FINAL REPORT NUMBER: SPNCAP-TRC-20-002

NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST

GENERAL MOTORS LLC
2020 Cadillac XT6 SUV
NHTSA NUMBER: M20200108

PREPARED BY:
Transportation Research Center Inc.
10820 State Route 347
P. O. Box B-67
East Liberty, OH 43319

Report Date: February 25, 2020

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Crashworthiness Standards
Mail Code: NRM-110
1200 New Jersey Ave, SE
Room W43-410
Washington, D.C. 20590

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Report Prepared By: ILO Project Operations Group

Report Approved By: 

John Shultz

Approval Date: February 25, 2020

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

Technical Report Documentation Page

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15. Supplemental Notes		

16. Abstract

A 32.2 km/h (20 mph), 75° oblique impact Side NCAP Test was conducted on the subject vehicle, a 2020 Cadillac XT6 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. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on December 3, 2019.

The impact velocity was 31.95 km/h, and the ambient temperature at the struck (left) side of the target vehicle at the time of impact was 21.4° C. The test vehicle's post-test maximum crush was 362 mm at Level 2.

The test or target vehicle's performance is given below:

	Unit	Threshold	Front SID-IIs
Head Injury Criteria (HIC_{36}):	NA	1000	292
Resultant Lower Spine Acceleration:	g's	82	39.0
Total Pelvic Force: (sum of acetabular and iliac forces)	N	5525	2961.6
Maximum Thoracic Rib Deflection	mm	38*	21.5
Maximum Abdomen Rib Deflection	mm	45*	24.8

* Proposed IARV

The doors on the struck side did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.

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 Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave Washington, DC 20590

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SECTION 1
TEST PURPOSE AND PROCEDURE

TEST PURPOSE AND PROCEDURE

This side impact test was conducted as part of the MY20 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-14-D-00354. The purpose of this test is to generate comparative side impact performance in a 2020 Cadillac XT6 SUV manufactured by GENERAL MOTORS LLC. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated October 2015.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a model year 2020 Cadillac XT6 SUV. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 31.95 km/h. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, OH, on December 3, 2019. Pre-test and post-test photographs of the test vehicle and the 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) dummy was instrumented accordingly:

Primary and Redundant Head CG Trisxial Accelerometers
Thorax Upper, Middle, and Lower Rib Displacement Potentiometers
Abdomen Upper and Lower Rib Displacement Potentiometers
Lower Spine (T12) Triaxial Accelerometers
Iliac Load Cell
Acetabulum Load Cell

Appendix B contains the vehicle and dummy response data. Dummy configuration and performance verification data can be found in Appendix C of this report. Appendix D contains the test equipment and instrumentation calibration data.

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

Measurement Description	Driver ATD (SID-IIs)		
	Units	IARV	Result
Head Injury Criteria (HIC_{36})	NA	1000	292
Lower Spine Acceleration Resultant	G	82	39.0
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	2961.6
Maximum Thoracic Rib Deflection	mm	38*	21.5
Maximum Abdominal Rib Deflection	mm	45*	24.8

* Proposed IARV

Supplemental restraint information is given below:

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

GENERAL COMMENTS

Left B-Pillar Sill Acceleration (Y); Data spikes throughout

On the post-test handheld placards the vehicle is misspelled “Cadillax” should be Cadillac.

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20200108
Model Year	2020
Make	Cadillac
Model	XT6
Body Style	MPV
VIN	1GYKPCRS2LZ101271
Body Color	Shadow Metallic
Odometer Reading (km/mi)	218
Engine Displacement (L)	3.6
Type/No. Cylinders	V/6
Engine Placement	Front Transverse
Transmission Type	Automatic
Transmission Speeds	9
Overdrive	Yes
Final Drive	FWD
Roof Rack	No
Sunroof/T-Top	Yes
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks (ADL)	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	Yes
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	No
Other Safety Restraint	No

Does owner's manual provide instructions to turn off automatic door locks? No

DATA FROM CERTIFICATION LABEL

Manufactured By	GENERAL MOTORS LLC
Date of Manufacturer	06/19
Vehicle Type	MPV

GVWR (kg)	2722
GAWR Front (kg)	1350
GAWR Rear (kg)	1545

VEHICLE SEATING AND WEIGHT CAPACITY DATA

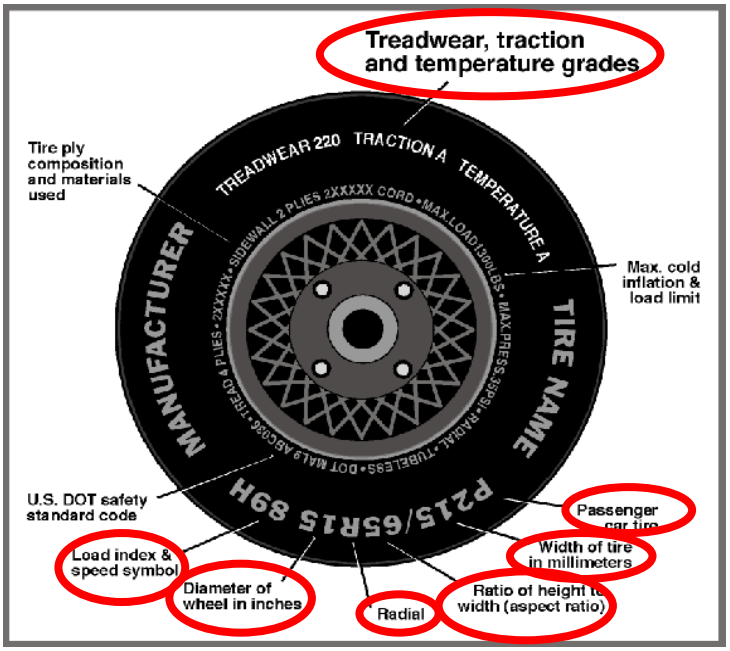
	Front	Rear	Third	Total
Designated Seating Capacity (DSC)	2	2	2	6
Vehicle Capacity Weight (VCW) (kg)				698.0
DSC X 68.04 kg				408.24
Rated Cargo and Luggage Weight (RCLW) (kg)				289.76

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	N/A	N/A		N/A	N/A	Yes
Rear or Second Row Seat	Yes	N/A	N/A	Yes	N/A	Yes	N/A
Third row seat	N/A	N/A	Yes	Yes	Yes	N/A	N/A

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

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	250	250
Recommended Tire Size	235/55R20 H	235/55R20 H
Tire Size on Vehicle	235/55R20 H	235/55R20 H
Tire Manufacturer	Michelin	Michelin
Tire Model	Premier LTX	Premier LTX
Treadwear	620	620
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	102H	102H
Tire Material	Polyester/Polyamide/Steel	Polyester/Polyamide/Steel
DOT Safety Code Left	B9 AJ 00TX 1819	B9 AJ 00TX 1819
DOT Safety Code Right	B9 AJ 00TX 1819	B9 AJ 00TX 1819

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

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	210	210	210	210
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 Axle	Rear Axle	Total	Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	573.0	449.4		583.2	538.8		580.2	545.6	
Right	kg	558.2	432.2		544.8	523.0		557.2	514.8	
Ratio	%	56.2	43.8		51.5	48.5		51.8	48.2	
Totals	kg	1131.2	881.6	2012.8	1128.0	1061.8	2189.8	1137.4	1060.4	2197.8

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	2012.8	(A)
Actual Weight of 1 P572V ATD (SID-IIs) Dummy Used	kg	49.0	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	136.0	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2197.8	(A+B+C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 kg)? ☒ YES ☐ NO

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	Deg.	-0.3	-0.2	0.4	Yes
Front Passenger Sill Angle (front-to-rear)*	Deg.	-0.2	0.0	0.4	Yes
Front Bumper-Line Angle (left-to-right)**	Deg.	-0.5	-0.2	-0.5	Yes
Rear Bumper-Line Angle (left-to-right)**	Deg.	0.0	0.0	0.2	Yes
Vehicle CG (Aft of Front Axle)	mm	1255	1389	1382	
Vehicle CG (Left (+) / Right (-) from longitudinal Centerline)	mm	+13	+21	+21	

*ND=Nose Down (-), NU=Nose Up (+) **LD=Left Down (-), LU=Left Up (+)
*** The "As Tested" vehicle attitude measurements must be equal to or between the "As Delivered" and "Fully Loaded" vehicle attitude measurements. Indicate "Yes" or "No" for "Meets Requirements".

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast: Steel plate and sandbags in cargo area	138.1
Components Removed: None	0.0

Test height adjustable suspension setting, if applicable: N/A

[1]Rated cargo and luggage weight limited to 136.0 kg or 300.0 lbs.

DATA SHEET NO. 2

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

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108

Test Program: SPNCAP Side Impact Test Date: 12/3/2019

SEAT POSITIONING

The driver seat, front center seat (if applicable), and right front passenger's seat should be set to the forward-most, mid-height, mid-angle position. The struck-side rear passenger's seat, rear center seat, and non-struck side rear passenger's seats should be set to the rear-most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL(°)		
	Max.	Min.	Mid
Driver Seat	17.2	11.0	14.1
Front Passenger Seat	16.2	10.2	13.2
Front Center Seat*	N/A	N/A	N/A
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat*	N/A	N/A	N/A

* If applicable.

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	Forward-Most
Driver Seat	14.1	210	Max	220	226	228
			Mid	202	210	217
			Min	184	195	205
Front Passenger Seat	13.2	212	Max	230	231	232
			Mid	211	212	213
			Min	192	193	194
Front Center Seat*	N/A	N/A	Max	N/A	N/A	N/A
			Mid	N/A	N/A	N/A
			Min	N/A	N/A	N/A
Struck Side Rear Seat	Fixed	N/A	Max	N/A	N/A	N/A
			Mid	Fixed	Fixed	Fixed
			Min	N/A	N/A	N/A
Non-Struck Side Rear Seat	Fixed	N/A	Max	N/A	N/A	N/A
			Mid	Fixed	Fixed	Fixed
			Min	N/A	N/A	N/A
Rear Center Seat*	Fixed	N/A	Max	N/A	N/A	N/A
			Mid	Fixed	Fixed	Fixed
			Min	N/A	N/A	N/A

* If applicable.

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

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

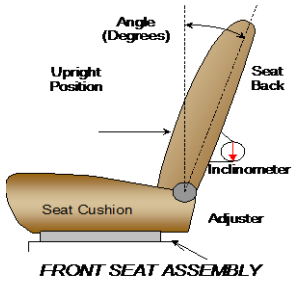
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position from Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	244	N/A	0	N/A
Front Passenger Seat	245	N/A	0	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	137	15	137	14
Non-Struck Side Rear Seat	137	15	137	14
Rear Center Seat*	N/A	N/A	N/A	N/A

* If applicable.

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck-side rear passenger seat back is positioned in accordance with the information provided by the manufacturer on Form No. 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	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degrees	Detent*
Driver Seat w/ Seated Dummy	65.7	N/A	-25.5	N/A
Front Passenger Seat	64.9	N/A	-24.0	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	12.8	8	13.5	0
Non-Struck Side Rear Seat	12.8	8	13.7	0
Rear Center Seat*	N/A	N/A	N/A	N/A

* If applicable.

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted with the information provided by the manufacturer on Form No. 1

	Total # of Positions	Placed in Position #
Driver Seat	4	1, Uppermost

HEAD RESTRAINT ADJUSTMENT

Head restraints are adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	9	9, Lowermost

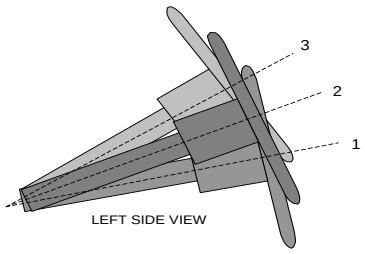
DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

STEERING COLUMN ADJUSTMENT

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

	Degrees	Fore/Aft Position, mm
Lowermost, Position No. 1	22.5	0
Geometric Center, Position No. 2	23.8	24.5
Uppermost, Position No. 3	26.4	49
Telescoping Steering Wheel Travel		49
Test Position	23.8	24.5

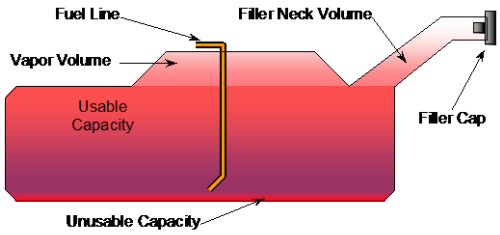


STEERING COLUMN ASSEMBLY

FUEL PUMP

Describe the fuel pump type, details about how it operates and the location of the fuel filler neck:

Pump will run for about 3 seconds when the key is turned on and then will not run unless the engine is cranking or running



VEHICLE FUEL TANK ASSEMBLY

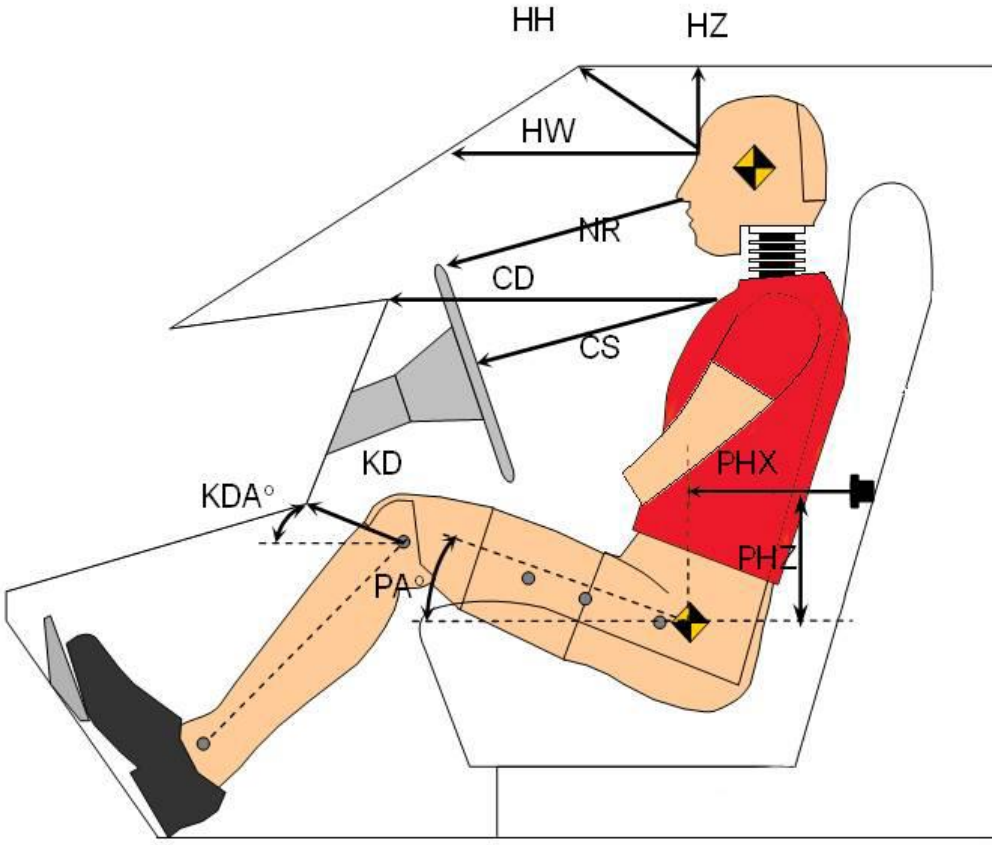
FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	73.4
Usable Capacity of "Optional" Tank (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner's Manual)	73.4
Usable Capacity of Optional Tank (see Owner's Manual)	N/A
93% of Usable Capacity	68.3
Actual Amount of Solvent Used in Test	68.3
1/3 of Usable Capacity	24.5

Is the Actual Amount of Solvent Used in the test equal to 93% ± 1% of the Usable Capacity stated in on Form No. 1? ☒ YES ☐ NO

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

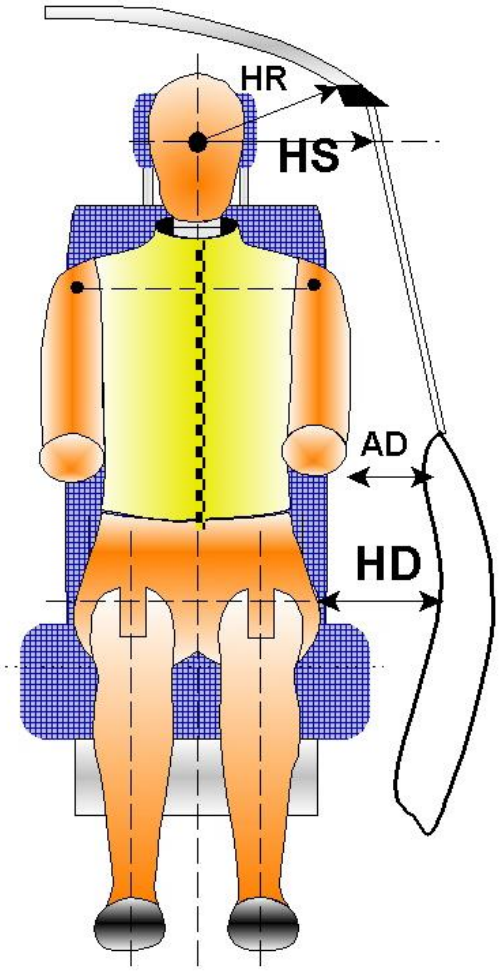
Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	381	
HW	Head to Windshield	747	
HZ	Head to Visor	272	
NR	Nose to Rim	301	
CD	Chest to Dashboard	467	
CS	Chest to Steering Wheel	243	
KDL/KDLA°	Left Knee to Dash	167	43.5
KDR/KDRA°	Right Knee to Dash	161	40.3
PAX°	Pelvic Tilt Angle (X-axis)		0.0
PAY°	Pelvic Tilt Angle (Y-axis)		19.5
PHX	Hip Point to Striker (X-Axis)	314	
PHZ	Hip Point to Striker (Z-Axis)	80	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

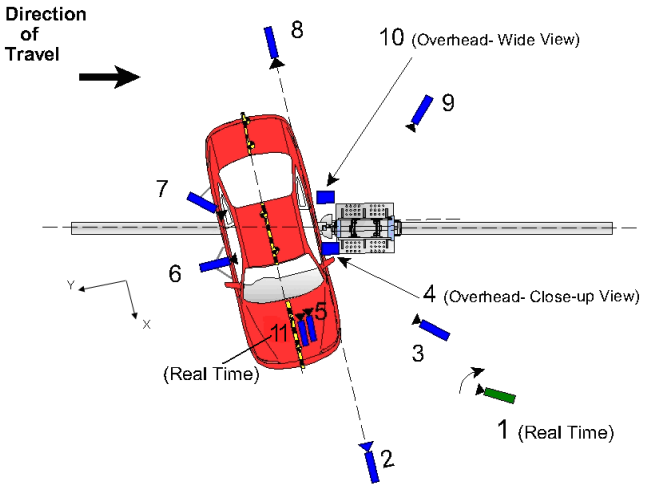
Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



Code	Measurement Description	Length (mm)
HR	Head to Side Header	307
HS	Head to Side Window	407
AD	Arm to Door	168
HD	Hip Point to Door	172

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



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 (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1	Real time (24-30 fps) pan view of impact				Zoom	30
2	Front ground level – impact view	4930	0	-1606	20	1000
3	Impact side 45° – forward pole view	2835	-1576	-1049	20	1000
4	Overhead Close-up view of impact	0	0	-5759	28	1000
5	Onboard – dummy front view				25	1000
6	Onboard – dummy side view				12.5	1000
7	Onboard – dummy rear oblique view				12.5	1000
8	Rear ground level – impact view	-5562	734	-1753	20	1000
9	Impact side 45° – rearward pole view	-2963	-2584	-1702	20	1000
10	Overhead wide view of impact	-275	375	-5751	18.5	1000
11	Real time dummy front view				Zoom	30

All measurements accurate to +/- 6 mm.

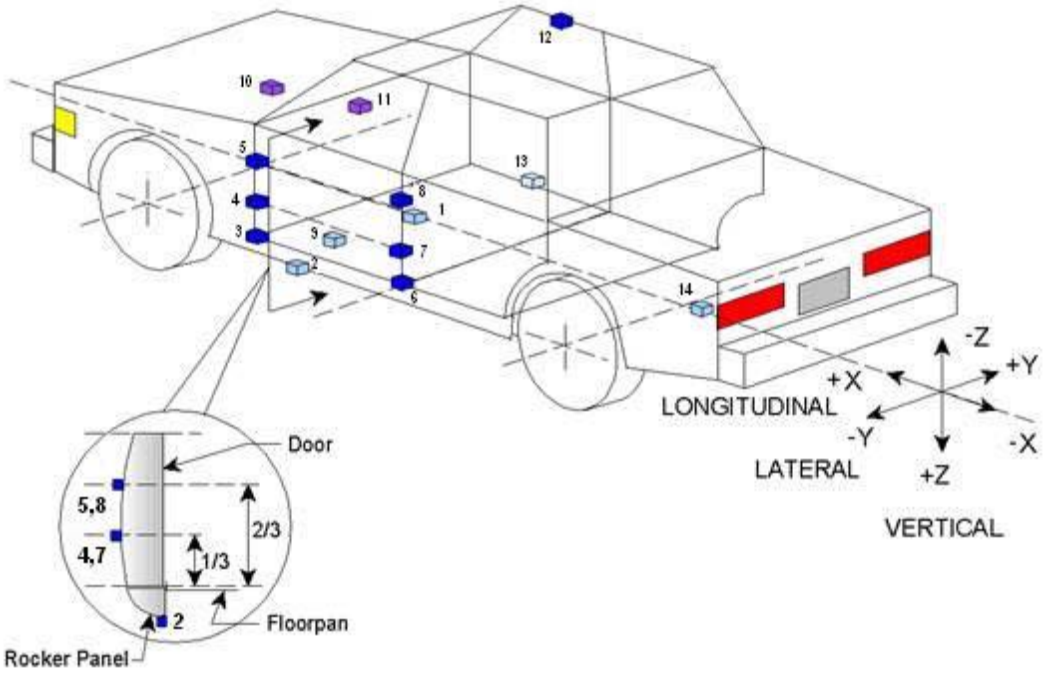
NOTE: Vehicle was at a 75° angle to the rigid pole.
If applicable, explain why camera(s) did not run: N/A

INSTRUMENTATION

	Number of Channels
Driver Dummy	16
Vehicle Structure	18
Pole Load Cells	8
TOTAL	42

DATA SHEET NO. 6
VEHICLE ACCELEROMETER DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



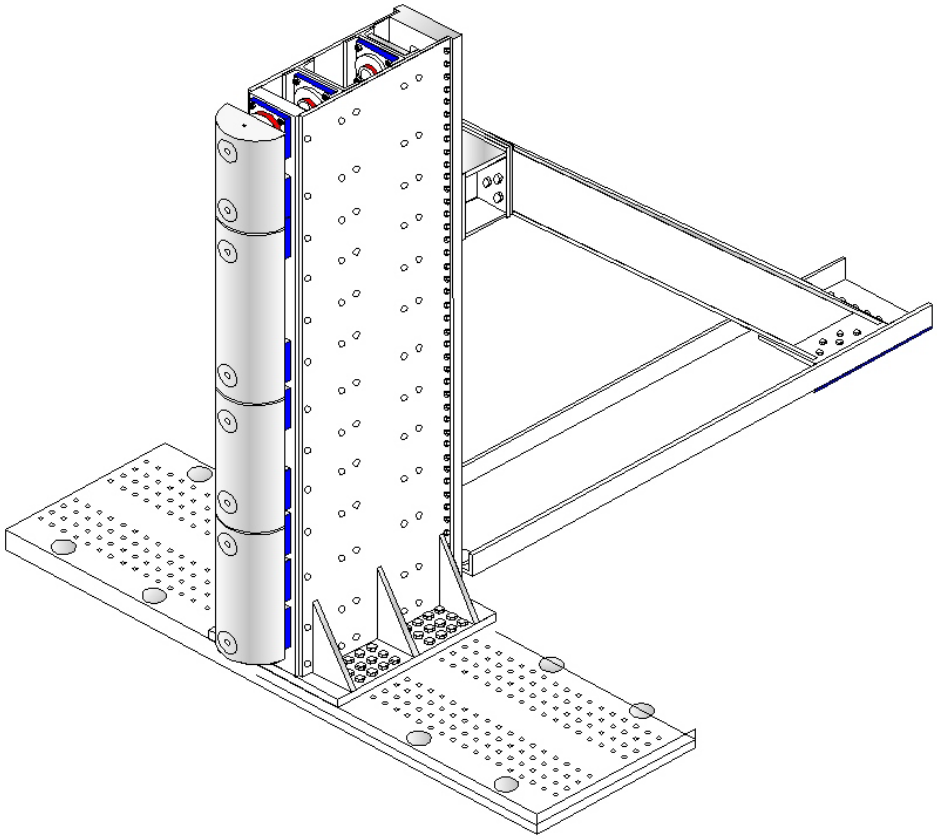
	Accelerometer/Sensor Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	3205	90	-414
2	Left Floor Sill	3080	-700	-421
3	A-Pillar Sill	3438	-735	-487
4	A-Pillar Low	3460	-895	-600
5	A-Pillar Mid	3500	-856	-982
6	B-Pillar Sill	2350	715	-415
7	B-Pillar Low	2410	835	-640
8	B-Pillar Mid	2375	825	-1066
9	Driver Seat Track	2773	-588	-418
10	Engine Top	4420	-70	-525
11	Firewall	3945	20	-642
12	Right Roof	2620	575	-1677
13	Right Floor Sill	3090	700	-410
14	Rear Floorpan	750	0	-235

Reference: *X - Test Vehicle Rear Bumper (+ forward)*
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

FOIL 300K RIGID POLE



Load Cell Locations	
ID	**Height From Top of Carrier (mm)**
1	87
2	468
3	648
4	978
5	1168
6	1651
7	1816
8	2057

DATA SHEET NO. 8
POST-TEST OBSERVATIONS

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	SCAB
Top of Head	SCAB, Headrest
Left Side of Head	SCAB, Headrest
Back of Head	Headrest
Left Shoulder	Seatback bolster, SAB, Door panel
Upper Torso	Seatback bolster
Lower Torso	Seatback bolster
Left Hip	Seat cushion bolster, SAB, Door panel
Left Knee	Door panel

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/ Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	N/A	N/A	N/A	N/A	N/A

* Indicate “Yes”, “No”, or “NA”.

POST-TEST SEAT PERFORMANCE

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

* Indicate “Yes”, “No”, or “NA”.

