Final Report Number: NCAP-TRC-25-002

New Car Assessment Program (NCAP)

Frontal Barrier Impact Test

NISSAN MOTOR CO., LTD.

2025 Nissan Murano

NHTSA Number: M20255204

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

Report Date: June 30, 2025

FINAL REPORT

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

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Prepared By: ILO Project Operations Group

Approved By: John Shultz

Approval Date: June 30, 2025

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 _____

Technical Report Documentation Page

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16. Abstract

A 56.3 km/h NCAP Frontal Impact Test was conducted on a 2025 Nissan Murano, 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 April 8, 2025.

The impact velocity was 56.66 km/h, and the ambient temperature at the barrier face at the time of impact was 20.4° C. The target vehicle post-test maximum crush was 447 millimeters at vehicle C3. The test vehicle's performance is as follows:

	Driver ATD			Passenger ATD		
Measurement Description	Units	Threshold	Result	Units	Threshold	Result
Head Injury Criteria (HIC_{15})	NA	700	185.770	NA	700	372.600
Maximum Chest Compression	mm	63	-17.310	mm	52	-15.120
3ms Chest Clip	Gs	60	40.900	Gs	60	40.530
Nij	NA	1	0.242	NA	1	0.621
Neck Tension	Newtons	4170	953.400	Newtons	2620	951.310
Neck Compression	Newtons	4000	-73.720	Newtons	2520	-134.740
Left Femur Force	Newtons	10008	-2058.250	Newtons	6805	-1765.610
Right Femur Force	Newtons	10008	-1317.040	Newtons	6805	-1913.020

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SECTION 1: PURPOSE AND SUMMARY OF THE TEST

PURPOSE

This 56.3 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 56.3 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 160 load cells was impacted by a 2025 Nissan Murano at a velocity of 56.66 km/h. The test was performed at Transportation Research Center, Inc. on April 8, 2025. 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. DH1659) were qualified prior to this test. Certification details, along with instrumentation calibration data, are found in Appendix C of this report.

The 102 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 447 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, headrest, side curtain airbag, and knee airbag. The passenger's visible contact points were as follows: front airbag, headrest, side curtain airbag, and knee airbag.

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)	185.770	0.242	953.400	-73.720	40.900	-17.310	-2058.250	-1317.040
Passenger (5^{th} Female)	372.600	0.621	951.310	-134.740	40.530	-15.120	-1765.610	-1913.020

[1] Passenger Head X Accel Primary; CF at 200.0 ms, HIC reported after truncating the data

TEST COMMENTS:

Passenger Head X Accel Primary; CF at 200.0 ms
Engine Bottom X; CF at 22.0 ms

SECTION 2: DATA SHEETS

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

TEST VEHICLE INFORMATION

NHTSA No.	M20255204
Model Year	2025
Make	Nissan
Model	Murano
Body Style	MPV
VIN	5N1AZ3BS9SC106373
Body Color	Gray
Odometer Reading (km/mi)	94 miles
Engine Displacement (L)	2.0
Type/No. Cylinders	Straight/4
Engine Placement	Transverse
Transmission Type	Automatic
Transmission Speeds	9
Overdrive	No
Final Drive	FWD
Roof Rack	No
Sunroof/T-Top	No
Running Boards	No
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	Yes
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	Yes
Driver Pretensioner	Yes
Driver Load Limiter	Yes
Front Pass. Pretensioner	Yes
Front Pass. Load Limiter	Yes
Other:	No

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

DATA FROM CERTIFICATION LABEL

Manufactured by	NISSAN MOTOR CO., LTD.
Date of Manufacture	01/25

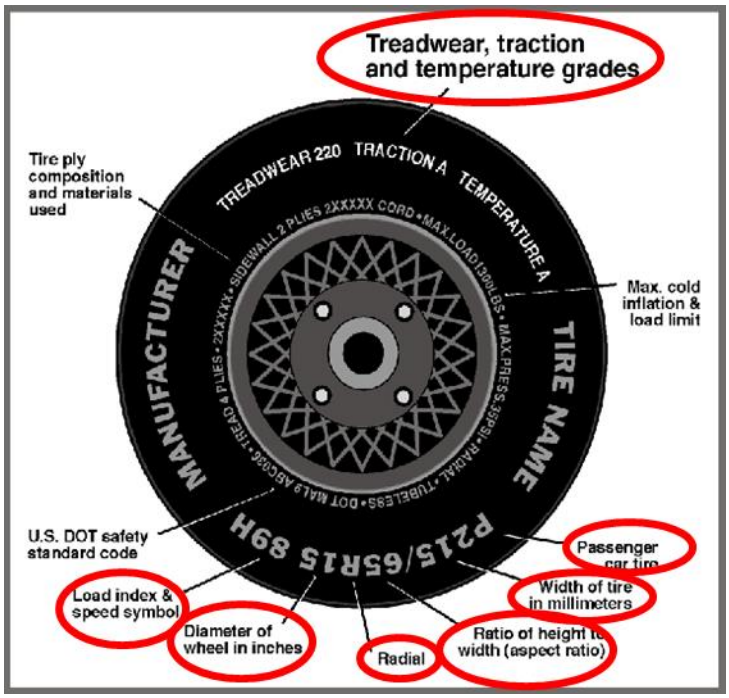
GVWR (kg)	2540 (5600 LB)
GAWR Front (kg)	1365 (3009 LB)
GAWR Rear (kg)	1260 (2778 LB)

VEHICLE SEATING AND WEIGHT CAPACITY

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench	N/A	
Number of Occupants	2	3	N/A	5
Capacity Wt. (VCW) (kg)				408.0
Cargo Wt. (RCLW) (kg)				68.0

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

Test Vehicle: 2025 Nissan Murano
Test Program: NCAP Frontal Impact
NHTSA No.: M20255204
Test Date: 4/8/2025



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold Test Pressure (kPa)	240	240
Recommended Tire Size	255/55R20	255/55R20
Tire Size on Vehicle	255/55R20	255/55R20
Tire Manufacturer	Kumho	Kumho
Tire Model	Grugen	Grugen
Treadwear	640	640
Traction Grade	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	107 H	107 H
Tire Material	Polyester, Steel, Nylon	Polyester, Steel, Nylon
DOT Safety Code Right	02YA8E 5024	02YA8E 5024
DOT Safety Code Left	02YA8E 5024	02YA8E 5024

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	581.8	395.6		621.4	466.8	
Right	kg	567.0	400.2		580.4	475.4	
Ratio	%	59.1	40.9		56.1	43.9	
Totals	kg	1148.8	795.8	1944.6	1201.8	942.2	2144.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1944.6
Weight of 1 P572E ATD & 1 P572O ATD	kg	139.3
Rated Cargo/Luggage Weight (RCLW)	kg	68.0
Vehicle Target Weight (TVTW)	kg	2151.9

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front)
As Delivered	mm	868	870	864	872	1155
As Tested	mm	858	858	848	848	1240
Post Test	mm	862	863	863	912	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2822
Total Vehicle Length at Left Side	mm	4885
Total Vehicle Length at Centerline	mm	4885
Total Vehicle Length at Right Side	mm	4885
Weight of Ballast in Cargo Area	kg	78.5
Weight of Vehicle Components Removed	kg	0
Amount of Stoddard Solvent in Fuel Tank	liters	65.8

LIST OF COMPONENTS REMOVED TO MEET TEST WEIGHT: None

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

TARGET VEHICLE STRUCTURAL MEASUREMENT

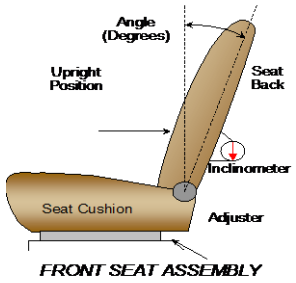
	Elements	Pre-Test (mm)
1	Total Length	4885
2	Total Width	1981
3	Bumper Top Height	705
4	Bumper Bottom Height	580
5	Longitudinal Member Top Height	680
6	Distance Between Longitudinal Members	1000
7	Longitudinal Member Width	90
8	Engine Top Height	1040
9	Engine Bottom Height	415
10	Engine and Gearbox Width	830
11	Front Bumper-Engine Distance	559
12	Front Shock Absorber Fixing Height	1008
13	Bonnet Leading Edge Height	1000
14	Front Shock Absorber Fixing Width	1350
15	Front Bumper – Front Axle Distance	1078
16	Front Axle – A-Pillar Distance	507
17	A-Pillar – B-Pillar Distance	910
18	B-Pillar – Rear Axle Distance	1055
19	B-Pillar – C-Pillar Distance	811
20	Roof Sill Bottom Height	1645
21	Roof Sill Top Height	1695
22	Floor Sill Bottom Height	469
23	Floor Sill Top Height	500

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

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:	7.3
Passenger Seat back angle:	0.2

SEAT FORE/AFT POSITIONS

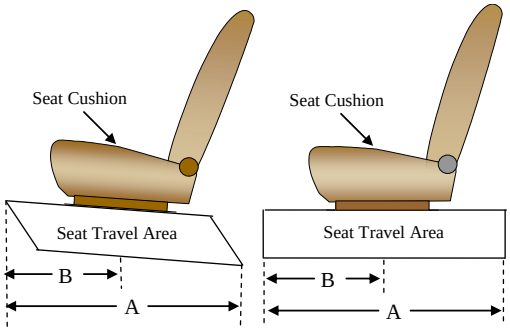
Describe the method of determining seat fore/aft positions.
Driver: Mid position, Positioned according to Form 1
Passenger: Full forward, Positioned according to Form 1

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	300	150
Passenger Seat	260	Full forward

SEAT BELT UPPER ANCHORAGE

Describe the method of positioning seat belt upper anchorages.
Driver: One below uppermost, Positioned according to Form 1
Passenger: One below uppermost, Positioned according to Form 1

	Total No. of Positions	Placed in Position No.
Driver Seat	4	1
Passenger Seat	4	1



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

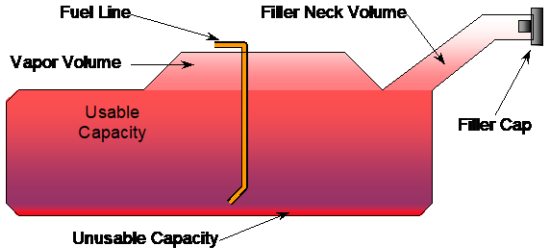
Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	70.8
Usable Capacity of "Optional Tank"	N/A
92%-94% of Usable Capacity	65.8
Actual Amount of Solvent Used	65.8
1/3 of Usable Capacity	23.6

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

1) Approximately 1 second after turning the ignition switch ON
2) When engine is running

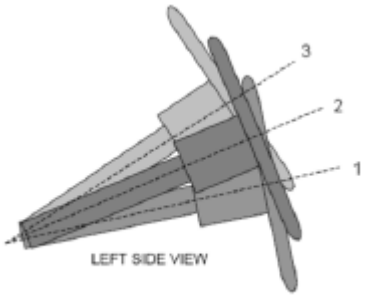


VEHICLE FUEL TANK ASSEMBLY

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.



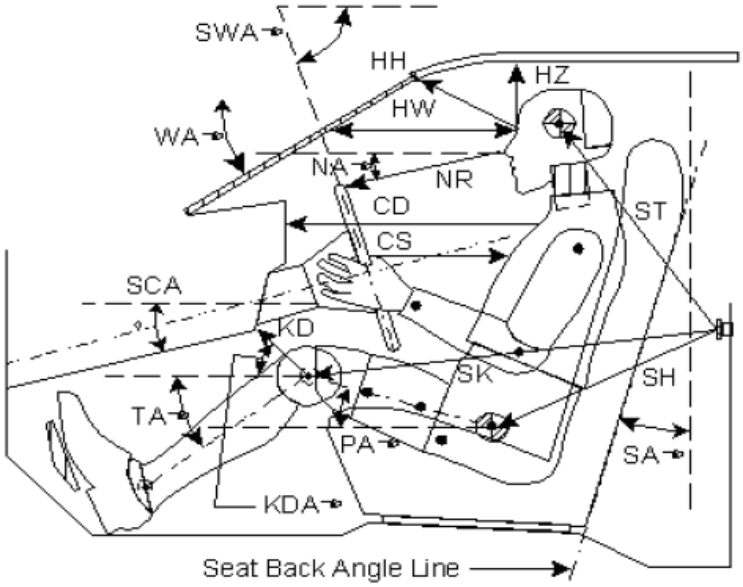
STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Degrees	Fore/Aft Position (mm)
Lowermost Position No. 1	22.6	
Geometric Center Position No. 2	25.4	
Uppermost Position No. 3	28.2	
Telescoping Steering Wheel Travel		42
Test Position	25.4	21

DATA SHEET NO. 3 - DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

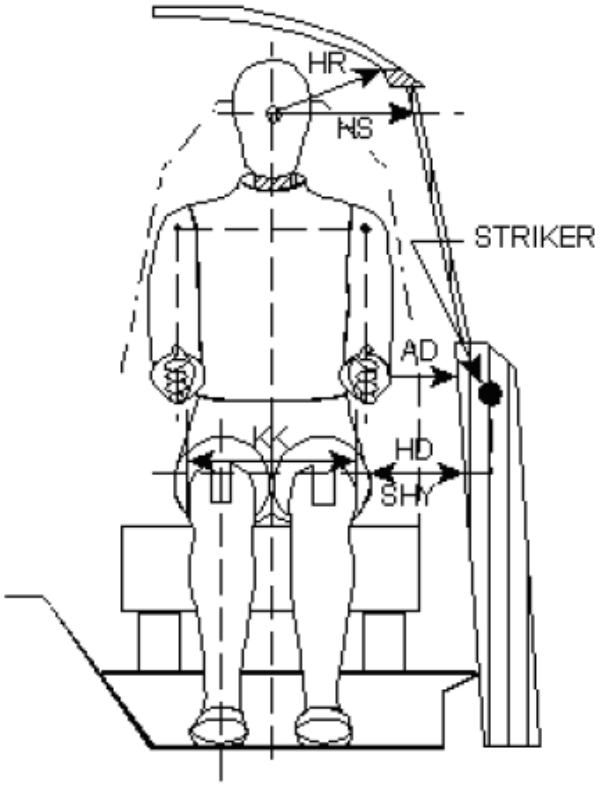
Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025



Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WAº	Windshield Angle		28.6		
SWAº	Steering Wheel Angle		25.4		
SCAº	Steering Column Angle		25.4		
SAº	Seat Back Angle (on head rest post)		7.3		0.1
HZ	Head to Roof (Z)	222		223	
HH	Head to Header	418		338	
HW	Head to Windshield	804		756	
NR	Nose to Rim	394	7.2		
CD	Chest to Dash	563		370	
CS	Chest to Steering Hub	305			
RA	Rim to Abdomen	190			
KDL	Left Knee to Dash	198	0.0	143	0.0
KDR	Right Knee to Dash	193	0.0	98	0.0
PAº	Pelvic Angle		24.3		21.4
TAº	Tibia Angle		50.8		59.3
SK	Striker to Knee	695	2.0	798	5.1
ST	Striker to Head	632	62.8	641	53.2
SH	Striker to H-Point	394	23.9	522	8.1

DATA SHEET NO. 4 - DUMMY LATERAL CLEARANCE DIMENSIONS

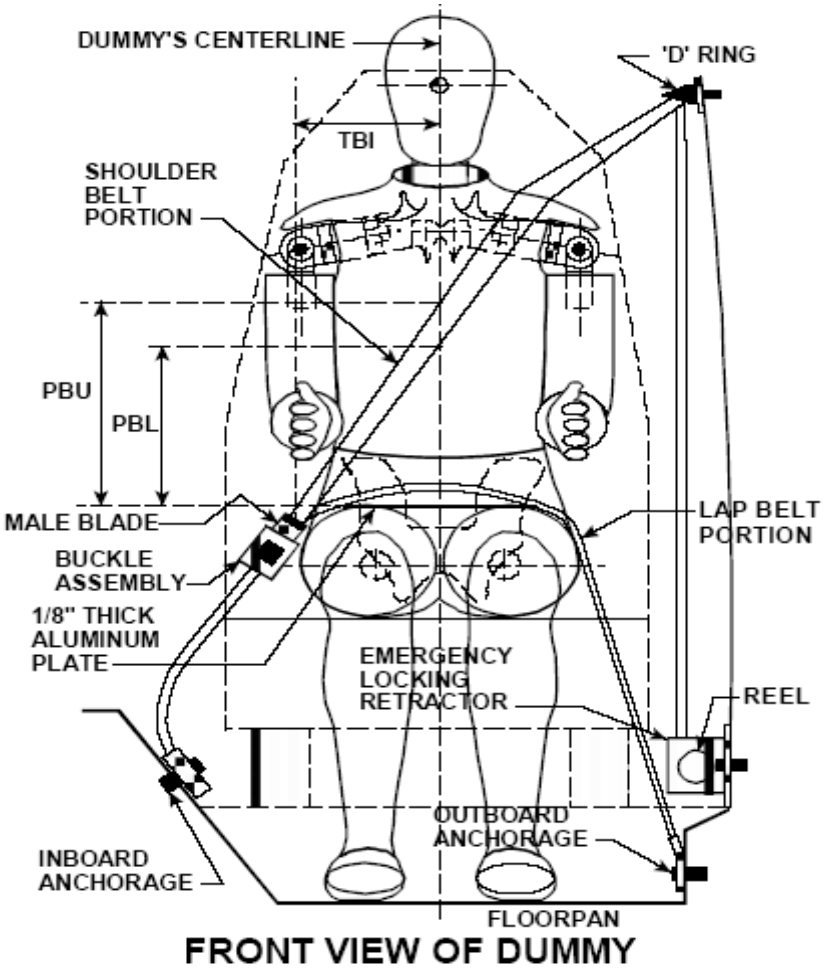
Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025



Code	Measurement Description	Driver	Passenger
AD	Arm to Door	160	86
HD	H-Point to Door	138	274
HR	Head to Side Header	272	293
HS	Head to Side Window	348	398
KK	Knee to Knee	250	165
SHY	Striker to H-Point (Y Direction)	280	305
AA	Ankle to Ankle	290	168

DATA SHEET NO. 5 - SEAT BELT POSITIONING DATA

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU – Top surface of reference to belt upper edge	mm	380	280
PBL – Top surface of reference to belt lower edge	mm	290	200

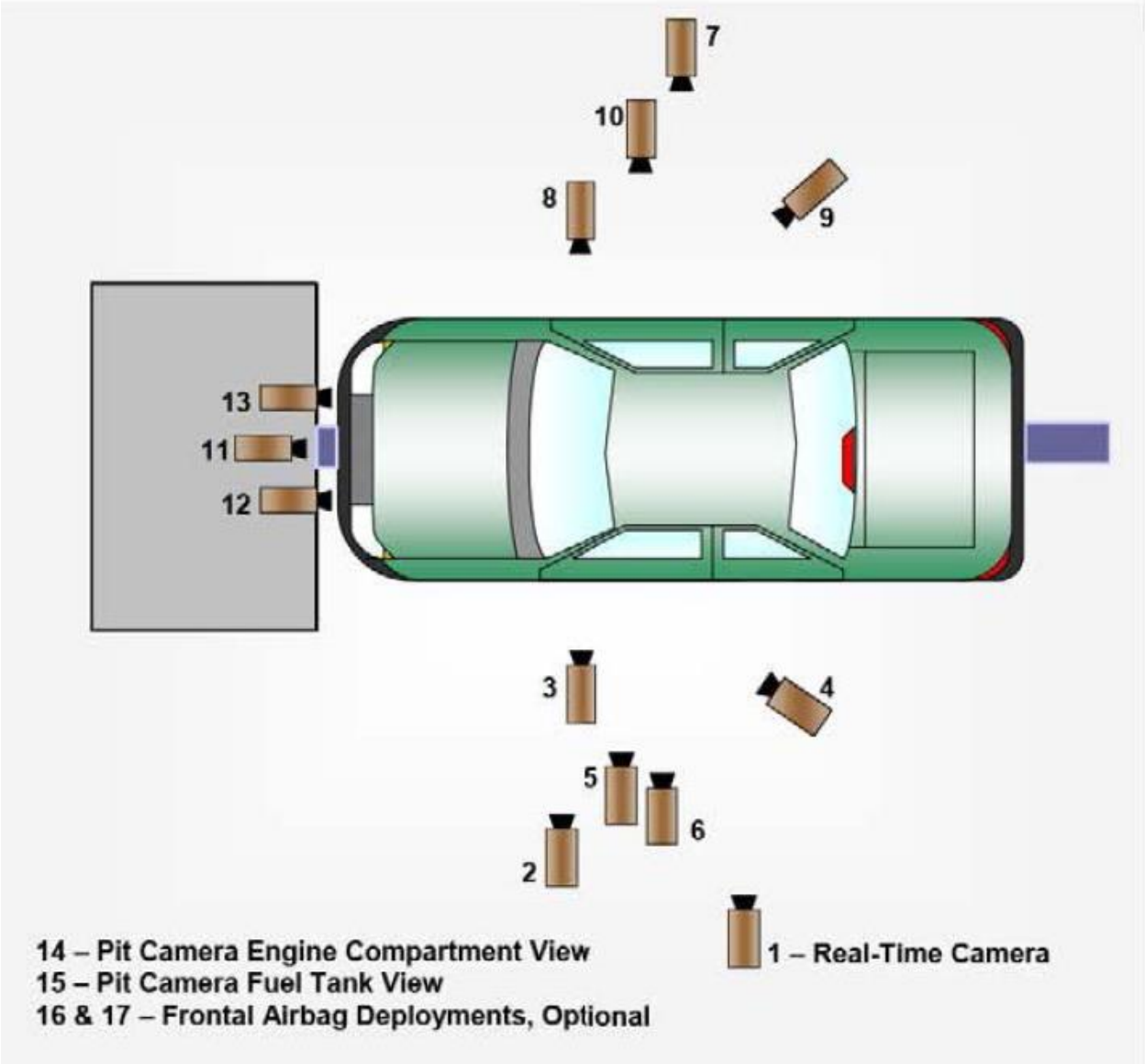
BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Shoulder belt length as measured on ATD	mm	898	680
Lap belt length as measured on ATD	mm	630	590
Remainder of belt on reel	mm	1200	1000
Total belt length for continuous webbing systems	mm	2728	2270

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

CAMERA POSITIONS FOR FRONTAL IMPACTS



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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

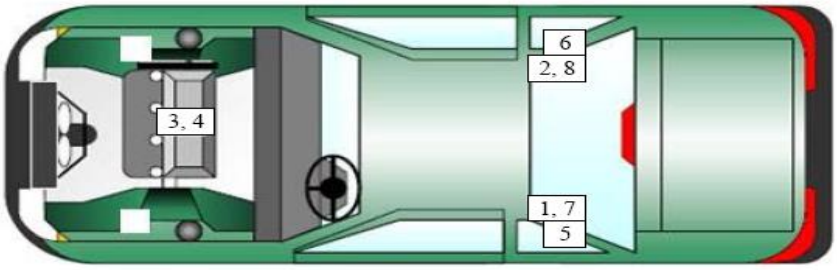
CAMERA LOCATIONS

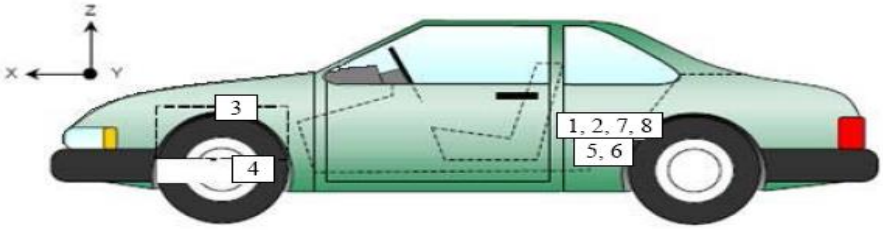
No.	Camera View	Location (mm)			Lens (mm)	Frame Speed (fps)
		X	Y	Z		
1	REAL-TIME LEFT OVERALL	-685	-5551	-1475	Zoom	30
2	LEFT OVERALL	-2696	-3892	-1486	8.5	1000
3	DRIVER CLOSE-UP	-2491	-5278	-1587	50	1000
4	LEFT FRONT HALF	-1298	-5862	-1406	25	1000
5	LEFT ANGLE	-3741	-2474	-1687	20	1000
6	STEERING COLUMN	-2582	-5278	-1486	50	1000
7	RIGHT OVERALL	-2458	4453	-1403	8.5	1000
8	PASSENGER CLOSE-UP	-1992	5241	-1513	50	1000
9	RIGHT FRONT HALF	-1300	4837	-1274	25	1000
10	RIGHT ANGLE	-3052	2257	-1746	20	1000
11	WINDSHIELD	0	0	-2648	20	1000
12	DRIVER WINDSHIELD	0	-310	-2640	25	1000
13	PASSENGER WINDSHIELD	0	205	-2641	25	1000
14	PIT FRONT	-881	0	3021	20	1000
15	PIT REAR	-3109	0	3049	20	1000
16	DRIVER ONBOARD				8.5	1000
17	PASSENGER ONBOARD				8.5	1000

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

DATA SHEET NO. 7 - VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025





VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear Accelerometer – X Direction	1856	-207	-572
2	Right Rear Accelerometer – X Direction	1863	188	-569
3	Engine Top X	3963	19	-910
4	Engine Bottom X	4098	125	-283
5	Left Rear Accelerometer – Z Direction	1858	-207	-572
6	Right Rear Accelerometer – Z Direction	1863	188	-569
7	Left Rear Accelerometer – X Direction Redundant	1858	-240	-567
8	Right Rear Accelerometer- X Direction Redundant	1866	197	-565

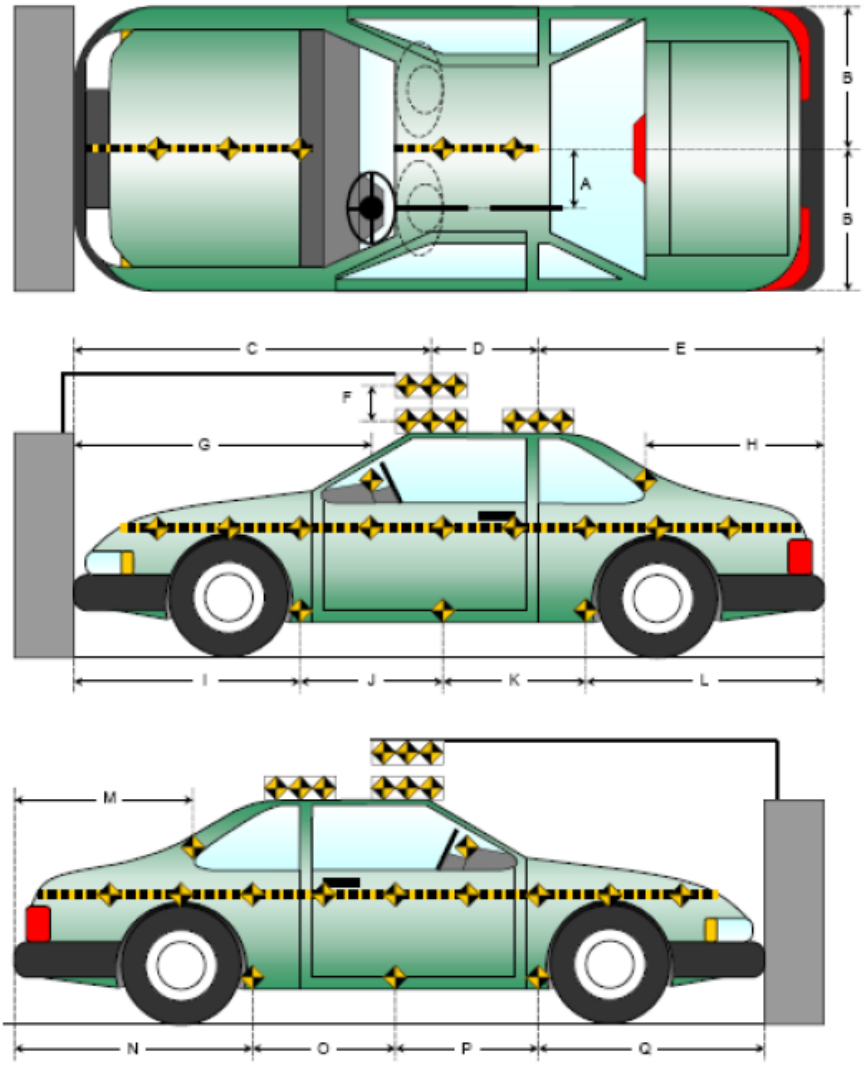
Reference Points: X – Rear Surface of Vehicle (+ forward)
Y – Vehicle Centerline (+ to right)
Z – Ground Plane (+ down)

DATA SHEET NO. 8 - PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

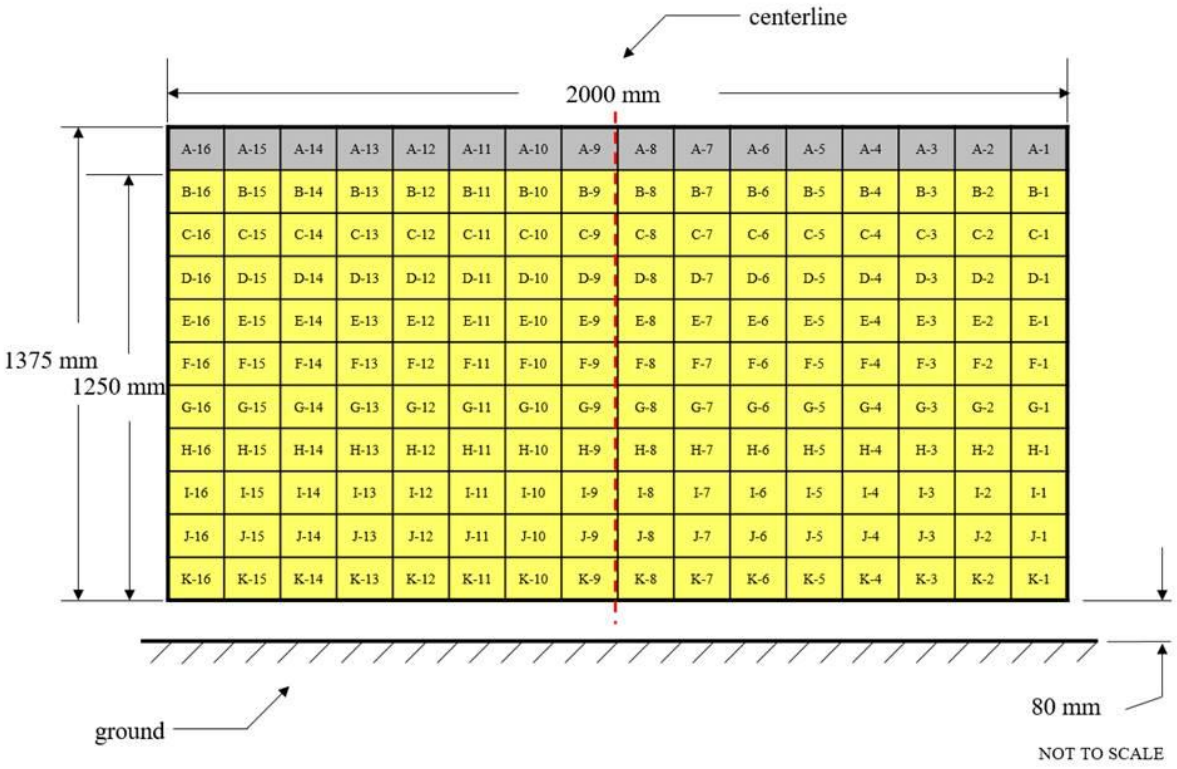
Item	Value
A	370
B	990
C	2514
D	600
E	1770
F	202
G	1841
H	1316
I	1530
J	905
K	910
L	1540
M	1333
N	1550
O	911
P	911
Q	1513

All units in millimeters



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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025



DATA SHEET NO. 10 - TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

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: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

TEST DUMMY INFORMATION AND CONTACT LOCATIONS

Description	Driver	Passenger
Dummy Type / Serial No.	Hybrid III 50th / 037	Hybrid III 5th / DH1659
Head Contact	Frontal Airbag, Head Rest	Frontal Airbag, Head Rest
Upper Torso Contact	Frontal Airbag	Frontal Airbag
Lower Torso Contact	Frontal Airbag	Frontal Airbag
Left Knee Contact	Knee Airbag	Knee Airbag
Right Knee Contact	Knee Airbag	Knee Airbag

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)	None	None	
Seat Back Movement from Initial Position	None	None	

POST- OTHER VEHICLE POST-TEST OBSERVATIONS

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

VEHICLE REBOUND FROM BARRIER

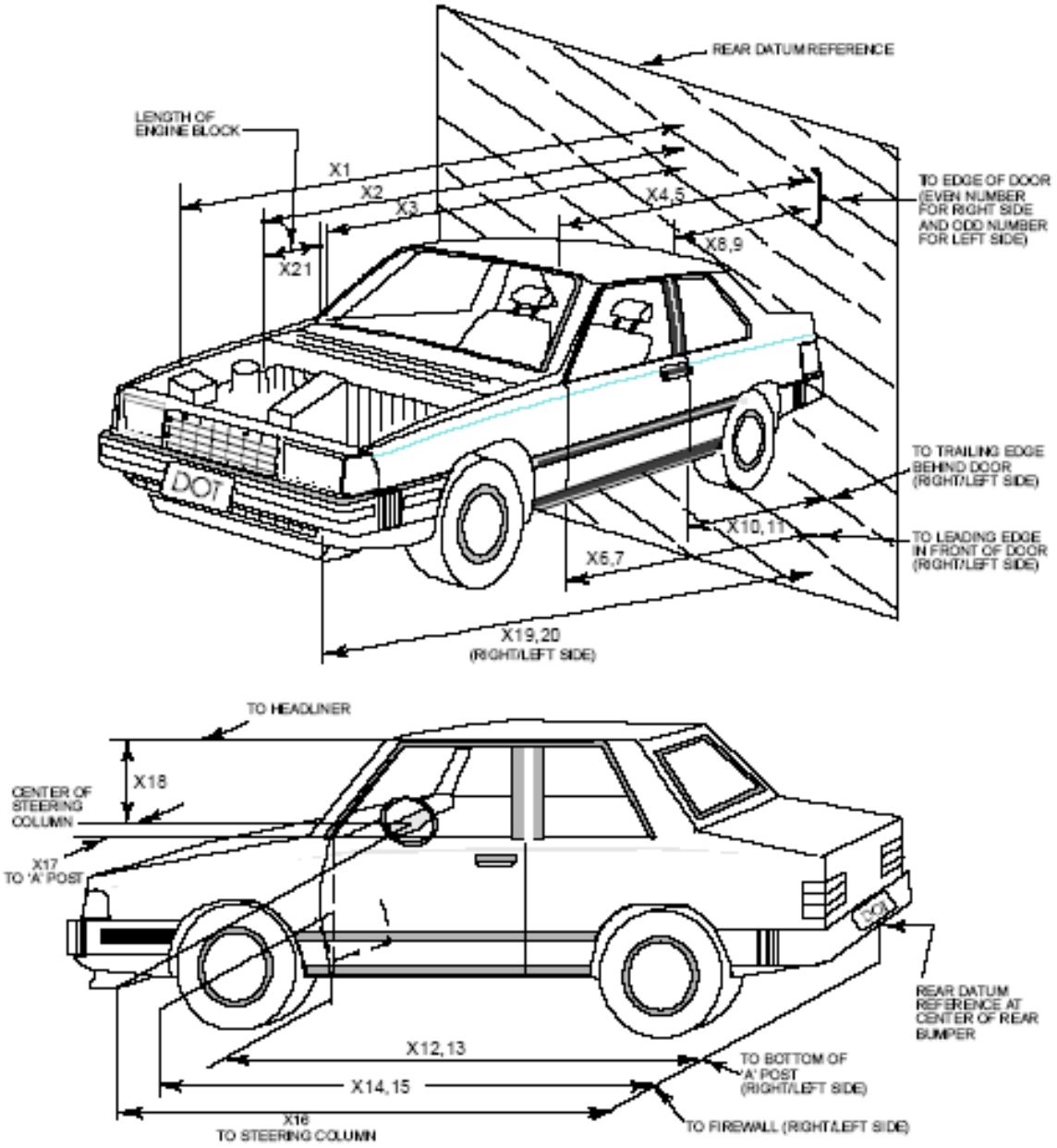
Measured Parameter	Units	Value
Left Side	mm	1846
Center	mm	1838
Right Side	mm	1860
Average	mm	1848

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	No
Curtain Side Airbag	Yes	No	Yes	No
Knee Airbag	Yes	Yes	Yes	Yes
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:	No	N/A	No	N/A

DATA SHEET NO. 12 - VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025



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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

No.	Measurement Description	Pre-Test	Post-Test	Change
1	Total Length of Vehicle at Centerline	4885	4448	-437
2	Rear Surface of Vehicle (RSOV) to Front of Engine	4326	4266	-60
3	RSOV to Firewall	3862	3863	1
4	RSOV to Upper Leading Edge of Right Door	3319	3322	3
5	RSOV to Upper Leading Edge of Left Door	3321	3324	3
6	RSOV to Lower Leading Edge of Right Door	3305	3306	1
7	RSOV to Lower Leading Edge of Left Door	3305	3307	2
8	RSOV to Upper Trailing Edge of Right Door	2224	2226	2
9	RSOV to Upper Trailing Edge of Left Door	2222	2224	2
10	RSOV to Lower Trailing Edge of Right Door	2264	2265	1
11	RSOV to Lower Trailing Edge of Left Door	2262	2263	1
12	RSOV to Bottom of "A" Post-of Right Side	3310	3313	3
13	RSOV to Bottom of "A" Post-of Left Side	3307	3310	3
14	RSOV to Firewall, Right Side	3812	3850	38
15	RSOV to Firewall, Left Side	3814	3878	64
16	RSOV to Steering Column	2837	2633	-204
17	Center of Steering Column to "A" Post	355	422	67
18	Center of Steering Column to Headliner	410	530	120
19	RSOV to Right Side of Front Bumper	4852	4430	-422
20	RSOV to Left Side of Front Bumper	4855	4452	-403
21	Length of Engine Block	505	505	0
RD	RSOV to Right Side of Dash Panel	3040	3042	2
CD	RSOV to Center of Dash Panel	3152	3150	-2
LD	RSOV to Left Side of Dash Panel	3045	3046	1

All Dimensions in mm

DATA SHEET NO. 13 - ACCIDENT INVESTIGATION DIVISION DATA

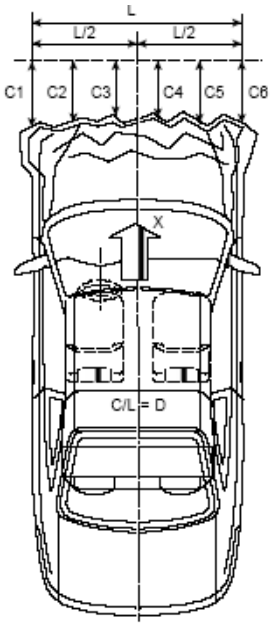
Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

VEHICLE INFORMATION

VIN: 5N1AZ3BS9SC106373 Wheelbase: 2822
Vehicle Size Category: MPV Test Weight (kg): 2144.0

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): 56.66
Velocity Change (km/h): 67.32
Time of Separation (ms): 189



CRUSH PROFILE

Collision Deformation Classification: 12FDEW2
Midpoint of Damage: Centerline
Damage Region Length (mm): 1220
Impact Mode: Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Crush
C1	Crush zone 1 at left side	mm	32	435	403
C2	Crush zone 2 at left side	mm	11	442	431
C3	Crush zone 3 at left side	mm	0	447	447
C4	Crush zone 4 at right side	mm	2	436	434
C5	Crush zone 5 at right side	mm	14	434	420
C6	Crush zone 6 at right side	mm	35	457	422
L	C1 to C6	mm	1220	1220	0

DATA SHEET NO. 14 - VEHICLE INTRUSION MEASUREMENTS

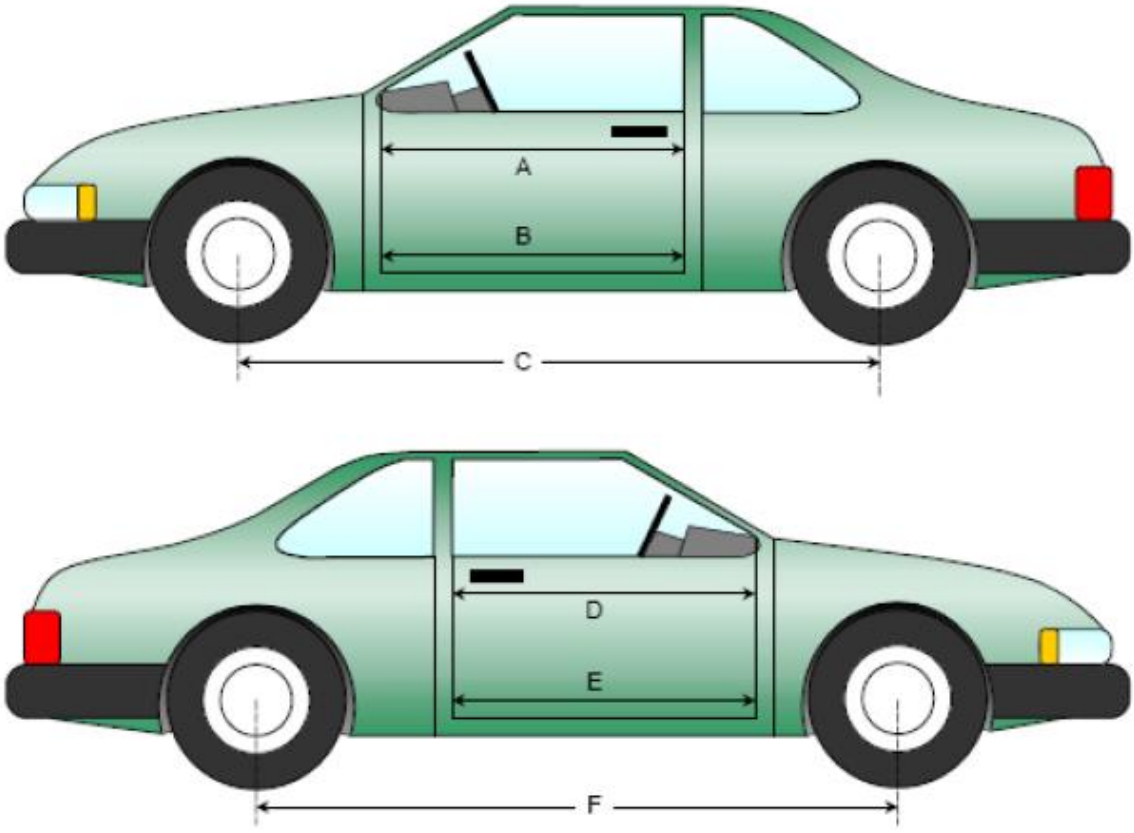
Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

DOOR OPENING WIDTH

No.	Description	Units	Pre-Test	Post-Test	Change
A	Left Side Upper	mm	1035	1035	0
B	Left Side Lower	mm	956	956	0
D	Right Side Upper	mm	1035	1035	0
E	Right Side Lower	mm	960	960	0

WHEELBASE MEASUREMENTS

No.	Description	Units	Pre-Test	Post-Test	Change
C	Left Side Wheelbase	mm	2822	2820	-2
F	Right Side Wheelbase	mm	2822	2822	0



[1] Front suspension damaged and wheels fell off measurements not available

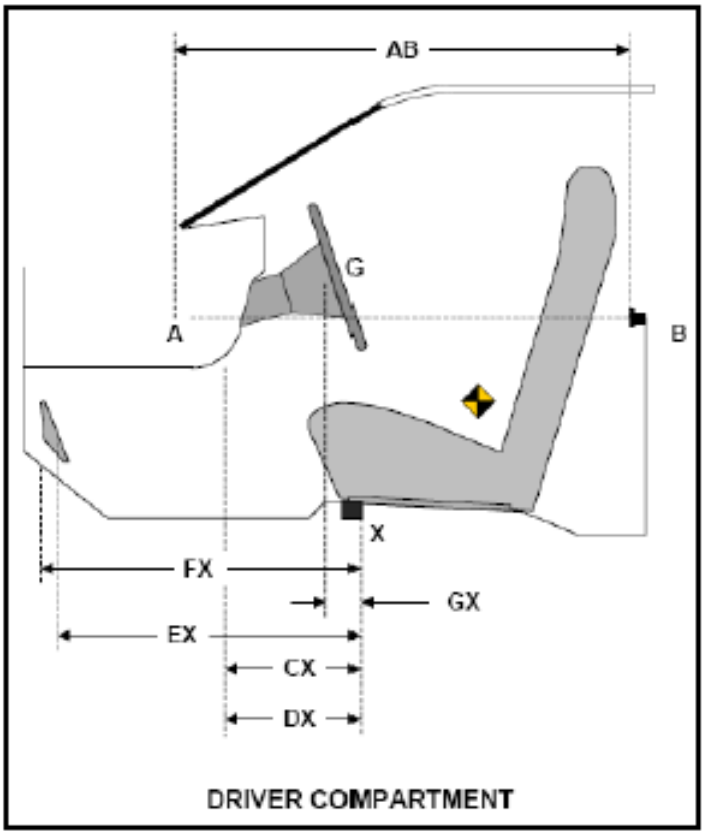
DATA SHEET NO. 14 - VEHICLE INTRUSION MEASUREMENTS (CONT'D)

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Change
AB	Door Opening (Inside Window Jam)	mm	1015	1015	0
CX	Left Knee Bolster to X	mm	270	270	0
DX	Right Knee Bolster to X	mm	260	235	-25
EX	Brake Pedal to X	mm	560	616	56
FX	Foot Rest to X	mm	556	557	1
GX	Center of Steering Column Wheel Hub to X	mm	41	22	-19

X = Front of Seat Track (Stationary)



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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

Please provide windshield mounting details.

