FINAL REPORT NUMBER: SINCAP-TRC-25-003

NEW CAR ASSESSMENT PROGRAM (NCAP)
MOVING DEFORMABLE BARRIER SIDE IMPACT TEST

NISSAN MOTOR CO., LTD.
2025 Nissan Murano
NHTSA NUMBER: M20255206

PREPARED BY:
Transportation Research Center Inc.
10820 State Route 347
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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
Mail Code: NRM-110
1200 New Jersey Ave, SE
Washington, D.C. 20590

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Report Prepared By: ILO Project Operations Group

Report 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

1. Report No. SINCAP-TRC-24-004	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact MDB Testing of a 2025 Nissan Murano, NHTSA No.: M20255206		5. Report Date June 30, 2025 6. Performing Organization Code TRC Inc.
7. Author(s) John Shultz, Project Manager		8. Performing Organization Report Number 250410
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319		10. Work Unit No. 11. Contract or Grant No. 693JJ920D000018
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NRM-110) 1200 New Jersey Ave, SE Washington, DC 20590		13. Type of Report and Period Covered Final Test Report April 10, 2025 – June 30, 2025 14. Sponsoring Agency Code NRM-110
15. Supplemental Notes		

16. Abstract

This 55 / 28 km/h 90° Moving Deformable Barrier SINCAP Side Impact Test was conducted on the subject 2025 Nissan Murano, in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on April 10, 2025.

The impact velocity of the Moving Deformable Barrier (MDB) was 62.03 km/h, and the ambient temperature at the struck (left) side of the target vehicle at the time of impact was 21.7° C. The target vehicle post-test maximum crush was 196 mm at Level 2. The test vehicle's performance was as follows:

Driver ATD (ES-2re)

Measurement Description	**Units**	**IARV**	**Result**
Head Injury Criteria (HIC_{36})	N/A	1000	82.760
Maximum Thoracic Rib Deflection	mm	44	16.390
Total Abdominal Force	N	2500	532.310
Pubic Symphysis Force	N	6000	-1654.960
Lower Spine Acceleration	G	82*	21.210

Passenger ATD (SID-IIs)

Measurement Description	**Units**	**IARV**	**Result**
Head Injury Criteria (HIC_{36})	N/A	1000	130.480
Lower Spine Resultant Acceleration	g's	82	24.840
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1070.610
Maximum Thoracic Rib Deflection	mm	38*	13.740
Maximum Abdominal Rib Deflection	mm	45*	14.110

* Proposed IARV

The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.

17. Key Words New Car Assessment Program (NCAP) Side Impact MDB ES-2re SID-IIs	18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division 1200 New Jersey Ave, SE Washington, DC 20590

19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. Number of Pages 216	22. Price

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

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SECTION 1
TEST PURPOSE AND PROCEDURE

TEST PURPOSE AND PROCEDURE

This moving deformable barrier side impact test was conducted as part of the MY 2025 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. 693JJ920D000018. The purpose of this test is to generate comparative side impact performance in a 2025 Nissan Murano. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated March 2020.

SECTION 2

SUMMARY OF TEST RESULTS

A 2025 Nissan Murano was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.03 km/h (38.54 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Transportation Research Center Inc. in East Liberty, Ohio, on April 10, 2025. Pre-test and post-test photographs of the test vehicle and the MDB and the dummies (ES-2-re and SID-IIs) are included in this report.

Dummies were placed in the driver and left rear designated seating positions according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated March 2020. The side impact event was documented by 11 cameras. Camera locations are included in this report.

The dummies were instrumented in the following manner:

DRIVER ATD (ES-2re)
Primary and redundant head CG tri-axial accelerometers
Chest upper rib, middle rib, and lower rib y-axis displacement potentiometers
Abdomen forward, middle, and rear y-axis load cells
Lower spine (T12) tri-axial accelerometers
Pubic symphysis y-axis load cell

PASSENGER ATD (SID-IIs)
Primary and redundant head CG triaxial accelerometers
Chest upper rib, middle rib, and lower rib y-axis displacement potentiometers
Abdomen upper rib and lower rib y-axis displacement potentiometers
Lower spine (T12) tri-axial accelerometers
Acetabulum and iliac wing y-axis load cells

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

Dummy injury readings were recorded as follows:

Measurement Description	Driver ATD (ES-2-re)		
	Units	Threshold	Result
Head Injury Criteria (HIC_{36})	N/A	1000	82.760
Maximum Thoracic Rib Deflection	mm	44	16.390
Combined Abdominal Force	N	2500	532.310
Pubic Symphysis Force	N	6000	-1654.960
Lower Spine (T12) Resultant Acceleration[1]	G	82*	21.210

* Proposed IARV

Measurement Description	Passenger ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC_{36})	N/A	1000	130.480
Lower Spine (T12) Resultant Acceleration	G	82	24.840
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1070.610
Maximum Thoracic Rib Deflection	mm	38*	13.740
Maximum Abdominal Rib Deflection	mm	45*	14.110

* Proposed IARV

Supplemental Restraint Information is given below:

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

GENERAL COMMENTS

All doors remained closed throughout the test. No fuel spillage occurred during the impact or the static rollover test which followed. Injury values for both ATDs were within the established performance thresholds.

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20255206
Model Year	2025
Make	Nissan
Model	Murano
Body Style	MPV
VIN	5N1AZ3BJ4SC100004
Body Color	Everest White
Odometer Reading (km/mi)	28mi.
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

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

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	11/24
Vehicle Type	MPV

GVWR (LB)	2540
GAWR Front (LB)	1365
GAWR Rear (LB)	1260

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

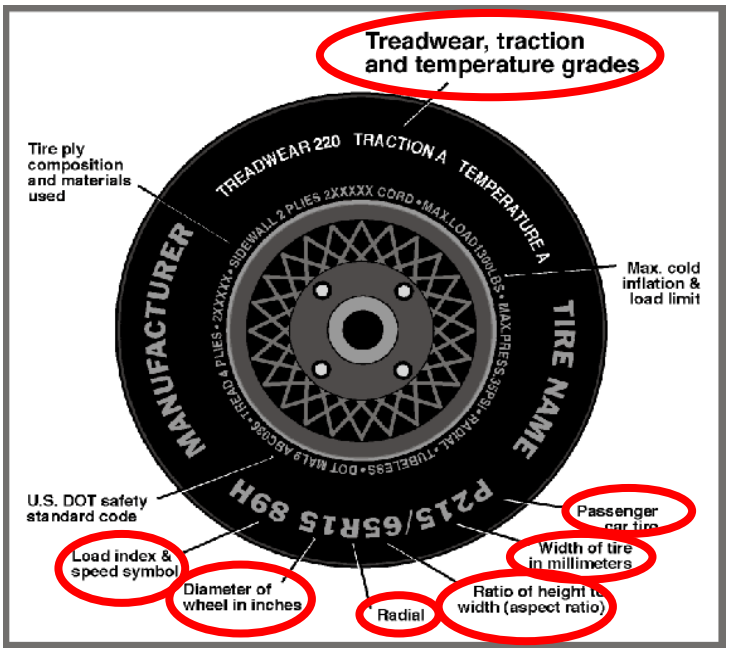
Measured Parameter	Front	Rear	Third	Total
Designated Seating Capacity DSC)	2	3	N/A	5
Capacity Weight (VCW) (kg)				408.0
DSC x 68 (kg)				340.0
Cargo Weight (RCLW) (kg)				68.0

VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						w/ Lever	w/ Knob
Front Seat	Yes	N/A	N/A		N/A	N/A	Yes
Rear or Second Row Seat	N/A	N/A	Yes	N/A	Yes	N/A	N/A
Third Row Seat	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	240	240
Recommended Tire Size	255/55R20	255/55R20
Tire Size on Vehicle	255/55R20	255/55R20
Tire Manufacturer	Bridgestone	Bridgestone
Tire Model	Alenza	Alenza
Treadwear	500	500
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	4	4
Load Index/Speed Symbol	107 H	107 H
Tire Material	Polyester, Steel, Nylon	Polyester, Steel, Nylon
DOT Safety Code Left	HH9W48 1724	HH9W48 1724
DOT Safety Code Right	HH9W48 1724	HH9W48 1724

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	290	290	310	310
Tire Placard	kPa	240	240	240	240
Owner's Manual	kPa	240	240	240	240
As Tested	kPa	240	240	240	240

MDB TIRE SPECIFICATIONS

	Units	Requirement	LF	RF	LR	RR
Tire Size		P205/75R15	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire Pressure	kPa	200 ± 21 kPa	207	207	207	207

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	568.2	375.6		612.2	441.8		598.2	468.8	
Right	kg	551.2	377.2		549.4	455.0		554.0	444.2	
Ratio	%	59.8	40.2		56.4	43.6		55.8	44.2	
Totals	kg	1119.4	752.8	1872.2	1161.6	896.8	2058.4	1152.2	913.0	2065.2

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	1872.2	(A)
Actual Weight of 1 P572V ATD (SID-IIs) Dummy Used	kg	125.0	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	68.0	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2065.2	(A+B+C)

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

TEST VEHICLE ATTITUDES AND CG

Measurement Description	Units	Fully Loaded	As Tested	Meets Requirement
LF	mm	864	862	Yes
RF	mm	868	867	Yes
RR	mm	847	845	Yes
LR	mm	838	842	Yes
Vehicle CG (Aft of Front Axle)	mm	1240	1223	
Vehicle CG (Left(+)/Right(-) from Longitudinal Centerline)	mm	+28	+20	

***The "As Tested" vehicle attitude measurements must be equal to or within ± 10 mm of the "Fully Loaded" vehicle attitude measurements at each wheel well. Indicate "Yes" or "No" for "Meets Requirement".

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

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast: Steel plate	53.0
Removed: None	0.0

TEST SURFACE MARKINGS

	Distance from 63° Impact Angle Line (mm)
Fore 25 mm target	1000
Aft 25 mm target	990
Pre-Impact Angle Line	260

Parallel Track Target	X Location (mm)	Y Location (mm)
A	0	0
B	1620	3420
C	3985	3420
D	3985	0

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

SEAT POSITIONING

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

SCRL ANGLE RANGE

Seat	SCRL(°)		
	Max.	Min.	Mid
Driver Seat	21.9	18.7	20.3
Front Passenger Seat	15.2	15.2	15.2
Front Center Seat*	N/A	N/A	N/A
Struck Side Rear Seat	N/A	N/A	14.7
Non-Struck Side Rear Seat	N/A	N/A	10.7
Rear Center Seat*	N/A	N/A	14.7

* If applicable.

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rearmost	Mid-Fore/Aft	Forward-Most
Driver Seat	20.3	220	Max	238	251	267
			Mid	224	236	251
			Min	210	220	234
Front Passenger Seat	15.2	203	Max	243	257	270
			Mid	217	230	241
			Min	190	203	212
Front Center Seat*	N/A	N/A	Max	N/A	N/A	N/A
			Mid	N/A	N/A	N/A
			Min	N/A	N/A	N/A
Struck Side Rear Seat	14.7	240	Max	N/A	N/A	N/A
			Mid	240	N/A	N/A
			Min	N/A	N/A	N/A
Non-Struck Side Rear Seat	14.7	240	Max	N/A	N/A	N/A
			Mid	240	N/A	N/A
			Min	N/A	N/A	N/A
Rear Center Seat*	10.7	N/A	Max	N/A	N/A	N/A
			Mid	N/A	N/A	N/A
			Min	N/A	N/A	N/A

* If applicable.

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

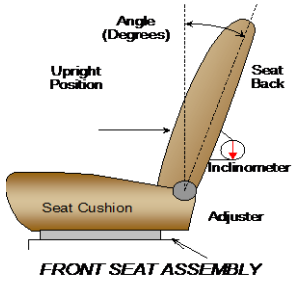
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position from Forwardmost Position	
	mm	Detents	mm	Detent
Driver Seat	260	Power	130	N/A
Front Passenger Seat	260	power	130	N/A
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat	Fixed	N/A	N/A	N/A
Non-Struck Side Rear Seat	Fixed	N/A	N/A	N/A
Rear Center Seat*	Fixed	N/A	N/A	N/A

* If applicable

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned to the manufacturer's designated seat back angle. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck side rear seat back is positioned such that the dummy's head is level. The rear center and non-struck side rear outboard seat backs are positioned in a similar manner as the struck-side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents	Degrees	Detent
Driver Seat w/ Seated Dummy	84	Power	7.2	Power
Front Passenger Seat	84	Power	7.2	Power
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat w/ Seated Dummy	N/A	N/A	N/A	N/A
Non-Struck Side Rear Seat	N/A	N/A	N/A	N/A
Rear Center Seat*	N/A	N/A	N/A	N/A

* If applicable

SEAT BELT ANCHORAGE ADJUSTMENT

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

	Total # of Positions	Placed in Position #
Driver Seat	4	0
Rear Seat	4	0

HEAD RESTRAINT ADJUSTMENT

The driver's head restraint is adjusted to the highest and most full forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

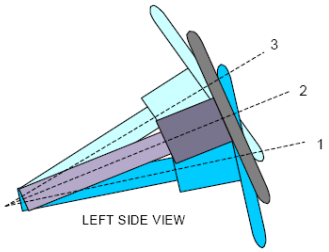
	Total # of Positions	Placed in Position #
Driver Seat	4	0
Rear Seat	4	0

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

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the center of its geometric locus it describes when it moves through its full range of motion.



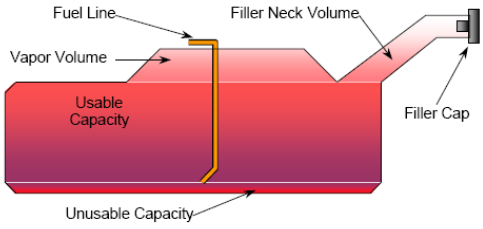
STEERING COLUMN ASSEMBLY

	Degrees	Fore/Aft Position (mm)
Lowermost, Position No. 1	67.4	
Geometric Center, Position No. 2	64.7	
Uppermost, Position No. 3	62.0	
Telescoping Steering Wheel Travel		42
Test Position	64.7	21

FUEL PUMP

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

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



VEHICLE FUEL TANK ASSEMBLY

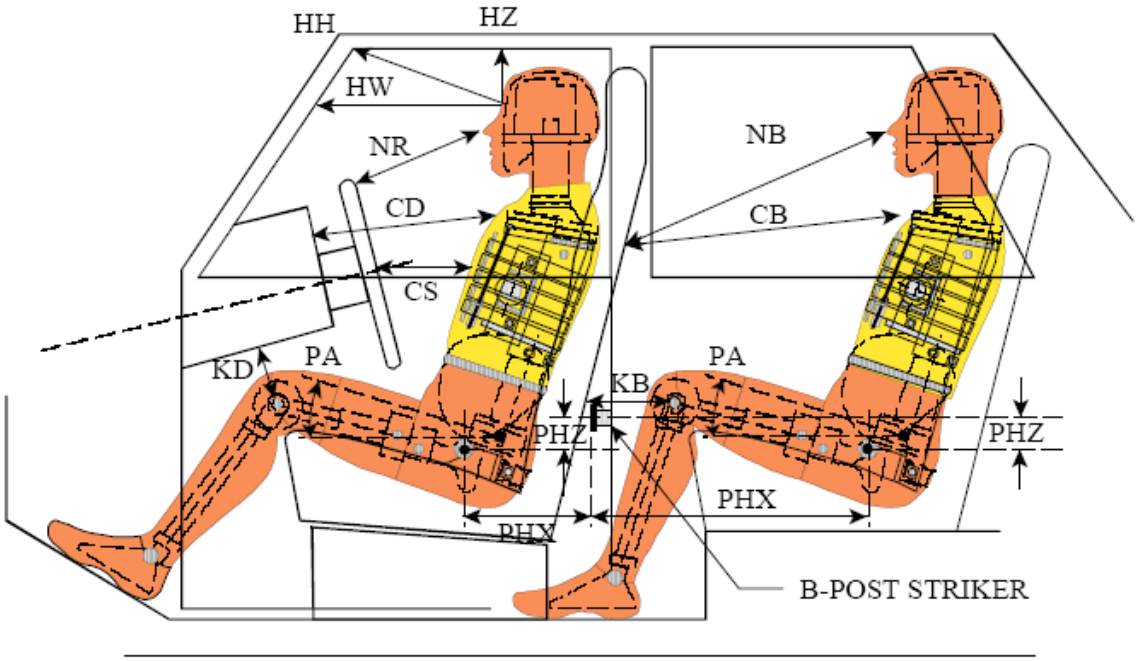
FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	70.8
Usable Capacity of "Optional Tank" (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner's Manual)	70.8
Usable Capacity of Optional Tank (see Owner's Manual)	N/A
93% of Usable Capacity	65.8
Actual Amount of Solvent Used in Test	65.8
1/3 of Usable Capacity	23.6

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

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025



LEFT SIDE VIEW

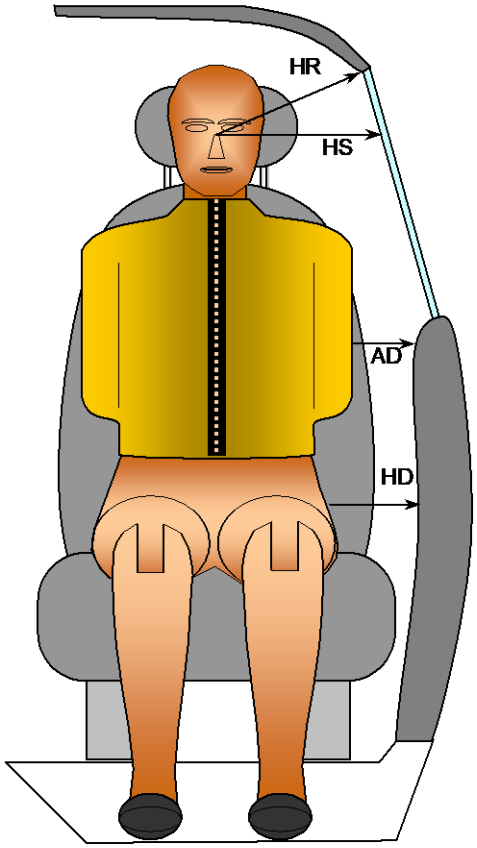
NOTE: 2-DOOR VEHICLE SHOWN. REAR DUMMY PHX & PHZ MEASUREMENTS FOR A 4-DOOR VEHICLE WOULD USE THE C-POST STRIKER AS A REFERENCE POINT

DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length (mm)	Angle	Length (mm)	Angle
HH		Header to Header	407			
HW		Header to Windshield	800			
HZ	HZ	Head to Roof Liner	220		301	
NR	NB	Nose to Rim/Seat Back	470		633	
CD	CB	Chest to Dash/Seat Back	618		600	
CS		Chest to Steering Wheel	382			
KD(L)/KDA(L)°	KB(L)/KBA(L)°	Left Knee to Dash/Seat Back	245	0.0	322	0.0
KD(R)/KDA(R)°	KB(R)/KBA(R)°	Right Knee to Dash/Seat Back	225	0.0	315	0.0
PAX°	PAX°	Pelvic Tilt Angle X		0.2		0.4
	PAY°	Pelvic Tilt Angle Y				23.5
PHX	PHX	Hip Point to Striker (X-Axis)	215		248	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	138		247	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025

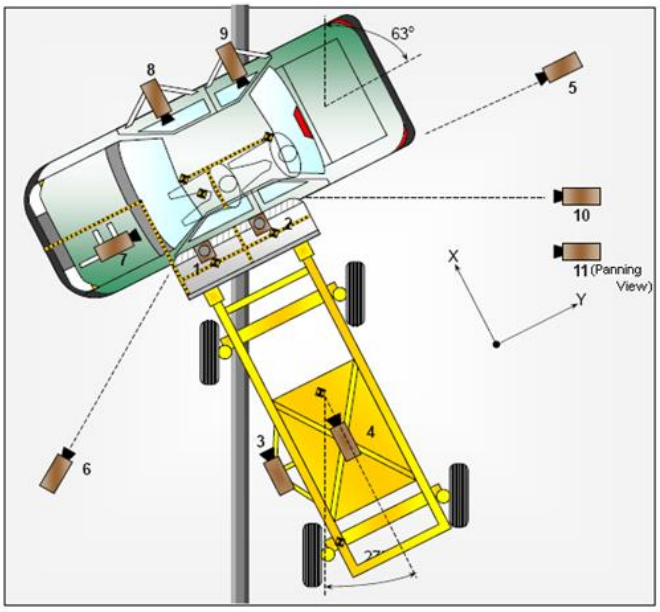


FRONT VIEW OF DUMMY

Code	Description	Units	Driver	Passenger
HR	Head to Side Header	mm	242	289
HS	Head to Side Window	mm	340	389
AD	Arm to Door	mm	130	170
HD	H-Point to Door	mm	150	186

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025



CAMERA LOCATIONS AND DATA

No.	Camera View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1	Overhead Overall	1582	0	-5606	8.5	1000
2	Overhead Close-up	1399	0	-5600	28	1000
3	Left Impact Point (MDB)	-1545	-940	-820	25	1000
4	Side Overall (MDB)	-2281	0	-1410	8.5	1000
5	Rear	3906	5375	-1550	20	1000
6	Left Front	-3382	-3363	-1560	20	1000
7	Driver Front (OB)				25	1000
8	Driver Side (OB)				8.5	1000
9	Passenger Side (OB)				8.5	1000
10	Real-time Left Rear				Zoom	30
11	Real-time Inrun				Zoom	30

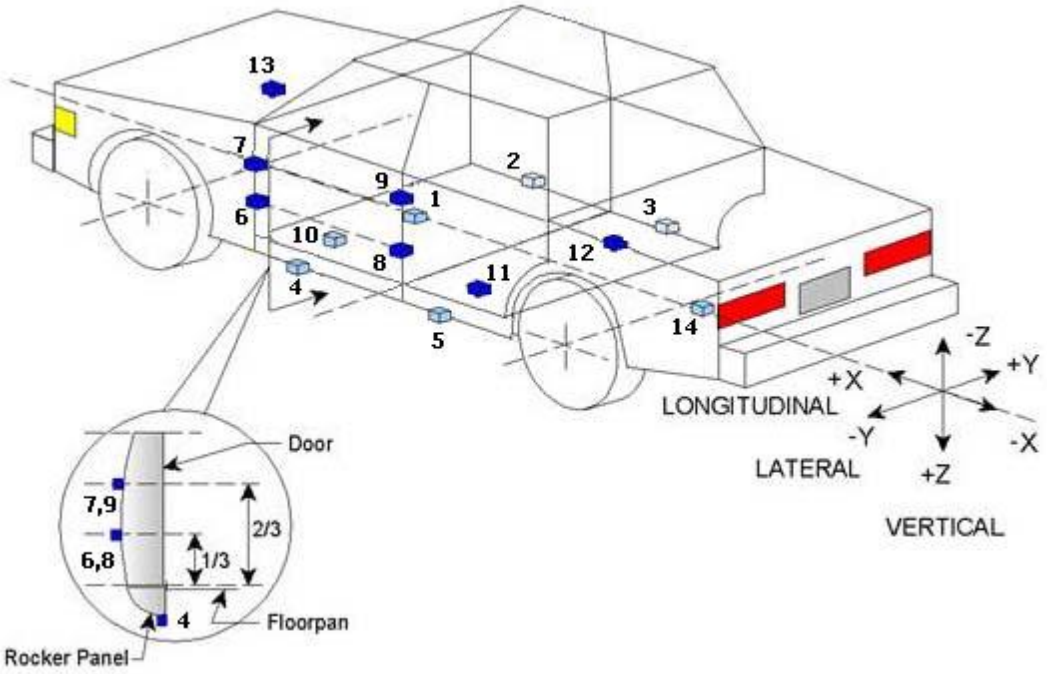
Reference: Impact Point projected to Ground; +X = To Front of MDB +Y = To Right of MDB; +Z = Down
*All measurements accurate to ± 6 mm.
If applicable, explain why camera(s) did not operate as intended: N/A

INSTRUMENTATION

Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	23
MBD Accelerometers	5
TOTAL	60

DATA SHEET NO. 6
TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025



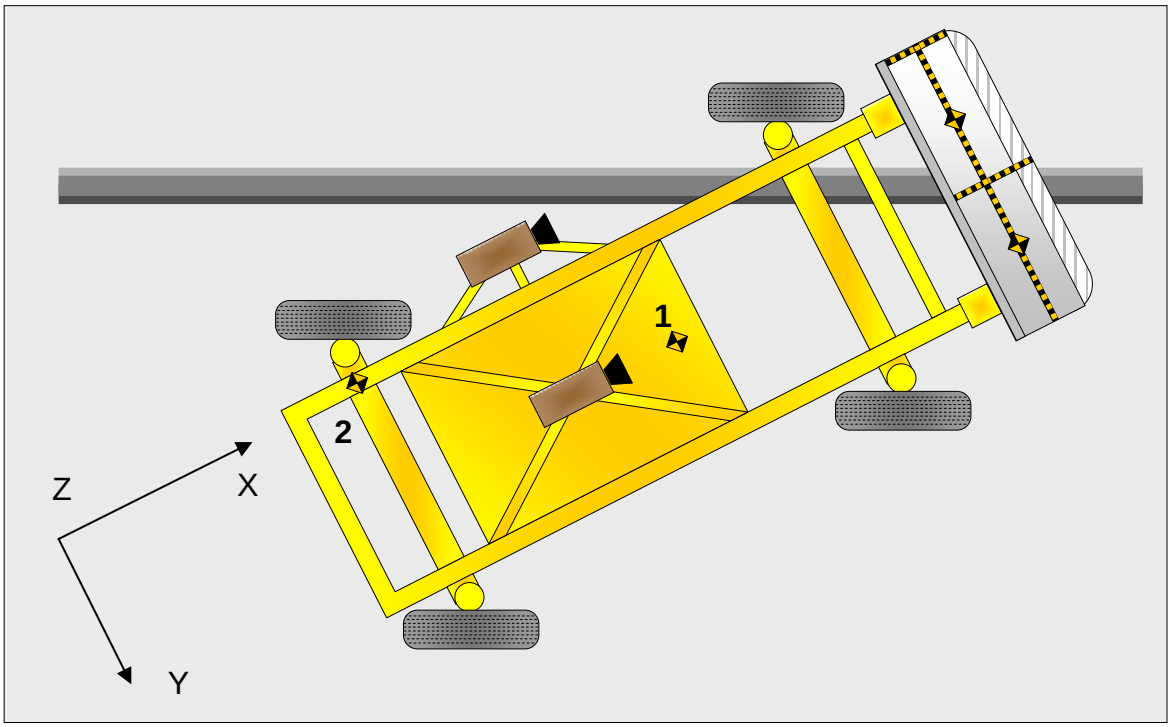
TEST VEHICLE ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2899	119	-442
2	Right Sill at Front Seat	2719	739	-469
3	Right Sill at Rear Seat	1786	762	-477
4	Left Sill at Front Door	2714	-732	-460
5	Left Sill at Rear Door	1831	-767	-468
6	A-Post Lower	3332	-895	-692
7	A-Post Middle	3336	-878	-1041
8	B-Post Lower	2215	-881	-728
9	B-Post Middle	2173	-867	-1089
10	Front Seat Track	2433	-575	-498
11	Rear Seat Structure	1897	-433	-553
12	Right Rear Occ. Compartment	1898	459	-472
13	Engine Block	3988	13	-891
14	Rear Above Axle	919	-60	-541

Reference: X - Rear surface of vehicle (+ forward)
Y - Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 7
MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025



MDB ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	MDB CG	-2196	0	-500
2	MDB Rear	-3585	-645	-620

Reference : X - Face of MDB (+ forward)
Y - MDB Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 8
POST-TEST OBSERVATIONS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Front Seat Dummy (ES2-re)	Rear Seat Dummy (SID-IIs)
Face	None	None
Top of Head	SCAB	SCAB
Left Side of Head	SCAB	SCAB
Back of Head	SCAB	N/A
Left Shoulder	SAB	Door Panel
Upper Torso	SAB	Door Panel
Lower Torso	SAB	Door Panel
Left Hip	SAB	Door Panel
Left Knee	Door Panel	Door Panel

POST-TEST DOOR PERFORMANCE

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

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	None	None	None	None
Seat Disengagement from Floor pan	None	None	None	None
Seat Back Movement from Initial Position	None	None	None	None
Seat Back Collapse	None	None	None	None

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Good
Sill Separation	Good
Windshield Damage	None
Side Window Damage	Passenger struck side blown out
Other Notable Effects	None

DATA SHEET NO. 8 (CONTINUED)
POST TEST OBSERVATIONS

Test Vehicle: 2025 Nissan Murano
NHTSA No.: M20255206
Test Program: SINCAP Side Impact
Test Date: 4/10/2025

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		2806
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		470
Actual Impact Point (Aft of Front Axle)	mm		462
Horizontal Offset (+ forward / - rearward)	mm	+/- 50 of Intended Impact point	+8
Vertical Offset (+ down / - up)	mm	+/- 20 of Intended Impact point	-15

DATA SHEET NO. 9
MDB SUMMARY OF RESULTS

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel Base of Framework Carriage	2591
C.G. Location aft of Front Axle	1124

MDB WEIGHTS

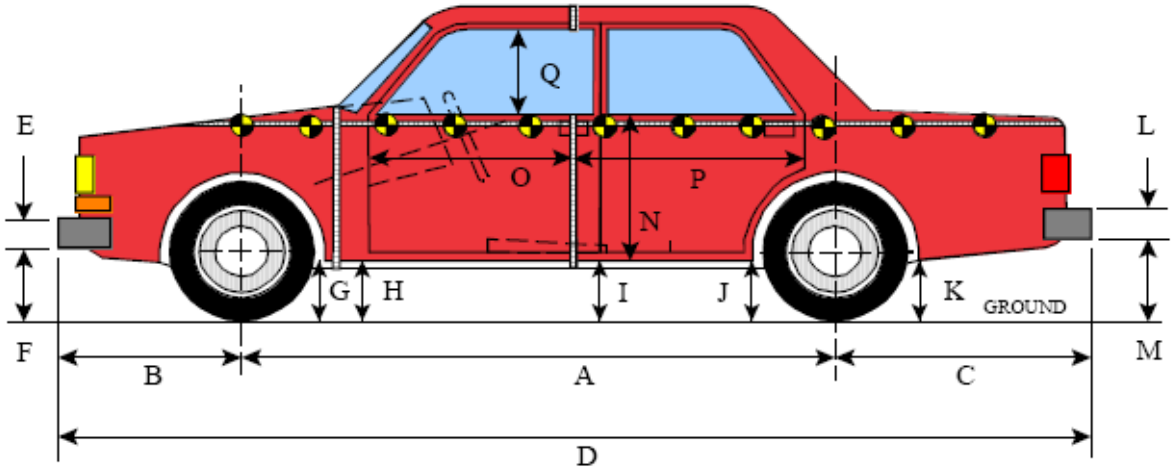
	Units	Front Axle	Rear Axle	Total
Left	kg	449.0	233.0	682.0
Right	kg	324.4	359.8	684.2
Ratio	%	56.6	43.4	100.0
Totals	kg	773.4	592.8	1366.2

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.03
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.02
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.0
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	63.0
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26 to 28	27.0

DATA SHEET NO. 10
TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025



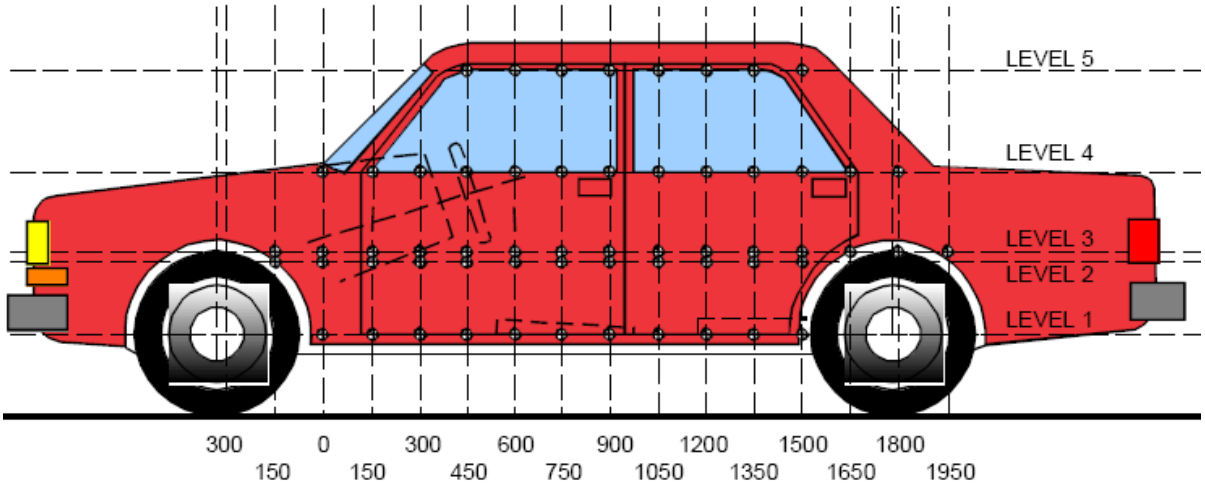
LEFT SIDE VIEW
All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3mm

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Change
A	Wheelbase	2806	2807	1
B	Front Axle to Front Surface of Vehicle	1010	1012	2
C	Rear Axle to Rear Surface of Vehicle	1072	1072	0
D	Total Length at Centerline	4888	4888	0
E	Front Bumper Thickness	110	110	0
F	Front Bumper Bottom to Ground	520	520	0
G	Sill Height at Front Wheel Well	344	344	0
H	Sill Height at Front Door Leading Edge	347	347	0
I	Sill Height at B-Pillar	345	345	0
J1	Sill Height at Rear Wheel Well	350	350	0
J2	Pinch Weld Height at Rear Wheel Well	313	313	0
K	Sill Height Aft of Rear Wheel Well	442	442	0
L	Rear Bumper Thickness	90	90	0
M	Rear Bumper Bottom to Ground	606	612	6
N	Sill Height to Window Bottom Sill	1004	915	-89
O	Front Door Leading Edge to Impact CL	796	776	-20
P	Rear Door Trailing Edge to Impact CL	1394	1342	-52
Q	Front Window Opening	437	442	5
R	Right Side Length	4780	4782	2
S	Left Side Length	4785	4810	25
T	Vehicle Width	1952	1978	26
U	Front Wheel Track Width	1687	1685	-2
V	Rear Wheel Track Width	1697	1696	-1

DATA SHEET NO. 11
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025



LEFT SIDE VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance From Impact
1	Sill Top	456	134	1650
2	Driver Hip Point	702	196	1650
3	Mid Door	675	195	1650
4	Window Sill	1143	45	1500
5	Window Top	1635	3	1500
				2100

NOTE: The above measurements were taken along the vertical impact reference line. Vehicle measurements forward of the vertical impact reference line are negative.

DATA SHEET NO. 11 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

	Pre-Test					Post-Test					Crush				
	1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
-450	0	0	0	860	0	0	0	0	876	0	0	0	0	-16	0
-300	0	0	0	866	0	0	0	0	883	0	0	0	0	-17	0
-150	0	0	0	871	0	0	0	0	891	0	0	0	0	-20	0
0	973	989	989	875	0	974	1010	1009	909	0	-1	-21	-20	-34	0
150	968	984	984	879	0	857	898	894	886	0	111	86	90	-7	0
300	960	981	980	880	0	838	837	841	886	0	122	144	139	-6	0
450	955	978	977	885	0	831	821	827	889	0	124	157	150	-4	0
600	950	976	974	887	0	828	812	817	891	0	122	164	157	-4	0
750	947	973	971	888	0	830	808	813	892	0	117	165	158	-4	0
900	943	970	968	889	661	835	810	813	890	664	108	160	155	-1	-3
1050	940	967	965	889	673	838	830	843	886	674	102	137	122	3	-1
1200	936	964	962	889	672	824	873	875	873	672	112	91	87	16	0
1350	933	960	958	890	670	818	801	808	864	668	115	159	150	26	2
1500	933	961	960	888	667	815	770	772	843	664	118	191	188	45	3
1650	947	968	967	886	660	813	772	772	853	658	134	196	195	33	2
1800	959	978	977	889	650	857	814	813	882	649	102	164	164	7	1
1950	0	985	983	902	632	0	921	919	896	632	0	64	64	6	0
2100	0	0	0	916	607	0	0	0	926	604	0	0	0	-10	3
2250	0	0	0	923	0	0	0	0	915	0	0	0	0	8	0

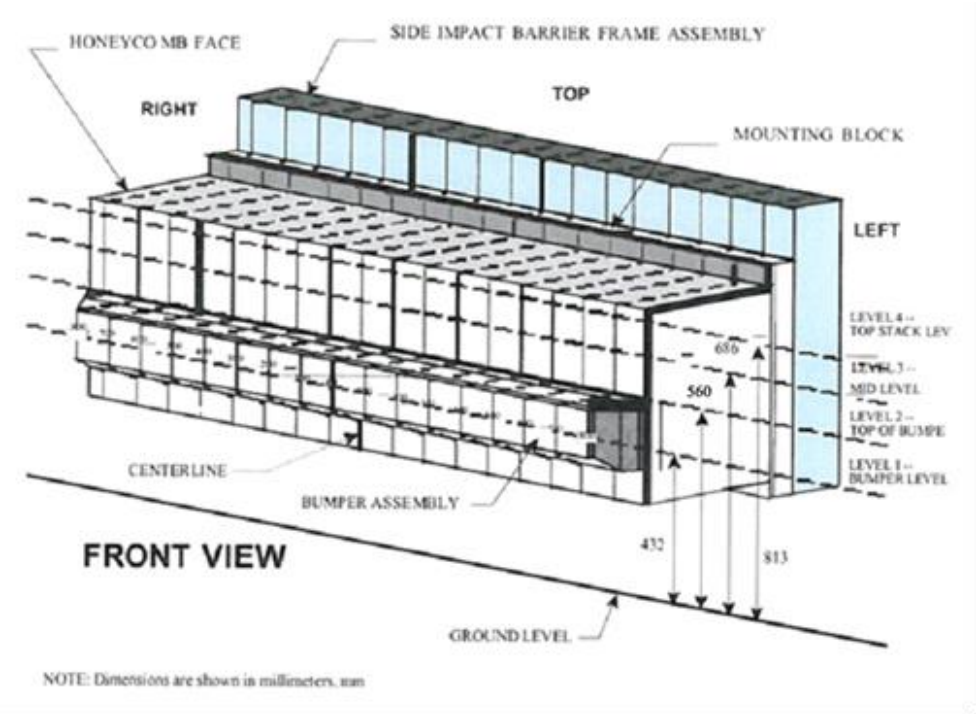
NOTE: Pre-test measurements are taken when the vehicle is in the “As Tested” weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point.

DATA SHEET NO. 11 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

DATA SHEET NO. 12
MDB EXTERIOR STATIC CRUSH MEASUREMENTS

Test Vehicle: 2025 Nissan Murano
Test Program: SINCAP Side Impact
NHTSA No.: M20255206
Test Date: 4/10/2025



MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Vertical Location			From Centerline		Maximum Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	200	Right	241
B	Top of Bumper	560	400	Right	145
C	Mid-Level	686	800	Left	146
D	Top of Stack	813	800	Left	165

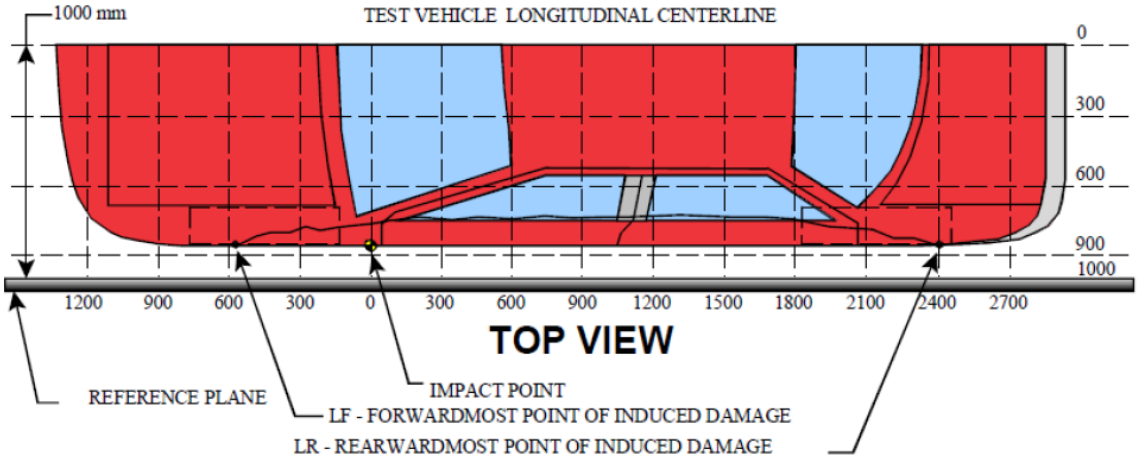
DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	241	240	238	236	234	236	229	225	221	217	214	211	208	206	203	202	202
2	138	143	143	143	145	---[1]	---[1]	137	130	125	121	119	117	116	117	121	135
3	100	77	67	82	104	145	143	110	77	65	60	58	60	65	74	94	146
4	117	105	74	71	102	150	125	99	91	94	98	96	107	106	103	126	165

[1]Missing post-test points

DATA SHEET NO. 13
VEHICLE AND MDB DAMAGE PROFILE DISTANCES

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025



MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (—).
Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	2250	4	915	923	8
2	1800	2	814	978	164
		3	813	977	
3	1500	2	770	961	191
4	1050	2	830	967	137
5	600	2	812	976	164
6[1]	150	1	857	968	0

[1]

MDB DAMAGE PROFILE DISTANCES

DPD	Distance From Center of MDB	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	800	1	271	473	202
2	500	1	279	485	206
3	200	1	271	485	214
4	200	1	255	484	229
5	500	1	248	484	236
6[1]	800	1	223	464	241

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

DATA SHEET NO. 14
FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025

Test Time: 15:40 **Temperature:** 21.5C

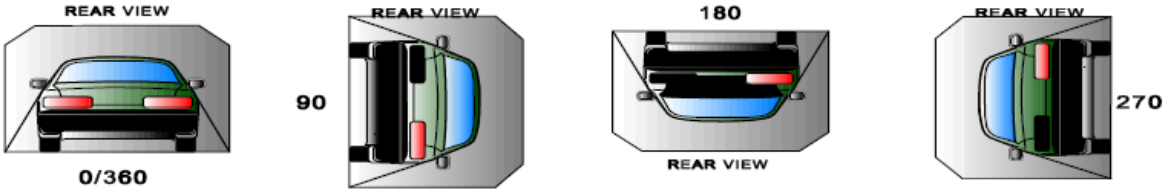
A. From impact until vehicle motion ceases: 0 oz.
(Maximum allowable is 1 ounce)

B. For the 5 minute period after motion ceases: 0 oz.
(Maximum allowable is 5 ounces)

C. For the following 25 minutes: 0 oz.
(Maximum allowable is 1 ounce/minute)

D. Spillage Details: None

FMVSS 301 STATIC ROLLOVER DATA



ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0 to 90	90	330	420
90 to 180	90	330	840
180 to 270	90	330	1260
270 to 360	90	330	1680

FMVSS NO. 301 ROLLOVER SPILLAGE TABLE

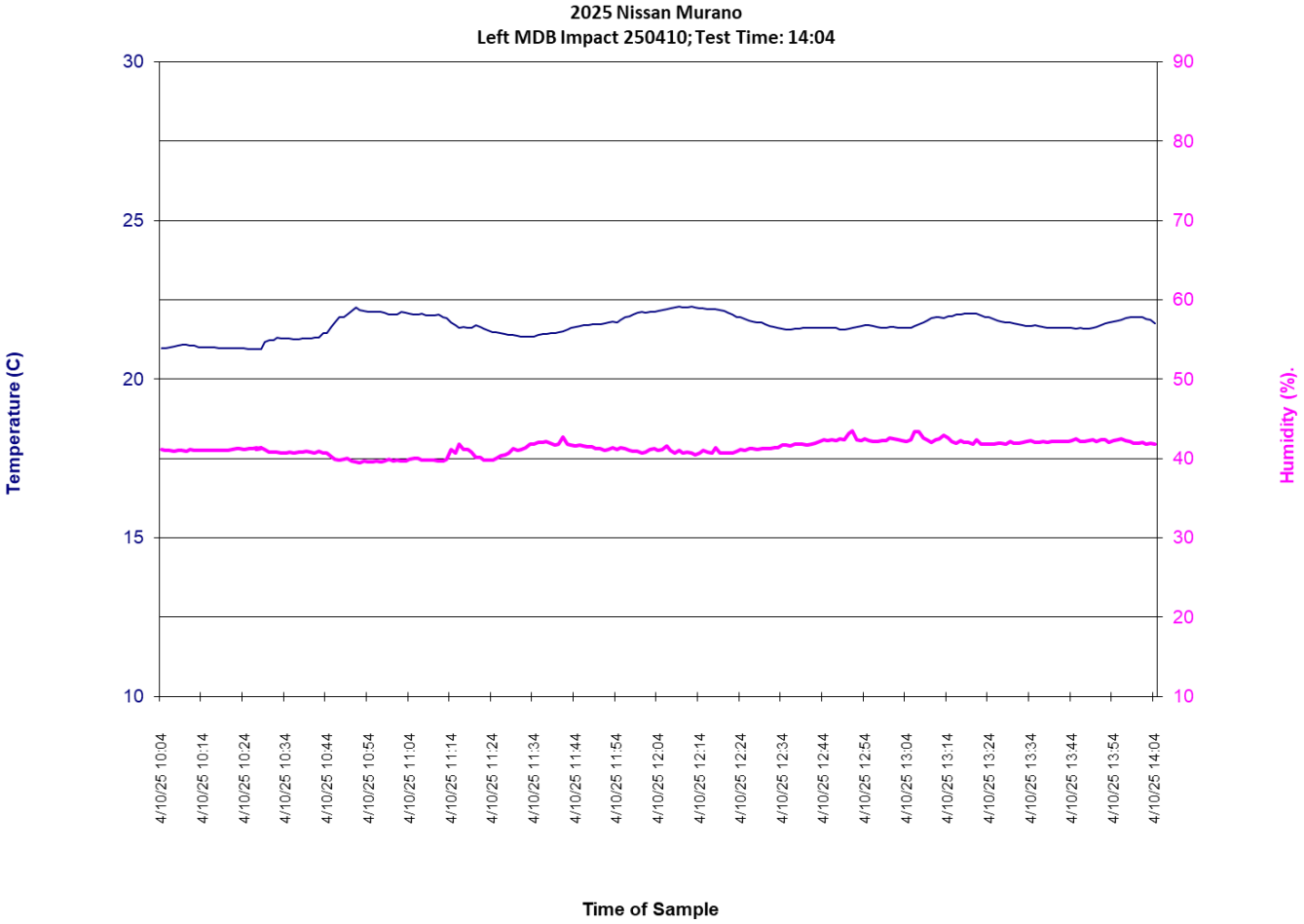
Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0 to 90	0	0	0	N/A
90 to 180	0	0	0	N/A
180 to 270	0	0	0	N/A
270 to 360	0	0	0	N/A

ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

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

DATA SHEET NO. 15
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA

Test Vehicle: 2025 Nissan Murano NHTSA No.: M20255206
Test Program: SINCAP Side Impact Test Date: 4/10/2025



