

FINAL REPORT NUMBER: SPNCAP-TRC-19-005

**NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST**

**GENERAL MOTORS DE MEXICO, S. DE R.L. DE C.V.
2019 Chevrolet Blazer SUV
NHTSA NUMBER: M20190104**

**PREPARED BY:
Transportation Research Center Inc.
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P. O. Box B-67
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Report Date: August 28, 2019


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: August 28, 2019

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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<p>16. Abstract</p> <p>A 32.2 km/h (20 mph), 75° oblique impact Side NCAP Test was conducted on the subject vehicle, a 2019 Chevrolet Blazer SUV, in accordance with the specifications of the Office of Crashworthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on May 16, 2019.</p> <p>The impact velocity was 32.28 km/h, and the ambient temperature at the struck (left) side of the target vehicle at the time of impact was 21.5° C. The test vehicle's post-test maximum crush was 320 mm at Level 3.</p> <p>The test or target vehicle's performance is given below:</p> <table border="1"> <thead> <tr> <th></th> <th><u>Unit</u></th> <th><u>Threshold</u></th> <th><u>Front SID-IIs</u></th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆):</td> <td>NA</td> <td>1000</td> <td><u>265</u></td> </tr> <tr> <td>Resultant Lower Spine Acceleration:</td> <td>g's</td> <td>82</td> <td><u>39.4</u></td> </tr> <tr> <td>Total Pelvic Force: (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td><u>3090.1</u></td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td><u>19.4</u></td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td><u>23.6</u></td> </tr> </tbody> </table> <p>* Proposed IARV</p> <p>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.</p>					<u>Unit</u>	<u>Threshold</u>	<u>Front SID-IIs</u>	Head Injury Criteria (HIC ₃₆):	NA	1000	<u>265</u>	Resultant Lower Spine Acceleration:	g's	82	<u>39.4</u>	Total Pelvic Force: (sum of acetabular and iliac forces)	N	5525	<u>3090.1</u>	Maximum Thoracic Rib Deflection	mm	38*	<u>19.4</u>	Maximum Abdomen Rib Deflection	mm	45*	<u>23.6</u>
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17. Key Words New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave Washington, DC 20590																									
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SECTION 1
TEST PURPOSE AND PROCEDURE

TEST PURPOSE AND PROCEDURE

This side impact test was conducted as part of the MY 19 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 2019 Chevrolet Blazer SUV manufactured by GENERAL MOTORS DE MEXICO, S. DE R.L. DE C.V.. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated October 2015.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a model year 2019 Chevrolet Blazer SUV. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.28 km/h. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, OH, on May 16, 2019. Pre-test and post-test photographs of the test vehicle and the side impact dummy (SID-IIs) are included in Appendix A of this report.

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

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

- Primary and Redundant Head CG 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	265
Lower Spine Acceleration Resultant	G	82	39.4
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3090.1
Maximum Thoracic Rib Deflection	mm	38*	19.4
Maximum Abdominal Rib Deflection	mm	45*	23.6

* Proposed IARV

Supplemental restraint information is given below:

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

GENERAL COMMENTS

Left A-Pillar Sill Acceleration (Y); Questionable data between 107 and 126 ms

Left B-Pillar Sill Acceleration (Y); Questionable data throughout

Engine Top Acceleration (Y); Questionable data throughout

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

**DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20190104
Model Year	2019
Make	Chevrolet
Model	Blazer
Body Style	MPV
VIN	3GNKBBRA1KS568786
Body Color	Graphite Metallic
Odometer Reading (km/mi)	106 mi
Engine Displacement (L)	2.5
Type/No. Cylinders	Inline/4
Engine Placement	Front Transverse
Transmission Type	Automatic
Transmission Speeds	9
Overdrive	Yes
Final Drive	FWD
Roof Rack	No
Sunroof/T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Driver Only
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks (ADL)	Yes
Power Window Auto-Reverse	Yes
Other Optional Feature	No
Driver Front Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	Yes
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	No
Driver Load Limiter	Yes
Rear Pass. Load Limiter	No
Other Safety Restraint	No

Does owner's manual provide instructions to turn off automatic door locks?

No

DATA FROM CERTIFICATION LABEL

Manufactured By	GENERAL MOTORS DE MEXICO, S. DE R.L. DE C.V.
Date of Manufacturer	12/18
Vehicle Type	MPV

GVWR (kg)	3722
GAWR Front (kg)	1350
GAWR Rear (kg)	3196

VEHICLE SEATING AND WEIGHT CAPACITY DATA

	Front	Rear	Third	Total
Designated Seating Capacity (DSC)	2	3	N/A	5
Vehicle Capacity Weight (VCW) (kg)				954.0
DSC X 68.04 kg				340.2
Rated Cargo and Luggage Weight (RCLW) (kg)				613.8

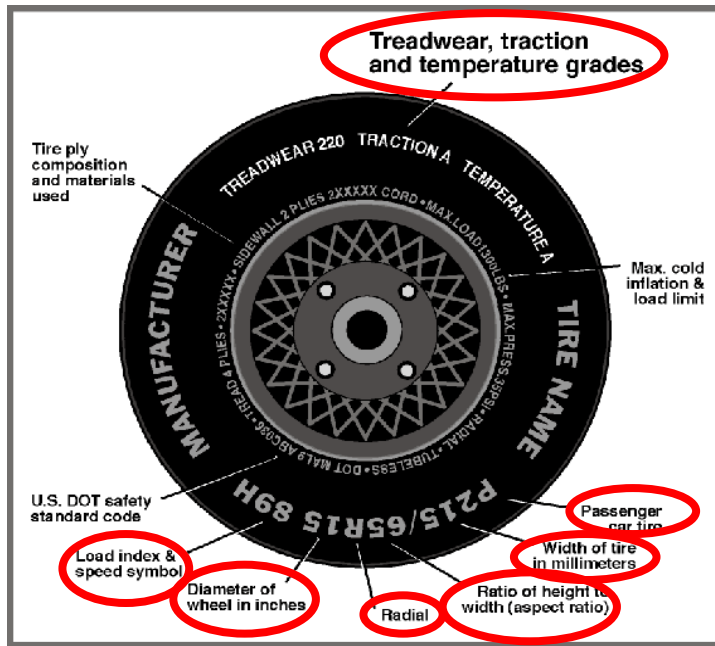
VEHICLE SEAT TYPE

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

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

Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	240
Recommended Tire Size	235/65R18 H	235/65R18 H
Tire Size on Vehicle	235/65R18	235/65R18
Tire Manufacturer	Continental	Continental
Tire Model	CrossContact LX Sport	Cross ContactLX Sport
Treadwear	480	480
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	106H	106H
Tire Material	Polyester, Steel, Polyamide	Polyester, Steel, Polyamide
DOT Safety Code Left	A3LM WD30 4418	A3LM WD30 4418
DOT Safety Code Right	A3LM WD30 4418	A3LM WD30 4518

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

Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	260	260	260	260
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	520.4	374.8		550.6	442.4		533.2	464.4	
Right	kg	520.4	333.6		521.0	412.4		524.6	412.0	
Ratio	%	59.5	40.5		55.6	44.4		54.7	45.3	
Totals	kg	1040.8	708.4	1749.2	1071.6	854.8	1926.4	1057.8	876.4	1934.2

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	1749.2	(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	1934.2	(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.	0.0	0.0	0.1	Yes
Front Passenger Sill Angle (front-to-rear)*	Deg.	-0.3	-0.1	0.0	Yes
Front Bumper-Line Angle (left-to-right)**	Deg.	-0.1	-0.2	-0.4	Yes
Rear Bumper-Line Angle (left-to-right)**	Deg.	-0.2	-0.1	0.0	Yes
Vehicle CG (Aft of Front Axle)	mm	1159	1270	1297	
Vehicle CG (Left (+) / Right (-) from longitudinal Centerline)	mm	+20	+26	+27	

*ND=Nose Down (-), NU=Nose Up (+) **LD=Left Down (-), LU=Left Up (+)

*** The "As Tested" vehicle attitude measurements must be equal to or between the "As Delivered" and "Fully Loaded" vehicle attitude measurements. Indicate "Yes" or "No" for "Meets Requirements".

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast: Steel plate mounted in cargo area	83.0
Components Removed: None	0.0

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

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

DATA SHEET NO. 2

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

Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019

SEAT POSITIONING

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

SCRL ANGLE RANGE

Seat	SCRL(°)		
	Max.	Min.	Mid
Driver Seat	19.5	11.5	15.5
Front Passenger Seat	14.0	14.0	14.0
Front Center Seat*	N/A	N/A	N/A
Struck Side Rear Seat	15.1	15.2	15.2
Non-Struck Side Rear Seat	15.2	15.2	15.2
Rear Center Seat*	16.6	16.6	16.6

* 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	15.5	227	Max	250	251	252
			Mid	224	225	227
			Min	198	200	201
Front Passenger Seat	14.0	214	Max	N/A	N/A	N/A
			Mid	214	214	214
			Min	N/A	N/A	N/A
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	15.2	190	Max	N/A	N/A	N/A
			Mid	190	190	190
			Min	N/A	N/A	N/A
Non-Struck Side Rear Seat	15.2	180	Max	N/A	N/A	N/A
			Mid	180	180	180
			Min	N/A	N/A	N/A
Rear Center Seat*	16.6	190	Max	N/A	N/A	N/A
			Mid	190	190	190
			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: 2019 Chevrolet Blazer SUV

NHTSA No.: M20190104

Test Program: SPNCAP Side Impact

Test Date: 5/16/2019

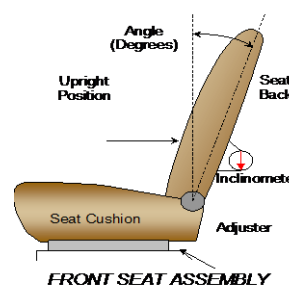
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position from Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	245	N/A	0	N/A
Front Passenger Seat	240	25	0	0
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	140	15	140	14
Non-Struck Side Rear Seat	140	15	140	14
Rear Center Seat*	140	15	140	14

* 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	65.9	N/A	24.1	N/A
Front Passenger Seat	63.8	34	24.0	15
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	12.1	7	12.3	0
Non-Struck Side Rear Seat	9.9	7	12.4	0
Rear Center Seat*	12.1	7	12.3	0

* If applicable.

SEAT BELT ANCHORAGE ADJUSTMENT

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

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

HEAD RESTRAINT ADJUSTMENT

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

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

DATA SHEET NO. 2 (CONTINUED)

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

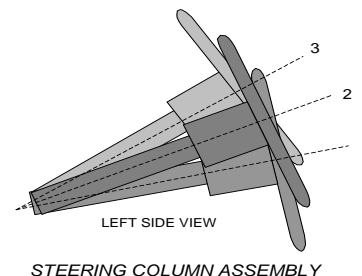
Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019

STEERING COLUMN ADJUSTMENT

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

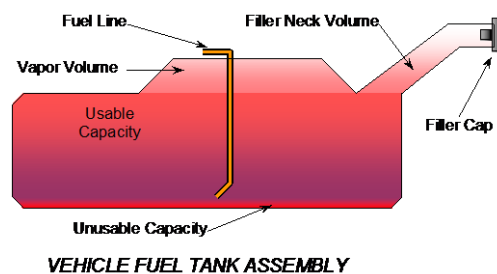
	Degrees	Fore/Aft Position, mm
Lowermost, Position No. 1	21.1	0
Geometric Center, Position No. 2	23.2	30
Uppermost, Position No. 3	25.3	60
Telescoping Steering Wheel Travel		60
Test Position	23.2	30



FUEL PUMP

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

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



FUEL TANK CAPACITY

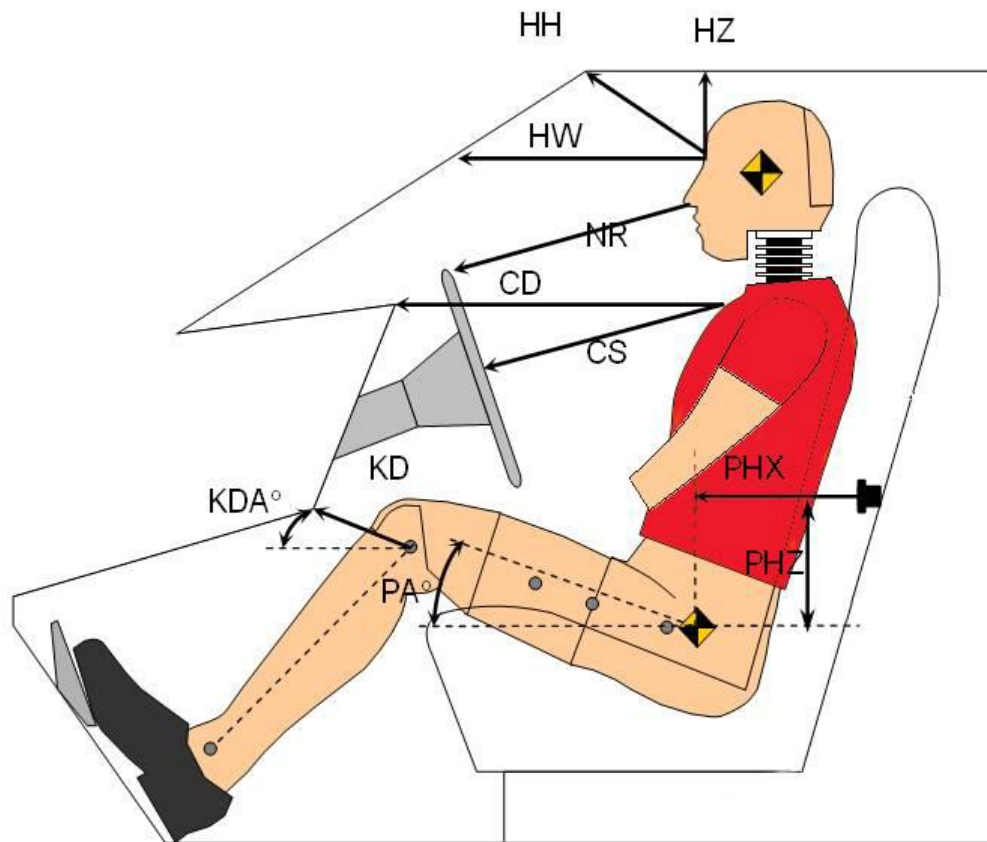
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	73.4
Usable Capacity of "Optional" Tank (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner's Manual)	73.4
Usable Capacity of Optional Tank (see Owner's Manual)	N/A
93% of Usable Capacity	68.3
Actual Amount of Solvent Used in Test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

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

**DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS**

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019

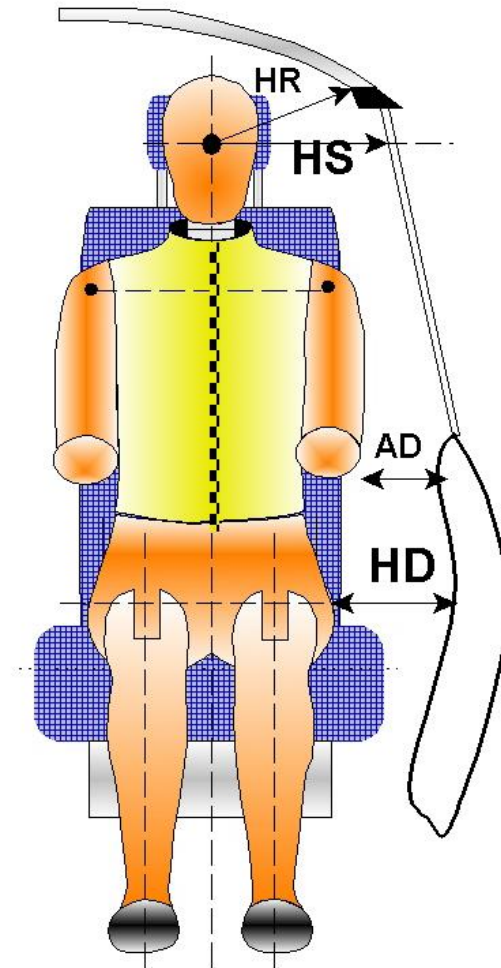


Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	323	
HW	Head to Windshield	663	
HZ	Head to Visor	208	
NR	Nose to Rim	274	
CD	Chest to Dashboard	430	
CS	Chest to Steering Wheel	217	
KDL/KDLA°	Left Knee to Dash	130	36.1
KDR/KDRA°	Right Knee to Dash	119	35.9
PAX°	Pelvic Tilt Angle (X-axis)		0.4
PAY°	Pelvic Tilt Angle (Y-axis)		19.8
PHX	Hip Point to Striker (X-Axis)	337	
PHZ	Hip Point to Striker (Z-Axis)	51	

**DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS**

Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019

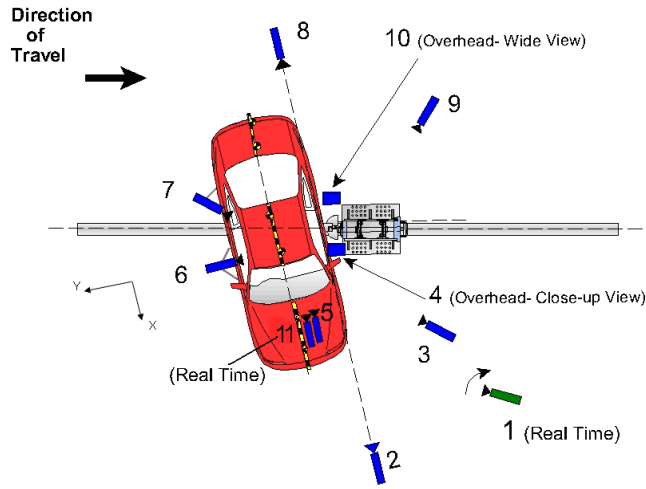


Code	Measurement Description	Length (mm)
HR	Head to Side Header	263
HS	Head to Side Window	384
AD	Arm to Door	163
HD	Hip Point to Door	166

**DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA**

Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019



REFERENCE: (from point of impact for X and Y; from ground for Z)
 + X = Forward of vehicle, + Y = Right of vehicle, + Z = Down

Camera No.	View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1	Real time (24-30 fps) pan view of impact				Zoom	30
2	Front ground level – impact view	0	5333	-1422	20	1000
3	Impact side 45° – forward pole view	1192	4437	-1571	20	1000
4	Overhead Close-up view of impact	0	0	-5750	25	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	0	-5328	-1286	20	1000
9	Impact side 45° – rearward pole view	2175	-4262	-1445	20	1000
10	Overhead wide view of impact	193	0	-5750	18.5	1000
11	Real time dummy front view				Zoom	30

All measurements accurate to +/- 6 mm.

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

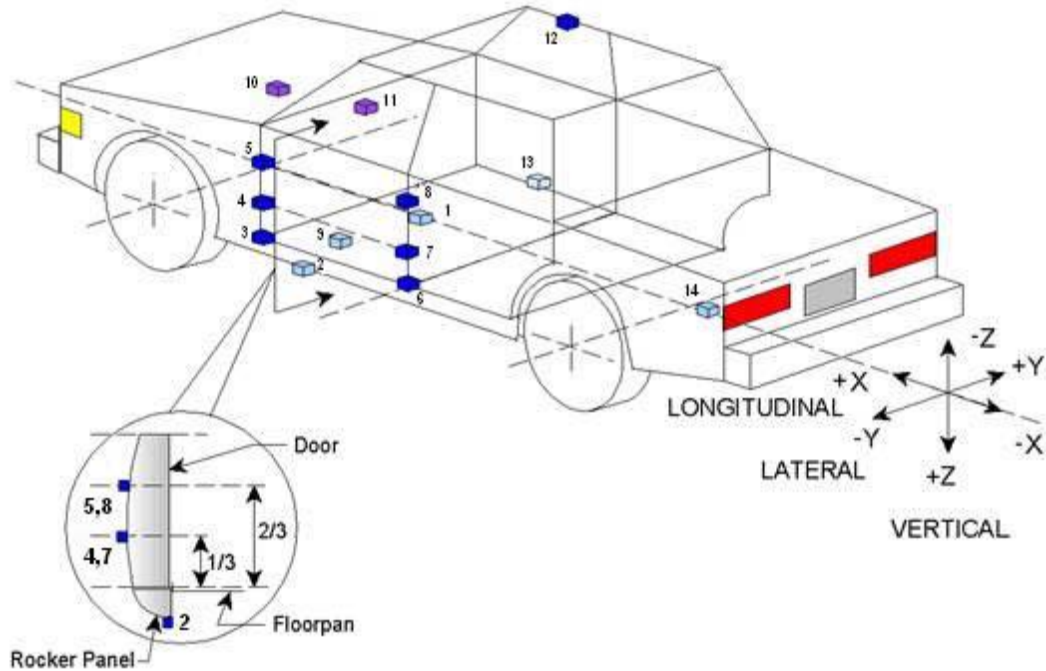
INSTRUMENTATION

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

**DATA SHEET NO. 6
VEHICLE ACCELEROMETER DATA**

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019



Accelerometer/Sensor Location				
ID		Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2900	120	-371
2	Left Floor Sill	2960	-725	-435
3	A-Pillar Sill	3250	-715	-505
4	A-Pillar Low	3280	-896	-613
5	A-Pillar Mid	3320	-860	-1000
6	B-Pillar Sill	2190	-760	-454
7	B-Pillar Low	2195	-855	-646
8	B-Pillar Mid	2170	-820	-973
9	Driver Seat Track	2560	-560	-439
10	Engine Top	4155	-7	-906
11	Firewall	3730	0	-965
12	Right Roof	2377	600	-1653
13	Right Floor Sill	2970	737	-378
14	Rear Floorpan	822	0	-558

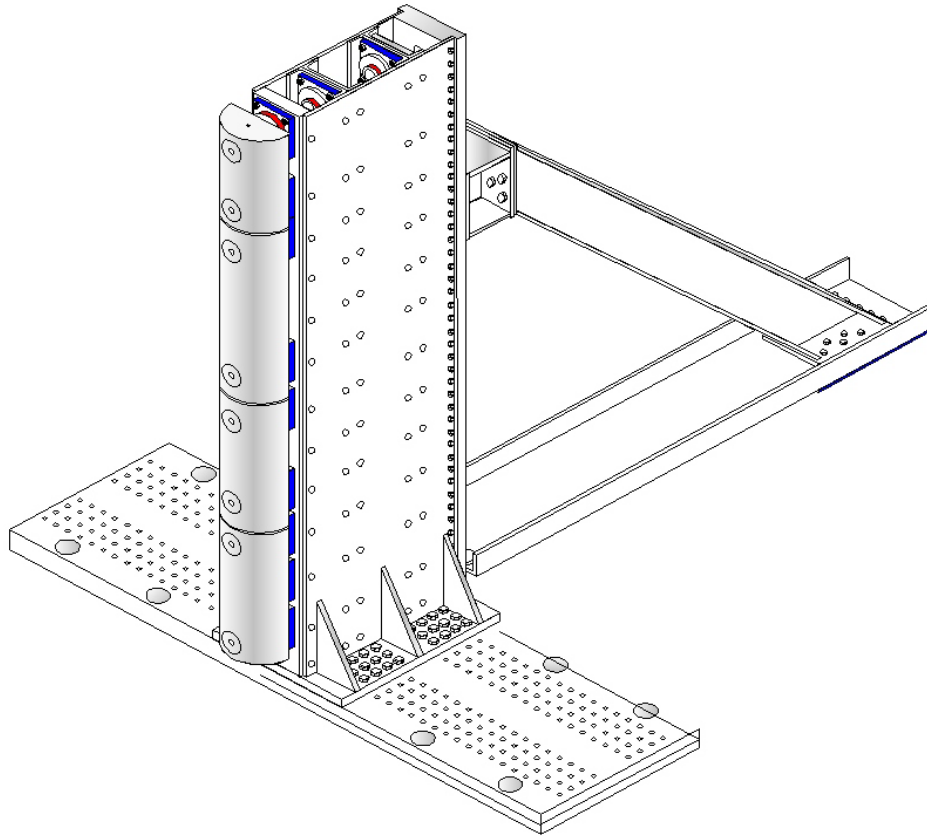
Reference: X - Test Vehicle Rear Bumper (+ forward)
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019

FOIL 300K RIGID POLE



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

**DATA SHEET NO. 8
POST-TEST OBSERVATIONS**

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019

TEST DUMMY INFORMATION AND CONTACT POINTS

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

POST-TEST DOOR PERFORMANCE

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

* Indicate "Yes", "No", or "NA".

POST-TEST SEAT PERFORMANCE

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

* Indicate "Yes", "No", or "NA".