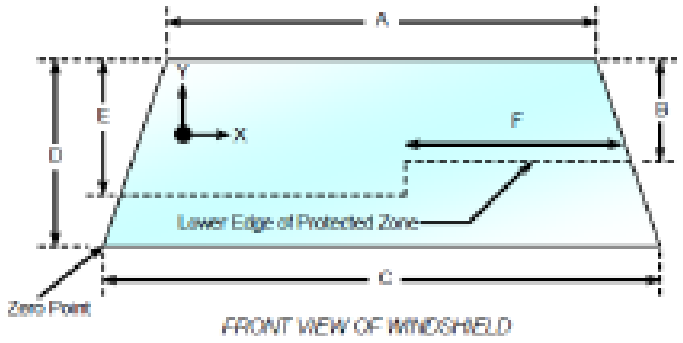
The standard requires that the post-test retention measurement be a minimum of 75% of the pre-test total periphery measurement for vehicle not equipped with occupant passive restraint and 50% for each side of the windshield for vehicle which are equipped with occupant passive restraints.

Temperature of windshield molding during test: 20.4°C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	1910	1910	100.0
Right Side	1910	1910	100.0
Total	3820	3820	100.0

Item	Units	Value
A	mm	1075
B	mm	500
C	mm	1045
D	mm	850
E	mm	550
F	mm	580



FRONT VIEW OF WINDSHIELD

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
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

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

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

FMVSS 301 FUEL SYSTEM INTEGRTY POST IMPACT DATA

Temperature at Time of Impact: 20.4°C Test Time: 15:41

Stoddard Solvent Spillage Measurements

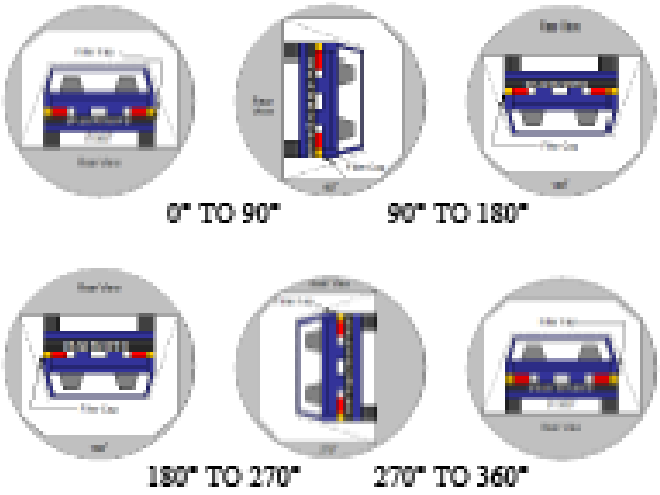
A	From impact until vehicle motion ceases: (maximum allowable – 1 oz.)	0 oz.
B	For the 5-minute period after motion ceases: (maximum allowable – 5 oz.)	0 oz.
C	For the following 25 minutes: (maximum allowable – 1 oz./minutes)	0 oz.
D	Spillage: None	

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

1. The specified fixture rollover rate for each 90º 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
0º to 90º	90	330	420
90º to 180º	90	330	840
180º to 270º	90	330	1260
270º to 360º	90	330	1680

FMVSS 301 SPILLAGE TABLE

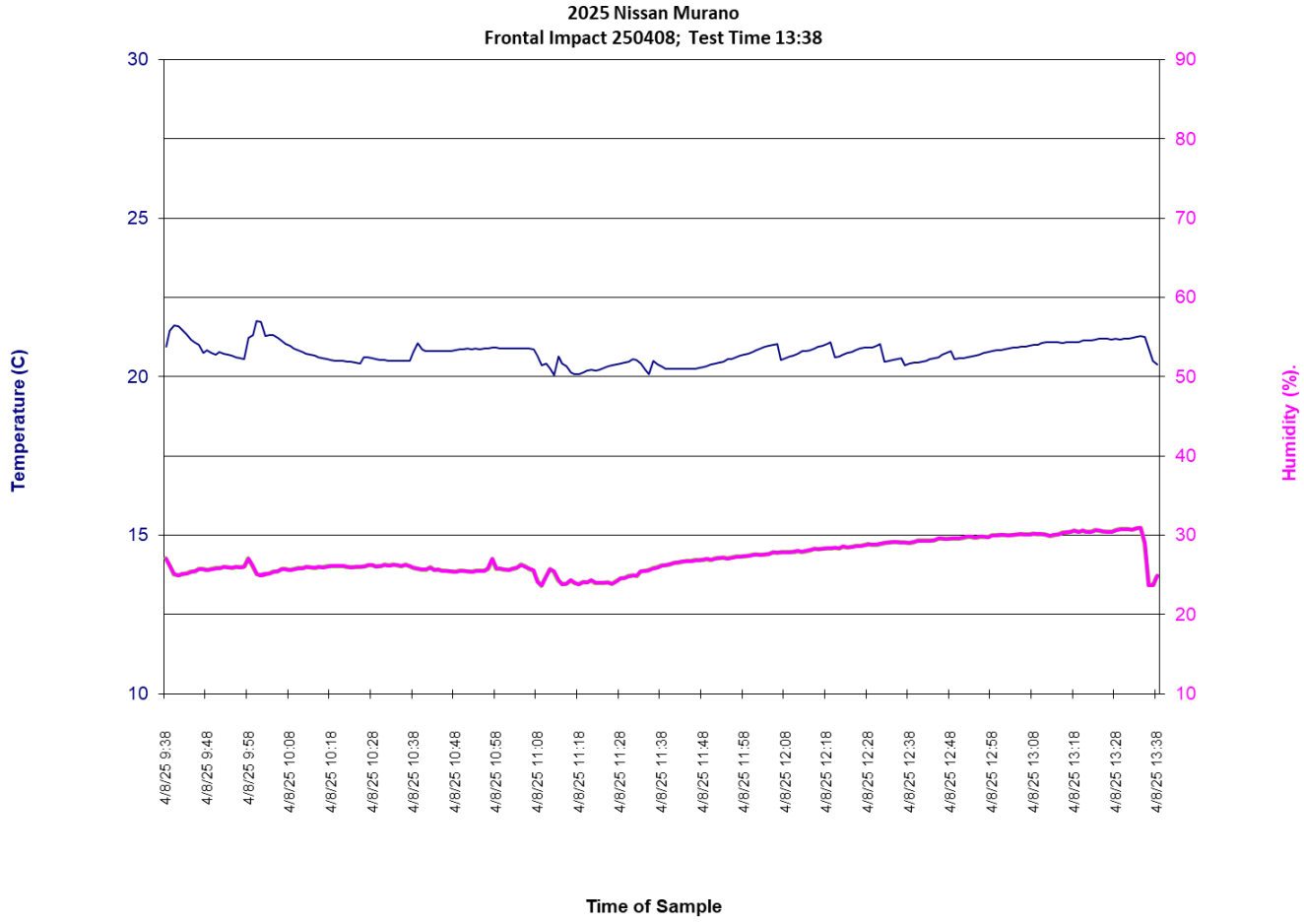
Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0º to 90º	0	0	0	N/A
90º to 180º	0	0	0	N/A
180º to 270º	0	0	0	N/A
270º to 360º	0	0	0	N/A

SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 17 - DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255204
Test Program: NCAP Frontal Impact Test Date: 4/8/2025

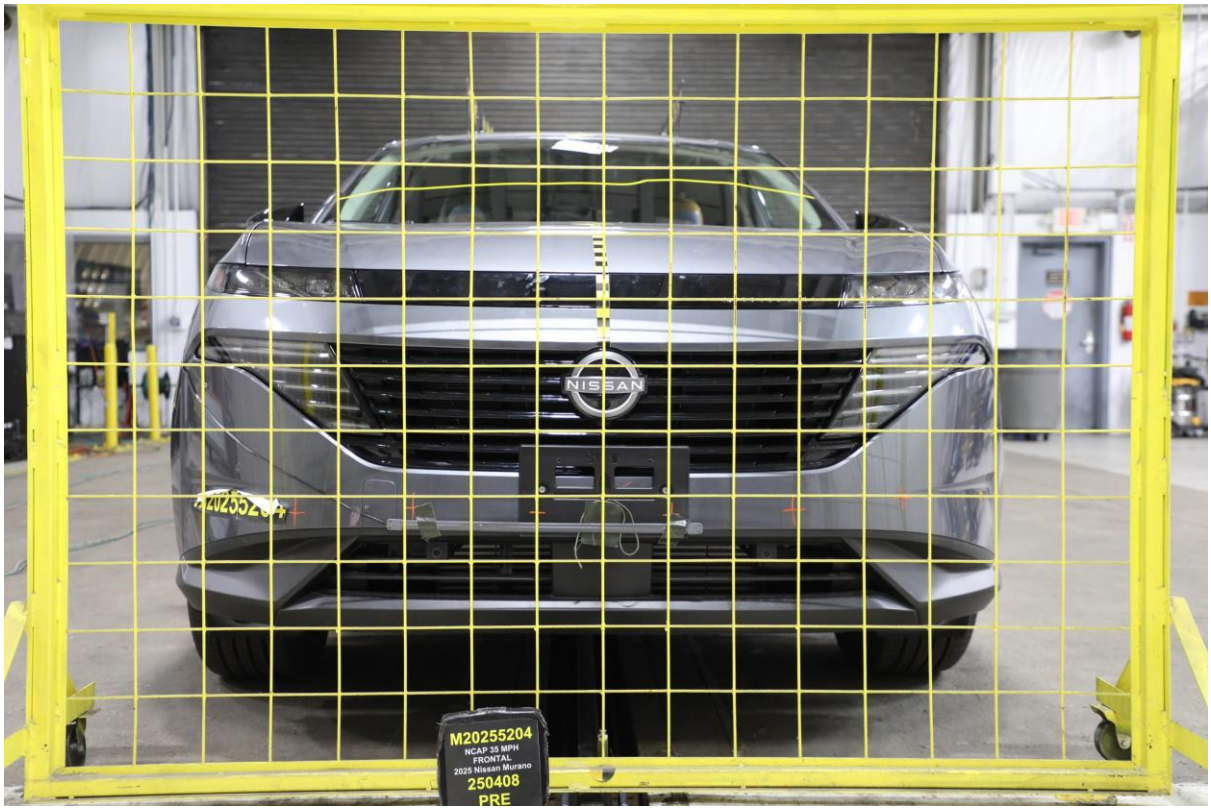


APPENDIX A
PHOTOGRAPHS

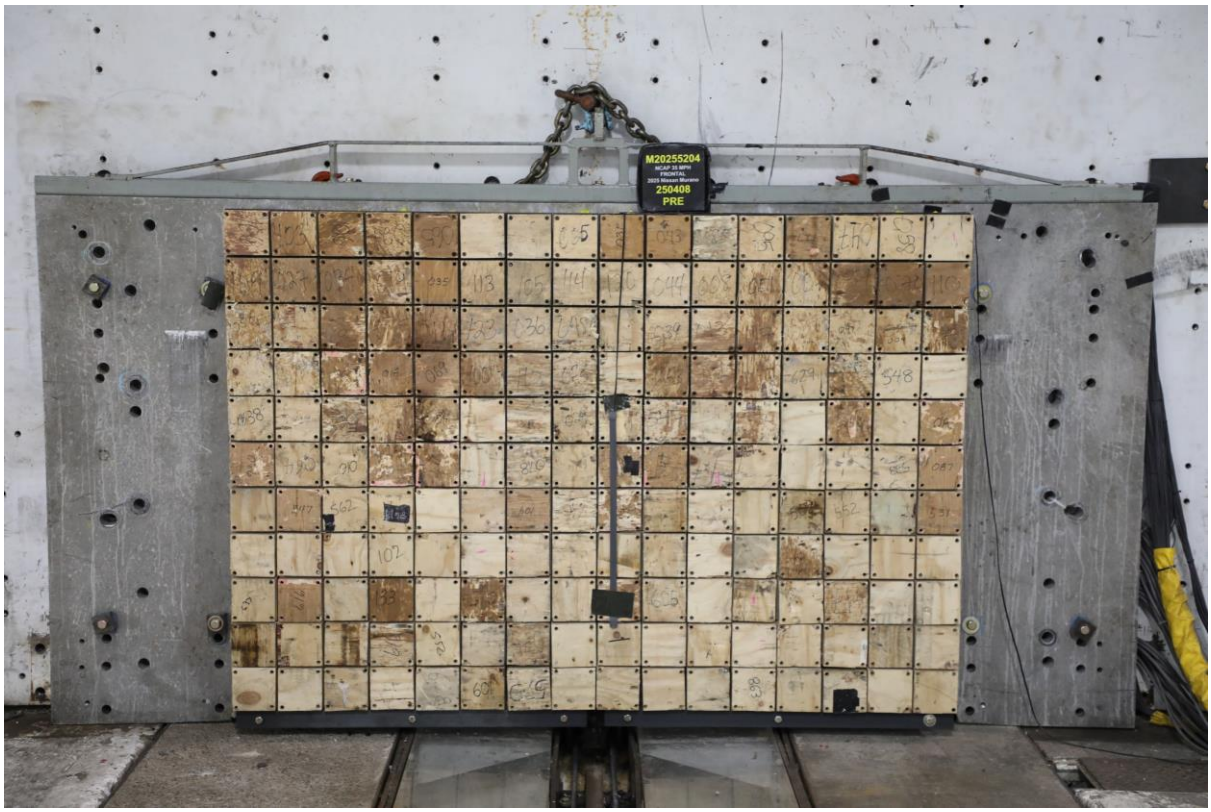
TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (CONTINUED)

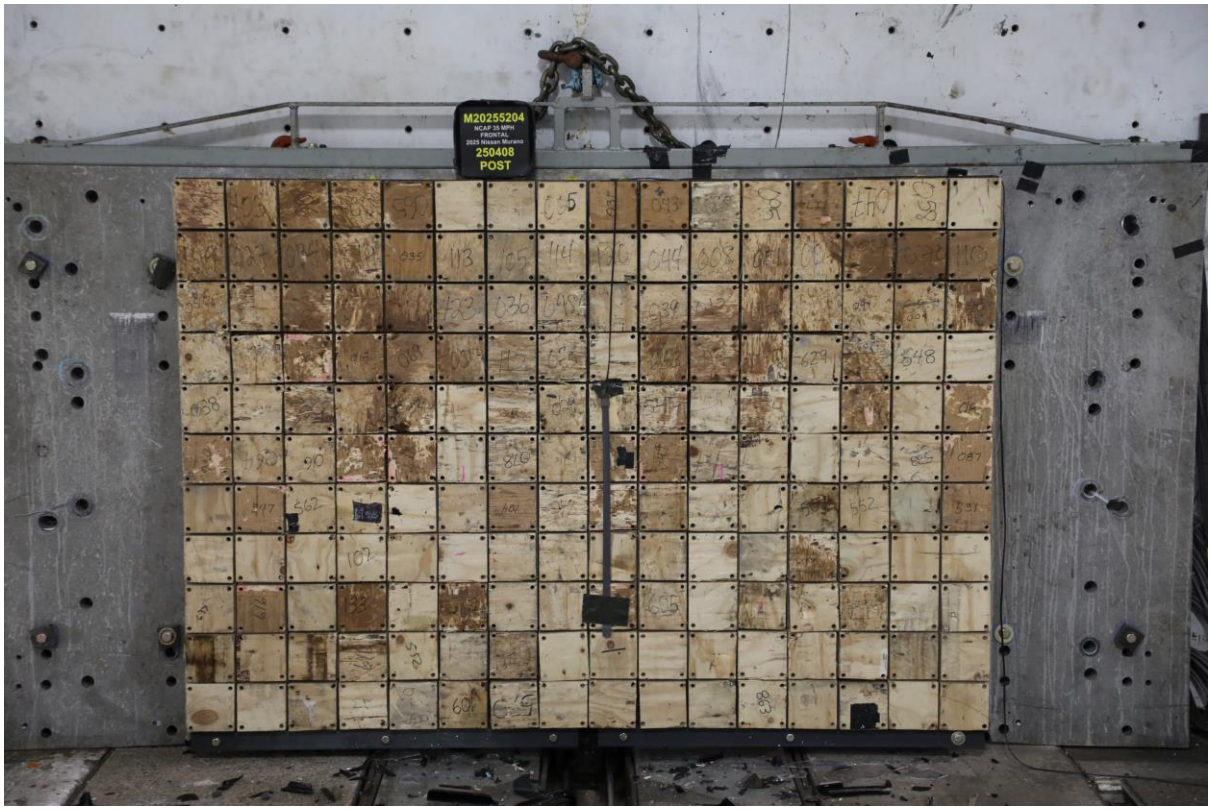
TABLE OF PHOTOGRAPHS (CONTINUED)



001 Load Cell Location

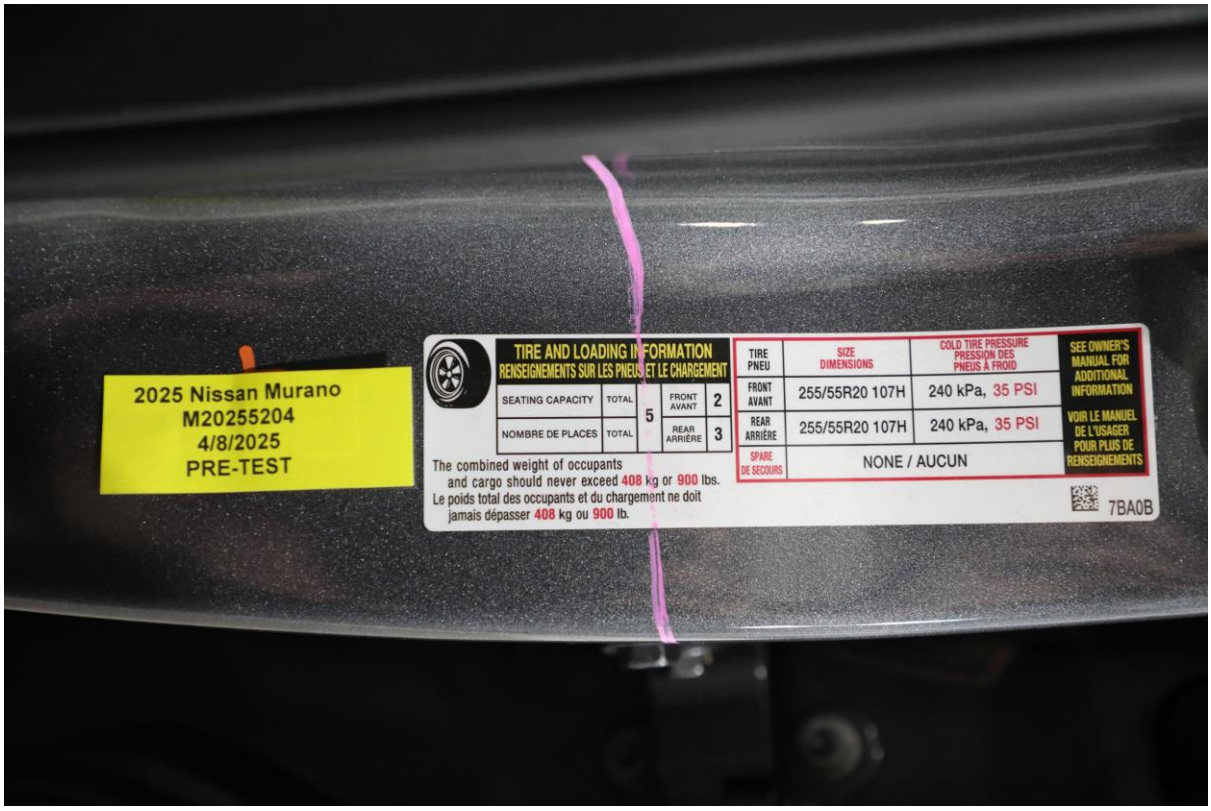


002 Pre-Test Load Cell Wall



003 Post-Test Load Cell Wall

004 Manufacturer's Label



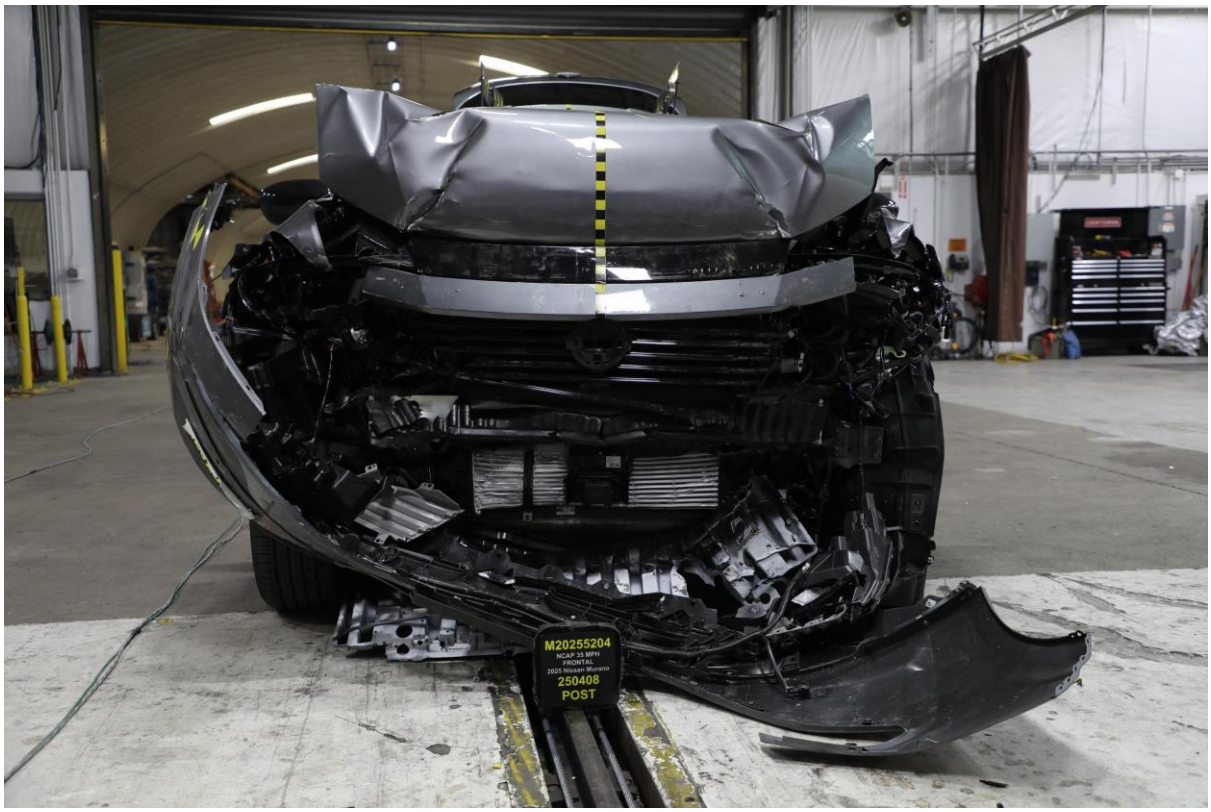
005 Tire Placard

Intentionally Left Blank

006 2025 Nissan Murano Frontal As Delivered

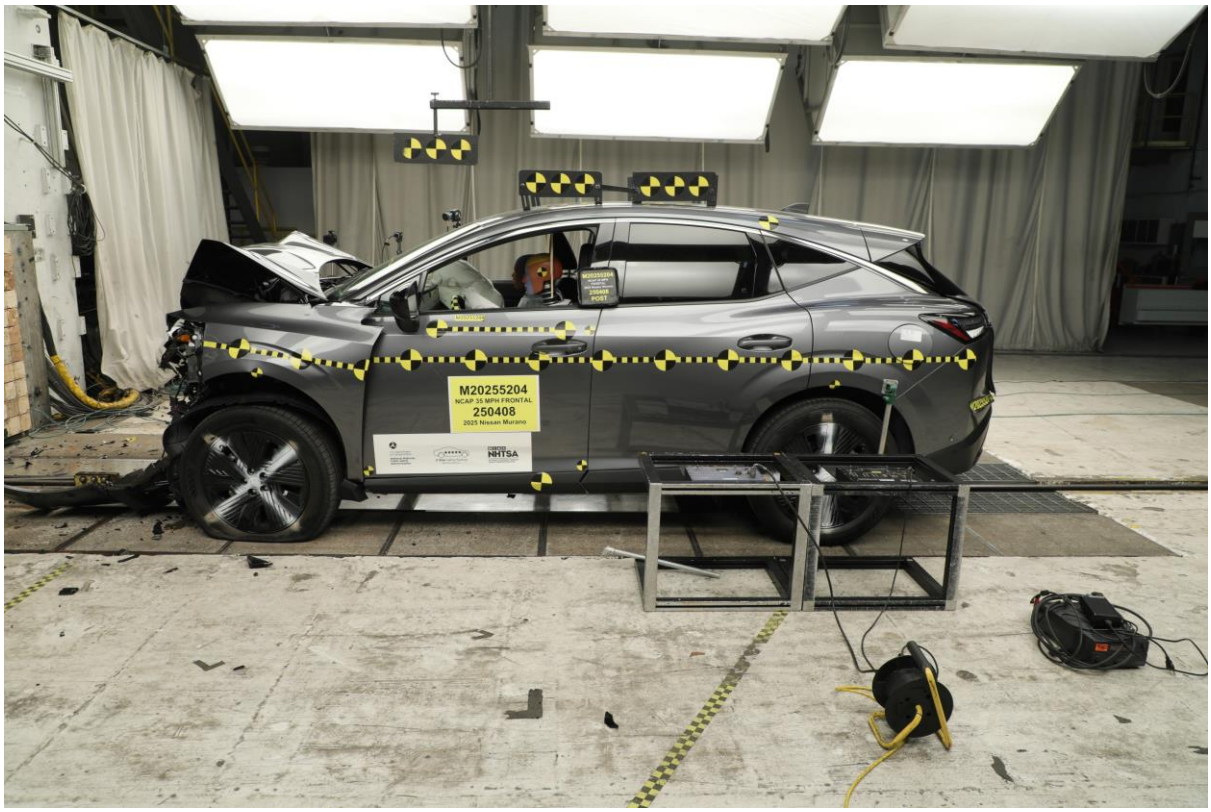
007 Left Rear 3-4 View, as Received

008 Pre-Test Front View of Test Vehicle



009 Post-Test Front View of Test Vehicle

010 Pre-Test Left View of Test Vehicle



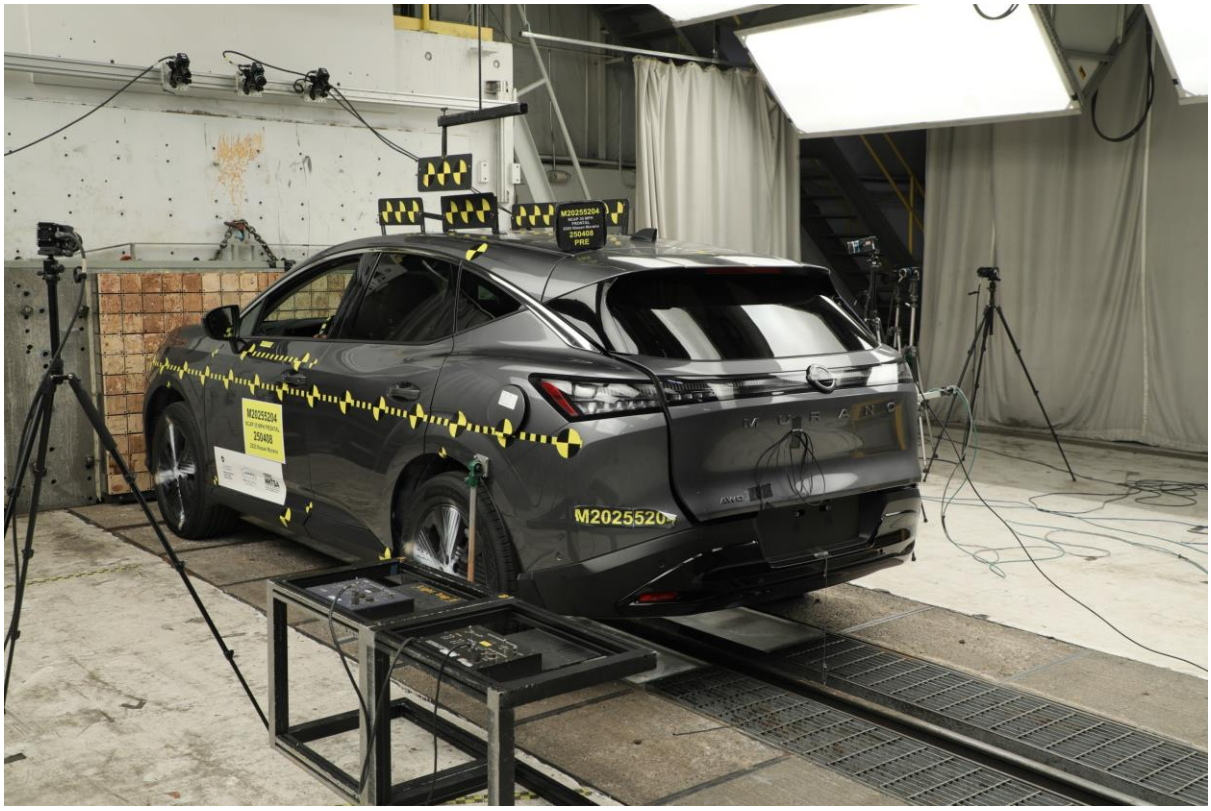
011 Post-Test Left View of Test Vehicle

012 Pre-Test Right View of Test Vehicle

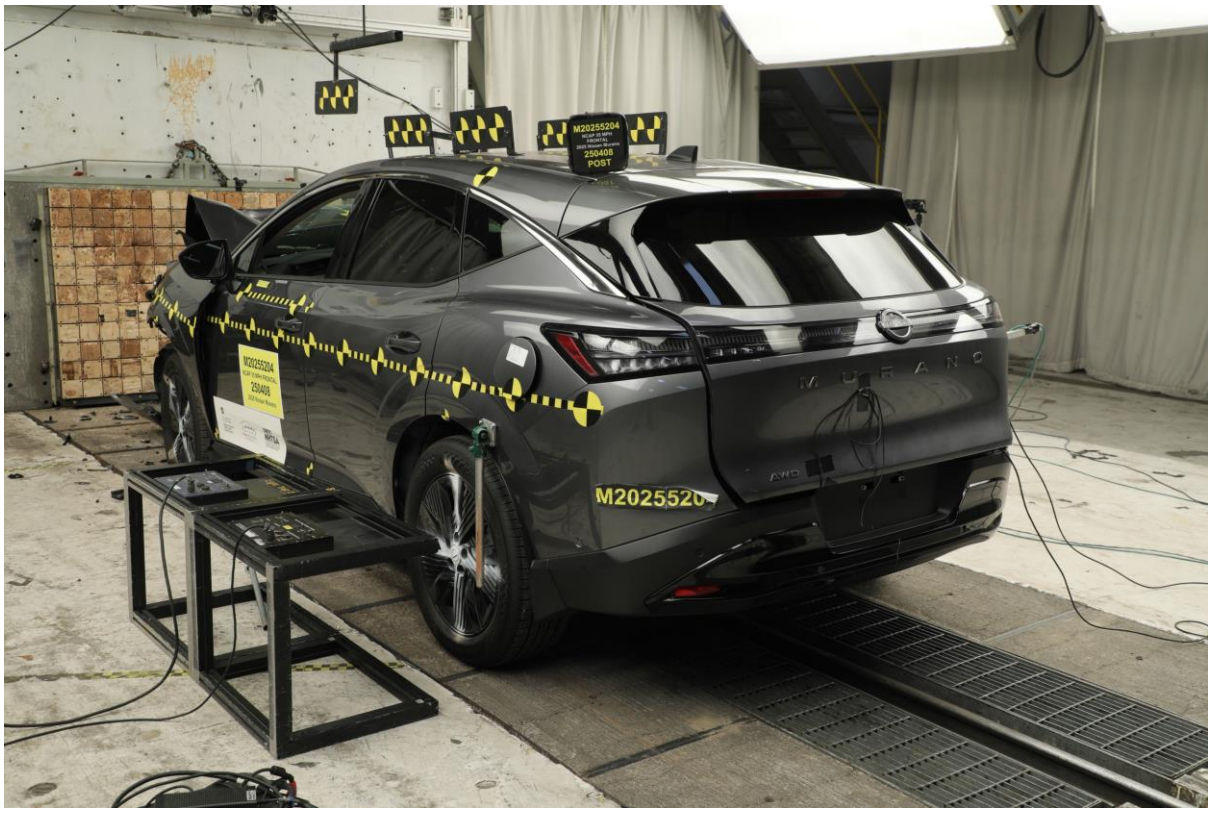
013 Post-Test Right View of Test Vehicle

