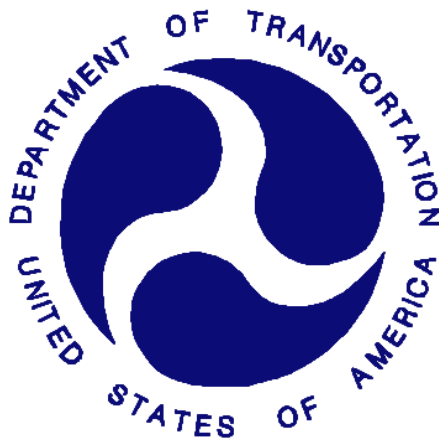


FINAL REPORT NUMBER: SPNCAP-TRC-22-001

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

**FCA US LLC
2022 Jeep Compass
NHTSA NUMBER: M20220301**

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



Report Date: May 24, 2022


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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If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement.

Report Prepared By: ILO Project Operations Group

Report Approved By: 
John Shultz

Approval Date: May 24, 2022

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

Technical Report Documentation Page

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15. Supplemental Notes																											
<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 2022 Jeep Compass, 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 March 16, 2022.</p> <p>The impact velocity was 32.19 km/h, and the ambient temperature at the struck (left) side of the target vehicle at the time of impact was 22.5° C. The test vehicle's post-test maximum crush was 294 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>407</u></td> </tr> <tr> <td>Resultant Lower Spine Acceleration:</td> <td>g's</td> <td>82</td> <td><u>39.5</u></td> </tr> <tr> <td>Total Pelvic Force: (sum of acetabular and iliac forces)</td> <td>N</td> <td>5525</td> <td><u>3078.6</u></td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td>mm</td> <td>38*</td> <td><u>20.3</u></td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td>mm</td> <td>45*</td> <td><u>15.4</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>407</u>	Resultant Lower Spine Acceleration:	g's	82	<u>39.5</u>	Total Pelvic Force: (sum of acetabular and iliac forces)	N	5525	<u>3078.6</u>	Maximum Thoracic Rib Deflection	mm	38*	<u>20.3</u>	Maximum Abdomen Rib Deflection	mm	45*	<u>15.4</u>
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SECTION 1
TEST PURPOSE AND PROCEDURE

TEST PURPOSE AND PROCEDURE

This side impact test was conducted as part of the MY22 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. 693JJ920D000018. The purpose of this test is to generate comparative side impact performance in a 2022 Jeep Compass manufactured by FCA US LLC. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated March 2020.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a model year 2022 Jeep Compass. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 32.19 km/h. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, OH, on March 16, 2022. Pre-test and post-test photographs of the test vehicle and the side impact dummy (SID-IIs) are included in Appendix A of this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure, dated March 2020. Camera locations and other pertinent camera information are included in this report.

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

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

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

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

Measurement Description	Driver ATD (SID-IIs)		
	Units	IARV	Result
Head Injury Criteria (HIC ₃₆)	NA	1000	407
Lower Spine Acceleration Resultant	G	82	39.5
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3078.6
Maximum Thoracic Rib Deflection	mm	38*	20.3
Maximum Abdominal Rib Deflection	mm	45*	15.4

* Proposed IARV

Supplemental restraint information is given below:

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

GENERAL COMMENTS

VEHICLE CG AX; Channel failed after 50.0 MS

LEFT B-POST @ SILL AY; Questionable data throughout

LEFT MID A-POST AY; QUESTIONABLE DATA AFTER 34 MS

LEFT LOWER B-POST AY; QUESTIONABLE DATA AFTER 13 MS

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20220301
Model Year	2022
Make	Jeep
Model	Compass
Body Style	MPV
VIN	3C4NJCBB2NT137471
Body Color	Diamond Black Crystal Pearl
Odometer Reading (km/mi)	78 mi.
Engine Displacement (L)	2.4
Type/No. Cylinders	Straight/4
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	6
Overdrive	Yes
Final Drive	FWD
Roof Rack	No
Sunroof/T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks (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	FCA US LLC
Date of Manufacturer	11-21
Vehicle Type	MPV

GVWR (kg)	1996
GAWR Front (kg)	1076
GAWR Rear (kg)	928

VEHICLE SEATING AND WEIGHT CAPACITY DATA

	Front	Rear	Third	Total
Designated Seating Capacity (DSC)	2	3	N/A	5
Vehicle Capacity Weight (VCW) (kg)				374.0
DSC X 68.04 kg				340.2
Rated Cargo and Luggage Weight (RCLW) (kg)				34.0

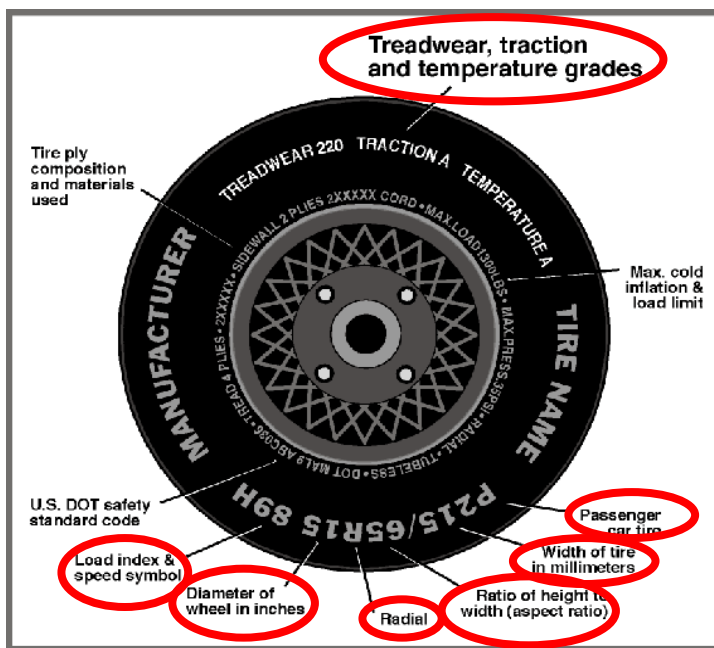
VEHICLE SEAT TYPE

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	Yes	N/A	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: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	240	220
Recommended Tire Size	225/60R17	225/60R17
Tire Size on Vehicle	225/60R17	225/60R17
Tire Manufacturer	Firestone	Firestone
Tire Model	Destination	Destination
Treadwear	520	520
Traction	A	A
Temperature Grades	B	B
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	99T	99T
Tire Material	Polyester, Steel, Nylon	Polyester, Steel, Nylon
DOT Safety Code Left	V641 DE3 4621	V641 DE3 4621
DOT Safety Code Right	V641 DE3 4621	V641 DE3 4621

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

Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	262	248	269	269
Tire Placard	kPa	240	240	220	220
Owner's Manual	kPa	240	240	220	220
As Tested	kPa	240	240	220	220

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	471.0	300.2		486.8	329.2		500.6	332.6	
Right	kg	450.6	285.2		452.0	317.0		451.6	305.0	
Ratio	%	61.2	38.8		59.2	40.8		59.9	40.1	
Totals	kg	921.6	585.4	1507.0	938.8	646.2	1585.0	952.2	637.6	1598.8

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	1507.0	(A)
Actual Weight of 1 P572V ATD (SID-III) Dummy Used	kg	49.0	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	33.8	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1589.8	(A+B+C)

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

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	Deg.	0.0	-0.2	-.2	Yes
Front Passenger Sill Angle (front-to-rear)*	Deg.	-0.2	-0.2	0	Yes
Front Bumper-Line Angle (left-to-right)**	Deg.	-0.4	0.0	+0.5	Yes
Rear Bumper-Line Angle (left-to-right)**	Deg.	0.0	0.0	+0.4	Yes
Vehicle CG (Aft of Front Axle)	mm	1022	1072	1055	
Vehicle CG (Left (+) / Right (-) from longitudinal Centerline)	mm	+18	+23	37	

*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".

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

Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast: None	0.0
Components Removed: right side speakers, right side window motors, rear bumper, taillights, trunk struts, rear window wiper motor and blade, rear wheel arch plastic cladding	21.0

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

TEST SURFACE MARKINGS

	Distance from 75° Impact Location Line (mm)
Fore 25 mm target	1670
Aft 25 mm target	1585

DATA SHEET NO. 2

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

Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

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	15.6	10.7	13.2
Front Passenger Seat	15.2	10.4	12.8
Front Center Seat*	N/A	N/A	N/A
Struck Side Rear Seat	N/A	N/A	16.0
Non-Struck Side Rear Seat	N/A	N/A	17.4
Rear Center Seat*	N/A	N/A	12.6

* 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	13.2	220	Max	232	240	244
			Mid	210	213	220
			Min	194	199	203
Front Passenger Seat	12.8	237	Max	232	238	244
			Mid	226	229	237
			Min	184	193	196
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	16.0	238	Max	N/A	N/A	N/A
			Mid	N/A	238	N/A
			Min	N/A	N/A	N/A
Non-Struck Side Rear Seat	17.4	241	Max	N/A	N/A	N/A
			Mid	N/A	241	N/A
			Min	N/A	N/A	N/A
Rear Center Seat*	12.6	188	Max	N/A	N/A	N/A
			Mid	N/A	188	N/A
			Min	N/A	N/A	N/A

* If applicable.

DATA SHEET NO. 2 (CONTINUED)

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

Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

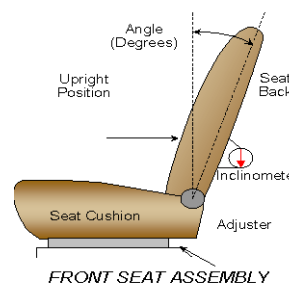
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position from Forward most Position	
	mm	Detents*	mm	Detent*
Driver Seat	220	22	0	0
Front Passenger Seat	224	22	0	0
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	0	Fixed	0	Fixed
Non-Struck Side Rear Seat	0	Fixed	0	Fixed
Rear Center Seat*	0	Fixed	0	Fixed

* 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	68.0	36	1.3	23
Front Passenger Seat	88.3	51	1.4	33
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	0	Fixed	0	Fixed
Non-Struck Side Rear Seat	0	Fixed	0	Fixed
Rear Center Seat*	0	Fixed	0	Fixed

* 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	5	0, 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	3 Up 7 Forward	1, Lowermost

DATA SHEET NO. 2 (CONTINUED)

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

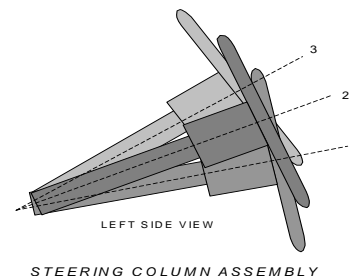
Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

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.

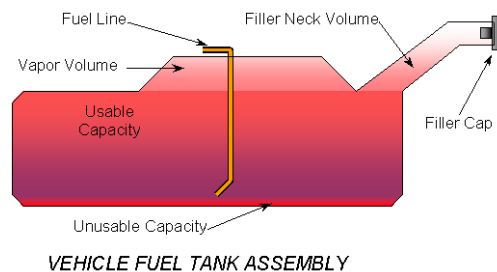
	Degrees	Fore/Aft Position, mm
Lowermost, Position No. 1	23.4	0
Geometric Center, Position No. 2	26.1	17.5
Uppermost, Position No. 3	28.8	35
Telescoping Steering Wheel Travel		35
Test Position	26.2	17



FUEL PUMP

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

The fuel pump starts pumping fuel when the key is in "ON" position. However, the fuel pump will stop in 5 seconds if the engine is not started.



FUEL TANK CAPACITY

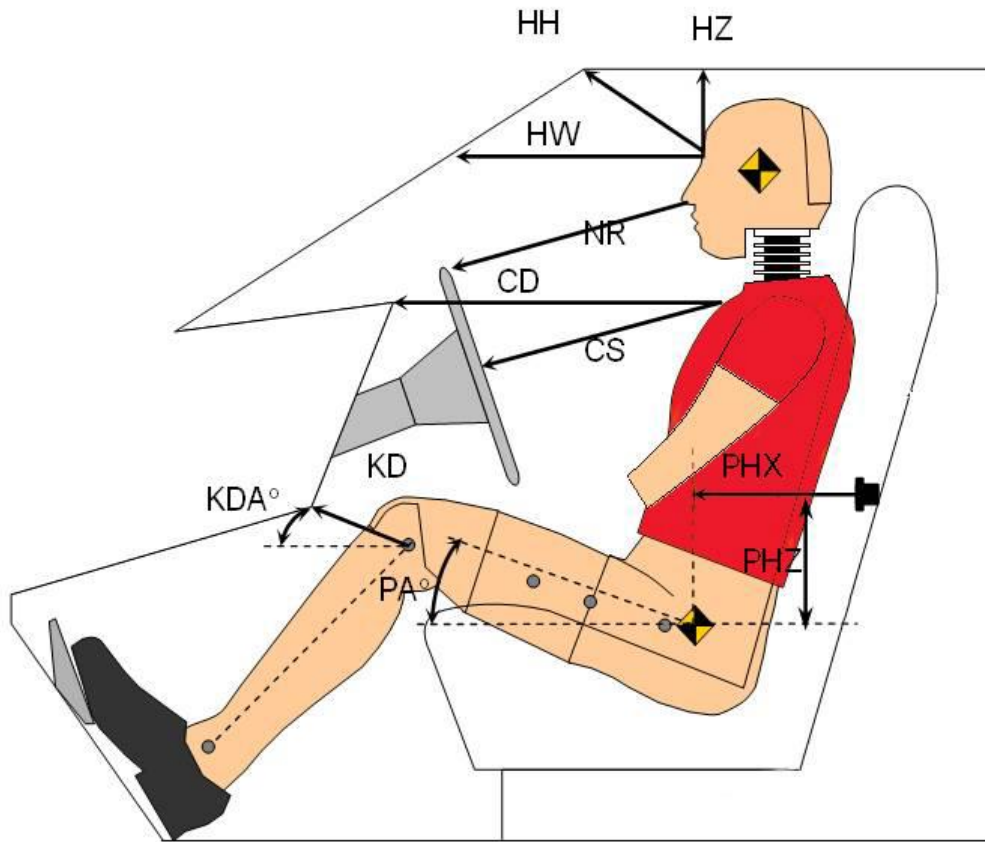
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	51.1
Usable Capacity of "Optional" Tank (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner's Manual)	51.0
Usable Capacity of Optional Tank (see Owner's Manual)	N/A
93% of Usable Capacity	47.5
Actual Amount of Solvent Used in Test	47.7
1/3 of Usable Capacity	17.0

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: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

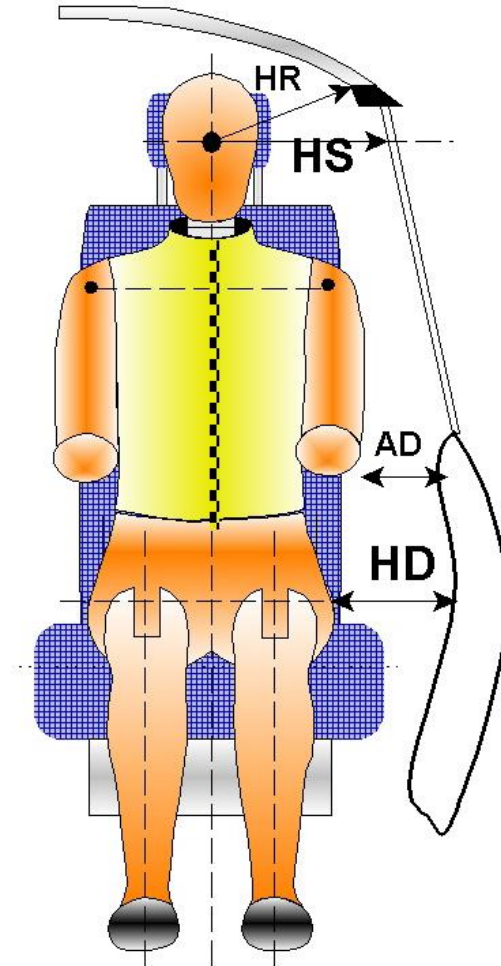


Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	340	
HW	Head to Windshield	714	
HZ	Head to Visor	258	
NR	Nose to Rim	316	
CD	Chest to Dashboard	504	
CS	Chest to Steering Wheel	241	
KDL/KDLA°	Left Knee to Dash	165	16.7
KDR/KDRA°	Right Knee to Dash	159	16.9
PAX°	Pelvic Tilt Angle (X-axis)		0.03
PAY°	Pelvic Tilt Angle (Y-axis)		19.1
PHX	Hip Point to Striker (X-Axis)	289	
PHZ	Hip Point to Striker (Z-Axis)	149	

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

Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

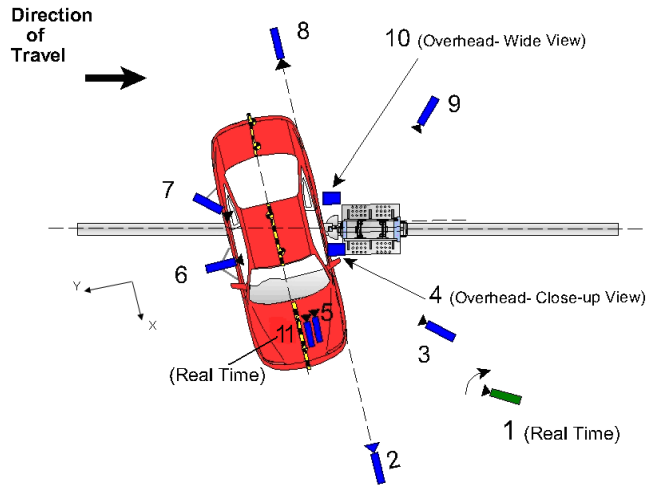


Code	Measurement Description	Length (mm)
HR	Head to Side Header	300
HS	Head to Side Window	423
AD	Arm to Door	105
HD	Hip Point to Door	160

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022



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	5134	85	-1519	20	1000
3	Impact side 45° – forward pole view	3219	-947	-1429	20	1000
4	Overhead Close-up view of impact	-71	150	-4875	50	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	-6396	0	-1539	20	1000
9	Impact side 45° – rearward pole view	-3053	-1382	-1669	20	1000
10	Overhead wide view of impact	0	0	-4880	12.5	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

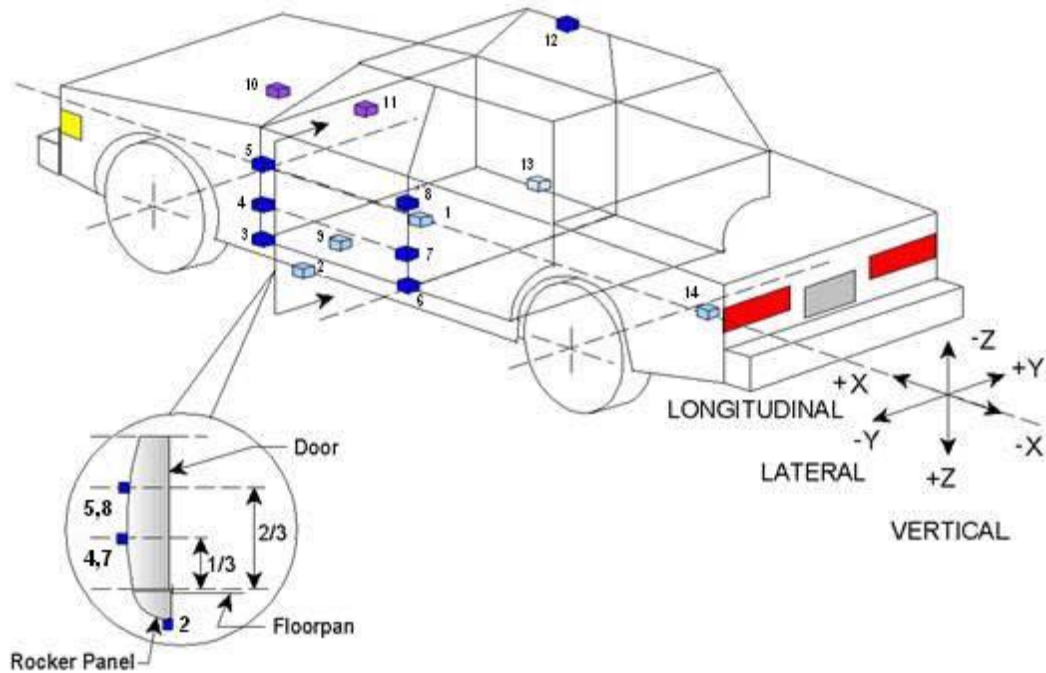
INSTRUMENTATION

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

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022



Accelerometer/Sensor Location				
ID		Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2635	660	-459
2	Left Floor Sill	2565	-668	-423
3	A-Pillar Sill	2995	-600	-367
4	A-Pillar Low	2990	-857	-625
5	A-Pillar Mid	2990	-850	-955
6	B-Pillar Sill	1837	-731	-436
7	B-Pillar Low	1950	-720	-647
8	B-Pillar Mid	1910	-720	-1015
9	Driver Seat Track	2050	-555	-375
10	Engine Top	3672	255	-895
11	Firewall	3498	0	-1011
12	Right Roof	2070	840	-579
13	Right Floor Sill	2565	668	-418
14	Rear Floorpan	250	0	-450

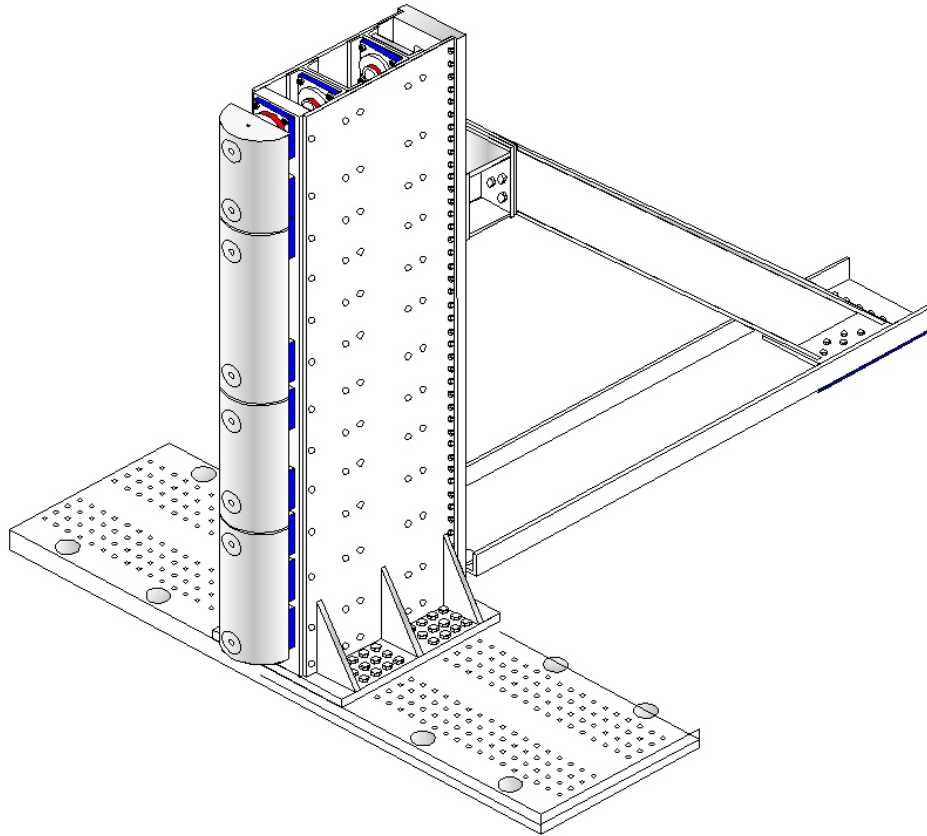
Reference: X - Test Vehicle Rear Bumper (+ forward)
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022

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: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	SCAB
Top of Head	SCAB
Left Side of Head	SCAB
Back of Head	Head Restraint
Left Shoulder	SAB
Upper Torso	Side Seat Bolster
Lower Torso	Side Seat Bolster
Left Hip	Door Panel and SAB
Left Knee	Door Panel

POST-TEST DOOR PERFORMANCE

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

POST-TEST SEAT PERFORMANCE

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

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Sill Separation	None
Windshield Damage	Heavy cracking
Side Window Damage	Front driver window completely shattered
Other Notable Effects	None

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

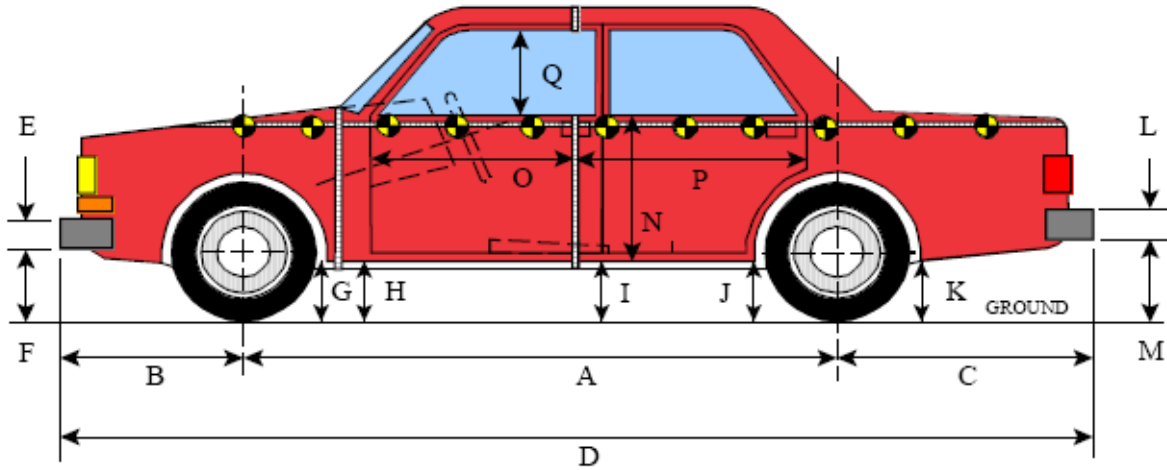
VEHICLE SPEED, VEHICLE ANGLE AT IMPACT AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1153
Actual Impact Point (Aft of Front Axle)	mm		1161
Horizontal Offset (+ forward / - rearward)	mm	+/- 38 of Intended Impact point	-8
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	32.19
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.15

