	0.8	0.8	1.0	Yes
Rear Bumper-Line Angle (left-to-right)**	°	0.9	1.0	1.4	Yes
Vehicle CG (Aft of Front Axle)	mm	1465	1519	1514	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	7	-3	15	

\*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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW**

Component Description	Weight (kg)
Rear Trim	2.5
Battery Charger	6.5

**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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

#### 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	8.6	0.0	4.3
Front Passenger Seat	Fixed	Fixed	3.3
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	4.3	678	Max	692	699	706
			Mid	664	671	678
			Min	636	643	650
Front Passenger Seat	3.3	681	Max	687	693	701
			Mid	667	672.5	681
			Min	647	652	661
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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

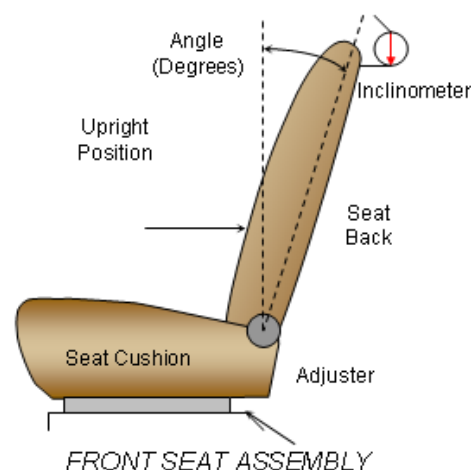
**SEAT FORE/AFT POSITION**

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	240		0	
Front Passenger Seat	240		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 5<sup>th</sup> percentile female dummy in a Side NCAP MDB Test. The rear center and non-struck side rear passenger's seat back is set to match the struck side rear seat back. Seat 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	41.9	63	20.3	
Front Passenger Seat	44.8	77	20.3	
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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**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	1	Fixed

**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	5	L

**DATA SHEET NO. 2 ... (CONTINUED)**

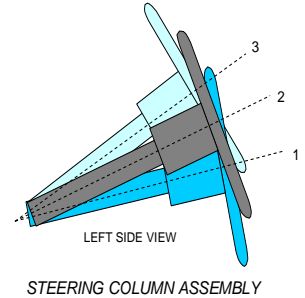
**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**STEERING COLUMN ADJUSTMENT**

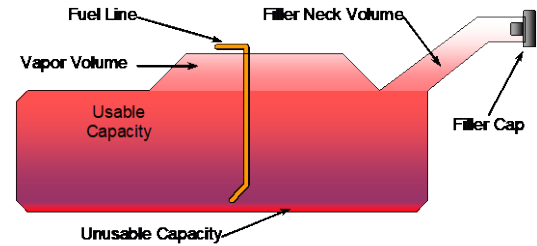
Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.

	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	67.4	188
Geometric Center - Position 2	65.6	217.5
Uppermost - Position 3	63.8	247
Telescoping Steering Wheel Travel		59
Test Position	65.6	217.5



**FUEL PUMP**

The vehicle is an electric vehicle, does not have a fuel pump.



**FUEL TANK CAPACITY**

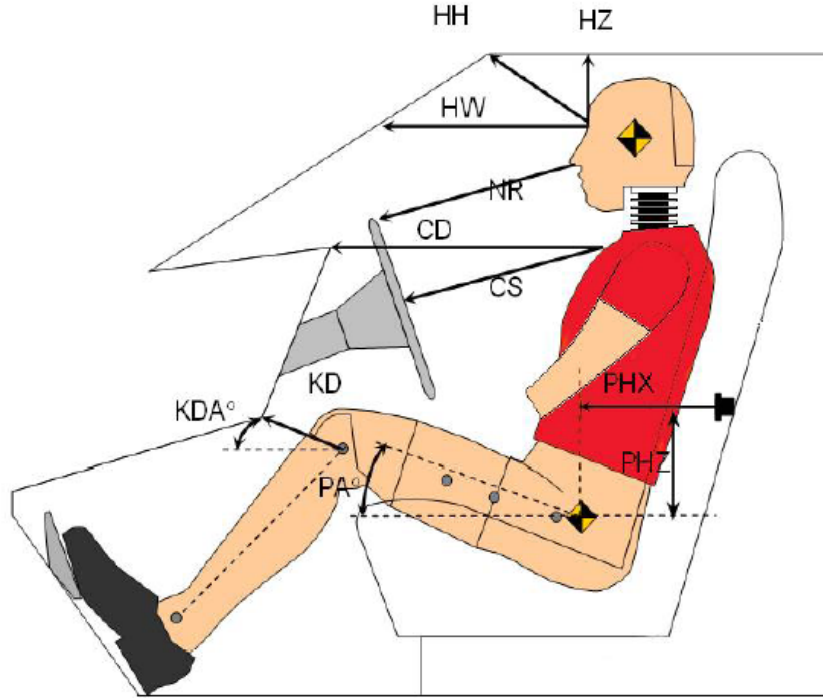
Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)*	
Usable Capacity of "Optional Tank" (see Owner's Manual)*	
93% of Usable Capacity	
Actual amount of Solvent Used in Test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

Is the Actual Amount of Solvent Used in the test equal to 93% ± 1% of the Usable Capacity stated in the Form No. 1?  Yes  No

### DATA SHEET NO. 3

#### DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV      NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test      Test Date: 07/12/24



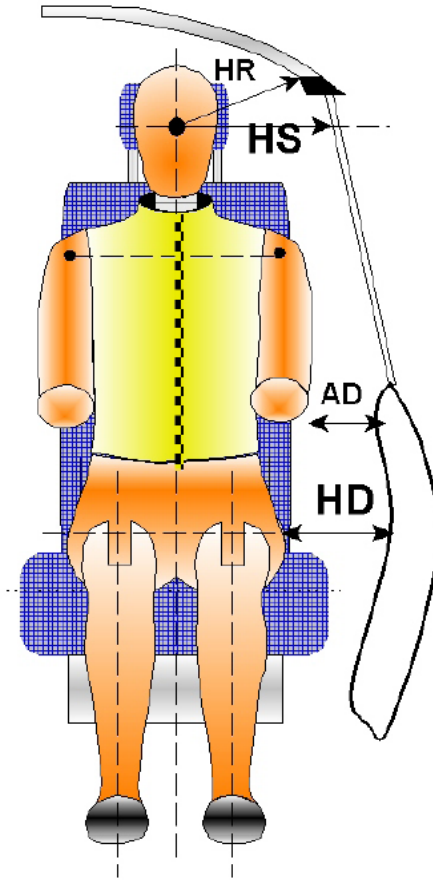
Driver Code	Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	308	
HW	Head to Windshield	677	
HZ	Head to Roof	207	
NR	Nose to Rim	210	
CD	Chest to Dash	466	
CS	Chest to Steering Wheel	133	
KD(L)/KDA(L)°	Left Knee to Dash	130	28.7
KD(R)/KDA(R)°	Right Knee to Dash	129	29.8
PAX°	Pelvic Tilt Angle (x-axis)		18.8
PAY°	Pelvic Tilt Angle (y-axis)		0.4
PHX	Hip Point to Striker (x-axis)	308	
PHZ	Hip Point to Striker (z-axis)	93	

**DATA SHEET NO. 4**

**DUMMY LATERAL CLEARANCE DIMENSIONS**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

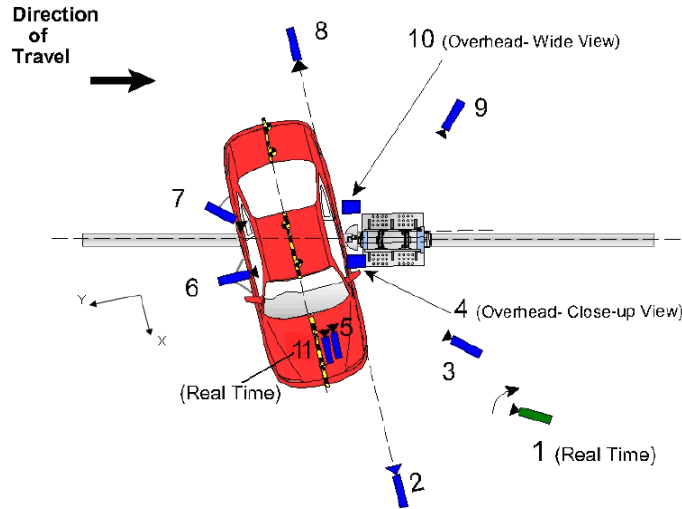


Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	289
HS	Head to Side Window	mm	400
AD	Arm to Door	mm	200
HD	Hip Point to Door	mm	285

**DATA SHEET NO. 5**

**CAMERA AND INSTRUMENTATION DATA**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



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

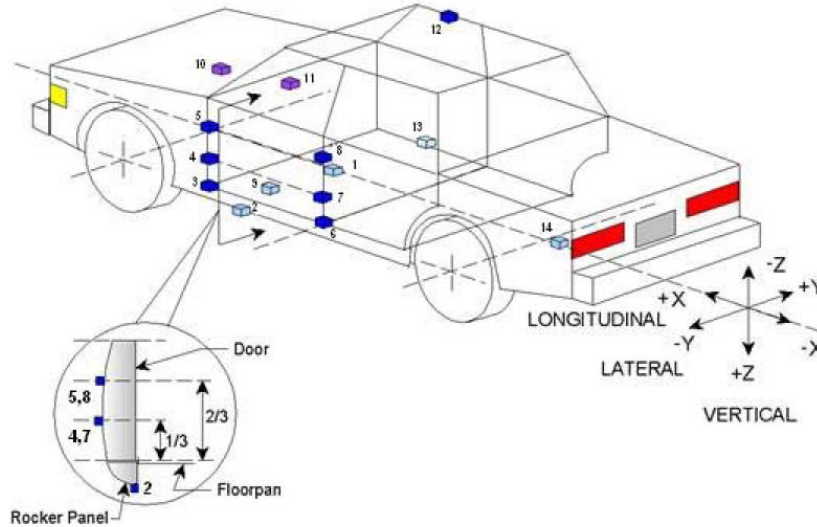
**INSTRUMENTATION**

Driver Dummy Channels	19
Vehicle Structure Accelerometers	18
Pole Load Cells	8
<b>Total</b>	<b>45</b>

## DATA SHEET NO. 6

### TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV      NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test      Test Date: 07/12/24

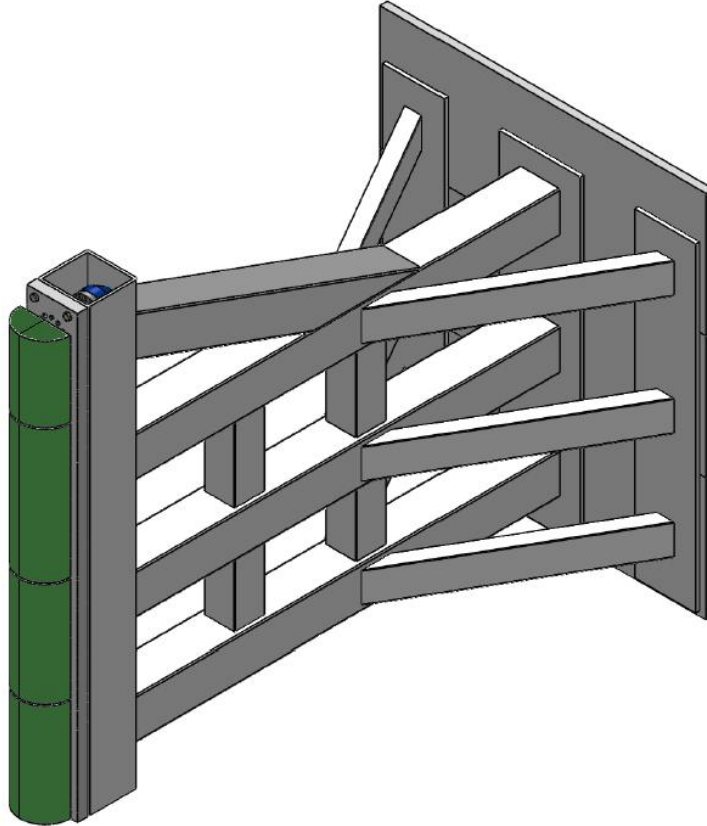


Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	1980	0	-440
2	Left Floor Sill	3050	-800	-385
3	A-Pillar Sill	3250	-776	-480
4	A-Pillar Low	3250	-776	-730
5	A-Pillar Mid	3250	-776	-994
6	B-Pillar Sill	2100	-736	-458
7	B-Pillar Low	2100	-736	-745
8	B-Pillar Mid	2100	-736	-945
9	Driver Seat Track	2530	-623	-456
10	Engine Top	4100	30	-740
11	Firewall	3600	0	-920
12	Right Roof	2100	560	-1660
13	Right Floor Sill	3050	800	-385
14	Rear Floorpan	970	0	-570

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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**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, Curtain Air Bag, Headliner
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	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	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge System Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	N/A	N/A	N/A	N/A	N/A

**POST-TEST SEAT PERFORMANCE**

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No		No	
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 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**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 Air Bag	Yes	No	No	
Center Air Bag	Yes	Yes	No	
Knee Air Bag	Yes	No	No	
Side Air Bag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Air Bag 2 (Torso/Pelvis)	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes

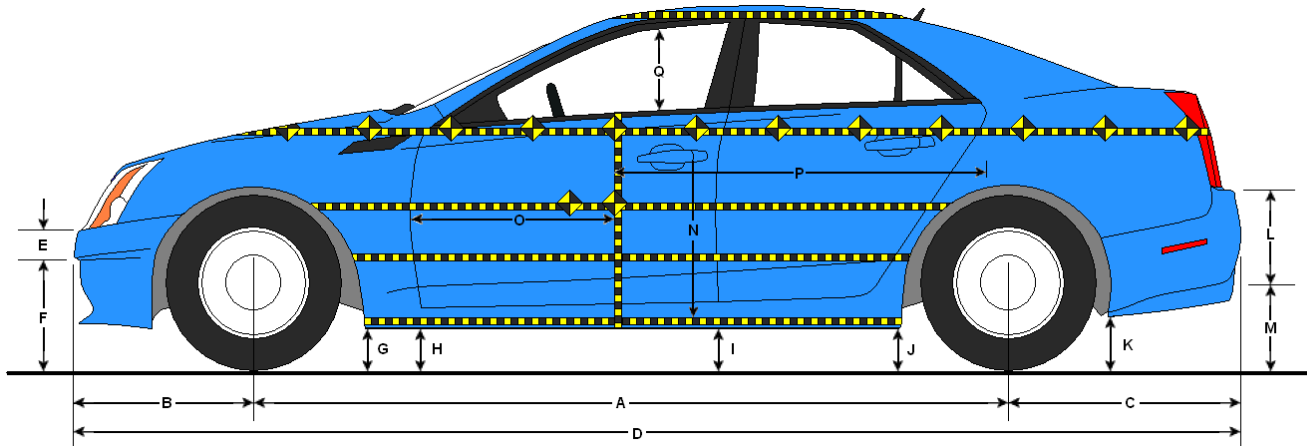
**IMPACT POINT LOCATION DATA**

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1244
Actual Impact Point (Aft of Front Axle)	mm		1242
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	2
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	74.3
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.10
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.11

## DATA SHEET NO. 9

### TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV      NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test      Test Date: 07/12/24



#### LEFT SIDE VIEW

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

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

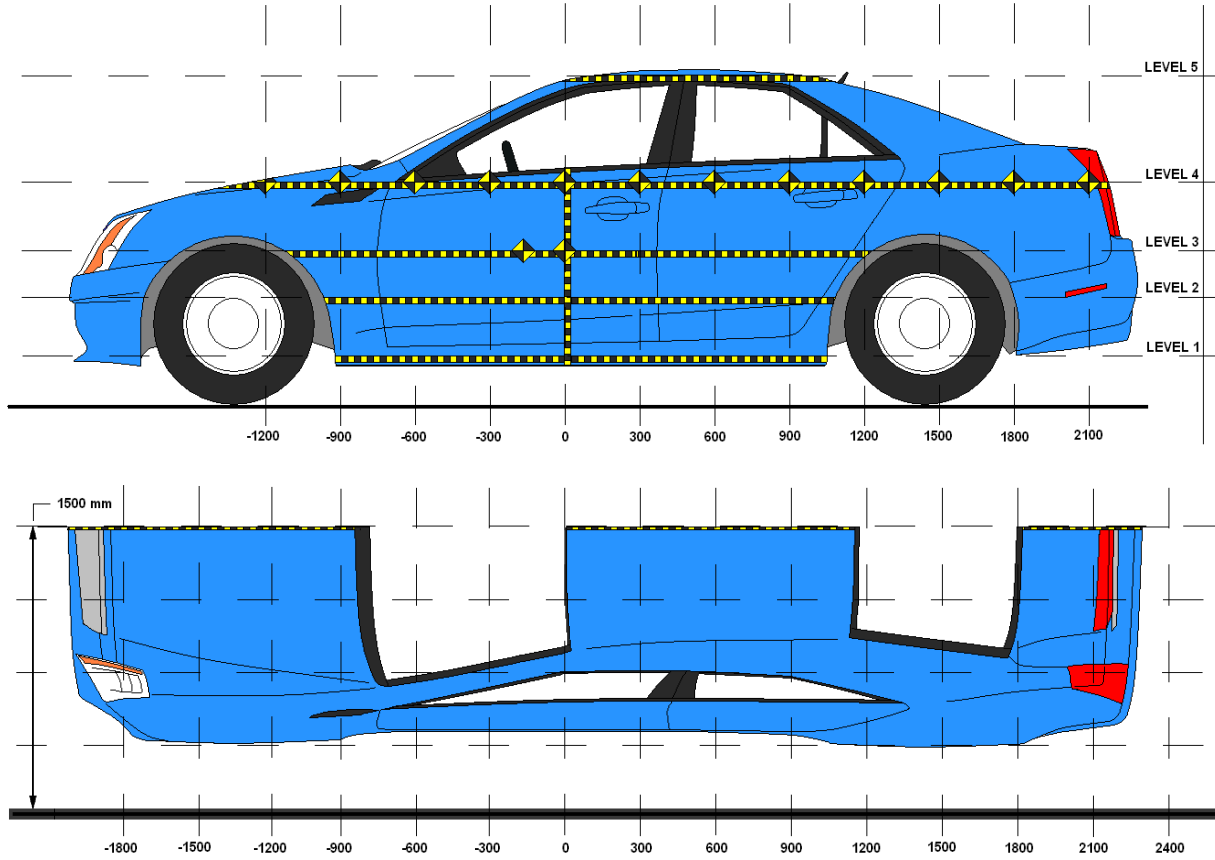
Code	Description	Pre-Test	Post-Test	Change
A	Wheelbase	2955	2959	4
B	Front Axle to FSOV	846	831	-15
C	Rear Axle to RSOV	946	948	2
D	Total Length at Centerline	4747	4736	-11
E	Front Bumper Thickness	134	134	0
F	Front Bumper Bottom to Ground	496	499	3
G	Sill Height at Front Wheel Well	285	284	-1
H	Sill Height at Front Door Leading Edge	282	273	-9
I	Sill Height at B-Pillar	305	293	-12
J1	Sill Height at Rear Wheel Well	226	228	2
J2	Pinch Weld Height at Rear Wheel Well	202	200	-2
K	Sill Height Aft of Rear Wheel Well	402	403	1
L	Rear Bumper Thickness	206	206	0
M	Rear Bumper Bottom to Ground	511	511	0
N	Sill Height to Bottom of Front Window Sill	720	741	21
O	Front Door Leading Edge to Impact CL	653	581	-72
P	Rear Door Trailing Edge to Impact CL	1639	1676	37
Q	Front Window Opening	440	442	2
R	Right Side Length	3515	3520	5
S	Left Side Length	3515	3517	2
T	Vehicle Width at B-Pillar	-1844	-1829	15

**DATA SHEET NO. 10**

**TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



**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	460	175	0
2	Occupant H-Point	694	193	0
3	Mid-Door	734	195	0
4	Window Sill	1096	156	0
5	Window Top	1550	19	0

**DATA SHEET NO. 10 ... (CONTINUED)**

**TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**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		547	553	643			526	531	613			-21	-22	-30	
-750	568	555	555	639		556	540	540	612		-12	-15	-15	-27	
-600	567	560	559	638		569	538	535	620		2	-22	-24	-18	
-450	567	560	559	635		614	596	594	646		47	36	35	11	
-300	568	561	559	629		637	628	630	679		69	67	71	50	
-150	566	561	560	624		687	696	698	719		121	135	138	95	
0	567	562	560	615	846	742	755	755	771	865	175	193	195	156	19
150	569	562	560	609	848	699	703	712	730	861	130	141	152	121	13
300	571	563	561	603	851	619	614	618	655	861	48	51	57	52	10
450	573	564	562	602	855	596	585	583	600	863	23	21	21	-2	8
600	576	564	562	601	862	593	580	579	615	866	17	16	17	14	4
750	581	562	561	600	864	591	575	574	610	868	10	13	13	10	4
900	579	560	559	599	869	585	569	568	604	870	6	9	9	5	1
1050	569	557	556	600	873	571	560	560	601	874	2	3	4	1	1
1200	560	552	552	599	880	558	549	549	598	878	-2	-3	-3	-1	-2
1350		548	550	601	883		546	549	595	885		-2	-1	-6	2
1500				603	893				592	893				-11	0
1650				604	904				606	903				2	-1
1800				609	919				609	917				0	-2
1950															
2100															
2250															
2400															
2550															
2700															
2850															

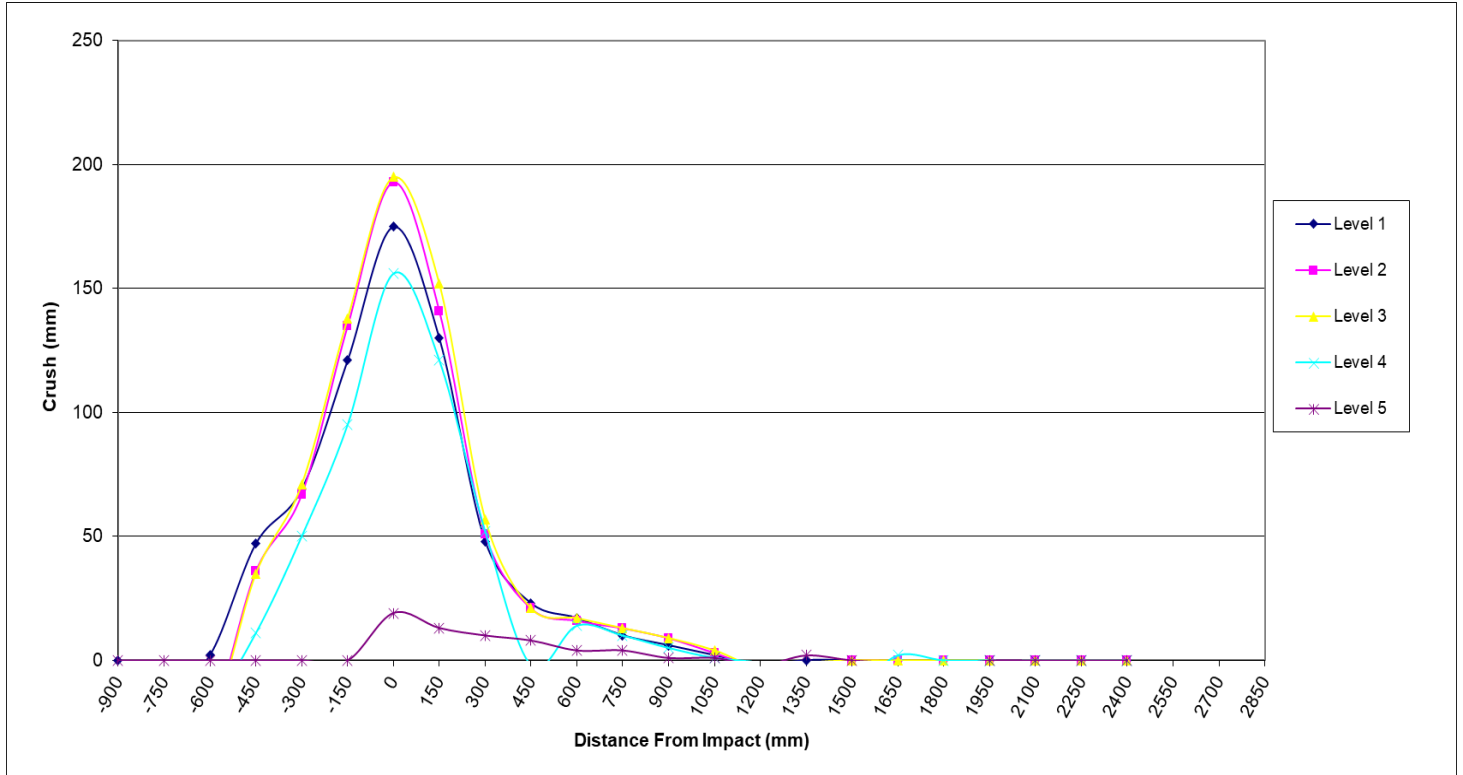
**DATA SHEET NO. 10 ... (CONTINUED)**  
**TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV

NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test

Test Date: 07/12/24

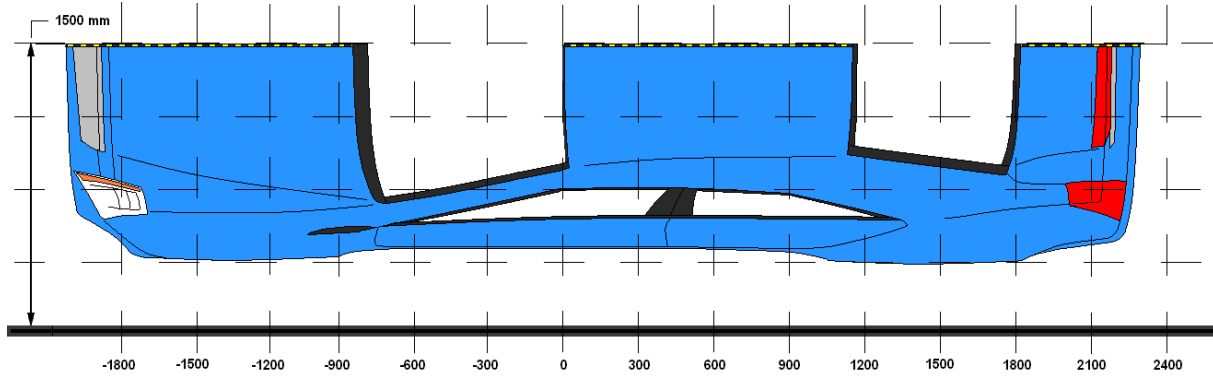


**DATA SHEET NO. 11**

**VEHICLE DAMAGE PROFILE DISTANCES**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



DPD	Distance From Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	1800	4	609	609	0
2	1350	5	883	885	2
3	750	2	562	575	13
4	300	3	561	618	57
5	-300	3	559	630	71
6	-900	2	547	526	-21

**DATA SHEET NO. 12**

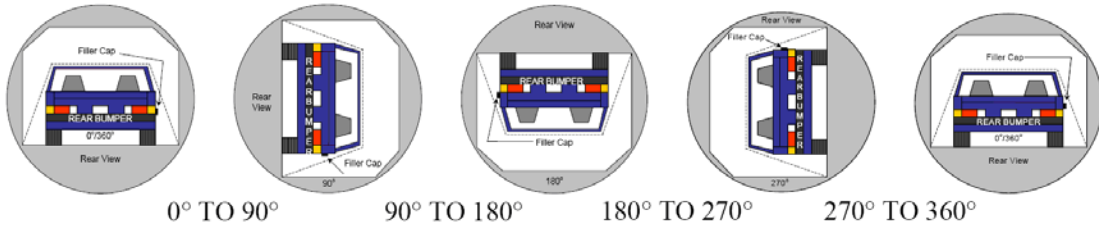
**FMVSS NO. 301 STATIC ROLLOVER RESULTS**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