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Sill Separation	None
Windshield Damage	Completely shattered
Side Window Damage	Driver window broken out
Other Notable Effects	None

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

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side (Driver)		Struck Side (Rear Passenger)	
	Mounted	Deployed	Mounted	Deployed
Front Airbag	Yes	Yes		
Knee Airbag	Yes	Yes		
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	No	No	N/A
Other	No	N/A	No	N/A

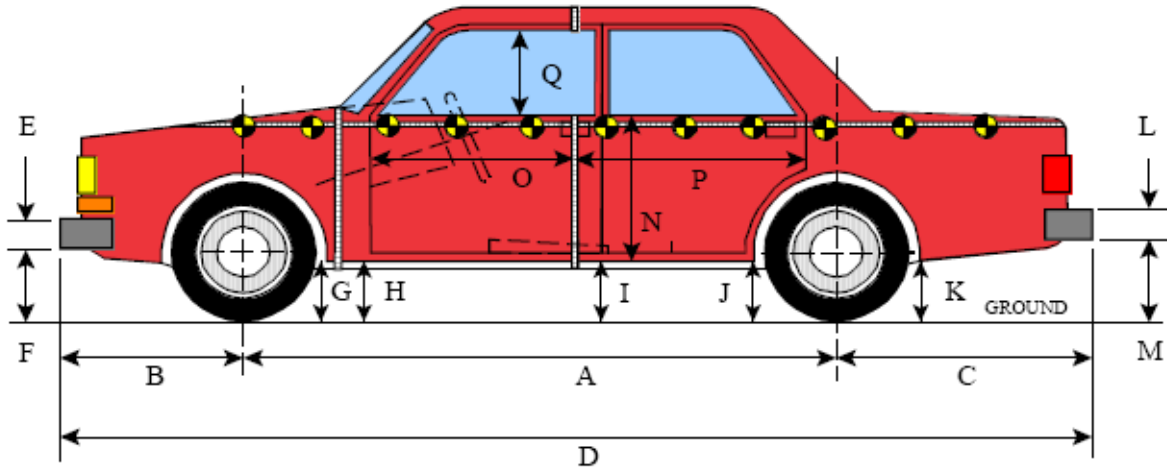
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1165
Actual Impact Point (Aft of Front Axle)	mm		1170
Horizontal Offset (+ forward / - rearward)	mm	+/- 38 of Intended Impact point	-5
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	32.28
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.29

**DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019



LEFT SIDE VIEW

All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3 mm

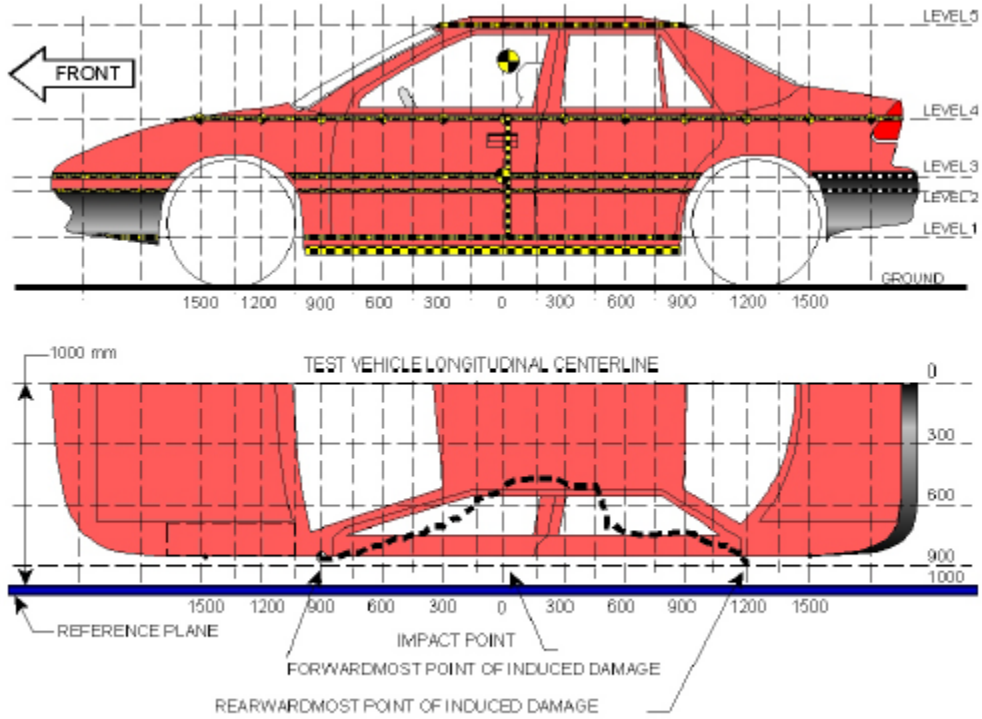
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2863	2810	53
B	Front Axle to Front Surface of Vehicle	1022	1005	17
C	Rear Axle to Rear Surface of Vehicle	970	1035	-65
D	Total Length at Centerline	4855	4850	5
E	Front Bumper Thickness	90	90	0
F	Front Bumper Bottom to Ground	435	448	-13
G	Sill Height at Front Wheel Well	320	332	-12
H	Sill Height at Front Door Leading Edge	327	336	-9
I	Sill Height at B-Pillar	328	370	-42
J1	Sill Height at Rear Wheel Well	334	386	-52
J2	Pinch Weld Height at Rear Wheel Well	262	312	-50
K	Sill Height Aft of Rear Wheel Well	393	446	-53
L	Rear Bumper Thickness	111	111	0
M	Rear Bumper Bottom to Ground	564	604	-40
N	Sill Height to Bottom of Front Window Sill	959	940	19
O	Front Door Leading Edge to Impact CL	640	558	82
P	Rear Door Trailing Edge to Impact CL	1508	1440	68
Q	Front Window Opening	380	361	19
R	Right Side Length	4372	4375	-3
S	Left Side Length	4365	4338	27
T	Vehicle Width at B-Pillars	1950	1823	127

**DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019



NOTE: All measurements are in millimeters (mm)

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	424	283	0
2	Occupant H-Point	714	316	0
3	Mid-Door	742	320	0
4	Window Sill	1137	262	0
5	Window Top	1598	115	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: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019

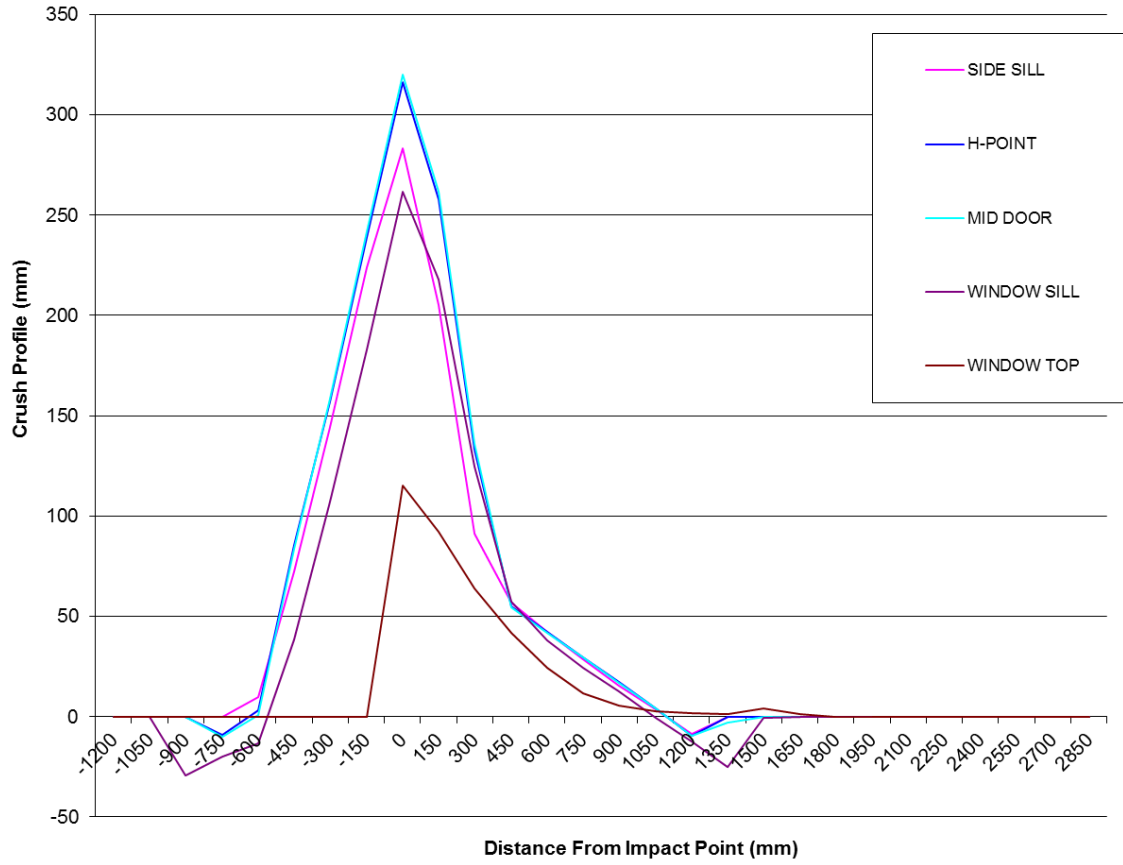
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900	0	0	0	829	0	0	0	0	858	0	0	0	0	-29	0
-750	0	973	973	836	0	0	982	983	855	0	0	-9	-10	-19	0
-600	938	956	957	840	0	928	953	956	854	0	10	3	1	-14	0
-450	930	942	943	845	0	857	856	859	807	0	73	86	84	38	0
-300	926	933	935	849	0	782	776	777	742	0	144	157	158	107	0
-150	924	929	931	854	0	700	690	689	671	0	224	239	242	183	0
0	923	925	927	858	660	640	609	607	596	545	283	316	320	262	115
150	922	922	924	862	672	716	664	663	644	580	206	258	261	218	92
300	920	921	923	865	675	829	787	787	741	611	91	134	136	124	64
450	918	920	922	869	676	861	865	867	811	634	57	55	55	58	42
600	916	919	921	869	676	874	877	879	832	652	42	42	42	37	24
750	915	924	926	871	675	886	895	897	846	664	29	29	29	25	11
900	923	935	936	874	675	908	918	919	862	669	15	17	17	12	6
1050	936	949	949	880	673	933	944	945	881	670	3	5	4	-1	3
1200	945	966	966	885	671	954	976	975	898	669	-9	-10	-9	-13	2
1350	0	0	973	926	665	0	0	976	951	664	0	0	-3	-25	1
1500	0	0	0	911	658	0	0	0	911	653	0	0	0	0	5
1650	0	0	0	0	645	0	0	0	0	644	0	0	0	0	1

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

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

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

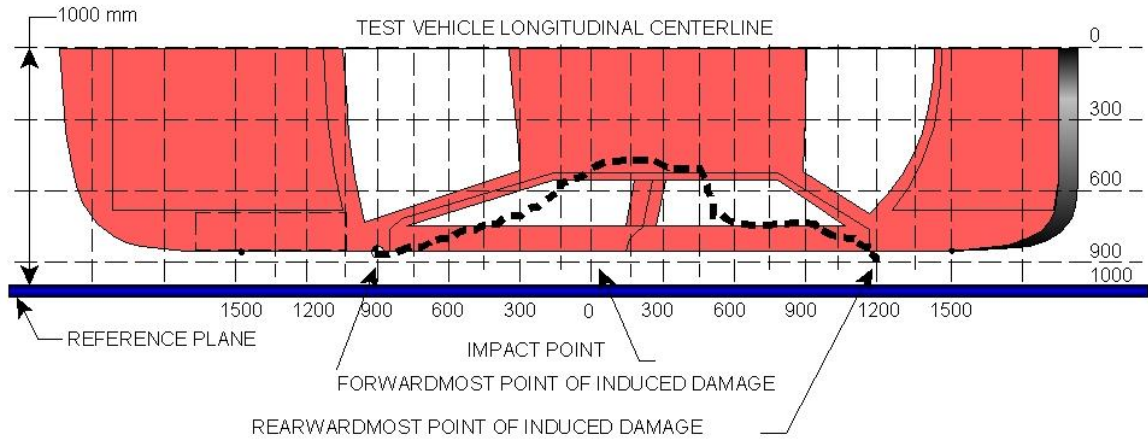
NHTSA No.: M20190104
Test Date: 5/16/2019



**DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES**

Test Vehicle: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019



VEHICLE DAMAGE PROFILE DISTANCES¹

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	1650	5	644	645	1
2	1200	5	669	671	2
3	750	1	886	915	29
		2	895	924	
		3	897	926	
4	300	3	787	923	136
5	-150	3	689	931	242
6	-600	1	928	938	0

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

DATA SHEET NO. 12

FMVSS NO. 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

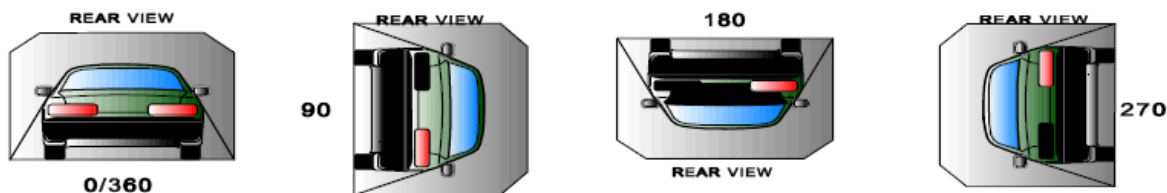
Test Vehicle: 2019 Chevrolet Blazer SUV
 Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
 Test Date: 5/16/2019

Test Time: 16:10 **Temperature:** 21.3°C

- 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

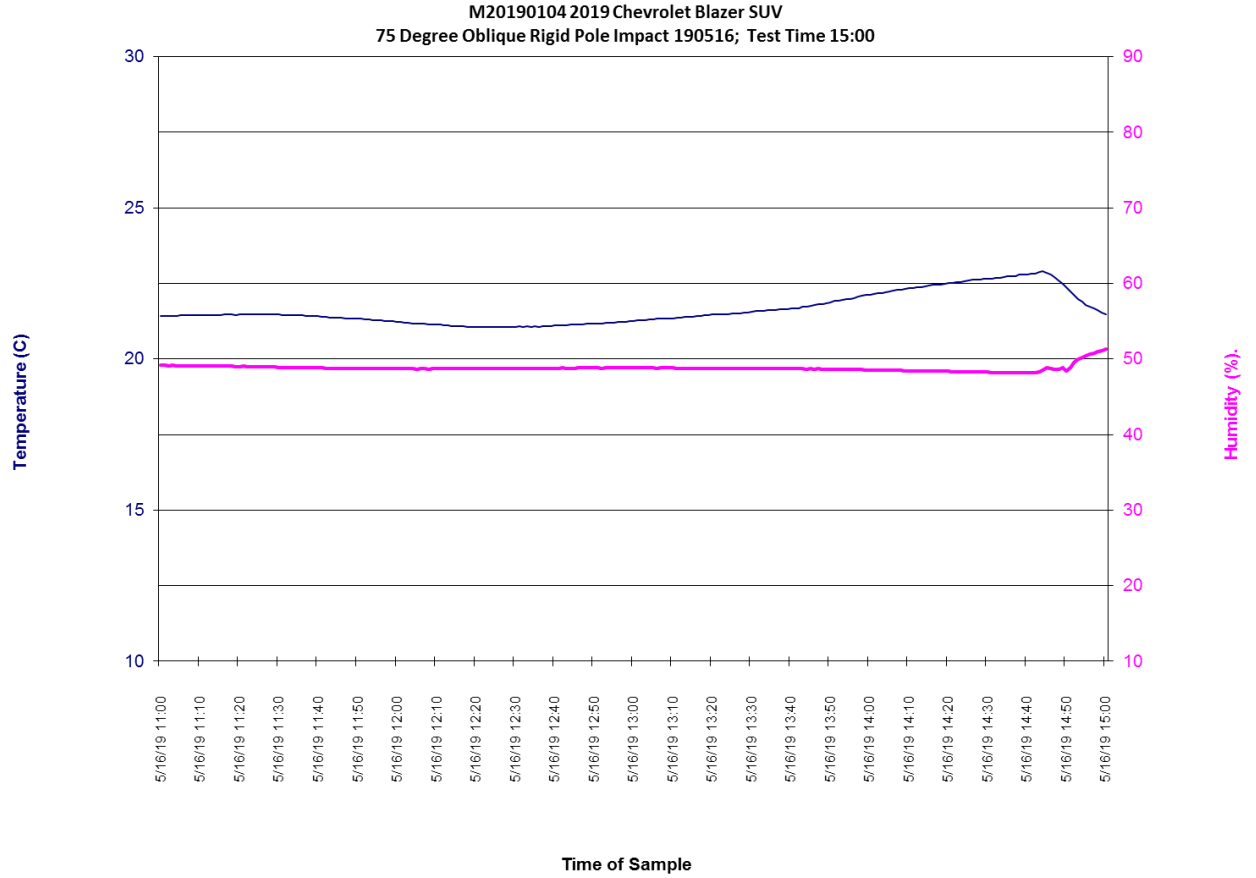
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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: 2019 Chevrolet Blazer SUV
Test Program: SPNCAP Side Impact

NHTSA No.: M20190104
Test Date: 5/16/2019



**APPENDIX A
PHOTOGRAPHS**

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2	As Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle	A-4
3	Pre-Test Frontal View of Test Vehicle	A-5
4	Post-Test Frontal View of Test Vehicle	A-5
5	Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle	A-6
6	Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle	A-6
7	Pre-Test Left Side View of Test Vehicle	A-7
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11	Pre-Test Rear View of Test Vehicle	A-9
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19	Pre-Test Close-Up View of Impact Point Target	A-13
20	Post-Test Close-Up View of Impact Point Target Showing Impact Location	A-13
21	Pre-Test Front Close-Up View of Dummy Head and Chest	A-14
22	Post-Test Front Close-Up View of Dummy	A-14
23	Pre-Test Left Side View of Dummy Showing Belt and Chalking	A-15
24	Pre-Test Left Side View of Dummy Shoulder and Door Top View	A-16
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26	Pre-Test Front View of Seat Back Prior to Dummy Positioning	A-17
27	Pre-Test Front View of Dummy Head and Shoulders in Relation to Head Restraint	A-17
28	Pre-Test Front View of Seat Pan Prior to Dummy Positioning	A-18
29	Pre-Test Overhead View of Dummy Thighs on Seat Pan	A-18
30	Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket	A-19
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32	Pre-Test Placement of Dummy's Feet	A-20
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35	Pre-Test View of Disengaged Parking Brake	A-21

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38	Pre-Test Close-Up Left Side View of Driver Seat Back	A-23
39	Pre-Test Close-Up View of Driver Seat Back or Head Restraint	A-23
40	Pre-Test Dummy and Door Clearance View	A-24
41	Post-Test Dummy and Door Clearance View	A-24
42	Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment	A-25
43	Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment	A-25
44	Pre-Test Inner Driver Door Panel View	A-26
45	Post-Test Inner Driver Door Panel View Showing Dummy Contact Location	A-26
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50	Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View	A-29
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52	Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View	A-30
53	Pre-Test View of Fuel Filler Cap or Fuel Filler Neck	A-31
54	Post-Test View of Fuel Filler Cap or Fuel Filler Neck	A-31
55	Close-Up View of Vehicle's Certification Label	A-32
56	Close-Up View of Vehicle's Tire Information Placard or Label	A-32
57	Pre-Test Pole Barrier Front View	A-33
58	Post-Test Pole Barrier Front View	A-33
59	Pre-Test Pole Barrier Side View	A-34
60	Post-Test Pole Barrier Side View	A-34
61	Pre-Test Ballast View	A-35
62	Post-Test Primary and Redundant Speed Trap Read-Out	A-35
63	FMVSS No. 301 Static Rollover 0 Degrees	A-36
64	FMVSS No. 301 Static Rollover 90 Degrees	A-36
65	FMVSS No. 301 Static Rollover 180 Degrees	A-37
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68	Impact Event	A-38
69	Monroney Label	A-39
70	Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-40
70a	Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-40
71	Post-Test View of Shattered Vehicle Inner Door Panel	A-41



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



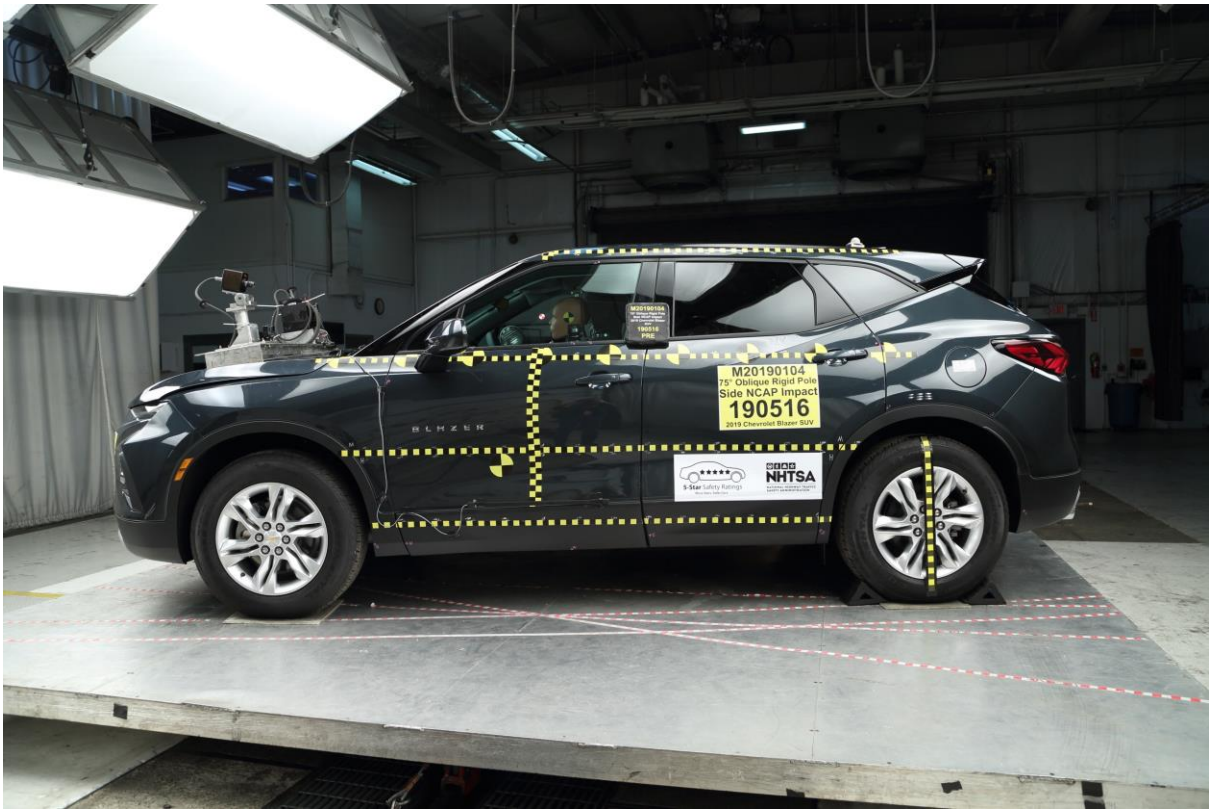
No. 004 Post-Test Frontal View of Test Vehicle



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 $\frac{3}{4}$ View of Test Vehicle



No. 010 Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



No. 011 Pre-Test Rear View of Test Vehicle



No. 012 Post-Test Rear View of Test Vehicle



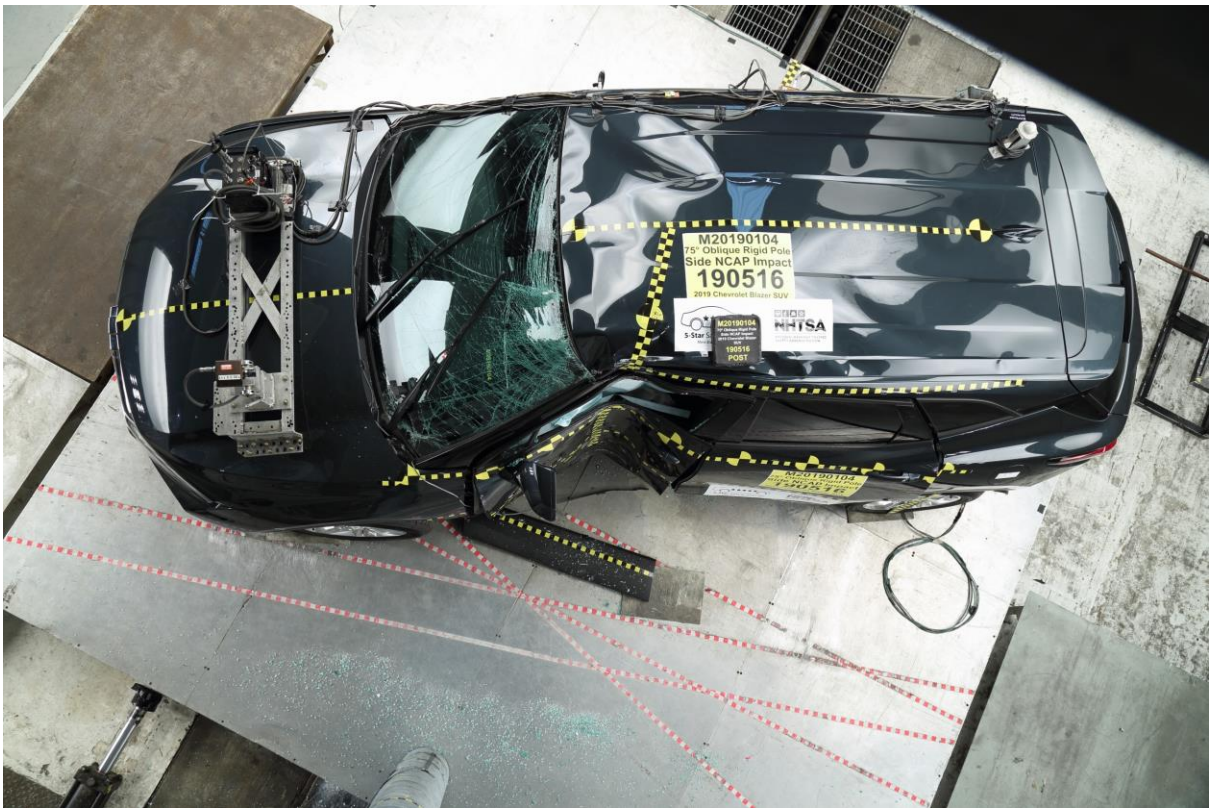
No. 013 Pre-Test Right Side View of Test Vehicle