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022



LEFT SIDE VIEW

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

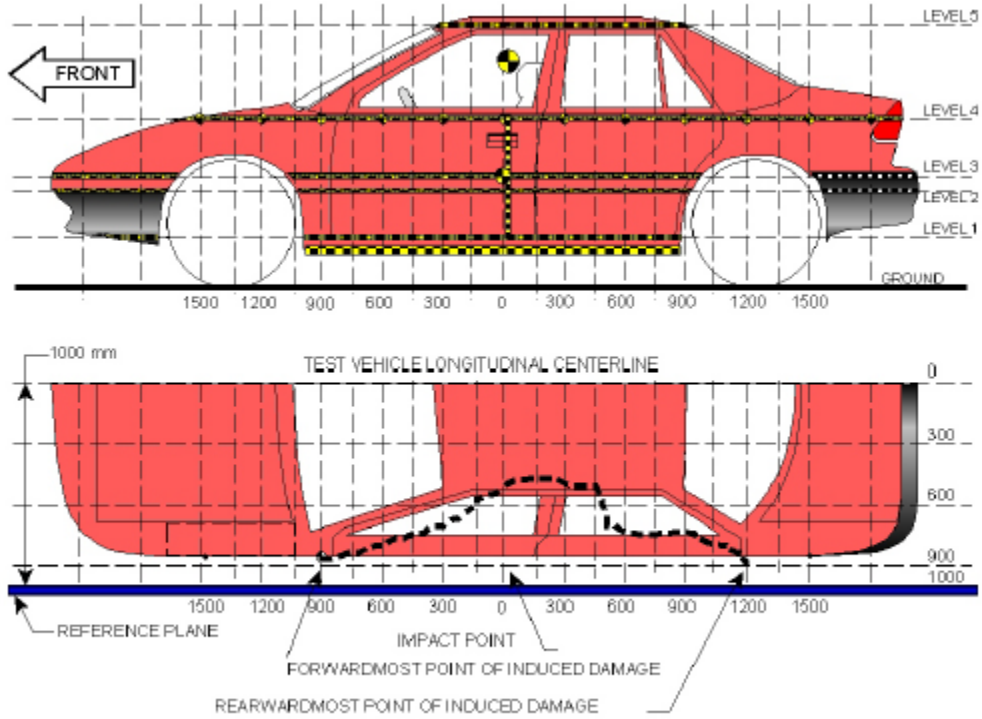
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2630	2580	50
B	Front Axle to Front Surface of Vehicle	915	915	0
C	Rear Axle to Rear Surface of Vehicle	850	850	0
D	Total Length at Centerline	4395	4365	30
E	Front Bumper Thickness	116	116	0
F	Front Bumper Bottom to Ground	506	506	0
G	Sill Height at Front Wheel Well	385	392	-7
H	Sill Height at Front Door Leading Edge	387	411	-24
I	Sill Height at B-Pillar	415	457	-42
J1	Sill Height at Rear Wheel Well	428	470	-42
J2	Pinch Weld Height at Rear Wheel Well	266	295	-29
K	Sill Height Aft of Rear Wheel Well	425	450	-25
L	Rear Bumper Thickness	107	107	0
M	Rear Bumper Bottom to Ground	577	605	-28
N	Sill Height to Bottom of Front Window Sill	783	816	-33
O	Front Door Leading Edge to Impact CL	666	525	141
P	Rear Door Trailing Edge to Impact CL	1359	1330	29
Q	Front Window Opening	400	373	27
R	Right Side Length	4310	4285	25
S	Left Side Length	4330	4265	65
T	Vehicle Width at B-Pillars	1774	1680	94
U	Front Wheel Track Width	1530	1530	0
V	Rear Wheel Track Width	1530	1530	0

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022



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	419	231	150
2	Occupant H-Point	657	283	150
3	Mid-Door	742	294	150
4	Window Sill	1063	269	150
5	Window Top	1550	114	150

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: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

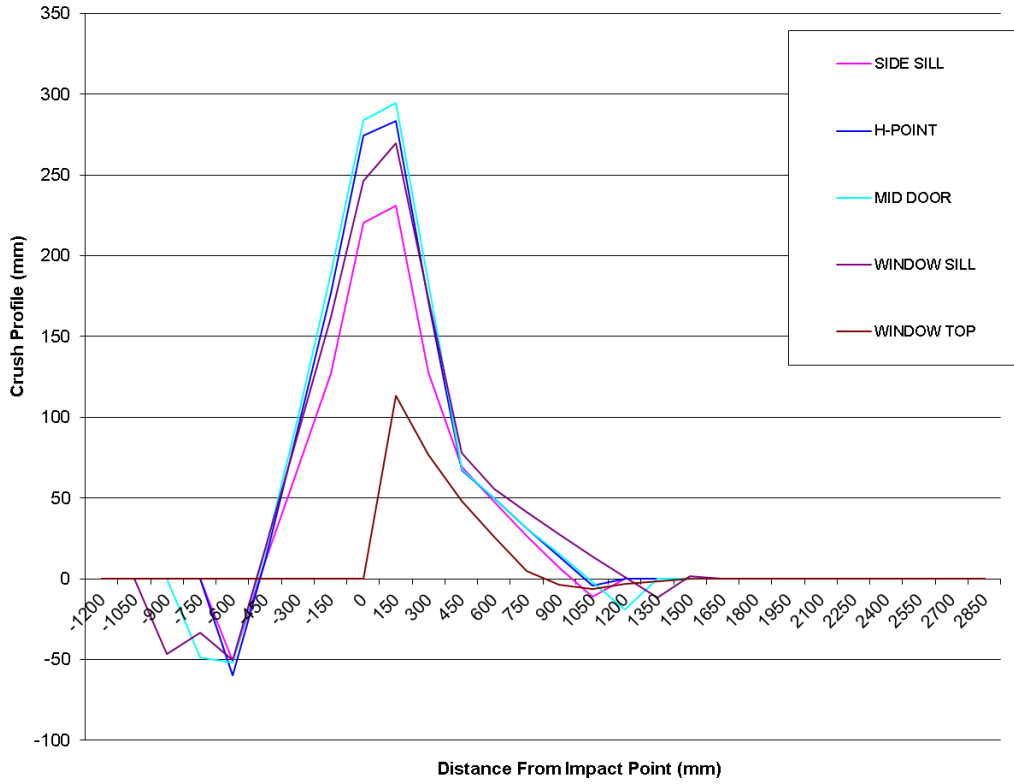
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900	0	0	0	776	0	0	0	0	823	0	0	0	0	-47	0
-750	0	0	906	795	0	0	0	954	828	0	0	0	-48	-33	0
-600	885	899	898	809	0	936	959	950	859	0	-51	-60	-52	-50	0
-450	862	892	891	822	0	851	880	874	803	0	11	12	17	19	0
-300	845	890	891	831	0	778	798	792	742	0	67	92	99	89	0
-150	848	886	892	837	0	720	709	703	675	0	128	177	189	162	0
0	851	887	892	843	0	630	612	608	597	0	221	275	284	246	0
150	853	886	892	848	617	622	603	598	579	503	231	283	294	269	114
300	855	885	892	853	620	727	714	708	680	543	128	171	184	173	77
450	855	884	890	856	620	786	817	823	778	571	69	67	67	78	49
600	853	881	888	858	618	805	831	838	802	592	48	50	50	56	26
750	851	878	884	859	616	824	847	853	818	611	27	31	31	41	5
900	864	883	886	860	612	857	869	871	832	616	7	14	15	28	-4
1050	881	899	898	859	605	892	903	900	845	611	-11	-4	-2	14	-6
1200	0	0	907	884	598	0	0	926	883	601	0	0	-19	1	-3
1350	0	0	0	851	587	0	0	0	863	588	0	0	0	-12	-1
1500	0	0	0	845	0	0	0	0	843	0	0	0	0	2	0

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

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

Test Vehicle: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

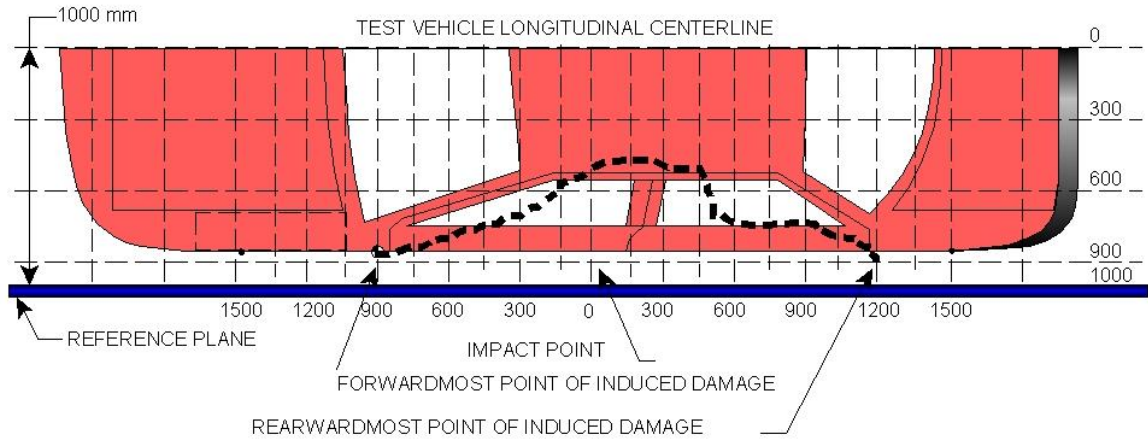
NHTSA No.: M20220301
Test Date: 3/16/2022



DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022



VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	1500	4	843	845	2
2	1050	4	845	859	14
3	750	4	818	859	41
4	300	3	708	892	184
5	0	3	608	892	284
6 ¹	-450	4	803	822	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

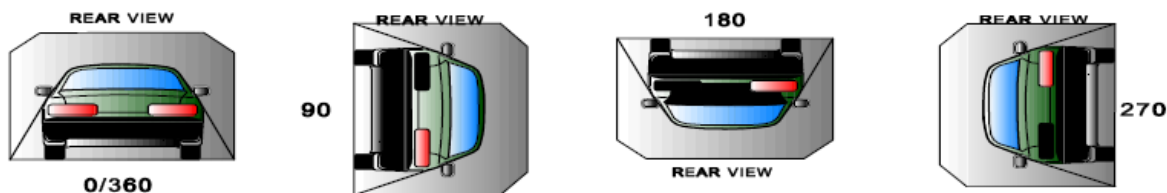
Test Vehicle: 2022 Jeep Compass
 Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
 Test Date: 3/16/2022

Test Time: 14:18 **Temperature:** 22.5°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

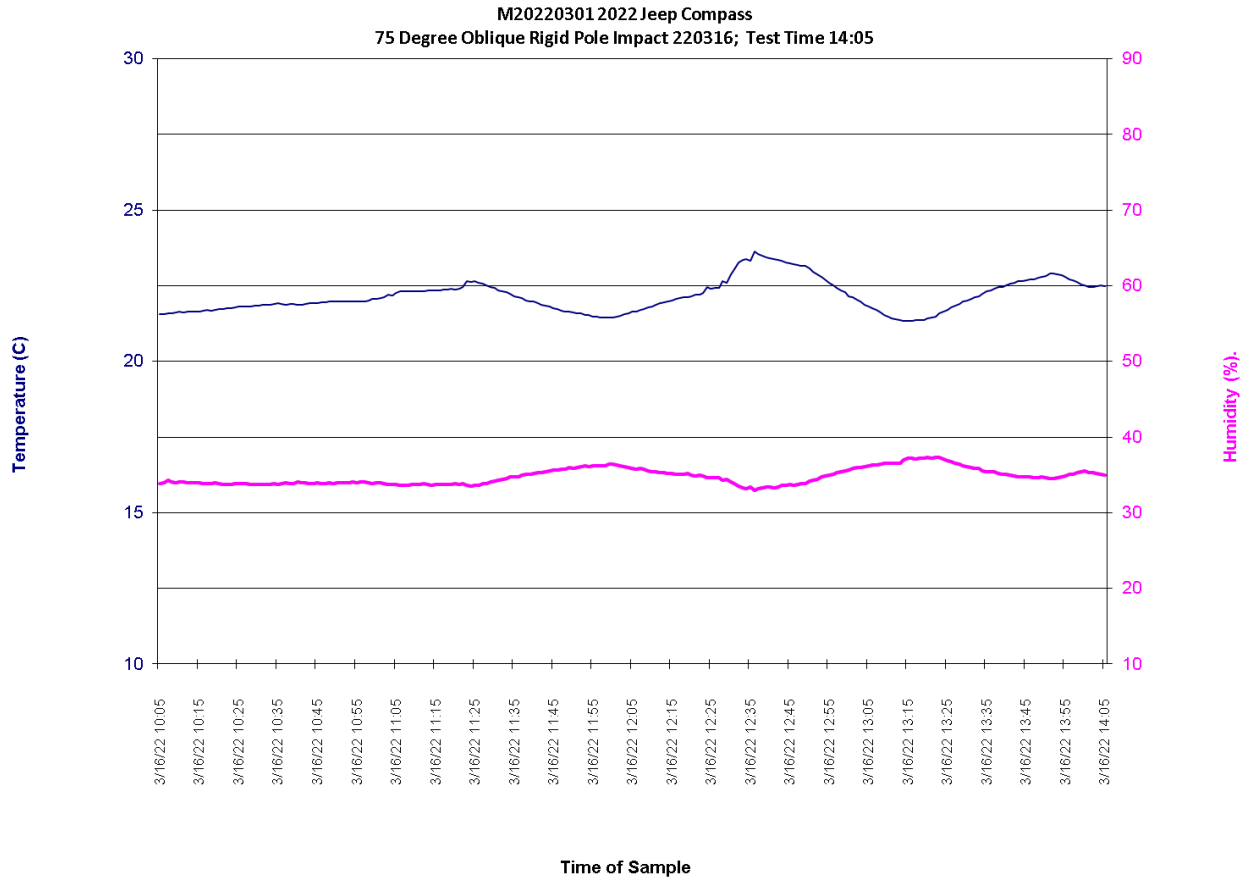
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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: 2022 Jeep Compass
Test Program: SPNCAP Side Impact

NHTSA No.: M20220301
Test Date: 3/16/2022



**APPENDIX A
PHOTOGRAPHS**

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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
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8	Post-Test Left Side View of Test Vehicle	A-7
9	Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle	A-8
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11	Pre-Test Rear View of Test Vehicle	A-9
12	Post-Test Rear View of Test Vehicle	A-9
13	Pre-Test Right Side View of Test Vehicle	A-10
14	Post-Test Right Side View of Test Vehicle	A-10
15	Pre-Test Overhead View of Test Area	A-11
16	Post-Test Overhead View of Test Area	A-11
17	Pre-Test Left Side View of Pole Positioned Against Side of Vehicle	A-12
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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
25	Post-Test Left Side View of Dummy Shoulder and Door Top View	A-16
26	Pre-Test Front View of Seat Back Prior to Dummy Positioning	A-17
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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
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40	Pre-Test Dummy and Door Clearance View	A-24
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48	Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View	A-28
49	Post-Test Dummy Close-Up Torso Contact with Side Airbag View	A-29
50	Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View	A-29
51	Post-Test Dummy Close-Up Pelvis Contact with Side Airbag View	A-30
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62	Post-Test Pole Barrier Side View	A-35
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66	FMVSS No. 301 Static Rollover 90 Degrees	A-37
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68	FMVSS No. 301 Static Rollover 270 Degrees	A-38
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71	Monroney Label	A-40
72	Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-40
73	Post-Test View of Shattered Vehicle Inner Door Panel	A-41



No. 001 As Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



No. 002 As Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle



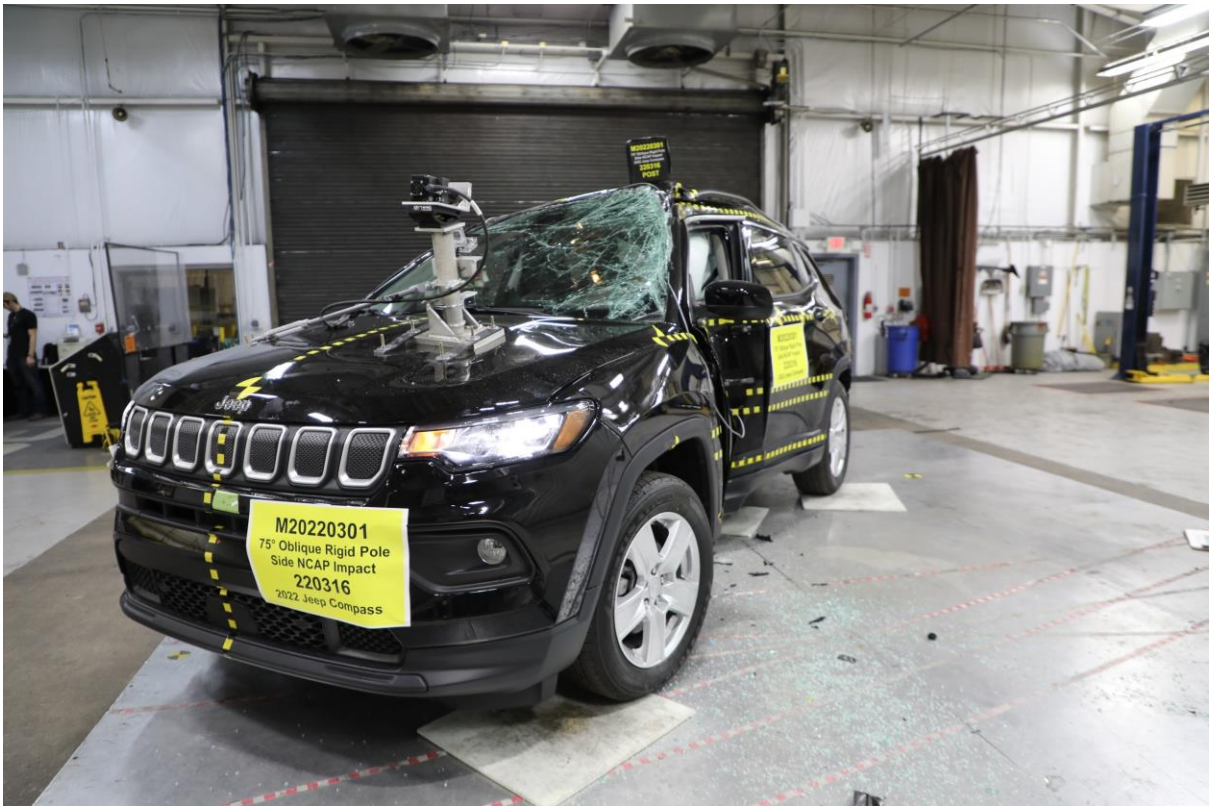
No. 003 Pre-Test Frontal View of Test Vehicle



No. 004 Post-Test Frontal View of Test Vehicle



No. 005 Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle



No. 006 Post-Test Left Front $\frac{3}{4}$ 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 3/4 View of Test Vehicle



No. 010 Post-Test Left Rear 3/4 View of Test Vehicle



No. 011 Pre-Test Rear View of Test Vehicle



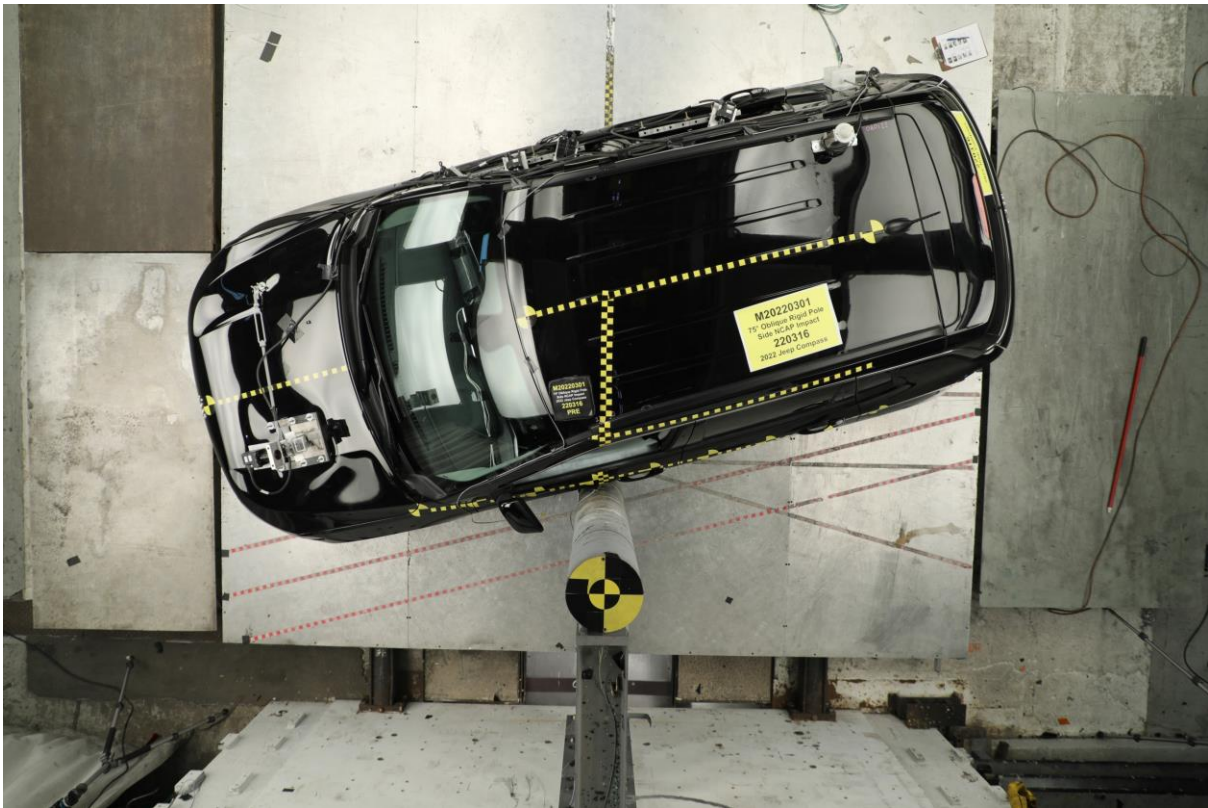
No. 012 Post-Test Rear View of Test Vehicle



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



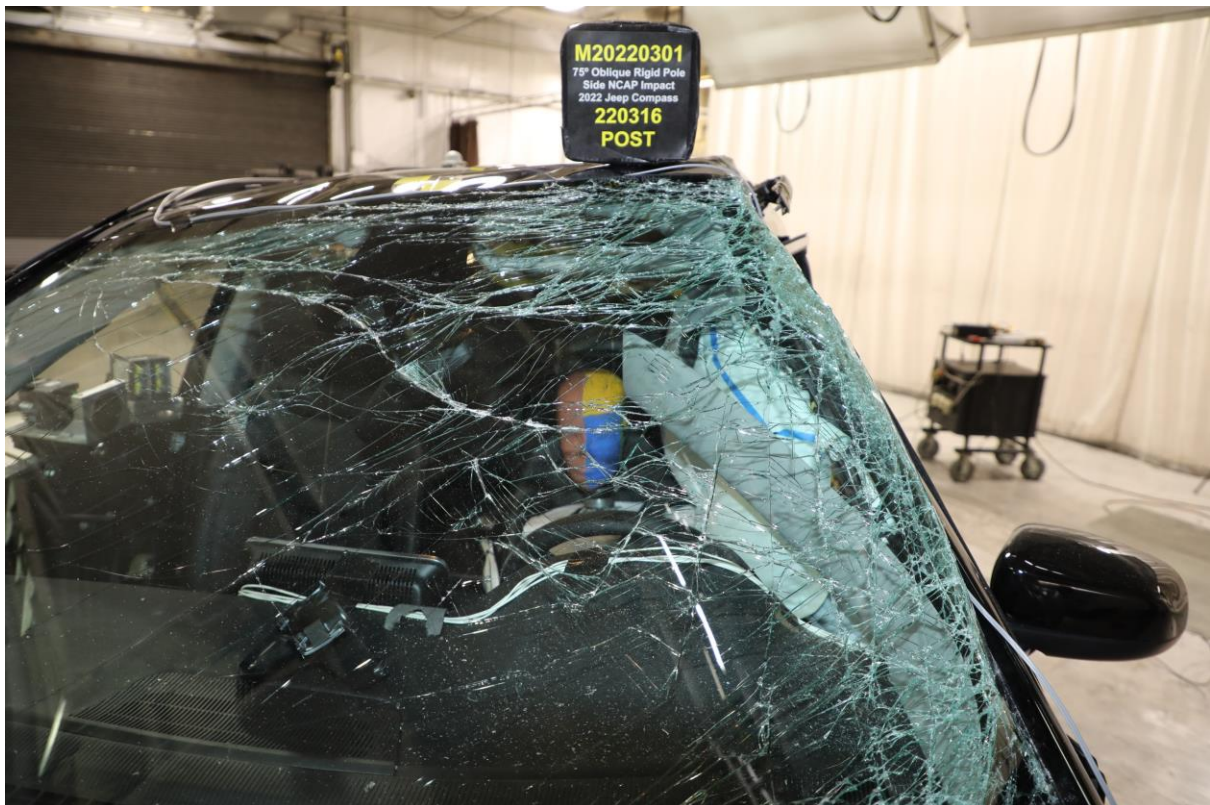
No. 019 Pre-Test Close-Up View of Impact Point Target



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



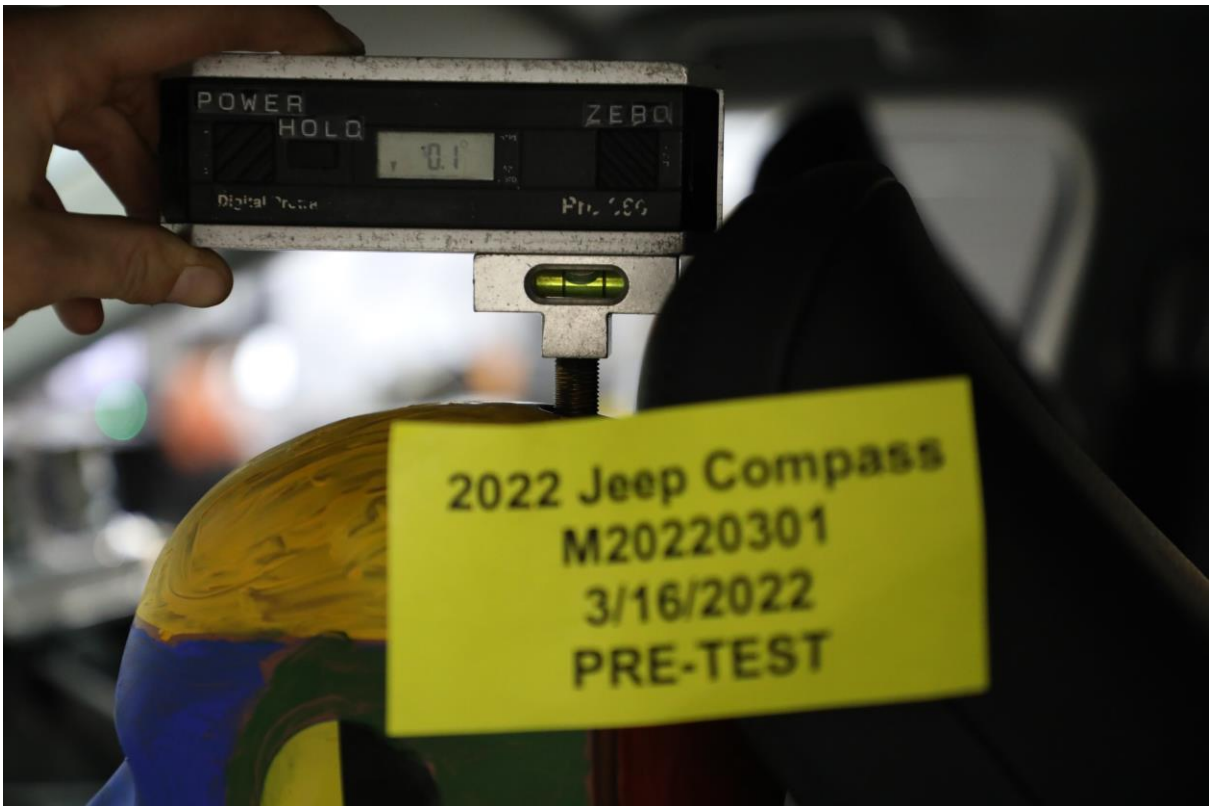
No. 028 Pre-Test Front View of Seat Pan Prior to Dummy Positioning