APPENDIX A

PHOTOGRAPHS

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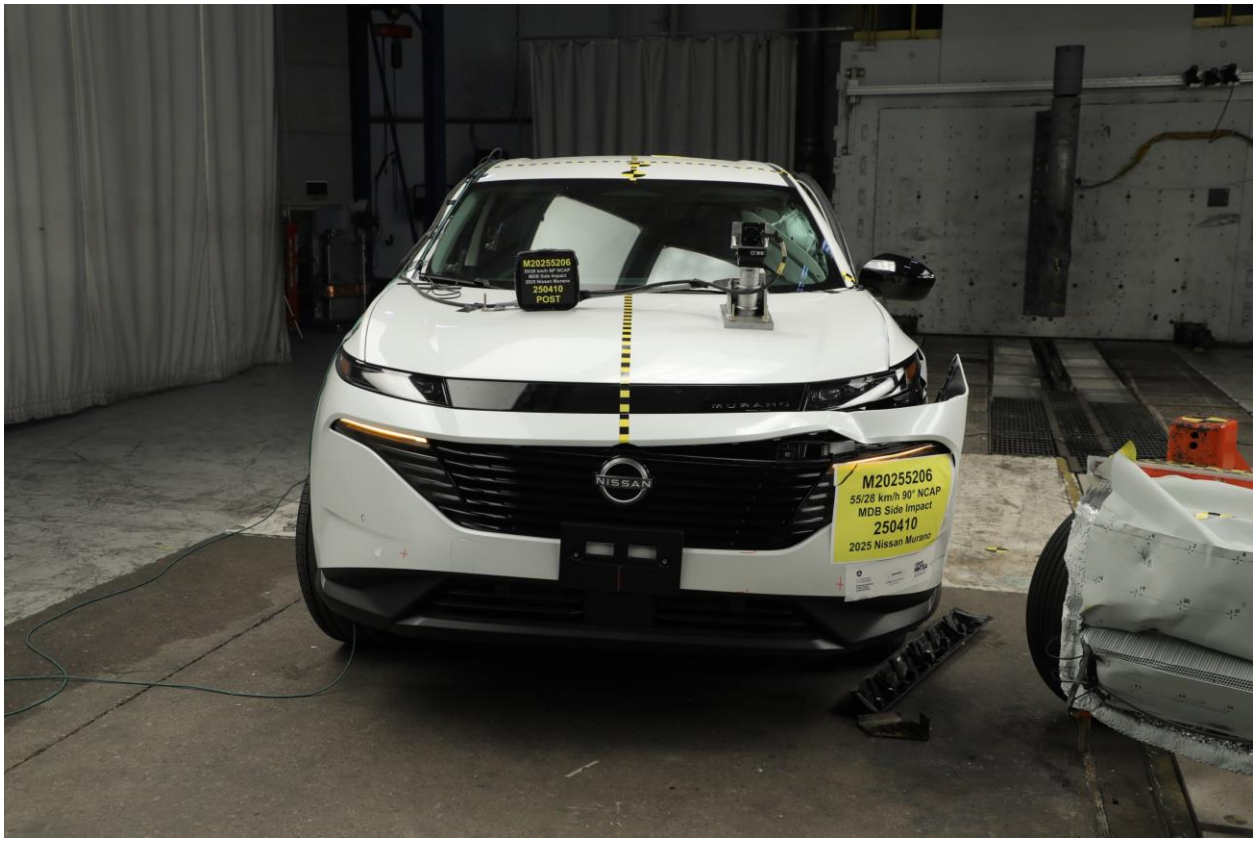
001 As-Delivered Right Front ¾ View of Test Vehicle

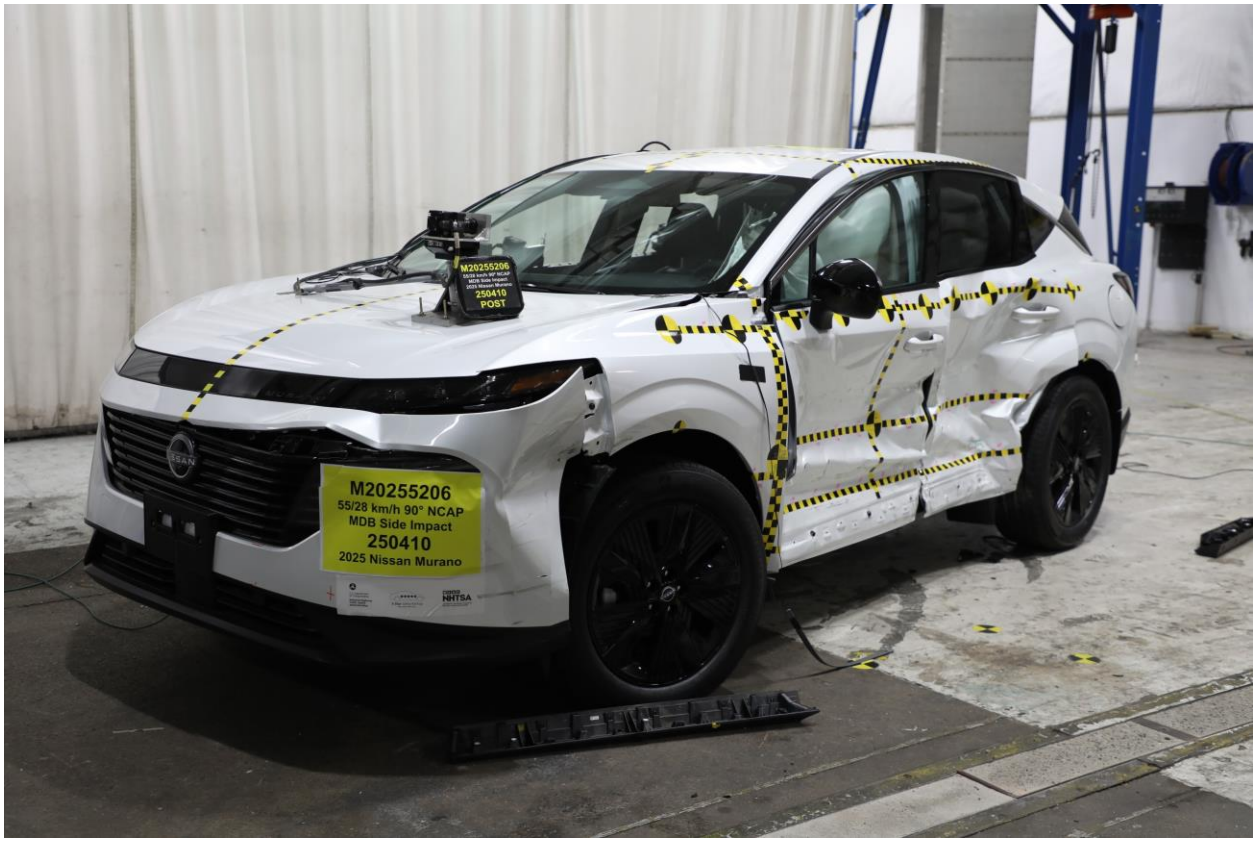
002 As-Delivered Left Rear ¾ View of Test Vehicle

003 Pre-Test Frontal View of Test Vehicle



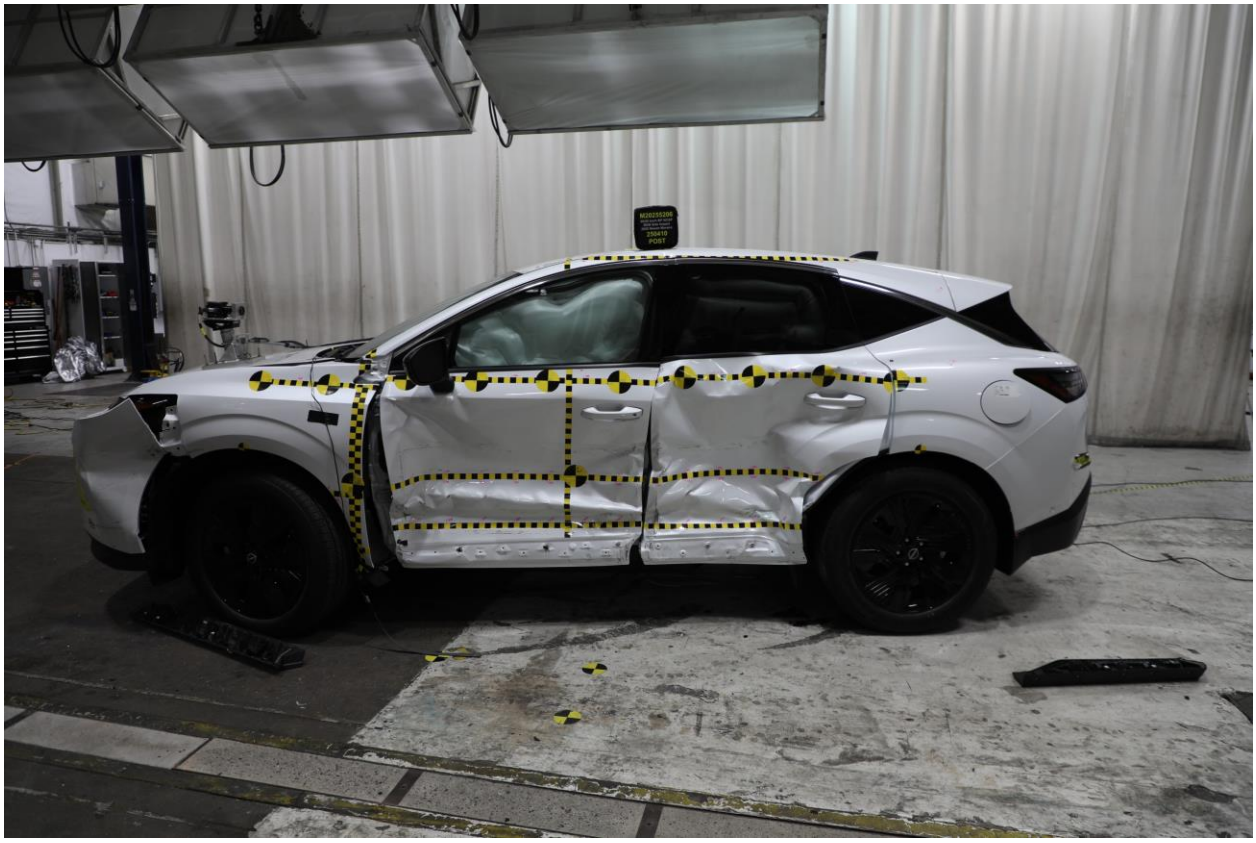
004 Post-Test Frontal View of Test Vehicle

005 Pre-Test Left Front ¾ View of Test Vehicle



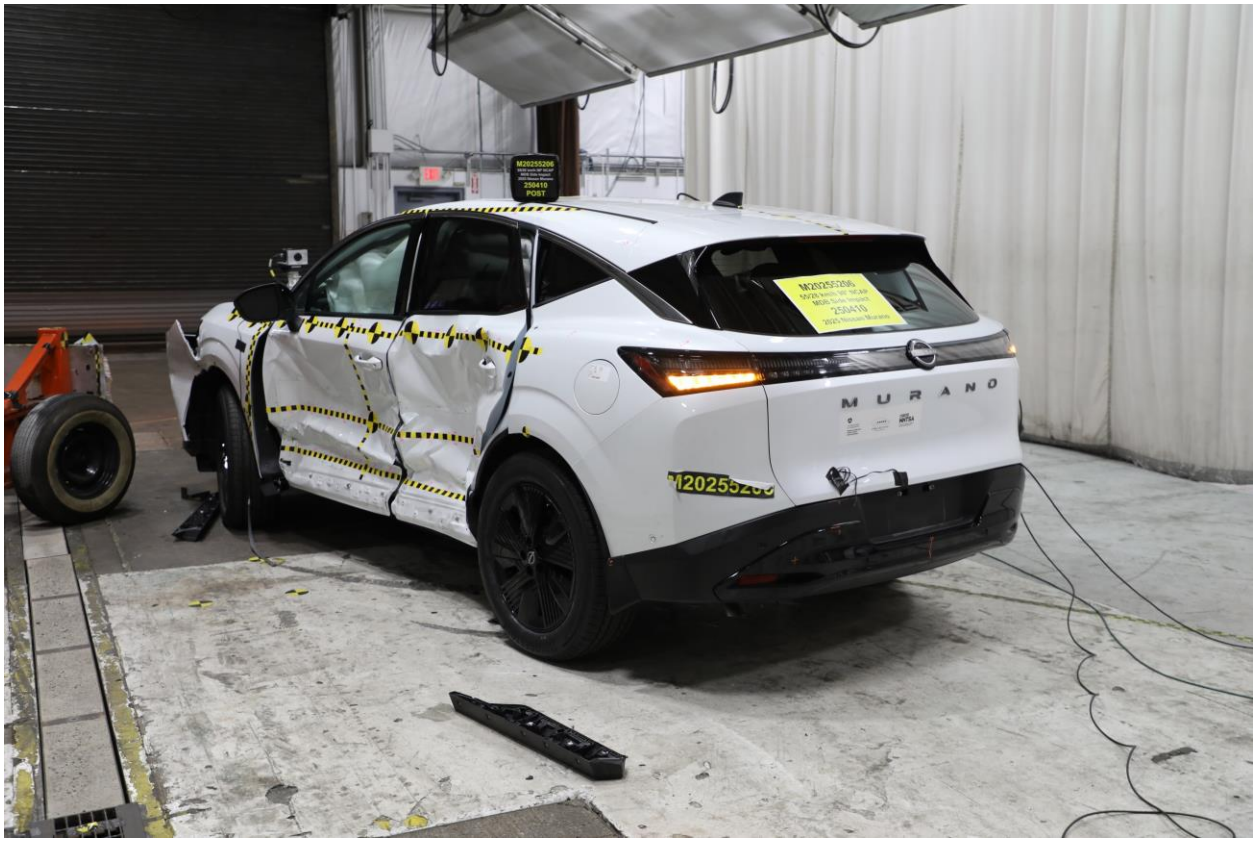
006 Post-Test Left Front ¾ View of Test Vehicle

007 Pre-Test Left Side View of Test Vehicle



008 Post-Test Left Side View of Test Vehicle

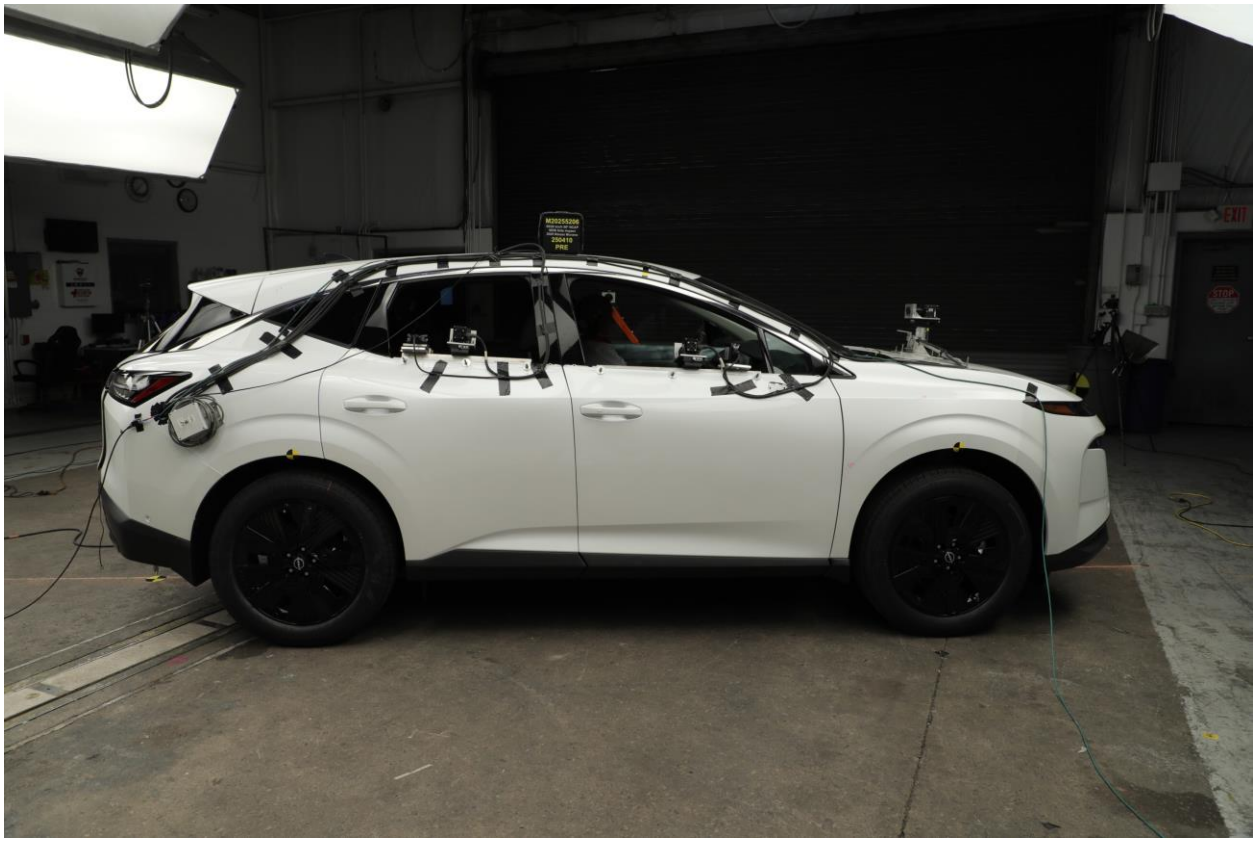
009 Pre-Test Left Rear ¾ View of Test Vehicle



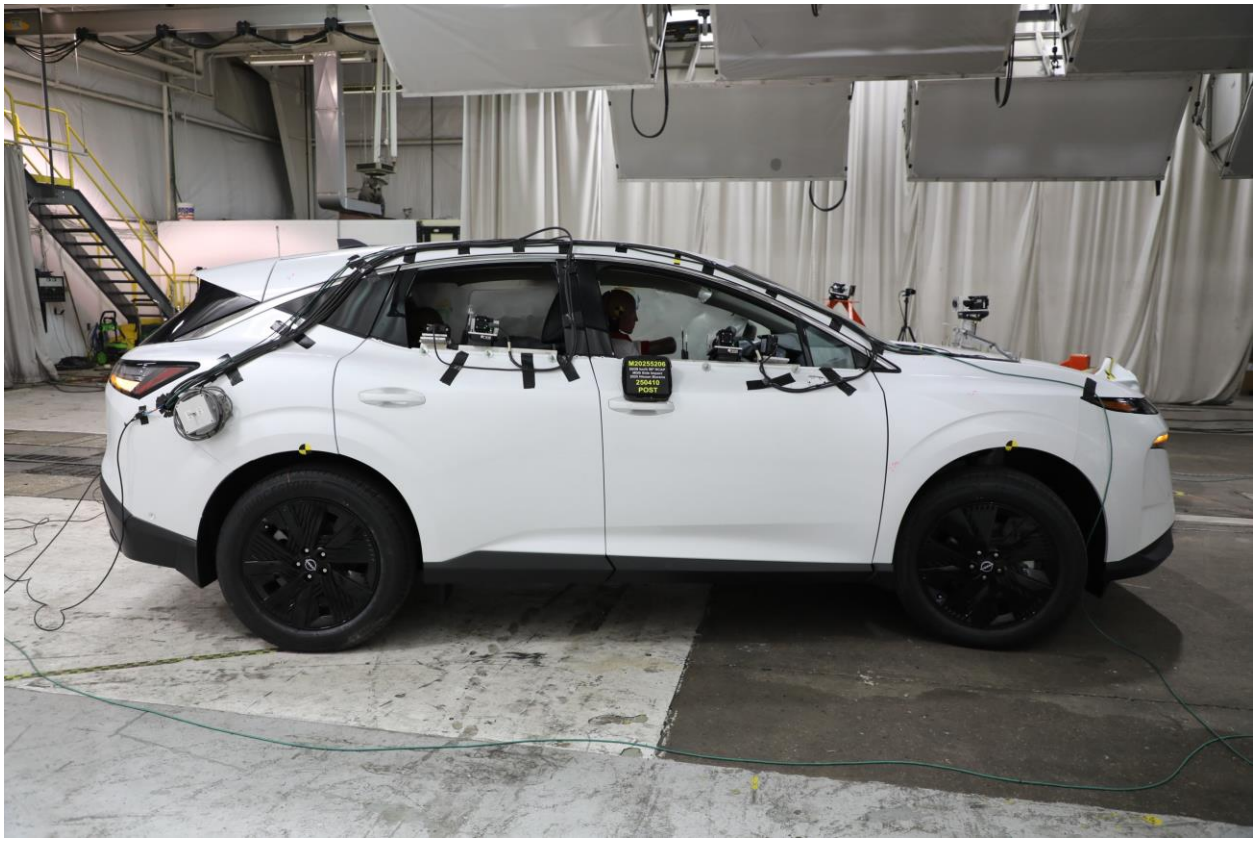
010 Post-Test Left Rear ¾ View of Test Vehicle

011 Pre-Test Rear View of Test Vehicle

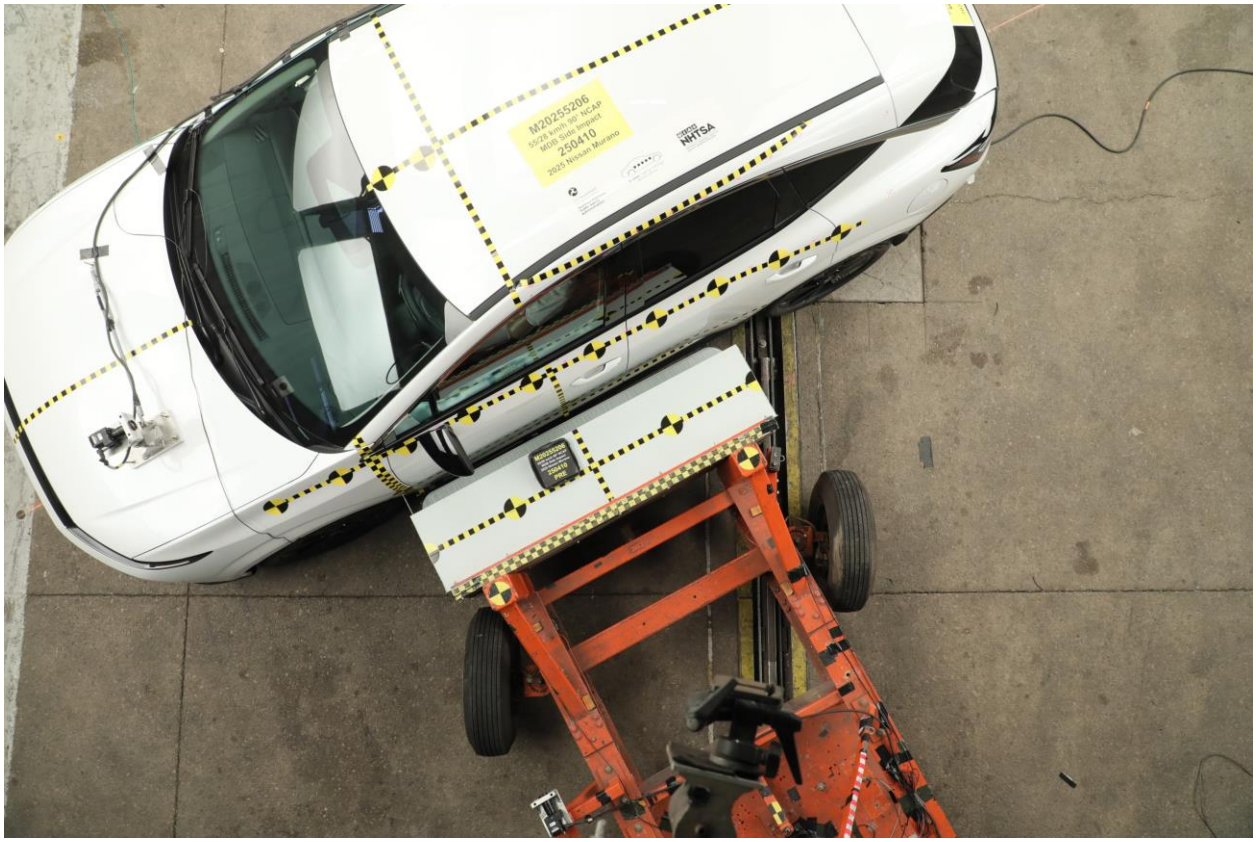
012 Post-Test Rear View of Test Vehicle



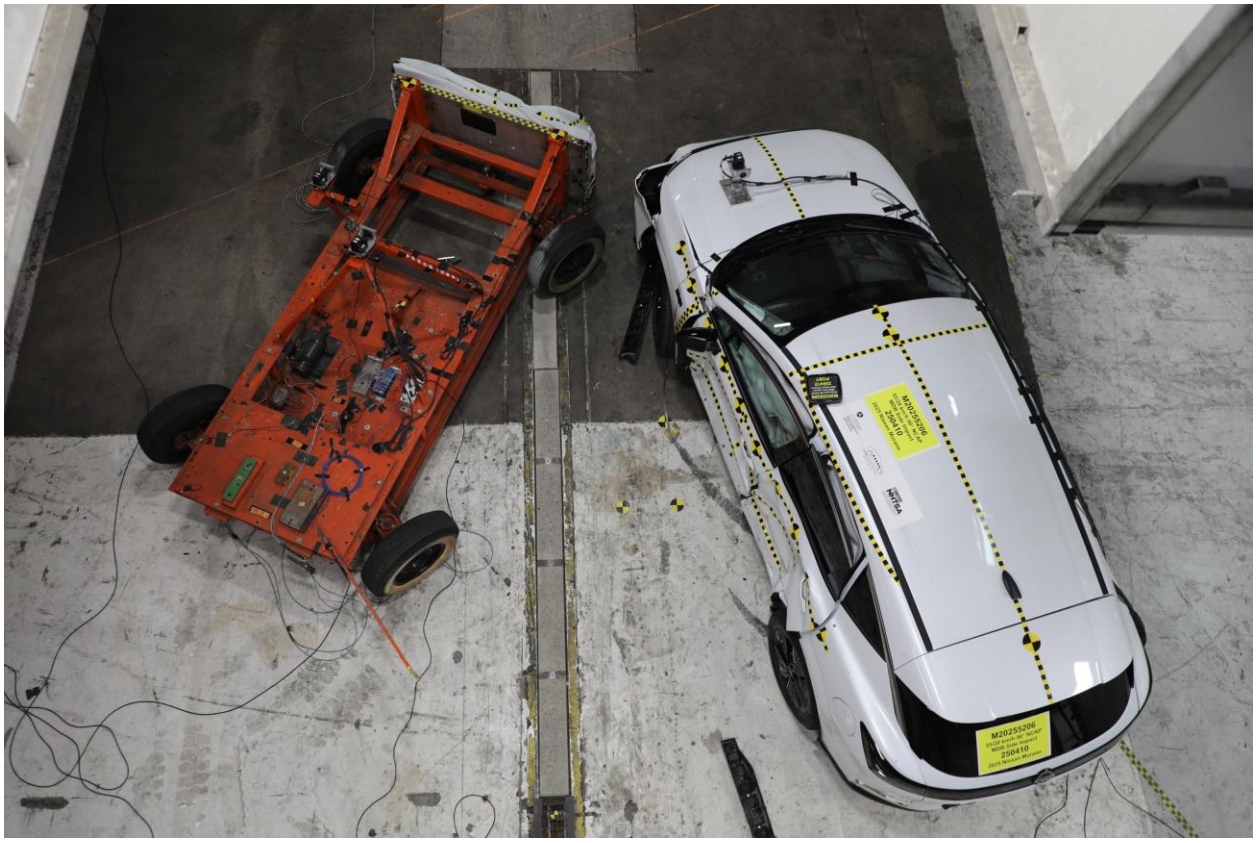
013 Pre-Test Right Side View of Test Vehicle



014 Post-Test Right Side View of Test Vehicle

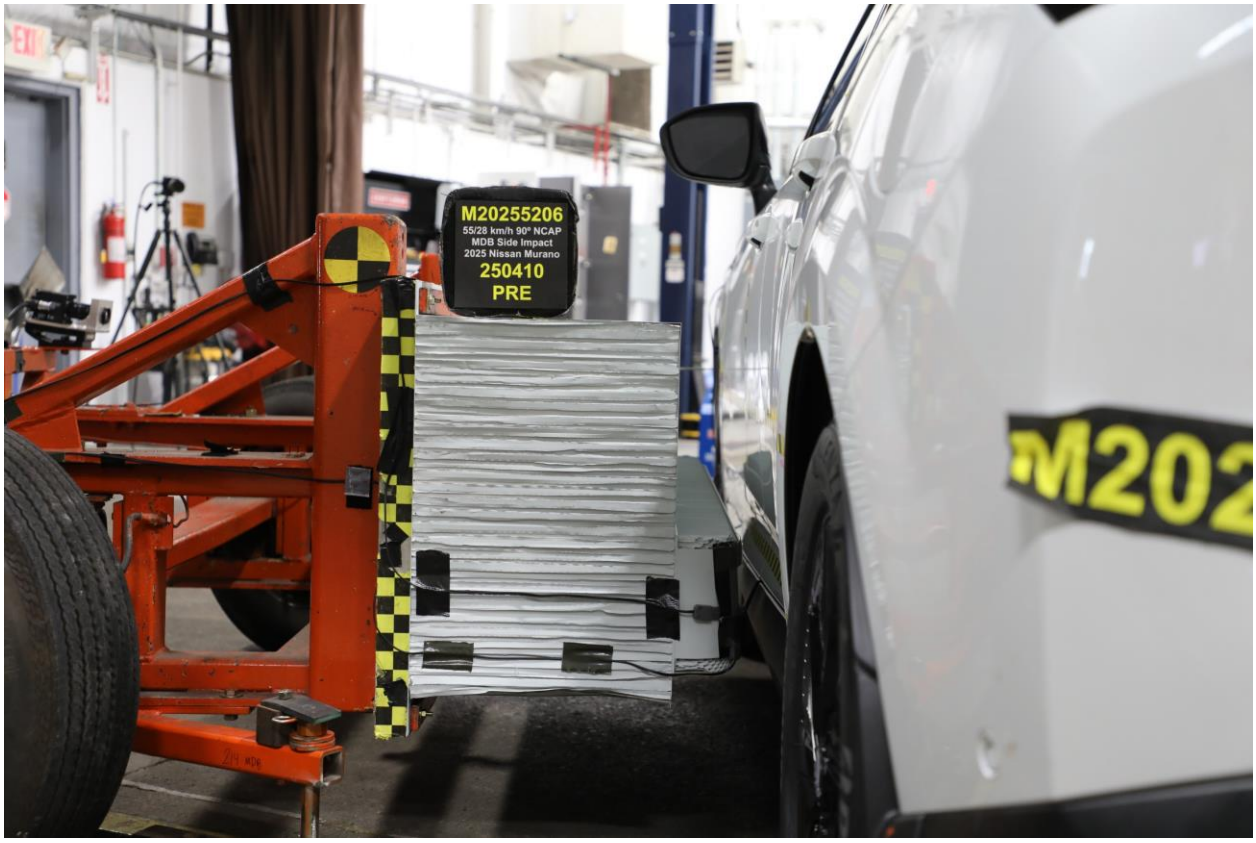


015 Pre-Test Overhead View of Test Area



016 Post-Test Overhead View of Test Area

017 Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle



018 Pre-Test Right Side View MDB Positioned Against Side of Test Vehicle

019 Pre-Test Close-Up View of Impact Point Target

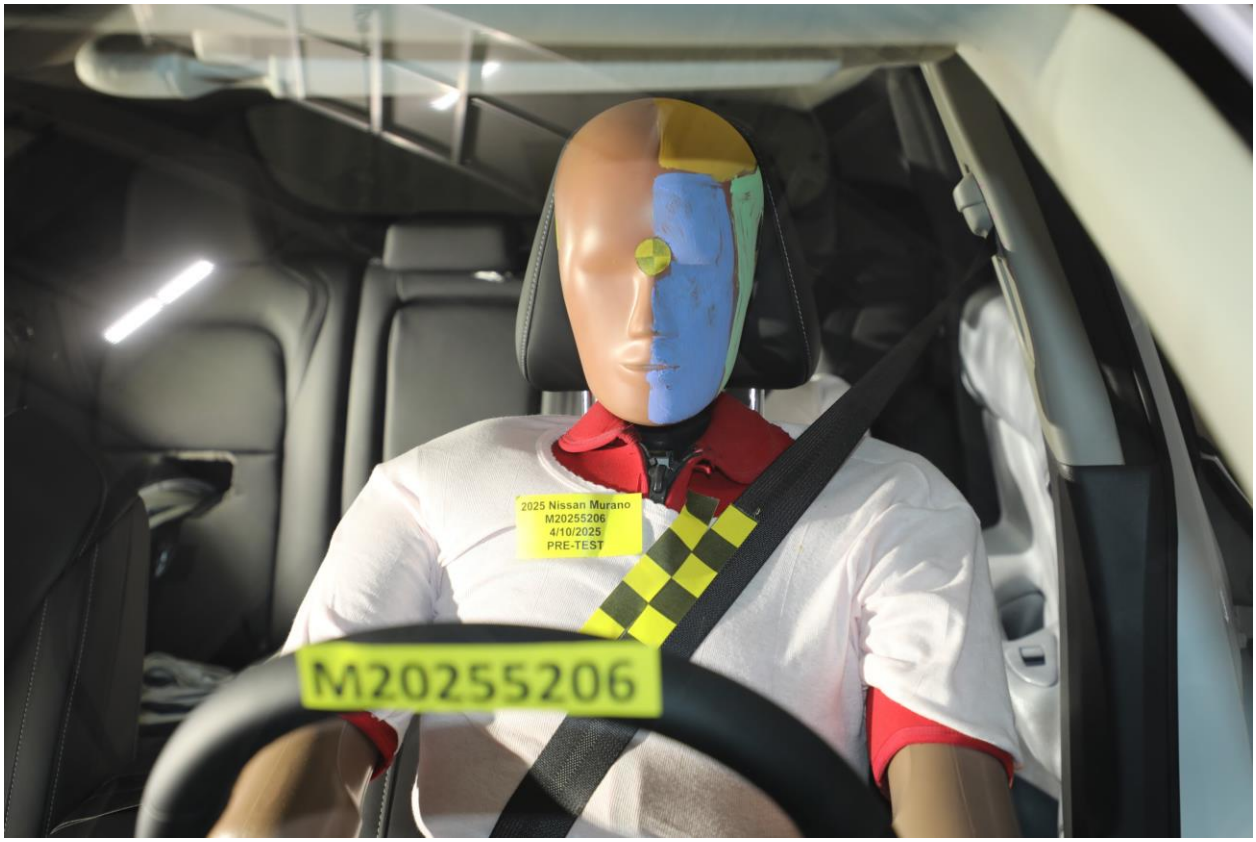
020 Post-Test Close-Up View of Impact Point Target

021 Pre-Test Left Front Door Latch Close-Up

022 Post-Test Left Front Door Latch Close-Up

023 Pre-Test Left Rear Door Latch Close-Up

024 Post-Test Left Rear Door Latch Close-Up



025 Pre-Test Front Close-Up View of Driver Dummy

026 Post-Test Front Close-Up View of Driver Dummy

027 Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking

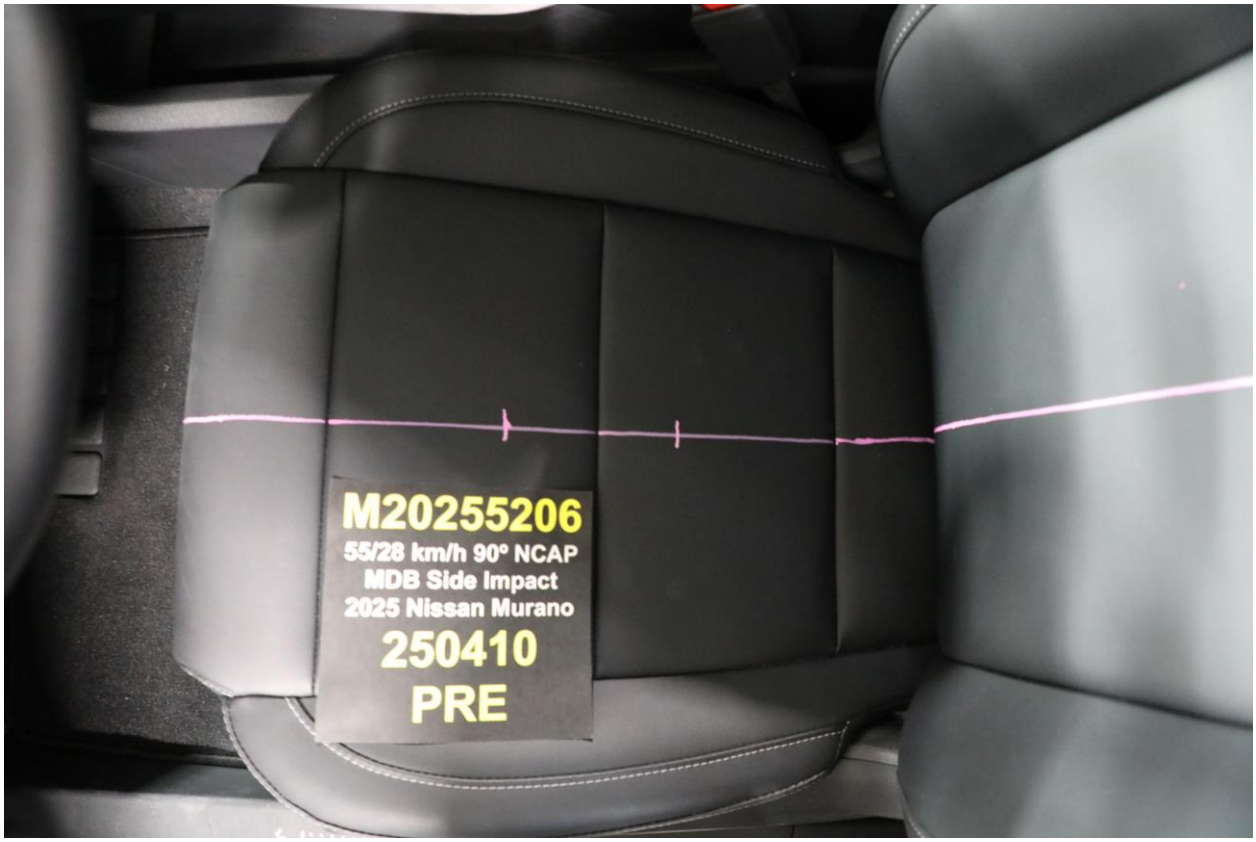
Intentionally Left Blank

028 Pre-Test Left Side View of Driver Dummy Shoulder and Door Top

029 Post-Test Left Side View of Driver Dummy Shoulder and Door Top

030 Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning

031 Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



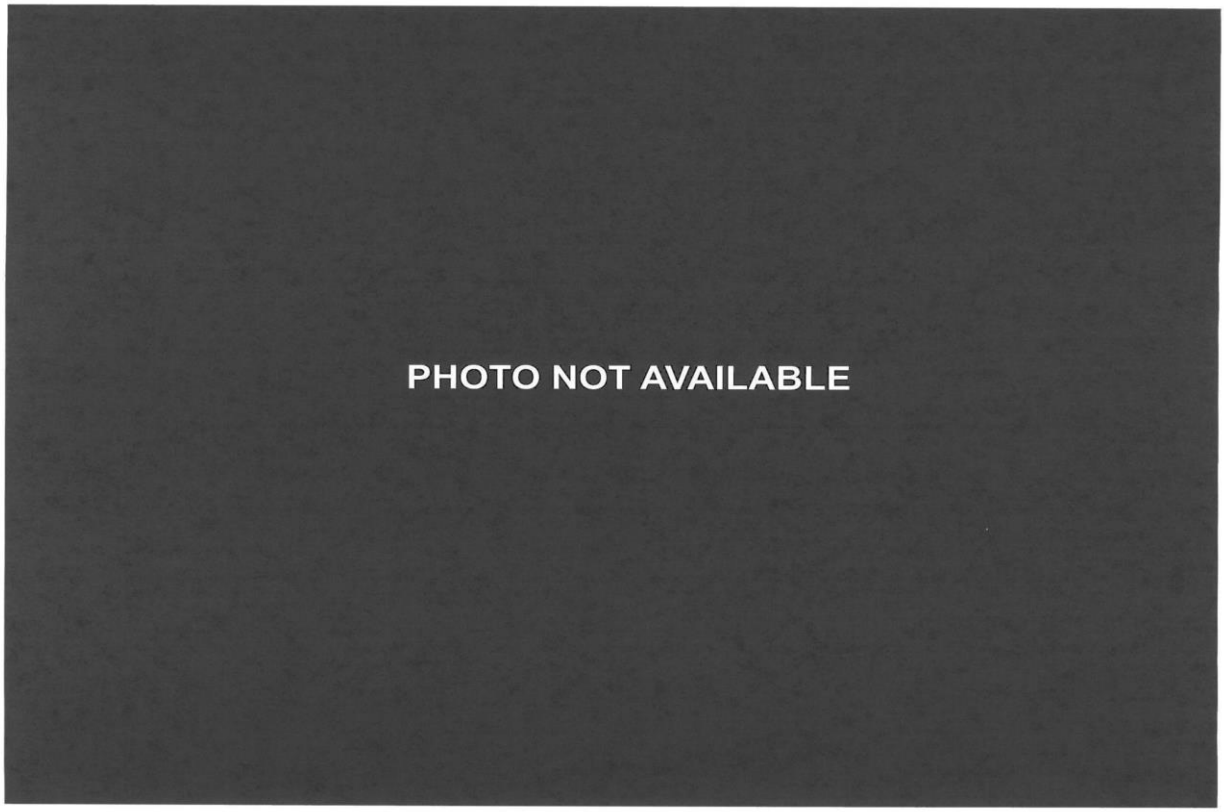
032 Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning

033 Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan

034 Pre-Test Placement of Driver's Dummy Feet

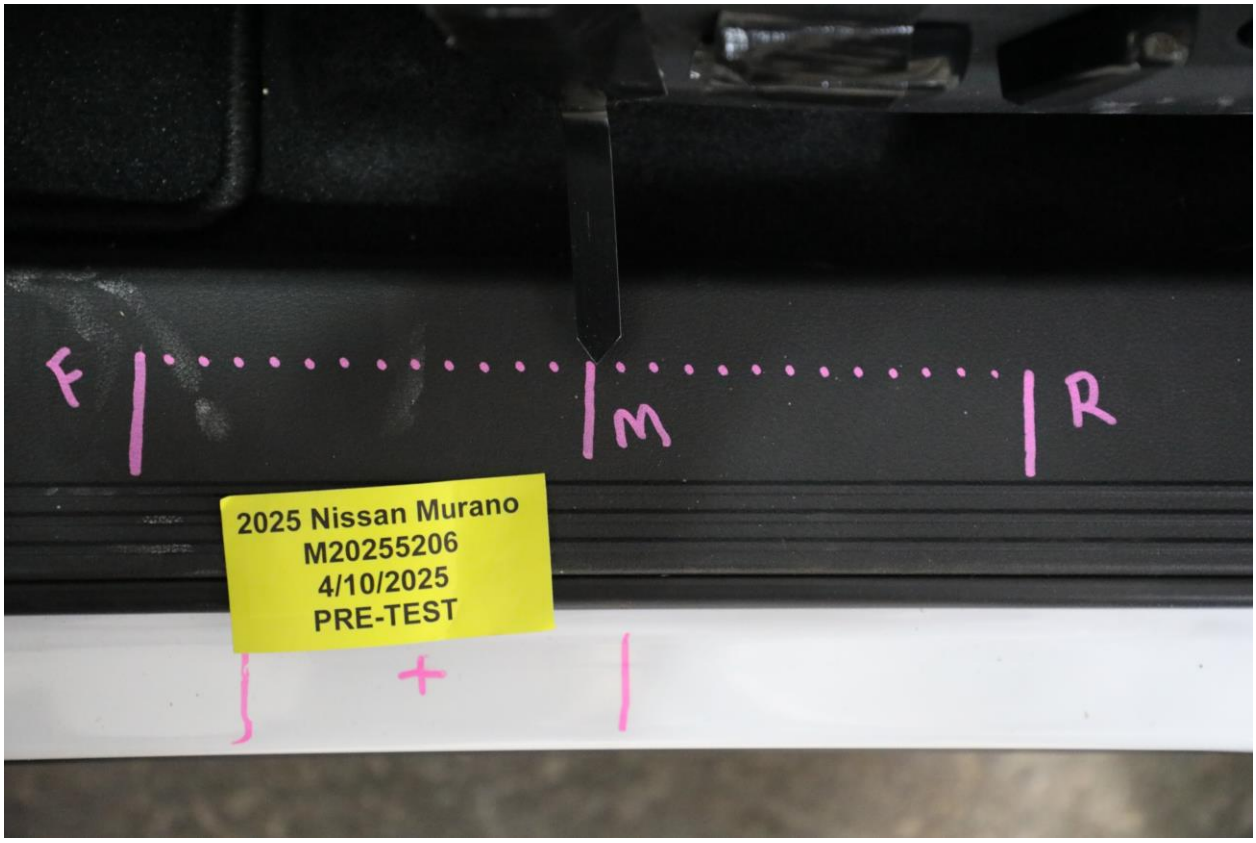
035 Pre-Test View of Belt Anchorage for Driver Dummy

036 Pre-Test Left Side View of Steering Wheel



037 View of Disengaged Parking Brake

038 Pre-Test View of Parking Brake



039 Pre-Test Close-Up Left Side View of Driver Seat Track

040 Pre-Test Close-Up Left Side View of Driver Seat Back

041 Pre-Test Close-Up View of Driver Seat Back or Head Restraint

042 Pre-Test Driver Dummy and Door Clearance View

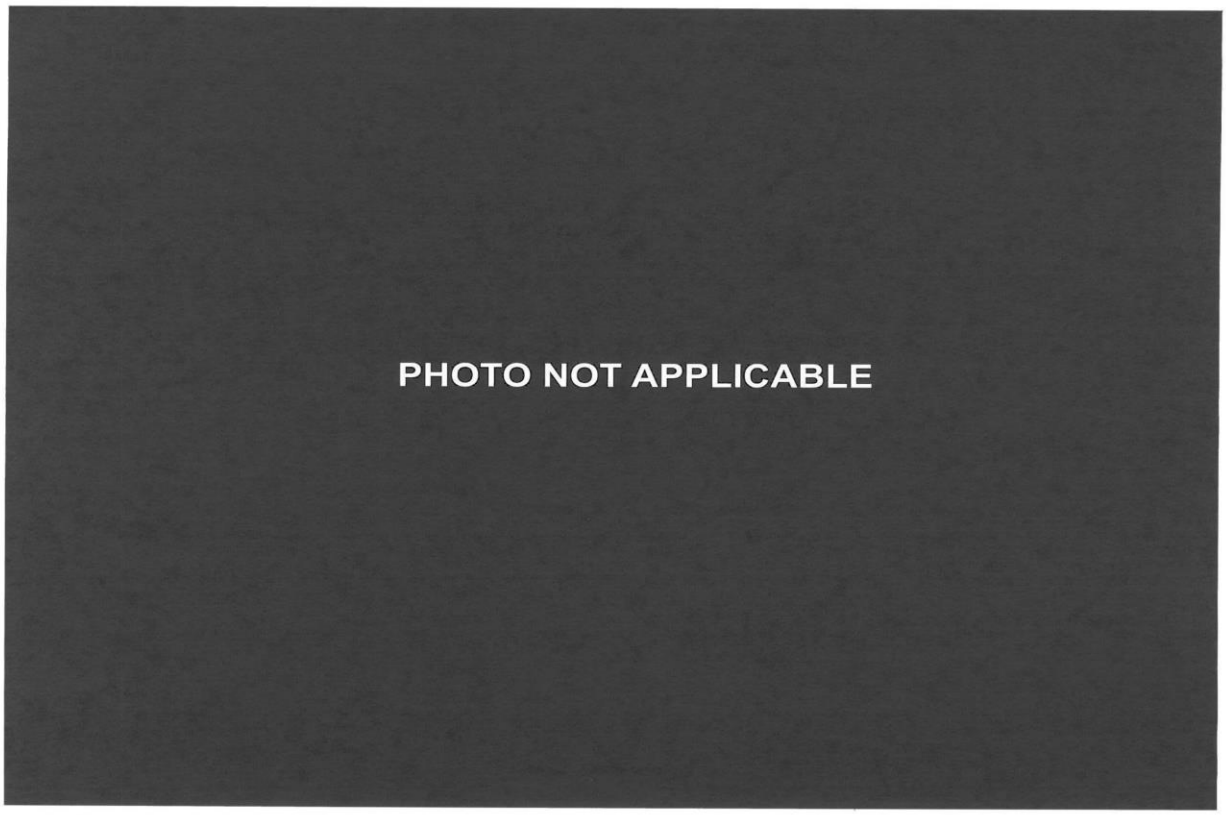
043 Post-Test Driver Dummy and Door Clearance View