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



No. 015 Pre-Test Overhead View of Test Area



No. 016 Post-Test Overhead View of Test Area



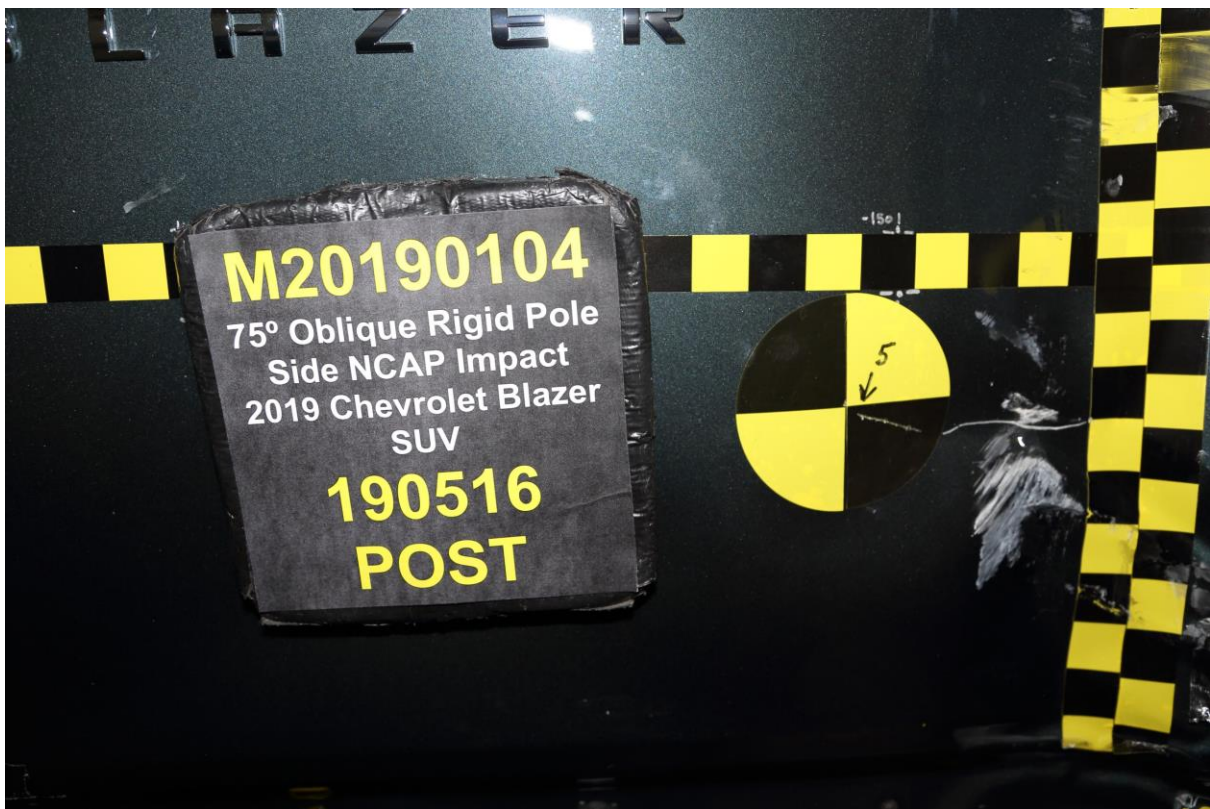
No. 017 Pre-Test Left Side View of Pole Positioned Against Side of Vehicle



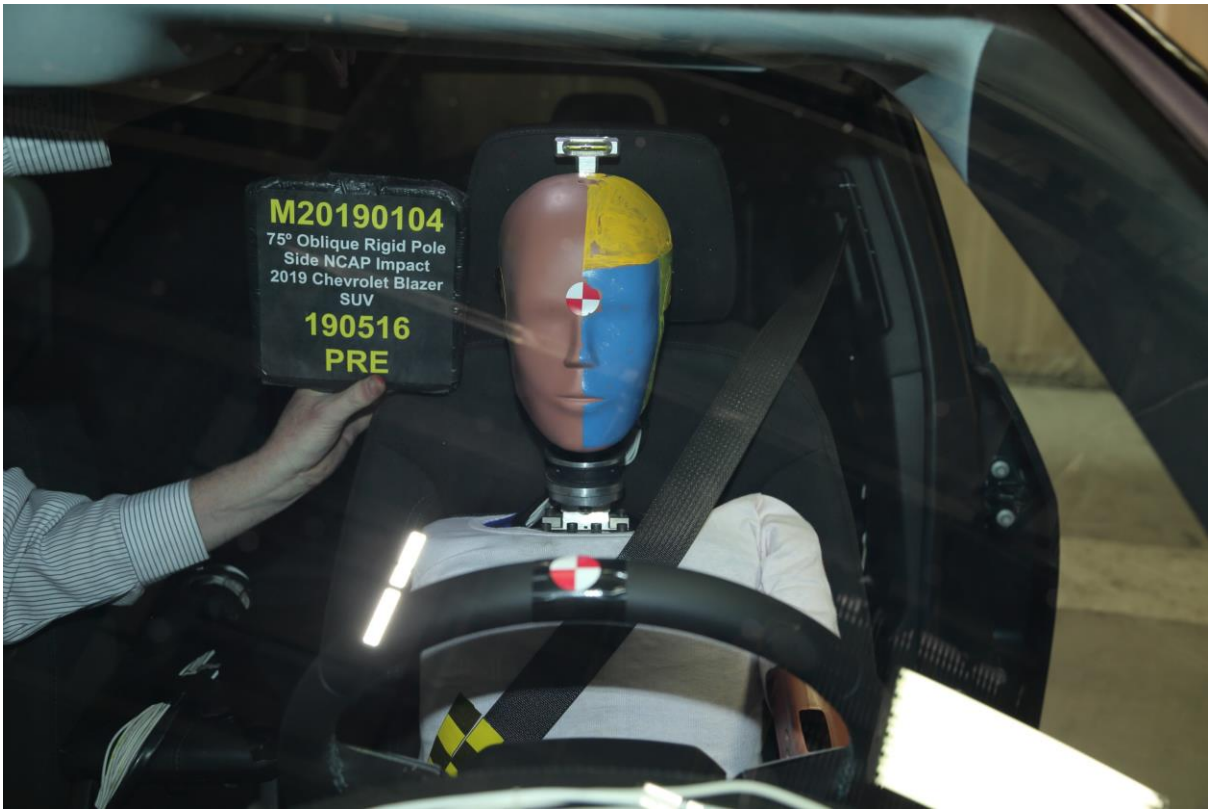
No. 018 Pre-Test Right Side View of Pole Positioned Against Side of Vehicle



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



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



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



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



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

Intentionally Left Blank



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



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



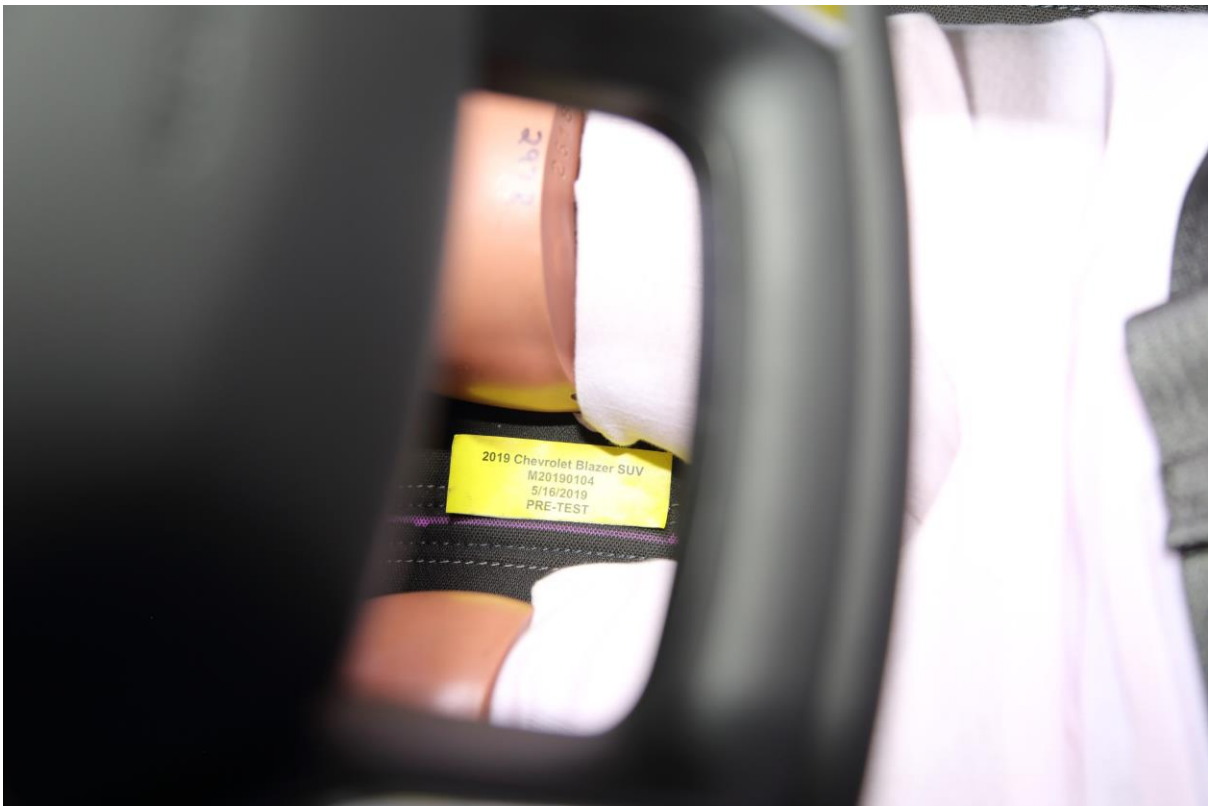
No. 026 Pre-Test Front View of Seat Back Prior to Dummy Positioning



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



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



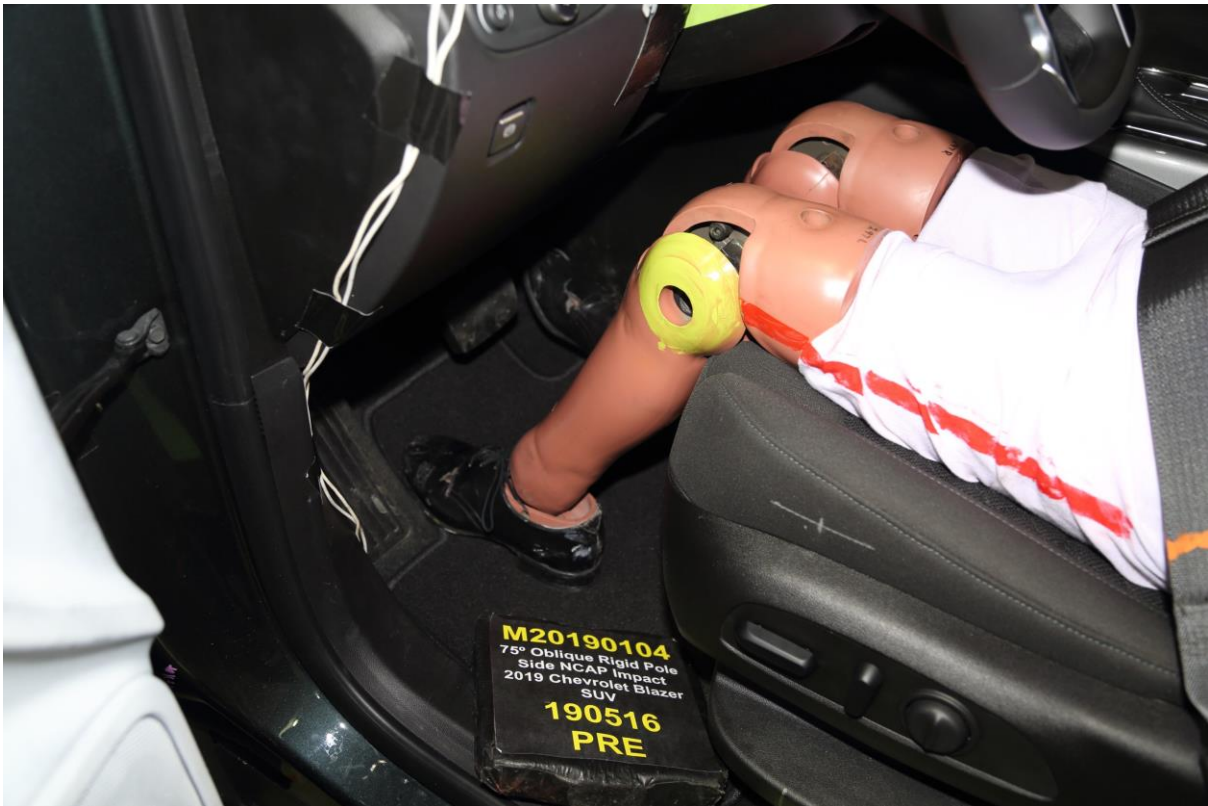
No. 029 Pre-Test Overhead View of Dummy Thighs on Seat Pan



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



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



No. 032 Pre-Test Placement of Dummy Feet



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



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



No. 035 Pre-Test View of Disengaged Parking Brake



No. 036 Pre-Test View of Parking Brake



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



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



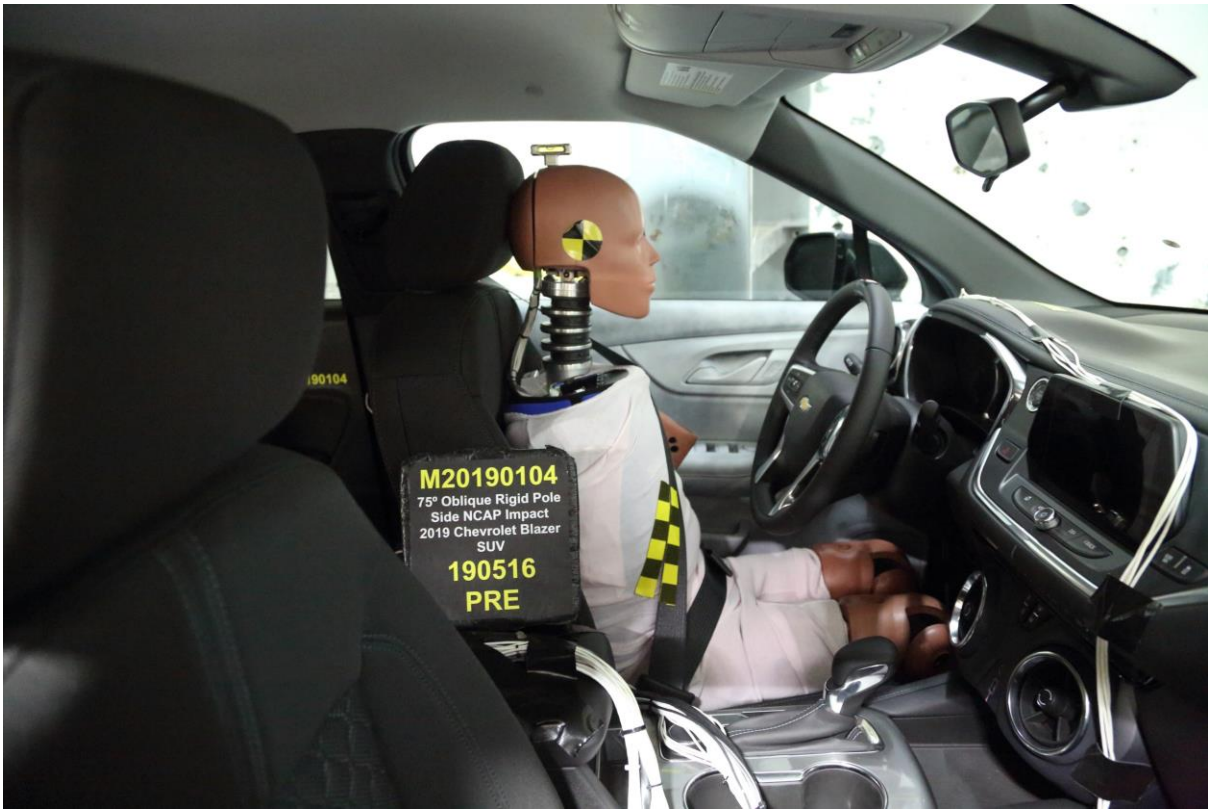
No. 039 Pre-Test Close-Up View of Driver Seat Back or Head Restraint



No. 040 Pre-Test Dummy and Door Clearance View



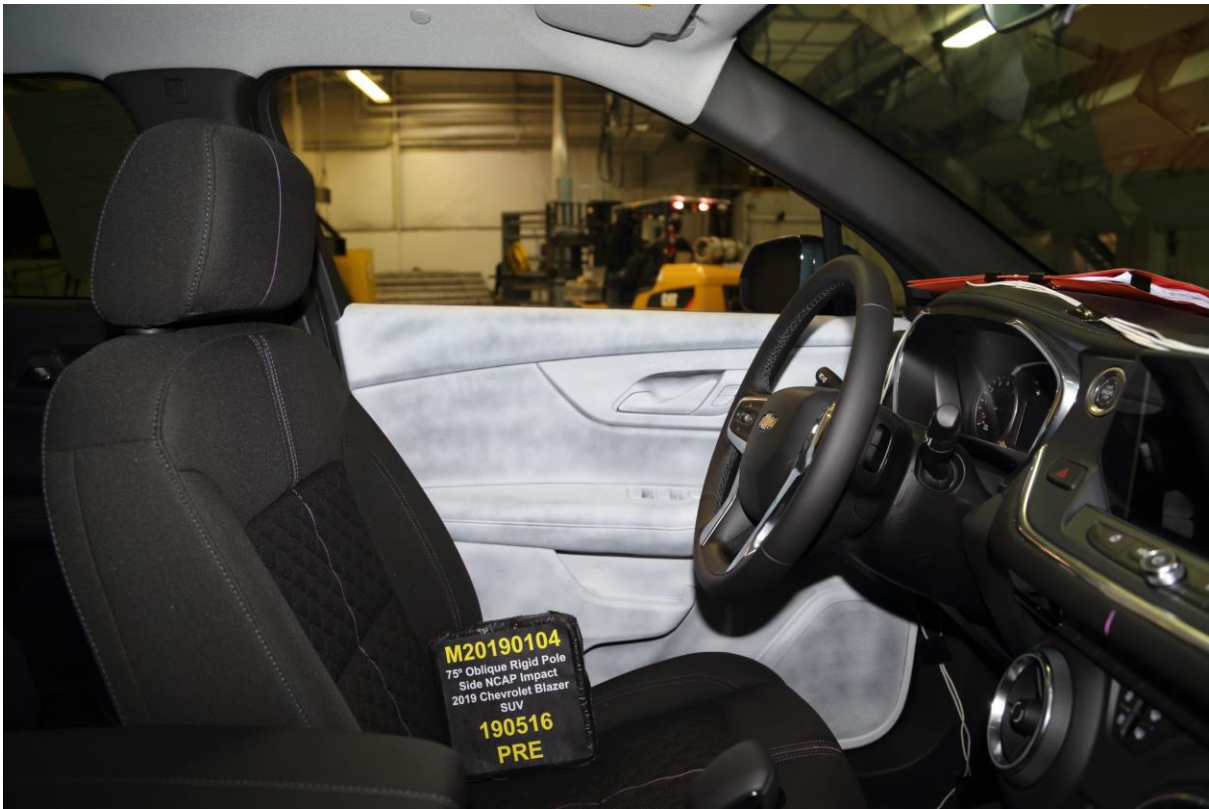
No. 041 Post-Test Dummy and Door Clearance View



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



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



No. 044 Pre-Test Inner Door Panel View



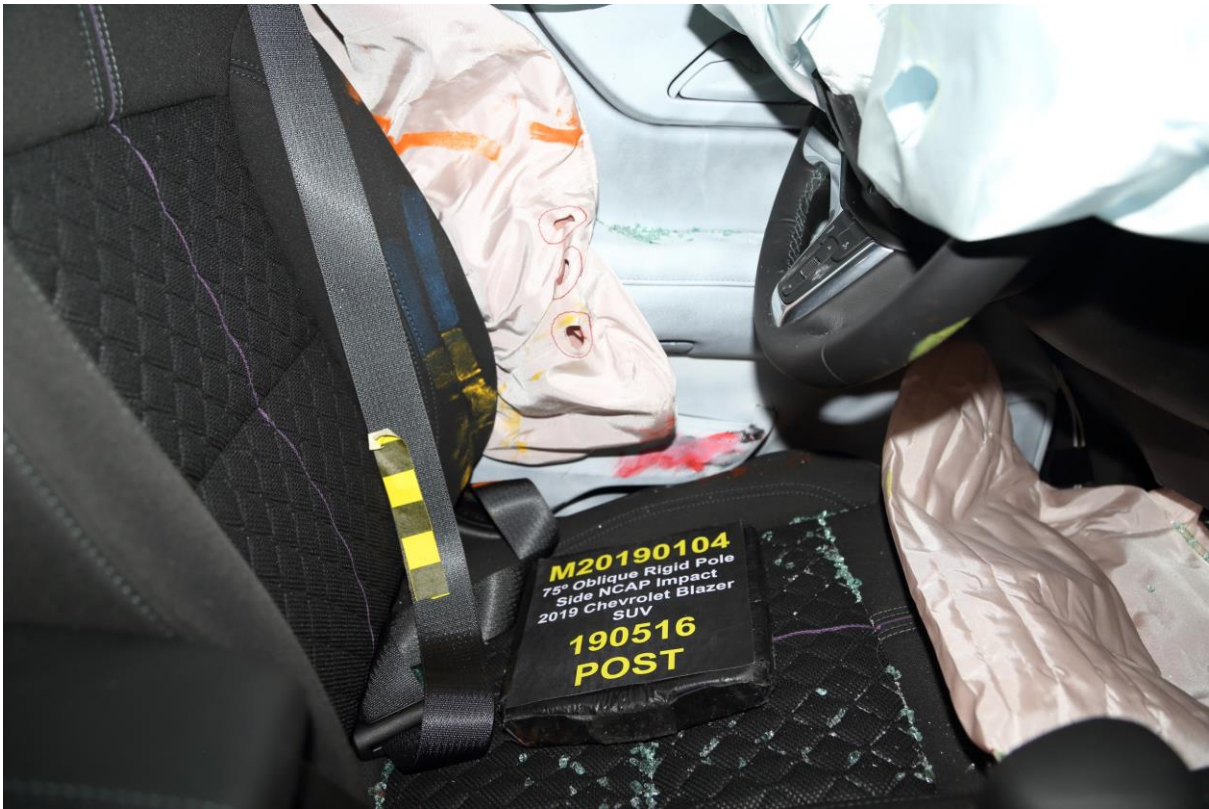
No. 045 Post-Test Inner Door Panel View Showing Dummy Contact Location



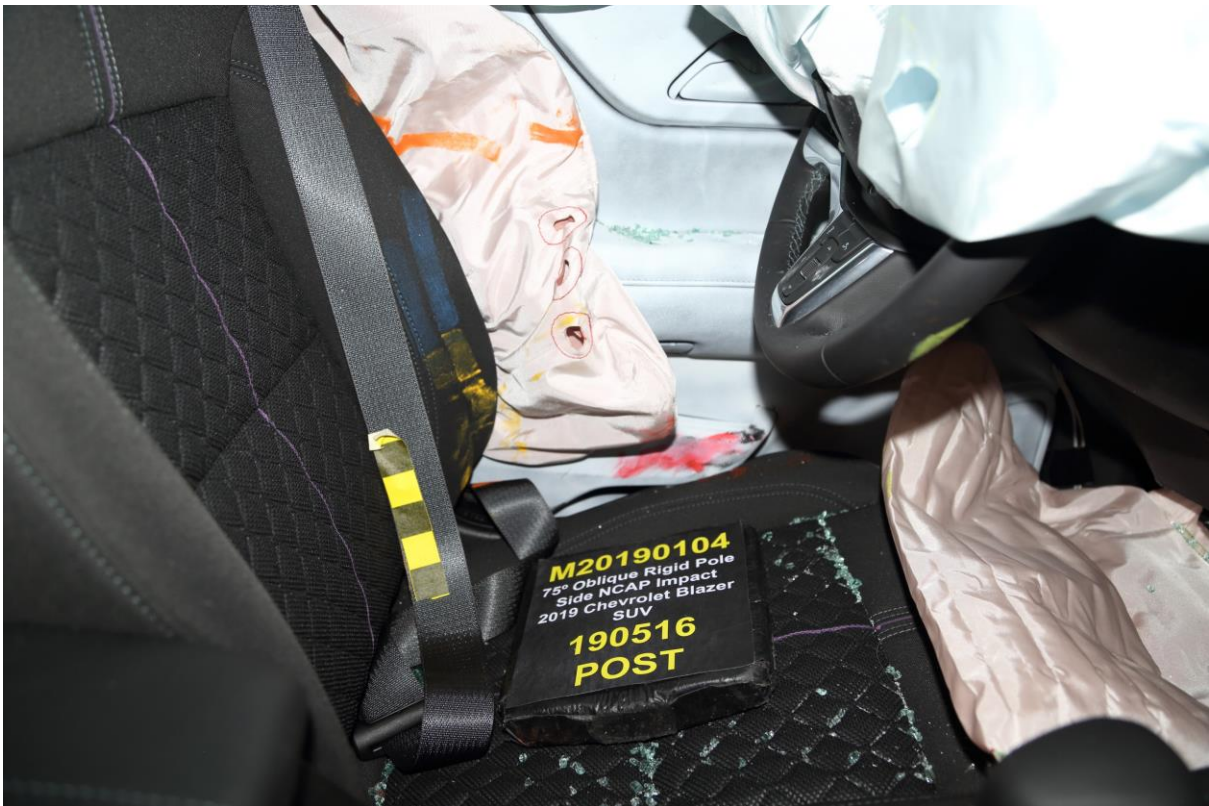
No. 046 Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



