

FINAL REPORT NUMBER: SINCAP-TRC-25-005

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

**GENERAL MOTORS LLC
2025 Chevrolet Silverado EV
NHTSA NUMBER: M20250112**

**PREPARED BY:
Transportation Research Center Inc.
10820 State Route 347
P. O. Box B-67
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Report Date: May 27, 2026

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: May 27, 2026

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

Technical Report Documentation Page

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16. Abstract This 55 / 28 km/h 90° Moving Deformable Barrier SINCAP Side Impact Test was conducted on the subject 2025 Chevrolet Silverado EV, 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 May 21, 2025. The impact velocity of the Moving Deformable Barrier (MDB) was 61.84 km/h, and the ambient temperature at the struck (left) side of the target vehicle at the time of impact was 21.6° C. The target vehicle post-test maximum crush was 102 mm at Level 1. The test vehicle's performance was as follows: <table border="1"> <thead> <tr> <th colspan="4">Driver ATD (ES-2re)</th> </tr> <tr> <th>Measurement Description</th><th>Units</th><th>IARV</th><th>Result</th></tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td><td>N/A</td><td>1000</td><td>60.209</td></tr> <tr> <td>Maximum Thoracic Rib Deflection</td><td>mm</td><td>44</td><td>10.229</td></tr> <tr> <td>Total Abdominal Force</td><td>N</td><td>2500</td><td>425.025</td></tr> <tr> <td>Pubic Symphysis Force</td><td>N</td><td>6000</td><td>-716.992</td></tr> <tr> <td>Lower Spine Acceleration</td><td>G</td><td>82*</td><td>19.321</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="4">Passenger ATD (SID-IIs)</th> </tr> <tr> <th>Measurement Description</th><th>Units</th><th>IARV</th><th>Result</th></tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td><td>N/A</td><td>1000</td><td>34.607</td></tr> <tr> <td>Lower Spine Resultant Acceleration</td><td>g's</td><td>82</td><td>17.622</td></tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td><td>N</td><td>5525</td><td>868.326</td></tr> <tr> <td>Maximum Thoracic Rib Deflection</td><td>mm</td><td>38*</td><td>4.327</td></tr> <tr> <td>Maximum Abdominal Rib Deflection</td><td>mm</td><td>45*</td><td>3.556</td></tr> </tbody> </table> * 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.				Driver ATD (ES-2re)				Measurement Description	Units	IARV	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	60.209	Maximum Thoracic Rib Deflection	mm	44	10.229	Total Abdominal Force	N	2500	425.025	Pubic Symphysis Force	N	6000	-716.992	Lower Spine Acceleration	G	82*	19.321	Passenger ATD (SID-IIs)				Measurement Description	Units	IARV	Result	Head Injury Criteria (HIC ₃₆)	N/A	1000	34.607	Lower Spine Resultant Acceleration	g's	82	17.622	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	868.326	Maximum Thoracic Rib Deflection	mm	38*	4.327	Maximum Abdominal Rib Deflection	mm	45*	3.556
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TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	Test Purpose and Procedure	1
2	Summary of Test Results	2
3	Occupant and Vehicle Information	4
<u>Data Sheet No.</u>		<u>Page No.</u>
1	General Test and Vehicle Parameter Data	5
2	Seat, Seat Belt, Steering Wheel Adjustment and Fuel System Data	9
3	Dummy Longitudinal Clearance Dimensions	12
4	Dummy Lateral Clearance Dimensions	13
5	Camera and Instrumentation Data	14
6	Test Vehicle Accelerometer Locations	15
7	MDB Accelerometer Locations	16
8	Post-Test Observations	17
9	MDB Summary of Results	19
10	Test Vehicle Profile Measurements	20
11	Test Vehicle Exterior Crush Measurements	21
12	MDB Exterior Static Crush Measurements	24
13	Vehicle and MDB Damage Distances	25
14	FMVSS No. 301 Static Rollover Results	26
15	Dummy/Vehicle Temperature and Humidity Stabilization	27
305-1	General Test and Vehicle Parameter Data for Indicant FMVSS No. 305 Testing	28
305-2	Pre-Impact Data for Indicant FMVSS No. 305 Testing	29
305-3	Pre-Impact Electrical Isolation Measurements and Calculations for Indicant FMSS No. 305 Testing	30
305-4	Post-Impact Data for Indicant FMVSS No. 305 Testing	32
305-5	Static Rollover Test Data for Indicant FMVSS No. 305 Testing	34
Appendix		
A	Photographs	A-1
B	Vehicle and Dummy Response Data Plots	B-1
C	Dummy Performance Calibration Test Data	C-1
D	Test Equipment and Instrumentation Calibration Data	D-1

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 Chevrolet Silverado EV. 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 Chevrolet Silverado EV 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 61.84 km/h (38.77 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 May 21, 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 instrumentation 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	60.209
Maximum Thoracic Rib Deflection	mm	44	10.229
Combined Abdominal Force	N	2500	425.025
Pubic Symphysis Force	N	6000	-716.992
Lower Spine (T12) Resultant Acceleration ¹	G	82*	19.321

* Proposed IARV

Measurement Description	Passenger ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC ₃₆)	N/A	1000	34.607
Lower Spine (T12) Resultant Acceleration	G	82	17.622
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	868.326
Maximum Thoracic Rib Deflection	mm	38*	4.327
Maximum Abdominal Rib Deflection	mm	45*	3.556

* 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	No	N/A
Side Pelvis Airbag	No	N/A	No	N/A
Knee Airbag	No	N/A	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
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.

Left Side Sill at Front Seat AY; QD after 9.0 ms

Left Side Sill at Rear Seat AY; QD after 9.0 ms

Left Rear Seat Structure AY; CF 8.0 ms

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20250112
Model Year	2025
Make	Chevrolet
Model	Silverado EV
Body Style	Truck
VIN	1GC10ZED6SU403626
Body Color	Black
Odometer Reading (km/mi)	120 mi.
Engine Displacement (L)	Electric
Type/No. Cylinders	Electric
Engine Placement	Front / rear
Transmission Type	Electric
Transmission Speeds	Electric
Overdrive	N/A
Final Drive	AWD
Roof Rack	No
Sunroof/T-Top	No
Running Boards	Yes
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	No
Driver Front Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	No
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Passenger Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	No
Driver Load Limiter	Yes
Rear Passenger Load Limiter	Yes
Other	No

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

No

DATA FROM CERTIFICATION LABEL

Manufactured By	GENERAL MOTORS LLC
Date of Manufacture	10/24
Vehicle Type	TRUCK

GVWR (kg)	4532
GAWR Front (kg)	2404
GAWR Rear (kg)	2608

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)				783.0
DSC x 68 (kg)				340.0
Cargo Weight (RCLW) (kg)				443.0

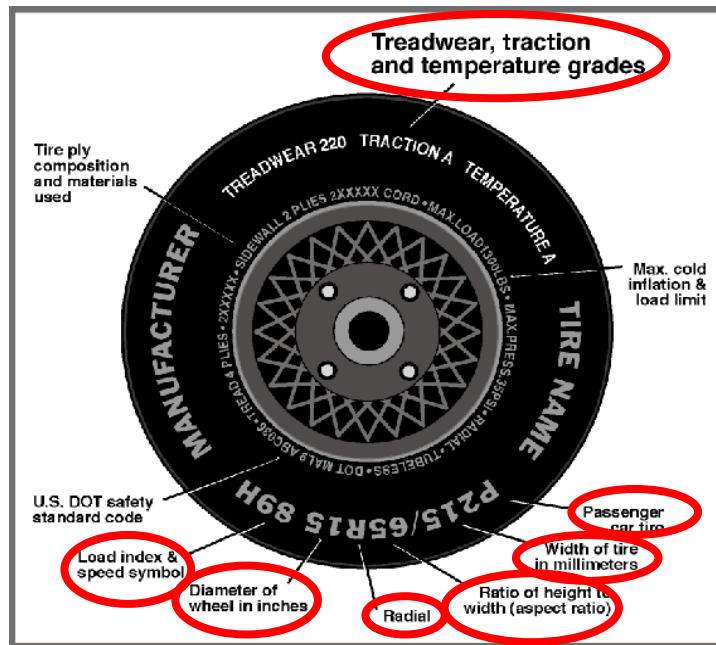
VEHICLE SEAT TYPE

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	Yes	N/A	N/A	Yes	N/A	Yes
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 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	550	550
Cold Pressure (kPa)	420	420
Recommended Tire Size	LT265/70R18	LT265/70R18
Tire Size on Vehicle	LT265/70R18	LT265/70R18
Tire Manufacturer	Bridgestone	Bridgeston
Tire Model	Alenza	Alenza
Treadwear	700	700
Traction	A	A
Temperature Grades	B	B
Tire Plies Sidewall	2	2
Tire Plies Body	5	5
Load Index/Speed Symbol	124/121S	124/121S
Tire Material	Polyester / Steel / Nylon	Polyester / Steel / Nylon
DOT Safety Code Left	51997N 2224	51997N 2224
DOT Safety Code Right	51997N 2224	51997N 2224

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

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	414	414	421	414
Tire Placard	kPa	420	420	420	420
Owner's Manual	kPa	420	420	420	420
As Tested	kPa	420	420	420	420

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	963.8	874.8		980.4	970.0		1003.2	1000.0	
Right	kg	965.6	878.2		963.8	1023.2		958.0	982.2	
Ratio	%	52.4	47.6		49.4	50.6		49.7	50.3	
Totals	kg	1929.4	1753	3682.4	1944.2	1993.2	3937.4	1961.2	1982.2	3943.4

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	3682.4	(A)
Actual Weight of 1 P572V ATD (SID-ILs) Dummy Used	kg	125.0	(B)
Rated Cargo/Luggage Weight (RCLW) ¹	kg	136.0	(C)
Calculated Vehicle Target Weight (TVTW)	kg	3943.4	(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	980	978	Yes
RF	mm	983	978	Yes
RR	mm	1006	1006	Yes
LR	mm	997	995	Yes
Vehicle CG (Aft of Front Axle)	mm	1860	1873	
Vehicle CG (Left(+)/Right(-) from Longitudinal Centerline)	mm	+14	-8	

***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:

Nominal

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

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

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

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WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast: Steel Plate	88.45
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 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

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	17.6	13.6	15.6
Front Passenger Seat	16.4	11.4	13.9
Front Center Seat*	N/A	N/A	N/A
Struck Side Rear Seat	Fixed	Fixed	14.8
Non-Struck Side Rear Seat	Fixed	Fixed	14.8
Rear Center Seat*	Fixed	Fixed	16.9

* If applicable.

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rearmost	Mid-Fore/Aft	Forward-Most
Driver Seat	15.6	280	Max	293	298	302
			Mid	284	289	294
			Min	275	280	286
Front Passenger Seat	13.9	279	Max	262	287	312
			Mid	260	285	310
			Min	250	279	308
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	14.8	340	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	14.8	335	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Rear Center Seat*	16.9	N/A	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

* If applicable.

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

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025

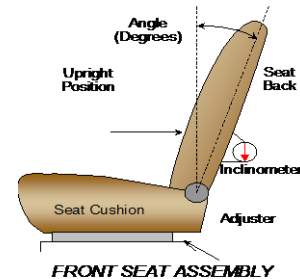
SEAT FORE/AFT POSITION

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

* 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	55.8	Power	11.1	Power
Front Passenger Seat	55.8	Power	11.1	Power
Front Center Seat*	N/A	N/A	N/A	N/A
Struck Side Rear Seat w/ Seated Dummy	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat*	Fixed	Fixed	Fixed	Fixed

* 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	Fixed	Fixed

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	7	0
Rear Seat	1	0

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

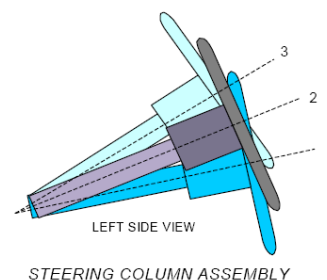
Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

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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.

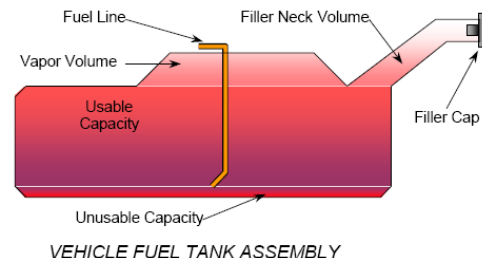
	Degrees	Fore/Aft Position (mm)
Lowermost, Position No. 1	20.4	
Geometric Center, Position No. 2	22.4	
Uppermost, Position No. 3	24.3	
Telescoping Steering Wheel Travel		50
Test Position	22.5	25



FUEL PUMP

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

The vehicle is fully electric. The charge port is on the left side of the front of the vehicle



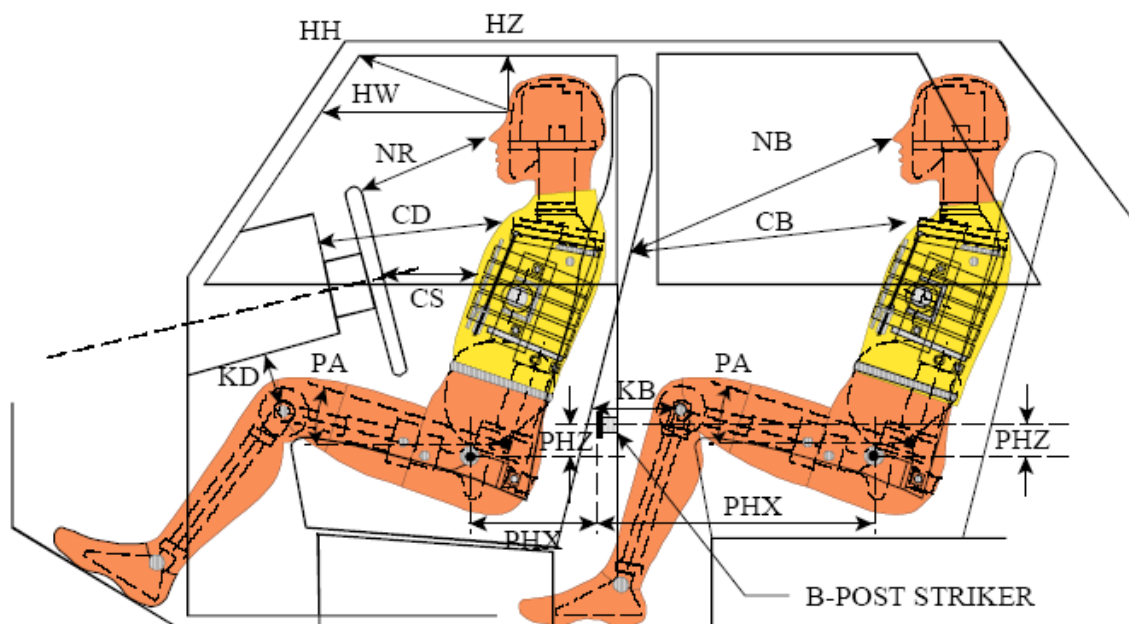
	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	N/A
Usable Capacity of "Optional Tank" (see Form No. 1)	N/A
Usable Capacity of Standard Tank (see Owner's Manual)	N/A
Usable Capacity of Optional Tank (see Owner's Manual)	N/A
93% of Usable Capacity	N/A
Actual Amount of Solvent Used in Test	N/A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

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

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



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

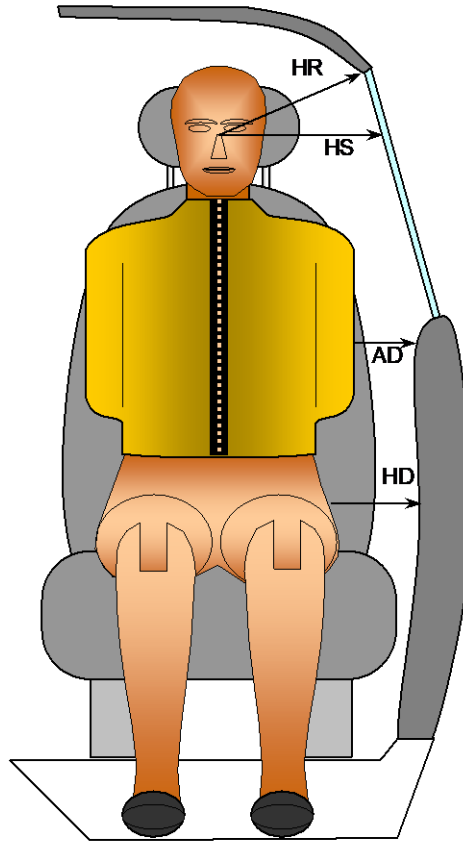
DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length (mm)	Angle	Length (mm)	Angle
HH		Header to Head	523			
HW		Header to Windshield	838			
HZ	HZ	Head to Roof Liner	262		302	
NR	NB	Nose to Rim/Seat Back	473		695	
CD	CB	Chest to Dash/Seat Back	690		669	
CS		Chest to Steering Wheel	431			
KD(L)/KDA(L)°	KB(L)/KBA(L)°	Left Knee to Dash/Seat Back	262	0	438	0.0
KD(R)/KDA(R)°	KB(R)/KBA(R)°	Right Knee to Dash/Seat Back	222	0	447	0.0
PAX°	PAX°	Pelvic Tilt Angle X		0.6		0.3
	PAY°	Pelvic Tilt Angle Y				18.6
PHX	PHX	Hip Point to Striker (X-Axis)	204		201	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	125		108	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



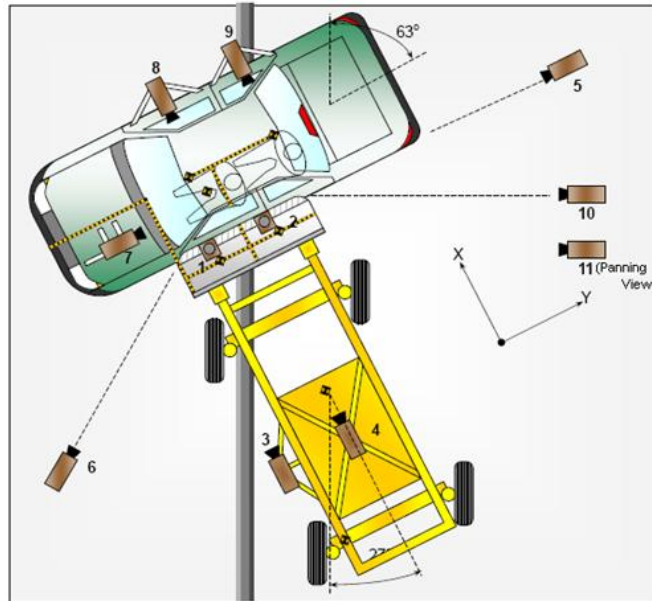
FRONT VIEW OF DUMMY

Code	Description	Units	Driver	Passenger
HR	Head to Side Header	mm	255	295
HS	Head to Side Window	mm	260	364
AD	Arm to Door	mm	122	155
HD	H-Point to Door	mm	171	126

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



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

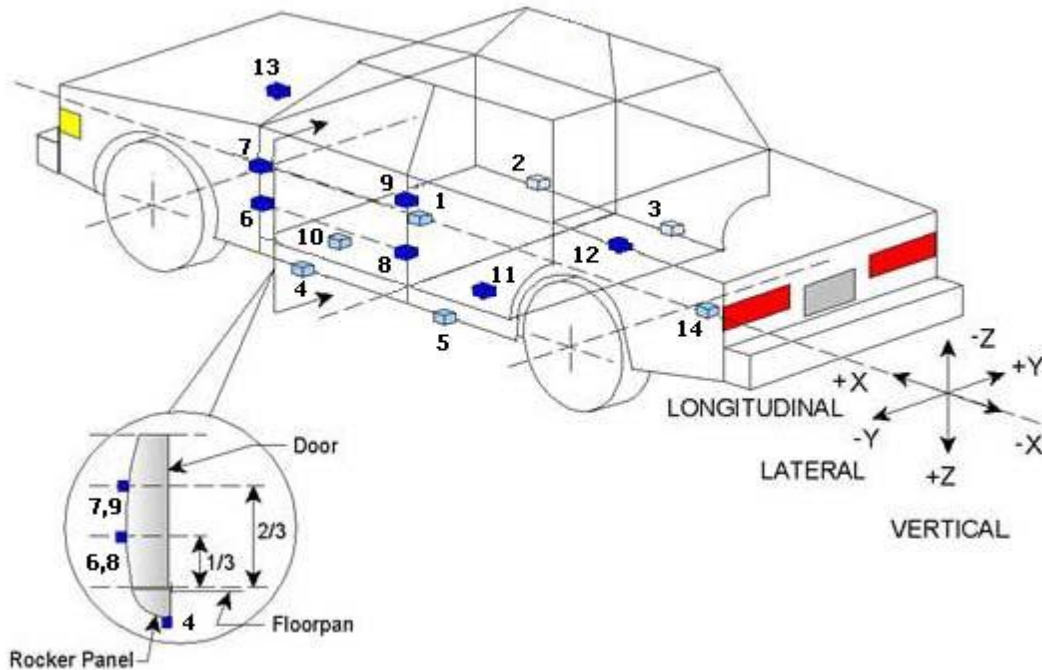
INSTRUMENTATION

Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	21
MBD Accelerometers	5
TOTAL	60

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

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025



TEST VEHICLE ACCELEROMETER LOCATIONS

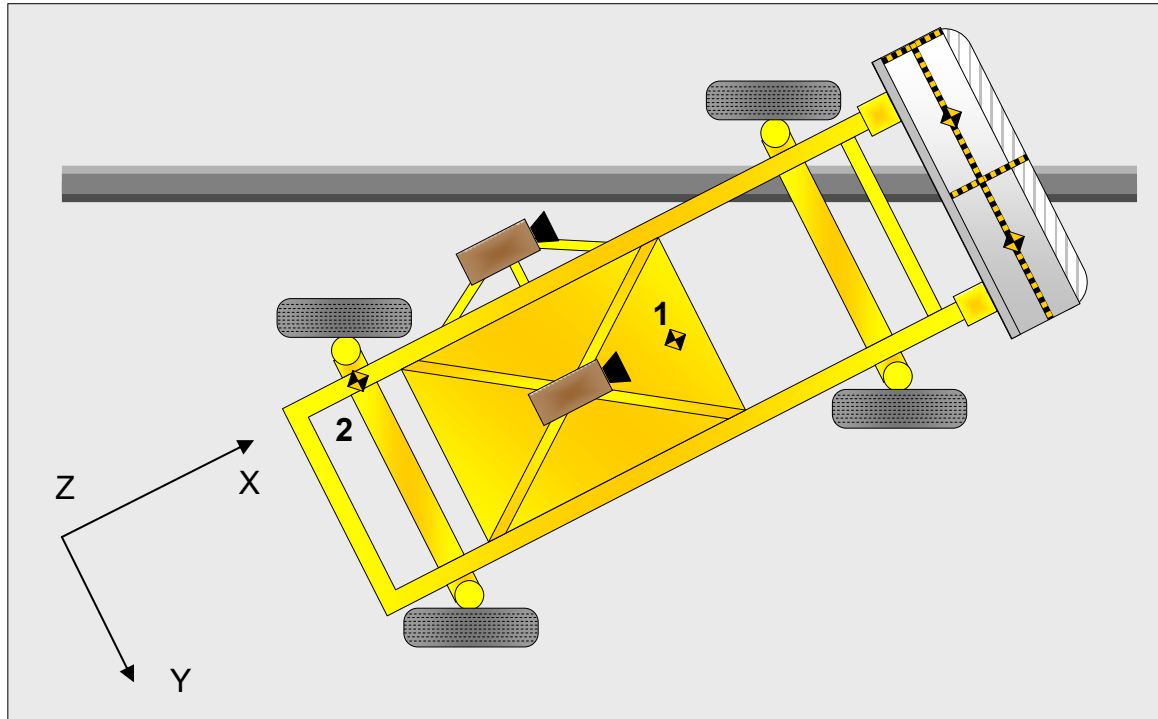
Loc. No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	3179	27	-652
2	Right Sill at Front Seat	3879	691	-609
3	Right Sill at Rear Seat	2688	699	-623
4	Left Sill at Front Door	3901	-704	-604
5	Left Sill at Rear Door	2685	-720	-617
6	A-Post Lower	4363	-906	-807
7	A-Post Middle	4400	-881	-1223
8	B-Post Lower	3228	-915	-806
9	B-Post Middle	3231	-902	-1137
10	Front Seat Track	3475	-633	-690
11	Rear Seat Structure	2500	-610	-619
12	Right Rear Occ. Compartment	2490	673	-618
13	Engine Block	N/A	N/A	N/A
14	Rear Above Axle	1249	0	-879

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 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



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 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

TEST DUMMY INFORMATION AND CONTACT POINTS

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

DATA SHEET NO. 8 (CONTINUED)
POST TEST OBSERVATIONS

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	No	N/A		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	N/A
Side Pelvis Airbag	No	N/A	No	N/A
Seat Belt Pretensioner	Yes	Yes	No	N/A
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		3700
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		509
Actual Impact Point (Aft of Front Axle)	mm		499
Horizontal Offset (+ forward / - rearward)	mm	+/- 50 of Intended Impact point	+10
Vertical Offset (+ down / - up)	mm	+/- 20 of Intended Impact point	-11

DATA SHEET NO. 9
MDB SUMMARY OF RESULTS

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

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	1121

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	382.2	302.8	685.0
Right	kg	391.8	289.8	681.6
Ratio	%	56.6	43.4	100.0
Totals	kg	774.0	592.6	1366.6

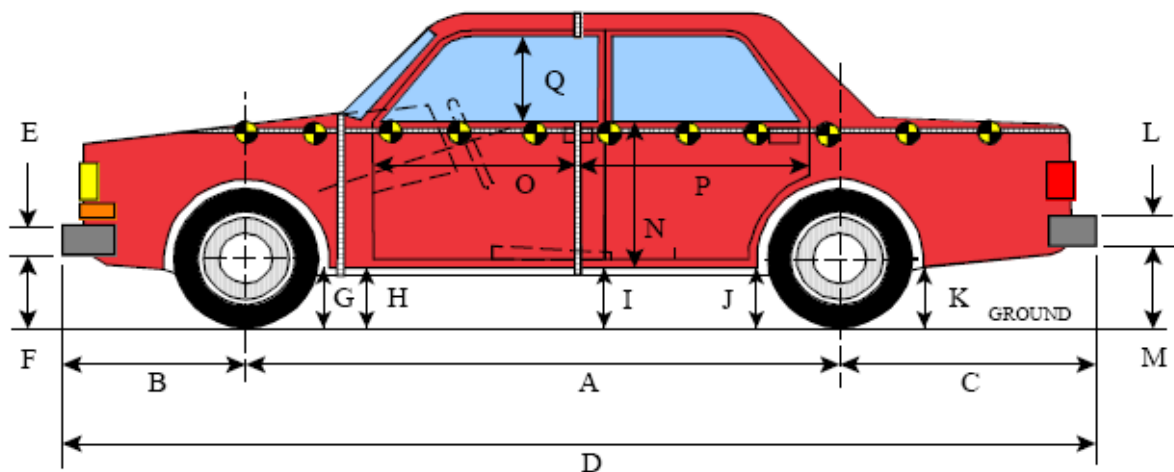
SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.84
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.84
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 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



LEFT SIDE VIEW

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

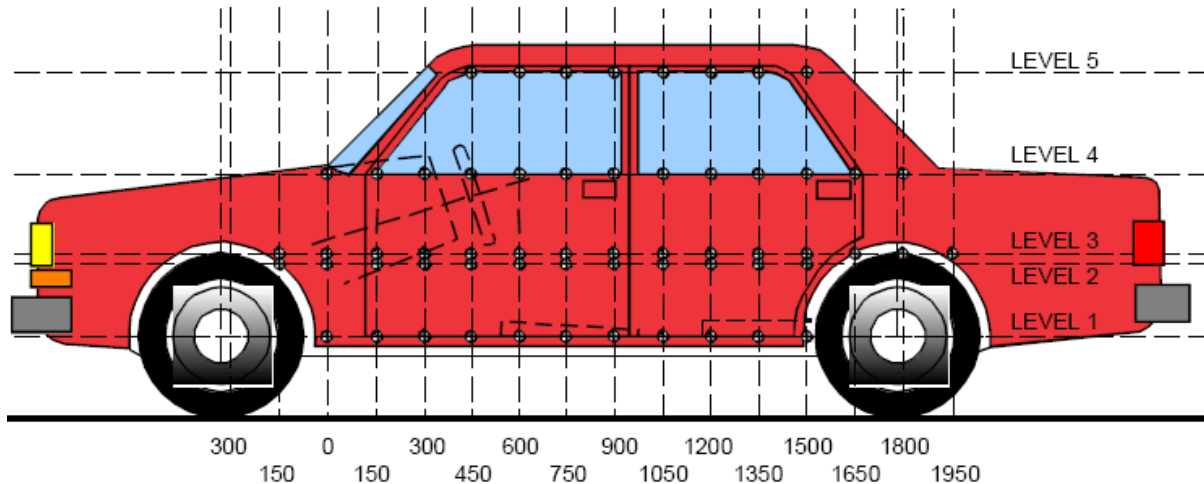
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Change
A	Wheelbase	3700	3705	5
B	Front Axle to Front Surface of Vehicle	926	940	14
C	Rear Axle to Rear Surface of Vehicle	1310	1310	0
D	Total Length at Centerline	5936	5955	19
E	Front Bumper Thickness	145	145	0
F	Front Bumper Bottom to Ground	488	499	11
G	Sill Height at Front Wheel Well	475	494	19
H	Sill Height at Front Door Leading Edge	475	615	140
I	Sill Height at B-Pillar	485	515	30
J1	Sill Height at Rear Wheel Well	520	544	24
J2	Pinch Weld Height at Rear Wheel Well	240	265	25
K	Sill Height Aft of Rear Wheel Well	637	660	23
L	Rear Bumper Thickness	160	160	0
M	Rear Bumper Bottom to Ground	565	594	29
N	Sill Height to Window Bottom Sill	900	880	-20
O	Front Door Leading Edge to Impact CL	780	781	1
P	Rear Door Trailing Edge to Impact CL	1555	1546	-9
Q	Front Window Opening	535	482	-53
R	Right Side Length	5685	5680	-5
S	Left Side Length	5680	5678	-2
T	Vehicle Width	2138	2130	-8
U	Front Wheel Track Width	1745	1745	0
V	Rear Wheel Track Width	1752	1752	0

DATA SHEET NO. 11
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



LEFT SIDE VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance From Impact
1	Sill Top	-611	102	1800
2	Driver Hip Point	-886	94	1800
3	Mid Door	-914	92	1800
4	Window Sill	-1301	22	-150
5	Window Top	-1863	1	900
				1200
				1650

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 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

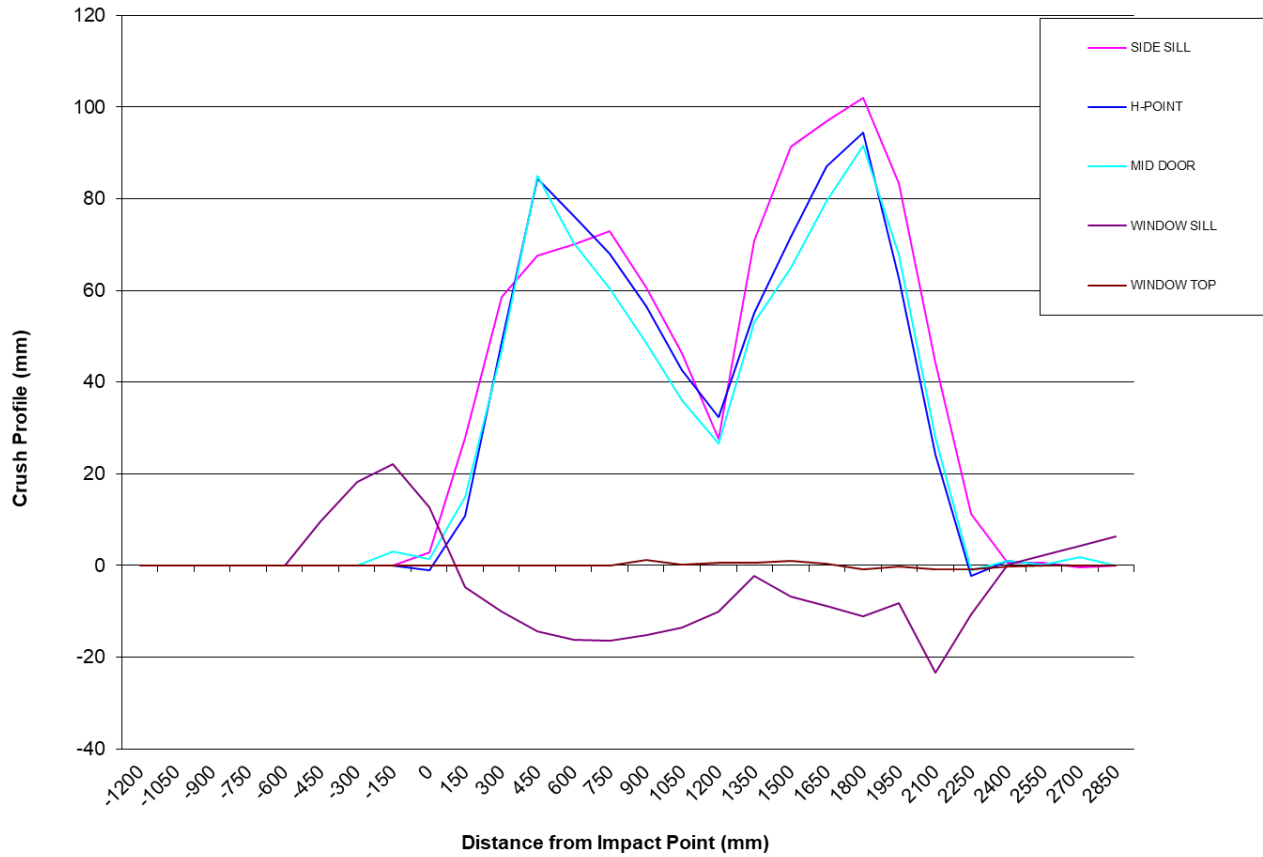
	Pre-Test					Post-Test					Crush				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-450	0	0	0	882	0	0	0	0	872	0	0	0	0	10	0
-300	0	0	0	889	0	0	0	0	870	0	0	0	0	19	0
-150	0	0	1018	895	0	0	0	1015	873	0	0	0	3	22	0
0	979	1001	1005	899	0	976	1002	1004	887	0	3	-1	1	12	0
150	966	998	999	902	0	938	987	984	906	0	28	11	15	-4	0
300	969	992	993	901	0	910	943	946	911	0	59	49	47	-10	0
450	977	986	987	906	0	910	902	903	920	0	67	84	84	-14	0
600	983	985	986	910	0	913	908	916	926	0	70	77	70	-16	0
750	988	986	989	914	0	915	918	928	931	0	73	68	61	-17	0
900	990	988	990	917	662	929	932	941	933	661	61	56	49	-16	1
1050	989	989	991	920	678	942	947	955	933	678	47	42	36	-13	0
1200	991	990	992	922	683	964	958	966	932	682	27	32	26	-10	1
1350	992	991	993	925	684	921	936	939	927	684	71	55	54	-2	0
1500	992	991	993	925	684	900	920	928	932	684	92	71	65	-7	0
1650	991	991	993	926	685	894	904	914	935	684	97	87	79	-9	1
1800	989	991	993	927	684	887	897	901	938	685	102	94	92	-11	-1
1950	987	991	993	928	683	903	928	925	936	683	84	63	68	-8	0
2100	983	991	993	929	680	939	967	965	953	681	44	24	28	-24	-1
2250	976	994	996	930	675	965	997	997	941	676	11	-3	-1	-11	-1
2400	966	1001	1002	931	661	966	1000	1001	931	661	0	1	1	0	0
2550	960	1006	1007	934	0	959	1006	1007	931	0	1	0	0	3	0
2700	978	1008	1008	935	0	978	1008	1006	931	0	0	0	2	4	0
2850	0	0	0	937	0	0	0	0	931	0	0	0	0	6	0
3000	0	0	0	937	0	0	0	0	930	0	0	0	0	7	0
3150	0	0	0	937	0	0	0	0	927	0	0	0	0	10	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 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

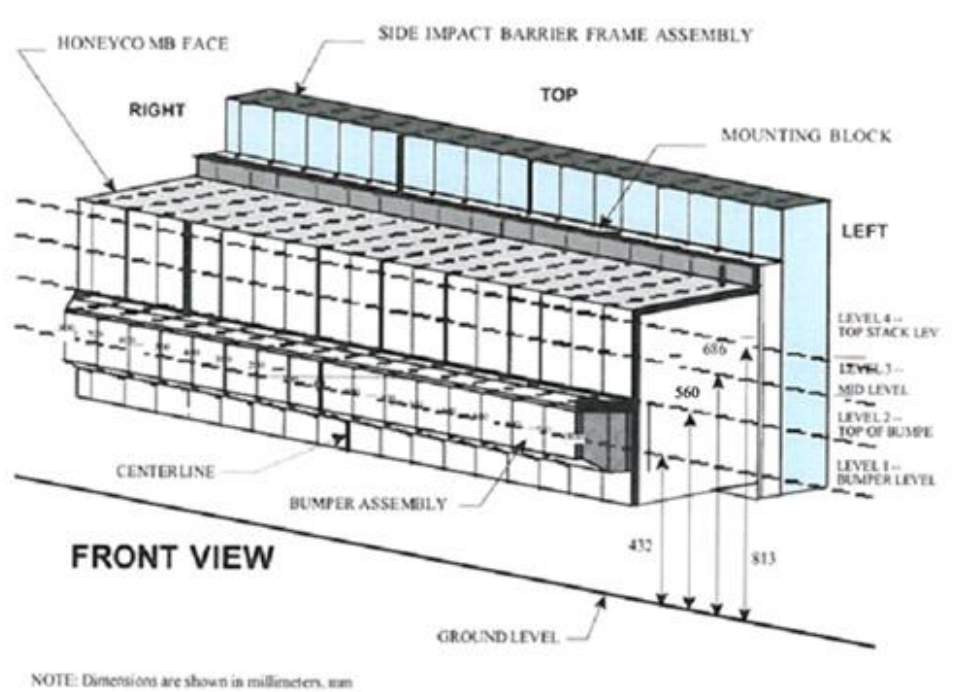
NHTSA No.: M20250112
Test Date: 5/21/2025



DATA SHEET NO. 12
MDB EXTERIOR STATIC CRUSH MEASUREMENTS

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Vertical Location			From Centerline		Maximum Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Right	294
B	Top of Bumper	560	600	Right	252
C	Mid-Level	686	800	Left	233
D	Top of Stack	813	800	Left	255

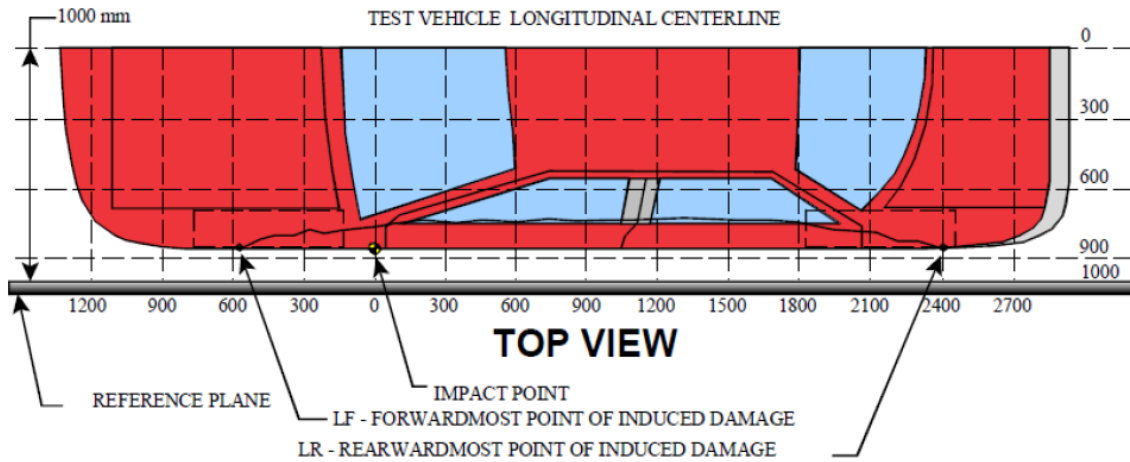
DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	294	291	291	284	277	273	269	266	263	257	253	249	245	241	238	234	230
2	248	251	252	247	243	246	238	233	227	224	220	217	214	211	208	207	208
3	202	192	189	197	231	256	220	211	207	194	179	166	155	148	156	180	233
4	207	192	188	189	225	238	205	186	180	170	164	162	165	165	187	205	255

DATA SHEET NO. 13
VEHICLE AND MDB DAMAGE PROFILE DISTANCES

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	3150	4	927	937	10
2	2400	2	1000	1001	1
	2400	3	1001	1002	
3	1650	1	894	991	97
4	900	1	929	990	61
5	300	1	910	969	59
6	-450	4	872	882	10

MDB DAMAGE PROFILE DISTANCES

DPD	Distance From Center of MDB	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	800	1	236	466	230
2	500	1	244	485	241
3	200	1	233	486	253
4	200	1	218	487	269
5	500	1	203	487	284
6	800	1	180	474	294

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

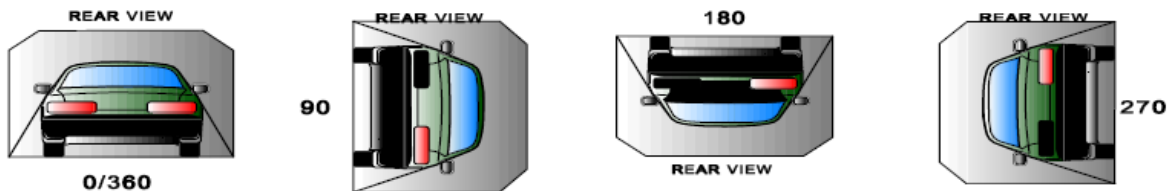
Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025

Test Time: 16:23 **Temperature:** 21.6C

- 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	N/A	N/A	N/A	N/A
90 to 180	N/A	N/A	N/A	N/A
180 to 270	N/A	N/A	N/A	N/A
270 to 360	N/A	N/A	N/A	N/A

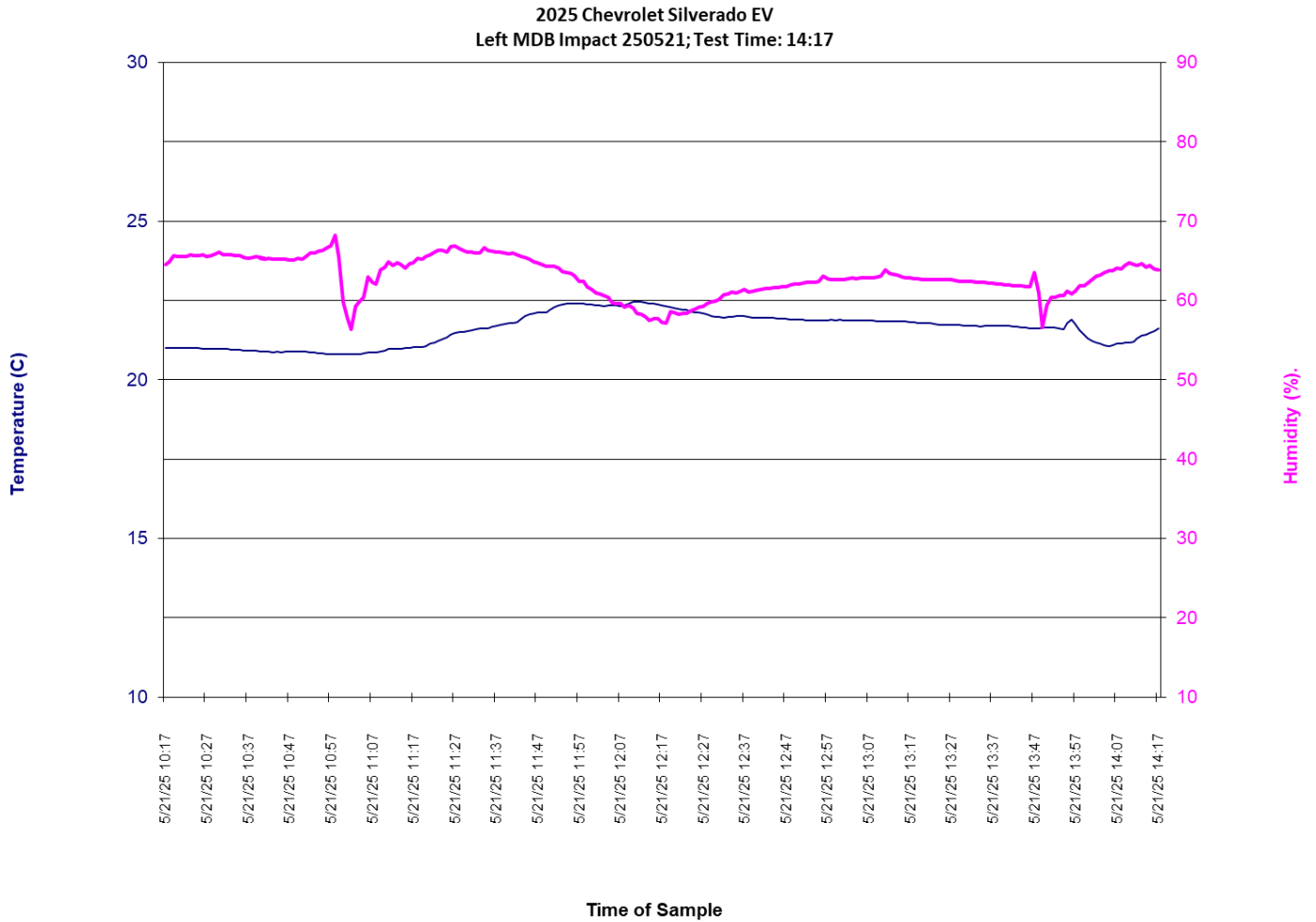
ROLLOVER SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0 to 90	N/A
90 to 180	N/A
180 to 270	N/A
270 to 360	N/A

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

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025



DATA SHEET NO. 305-1
GENERAL TEST AND VEHICLE PARAMETER DATA FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

ELECTRIC VEHICLE PROPULSION SYSTEM

Type of Electric Vehicle (Electric/Hybrid): Electric
Propulsion Battery Type: Lithium-Ion Battery
Nominal Voltage: 350 V
Physical Location of Automatic Propulsion Battery Disconnect: the high voltage
Switches (i.e., contactors) are internal to the battery pack & located in the pack BDU.
Auxiliary Battery Type: 12V AGM

PROPULSION BATTERY SYSTEM DATA (COTR-supplied):

Electrolyte Fluid Type: Newtonian Fluid
Electrolyte Fluid Specific Gravity: 1.203 g/cm3
Electrolyte Fluid Kinematic Viscosity: 3.9235x10E-6 m2/s centistokes
Electrolyte Fluid Color: Colorless / light yellow Transparent
Propulsion Battery Coolant Type, Color, Specific Gravity (if applicable): 50/50
Deionized Water / Ethylene Glycol (DEX-COOL) Mix, Pink/Pale Orange

Location of Battery Modules

- ☐ Inside Passenger Compartment
☒ Outside Passenger Compartment

Propulsion Battery State of Charge:

- ☒ Maximum state of charge

Test Voltage (No less than 95% of Maximum State of Charge): 330.5

OR

- ☐ Range of Normal Operating Voltage

Test Voltage (Within Normal Operative Voltage Range): _____

RECORDED BY: Franklin Xu
APPROVED BY: John Shultz

DATE: 5/29/2025
DATE: 5/29/2025

Test Vehicle:	2025 Chevrolet Silverado EV	NHTSA No.:	M20250112
Test Program:	SINCAP Side Impact	Test Date:	5/21/2025

Battery pack ground strap attachment on the underside of the vehicle

The high voltage battery pack is integrated into the floor of the vehicle beneath the occupant compartment.

