FINAL REPORT NUMBER: SPNCAP-TRC-21-001

NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST

GENERAL MOTORS LLC
2021 Chevrolet Tahoe
NHTSA NUMBER: M20210106

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

Report Date: March 17, 2021

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: March 17, 2021

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 2021 Chevrolet Tahoe, 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 January 6, 2021.

The impact velocity was 32.12 km/h, and the ambient temperature at the struck (left) side of the target vehicle at the time of impact was 22.1° C. The test vehicle's post-test maximum crush was 351 mm at Level 3.

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

	Unit	Threshold	Front SID-IIs
Head Injury Criteria (HIC_{36}):	NA	1000	239
Resultant Lower Spine Acceleration:	g's	82	38.2
Total Pelvic Force: (sum of acetabular and iliac forces)	N	5525	3396.4
Maximum Thoracic Rib Deflection	mm	38*	17.4
Maximum Abdomen Rib Deflection	mm	45*	17.4

* 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 1200 New Jersey Ave Washington, DC 20590

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TEST PURPOSE AND PROCEDURE

TEST PURPOSE AND PROCEDURE

This side impact test was conducted as part of the MY21 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 2021 Chevrolet Tahoe 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 March 2020.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a model year 2021 Chevrolet Tahoe. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.12 km/h. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, OH, on January 6, 2021. 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 March 2020. 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 Triaxial 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	239
Lower Spine Acceleration Resultant	G	82	38.2
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3396.4
Maximum Thoracic Rib Deflection	mm	38*	17.4
Maximum Abdominal Rib Deflection	mm	45*	17.4

* Proposed IARV

Supplemental restraint information is given below:

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No	N/A		
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=Driver Center Side Airbag	Yes	Yes	No	N/A

GENERAL COMMENTS

Left Floor Sill Acceleration (Y) – Channel failed after 30.0 ms

Left Mid A-Pillar Acceleration (Y) – Channel failed after 30.0 ms

Left B-Pillar Sill Acceleration (Y) – Channel failed after 7.0 ms

Small Pre-Test Photo Placards have incorrect test date – Correct Test Date is 1/6/2021

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20210106
Model Year	2021
Make	Chevrolet
Model	Tahoe
Body Style	MPV
VIN	1GNSCNKD8MR176557
Body Color	Satin Steel Metallic
Odometer Reading (km/mi)	43 mi.
Engine Displacement (L)	5.3
Type/No. Cylinders	V8
Engine Placement	Inline
Transmission Type	Automatic
Transmission Speeds	10
Overdrive	Yes
Final Drive	RWD
Roof Rack	Yes
Sunroof/T-Top	No
Running Boards	Yes
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	No
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	No
Driver Load Limiter	Yes
Rear Pass. Load Limiter	No
Other: Driver Center Side Airbag	Yes

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	10/20
Vehicle Type	MPV

GVWR (kg)	3357
GAWR Front (kg)	1588
GAWR Rear (kg)	1950

VEHICLE SEATING AND WEIGHT CAPACITY DATA

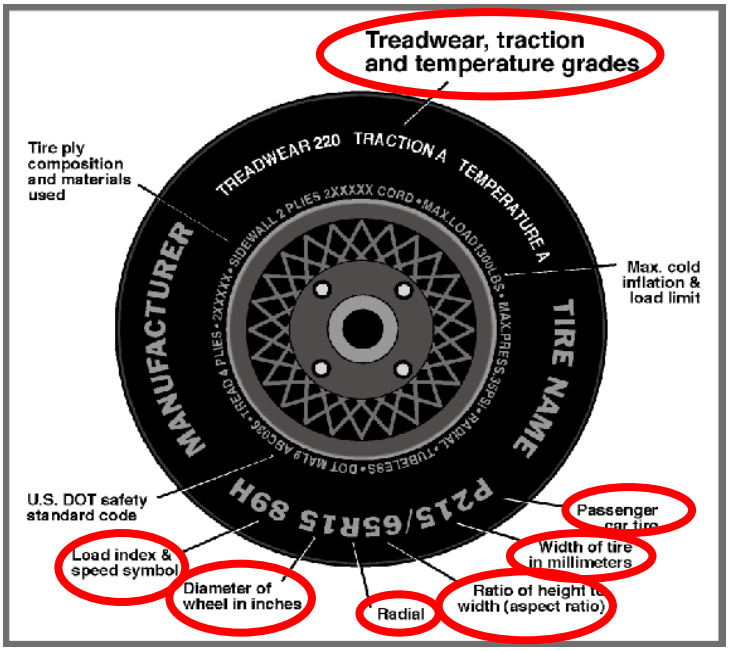
	Front	Rear	Third	Total
Designated Seating Capacity (DSC)	2	2	3	7
Vehicle Capacity Weight (VCW) (kg)				861.0
DSC X 68.04 kg				476.3
Rated Cargo and Luggage Weight (RCLW) (kg)				384.7

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	N/A	Yes	N/A	N/A

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

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	240	240
Recommended Tire Size	265/65R18 T	265/65R18 T
Tire Size on Vehicle	265/65R18	265/65R18
Tire Manufacturer	Michelin	Michelin
Tire Model	Primacy LTX	Primacy LTX
Treadwear	480	480
Traction	A	A
Temperature Grades	B	B
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	114T	114T
Tire Material	Polyester, Polyamide, Steel	Polyester, Polyamide, Steel
DOT Safety Code Left	M3KA 00FX 3620	M3KA 00FX 3720
DOT Safety Code Right	M3KA 00FX 3620	M3KA 00FX 3720

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

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	276	290	290	290
Tire Placard	kPa	240	240	240	240
Owner's Manual	kPa	240	240	240	240
As Tested	kPa	240	240	240	240

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	609.4	621.0		627.4	710.2		622.6	725.0	
Right	kg	622.2	605.6		600.0	700.0		605.8	689.6	
Ratio	%	50.1	49.9		46.5	53.5		46.5	53.5	
Totals	kg	1231.6	1226.6	2458.0	1227.4	1410.2	2637.6	1228.4	1414.6	2643.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	2458.0	(A)
Actual Weight of 1 P572V ATD (SID-IIs) Dummy Used	kg	49.0	(B)
Rated Cargo/Luggage Weight (RCLW)[1]	kg	136.0	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2643.0	(A+B+C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 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.	-0.7	-0.5	+0.3	Yes
Front Passenger Sill Angle (front-to-rear)*	Deg.	-0.7	-0.3	+0.2	Yes
Front Bumper-Line Angle (left-to-right)**	Deg.	-0.3	-0.3	-0.3	Yes
Rear Bumper-Line Angle (left-to-right)**	Deg.	-0.1	-0.3	-0.3	Yes
Vehicle CG (Aft of Front Axle)	mm	1527	1636	1638	
Vehicle CG (Left (+) / Right (-) from longitudinal Centerline)	mm	+1	+12	+17	

*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".

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

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

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast: Steel plate mounted in cargo area	119.7
Components Removed: None	0.0

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

TEST SURFACE MARKINGS

	Distance from 75° Impact Location Line (mm)
Fore 25 mm target	N/A
Aft 25 mm target	N/A

DATA SHEET NO. 2

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

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106

Test Program: SPNCAP Side Impact Test Date: 1/6/2021

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	19.8	11.3	15.4
Front Passenger Seat	19.5	10.8	15.2
Front Center Seat*	N/A	N/A	N/A
Struck Side Rear Seat	N/A	N/A	10.6
Non-Struck Side Rear Seat	N/A	N/A	10.6
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	15.4	309	Max	343	342	340
			Mid	312	311	309
			Min	281	279	277
Front Passenger Seat	15.2	297	Max	334	332	330
			Mid	301	299	297
			Min	268	266	264
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	10.6	326	Max	N/A	N/A	N/A
			Mid	326	323	320
			Min	N/A	N/A	N/A
Non-Struck Side Rear Seat	10.6	326	Max	N/A	N/A	N/A
			Mid	326	323	320
			Min	N/A	N/A	N/A
Rear 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

* If applicable.

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

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

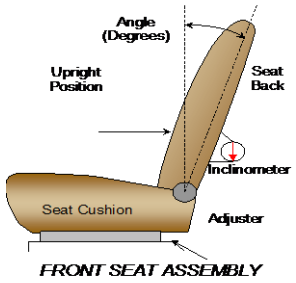
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position from Forward most Position	
	mm	Detents*	mm	Detent*
Driver Seat	260	N/A	0	N/A
Front Passenger Seat	258	N/A	0	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	141	15	141	14
Non-Struck Side Rear Seat	141	15	141	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	-18.6	N/A
Front Passenger Seat	65.7	N/A	-18.6	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	17.8	10	13.8	0
Non-Struck Side Rear Seat	17.8	10	13.9	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	4, 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	8	1, Lowermost

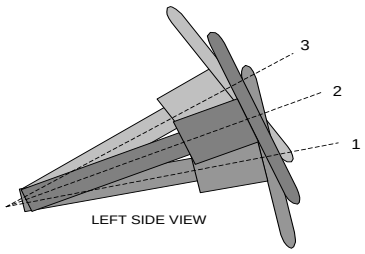
DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

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	21.0	0
Geometric Center, Position No. 2	23.0	35
Uppermost, Position No. 3	24.8	60
Telescoping Steering Wheel Travel		60
Test Position	23.0	35

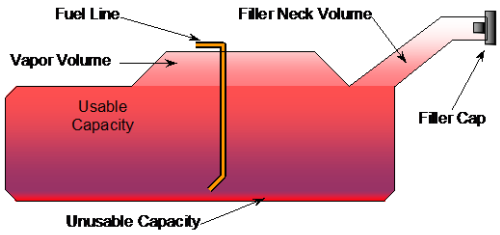


STEERING COLUMN ASSEMBLY

FUEL PUMP

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

Fuel pump will run for approximately 3 seconds when the key or push start button is switched to “On” position, then, it will stop and will not resume operation unless the engine is cranking or running



VEHICLE FUEL TANK ASSEMBLY

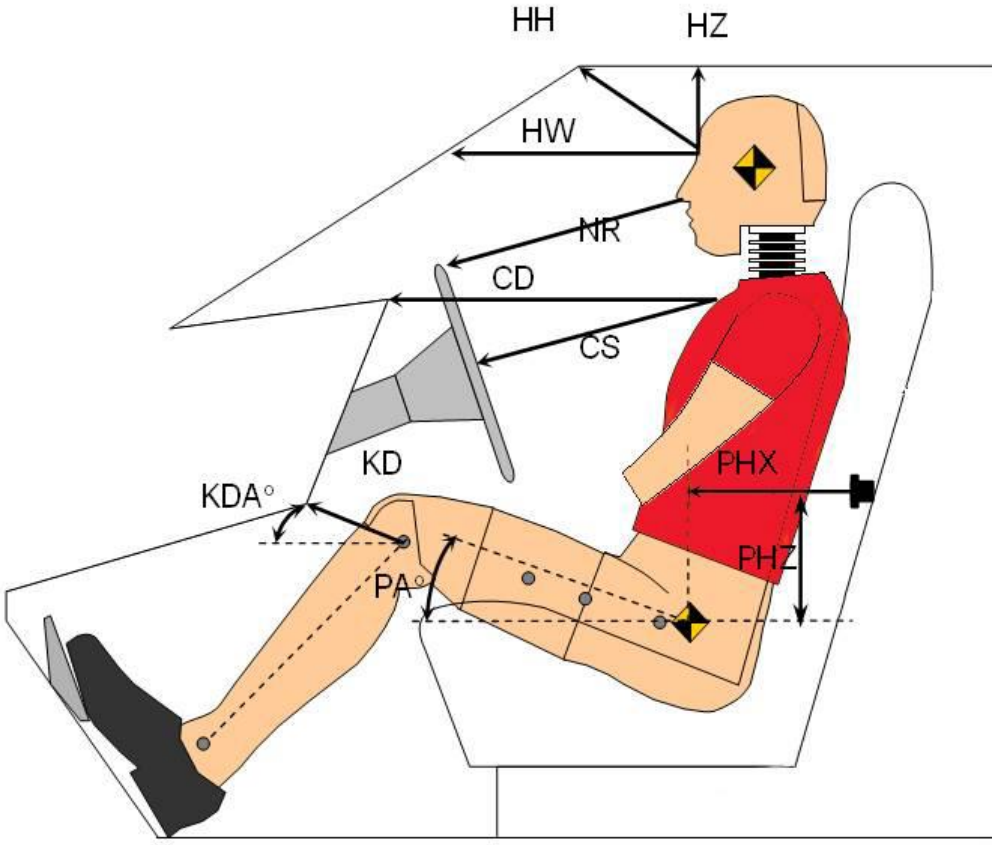
FUEL TANK CAPACITY

	Liters
Usable Capacity of “Standard Tank” (see Form No. 1)	90.8
Usable Capacity of “Optional” Tank (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner’s Manual)	90.8
Usable Capacity of Optional Tank (see Owner’s Manual)	N/A
93% of Usable Capacity	84.5
Actual Amount of Solvent Used in Test	84.5
1/3 of Usable Capacity	30.3

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

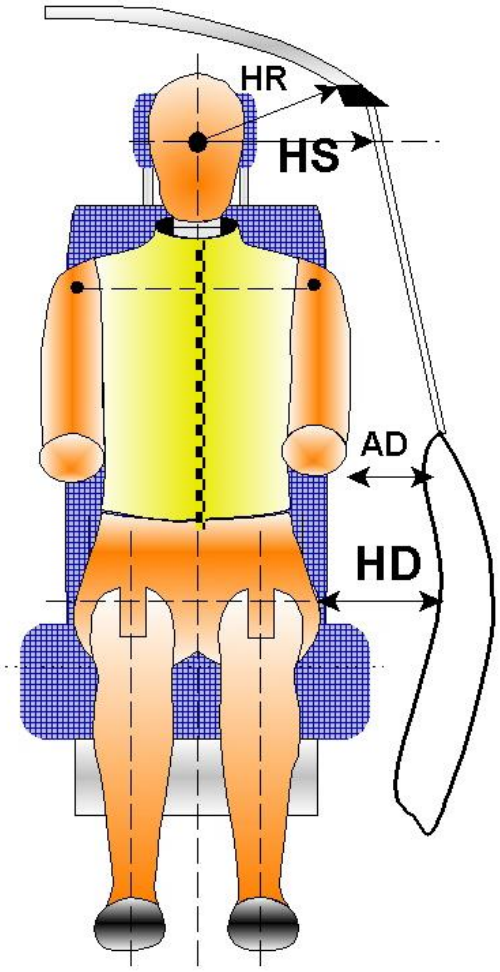
Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	390	
HW	Head to Windshield	735	
HZ	Head to Visor	281	
NR	Nose to Rim	277	
CD	Chest to Dashboard	447	
CS	Chest to Steering Wheel	227	
KDL/KDLA°	Left Knee to Dash	118	32.3
KDR/KDRA°	Right Knee to Dash	111	31.9
PAX°	Pelvic Tilt Angle (X-axis)		0.0
PAY°	Pelvic Tilt Angle (Y-axis)		18.8
PHX	Hip Point to Striker (X-Axis)	343	
PHZ	Hip Point to Striker (Z-Axis)	70	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

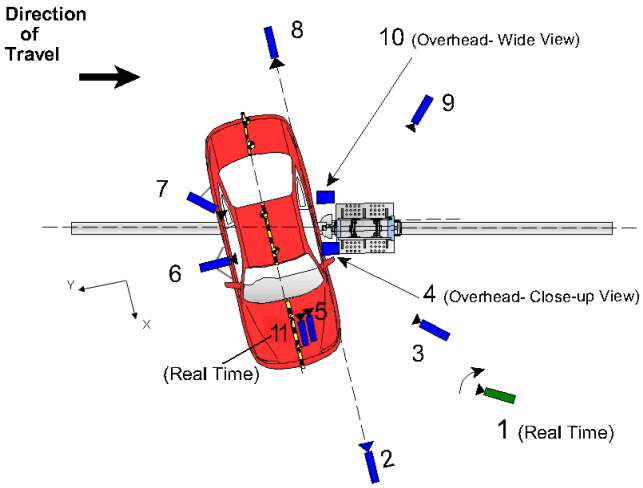
Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



Code	Measurement Description	Length (mm)
HR	Head to Side Header	312
HS	Head to Side Window	320
AD	Arm to Door	184
HD	Hip Point to Door	174

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



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	4825	0	-1782	20	1000
3	Impact side 45° – forward pole view	2821	-1607	-1125	20	1000
4	Overhead Close-up view of impact	0	0	-5260	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	-5542	827	-1789	20	1000
9	Impact side 45° – rearward pole view	2936	2628	-1705	20	1000
10	Overhead wide view of impact	384	250	-5259	18.5	1000
11	Real time dummy front view				Zoom	30

All measurements accurate to +/- 6 mm.

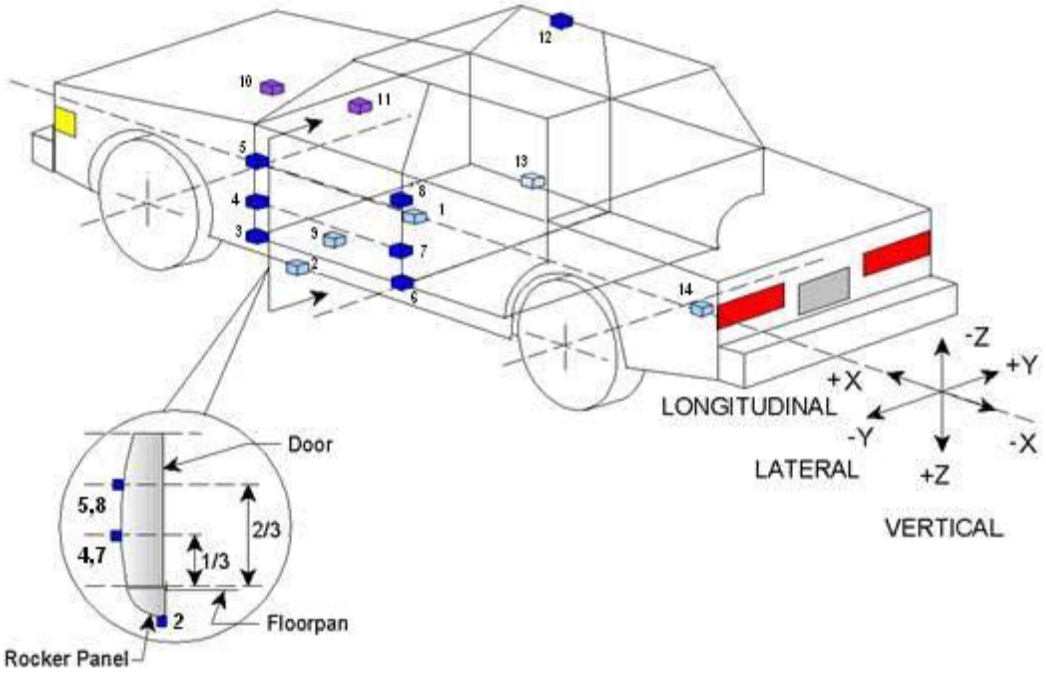
NOTE: Vehicle was at a 75° angle to the rigid pole.
If applicable, explain why camera(s) did not run: Camera 11 malfunctioned

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: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



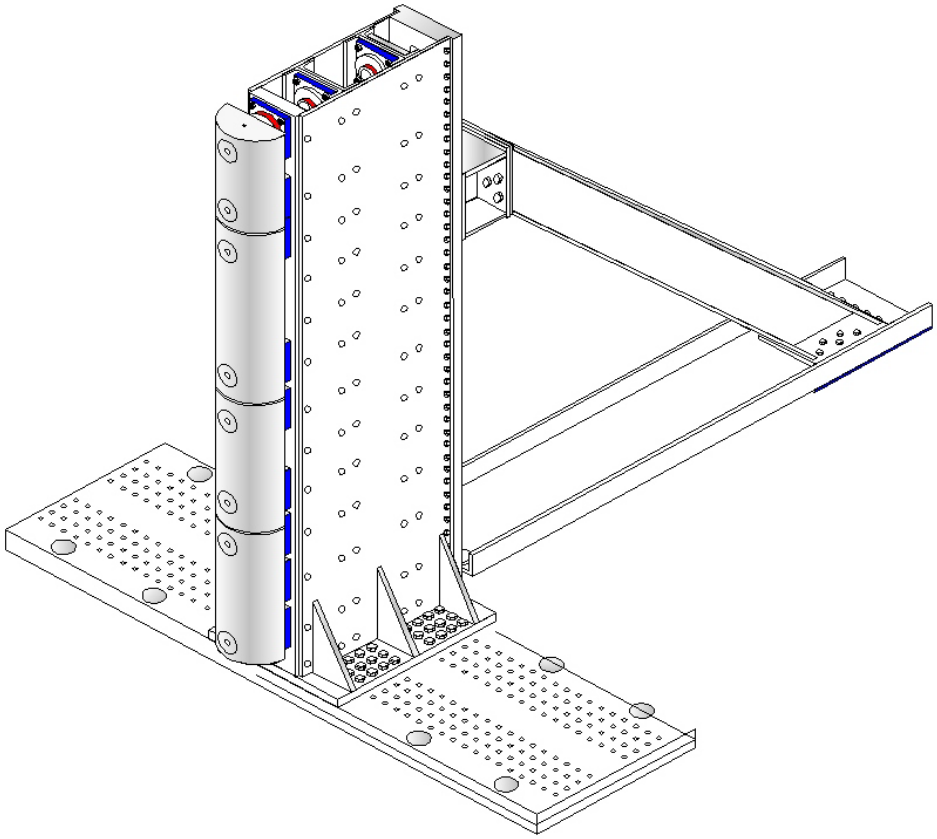
	Accelerometer/Sensor Location			
	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	3300	-175	-585
2	Left Floor Sill	3335	-680	-530
3	A-Pillar Sill	3730	-783	-569
4	A-Pillar Low	3779	-893	-731
5	A-Pillar Mid	3815	-885	-1194
6	B-Pillar Sill	2570	-845	-558
7	B-Pillar Low	2635	-925	-750
8	B-Pillar Mid	2630	-895	-1191
9	Driver Seat Track	2900	-645	-671
10	Engine Top	4440	0	-1098
11	Firewall	1110	20	-1278
12	Right Roof	2780	675	-1863
13	Right Floor Sill	3365	655	-530
14	Rear Floorpan	385	0	-788

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: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

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: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	SCAB
Top of Head	SCAB
Left Side of Head	SCAB
Back of Head	Head restraint
Left Shoulder	SAB
Upper Torso	Seat back bolster
Lower Torso	Seat back bolster, SAB
Left Hip	SAB
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

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

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Sill Separation	None
Windshield Damage	Along left a pillar and across top
Side Window Damage	Driver window broken out
Other Notable Effects	None

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

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

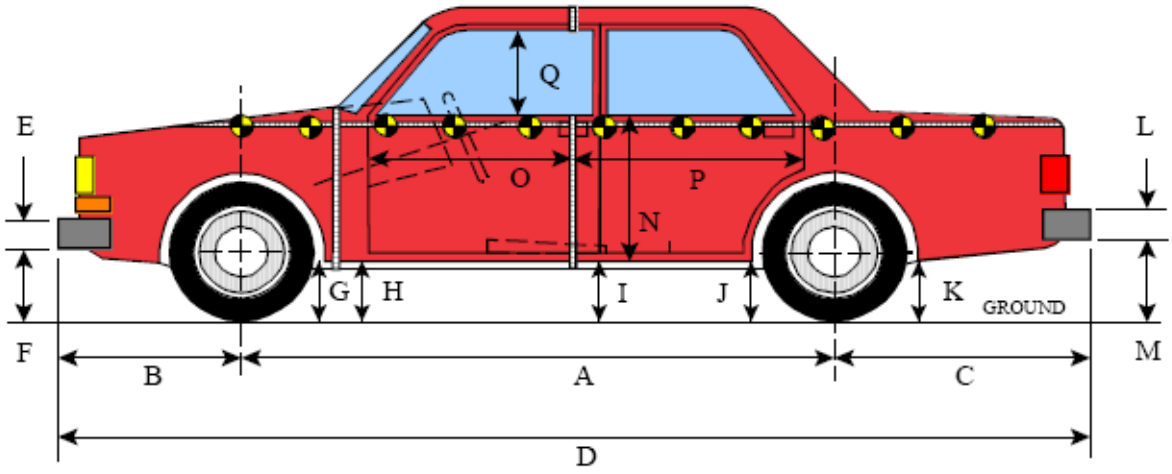
Restraint Type	Struck Side (Driver)		Struck Side (Rear Passenger)	
	Mounted	Deployed	Mounted	Deployed
Front Airbag	Yes	No		
Knee Airbag	No	N/A		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	N/A
Side Torso Airbag	No	N/A	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
Seat Belt Load Limiter	Yes	Unknown	No	N/A
Other: Driver Center Seat Airbag	Yes	Yes	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		1239
Actual Impact Point (Aft of Front Axle)	mm		1239
Horizontal Offset (+ forward / - rearward)	mm	+/- 38 of Intended Impact point	0
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	32.12
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.08

DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



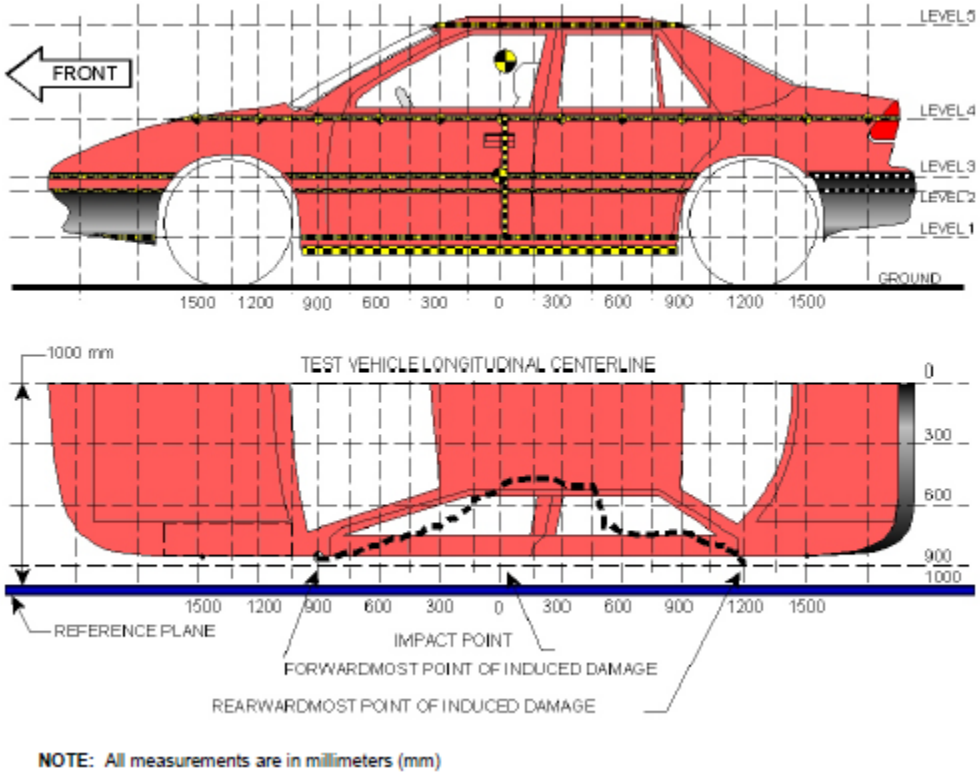
LEFT SIDE VIEW
All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3mm

