

Final Report Number: NCAP-TRC-21-001

**New Car Assessment Program (NCAP)
Frontal Barrier Impact Test**

**GENERAL MOTORS LLC
2021 Chevrolet Tahoe
NHTSA Number: M20210105**

**PREPARED BY:
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Report Date: March 16, 2021

FINAL REPORT

**Prepared For:
U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Crashworthiness Standards
1200 New Jersey Ave, SE Room W43-410
Washington, DC 20590**

Notice

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Prepared By: ILO Project Operations Group

Approved By: John Shultz

Approval Date: March 16, 2021

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date _____

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

Date _____

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16. Abstract A 56.0 km/h NCAP Frontal Impact Test was conducted on a 2021 Chevrolet Tahoe, in accordance with the specifications of the Office of Crashworthiness Standards Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing. The test was conducted at the Transportation Research Center Inc. in East Liberty, Ohio on January 5, 2021. The impact velocity was 56.64 km/h, and the ambient temperature at the barrier face at the time of impact was 21.4° C. The target vehicle post-test maximum crush was 505 millimeters at vehicle center line. The test vehicle's performance is as follows: <table border="1"> <thead> <tr> <th></th> <th colspan="3">Driver ATD</th> <th colspan="3">Passenger ATD</th> </tr> <tr> <th>Measurement Description</th> <th>Units</th> <th>Threshold</th> <th>Result</th> <th>Units</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₁₅)</td> <td>NA</td> <td>700</td> <td>146</td> <td>NA</td> <td>700</td> <td>233</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>-22.6</td> <td>mm</td> <td>52</td> <td>-15.9</td> </tr> <tr> <td>3ms Chest Clip</td> <td>Gs</td> <td>60</td> <td>37.1</td> <td>Gs</td> <td>60</td> <td>37.6</td> </tr> <tr> <td>Nij</td> <td>NA</td> <td>1</td> <td>0.23</td> <td>NA</td> <td>1</td> <td>0.47</td> </tr> <tr> <td>Neck Tension</td> <td>Newtons</td> <td>4170</td> <td>1385.9</td> <td>Newtons</td> <td>2620</td> <td>1211.7</td> </tr> <tr> <td>Neck Compression</td> <td>Newtons</td> <td>4000</td> <td>-225.6</td> <td>Newtons</td> <td>2520</td> <td>-292.7</td> </tr> <tr> <td>Left Femur Force</td> <td>Newtons</td> <td>10000</td> <td>-677.1</td> <td>Newtons</td> <td>6800</td> <td>-1481.5</td> </tr> <tr> <td>Right Femur Force</td> <td>Newtons</td> <td>10000</td> <td>-716.8</td> <td>Newtons</td> <td>6800</td> <td>-3606.0</td> </tr> </tbody> </table>								Driver ATD			Passenger ATD			Measurement Description	Units	Threshold	Result	Units	Threshold	Result	Head Injury Criteria (HIC ₁₅)	NA	700	146	NA	700	233	Maximum Chest Compression	mm	63	-22.6	mm	52	-15.9	3ms Chest Clip	Gs	60	37.1	Gs	60	37.6	Nij	NA	1	0.23	NA	1	0.47	Neck Tension	Newtons	4170	1385.9	Newtons	2620	1211.7	Neck Compression	Newtons	4000	-225.6	Newtons	2520	-292.7	Left Femur Force	Newtons	10000	-677.1	Newtons	6800	-1481.5	Right Femur Force	Newtons	10000	-716.8	Newtons	6800	-3606.0
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1: PURPOSE AND SUMMARY OF THE TEST

PURPOSE

This 56 km/h frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. 693JJ919D000007. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for consumer information purposes.

This 56 km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Test Procedure or NCAP Full Frontal Rigid Barrier Impact Testing dated May 2018.

SUMMARY

A load cell barrier consisting of 288 load cells was impacted by a 2021 Chevrolet Tahoe at a velocity of 56.64 km/h. The test was performed at Transportation Research Center, Inc. on January 5, 2021. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time camera and 16 high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

One Part 572E 50th percentile male anthropomorphic test device (ATD) was placed in the driver seating position and one Part 572O 5th percentile female ATD was placed in the right-front passenger position according to dummy placement instructions specified in the Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing.

Both ATDs were fully instrumented with head, chest and pelvis tri-axial accelerometers, chest displacement potentiometers, upper neck transducers, femur load cells, and lower leg instrumentation.

The driver (position 1) ATD (Serial No. 037), and the right-front passenger (position 2) ATD (Serial No. 426) were qualified prior to this test. Certification details, along with instrumentation calibration data, are found in Appendix C of this report.

The 106 channels of data were recorded on an on-board data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces.

There was 100.0 percent windshield retention and no intrusion into the protected zone of the windshield during the event. There was no Stoddard solvent leakage (or electrolyte spillage) after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 505 mm and both the driver and passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: front airbag, side curtain airbag, headrest and knee bolster. The passenger's visible contact points were as follows: front airbag, side curtain airbag, headrest and glove box.

The occupant data is summarized below:

ATD Position	HIC ₁₅	Nij	Neck Tension (N)	Neck Compression (N)	3 ms Chest Clip (Gs)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver (50 th Male)	146	0.23	1385.9	-225.6	37.1	-22.6	-677.1	-716.8
Passenger (5 th Female)	233	0.47	1211.7	-292.7	37.6	-15.9	-1481.5	-3606.0

TEST COMMENTS:

PASSENGER LEFT FOOT FORE Z - QUESTIONABLE DATA

PASSENGER SHOULDER BELT FORCE – NO VALID DATA AFTER 24.0 MS

BARRIER 7-14 - CHANNEL FAILED

2.2 REPORT AREA 2: DATA SHEETS

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

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021

TEST VEHICLE INFORMATION

NHTSA No.	M20210105
Model Year	2021
Make	Chevrolet
Model	Tahoe
Body Style	MPV
VIN	1GNSKNKD2MR140625
Body Color	Empire Beige Metallic
Odometer Reading (km/mi)	24 mi.
Engine Displacement (L)	5.3
Type/No. Cylinders	V8
Engine Placement	Inline
Transmission Type	Automatic
Transmission Speeds	10
Overdrive	Yes
Final Drive	4WD
Roof Rack	No
Sunroof/T-Top	No
Running Boards	Yes
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes
Automatic Door Locks (ADLs)	Yes

TEST VEHICLE OPTIONS

Traction Control System (TCS)	Yes
Power Steering	Yes
Power Window Auto-Reverse	Yes
Driver Frontal Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	No
Front Pass. Frontal Airbag	Yes
Front Pass. Curtain Airbag	Yes
Front Pass. Head/Torso Airbag	No
Front Pass. Torso Airbag	No
Front Pass. Torso/Pelvis Airbag	Yes
Front Pass. Pelvis Airbag	No
Front Pass. Knee Airbag	No
Driver Pretensioner	Yes
Driver Load Limiter	Yes
Front Pass. Pretensioner	Yes
Front Pass. Load Limiter	Yes
Other: Driver Center Side Airbag	Yes

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

No

DATA FROM CERTIFICATION LABEL

Manufactured by	GENERAL MOTORS LLC	GVWR (kg)	3402 (7500 lbs)
Date of Manufacture		GAWR Front (kg)	1678 (3700 lbs)
		GAWR Rear (kg)	1950 (4300 lbs)

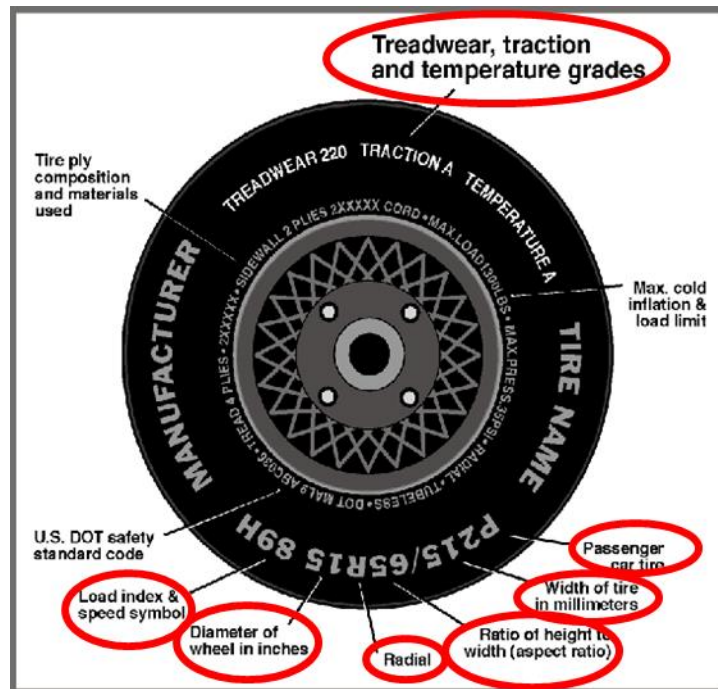
VEHICLE SEATING AND WEIGHT CAPACITY

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket	Split Bench	
Number of Occupants	2	2	3	7
Capacity Wt. (VCW) (kg)				821.0
Cargo Wt. (RCLW) (kg)				345.0

DATA SHEET NO. 1 - GENERAL TEST AND VEHICLE PARAMETER DATA (CONT'D)

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	240	240
Recommended Tire Size	265/65R18 T	265/65R18 T
Tire Size on Vehicle	265/65R18	265/65R18
Tire Manufacturer	Michelin	Michelin
Tire Model	Primacy LTX	Primacy LTX
Treadwear	480	480
Traction Grade	A	A
Temperature Grade	B	B
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	114T	114T
Tire Material	Polyester/Polyamide/Steel	Polyester/Polyamide/Steel
DOT Safety Code Right	M3KA-00FX-3020	M3KA-00FX-2920
DOT Safety Code Left	M3KA-00FX-3020	M3KA-00FX-2920

DATA SHEET NO. 1 - GENERAL TEST AND VEHICLE PARAMETER DATA (CONT'D)

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	653.2	628.6		690.2	732.0	
Right	kg	654.8	617.2		668.0	730.4	
Ratio	%	51.0	49.0		48.2	51.8	
Totals	kg	1308.0	1245.8	2553.8	1358.2	1462.4	2820.6

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2553.8
Weight of 1 P572E ATD & 1 P572O ATD	kg	139.3
Rated Cargo/Luggage Weight (RCLW) ¹	kg	136.0
Vehicle Target Weight (TVTW)	kg	2829.1

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front)
As Delivered	mm	919	919	945	949	1493
As Tested	mm	912	916	911	910	1587
Post Test	mm	862	902	925	970	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	3060
Total Vehicle Length at Left Side	mm	5095
Total Vehicle Length at Centerline	mm	5350
Total Vehicle Length at Right Side	mm	5095
Weight of Ballast in Cargo Area	kg	127.4
Weight of Vehicle Components Removed	kg	0.0
Amount of Stoddard Solvent in Fuel Tank	liters	84.5

LIST OF COMPONENTS REMOVED TO MEET TEST WEIGHT: None

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

**DATA SHEET NO. 1 - GENERAL TEST AND VEHICLE PARAMETER DATA
(CONT'D)**

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

TARGET VEHICLE STRUCTURAL MEASUREMENT

	Elements	Pre-Test (mm)
1	Total Length	5350
2	Total Width	2050
3	Bumper Top Height	665
4	Bumper Bottom Height	610
5	Longitudinal Member Top Height	450
6	Distance Between Longitudinal Members	685
7	Longitudinal Member Width	80
8	Engine Top Height	1195
9	Engine Bottom Height	310
10	Engine and Gearbox Width	600
11	Front Bumper-Engine Distance	4700
12	Front Shock Absorber Fixing Height	795
13	Bonnet Leading Edge Height	1110
14	Front Shock Absorber Fixing Width	1125
15	Front Bumper – Front Axle Distance	970
16	Front Axle – A-Pillar Distance	620
17	A-Pillar – B-Pillar Distance	1135
18	B-Pillar – Rear Axle Distance	1325
19	B-Pillar – C-Pillar Distance	1010
20	Roof Sill Bottom Height	1740
21	Roof Sill Top Height	1820
22	Floor Sill Bottom Height	505
23	Floor Sill Top Height	560

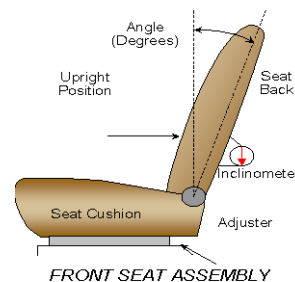
DATA SHEET NO. 2 - SEAT ADJUSTMENT, FUEL SYSTEM AND STEERING WHEEL DATA

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

NORMAL DESIGN RIDING POSITION

For adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable



	Degree
Driver Seat back angle:	-11.4
Passenger Seat back angle:	-9.2

SEAT FORE/AFT POSITIONS

Describe the method of determining seat fore/aft positions.

Driver: Mid position, Positioned according to Form 1

Passenger: Full forward, Positioned according to Form 1

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	330	165
Passenger Seat	260	260

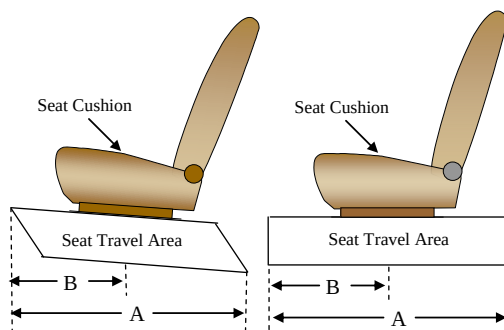
SEAT BELT UPPER ANCHORAGE

Describe the method of positioning seat belt upper anchorages.

Driver: Uppermost, Positioned according to Form 1

Passenger: Uppermost, Positioned according to Form 1

	Total No. of Positions	Placed in Position No.
Driver Seat	4	4 (Uppermost)
Passenger Seat	4	4 (Uppermost)



DATA SHEET NO. 2 - SEAT ADJUSTMENT, FUEL SYSTEM AND STEERING WHEEL DATA (CONT'D)

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

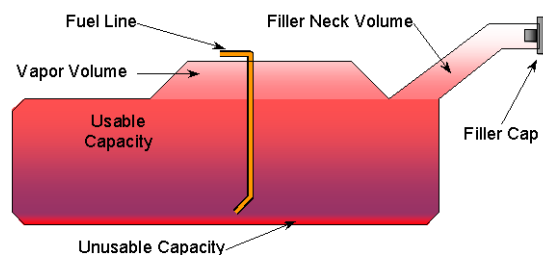
NHTSA No.: M20210105
Test Date: 1/5/2021

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	90.8
Usable Capacity of "Optional Tank"	N/A
92%-94% of Usable Capacity	84.5
Actual Amount of Solvent Used	84.5
1/3 of Usable Capacity	30.3

Describe the fuel system - what type of fuel pump, details about how it operates, etc.

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

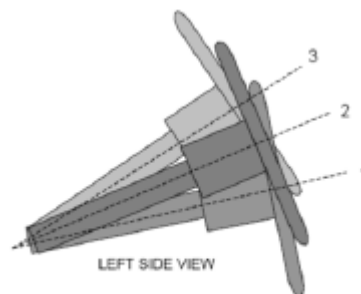


VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. Describe how this measurement was taken.

Steel square was placed across the rim of the steering wheel, an inclinometer was placed on plate and the angle was measured. Telescope travel was measured full in and full out and set at the midpoint.



STEERING COLUMN ASSEMBLY

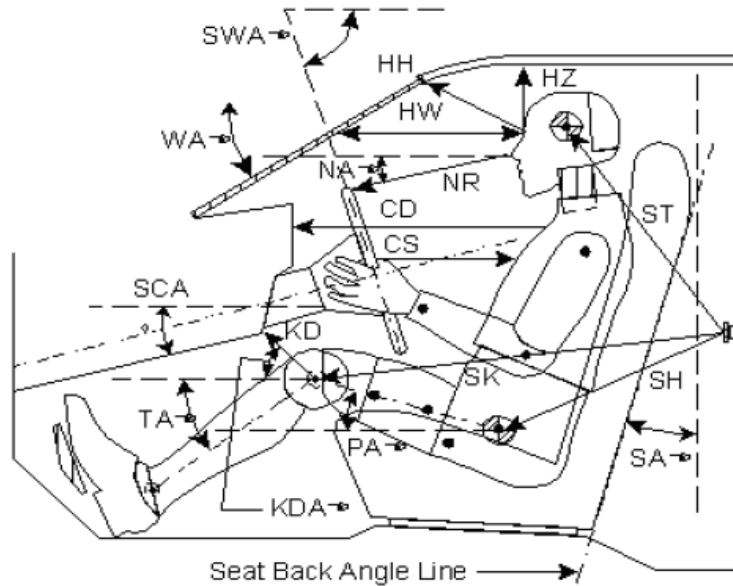
STEERING COLUMN POSITIONS

	Degrees	Fore/Aft Position (mm)
Lowermost Position No. 1	21.0	0
Geometric Center Position No. 2	23.0	25
Uppermost Position No. 3	24.8	50
Telescoping Steering Wheel Travel		50
Test Position	23.0	25

DATA SHEET NO. 3 - DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021

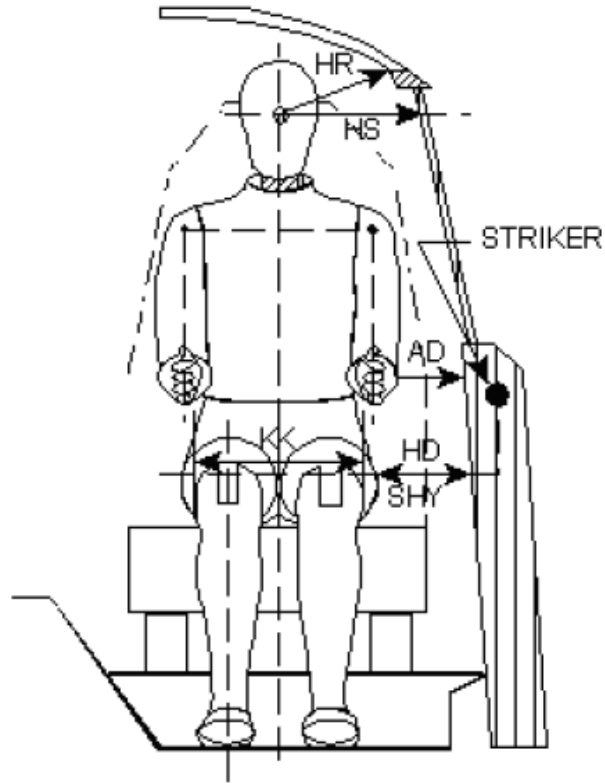


Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		32.1		
SWA°	Steering Wheel Angle		21.9		
SCA°	Steering Column Angle		68.1		
SA°	Seat Back Angle (on head rest post)		-11.4		-9.2
HZ	Head to Roof (Z)	253		315	
HH	Head to Header	460		425	
HW	Head to Windshield	788		807	
NR	Nose to Rim	400	9.5		
CD	Chest to Dash	544		394	
CS	Chest to Steering Hub	338			
RA	Rim to Abdomen	222			
KDL	Left Knee to Dash	156	36.0	125	33.3
KDR	Right Knee to Dash	156	35.8	120	33.5
PA°	Pelvic Angle		22.5		21.1
TA°	Tibia Angle		52.9		62.0
SK	Striker to Knee	565	0.5	690	7.7
ST	Striker to Head	575	-75.8	522	-67.3
SH	Striker to H-Point	262	30.8	360	11.6

DATA SHEET NO. 4 - DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

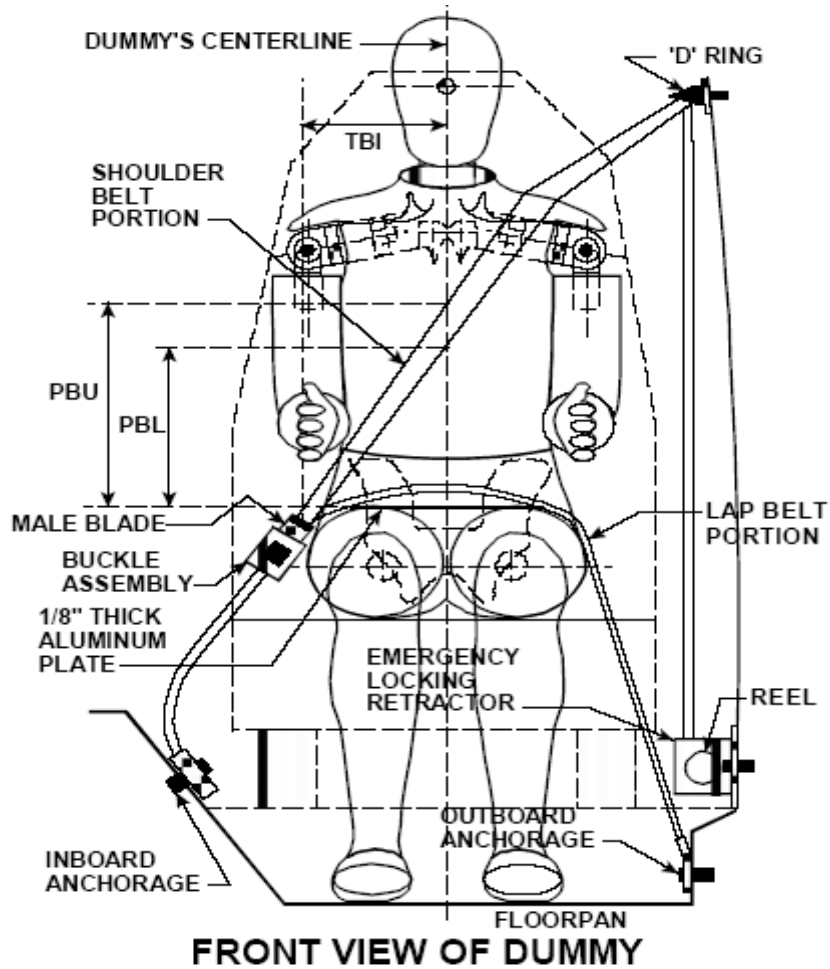


Code	Measurement Description	Driver	Passenger
AD	Arm to Door	55	94
HD	H-Point to Door	150	180
HR	Head to Side Header	260	315
HS	Head to Side Window	352	381
KK	Knee to Knee	282	170
SHY	Striker to H-Point (Y Direction)	260	295
AA	Ankle to Ankle	338	167

DATA SHEET NO. 5 - SEAT BELT POSITIONING DATA

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU – Top surface of reference to belt upper edge	mm	335	283
PBL – Top surface of reference to belt lower edge	mm	244	186

BELT LENGTH DATA

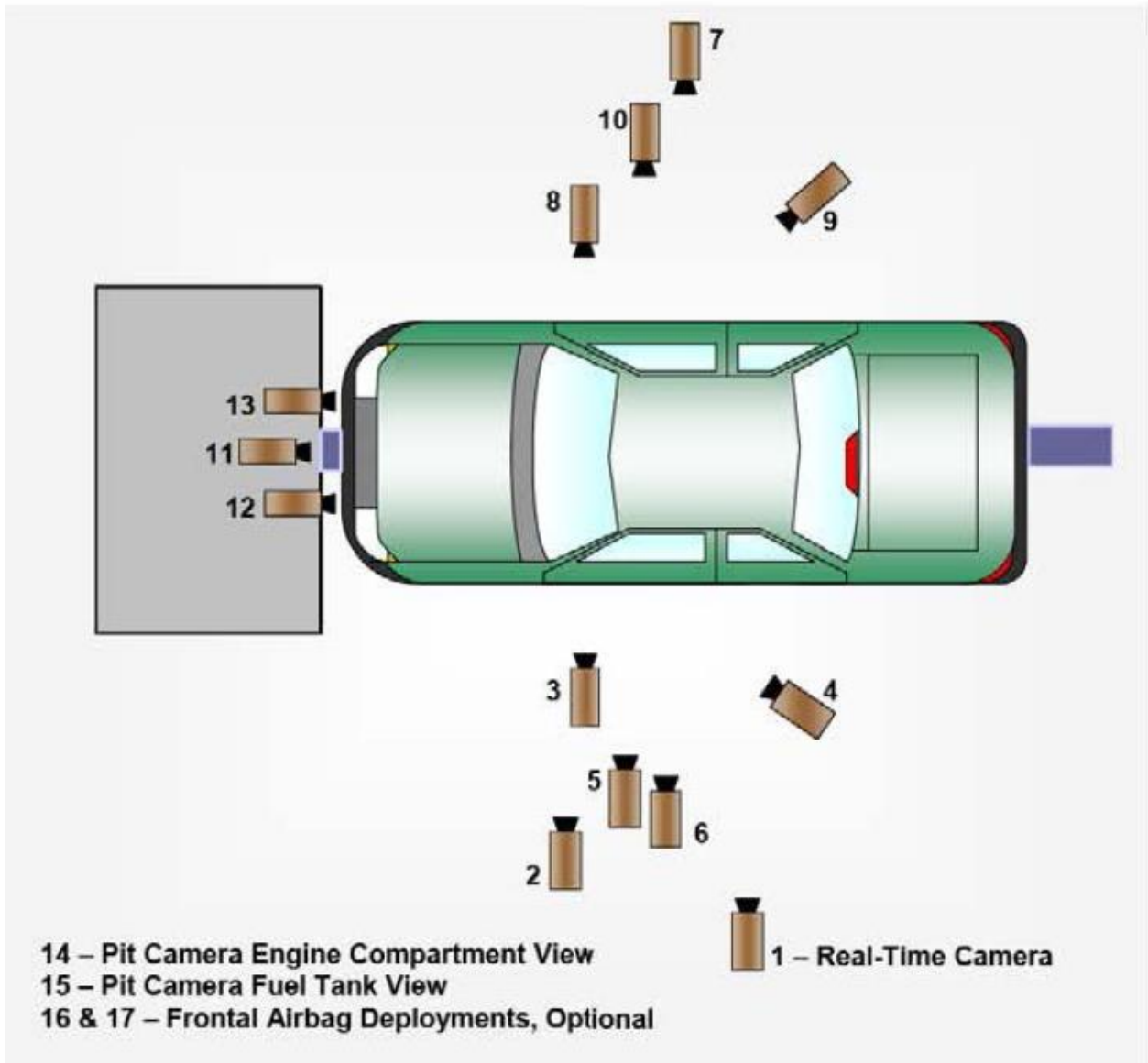
Measurement Description	Units	Driver	Passenger
Shoulder belt length as measured on ATD	mm	866	901
Lap belt length as measured on ATD	mm	683	936
Remainder of belt on reel	mm	1121	913
Total belt length for continuous webbing systems	mm	2670	2750

DATA SHEET NO. 6 - HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

CAMERA POSITIONS FOR FRONTAL IMPACTS



**DATA SHEET NO. 6 - HIGH SPEED CAMERA LOCATIONS AND DATA
(CONT'D)**

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

CAMERA LOCATIONS

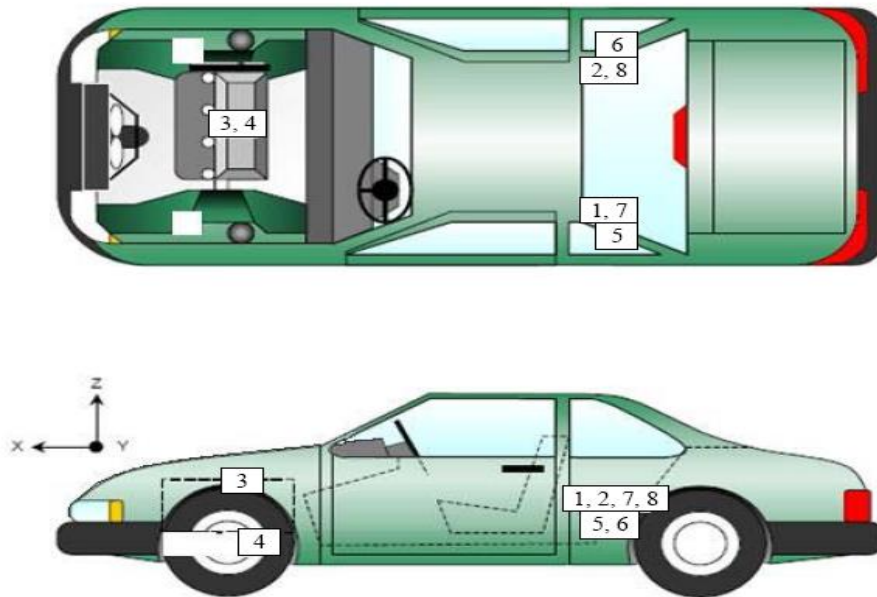
No.	Camera View	Location (mm)			Lens (mm)	Frame Speed (fps)
		X	Y	Z		
1	REAL-TIME LEFT OVERALL	1588	-5837	-1437	Zoom	30
2	LEFT OVERALL	2188	-5118	-1559	8.5	1000
3	DRIVER CLOSE-UP	1994	-5469	-1515	50	1000
4	LEFT FRONT HALF	508	-4788	-1480	28	1000
5	LEFT ANGLE	3614	-2421	-1542	25	1000
6	STEERING COLUMN	2357	-4988	-1378	50	1000
7	RIGHT OVERALL	2001	5234	-1455	8.5	1000
8	PASSENGER CLOSE-UP	2186	5175	-1538	50	1000
9	RIGHT FRONT HALF	712	5423	-1436	70	1000
10	RIGHT ANGLE	3852	2827	1700	25	1000
11	WINDSHIELD	0	0	-2650	20	1000
12	DRIVER WINDSHIELD	0	-313	-2642	16	1000
13	PASSENGER WINDSHIELD	0	203	-2644	16	1000
14	PIT FRONT	876	0	3021	20	1000
15	PIT REAR	3108	0	3045	20	1000
16	DRIVER ONBOARD				12.5	1000
17	PASSENGER ONBOARD				12.5	1000

Reference Points: +X – forward of impact plane
+Y – right of monorail center
+Z – into ground

DATA SHEET NO. 7 - VEHICLE ACCELEROMETER DATA

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear Accelerometer – X Direction	2200	-550	-620
2	Right Rear Accelerometer – X Direction	2200	565	-622
3	Engine Top X	4440	0	-1091
4	Engine Bottom X	4070	45	-311
5	Left Rear Accelerometer – Z Direction	2200	-550	-628
6	Right Rear Accelerometer – Z Direction	2200	565	-630
7	Left Rear Accelerometer – X Direction Redundant	2200	-520	-620
8	Right Rear Accelerometer- X Direction Redundant	2200	525	-622

Reference Points: X – Rear Surface of Vehicle (+ forward)
Y – Vehicle Centerline (+ to right)
Z – Ground Plane (+ down)

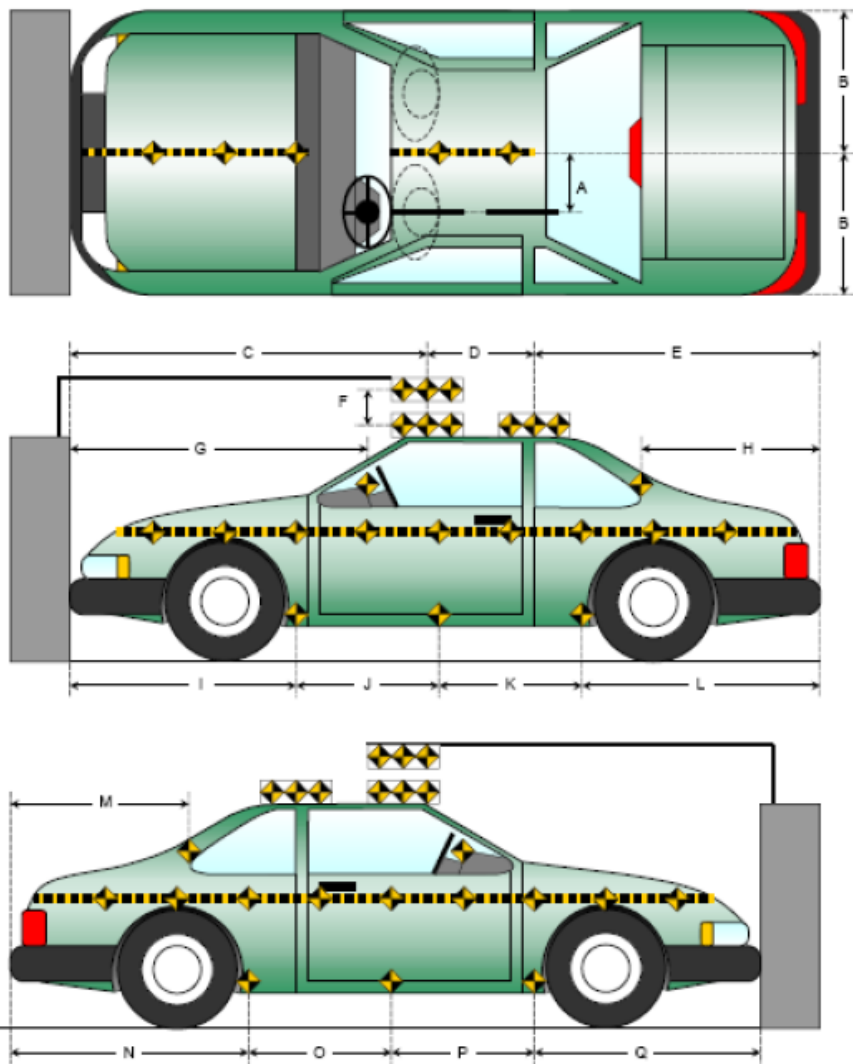
DATA SHEET NO. 8 - PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021

Item	Value
A	515
B	1025
C	2375
D	600
E	2400
F	196
G	1965
H	1695
I	1505
J	985
K	1010
L	1850
M	1694
N	1850
O	1008
P	990
Q	1502

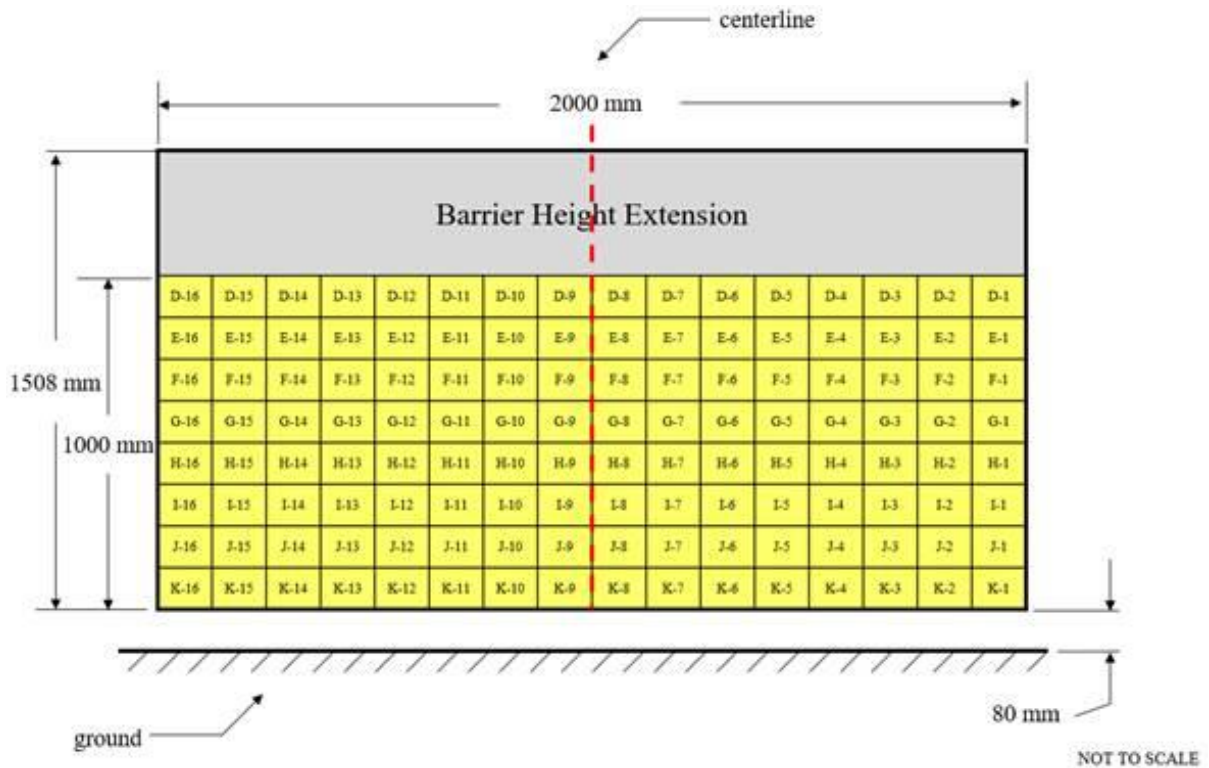
All units in millimeters



DATA SHEET NO. 9 - LOAD CELL LOCATIONS ON FIXED BARRIER

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021



DATA SHEET NO. 10 - TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

INSTRUMENTATION

Instrumentation	Number of Channels Collected
Driver Dummy Accelerometers	47
Passenger Dummy Accelerometers	47
Vehicle Structure Accelerometers	8
Total	102

CAMERA COVERAGE

Type of Camera	Number Used in this Test
High-Speed Vehicle Onboard	2
High-Speed Offboard	14
Real-Time Panning	2
Total	18

DATA SHEET NO. 11 - POST-TEST OBSERVATIONS

Test Vehicle: 2021 Chevrolet Tahoe

NHTSA No.: M20210105

Test Program: NCAP Frontal Impact

Test Date: 1/5/2021

TEST DUMMY INFORMATION AND CONTACT LOCATIONS

Description	Driver	Passenger
Dummy Type / Serial No.	Hybrid III 50th / 037	Hybrid III 5th / 426
Head Contact	Frontal Airbag, Side Curtain Airbag and Head Restraint	Frontal Airbag, Side Curtain Airbag and Head Restraint
Upper Torso Contact	Airbag	Airbag
Lower Torso Contact	None	None
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

DOOR OPENING, TRUNK OPENING, AND SEAT TRACK INFORMATION

Description	Driver	Passenger	Other
Locked/Unlocked Doors**	Unlocked	Unlocked	
Front Door Opening**	No	No	
Rear Door Opening**	No	No	
Trunk/Hatch/Tailgate Opening**			No
Seat Track Shift (mm) **	No	No	
Seat Back Movement from Initial Position**	No	No	

**NOTE: Indicate "No", "N/A, or "Yes", and if "Yes", describe

POST- OTHER VEHICLE POST-TEST OBSERVATIONS

Critical Areas of Performance	Observations
Windshield Damage	None
Window Damage	None
Other Notable Effects	None

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	248
Center	mm	205
Right Side	mm	175
Average	mm	209

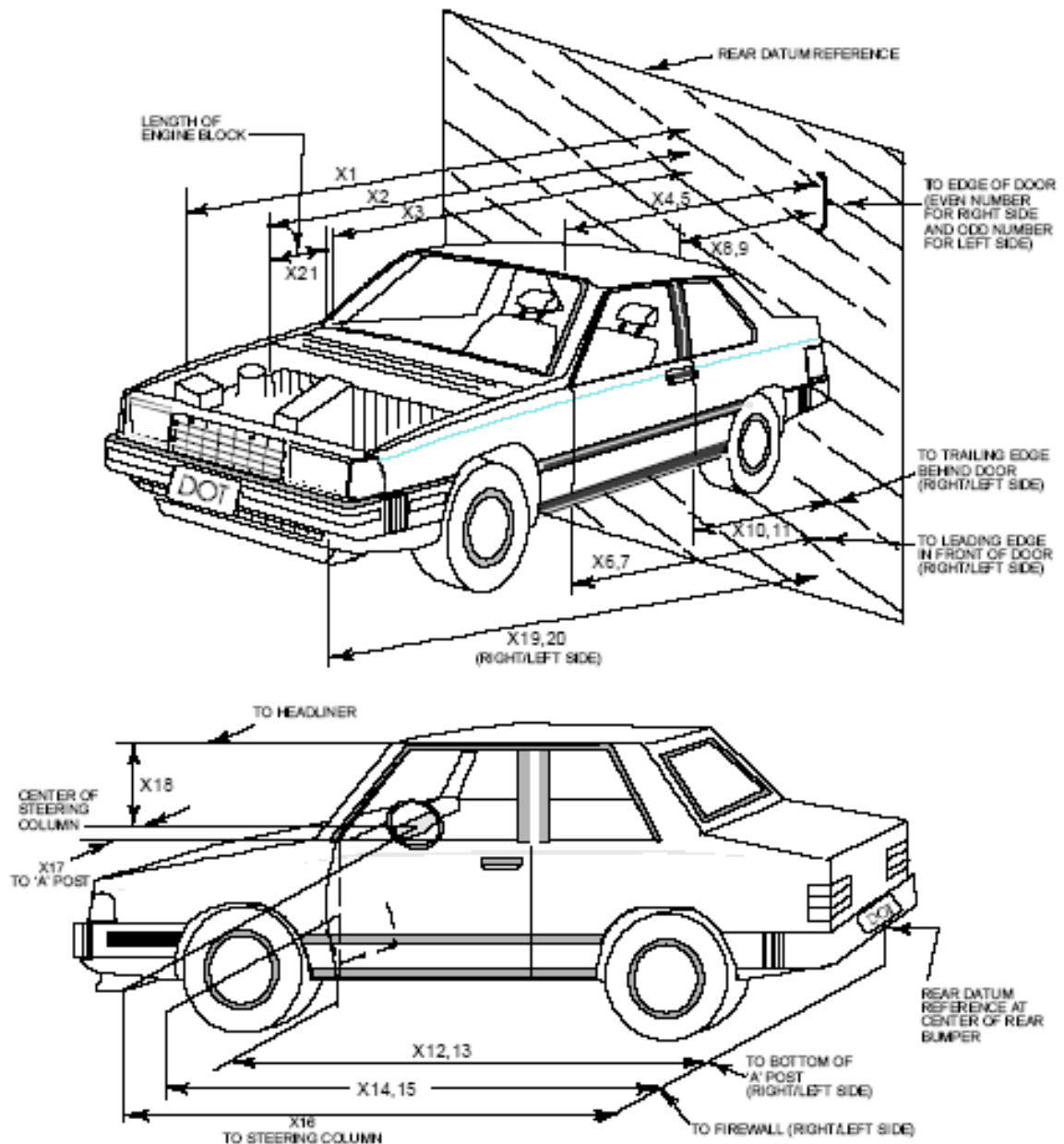
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Driver (Occupant 1)		Passenger (Occupant 2)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	Yes	Yes	Yes
Torso/Pelvis Side Airbag	Yes	No	Yes	Yes
Curtain Side Airbag	Yes	Yes	Yes	Yes
Knee Airbag	No	N/A	No	N/A
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Seat Belt Buckle Pretensioner	No	N/A	No	N/A
Other: Driver Center Side Airbag	Yes	No	No	N/A

DATA SHEET NO. 12 - VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021



DATA SHEET NO. 12 - VEHICLE PROFILE MEASUREMENTS (CONT'D)