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



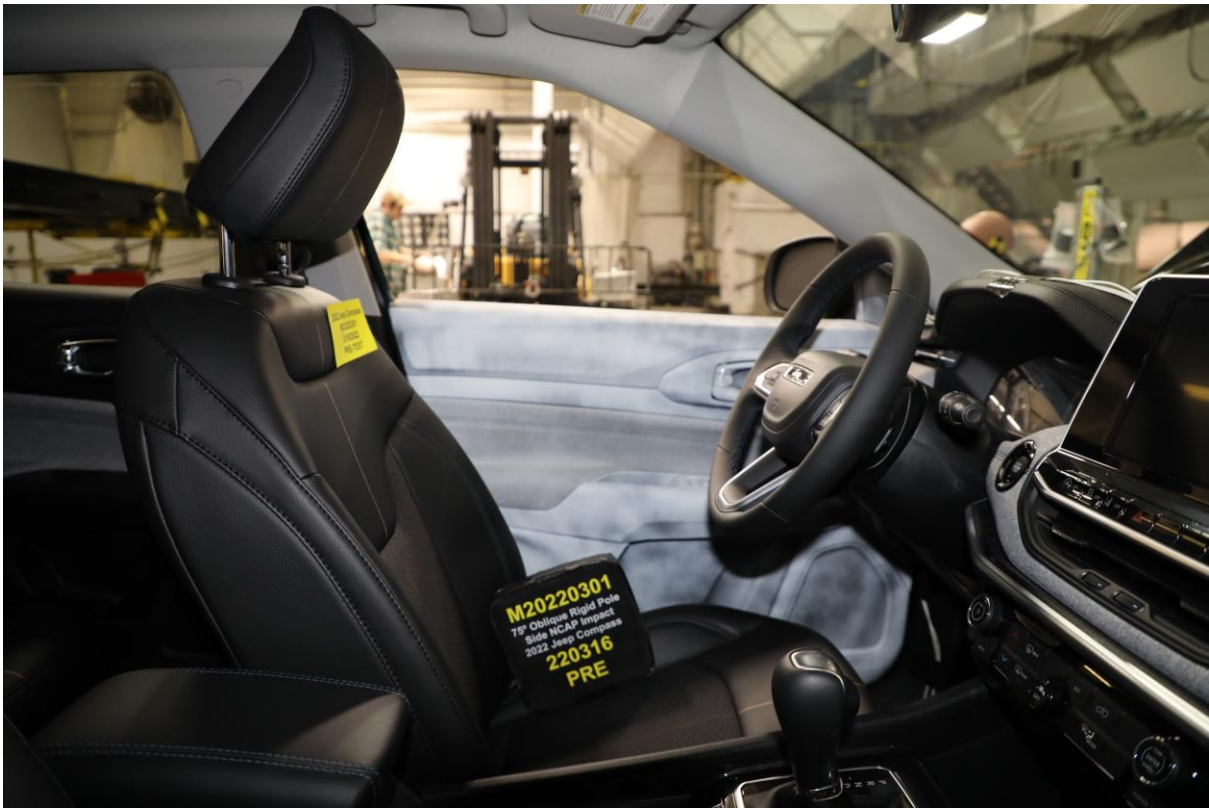
No. 041 Post-Test Dummy and Door Clearance View



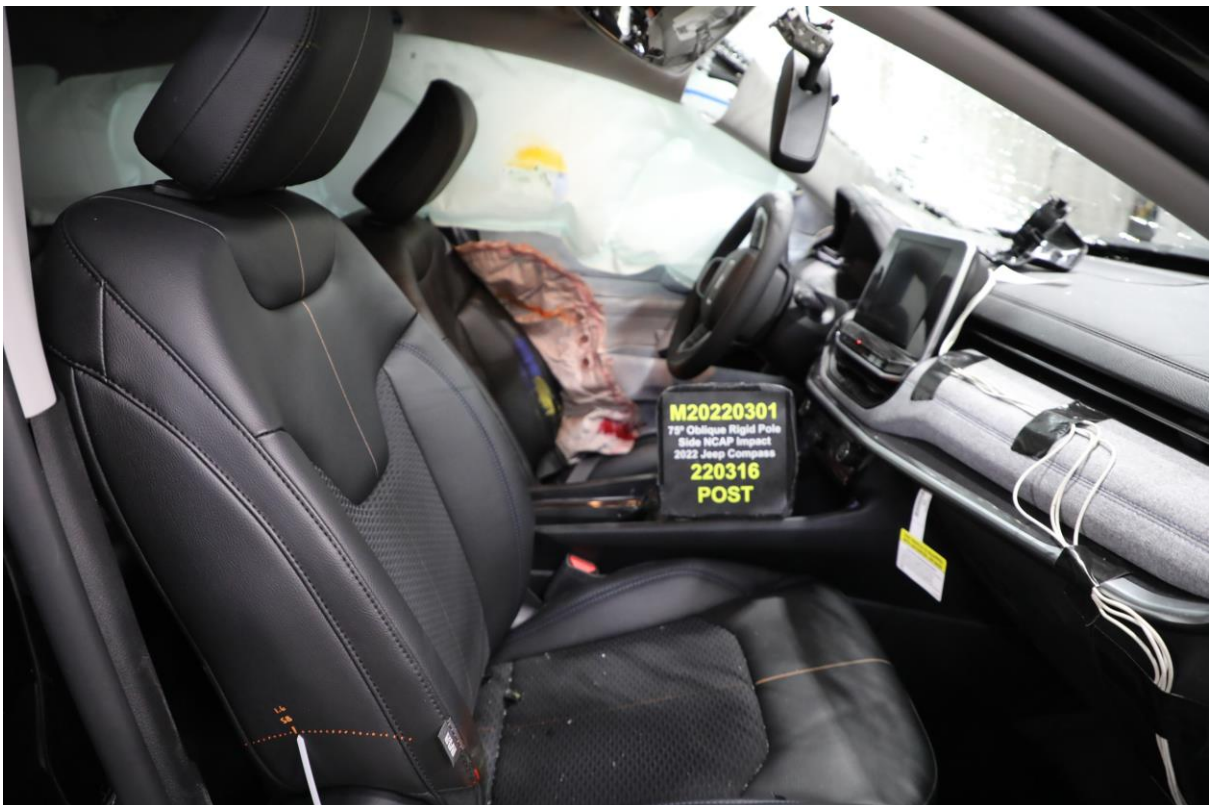
No. 042 Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment



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

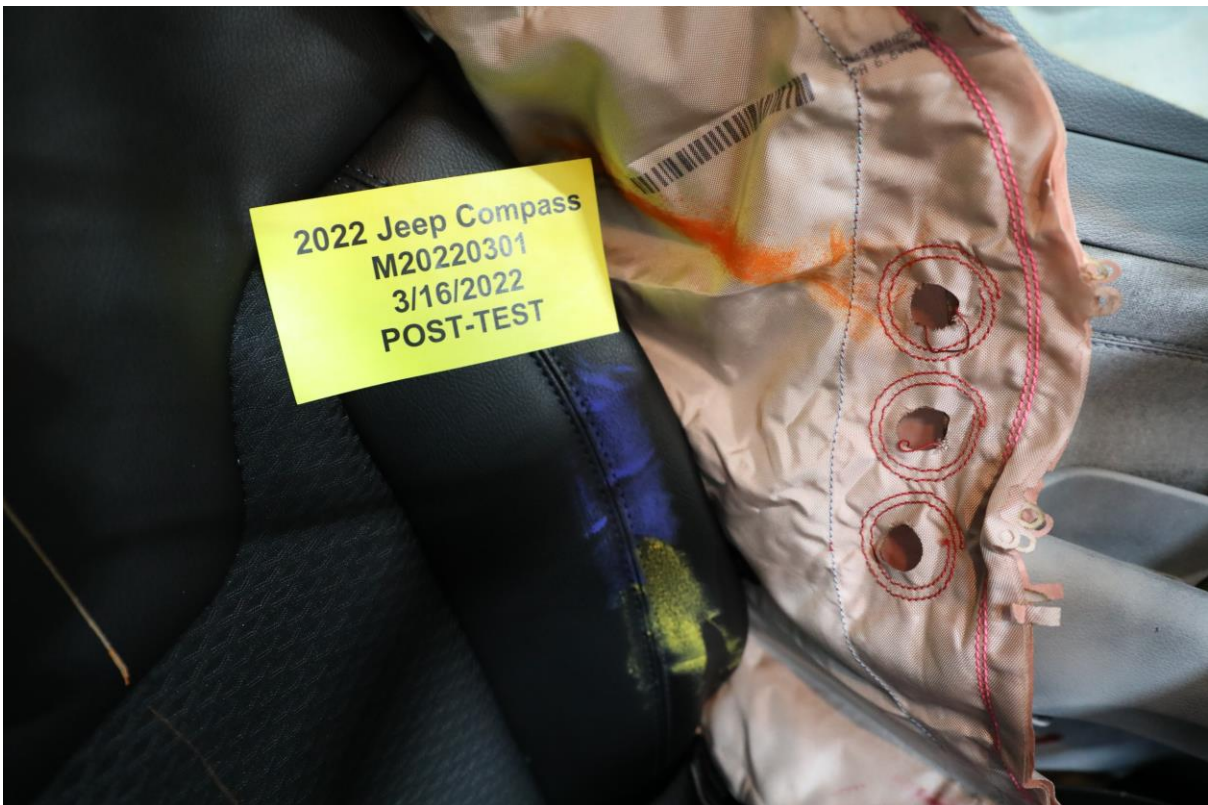
PHOTO NOT APPLICABLE

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

Intentionally Left Blank



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



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



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



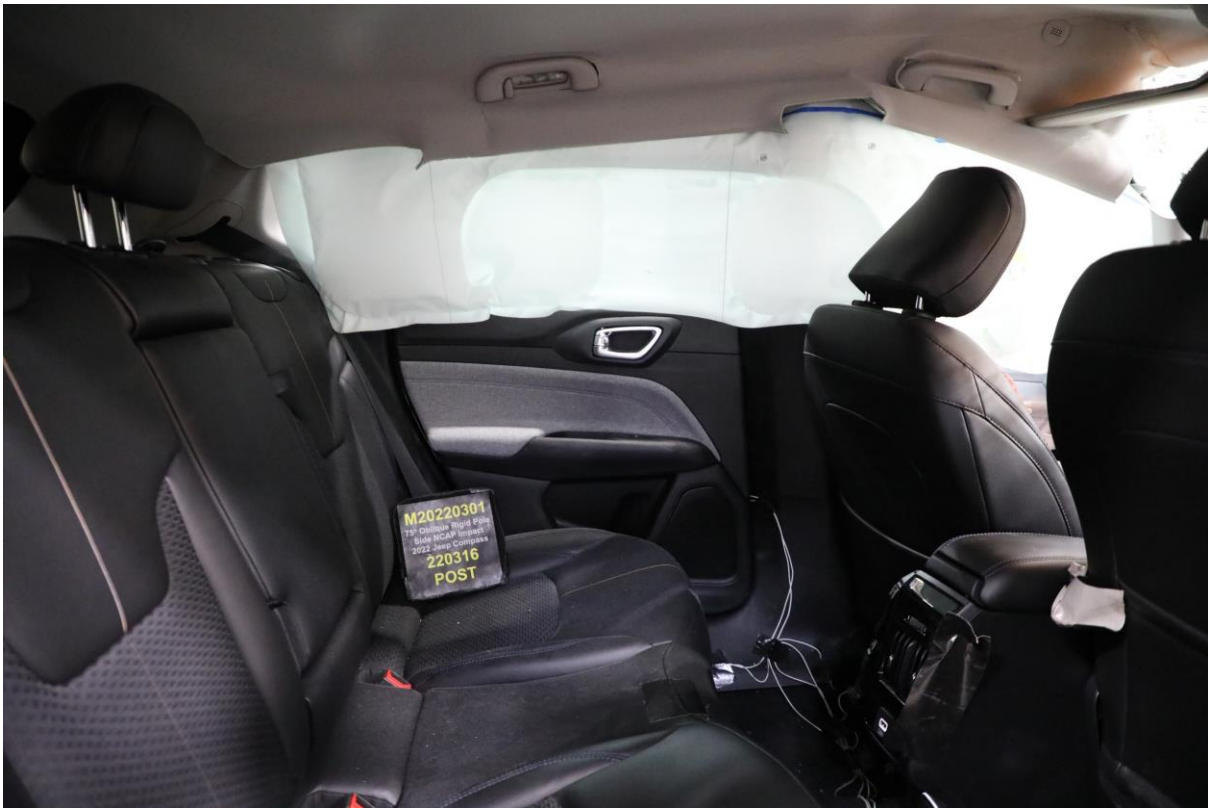
No. 050 Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View



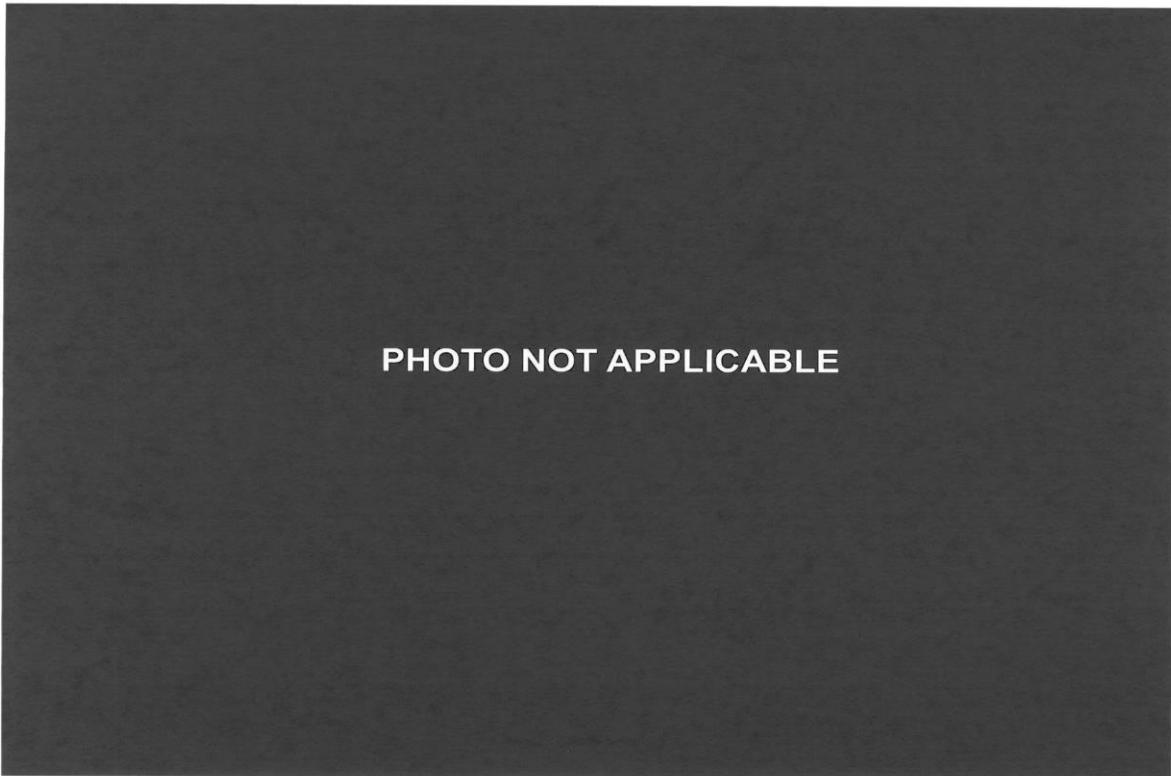
No. 051 Post-Test Dummy Close-Up Pelvis Contact with Side Airbag View



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



No. 053 Post-Test Right Side View of Dummy and Rear Seat of Occupant Compartment



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



No. 55 Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



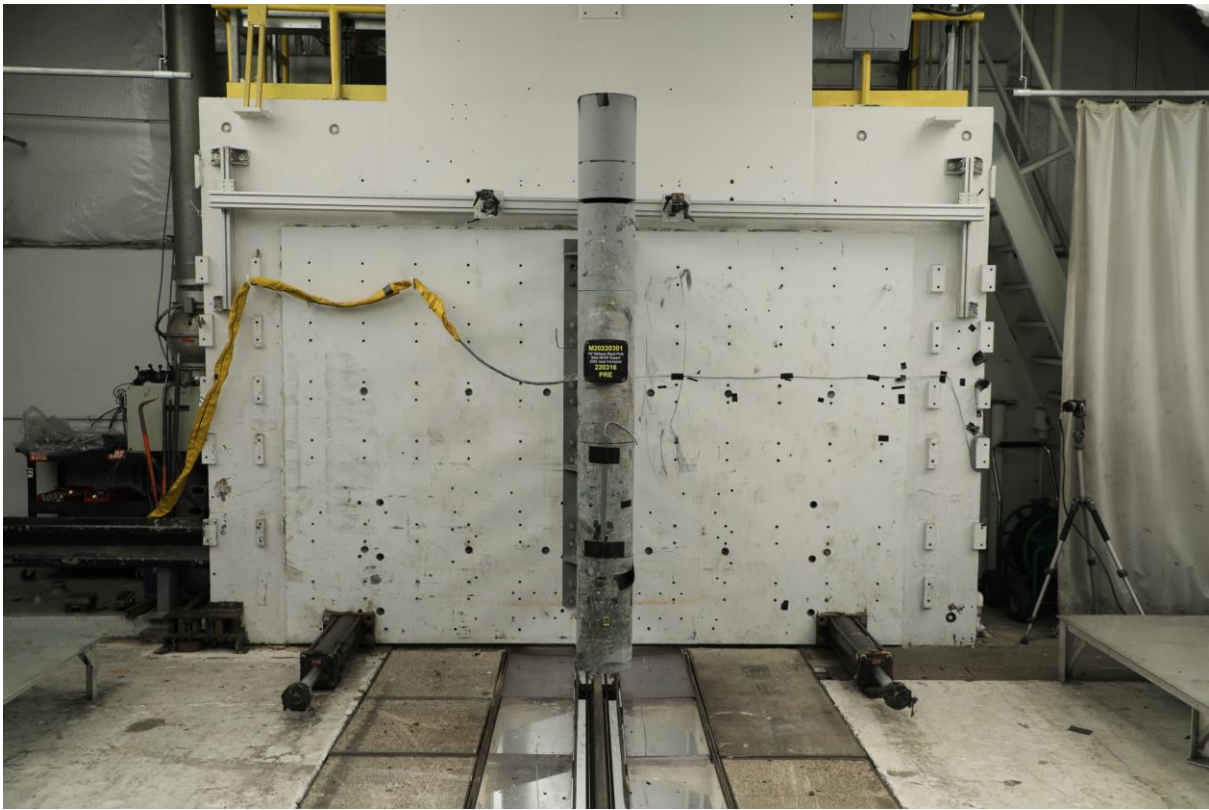
No. 056 Post-Test View of Fuel Filler Cap or Fuel Filler Neck



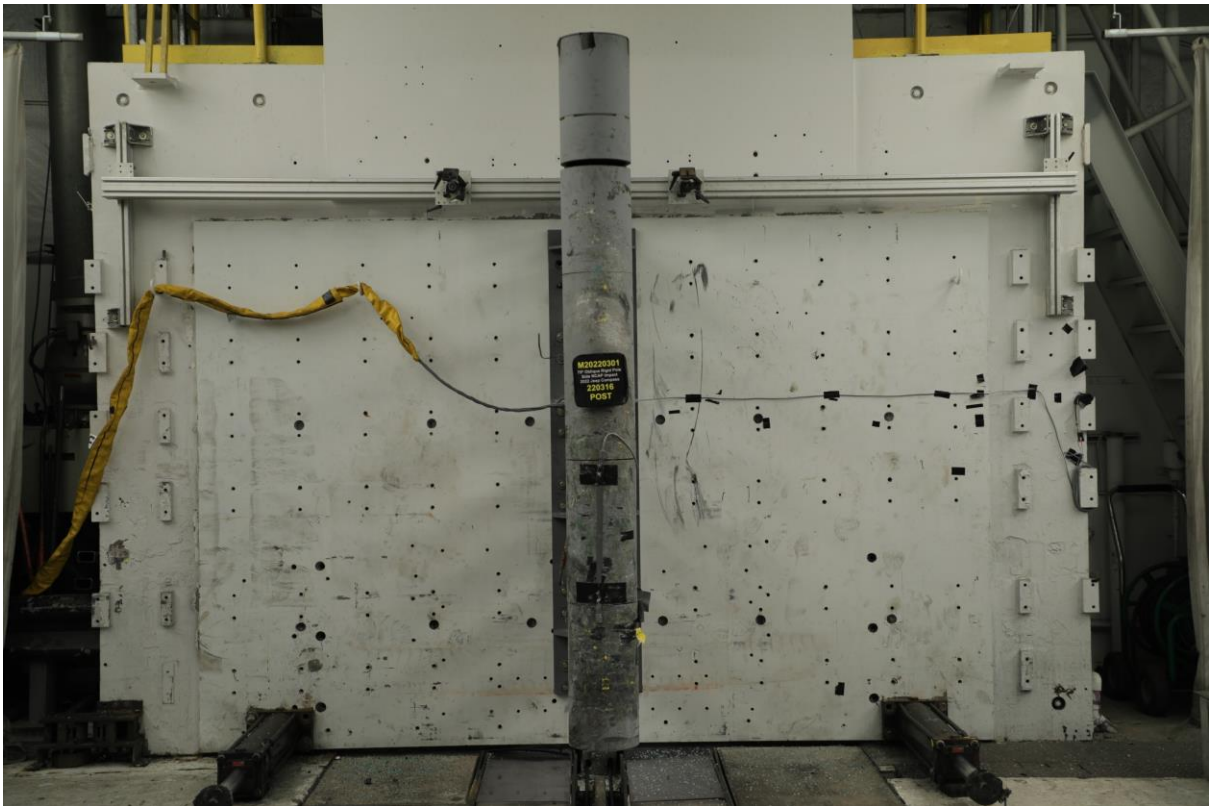
No. 057 Close-Up View of Vehicle Certification Label



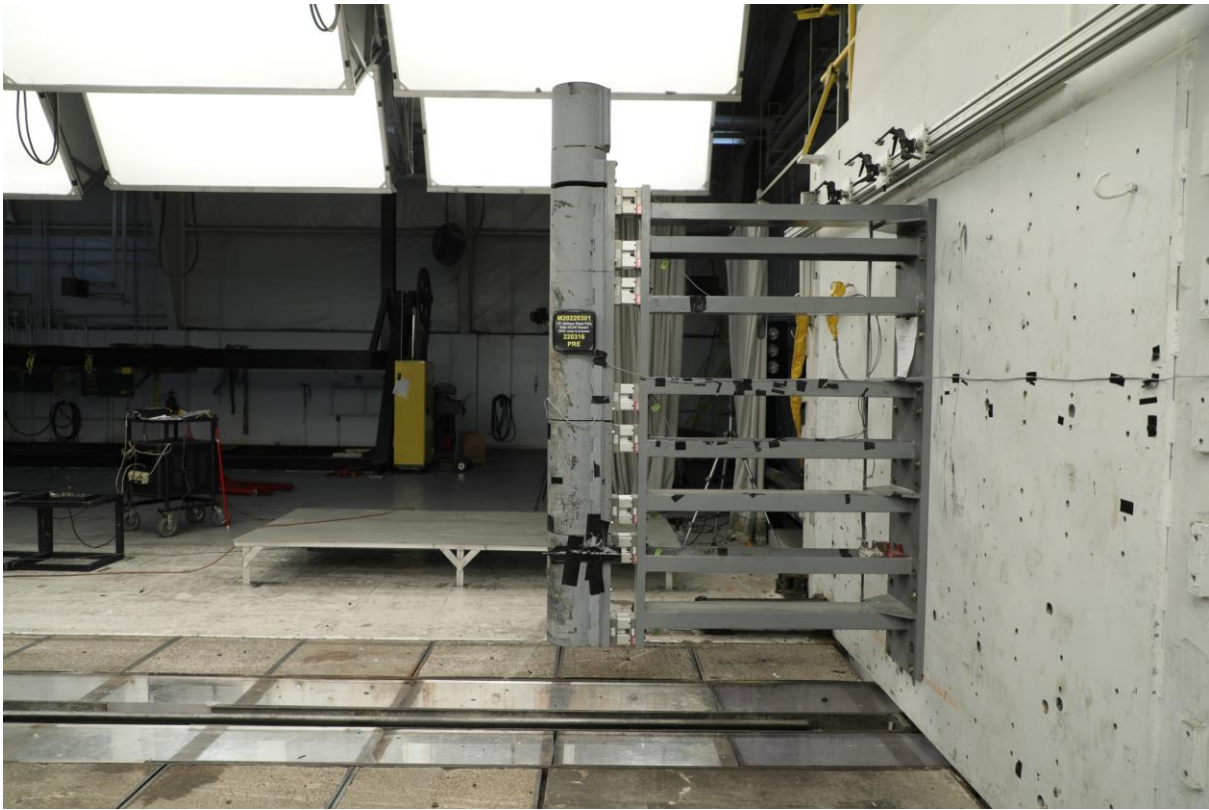
No. 058 Close-Up View of Vehicle Tire Information Placard or Label