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	3060	3030	30
B	Front Axle to Front Surface of Vehicle	954	954	0
C	Rear Axle to Rear Surface of Vehicle	1320	1320	0
D	Total Length at Centerline	5334	5335	-1
E	Front Bumper Thickness	140	140	0
F	Front Bumper Bottom to Ground	540	500	40
G	Sill Height at Front Wheel Well	415	430	-15
H	Sill Height at Front Door Leading Edge	420	440	-20
I	Sill Height at B-Pillar	425	475	-50
J1	Sill Height at Rear Wheel Well	433	480	-47
J2	Pinch Weld Height at Rear Wheel Well	340	395	-55
K	Sill Height Aft of Rear Wheel Well	497	535	-38
L	Rear Bumper Thickness	105	105	0
M	Rear Bumper Bottom to Ground	620	660	-40
N	Sill Height to Bottom of Front Window Sill	920	922	-2
O	Front Door Leading Edge to Impact CL	698	595	103
P	Rear Door Trailing Edge to Impact CL	1602	1530	72
Q	Front Window Opening	505	482	23
R	Right Side Length	5004	5004	0
S	Left Side Length	5004	4980	24
T	Vehicle Width at B-Pillars	1999	1980	19
U	Front Wheel Track Width	1742	1725	17
V	Rear Wheel Track Width	1740	1735	5

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



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	398	309	0
2	Occupant H-Point	785	350	0
3	Mid-Door	813	351	0
4	Window Sill	1108	318	0
5	Window Top	1621	106	0

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

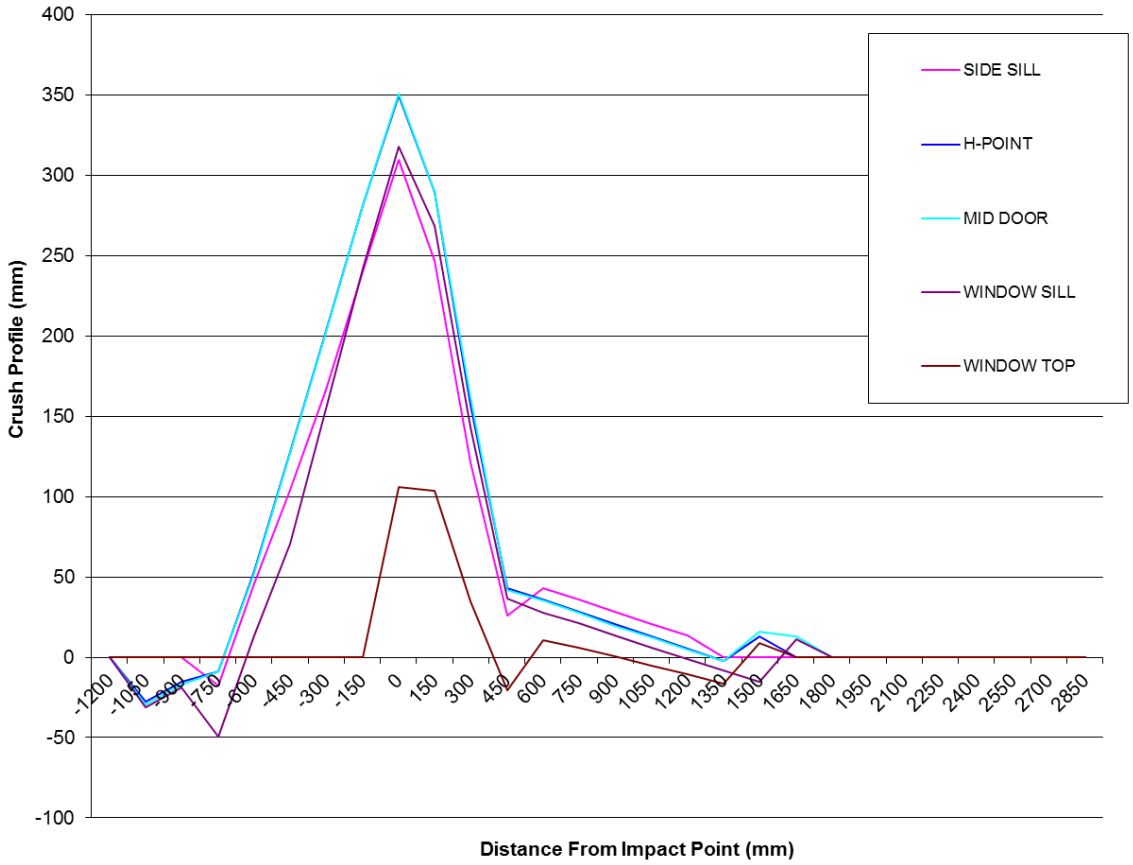
Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1050	0	1159	1152	990	0	0	1187	1182	1021	0	0	-28	-30	-31	0
-900	0	1153	1147	994	0	0	1169	1164	1013	0	0	-16	-17	-19	0
-750	1208	1142	1136	995	0	1225	1151	1145	1044	0	-17	-9	-9	-49	0
-600	1189	1131	1126	1056	0	1143	1078	1073	1042	0	46	53	53	14	0
-450	1177	1123	1117	993	0	1072	995	991	922	0	105	128	126	71	0
-300	1168	1115	1110	993	0	1002	912	908	838	0	166	203	202	155	0
-150	1162	1108	1103	992	0	922	827	822	751	0	240	281	281	241	0
0	1154	1102	1097	991	618	845	752	746	673	512	309	350	351	318	106
150	1147	1096	1091	989	622	900	806	801	720	519	247	290	290	269	103
300	1139	1090	1085	987	617	1018	933	923	844	582	121	157	162	143	35
450	1130	1083	1078	983	614	1104	1040	1036	946	634	26	43	42	37	-20
600	1120	1076	1071	977	610	1078	1040	1036	949	599	42	36	35	28	11
750	1112	1069	1064	971	606	1076	1041	1037	950	600	36	28	27	21	6
900	1104	1063	1057	965	600	1075	1042	1038	951	599	29	21	19	14	1
1050	1097	1057	1052	957	592	1076	1044	1039	951	597	21	13	13	6	-5
1200	1095	1053	1047	948	585	1081	1047	1042	949	596	14	6	5	-1	-11
1350	0	1050	1044	938	580	0	1052	1047	946	597	0	-2	-3	-8	-17
1500	0	1042	1036	929	575	0	1029	1020	945	566	0	13	16	-16	9
1650	0	0	1029	919	0	0	0	1016	908	0	0	0	13	11	0

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.

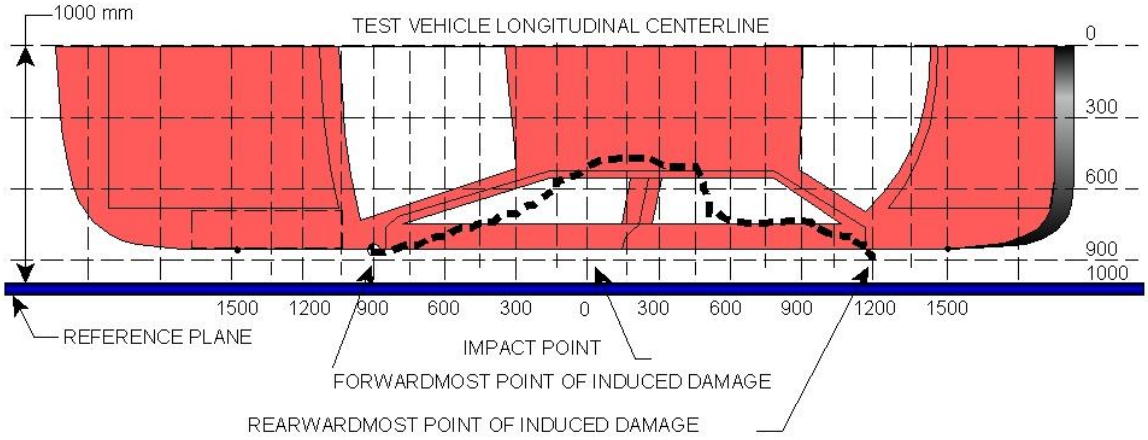
DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	1650	3	1016	1029	13
2	1200	1	1081	1095	14
3	750	1	1076	1112	36
4	300	3	923	1085	162
5	-150	2	827	1108	281
		3	822	1103	
6[1]	-600	2	1078	1131	0
		3	1073	1126	

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

DATA SHEET NO. 12

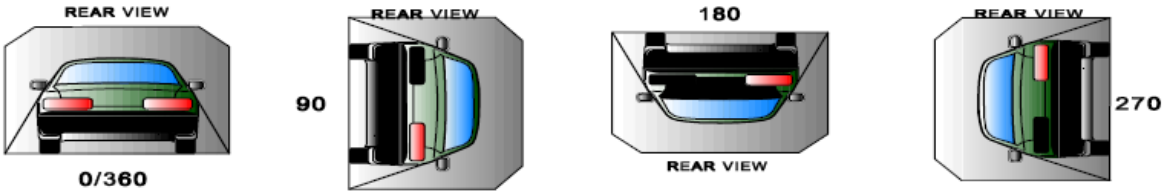
FMVSS NO. 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

Test Vehicle: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021

Test Time: 15:38 **Temperature:** 22.1ºC

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

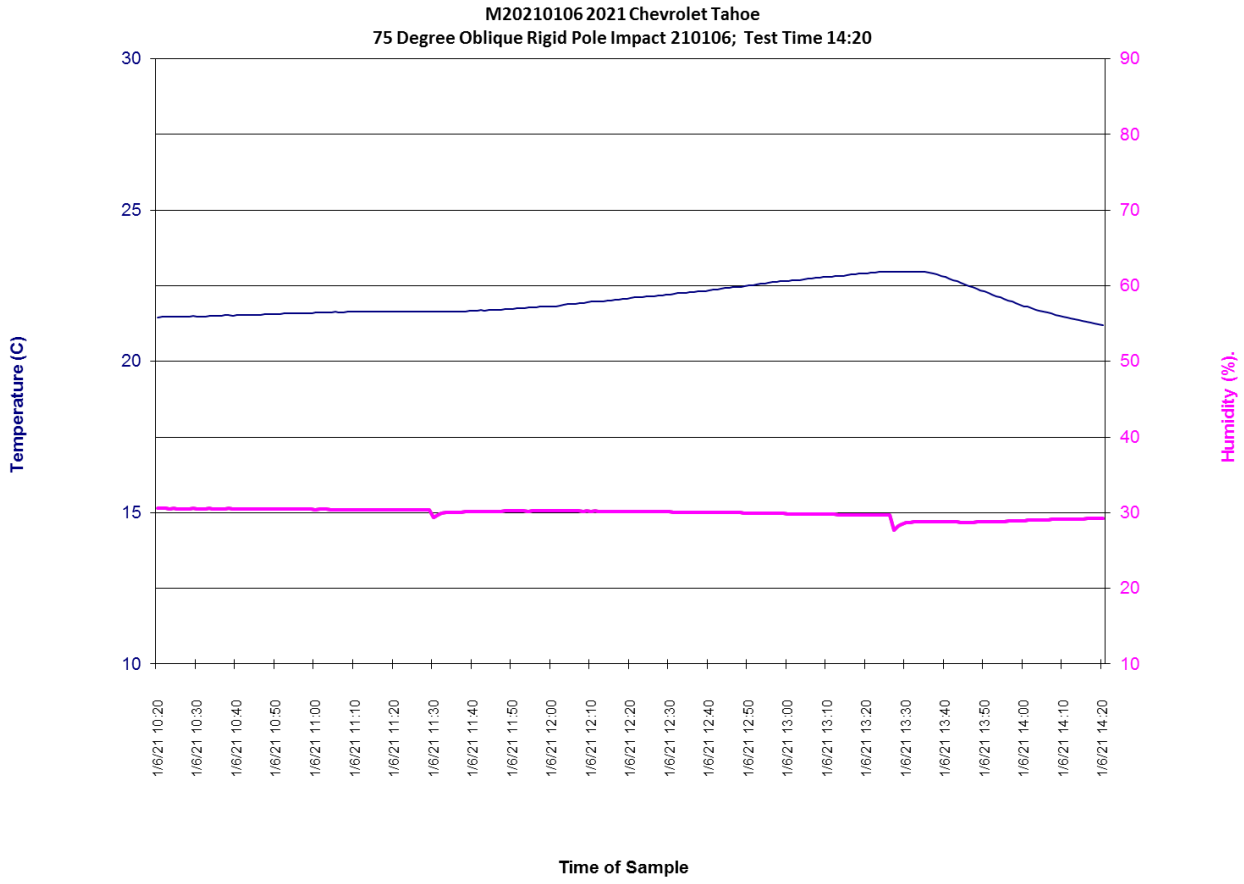
Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0 to 90	0	0	0	0
90 to 180	0	0	0	0
180 to 270	0	0	0	0
270 to 360	0	0	0	0

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: 2021 Chevrolet Tahoe NHTSA No.: M20210106
Test Program: SPNCAP Side Impact Test Date: 1/6/2021



APPENDIX A

PHOTOGRAPHS

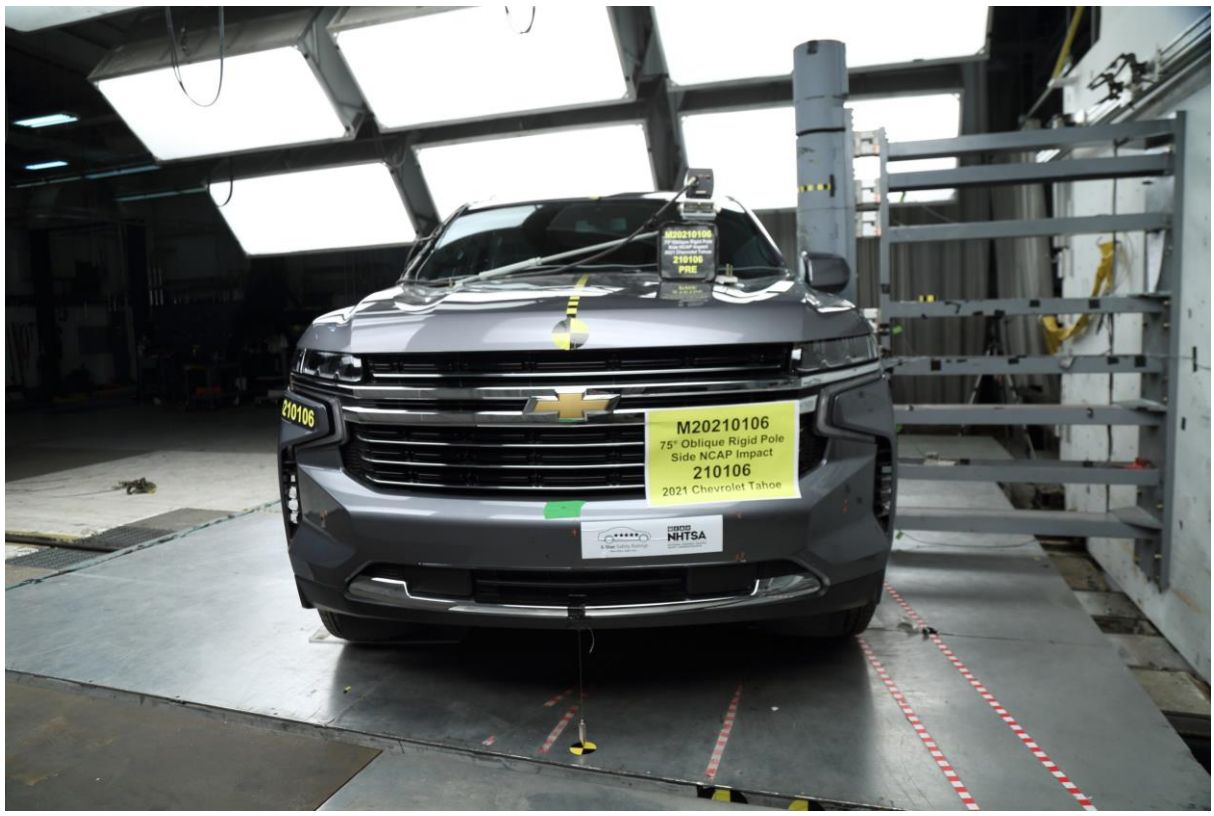
TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (CONTINUED)

Small Pre-Test Photo Placards have incorrect test date – Correct Test Date is 1/6/2021

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

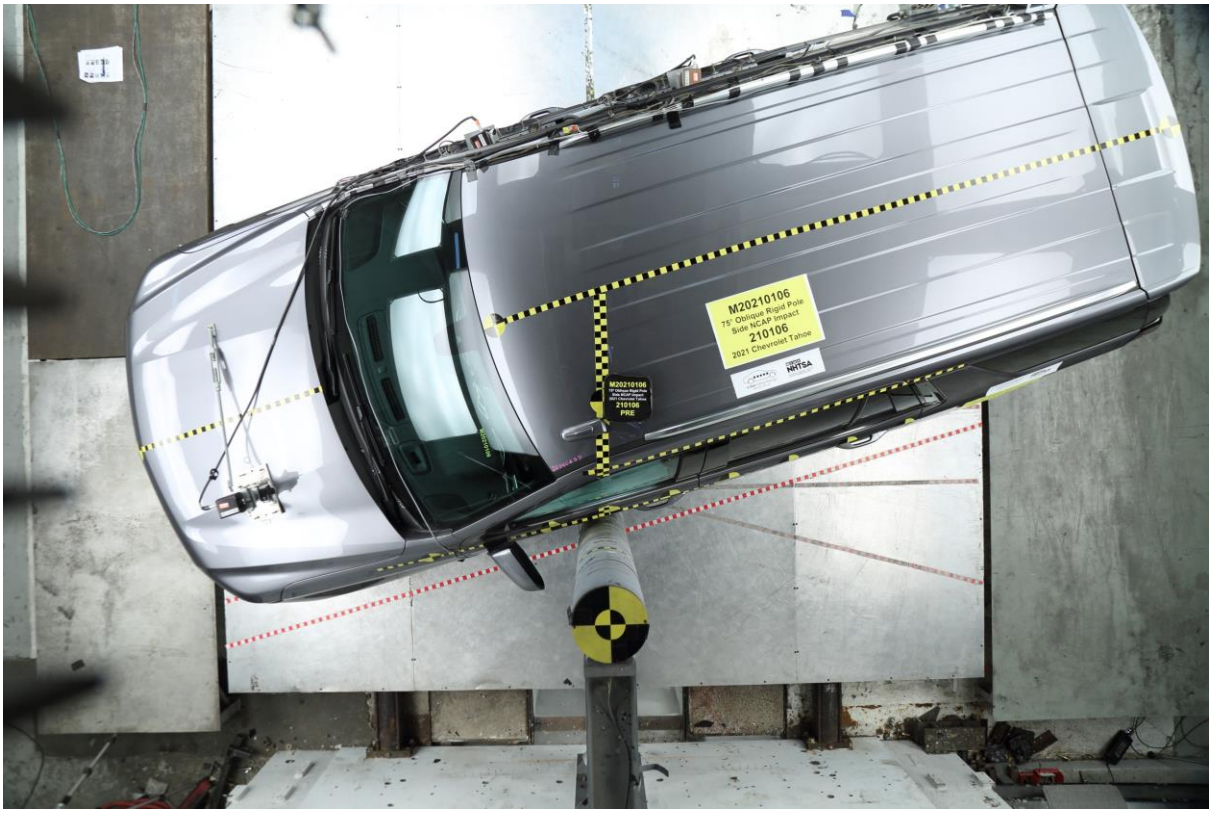
No. 010 Post-Test Left Rear ¾ View of Test Vehicle

No. 011 Pre-Test Rear View of Test Vehicle

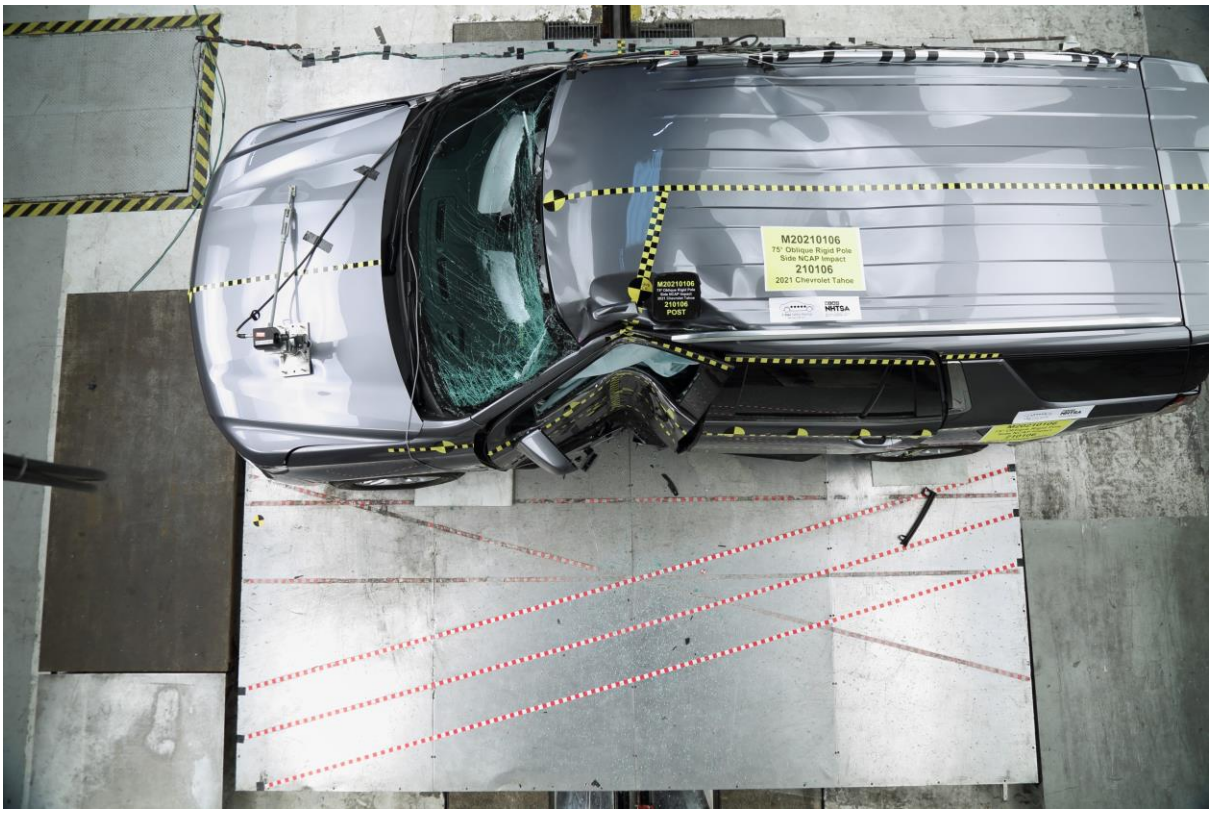
No. 012 Post-Test Rear View of Test Vehicle

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

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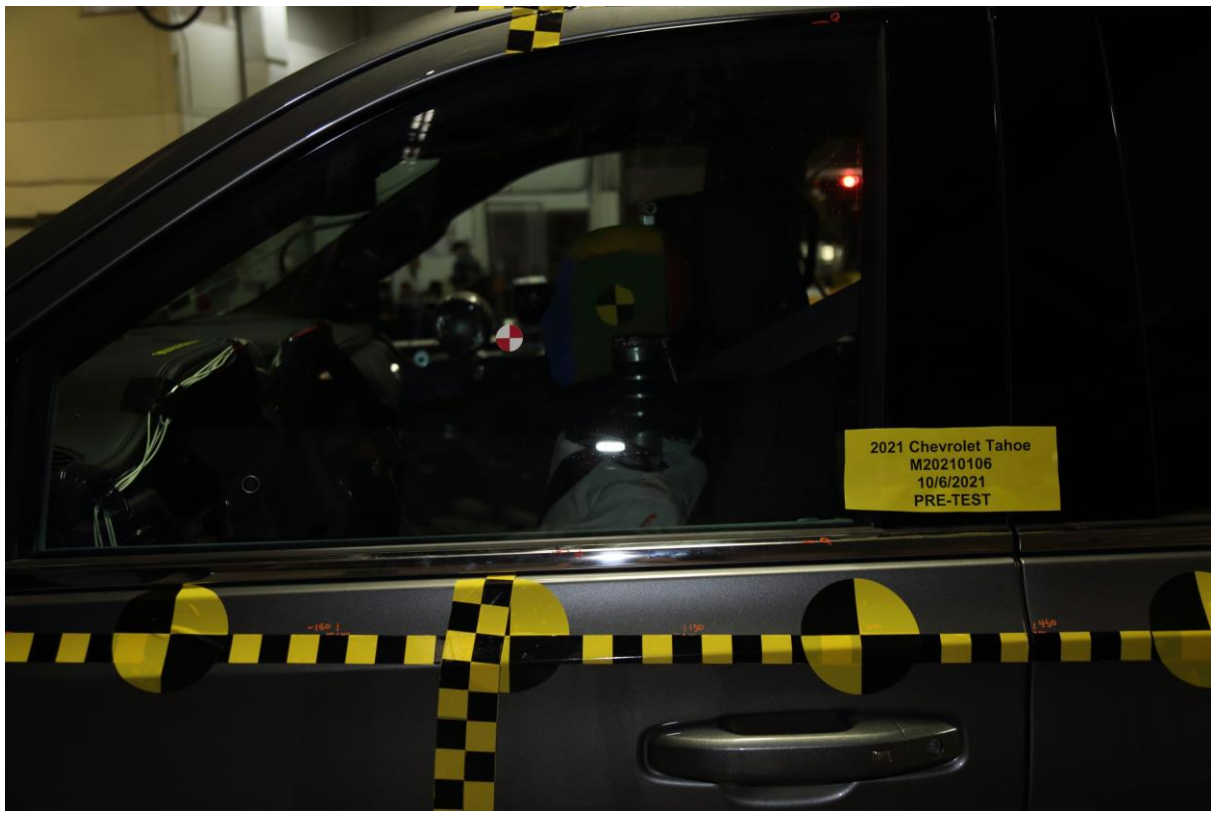