Temperature at Time of Impact: 37.8° C Test Time: 2:35 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°	81	300	381
90° To 180°	80	300	380
180° To 270°	83	300	383
270° To 360°	82	300	382

**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**

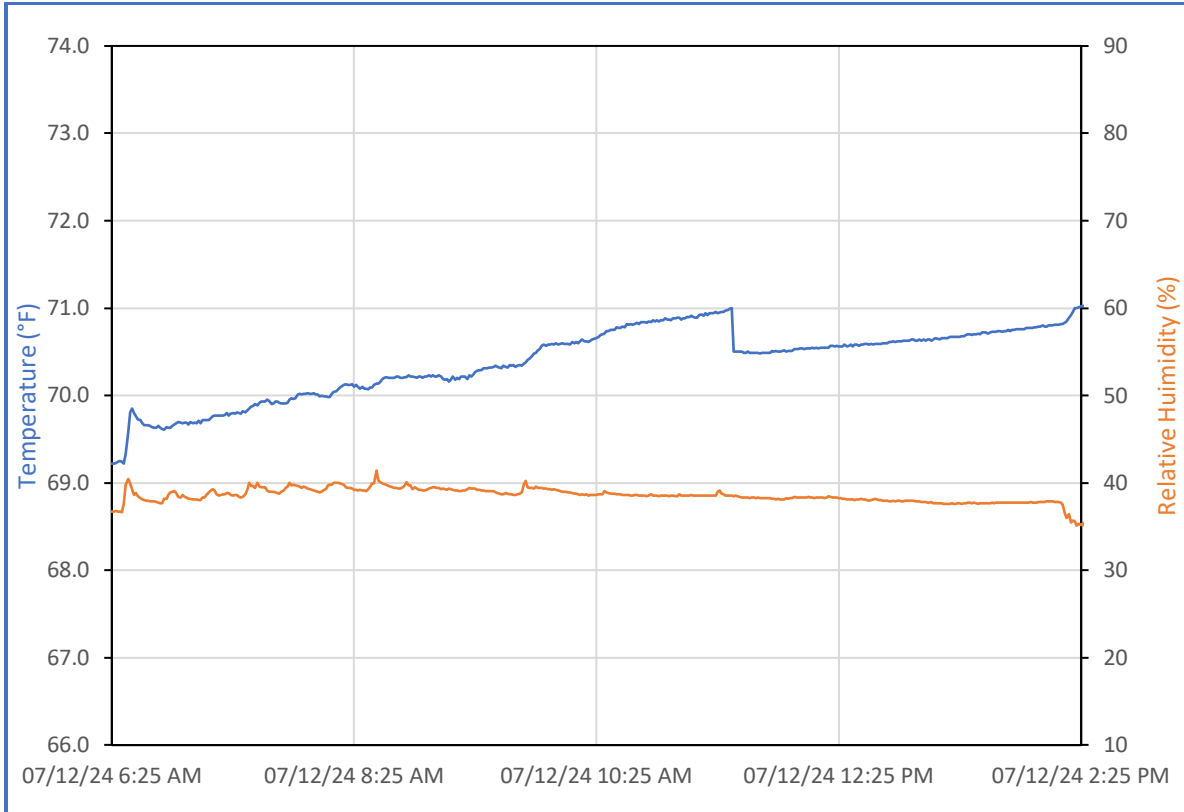
Test Phase	Spillage Location
0° To 90°	
90° To 180°	
180° To 270°	
270° To 360°	

**DATA SHEET NO. 13**

**DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



**DATA SHEET NO. 305-1****GENERAL TEST AND VEHICLE PARAMETER DATA FOR INDICANT FMVSS NO. 305****TESTING**Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24**TEST VEHICLE INFORMATION**

NHTSA Number	M20244701
Model Year	2024
Make	VinFast
Model	VF8
Body Style	5-Door SUV
Body Color	Jet Black
Odometer Reading (km / mi)	174/108

**DATA FROM VEHICLE'S CERTIFICATION LABEL**

Manufactured By	VinFast Trading and Production Joint Stock Company
Date of Manufacture	23-Mar
VIN	RLLV1AEB5RH004360
GVWR (kg)	2905

**ELECTRIC VEHICLE PROPULSION SYSTEM**

Type of Electrical Vehicle	Electric
Propulsion Battery Type	Lithium-Ion
Nominal Voltage (V)	400
Automatic Propulsion Battery Disconnect	Yes
Physical Location of Automatic Propulsion Battery Disconnect	Pyrofuse Internal of BMS/HV Battery
Auxiliary Battery Type	12 V Lead-Acid

**PROPULSION BATTERY SYSTEM DATA**

Electrolyte Fluid Type	E345
Electrolyte Fluid Specific Gravity (g/cc)	16%
Electrolyte Fluid Kinematic Viscosity (mm <sup>2</sup> /s)	4.00
Electrolyte Fluid Color	Colorless and transparent
Propulsion Battery Coolant Type	50% Glycol 50% water
Propulsion Battery Coolant Color	Light Green
Propulsion Battery Coolant Specific Gravity	

**LOCATION OF BATTERY MODULES**

Location	Outside Passenger Compartment
----------	-------------------------------

**DATA SHEET NO. 305-1...(CONTINUED)**

**GENERAL TEST AND VEHICLE PARAMETER DATA FOR INDICANT FMVSS NO. 305**

**TESTING**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

*For all battery types:*

Description	Volts
Minimum Operating Voltage	270.0
Maximum Operating Voltage	469.8
95% of Maximum Operating Voltage	446.3
Test Voltage (no less than 95% of Maximum)*	446.3

*For batteries that are rechargeable ONLY by an energy source on the vehicle:*

Description	Volts
Minimum Operating Voltage	
Maximum Operating Voltage	
Test Voltage (Maximum practicable state of charge within normal operating range)	

**DATA SHEET NO. 305-2**

**PRE-IMPACT DATA FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**VEHICLE CHASSIS GROUND POINT(S) LOCATION(S)**

DETAILS OF VEHICLE CHASSIS GROUND POINT(S) AND LOCATION(S):

The FMVSS 305 chassis ground point is located at the negative battery terminal.  
\_\_\_\_\_

**PROPULSION BATTERY SYSTEM**

DETAILS OF PROPULSION BATTERY COMPONENTS:

The physical location of automatic propulsion battery disconnect is the contactor in the BDU,  
which is inside the battery pack.  
\_\_\_\_\_

**DATA SHEET NO. 305-3**

**PRE-IMPACT ELECTRICAL ISOLATION MEASUREMENTS AND CALCULATIONS FOR  
INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**VOLTMETER INFORMATION**

Make	Fluke
Model	87V MAX
Serial No.	50790043
Internal Impedence Value	50 MΩ
Resolution	0.001

**HV BATTERY ELECTRICAL ISOLATION DATA**

Code	Units	Threshold	Pre-Test
$V_b$	V		456.300
$V_1$	V		311.100
$V_2$	V		311.200
$R_o$	Ω		194,000
$V_1'$	V		122.500
$V_2'$	V		122.300
$R_{i1}$	Ω		597,458
$R_{i2}$	Ω		599,194
$R_i$	Ω		597,458
$R_i/V_b$	Ω/V	500	1,309

Is the Measured Electrical Isolation Value ≥ 500 Ω/V?	Yes
---	-----

**DATA SHEET NO. 305-4**

**POST-IMPACT DATA FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**VOLTMETER INFORMATION**

Make	Fluke
Model	87V MAX
Serial No.	50790043
Internal Impedence Value	50 MΩ
Nominal Propulsion Battery Voltage (Vb)	0.001

**HV BATTERY ELECTRICAL ISOLATION DATA**

Code	Units	Threshold	Post-Test
V <sub>b</sub>	V		28.010
V <sub>1</sub>	V		0.015
V <sub>2</sub>	V		0.022
R <sub>o</sub>	Ω		194,000
V <sub>1</sub> '	V		0.000
V <sub>2</sub> '	V		0.000
R <sub>i1</sub>	Ω		*Zero Volts
R <sub>i2</sub>	Ω		*Zero Volts
R <sub>i</sub>	Ω		*Zero Volts
R <sub>i</sub> /V <sub>b</sub>	Ω/V	500	*Zero Volts

\* "Zero Volts" is considered as being compliant.

Is the Measured Electrical Isolation Value ≥ 500 Ω/V?	Yes
Is V <sub>1</sub> , V <sub>2</sub> , and V <sub>b</sub> ≤ 60 VDC?	Yes

**PROPULSION BATTERY SYSTEM COMPONENTS**

Has the propulsion battery module moved within the passenger compartment?

No \_\_\_\_\_

Describe any movement: There was no movement of the propulsion battery within the passenger compartment.

Has an outside propulsion battery component intruded into the passenger compartment?

No \_\_\_\_\_

Describe any intrusion: There was no intrusion of the outside propulsion battery into the passenger compartment.

Is there propulsion battery electrolyte spillage visible in the passenger compartment?

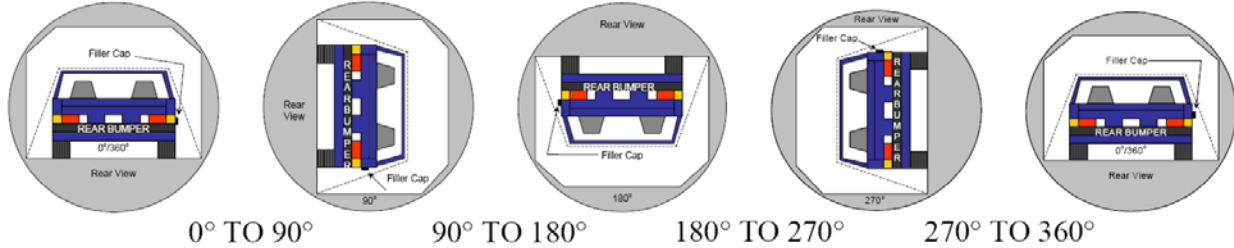
No \_\_\_\_\_

**DATA SHEET NO. 305-5**

**STATIC ROLLOVER TEST DATA FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701

Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24



**PROPULSION BATTERY ELECTROLYTE COLLECTION TIME PERIOD**

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	81	300	381
90° To 180°	80	300	380
180° To 270°	83	300	383
270° To 360°	82	300	382

**TEST VEHICLE PROPULSION BATTERY ELECTROLYTE SPILLAGE**

**NOTE: The maximum allowable Propulsion Battery Electrolyte Spillage is 5.0 Liters.**

Test Phase	Propulsion Battery Electrolyte Spillage (L)	Spillage Location
0° To 90°	0.0	N/A
90° To 180°	0.0	N/A
180° To 270°	0.0	N/A
270° To 360°	0.0	N/A

Is the Total Propulsion Battery Electrolyte Spillage Greater Than 5.0 Liters?	No spillage occurred
Is the Propulsion Battery Electrolyte Spillage Visible in the Passenger Compartment?	N/A

**DATA SHEET NO. 305-5 (CONTINUED...)**

**STATIC ROLLOVER TEST DATA FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 VinFast VF8 Eco 5-Door SUV NHTSA No. M20244701  
 Test Program: NCAP Side Pole Impact Test Test Date: 07/12/24

**VOLTMETER INFORMATION**

Make	Fluke
Model	87V MAX
Serial No.	50790043
Internal Impedence Value	50 MΩ
Nominal Propulsion Battery Voltage (Vb)	0.001

**HV BATTERY ELECTRICAL ISOLATION MEASUREMENTS AND CALCULATIONS**

Code	Units	Threshold	0°	90°	180°	270°	360°
V <sub>b</sub>	V		1.503	0.026	1.210	0.660	1.445
V <sub>1</sub>	V		0.513	0.246	0.418	0.408	0.443
V <sub>2</sub>	V		0.534	0.240	0.957	0.023	1.076
R <sub>o</sub>	Ω		194,000	194,000	194,000	194,000	194,000
V <sub>1</sub> '	V		0.003	0.026	0.025	0.014	0.027
V <sub>2</sub> '	V		0.017	0.031	0.053	0.062	0.078
R <sub>i1</sub>	Ω		67,310,058	3,243,039	10,031,842	5,767,492	10,249,091
R <sub>i2</sub>	Ω		11,567,747	2,648,569	4,754,283	-2,286,778	3,504,154
R <sub>i</sub>	Ω		11,567,747	2,648,569	4,754,283	*Zero Volts	3,504,154
R <sub>i</sub> /V <sub>b</sub>	Ω/V	500	7,696,438	101,868,052	3,929,160	*Zero Volts	2,425,020

\* "Zero Volts" is considered as being compliant.

Is the Measured Electrical Isolation Value ≥ 500 Ω/V?	Yes
Is V <sub>1</sub> , V <sub>2</sub> , and V <sub>b</sub> ≤ 60 VDC?	Yes

**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

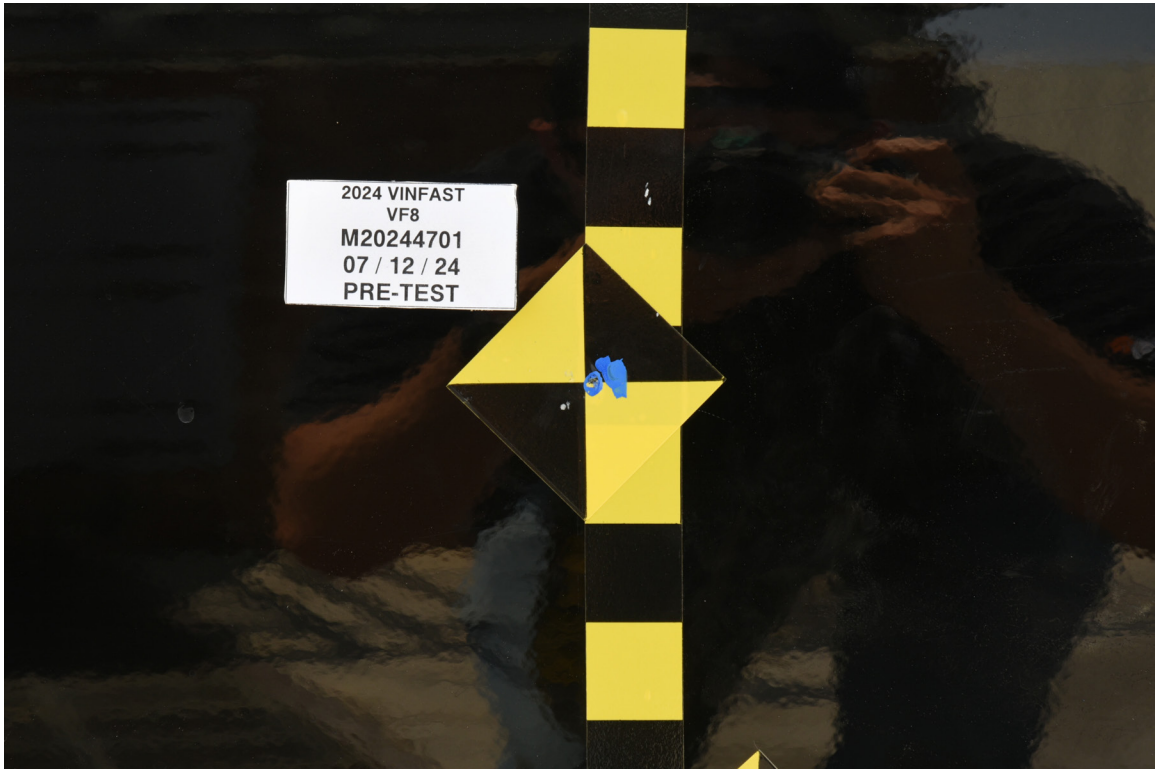


FIGURE 19. Pre-Test Close-Up View of Impact Point Target



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

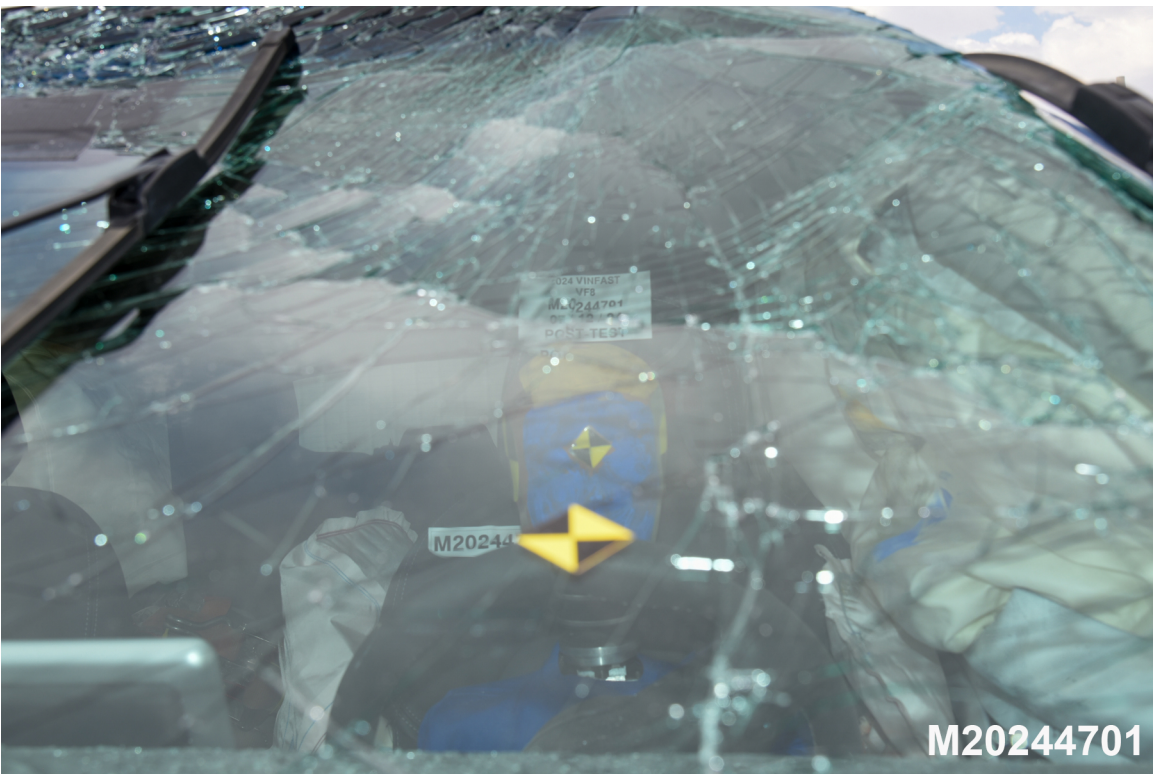


FIGURE 22. Post-Test Front Close-Up View of Dummy



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 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 Head is Level

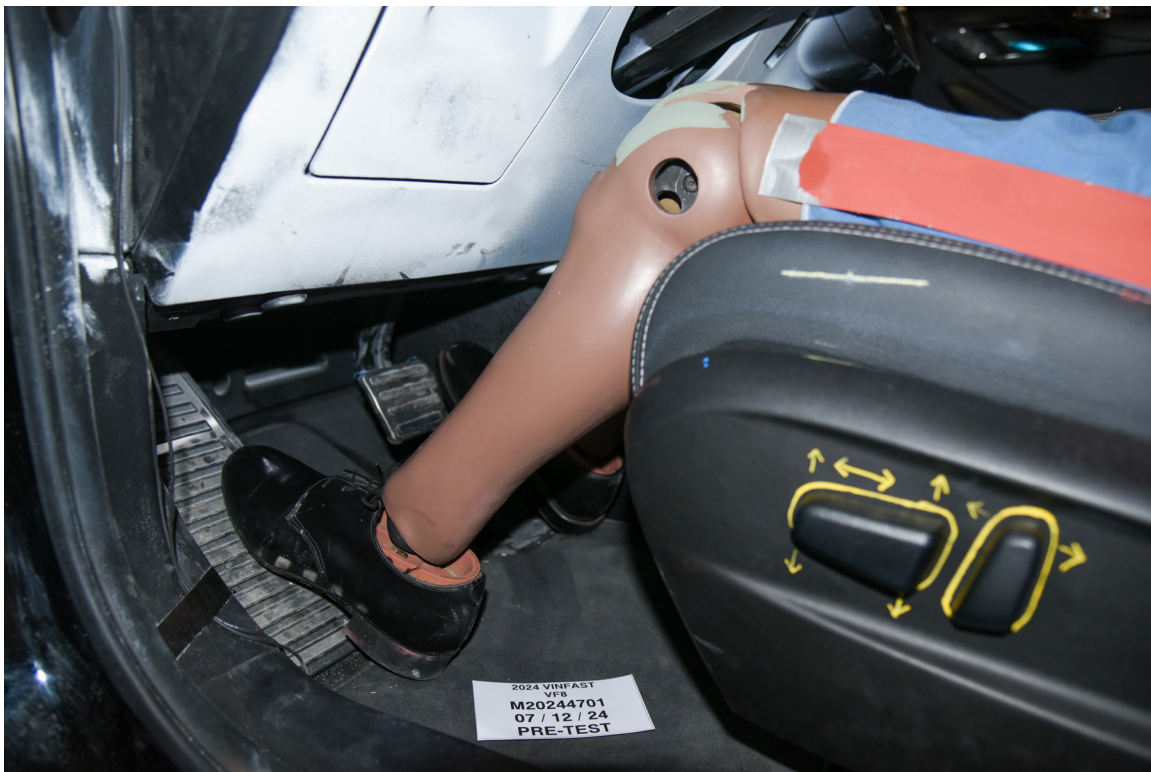


FIGURE 32. Pre-Test Placement of Dummy's Feet



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 Air Bag 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 Air Bag 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 Air Bag 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. Post-Test Inner Rear Passenger Torso Air Bag 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

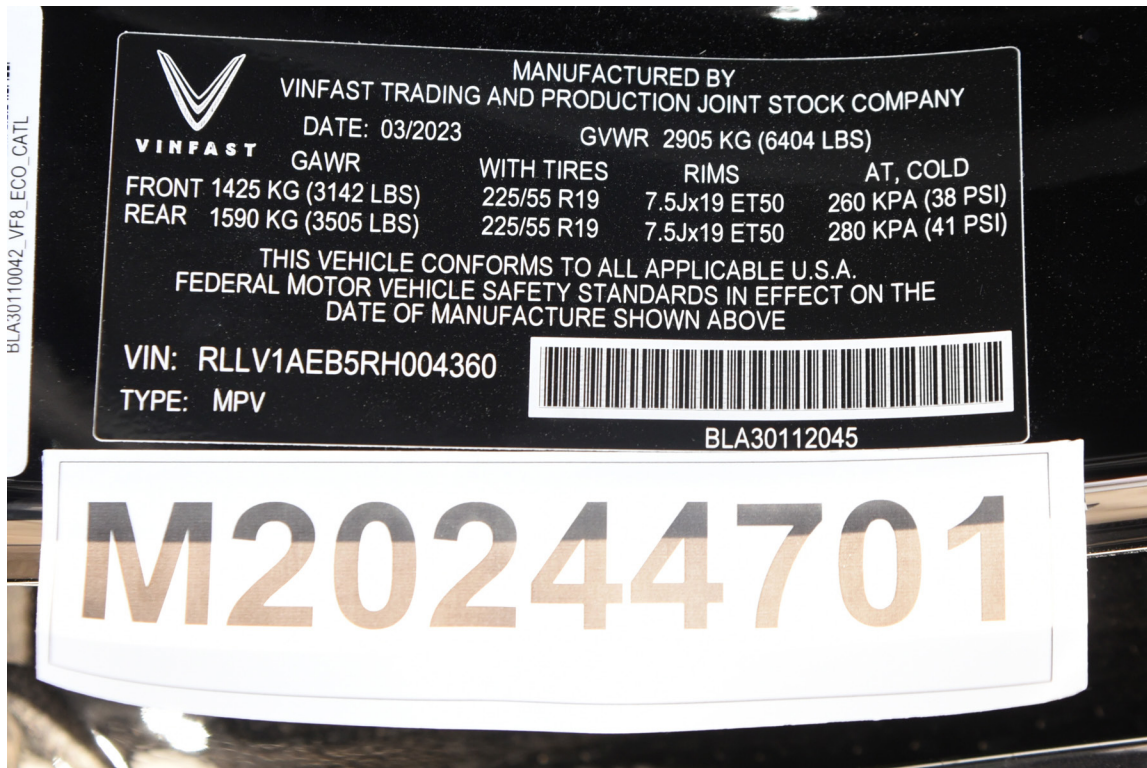


FIGURE 57. Close-Up View of Vehicle's Certification Label

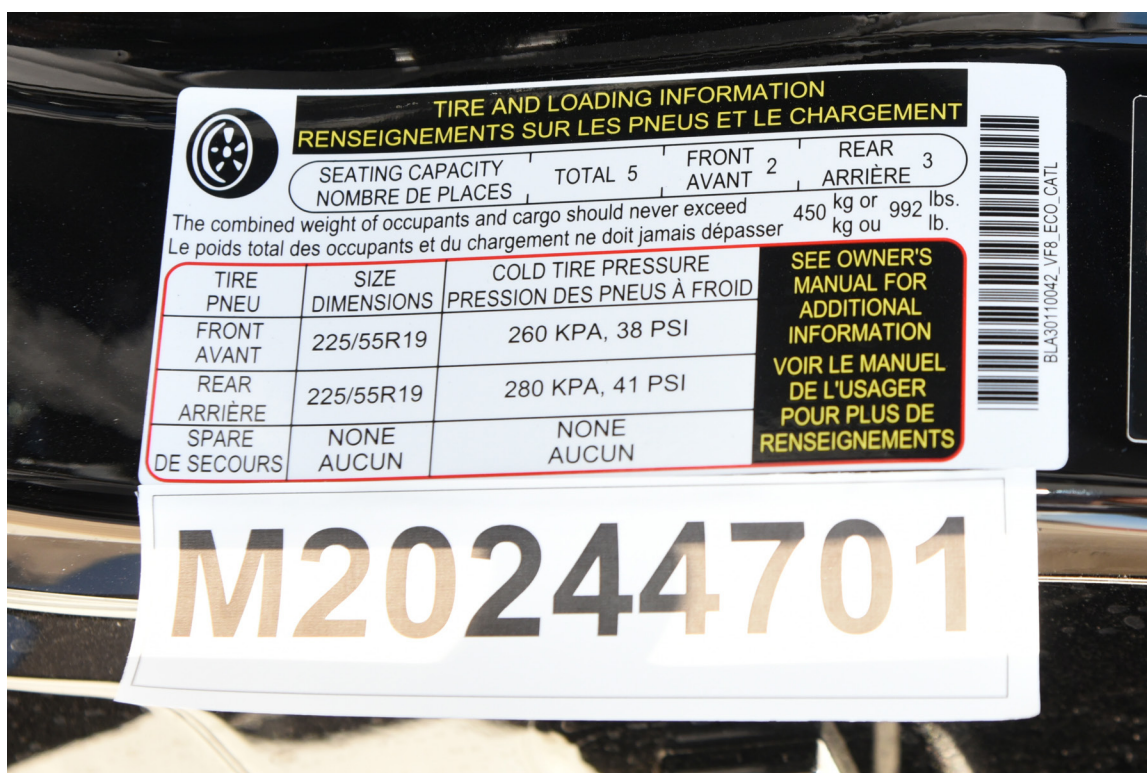


FIGURE 58. Close-Up View of Vehicle's Tire Information Placard or Label



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

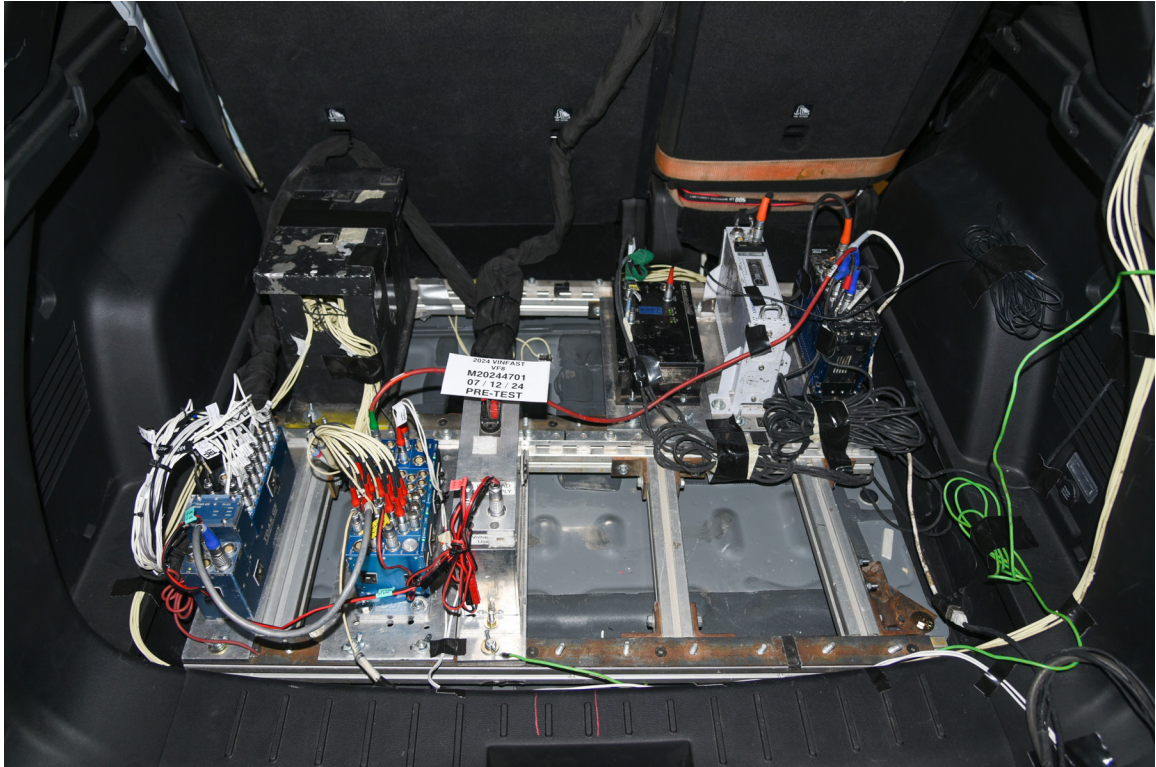


FIGURE 63. Pre-Test Ballast View



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 67. FMVSS No. 301 Static Rollover 180 Degrees



FIGURE 68. FMVSS No. 301 Static Rollover 270 Degrees



FIGURE 69. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 70. Impact Event

**VINFAST**

**VF 8 Eco**

Vehicle Identification Number: RLLV1AEB5RH004360

2024

Exterior: Jet Black Interior: Granite Black

87.2 kWh Battery

**STANDARD EQUIPMENT**

**TECHNICAL**

- Dual motor with AWD
- S&P FP
- 368 hp-ft torque
- New vehicle limited warranty: 10 years / 125,000 miles (whichever occurs first)\*
- High-voltage battery limited warranty: 10 years / unlimited miles (whichever occurs first)\*
- Limited warranty against corrosion perforation: 12 years / unlimited miles (whichever occurs first)\*
- \* See owners manual or Vinfast Auto US for important information and limitations.