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



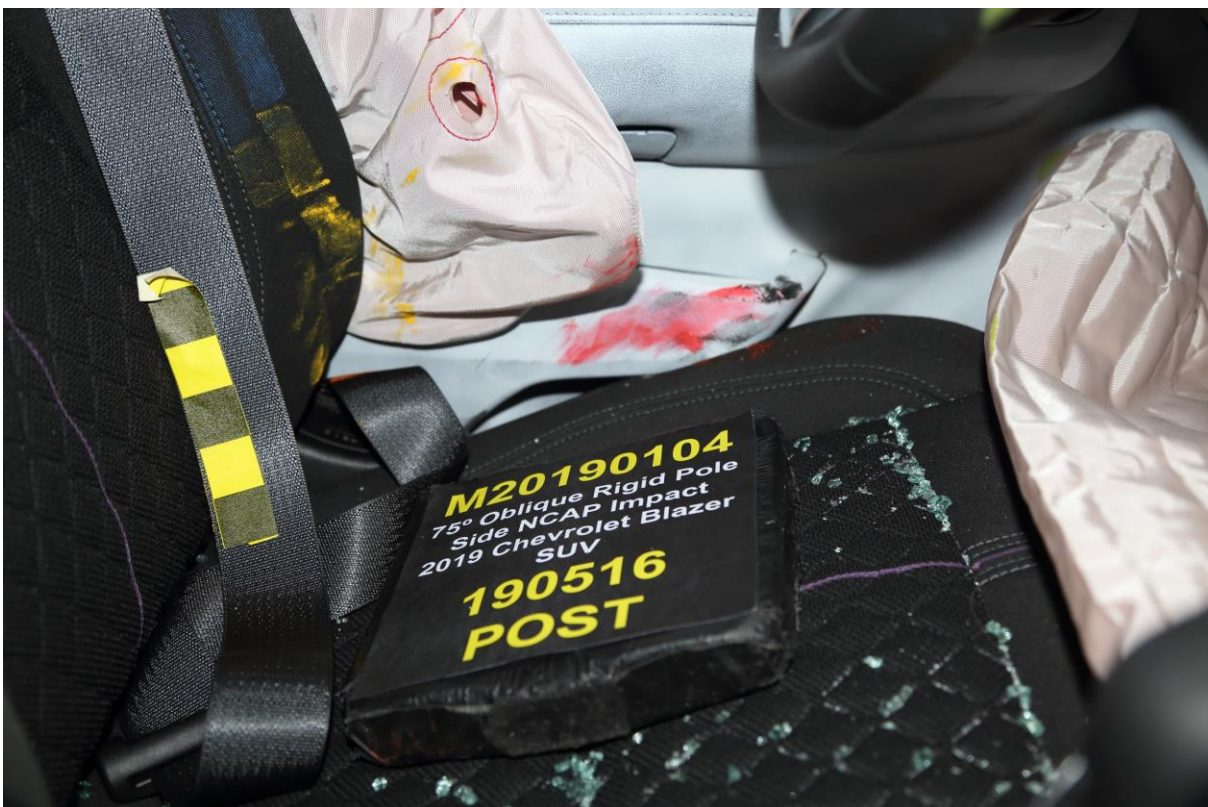
No. 048 Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



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

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



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



No. 055 Close-Up View of Vehicle Certification Label



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



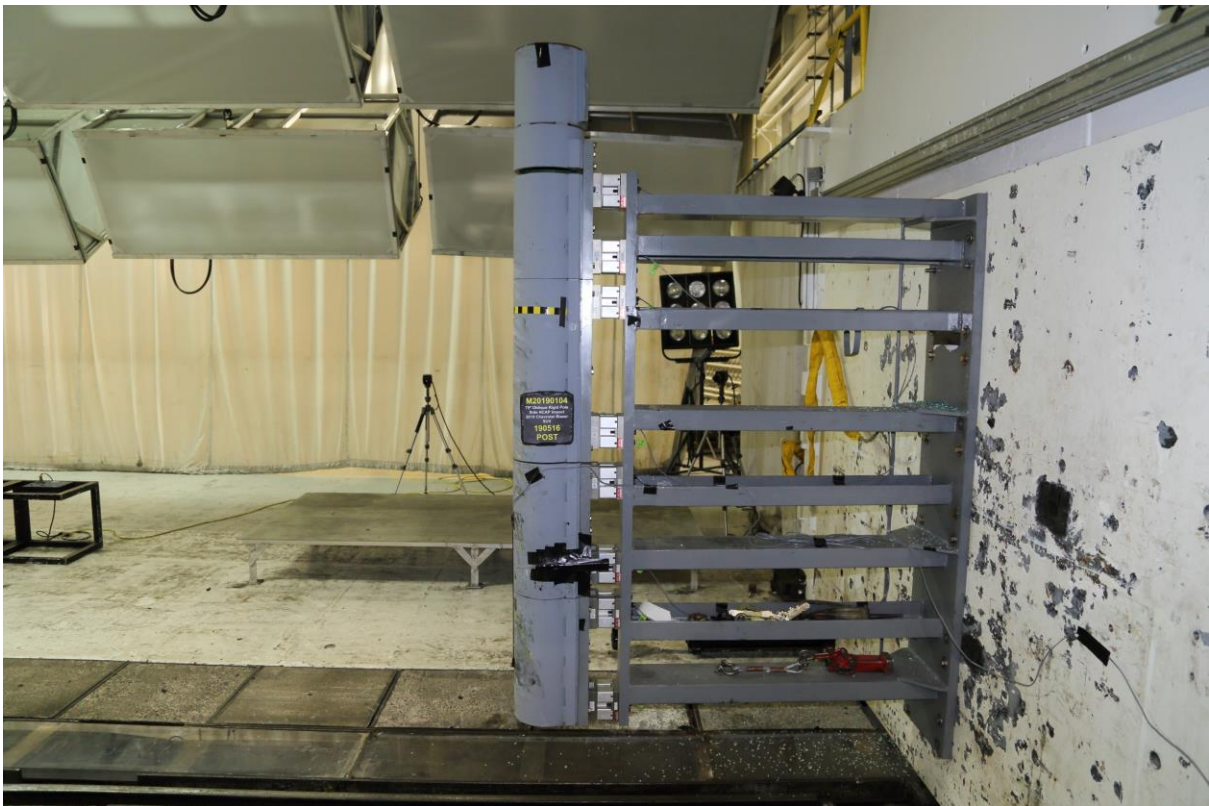
No. 057 Pre-Test Pole Barrier Front View



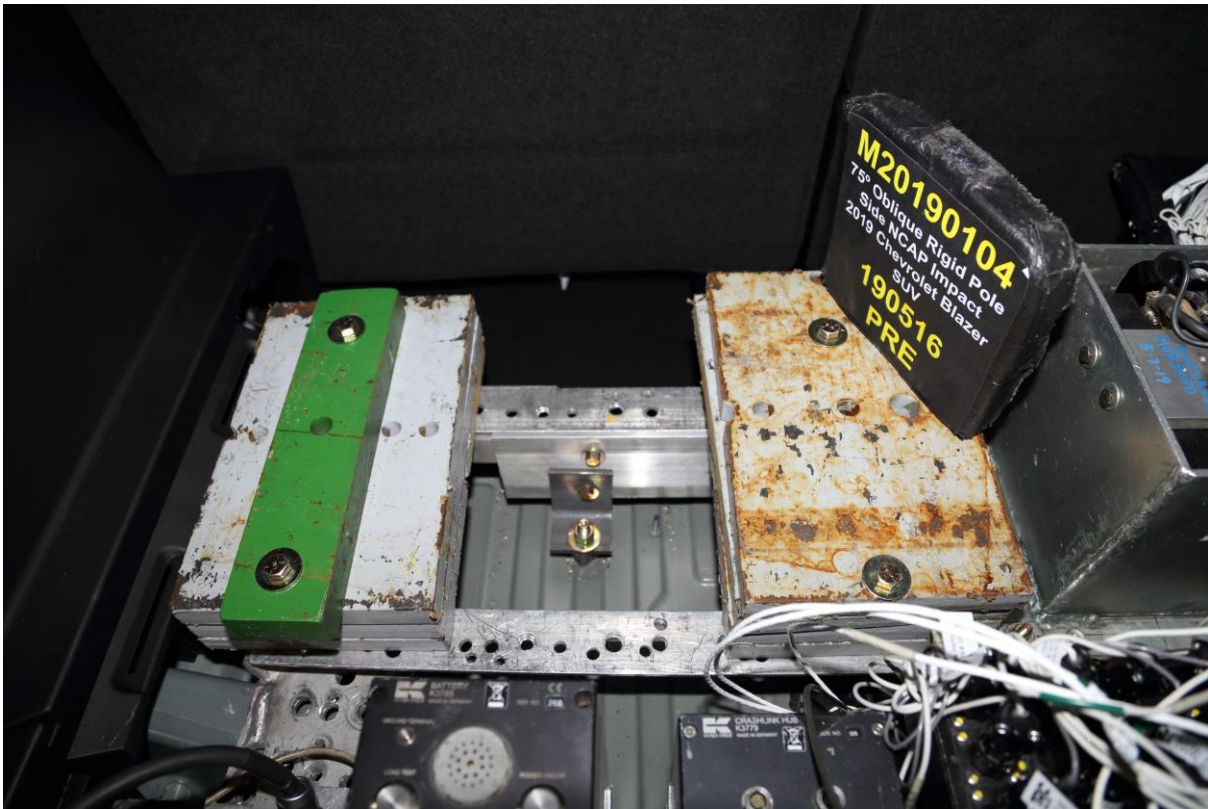
No. 058 Post-Test Pole Barrier Front View



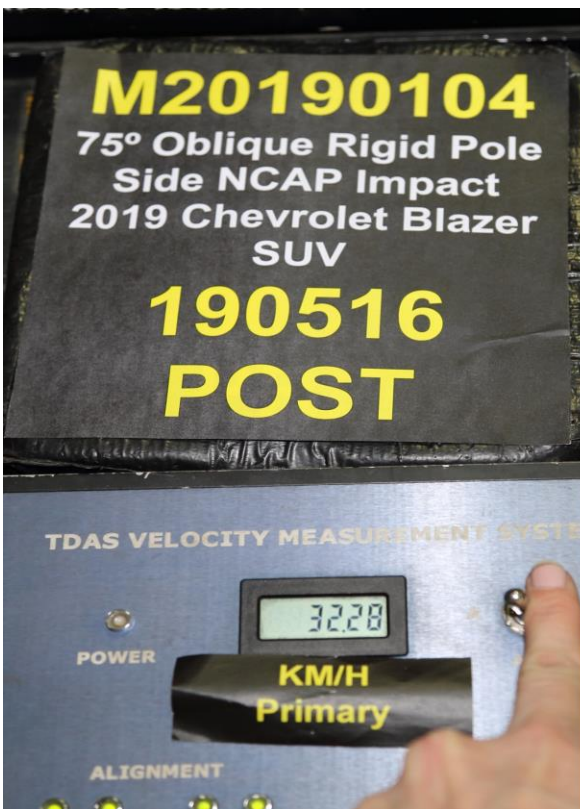
No. 059 Pre-Test Pole Barrier Side View



No. 060 Post-Test Pole Barrier Side View



No. 061 Pre-Test Ballast View



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



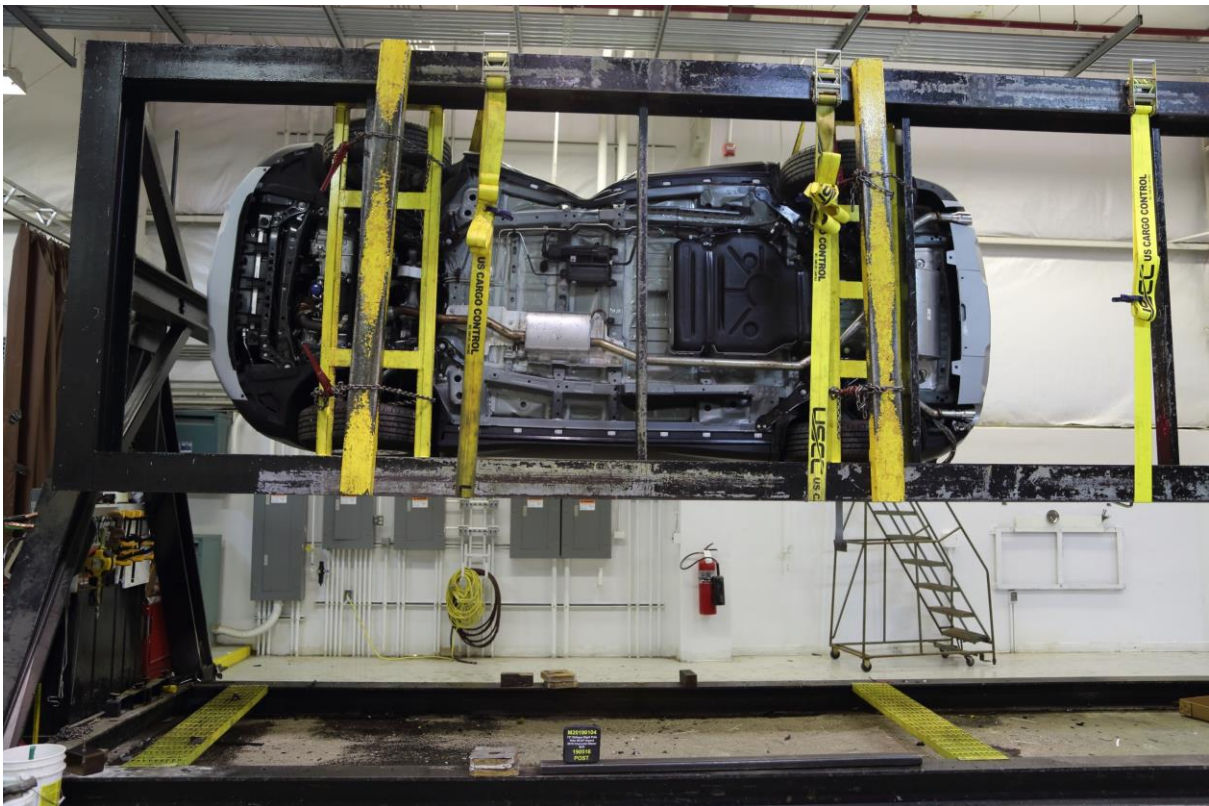
No. 063 FMVSS No. 301 Static Rollover 0 Degrees



No. 064 FMVSS No. 301 Static Rollover 90 Degrees



No. 065 FMVSS No. 301 Static Rollover 180 Degrees



No. 066 FMVSS No. 301 Static Rollover 270 Degrees



No. 067 FMVSS No. 301 Static Rollover 360 Degrees



No. 068 Impact Event



2019 BLAZER CLOTH FWD

**EXTERIOR: GRAPHITE METALLIC
INTERIOR: JET BLACK**

**ENGINE: 2.5L DOHC 4-CYL SIDI
TRANSMISSION: 9-SPD AUTOMATIC**

Visit us at www.chevy.com

<p>STANDARD EQUIPMENT</p> <p><small>ITEMS LISTED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE EXCEPT WHERE SHOWN</small></p> <ul style="list-style-type: none"> CHEVROLET COMPLETE CARE SEE WWW.CHEVY.COM OR DEALER FOR TERMS, DETAILS & LIMITS FIRST MAINTENANCE VISIT OIL CHANGE AND TIRE ROTATION MULTI-POINT VEH. INSPECTION 3 YR/36,000 MILES BUMPER-TO-BUMPER WARRANTY 5 YR/50,000 MILES POWERTRAIN LIMITED WARRANTY ROADSIDE ASSISTANCE COURTESY TRANSPORTATION <p>MECHANICAL</p> <ul style="list-style-type: none"> ENGINE: 2.5L DOHC 4-CYL SIDI W/ VARIABLE VALVE TIMING TRANSMISSION: 9-SPD AUTOMATIC TIRE, COMPACT SPARE <p>SAFETY & SECURITY</p> <ul style="list-style-type: none"> AIRBAGS 	<ul style="list-style-type: none"> ANTILOCK BRAKE SYSTEM, 4 WHEEL DISC TEEN DRIVER KEYLESS OPEN AND START <p>EXTERIOR</p> <ul style="list-style-type: none"> WHEELS, 18" BRIGHT SILVER ALUMINUM HEADLAMPS, HIGH INTENSITY DISCHARGE DAYTIME RUNNING LAMPS, LED GLASS, DEEP TINTED POWER ADJ. OUTSIDE MIRRORS, HEATED <p>INTERIOR</p> <ul style="list-style-type: none"> AIR CONDITIONING, DUAL-ZONE AUTOMATIC CLIMATE CONTROL <p>CONNECTIVITY FEATURES</p> <ul style="list-style-type: none"> ONSTAR® (R) SERVICES CAPABLE (SUBJECT TO TERMS SEE ONSTAR.COM) SIRIUSXM ALL ACCESS + SERVICE 	<p>SUBSCRIPTION SOLD SEPARATELY BY SIRIUSXM AFTER 3 MONTHS</p> <ul style="list-style-type: none"> CHEVROLET INFOTAINMENT 3 8" DIA. COLOR TOUCHSCREEN <p>ADDITIONAL FEATURES FOR COMPATIBLE PHONES INCLUDE:</p> <ul style="list-style-type: none"> BLUETOOTH AUDIO STREAMING, VOICE COMMAND PASSTHROUGH TO PHONE, ANDROID AUTO AND APPLE CARPLAY CAPABLE 4G LTE Wi-Fi (R) HOTSPOT CAPABLE (SUBJECT TO TERMS SEE ONSTAR.COM) <p>OPTIONS & PRICING</p> <p><small>MANUFACTURER'S SUGGESTED RETAIL PRICE</small></p> <p>STANDARD VEHICLE PRICE \$32,300.00</p> <p><small>OPTIONS INSTALLED BY THE MANUFACTURER MAY REPLACE STANDARD EQUIPMENT SHOWN</small></p> <p>FRONT LICENSE PLATE MOUNT 40.00</p>	<p>TOTAL OPTIONS \$40.00</p> <p>TOTAL VEHICLE & OPTIONS \$32,340.00</p> <p>DESTINATION CHARGE 1,195.00</p> <hr/> <p>TOTAL VEHICLE PRICE* \$33,535.00</p>
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EPA DOT Fuel Economy and Environment Gasoline Vehicle

Fuel Economy **24** MPG Small SUV's range from 18 to 37 MPG. The best vehicle rates 136 MPG.

combined city highway
4.2 gallons per 100 miles

You spend \$1,000 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$1,600

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

Smog Rating (tailpipe only) **5**

This vehicle emits 370 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions. Learn more at fuelconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 27 MPG and costs \$7,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.55 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Calculate personalized estimates and compare vehicles

GOVERNMENT 5-STAR SAFETY RATINGS

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: 54%
MAJOR SOURCES OF FOREIGN PARTS CONTENT: MEXICO 22%

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

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT: RAMOS ARIZPE, CZ MEXICO
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 and does not include taxes or license fees.

ORDER NO. 89293C SALES CODE P
SALES MODEL CODE IN30N
SALES NO. 11086
FINAL ASSEMBLY P
RAMOS ARIZPE, CZ MEXICO
VIN 3GNKBBRA1K568786 REISSUE
DEALER TO WHOM DELIVERED
HARVARD CHEVROLET-BUICK-GMC, LLC
333 S DIVISION ST
HARVARD, IL 60033-3258

No. 069 Monroney Label

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Head Restraints

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

Warning

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

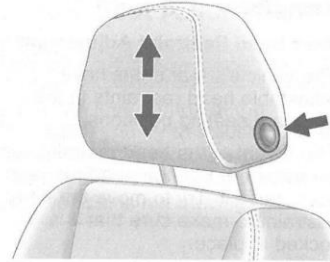
If your vehicle has rear head restraints that fold down, always return them to the full upright position whenever an occupant is seated in the seat.



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.

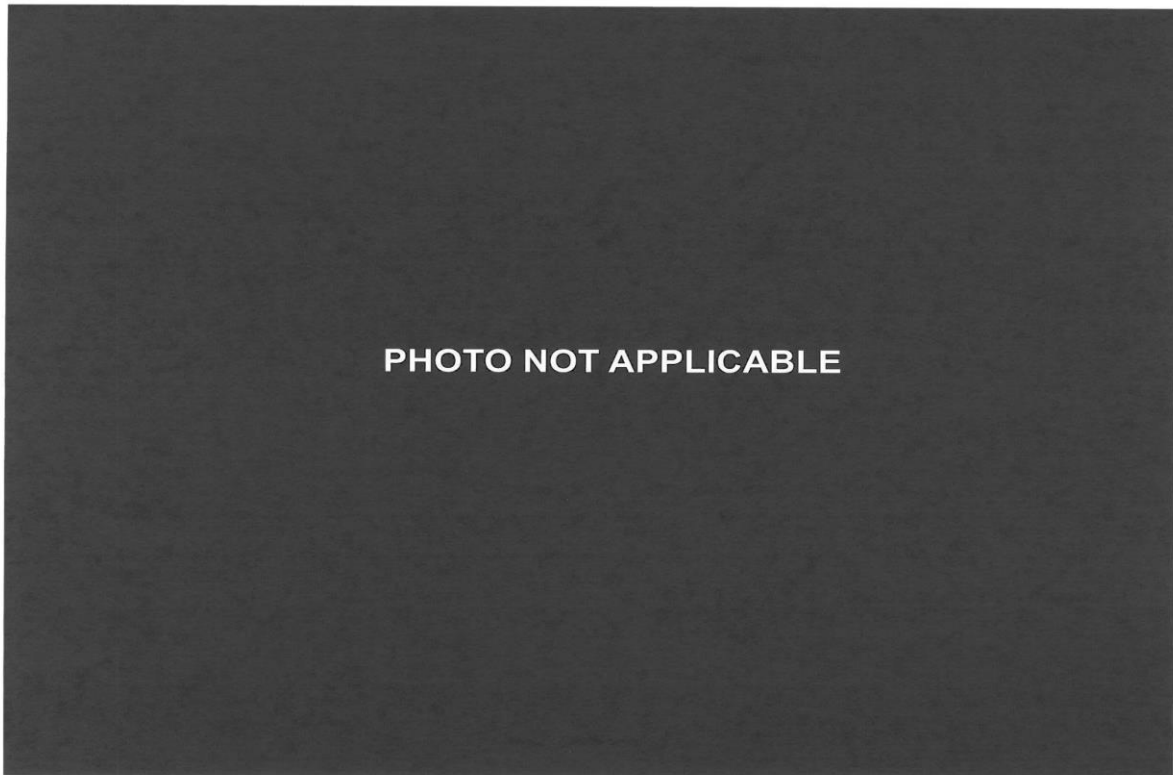


The height of the head restraint can be adjusted.

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.