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Sill Separation	None
Windshield Damage	Damage along driver A pillar
Side Window Damage	Driver window shattered but intact
Other Notable Effects	Sunroof shattered

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

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

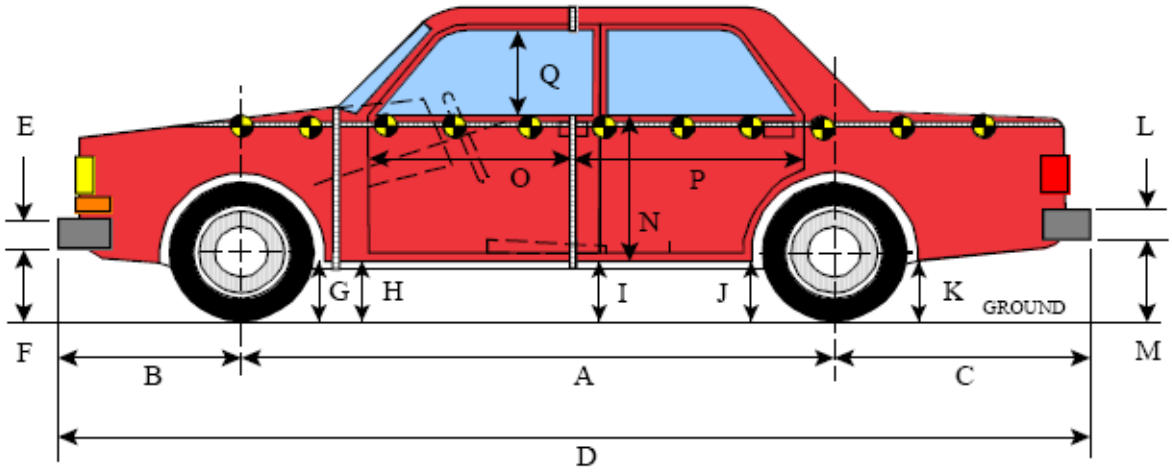
Restraint Type	Struck Side (Driver)		Struck Side (Rear Passenger)	
	Mounted	Deployed	Mounted	Deployed
Front Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	N/A
Side Torso Airbag	No	N/A	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
Seat Belt Load Limiter	Yes	Unknown	No	N/A
Other	No	N/A	No	N/A

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

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1180
Actual Impact Point (Aft of Front Axle)	mm		1179
Horizontal Offset (+ forward / - rearward)	mm	+/- 38 of Intended Impact point	+1
Angle Between Vehicle's Longitudinal Centerline and Line of Motion	degrees	75 +/- 3	75
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	31.95
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	31.91

DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



LEFT SIDE VIEW
All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3mm

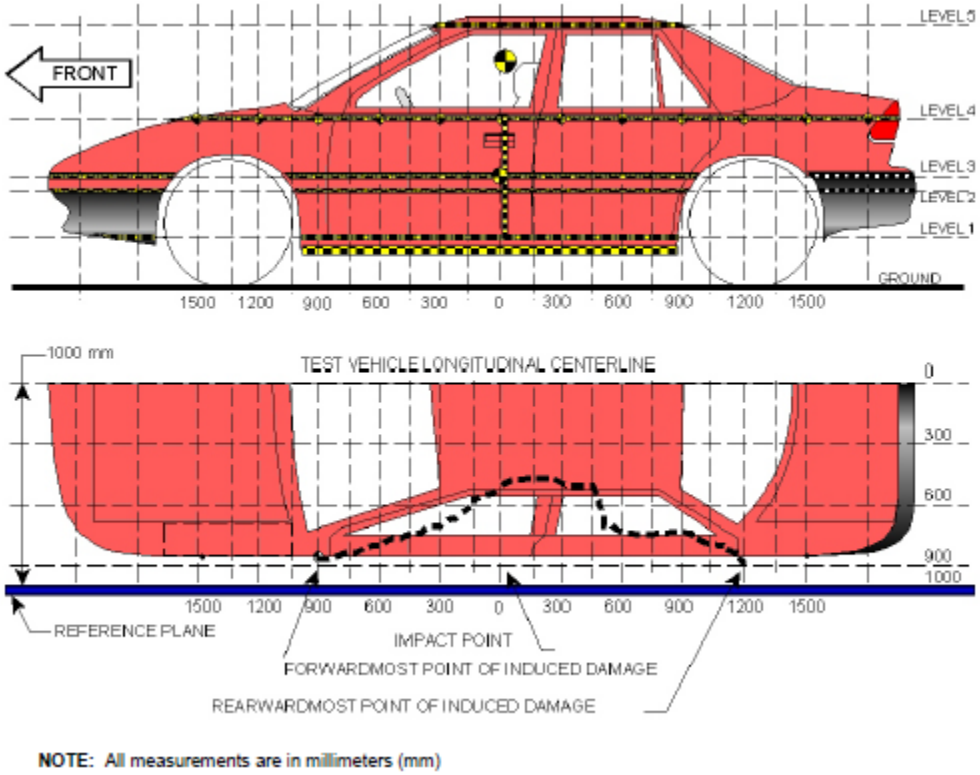
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2865	2800	65
B	Front Axle to Front Surface of Vehicle	1035	1035	0
C	Rear Axle to Rear Surface of Vehicle	1150	1150	0
D	Total Length at Centerline	5050	5025	25
E	Front Bumper Thickness	110	110	0
F	Front Bumper Bottom to Ground	498	535	-37
G	Sill Height at Front Wheel Well	373	382	-9
H	Sill Height at Front Door Leading Edge	375	395	-20
I	Sill Height at B-Pillar	424	470	-46
J1	Sill Height at Rear Wheel Well	424	475	-51
J2	Pinch Weld Height at Rear Wheel Well	264	305	-41
K	Sill Height Aft of Rear Wheel Well	495	532	-37
L	Rear Bumper Thickness	120	120	0
M	Rear Bumper Bottom to Ground	543	570	-27
N	Sill Height to Bottom of Front Window Sill	900	880	20
O	Front Door Leading Edge to Impact CL	661	535	126
P	Rear Door Trailing Edge to Impact CL	1507	1430	77
Q	Front Window Opening	445	425	20
R	Right Side Length	4650	4640	10
S	Left Side Length	4650	4585	65
T[1]	Vehicle Width at B-Pillars	1875	1795	80

[1] Max width = 1955

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



NOTE: All measurements are in millimeters (mm)

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	436	322	0
2	Occupant H-Point	747	362	0
3	Mid-Door	721	360	0
4	Window Sill	1087	344	0
5	Window Top	1667	151	151

NOTE: The above measurements should be taken along the vertical impact reference line. Vehicle measurements forward of the vertical impact reference line are negative.

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

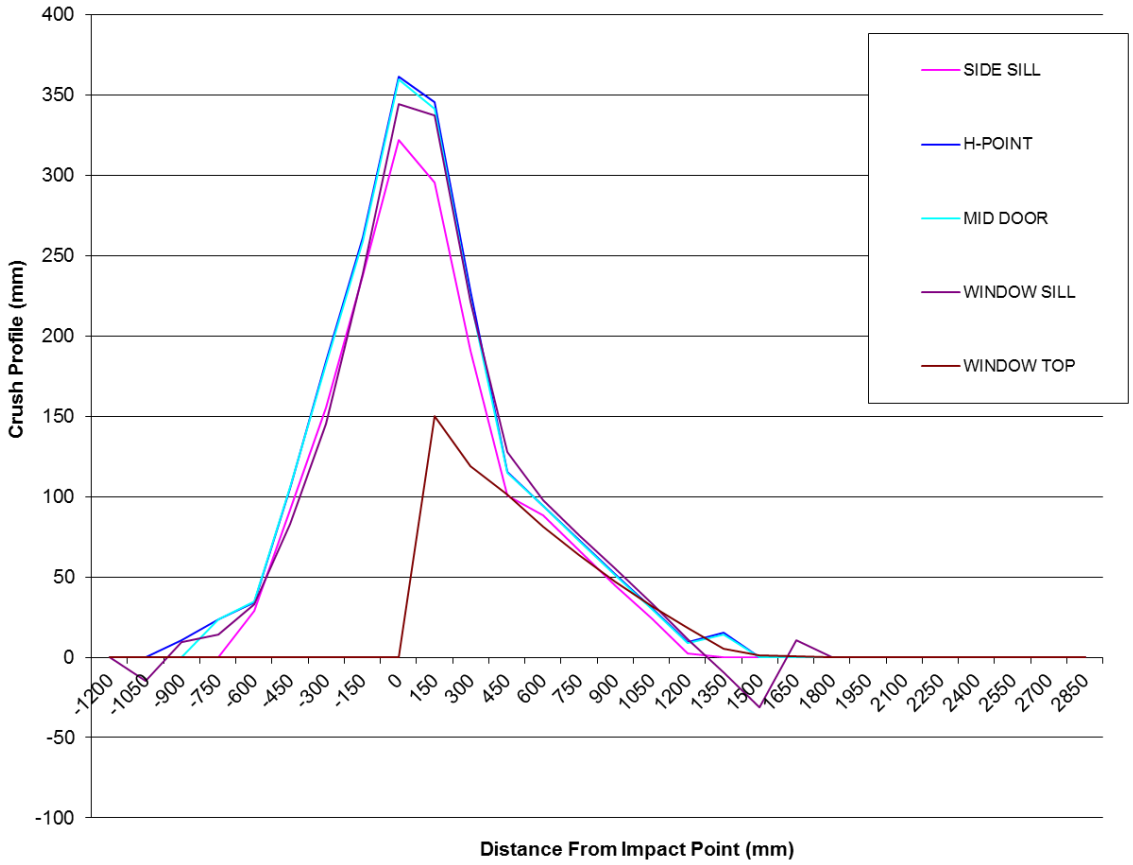
Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1050	0	0	0	817	0	0	0	0	832	0	0	0	0	-15	0
-900	0	976	0	827	0	0	966	0	818	0	0	10	0	9	0
-750	0	970	971	839	0	0	946	948	825	0	0	24	23	14	0
-600	940	954	954	852	0	911	920	919	819	0	29	34	35	33	0
-450	924	943	943	927	0	833	838	836	844	0	91	105	107	83	0
-300	918	935	934	877	0	763	751	752	731	0	155	184	182	146	0
-150	912	931	930	887	0	674	669	671	649	0	238	262	259	238	0
0	908	929	928	897	0	586	567	568	553	0	322	362	360	344	0
150	906	927	926	898	618	610	582	585	561	467	296	345	341	337	151
300	909	927	926	893	628	718	699	703	672	509	191	228	223	221	119
450	911	925	924	907	632	811	810	809	780	531	100	115	115	127	101
600	907	924	923	907	635	819	829	828	809	553	88	95	95	98	82
750	904	923	922	906	636	838	850	849	830	572	66	73	73	76	64
900	906	924	923	906	636	861	872	872	851	589	45	52	51	55	47
1050	910	931	931	905	637	886	901	901	872	605	24	30	30	33	32
1200	927	948	948	906	636	925	939	939	894	618	2	9	9	12	18
1350	0	964	963	907	635	0	949	949	916	630	0	15	14	-9	5
1500	0	0	0	907	633	0	0	0	938	632	0	0	0	-31	1
1650	0	0	0	907	631	0	0	0	896	630	0	0	0	11	1

NOTE: Pre-test measurements are taken when the vehicle is in the “As Tested” weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point. The final distance from impact is determined after the final dummy positioning and the pole is aligned with the center of gravity of the dummy’s head.

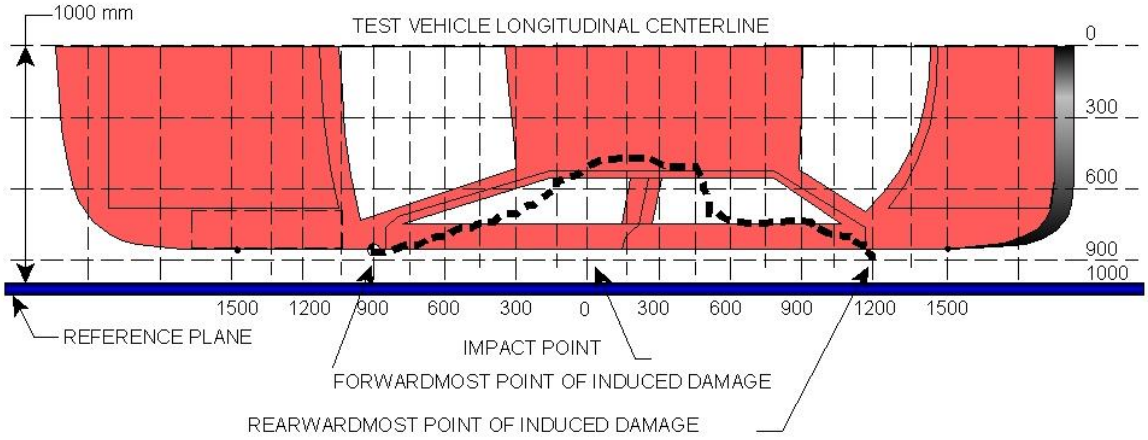
DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019



VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	1650	4	896	907	11
2	1200	5	618	636	18
3	600	4	809	907	98
4	150	2	582	927	345
5	-450	3	836	943	107
6[1]	-900	2	966	976	0

[1] DPD 6 is defined as zero crush since the crush does not extend to the end of the vehicle.

DATA SHEET NO. 12

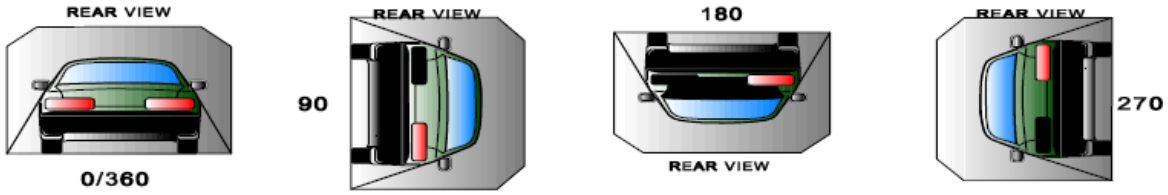
FMVSS NO. 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

Test Time: 16:13 **Temperature:** 21.4ºC

A. From impact until vehicle motion ceases: 0 oz.
(Maximum allowable is 1 ounce)
B. For the 5 minute period after motion ceases: 0 oz.
(Maximum allowable is 5 ounces)
C. For the following 25 minutes: 0 oz.
(Maximum allowable is 1 ounce/minute)
D. Spillage Details: None

FMVSS 301 STATIC ROLLOVER DATA



ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0 to 90	90	330	420
90 to 180	90	330	840
180 to 270	90	330	1260
270 to 360	90	330	1680

FMVSS NO. 301 ROLLOVER SPILLAGE TABLE

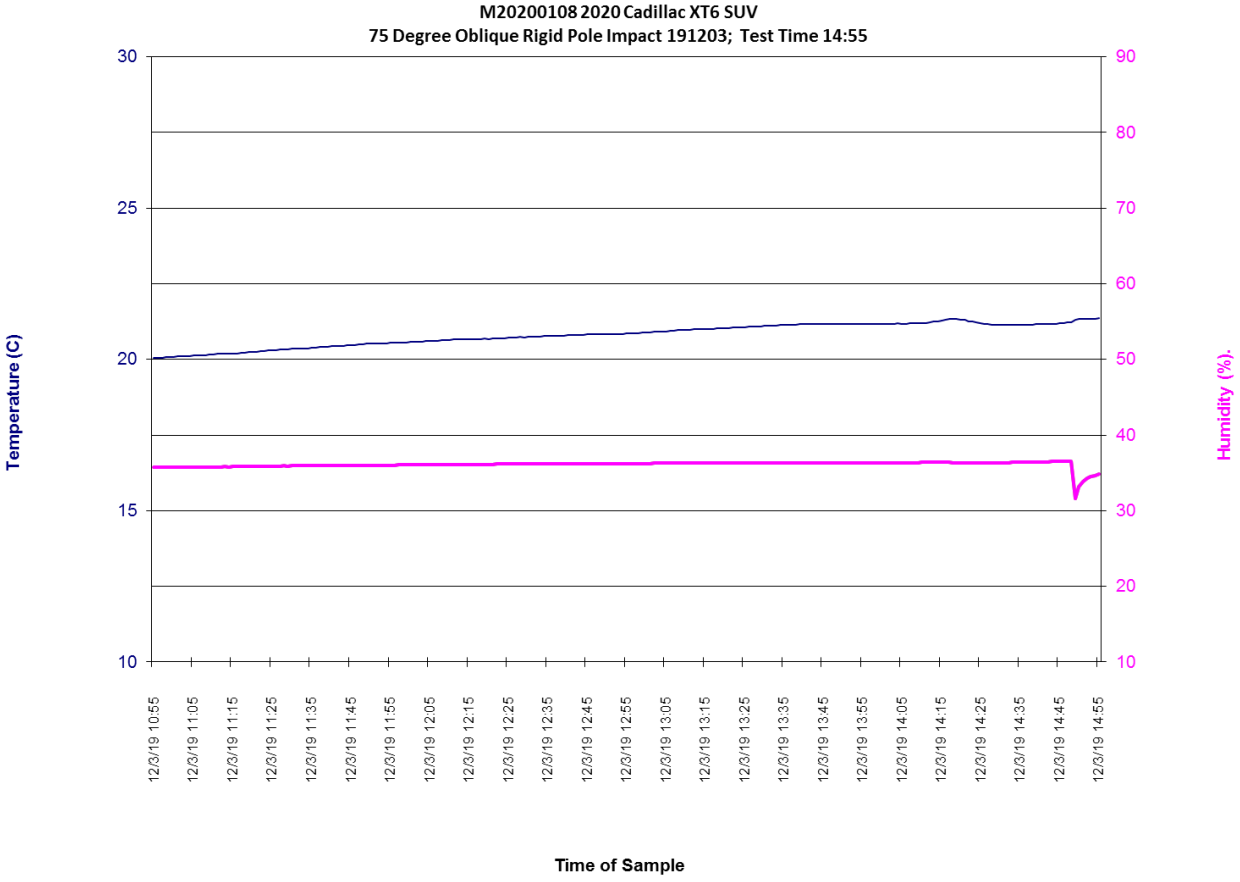
Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0 to 90	0	0	0	0
90 to 180	0	0	0	0
180 to 270	0	0	0	0
270 to 360	0	0	0	0

ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0 to 90	None
90 to 180	None
180 to 270	None
270 to 360	None

DATA SHEET NO. 13
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA

Test Vehicle: 2020 Cadillac XT6 SUV NHTSA No.: M20200108
Test Program: SPNCAP Side Impact Test Date: 12/3/2019

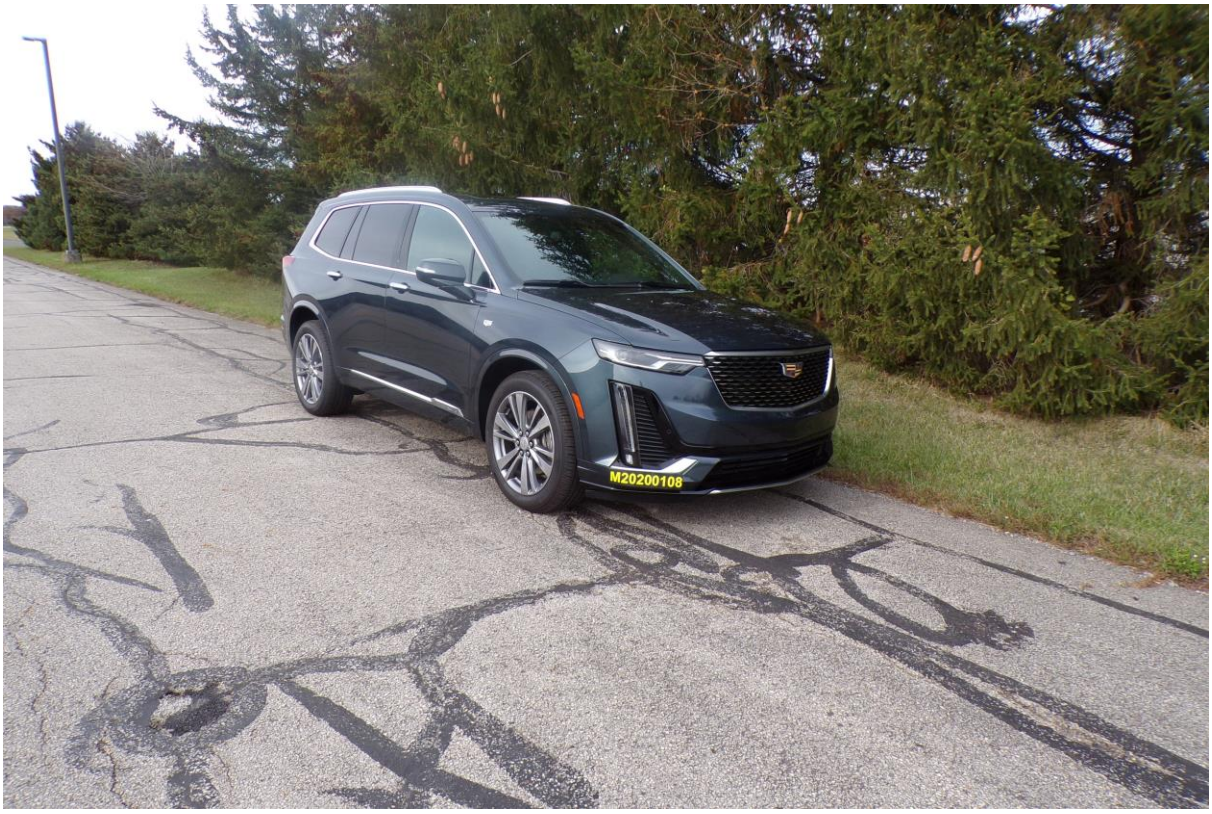


APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (CONTINUED)



No. 001 As Delivered Right Front ¾ View of Test Vehicle

No. 002 As Delivered Left Rear ¾ View of Test Vehicle

No. 003 Pre-Test Frontal View of Test Vehicle

No. 004 Post-Test Frontal View of Test Vehicle

No. 005 Pre-Test Left Front ¾ View of Test Vehicle

No. 006 Post-Test Left Front ¾ View of Test Vehicle

No. 007 Pre-Test Left Side View of Test Vehicle

No. 008 Post-Test Left Side View of Test Vehicle

No. 009 Pre-Test Left Rear ¾ View of Test Vehicle

No. 010 Post-Test Left Rear ¾ View of Test Vehicle

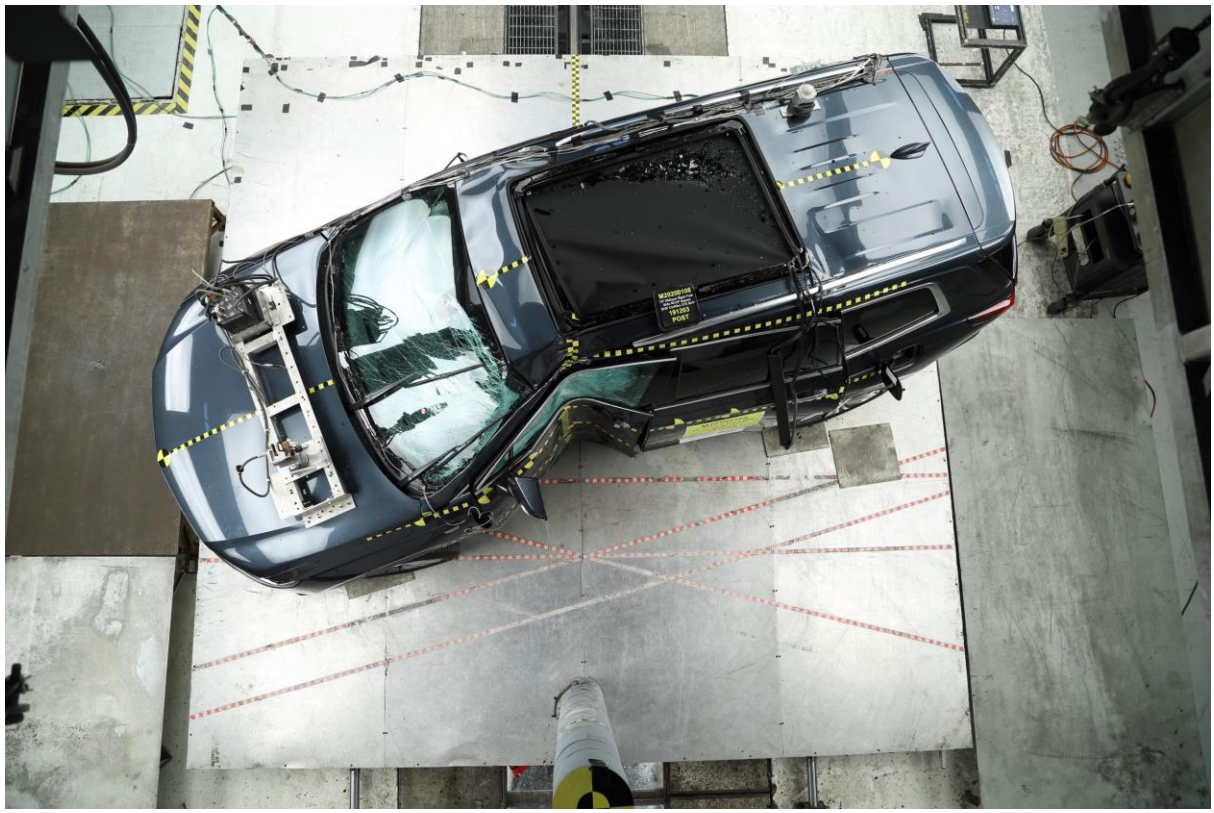
No. 011 Pre-Test Rear View of Test Vehicle