**SAFETY**

- Autob protection system with 11 airbags
- Anti-lock braking system
- Electronic brakeforce distribution
- Brake Assist
- Electronic stability control
- Traction control system
- Hill start assist control
- Front parking sensors
- Rear parking sensors
- Rearview camera
- Autobsteering front wipers/washers
- Keyless start/stop
- Tire pressure monitoring system

**INTERIOR**

- 15.6 inch infotainment touchscreen
- Headup display
- 8 speakers
- Reverse navigation
- 8-way power adjustable driver's seat
- 8-way power adjustable front passenger seat
- 60/40 split folding rear seat
- Zone II IRAC with ionization
- ISO9014 LATCH
- USB charging ports

**EXTERIOR**

- LED headlights
- LED taillight
- Yafast signature light, front and rear
- Daytime running light
- Headlight auto high beam
- Power folding / memory / heating exterior mirrors
- 17 inch alloy wheels
- Rear spoiler

**FACTORY-INSTALLED OPTIONS**

Rose MSRP	\$46,000.00
Jet Black	\$0.00
Granite Black	\$0.00
17 inches	\$0.00
ADAS Advanced	\$0.00
Cancel floor mat	\$120
Portable Charger	INCLUDED

**VINFAST**

Destination Fee: \$1,200.00

**Total MSRP: \$47,325.00**

**SOLD TO:** LITTLE INC, 2800 Main Park Blvd, Cary, NC 27513-6333 US

**FINAL ASSEMBLY PLANT:** Hai Phong

**Item Number:**

**Date of Manufacture:** 2023-03-01

**SHIP TO (if other than sold to):** Dealer Number

**Transportation Method:** Truck

This label is offered pursuant to the Federal Automobile Information Disclosure Act. Gasoline, license, and title fees, state and local taxes are not included. Dealer installed options or accessories are not included unless listed above.

RLLV1AEB5RH004360

**BOUNDLESS TOGETHER**

**EPA DOT Fuel Economy and Environment** **Electric Vehicle**

**Fuel Economy**

**75** MPGe combined city/hwy

MPV range from 13 to 102 MPGe. The best vehicle rates 132 MPGe.

**You save \$3250** in fuel costs over 5 years compared to the average new vehicle.

**MPGc** 79 city, 45 highway, 45 kW-hrs per 100 miles

**Driving Range** When fully charged, vehicle can travel about 264 miles

**Charge Time: 12 hours** (250V)

**Annual fuel Cost \$950**

**Fuel Economy & Greenhouse Gas Rating** (tailpipe only) **Smog Rating** (tailpipe only)

This vehicle emits 0 grams CO<sub>2</sub> per mile. The best emits 0 grams per mile (tailpipe only). Does not include emissions from generating electricity. Learn more at [fuelconomy.gov](http://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 \$8,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$0.16 per kWh-hr. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.**

**fuelconomy.gov** Calculate personalized estimates and compare vehicles

**PARTS CONTENT INFORMATION**

FOR VEHICLES IN THIS COUNTRY: U.S./CANADIAN PARTS CONTENT: 0% MAJOR SOURCES OF FOREIGN PARTS CONTENT: Vietnam: 61% South Korea: 20% FOR THIS VEHICLE: FINAL ASSEMBLY POINT: Hai Phong City, Vietnam COUNTRY OF ORIGIN: ENGINE PARTS: Vietnam TRANSMISSION PARTS: Vietnam

**GOVERNMENT 5-STAR SAFETY RATINGS**

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

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

**WARNING:** Obeying, operating or maintaining a defective vehicle, vehicle part, or air pollutant vehicle can expose you to the risks of being injured, killed or maimed, prohibited, and held liable for costs. The State of California, its local government and other entities, other organizations, have, to protect consumers, issued this notice. Do not use the engine or vehicle components, or other parts, unless they are specifically approved by the manufacturer. For more information, go to [www.safercar.gov](http://www.safercar.gov) or 1-888-327-4236.






**vinfastauto.us** FOLLOW US     

FIGURE 71. Monroney Label

Photograph Not Available

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

# Photograph Not Applicable

Inner Door Panel Was Not Shattered

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



FIGURE 305-01 Auxiliary Power Module Warning Label



FIGURE 305-02 Power Inverter Warning Label

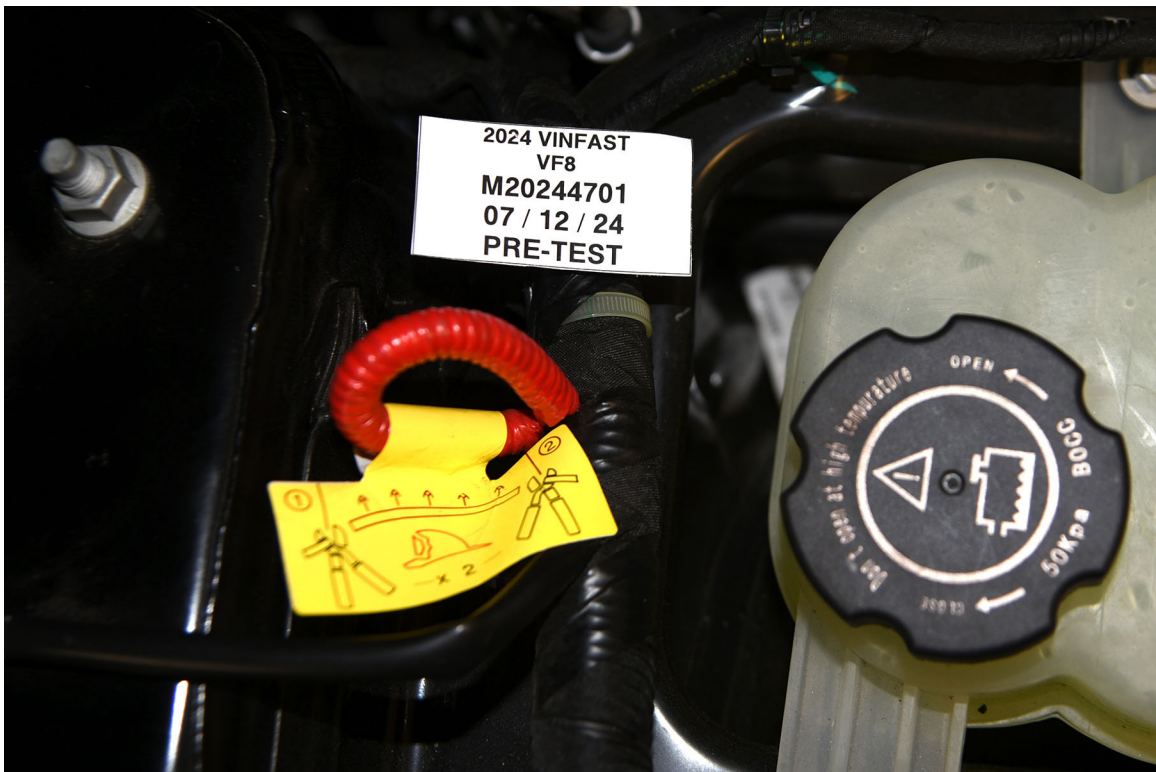


FIGURE 305-03 First Responder Warning Label

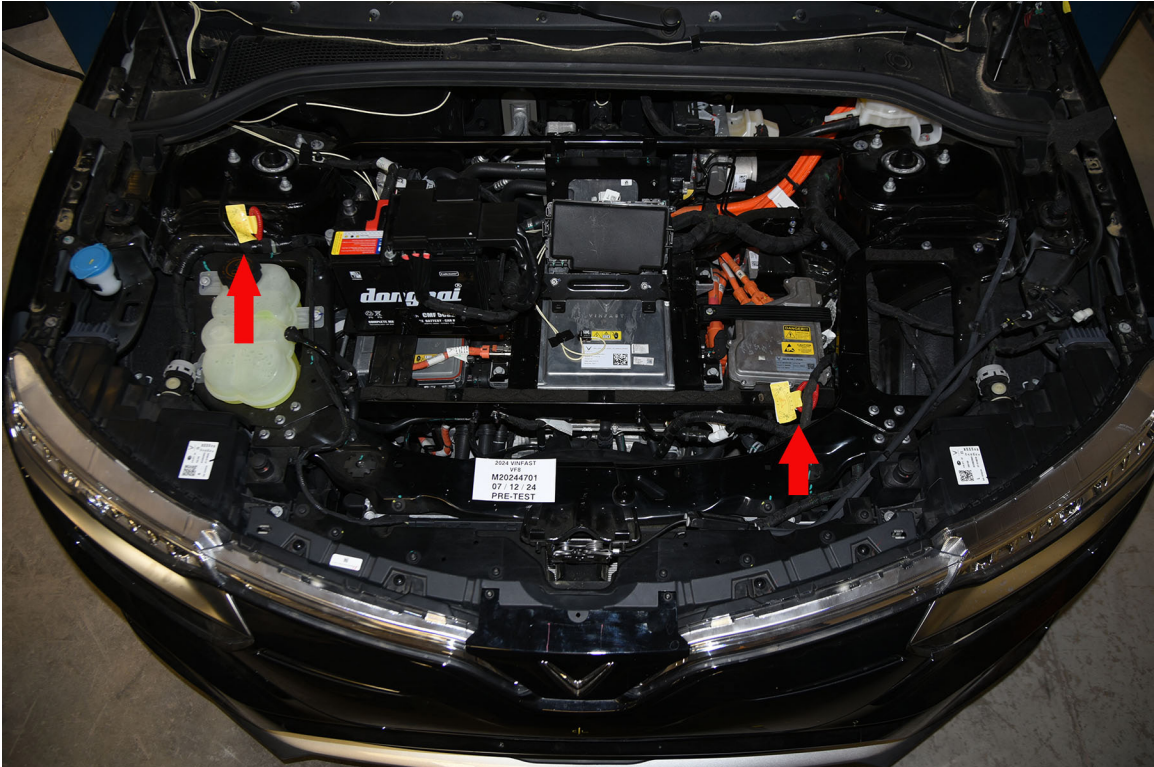


FIGURE 305-04 First Responder Warning Location



FIGURE 305-05 Other Vehicle Label(s) Related to Electrical Propulsion System



FIGURE 305-06 Manual High Voltage Service Disconnect in Place



FIGURE 305-07 Manual High Voltage Service Disconnect Removed



FIGURE 305-08 Manual High Voltage Service Disconnect Removed

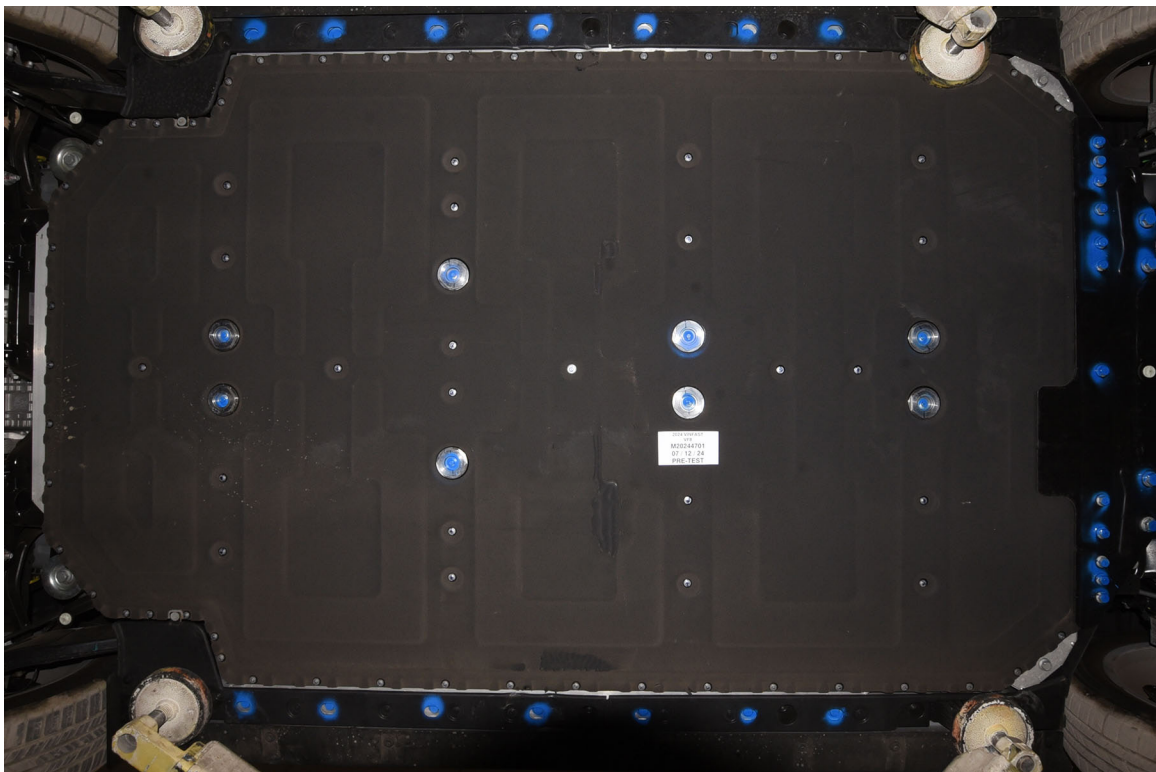
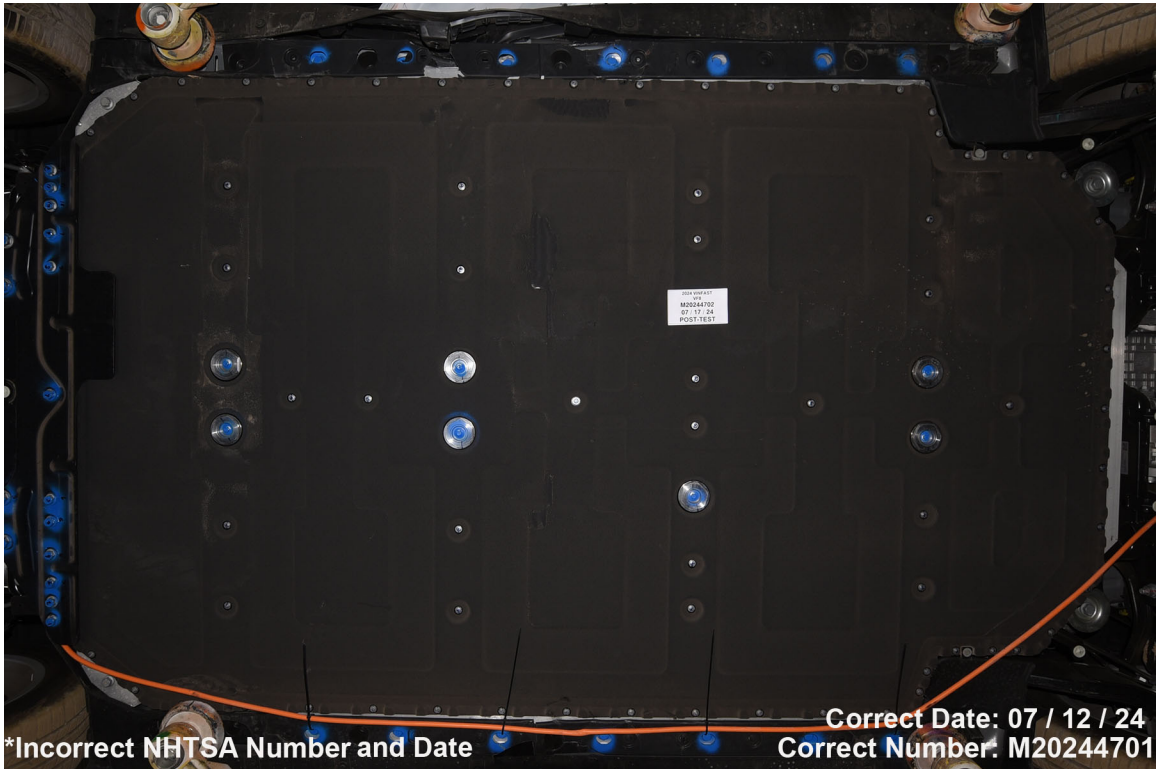


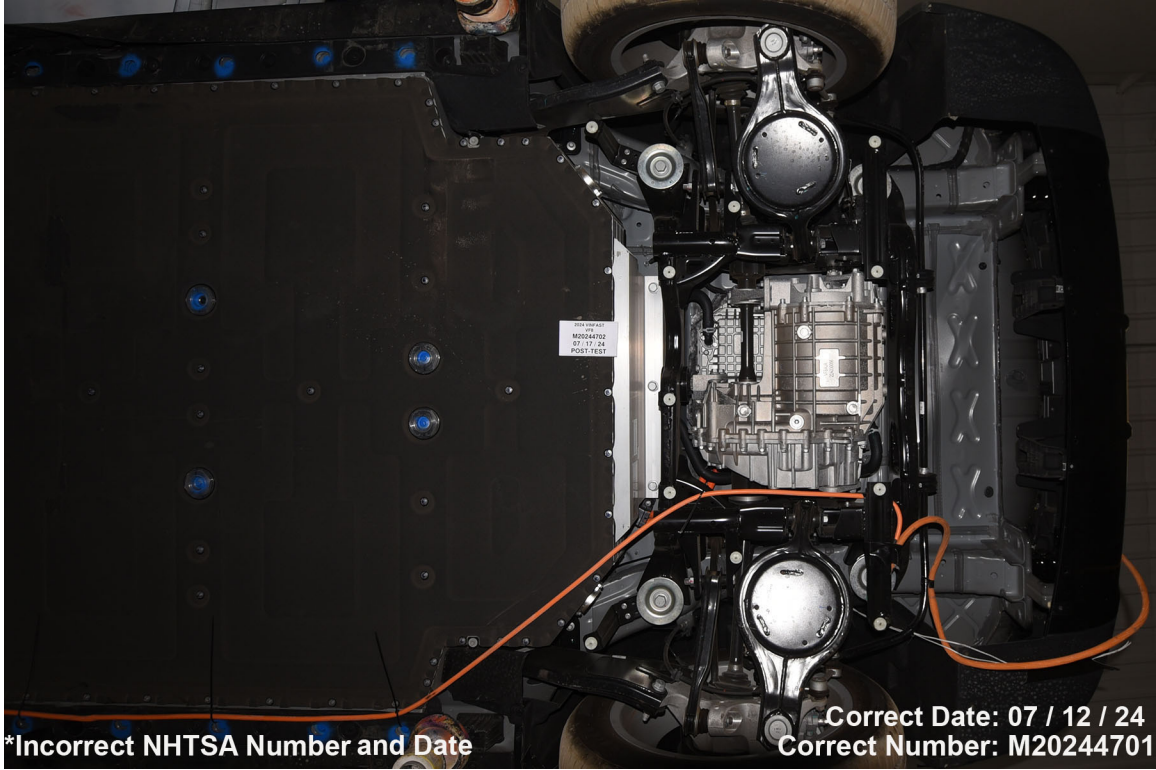
FIGURE 305-09 Pre-Impact View of Propulsion Battery



**\*Incorrect NHTSA Number and Date**

**Correct Date: 07 / 12 / 24  
Correct Number: M20244701**

FIGURE 305-010 Post-Impact Front View of Propulsion Battery



**\*Incorrect NHTSA Number and Date**

**Correct Date: 07 / 12 / 24  
Correct Number: M20244701**

FIGURE 305-011 Post-Impact Rear View of Propulsion Battery

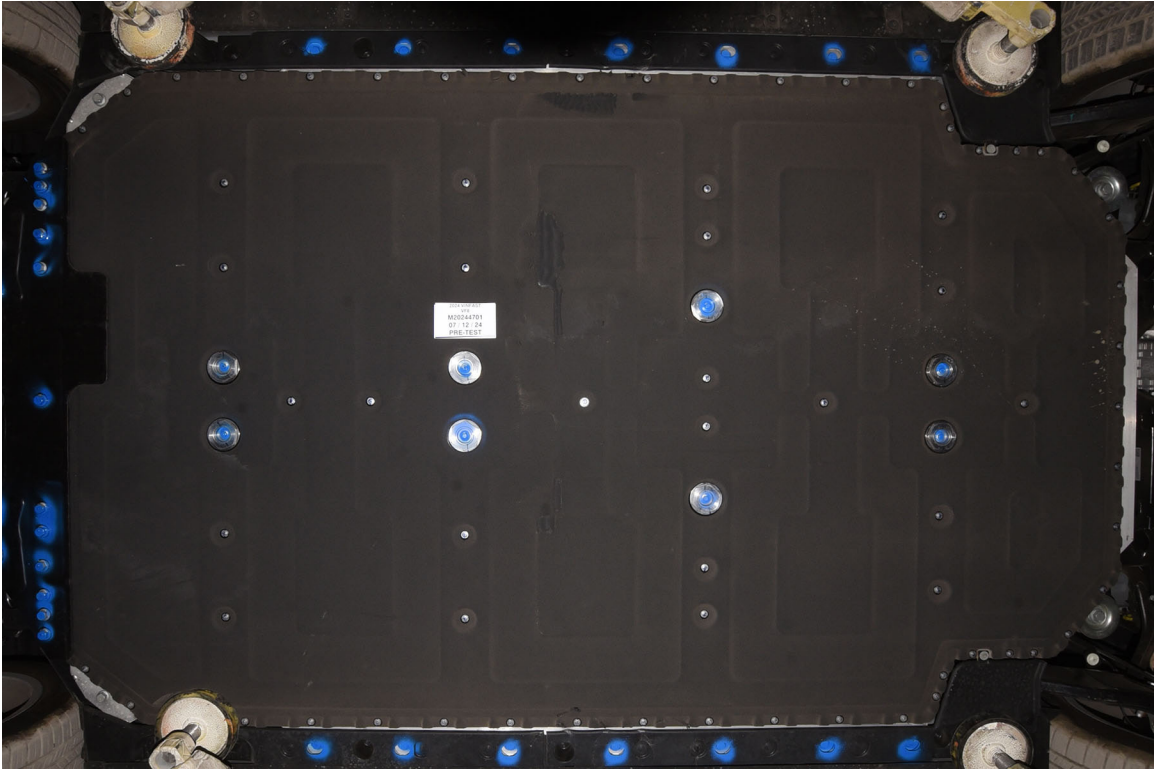


FIGURE 305-012 Pre-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

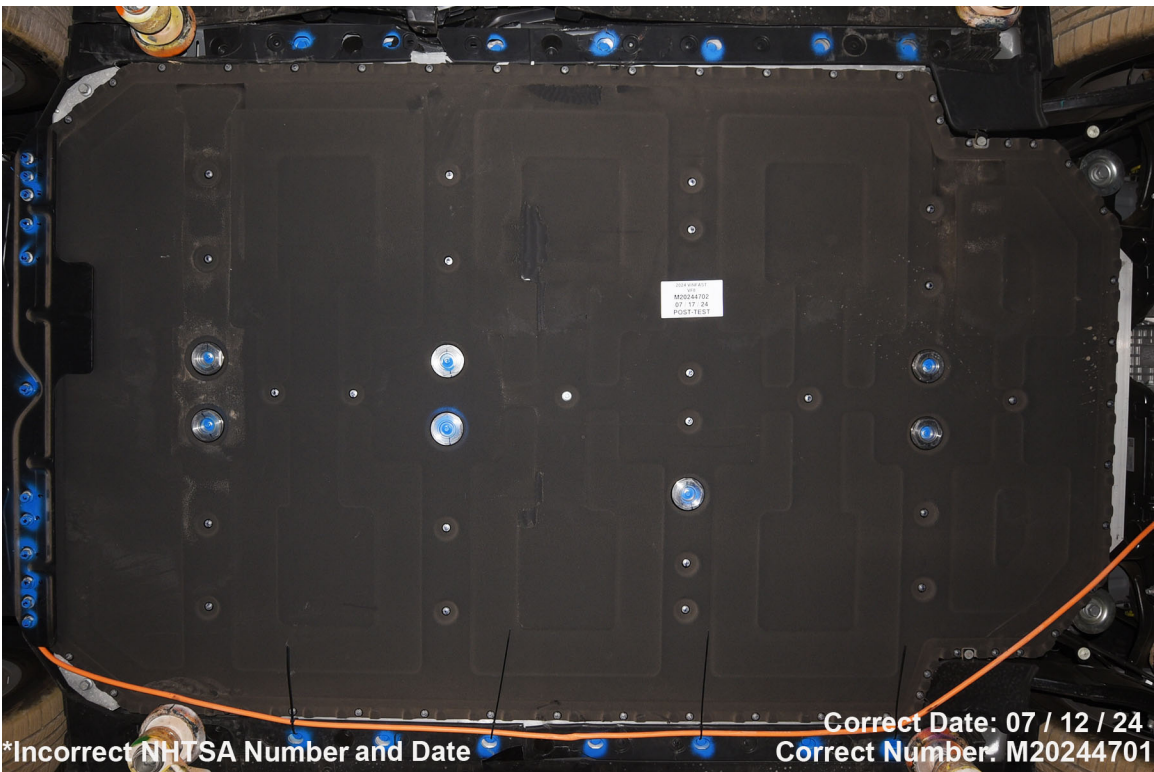


FIGURE 305-013 Post-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

**Photograph Not Applicable**

**Battery Not Removed  
From Vehicle**

FIGURE 305-014 Pre-Impact View of Propulsion Battery Module(s)