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



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

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS

No.	Description	Page
1	Driver Head Acceleration (X) vs. Time	B-4
2	Driver Head Acceleration (Y) vs. Time	B-4
3	Driver Head Acceleration (Z) vs. Time	B-4
4	Driver Head Acceleration Resultant vs. Time	B-4
5	Driver Lower Spine T12 Acceleration (X) vs. Time	B-5
6	Driver Lower Spine T12 Acceleration (Y) vs. Time	B-5
7	Driver Lower Spine T12 Acceleration (Z) vs. Time	B-5
8	Driver Lower Spine T12 Acceleration Resultant vs. Time	B-5
9	Driver Iliac Wing Force on Impact Side (Y) vs. Time	B-6
10	Driver Acetabulum Force on Impact Side (Y) vs. Time	B-6
11	Driver Total Pelvis Force on Impact Side (Y) vs. Time	B-6

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

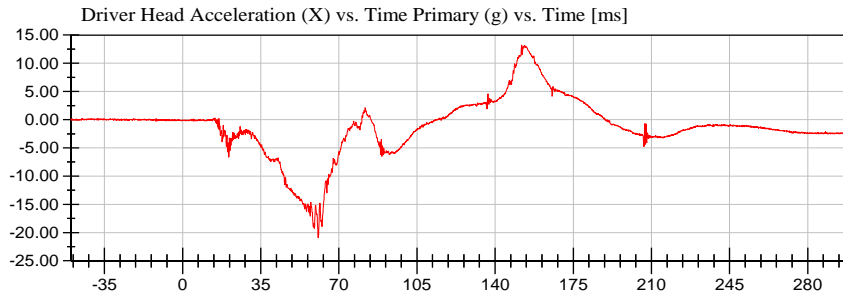
Load Cell Pole Barrier #1 Force (X)
Load Cell Pole Barrier #2 Force (X)
Load Cell Pole Barrier #3 Force (X)
Load Cell Pole Barrier #4 Force (X)
Load Cell Pole Barrier #5 Force (X)
Load Cell Pole Barrier #6 Force (X)
Load Cell Pole Barrier #7 Force (X)
Load Cell Pole Barrier #8 Force (X)

NHTSA

Test Lab: CTF
Test Number: 190516 (M20190104)

Position #1 SID IIs Dummy (297)

Test Date: 05/16/2019



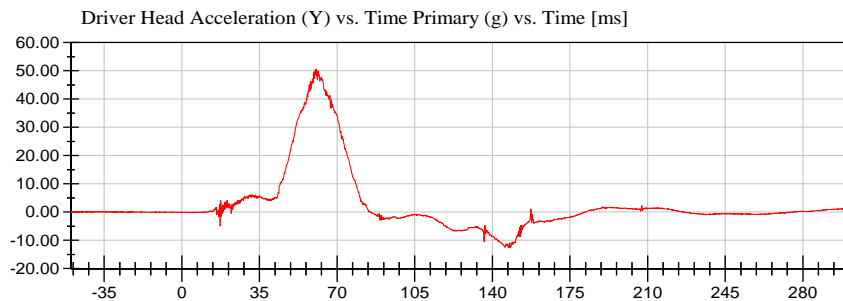
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13.22 g at 151.84 ms

<Min>

-20.92 g at 60.80 ms

CFC_1000



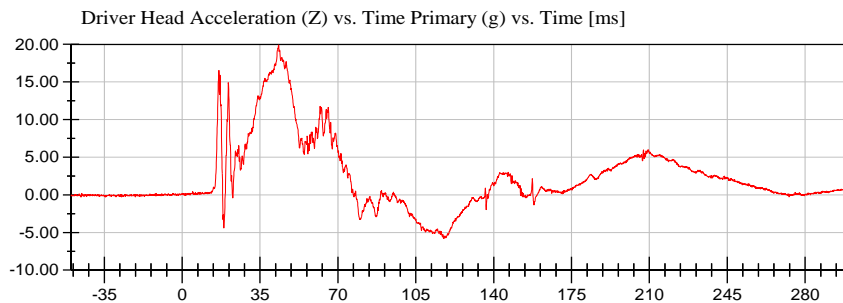
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50.64 g at 60.56 ms

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-12.70 g at 147.52 ms

CFC_1000



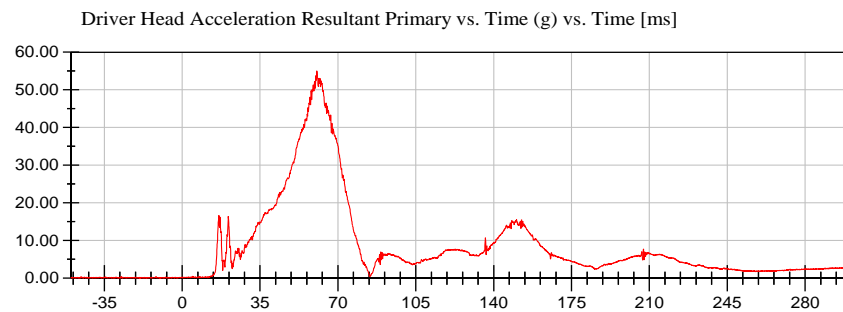
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19.90 g at 43.36 ms

<Min>

-5.79 g at 117.60 ms

CFC_1000



<Max>

55.04 g at 60.56 ms

<Min>

0.02 g at -48.08 ms

CFC_1000

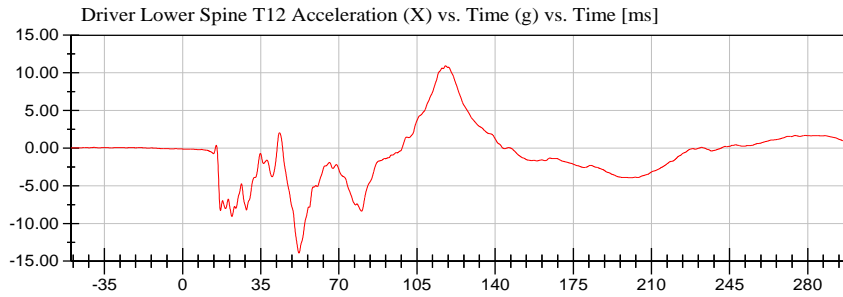


NHTSA

Test Lab: CTF
Test Number: 190516 (M20190104)

Position #1 SID IIs Dummy (297)

Test Date: 05/16/2019



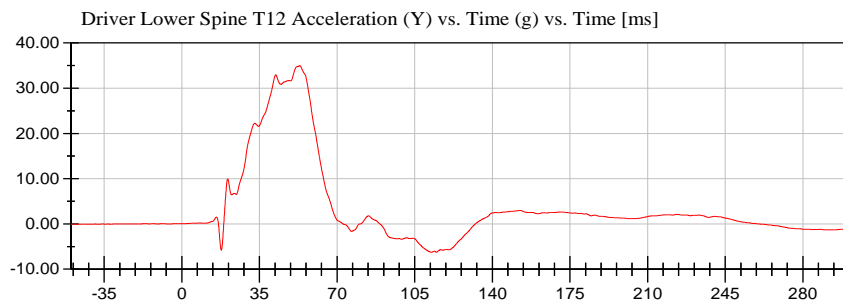
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10.93 g at 117.76 ms

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-13.94 g at 52.16 ms

CFC_180



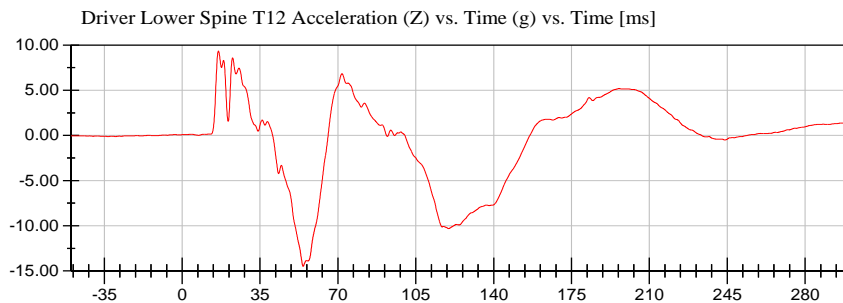
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34.98 g at 53.20 ms

<Min>

-6.27 g at 112.64 ms

CFC_180



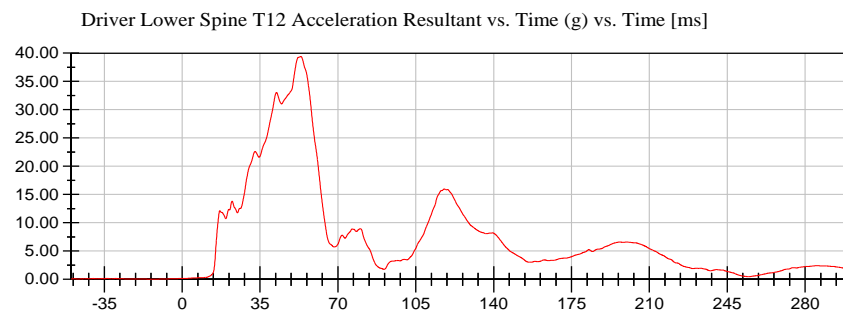
<Max>

9.33 g at 16.32 ms

<Min>

-14.49 g at 54.40 ms

CFC_180



<Max>

39.41 g at 53.36 ms

<Min>

0.01 g at -14.88 ms

CFC_180



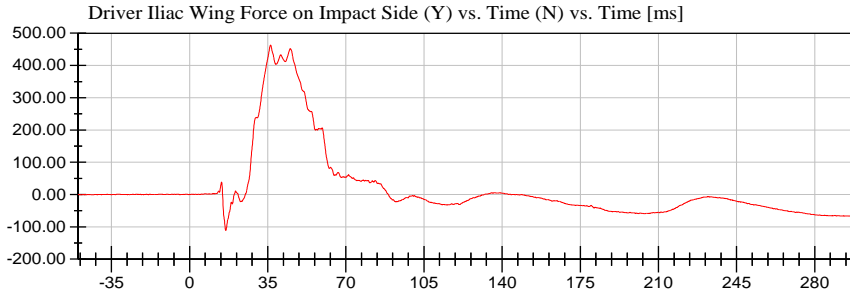
NHTSA

Position #1 SID IIs Dummy (297)

Test Date: 05/16/2019

Test Lab: CTF

Test Number: 190516 (M20190104)



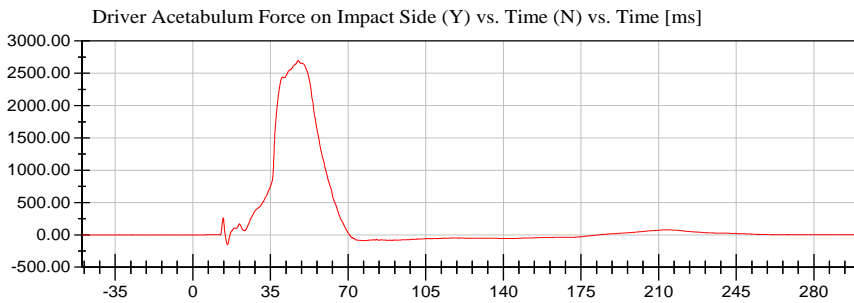
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463.08 N at 36.32 ms

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-111.51 N at 16.24 ms

CFC_600



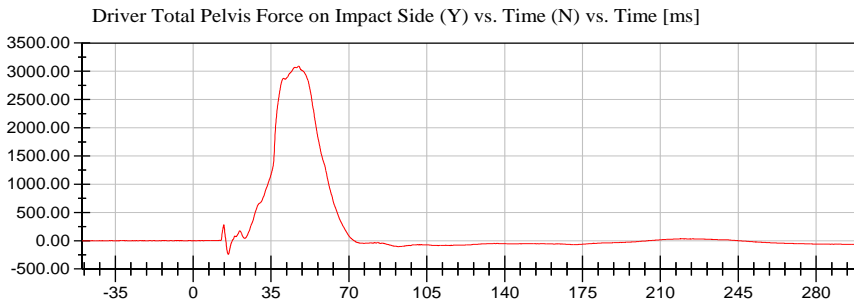
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2,697.93 N at 47.60 ms

<Min>

-151.79 N at 15.68 ms

CFC_600



<Max>

3,090.12 N at 47.44 ms

<Min>

-239.32 N at 15.84 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. 35

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	780	Yes
B	Shoulder Pivot Height	437.0 - 453.0	451	Yes
C	H-Point Height	79.0 - 89.0	85	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	103	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	221	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	878	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. 35-1
Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	132.9 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	1.6 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	Yes	Yes	Yes

Test meets specifications.

Condition: Used

Comments:

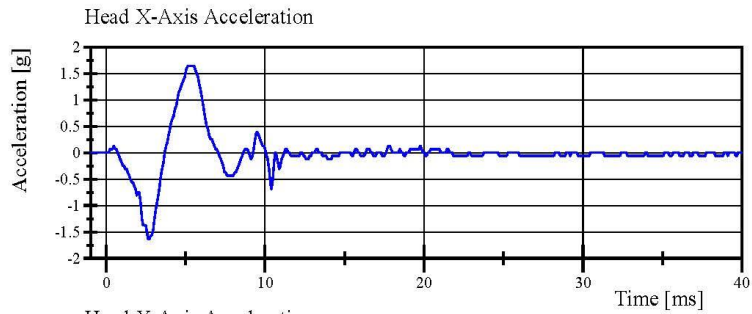
Head S/N: 1330

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIS Serial No. 297 Certification No. 35-1

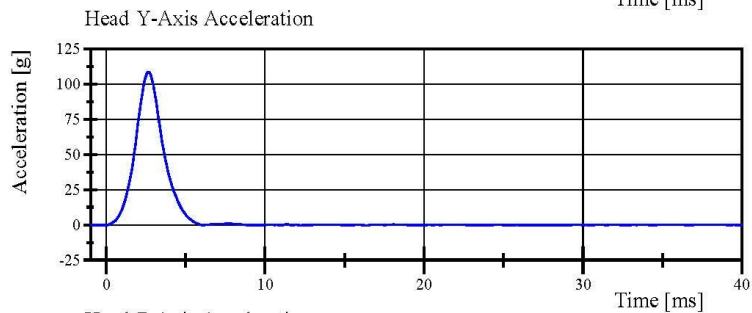
Test Date: 5/13/2019



Filter Class: CFC_1000

Max: 1.6 g at 5.1 ms

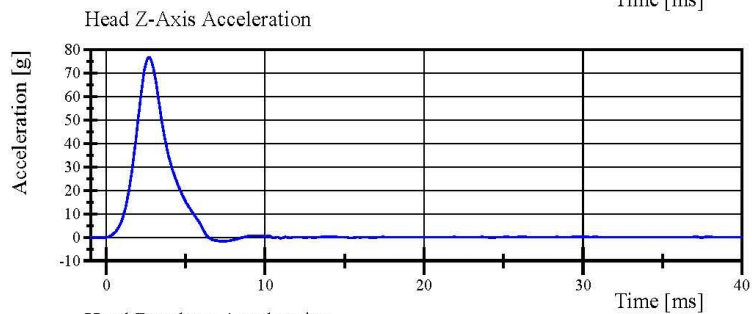
Min: -1.6 g at 2.6 ms



Filter Class: CFC_1000

Max: 108.6 g at 2.6 ms

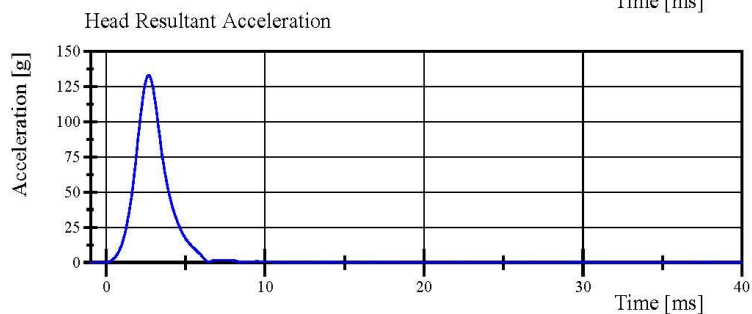
Min: -0.4 g at 16.3 ms



Filter Class: CFC_1000

Max: 76.7 g at 2.7 ms

Min: -1.7 g at 7.3 ms



Filter Class: CFC_1000

Max: 132.9 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

05.13.2019 12:53:48 197



Transportation Research Center Inc.

Left Lateral Neck

SID IIS Serial No. 297 Certification No. 35-1

Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.605 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.317 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.478 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.722 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.665 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.987 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-74.6 deg	Yes
Time of Peak	50 - 70 ms	69.0 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	39.9 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	102 - 126 ms	124.3 ms	Yes

Test meets specifications.

Condition: Used

Comments:

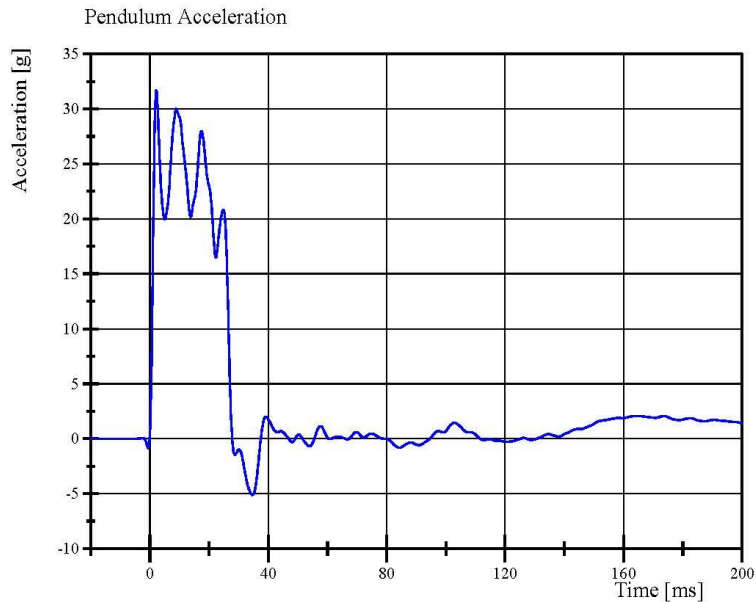
Neck S/N: 779

Transportation Research Center Inc.

Left Lateral Neck

SID IIS Serial No. 297 Certification No. 35-1

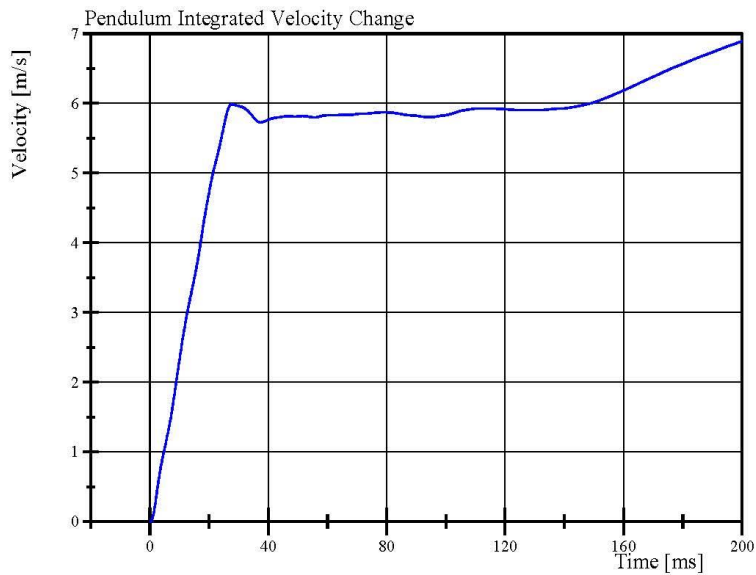
Test Date: 5/13/2019



Filter Class: CFC_180

Max: 31.7 g at 2.2 ms

Min: -5.1 g at 34.6 ms



Filter Class: CFC_180

Max: 6.9 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

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

05.13.2019 12:55:19 714

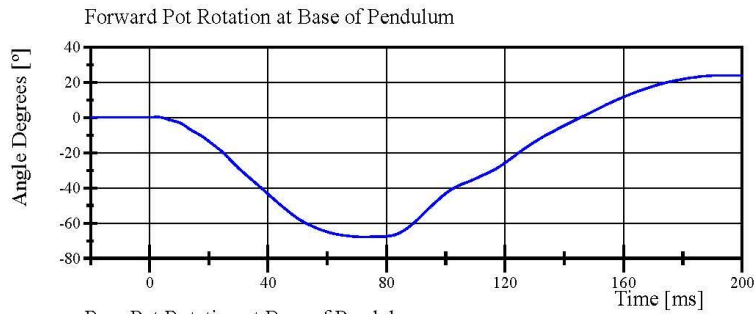


Transportation Research Center Inc.

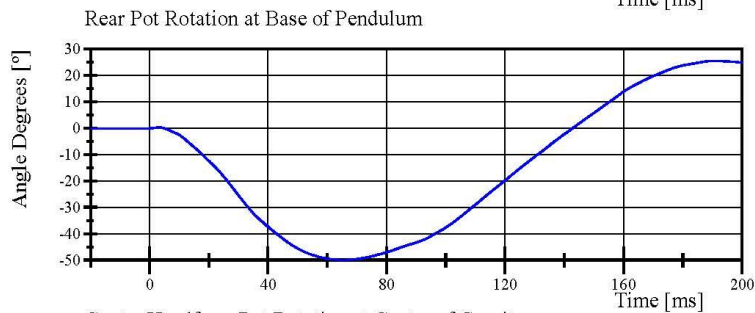
Left Lateral Neck

SID IIs Serial No. 297 Certification No. 35-1

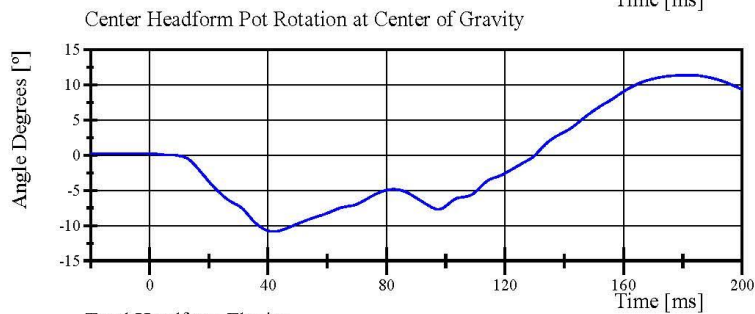
Test Date: 5/13/2019



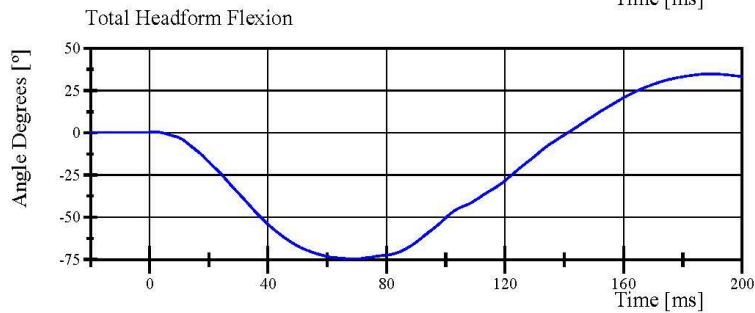
Filter Class: CFC_60
Max: 24.0 ° at 195.7 ms
Min: -67.7 ° at 72.0 ms



Filter Class: CFC_60
Max: 25.5 ° at 190.6 ms
Min: -49.9 ° at 65.3 ms



Filter Class: CFC_60
Max: 11.4 ° at 182.5 ms
Min: -10.8 ° at 41.8 ms



Filter Class: CFC_60
Max: 34.9 ° at 189.3 ms
Min: -74.6 ° at 69.0 ms

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

05.13.2019 12:55:20 714

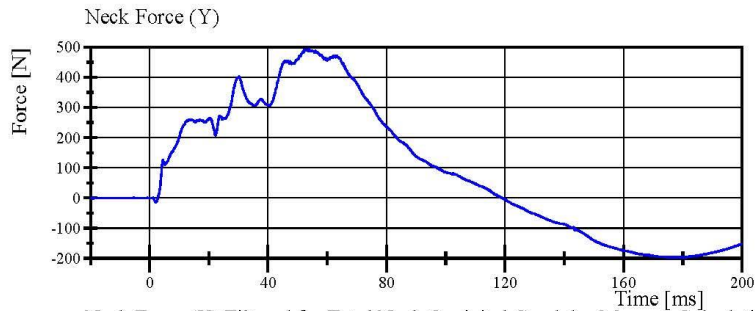


Transportation Research Center Inc.

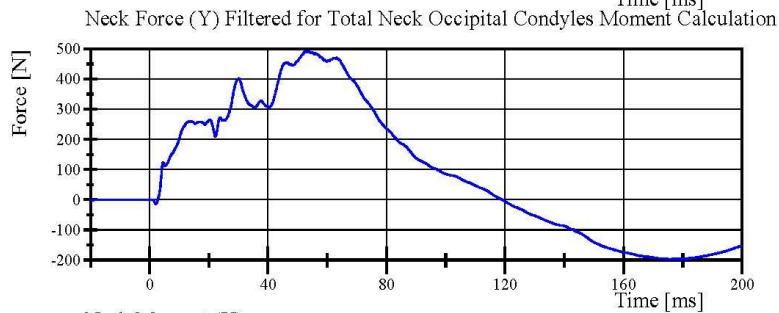
Left Lateral Neck

SID IIS Serial No. 297 Certification No. 35-1

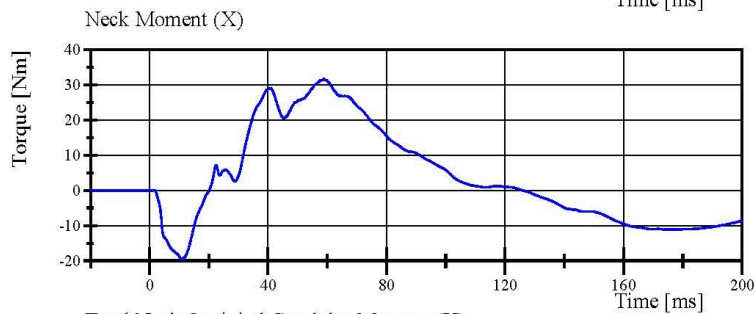
Test Date: 5/13/2019



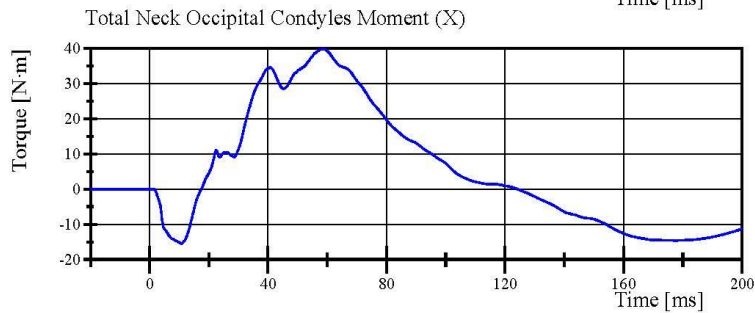
Filter Class: CFC_1000
Max: 493.6 N at 53.8 ms
Min: -196.8 N at 176.2 ms



Filter Class: CFC_600
Max: 491.7 N at 53.8 ms
Min: -196.6 N at 176.2 ms



Filter Class: CFC_600
Max: 31.7 Nm at 58.8 ms
Min: -19.5 Nm at 11.0 ms



Filter Class: Without_(Consta
Max: 39.9 N.m at 58.8 ms
Min: -15.4 N.m at 10.7 ms

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

05.13.2019 12:55:20 714



Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.1 g	Yes
Shoulder Displacement	28 - 37 mm	30.1 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.1 g	Yes

Test meets specifications.