044 Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment

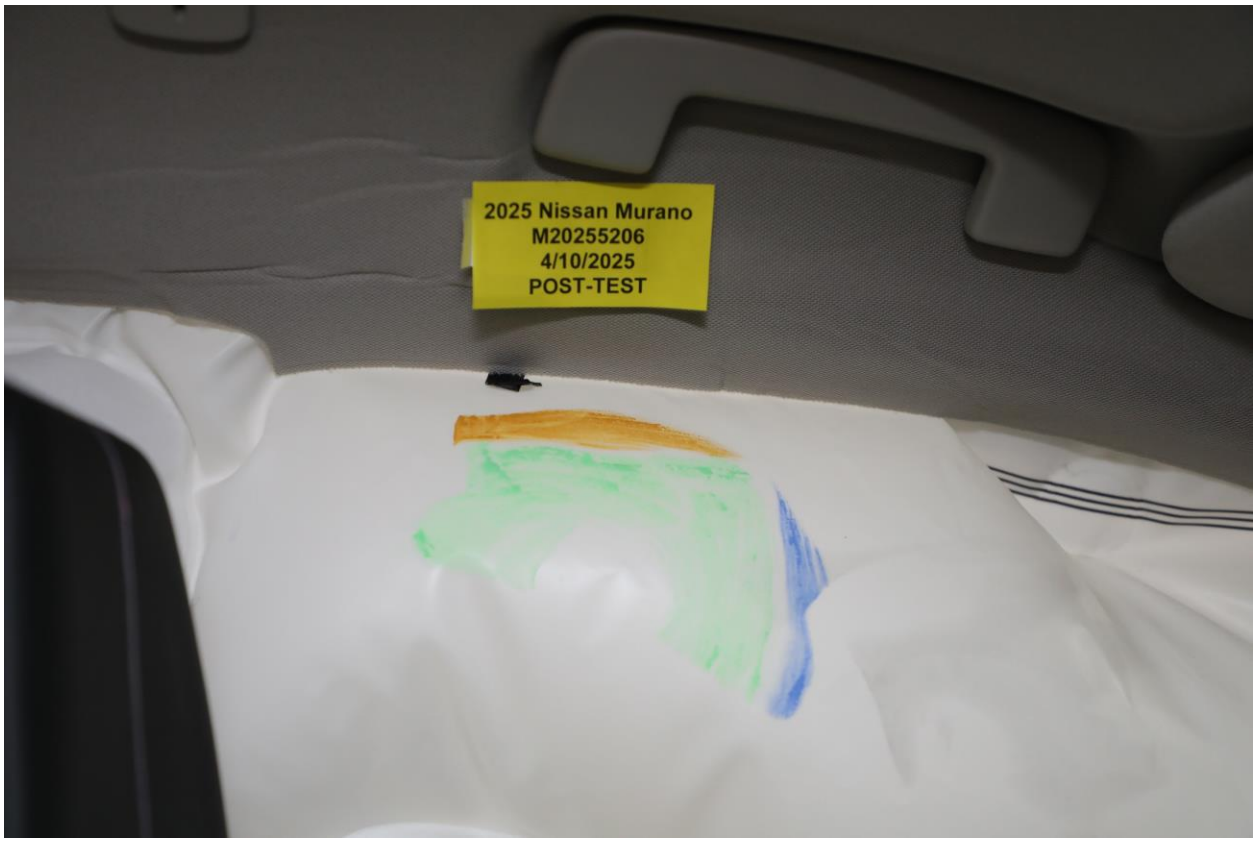
045 Post-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment

046 Pre-Test Driver Inner Door Panel View

047 Post-Test Driver Inner Door Panel View Showing Driver Dummy Contact Locations



048 Post-Test Driver Dummy Close-Up Head Contact with Vehicle View



049 Post-Test Driver Dummy Close-Up Head Contact with Side Airbag View

050 Post-Test Driver Dummy Close-Up Torso Contact with Vehicle Interior View

051 Post-Test Driver Dummy Close-Up Torso Contact with Side Airbag View

052 Post-Test Driver Dummy Close-Up Pelvis Contact View

053 Post-Test Driver Dummy Close-Up Pelvis Contact with Side Airbag View

054 Post-Test Driver Dummy Close-Up Knee Contact View

055 Pre-Test Left Side View of Passenger Dummy Showing Belt and Chalking

056 Pre-Test Left Side View of Passenger Dummy Shoulder and Door Top View

057 Post-Test Left Side View of Passenger Dummy Shoulder and Door Top View

058 Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning

059 Pre-Test Frontal View of Rear Passenger Dummy Head and Shoulders in Relation to Head Restraint

060 Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning

061 Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan

062 Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket

063 Pre-Test View of Rear Passenger Dummy's Head Showing Dummy Head is Level

064 Pre-Test Placement of Rear Passenger Dummy's Feet

065 Pre-Test View of Belt Anchorage for Rear Passenger Dummy

066 Pre-Test Close-Up Left Side View of Rear Passenger Seat Track

067 Pre-test Close-Up Left Side View of Rear Passenger Seat Back

068 Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint

Intentionally Left Blank

069 Pre-Test Rear Passenger Dummy and Door Clearance View

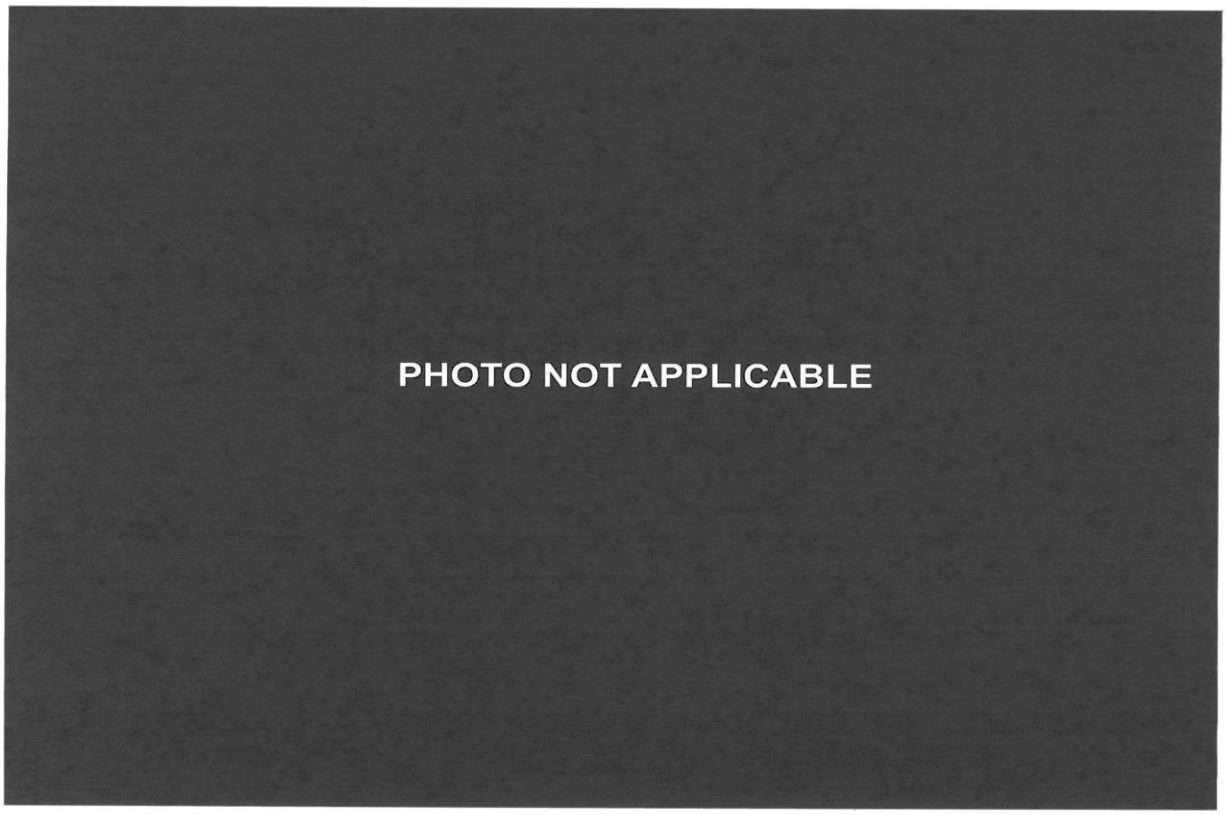
070 Post-Test Rear Passenger Dummy and Door Clearance View

071 Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment

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

073 Pre-Test Rear Passenger Inner Door Panel View

074 Post-Test Rear Passenger Inner Door Panel View

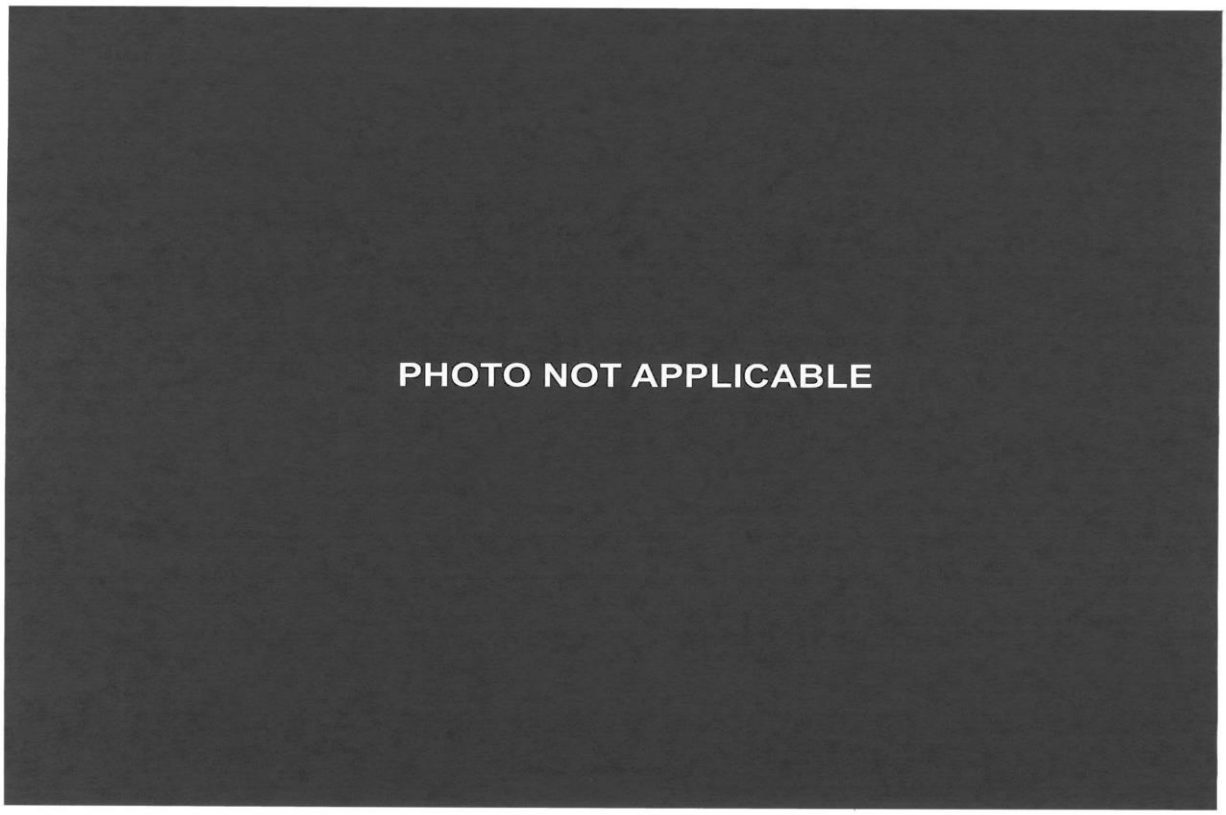


075 Post-Test Rear Passenger Dummy Close-Up Head Contact with Vehicle View

076 Post-Test Rear Passenger Dummy Close-Up Head Contact with Side Airbag View

077 Post-Test Rear Passenger Dummy Close-Up Torso Contact with Vehicle Interior View

078 Post-Test Rear Passenger Dummy Close-Up Torso Contact with Side Airbag View



079 Post-Test Rear Passenger Dummy Close-Up Pelvis Contact View

080 Post-Test Rear Passenger Dummy Close-Up Pelvis Contact with Side Airbag View

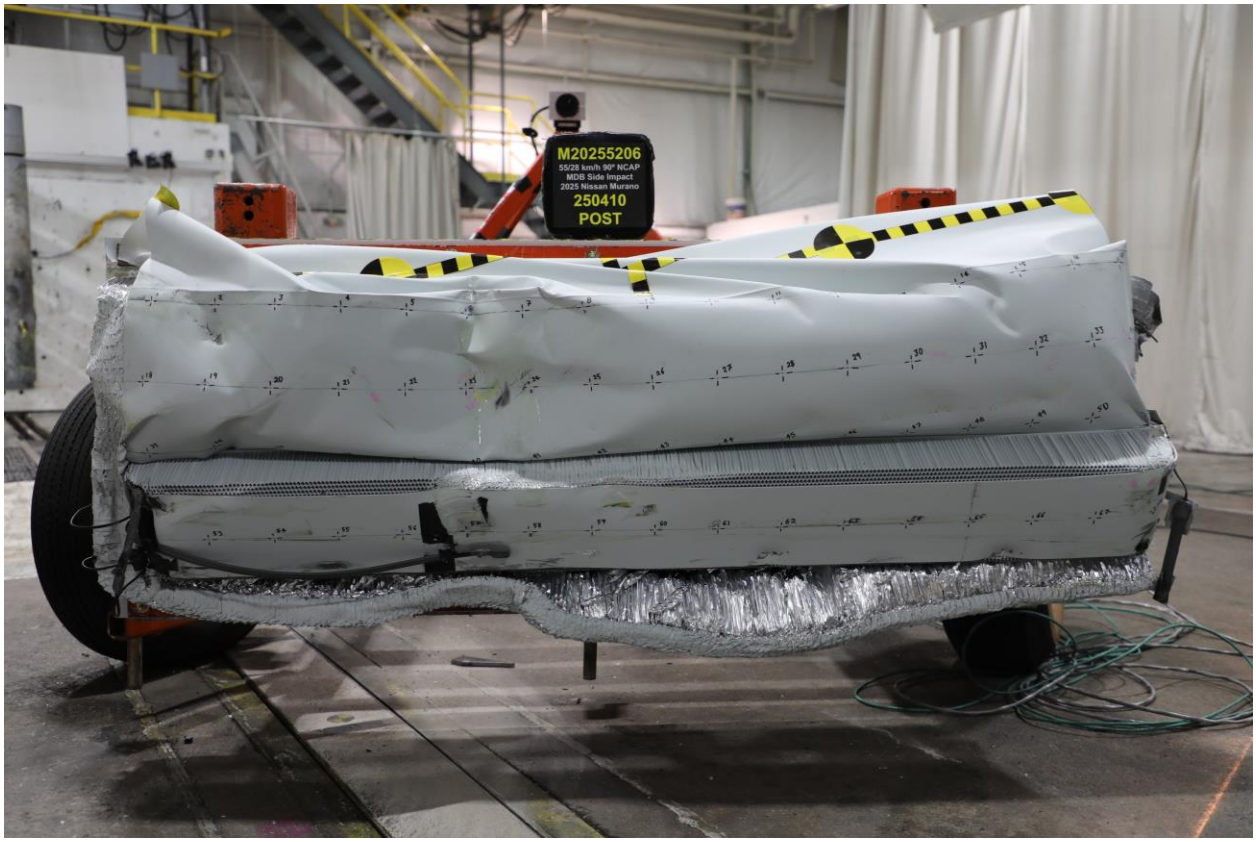
081 Post-Test Rear Passenger Dummy Close-Up Knee Contact View

Intentionally Left Blank

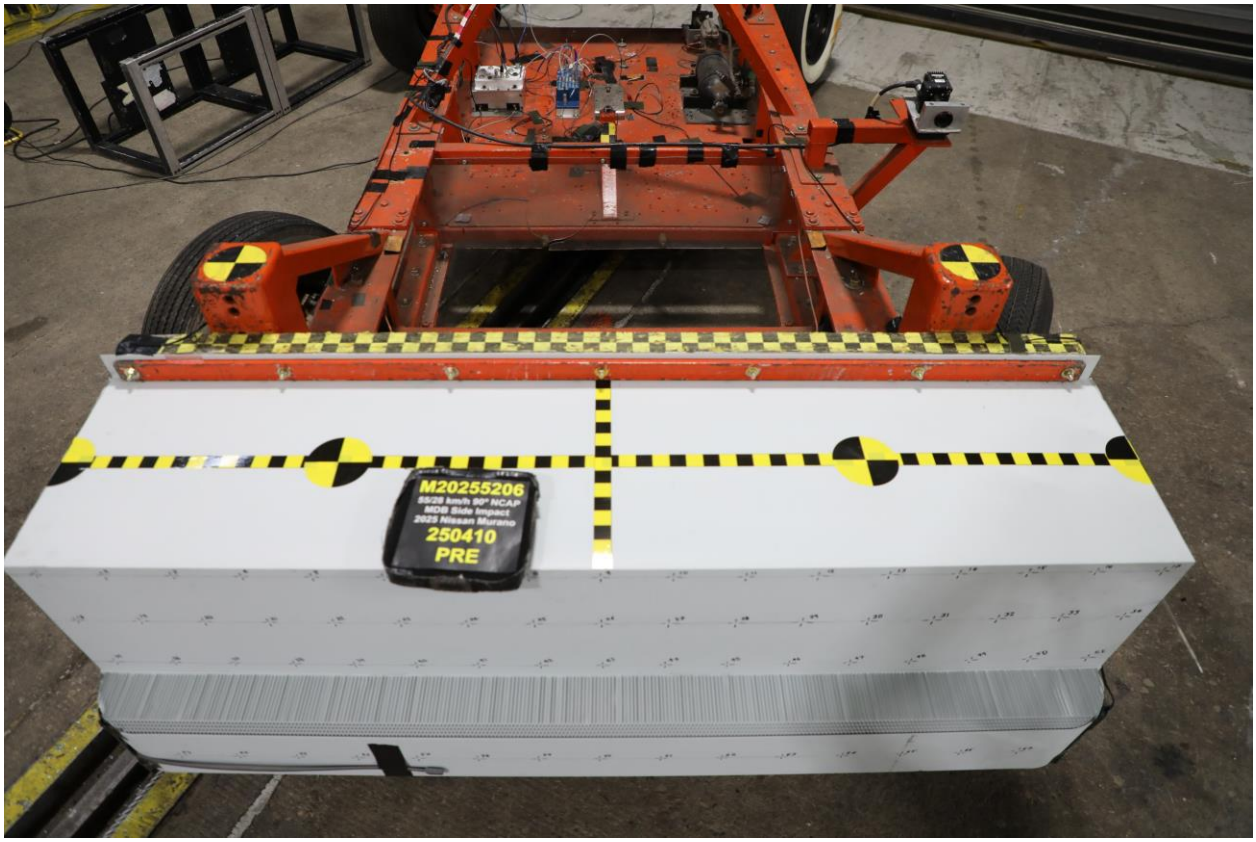
082 Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

083 Post-Test View of Fuel Filler Cap or Fuel Filler Neck

084 Pre-Test Front View of MDB Impactor Face



085 Post-Test Front View of MDB Impactor Face



086 Pre-Test Top View of MDB Impactor Face

087 Post-Test Top View of MDB Impactor Face

088 Pre-Test Left Side View of MDB Impactor Face

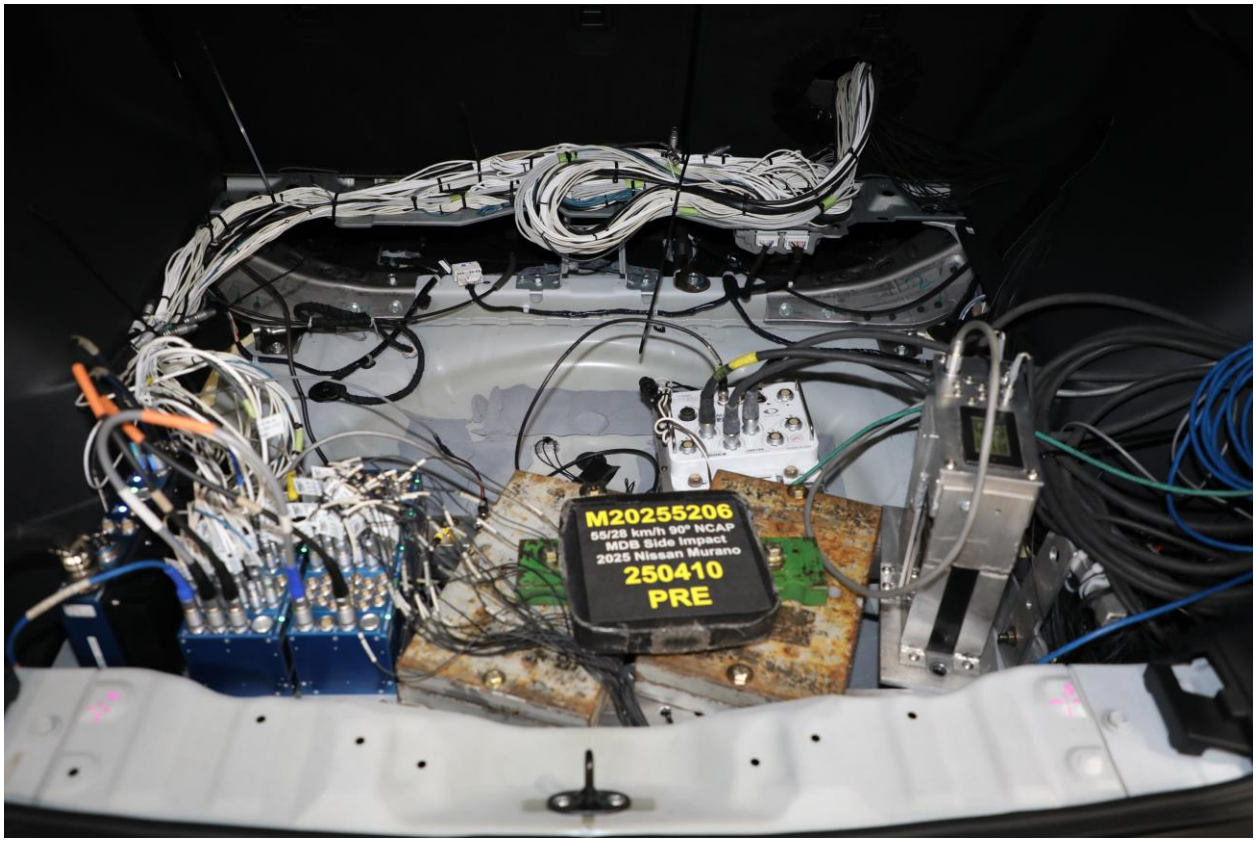
089 Post-Test Left Side View of MDB Impactor Face

090 Pre-Test Right Side View of MDB Impactor Face

091 Post-Test Right Side View of MDB Impactor Face

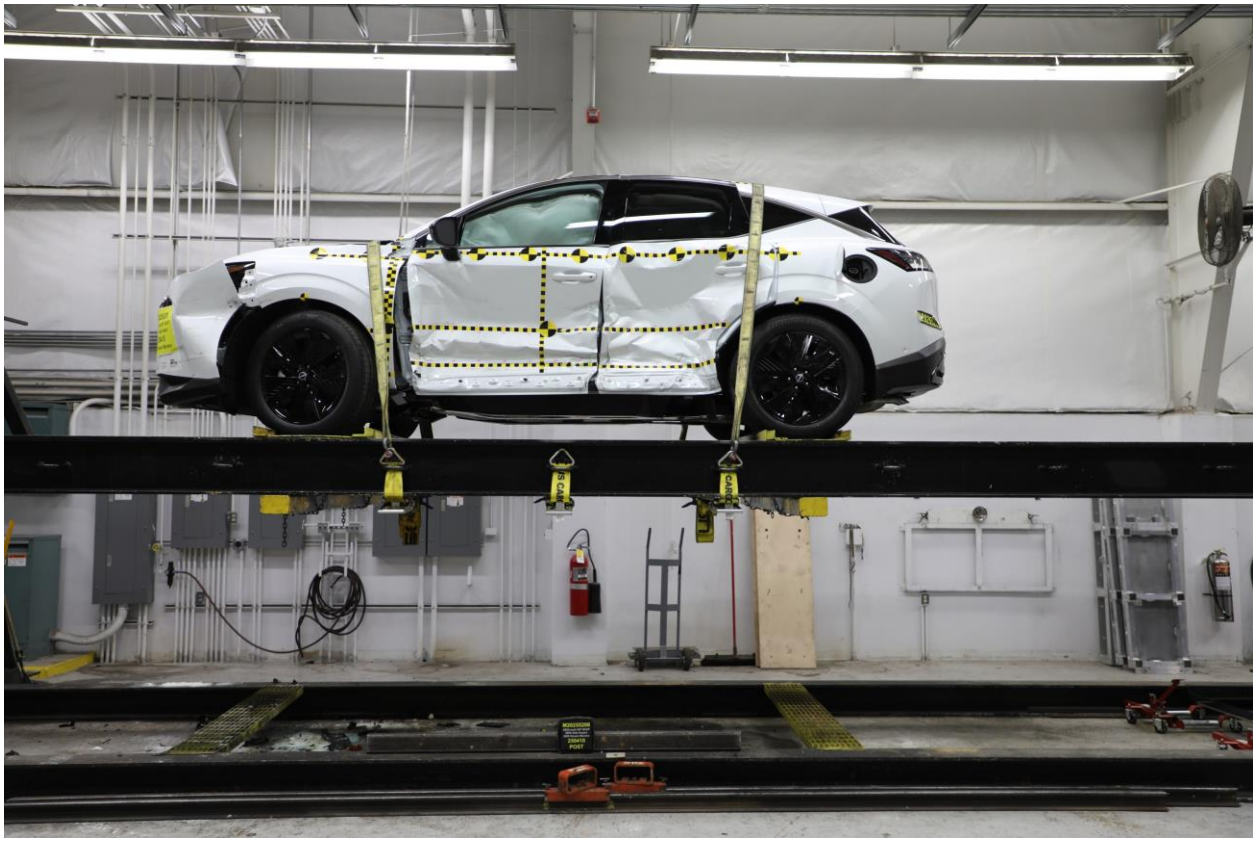
092 Close-Up View of Vehicle's Certification Label

093 Close-Up View of Vehicle's Tire Information Placard or Label

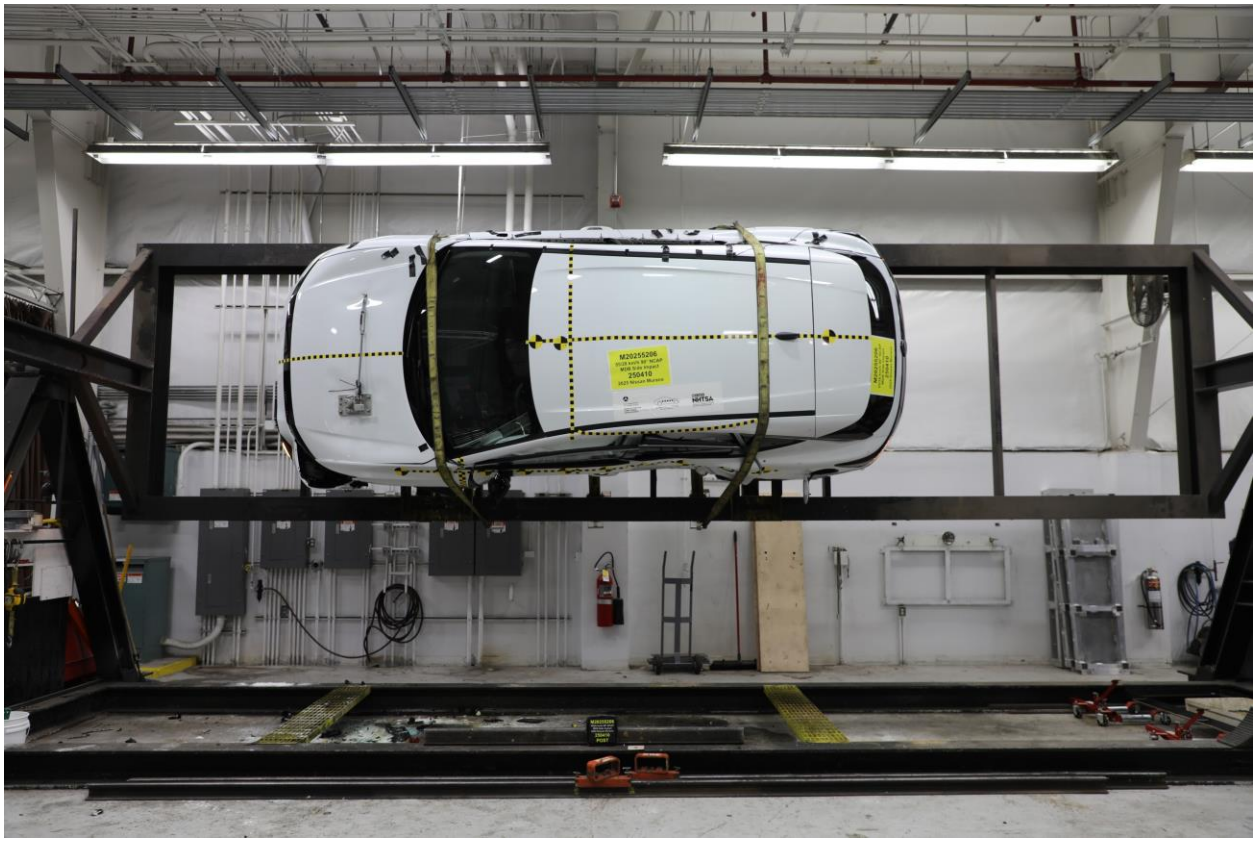


094 Pre-Test Ballast View

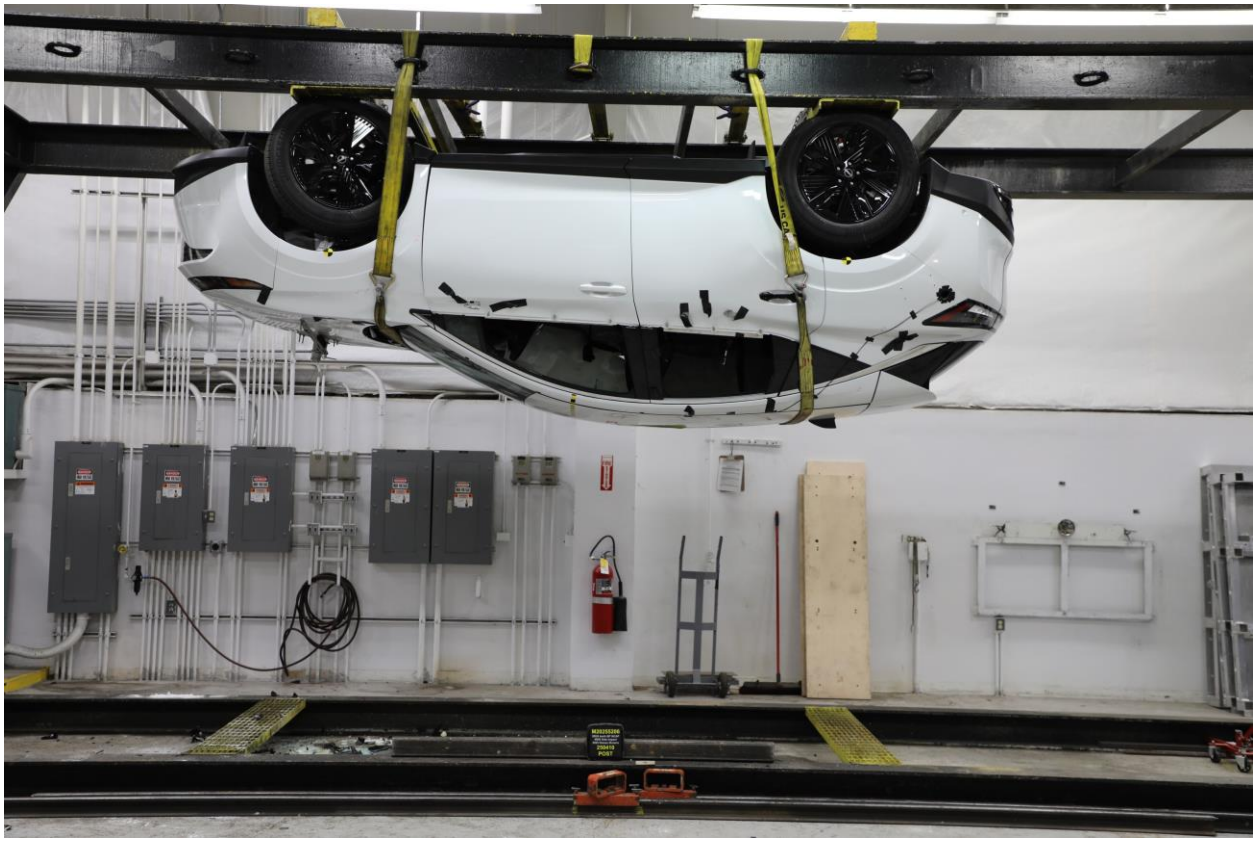
095 No. Post-Test Primary and Redundant Speed Trap Read-Out



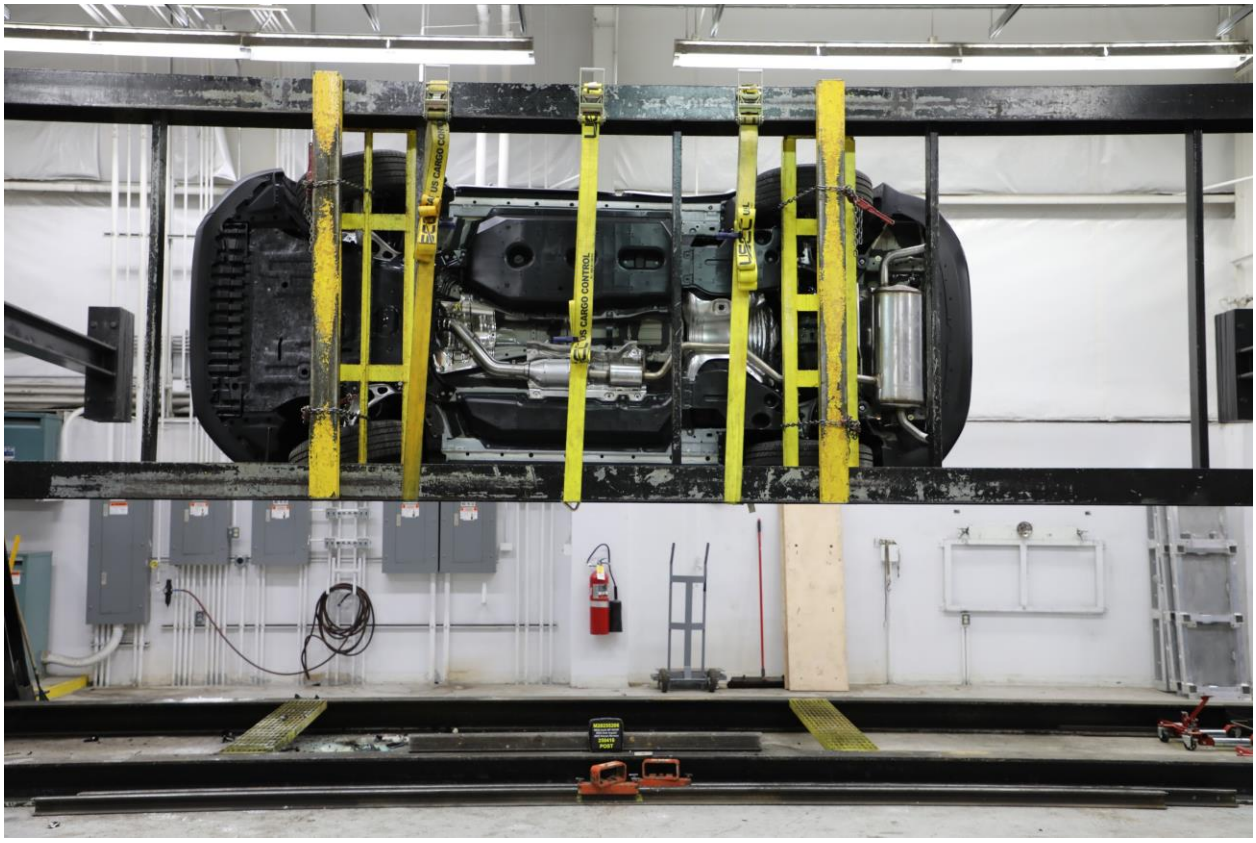
096 FMVSS No. 301 Static Rollover 0 Degrees



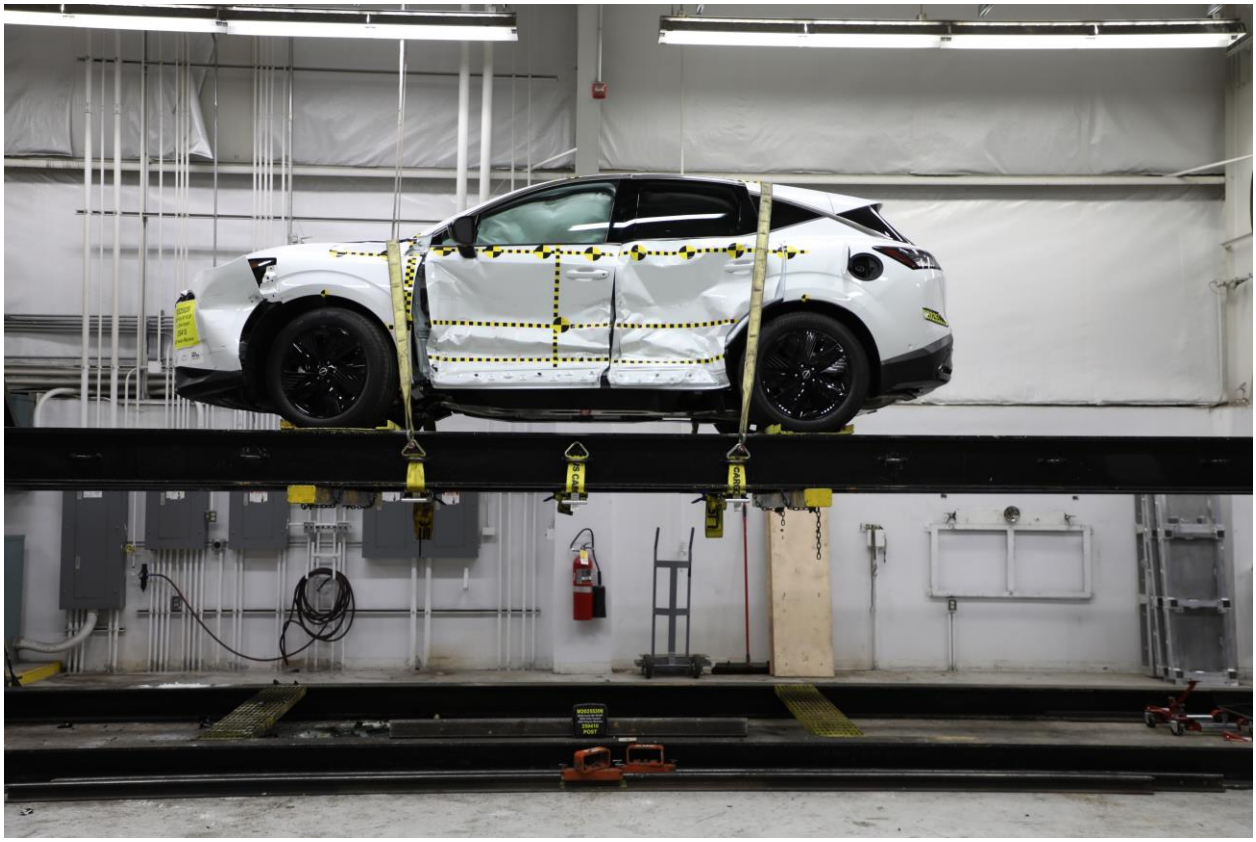
097 FMVSS No. 301 Static Rollover 90 Degrees



098 FMVSS No. 301 Static Rollover 180 Degrees

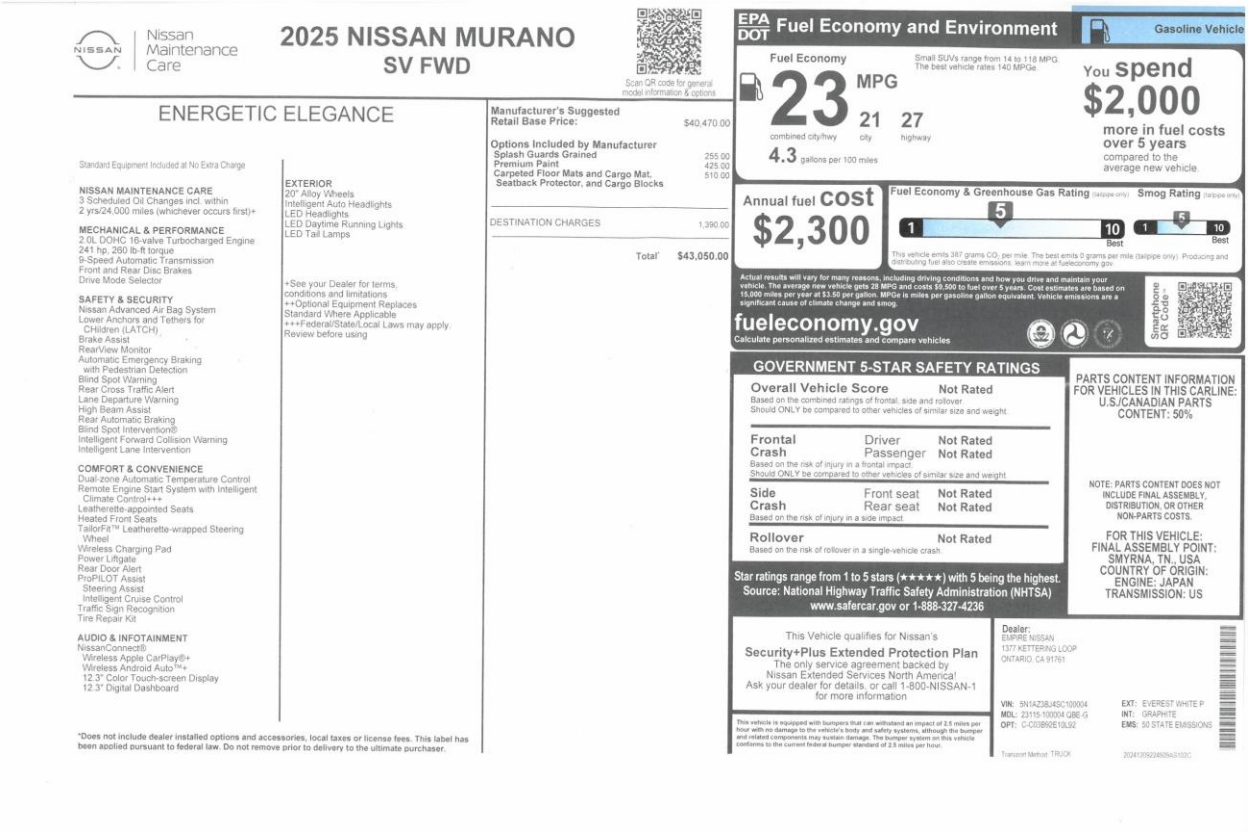


099 FMVSS No. 301 Static Rollover 270 Degrees



100 FMVSS No. 301 Static Rollover 360 Degrees

101 Impact Event



2025 NISSAN MURANO
SV FWD

Nissan Maintenance Care

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
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.

Scan QR code for general model information & options

Manufacturer's Suggested Retail Base Price:	$40,470.00
Options Included by Manufacturer	
Splash Guards Grained	255.00
Premium Paint	425.00
Carpeted Floor Mats and Cargo Mat, Seatback Protector, and Cargo Blocks	510.00
DESTINATION CHARGES	1,390.00
Total*	$43,050.00

EPA DOT Fuel Economy and Environment — Gasoline Vehicle

Fuel Economy: 23 MPG (21 city, 27 highway) combined city/hwy
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): 5 (1 Best, 10)
Smog Rating (tailpipe only): 5 (1 Best, 10)

This vehicle emits 367 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 25 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.