No. 012 Post-Test Rear View of Test Vehicle

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

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

No. 015 Pre-Test Overhead View of Test Area



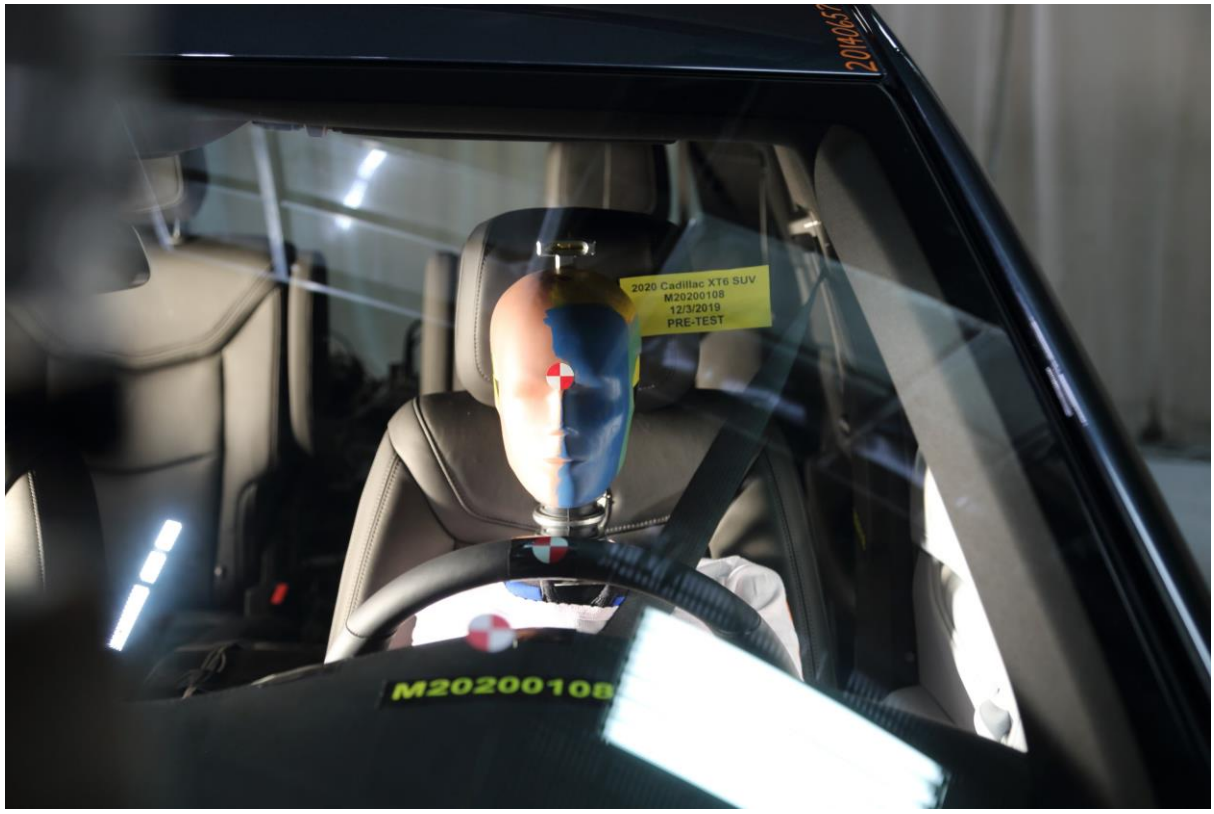
No. 016 Post-Test Overhead View of Test Area

No. 017 Pre-Test Left Side View of Pole Positioned Against Side of Vehicle

No. 018 Pre-Test Right Side View of Pole Positioned Against Side of Vehicle

No. 019 Pre-Test Close-Up View of Impact Point Target

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



No. 021 Pre-Test Front Close-Up View of Dummy Head and Chest

No. 022 Post-Test Front Close-Up View of Dummy

No. 023 Pre-Test Left Side View of Dummy Showing Belt and Chalking

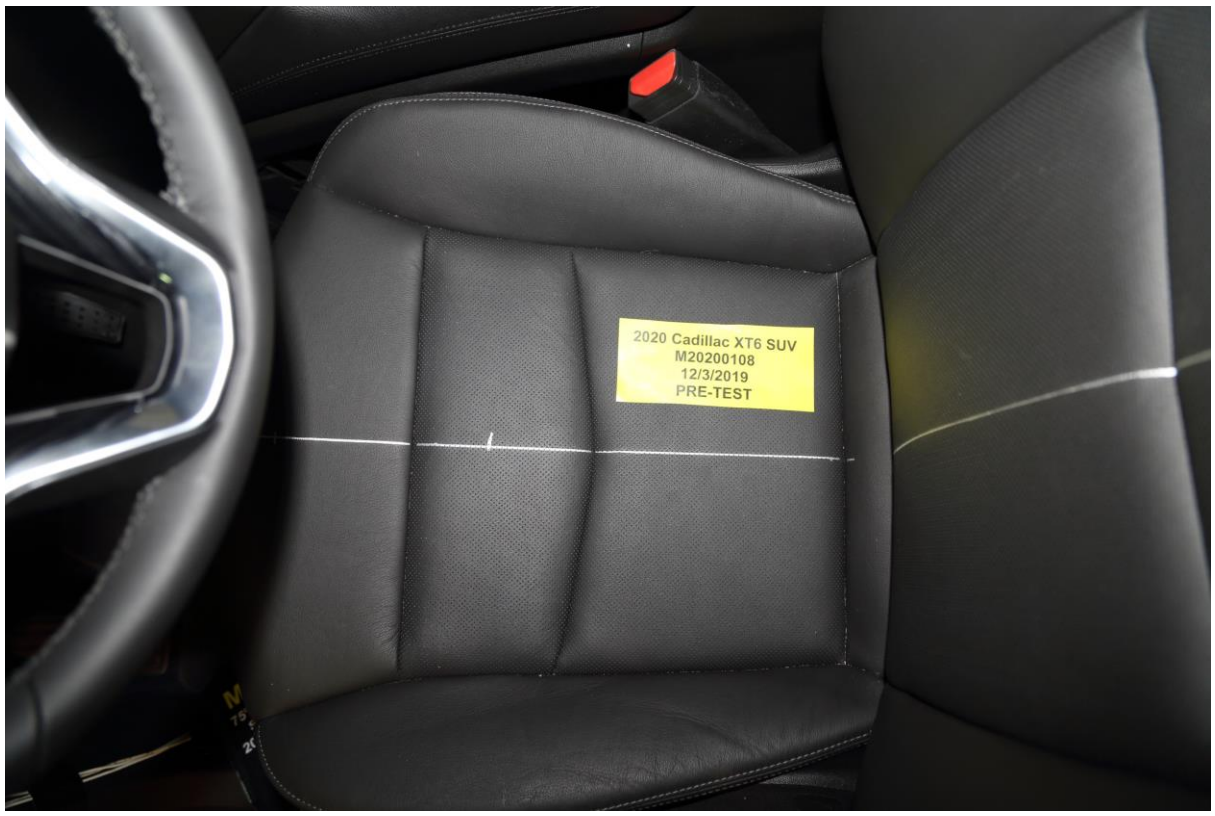
Intentionally Left Blank

No. 024 Pre-Test Left Side View of Dummy Shoulder and Door Top View

No. 025 Post-Test Left Side View of Dummy Shoulder and Door Top View

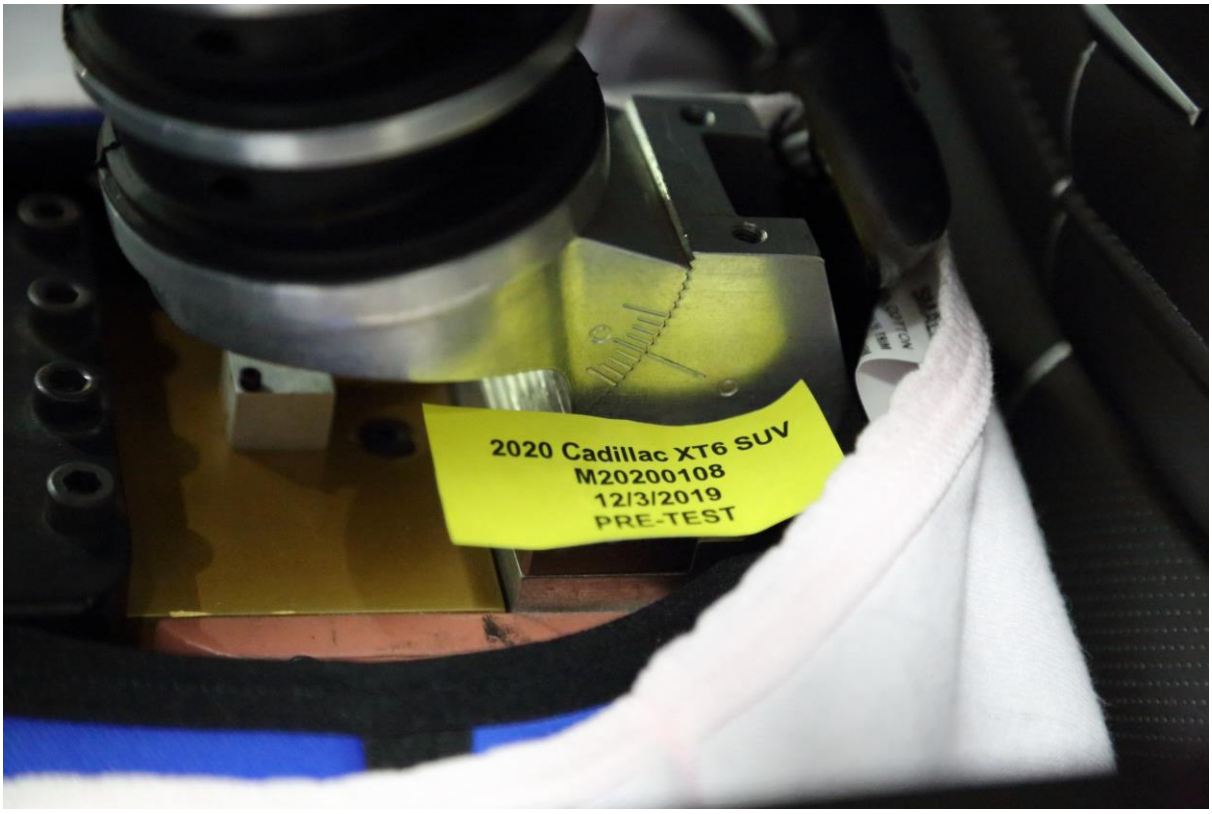
No. 026 Pre-Test Front View of Seat Back Prior to Dummy Positioning

No. 027 Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



No. 028 Pre-Test Front View of Seat Pan Prior to Dummy Positioning

No. 029 Pre-Test Overhead View of Dummy Thighs on Seat Pan



No. 030 Pre-Test Left Side View of Dummy Neck Showing Position of Adjustable Neck Bracket

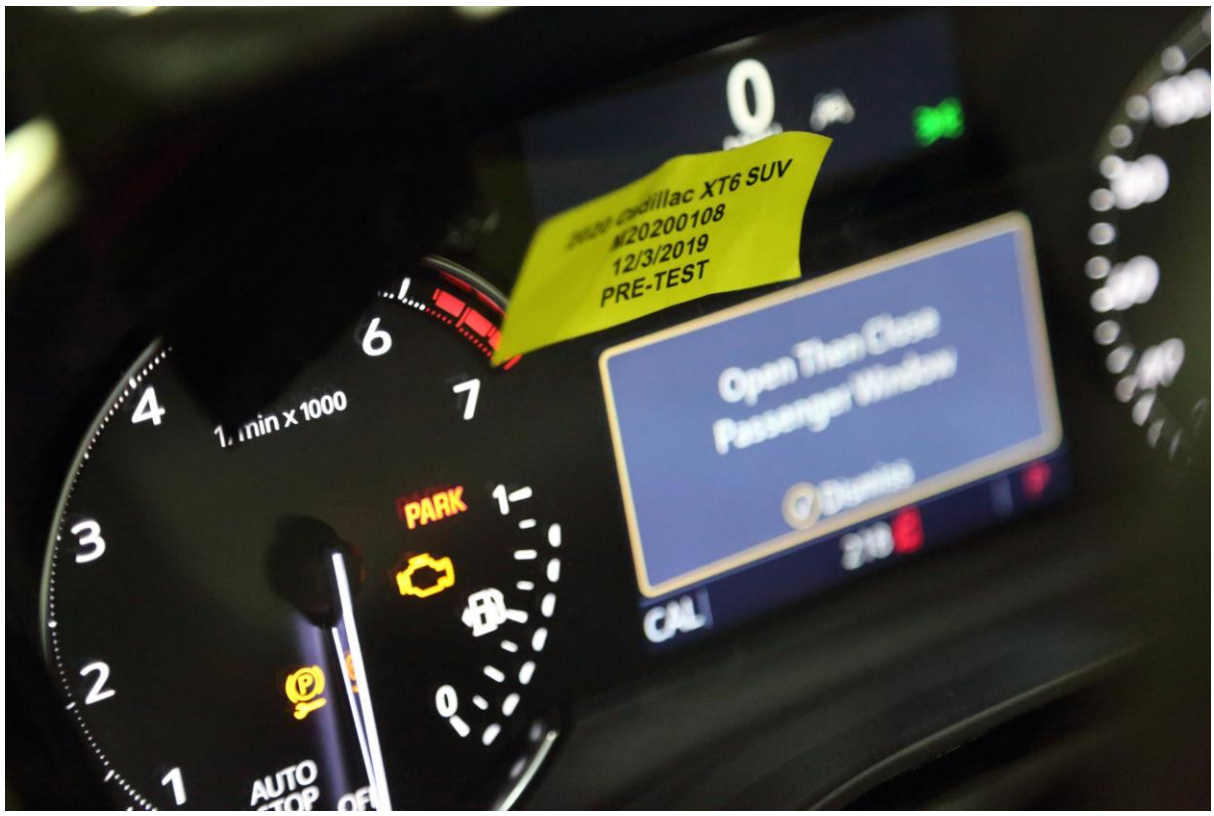
No. 031 Pre-Test Left Side View of Dummy Head Showing Dummy Head is Level

No. 032 Pre-Test Placement of Dummy Feet

No. 033 Pre-Test View of Belt Anchorage for Dummy

No. 034 Pre-Test Left Side View of Steering Wheel

No. 035 Pre-Test View of Disengaged Parking Brake



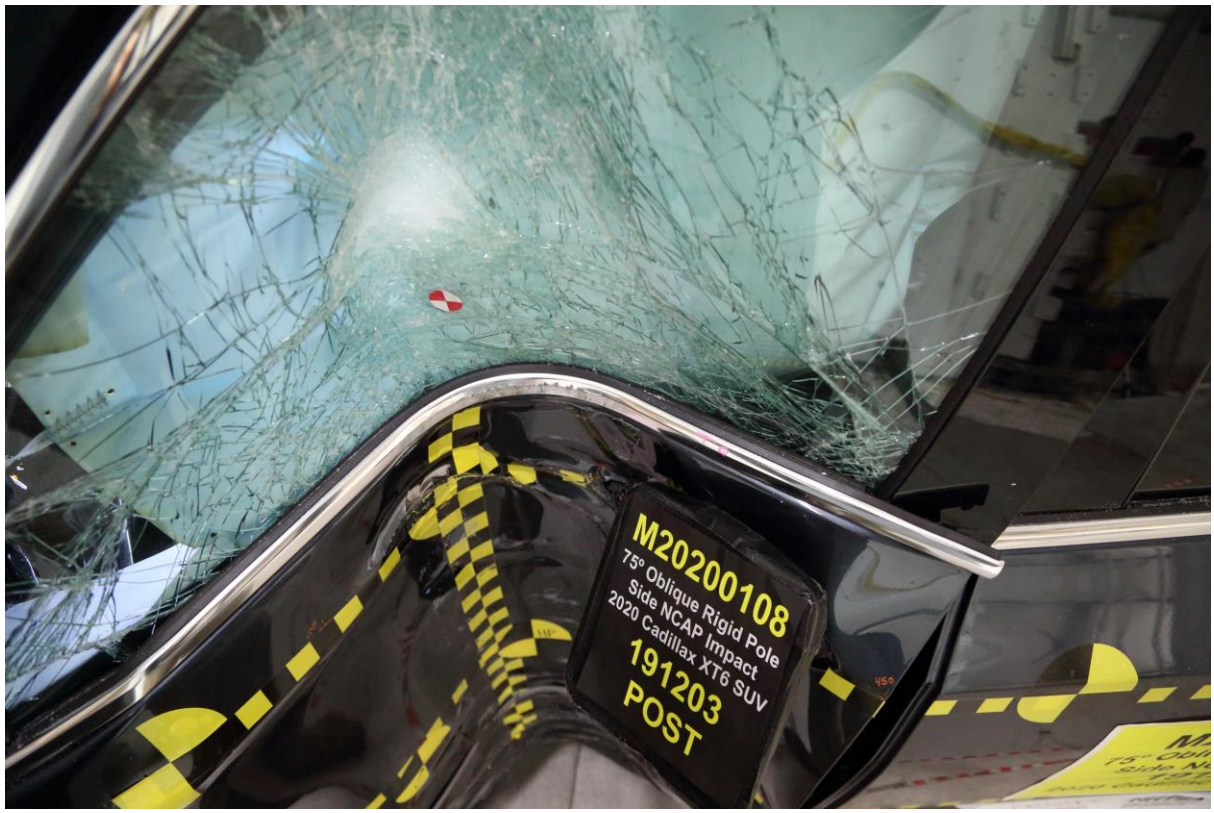
No. 036 Pre-Test View of Parking Brake

No. 037 Pre-Test Close-Up Left Side View of Driver Seat Track

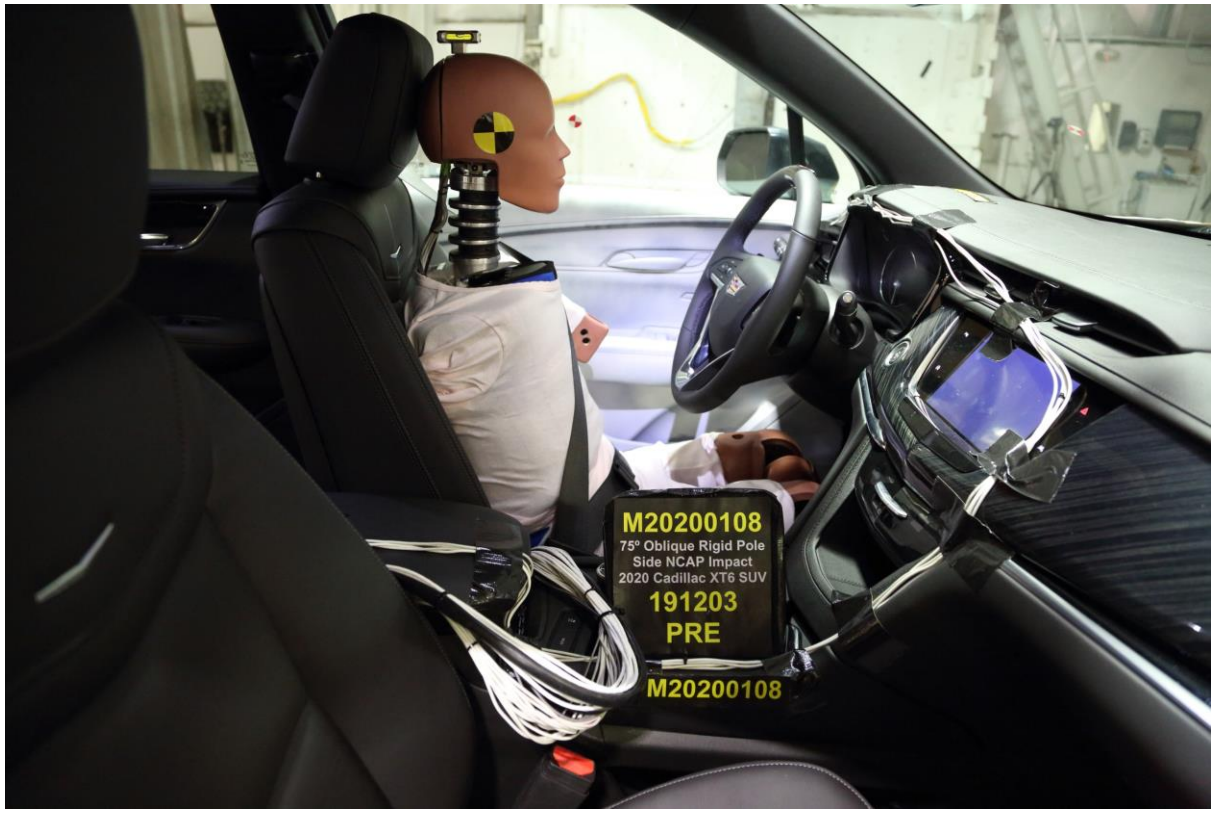
No. 038 Pre-Test Close-Up Left Side View of Driver Seat Back

No. 039 Pre-Test Close-Up View of Driver Seat Back or Head Restraint

No. 040 Pre-Test Dummy and Door Clearance View



No. 041 Post-Test Dummy and Door Clearance View



No. 042 Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment

No. 043 Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment

No. 044 Pre-Test Inner Door Panel View

No. 045 Post-Test Inner Door Panel View Showing Dummy Contact Location

No. 046 Post-Test Dummy Close-Up Head Contact with Vehicle Interior View

Intentionally Left Blank

No. 047 Post-Test Dummy Close-Up Head Contact with Side Airbag View

No. 048 Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View

No. 049 Post-Test Dummy Close-Up Torso Contact with Side Airbag View

No. 050 Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View

No. 051 Post-Test Dummy Close-Up Pelvis Contact with Side Airbag View

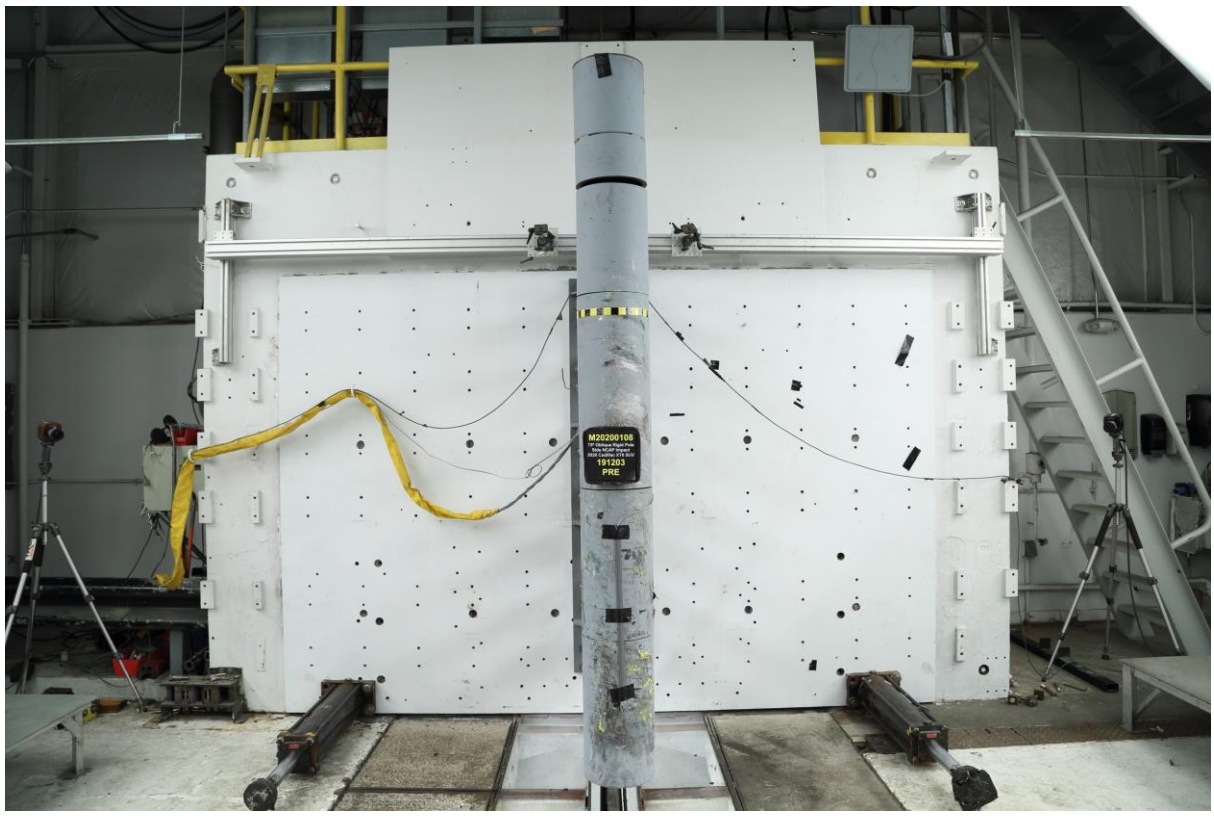
No. 052 Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View

No. 053 Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

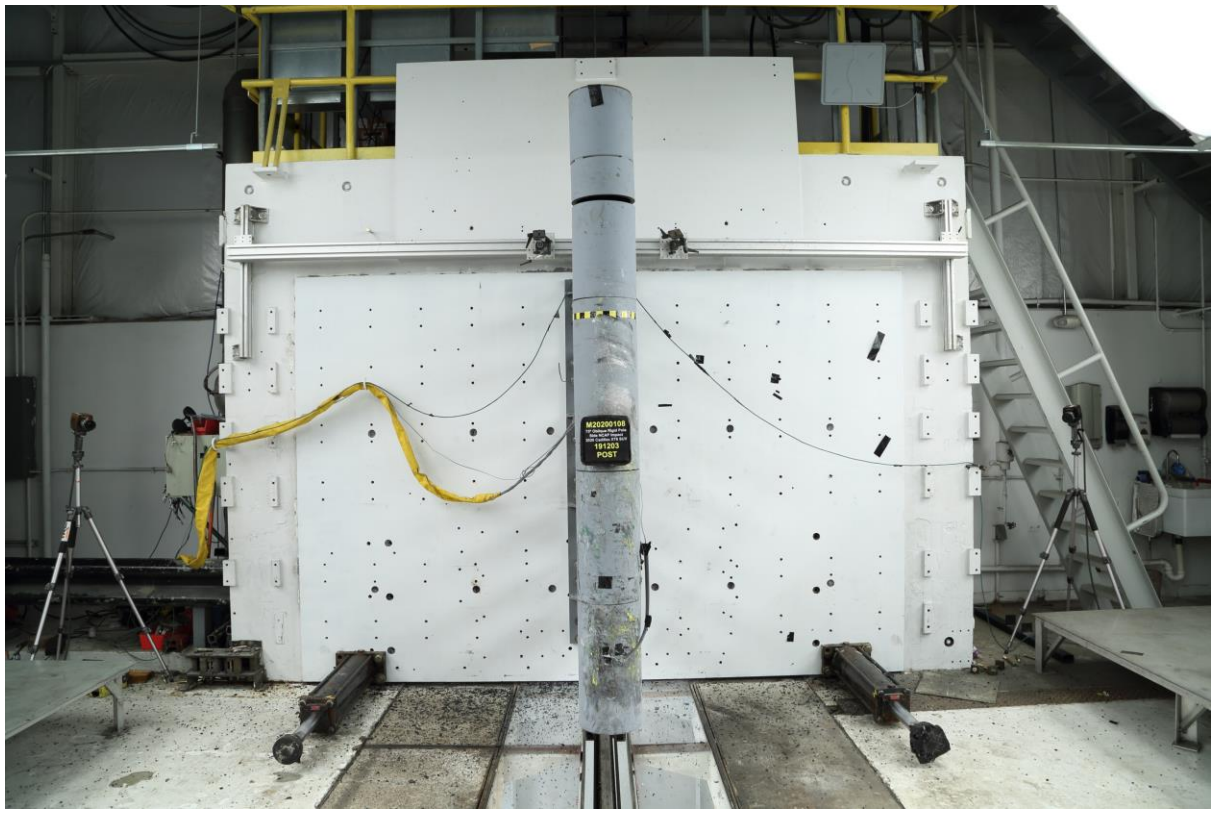
No. 054 Post-Test View of Fuel Filler Cap or Fuel Filler Neck

