

**REPORT NUMBER: SPNCAP-KAR-20-024
NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST**

**VOLKSWAGEN GROUP OF AMERICA
2020 VOLKSWAGEN ATLAS CROSS SPORT 5-DOOR MPV**

NHTSA No: M20205801

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



SEPTEMBER 11, 2020

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
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Approval Date: _____ September 11, 2020 _____

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

COTR, New Car Assessment Program
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		14. Sponsoring Agency Code NRM-110																												
15. Supplementary Notes		All placards for this vehicle should say "Atlas Cross Sport"																												
16. Abstract A 32.2 km/h 75° rigid pole side NCAP impact test was conducted on the subject 2020 Volkswagen Atlas Cross Sport 5-Door MPV 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 August 27, 2020. The impact velocity was 32.67 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 31.7°C. The target vehicle's maximum post-test static crush was 320 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" style="text-align: center;">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 (HIC₃₆)</td> <td></td> <td style="text-align: center;">1000</td> <td style="text-align: center;">308.7</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</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;">2642</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;">22</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;">24</td> </tr> </tbody> </table>				Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)		1000	308.7	Resultant Lower Spine Acceleration	g	82	41	Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	2642	Maximum Thoracic Rib Deflection	mm	38	22	Maximum Abdominal Rib Deflection	mm	45	24
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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. Technical Information Services Division 1200 New Jersey Ave., SE Washington, DC 20590																												
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SECTION 1
TEST PURPOSE AND PROCEDURE

This side impact test is part of the MY 2020 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number DTNH22-14-D-00355L. The purpose of this test is to generate comparative side impact performance in a 2020 Volkswagen Atlas Cross Sport 5-Door MPV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure date October 2015.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2020 Volkswagen Atlas Cross Sport 5-Door MPV. The subject vehicle was towed into the rigid pole at an angle of 74.8° and a velocity of 32.67 km/h. The test was conducted by Applus IDIADA KARCO Engineering, LLC. in Adelanto, California on August 27, 2020. Pre- and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in Appendix A of this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure, dated October 2015. Camera locations and other pertinent camera information are included in this report.

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

- Primary and Redundant Head CG tri-axial accelerometers
- 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.

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	308.7
Lower Spine (T12) Resultant Acceleration	g	82	41
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2642
Maximum Thoracic Rib Deflection	mm	38*	22
Maximum Abdominal Rib Deflection	mm	45*	24

*Proposed IARV

Supplemental restraint information is given below:

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag		No		
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes		
Seat Belt Pretensioner	Yes	Yes		
Seat Belt Load Limiter	Yes	Yes	Yes	Yes

GENERAL COMMENTS

The struck side door at the front of the vehicle was jammed shut. There was no separation at the hinges or latches. The remaining doors remained closed and latched. There were no ATD values that exceeded limits.

- The left A-Post at sill AY, channel failed at 68.0 ms
- The left lower A-Post AY, channel failed at 35.5 ms
- The left B-Post at sill AY, channel failed resulting in no data collected
- The left lower B-Post AY was not installed
- The left mid B-Post AY, channel failed at 17.9 ms
- The driver seat track AY, channel failed resulting in no data collected

SECTION 3

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20205801
Model Year	2020
Make	Volkswagen
Model	Atlas Cross Sport
Body Style	MPV
VIN	1V2AC2CA1LC201788
Body Color	Silver
Odometer Reading (km / mi)	19/12
Engine Displacement (L)	2.0
Type / No. of Cylinders	Inline 4
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	8
Overdrive	Yes
Final Drive	FWD
Roof Rack	Yes
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	No
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	No
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	No
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	Yes

Does Owner's Manual provide instructions to turn off automatic door locks? No

DATA FROM CERTIFICATION LABEL

Manufactured By	Volkswagen Group of America
Date of Manufacture	Nov-20
Vehicle Type	MPV Hatchback

GVWR (kg)	2480
GAWR Front (kg)	1270
GAWR Rear (kg)	1260

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity	2	3		5	
Capacity Weight (VCW) (kg)				495.0	A
DSC x 68.04 (kg)				340.2	B
Cargo Weight (RCLW) (kg)				136.0	A-B

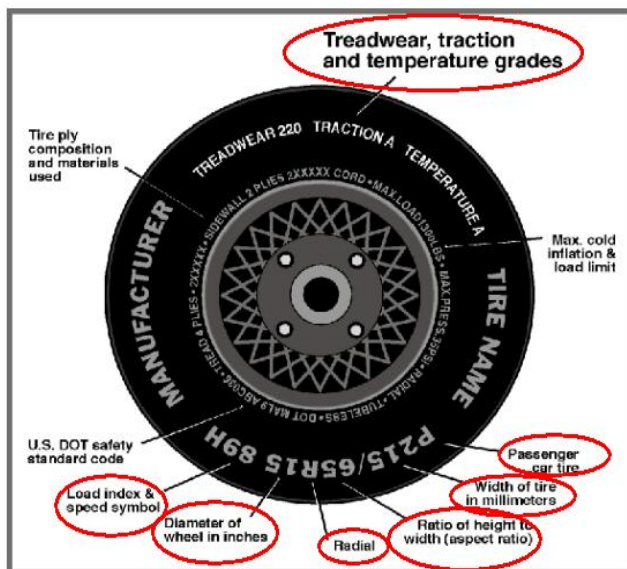
VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						w/ Lever	w/ Knob
Front Seat	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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	350	350
Recommended Tire Size	245/60R18	245/60R18
Tire Size on Vehicle	245/60R18	245/60R18
Tire Manufacturer	Goodyear	Goodyear
Tire Model	Assurance Finesse	Assurance Finesse
Treadware	540	540
Traction Grade	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	105T	105T
Tire Material	Polyester, Steel, Polyamide	Polyester, Steel, Polyamide
DOT Safety Code Left	M683	M683
DOT Safety Code Right	KPTR	KPTR

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

TIRE PRESSURES

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

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	518.0	416.5		548.5	479.5		529.5	507.5	
Right	kg	571.0	364.0		583.5	437.0		569.0	446.0	
Ratio	%	58.3%	41.7%	100.0%	55.3%	44.7%	100.0%	53.5%	46.5%	100.0%
Total	kg	1089.0	780.5	1869.5	1132.0	916.5	2048.5	1098.5	953.5	2052.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1869.5	A
Actual Weight of 1 SID II-s ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	136.0	C
Calculated Vehicle Target Wt (TVTWT)	kg	2054.5	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)*	°	-1.3	0.1	-0.8	Yes
Front Passenger Sill Angle (front-to-rear)*	°	-0.6	-2.0	0.1	Yes
Front Bumper-Line Angle (left-to-right)**	°	1.2	-1.3	0.0	Yes
Rear Bumper-Line Angle (left-to-right)**	°	-0.1	1.0	-0.3	Yes
Vehicle CG (Aft of Front Axle)	mm	1240	1328	1380	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	0	3	9	

*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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Spare Tire and Tools	21.0
Trim	7.0
Ballast / Equipment Added	68.0

Test Height Adjustable Setting (If Applicable)	
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DATA SHEET NO. 2

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

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

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	3.9	0.0	2.0
Front Passenger Seat	4.8	0.0	2.4
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	2.0	260	Max			
			Mid	262	260	257
			Min			
Front Passenger Seat	2.4	728	Max			
			Mid	730	728	729
			Min			
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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

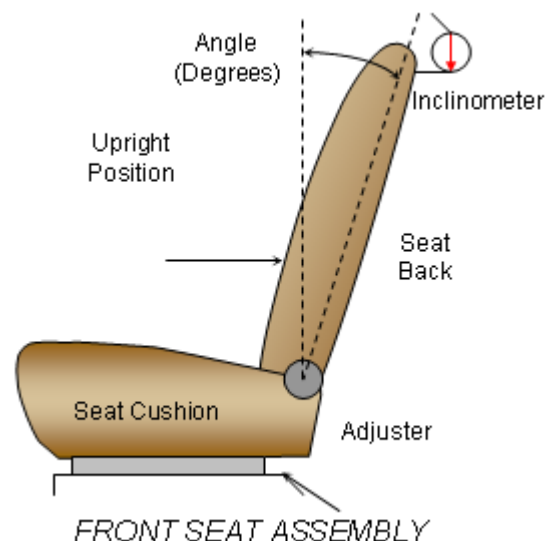
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	255	39	0	0
Front Passenger Seat	255	39	0	0
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

*Detent zero (0) is the forward most detent

SEAT BACK ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front passenger's seat back is positioned in a similar manner to the driver's seat. The struck side rear passenger seat back is positioned in accordance with the information provided by the manufacturer in Form 1 for the 5th percentile female dummy in a Side NCAP MDB Test. The rear center and non-struck side rear passenger's seat back is set to match the struck side rear seat back. Seat back angle is measured from the headrest post.



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degree	Detent*
Driver Seat w/Seated Dummy	59.4	33	7.1	3
Front Passenger Seat	61.8	35	7.1	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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

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	L

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	3	L

DATA SHEET NO. 2 ... (CONTINUED)

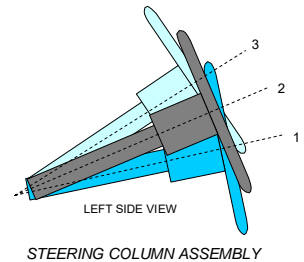
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

STEERING COLUMN ADJUSTMENT

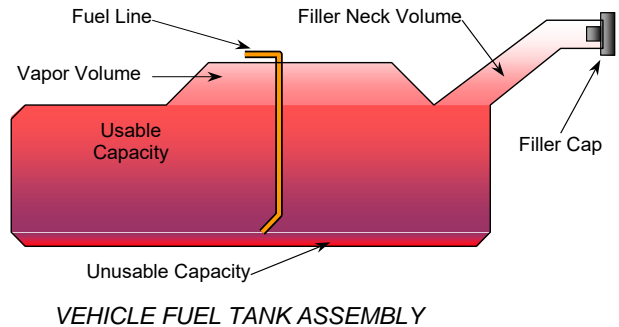
Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.

	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	23.0	78
Geometric Center - Position 2	25.7	107
Uppermost - Position 3	28.4	135
Telescoping Steering Wheel Travel		57
Test Position	25.7	107



FUEL PUMP

The vehicle is equipped with an electronic fuel pump. The pump operates a few seconds after the ignition switch is turned ON. After that the pump operates only while the engine is running.



FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	70.40
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	70.40
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	65.48
Actual amount of Solvent Used in Test	65.48
1/3 of Usable Capacity	23.47

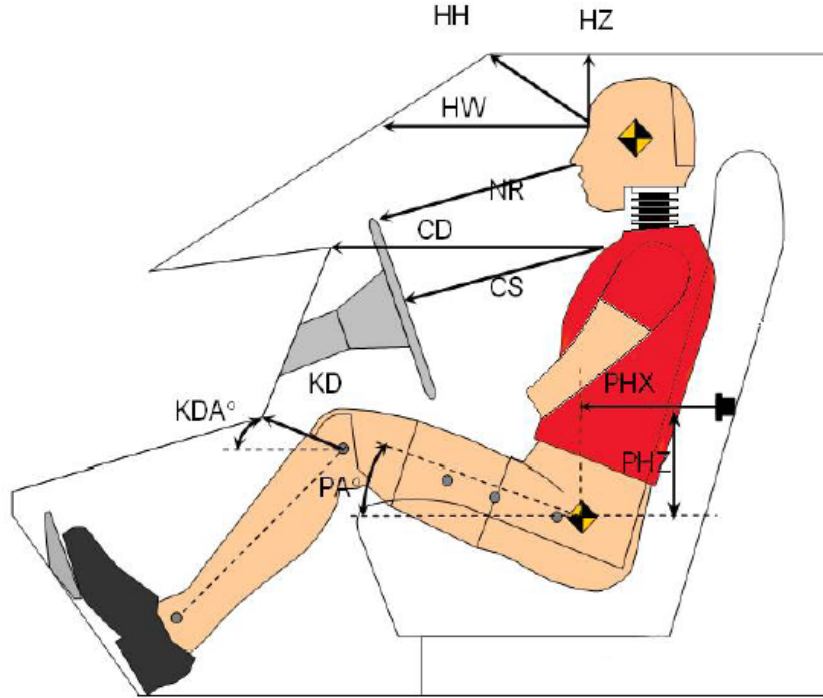
Is the Actual Amount of Solvent Used in the test equal to 93% ± 1% of the Usable Capacity stated in the Form No. 1? Yes No

DATA SHEET NO. 3

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



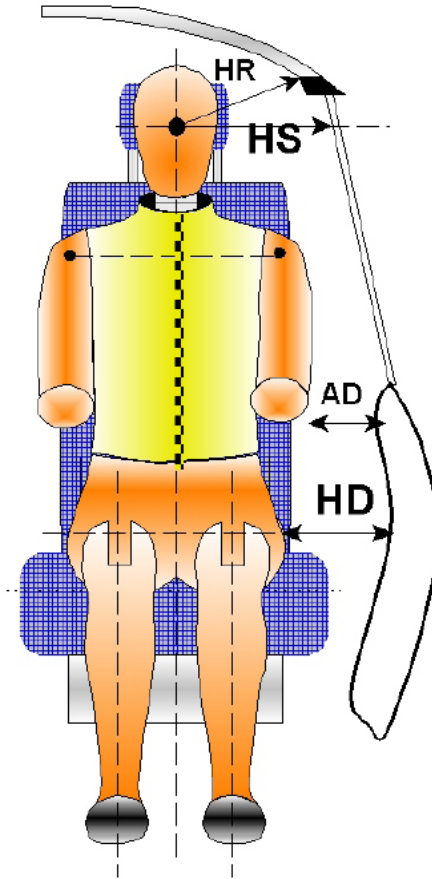
Driver Code	Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	324	
HW	Head to Windshield	620	
HZ	Head to Roof	224	
NR	Nose to Rim	236	
CD	Chest to Dash	420	
CS	Chest to Steering Wheel	172	
KD(L)/KDA(L)°	Left Knee to Dash	124	46.2
KD(R)/KDA(R)°	Right Knee to Dash	116	43.2
PAX°	Pelvic Tilt Angle (x-axis)		20.2
PAY°	Pelvic Tilt Angle (y-axis)		0.4
PHX	Hip Point to Striker (x-axis)	367	
PHZ	Hip Point to Striker (z-axis)	227	

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

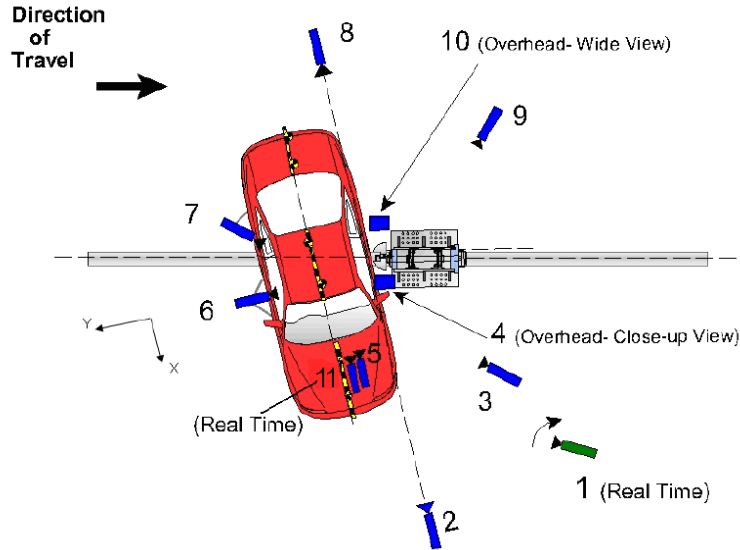


Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	284
HS	Head to Side Window	mm	418
AD	Arm to Door	mm	196
HD	Hip Point to Door	mm	264

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



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	24	1000
3	Impact Side 45° - Forward Pole View	4.10	-2.15	-1.15	8.5	1000
4	Overhead Close-Up View of Impact	0.00	0.00	-5.79	12.5	1000
5	On-Board - Dummy Front View	1.25	0.51	-1.43	8.5	1000
6	On-Board - Dummy Side View	0.07	1.66	-1.14	8.5	1000
7	On-Board - Dummy Rear Oblique View	-1.00	1.65	-1.16	8.5	1000
8	Rear Ground Level - Impact View	-6.12	-6.23	-0.96	24	1000
9	Impact Side 45° - Rearward Pole View	-8.02	0.04	-1.01	35	1000
10	Overhead Wide View of Impact	-0.06	0.22	-5.79	14	1000
11	Real Time Dummy Front View	1.24	0.58	-1.42		30

*All measurements accurate to ±6 mm

INSTRUMENTATION

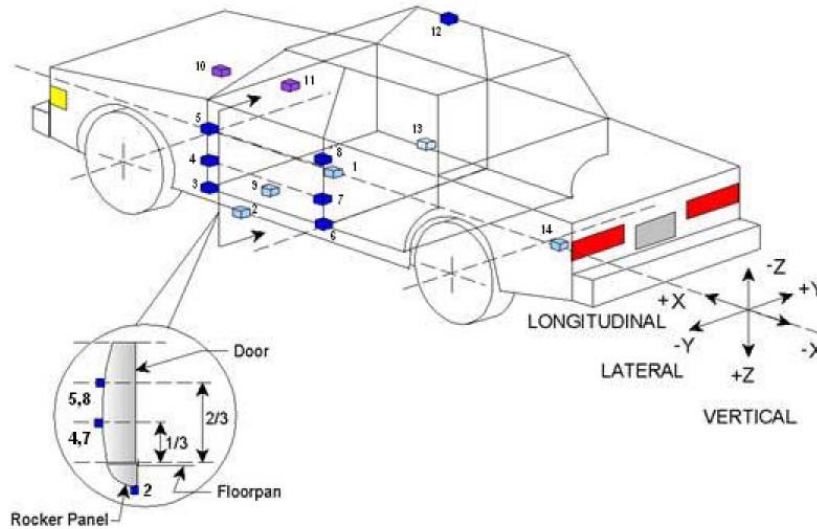
Driver Dummy Channels	19
Vehicle Structure Accelerometers	18
Pole Load Cells	8
Total	45

DATA SHEET NO. 6

TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

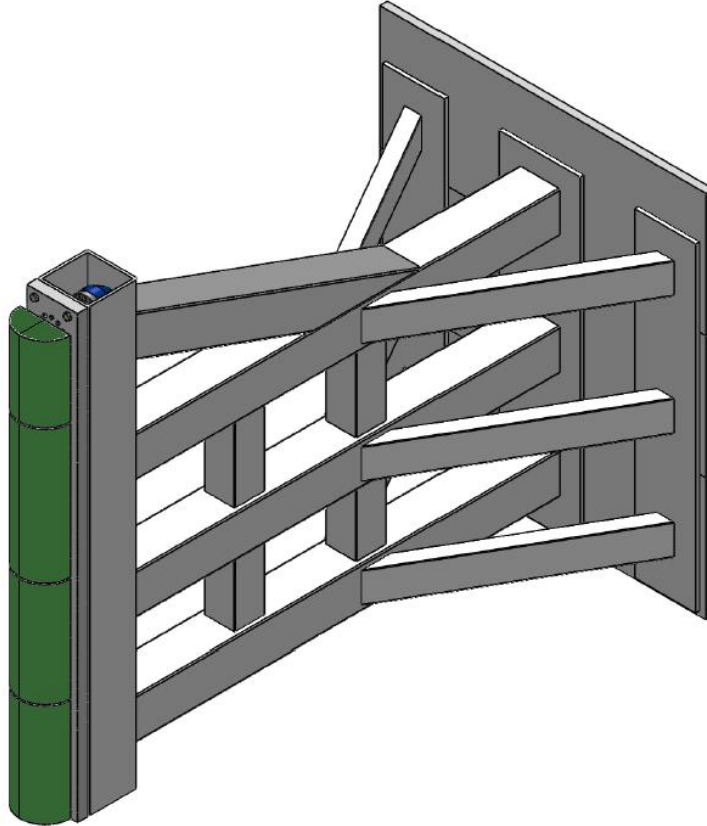


Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2601	0	950
2	Left Floor Sill	1401	-815	540
3	A-Pillar Sill	1315	-790	440
4	A-Pillar Low	1325	-790	860
5	A-Pillar Mid	1335	-790	1020
6	B-Pillar Sill	2520	780	450
7	B-Pillar Low	2530	780	870
8	B-Pillar Mid	2540	780	1120
9	Driver Seat Track	1930	310	400
10	Engine Top	800	120	1190
11	Firewall	1200	390	990
12	Right Roof	2450	660	1820
13	Right Floor Sill	1403	815	545
14	Rear Floorpan	3670	-115	640

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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	Curtain Airbag
Top of Head	Curtain Airbag, Headrest
Left Side of Head	Curtain Airbag
Back of Head	Headrest, Seatback
Left Shoulder	Side Airbag
Upper Torso	Side Airbag
Lower Torso	Side Airbag
Left Hip	Side Airbag
Left Knee	Door Panel

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	Yes	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	No	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: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
 Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No separation occurred
Sill Separation	No separation occurred
Windshield Damage	Broken
Side Window Damage	Left front window 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	No	No	N/A
Knee Airbag	No	N/A	No	N/A
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
Seat Belt Load Limiter	Yes	Yes	No	N/A

IMPACT POINT LOCATION DATA

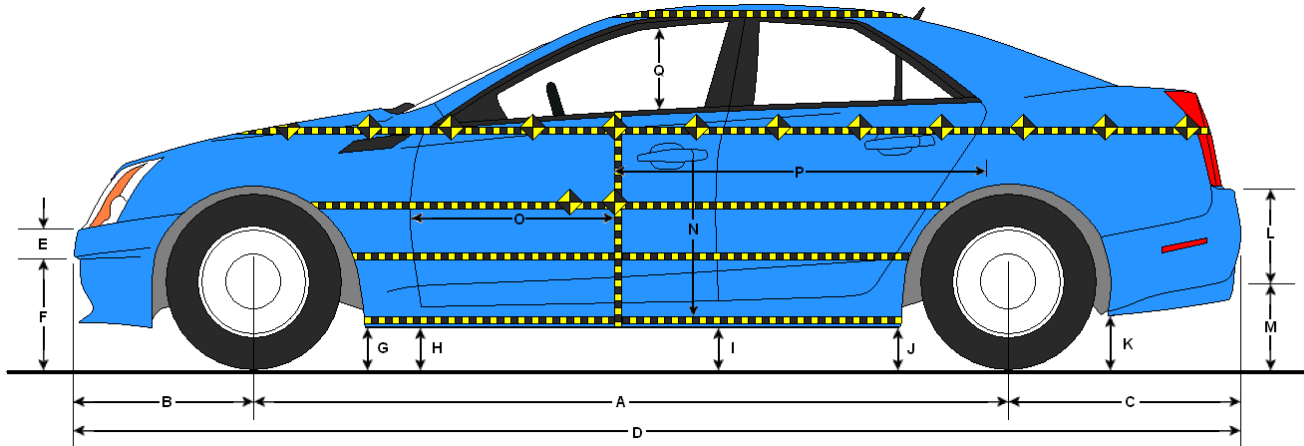
Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1130
Actual Impact Point (Aft of Front Axle)	mm		1126
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	4
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	74.8
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.67
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.65

DATA SHEET NO. 9

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



LEFT SIDE VIEW

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

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2969	2916	-53
B	Front Axle to FSOV	969	1001	32
C	Rear Axle to RSOV	1015	1011	-4
D	Total Length at Centerline	4961	4928	-33
E	Front Bumper Thickness	144	144	0
F	Front Bumper Bottom to Ground	647	618	-29
G	Sill Height at Front Wheel Well	1145	544	-601
H	Sill Height at Front Door Leading Edge	1145	563	-582
I	Sill Height at B-Pillar	1145	611	-534
J1	Sill Height at Rear Wheel Well	650	650	0
J2	Pinch Weld Height at Rear Wheel Well	1145	406	-739
K	Sill Height Aft of Rear Wheel Well	691	684	-7
L	Rear Bumper Thickness	122	121	-1
M	Rear Bumper Bottom to Ground	789	789	0
N	Sill Height to Bottom of Front Window Sill	0	792	792
O	Front Door Leading Edge to Impact CL	-131	505	636
P	Rear Door Trailing Edge to Impact CL	1619	1552	-67
Q	Front Window Opening	0	419	419
R	Right Side Length	3636	3639	3
S	Left Side Length	3633	3564	-69
T	Vehicle Width at B-Pillar	1971	1871	100