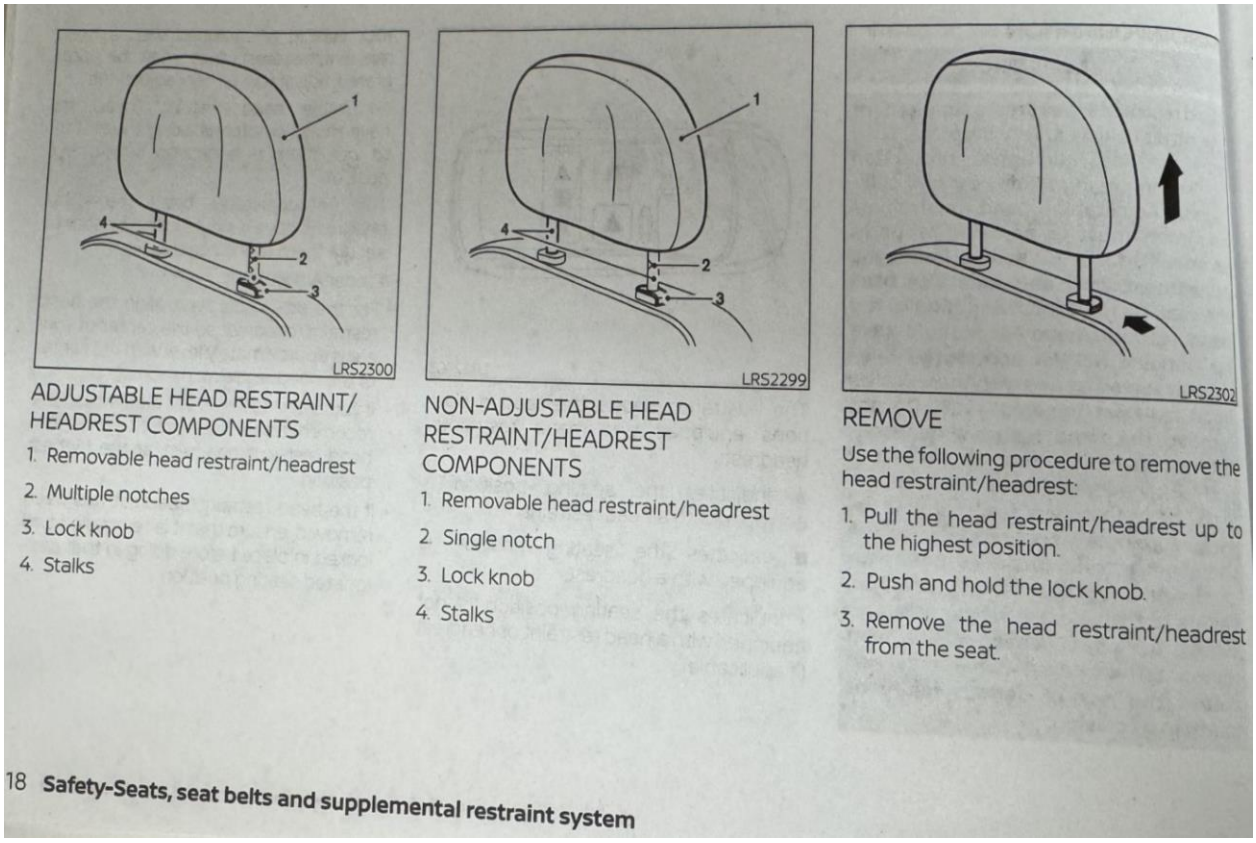
Dealer:
EMPIRE NISSAN
1377 KETTERING LOOP
ONTARIO, CA 91761

VIN: 5N1AZ2BJ4SC100004
MDL: 23115-100004 QBE-G
OPT: C-C03B92E10L92

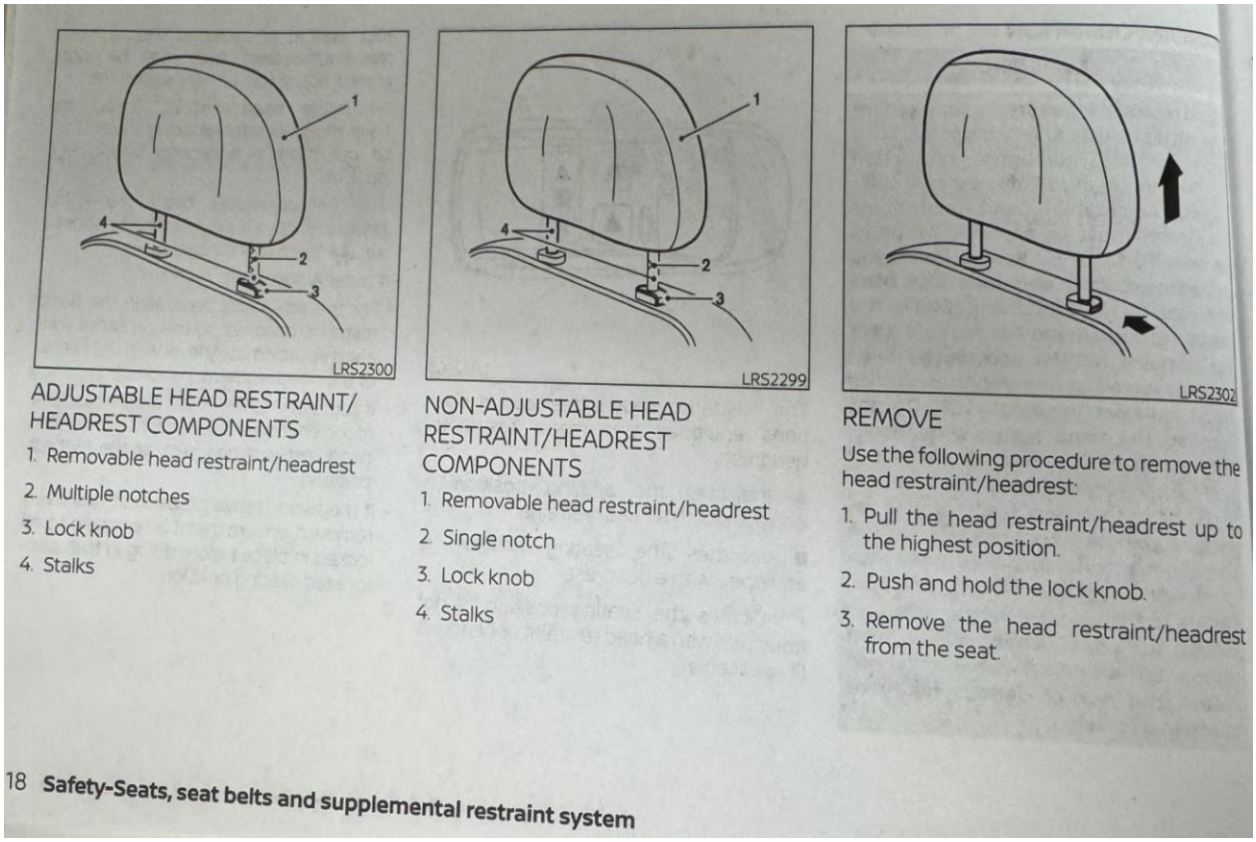
EXT: EVEREST WHITE P
INT: GRAPHITE
EMS: 50 STATE EMISSIONS

Transport Method: TRUCK

102 Monroney Label



103 Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



104 Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

TABLE OF DATA PLOTS

Driver & Passenger Dummy Instrumentation Plots

No.	Description	Page
1	Driver Head Acceleration (X) Primary vs. Time	**B-5**
2	Driver Head Acceleration (Y) Primary vs. Time	**B-5**
3	Driver Head Acceleration (Z) Primary vs. Time	**B-5**
4	Driver Head Resultant Acceleration Primary vs. Time	**B-5**
5	Driver Upper Thorax Rib Deflection (Y) vs. Time	**B-6**
6	Driver Middle Thorax Rib Deflection (Y) vs. Time	**B-6**
7	Driver Lower Thorax Rib Deflection (Y) vs. Time	**B-6**
8	Driver Thorax Rib Deflection Maximum vs. Time	**B-6**
9	Driver Anterior Abdominal Force (Y) vs. Time	**B-7**
10	Driver Middle Abdominal Force (Y) vs. Time	**B-7**
11	Driver Posterior Abdominal Force (Y) vs. Time	**B-7**
12	Driver Total Abdominal Force (Y) vs. Time	**B-7**
13	Driver Pubic Symphysis Force (Y) vs. Time	**B-8**
14	Passenger Head Acceleration (X) Primary vs. Time	**B-9**
15	Passenger Head Acceleration (Y) Primary vs. Time	**B-9**
16	Passenger Head Acceleration (Z) Primary vs. Time	**B-9**
17	Passenger Head Resultant Acceleration Primary vs. Time	**B-9**
18	Passenger Lower Spine T12 Acceleration (X) vs. Time	**B-10**
19	Passenger Lower Spine T12 Acceleration (Y) vs. Time	**B-10**
20	Passenger Lower Spine T12 Acceleration (Z) vs. Time	**B-10**
21	Passenger Lower Spine T12 Resultant Acceleration vs. Time	**B-10**
22	Passenger Iliac Force on Impact Side (Y) vs. Time	**B-11**
23	Passenger Acetabulum Force on Impact Side (Y) vs. Time	**B-11**
24	Passenger Total Pelvic Force on Impact Side (Y) vs. Time	**B-11**

The following additional data can be obtained from the Research and Development section of the NHTSA website (www.nhtsa.gov)

Additional Driver & Passenger Dummy Instrumentation Data

Driver Lower Spine T12 Acceleration (X)
Driver Lower Spine T12 Acceleration (Y)
Driver Lower Spine T12 Acceleration (Z)
Passenger Upper Thorax Rib Deflection (Y)
Passenger Middle Thorax Rib Deflection (Y)
Passenger Lower Thorax Rib Deflection (Y)
Passenger Upper Abdomen Rib Deflection (Y)
Passenger Lower Abdomen Rib Deflection (Y)
Driver Head Acceleration Redundant (X)
Driver Head Acceleration Redundant (Y)
Driver Head Acceleration Redundant (Z)
Passenger Head Acceleration Redundant (X)
Passenger Head Acceleration Redundant (Y)
Passenger Head Acceleration Redundant (Z)
Passenger Head Angular Velocity (X)
Passenger Head Angular Velocity (Y)
Passenger Head Angular Velocity (Z)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Right Side Sill at Front Seat Acceleration (X)
Right Side Sill at Front Seat Acceleration (Y)
Right Side Sill at Front Seat Acceleration (Z)
Right Side Sill at Rear Seat Acceleration (X)
Right Side Sill at Rear Seat Acceleration (Y)
Right Side Sill at Rear Seat Acceleration (Z)
Left Side Sill at Front Seat Acceleration (Y)
Left Side Sill at Rear Seat Acceleration (Y)
Lower A-Post Acceleration (Y)
Middle A-Post Acceleration (Y)
Lower B-Post Acceleration (Y)
Middle B-Post Acceleration (Y)
Front Seat Track Acceleration (Y)
Rear Seat Structure Acceleration (Y)
Right Rear Occupant Compartment Acceleration (Y)
Engine Block (X)
Engine Block (Y)
Rear Floorpan Above Axle Acceleration (X)
Rear Floorpan Above Axle Acceleration (Y)
Rear Floorpan Above Axle Acceleration (Z)

MDB Instrumentation Data

MDB Center of Gravity Acceleration (X)
MDB Center of Gravity Acceleration (Y)
MDB Center of Gravity Acceleration (Z)
MDB Rear Acceleration (X)
MDB Rear Acceleration (Y)
Left MDB Contact Switch
Right MDB Contact Switch

NHTSA

Test Date: 04/10/2025

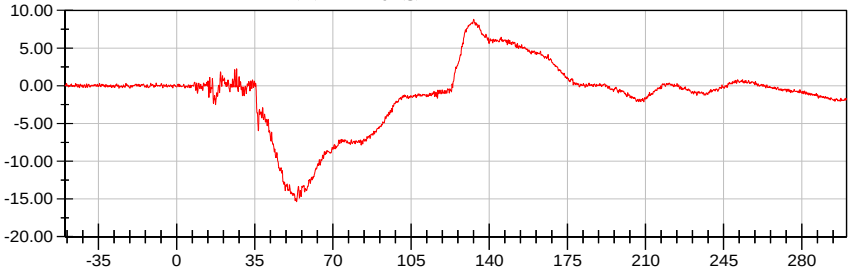
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

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



<Max>

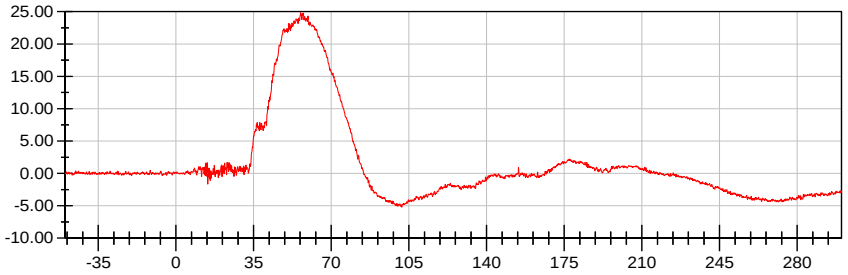
8.82 g at 133.05 ms

<Min>

-15.37 g at 53.70 ms

CFC_1000

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



<Max>

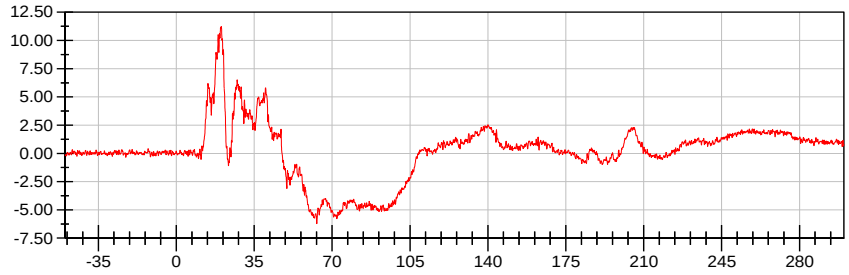
24.85 g at 56.20 ms

<Min>

-5.21 g at 101.80 ms

CFC_1000

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



<Max>

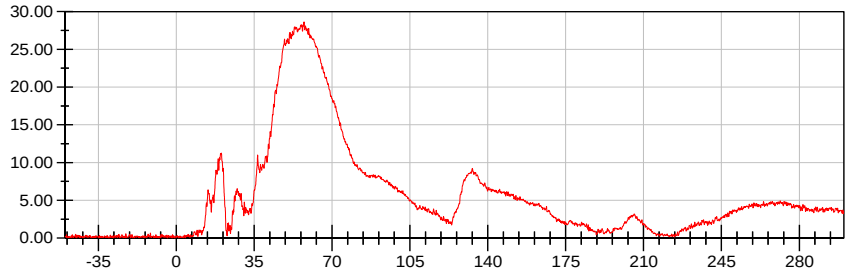
11.22 g at 20.25 ms

<Min>

-6.22 g at 63.15 ms

CFC_1000

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



<Max>

28.64 g at 57.40 ms

<Min>

0.01 g at -1.90 ms

CFC_1000

NHTSA

Test Date: 04/10/2025

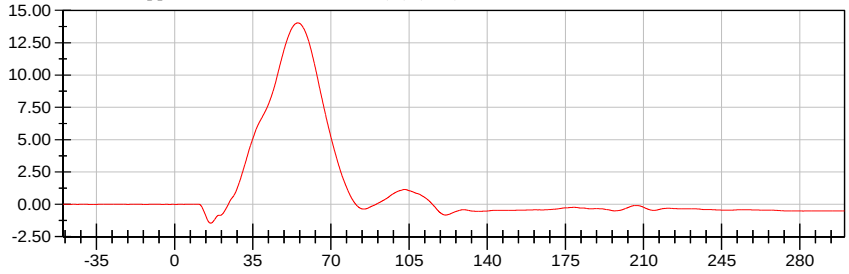
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

Driver Upper Thorax Rib Deflection (Y) (mm) vs. Time [ms]



<Max>

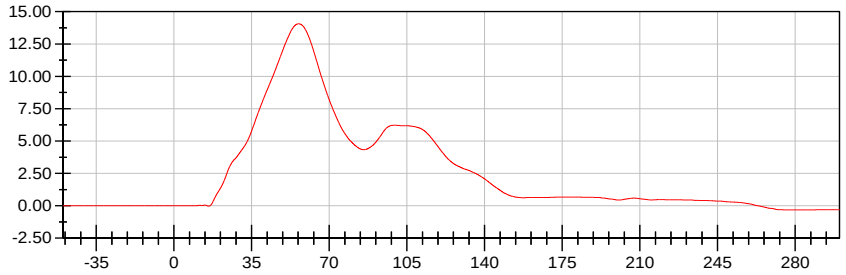
14.03 mm at 55.20 ms

<Min>

-1.45 mm at 16.15 ms

CFC_180

Driver Middle Thorax Rib Deflection (Y) (mm) vs. Time [ms]



<Max>

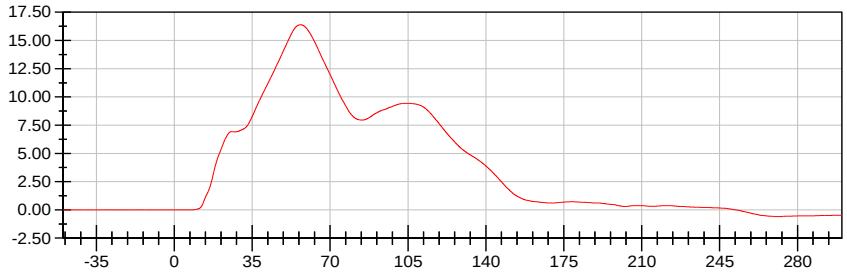
14.06 mm at 56.25 ms

<Min>

-0.32 mm at 277.60 ms

CFC_180

Driver Lower Thorax Rib Deflection (Y) (mm) vs. Time [ms]



<Max>

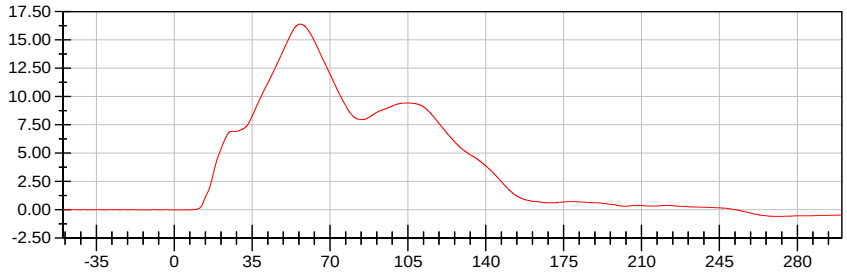
16.39 mm at 56.70 ms

<Min>

-0.59 mm at 270.10 ms

CFC_180

Driver Thorax Rib Deflection Maximum (mm) vs. Time [ms]



<Max>

16.39 mm at 56.70 ms

<Min>

-0.59 mm at 270.10 ms

CFC_180

NHTSA

Test Date: 04/10/2025

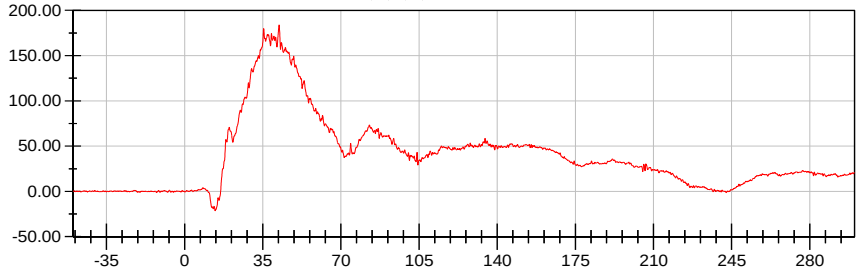
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

Driver Anterior Abdominal Force (Y) (N) vs. Time [ms]



<Max>

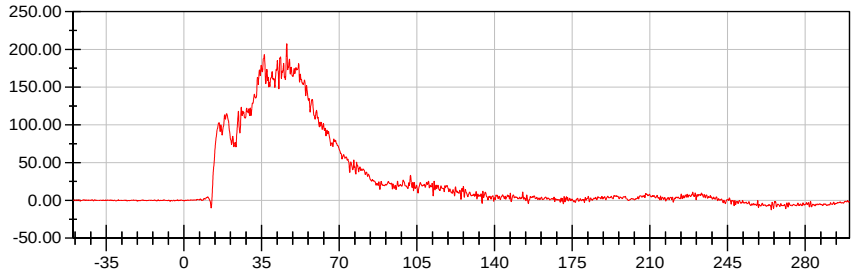
183.74 N at 42.30 ms

<Min>

-21.32 N at 13.65 ms

CFC_600

Driver Middle Abdominal Force (Y) (N) vs. Time [ms]



<Max>

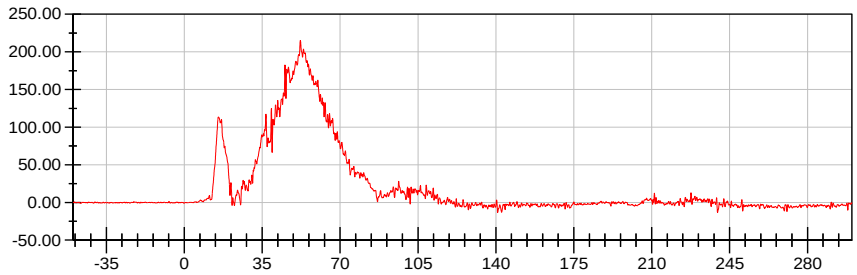
207.51 N at 46.35 ms

<Min>

-12.62 N at 264.70 ms

CFC_600

Driver Posterior Abdominal Force (Y) (N) vs. Time [ms]



<Max>

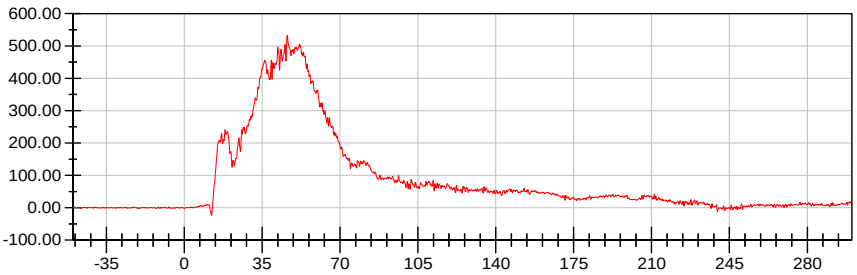
214.95 N at 52.15 ms

<Min>

-13.42 N at 239.60 ms

CFC_600

Driver Total Abdmoninal Force (Y) (N) vs. Time [ms]



<Max>

532.31 N at 46.35 ms

<Min>

-23.72 N at 12.25 ms

CFC_600

NHTSA

Test Date: 04/10/2025

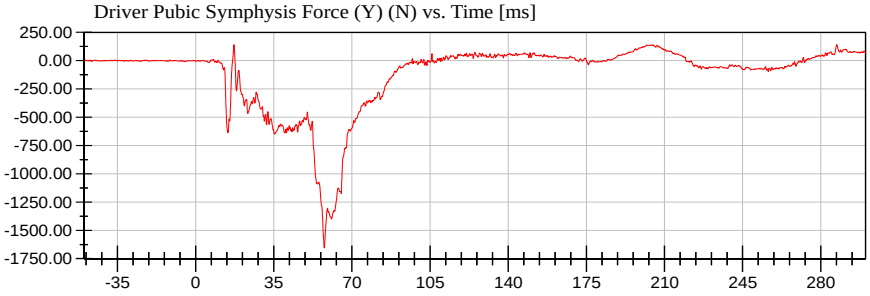
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

Driver Pubic Symphysis Force (Y) (N) vs. Time [ms]



<Max>

141.23 N at 287.15 ms

<Min>

-1,654.96 N at 57.60 ms

CFC_600

NHTSA

Test Date: 04/10/2025

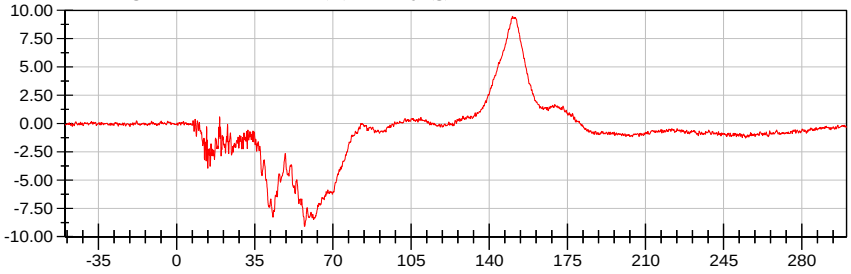
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

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



<Max>

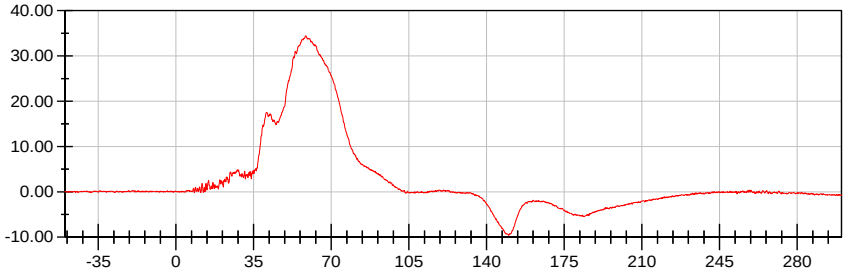
9.47 g at 150.45 ms

<Min>

-9.09 g at 57.30 ms

CFC_1000

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



<Max>

34.44 g at 58.45 ms

<Min>

-9.59 g at 150.05 ms

CFC_1000

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

<Max>

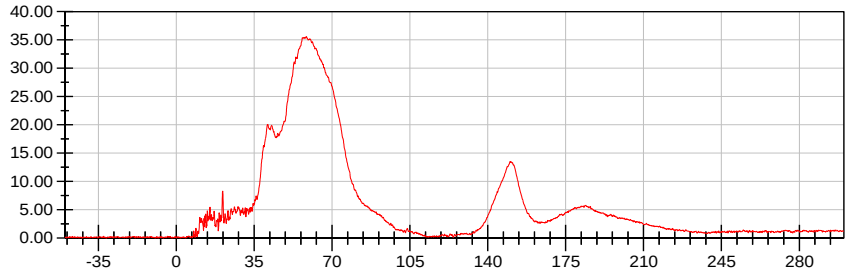
9.05 g at 51.10 ms

<Min>

-4.30 g at 19.30 ms

CFC_1000

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



<Max>

35.58 g at 58.40 ms

<Min>

0.01 g at 2.00 ms

CFC_1000

NHTSA

Test Date: 04/10/2025

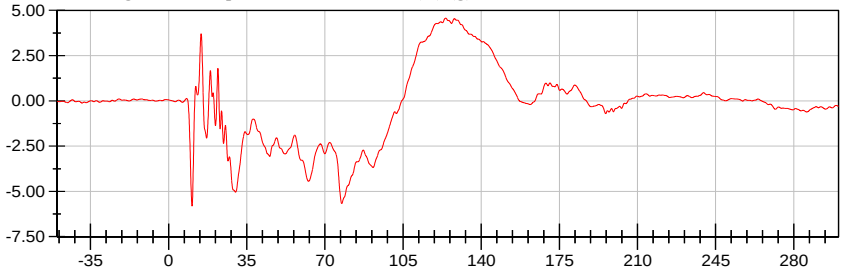
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

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



<Max>

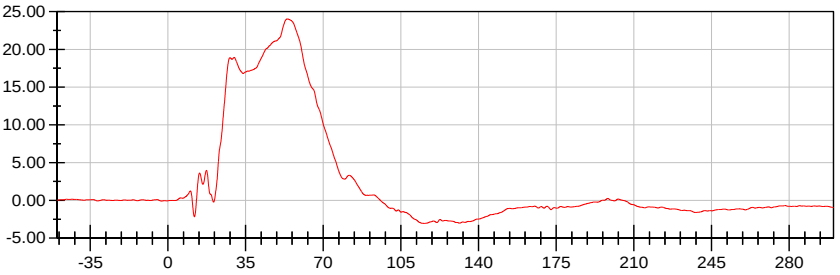
4.57 g at 124.10 ms

<Min>

-5.80 g at 10.45 ms

CFC_180

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



<Max>

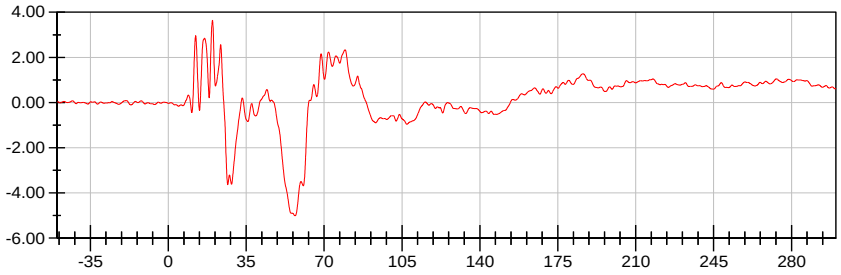
24.04 g at 53.80 ms

<Min>

-3.05 g at 115.50 ms

CFC_180

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



<Max>

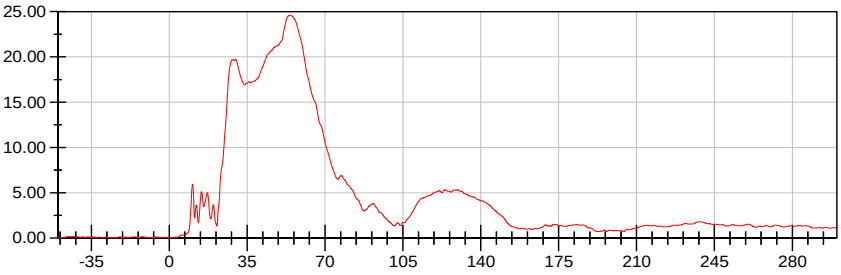
3.64 g at 19.85 ms

<Min>

-5.01 g at 56.95 ms

CFC_180

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



<Max>

24.58 g at 54.45 ms

<Min>

0.01 g at -32.60 ms

CFC_180

NHTSA

Test Date: 04/10/2025

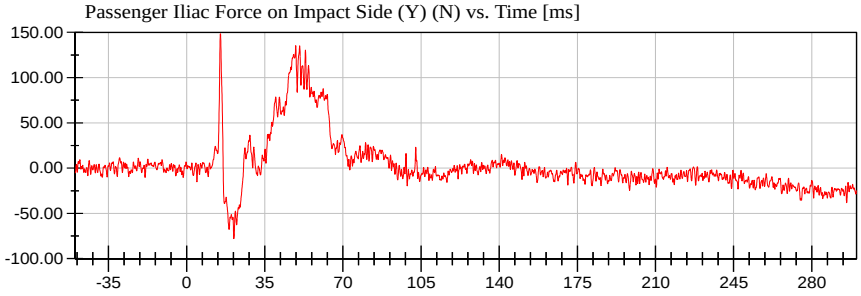
Test Lab: CTF

Position #1 ES-2 Dummy with Rib Extension (F030)

Test Number: 250410 (M20255206)

Position #4 SID IIs Dummy (DQ0570)

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



<Max>

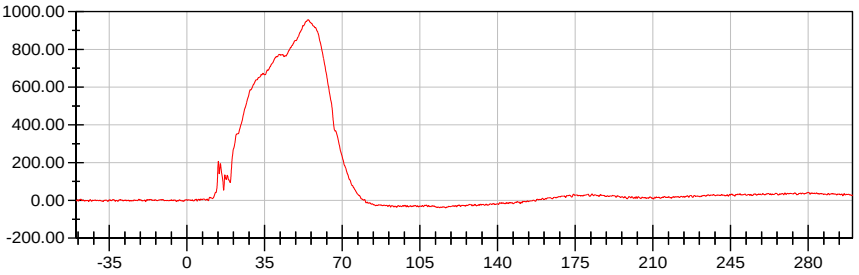
148.47 N at 15.15 ms

<Min>

-77.86 N at 21.15 ms

CFC_600

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



<Max>

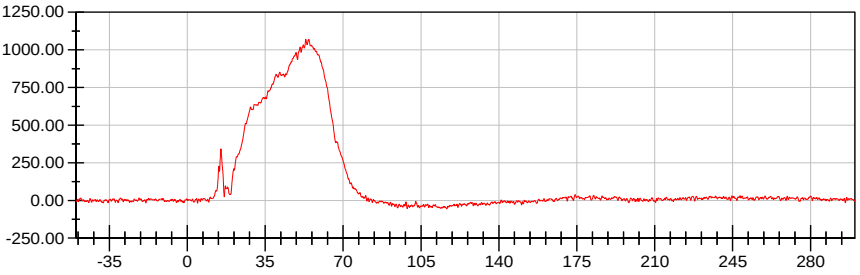
956.76 N at 54.75 ms

<Min>

-40.05 N at 116.60 ms

CFC_600

Passenger Total Pelvic Force on Impact Side (Y) (N) vs. Time [ms]



<Max>

1,070.61 N at 53.25 ms

<Min>

-55.78 N at 116.60 ms

CFC_600

APPENDIX C
DUMMY PERFORMANCE CALIBRATION TEST DATA

TABLE OF CALIBRATION MEASUREMENTS AND PLOTS

ES-2re (Driver) Dummy

Description

Table 1. External Measurements
Table 2. Head Drop Test
Head (X) Acceleration (G's) vs. Time (ms)
Head (Y) Acceleration (G's) vs. Time (ms)
Head (Z) Acceleration (G's) vs. Time (ms)
Resultant Head Acceleration (G's) vs. Time (ms)
Table 3 Neck Pendulum Test
Pendulum Velocity (m/s) vs. Time (ms)
Flexion Angle (°) vs. Time (ms)
Potentiometer A (°) vs. Time (ms)
Potentiometer B (°) vs. Time (ms)
Potentiometer C (°) vs. Time (ms)
Table 4. Shoulder Impact Test
Impactor Acceleration (G's) vs. Time (ms)
Table 5. Thorax – Upper Rib Drop Test
Upper Rib Displacement @ 459 mm Drop Height (mm) vs. Time (ms)
Upper Rib Displacement @ 815 mm Drop Height (mm) vs. Time (ms)
Table 6. Thorax – Middle Rib Drop Test
Middle Rib Displacement @ 459 mm Drop Height (mm) vs. Time (ms)
Middle Rib Displacement @ 815 mm Drop Height (mm) vs. Time (ms)
Table 7. Thorax – Lower Rib Drop Test
Lower Rib Displacement @ 459 mm Drop Height (mm) vs. Time (ms)
Lower Rib Displacement @ 815 mm Drop Height (mm) vs. Time (ms)
Table 8. Thorax – Full Body Impact Test
Pendulum Acceleration (G's) vs. Time (ms)
Impactor Force (kN) vs. Time (ms)
Upper Rib Displacement (mm) vs. Time (ms)
Middle Rib Displacement (mm) vs. Time (ms)
Lower Rib Displacement (mm) vs. Time (ms)
Table 9. Abdomen Impact Test
Impactor Force (kN) vs. Time (ms)
Front Abdomen Force (kN) vs. Time (ms)
Middle Abdomen Force (kN) vs. Time (ms)
Rear Abdomen Force (kN) vs. Time (ms)
Total Abdomen Force (kN) vs. Time (ms)
Table 10. Lumbar Spine Flexion Test
Pendulum Velocity (m/s) vs. Time (ms)
Spine Flexion Angle (°) vs. Time (ms)
Potentiometer A (°) vs. Time (ms)
Potentiometer B (°) vs. Time (ms)
Potentiometer C (°) vs. Time (ms)
Table 11. Pelvis Impact Test
Pendulum Acceleration (G's) vs. Time (ms)
Impactor Force (kN) vs. Time (ms)
Pubic Symphysis (Y) Force (kN) vs. Time (ms)

TABLE OF CALIBRATION MEASUREMENTS AND PLOTS

SID-IIs (Rear Passenger) Dummy

Description

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

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

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

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

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

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

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

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

Pre-Test Calibration Sheets
Driver S/N F030

Transportation Research Center Inc.
572U ES-2re Dummy
External Dimensions
Serial No. F030 Calibration No. 102

Symbol	Description	Specification	Results	Pass
		mm	mm	
1	Sitting Height	900.0 - 918.0	909	Yes
2	Seat to Shoulder Joint	558.0 - 572.0	560	Yes
3	Seat to Lower Face of Thoracic Spine Box	346.0 - 356.0	347	Yes
4	Seat to Hip Joint (center of bolt)	97.0 - 103.0	98	Yes
5	Sole to Seat, Sitting	433.0 - 451.0	443	Yes
6	Head Width	152.0 - 158.0	154	Yes
7	Shoulder/Arm Width	461.0 - 479.0	475	Yes
8	Thorax Width	322.0 - 332.0	328	Yes
9	Abdomen Width	273.0 - 287.0	279	Yes
10	Pelvis Lap Width	359.0 - 373.0	366	Yes
11	Head Depth	196.0 - 206.0	201	Yes
12	Thorax Depth	262.0 - 272.0	262	Yes
13	Abdomen Depth	194.0 - 204.0	199	Yes
14	Pelvis Depth	235.0 - 245.0	242	Yes
15	Back of Buttocks to Hip Joint (center of bolt)	150.0 - 160.0	156	Yes
16	Back of Buttocks to Front of Knee	597.0 - 615.0	605	Yes

Baseline 10/07/05

Transportation Research Center Inc.

Left Lateral Head Drop
ES-2re Serial No. F030 Certification No. 102-1
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 %	39 %	Yes
Peak Resultant Acceleration	125 - 155 g	137.9 g	Yes
Peak Longitudinal Acceleration	(-15) - 15 g	8.1 g	Yes
Is Resultant Acceleration Curve Unimodal within 15% of Main Pulse?	< 15 %	3.39 %	Yes

Test meets specifications.

Condition: Used
Comments:
Head Skin S/N: DP6812

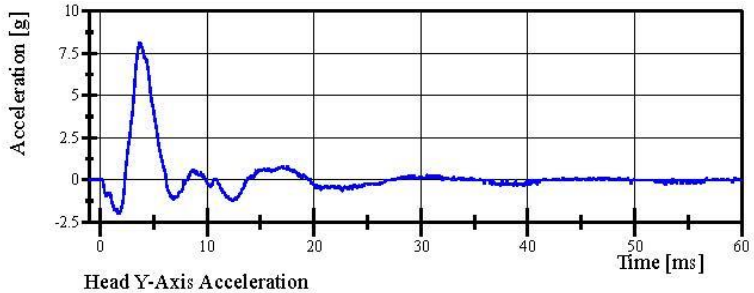
Specification Source: CFR49 Part 572 Subpart U with Polarity in accordance with J211

03.19.2025 14:20:33 361

Transportation Research Center Inc.

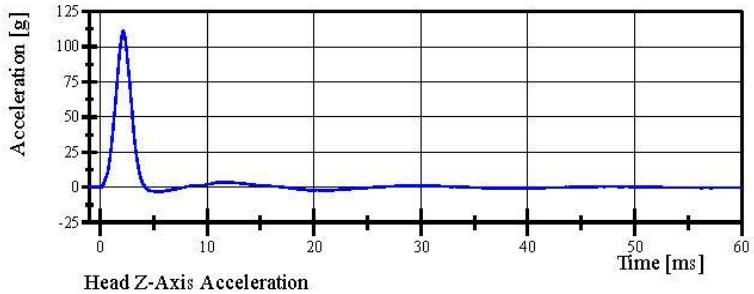
Left Lateral Head Drop
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/19/2025

Head X-Axis Acceleration



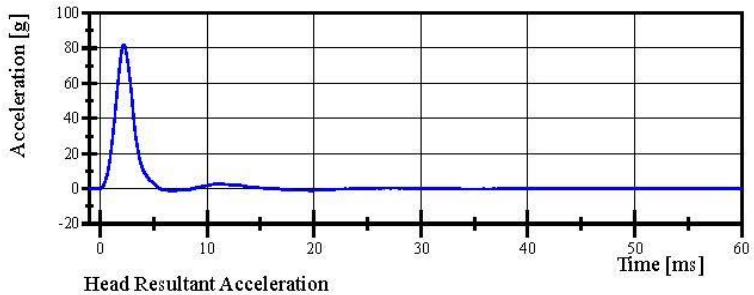
Filter Class: CFC_1000
Max: 8.1 g at 3.7 ms
Min: -2.0 g at 1.7 ms

Head Y-Axis Acceleration



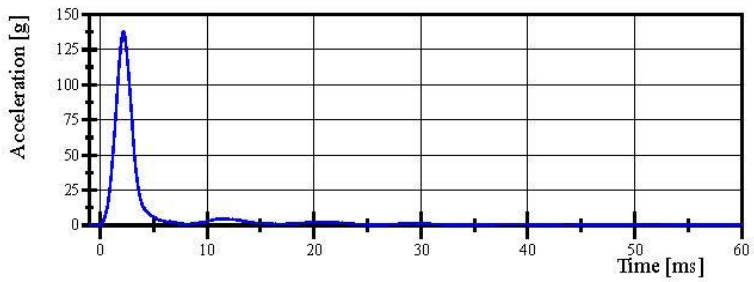
Filter Class: CFC_1000
Max: 111.2 g at 2.2 ms
Min: -3.4 g at 5.4 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 81.6 g at 2.2 ms
Min: -1.3 g at 6.5 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 137.9 g at 2.2 ms
Min: 0.0 g at -0.6 ms

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

03.19.2025 14:21:21 361

Transportation Research Center Inc.

Left Lateral Neck
ES-2re Serial No. F030 Certification No. 102-2
Test Date: 3/20/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Integrated Velocity Change within Corridor	Yes	Yes	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.37 m/s	Yes
Maximum Headform Flexion			
Peak	(-49) - (-59) deg	-53.2 deg	Yes
Time of Peak	54 - 66 ms	57.6 ms	Yes
Headform Flexion Decay - Peak to Zero	53 - 88 ms	55.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 05053

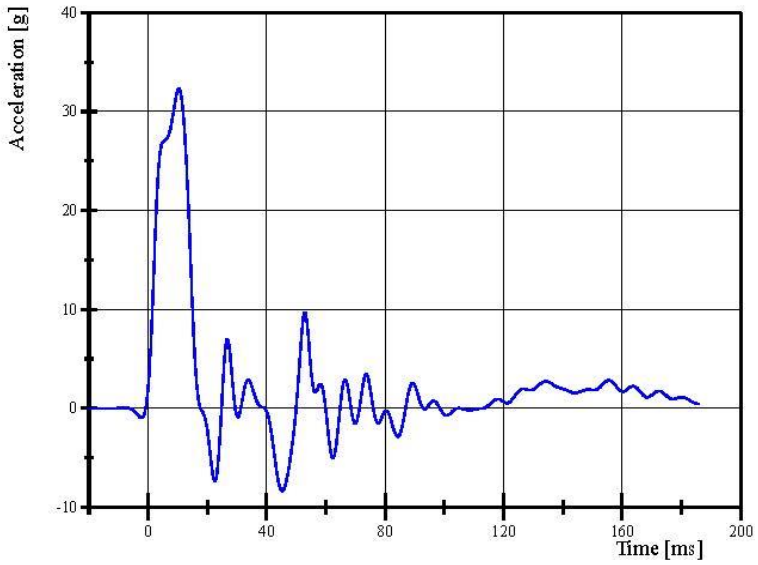
Specification Source: CFR49 Part 572 Subpart U with Polarity in accordance with J211

03.20.2025 10:34:14 1497

Transportation Research Center Inc.

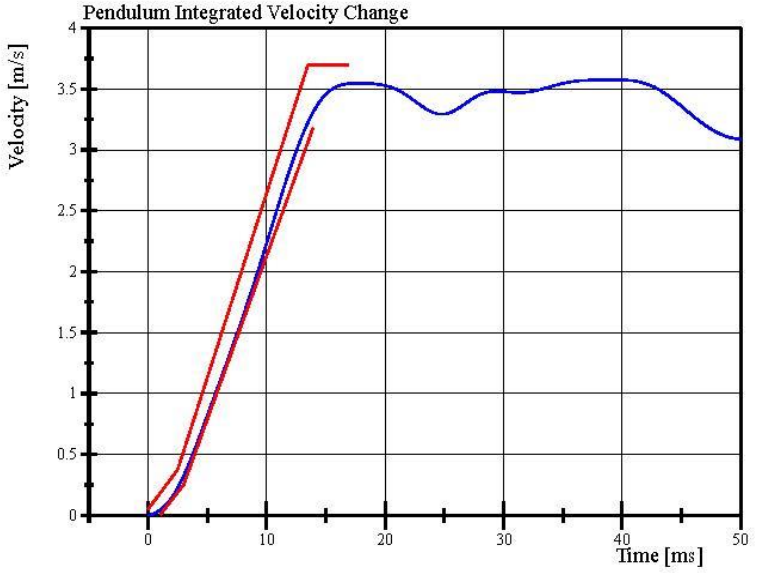
Left Lateral Neck
ES-2re Serial No. F030 Certification No. 102-2
Test Date: 3/20/2025

Pendulum Acceleration



Filter Class: CFC_60
Max: 32.3 g at 10.4 ms
Min: -8.4 g at 45.3 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_60
Max: 3.6 m/s at 39.3 ms
Min: 0.0 m/s at 0.0 ms

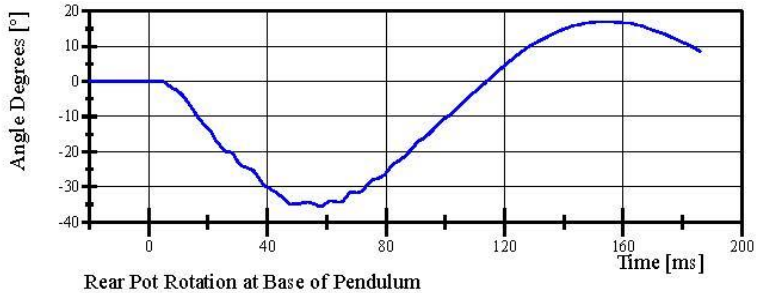
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

03.20.2025 10:35:00 1497

Transportation Research Center Inc.

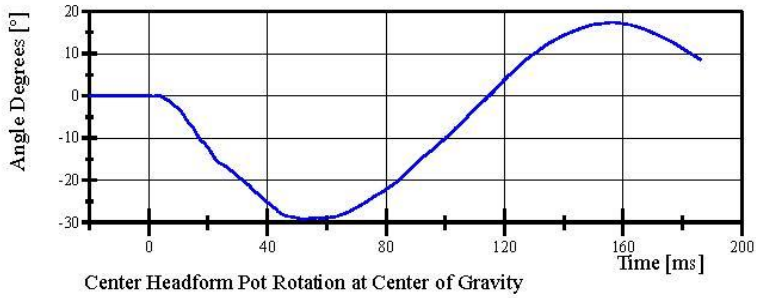
Left Lateral Neck
ES-2re Serial No. F030 Certification No. 102-2
Test Date: 3/20/2025

Forward Pot Rotation at Base of Pendulum



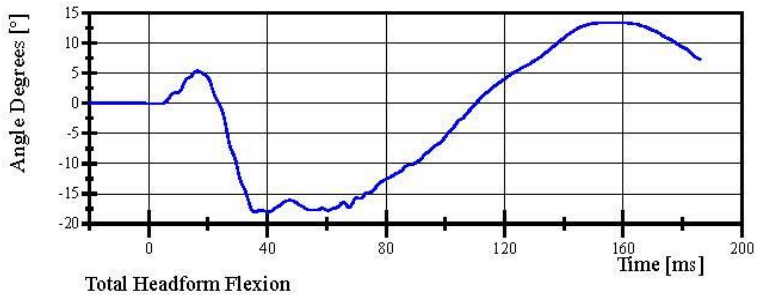
Filter Class: CFC_180
Max: 16.9 ° at 153.0 ms
Min: -35.6 ° at 57.8 ms

Rear Pot Rotation at Base of Pendulum



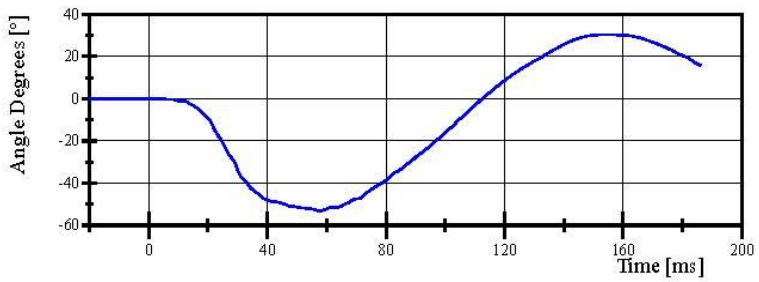
Filter Class: CFC_180
Max: 17.4 ° at 156.5 ms
Min: -29.2 ° at 52.3 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_180
Max: 13.4 ° at 159.5 ms
Min: -18.0 ° at 35.7 ms

Total Headform Flexion



Filter Class: CFC_180
Max: 30.3 ° at 153.3 ms
Min: -53.2 ° at 57.6 ms

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

03.20.2025 10:35:01 1497

Transportation Research Center Inc.