No. 055 Close-Up View of Vehicle Certification Label

No. 056 Close-Up View of Vehicle Tire Information Placard or Label

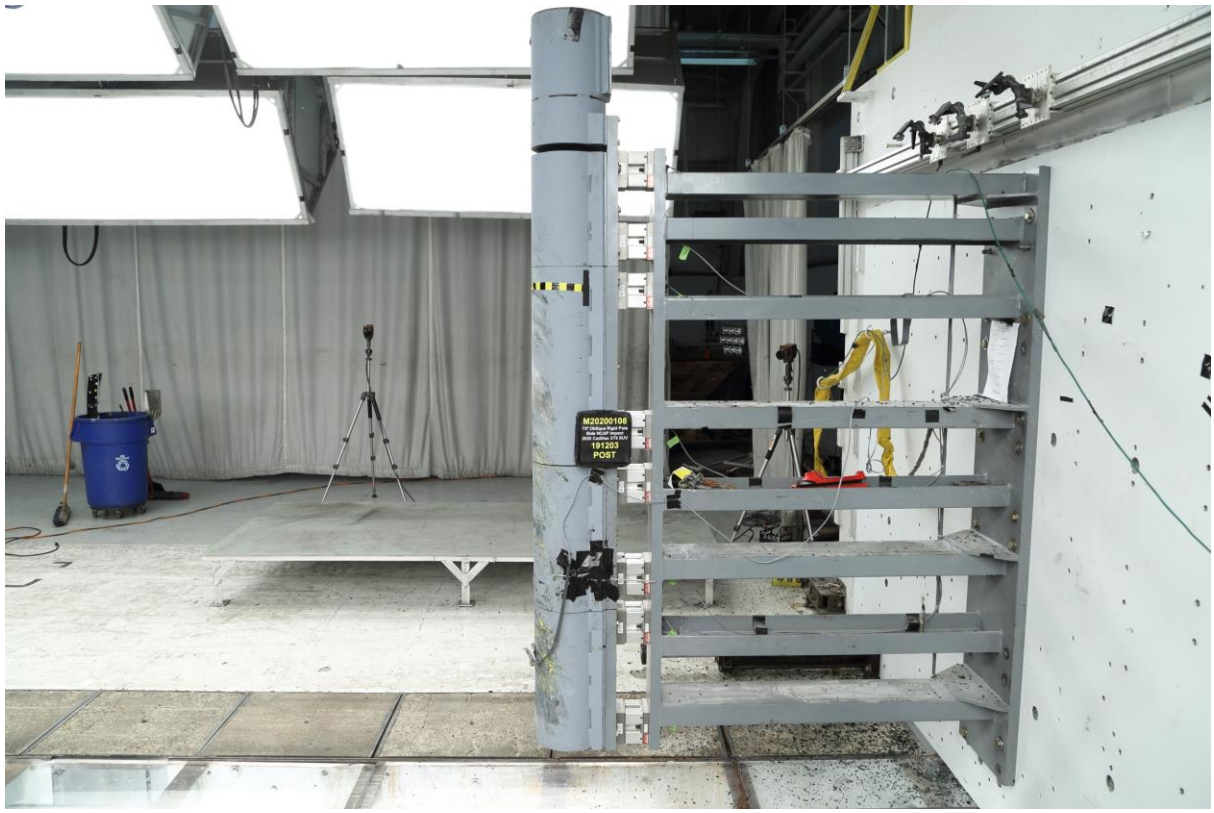


No. 057 Pre-Test Pole Barrier Front View

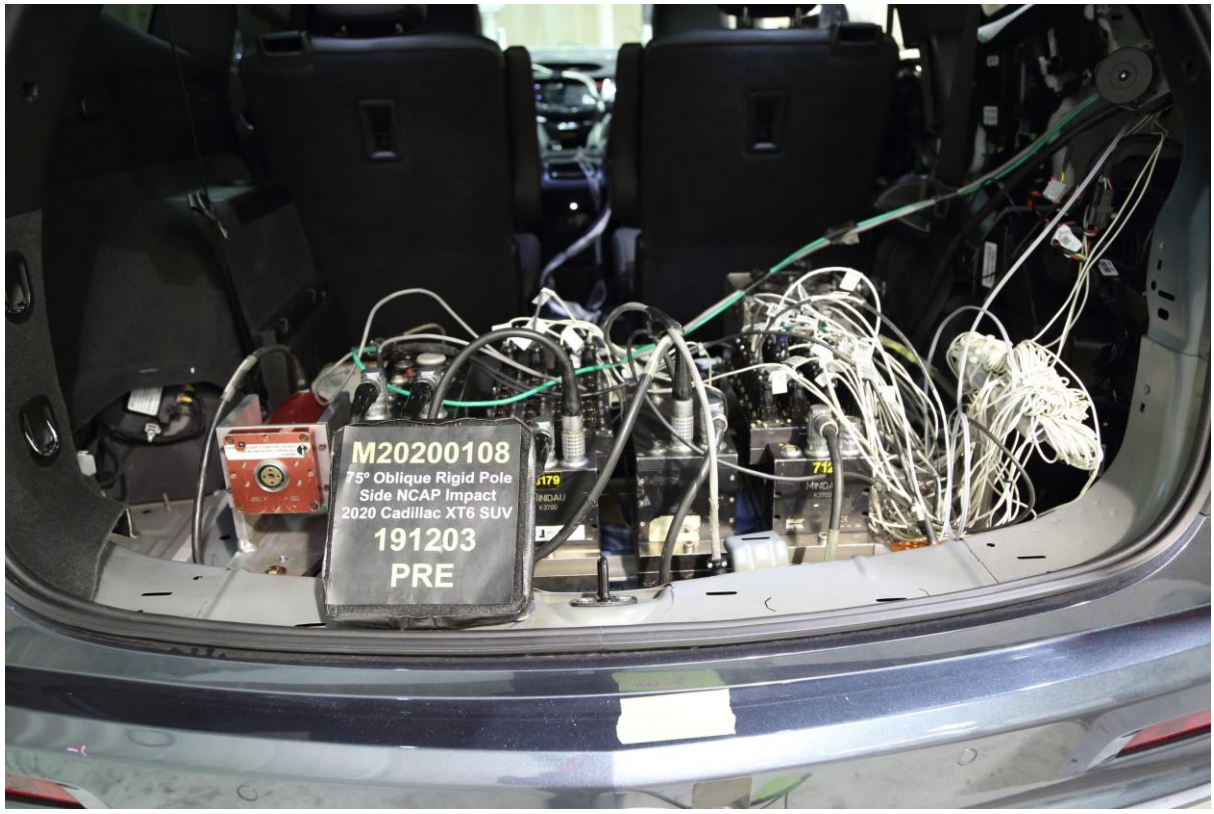


No. 058 Post-Test Pole Barrier Front View

No. 059 Pre-Test Pole Barrier Side View

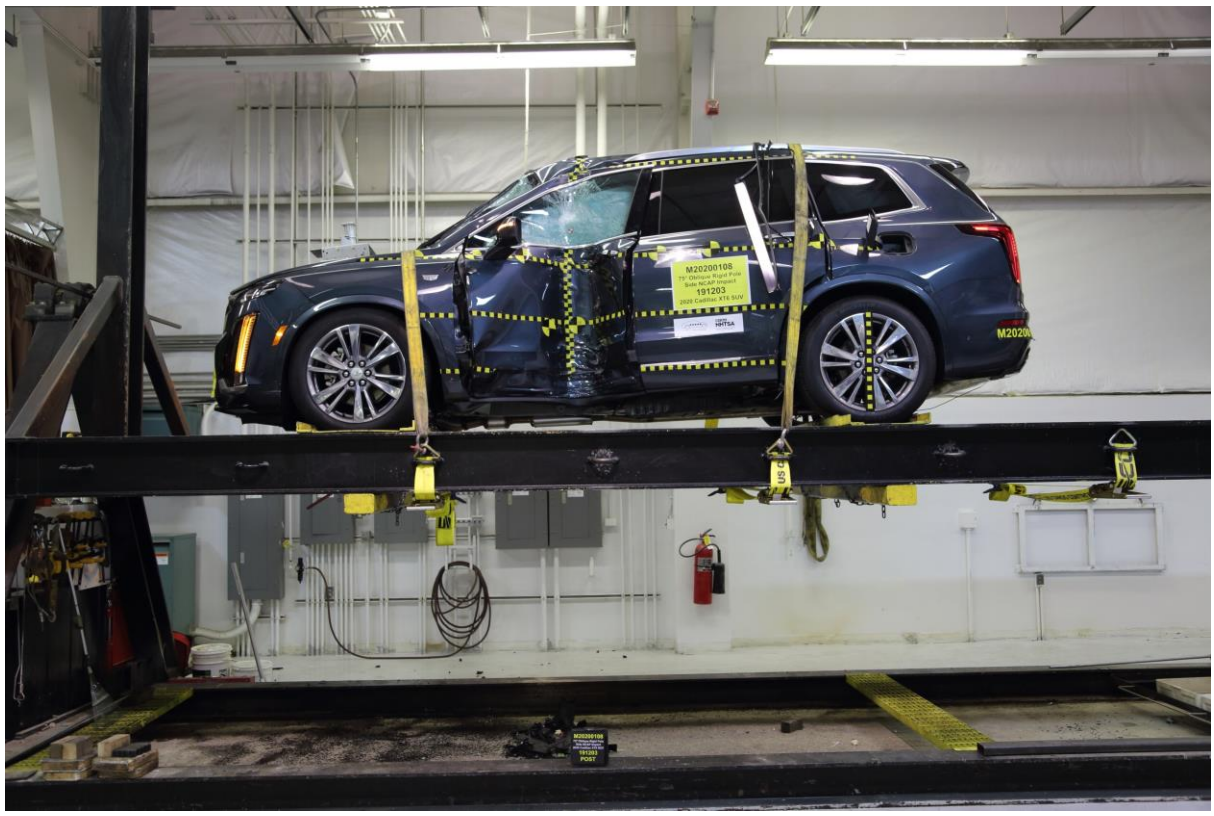


No. 060 Post-Test Pole Barrier Side View



No. 061 Pre-Test Ballast View

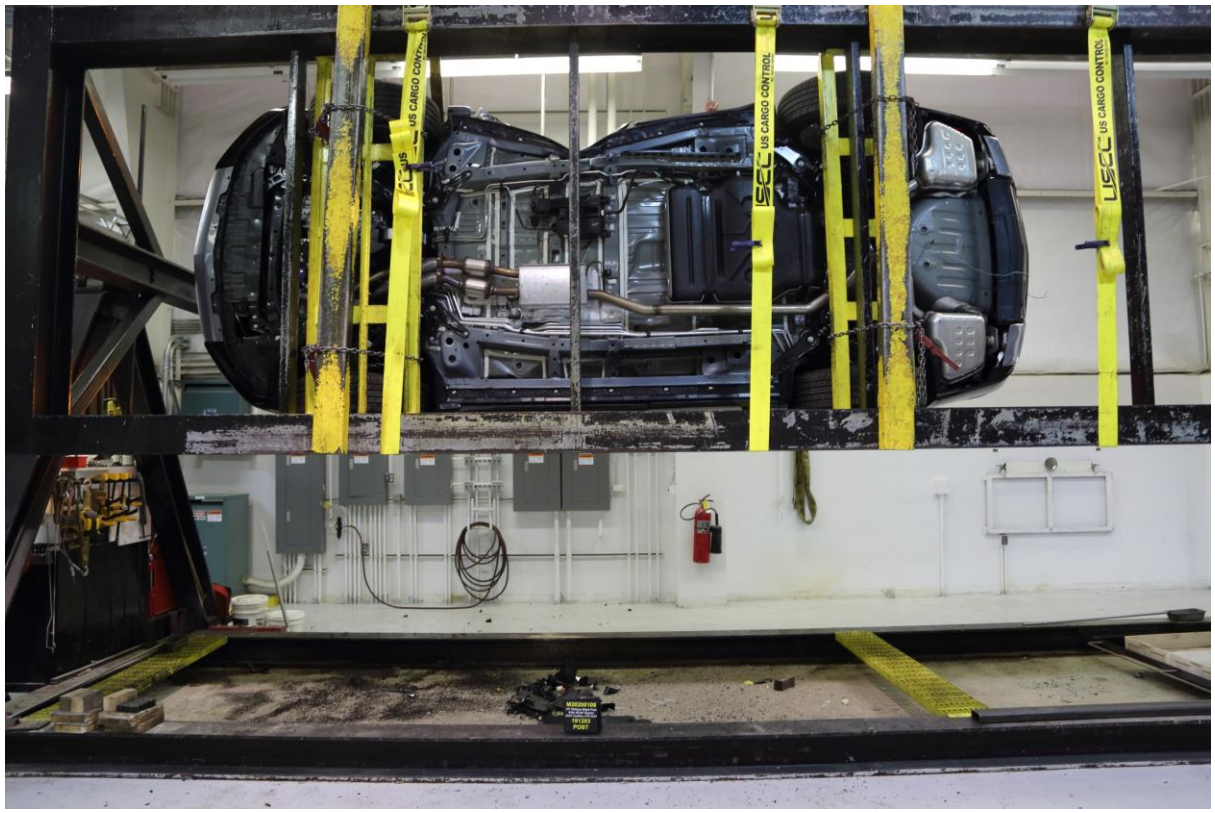
No. 062 Post-Test Primary and Redundant Speed Trap Read Out



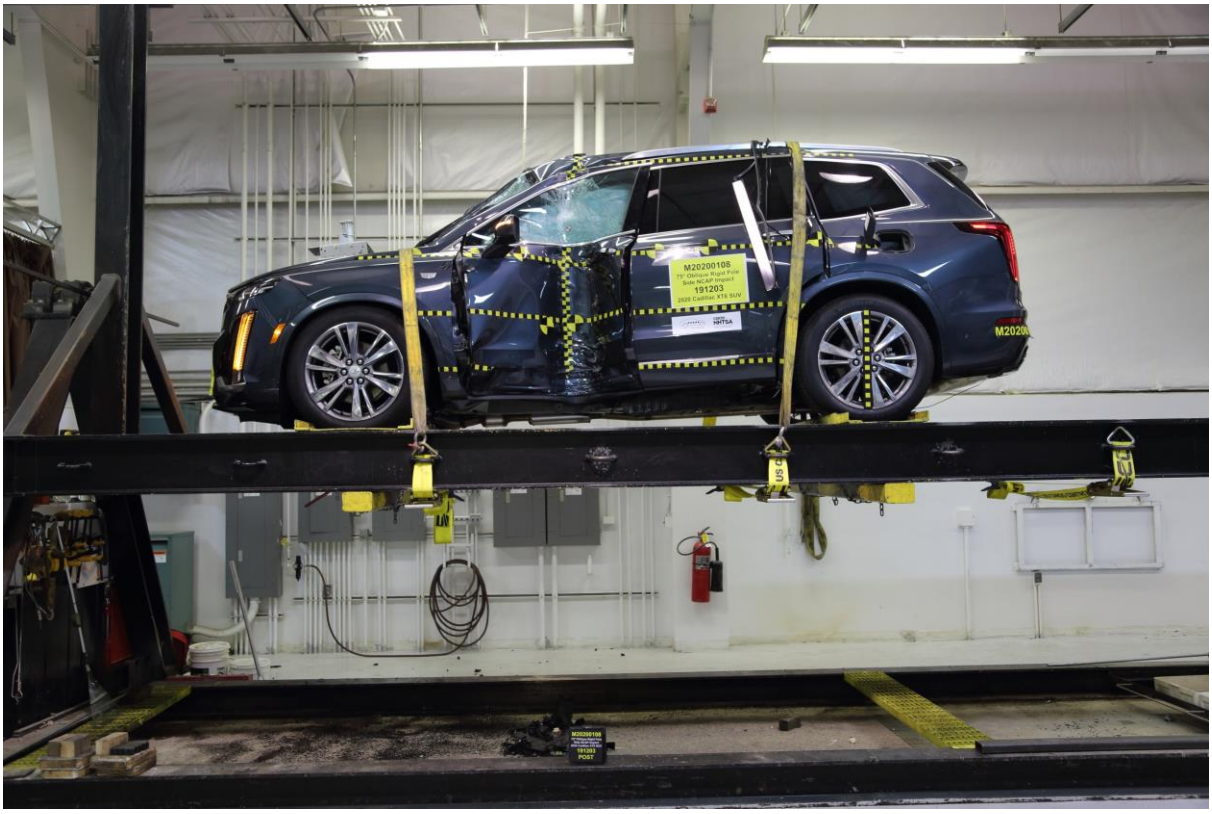
No. 063 FMVSS No. 301 Static Rollover 0 Degrees

No. 064 FMVSS No. 301 Static Rollover 90 Degrees

No. 065 FMVSS No. 301 Static Rollover 180 Degrees



No. 066 FMVSS No. 301 Static Rollover 270 Degrees



No. 067 FMVSS No. 301 Static Rollover 360 Degrees

No. 068 Impact Event

Cadillac

2020 XT6 PREMIUM LUXURY FWD | **EXTERIOR: SHADOW METALLIC** | **INTERIOR: JET BLACK** | **ENGINE, 3.6L V6, DI, VVT, W/ TRANSMISSION, 9-SPEED AUTOMATIC**

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STANDARD EQUIPMENT

ITEMS FEATURED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE SHOWN

OWNER BENEFITS
- 4 YEAR / 50,000 MILE* BUMPER-TO-BUMPER LIMITED WARRANTY
- 6 YEAR / 70,000 MILE* POWERTRAIN LIMITED WARRANTY, ROADSIDE ASSISTANCE & COURTESY TRANSPORTATION
- FIRST MAINTENANCE VISIT
- *WHICHEVER COMES FIRST SEE CADILLAC.COM OR DEALER FOR DETAILS AND LIMITS
- ONSTAR (R) SERVICES & 4G LTE WI-FI (R) AVAILABLE; SEE ONSTAR.COM FOR TERMS

PERFORMANCE
- FRONT-WHEEL DRIVE WITH DRIVER SELECT MODE

LUXURY & CONVENIENCE
- MEMORY PACKAGE
- SEATING, 7-PASSENGER
- SEAT, FRONT BUCKET LEATHER SEATING SURFACES
- POWER LUMBAR, DRIVER SEAT
- SEAT ADJUSTER, PWR PASSENGER LUMBAR CONTROL
- PWR SEAT ADJUST, DRIVER 8 WAY
- DRIVER & FRONT PASSENGER HEATED SEATS
- ULTRAVIEW SUNROOF
- TRI-ZONE CLIMATE CONTROL
- 8" FULL COLOR TOUCH DISPLAY
- STEERING WHEEL, HEATED
- STEERING COLUMN, POWER TILT & TELESCOPIC
- LEATHER WRAP STEERING WHEEL
- WHEELS, 20" 6-SPLIT SPOKE POLISHED FINISH
- HEADLAMPS, LED
- DAYTIME RUNNING LAMPS, LED
- HANDS FREE LIFTGATE
- TIRE, COMPACT SPARE
- AUTOMATIC STOP/START, WITH DISABLE
- POWER FOLDING 3RD ROW

SAFETY & SECURITY
- INTELLIBEAM HEADLAMPS
- KEYLESS ACCESS, PASSIVE ENTRY
- ADAPTIVE REMOTE START
- SAFETY ALERT SEAT
- TEEN DRIVER
- FRONT AND REAR PARK ASSIST
- FOLLOWING DISTANCE INDICATOR
- FORWARD COLLISION ALERT
- REAR CROSS TRAFFIC ALERT
- LANE KEEP ASSIST W/ LANE DEPARTURE WARNING
- AUTOMATIC EMERGENCY BRAKING
- LANE CHANGE ALERT WITH SIDE BLIND ZONE ALERT
- FRONT PEDESTRIAN BRAKING
- THEFT-DETERRENT ALARM SYSTEM, SELF-POWERED
- SENSOR, VEHICLE INCLINATION
- SENSOR, INTERIOR VEHICLE MOVEMENT
- WINDSHIELD WIPERS, RAIN SENSING
- LAMPS, FRONT PARK & CORNERING
- HD REAR VISION CAMERA

CONNECTIVITY FEATURES
- CADILLAC USER EXPERIENCE 8" DIAGONAL COLOR DISPLAY APPLE CARPLAY (R) & ANDROID AUTO (R) CAPABILITY AVAILABLE W/ COMPATIBLE SMARTPHONES, NATURAL VOCE RECOGNITION
- WIRELESS DEVICE CHARGING
- SIRIUSXM RADIO CAPABLE, ALL ACCESS TRIAL W/ SUBSCRIPTION SOLD SEPARATELY
- AUDIO SYSTEM, BOSE 8 SPEAKER

MANUFACTURER'S SUGGESTED RETAIL PRICE

STANDARD VEHICLE PRICE	$52,695.00

OPTIONS & PRICING

OPTIONS INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT SHOWN)

SEATING, 6-PASSENGER	800.00
SHADOW METALLIC	625.00
ALL-WEATHER FLOOR LINER, 1ST, 2ND AND 3RD ROWS (DEALER INSTALLED)	285.00
CARGO NET (DEALER INSTALLED)	70.00
CABIN FILTER (DEALER INSTALLED)	60.00
FRONT LICENSE PLATE BRACKET	15.00
TOTAL OPTIONS	$1,855.00
TOTAL VEHICLE & OPTIONS	$54,550.00
DESTINATION CHARGE	995.00
TOTAL VEHICLE PRICE*	**$55,545.00**

EPA DOT Fuel Economy and Environment — Gasoline Vehicle

Fuel Economy: **20 MPG** combined city/hwy — 18 city — 25 highway — 5.0 gallons per 100 miles

Small SUVs range from 18 to 120 MPG. The best vehicle rates 136 MPGe.

You spend **$2,500** more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost **$2,000**

Fuel Economy & Greenhouse Gas Rating (tailpipe only): 4 (1 — 10 Best)

Smog Rating (tailpipe only): 6 (1 — 10 Best)

This vehicle emits 437 grams CO_2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fueleconomy.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. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fueleconomy.gov — Calculate personalized estimates and compare vehicles

Smartphone QR Code™

GOVERNMENT 5-STAR SAFETY RATINGS

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

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

Equipped with the safety and security of OnStar®. Visit onstar.com for details.

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 52%
MAJOR SOURCES OF FOREIGN PARTS CONTENT: MEXICO 21%

NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT:
SPRING HILL, TN U.S.A.
COUNTRY OF ORIGIN:
ENGINE: UNITED STATES
TRANSMISSION: UNITED STATES

This label has been applied pursuant to Federal law – Do not remove prior to delivery to the ultimate purchaser. "Includes Manufacturer's Recommended Pre-Delivery Service. Does not include dealer installed options and accessories not listed above, local taxes or license fees.

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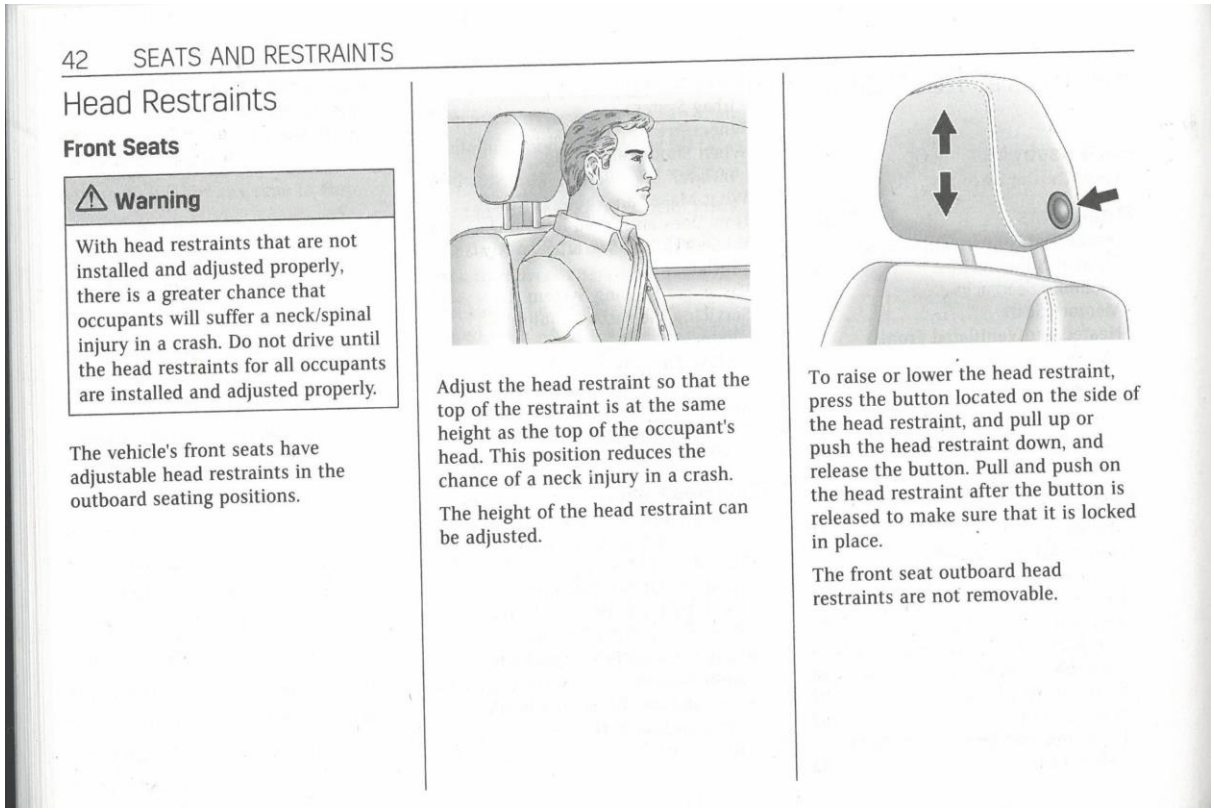
ORDER NO W2T6D09 SALES CODE E
SALES MODEL CODE 8NW26
DEALER NO 37020
FINAL ASSEMBLY: SPRING HILL, TN U.S.A.