RECORDED BY: Franklin Xu
APPROVED BY: John Shultz

DATE: 5/29/2025
DATE: 5/29/2025

DATA SHEET NO. 305-3
PRE-IMPACT ELECTRICAL ISOLATION MEASUREMENTS AND CALCULATIONS FOR
INDICANT FMVSS NO. 305 TESTING

Test Vehicle:	<u>2025 Chevrolet Silverado EV</u>	NHTSA No.:	<u>M20250112</u>
Test Program:	<u>SINCAP Side Impact</u>	Test Date:	<u>5/21/2025</u>

VOLTMETER INFORMATION

The voltmeter used in this test shall measure DC values and have an internal impedance of at least 10MΩ.

NOTE: An oscilloscope meeting the above requirements may need to be used to adequately measure voltage in some vehicles.

Make: Fluke ; Model: 87V ; S/N: 19100211
Internal Impedance Value: 10 MΩ
Resolution: 0.1 V
Last Calibration Date: 10/5/2024

PROPULSION BATTERY VOLTAGE

The measurement shall be made with the propulsion battery connected to the vehicle propulsion system, and the vehicle in the “ready-to-drive” (propulsion motor(s) activated) position.

NOTE: If the voltage measurement is not at the voltage or within the normal operating voltage range specified by the manufacturer, the battery must be charged.

V_b = 330.5 V

ELECTRICAL ISOLATION MEASUREMENTS
PROPULSION BATTERY TO VEHICLE CHASSIS

Vehicle chassis point(s) will be determined and supplied to the Contractor by the COTR.

V₁ = 163.9 V
V₂ = 164.2 V

PROPULSION BATTERY TO VEHICLE CHASSIS ACROSS RESISTOR

The known resistance R_o (in ohms) should be approximately 500 times the nominal operating voltage of the vehicle (in volts) per SAE J1766.

R_o = 220900 Ω
V₁' = 116.1 V Pre-Impact
V₂' = 113.8 V Pre-Impact

DATA SHEET NO. 305-3
PRE-IMPACT ELECTRICAL ISOLATION MEASUREMENTS AND CALCULATIONS FOR
INDICANT FMVSS NO. 305 TESTING (CONT'D)

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

ELECTRICAL ISOLATION CALCULATIONS

NOTE: If measured voltage is zero and results in a division by zero, record "Zero Volts." This "zero voltage" condition is considered as being compliant.

$$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$$

$$R_{i1} = \underline{182062} \quad \Omega \text{ Pre-Impact}$$

$$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$$

$$R_{i2} = \underline{195487} \quad \Omega \text{ Pre-Impact}$$

$$R_i = \text{The lesser of } R_{i1} \text{ and } R_{i2}$$

$$R_i = \underline{182062} \quad \Omega \text{ Pre-Impact}$$

$$R_i/V_b = \text{Electrical Isolation Value/ Nominal Battery Voltage}$$

$$R_i/V_b = \underline{550.9} \quad \Omega \text{ V Pre-Impact}$$

NOTE: The minimum Electrical Isolation Value is 500 Ω / V.

Is the measured Electrical Isolation Value $\geq 500 \Omega$ / V?

☒ Yes

☐ No

Comments: None

RECORDED BY: Franklin Xu
APPROVED BY: John Shultz

DATE: 5/29/2025
DATE: 5/29/2025

DATA SHEET NO. 305-4
POST-IMPACT DATA FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2025 Chevrolet Silverado EV
Test Program: SINCAP Side Impact

NHTSA No.: M20250112
Test Date: 5/21/2025

VOLTMETER INFORMATION

The voltmeter used in this test shall measure DC values and have an internal impedance of at least 10MΩ.

NOTE: An oscilloscope meeting the above requirements may need to be used to adequately measure voltage in some vehicles.

Make: Fluke; Model: 87V; S/N: 19100211
Internal Impedance Value: 10 MΩ
Nominal Propulsion Battery Voltage (Vb): 1.6 V

ELECTRICAL ISOLATION MEASUREMENTS

Record V1, V2, V1', V2' voltage measurements immediately after the impacted vehicle comes to rest.

V1 =	<u>3.3</u>	V	Post-Impact	Time:	<u>2</u>	minutes	<u>00</u>	s
V2 =	<u>1.4</u>	V	Post-Impact	Time:	<u>2</u>	minutes	<u>13</u>	s
V1' =	<u>0.0</u>	V	Post-Impact	Time:	<u>2</u>	minutes	<u>53</u>	s
V2' =	<u>0.0</u>	V	Post-Impact	Time:	<u>2</u>	minutes	<u>59</u>	s

ELECTRICAL ISOLATION CALCULATIONS

NOTE: If measured voltage is zero and results in a division by zero, record "Zero

Volts." This "zero voltage" condition is considered as being compliant.

$$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$$

Ri1 = Zero Volts Ω Post-Impact Time: 2 minutes 59 s

$$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$$

Ri2 = Zero Volts Ω Post-Impact Time: 2 minutes 59 s

Ri = The lesser of Ri1 and Ri2

Ri = Zero Volts Ω Post-Impact Time: 2 minutes 59 s

Ri/Vb = Electrical Isolation Value/ Nominal Battery Voltage

Ri/Vb = Zero Volts Ω/V Post-Impact Time: 2 minutes 59 s

NOTE: The minimum Electrical Isolation Value is 500 Ω/ V.

Is the measured Electrical Isolation Value $\geq 500 \Omega / V$?

☒ Yes

☐ No (Fail)

DATA SHEET NO. 305-4
POST-IMPACT DATA FOR INDICANT FMVSS NO. 305 TESTING (CONT'D)

PROPULSION BATTERY SYSTEM COMPONENTS

Describe any Propulsion Battery Module movement within the passenger compartment.
[Supply photographs as appropriate]:

N/A

Has the Propulsion Battery Module moved within the passenger compartment?

☐ Yes (Fail)

☒ No

Describe any intrusion of an outside Propulsion Battery Component into the passenger compartment. [Supply photographs as appropriate]:

N/A

Has an outside Propulsion Battery Component intruded into the passenger compartment?

☐ Yes (Fail)

☒ No

Is the Propulsion Battery Electrolyte Spillage visible in the passenger compartment?

☐ Yes (Fail)

☒ No

RECORDED BY: Franklin Xu
APPROVED BY: John Shultz

DATE: 5/29/2025
DATE: 5/29/2025

DATA SHEET NO. 305-5
STATIC ROLLOVER TEST DATA FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2025 Chevrolet Silverado EV
 Test Program: SINCAP Side Impact

NHTSA No.: M20250112
 Test Date: 5/21/2025



PROPULSION BATTERY ELECTROLYTE COLLECTION TIME PERIOD

Test Phase	Rotation Time (spec. 1-3 min)				FMVSS No. 301 Hold Time		Total Time				Next Whole Minute Interval	
0°-90°	1	min.	32	sec.	8	min.	10	min.	0	sec.	10	min.
90°-180°	1	min.	31	sec.	8	min.	20	min.	3	sec.	21	min.
180°-270°	1	min.	30	sec.	8	min.	30	min.	0	sec.	31	min.
270°-360°	1	min.	31	sec.	8	min.	40	min.	1	sec.	41	min.

TEST VEHICLE PROPULSION BATTERY ELECTROLYTE SPILLAGE

**NOTE: The maximum allowable Propulsion Battery Electrolyte Spillage is
5.0 Liters.**

Test Phase	Propulsion Battery Electrolyte Spillage (L)	Spillage Location
0°-90°	0	None
90°-180°	0	None
180°-270°	0	None
270°-360°	0	None

Total Spillage: 0 L

Is the total Propulsion Battery Electrolyte Spillage greater than 5.0 Liters?

☐ Yes (Fail) ☒ No

Is the Propulsion Battery Electrolyte Spillage visible in the passenger compartment?

☐ Yes (Fail) ☒ No

DATA SHEET NO. 305-5
STATIC ROLLOVER TEST DATA FOR INDICANT FMVSS NO. 305 TESTING
(CONT'D)

VOLTMETER INFORMATION

The voltmeter used in this test shall measure DC values and have an internal impedance of at least 10MΩ.

NOTE: An oscilloscope meeting the above requirements may need to be used to adequately measure voltage in some vehicles.

Make: Fluke ; V 87V ; S/N: 19100211
 Internal Impedance Value: 10 MΩ
 Nominal Propulsion Battery Voltage (Vb): 1.6 V

ELECTRICAL ISOLATION MEASUREMENTS

Record V1, V2, V1', V2' voltage measurements at the start of each successive increment of 90°, 180°, 270°, and 360° of the static rollover test.

V1 =	<u>-3.1</u>	V @ 90°	Time:	<u>10</u>	minutes	<u>5</u>	s
V1 =	<u>-3.1</u>	V @ 180°	Time:	<u>20</u>	minutes	<u>40</u>	s
V1 =	<u>-2.4</u>	V @ 270°	Time:	<u>30</u>	minutes	<u>7</u>	s
V1 =	<u>-2.3</u>	V @ 360°	Time:	<u>40</u>	minutes	<u>2</u>	s
V2 =	<u>0.4</u>	V @ 90°	Time:	<u>10</u>	minutes	<u>13</u>	s
V2 =	<u>1.5</u>	V @ 180°	Time:	<u>20</u>	minutes	<u>47</u>	s
V2 =	<u>2.3</u>	V @ 270°	Time:	<u>30</u>	minutes	<u>14</u>	s
V2 =	<u>2.3</u>	V @ 360°	Time:	<u>40</u>	minutes	<u>9</u>	s
V1' =	<u>-0.6</u>	V @ 90°	Time:	<u>10</u>	minutes	<u>33</u>	s
V1' =	<u>-0.6</u>	V @ 180°	Time:	<u>20</u>	minutes	<u>57</u>	s
V1' =	<u>-0.5</u>	V @ 270°	Time:	<u>30</u>	minutes	<u>33</u>	s
V1' =	<u>-0.5</u>	V @ 360°	Time:	<u>40</u>	minutes	<u>15</u>	s
V2' =	<u>0.3</u>	V @ 90°	Time:	<u>10</u>	minutes	<u>39</u>	s
V2' =	<u>0.3</u>	V @ 180°	Time:	<u>20</u>	minutes	<u>59</u>	s
V2' =	<u>0.5</u>	V @ 270°	Time:	<u>30</u>	minutes	<u>38</u>	s
V2' =	<u>0.5</u>	V @ 360°	Time:	<u>40</u>	minutes	<u>21</u>	s

DATA SHEET NO. 305-5
STATIC ROLLOVER TEST DATA FOR INDICANT FMVSS NO. 305 TESTING
(CONT'D)

ELECTRICAL ISOLATION CALCULATIONS

NOTE: If measured voltage is zero and results in a division by zero, record "Zero Volts." This "zero voltage" condition is considered as being compliant.

$$Ri1 = Ro (1 + V2/V1) [(V1-V1')/V1']$$

Ri1 =	<u>786266</u>	Ω	@ 90°	Time:	<u>10</u>	minutes	<u>39</u>	s
Ri1 =	<u>475528</u>	Ω	@ 180°	Time:	<u>20</u>	minutes	<u>59</u>	s
Ri1 =	<u>57069</u>	Ω	@ 270°	Time:	<u>30</u>	minutes	<u>38</u>	s
Ri1 =	<u>-5420</u>	Ω	@ 360°	Time:	<u>40</u>	minutes	<u>21</u>	s

$$Ri2 = Ro (1 + V1/V2) [(V2-V2')/V2']$$

Ri2 =	<u>-441574</u>	Ω	@ 90°	Time:	<u>10</u>	minutes	<u>39</u>	s
Ri2 =	<u>-1016354</u>	Ω	@ 180°	Time:	<u>20</u>	minutes	<u>59</u>	s
Ri2 =	<u>-56675</u>	Ω	@ 270°	Time:	<u>30</u>	minutes	<u>38</u>	s
Ri2 =	<u>4761</u>	Ω	@ 360°	Time:	<u>40</u>	minutes	<u>21</u>	s

Ri = The lesser of Ri1 and Ri2

Ri =	<u>-441574</u>	Ω	@ 90°	Time:	<u>10</u>	minutes	<u>39</u>	s
Ri =	<u>475528</u>	Ω	@ 180°	Time:	<u>20</u>	minutes	<u>59</u>	s
Ri =	<u>-56675</u>	Ω	@ 270°	Time:	<u>30</u>	minutes	<u>38</u>	s
Ri =	<u>4761</u>	Ω	@ 360°	Time:	<u>40</u>	minutes	<u>21</u>	s

Ri/Vb = Electrical Isolation Value/ Nominal Battery Voltage

RiVb =	<u>-275984</u>	Ω	@ 90°	Time:	<u>10</u>	minutes	<u>39</u>	s
RiVb =	<u>297205</u>	Ω	@ 180°	Time:	<u>20</u>	minutes	<u>59</u>	s
RiVb =	<u>-35422</u>	Ω	@ 270°	Time:	<u>30</u>	minutes	<u>38</u>	s
RiVb =	<u>2976</u>	Ω	@ 360°	Time:	<u>40</u>	minutes	<u>21</u>	s

NOTE: The minimum Electrical Isolation Value is 500 Ω/ V.

Is the measured Electrical Isolation Value ≥500 Ω/ V?

☒ Yes ☐ No (Fail)

Comments: None

RECORDED BY: Franklin Xu
APPROVED BY: John Shultz

DATE: 5/29/2025
DATE: 5/29/2025

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

No.	Description	Page
001	As-Delivered Right Front $\frac{3}{4}$ View of Test Vehicle	A-6
002	As-Delivered Left Rear $\frac{3}{4}$ View of Test Vehicle	A-6
003	Pre-Test Frontal View of Test Vehicle	A-7
004	Post-Test Frontal View of Test Vehicle	A-7
005	Pre-Test Left Front $\frac{3}{4}$ View of Test Vehicle	A-8
006	Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle	A-8
007	Pre-Test Left Side View of Test Vehicle	A-9
008	Post-Test Left Side View of Test Vehicle	A-9
009	Pre-Test Left Rear $\frac{3}{4}$ View of Test Vehicle	A-10
010	Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle	A-10
011	Pre-Test Rear View of Test Vehicle	A-11
012	Post-Test Rear View of Test Vehicle	A-11
013	Pre-Test Right Side View of Test Vehicle	A-12
014	Post-Test Right Side View of Test Vehicle	A-12
015	Pre-Test Overhead View of Test Area	A-13
016	Post-Test Overhead View of Test Area	A-13
017	Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle	A-14
018	Pre-Test Right Side View of MDB Positioned Against Side of Test Vehicle	A-14
019	Pre-Test Close-Up View of Impact Point Target	A-15
020	Post-Test Close-Up View of Impact Point Target	A-15
021	Pre-Test Left Front Door Latch Close-Up	A-16
022	Post-Test Left Front Door Latch Close-Up	A-16
023	Pre-Test Left Rear Door Latch Close-Up	A-17
024	Post-Test Left Rear Door Latch Close-Up	A-17
025	Pre-Test Front Close-Up View of Driver Dummy	A-18
026	Post-Test Front Close-Up View of Driver Dummy	A-18
027	Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking	A-19
028	Pre-Test Left Side View of Driver Dummy Shoulder and Door Top	A-20
029	Post-Test Left Side View of Driver Dummy Shoulder and Door Top	A-20
030	Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning	A-21
031	Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint	A-21
032	Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning	A-22
033	Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan	A-22
034	Pre-Test Placement of Driver Dummy's Feet	A-23
035	Pre-Test View of Belt Anchorage for Driver Dummy	A-23
036	Pre-Test Left Side View of Steering Wheel	A-24

TABLE OF PHOTOGRAPHS (CONTINUED)

No.	Description	Page
037	View of Disengaged Parking Brake	A-24
038	Pre-Test View of Parking Brake	A-25
039	Pre-Test Close-Up Left Side View of Driver Seat Track	A-25
040	Pre-Test Close-Up Left Side View of Driver Seat Back	A-26
041	Pre-Test Close-Up View of Driver Seat Back or Head Restraint	A-26
042	Pre-Test Driver Dummy and Door Clearance View	A-27
043	Post-Test Driver Dummy and Door Clearance View	A-27
044	Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment	A-28
045	Post-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment	A-28
046	Pre-Test Driver Inner Door Panel View	A-29
047	Post-Test Driver Inner Door Panel View Showing Driver Dummy Contact Locations	A-29
048	Post-Test Driver Dummy Close-Up Head Contact with Vehicle View	A-30
049	Post-Test Driver Dummy Close-Up Head Contact with Side Airbag View	A-30
050	Post-Test Driver Dummy Close-Up Torso Contact with Vehicle Interior View	A-31
051	Post-Test Driver Dummy Close-Up Torso Contact with Side Airbag View	A-31
052	Post-Test Driver Dummy Close-Up Pelvis Contact View	A-32
053	Post-Test Driver Dummy Close-Up Pelvis Contact with Side Airbag View	A-32
054	Post-Test Driver Dummy Close-Up Knee Contact View	A-33
055	Pre-Test Left Side View of Rear Passenger Dummy Showing Belt and Chalking	A-33
056	Pre-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View	A-34
057	Post-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View	A-34
058	Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning	A-35
059	Pre-Test Frontal View of Rear Passenger Dummy Head and Shoulders in Relation to Head Restraint	A-35
060	Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning	A-36
061	Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan	A-36
062	Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket	A-37
063	Pre-Test View of Rear Passenger Dummy's Head Showing Dummy's Head is Level	A-37

TABLE OF PHOTOGRAPHS (CONTINUED)

No.	Description	Page
064	Pre-Test Placement of Rear Passenger Dummy's Feet	A-38
065	Pre-Test View of Belt Anchorage for Rear Passenger Dummy	A-38
066	Pre-Test Close-Up Left Side View of Rear Passenger Seat Track	A-39
067	Pre-Test Close-Up Left Side View of Rear Passenger Seat Back	A-39
068	Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint	A-40
069	Pre-Test Rear Passenger Dummy and Door Clearance View	A-41
070	Post-Test Rear Passenger Dummy and Door Clearance View	A-41
071	Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment	A-42
072	Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment	A-42
073	Pre-Test Rear Passenger Inner Door Panel View	A-43
074	Post-Test Rear Passenger Inner Door Panel View	A-43
075	Post-Test Rear Passenger Dummy Close-Up Head Contact with Vehicle View	A-44
076	Post-Test Rear Passenger Dummy Close-Up Head Contact with Side Airbag View	A-44
077	Post-Test Rear Passenger Dummy Close-Up Torso Contact with Vehicle Interior View	A-45
078	Post-Test Rear Passenger Dummy Close-Up Torso Contact with Side Airbag View	A-45
079	Post-Test Rear Passenger Dummy Close-Up Pelvis Contact View	A-46
080	Post-Test Rear Passenger Dummy Close-Up Pelvis Contact with Side Airbag View	A-46
081	Post-Test Rear Passenger Dummy Close-Up Knee Contact View	A-47
082	Pre-Test View of Fuel Filler Cap or Fuel Filler Neck	A-48
083	Post-Test View of Fuel Filler Cap or Fuel Filler Neck	A-48
084	Pre-Test Front View of MDB Impactor Face	A-49
085	Post-Test Front View of MDB Impactor Face	A-49
086	Pre-Test Top View of MDB Impactor Face	A-50
087	Post-Test Top View of MDB Impactor Face	A-50
088	Pre-Test Left Side View of MDB Impactor Face	A-51
089	Post-Test Left Side View of MDB Impactor Face	A-51
090	Pre-Test Right Side View of MDB Impactor Face	A-52
091	Post-Test Right Side View of MDB Impactor Face	A-52

TABLE OF PHOTOGRAPHS (CONTINUED)

No.	Description	Page
092	Close-Up View of Vehicle's Certification Label	A-53
093	Close-Up View of Vehicle's Tire Information Placard or Label	A-53
094	Pre-Test Ballast View	A-54
095	Post-Test Primary and Redundant Speed Trap Read-Out	A-54
096	FMVSS No. 301 Static Rollover 0 Degrees	A-55
097	FMVSS No. 301 Static Rollover 90 Degrees	A-55
098	FMVSS No. 301 Static Rollover 180 Degrees	A-56
099	FMVSS No. 301 Static Rollover 270 Degrees	A-56
100	FMVSS No. 301 Static Rollover 360 Degrees	A-57
101	Impact Event	A-57
102	Monroney Label	A-58
103	Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-58
104	Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual	A-59
305-01	Auxiliary Power Module Warning Label	A-59
305-02	Power Inverter Warning Label	A-60
305-03	First Responder Warning Label	A-60
305-04	First Responder Warning Location	A-61
305-05	Other Vehicle Label(s) Related to Electrical Propulsion System	A-61
305-06	Manual High Voltage Service Disconnect in Place	A-62
305-07	Manual High Voltage Service Disconnect Removed	A-62
305-08	Manual High Voltage Service Disconnect Removed	A-63
305-09	Pre-Impact View of Propulsion Battery	A-63
305-010	Post-Impact Front View of Propulsion Battery	A-64
305-011	Post-Impact Rear View of Propulsion Battery	A-64
305-012	Pre-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules	A-65
305-013	Post-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules	A-65
305-014	Pre-Impact View of Propulsion Battery Module(s)	A-66
305-015	Post-Impact View of Propulsion Battery Module(s)	A-66
305-016	Pre-Impact View of Electric Propulsion Drive	A-67
305-017	Post-Impact View of Electric Propulsion Drive	A-67
305-018	Pre-Impact View of High Voltage Interconnect(s)	A-68
305-019	Pre-Impact View Propulsion Battery Venting System(s)	A-68
305-020	Pre-Impact View of Other Visible Electric Propulsion Components	A-69
305-021	Pre-Impact View of Ground Lead Attached	A-69

TABLE OF PHOTOGRAPHS (CONTINUED)

No.	Description	Page
305-022	Pre-Impact View of High Voltage Leads Attached	A-70
305-023	Pre-Impact Close-Up View of High Voltage Leads Attached	A-70
305-024	Pre-Impact View of Installed Test Interface Port	A-71
305-025	Post-Impact View of Installed Test Interface Port	A-71
305-026	Pre-Impact View of Other Test Devices	A-72
305-027	Post-Impact View of Other Test Devices	A-72
305-028	FMVSS No. 305 Static Rollover at 90°	A-73
305-029	FMVSS No. 305 Static Rollover at 180°	A-73
305-030	FMVSS No. 305 Static Rollover at 270°	A-74
305-031	FMVSS No. 305 Static Rollover at 360°	A-74
305-032	Pre-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery	A-75
305-033	Post-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery	A-75
305-034	Post-Impact Propulsion Battery System Mounting and/or Intrusion Failure(s)	A-76
305-035	Post-Impact View of Battery Component Intrusion	A-76
305-036	Post-Impact View of Battery Module Movement or Retention Loss	A-77
305-037	Post-Impact View of Propulsion Battery Electrolyte Spillage Location	A-77
305-038	Post-Test View of Propulsion Battery Electrolyte Spillage Location	A-78



001 As-Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



002 As-Delivered Left Rear $\frac{3}{4}$ 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 $\frac{3}{4}$ View of Test Vehicle



006 Post-Test Left Front $\frac{3}{4}$ 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 $\frac{3}{4}$ View of Test Vehicle



010 Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



011 Pre-Test Rear View of Test Vehicle



012 Post-Test Rear View of Test Vehicle



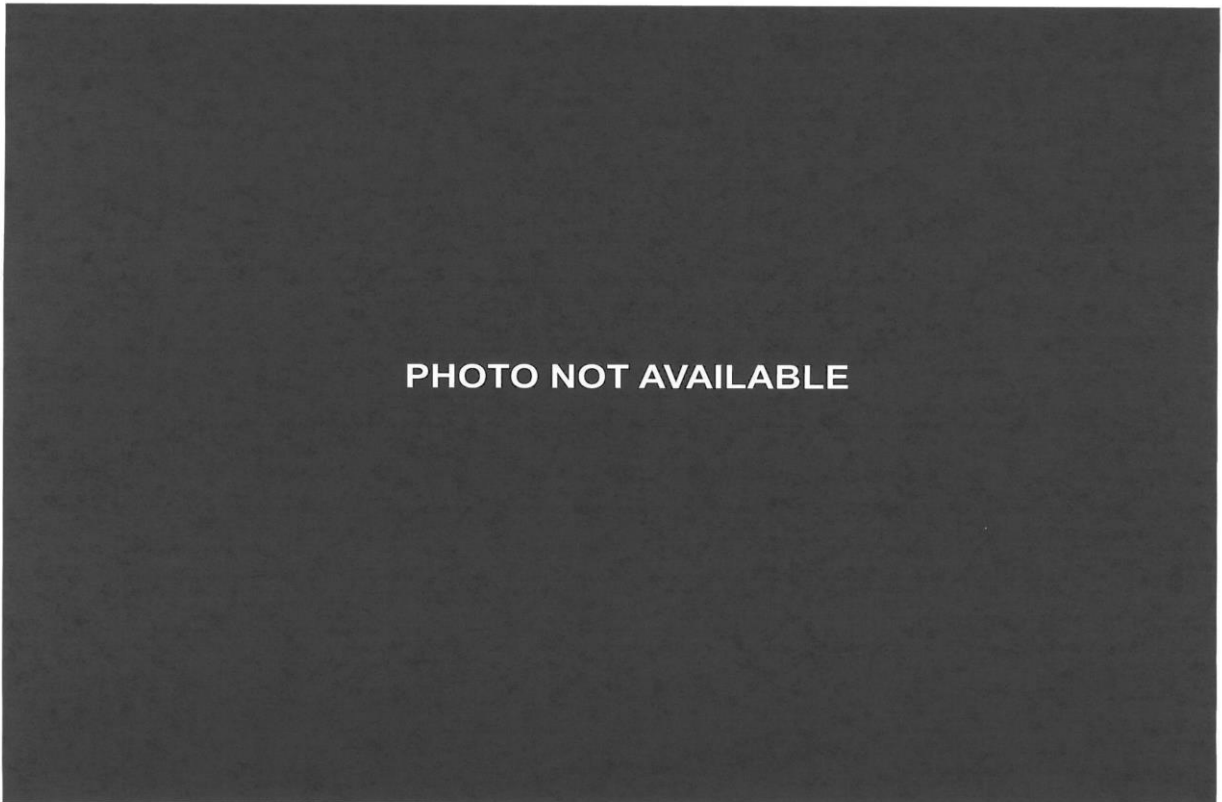
013 Pre-Test Right Side View of Test Vehicle



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

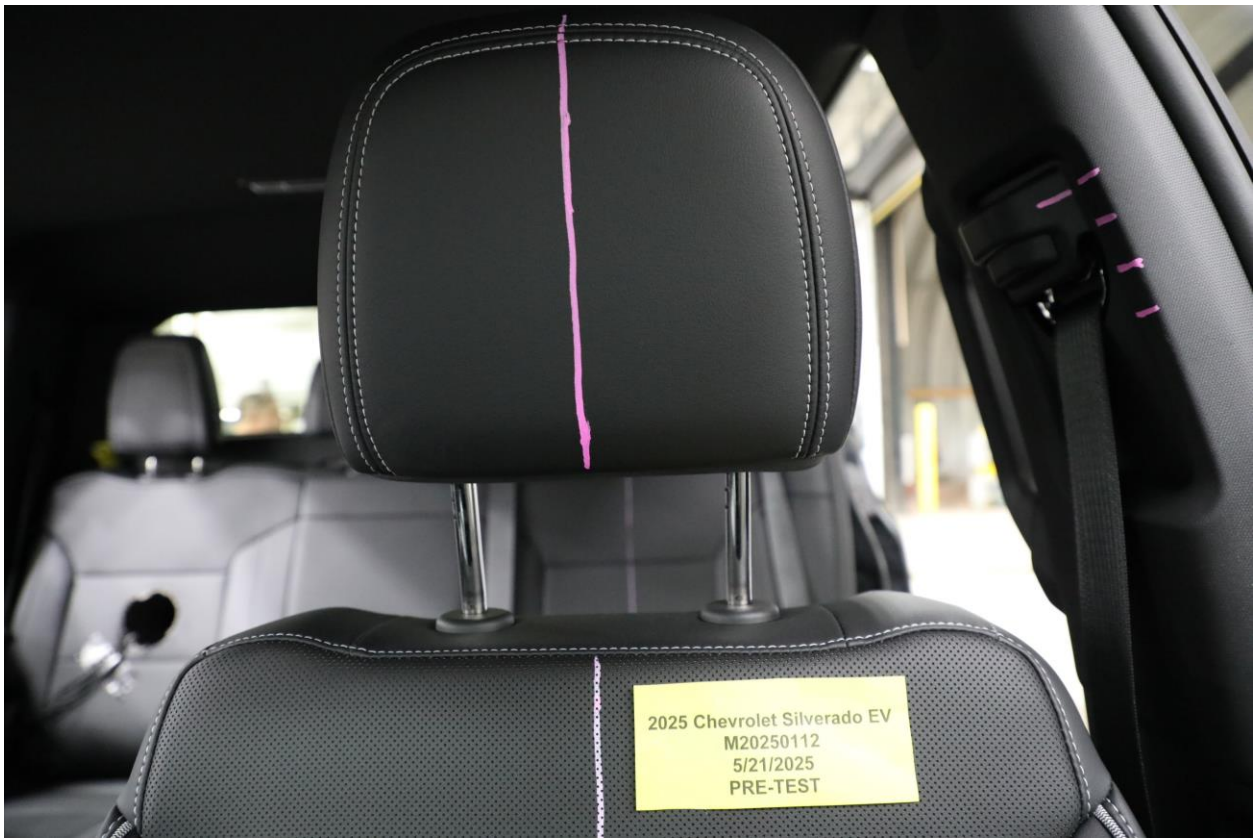
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028 Pre-Test Left Side View of Driver Dummy Shoulder and Door Top



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



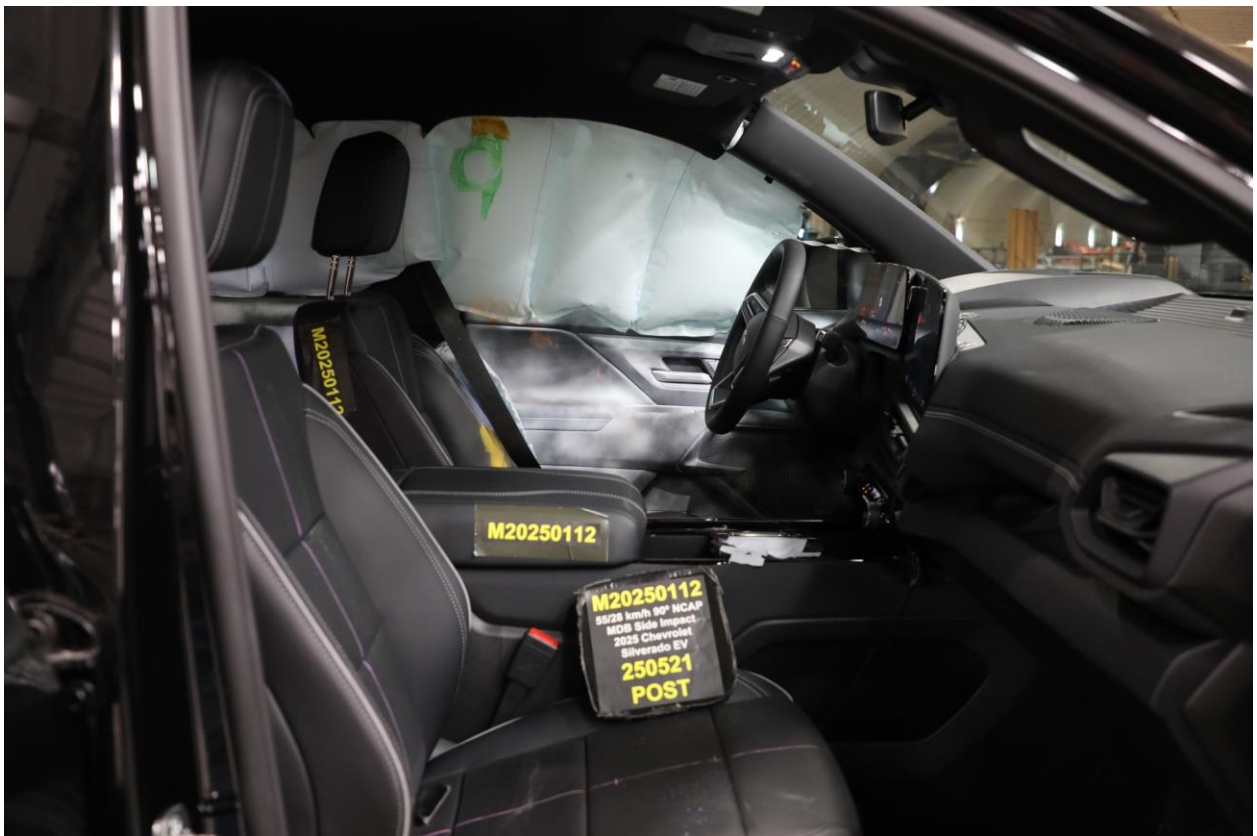
044 Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



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



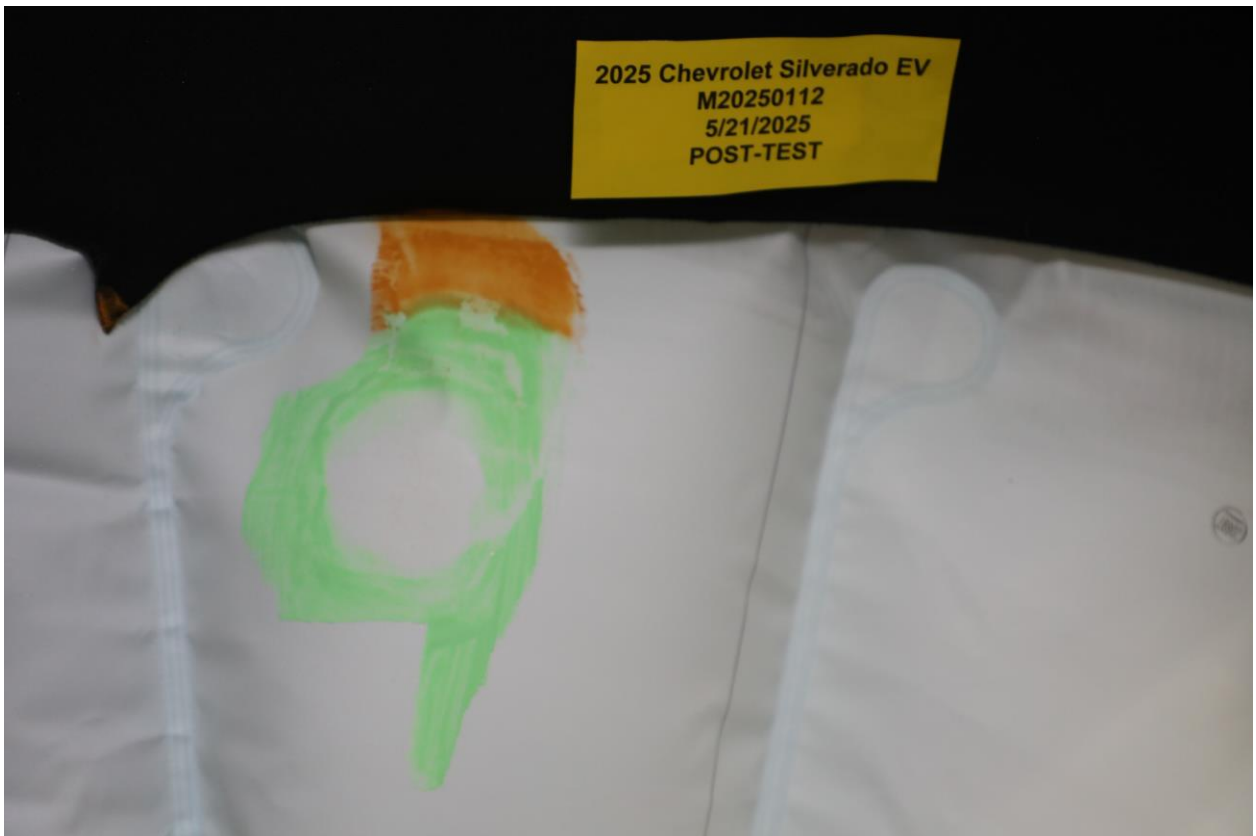
046 Pre-Test Driver Inner Door Panel View