Left Lateral Shoulder
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.23 m/s	Yes
Test Probe Acceleration	(-7.5) - (-10.5) g	-10.48 g	Yes

Test meets specifications.

Condition: Used

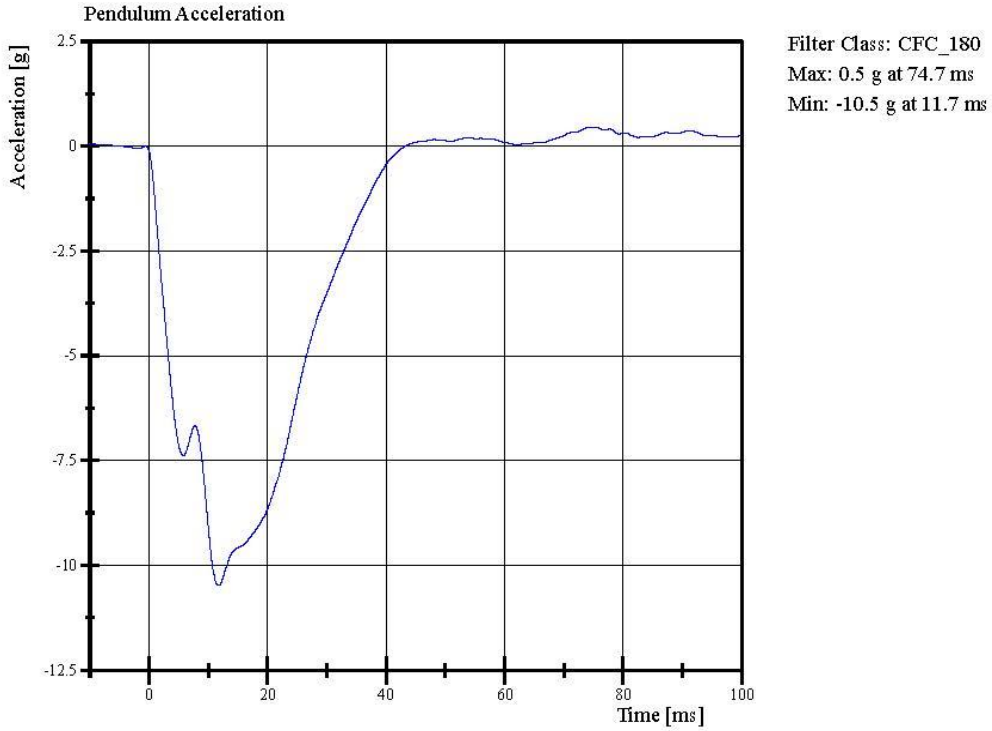
Comments:
Arm S/N: 175-3501-07014

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

03.26.2025 13:40:46 599

Transportation Research Center Inc.

Left Lateral Shoulder
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 0.5 g at 74.7 ms
Min: -10.5 g at 11.7 ms

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

03.26.2025 13:41:21 599

Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	39.2 mm	Yes

Test meets specifications.

Condition: Used

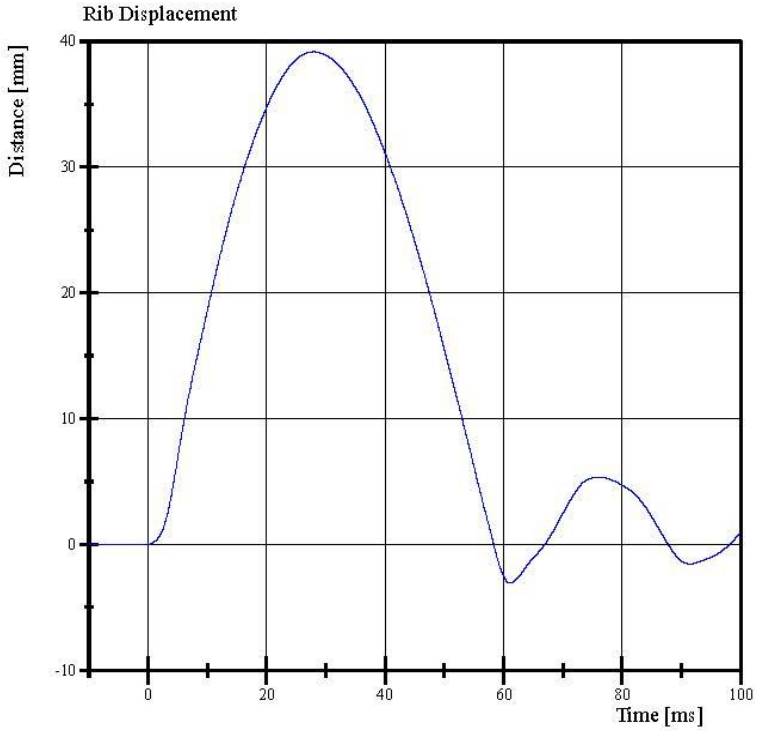
Comments:
Drop Height: 462 mm
Rib Foam S/N: EK6973

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

03.26.2025 11:07:04 628

Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 39.2 mm at 27.9 ms
Min: -3.1 mm at 61.1 ms

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

03.26.2025 11:07:34 628

Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	48.9 mm	Yes

Test meets specifications.

Condition: Used

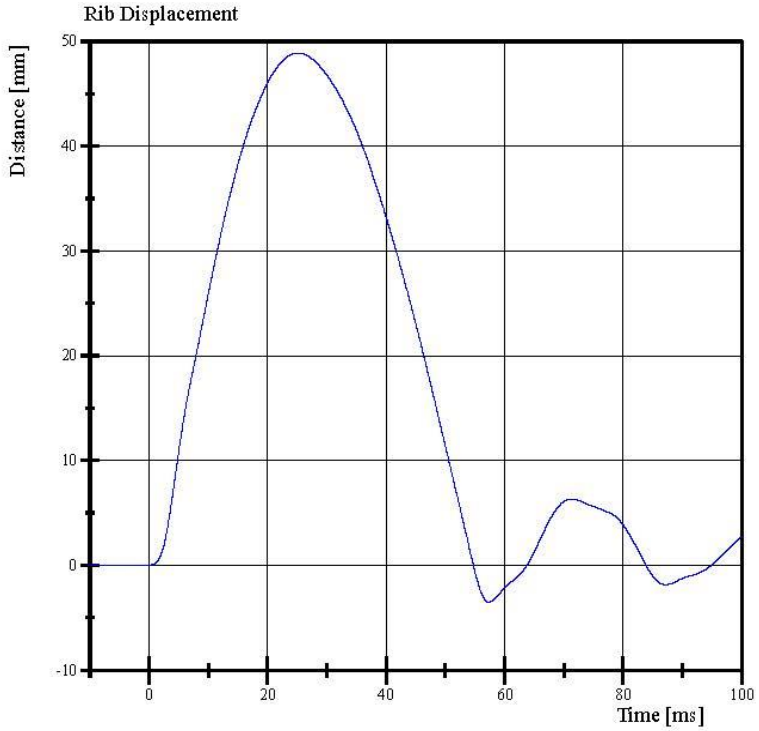
Comments:
Drop Height: 816 mm
Rib Foam S/N: EK6973

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

03.26.2025 10:48:55 507

Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 48.9 mm at 25.2 ms
Min: -3.5 mm at 57.4 ms

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

03.26.2025 10:49:31 507

Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ℃	21.0 ℃	Yes
Relative Humidity	10 - 70 %	39 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	38.6 mm	Yes

Test meets specifications.

Condition: Used

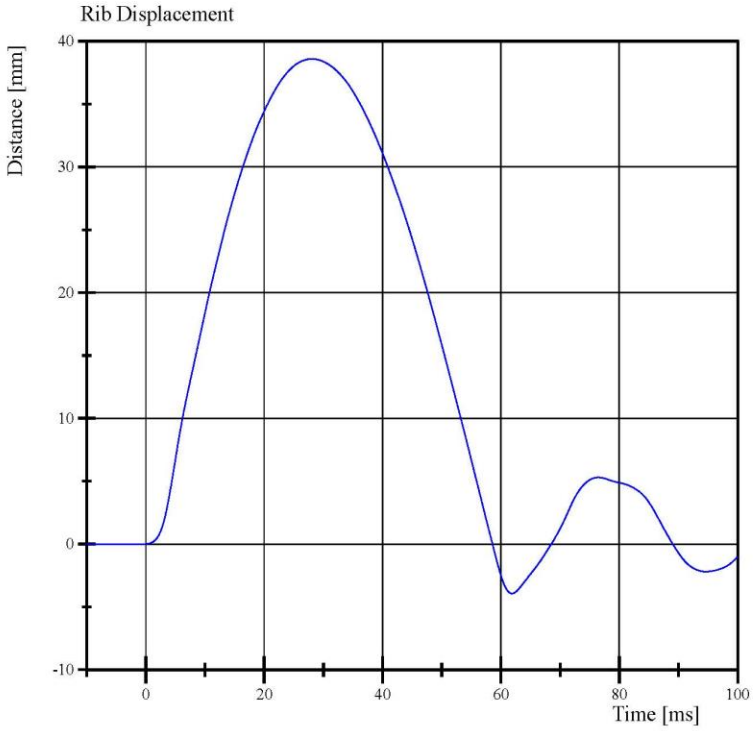
Comments:
Drop Height: 462 mm
Rib Foam S/N: EK6970

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

03.26.2025 11:15:24 643

Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 38.6 mm at 28.1 ms
Min: -3.9 mm at 61.8 ms

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

03.26.2025 11:15:56 643

Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	49.9 mm	Yes

Test meets specifications.

Condition: Used

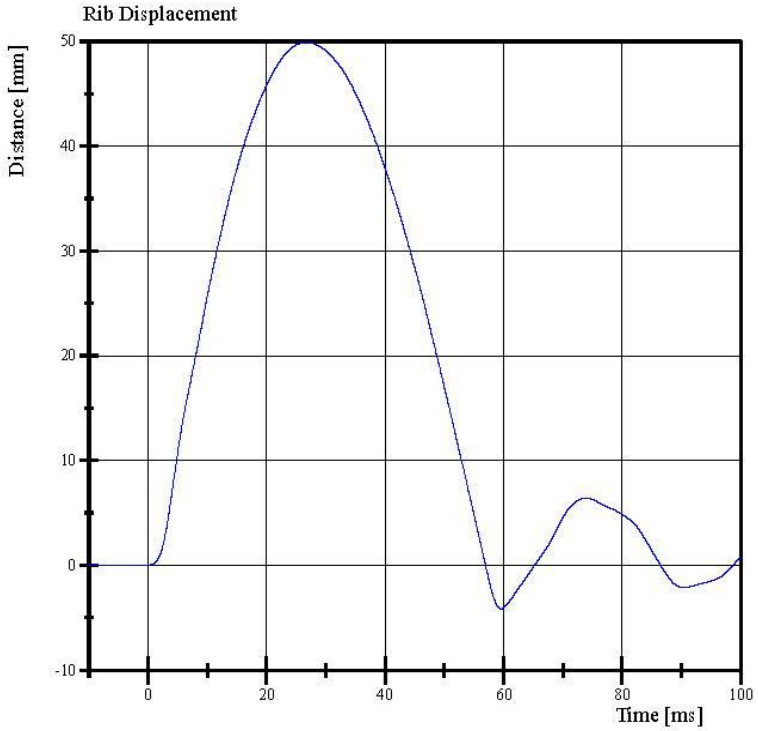
Comments:
Drop Height: 816 mm
Rib Foam S/N: EK6970

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

03.26.2025 11:10:18 507

Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 49.9 mm at 26.7 ms
Min: -4.1 mm at 59.6 ms

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

03.26.2025 11:11:06 507

Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	37.9 mm	Yes

Test meets specifications.

Condition: Used

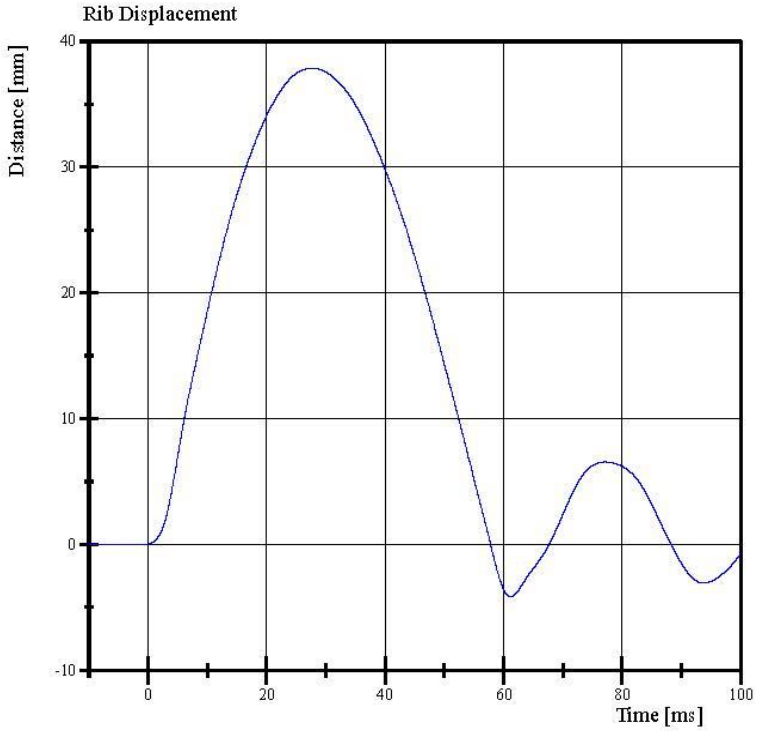
Comments:
Drop Height: 462 mm
Rib Foam S/N: EK6971

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

03.26.2025 11:30:57.612

Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 37.9 mm at 27.7 ms
Min: -4.2 mm at 61.1 ms

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

03.26.2025 11:31:39 612

Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	46.6 mm	Yes

Test meets specifications.

Condition: Used

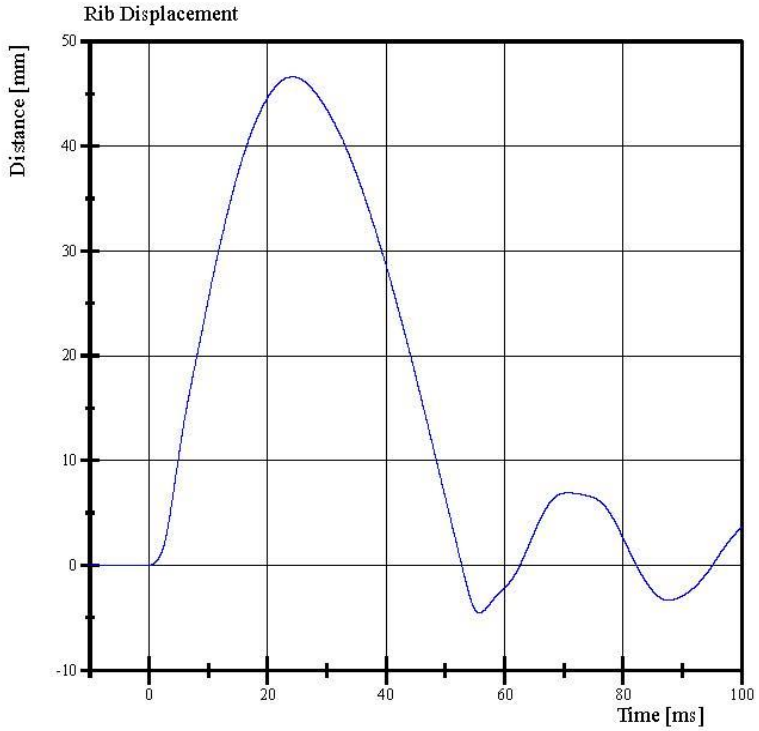
Comments:
Drop Height: 816 mm
Rib Foam S/N: EK6971

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

03.26.2025 11:18:18 519

Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 46.6 mm at 24.2 ms
Min: -4.6 mm at 55.8 ms

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

03.26.2025 11:18:50 519

Transportation Research Center Inc.

Left Lateral Thorax
ES-2re Serial No. F030 Certification No. 102-2
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Impactor Velocity	5.4 - 5.60 m/s	5.441 m/s	Yes
Peak Impactor Force after 6 ms	(-5,100) - (-6,200) N	-5,632.3 N	Yes
Upper Rib Displacement	34 - 41 mm	38.7 mm	Yes
Center Rib Displacement	37 - 45 mm	41.2 mm	Yes
Lower Rib Displacement	37 - 44 mm	40.7 mm	Yes

Test meets specifications.

Condition: Used

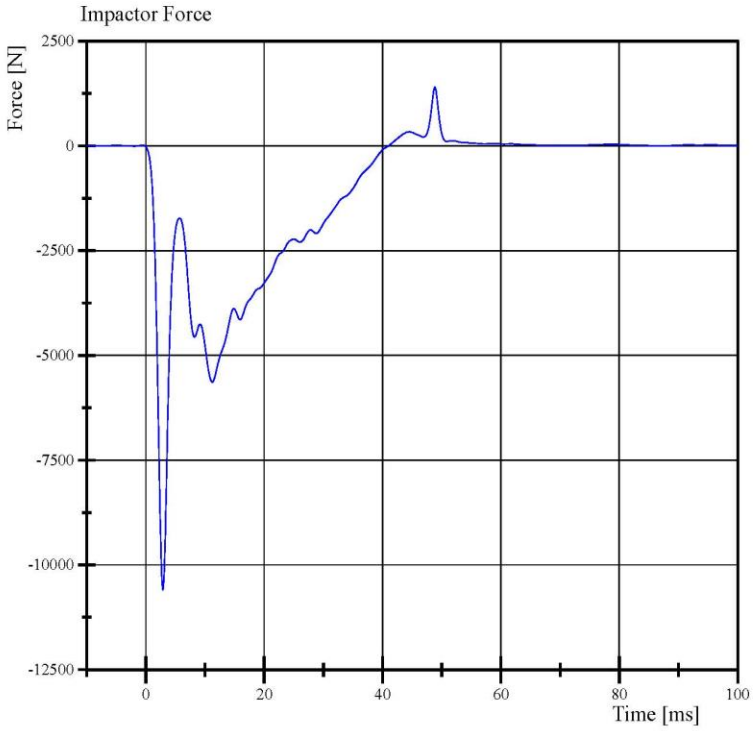
Comments:
Upper Rib Module S/N: 175-4008-A
Upper Rib Foam S/N: 175-4003-EK6973
Middle Rib Module S/N: 175-4008-A
Middle Rib Foam S/N: 175-4003-EK6970
Lower Rib Module S/N: 175-4008-A-06-017
Lower Rib Foam S/N: 175-4008-EK6971

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

03.26.2025 14:57:13 463

Transportation Research Center Inc.

Left Lateral Thorax
ES-2re Serial No. F030 Certification No. 102-2
Test Date: 3/26/2025



Filter Class: CFC_180
Max: 1,401.6 N at 48.9 ms
Min: -10,591.1 N at 2.9 ms

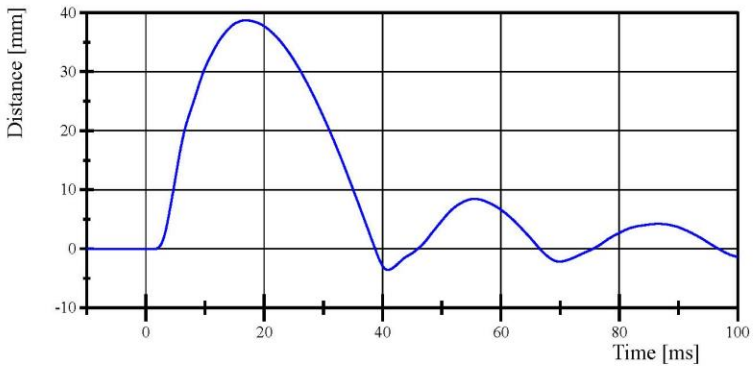
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

03.26.2025 14:57:58 463

Transportation Research Center Inc.

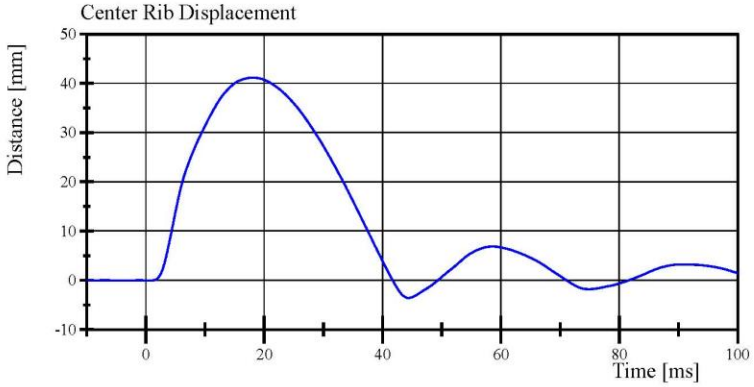
Left Lateral Thorax
ES-2re Serial No. F030 Certification No. 102-2
Test Date: 3/26/2025

Upper Rib Displacement



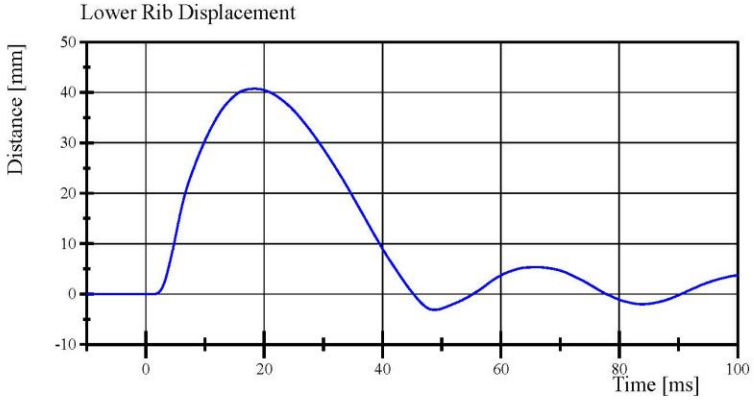
Filter Class: CFC_180
Max: 38.7 mm at 16.9 ms
Min: -3.6 mm at 40.9 ms

Center Rib Displacement



Filter Class: CFC_180
Max: 41.2 mm at 18.1 ms
Min: -3.6 mm at 44.4 ms

Lower Rib Displacement



Filter Class: CFC_180
Max: 40.7 mm at 18.4 ms
Min: -3.1 mm at 48.7 ms

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

03.26.2025 14:57:59 463

Transportation Research Center Inc.

Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/20/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Pendulum Integrated Velocity Change within Corridor	Yes	Yes	Yes
Pendulum Velocity	(-5.95) - (-6.15) m/s	-6.127 m/s	Yes
Maximum Headform Flexion			
Peak	(-45) - (-55) deg	-51.5 deg	Yes
Time of Peak	39 - 53 ms	45.0 ms	Yes
Headform Flexion Decay - Peak to Zero	37 - 57 ms	39.0 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Lumbar S/N: FB7553

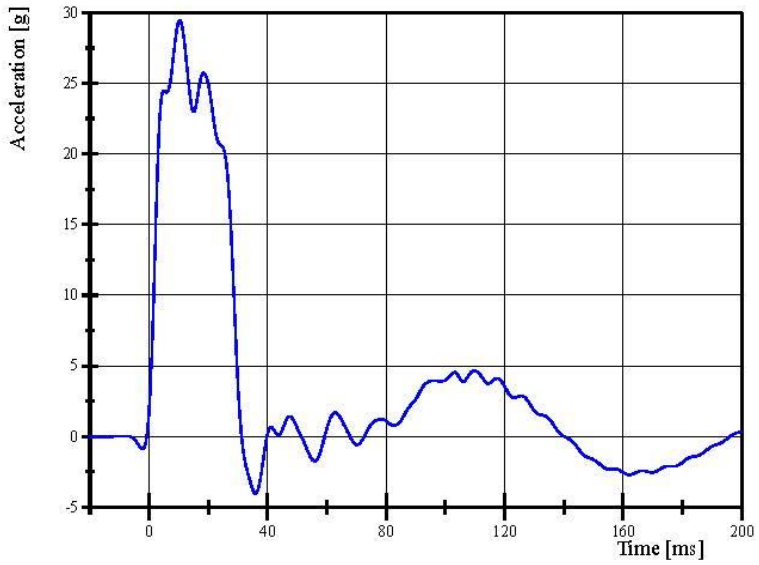
Specification Source: CFR49 Part 572 Subpart U with Polarity in accordance with J211

03.20.2025 11:01:32 671

Transportation Research Center Inc.

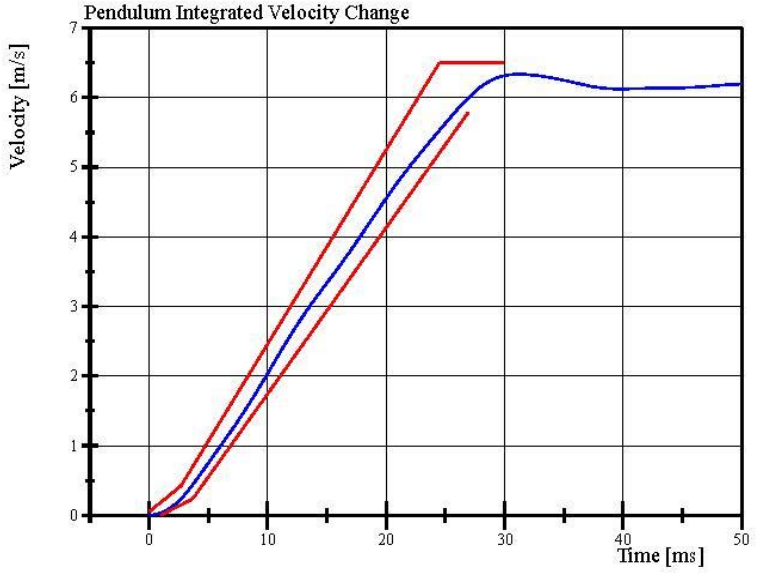
Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/20/2025

Pendulum Acceleration



Filter Class: CFC_60
Max: 29.5 g at 10.3 ms
Min: -4.0 g at 35.9 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_60
Max: 6.3 m/s at 31.2 ms
Min: 0.0 m/s at 0.0 ms

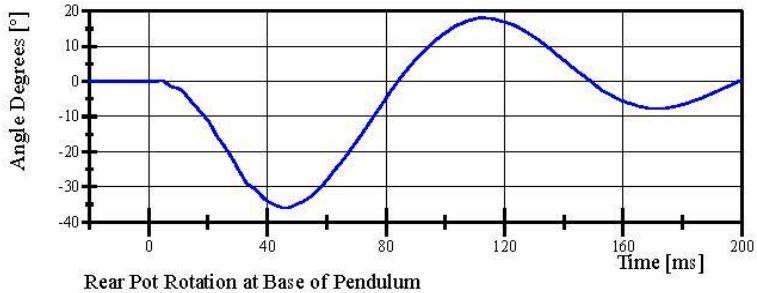
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

03.20.2025 11:02:01 671

Transportation Research Center Inc.

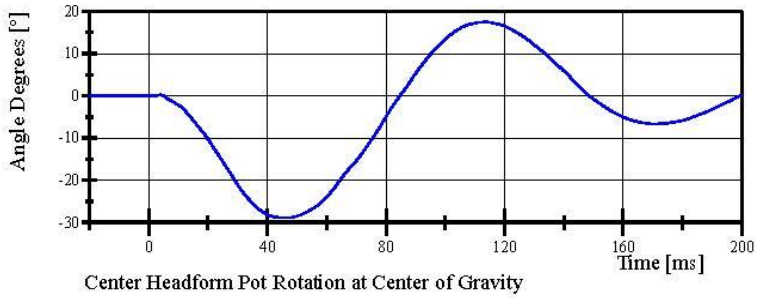
Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/20/2025

Forward Pot Rotation at Base of Pendulum



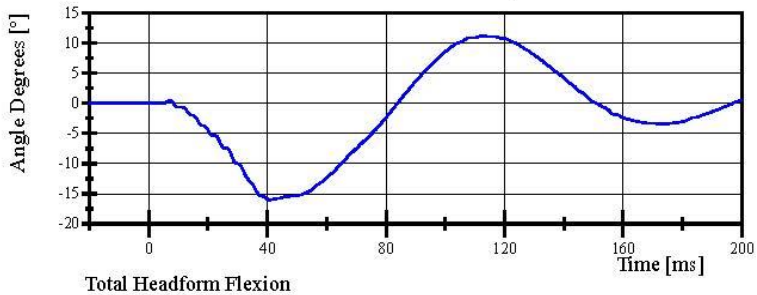
Filter Class: CFC_180
Max: 18.0 ° at 112.2 ms
Min: -36.0 ° at 46.0 ms

Rear Pot Rotation at Base of Pendulum



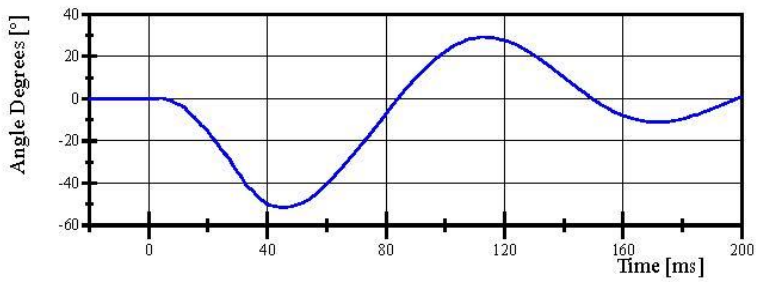
Filter Class: CFC_180
Max: 17.5 ° at 113.5 ms
Min: -28.9 ° at 46.5 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_180
Max: 11.2 ° at 112.5 ms
Min: -16.0 ° at 40.9 ms

Total Headform Flexion



Filter Class: CFC_180
Max: 29.2 ° at 112.4 ms
Min: -51.5 ° at 45.0 ms

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

03.20.2025 11:02:01 671

Transportation Research Center Inc.

Left Lateral Abdomen
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Test Probe Velocity	3.9 - 4.1 m/s	4.07 m/s	Yes
Test Probe Force			
Peak	4,000 - 4,800 N	4,460.4 N	Yes
Time of Peak	10.6 - 13.0 ms	11.04 ms	Yes
Total Abdominal Force			
Peak	2,200 - 2,700 N	2,438.2 N	Yes
Time of Peak	10.0 - 12.3 ms	11.12 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Abdomen S/N: 1066

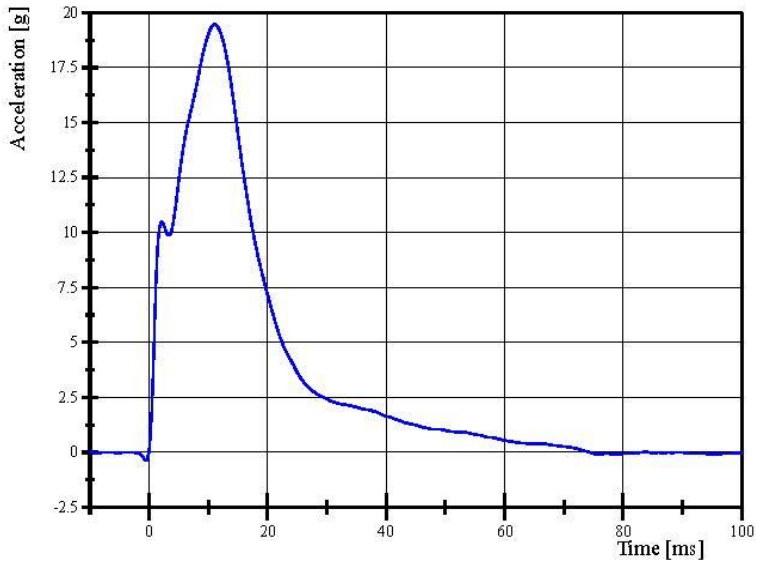
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

03.26.2025 14:22:04 568

Transportation Research Center Inc.

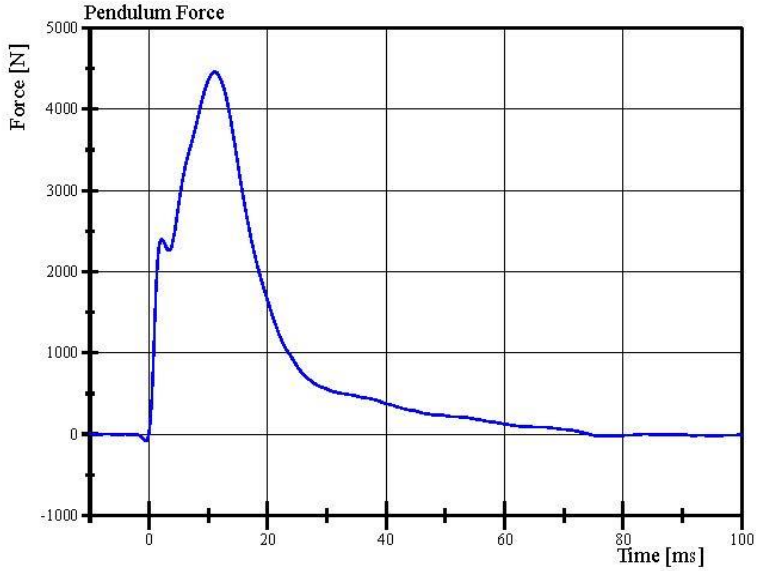
Left Lateral Abdomen
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 19.5 g at 11.0 ms
Min: -0.4 g at -0.6 ms

Pendulum Force



Filter Class: CFC_180
Max: 4,460.4 N at 11.0 ms
Min: -84.4 N at -0.6 ms

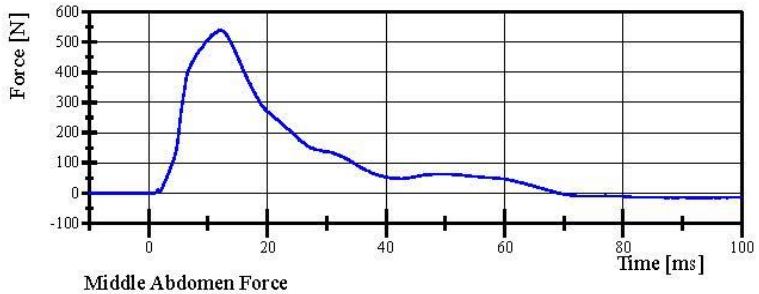
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

03.26.2025 14:22:40 568

Transportation Research Center Inc.

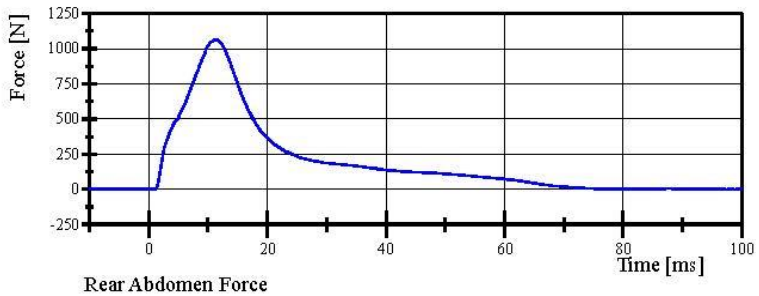
Left Lateral Abdomen
ES-2re Serial No. F030 Certification No. 102-1
Test Date: 3/26/2025

Front Abdomen Force



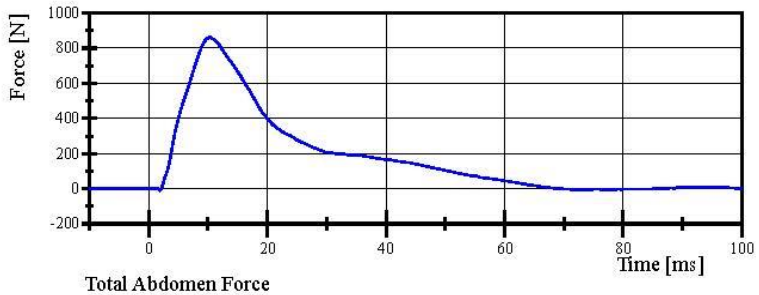
Filter Class: CFC_600
Max: 540.5 N at 11.9 ms
Min: -16.1 N at 91.3 ms

Middle Abdomen Force



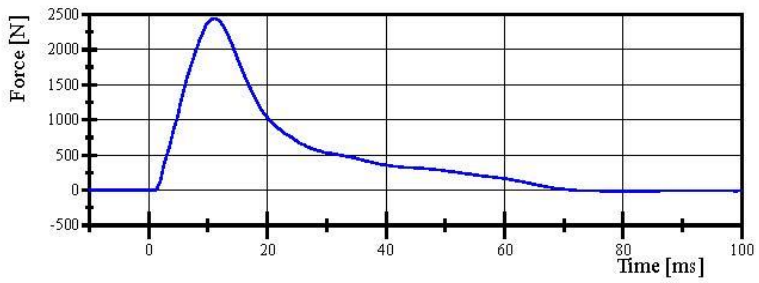
Filter Class: CFC_600
Max: 1,064.2 N at 11.3 ms
Min: -1.6 N at 1.0 ms

Rear Abdomen Force



Filter Class: CFC_600
Max: 861.2 N at 10.3 ms
Min: -10.3 N at 1.9 ms

Total Abdomen Force



Filter Class: CFC_600
Max: 2,438.2 N at 11.1 ms
Min: -16.5 N at 82.2 ms

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

03.26.2025 14:22:40 568

Transportation Research Center Inc.

Left Lateral Pelvis
ES-2re Serial No. F030 Certification No. 102-3
Test Date: 3/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.36 m/s	Yes
Test Probe Force			
Peak	4,700 - 5,400 N	5,299.8 N	Yes
Time of Peak	11.8 - 16.1 ms	12.72 ms	Yes
Pubic Symphysis Force			
Peak	(-1,230) - (-1,590) N	-1,318.4 N	Yes
Time of Peak	12.2 - 17.0 ms	12.72 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Pelvis S/N: NA

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

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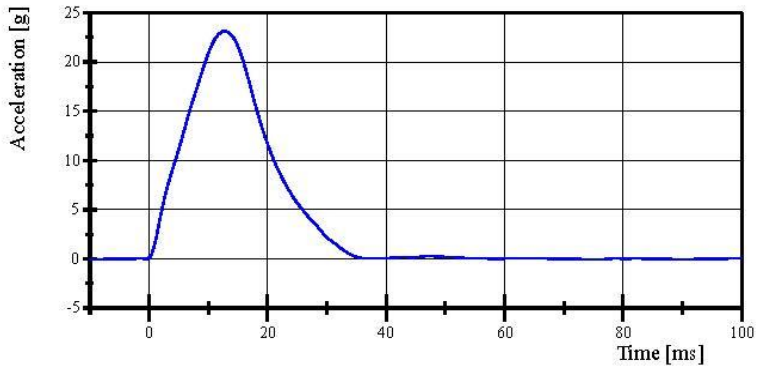
Transportation Research Center Inc.

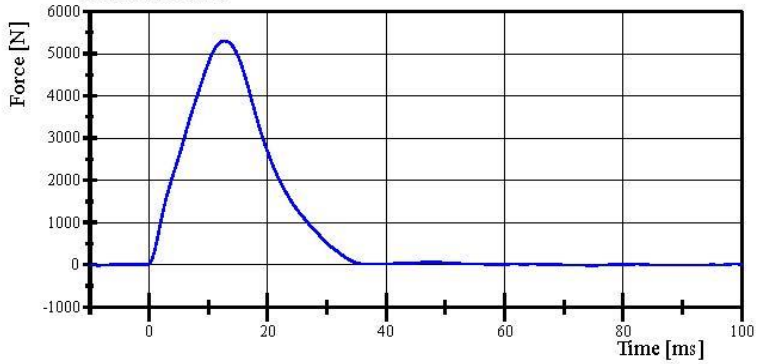
Left Lateral Pelvis
ES-2re Serial No. F030 Certification No. 102-3
Test Date: 3/27/2025

Pendulum Acceleration



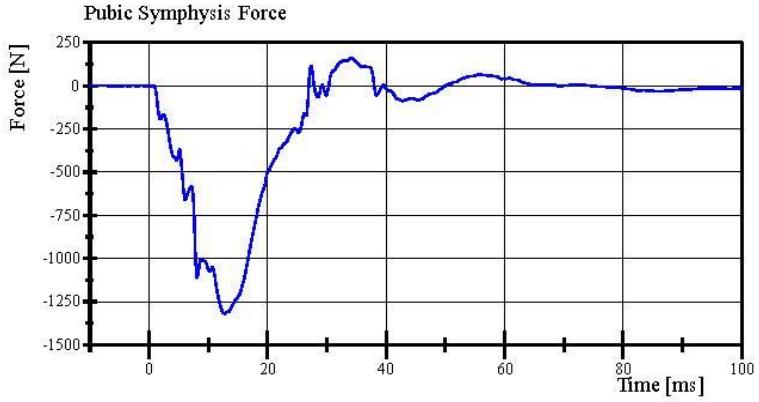
Filter Class: CFC_180
Max: 23.1 g at 12.7 ms
Min: -0.1 g at 75.0 ms

Pendulum Force



Filter Class: CFC_180
Max: 5,299.8 N at 12.7 ms
Min: -16.6 N at 75.0 ms

Pubic Symphysis Force



Filter Class: CFC_600
Max: 158.6 N at 34.2 ms
Min: -1,318.4 N at 12.7 ms

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

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Post-Test Calibration Sheets
Driver S/N F030

Transportation Research Center Inc.
572U ES-2re Dummy
External Dimensions
Serial No. F030 Calibration No. 103

Symbol	Description	Specification	Results	Pass
		mm	mm	
1	Sitting Height	900.0 - 918.0	909	Yes
2	Seat to Shoulder Joint	558.0 - 572.0	560	Yes
3	Seat to Lower Face of Thoracic Spine Box	346.0 - 356.0	347	Yes
4	Seat to Hip Joint (center of bolt)	97.0 - 103.0	98	Yes
5	Sole to Seat, Sitting	433.0 - 451.0	443	Yes
6	Head Width	152.0 - 158.0	154	Yes
7	Shoulder/Arm Width	461.0 - 479.0	475	Yes
8	Thorax Width	322.0 - 332.0	328	Yes
9	Abdomen Width	273.0 - 287.0	279	Yes
10	Pelvis Lap Width	359.0 - 373.0	366	Yes
11	Head Depth	196.0 - 206.0	201	Yes
12	Thorax Depth	262.0 - 272.0	262	Yes
13	Abdomen Depth	194.0 - 204.0	199	Yes
14	Pelvis Depth	235.0 - 245.0	242	Yes
15	Back of Buttocks to Hip Joint (center of bolt)	150.0 - 160.0	156	Yes
16	Back of Buttocks to Front of Knee	597.0 - 615.0	605	Yes

Baseline 10/07/05

Transportation Research Center Inc.

Left Lateral Head Drop
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Peak Resultant Acceleration	125 - 155 g	128.7 g	Yes
Peak Longitudinal Acceleration	(-15) - 15 g	8.0 g	Yes
Is Resultant Acceleration Curve Unimodal within 15% of Main Pulse?	< 15 %	4.26 %	Yes

Test meets specifications.

Condition: Used

Comments:
Head Skin S/N: DP6812

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

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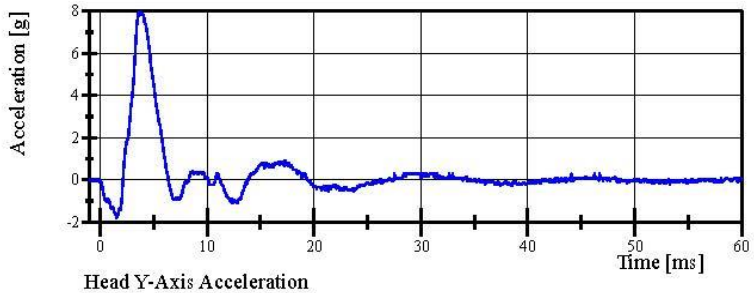
Transportation Research Center Inc.

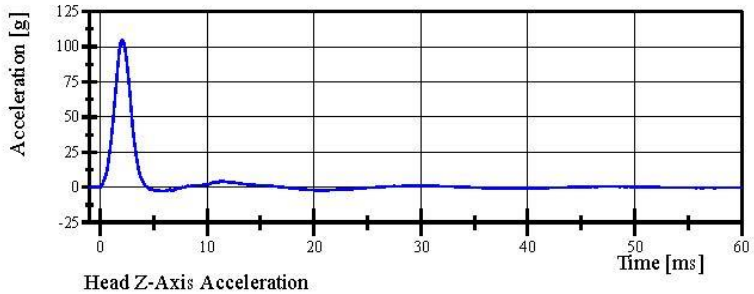
Left Lateral Head Drop
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Head X-Axis Acceleration



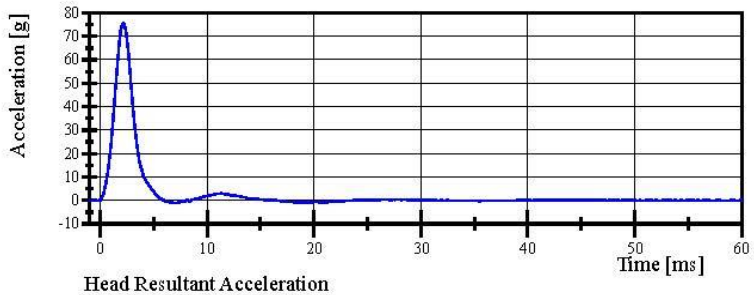
Filter Class: CFC_1000
Max: 8.0 g at 3.7 ms
Min: -1.8 g at 1.5 ms

Head Y-Axis Acceleration



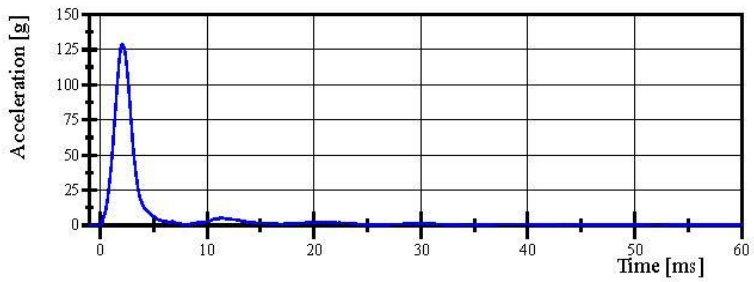
Filter Class: CFC_1000
Max: 104.4 g at 2.1 ms
Min: -2.7 g at 6.0 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 75.6 g at 2.2 ms
Min: -1.1 g at 7.3 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 128.7 g at 2.1 ms
Min: 0.0 g at -0.7 ms

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

04.11.2025 09:22:25 362

Transportation Research Center Inc.

Left Lateral Neck
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Pendulum Integrated Velocity Change within Corridor	Yes	Yes	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.37 m/s	Yes
Maximum Headform Flexion			
Peak	(-49) - (-59) deg	-53.1 deg	Yes
Time of Peak	54 - 66 ms	56.6 ms	Yes
Headform Flexion Decay - Peak to Zero	53 - 88 ms	54.6 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 05053

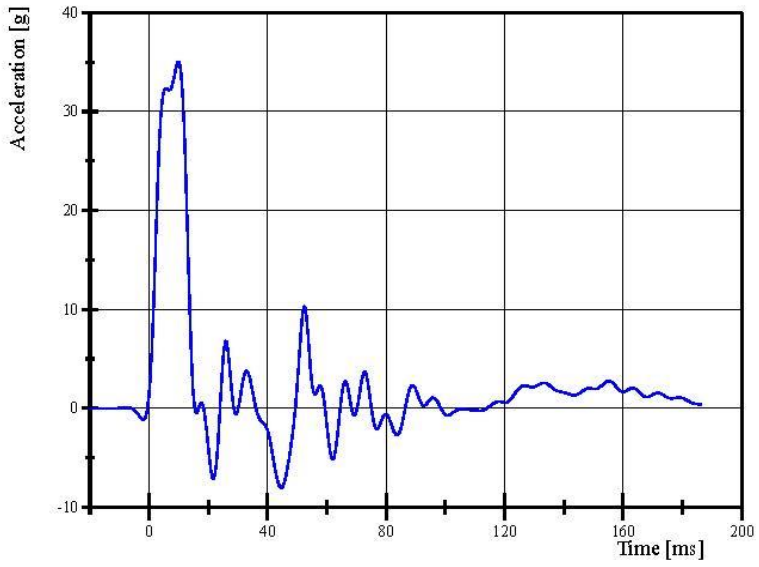
Specification Source: CFR49 Part 572 Subpart U with Polarity in accordance with J211

04.11.2025 09:46:59 1496

Transportation Research Center Inc.