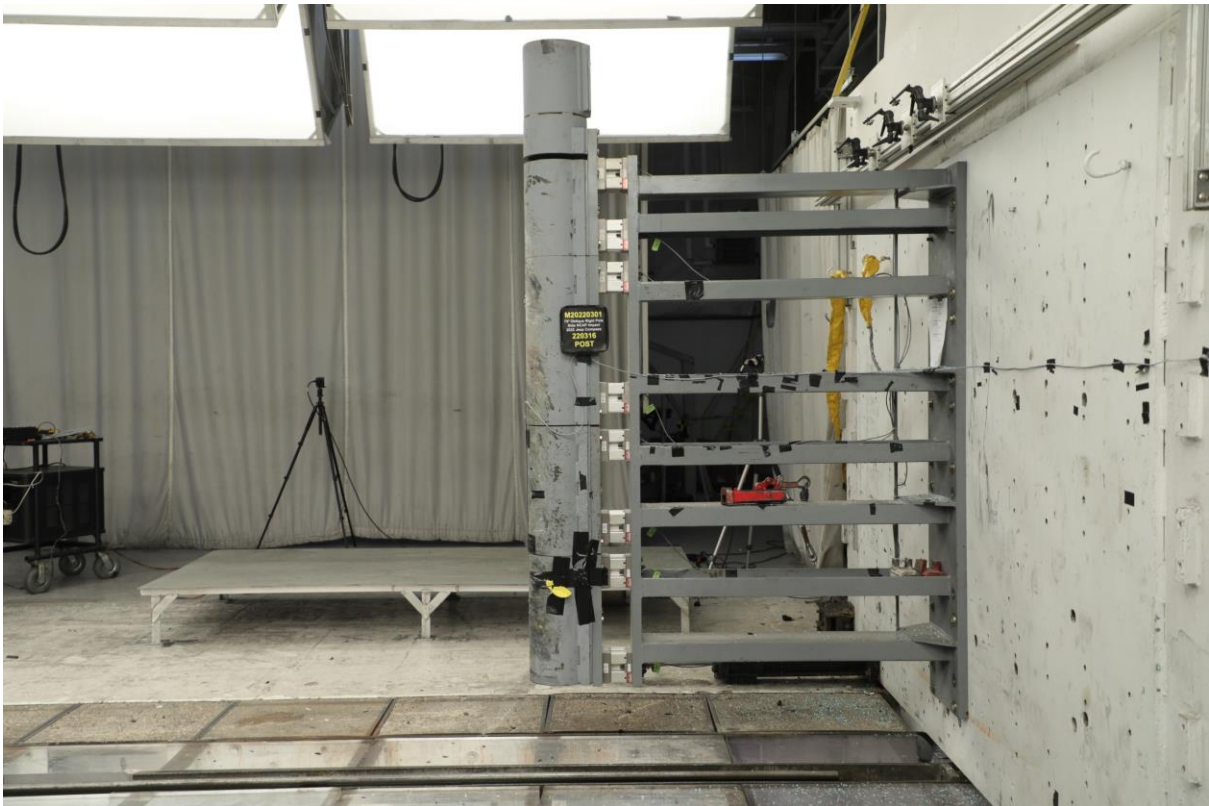
No. 059 Pre-Test Pole Barrier Front View



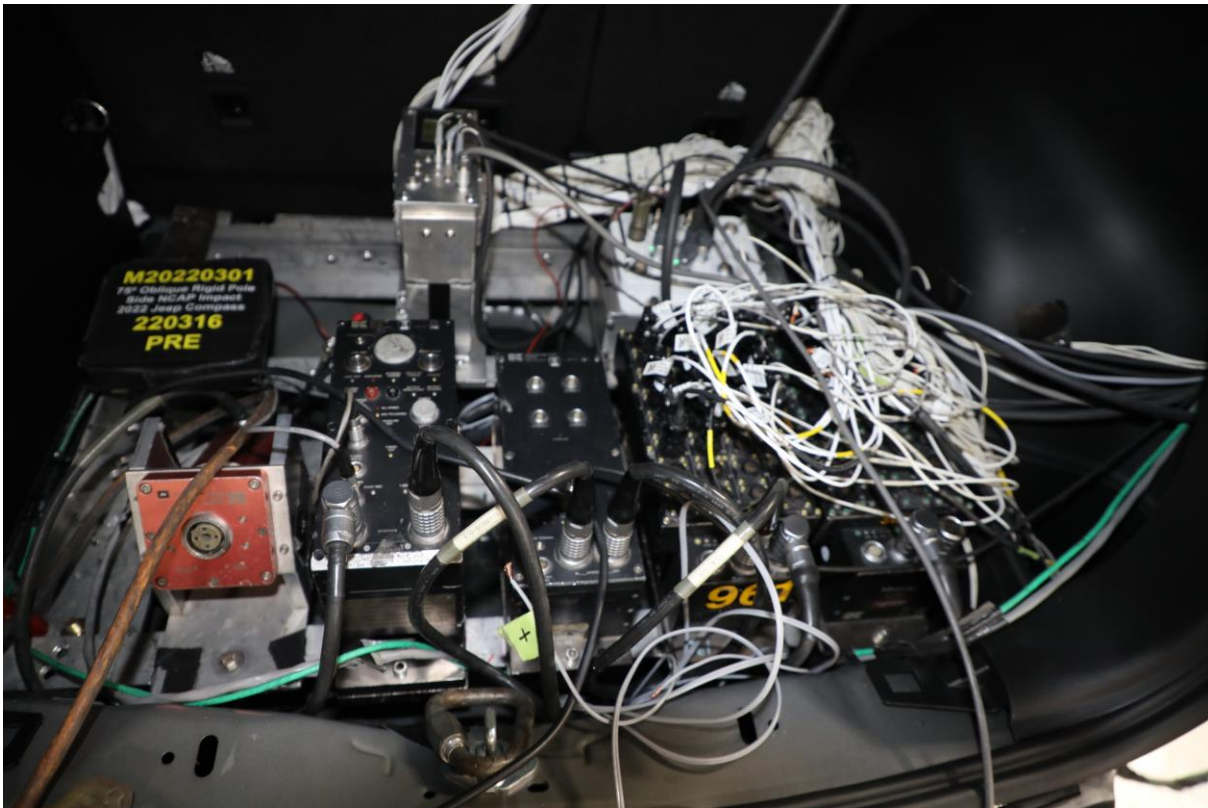
No. 060 Post-Test Pole Barrier Front View



No. 061 Pre-Test Pole Barrier Side View



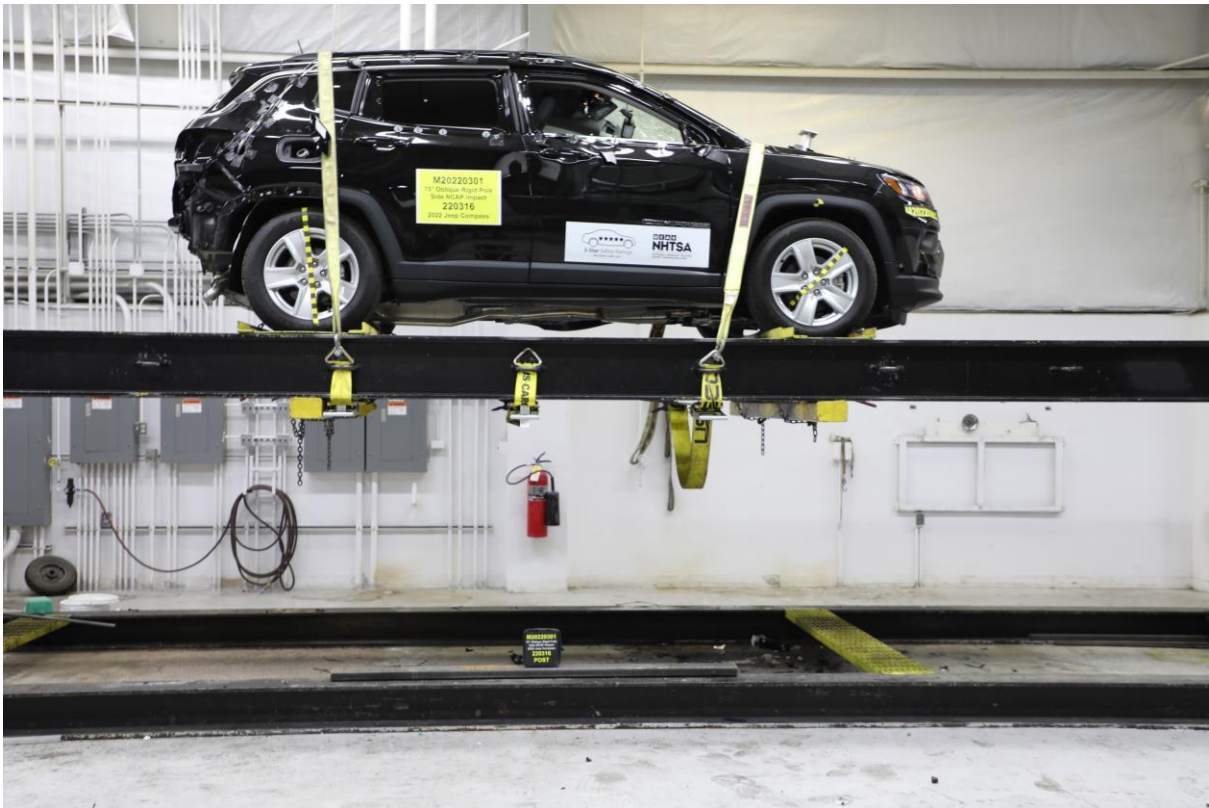
No. 062 Post-Test Pole Barrier Side View



No. 063 Pre-Test Ballast View



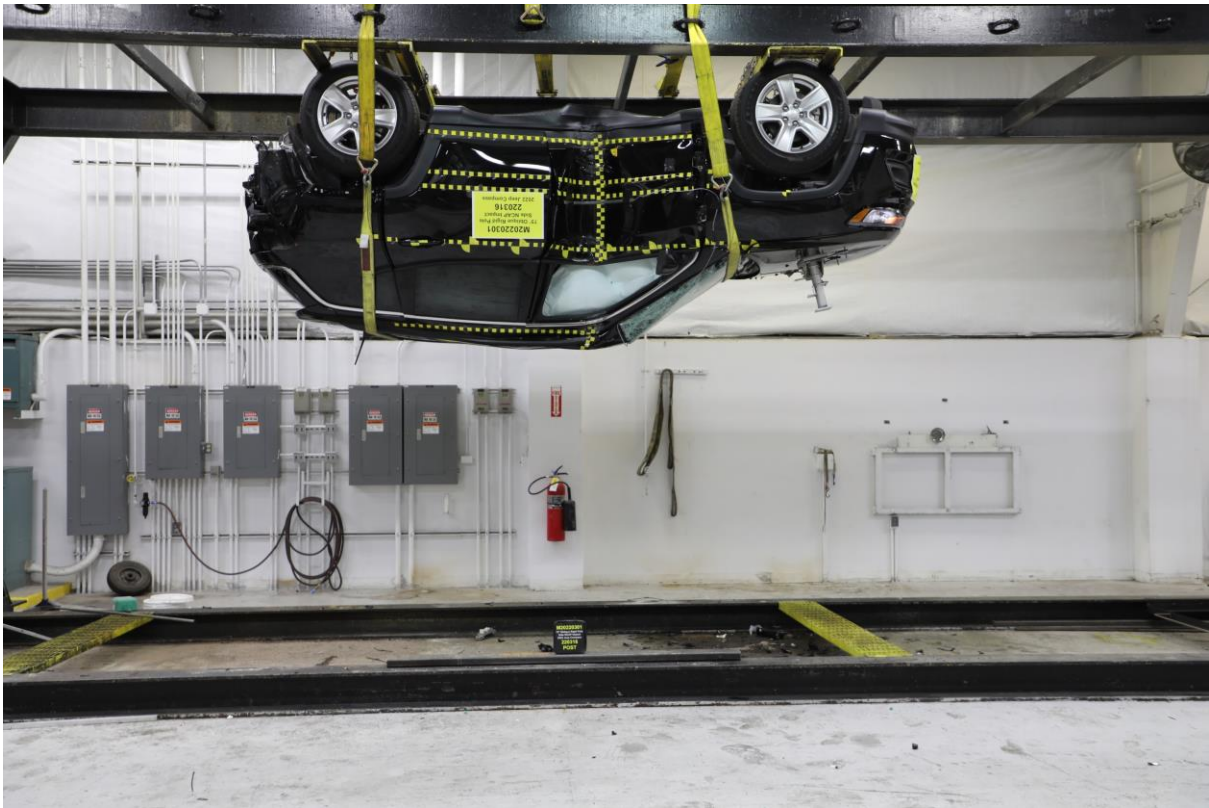
No. 064 Post-Test Primary and Redundant Speed Trap Read Out



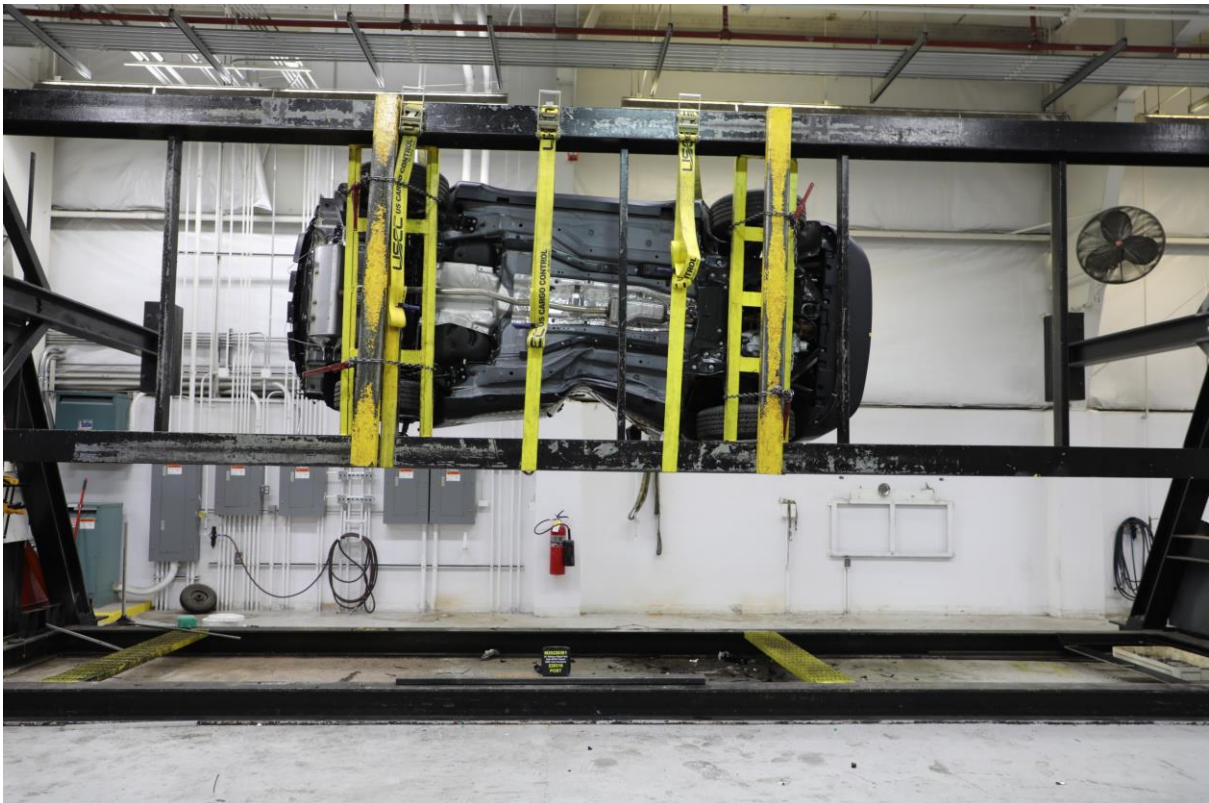
No. 065 FMVSS No. 301 Static Rollover 0 Degrees



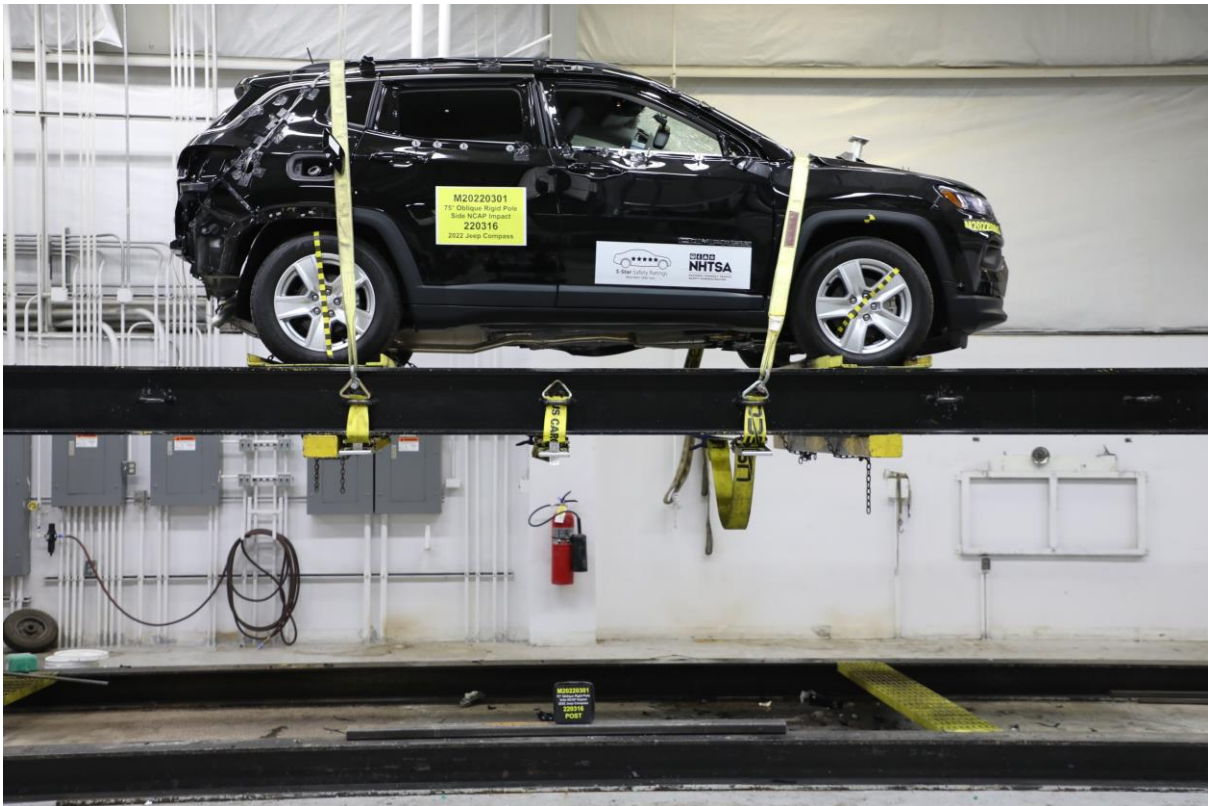
No. 066 FMVSS No. 301 Static Rollover 90 Degrees



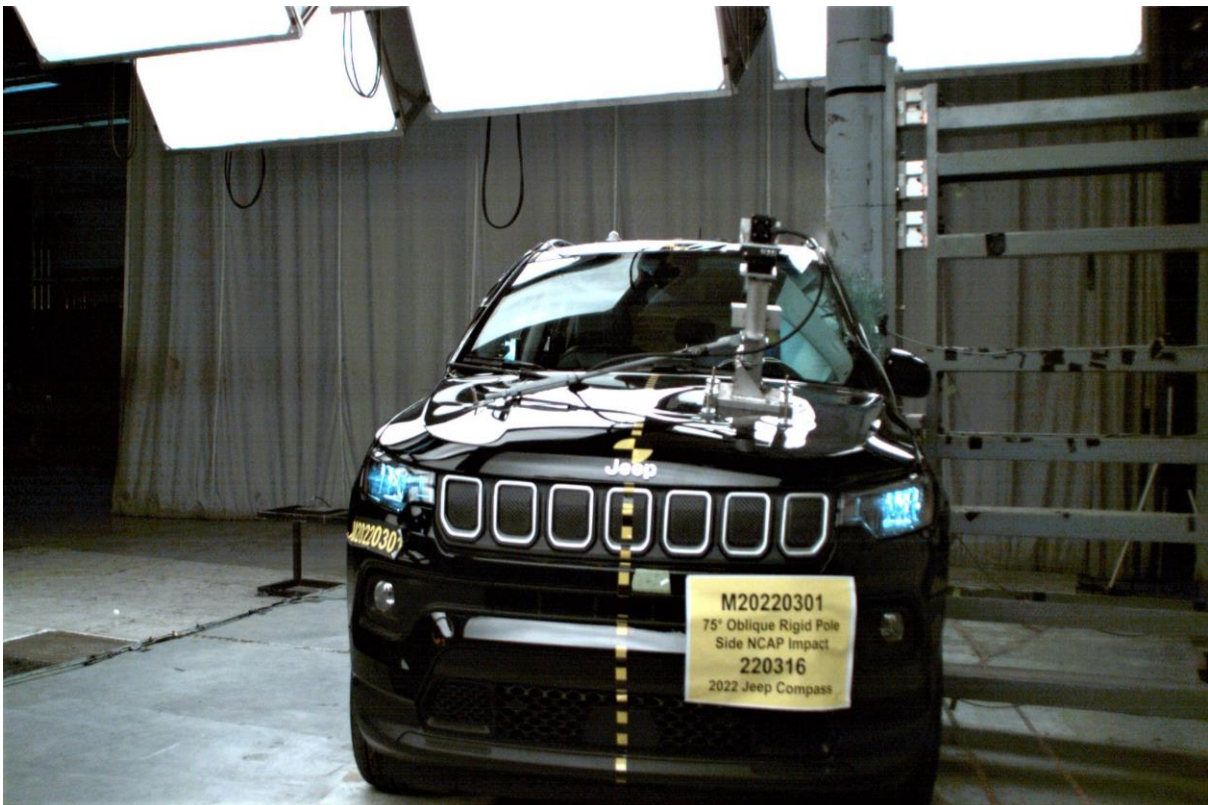
No. 067 FMVSS No. 301 Static Rollover 180 Degrees



No. 068 FMVSS No. 301 Static Rollover 270 Degrees



No. 069 FMVSS No. 301 Static Rollover 360 Degrees



No. 070 Impact Event

Jeep 2022 MODEL YEAR
COMPASS LATITUDE FWD

For more information visit: www.jeep.com
or call 1-877-IAM-JEEP

FCA US LLC

THIS VEHICLE IS MANUFACTURED TO MEET SPECIFIC UNITED STATES REQUIREMENTS. THIS VEHICLE IS NOT MANUFACTURED FOR SALE OR REGISTRATION OUTSIDE OF THE UNITED STATES.

MANUFACTURER'S SUGGESTED RETAIL PRICE OF THIS MODEL INCLUDING DEALER PREPARATION

Base Price: \$27,685

JEOP COMPASS LATITUDE FWD
Exterior Color: Diamond Black Crystal Pearl-Coat Exterior Paint
Interior Color: Black Interior Color
Interior: Premium Cloth / Vinyl Bucket Seats
Engine: 2.4L I4 Zero Emission MultiAir® Engine w/ Start / Stop
Transmission: 6-Speed Auto 121-250 Gear 3 Auto Trans

STANDARD EQUIPMENT (unless replaced by optional equipment)

FUNCTIONAL/SAFETY FEATURES

Advanced Multistage Front Air Bags
Driver Inflatable Knee-Roller Air Bag
Supplemental Side-Curtain Front and Rear Air Bags
Supplemental Front Seat-Mounted Side Air Bags
Full-Speed Forward-Collision Warning Plus
Blind-Spot and Cross-Path Detection
Active Lane-Management System
Pedestrian / Cyclist Emergency Braking
Jeep Wave Membership (Retail Sales/50 States Only)
Remote-Proximity Keyless-Entry
Push-Button Start
Speed Control
Advanced Brake-Assist
Speed-Sensitive Power-Locks
Electronic Stability Control
All-Speed Traction Control
Electric Park Brake
Electronic Roll Mitigation
ParkView® Rear Back-Up Camera
Rear Window Wiper / Washer
Rear Window Defroster
Deep-Tint Sunscreen Glass
Fog and Cornering Lamps
Tire Service Kit
Anti-Lock 4-Wheel Disc Brakes

INTERIOR FEATURES

8.4-Inch Touchscreen Display
SiriusXM with 6-Month Radio Sub Call 800-643-2112
SiriusXM Guardian™ Connected Service w/1-Year Period
Apple CarPlay®
Google Android Auto™

Bluetooth® Handsfree Phone and Audio
4G LTE Wi-Fi Hot Spot with Trial Included
Steering-Wheel-Mounted Audio Controls
Power Front Windows with 1-Touch Up & Down
Rear 60/40 Folding Seat
Rear-View Day / Night Mirror
6 Speakers
Front Row USB Type A and C
Second Row USB Type A Charge-Only
Auxiliary 12-Volt Rear Power Outlet
JEEP Clean Air System

EXTERIOR FEATURES

Automatic Headlamps
Power-Adjusting Mirrors
Exterior Mirrors with Heating Element
LED Reflector Headlamps
Daytime Running Lamp System

OPTIONAL EQUIPMENT (May Replace Standard Equipment)

Diamond Black Crystal Pearl-Coat Exterior Paint \$295

Customer Preferred Package 944

DESTINATION CHARGE \$1,595

TOTAL PRICE: * \$29,575

WARRANTY COVERAGE

5-year or 60,000-mile Powertrain Limited Warranty,
3-year or 50,000-mile Basic Limited Warranty.
Ask Dealer for a copy of the limited warranties or see your owner's manual for details.

**5 YEAR / 60,000 MILE
POWERTRAIN WARRANTY**

Assembly Point/Part of Entry: TOLUCA, MEXICO

USA 3C4-NLCC82NT-137471

LA000 0374

SAFARI 4227 02

WILLYS CHRYSLER JEEP DODGE

17125HWAY 164 S

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EPA DOT Fuel Economy and Environment Gasoline Vehicle

These estimates reflect new EPA methods beginning with 2017 models. Small SUV 2WD range from 16 to 120 MPG. The best vehicle rates 142 MPG.

Fuel Economy **25** **22** **31** MPG
combined city highway
4.0 gallons per 100 miles

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

Annual fuel COST \$1,400

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

This vehicle emits 360 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates 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 22 MPG and costs \$6,500 in fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.35 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Calculate personalized estimates and compare vehicles

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score **Not Rated**

Based on the combined ratings of frontal, side and rollover. Should ONLY be compared to other vehicles of similar size and weight.