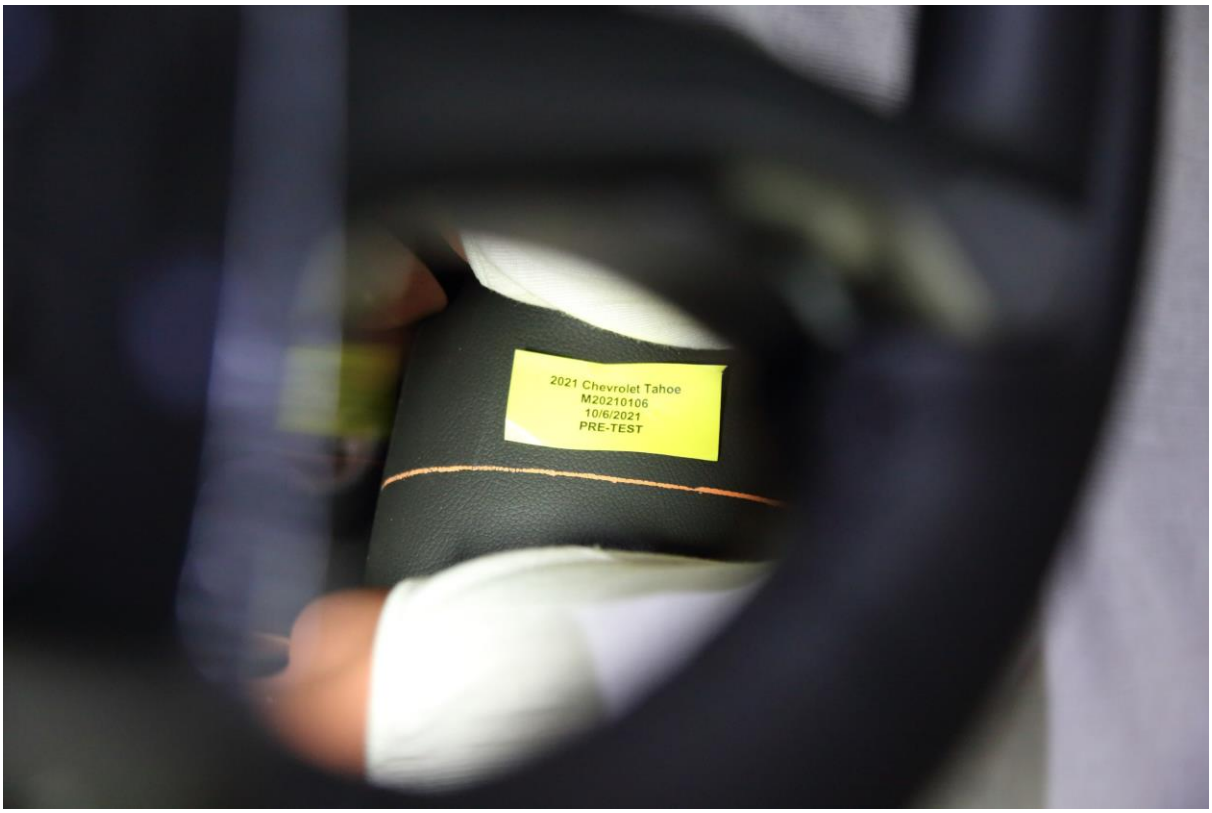
No. 024 Pre-Test Left Side View of Dummy Shoulder and Door Top View

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

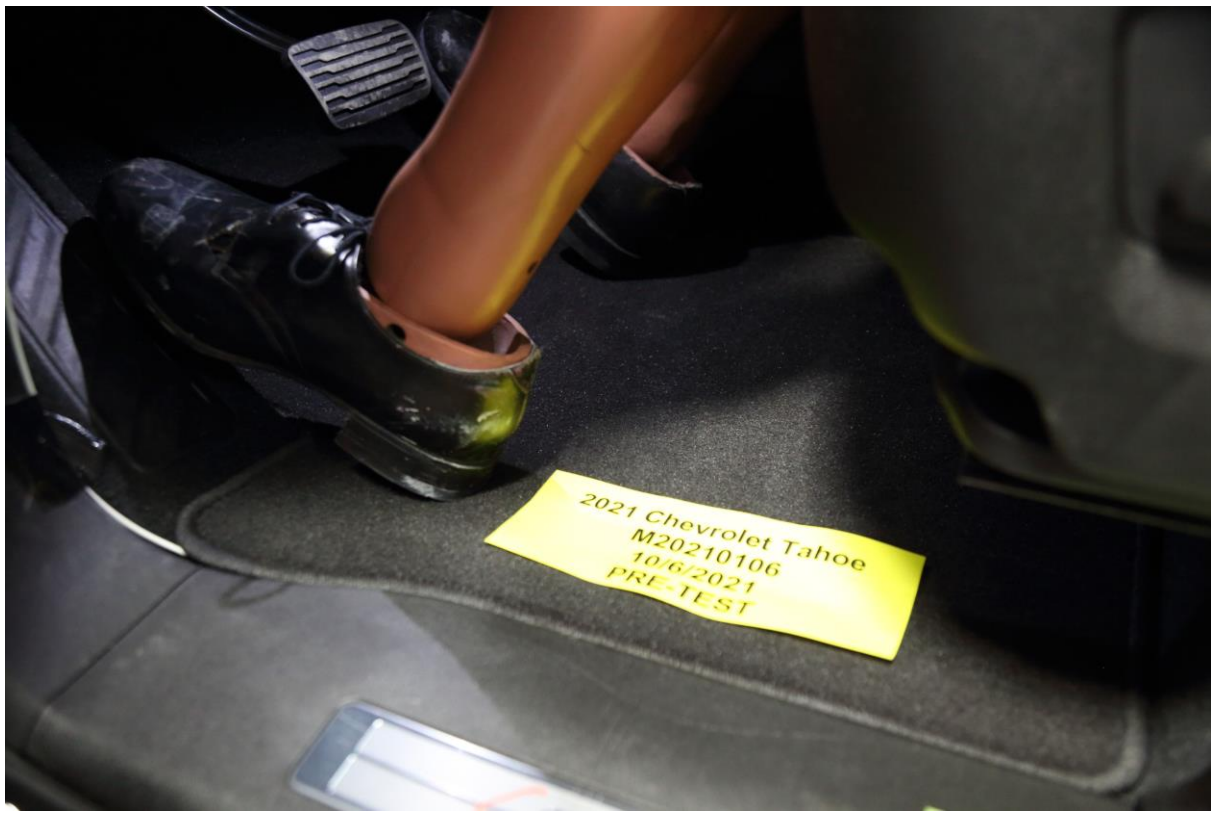
No. 028 Pre-Test Front View of Seat Pan Prior to Dummy Positioning



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

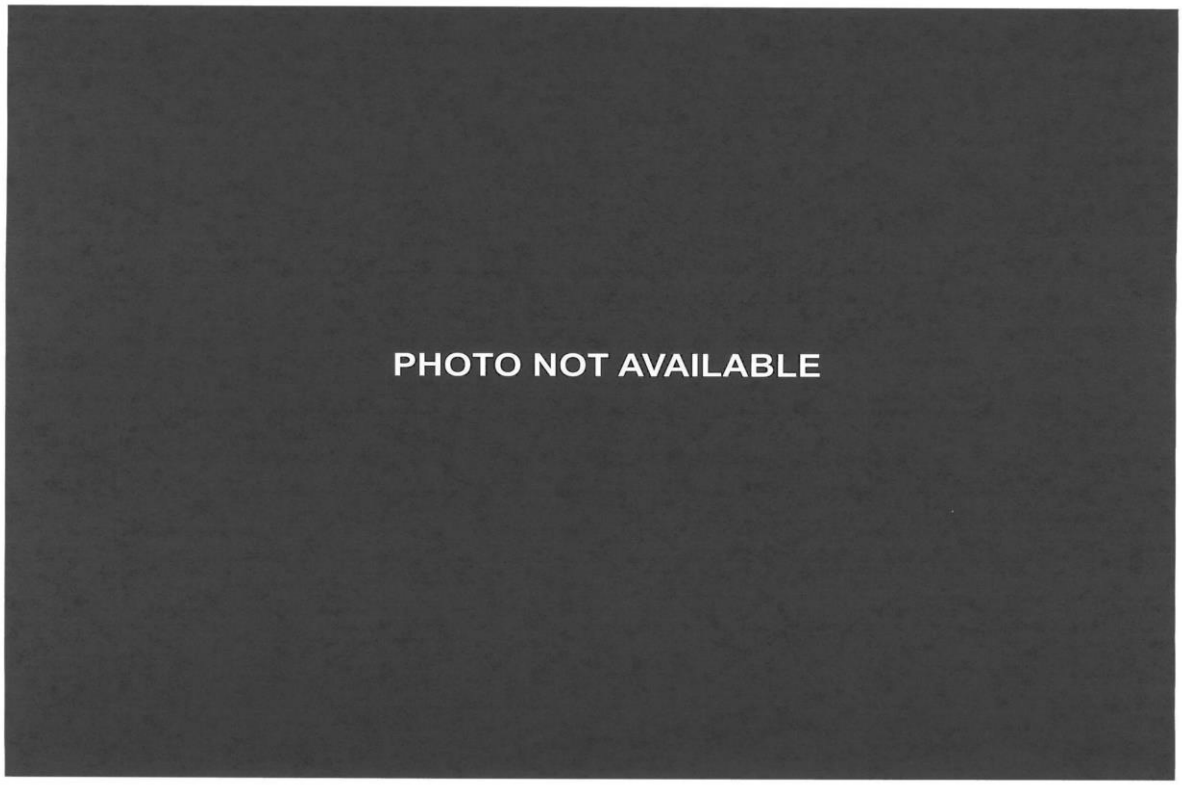


No. 032 Pre-Test Placement of Dummy Feet

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

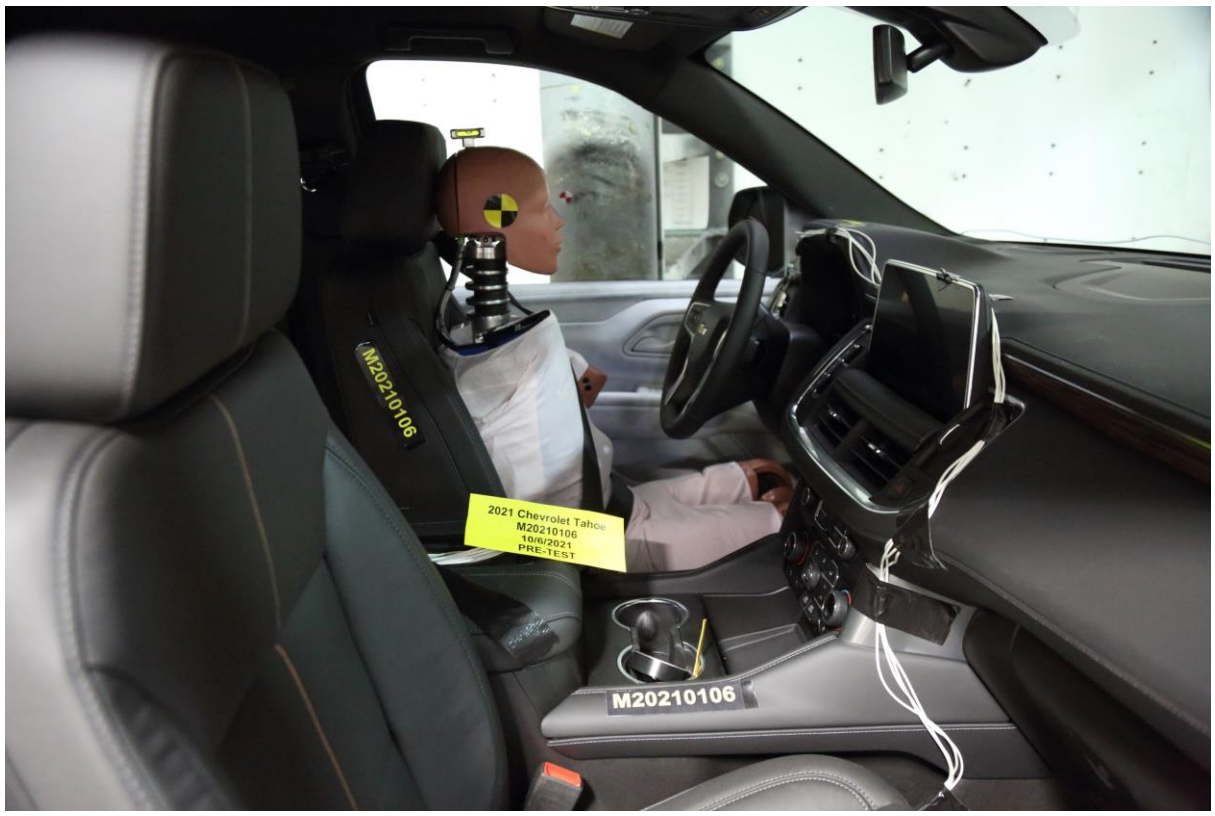
No. 037 Pre-Test Close-Up Left Side View of Driver Seat Track

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

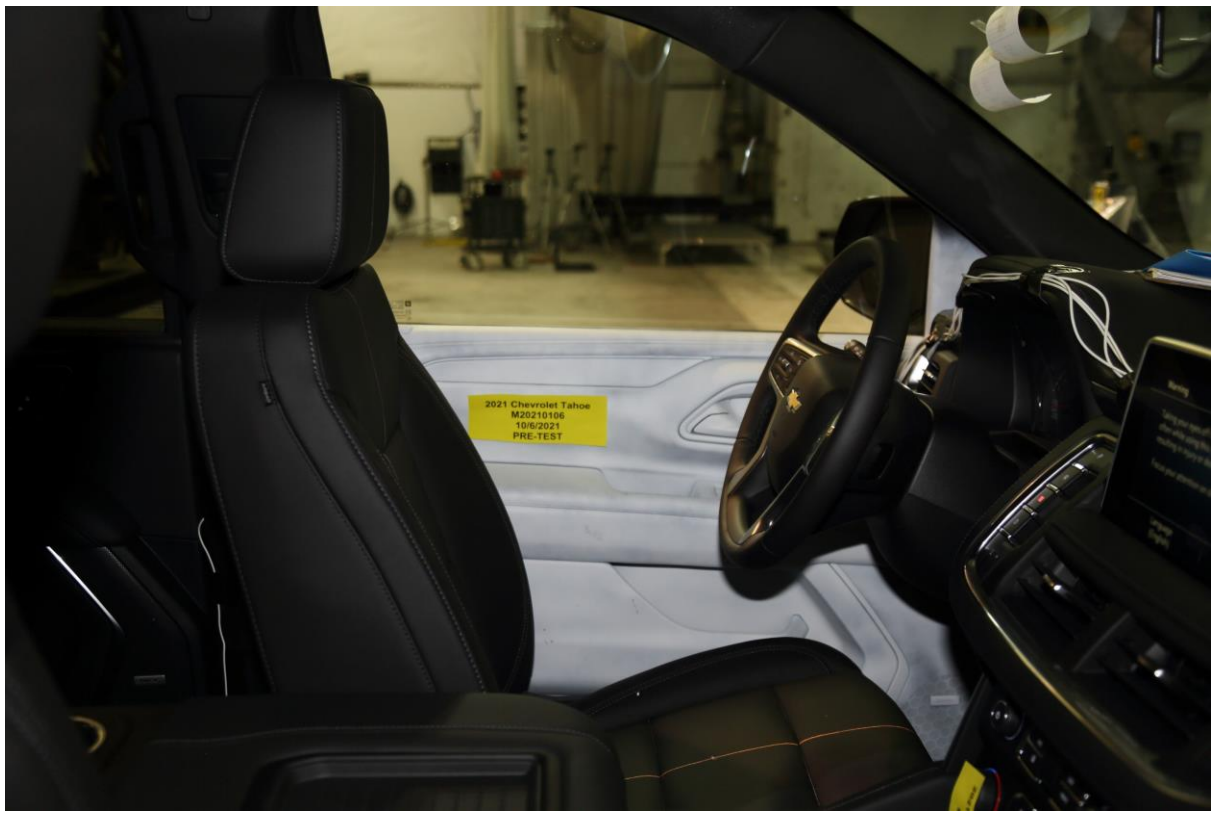
No. 040 Pre-Test Dummy and Door Clearance View

No. 041 Post-Test Dummy and Door Clearance View

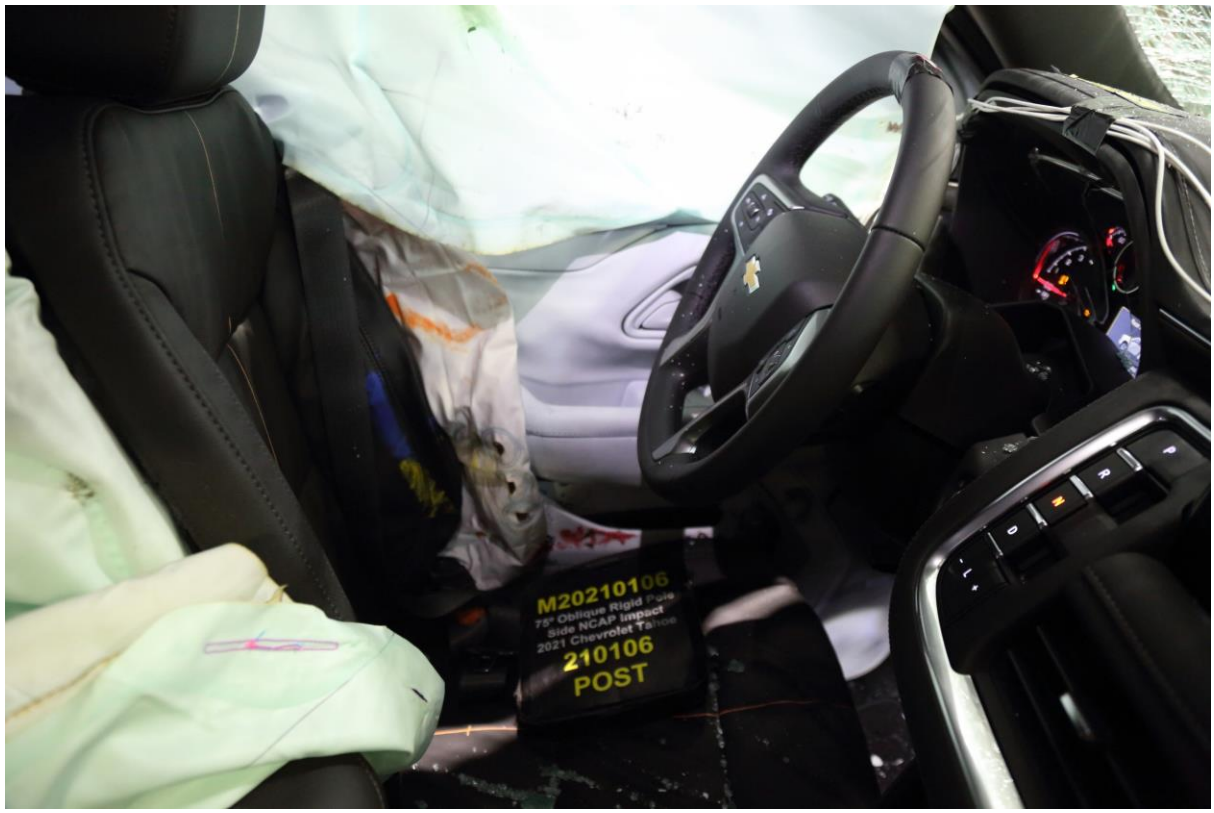


No. 042 Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment

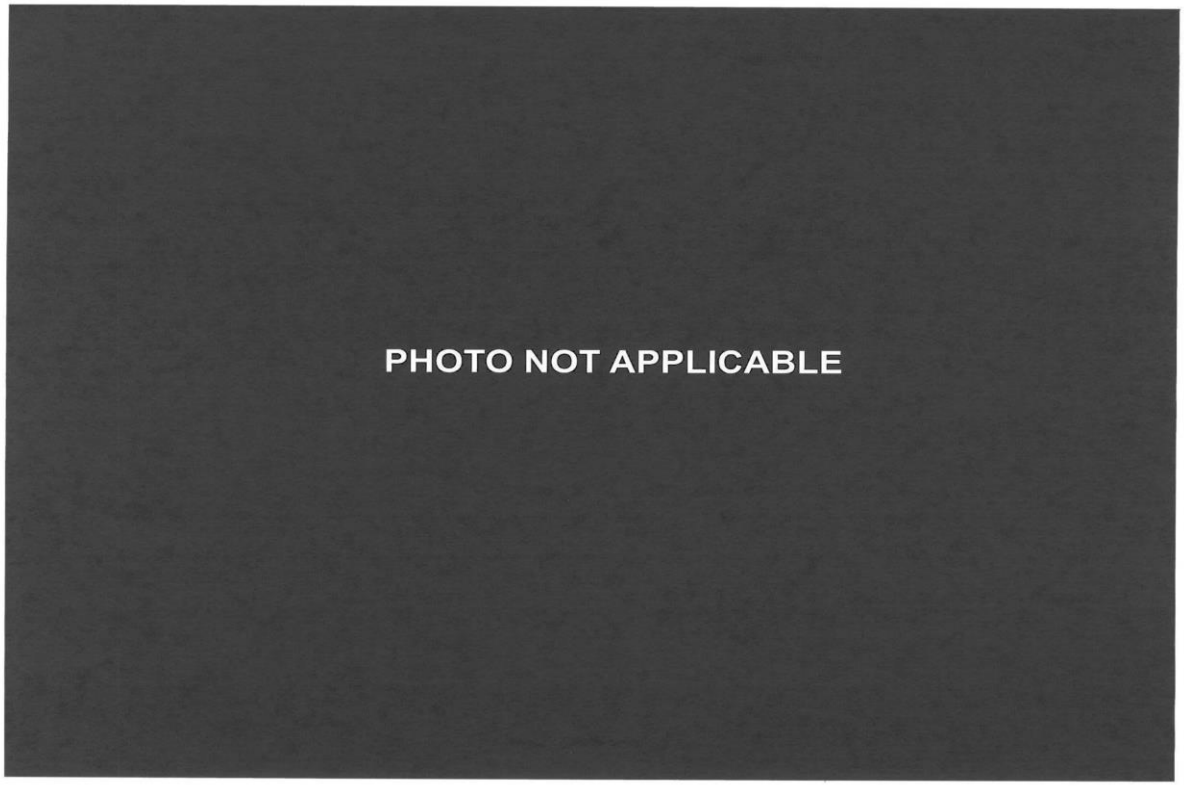
No. 043 Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment



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

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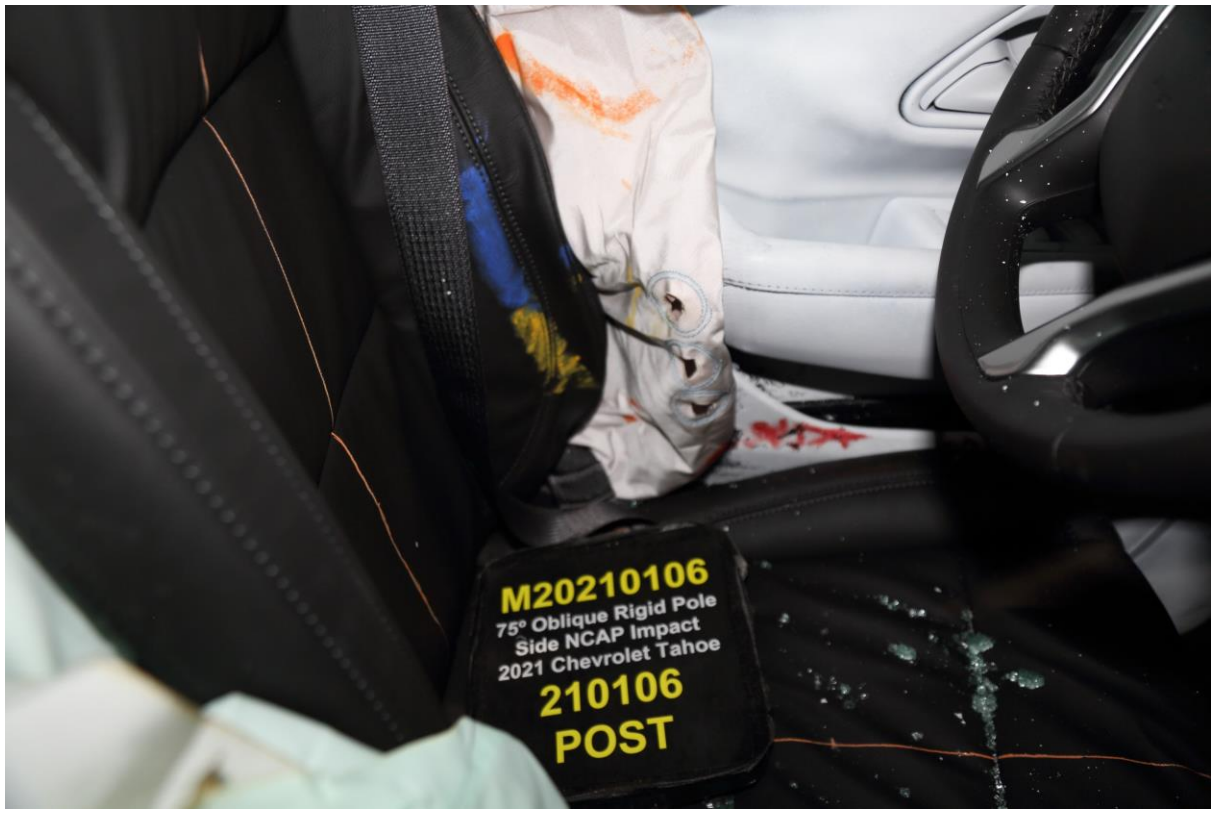
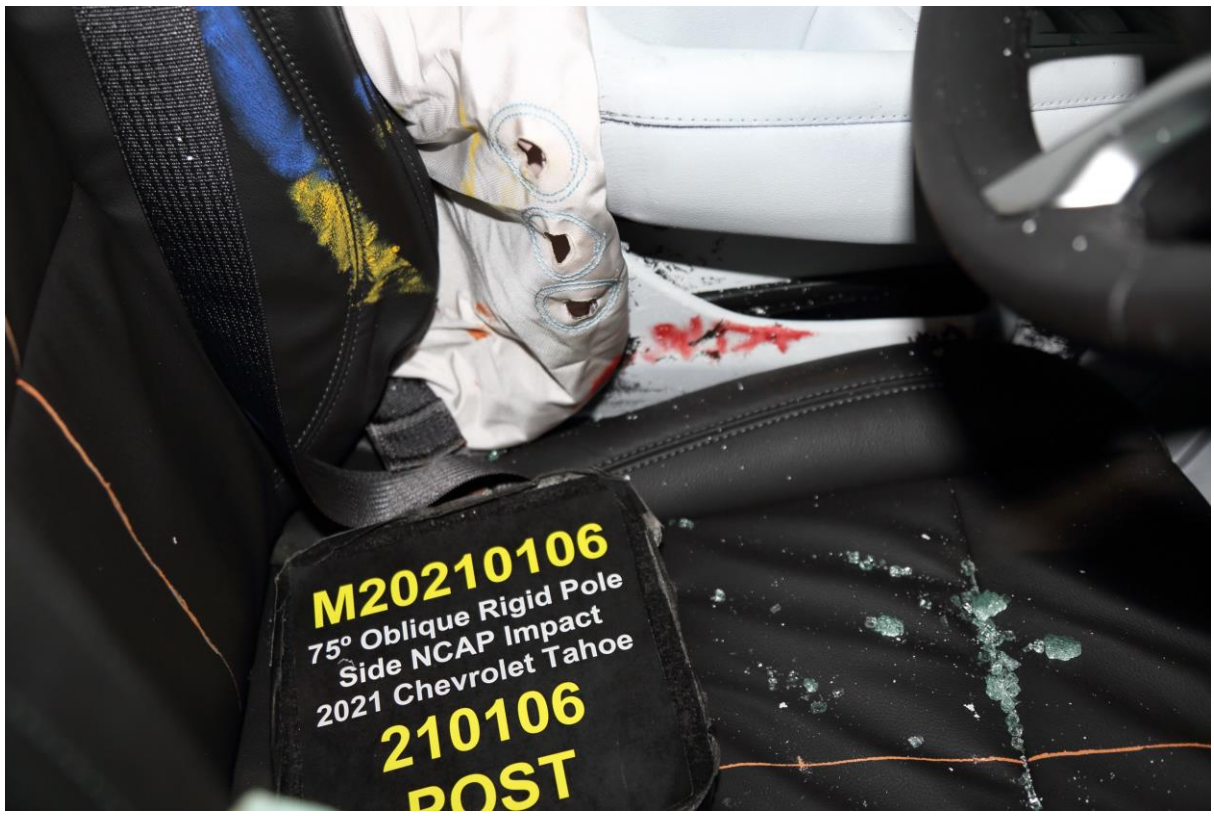
No. 047 Post-Test Dummy Close-Up Head Contact with Side Airbag View