Condition: Used

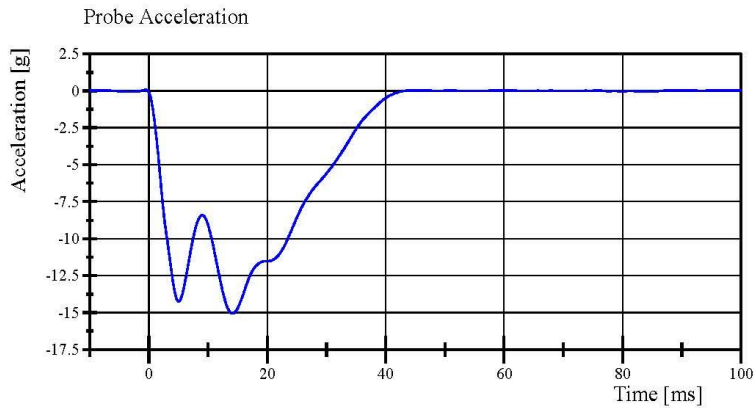
Comments:

Left Arm S/N: 940L

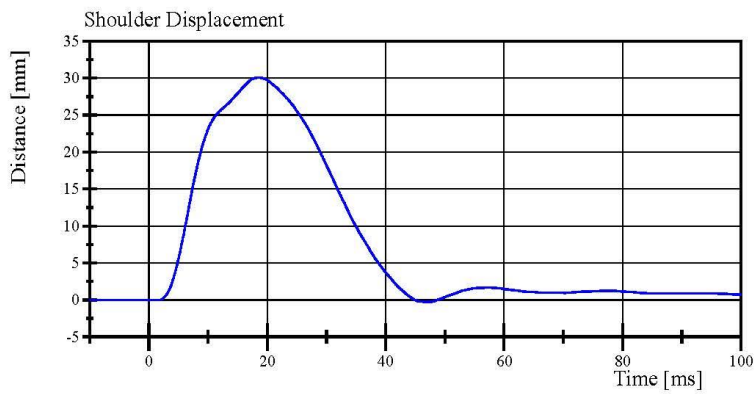
Shoulder Rib S/N: 180-3355 259

Transportation Research Center Inc.

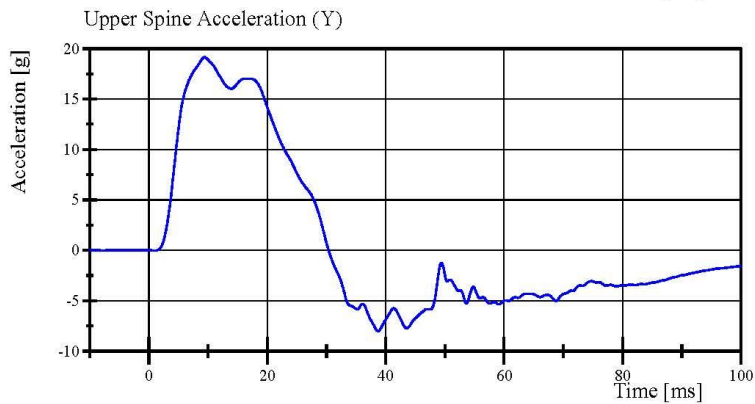
Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019



Filter Class: CFC_180
Max: 0.1 g at -0.6 ms
Min: -15.1 g at 14.1 ms



Filter Class: CFC_600
Max: 30.1 mm at 18.6 ms
Min: -0.2 mm at 47.5 ms



Filter Class: CFC_180
Max: 19.1 g at 9.4 ms
Min: -8.0 g at 38.7 ms

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

05.13.2019 14:22:42 823



Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.720 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.2 g	Yes
Shoulder Displacement	31 - 40 mm	33.5 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.3 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.9 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	36.4 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	37.3 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	34.6 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: 2009

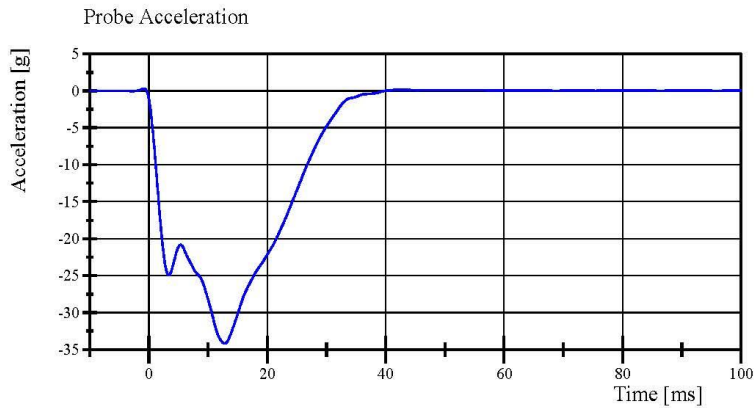
Middle Thorax Rib #2 S/N: 2010

Lower Thorax Rib #3 S/N: 2029

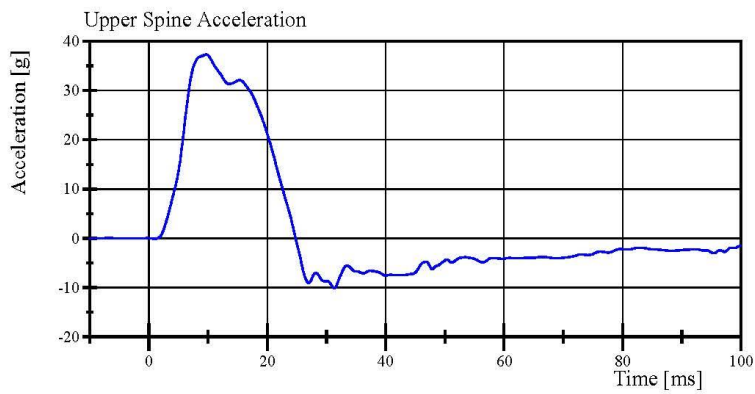
Upper Thorax Pad Part No: 180-3451-297

Transportation Research Center Inc.

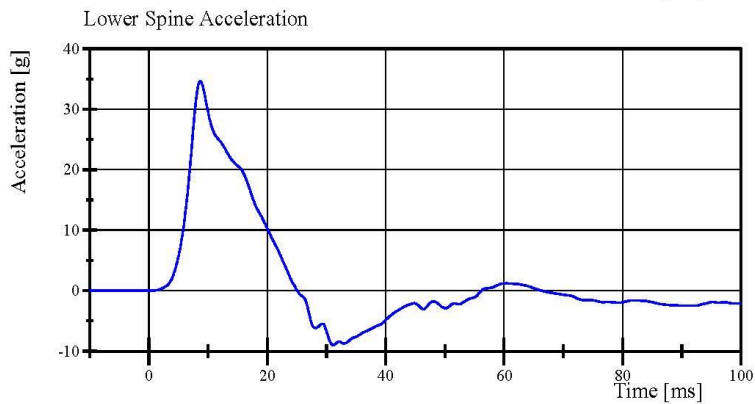
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019



Filter Class: CFC_180
Max: 0.3 g at -0.9 ms
Min: -34.2 g at 12.8 ms



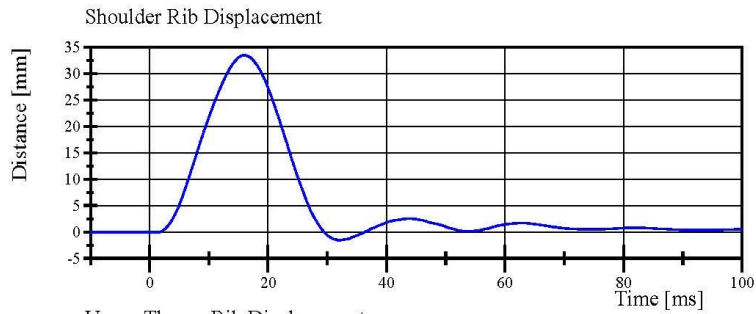
Filter Class: CFC_180
Max: 37.3 g at 9.7 ms
Min: -10.1 g at 31.4 ms



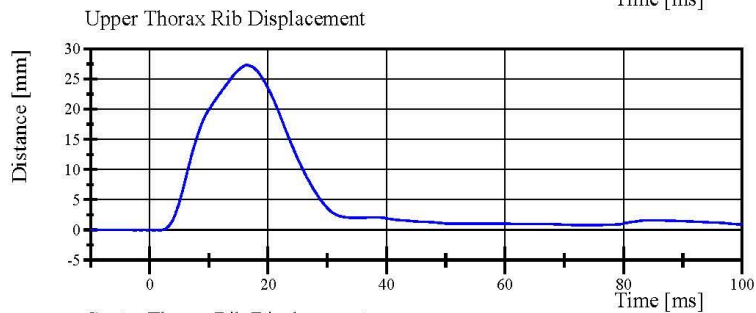
Filter Class: CFC_180
Max: 34.6 g at 8.7 ms
Min: -9.0 g at 31.1 ms

Transportation Research Center Inc.

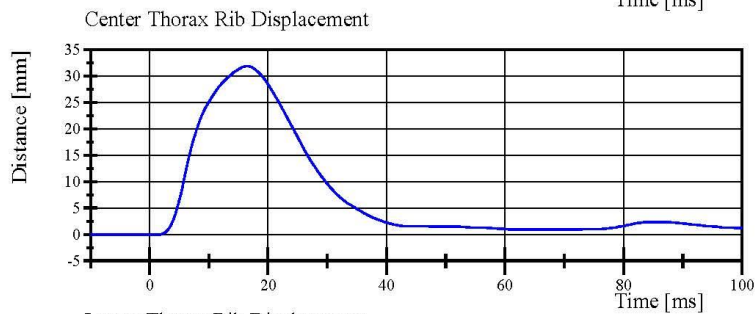
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019



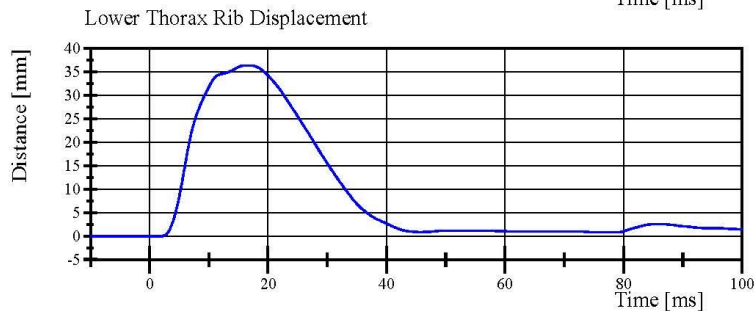
Filter Class: CFC_600
Max: 33.5 mm at 16.0 ms
Min: -1.5 mm at 32.0 ms



Filter Class: CFC_600
Max: 27.3 mm at 16.4 ms
Min: -0.0 mm at 1.9 ms



Filter Class: CFC_600
Max: 31.9 mm at 16.4 ms
Min: -0.0 mm at 1.4 ms



Filter Class: CFC_600
Max: 36.4 mm at 16.5 ms
Min: -0.0 mm at 1.9 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 without Arm
SID IIS Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.328 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.9 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	32.4 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	40.6 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	42.0 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.3 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	10.5 g	Yes

Test meets specifications.

Condition: Used

Comments:

Upper Thorax Rib #1 S/N: 2009

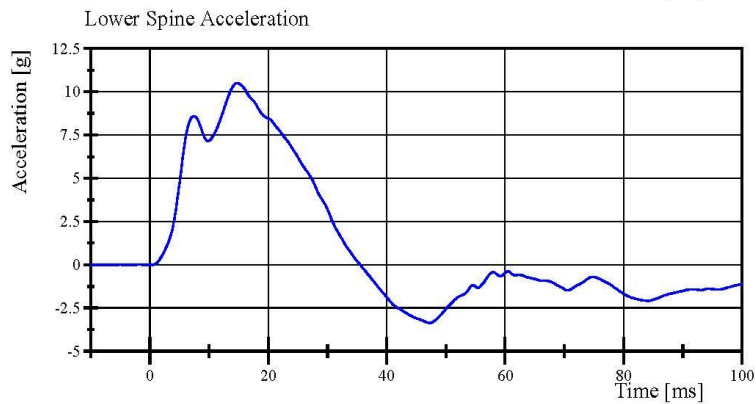
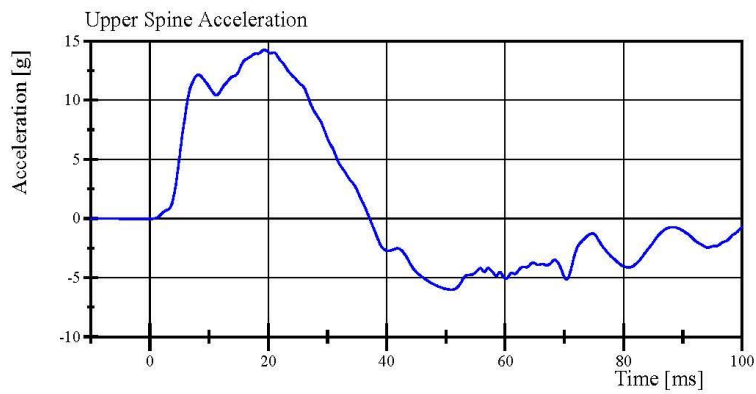
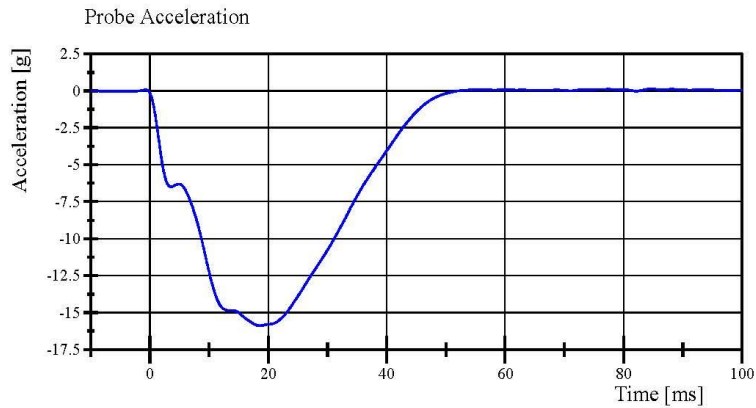
Middle Thorax Rib #2 S/N: 2010

Lower Thorax Rib #3 S/N: 2029

Upper Thorax Pad Part No: 180-3451-297

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019



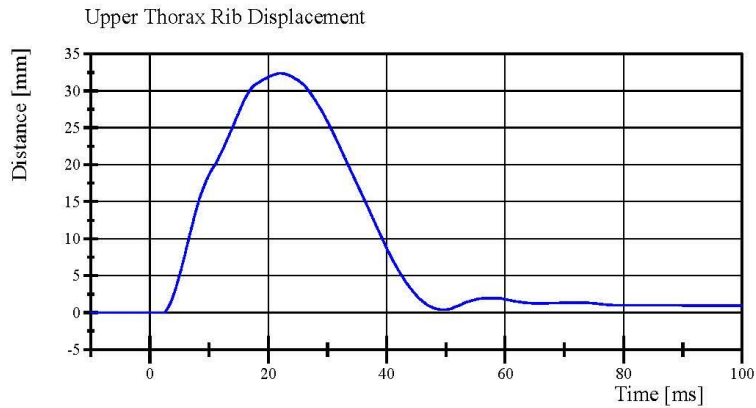
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.13.2019 13:00:20 856

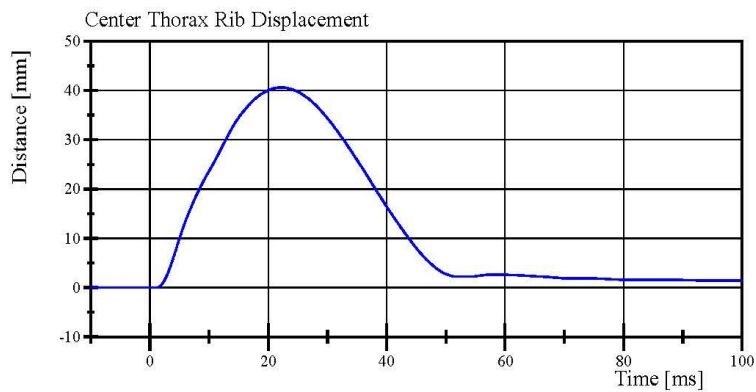


Transportation Research Center Inc.

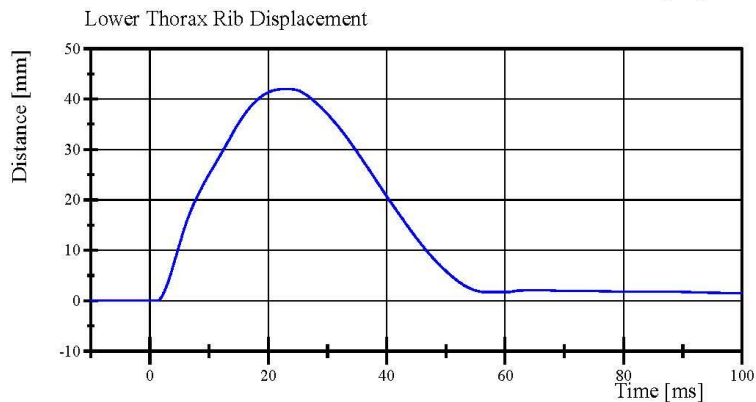
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019



Filter Class: CFC_600
Max: 32.4 mm at 21.9 ms
Min: -0.0 mm at 2.2 ms



Filter Class: CFC_600
Max: 40.6 mm at 22.2 ms
Min: -0.0 mm at 1.0 ms



Filter Class: CFC_600
Max: 42.0 mm at 23.3 ms
Min: -0.0 mm at 1.1 ms

Transportation Research Center Inc.

Left Lateral Abdomen
SID IIS Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.33 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.6 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	38.0 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	38.3 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	11.19 g	Yes

Test meets specifications.

Condition: Used

Comments:

Upper Abdominal Rib S/N: DS1235

Lower Abdominal Rib S/N: DS1236

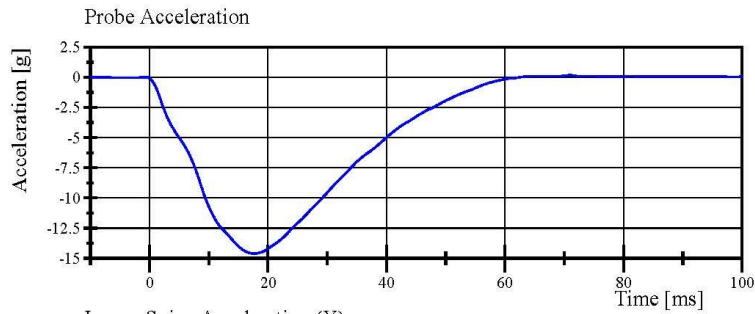
Lower Abdomen Pad Part No: 180-3455-297

Transportation Research Center Inc.

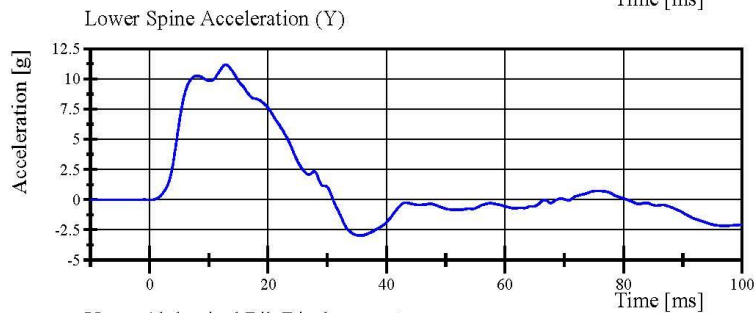
Left Lateral Abdomen

SID IIS Serial No. 297 Certification No. 35-1

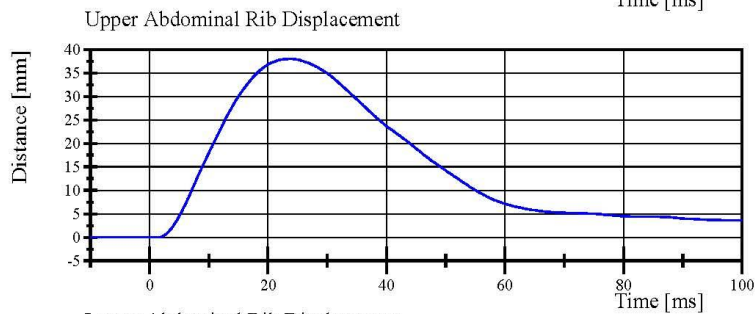
Test Date: 5/13/2019



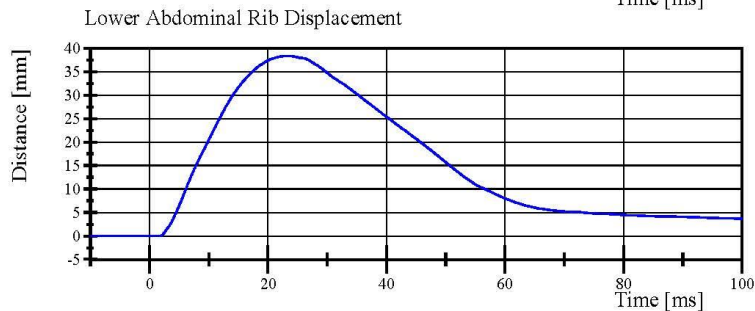
Filter Class: CFC_180
Max: 0.2 g at 71.0 ms
Min: -14.6 g at 17.7 ms



Filter Class: CFC_180
Max: 11.2 g at 12.8 ms
Min: -3.0 g at 35.6 ms



Filter Class: CFC_600
Max: 38.0 mm at 23.9 ms
Min: -0.0 mm at 1.4 ms



Filter Class: CFC_600
Max: 38.3 mm at 23.0 ms
Min: -0.0 mm at 1.8 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. 35-1
Test Date: 5/13/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.62 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-45.01 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	39.2 g	Yes
Acetabulum Force	3,600 - 4,300 N	4,184.9 N	Yes

Test meets specifications.

Condition: Used

Comments:

Pelvis Skin S/N: 1141

Pelvis Plug Info:

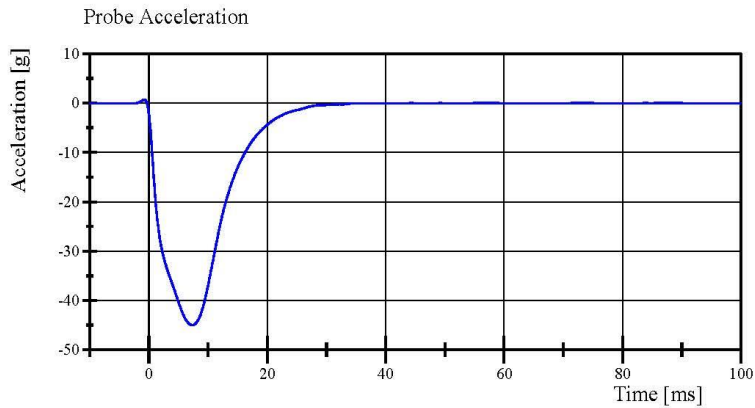
Manufacturer: Saco

S/N: 12306

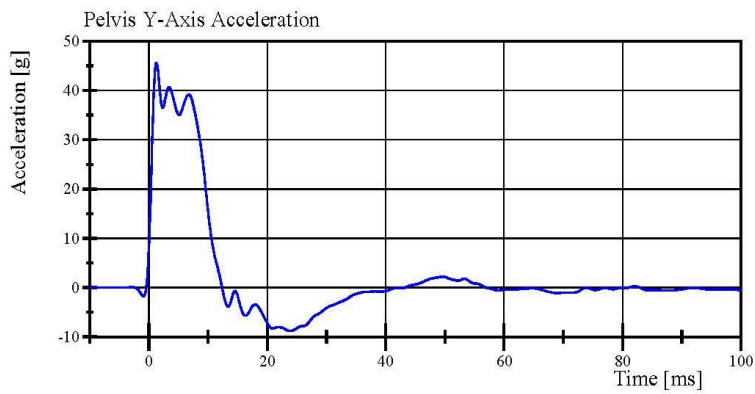
Cal Date: 20180321

Transportation Research Center Inc.

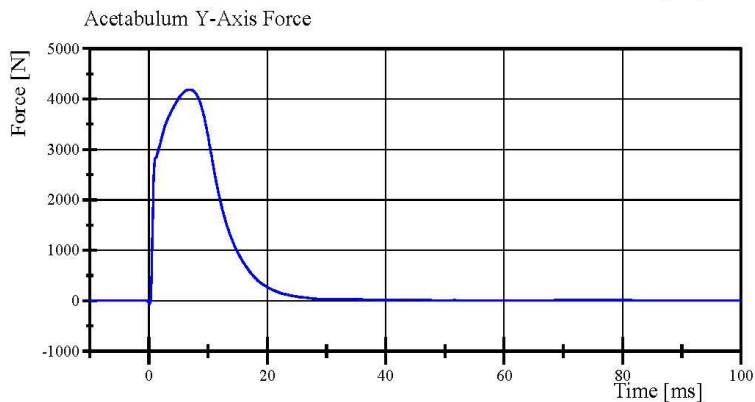
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 35-1
Test Date: 5/13/2019



Filter Class: CFC_180
Max: 0.7 g at -0.8 ms
Min: -45.0 g at 7.4 ms



Filter Class: CFC_180
Max: 45.6 g at 1.3 ms
Min: -8.8 g at 23.9 ms



Filter Class: CFC_600
Max: 4,184.9 N at 7.0 ms
Min: -64.8 N at 0.2 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. 35-3

Test Date: 5/14/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.21 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-43.4 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	35.2 g	Yes
Iliac Force	4,100 - 5,100 N	5,084.6 N	Yes

Test meets specifications.

Condition: Used

Comments:

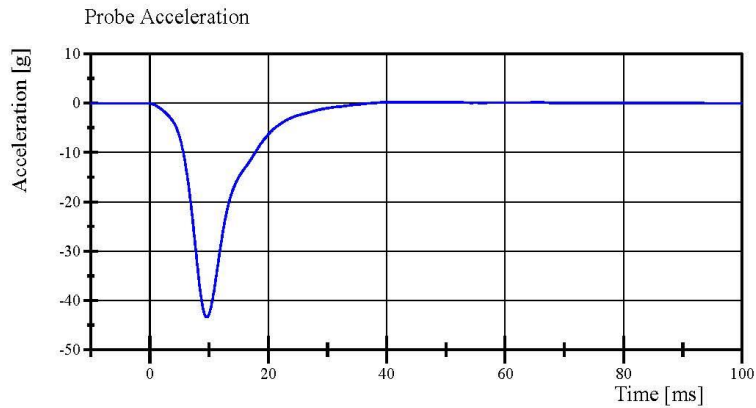
Pelvis Skin S/N: 1141

Transportation Research Center Inc.