Frontal Crash	Driver Passenger	Not Rated
Based on the risk of injury in a frontal impact. Should ONLY be compared to other vehicles of similar size and weight.		
Side Crash	Front seat Rear seat	Not Rated
Based on the risk of injury in a side impact.		
Rollover		★★★
Based on the risk of rollover in a single-vehicle crash.		

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

The safety ratings above are based on Federal Government tests of particular vehicles equipped with certain features and options. The performance of this vehicle may differ.

PARTS CONTENT INFORMATION
FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 22%
MAJOR SOURCES OF FOREIGN PARTS CONTENT:

MEXICO: 68%
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT:
TOLUCA, MEXICO
COUNTRY OF ORIGIN:
ENGINE: UNITED STATES
TRANSMISSION: JAPAN

VEHICLE PROTECTION
ASK FOR MORE VEHICLE PROTECTION FOR YOUR VEHICLE. WE BUILT IT. WE BACK IT.

No. 071 Monroney Label

36 GETTING TO KNOW YOUR VEHICLE

HEAD RESTRAINTS

Head restraints are designed to reduce the risk of injury by restricting head movement in the event of a rear impact. Head restraints should be adjusted so that the top of the head restraint is located above the top of your ear.

WARNING!

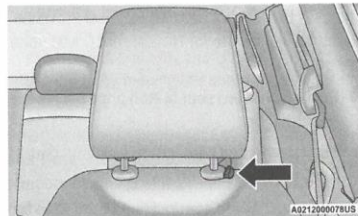
- All occupants, including the driver, should not operate a vehicle or sit in a vehicle's seat until the head restraints are placed in their proper positions in order to minimize the risk of neck injury in the event of a crash.
- Head restraints should never be adjusted while the vehicle is in motion. Driving a vehicle with the head restraints improperly adjusted or removed could cause serious injury or death in the event of a collision.

NOTE:
Do not reverse the head restraints (making the rear of the head restraint face forward) in an attempt to gain additional clearance to the back of your head.

Front Head Restraint Adjustment

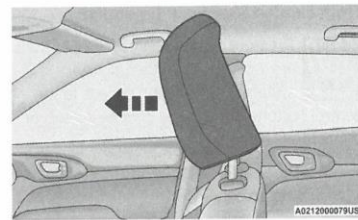
Your vehicle is equipped with front four way driver and passenger head restraints.

To raise the head restraint, pull upward on the head restraint. To lower the head restraint, push the adjustment button, located at the base of the head restraint, and push downward on the head restraint.



Head Restraint Adjustment Button

To tilt the head restraint forward, pull the top of the head restraint toward the front of the vehicle as desired and release. To tilt the head restraint rearward, pull the top of the head restraint to the forward most position and release. The head restraint will return to the rear most position.



Forward Adjustment

NOTE:
Four-way head restraints have seven tilt/locking positions. When pulling fully forward, the head restraint will spring back to the untilted, rearward most position when released.

WARNING!

- All occupants, including the driver, should not operate a vehicle or sit in a vehicle's seat until the head restraints are placed in their proper positions in order to minimize the risk of neck injury in the event of a crash.

(Continued)

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

PHOTO NOT APPLICABLE

No. 073 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)

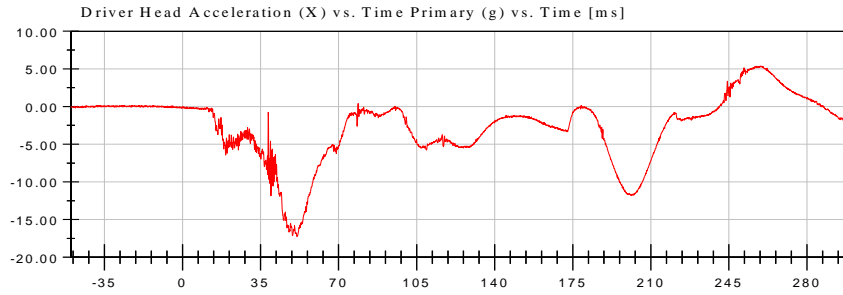
NHTSA

Position #1 SID IIs Dummy (297)

Test Date: 03/16/2022

Test Lab: CTF

Test Number: 220316 (M20220301)



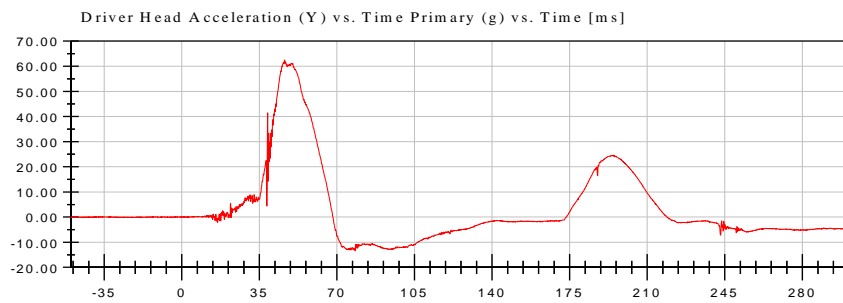
<Max>

5.40 g at 258.96 ms

<Min>

-17.28 g at 51.28 ms

CFC_1000



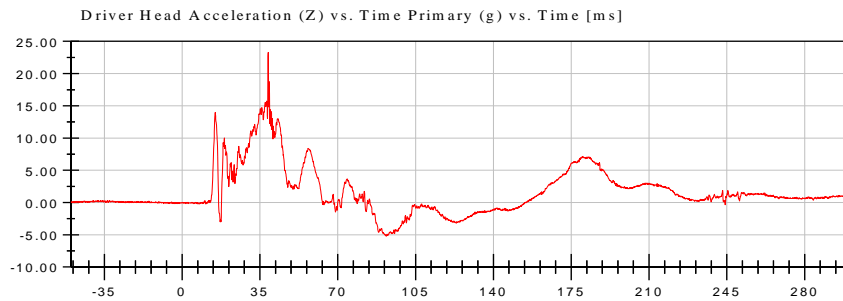
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62.52 g at 46.32 ms

<Min>

-13.46 g at 78.24 ms

CFC_1000



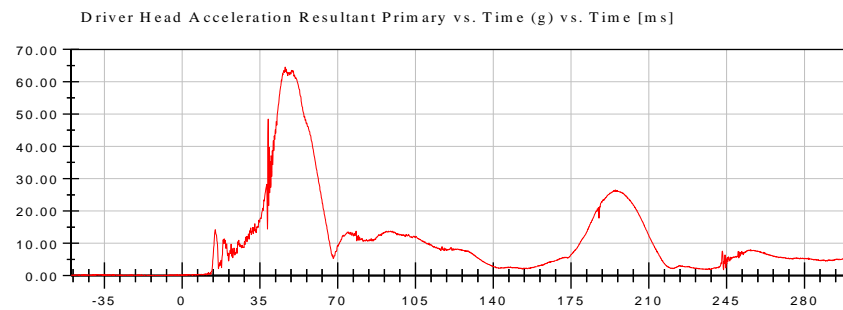
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23.28 g at 38.72 ms

<Min>

-5.22 g at 91.76 ms

CFC_1000



<Max>

64.51 g at 46.32 ms

<Min>

0.04 g at -28.56 ms

CFC_1000



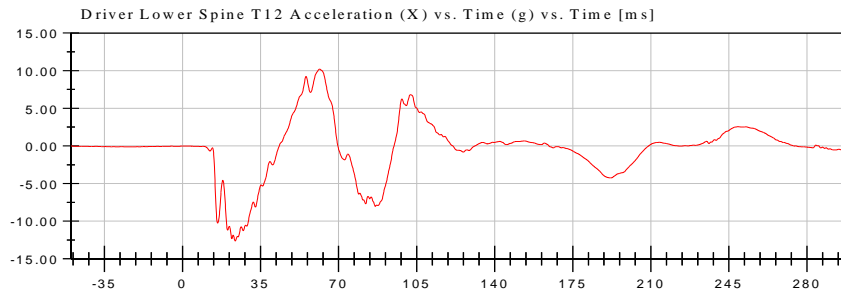
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Position #1 SID IIs Dummy (297)

Test Date: 03/16/2022

Test Lab: CTF

Test Number: 220316 (M20220301)



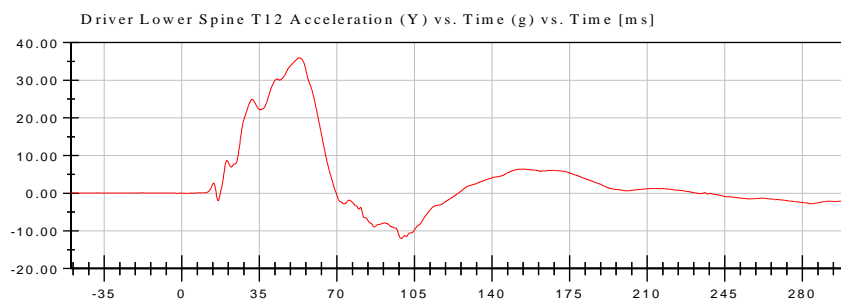
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-12.63 g at 23.68 ms

CFC_180



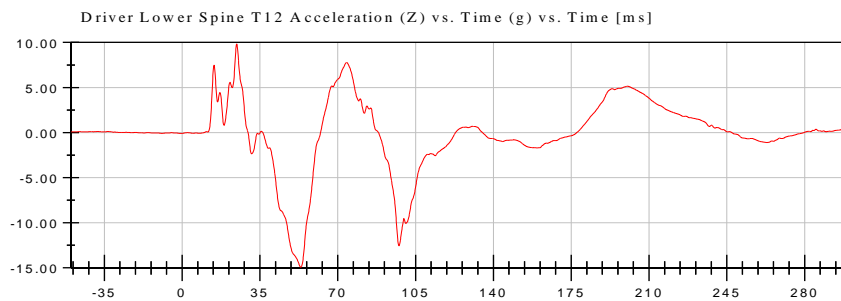
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35.94 g at 53.12 ms

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-12.00 g at 99.12 ms

CFC_180



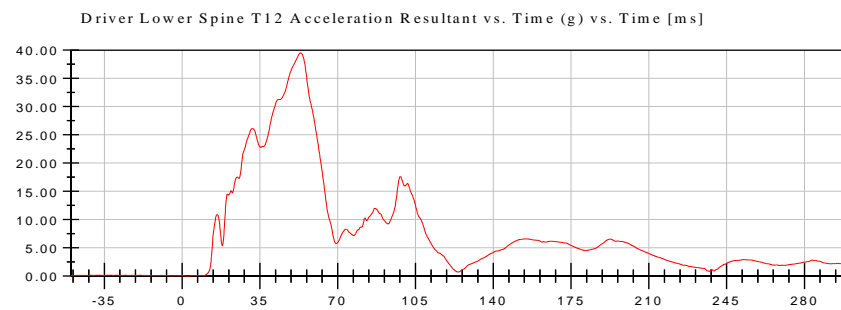
<Max>

9.82 g at 24.56 ms

<Min>

-14.93 g at 53.36 ms

CFC_180



<Max>

39.50 g at 53.28 ms

<Min>

0.03 g at 2.24 ms

CFC_180



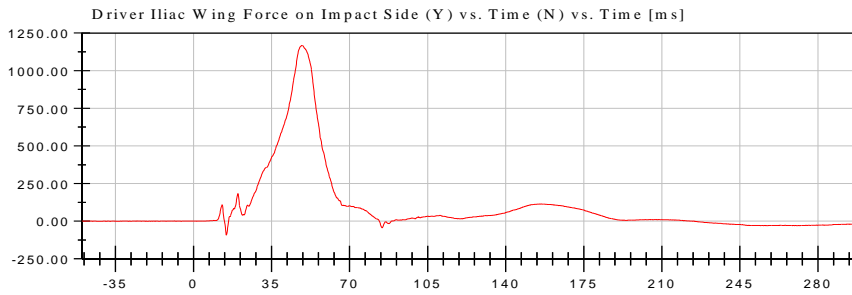
NHTSA

Position #1 SID IIs Dummy (297)

Test Date: 03/16/2022

Test Lab: CTF

Test Number: 220316 (M20220301)



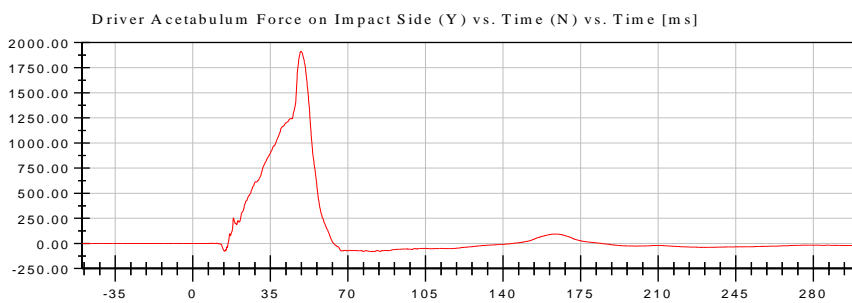
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1,166.97 N at 48.64 ms

<Min>

-91.88 N at 14.72 ms

CFC_600



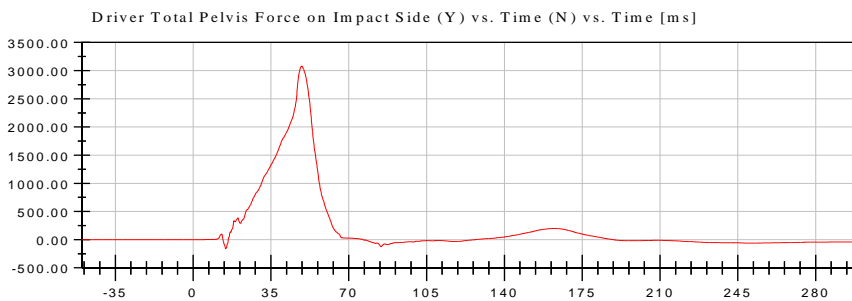
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1,911.98 N at 48.80 ms

<Min>

-80.65 N at 76.96 ms

CFC_600



<Max>

3,078.58 N at 48.80 ms

<Min>

-161.07 N at 14.64 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. 52

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	781	Yes
B	Shoulder Pivot Height	437.0 - 453.0	450	Yes
C	H-Point Height	79.0 - 89.0	85	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	102	Yes
F	Thigh Clearance	119.0 - 135.0	130	Yes
G	Head Breadth	140.0 - 148.0	147	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	183	Yes
J	Head Circumference	541.0 - 551.0	544	Yes
K	Buttock to Knee Length	514.0 - 540.0	528	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	430	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	223	Yes
P	Foot Length (left)	216.0 - 232.0	223	Yes
Q	Hip Breadth	313.0 - 323.0	320	Yes
R	Arm Length	249.0 - 259.0	254	Yes
S	Knee Joint to seat Back	478.0 - 493.0	485	Yes
V	Shoulder Width (only one arm installed)	341.0 - 357.0	347	Yes
W	Foot Width (right)	78.0 - 94.0	85	Yes
W	Foot Width (left)	78.0 - 94.0	85	Yes
Y	Chest Circumference with Jacket	851.0 - 881.0	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. 52-1
Test Date: 2/25/2022

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	124.6 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-5.4 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.12 %	Yes

Test meets specifications.

Condition: Used

Comments:

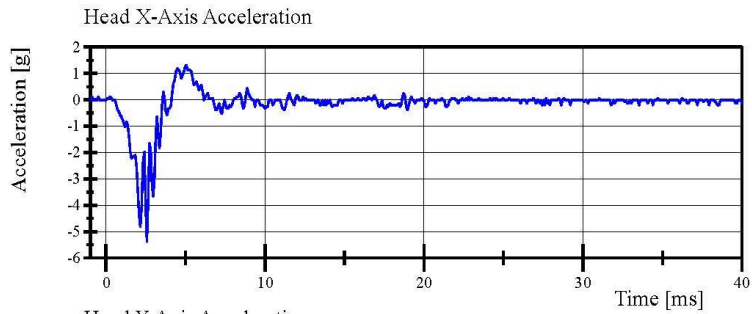
Head Skin S/N: 1330

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIS Serial No. 297 Certification No. 52-1

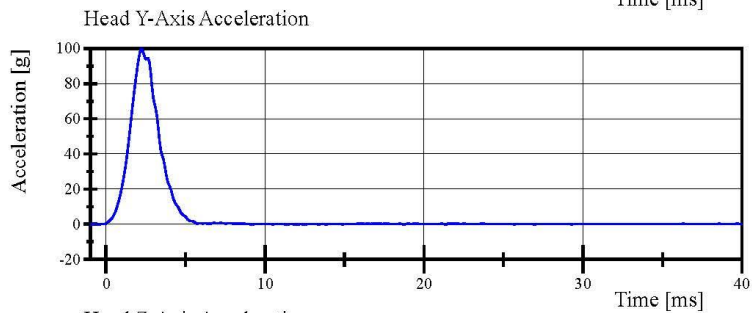
Test Date: 2/25/2022



Filter Class: CFC_1000

Max: 1.3 g at 5.0 ms

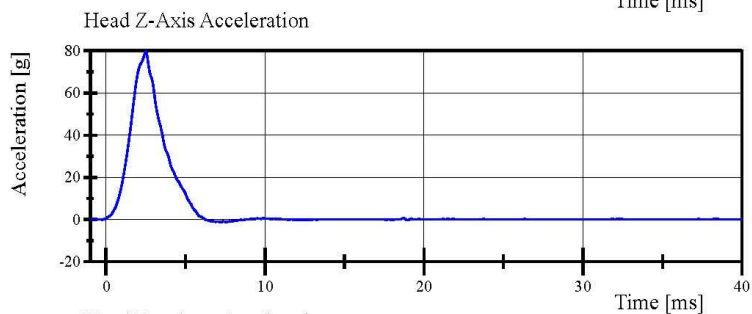
Min: -5.4 g at 2.6 ms



Filter Class: CFC_1000

Max: 99.8 g at 2.2 ms

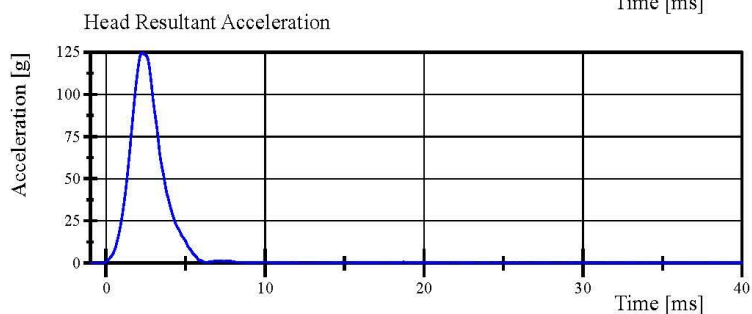
Min: -0.1 g at 21.4 ms



Filter Class: CFC_1000

Max: 79.9 g at 2.5 ms

Min: -1.1 g at 7.2 ms



Filter Class: CFC_1000

Max: 124.6 g at 2.2 ms

Min: 0.0 g at -1.0 ms

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

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Transportation Research Center Inc.

Left Lateral Neck
SID IIS Serial No. 297 Certification No. 52-2
Test Date: 2/28/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.610 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.529 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.683 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.985 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.848 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.849 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-72.0 deg	Yes
Time of Peak	50 - 70 ms	58.6 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	42.4 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	102 - 126 ms	117.4 ms	Yes

Test meets specifications.

Condition: Used

Comments:

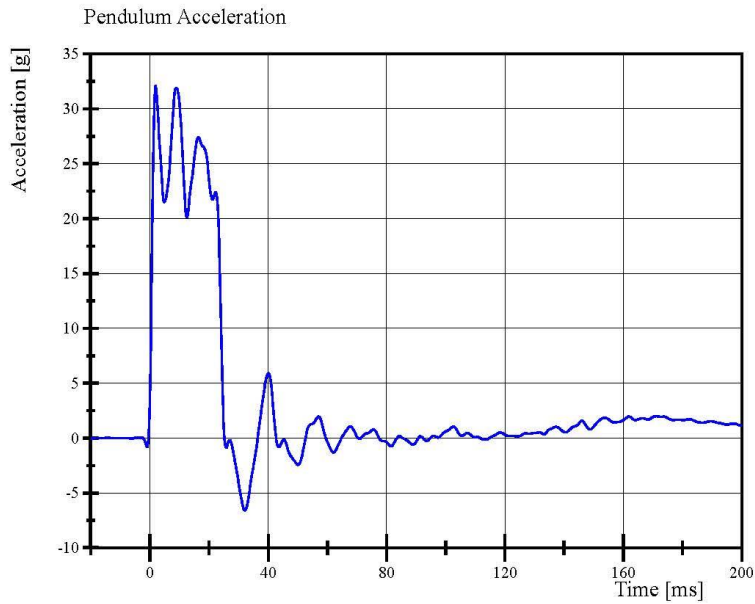
Neck S/N: 779

Transportation Research Center Inc.

Left Lateral Neck

SID IIS Serial No. 297 Certification No. 52-2

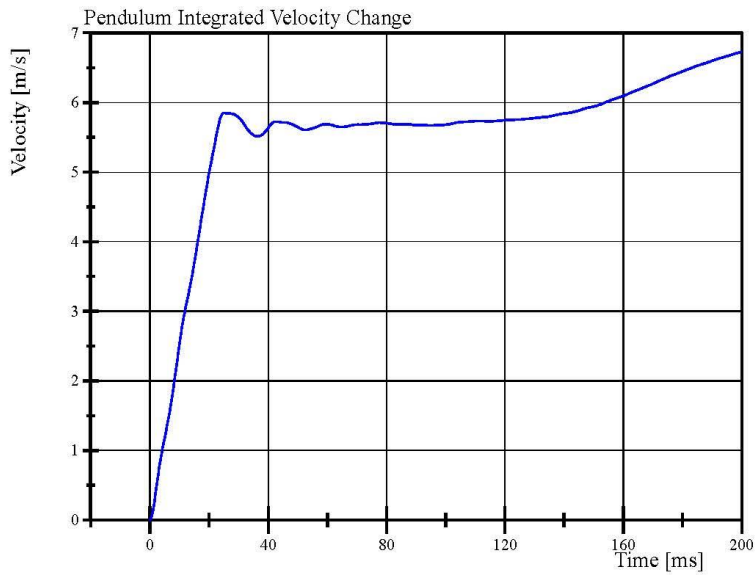
Test Date: 2/28/2022



Filter Class: CFC_180

Max: 32.1 g at 1.9 ms

Min: -6.6 g at 32.0 ms



Filter Class: CFC_180

Max: 6.7 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

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

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Report Number: 297_S2F52

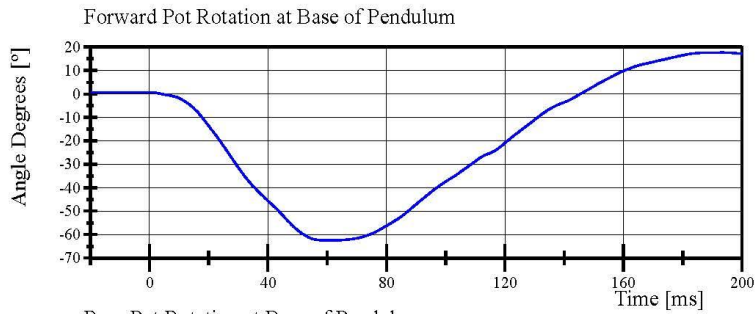
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Transportation Research Center Inc.

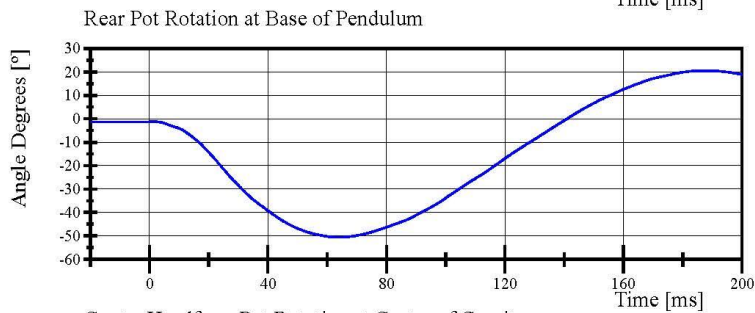
Left Lateral Neck

SID IIS Serial No. 297 Certification No. 52-2

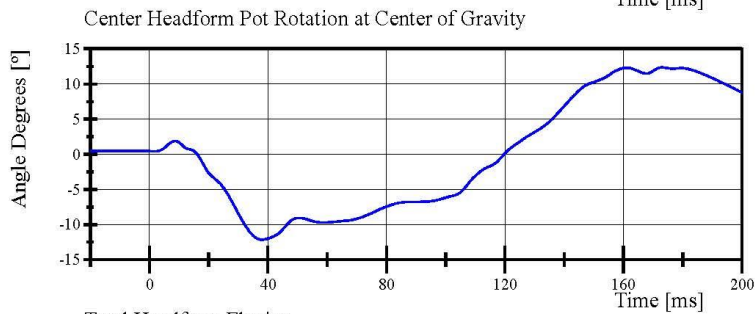
Test Date: 2/28/2022



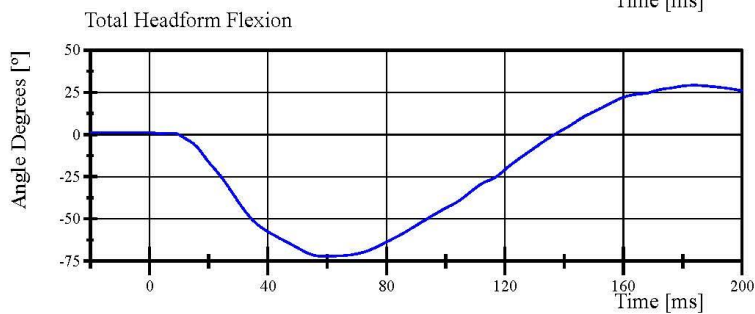
Filter Class: CFC_60
Max: 17.7 ° at 193.4 ms
Min: -62.3 ° at 58.6 ms



Filter Class: CFC_60
Max: 20.5 ° at 187.1 ms
Min: -50.6 ° at 63.9 ms



Filter Class: CFC_60
Max: 12.4 ° at 173.0 ms
Min: -12.1 ° at 38.0 ms



Filter Class: CFC_60
Max: 29.3 ° at 184.0 ms
Min: -72.0 ° at 58.6 ms

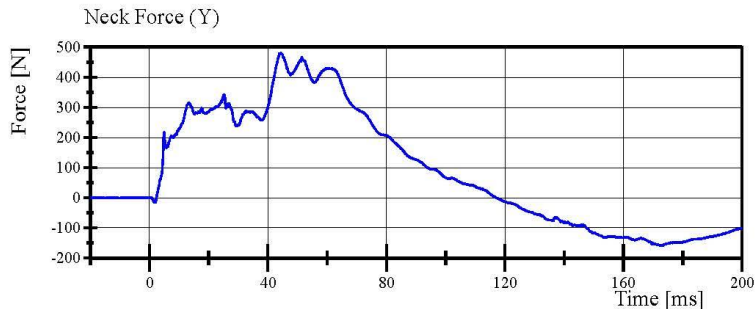


Transportation Research Center Inc.