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

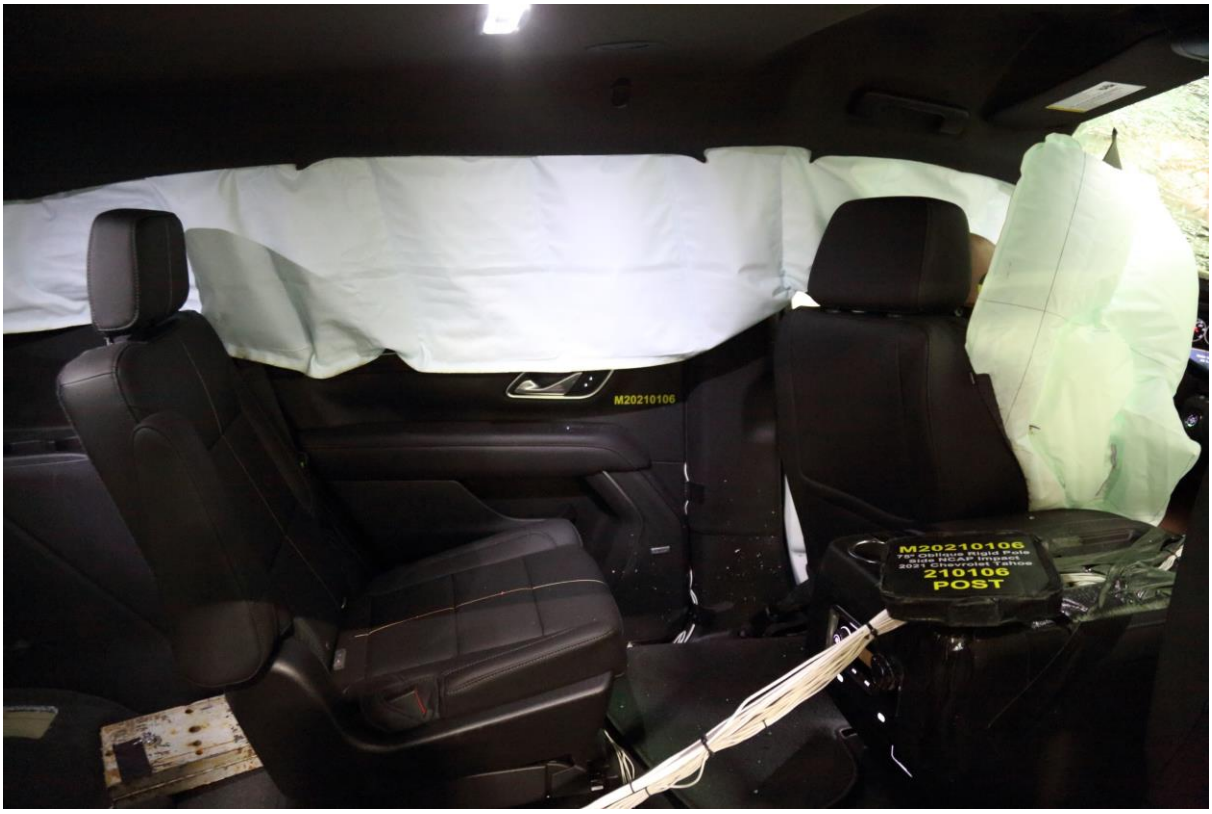


No. 049 Post-Test Dummy Close-Up Torso Contact with Side Airbag View

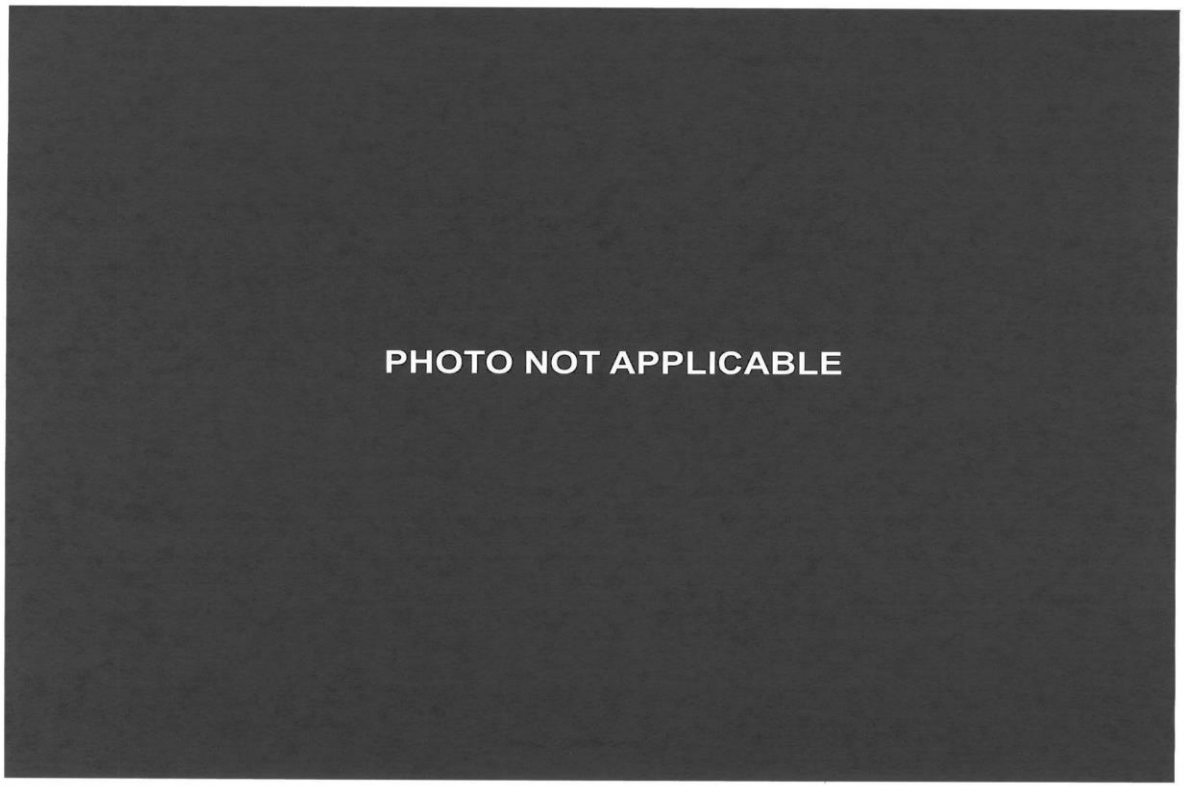
No. 050 Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View

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



No. 054 Post-Test Inner Rear Passenger Torso Air Bag Deployment View

No. 055 Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

No. 056 Post-Test View of Fuel Filler Cap or Fuel Filler Neck

No. 057 Close-Up View of Vehicle Certification Label

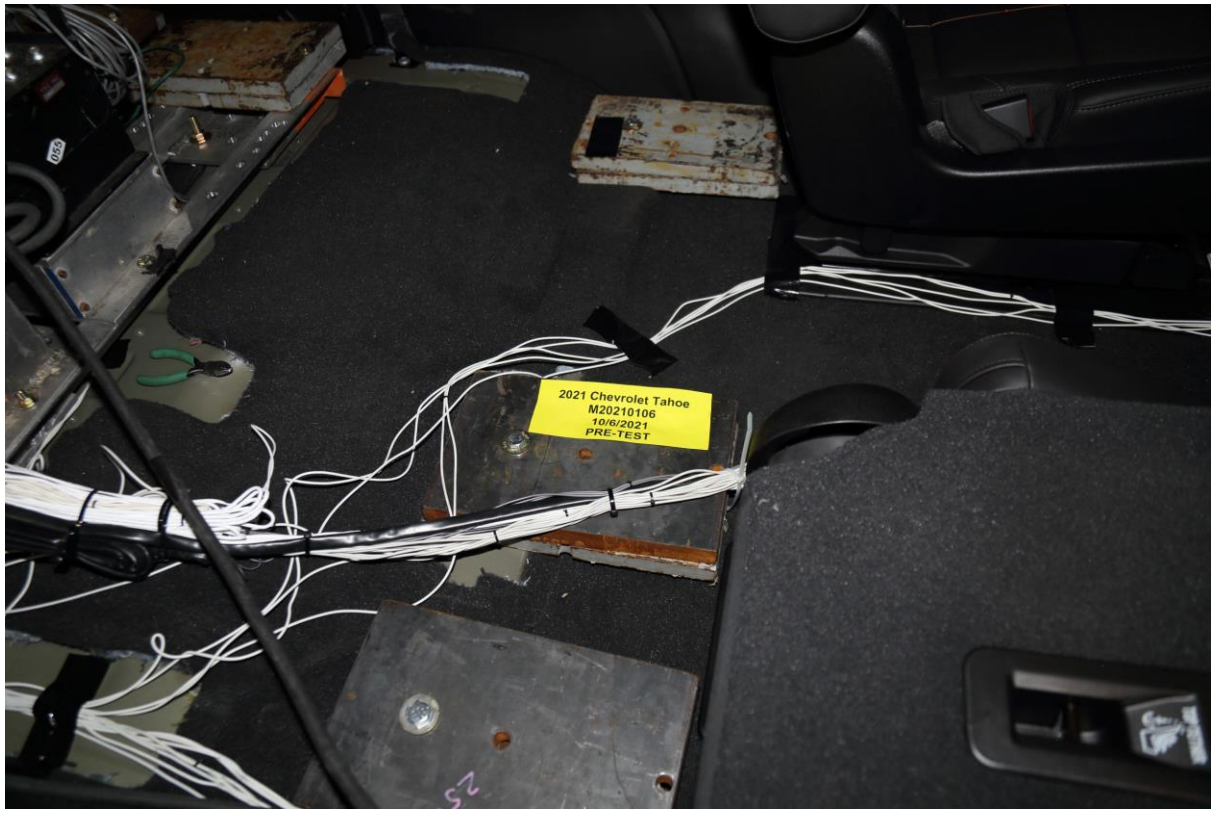
No. 058 Close-Up View of Vehicle Tire Information Placard or Label

No. 059 Pre-Test Pole Barrier Front View

No. 060 Post-Test Pole Barrier Front View

No. 061 Pre-Test Pole Barrier Side View

No. 062 Post-Test Pole Barrier Side View

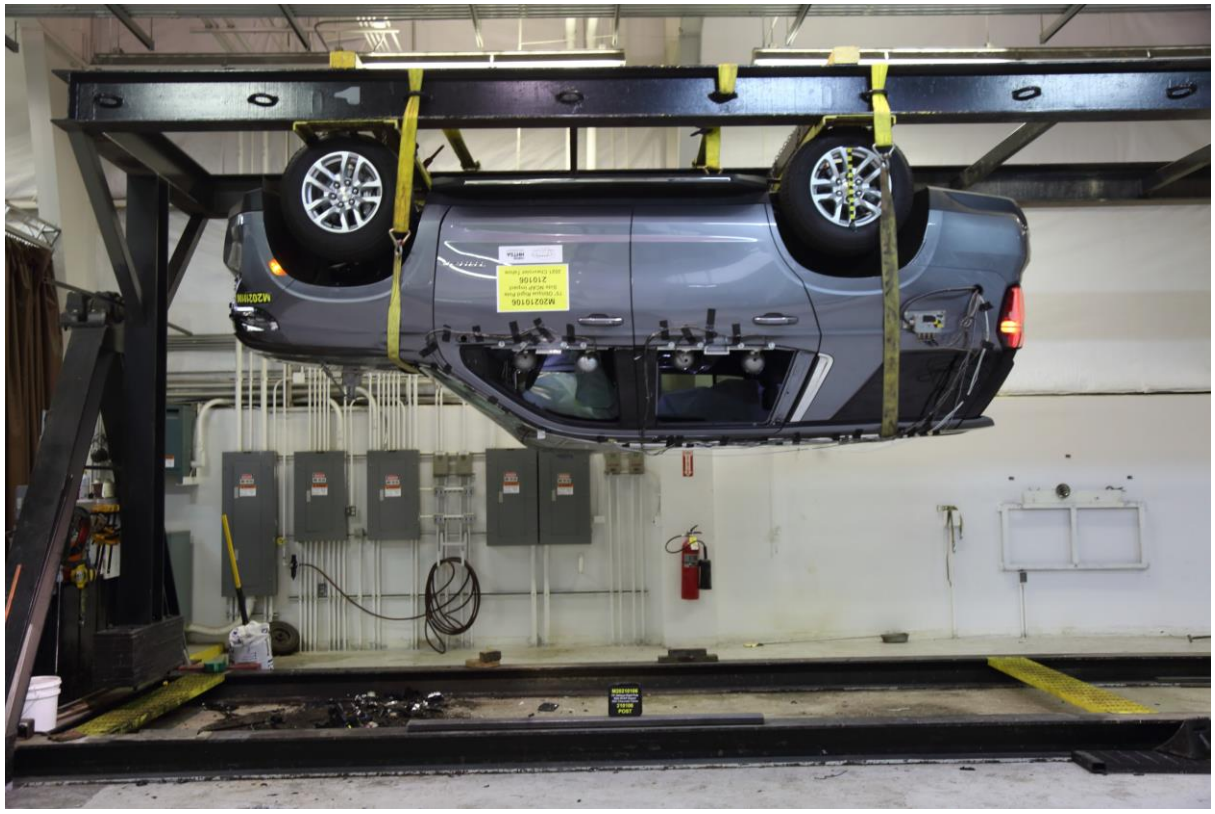


No. 063 Pre-Test Ballast View

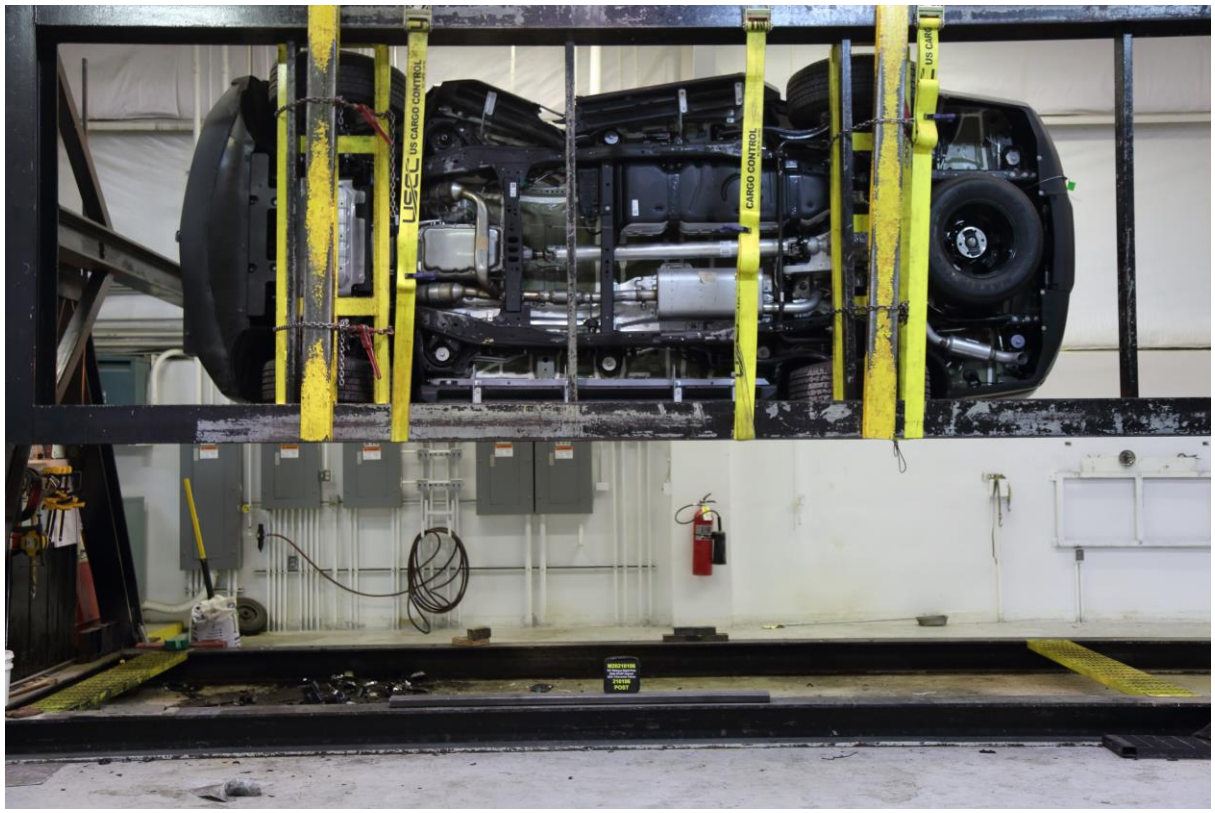
No. 064 Post-Test Primary and Redundant Speed Trap Read Out

No. 065 FMVSS No. 301 Static Rollover 0 Degrees

No. 066 FMVSS No. 301 Static Rollover 90 Degrees



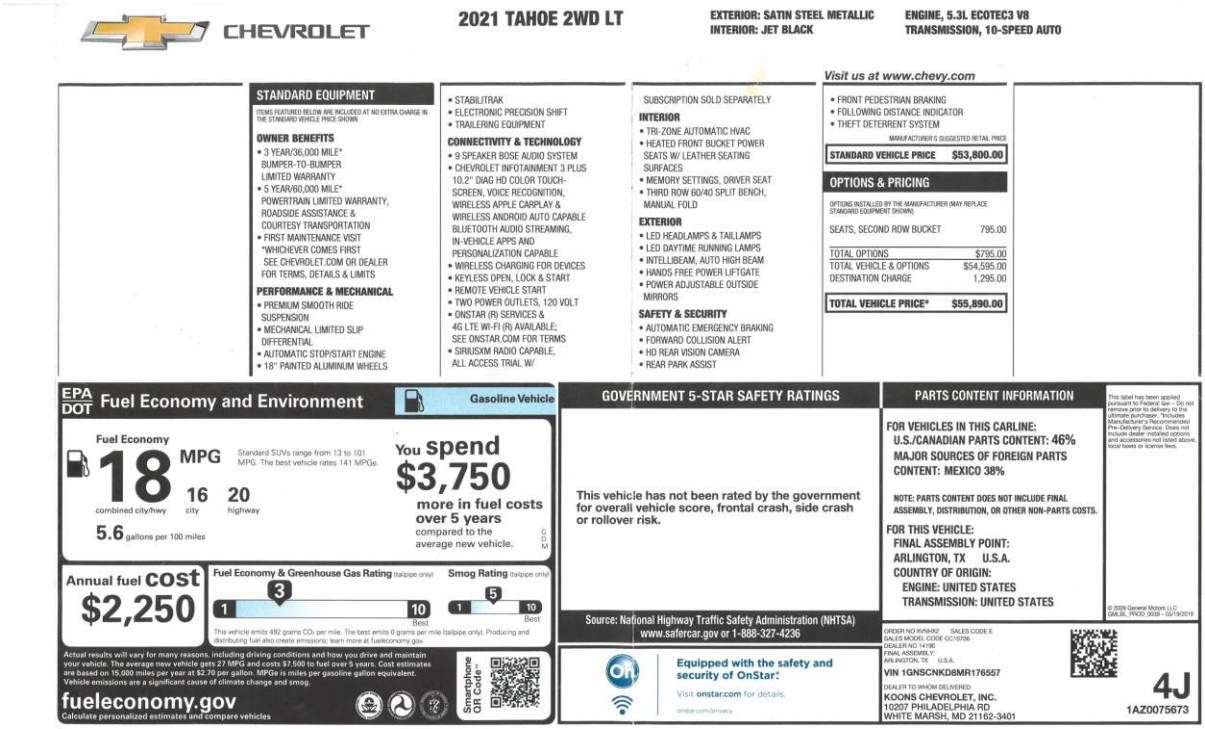
No. 067 FMVSS No. 301 Static Rollover 180 Degrees



No. 068 FMVSS No. 301 Static Rollover 270 Degrees

No. 069 FMVSS No. 301 Static Rollover 360 Degrees

No. 070 Impact Event



CHEVROLET

2021 TAHOE 2WD LT

EXTERIOR: SATIN STEEL METALLIC
INTERIOR: JET BLACK

ENGINE, 5.3L ECOTEC3 V8
TRANSMISSION, 10-SPEED AUTO

Visit us at www.chevy.com

STANDARD EQUIPMENT

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

OWNER BENEFITS
- 3 YEAR/36,000 MILE* BUMPER-TO-BUMPER LIMITED WARRANTY
- 5 YEAR/60,000 MILE* POWERTRAIN LIMITED WARRANTY, ROADSIDE ASSISTANCE & COURTESY TRANSPORTATION
- FIRST MAINTENANCE VISIT *WHICHEVER COMES FIRST SEE CHEVROLET.COM OR DEALER FOR TERMS, DETAILS & LIMITS

PERFORMANCE & MECHANICAL
- PREMIUM SMOOTH RIDE SUSPENSION
- MECHANICAL LIMITED SLIP DIFFERENTIAL
- AUTOMATIC STOP/START ENGINE
- 18" PAINTED ALUMINUM WHEELS
- STABILITRAK
- ELECTRONIC PRECISION SHIFT
- TRAILERING EQUIPMENT

CONNECTIVITY & TECHNOLOGY
- 9 SPEAKER BOSE AUDIO SYSTEM
- CHEVROLET INFOTAINMENT 3 PLUS 10.2" DIAG HD COLOR TOUCH-SCREEN, VOICE RECOGNITION, WIRELESS APPLE CARPLAY & WIRELESS ANDROID AUTO CAPABLE BLUETOOTH AUDIO STREAMING, IN-VEHICLE APPS AND PERSONALIZATION CAPABLE
- WIRELESS CHARGING FOR DEVICES
- KEYLESS OPEN, LOCK & START
- REMOTE VEHICLE START
- TWO POWER OUTLETS, 120 VOLT
- ONSTAR (R) SERVICES & 4G LTE WI-FI (R) AVAILABLE; SEE ONSTAR.COM FOR TERMS
- SIRIUSXM RADIO CAPABLE, ALL ACCESS TRIAL W/ SUBSCRIPTION SOLD SEPARATELY

INTERIOR
- TRI-ZONE AUTOMATIC HVAC
- HEATED FRONT BUCKET POWER SEATS W/ LEATHER SEATING SURFACES
- MEMORY SETTINGS, DRIVER SEAT
- THIRD ROW 60/40 SPLIT BENCH, MANUAL FOLD

EXTERIOR
- LED HEADLAMPS & TAILLAMPS
- LED DAYTIME RUNNING LAMPS
- INTELLIBEAM, AUTO HIGH BEAM
- HANDS FREE POWER LIFTGATE
- POWER ADJUSTABLE OUTSIDE MIRRORS

SAFETY & SECURITY
- AUTOMATIC EMERGENCY BRAKING
- FORWARD COLLISION ALERT
- HD REAR VISION CAMERA
- REAR PARK ASSIST
- FRONT PEDESTRIAN BRAKING
- FOLLOWING DISTANCE INDICATOR
- THEFT DETERRENT SYSTEM

MANUFACTURER'S SUGGESTED RETAIL PRICE

STANDARD VEHICLE PRICE	$53,800.00

OPTIONS & PRICING

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

SEATS, SECOND ROW BUCKET	795.00
TOTAL OPTIONS	$795.00
TOTAL VEHICLE & OPTIONS	$54,595.00
DESTINATION CHARGE	1,295.00
TOTAL VEHICLE PRICE*	$55,890.00

EPA DOT Fuel Economy and Environment — Gasoline Vehicle

Fuel Economy: 18 MPG combined city/hwy (16 city, 20 highway). 5.6 gallons per 100 miles. Standard SUVs range from 13 to 101 MPG. The best vehicle rates 141 MPG.