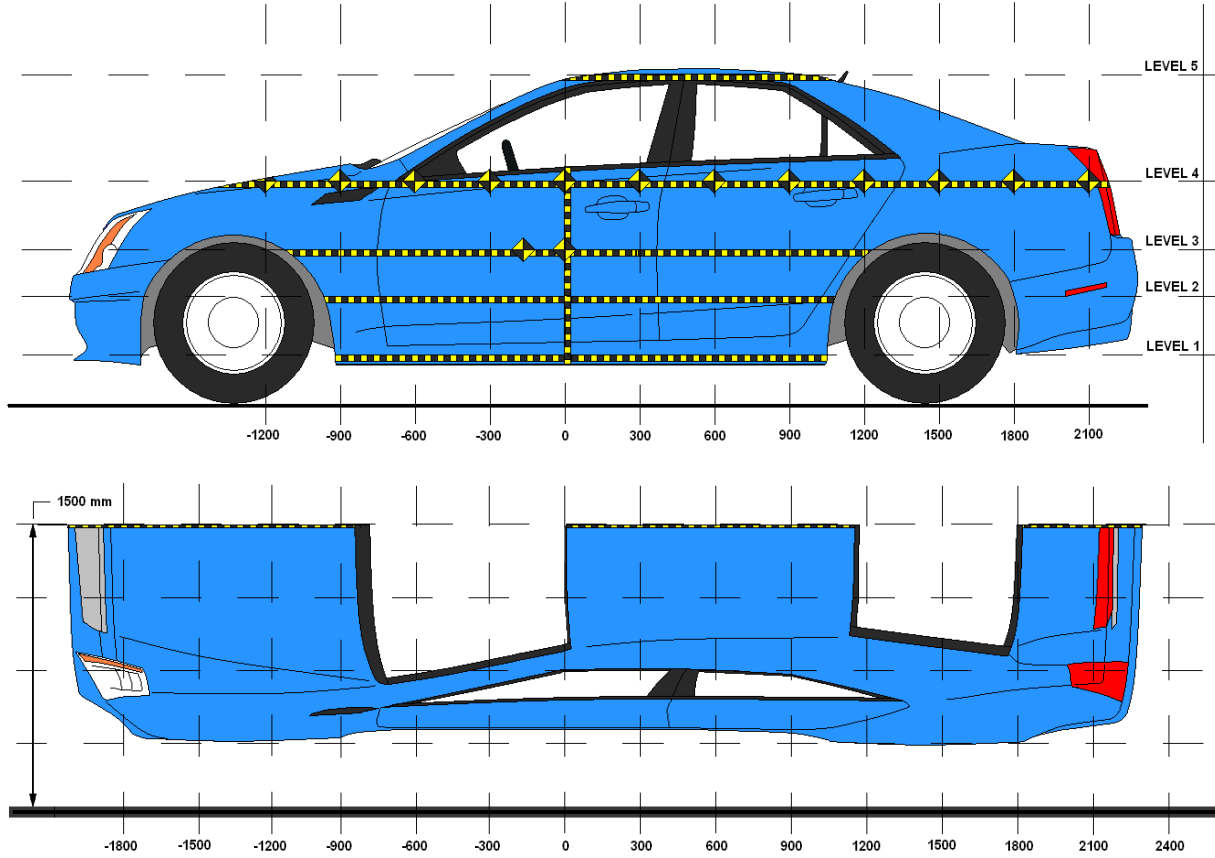
*Max Width = 1979mm

DATA SHEET NO. 10

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



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

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	540	315	0
2	Occupant H-Point	854	319	0
3	Mid-Door	892	320	0
4	Window Sill	1163	299	0
5	Window Top	1750	79	0

DATA SHEET NO. 10 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

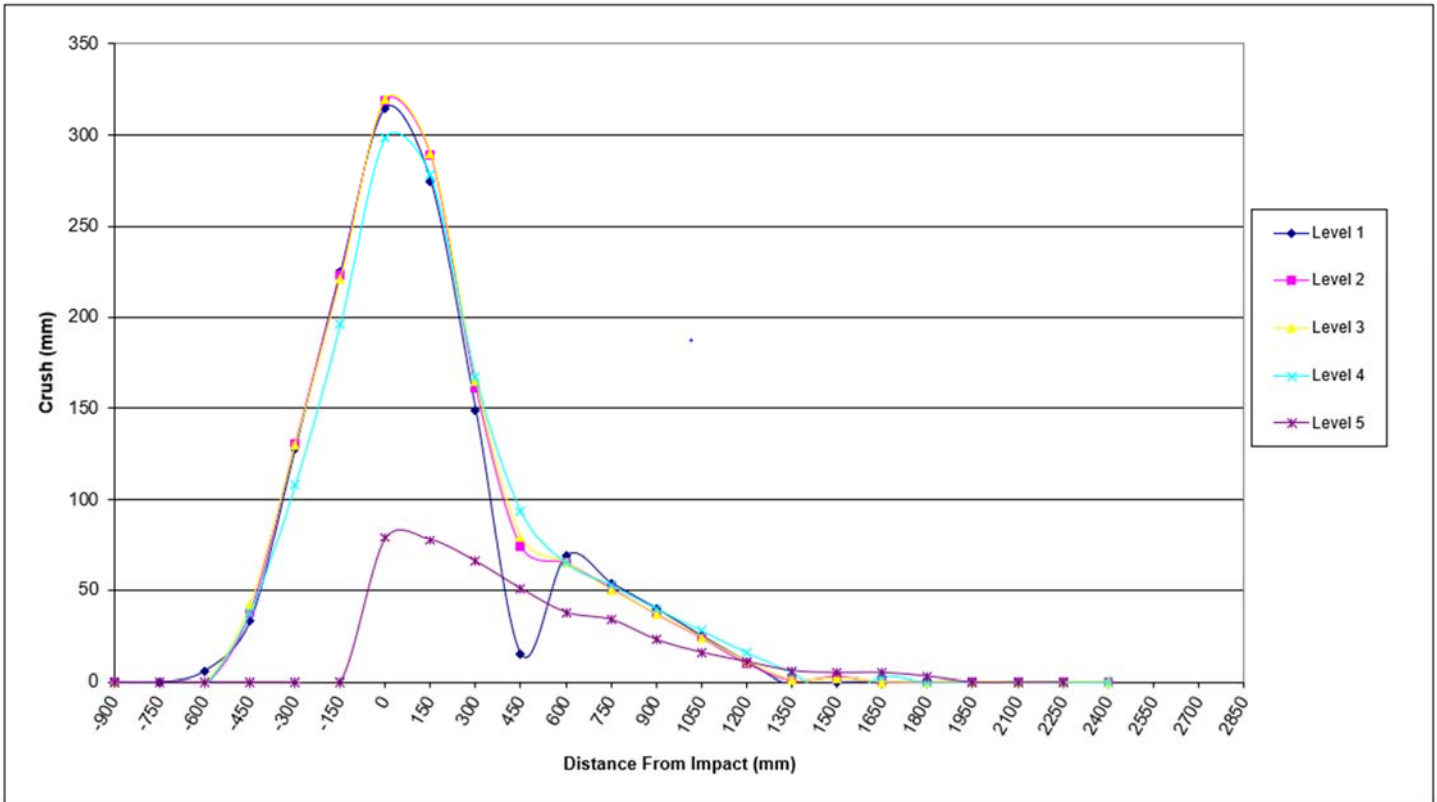
	Pre-Test (mm)					Post-Test (mm)					Difference (mm)				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750		517	514	575			505	507	558			-12	-7	-17	
-600	535	521	522	569		541	519	521	567		6	-2	-1	-2	
-450	529	524	525	563		562	562	567	601		33	38	42	38	
-300	525	522	522	558		653	653	652	666		128	131	130	108	
-150	521	520	521	553		746	743	742	749		225	223	221	196	
0	518	520	520	549	806	833	839	840	848	885	315	319	320	299	79
150	517	520	519	546	813	792	809	809	824	891	275	289	290	278	78
300	515	520	519	546	820	664	681	684	713	886	149	161	165	167	66
450	516	521	520	542	828	531	595	599	636	879	15	74	79	94	51
600	517	523	522	543	832	586	588	587	608	870	69	65	65	65	38
750	518	524	524	541	831	572	575	574	594	865	54	51	50	53	34
900	520	526	526	542	836	560	563	563	582	859	40	37	37	40	23
1050	522	528	528	543	838	547	552	552	571	854	25	24	24	28	16
1200	526	528	528	545	837	537	538	539	561	848	11	10	11	16	11
1350	530	513	514	547	839	528	514	515	552	845	-2	1	1	5	6
1500		511	511	541	839		514	513	533	844		3	2	-8	5
1650				526	840				529	845				3	5
1800					842					845					3
1950															
2100															
2250															
2400															
2550															
2700															
2850															

DATA SHEET NO. 10 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

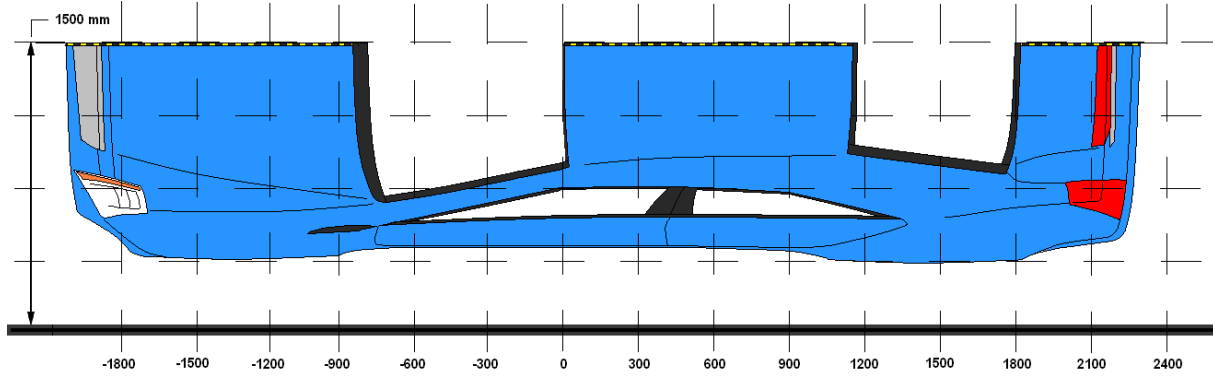


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



DPD	Distance From Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	1800	5	842	845	3
2	1200	4	545	561	16
3	750	1	518	572	54
4	300	4	546	713	167
5	-150	1	521	746	225
6	-750	3	514	507	-7

DATA SHEET NO. 12

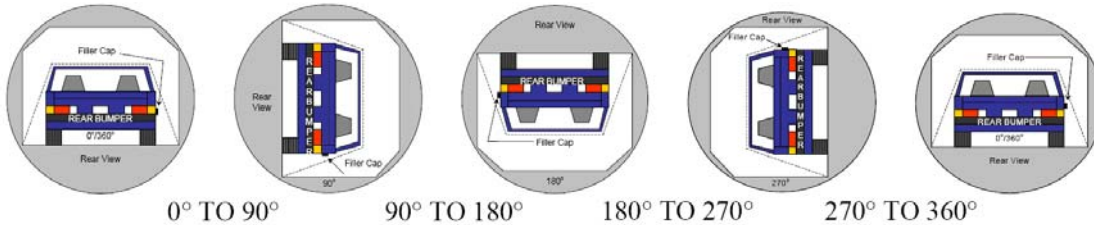
FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801

Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20

Temperature at Time of Impact: 31.7° C Test Time: 10:55 AM

- 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°	78	300	378
90° To 180°	82	300	382
180° To 270°	83	300	383
270° To 360°	76	300	376

FMVSS 301 SPILLAGE TABLE

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

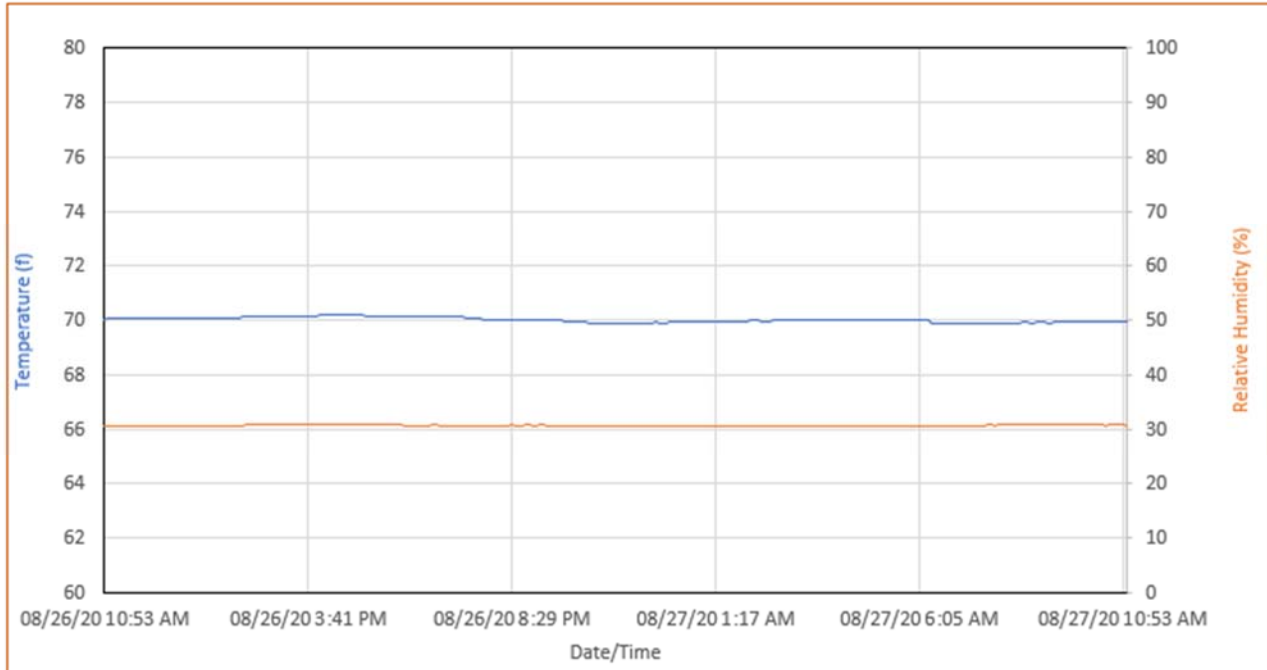
SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° To 90°	No Spillage Occurred
90° To 180°	No Spillage Occurred
180° To 270°	No Spillage Occurred
270° To 360°	No Spillage Occurred

DATA SHEET NO. 13

DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2020 Volkswagen Atlas Cross Sport 5-Door MPV NHTSA No. M20205801
Test Program: NCAP Side Pole Impact Test Test Date: 08/27/20



**APPENDIX A
PHOTOGRAPHS**

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FIGURE 1. As-Delivered Right Front ¾ View of Test Vehicle



FIGURE 2. As-Delivered Left Rear ¾ View of Test Vehicle



FIGURE 3. Pre-Test Frontal View of Test Vehicle



FIGURE 4. Post-Test Frontal View of Test Vehicle



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



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



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



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



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



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



FIGURE 11. Pre-Test Rear View of Test Vehicle



FIGURE 12. Post-Test Rear View of Test Vehicle



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

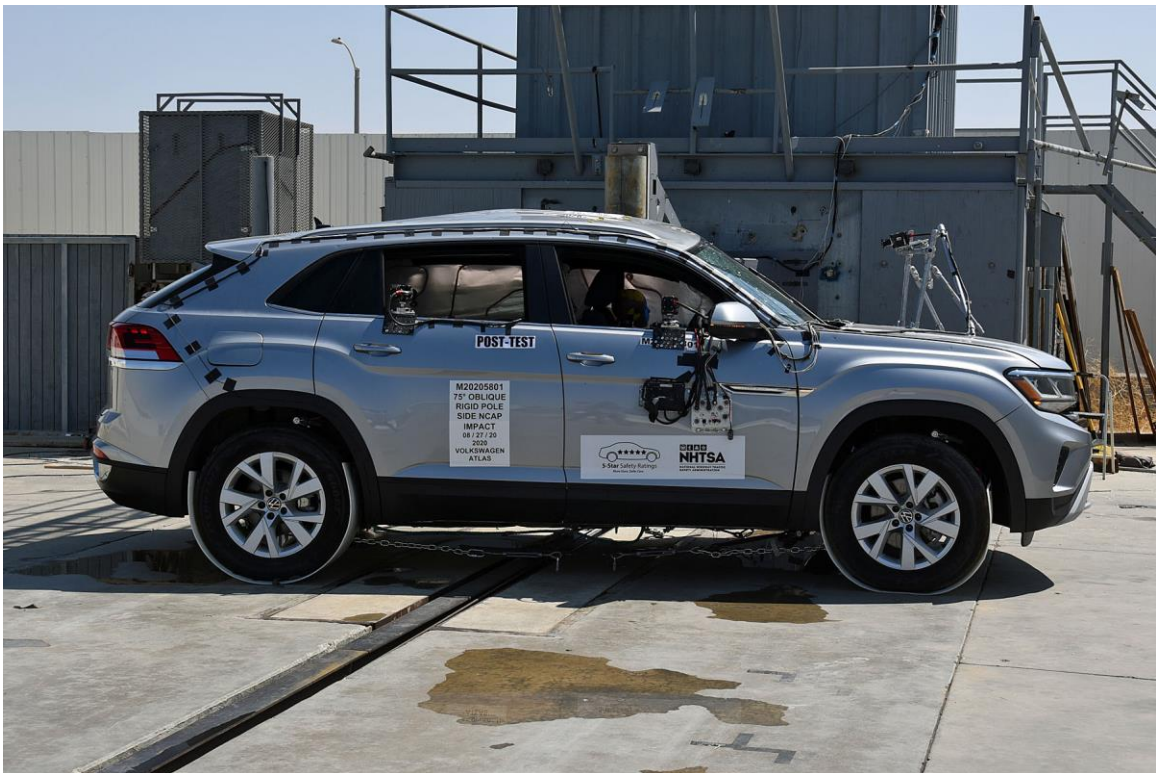


FIGURE 14. Post-Test Right Side View of Test Vehicle

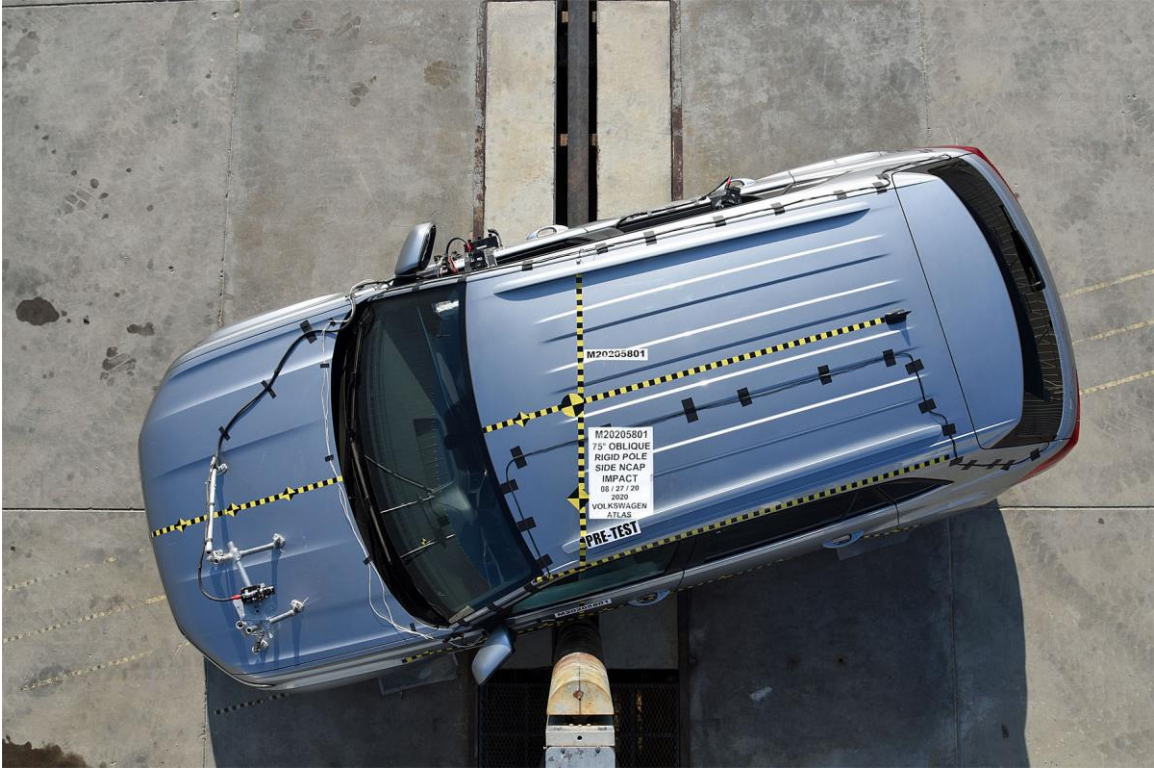


FIGURE 15. Pre-Test Overhead View of Test Area



FIGURE 16. Post-Test Overhead View of Test Area



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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