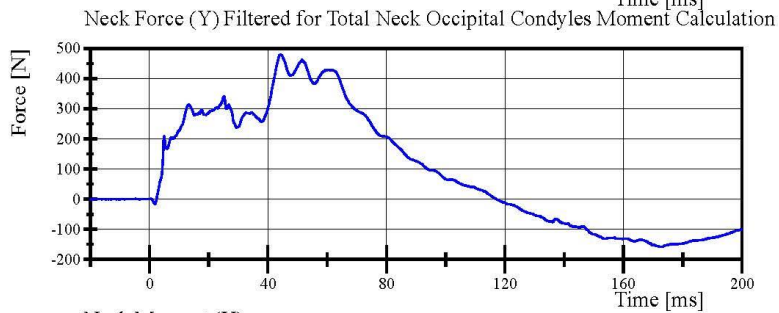
Left Lateral Neck

SID IIS Serial No. 297 Certification No. 52-2

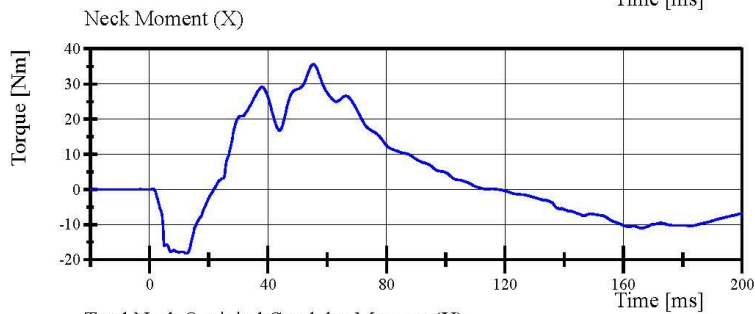
Test Date: 2/28/2022



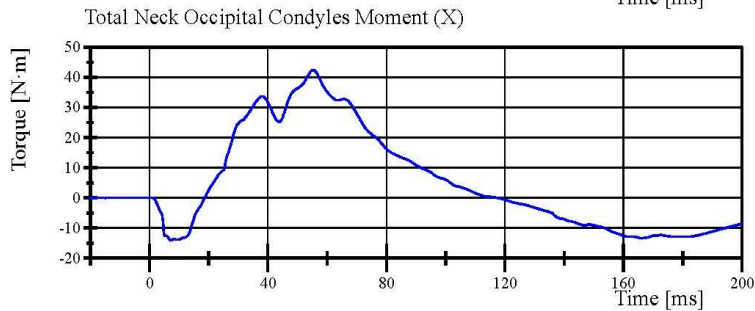
Filter Class: CFC_1000
Max: 480.5 N at 44.4 ms
Min: -158.7 N at 172.3 ms



Filter Class: CFC_600
Max: 479.7 N at 44.3 ms
Min: -158.3 N at 173.0 ms



Filter Class: CFC_600
Max: 35.5 Nm at 55.4 ms
Min: -18.3 Nm at 12.4 ms



Filter Class: Without_(Constar
Max: 42.4 N·m at 55.3 ms
Min: -14.1 N·m at 7.2 ms

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

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Transportation Research Center Inc.

Left Lateral Shoulder
SID IIS Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	33 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.0 g	Yes
Shoulder Displacement	28 - 37 mm	30.4 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	20.1 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: 940L

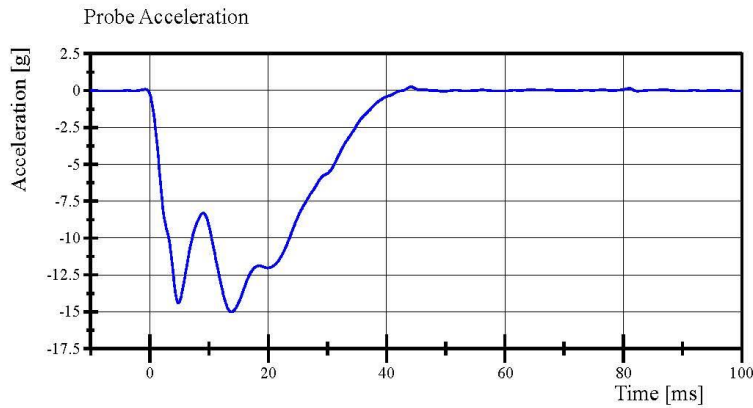
Shoulder Rib S/N: 180-3355 259

Transportation Research Center Inc.

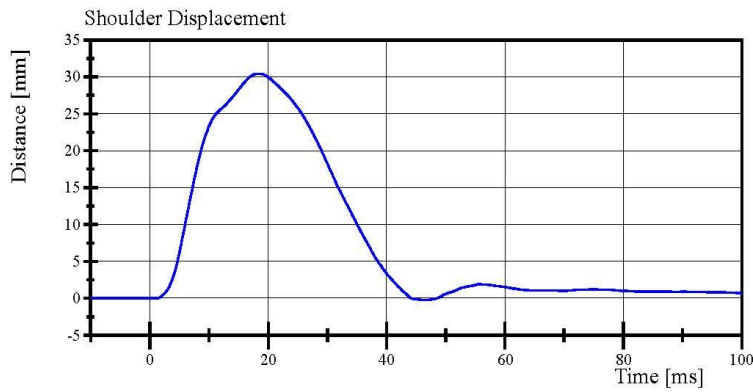
Left Lateral Shoulder

SID IIs Serial No. 297 Certification No. 52-1

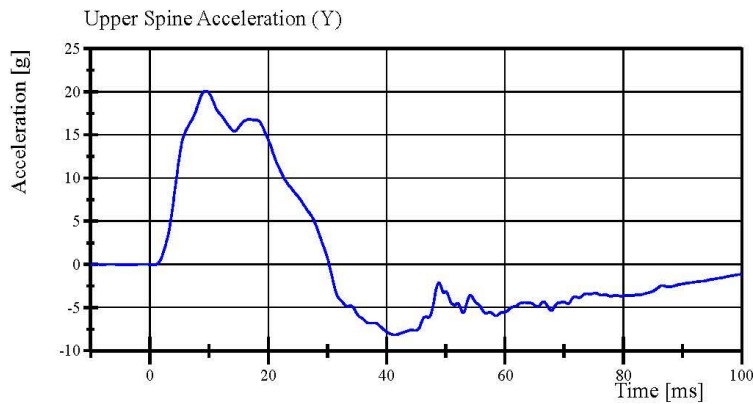
Test Date: 3/2/2022



Filter Class: CFC_180
Max: 0.3 g at 44.1 ms
Min: -15.0 g at 13.8 ms



Filter Class: CFC_600
Max: 30.4 mm at 18.1 ms
Min: -0.2 mm at 46.7 ms



Filter Class: CFC_180
Max: 20.1 g at 9.4 ms
Min: -8.1 g at 41.6 ms

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

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Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.736 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.8 g	Yes
Shoulder Displacement	31 - 40 mm	35.8 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.5 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.2 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	33.8 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	38.1 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	35.8 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: 940L

Shoulder Rib S/N: 180-3355 259

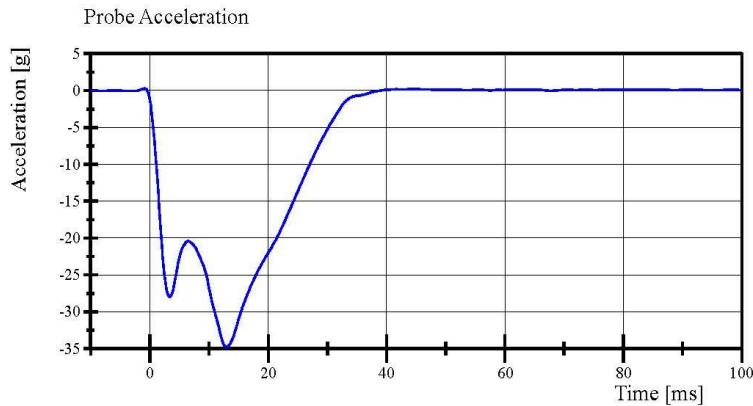
Upper Thorax Rib #1 S/N: DM5020

Middle Thorax Rib #2 S/N: DM5021

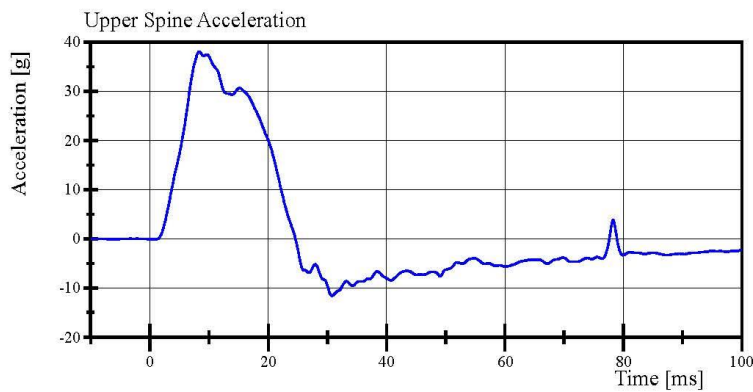
Lower Thorax Rib #3 S/N: DM5022

Transportation Research Center Inc.

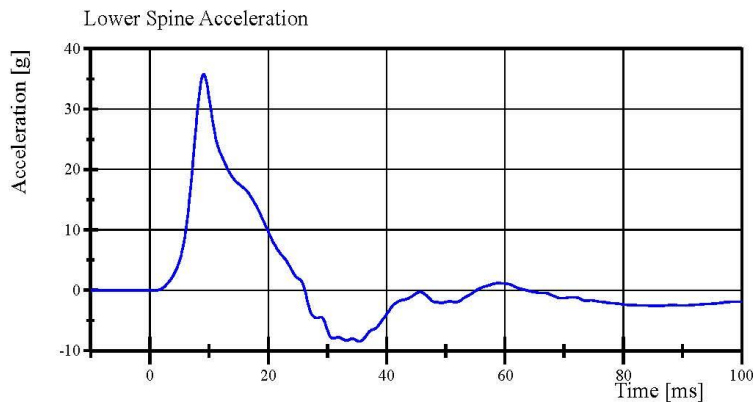
Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022



Filter Class: CFC_180
Max: 0.3 g at -0.9 ms
Min: -34.8 g at 13.0 ms



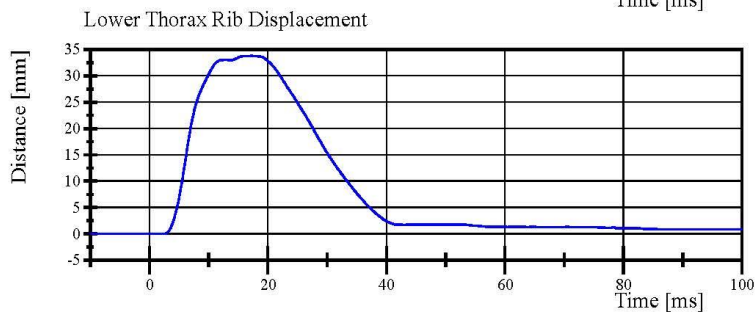
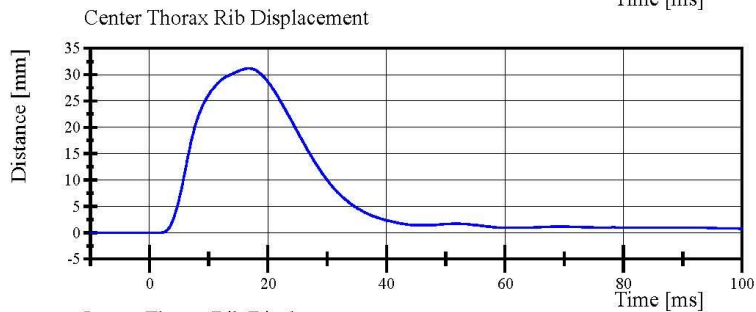
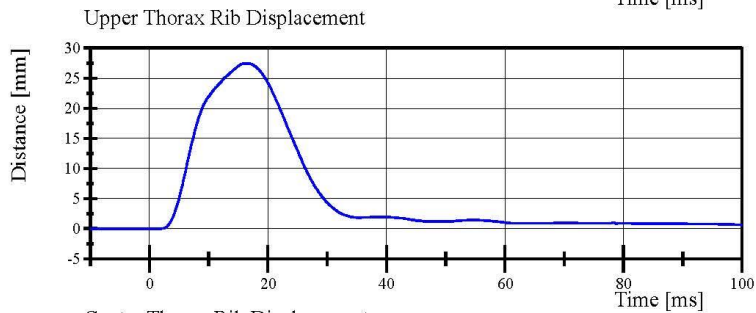
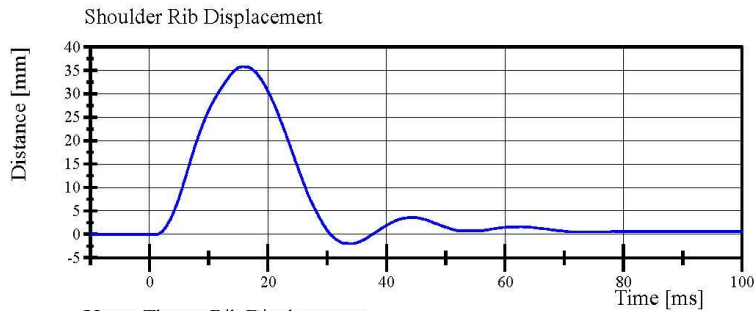
Filter Class: CFC_180
Max: 38.1 g at 8.3 ms
Min: -11.6 g at 30.8 ms



Filter Class: CFC_180
Max: 35.8 g at 9.1 ms
Min: -8.5 g at 35.4 ms

Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022



Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIS Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.328 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.3 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	37.4 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.0 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	37.3 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.3 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.0 g	Yes

Test meets specifications.

Condition: Used

Comments:

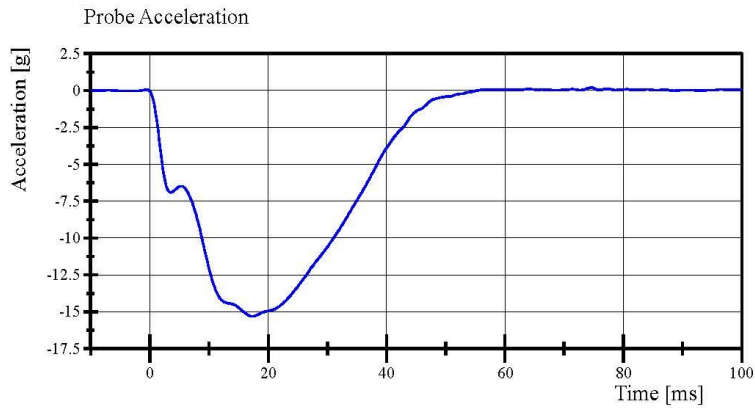
Upper Thorax Rib #1 S/N: DM5020

Middle Thorax Rib #2 S/N: DM5021

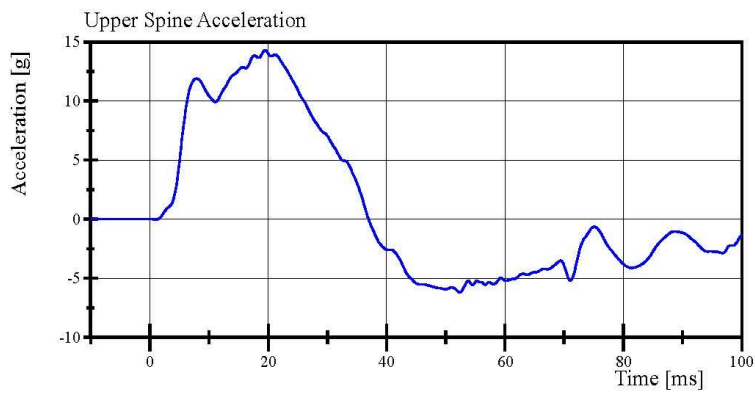
Lower Thorax Rib #3 S/N: DM5022

Transportation Research Center Inc.

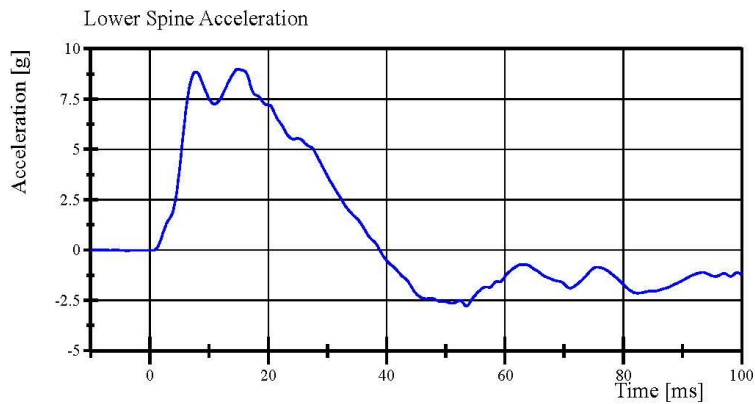
Left Lateral Thorax without Arm
SID IIS Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022



Filter Class: CFC_180
Max: 0.2 g at 74.6 ms
Min: -15.3 g at 17.3 ms



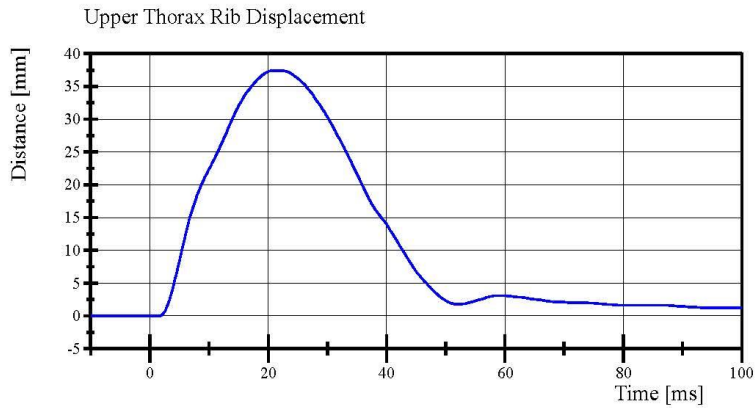
Filter Class: CFC_180
Max: 14.3 g at 19.4 ms
Min: -6.2 g at 52.3 ms



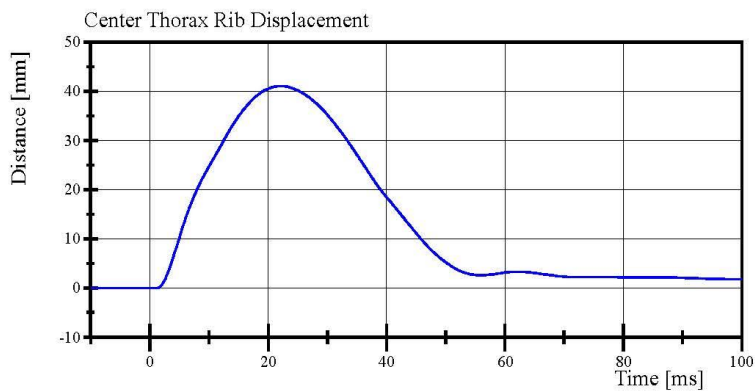
Filter Class: CFC_180
Max: 9.0 g at 15.0 ms
Min: -2.8 g at 53.5 ms

Transportation Research Center Inc.

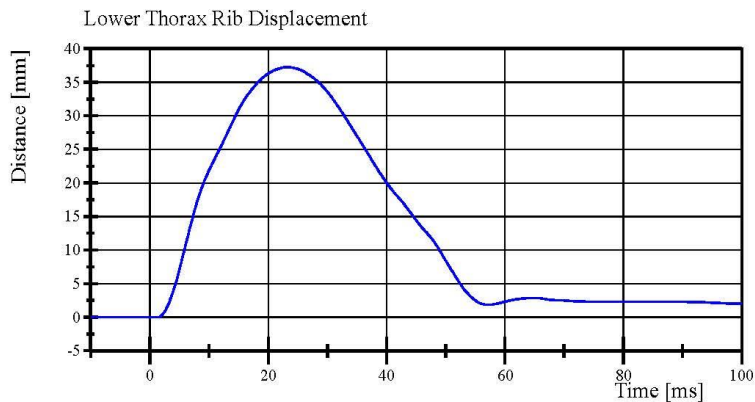
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 52-1
Test Date: 3/2/2022



Filter Class: CFC_600
Max: 37.4 mm at 21.4 ms
Min: -0.0 mm at -1.2 ms



Filter Class: CFC_600
Max: 41.0 mm at 22.2 ms
Min: -0.0 mm at 1.0 ms



Filter Class: CFC_600
Max: 37.3 mm at 23.3 ms
Min: -0.0 mm at 1.3 ms



Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. 297 Certification No. 52-3
Test Date: 3/2/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	33 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.25 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.0 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	42.9 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	37.7 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	10.24 g	Yes

Test meets specifications.

Condition: Used

Comments:

Upper Abdominal Rib S/N: DM7281

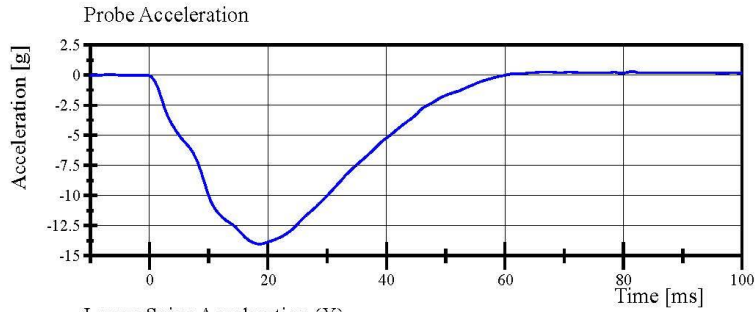
Lower Abdominal Rib S/N: DM7275

Transportation Research Center Inc.

Left Lateral Abdomen

SID II_s Serial No. 297 Certification No. 52-3

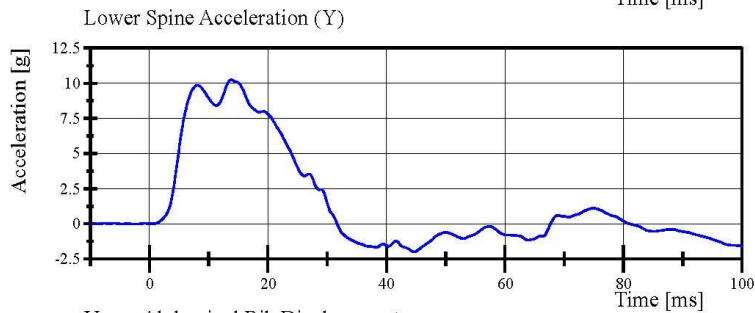
Test Date: 3/2/2022



Filter Class: CFC_180

Max: 0.3 g at 81.4 ms

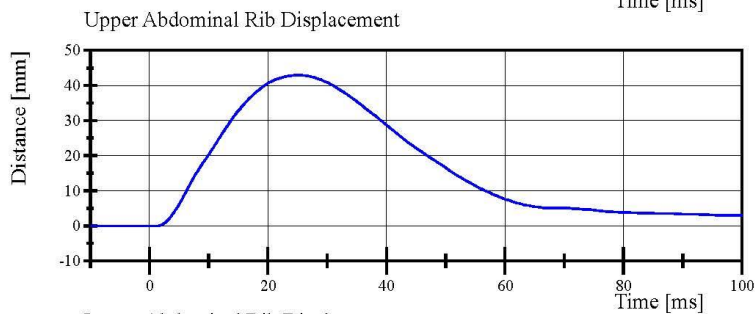
Min: -14.0 g at 18.6 ms



Filter Class: CFC_180

Max: 10.2 g at 13.8 ms

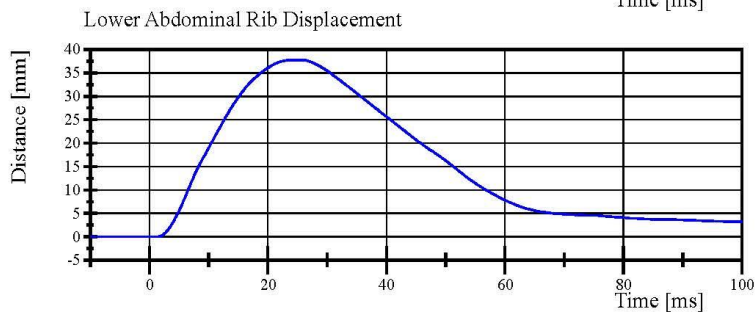
Min: -2.0 g at 44.6 ms



Filter Class: CFC_600

Max: 42.9 mm at 24.9 ms

Min: -0.0 mm at -9.4 ms



Filter Class: CFC_600

Max: 37.7 mm at 26.0 ms

Min: -0.0 mm at 1.2 ms

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

03.02.2022 14:24:16 709



Transportation Research Center Inc.

Left Lateral Pelvis
SID IIS Serial No. 297 Certification No. 52-4
Test Date: 3/4/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.62 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-45.17 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	38.2 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,861.4 N	Yes

Test meets specifications.

Condition: New

Comments:

Pelvis Skin S/N: 1171

Pelvis Plug Info:

Manufacturer: Saco

S/N: 13724

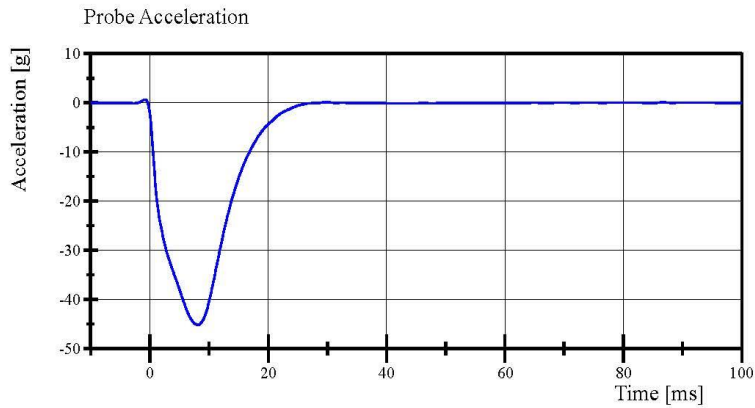
Cal Date: 20200206

Transportation Research Center Inc.