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

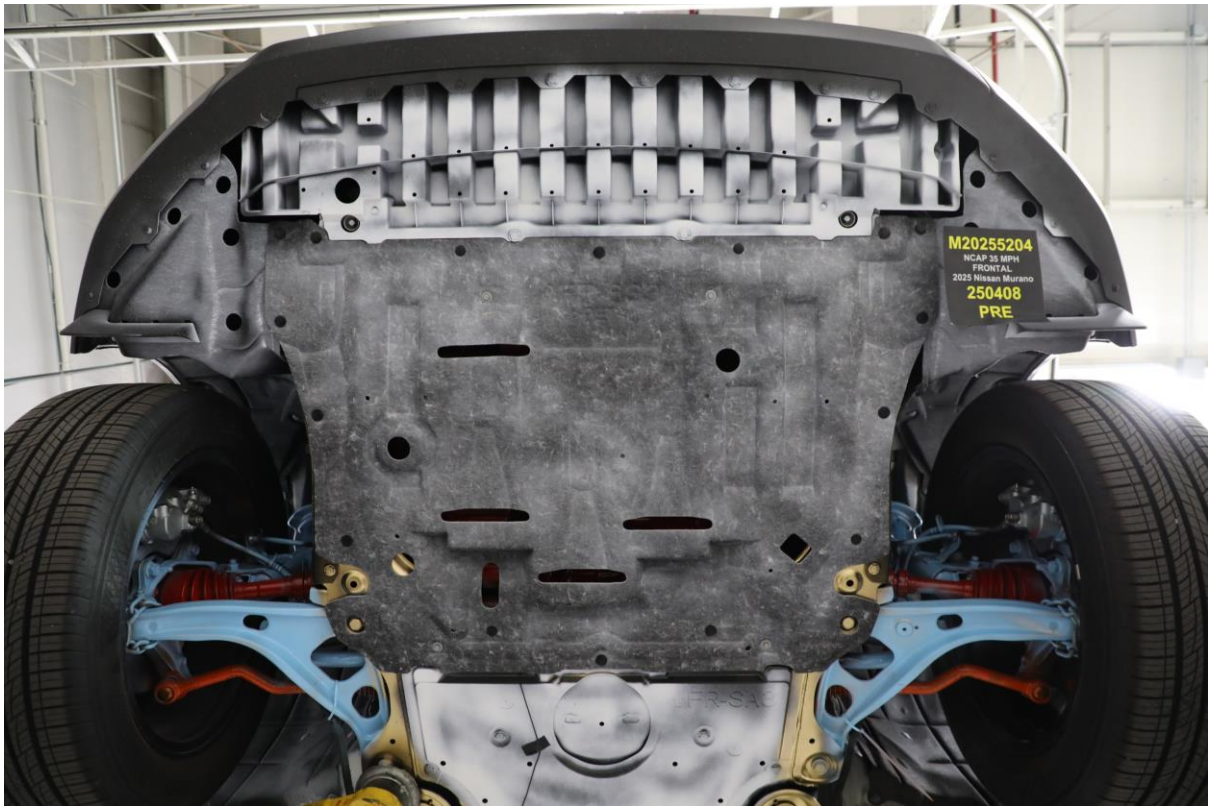
019 Post-Test Windshield View

020 Pre-Test Engine Compartment View

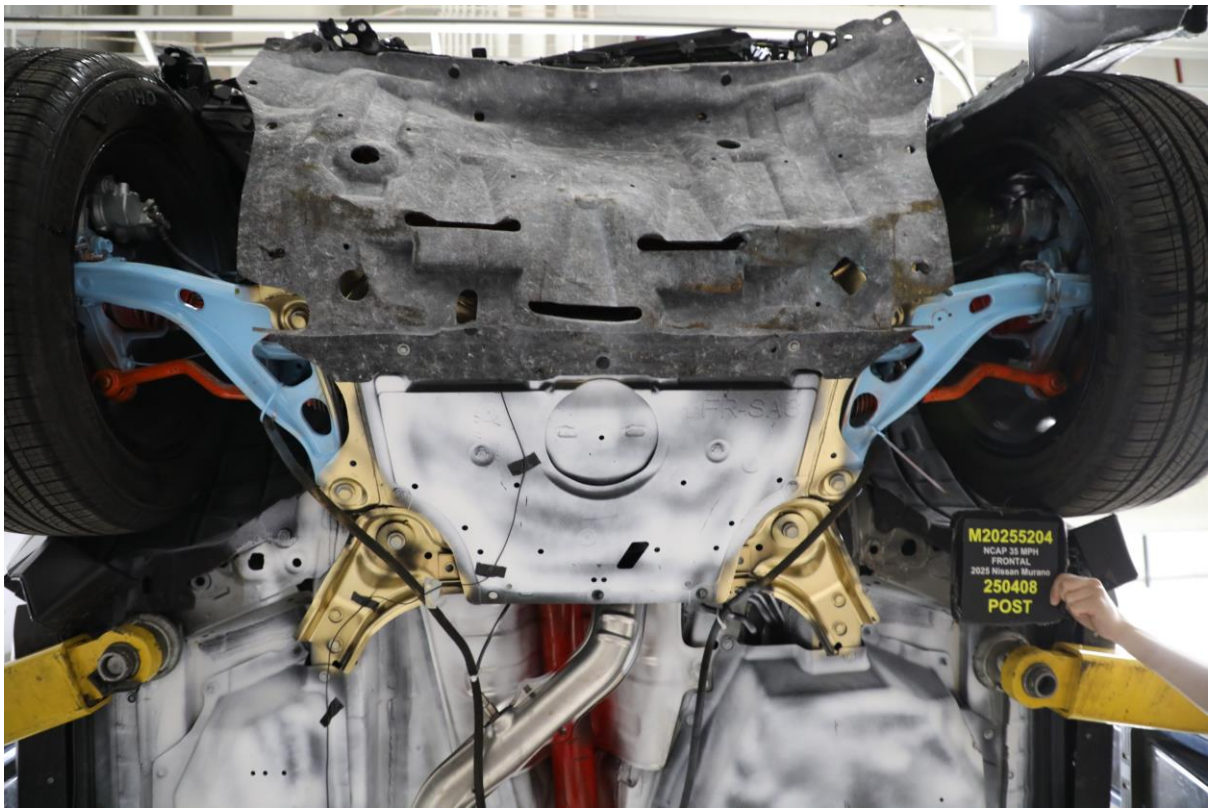
021 Post-Test Engine Compartment View

022 Pre-Test Fuel Filler Cap View

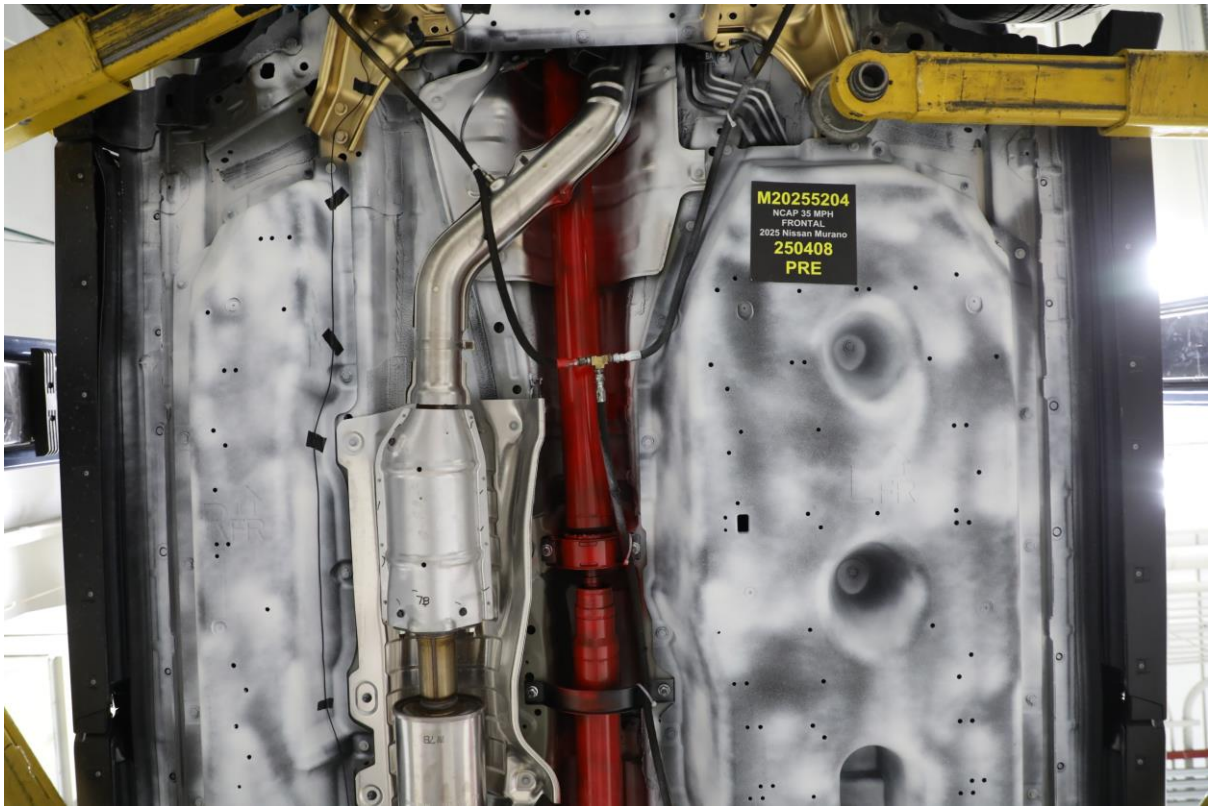
023 Post-Test Fuel Filler Cap View



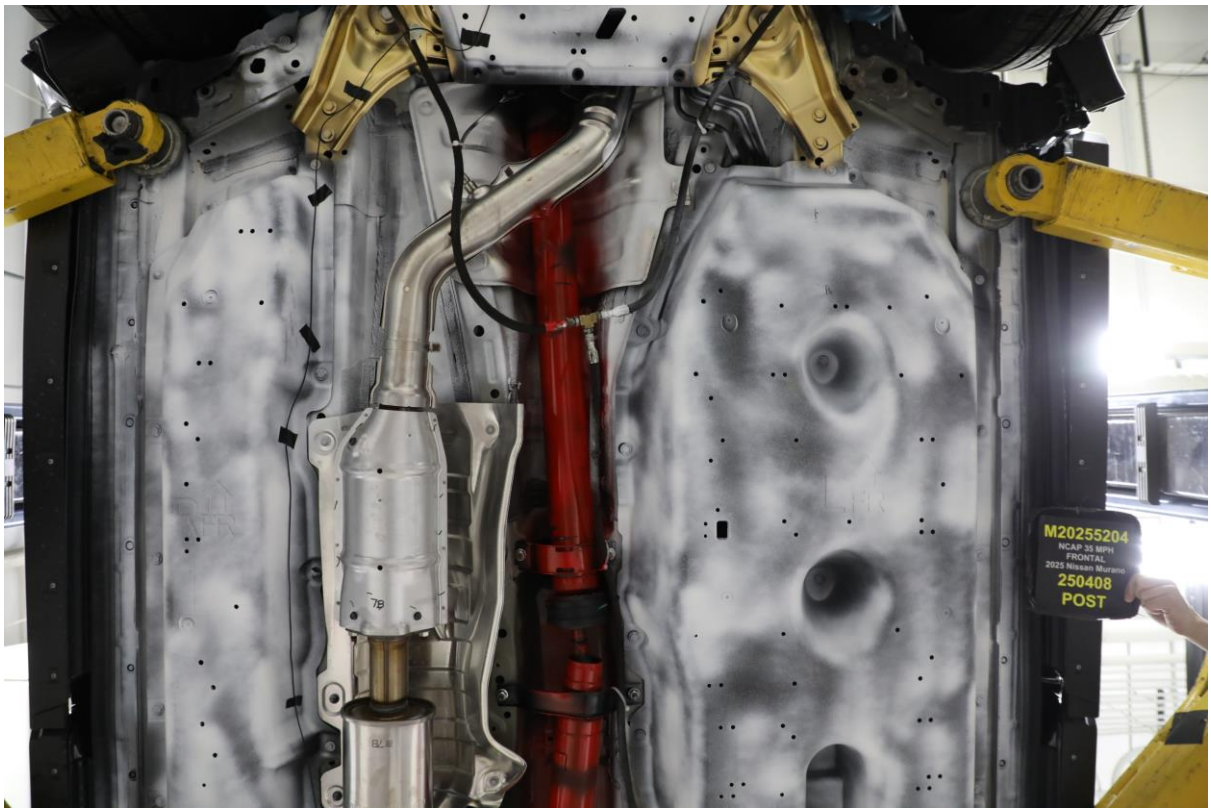
024 Pre-Test Front Underbody View



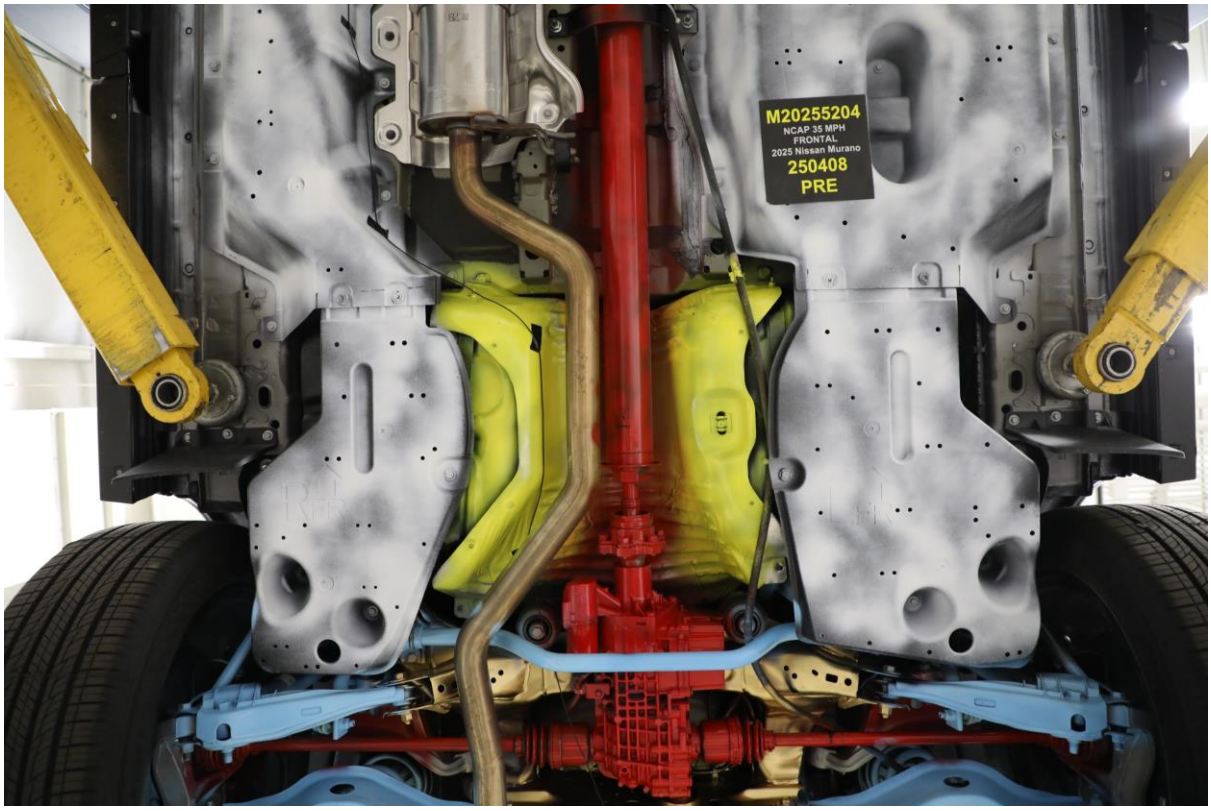
025 Post-Test Front Underbody View



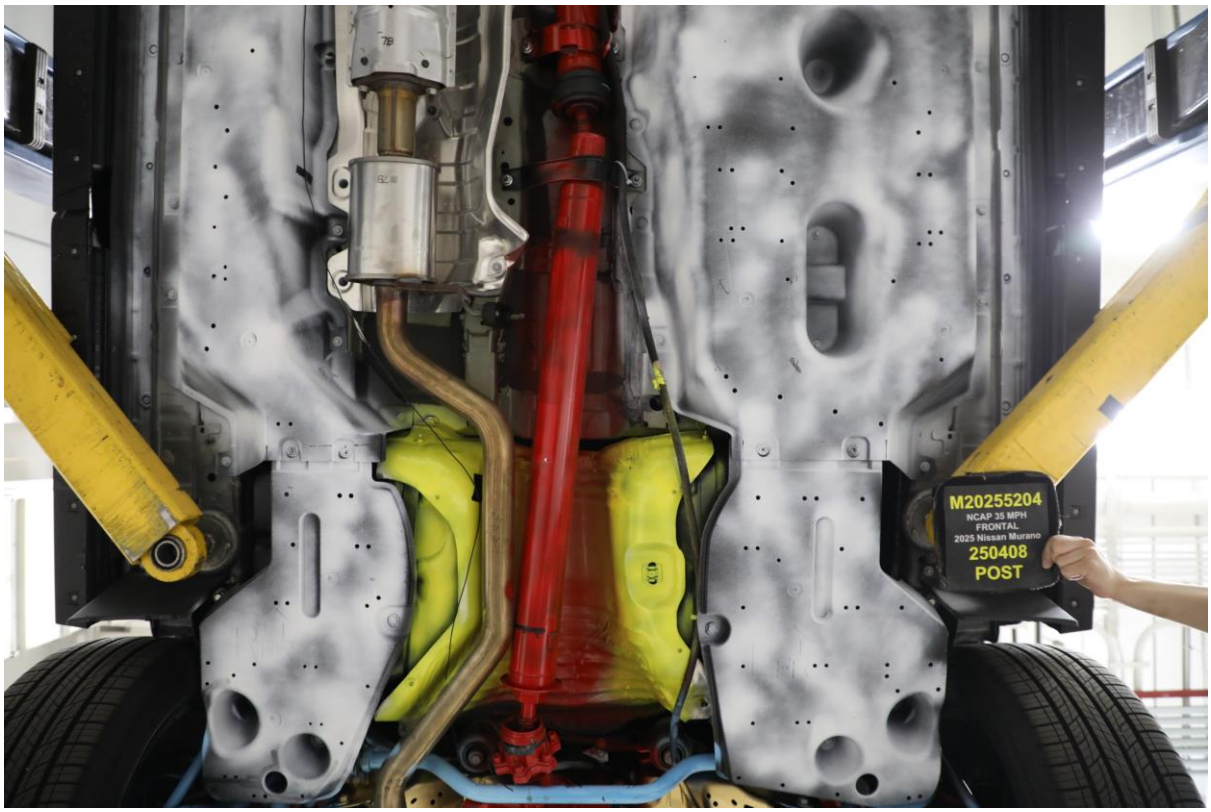
025a Pre-Test Mid Front Underbody View



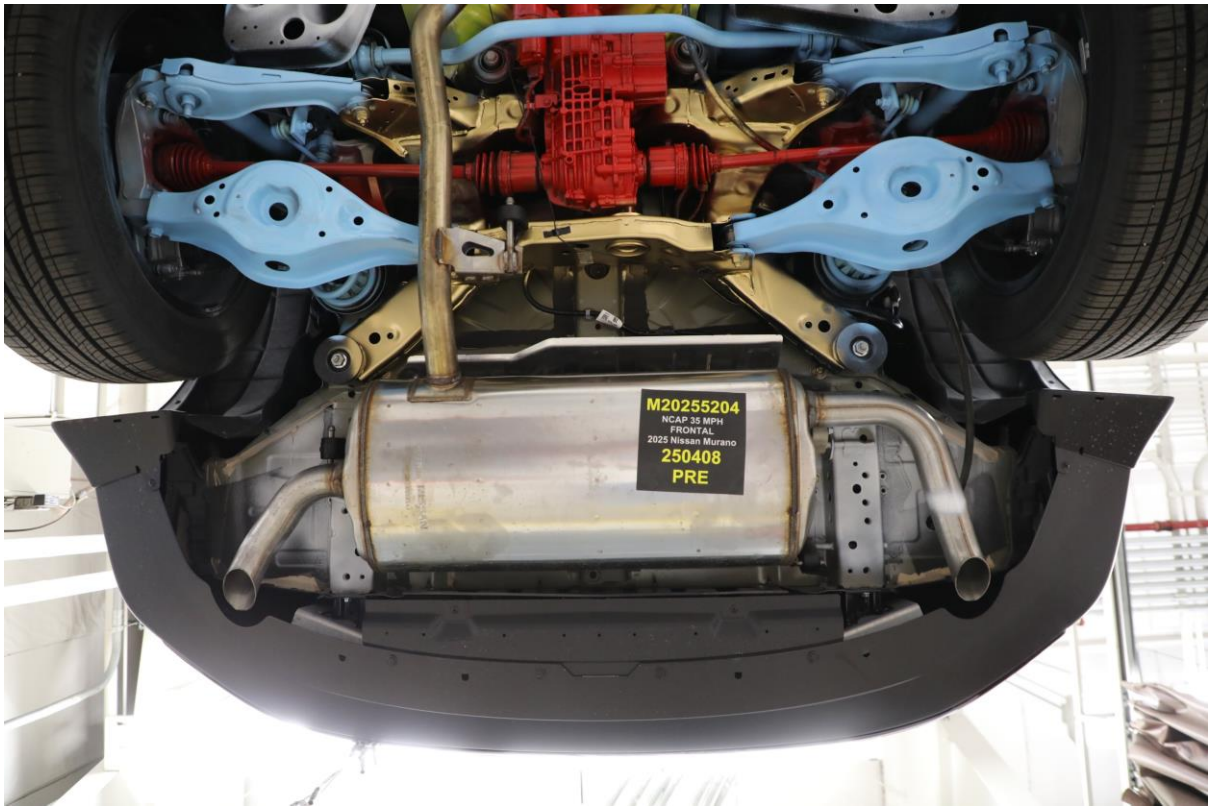
025b Post-Test Mid Front Underbody View



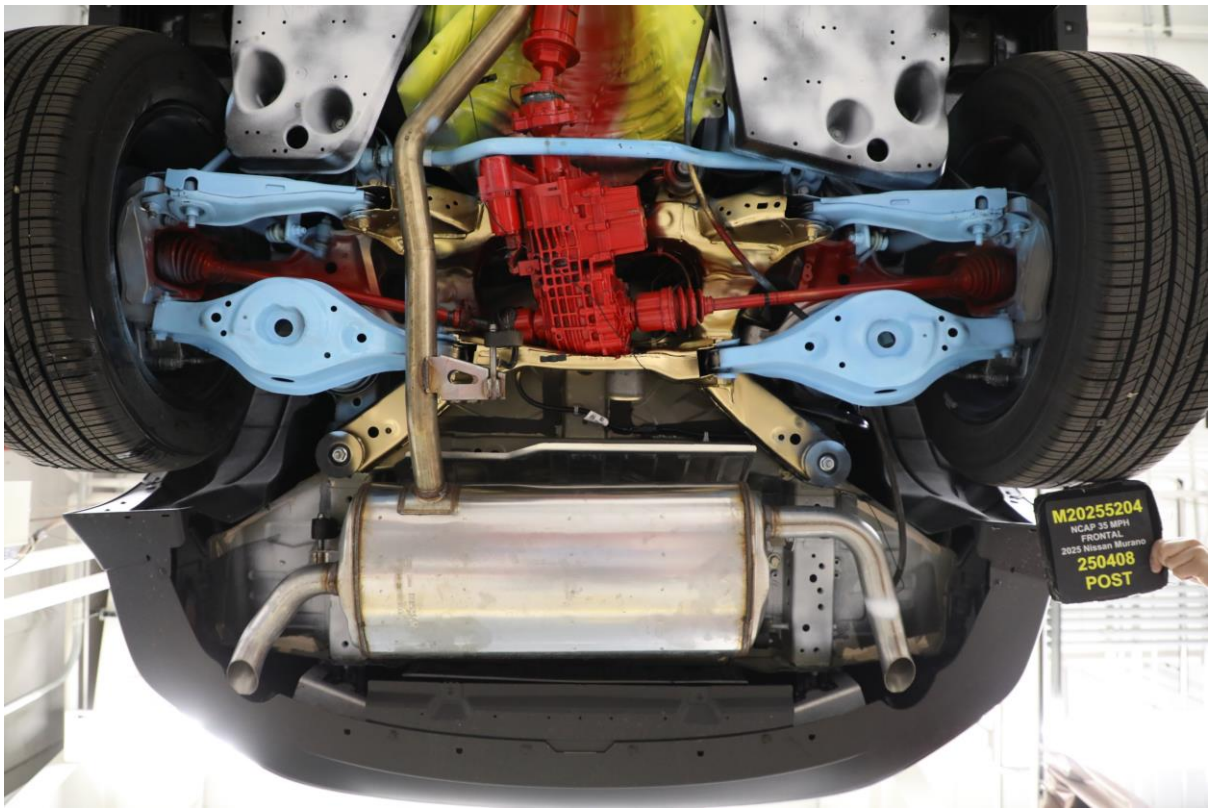
025c Pre-Test Mid Rear Underbody View



025d Post-Test Mid Rear Underbody View

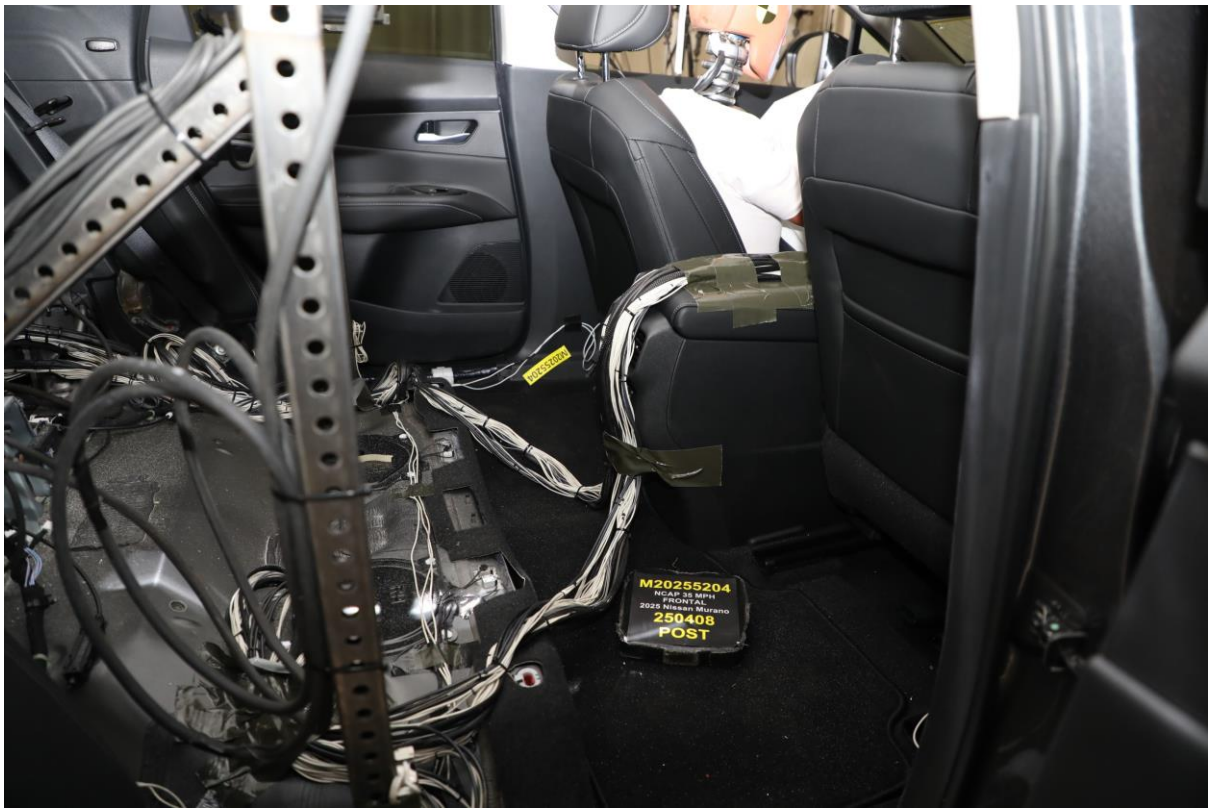


026 Pre-Test Rear Underbody View



027 Post-Test Rear Underbody View

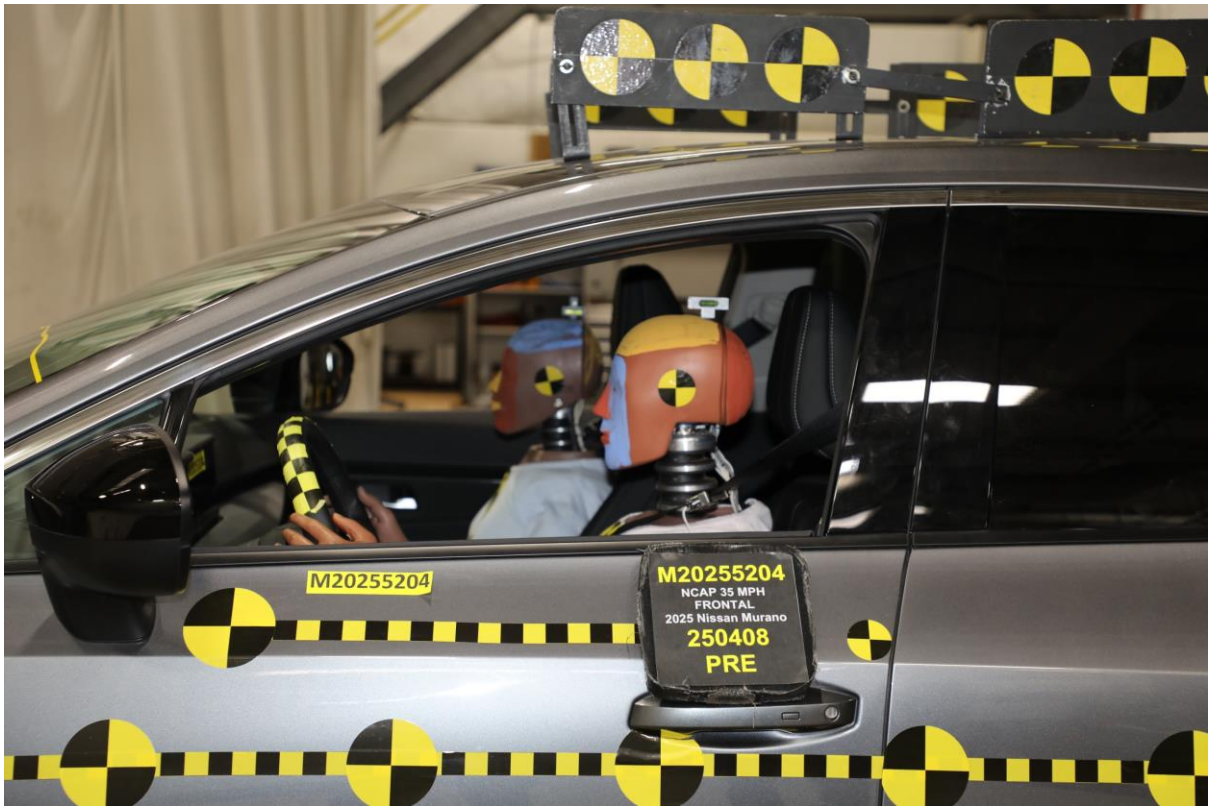
028 Pre-Test Dummy Cable Routing



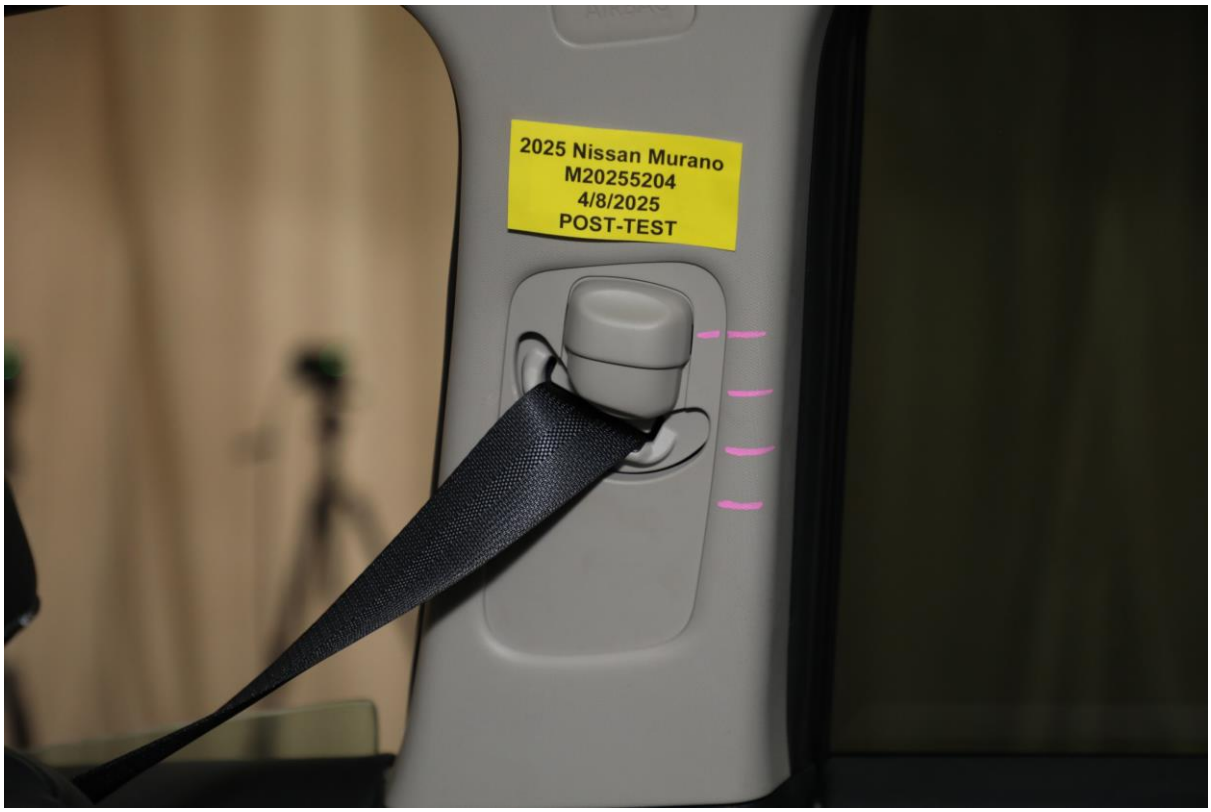
029 Post-Test Dummy Cable Routing

030 Pre-Test Driver Dummy Front View

031 Post-Test Driver Dummy Front View

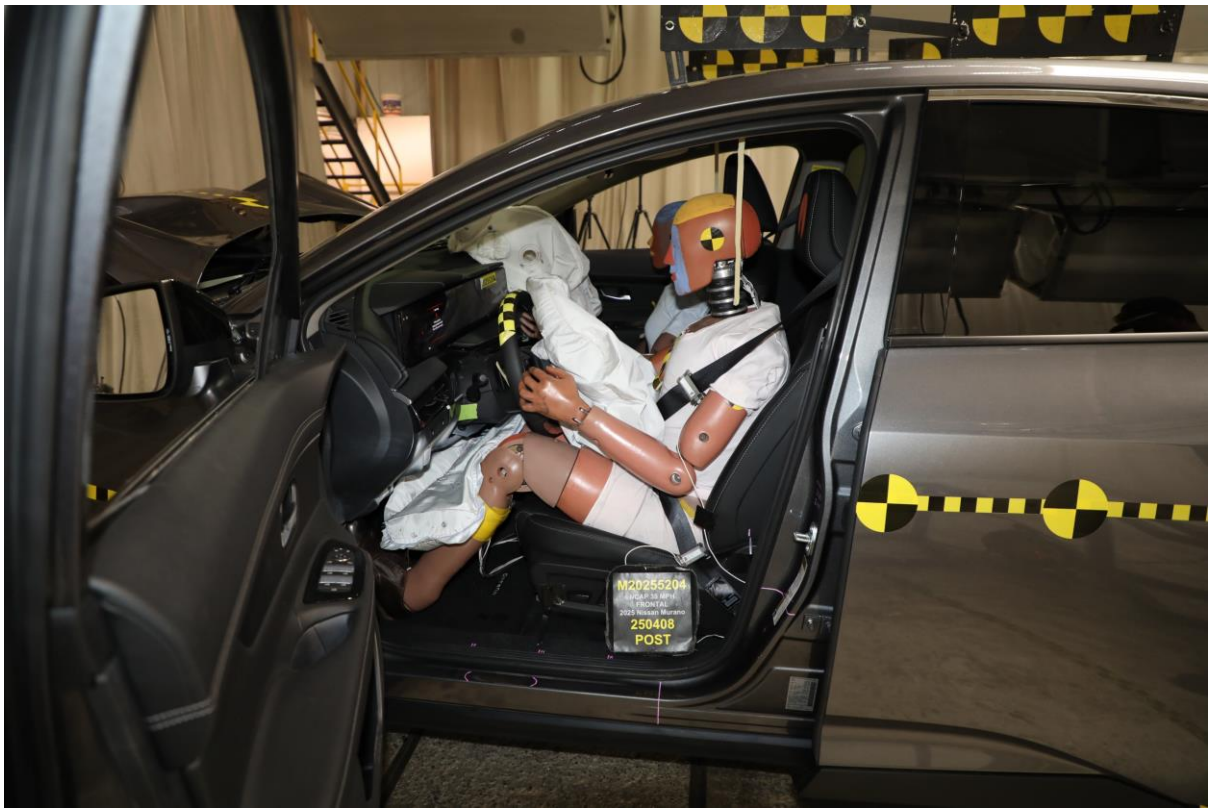


032 Pre-Test Driver Dummy Window View



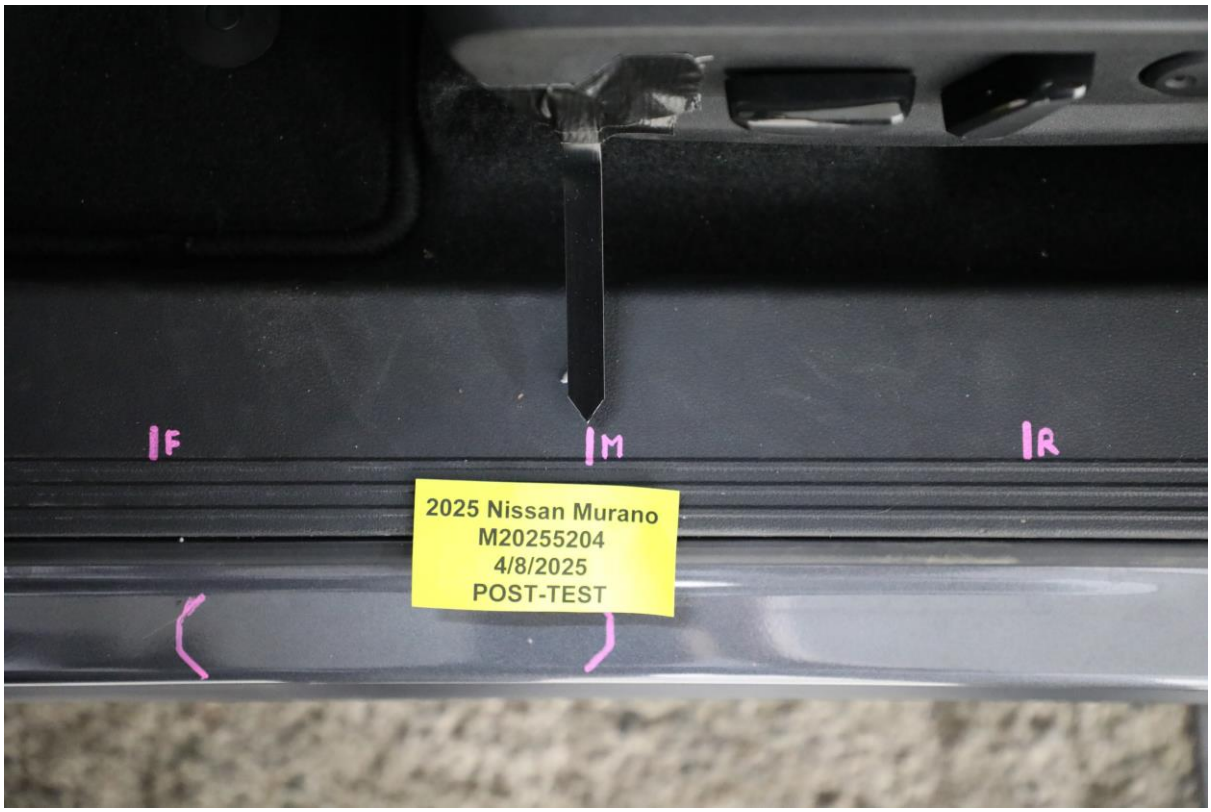
033 Post-Test Driver Dummy Window View

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

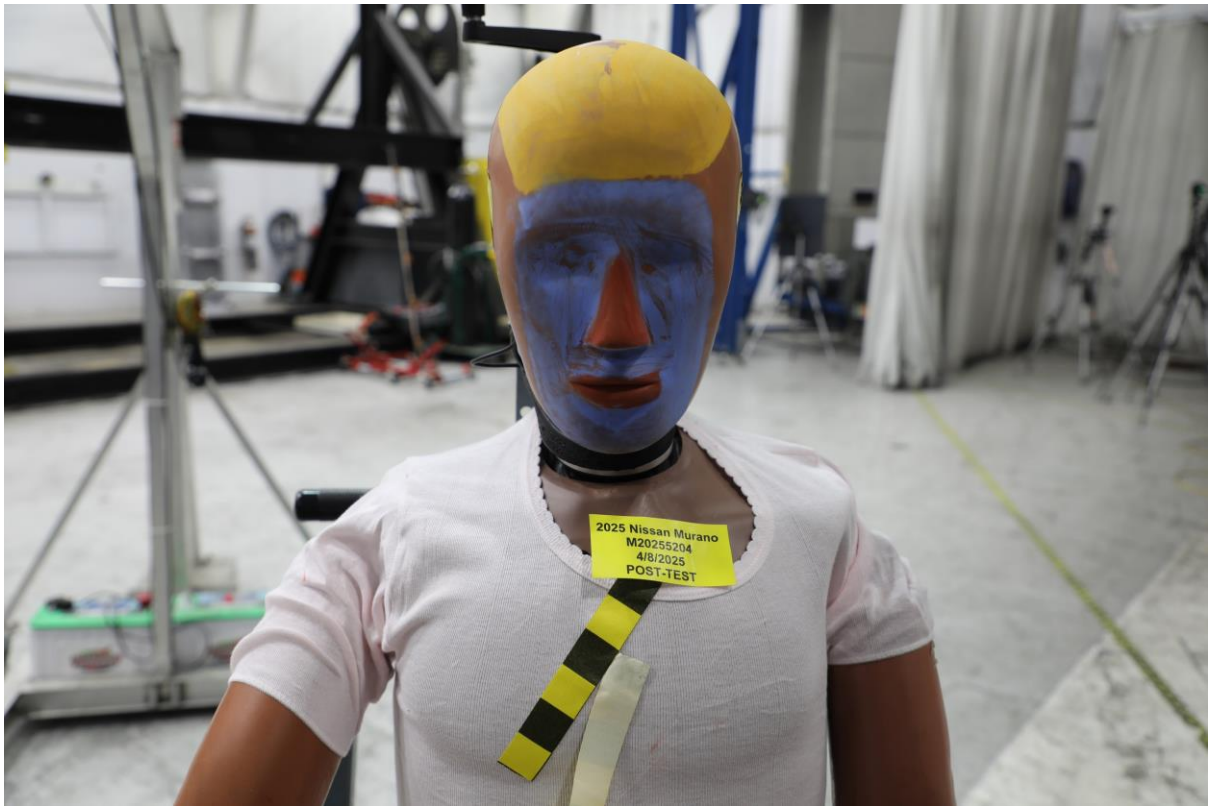
043 Post-Test Driver Dummy Feet

044 Pre-Test Driver's Side Knee Bolster

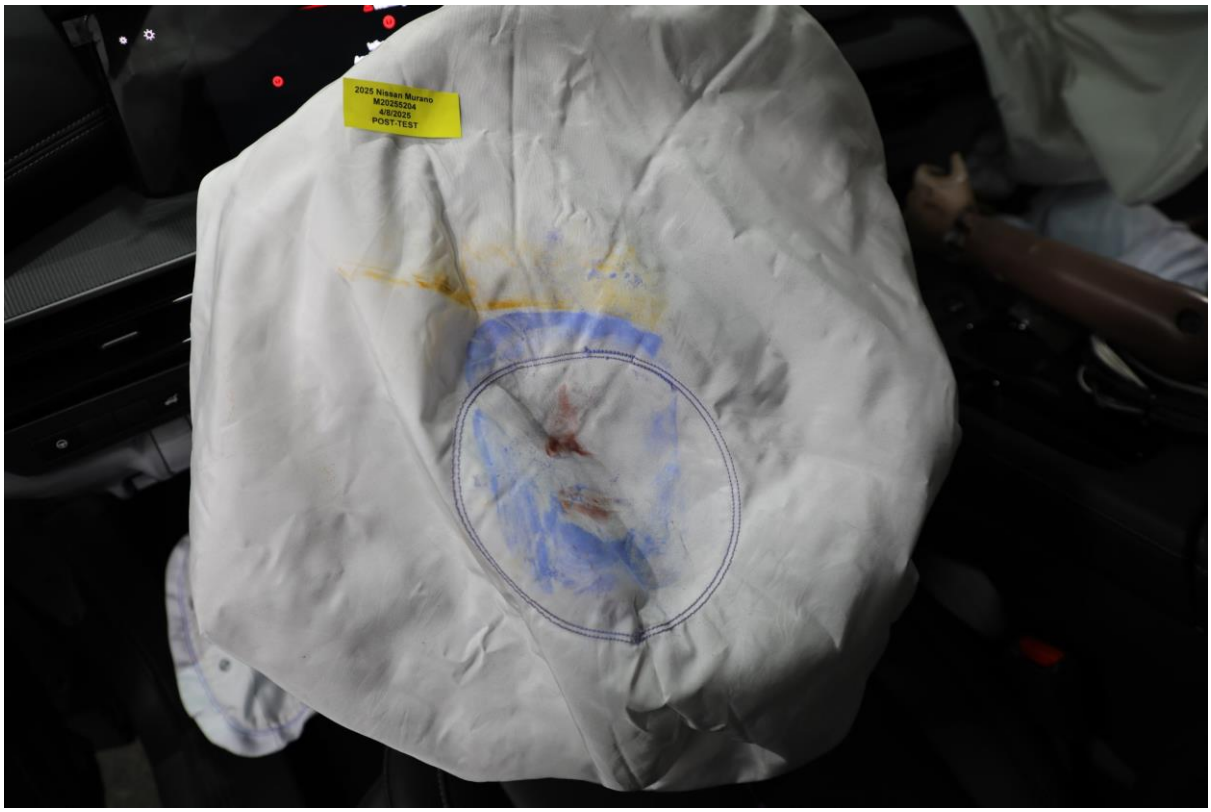
045 Post-Test Driver's Side Knee Bolster

046 Pre-Test Driver's Side Floorpan

047 Post-Test Driver's Side Floorpan



048 Post-Test Driver Dummy Face

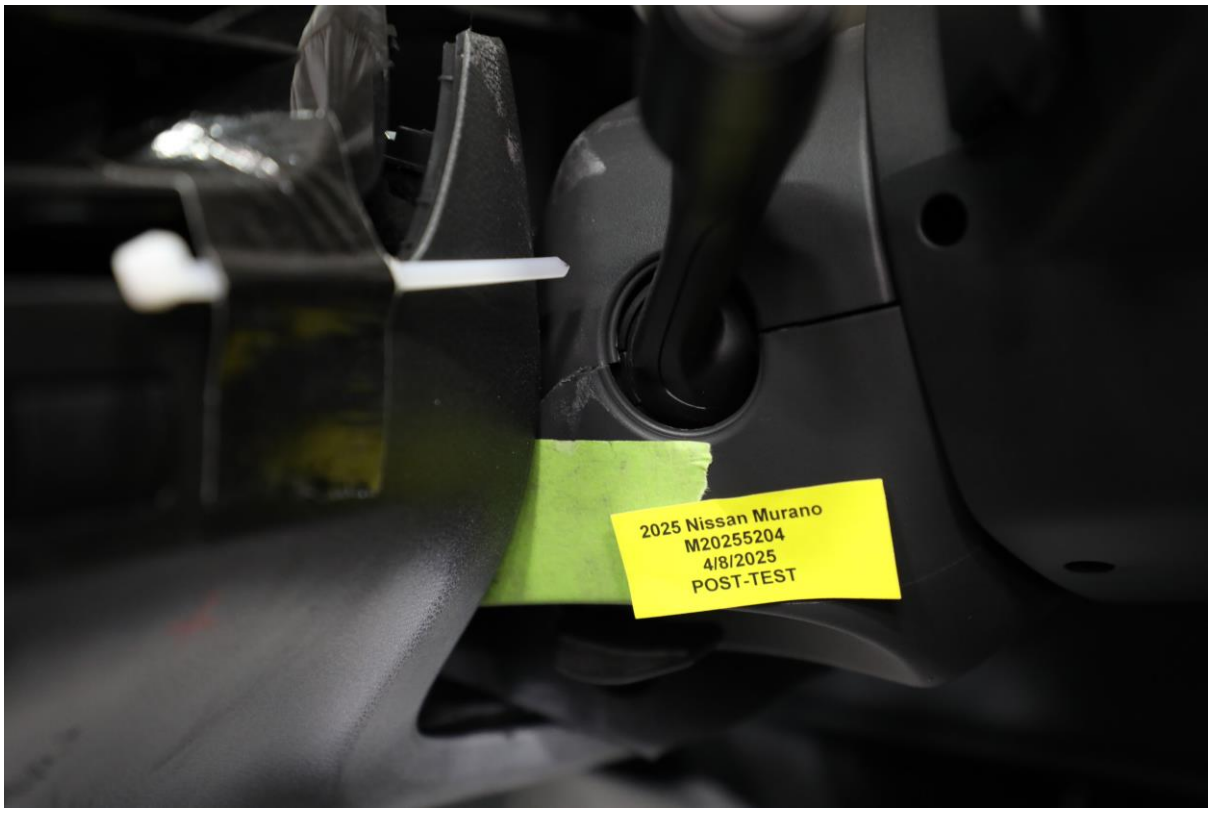


049 Post-Test Driver Dummy Contact with Airbag

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

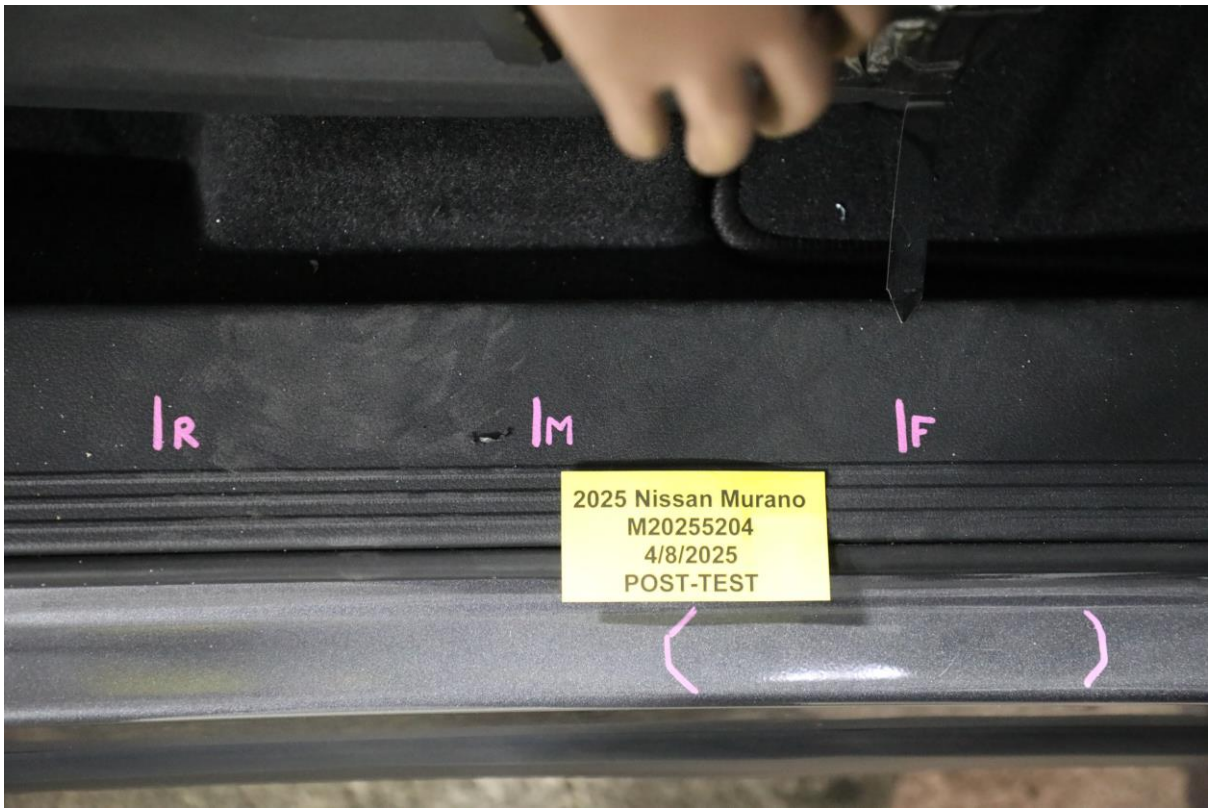
055 Pre-Test Passenger Dummy Window View

056 Post-Test Passenger Dummy Window View

057 Pre-Test Passenger Dummy and Vehicle Interior View

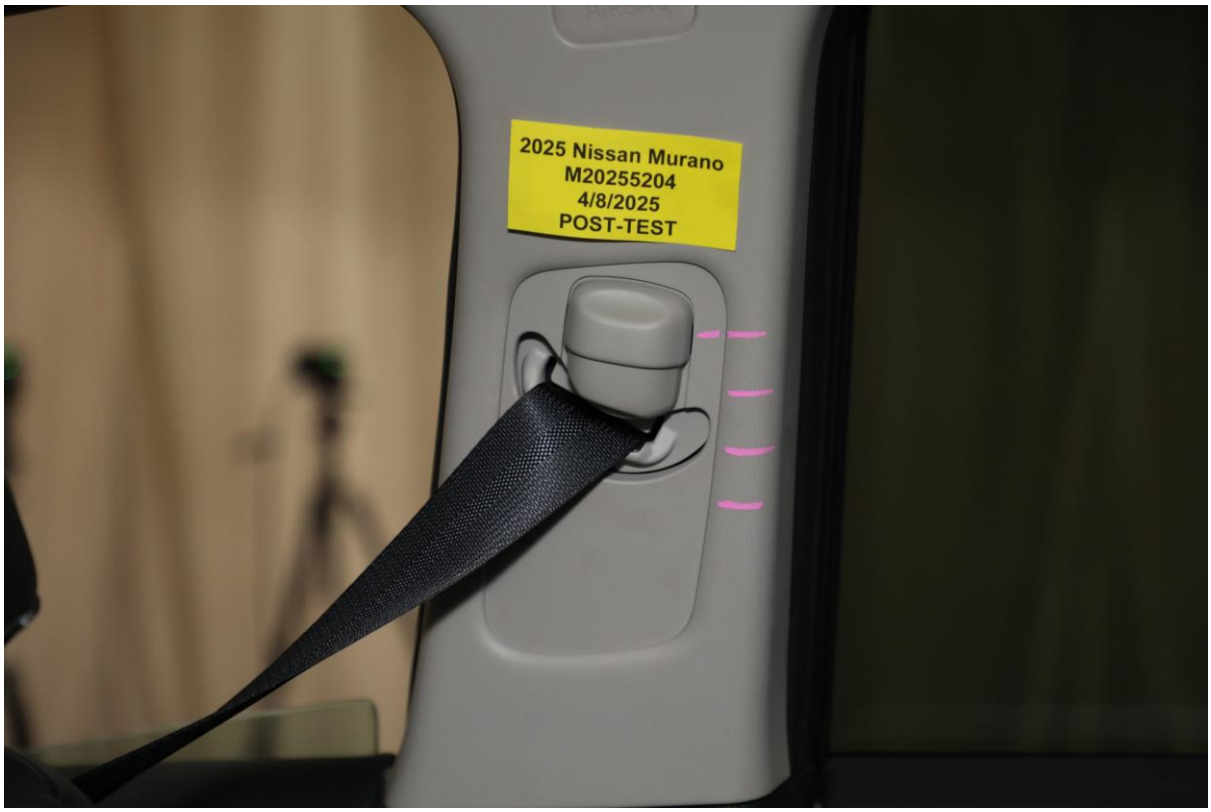
058 Post-Test Passenger Dummy and Vehicle Interior View