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

PHOTO NOT APPLICABLE

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

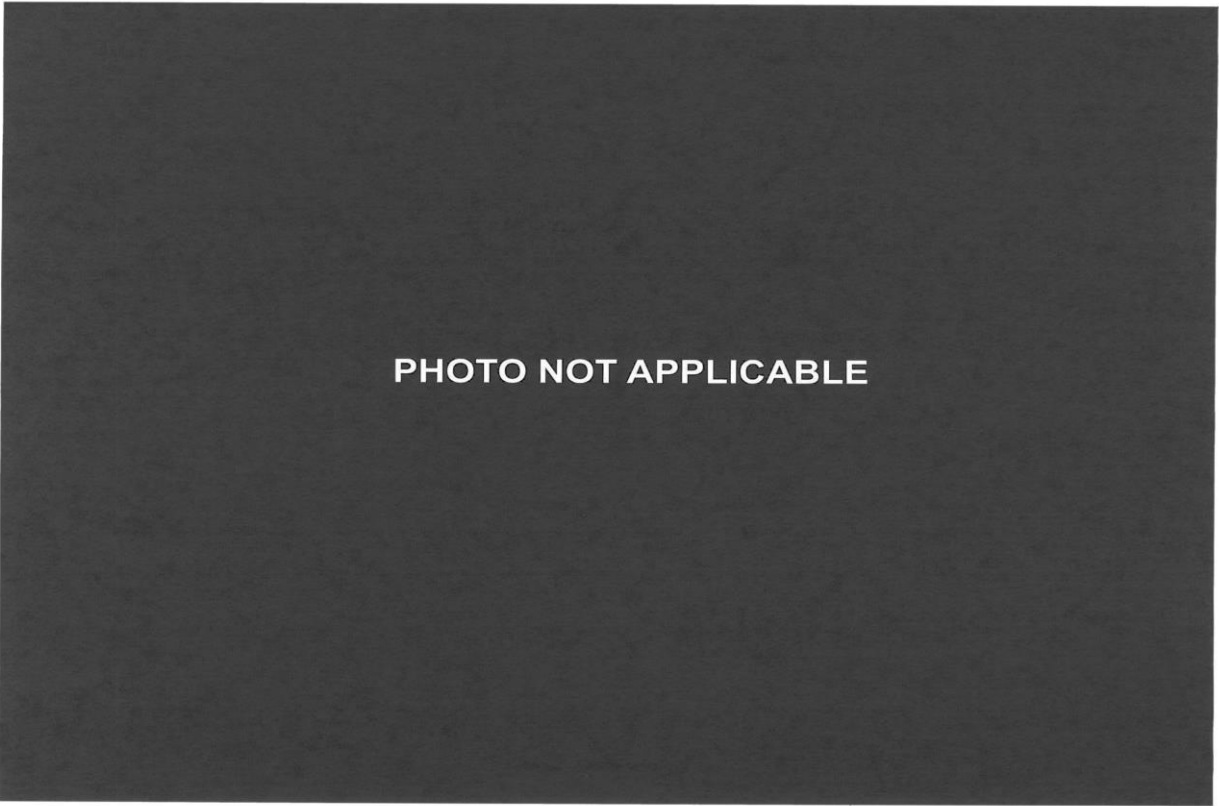


PHOTO NOT APPLICABLE

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

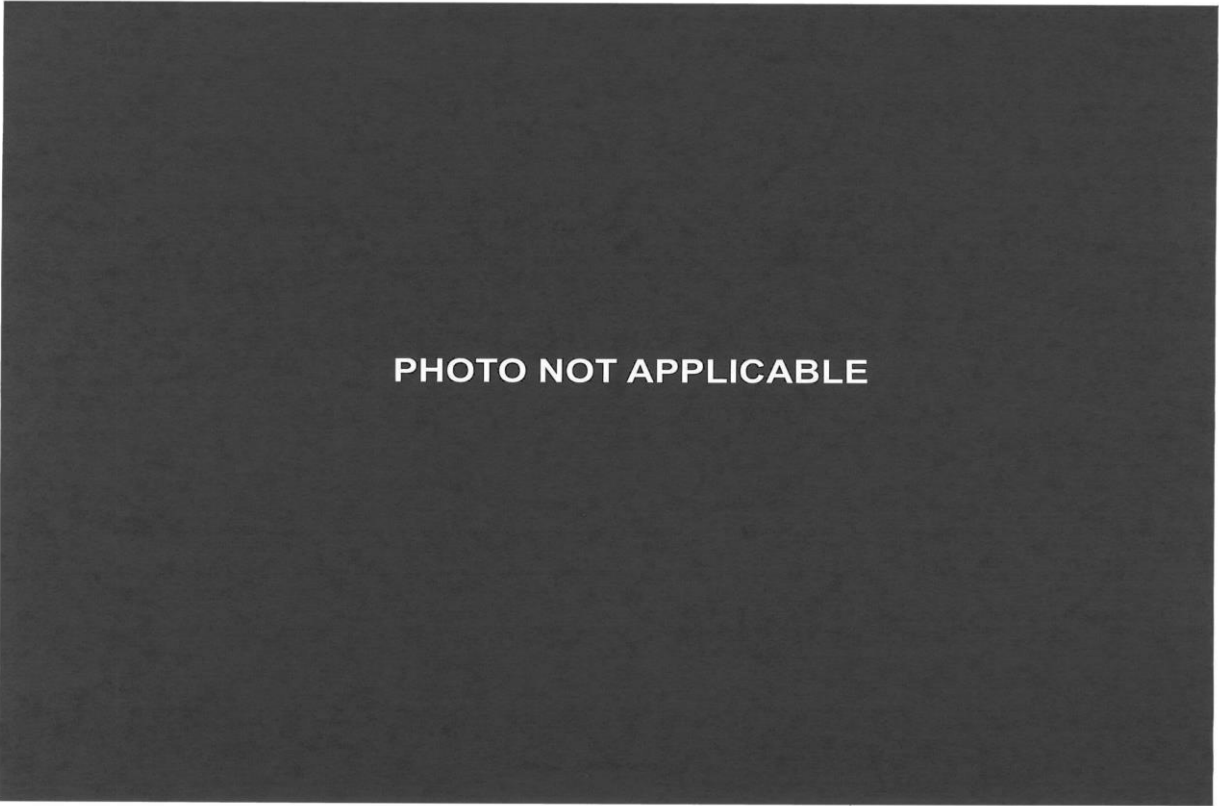
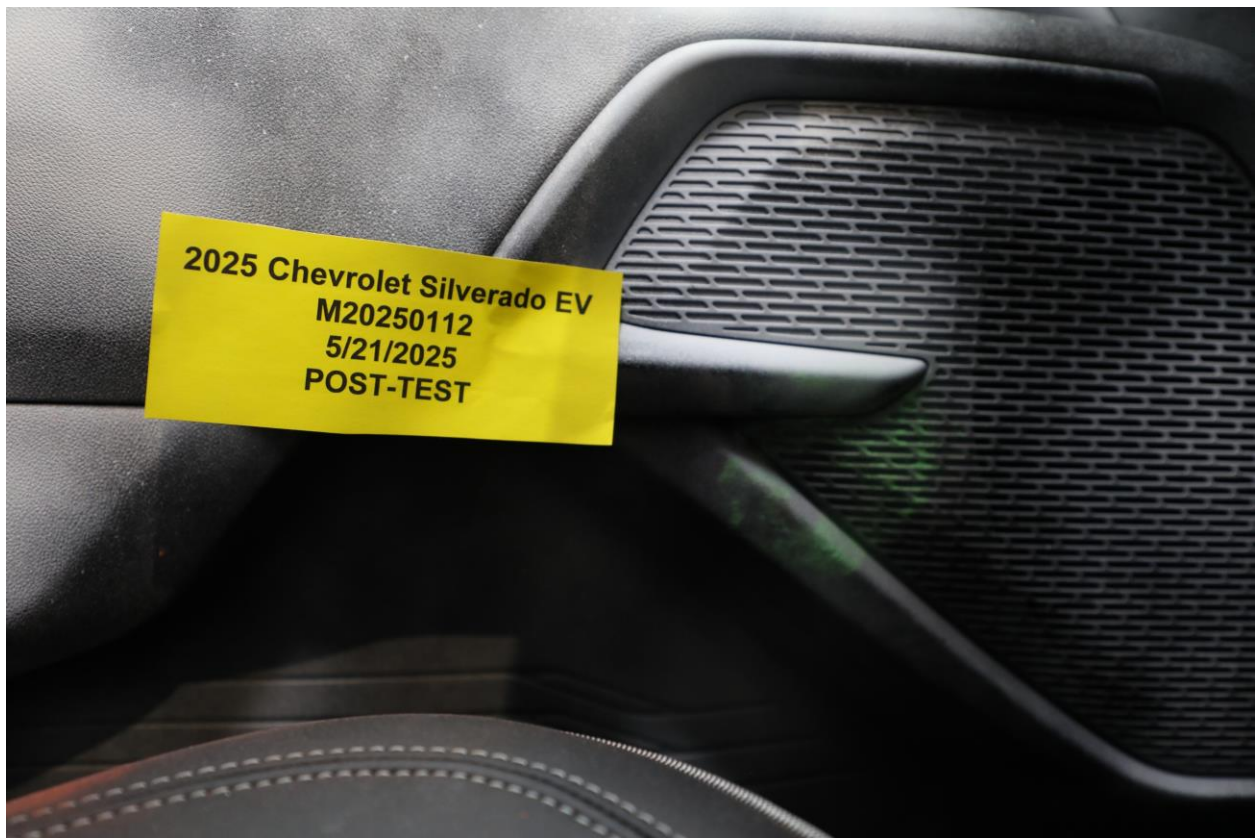


PHOTO NOT APPLICABLE

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



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



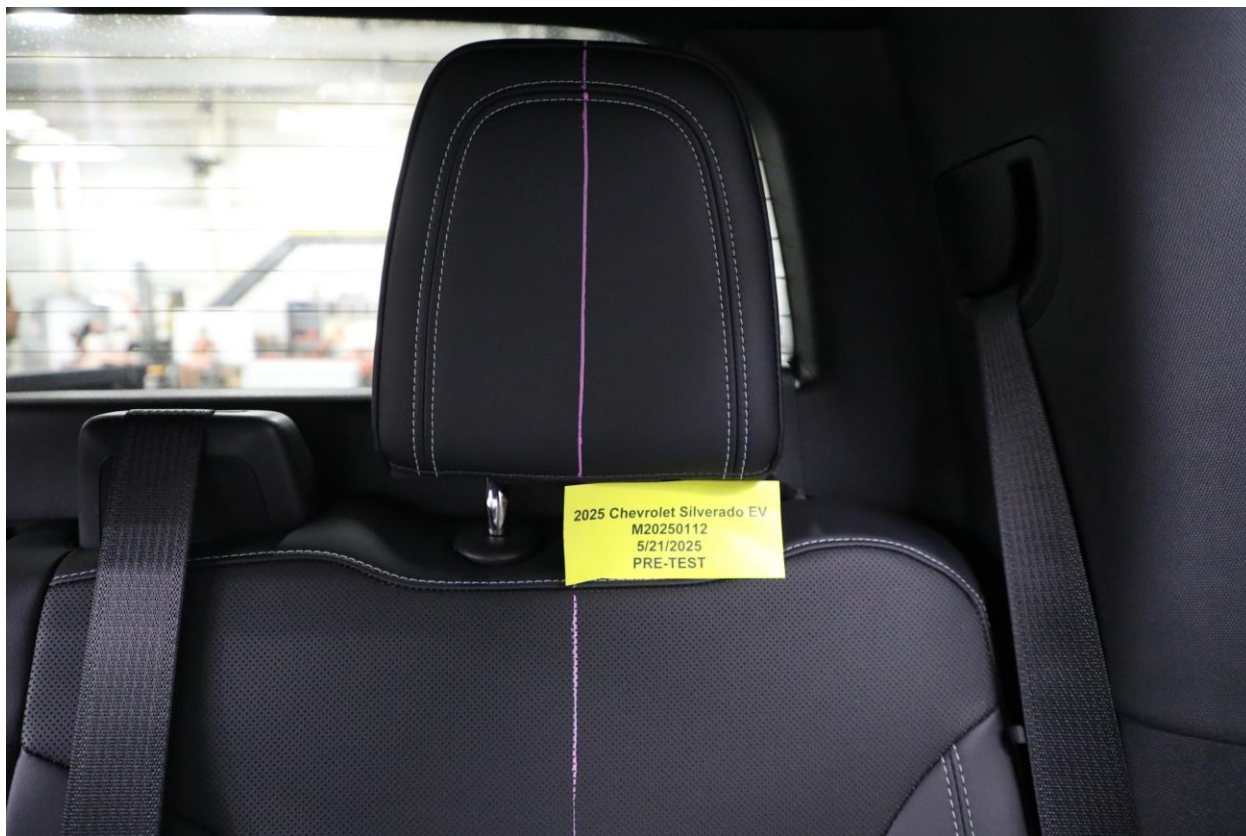
055 Pre-Test Left Side View of Passenger Dummy Showing Belt and Chalking



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



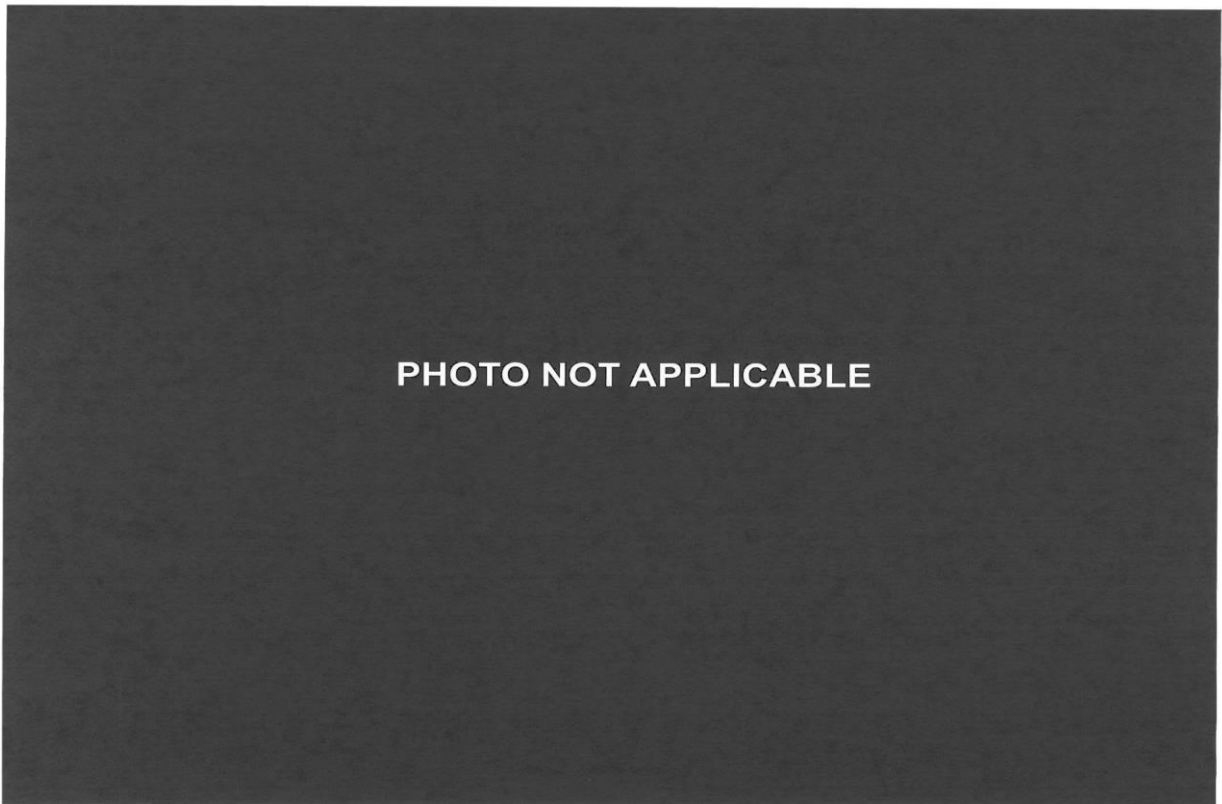
064 Pre-Test Placement of Rear Passenger Dummy's Feet



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

PHOTO NOT APPLICABLE

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



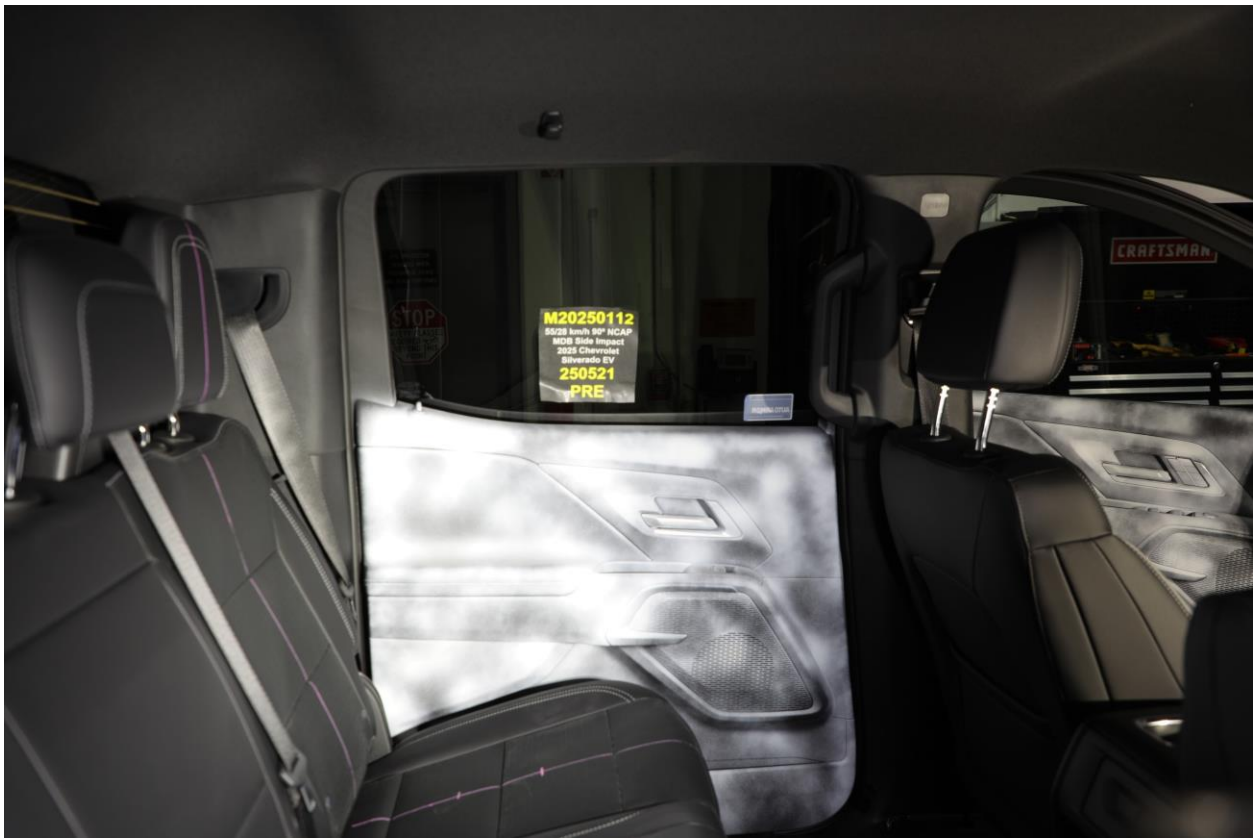
070 Post-Test Rear Passenger Dummy and Door Clearance View



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



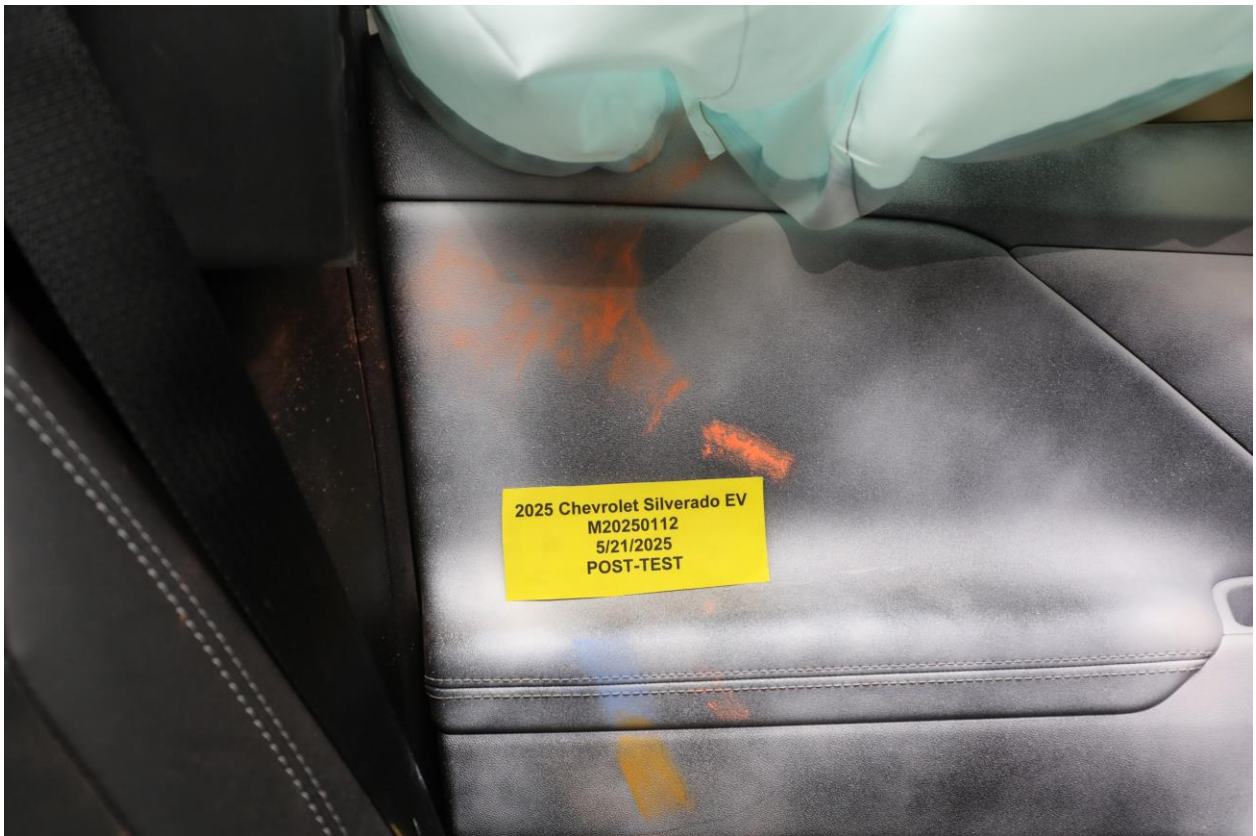
074 Post-Test Rear Passenger Inner Door Panel View



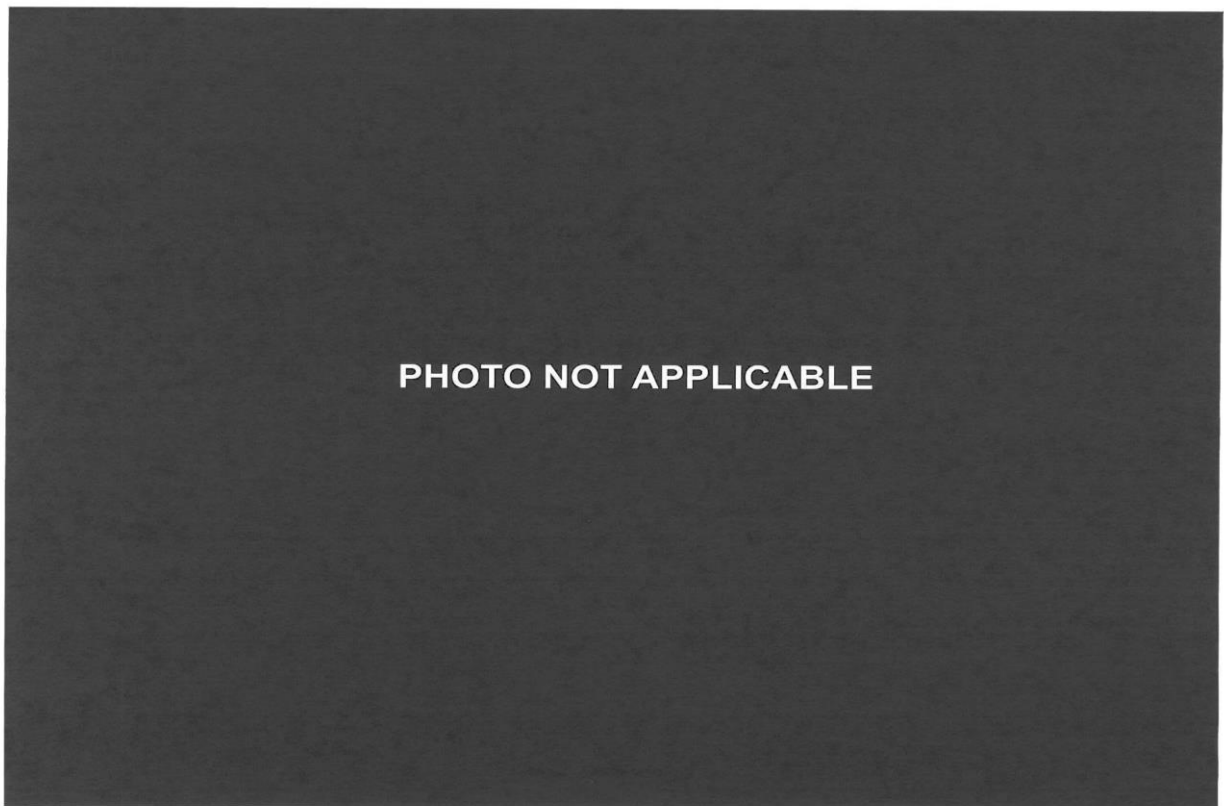
075 Post-Test Rear Passenger Dummy Close-Up Head Contact with Vehicle View



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



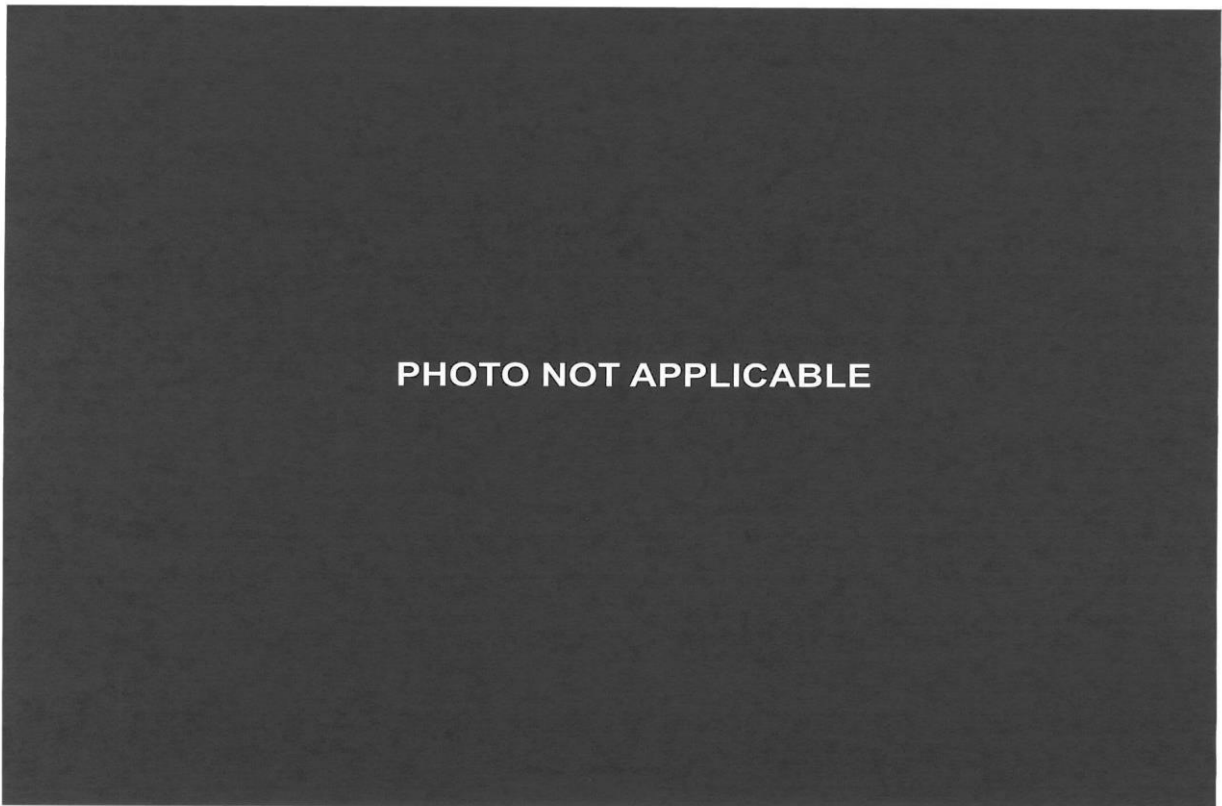
077 Post-Test Rear Passenger Dummy Close-Up Torso Contact with Vehicle Interior View



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



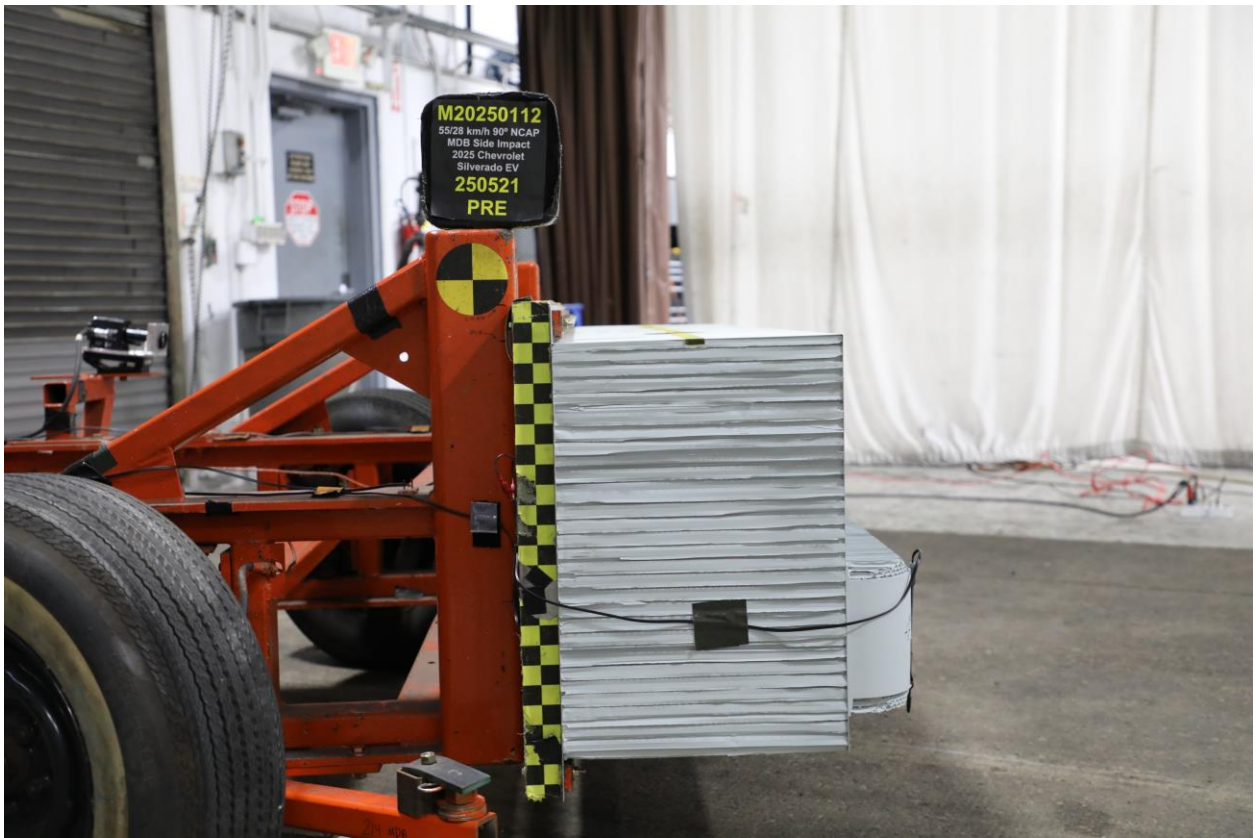
087 Post-Test Top View of MDB Impactor Face



088 Pre-Test Left Side View of MDB Impactor Face



089 Post-Test Left Side View of MDB Impactor Face



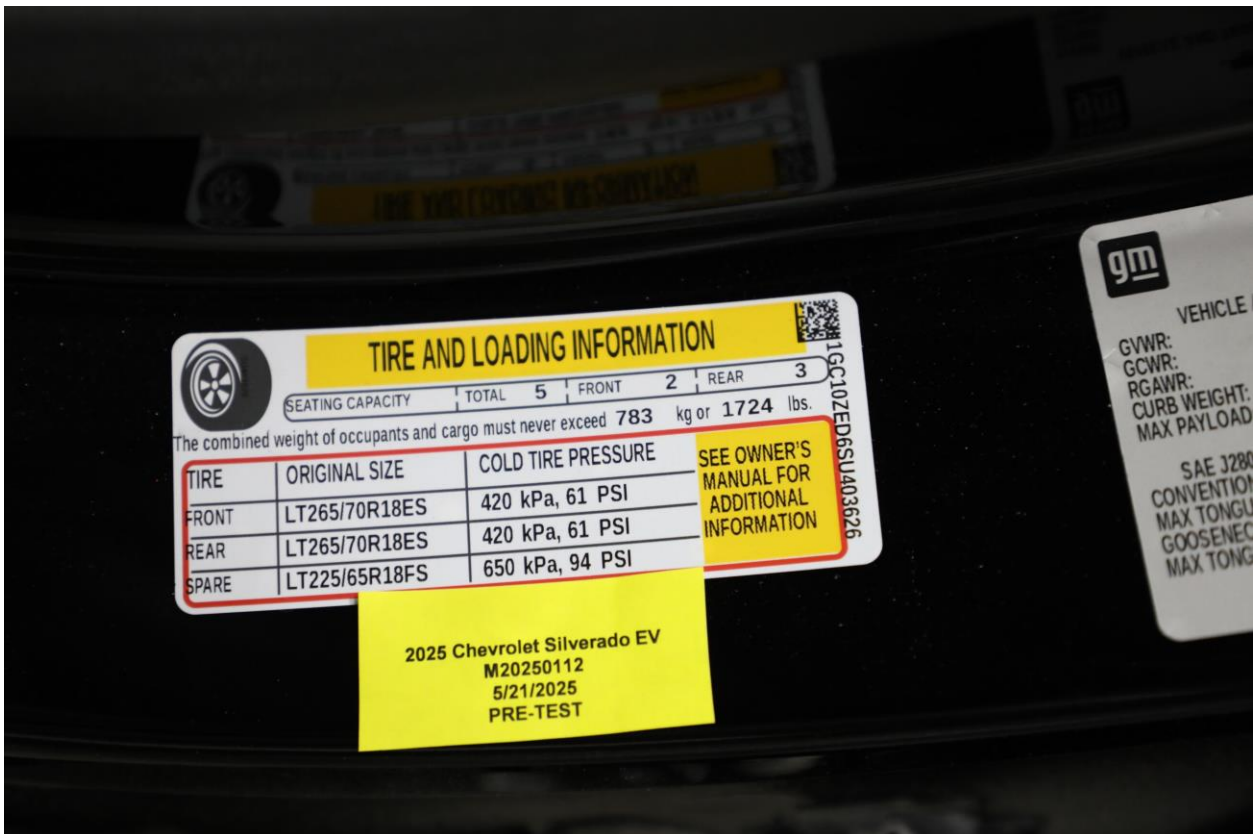
090 Pre-Test Right Side View of MDB Impactor Face



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



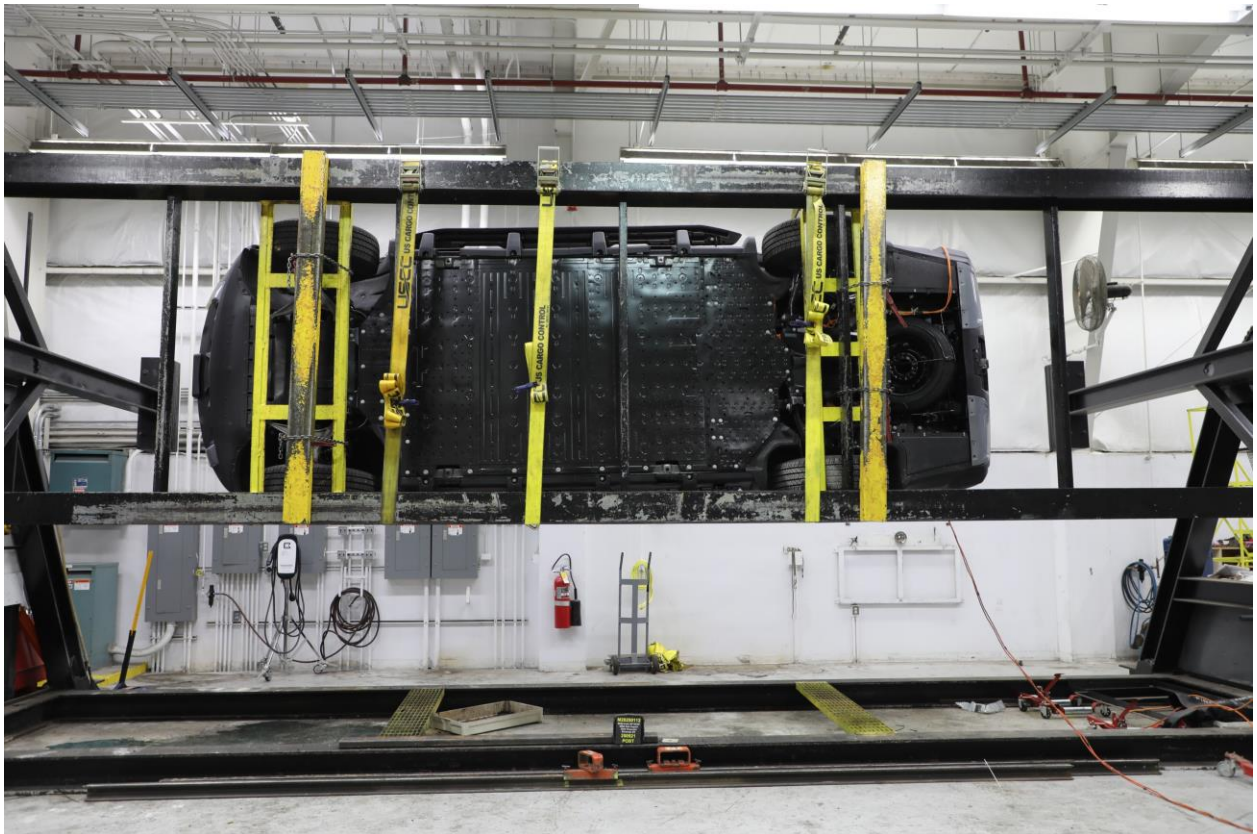
096 FMVSS No. 301 Static Rollover 0 Degrees



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



CHEVROLET

2025 SILVERADO EV LT EXTENDED RANGE

EXTERIOR: BLACK
INTERIOR: BLACK



Visit us at www.chevy.com

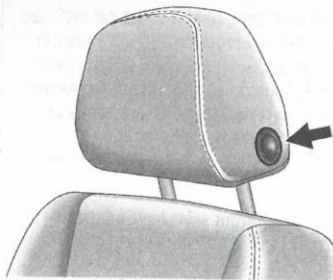
STANDARD EQUIPMENT ITEMS LISTED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE SHOWN. OWNER BENEFITS • 3 YEAR/50,000 MILE BUMPER-TO-BUMPER LIMITED WARRANTY • 8 YEAR/100,000 MILE ELECTRIC VEHICLE PROPULSION ULTIMATE BATTERY LIMITED WARRANTY • WHICHEVER COMES FIRST SEE CHEVROLET.COM OR DEALER FOR TERMS, DETAILS & LIMITS SAFETY & SECURITY • FORWARD COLLISION ALERT • FOLLOWING DISTANCE INDICATOR • INTELLIBEAM-AUTO HIGH BEAM • FRONT PEDESTRIAN AND BICYCLIST BRAKING • SAFETY ALERT SEAT • ENHANCED AUTOMATIC		EMERGENCY BRAKING • HD SURROUND VISION • TIRE PRESSURE MONITOR SYSTEM PERFORMANCE & MECHANICAL • ULTIMATE BATTERY, EXTENDED RANGE • AC CHARGING, 11.5KW CAPABLE • 300KW DC FAST CHARGE CAPABLE • CHASSIS, DUAL MOTOR 4WD • SUSPENSION, 4-WHEEL INDEPENDENT • TRAILER BRAKE CONTROLLER • 18" WHEELS, HIGH GLOSS BLACK ALUMINUM • TIRES, ALL-SEASON • SPARE TIRE & WHEEL • MULTI-FLEX TAILGATE CONNECTIVITY & TECHNOLOGY • 17.7" DIAGONAL ADVANCED COLOR DISPLAY WITH GOOGLE BUILT-IN • DRIVER INFORMATION CENTER • 11" DIAGONAL DIGITAL DISPLAY	• 8 YEARS ONSTAR BASICS SEE ONSTAR.COM FOR TERMS • SIRIUSXM AUDIO WITH RAL SEE SIRIUSXM.COM/TERMS • REMOTE VEHICLE STARTER SYSTEM • HITCH GUIDANCE • ADAPTIVE CRUISE CONTROL INTERIOR • 12-WAY POWER, HEATED, VENTILATED SEAT, DRIVER & PASS • AIR CONDITIONING, DUAL-ZONE AUTOMATIC CLIMATE CONTROL • HEATED REAR OUTBOARD SEATS • BOSE PREMIUM AUDIO SYSTEM • WIRELESS CHARGING EXTERIOR • ETRUNK W/ POWER HOOD • HEADLAMPS, LED • LED CARGO AREA LIGHTING • MIRRORS, OUTSIDE HEATED POWER ADJUSTABLE	MANUFACTURER'S SUGGESTED RETAIL PRICE <table border="1"> <tr> <td>STANDARD VEHICLE PRICE</td> <td>\$73,100.00</td> </tr> <tr> <td colspan="2">OPTIONS & PRICING</td> </tr> <tr> <td colspan="2">OPTIONS INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT SHOWN)</td> </tr> <tr> <td>TOTAL OPTIONS</td> <td>\$0.00</td> </tr> <tr> <td>TOTAL VEHICLE & OPTIONS</td> <td>\$73,100.00</td> </tr> <tr> <td>DESTINATION CHARGE</td> <td>2,095.00</td> </tr> <tr> <td>TOTAL VEHICLE PRICE*</td> <td>\$75,195.00</td> </tr> </table>	STANDARD VEHICLE PRICE	\$73,100.00	OPTIONS & PRICING		OPTIONS INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT SHOWN)		TOTAL OPTIONS	\$0.00	TOTAL VEHICLE & OPTIONS	\$73,100.00	DESTINATION CHARGE	2,095.00	TOTAL VEHICLE PRICE*	\$75,195.00
STANDARD VEHICLE PRICE	\$73,100.00																	
OPTIONS & PRICING																		
OPTIONS INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT SHOWN)																		
TOTAL OPTIONS	\$0.00																	
TOTAL VEHICLE & OPTIONS	\$73,100.00																	
DESTINATION CHARGE	2,095.00																	
TOTAL VEHICLE PRICE*	\$75,195.00																	

EPA DOT Fuel Economy and Environment Fuel Economy 68 MPGe combined city/hwy city 74 highway 61 when fully charged, vehicle can travel about Charge Time: 18.6 hours (240V)	Electric Vehicle You save \$3,500 in fuel costs over 5 years compared to the average new vehicle.	GOVERNMENT 5-STAR SAFETY RATINGS This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.	This label has been applied pursuant to Federal Motor Vehicle Safety Regulations. It is not to be removed prior to delivery to the ultimate purchaser. The manufacturer's recommended retail price does not include options and accessories not listed above, local taxes or license fees. © 2024 General Motors LLC. GM, Buick, Cadillac, Chevrolet, and the GM logo are trademarks of General Motors.
Annual fuel cost \$1,200 Fuel Economy & Greenhouse Gas Rating This vehicle emits 0 grams CO ₂ per mile. The best emits 0 grams per mile (tailpipe only). Does not include emissions from generating electricity. Learn more at fuel economy.gov .	Smog Rating Best	Source: National Highway Traffic Safety Administration (NHTSA) www.safercar.gov or 1-888-327-4236	WO 1GA0053497

102 Monroney Label

16 Seats and Restraints

Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



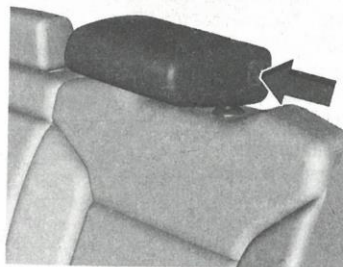
To raise or lower the head restraint, press the button on the side of the head restraint and pull up or push the head restraint down and release the button.

Pull and push on the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not removable.

Rear Head Restraints

The vehicle's rear seat has head restraints in the outboard seating positions that cannot be adjusted.

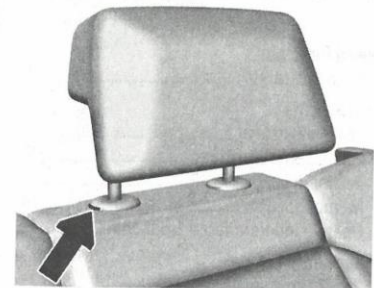


The head restraint can be folded forward to allow for better visibility when the rear seat is unoccupied. To fold the head restraint, press the button on the side of the head restraint.

When an occupant is in the seat, always return the head restraint to the upright position until it locks into place. Push and pull on the head restraint to make sure that it is locked.

If you are installing a child restraint in the rear seat, see *Lower Anchors and Tethers for Children (LATCH System)* 49.

Center Headrest

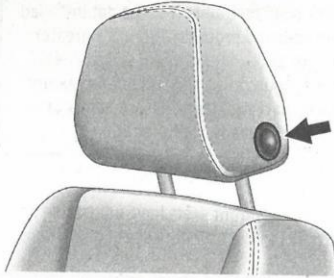


The vehicle's rear seat has adjustable headrest in the center seating position. The headrest can be fully lowered into the seatback to allow for better visibility when the rear seat is unoccupied. When an occupant is in the seat, always pull the headrest up to raise it. Try to move the headrest to make sure that it is locked in place.

To lower the headrest, press the button located on the top of the seatback and push the headrest down. Try to move the headrest after the button is released to make sure that it is locked in place.

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

Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



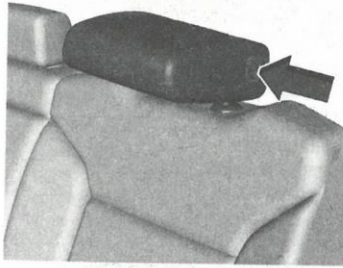
To raise or lower the head restraint, press the button on the side of the head restraint and pull up or push the head restraint down and release the button.

Pull and push on the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not removable.

Rear Head Restraints

The vehicle's rear seat has head restraints in the outboard seating positions that cannot be adjusted.