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

No.	Measurement Description	Pre-Test	Post-Test	Difference
1	Total Length of Vehicle at Centerline	5350	4845	505
2	Rear Surface of Vehicle (RSOV) to Front of Engine	4700	4472	228
3	RSOV to Firewall	4220	4265	-45
4	RSOV to Upper Leading Edge of Right Door	3804	3872	-68
5	RSOV to Upper Leading Edge of Left Door	3808	3870	-62
6	RSOV to Lower Leading Edge of Right Door	3720	3777	-57
7	RSOV to Lower Leading Edge of Left Door	3720	3770	-50
8	RSOV to Upper Trailing Edge of Right Door	2673	2737	-64
9	RSOV to Upper Trailing Edge of Left Door	2675	2737	-62
10	RSOV to Lower Trailing Edge of Right Door	2665	2720	-55
11	RSOV to Lower Trailing Edge of Left Door	2665	2730	-65
12	RSOV to Bottom of "A" Post-of Right Side	3773	3835	-62
13	RSOV to Bottom of "A" Post-of Left Side	3773	3835	-62
14	RSOV to Firewall, Right Side	4205	4265	-60
15	RSOV to Firewall, Left Side	4205	4270	-65
16	RSOV to Steering Column	3185	3285	-100
17	Center of Steering Column to "A" Post	305	360	-55
18	Center of Steering Column to Headliner	455	470	-15
19	RSOV to Right Side of Front Bumper	5095	4815	280
20	RSOV to Left Side of Front Bumper	5095	4790	305
21	Length of Engine Block	600	600	0
RD	RSOV to Right Side of Dash Panel	3555	3625	-70
CD	RSOV to Center of Dash Panel	3595	3560	35
LD	RSOV to Left Side of Dash Panel	3545	3605	-60

All Dimensions in mm

DATA SHEET NO. 13 - ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

VEHICLE INFORMATION

VIN: 1GNSKNKD2MR140625
Vehicle Size Category: MPV

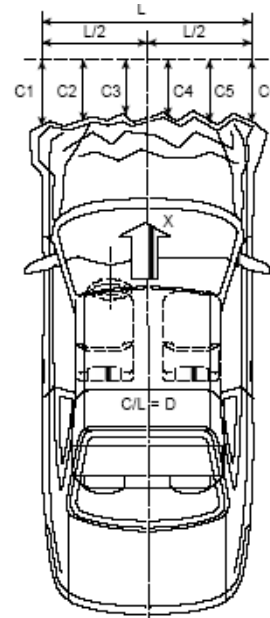
Wheelbase: 3060
Test Weight (kg): 2820.6

ACCELEROMETER DATA

Accelerometer Locations: As listed on Page 15 of this report.
Cal. Procedure/Interval: TRC procedure / 6 month interval
Integration Algorithm: Trapezoidal
Linearity: > 99%
Impact Velocity (km/h): 56.64
Velocity Change (km/h): 63.95
Time of Separation (ms): 140

CRUSH PROFILE

Collision Deformation Classification: 12FDEW2
Midpoint of Damage: Centerline
Damage Region Length (mm): 1778
Impact Mode: Frontal



No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	5095	4790	305
C2	Crush zone 2 at left side	mm	5270	4800	470
C3	Crush zone 3 at left side	mm	5320	4825	495
C4	Crush zone 4 at right side	mm	5320	4825	495
C5	Crush zone 5 at right side	mm	5270	4818	452
C6	Crush zone 6 at right side	mm	5095	4815	280
L	C1 to C6	mm	1778	1760	18

DATA SHEET NO. 14 - VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

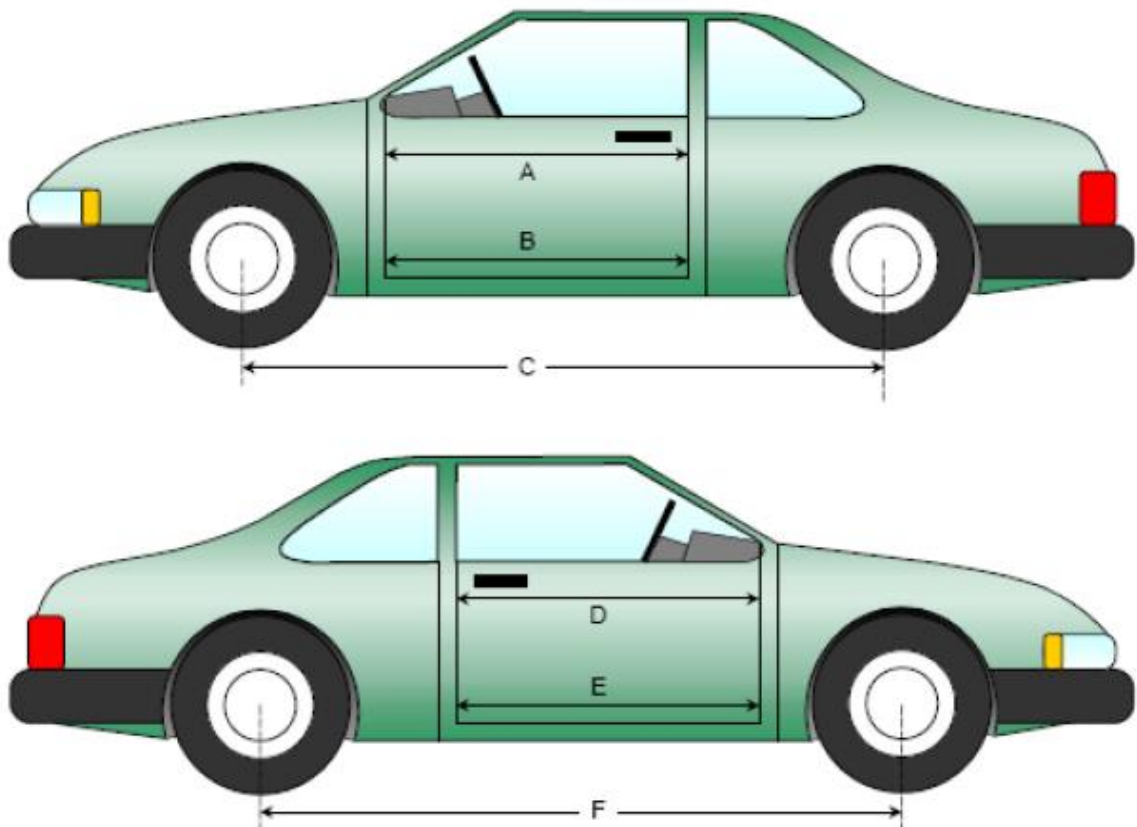
NHTSA No.: M20210105
Test Date: 1/5/2021

DOOR OPENING WIDTH

No.	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1070	1070	0
B	Left Side Lower	mm	1000	1000	0
D	Right Side Upper	mm	1070	1070	0
E	Right Side Lower	mm	1000	1000	0

WHEELBASE MEASUREMENTS

No.	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheelbase	mm	3060	3050	10
F	Right Side Wheelbase	mm	3060	3060	0



DATA SHEET NO. 14 - VEHICLE INTRUSION MEASUREMENTS (CONT'D)

Test Vehicle: 2021 Chevrolet Tahoe

NHTSA No.: M20210105

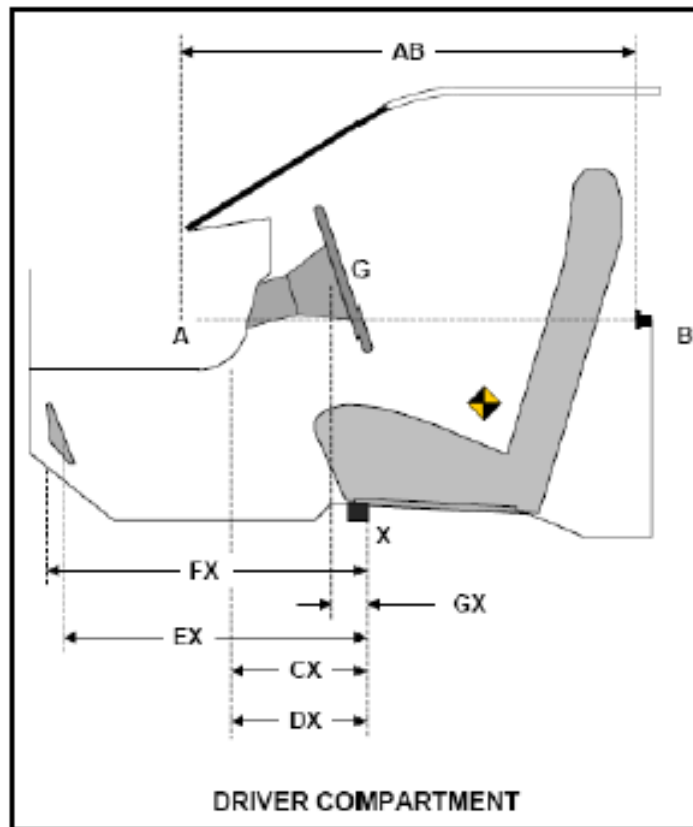
Test Program: NCAP Frontal Impact

Test Date: 1/5/2021

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside Window Jam)	mm	1070	1070	0
CX	Left Knee Bolster to X	mm	302	300	2
DX	Right Knee Bolster to X	mm	315	260	55
EX	Brake Pedal to X	mm	560	540	20
FX	Foot Rest to X	mm	600	680	-80
GX	Center of Steering Column Wheel Hub to X	mm	100	195	-95

X = Front of Seat Track (Stationary)



DATA SHEET NO. 15 - SUMMARY OF INDICANT FMVSS 212 AND FMVSS 219 (PARTIAL) DATA

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

Please provide windshield mounting details.

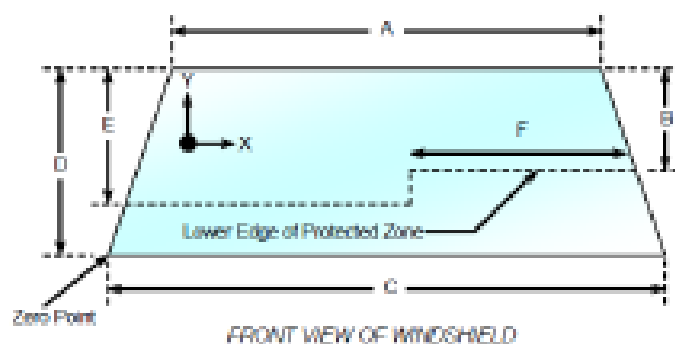
The standard requires that the post-test retention measurement be a minimum of 75% of the pre-test total periphery measurement for vehicle not equipped with occupant passive restraint and 50% for each side of the windshield for vehicle which are equipped with occupant passive restraints.

Temperature of windshield molding during test: 21.4°C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2360	2360	100.0
Right Side	2360	2360	100.0
Total	4720	4720	100.0

Item	Units	Value
A	mm	1410
B	mm	476
C	mm	1610
D	mm	850
E	mm	507
F	mm	510



AREAS OF PROTECTED ZONE FAILURES

A. Provide coordinates of the area that the protected zone was penetrated more than .25 inches by a vehicle component other than one that is normally in contact with the windshield.

X	Y
NA	NA
NA	NA
NA	NA
NA	NA

B. The inner surface of the windshield was penetrated by the hood support beneath the protected zone.

X	Y
NA	NA
NA	NA
NA	NA
NA	NA

**DATA SHEET NO. 16 - FMVSS 301 BARRIER IMPACT AND STATIC ROLLOVER
RESULTS**

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21.4°C

Test Time: 16:23

Stoddard Solvent Spillage Measurements

- A From impact until vehicle motion ceases: 0 oz.
(maximum allowable – 1 oz.)
- B For the 5-minute period after motion ceases: 0 oz.
(maximum allowable – 5 oz.)
- C For the following 25 minutes: 0 oz.
(maximum allowable – 1 oz./minutes)
- D Spillage: None

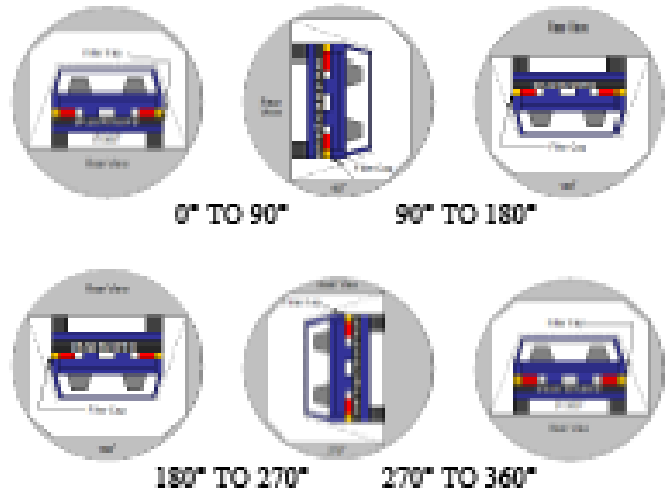
DATA SHEET NO. 16 - FMVSS 301 BARRIER IMPACT AND STATIC ROLLOVER RESULTS (CONT'D)

Test Vehicle: 2021 Chevrolet Tahoe
 Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
 Test Date: 1/5/2021

1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage:

None



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	1480

FMVSS 301 SPILLAGE TABLE

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0	0	0	N/A
90° to 180°	0	0	0	N/A
180° to 270°	0	0	0	N/A
270° to 360°	0	0	0	N/A

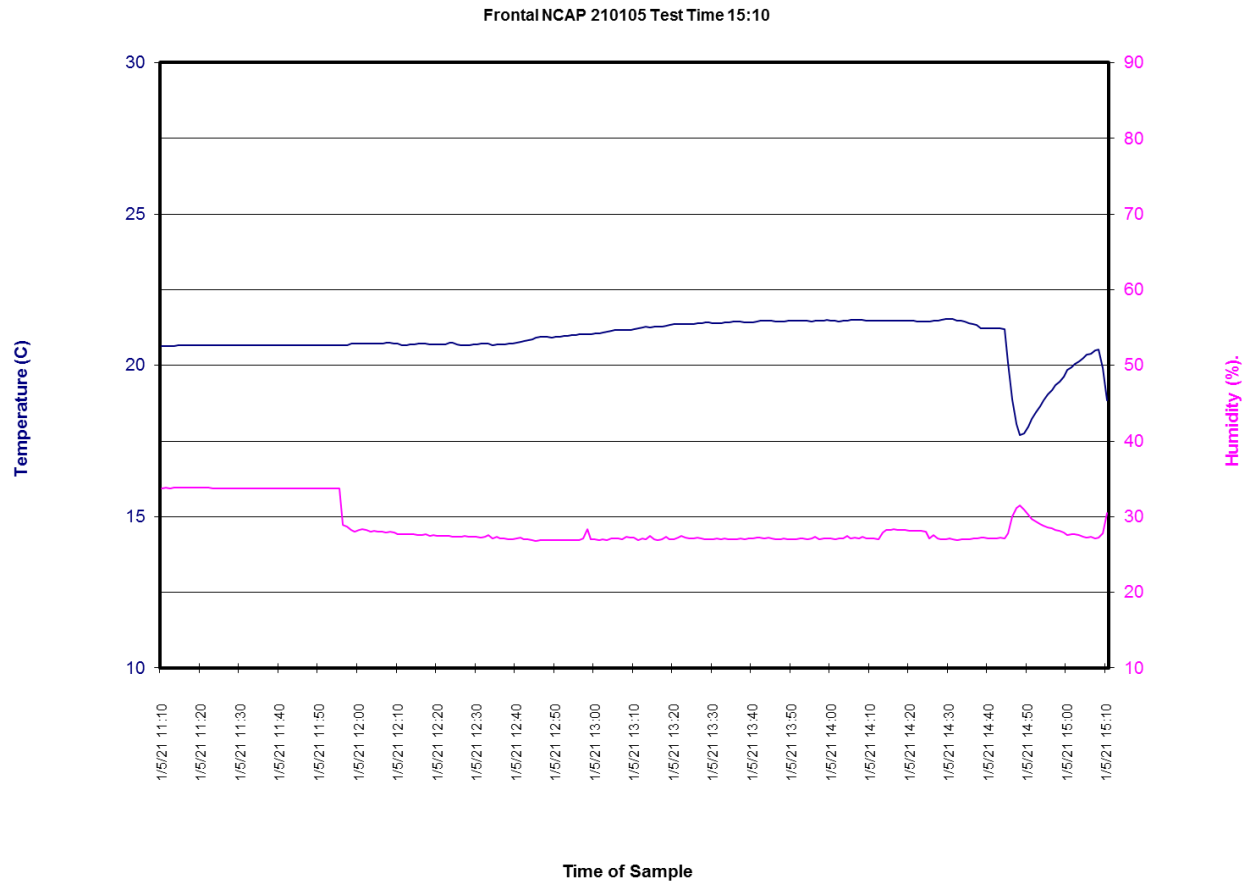
SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 17 - DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2021 Chevrolet Tahoe
Test Program: NCAP Frontal Impact

NHTSA No.: M20210105
Test Date: 1/5/2021



APPENDIX A
PHOTOGRAPHS

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4	Manufacturer's Label	A-6
5	Tire Placard	A-7
6	2021 Chevrolet Tahoe Frontal As Delivered	A-8
7	Right Rear 3-4 View, as Received	A-8
8	Pre-Test Front View of Test Vehicle	A-9
9	Post-Test Front View of Test Vehicle	A-9
10	Pre-Test Left View of Test Vehicle	A-10
11	Post-Test Left View of Test Vehicle	A-10
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13	Post-Test Right View of Test Vehicle	A-11
14	Pre-Test Right Front 3-4 View	A-12
15	Post-Test Right Front 3-4 View	A-12
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18	Pre-Test Windshield View	A-14
19	Post-Test Windshield View	A-14
20	Pre-Test Engine Compartment View	A-15
21	Post-Test Engine Compartment View	A-15
22	Pre-Test Fuel Filler Cap View	A-16
23	Post-Test Fuel Filler Cap View	A-16
24	Pre-Test Front Underbody View	A-17
25	Post-Test Front Underbody View	A-17
25a	Pre-Test Mid Front Underbody View	A-18
25b	Post-Test Mid Front Underbody View	A-18
25c	Pre-Test Mid Underbody View	A-19
25d	Post-Test Mid Underbody View	A-19
25e	Pre-Test Mid Rear Underbody View	A-20
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26	Pre-Test Rear Underbody View	A-21
27	Post-Test Rear Underbody View	A-21
28	Pre-Test Dummy Cable Routing	A-22
29	Post-Test Dummy Cable Routing	A-22
30	Pre-Test Driver Dummy Front View	A-23
31	Post-Test Driver Dummy Front View	A-23
32	Pre-Test Driver Dummy Window View	A-24
33	Post-Test Driver Dummy Window View	A-24

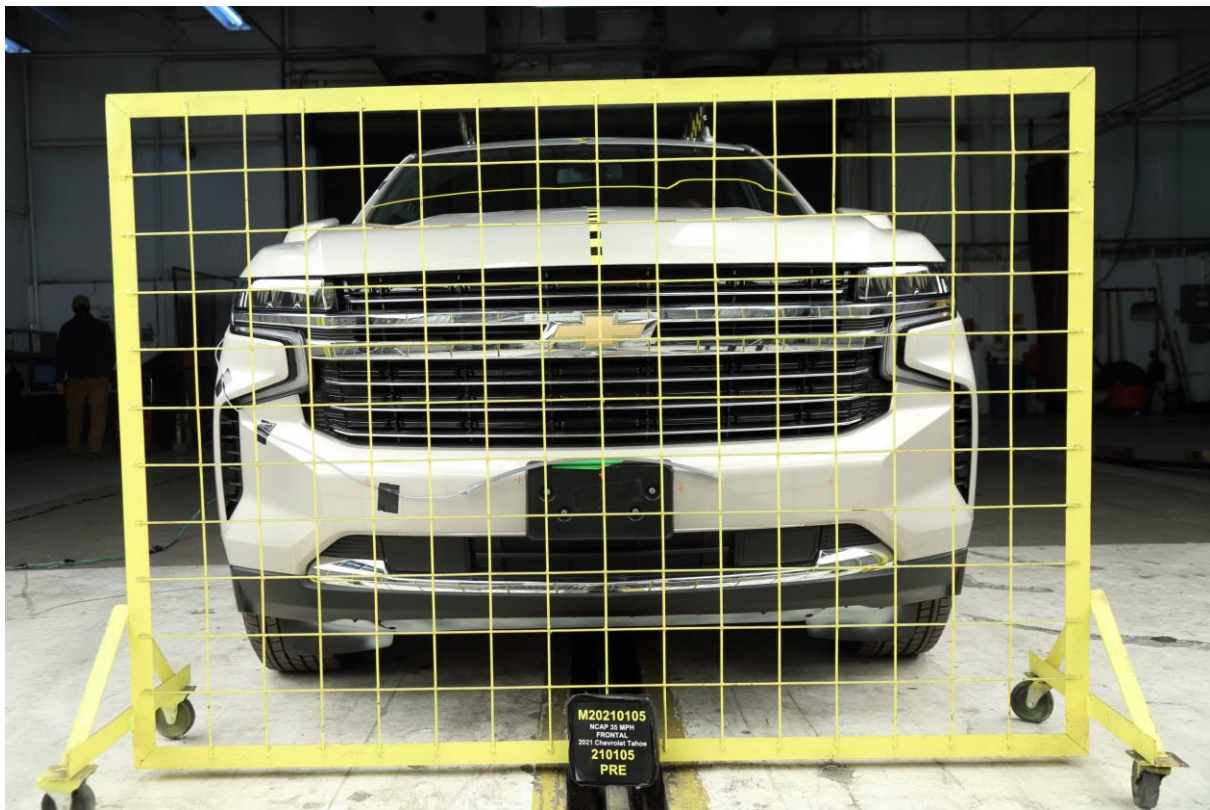
TABLE OF PHOTOGRAPHS (CONTINUED)

No.	Description	Page
34	Pre-Test Driver Dummy and Vehicle Interior View	A-25
35	Post-Test Driver Dummy and Vehicle Interior View	A-25
36	Pre-Test Driver's Seat Fore-Aft Markings	A-26
37	Post-Test Driver's Seat Fore-Aft Markings	A-26
38	Pre-Test View of Belt Anchorage for Driver Dummy	A-27
39	Post-Test View of Belt Anchorage for Driver Dummy	A-27
40	Pre-Test View of Belt Buckle and Latch Plate for Driver Dummy	A-28
41	Post-Test View of Belt Buckle and Latch Plate for Driver Dummy	A-28
42	Pre-Test Driver Dummy Feet	A-29
43	Post-Test Driver Dummy Feet	A-29
44	Pre-Test Driver's Side Knee Bolster	A-30
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46	Pre-Test Driver's Side Floorpan	A-31
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48	Post-Test Driver Dummy Face	A-32
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50	Post-Test Driver Dummy Contact with Headrest	A-33
51	Pre-Test View of the Steering Wheel	A-34
52	Post-Test View of the Steering Wheel	A-34
53	Pre-Test Passenger Dummy Front View	A-35
54	Post-Test Passenger Dummy Front View	A-35
55	Pre-Test Passenger Dummy Window View	A-36
56	Post-Test Passenger Dummy Window View	A-36
57	Pre-Test Passenger Dummy and Vehicle Interior View	A-37
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59	Pre-Test Passenger Seat Fore-Aft Markings	A-38
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61	Pre-Test View of Belt Anchorage for Passenger Dummy	A-39
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63	Pre-Test View of Belt Buckle and Latch Plate for Passenger Dummy	A-40
64	Post-Test View of Belt Buckle and Latch Plate for Passenger Dummy	A-40
65	Pre-Test Passenger Dummy Feet	A-41
66	Post-Test Passenger Dummy Feet	A-41
67	Pre-Test Passenger Side Knee Bolster	A-42
68	Post-Test Passenger Side Knee Bolster	A-42

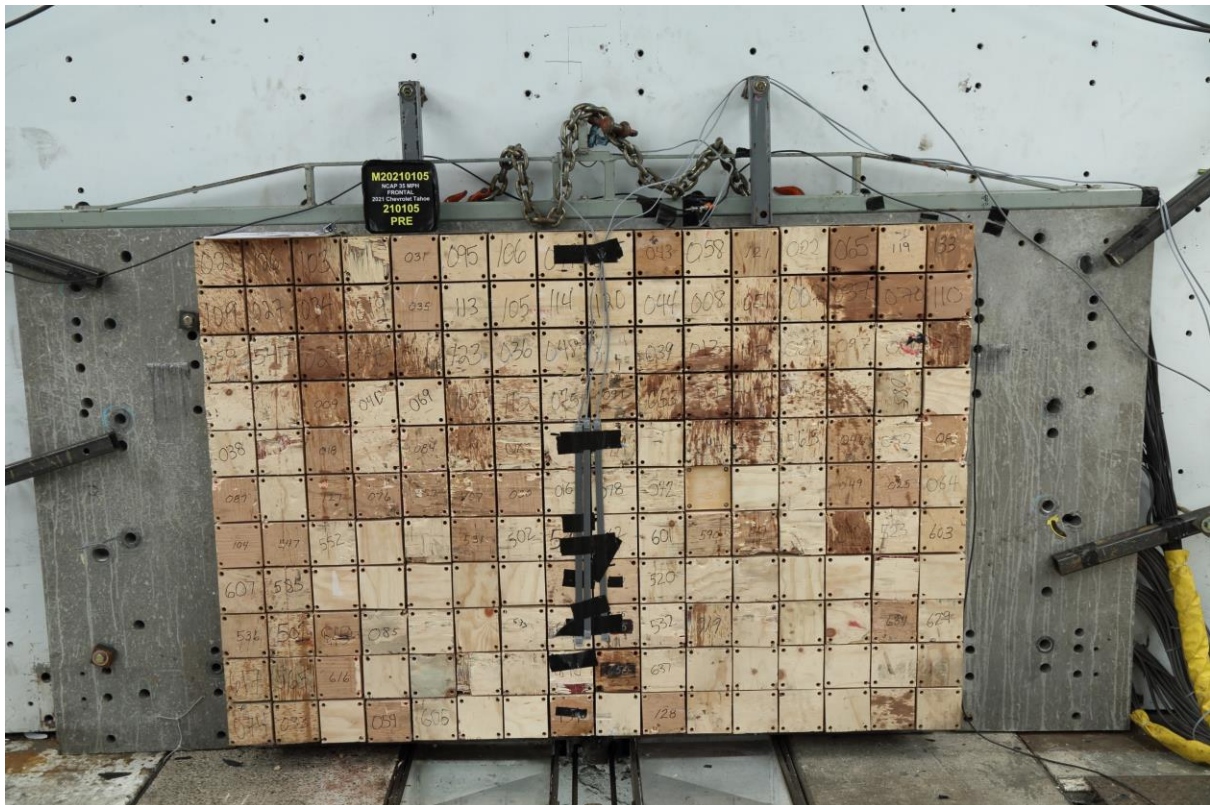
TABLE OF PHOTOGRAPHS (CONTINUED)

No.	Description	Page
69	Pre-Test Passenger Side Floorpan	A-43
70	Post-Test Passenger Side Floorpan	A-43
71	Post-Test Passenger Dummy Face	A-44
72	Post-Test Passenger Dummy Contact with Airbag	A-44
73	Post-Test Passenger Dummy Contact with Headrest	A-45
74	Photograph of Ballast Installed in Vehicle View	A-45
75	Post-Test Stoddard Solvent Spillage Location View, if required	A-46
76	Post-Test Speed Trap Read-out	A-46
77	Vehicle at 0° on Static Rollover Device	A-47
78	Vehicle at 90° on Static Rollover Device	A-47
79	Vehicle at 180° on Static Rollover Device	A-48
80	Vehicle at 270° on Static Rollover Device	A-48
81	Vehicle at 360° on Static Rollover Device	A-49
82	2021 Chevrolet Tahoe Frontal Impact Event	A-49
83	Monroney Label Photograph	A-50

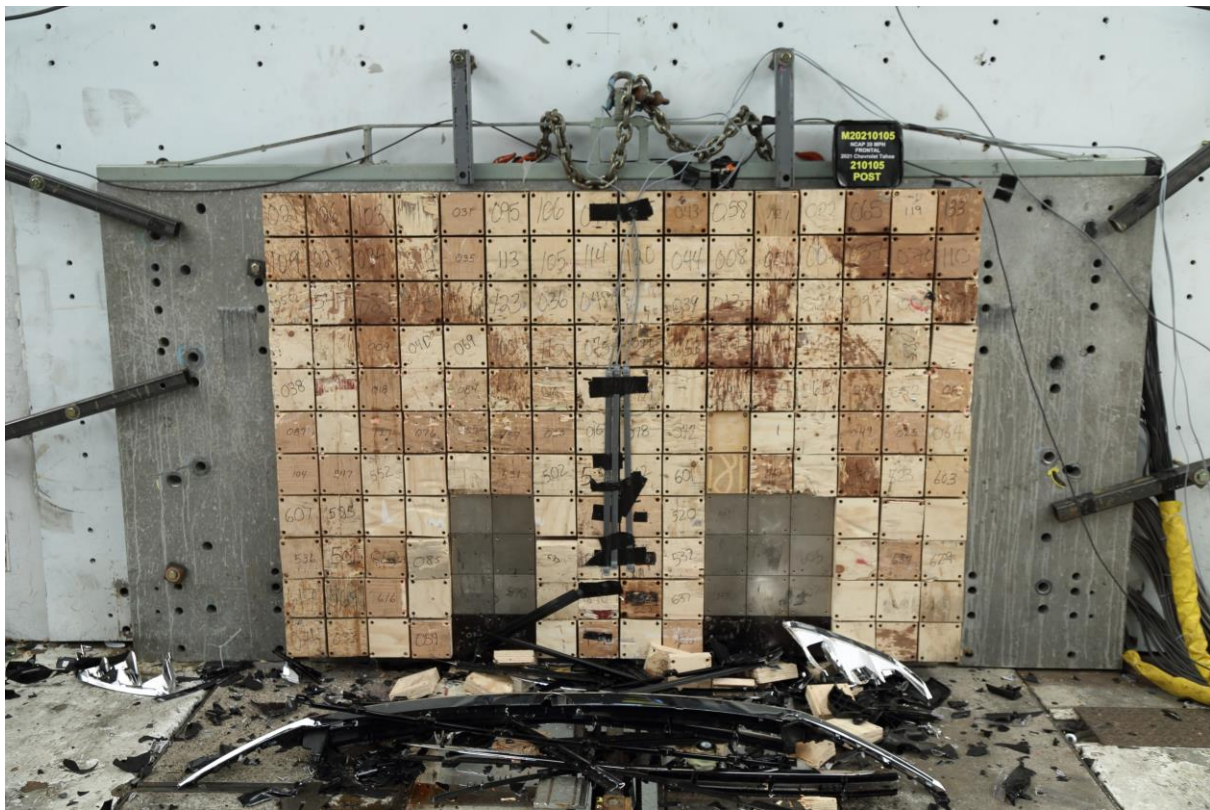
“Many photos do not have a Post-Test placard present in photo”