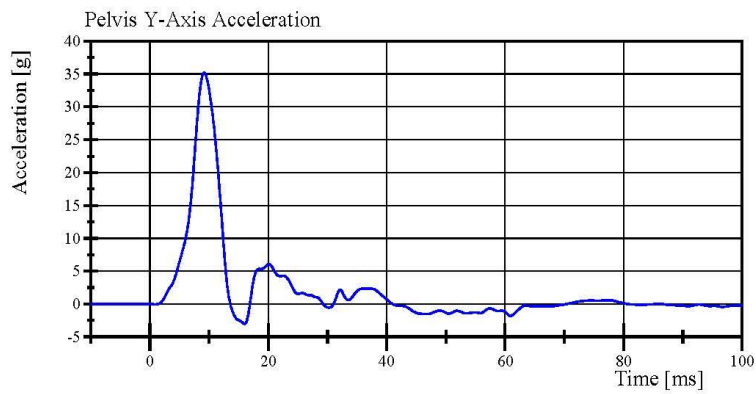
Left Lateral Iliac

SID IIs Serial No. 297 Certification No. 35-3

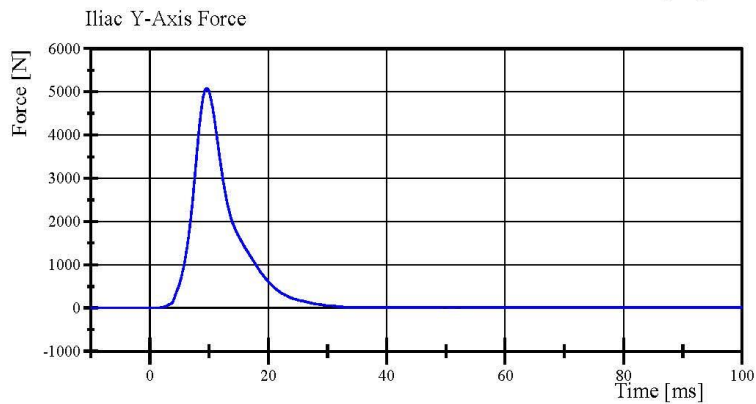
Test Date: 5/14/2019



Filter Class: CFC_180
Max: 0.2 g at 40.3 ms
Min: -43.4 g at 9.6 ms



Filter Class: CFC_180
Max: 35.2 g at 9.2 ms
Min: -3.0 g at 16.0 ms



Filter Class: CFC_600
Max: 5,084.6 N at 9.6 ms
Min: -0.6 N at -1.0 ms

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

05.14.2019 06:43:20 692



Post-Test Calibration Sheets
Driver S/N 297

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. 297 Calibration No. 36

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	781	Yes
B	Shoulder Pivot Height	437.0 - 453.0	450	Yes
C	H-Point Height	79.0 - 89.0	85	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	103	Yes
F	Thigh Clearance	119.0 - 135.0	129	Yes
G	Head Breadth	140.0 - 148.0	147	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	183	Yes
J	Head Circumference	541.0 - 551.0	544	Yes
K	Buttock to Knee Length	514.0 - 540.0	528	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	430	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	223	Yes
P	Foot Length (left)	216.0 - 232.0	221	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	878	Yes
Z	Waist Circumference	761.0 - 791.0	781	Yes

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIS Serial No. 297 Certification No. 36-1

Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	124.3 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	1.3 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	Yes	Yes	Yes

Test meets specifications.

Condition: Used

Comments:

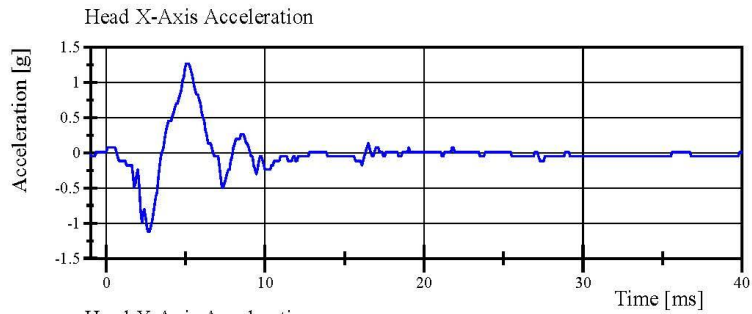
Head S/N: 1330

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIS Serial No. 297 Certification No. 36-1

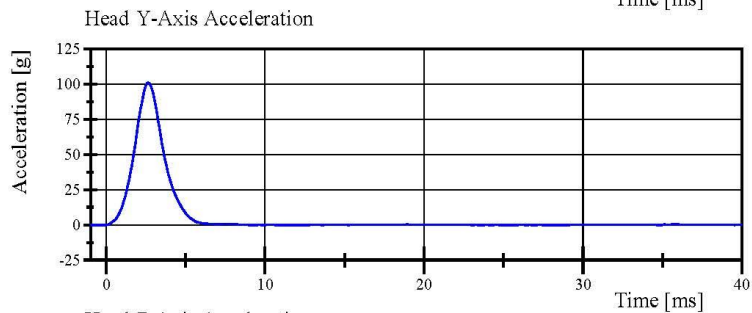
Test Date: 5/17/2019



Filter Class: CFC_1000

Max: 1.3 g at 5.0 ms

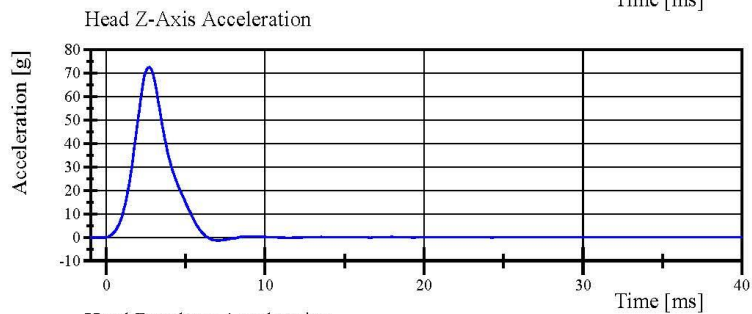
Min: -1.1 g at 2.6 ms



Filter Class: CFC_1000

Max: 101.1 g at 2.6 ms

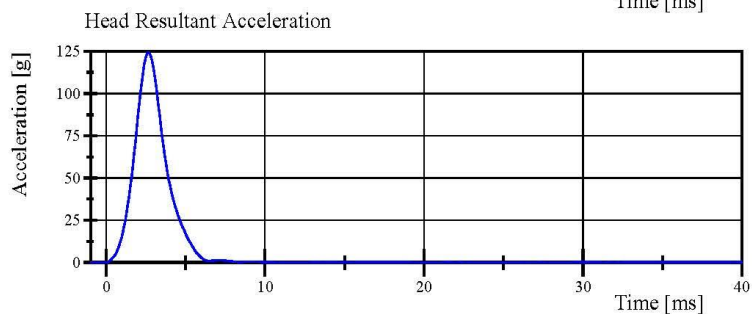
Min: -0.2 g at 34.8 ms



Filter Class: CFC_1000

Max: 72.5 g at 2.7 ms

Min: -1.3 g at 7.0 ms



Filter Class: CFC_1000

Max: 124.3 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

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Transportation Research Center Inc.

Left Lateral Neck

SID IIS Serial No. 297 Certification No. 36-1

Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.586 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.245 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.412 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.669 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.669 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	6.008 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-74.1 deg	Yes
Time of Peak	50 - 70 ms	69.4 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	40.1 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	102 - 126 ms	125.6 ms	Yes

Test meets specifications.

Condition: Used

Comments:

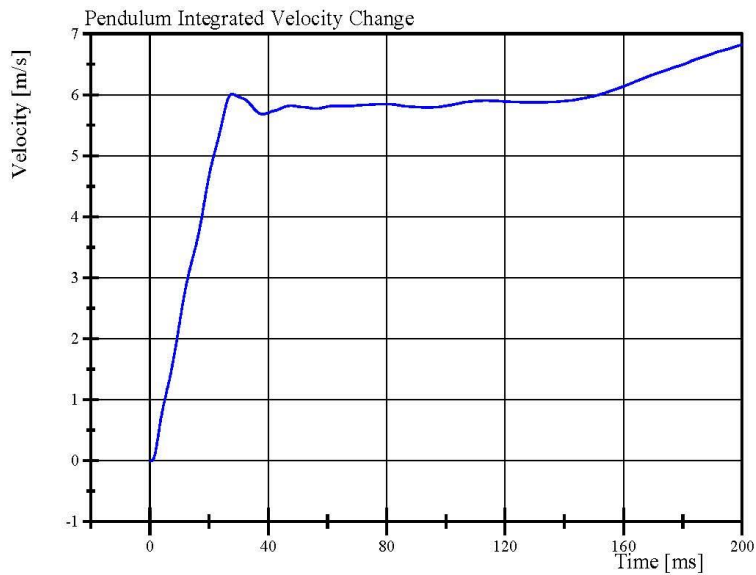
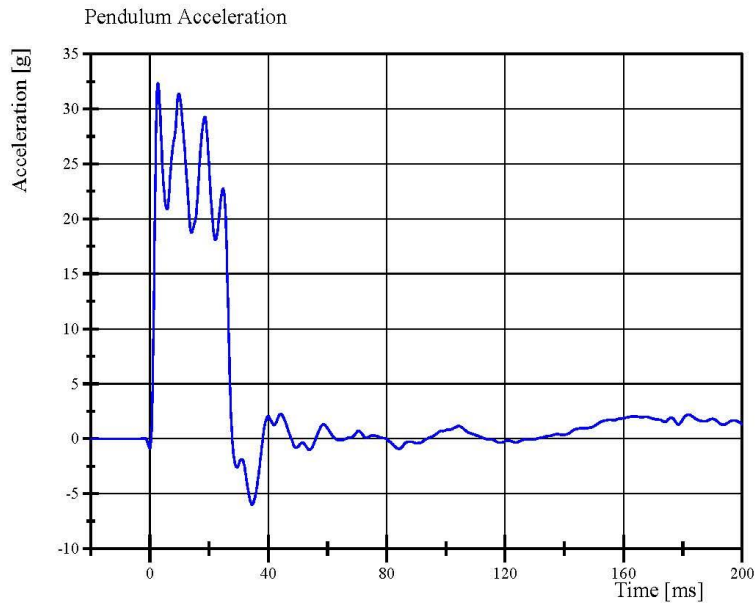
Neck S/N: 779

Transportation Research Center Inc.

Left Lateral Neck

SID IIS Serial No. 297 Certification No. 36-1

Test Date: 5/17/2019



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

05.17.2019 07:55:40 710

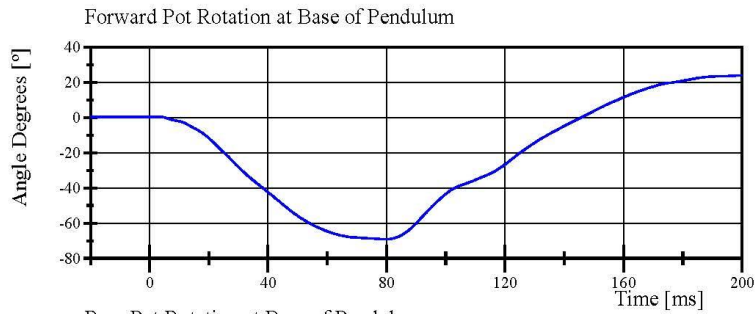


Transportation Research Center Inc.

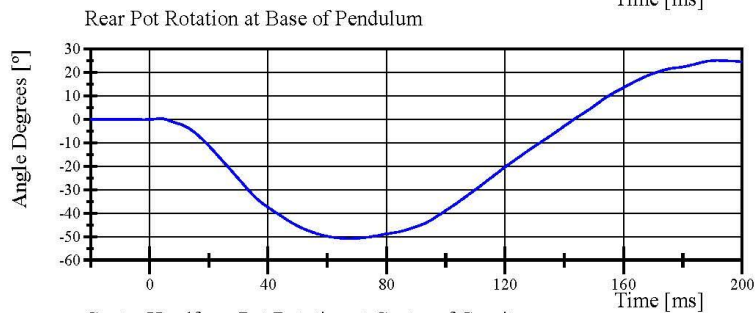
Left Lateral Neck

SID IIs Serial No. 297 Certification No. 36-1

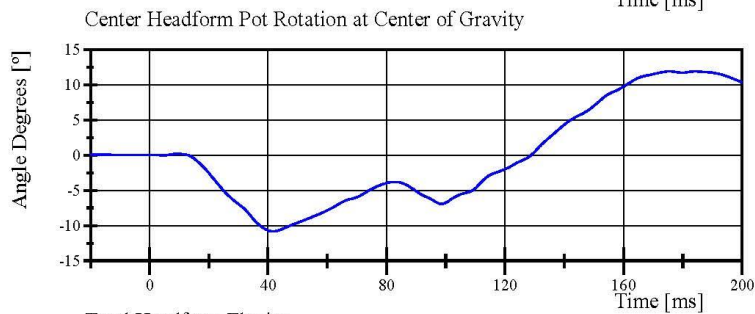
Test Date: 5/17/2019



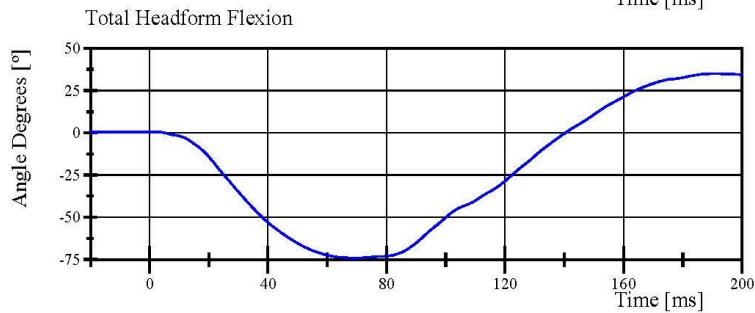
Filter Class: CFC_60
Max: 24.0 ° at 200.0 ms
Min: -69.0 ° at 79.6 ms



Filter Class: CFC_60
Max: 25.1 ° at 191.6 ms
Min: -50.8 ° at 67.4 ms



Filter Class: CFC_60
Max: 11.9 ° at 175.5 ms
Min: -10.8 ° at 41.7 ms



Filter Class: CFC_60
Max: 35.1 ° at 190.8 ms
Min: -74.1 ° at 69.4 ms

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

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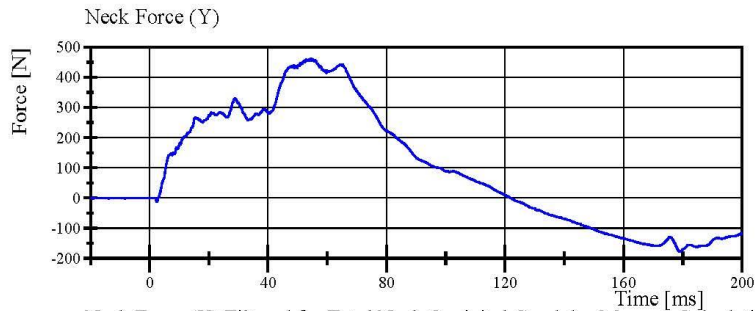


Transportation Research Center Inc.

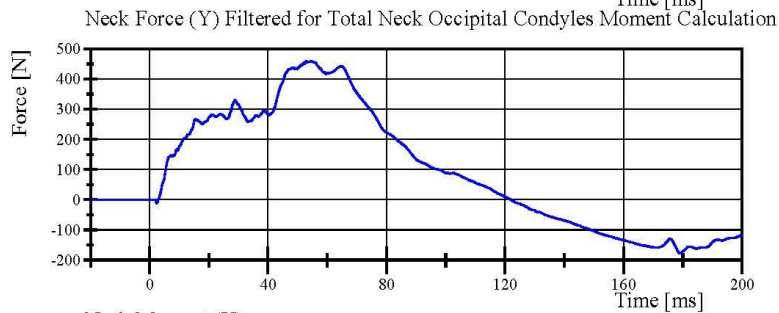
Left Lateral Neck

SID IIS Serial No. 297 Certification No. 36-1

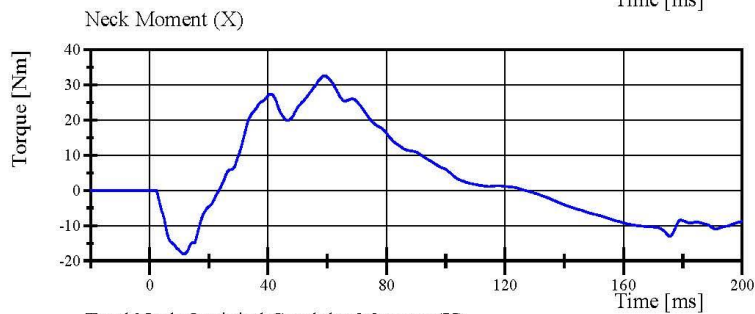
Test Date: 5/17/2019



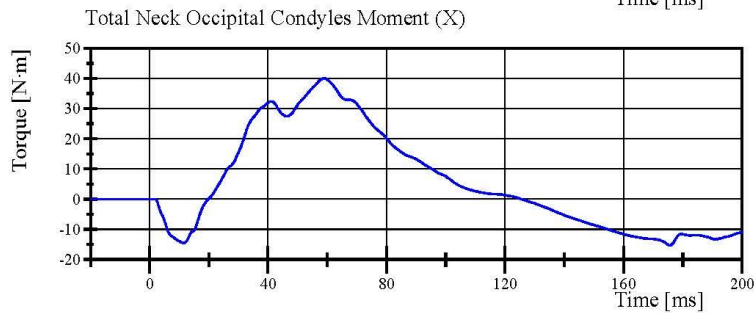
Filter Class: CFC_1000
Max: 462.7 N at 54.5 ms
Min: -176.6 N at 179.0 ms



Filter Class: CFC_600
Max: 460.9 N at 54.5 ms
Min: -176.5 N at 179.0 ms



Filter Class: CFC_600
Max: 32.6 Nm at 58.7 ms
Min: -18.1 Nm at 11.6 ms



Filter Class: Without_(Consta
Max: 40.1 N.m at 58.6 ms
Min: -15.3 N.m at 175.6 ms

Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	50 %	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	30.9 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.4 g	Yes

Test meets specifications.

Condition: Used

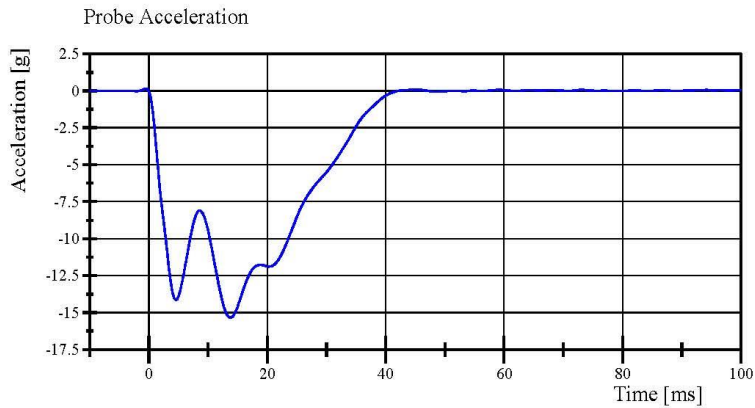
Comments:

Left Arm S/N: 940L

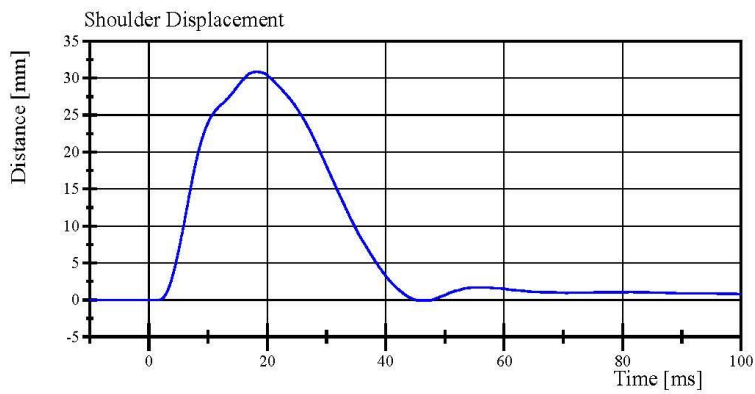
Shoulder Rib S/N: 180-3355 259

Transportation Research Center Inc.

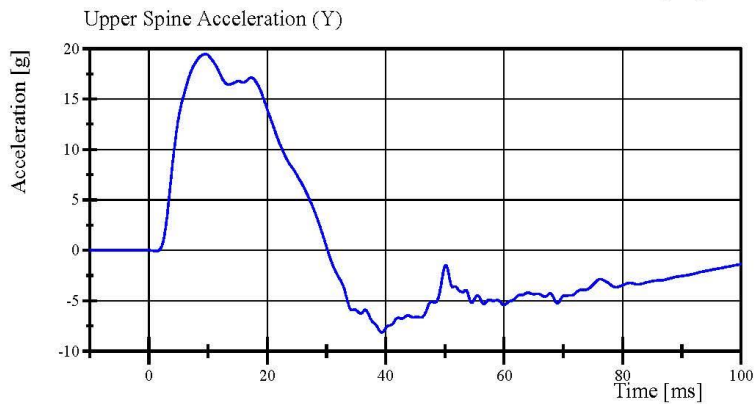
Left Lateral Shoulder
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019



Filter Class: CFC_180
Max: 0.1 g at -0.5 ms
Min: -15.3 g at 13.8 ms



Filter Class: CFC_600
Max: 30.9 mm at 18.2 ms
Min: -0.1 mm at 46.1 ms



Filter Class: CFC_180
Max: 19.4 g at 9.6 ms
Min: -8.1 g at 39.4 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. 36-1
Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.724 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.4 g	Yes
Shoulder Displacement	31 - 40 mm	33.9 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	26.8 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.3 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	35.8 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	37.6 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	35.1 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: 940L

Shoulder Rib S/N: 180-3355 259

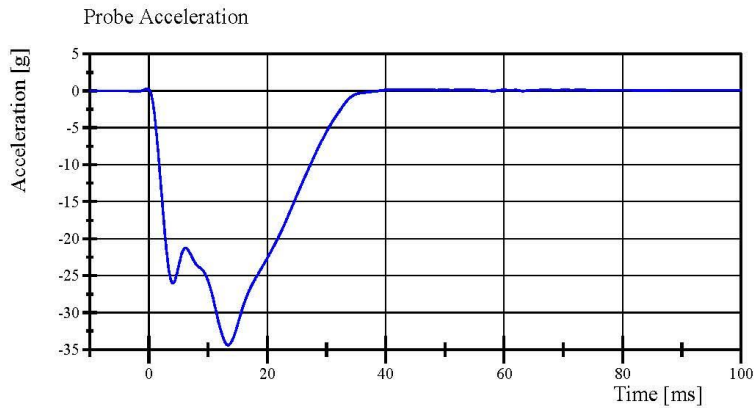
Upper Thorax Rib #1 S/N: 2009

Middle Thorax Rib #2 S/N: 2010

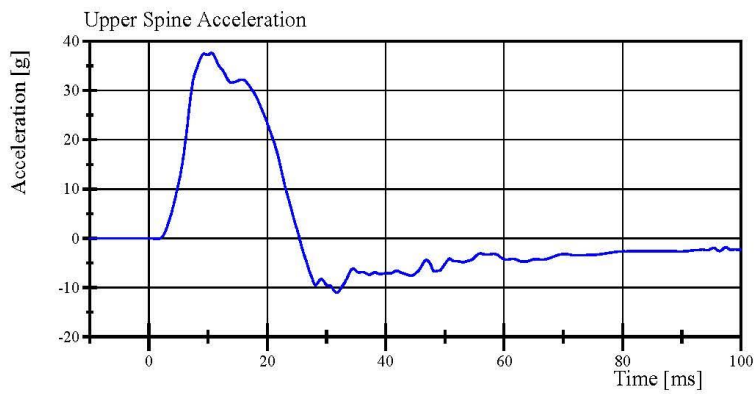
Lower Thorax Rib #3 S/N: 2029

Transportation Research Center Inc.