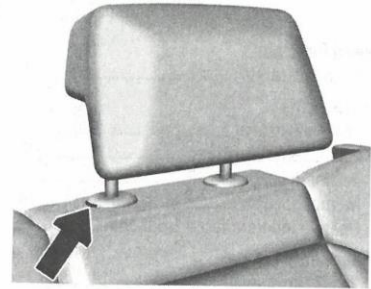


The head restraint can be folded forward to allow for better visibility when the rear seat is unoccupied. To fold the head restraint, press the button on the side of the head restraint.

When an occupant is in the seat, always return the head restraint to the upright position until it locks into place. Push and pull on the head restraint to make sure that it is locked.

If you are installing a child restraint in the rear seat, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 49.

Center Headrest



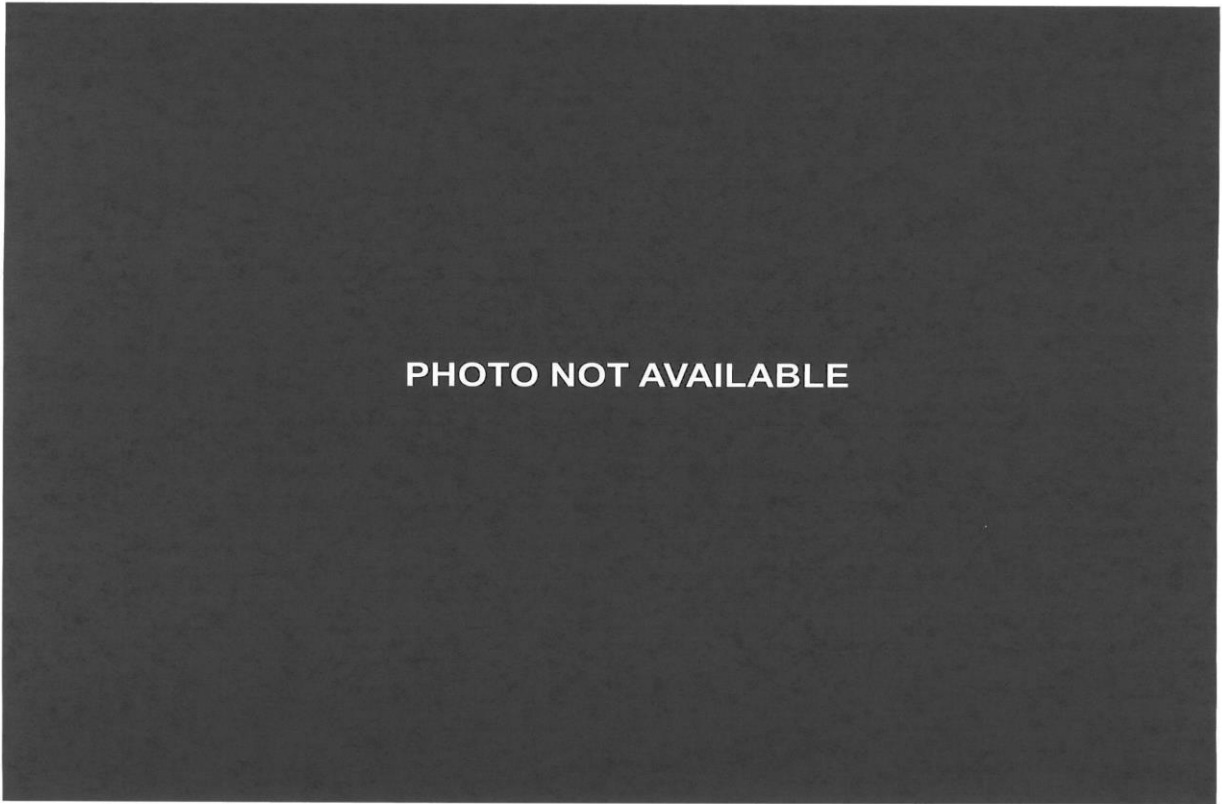
The vehicle's rear seat has adjustable headrest in the center seating position. The headrest can be fully lowered into the seatback to allow for better visibility when the rear seat is unoccupied. When an occupant is in the seat, always pull the headrest up to raise it. Try to move the headrest to make sure that it is locked in place.

To lower the headrest, press the button located on the top of the seatback and push the headrest down. Try to move the headrest after the button is released to make sure that it is locked in place.

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

PHOTO NOT AVAILABLE

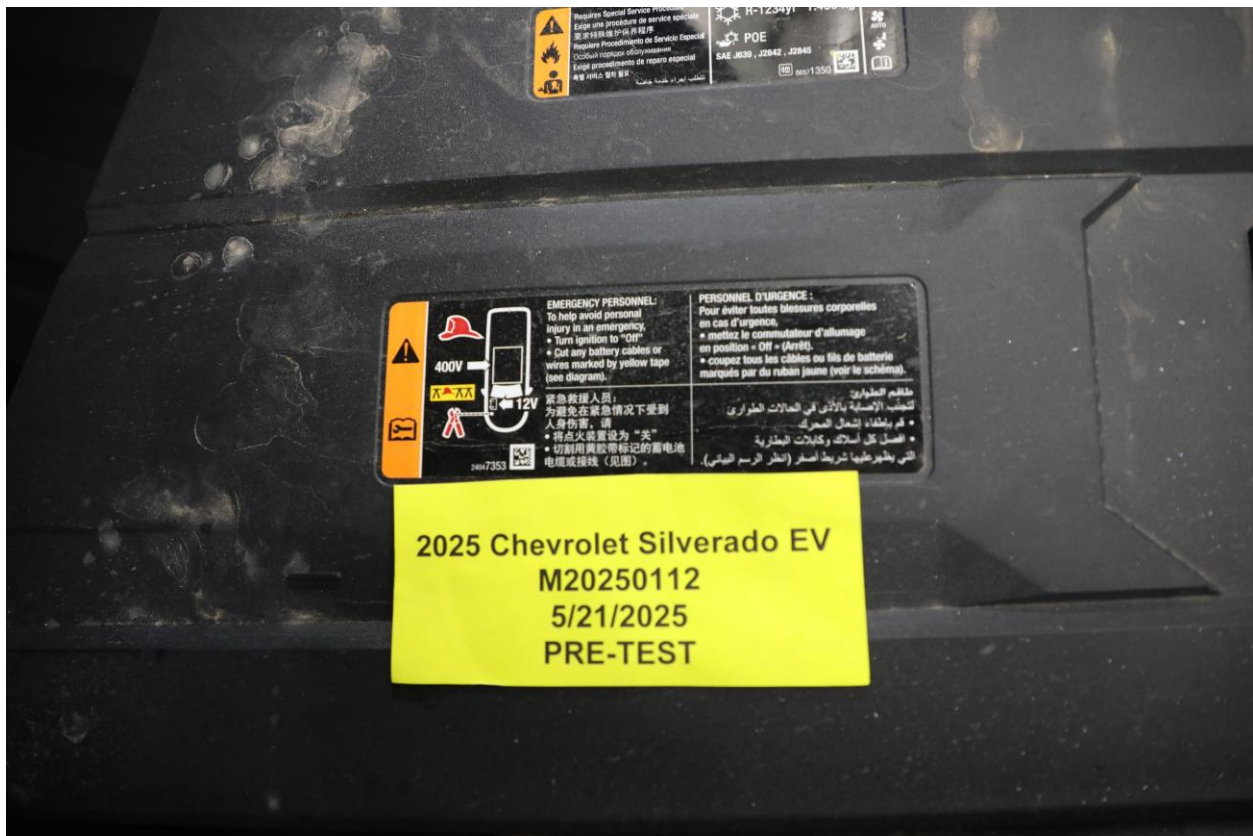
No. 305-01 Auxiliary Power Module Warning Label



No. 305-02 Power Inverter Warning Label



No. 305-03 First Responder Warning Label



No. 305-04 First Responder Warning Location



No. 305-05 Other Vehicle Label(s) Related to Electrical Propulsion System

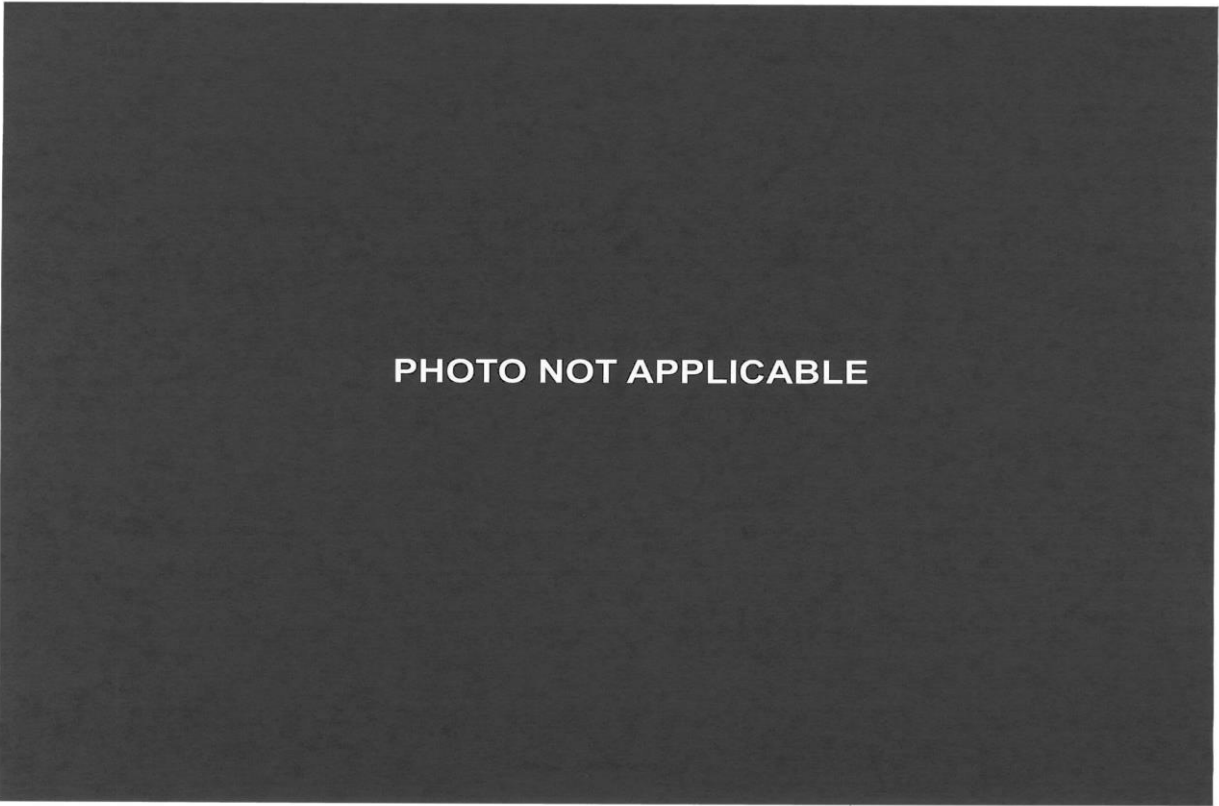


PHOTO NOT APPLICABLE

No. 305-06 Manual High Voltage Service Disconnect in Place

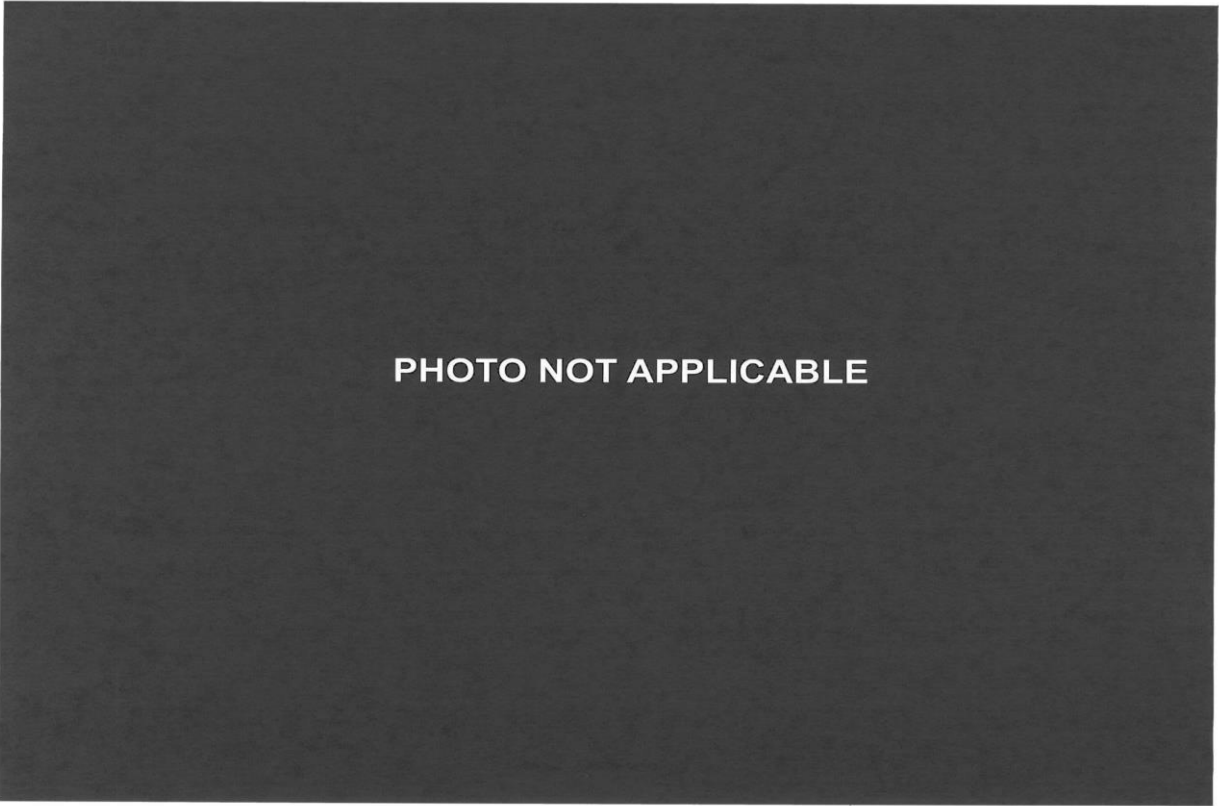


PHOTO NOT APPLICABLE

No. 305-07 Manual High Voltage Service Disconnect Removed

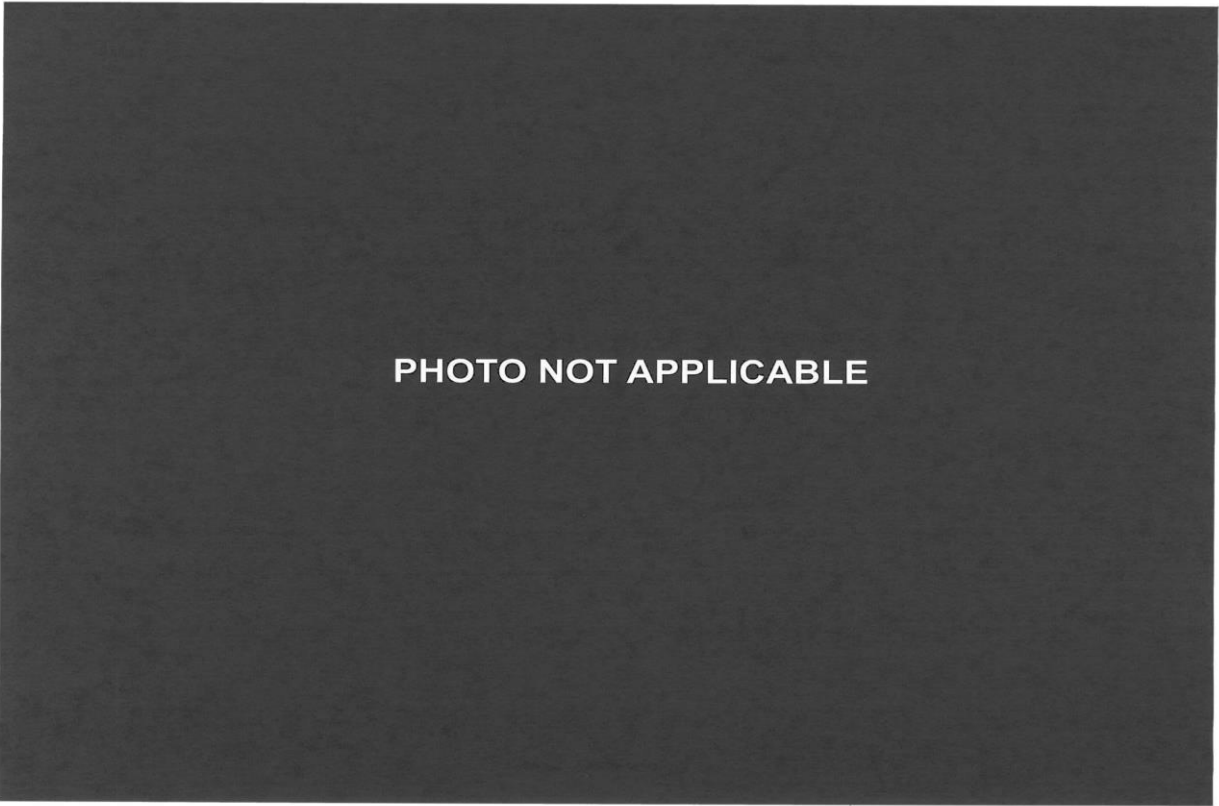


PHOTO NOT APPLICABLE

No. 305-08 Manual High Voltage Service Disconnect Removed

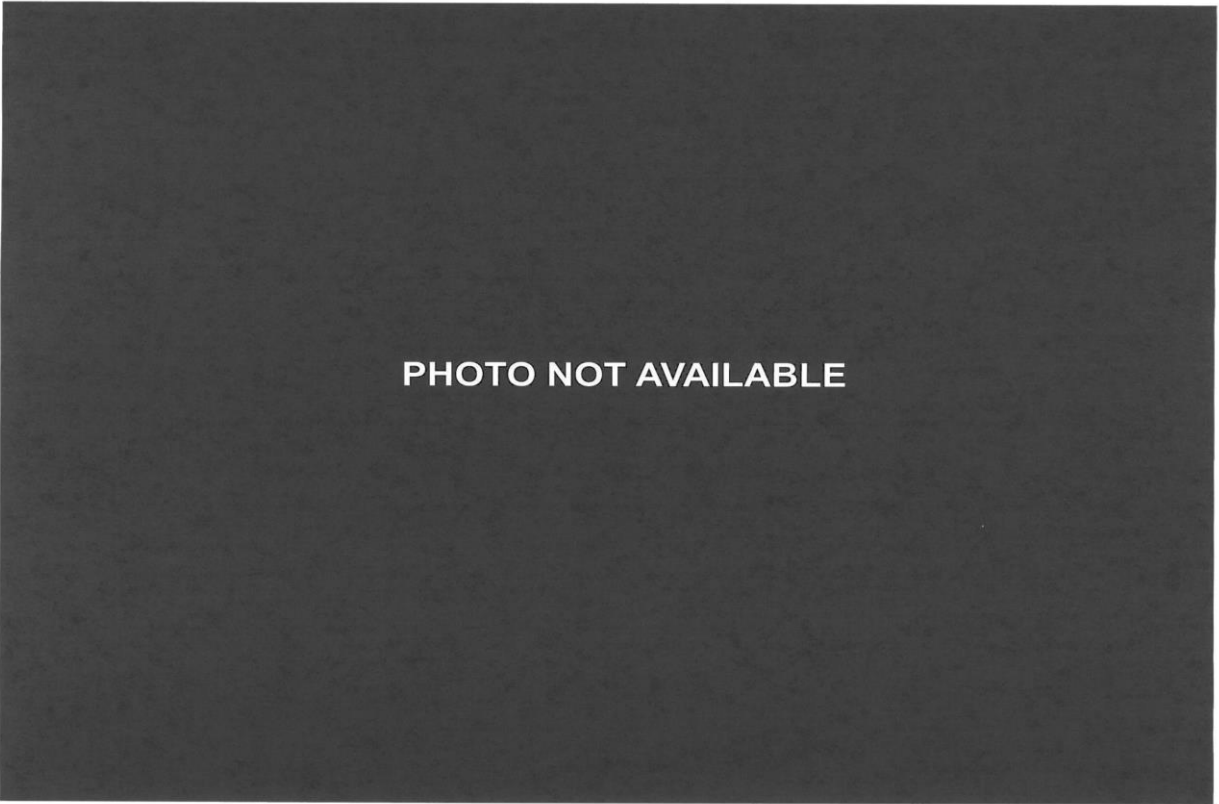


PHOTO NOT AVAILABLE

No. 305-09 Pre-Impact View of Propulsion Battery

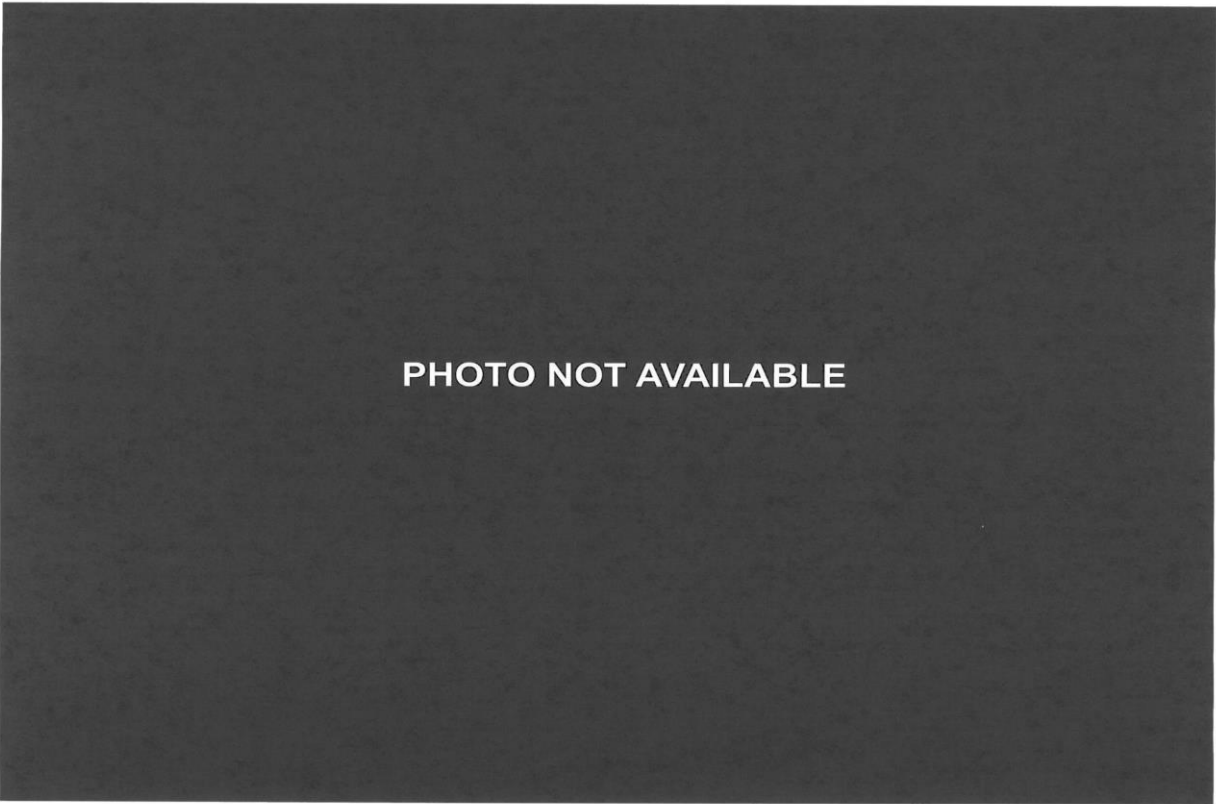


PHOTO NOT AVAILABLE

No. 305-10 Post-Impact Front View of Propulsion Battery

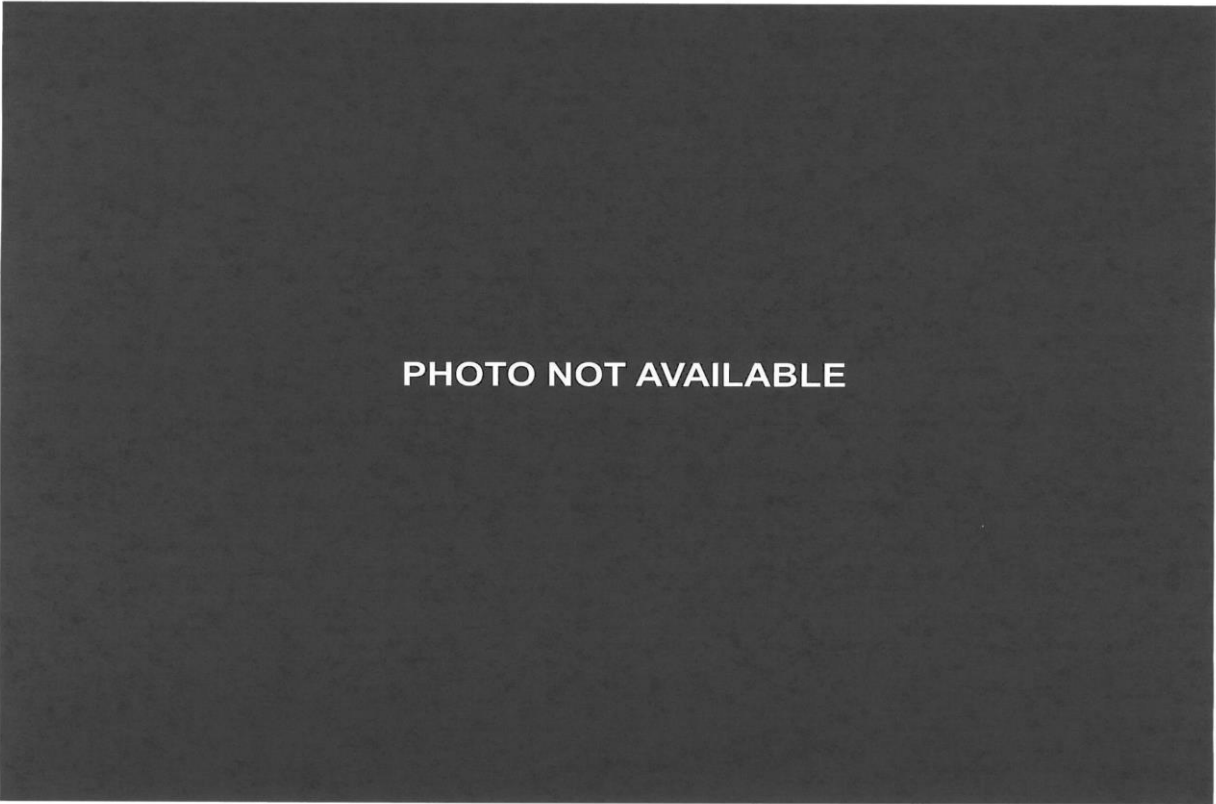
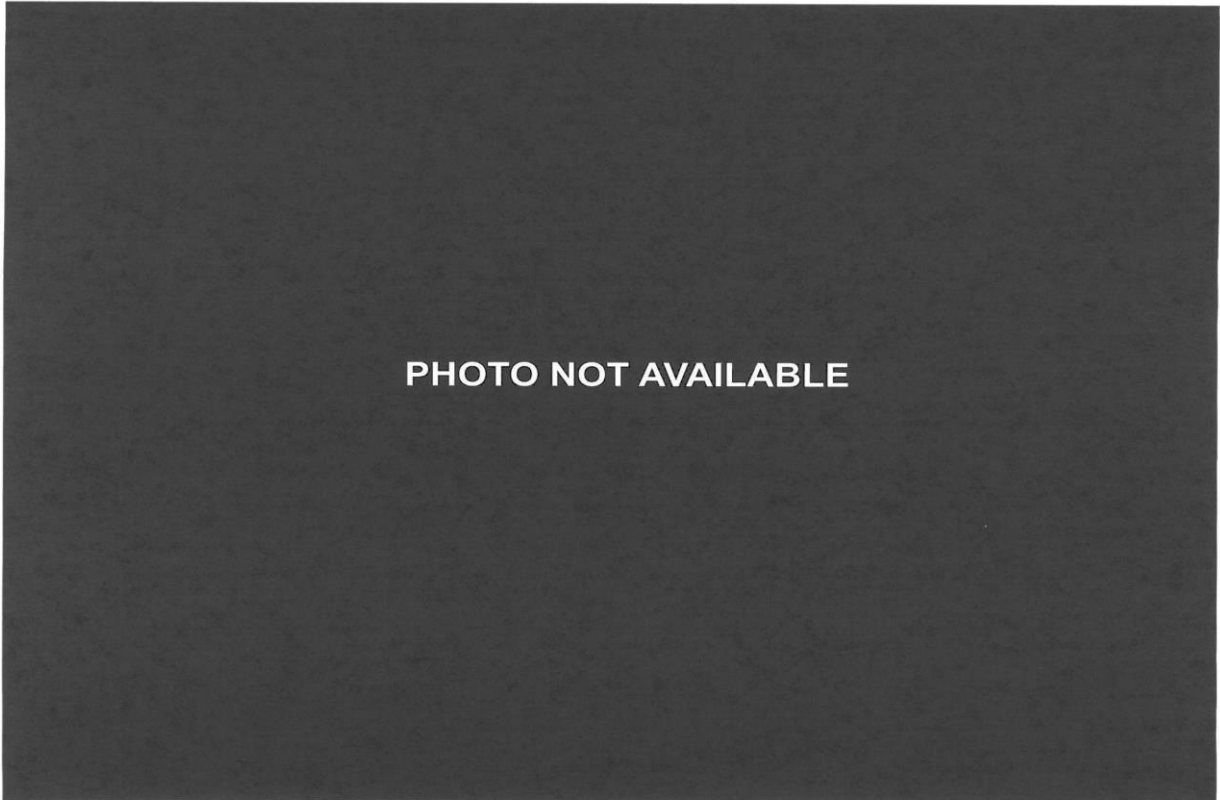


PHOTO NOT AVAILABLE

No. 305-11 Post-Impact Rear View of Propulsion Battery



No. 305-12 Pre-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules



No. 305-13 Post-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

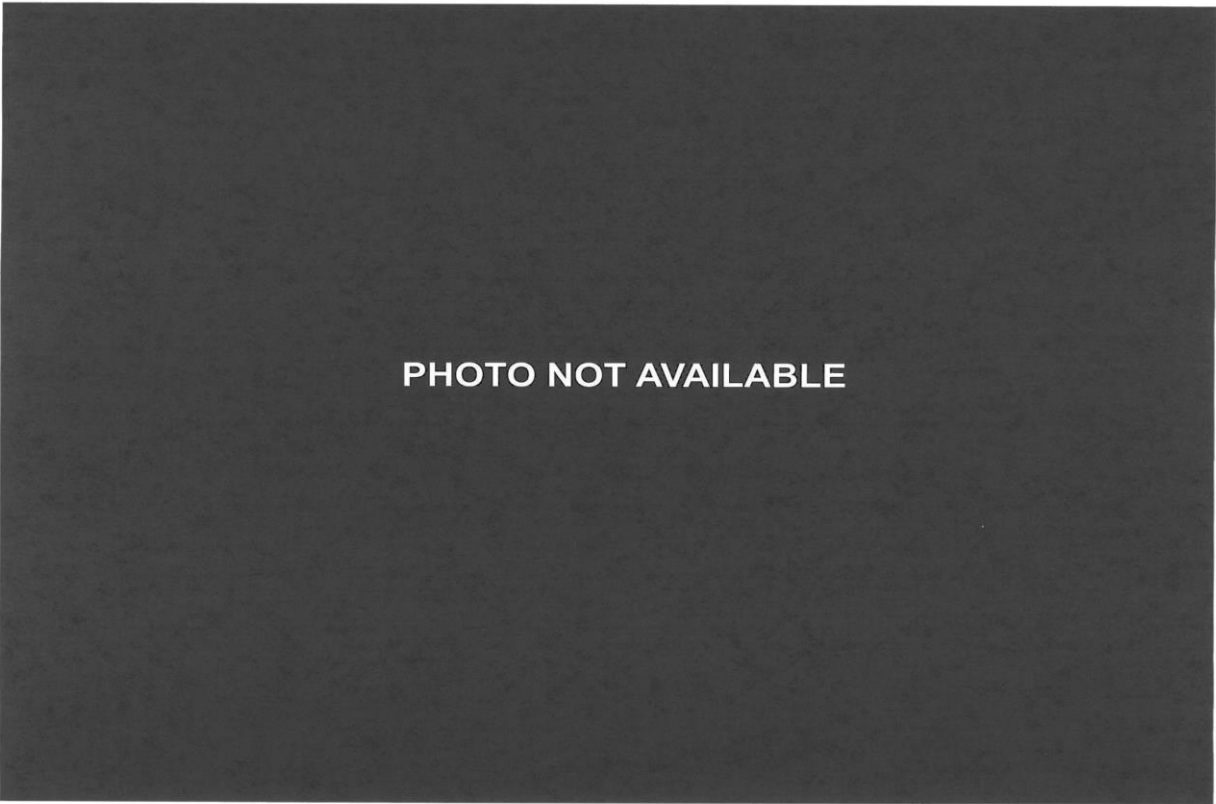


PHOTO NOT AVAILABLE

No. 305-14 Pre-Impact View of Propulsion Battery Module(s)

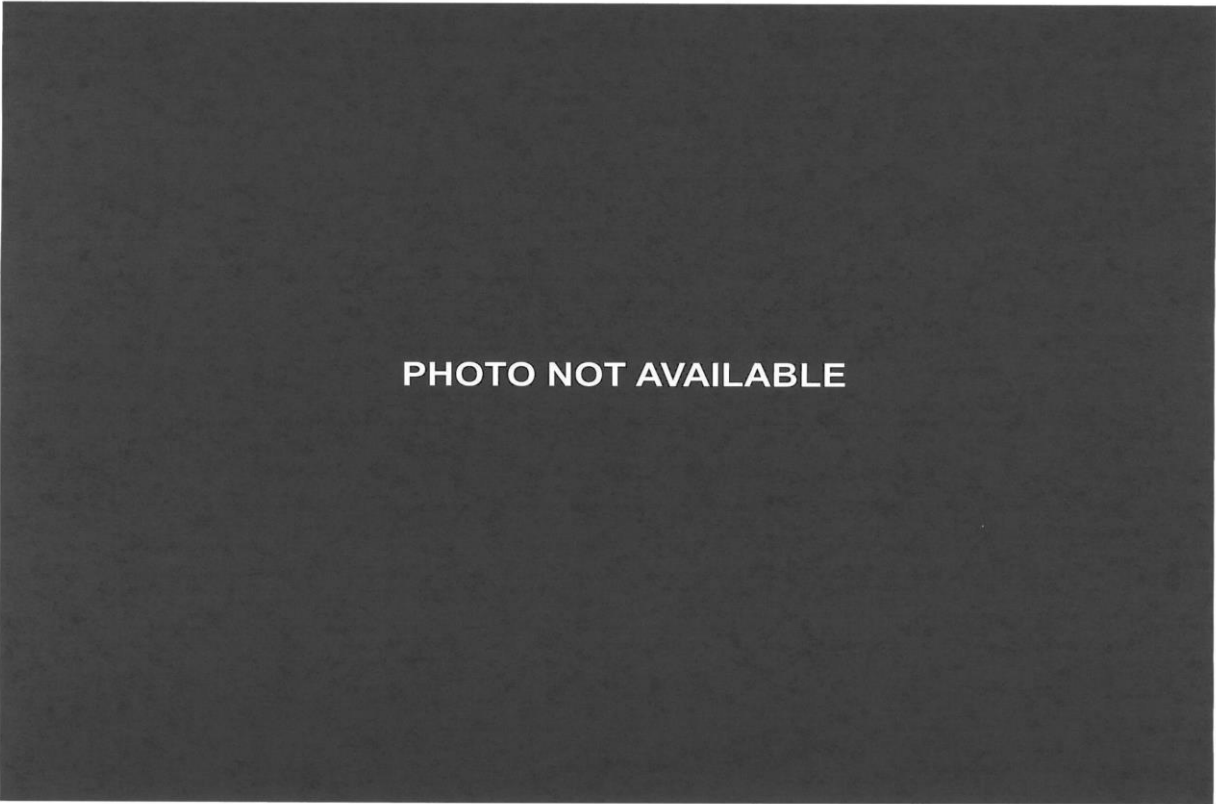


PHOTO NOT AVAILABLE

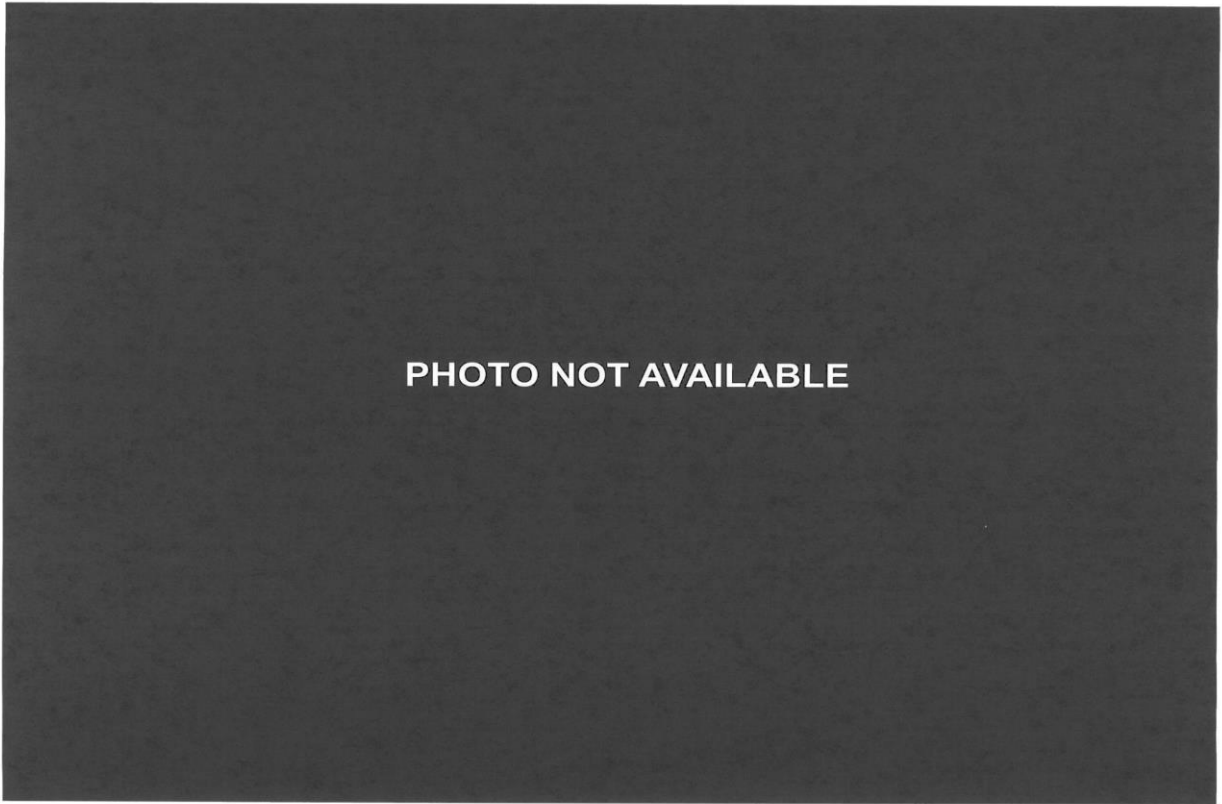
No. 305-15 Post-Impact View of Propulsion Battery Module(s)

PHOTO NOT AVAILABLE

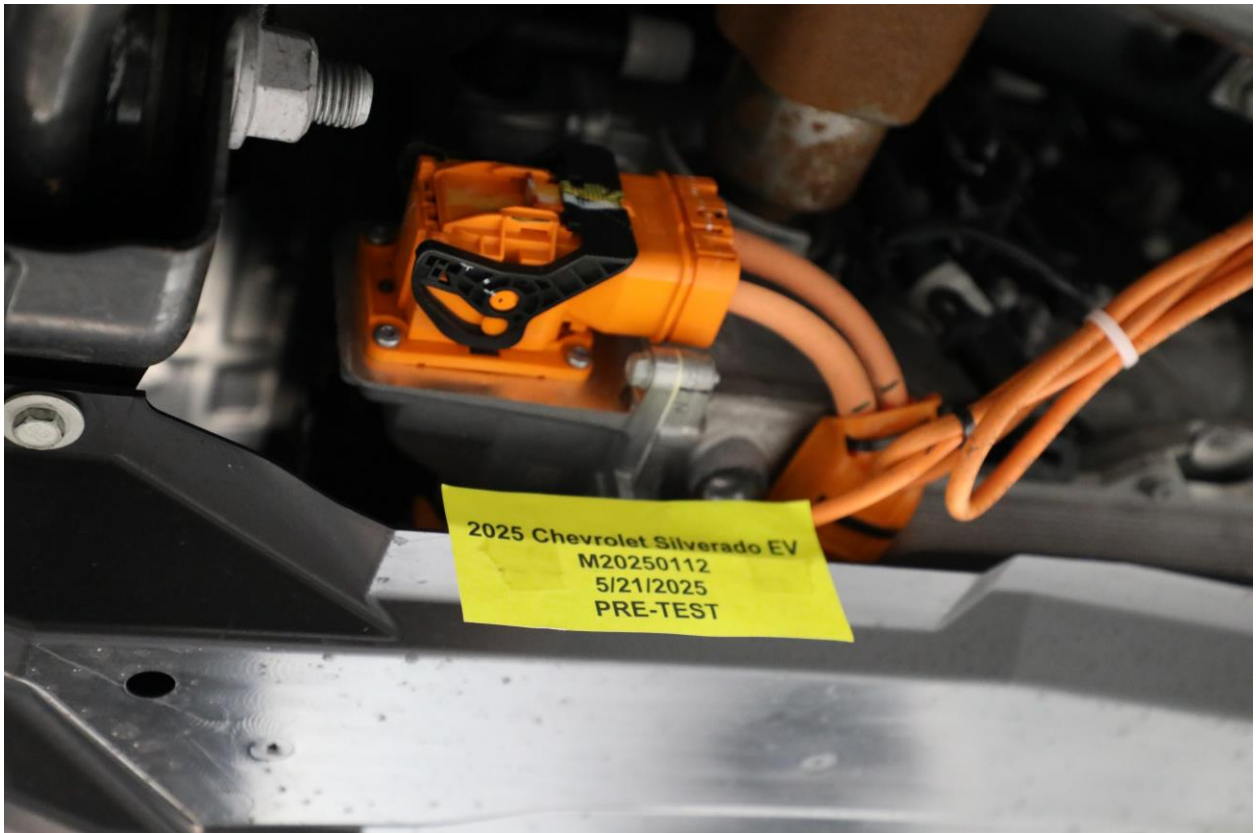
No. 305-16 Pre-Impact View of Electric Propulsion Drive

PHOTO NOT AVAILABLE

No. 305-17 Post-Impact View of Electric Propulsion Drive



No. 305-18 Pre-Impact View of High Voltage Interconnect(s)



No. 305-19 Pre-Impact View Propulsion Battery Venting System(s)