You spend $3,750 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost $2,250

Fuel Economy & Greenhouse Gas Rating (tailpipe only): 3 (1 — 10 Best). This vehicle emits 492 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.

Smog Rating (tailpipe only): 5 (1 — 10 Best)

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: 46%
MAJOR SOURCES OF FOREIGN PARTS CONTENT: MEXICO 38%

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

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT:
ARLINGTON, TX 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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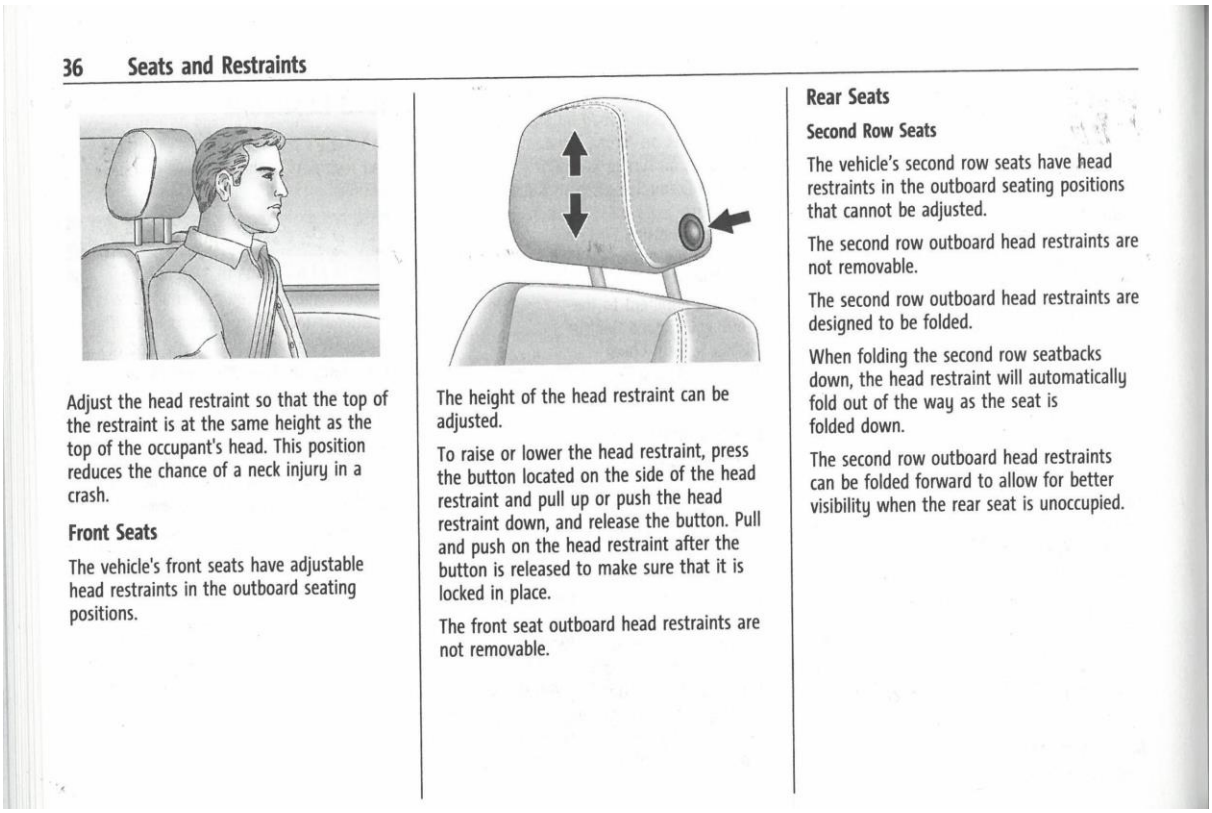
ORDER NO XVNH02 SALES CODE E
SALES MODEL CODE CC10706
DEALER NO 14190
FINAL ASSEMBLY:
ARLINGTON, TX U.S.A.
VIN 1GNSCNKD8MR176557
DEALER TO WHOM DELIVERED
KOONS CHEVROLET, INC.
10207 PHILADELPHIA RD
WHITE MARSH, MD 21162-3401

4J
1AZ0075673

No. 071 Monroney Label



36 Seats and Restraints

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.

Front Seats

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

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.

Rear Seats

Second Row Seats

The vehicle's second row seats have head restraints in the outboard seating positions that cannot be adjusted.

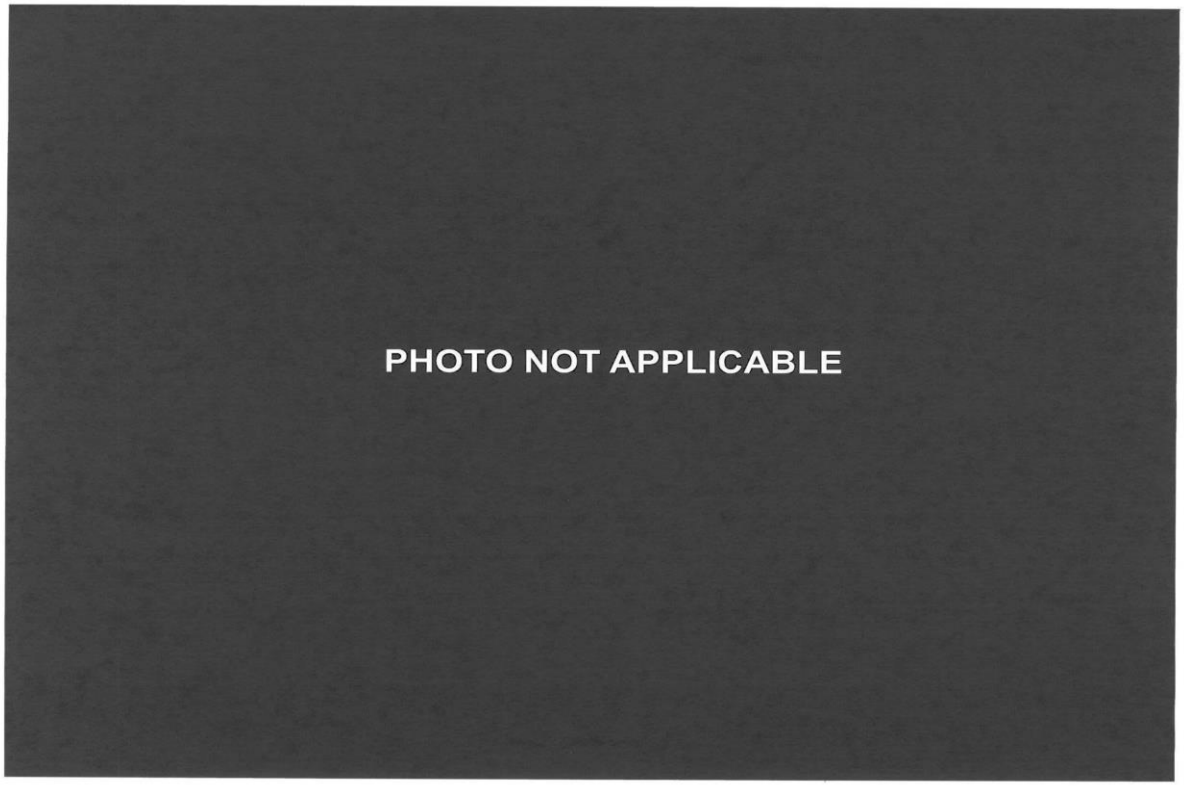
The second row outboard head restraints are not removable.

The second row outboard head restraints are designed to be folded.

When folding the second row seatbacks down, the head restraint will automatically fold out of the way as the seat is folded down.

The second row outboard head restraints can be folded forward to allow for better visibility when the rear seat is unoccupied.

No. 072 Head Restraint Use and Adjustment Information from Vehicle Owner Manual



No. 073 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

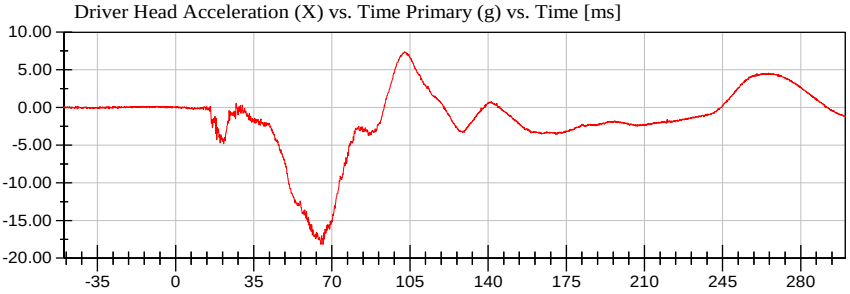
Test Date: 01/06/2021

Position #1 SID IIs Dummy (297)

Test Lab: CTF

Test Number: 210106 (M20210106)

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



<Max>

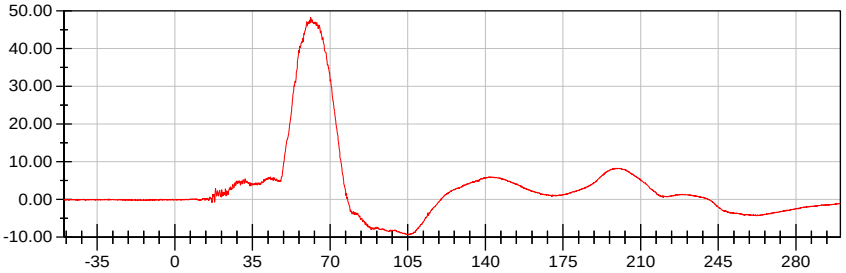
7.39 g at 102.56 ms

<Min>

-18.21 g at 65.12 ms

CFC_1000

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



<Max>

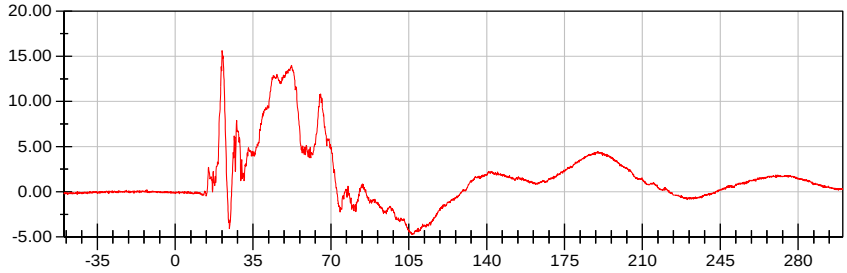
48.26 g at 61.28 ms

<Min>

-9.34 g at 105.04 ms

CFC_1000

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



<Max>

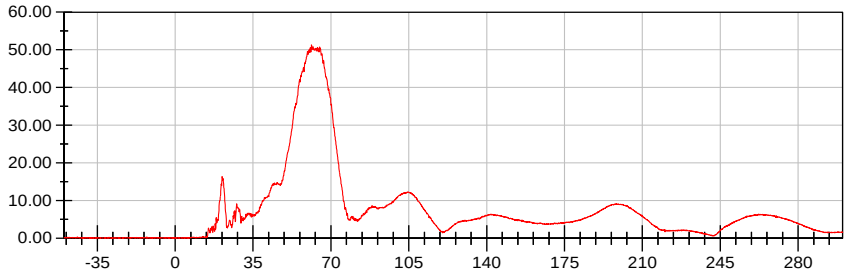
15.61 g at 21.12 ms

<Min>

-4.74 g at 106.40 ms

CFC_1000

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



<Max>

51.33 g at 61.28 ms

<Min>

0.03 g at -40.72 ms

CFC_1000

NHTSA

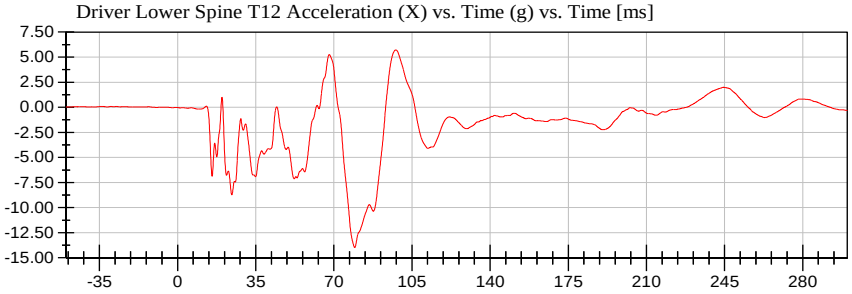
Test Date: 01/06/2021

Position #1 SID IIs Dummy (297)

Test Lab: CTF

Test Number: 210106 (M20210106)

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



<Max>

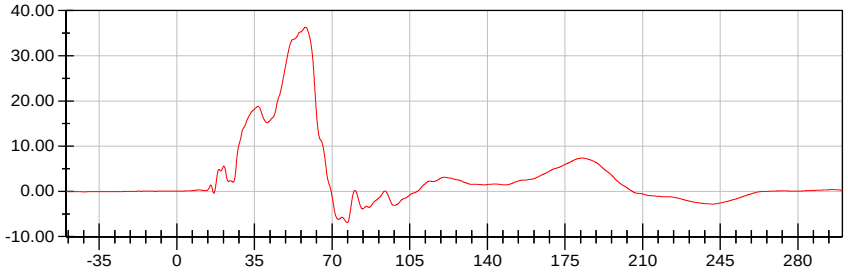
5.72 g at 97.76 ms

<Min>

-13.98 g at 79.36 ms

CFC_180

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



<Max>

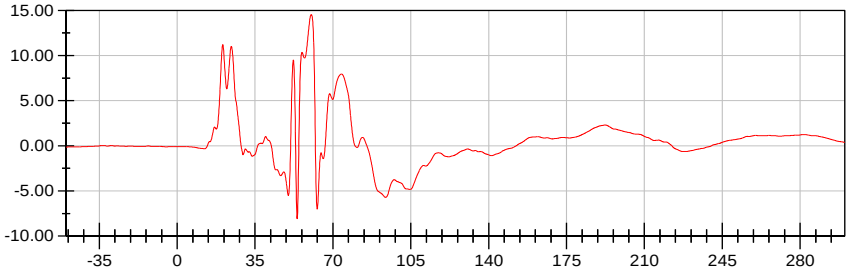
36.31 g at 58.00 ms

<Min>

-6.89 g at 76.88 ms

CFC_180

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



<Max>

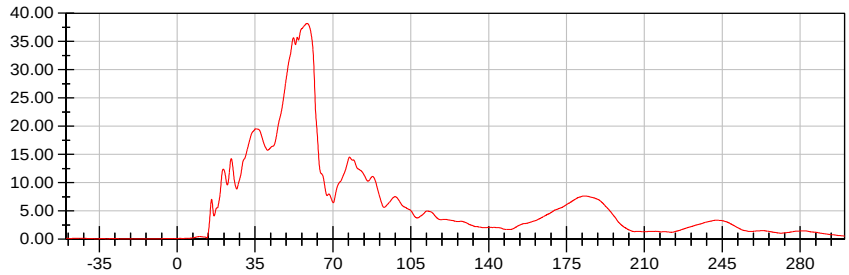
14.53 g at 60.32 ms

<Min>

-8.07 g at 53.92 ms

CFC_180

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



<Max>

38.19 g at 58.40 ms

<Min>

0.05 g at -20.88 ms

CFC_180

NHTSA

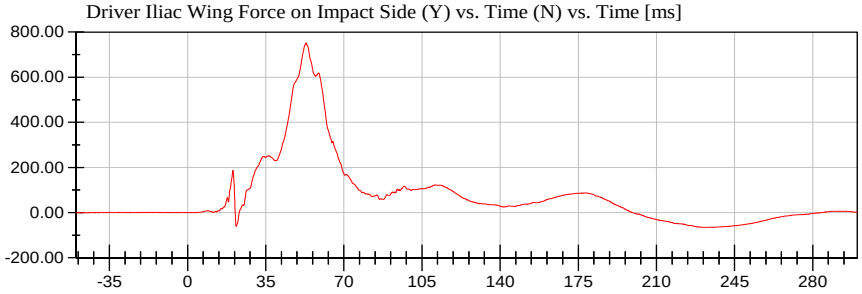
Test Date: 01/06/2021

Position #1 SID IIs Dummy (297)

Test Lab: CTF

Test Number: 210106 (M20210106)

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



<Max>

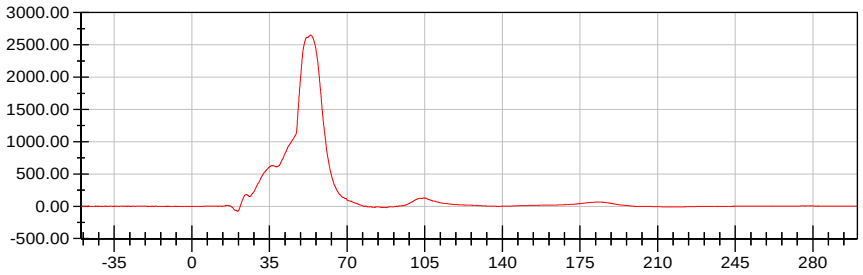
751.58 N at 53.12 ms

<Min>

-65.73 N at 234.08 ms

CFC_600

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



<Max>

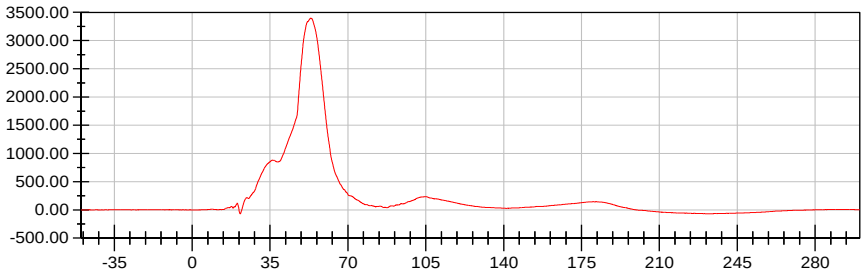
2,650.75 N at 53.68 ms

<Min>

-76.70 N at 20.72 ms

CFC_600

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



<Max>

3,396.40 N at 53.28 ms

<Min>

-70.55 N at 21.60 ms

CFC_600

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

Table 1. External Measurements
Table 2. Head Drop Test
- Resultant Head Acceleration (G's) vs. Time (ms)
- Head (X) Acceleration (G's) vs. Time (ms)
- Head (Y) Acceleration (G's) vs. Time (ms)
- Head (Z) Acceleration (G's) vs. Time (ms)

Table 3. Lateral Neck Pendulum Test
- Pendulum Velocity (m/s) vs. Time (ms)
- Flexion Angle (°) vs. Time (ms)
- Moment About Occipital Condyle (Nm) vs. Time (ms)

Table 4. Shoulder Impact Test
- Impactor Acceleration (G's) vs. Time (ms)
- Shoulder Displacement (mm) vs. Time (ms)
- Upper Spine Acceleration (G's) vs. Time (ms)

Table 5. Thorax (With Arm) Impact Test
- Impactor Acceleration (G's) vs. Time (ms)
- Shoulder Displacement (mm) vs. Time (ms)
- Upper Rib Displacement (mm) vs. Time (ms)
- Middle Rib Displacement (mm) vs. Time (ms)
- Lower Rib Displacement (mm) vs. Time (ms)
- Upper Spine Acceleration (G's) vs. Time (ms)
- Lower Spine Acceleration (G's) vs. Time (ms)

Table 6. Thorax (Without Arm) Impact Test
- Impactor Acceleration (G's) vs. Time (ms)
- Upper Rib Displacement (mm) vs. Time (ms)
- Middle Rib Displacement (mm) vs. Time (ms)
- Lower Rib Displacement (mm) vs. Time (ms)
- Upper Spine Acceleration (G's) vs. Time (ms)
- Lower Spine Acceleration (G's) vs. Time (ms)

Table 7. Abdomen Impact Test
- Impactor Acceleration (G's) vs. Time (ms)
- Upper Abdominal Rib Displacement (mm) vs. Time (ms)
- Lower Abdominal Rib Displacement (mm) vs. Time (ms)
- Lower Spine Acceleration (G's) vs. Time (ms)

Table 8. Pelvis Plug Quasi-Static Test (Optional*)
Table 9. Pelvis Acetabulum Impact Test
- Impactor Acceleration (G's) vs. Time (ms)
- Pelvis (Y) Acceleration (G's) vs. Time (ms)
- Acetabulum Force (N) vs. Time (ms)

Table 10. Pelvis Iliac Impact Test
- Impactor Acceleration (G's) vs. Time (ms)
- Pelvis (Y) Acceleration (G's) vs. Time (ms)
- Iliac Force (N) vs. Time (ms)

Pre-Test Calibration Sheets
Driver S/N 297

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. 297 Calibration No. 49

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	780	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	130	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. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	123.7 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	1.7 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.13 %	Yes

Test meets specifications.

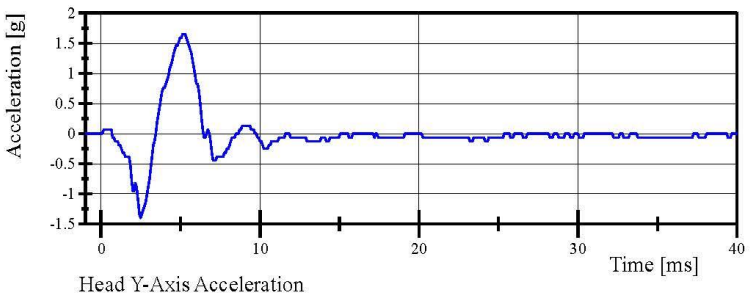
Condition: Used

Comments:
Head S/N: 1330

Transportation Research Center Inc.

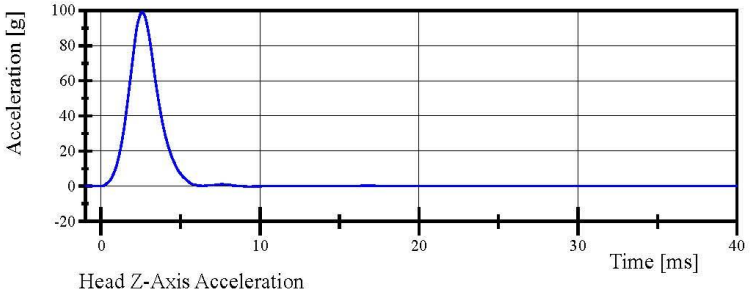
Left Lateral Head Drop
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Head X-Axis Acceleration



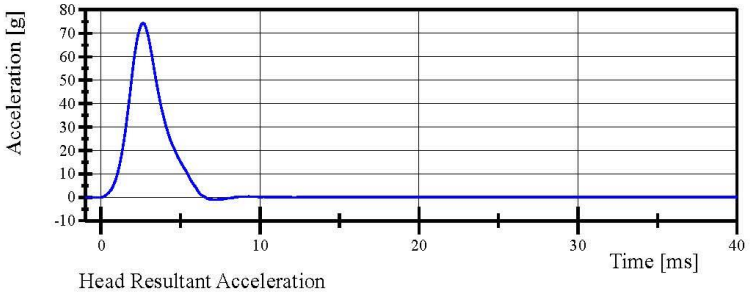
Filter Class: CFC_1000
Max: 1.7 g at 5.1 ms
Min: -1.4 g at 2.5 ms

Head Y-Axis Acceleration



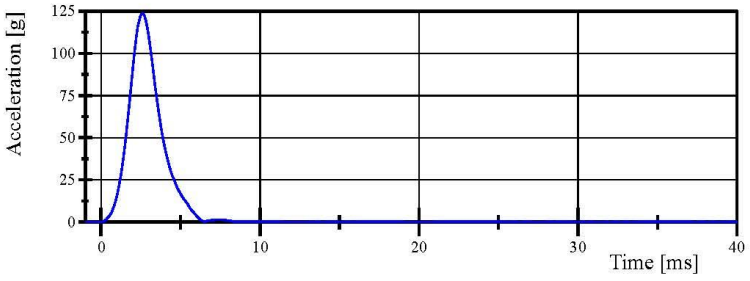
Filter Class: CFC_1000
Max: 99.0 g at 2.6 ms
Min: -0.3 g at 9.2 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 74.4 g at 2.6 ms
Min: -1.0 g at 7.1 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 123.7 g at 2.6 ms
Min: 0.0 g at -1.0 ms

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

12.03.2020 11:12:37 198

Transportation Research Center Inc.

Left Lateral Neck
SID IIs Serial No. 297 Certification No. 49-3
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.612 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	2.20 - 2.80 m/s	2.521 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.691 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.975 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.870 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.903 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-79.9 deg	Yes
Time of Peak	50 - 70 ms	68.2 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	40.9 N·m	Yes
Total Neck Occipital Condyles Moment Decay Time to 0 N·m	102 - 126 ms	125.3 ms	Yes

Test meets specifications.

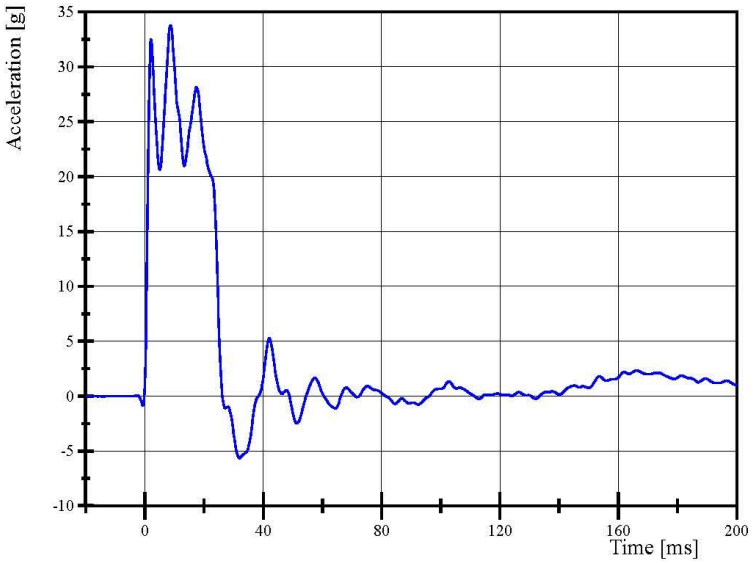
Condition: Used

Comments:
Neck S/N: 779

Transportation Research Center Inc.