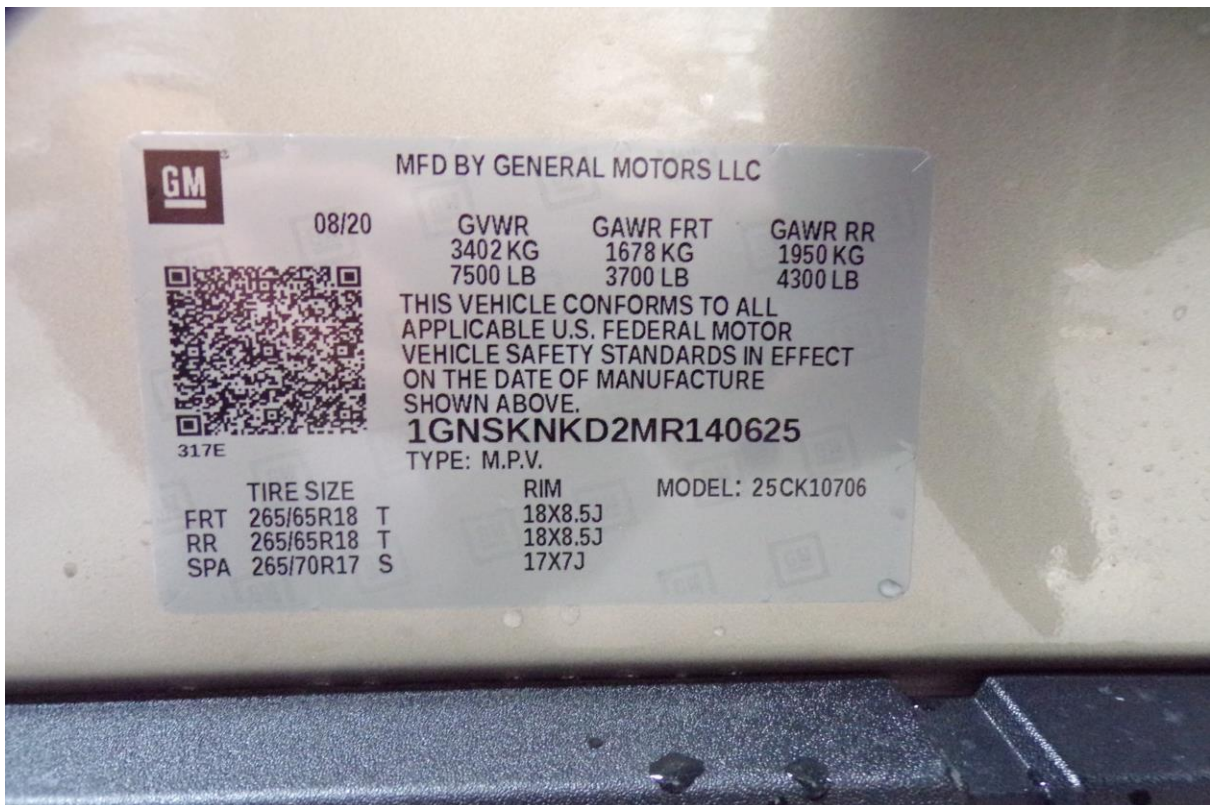
001 Load Cell Location



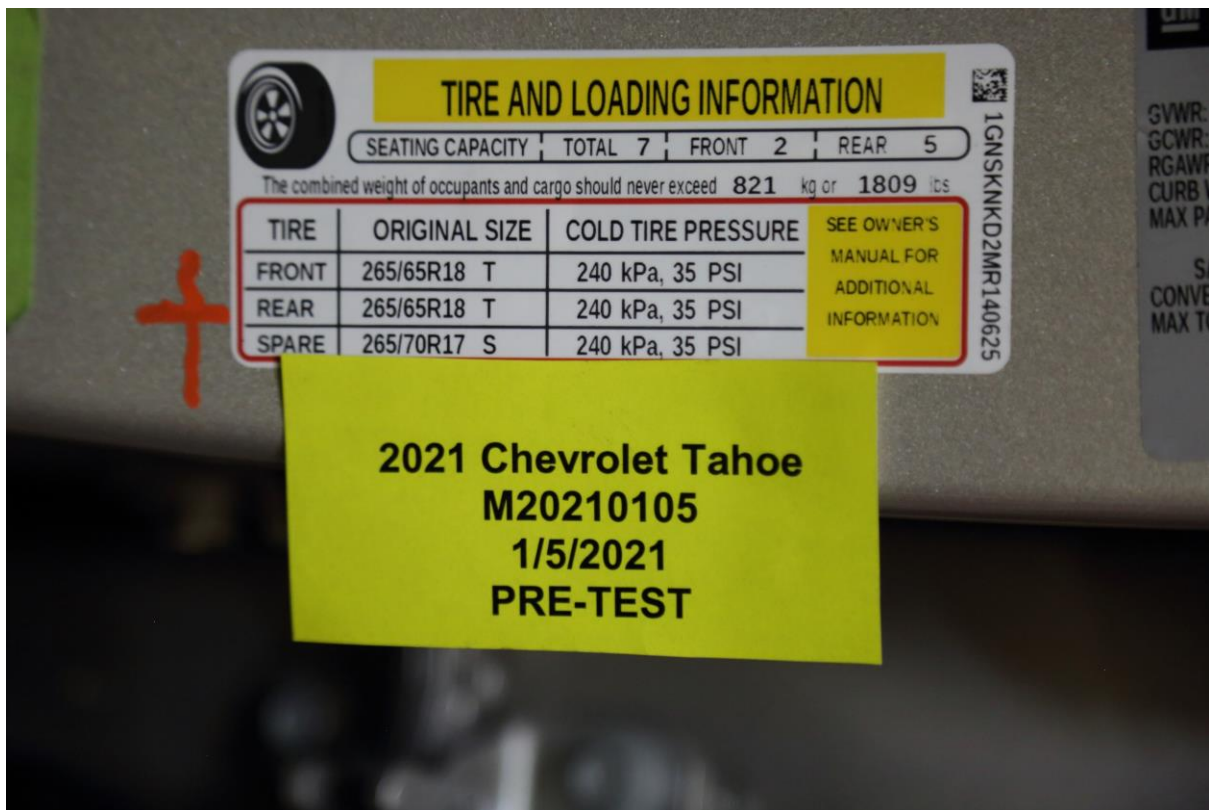
002 Pre-Test Load Cell Wall



003 Post-Test Load Cell Wall



004 Manufacturer's Label



005 Tire Placard

Intentionally Left Blank



006 2021 Chevrolet Tahoe Frontal As Delivered



007 Left Rear 3-4 View, as Received



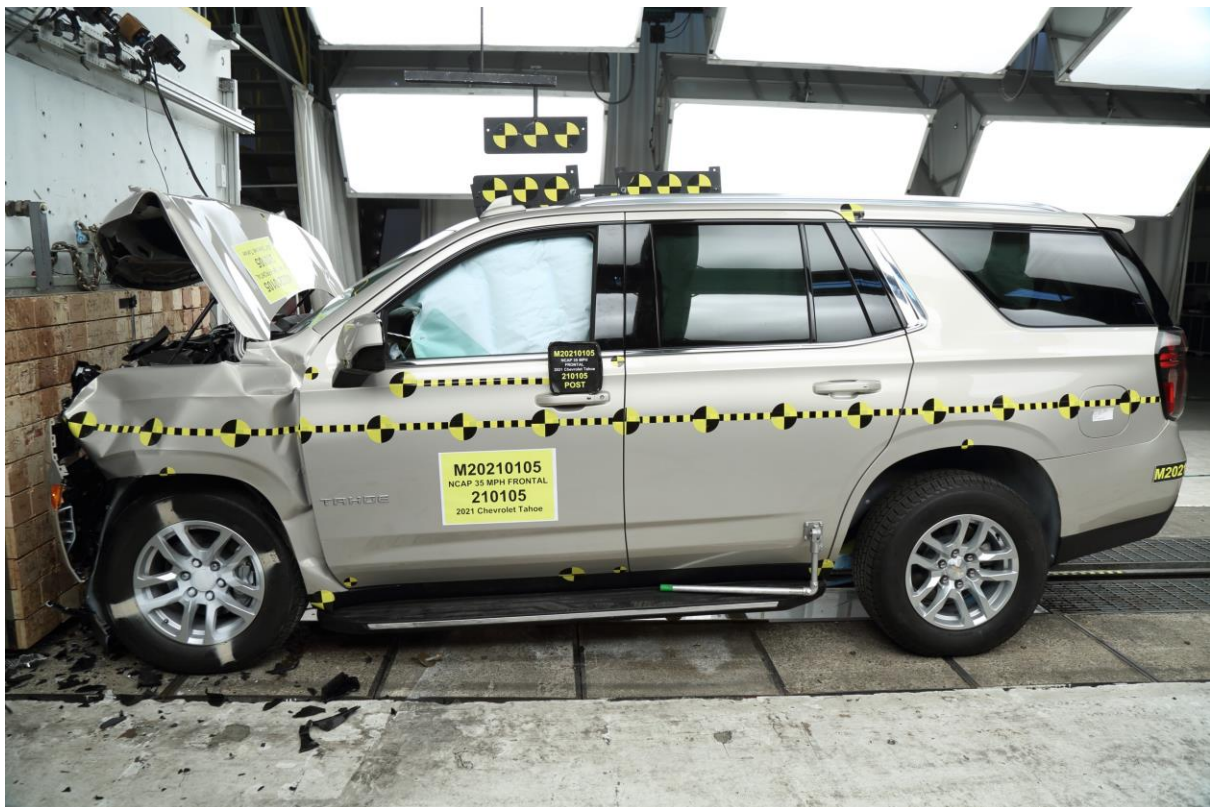
008 Pre-Test Front View of Test Vehicle



009 Post-Test Front View of Test Vehicle



010 Pre-Test Left View of Test Vehicle



011 Post-Test Left View of Test Vehicle



012 Pre-Test Right View of Test Vehicle



013 Post-Test Right View of Test Vehicle



014 Pre-Test Right Front 3-4 View



015 Post-Test Right Front 3-4 View



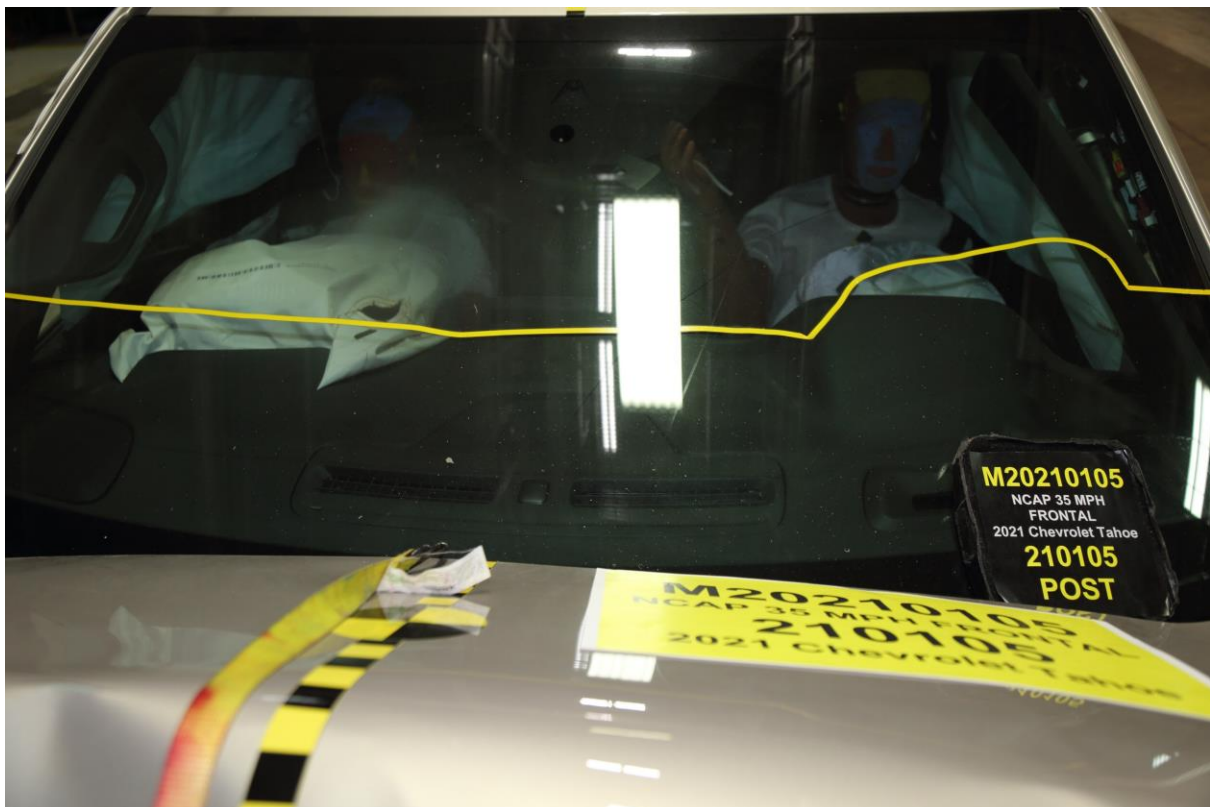
016 Pre-Test Left Rear 3-4 View



017 Post-Test Left Rear 3-4 View



018 Pre-Test Windshield View



019 Post-Test Windshield View



020 Pre-Test Engine Compartment View



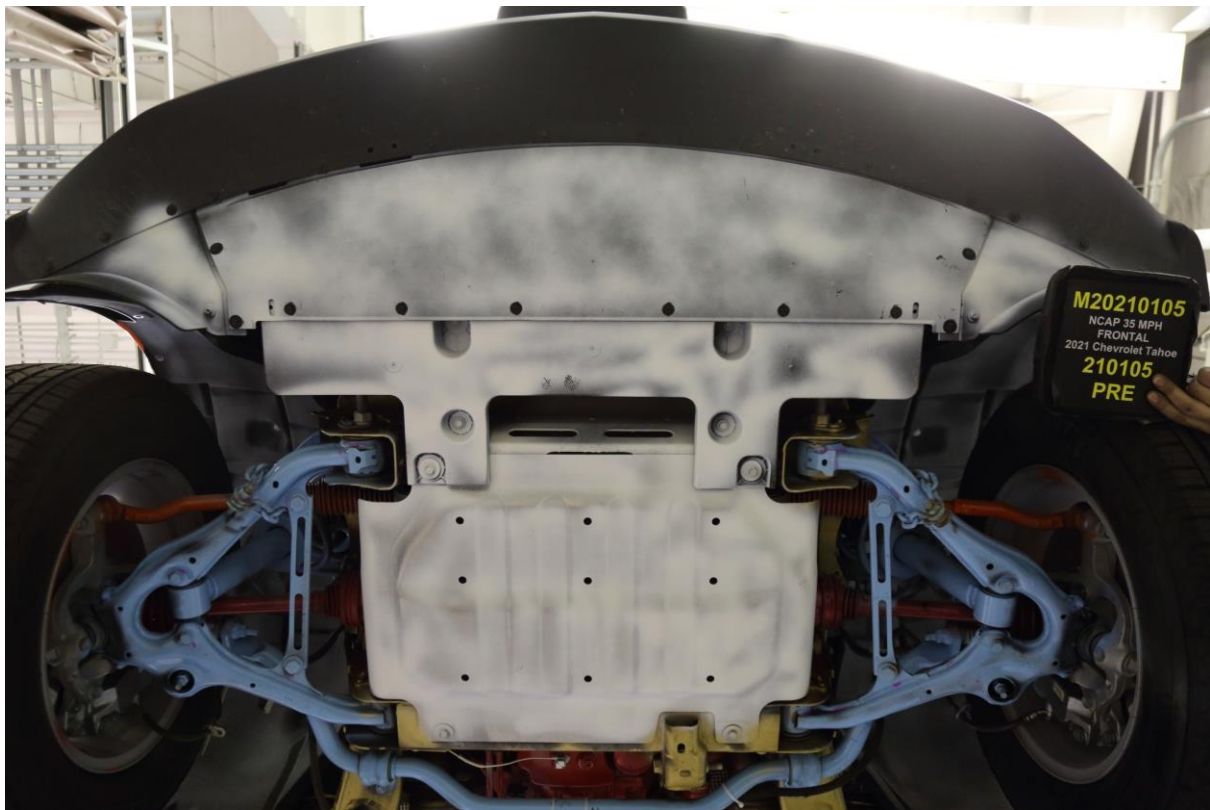
021 Post-Test Engine Compartment View



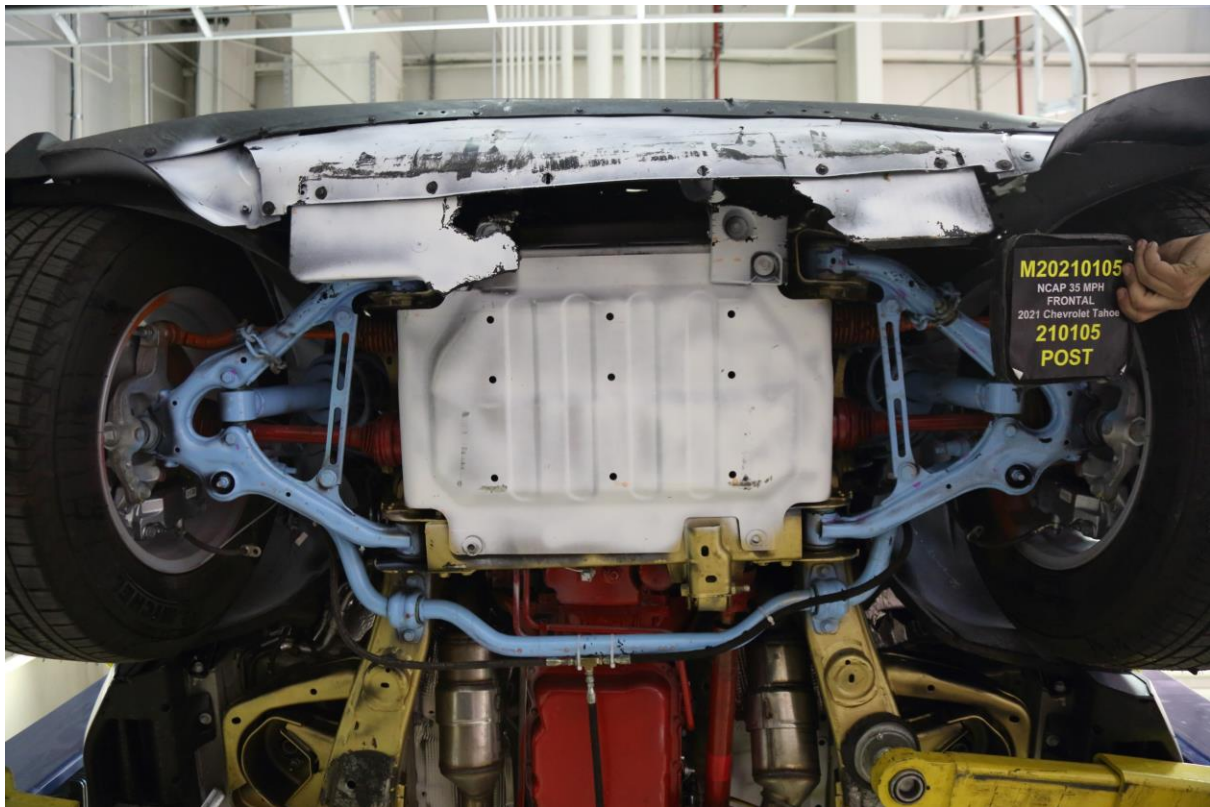
022 Pre-Test Fuel Filler Cap View



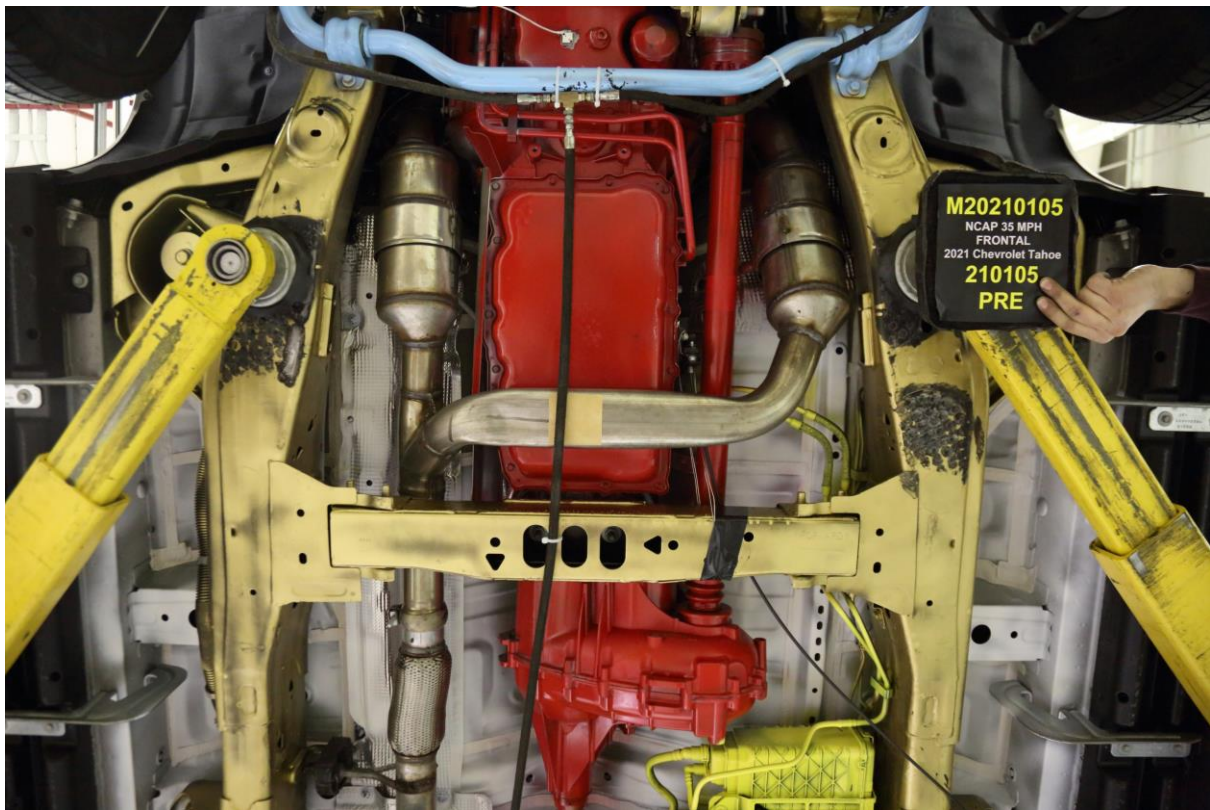
023 Post-Test Fuel Filler Cap View



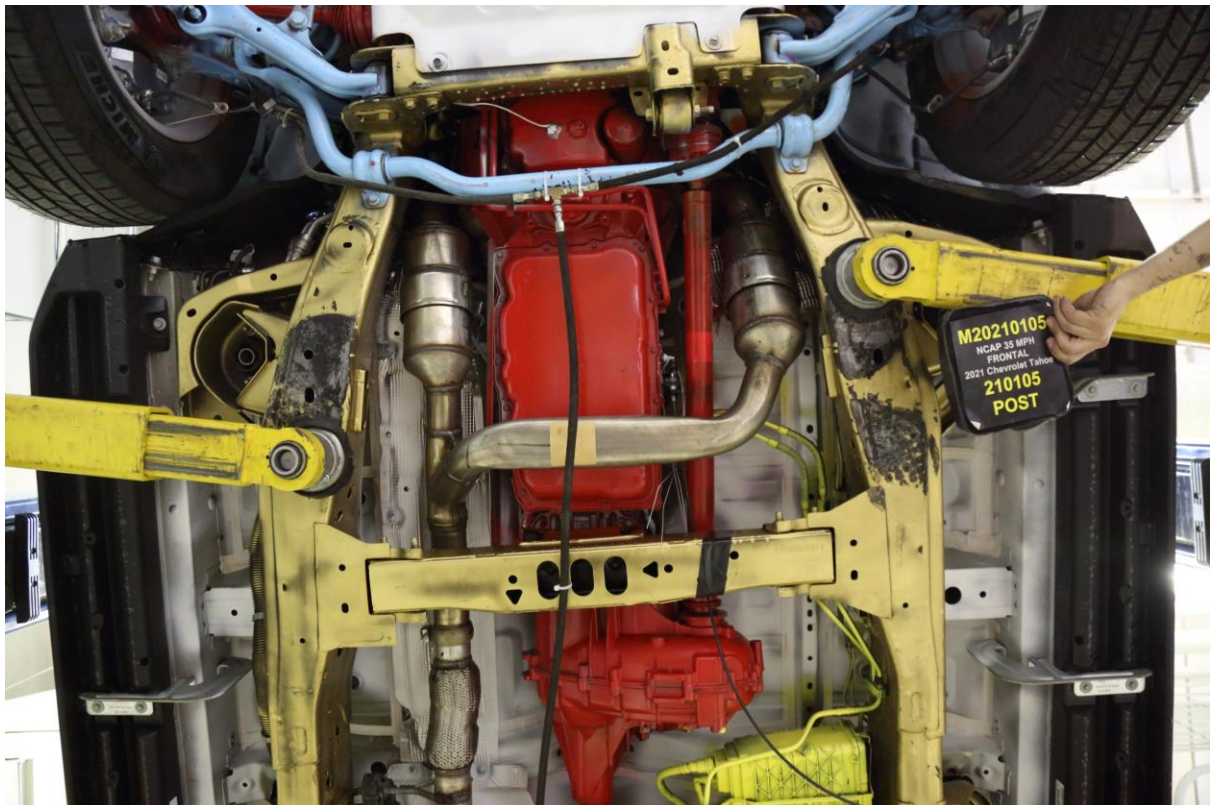
024 Pre-Test Front Underbody View



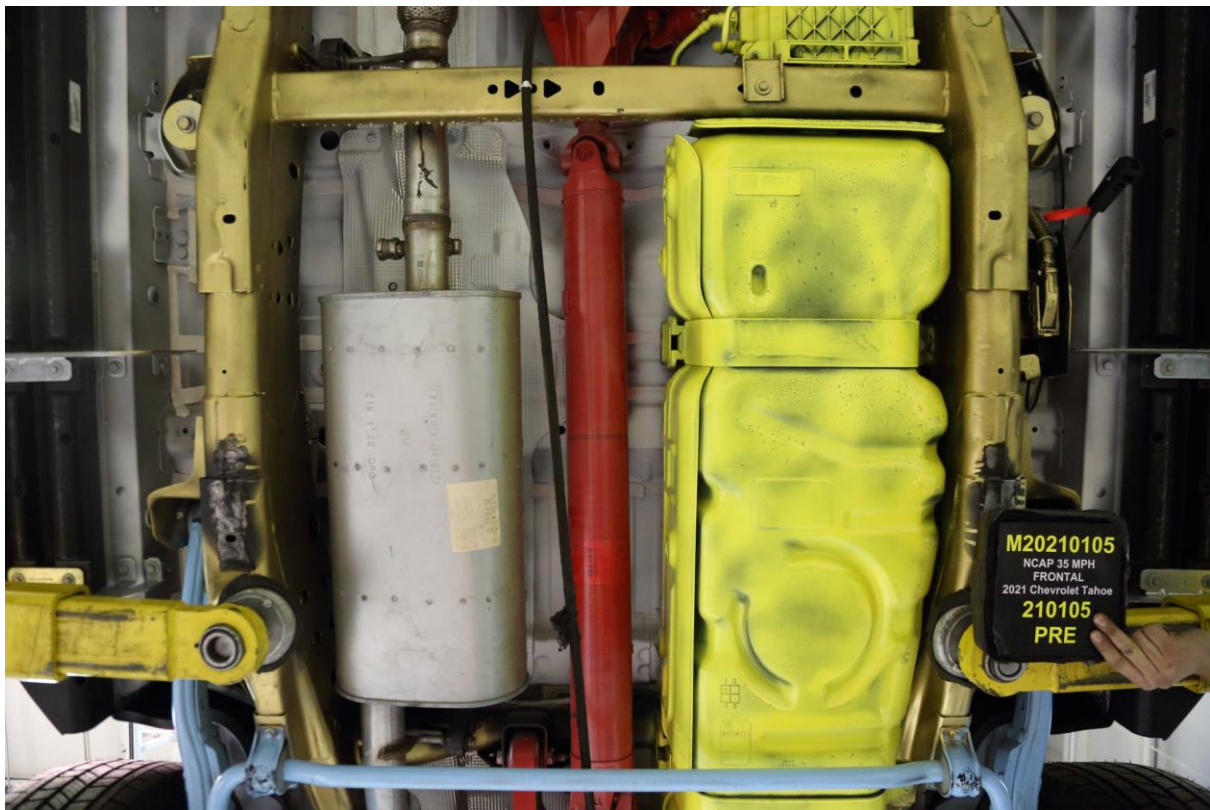
025 Post-Test Front Underbody View



025a Pre-Test Mid Front Underbody View



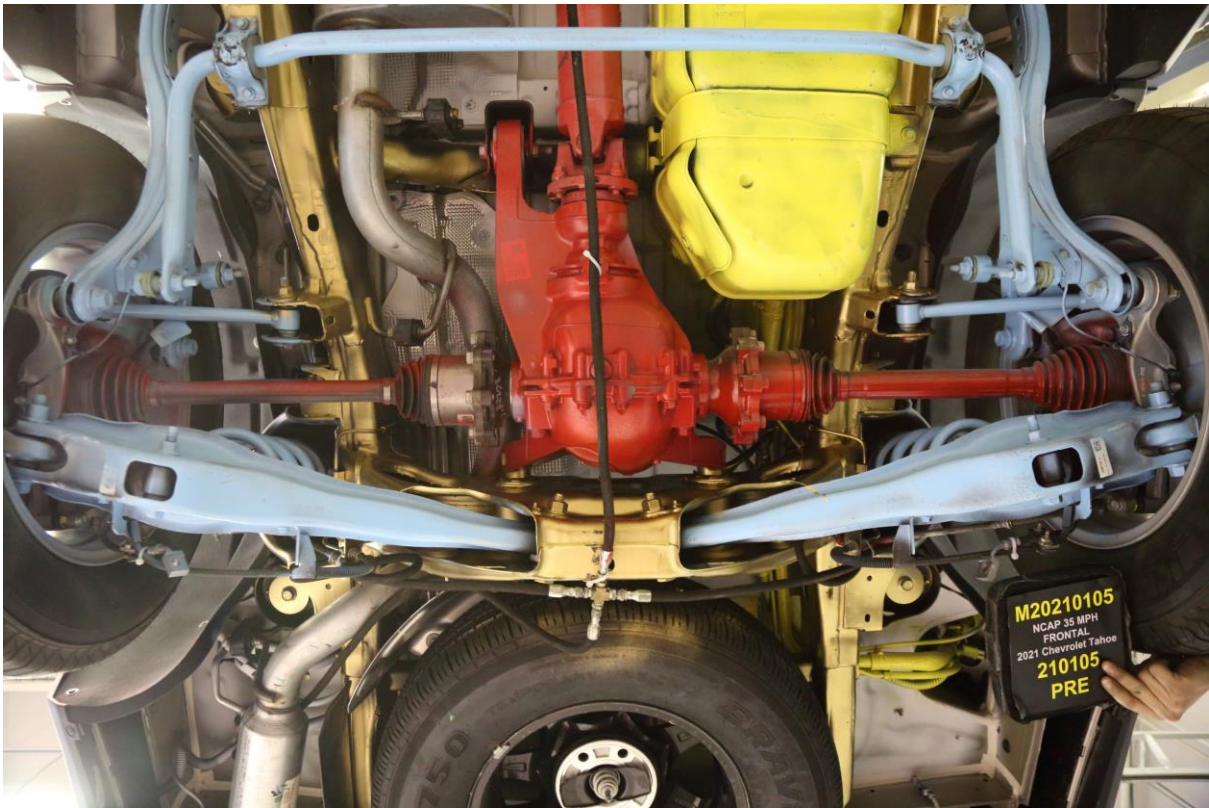
025b Post-Test Mid Front Underbody View



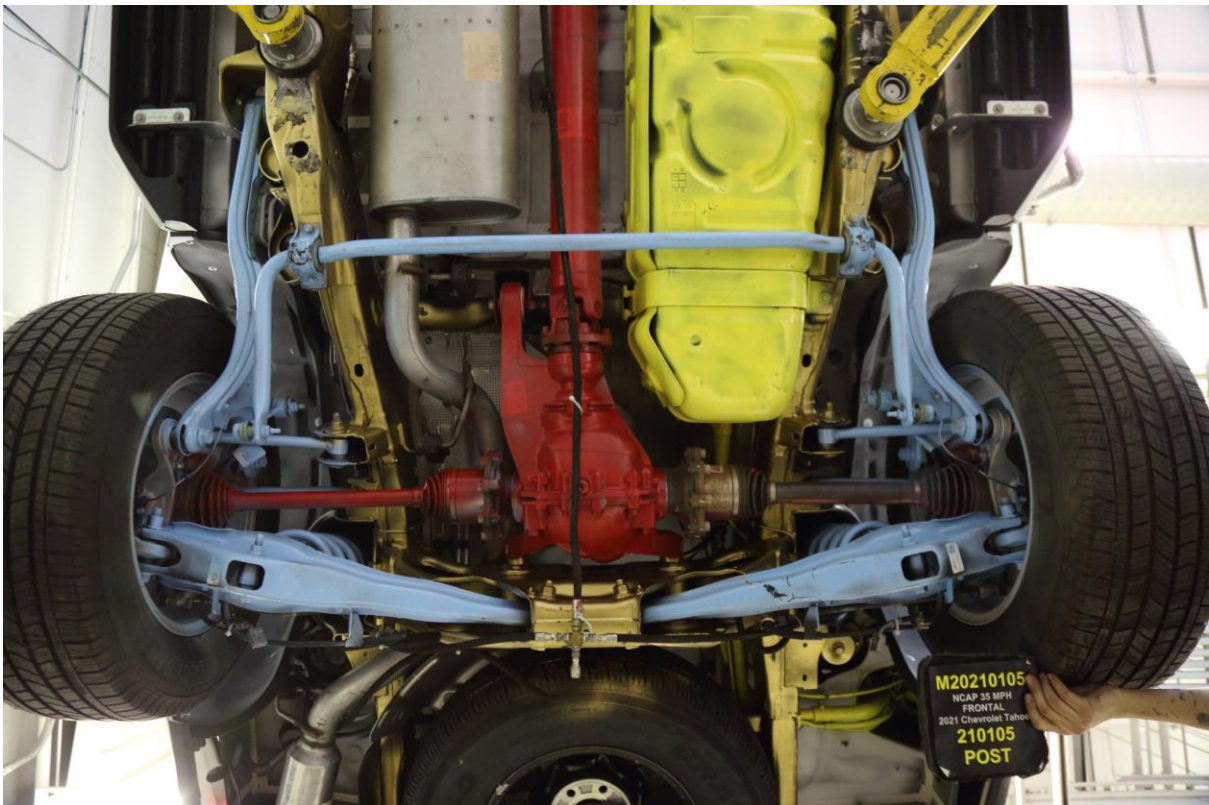
025c Pre-Test Mid Underbody View



025d Post-Test Mid Underbody View



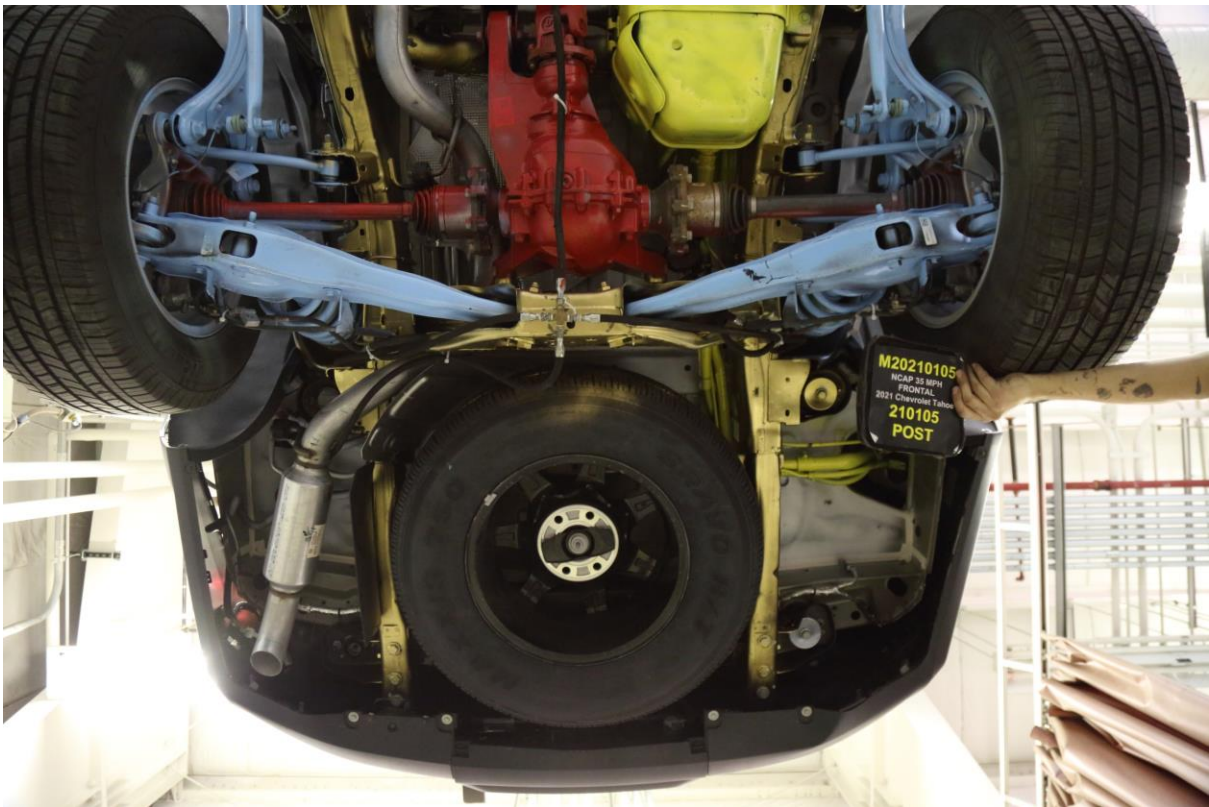
025e Pre-Test Mid Rear Underbody View



025f Post-Test Mid Rear Underbody View



026 Pre-Test Rear Underbody View



027 Post-Test Rear Underbody View



028 Pre-Test Dummy Cable Routing



029 Post-Test Dummy Cable Routing



030 Pre-Test Driver Dummy Front View



031 Post-Test Driver Dummy Front View



032 Pre-Test Driver Dummy Window View



033 Post-Test Driver Dummy Window View



034 Pre-Test Driver Dummy and Vehicle Interior View



035 Post-Test Driver Dummy and Vehicle Interior View



036 Pre-Test Driver's Seat Fore-Aft Markings



037 Post-Test Driver's Seat Fore-Aft Markings



038 Pre-Test View of Belt Anchorage for Driver Dummy



039 Post-Test View of Belt Anchorage for Driver Dummy



040 Pre-Test View of Belt Buckle and Latch Plate for Driver Dummy



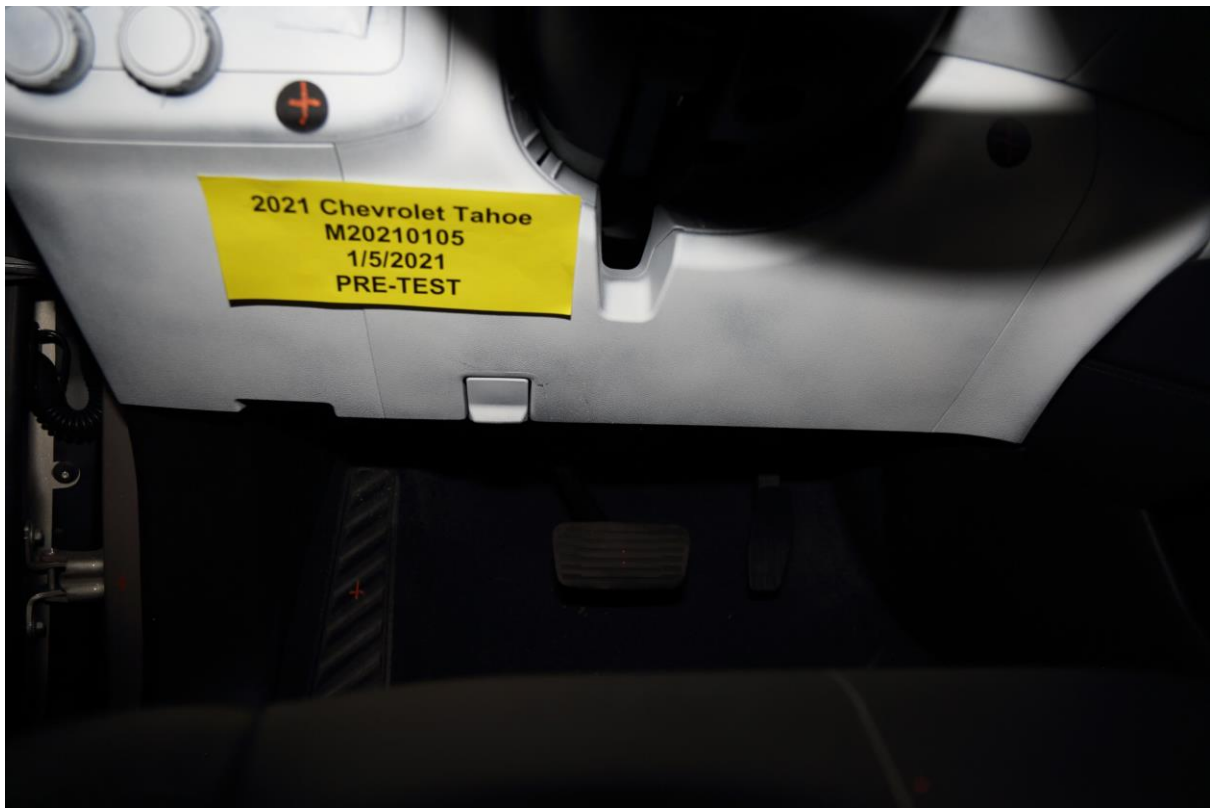
041 Post-Test View of Belt Buckle and Latch Plate for Driver Dummy



042 Pre-Test Driver Dummy Feet



043 Post-Test Driver Dummy Feet



044 Pre-Test Driver's Side Knee Bolster



045 Post-Test Driver's Side Knee Bolster



046 Pre-Test Driver's Side Floorpan



047 Post-Test Driver's Side Floorpan



048 Post-Test Driver Dummy Face



049 Post-Test Driver Dummy Contact with Airbag



050 Post-Test Driver Dummy Contact with Headrest

Intentionally Left Blank



051 Pre-Test View of the Steering Wheel



052 Post-Test View of the Steering Wheel



53 Pre-Test Passenger Dummy Front View



054 Post-Test Passenger Dummy Front View



055 Pre-Test Passenger Dummy Window View



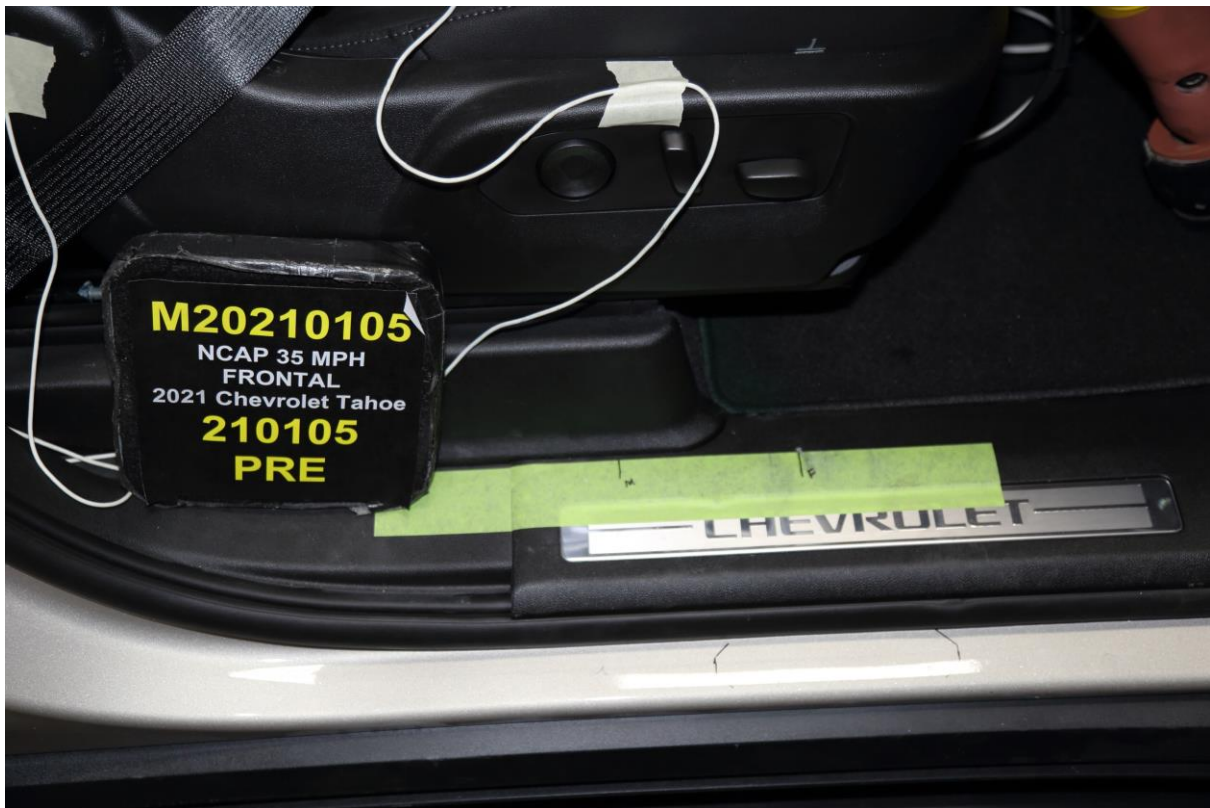
056 Post-Test Passenger Dummy Window View



057 Pre-Test Passenger Dummy and Vehicle Interior View



058 Post-Test Passenger Dummy and Vehicle Interior View



059 Pre-Test Passenger's Seat Fore-Aft Markings



060 Post-Test Passenger's Seat Fore-Aft Markings



061 Pre-Test View of Belt Anchorage for Passenger Dummy



062 Post-Test View of Belt Anchorage for Passenger Dummy



063 Pre-Test View of Belt Buckle and Latch Plate for Passenger Dummy



064 Post-Test View of Belt Buckle and Latch Plate for Passenger Dummy



065 Pre-Test Passenger Dummy Feet



066 Post-Test Passenger Dummy Feet



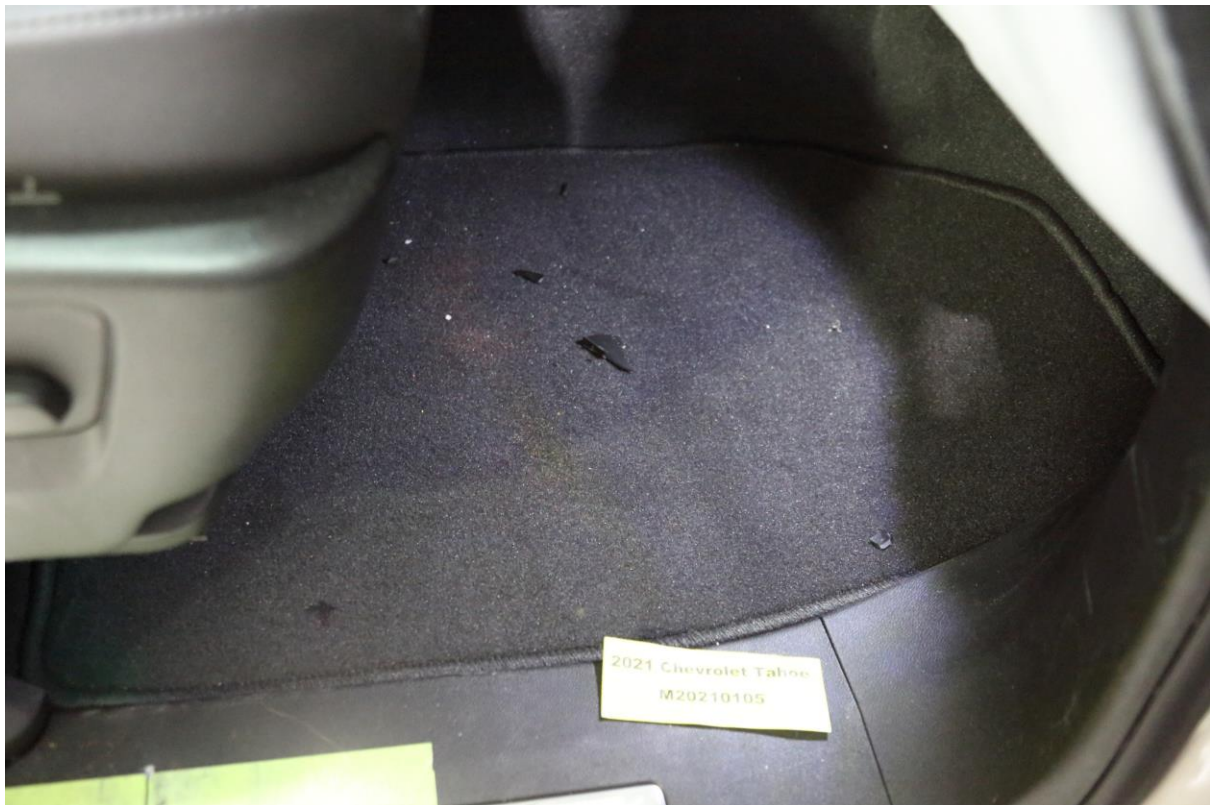
067 Pre-Test Passenger's Side Knee Bolster



068 Post-Test Passenger's Side Knee Bolster



069 Pre-Test Passenger's Side Floorpan



070 Post-Test Passenger's Side Floorpan



071 Post-Test Passenger Dummy Face



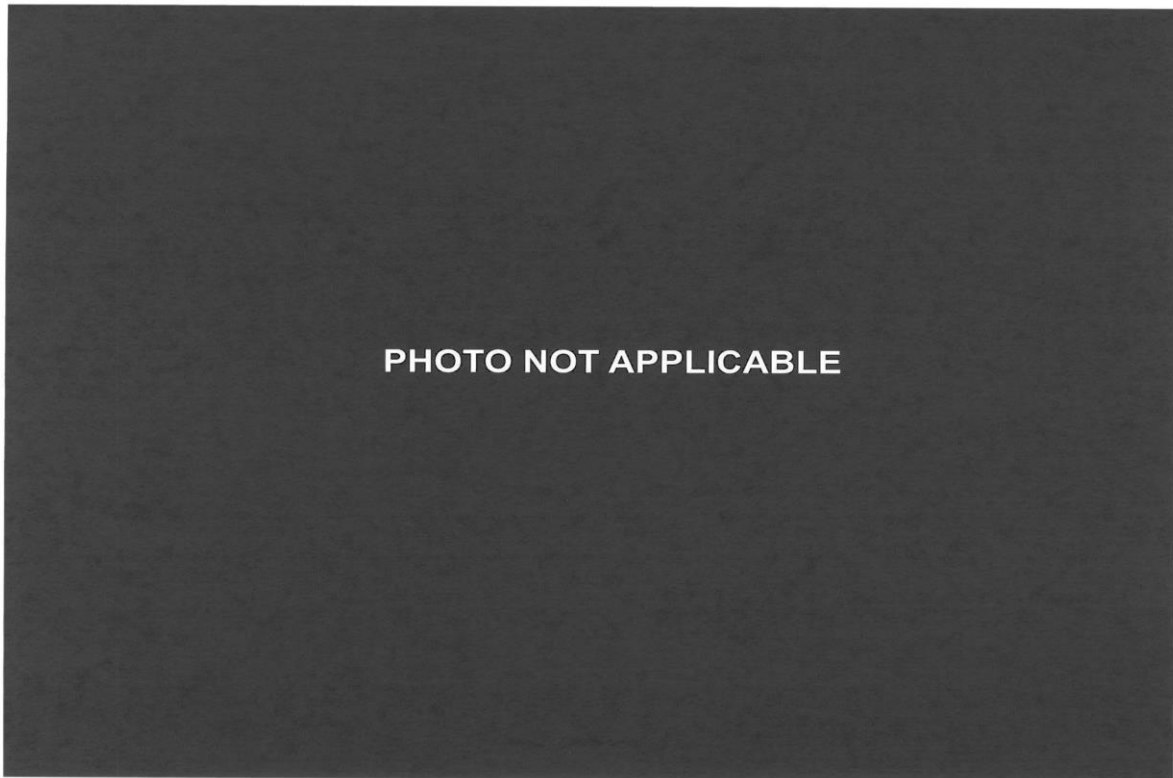
072 Post-Test Passenger Dummy Contact with Airbag



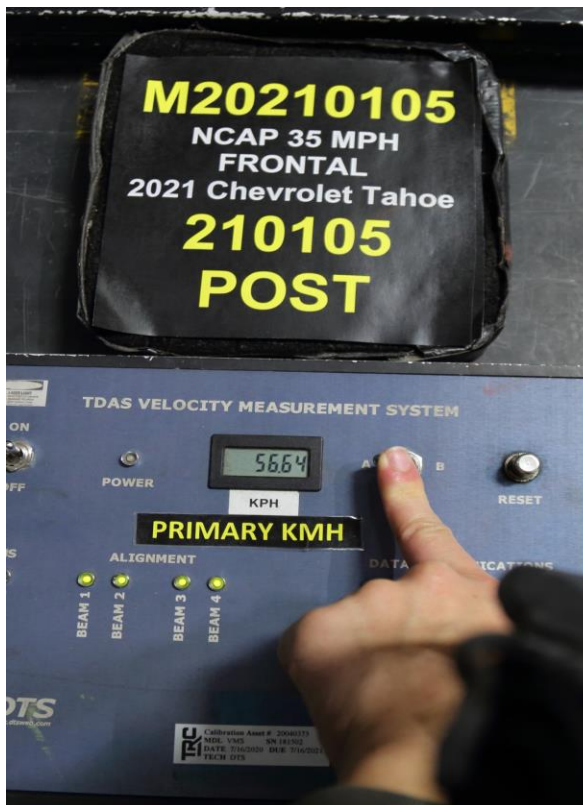
073 Post-Test Passenger Dummy Contact with Headrest



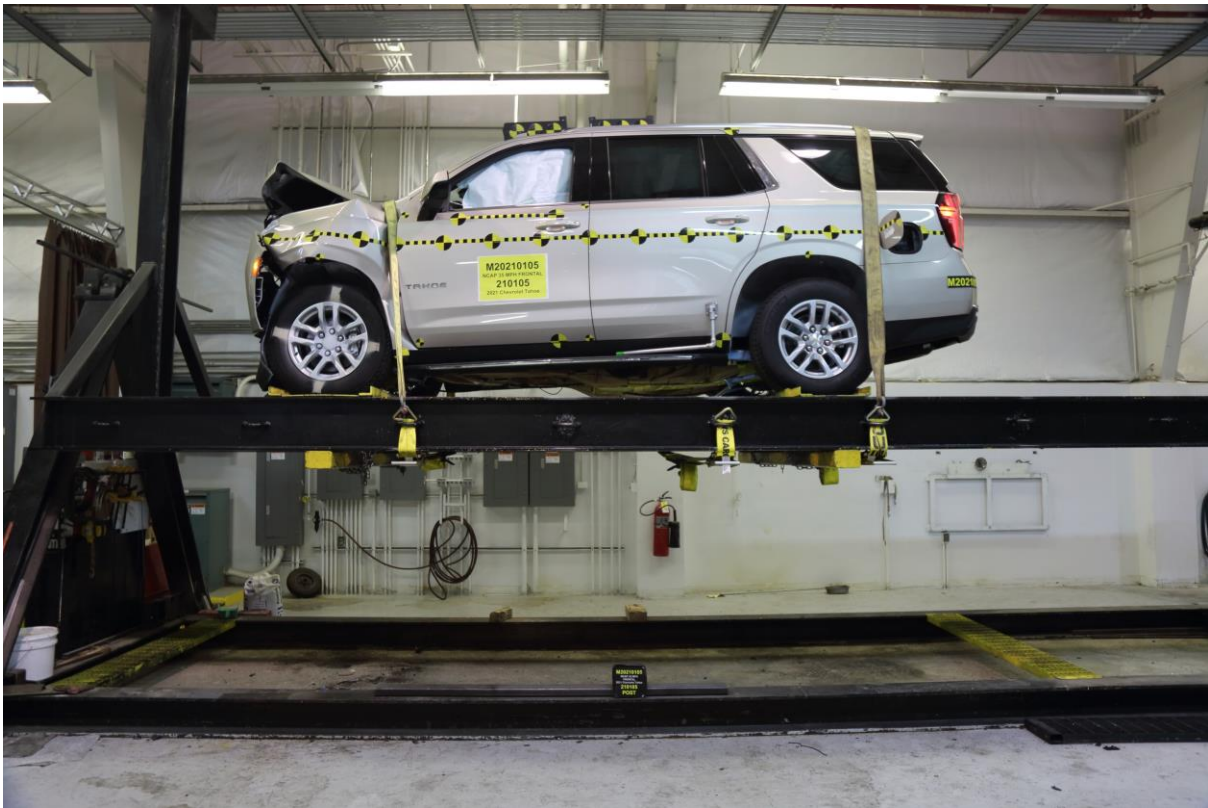
074 Photograph of Ballast Installed in Vehicle