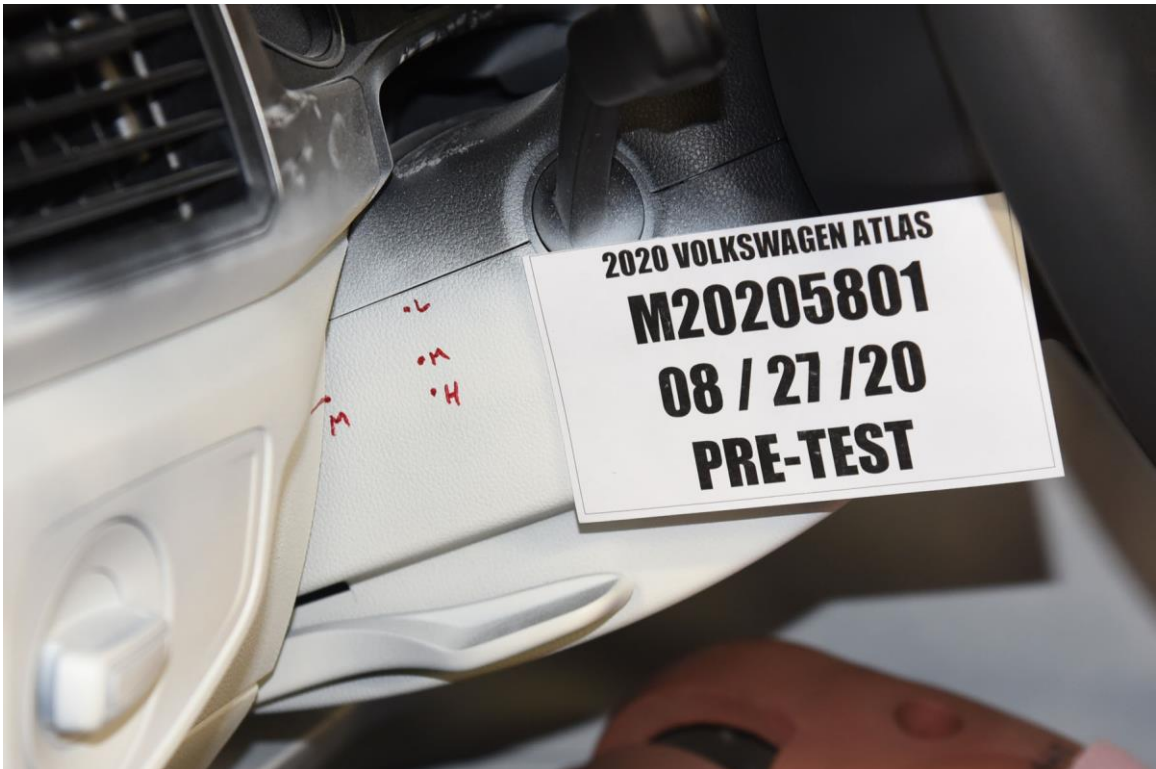


FIGURE 34. Pre-Test Left Side View of Steering Wheel



FIGURE 35. View of Disengaged Parking Brake

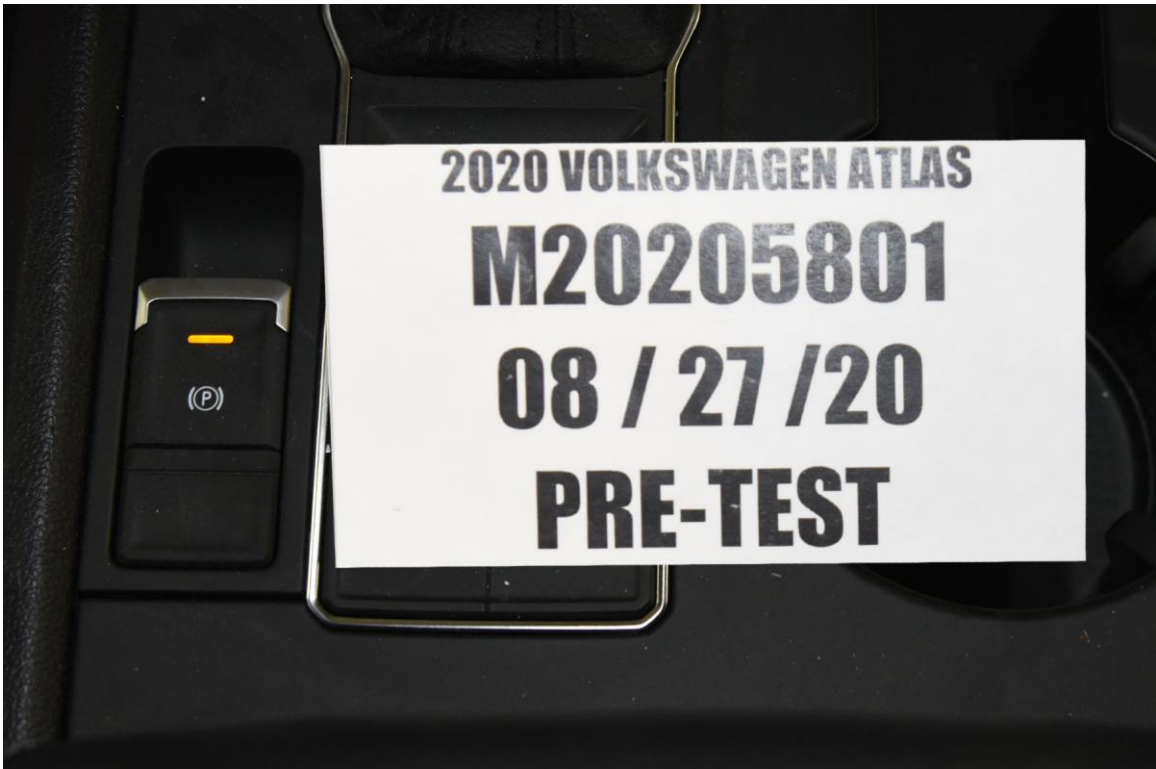


FIGURE 36. Pre-Test View of Parking Brake



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

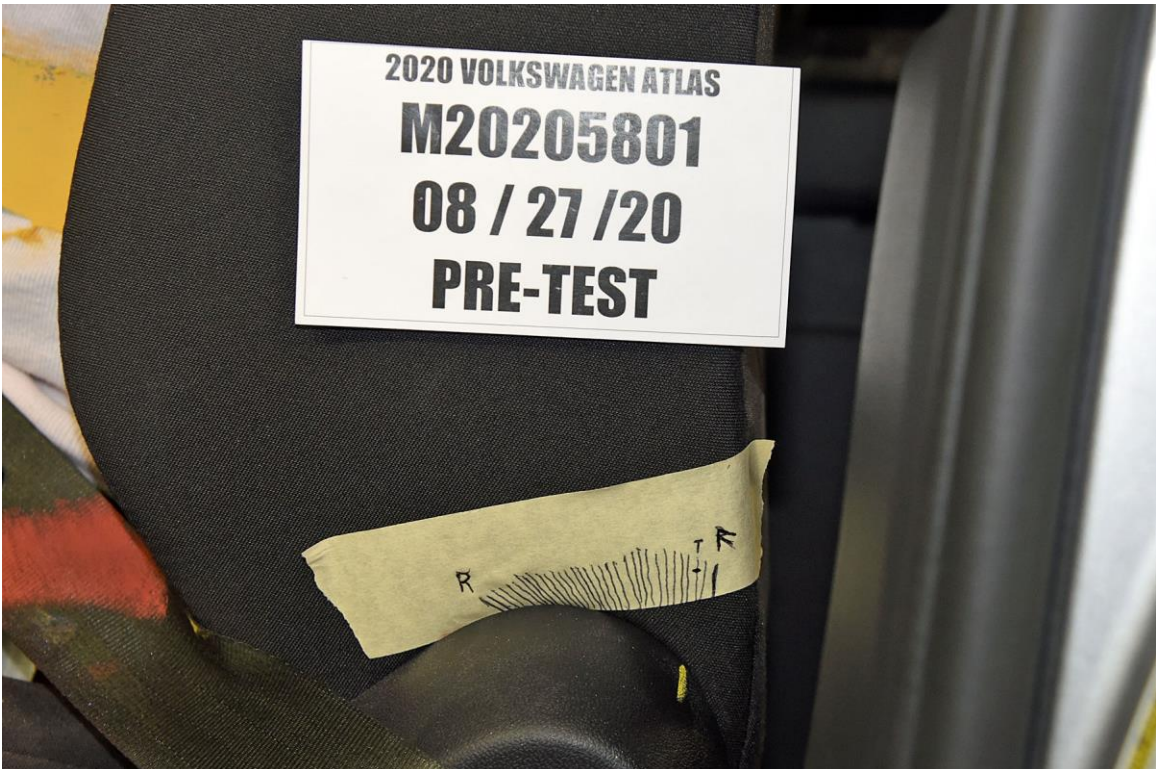


FIGURE 38. Pre-Test Close-Up Left Side View of Driver Seat Back



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



FIGURE 40. Pre-Test Dummy and Door Clearance View



FIGURE 41. Post-Test Dummy and Door Clearance View



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



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



FIGURE 44. Pre-Test Inner Door Panel View



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



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

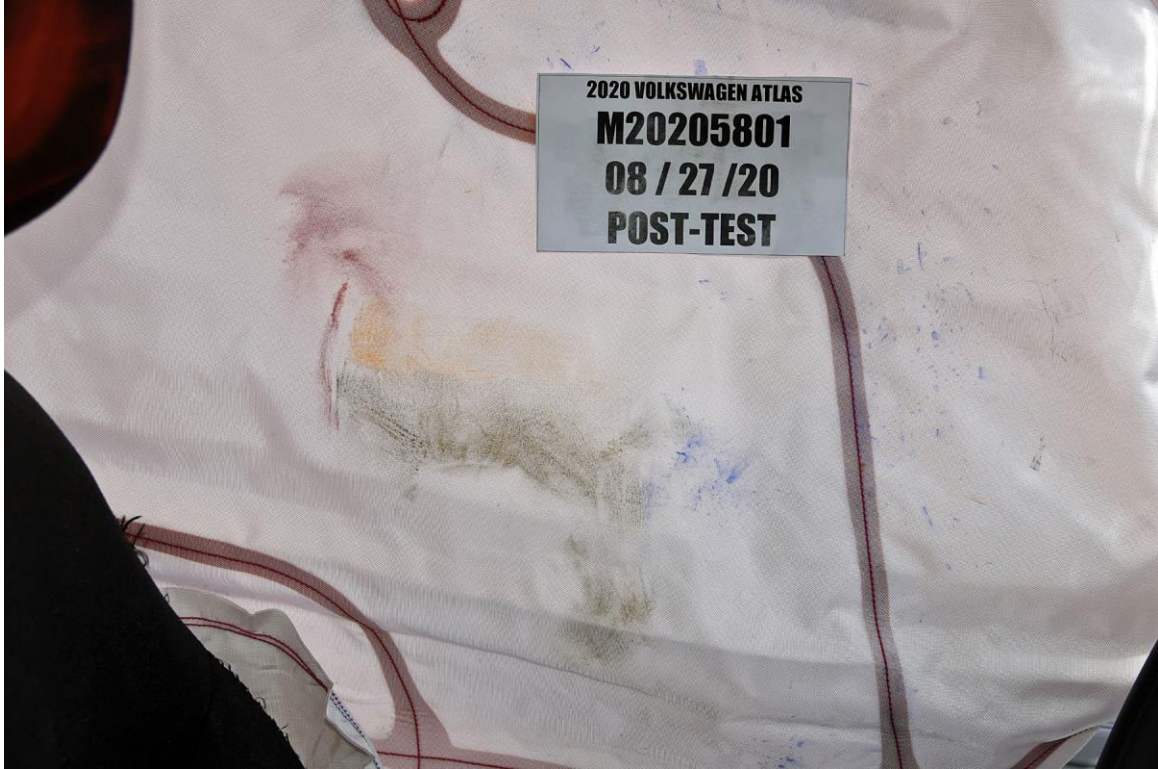


FIGURE 47. Post-Test Dummy Close-Up Head Contact With Side Airbag View



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



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

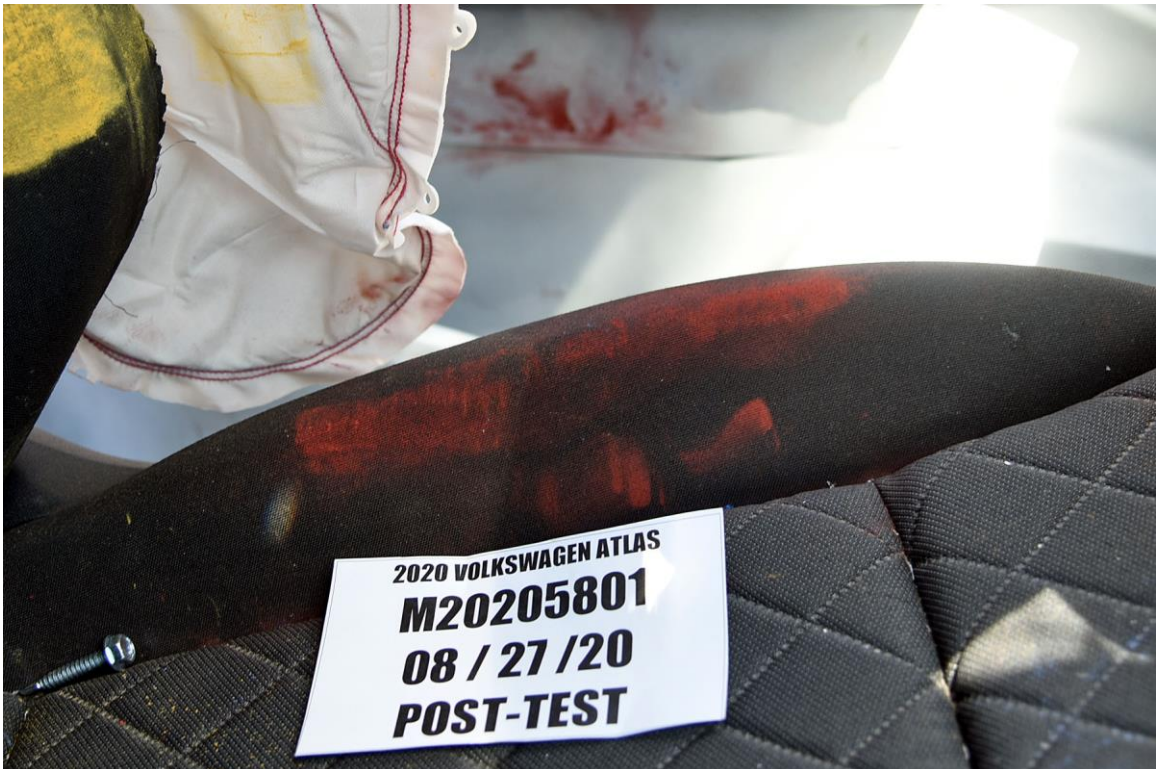


FIGURE 50. Post-Test Dummy Close-Up Pelvis Contact With Vehicle Interior View

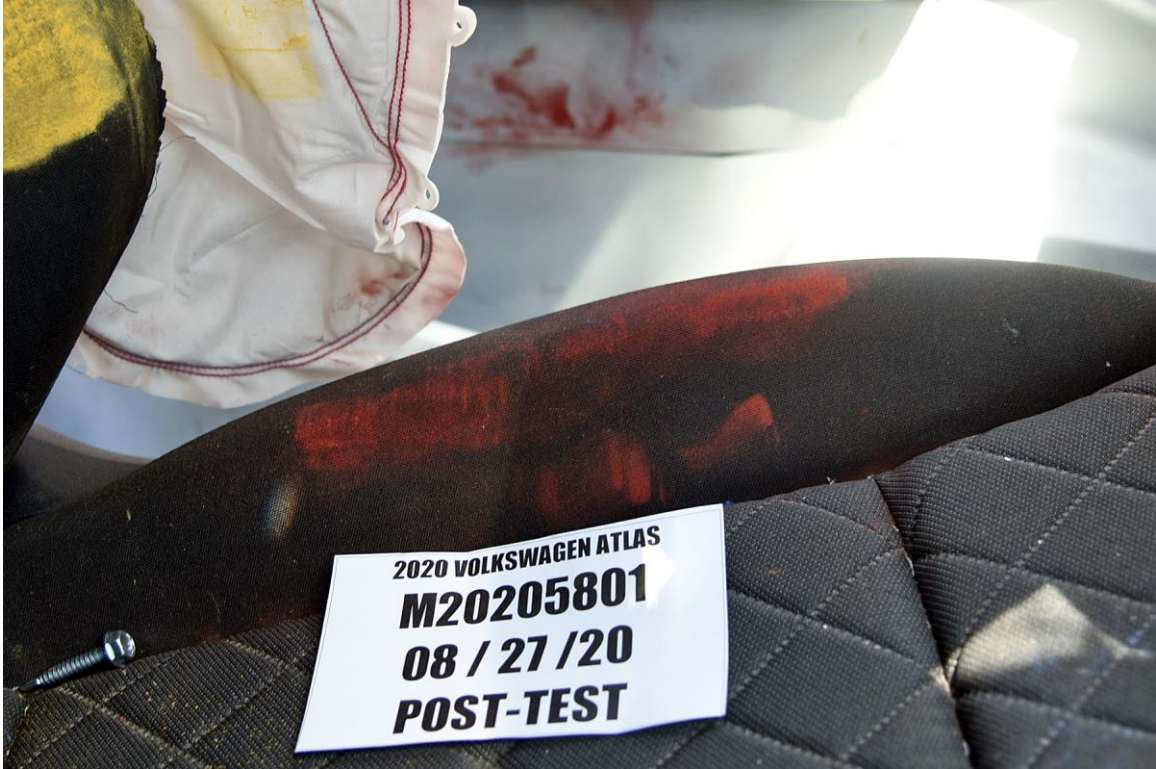


FIGURE 51. Post-Test Dummy Close-Up Pelvis Contact With Side Airbag View



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



FIGURE 53. Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 54. Post-Test View of Fuel Filler Cap or Fuel Filler Neck

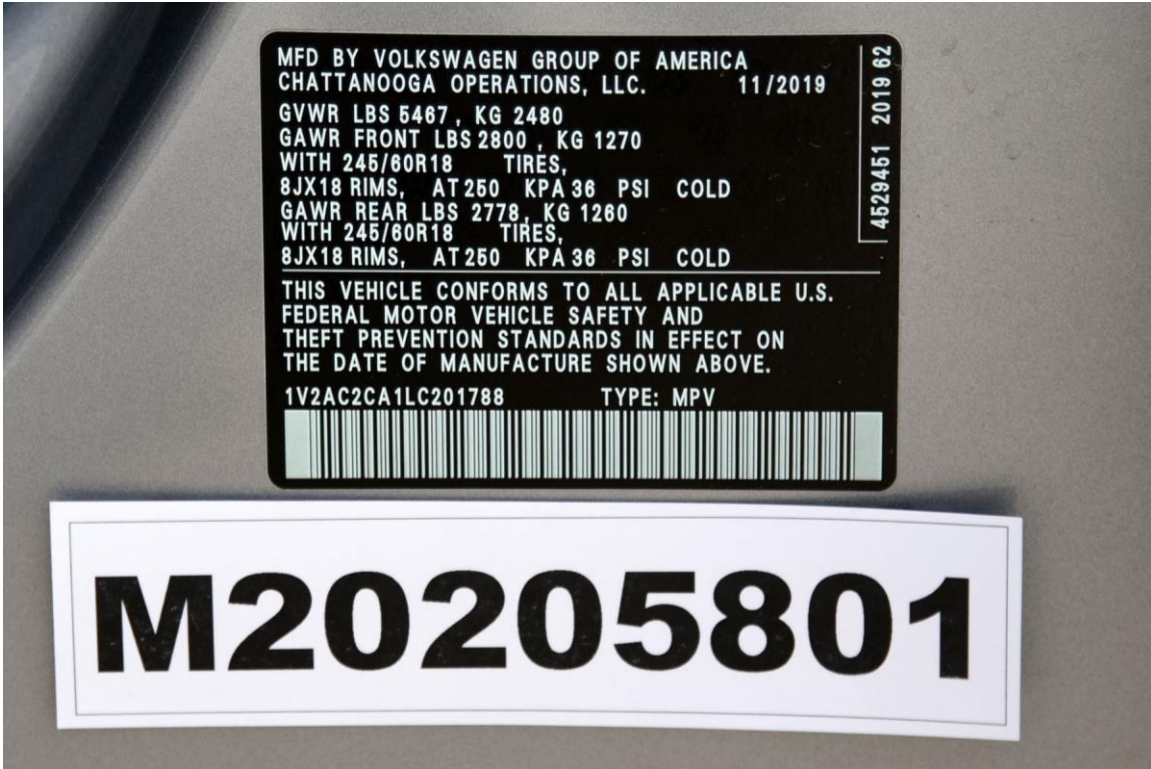


FIGURE 55. Close-Up View of Vehicle's Certification Label



FIGURE 56. Close-Up View of Vehicle's Tire Information Placard or Label



FIGURE 57. Pre-Test Pole Barrier Front View



FIGURE 58. Post-Test Pole Barrier Front View

Photo Not Available

FIGURE 59. Pre-Test Pole Barrier Side View



FIGURE 60. Post-Test Pole Barrier Side View



FIGURE 61. Pre-Test Ballast View



FIGURE 62. Post-Test Primary and Redundant Speed Trap Read-Out



FIGURE 63. FMVSS No. 301 Static Rollover 0 Degrees



FIGURE 64. FMVSS No. 301 Static Rollover 90 Degrees



FIGURE 65. FMVSS No. 301 Static Rollover 180 Degrees



FIGURE 66. FMVSS No. 301 Static Rollover 270 Degrees

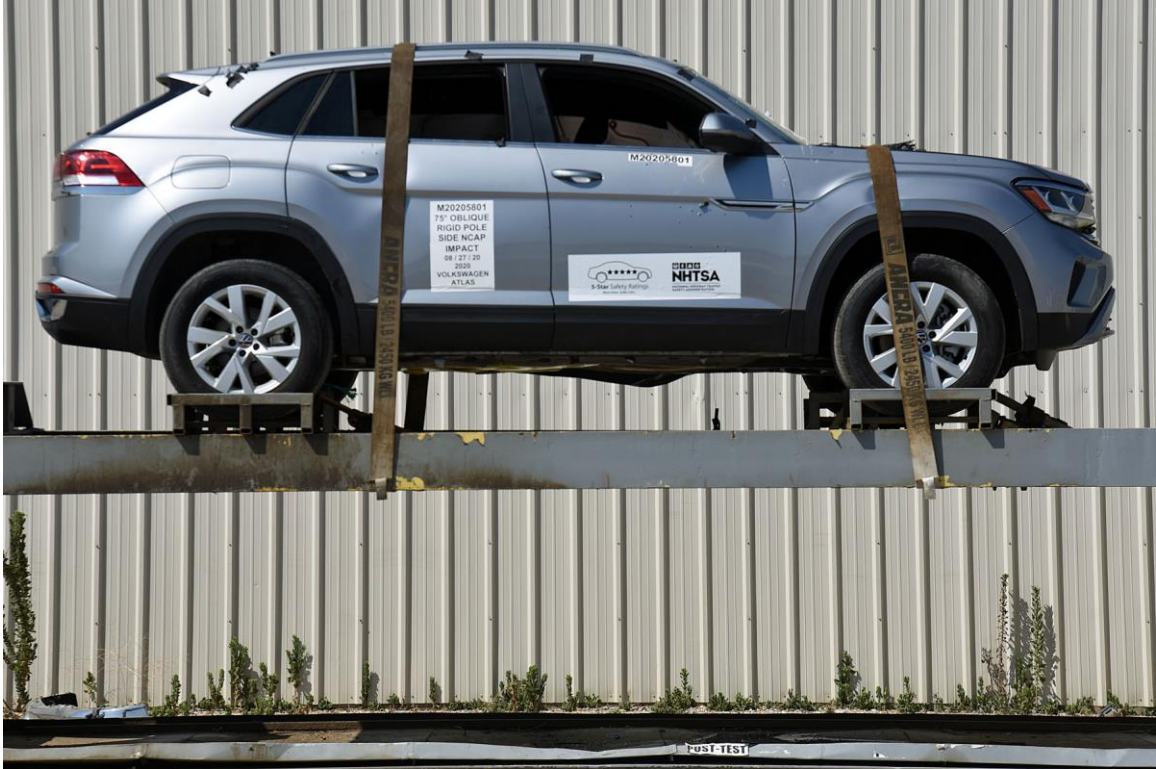


FIGURE 67. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 68. Impact Event

EPA DOT Fuel Economy and Environment Gasoline Vehicle

Fuel Economy **22** ²¹ **24** MPG
combined city/hwy city highway
4.5 gallons per 100 miles

You spend \$1,750 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$1,850

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

1 **4** **10** **1** **3** **10** Best

This vehicle emits 401 grams of 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 27 MPG and costs \$7,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.70 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Calculate personalized estimates and compare vehicles

GOVERNMENT 5-STAR SAFETY RATINGS

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	Not Rated
Driver Passenger	Not Rated
Based on the risk of injury in a frontal impact. Should ONLY be compared to other vehicles of similar size and weight.	
Side Crash	Not Rated
Front Seat Rear Seat	Not Rated
Based on the risk of injury in a side impact.	
Rollover	Not Rated
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 1-888-327-4235

2020 Atlas Cross Sport 2.0T S
Pyrite Silver Metallic Exterior
Titan Black Cloth Interior
8-Speed Automatic w/ Tiptronic® FWD

STANDARD FEATURES (unless replaced by packages or options)

PERFORMANCE

- 2.0L TSI® 16-valve DOHC turbocharged 4-cylinder engine w/ direct fuel injection
- Front-wheel drive
- Engine Start-Stop System
- Four-wheel independent suspension
- Electro-mechanical power steering w/ variable assistance

SAFETY FEATURES

- 3-point safety belts, all seating positions
- Advanced Airbag Protection System w/ 6 airbags
- Anti-lock Braking System (ABS) w/ disc brakes
- Anti-Slip Regulation (ASR), Engine Brake Assist (EBA)
- Electronic Brake-pressure Distribution (EBD), Hydraulic Brake Assist (HBA)
- Electronic Stability Control (ESC), Electronic Differential Lock (EDL)
- Intelligent Crash Response System (ICRS), Automatic Post-Collision Braking System
- Lower Anchors & Tethers for Children (LATCH)
- Rear View Camera System
- Tire Pressure Monitoring System (TPMS)

WARRANTY INFORMATION

- Volkswagen New Vehicle Limited Warranty: 4 years/50,000 miles (whichever occurs first)*
- Includes coverage for powertrain components*
- Limited Warranty against Corrosion Perforation: 7 years/100,000 miles (whichever occurs first)*
- *See owner's literature or dealer for important details and limitations.

CAREFREE SCHEDULED MAINTENANCE

- 2 years/20,000 miles (whichever occurs first)*
- *See owner's literature or dealer for important details and limitations.

24-HOUR ROADSIDE ASSISTANCE

- 3 years/26,000 miles (whichever occurs first), for towing, jump starts, tire changes, out-of-fuel & lock-out**
- **Services provided by third party supplier.
- **See owner's literature or dealer for important details and limitations.

EXTERIOR

- 18" alloy wheels w/ all-season tires
- Automatic LED headlights & LED Daytime Running Lights (DRL), LED taillights
- Integrated fog & cornering lights
- Heated, foldable, power adjustable side mirrors w/ integrated turn signals
- Rain-sensing, variable intermittent front wipers
- Rear window washer & wiper
- Silver roof rails

INTERIOR

- Manual climate control w/ 2nd-row air vents
- 3-spoke steering wheel, multi-function
- Tilt & telescoping adjustable steering column
- Driver's seat: 6-way manual, includes height adjustment
- Front pass. seat: 6-way manual, includes height adjustment
- Rear seat: 60/40 split-folding, folds flat & reclines
- Cloth seating surfaces
- Center console w/ dual USB data & charging ports, cup holders, armrest & storage
- Unlimited, capped cargo area w/ tie-down hooks & 12V power port
- Lockable glove compartment
- Auto-dimming interior rearview mirror
- Reading lights, 1st & 2nd row

TECHNOLOGY & CONVENIENCE

- Forward Collision Warning & Autonomous Emergency Braking w/ Pedestrian Monitoring (Front Assist)
- Blind Spot Monitor & Rear Traffic Alert
- Hill Hold Control
- Power door locks w/ remote featuring panic button
- Composition Color: 6.5" touchscreen AM/FM radio w/ USB inputs
- 5-speaker sound system
- Bluetooth® connectivity (for compatible devices)
- VW App-Connect® (Smartphone Integration & Interface)
- Cruise control
- Color multi-function display (MFD) w/ trip computer
- Electric parking brake

PACKAGES & OPTIONS

Package/Option	Price
Pyrite Silver Metallic Exterior	No Charge
Titan Black Cloth Interior	No Charge
Monitor Mats® (set of 4) & Heavy Duty Trunk Liner w/ VW CarGo Blocks	\$235.00
Volkswagen Prepaid Scheduled Maintenance w/ 30,000-mile services for 30/30	\$195.00
Roadside Assistance 24/7	\$85.00
8-Speed Automatic w/ Tiptronic® FWD	No Charge

Base Manufacturer's Suggested Retail Price: \$30,545.00

Destination Charge: \$1,020.00

Total Manufacturer's Suggested Retail Price: \$32,080.00
Does not include: tax, license, title or registration fees, basic dealer fees, or any options or items not listed above.

Ready to make this your new ride? Apply now with Volkswagen Credit!