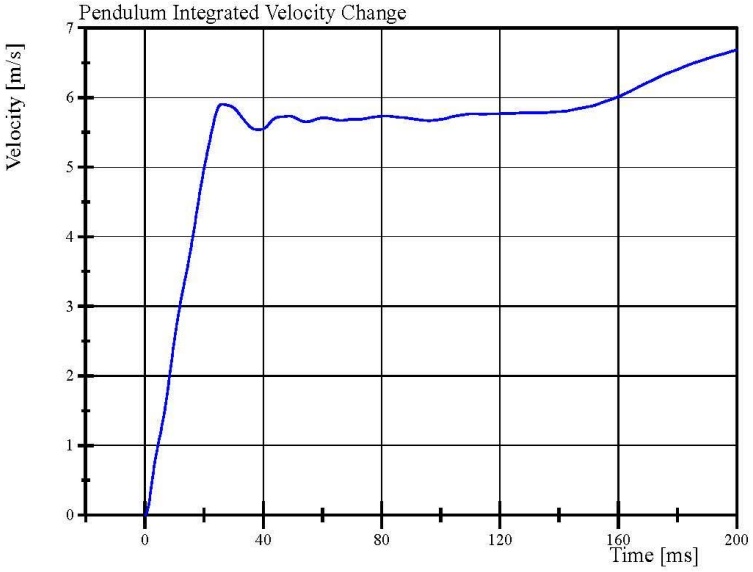
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 49-3
Test Date: 12/3/2020

Pendulum Acceleration



Filter Class: CFC_180
Max: 33.8 g at 8.7 ms
Min: -5.7 g at 31.9 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.7 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

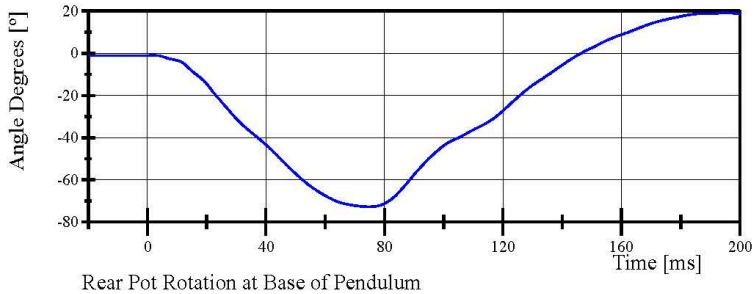
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.03.2020 14:00:19 715

Transportation Research Center Inc.

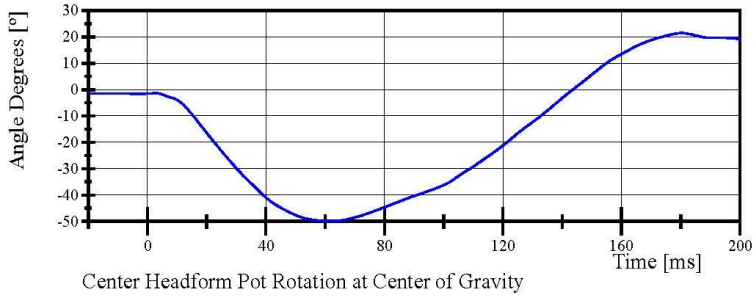
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 49-3
Test Date: 12/3/2020

Forward Pot Rotation at Base of Pendulum



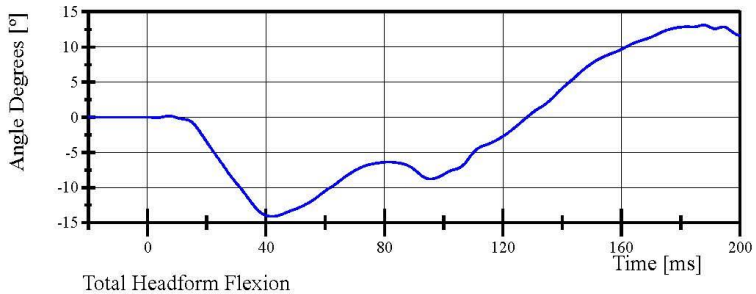
Filter Class: CFC_60
Max: 19.2 ° at 194.7 ms
Min: -72.8 ° at 74.7 ms

Rear Pot Rotation at Base of Pendulum



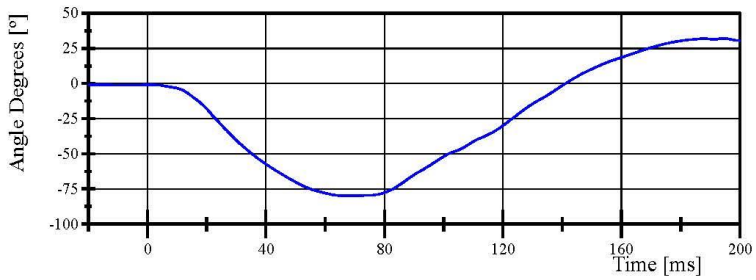
Filter Class: CFC_60
Max: 21.4 ° at 180.4 ms
Min: -49.9 ° at 61.8 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_60
Max: 13.1 ° at 187.7 ms
Min: -14.1 ° at 42.0 ms

Total Headform Flexion



Filter Class: CFC_60
Max: 32.0 ° at 194.5 ms
Min: -79.9 ° at 68.2 ms

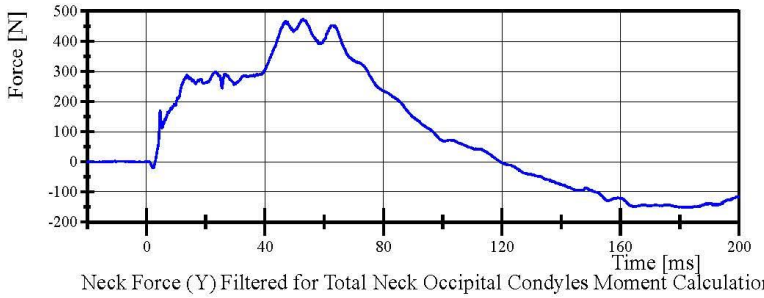
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

12.03.2020 14:00:19 715

Transportation Research Center Inc.

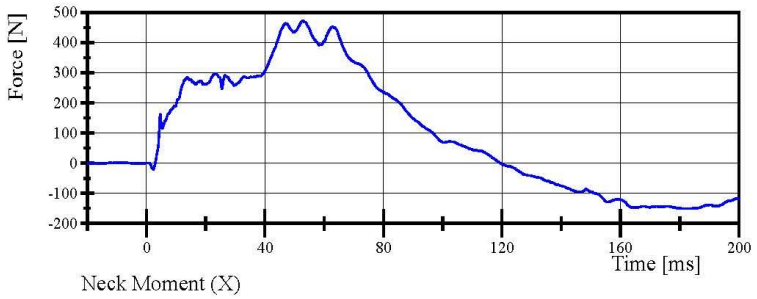
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 49-3
Test Date: 12/3/2020

Neck Force (Y)



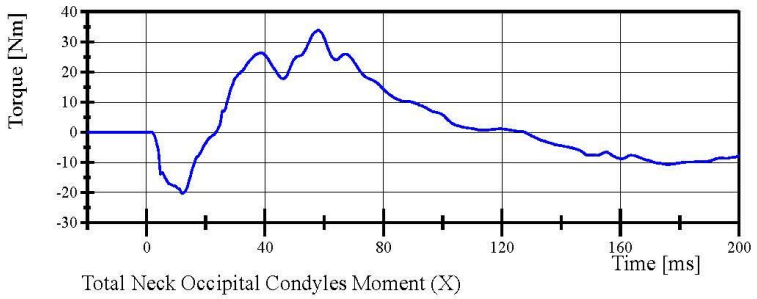
Filter Class: CFC_1000
Max: 473.5 N at 52.9 ms
Min: -151.2 N at 181.6 ms

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



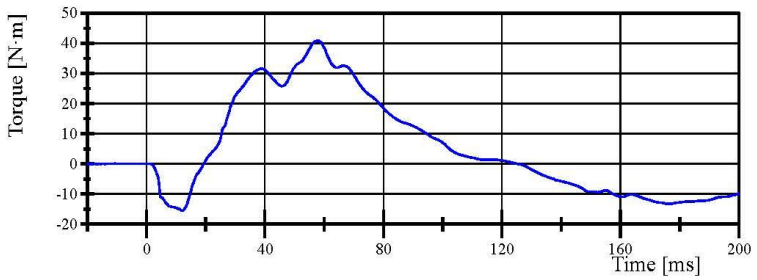
Filter Class: CFC_600
Max: 472.3 N at 52.8 ms
Min: -151.0 N at 181.8 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 33.9 Nm at 58.0 ms
Min: -20.3 Nm at 12.2 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 40.9 N·m at 57.9 ms
Min: -15.7 N·m at 12.1 ms

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

12.03.2020 14:00:19 715

Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.3 g	Yes
Shoulder Displacement	28 - 37 mm	30.8 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.2 g	Yes

Test meets specifications.

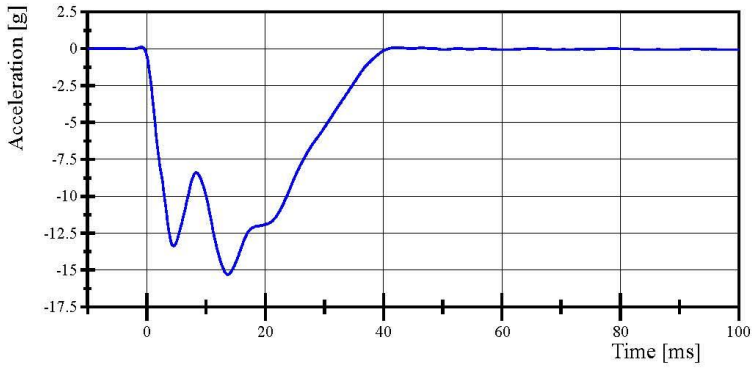
Condition: Used

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

Transportation Research Center Inc.

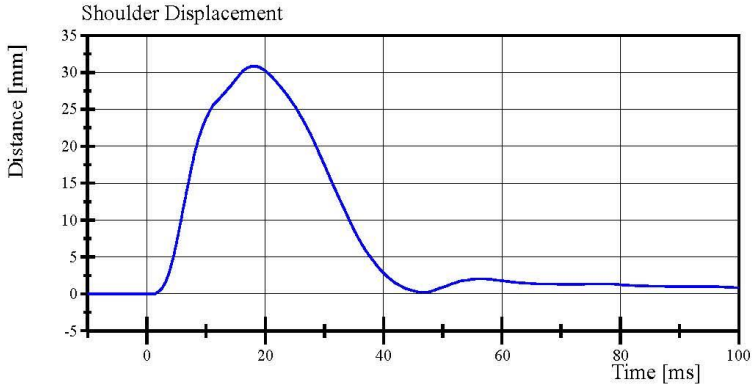
Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Probe Acceleration



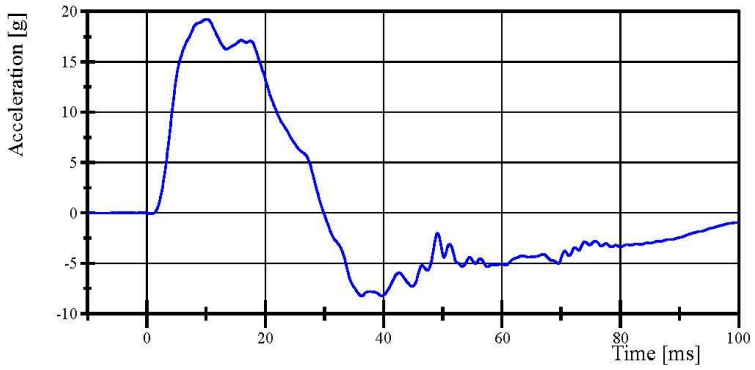
Filter Class: CFC_180
Max: 0.1 g at -0.9 ms
Min: -15.3 g at 13.7 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 30.8 mm at 18.0 ms
Min: -0.0 mm at 1.1 ms

Upper Spine Acceleration (Y)



Filter Class: CFC_180
Max: 19.2 g at 10.2 ms
Min: -8.3 g at 36.3 ms

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

12.03.2020 08:26:58 816

Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.735 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-33.2 g	Yes
Shoulder Displacement	31 - 40 mm	34.3 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.1 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	32.3 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	35.7 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	37.8 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	35.8 g	Yes

Test meets specifications.

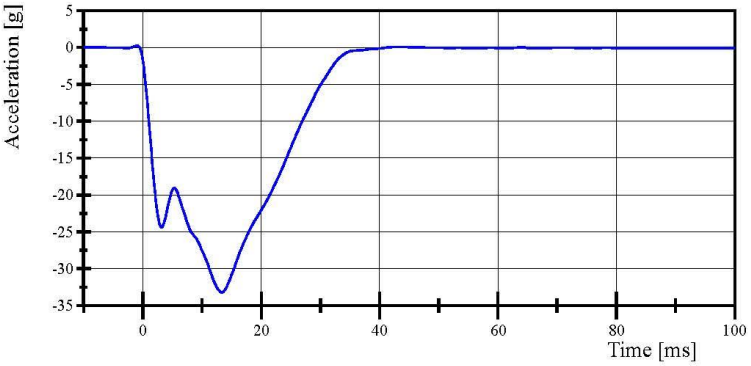
Condition: Used

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.

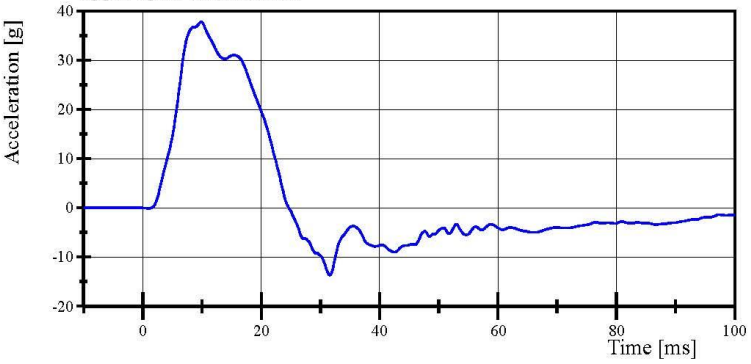
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Probe Acceleration



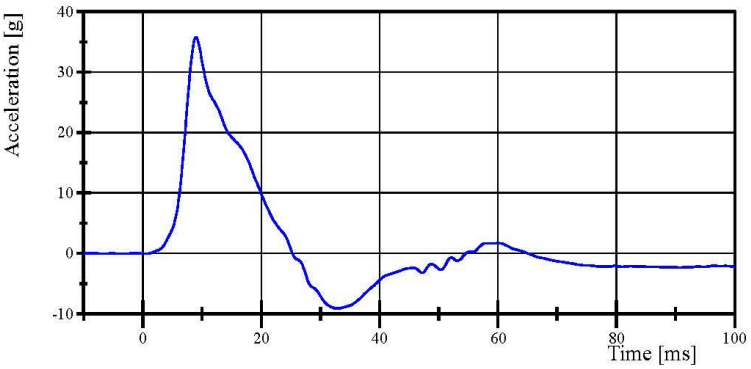
Filter Class: CFC_180
Max: 0.3 g at -1.0 ms
Min: -33.2 g at 13.4 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 37.8 g at 9.8 ms
Min: -13.7 g at 31.6 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 35.8 g at 9.0 ms
Min: -9.1 g at 33.0 ms

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

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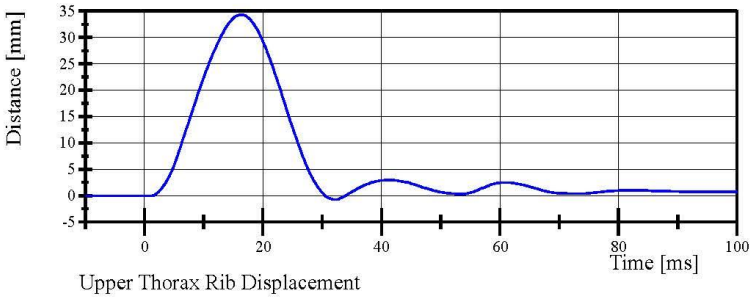
Transportation Research Center Inc.

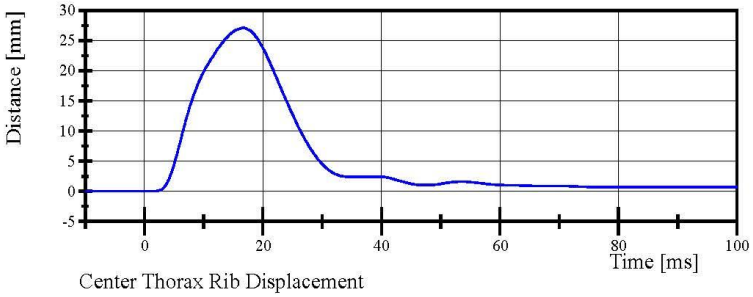
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Shoulder Rib Displacement



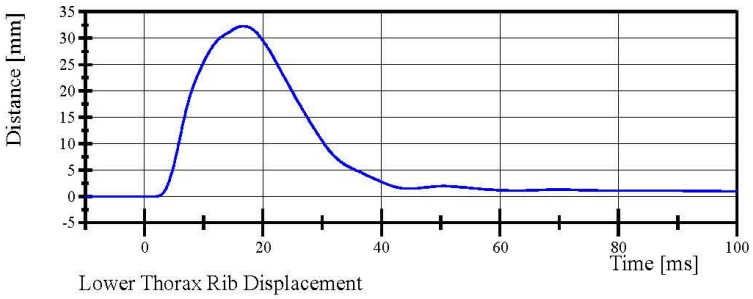
Filter Class: CFC_600
Max: 34.3 mm at 16.4 ms
Min: -0.7 mm at 32.3 ms

Upper Thorax Rib Displacement



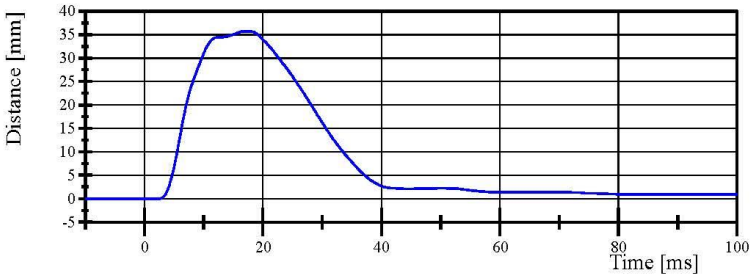
Filter Class: CFC_600
Max: 27.1 mm at 16.6 ms
Min: -0.0 mm at -8.7 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 32.3 mm at 16.7 ms
Min: -0.0 mm at -0.6 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 35.7 mm at 17.0 ms
Min: -0.0 mm at 2.4 ms

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

12.03.2020 09:20:05 611

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.340 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.5 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	34.8 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.4 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	40.4 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.6 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.3 g	Yes

Test meets specifications.

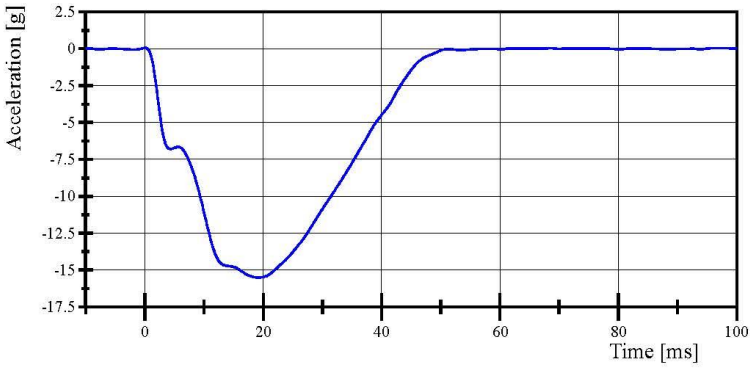
Condition: Used

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.

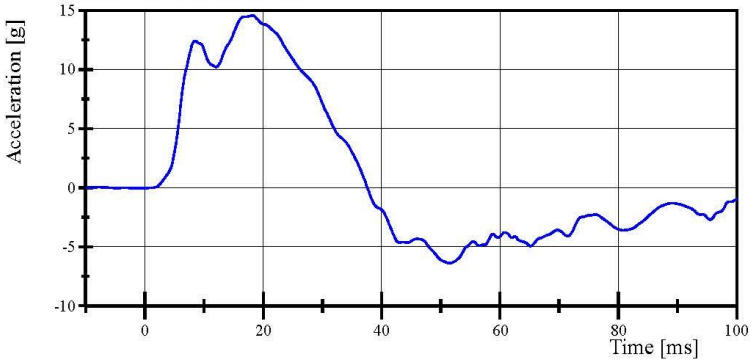
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Probe Acceleration



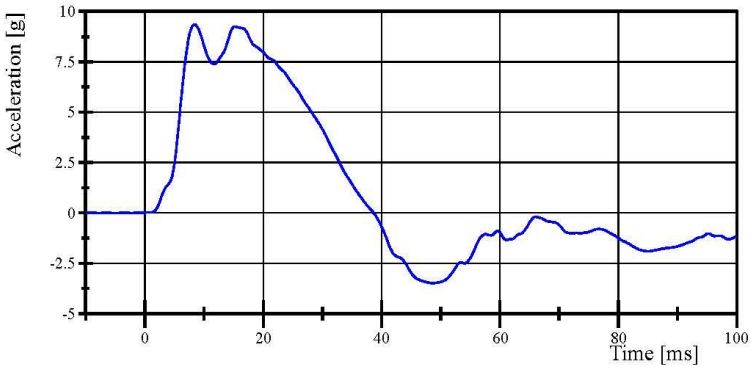
Filter Class: CFC_180
Max: 0.1 g at 0.1 ms
Min: -15.5 g at 19.2 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 14.6 g at 18.1 ms
Min: -6.4 g at 51.4 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 9.3 g at 8.4 ms
Min: -3.5 g at 48.6 ms

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

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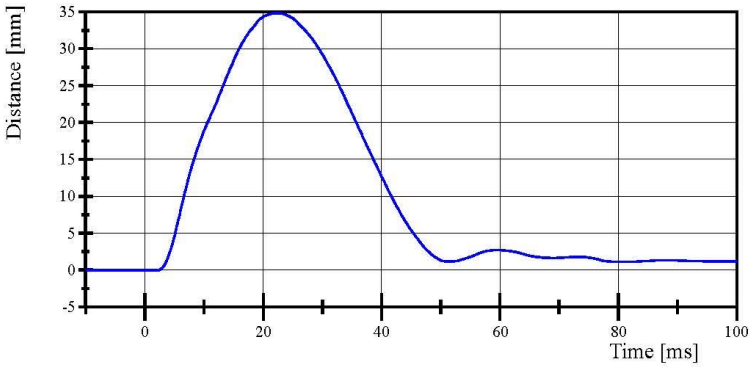
Transportation Research Center Inc.

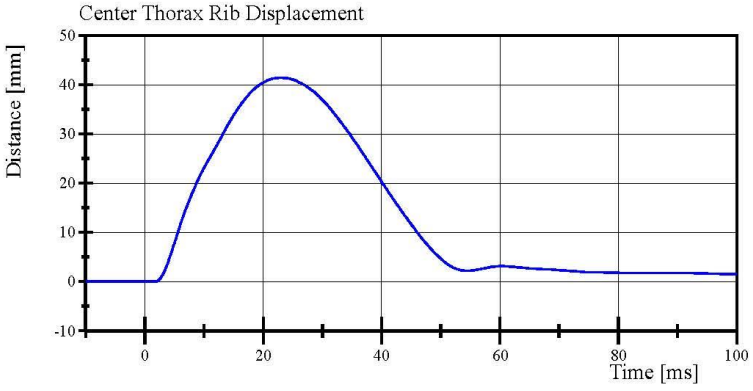
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Upper Thorax Rib Displacement



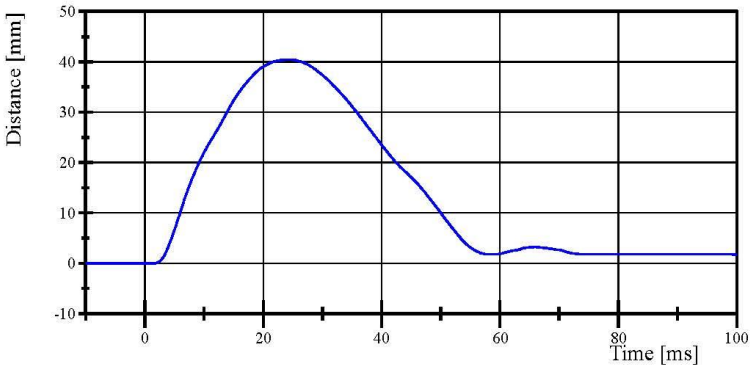
Filter Class: CFC_600
Max: 34.8 mm at 22.3 ms
Min: -0.0 mm at 1.8 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 41.4 mm at 23.0 ms
Min: -0.0 mm at -7.9 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 40.4 mm at 23.9 ms
Min: -0.0 mm at 1.5 ms

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

12.03.2020 08:38:29 823

Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.2 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	41.6 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	40.8 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	10.06 g	Yes

Test meets specifications.

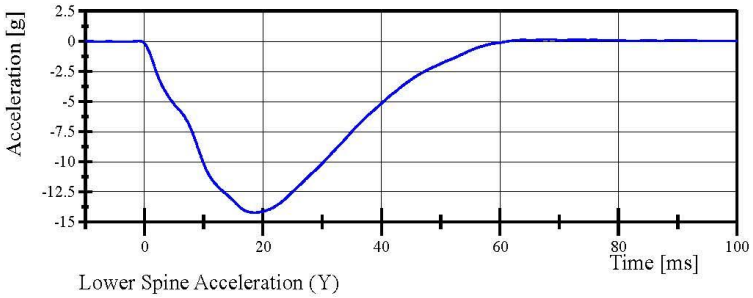
Condition: Used

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

Transportation Research Center Inc.