075 Post-Test Stoddard Spillage Location View



076 Post-Test Speed Trap Read out



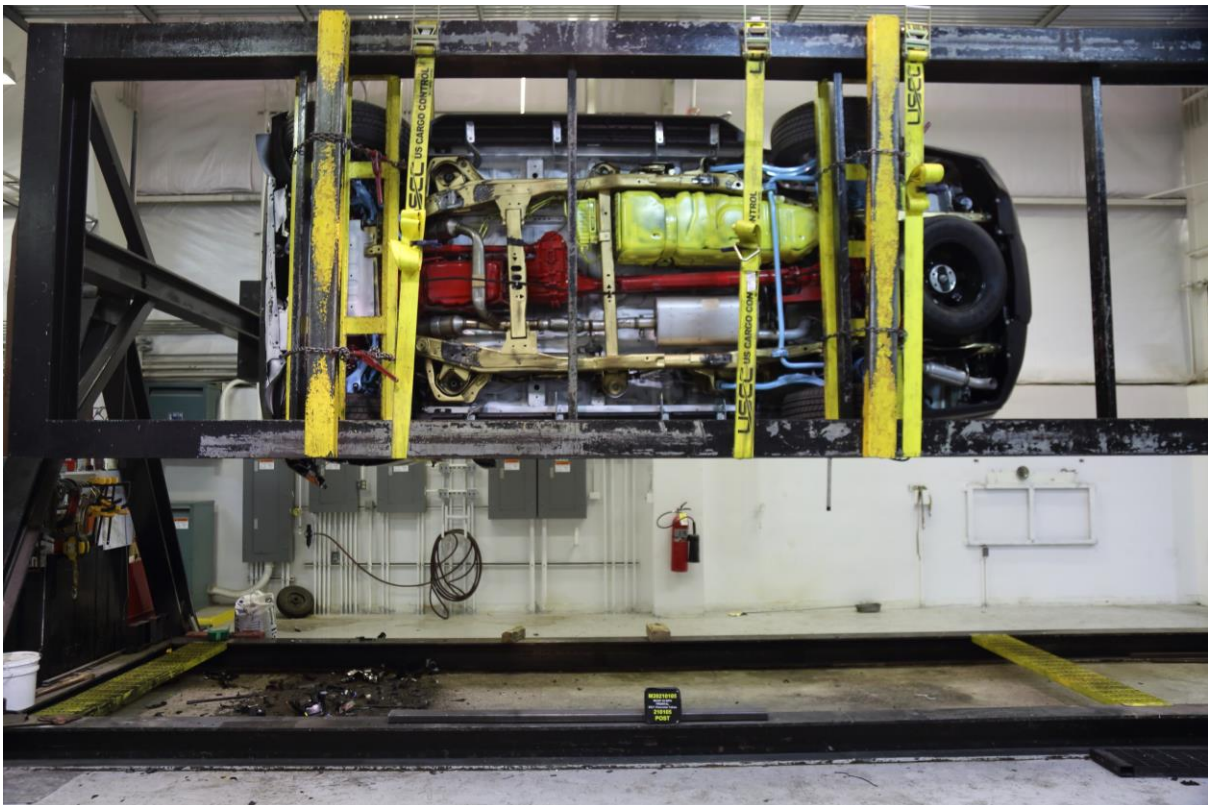
077 Vehicle at 0° on Static Rollover Device



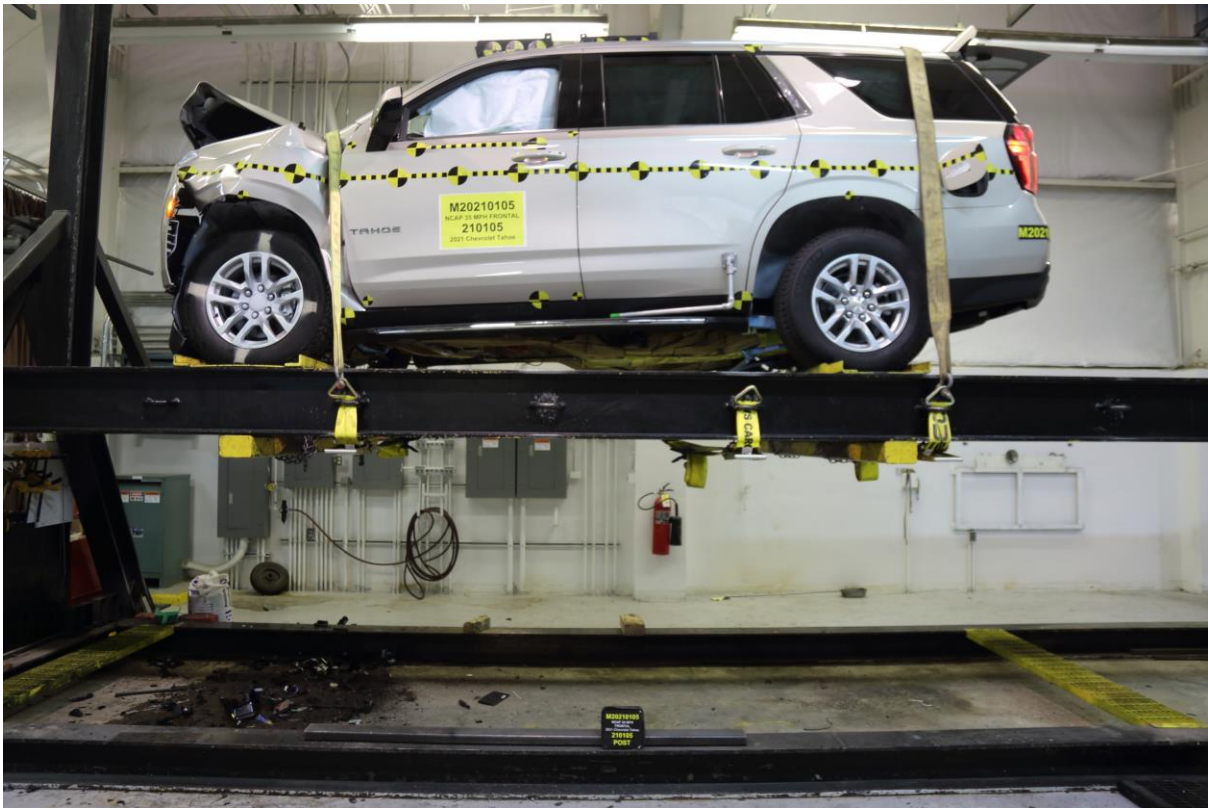
078 Vehicle at 90° on Static Rollover Device



079 Vehicle at 180° on Static Rollover Device



080 Vehicle at 270° on Static Rollover Device



081 Vehicle at 360° on Static Rollover Device



082 2021 Chevrolet Tahoe Frontal Impact Event



2021 TAHOE 4WD LT

EXTERIOR: EMPIRE BEIGE METALLIC
INTERIOR: JET BLACK

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

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STANDARD EQUIPMENT		OWNER BENEFITS		CONNECTIVITY & TECHNOLOGY		EXTERIOR		SAFETY & SECURITY		OPTIONS & PRICING											
(ITEMS FEATURED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE SHOWN)		3 YEAR/50,000 MILE* BUMPER-TO-BUMPER LIMITED WARRANTY 5 YEAR/100,000 MILE* POWERTRAIN LIMITED WARRANTY, ROADSIDE ASSISTANCE & COURTESY TRANSPORTATION - FIRST MAINTENANCE VISIT* (WHICHEVER COMES FIRST SEE CHEVROLET.COM OR DEALER FOR TERMS, DETAILS & LIMITS)		18" PAINTED ALUMINUM WHEELS - STABILITRAK - ELECTRONIC PRECISION SHIFT - TRAILERING EQUIPMENT		9 SPEAKER BOSE AUDIO SYSTEM - CHEVROLET INFOTAINMENT 3 PLUS 10.2" DIAG HD COLOR TOUCH-SCREEN, VOICE RECOGNITION, WIRELESS APPLE CARPLAY & WIRELESS ANDROID AUTO CAPABLE BLUETOOTH AUDIO STREAMING, IN-VEHICLE APPS AND PERSONALIZATION CAPABLE - WIRELESS CHARGING FOR DEVICES - KEYLESS OPEN, LOCK & START - REMOTE VEHICLE START - TWO POWER OUTLETS, 120 VOLT - ONSTAR (R) SERVICES & 4G LTE Wi-Fi (R) AVAILABLE. SEE ONSTAR.COM FOR TERMS - SIRIUSXM RADIO CAPABLE,		ALL ACCESS TRAIL W/ SUBSCRIPTION SOLD SEPARATELY		- TRI-ZONE AUTOMATIC HVAC - HEATED FRONT BUCKET POWER SEATS W/ LEATHER SEATING SURFACES - MEMORY SETTINGS, DRIVER SEAT - THIRD ROW 60/40 SPLIT BENCH, MANUAL FOLD		- LED HEADLAMPS & TAILLAMPS - LED DAYTIME RUNNING LAMPS - INTELLIBEAM, AUTO HIGH BEAM - HANDS FREE POWER LIFTGATE - POWER ADJUSTABLE OUTSIDE MIRRORS		- REAR PARK ASSIST - FRONT PEDESTRIAN BRAKING - FOLLOWING DISTANCE INDICATOR - THEFT DETERRENT SYSTEM		MANUFACTURER'S SUGGESTED RETAIL PRICE <table border="1"><tr><td>STANDARD VEHICLE PRICE</td><td>\$56,800.00</td></tr></table>		STANDARD VEHICLE PRICE	\$56,800.00		
STANDARD VEHICLE PRICE	\$56,800.00																				
PERFORMANCE & MECHANICAL										OPTIONS & PRICING											
- PREMIUM SMOOTH RIDE SUSPENSION - MECHANICAL LIMITED SLIP DIFFERENTIAL - TRANSFER CASE SINGLE SPEED - AUTOMATIC STOP/START ENGINE										OPTIONS RETAILED BY THE MANUFACTURER MAY REPLACE STANDARD EQUIPMENT ITEMS. <table border="1"><tr><td>SEATS, SECOND ROW BUCKET</td><td>795.00</td></tr><tr><td>TOTAL OPTIONS</td><td>\$795.00</td></tr><tr><td>TOTAL VEHICLE & OPTIONS</td><td>\$57,595.00</td></tr><tr><td>DESTINATION CHARGE</td><td>1,295.00</td></tr><tr><td>TOTAL VEHICLE PRICE*</td><td>\$58,890.00</td></tr></table>		SEATS, SECOND ROW BUCKET	795.00	TOTAL OPTIONS	\$795.00	TOTAL VEHICLE & OPTIONS	\$57,595.00	DESTINATION CHARGE	1,295.00	TOTAL VEHICLE PRICE*	\$58,890.00
SEATS, SECOND ROW BUCKET	795.00																				
TOTAL OPTIONS	\$795.00																				
TOTAL VEHICLE & OPTIONS	\$57,595.00																				
DESTINATION CHARGE	1,295.00																				
TOTAL VEHICLE PRICE*	\$58,890.00																				

EPA DOT Fuel Economy and Environment		Gasoline Vehicle		GOVERNMENT 5-STAR SAFETY RATINGS		PARTS CONTENT INFORMATION	
Fuel Economy 18 MPG combined city/hwy 16 city 20 highway 5.6 gallons per 100 miles		You spend \$3,750 more in fuel costs over 5 years compared to the average new vehicle.		This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.		FOR VEHICLES IN THIS CARLINE: U.S./CANADIAN PARTS CONTENT: 46% MAJOR SOURCES OF FOREIGN PARTS CONTENT: MEXICO 38% NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS. FOR THIS VEHICLE: FINAL ASSEMBLY POINT: ARLINGTON, TX U.S.A. COUNTRY OF ORIGIN: ENGINE: UNITED STATES TRANSMISSION: UNITED STATES	
Annual fuel cost \$2,250		Fuel Economy & Greenhouse Gas Rating (tailpipe only) 3 (This vehicle emits 406 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fuelconomy.gov.)		Smog Rating (tailpipe only) 5 (Best)		Source: National Highway Traffic Safety Administration (NHTSA) www.safercar.gov or 1-888-327-4236	
Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 27 MPG and costs \$7,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.70 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog. fuelconomy.gov Calculate personalized estimates and compare vehicles		Smartphone QR Code		Equipped with the safety and security of OnStar® Visit onstar.com for details. onstar.com/tahoecv		ORDER NO. 870907 SALES MODEL CODE 030306 SALES CODE E DEALER NO. 14020 PAUL, ASSEMBLY U.S.A. VIN 1GNSKNK02MR140625 DEALER TO WHOM DELIVERED SPORT CHEVROLET COMPANY, LLC 3101 AUTOMOBILE BLVD SILVER SPRING, MD 20904-4999 4J 1AZ0039726	

083 Monroney Label Photograph

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS

No.	List of Data Plots Provided in the Test Report	Page
1	Driver Head X Acceleration vs. Time Primary	B-5
2	Driver Head Y Acceleration vs. Time Primary	B-5
3	Driver Head Z Acceleration vs. Time Primary	B-5
4	Driver Head Resultant Acceleration vs. Time Primary	B-5
5	Driver Chest X Deflection vs. Time	B-6
6	Driver Chest X Acceleration vs. Time Primary	B-7
7	Driver Chest Y Acceleration vs. Time Primary	B-7
8	Driver Chest Z Acceleration vs. Time Primary	B-7
9	Driver Chest Resultant Acceleration vs. Time Primary	B-7
10	Driver Upper Neck Force X vs. Time	B-8
11	Driver Upper Neck Force Z vs. Time	B-8
12	Driver Upper Neck Moment Y vs. Time	B-8
13	Driver Nij vs. Time	B-9
14	Driver Left Femur Force vs. Time	B-10
15	Driver Right Femur Force vs. Time	B-10
16	Passenger Head X Acceleration vs. Time Primary	B-11
17	Passenger Head Y Acceleration vs. Time Primary	B-11
18	Passenger Head Z Acceleration vs. Time Primary	B-11
19	Passenger Head Resultant Acceleration vs. Time Primary	B-11
20	Passenger Chest X Deflection vs. Time	B-12
21	Passenger Chest X Acceleration vs. Time Primary	B-13
22	Passenger Chest Y Acceleration vs. Time Primary	B-13
23	Passenger Chest Z Acceleration vs. Time Primary	B-13
24	Passenger Chest Resultant Acceleration vs. Time Primary	B-13
25	Passenger Upper Neck Force X vs. Time	B-14
26	Passenger Upper Neck Force Z vs. Time	B-14
27	Passenger Upper Neck Moment Y vs. Time	B-14
28	Passenger Nij vs. Time	B-15
29	Passenger Left Femur Force vs. Time	B-16
30	Passenger Right Femur Force vs. Time	B-16

The following additional dummy and vehicle response data can be found in the R & D section of the NHTSA website at: www.nhtsa.gov.

Driver Head Acceleration X Redundant
Driver Head Acceleration Y Redundant
Driver Head Acceleration Z Redundant
Driver Upper Neck Force Y
Driver Upper Neck Moment X
Driver Upper Neck Moment Z
Driver Chest X Acceleration Redundant
Driver Chest Y Acceleration Redundant
Driver Chest Z Acceleration Redundant
Driver Pelvis X
Driver Pelvis Y
Driver Pelvis Z
Driver Left Femur Redundant
Driver Right Femur Redundant
Driver Left Upper Tibia Moment X
Driver Left Upper Tibia Moment Y
Driver Left Upper Tibia Force Z
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Upper Tibia Moment X
Driver Right Upper Tibia Moment Y
Driver Right Upper Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y
Driver Right Lower Tibia Force Z
Driver Left Foot Fore Z
Driver Left Foot Aft X
Driver Left Foot Aft Z
Driver Right Foot Fore Z
Driver Right Foot Aft X
Driver Right Foot Aft Z
Driver Shoulder Belt Force
Driver Lap Belt Force

Driver Head Angular Velocity X
Driver Head Angular Velocity Y
Driver Head Angular Velocity Z
Passenger Head Acceleration X Redundant
Passenger Head Acceleration Y Redundant
Passenger Head Acceleration Z Redundant
Passenger Upper Neck Force Y
Passenger Upper Neck Moment X
Passenger Upper Neck Moment Z
Passenger Chest X Acceleration Redundant
Passenger Chest Y Acceleration Redundant
Passenger Chest Z Acceleration Redundant
Passenger Pelvis X
Passenger Pelvis Y
Passenger Pelvis Z
Passenger Left Femur Redundant
Passenger Right Femur Redundant
Passenger Left Upper Tibia Moment X
Passenger Left Upper Tibia Moment Y
Passenger Left Upper Tibia Force Z
Passenger Left Lower Tibia Moment X
Passenger Left Lower Tibia Moment Y
Passenger Left Lower Tibia Force Z
Passenger Right Upper Tibia Moment X
Passenger Right Upper Tibia Moment Y
Passenger Right Upper Tibia Force Z
Passenger Right Lower Tibia Moment X
Passenger Right Lower Tibia Moment Y
Passenger Right Lower Tibia Force Z
Passenger Left Foot Fore Z
Passenger Left Foot Aft X
Passenger Left Foot Aft Z
Passenger Right Foot Fore Z
Passenger Right Foot Aft X
Passenger Right Foot Aft Z
Passenger Shoulder Belt Force
Passenger Lap Belt Force

Passenger Head Angular Velocity X
Passenger Head Angular Velocity Y
Passenger Head Angular Velocity Z
Left Rear Seat Crossmember X
Left Rear Seat Crossmember Z
Right Rear Seat Crossmember X
Right Rear Seat Crossmember Z
Left Rear Seat Crossmember X Redundant
Right Rear Seat Crossmember X Redundant
Vehicle Engine Top X
Vehicle Engine Bottom X
Load Cell Barrier Forces and Moments

NHTSA

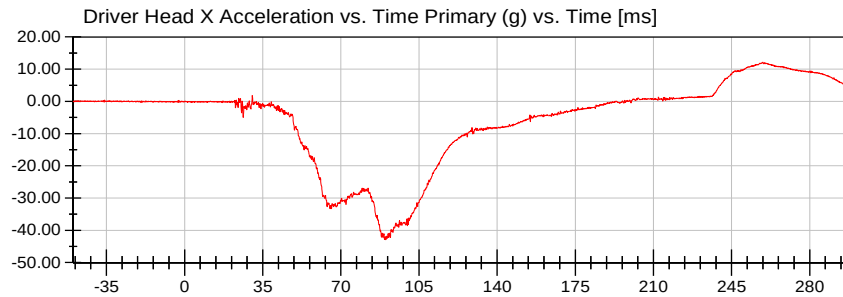
Test Lab: CTF

Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



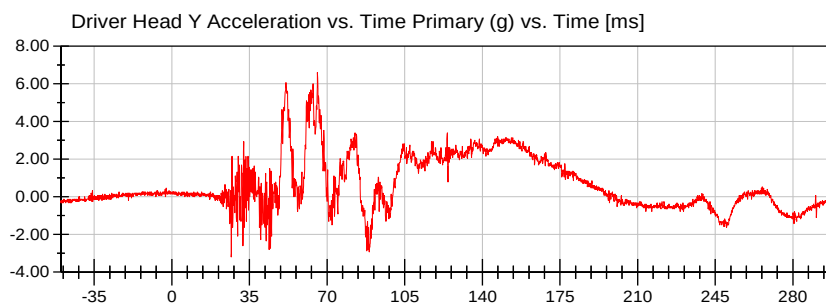
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12.15 g at 258.96 ms

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-42.94 g at 90.16 ms

CFC_1000



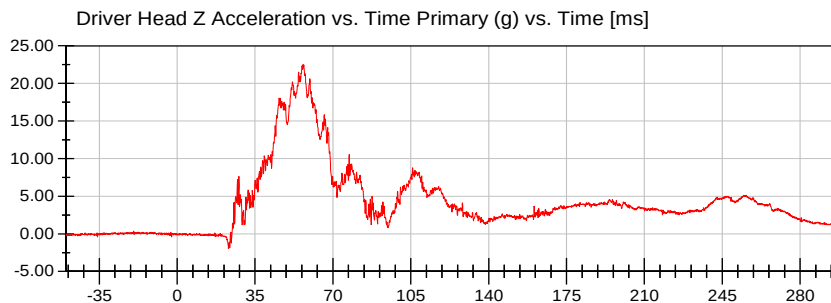
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6.60 g at 65.68 ms

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-3.19 g at 26.80 ms

CFC_1000



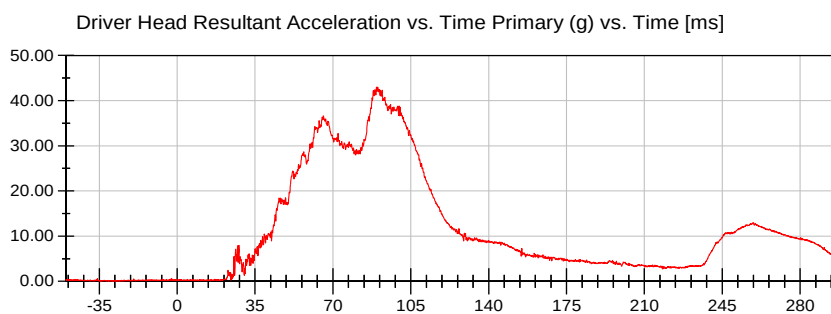
<Max>

22.52 g at 56.56 ms

<Min>

-1.93 g at 23.04 ms

CFC_1000



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43.00 g at 90.16 ms

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0.03 g at -31.84 ms

CFC_1000



NHTSA

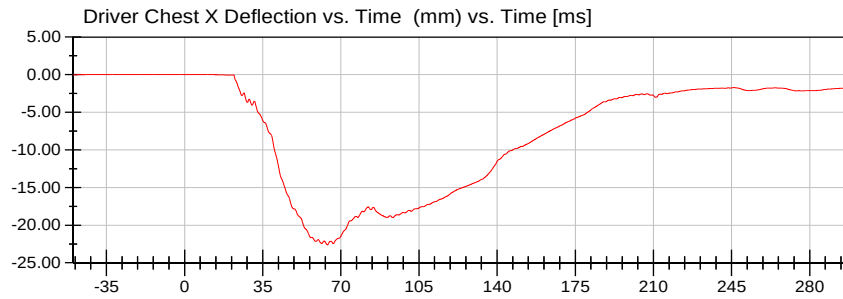
Test Lab: CTF

Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



<Max>

0.01 mm at -13.12 ms

<Min>

-22.62 mm at 64.08 ms

CFC_600



NHTSA

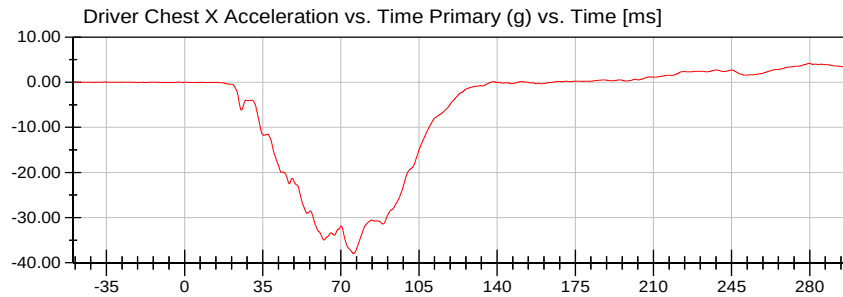
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Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



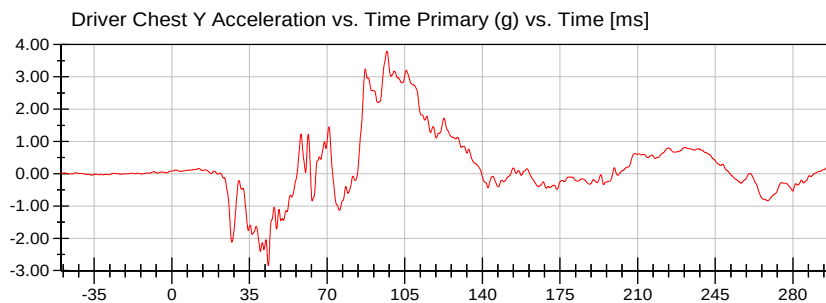
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4.17 g at 279.84 ms

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-37.93 g at 75.68 ms

CFC_180



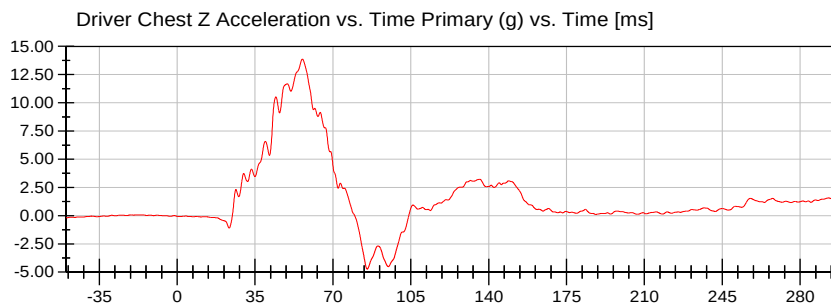
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3.79 g at 96.96 ms

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-2.85 g at 43.52 ms

CFC_180



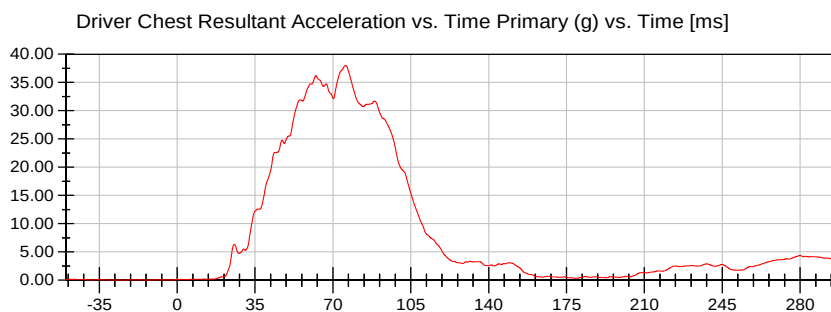
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-4.73 g at 85.44 ms

CFC_180



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38.02 g at 75.68 ms

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0.01 g at -27.12 ms

CFC_180



NHTSA

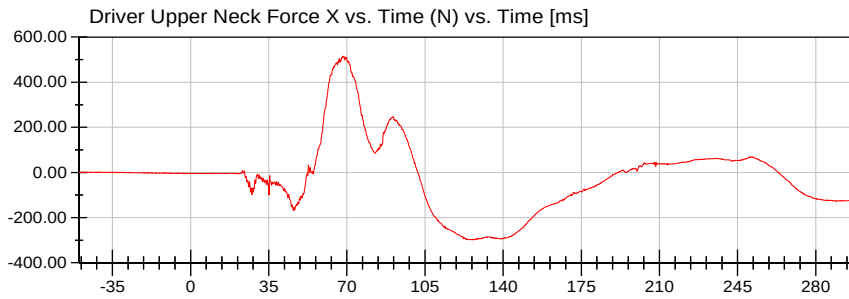
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Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



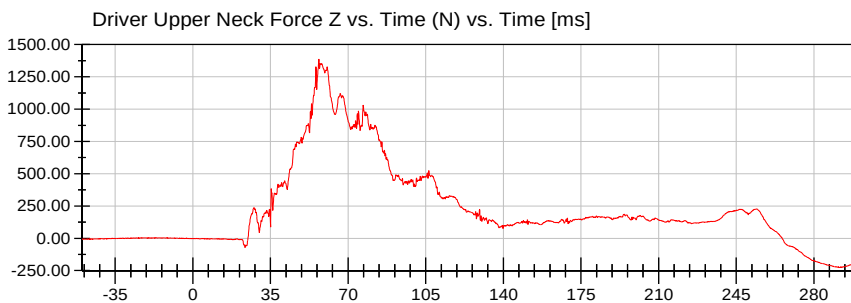
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514.64 N at 68.24 ms

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CFC_1000



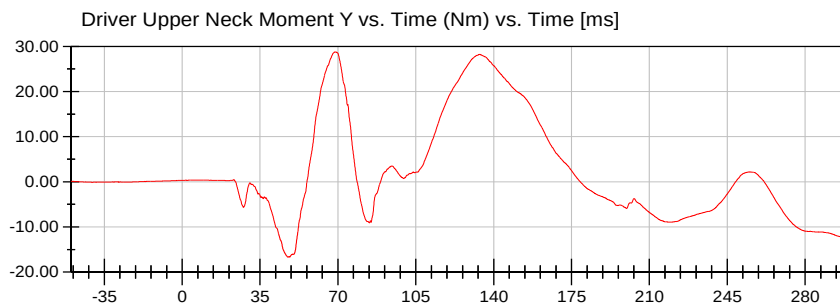
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1,385.94 N at 56.80 ms

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-225.60 N at 291.52 ms

CFC_1000



<Max>

28.77 Nm at 68.64 ms

<Min>

-16.68 Nm at 47.52 ms

CFC_600





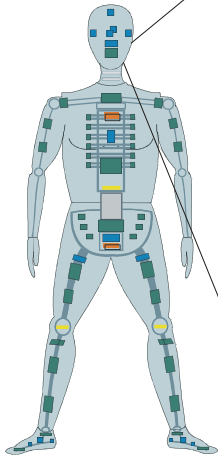
2021 Chevrolet Tahoe NCAP 35 mph Frontal Impact Neck Injury Predictor (NIJ)

Date: 01/05/2021
Time: 15:10

Customer: NHTSA

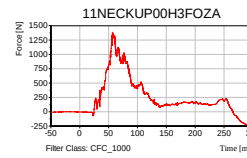
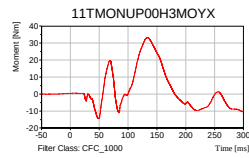
Test Number: M20210105

Test Orientation = Frontal
Fzc(Tension) = 6806
Fzc(Compression) = 6160
Myc(Extension) = 135
Myc(Flexion) = 310

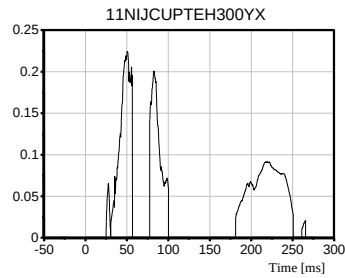


Dummy: HIII 50th Male
Seating Position:
Driver

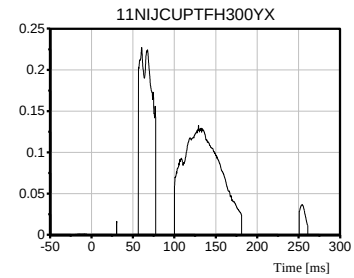
NIJ Source Code: (Fz/Fzc)+(Myc/Myc)



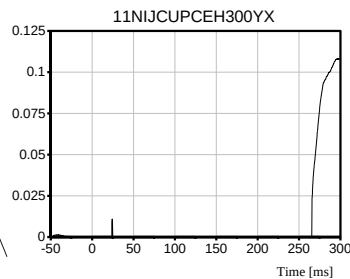
TRC Inc. Test Lab: CTF
Test Number: 210105



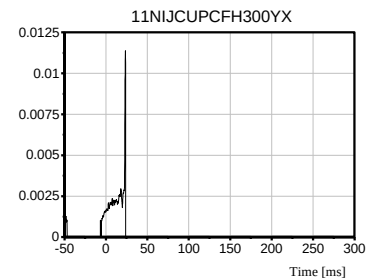
Max [NTE] 0.2246 at 50.40 ms



Max [NTF] 0.2272 at 60.64 ms



Max [NCE] 0.1083 at 297.12 ms



Max [NCF] 0.0114 at 23.52 ms

NHTSA

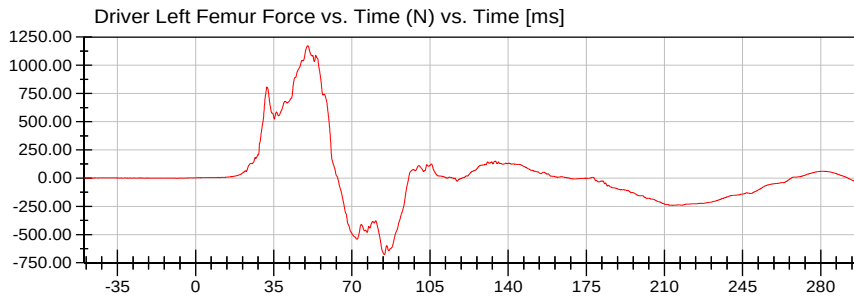
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Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



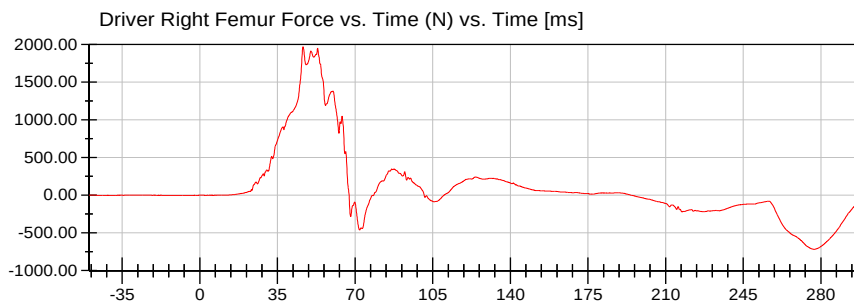
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1,171.24 N at 50.40 ms

<Min>

-677.06 N at 84.56 ms

CFC_600



<Max>

1,970.64 N at 46.48 ms

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CFC_600



NHTSA

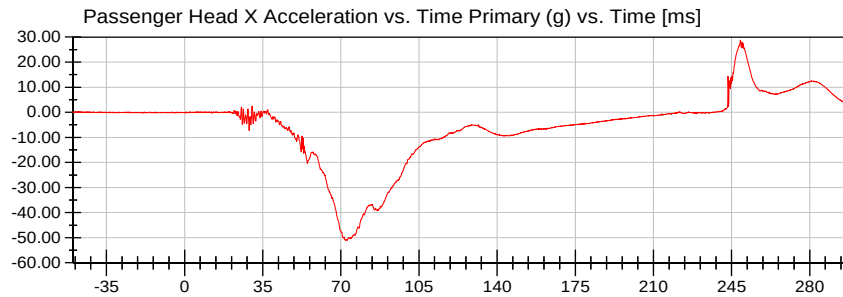
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Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



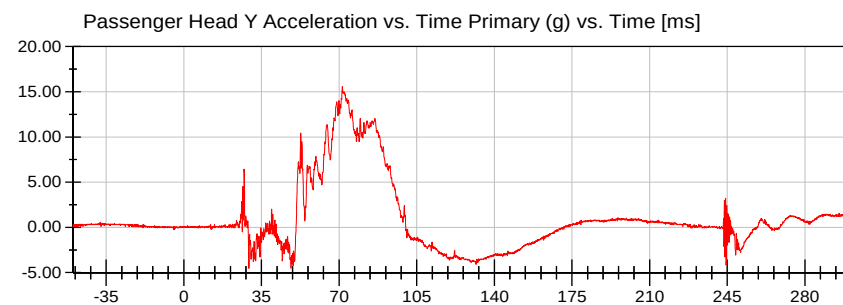
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28.73 g at 248.96 ms

<Min>

-51.07 g at 72.80 ms

CFC_1000



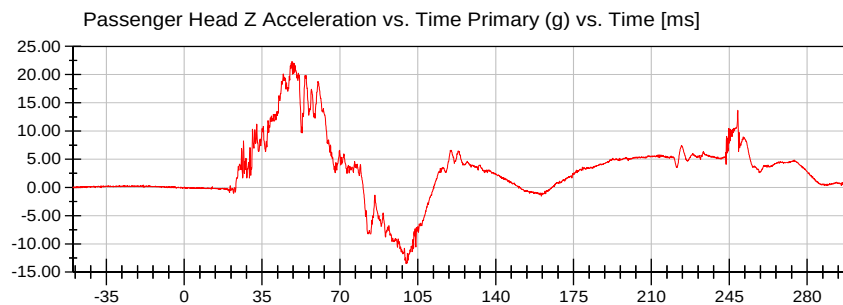
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15.56 g at 71.44 ms

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-4.54 g at 29.36 ms

CFC_1000



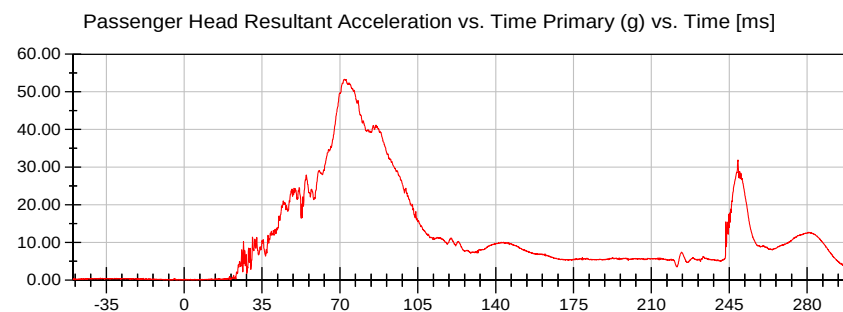
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22.30 g at 48.48 ms

<Min>

-13.47 g at 99.76 ms

CFC_1000



<Max>

53.36 g at 72.16 ms

<Min>

0.06 g at 1.12 ms

CFC_1000



NHTSA

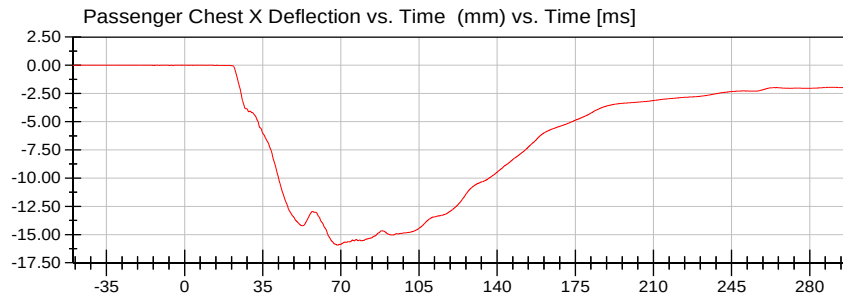
Test Lab: CTF

Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



<Max>

0.00 mm at -44.32 ms

<Min>

-15.94 mm at 68.56 ms

CFC_600



NHTSA

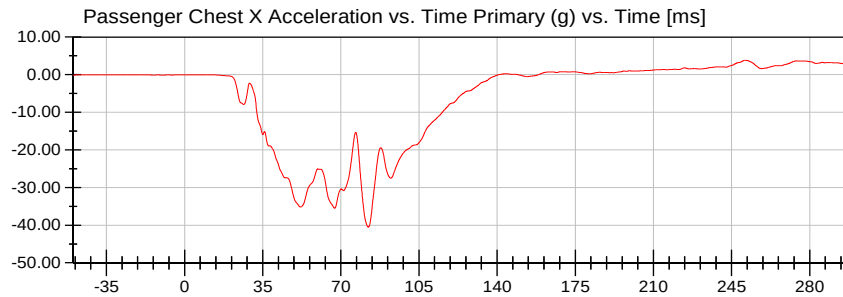
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Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



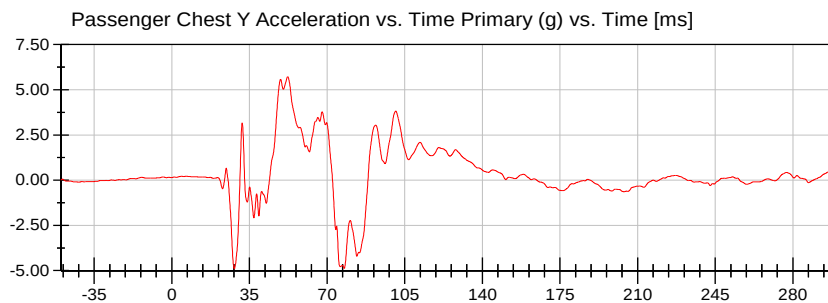
<Max>

3.80 g at 251.28 ms

<Min>

-40.54 g at 82.32 ms

CFC_180



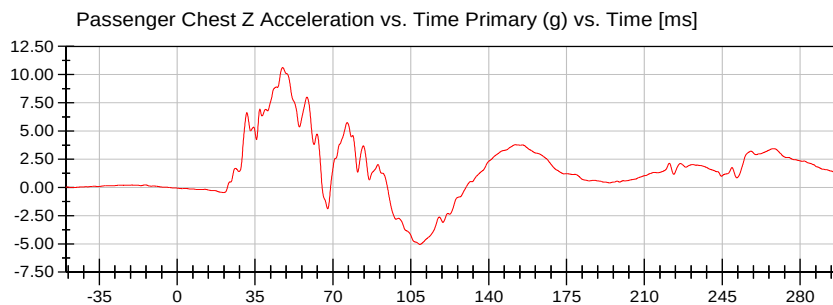
<Max>

5.73 g at 52.24 ms

<Min>

-4.90 g at 28.16 ms

CFC_180



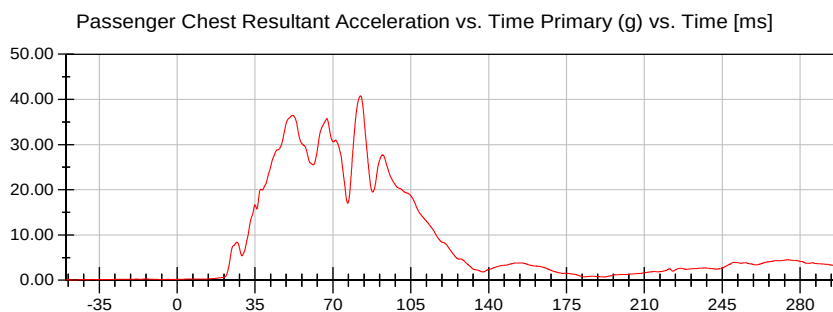
<Max>

10.62 g at 47.44 ms

<Min>

-5.05 g at 109.12 ms

CFC_180



<Max>

40.78 g at 82.40 ms

<Min>

0.05 g at -48.24 ms

CFC_180



NHTSA

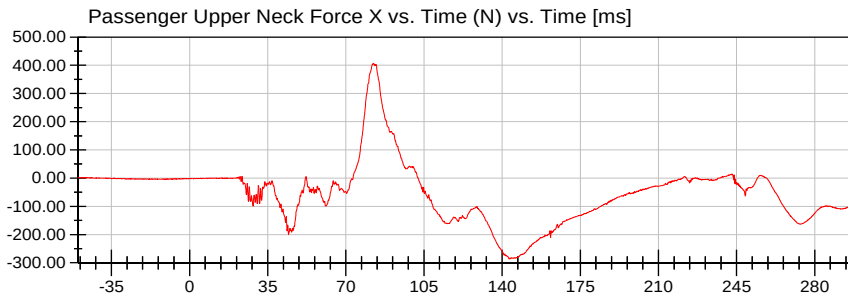
Test Lab: CTF

Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



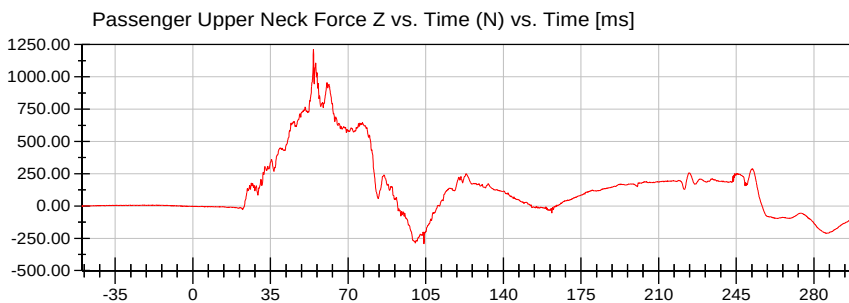
<Max>

405.79 N at 82.24 ms

<Min>

-286.71 N at 143.20 ms

CFC_1000



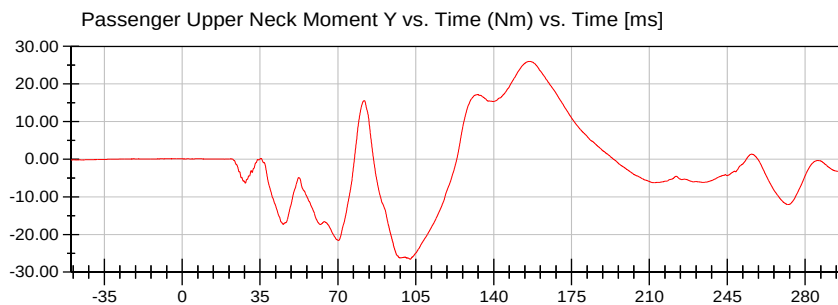
<Max>

1,211.71 N at 54.40 ms

<Min>

-292.72 N at 104.24 ms

CFC_1000



<Max>

26.01 Nm at 156.16 ms

<Min>

-26.59 Nm at 102.48 ms

CFC_600





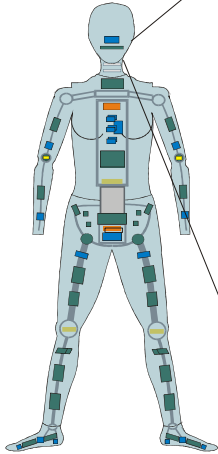
2021 Chevrolet Tahoe NCAP 35 mph Frontal Impact Neck Injury Predictor (NIJ)