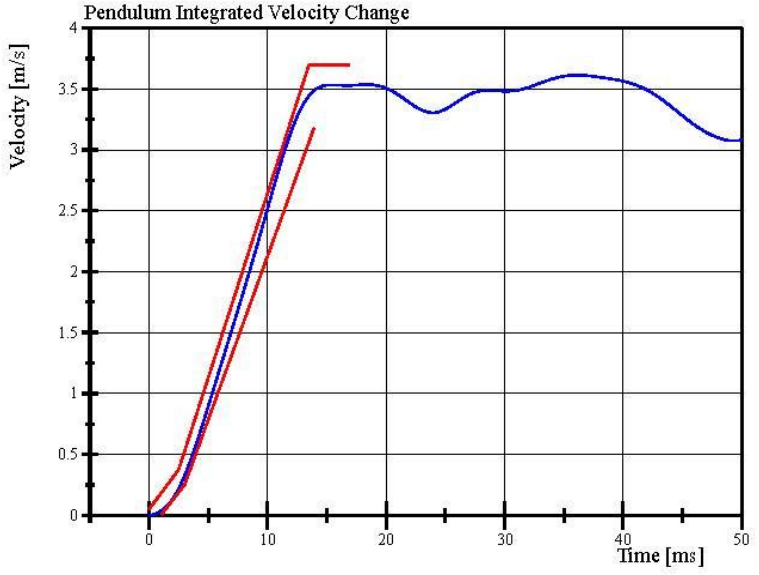
Left Lateral Neck
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Pendulum Acceleration



Filter Class: CFC_60
Max: 35.1 g at 9.9 ms
Min: -8.0 g at 44.6 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_60
Max: 3.6 m/s at 36.1 ms
Min: 0.0 m/s at 0.0 ms

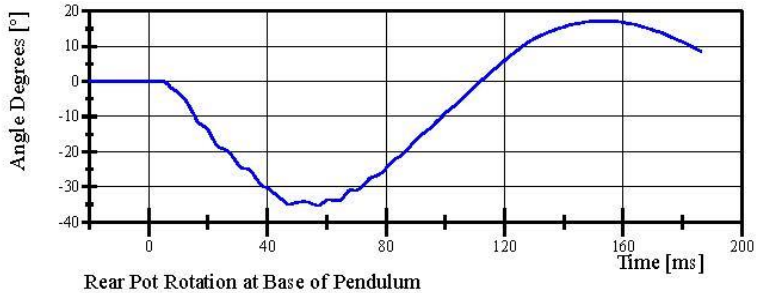
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

04.11.2025 09:47:53 1496

Transportation Research Center Inc.

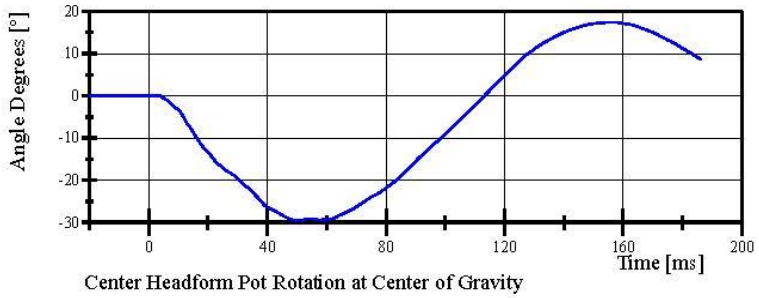
Left Lateral Neck
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Forward Pot Rotation at Base of Pendulum



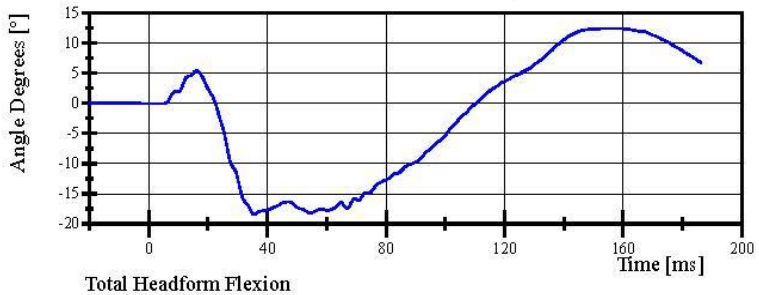
Filter Class: CFC_180
Max: 17.1 ° at 155.9 ms
Min: -35.3 ° at 57.0 ms

Rear Pot Rotation at Base of Pendulum



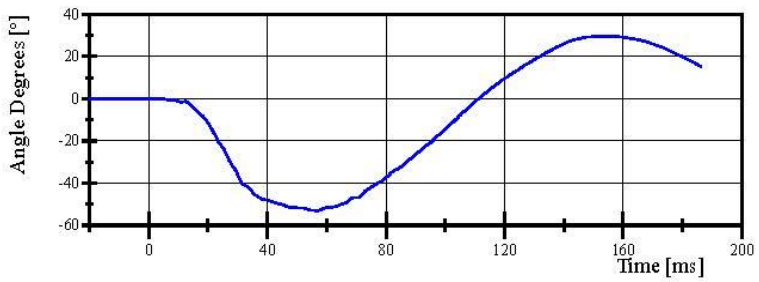
Filter Class: CFC_180
Max: 17.4 ° at 157.0 ms
Min: -29.6 ° at 50.6 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_180
Max: 12.4 ° at 155.5 ms
Min: -18.4 ° at 35.5 ms

Total Headform Flexion



Filter Class: CFC_180
Max: 29.5 ° at 155.9 ms
Min: -53.1 ° at 56.6 ms

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

04.11.2025 09:47:53 1496

Transportation Research Center Inc.

Left Lateral Shoulder
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.23 m/s	Yes
Test Probe Acceleration	(-7.5) - (-10.5) g	-8.79 g	Yes

Test meets specifications.

Condition: Used

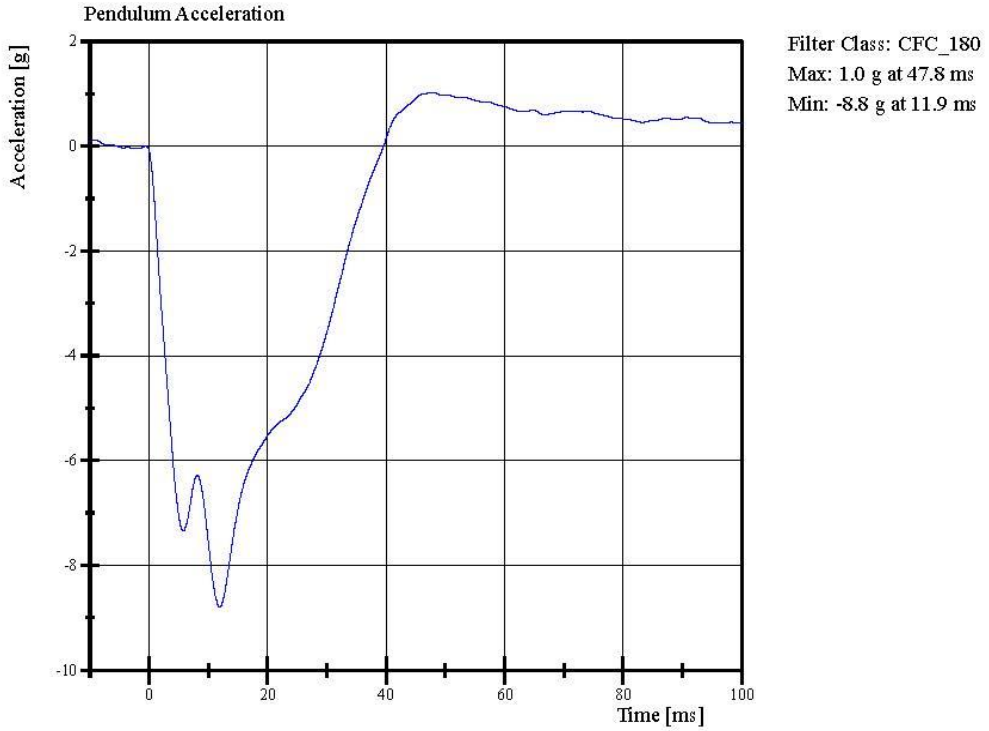
Comments:
Arm S/N: 175-3501-07014

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

04.14.2025 08:57:07 559

Transportation Research Center Inc.

Left Lateral Shoulder
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025



Filter Class: CFC_180
Max: 1.0 g at 47.8 ms
Min: -8.8 g at 11.9 ms

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

04.14.2025 08:57:50 559

Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	40.0 mm	Yes

Test meets specifications.

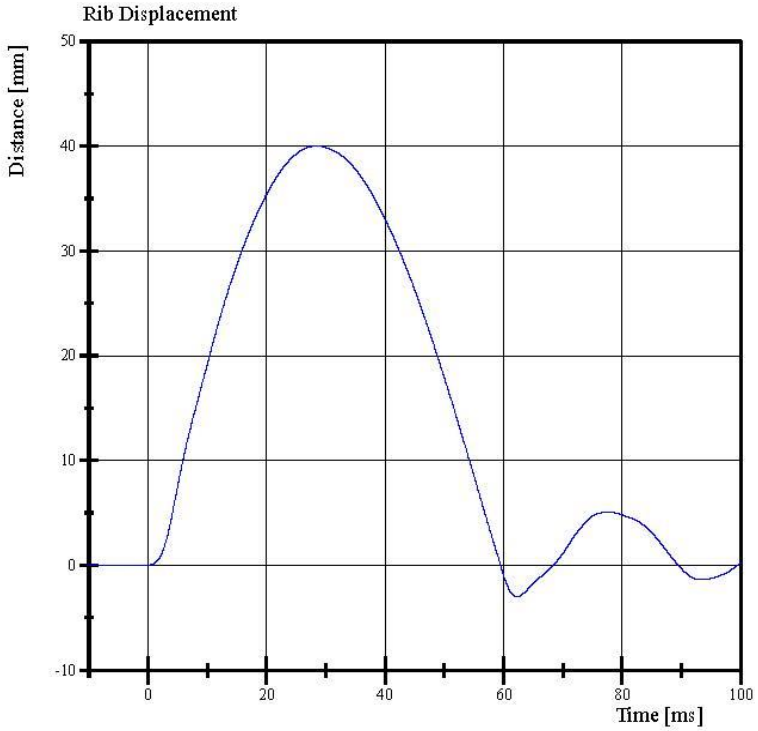
Condition: Used
Comments:
Drop Height: 462 mm
Rib Foam S/N: EK6973

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

04.11.2025 10:38:26.637

Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025



Filter Class: CFC_180
Max: 40.0 mm at 28.5 ms
Min: -3.0 mm at 62.2 ms

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

04.11.2025 10:39:00.637

Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	48.6 mm	Yes

Test meets specifications.

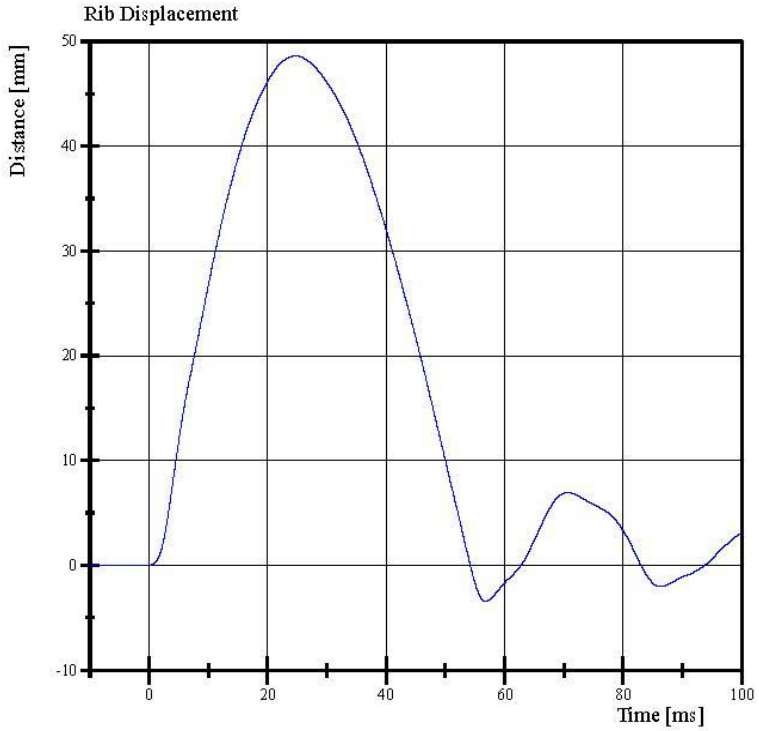
Condition: Used
Comments:
Drop Height: 816 mm
Rib Foam S/N: EK6973

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

04.11.2025 10:33:18 509

Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025



Filter Class: CFC_180
Max: 48.6 mm at 24.7 ms
Min: -3.4 mm at 56.8 ms

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

04.11.2025 10:33:48 509

Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	38.3 mm	Yes

Test meets specifications.

Condition: Used

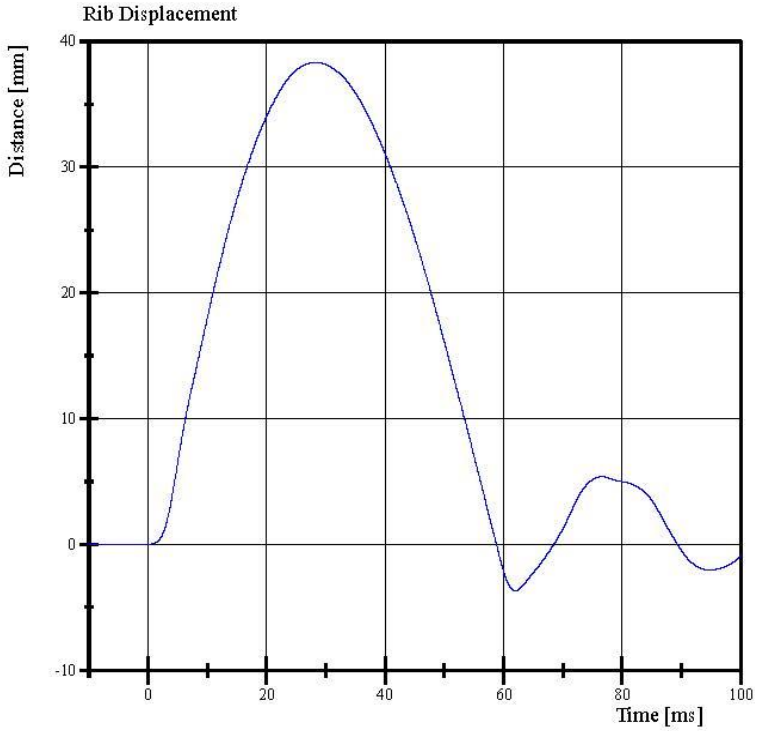
Comments:
Drop Height: 462 mm
Rib Foam S/N: EK6970

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

04.11.2025 10:47:32 618

Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025



Filter Class: CFC_180
Max: 38.3 mm at 28.2 ms
Min: -3.7 mm at 62.0 ms

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

04.11.2025 10:48:11 618

Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	49.4 mm	Yes

Test meets specifications.

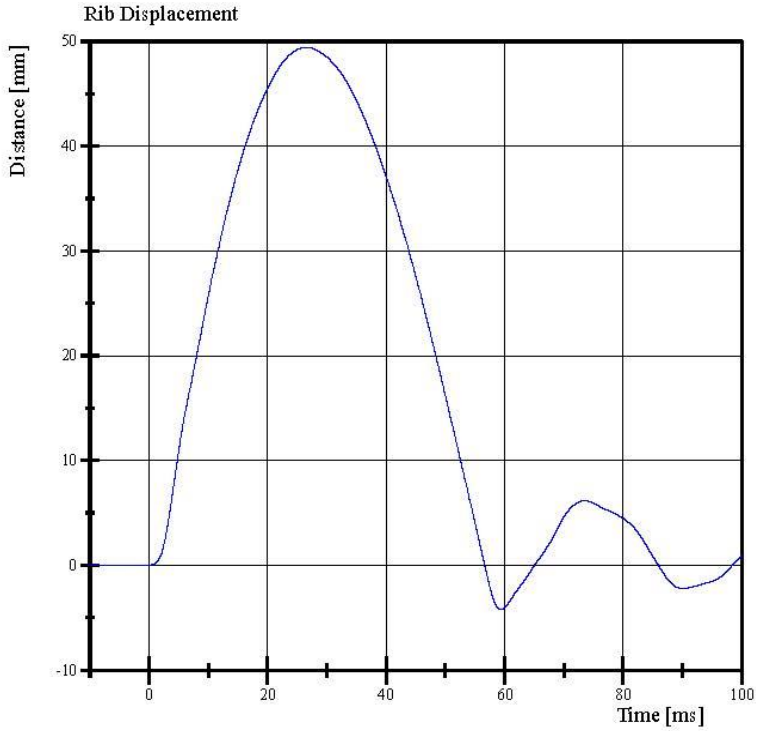
Condition: Used
Comments:
Drop Height: 816 mm
Rib Foam S/N: EK6970

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

04.11.2025 10:41:06 509

Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025



Filter Class: CFC_180
Max: 49.4 mm at 26.6 ms
Min: -4.2 mm at 59.3 ms

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

04.11.2025 10:41:37 509

Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ℃	21.3 ℃	Yes
Relative Humidity	10 - 70 %	38 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	37.8 mm	Yes

Test meets specifications.

Condition: Used

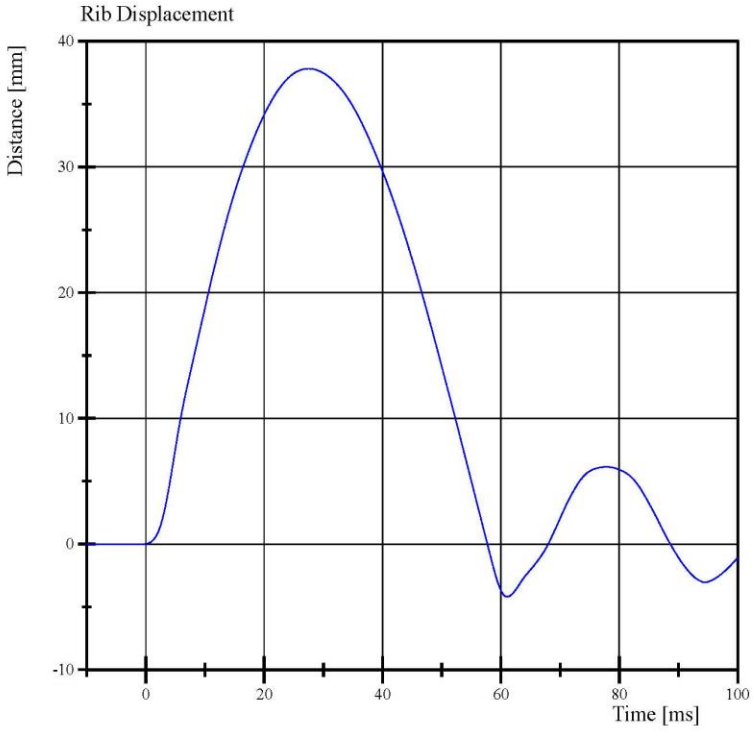
Comments:
Drop Height: 462 mm
Rib Foam S/N: EK6971

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

04.11.2025 10:55:50 632

Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025



Filter Class: CFC_180
Max: 37.8 mm at 27.5 ms
Min: -4.2 mm at 61.0 ms

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

04.11.2025 10:56:35 632

Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	46.5 mm	Yes

Test meets specifications.

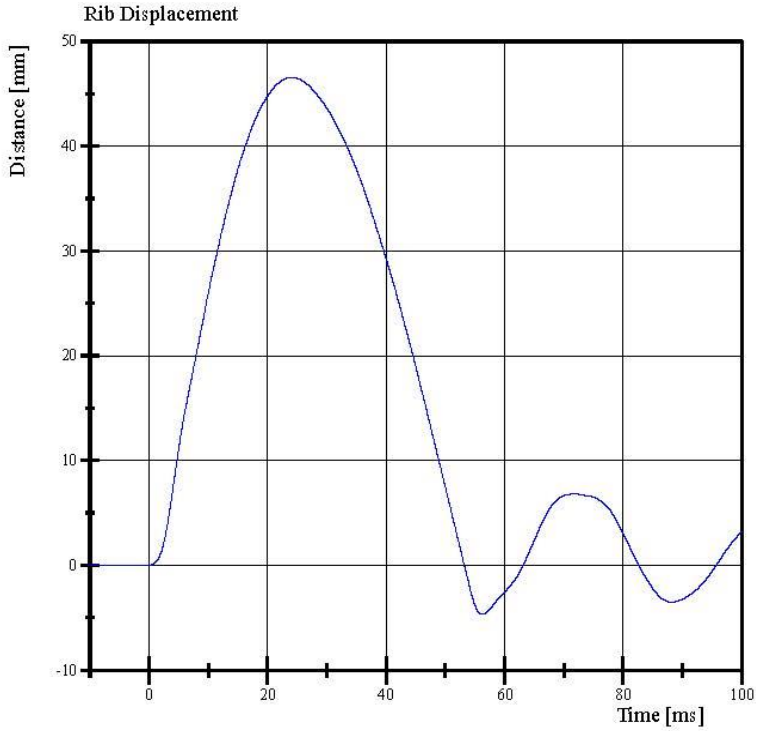
Condition: Used
Comments:
Drop Height: 816 mm
Rib Foam S/N: EK6971

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

04.11.2025 10:50:20 538

Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025



Filter Class: CFC_180
Max: 46.5 mm at 24.1 ms
Min: -4.7 mm at 56.2 ms

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

04.11.2025 10:50:50 538

Transportation Research Center Inc.

Left Lateral Thorax
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Impactor Velocity	5.4 - 5.60 m/s	5.431 m/s	Yes
Peak Impactor Force after 6 ms	(-5,100) - (-6,200) N	-5,878.3 N	Yes
Upper Rib Displacement	34 - 41 mm	39.0 mm	Yes
Center Rib Displacement	37 - 45 mm	40.4 mm	Yes
Lower Rib Displacement	37 - 44 mm	40.2 mm	Yes

Test meets specifications.

Condition: Used

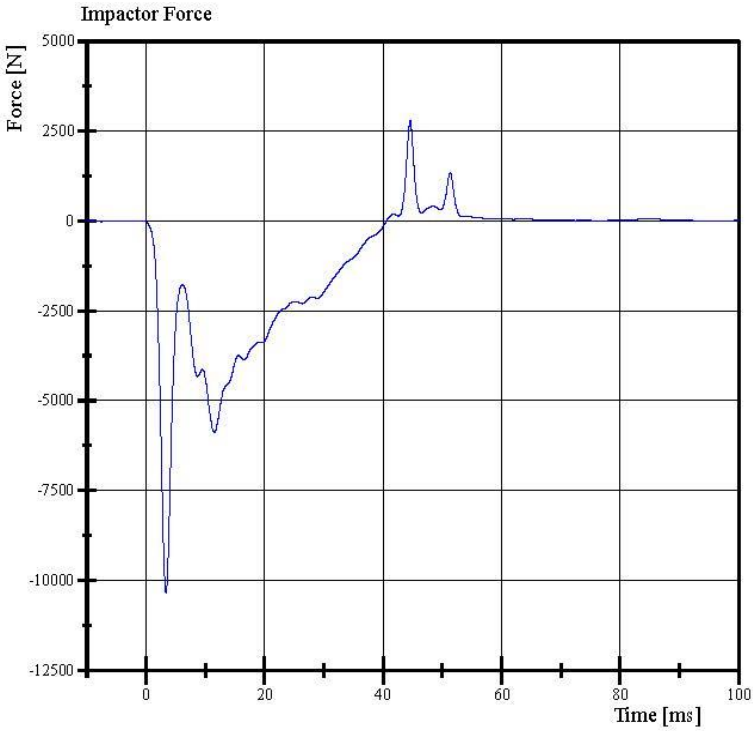
Comments:
Upper Rib Module S/N: 175-4008-A
Upper Rib Foam S/N: 175-4003-EK6973
Middle Rib Module S/N: 175-4008-A
Middle Rib Foam S/N: 175-4003-EK6970
Lower Rib Module S/N: 175-4008-A-06-017
Lower Rib Foam S/N: 175-4008-EK6971

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

04.14.2025 09:13:36 450

Transportation Research Center Inc.

Left Lateral Thorax
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025



Filter Class: CFC_180
Max: 2,793.8 N at 44.6 ms
Min: -10,353.2 N at 3.4 ms

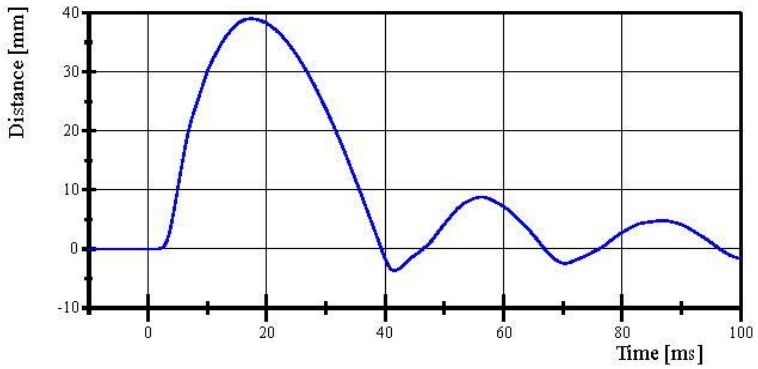
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

04.14.2025 09:14:58 450

Transportation Research Center Inc.

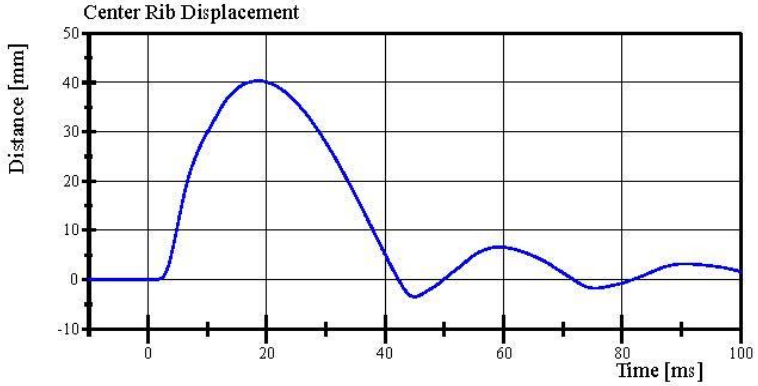
Left Lateral Thorax
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025

Upper Rib Displacement



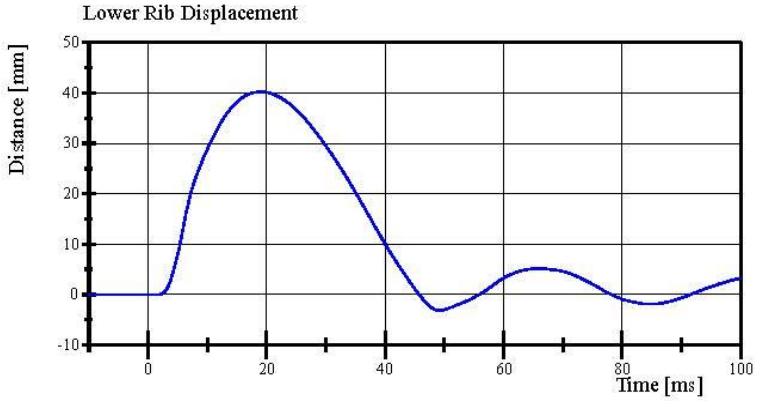
Filter Class: CFC_180
Max: 39.0 mm at 17.4 ms
Min: -3.6 mm at 41.6 ms

Center Rib Displacement



Filter Class: CFC_180
Max: 40.4 mm at 18.6 ms
Min: -3.5 mm at 45.0 ms

Lower Rib Displacement



Filter Class: CFC_180
Max: 40.2 mm at 19.0 ms
Min: -3.2 mm at 49.2 ms

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

04.14.2025 09:14:58 450

Transportation Research Center Inc.

Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Integrated Velocity Change within Corridor	Yes	Yes	Yes
Pendulum Velocity	(-5.95) - (-6.15) m/s	-6.133 m/s	Yes
Maximum Headform Flexion			
Peak	(-45) - (-55) deg	-50.9 deg	Yes
Time of Peak	39 - 53 ms	45.6 ms	Yes
Headform Flexion Decay - Peak to Zero	37 - 57 ms	38.6 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Lumbar S/N: FB7553

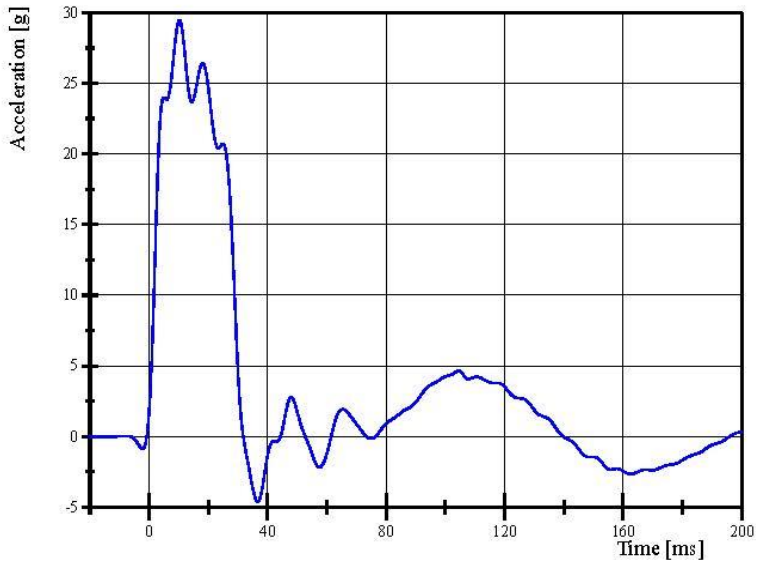
Specification Source: CFR49 Part 572 Subpart U with Polarity in accordance with J211

04.11.2025 10:09:25 671

Transportation Research Center Inc.

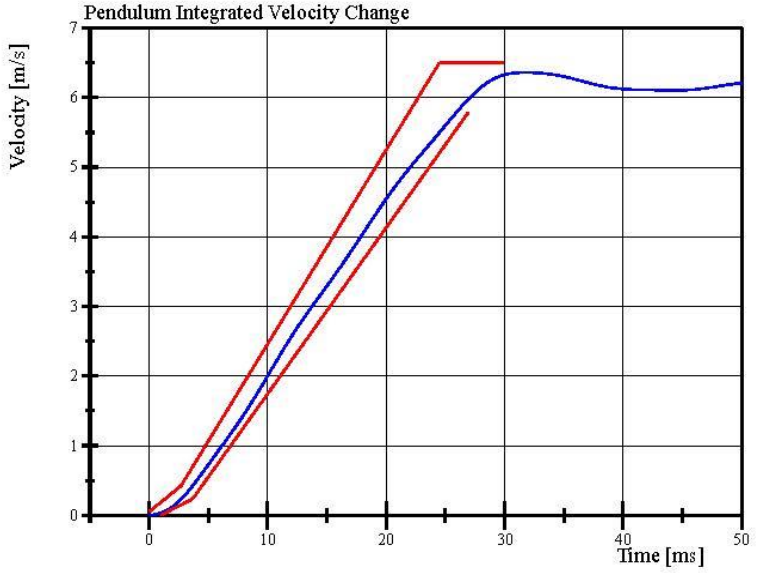
Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Pendulum Acceleration



Filter Class: CFC_60
Max: 29.5 g at 10.2 ms
Min: -4.6 g at 36.6 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_60
Max: 6.4 m/s at 31.8 ms
Min: 0.0 m/s at 0.0 ms

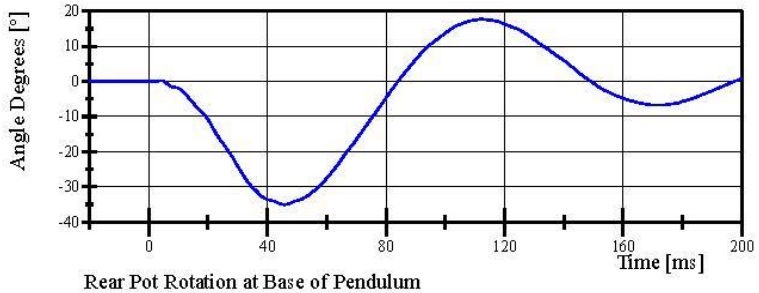
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

04.11.2025 10:09:57 671

Transportation Research Center Inc.

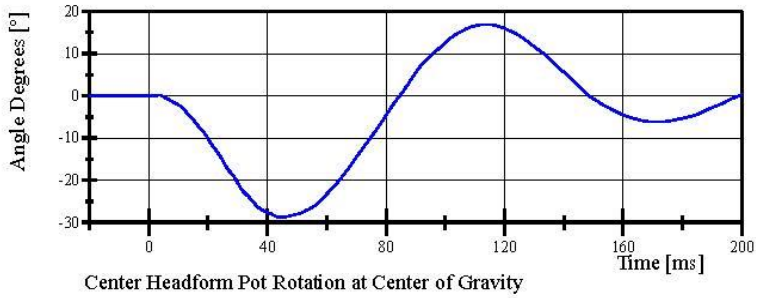
Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/11/2025

Forward Pot Rotation at Base of Pendulum



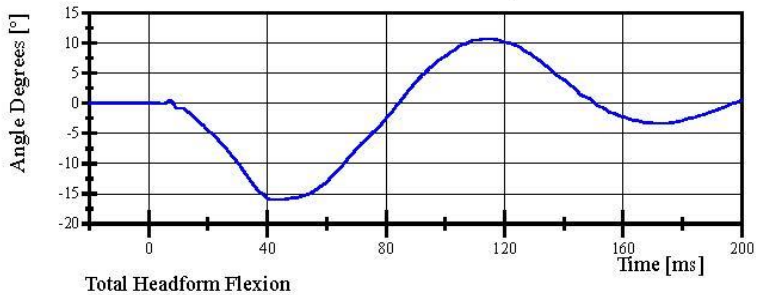
Filter Class: CFC_180
Max: 17.7 ° at 112.1 ms
Min: -35.0 ° at 45.7 ms

Rear Pot Rotation at Base of Pendulum



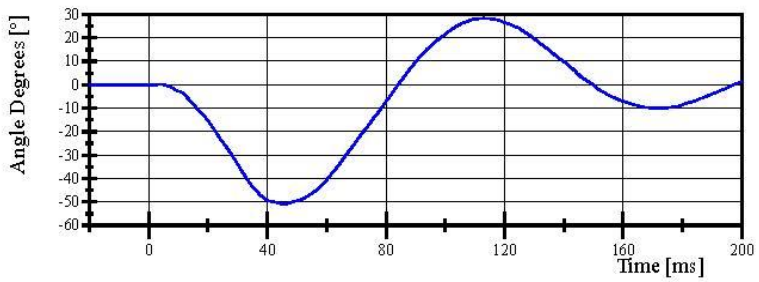
Filter Class: CFC_180
Max: 16.9 ° at 113.4 ms
Min: -28.7 ° at 44.3 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_180
Max: 10.7 ° at 113.7 ms
Min: -16.0 ° at 43.8 ms

Total Headform Flexion



Filter Class: CFC_180
Max: 28.3 ° at 112.9 ms
Min: -50.9 ° at 45.6 ms

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

04.11.2025 10:09:58 671

Transportation Research Center Inc.

Left Lateral Abdomen
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Test Probe Velocity	3.9 - 4.1 m/s	4.07 m/s	Yes
Test Probe Force			
Peak	4,000 - 4,800 N	4,421.6 N	Yes
Time of Peak	10.6 - 13.0 ms	10.88 ms	Yes
Total Abdominal Force			
Peak	2,200 - 2,700 N	2,444.2 N	Yes
Time of Peak	10.0 - 12.3 ms	10.96 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Abdomen S/N: 1066

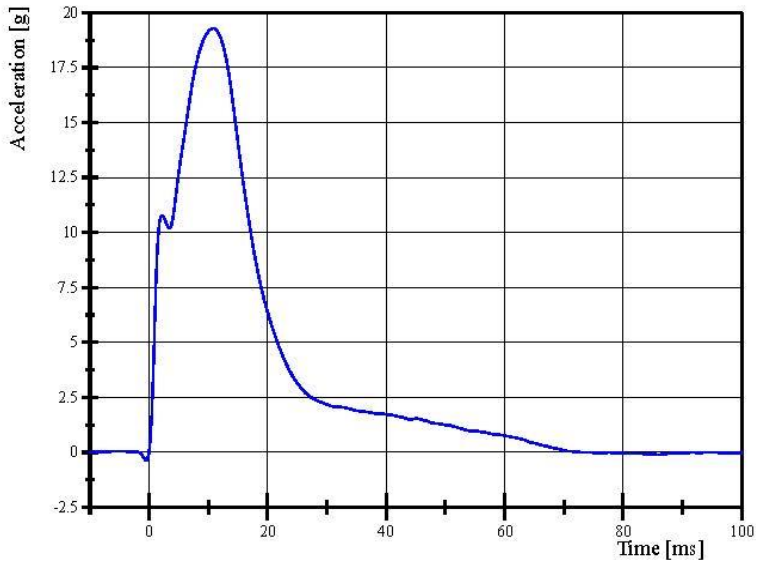
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

04.14.2025 09:36:04 576

Transportation Research Center Inc.

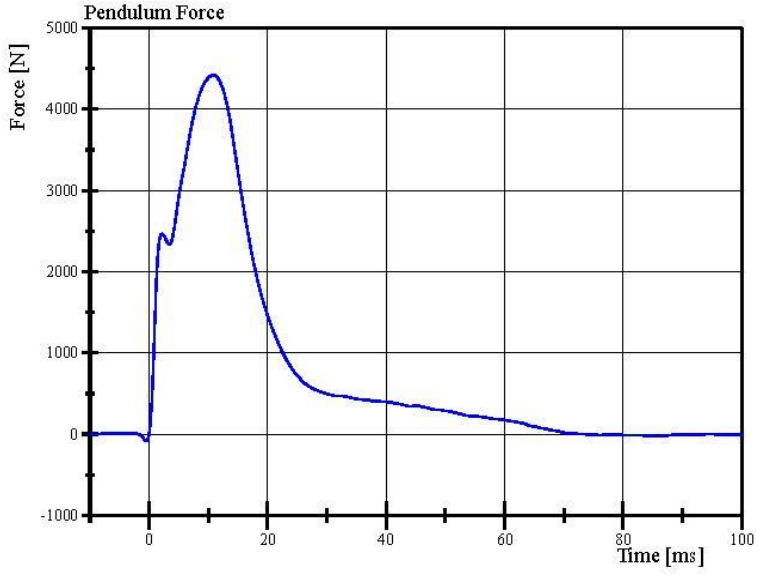
Left Lateral Abdomen
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 19.3 g at 10.9 ms
Min: -0.4 g at -0.5 ms

Pendulum Force



Filter Class: CFC_180
Max: 4,421.6 N at 10.9 ms
Min: -85.2 N at -0.5 ms

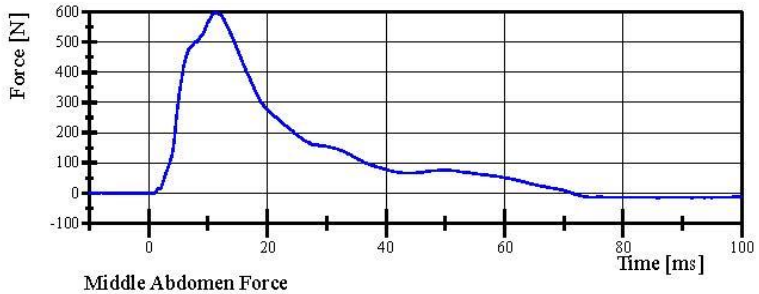
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

04.14.2025 09:36:40 576

Transportation Research Center Inc.

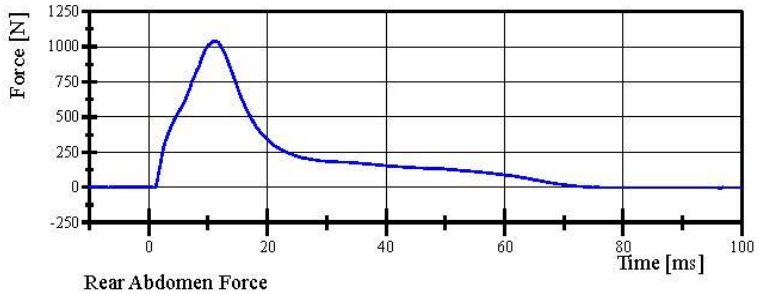
Left Lateral Abdomen
ES-2re Serial No. F030 Certification No. 103-1
Test Date: 4/14/2025

Front Abdomen Force



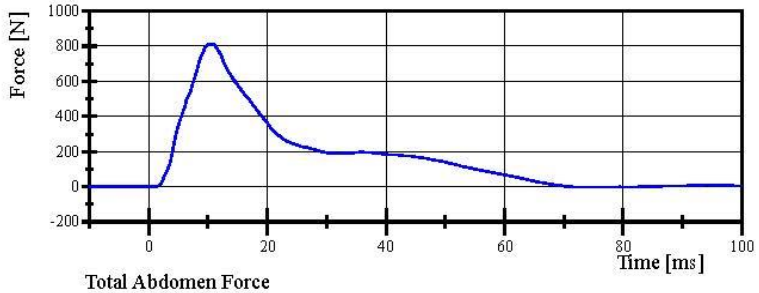
Filter Class: CFC_600
Max: 598.5 N at 11.2 ms
Min: -15.6 N at 85.9 ms

Middle Abdomen Force



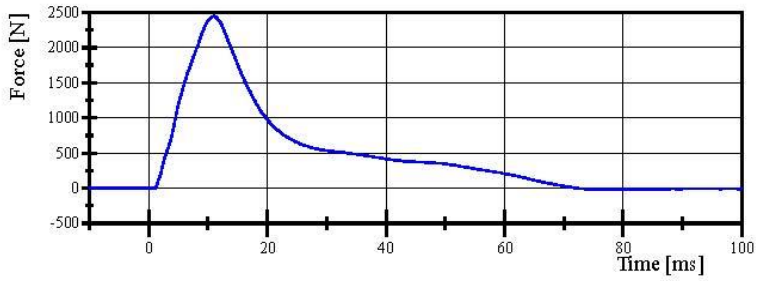
Filter Class: CFC_600
Max: 1,039.5 N at 11.1 ms
Min: -5.6 N at 96.4 ms

Rear Abdomen Force



Filter Class: CFC_600
Max: 812.6 N at 10.7 ms
Min: -3.4 N at 76.3 ms

Total Abdomen Force



Filter Class: CFC_600
Max: 2,444.2 N at 11.0 ms
Min: -18.6 N at 78.1 ms

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

04.14.2025 09:36:41 576

Transportation Research Center Inc.

Left Lateral Pelvis
ES-2re Serial No. F030 Certification No. 103-2
Test Date: 4/14/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.35 m/s	Yes
Test Probe Force			
Peak	4,700 - 5,400 N	5,197.0 N	Yes
Time of Peak	11.8 - 16.1 ms	13.04 ms	Yes
Pubic Symphysis Force			
Peak	(-1,230) - (-1,590) N	-1,338.3 N	Yes
Time of Peak	12.2 - 17.0 ms	13.36 ms	Yes

Test meets specifications.

Condition: Used

Comments:

Pelvis S/N: NA

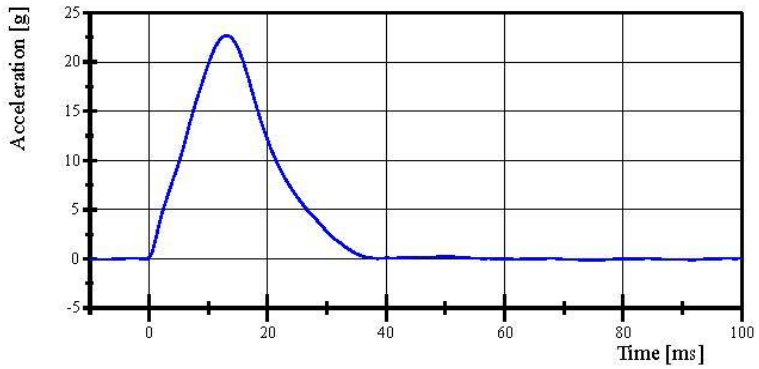
Specification Source: CFR49 Part 572 Subpart U with Polarity in accordance with J211

04.14.2025 10:45:34 555

Transportation Research Center Inc.

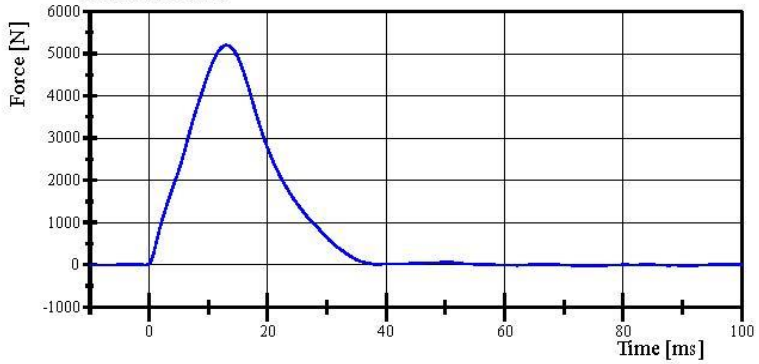
Left Lateral Pelvis
ES-2re Serial No. F030 Certification No. 103-2
Test Date: 4/14/2025

Pendulum Acceleration



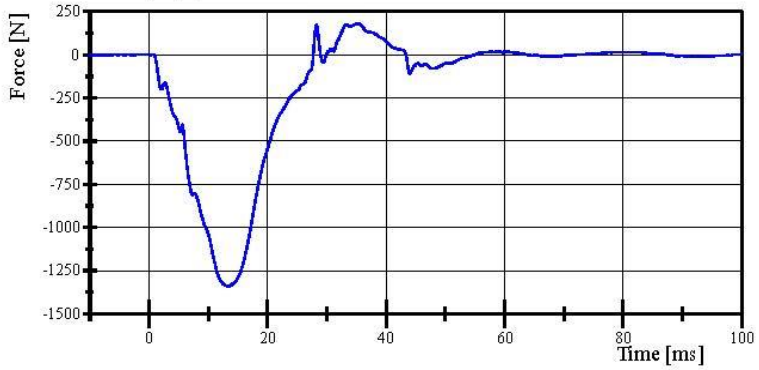
Filter Class: CFC_180
Max: 22.7 g at 13.0 ms
Min: -0.1 g at 73.2 ms

Pendulum Force



Filter Class: CFC_180
Max: 5,197.0 N at 13.0 ms
Min: -21.3 N at 73.2 ms

Pubic Symphysis Force



Filter Class: CFC_600
Max: 179.2 N at 35.3 ms
Min: -1,338.3 N at 13.4 ms

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

04.14.2025 10:46:13 555

Pre-Test Calibration Sheets
Passenger S/N DQ0570

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. DQ0570 Calibration No. 34

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	785	Yes
B	Shoulder Pivot Height	437.0 - 453.0	445	Yes
C	H-Point Height	79.0 - 89.0	83	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	101	Yes
F	Thigh Clearance	119.0 - 135.0	130	Yes
G	Head Breadth	140.0 - 148.0	145	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	184	Yes
J	Head Circumference	541.0 - 551.0	545	Yes
K	Buttock to Knee Length	514.0 - 540.0	533	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	427	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	220	Yes
P	Foot Length (left)	216.0 - 232.0	220	Yes
Q	Hip Breadth	313.0 - 323.0	316	Yes
R	Arm Length	249.0 - 259.0	254	Yes
S	Knee Joint to seat Back	478.0 - 493.0	486	Yes
V	Shoulder Width (only one arm installed)	341.0 - 357.0	349	Yes
W	Foot Width (right)	78.0 - 94.0	84	Yes
W	Foot Width (left)	78.0 - 94.0	84	Yes
Y	Chest Circumference with Jacket	851.0 - 881.0	870	Yes
Z	Waist Circumference	761.0 - 791.0	780	Yes

Transportation Research Center Inc.