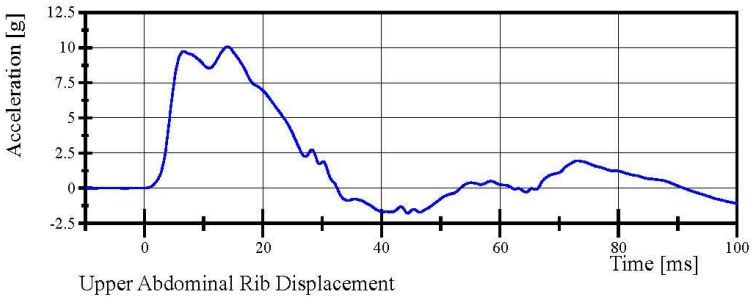
Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Probe Acceleration



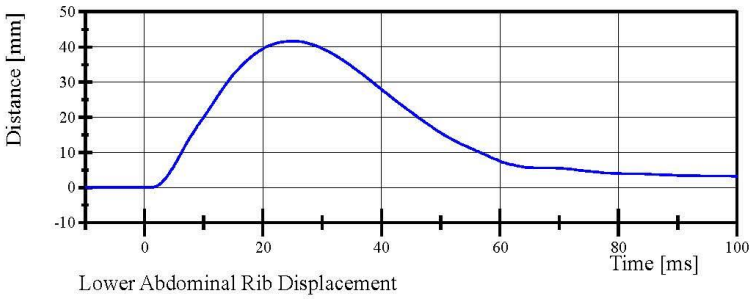
Filter Class: CFC_180
Max: 0.1 g at 69.0 ms
Min: -14.2 g at 18.6 ms

Lower Spine Acceleration (Y)



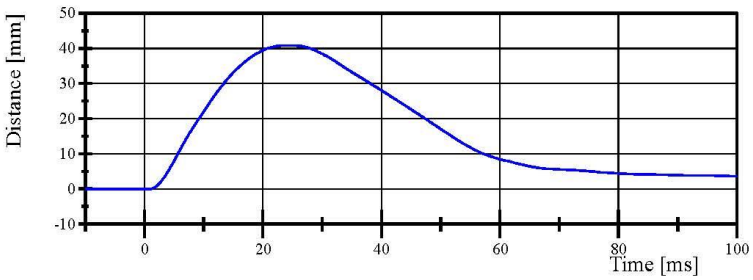
Filter Class: CFC_180
Max: 10.1 g at 14.0 ms
Min: -1.8 g at 44.5 ms

Upper Abdominal Rib Displacement



Filter Class: CFC_600
Max: 41.6 mm at 25.0 ms
Min: -0.0 mm at -1.8 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 40.8 mm at 25.1 ms
Min: -0.0 mm at 0.8 ms

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

12.03.2020 08:31:55 649

Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.63 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-44.35 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	39.6 g	Yes
Acetabulum Force	3,600 - 4,300 N	4,044.3 N	Yes

Test meets specifications.

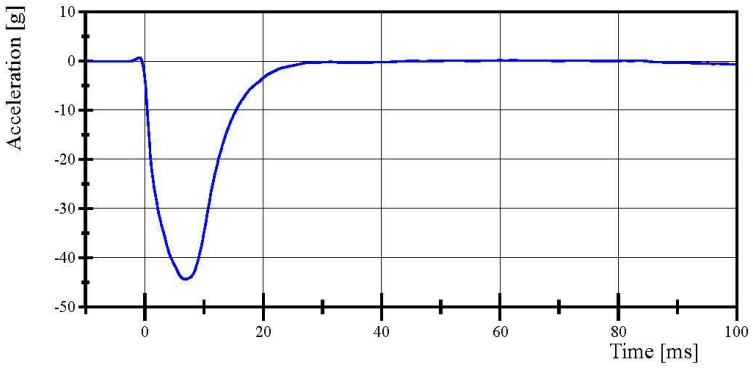
Condition: Used

Comments:
Pelvis Skin S/N: EN1590
Pelvis Plug Info:
Manufacturer: Saco
S/N: 13163
Cal Date: 20190808

Transportation Research Center Inc.

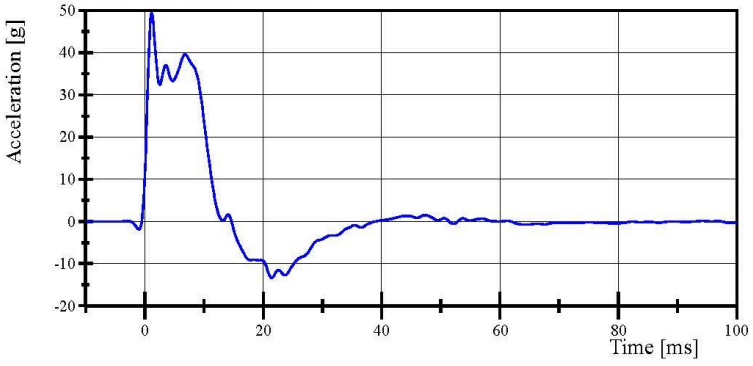
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Probe Acceleration



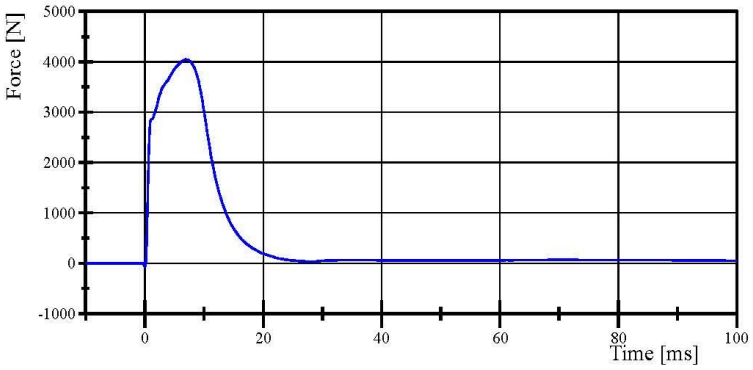
Filter Class: CFC_180
Max: 0.7 g at -1.0 ms
Min: -44.4 g at 6.7 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 49.3 g at 1.1 ms
Min: -13.3 g at 21.4 ms

Acetabulum Y-Axis Force



Filter Class: CFC_600
Max: 4,044.3 N at 7.0 ms
Min: -64.6 N at 0.0 ms

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

12.03.2020 10:41:05 430

Transportation Research Center Inc.

Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.26 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-37.9 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	30.1 g	Yes
Iliac Force	4,100 - 5,100 N	4,316.8 N	Yes

Test meets specifications.

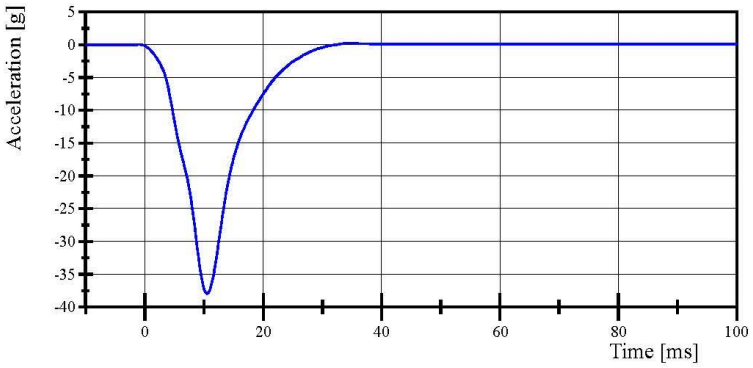
Condition: Used

Comments:
Pelvis S/N: EN1590

Transportation Research Center Inc.

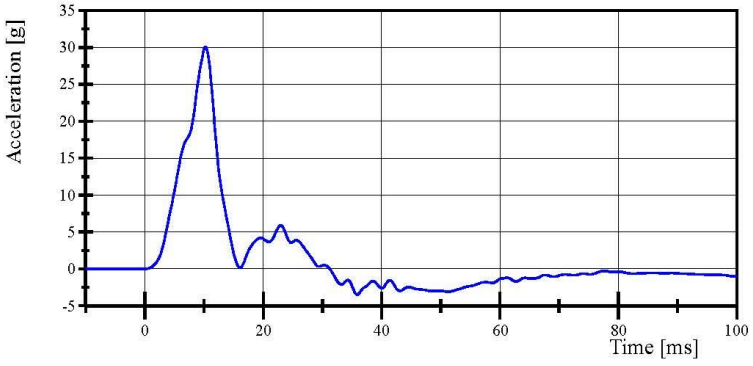
Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 49-1
Test Date: 12/3/2020

Probe Acceleration



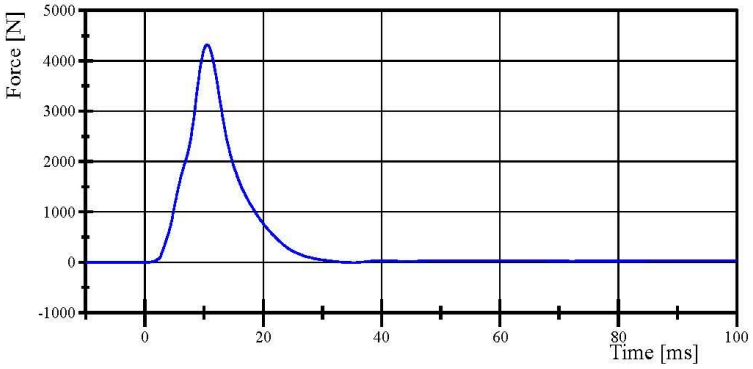
Filter Class: CFC_180
Max: 0.2 g at 34.4 ms
Min: -37.9 g at 10.5 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 30.1 g at 10.2 ms
Min: -3.5 g at 35.9 ms

Iliac Y-Axis Force



Filter Class: CFC_600
Max: 4,316.8 N at 10.6 ms
Min: -10.0 N at 35.3 ms

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

12.03.2020 08:15:08 643

Post-Test Calibration Sheets
Driver S/N 297

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. 297 Calibration No. 50

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	780	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	130	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. 50-1
Test Date: 1/7/2021

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	136.2 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-2.0 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.16 %	Yes

Test meets specifications.

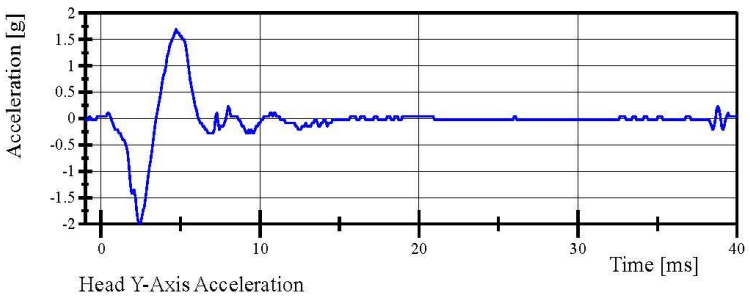
Condition: Used

Comments:
Head S/N: 1330

Transportation Research Center Inc.

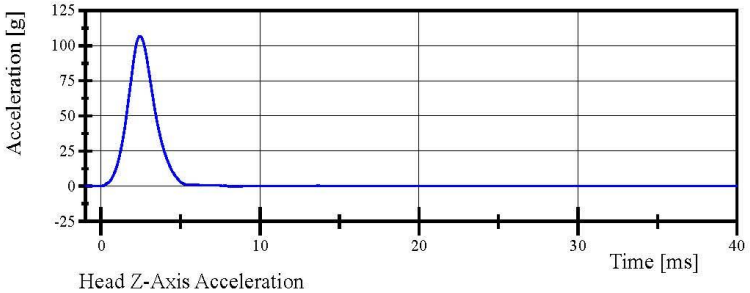
Left Lateral Head Drop
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Head X-Axis Acceleration



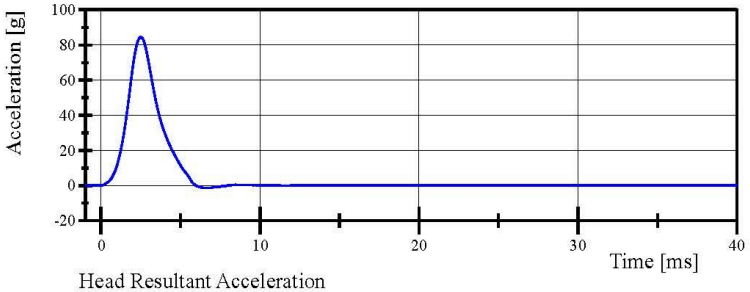
Filter Class: CFC_1000
Max: 1.7 g at 4.7 ms
Min: -2.0 g at 2.4 ms

Head Y-Axis Acceleration



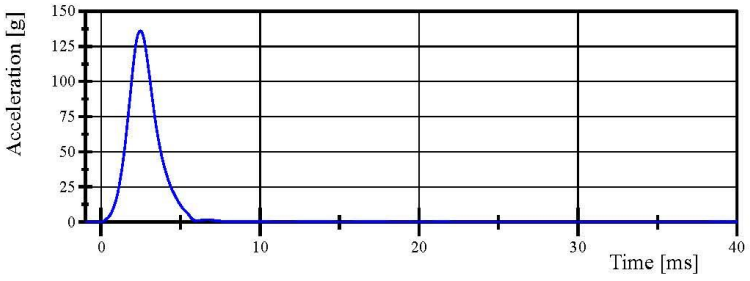
Filter Class: CFC_1000
Max: 106.7 g at 2.5 ms
Min: -0.1 g at 8.2 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 84.6 g at 2.5 ms
Min: -1.4 g at 6.7 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 136.2 g at 2.5 ms
Min: 0.0 g at -1.0 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. 50-2
Test Date: 1/8/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.612 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	2.20 - 2.80 m/s	2.292 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.361 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.526 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.504 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.831 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-78.0 deg	Yes
Time of Peak	50 - 70 ms	66.9 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	37.6 N·m	Yes
Total Neck Occipital Condyles Moment Decay Time to 0 N·m	102 - 126 ms	122.9 ms	Yes

Test meets specifications.

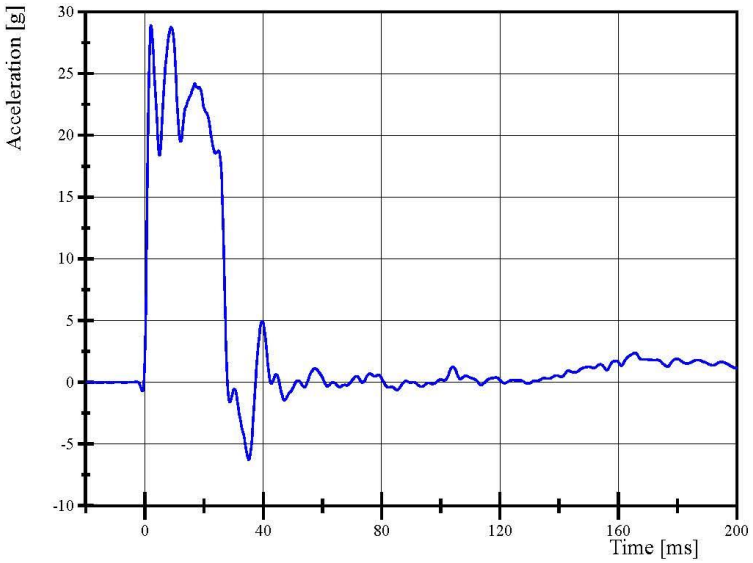
Condition: Used

Comments:
Neck S/N: 779

Transportation Research Center Inc.

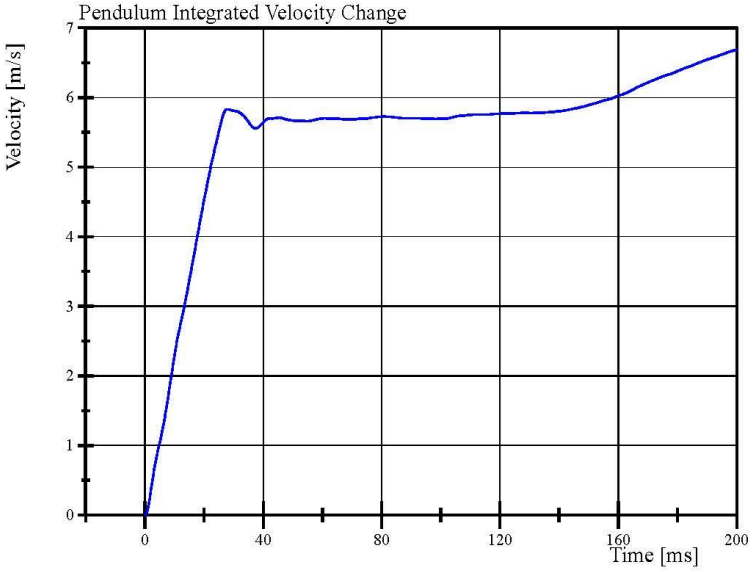
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 50-2
Test Date: 1/8/2021

Pendulum Acceleration



Filter Class: CFC_180
Max: 28.9 g at 2.1 ms
Min: -6.3 g at 35.1 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.7 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

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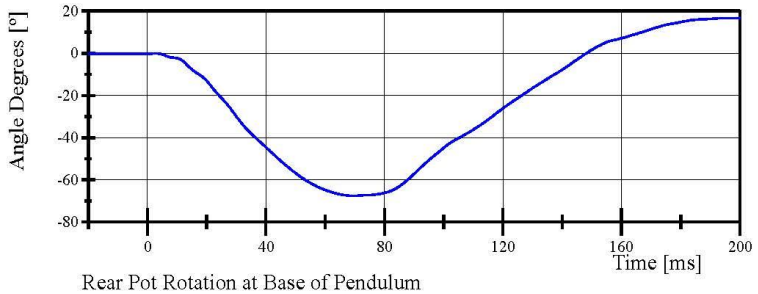
Transportation Research Center Inc.

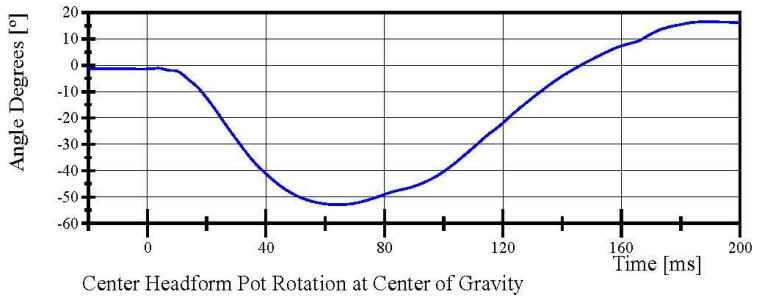
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 50-2
Test Date: 1/8/2021

Forward Pot Rotation at Base of Pendulum



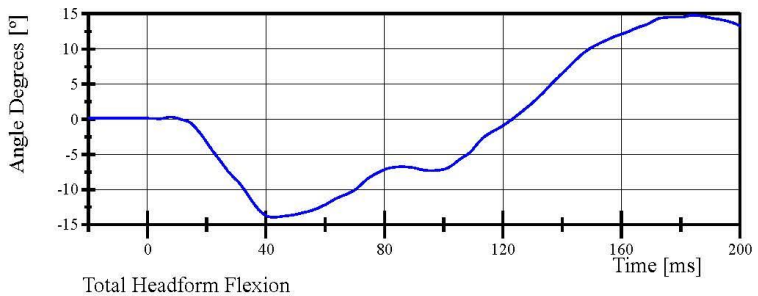
Filter Class: CFC_60
Max: 16.8 ° at 196.6 ms
Min: -67.5 ° at 69.4 ms

Rear Pot Rotation at Base of Pendulum



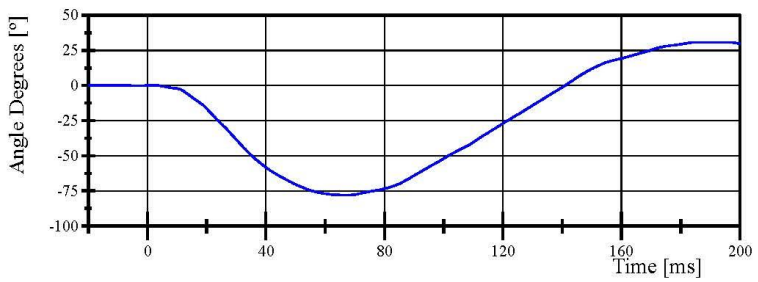
Filter Class: CFC_60
Max: 16.5 ° at 188.7 ms
Min: -52.9 ° at 64.1 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_60
Max: 14.8 ° at 184.5 ms
Min: -13.9 ° at 42.5 ms

Total Headform Flexion



Filter Class: CFC_60
Max: 30.8 ° at 187.4 ms
Min: -78.0 ° at 66.9 ms

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

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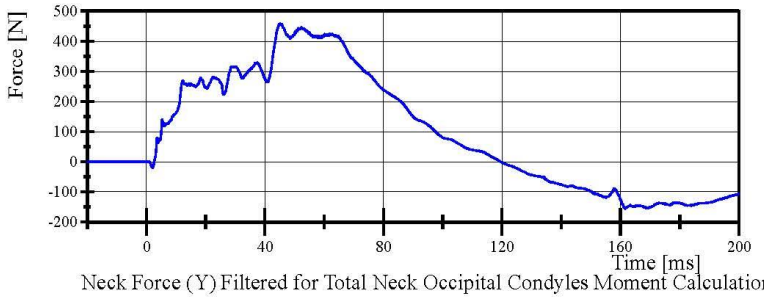
Transportation Research Center Inc.

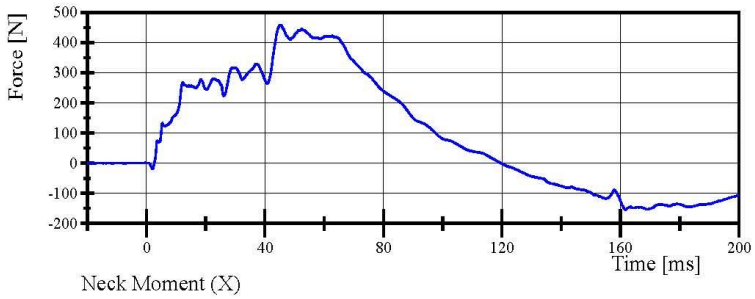
Left Lateral Neck
SID IIs Serial No. 297 Certification No. 50-2
Test Date: 1/8/2021

Neck Force (Y)



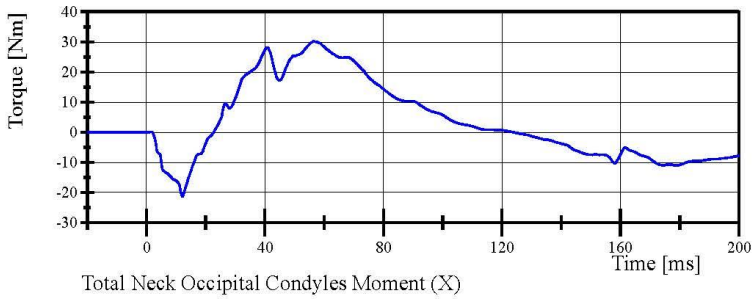
Filter Class: CFC_1000
Max: 458.2 N at 45.0 ms
Min: -155.1 N at 161.6 ms

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



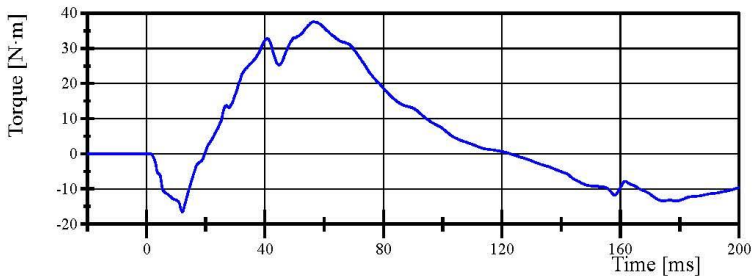
Filter Class: CFC_600
Max: 457.9 N at 45.0 ms
Min: -154.6 N at 161.7 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 30.2 Nm at 56.3 ms
Min: -21.2 Nm at 12.2 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 37.6 N·m at 56.4 ms
Min: -16.5 N·m at 12.1 ms

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

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Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.0 g	Yes
Shoulder Displacement	28 - 37 mm	30.3 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.8 g	Yes

Test meets specifications.

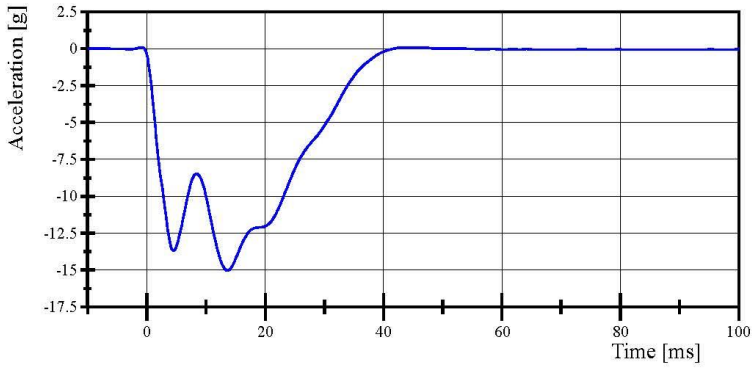
Condition: Used

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

Transportation Research Center Inc.

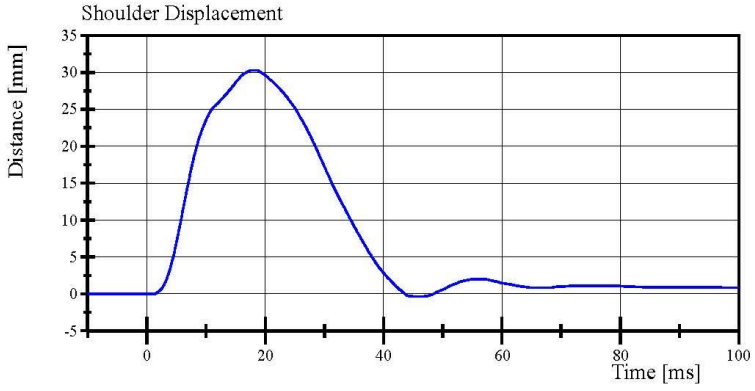
Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Probe Acceleration



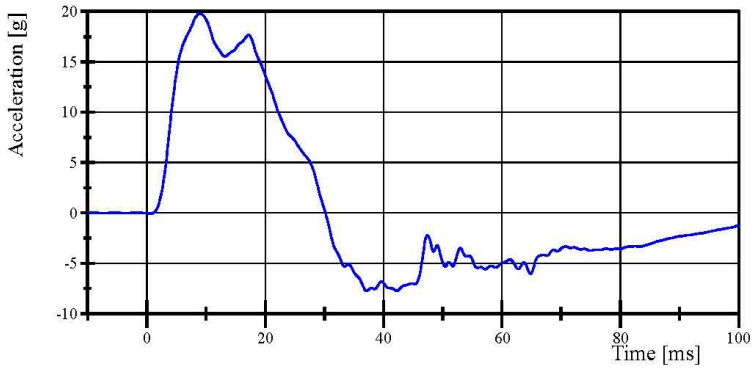
Filter Class: CFC_180
Max: 0.1 g at -0.9 ms
Min: -15.0 g at 13.6 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 30.3 mm at 18.2 ms
Min: -0.3 mm at 46.6 ms

Upper Spine Acceleration (Y)



Filter Class: CFC_180
Max: 19.8 g at 8.9 ms
Min: -7.7 g at 37.1 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. 50-1
Test Date: 1/7/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.738 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-33.2 g	Yes
Shoulder Displacement	31 - 40 mm	35.6 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	26.9 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.1 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	33.4 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	38.1 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	36.4 g	Yes

Test meets specifications.