Date: 01/05/2021
Time: 15:10

Customer: NHTSA

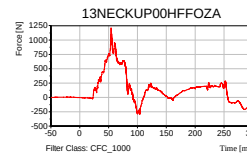
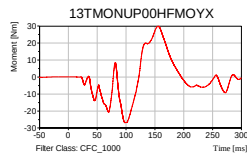
Test Number: M20210105

Test Orientation = Frontal
Fzc(Tension) = 4287
Fzc(Compression) = 3880
Myc(Extension) = 67
Myc(Flexion) = 155

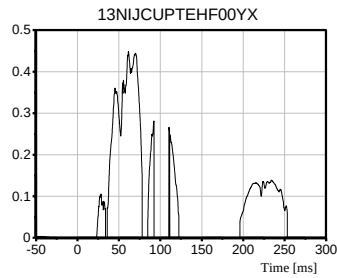


Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

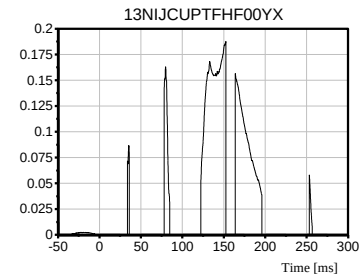
NIJ Source Code: (Fz/Fzc)+(Myc/Myc)



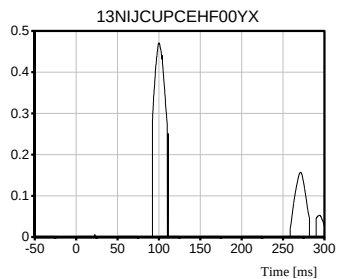
TRC Inc. Test Lab: CTF
Test Number: 210105



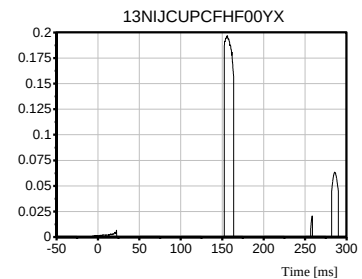
Max [NTE] 0.4483 at 61.52 ms



Max [NTF] 0.1874 at 152.48 ms



Max [NCE] 0.4713 at 100.32 ms



Max [NCF] 0.1968 at 156.32 ms

NHTSA

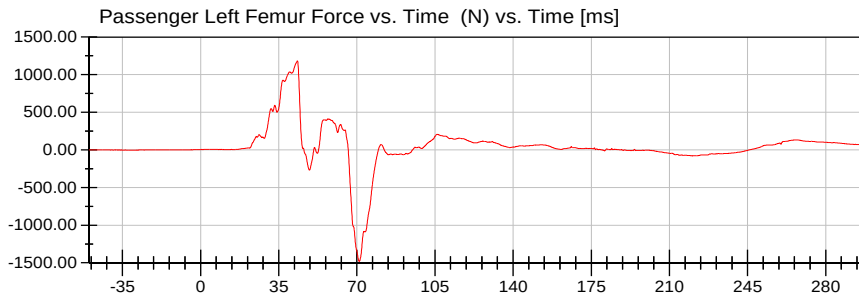
Test Lab: CTF

Test Number: 210105 (M20210105)

Test Date: 01/05/2021

Position #1 Hybrid III Mid-Sized Adult Male Dummy (037)

Position #2 Hybrid III Small Adult Female (426)



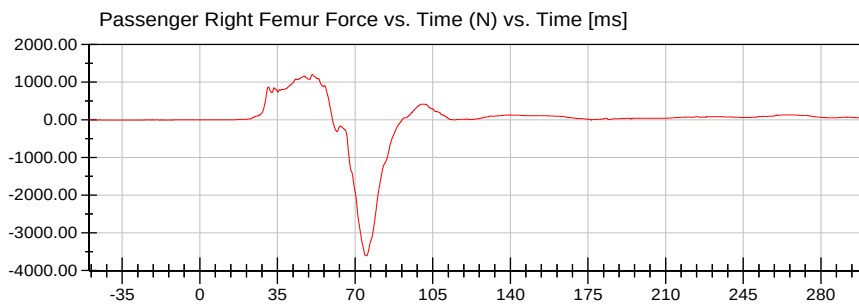
<Max>

1,183.96 N at 43.44 ms

<Min>

-1,481.50 N at 71.04 ms

CFC_600



<Max>

1,207.85 N at 50.72 ms

<Min>

-3,606.02 N at 75.04 ms

CFC_600



APPENDIX C
DUMMY CALIBRATION AND PERFORMANCE VERIFICATION

Pre-Test Calibration Sheets

Driver S/N 037

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 037
Calibration No. 69

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	881	Yes
B	Shoulder Pivot Height	505.5 - 520.7	510	Yes
C	H-Point Height	83.8 - 88.9	85	Yes
D	H-Point From Seatback	134.6 - 139.7	137	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	91	Yes
F	Thigh Clearance	139.7 - 154.9	145	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	295	Yes
H	Skull Cap To Backline	40.6 - 45.7	45	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	337	Yes
J	Elbow Rest Height	190.5 - 210.8	199	Yes
K	Buttock Knee Length	579.1 - 604.5	601	Yes
L	Popliteal Height	429.3 - 454.7	440	Yes
M	Knee Pivot Height	485.1 - 500.4	494	Yes
N	Buttock Popliteal Length	452.1 - 477.5	470	Yes
O	Chest Depth	213.4 - 228.6	222	Yes
P	Foot Length	251.5 - 266.7	264	Yes
V	Shoulder Breadth	421.6 - 436.9	425	Yes
W	Foot Breadth	91.4 - 106.7	96	Yes
Y	Chest Circumference	970.3 - 1000.8	991	Yes
Z	Waist Circumference	835.7 - 866.1	865	Yes
AA	Location For Chest Circumference	429.3 - 434.3	432	Yes
BB	Location For Waist Circumference	226.1 - 231.1	229	Yes



Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 037 Certification No. 69-1

Test Date: 11/24/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	235.8 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	3.9 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	1.14 %	Yes

Test meets specifications.

Condition: Used

Comments:

Head Skin S/N: N/A

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

Report Number: 037_H3F69

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11.24.2020 11:19:27 577

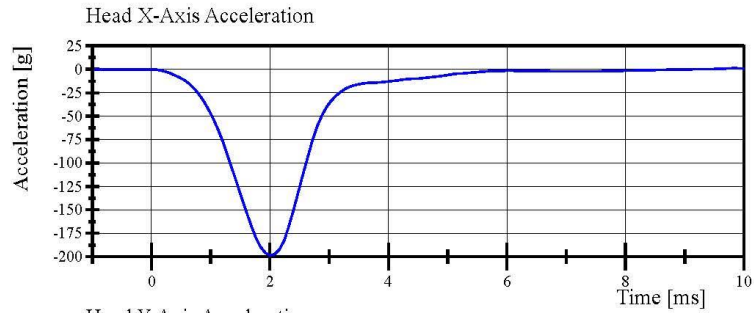


Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 037 Certification No. 69-1

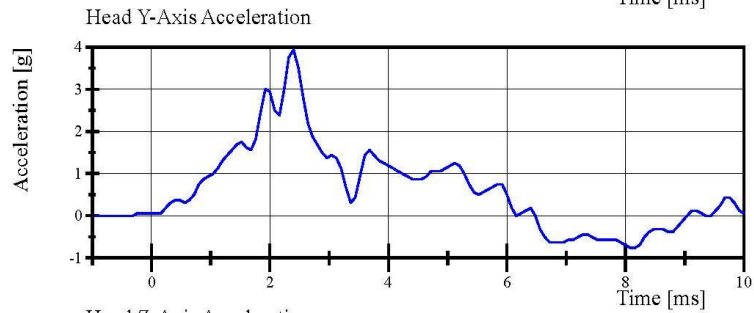
Test Date: 11/24/2020



Filter Class: CFC_1000

Max: 1.3 g at 9.8 ms

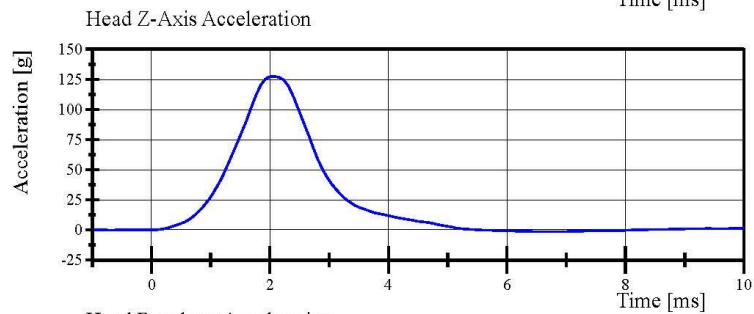
Min: -198.4 g at 2.0 ms



Filter Class: CFC_1000

Max: 3.9 g at 2.4 ms

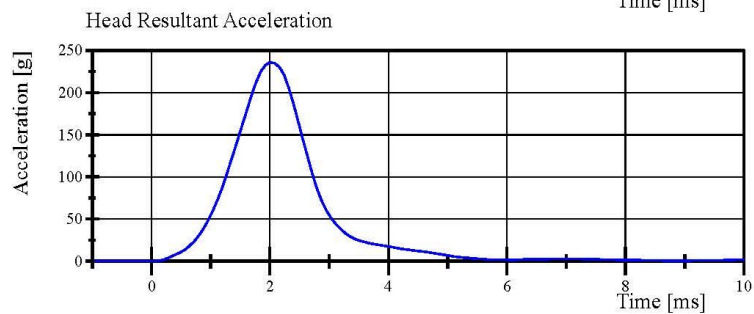
Min: -0.8 g at 8.1 ms



Filter Class: CFC_1000

Max: 127.5 g at 2.1 ms

Min: -1.5 g at 6.6 ms



Filter Class: CFC_1000

Max: 235.8 g at 2.0 ms

Min: 0.0 g at -0.9 ms

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

11.24.2020 11:20:00 577

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Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 037 Certification No. 69-2

Test Date: 11/25/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.919 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	38.4 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-23.33 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-20.92 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-16.00 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-16.00 g	Yes
Total Head D-Plane Rotation			
Peak	(-64) - (-78) °	-69.1 °	Yes
Time of Peak	57 - 64 ms	59.3 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	119.6 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	88.1 - 108.4 N·m	106.51 N·m	Yes
Time of Peak	47 - 58 ms	51.3 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	98.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:

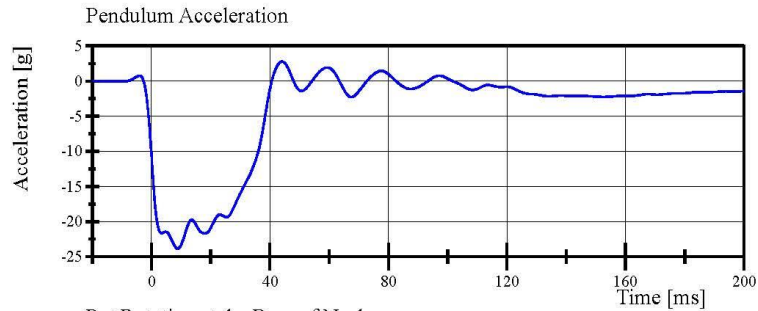
Neck S/N: 4728

Transportation Research Center Inc.

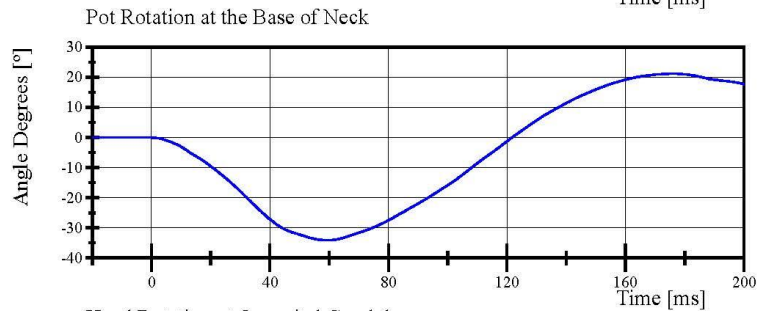
Neck Flexion

HIII 50th Serial No. 037 Certification No. 69-2

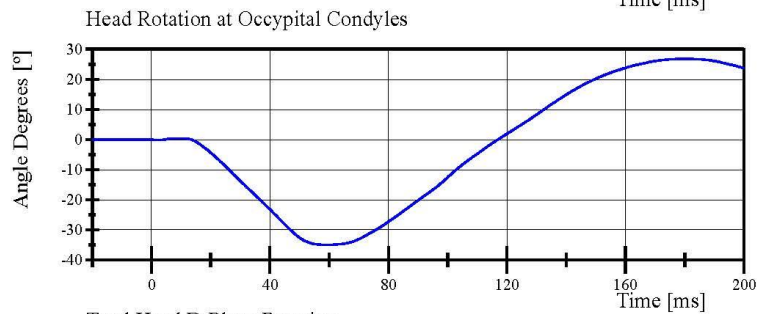
Test Date: 11/25/2020



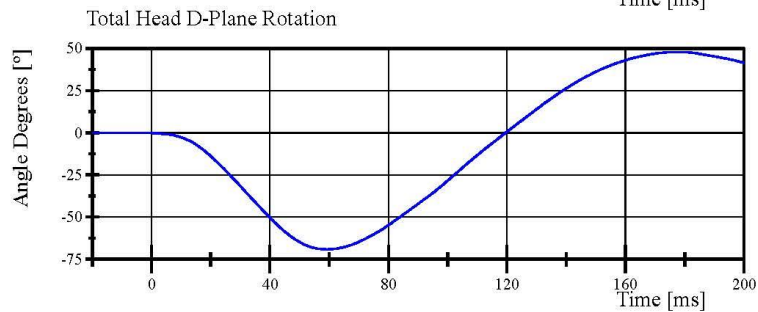
Filter Class: CFC_60
Max: 2.8 g at 44.1 ms
Min: -23.9 g at 8.9 ms



Filter Class: CFC_60
Max: 21.2 ° at 176.1 ms
Min: -34.2 ° at 59.4 ms



Filter Class: CFC_60
Max: 26.9 ° at 179.9 ms
Min: -34.9 ° at 59.1 ms



Filter Class: CFC_60
Max: 48.0 ° at 177.9 ms
Min: -69.1 ° at 59.3 ms

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

11.25.2020 12:15:38 1845



Report Number: 037_H3F69

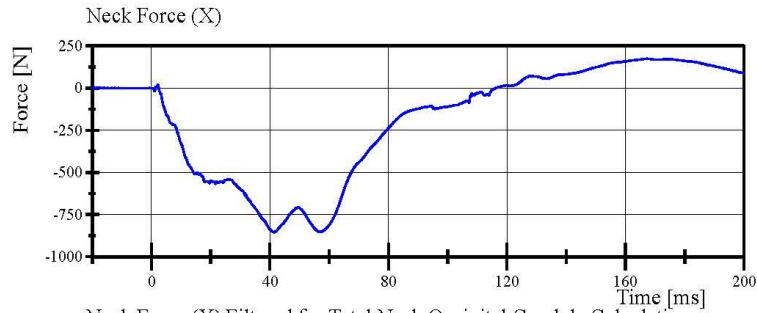
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Transportation Research Center Inc.

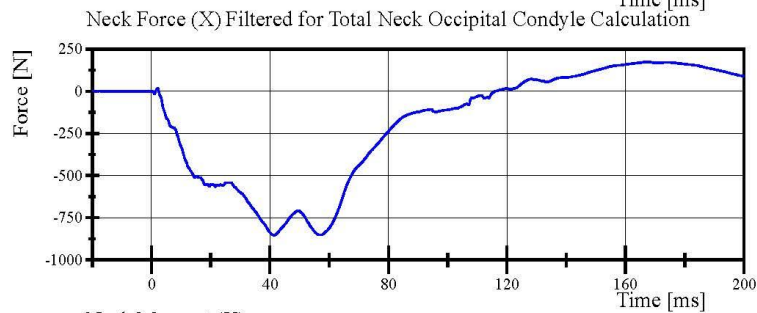
Neck Flexion

HIII 50th Serial No. 037 Certification No. 69-2

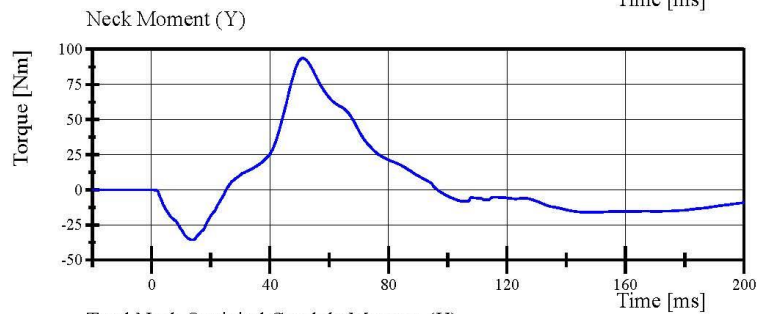
Test Date: 11/25/2020



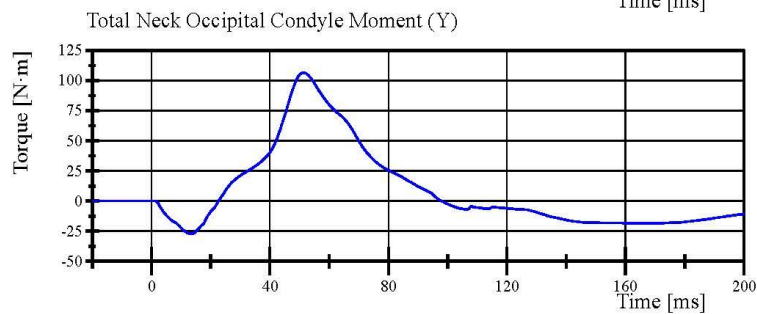
Filter Class: CFC_1000
Max: 174.0 N at 167.3 ms
Min: -854.4 N at 41.3 ms



Filter Class: CFC_600
Max: 173.7 N at 167.3 ms
Min: -853.8 N at 41.3 ms



Filter Class: CFC_600
Max: 93.6 Nm at 51.0 ms
Min: -35.7 Nm at 13.9 ms



Filter Class: Without_(Constar
Max: 106.5 N·m at 51.3 ms
Min: -27.1 N·m at 13.5 ms

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

11.25.2020 12:15:38 1845



Report Number: 037_H3F69

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Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 037 Certification No. 69-2

Test Date: 11/25/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.974 m/s	Yes
Pendulum Acceleration Decay Crossing 5g	38 - 46 ms	39.2 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	19.22 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	17.36 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	13.69 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	13.71 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	93.4 °	Yes
Time of Peak	72 - 82 ms	76.1 ms	Yes
Total Head D-Plane Rotation Decay to 0°	147 - 174 ms	156.5 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-52.9) - (-80) N·m	-71.88 N·m	Yes
Time of Peak	65 - 79 ms	70.3 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	120 - 148 ms	142.8 ms	Yes

Test meets specifications.

Condition: Used

Comments:

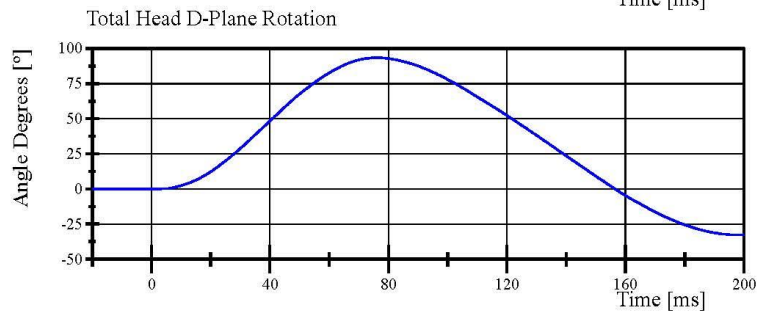
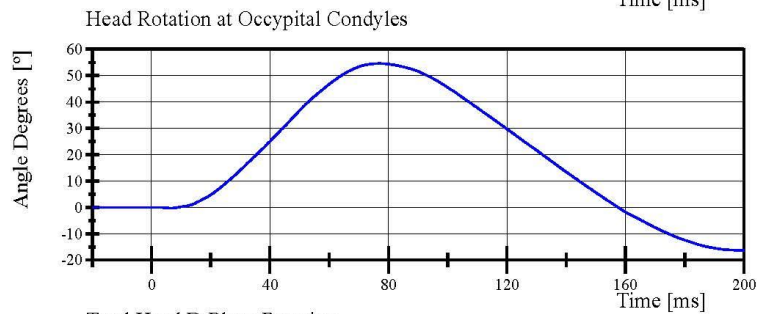
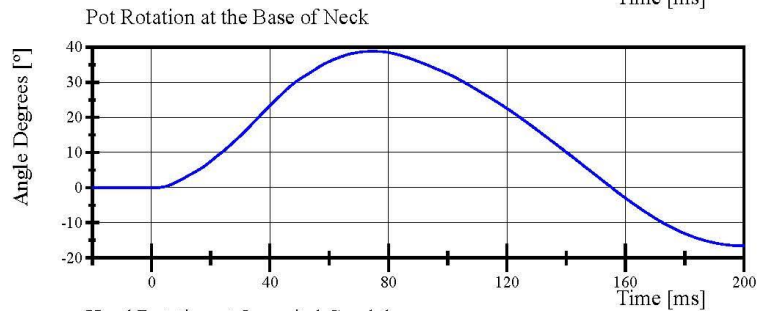
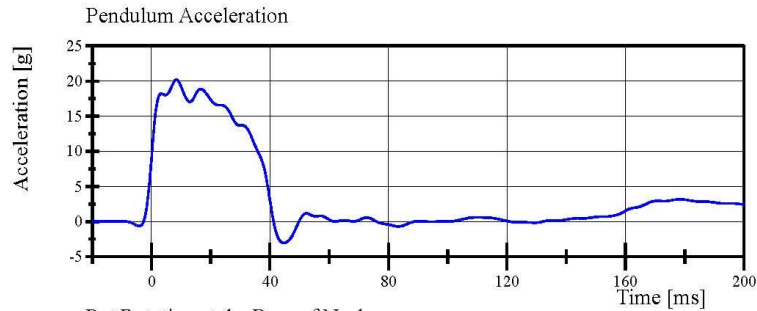
Neck S/N: 4728

Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 037 Certification No. 69-2

Test Date: 11/25/2020



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

Report Number: 037_H3F69

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11.25.2020 13:17:49 1991

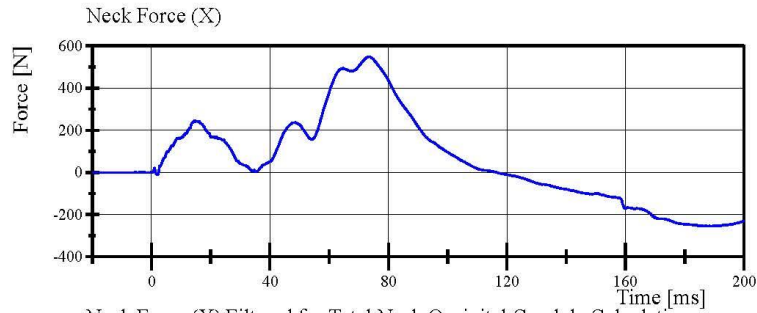


Transportation Research Center Inc.

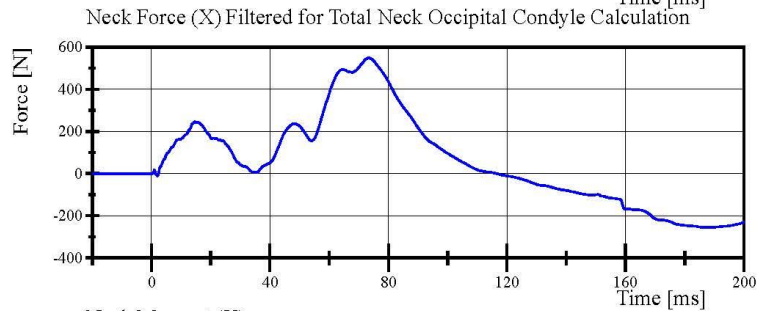
Neck Extension

HIII 50th Serial No. 037 Certification No. 69-2

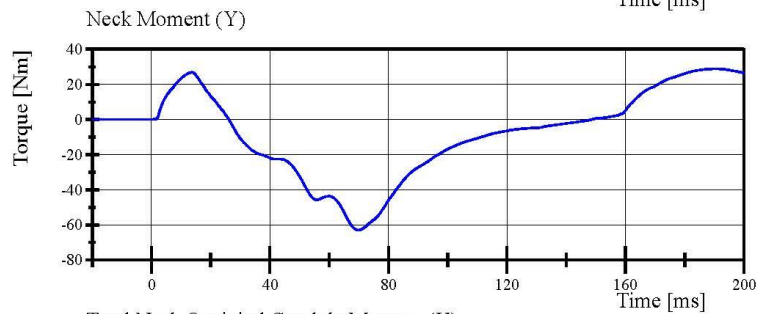
Test Date: 11/25/2020



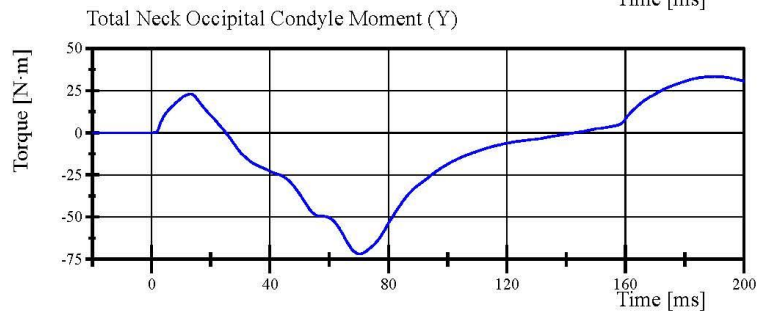
Filter Class: CFC_1000
Max: 548.5 N at 73.4 ms
Min: -256.0 N at 188.7 ms



Filter Class: CFC_600
Max: 548.5 N at 73.5 ms
Min: -255.7 N at 188.8 ms



Filter Class: CFC_600
Max: 28.9 Nm at 190.3 ms
Min: -62.9 Nm at 70.0 ms



Filter Class: Without_(Consta
Max: 33.4 N·m at 190.2 ms
Min: -71.9 N·m at 70.3 ms

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

Report Number: 037_H3F69

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11.25.2020 13:17:49 1991



Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 037 Certification No. 69-3

Test Date: 11/25/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.718 m/s	Yes
Probe Force Peak	(-5,160) - (-5,894) N	-5,588.9 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-72.55 mm	Yes
Internal Hysteresis	69 - 85 %	70.7 %	Yes

Test meets specifications.

Condition: Used

Comments:

Jacket S/N: 2565

Rib Set S/N: 02033121A

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

Report Number: 037_H3F69

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11.25.2020 15:14:21 427

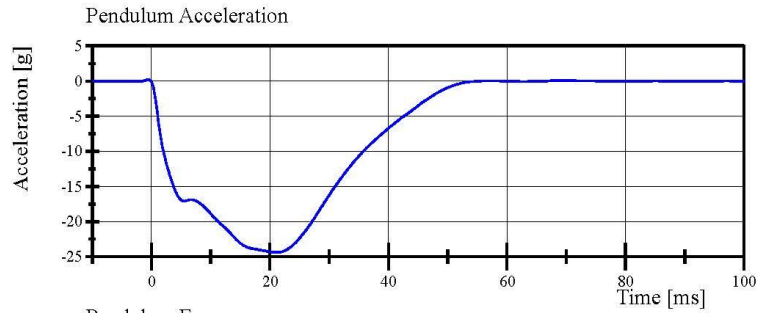


Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 037 Certification No. 69-3

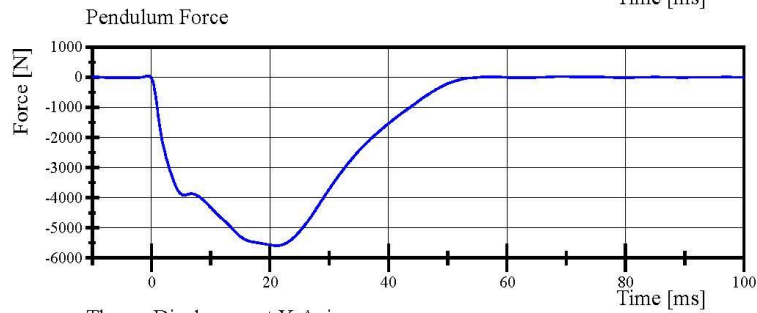
Test Date: 11/25/2020



Filter Class: CFC_180

Max: 0.2 g at -0.6 ms

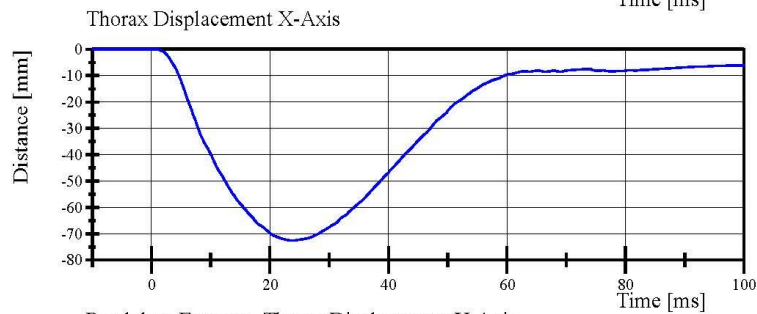
Min: -24.4 g at 21.2 ms



Filter Class: CFC_180

Max: 46.6 N at -0.6 ms

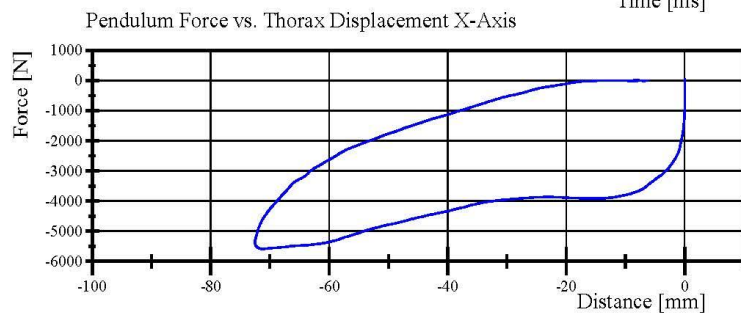
Min: -5,588.9 N at 21.2 ms



Filter Class: CFC_600

Max: 0.0 mm at -7.9 ms

Min: -72.6 mm at 23.9 ms



Filter Class: CFC_180

Max: 46.6 N at -0.0 mm

Min: -5,588.9 N at -71.2 mm

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

11.25.2020 15:14:36 427

Report Number: 037_H3F69

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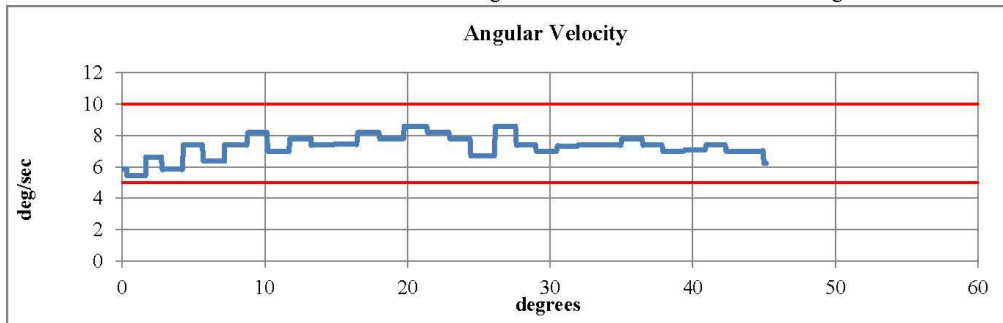
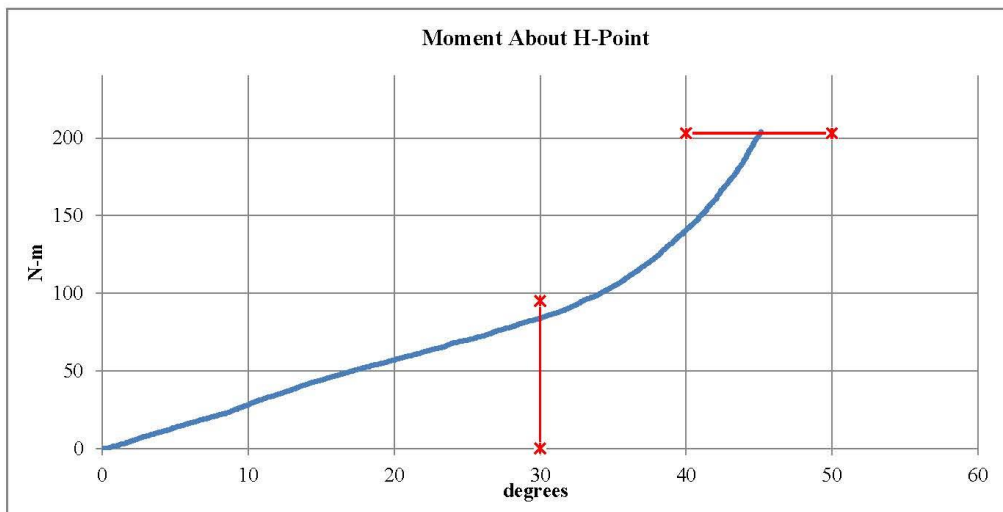
Transportation Research Center Inc.

Hybrid III 50th Male Hip Range of Motion



Serial Number: 037 Date: 24-Nov-2020
Side Tested: Left Hip Time: 13:30
Test Number: 1

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21 °C Pass
Humidity	10 - 70	40 % Pass
Moment at 30°	0 ≤ 94.9	84.01 N-m Pass
Angle at 203 Nm	40 - 50	45.15 deg Pass
Average Velocity	5 - 10	7.3 deg/sec Pass



Pelvis Skin S/N: EK3565

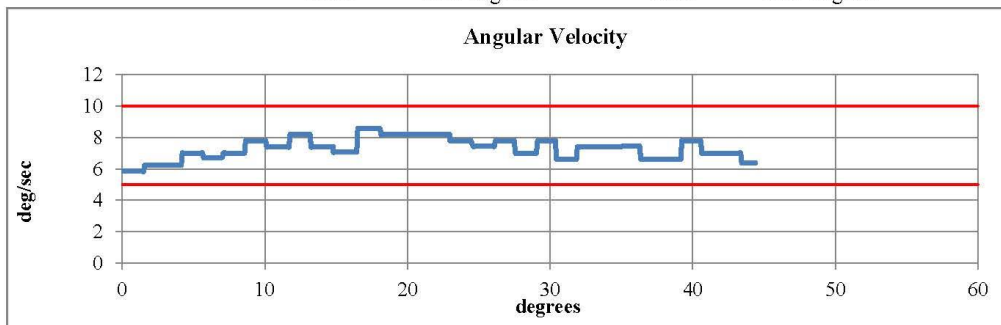
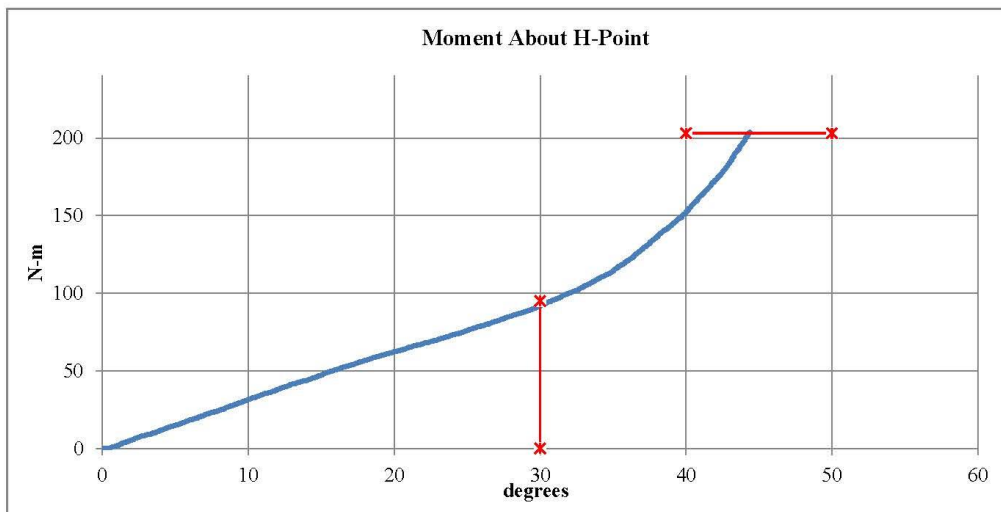
Transportation Research Center Inc.