SOLD TO: 405072
TOM BUSH VOLKSWAGEN
8902 ATLANTIC BLVD
JACKSONVILLE, FL 32225

SHIP TO: 405072
TOM BUSH VOLKSWAGEN
8902 ATLANTIC BLVD
JACKSONVILLE, FL 32225

Port of Entry: CHATTANOOGA

PARTS CONTENT INFORMATION

For vehicles in this country:

- U.S./CANADIAN
- MEXICO 18%
- GERMANY 19%

Major sources of foreign parts content:

- U.S./CANADIAN
- MEXICO 18%
- GERMANY 19%
- JAPAN

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

For this vehicle:
Final assembly point: CHATTANOOGA TN, U.S.A.
Country of origin: GERMANY
ENGINE: GERMANY
TRANSMISSION: JAPAN

VIN: 1Y2AC2CA1LC201788
COMM. NUMBER: XD6682

Equipped with Next Generation VW Car-Net™
All services require acceptance of Terms of Service.
Some services require a paid subscription.
See dealer or visit www.vw.com/car-net for details.

car-net

FIGURE 69. Monroney Label

Photo Not Available

FIGURE 70. Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

Photograph Not Applicable

FIGURE 71. 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 Upper Thorax Rib Deflection (Y)	B-3
10	Driver Middle Thorax Rib Deflection (Y)	B-3
11	Driver Lower Thorax Rib Deflection (Y)	B-3
12	Driver Upper Abdomen Rib Deflection (Y)	B-3
13	Driver Lower Abdomen Rib Deflection (Y)	B-4
14	Driver Acetabulum Force on Impact Side (Y)	B-4
15	Driver Iliac Wing Force on Impact Side (Y)	B-4
16	Driver Total Pelvis Force on Impact Side (Y)	B-4

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)

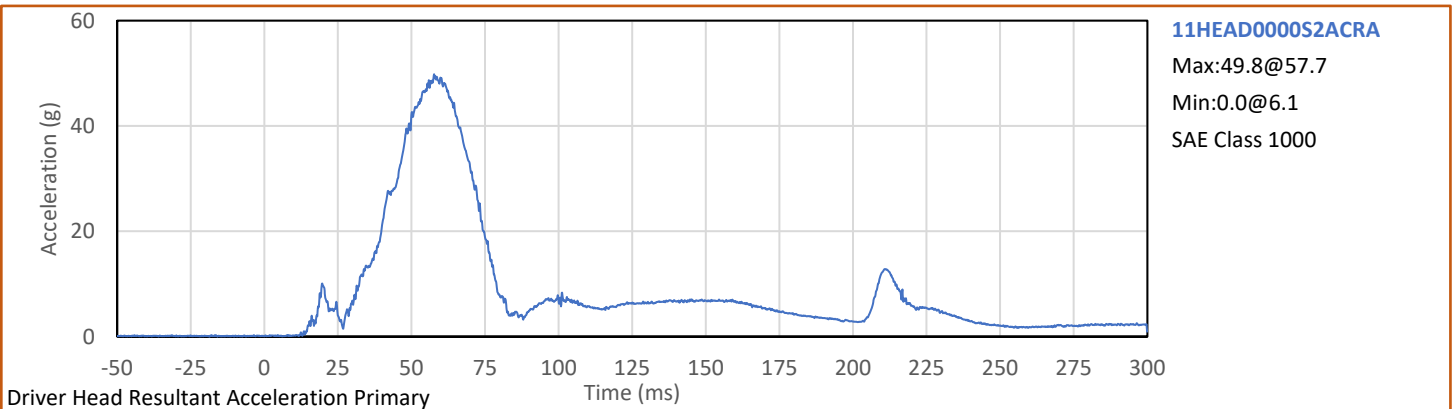
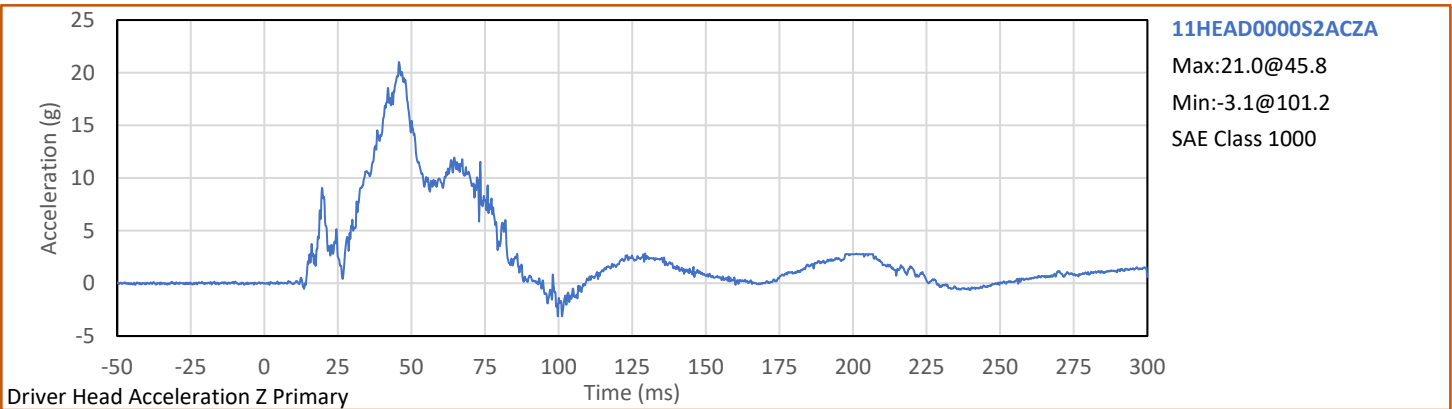
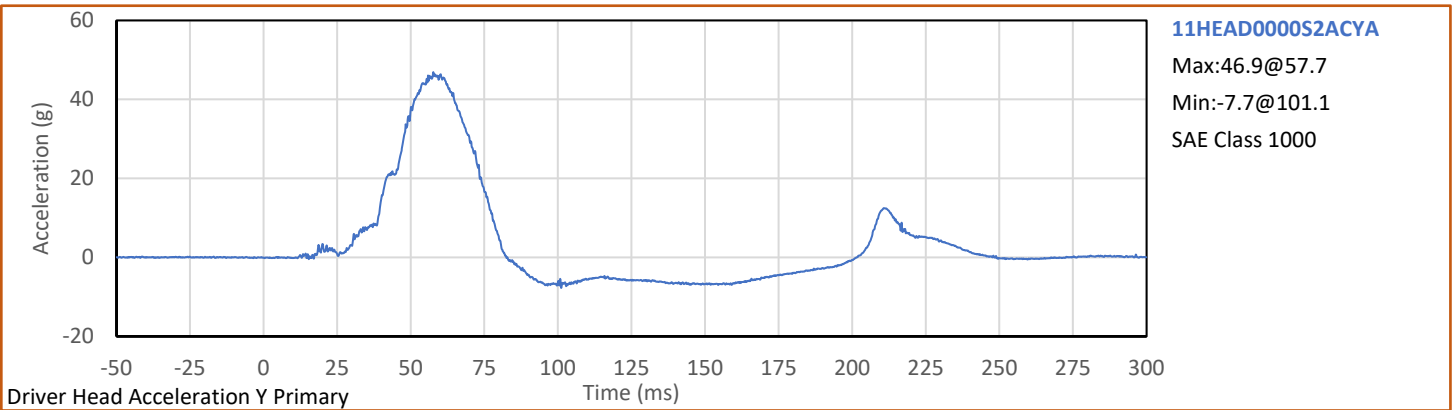
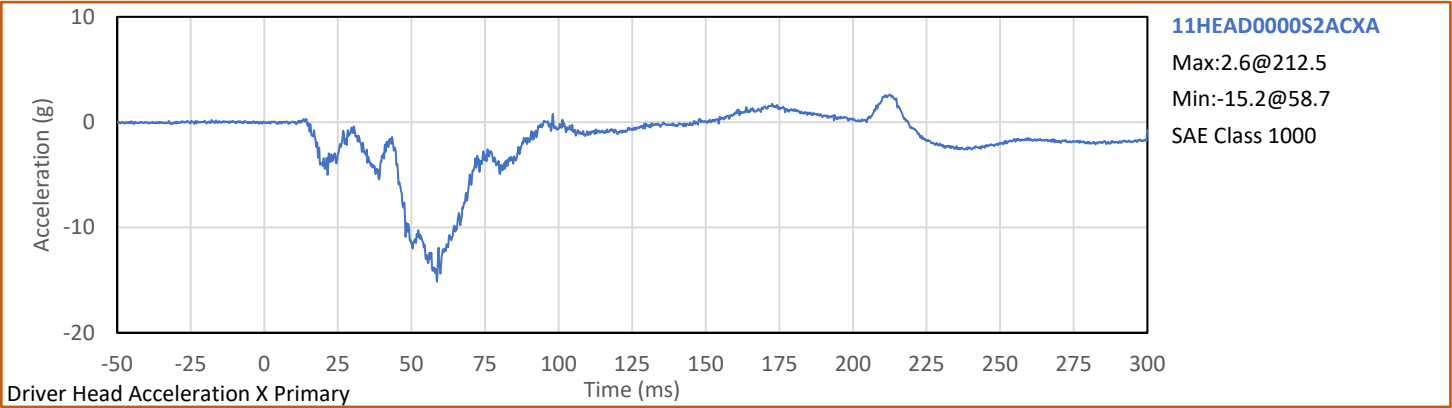
Driver Head Acceleration Redundant (Z)

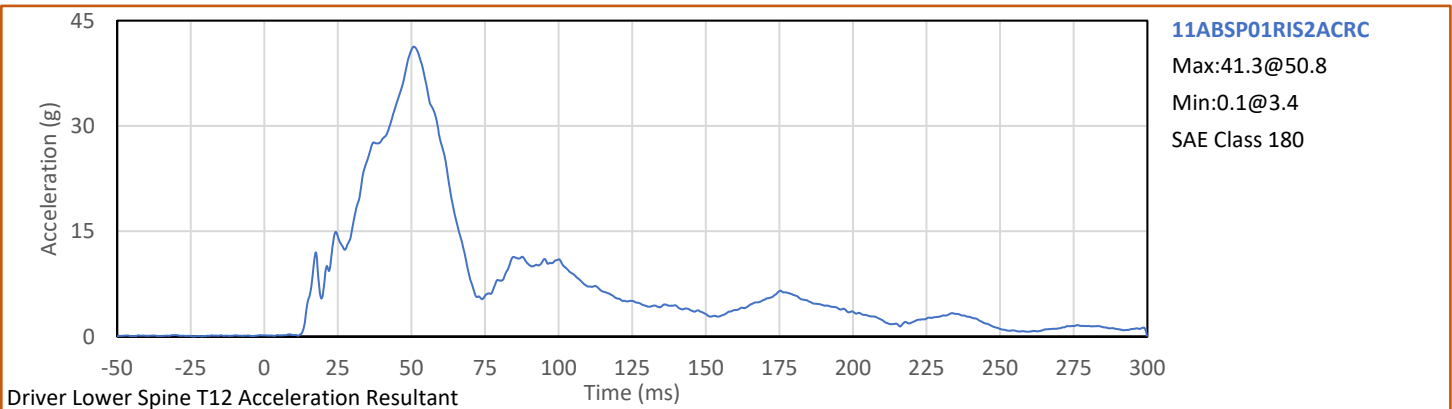
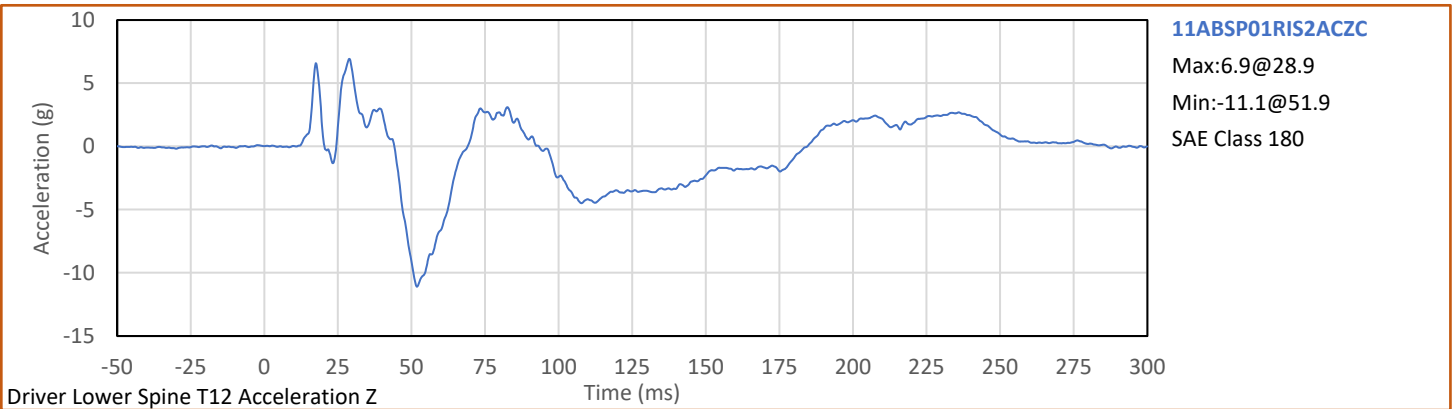
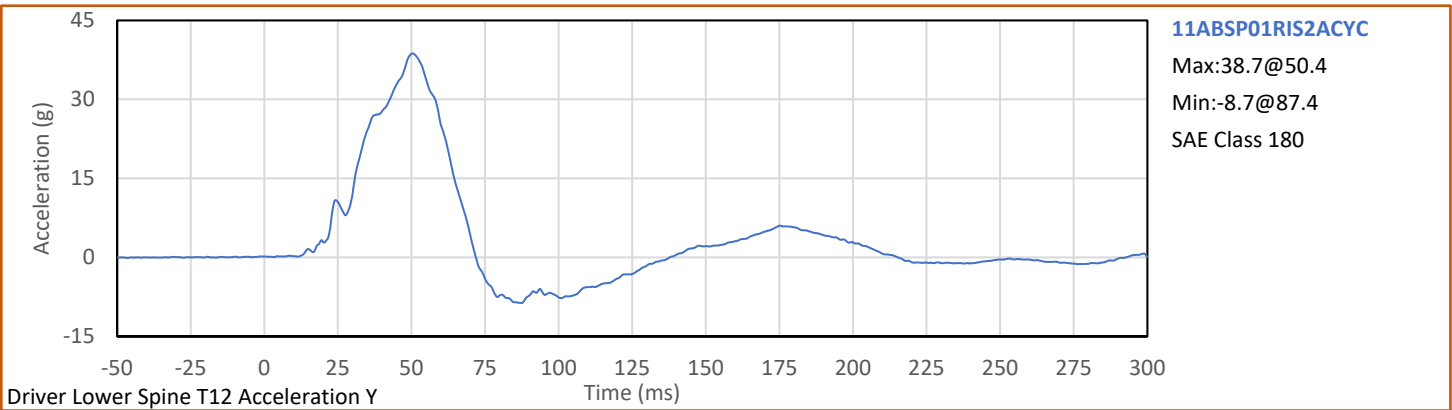
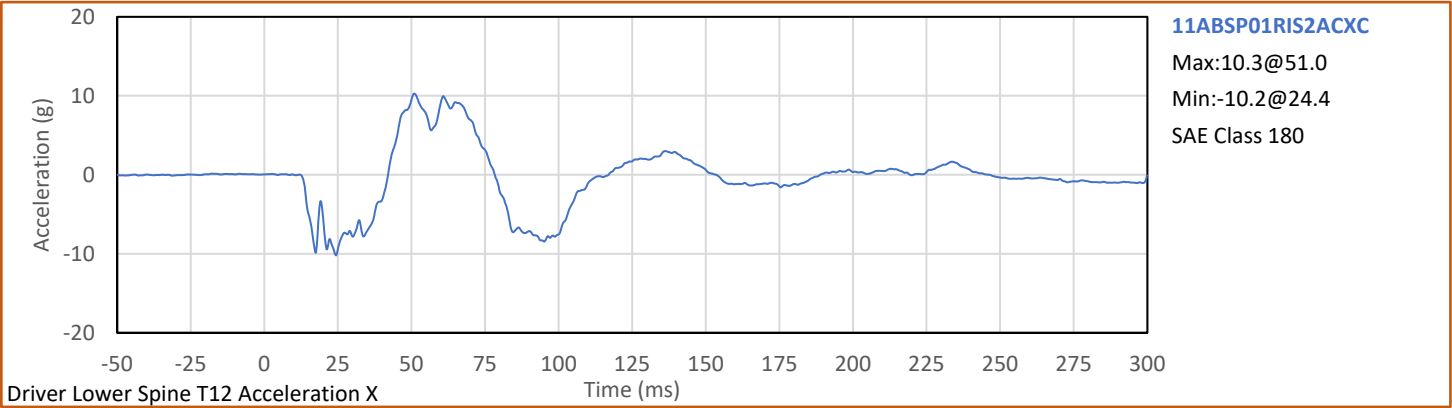
Vehicle Instrumentation Data

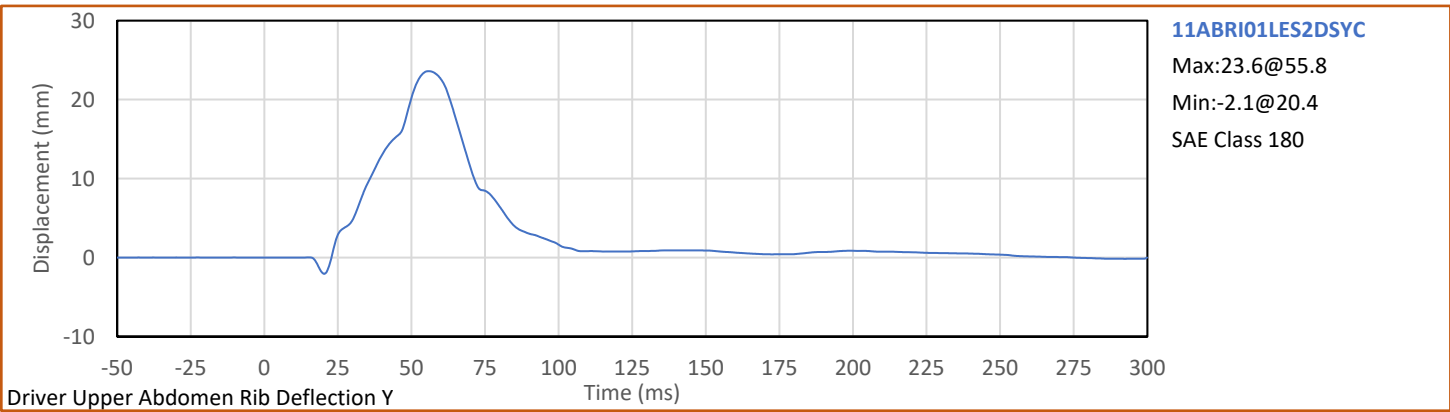
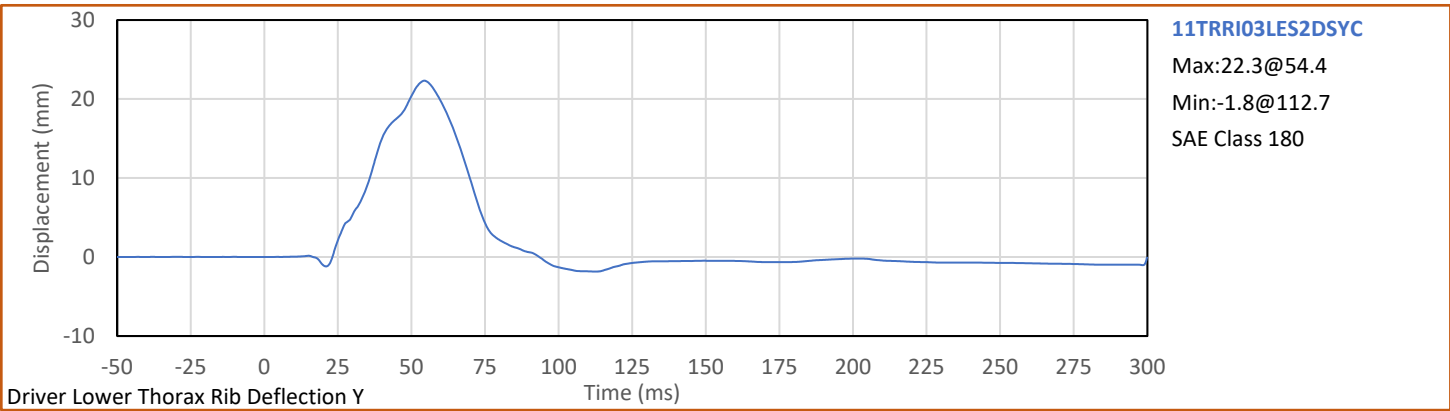
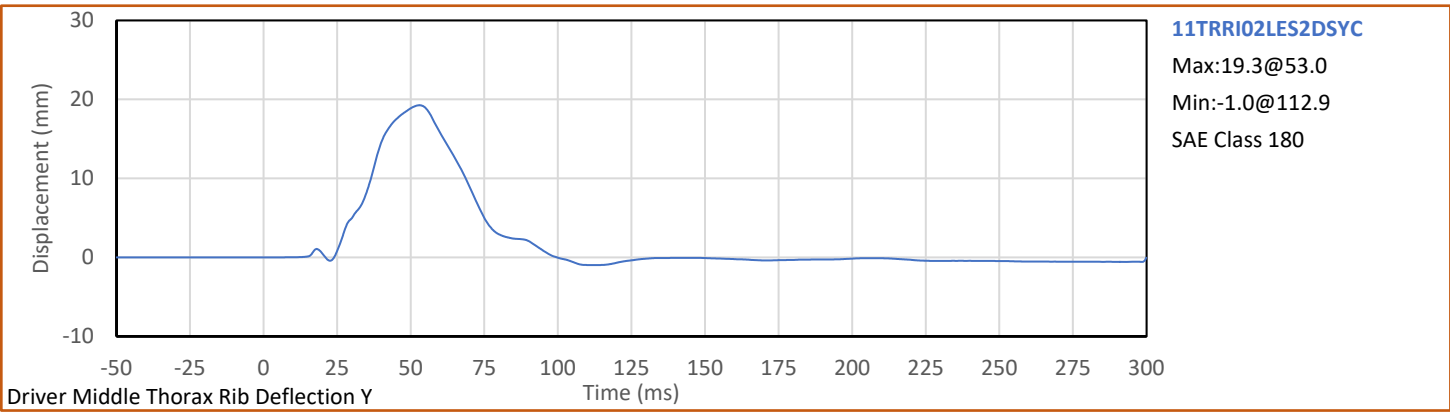
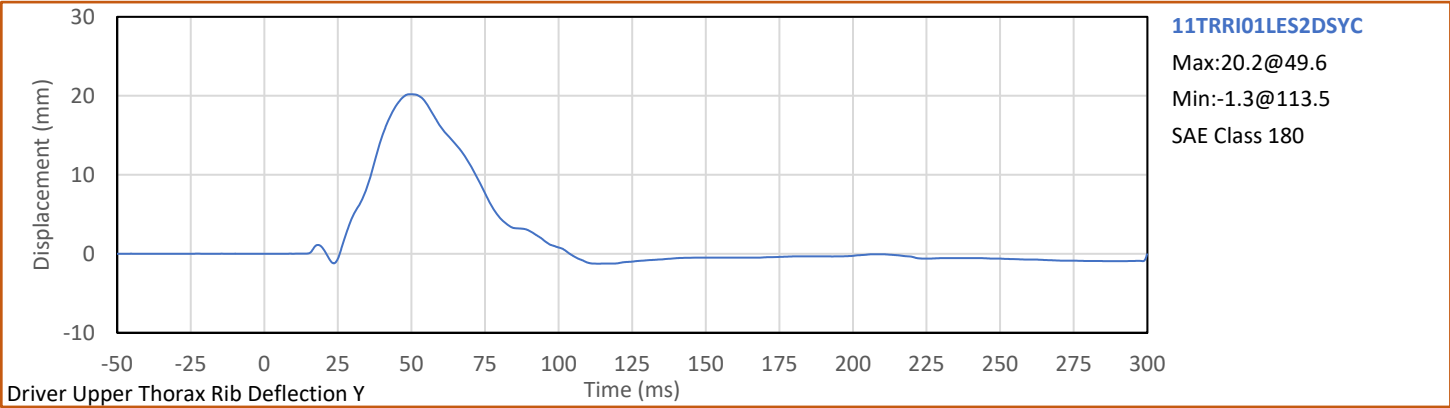
Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Left Floor Sill Acceleration (Y)
Left A-Pillar Sill Acceleration (Y)
Left Lower A-Pillar Acceleration (Y)
Left Mid A-Pillar Acceleration (Y)
Left B-Pillar Sill Acceleration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