**Photograph Not Applicable**

**Battery Not Removed  
From Vehicle**

FIGURE 305-015 Post-Impact View of Propulsion Battery Module(s)

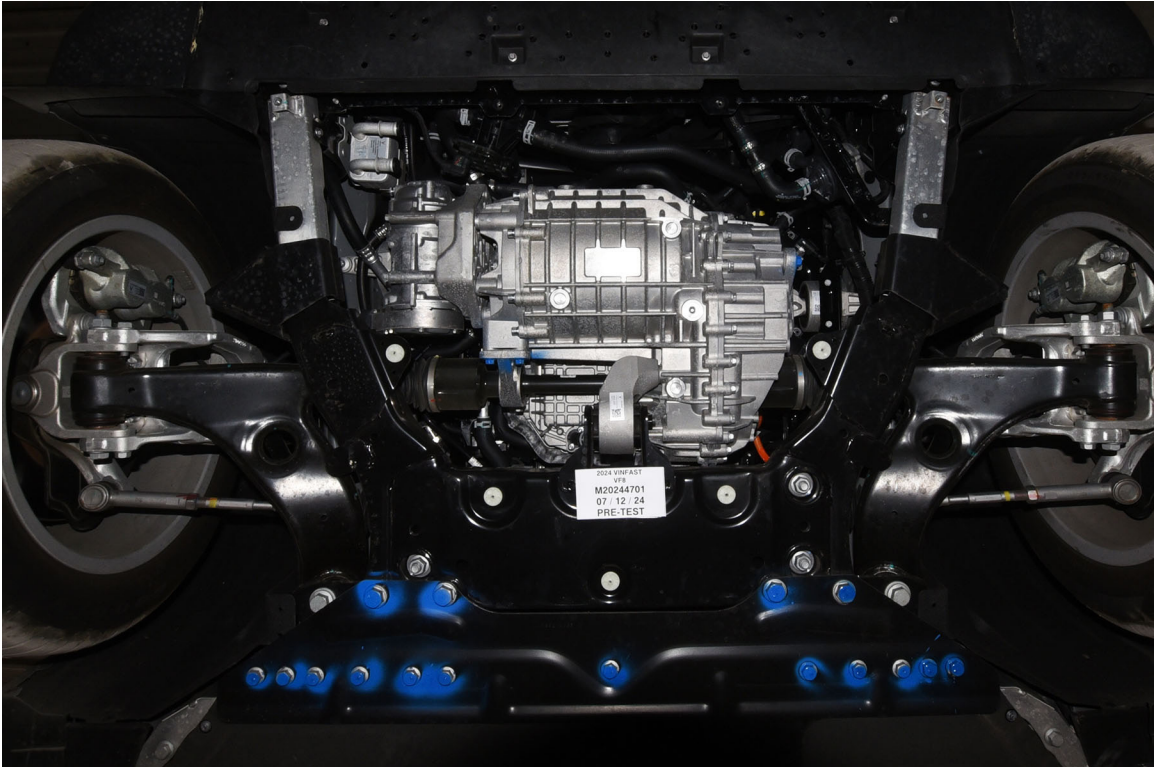
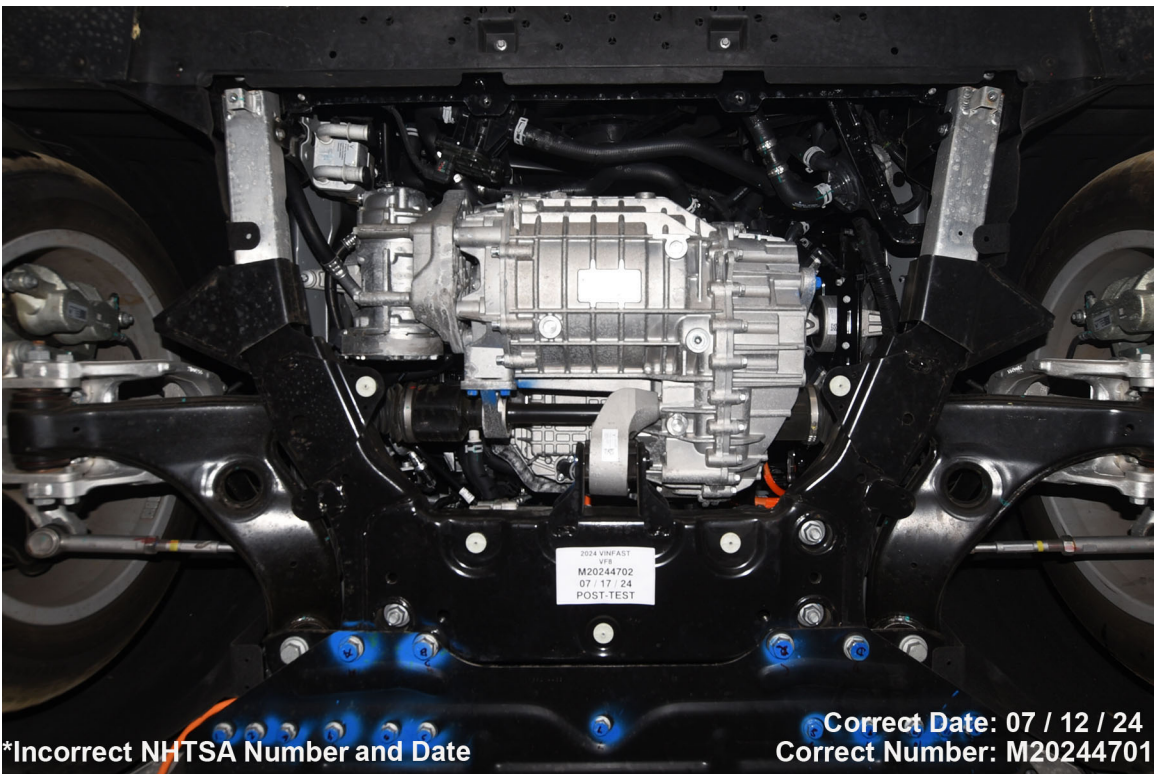


FIGURE 305-016 Pre-Impact View of Electric Propulsion Drive



\*Incorrect NHTSA Number and Date

Correct Date: 07 / 12 / 24  
Correct Number: M20244701

FIGURE 305-017 Post-Impact View of Electric Propulsion Drive



FIGURE 305-018 Pre-Impact View of High Voltage Interconnect(s)



FIGURE 305-019 Pre-Impact View Propulsion Battery Venting System(s)

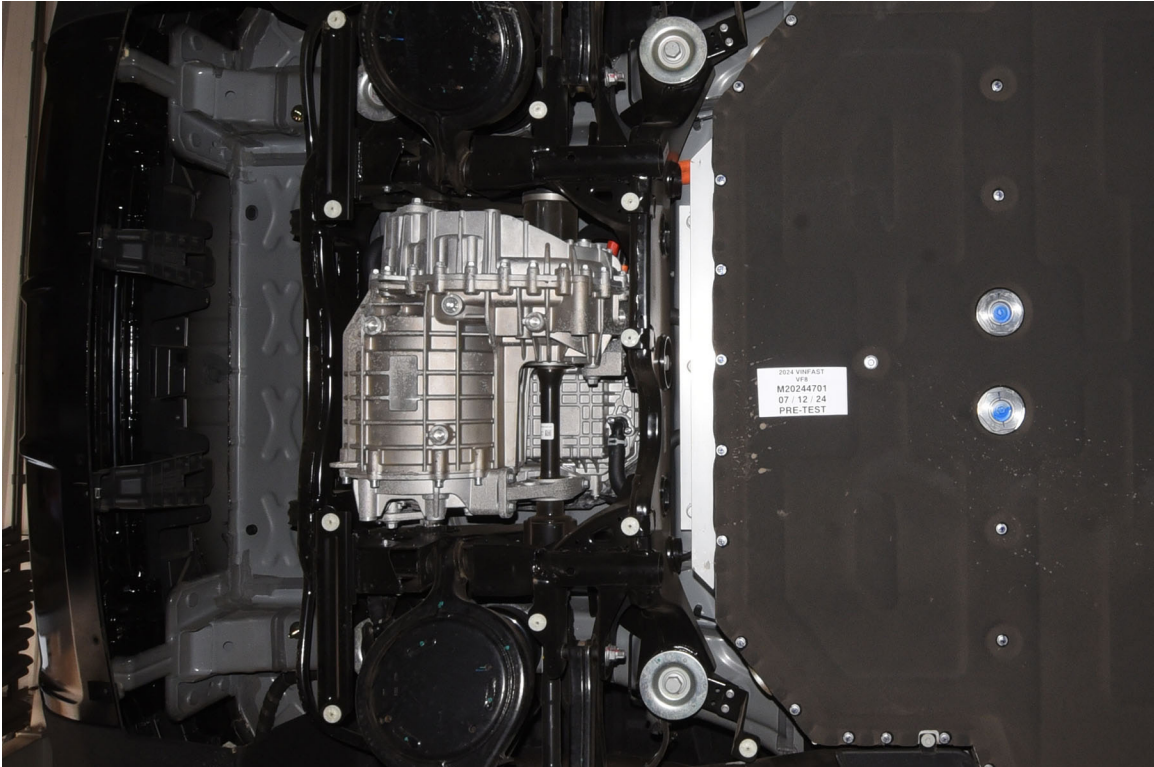


FIGURE 305-020 Pre-Impact View of Other Visible Electric Propulsion Components

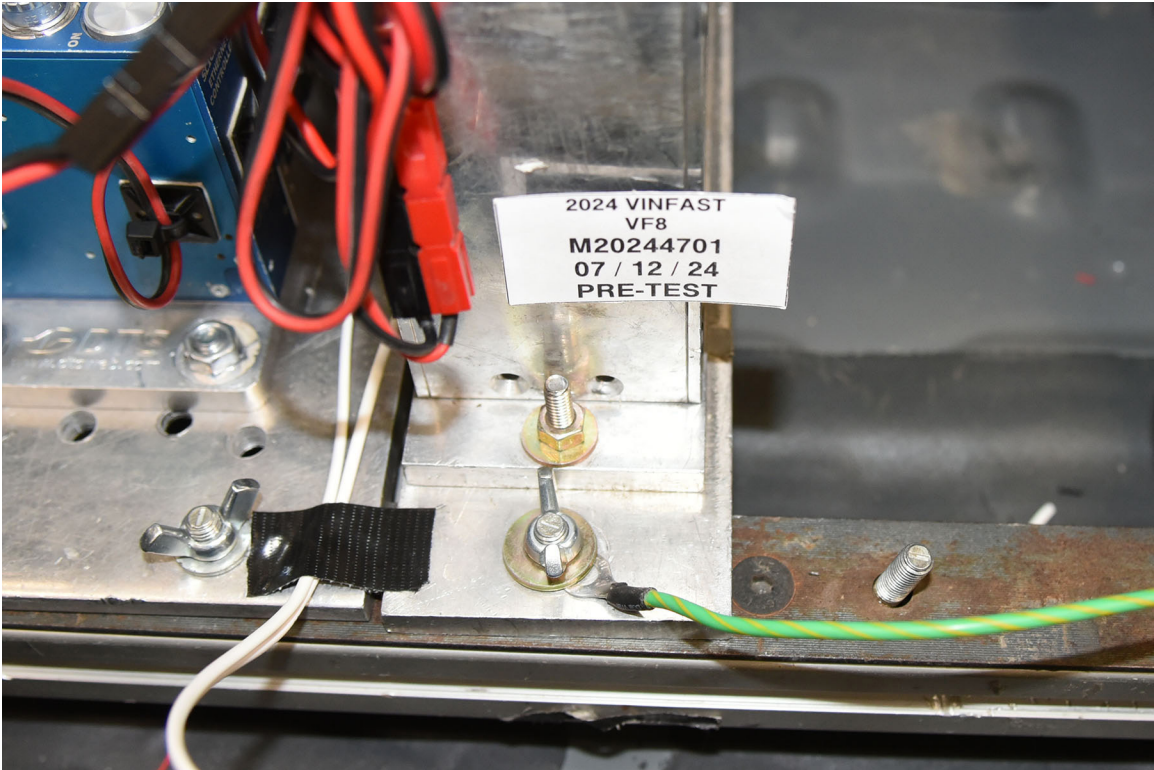


FIGURE 305-021 Pre-Impact View of Ground Lead Attached

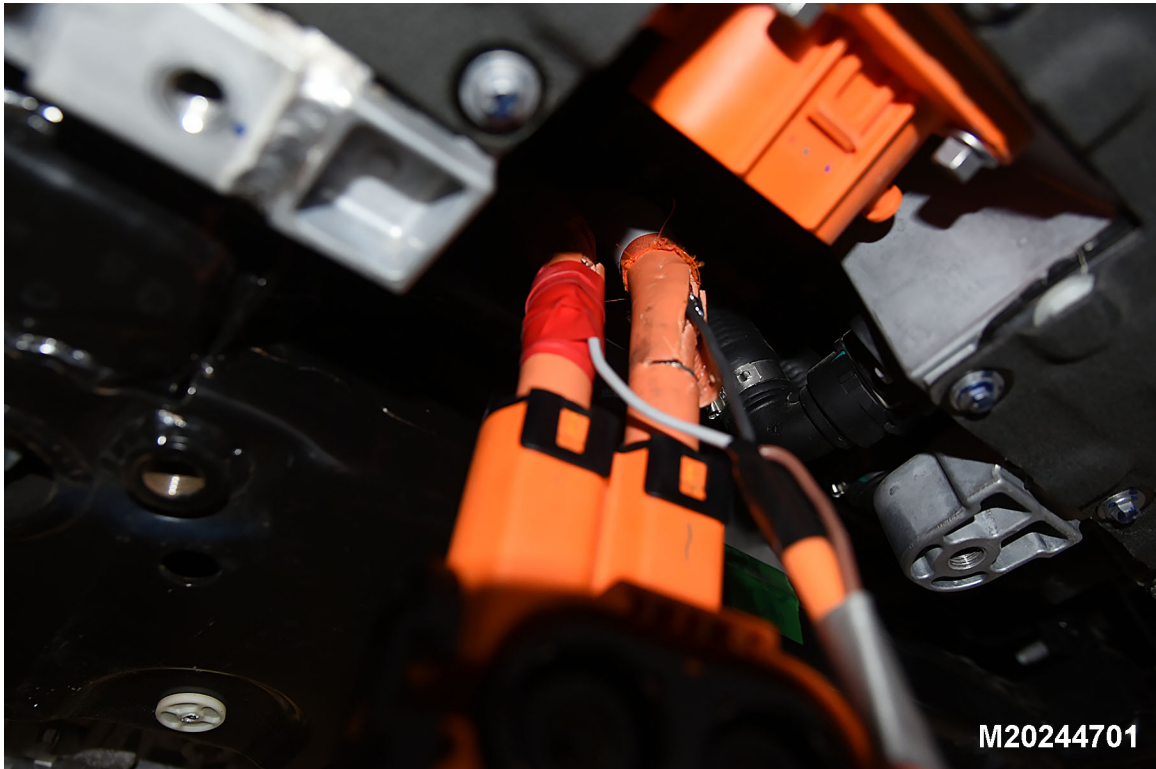


FIGURE 305-022 Pre-Impact View of High Voltage Leads Attached



FIGURE 305-023 Pre-Impact Close-Up View of High Voltage Leads Attached

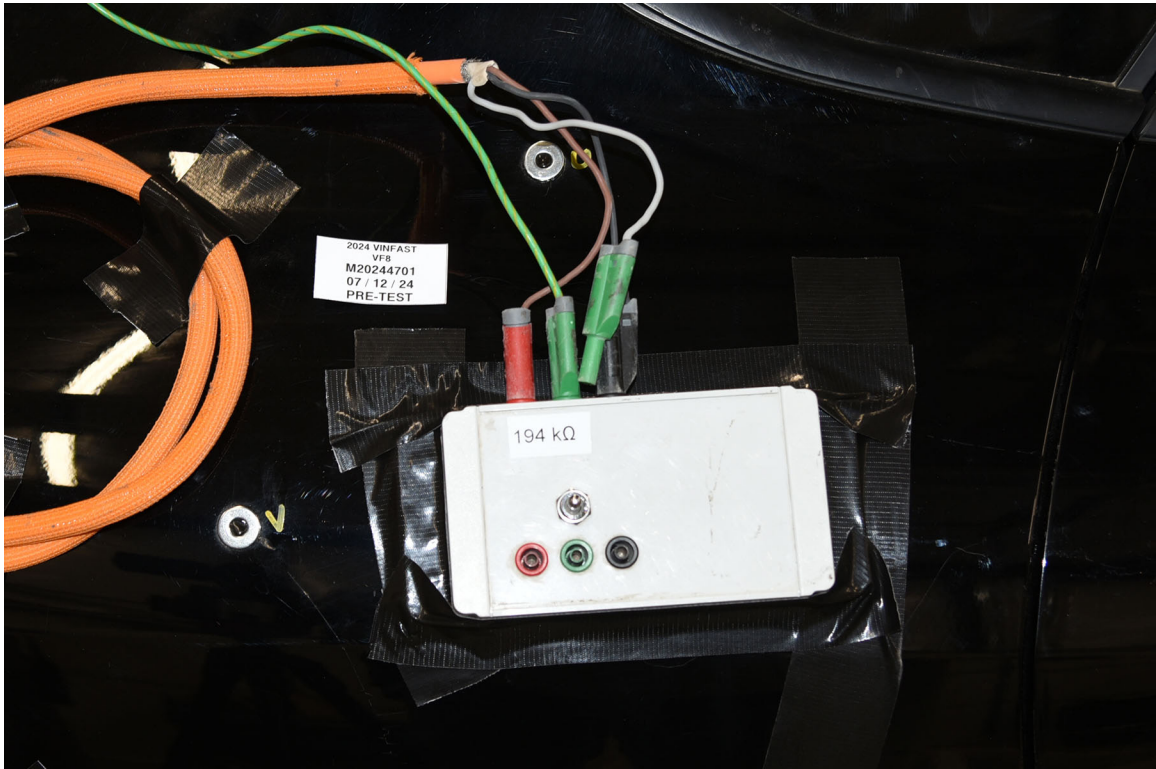


FIGURE 305-024 Pre-Impact View of Installed Test Interface Port



FIGURE 305-025 Post-Impact View of Installed Test Interface Port

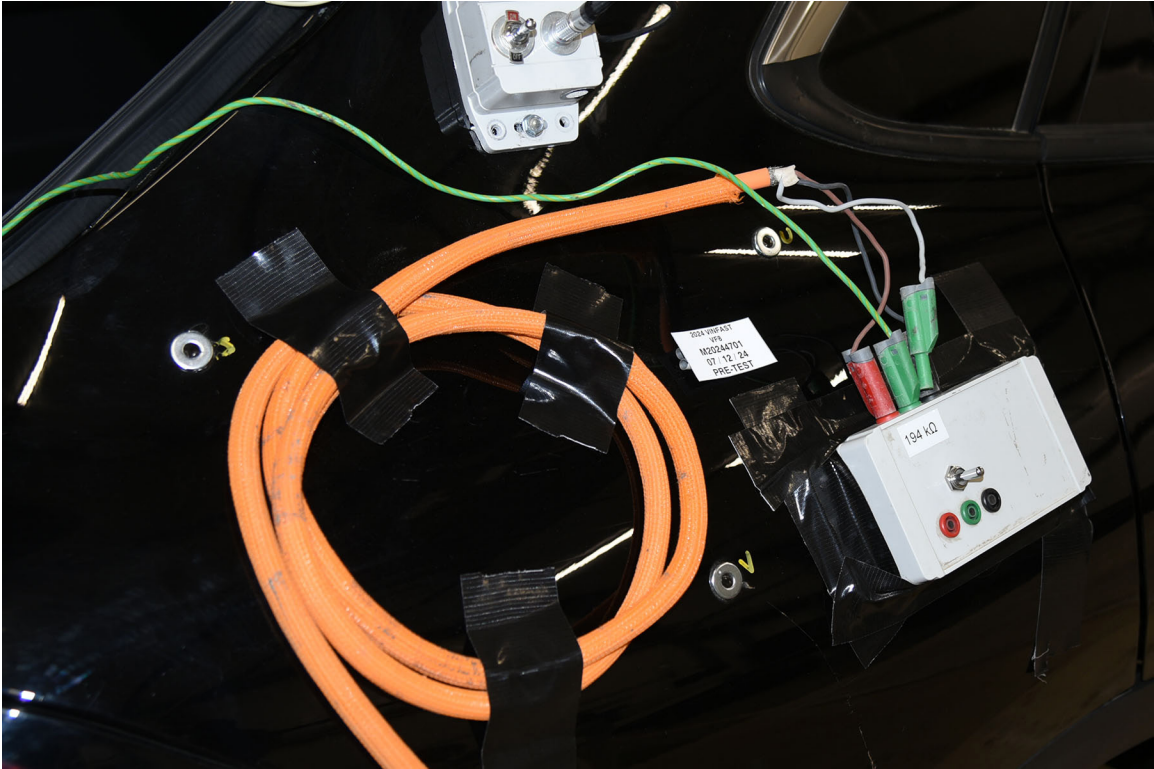


FIGURE 305-026 Pre-Impact View of Other Test Devices



FIGURE 305-027 Post-Impact View of Other Test Devices

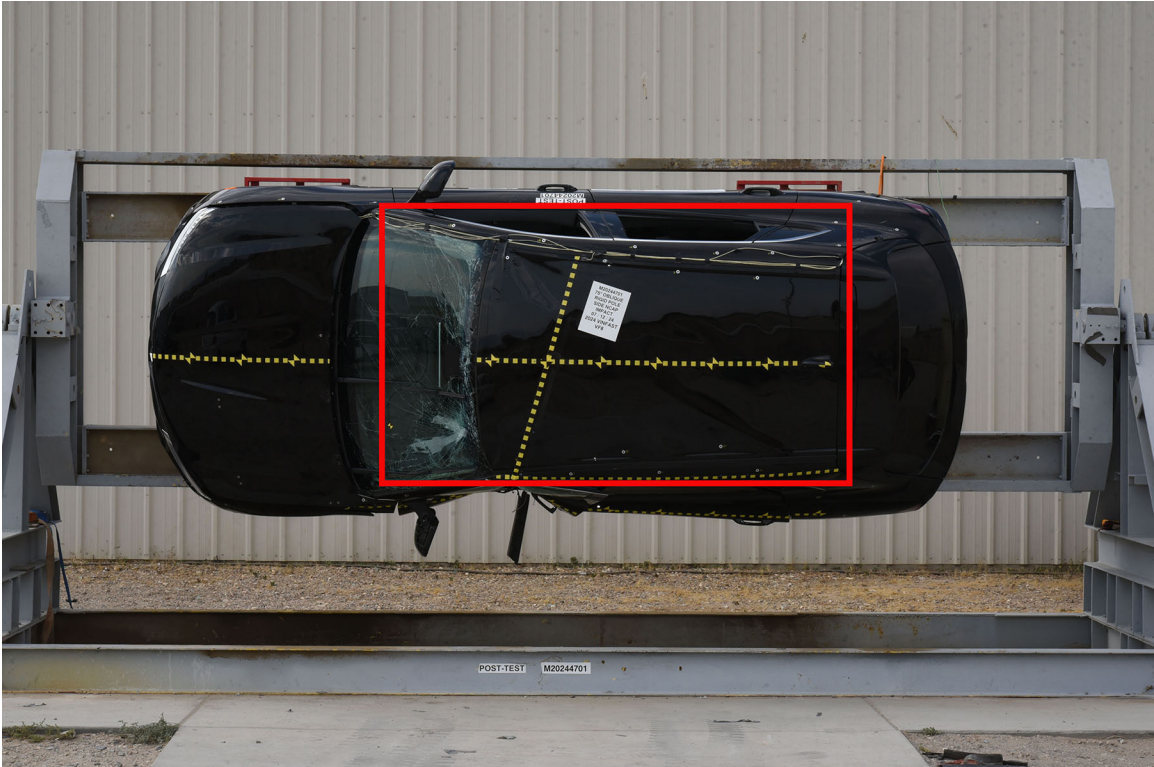


FIGURE 305-028 FMVSS No. 305 Static Rollover at 90°



FIGURE 305-029 FMVSS No. 305 Static Rollover at 180°

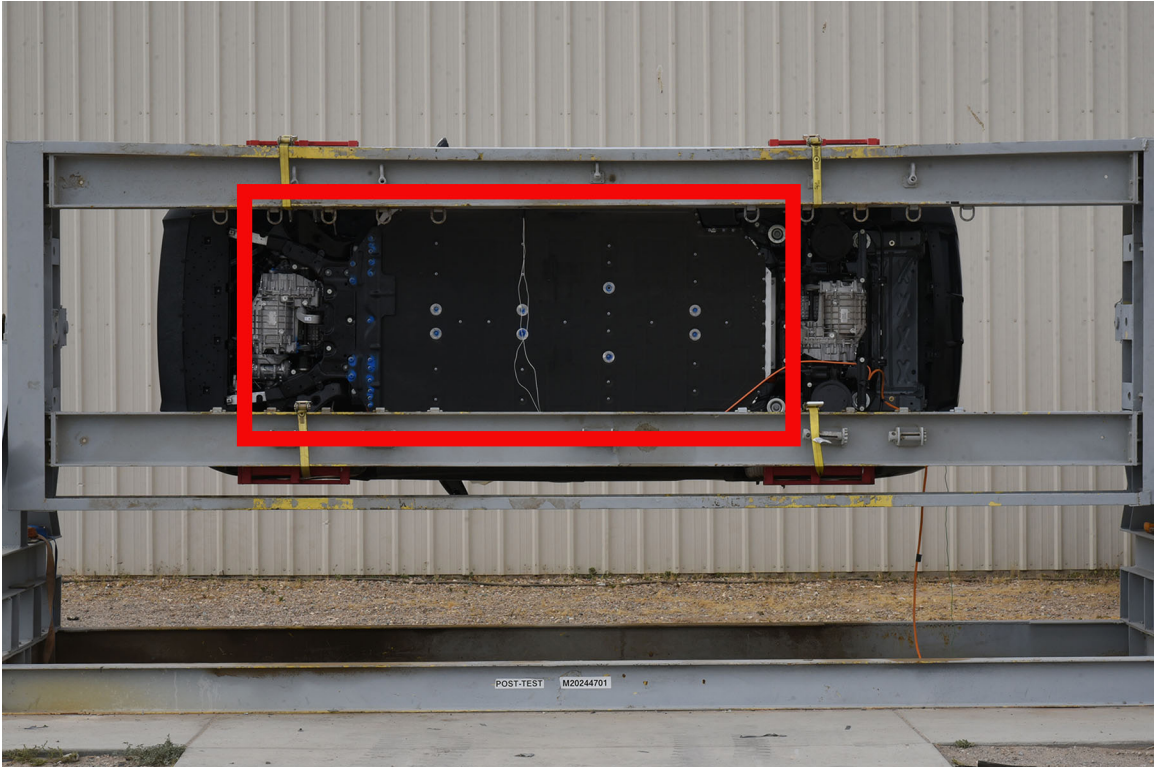


FIGURE 305-030 FMVSS No. 305 Static Rollover at 270°



FIGURE 305-031 FMVSS No. 305 Static Rollover at 360°



FIGURE 305-032 Pre-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery



FIGURE 305-033 Post-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery

**Photograph Not Applicable**

**No Propulsion Battery  
Mounting and/or  
Intrusion Failure**

FIGURE 305-034 Post-Impact Propulsion Battery System Mounting and or Intrusion Failure(s)