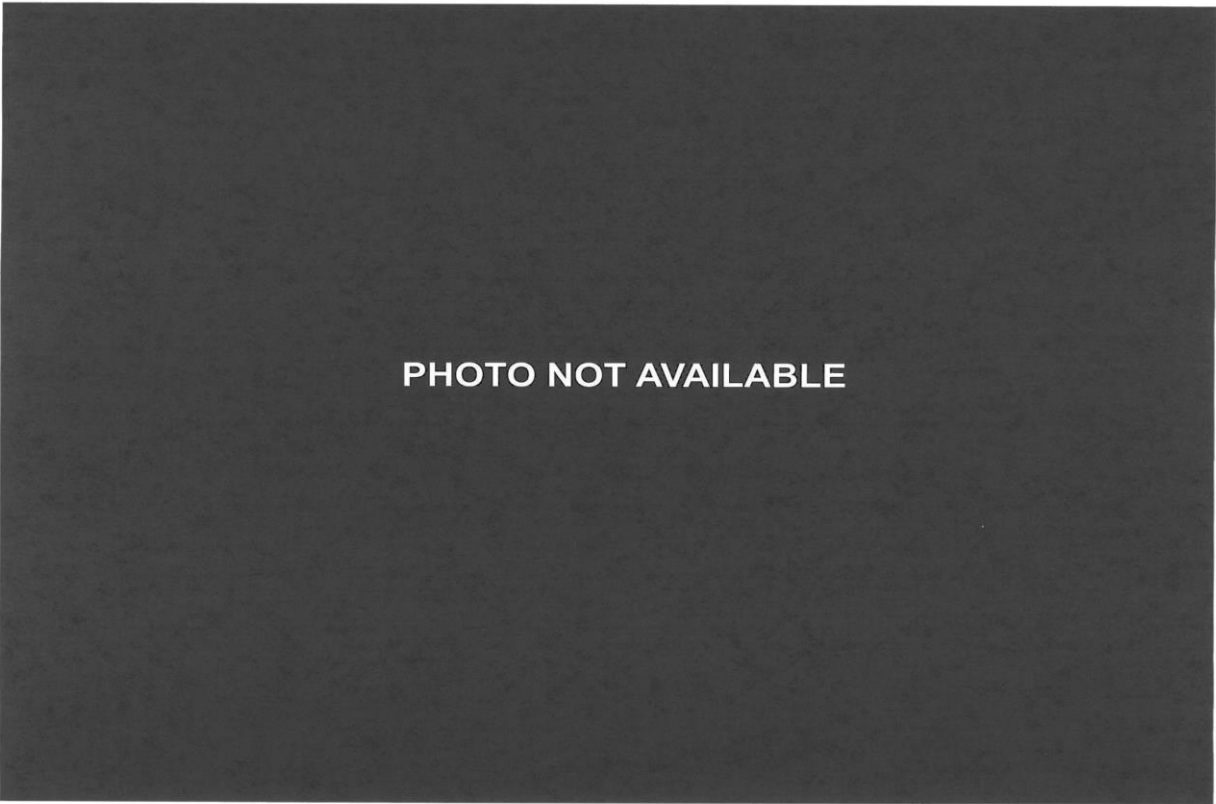


PHOTO NOT AVAILABLE

No. 305-20 Pre-Impact View of Other Visible Electric Propulsion Components

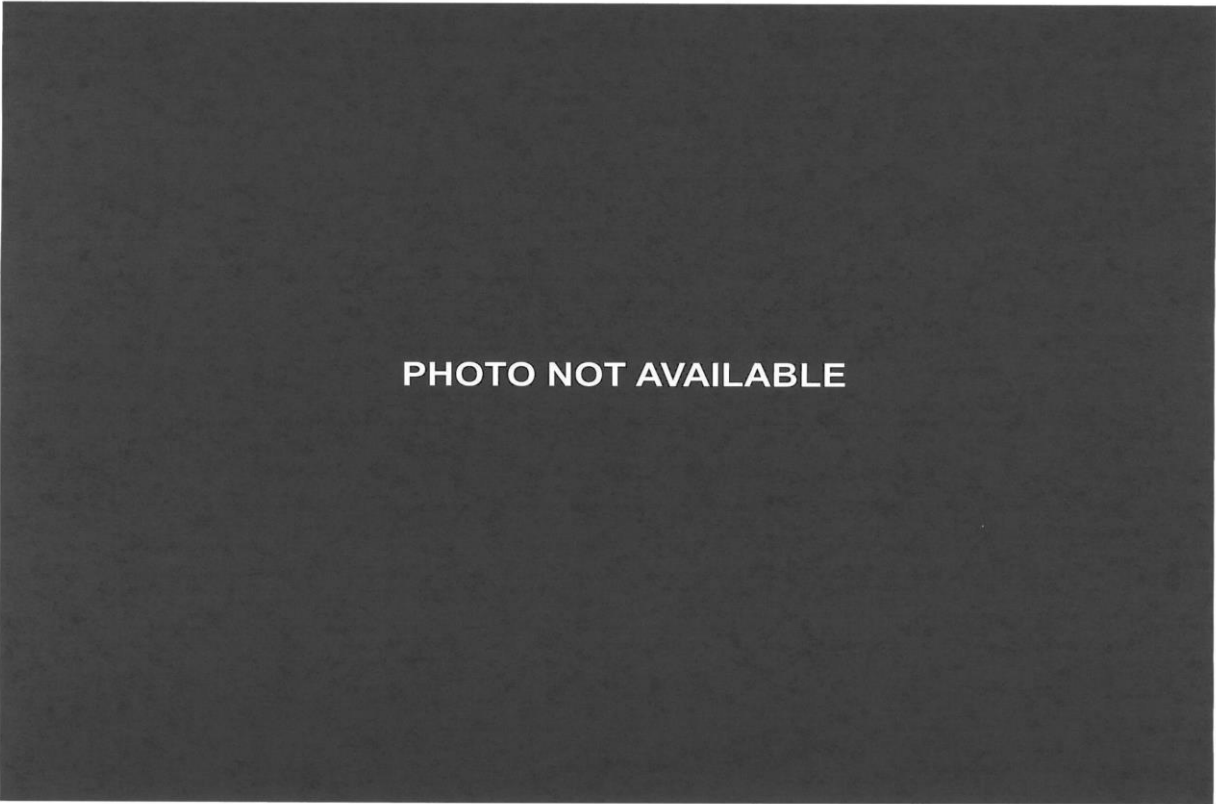


PHOTO NOT AVAILABLE

No. 305-21 Pre-Impact View of Ground Lead Attached

PHOTO NOT AVAILABLE

No. 305-22 Pre-Impact View of High Voltage Leads Attached



No. 305-23 Pre-Impact Close-Up View of High Voltage Leads Attached

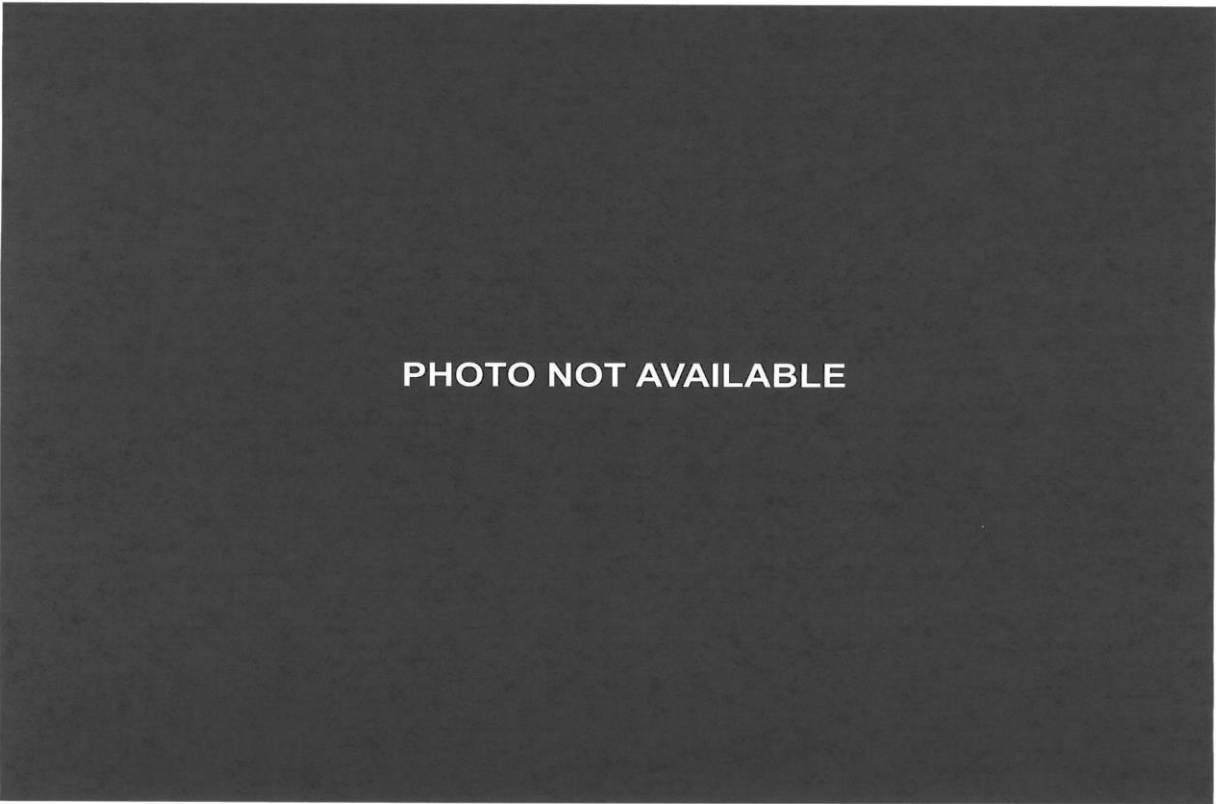


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No. 305-24 Pre-Impact View of Installed Test Interface Port

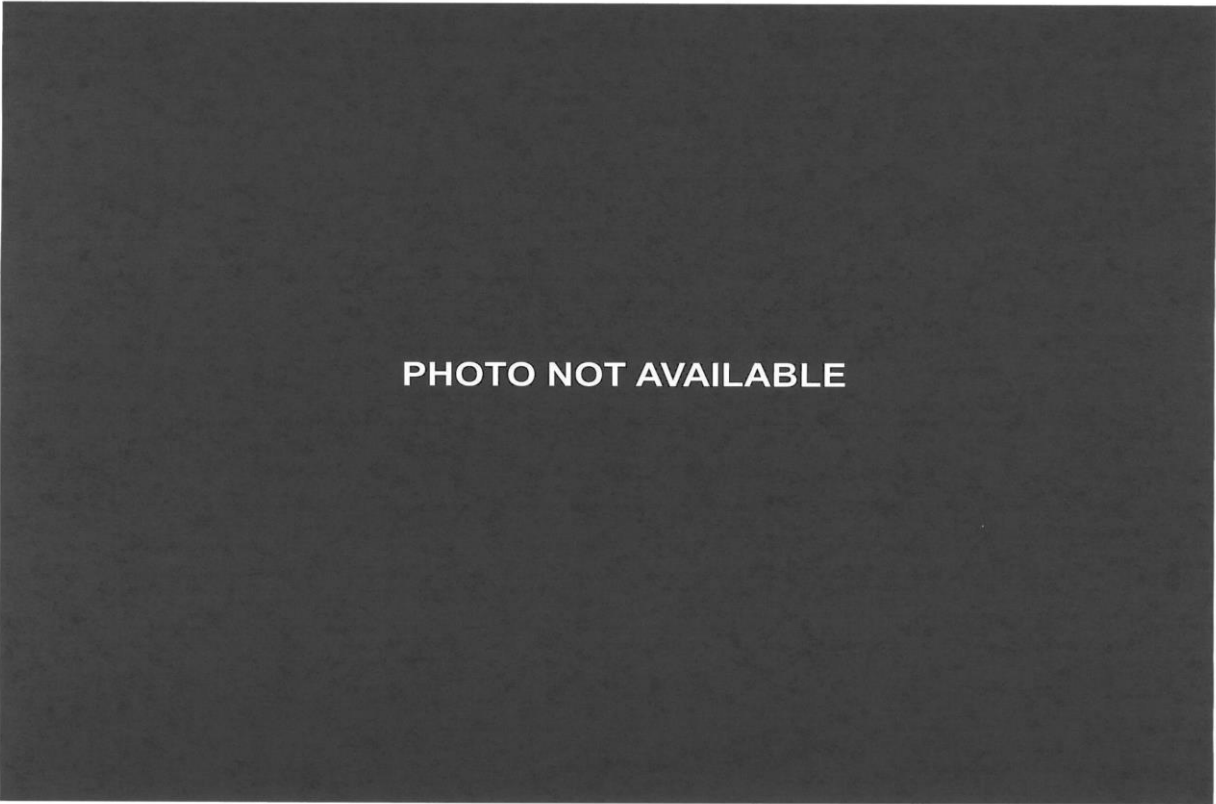


PHOTO NOT AVAILABLE

No. 305-25 Post-Impact View of Installed Test Interface Port

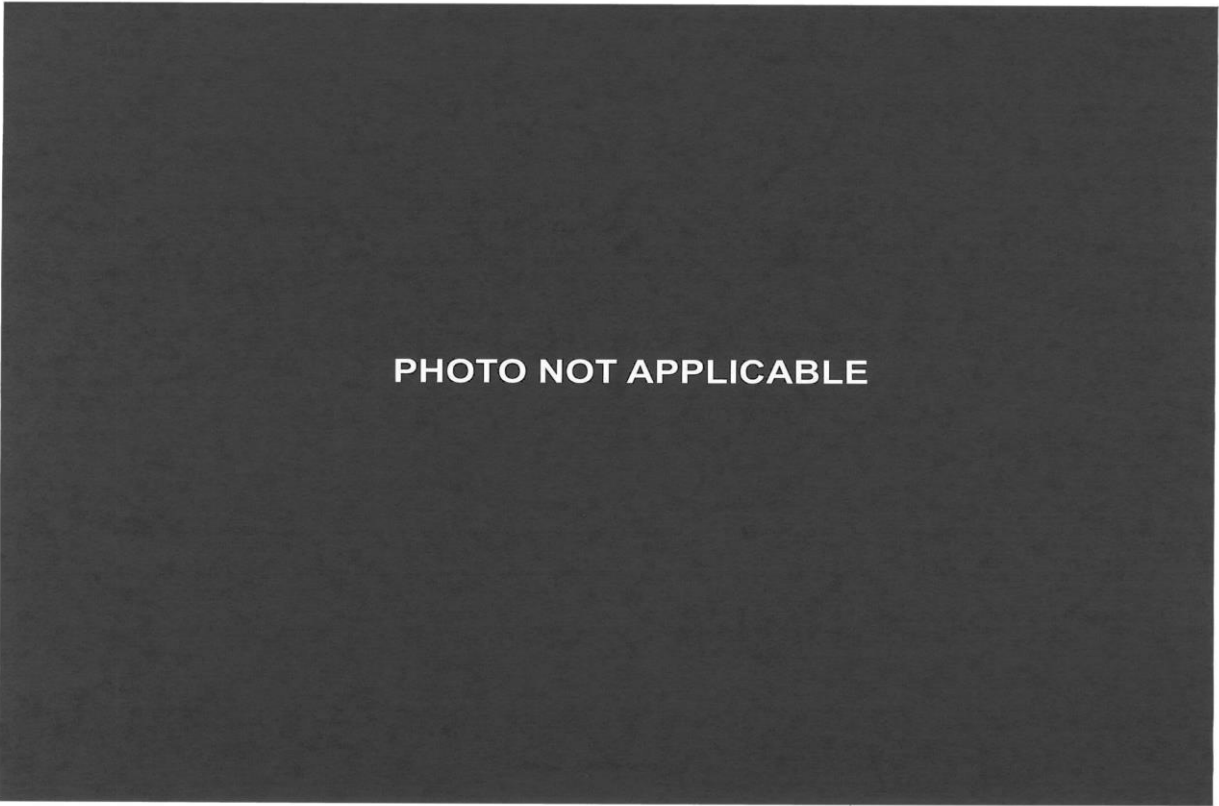


PHOTO NOT APPLICABLE

No. 305-26 Pre-Impact View of Other Test Devices

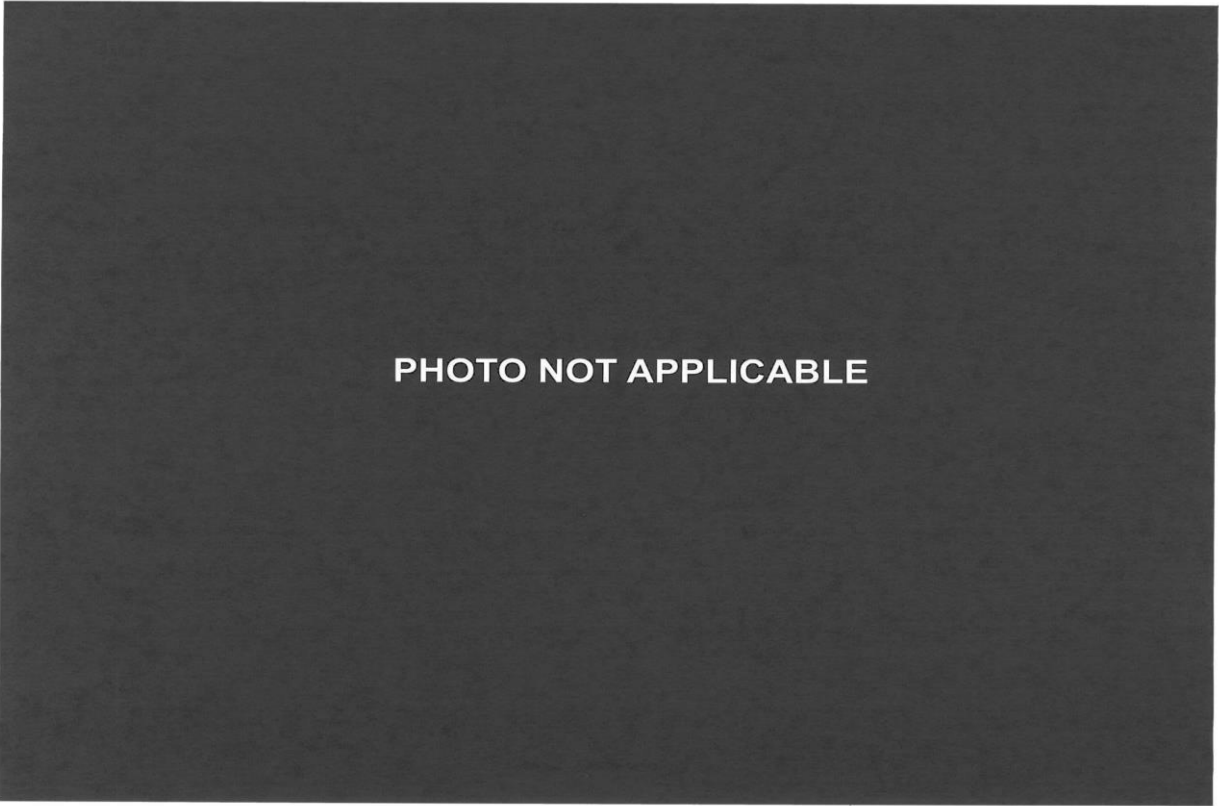


PHOTO NOT APPLICABLE

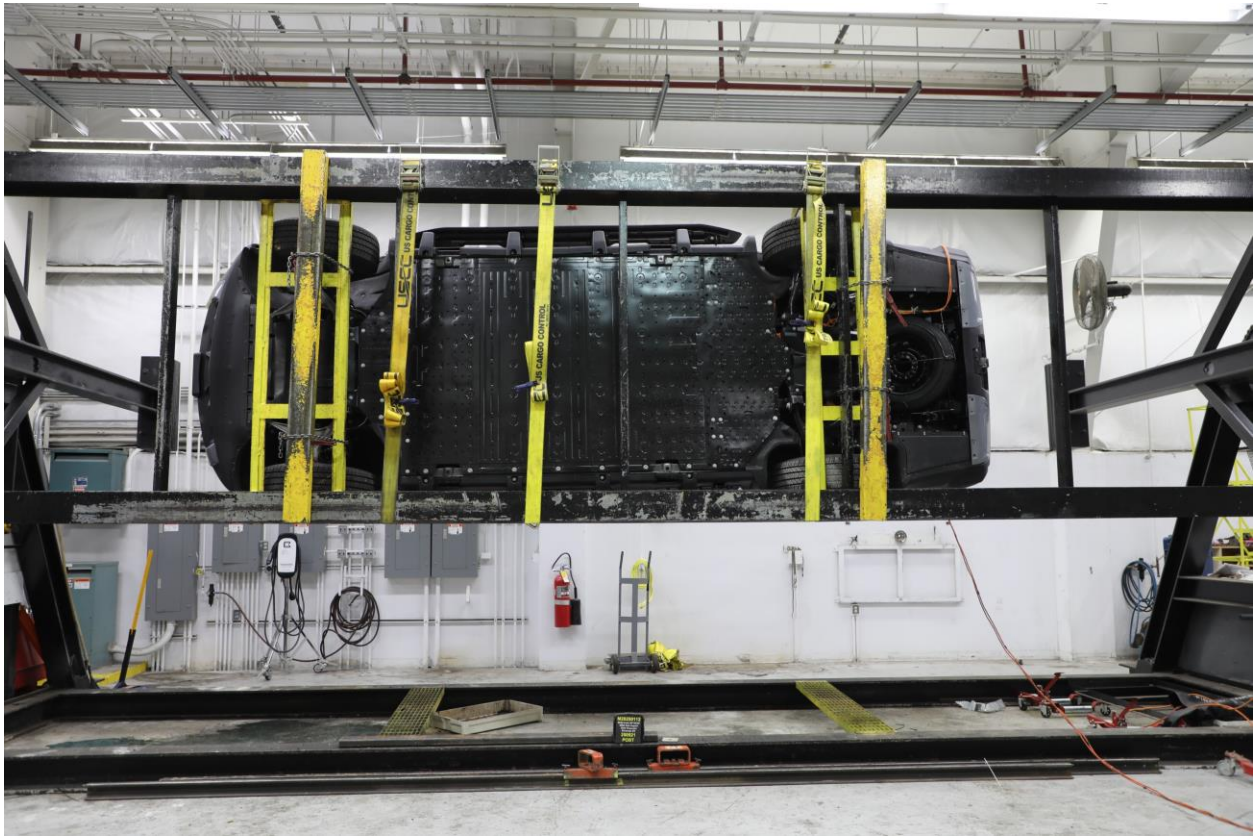
No. 305-27 Post-Impact View of Other Test Devices



No. 305-28 FMVSS No. 305 Static Rollover at 90°



No. 305-29 FMVSS No. 305 Static Rollover at 180°



No. 305-30 FMVSS No. 305 Static Rollover at 270°



No. 305-31 FMVSS No. 305 Static Rollover at 360°

PHOTO NOT AVAILABLE

No. 305-32 Pre-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery

PHOTO NOT AVAILABLE

No. 305-33 Post-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery

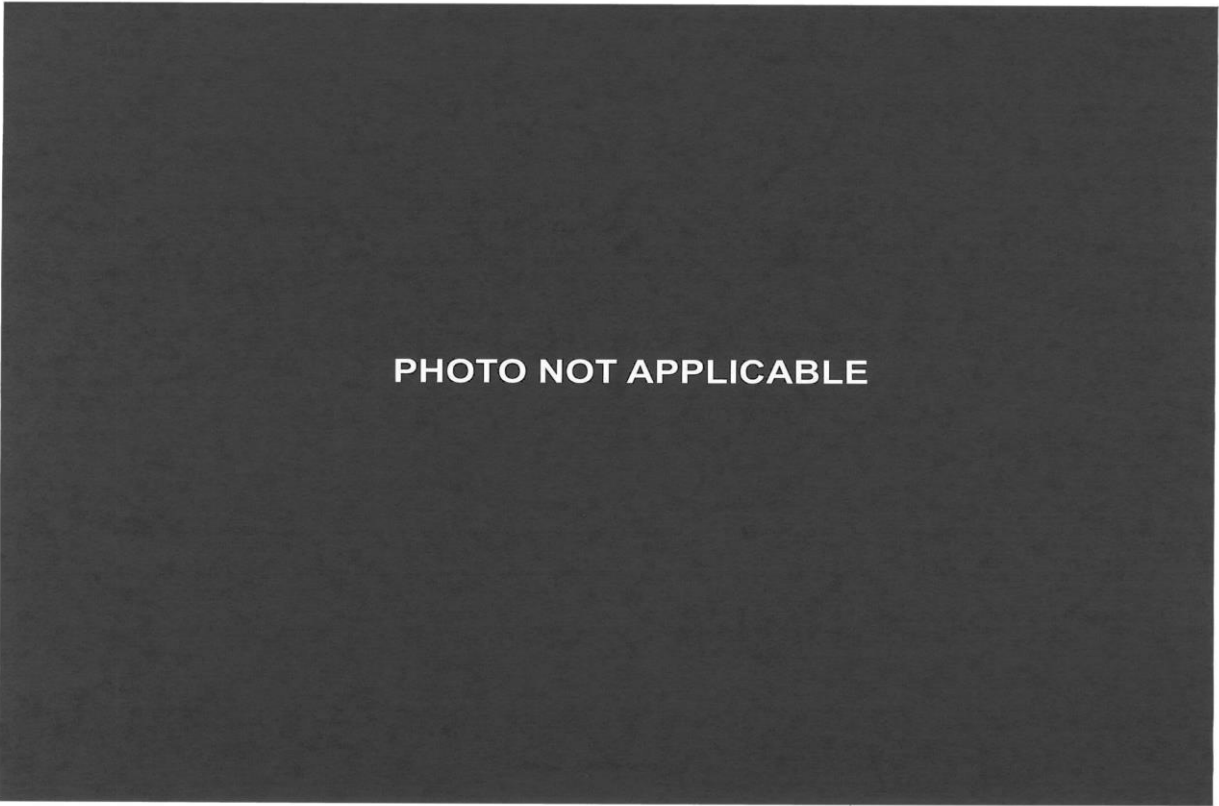


PHOTO NOT APPLICABLE

No. 305-34 Post-Impact Propulsion Battery System Mounting and or Intrusion Failure(s)

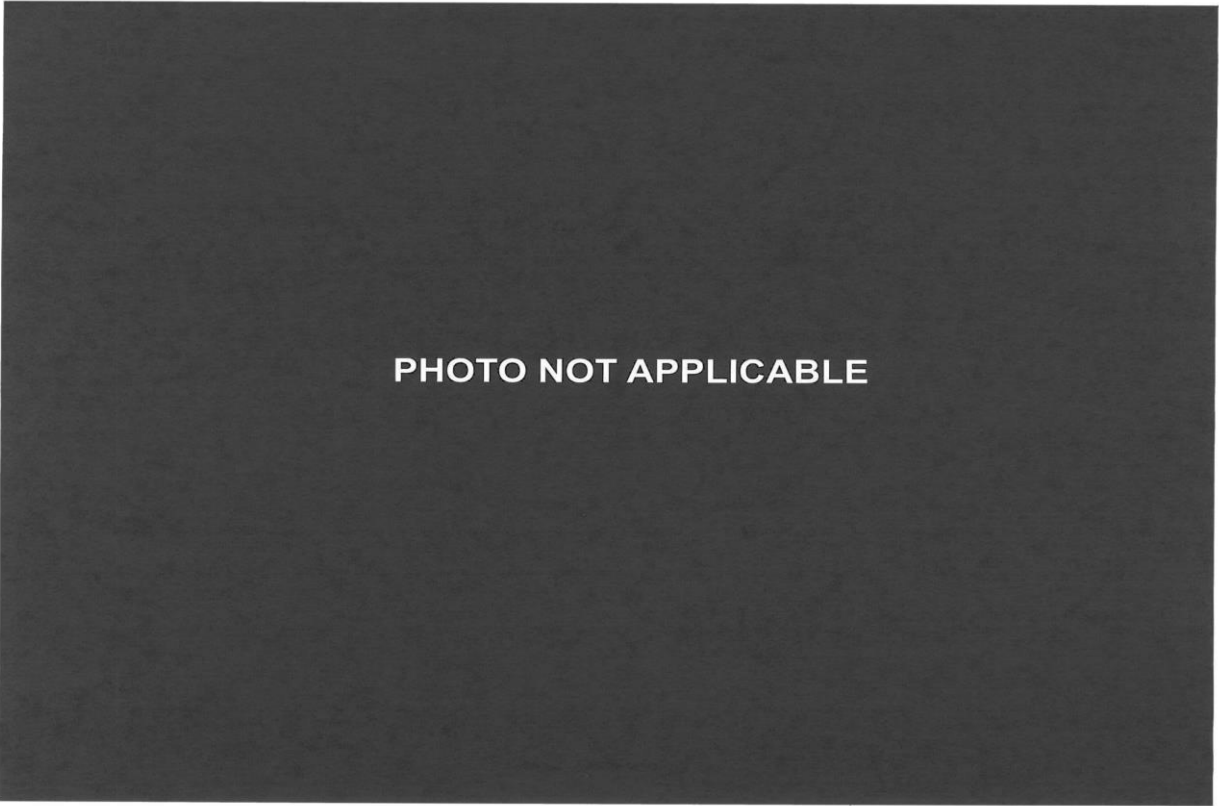


PHOTO NOT APPLICABLE

No. 305-35 Post-Impact View of Battery Component Intrusion

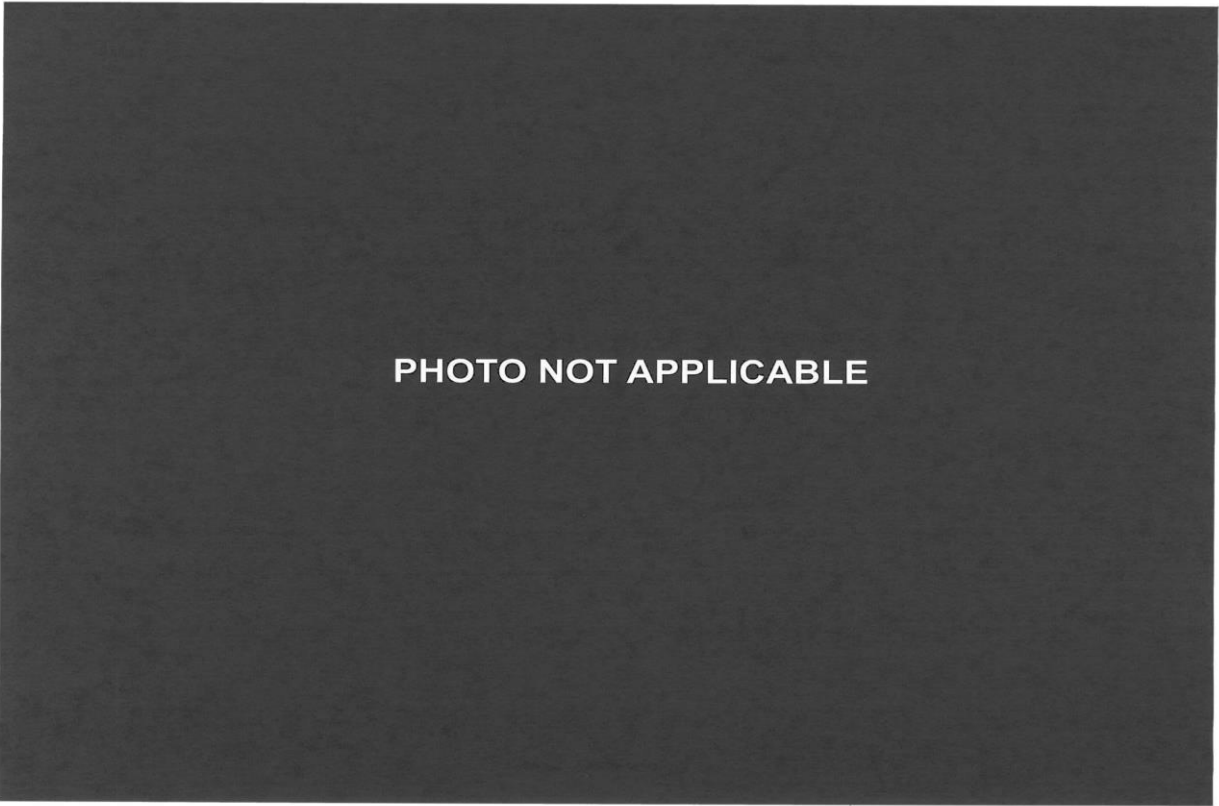


PHOTO NOT APPLICABLE

No. 305-36 Post-Impact View of Battery Module Movement or Retention Loss

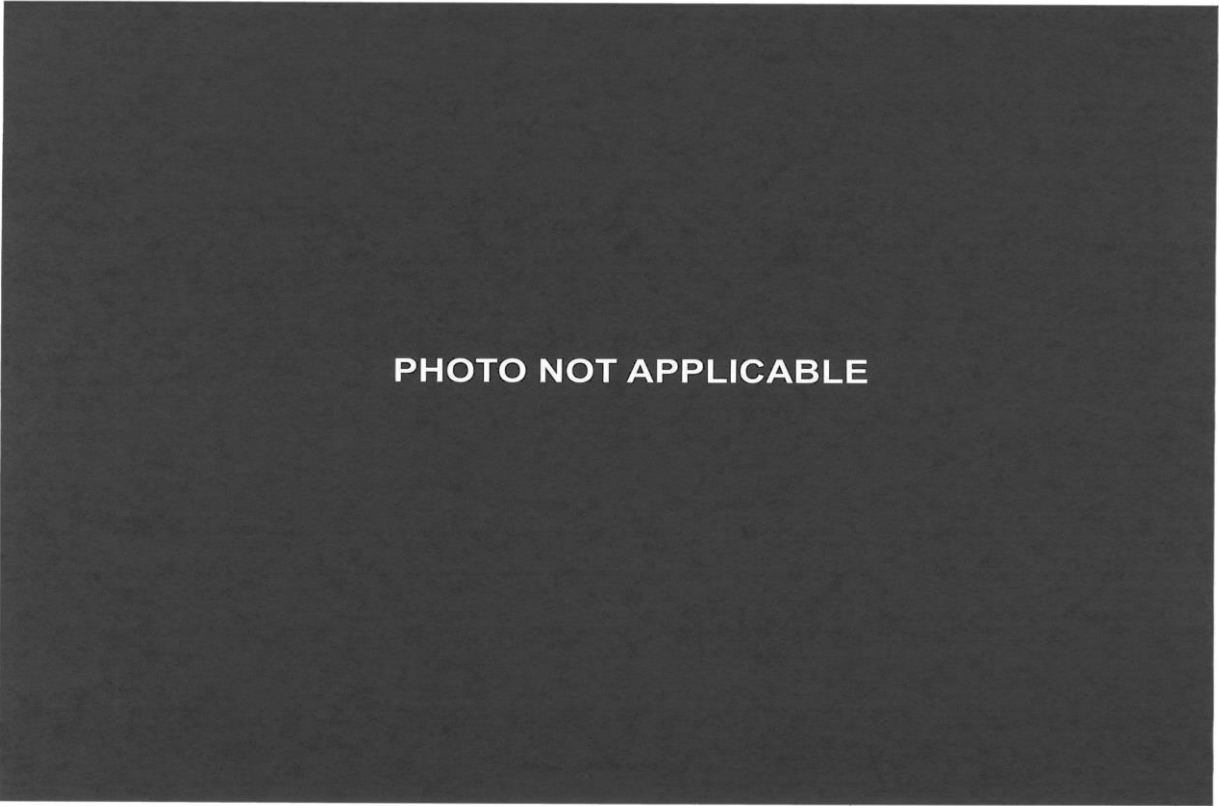


PHOTO NOT APPLICABLE

No. 305-37 Post-Impact View of Propulsion Battery Electrolyte Spillage Location

PHOTO NOT APPLICABLE

No. 305-38 Post-Test View of Propulsion Battery Electrolyte Spillage Location

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)
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

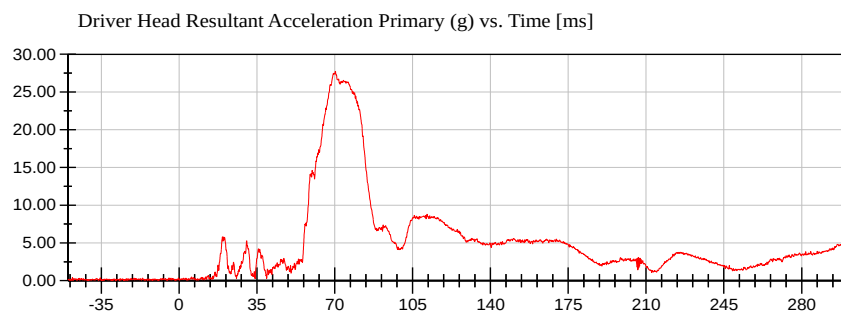
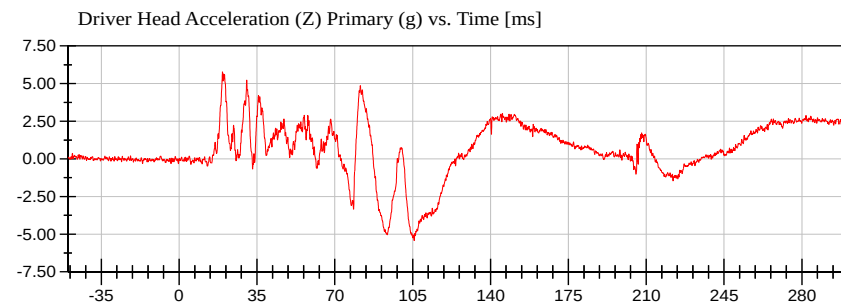
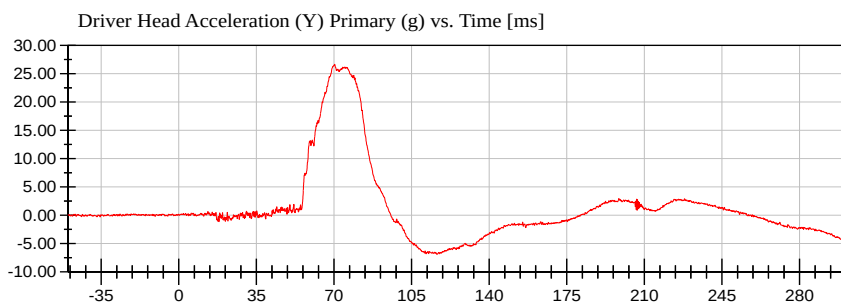
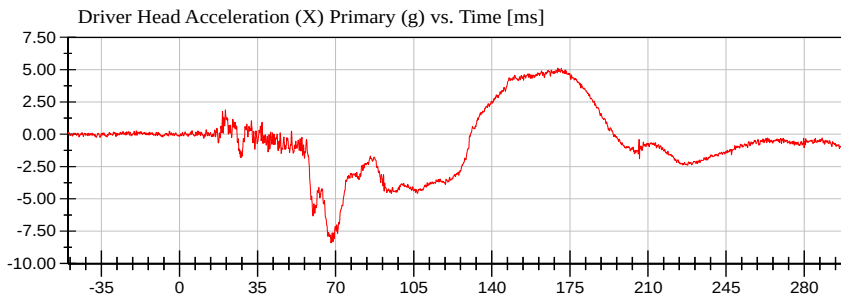
Test Lab: CTF

Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)



NHTSA

Test Lab: CTF

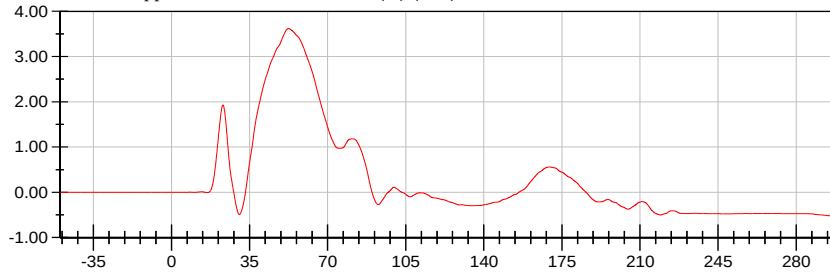
Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)

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



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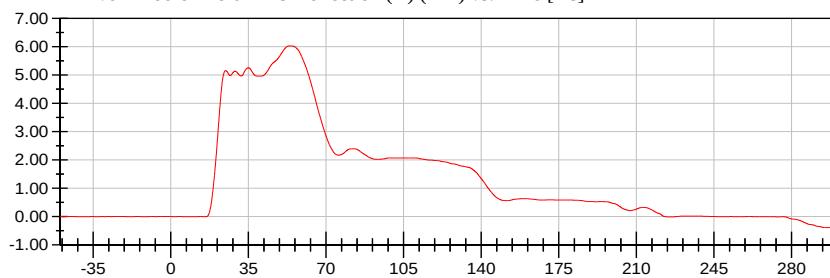
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<Min>

-0.54 mm at 300.00 ms

CFC_180

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



<Max>

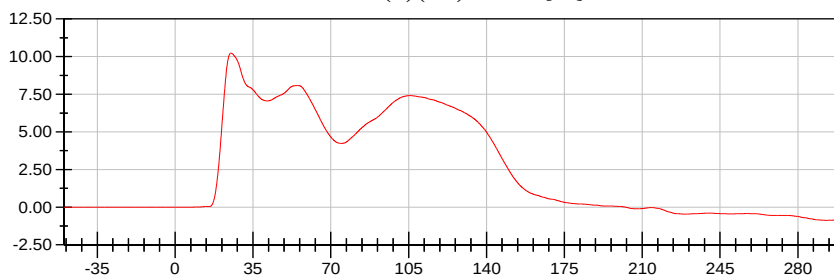
6.03 mm at 53.65 ms

<Min>

-0.39 mm at 299.00 ms

CFC_180

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



<Max>

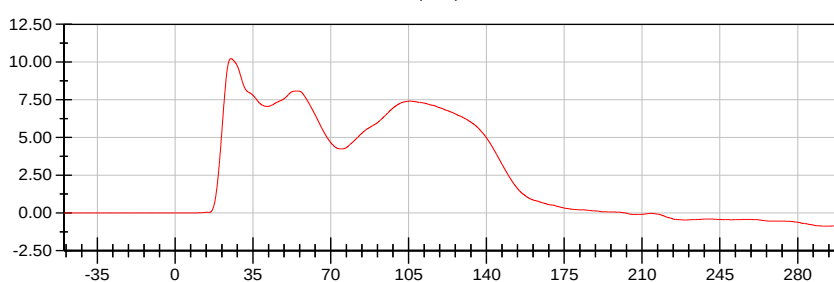
10.23 mm at 25.15 ms

<Min>

-0.88 mm at 292.85 ms

CFC_180

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



<Max>

10.23 mm at 25.15 ms

<Min>

-0.88 mm at 292.85 ms

CFC_180



NHTSA

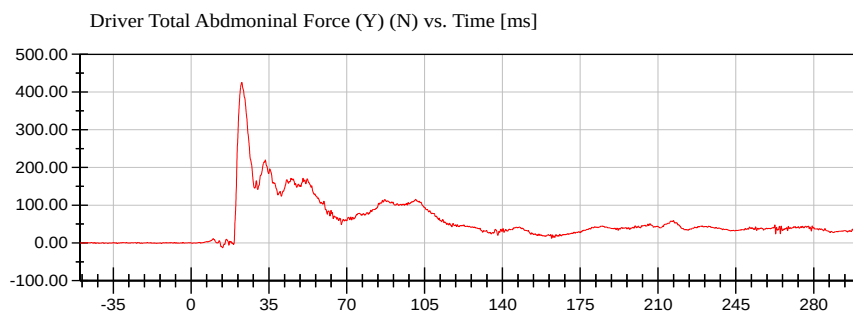
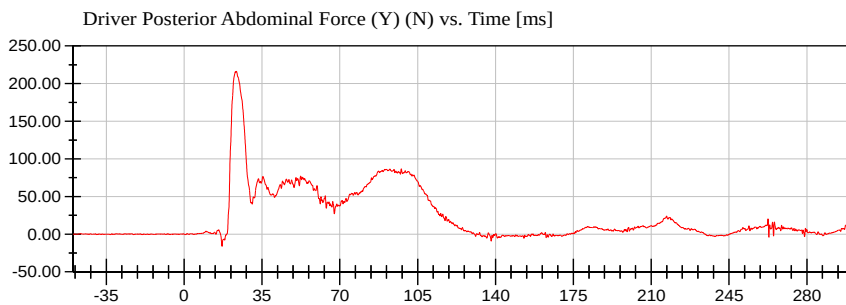
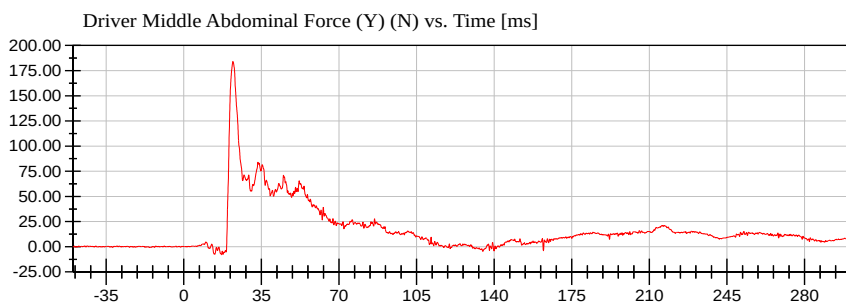
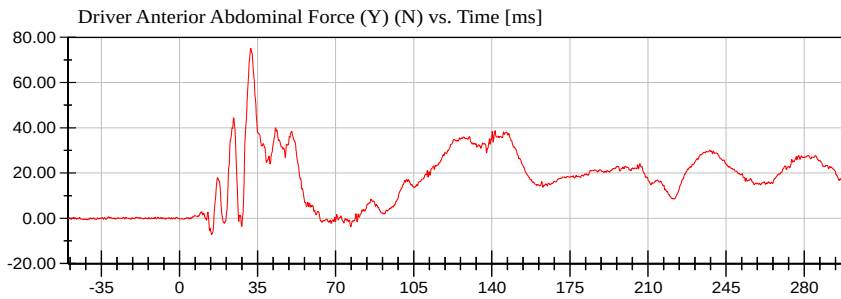
Test Lab: CTF

Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)



NHTSA

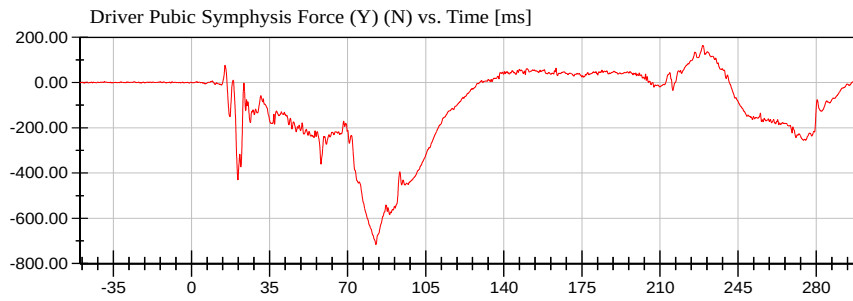
Test Lab: CTF

Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)



<Max>

164.09 N at 229.20 ms

<Min>

-716.99 N at 82.70 ms

CFC_600

TRC

NHTSA

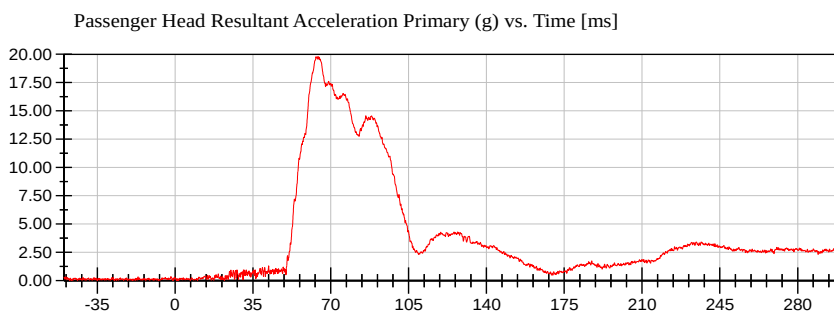
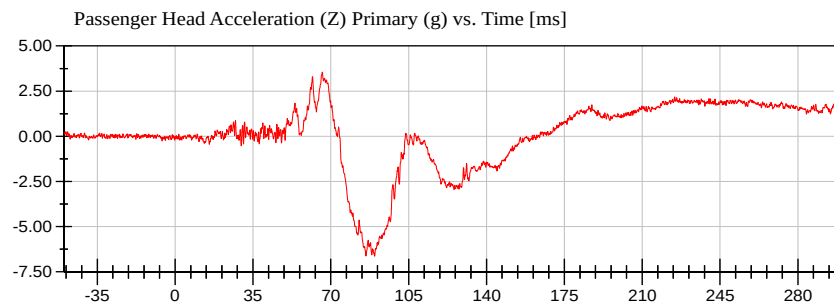
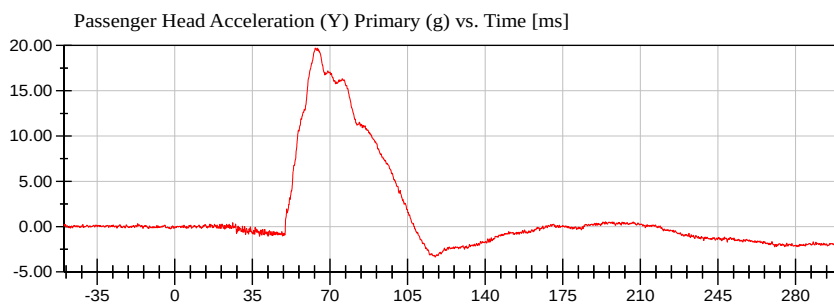
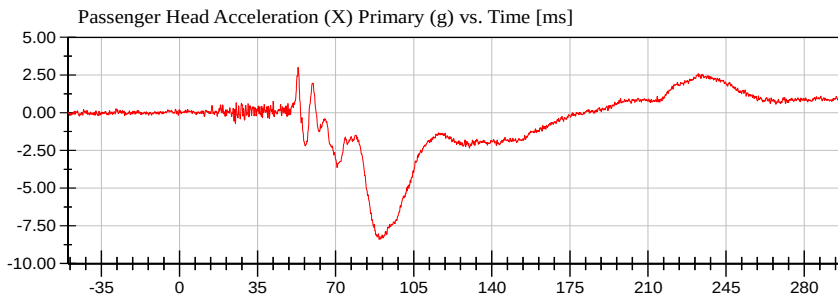
Test Lab: CTF

Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)



NHTSA

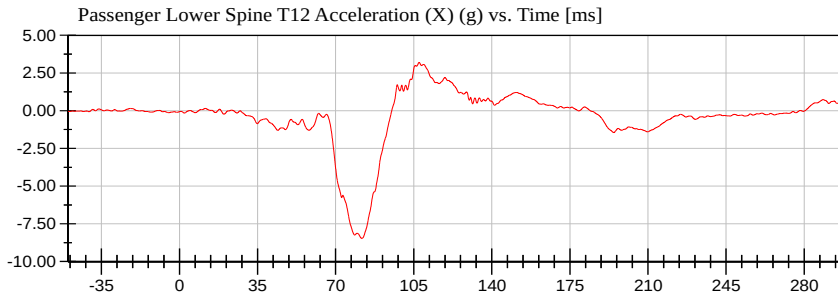
Test Lab: CTF

Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)



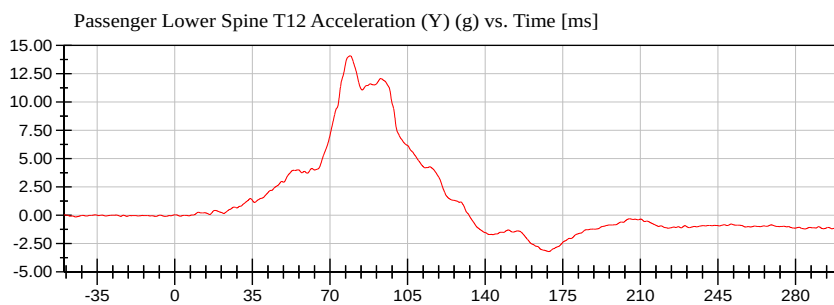
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3.20 g at 107.40 ms

<Min>

-8.47 g at 81.75 ms

CFC_180



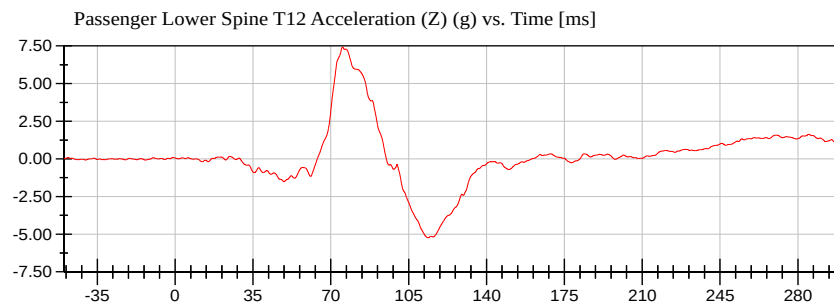
<Max>

14.09 g at 79.15 ms

<Min>

-3.20 g at 168.60 ms

CFC_180



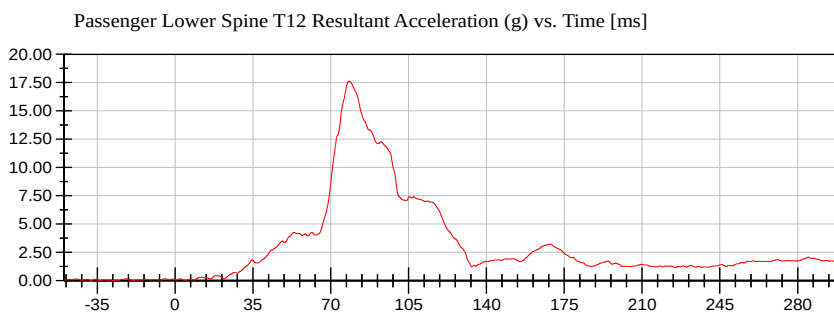
<Max>

7.42 g at 75.30 ms

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-5.24 g at 113.75 ms

CFC_180



<Max>

17.62 g at 78.20 ms

<Min>

0.01 g at -37.60 ms

CFC_180



NHTSA

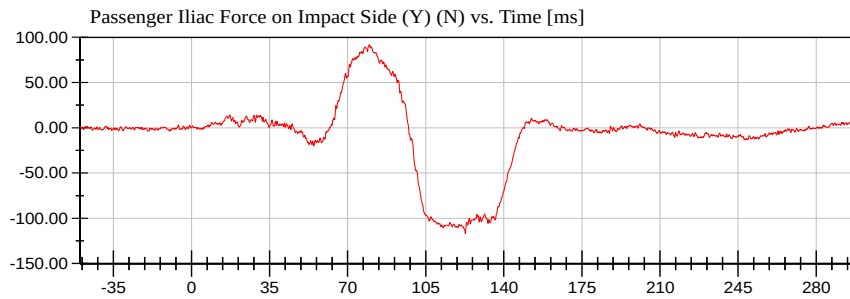
Test Lab: CTF

Test Number: 250521 (M20250112)

Test Date: 05/21/2025

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

Position #4 SID IIs Dummy (DQ0570)



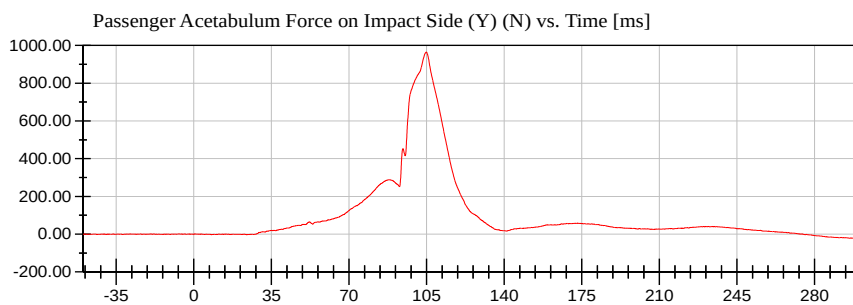
<Max>

91.91 N at 79.75 ms

<Min>

-116.89 N at 122.75 ms

CFC_600



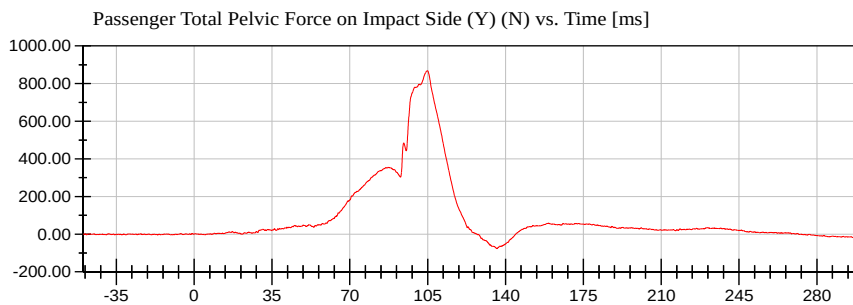
<Max>

964.74 N at 104.90 ms

<Min>

-21.97 N at 300.00 ms

CFC_600



<Max>

868.33 N at 104.85 ms

<Min>

-76.45 N at 136.20 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. 104

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. 104-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Peak Resultant Acceleration	125 - 155 g	130.8 g	Yes
Peak Longitudinal Acceleration	(-15) - 15 g	9.1 g	Yes
Is Resultant Acceleration Curve Unimodal within 15% of Main Pulse?	< 15 %	4.27 %	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

05.05.2025 13:56:11 361

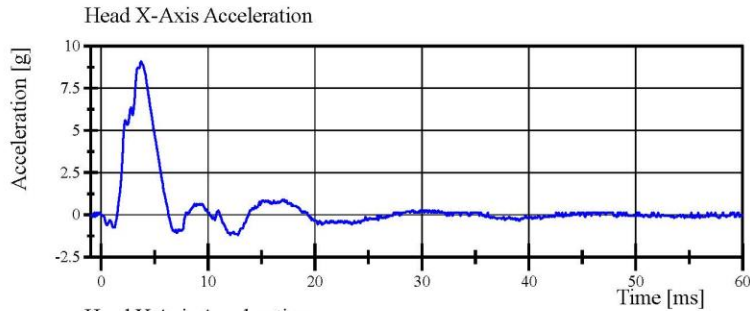


Transportation Research Center Inc.

Left Lateral Head Drop

ES-2re Serial No. F030 Certification No. 104-1

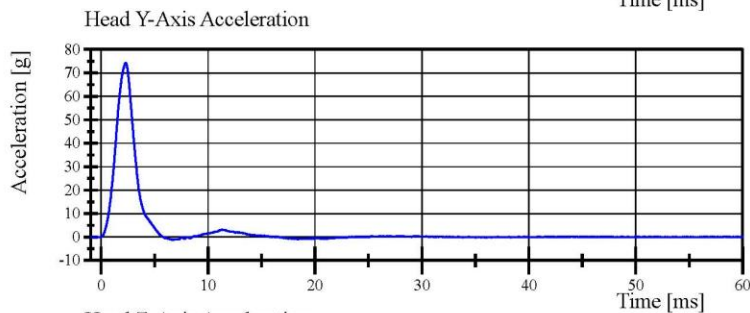
Test Date: 5/5/2025



Filter Class: CFC_1000

Max: 9.1 g at 3.8 ms

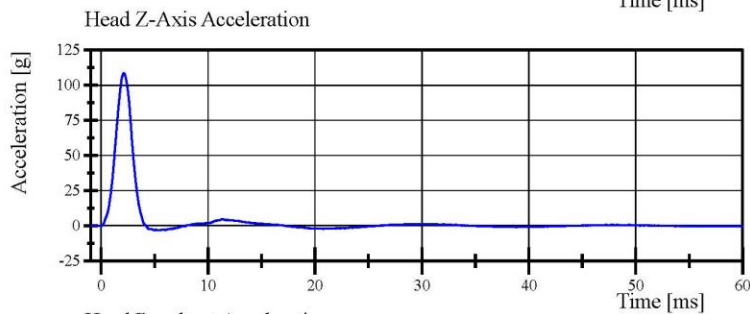
Min: -1.2 g at 12.1 ms



Filter Class: CFC_1000

Max: 74.2 g at 2.3 ms

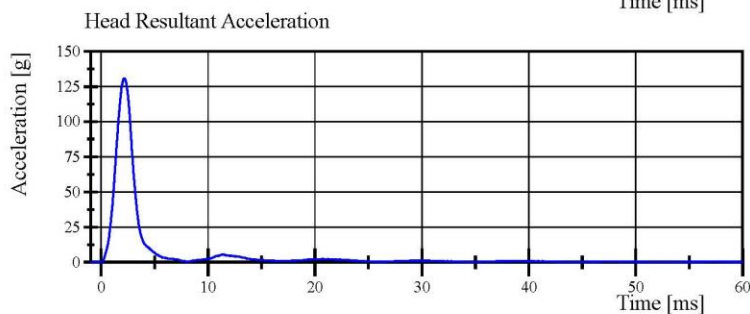
Min: -1.1 g at 6.6 ms



Filter Class: CFC_1000

Max: 108.4 g at 2.1 ms

Min: -3.2 g at 5.0 ms



Filter Class: CFC_1000

Max: 130.8 g at 2.2 ms

Min: 0.0 g at -1.0 ms

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

05.05.2025 13:56:47 361



Transportation Research Center Inc.

Left Lateral Neck

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	51 %	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	-53.5 deg	Yes
Time of Peak	54 - 66 ms	57.9 ms	Yes
Headform Flexion Decay			
- Peak to Zero	53 - 88 ms	54.1 ms	Yes

Test meets specifications.

Condition: Used

Comments:

Neck S/N: 05053

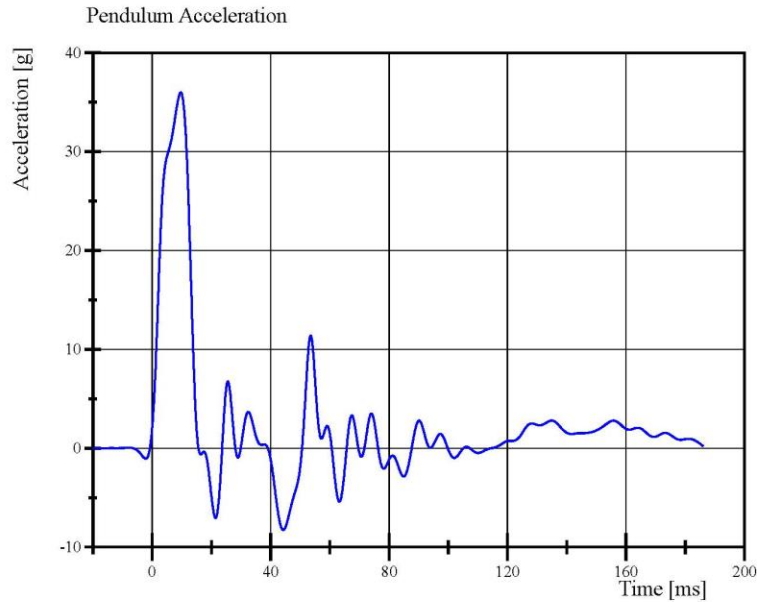
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.05.2025 14:29:27 1499

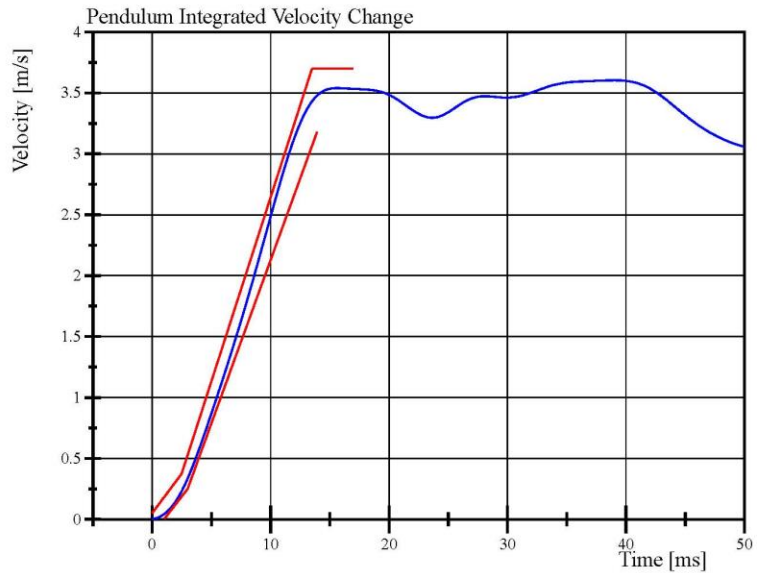


Transportation Research Center Inc.

Left Lateral Neck
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/5/2025



Filter Class: CFC_60
Max: 36.0 g at 9.7 ms
Min: -8.3 g at 44.2 ms



Filter Class: CFC_60
Max: 3.6 m/s at 39.0 ms
Min: 0.0 m/s at 0.0 ms

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

05.05.2025 14:30:08 1499

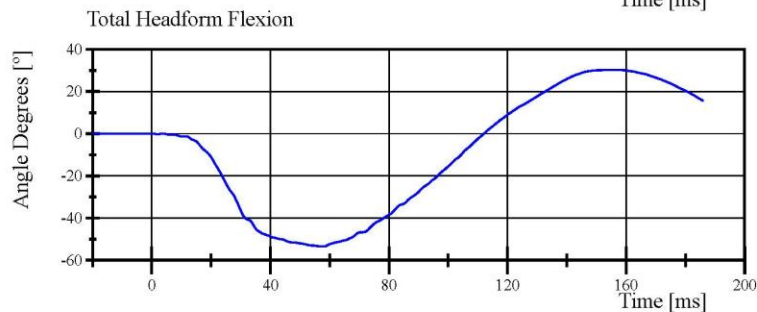
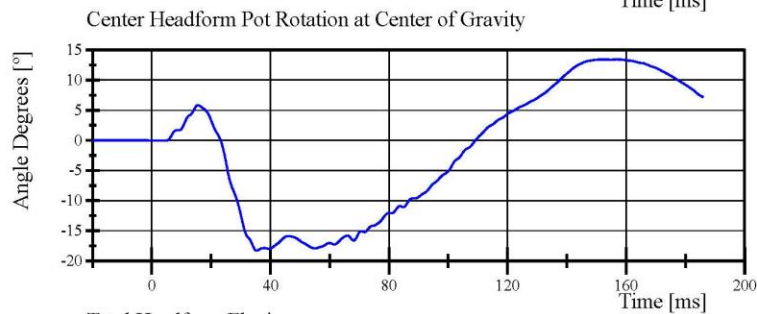
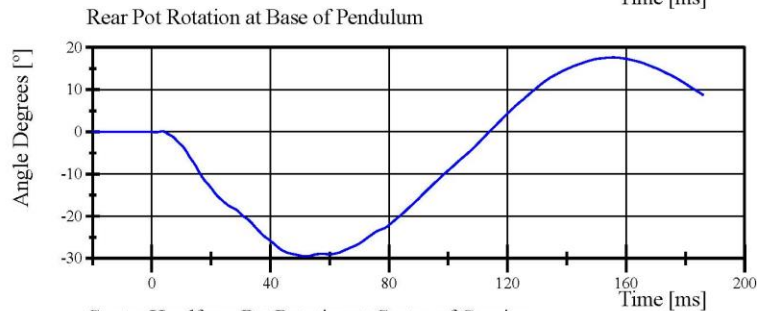
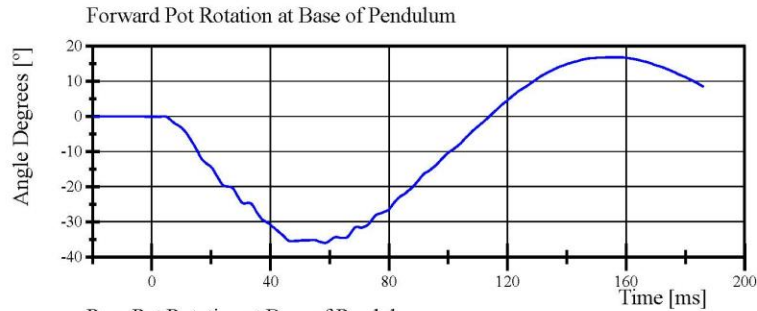


Transportation Research Center Inc.

Left Lateral Neck

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/5/2025



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

05.05.2025 14:30:09 1499



Transportation Research Center Inc.

Left Lateral Shoulder

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.23 m/s	Yes
Test Probe Acceleration	(-7.5) - (-10.5) g	-8.37 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

05.06.2025 09:10:15 570

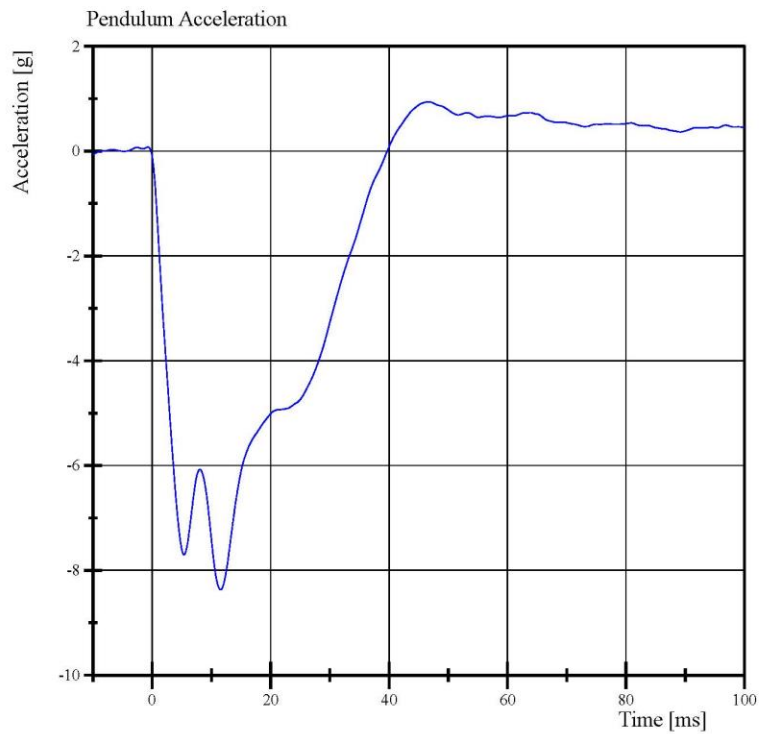


Transportation Research Center Inc.

Left Lateral Shoulder

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



Filter Class: CFC_180

Max: 0.9 g at 46.7 ms

Min: -8.4 g at 11.5 ms

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

05.06.2025 09:10:54 570



Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 104-2
Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	39.8 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 462 mm

Rib Foam S/N: EK6973

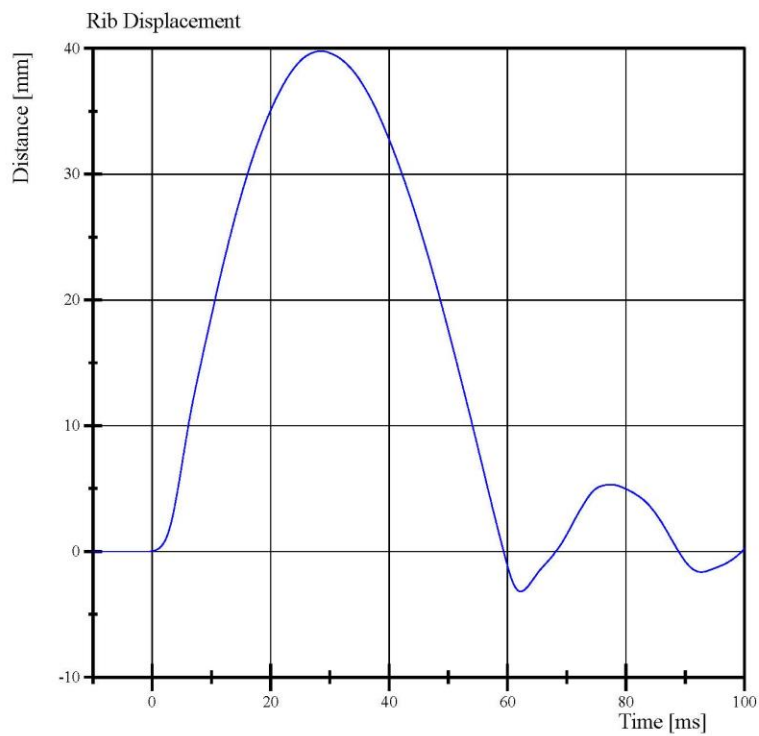
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.06.2025 11:31:36 626



Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 104-2
Test Date: 5/6/2025



Filter Class: CFC_180
Max: 39.8 mm at 28.5 ms
Min: -3.2 mm at 62.2 ms

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

05.06.2025 11:32:23 626



Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	49.2 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 816 mm

Rib Foam S/N: EK6973

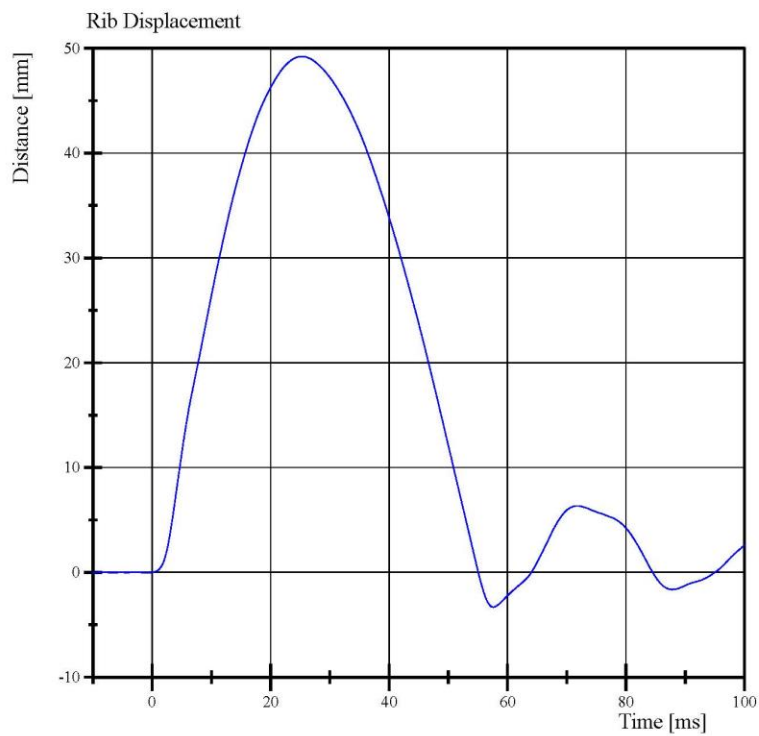
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.06.2025 10:56:14 507



Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/6/2025



Filter Class: CFC_180
Max: 49.2 mm at 25.3 ms
Min: -3.3 mm at 57.6 ms

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

05.06.2025 10:56:47 507



Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	38.4 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 462 mm

Rib Foam S/N: EK6970

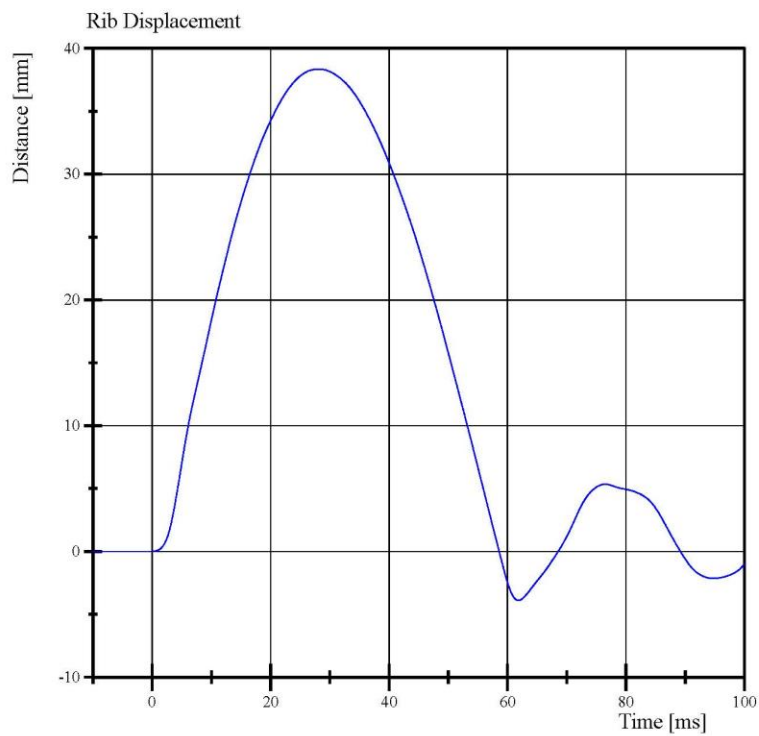
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.06.2025 11:09:18 620



Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/6/2025



Filter Class: CFC_180
Max: 38.4 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

05.06.2025 11:09:59 620



Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	49.5 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

05.06.2025 11:04:14 515

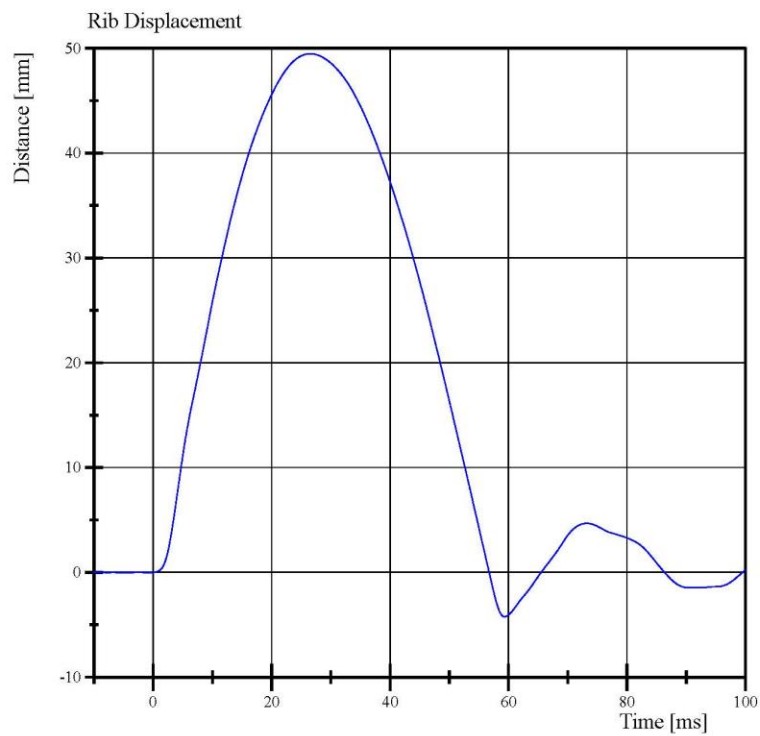


Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



Filter Class: CFC_180
Max: 49.5 mm at 26.6 ms
Min: -4.2 mm at 59.4 ms

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

05.06.2025 11:04:46 515



Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	38.0 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 462 mm

Rib Foam S/N: EK6971

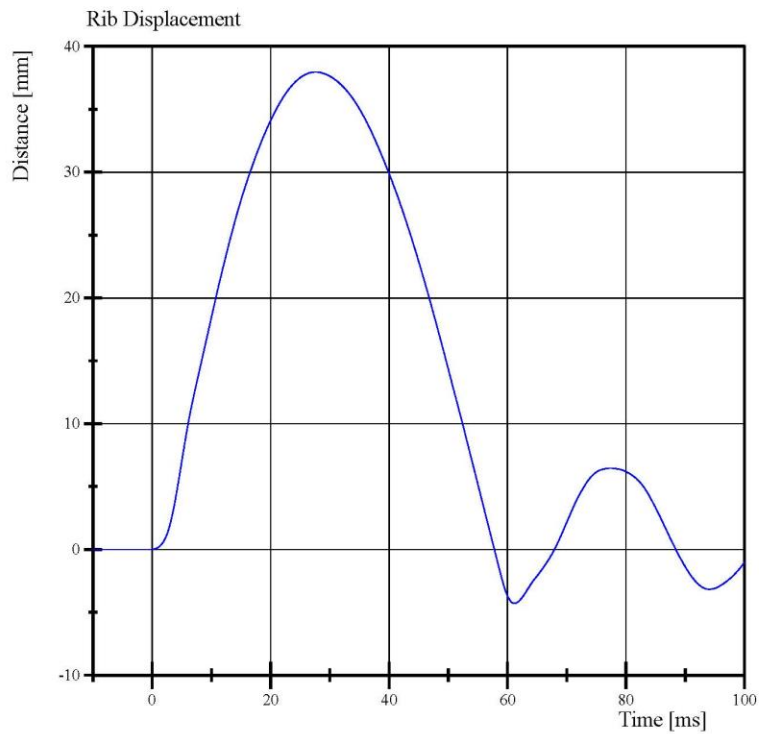
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.06.2025 11:18:33 623



Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/6/2025



Filter Class: CFC_180
Max: 38.0 mm at 27.6 ms
Min: -4.3 mm at 61.1 ms

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

05.06.2025 11:19:05 623



Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	52 %	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

05.06.2025 11:12:50 498

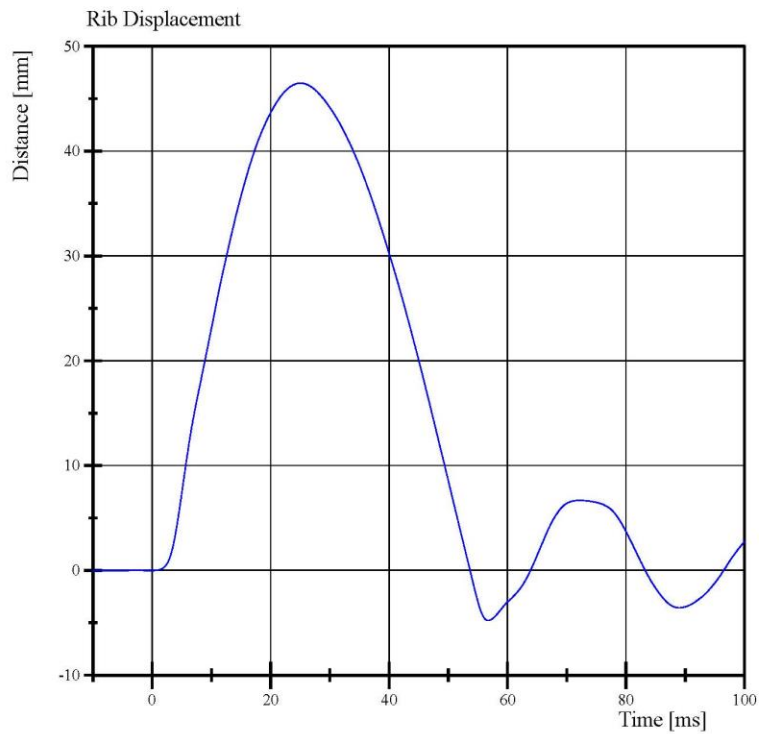


Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



Filter Class: CFC_180
Max: 46.5 mm at 25.0 ms
Min: -4.8 mm at 56.7 ms

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

05.06.2025 11:13:17 498



Report Number: F030_ERF104

Page 28 of 41

Transportation Research Center Inc.

Left Lateral Thorax

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Impactor Velocity	5.4 - 5.60 m/s	5.442 m/s	Yes
Peak Impactor Force after 6 ms	(-5,100) - (-6,200) N	-5,469.8 N	Yes
Upper Rib Displacement	34 - 41 mm	38.6 mm	Yes
Center Rib Displacement	37 - 45 mm	40.1 mm	Yes
Lower Rib Displacement	37 - 44 mm	39.8 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

05.06.2025 09:13:35 462

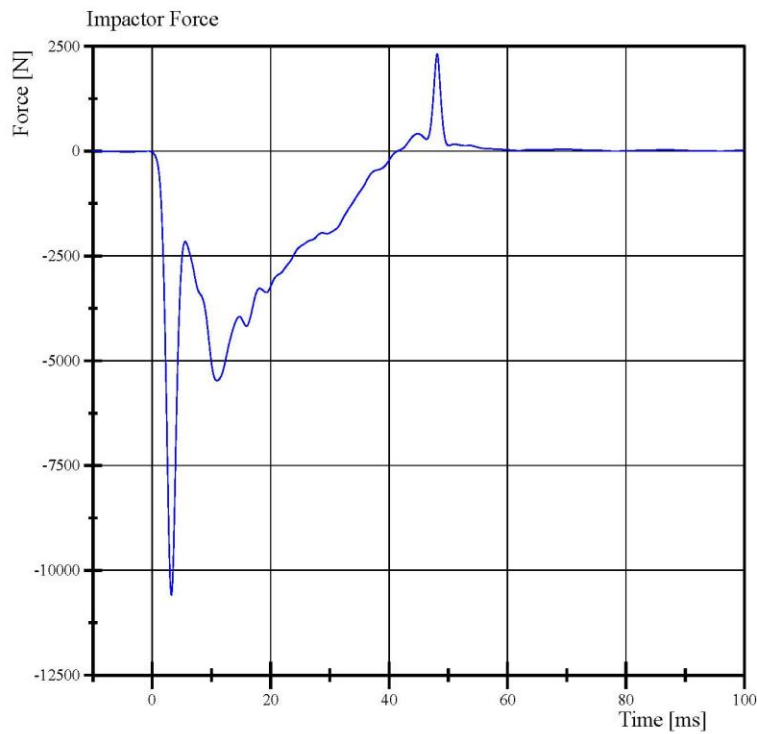


Transportation Research Center Inc.

Left Lateral Thorax

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



Filter Class: CFC_180
Max: 2,317.6 N at 48.1 ms
Min: -10,586.8 N at 3.3 ms

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

05.06.2025 09:14:05 462



Report Number: F030_ERF104

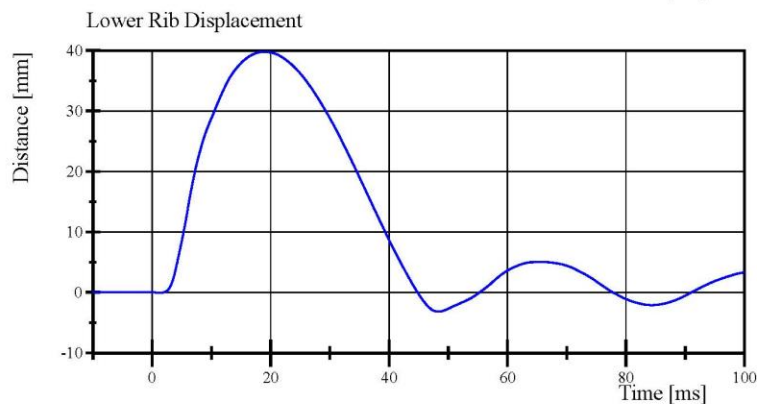
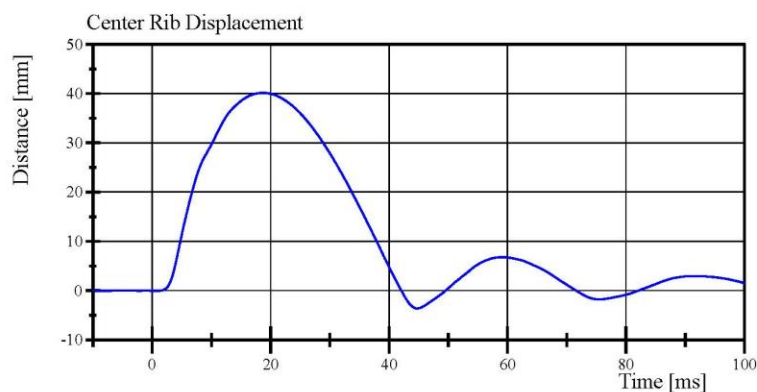
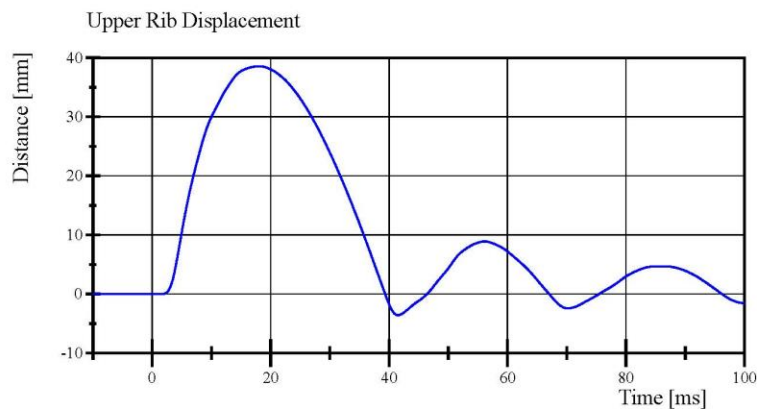
Page 30 of 41

Transportation Research Center Inc.