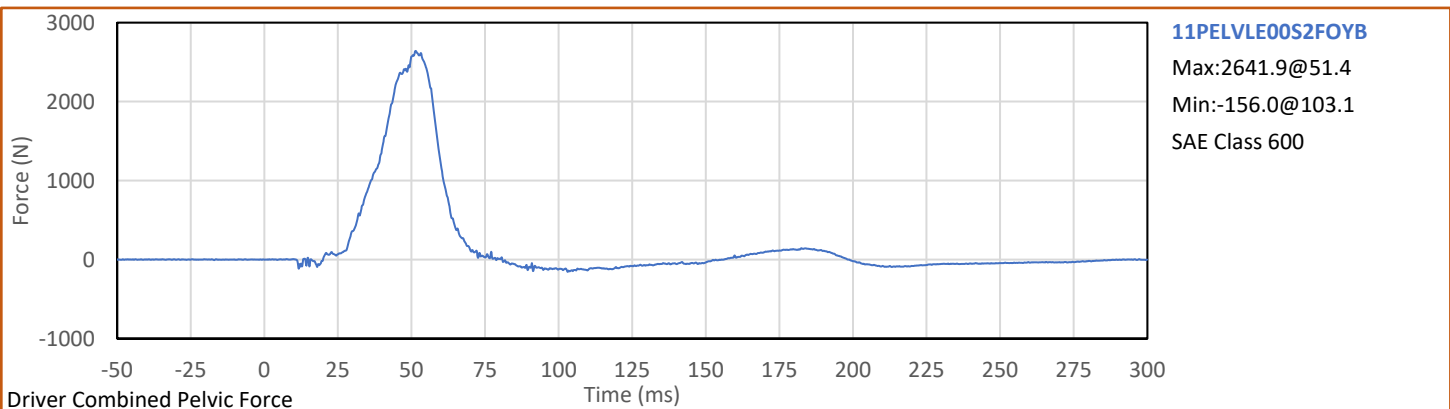
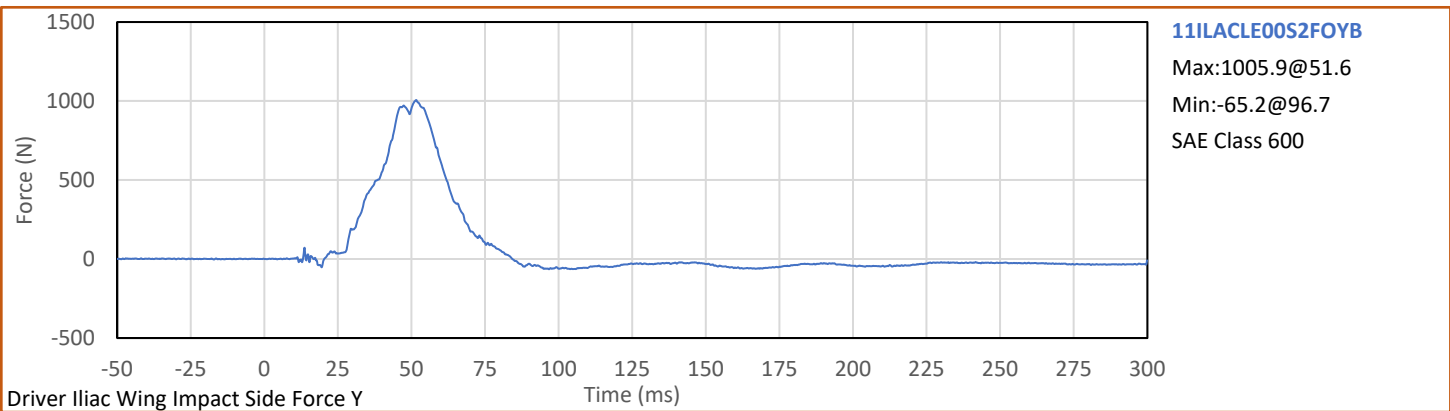
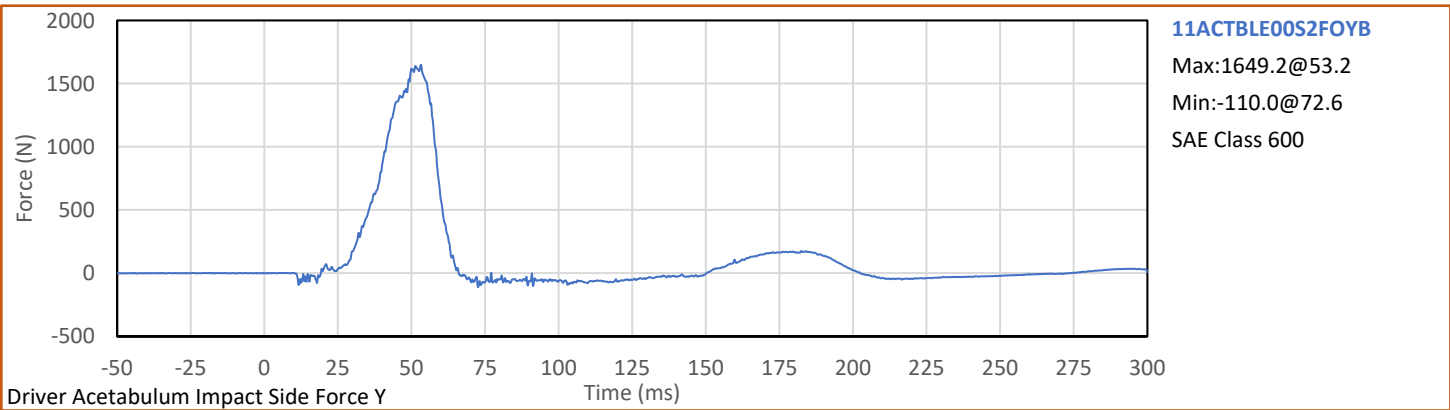
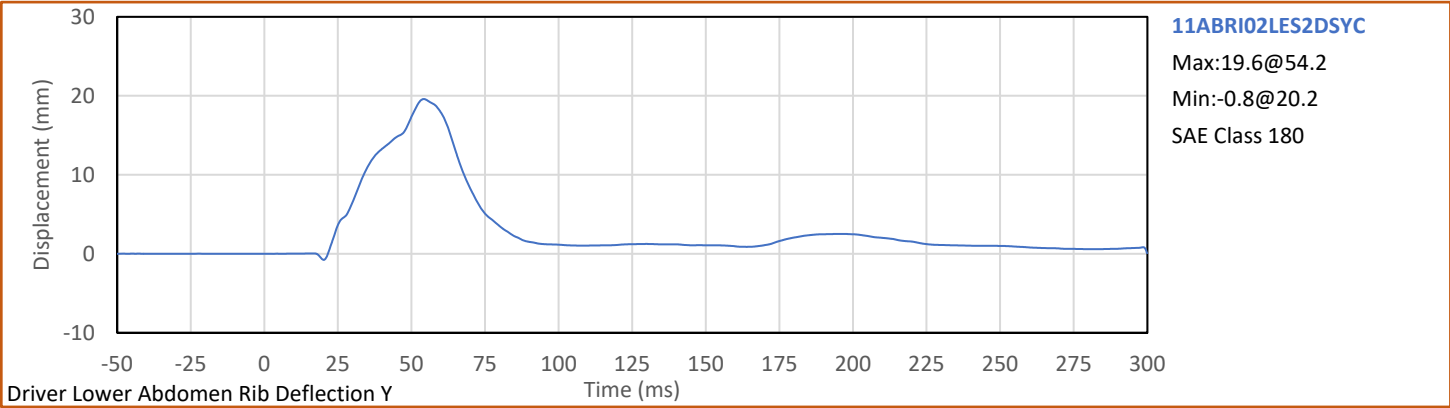
Pole Instrumentation Data

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
S/N: 299

ATD Serial No.: 299

Test Date: 2020-08-21

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	44	Pass
A - Sitting Height	mm	772	788	778	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	149	Pass
E - Shoulder Pivot From Backline	mm	97	107	102	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	44	Pass
I - Head Depth	mm	178	188	187	Pass
J - Head Circumference	mm	541	551	546	Pass
K - Buttock To Knee Length	mm	514	540	521	Pass
L - Popliteal Height	mm	343	369	349	Pass
K - Knee Pivot To Floor Height	mm	392	409	398	Pass
N - Buttock Popliteal Length	mm	416	442	430	Pass
O - Chest Depth W/O Jacket	mm	195	211	205	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	254	Pass
S - Knee Joint To Seatback	mm	477	493	483	Pass
V - Shoulder Width	mm	341	357	346	Pass
W - Foot Width	mm	78	94	90	Pass
Y - Chest Circumference W/Jacket	mm	851	881	858	Pass
Z - Waist Circumference	mm	761	791	785	Pass
				Overall Test Results	Pass

Technician:



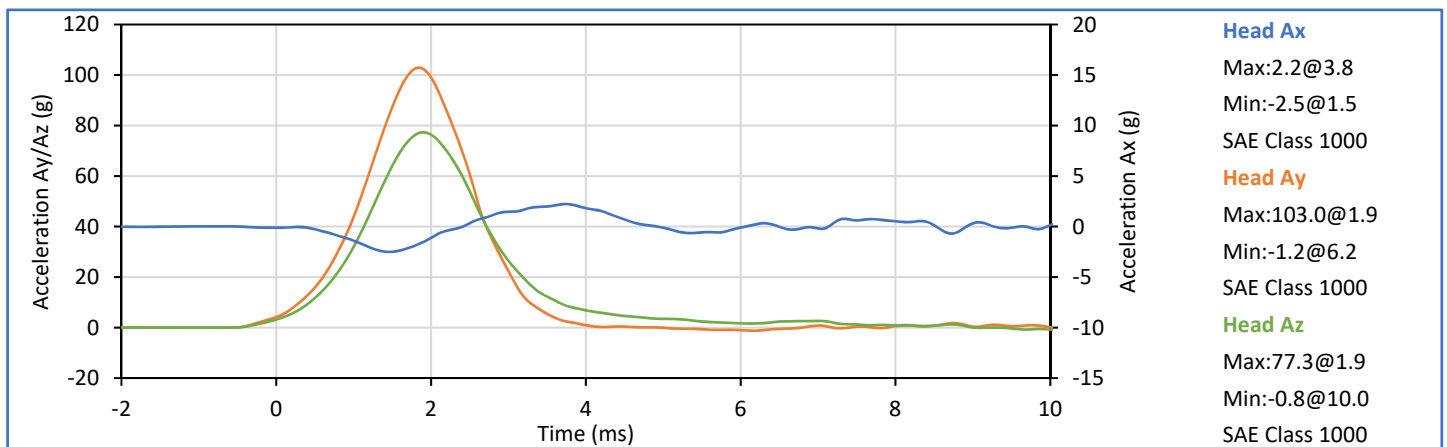
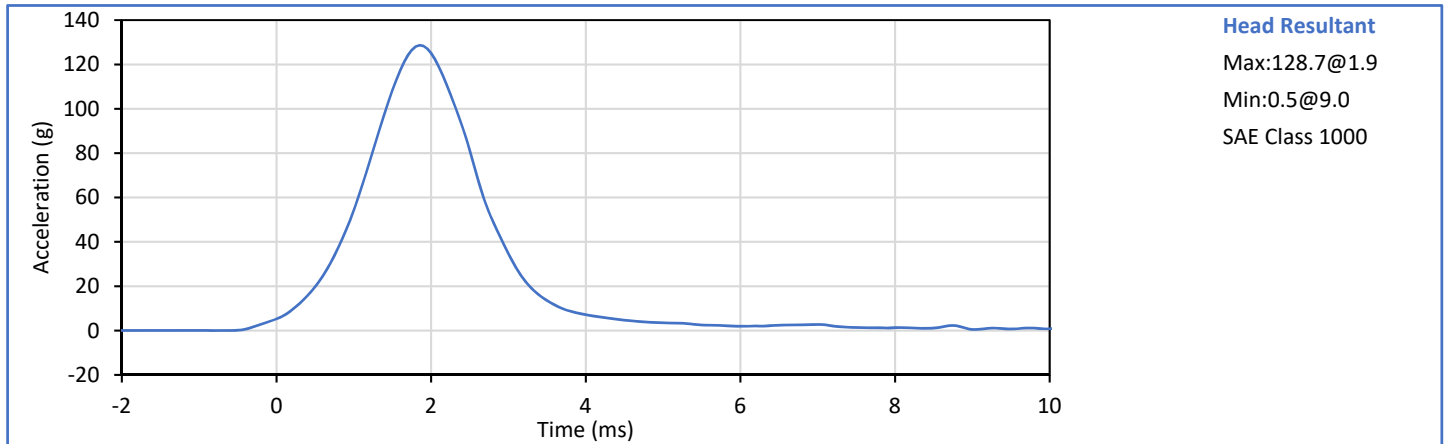
J. Hernandez

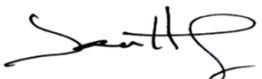
Approved By:




P. Puzuto

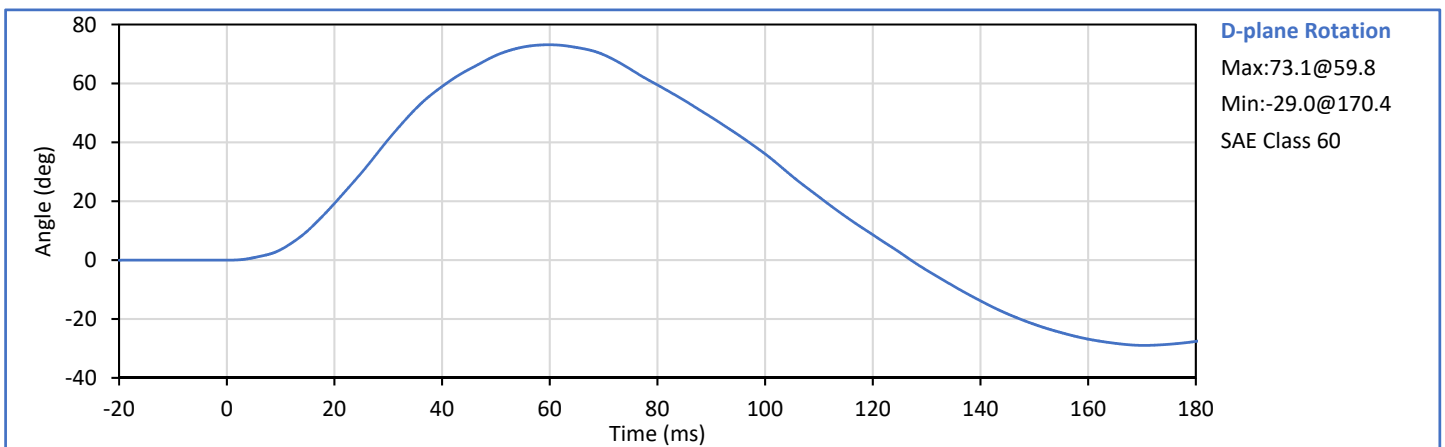
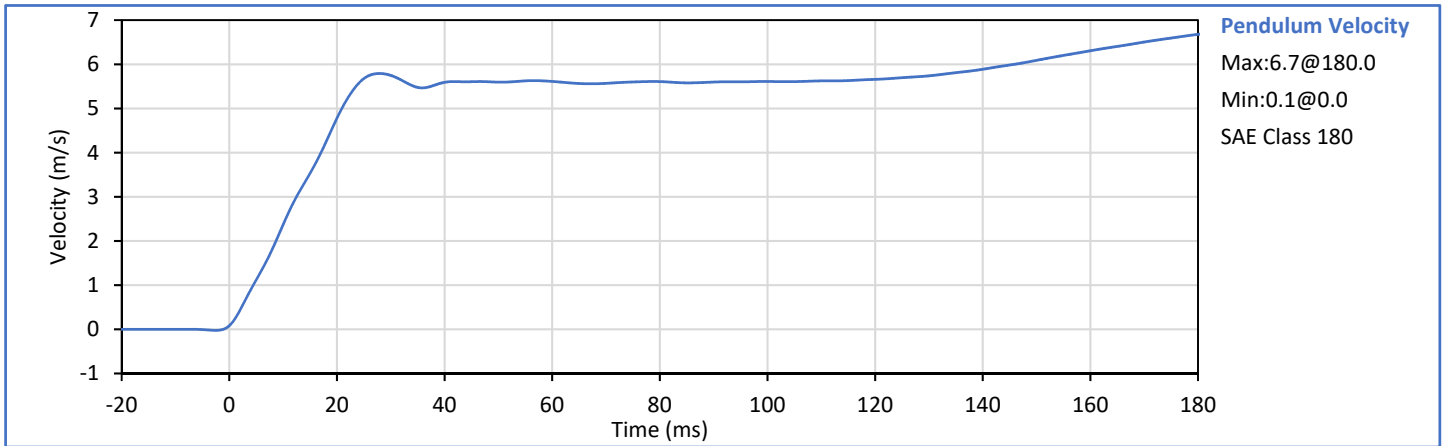
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.6	Pass
Laboratory Humidity	%	10	70	45	Pass
Peak Resultant Acceleration	g	115.0	137.0	128.7	Pass
Peak Head Ax	g	-15.0	15.0	-2.5	Pass
Oscillations After Main Pulse	%	0.0	15.0	2.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass





Technician: 
J. Hernandez

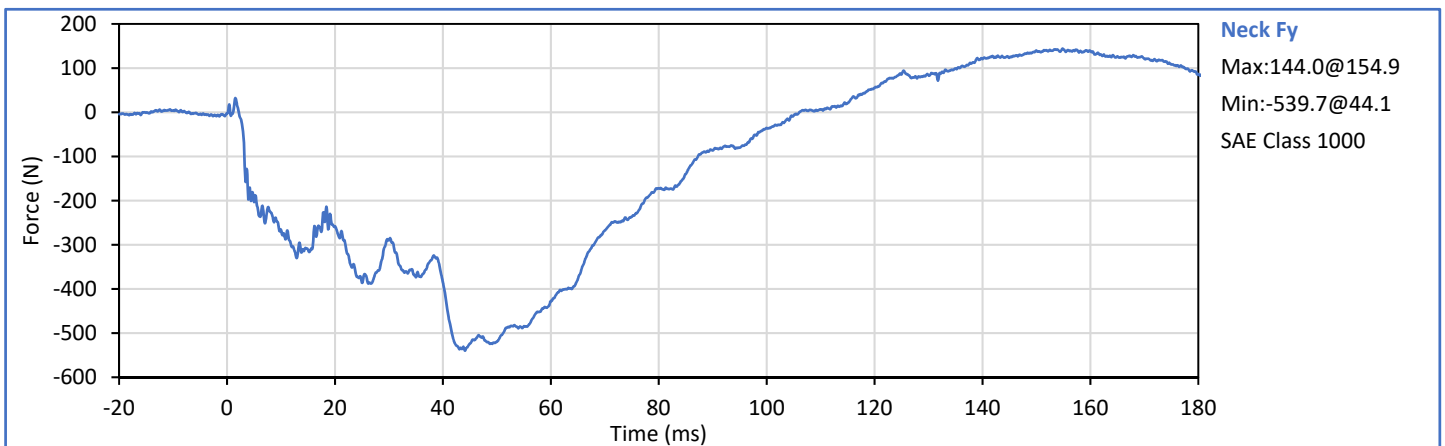
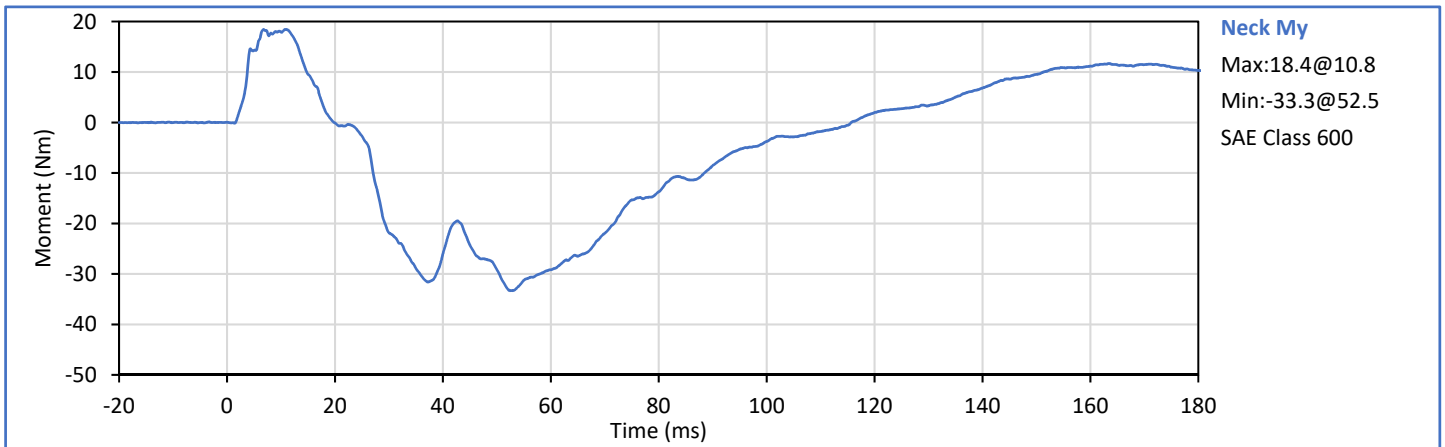
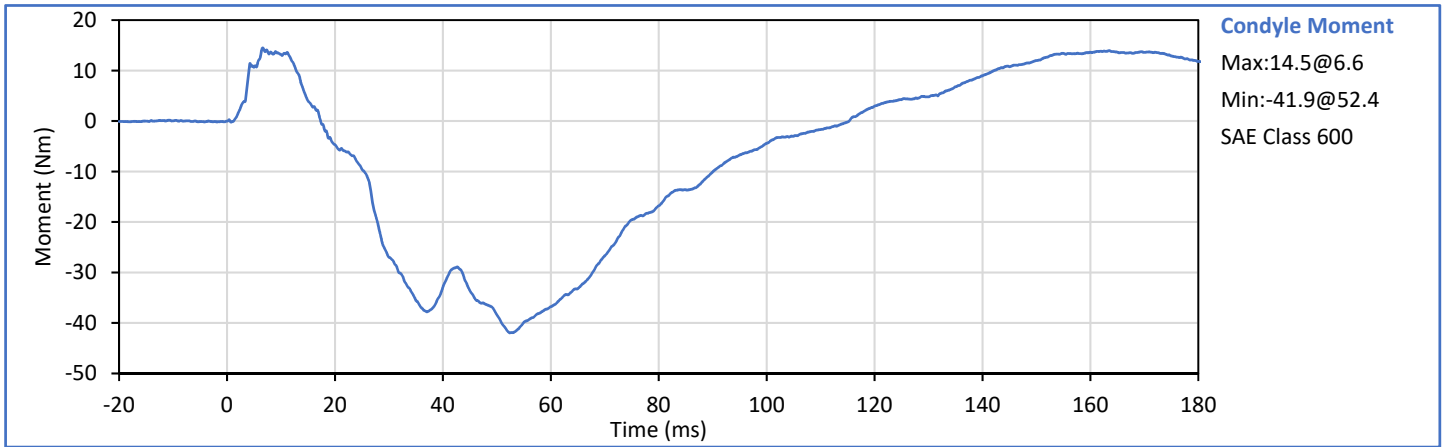
Approved By: 
P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.7	Pass
Laboratory Humidity	%	10	70	44	Pass
Pendulum Velocity	m/s	5.51	5.63	5.61	Pass
Pendulum Decel at 10 ms	m/s	2.20	2.80	2.37	Pass
Pendulum Decel at 15 ms	m/s	3.30	4.10	3.53	Pass
Pendulum Decel at 20 ms	m/s	4.40	5.40	4.78	Pass
Pendulum Decel at 25 ms	m/s	5.40	6.10	5.68	Pass
Pendulum Decel from 25-100 ms	m/s	5.50	6.20	5.79	Pass
Peak "D" Plane Rotation	deg	71.0	81.0	73.1	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	59.8	Pass
Peak Occ. Condyle Moment	Nm	-44.0	-36.0	-41.9	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	115.3	Pass
Overall Test Results					Pass

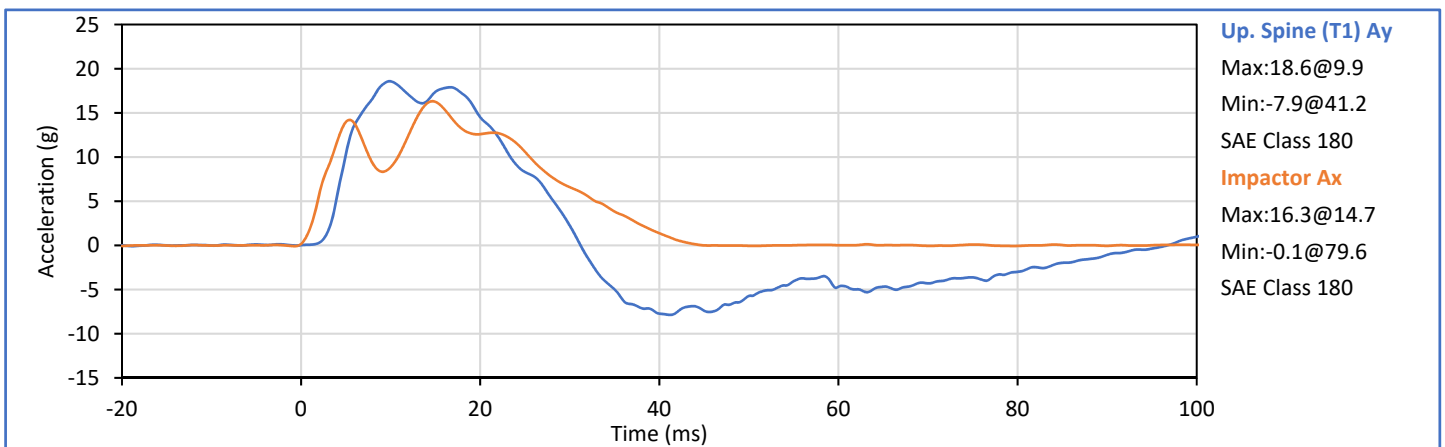
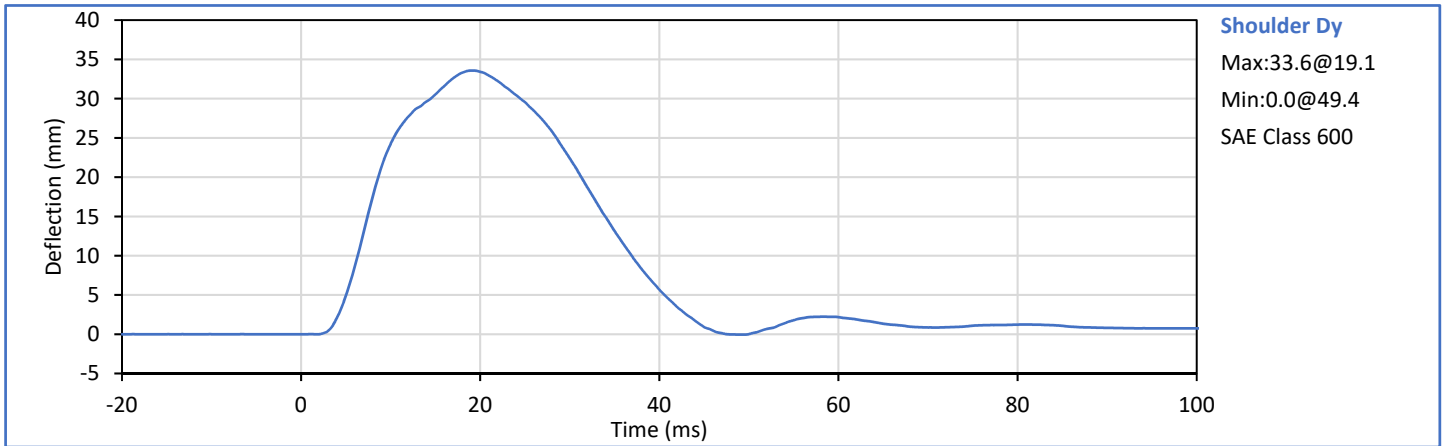