**Photograph Not Applicable**

**No Battery Component  
Intrusion**

FIGURE 305-035 Post-Impact View of Battery Component Intrusion

**Photograph Not Applicable**

**No Propulsion  
Battery Movement or  
Retention loss**

FIGURE 305-036 Post-Impact View of Battery Module Movement or Retention Loss

**Photograph Not Applicable**

**No Propulsion Battery  
Electrolyte Spillage**

FIGURE 305-037 Post-Impact View of Propulsion Battery Electrolyte Spillage Location

Photograph Not Applicable

No Propulsion Battery  
Electrolyte Spillage

FIGURE 305-038 Post-Test View of Propulsion Battery Electrolyte Spillage Location

**APPENDIX B**  
**VEHICLE AND DUMMY RESPONSE DATA PLOTS**

## TABLE OF DATA PLOTS

Plot		Page
1	Driver Head Acceleration (X) Primary	B-1
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3	Driver Head Acceleration (Z) Primary	B-1
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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
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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](http://www.NHTSA.gov)

### Additional Driver Dummy Instrumentation Data

Driver Head Acceleration Redundant (X)

Driver Head Acceleration Redundant (Y)

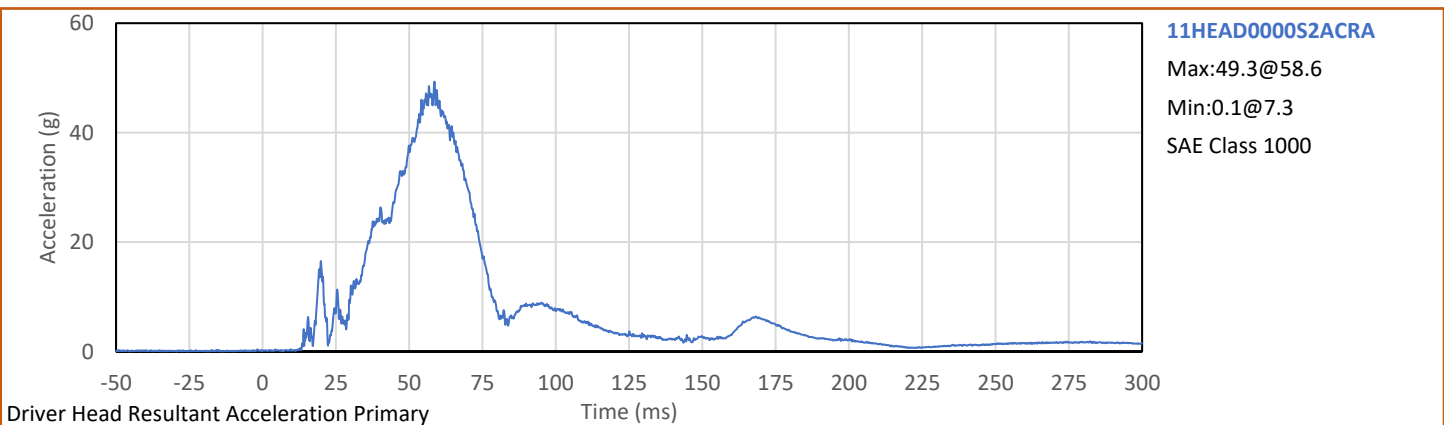
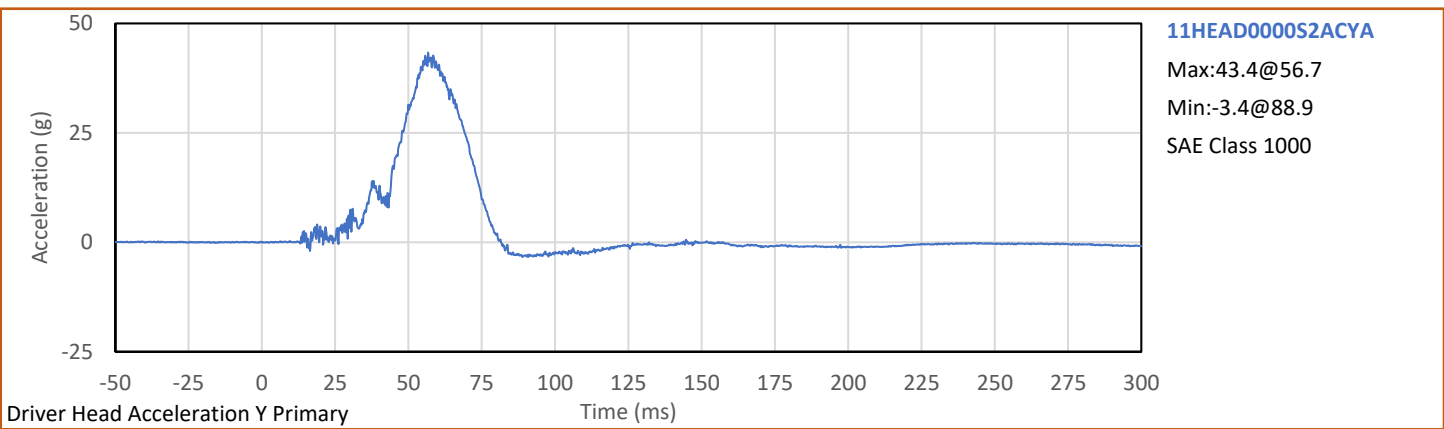
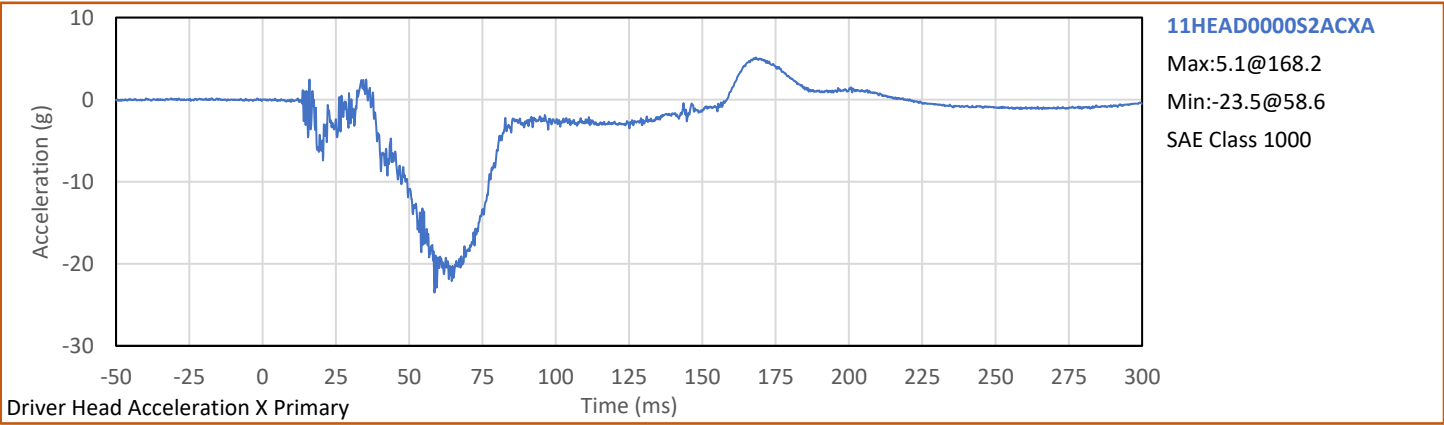
Driver Head Acceleration Redundant (Z)

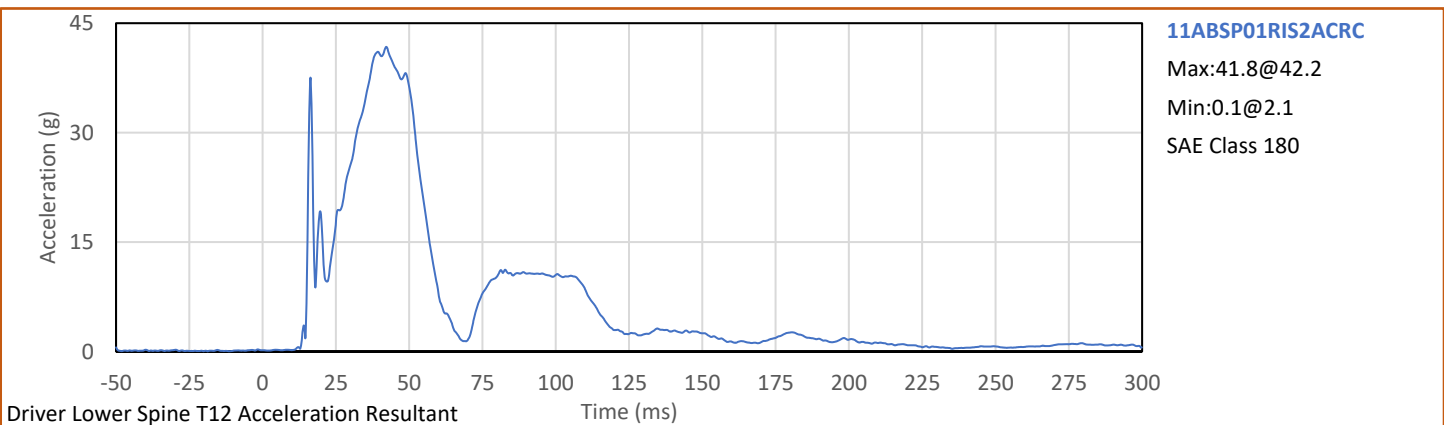
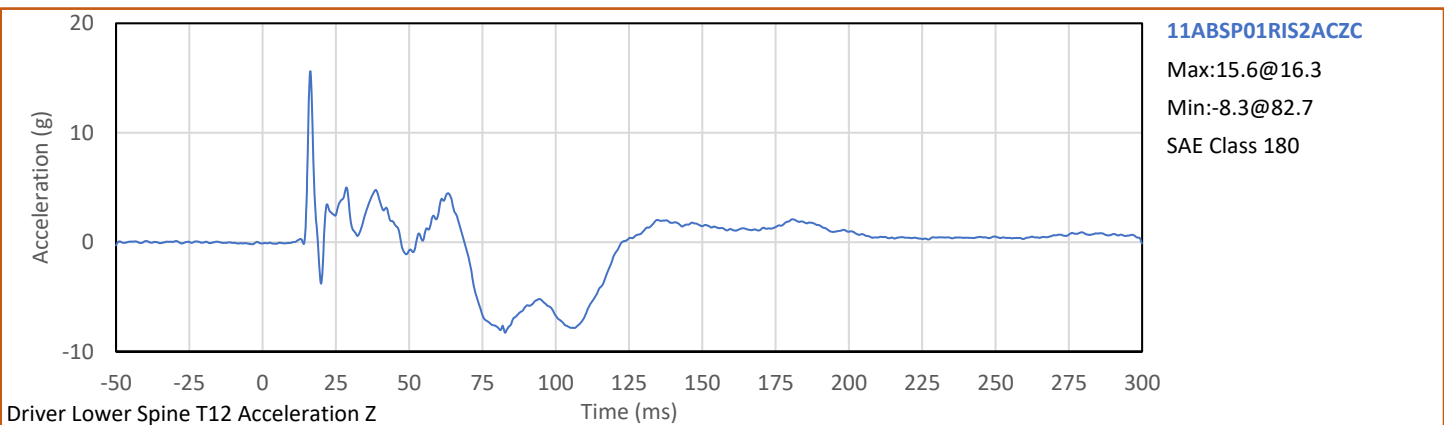
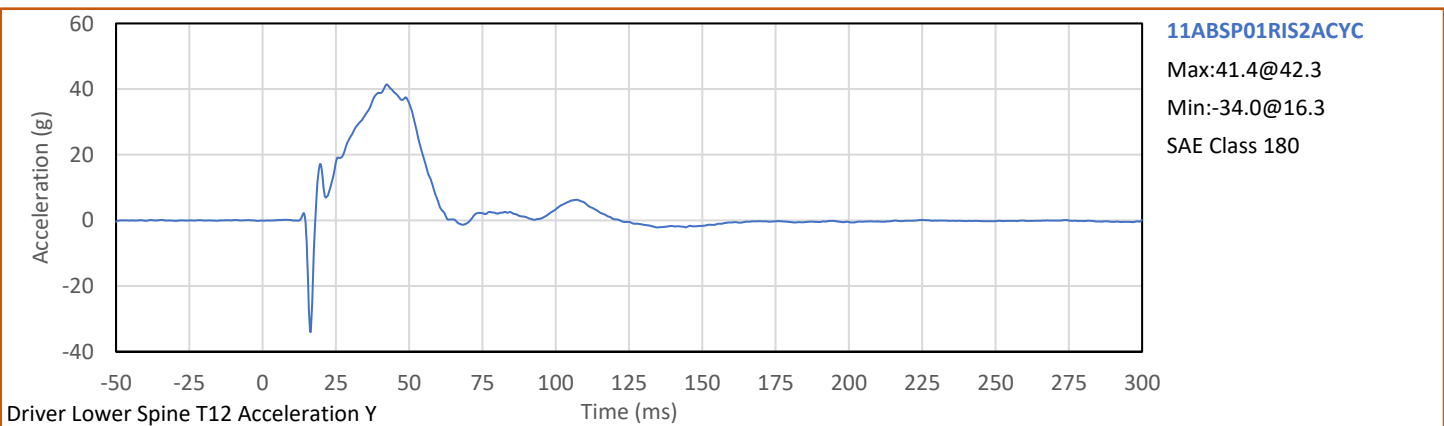
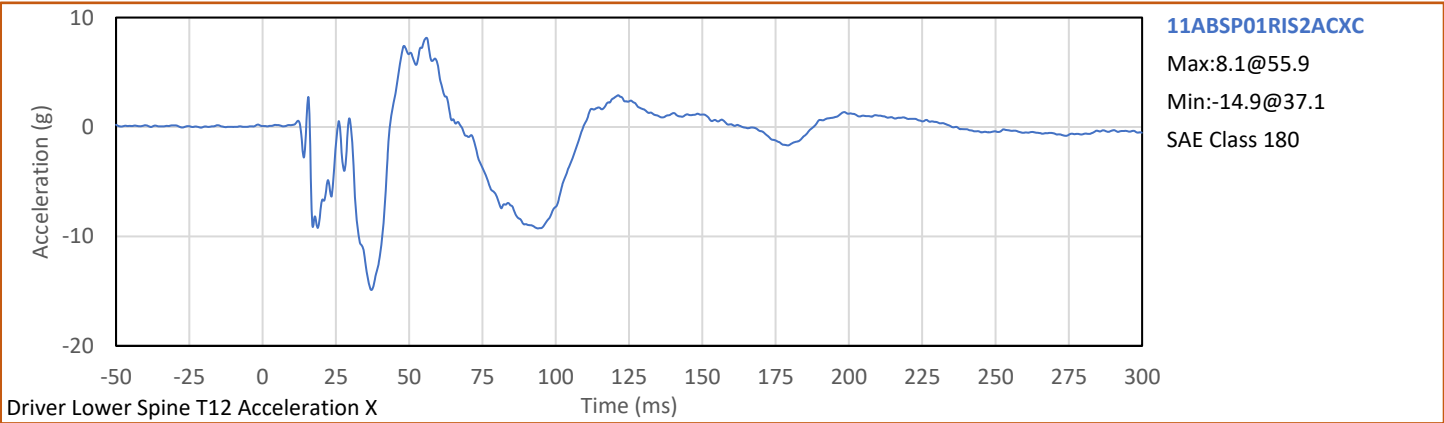
### **Vehicle Instrumentation Data**

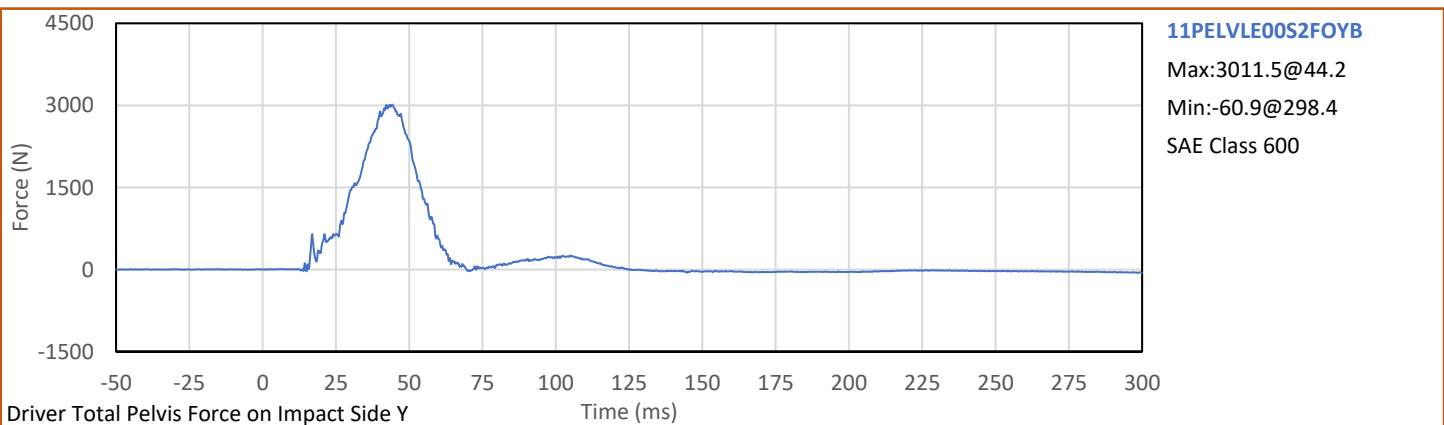
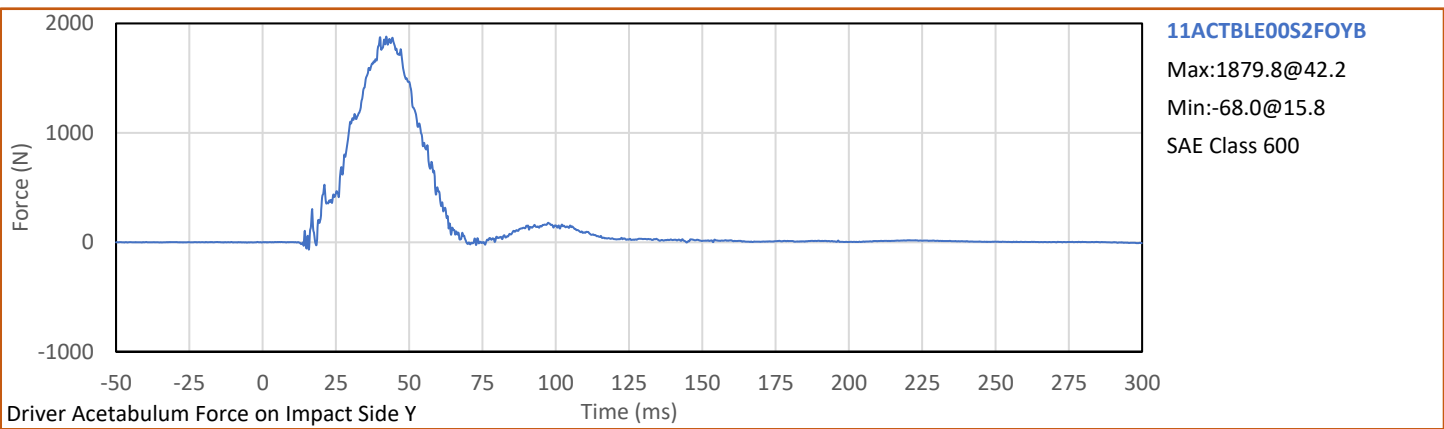
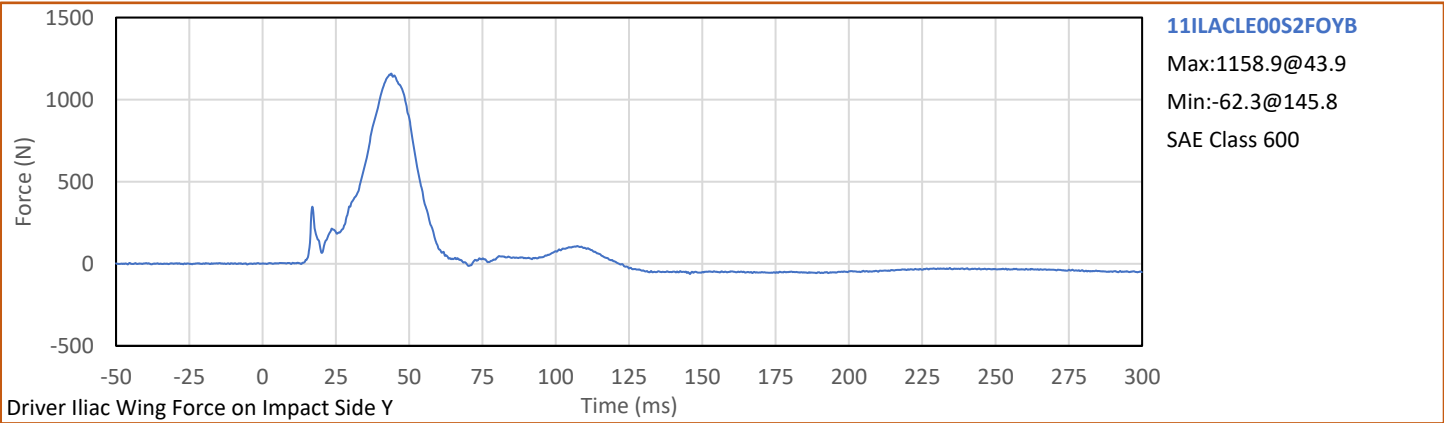
Vehicle Center of Gravity Acceleration (X)  
Vehicle Center of Gravity Acceleration (Y)  
Vehicle Center of Gravity Acceleration (Z)  
Left Floor Sill Acceleration (Y)  
Left A-Pillar Sill Acceleration (Y)  
Left Lower A-Pillar Acceleration (Y)  
Left Mid A-Pillar Acceleration (Y)  
Left B-Pillar Sill 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: 2024-06-27

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:



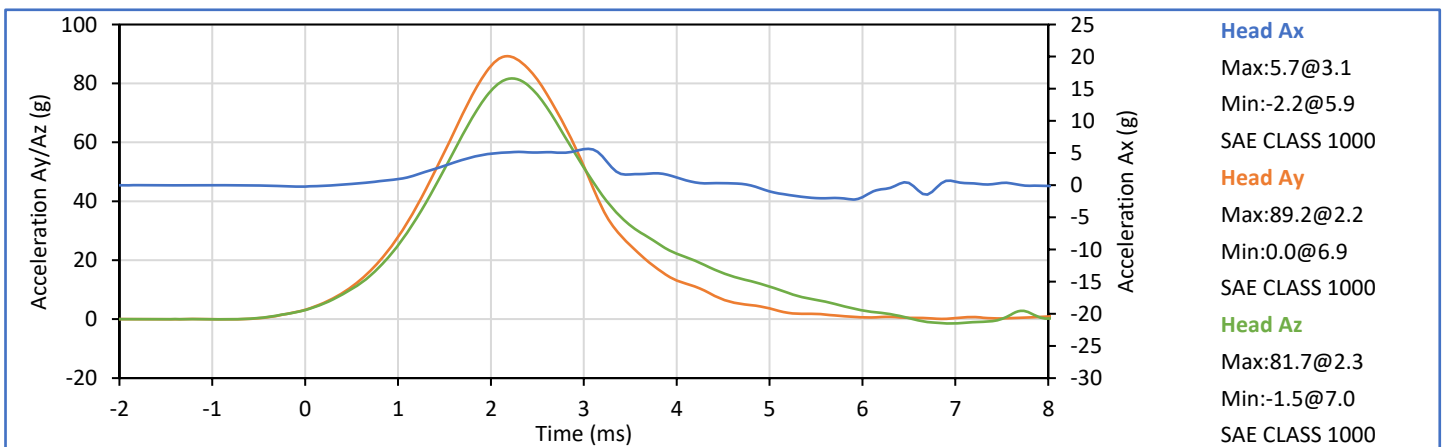
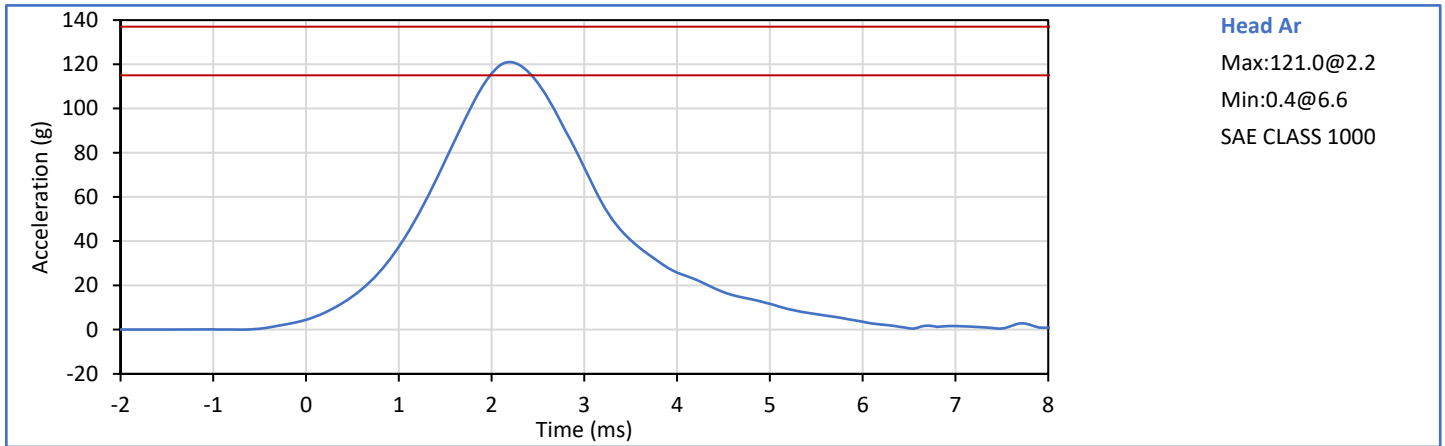
G. Fuentes

Approved By:



J. Hernandez

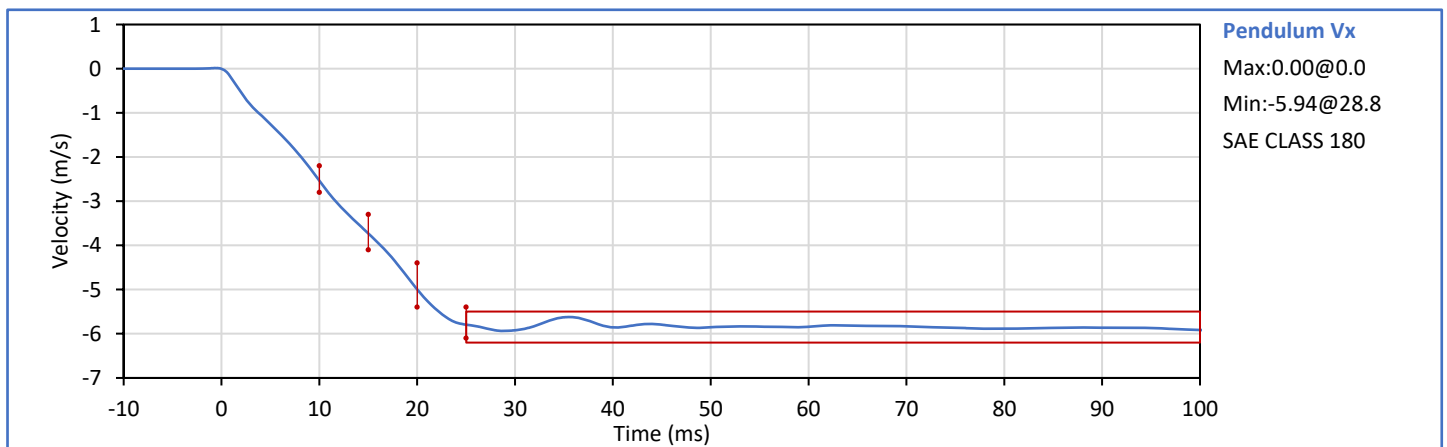
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.6	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Peak Resultant Acceleration	g	115.0	137.0	121.0	Pass
Peak Head Ax	g	-15.0	15.0	5.7	Pass
Oscillations After Main Pulse	%	0.0	15.0	3.6	Pass
Is Acceleration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