Left Lateral Thorax

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



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

05.06.2025 09:14:06 462.



Transportation Research Center Inc.

Left Lateral Lumbar

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	52 %	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	46.7 ms	Yes
Headform Flexion Decay			
- Peak to Zero	37 - 57 ms	39.4 ms	Yes

Test meets specifications.

Condition: Used

Comments:

Lumbar S/N: FB7553

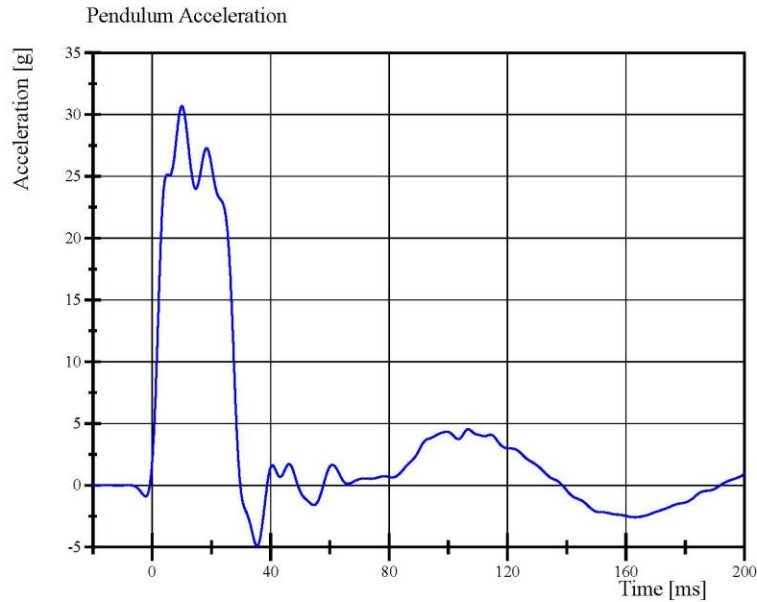
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.05.2025 14:53:22 671

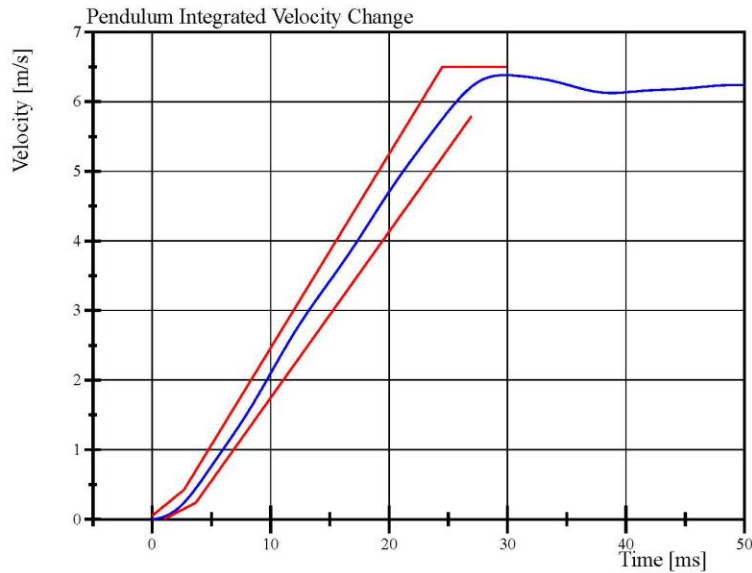


Transportation Research Center Inc.

Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/5/2025



Filter Class: CFC_60
Max: 30.7 g at 10.1 ms
Min: -4.9 g at 35.4 ms



Filter Class: CFC_60
Max: 6.4 m/s at 29.8 ms
Min: 0.0 m/s at 0.0 ms

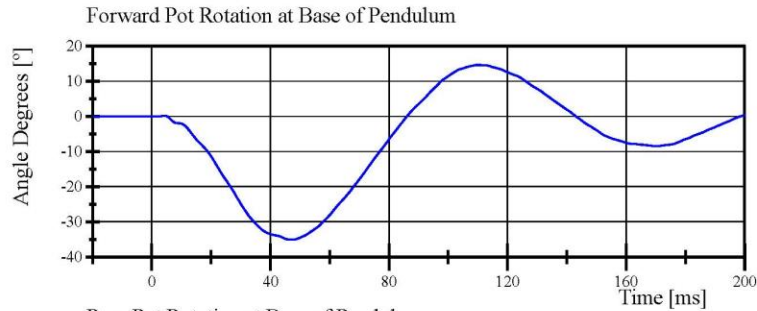
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.05.2025 14:54:02 671

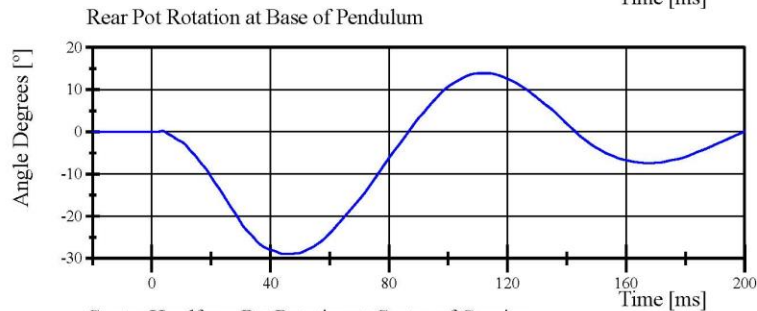


Transportation Research Center Inc.

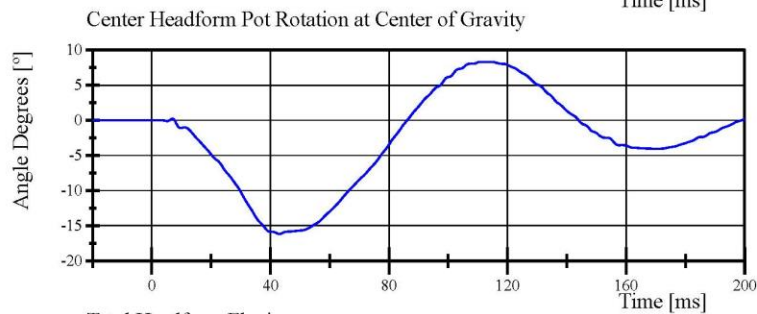
Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 104-1
Test Date: 5/5/2025



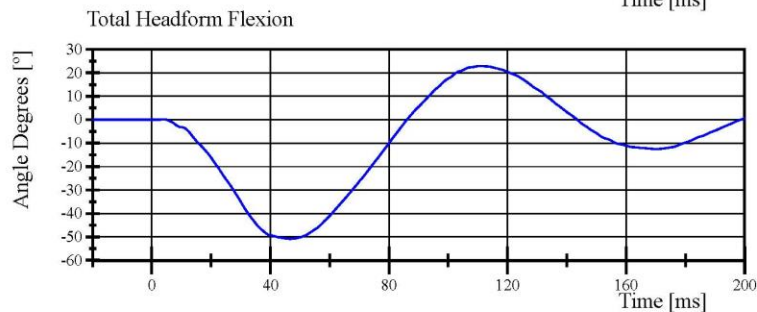
Filter Class: CFC_180
Max: 14.6 ° at 109.9 ms
Min: -35.1 ° at 47.0 ms



Filter Class: CFC_180
Max: 13.9 ° at 113.7 ms
Min: -28.9 ° at 44.4 ms



Filter Class: CFC_180
Max: 8.3 ° at 110.9 ms
Min: -16.2 ° at 43.0 ms



Filter Class: CFC_180
Max: 22.9 ° at 110.6 ms
Min: -50.9 ° at 46.7 ms

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

05.05.2025 14:54:03 671



Transportation Research Center Inc.

Left Lateral Abdomen

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Test Probe Velocity	3.9 - 4.1 m/s	4.07 m/s	Yes
Test Probe Force			
Peak	4,000 - 4,800 N	4,361.6 N	Yes
Time of Peak	10.6 - 13.0 ms	11.76 ms	Yes
Total Abdominal Force			
Peak	2,200 - 2,700 N	2,586.3 N	Yes
Time of Peak	10.0 - 12.3 ms	11.52 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

05.06.2025 09:19:04 625

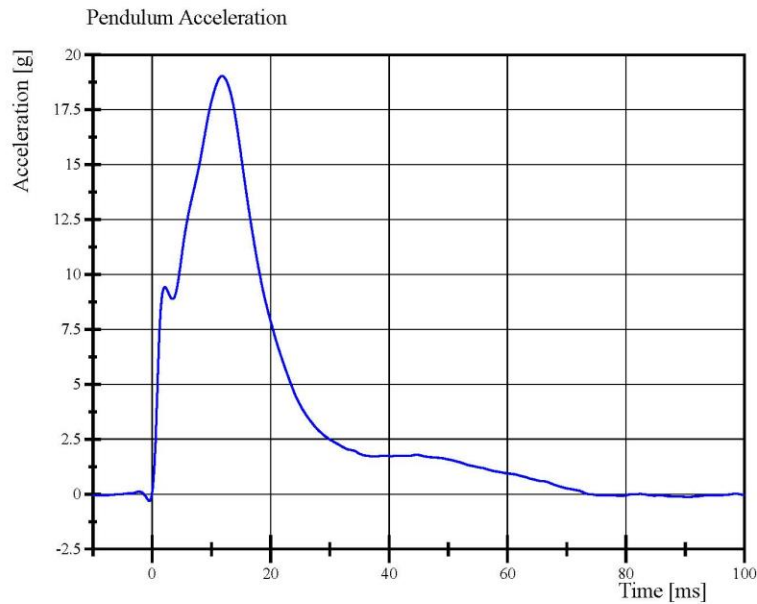


Transportation Research Center Inc.

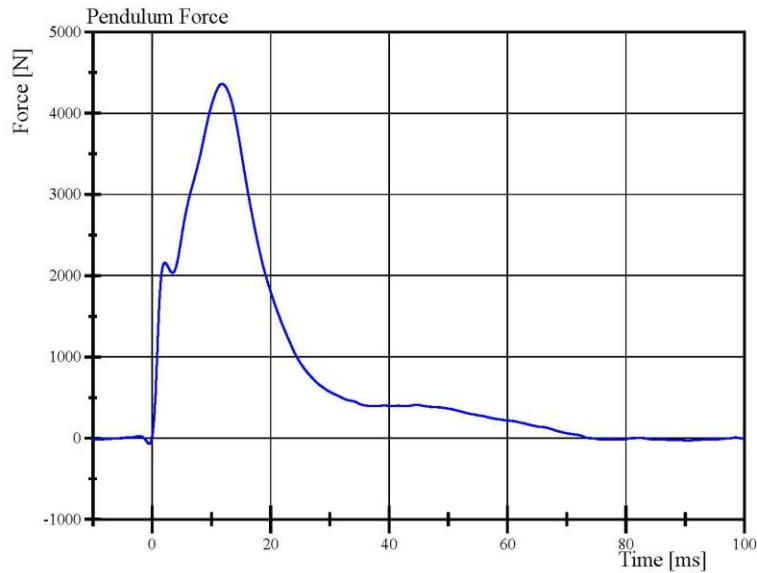
Left Lateral Abdomen

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



Filter Class: CFC_180
Max: 19.0 g at 11.8 ms
Min: -0.3 g at -0.5 ms



Filter Class: CFC_180
Max: 4,361.6 N at 11.8 ms
Min: -69.6 N at -0.5 ms

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

05.06.2025 09:19:24 625

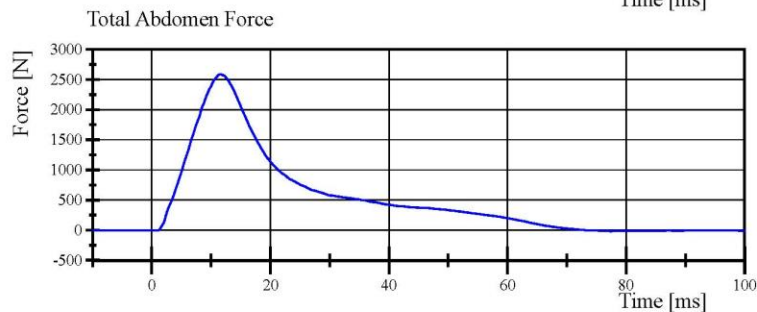
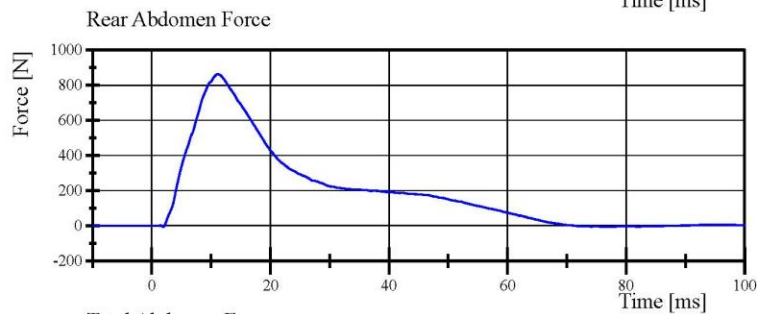
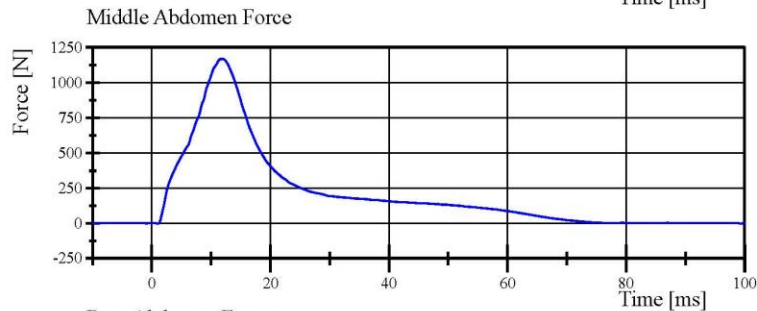
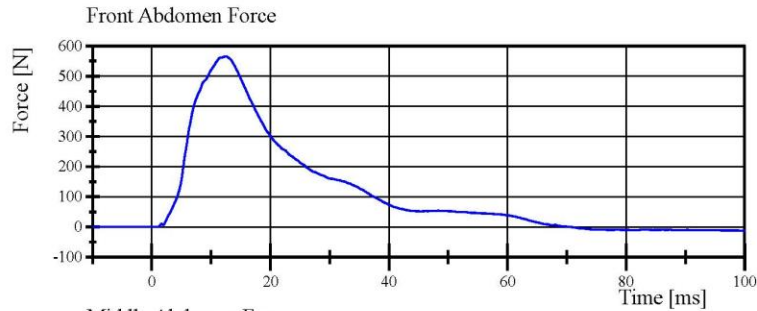


Transportation Research Center Inc.

Left Lateral Abdomen

ES-2re Serial No. F030 Certification No. 104-1

Test Date: 5/6/2025



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

05.06.2025 09:19:24 625



Transportation Research Center Inc.

Left Lateral Pelvis

ES-2re Serial No. F030 Certification No. 104-2

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.35 m/s	Yes
Test Probe Force			
Peak	4,700 - 5,400 N	5,295.9 N	Yes
Time of Peak	11.8 - 16.1 ms	13.44 ms	Yes
Pubic Symphysis Force			
Peak	(-1,230) - (-1,590) N	-1,269.0 N	Yes
Time of Peak	12.2 - 17.0 ms	12.96 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

05.06.2025 09:57:26 557

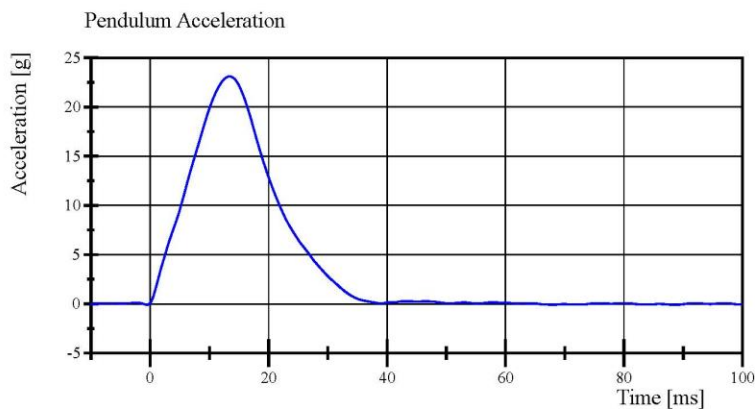


Transportation Research Center Inc.

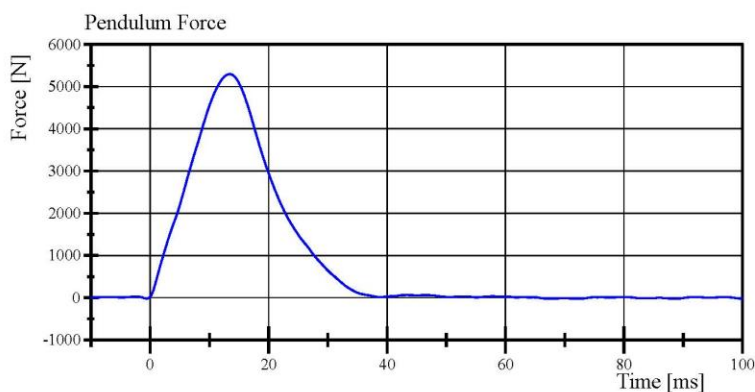
Left Lateral Pelvis

ES-2re Serial No. F030 Certification No. 104-2

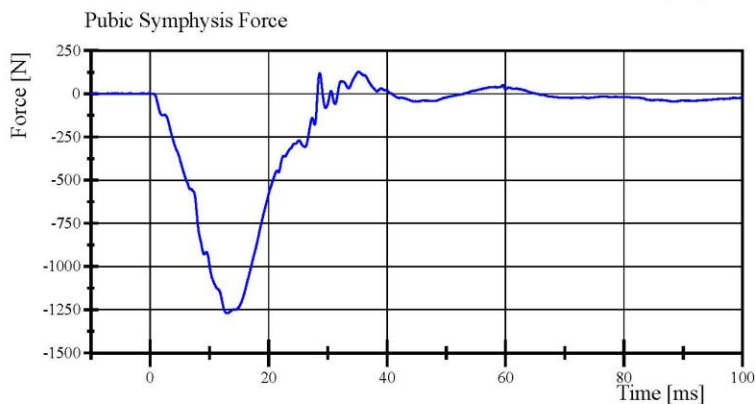
Test Date: 5/6/2025



Filter Class: CFC_180
Max: 23.1 g at 13.4 ms
Min: -0.1 g at 88.6 ms



Filter Class: CFC_180
Max: 5,295.9 N at 13.4 ms
Min: -23.4 N at 88.6 ms



Filter Class: CFC_600
Max: 126.2 N at 35.1 ms
Min: -1,269.0 N at 13.0 ms

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

05.06.2025 09:58:15 557



Post-Test Calibration Sheets
Driver S/N F030

Transportation Research Center Inc.
572U ES-2re Dummy
External Dimensions
Serial No. F030 Calibration No. 105

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. 105-1

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Peak Resultant Acceleration	125 - 155 g	140.8 g	Yes
Peak Longitudinal Acceleration	(-15) - 15 g	8.0 g	Yes
Is Resultant Acceleration Curve Unimodal within 15% of Main Pulse?	< 15 %	4.07 %	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

05.27.2025 10:55:46 362

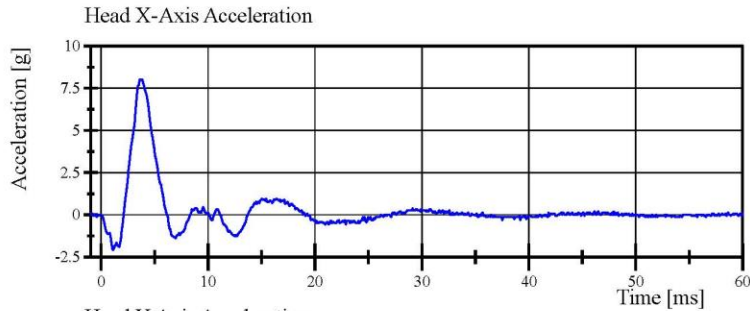


Transportation Research Center Inc.

Left Lateral Head Drop

ES-2re Serial No. F030 Certification No. 105-1

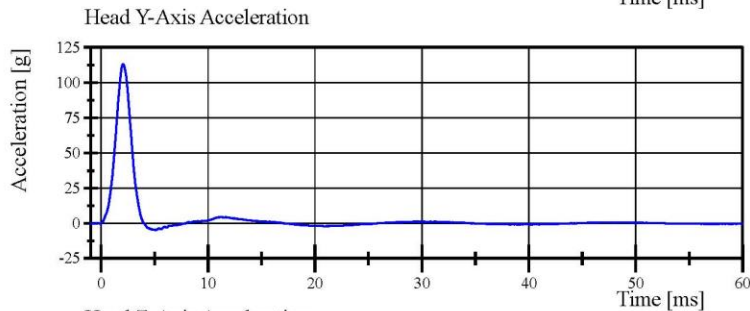
Test Date: 5/27/2025



Filter Class: CFC_1000

Max: 8.0 g at 3.6 ms

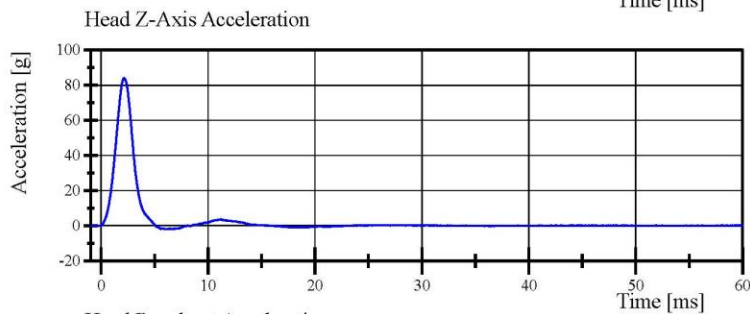
Min: -2.1 g at 1.1 ms



Filter Class: CFC_1000

Max: 113.2 g at 2.1 ms

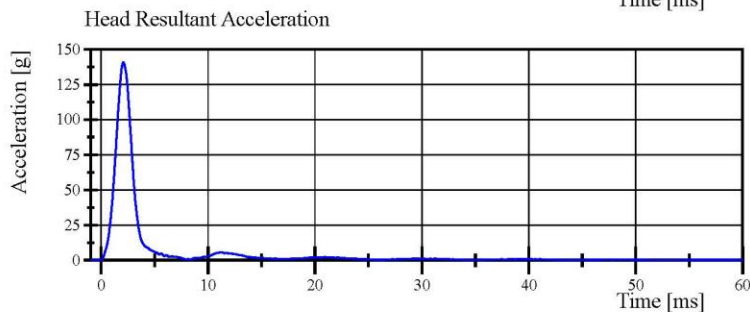
Min: -4.7 g at 5.0 ms



Filter Class: CFC_1000

Max: 84.0 g at 2.2 ms

Min: -2.0 g at 6.0 ms



Filter Class: CFC_1000

Max: 140.8 g at 2.1 ms

Min: 0.0 g at 44.3 ms

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

05.27.2025 10:56:24 362.



Transportation Research Center Inc.

Left Lateral Neck

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	47 %	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	57.8 ms	Yes
Headform Flexion Decay			
- Peak to Zero	53 - 88 ms	53.9 ms	Yes

Test meets specifications.

Condition: Used

Comments:

Neck S/N: 05053

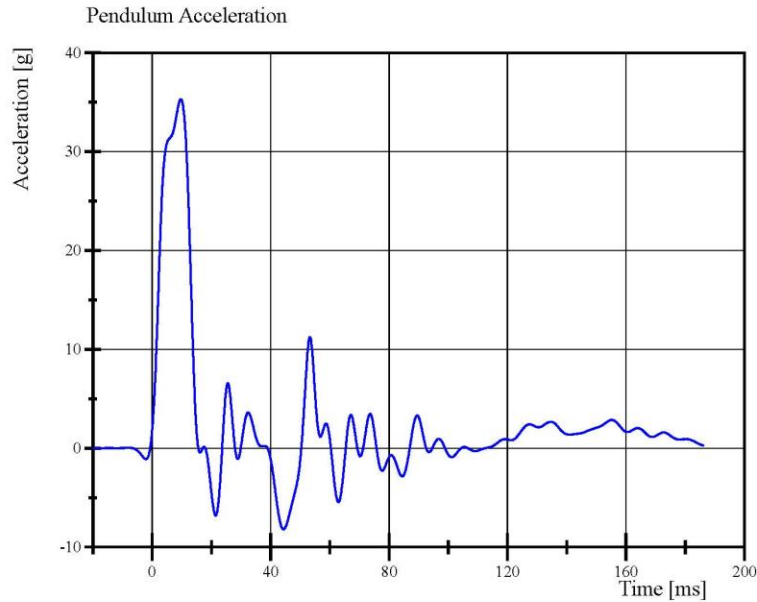
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 11:35:03 1497

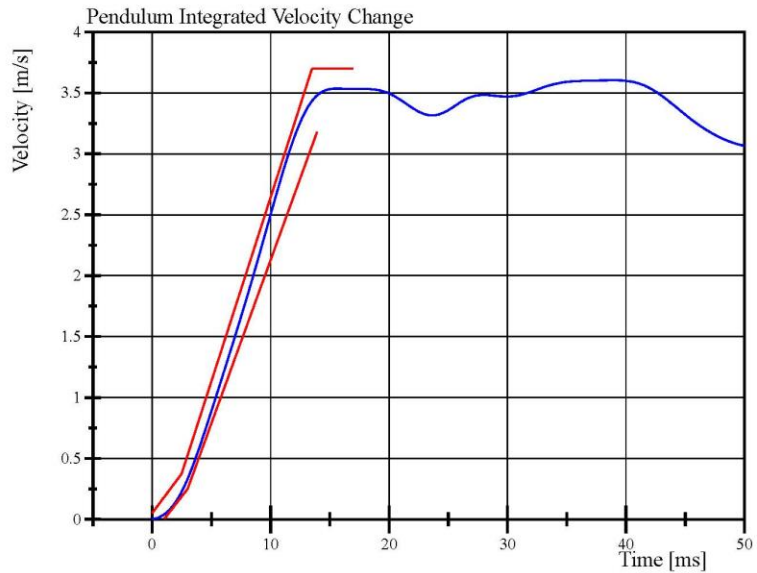


Transportation Research Center Inc.

Left Lateral Neck
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



Filter Class: CFC_60
Max: 35.3 g at 9.7 ms
Min: -8.2 g at 44.4 ms



Filter Class: CFC_60
Max: 3.6 m/s at 39.0 ms
Min: 0.0 m/s at 0.0 ms

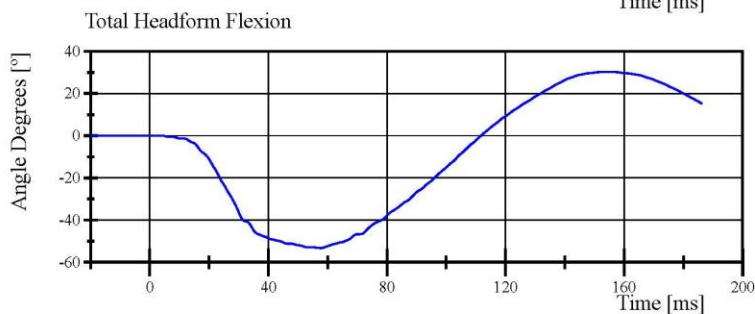
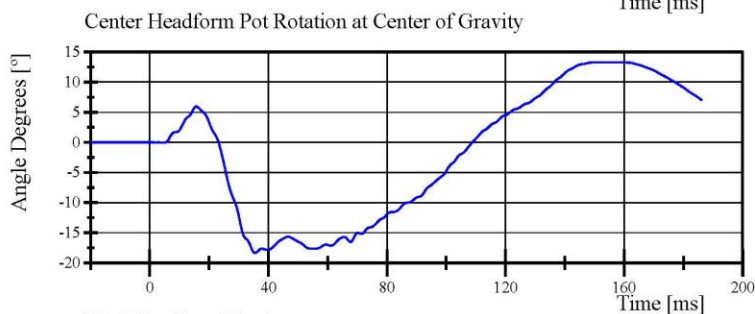
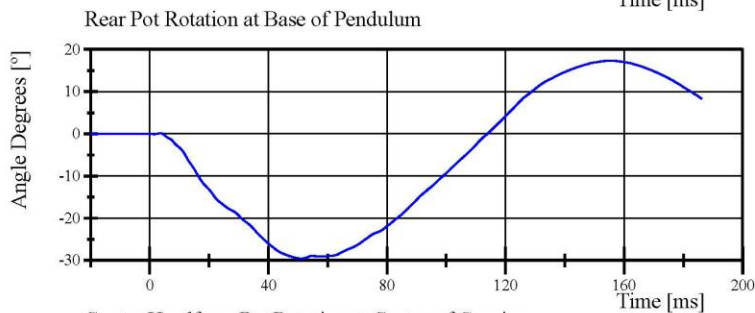
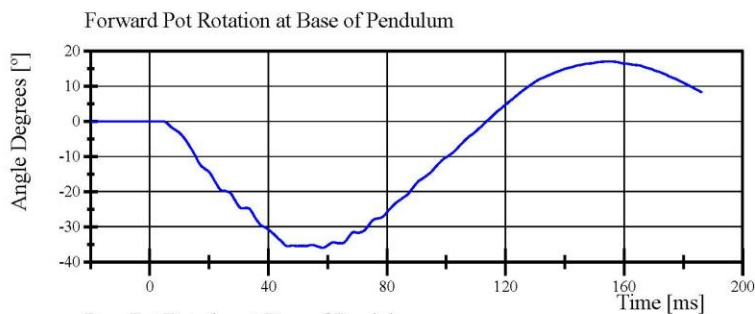
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 11:35:29 1497



Transportation Research Center Inc.

Left Lateral Neck
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



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

05.27.2025 11:35:29 1497



Transportation Research Center Inc.

Left Lateral Shoulder

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.22 m/s	Yes
Test Probe Acceleration	(-7.5) - (-10.5) g	-8.75 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

05.28.2025 10:04:01 631

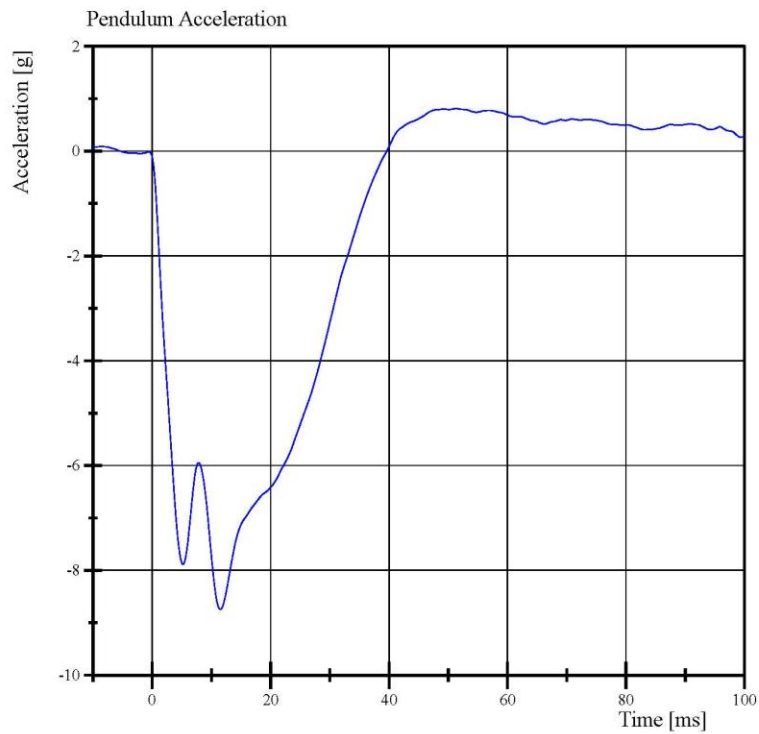


Transportation Research Center Inc.

Left Lateral Shoulder

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025



Filter Class: CFC_180

Max: 0.8 g at 51.4 ms

Min: -8.7 g at 11.5 ms

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

05.28.2025 10:04:38 631



Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 105-2
Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	39.3 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 462 mm

Rib Foam S/N: EK6973

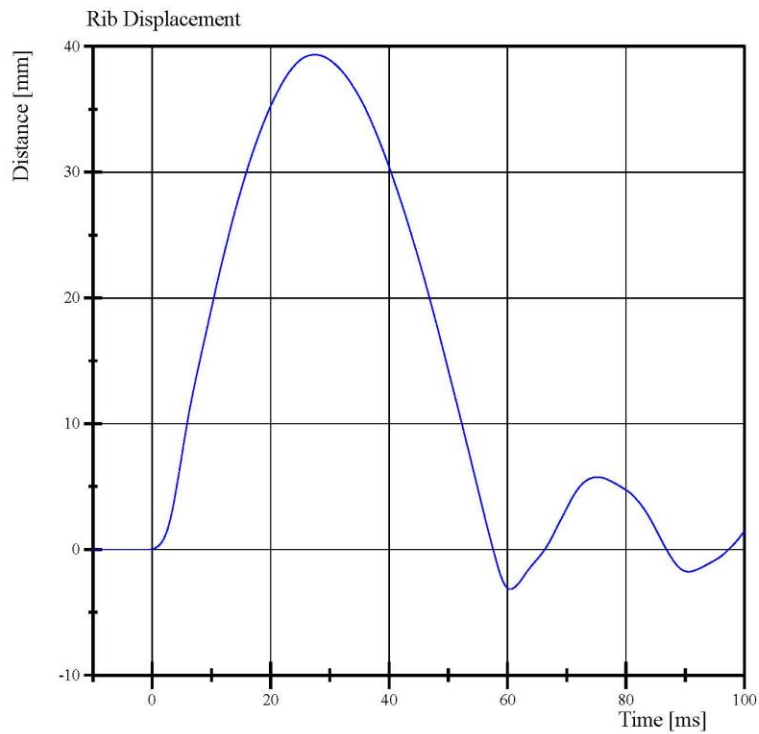
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 14:12:36 611



Transportation Research Center Inc.

3.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 105-2
Test Date: 5/27/2025



Filter Class: CFC_180
Max: 39.3 mm at 27.5 ms
Min: -3.2 mm at 60.5 ms

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

05.27.2025 14:13:43 611



Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
4.0 m/s Test Rib Displacement (807 mm to 823 mm)	46 - 51 mm	48.3 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 816 mm

Rib Foam S/N: EK6973

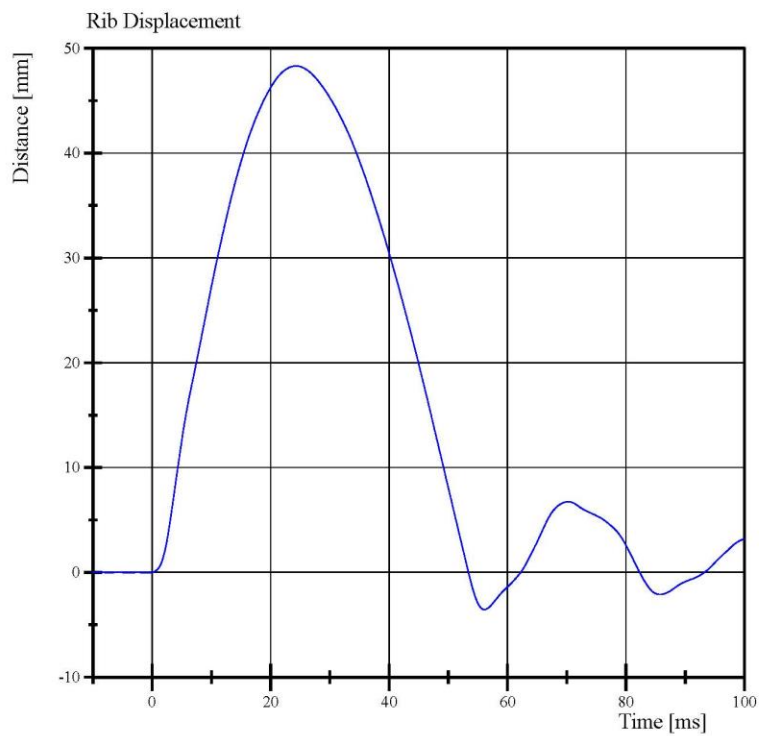
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 13:27:36 509



Transportation Research Center Inc.

4.0 m/s Upper Full Rib Module
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



Filter Class: CFC_180
Max: 48.3 mm at 24.3 ms
Min: -3.5 mm at 56.1 ms

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

05.27.2025 13:28:41 509



Report Number: F030_ERF105

Page 20 of 41

Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
3.0 m/s Test Rib Displacement (454 mm to 464 mm)	36 - 40 mm	38.4 mm	Yes

Test meets specifications.

Condition: Used

Comments:

Drop Height: 462 mm

Rib Foam S/N: EK6970

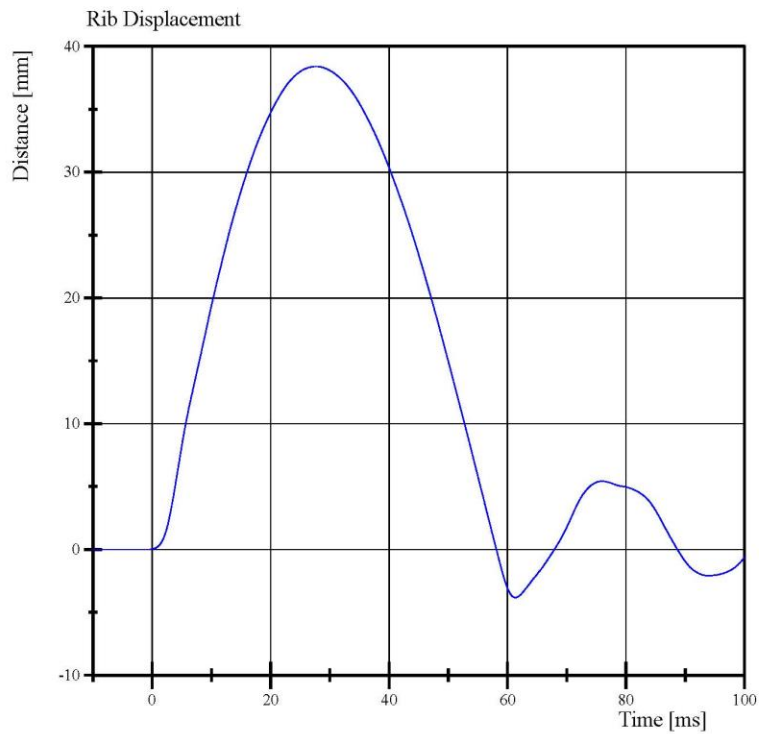
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 13:51:59 618



Transportation Research Center Inc.

3.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



Filter Class: CFC_180
Max: 38.4 mm at 27.7 ms
Min: -3.8 mm at 61.4 ms

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

05.27.2025 13:52:40 618



Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	47 %	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

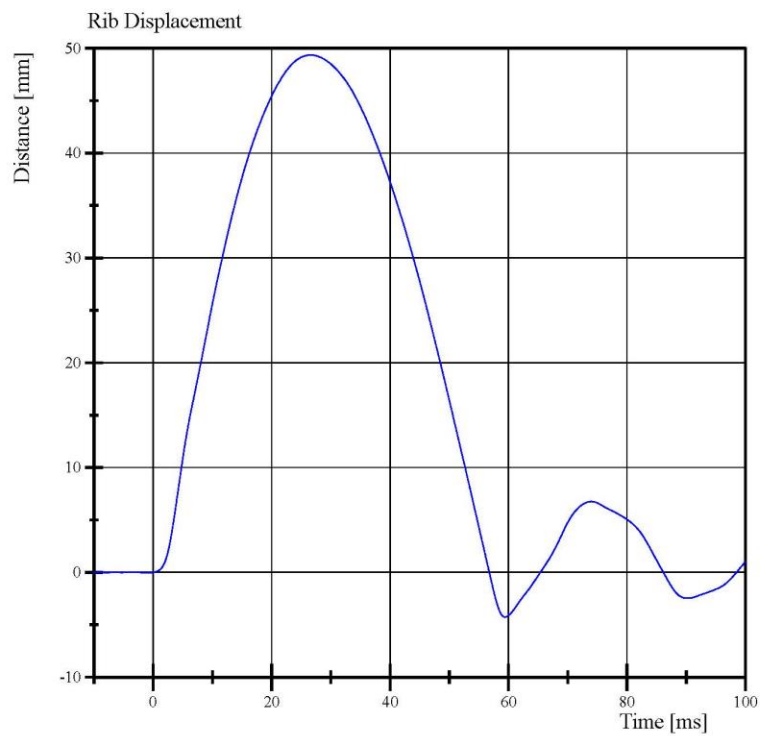
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 13:46:46 507



Transportation Research Center Inc.

4.0 m/s Middle Full Rib Module
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



Filter Class: CFC_180
Max: 49.4 mm at 26.6 ms
Min: -4.3 mm at 59.4 ms

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

05.27.2025 13:47:35 507



Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 105-2
Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	50 %	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

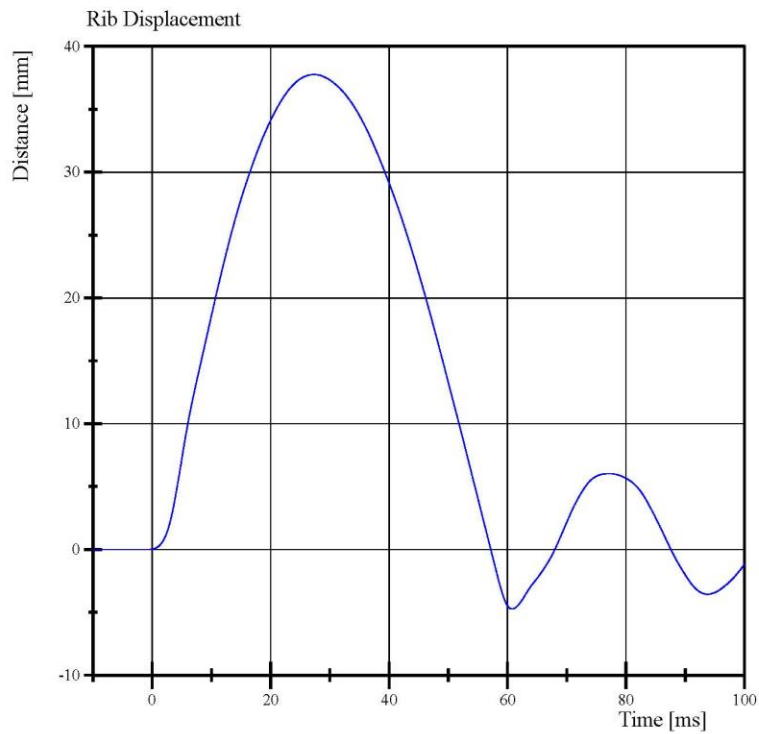
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 14:36:24 633



Transportation Research Center Inc.