Left Lateral Head Drop
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	132.3 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	4.2 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.23 %	Yes

Test meets specifications.

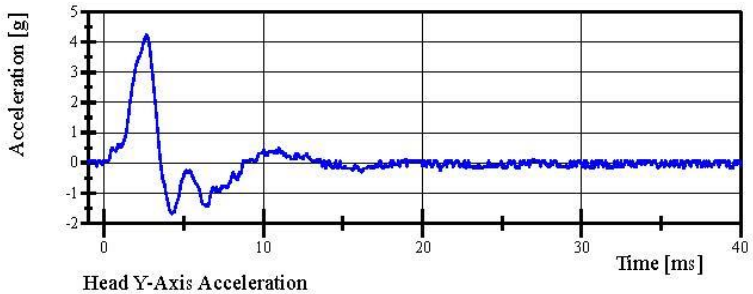
Condition: Used

Comments:
Head Skin S/N: DP8345

Transportation Research Center Inc.

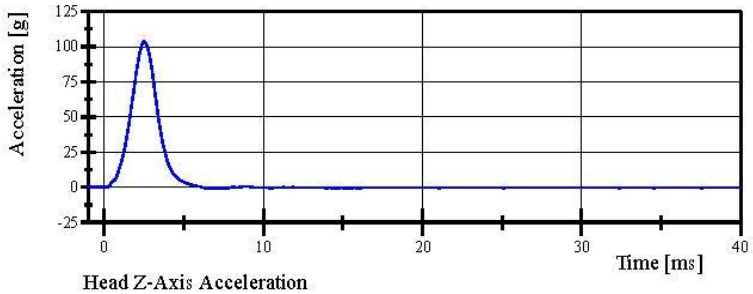
Left Lateral Head Drop
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Head X-Axis Acceleration



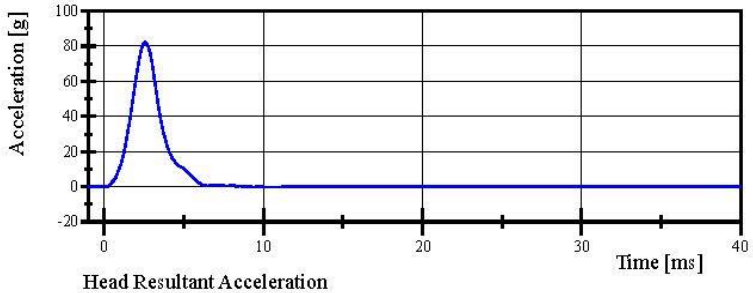
Filter Class: CFC_1000
Max: 4.2 g at 2.6 ms
Min: -1.7 g at 4.2 ms

Head Y-Axis Acceleration



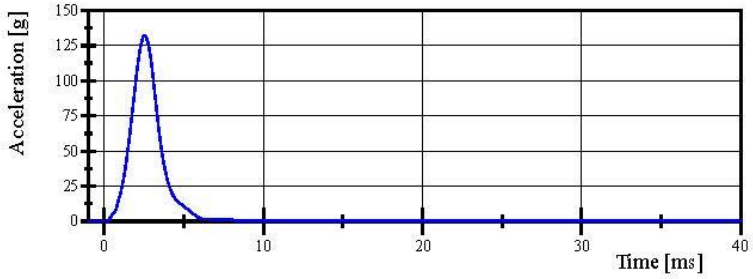
Filter Class: CFC_1000
Max: 103.8 g at 2.5 ms
Min: -0.7 g at 7.1 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 82.3 g at 2.6 ms
Min: -0.2 g at 9.4 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 132.3 g at 2.5 ms
Min: 0.1 g at -0.7 ms

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

03.10.2025 10:38:30 234

Transportation Research Center Inc.

Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 34-6
Test Date: 3/17/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.602 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.341 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.494 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.722 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.720 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.811 m/s	Yes
Maximum Headform Flexion			
Peak	(-71) - (-81) deg	-73.9 deg	Yes
Time of Peak	50 - 70 ms	62.3 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	40.4 N·m	Yes
Decay to 0 N·m	102 - 126 ms	113.8 ms	Yes

Test meets specifications.

Condition: Used

Comments:
Neck S/N: 180-2001717

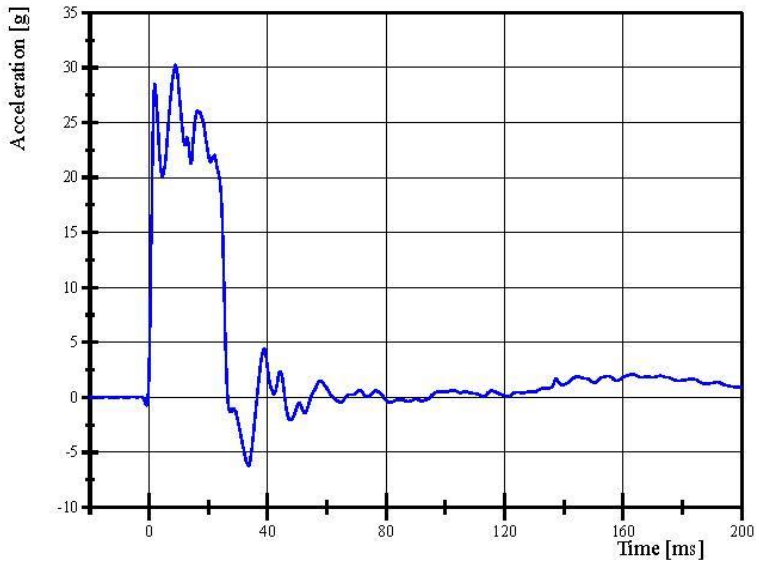
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.17.2025 09:48:34 750

Transportation Research Center Inc.

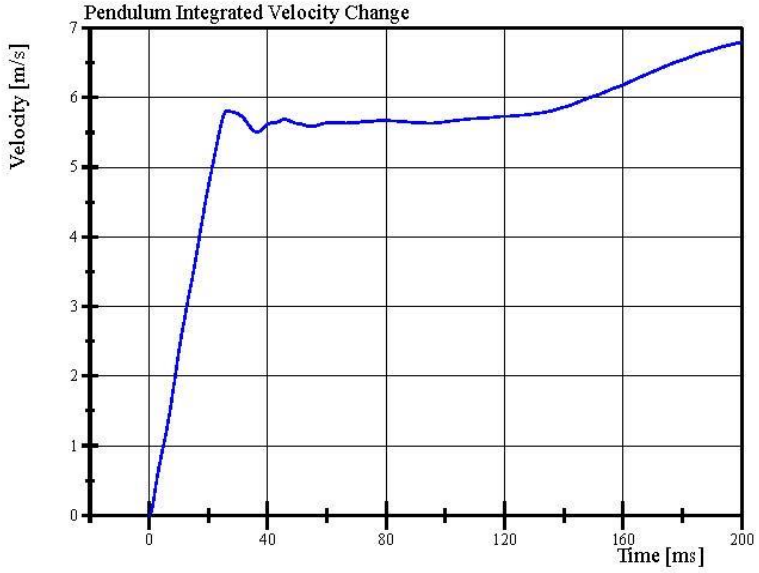
Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 34-6
Test Date: 3/17/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 30.2 g at 8.9 ms
Min: -6.2 g at 33.5 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.8 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

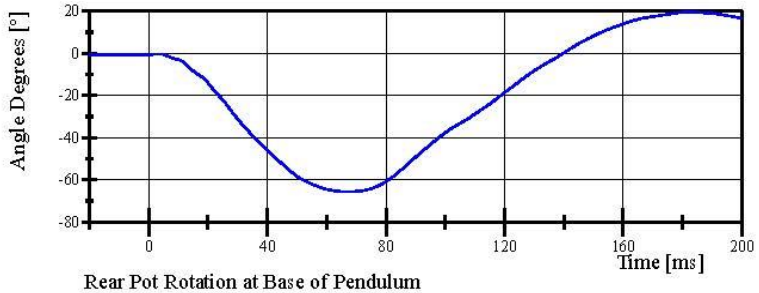
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.17.2025 09:50:57 750

Transportation Research Center Inc.

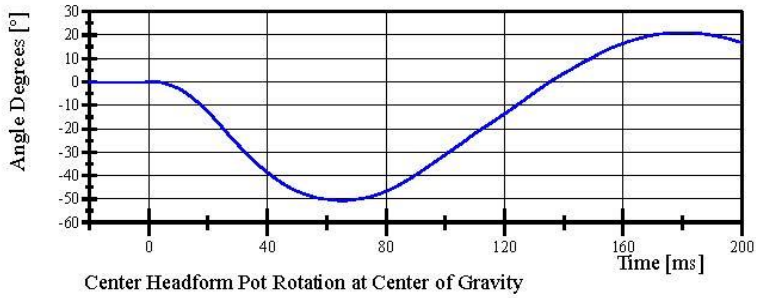
Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 34-6
Test Date: 3/17/2025

Forward Pot Rotation at Base of Pendulum



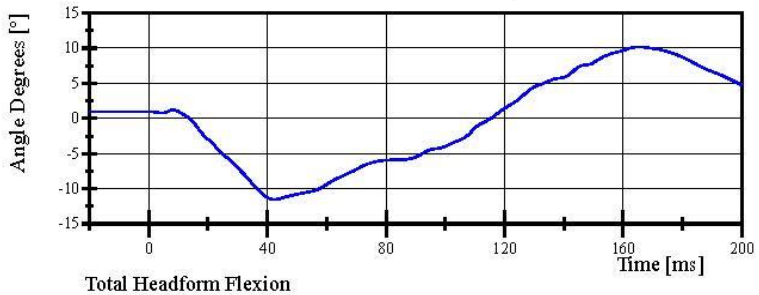
Filter Class: CFC_60
Max: 19.6 ° at 182.3 ms
Min: -65.6 ° at 66.8 ms

Rear Pot Rotation at Base of Pendulum



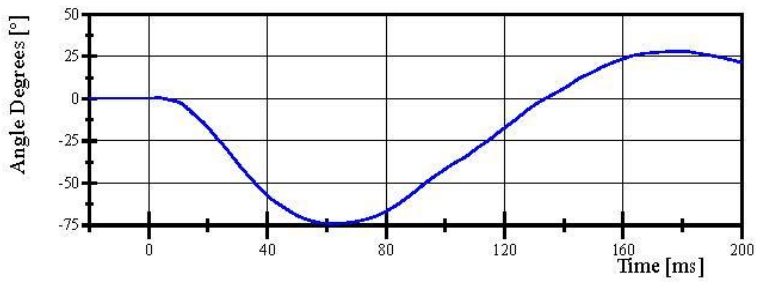
Filter Class: CFC_60
Max: 21.0 ° at 178.9 ms
Min: -50.7 ° at 65.4 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_60
Max: 10.1 ° at 165.4 ms
Min: -11.5 ° at 42.3 ms

Total Headform Flexion



Filter Class: CFC_60
Max: 28.2 ° at 179.3 ms
Min: -73.9 ° at 62.3 ms

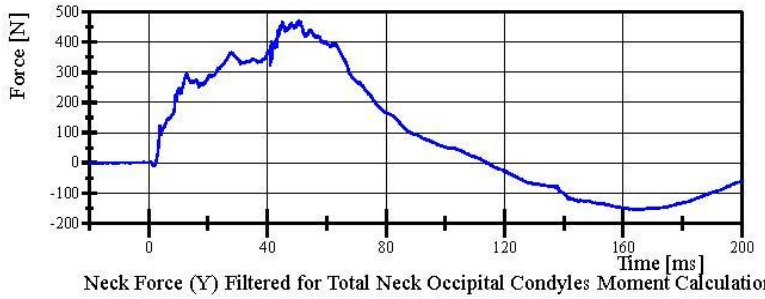
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.17.2025 09:50:57 750

Transportation Research Center Inc.

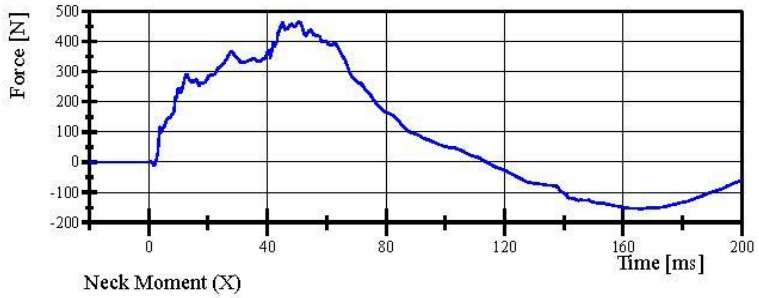
Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 34-6
Test Date: 3/17/2025

Neck Force (Y)



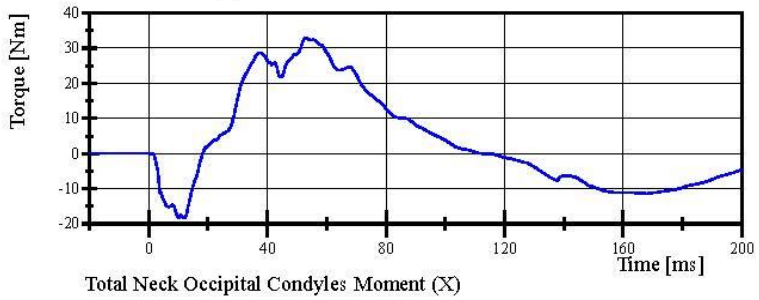
Filter Class: CFC_1000
Max: 471.8 N at 50.6 ms
Min: -155.7 N at 166.2 ms

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



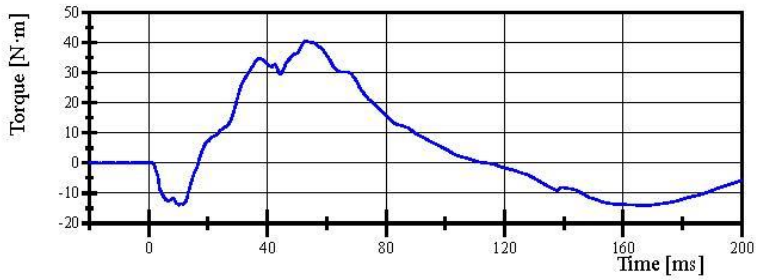
Filter Class: CFC_600
Max: 467.3 N at 50.6 ms
Min: -155.4 N at 166.1 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 32.9 Nm at 53.1 ms
Min: -18.3 Nm at 11.9 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 40.4 N·m at 53.1 ms
Min: -14.1 N·m at 167.8 ms

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

03.17.2025 09:50:58 750

Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.36 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-16.4 g	Yes
Shoulder Displacement	28 - 37 mm	28.4 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	22.0 g	Yes

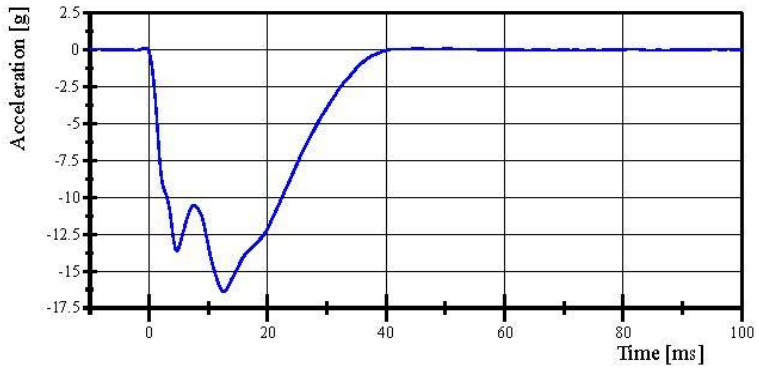
Test meets specifications.

Condition: Used
Comments:
Left Arm S/N: DP8451
Shoulder Rib S/N: 180-3355 DL9246

Transportation Research Center Inc.

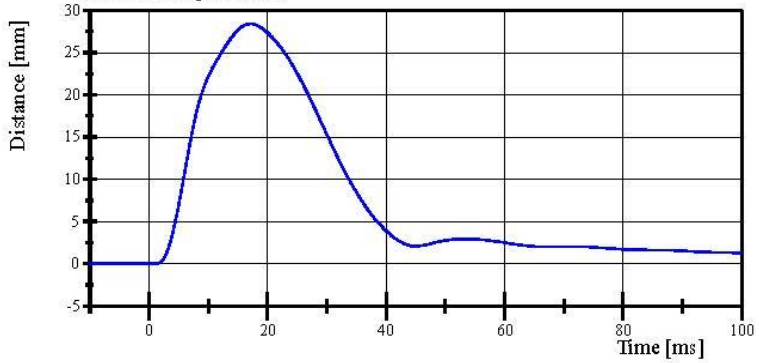
Left Lateral Shoulder
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Probe Acceleration



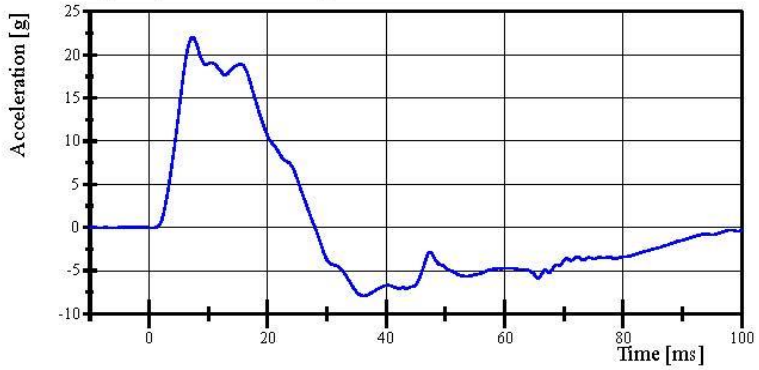
Filter Class: CFC_180
Max: 0.1 g at -0.6 ms
Min: -16.4 g at 12.6 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 28.4 mm at 17.1 ms
Min: -0.0 mm at 1.1 ms

Upper Spine Acceleration (Y)



Filter Class: CFC_180
Max: 22.0 g at 7.4 ms
Min: -7.9 g at 36.2 ms

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

03.10.2025 10:04:25 859

Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 34-3
Test Date: 3/10/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.725 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.7 g	Yes
Shoulder Displacement	31 - 40 mm	32.2 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	26.4 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	30.7 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	34.1 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	39.3 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	35.8 g	Yes

Test meets specifications.

Condition: Used

Comments:
Left Arm S/N: DP8451
Shoulder Rib S/N: 180-3355 DL9246
Upper Thorax Rib S/N: 180-3362 DP6492
Middle Thorax Rib S/N: 180-3362 DP6493
Lower Thorax Rib S/N: 180-3362 DP7664

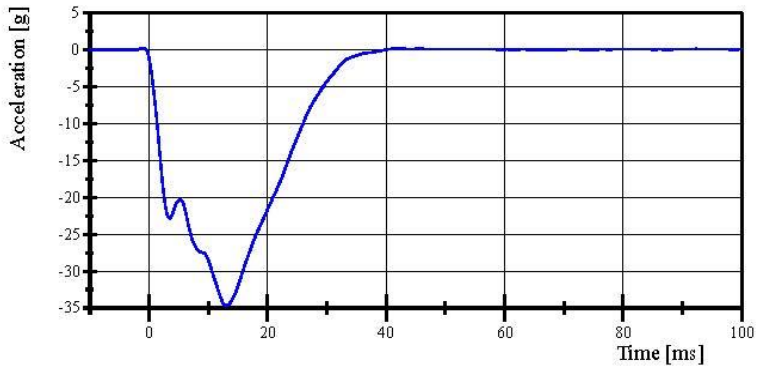
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.10.2025 12:15:35 601

Transportation Research Center Inc.

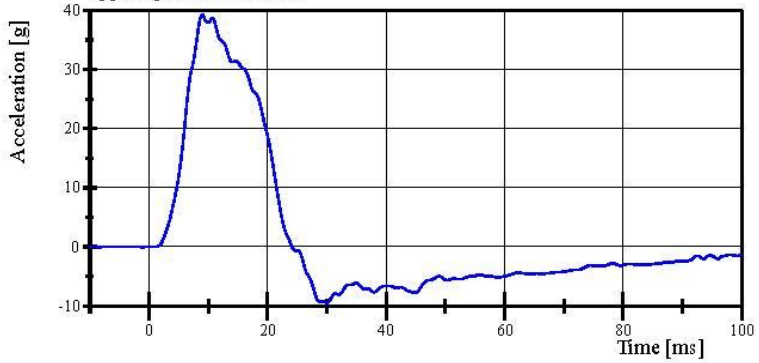
Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 34-3
Test Date: 3/10/2025

Probe Acceleration



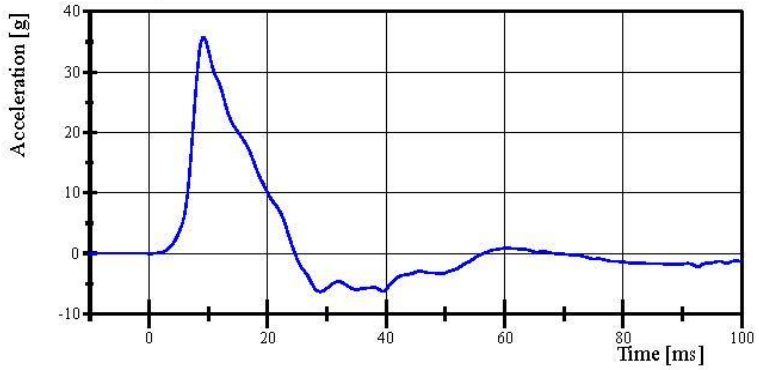
Filter Class: CFC_180
Max: 0.2 g at -1.0 ms
Min: -34.7 g at 13.0 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 39.3 g at 9.0 ms
Min: -9.5 g at 30.1 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 35.8 g at 9.2 ms
Min: -6.3 g at 28.8 ms

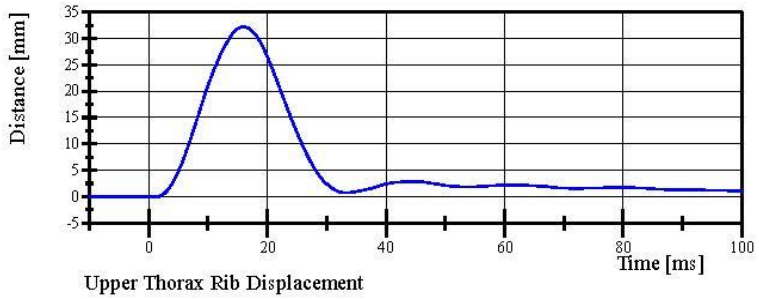
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.10.2025 12:16:56 601

Transportation Research Center Inc.

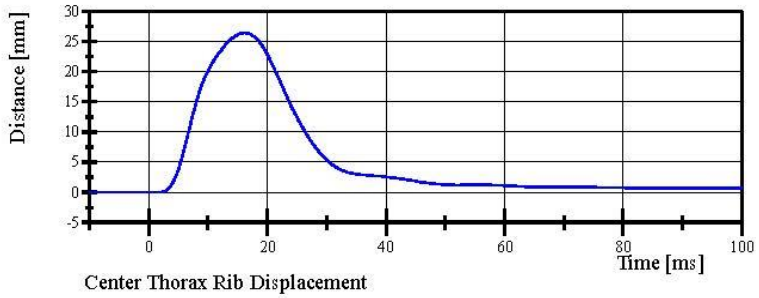
Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 34-3
Test Date: 3/10/2025

Shoulder Rib Displacement



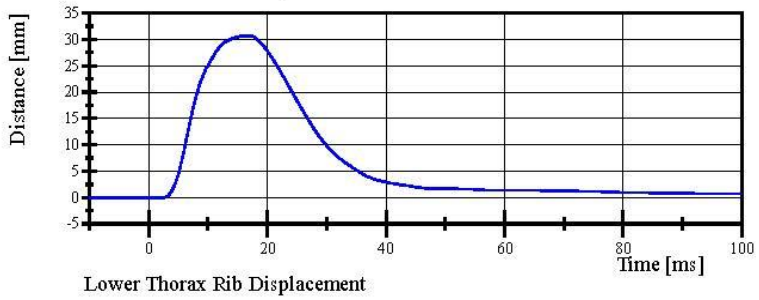
Filter Class: CFC_600
Max: 32.2 mm at 16.0 ms
Min: -0.0 mm at 1.4 ms

Upper Thorax Rib Displacement



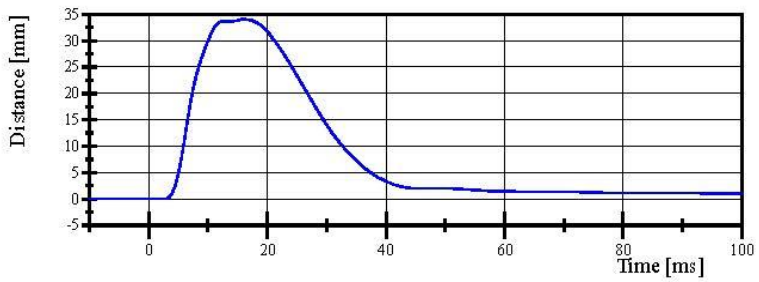
Filter Class: CFC_600
Max: 26.4 mm at 16.2 ms
Min: -0.0 mm at -8.2 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 30.7 mm at 16.5 ms
Min: -0.0 mm at 2.5 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 34.1 mm at 15.9 ms
Min: -0.0 mm at 2.5 ms

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

03.10.2025 12:16:57 601

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.250 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-16.1 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	35.1 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	40.4 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	38.1 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.3 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.7 g	Yes

Test meets specifications.

Condition: Used
Comments:
Upper Thorax Rib S/N: 180-3362 DP6492
Middle Thorax Rib S/N: 180-3362 DP6493
Lower Thorax Rib S/N: 180-3362 DP7664

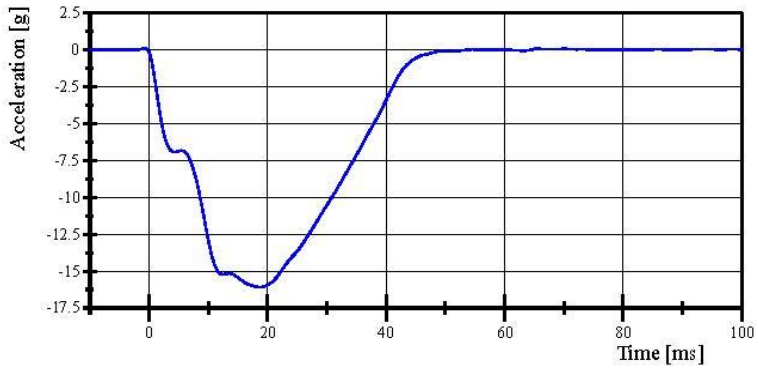
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.10.2025 10:24:45 878

Transportation Research Center Inc.

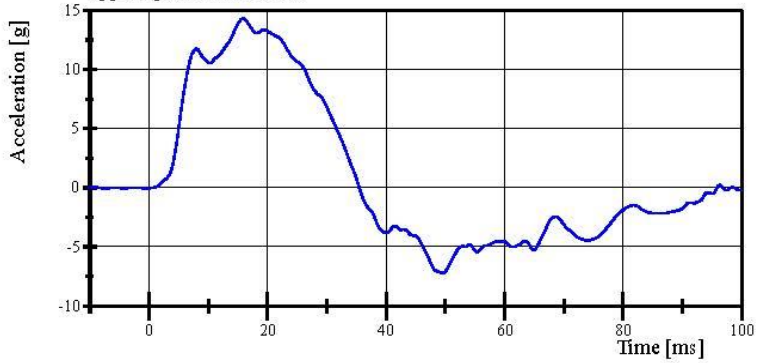
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Probe Acceleration



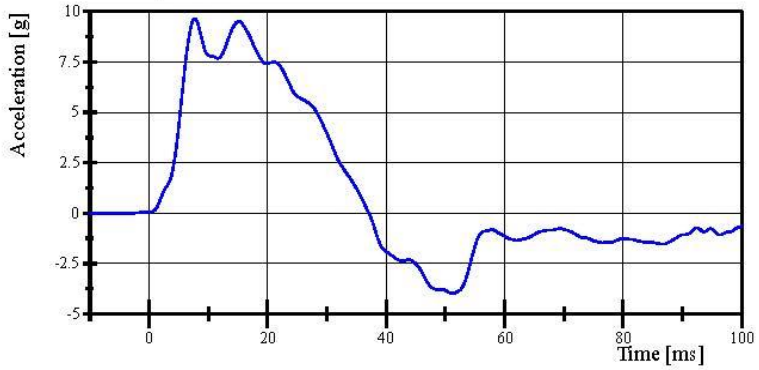
Filter Class: CFC_180
Max: 0.1 g at -0.7 ms
Min: -16.1 g at 18.8 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 14.3 g at 15.8 ms
Min: -7.2 g at 49.5 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 9.7 g at 7.7 ms
Min: -4.0 g at 51.3 ms

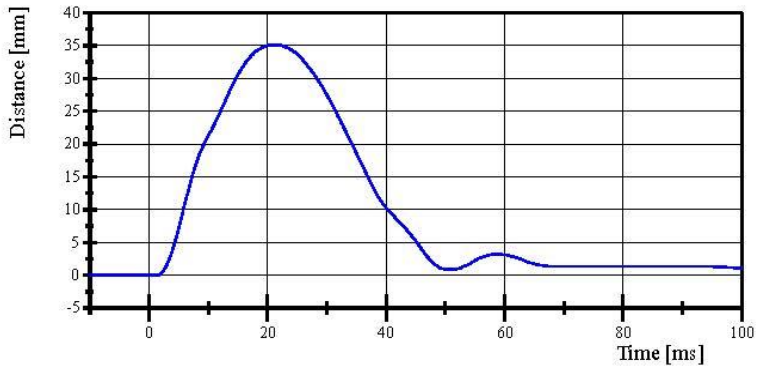
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.10.2025 10:25:16 878

Transportation Research Center Inc.

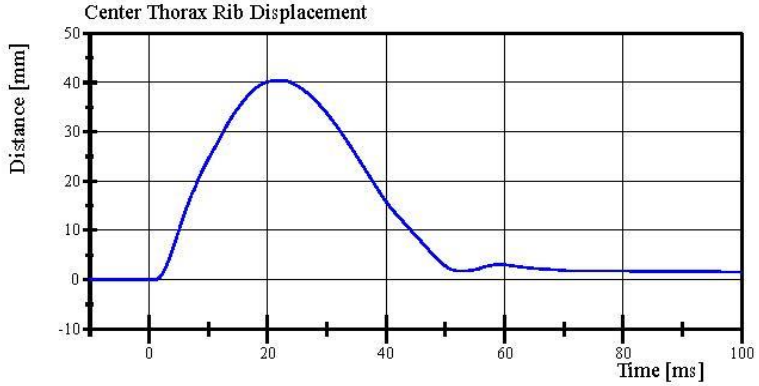
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Upper Thorax Rib Displacement



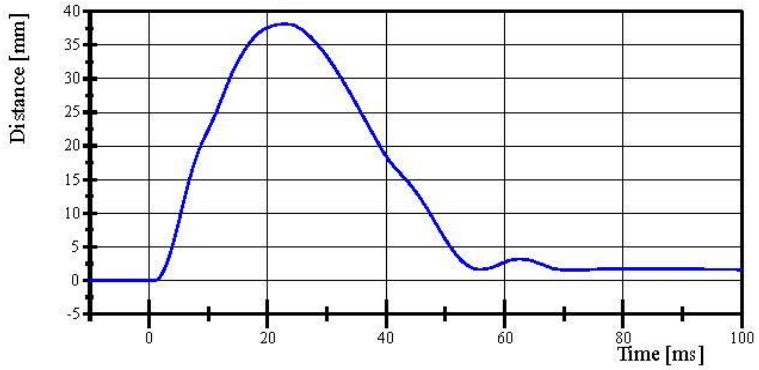
Filter Class: CFC_600
Max: 35.1 mm at 21.1 ms
Min: -0.0 mm at 1.3 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 40.4 mm at 21.7 ms
Min: -0.0 mm at 1.0 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 38.1 mm at 22.8 ms
Min: -0.0 mm at 0.8 ms

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

03.10.2025 10:25:17 878

Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.39 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-15.4 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	41.1 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	38.5 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	11.44 g	Yes

Test meets specifications.

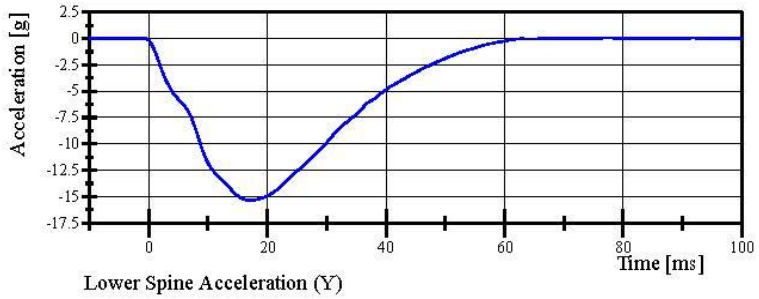
Condition: Used

Comments:
Upper Abdominal Rib S/N: 180-3368 DP5142
Lower Abdominal Rib S/N: 180-3368 DP5143

Transportation Research Center Inc.

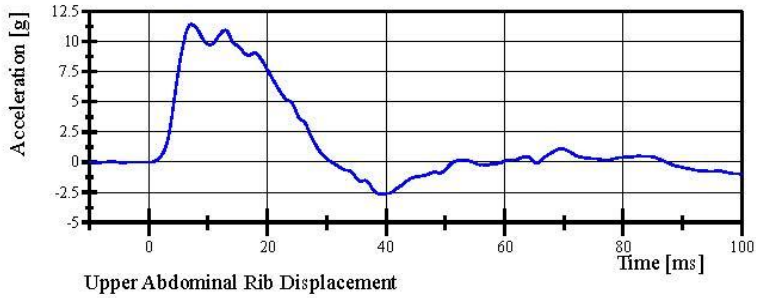
Left Lateral Abdomen
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Probe Acceleration



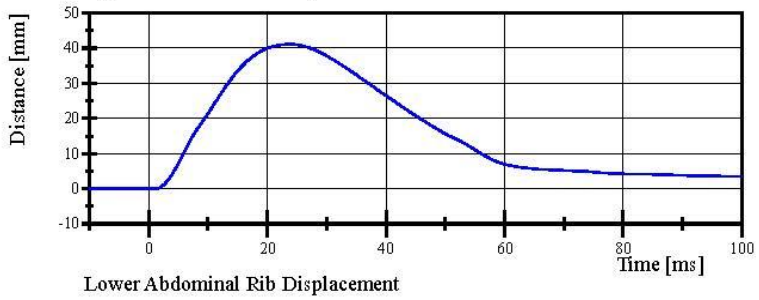
Filter Class: CFC_180
Max: 0.1 g at 77.6 ms
Min: -15.4 g at 17.1 ms

Lower Spine Acceleration (Y)



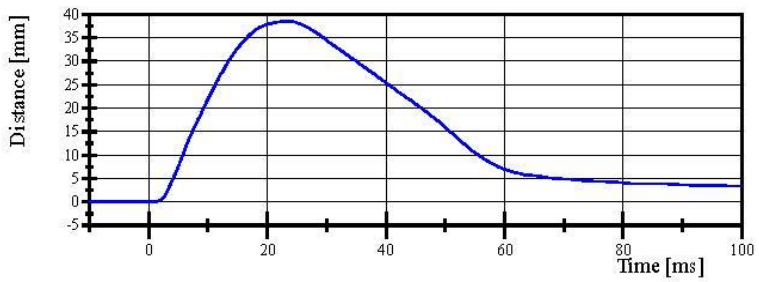
Filter Class: CFC_180
Max: 11.4 g at 7.1 ms
Min: -2.6 g at 39.2 ms

Upper Abdominal Rib Displacement



Filter Class: CFC_600
Max: 41.1 mm at 23.5 ms
Min: -0.0 mm at 1.2 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 38.5 mm at 23.0 ms
Min: -0.0 mm at 1.0 ms

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

03.10.2025 10:14:16 673

Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.63 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-43.62 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	39.2 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,642.6 N	Yes

Test meets specifications.

Condition: Used

Comments:
Pelvis Skin S/N: 1173
Pelvis Plug Info:
Manufacturer: SACO
S/N: 14580
Cal Date: 20201221

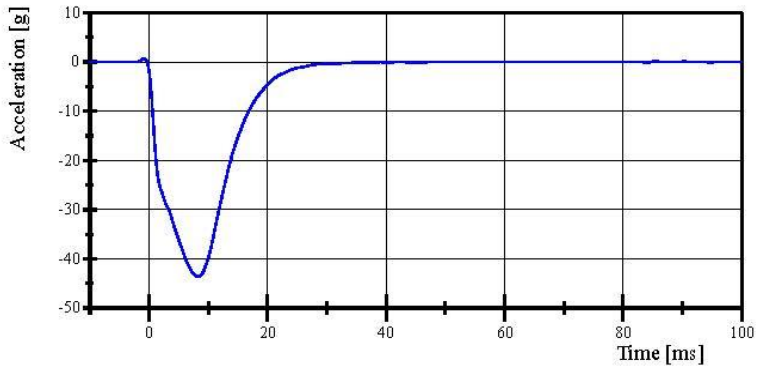
Specification Source: CFR49 Part 572 Subpart V with Polarity in accordance with J211

03.10.2025 09:44:39 463

Transportation Research Center Inc.

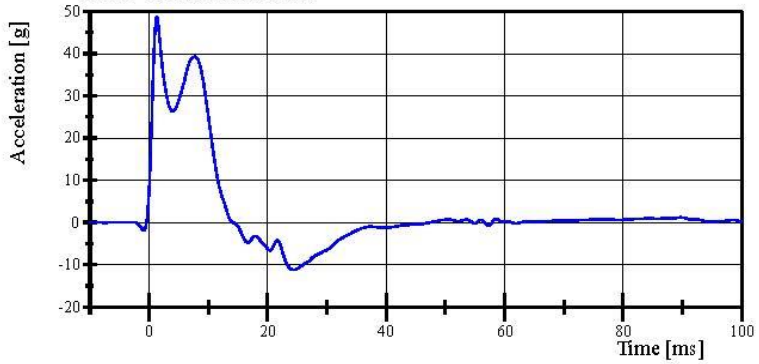
Left Lateral Pelvis
SID IIs Serial No. DQ0570 Certification No. 34-1
Test Date: 3/10/2025

Probe Acceleration



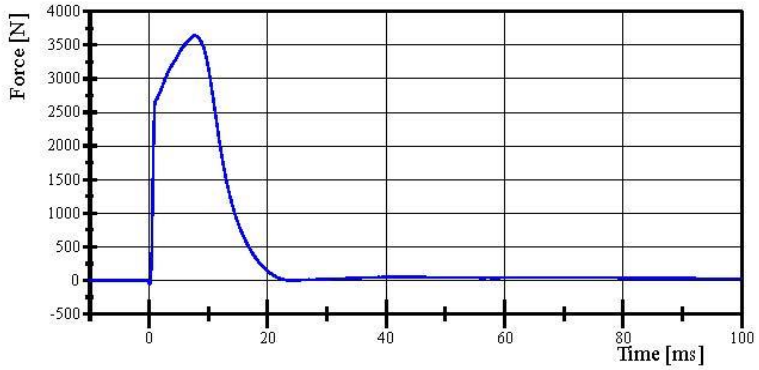
Filter Class: CFC_180
Max: 0.7 g at -0.8 ms
Min: -43.6 g at 8.2 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 48.6 g at 1.3 ms
Min: -11.2 g at 24.4 ms

Acetabulum Y-Axis Force



Filter Class: CFC_600
Max: 3,642.6 N at 7.7 ms
Min: -59.2 N at 0.1 ms

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

03.10.2025 09:45:32 463

Transportation Research Center Inc.

Left Lateral Iliac
SID IIs Serial No. DQ0570 Certification No. 34-4
Test Date: 3/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.30 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-40.8 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	30.4 g	Yes
Iliac Force	4,100 - 5,100 N	4,726.7 N	Yes

Test meets specifications.

Condition: Used

Comments:
Pelvis Skin S/N: 1173

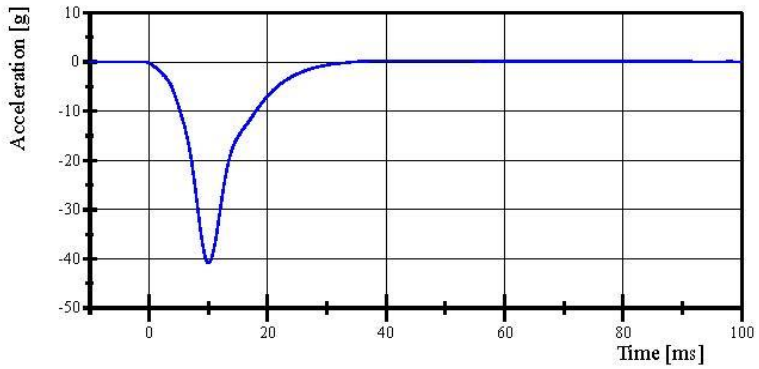
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

03.11.2025 13:22:41 686

Transportation Research Center Inc.

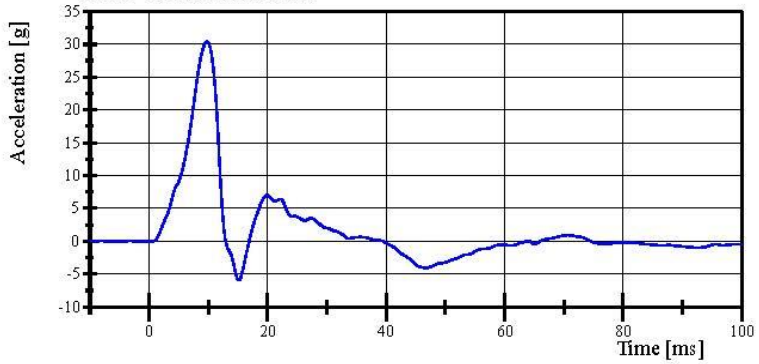
Left Lateral Iliac
SID IIs Serial No. DQ0570 Certification No. 34-4
Test Date: 3/11/2025

Probe Acceleration



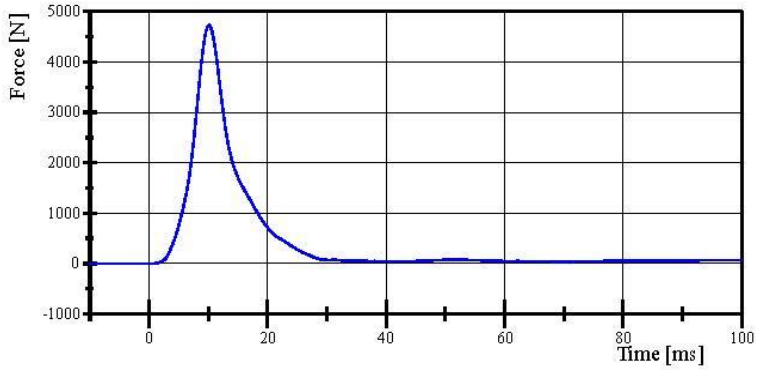
Filter Class: CFC_180
Max: 0.3 g at 39.7 ms
Min: -40.8 g at 10.0 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 30.4 g at 9.8 ms
Min: -6.0 g at 15.1 ms

Iliac Y-Axis Force



Filter Class: CFC_600
Max: 4,726.7 N at 10.1 ms
Min: -0.8 N at -2.9 ms

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

03.11.2025 13:23:25 686

Post-Test Calibration Sheets
Passenger S/N DQ0570

Transportation Research Center Inc.
SIDIIs Dummy - Level D
External Dimensions
Serial No. DQ0570 Calibration No. 35

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	772.0 - 788.0	785	Yes
B	Shoulder Pivot Height	437.0 - 453.0	445	Yes
C	H-Point Height	79.0 - 89.0	83	Yes
D	H-Point from Seat Back	141.0 - 151.0	147	Yes
E	Shoulder Pivot from Backline	97.0 - 107.0	101	Yes
F	Thigh Clearance	119.0 - 135.0	130	Yes
G	Head Breadth	140.0 - 148.0	145	Yes
H	Head Back from Backline	40.0 - 46.0	45	Yes
I	Head Depth	178.0 - 188.0	184	Yes
J	Head Circumference	541.0 - 551.0	545	Yes
K	Buttock to Knee Length	514.0 - 540.0	533	Yes
L	Popliteal Height	343.0 - 369.0	353	Yes
M	Knee Pivot to Floor Height	393.0 - 409.0	400	Yes
N	Buttock Popliteal Length	416.0 - 442.0	427	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	216.0 - 232.0	220	Yes
P	Foot Length (left)	216.0 - 232.0	220	Yes
Q	Hip Breadth	313.0 - 323.0	316	Yes
R	Arm Length	249.0 - 259.0	254	Yes
S	Knee Joint to seat Back	478.0 - 493.0	486	Yes
V	Shoulder Width (only one arm installed)	341.0 - 357.0	349	Yes
W	Foot Width (right)	78.0 - 94.0	84	Yes
W	Foot Width (left)	78.0 - 94.0	84	Yes
Y	Chest Circumference with Jacket	851.0 - 881.0	870	Yes
Z	Waist Circumference	761.0 - 791.0	780	Yes

Transportation Research Center Inc.

Left Lateral Head Drop
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	134.9 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	4.8 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.36 %	Yes

Test meets specifications.

Condition: Used

Comments:
Head Skin S/N: DP8345

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

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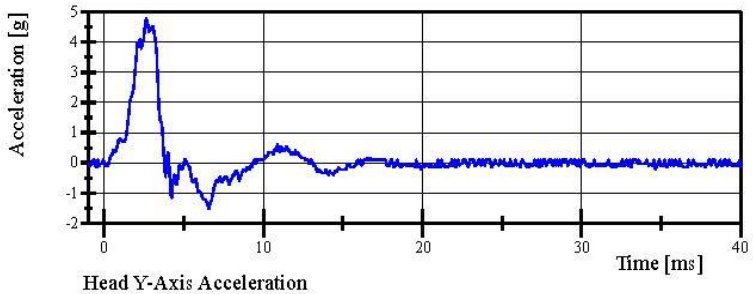
Transportation Research Center Inc.