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

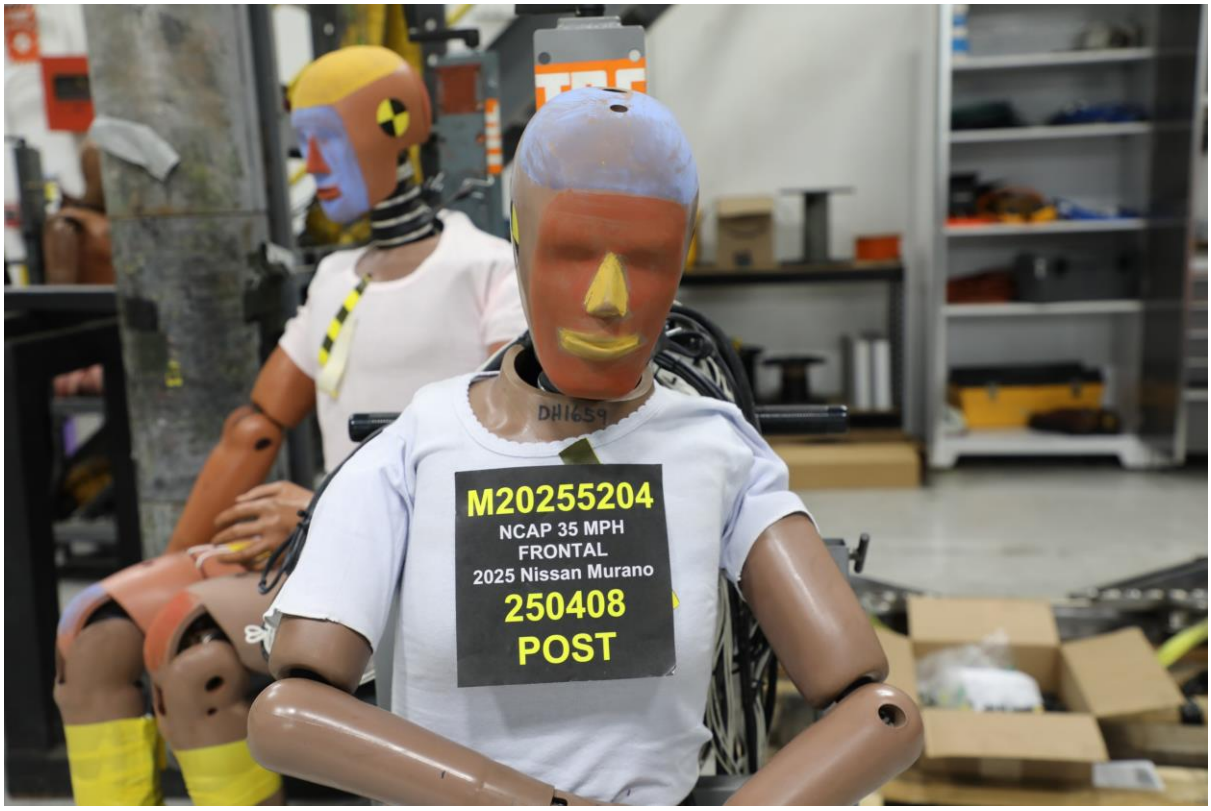
066 Post-Test Passenger Dummy Feet

067 Pre-Test Passenger's Side Knee Bolster

068 Post-Test Passenger's Side Knee Bolster

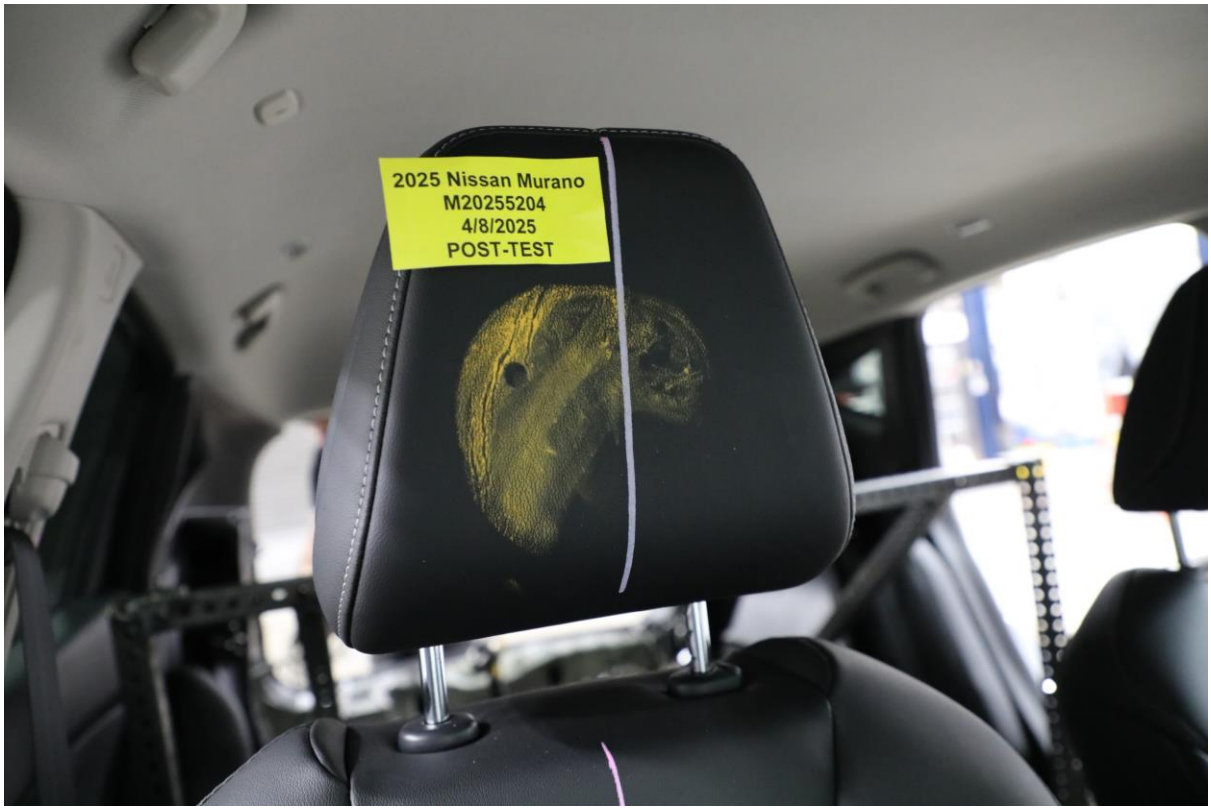
069 Pre-Test Passenger's Side Floorpan

070 Post-Test Passenger's Side Floorpan

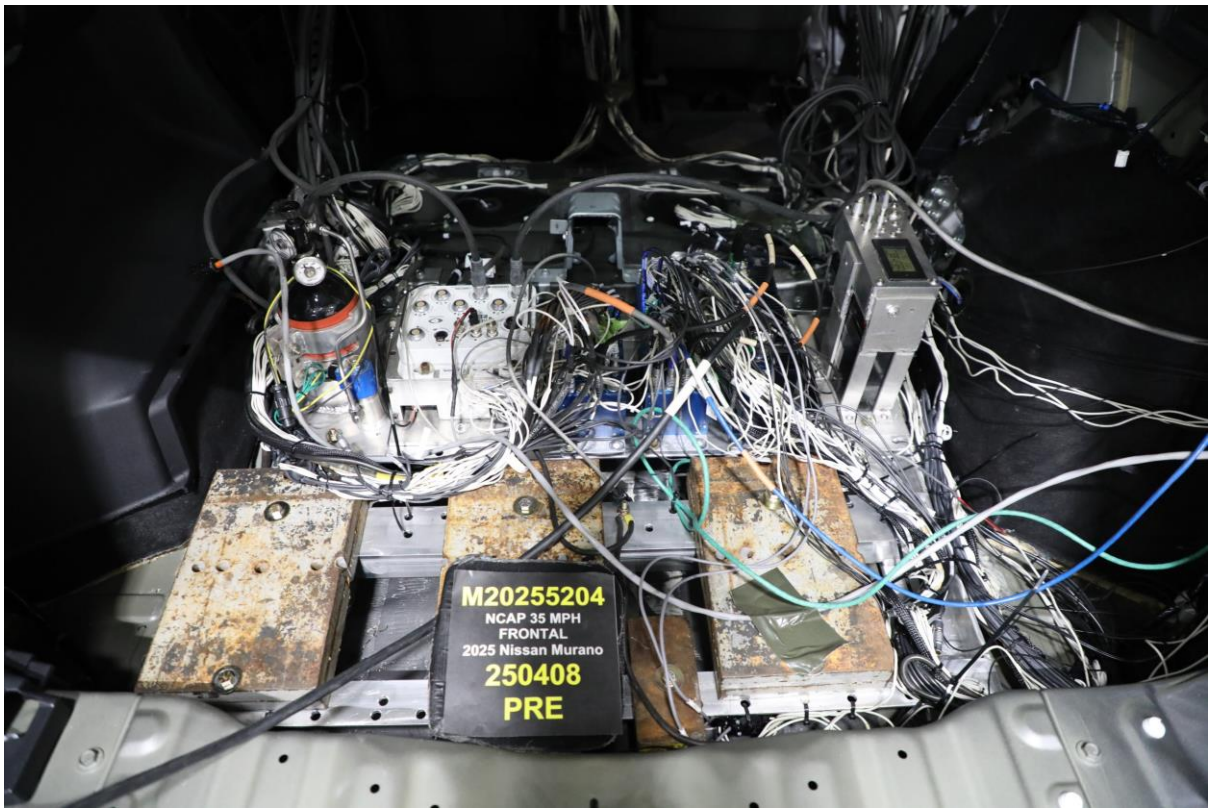


071 Post-Test Passenger Dummy Face

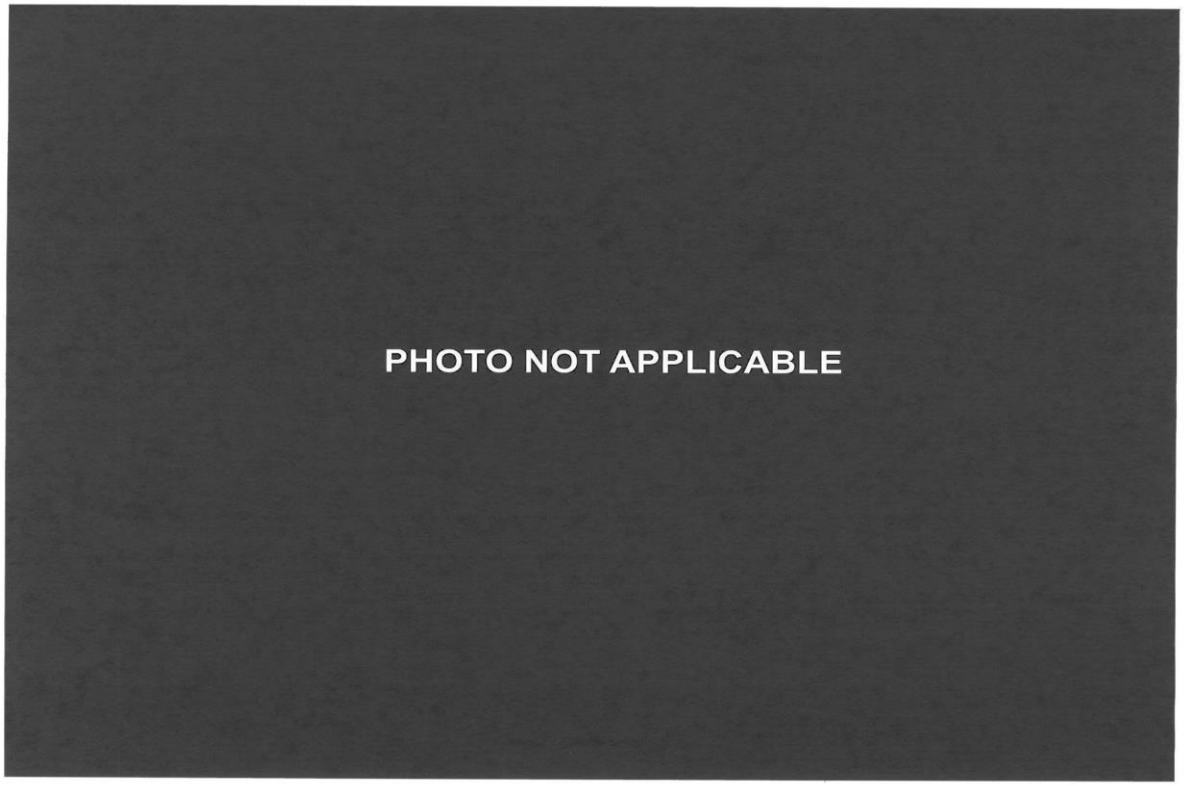
072 Post-Test Passenger Dummy Contact with Airbag



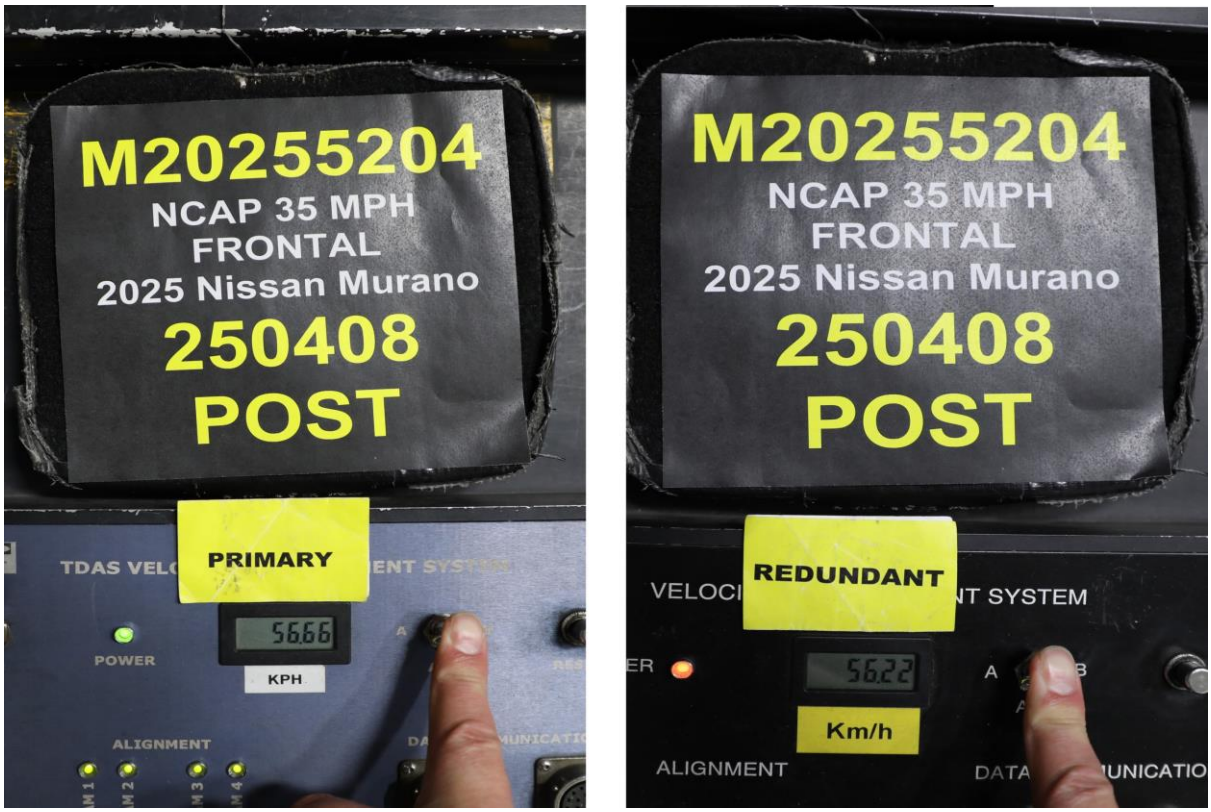
073 Post-Test Passenger Dummy Contact with Headrest



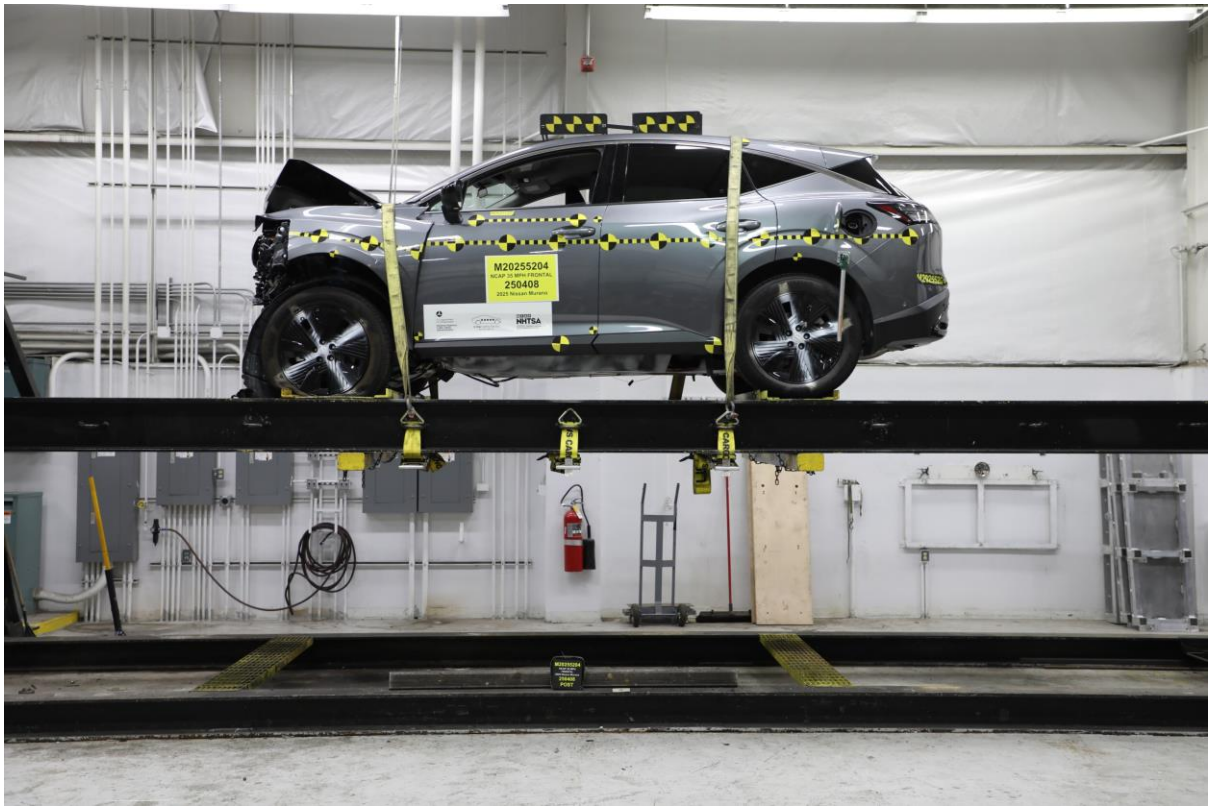
074 Photograph of Ballast Installed in Vehicle



075 Post-Test Stoddard Spillage Location View

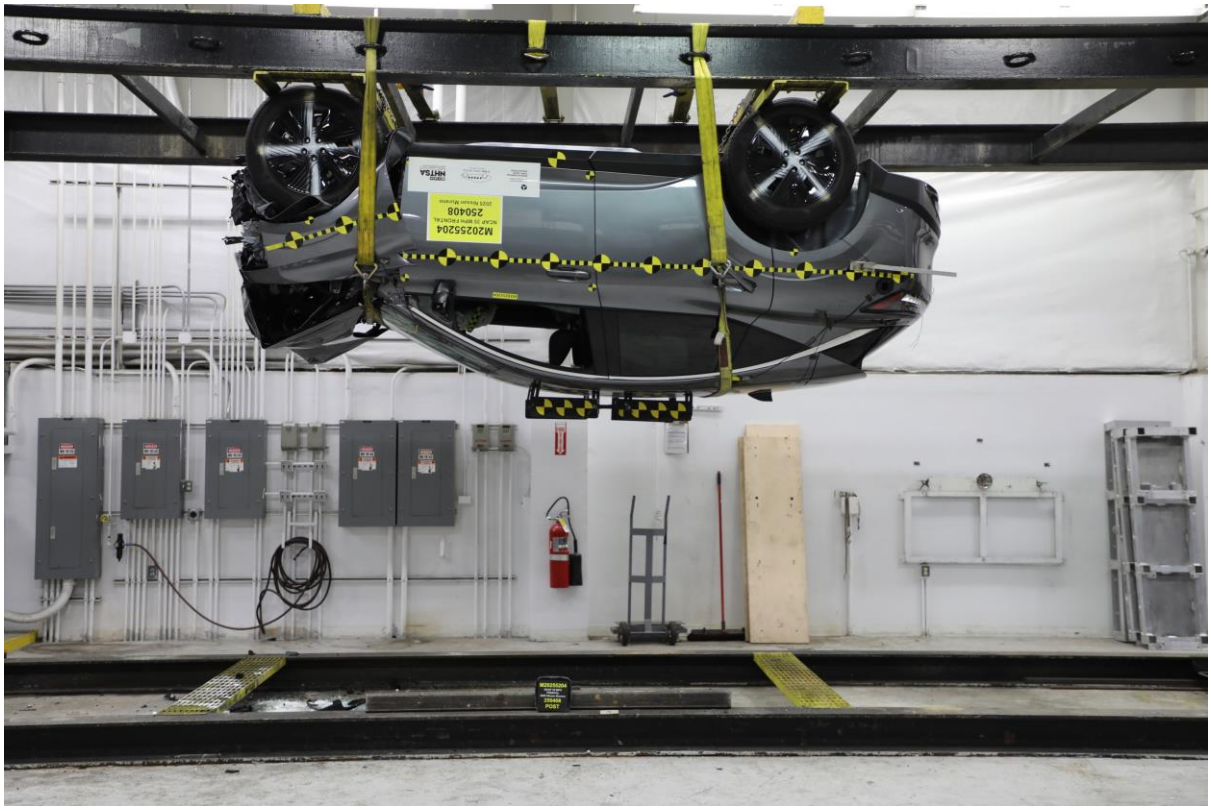


076 Post-Test Speed Trap Read out

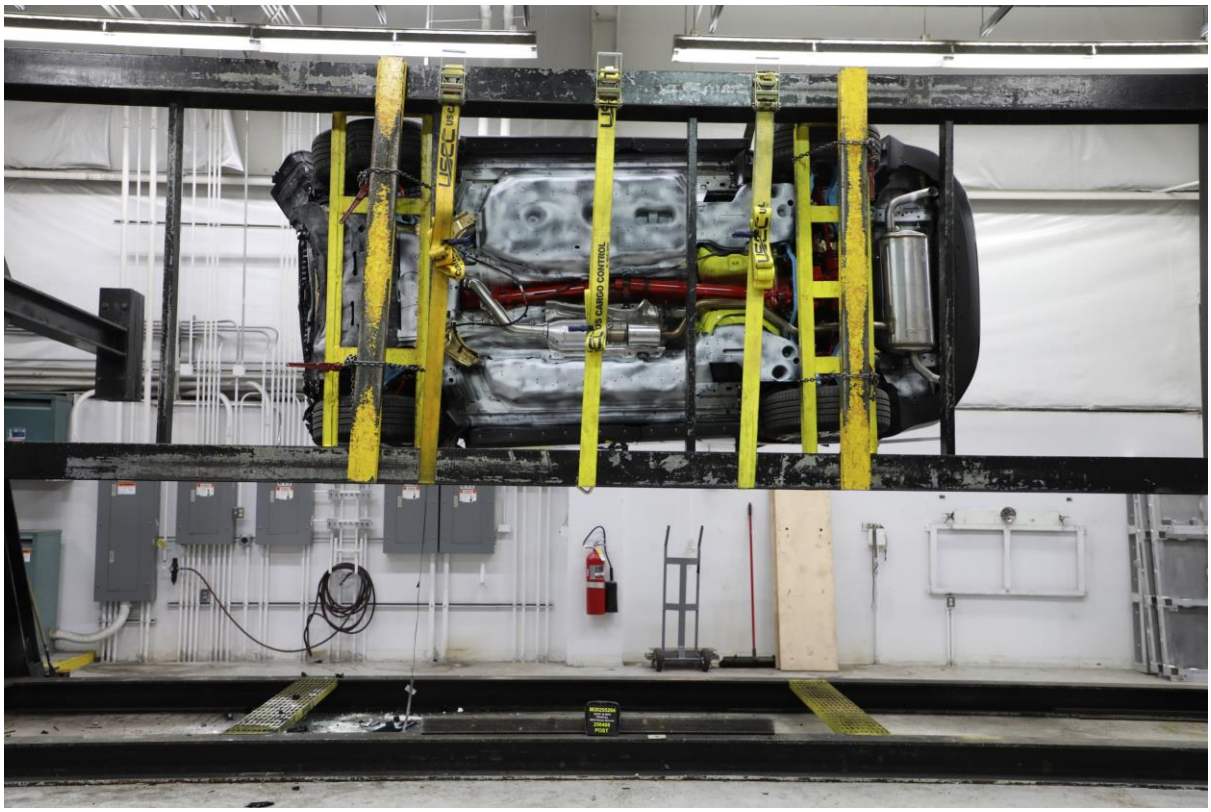


077 Vehicle at 0º on Static Rollover Device

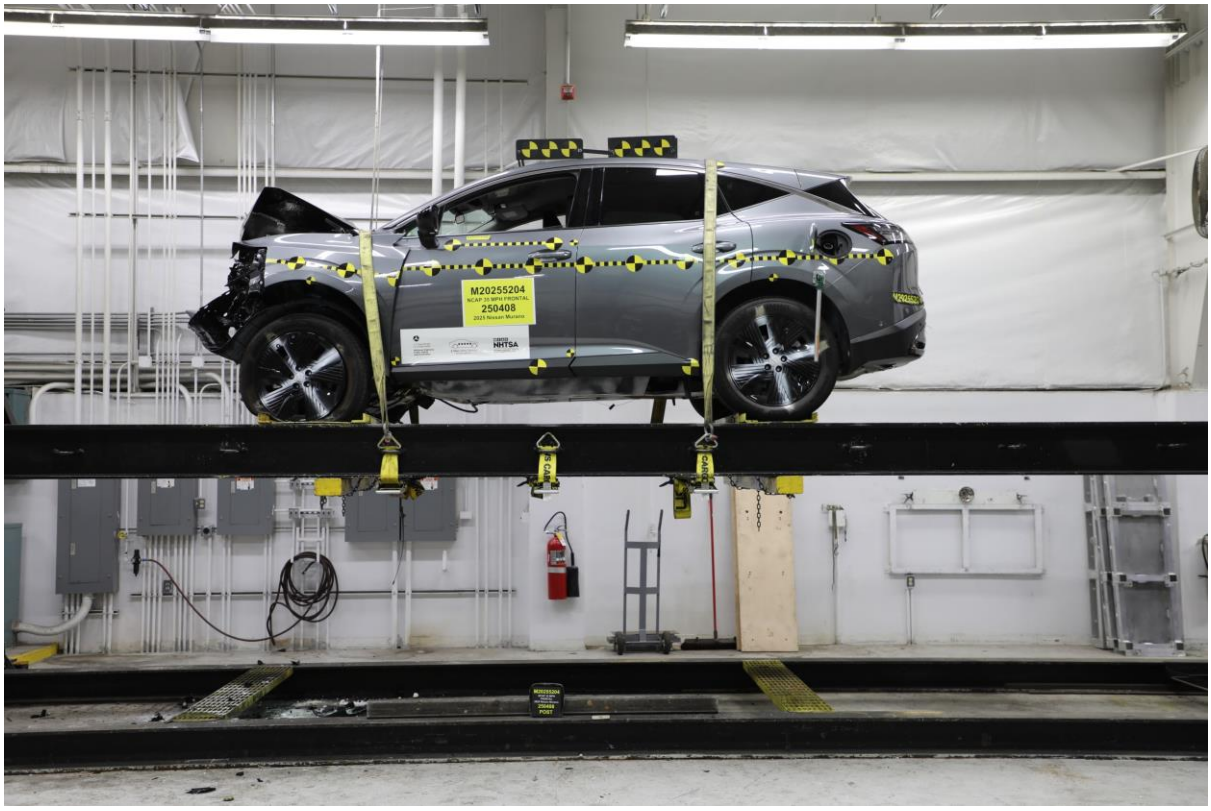
078 Vehicle at 90º on Static Rollover Device



079 Vehicle at 180º on Static Rollover Device

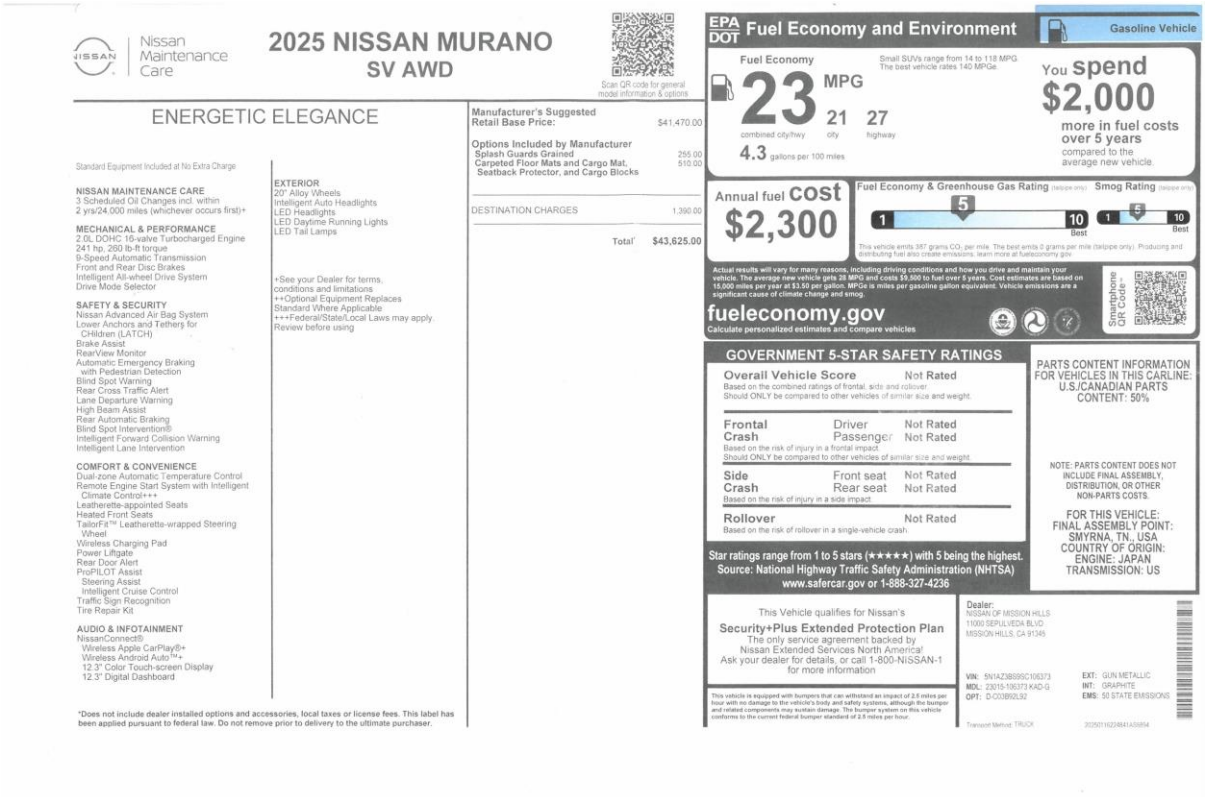


080 Vehicle at 270º on Static Rollover Device



081 Vehicle at 360º on Static Rollover Device

082 2025 Nissan Murano Frontal Impact Event



Nissan Maintenance Care

2025 NISSAN MURANO
SV AWD

Scan QR code for general model information & options

ENERGETIC ELEGANCE

Standard Equipment Included at No Extra Charge

NISSAN MAINTENANCE CARE
3 Scheduled Oil Changes incl. within 2 yrs/24,000 miles (whichever occurs first)+

MECHANICAL & PERFORMANCE
2.0L DOHC 16-valve Turbocharged Engine
241 hp, 260 lb-ft torque
9-Speed Automatic Transmission
Front and Rear Disc Brakes
Intelligent All-wheel Drive System
Drive Mode Selector

SAFETY & SECURITY
Nissan Advanced Air Bag System
Lower Anchors and Tethers for Children (LATCH)
Brake Assist
RearView Monitor
Automatic Emergency Braking with Pedestrian Detection
Blind Spot Warning
Rear Cross Traffic Alert
Lane Departure Warning
High Beam Assist
Rear Automatic Braking
Blind Spot Intervention®
Intelligent Forward Collision Warning
Intelligent Lane Intervention

COMFORT & CONVENIENCE
Dual-zone Automatic Temperature Control
Remote Engine Start System with Intelligent Climate Control+++
Leatherette-appointed Seats
Heated Front Seats
TailorFit™ Leatherette-wrapped Steering Wheel
Wireless Charging Pad
Power Liftgate
Rear Door Alert
ProPILOT Assist
Steering Assist
Intelligent Cruise Control
Traffic Sign Recognition
Tire Repair Kit

AUDIO & INFOTAINMENT
NissanConnect®
Wireless Apple CarPlay®+
Wireless Android Auto™+
12.3" Color Touch-screen Display
12.3" Digital Dashboard

EXTERIOR
20" Alloy Wheels
Intelligent Auto Headlights
LED Headlights
LED Daytime Running Lights
LED Tail Lamps

+See your Dealer for terms, conditions and limitations
++Optional Equipment Replaces Standard Where Applicable
+++Federal/State/Local Laws may apply. Review before using

*Does not include dealer installed options and accessories, local taxes or license fees. This label has been applied pursuant to federal law. Do not remove prior to delivery to the ultimate purchaser.

Manufacturer's Suggested Retail Base Price:	$41,470.00
Options Included by Manufacturer	
Splash Guards Grained	255.00
Carpeted Floor Mats and Cargo Mat, Seatback Protector, and Cargo Blocks	510.00
DESTINATION CHARGES	1,390.00
Total*	$43,625.00

EPA DOT **Fuel Economy and Environment** — Gasoline Vehicle

Fuel Economy: **23 MPG** (combined city/hwy) — 21 city, 27 highway
4.3 gallons per 100 miles

Small SUVs range from 14 to 118 MPG. The best vehicle rates 140 MPGe.

You spend **$2,000** more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost **$2,300**

Fuel Economy & Greenhouse Gas Rating (tailpipe only): 1 — 5 — 10 Best
Smog Rating (tailpipe only): 1 — 5 — 10 Best

This vehicle emits 387 grams CO_2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fueleconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 28 MPG and costs $9,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at $3.50 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fueleconomy.gov
Calculate personalized estimates and compare vehicles

Smartphone QR Code™

GOVERNMENT 5-STAR SAFETY RATINGS

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

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

PARTS CONTENT INFORMATION FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 50%

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

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT: SMYRNA, TN, USA
COUNTRY OF ORIGIN:
ENGINE: JAPAN
TRANSMISSION: US

This Vehicle qualifies for Nissan's
Security+Plus Extended Protection Plan
The only service agreement backed by Nissan Extended Services North America.
Ask your dealer for details, or call 1-800-NISSAN-1 for more information

This vehicle is equipped with bumpers that can withstand an impact of 2.5 miles per hour with no damage to the vehicle's body and safety systems, although the bumper and related components may sustain damage. The bumper system on this vehicle conforms to the current federal bumper standard of 2.5 miles per hour.

Dealer:
NISSAN OF MISSION HILLS
11000 SEPULVEDA BLVD
MISSION HILLS, CA 91345

VIN: 5N1AZ3BS9SC106373
MDL: 23015-1K373 KAD-G
OPT: D-C03B92L92

EXT: GUN METALLIC
INT: GRAPHITE
EMS: 50 STATE EMISSIONS

Transport Method: TRUCK

083 Monroney Label Photograph

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS

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 Head Angular Velocity X
Driver Head Angular Velocity Y
Driver Head Angular Velocity Z
Driver Shoulder Belt
Driver Lap Belt
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 Head Angular Velocity X
Passenger Head Angular Velocity Y
Passenger Head Angular Velocity Z
Left Rear Seat Crossmember X
Left Rear Seat Crossmember Z
Passenger Shoulder Belt
Passenger Lap Belt
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

NHTSA

Test Date: 04/8/2025

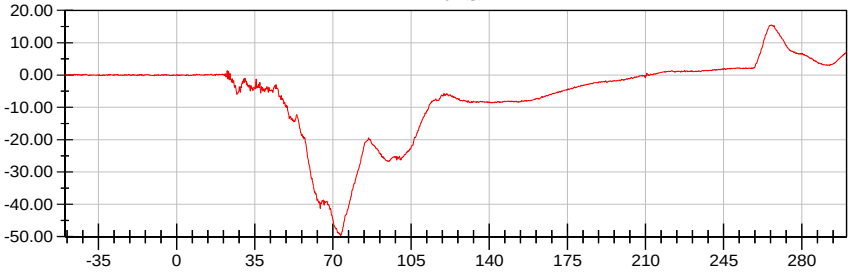
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

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



<Max>

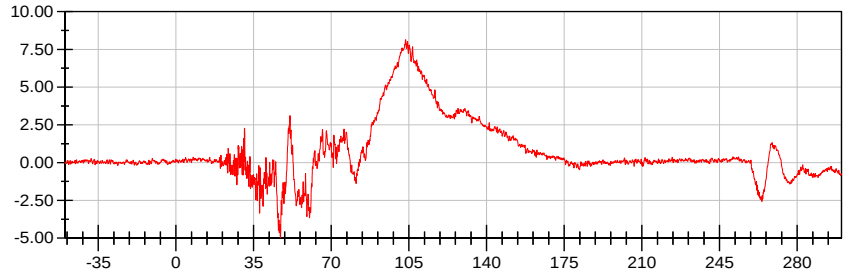
15.45 g at 266.30 ms

<Min>

-49.70 g at 73.45 ms

CFC_1000

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



<Max>

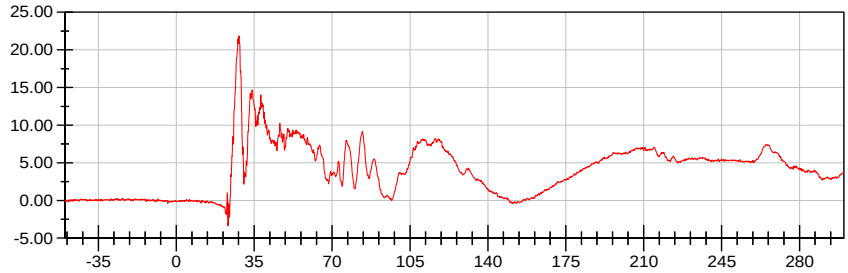
8.14 g at 103.50 ms

<Min>

-4.96 g at 47.10 ms

CFC_1000

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



<Max>

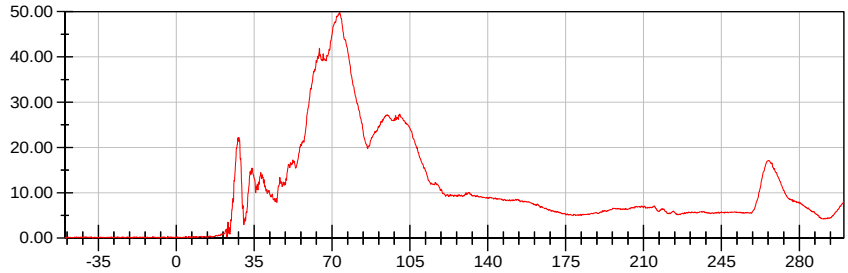
21.86 g at 28.15 ms

<Min>

-3.35 g at 23.25 ms

CFC_1000

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



<Max>

49.84 g at 73.45 ms

<Min>

0.00 g at -19.50 ms

CFC_1000

NHTSA

Test Date: 04/8/2025

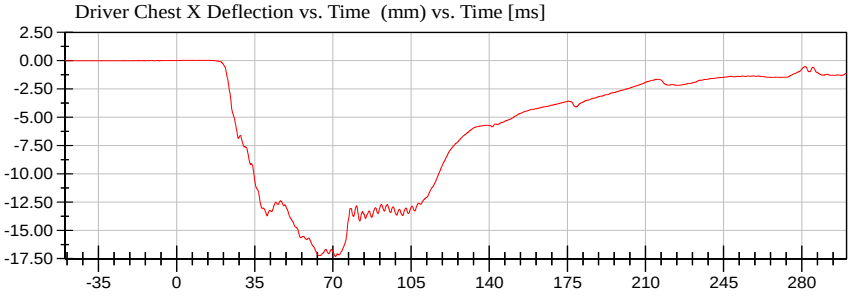
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Driver Chest X Deflection vs. Time (mm) vs. Time [ms]



<Max>

0.03 mm at 8.80 ms

<Min>

-17.31 mm at 71.20 ms

CFC_600

NHTSA

Test Date: 04/8/2025

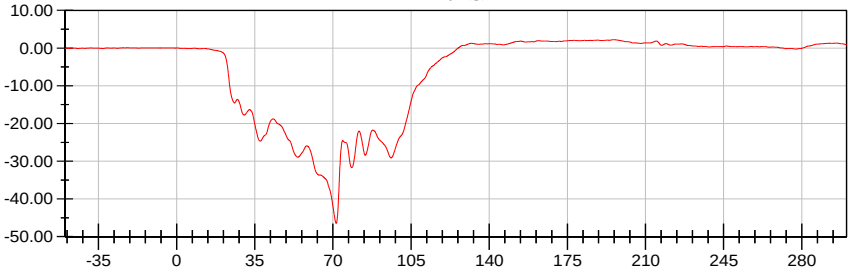
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

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



<Max>

2.22 g at 195.75 ms

<Min>

-46.48 g at 71.50 ms

CFC_180

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

<Max>

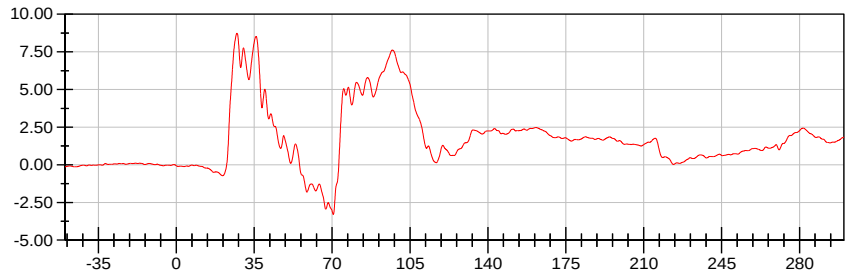
8.48 g at 76.30 ms

<Min>

-4.60 g at 25.15 ms

CFC_180

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



<Max>

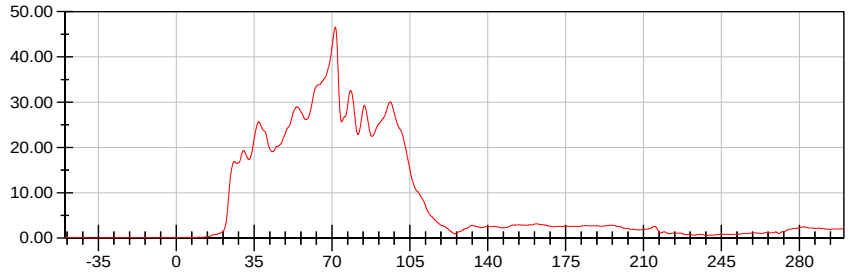
8.73 g at 27.25 ms

<Min>

-3.30 g at 70.55 ms

CFC_180

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



<Max>

46.60 g at 71.45 ms

<Min>

0.02 g at -35.05 ms

CFC_180

NHTSA

Test Date: 04/8/2025

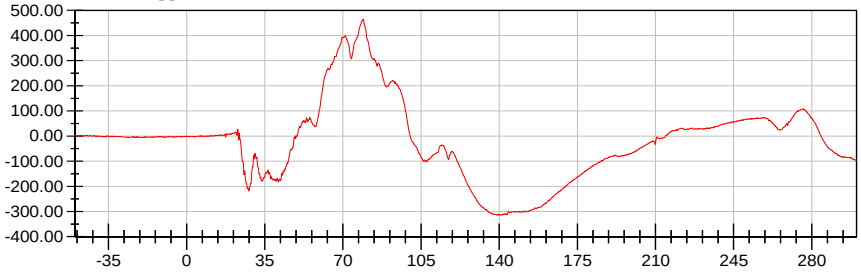
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Driver Upper Neck Force X vs. Time (N) vs. Time [ms]