Technician: *Mill LGS III*  
G. Fuentes

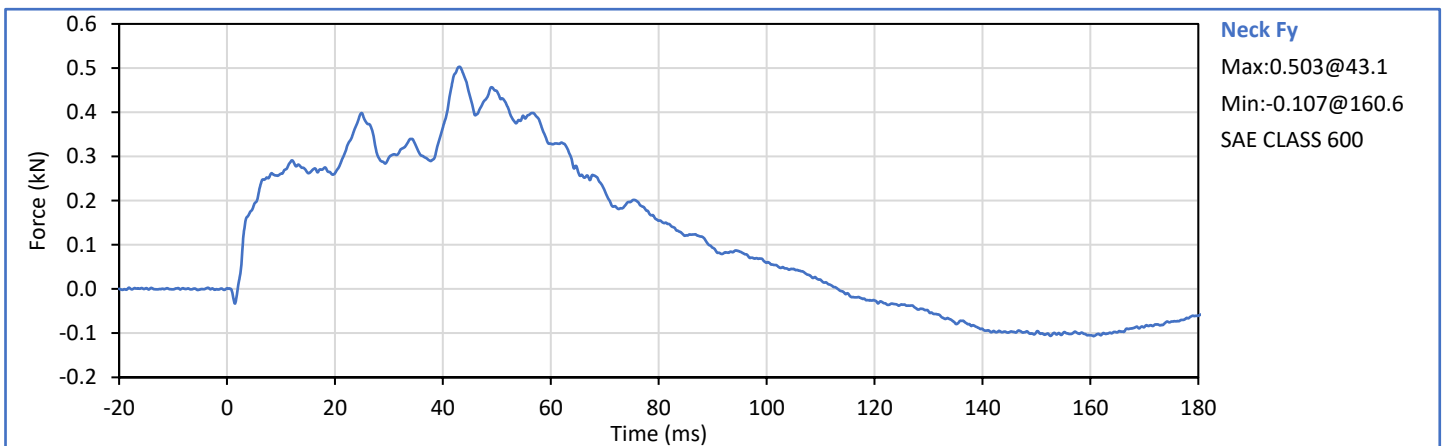
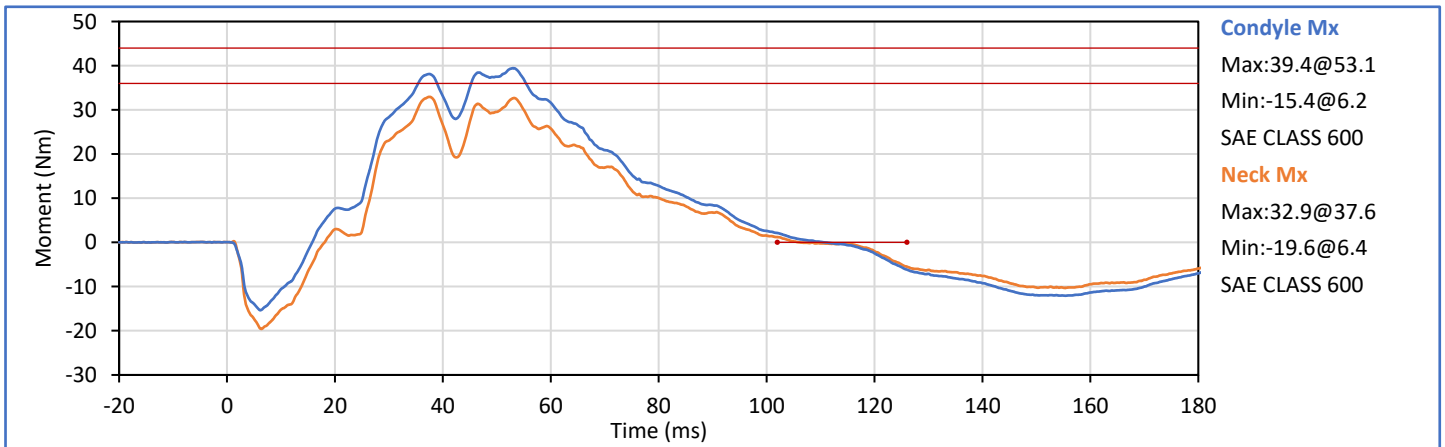
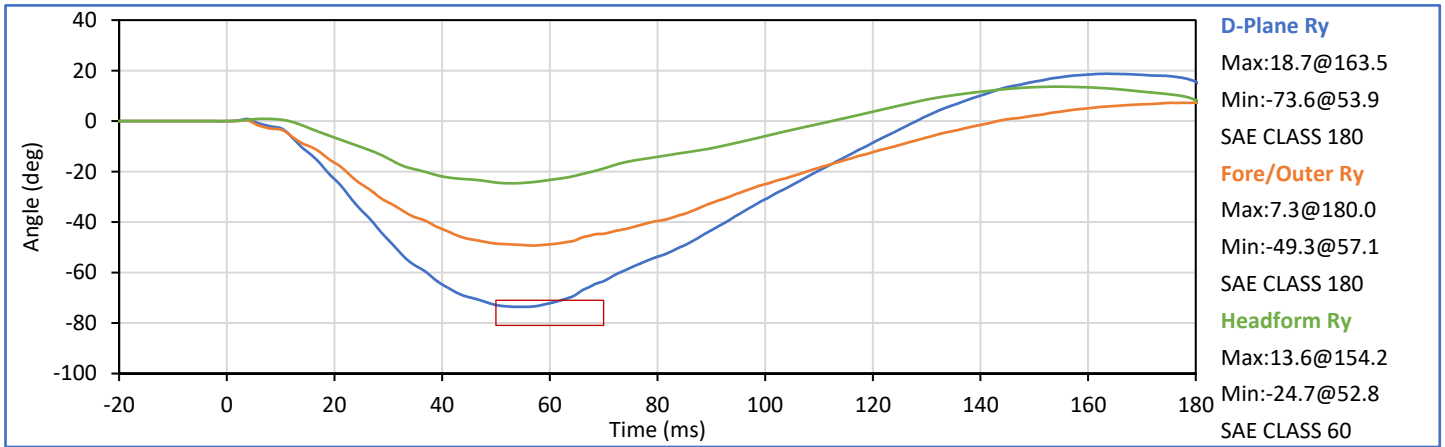
Approved By: *Smith*  
J. Hernandez

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

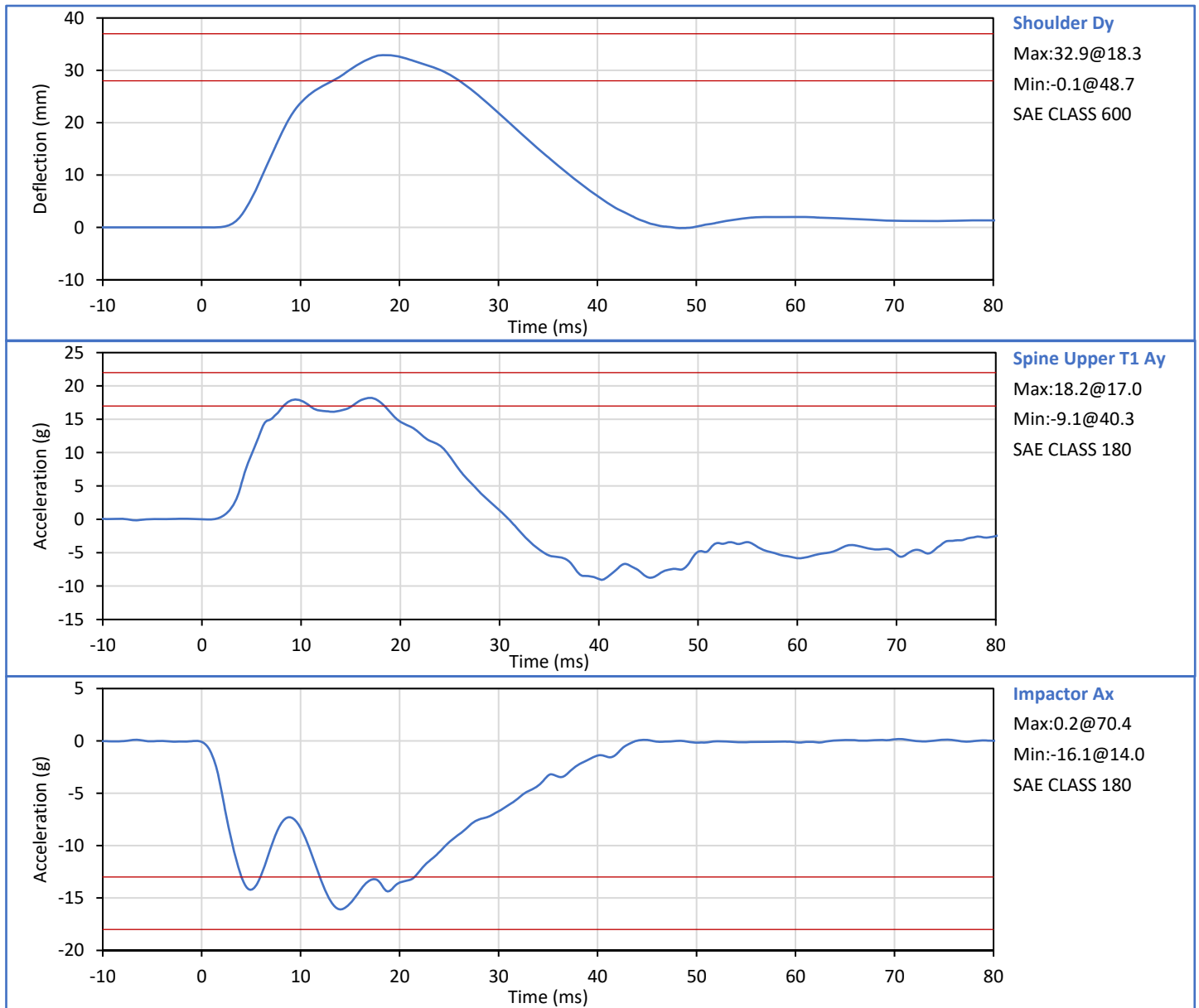


Technician: *Mill LGS III*  
G. Fuentes

Approved By: *Smith*  
J. Hernandez



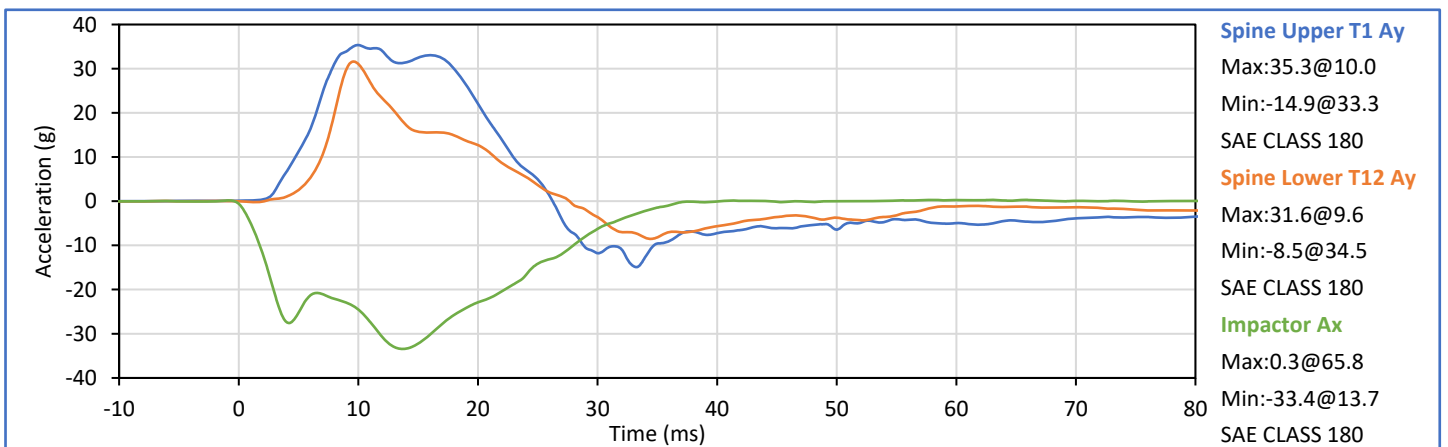
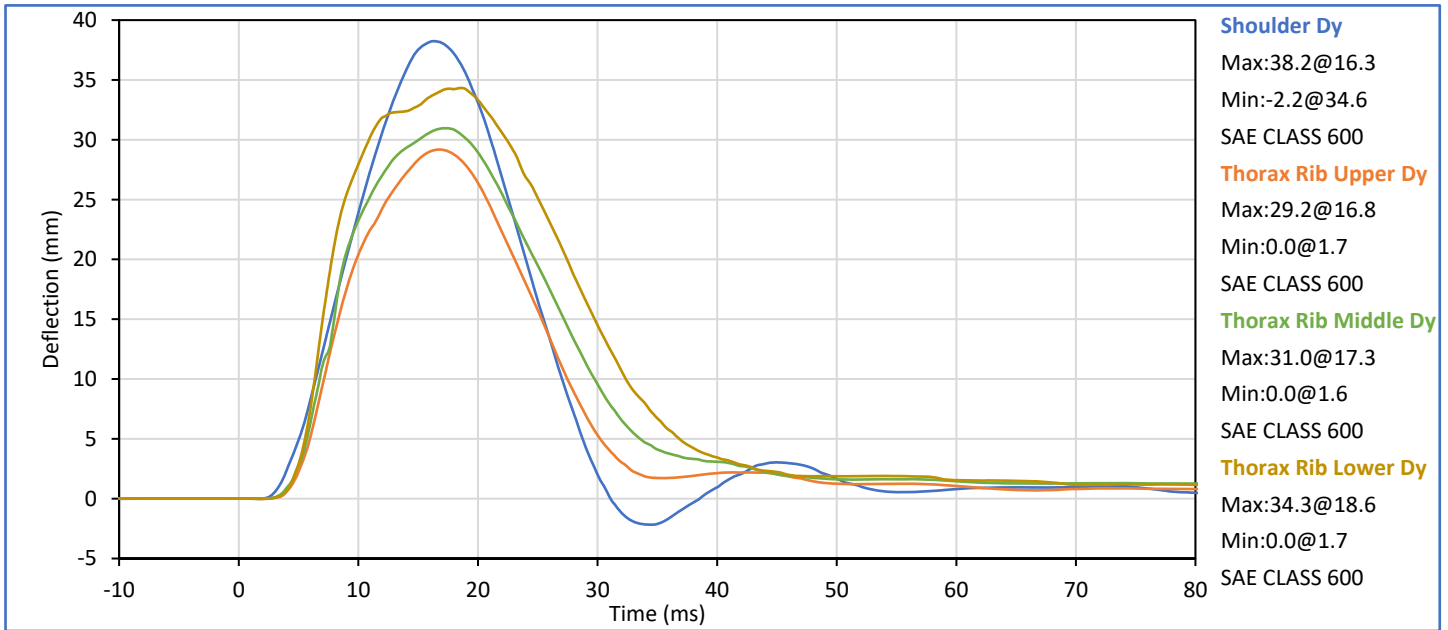
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	48	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Shoulder Dy	mm	28.0	37.0	32.9	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.2	Pass
Peak Impactor Ax	g	-18.0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



Technician: *Mill LGS III*  
G. Fuentes

Approved By: *J. Hernandez*  
J. Hernandez

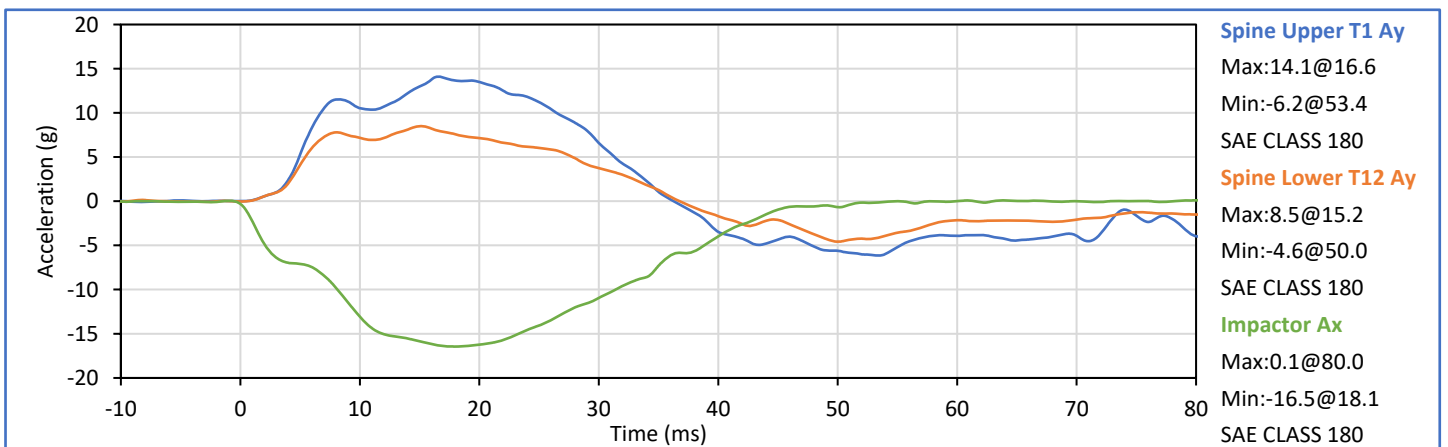
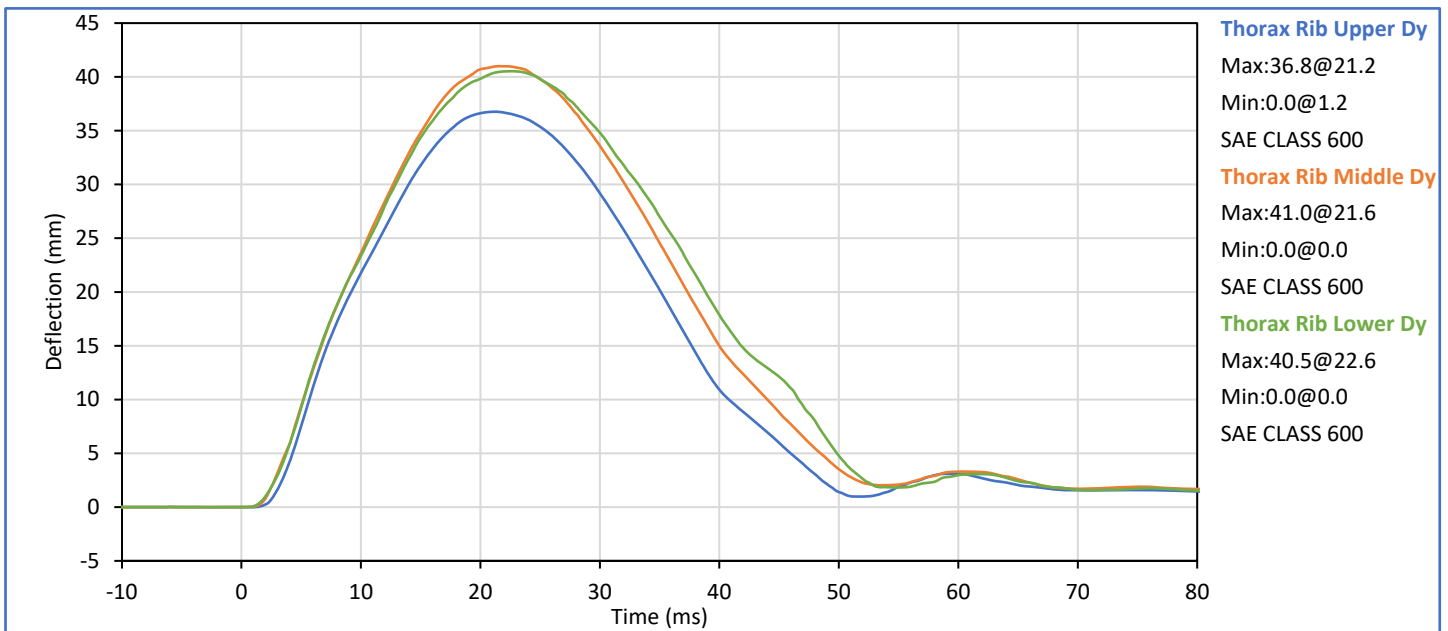
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	46	Pass
Impactor Velocity	m/s	6.60	6.80	6.68	Pass
Peak Shoulder Dy	mm	31.0	40.0	38.2	Pass
Peak Upper Rib Dy	mm	25.0	32.0	29.2	Pass
Peak Middle Rib Dy	mm	30.0	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



Technician: *Mill JG III*  
G. Fuentes

Approved By: *J. Hernandez*  
J. Hernandez

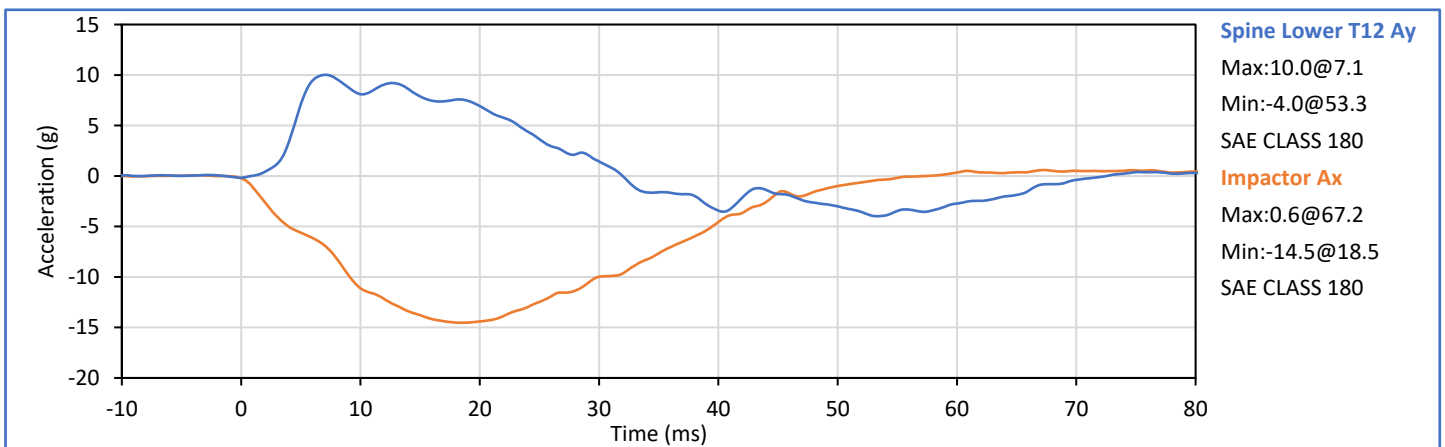
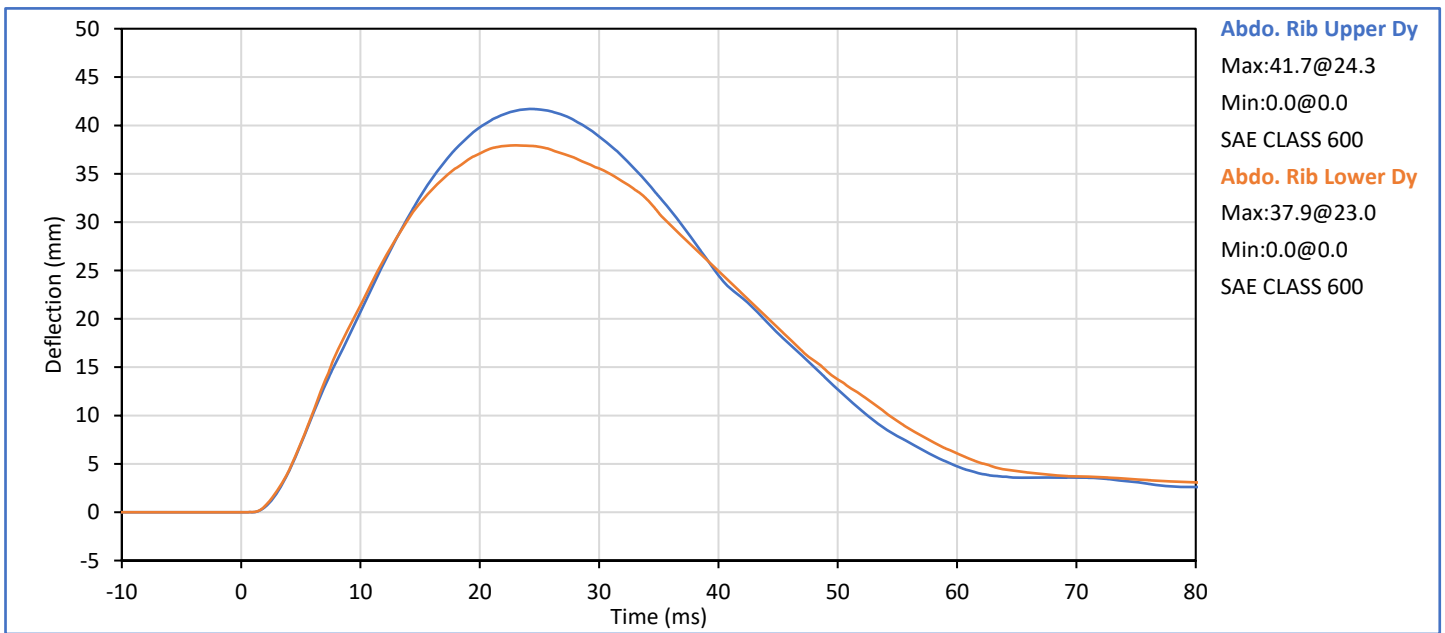
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	47	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Thorax Rib Upper Dy	mm	32.0	40.0	36.8	Pass
Peak Thorax Rib Middle Dy	mm	39.0	45.0	41.0	Pass
Peak Thorax 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: *Mill LGS III*  
G. Fuentes

Approved By: *Smith*  
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	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