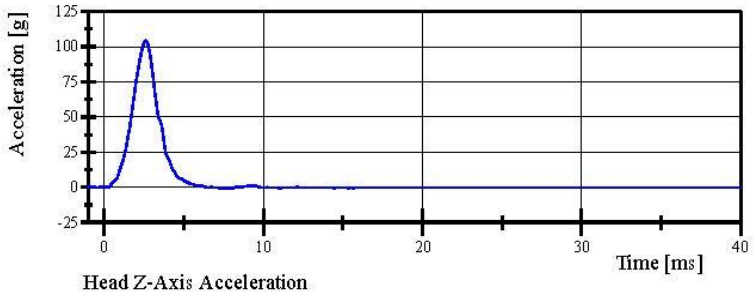
Left Lateral Head Drop
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Head X-Axis Acceleration



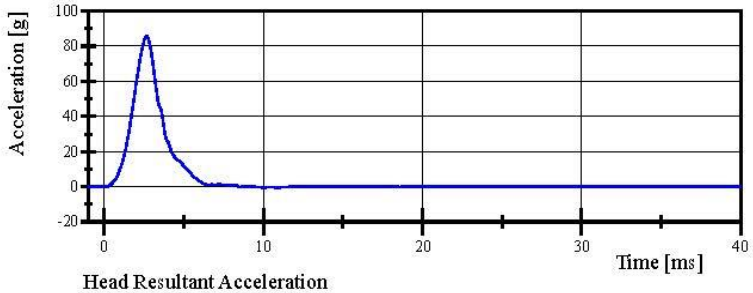
Filter Class: CFC_1000
Max: 4.8 g at 2.6 ms
Min: -1.5 g at 6.6 ms

Head Y-Axis Acceleration



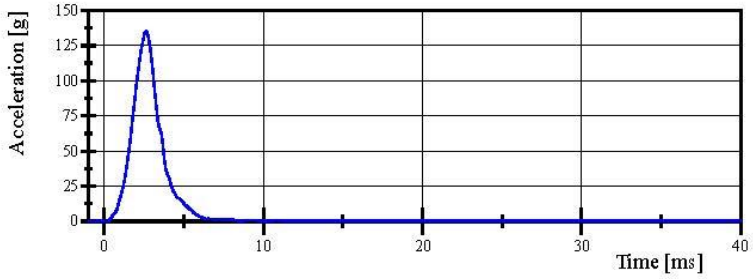
Filter Class: CFC_1000
Max: 104.4 g at 2.6 ms
Min: -0.6 g at 7.3 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 85.8 g at 2.6 ms
Min: -0.5 g at 9.9 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 134.9 g at 2.6 ms
Min: 0.1 g at 0.0 ms

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

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Transportation Research Center Inc.

Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.613 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.527 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.696 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.940 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.882 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.893 m/s	Yes
Maximum Headform Flexion			
Peak	(-71) - (-81) deg	-71.5 deg	Yes
Time of Peak	50 - 70 ms	58.6 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	42.0 N·m	Yes
Decay to 0 N·m	102 - 126 ms	107.9 ms	Yes

Test meets specifications.

Condition: Used
Comments:
Neck S/N: 180-2001717

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

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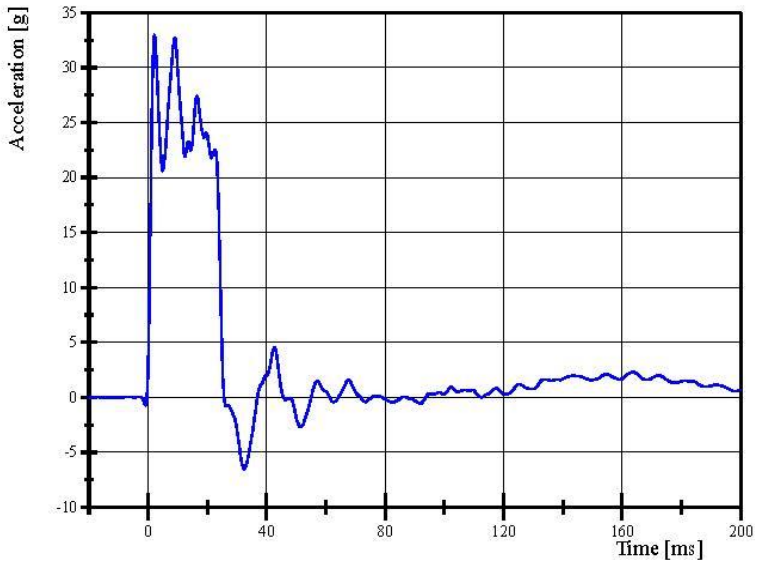
Transportation Research Center Inc.

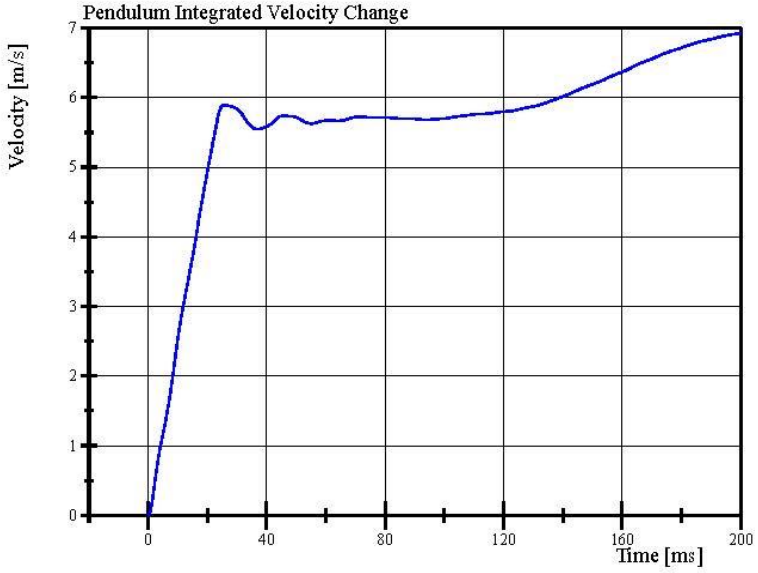
Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Pendulum Acceleration



Filter Class: CFC_180
Max: 33.0 g at 2.2 ms
Min: -6.6 g at 32.5 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 6.9 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

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

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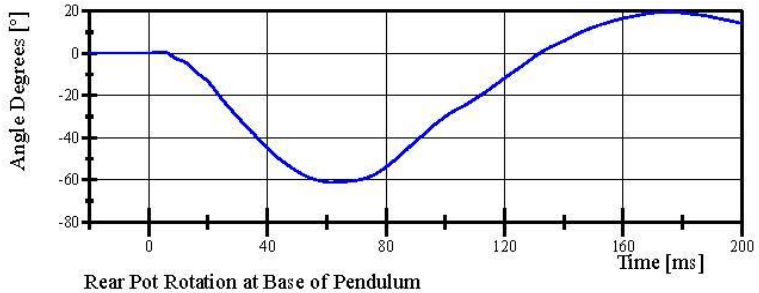
Transportation Research Center Inc.

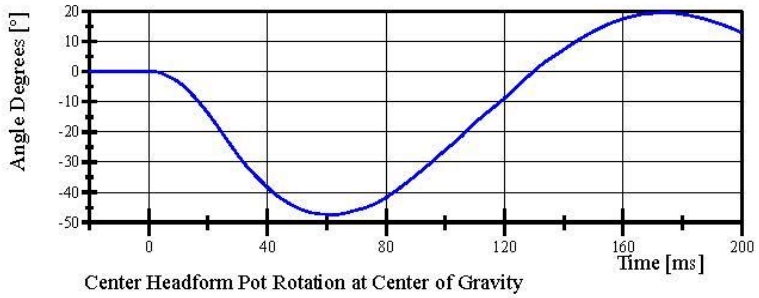
Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Forward Pot Rotation at Base of Pendulum



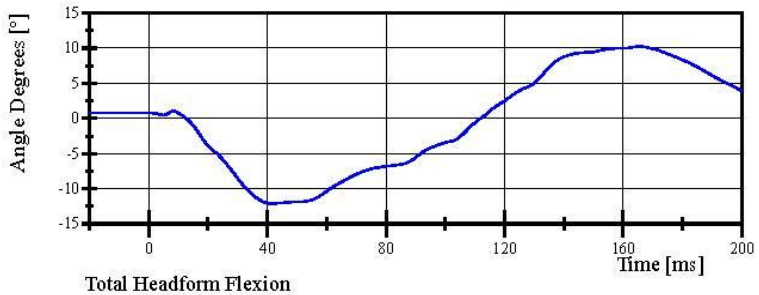
Filter Class: CFC_60
Max: 19.5 ° at 175.8 ms
Min: -61.2 ° at 61.4 ms

Rear Pot Rotation at Base of Pendulum



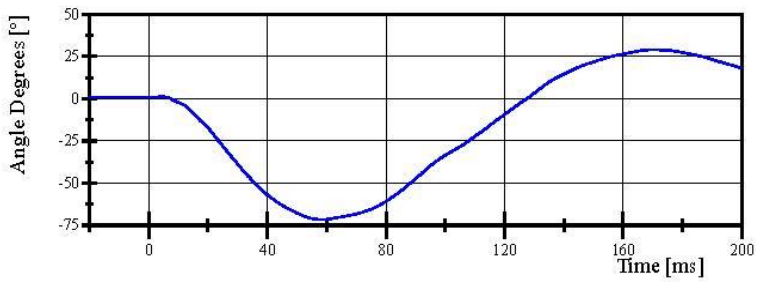
Filter Class: CFC_60
Max: 19.6 ° at 174.2 ms
Min: -47.5 ° at 62.1 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_60
Max: 10.2 ° at 165.3 ms
Min: -12.1 ° at 41.5 ms

Total Headform Flexion



Filter Class: CFC_60
Max: 29.1 ° at 170.3 ms
Min: -71.5 ° at 58.6 ms

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

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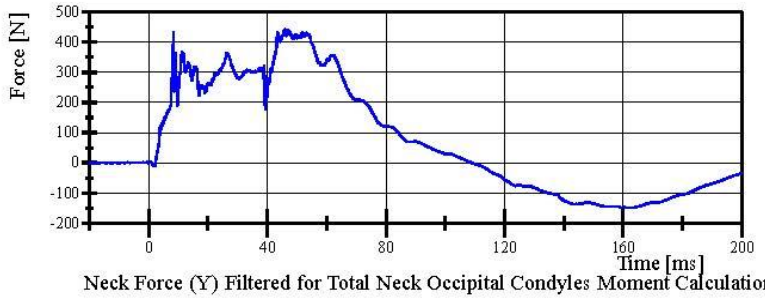
Transportation Research Center Inc.

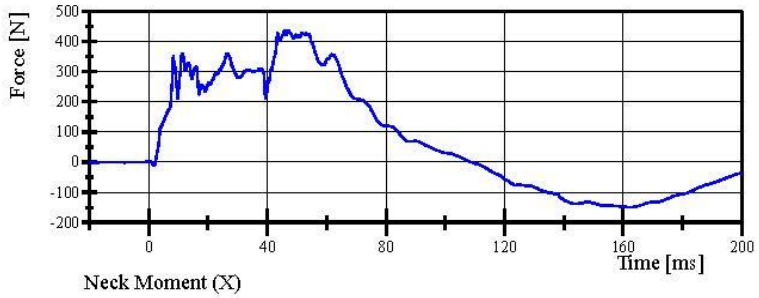
Left Lateral Neck
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Neck Force (Y)



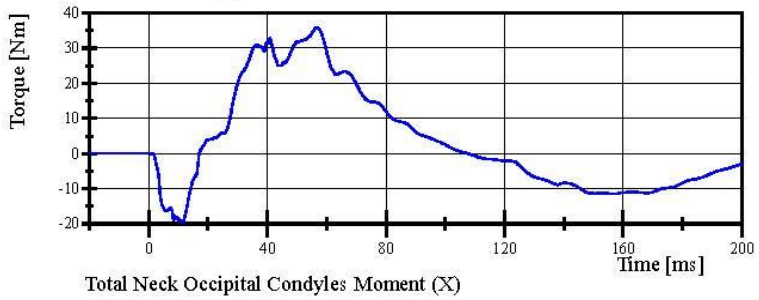
Filter Class: CFC_1000
Max: 443.0 N at 46.0 ms
Min: -149.8 N at 162.6 ms

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



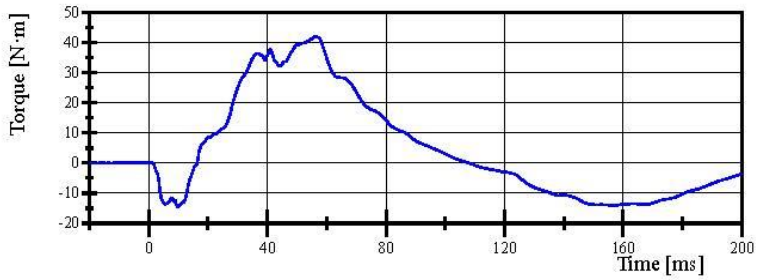
Filter Class: CFC_600
Max: 437.6 N at 45.9 ms
Min: -149.6 N at 163.0 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 35.8 Nm at 56.9 ms
Min: -19.7 Nm at 11.2 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 42.0 N·m at 56.3 ms
Min: -14.4 N·m at 9.7 ms

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

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Transportation Research Center Inc.

Left Lateral Shoulder
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.33 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.9 g	Yes
Shoulder Displacement	28 - 37 mm	28.8 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	20.9 g	Yes

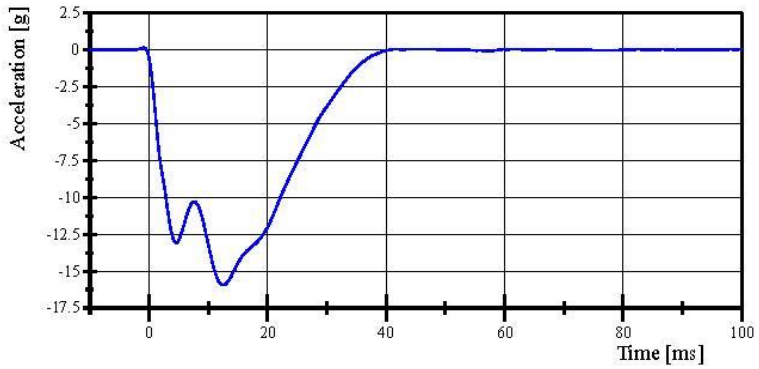
Test meets specifications.

Condition: Used
Comments:
Left Arm S/N: DP8451
Shoulder Rib S/N: 180-3355 DL9246

Transportation Research Center Inc.

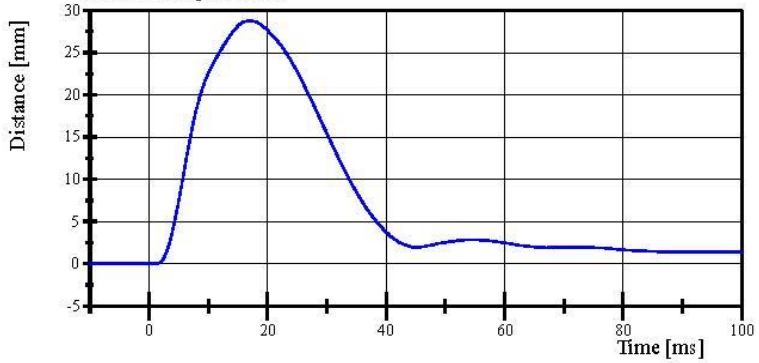
Left Lateral Shoulder
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Probe Acceleration



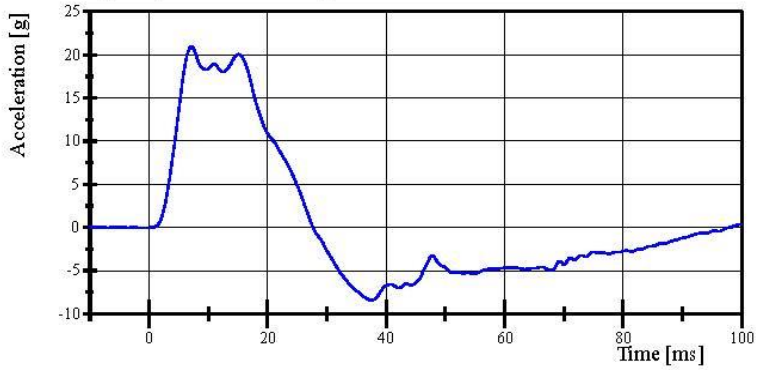
Filter Class: CFC_180
Max: 0.1 g at -1.0 ms
Min: -15.9 g at 12.5 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 28.8 mm at 17.0 ms
Min: -0.0 mm at 0.6 ms

Upper Spine Acceleration (Y)



Filter Class: CFC_180
Max: 20.9 g at 7.1 ms
Min: -8.4 g at 37.5 ms

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

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Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.723 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-35.4 g	Yes
Shoulder Displacement	31 - 40 mm	31.5 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	26.9 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.3 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	34.6 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	39.2 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	34.8 g	Yes

Test meets specifications.

Condition: Used

Comments:
Left Arm S/N: DP8451
Shoulder Rib S/N: 180-3355 DL9246
Upper Thorax Rib S/N: 180-3362 DP6492
Middle Thorax Rib S/N: 180-3362 DP6493
Lower Thorax Rib S/N: 180-3362 DP7664

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

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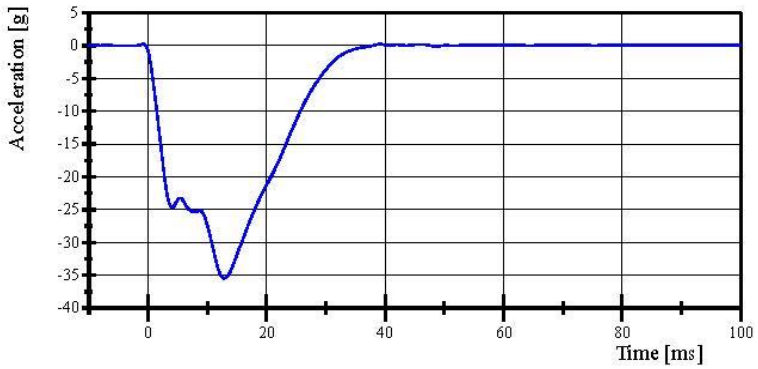
Transportation Research Center Inc.

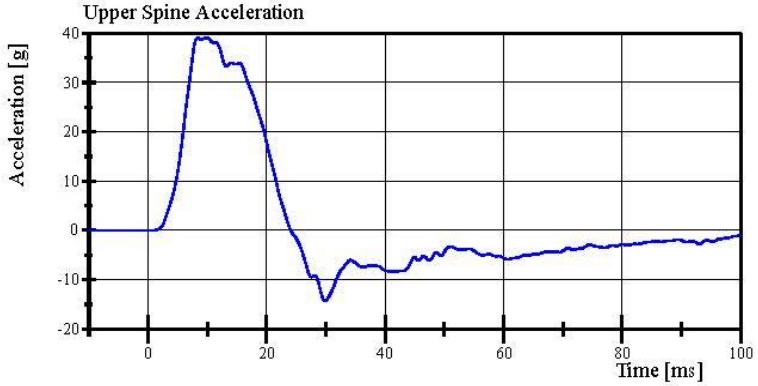
Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Probe Acceleration



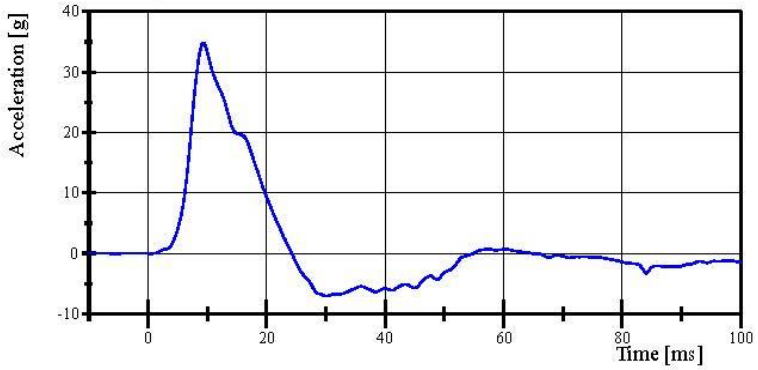
Filter Class: CFC_180
Max: 0.2 g at -0.8 ms
Min: -35.4 g at 12.9 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 39.2 g at 9.9 ms
Min: -14.2 g at 29.9 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 34.8 g at 9.3 ms
Min: -7.1 g at 30.2 ms

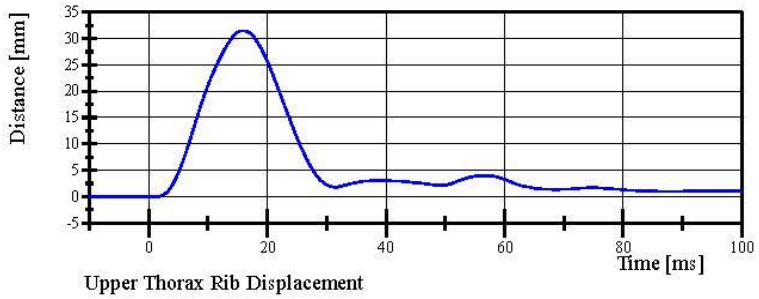
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

04.11.2025 10:00:58 626

Transportation Research Center Inc.

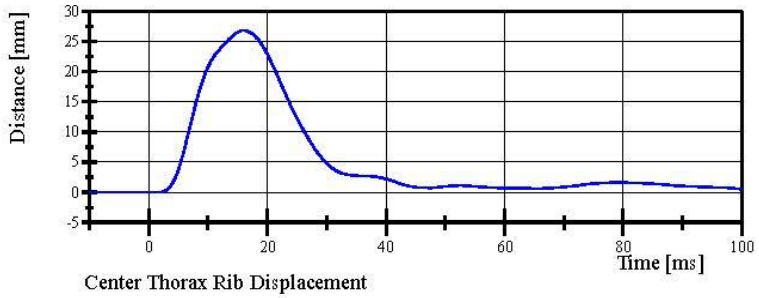
Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Shoulder Rib Displacement



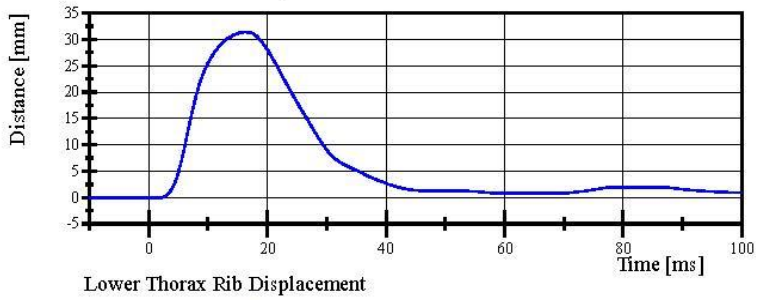
Filter Class: CFC_600
Max: 31.5 mm at 15.9 ms
Min: -0.0 mm at 1.4 ms

Upper Thorax Rib Displacement



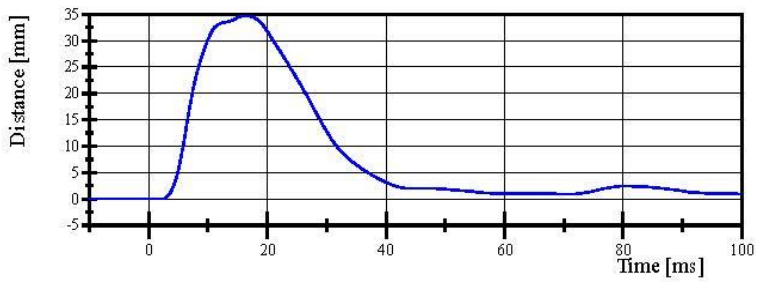
Filter Class: CFC_600
Max: 26.9 mm at 16.0 ms
Min: -0.0 mm at -5.0 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 31.3 mm at 16.1 ms
Min: -0.0 mm at -4.1 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 34.6 mm at 16.0 ms
Min: -0.0 mm at 2.0 ms

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

04.11.2025 10:00:58 626

Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.242 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-16.1 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	36.8 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.0 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	37.6 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.8 g	Yes
Lower Spine Lateral Acceleration	7 - 11 g	9.8 g	Yes

Test meets specifications.

Condition: Used

Comments:
Upper Thorax Rib S/N: 180-3362 DP6492
Middle Thorax Rib S/N: 180-3362 DP6493
Lower Thorax Rib S/N: 180-3362 DP7664

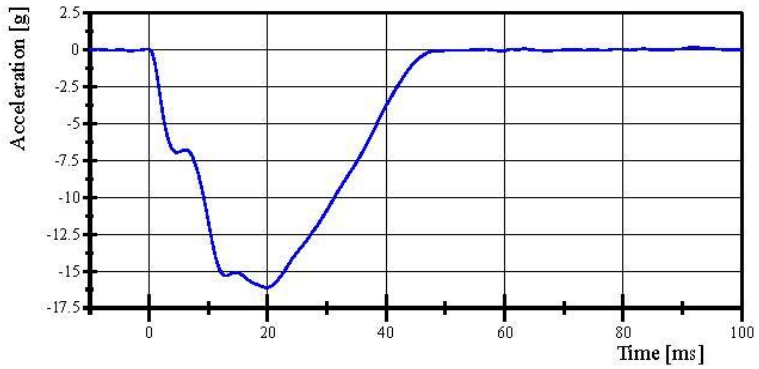
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

04.11.2025 09:26:55 579

Transportation Research Center Inc.

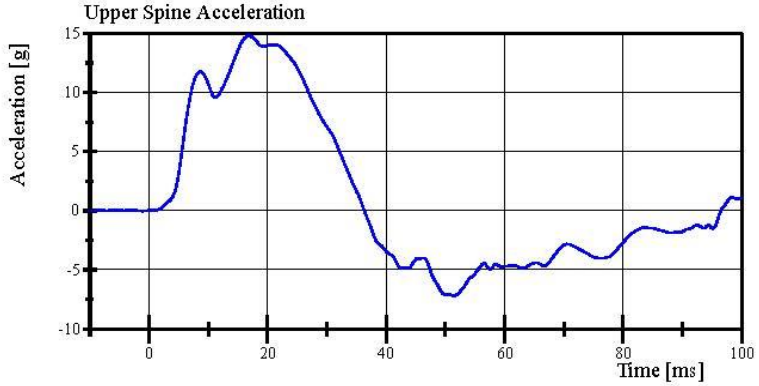
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Probe Acceleration



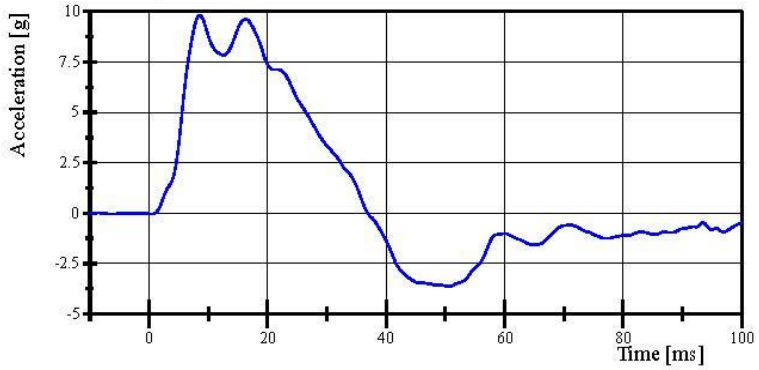
Filter Class: CFC_180
Max: 0.2 g at 91.8 ms
Min: -16.1 g at 19.8 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 14.8 g at 16.8 ms
Min: -7.2 g at 51.4 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 9.8 g at 8.5 ms
Min: -3.6 g at 50.6 ms

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

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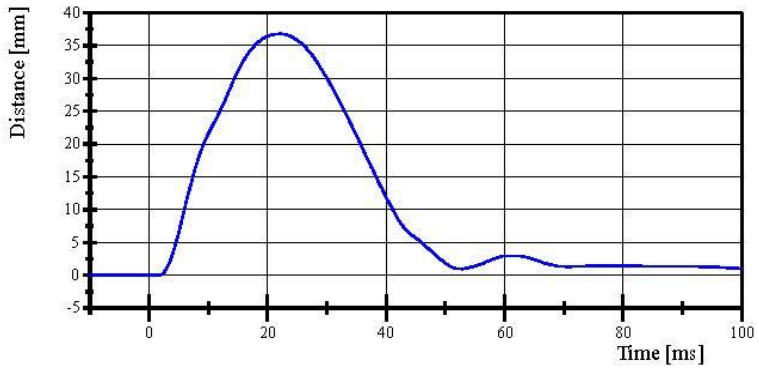
Transportation Research Center Inc.

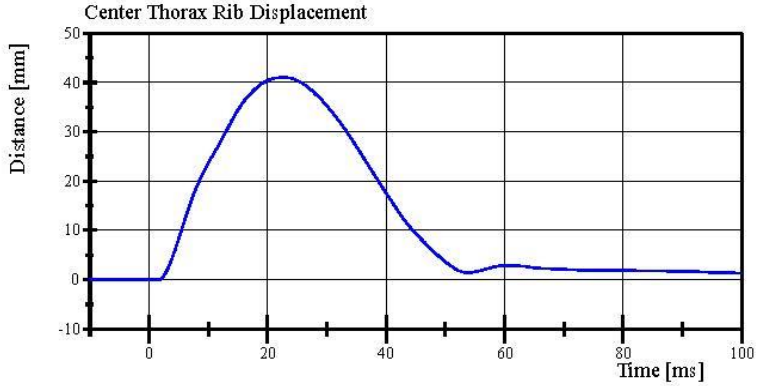
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Upper Thorax Rib Displacement



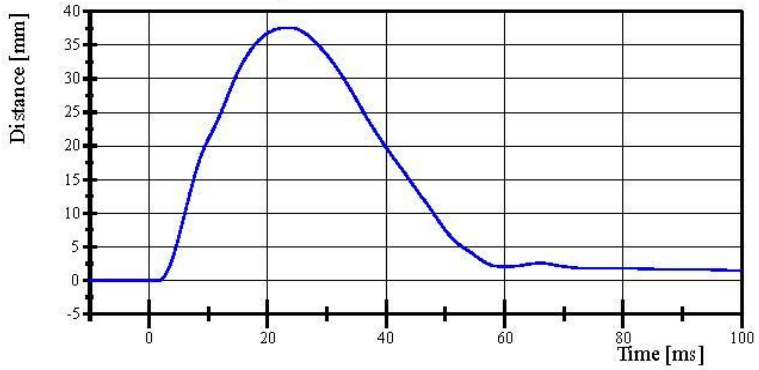
Filter Class: CFC_600
Max: 36.8 mm at 22.2 ms
Min: -0.0 mm at -8.6 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 41.0 mm at 22.6 ms
Min: -0.0 mm at 1.6 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 37.6 mm at 23.7 ms
Min: -0.0 mm at 1.7 ms

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

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Transportation Research Center Inc.

Left Lateral Abdomen
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.38 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-15.1 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	40.9 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	38.0 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	11.58 g	Yes

Test meets specifications.

Condition: Used

Comments:
Upper Abdominal Rib S/N: 180-3368 DP5142
Lower Abdominal Rib S/N: 180-3368 DP5143

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

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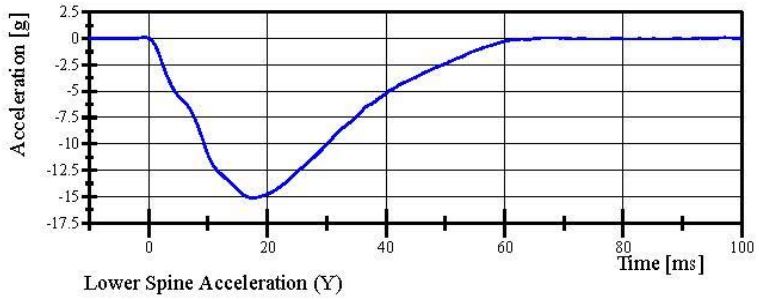
Transportation Research Center Inc.

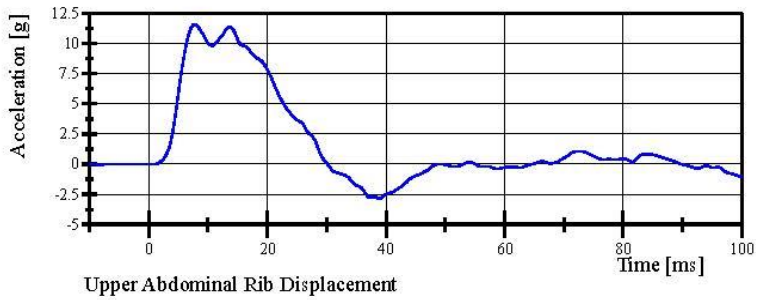
Left Lateral Abdomen
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Probe Acceleration



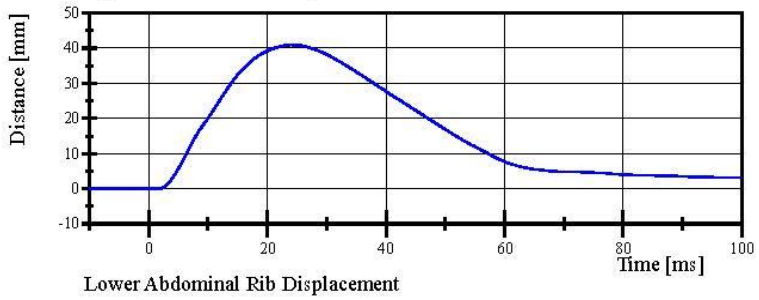
Filter Class: CFC_180
Max: 0.1 g at -0.7 ms
Min: -15.1 g at 17.5 ms

Lower Spine Acceleration (Y)



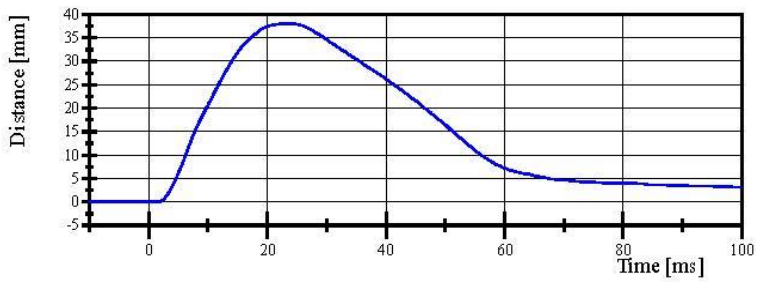
Filter Class: CFC_180
Max: 11.6 g at 7.7 ms
Min: -2.8 g at 38.9 ms

Upper Abdominal Rib Displacement



Filter Class: CFC_600
Max: 40.9 mm at 24.0 ms
Min: -0.0 mm at 1.7 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 38.0 mm at 23.7 ms
Min: -0.0 mm at 1.6 ms

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

04.11.2025 09:15:35 434

Transportation Research Center Inc.

Left Lateral Pelvis
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.64 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-42.25 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	36.9 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,712.9 N	Yes

Test meets specifications.

Condition: Used

Comments:
Pelvis Skin S/N: 1173
Pelvis Plug Info:
Manufacturer: SACO
S/N: 14477
Cal Date: 20201218

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

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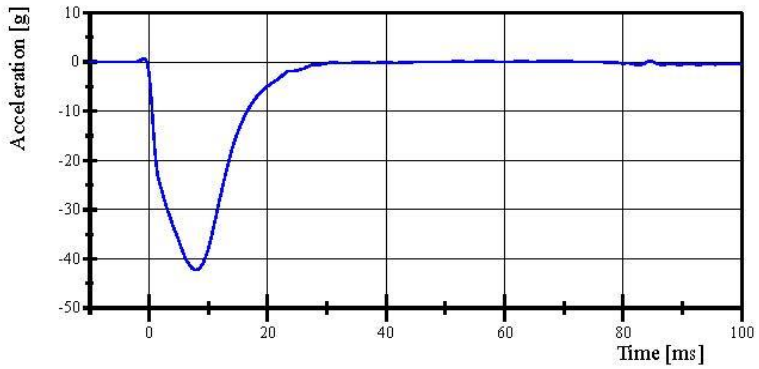
Transportation Research Center Inc.

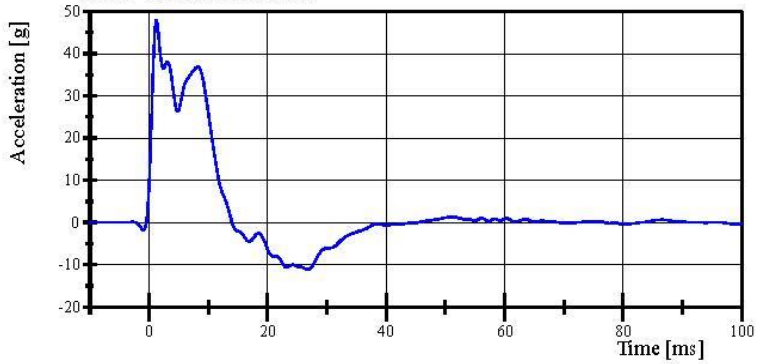
Left Lateral Pelvis
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Probe Acceleration



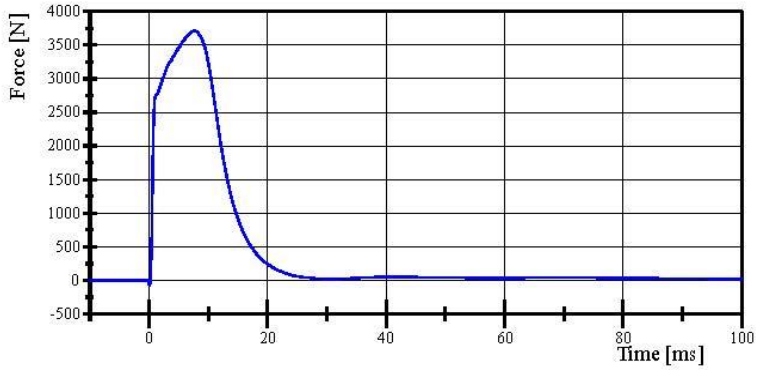
Filter Class: CFC_180
Max: 0.7 g at -0.9 ms
Min: -42.3 g at 7.8 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 47.8 g at 1.2 ms
Min: -11.1 g at 26.8 ms

Acetabulum Y-Axis Force



Filter Class: CFC_600
Max: 3,712.9 N at 7.6 ms
Min: -67.8 N at 0.1 ms

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

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Transportation Research Center Inc.

Left Lateral Iliac
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.21 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-40.5 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	35.7 g	Yes
Iliac Force	4,100 - 5,100 N	4,658.4 N	Yes

Test meets specifications.

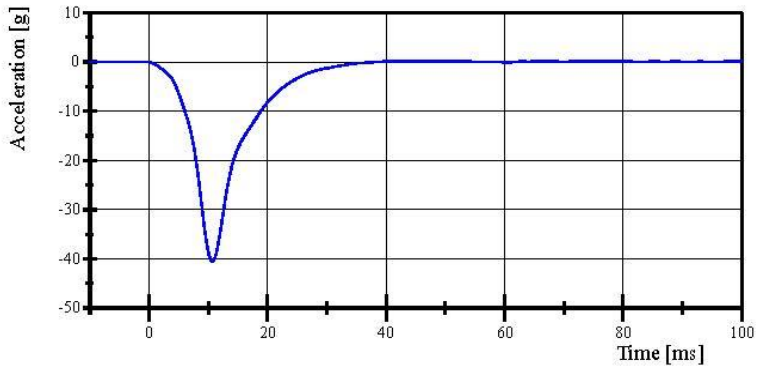
Condition: Used

Comments:
Pelvis Skin S/N: 1173

Transportation Research Center Inc.

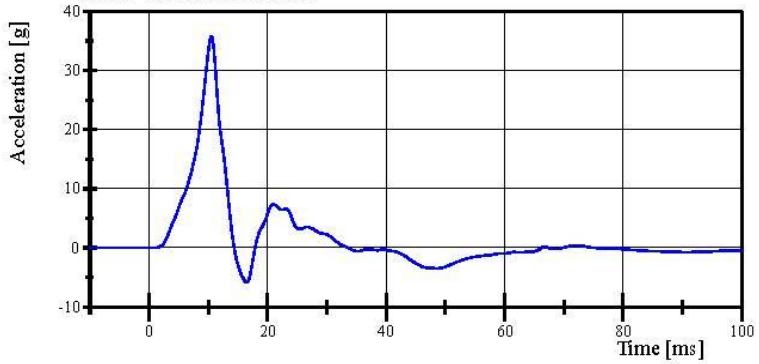
Left Lateral Iliac
SID IIs Serial No. DQ0570 Certification No. 35-1
Test Date: 4/11/2025

Probe Acceleration



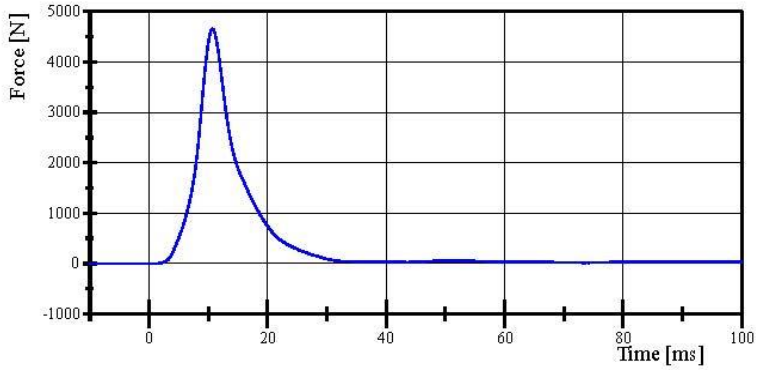
Filter Class: CFC_180
Max: 0.1 g at 41.8 ms
Min: -40.5 g at 10.6 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 35.7 g at 10.5 ms
Min: -5.9 g at 16.5 ms

Iliac Y-Axis Force



Filter Class: CFC_600
Max: 4,658.4 N at 10.7 ms
Min: -0.7 N at -2.8 ms

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

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APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 – Dummy Instrumentation (ES-2re)

			ES-2re S/N F030		
			Serial Number	**Manufacturer**	**Calibration Date**
Head Accelerometers		X	T14583	Endevco	25-Mar-2025
		Y	T13068	Endevco	25-Mar-2025
		Z	T14569	Endevco	25-Mar-2025
Redundant Head Accelerometers		X	T17635	Endevco	25-Mar-2025
		Y	T14567	Endevco	25-Mar-2025
		Z	T14586	Endevco	25-Mar-2025
Thoracic Rib Displacement Potentiometers	Upper	Y	111	Honeywell	24-Mar-2025
	Middle	Y	174	Honeywell	24-Mar-2025
	Lower	Y	0913	Honeywell	24-Mar-2025
Abdomen Load Cells	Front	Y	1441	Denton	24-Mar-2025
	Middle	Y	1436	Denton	24-Mar-2025
	Rear	Y	1437	Denton	24-Mar-2025
Lower Spine Accelerometers (T12)		X	P69076	Endevco	25-Mar-2025
		Y	P91950	Endevco	25-Mar-2025
		Z	T11387	Endevco	25-Mar-2025
Acetabulum Load Cell		Y	N/A	N/A	25-Mar-2025
Pubic Symphysis Load Cell		Y	465-FY	Denton	25-Mar-2025

TABLE 2 – Dummy Instrumentation (SID-IIs)

				SID-IIs S/N DQ0570		
				Serial Number	**Manufacturer**	**Calibration Date**
Head Accelerometers			X	T18335	Endevco	4-Mar-2025
			Y	T24497	Endevco	4-Mar-2025
			Z	T18333	Endevco	4-Mar-2025
Redundant Head Accelerometers			X	T25601	Endevco	4-Mar-2025
			Y	T25566	Endevco	4-Mar-2025
			Z	T20557	Endevco	4-Mar-2025
Displacement Potentiometers	Shoulder		N/A	N/A	N/A	N/A
	Thoracic Rib	Upper	Y	007	Servo	5-Mar-2025
		Middle	Y	037	Servo	5-Mar-2025
		Lower	Y	048	Servo	5-Mar-2025
	Abdominal Rib	Upper	Y	1295	Servo	5-Mar-2025
		Lower	Y	1136	Servo	5-Mar-2025
Lower Spine Accelerometers (T12)			X	T14559	Endevco	4-Mar-2025
			Y	T13682	Endevco	4-Mar-2025
			Z	T18476	Endevco	4-Mar-2025
Acetabulum Load Cell			Y	DK7483S-FY	FTSS	5-Mar-2025
Iliac Wing Load Cell			Y	287-FY	Denton	5-Mar-2025
Pelvis Plug (struck side)				14479	SACO	18-Dec-2020
Pelvis Plug (non-struck side)				14481	SACO	18-Dec-2020

TABLE 3 – Vehicle Instrumentation

Vehicle Instrumentation			Serial Number	Manufacturer	Calibration Date
1	Vehicle Center of Gravity	X	A400097	Measurement Specialties	2-Apr-2025
	Vehicle Center of Gravity	Y	A349806	Measurement Specialties	2-Apr-2025
	Vehicle Center of Gravity	Z	A297045	Measurement Specialties	2-Apr-2025
2	Right Sill at Front Seat	X	A386357	Measurement Specialties	2-Apr-2025
	Right Sill at Front Seat	Y	A367450	Measurement Specialties	2-Apr-2025
	Right Sill at Front Seat	Z	A386339	Measurement Specialties	2-Apr-2025
3	Right Sill at Rear Seat	X	A385752	Measurement Specialties	2-Apr-2025
	Right Sill at Rear Seat	Y	A241177	Measurement Specialties	2-Apr-2025
	Right Sill at Rear Seat	Z	A385755	Measurement Specialties	2-Apr-2025
4	Left Sill at Front Door	Y	A254929	Measurement Specialties	2-Apr-2025
5	Left Sill at Rear Door	Y	A385745	Measurement Specialties	2-Apr-2025
6	Left A-Post Lower	Y	A400091	Measurement Specialties	2-Apr-2025
7	Left A-Post Middle	Y	A385708	Measurement Specialties	2-Apr-2025
8	Left B-Post Lower	Y	A385753	Measurement Specialties	2-Apr-2025
9	B-Post Middle	Y	A227171	Measurement Specialties	2-Apr-2025
10	Front Seat Track	Y	A377538	Measurement Specialties	2-Apr-2025
11	Rear Seat Track or Structure	Y	A297050	Measurement Specialties	2-Apr-2025
12	Right Rear Occupant Compartment	Y	A378300	Measurement Specialties	2-Apr-2025
13	Engine Block	X	A385698	Measurement Specialties	2-Apr-2025
	Engine Block	Y	A349794	Measurement Specialties	2-Apr-2025
14	Rear Floorpan Above Axle	X	A385757	Measurement Specialties	2-Apr-2025
	Rear Floorpan Above Axle	Y	A400080	Measurement Specialties	2-Apr-2025
	Rear Floorpan Above Axle	Z	A377499	Measurement Specialties	2-Apr-2025

TABLE 4 – MDB Instrumentation

MDB Instrumentation		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	A385699	Measurement Specialties	26-Nov-2024
MDB Center of Gravity	Y	A349892	Measurement Specialties	26-Nov-2024
MDB Center of Gravity	Z	A349879	Measurement Specialties	26-Nov-2024
Left Frame Rail at Rear Axle Centerline	X	A385709	Measurement Specialties	21-Nov-2024
Left Frame Rail at Rear Axle Centerline	Y	A386415	Measurement Specialties	14-Oct-2025