<Max>

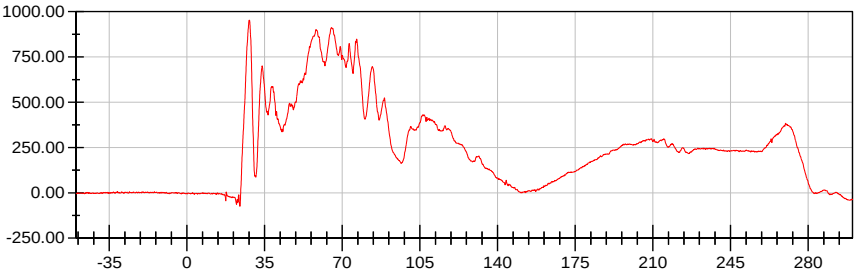
464.44 N at 79.05 ms

<Min>

-314.57 N at 141.25 ms

CFC_1000

Driver Upper Neck Force Z vs. Time (N) vs. Time [ms]



<Max>

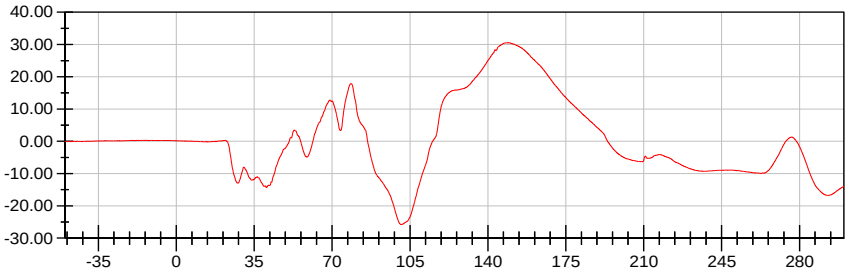
953.40 N at 28.10 ms

<Min>

-73.72 N at 23.85 ms

CFC_1000

Driver Upper Neck Moment Y vs. Time (Nm) vs. Time [ms]



<Max>

30.54 Nm at 149.15 ms

<Min>

-25.80 Nm at 100.95 ms

CFC_600

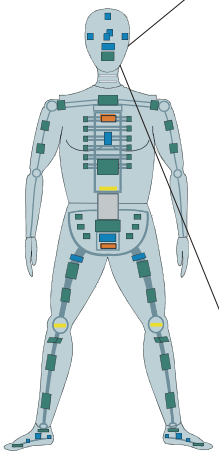
Date: 04/08/2025
Time: 13:38

Neck Injury Predictor (NIJ)

Customer: NHTSA
Test Number: M20255204

TRC Inc. Test Lab: CTF
Test Number: 250408

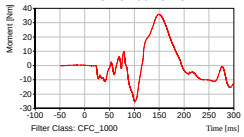
Test Orientation = Frontal
Fzc(Tension) = 6806
Fzc(Compression) = 6160
Myc(Extension) = 135
Myc(Flexion) = 310



Dummy:HIII 50th Male
Seating Position:
Driver

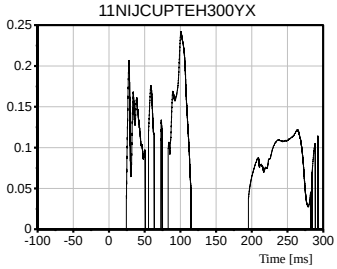
NIJ Source Code: (Fz/Fzc)+(My/Myc)

11TMONUP00H3MOYX



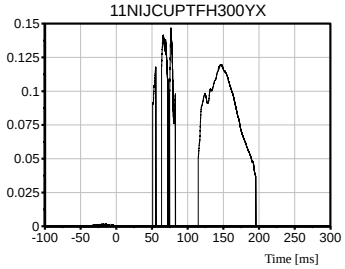
11NECKUP00H3FOZA

11NIJCUPTEH300YX



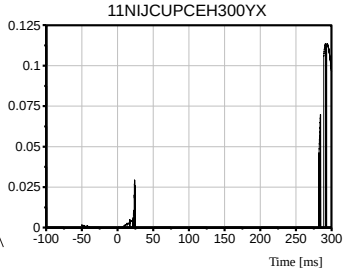
Max [NTE] 0.2422 at 100.90 ms

11NIJCUPTFH300YX



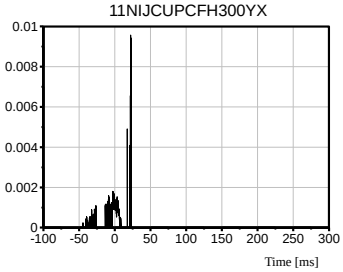
Max [NTF] 0.1468 at 76.60 ms

11NIJCUPCEH300YX



Max [NCE] 0.1136 at 294.15 ms

11NIJCUPCFH300YX



Max [NCF] 0.0096 at 22.30 ms

NHTSA

Test Date: 04/8/2025

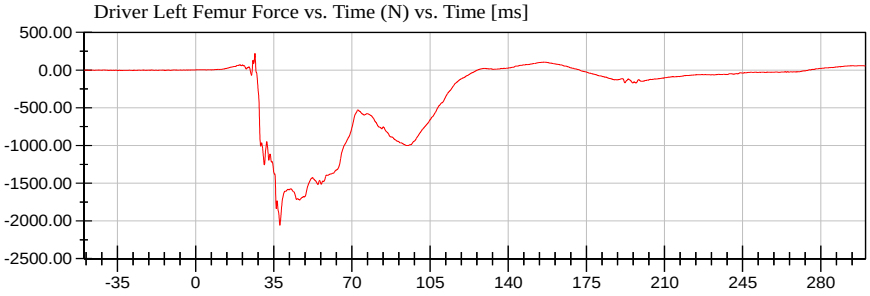
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Driver Left Femur Force vs. Time (N) vs. Time [ms]



<Max>

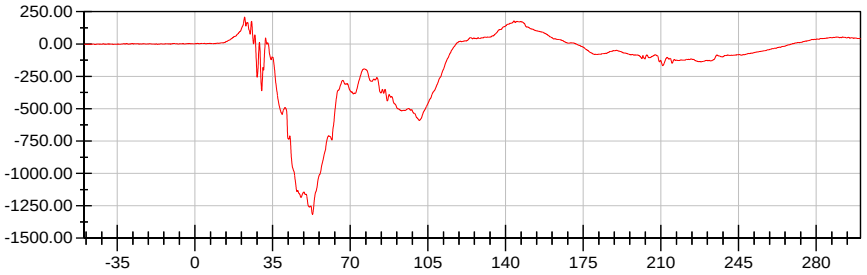
219.03 N at 26.55 ms

<Min>

-2,058.25 N at 37.70 ms

CFC_600

Driver Right Femur Force vs. Time (N) vs. Time [ms]



<Max>

208.26 N at 22.40 ms

<Min>

-1,317.04 N at 53.00 ms

CFC_600

NHTSA

Test Date: 04/8/2025

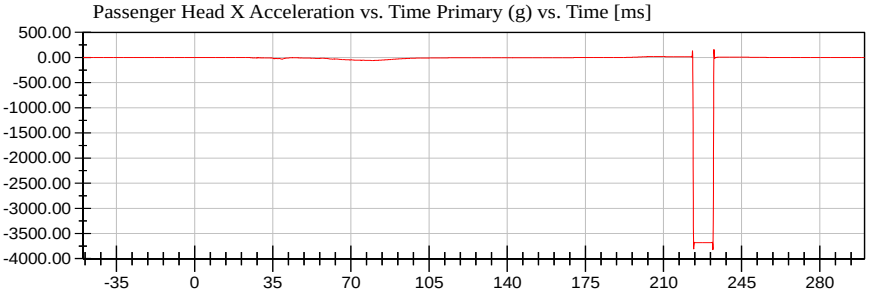
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

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



<Max>

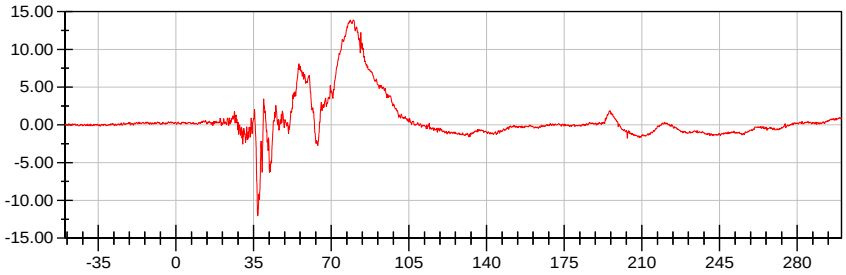
158.85 g at 232.60 ms

<Min>

-3,821.57 g at 232.15 ms

CFC_1000

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



<Max>

13.89 g at 78.55 ms

<Min>

-12.04 g at 36.90 ms

CFC_1000

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

<Max>

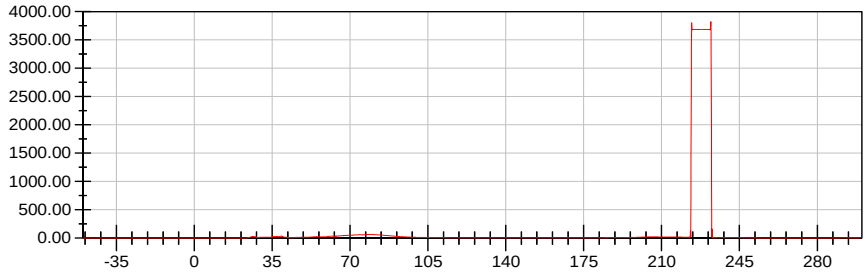
26.72 g at 26.55 ms

<Min>

-4.44 g at 100.35 ms

CFC_1000

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



<Max>

3,821.58 g at 232.15 ms

<Min>

0.04 g at -19.05 ms

CFC_1000

NHTSA

Test Date: 04/8/2025

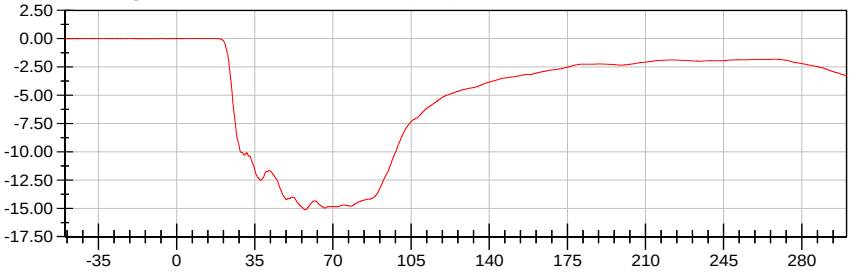
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Passenger Chest X Deflection vs. Time (mm) vs. Time [ms]



<Max>

0.01 mm at 17.80 ms

<Min>

-15.12 mm at 57.75 ms

CFC_600

NHTSA

Test Date: 04/8/2025

Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Passenger Chest X Acceleration vs. Time Primary (g) vs. Time [ms]

<Max>

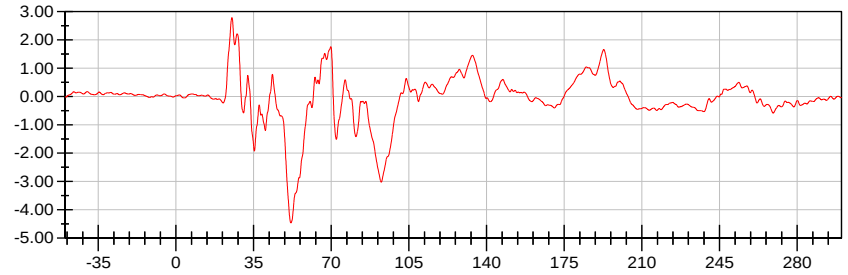
41.39 g at 76.50 ms

<Min>

-4.43 g at 239.25 ms

CFC_180

Passenger Chest Y Acceleration vs. Time Primary (g) vs. Time [ms]



<Max>

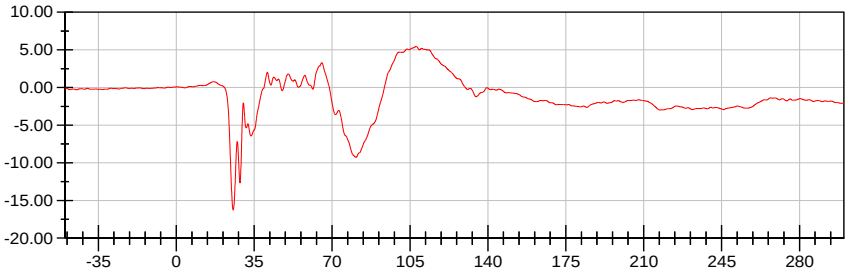
2.79 g at 25.25 ms

<Min>

-4.46 g at 51.80 ms

CFC_180

Passenger Chest Z Acceleration vs. Time Primary (g) vs. Time [ms]



<Max>

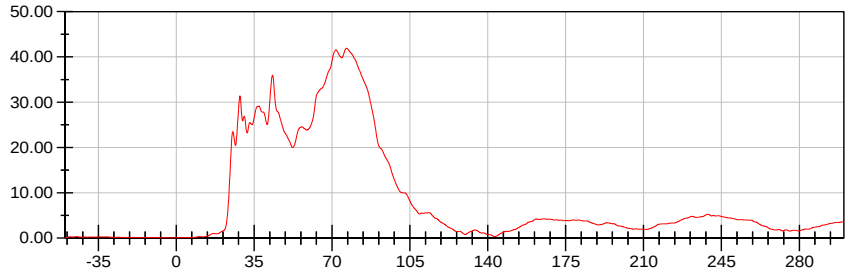
5.47 g at 107.70 ms

<Min>

-16.28 g at 25.60 ms

CFC_180

Passenger Chest Resultant Acceleration vs. Time Primary (g) vs. Time [ms]



<Max>

41.91 g at 76.55 ms

<Min>

0.03 g at -2.00 ms

CFC_180

NHTSA

Test Date: 04/8/2025

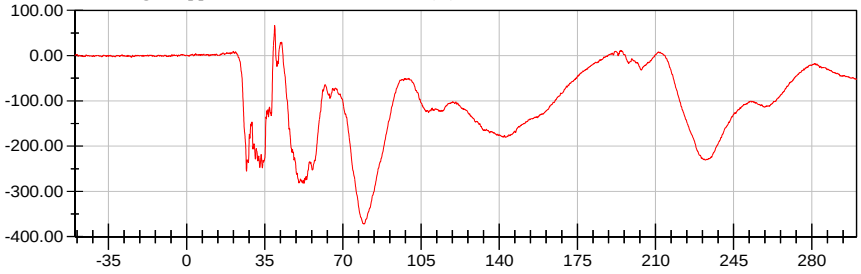
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Passenger Upper Neck Force X vs. Time (N) vs. Time [ms]



<Max>

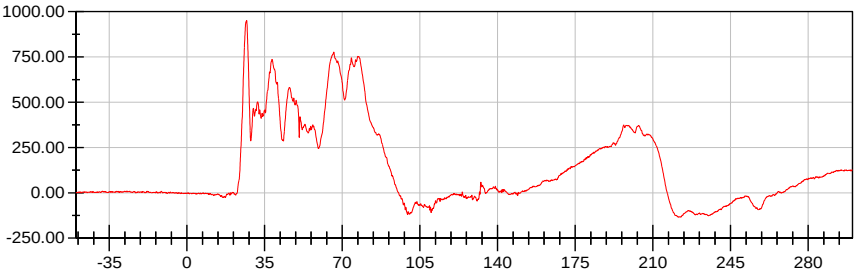
66.55 N at 39.45 ms

<Min>

-372.15 N at 79.40 ms

CFC_1000

Passenger Upper Neck Force Z vs. Time (N) vs. Time [ms]



<Max>

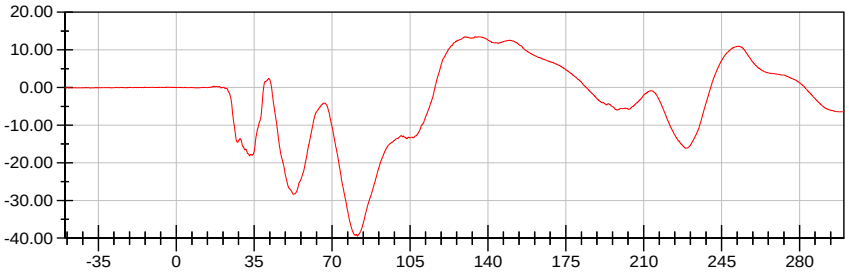
951.31 N at 26.95 ms

<Min>

-134.74 N at 221.60 ms

CFC_1000

Passenger Upper Neck Moment Y vs. Time (Nm) vs. Time [ms]



<Max>

13.48 Nm at 134.40 ms

<Min>

-39.47 Nm at 81.40 ms

CFC_600

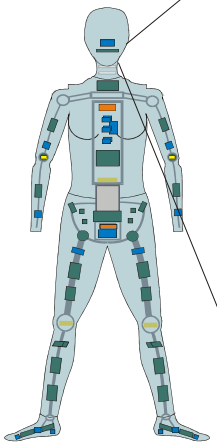
Date: 04/08/2025
Time: 13:38

Neck Injury Predictor (NIJ)

Customer: NHTSA
Test Number: M20255204

TRC Inc. Test Lab: CTF
Test Number: 250408

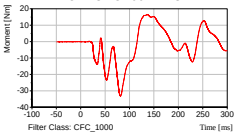
Test Orientation = Frontal
Fzc(Tension) = 4287
Fzc(Compression) = 3880
Myc(Extension) = 67
Myc(Flexion) = 155



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

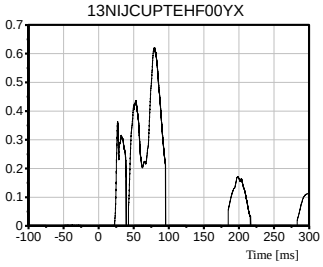
NIJ Source Code: (Fz/Fzc)+(My/Myc)

13TMONUP00HFMOYX



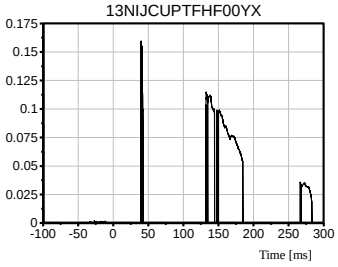
13NECKUP00HFFOZA

13NIJCUPTEHF00YX



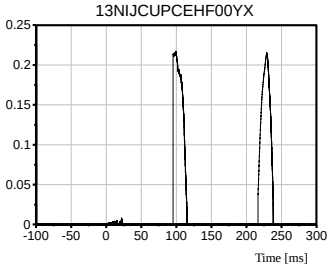
Max [NTE] 0.6212 at 79.70 ms

13NIJCUPTFHF00YX



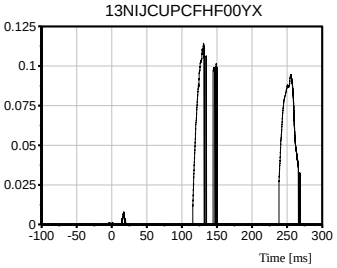
Max [NTF] 0.1596 at 39.70 ms

13NIJCUPCEHF00YX



Max [NCE] 0.2173 at 99.30 ms

13NIJCUPCFHF00YX



Max [NCF] 0.1144 at 130.75 ms

NHTSA

Test Date: 04/8/2025

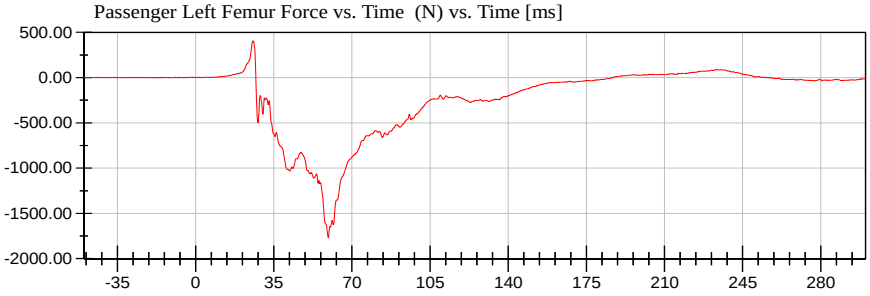
Test Lab: CTF

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

Test Number: 250408 (M20255204)

Position #2 Hybrid III Small Adult Female (DH1659)

Passenger Left Femur Force vs. Time (N) vs. Time [ms]



<Max>

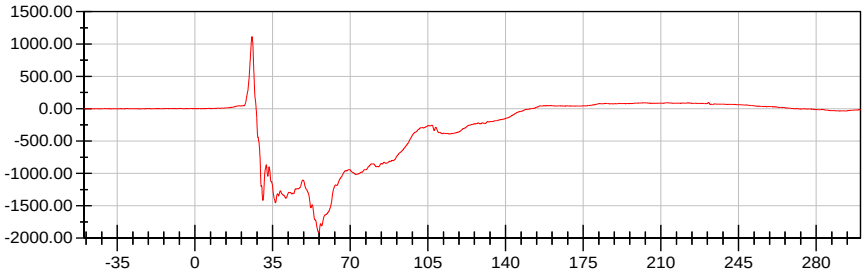
404.82 N at 25.85 ms

<Min>

-1,765.61 N at 59.45 ms

CFC_600

Passenger Right Femur Force vs. Time (N) vs. Time [ms]



<Max>

1,113.47 N at 25.70 ms

<Min>

-1,913.02 N at 55.75 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. 98

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	86	Yes
D	H-Point From Seatback	134.6 - 139.7	137	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	90	Yes
F	Thigh Clearance	139.7 - 154.9	150	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	198	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	224	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. 98-1
Test Date: 3/18/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	238.8 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	6.6 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	1.00 %	Yes

Test meets specifications.

Condition: Used

Comments:
Head Skin S/N: N/A

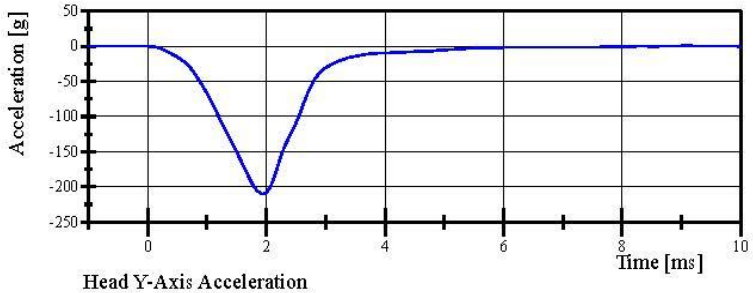
Specification Source: CFR49 Part 572 Subpart E with Polarity in accordance with J211

03.18.2025 10:50:05 614

Transportation Research Center Inc.

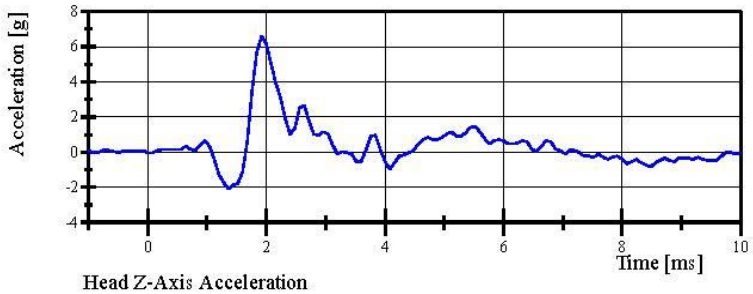
Front Head Drop
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Head X-Axis Acceleration



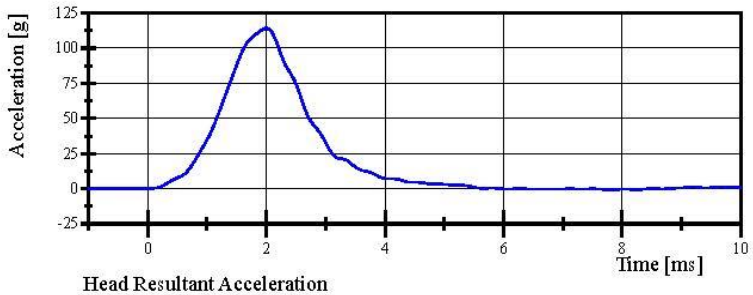
Filter Class: CFC_1000
Max: 1.0 g at 9.0 ms
Min: -210.4 g at 1.9 ms

Head Y-Axis Acceleration



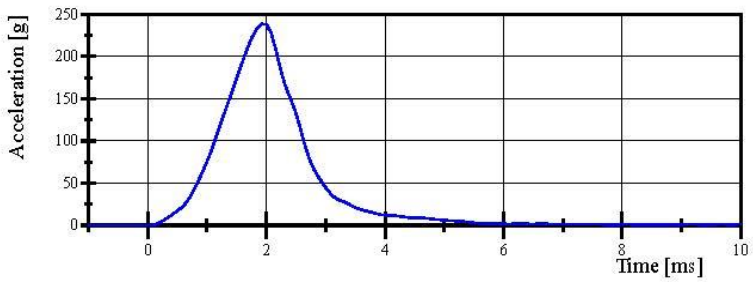
Filter Class: CFC_1000
Max: 6.6 g at 1.9 ms
Min: -2.1 g at 1.4 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 114.3 g at 2.0 ms
Min: -0.6 g at 7.8 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 238.8 g at 1.9 ms
Min: 0.0 g at 0.0 ms

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

03.18.2025 10:51:07 614

Transportation Research Center Inc.

Neck Flexion
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.955 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	40.7 ms	Yes
Pendulum Acceleration			
at 10ms	(-22.5) - (-27.5) g	-22.99 g	Yes
at 20ms	(-17.6) - (-22.6) g	-18.98 g	Yes
at 30ms	(-12.5) - (-18.5) g	-16.58 g	Yes
> 30ms	>= (-29.0) g	-16.58 g	Yes
Total Head D-Plane Rotation			
Peak	(-64) - (-78) °	-64.7 °	Yes
Time of Peak	57 - 64 ms	60.8 ms	Yes
Decay to 0°	113 - 128 ms	120.8 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	88.1 - 108.4 N·m	99.39 N·m	Yes
Time of Peak	47 - 58 ms	53.4 ms	Yes
Decay to 0 N·m	97 - 107 ms	100.3 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 4728

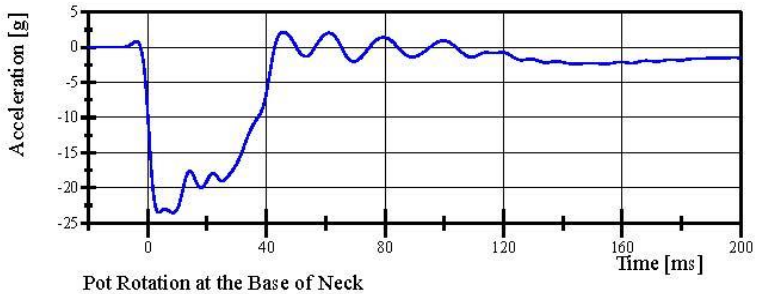
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.18.2025 11:07:07 1866

Transportation Research Center Inc.

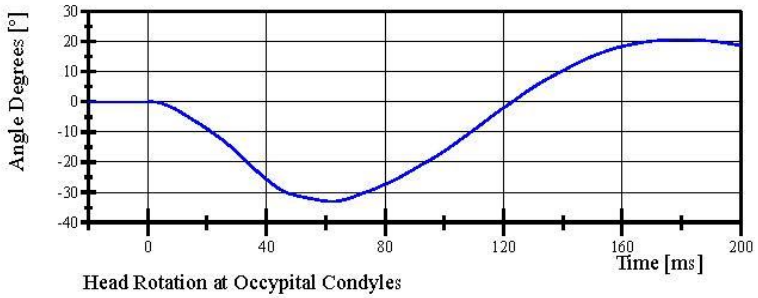
Neck Flexion
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Pendulum Acceleration



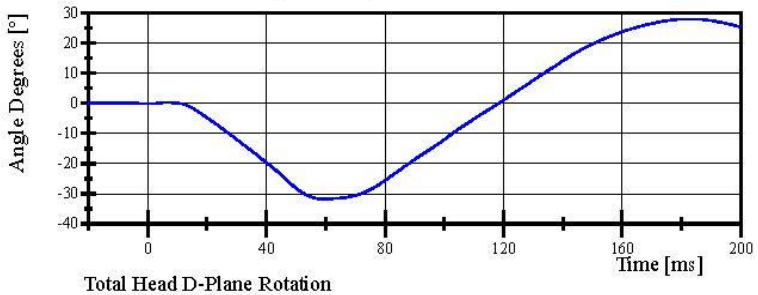
Filter Class: CFC_60
Max: 2.1 g at 45.8 ms
Min: -23.5 g at 8.6 ms

Pot Rotation at the Base of Neck



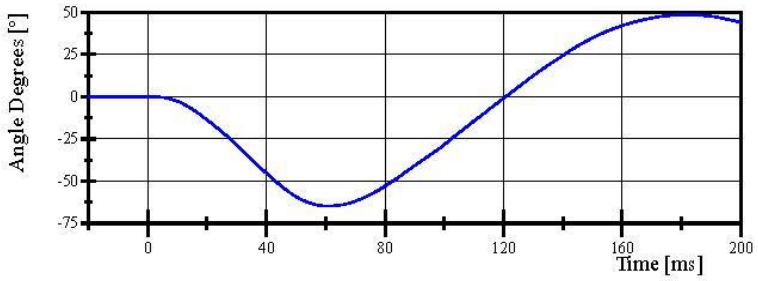
Filter Class: CFC_60
Max: 20.6 ° at 181.7 ms
Min: -33.0 ° at 62.0 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 27.9 ° at 183.3 ms
Min: -31.8 ° at 59.4 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 48.6 ° at 182.8 ms
Min: -64.7 ° at 60.8 ms

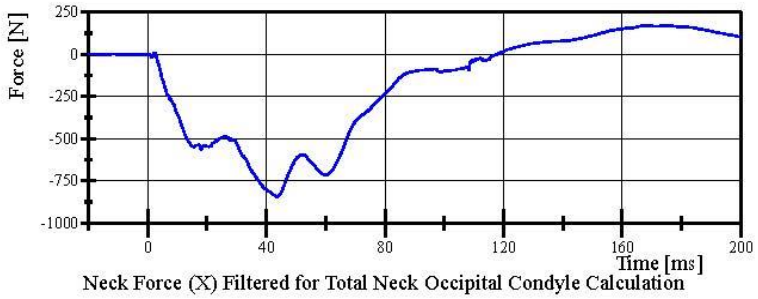
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.18.2025 11:09:50 1866

Transportation Research Center Inc.

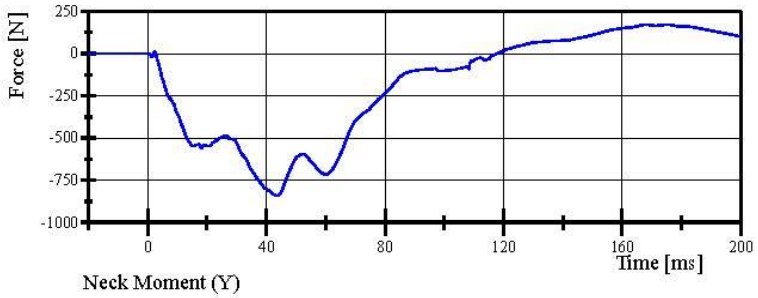
Neck Flexion
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Neck Force (X)



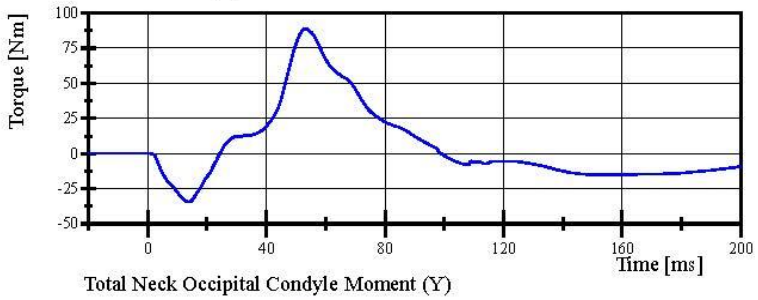
Filter Class: CFC_1000
Max: 171.5 N at 175.7 ms
Min: -843.1 N at 43.6 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



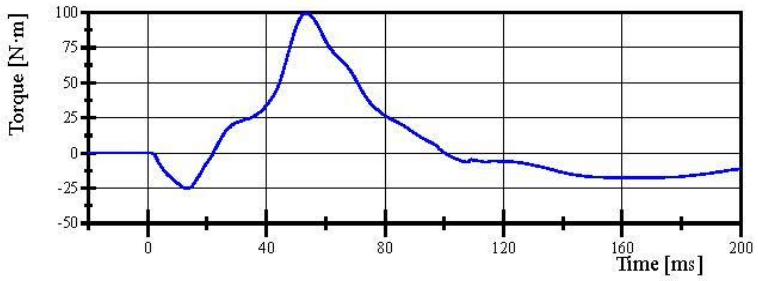
Filter Class: CFC_600
Max: 171.0 N at 175.7 ms
Min: -843.0 N at 43.6 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 88.7 Nm at 53.2 ms
Min: -34.2 Nm at 13.7 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constant Cha
Max: 99.4 N·m at 53.4 ms
Min: -25.2 N·m at 13.2 ms

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

03.18.2025 11:09:51 1866

Transportation Research Center Inc.

Neck Extension
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.996 m/s	Yes
Pendulum Acceleration Decay			
Crossing 5g	38 - 46 ms	41.8 ms	Yes
Pendulum Acceleration			
at 10ms	17.2 - 21.2 g	17.49 g	Yes
at 20ms	14.0 - 19.0 g	16.57 g	Yes
at 30ms	11.0 - 16.0 g	14.39 g	Yes
> 30ms	<= 22.0 g	14.39 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	93.6 °	Yes
Time of Peak	72 - 82 ms	78.8 ms	Yes
Decay to 0°	147 - 174 ms	161.5 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-52.9) - (-80) N·m	-64.92 N·m	Yes
Time of Peak	65 - 79 ms	72.7 ms	Yes
Decay to 0 N·m	120 - 148 ms	144.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 4728

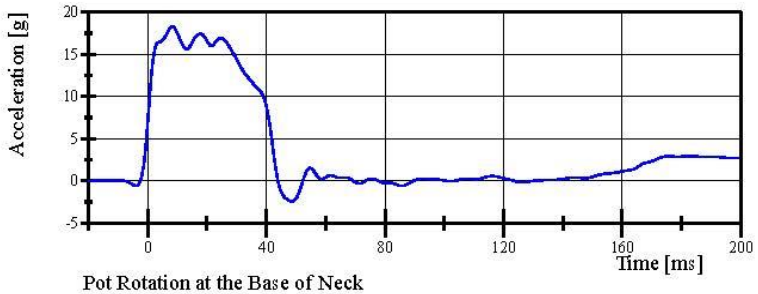
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.18.2025 12:24:35 2012

Transportation Research Center Inc.

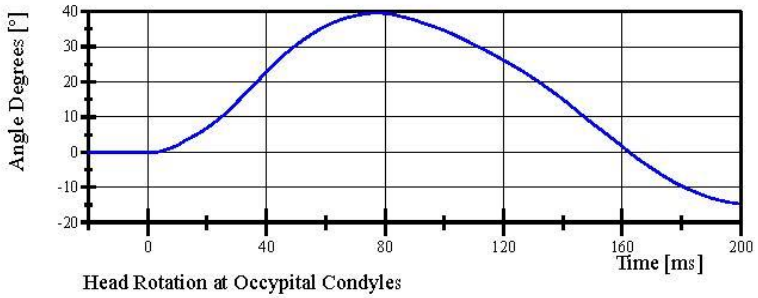
Neck Extension
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Pendulum Acceleration



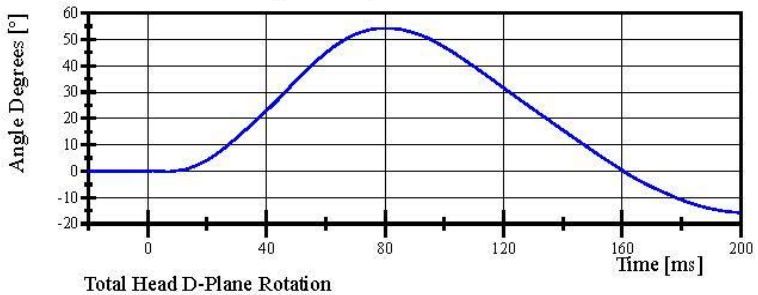
Filter Class: CFC_60
Max: 18.3 g at 8.3 ms
Min: -2.4 g at 48.6 ms

Pot Rotation at the Base of Neck



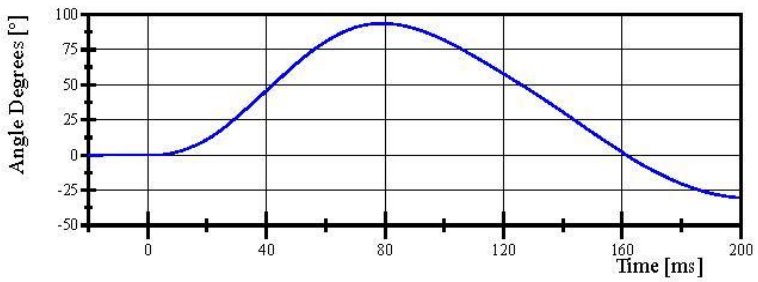
Filter Class: CFC_60
Max: 39.5 ° at 77.4 ms
Min: -14.7 ° at 199.4 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 54.1 ° at 79.4 ms
Min: -15.8 ° at 199.4 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 93.6 ° at 78.8 ms
Min: -30.5 ° at 199.4 ms

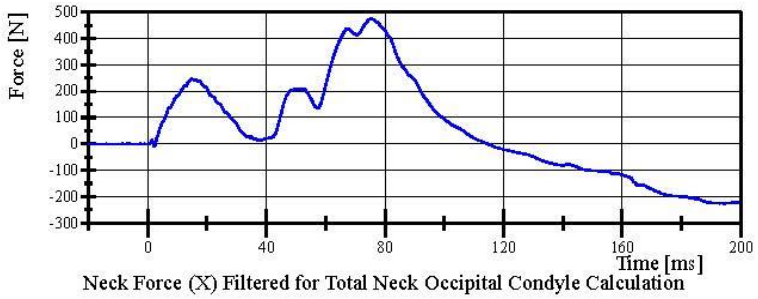
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.18.2025 12:24:54 2012

Transportation Research Center Inc.

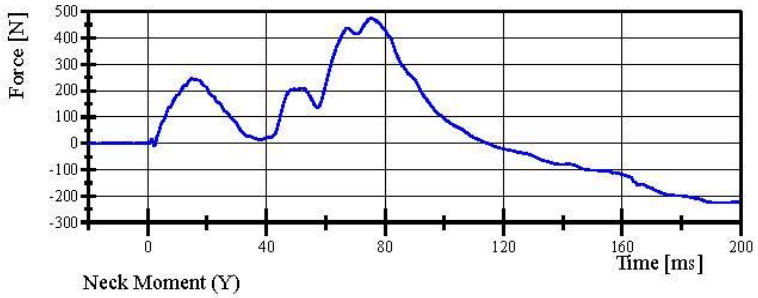
Neck Extension
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Neck Force (X)



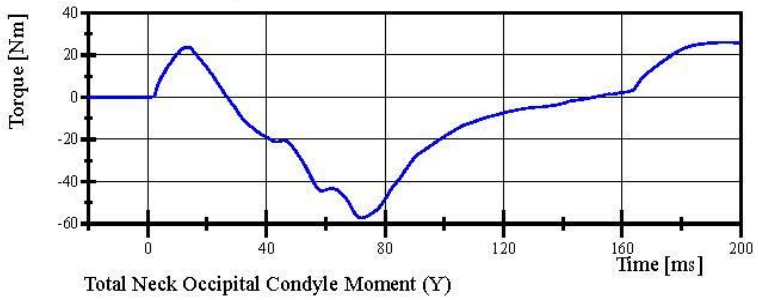
Filter Class: CFC_1000
Max: 474.8 N at 75.4 ms
Min: -225.7 N at 192.9 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



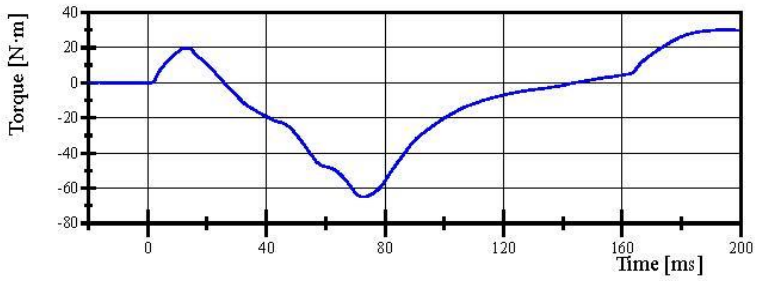
Filter Class: CFC_600
Max: 474.5 N at 75.4 ms
Min: -225.4 N at 194.2 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 26.1 Nm at 194.9 ms
Min: -57.2 Nm at 72.1 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constant Cha
Max: 30.0 N·m at 194.9 ms
Min: -64.9 N·m at 72.7 ms

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

03.18.2025 12:24:54 2012

Transportation Research Center Inc.

Front Thorax
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/19/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.732 m/s	Yes
Probe Force Peak	(-5,160) - (-5,894) N	-5,654.4 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-65.16 mm	Yes
Internal Hysteresis	69 - 85 %	69.2 %	Yes

Test meets specifications.

Condition: Used
Comments:
Jacket S/N: EX0700
Rib Set S/N: 10362

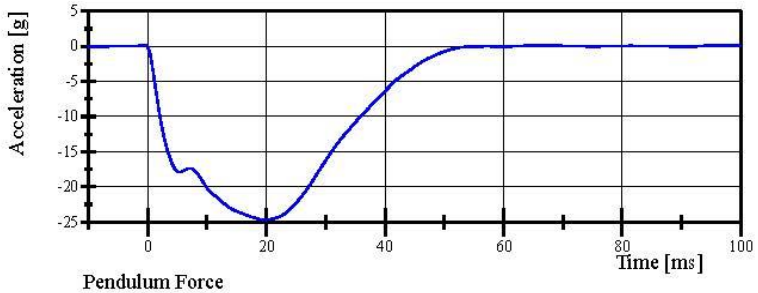
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.19.2025 13:20:37 389

Transportation Research Center Inc.

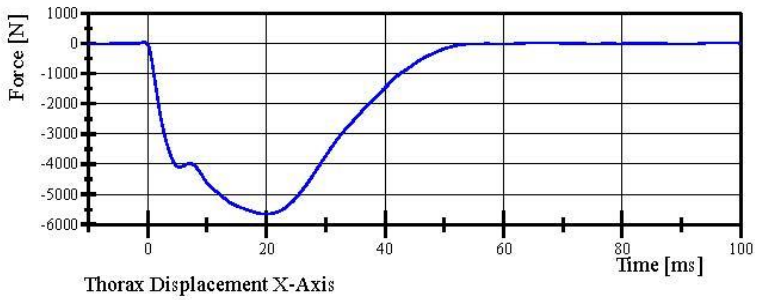
Front Thorax
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/19/2025

Pendulum Acceleration



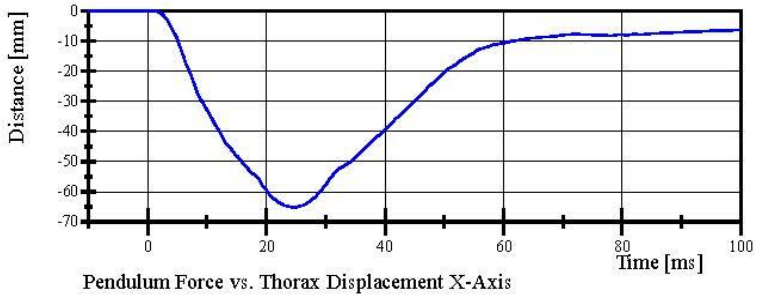
Filter Class: CFC_180
Max: 0.2 g at -0.6 ms
Min: -24.7 g at 19.6 ms

Pendulum Force



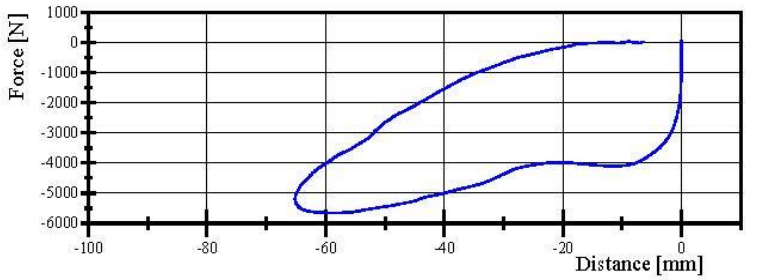
Filter Class: CFC_180
Max: 46.0 N at -0.6 ms
Min: -5,654.4 N at 19.6 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -3.3 ms
Min: -65.2 mm at 24.6 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 46.0 N at -0.0 mm
Min: -5,654.4 N at -58.7 mm

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

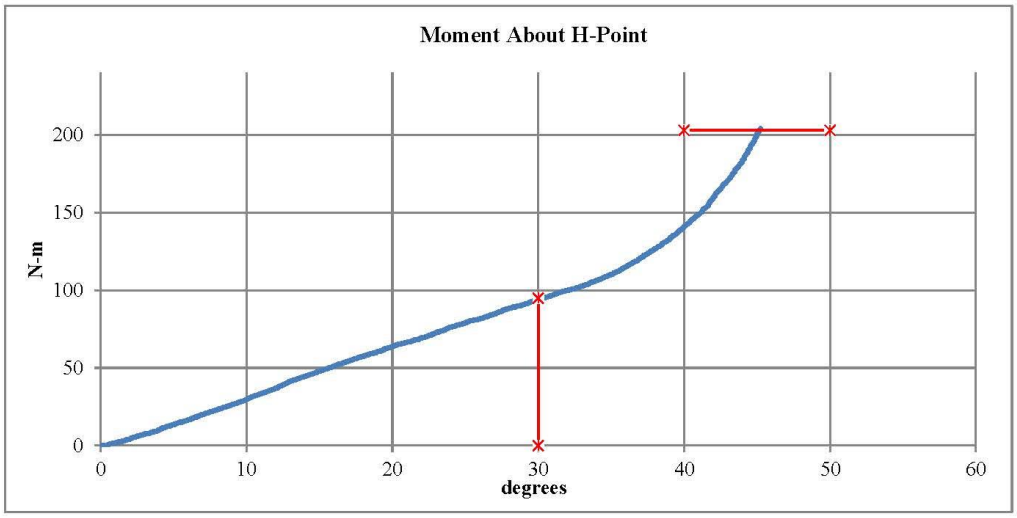
03.19.2025 13:21:12 389

Transportation Research Center Inc.