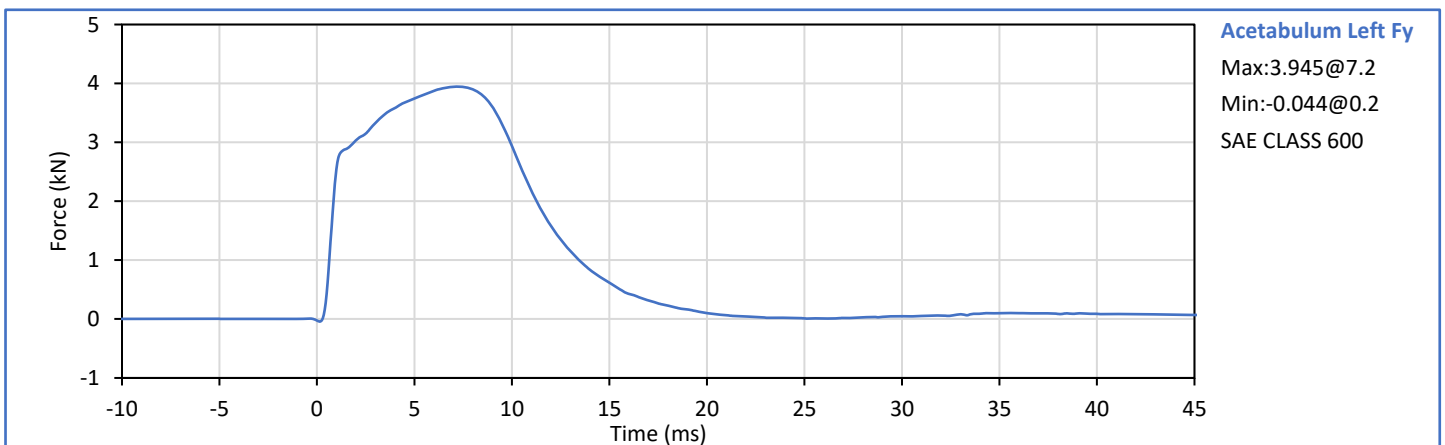
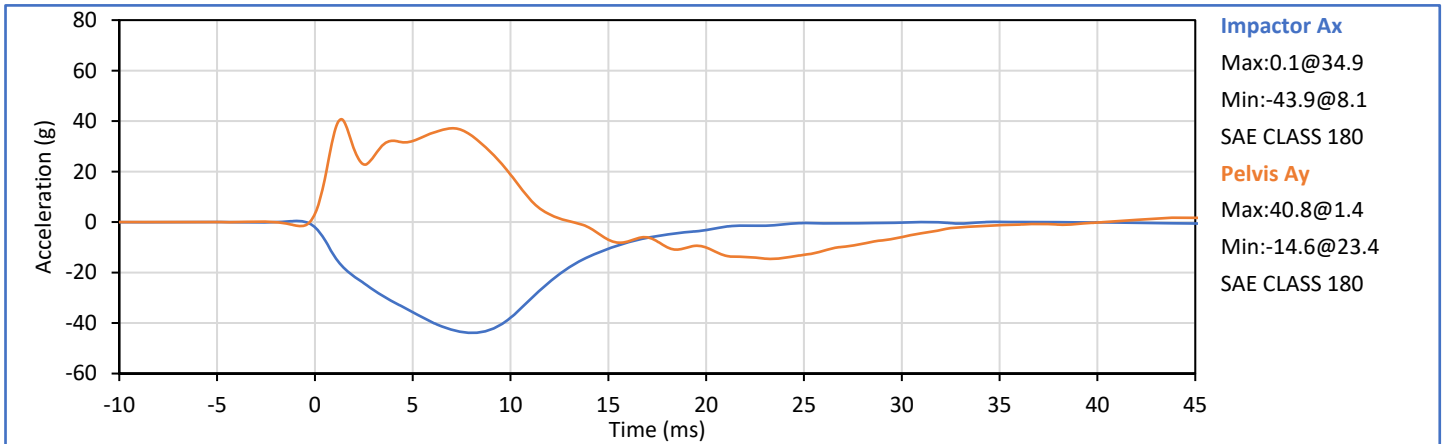


Technician: *Milli JG III*  
G. Fuentes

Approved By: *Seath*  
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	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: *Mill LGS III*  
G. Fuentes

Approved By: *Smith*  
J. Hernandez

ATD Serial No.: 308

Test Date: 2024-06-28

Pelvis Plug S/N: 14764



SID-IIs Pelvis Plug Certification Test

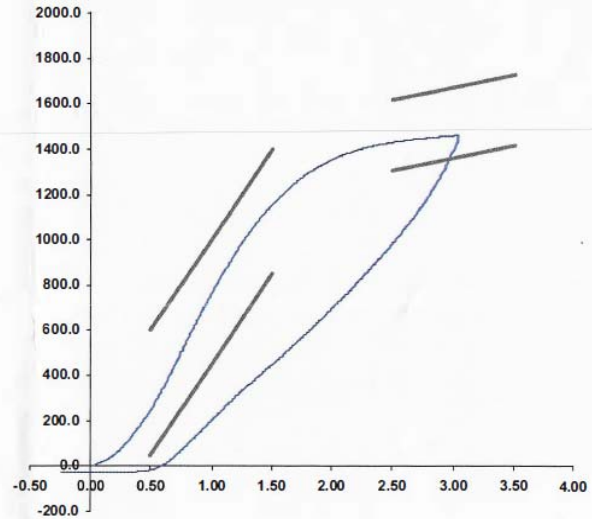
Plug S/N 14764  
Test Number 16736  
Report Number 16782  
Test Date 12/28/2020 10:59:27 AM

	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

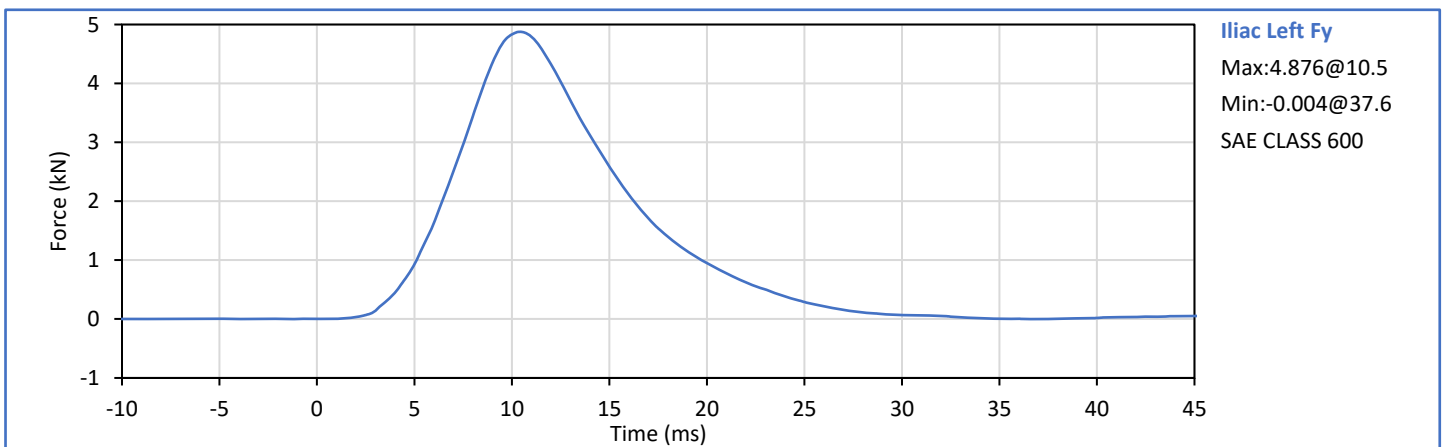
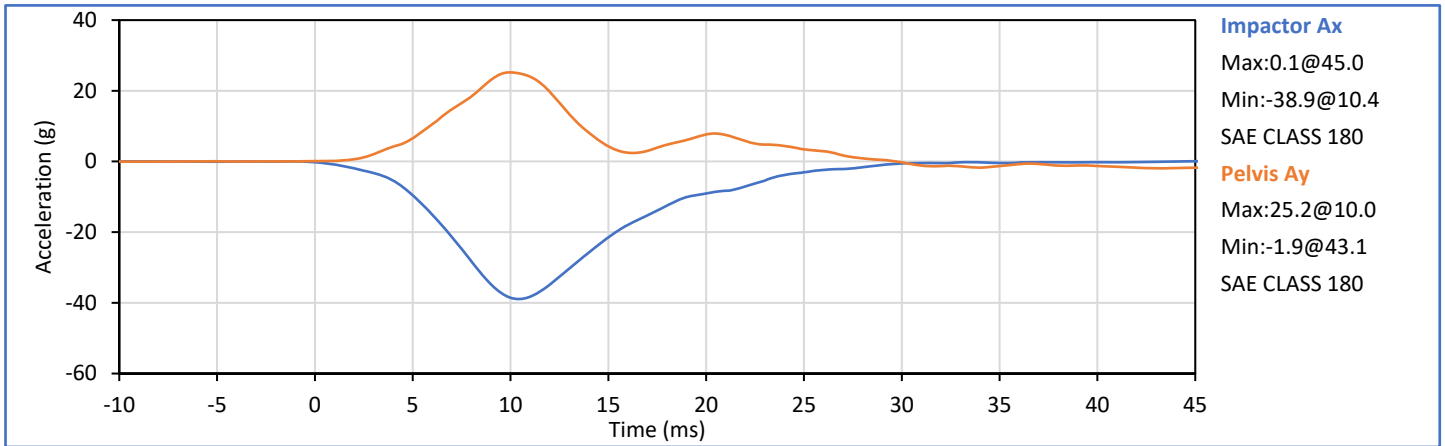
Template No 107 28-Dec-20  
SACO Research

By: DC Date: 12/28/2020

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: *Mill LGS III*  
G. Fuentes

Approved By: *Smith*  
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: 2024-07-15

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	48	Pass
A - Sitting Height	mm	772	788	782	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	146	Pass
E - Shoulder Pivot From Backline	mm	97	107	102	Pass
F - Thigh Clearance	mm	119	135	127	Pass
G - Head Breadth	mm	140	148	144	Pass
H - Head Back From Backline	mm	40	46	41	Pass
I - Head Depth	mm	178	188	183	Pass
J - Head Circumference	mm	541	551	549	Pass
K - Buttock To Knee Length	mm	514	540	531	Pass
L - Popliteal Height	mm	343	369	352	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	199	Pass
P - Foot Length	mm	216	232	230	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	319	Pass
R - Arm Length	mm	249	259	258	Pass
S - Knee Joint To Seatback	mm	477	493	490	Pass
V - Shoulder Width	mm	341	357	353	Pass
W - Foot Width	mm	78	94	91	Pass
Y - Chest Circumference W/Jacket	mm	851	881	872	Pass
Z - Waist Circumference	mm	761	791	777	Pass
Overall Test Results					Pass

Technician:



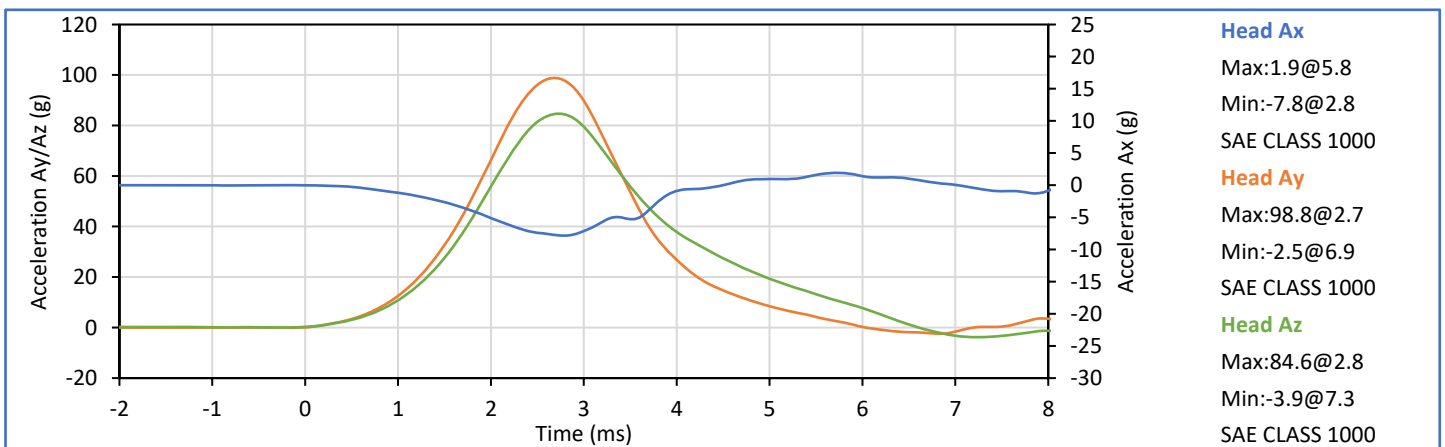
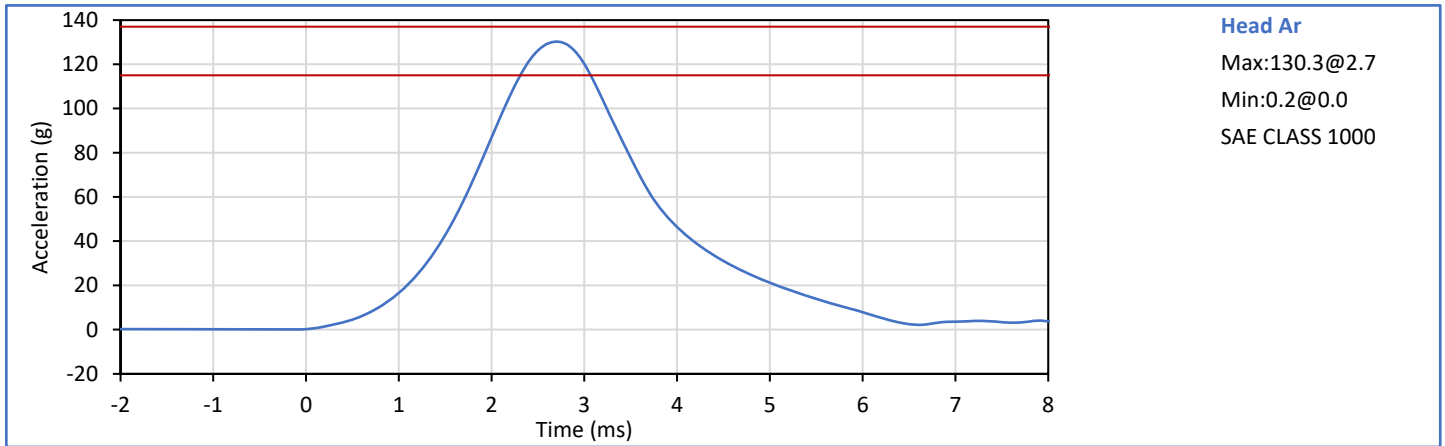
G. Fuentes

Approved By:



J. Hernandez

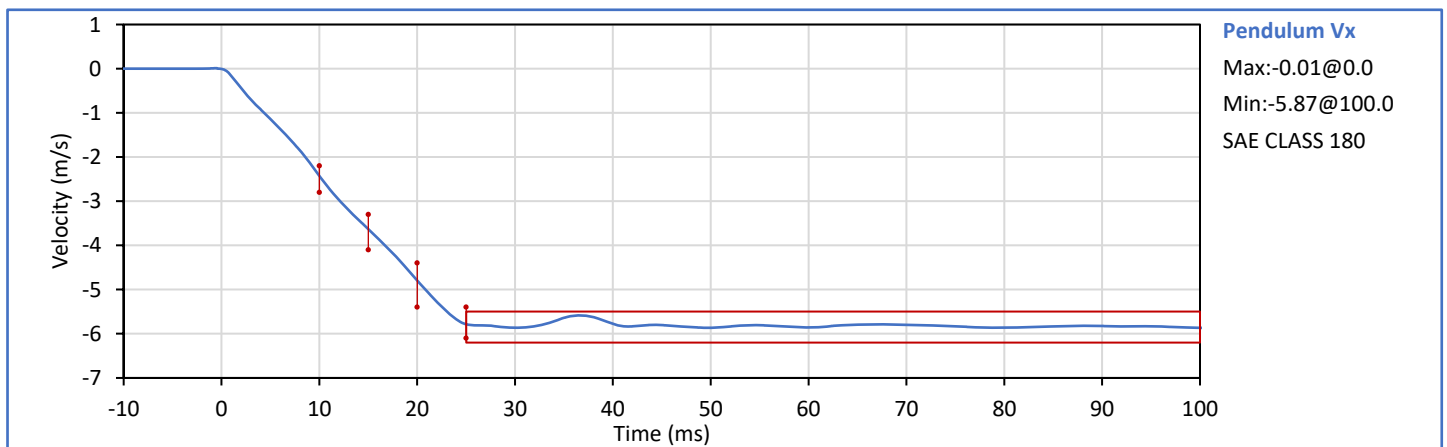
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.8	Pass
Laboratory Relative Humidity	%	10	70	48	Pass
Peak Resultant Acceleration	g	115.0	137.0	130.3	Pass
Peak Head Ax	g	-15.0	15.0	-7.8	Pass
Oscillations After Main Pulse	%	0.0	15.0	3.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
<b>Overall Test Results</b>					<b>Pass</b>



Technician: *Mill LGS III*  
G. Fuentes

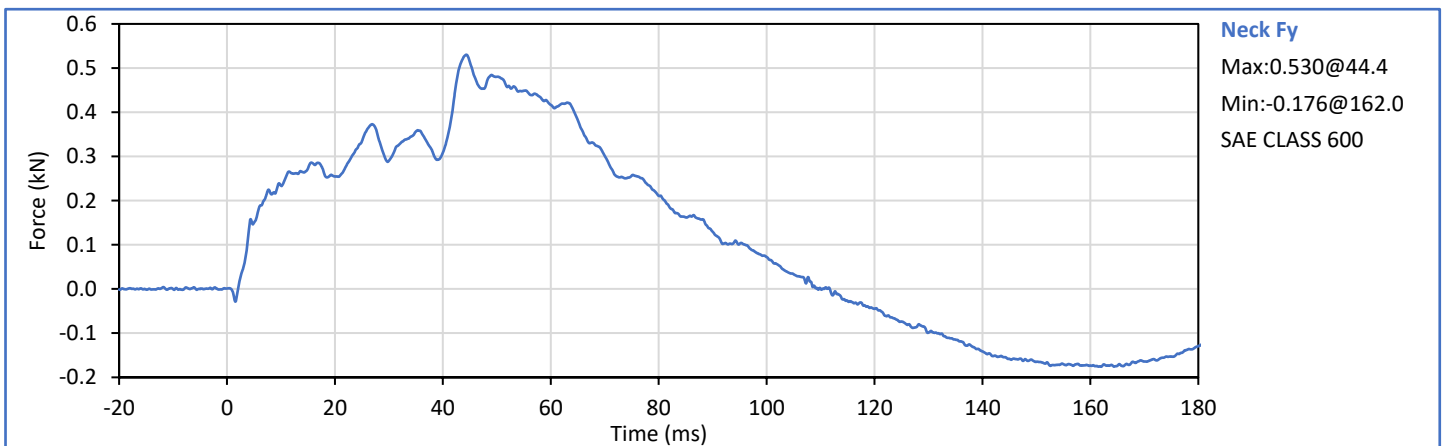
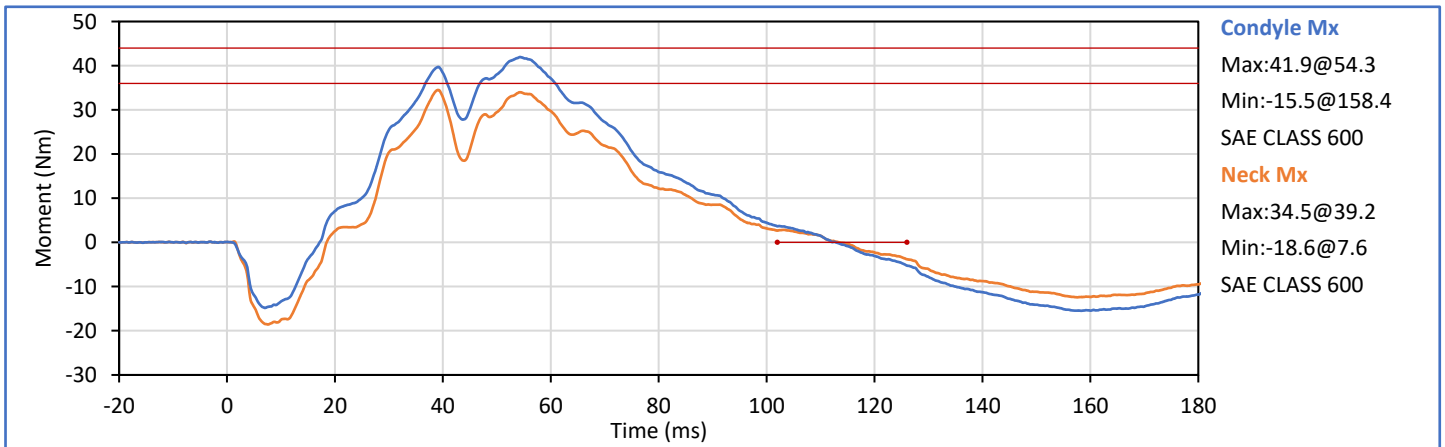
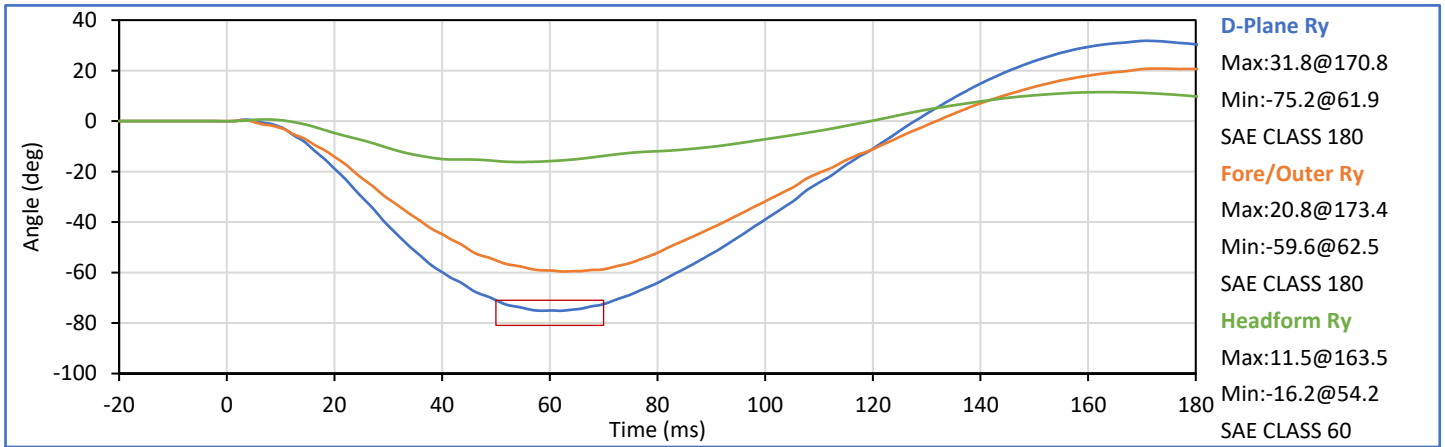
Approved By: *J. Hernandez*  
J. Hernandez

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	5.60	Pass
Pendulum Decel at 10 ms	m/s	-2.80	-2.20	-2.43	Pass
Pendulum Decel at 15 ms	m/s	-4.10	-3.30	-3.63	Pass
Pendulum Decel at 20 ms	m/s	-5.40	-4.40	-4.80	Pass
Pendulum Decel at 25 ms	m/s	-6.10	-5.40	-5.79	Pass
Pendulum Decel from 25-100 ms	m/s	-6.20	-5.50	-5.87/-5.59	Pass
Peak "D" Plane Rotation	deg	-81.0	-71.0	-75.2	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	61.9	Pass
Peak Occ. Condyle Moment	Nm	36.0	44.0	41.9	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	112.8	Pass
Overall Test Results					Pass

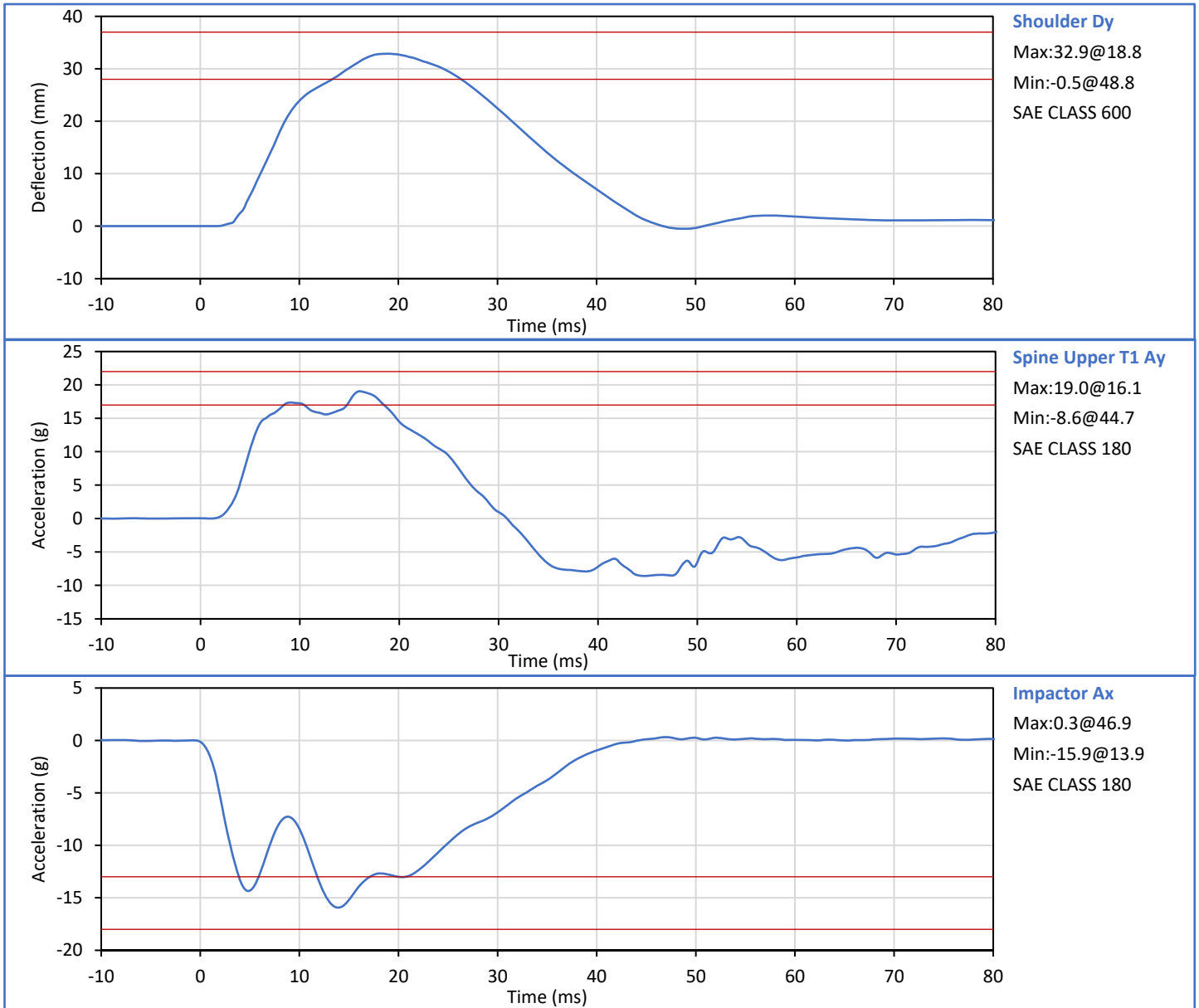


Technician: *Mill LGS III*  
G. Fuentes

Approved By: *Smith*  
J. Hernandez



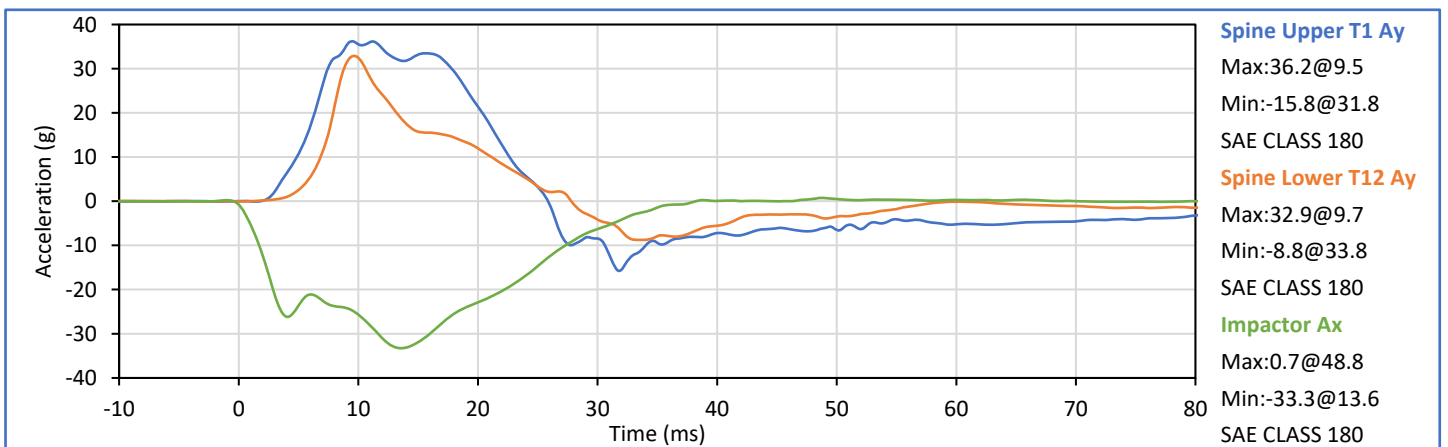
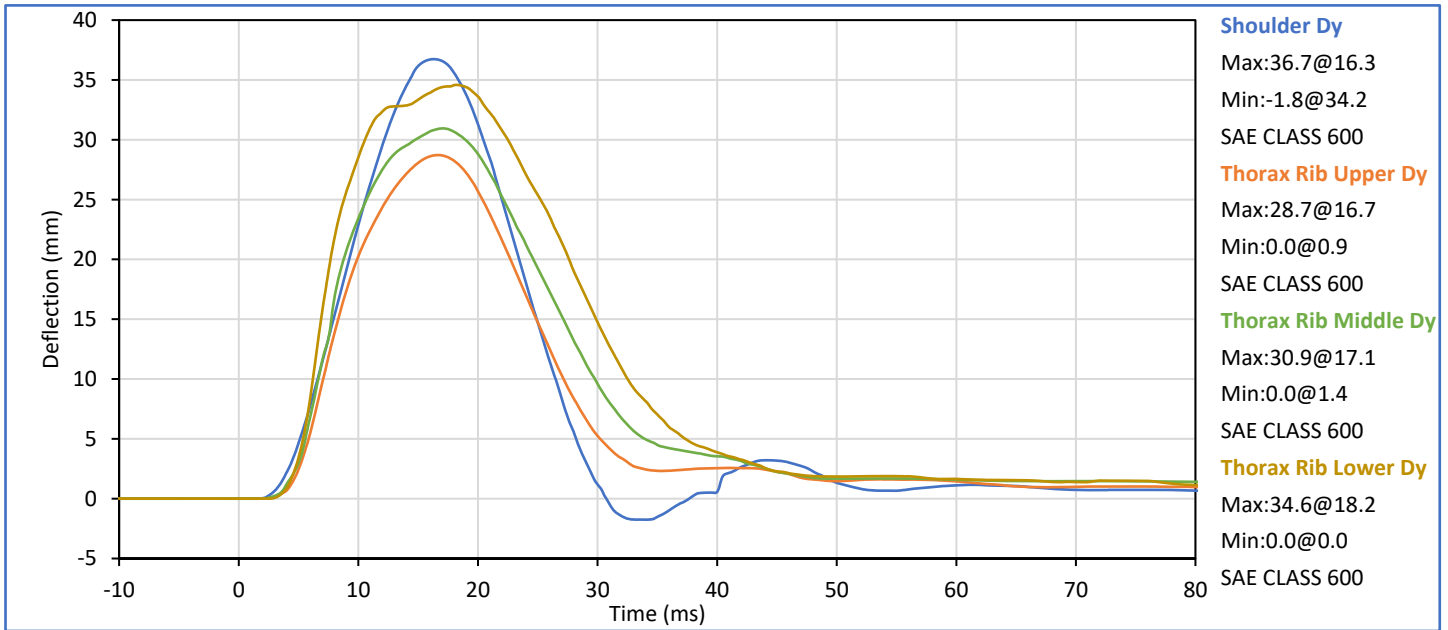
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Relative Humidity	%	10	70	50	Pass
Impactor Velocity	m/s	4.20	4.40	4.33	Pass
Peak Shoulder Dy	mm	28.0	37.0	32.9	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	19.0	Pass
Peak Impactor Ax	g	-18.0	-13.0	-15.9	Pass
Overall Test Results					Pass