Hybrid III 50th Male Hip Range of Motion



Serial Number: 037 Date: 24-Nov-2020
Side Tested: Right Hip Time: 14:39
Test Number: 1

TEST PARAMETER	SPECIFICATION		TEST RESULTS		
Temperature	18.9	- 25.6	21.2	°C	Pass
Humidity	10	- 70	40	%	Pass
Moment at 30°	0	≤ 94.9	92.24	N-m	Pass
Angle at 203 Nm	40	- 50	44.38	deg	Pass
Average Velocity	5	- 10	7.26	deg/sec	Pass



Pelvis Skin S/N: EK3565

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 69-1
Test Date: 11/24/2020

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.092 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,669.34 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 2672

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F69

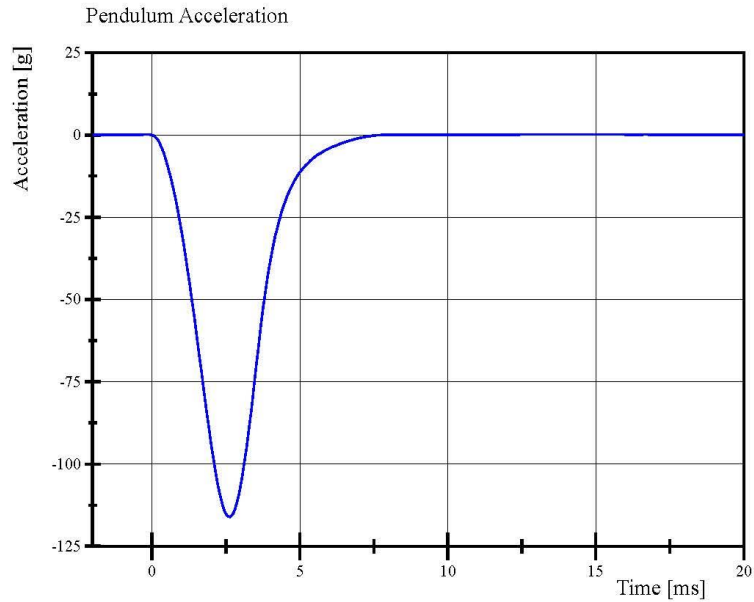
Page 21 of 27

11.24.2020 12:50:26 1896

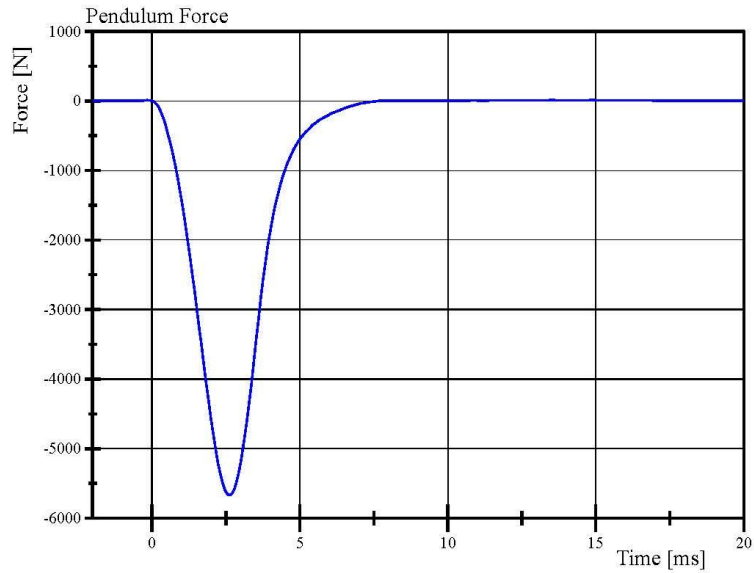


Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 69-1
Test Date: 11/24/2020



Filter Class: CFC_600
Max: 0.2 g at -0.2 ms
Min: -116.1 g at 2.6 ms



Filter Class: CFC_600
Max: 8.5 N at -0.2 ms
Min: -5,669.3 N at 2.6 ms

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F69

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Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 69-1
Test Date: 11/24/2020

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.091 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,652.06 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 1248

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F69

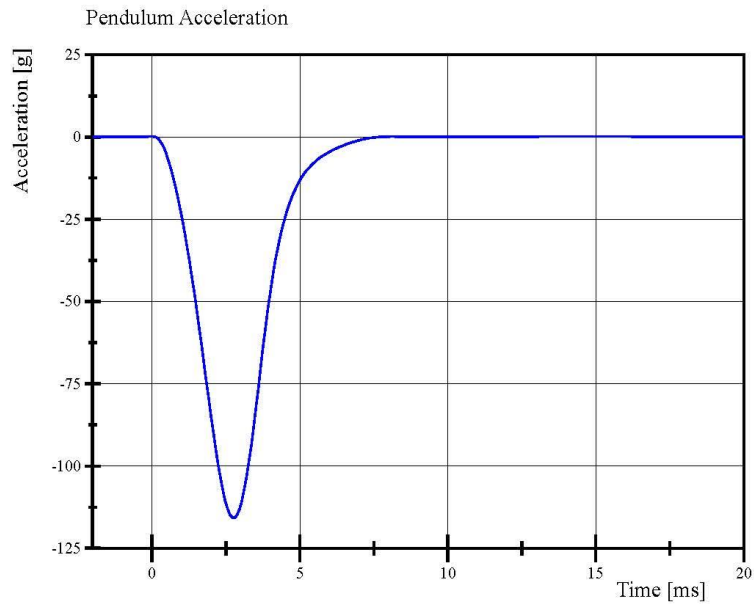
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11.24.2020 12:55:26 1896

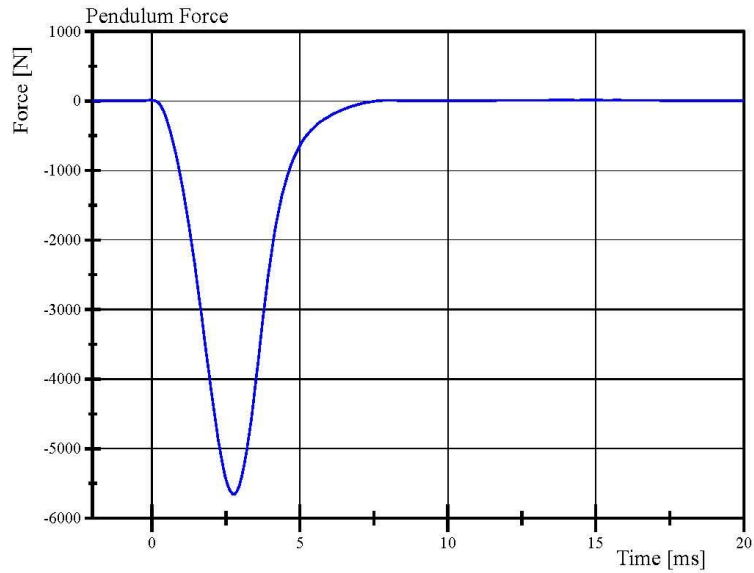


Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 69-1
Test Date: 11/24/2020



Filter Class: CFC_600
Max: 0.2 g at 0.0 ms
Min: -115.7 g at 2.8 ms



Filter Class: CFC_600
Max: 9.7 N at 0.0 ms
Min: -5,652.1 N at 2.8 ms

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F69

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Post-Test Calibration Sheets

Driver S/N 037

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 037
Calibration No. 70

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	880	Yes
B	Shoulder Pivot Height	505.5 - 520.7	510	Yes
C	H-Point Height	83.8 - 88.9	85	Yes
D	H-Point From Seatback	134.6 - 139.7	137	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	91	Yes
F	Thigh Clearance	139.7 - 154.9	144	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	295	Yes
H	Skull Cap To Backline	40.6 - 45.7	45	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	337	Yes
J	Elbow Rest Height	190.5 - 210.8	199	Yes
K	Buttock Knee Length	579.1 - 604.5	601	Yes
L	Popliteal Height	429.3 - 454.7	440	Yes
M	Knee Pivot Height	485.1 - 500.4	494	Yes
N	Buttock Popliteal Length	452.1 - 477.5	470	Yes
O	Chest Depth	213.4 - 228.6	222	Yes
P	Foot Length	251.5 - 266.7	264	Yes
V	Shoulder Breadth	421.6 - 436.9	425	Yes
W	Foot Breadth	91.4 - 106.7	96	Yes
Y	Chest Circumference	970.3 - 1000.8	991	Yes
Z	Waist Circumference	835.7 - 866.1	865	Yes
AA	Location For Chest Circumference	429.3 - 434.3	432	Yes
BB	Location For Waist Circumference	226.1 - 231.1	229	Yes



Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 037 Certification No. 70-1

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	256.0 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-8.3 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	3.88 %	Yes

Test meets specifications.

Condition: Used

Comments:

Head Skin S/N: N/A

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

Report Number: 037_H3F70

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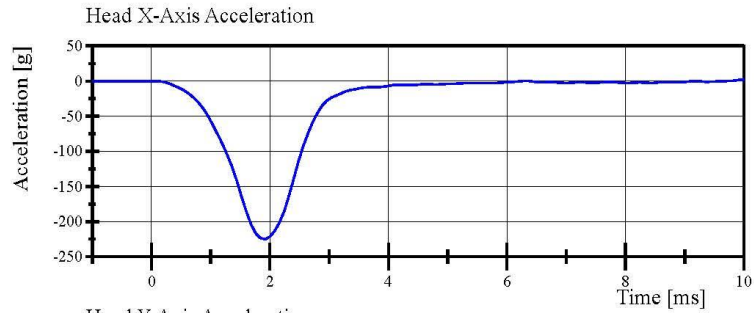


Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 037 Certification No. 70-1

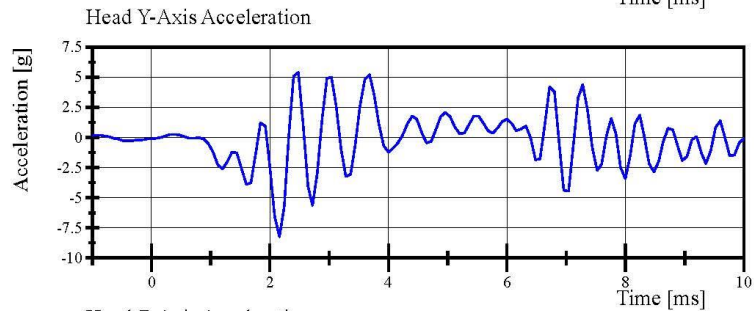
Test Date: 1/6/2021



Filter Class: CFC_1000

Max: 1.8 g at 10.0 ms

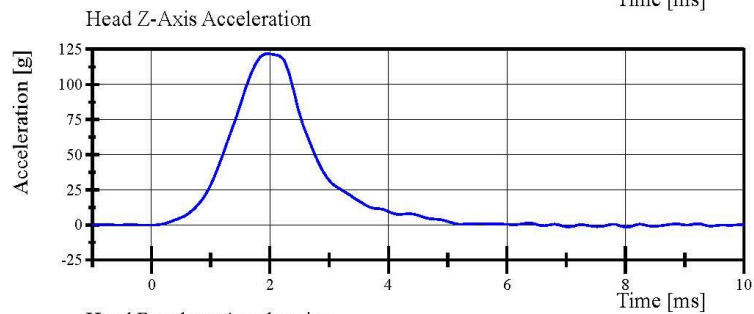
Min: -225.2 g at 1.9 ms



Filter Class: CFC_1000

Max: 5.4 g at 2.5 ms

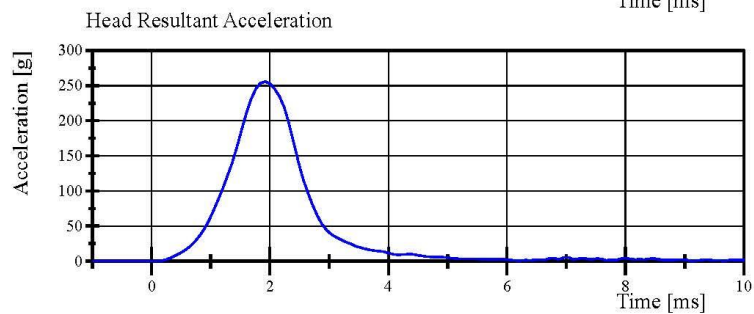
Min: -8.3 g at 2.2 ms



Filter Class: CFC_1000

Max: 121.8 g at 1.9 ms

Min: -1.6 g at 8.0 ms



Filter Class: CFC_1000

Max: 256.0 g at 1.9 ms

Min: 0.1 g at -0.7 ms

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

01.06.2021 09:37:10.578



Report Number: 037_H3F70

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Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 037 Certification No. 70-2

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.914 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	38.5 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-23.82 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-20.58 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-15.47 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-15.47 g	Yes
Total Head D-Plane Rotation			
Peak	(-64) - (-78) °	-67.6 °	Yes
Time of Peak	57 - 64 ms	59.1 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	119.7 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	88.1 - 108.4 N·m	104.63 N·m	Yes
Time of Peak	47 - 58 ms	51.7 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	97.7 ms	Yes

Test meets specifications.

Condition: Used

Comments:

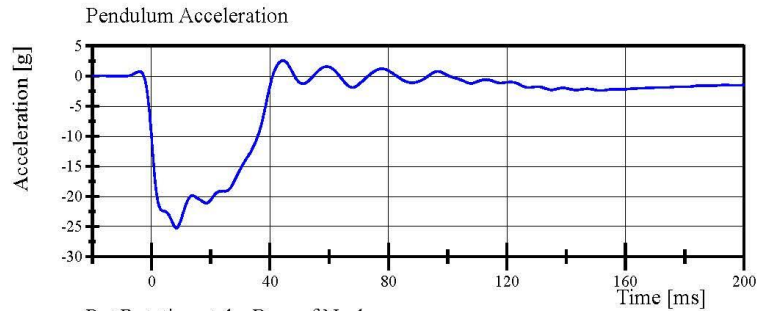
Neck S/N: 4728

Transportation Research Center Inc.

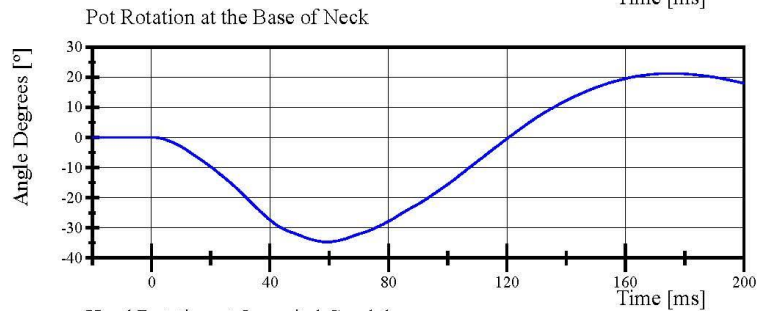
Neck Flexion

HIII 50th Serial No. 037 Certification No. 70-2

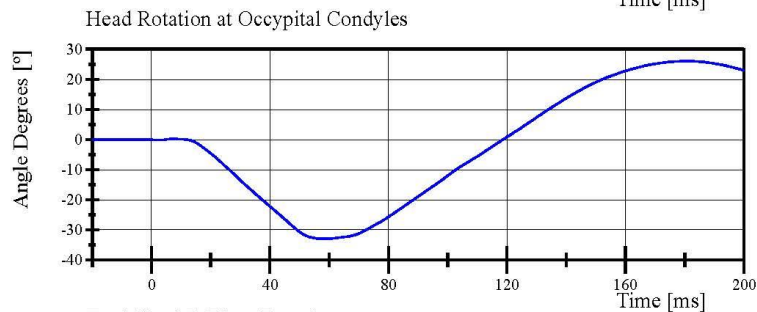
Test Date: 1/6/2021



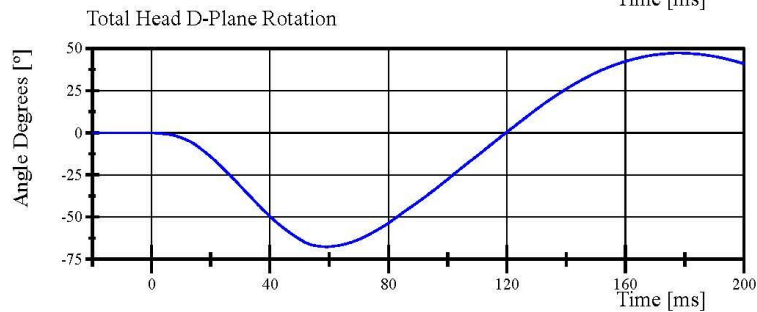
Filter Class: CFC_60
Max: 2.6 g at 44.4 ms
Min: -25.2 g at 8.4 ms



Filter Class: CFC_60
Max: 21.3 ° at 175.5 ms
Min: -34.7 ° at 59.3 ms



Filter Class: CFC_60
Max: 26.0 ° at 181.0 ms
Min: -32.9 ° at 58.5 ms



Filter Class: CFC_60
Max: 47.2 ° at 177.6 ms
Min: -67.6 ° at 59.1 ms

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

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Report Number: 037_H3F70

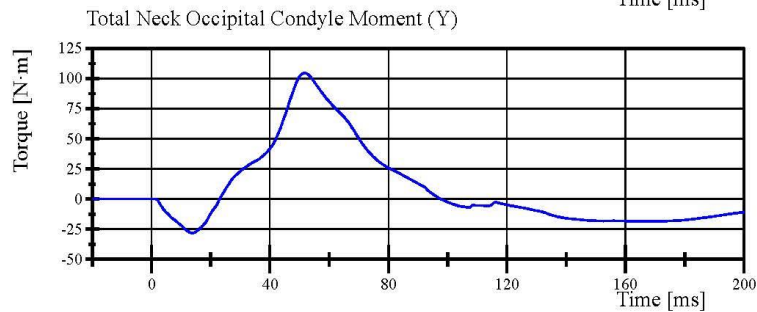
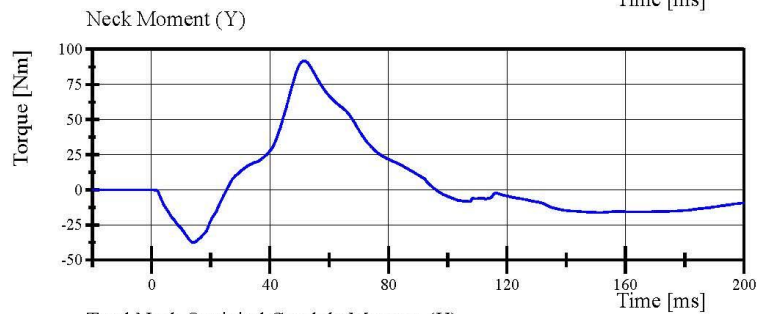
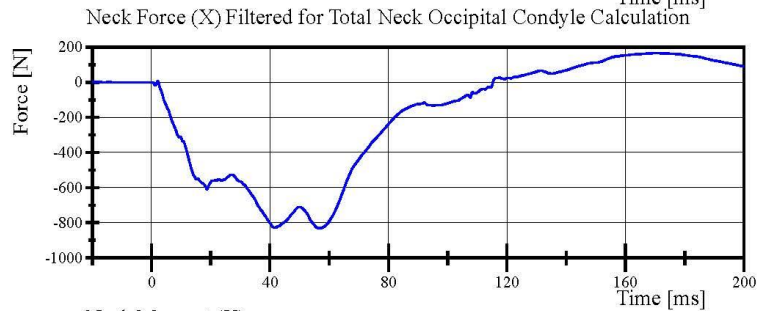
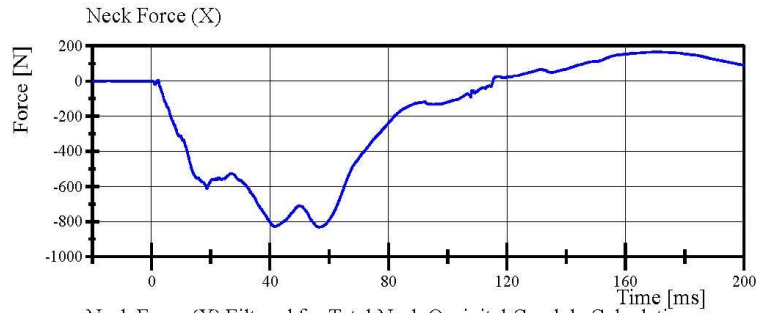
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Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 037 Certification No. 70-2

Test Date: 1/6/2021



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

Report Number: 037_H3F70

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Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 037 Certification No. 70-1

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.967 m/s	Yes
Pendulum Acceleration Decay Crossing 5g	38 - 46 ms	42.1 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	17.82 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	16.45 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	13.01 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	13.19 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	93.4 °	Yes
Time of Peak	72 - 82 ms	78.8 ms	Yes
Total Head D-Plane Rotation Decay to 0°	147 - 174 ms	160.5 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-52.9) - (-80) N·m	-64.62 N·m	Yes
Time of Peak	65 - 79 ms	72.5 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	120 - 148 ms	145.1 ms	Yes

Test meets specifications.

Condition: Used

Comments:

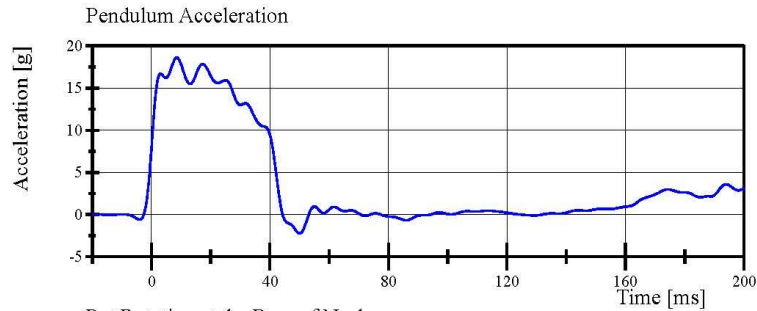
Neck S/N: 4728

Transportation Research Center Inc.

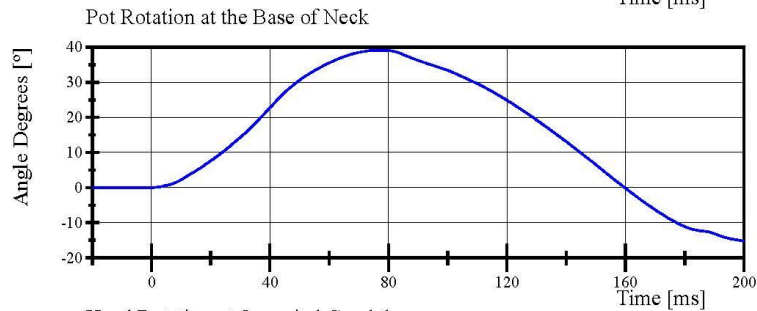
Neck Extension

HIII 50th Serial No. 037 Certification No. 70-1

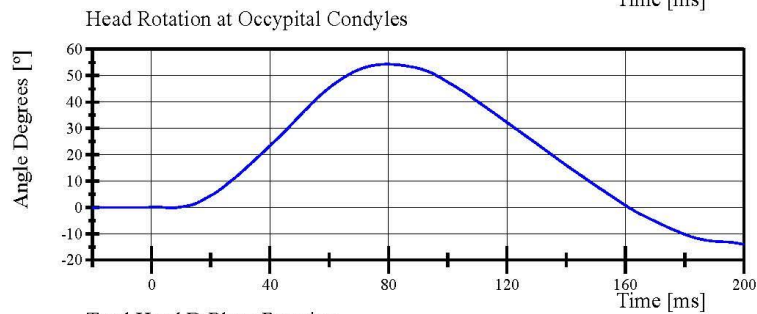
Test Date: 1/6/2021



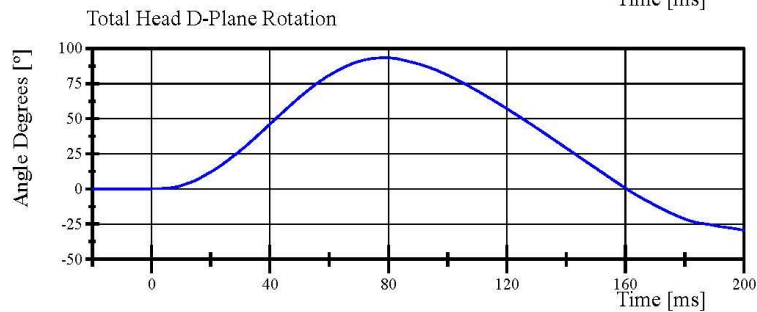
Filter Class: CFC_60
Max: 18.6 g at 8.6 ms
Min: -2.2 g at 50.1 ms



Filter Class: CFC_60
Max: 39.1 ° at 77.0 ms
Min: -15.2 ° at 200.0 ms



Filter Class: CFC_60
Max: 54.4 ° at 79.6 ms
Min: -14.0 ° at 200.0 ms



Filter Class: CFC_60
Max: 93.4 ° at 78.8 ms
Min: -29.3 ° at 200.0 ms

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

Report Number: 037_H3F70

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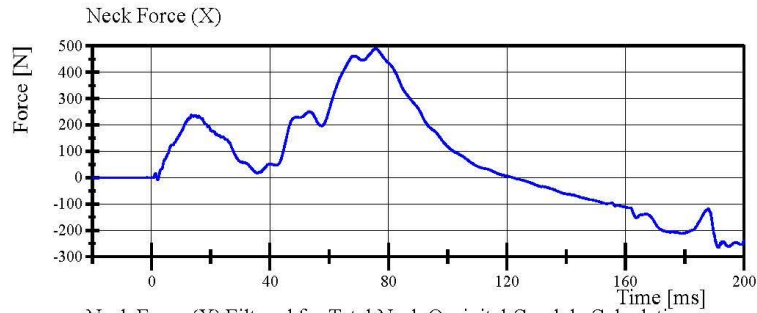


Transportation Research Center Inc.

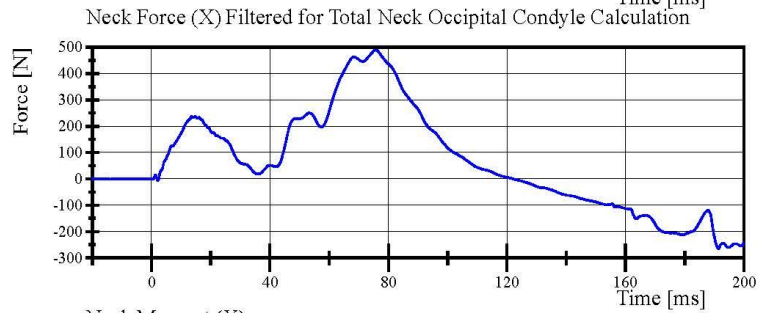
Neck Extension

HIII 50th Serial No. 037 Certification No. 70-1

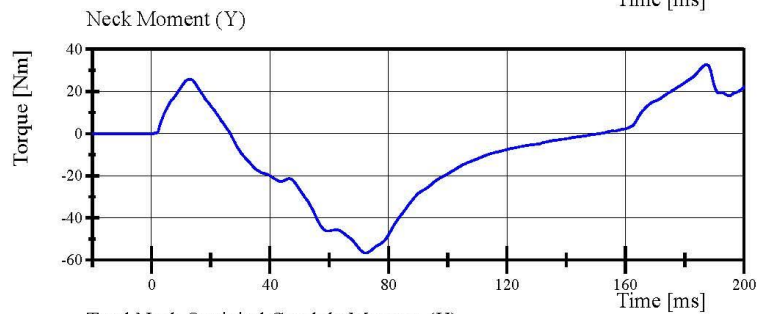
Test Date: 1/6/2021



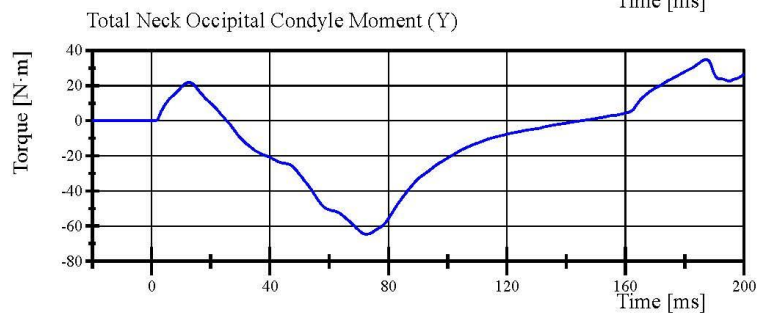
Filter Class: CFC_1000
Max: 489.0 N at 75.8 ms
Min: -264.6 N at 191.4 ms



Filter Class: CFC_600
Max: 488.9 N at 75.7 ms
Min: -265.0 N at 191.5 ms



Filter Class: CFC_600
Max: 32.7 Nm at 187.4 ms
Min: -56.6 Nm at 72.3 ms



Filter Class: Without_(Constar
Max: 34.9 N·m at 187.4 ms
Min: -64.6 N·m at 72.5 ms

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

Report Number: 037_H3F70

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Transportation Research Center Inc.

Front Thorax

HIH 50th Serial No. 037 Certification No. 70-1

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	25 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.733 m/s	Yes
Probe Force Peak	(-5,160) - (-5,894) N	-5,727.3 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-68.34 mm	Yes
Internal Hysteresis	69 - 85 %	71.8 %	Yes

Test meets specifications.

Condition: Used

Comments:

Jacket S/N: 2565

Rib Set S/N: 02033121A

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

Report Number: 037_H3F70

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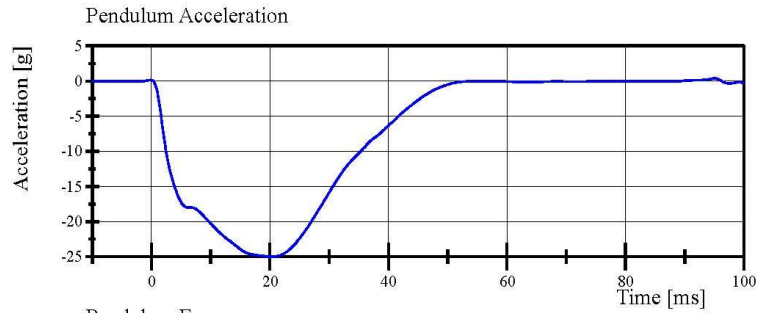


Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 037 Certification No. 70-1

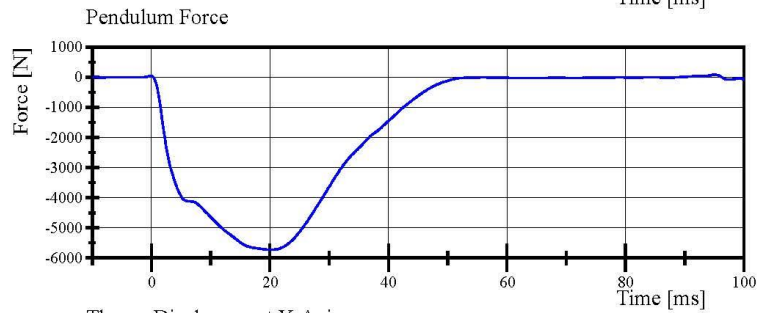
Test Date: 1/6/2021



Filter Class: CFC_180

Max: 0.4 g at 95.0 ms

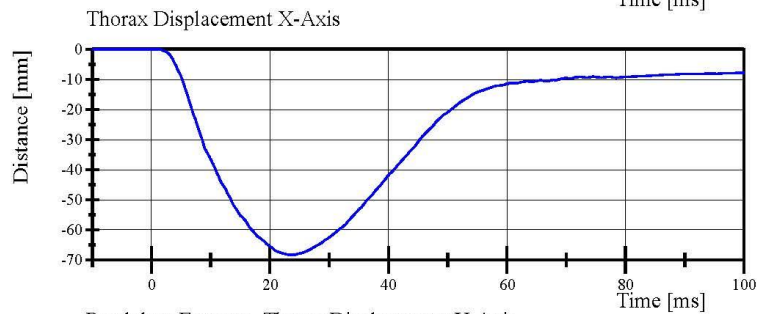
Min: -25.0 g at 20.2 ms



Filter Class: CFC_180

Max: 84.1 N at 95.0 ms

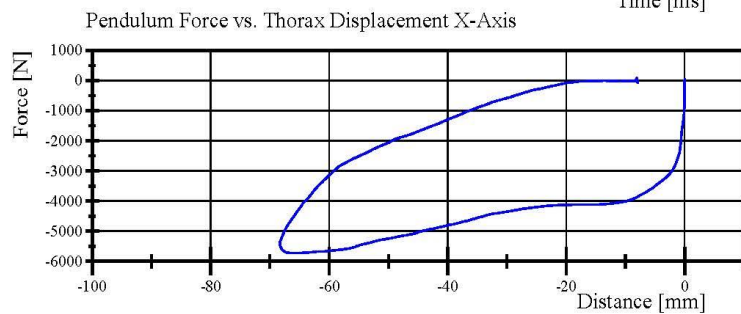
Min: -5,727.3 N at 20.2 ms



Filter Class: CFC_600

Max: 0.0 mm at -9.8 ms

Min: -68.3 mm at 23.8 ms



Filter Class: CFC_180

Max: 84.1 N at -8.1 mm

Min: -5,727.3 N at -65.6 mm

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

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Report Number: 037_H3F70

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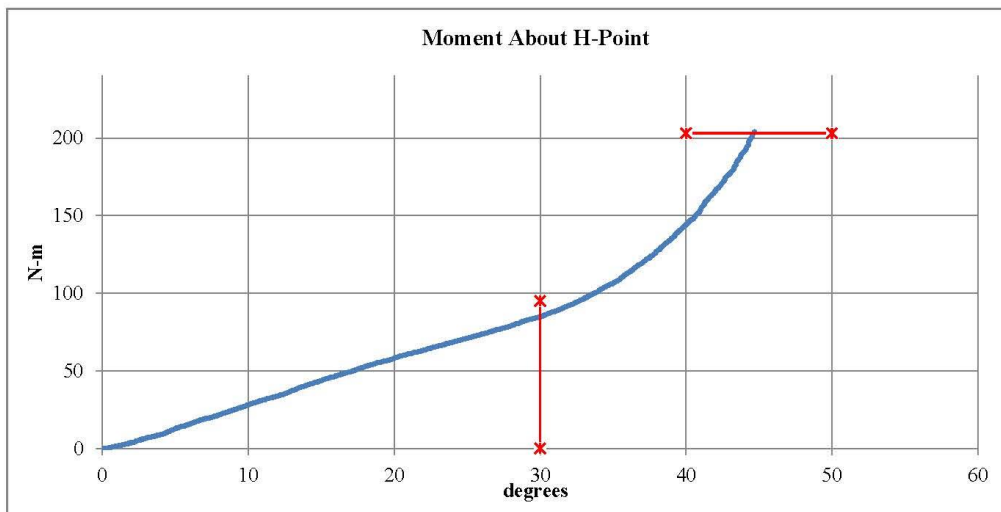
Transportation Research Center Inc.

Hybrid III 50th Male Hip Range of Motion

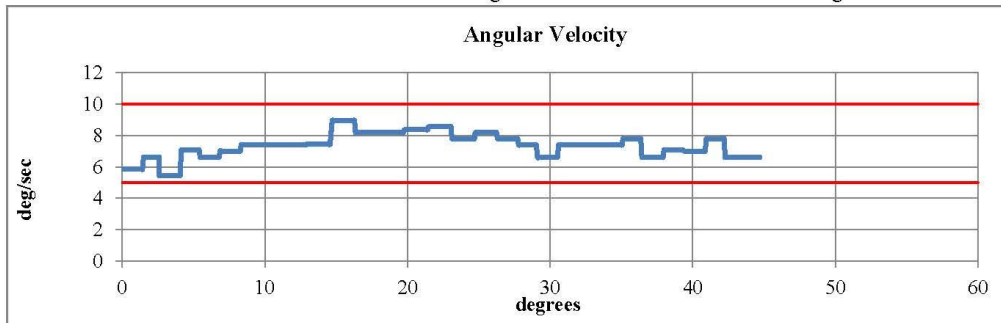


Serial Number: 037 Date: 06-Jan-2021
Side Tested: Left Hip Time: 8:44
Test Number: 1

TEST PARAMETER	SPECIFICATION		TEST RESULTS		
Temperature	18.9	- 25.6	21.6	°C	Pass
Humidity	10	- 70	36	%	Pass
Moment at 30°	0	≤ 94.9	85.14	N-m	Pass
Angle at 203 Nm	40	- 50	44.69	deg	Pass
Average Velocity	5	- 10	7.32	deg/sec	Pass



Max: 8.95 deg/sec Min: 5.45 deg/sec



Comments:
Pelvis Skin S/N: EK3565

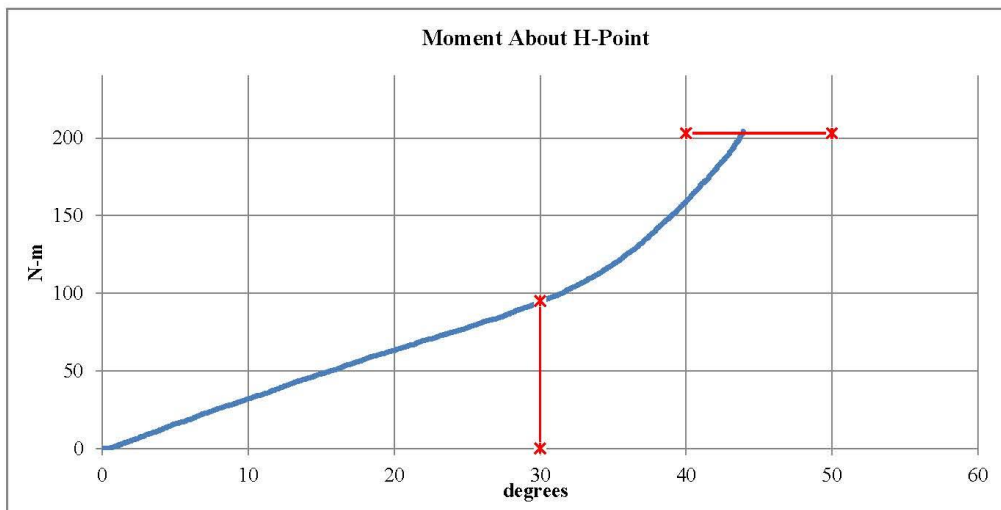
Transportation Research Center Inc.

Hybrid III 50th Male Hip Range of Motion

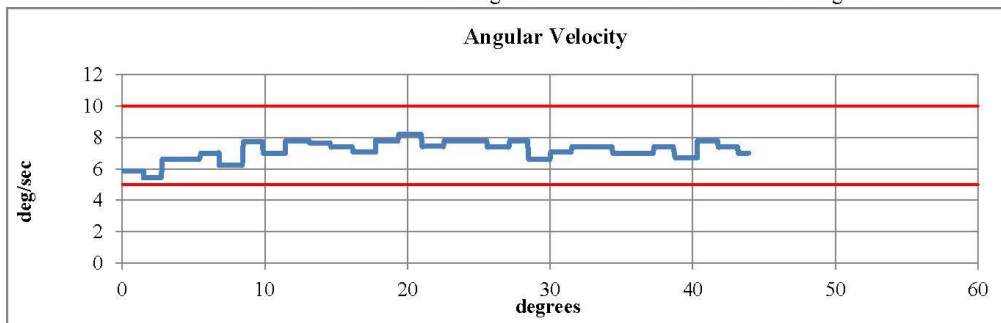


Serial Number: 037 Date: 06-Jan-2021
Side Tested: Right Hip Time: 9:53
Test Number: 1

TEST PARAMETER	SPECIFICATION		TEST RESULTS		
Temperature	18.9	- 25.6	21.3	°C	Pass
Humidity	10	- 70	41	%	Pass
Moment at 30°	0	≤ 94.9	94.51	N-m	Pass
Angle at 203 Nm	40	- 50	43.91	deg	Pass
Average Velocity	5	- 10	7.17	deg/sec	Pass



Max: 8.17 deg/sec Min: 5.45 deg/sec



Comments:
Pelvis Skin S/N: EK3565

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 70-1
Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.095 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,517.42 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 2672

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F70

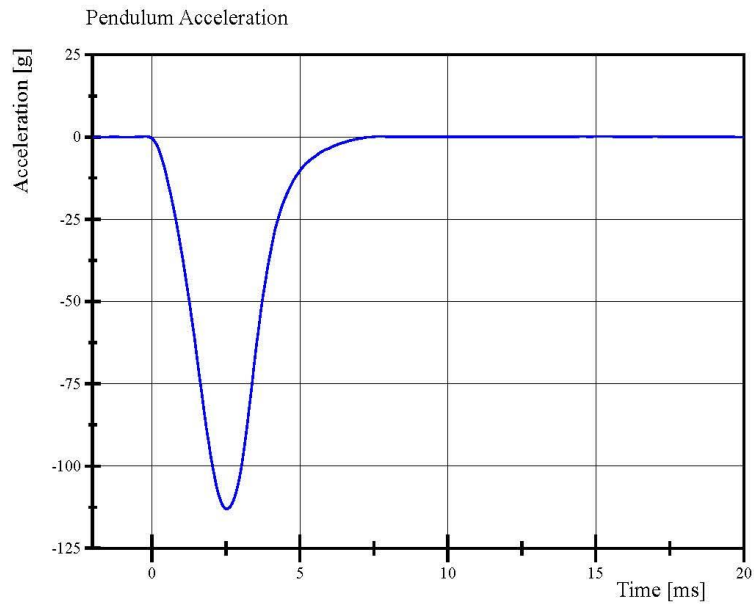
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01.06.2021 09:43:48 1850

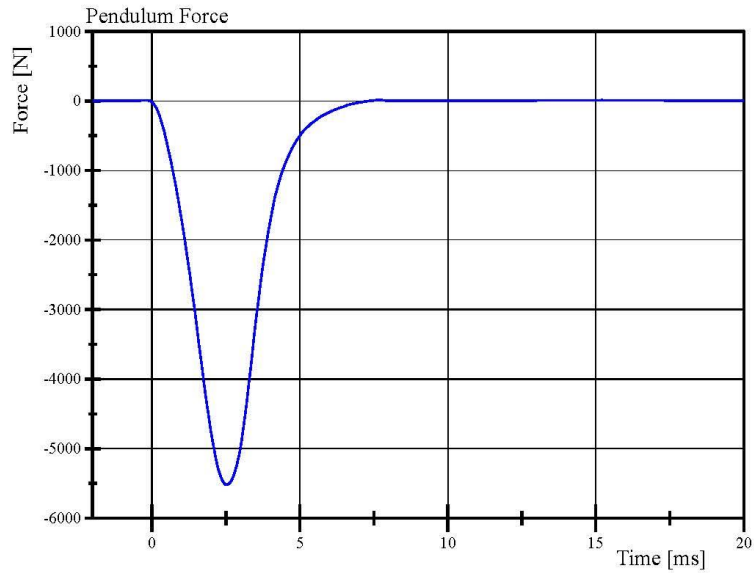


Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 70-1
Test Date: 1/6/2021



Filter Class: CFC_600
Max: 0.2 g at 7.7 ms
Min: -113.0 g at 2.6 ms



Filter Class: CFC_600
Max: 10.1 N at 7.7 ms
Min: -5,517.4 N at 2.6 ms

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F70

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Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 70-1
Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.097 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,099.19 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 1248

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F70

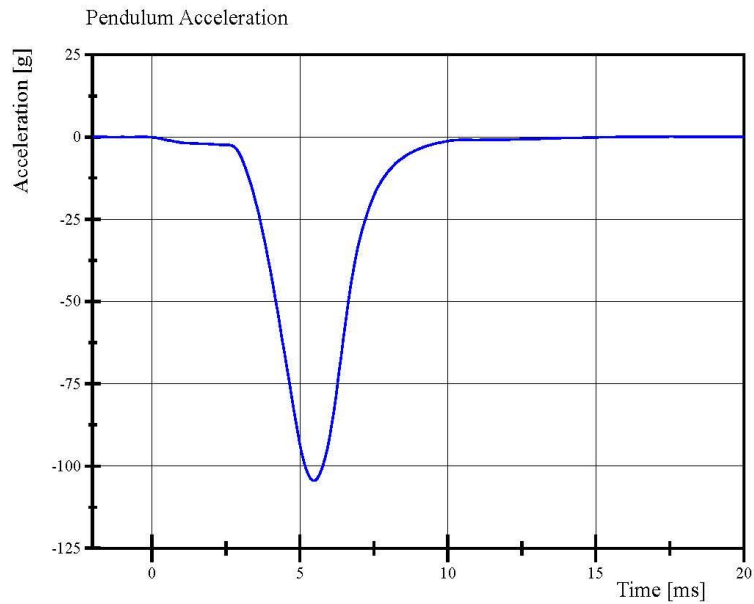
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01.06.2021 09:47:03 1809

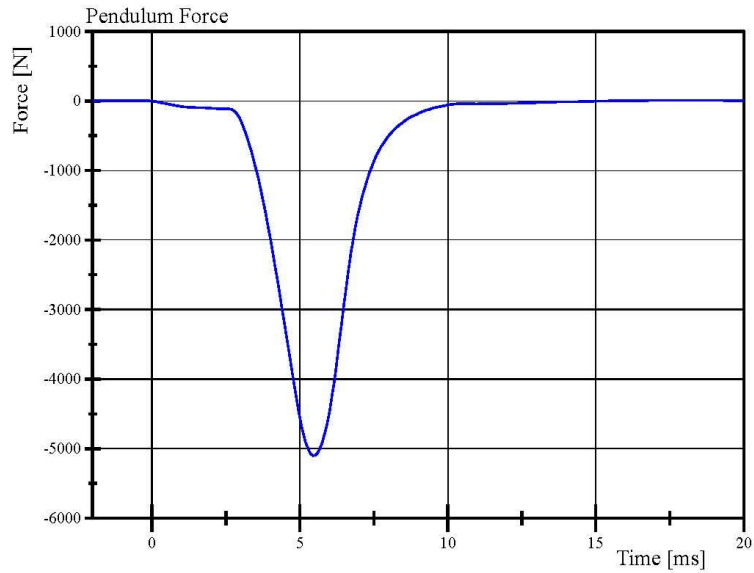


Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 70-1
Test Date: 1/6/2021



Filter Class: CFC_600
Max: 0.1 g at 17.5 ms
Min: -104.4 g at 5.4 ms



Filter Class: CFC_600
Max: 6.6 N at 17.5 ms
Min: -5,099.2 N at 5.4 ms

Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211
Report Number: 037_H3F70

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Pre-Test Calibration Sheets

Front Passenger S/N 426

Transportation Research Center Inc.
5720 HIII 5th Dummy
External Dimensions
Serial No. 426 Calibration No. 53

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	780	Yes
B	Shoulder Pivot Height	431.8 - 457.2	443	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	147	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	79	Yes
F	Thigh Clearance	119.4 - 134.6	129	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	249	Yes
H	Head Back to Backline	43.2 - 48.2	45	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	286	Yes
J	Elbow Rest Height	182.8 - 203.2	197	Yes
K	Buttock Knee Length	520.7 - 546.1	534	Yes
L	Popliteal Height	355.6 - 376.0	359	Yes
M	Knee Pivot Height	393.7 - 419.1	409	Yes
N	Buttock Popliteal Length	414.0 - 439.4	429	Yes
O	Chest Depth without Jacket	175.3 - 190.5	182	Yes
P	Foot Length	218.5 - 233.7	225	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	473	Yes
S	Head Breadth	137.1 - 147.3	141	Yes
T	Head Depth	177.8 - 188.0	180	Yes
U	Hip Breadth	299.7 - 314.9	306	Yes
V	Shoulder Breadth	350.5 - 365.7	356	Yes
W	Foot Breadth	78.8 - 94.0	85	Yes
X	Head Circumference	528.3 - 548.7	539	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	870	Yes
Z	Waist Circumference	759.5 - 789.9	775	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	345	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	164	Yes

Revised 8/10/12



Report Number: 426_HFF53

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Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 426 Certification No. 53-1

Test Date: 12/10/2020

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	280.6 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	5.5 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	0.72 %	Yes

Test meets specifications.