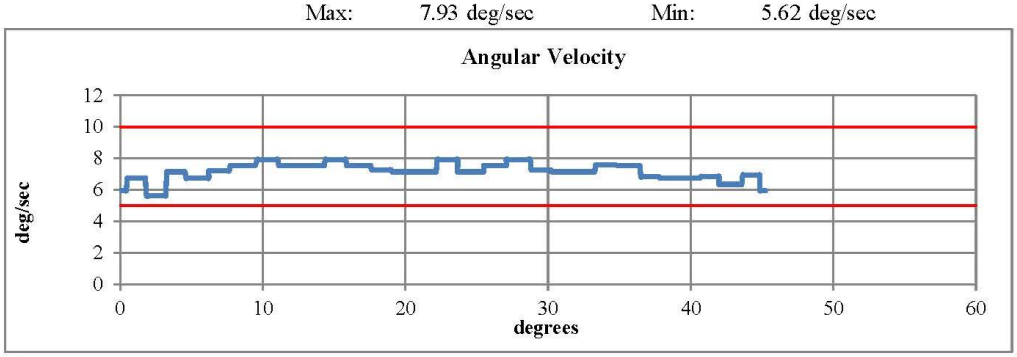
Hybrid III 50th Male Hip Range of Motion

Serial Number:	037	Date:	18-Mar-2025
Side Tested:	Left Hip	Time:	10:24
Test Number:	1		

TEST PARAMETER	SPECIFICATION			TEST RESULTS		
Temperature	18.9	-	25.6	21.1	°C	Pass
Humidity	10	-	70	40	%	Pass
Moment at 30°	0	≤	94.9	94	N-m	Pass
Angle at 203 Nm	40	-	50	45.24	deg	Pass
Average Velocity	5	-	10	7.17	deg/sec	Pass



Max: 7.93 deg/sec Min: 5.62 deg/sec



Comments:

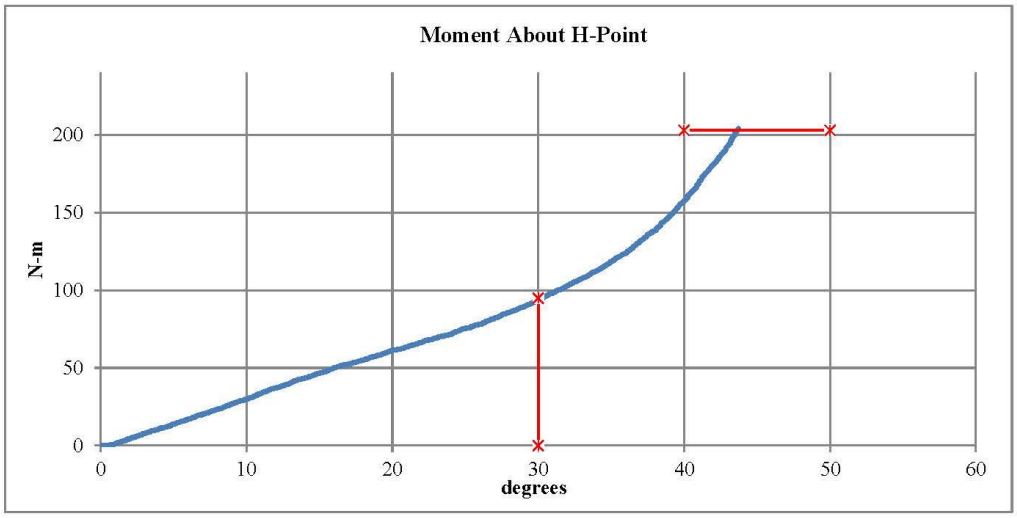
Pelvis S/N: EU6859

Transportation Research Center Inc.

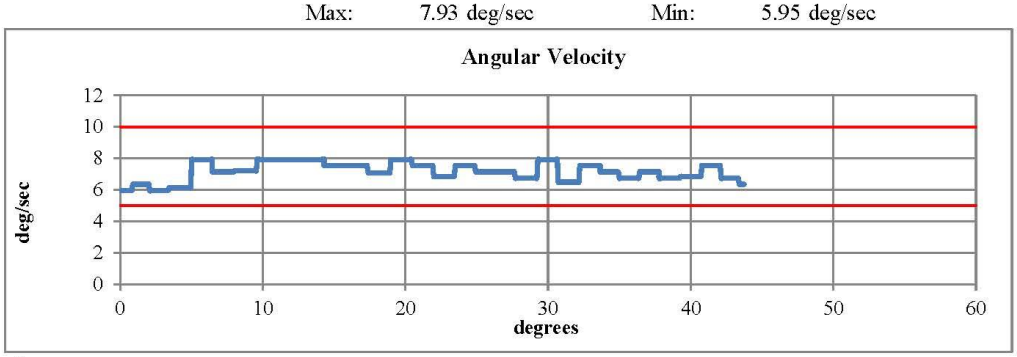
Hybrid III 50th Male Hip Range of Motion

Serial Number:	037	Date:	18-Mar-2025
Side Tested:	Right Hip	Time:	11:11
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	93.65	N-m	Pass
Angle at 203 Nm	40	-	50	43.73	deg	Pass
Average Velocity	5	-	10	7.15	deg/sec	Pass



Max: 7.93 deg/sec Min: 5.95 deg/sec



Comments:

Pelvis S/N: EU6859

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.120 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,432.28 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: 2672

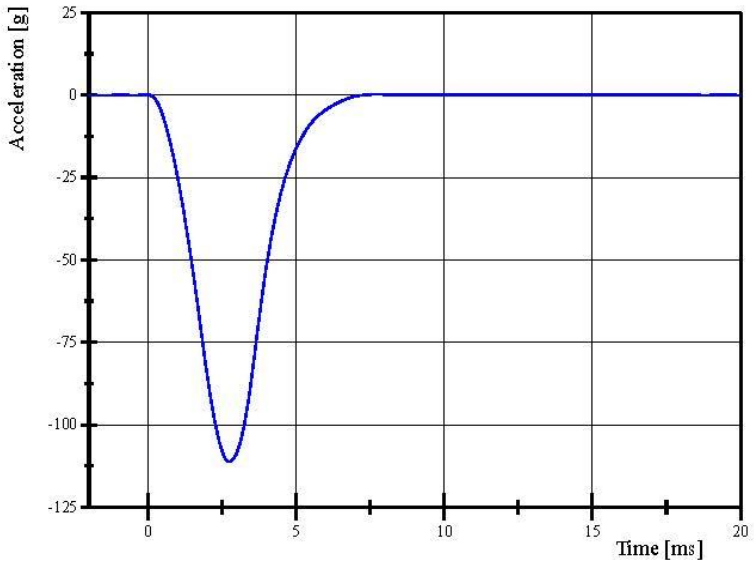
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.18.2025 12:52:12 1725

Transportation Research Center Inc.

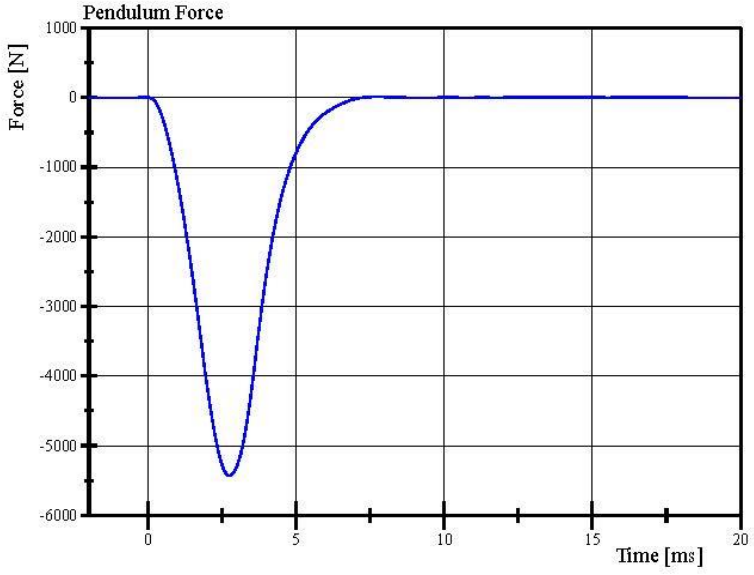
Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.3 g at 7.8 ms
Min: -111.2 g at 2.7 ms

Pendulum Force



Filter Class: CFC_600
Max: 12.6 N at 7.8 ms
Min: -5,432.3 N at 2.7 ms

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

03.18.2025 12:52:34 1725

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.122 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,285.47 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: 1248

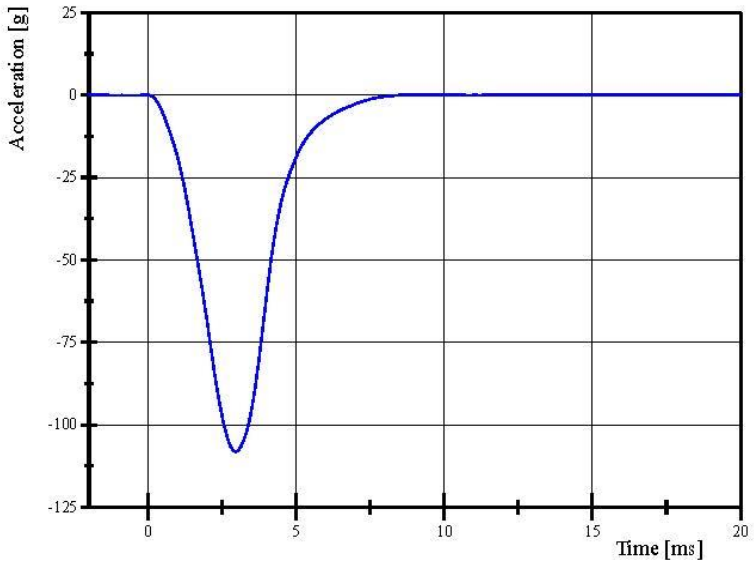
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

03.18.2025 12:54:50 1733

Transportation Research Center Inc.

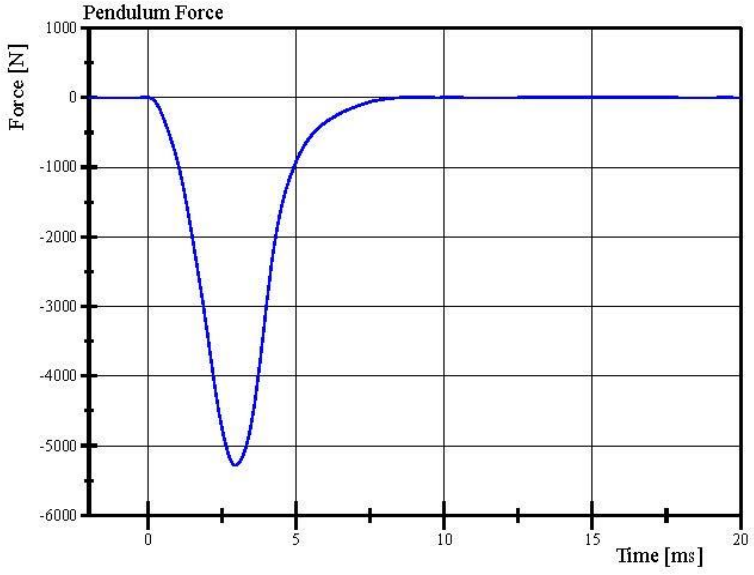
Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 98-1
Test Date: 3/18/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.2 g at 14.5 ms
Min: -108.2 g at 3.0 ms

Pendulum Force



Filter Class: CFC_600
Max: 8.4 N at 14.5 ms
Min: -5,285.5 N at 3.0 ms

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

03.18.2025 12:55:21 1733

Post-Test Calibration Sheets

Driver S/N 037

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 037
Calibration No. 99

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	882	Yes
B	Shoulder Pivot Height	505.5 - 520.7	510	Yes
C	H-Point Height	83.8 - 88.9	86	Yes
D	H-Point From Seatback	134.6 - 139.7	137	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	90	Yes
F	Thigh Clearance	139.7 - 154.9	150	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	198	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	225	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. 99-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	33 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	230.3 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	7.0 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	0.91 %	Yes

Test meets specifications.

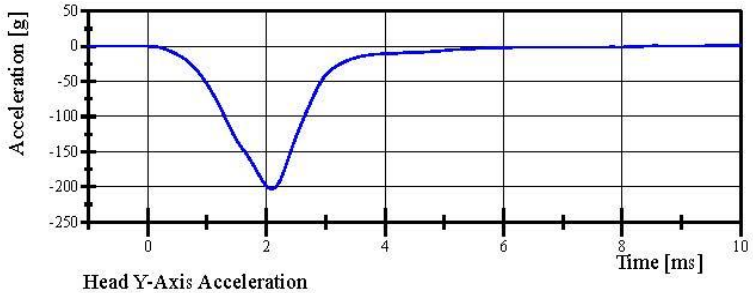
Condition: Used

Comments:
Head Skin S/N: N/A

Transportation Research Center Inc.

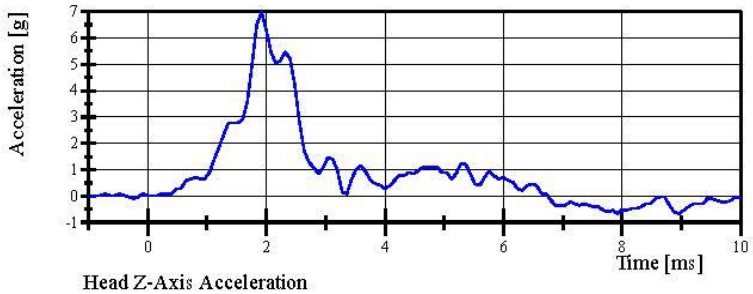
Front Head Drop
HIII 50th Serial No. 037 Certification No. 99-2
Test Date: 4/9/2025

Head X-Axis Acceleration



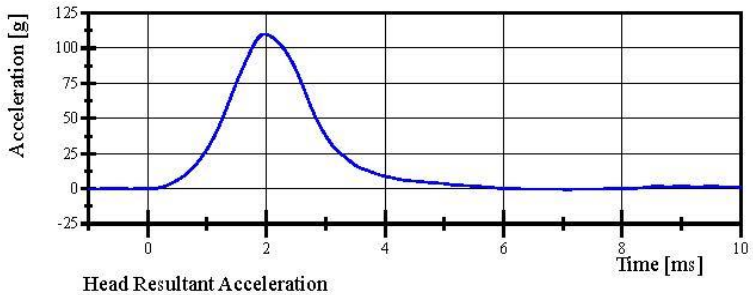
Filter Class: CFC_1000
Max: 1.4 g at 9.9 ms
Min: -203.2 g at 2.1 ms

Head Y-Axis Acceleration



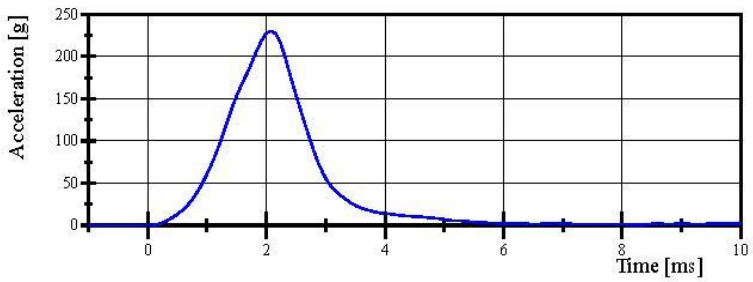
Filter Class: CFC_1000
Max: 7.0 g at 1.9 ms
Min: -0.7 g at 7.9 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 109.9 g at 2.0 ms
Min: -0.5 g at 7.1 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 230.3 g at 2.1 ms
Min: 0.0 g at -0.4 ms

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

04.09.2025 13:12:46 614

Transportation Research Center Inc.

Neck Flexion
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.954 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	39.6 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-23.72 g	Yes
at 20ms	(-17.6) - (-22.6) g	-20.00 g	Yes
at 30ms	(-12.5) - (-18.5) g	-15.15 g	Yes
> 30ms	>= (-29.0) g	-15.15 g	Yes
Total Head D-Plane Rotation			
Peak	(-64) - (-78) °	-72.6 °	Yes
Time of Peak	57 - 64 ms	60.3 ms	Yes
Decay to 0°	113 - 128 ms	118.9 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	88.1 - 108.4 N·m	99.34 N·m	Yes
Time of Peak	47 - 58 ms	52.6 ms	Yes
Decay to 0 N·m	97 - 107 ms	98.9 ms	Yes

Test meets specifications.

Condition: Used
Comments:
Neck S/N: 4728

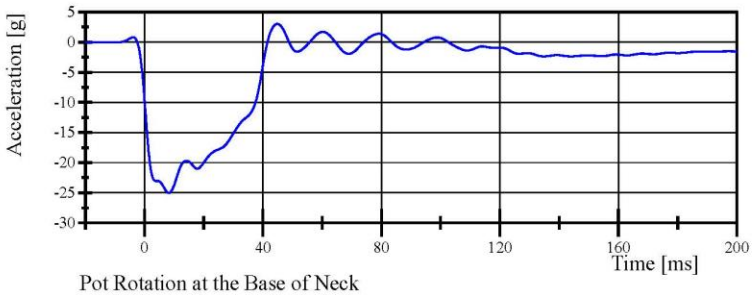
Specification Source: CFR49 Part 572 Subpart E with Polarity in accordance with J211

04.09.2025 11:07:21 1864

Transportation Research Center Inc.

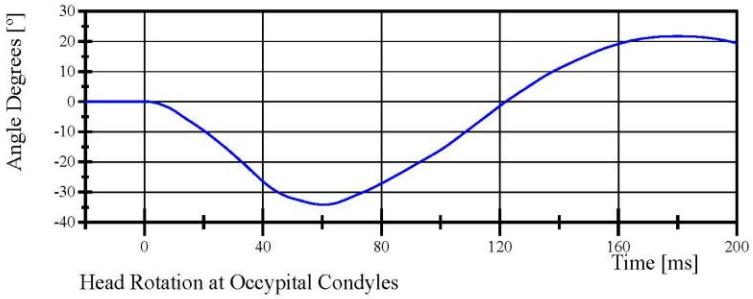
Neck Flexion
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Pendulum Acceleration



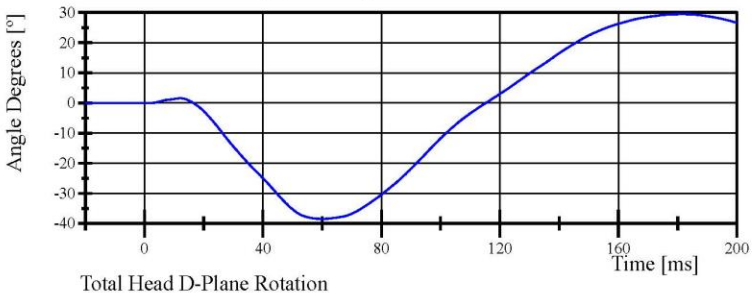
Filter Class: CFC_60
Max: 3.0 g at 44.8 ms
Min: -25.0 g at 8.3 ms

Pot Rotation at the Base of Neck



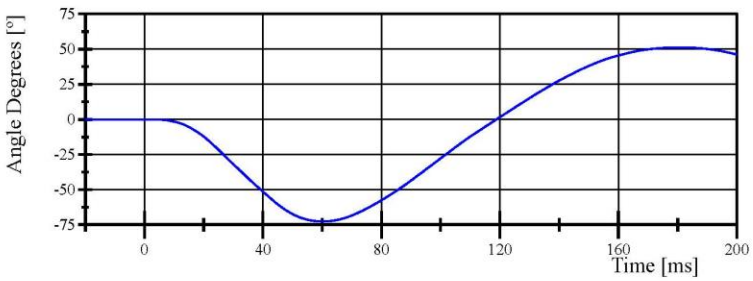
Filter Class: CFC_60
Max: 21.7 ° at 180.0 ms
Min: -34.2 ° at 60.6 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 29.5 ° at 181.5 ms
Min: -38.5 ° at 60.1 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 51.2 ° at 180.9 ms
Min: -72.6 ° at 60.3 ms

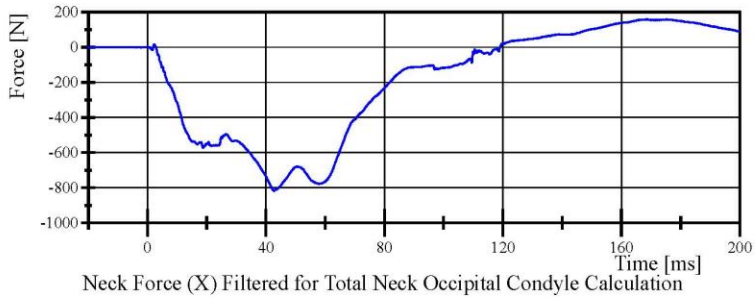
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

04.09.2025 11:07:52 1864

Transportation Research Center Inc.

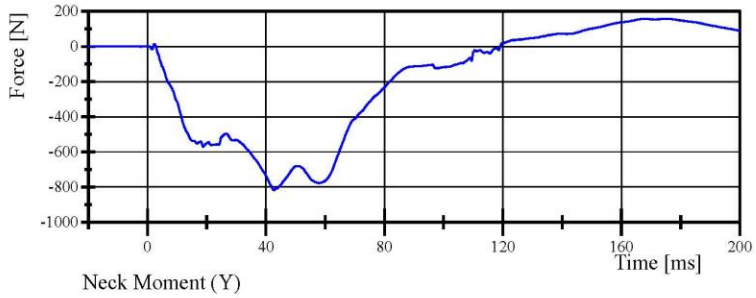
Neck Flexion
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Neck Force (X)



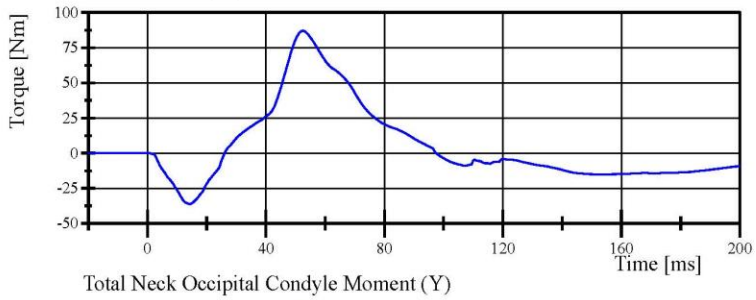
Filter Class: CFC_1000
Max: 157.9 N at 175.3 ms
Min: -818.3 N at 42.7 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



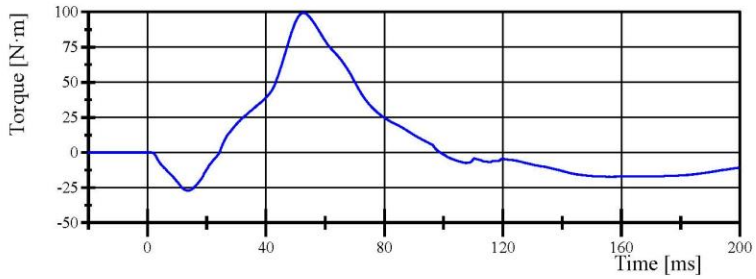
Filter Class: CFC_600
Max: 157.5 N at 168.6 ms
Min: -817.6 N at 42.7 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 87.1 Nm at 52.5 ms
Min: -36.1 Nm at 14.3 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constar
Max: 99.3 N·m at 52.6 ms
Min: -27.0 N·m at 13.7 ms

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

04.09.2025 11:07:52 1864

Transportation Research Center Inc.

Neck Extension
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-6.003 m/s	Yes
Pendulum Acceleration Decay			
Crossing 5g	38 - 46 ms	43.7 ms	Yes
Pendulum Acceleration			
at 10ms	17.2 - 21.2 g	17.45 g	Yes
at 20ms	14.0 - 19.0 g	16.76 g	Yes
at 30ms	11.0 - 16.0 g	13.55 g	Yes
> 30ms	<= 22.0 g	13.55 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	98.0 °	Yes
Time of Peak	72 - 82 ms	80.1 ms	Yes
Decay to 0°	147 - 174 ms	161.9 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-52.9) - (-80) N·m	-62.23 N·m	Yes
Time of Peak	65 - 79 ms	73.9 ms	Yes
Decay to 0 N·m	120 - 148 ms	144.8 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 4728

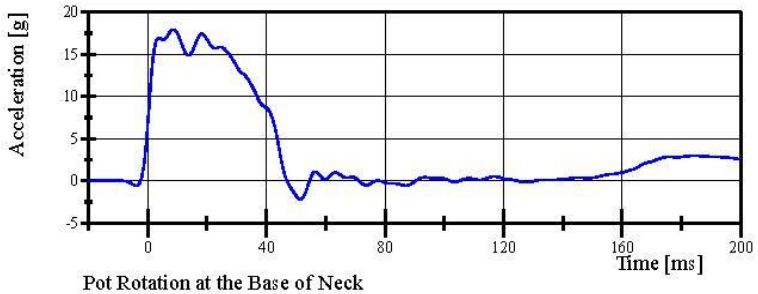
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

04.09.2025 12:29:10 2008

Transportation Research Center Inc.

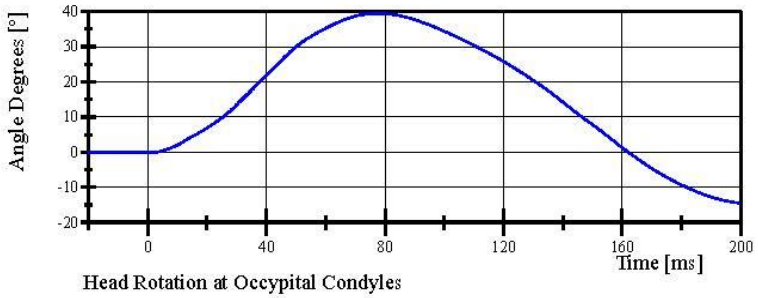
Neck Extension
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Pendulum Acceleration



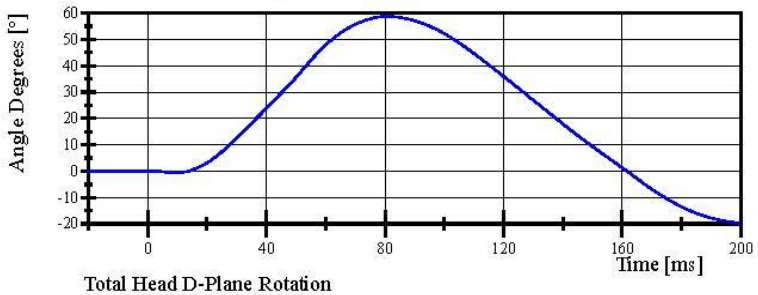
Filter Class: CFC_60
Max: 17.9 g at 8.6 ms
Min: -2.2 g at 51.5 ms

Pot Rotation at the Base of Neck



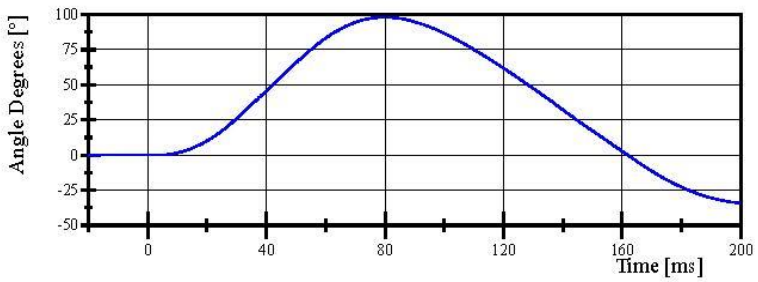
Filter Class: CFC_60
Max: 39.4 ° at 77.4 ms
Min: -14.5 ° at 199.6 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 58.7 ° at 80.8 ms
Min: -19.7 ° at 199.6 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 98.0 ° at 80.1 ms
Min: -34.2 ° at 199.6 ms

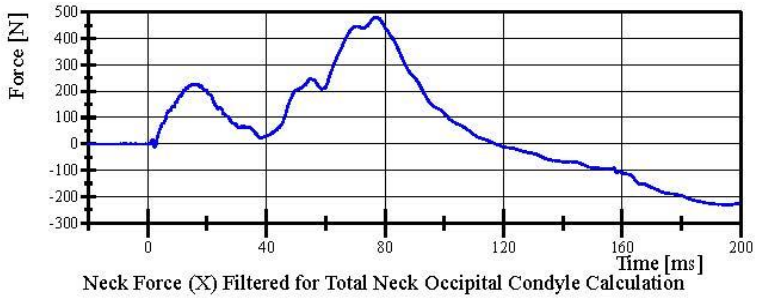
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

04.09.2025 12:29:49 2008

Transportation Research Center Inc.

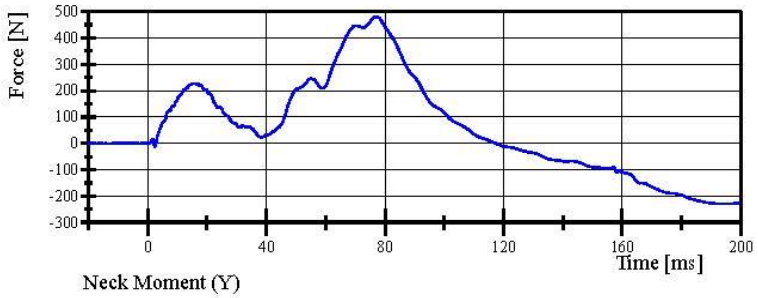
Neck Extension
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Neck Force (X)



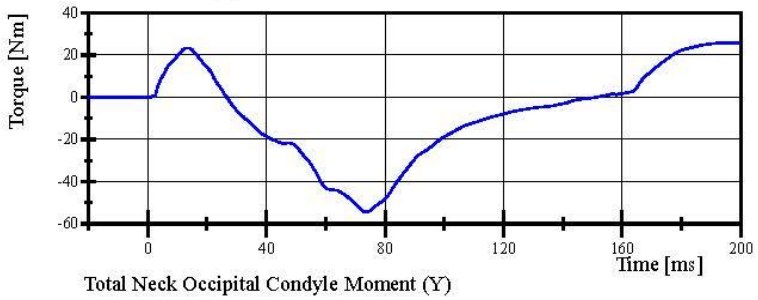
Filter Class: CFC_1000
Max: 480.4 N at 76.6 ms
Min: -230.1 N at 195.9 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



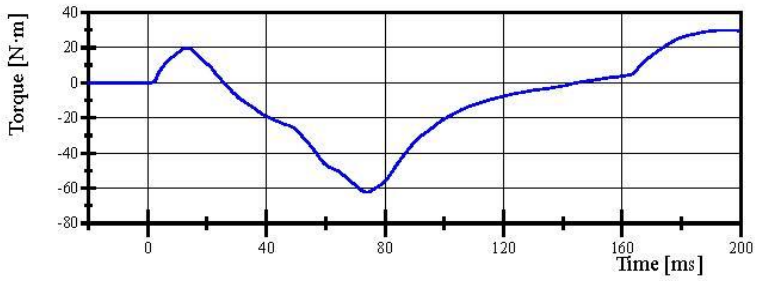
Filter Class: CFC_600
Max: 480.0 N at 76.8 ms
Min: -229.9 N at 196.0 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 25.7 Nm at 194.5 ms
Min: -54.4 Nm at 73.6 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constar
Max: 29.8 N·m at 194.4 ms
Min: -62.2 N·m at 73.9 ms

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

04.09.2025 12:29:49 2008

Transportation Research Center Inc.

Front Thorax
HIII 50th Serial No. 037 Certification No. 99-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.748 m/s	Yes
Probe Force Peak	(-5,160) - (-5,894) N	-5,697.0 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-63.85 mm	Yes
Internal Hysteresis	69 - 85 %	69.0 %	Yes

Test meets specifications.

Condition: Used
Comments:
Jacket S/N: EX0700
Rib Set S/N: 10362

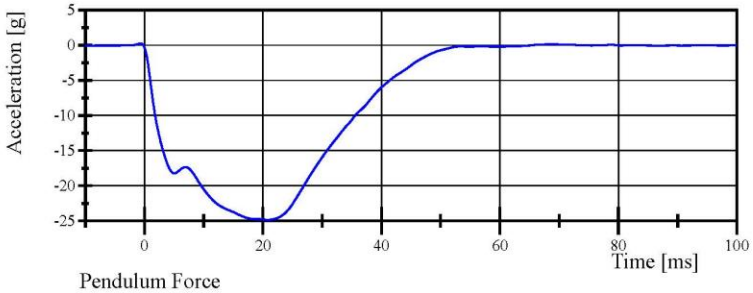
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

04.09.2025 09:24:57 433

Transportation Research Center Inc.

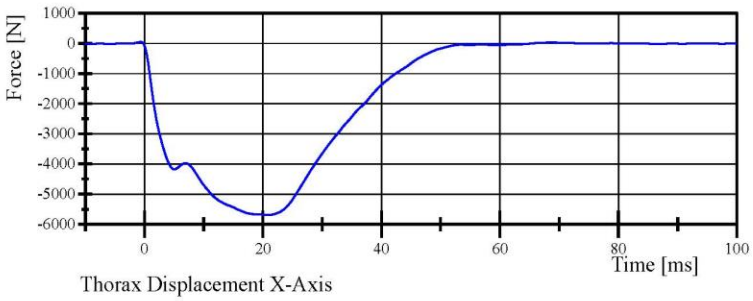
Front Thorax
HIII 50th Serial No. 037 Certification No. 99-2
Test Date: 4/9/2025

Pendulum Acceleration



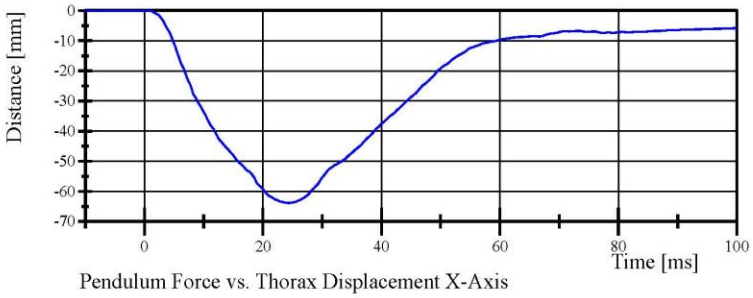
Filter Class: CFC_180
Max: 0.2 g at -0.6 ms
Min: -24.9 g at 20.8 ms

Pendulum Force



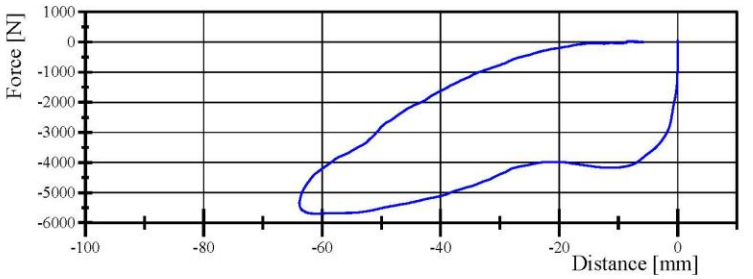
Filter Class: CFC_180
Max: 50.9 N at -0.6 ms
Min: -5,697.0 N at 20.8 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -6.6 ms
Min: -63.8 mm at 24.4 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 50.9 N at -0.0 mm
Min: -5,697.0 N at -61.1 mm

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

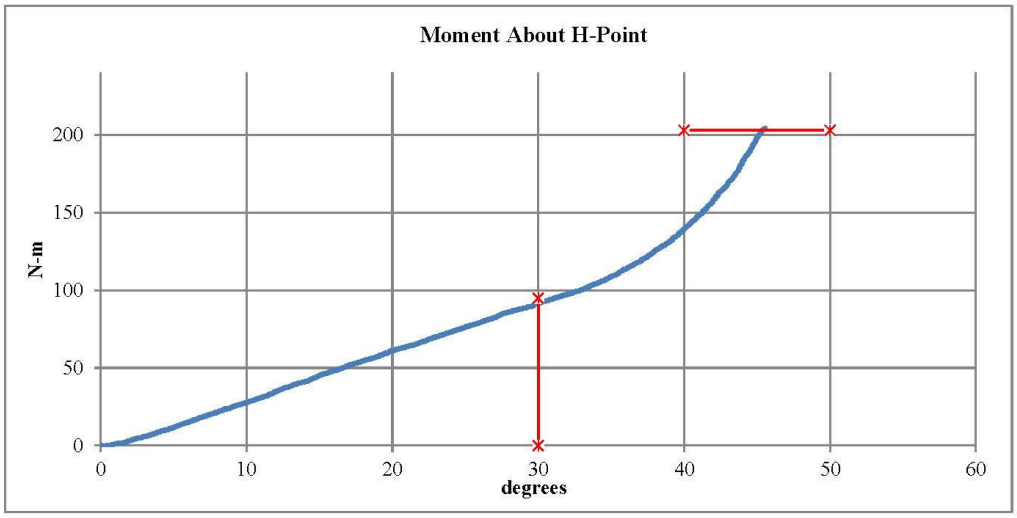
04.09.2025 09:25:28 433

Transportation Research Center Inc.

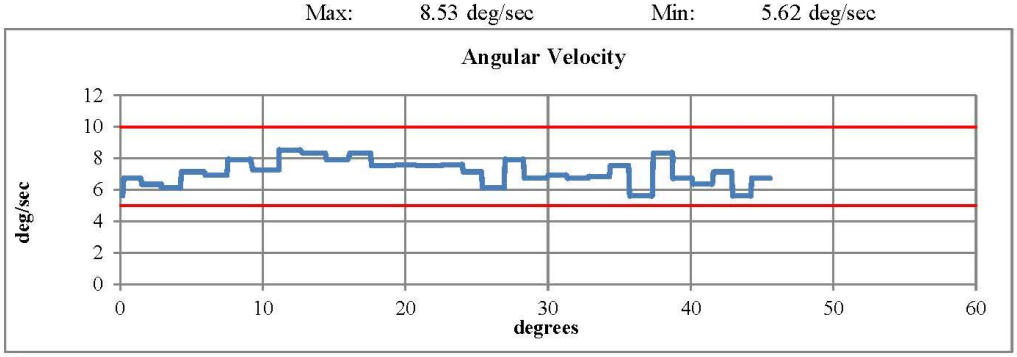
Hybrid III 50th Male Hip Range of Motion

Serial Number:	037	Date:	09-Apr-2025
Side Tested:	Left Hip	Time:	10:43
Test Number:	1		

TEST PARAMETER	SPECIFICATION			TEST RESULTS		
Temperature	18.9	-	25.6	21.1	°C	Pass
Humidity	10	-	70	31	%	Pass
Moment at 30°	0	≤	94.9	91.95	N-m	Pass
Angle at 203 Nm	40	-	50	45.55	deg	Pass
Average Velocity	5	-	10	7.14	deg/sec	Pass



Max: 8.53 deg/sec Min: 5.62 deg/sec



Comments:

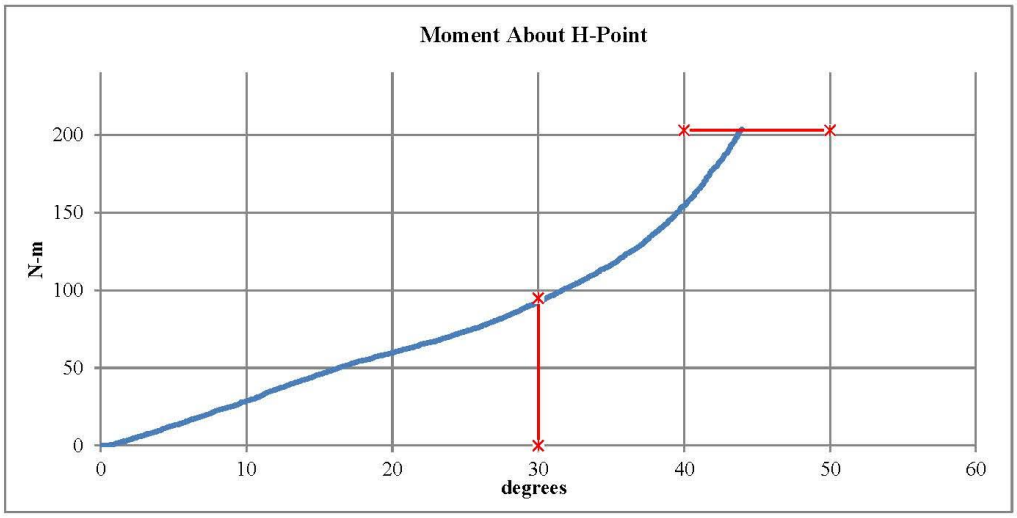
Pelvis S/N: EU6859

Transportation Research Center Inc.

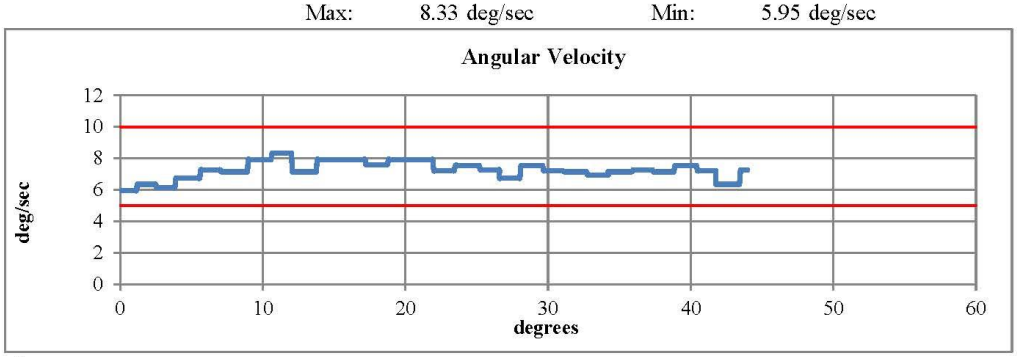
Hybrid III 50th Male Hip Range of Motion

Serial Number:	037	Date:	09-Apr-2025
Side Tested:	Right Hip	Time:	11:14
Test Number:	1		

TEST PARAMETER	SPECIFICATION			TEST RESULTS		
Temperature	18.9	-	25.6	21.2	°C	Pass
Humidity	10	-	70	31	%	Pass
Moment at 30°	0	≤	94.9	92.29	N-m	Pass
Angle at 203 Nm	40	-	50	43.97	deg	Pass
Average Velocity	5	-	10	7.24	deg/sec	Pass



Max: 8.33 deg/sec Min: 5.95 deg/sec



Comments:

Pelvis S/N: EU6859

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.126 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,496.70 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: 2672

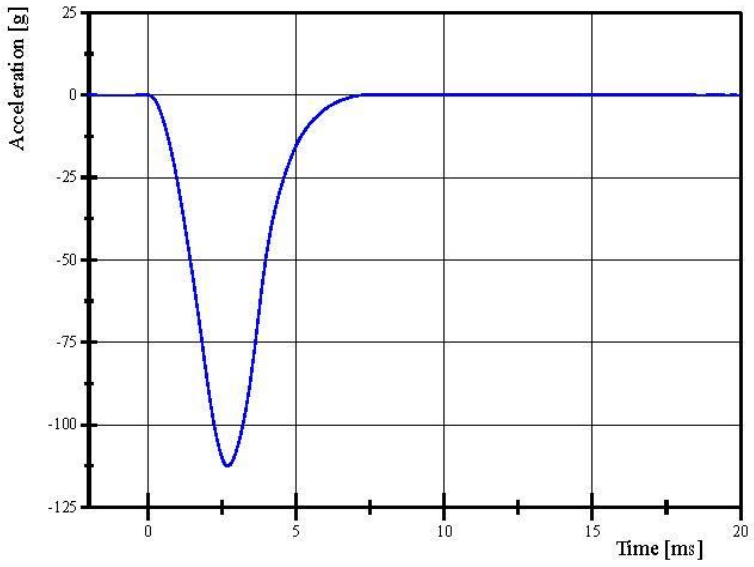
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

04.09.2025 10:14:16 1729

Transportation Research Center Inc.