Technician: *Mill LGS III*  
G. Fuentes

Approved By: *J. Hernandez*  
J. Hernandez

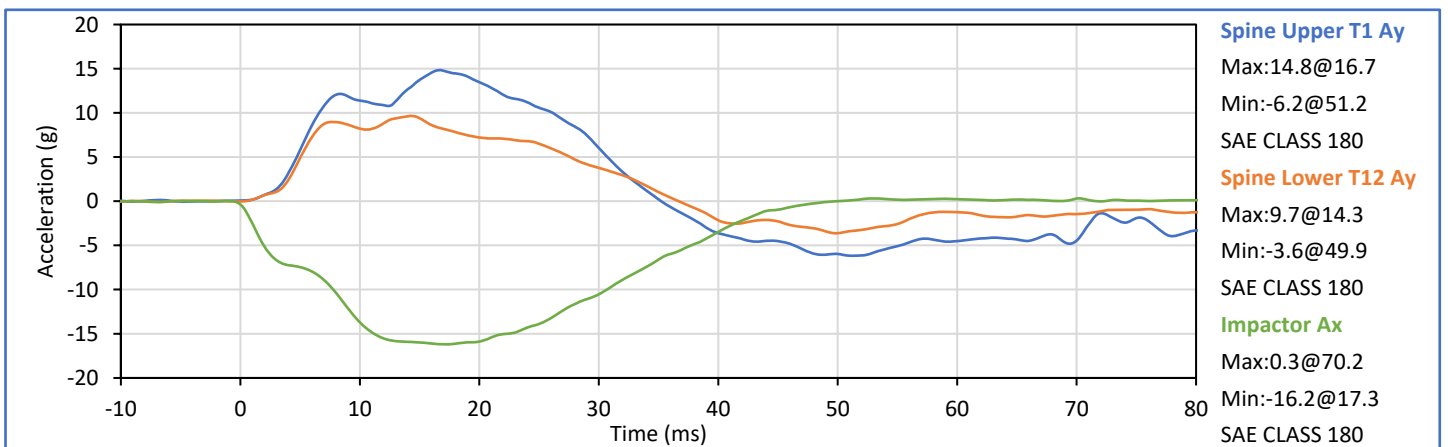
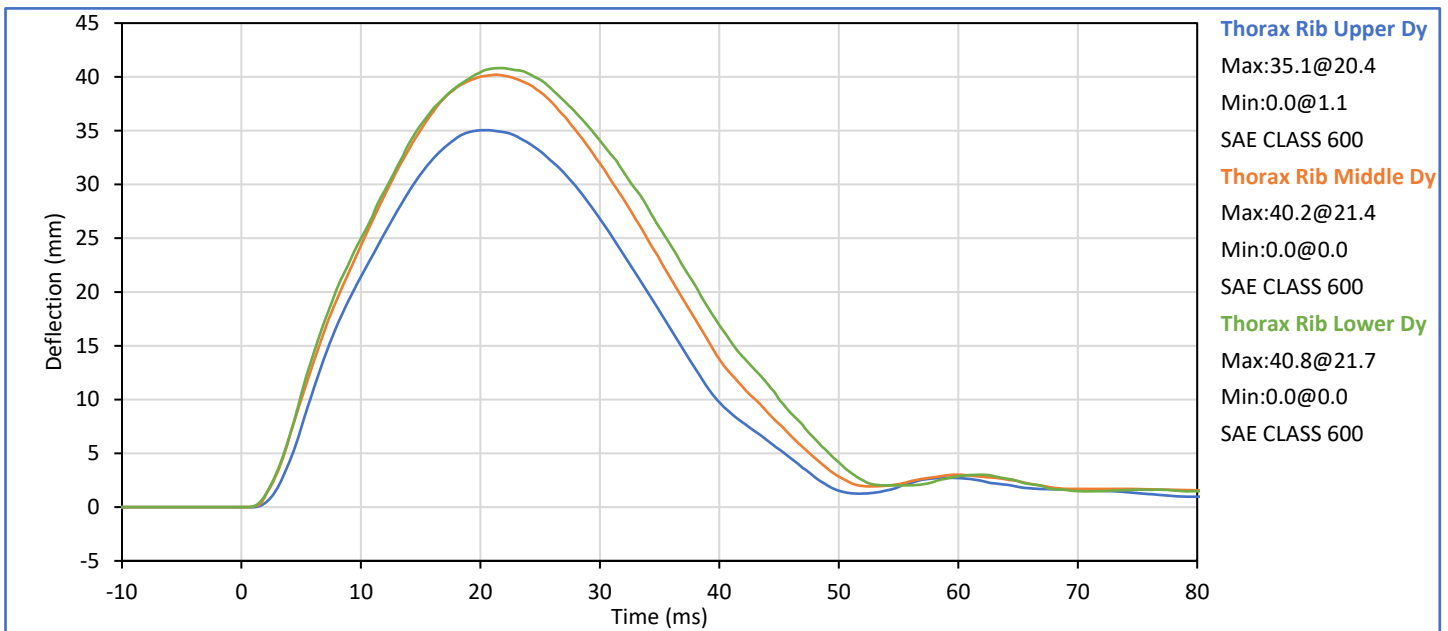
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	50	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Shoulder Dy	mm	31.0	40.0	36.7	Pass
Peak Upper Rib Dy	mm	25.0	32.0	28.7	Pass
Peak Middle Rib Dy	mm	30.0	36.0	30.9	Pass
Peak Lower Rib Dy	mm	32.0	38.0	34.6	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	36.2	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	32.9	Pass
Peak Impactor Ax	g	-36.0	-30.0	-33.3	Pass
Overall Test Results					Pass



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G. Fuentes

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J. Hernandez

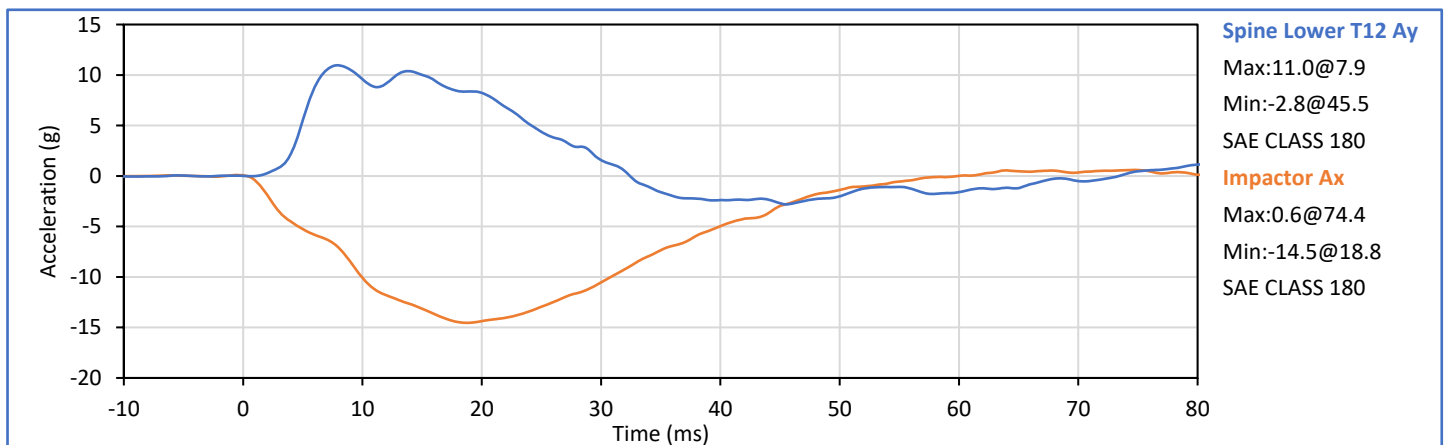
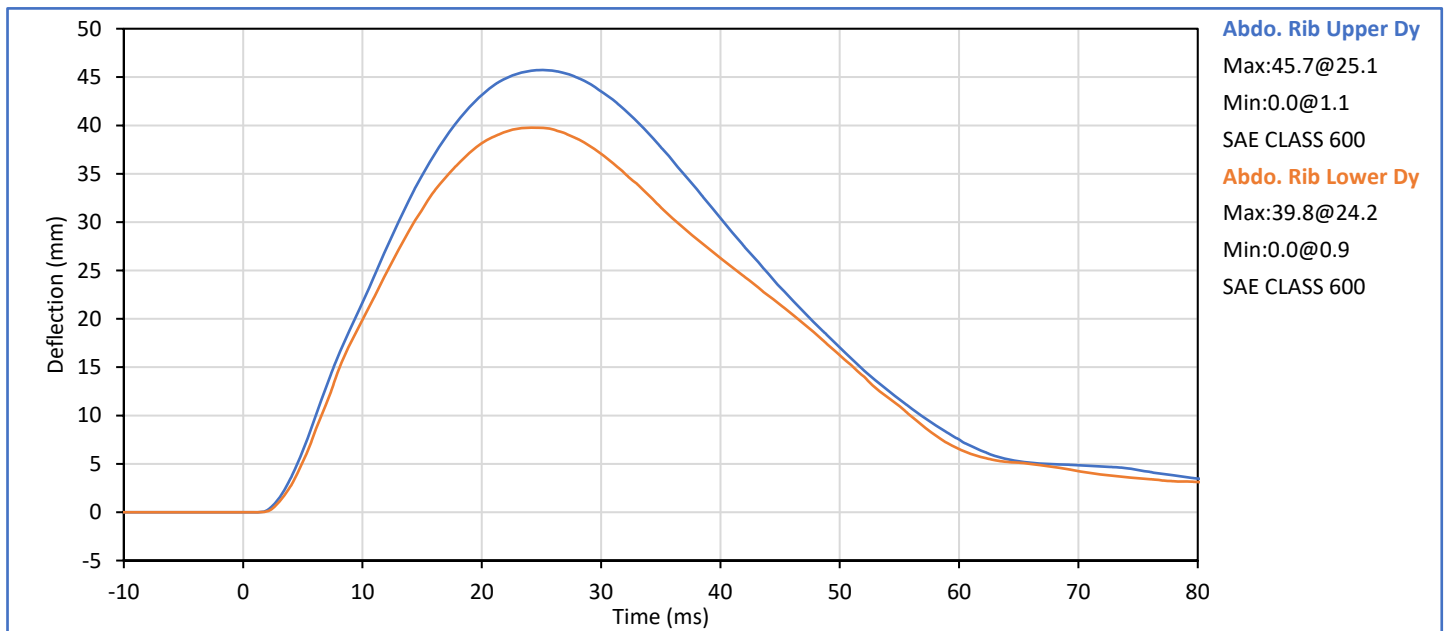
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	50	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Thorax Rib Upper Dy	mm	32.0	40.0	35.1	Pass
Peak Thorax Rib Middle Dy	mm	39.0	45.0	40.2	Pass
Peak Thorax Rib Lower Dy	mm	35.0	43.0	40.8	Pass
Peak Spine Upper T1 Ay	g	13.0	17.0	14.8	Pass
Peak Spine Lower T12 Ay	g	7.0	11.0	9.7	Pass
Peak Impactor Ax	g	-18.0	-14.0	-16.2	Pass
Overall Test Results					Pass



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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	4.33	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	45.7	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	39.8	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	11.0	Pass
Peak Impactor Ax	g	-16.0	-12.0	-14.5	Pass
<b>Overall Test Results</b>					<b>Pass</b>

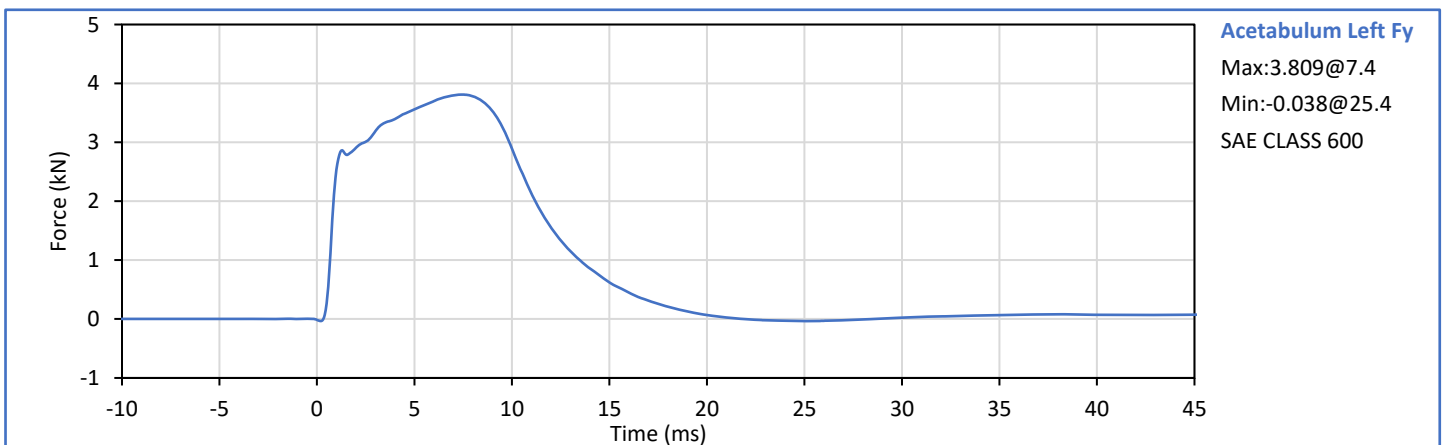
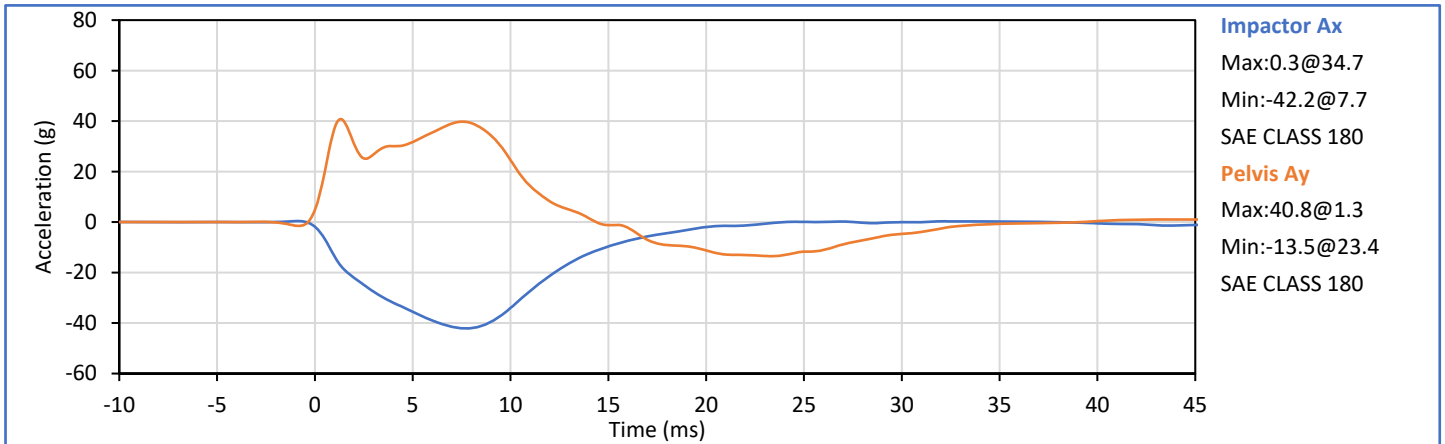


Technician: *Mill JG III*  
G. Fuentes

Approved By: *Smith*  
J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.8	Pass
Laboratory Relative Humidity	%	10	70	52	Pass
Impactor Velocity	m/s	6.60	6.80	6.76	Pass
Peak Acetabulum Fy	kN	3.60	4.30	3.81	Pass
Pelvis Ay after 6ms	g	34.0	42.0	39.8	Pass
Peak Impactor Ax	g	-47.0	-38.0	-42.2	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 14836



Technician: *Mill JG III*  
G. Fuentes

Approved By: *Smith*  
J. Hernandez

ATD Serial No.: 308

Test Date: 2024-07-16

Pelvis Plug S/N: 14836



**SID-IIs Pelvis Plug Certification Test**

Plug S/N 14836

Test Number 16809

Report Number 16855

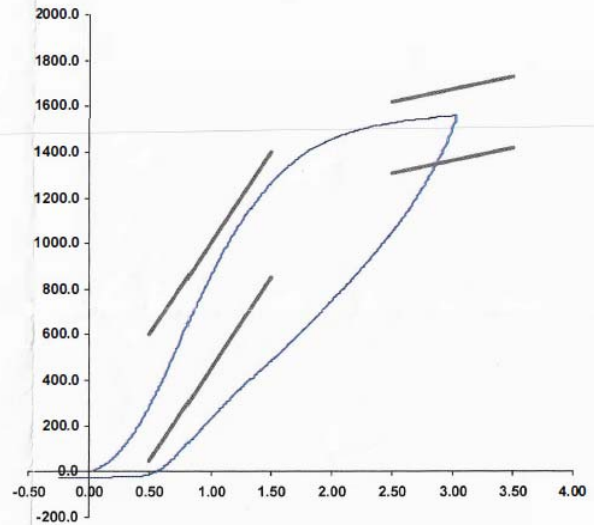
Test Date 12/29/2020 2:00:33 PM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	296.18	50.00	600.00
Force @ 1.5 mm (N)	1,266.79	850.00	1,400.00
Force @ 2.5 mm (N)	1,527.08	1,306.00	1,618.00
Force @ 3.0 mm (N)	1,558.33	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

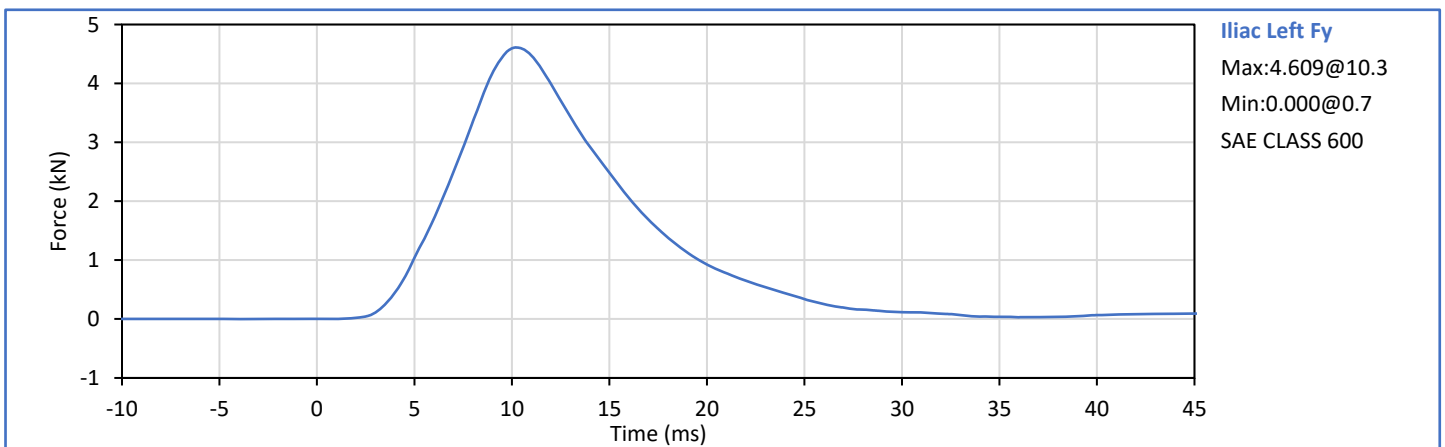
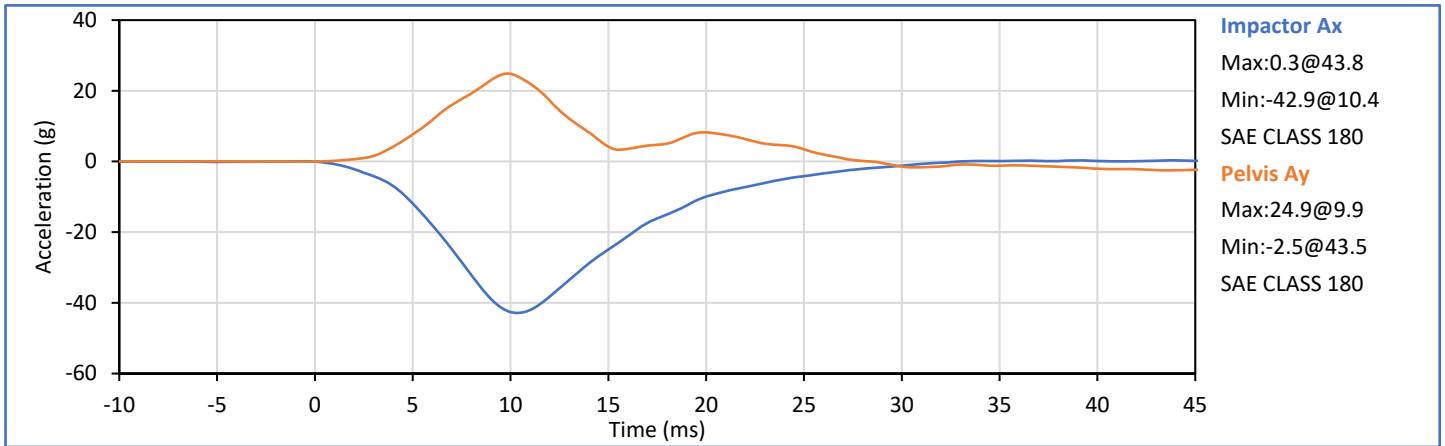
By: DC Date: 12/29/2020

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

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	4.61	Pass
Peak Pelvis Ay	g	28.0	39.0	34.7	Pass
Peak Impactor Ax	g	-45.0	-36.0	-42.9	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 12228 \*

\* Plug is not impacted and remains certified



Technician: *Mill LGS III*  
G. Fuentes

Approved By: *Seuth*  
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	M13964	Endevco	758H-2k	2024-05-29
Vehicle CG Ay	M13957	Endevco	758H-2k	2024-05-29
Vehicle CG Az	M13991	Endevco	758H-2k	2024-05-29
Left Floor Sill Ay	M11074	Endevco	758H-2k	2024-06-20
A-Pillar Sill Ay	M11277	Endevco	758H-2k	2024-06-20
A-Pillar Low Ay	220108	BST	11CF-2k	2024-04-01
A-Pillar Mid Ay	223208	BST	11CF-2k	2024-05-23
B-Pillar Sill Ay	M11148	Endevco	758H-2k	2024-06-20
B-Pillar Low Ay	M13995	Endevco	758H-2k	2024-05-29
B-Pillar Mid Ay	M13990	Endevco	758H-2k	2024-05-29
Driver Seat Track at H-Point Ay	M11151	Endevco	758H-2k	2024-06-20
Engine Top Ax	M13994	Endevco	758H-2k	2024-05-29
Engine Top Ay	M13945	Endevco	758H-2k	2024-05-29
Firewall Ay	M13987	Endevco	758H-2k	2024-05-29
Right Roof Ay	M13965	Endevco	758H-2k	2024-05-29
Right Floor Sill Ay	M13966	Endevco	758H-2k	2024-05-29
Rear Floorpan Ax	M13992	Endevco	758H-2k	2024-05-29
Rear Floorpan Ay	M13958	Endevco	758H-2k	2024-05-29

**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	1220-FS	2021-11-04
Barrier Pole 03 Fx	131211A	Interface	1220-FS	2021-11-04
Barrier Pole 04 Fx	19346	Interface	1220FS-50k	2021-11-04
Barrier Pole 05 Fx	131827A	Interface	1220AF-50k	2021-11-04
Barrier Pole 06 Fx	19322	Interface	1220FS-50k	2021-11-05
Barrier Pole 07 Fx	132302A	Interface	1220-FS	2021-11-05
Barrier Pole 08 Fx	19345	Interface	1220FS-50k	2021-11-05