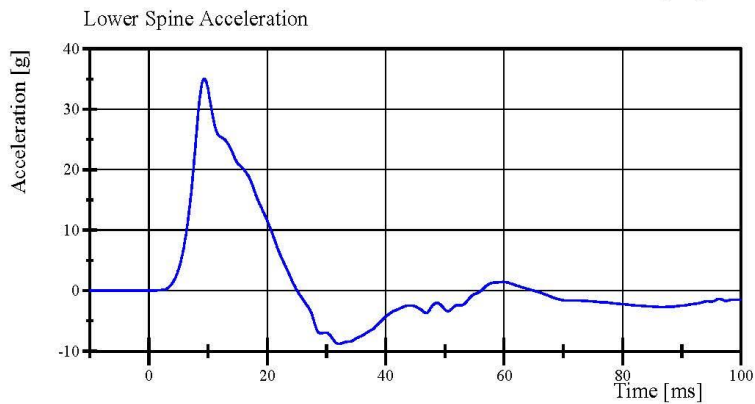
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019



Filter Class: CFC_180
Max: 0.3 g at -0.2 ms
Min: -34.4 g at 13.4 ms



Filter Class: CFC_180
Max: 37.6 g at 10.6 ms
Min: -11.0 g at 31.8 ms



Filter Class: CFC_180
Max: 35.1 g at 9.4 ms
Min: -8.8 g at 32.2 ms

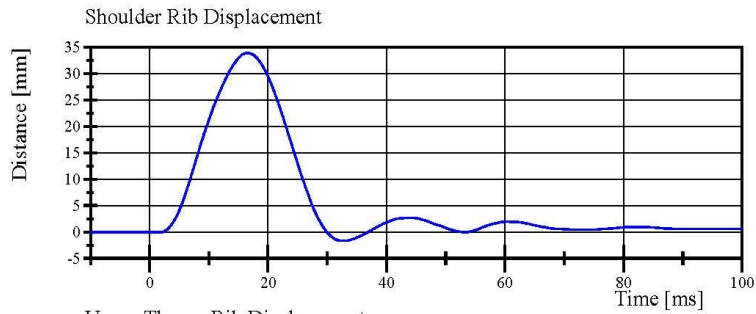
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

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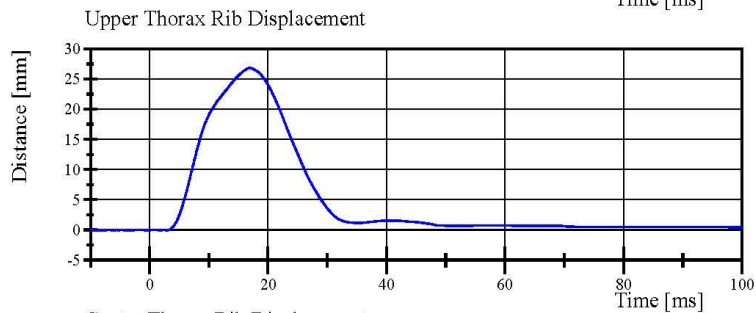


Transportation Research Center Inc.

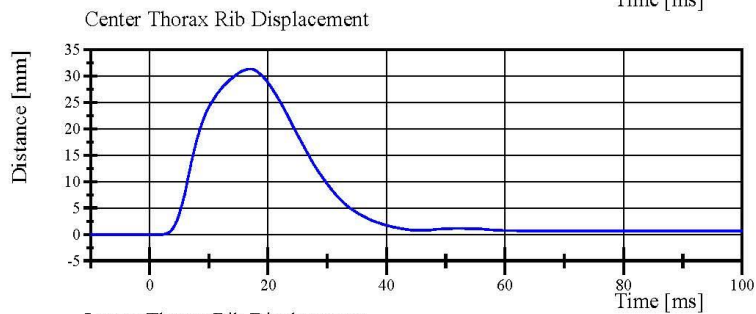
Left Lateral Thorax with Arm
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019



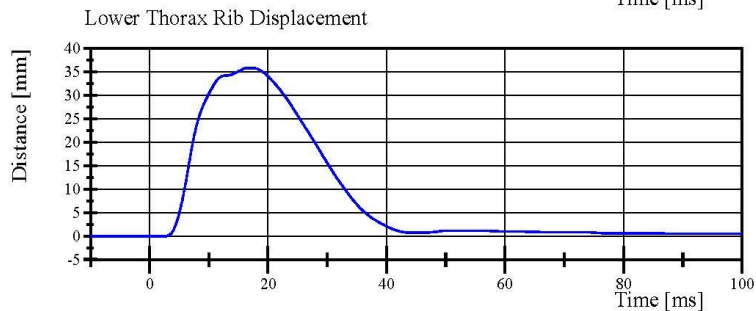
Filter Class: CFC_600
Max: 33.9 mm at 16.6 ms
Min: -1.7 mm at 33.0 ms



Filter Class: CFC_600
Max: 26.8 mm at 17.0 ms
Min: -0.0 mm at 3.0 ms



Filter Class: CFC_600
Max: 31.3 mm at 17.0 ms
Min: -0.0 mm at 1.6 ms



Filter Class: CFC_600
Max: 35.8 mm at 17.0 ms
Min: -0.0 mm at 2.6 ms

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

05.17.2019 10:14:18 598



Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIS Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.319 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.7 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	34.0 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	40.6 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	40.7 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.7 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.7 g	Yes

Test meets specifications.

Condition: Used

Comments:

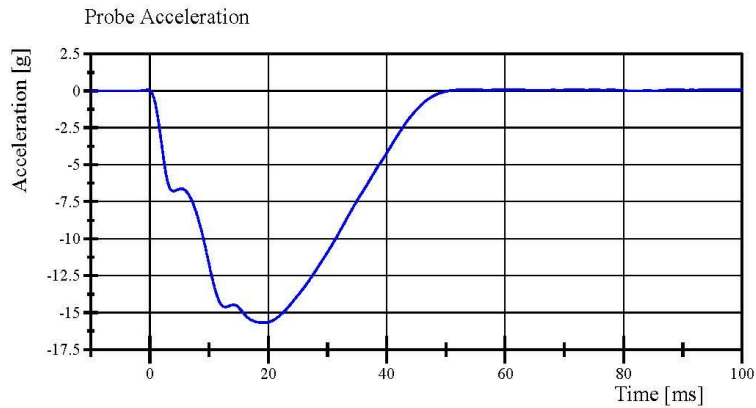
Upper Thorax Rib #1 S/N: 2009

Middle Thorax Rib #2 S/N: 2010

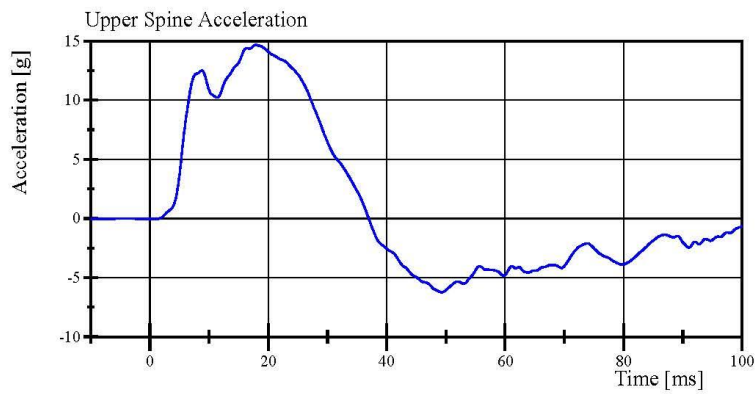
Lower Thorax Rib #3 S/N: 2029

Transportation Research Center Inc.

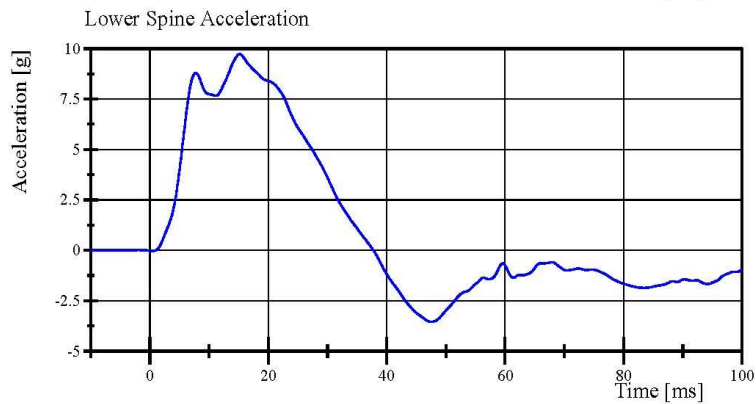
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019



Filter Class: CFC_180
Max: 0.1 g at 58.2 ms
Min: -15.7 g at 19.2 ms



Filter Class: CFC_180
Max: 14.7 g at 17.9 ms
Min: -6.2 g at 49.3 ms



Filter Class: CFC_180
Max: 9.7 g at 15.2 ms
Min: -3.5 g at 47.5 ms

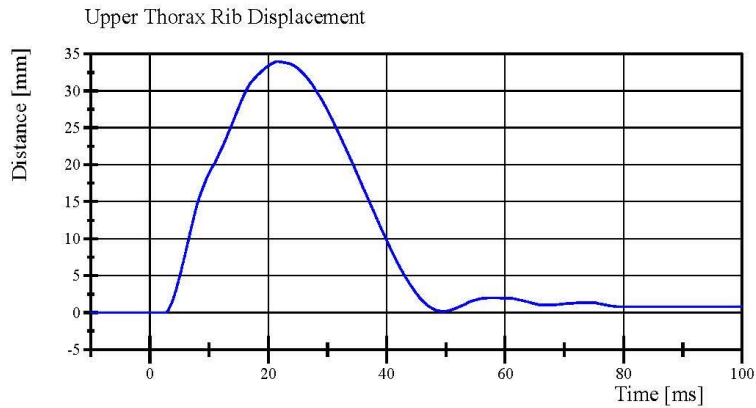
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.17.2019 09:33:13 814

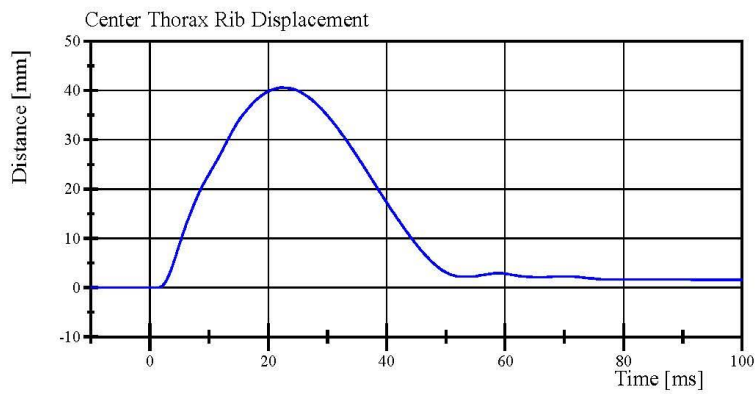


Transportation Research Center Inc.

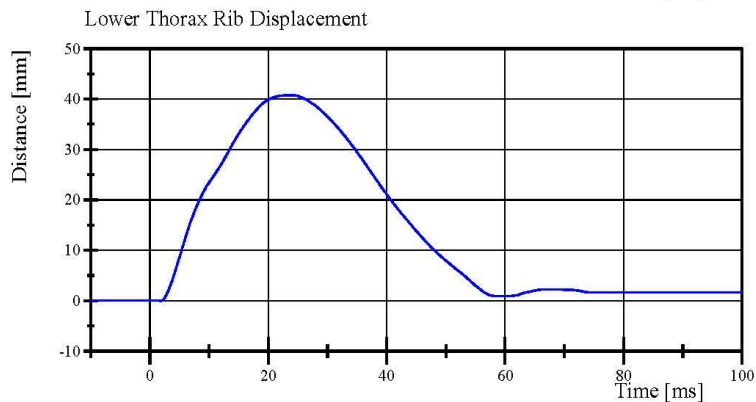
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019



Filter Class: CFC_600
Max: 34.0 mm at 21.5 ms
Min: -0.0 mm at 2.6 ms



Filter Class: CFC_600
Max: 40.6 mm at 22.2 ms
Min: -0.0 mm at -2.5 ms



Filter Class: CFC_600
Max: 40.7 mm at 23.4 ms
Min: -0.0 mm at 1.8 ms

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

05.17.2019 09:33:14 814



Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.5 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	40.1 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	35.4 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	10.97 g	Yes

Test meets specifications.

Condition: Used

Comments:

Upper Abdominal Rib S/N: DS1235

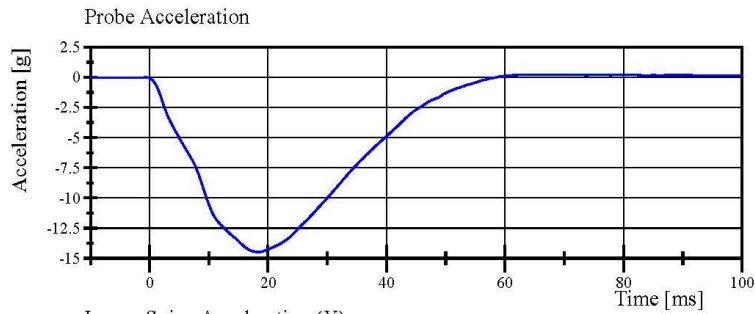
Lower Abdominal Rib S/N: DS1236

Transportation Research Center Inc.

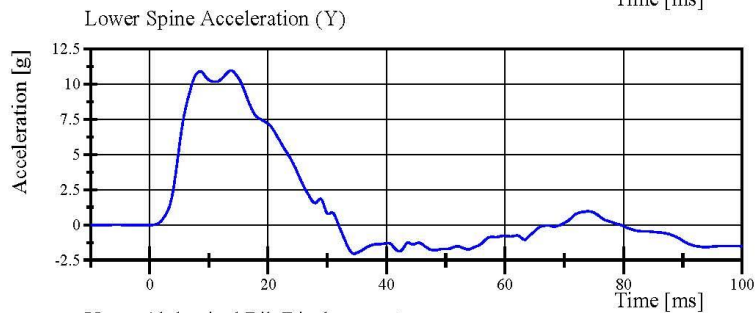
Left Lateral Abdomen

SID IIs Serial No. 297 Certification No. 36-1

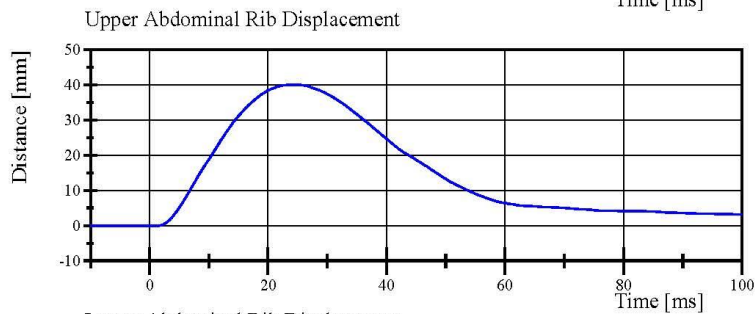
Test Date: 5/17/2019



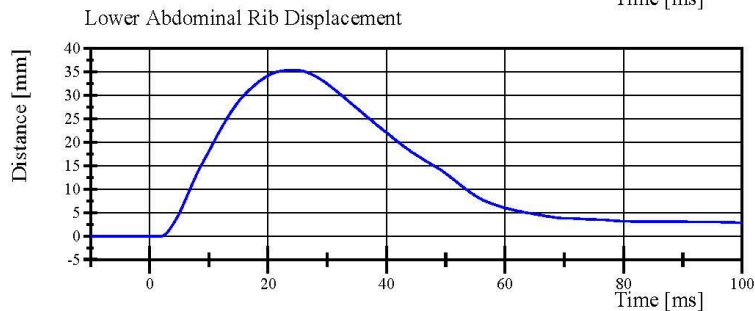
Filter Class: CFC_180
Max: 0.2 g at 63.7 ms
Min: -14.5 g at 18.3 ms



Filter Class: CFC_180
Max: 11.0 g at 13.8 ms
Min: -2.0 g at 34.5 ms



Filter Class: CFC_600
Max: 40.1 mm at 24.4 ms
Min: -0.0 mm at 1.2 ms



Filter Class: CFC_600
Max: 35.4 mm at 24.6 ms
Min: -0.0 mm at 1.9 ms

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

05.17.2019 09:18:00 639



Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.62 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-45.61 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	38.7 g	Yes
Acetabulum Force	3,600 - 4,300 N	4,203.1 N	Yes

Test meets specifications.

Condition: Used

Comments:

Pelvis Skin S/N: 1141

Pelvis Plug Info:

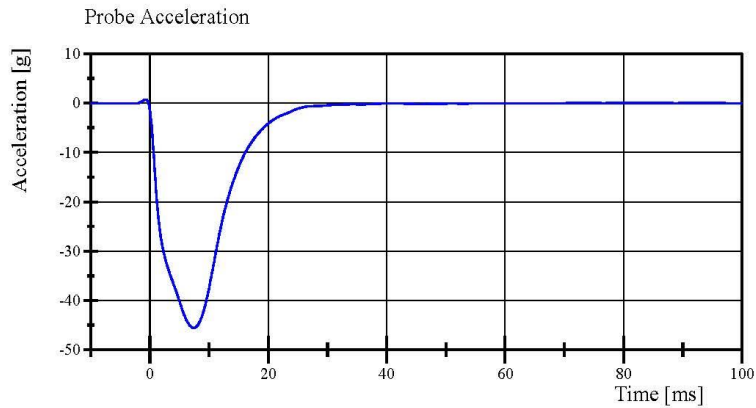
Manufacturer: Saco

S/N: 12330

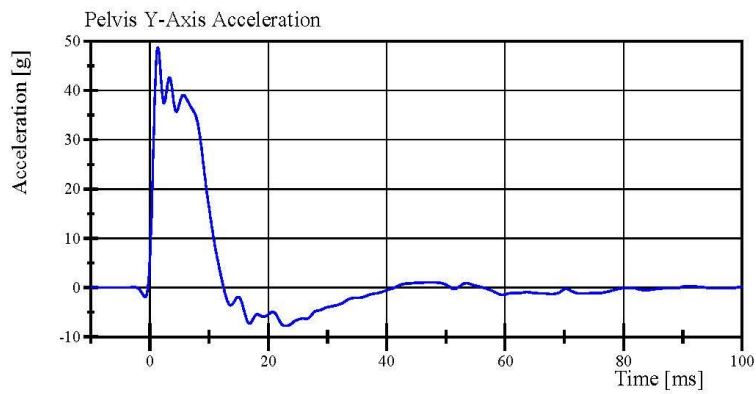
Cal Date: 20180321

Transportation Research Center Inc.

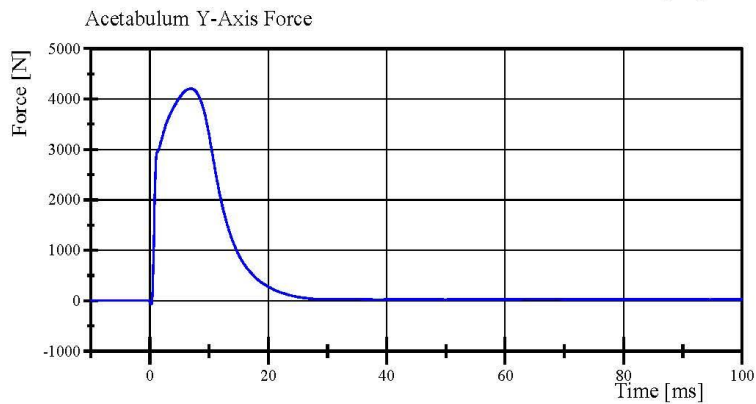
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 36-1
Test Date: 5/17/2019



Filter Class: CFC_180
Max: 0.7 g at -0.7 ms
Min: -45.6 g at 7.4 ms



Filter Class: CFC_180
Max: 48.8 g at 1.4 ms
Min: -7.8 g at 22.8 ms



Filter Class: CFC_600
Max: 4,203.1 N at 7.0 ms
Min: -67.0 N at 0.2 ms

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

05.17.2019 08:37:13 411



Transportation Research Center Inc.

Left Lateral Iliac

SID IIs Serial No. 297 Certification No. 36-1

Test Date: 5/17/2019

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-42.4 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	32.8 g	Yes
Iliac Force	4,100 - 5,100 N	4,931.9 N	Yes

Test meets specifications.

Condition: Used

Comments:

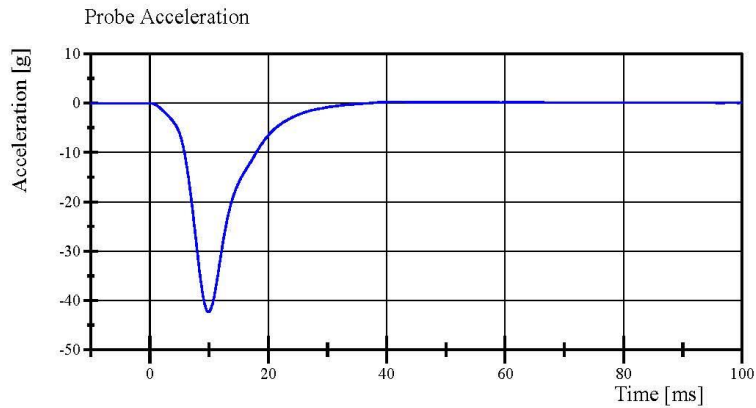
Pelvis Skin S/N: 1141

Transportation Research Center Inc.

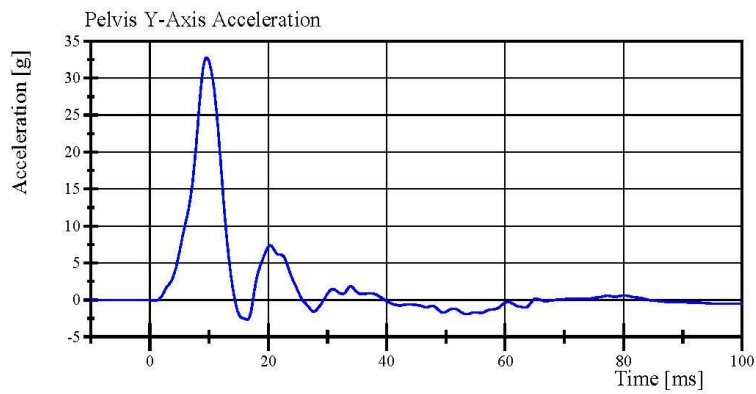
Left Lateral Iliac

SID IIs Serial No. 297 Certification No. 36-1

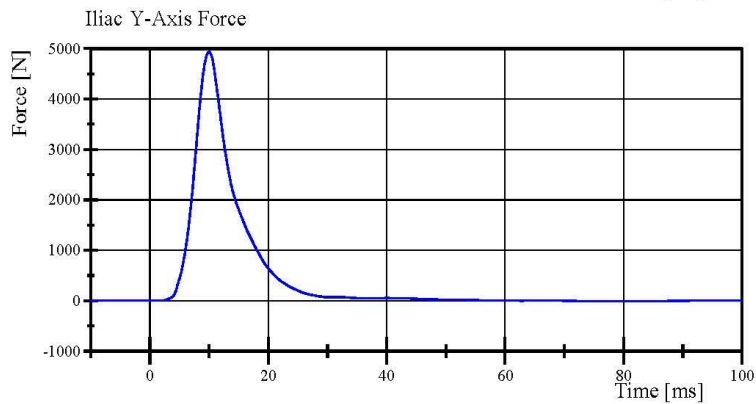
Test Date: 5/17/2019



Filter Class: CFC_180
Max: 0.2 g at 41.2 ms
Min: -42.4 g at 9.9 ms



Filter Class: CFC_180
Max: 32.8 g at 9.6 ms
Min: -2.7 g at 16.4 ms



Filter Class: CFC_600
Max: 4,931.9 N at 10.0 ms
Min: -12.9 N at 78.6 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	17-Apr-2019
			Y	P93549	Endevco	17-Apr-2019
			Z	P93776	Endevco	17-Apr-2019
Displacement Potentiometers	Shoulder		Y	N/A	N/A	N/A
	Thoracic Rib	Upper	Y	047	Servo	18-Apr-2019
		Middle	Y	01815	Servo	9-Apr-2019
		Lower	Y	043	Servo	18-Apr-2019
	Abdominal Rib	Upper	Y	01811	Servo	9-Apr-2019
		Lower	Y	051	Servo	18-Apr-2019
Lower Spine Accelerometers (T12)			X	P94425	Endevco	17-Apr-2019
			Y	P91522	Endevco	17-Apr-2019
			Z	P91511	Endevco	17-Apr-2019
Acetabulum Load Cell			Y	235-FY	FTSS	18-Apr-2019
Iliac Wing Load Cell			Y	320-FY	FTSS	18-Apr-2019
Pelvis Plug (struck side)				12521	SACO	02-Oct-2018
Pelvis Plug (non-struck side)				36505	FTSS	24-Sep-2010

TABLE 2 – Vehicle Instrumentation

Vehicle Instrumentation		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	T11820	Endevco	7-Jan-2019
Vehicle Center of Gravity	Y	T11452	Endevco	7-Jan-2019
Vehicle Center of Gravity	Z	T11864	Endevco	7-Jan-2019
Left Floor Sill	Y	P80484	Endevco	10-May-2019
A-Pillar Sill	Y	P61501	Endevco	8-May-2019
A-Pillar Low	Y	P50313	Endevco	8-May-2019
A-Pillar Mid	Y	P50491	Endevco	8-May-2019
B-Pillar Sill	Y	P88453	Endevco	21-Dec-2018
B-Pillar Low	Y	P97889	Endevco	8-May-2019
B-Pillar Mid	Y	P44288	Endevco	8-May-2019
Driver Seat	Y	T11839	Endevco	8-Jan-2019
Engine Top	X	T11449	Endevco	19-Mar-2019
Engine Top	Y	T11822	Endevco	19-Mar-2019
Firewall	Y	P73570	Endevco	15-Apr-2019
Right Roof	Y	P57951	Endevco	8-May-2019
Right Floor Sill	Y	P81013	Endevco	10-May-2019
Rear Floor Pan	X	P57917	Endevco	8-May-2019
Rear Floor Pan	Y	P94744	Endevco	8-May-2019

TABLE 3 – Pole Instrumentation

Pole Instrumentation	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DK7091S	Humanetics	14-Nov-2018
Load Cell 2	DK7120S	Humanetics	14-Nov-2018
Load Cell 3	DK7118S	Humanetics	14-Nov-2018
Load Cell 4	DK7124S	Humanetics	14-Nov-2018
Load Cell 5	DK7111S	Humanetics	14-Nov-2018
Load Cell 6	DK7126S	Humanetics	14-Nov-2018
Load Cell 7	DK7112S	Humanetics	14-Nov-2018
Load Cell 8	DK7074S	Humanetics	14-Nov-2018