Technician: 
J. Hernandez


Approved By: 
P. Puzuto



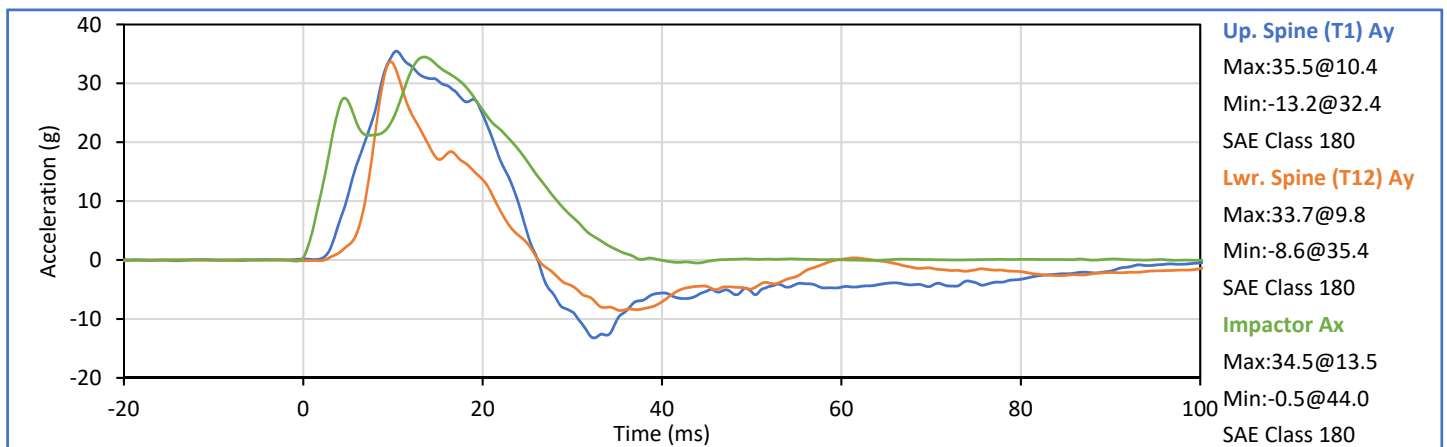
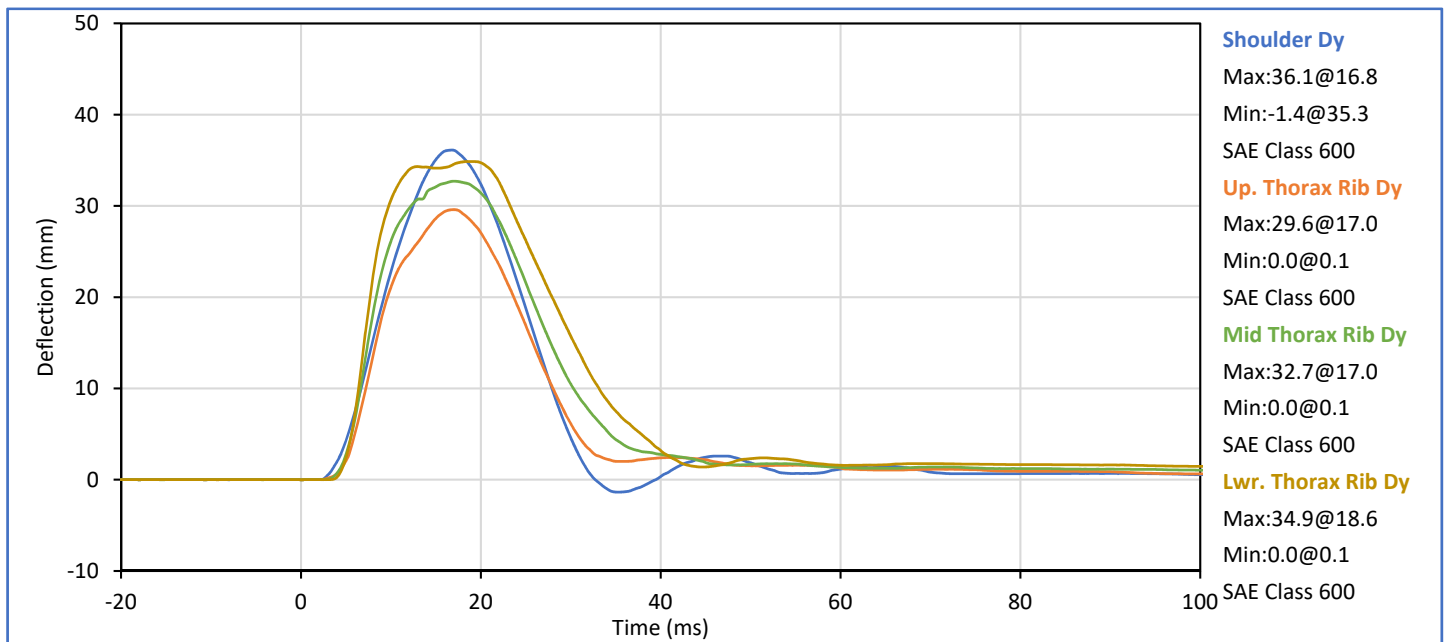
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	41	Pass
Impactor Velocity	m/s	4.20	4.40	4.31	Pass
Peak Shoulder Dy	mm	28.0	37.0	33.6	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.6	Pass
Peak Impactor Ax	g	13.0	18.0	16.3	Pass
Overall Test Results					Pass

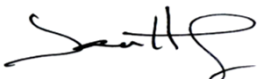



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Approved By: 
P. Puzzuto

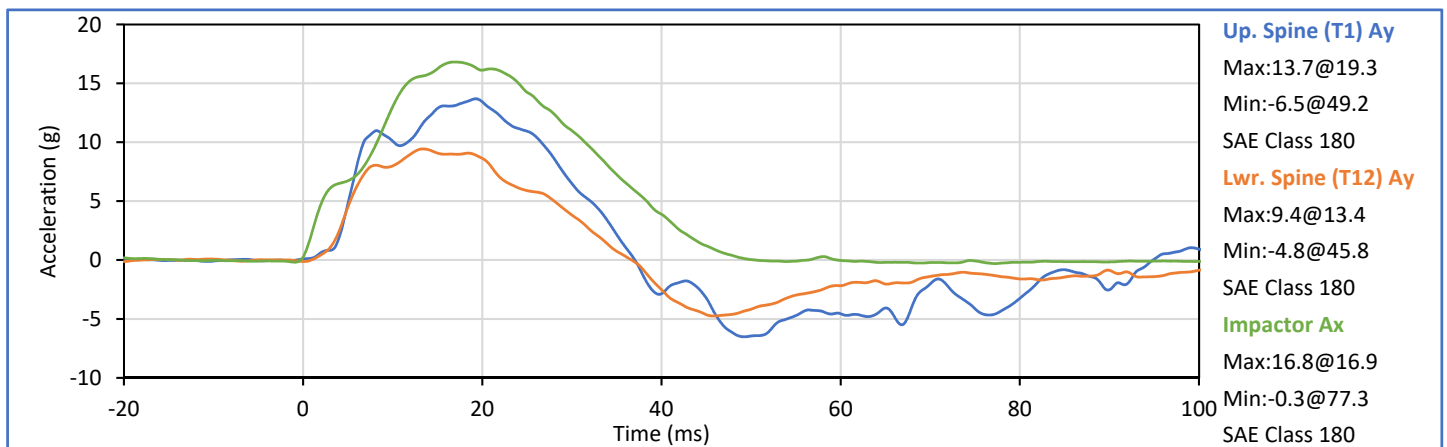
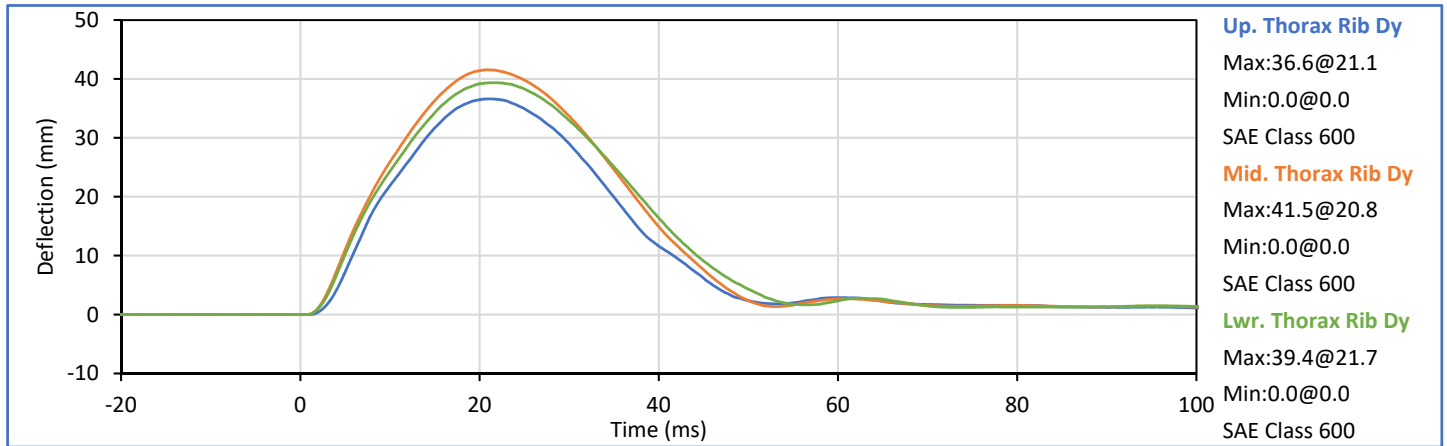
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	6.60	6.80	6.64	Pass
Peak Shoulder Dy	mm	31.0	40.0	36.1	Pass
Peak Upper Rib Dy	mm	25.0	32.0	29.6	Pass
Peak Middle Rib Dy	mm	30.0	36.0	32.7	Pass
Peak Lower Rib Dy	mm	32.0	38.0	34.9	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	35.5	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	33.7	Pass
Peak Impactor Ax	g	30.0	36.0	34.5	Pass
Overall Test Results					Pass

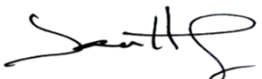



Technician: 
J. Hernandez

Approved By: 
P. Puzuto

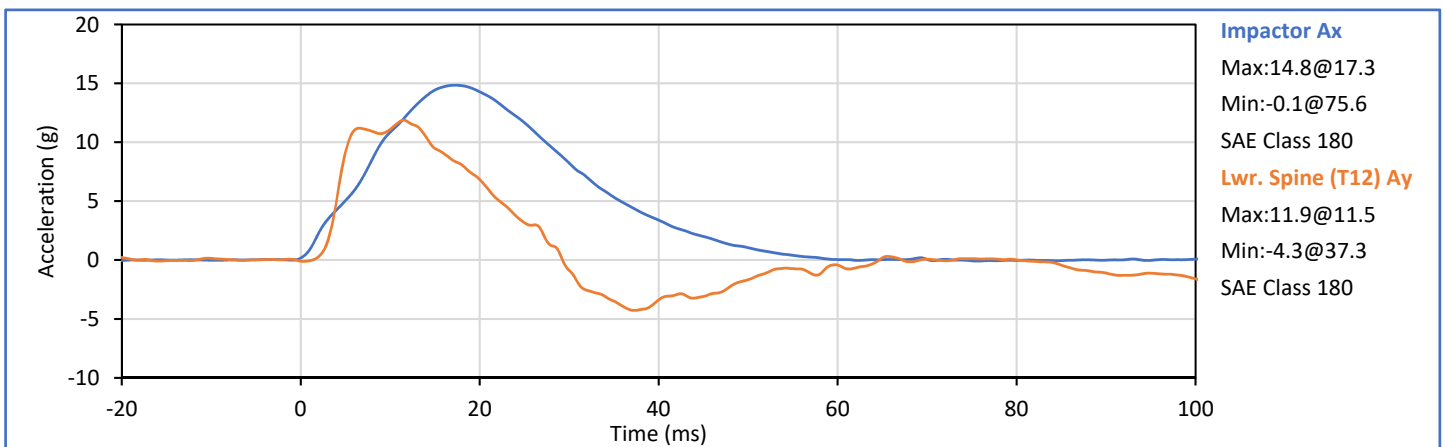
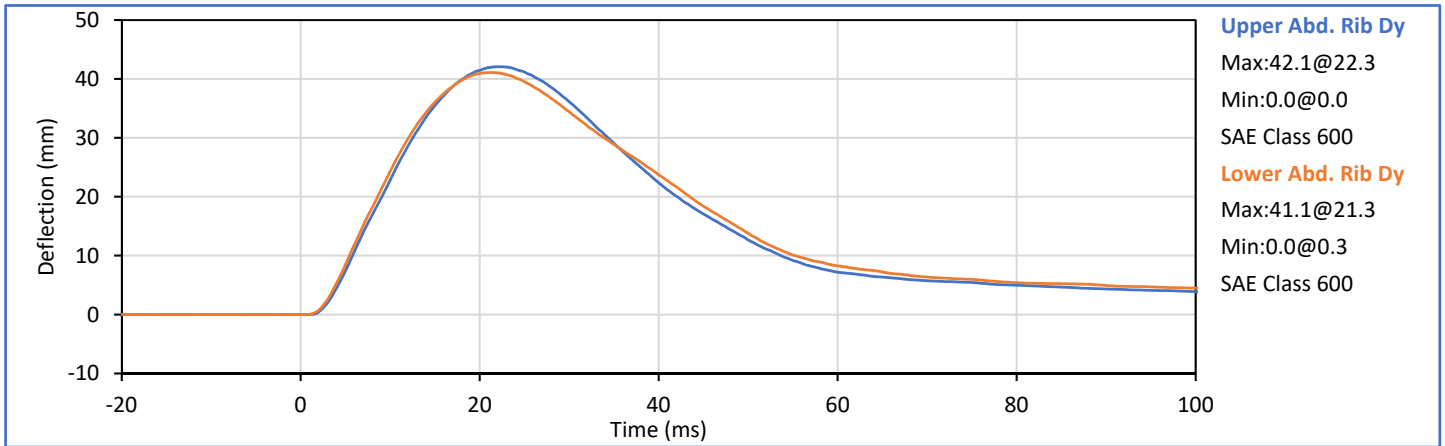
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	42	Pass
Impactor Velocity	m/s	4.20	4.40	4.29	Pass
Peak Upper Rib Dy	mm	32.0	40.0	36.6	Pass
Peak Middle Rib Dy	mm	39.0	45.0	41.5	Pass
Peak Lower Rib Dy	mm	35.0	43.0	39.4	Pass
Peak Upper Spine (T1) Ay	g	13.0	17.0	13.7	Pass
Peak Lower Spine (T12) Ay	g	7.0	11.0	9.4	Pass
Peak Impactor Ax	g	14.0	18.0	16.8	Pass
Overall Test Results					Pass





Technician: 
J. Hernandez

Approved By: 
P. Puzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	41	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	42.1	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	41.1	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	11.9	Pass
Peak Impactor Ax	g	12.0	16.0	14.8	Pass
Overall Test Results					Pass

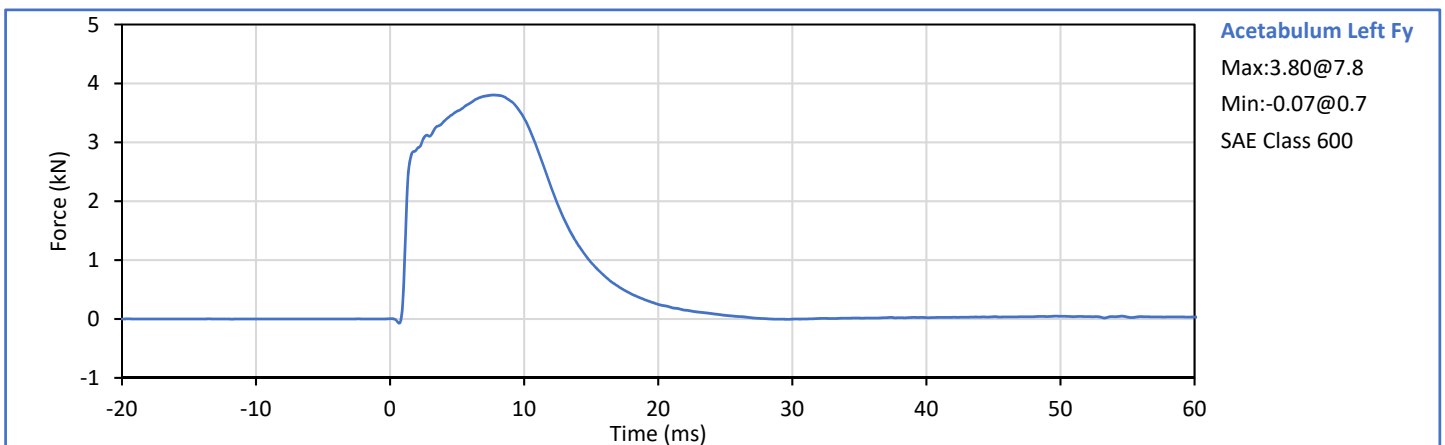
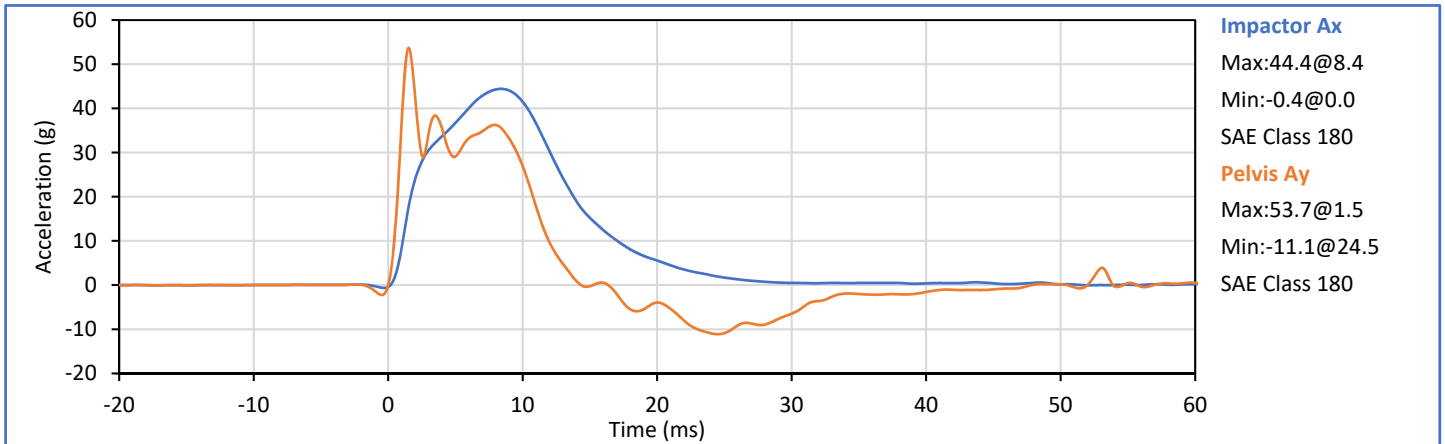


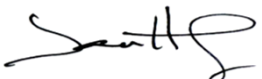
Technician: 
J. Hernandez


Approved By: 
P. Puzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	44	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Acetabulum Fy	kN	3.60	4.30	3.80	Pass
Pelvis Ay after 6ms	g	34.0	42.0	36.3	Pass
Peak Impactor Ax	g	38.0	47.0	44.4	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 12387



Technician: 
J. Hernandez

Approved By: 
P. Puzuto



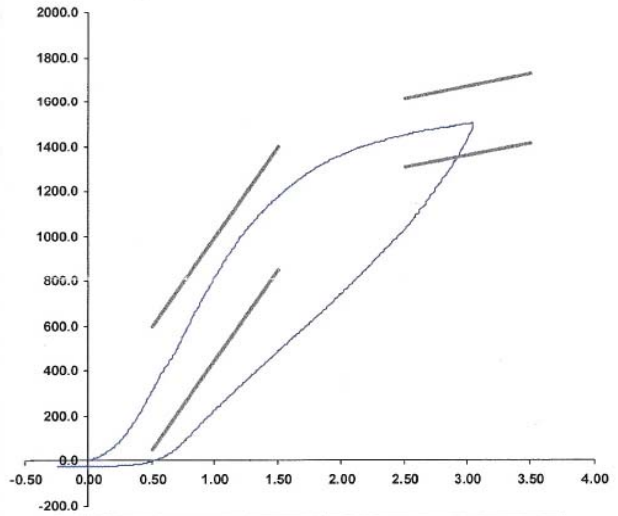
SID-IIs Pelvis Plug Certification Test

Plug S/N 12387
 Test Number 6775
 Report Number 6790
 Test Date 3/23/2018 10:01:46 AM

	Test Results	Spec. Min	Spec Max
Force @ 0.5 mm (N)	313.70	50.00	600.00
Force @ 1.5 mm (N)	1,179.52	850.00	1,400.00
Force @ 2.5 mm (N)	1,451.64	1,306.00	1,618.00
Force @ 3.0 mm (N)	1,500.99	1,361.00	1,673.00

Testing Machine STM-20 5965542
 Load Cell S/N (FI360947), Units (LBS) 1000
 Crosshead Speed (mm / min) or Rate 12.7
 Extension or Position Measured by XHD_100 (XHD100)
 Notes:

Force (-N) vs Extension (-mm)



Operator _____
 Part Number 180-4450

Template No 107 23-Mar-18
 SACO Research

By: DC Date: 3/23/18
 SACO Research 41735 Elm St, #401 Murrieta, CA 92562 Tel 310-894-2082 FAX

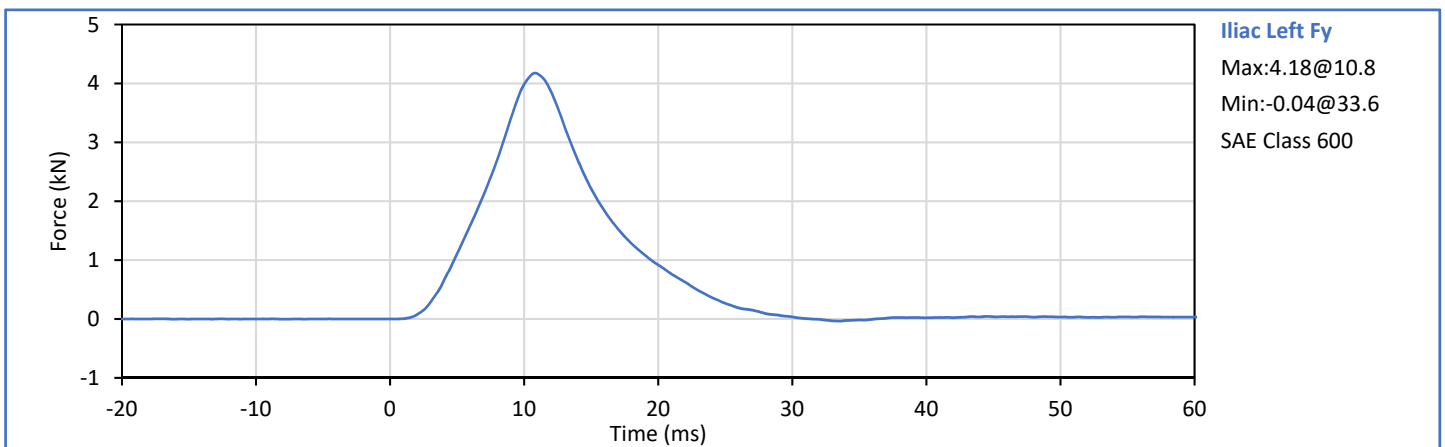
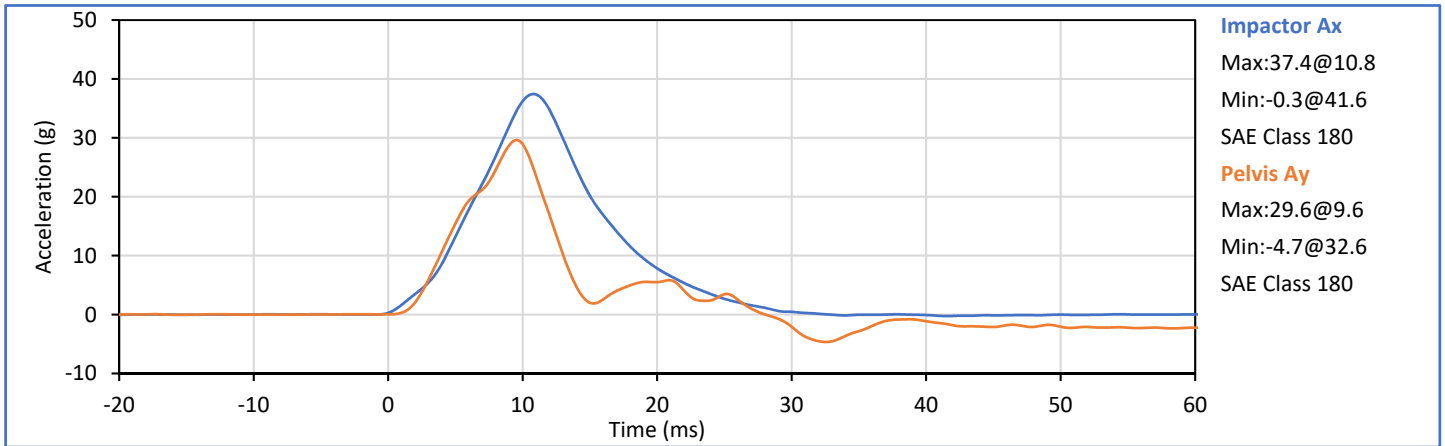
ATD Serial No.: 299