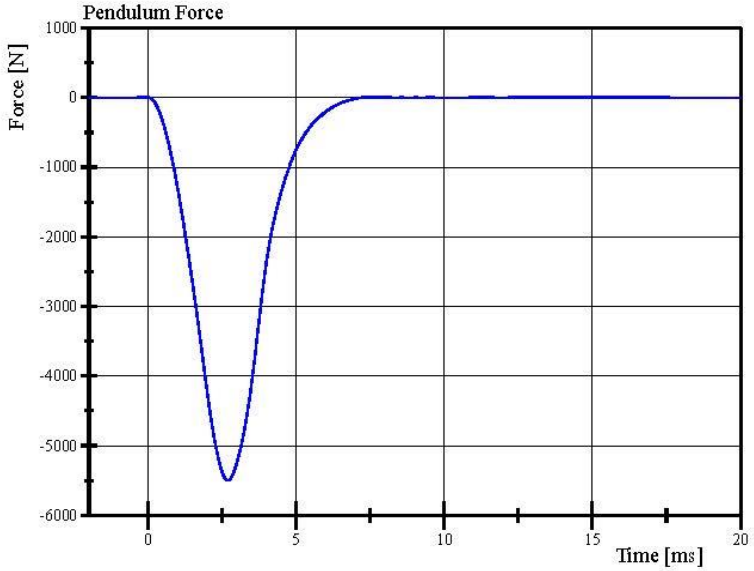
Left Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 99-1
Test Date: 4/9/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.2 g at 7.6 ms
Min: -112.6 g at 2.7 ms

Pendulum Force



Filter Class: CFC_600
Max: 10.3 N at 7.6 ms
Min: -5,496.7 N at 2.7 ms

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

04.09.2025 10:14:50 1729

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 99-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.119 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,444.68 N	Yes

Test meets specifications.

Condition: Used
Comments:
Knee Skin S/N: 1248

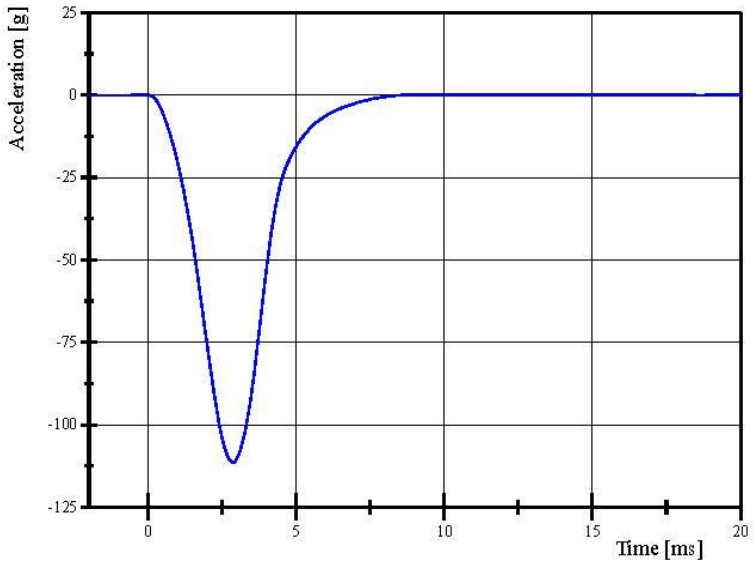
Specification Source: CFR49 Part 572 Subpart E
with Polarity in accordance with J211

04.09.2025 10:50:32 1744

Transportation Research Center Inc.

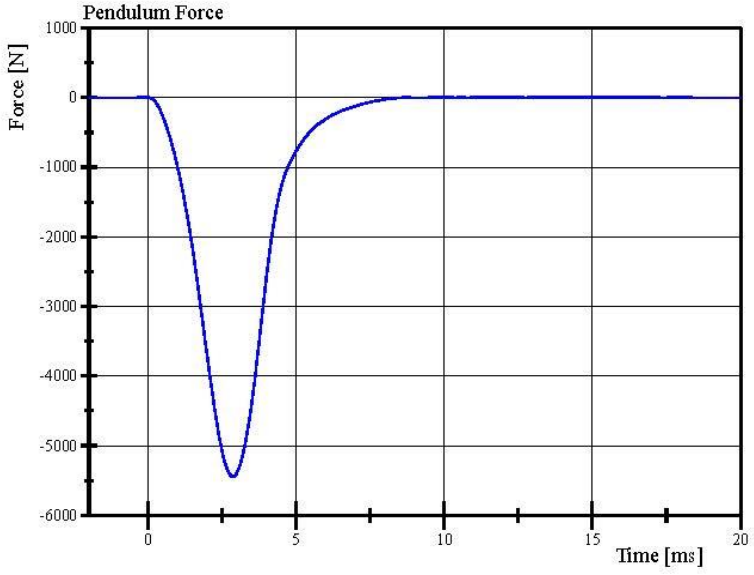
Right Knee Femur Response Test
HIII 50th Serial No. 037 Certification No. 99-2
Test Date: 4/9/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.2 g at 14.5 ms
Min: -111.5 g at 2.9 ms

Pendulum Force



Filter Class: CFC_600
Max: 8.2 N at 14.5 ms
Min: -5,444.7 N at 2.9 ms

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

04.09.2025 10:51:08 1744

Pre-Test Calibration Sheets

Passenger S/N DH1659

Transportation Research Center Inc.
572O HIII 5th Dummy
External Dimensions
Serial No. DH1659 Calibration No. 25

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	445	Yes
C	Hip Pivot Height	81.3 - 86.3	86	Yes
D	Hip Pivot from Backline	144.8 - 149.8	148	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	80	Yes
F	Thigh Clearance	119.4 - 134.6	131	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	196	Yes
K	Buttock Knee Length	520.7 - 546.1	533	Yes
L	Popliteal Height	355.6 - 376.0	360	Yes
M	Knee Pivot Height	393.7 - 419.1	409	Yes
N	Buttock Popliteal Length	414.0 - 439.4	430	Yes
O	Chest Depth without Jacket	175.3 - 190.5	185	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	305	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	869	Yes
Z	Waist Circumference	759.5 - 789.9	776	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	345	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Transportation Research Center Inc.

Front Head Drop
HIII 5th Serial No. DH1659 Certification No. 25-1
Test Date: 3/12/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	253.6 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-7.8 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	1.53 %	Yes

Test meets specifications.

Condition: Used

Comments:
Head Skin S/N: 2864

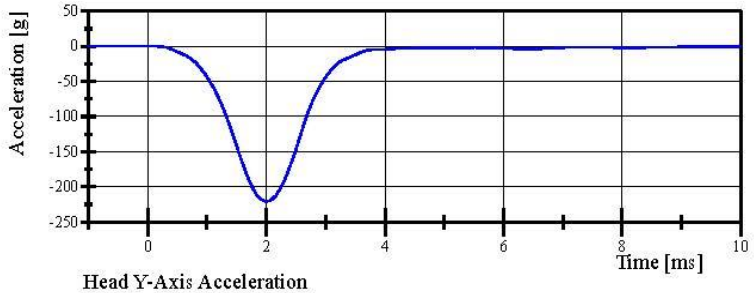
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

03.12.2025 09:15:10 612

Transportation Research Center Inc.

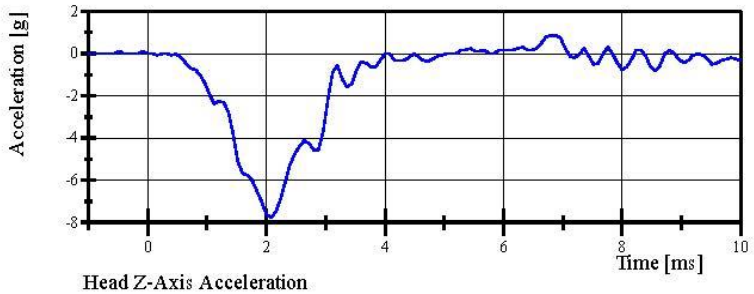
Front Head Drop
HIII 5th Serial No. DH1659 Certification No. 25-1
Test Date: 3/12/2025

Head X-Axis Acceleration



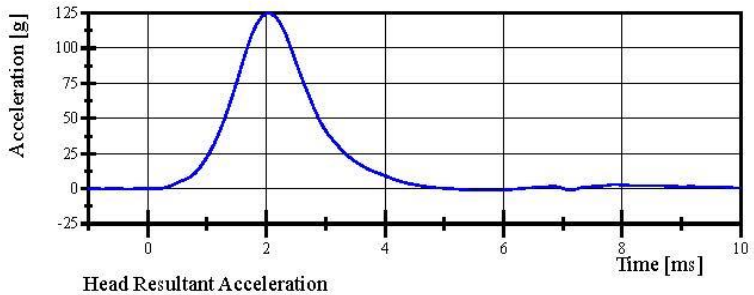
Filter Class: CFC_1000
Max: 0.1 g at -1.0 ms
Min: -220.8 g at 2.0 ms

Head Y-Axis Acceleration



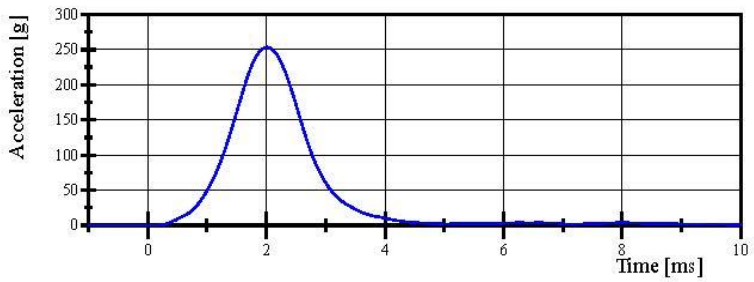
Filter Class: CFC_1000
Max: 0.9 g at 6.8 ms
Min: -7.8 g at 2.1 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 124.5 g at 2.0 ms
Min: -1.2 g at 5.6 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 253.6 g at 2.0 ms
Min: 0.0 g at -0.7 ms

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

03.12.2025 09:16:45 612

Transportation Research Center Inc.

Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 25-19
Test Date: 3/18/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.089 m/s	Yes
Pendulum Integrated Velocity			
Change at 10ms	(-2.1) - (-2.5) m/s	-2.35 m/s	Yes
Change at 20ms	(-4.0) - (-5.0) m/s	-4.63 m/s	Yes
Change at 30ms	(-5.8) - (-7.0) m/s	-6.53 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-78.0 °	Yes
Total Neck Occipital Condyles Moment			
Between -77° and -91° Rotation	69 - 83 N·m	73.4 N·m	Yes
Decay to 10 N·m	80 - 100 ms	85.7 ms	Yes

Test meets specifications.

Condition: New

Comments:
Neck S/N: DM3051

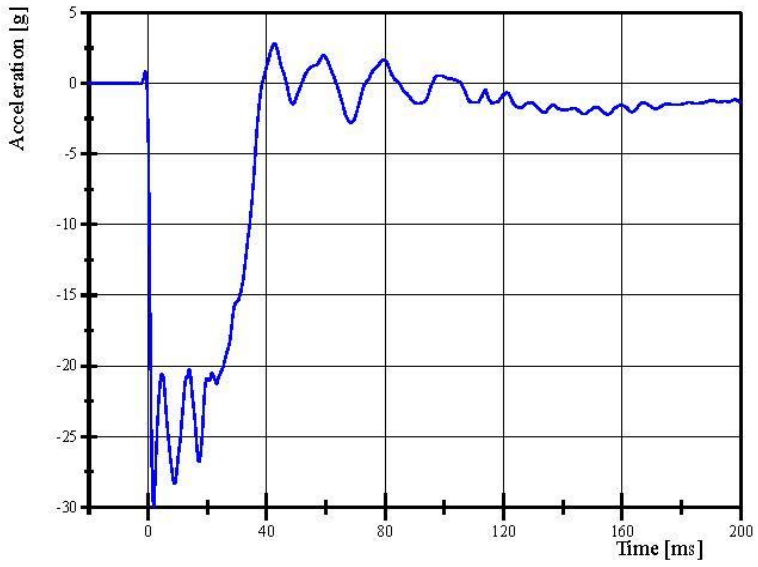
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.18.2025 15:24:53 1846

Transportation Research Center Inc.

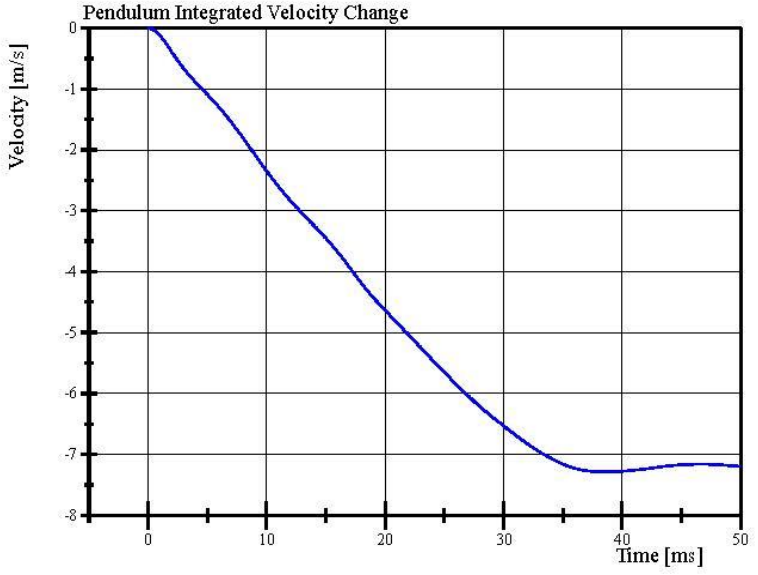
Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 25-19
Test Date: 3/18/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 2.8 g at 42.7 ms
Min: -30.0 g at 1.9 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 0.0 m/s at 0.0 ms
Min: -7.3 m/s at 38.6 ms

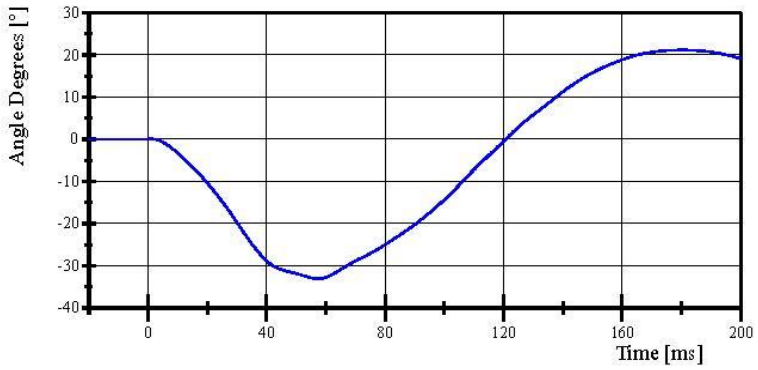
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.18.2025 15:25:38 1846

Transportation Research Center Inc.

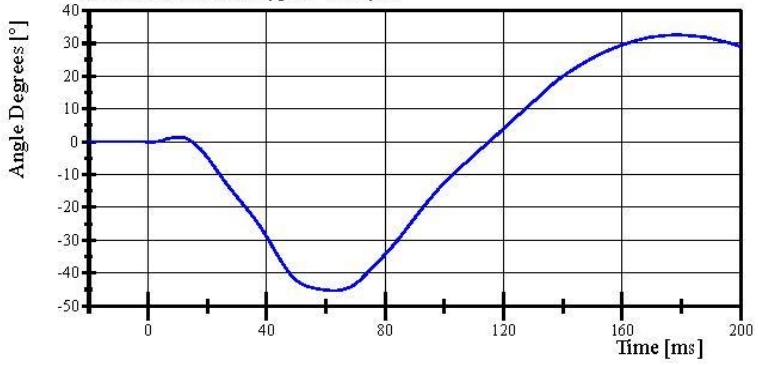
Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 25-19
Test Date: 3/18/2025

Pot Rotation at the Base of Neck



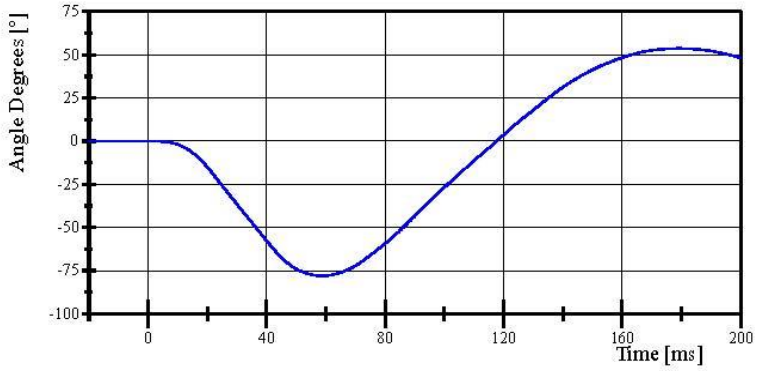
Filter Class: CFC_60
Max: 21.2 ° at 180.6 ms
Min: -33.0 ° at 57.3 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 32.5 ° at 178.3 ms
Min: -45.3 ° at 62.6 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 53.7 ° at 179.2 ms
Min: -78.0 ° at 58.8 ms

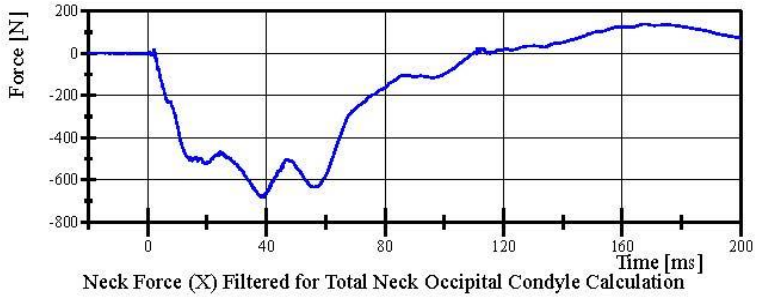
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.18.2025 15:25:38 1846

Transportation Research Center Inc.

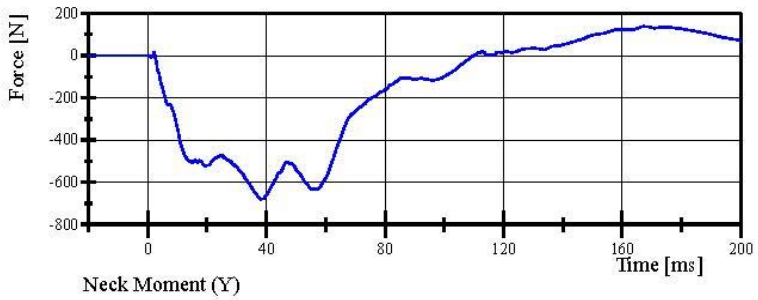
Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 25-19
Test Date: 3/18/2025

Neck Force (X)



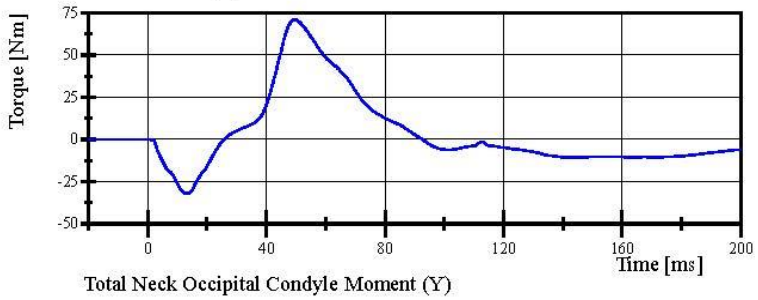
Filter Class: CFC_1000
Max: 138.9 N at 167.2 ms
Min: -684.3 N at 38.2 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



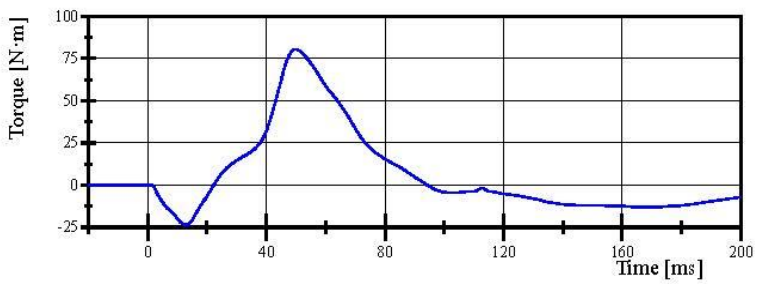
Filter Class: CFC_600
Max: 138.8 N at 167.4 ms
Min: -681.7 N at 38.1 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 71.1 Nm at 49.4 ms
Min: -32.1 Nm at 13.2 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constant Cha
Max: 80.4 N·m at 49.8 ms
Min: -23.4 N·m at 12.8 ms

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

03.18.2025 15:25:38 1846

Transportation Research Center Inc.

Neck Extension
HIII 5th Serial No. DH1659 Certification No. 25-2
Test Date: 3/19/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.065 m/s	Yes
Pendulum Integrated Velocity			
Change at 10ms	1.5 - 1.9 m/s	1.84 m/s	Yes
Change at 20ms	3.1 - 3.9 m/s	3.63 m/s	Yes
Change at 30ms	4.6 - 5.6 m/s	5.31 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	106.0 °	Yes
Total Neck Occipital Condyles Moment			
Between 99° and 114° Rotation	(-53) - (-65) N·m	-53.5 N·m	Yes
Decay to -10 N·m	94 - 114 ms	103.4 ms	Yes

Test meets specifications.

Condition: New

Comments:
Neck S/N : DM3051

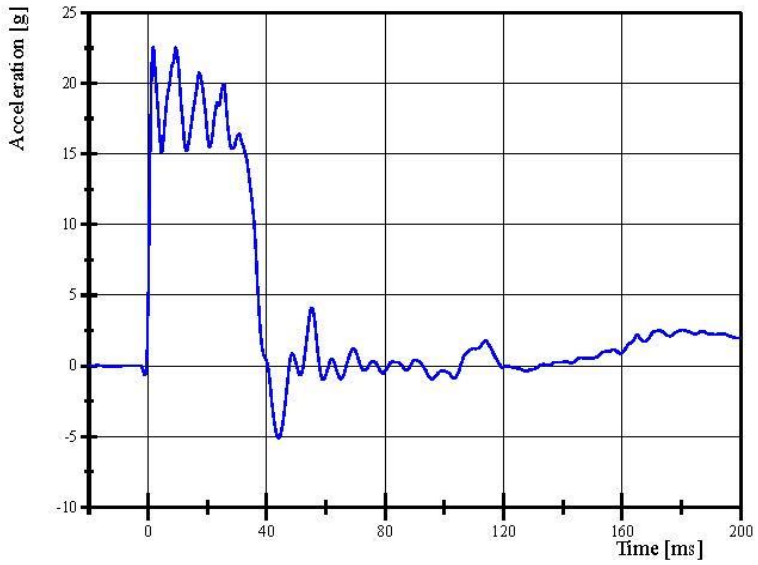
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.19.2025 09:14:11 2000

Transportation Research Center Inc.

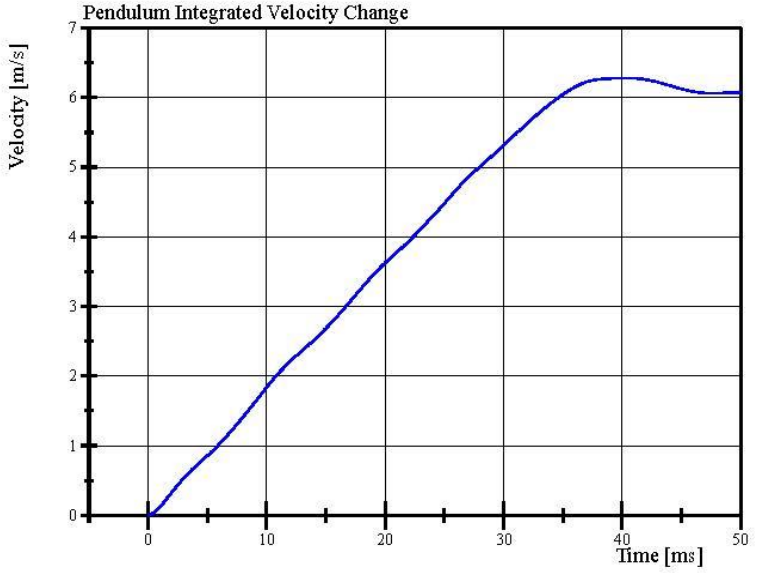
Neck Extension
HIII 5th Serial No. DH1659 Certification No. 25-2
Test Date: 3/19/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 22.6 g at 1.7 ms
Min: -5.1 g at 44.1 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.3 m/s at 40.4 ms
Min: 0.0 m/s at 0.0 ms

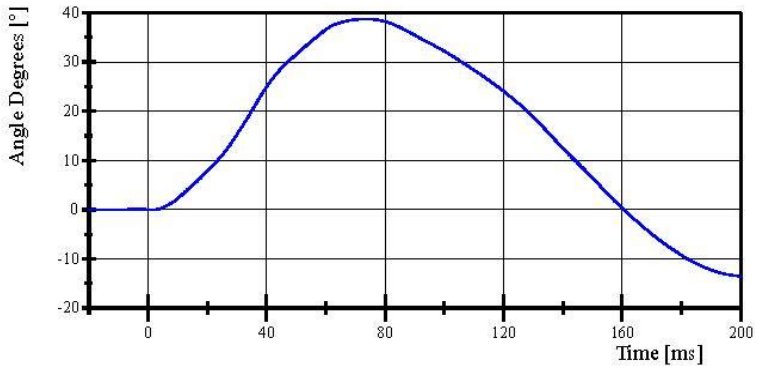
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.19.2025 09:14:45 2000

Transportation Research Center Inc.

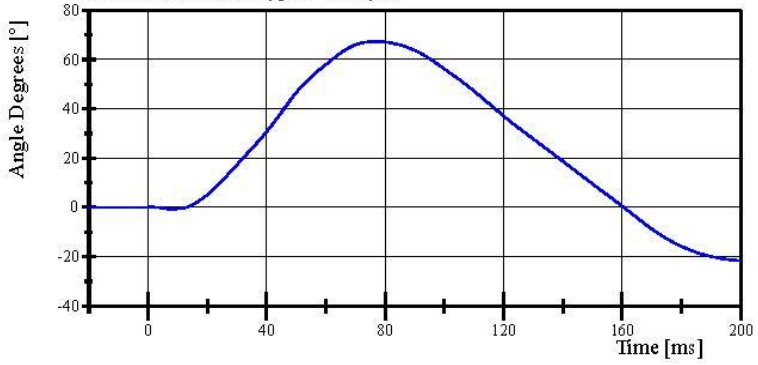
Neck Extension
HIII 5th Serial No. DH1659 Certification No. 25-2
Test Date: 3/19/2025

Pot Rotation at the Base of Neck



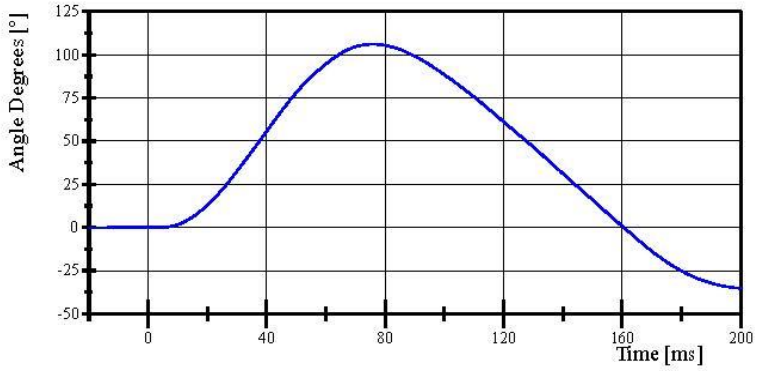
Filter Class: CFC_60
Max: 38.7 ° at 74.0 ms
Min: -13.5 ° at 200.0 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 67.4 ° at 77.3 ms
Min: -21.7 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 106.0 ° at 76.0 ms
Min: -35.3 ° at 200.0 ms

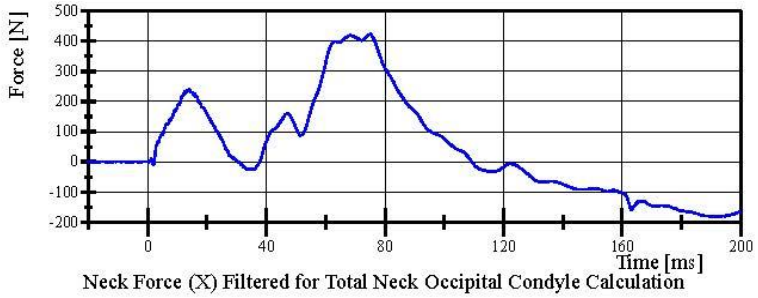
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.19.2025 09:14:46 2000

Transportation Research Center Inc.

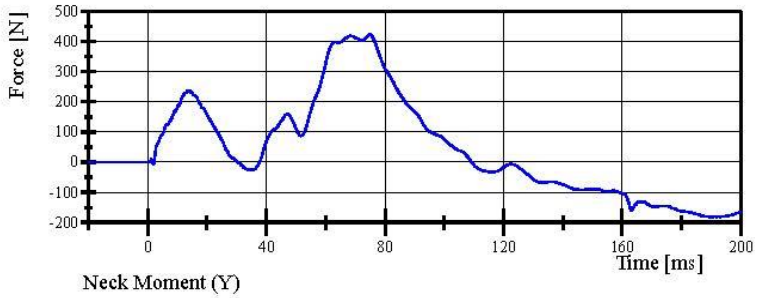
Neck Extension
HIII 5th Serial No. DH1659 Certification No. 25-2
Test Date: 3/19/2025

Neck Force (X)



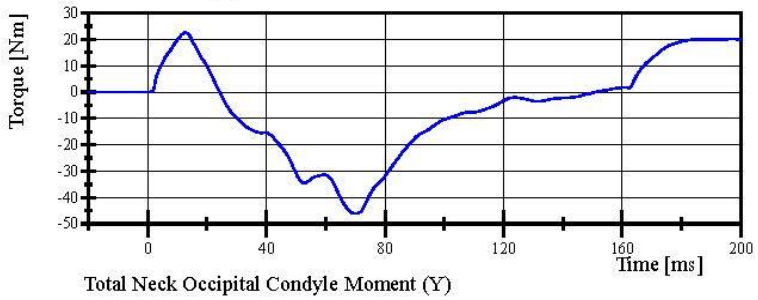
Filter Class: CFC_1000
Max: 423.2 N at 75.1 ms
Min: -182.1 N at 189.9 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



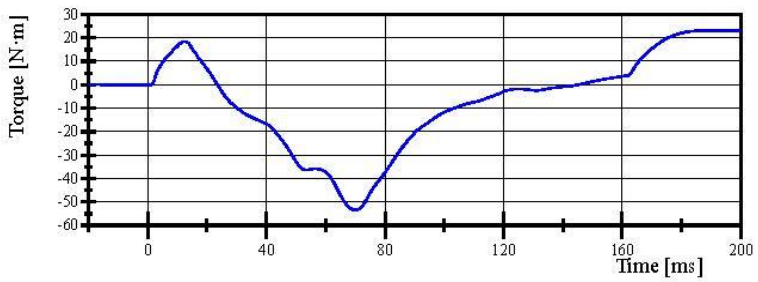
Filter Class: CFC_600
Max: 423.0 N at 75.0 ms
Min: -181.9 N at 190.0 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 22.5 Nm at 12.5 ms
Min: -46.1 Nm at 70.2 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constant Cha
Max: 23.2 N·m at 193.4 ms
Min: -53.5 N·m at 70.1 ms

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

03.19.2025 09:14:46 2000

Transportation Research Center Inc.

Front Thorax
HIII 5th Serial No. DH1659 Certification No. 25-2
Test Date: 3/12/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.818 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,321.8 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	>= (-4,600) N	-4,327.8 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-53.3 mm	Yes
Internal Hysteresis	69 - 85 %	73.4 %	Yes

Test meets specifications.

Condition: Used

Comments:
Jacket S/N: EE8365
Rib Set S/N: DI5873

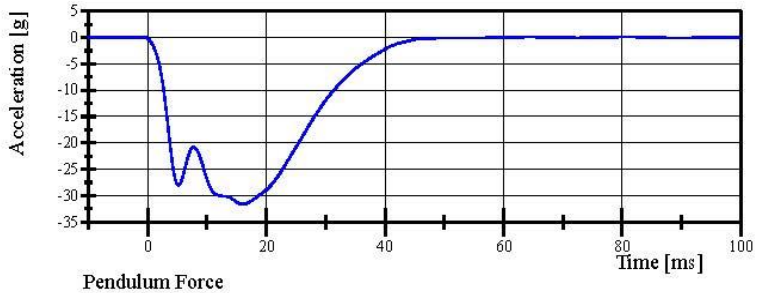
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

03.12.2025 13:29:55 396

Transportation Research Center Inc.

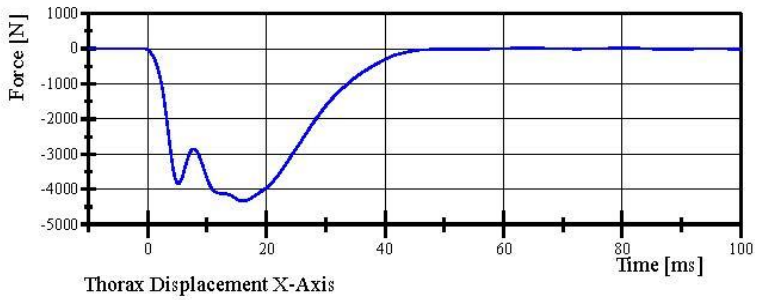
Front Thorax
HIII 5th Serial No. DH1659 Certification No. 25-2
Test Date: 3/12/2025

Pendulum Acceleration



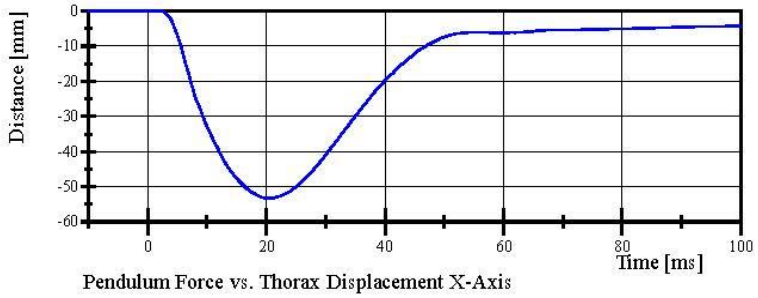
Filter Class: CFC_180
Max: 0.1 g at 64.7 ms
Min: -31.6 g at 16.0 ms

Pendulum Force



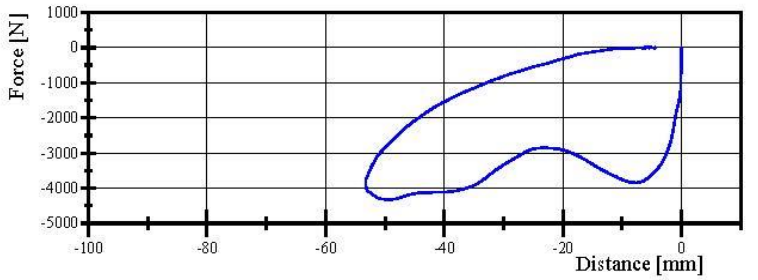
Filter Class: CFC_180
Max: 17.3 N at 64.7 ms
Min: -4,327.8 N at 16.0 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -3.8 ms
Min: -53.3 mm at 20.8 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 17.3 N at -5.8 mm
Min: -4,327.8 N at -49.4 mm

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

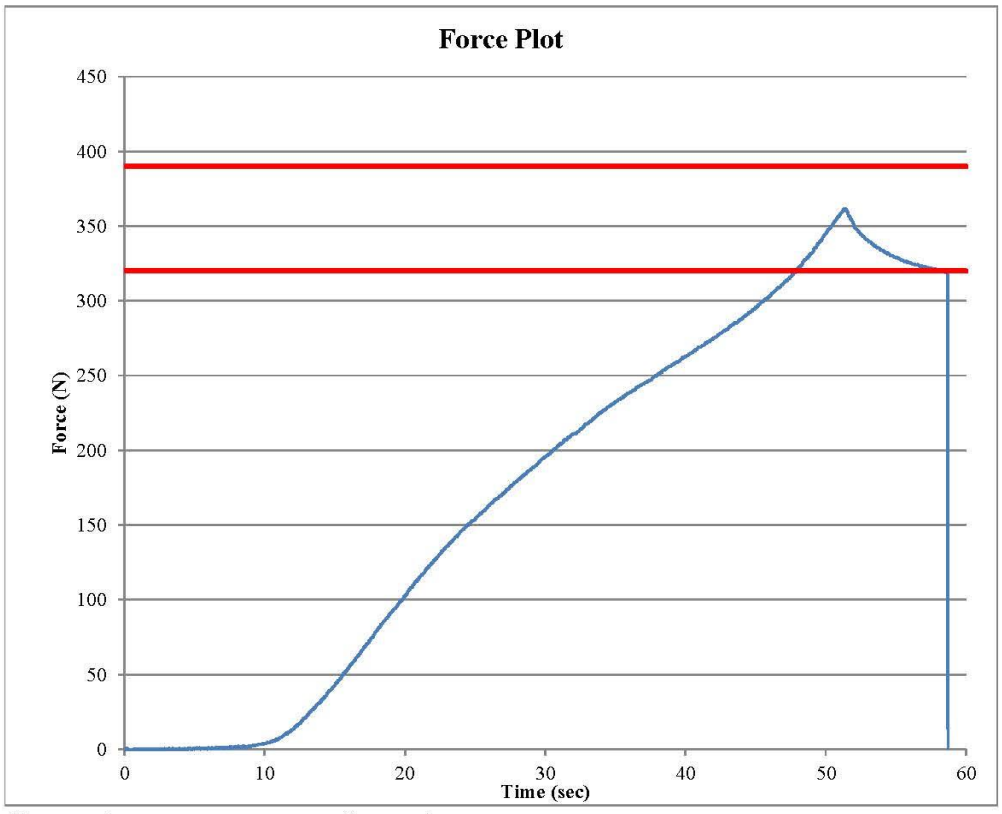
03.12.2025 13:30:34 396

Transportation Research Center Inc.

Hybrid III Small Female Torso Flexion

Customer:	NHTSA		
Serial Number:	DH1659	Date:	3/12/2025
Test Number:	1	Time:	9:14

TEST PARAMETER	SPECIFICATION			TEST RESULTS		
Temperature	18.9	-	25.6	21.1	°C	Pass
Humidity	10	-	70	41	%	Pass
Average Angular Rate	0.5	-	1.5	0.81	deg/sec	Pass
Initial Angle	0	-	20	11.43	deg	Pass
Peak Force at 45.63°	320	-	390	361.62	N	Pass
Final Angle	-8	-	8	3.4	deg	Pass



Components: Comments:

Jacket S/N:	EE8385
Abdomen S/N:	EE8393
Lumbar S/N:	EW9168

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 25-1
Test Date: 3/12/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.086 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,875.6 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: ED6729

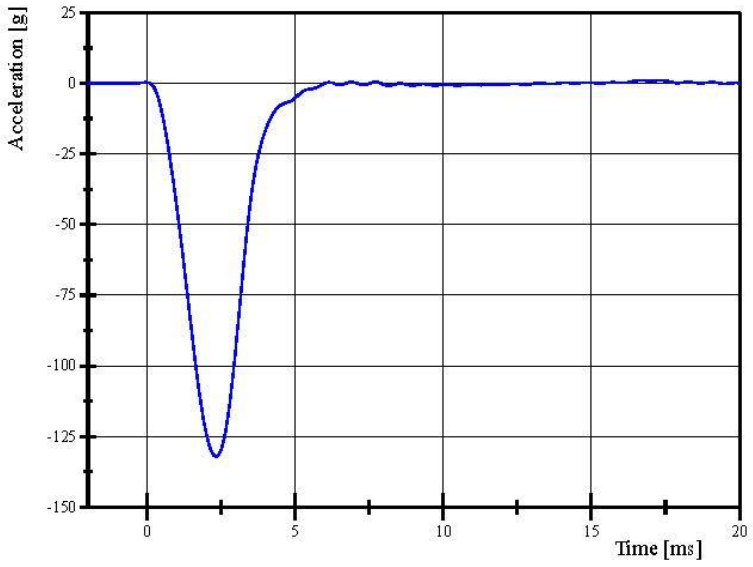
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.12.2025 09:35:28 1834

Transportation Research Center Inc.

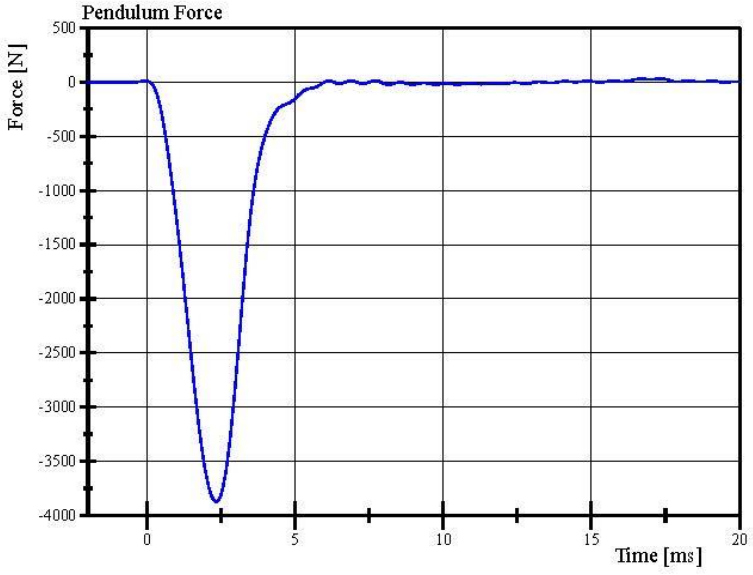
Left Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 25-1
Test Date: 3/12/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 1.1 g at 17.4 ms
Min: -132.2 g at 2.3 ms

Pendulum Force



Filter Class: CFC_600
Max: 31.3 N at 17.4 ms
Min: -3,875.6 N at 2.3 ms

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

03.12.2025 09:36:07 1834

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 25-1
Test Date: 3/12/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.085 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,888.1 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: ED6729

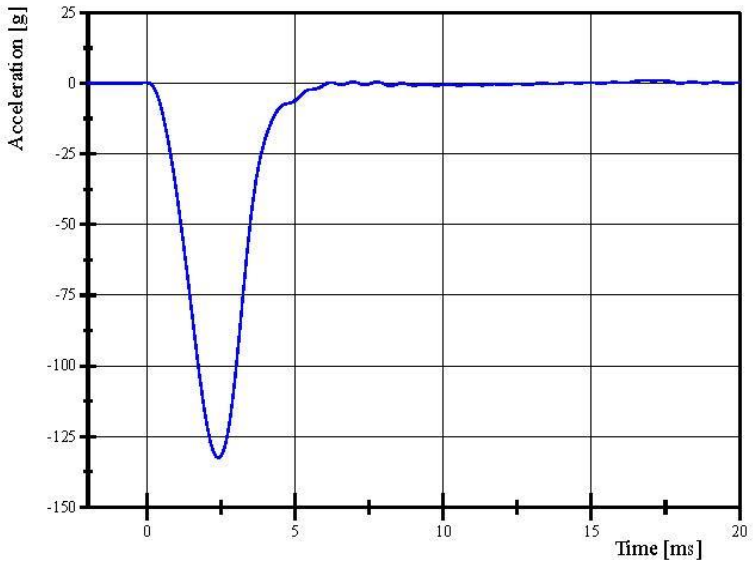
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

03.12.2025 09:43:38 1834

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 25-1
Test Date: 3/12/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 1.1 g at 16.7 ms
Min: -132.6 g at 2.4 ms

Pendulum Force

Filter Class: CFC_600
Max: 31.0 N at 16.7 ms
Min: -3,888.1 N at 2.4 ms

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

03.12.2025 09:44:19 1834

Post-Test Calibration Sheets

Passenger S/N DH1659

Transportation Research Center Inc.
572O HIII 5th Dummy
External Dimensions
Serial No. DH1659 Calibration No. 26

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	445	Yes
C	Hip Pivot Height	81.3 - 86.3	86	Yes
D	Hip Pivot from Backline	144.8 - 149.8	148	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	80	Yes
F	Thigh Clearance	119.4 - 134.6	131	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	196	Yes
K	Buttock Knee Length	520.7 - 546.1	533	Yes
L	Popliteal Height	355.6 - 376.0	360	Yes
M	Knee Pivot Height	393.7 - 419.1	409	Yes
N	Buttock Popliteal Length	414.0 - 439.4	430	Yes
O	Chest Depth without Jacket	175.3 - 190.5	185	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	305	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	869	Yes
Z	Waist Circumference	759.5 - 789.9	776	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	345	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Transportation Research Center Inc.