VIN 1GYKPCRS2LZ101271

DEALER TO WHOM DELIVERED
SCHEPEL CADILLAC
2929 W LINCOLN HWY
MERRILLVILLE, IN 46410-5144

HL
1GA0693663

No. 069 Monroney Label



42 SEATS AND RESTRAINTS

Head Restraints

Front Seats

⚠ Warning

With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.

The vehicle's front seats have adjustable head restraints in the outboard seating positions.

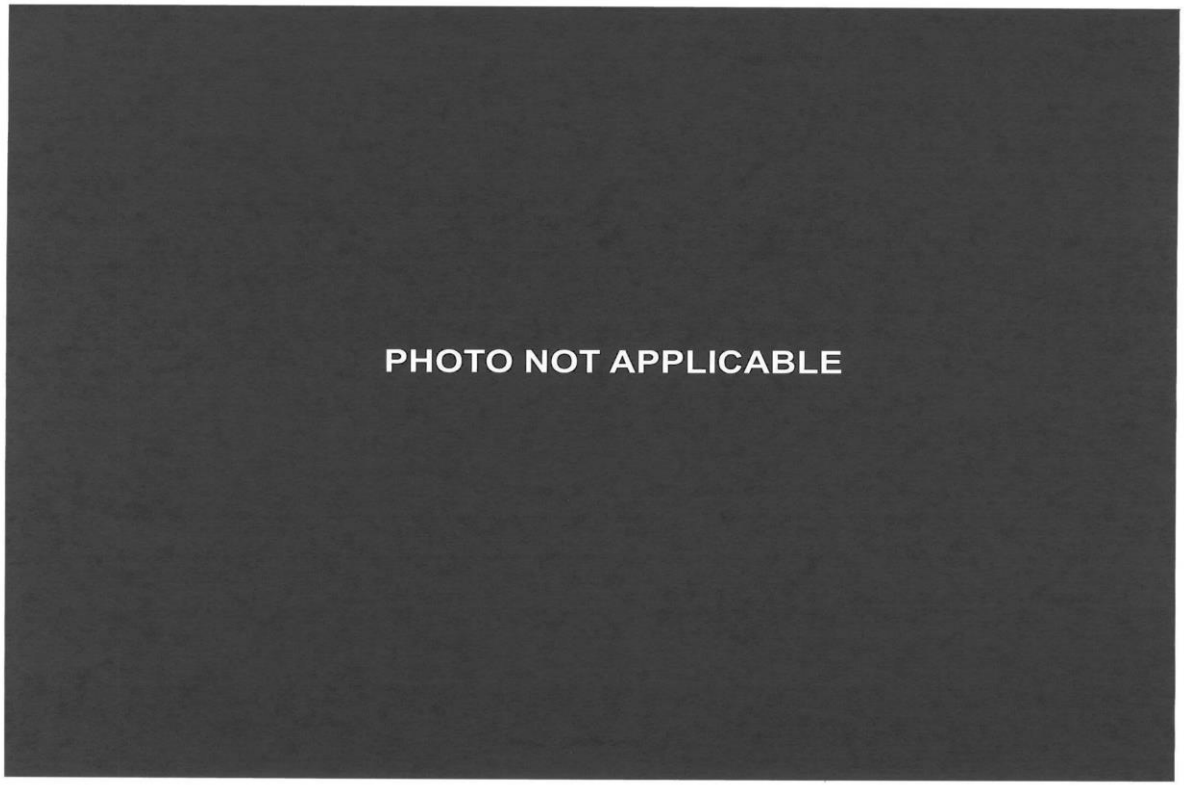
Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.

The height of the head restraint can be adjusted.

To raise or lower the head restraint, press the button located on the side of the head restraint, and pull up or push the head restraint down, and release the button. Pull and push on the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not removable.

No. 070 Head Restraint Use and Adjustment Information from Vehicle Owner Manual



No. 071 Post-Test View of Shattered Vehicle Inner Door Panel

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS

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 (X) Redundant
Driver Head Acceleration (Y) Redundant
Driver Head Acceleration (Z) Redundant
Driver Upper Thorax Rib Deflection (Y)
Driver Middle Thorax Rib Deflection (Y)
Driver Lower Thorax Rib Deflection (Y)
Driver Upper Abdomen Rib Deflection (Y)
Driver Lower Abdomen Rib Deflection (Y)
Driver Head Angular Velocity (X)
Driver Head Angular Velocity (Y)
Driver Head Angular Velocity (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 (Y)
Left Lower B-Pillar Acceleration (Y)
Left Mid B-Pillar Acceleration (Y)
Driver Seat Track at Dummy Hip Point Acceleration (Y)
Engine Top Acceleration (X)
Engine Top Acceleration (Y)
Firewall Center Acceleration (Y)
Right Roof at Vertical Impact Reference Line Acceleration (Y)
Right Sill at Vertical Impact Reference Line Acceleration (Y)
Rear Floorpan Behind Rear Axle at Centerline Acceleration (X)
Rear Floorpan Behind Rear Axle at Centerline Acceleration (Y)

Pole Instrumentation Data

Load Cell Pole Barrier #1 Force (X)
Load Cell Pole Barrier #2 Force (X)
Load Cell Pole Barrier #3 Force (X)
Load Cell Pole Barrier #4 Force (X)
Load Cell Pole Barrier #5 Force (X)
Load Cell Pole Barrier #6 Force (X)
Load Cell Pole Barrier #7 Force (X)
Load Cell Pole Barrier #8 Force (X)

NHTSA

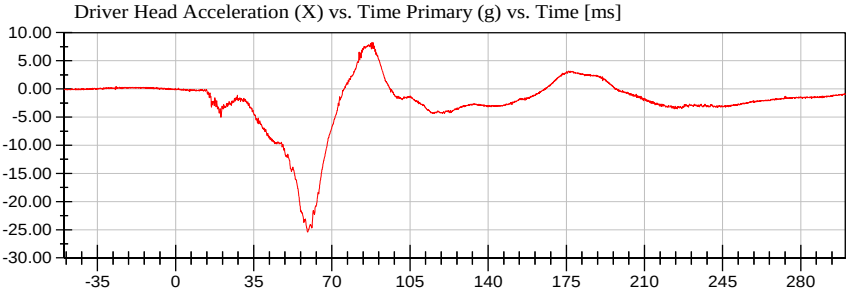
Test Date: 12/03/2019

Position #1 SID IIs Dummy (297)

Test Lab: CTF

Test Number: 191203 (M20200108)

Driver Head Acceleration (X) vs. Time Primary (g) vs. Time [ms]



<Max>

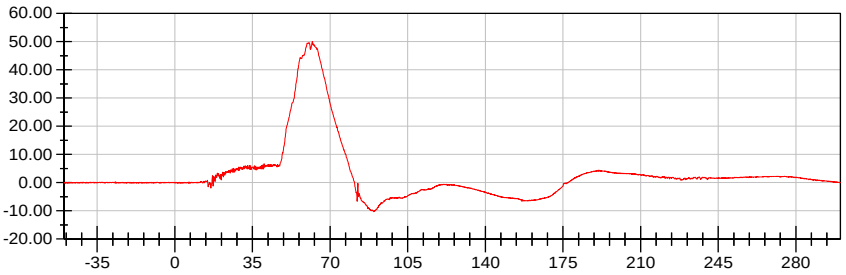
8.29 g at 88.00 ms

<Min>

-25.42 g at 59.20 ms

CFC_1000

Driver Head Acceleration (Y) vs. Time Primary (g) vs. Time [ms]



<Max>

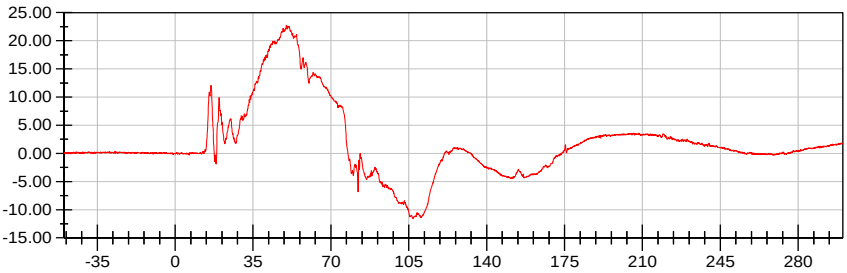
50.02 g at 62.00 ms

<Min>

-10.31 g at 89.60 ms

CFC_1000

Driver Head Acceleration (Z) vs. Time Primary (g) vs. Time [ms]



<Max>

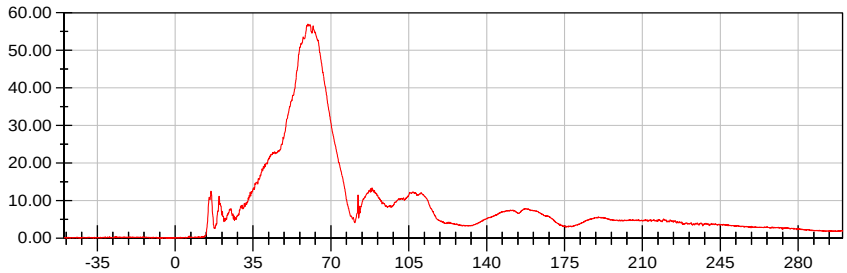
22.73 g at 50.00 ms

<Min>

-11.55 g at 106.88 ms

CFC_1000

Driver Head Acceleration Resultant Primary vs. Time (g) vs. Time [ms]



<Max>

57.01 g at 59.68 ms

<Min>

0.03 g at -43.20 ms

CFC_1000

NHTSA

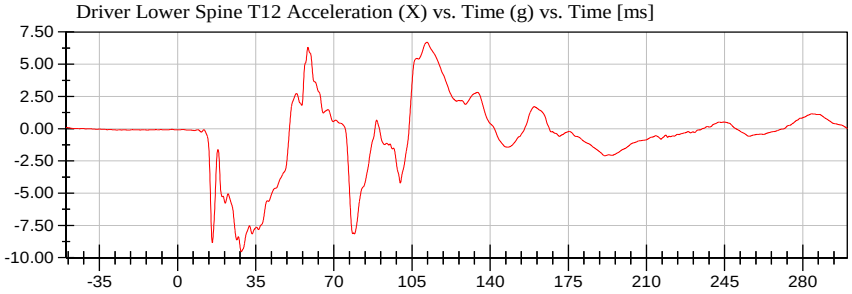
Test Date: 12/03/2019

Position #1 SID IIs Dummy (297)

Test Lab: CTF

Test Number: 191203 (M20200108)

Driver Lower Spine T12 Acceleration (X) vs. Time (g) vs. Time [ms]



<Max>

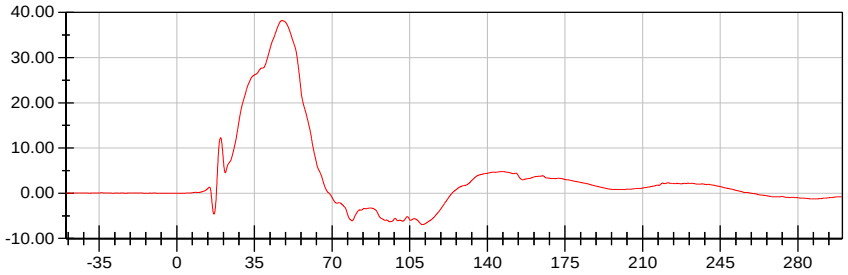
6.70 g at 111.76 ms

<Min>

-9.54 g at 28.56 ms

CFC_180

Driver Lower Spine T12 Acceleration (Y) vs. Time (g) vs. Time [ms]



<Max>

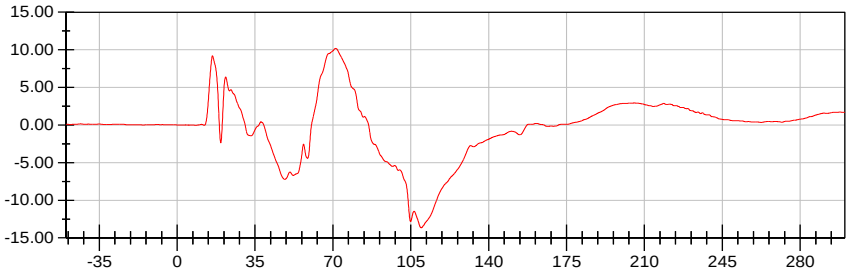
38.20 g at 47.36 ms

<Min>

-6.93 g at 110.80 ms

CFC_180

Driver Lower Spine T12 Acceleration (Z) vs. Time (g) vs. Time [ms]



<Max>

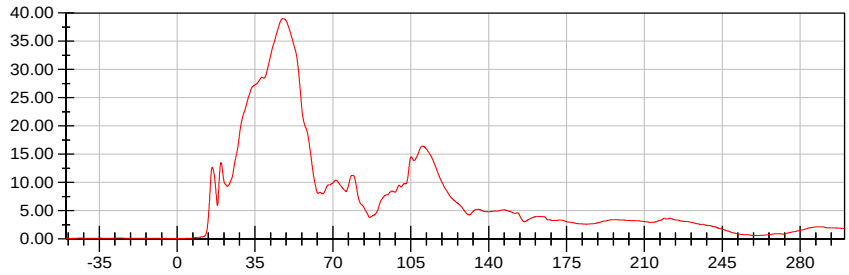
10.18 g at 71.20 ms

<Min>

-13.65 g at 109.68 ms

CFC_180

Driver Lower Spine T12 Acceleration Resultant vs. Time (g) vs. Time [ms]



<Max>

38.99 g at 47.52 ms

<Min>

0.06 g at 2.40 ms

CFC_180

NHTSA

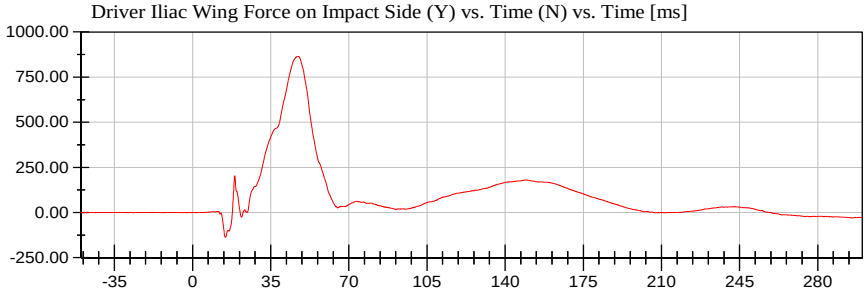
Test Date: 12/03/2019

Position #1 SID IIs Dummy (297)

Test Lab: CTF

Test Number: 191203 (M20200108)

Driver Iliac Wing Force on Impact Side (Y) vs. Time (N) vs. Time [ms]



<Max>

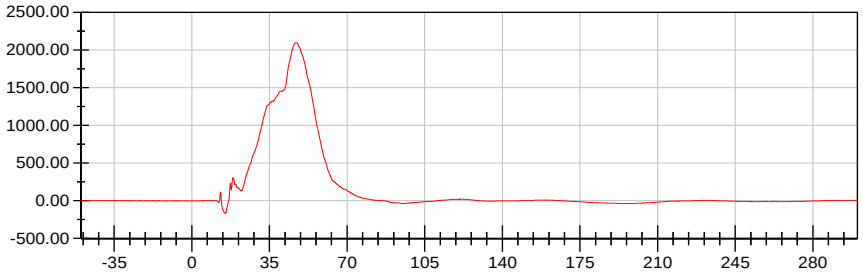
864.76 N at 47.44 ms

<Min>

-136.16 N at 14.72 ms

CFC_600

Driver Acetabulum Force on Impact Side (Y) vs. Time (N) vs. Time [ms]



<Max>

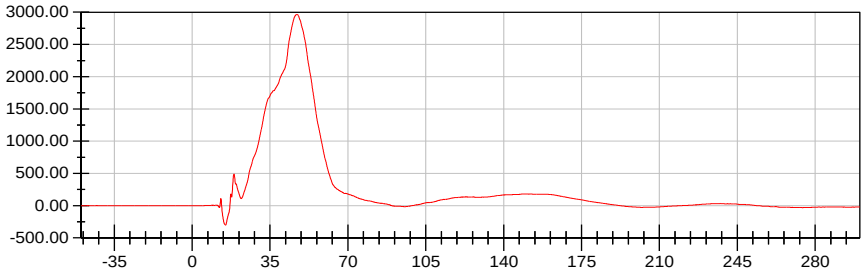
2,097.63 N at 46.80 ms

<Min>

-169.24 N at 15.12 ms

CFC_600

Driver Total Pelvis Force on Impact Side (Y) vs. Time (N) vs. Time [ms]



<Max>

2,961.55 N at 46.88 ms

<Min>

-301.00 N at 15.04 ms

CFC_600

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

TABLE OF CALIBRATION MEASUREMENTS AND PLOTS
SID-IIs (Driver) Dummy
Description

Pre-Test Calibration Sheets
Driver S/N 297

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. 297 Calibration No. 42

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	780	Yes
B	Shoulder Pivot Height	437.0 - 453.0	451	Yes
C	H-Point Height	79.0 - 89.0	85	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	102	Yes
F	Thigh Clearance	119.0 - 135.0	128	Yes
G	Head Breadth	140.0 - 148.0	147	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	183	Yes
J	Head Circumference	541.0 - 551.0	544	Yes
K	Buttock to Knee Length	514.0 - 540.0	528	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	430	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	223	Yes
P	Foot Length (left)	216.0 - 232.0	223	Yes
Q	Hip Breadth	313.0 - 323.0	320	Yes
R	Arm Length	249.0 - 259.0	254	Yes
S	Knee Joint to seat Back	478.0 - 493.0	485	Yes
V	Shoulder Width (only one arm installed)	341.0 - 357.0	347	Yes
W	Foot Width (right)	78.0 - 94.0	85	Yes
W	Foot Width (left)	78.0 - 94.0	85	Yes
Y	Chest Circumference with Jacket	851.0 - 881.0	880	Yes
Z	Waist Circumference	761.0 - 791.0	782	Yes

Transportation Research Center Inc.

Left Lateral Head Drop
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	133.0 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-5.7 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.27 %	Yes

Test meets specifications.

Condition: Used

Comments:
Head S/N: 1330

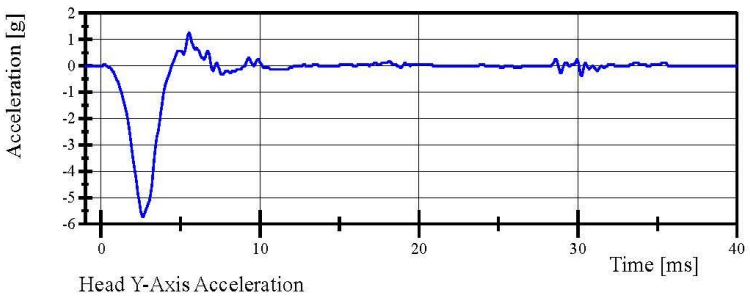
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 11:10:35 197

Transportation Research Center Inc.

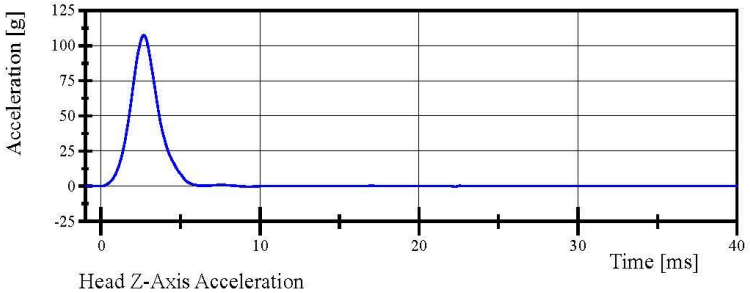
Left Lateral Head Drop
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Head X-Axis Acceleration



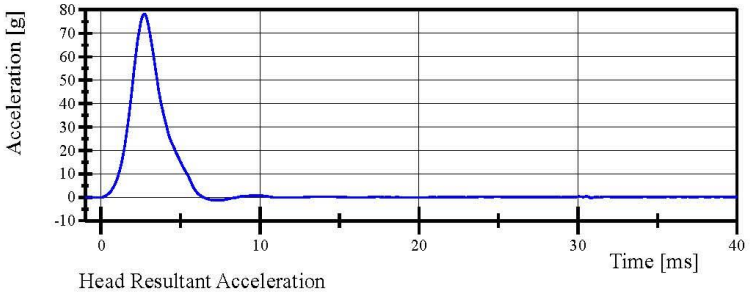
Filter Class: CFC_1000
Max: 1.3 g at 5.5 ms
Min: -5.7 g at 2.6 ms

Head Y-Axis Acceleration



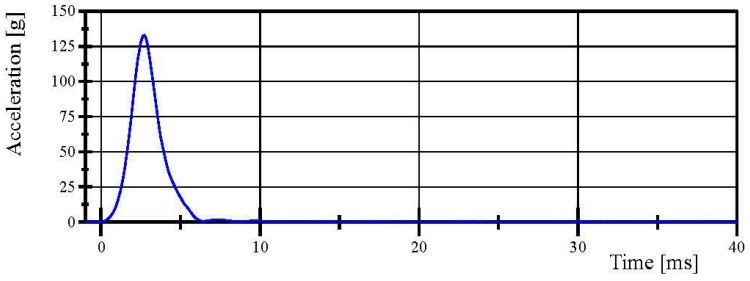
Filter Class: CFC_1000
Max: 107.3 g at 2.7 ms
Min: -0.4 g at 9.3 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 78.3 g at 2.7 ms
Min: -1.2 g at 7.0 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 133.0 g at 2.7 ms
Min: 0.0 g at -0.2 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 11:11:58 197

Transportation Research Center Inc.

Left Lateral Neck
SID IIs Serial No. 297 Certification No. 42-2
Test Date: 10/31/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	58 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.597 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	2.20 - 2.80 m/s	2.310 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.383 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.612 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.580 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.855 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-72.3 deg	Yes
Time of Peak	50 - 70 ms	67.8 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	41.9 N·m	Yes
Total Neck Occipital Condyles Moment Decay Time to 0 N·m	102 - 126 ms	115.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 779

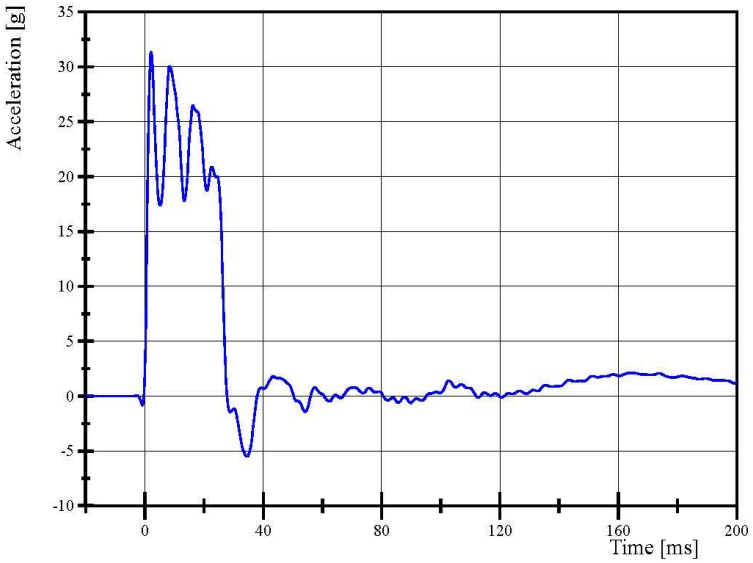
Specification Source: CFR49 Part 572 Subpart V with Polarity in accordance with J211

10.31.2019 11:25:58 717

Transportation Research Center Inc.

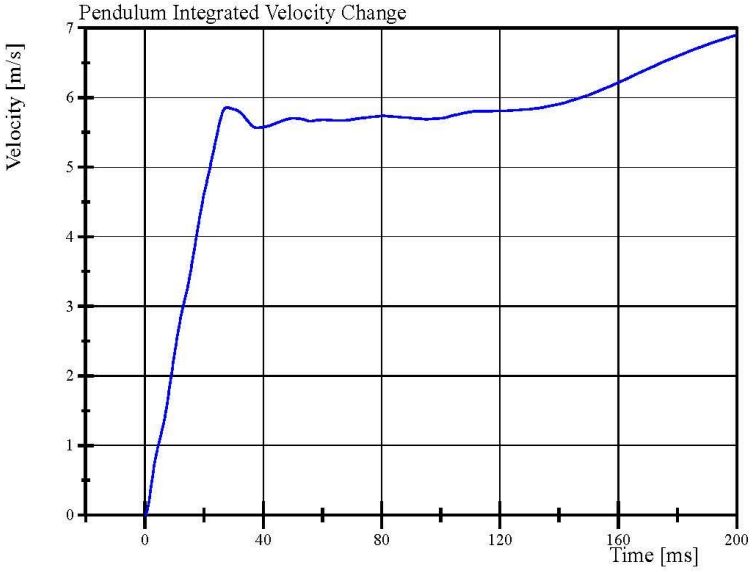
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 42-2
Test Date: 10/31/2019

Pendulum Acceleration



Filter Class: CFC_180
Max: 31.3 g at 2.1 ms
Min: -5.5 g at 34.6 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.9 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

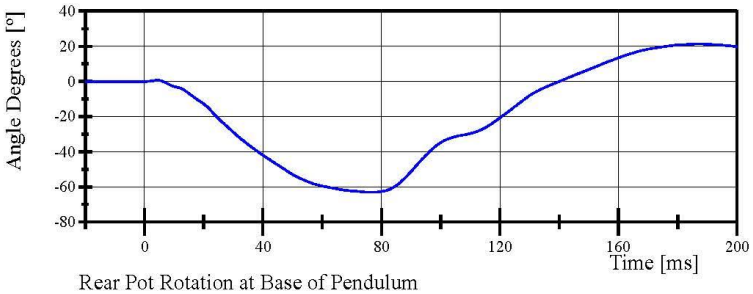
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.31.2019 11:26:30 717

Transportation Research Center Inc.