Left Lateral Pelvis

SID IIS Serial No. 297 Certification No. 52-4

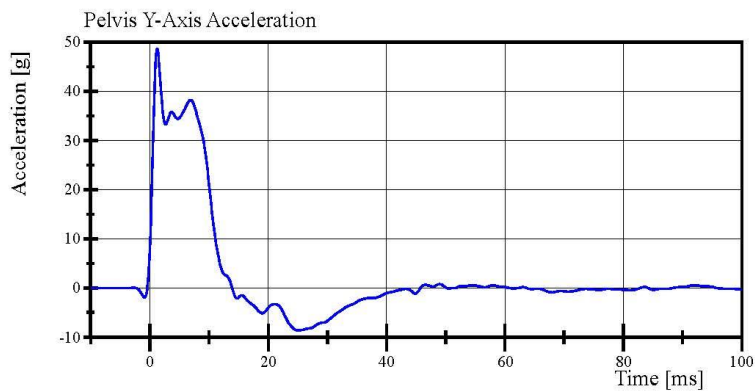
Test Date: 3/4/2022



Filter Class: CFC_180

Max: 0.7 g at -0.8 ms

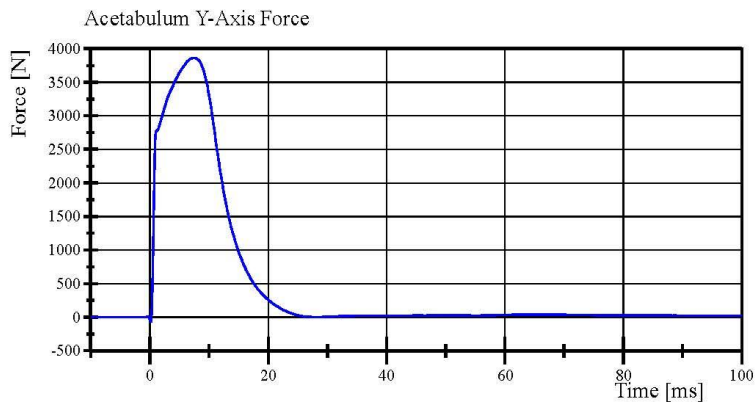
Min: -45.2 g at 8.1 ms



Filter Class: CFC_180

Max: 48.6 g at 1.2 ms

Min: -8.6 g at 25.0 ms



Filter Class: CFC_600

Max: 3,861.4 N at 7.5 ms

Min: -67.9 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. 52-3
Test Date: 3/4/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.28 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-40.2 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	33.1 g	Yes
Iliac Force	4,100 - 5,100 N	4,574.3 N	Yes

Test meets specifications.

Condition: Used

Comments:

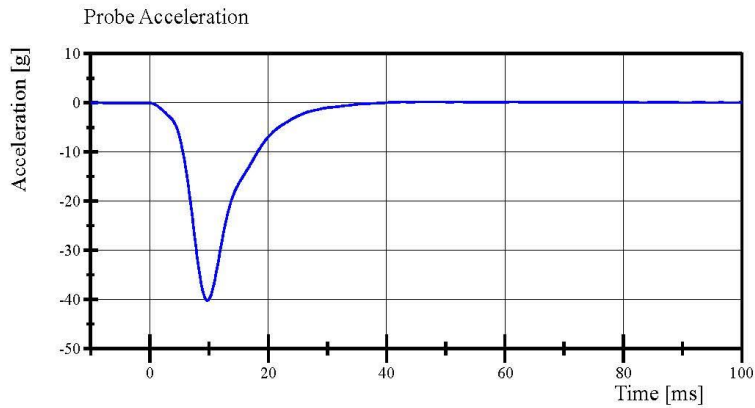
Pelvis Skin S/N: 1171

Transportation Research Center Inc.

Left Lateral Iliac

SID IIs Serial No. 297 Certification No. 52-3

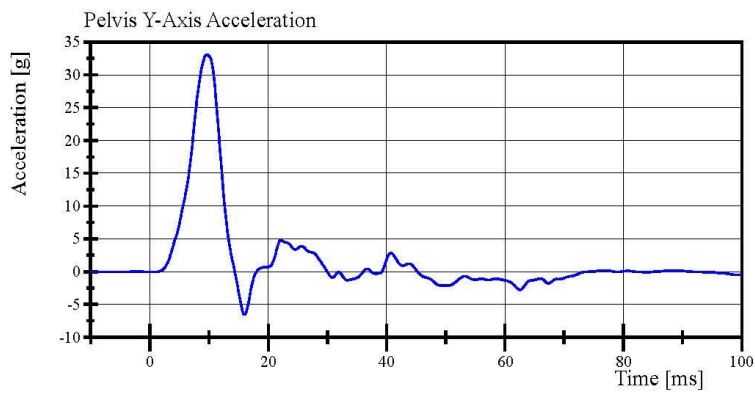
Test Date: 3/4/2022



Filter Class: CFC_180

Max: 0.2 g at 47.1 ms

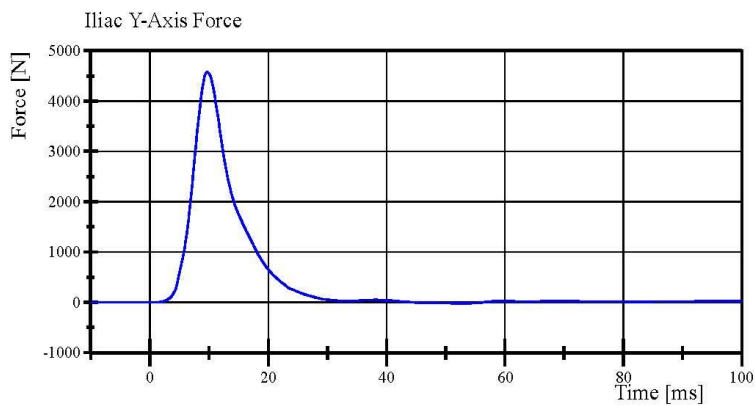
Min: -40.2 g at 9.7 ms



Filter Class: CFC_180

Max: 33.1 g at 9.6 ms

Min: -6.6 g at 16.0 ms



Filter Class: CFC_600

Max: 4,574.3 N at 9.7 ms

Min: -21.5 N at 52.6 ms

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

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Post-Test Calibration Sheets
Driver S/N 297

Transportation Research Center Inc.
SIDI's Dummy - Level D
External Dimensions
Serial No. 297 Calibration No. 53

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	780	Yes
B	Shoulder Pivot Height	437.0 - 453.0	450	Yes
C	H-Point Height	79.0 - 89.0	85	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	102	Yes
F	Thigh Clearance	119.0 - 135.0	129	Yes
G	Head Breadth	140.0 - 148.0	147	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	183	Yes
J	Head Circumference	541.0 - 551.0	544	Yes
K	Buttock to Knee Length	514.0 - 540.0	528	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	430	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	223	Yes
P	Foot Length (left)	216.0 - 232.0	223	Yes
Q	Hip Breadth	313.0 - 323.0	320	Yes
R	Arm Length	249.0 - 259.0	254	Yes
S	Knee Joint to seat Back	478.0 - 493.0	485	Yes
V	Shoulder Width (only one arm installed)	341.0 - 357.0	347	Yes
W	Foot Width (right)	78.0 - 94.0	85	Yes
W	Foot Width (left)	78.0 - 94.0	85	Yes
Y	Chest Circumference with Jacket	851.0 - 881.0	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. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	131.0 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-4.4 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.31 %	Yes

Test meets specifications.

Condition: Used

Comments:

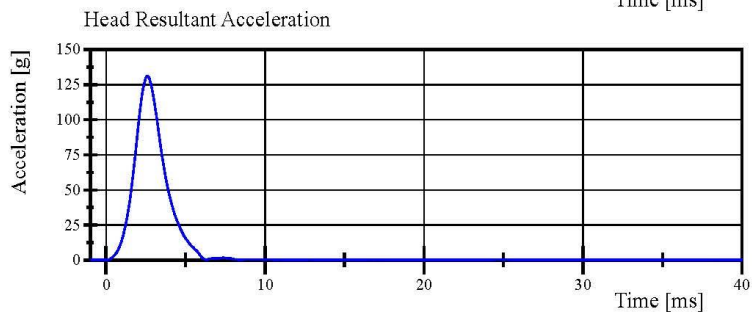
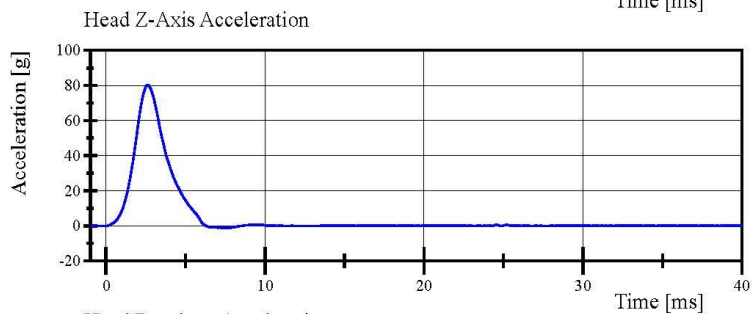
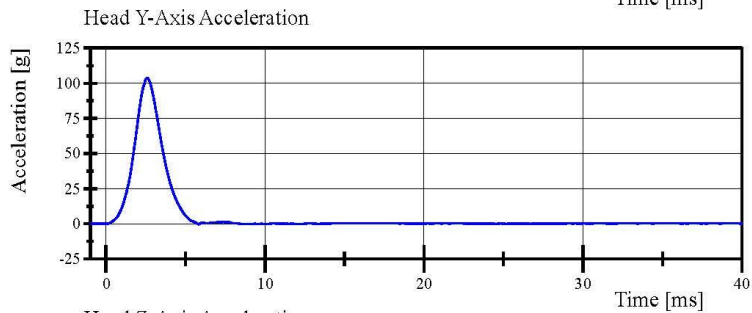
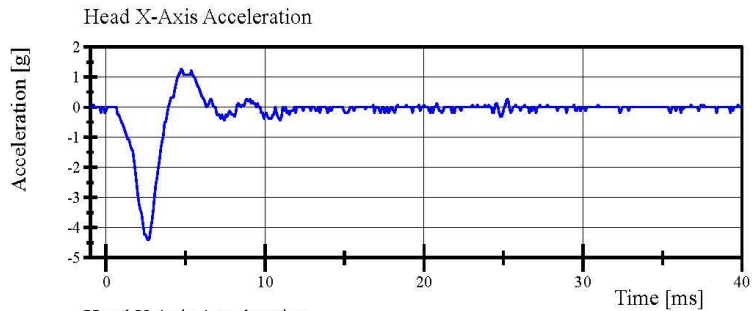
Head Skin S/N: 1330

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIS Serial No. 297 Certification No. 53-1

Test Date: 3/17/2022



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. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.608 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.545 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.670 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.992 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.858 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.869 m/s	Yes
Maximum Headform Flexion occurring between 50ms and 70ms.			
Peak	(-71) - (-81) deg	-80.2 deg	Yes
Time of Peak	50 - 70 ms	61.7 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	41.6 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	102 - 126 ms	120.1 ms	Yes

Test meets specifications.

Condition: Used

Comments:

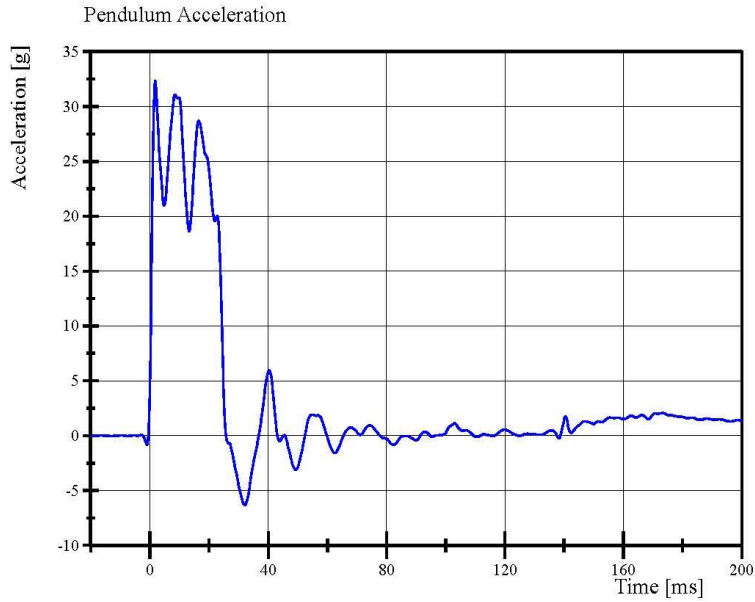
Neck S/N: 779

Transportation Research Center Inc.

Left Lateral Neck

SID IIS Serial No. 297 Certification No. 53-1

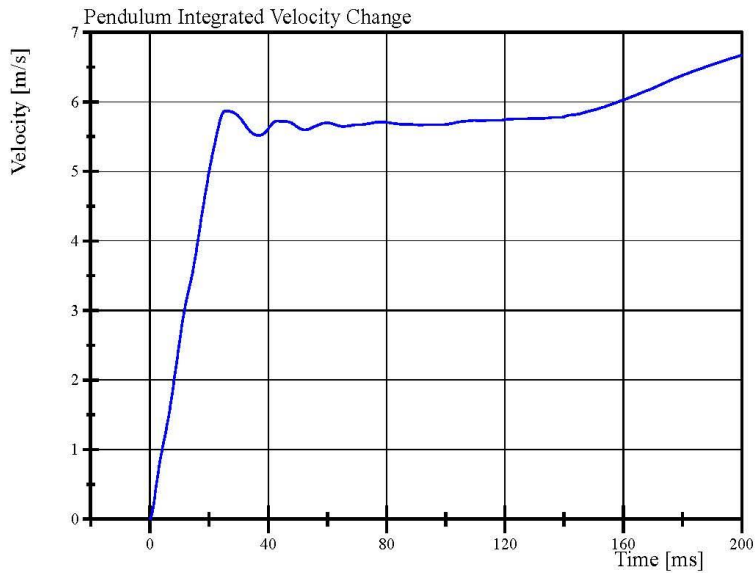
Test Date: 3/17/2022



Filter Class: CFC_180

Max: 32.4 g at 1.8 ms

Min: -6.3 g at 32.1 ms



Filter Class: CFC_180

Max: 6.7 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

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

03.17.2022 09:33:43 755



Report Number: 297_S2F53

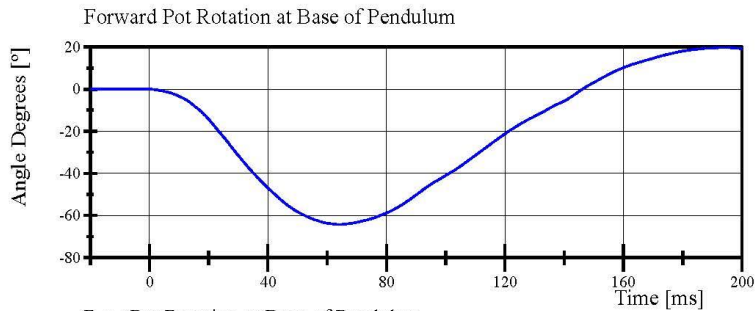
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Transportation Research Center Inc.

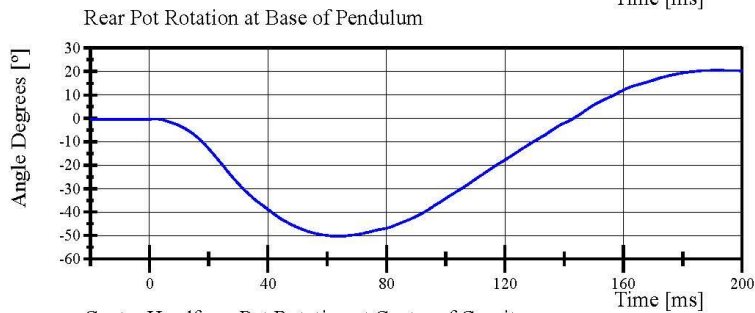
Left Lateral Neck

SID IIS Serial No. 297 Certification No. 53-1

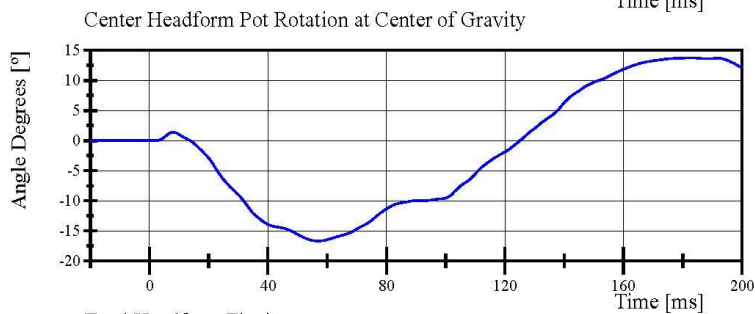
Test Date: 3/17/2022



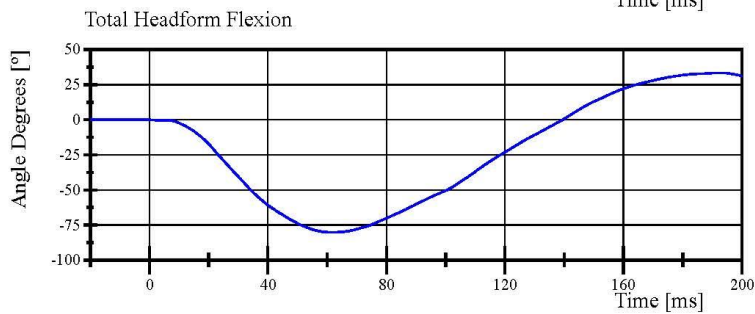
Filter Class: CFC_60
Max: 19.7 ° at 194.2 ms
Min: -64.2 ° at 64.2 ms



Filter Class: CFC_60
Max: 20.5 ° at 191.4 ms
Min: -50.3 ° at 63.6 ms



Filter Class: CFC_60
Max: 13.8 ° at 182.9 ms
Min: -16.7 ° at 56.8 ms



Filter Class: CFC_60
Max: 33.4 ° at 192.6 ms
Min: -80.2 ° at 61.7 ms

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

03.17.2022 09:33:44 755

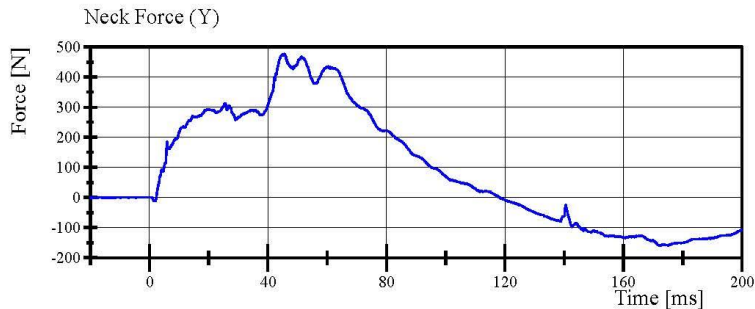


Transportation Research Center Inc.

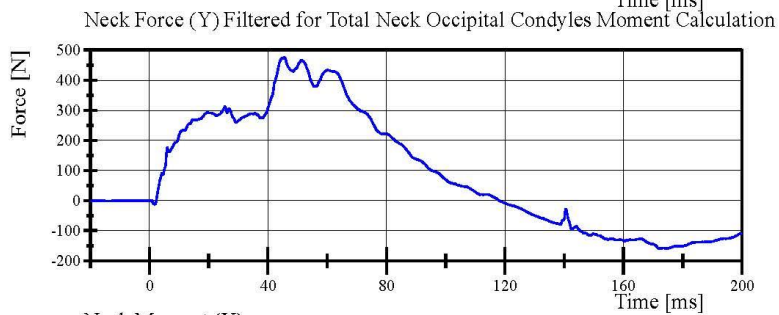
Left Lateral Neck

SID IIS Serial No. 297 Certification No. 53-1

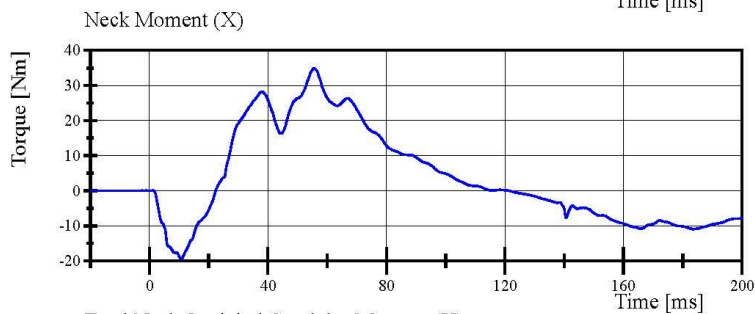
Test Date: 3/17/2022



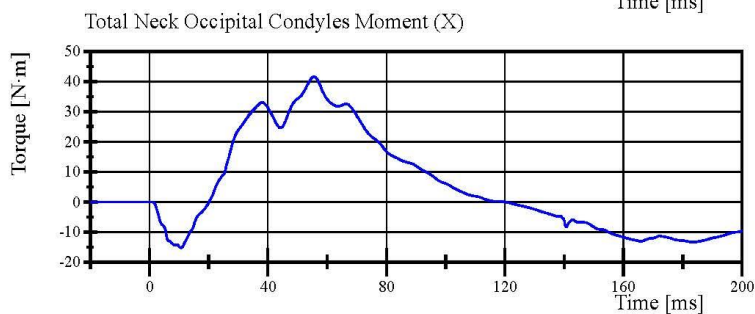
Filter Class: CFC_1000
Max: 477.3 N at 45.5 ms
Min: -159.9 N at 172.3 ms



Filter Class: CFC_600
Max: 475.5 N at 45.5 ms
Min: -159.7 N at 172.5 ms



Filter Class: CFC_600
Max: 34.9 Nm at 55.5 ms
Min: -19.3 Nm at 10.7 ms



Filter Class: Without_(Constar
Max: 41.6 N.m at 55.5 ms
Min: -15.2 N.m at 10.6 ms

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

03.17.2022 09:33:44 755



Transportation Research Center Inc.

Left Lateral Shoulder
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	33 %	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	30.4 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.6 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: 940L

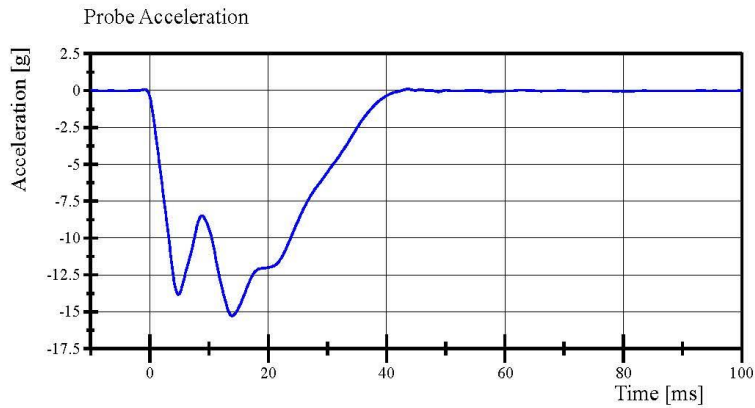
Shoulder Rib S/N: 180-3355 259

Transportation Research Center Inc.

Left Lateral Shoulder

SID IIs Serial No. 297 Certification No. 53-1

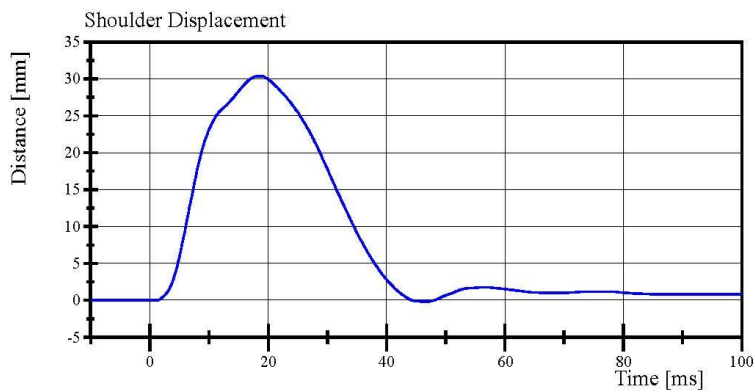
Test Date: 3/17/2022



Filter Class: CFC_180

Max: 0.1 g at 43.6 ms

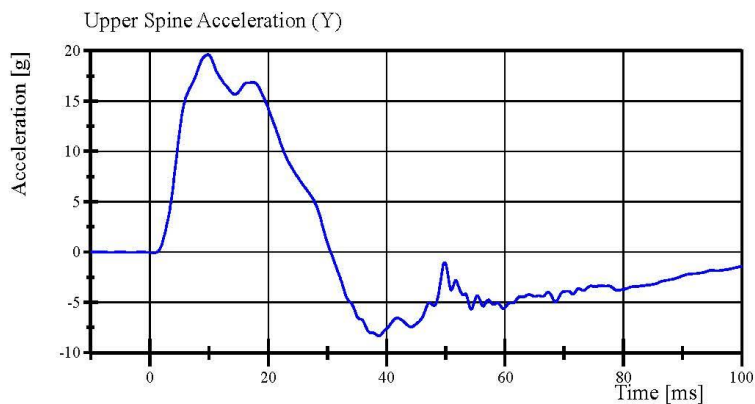
Min: -15.3 g at 13.9 ms



Filter Class: CFC_600

Max: 30.4 mm at 18.7 ms

Min: -0.2 mm at 46.3 ms



Filter Class: CFC_180

Max: 19.6 g at 9.8 ms

Min: -8.3 g at 38.6 ms

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

03.17.2022 10:24:37 875



Report Number: 297_S2F53

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Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.730 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.9 g	Yes
Shoulder Displacement	31 - 40 mm	36.8 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	28.0 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.8 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	34.0 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	39.4 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	36.4 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: 940L

Shoulder Rib S/N: 180-3355 259

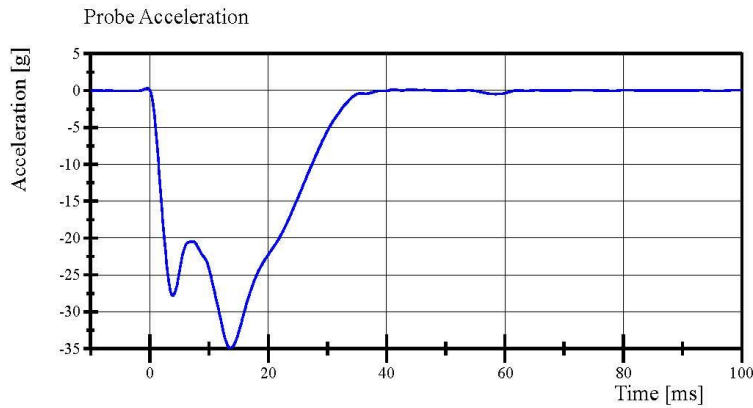
Upper Thorax Rib #1 S/N: DM5020

Middle Thorax Rib #2 S/N: DM5021

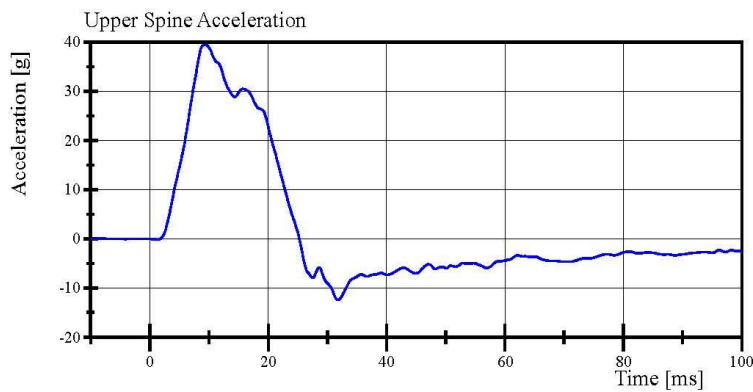
Lower Thorax Rib #3 S/N: DM5022

Transportation Research Center Inc.