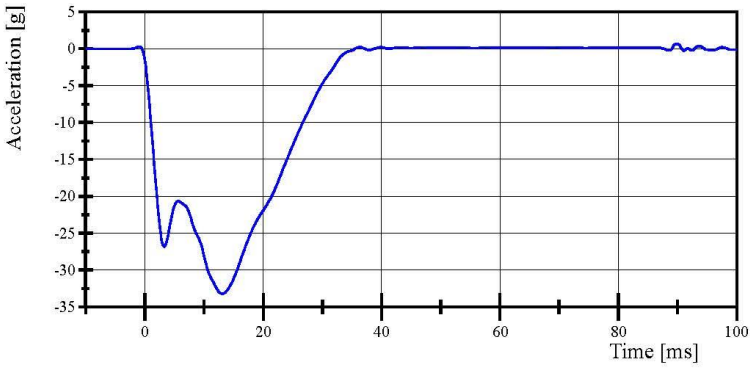
Condition: Used

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.

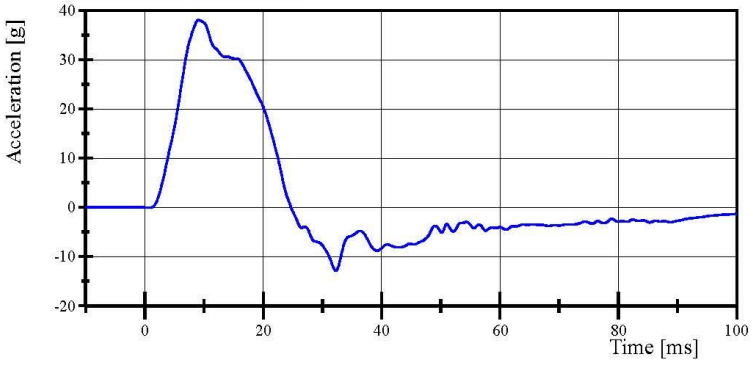
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Probe Acceleration



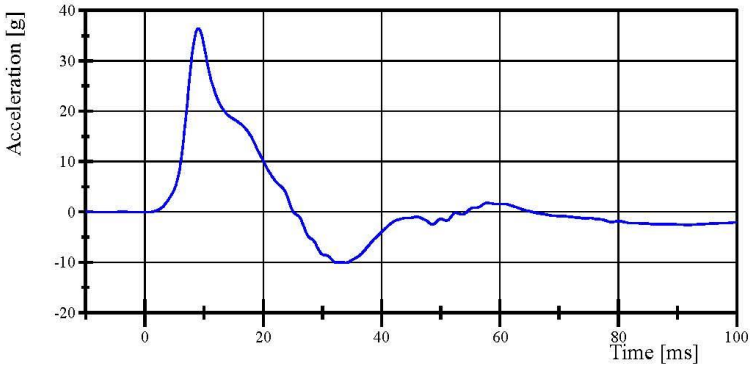
Filter Class: CFC_180
Max: 0.7 g at 90.0 ms
Min: -33.2 g at 13.0 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 38.1 g at 9.1 ms
Min: -12.9 g at 32.2 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 36.4 g at 9.0 ms
Min: -10.1 g at 33.9 ms

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

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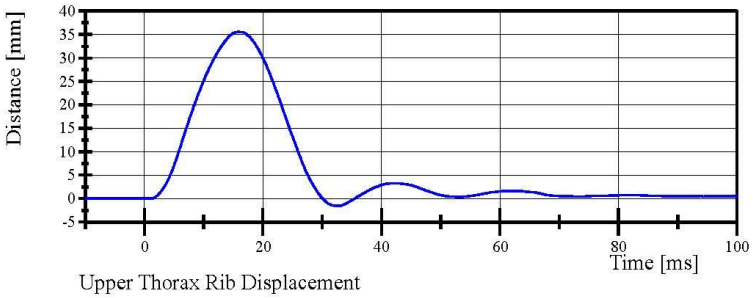
Transportation Research Center Inc.

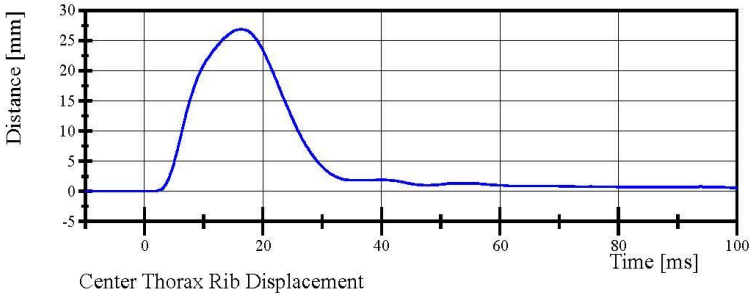
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Shoulder Rib Displacement



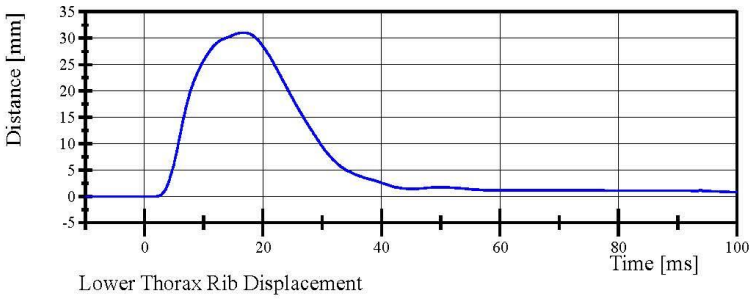
Filter Class: CFC_600
Max: 35.6 mm at 15.8 ms
Min: -1.6 mm at 32.6 ms

Upper Thorax Rib Displacement



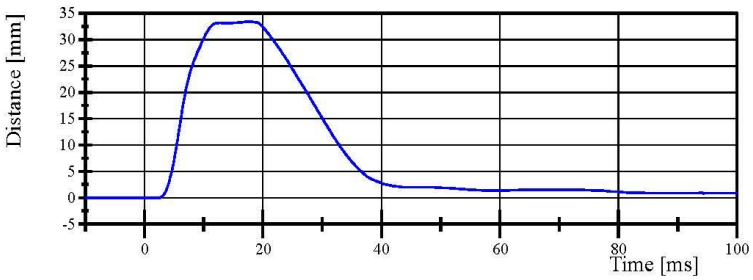
Filter Class: CFC_600
Max: 26.9 mm at 16.3 ms
Min: -0.0 mm at 1.0 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 31.1 mm at 16.7 ms
Min: -0.0 mm at 1.2 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 33.4 mm at 17.6 ms
Min: -0.0 mm at 2.3 ms

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

01.07.2021 10:30:55 600

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

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	4.335 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.4 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	36.9 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.3 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	38.0 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.8 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.3 g	Yes

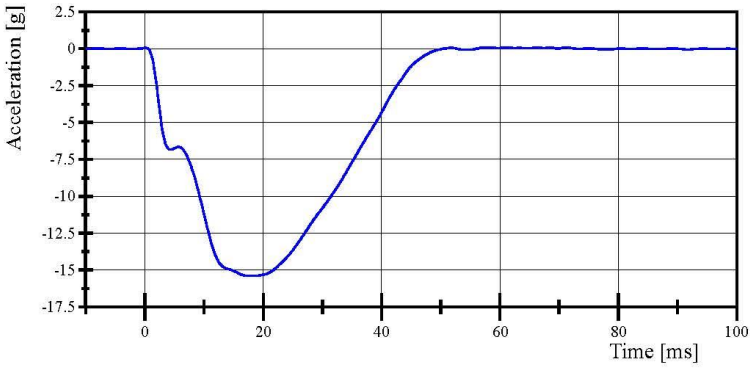
Test meets specifications.

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.

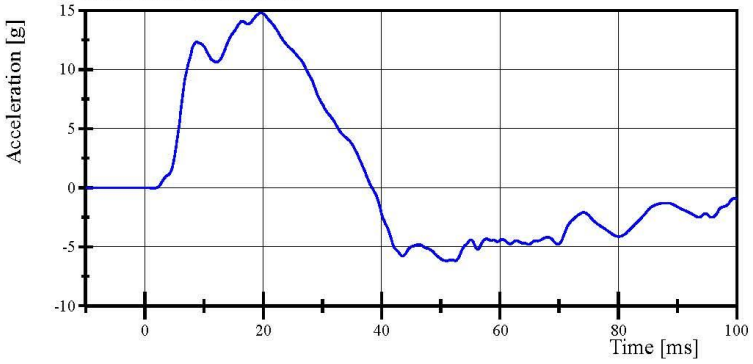
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Probe Acceleration



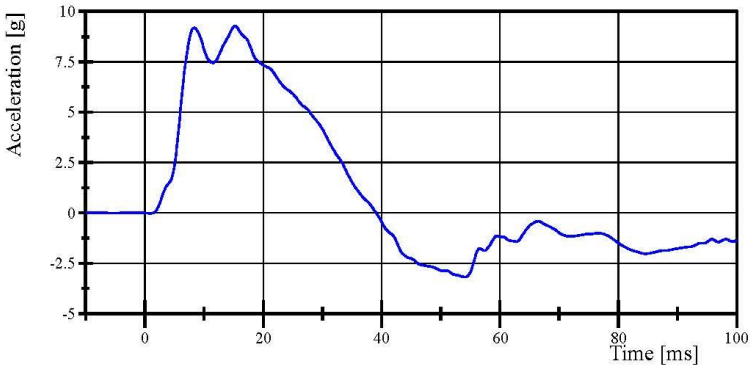
Filter Class: CFC_180
Max: 0.1 g at 71.1 ms
Min: -15.4 g at 18.1 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 14.8 g at 19.6 ms
Min: -6.2 g at 51.0 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 9.3 g at 15.2 ms
Min: -3.2 g at 54.0 ms

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

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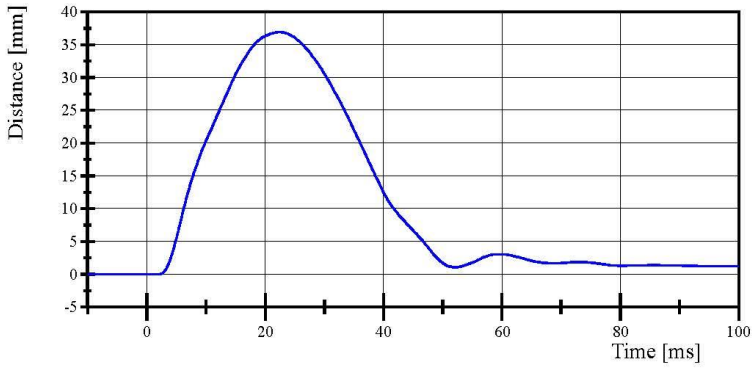
Transportation Research Center Inc.

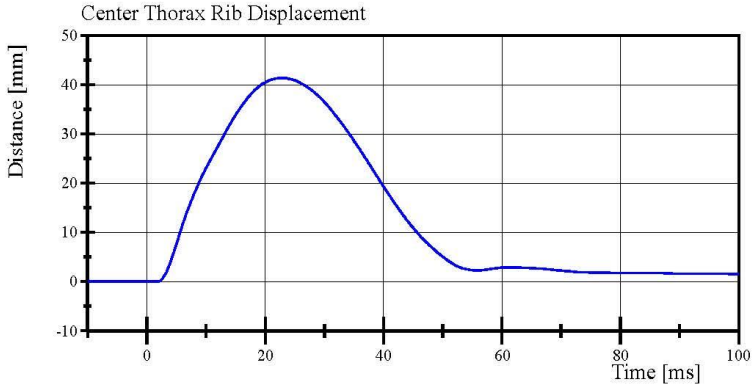
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Upper Thorax Rib Displacement



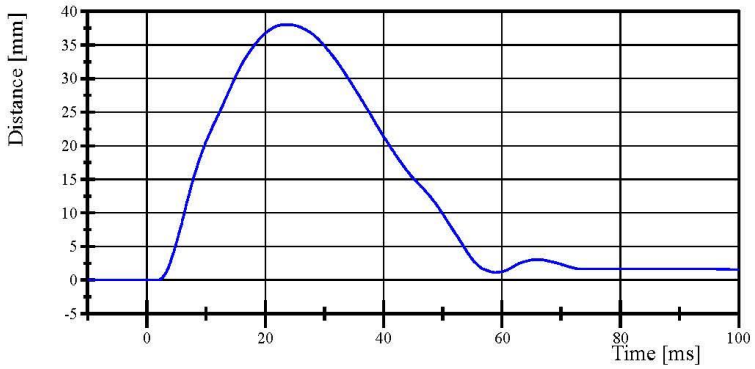
Filter Class: CFC_600
Max: 36.9 mm at 22.4 ms
Min: -0.0 mm at 1.6 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 41.3 mm at 22.8 ms
Min: -0.0 mm at 1.7 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 38.0 mm at 23.7 ms
Min: -0.0 mm at 1.7 ms

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

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Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.7 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	39.8 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	39.7 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	10.88 g	Yes

Test meets specifications.

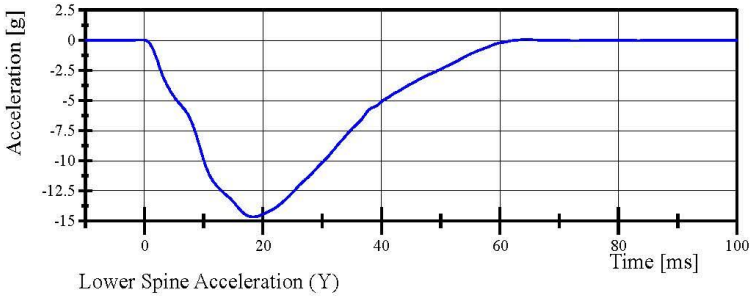
Condition: Used

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

Transportation Research Center Inc.

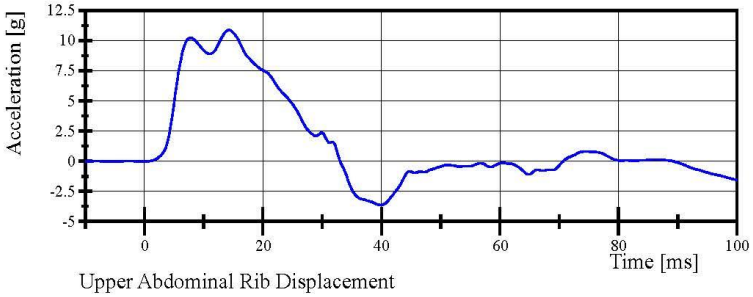
Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Probe Acceleration



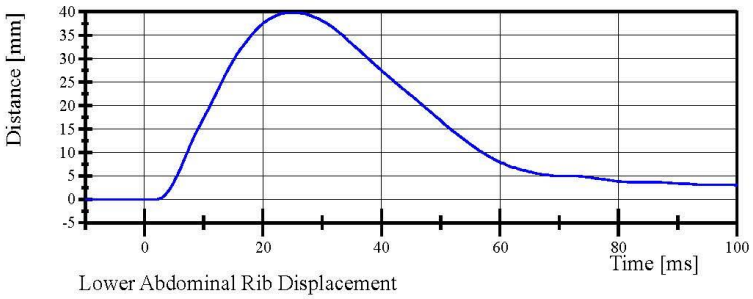
Filter Class: CFC_180
Max: 0.1 g at 64.6 ms
Min: -14.7 g at 18.3 ms

Lower Spine Acceleration (Y)



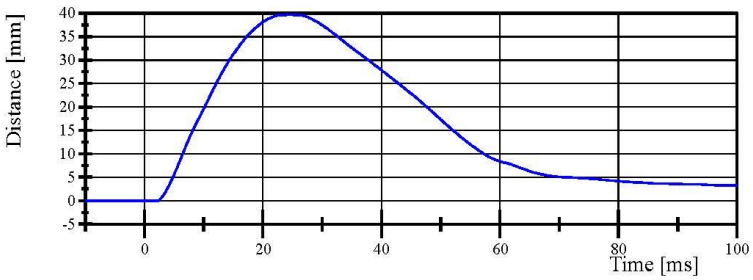
Filter Class: CFC_180
Max: 10.9 g at 14.3 ms
Min: -3.6 g at 39.9 ms

Upper Abdominal Rib Displacement



Filter Class: CFC_600
Max: 39.8 mm at 24.6 ms
Min: -0.0 mm at -6.5 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 39.7 mm at 24.6 ms
Min: -0.0 mm at 2.2 ms

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

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Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °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	-44.94 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	38.7 g	Yes
Acetabulum Force	3,600 - 4,300 N	4,051.4 N	Yes

Test meets specifications.

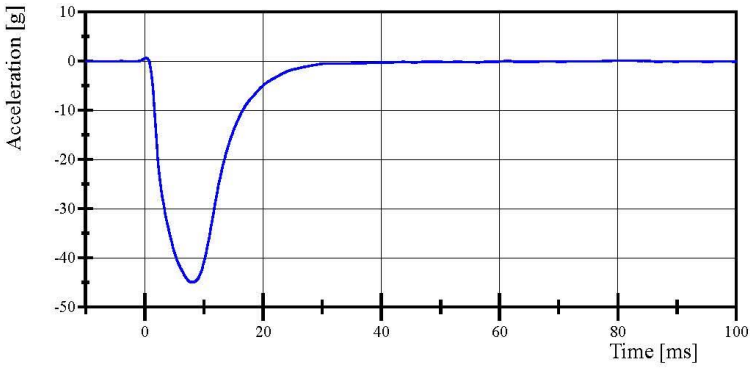
Condition: Used

Comments:
Pelvis Skin S/N: EN1590
Pelvis Plug Info:
Manufacturer: Saco
S/N: 13193
Cal Date: 20190808

Transportation Research Center Inc.

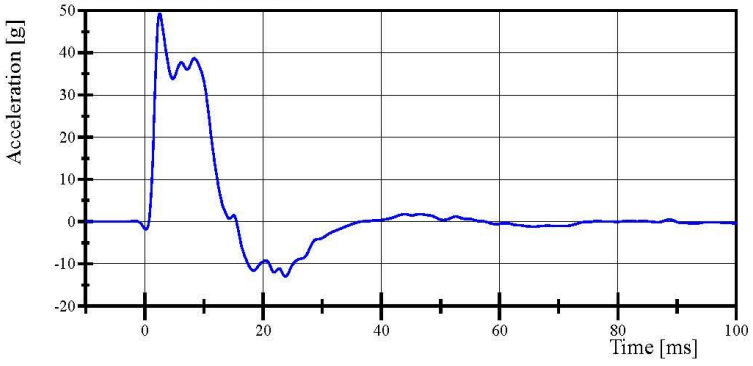
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Probe Acceleration



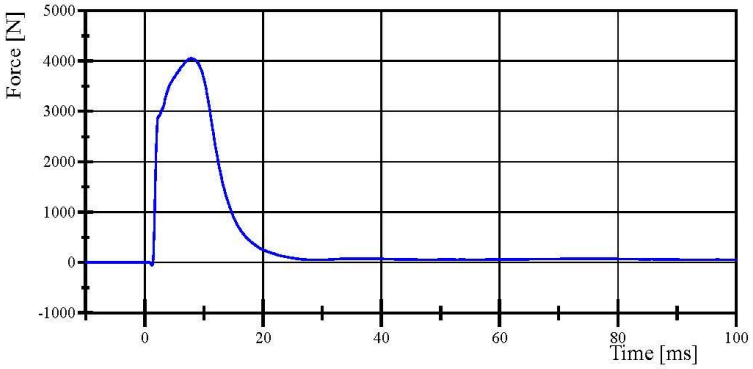
Filter Class: CFC_180
Max: 0.7 g at 0.2 ms
Min: -44.9 g at 7.9 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 49.3 g at 2.6 ms
Min: -13.0 g at 23.8 ms

Acetabulum Y-Axis Force



Filter Class: CFC_600
Max: 4,051.4 N at 7.9 ms
Min: -55.2 N at 1.2 ms

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

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Transportation Research Center Inc.

Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-38.8 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	29.6 g	Yes
Iliac Force	4,100 - 5,100 N	4,391.8 N	Yes

Test meets specifications.

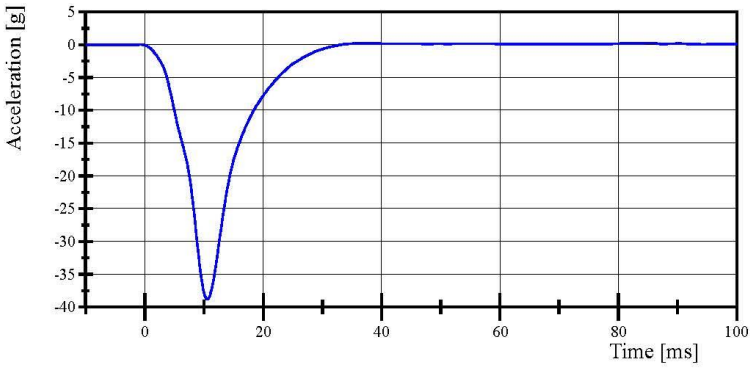
Condition: Used

Comments:
Pelvis S/N: EN1590

Transportation Research Center Inc.

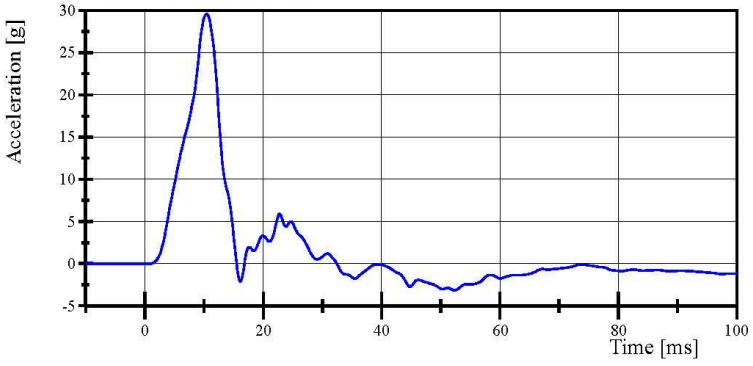
Left Lateral Iliac
SID IIs Serial No. 297 Certification No. 50-1
Test Date: 1/7/2021

Probe Acceleration



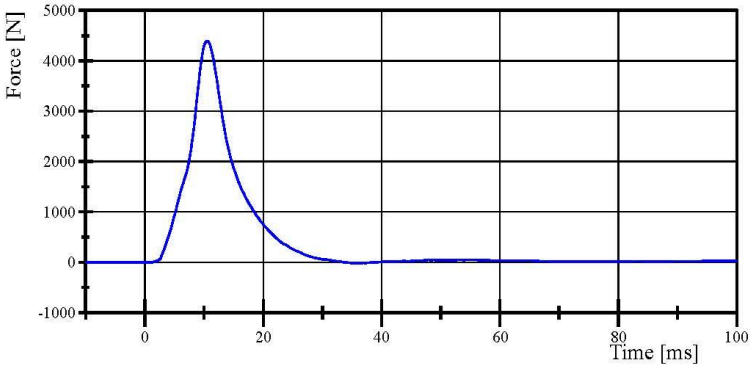
Filter Class: CFC_180
Max: 0.3 g at 85.4 ms
Min: -38.8 g at 10.6 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 29.6 g at 10.5 ms
Min: -3.2 g at 52.3 ms

Iliac Y-Axis Force



Filter Class: CFC_600
Max: 4,391.8 N at 10.6 ms
Min: -18.0 N at 35.3 ms

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

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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	19-Aug-2020
			Y	P93549	Endevco	19-Aug-2020
			Z	P93776	Endevco	19-Aug-2020
Displacement Potentiometers	Shoulder		Y	N/A	N/A	N/A
	Thoracic Rib	Upper	Y	023	Servo	20-Aug-2020
		Middle	Y	063	Servo	20-Aug-2020
		Lower	Y	043	Servo	20-Aug-2020
	Abdominal Rib	Upper	Y	1152	Servo	05-Oct-2020
		Lower	Y	051	Servo	20-Aug-2020
Lower Spine Accelerometers (T12)			X	P94425	Endevco	19-Aug-2020
			Y	P91522	Endevco	19-Aug-2020
			Z	P91511	Endevco	19-Aug-2020
Acetabulum Load Cell			Y	235-FY	FTSS	20-Aug-2020
Iliac Wing Load Cell			Y	320-FY	FTSS	20-Aug-2020
Pelvis Plug (struck side)				13147	SACO	08-Aug-2019
Pelvis Plug (non-struck side)				13161	SACO	08-Aug-2019

TABLE 2 – Vehicle Instrumentation

Vehicle Instrumentation		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	T23815	Endevco	11-Sep-2020
Vehicle Center of Gravity	Y	T23777	Endevco	15-Sep-2020
Vehicle Center of Gravity	Z	T23789	Endevco	15-Sep-2020
Left Floor Sill	Y	T23863	Endevco	11-Sep-2020
A-Pillar Sill	Y	T16768	Endevco	27-Aug-2020
A-Pillar Low	Y	T11815	Endevco	20-Nov-2020
A-Pillar Mid	Y	T11841	Endevco	20-Nov-2020
B-Pillar Sill	Y	T16722	Endevco	27-Aug-2020
B-Pillar Low	Y	T23843	Endevco	15-Sep-2020
B-Pillar Mid	Y	T23866	Endevco	15-Sep-2020
Driver Seat	Y	T23778	Endevco	24-Sep-2020
Engine Top	X	T23855	Endevco	23-Oct-2020
Engine Top	Y	T23862	Endevco	15-Sep-2020
Firewall	Y	P73587	Endevco	3-Aug-2020
Right Roof	Y	T23861	Endevco	11-Sep-2020
Right Floor Sill	Y	T23816	Endevco	27-Aug-2020
Rear Floor Pan	X	T23813	Endevco	11-Sep-2020
Rear Floor Pan	Y	T23832	Endevco	29-Sep-2020

TABLE 3 – Pole Instrumentation

Pole Instrumentation	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DK7091S	Humanetics	12-Nov-2020
Load Cell 2	DK7120S	Humanetics	12-Nov-2020
Load Cell 3	DK7118S	Humanetics	12-Nov-2020
Load Cell 4	DK7124S	Humanetics	12-Nov-2020
Load Cell 5	DK7111S	Humanetics	12-Nov-2020
Load Cell 6	DK7126S	Humanetics	12-Nov-2020
Load Cell 7	DK7112S	Humanetics	12-Nov-2020
Load Cell 8	DK7074S	Humanetics	12-Nov-2020