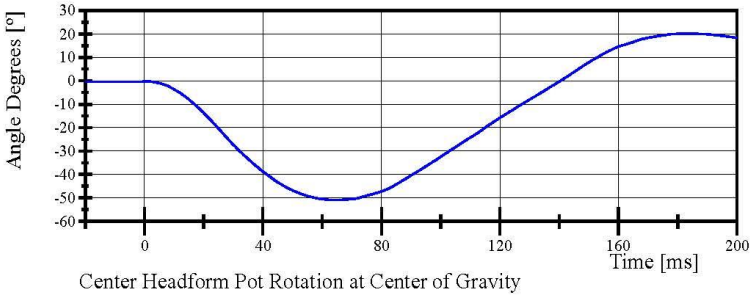
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 42-2
Test Date: 10/31/2019

Forward Pot Rotation at Base of Pendulum



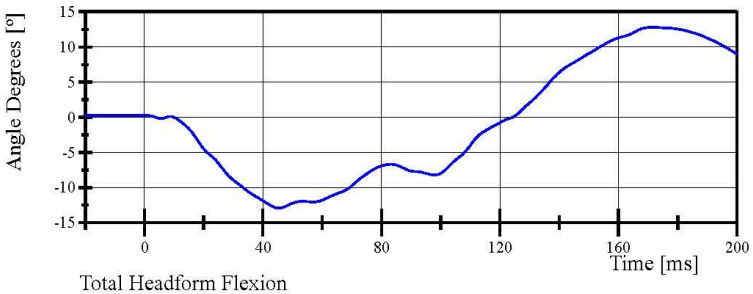
Filter Class: CFC_60
Max: 21.3 ° at 187.1 ms
Min: -63.0 ° at 76.2 ms

Rear Pot Rotation at Base of Pendulum



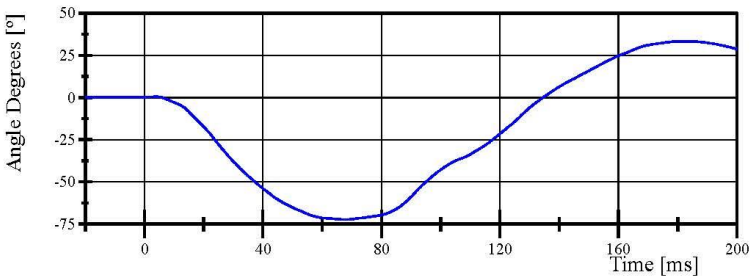
Filter Class: CFC_60
Max: 20.2 ° at 183.3 ms
Min: -50.8 ° at 64.1 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_60
Max: 12.8 ° at 171.6 ms
Min: -12.9 ° at 45.4 ms

Total Headform Flexion



Filter Class: CFC_60
Max: 33.4 ° at 182.4 ms
Min: -72.3 ° at 67.8 ms

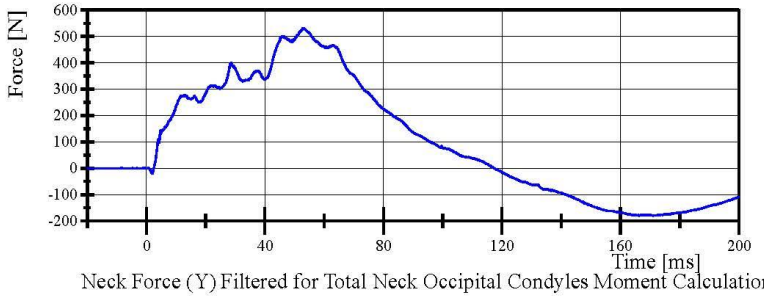
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.31.2019 11:26:31 717

Transportation Research Center Inc.

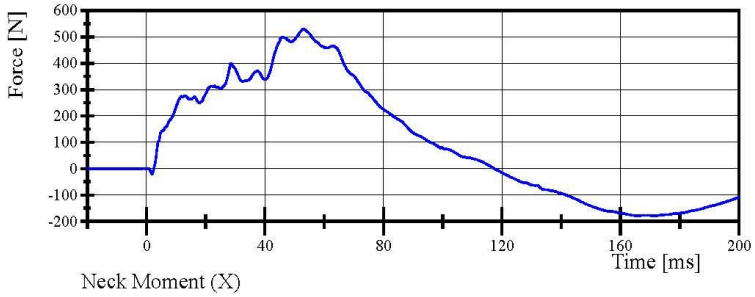
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 42-2
Test Date: 10/31/2019

Neck Force (Y)



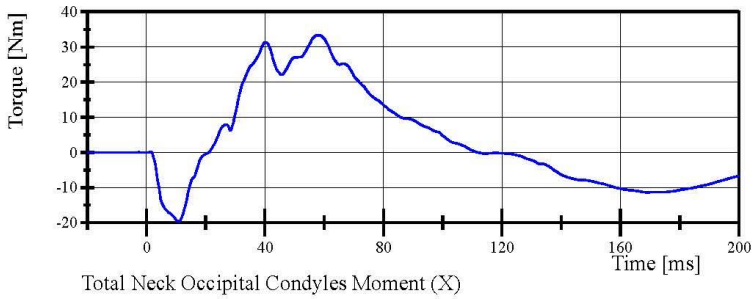
Filter Class: CFC_1000
Max: 532.0 N at 52.7 ms
Min: -179.2 N at 165.7 ms

Neck Force (Y) Filtered for Total Neck Occipital Condyles Moment Calculation



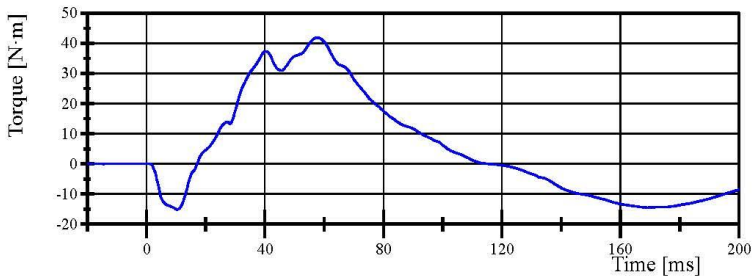
Filter Class: CFC_600
Max: 530.2 N at 52.8 ms
Min: -178.9 N at 171.0 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 33.4 Nm at 58.2 ms
Min: -19.6 Nm at 10.9 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 41.9 N·m at 57.4 ms
Min: -15.2 N·m at 10.2 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.31.2019 11:26:31 717

Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.28 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.1 g	Yes
Shoulder Displacement	28 - 37 mm	31.6 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.0 g	Yes

Test meets specifications.

Condition: Used

Comments:
Left Arm S/N: 940L
Shoulder Rib S/N: 180-3355 259

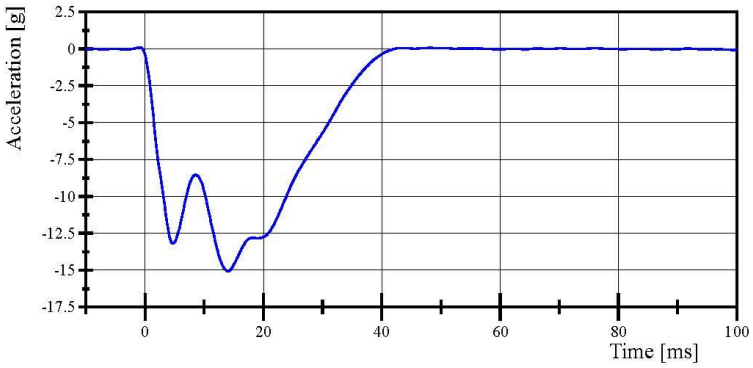
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 07:48:43 819

Transportation Research Center Inc.

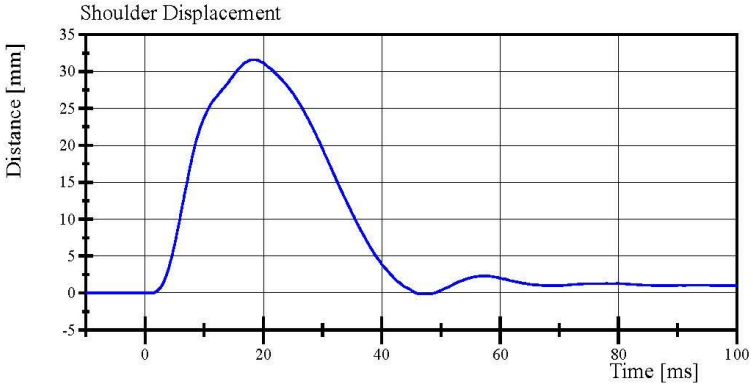
Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Probe Acceleration



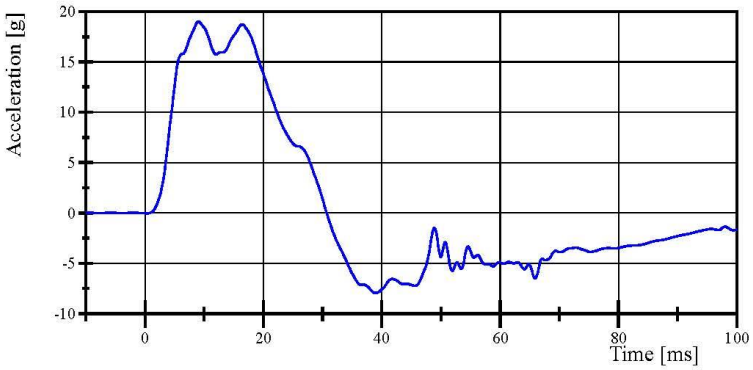
Filter Class: CFC_180
Max: 0.1 g at -0.9 ms
Min: -15.1 g at 14.0 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 31.6 mm at 18.6 ms
Min: -0.1 mm at 47.7 ms

Upper Spine Acceleration (Y)



Filter Class: CFC_180
Max: 19.0 g at 9.0 ms
Min: -8.0 g at 39.0 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 07:49:21 819

Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.736 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-32.8 g	Yes
Shoulder Displacement	31 - 40 mm	35.0 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.3 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.4 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	34.6 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	37.6 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	35.0 g	Yes

Test meets specifications.

Condition: Used

Comments:
Left Arm S/N: 940L
Shoulder Rib S/N: 180-3355 259
Upper Thorax Rib #1 S/N: DM5020
Middle Thorax Rib #2 S/N: DM5021
Lower Thorax Rib #3 S/N: DM5022

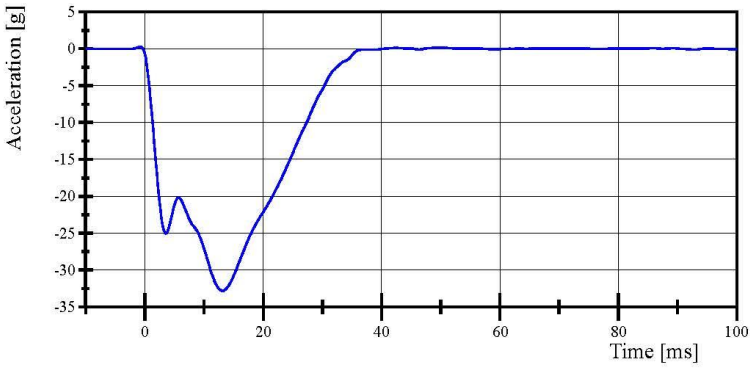
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 09:01:27 586

Transportation Research Center Inc.

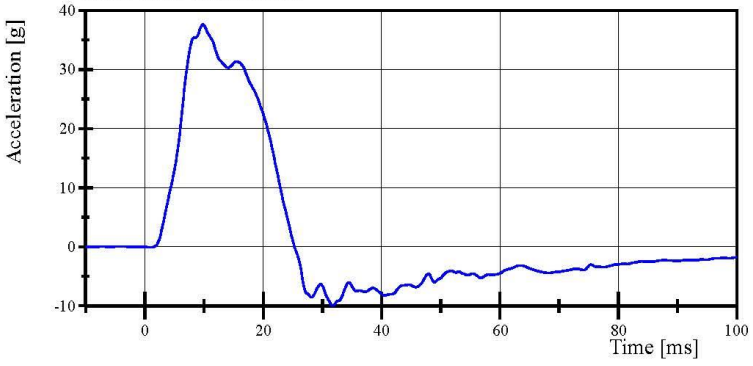
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Probe Acceleration



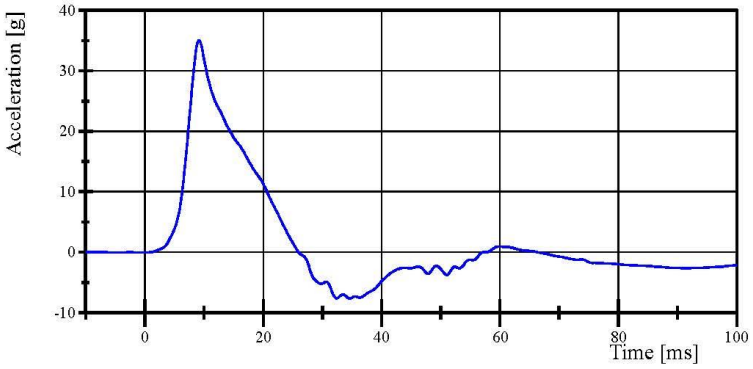
Filter Class: CFC_180
Max: 0.3 g at -0.8 ms
Min: -32.8 g at 13.1 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 37.6 g at 9.8 ms
Min: -9.9 g at 31.7 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 35.0 g at 9.1 ms
Min: -7.7 g at 34.6 ms

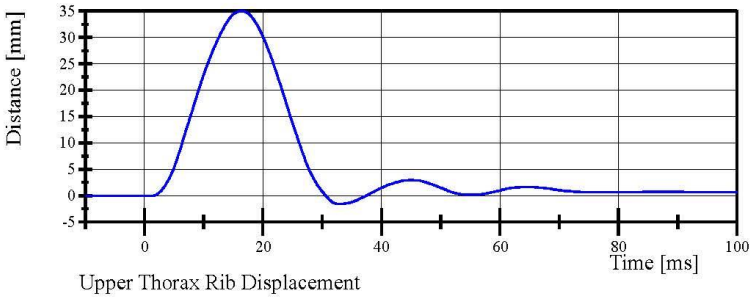
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 09:03:19 586

Transportation Research Center Inc.

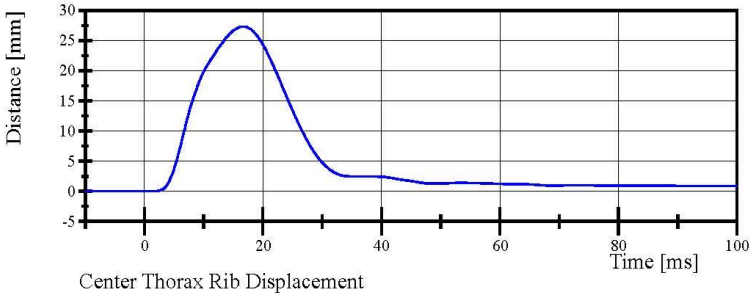
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Shoulder Rib Displacement



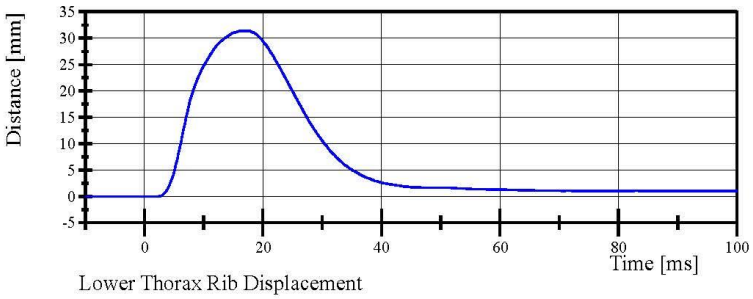
Filter Class: CFC_600
Max: 35.0 mm at 16.3 ms
Min: -1.6 mm at 32.6 ms

Upper Thorax Rib Displacement



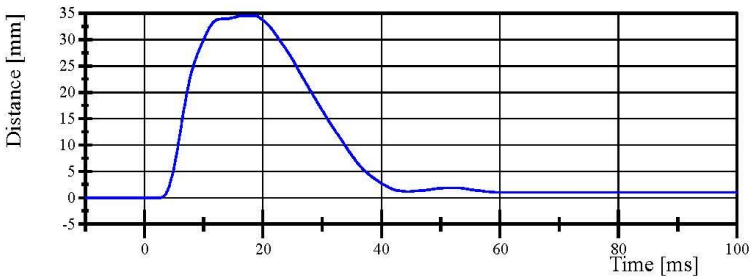
Filter Class: CFC_600
Max: 27.3 mm at 16.6 ms
Min: -0.0 mm at 1.4 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 31.4 mm at 17.1 ms
Min: -0.0 mm at 2.2 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 34.6 mm at 17.0 ms
Min: -0.0 mm at 2.6 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 09:03:20 586

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.336 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.3 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	34.4 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.1 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	40.7 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	13.9 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.0 g	Yes

Test meets specifications.

Condition: Used

Comments:
Upper Thorax Rib #1 S/N: DM5020
Middle Thorax Rib #2 S/N: DM5021
Lower Thorax Rib #3 S/N: DM5022

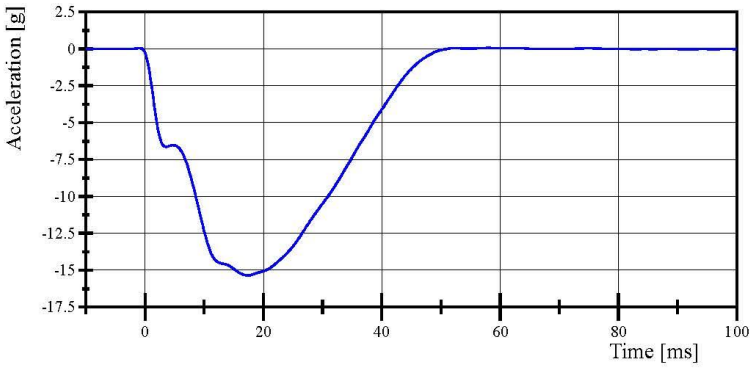
Specification Source: CFR49 Part 572 Subpart V with Polarity in accordance with J211

10.30.2019 08:16:02 804

Transportation Research Center Inc.

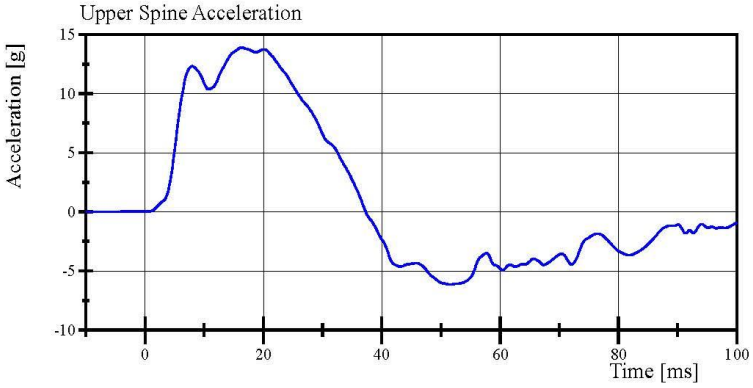
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Probe Acceleration



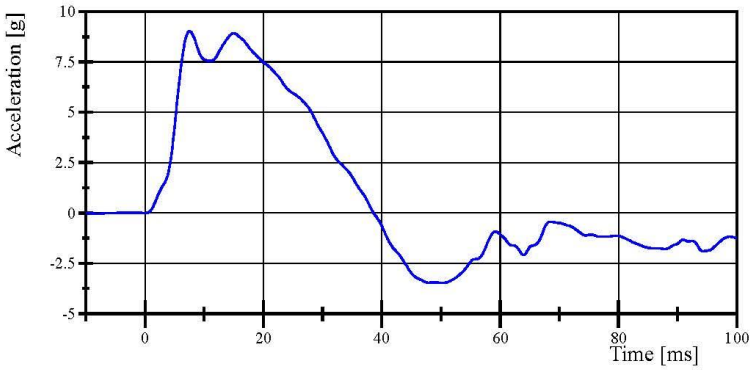
Filter Class: CFC_180
Max: 0.1 g at 58.0 ms
Min: -15.3 g at 17.4 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 13.9 g at 16.3 ms
Min: -6.1 g at 51.6 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 9.0 g at 7.5 ms
Min: -3.5 g at 50.3 ms

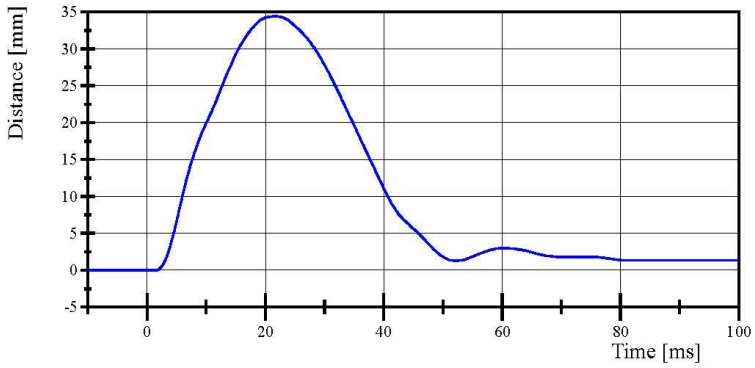
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 08:17:03 804

Transportation Research Center Inc.

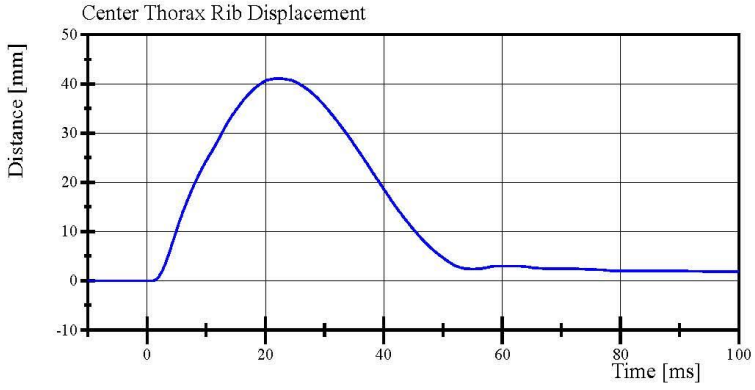
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Upper Thorax Rib Displacement



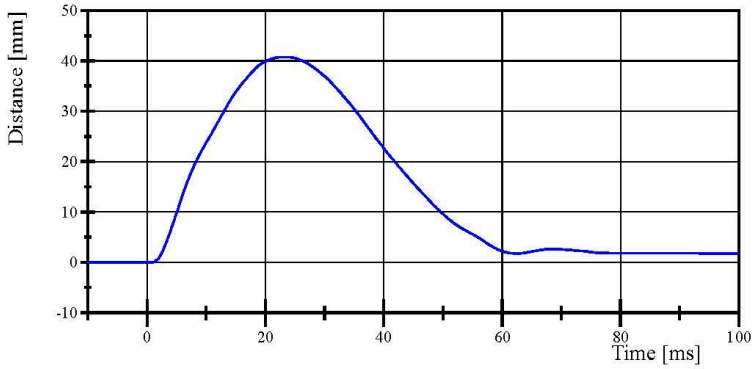
Filter Class: CFC_600
Max: 34.4 mm at 21.6 ms
Min: -0.0 mm at 0.6 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 41.1 mm at 22.1 ms
Min: -0.0 mm at 0.8 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 40.7 mm at 23.0 ms
Min: -0.0 mm at 0.7 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 08:17:03 804

Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.28 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.4 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	38.8 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	39.3 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	10.94 g	Yes

Test meets specifications.

Condition: Used

Comments:
Upper Abdominal Rib S/N: DM7281
Lower Abdominal Rib S/N: DM7275

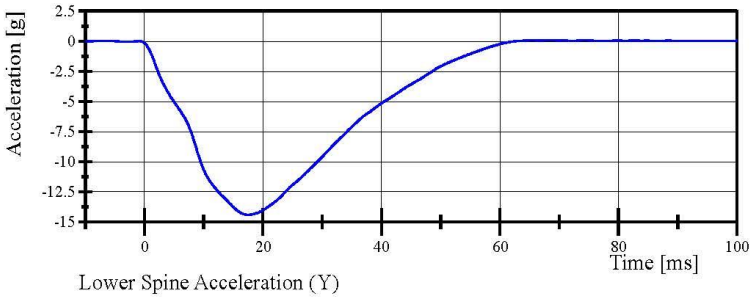
Specification Source: CFR49 Part 572 Subpart V with Polarity in accordance with J211

10.30.2019 07:55:22 645

Transportation Research Center Inc.

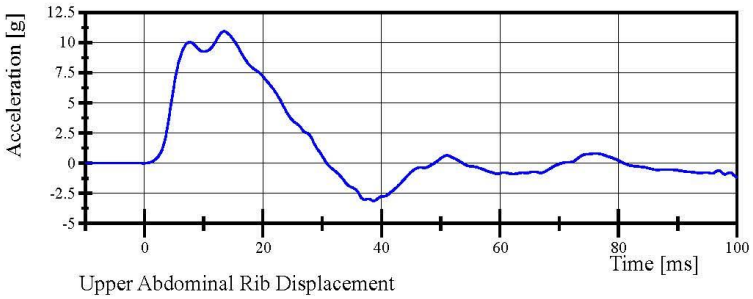
Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Probe Acceleration



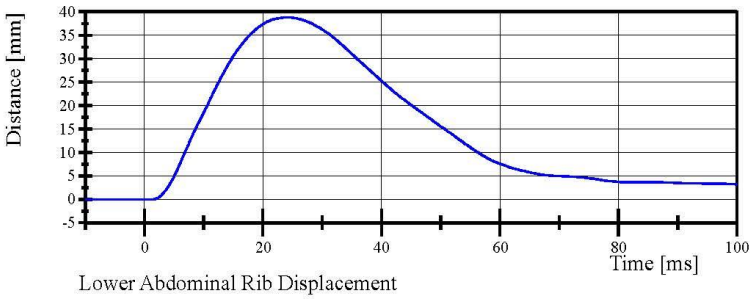
Filter Class: CFC_180
Max: 0.1 g at 65.4 ms
Min: -14.4 g at 17.4 ms

Lower Spine Acceleration (Y)



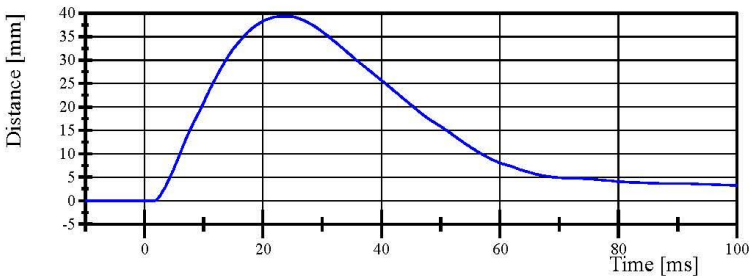
Filter Class: CFC_180
Max: 10.9 g at 13.4 ms
Min: -3.1 g at 38.7 ms

Upper Abdominal Rib Displacement



Filter Class: CFC_600
Max: 38.8 mm at 24.4 ms
Min: -0.0 mm at 1.2 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 39.3 mm at 23.4 ms
Min: -0.0 mm at 1.7 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 07:56:02 645

Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	45 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.63 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-42.41 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	37.2 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,996.5 N	Yes

Test meets specifications.