Condition: Used

Comments:

Head Skin S/N: 1348

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

Report Number: 426_HFF53

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12.10.2020 10:02:46 573

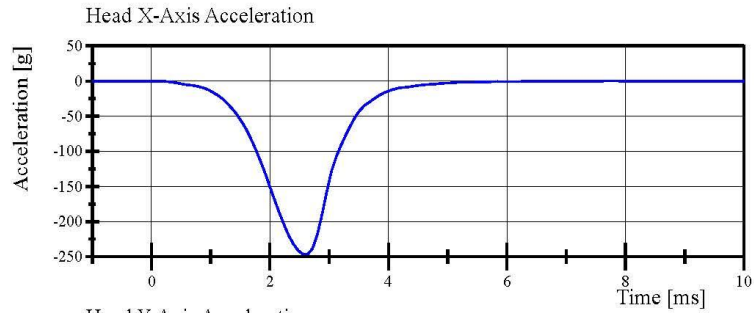


Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 426 Certification No. 53-1

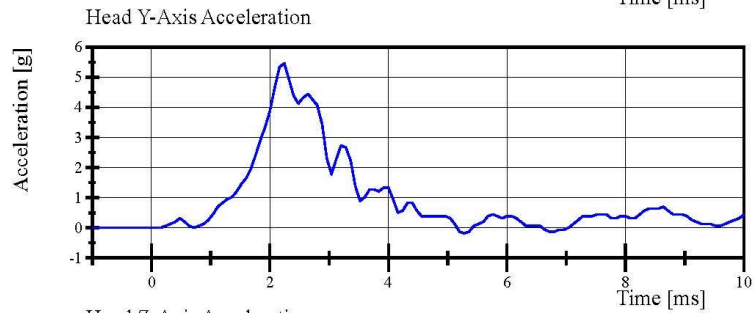
Test Date: 12/10/2020



Filter Class: CFC_1000

Max: 0.3 g at 7.8 ms

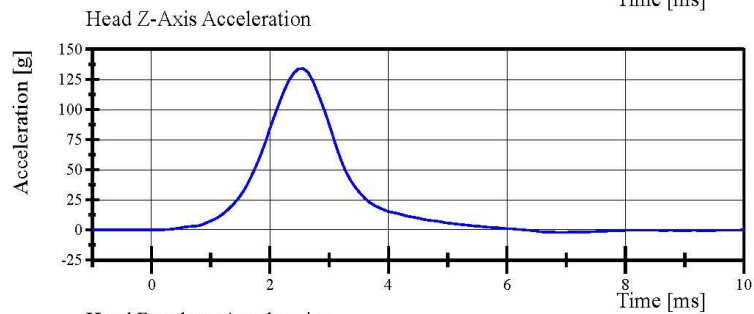
Min: -246.5 g at 2.6 ms



Filter Class: CFC_1000

Max: 5.5 g at 2.2 ms

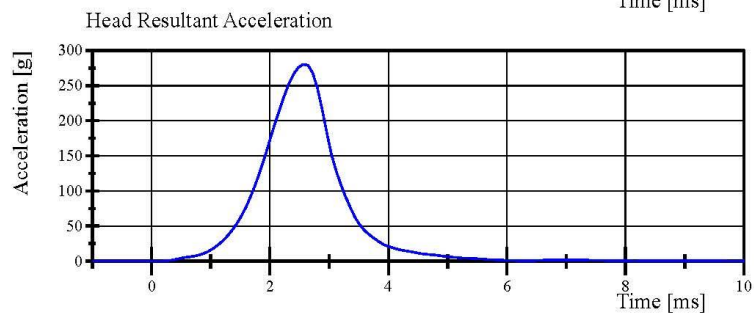
Min: -0.2 g at 5.3 ms



Filter Class: CFC_1000

Max: 134.1 g at 2.6 ms

Min: -2.0 g at 6.9 ms



Filter Class: CFC_1000

Max: 280.6 g at 2.6 ms

Min: 0.0 g at -1.0 ms

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

Report Number: 426_HFF53

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12.10.2020 10:04:23 573



Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 53-3

Test Date: 12/14/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.039 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.45 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	(-4.0) - (-5.0) m/s	-4.82 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	(-5.8) - (-7.0) m/s	-6.83 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-78.1 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	71.4 N·m	Yes
Total Neck Occipital Condyles Moment Decay to 10 N·m	80 - 100 ms	87.7 ms	Yes

Test meets specifications.

Condition: Used

Comments:

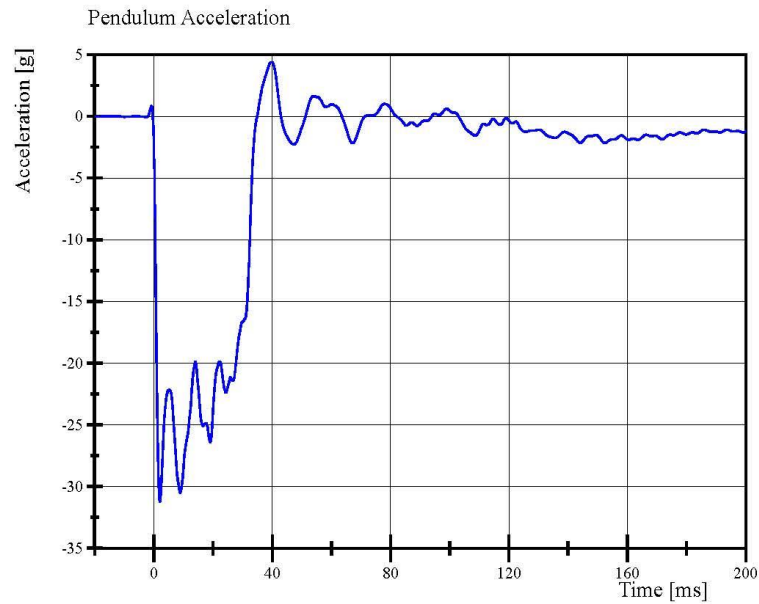
Neck S/N: DM2392

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 53-3

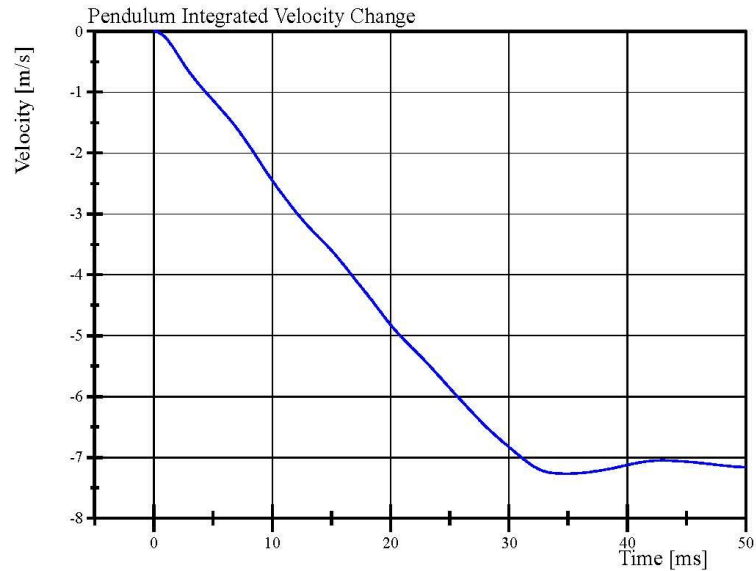
Test Date: 12/14/2020



Filter Class: CFC_180

Max: 4.4 g at 39.6 ms

Min: -31.2 g at 2.0 ms



Filter Class: CFC_180

Max: 0.0 m/s at 0.0 ms

Min: -7.3 m/s at 34.9 ms

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

Report Number: 426_HFF53

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12.14.2020 14:22:23 1820



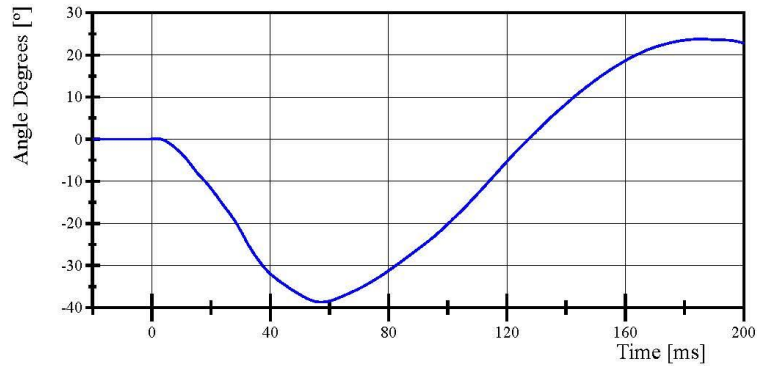
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 53-3

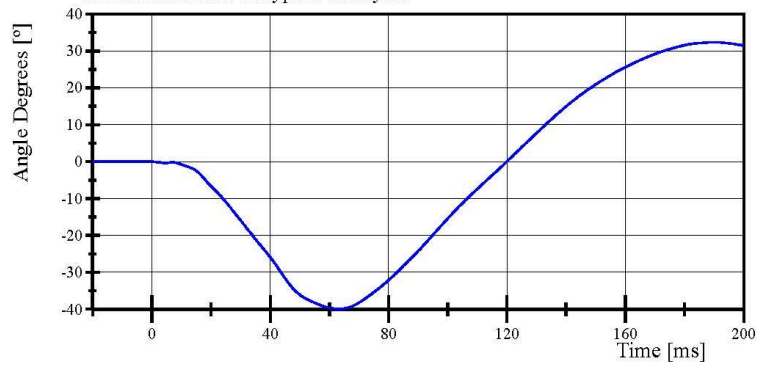
Test Date: 12/14/2020

Pot Rotation at the Base of Neck



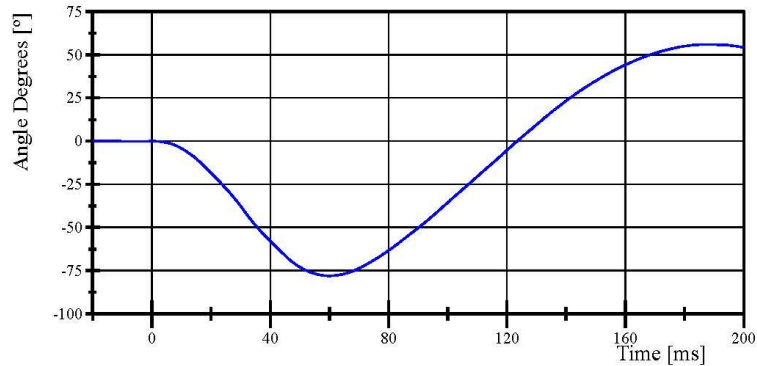
Filter Class: CFC_60
Max: 23.8 ° at 185.4 ms
Min: -38.7 ° at 57.2 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 32.3 ° at 190.1 ms
Min: -39.9 ° at 63.3 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 56.0 ° at 187.8 ms
Min: -78.1 ° at 60.0 ms

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

Report Number: 426_HFF53

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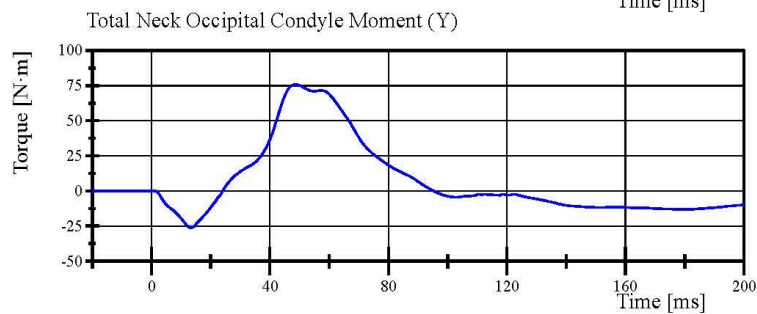
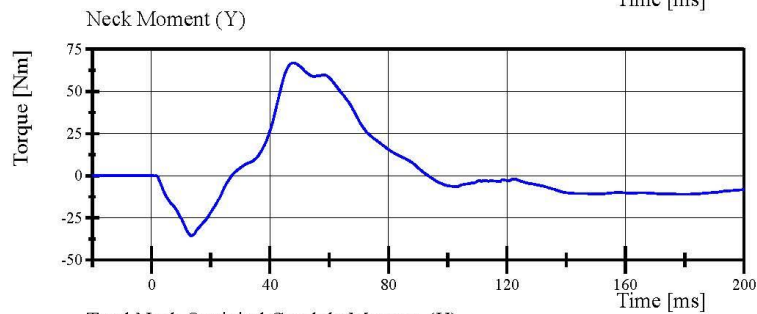
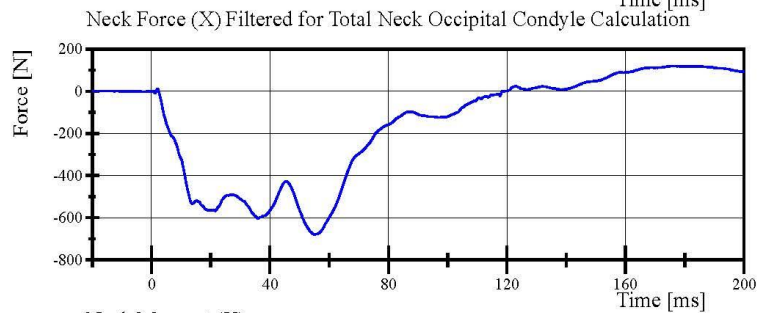
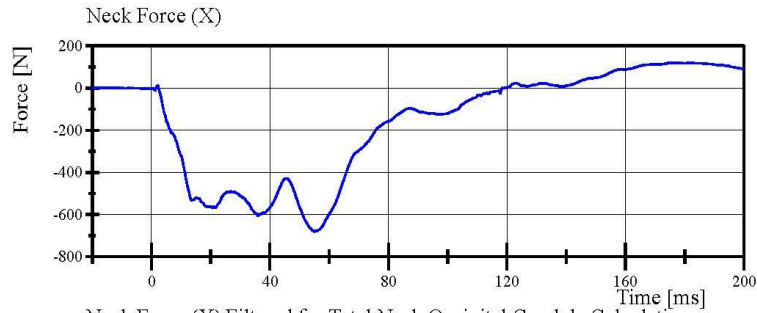


Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 53-3

Test Date: 12/14/2020



Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF53

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Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 426 Certification No. 53-1

Test Date: 12/14/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.055 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	1.5 - 1.9 m/s	1.81 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	3.1 - 3.9 m/s	3.61 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	4.6 - 5.6 m/s	5.25 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	104.0 °	Yes
Total Neck Occipital Condyles Moment Between 99° and 114° Rotation	(-53) - (-65) N·m	-56.1 N·m	Yes
Total Neck Occipital Condyles Moment Decay to -10 N·m	94 - 114 ms	106.4 ms	Yes

Test meets specifications.

Condition: Used

Comments:

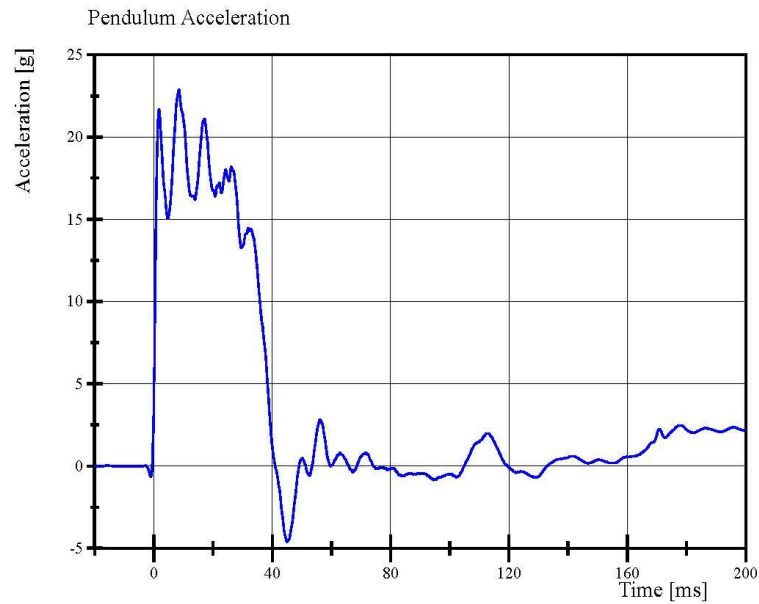
Neck S/N: DM2392

Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 426 Certification No. 53-1

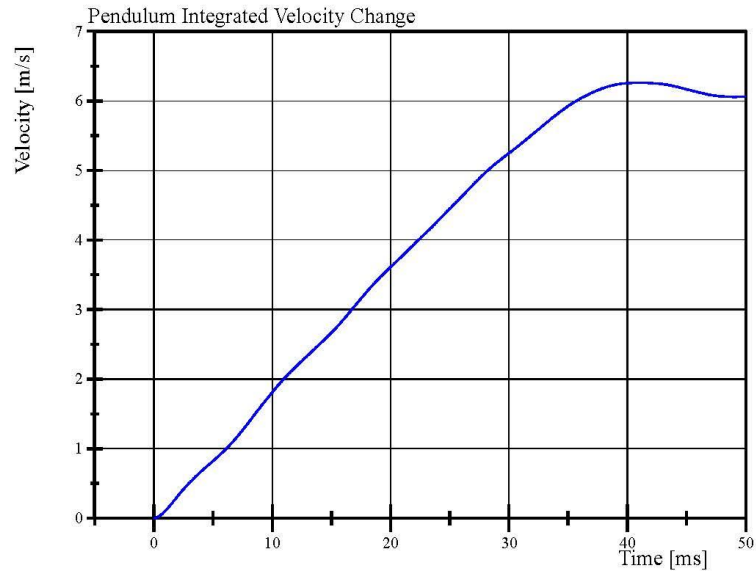
Test Date: 12/14/2020



Filter Class: CFC_180

Max: 22.9 g at 8.5 ms

Min: -4.6 g at 45.1 ms



Filter Class: CFC_180

Max: 6.3 m/s at 41.0 ms

Min: 0.0 m/s at 0.0 ms

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

Report Number: 426_HFF53

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12.14.2020 14:53:28 1973



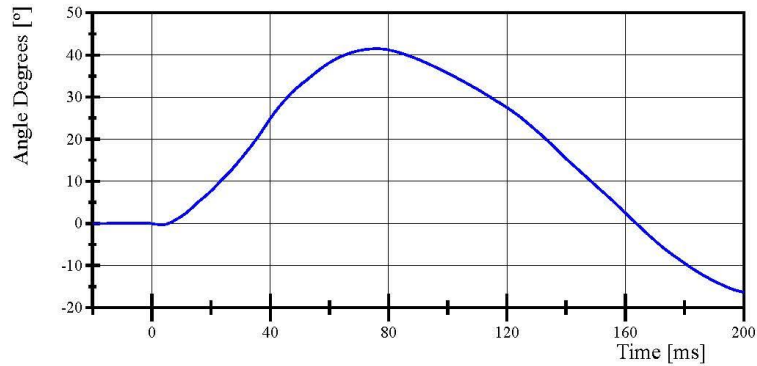
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 426 Certification No. 53-1

Test Date: 12/14/2020

Pot Rotation at the Base of Neck

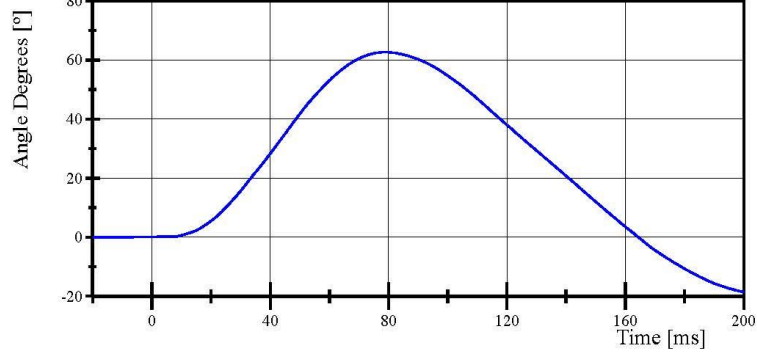


Filter Class: CFC_60

Max: 41.5 ° at 75.9 ms

Min: -16.4 ° at 200.0 ms

Head Rotation at Occypital Condyles

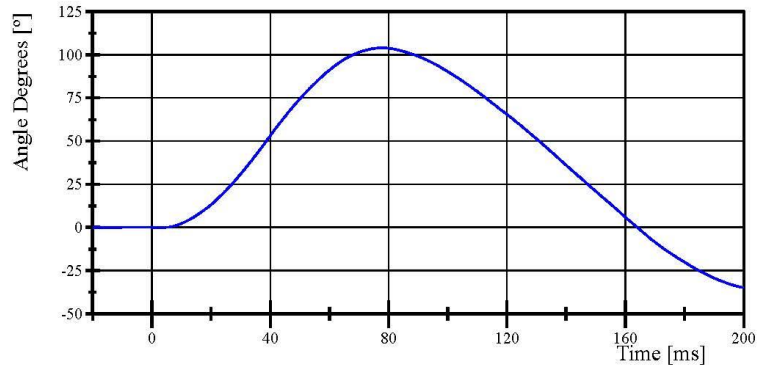


Filter Class: CFC_60

Max: 62.7 ° at 78.9 ms

Min: -18.6 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 104.0 ° at 77.8 ms

Min: -35.0 ° at 200.0 ms

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

12.14.2020 14:53:28 1973



Report Number: 426_HFF53

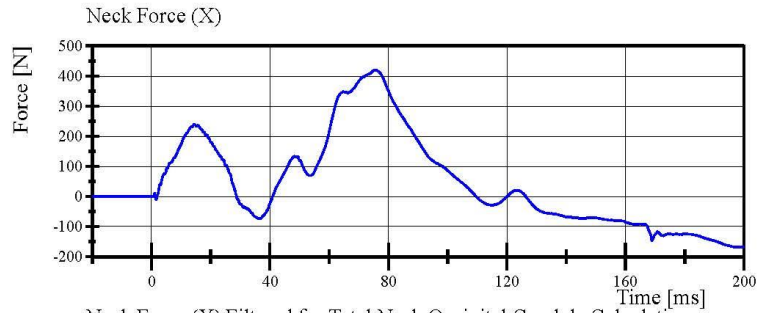
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Transportation Research Center Inc.

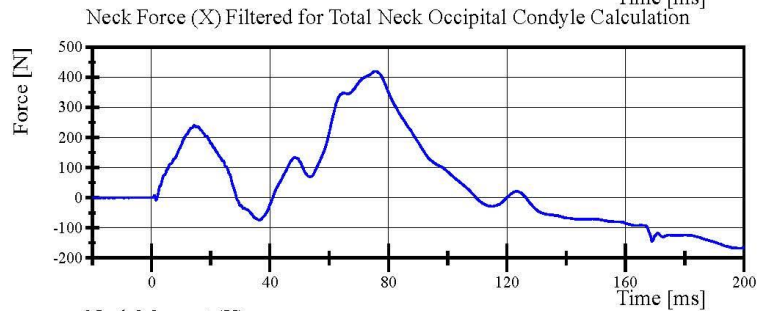
Neck Extension

HIII 5th Serial No. 426 Certification No. 53-1

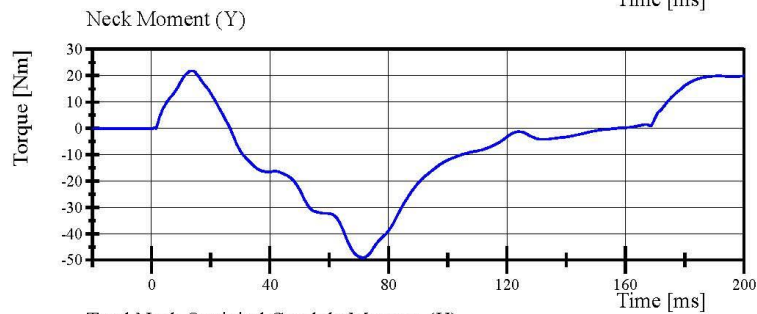
Test Date: 12/14/2020



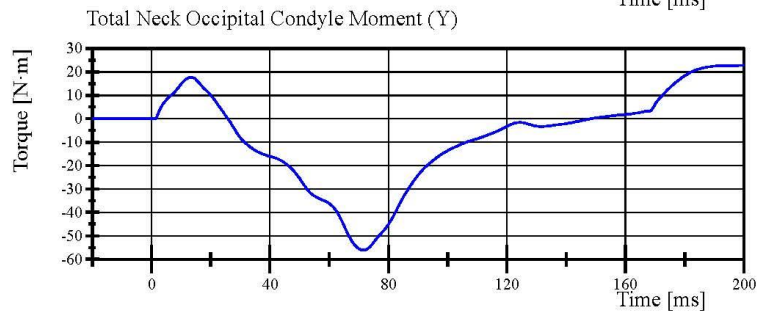
Filter Class: CFC_1000
Max: 419.8 N at 75.7 ms
Min: -168.7 N at 198.3 ms



Filter Class: CFC_600
Max: 419.6 N at 75.7 ms
Min: -168.3 N at 198.3 ms



Filter Class: CFC_600
Max: 21.7 Nm at 13.4 ms
Min: -49.1 Nm at 71.4 ms



Filter Class: Without_(Constar
Max: 22.9 N·m at 200.0 ms
Min: -56.1 N·m at 71.6 ms

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

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Report Number: 426_HFF53

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Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 426 Certification No. 53-2

Test Date: 12/18/2020

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.761 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,329.3 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	>= (-4,600) N	-4,574.1 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-50.3 mm	Yes
Internal Hysteresis	69 - 85 %	74.6 %	Yes

Test meets specifications.

Condition: Used

Comments:

Jacket S/N: DG9935

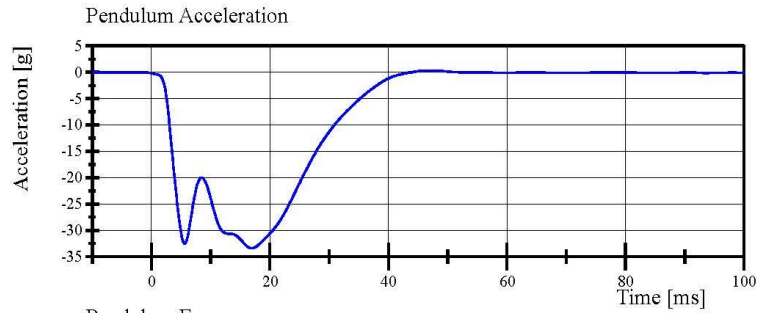
Rib Set S/N: DJ1164

Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 426 Certification No. 53-2

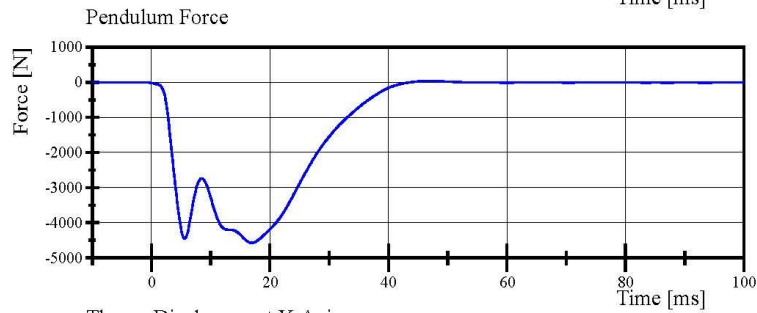
Test Date: 12/18/2020



Filter Class: CFC_180

Max: 0.3 g at 46.8 ms

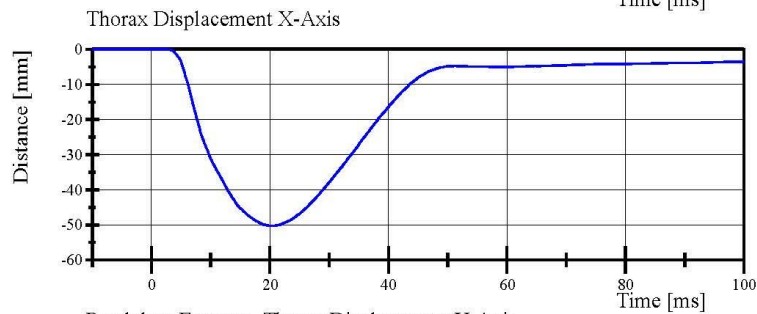
Min: -33.4 g at 17.0 ms



Filter Class: CFC_180

Max: 40.3 N at 46.8 ms

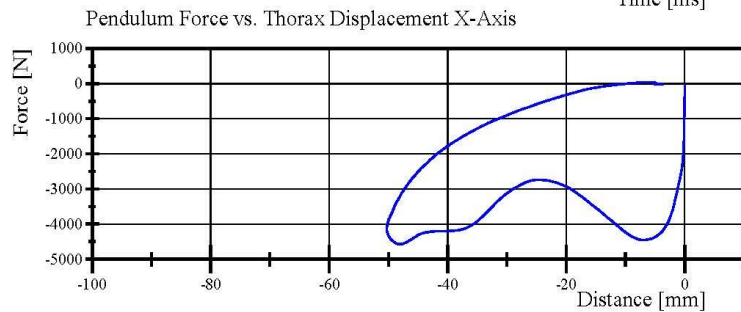
Min: -4,574.1 N at 17.0 ms



Filter Class: CFC_600

Max: 0.0 mm at -5.4 ms

Min: -50.3 mm at 20.2 ms



Filter Class: CFC_180

Max: 40.3 N at -6.3 mm

Min: -4,574.1 N at -48.1 mm

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

Report Number: 426_HFF53

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12.18.2020 10:34:55 398



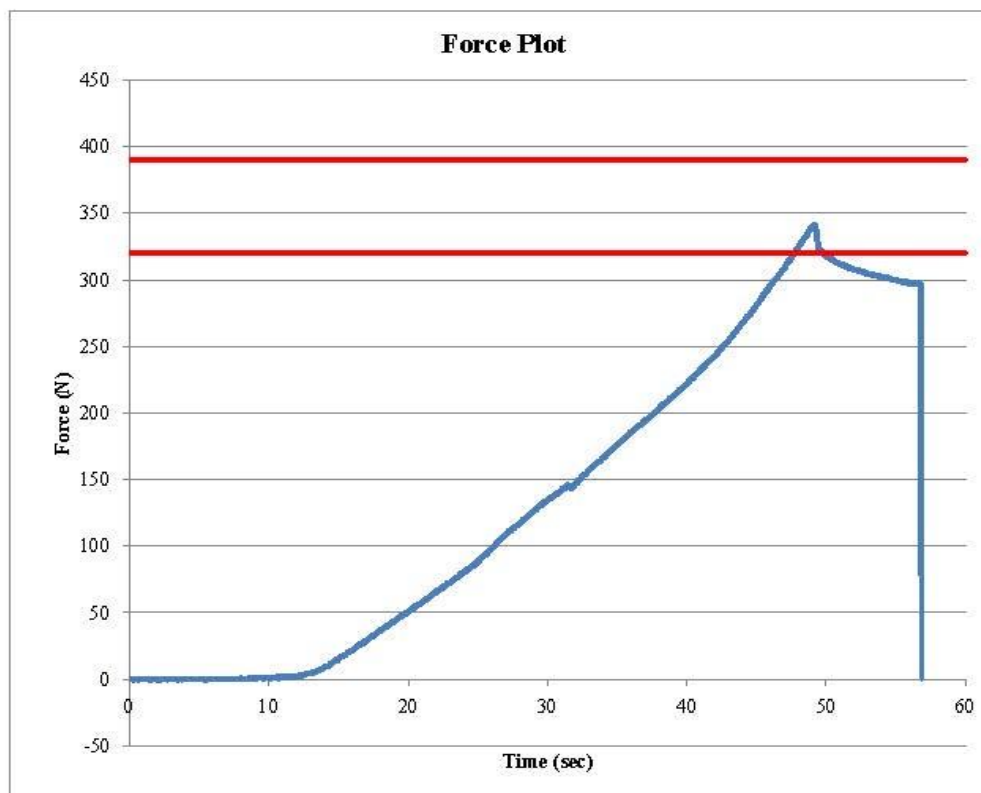
Transportation Research Center Inc.

Hybrid III Small Female Torso Flexion



Customer: NHTSA
 Serial Number: 426 Date: 12/10/2020
 Test Number: 1 Time: 10:30

TEST PARAMETER	SPECIFICATION		TEST RESULTS		
Temperature	18.9	- 25.6	21.5	°C	Pass
Humidity	10	- 70	41	%	Pass
Average Angular Velocity	0.5	- 1.5	0.84	deg/sec	Pass
Initial Angle	0	- 20	14.87	deg	Pass
Peak Force at 45.23°	320	- 390	341.09	N	Pass
Final Angle	-8	- 8	5.49	deg	Pass



Comments:
 Abdomen S/N: 1047
 Pelvis S/N: 885
 Lumbar S/N: N/A

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 53-1
Test Date: 12/10/2020

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.119 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,657.1 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 1366

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF53

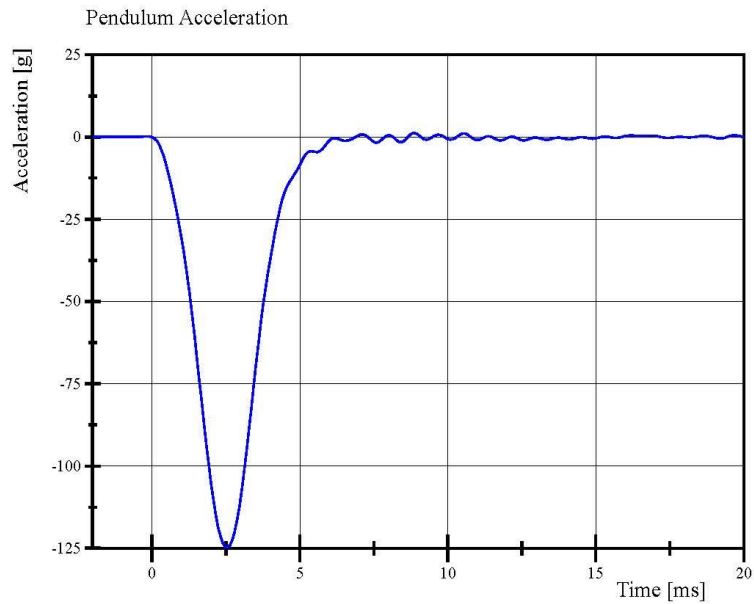
Page 22 of 28

12.10.2020 09:09:54 1700

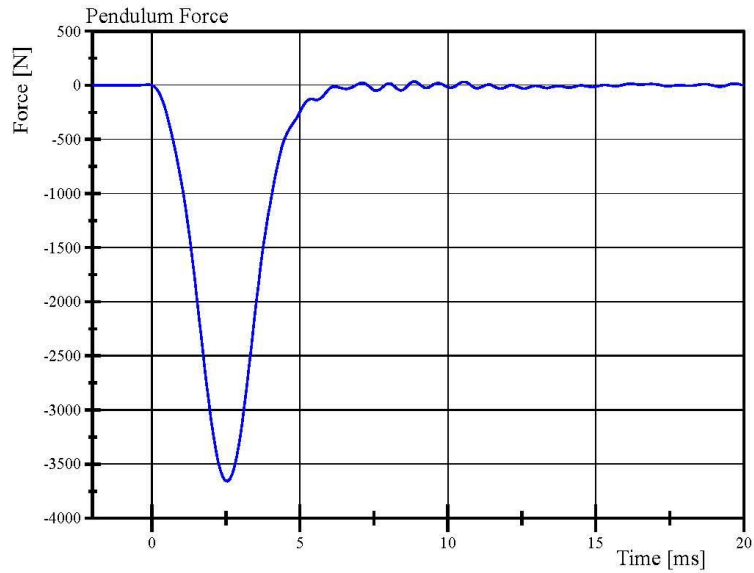


Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 53-1
Test Date: 12/10/2020



Filter Class: CFC_600
Max: 1.2 g at 8.9 ms
Min: -124.7 g at 2.6 ms



Filter Class: CFC_600
Max: 36.4 N at 8.9 ms
Min: -3,657.1 N at 2.6 ms

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF53

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12.10.2020 09:10:37 1700



Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 53-1
Test Date: 12/10/2020

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.117 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,840.3 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 1402

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF53

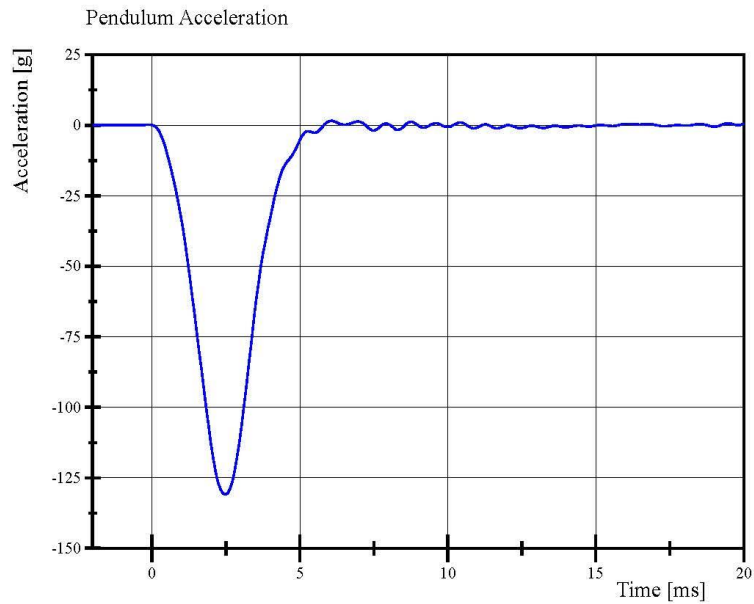
Page 24 of 28

12.10.2020 09:14:23 1702

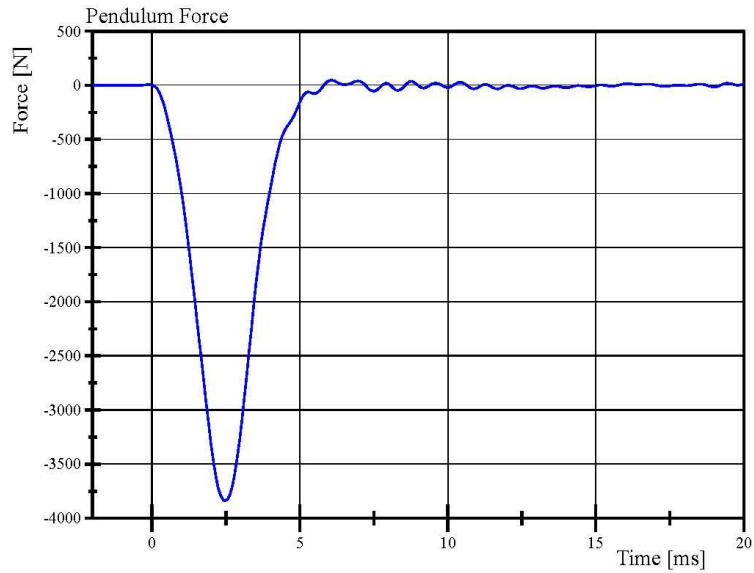


Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 53-1
Test Date: 12/10/2020



Filter Class: CFC_600
Max: 1.6 g at 6.1 ms
Min: -131.0 g at 2.5 ms



Filter Class: CFC_600
Max: 47.1 N at 6.1 ms
Min: -3,840.3 N at 2.5 ms

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF53

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Post-Test Calibration Sheets

Front Passenger S/N 426

Transportation Research Center Inc.
5720 HIII 5th Dummy
External Dimensions
Serial No. 426 Calibration No. 54

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	781	Yes
B	Shoulder Pivot Height	431.8 - 457.2	444	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	147	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	79	Yes
F	Thigh Clearance	119.4 - 134.6	129	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	249	Yes
H	Head Back to Backline	43.2 - 48.2	45	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	286	Yes
J	Elbow Rest Height	182.8 - 203.2	197	Yes
K	Buttock Knee Length	520.7 - 546.1	534	Yes
L	Popliteal Height	355.6 - 376.0	359	Yes
M	Knee Pivot Height	393.7 - 419.1	409	Yes
N	Buttock Popliteal Length	414.0 - 439.4	429	Yes
O	Chest Depth without Jacket	175.3 - 190.5	182	Yes
P	Foot Length	218.5 - 233.7	225	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	473	Yes
S	Head Breadth	137.1 - 147.3	141	Yes
T	Head Depth	177.8 - 188.0	180	Yes
U	Hip Breadth	299.7 - 314.9	306	Yes
V	Shoulder Breadth	350.5 - 365.7	356	Yes
W	Foot Breadth	78.8 - 94.0	85	Yes
X	Head Circumference	528.3 - 548.7	539	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	870	Yes
Z	Waist Circumference	759.5 - 789.9	775	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	345	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	164	Yes

Revised 8/10/12



Report Number: 426_HFF54

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Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 426 Certification No. 54-1

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	278.7 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	4.9 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	0.63 %	Yes

Test meets specifications.

Condition: Used

Comments:

Head Skin S/N: 1348

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

Report Number: 426_HFF54

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01.06.2021 08:54:49 576

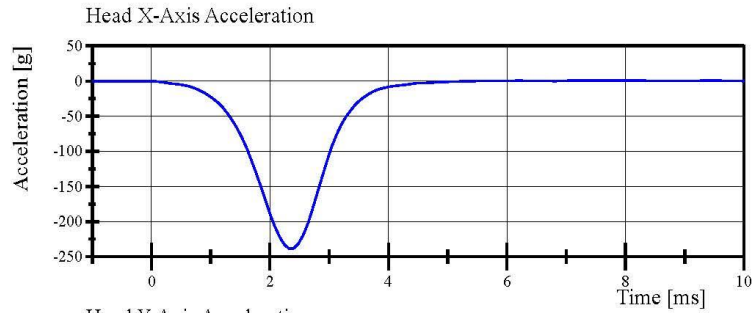


Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 426 Certification No. 54-1

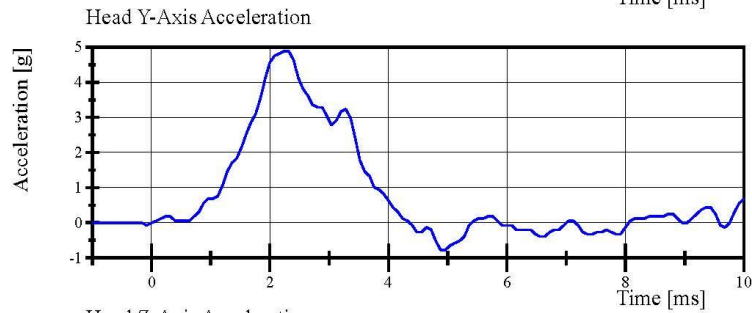
Test Date: 1/6/2021



Filter Class: CFC_1000

Max: 1.0 g at 7.8 ms

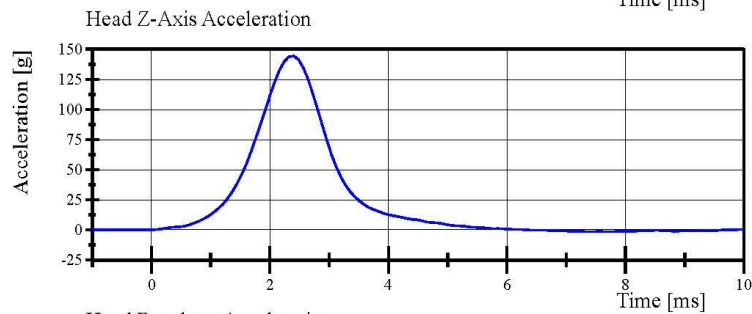
Min: -238.5 g at 2.3 ms



Filter Class: CFC_1000

Max: 4.9 g at 2.2 ms

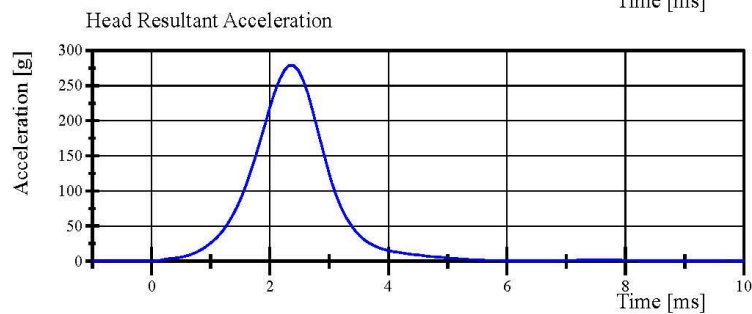
Min: -0.8 g at 4.9 ms



Filter Class: CFC_1000

Max: 144.5 g at 2.4 ms

Min: -1.4 g at 7.8 ms



Filter Class: CFC_1000

Max: 278.7 g at 2.4 ms

Min: 0.0 g at -1.0 ms

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

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Report Number: 426_HFF54

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Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 54-3

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.056 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.30 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	(-4.0) - (-5.0) m/s	-4.60 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	(-5.8) - (-7.0) m/s	-6.66 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-78.8 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	73.3 N·m	Yes
Total Neck Occipital Condyles Moment Decay to 10 N·m	80 - 100 ms	87.7 ms	Yes

Test meets specifications.