Front Head Drop
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	250.4 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	4.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	< 10 %	1.75 %	Yes

Test meets specifications.

Condition: Used

Comments:
Head Skin S/N: 2864

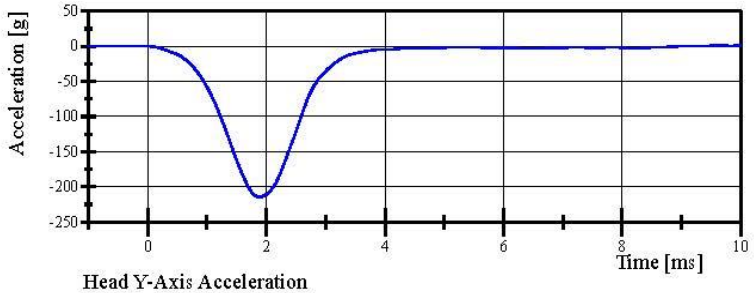
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

04.09.2025 15:02:20 613

Transportation Research Center Inc.

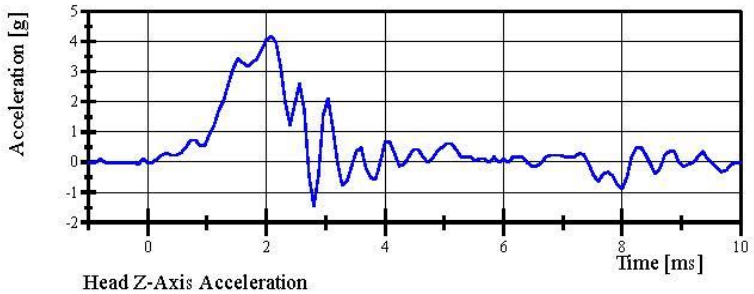
Front Head Drop
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Head X-Axis Acceleration



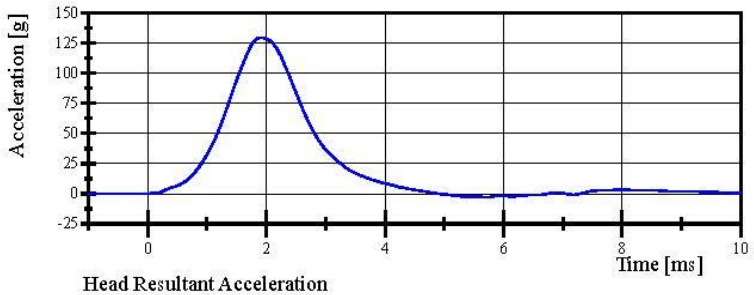
Filter Class: CFC_1000
Max: 1.1 g at 10.0 ms
Min: -214.3 g at 1.9 ms

Head Y-Axis Acceleration



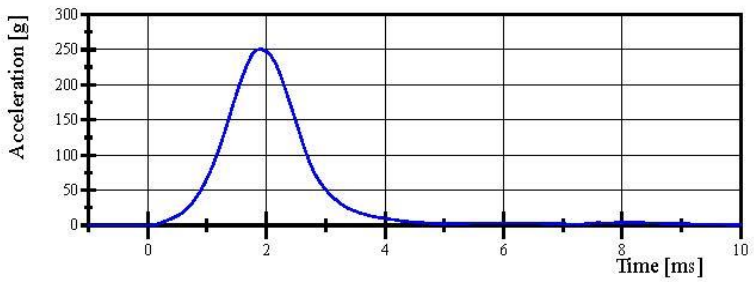
Filter Class: CFC_1000
Max: 4.2 g at 2.1 ms
Min: -1.5 g at 2.8 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 129.5 g at 1.9 ms
Min: -2.7 g at 5.7 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 250.4 g at 1.9 ms
Min: 0.0 g at -0.7 ms

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

04.09.2025 15:02:46 613

Transportation Research Center Inc.

Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.093 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.38 m/s	Yes
Change at 20ms	(-4.0) - (-5.0) m/s	-4.68 m/s	Yes
Change at 30ms	(-5.8) - (-7.0) m/s	-6.68 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-78.3 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	72.0 N·m	Yes
Decay to 10 N·m	80 - 100 ms	86.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: DM3051

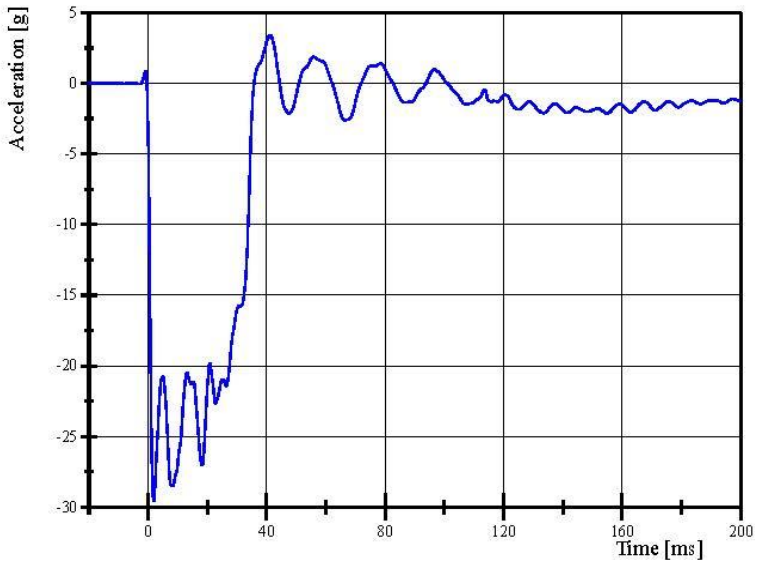
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

04.09.2025 13:52:24 1847

Transportation Research Center Inc.

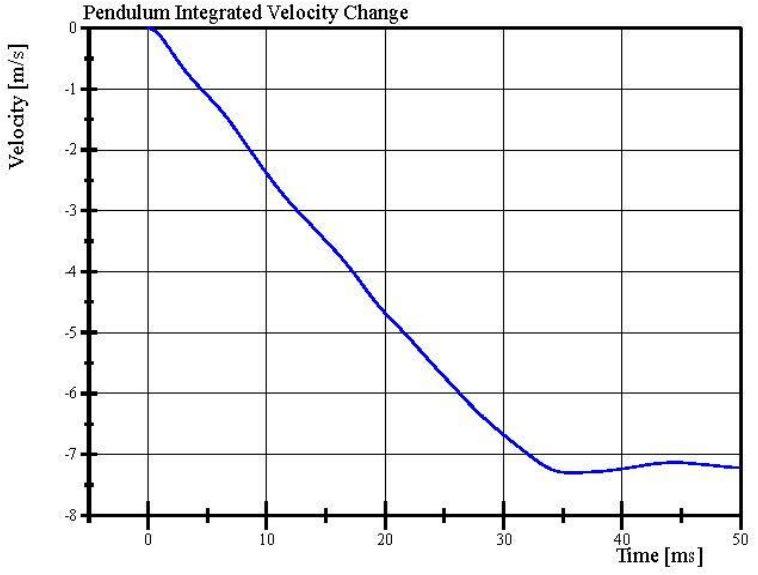
Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 3.4 g at 41.4 ms
Min: -29.6 g at 1.9 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 0.0 m/s at 0.0 ms
Min: -7.3 m/s at 35.8 ms

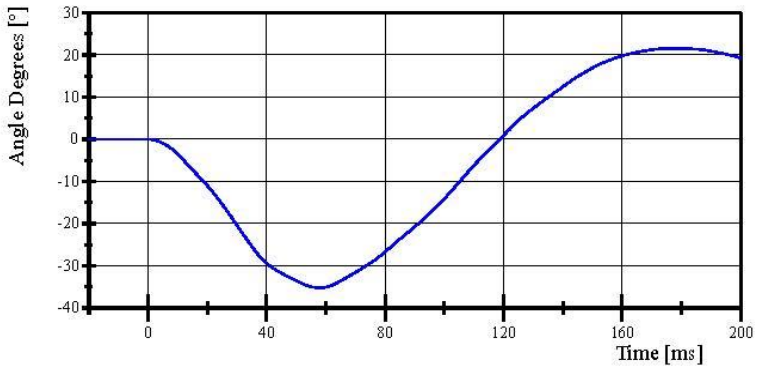
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

04.09.2025 13:52:50 1847

Transportation Research Center Inc.

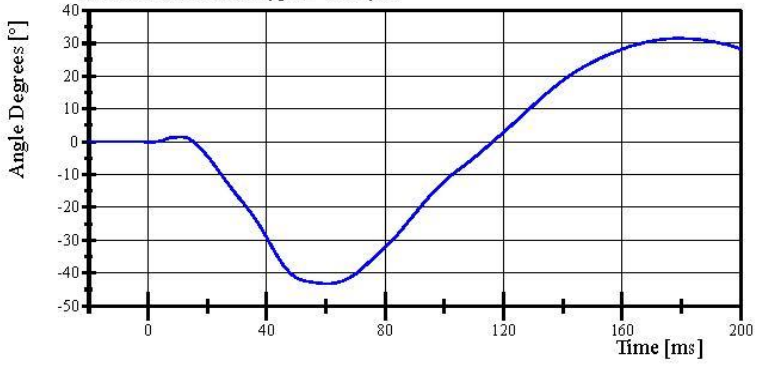
Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Pot Rotation at the Base of Neck



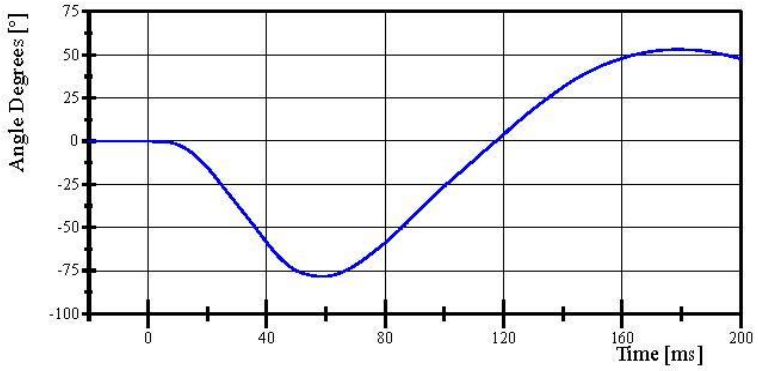
Filter Class: CFC_60
Max: 21.5 ° at 178.6 ms
Min: -35.2 ° at 58.2 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 31.5 ° at 178.8 ms
Min: -43.2 ° at 60.7 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 53.0 ° at 178.8 ms
Min: -78.3 ° at 59.2 ms

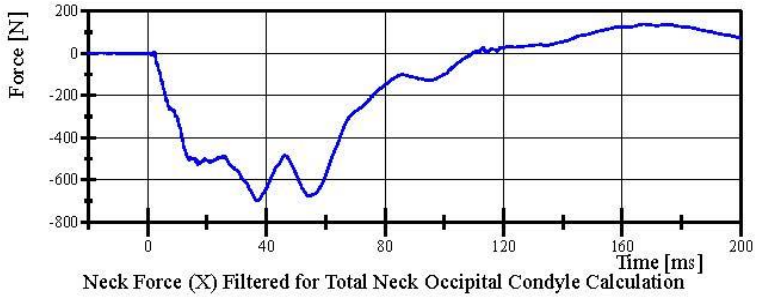
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

04.09.2025 13:52:50 1847

Transportation Research Center Inc.

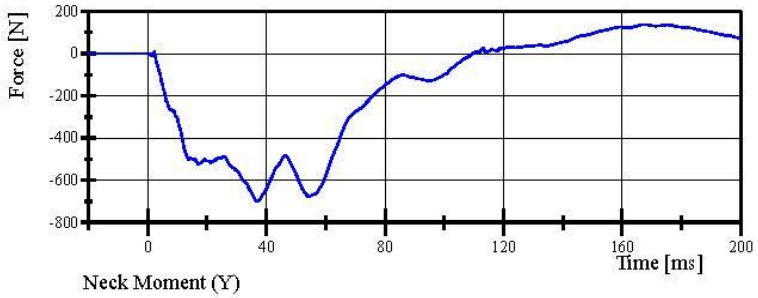
Neck Flexion
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Neck Force (X)



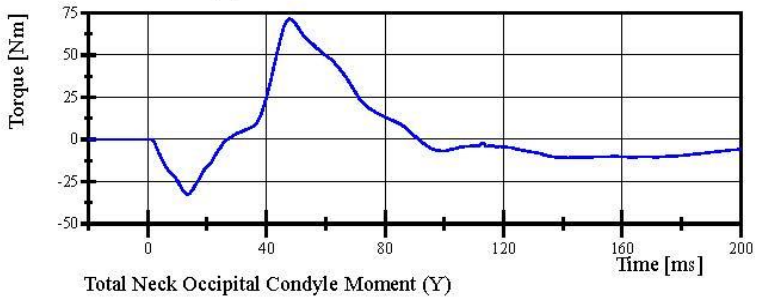
Filter Class: CFC_1000
Max: 137.9 N at 167.3 ms
Min: -700.8 N at 37.2 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



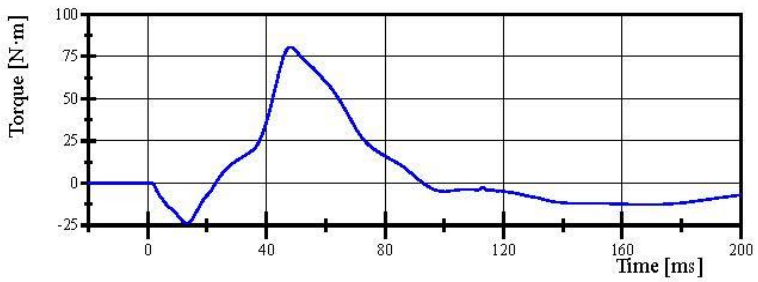
Filter Class: CFC_600
Max: 137.8 N at 167.5 ms
Min: -700.6 N at 37.1 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 71.4 Nm at 47.9 ms
Min: -32.5 Nm at 13.4 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constar
Max: 80.6 N·m at 48.1 ms
Min: -23.8 N·m at 13.2 ms

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

04.09.2025 13:52:50 1847

Transportation Research Center Inc.

Neck Extension
HIII 5th Serial No. DH1659 Certification No. 26-1
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.084 m/s	Yes
Pendulum Integrated Velocity			
Change at 10ms	1.5 - 1.9 m/s	1.82 m/s	Yes
Change at 20ms	3.1 - 3.9 m/s	3.66 m/s	Yes
Change at 30ms	4.6 - 5.6 m/s	5.43 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	105.2 °	Yes
Total Neck Occipital Condyles Moment			
Between 99° and 114° Rotation	(-53) - (-65) N·m	-55.0 N·m	Yes
Decay to -10 N·m	94 - 114 ms	102.5 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: DM3051

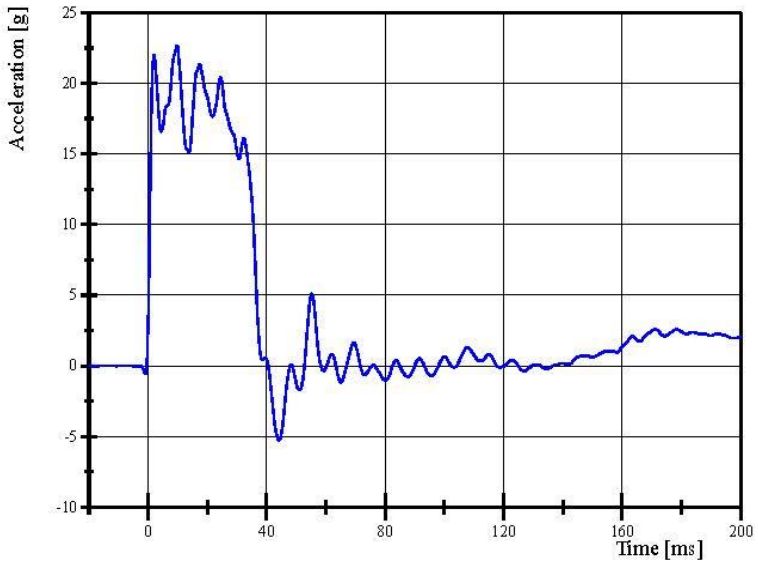
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

04.09.2025 14:25:02 1996

Transportation Research Center Inc.

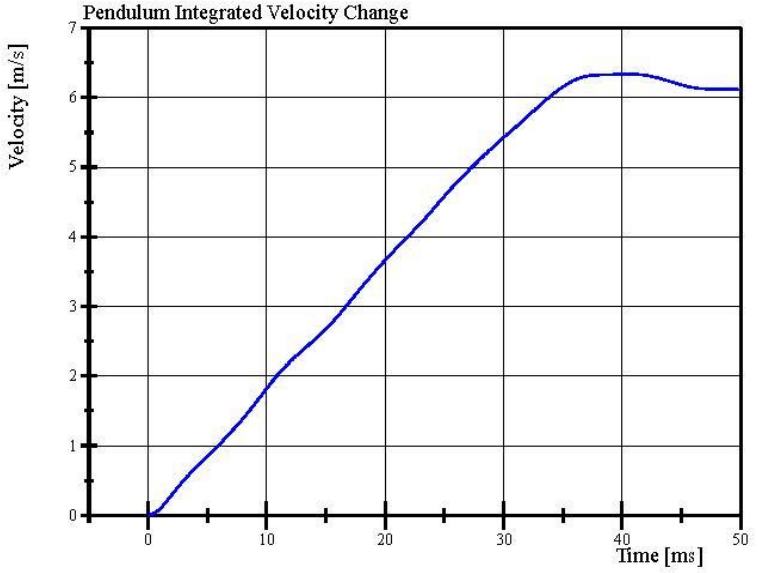
Neck Extension
HIII 5th Serial No. DH1659 Certification No. 26-1
Test Date: 4/9/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 22.7 g at 9.7 ms
Min: -5.3 g at 44.2 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.3 m/s at 40.6 ms
Min: 0.0 m/s at 0.0 ms

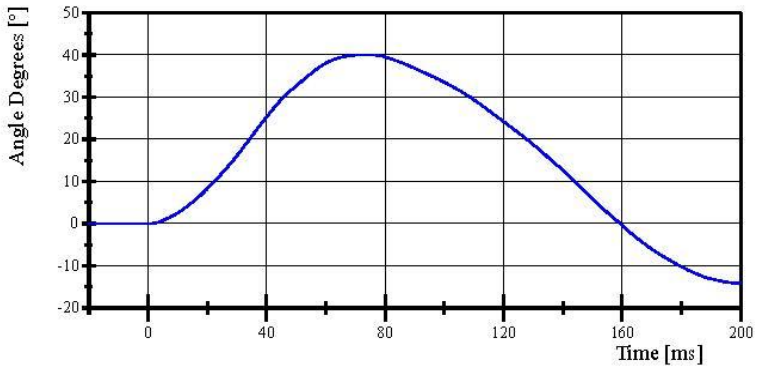
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

04.09.2025 14:25:30 1996

Transportation Research Center Inc.

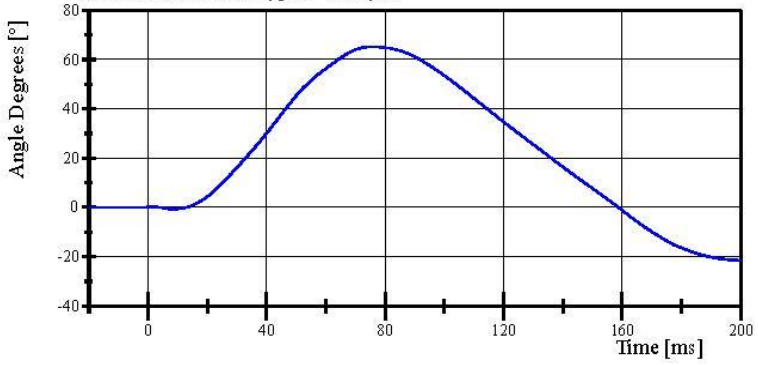
Neck Extension
HIII 5th Serial No. DH1659 Certification No. 26-1
Test Date: 4/9/2025

Pot Rotation at the Base of Neck



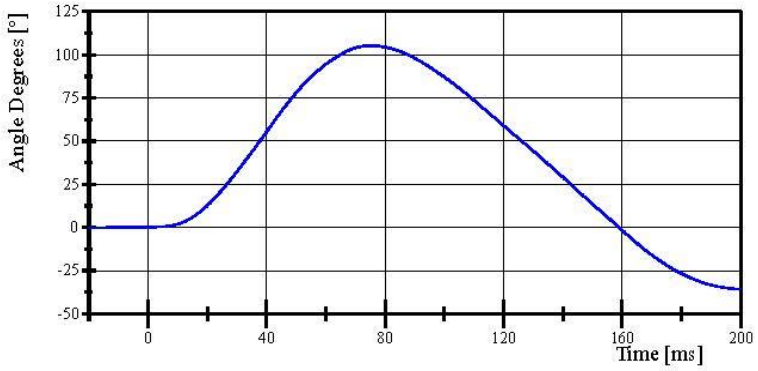
Filter Class: CFC_60
Max: 40.0 ° at 74.1 ms
Min: -14.1 ° at 200.0 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 65.2 ° at 75.8 ms
Min: -21.6 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60
Max: 105.2 ° at 75.4 ms
Min: -35.7 ° at 200.0 ms

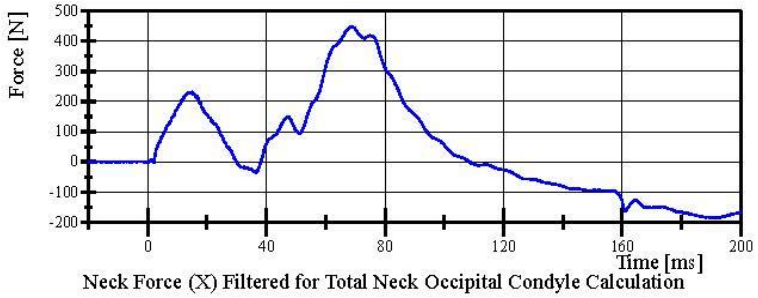
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

04.09.2025 14:25:31 1996

Transportation Research Center Inc.

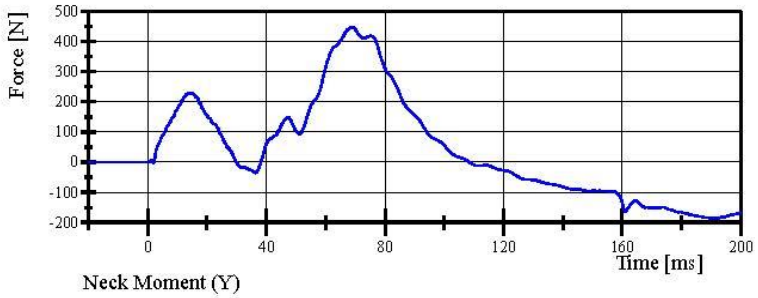
Neck Extension
HIII 5th Serial No. DH1659 Certification No. 26-1
Test Date: 4/9/2025

Neck Force (X)



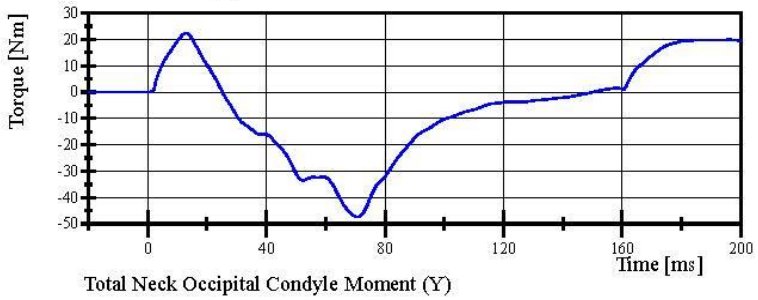
Filter Class: CFC_1000
Max: 447.9 N at 68.8 ms
Min: -187.1 N at 190.7 ms

Neck Force (X) Filtered for Total Neck Occipital Condyle Calculation



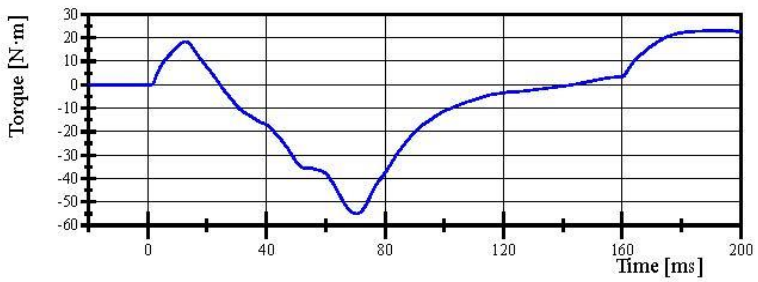
Filter Class: CFC_600
Max: 447.4 N at 68.9 ms
Min: -186.5 N at 190.9 ms

Neck Moment (Y)



Filter Class: CFC_600
Max: 22.3 Nm at 13.0 ms
Min: -47.4 Nm at 70.9 ms

Total Neck Occipital Condyle Moment (Y)



Filter Class: Without_(Constar
Max: 23.0 N·m at 194.6 ms
Min: -55.0 N·m at 70.5 ms

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

04.09.2025 14:25:31 1996

Transportation Research Center Inc.

Front Thorax
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.812 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,120.8 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	>= (-4,600) N	-4,271.0 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-50.6 mm	Yes
Internal Hysteresis	69 - 85 %	74.4 %	Yes

Test meets specifications.

Condition: Used

Comments:
Jacket S/N: EE8365
Rib Set S/N: DI5873

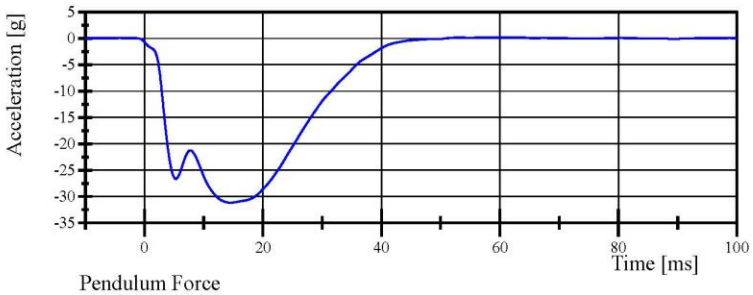
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

04.09.2025 11:13:25 415

Transportation Research Center Inc.

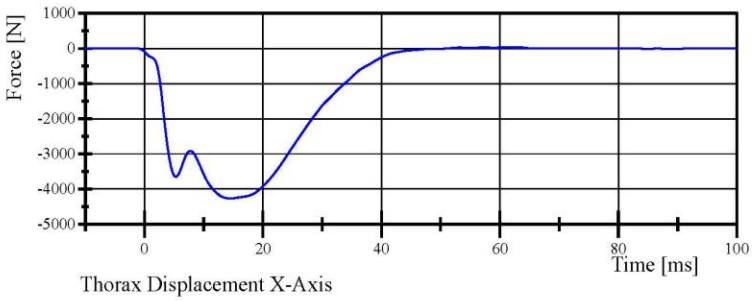
Front Thorax
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Pendulum Acceleration



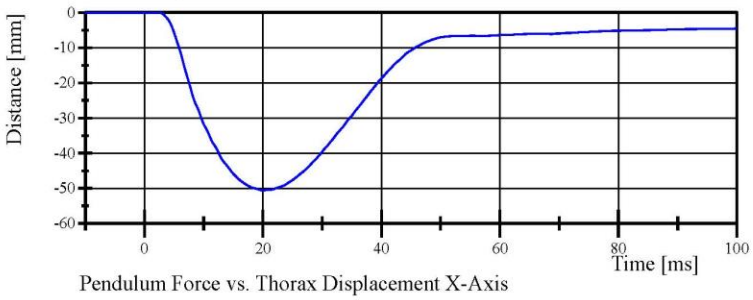
Filter Class: CFC_180
Max: 0.2 g at 61.4 ms
Min: -31.2 g at 14.6 ms

Pendulum Force



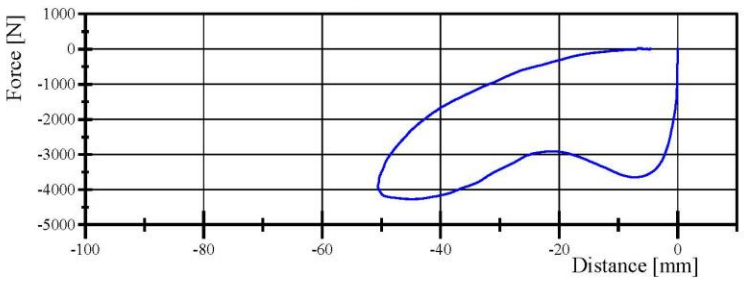
Filter Class: CFC_180
Max: 30.9 N at 61.4 ms
Min: -4,271.0 N at 14.6 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -5.4 ms
Min: -50.6 mm at 20.1 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 30.9 N at -6.3 mm
Min: -4,271.0 N at -45.0 mm

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

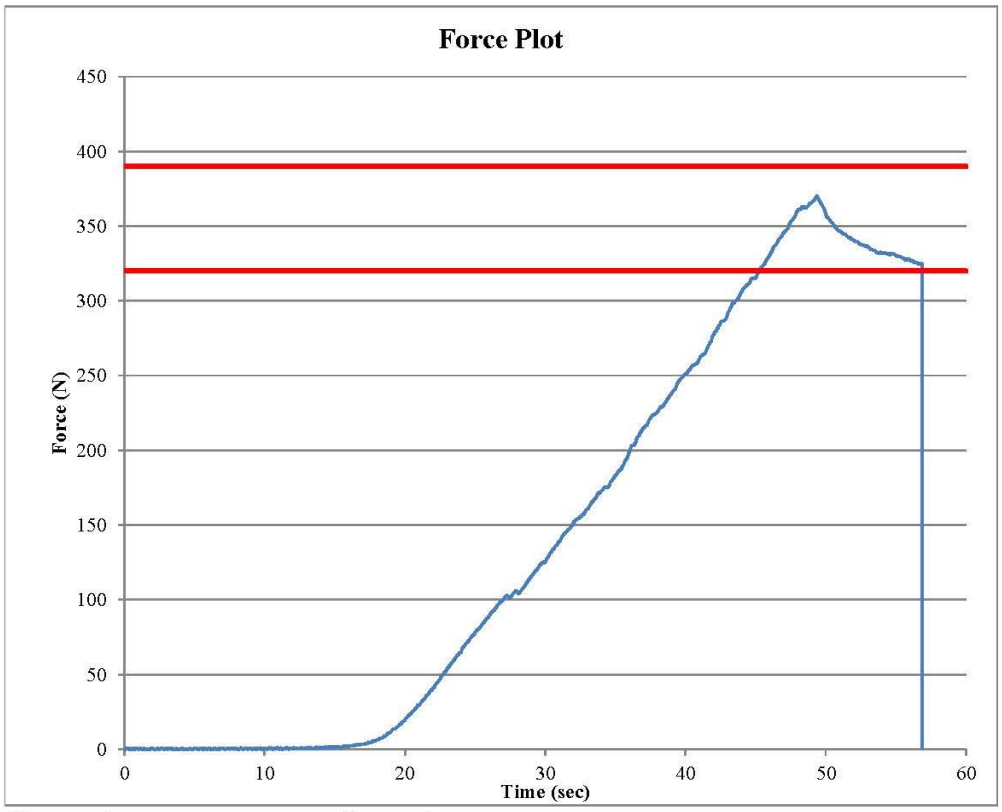
04.09.2025 11:14:02 415

Transportation Research Center Inc.

Hybrid III Small Female Torso Flexion

Customer:	NHTSA		
Serial Number:	DH1659	Date:	4/9/2025
Test Number:	1	Time:	8:08

TEST PARAMETER	SPECIFICATION			TEST RESULTS		
Temperature	18.9	-	25.6	21.6	°C	Pass
Humidity	10	-	70	30	%	Pass
Average Angular Rate	0.5	-	1.5	0.94	deg/sec	Pass
Initial Angle	0	-	20	14.83	deg	Pass
Peak Force at 45.73°	320	-	390	370.23	N	Pass
Final Angle	-8	-	8	0.62	deg	Pass



Components:		Comments:
Jacket S/N:	EE8385	
Abdomen S/N:	EE8393	
Lumbar S/N:	EW9168	

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.073 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,978.0 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: ED6729

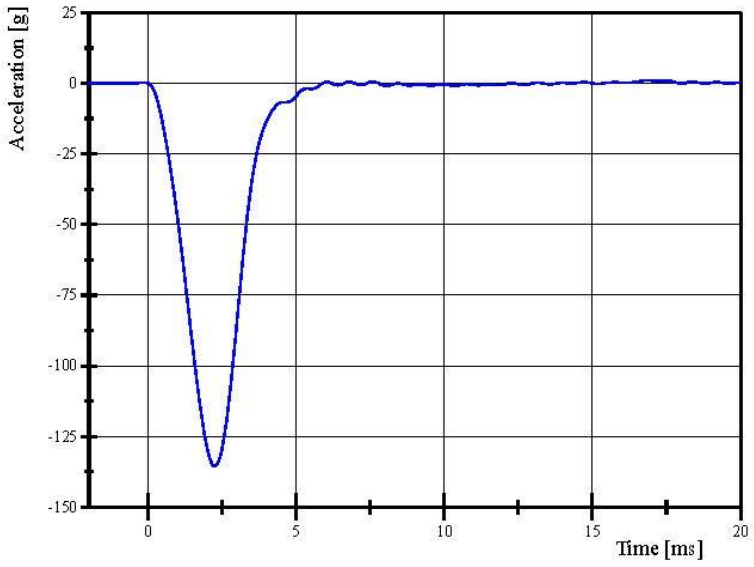
Specification Source: CFR49 Part 572 Subpart O
with Polarity in accordance with J211

04.09.2025 12:18:50 1990

Transportation Research Center Inc.

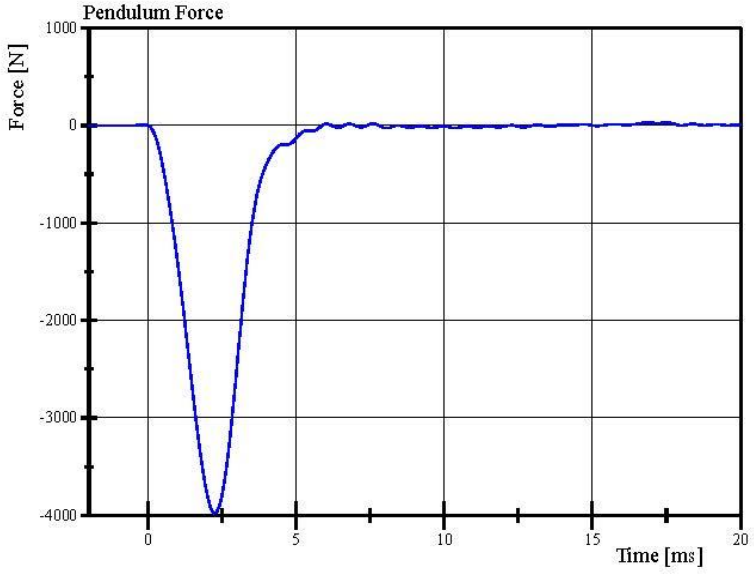
Left Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 26-2
Test Date: 4/9/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 1.1 g at 16.9 ms
Min: -135.7 g at 2.2 ms

Pendulum Force



Filter Class: CFC_600
Max: 31.0 N at 16.9 ms
Min: -3,978.0 N at 2.2 ms

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

04.09.2025 12:19:59 1990

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 26-4
Test Date: 4/9/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Probe Velocity	2.07 - 2.13 m/s	2.075 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,933.6 N	Yes

Test meets specifications.

Condition: Used

Comments:
Knee Skin S/N: ED6729

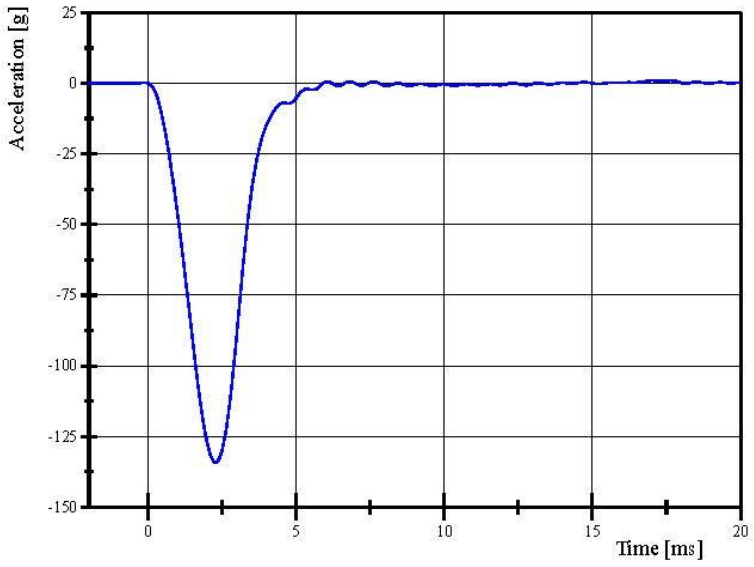
Specification Source: CFR49 Part 572 Subpart O with Polarity in accordance with J211

04.09.2025 13:26:43 1990

Transportation Research Center Inc.

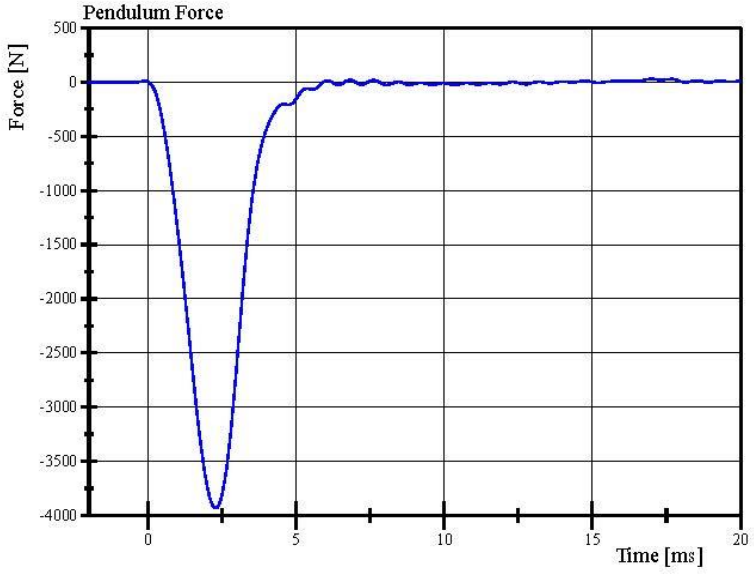
Right Knee Femur Response Test
HIII 5th Serial No. DH1659 Certification No. 26-4
Test Date: 4/9/2025

Pendulum Acceleration



Filter Class: CFC_600
Max: 1.0 g at 17.0 ms
Min: -134.2 g at 2.2 ms

Pendulum Force



Filter Class: CFC_600
Max: 29.7 N at 17.0 ms
Min: -3,933.6 N at 2.2 ms

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

04.09.2025 13:27:33 1990

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	17-Mar-2025
			Y	T43255	Endevco	17-Mar-2025
			Z	P91969	Endevco	17-Mar-2025
		Redundant	X	P94431	Endevco	17-Mar-2025
			Y	P94487	Endevco	17-Mar-2025
			Z	P94645	Endevco	17-Mar-2025
Head Angular Rate Sensors			X	ARS14948	DTS	26-Jul-2024
			Y	ARS14952	DTS	26-Jul-2024
			Z	ARS14949	DTS	26-Jul-2024
Upper Neck Load Cell			FX, FY, FZ, MX, MY, MZ	2021	Humanetics	18-Apr-2024
Chest Accelerometers		Primary	X	P97714	Endevco	17-Mar-2025
			Y	P61255	Endevco	17-Mar-2025
			Z	P45008	Endevco	17-Mar-2025
		Redundant	X	P91177	Endevco	17-Mar-2025
			Y	P94570	Endevco	17-Mar-2025
			Z	P91172	Endevco	17-Mar-2025
Chest Potentiometer			X	CST037	Servo	17-Mar-2025
Pelvis Accelerometers			X	T11801	Endevco	17-Mar-2025
			Y	P91876	Endevco	17-Mar-2025
			Z	P93543	Endevco	17-Mar-2025
Femur Load Cells	Left	Primary	Z	DI4215-FZ1	Humanetics	19-Apr-2024
		Redundant	Z	DI4215-FZ2	Humanetics	19-Apr-2024
	Right	Primary	Z	DI4216-FZ1	Humanetics	19-Apr-2024
		Redundant	Z	DI4216-FZ2	Humanetics	19-Apr-2024
Tibia Load Cells	Left	Upper	MX, MY, FZ	3643-94	Denton	18-Apr-2024
		Lower	MX, MY, FZ	3644-370	Denton	18-Apr-2024
	Right	Upper	MX, MY, FZ	3643-413	Denton	19-Apr-2024
		Lower	MX, MY, FZ	3644-401	Denton	18-Apr-2024
Foot Accelerometers	Left	Rear	X	P90848	Endevco	14-Jan-2025
			Z	T17602	Endevco	15-Jan-2025
		Front	Z	P90841	Endevco	17-Mar-2025
	Right	Rear	X	P93467	Endevco	17-Mar-2025
			Z	P97619	Endevco	17-Mar-2025
		Front	Z	P94523	Endevco	17-Mar-2025
Seat Belt Load Cells		Lap	N/A	X08013	Measurement Specialties	13-Jan-2025
		Shoulder	N/A	R141CA	Measurement Specialties	13-Jan-2025

TABLE 2 – Front Passenger Dummy Instrumentation

Instrumentation			Axis/Location	Hybrid III 5th S/N DH1659		
				Serial Number	Manufacturer	Calibration Date
Head Accelerometers		Primary	X	P44972	Endevco	7-Mar-2025
			Y	T11806	Endevco	7-Mar-2025
			Z	P69062	Endevco	7-Mar-2025
		Redundant	X	T11046	Endevco	7-Mar-2025
			Y	P97525	Endevco	7-Mar-2025
			Z	P73228	Endevco	7-Mar-2025
Head Angular Rate Sensors			X	ARS6120	DTS	26-Jul-2024
			Y	ARS10776	DTS	26-Jul-2024
			Z	ARS4732	DTS	26-Jul-2024
Upper Neck Load Cell			FX, FY, FZ, MX, MY, MZ	1874	Humanetics	24-Apr-2024
Chest Accelerometers		Primary	X	P80855	Endevco	7-Mar-2025
			Y	P93546	Endevco	7-Mar-2025
			Z	P57791	Endevco	15-Jan-2025
		Redundant	X	P73221	Endevco	7-Mar-2025
			Y	T11872	Endevco	7-Mar-2025
			Z	T16784	Endevco	7-Mar-2025
Chest Potentiometer			X	CST3410	Servo	7-Mar-2025
Pelvis Accelerometers			X	P94498	Endevco	7-Mar-2025
			Y	P91958	Endevco	7-Mar-2025
			Z	P80721	Endevco	7-Mar-2025
Femur Load Cells	Left	Primary	Z	DT0997-FZ1	Humanetics	24-Apr-2024
		Redundant	Z	DT0997-FZ2	Humanetics	24-Apr-2024
	Right	Primary	Z	DS4140-FZ1	Humanetics	24-Apr-2024
		Redundant	Z	DS4140-FZ2	Humanetics	24-Apr-2024
Tibia Load Cells	Left	Upper	MX, MY, FZ	3643-92	Humanetics	24-Apr-2024
		Lower	MX, MY, FZ	3644-92	Humanetics	24-Apr-2024
	Right	Upper	MX, MY, FZ	3643-484	Humanetics	25-Apr-2024
		Lower	MX, MY, FZ	3644-369	Humanetics	24-Apr-2024
Foot Accelerometers	Left	Rear	X	P90866	Endevco	6-Mar-2025
			Z	P93533	Endevco	6-Mar-2025
		Front	Z	P97890	Endevco	6-Mar-2025
	Right	Rear	X	P97640	Endevco	6-Mar-2025
			Z	P91471	Endevco	6-Mar-2025
		Front	Z	P91907	Endevco	6-Mar-2025
Seat Belt Load Cells		Lap	N/A	N100EC	Measurement Specialties	13-Jan-2025
		Shoulder	N/A	N100ED	Measurement Specialties	13-Jan-2025

TABLE 3 – Vehicle Instrumentation

Instrumentation			Axis	Serial Number	Manufacturer	Calibration Date
Crossmember/Rear Seat Accelerometers	Left	Primary	X	A379057	Measurement Specialties	3-Mar-2025
			Z	A377525	Measurement Specialties	3-Mar-2025
		Redundant	X	A377518	Measurement Specialties	3-Mar-2025
	Right	Primary	X	A379037	Measurement Specialties	27-Feb-2025
			Z	A377535	Measurement Specialties	3-Mar-2025
		Redundant	X	A379050	Measurement Specialties	3-Mar-2025
Engine Accelerometers	Top		X	A379042	Measurement Specialties	27-Feb-2025
	Bottom		X	A377522	Measurement Specialties	3-Mar-2025