Condition: Used

Comments:
Pelvis Skin S/N: EN1590
Pelvis Plug Info:
Manufacturer: Saco
S/N: 12533
Cal Date: 20181002

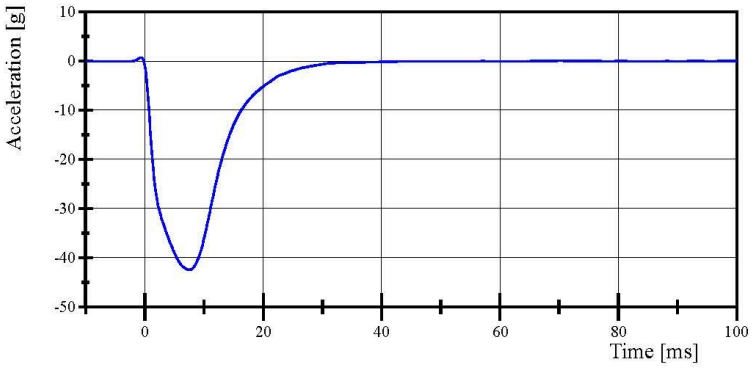
Specification Source: CFR49 Part 572 Subpart V with Polarity in accordance with J211

10.30.2019 10:04:10 438

Transportation Research Center Inc.

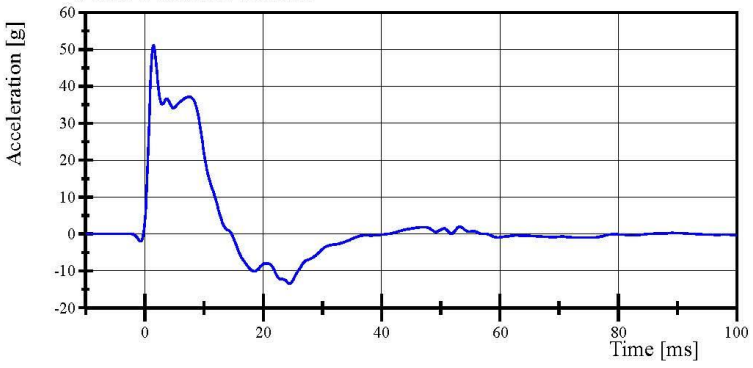
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Probe Acceleration



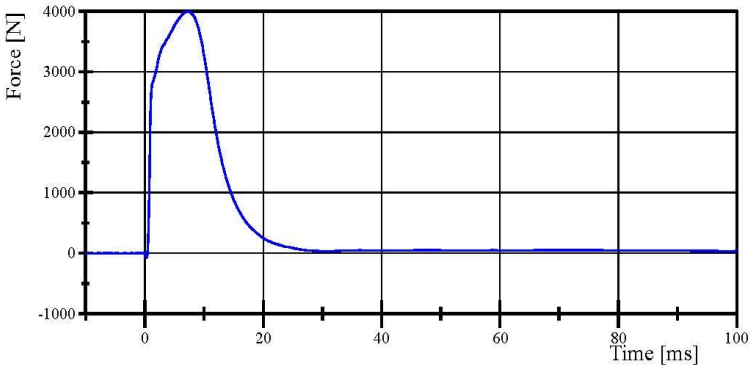
Filter Class: CFC_180
Max: 0.7 g at -0.6 ms
Min: -42.4 g at 7.5 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 51.2 g at 1.4 ms
Min: -13.5 g at 24.5 ms

Acetabulum Y-Axis Force



Filter Class: CFC_600
Max: 3,996.5 N at 7.2 ms
Min: -72.1 N at 0.3 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 10:06:19 438

Transportation Research Center Inc.

Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.22 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-41.4 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	33.2 g	Yes
Iliac Force	4,100 - 5,100 N	4,847.5 N	Yes

Test meets specifications.

Condition: Used

Comments:
Pelvis S/N: EN1590

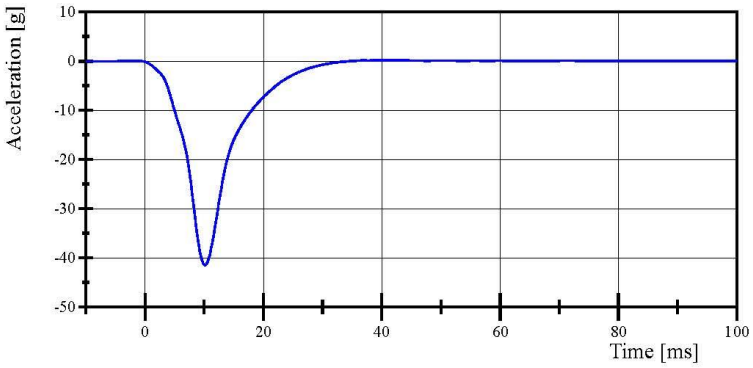
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 07:38:34 664

Transportation Research Center Inc.

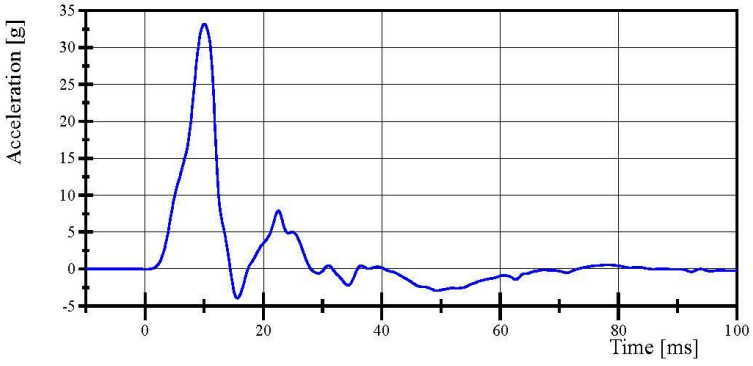
Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 42-1
Test Date: 10/30/2019

Probe Acceleration



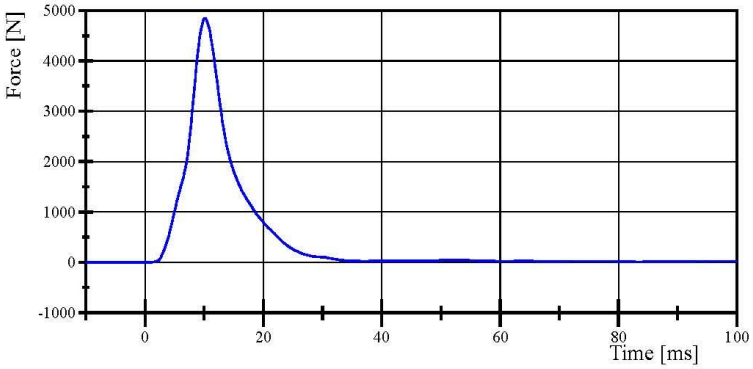
Filter Class: CFC_180
Max: 0.2 g at 43.2 ms
Min: -41.4 g at 10.2 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 33.2 g at 10.0 ms
Min: -4.0 g at 15.6 ms

Iliac Y-Axis Force



Filter Class: CFC_600
Max: 4,847.5 N at 10.1 ms
Min: -0.6 N at -8.1 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

10.30.2019 07:39:29 664

Post-Test Calibration Sheets
Driver S/N 297

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. 297 Calibration No. 43

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	781	Yes
B	Shoulder Pivot Height	437.0 - 453.0	450	Yes
C	H-Point Height	79.0 - 89.0	85	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	102	Yes
F	Thigh Clearance	119.0 - 135.0	129	Yes
G	Head Breadth	140.0 - 148.0	147	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	183	Yes
J	Head Circumference	541.0 - 551.0	544	Yes
K	Buttock to Knee Length	514.0 - 540.0	528	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	430	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	223	Yes
P	Foot Length (left)	216.0 - 232.0	223	Yes
Q	Hip Breadth	313.0 - 323.0	320	Yes
R	Arm Length	249.0 - 259.0	254	Yes
S	Knee Joint to seat Back	478.0 - 493.0	485	Yes
V	Shoulder Width (only one arm installed)	341.0 - 357.0	347	Yes
W	Foot Width (right)	78.0 - 94.0	85	Yes
W	Foot Width (left)	78.0 - 94.0	85	Yes
Y	Chest Circumference with Jacket	851.0 - 881.0	879	Yes
Z	Waist Circumference	761.0 - 791.0	782	Yes

Transportation Research Center Inc.

Left Lateral Head Drop
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	134.9 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-7.0 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	0.89 %	Yes

Test meets specifications.

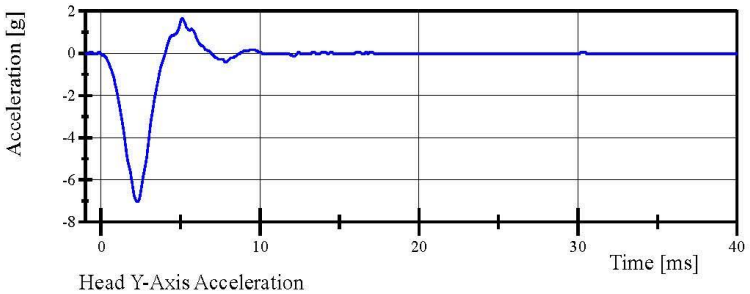
Condition: Used

Comments:
Head S/N: 1330

Transportation Research Center Inc.

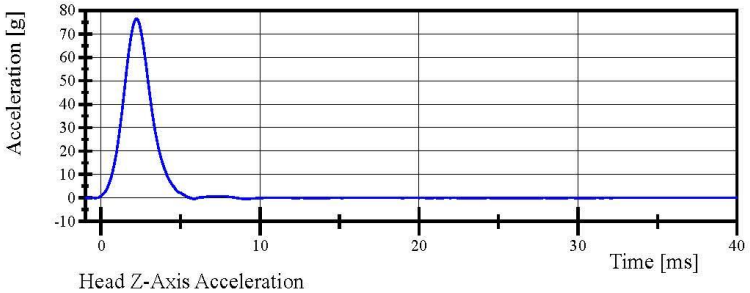
Left Lateral Head Drop
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Head X-Axis Acceleration



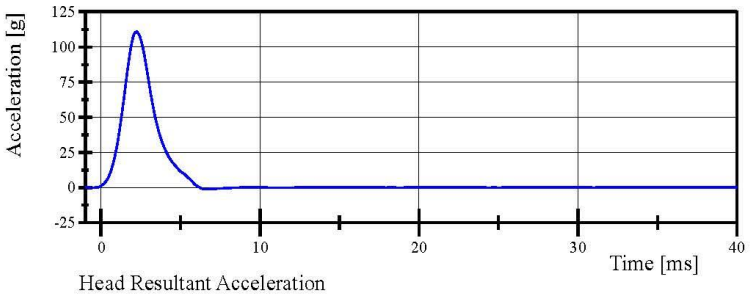
Filter Class: CFC_1000
Max: 1.7 g at 5.1 ms
Min: -7.0 g at 2.2 ms

Head Y-Axis Acceleration



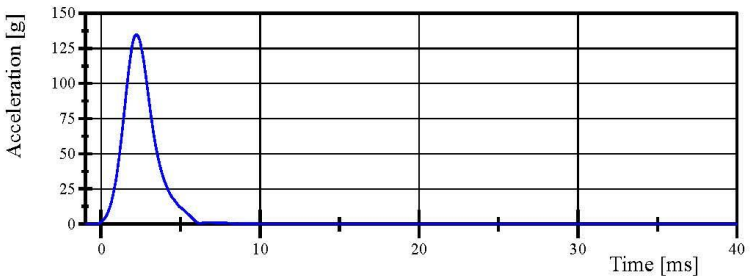
Filter Class: CFC_1000
Max: 76.5 g at 2.2 ms
Min: -0.4 g at 5.8 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 110.9 g at 2.2 ms
Min: -1.1 g at 6.6 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 134.9 g at 2.2 ms
Min: 0.0 g at -1.0 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 11:37:46 201

Transportation Research Center Inc.

Left Lateral Neck
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/5/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.599 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	2.20 - 2.80 m/s	2.457 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.631 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.873 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.822 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.882 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-76.9 deg	Yes
Time of Peak	50 - 70 ms	61.6 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	41.2 N·m	Yes
Total Neck Occipital Condyles Moment Decay Time to 0 N·m	102 - 126 ms	120.6 ms	Yes

Test meets specifications.

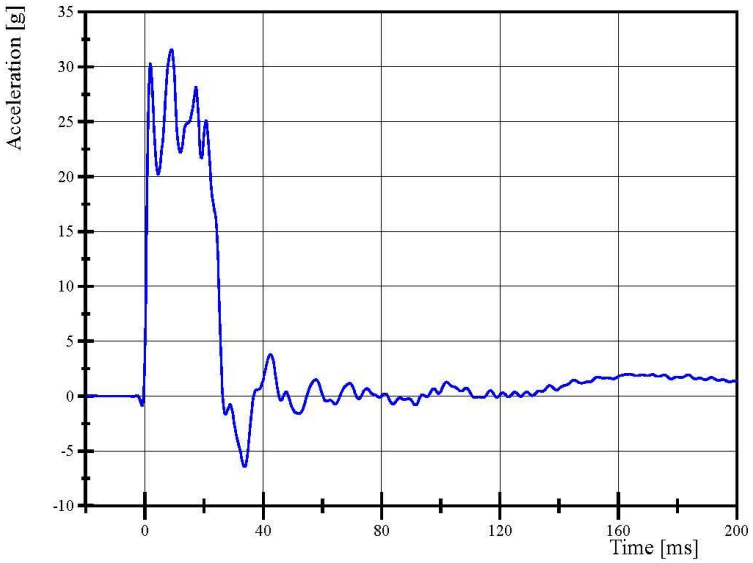
Condition: Used

Comments:
Neck S/N: 779

Transportation Research Center Inc.

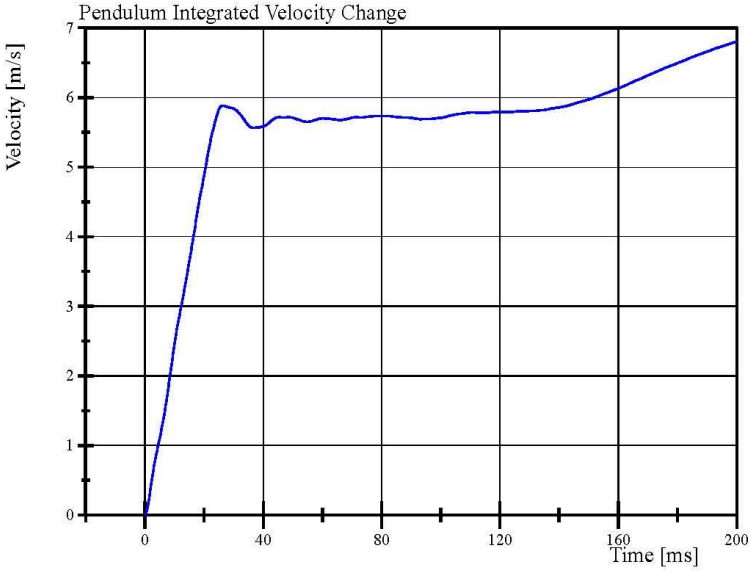
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/5/2019

Pendulum Acceleration



Filter Class: CFC_180
Max: 31.6 g at 9.0 ms
Min: -6.4 g at 33.7 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.8 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

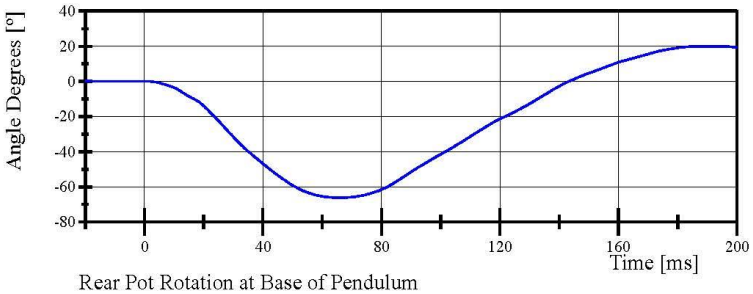
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.05.2019 08:55:33 718

Transportation Research Center Inc.

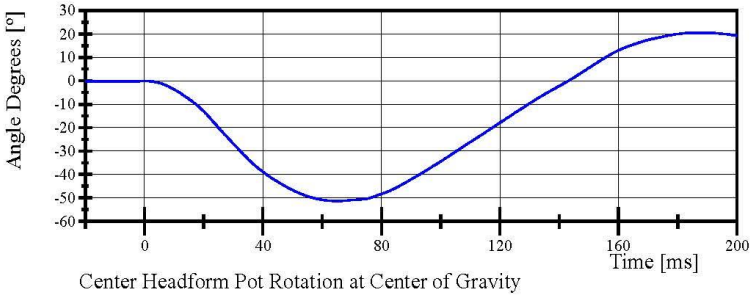
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/5/2019

Forward Pot Rotation at Base of Pendulum



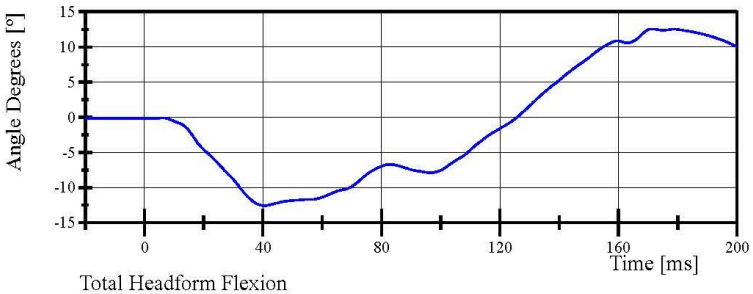
Filter Class: CFC_60
Max: 20.0 ° at 192.1 ms
Min: -66.1 ° at 65.8 ms

Rear Pot Rotation at Base of Pendulum



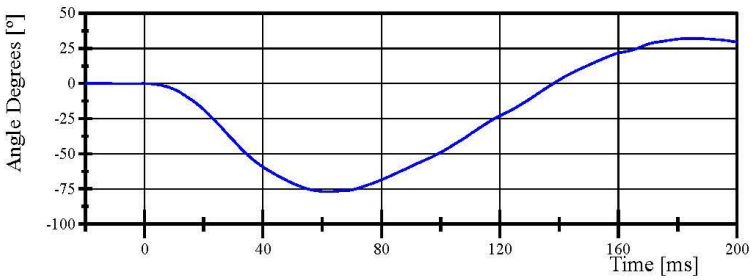
Filter Class: CFC_60
Max: 20.4 ° at 187.0 ms
Min: -51.3 ° at 65.0 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_60
Max: 12.6 ° at 171.4 ms
Min: -12.6 ° at 40.5 ms

Total Headform Flexion



Filter Class: CFC_60
Max: 32.0 ° at 184.7 ms
Min: -76.9 ° at 61.6 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

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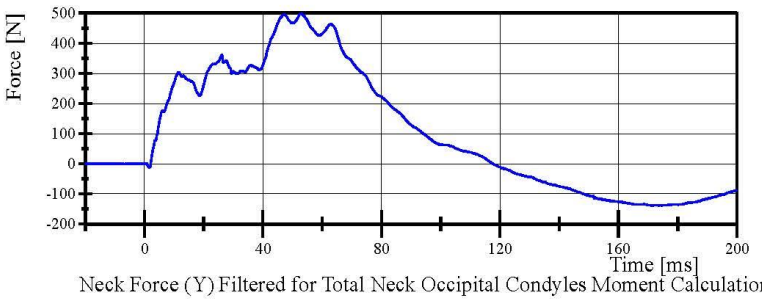
Transportation Research Center Inc.

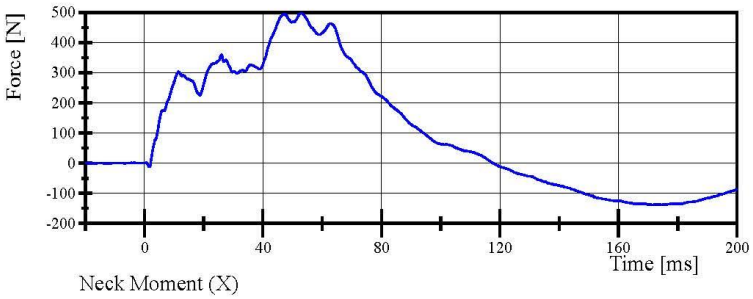
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/5/2019

Neck Force (Y)



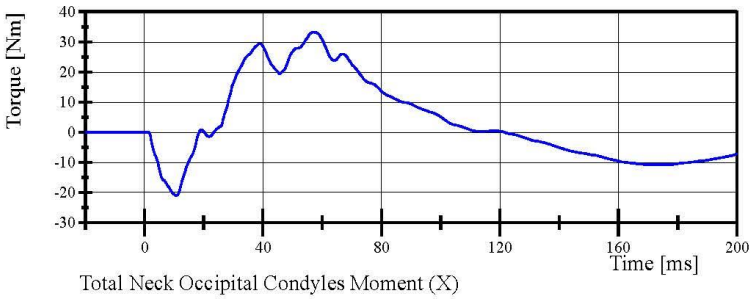
Filter Class: CFC_1000
Max: 497.3 N at 52.9 ms
Min: -139.7 N at 171.4 ms

Neck Force (Y) Filtered for Total Neck Occipital Condyles Moment Calculation



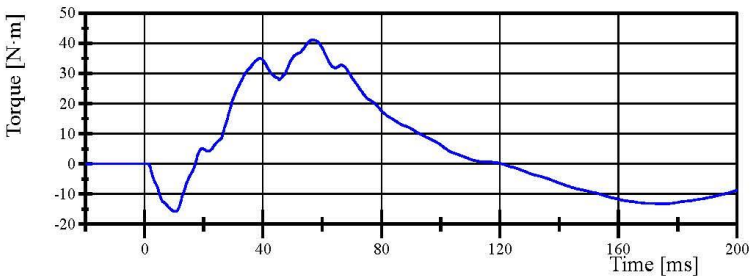
Filter Class: CFC_600
Max: 497.2 N at 52.9 ms
Min: -139.1 N at 171.4 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 33.3 Nm at 57.1 ms
Min: -20.9 Nm at 10.8 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 41.2 N·m at 57.0 ms
Min: -15.8 N·m at 10.5 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.05.2019 08:55:34 718

Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.28 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-14.9 g	Yes
Shoulder Displacement	28 - 37 mm	30.4 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	18.9 g	Yes

Test meets specifications.

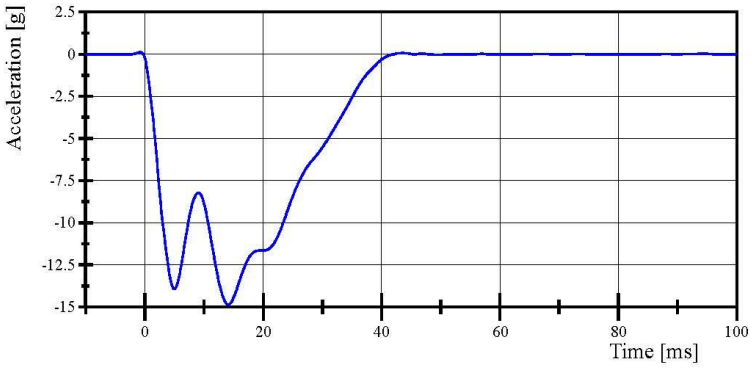
Condition: Used

Comments:
Left Arm S/N: 940L
Shoulder Rib S/N: 180-3355 259

Transportation Research Center Inc.

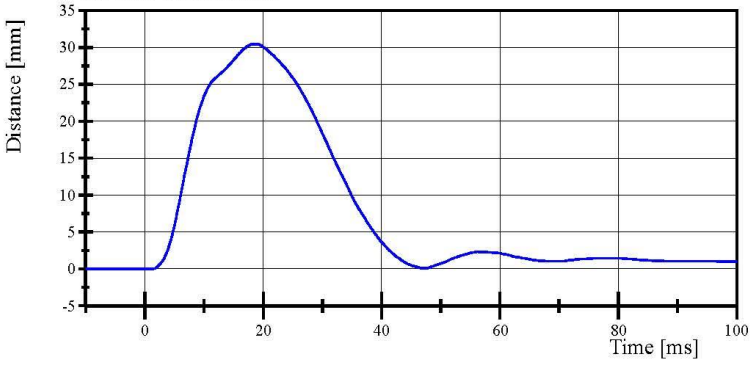
Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Probe Acceleration



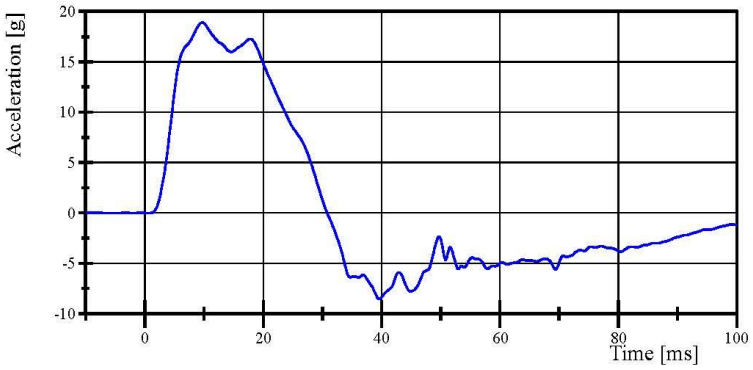
Filter Class: CFC_180
Max: 0.1 g at -0.7 ms
Min: -14.9 g at 14.1 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 30.4 mm at 18.9 ms
Min: -0.0 mm at 1.0 ms

Upper Spine Acceleration (Y)



Filter Class: CFC_180
Max: 18.9 g at 9.7 ms
Min: -8.5 g at 39.6 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 09:12:19 819

Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.679 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.1 g	Yes
Shoulder Displacement	31 - 40 mm	35.6 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.4 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.4 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	34.4 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	38.2 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	35.3 g	Yes

Test meets specifications.

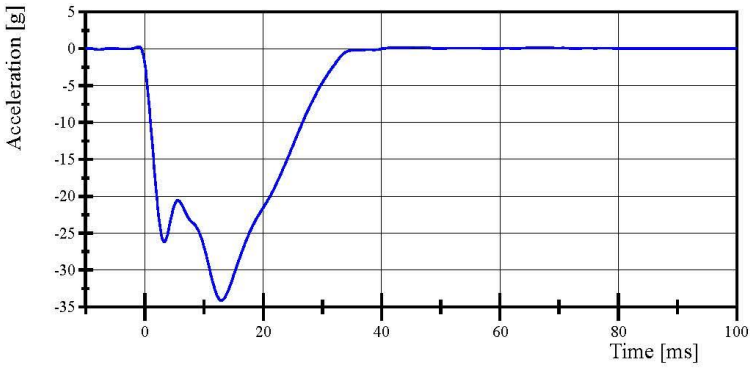
Condition: Used

Comments:
Left Arm S/N: 940L
Shoulder Rib S/N: 180-3355 259
Upper Thorax Rib #1 S/N: DM5020
Middle Thorax Rib #2 S/N: DM5021
Lower Thorax Rib #3 S/N: DM5022

Transportation Research Center Inc.