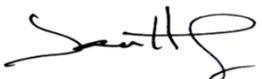
Test Date: 2020-08-21


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Humidity	%	10	70	44	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Iliac Fy	kN	4.10	5.10	4.18	Pass
Pelvis Ay after 6ms	g	28.0	39.0	29.6	Pass
Peak Impactor Ax	g	36.0	45.0	37.4	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 12228 *

* Plug is not impacted and remains certified



Technician: 
J. Hernandez

Approved By: 
P. Puzuto

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

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	44	Pass
A - Sitting Height	mm	772	788	778	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	150	Pass
E - Shoulder Pivot From Backline	mm	97	107	105	Pass
F - Thigh Clearance	mm	119	135	130	Pass
G - Head Breadth	mm	140	148	142	Pass
H - Head Back From Backline	mm	40	46	42	Pass
I - Head Depth	mm	178	188	187	Pass
J - Head Circumference	mm	541	551	546	Pass
K - Buttock To Knee Length	mm	514	540	526	Pass
L - Popliteal Height	mm	343	369	359	Pass
K - Knee Pivot To Floor Height	mm	392	409	399	Pass
N - Buttock Popliteal Length	mm	416	442	440	Pass
O - Chest Depth W/O Jacket	mm	195	211	203	Pass
P - Foot Length	mm	216	232	220	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	318	Pass
R - Arm Length	mm	249	259	254	Pass
S - Knee Joint To Seatback	mm	477	493	485	Pass
V - Shoulder Width	mm	341	357	351	Pass
W - Foot Width	mm	78	94	86	Pass
Y - Chest Circumference W/Jacket	mm	851	881	871	Pass
Z - Waist Circumference	mm	761	791	771	Pass
				Overall Test Results	Pass

Technician:



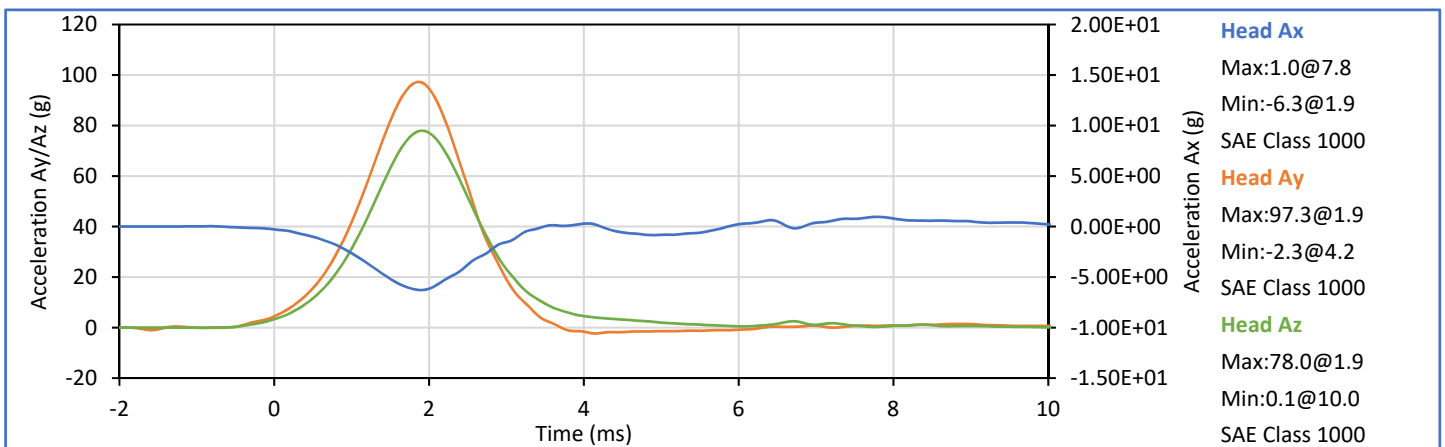
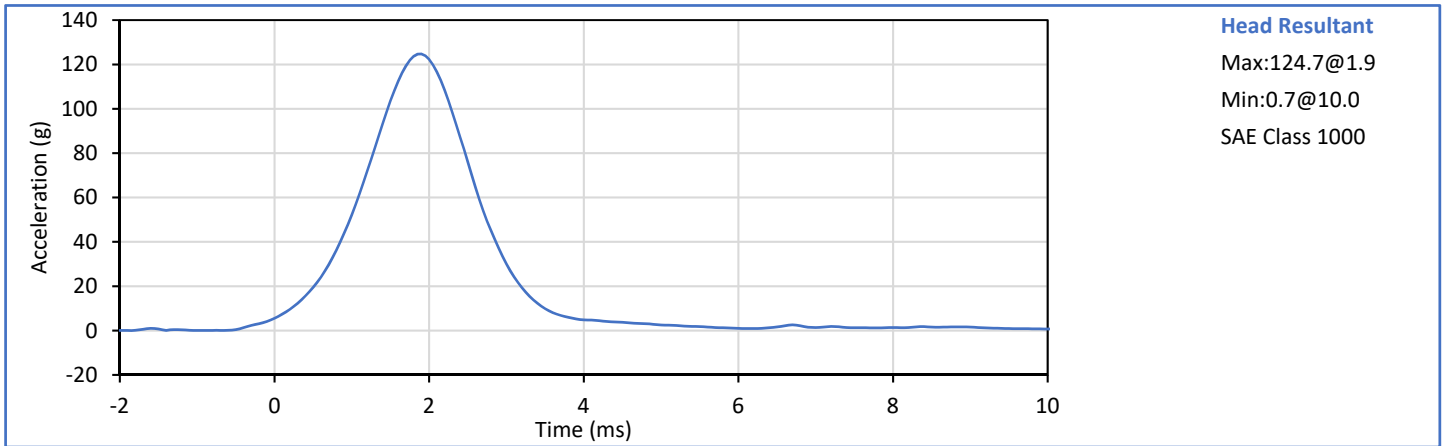
J. Hernandez

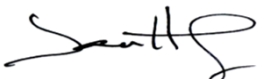
Approved By:




P. Puzuto

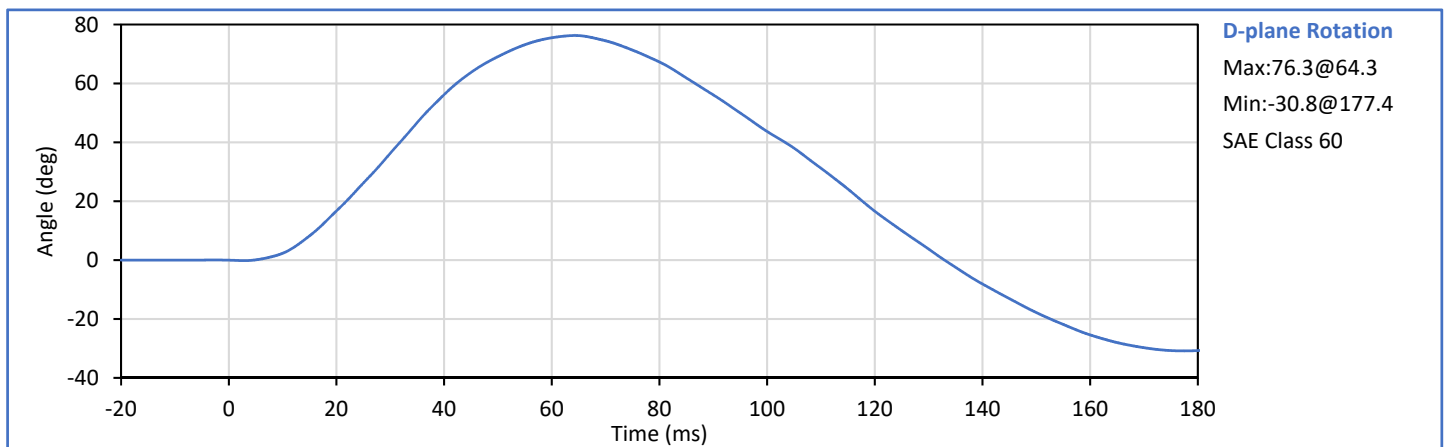
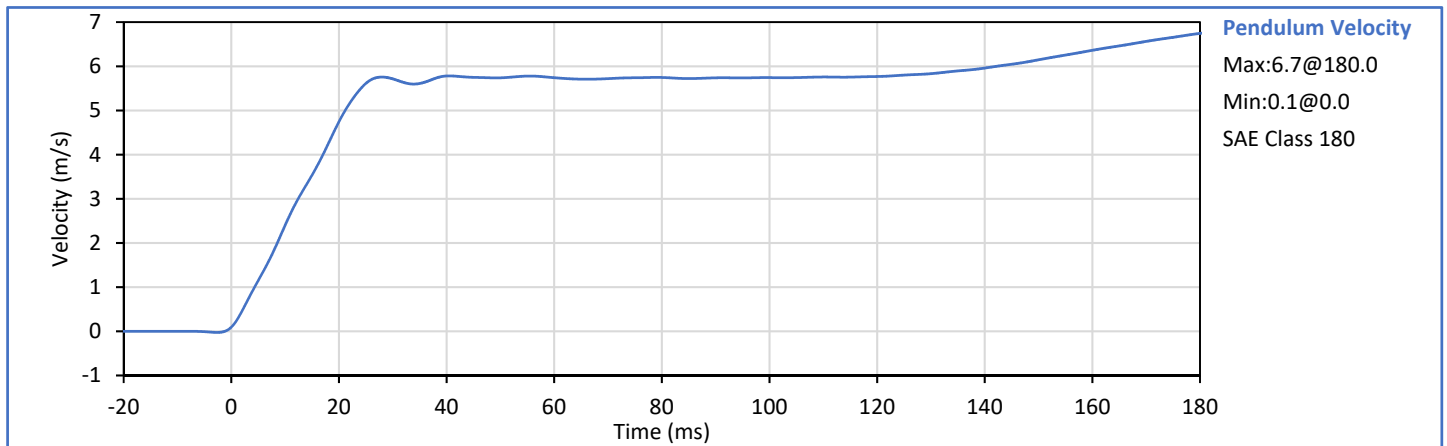
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.2	Pass
Laboratory Humidity	%	10	70	40	Pass
Peak Resultant Acceleration	g	115.0	137.0	124.7	Pass
Peak Head Ax	g	-15.0	15.0	-6.3	Pass
Oscillations After Main Pulse	%	0.0	15.0	2.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass





Technician: 
J. Hernandez

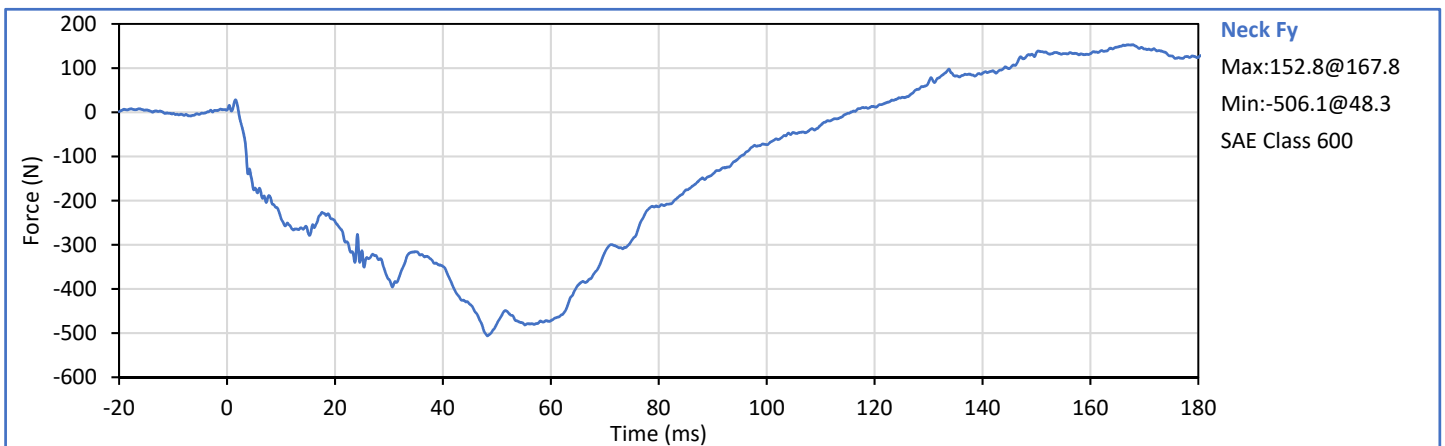
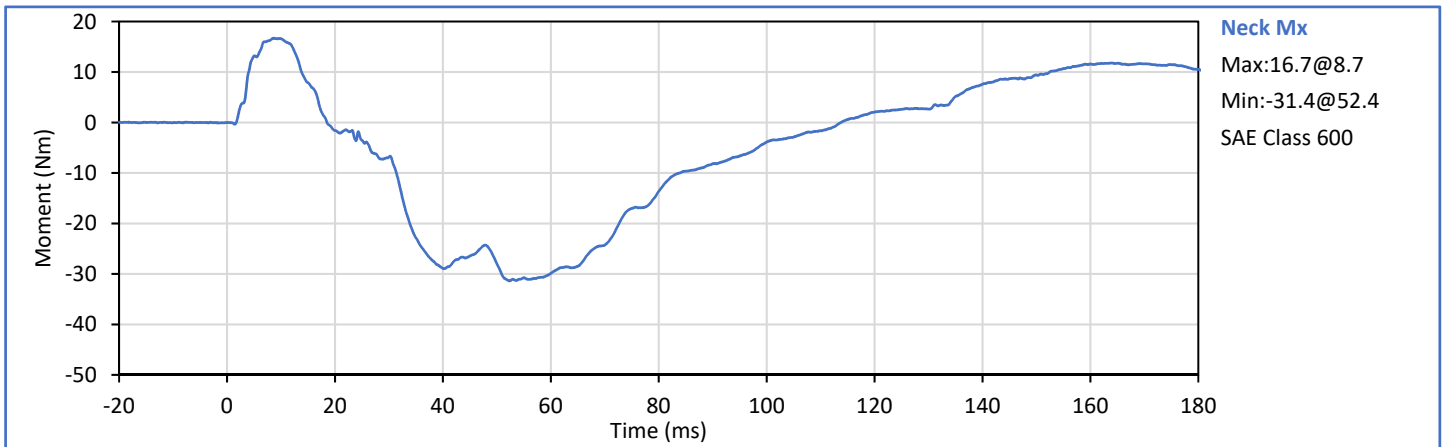
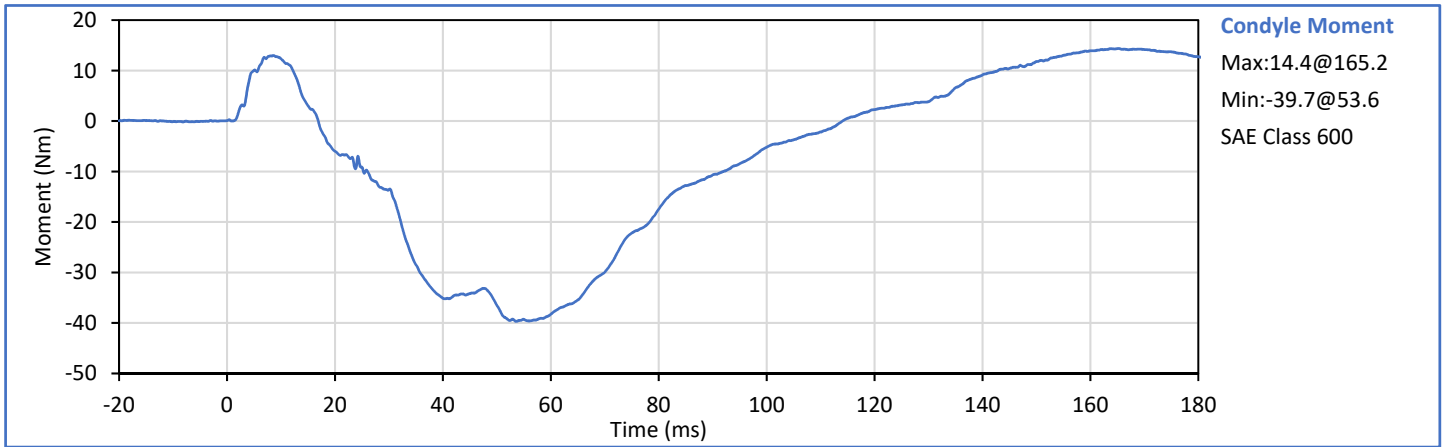
Approved By: 
P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	34	Pass
Pendulum Velocity	m/s	5.51	5.63	5.61	Pass
Pendulum Decel at 10 ms	m/s	2.20	2.80	2.40	Pass
Pendulum Decel at 15 ms	m/s	3.30	4.10	3.54	Pass
Pendulum Decel at 20 ms	m/s	4.40	5.40	4.75	Pass
Pendulum Decel at 25 ms	m/s	5.40	6.10	5.61	Pass
Pendulum Decel from 25-100 ms	m/s	5.50	6.20	5.78	Pass
Peak "D" Plane Rotation	deg	71.0	81.0	76.3	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	64.3	Pass
Peak Occ. Condyle Moment	Nm	-44.0	-36.0	-39.7	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	114.1	Pass
Overall Test Results					Pass

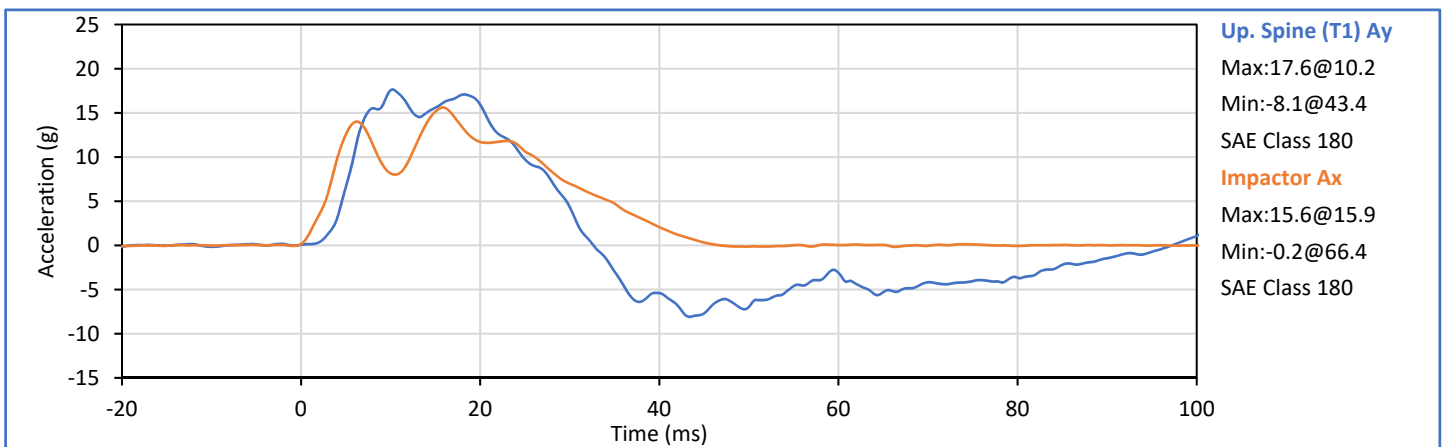
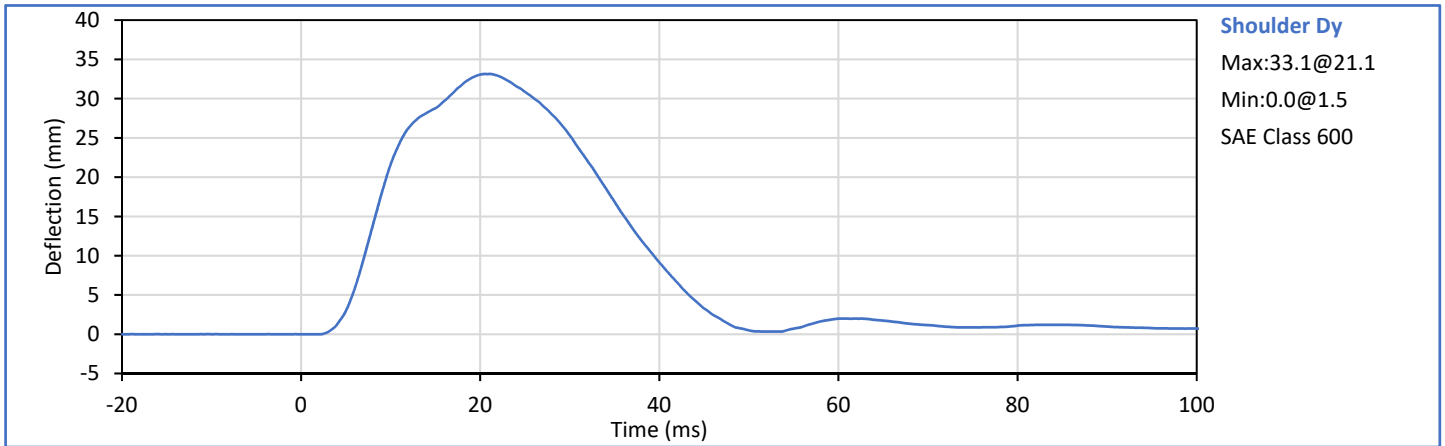



Technician: 
J. Hernandez


Approved By: 
P. Puzuto



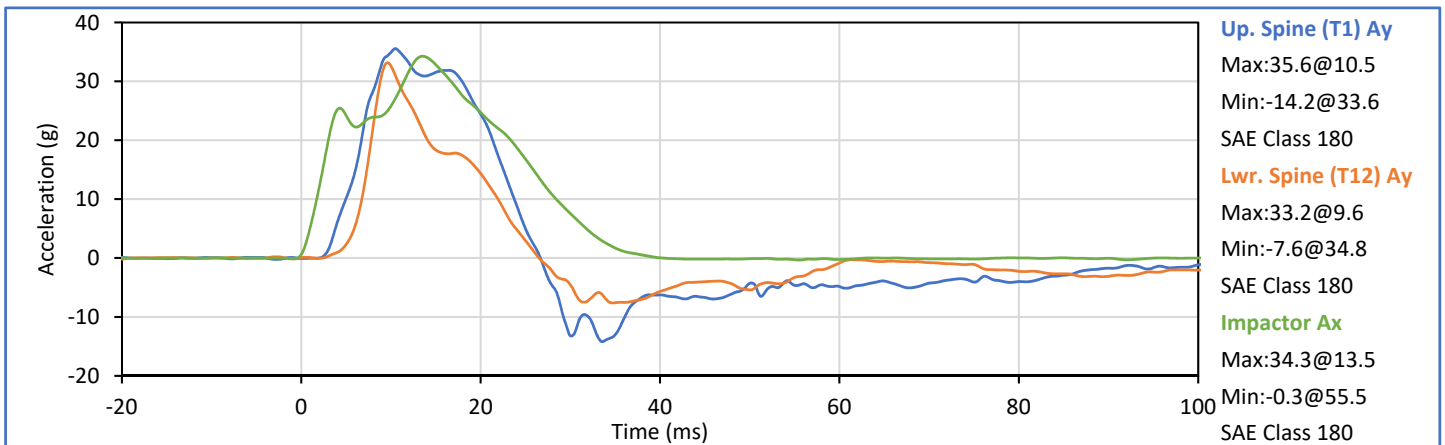
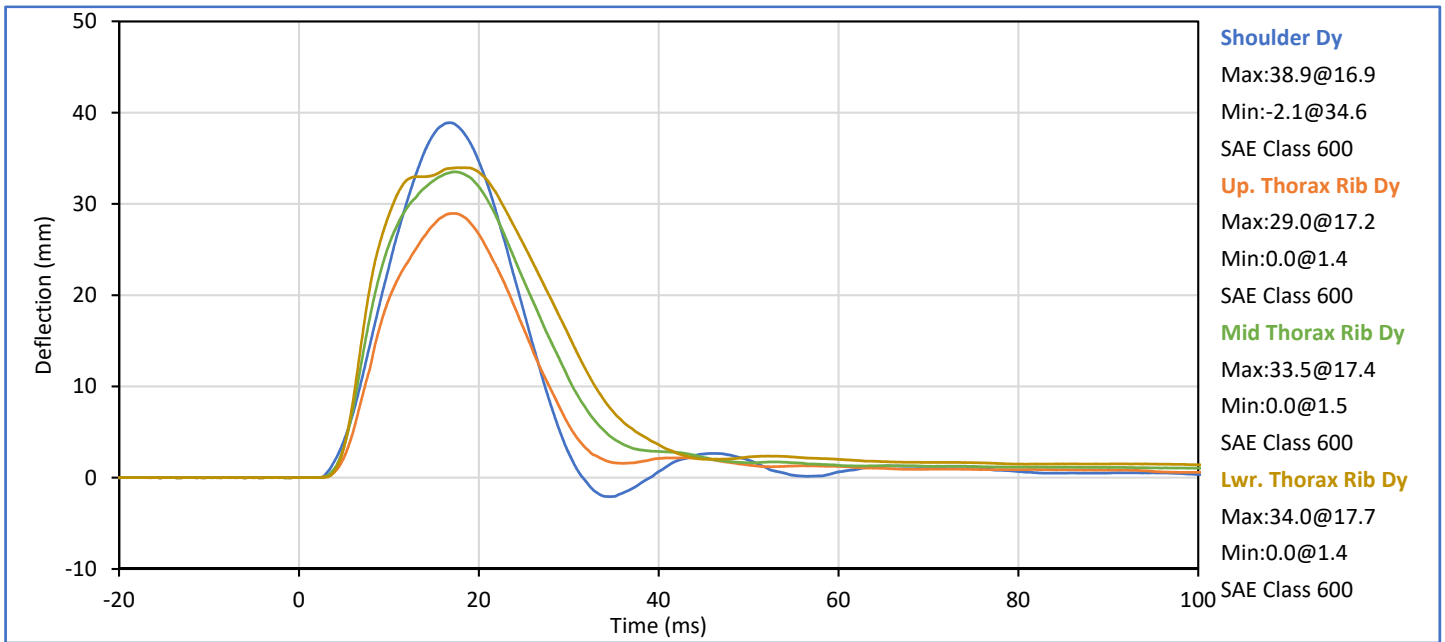
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	Pass
Laboratory Humidity	%	10	70	30	Pass
Impactor Velocity	m/s	4.20	4.40	4.30	Pass
Peak Shoulder Dy	mm	28.0	37.0	33.1	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	17.6	Pass
Peak Impactor Ax	g	13.0	18.0	15.6	Pass
Overall Test Results					Pass