Condition: Used

Comments:

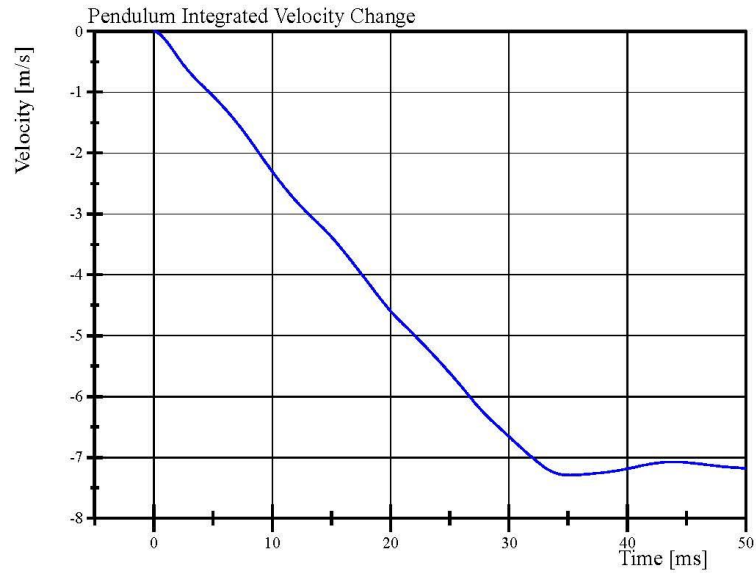
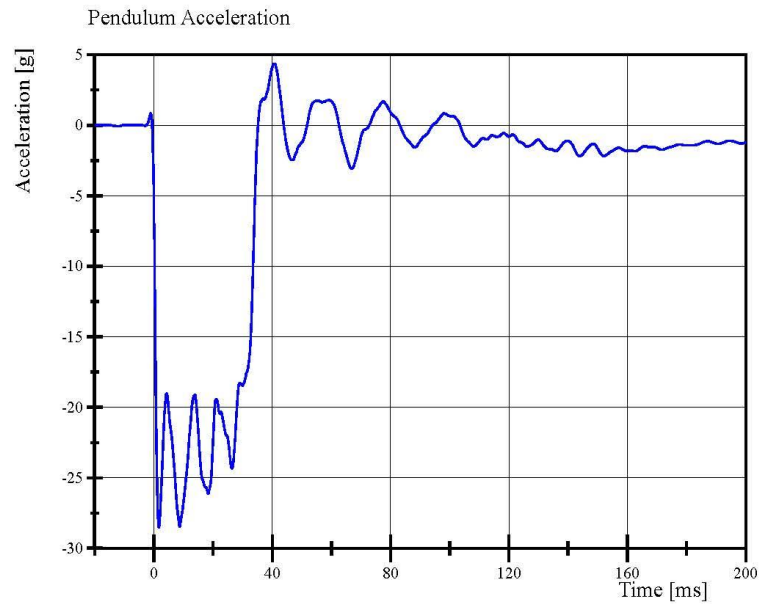
Neck S/N: DM2392

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 54-3

Test Date: 1/6/2021



Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF54

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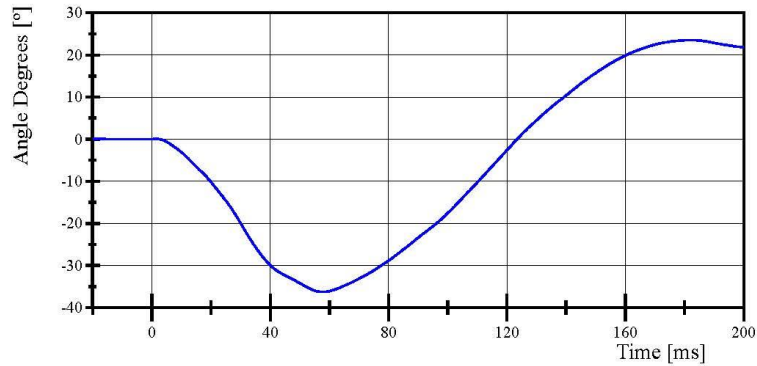
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 426 Certification No. 54-3

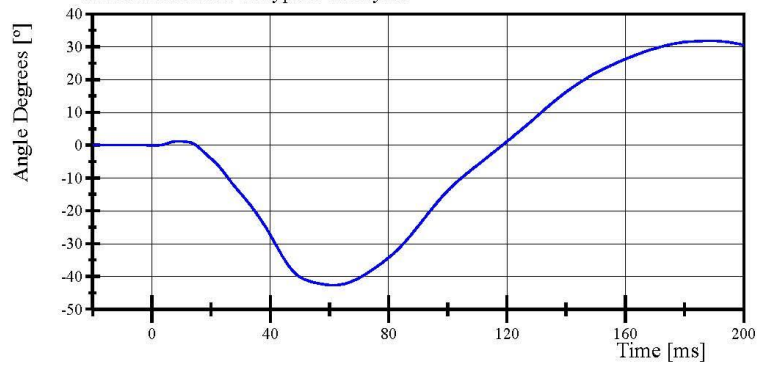
Test Date: 1/6/2021

Pot Rotation at the Base of Neck



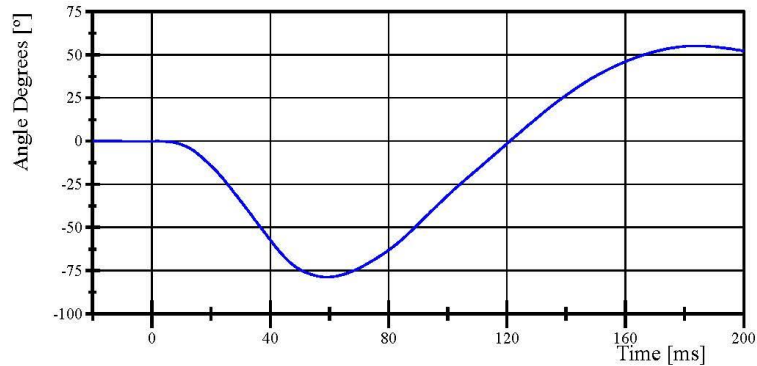
Filter Class: CFC_60
Max: 23.5 ° at 182.1 ms
Min: -36.3 ° at 57.8 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 31.8 ° at 189.0 ms
Min: -42.7 ° at 61.4 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 55.2 ° at 183.5 ms
Min: -78.8 ° at 59.1 ms

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

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Report Number: 426_HFF54

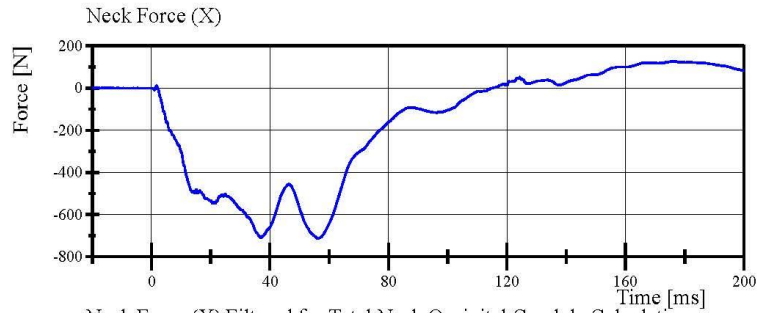
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Transportation Research Center Inc.

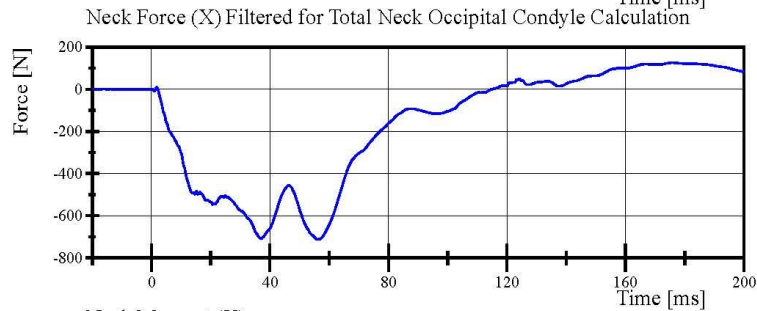
Neck Flexion

HIII 5th Serial No. 426 Certification No. 54-3

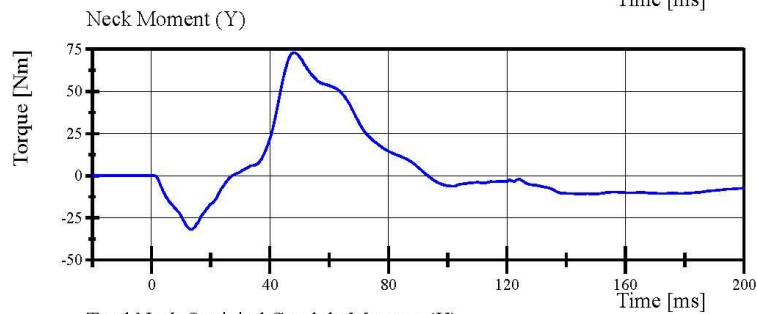
Test Date: 1/6/2021



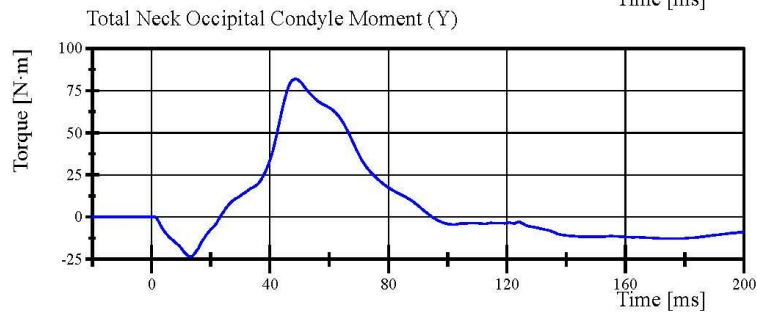
Filter Class: CFC_1000
Max: 126.5 N at 175.6 ms
Min: -712.8 N at 56.2 ms



Filter Class: CFC_600
Max: 126.1 N at 176.2 ms
Min: -712.6 N at 56.2 ms



Filter Class: CFC_600
Max: 73.0 Nm at 48.2 ms
Min: -31.9 Nm at 13.5 ms



Filter Class: Without_(Constar
Max: 81.9 N·m at 48.6 ms
Min: -23.3 N·m at 13.3 ms

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF54

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Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 426 Certification No. 54-1

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.077 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	1.5 - 1.9 m/s	1.86 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	3.1 - 3.9 m/s	3.72 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	4.6 - 5.6 m/s	5.49 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	106.6 °	Yes
Total Neck Occipital Condyles Moment Between 99° and 114° Rotation	(-53) - (-65) N·m	-59.6 N·m	Yes
Total Neck Occipital Condyles Moment Decay to -10 N·m	94 - 114 ms	103.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:

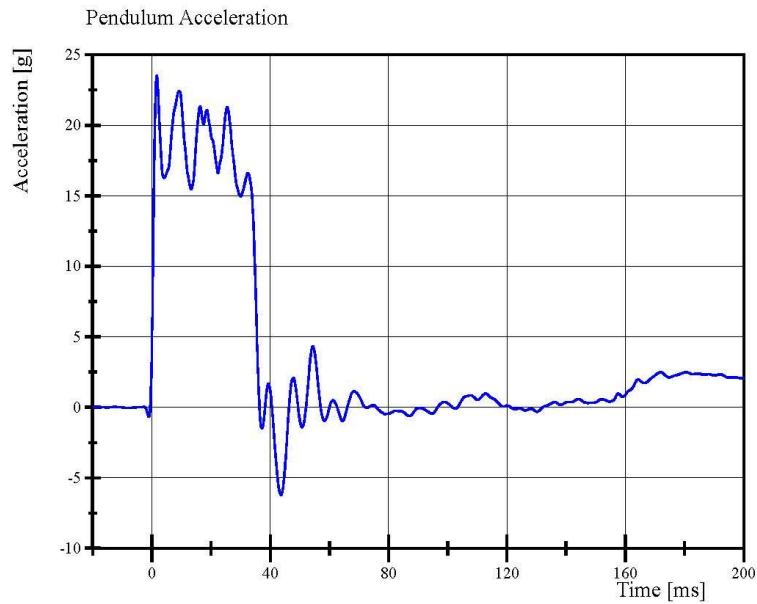
Neck S/N: DM2392

Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 426 Certification No. 54-1

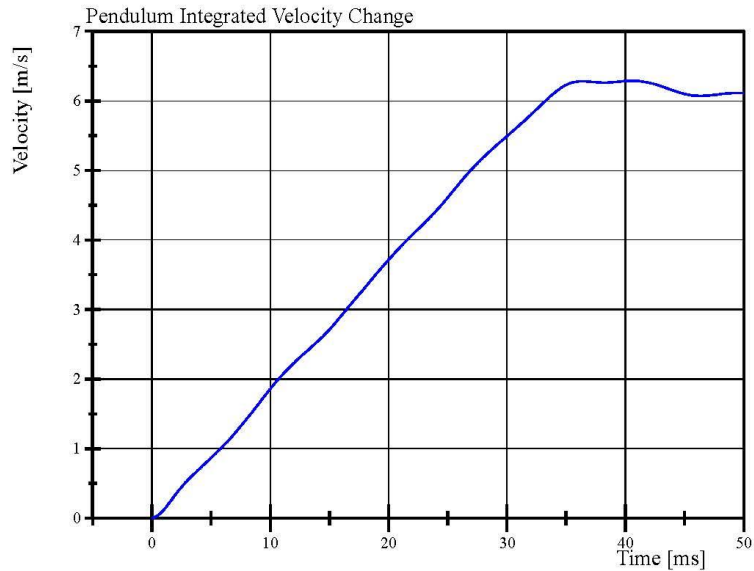
Test Date: 1/6/2021



Filter Class: CFC_180

Max: 23.5 g at 1.7 ms

Min: -6.2 g at 43.7 ms



Filter Class: CFC_180

Max: 6.3 m/s at 40.6 ms

Min: 0.0 m/s at 0.0 ms

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

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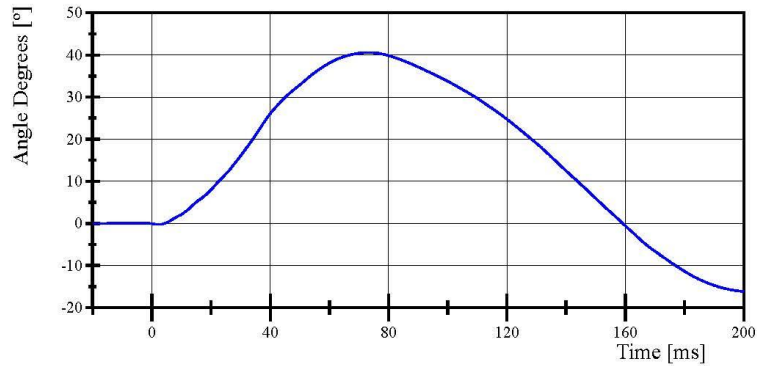
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 426 Certification No. 54-1

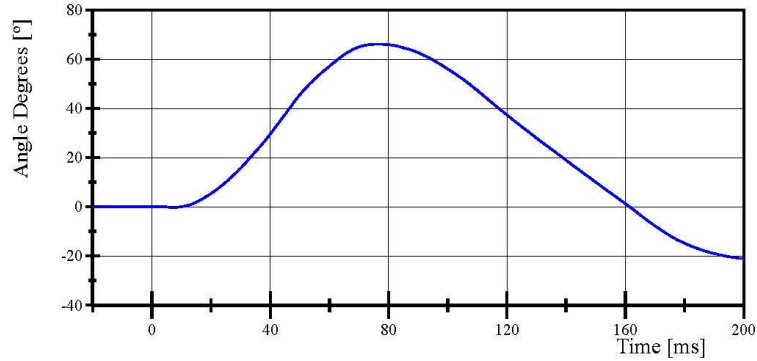
Test Date: 1/6/2021

Pot Rotation at the Base of Neck



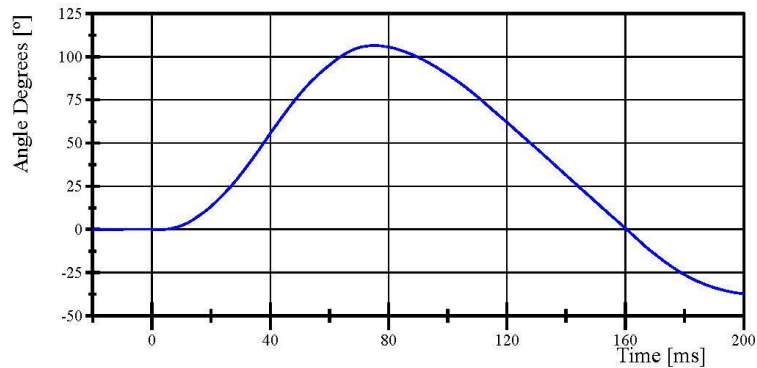
Filter Class: CFC_60
Max: 40.6 ° at 73.2 ms
Min: -16.2 ° at 200.0 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 66.1 ° at 76.5 ms
Min: -21.1 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 106.6 ° at 75.2 ms
Min: -37.3 ° at 200.0 ms

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

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Report Number: 426_HFF54

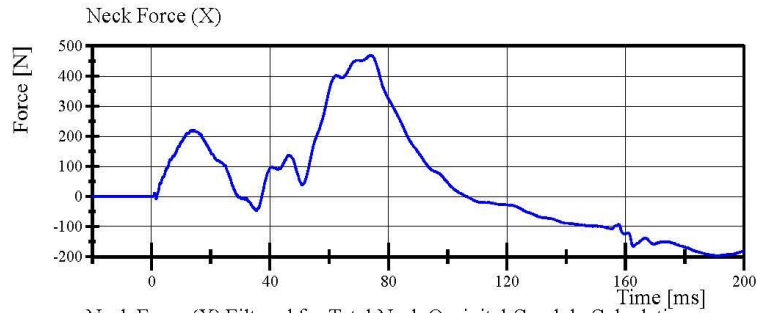
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Transportation Research Center Inc.

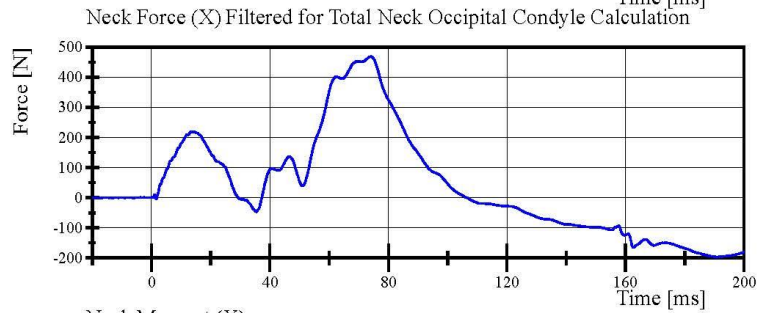
Neck Extension

HIII 5th Serial No. 426 Certification No. 54-1

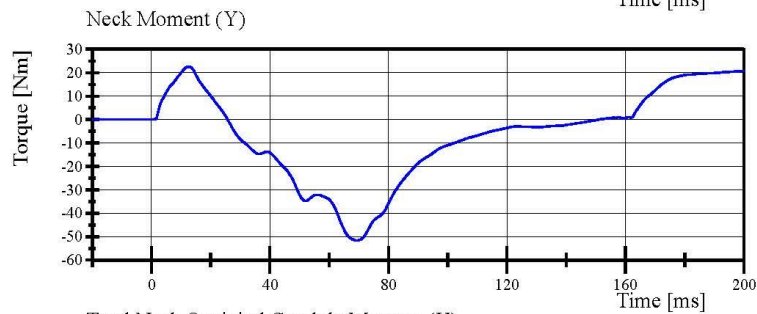
Test Date: 1/6/2021



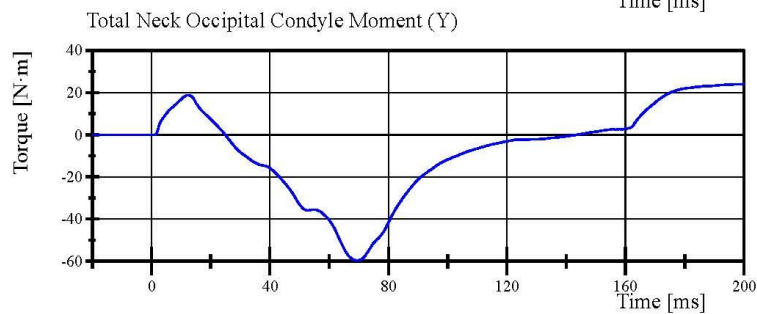
Filter Class: CFC_1000
Max: 469.3 N at 74.1 ms
Min: -197.0 N at 190.7 ms



Filter Class: CFC_600
Max: 468.9 N at 74.1 ms
Min: -196.8 N at 190.7 ms



Filter Class: CFC_600
Max: 22.5 Nm at 12.1 ms
Min: -51.6 Nm at 69.5 ms



Filter Class: Without_(Constar
Max: 24.0 N·m at 198.6 ms
Min: -59.6 N·m at 69.4 ms

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

Report Number: 426_HFF54

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Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 426 Certification No. 54-1

Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.750 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,240.9 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	>= (-4,600) N	-4,523.7 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-50.0 mm	Yes
Internal Hysteresis	69 - 85 %	75.3 %	Yes

Test meets specifications.

Condition: Used

Comments:

Jacket S/N: DG9935

Rib Set S/N: DJ1164

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

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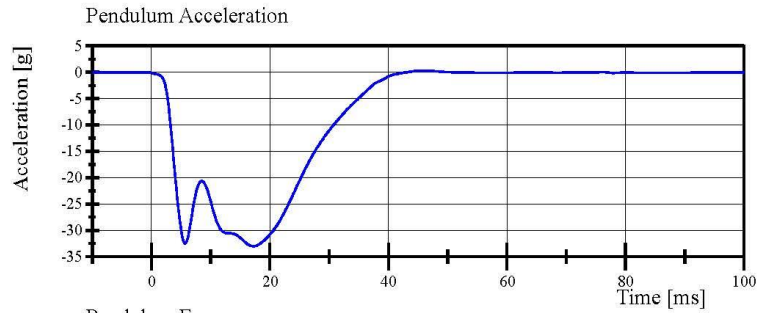


Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 426 Certification No. 54-1

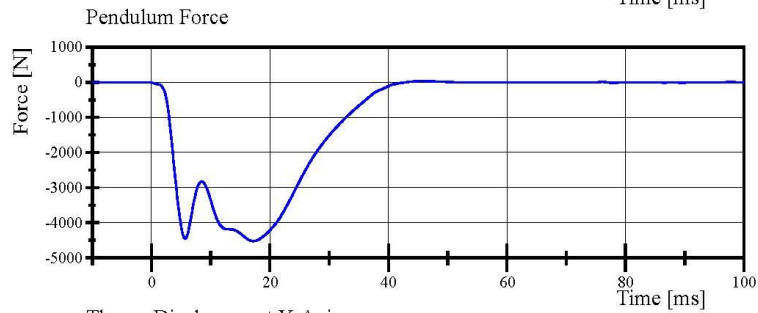
Test Date: 1/6/2021



Filter Class: CFC_180

Max: 0.2 g at 45.5 ms

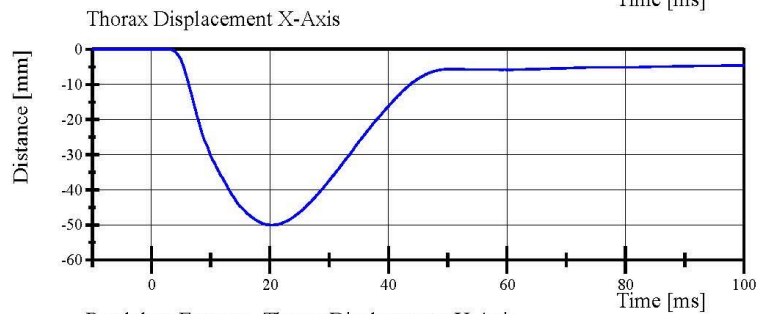
Min: -33.0 g at 17.2 ms



Filter Class: CFC_180

Max: 33.2 N at 45.5 ms

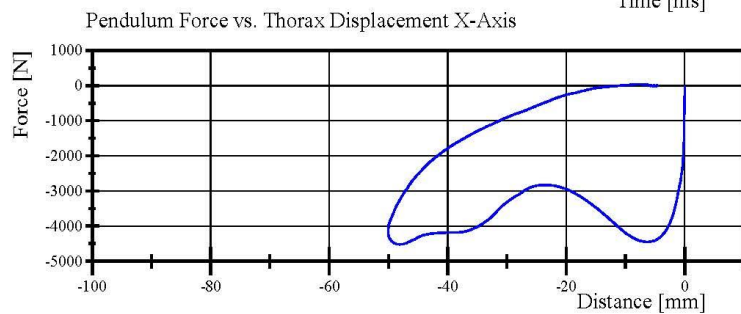
Min: -4,523.7 N at 17.2 ms



Filter Class: CFC_600

Max: 0.0 mm at -9.1 ms

Min: -50.0 mm at 20.3 ms



Filter Class: CFC_180

Max: 33.2 N at -7.8 mm

Min: -4,523.7 N at -48.1 mm

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

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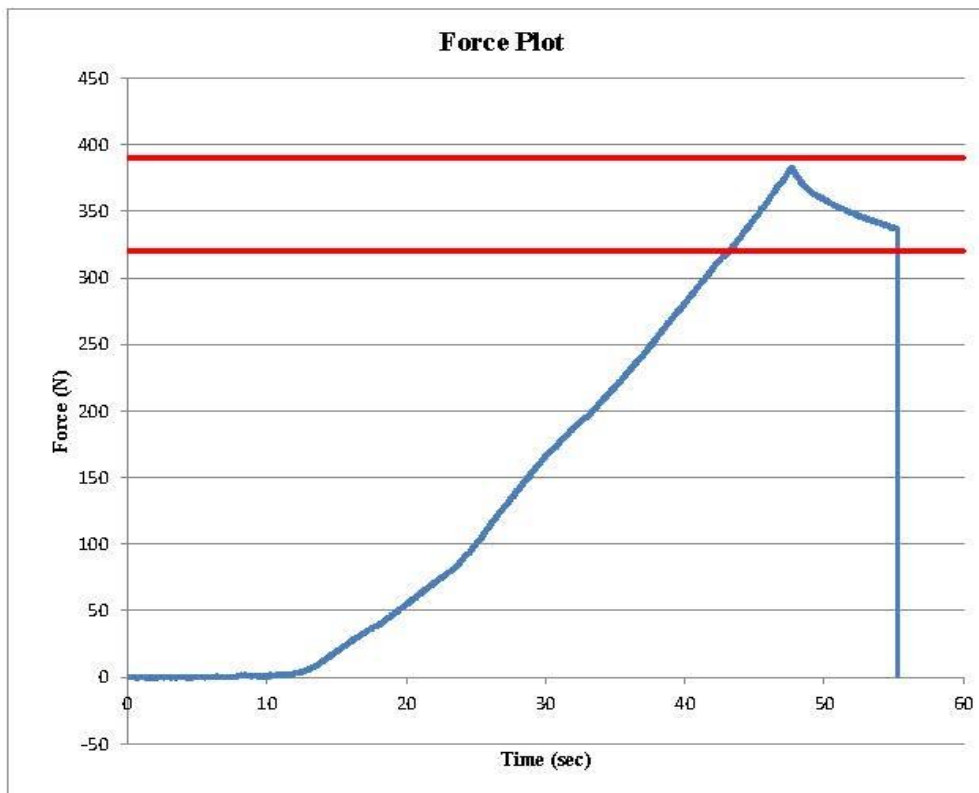
Transportation Research Center Inc.

Hybrid III Small Female Torso Flexion



Customer: NHTSA
 Serial Number: 426 Date: 01/06/2021
 Test Number: 1 Time: 14:38

TEST PARAMETER	SPECIFICATION		TEST RESULTS		
Temperature	18.9	- 25.6	21.8	°C	Pass
Humidity	10	- 70	40	%	Pass
Average Angular Velocity	0.5	- 1.5	0.83	deg/sec	Pass
Initial Angle	0	- 20	15.8	deg	Pass
Peak Force at 45.13°	320	- 390	382.14	N	Pass
Final Angle	-8	- 8	7.77	deg	Pass



Comments:
 Abdomen S/N: 1047
 Pelvis S/N: 885
 Lumbar S/N: N/A

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 54-1
Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.108 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-4,009.5 N	Yes

Test meets specifications.

Condition: Used

Comments:

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF54

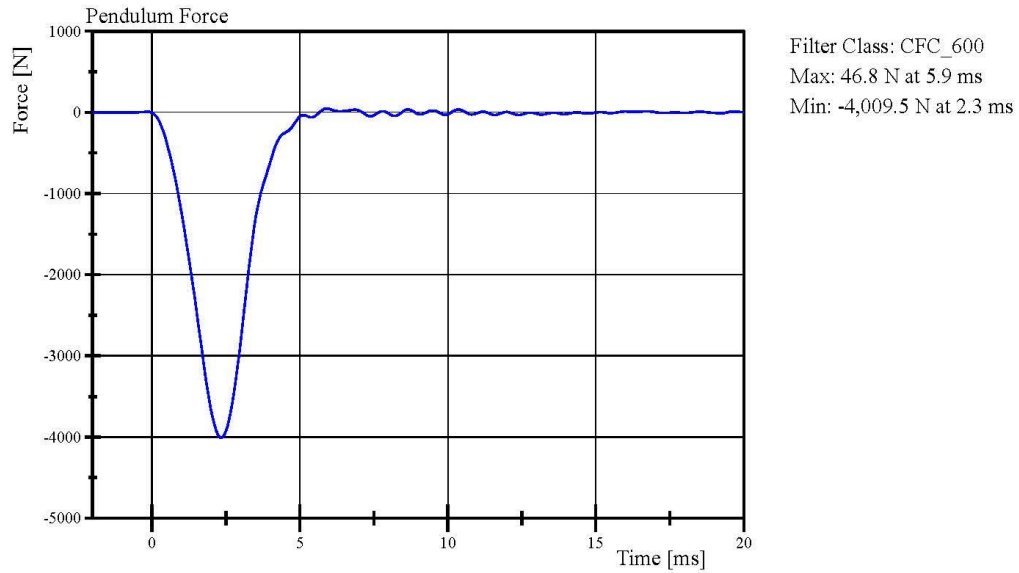
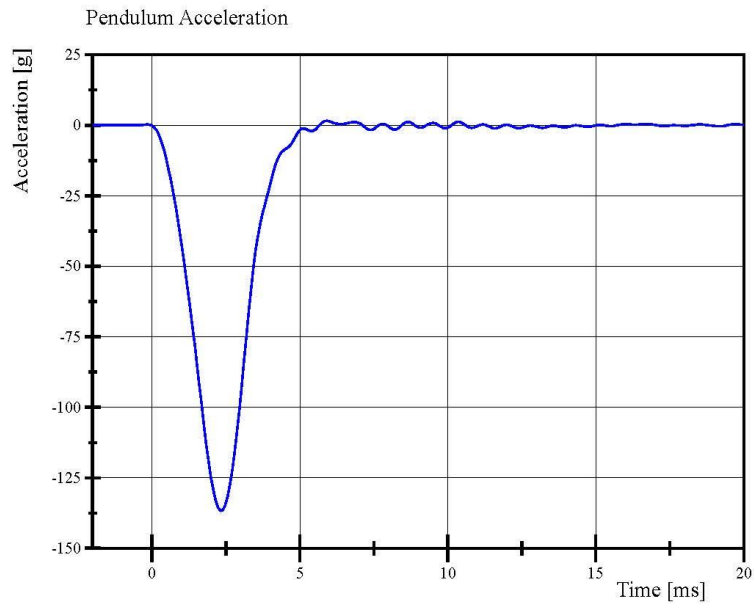
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Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 54-1
Test Date: 1/6/2021



Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF54

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Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 54-1
Test Date: 1/6/2021

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.107 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,853.4 N	Yes

Test meets specifications.

Condition: Used

Comments:

Knee Skin S/N: 1402

Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF54

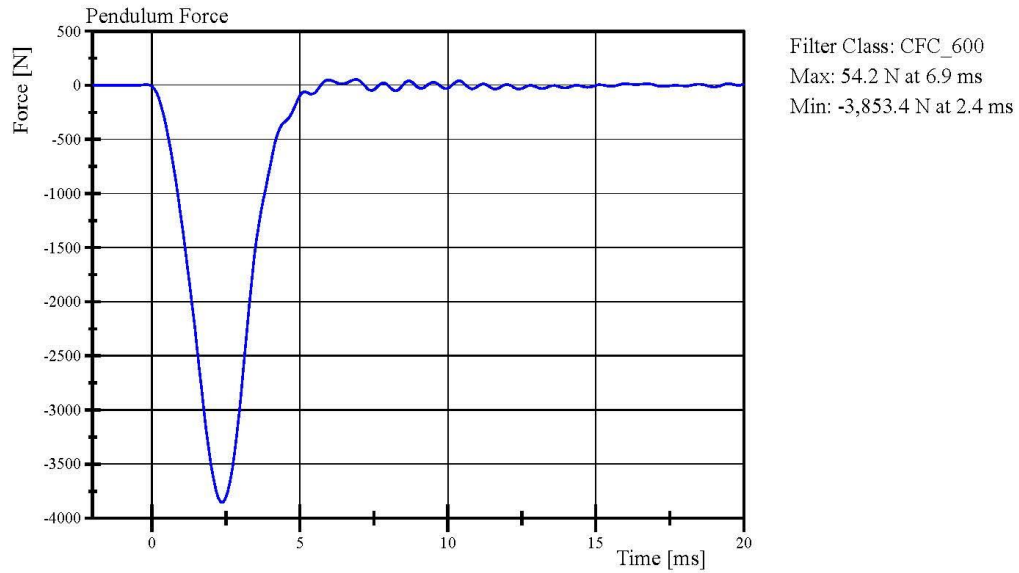
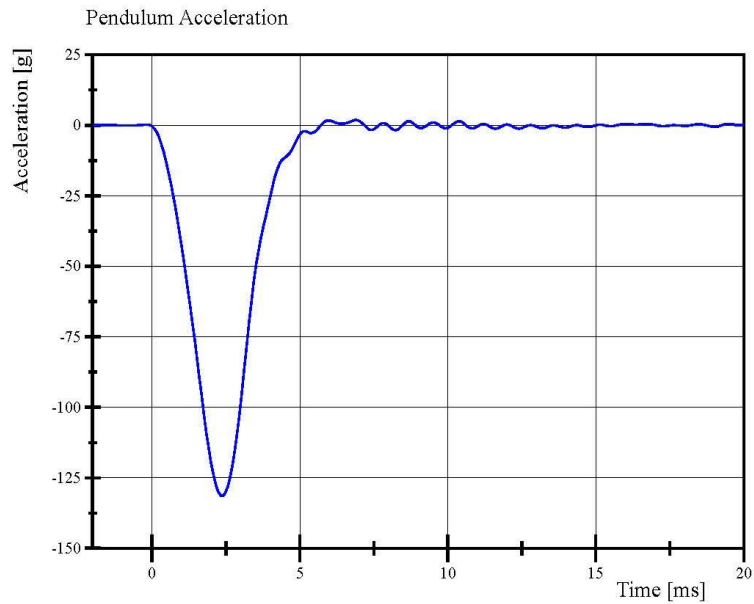
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Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 426 Certification No. 54-1
Test Date: 1/6/2021



Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211
Report Number: 426_HFF54

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APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

TABLE 1 – Driver Dummy Instrumentation

Instrumentation			Axis/Location	Hybrid III 50th S/N 037			
				Serial Number	Manufacturer	Calibration Date	
Head Accelerometers	Primary		X	T10650	Endevco	13-Aug-2020	
			Y	P94650	Endevco	13-Aug-2020	
			Z	P94622	Endevco	13-Aug-2020	
	Redundant		X	P94431	Endevco	13-Aug-2020	
			Y	P94487	Endevco	13-Aug-2020	
			Z	P94645	Endevco	13-Aug-2020	
Head Angular Rate Sensors			X	ARS14245	DTS	23-Aug-2019	
			Y	ARS13616	DTS	23-Aug-2019	
			Z	ARS4740	DTS	23-Aug-2019	
Upper Neck Load Cell			FX, FY, FZ, MX, MY, MZ	2021	Humanetics	14-Aug-2020	
Chest Accelerometers	Primary		X	P87834	Endevco	13-Aug-2020	
			Y	P61255	Endevco	13-Aug-2020	
			Z	P45008	Endevco	13-Aug-2020	
	Redundant		X	P91177	Endevco	13-Aug-2020	
			Y	P94570	Endevco	13-Aug-2020	
			Z	P91172	Endevco	13-Aug-2020	
Chest Potentiometer			X	CST037	Servo	13-Aug-2020	
Pelvis Accelerometers			X	T11801	Endevco	13-Aug-2020	
			Y	P91876	Endevco	13-Aug-2020	
			Z	T11390	Endevco	13-Aug-2020	
Femur Load Cells	Left	Primary	Z	DI4215-FZ1	Denton	13-Aug-2020	
		Redundant	Z	DI4215-FZ2	Denton	13-Aug-2020	
	Right	Primary	Z	DI4216-FZ1	Denton	13-Aug-2020	
		Redundant	Z	DI4216-FZ2	Denton	13-Aug-2020	
Tibia Load Cells	Left	Upper	MX, MY, FZ	3643-94	Denton	13-Aug-2020	
		Lower	MX, MY, FZ	3644-370	Denton	13-Aug-2020	
	Right	Upper	MX, MY, FZ	3643-413	Denton	13-Aug-2020	
		Lower	MX, MY, FZ	3644-401	Denton	14-Aug-2020	
Foot Accelerometers	Left	Rear	X	P90848	Endevco	13-Aug-2020	
			Z	P91498	Endevco	13-Aug-2020	
		Front	Z	P90841	Endevco	13-Aug-2020	
	Right	Rear	X	P93467	Endevco	13-Aug-2020	
			Z	P97619	Endevco	13-Aug-2020	
		Front	Z	P94523	Endevco	13-Aug-2020	
Seat Belt Load Cells			Lap	N/A	N100E9	Measurement Specialties	06-Jul-2020
			Shoulder	N/A	T1210A	Measurement Specialties	06-Jul-2020

TABLE 2 – Front Passenger Dummy Instrumentation

Instrumentation			Axis/Location	Hybrid III 5th S/N 426		
				Serial Number	Manufacturer	Calibration Date
Head Accelerometers	Primary		X	P90285	Endevco	17-Dec-2020
			Y	P90302	Endevco	17-Dec-2020
			Z	P94534	Endevco	17-Dec-2020
	Redundant		X	P89014	Endevco	17-Dec-2020
			Y	P90855	Endevco	17-Dec-2020
			Z	P94525	Endevco	17-Dec-2020
Head Angular Rate Sensors			X	ARS13118	DTS	23-Aug-2019
			Y	ARS4737	DTS	23-Aug-2019
			Z	ARS11370	DTS	23-Aug-2019
Upper Neck Load Cell		FX, FY, FZ, MX, MY, MZ	2207	Denton	17-Dec-2020	
Chest Accelerometers	Primary		X	P93543	Endevco	17-Dec-2020
			Y	P93533	Endevco	17-Dec-2020
			Z	P93402	Endevco	17-Dec-2020
	Redundant		X	P91664	Endevco	17-Dec-2020
			Y	P93546	Endevco	17-Dec-2020
			Z	P93547	Endevco	17-Dec-2020
Chest Potentiometer		X	CST426	Servo	17-Dec-2020	
Pelvis Accelerometers			X	P93514	Endevco	17-Dec-2020
			Y	P87467	Endevco	17-Dec-2020
			Z	P93766	Endevco	17-Dec-2020
Femur Load Cells	Left	Primary	Z	DI4214-FZ1	Denton	17-Dec-2020
		Redundant	Z	DI4214-FZ2	Denton	17-Dec-2020
	Right	Primary	Z	DI4217-FZ1	Denton	17-Dec-2020
		Redundant	Z	DI4217-FZ2	Denton	17-Dec-2020
Tibia Load Cells	Left	Upper	MX, MY, FZ	3643-654	Denton	17-Dec-2020
		Lower	MX, MY, FZ	3644-400	Denton	17-Dec-2020
	Right	Upper	MX, MY, FZ	3643-114	Denton	17-Dec-2020
		Lower	MX, MY, FZ	3644-675	Denton	17-Dec-2020
Foot Accelerometers	Left	Rear	X	P83387	Endevco	17-Dec-2020
			Z	P91953	Endevco	17-Dec-2020
		Front	Z	P77595	Endevco	17-Dec-2020
	Right	Rear	X	T11448	Endevco	17-Dec-2020
			Z	P94569	Endevco	17-Dec-2020
		Front	Z	P87455	Endevco	17-Dec-2020
Seat Belt Load Cells		Lap	N/A	N100E7	Measurement Specialties	6-Jul-2020
		Shoulder	N/A	N100EC	Measurement Specialties	6-Jul-2020

TABLE 3 – Vehicle Instrumentation

Instrumentation			Axis	Serial Number	Manufacturer	Calibration Date
Crossmember/Rear Seat Accelerometers	Left	Primary	X	P76114	Endevco	20-Nov-2020
			Z	P75713	Endevco	20-Nov-2020
	Right	Redundant	X	P76171	Endevco	20-Nov-2020
		Primary	X	P74456	Endevco	20-Nov-2020
			Z	P58494	Endevco	20-Nov-2020
		Redundant	X	P58537	Endevco	20-Nov-2020
Engine Accelerometers	Top		X	T23810	Endevco	17-Sep-2020
	Bottom		X	T16780	Endevco	27-Aug-2020