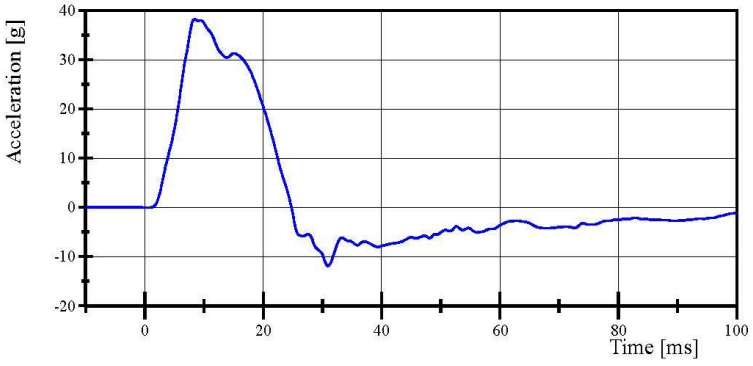
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Probe Acceleration



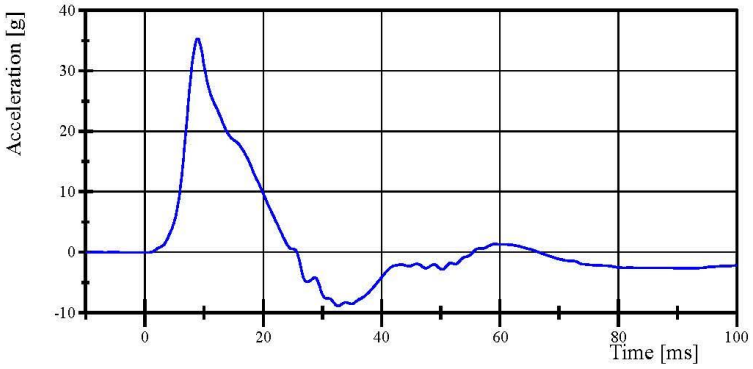
Filter Class: CFC_180
Max: 0.3 g at -1.0 ms
Min: -34.1 g at 12.9 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 38.2 g at 8.4 ms
Min: -11.9 g at 31.0 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 35.3 g at 9.0 ms
Min: -8.9 g at 32.6 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

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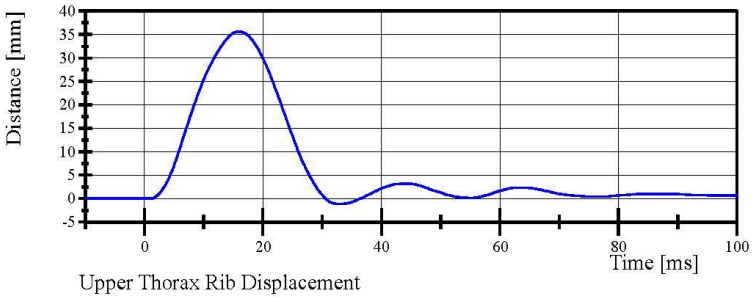
Transportation Research Center Inc.

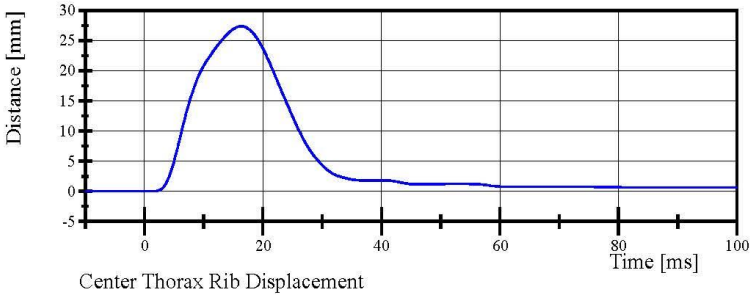
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Shoulder Rib Displacement



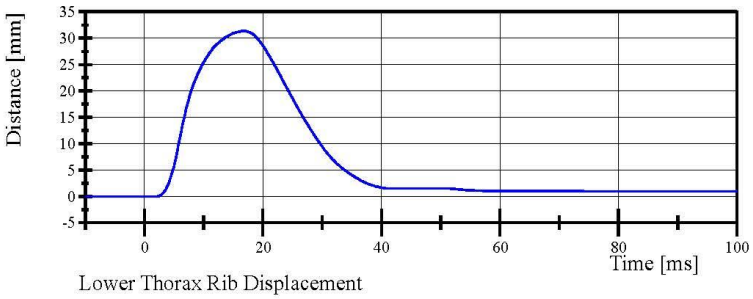
Filter Class: CFC_600
Max: 35.6 mm at 15.8 ms
Min: -1.1 mm at 32.4 ms

Upper Thorax Rib Displacement



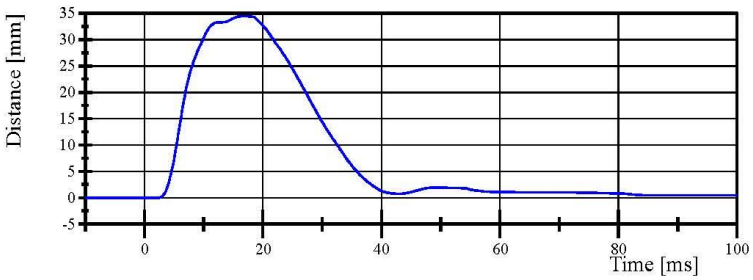
Filter Class: CFC_600
Max: 27.4 mm at 16.4 ms
Min: -0.0 mm at -6.4 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 31.4 mm at 16.7 ms
Min: -0.0 mm at 1.8 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 34.4 mm at 16.8 ms
Min: -0.0 mm at -9.6 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 10:30:37 623

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.340 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.4 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	36.4 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.5 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	39.8 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.7 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.5 g	Yes

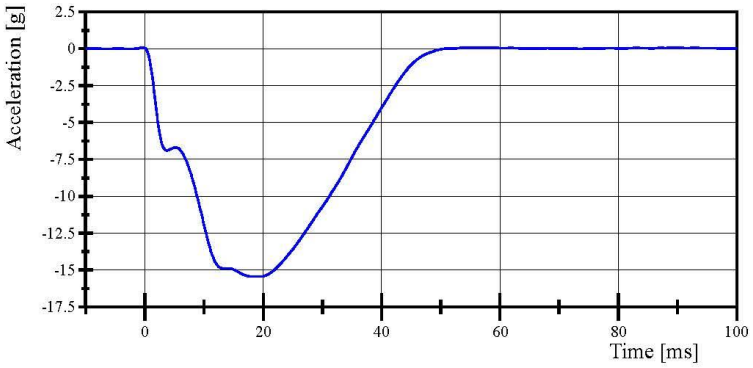
Test meets specifications.

Condition: Used
Comments:
Upper Thorax Rib #1 S/N: DM5020
Middle Thorax Rib #2 S/N: DM5021
Lower Thorax Rib #3 S/N: DM5022

Transportation Research Center Inc.

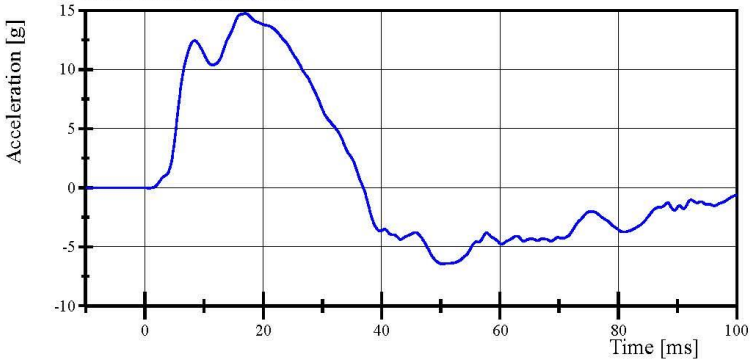
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Probe Acceleration



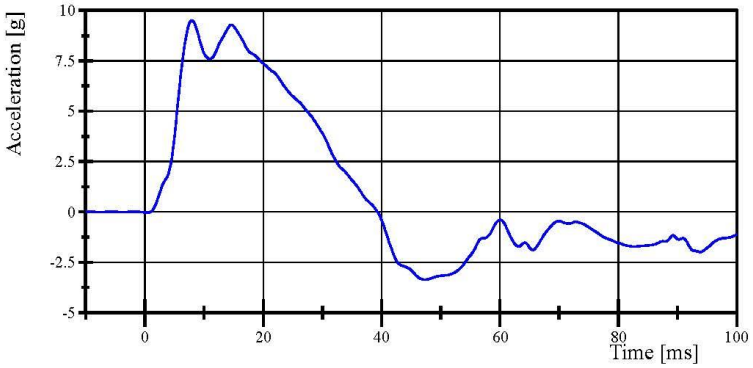
Filter Class: CFC_180
Max: 0.1 g at -0.3 ms
Min: -15.4 g at 19.4 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 14.7 g at 17.0 ms
Min: -6.4 g at 50.2 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 9.5 g at 7.9 ms
Min: -3.4 g at 47.4 ms

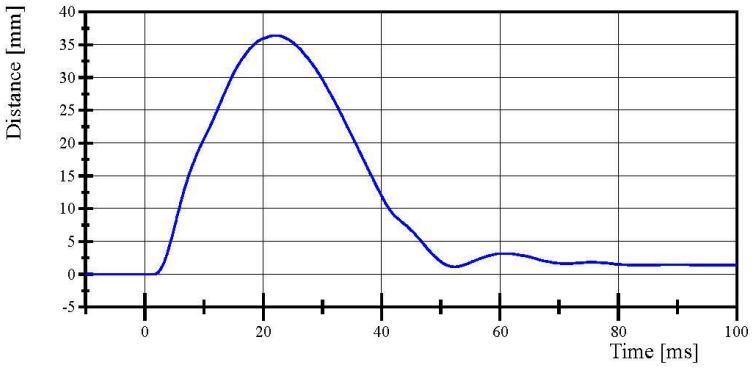
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 09:38:42 848

Transportation Research Center Inc.

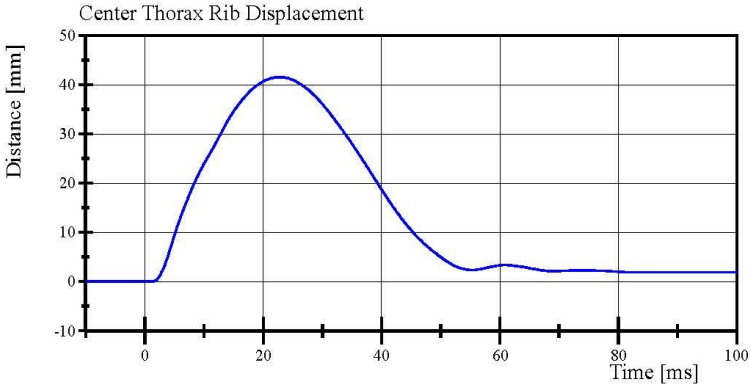
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Upper Thorax Rib Displacement



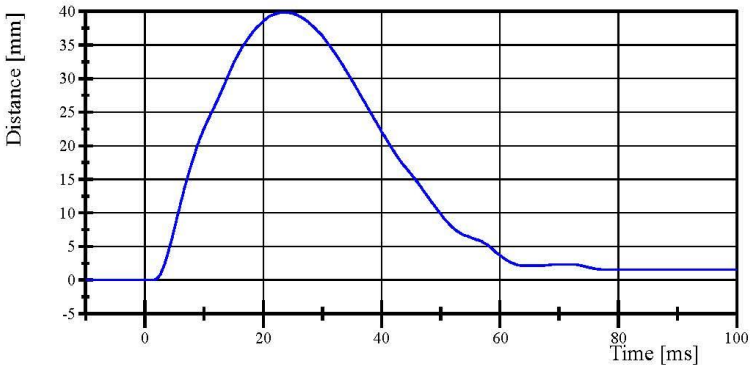
Filter Class: CFC_600
Max: 36.4 mm at 22.3 ms
Min: -0.0 mm at -8.3 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 41.5 mm at 22.6 ms
Min: -0.0 mm at 1.2 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.8 mm at 23.2 ms
Min: -0.0 mm at 1.4 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 09:38:42 848

Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.28 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-13.9 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	39.0 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	41.2 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	10.85 g	Yes

Test meets specifications.

Condition: Used

Comments:
Upper Abdominal Rib S/N: DM7281
Lower Abdominal Rib S/N: DM7275

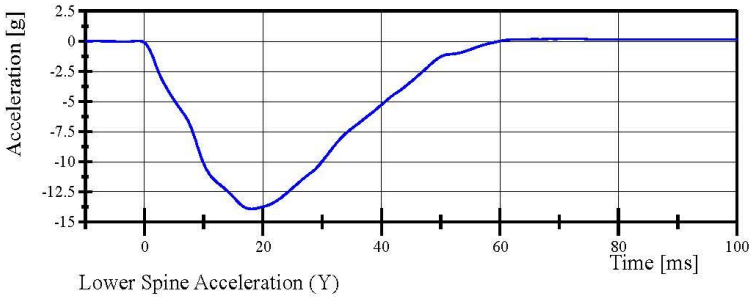
Specification Source: CFR49 Part 572 Subpart V with Polarity in accordance with J211

12.04.2019 09:24:53 665

Transportation Research Center Inc.

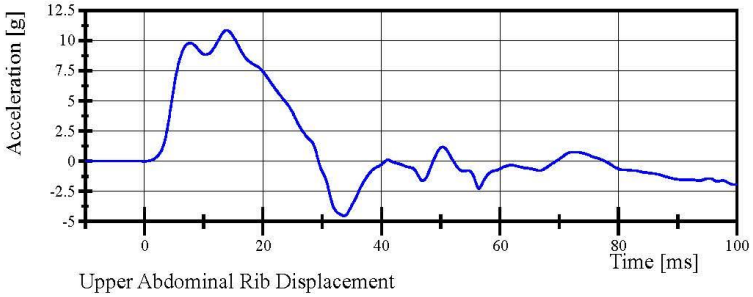
Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Probe Acceleration



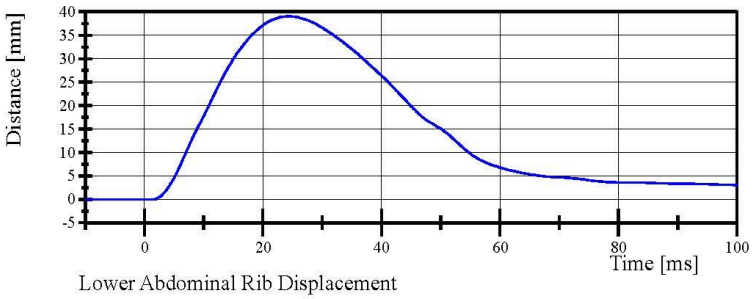
Filter Class: CFC_180
Max: 0.2 g at 73.4 ms
Min: -13.9 g at 18.1 ms

Lower Spine Acceleration (Y)



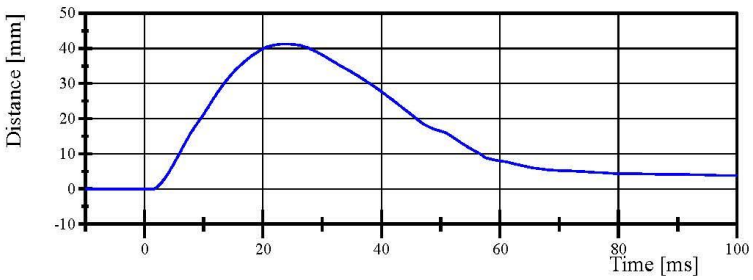
Filter Class: CFC_180
Max: 10.8 g at 13.9 ms
Min: -4.6 g at 33.7 ms

Upper Abdominal Rib Displacement



Filter Class: CFC_600
Max: 39.0 mm at 24.2 ms
Min: -0.0 mm at 1.4 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 41.2 mm at 23.5 ms
Min: -0.0 mm at 1.3 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 09:25:44 665

Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.64 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-44.75 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	40.9 g	Yes
Acetabulum Force	3,600 - 4,300 N	4,225.0 N	Yes

Test meets specifications.

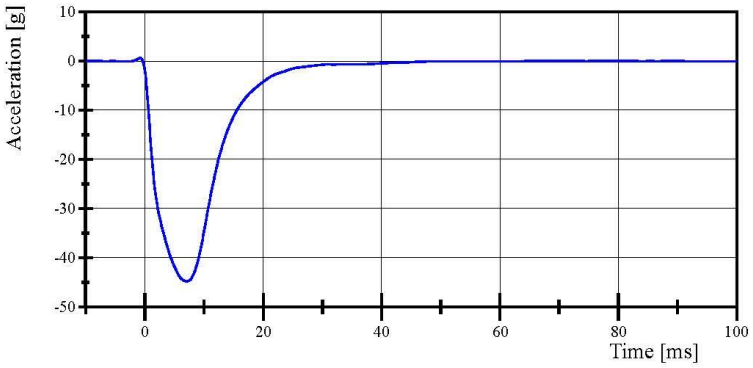
Condition: Used

Comments:
Pelvis Skin S/N: EN1590
Pelvis Plug Info:
Manufacturer: Saco
S/N: 12563
Cal Date: 20181003

Transportation Research Center Inc.

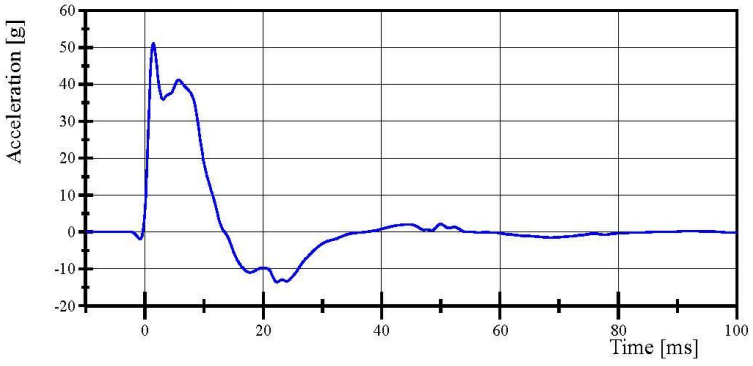
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Probe Acceleration



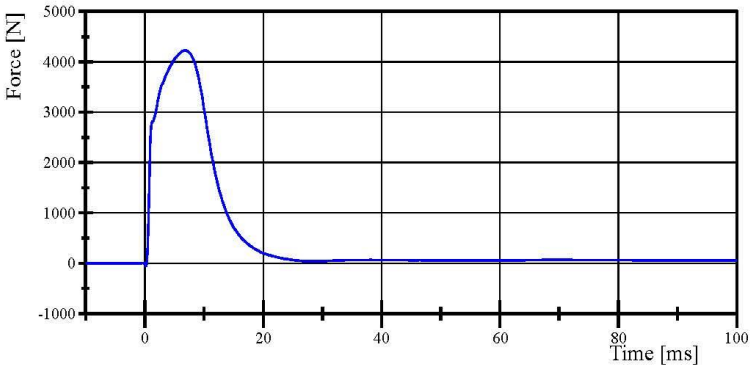
Filter Class: CFC_180
Max: 0.6 g at -0.8 ms
Min: -44.8 g at 7.1 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 51.1 g at 1.4 ms
Min: -13.6 g at 22.3 ms

Acetabulum Y-Axis Force



Filter Class: CFC_600
Max: 4,225.0 N at 6.7 ms
Min: -57.7 N at 0.2 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 10:51:58 451

Transportation Research Center Inc.

Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.21 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-39.3 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	30.4 g	Yes
Iliac Force	4,100 - 5,100 N	4,297.7 N	Yes

Test meets specifications.

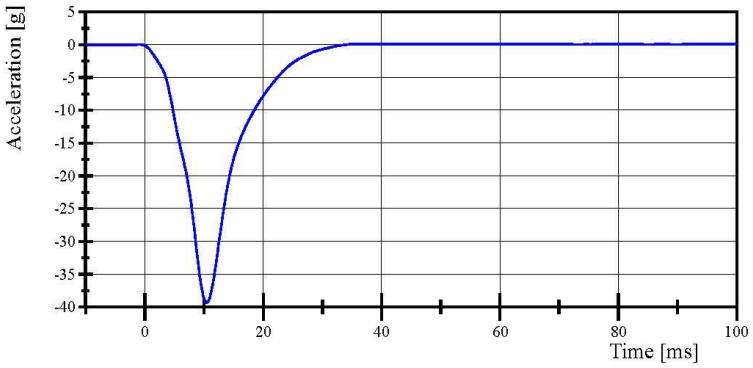
Condition: Used

Comments:
Pelvis S/N: EN1590

Transportation Research Center Inc.

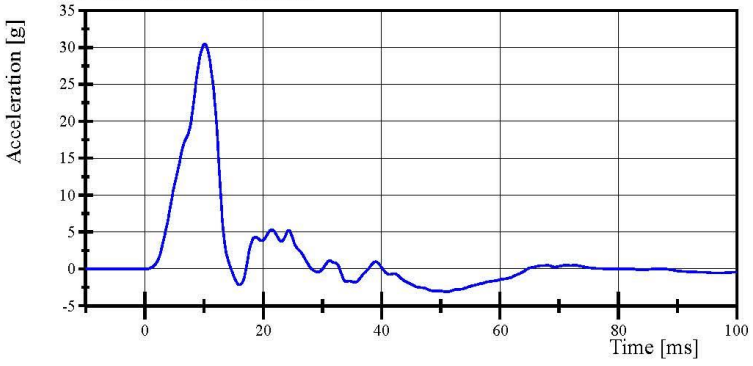
Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 43-1
Test Date: 12/4/2019

Probe Acceleration



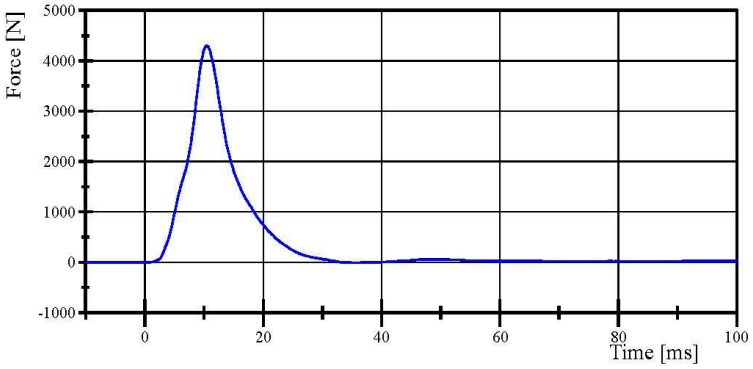
Filter Class: CFC_180
Max: 0.1 g at 45.5 ms
Min: -39.3 g at 10.5 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 30.4 g at 10.1 ms
Min: -3.1 g at 51.0 ms

Iliac Y-Axis Force



Filter Class: CFC_600
Max: 4,297.7 N at 10.5 ms
Min: -12.0 N at 35.5 ms

Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.04.2019 13:51:05 669

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 – Dummy Instrumentation (SID-IIs)

				SID-IIs S/N 297		
				Serial Number	**Manufacturer**	**Calibration Date**
Head Accelerometers			X	P93539	Endevco	9-Oct-2019
			Y	P93549	Endevco	10-Oct-2019
			Z	P93776	Endevco	10-Oct-2019
Displacement Potentiometers	Shoulder		Y	N/A	N/A	N/A
	Thoracic Rib	Upper	Y	023	Servo	25-Sep-2019
		Middle	Y	01815	Servo	9-Apr-2019
		Lower	Y	043	Servo	18-Apr-2019
	Abdominal Rib	Upper	Y	01811	Servo	9-Apr-2019
		Lower	Y	051	Servo	18-Apr-2019
Lower Spine Accelerometers (T12)			X	P94425	Endevco	10-Oct-2019
			Y	P91522	Endevco	10-Oct-2019
			Z	P91511	Endevco	10-Oct-2019
Acetabulum Load Cell			Y	235-FY	FTSS	18-Apr-2019
Iliac Wing Load Cell			Y	320-FY	FTSS	18-Apr-2019
Pelvis Plug (struck side)				12545	SACO	2-Oct-2018
Pelvis Plug (non-struck side)				36505	FTSS	24-Sep-2010

TABLE 2 – Vehicle Instrumentation

Vehicle Instrumentation		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P94524	Endevco	18-Jun-2019
Vehicle Center of Gravity	Y	P88460	Endevco	18-Jun-2019
Vehicle Center of Gravity	Z	P87822	Endevco	18-Jun-2019
Left Floor Sill	Y	P81065	Endevco	16-Jul-2019
A-Pillar Sill	Y	P81055	Endevco	11-Apr-2019
A-Pillar Low	Y	P80720	Endevco	1-Nov-2019
A-Pillar Mid	Y	P50428	Endevco	1-Nov-2019
B-Pillar Sill	Y	T11449	Endevco	1-Nov-2019
B-Pillar Low	Y	T10347	Endevco	5-Nov-2019
B-Pillar Mid	Y	P79599	Endevco	1-Aug-2019
Driver Seat	Y	P44288	Endevco	1-Nov-2019
Engine Top	X	P61501	Endevco	1-Nov-2019
Engine Top	Y	T11835	Endevco	1-Nov-2019
Firewall	Y	P94561	Endevco	11-Oct-2019
Right Roof	Y	P83421	Endevco	15-Feb-2019
Right Floor Sill	Y	P77595	Endevco	1-Aug-2019
Rear Floor Pan	X	T11850	Endevco	22-Oct-2019
Rear Floor Pan	Y	P57192	Endevco	16-Jul-2019

TABLE 3 – Pole Instrumentation

Pole Instrumentation	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DK7091S	Humanetics	13-Nov-2019
Load Cell 2	DK7120S	Humanetics	13-Nov-2019
Load Cell 3	DK7118S	Humanetics	13-Nov-2019
Load Cell 4	DK7124S	Humanetics	13-Nov-2019
Load Cell 5	DK7111S	Humanetics	13-Nov-2019
Load Cell 6	DK7126S	Humanetics	13-Nov-2019
Load Cell 7	DK7112S	Humanetics	13-Nov-2019
Load Cell 8	DK7074S	Humanetics	13-Nov-2019