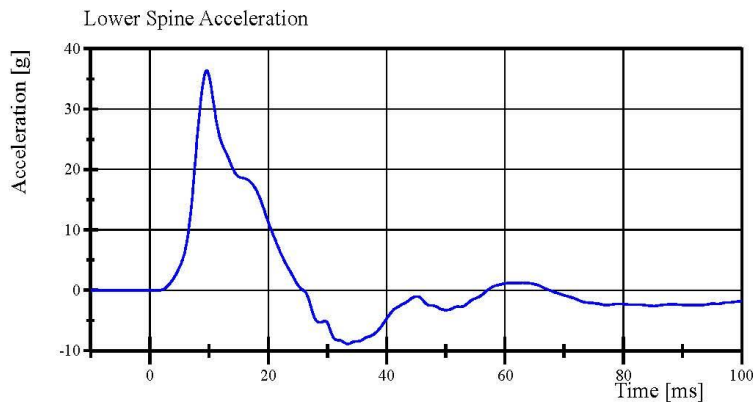
Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022



Filter Class: CFC_180
Max: 0.3 g at -0.4 ms
Min: -34.9 g at 13.6 ms



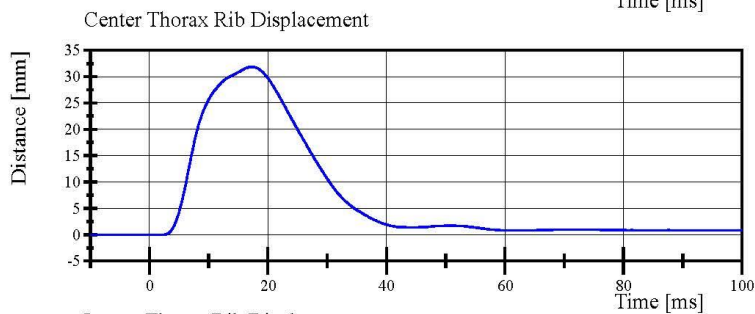
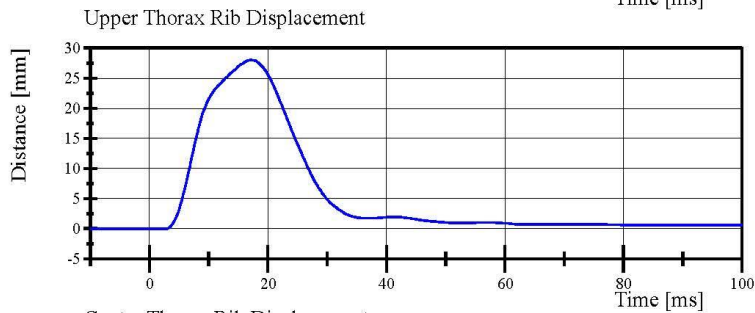
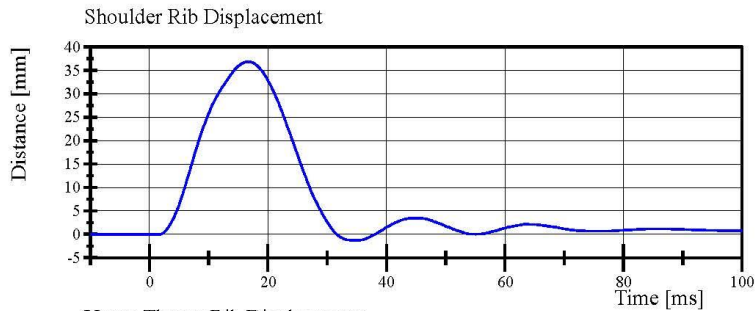
Filter Class: CFC_180
Max: 39.4 g at 9.3 ms
Min: -12.4 g at 31.8 ms



Filter Class: CFC_180
Max: 36.4 g at 9.6 ms
Min: -8.9 g at 33.4 ms

Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022



Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	34 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.335 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.6 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	36.5 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.8 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	39.3 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.3 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.5 g	Yes

Test meets specifications.

Condition: Used

Comments:

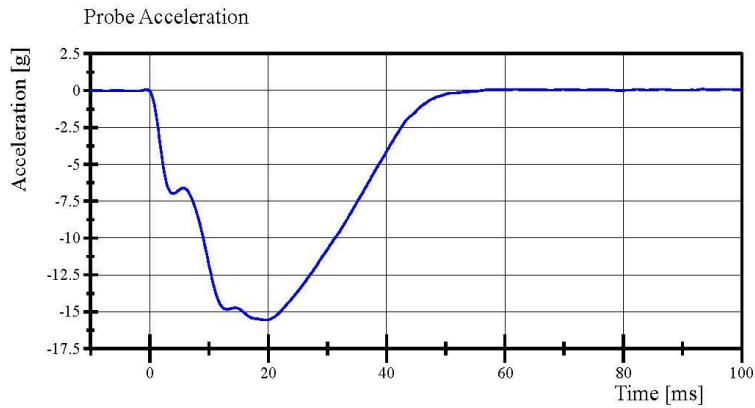
Upper Thorax Rib #1 S/N: DM5020

Middle Thorax Rib #2 S/N: DM5021

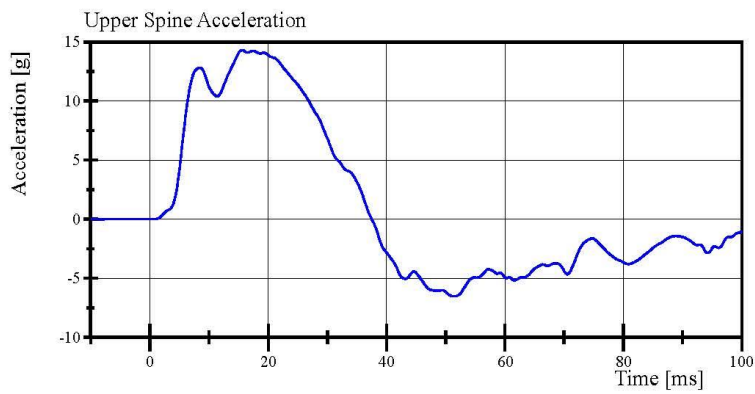
Lower Thorax Rib #3 S/N: DM5022

Transportation Research Center Inc.

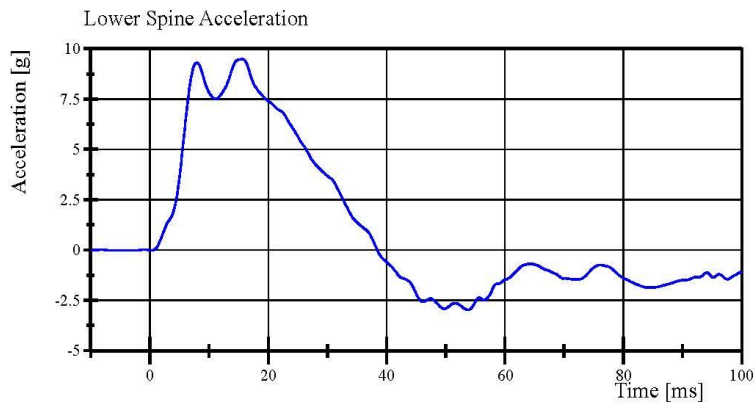
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022



Filter Class: CFC_180
Max: 0.1 g at 93.4 ms
Min: -15.6 g at 19.5 ms



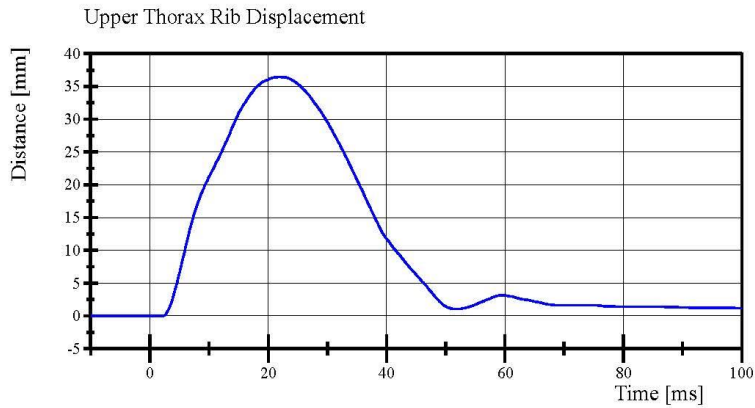
Filter Class: CFC_180
Max: 14.3 g at 15.6 ms
Min: -6.5 g at 51.4 ms



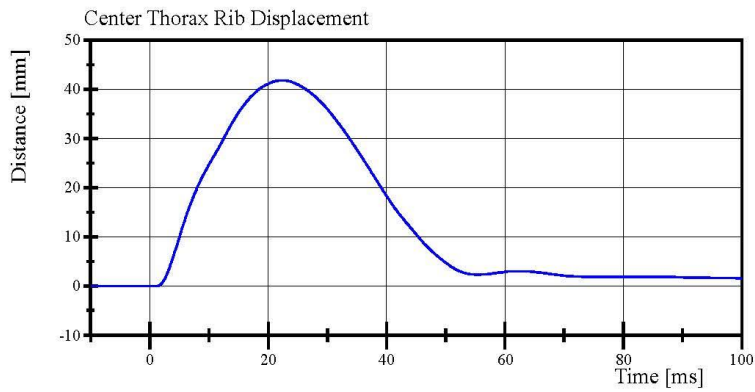
Filter Class: CFC_180
Max: 9.5 g at 15.6 ms
Min: -3.0 g at 53.8 ms

Transportation Research Center Inc.

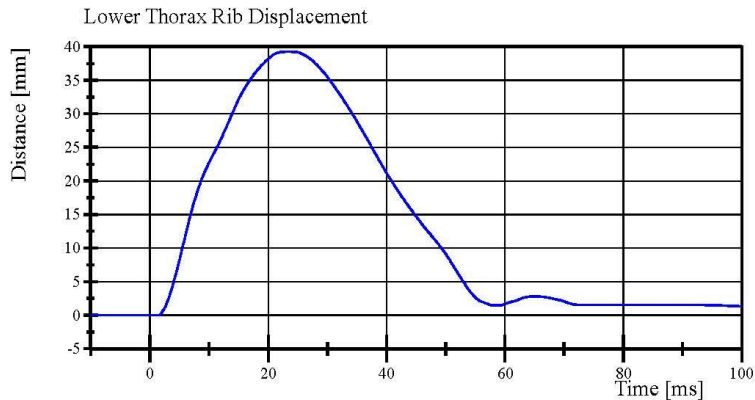
Left Lateral Thorax without Arm
SID IIs Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022



Filter Class: CFC_600
Max: 36.5 mm at 21.9 ms
Min: -0.0 mm at -6.0 ms



Filter Class: CFC_600
Max: 41.8 mm at 22.3 ms
Min: -0.0 mm at -1.6 ms



Filter Class: CFC_600
Max: 39.3 mm at 23.4 ms
Min: -0.0 mm at 1.4 ms



Transportation Research Center Inc.

Left Lateral Abdomen
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	34 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-14.3 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	41.4 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	38.8 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	11.26 g	Yes

Test meet specifications.

Condition: Used

Comments:

Upper Abdominal Rib S/N: DM7281

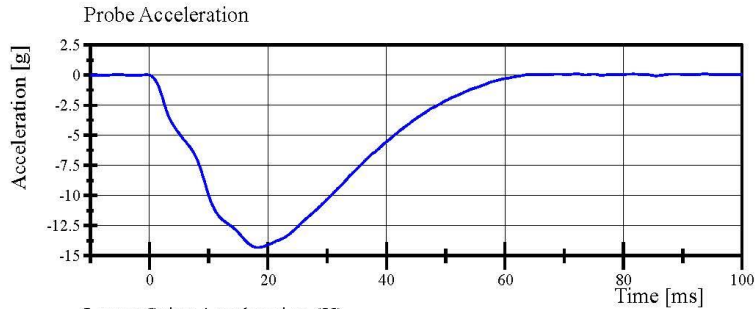
Lower Abdominal Rib S/N: DM7275

Transportation Research Center Inc.

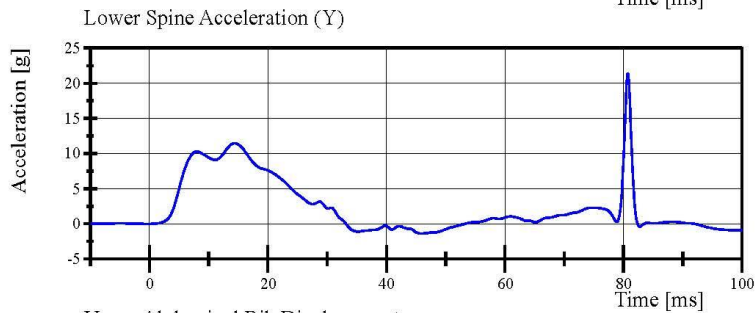
Left Lateral Abdomen

SID IIS Serial No. 297 Certification No. 53-1

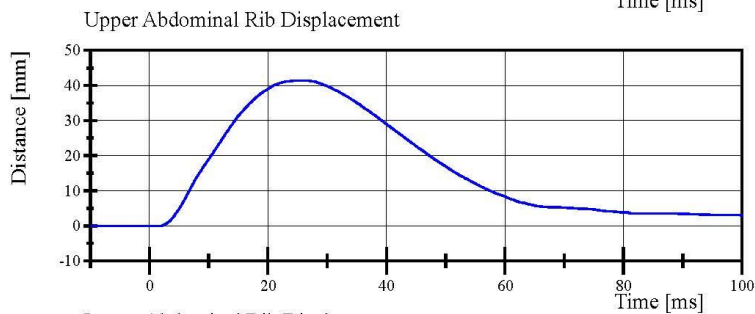
Test Date: 3/17/2022



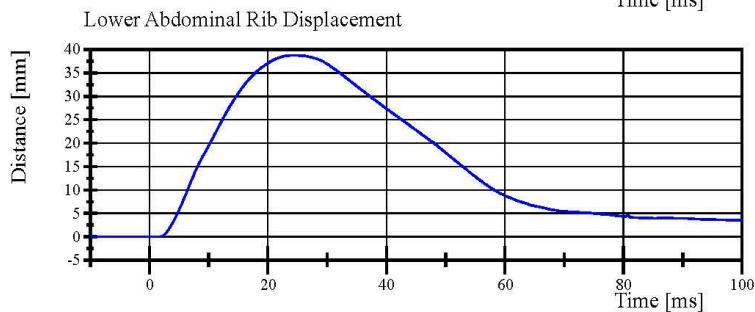
Filter Class: CFC_180
Max: 0.1 g at 72.0 ms
Min: -14.3 g at 18.3 ms



Filter Class: CFC_180
Max: 21.4 g at 80.7 ms
Min: -1.4 g at 46.0 ms



Filter Class: CFC_600
Max: 41.4 mm at 25.3 ms
Min: -0.0 mm at -9.8 ms



Filter Class: CFC_600
Max: 38.8 mm at 24.4 ms
Min: -0.0 mm at 1.8 ms

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

03.17.2022 14:48:22 725



Transportation Research Center Inc.

Left Lateral Pelvis
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.62 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-43.54 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	36.5 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,811.2 N	Yes

Test meets specifications.

Condition: Used

Comments:

Pelvis Skin S/N: 1171

Pelvis Plug Info:

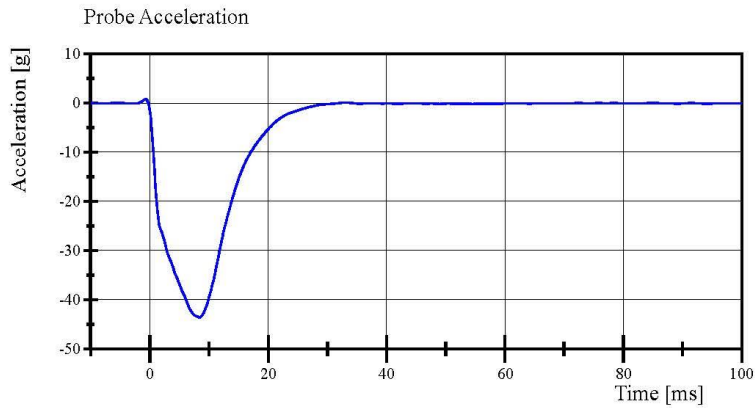
Manufacturer: Saco

S/N: 13725

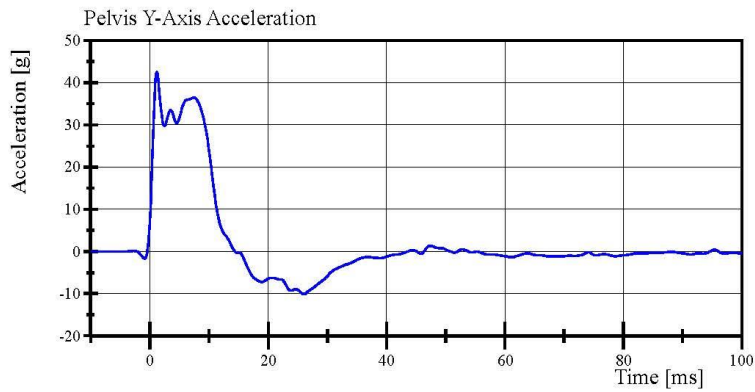
Cal Date: 20200206

Transportation Research Center Inc.

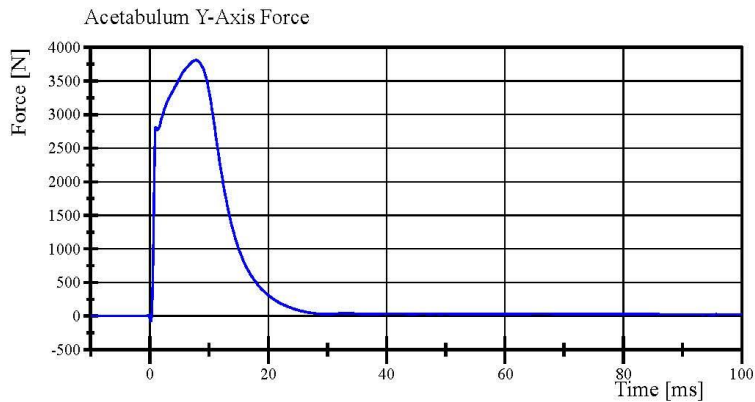
Left Lateral Pelvis
SID IIs Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022



Filter Class: CFC_180
Max: 0.8 g at -0.7 ms
Min: -43.5 g at 8.3 ms



Filter Class: CFC_180
Max: 42.5 g at 1.2 ms
Min: -10.1 g at 26.0 ms



Filter Class: CFC_600
Max: 3,811.2 N at 7.8 ms
Min: -73.8 N at 0.2 ms

Transportation Research Center Inc.

Left Lateral Iliac
SID IIS Serial No. 297 Certification No. 53-1
Test Date: 3/17/2022

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.27 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-44.1 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	36.1 g	Yes
Iliac Force	4,100 - 5,100 N	5,117.5 N	No

Test does not meet specifications.

Condition: Used

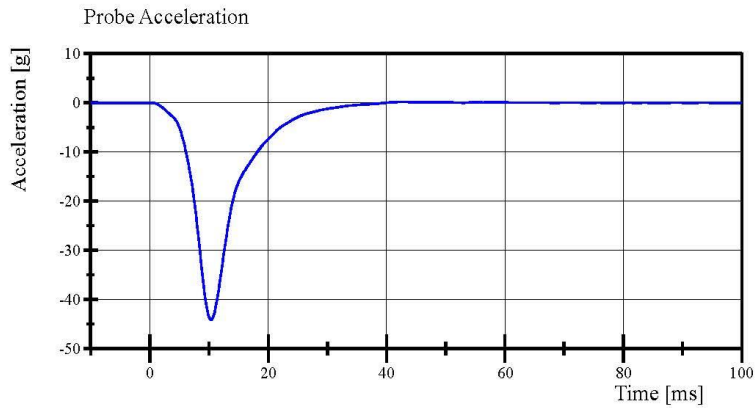
Comments:

Transportation Research Center Inc.

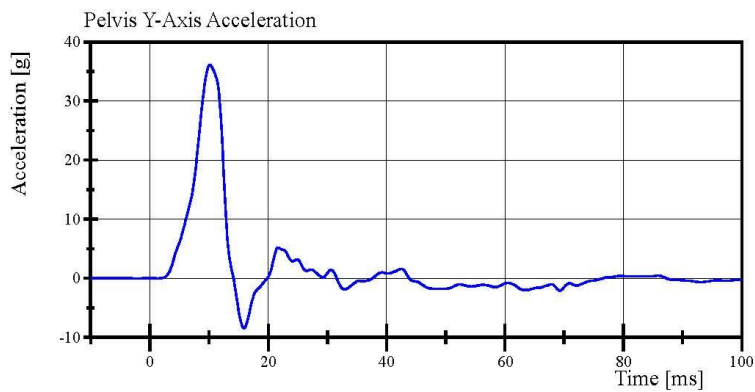
Left Lateral Iliac

SID IIs Serial No. 297 Certification No. 53-1

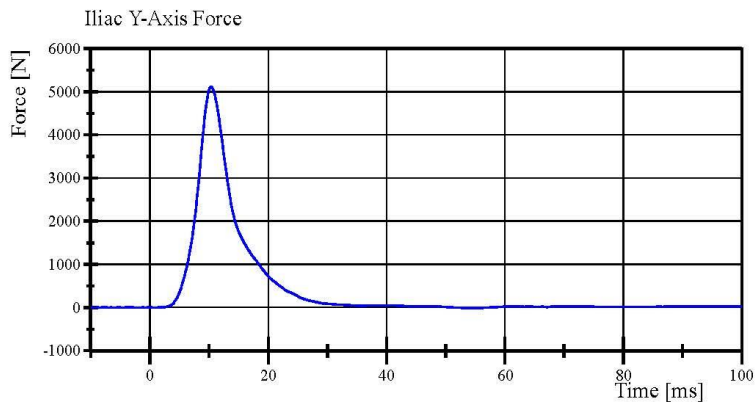
Test Date: 3/17/2022



Filter Class: CFC_180
Max: 0.2 g at 42.6 ms
Min: -44.1 g at 10.3 ms



Filter Class: CFC_180
Max: 36.1 g at 10.2 ms
Min: -8.5 g at 15.9 ms



Filter Class: CFC_600
Max: 5,117.5 N at 10.3 ms
Min: -11.0 N at 55.0 ms

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	1-Mar-2022
			Y	P93549	Endevco	1-Mar-2022
			Z	P93776	Endevco	1-Mar-2022
Displacement Potentiometers	Shoulder		Y	N/A	N/A	N/A
	Thoracic Rib	Upper	Y	023	Servo	1-Mar-2022
		Middle	Y	063	Servo	1-Mar-2022
		Lower	Y	043	Servo	1-Mar-2022
	Abdominal Rib	Upper	Y	1152	Servo	1-Mar-2022
		Lower	Y	051	Servo	1-Mar-2022v
Lower Spine Accelerometers (T12)			X	P94425	Endevco	1-Mar-2022
			Y	P91522	Endevco	1-Mar-2022
			Z	P91511	Endevco	1-Mar-2022
Acetabulum Load Cell			Y	235-FY	FTSS	28-Feb-2022
Iliac Wing Load Cell			Y	320-FY	FTSS	28-Feb-2022
Pelvis Plug (struck side)				13726	SACO	6-Feb-2020
Pelvis Plug (non-struck side)				13727	SACO	6-Feb-2020

TABLE 2 – Vehicle Instrumentation

Vehicle Instrumentation		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	T23815	Endevco	8-Mar-22
Vehicle Center of Gravity	Y	P88038	Endevco	8-Mar-22
Vehicle Center of Gravity	Z	T16770	Endevco	8-Mar-22
Left Floor Sill	Y	T11835	Endevco	8-Mar-22
A-Pillar Sill	Y	P83257	Endevco	8-Mar-22
A-Pillar Low	Y	P50393	Endevco	8-Mar-22
A-Pillar Mid	Y	P57803	Endevco	8-Mar-22
B-Pillar Sill	Y	P88555	Endevco	7-Mar-22
B-Pillar Low	Y	T23821	Endevco	7-Mar-22
B-Pillar Mid	Y	T23805	Endevco	7-Mar-22
Driver Seat	Y	T16772	Endevco	7-Mar-22
Engine Top	X	P88030	Endevco	8-Mar-22
Engine Top	Y	T11867	Endevco	8-Mar-22
Firewall	Y	P76114	Endevco	8-Mar-22
Right Roof	Y	P61501	Endevco	8-Mar-22
Right Floor Sill	Y	T23813	Endevco	8-Mar-22
Rear Floor Pan	X	P58611	Endevco	8-Mar-22
Rear Floor Pan	Y	P76171	Endevco	8-Mar-22

TABLE 3 – Pole Instrumentation

Pole Instrumentation	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DK7091S	Humanetics	28-Dec-2021
Load Cell 2	DK7120S	Humanetics	28-Dec-2021
Load Cell 3	DK7118S	Humanetics	28-Dec-2021
Load Cell 4	DK7124S	Humanetics	28-Dec-2021
Load Cell 5	DK7111S	Humanetics	28-Dec-2021
Load Cell 6	DK7126S	Humanetics	28-Dec-2021
Load Cell 7	DK7112S	Humanetics	28-Dec-2021
Load Cell 8	DK7074S	Humanetics	28-Dec-2021