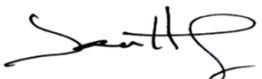



Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

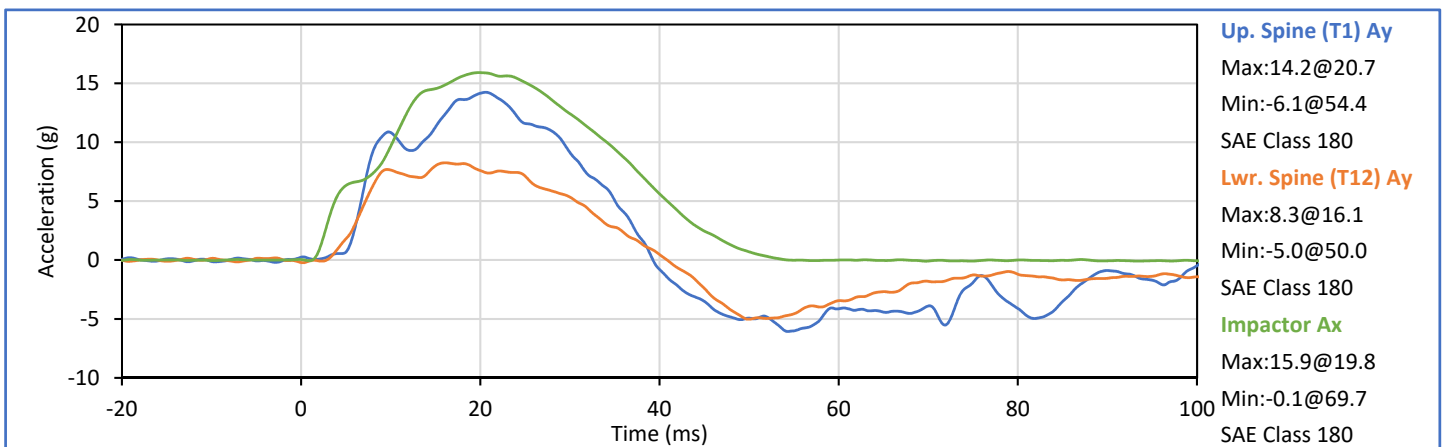
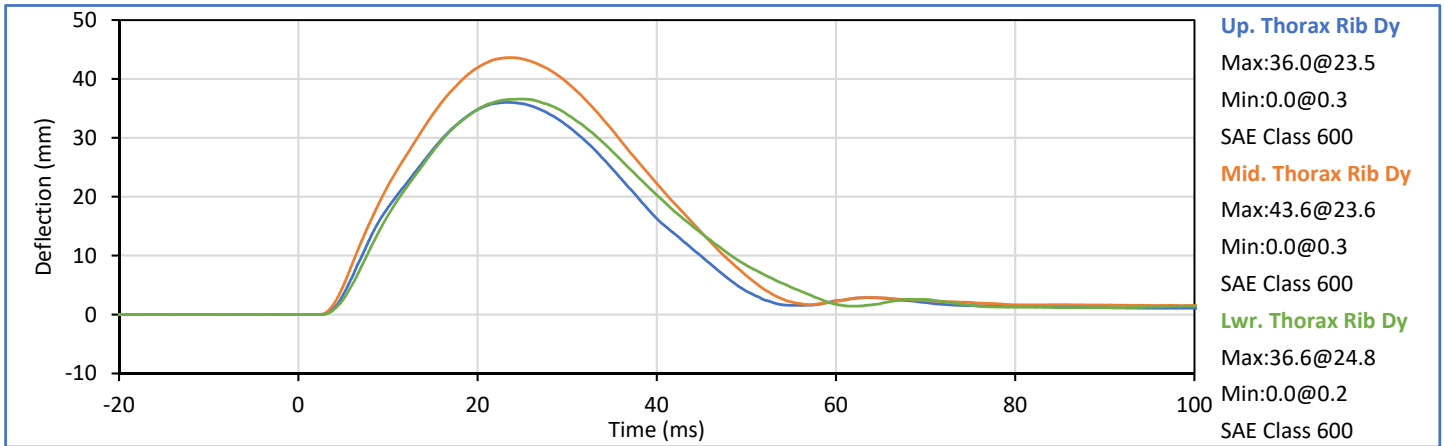
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.9	Pass
Laboratory Humidity	%	10	70	33	Pass
Impactor Velocity	m/s	6.60	6.80	6.73	Pass
Peak Shoulder Dy	mm	31.0	40.0	38.9	Pass
Peak Upper Rib Dy	mm	25.0	32.0	29.0	Pass
Peak Middle Rib Dy	mm	30.0	36.0	33.5	Pass
Peak Lower Rib Dy	mm	32.0	38.0	34.0	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	35.6	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	33.2	Pass
Peak Impactor Ax	g	30.0	36.0	34.3	Pass
Overall Test Results					Pass

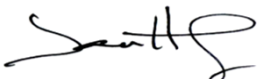



Technician: 
J. Hernandez

Approved By: 
P. Puzuto

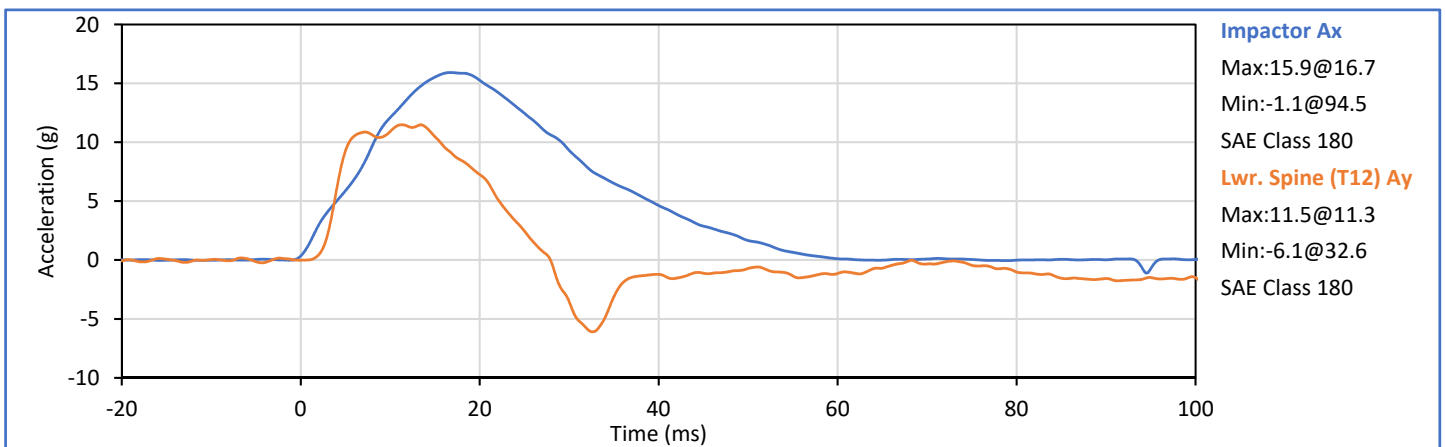
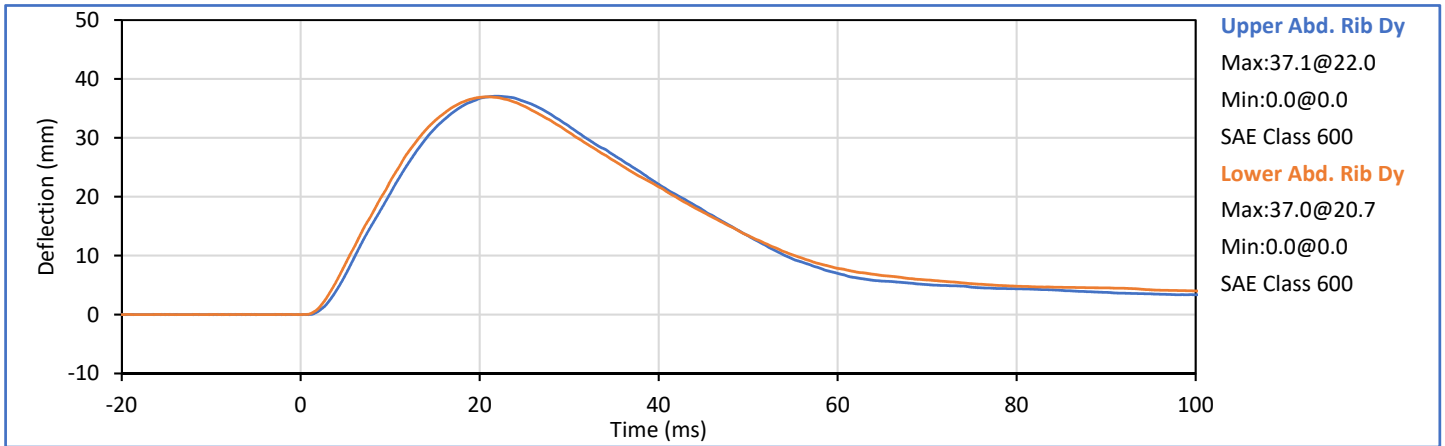
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.9	Pass
Laboratory Humidity	%	10	70	33	Pass
Impactor Velocity	m/s	4.20	4.40	4.33	Pass
Peak Upper Rib Dy	mm	32.0	40.0	36.0	Pass
Peak Middle Rib Dy	mm	39.0	45.0	43.6	Pass
Peak Lower Rib Dy	mm	35.0	43.0	36.6	Pass
Peak Upper Spine (T1) Ay	g	13.0	17.0	14.2	Pass
Peak Lower Spine (T12) Ay	g	7.0	11.0	8.3	Pass
Peak Impactor Ax	g	14.0	18.0	15.9	Pass
Overall Test Results					Pass





Technician: 
J. Hernandez

Approved By: 
P. Puzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.9	Pass
Laboratory Humidity	%	10	70	34	Pass
Impactor Velocity	m/s	4.20	4.40	4.33	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	37.1	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	37.0	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	11.5	Pass
Peak Impactor Ax	g	12.0	16.0	15.9	Pass
Overall Test Results					Pass

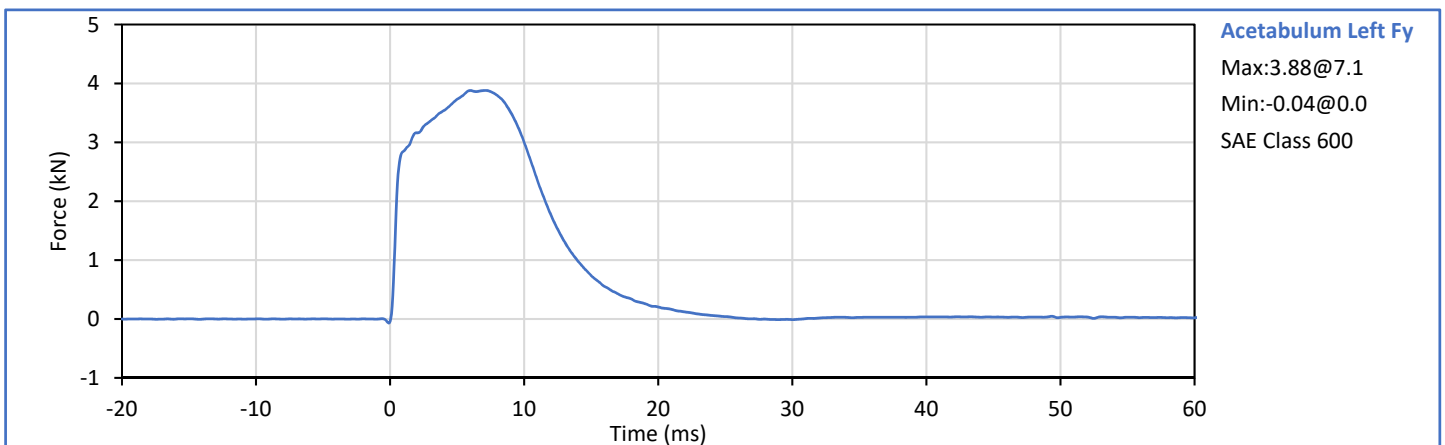
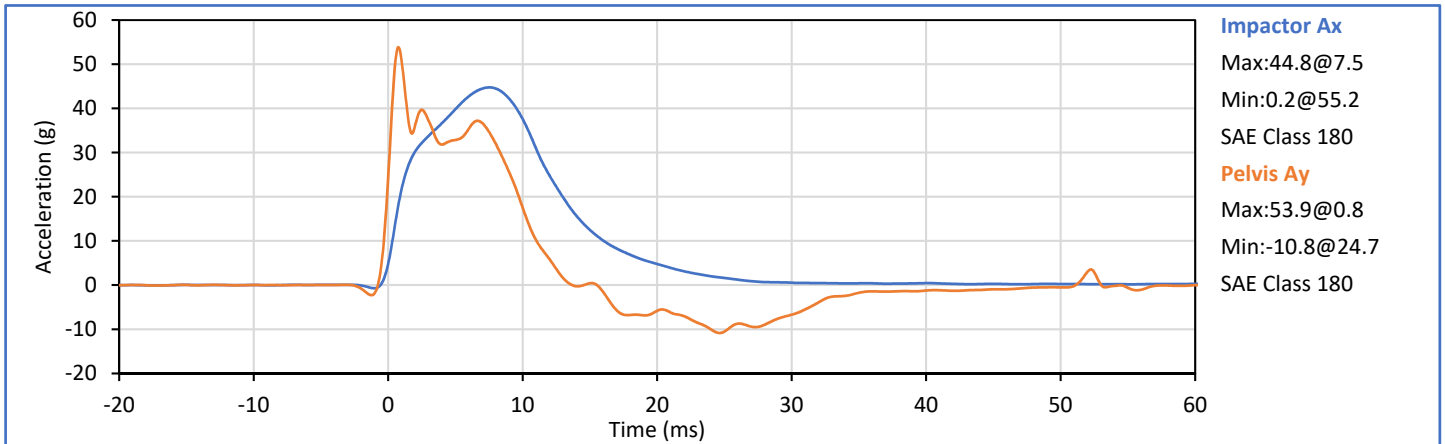



Technician: 
J. Hernandez


Approved By: 
P. Puzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.9	Pass
Laboratory Humidity	%	10	70	41	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Acetabulum Fy	kN	3.60	4.30	3.88	Pass
Pelvis Ay after 6ms	g	34.0	42.0	37.2	Pass
Peak Impactor Ax	g	38.0	47.0	44.8	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 13429



Technician: 
J. Hernandez

Approved By: 
P. Puzuto



SID-IIs Pelvis Plug Certification Test

Plug S/N 13429

Test Number 11071

Report Number 11109

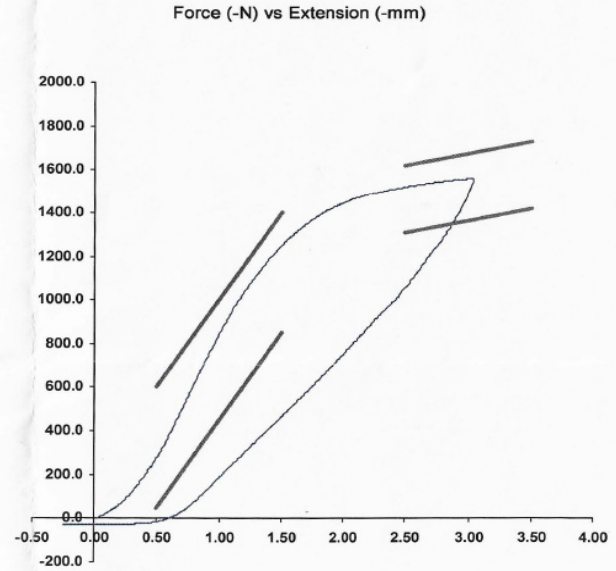
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	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	281.47	50.00	900.00
Force @ 1.5 mm (N)	1,255.54	850.00	1,400.00
Force @ 2.5 mm (N)	1,522.85	1,306.00	1,618.00
Force @ 3.0 mm (N)	1,560.64	1,361.00	1,673.00

Testing Machine STM-20 596554;
Load Cell S/N (FI360947), Units (LBS) 1000

Crosshead Speed (mm / min) or Rat 12.7
Extension or Position Measured by XHD_100 (XHD100)

Notes:



Operator

Part Number 180-4450

Template No 107 20-Sep-19
SACO Research

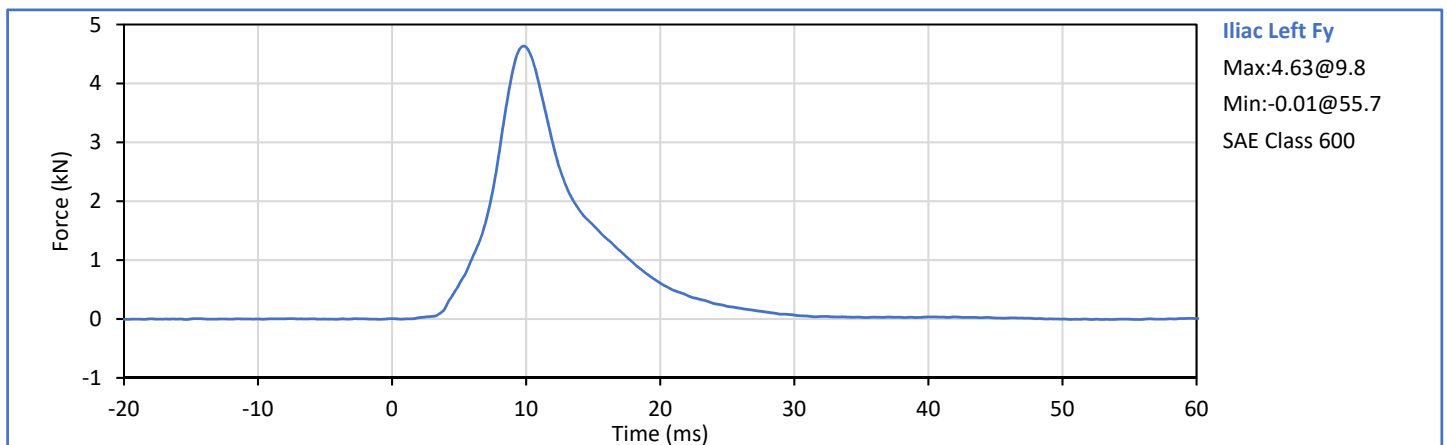
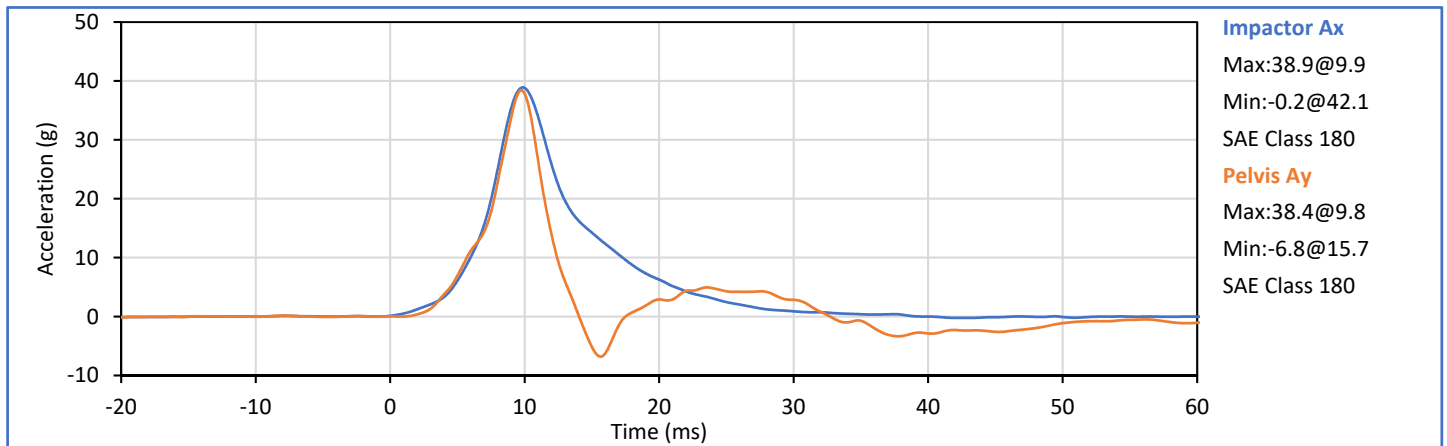
By: DC Date: 9/20/2019


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	21.8	Pass
Laboratory Humidity	%	10	70	33	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Iliac Fy	kN	4.10	5.10	4.63	Pass
Pelvis Ay after 6ms	g	28.0	39.0	38.4	Pass
Peak Impactor Ax	g	36.0	45.0	38.9	Pass
Overall Test Results					Pass

Pelvis Plug S/N: 12228 *

* Plug is not impacted and remains certified



Technician: 
J. Hernandez

Approved By: 
P. Puzuto

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 - Driver ATD Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Head Acceleration X Primary	P51929	Endevco	7264C-2k	2020-07-22
Head Acceleration Y Primary	P50086	Endevco	7264C-2k	2020-07-22
Head Acceleration Z Primary	P51931	Endevco	7264C-2k	2020-07-22
Head Acceleration X Redundant	P68604	Endevco	7264C-2k	2020-07-22
Head Acceleration Y Redundant	P51934	Endevco	7264C-2k	2020-07-22
Head Acceleration Z Redundant	P58736	Endevco	7264C-2k	2020-07-22
Head Rotation Rate X	ARS7449	DTS	ARS PRO-8k 2kHz	2020-02-21
Head Rotation Rate Y	ARS7510	DTS	ARS PRO-8k 2kHz	2020-02-21
Head Rotation Rate Z	ARS7573	DTS	ARS PRO-8k 2kHz	2020-02-21
Upper Thorax Rib Deflection Y	1143	Servo	08TCI-3725	2020-07-21
Middle Thorax Rib Deflection Y	1075	Servo	08TCI-3725	2020-07-21
Lower Thorax Rib Deflection Y	1213	Servo	08TCI-3725	2020-07-21
Upper Abdomen Rib Deflection Y	1218	Servo	08TCI-3725	2020-07-21
Lower Abdomen Rib Deflection Y	1177	Servo	08TCI-3725	2020-07-21
Lower Spine T12 Acceleration X	P58761	Endevco	7264C-2k	2020-07-22
Lower Spine T12 Acceleration Y	P50077	Endevco	7264C-2k	2020-07-22
Lower Spine T12 Acceleration Z	P58795	Endevco	7264C-2k	2020-07-22
Iliac Wing Impact Side Force Y	284 Fy (Iliac)	R.A. Denton	3228J	2020-01-16
Acetabulum Impact Side Force Y	260 Fy (Acetabulum)	R.A. Denton	3249J	2020-07-17

Table 2 - Vehicle Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Vehicle CG Ax	A273458	MSI	52F-2k	2020-06-10
Vehicle CG Ay	A267247	MSI	52F-2k	2020-06-17
Vehicle CG Az	A265924	MSI	52F-2k	2020-06-17
Left Floor Sill Ay	A298355	MSI	52F-2k	2020-06-12
A-Pillar Sill Ay	A185637	MSI	52F-2k	2020-06-17
A-Pillar Low Ay	A265891	MSI	52F-2k	2020-06-19
A-Pillar Mid Ay	A298382	MSI	52F-2k	2020-05-18
B-Pillar Sill Ay	A248860	MSI	52F-2k	2020-06-10
B-Pillar Low Ay	A224545	MSI	52F-2k	2020-06-10
B-Pillar Mid Ay	A265872	MSI	52F-2k	2020-06-19
Driver Seat Track at H-Point Ay	A265858	MSI	52F-2k	2020-06-19
Engine Top Ax	A297063	MSI	52F-2k	2020-05-18
Engine Top Ay	A298303	MSI	52F-2k	2020-05-31
Firewall Ay	10904	Endevco	757F-2k	2020-06-18
Right Roof Ay	A266327	MSI	52F-2k	2020-06-23
Right Floor Sill Ay	A298393	MSI	52F-2k	2020-05-18
Rear Floorpan Ax	A159420	MSI	52F-2k	2020-06-22
Rear Floorpan Ay	A273456	MSI	52F-2k	2020-06-18

Table 3 - Barrier Pole Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Barrier Pole 01 Fx	19461A	Interface	1220FS-50k	2020-03-16
Barrier Pole 02 Fx	131822A	Interface	1220-FS	2020-03-16
Barrier Pole 03 Fx	131816A	Interface	1220AF-50k	2020-03-16
Barrier Pole 04 Fx	19325	Interface	1220-FS	2020-03-16
Barrier Pole 05 Fx	131827A	Interface	1220-FS	2020-03-16
Barrier Pole 06 Fx	19340	Interface	1220FS-50k	2020-03-16
Barrier Pole 07 Fx	19267	Interface	1220-FS	2020-03-16
Barrier Pole 08 Fx	19466A	Interface	1220FS-50k	2020-03-16