3.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 105-2
Test Date: 5/27/2025



Filter Class: CFC_180
Max: 37.8 mm at 27.3 ms
Min: -4.7 mm at 60.8 ms

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

05.27.2025 14:37:36 633



Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	48 %	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: EK6970

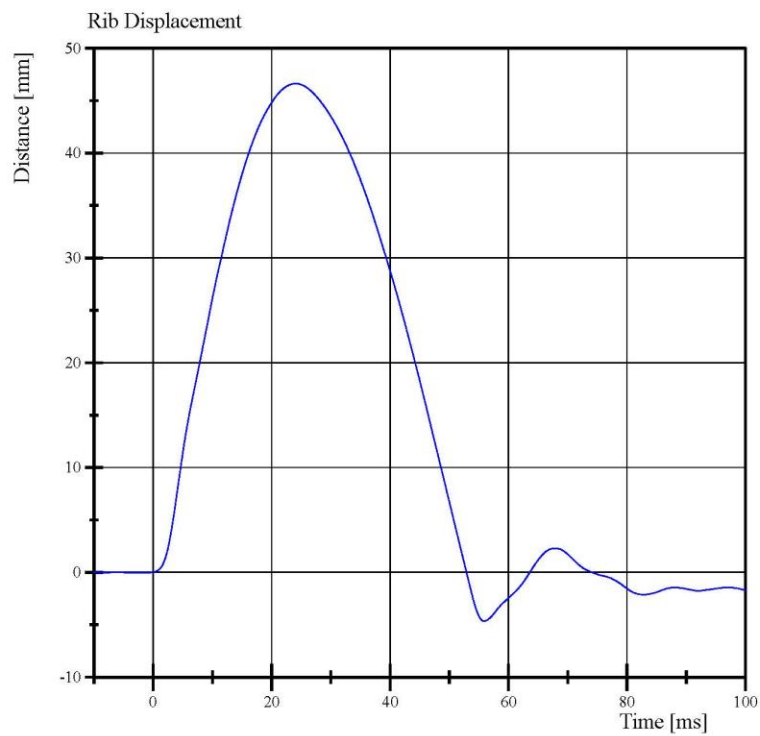
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 14:00:00 520



Transportation Research Center Inc.

4.0 m/s Lower Full Rib Module
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



Filter Class: CFC_180
Max: 46.6 mm at 24.1 ms
Min: -4.7 mm at 55.9 ms

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

05.27.2025 14:00:50 520



Report Number: F030_ERF105

Page 28 of 41

Transportation Research Center Inc.

Left Lateral Thorax

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impactor Velocity	5.4 - 5.60 m/s	5.423 m/s	Yes
Peak Impactor Force after 6 ms	(-5,100) - (-6,200) N	-5,467.5 N	Yes
Upper Rib Displacement	34 - 41 mm	40.8 mm	Yes
Center Rib Displacement	37 - 45 mm	41.7 mm	Yes
Lower Rib Displacement	37 - 44 mm	40.4 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

05.28.2025 10:20:55 513

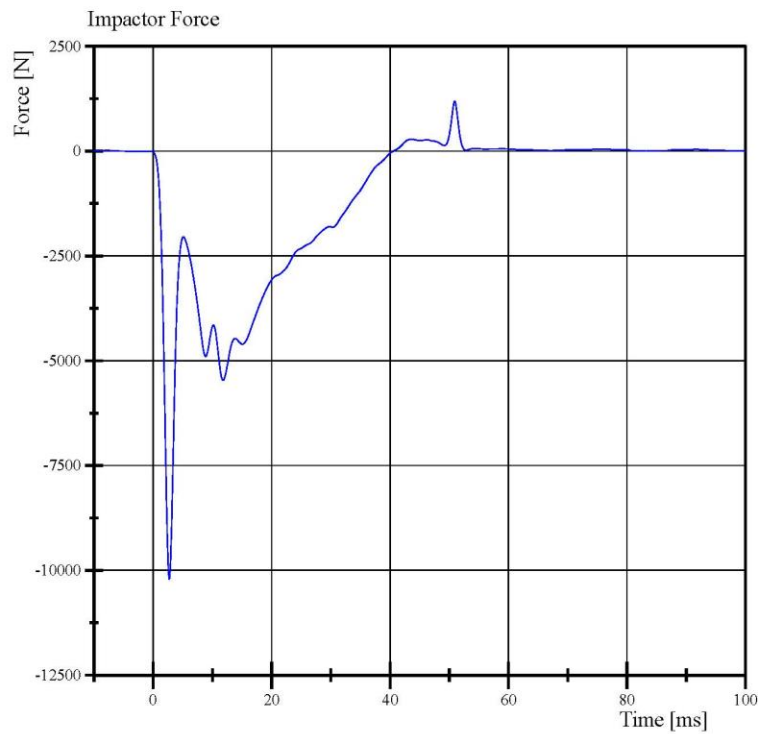


Transportation Research Center Inc.

Left Lateral Thorax

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025



Filter Class: CFC_180
Max: 1,189.1 N at 50.9 ms
Min: -10,213.6 N at 2.7 ms

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

05.28.2025 10:22:22 513



Report Number: F030_ERF105

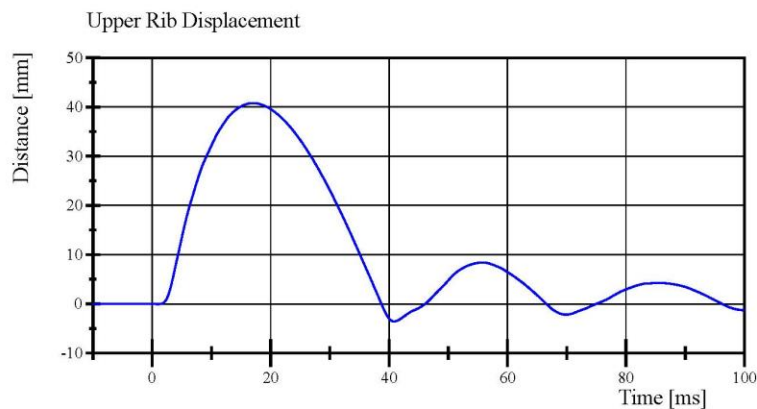
Page 30 of 41

Transportation Research Center Inc.

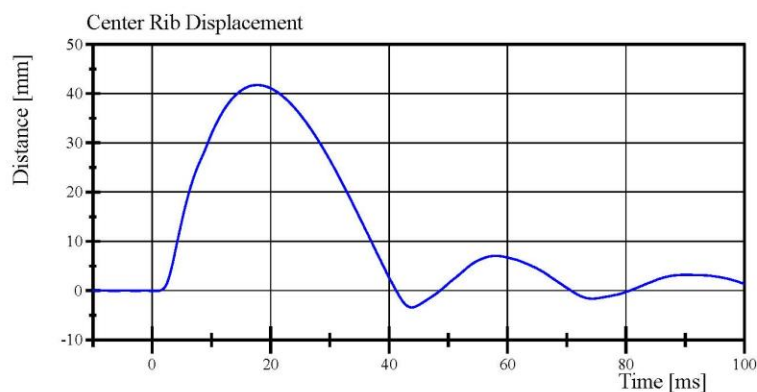
Left Lateral Thorax

ES-2re Serial No. F030 Certification No. 105-1

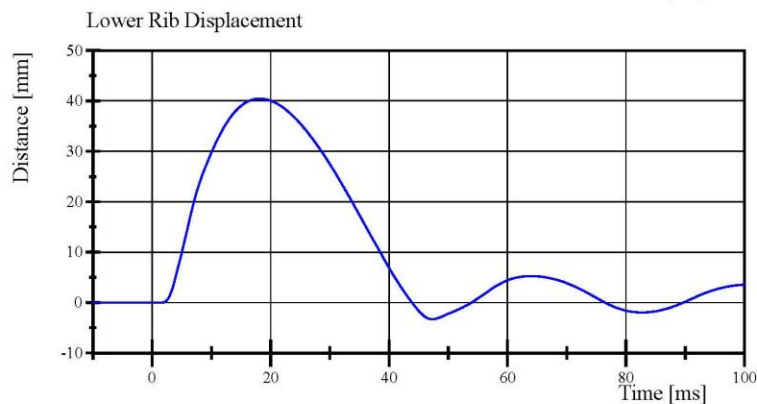
Test Date: 5/28/2025



Filter Class: CFC_180
Max: 40.8 mm at 17.0 ms
Min: -3.6 mm at 40.9 ms



Filter Class: CFC_180
Max: 41.7 mm at 17.8 ms
Min: -3.4 mm at 43.8 ms



Filter Class: CFC_180
Max: 40.4 mm at 18.2 ms
Min: -3.3 mm at 47.3 ms

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

05.28.2025 10:22:22 513



Transportation Research Center Inc.

Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Integrated Velocity Change within Corridor	Yes	Yes	Yes
Pendulum Velocity	(-5.95) - (-6.15) m/s	-6.121 m/s	Yes
Maximum Headform Flexion			
Peak	(-45) - (-55) deg	-50.8 deg	Yes
Time of Peak	39 - 53 ms	42.8 ms	Yes
Headform Flexion Decay			
- Peak to Zero	37 - 57 ms	43.2 ms	Yes

Test meets specifications.

Condition: Used

Comments:

Lumbar S/N: FB7553

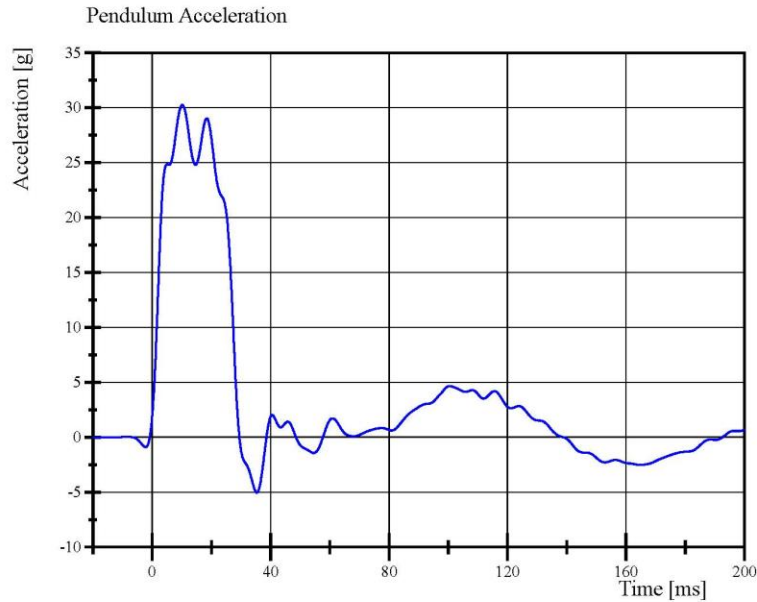
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 12:53:08 671

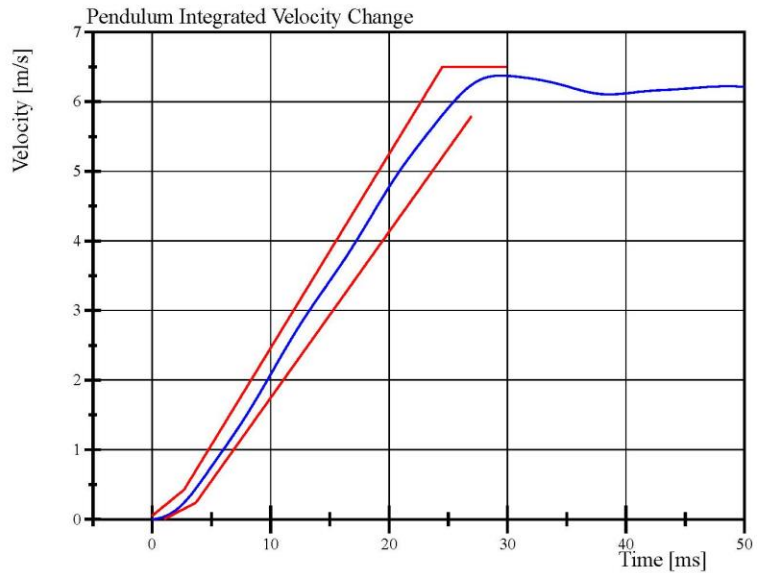


Transportation Research Center Inc.

Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



Filter Class: CFC_60
Max: 30.3 g at 10.2 ms
Min: -5.0 g at 35.4 ms



Filter Class: CFC_60
Max: 6.4 m/s at 29.4 ms
Min: 0.0 m/s at 0.0 ms

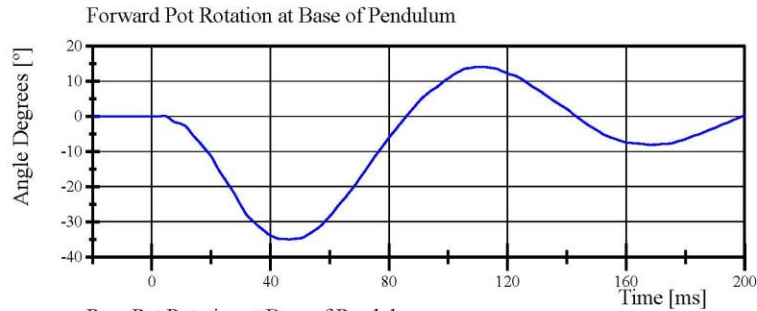
Specification Source: CFR49 Part 572 Subpart U
with Polarity in accordance with J211

05.27.2025 12:54:01 671

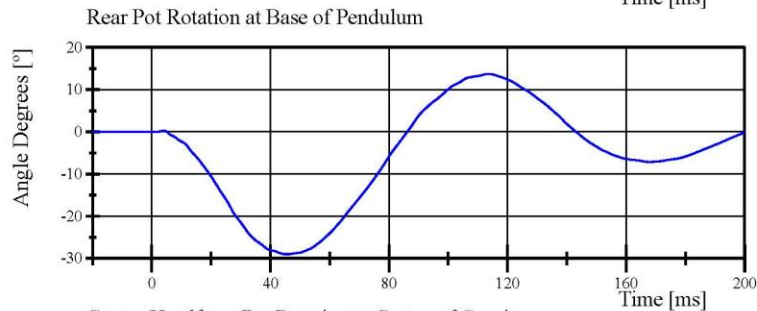


Transportation Research Center Inc.

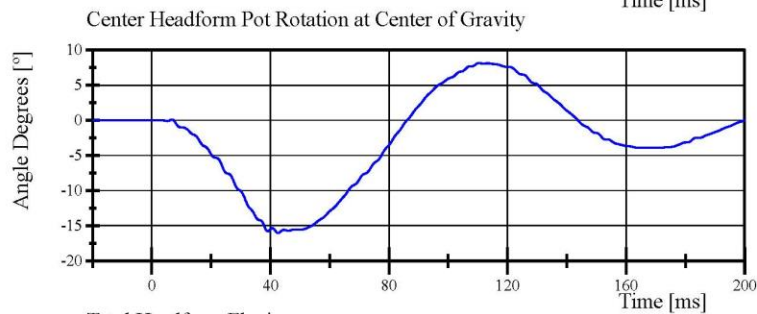
Left Lateral Lumbar
ES-2re Serial No. F030 Certification No. 105-1
Test Date: 5/27/2025



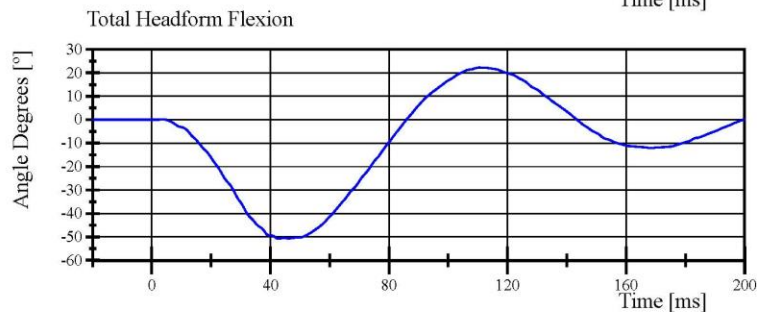
Filter Class: CFC_180
Max: 14.1 ° at 111.5 ms
Min: -34.9 ° at 46.3 ms



Filter Class: CFC_180
Max: 13.7 ° at 113.7 ms
Min: -29.0 ° at 45.6 ms



Filter Class: CFC_180
Max: 8.1 ° at 110.3 ms
Min: -16.0 ° at 42.6 ms



Filter Class: CFC_180
Max: 22.2 ° at 110.4 ms
Min: -50.8 ° at 42.8 ms

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

05.27.2025 12:54:02 671



Transportation Research Center Inc.

Left Lateral Abdomen

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Test Probe Velocity	3.9 - 4.1 m/s	4.07 m/s	Yes
Test Probe Force			
Peak	4,000 - 4,800 N	4,301.2 N	Yes
Time of Peak	10.6 - 13.0 ms	11.76 ms	Yes
Total Abdominal Force			
Peak	2,200 - 2,700 N	2,584.2 N	Yes
Time of Peak	10.0 - 12.3 ms	11.20 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

05.28.2025 10:15:39 655

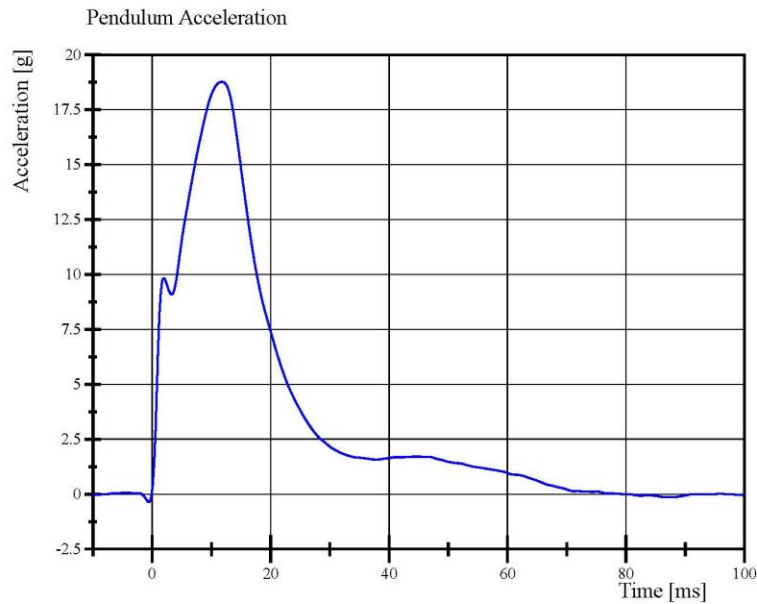


Transportation Research Center Inc.

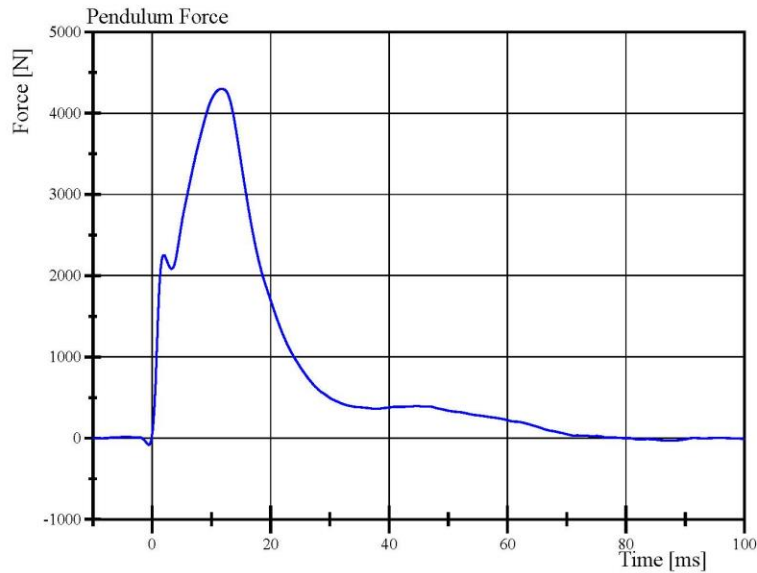
Left Lateral Abdomen

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025



Filter Class: CFC_180
Max: 18.8 g at 11.8 ms
Min: -0.4 g at -0.6 ms



Filter Class: CFC_180
Max: 4,301.2 N at 11.8 ms
Min: -81.8 N at -0.6 ms

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

05.28.2025 10:16:11 655

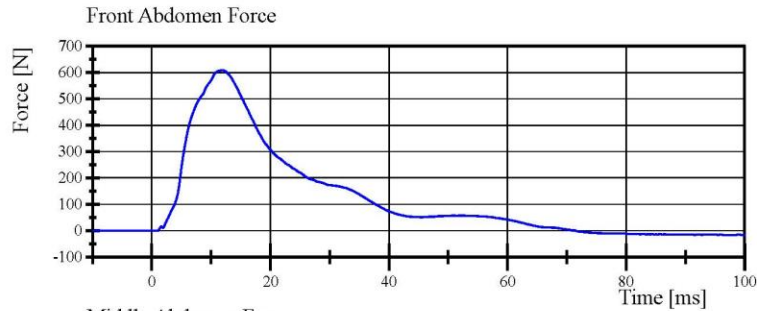


Transportation Research Center Inc.

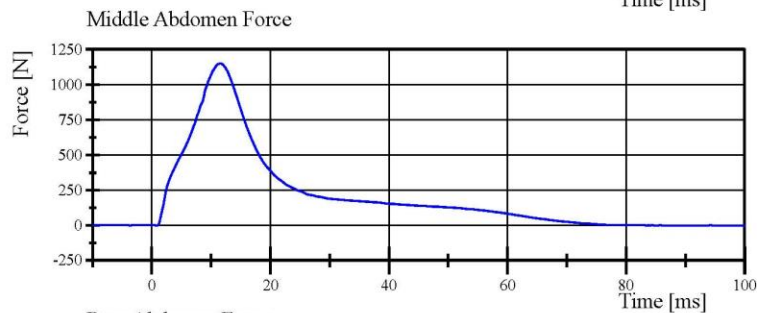
Left Lateral Abdomen

ES-2re Serial No. F030 Certification No. 105-1

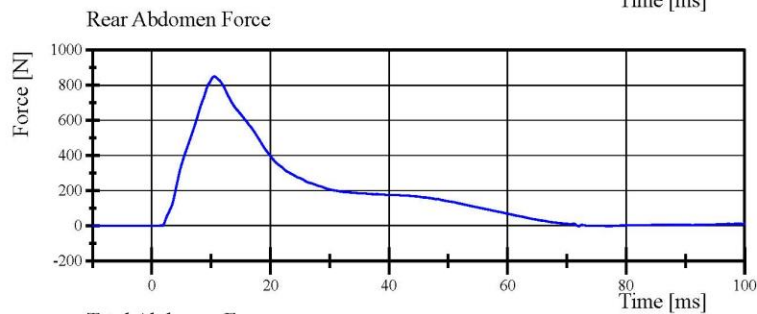
Test Date: 5/28/2025



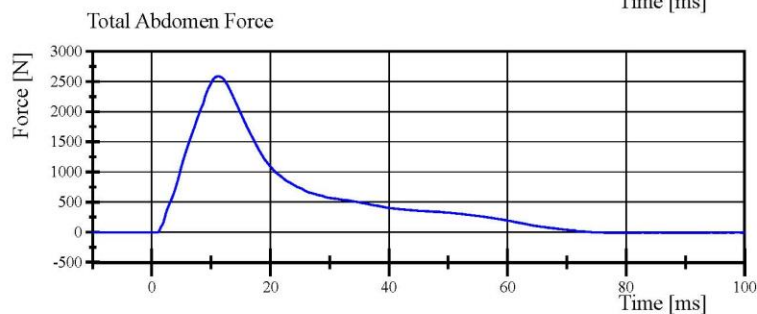
Filter Class: CFC_600
Max: 608.5 N at 11.9 ms
Min: -16.8 N at 97.9 ms



Filter Class: CFC_600
Max: 1,149.9 N at 11.5 ms
Min: -2.6 N at 96.6 ms



Filter Class: CFC_600
Max: 848.2 N at 10.6 ms
Min: -2.5 N at 72.1 ms



Filter Class: CFC_600
Max: 2,584.2 N at 11.2 ms
Min: -14.2 N at 91.4 ms

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

05.28.2025 10:16:11 655



Transportation Research Center Inc.

Left Lateral Pelvis

ES-2re Serial No. F030 Certification No. 105-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Test Probe Velocity	4.2 - 4.4 m/s	4.35 m/s	Yes
Test Probe Force			
Peak	4,700 - 5,400 N	5,134.2 N	Yes
Time of Peak	11.8 - 16.1 ms	12.96 ms	Yes
Pubic Symphysis Force			
Peak	(-1,230) - (-1,590) N	-1,355.5 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

05.28.2025 10:37:53 585

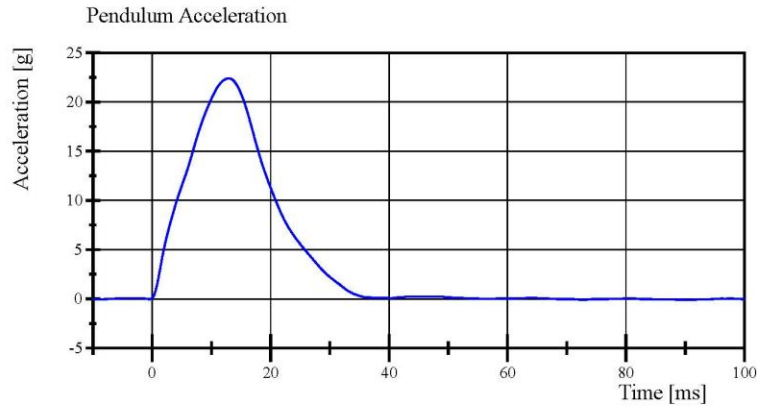


Transportation Research Center Inc.

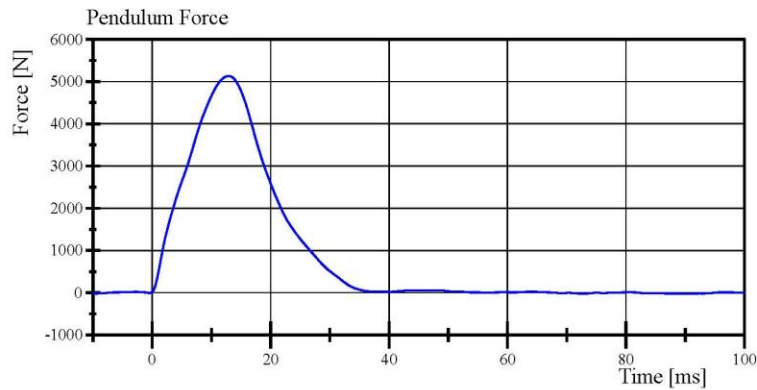
Left Lateral Pelvis

ES-2re Serial No. F030 Certification No. 105-1

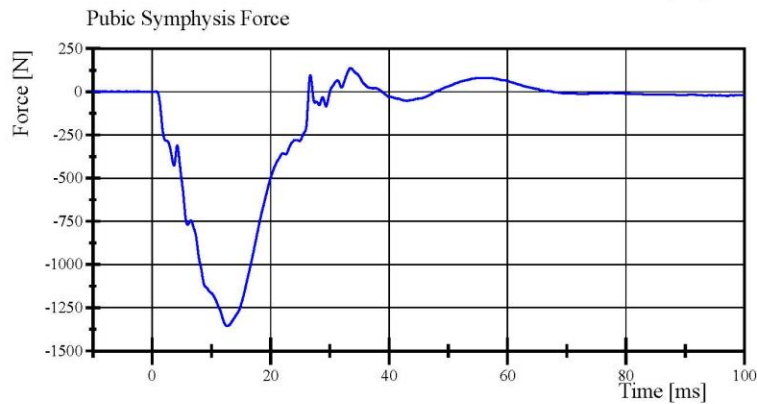
Test Date: 5/28/2025



Filter Class: CFC_180
Max: 22.4 g at 13.0 ms
Min: -0.1 g at 90.2 ms



Filter Class: CFC_180
Max: 5,134.2 N at 13.0 ms
Min: -23.5 N at 90.2 ms



Filter Class: CFC_600
Max: 136.2 N at 33.5 ms
Min: -1,355.5 N at 12.7 ms

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

05.28.2025 10:38:28 585



Pre-Test Calibration Sheets
Passenger S/N DQ0570

Transportation Research Center Inc.
SIDI's Dummy - Level D
External Dimensions
Serial No. DQ0570 Calibration No. 36

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

Revised 9/29/2005



Report Number: DQ0750_S2H36

Page 29 of 31

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIs Serial No. DQ0570 Certification No. 36-2

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	134.8 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	6.5 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.28 %	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

05.05.2025 15:11:04 236



Report Number: DQ0750_S2H36

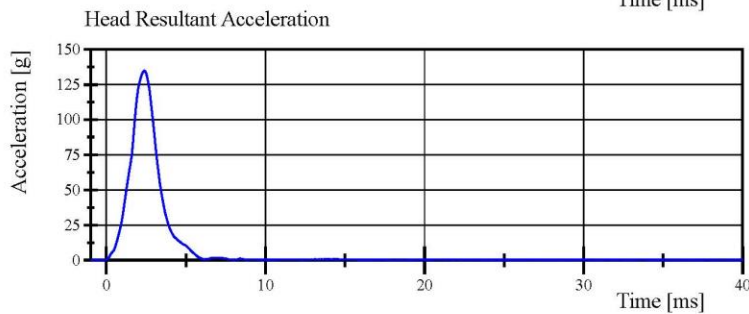
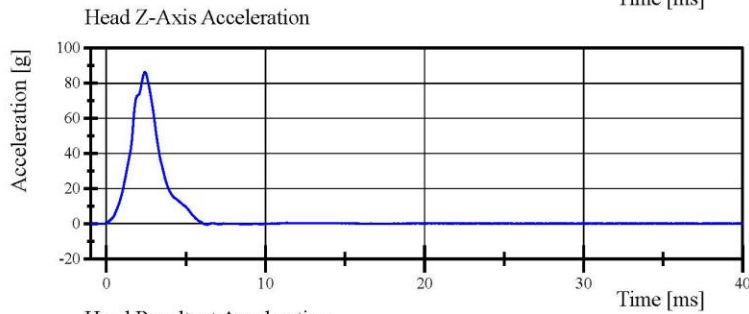
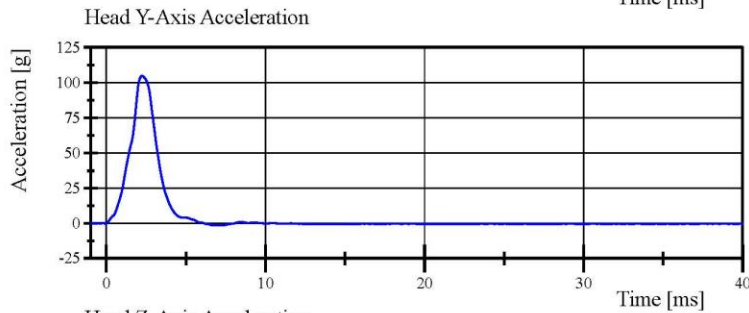
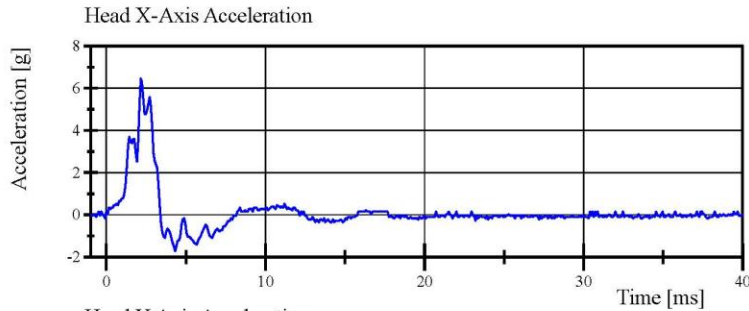
Page 9 of 31

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIs Serial No. DQ0570 Certification No. 36-2

Test Date: 5/5/2025



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

05.05.2025 15:11:26 236



Transportation Research Center Inc.

Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 36-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.603 m/s	Yes
Pendulum Integrated Velocity			
Change at 10 ms	2.20 - 2.80 m/s	2.467 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.625 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	4.868 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.797 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.849 m/s	Yes
Maximum Headform Flexion			
Peak	(-71) - (-81) deg	-71.2 deg	Yes
Time of Peak	50 - 70 ms	59.2 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	40.5 N·m	Yes
Decay to 0 N·m	102 - 126 ms	108.8 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

05.05.2025 13:25:03 752

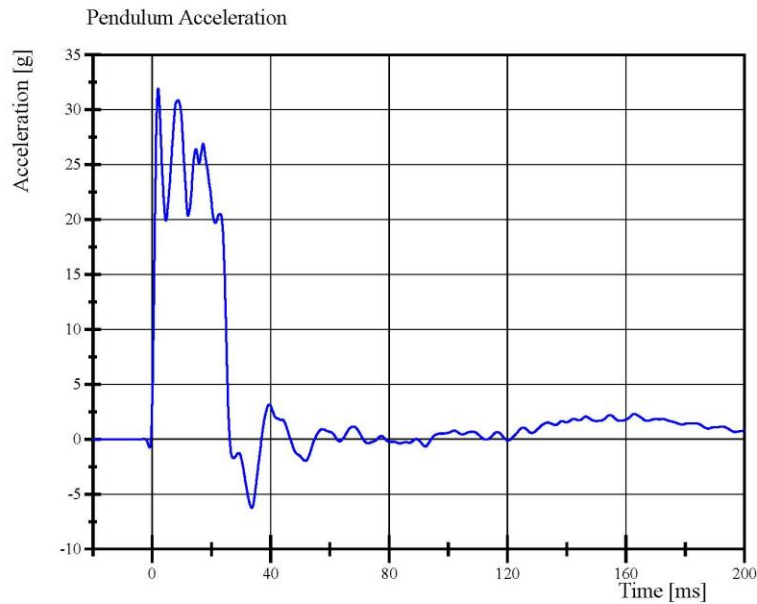


Transportation Research Center Inc.

Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 36-1

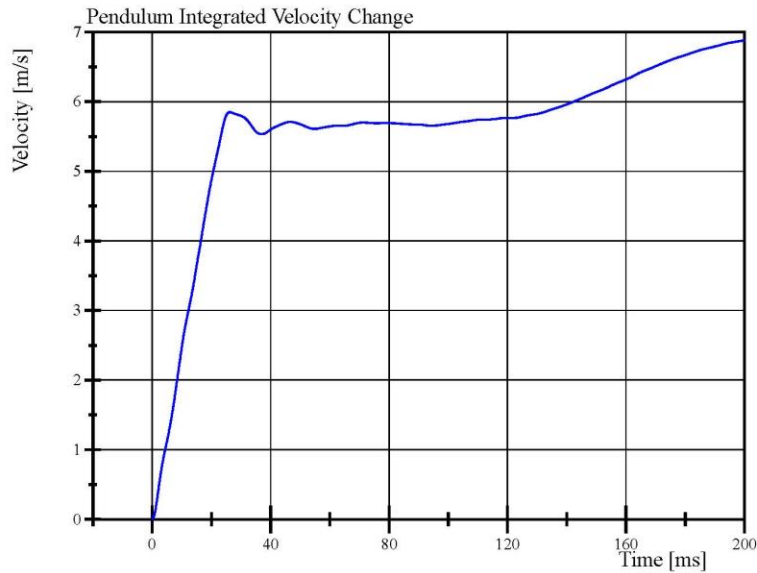
Test Date: 5/5/2025



Filter Class: CFC_180

Max: 31.9 g at 2.1 ms

Min: -6.2 g at 33.7 ms



Filter Class: CFC_180

Max: 6.9 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

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

05.05.2025 13:25:26 752

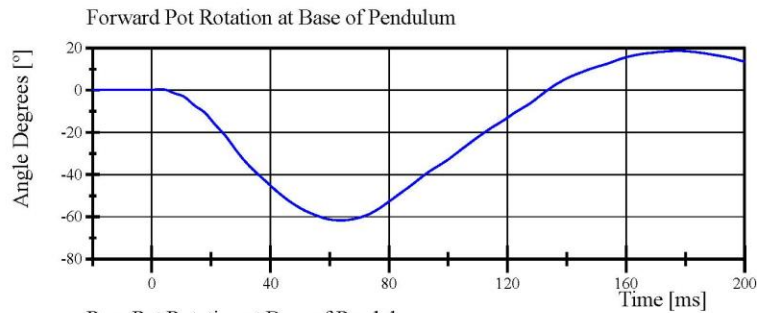


Transportation Research Center Inc.

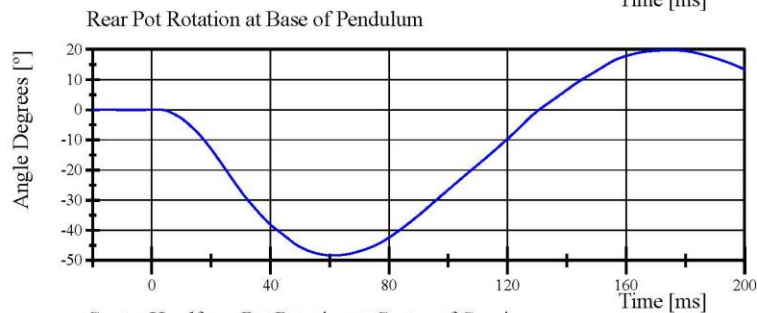
Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 36-1

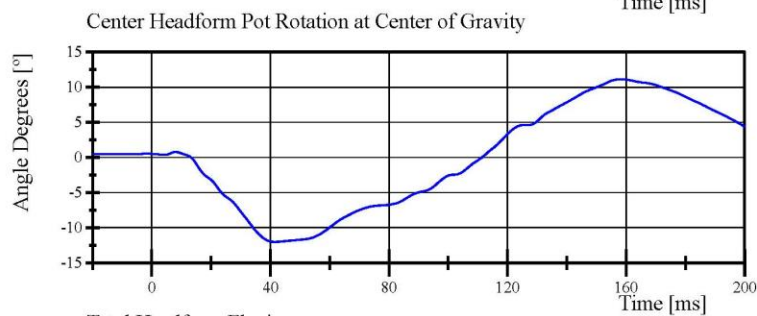
Test Date: 5/5/2025



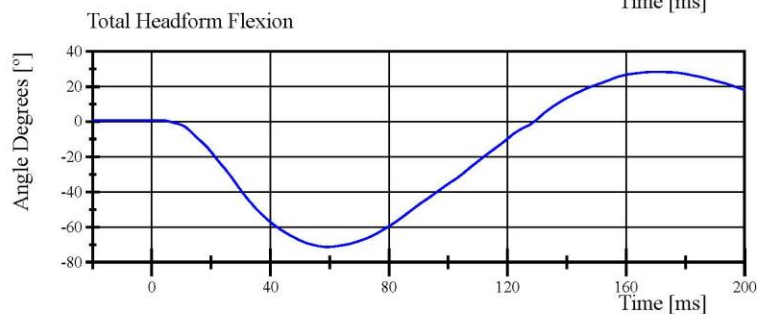
Filter Class: CFC_60
Max: 18.7 ° at 177.5 ms
Min: -61.6 ° at 63.8 ms



Filter Class: CFC_60
Max: 19.8 ° at 175.4 ms
Min: -48.3 ° at 61.0 ms



Filter Class: CFC_60
Max: 11.1 ° at 158.2 ms
Min: -12.0 ° at 41.5 ms



Filter Class: CFC_60
Max: 28.2 ° at 170.2 ms
Min: -71.2 ° at 59.2 ms

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

05.05.2025 13:25:27 752

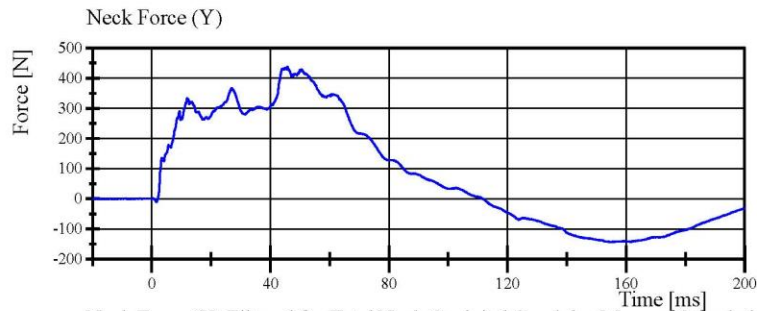


Transportation Research Center Inc.

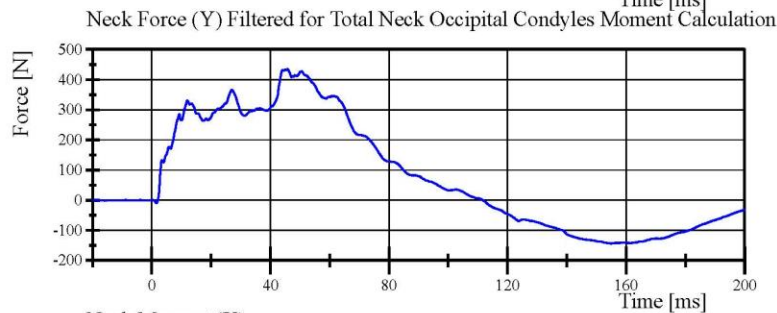
Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 36-1

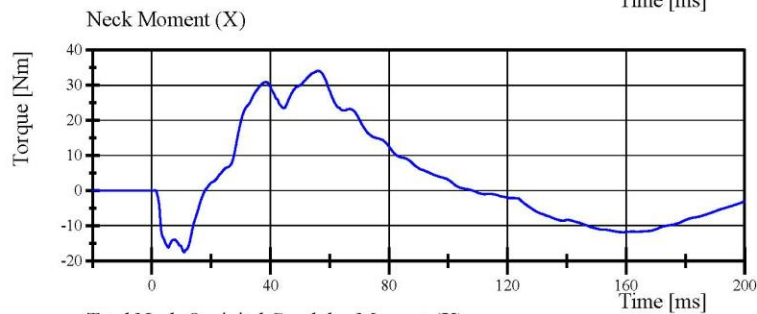
Test Date: 5/5/2025



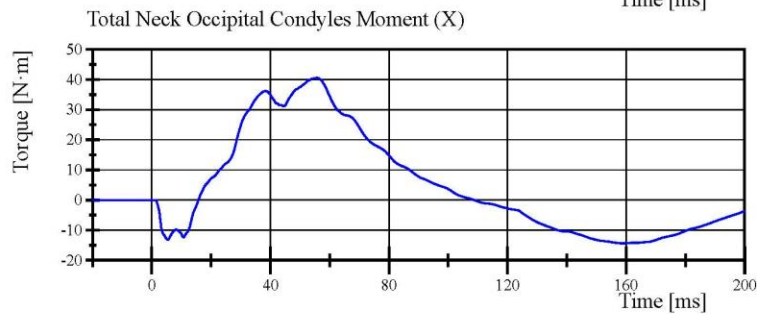
Filter Class: CFC_1000
Max: 437.8 N at 45.8 ms
Min: -143.8 N at 154.9 ms



Filter Class: CFC_600
Max: 435.4 N at 45.8 ms
Min: -143.7 N at 155.0 ms



Filter Class: CFC_600
Max: 34.1 Nm at 56.0 ms
Min: -17.5 Nm at 10.9 ms



Filter Class: Without_(Constar
Max: 40.5 N·m at 55.7 ms
Min: -14.4 N·m at 158.7 ms

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

05.05.2025 13:25:27 752



Transportation Research Center Inc.

Left Lateral Shoulder

SID IIs Serial No. DQ0570 Certification No. 36-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.32 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.7 g	Yes
Shoulder Displacement	28 - 37 mm	29.4 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	20.8 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: DP8451

Shoulder Rib S/N: 180-3355 DL9246

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

05.05.2025 14:10:23 842

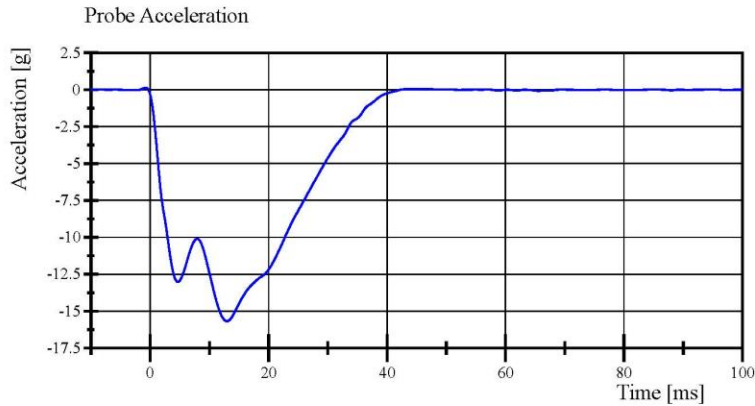


Transportation Research Center Inc.

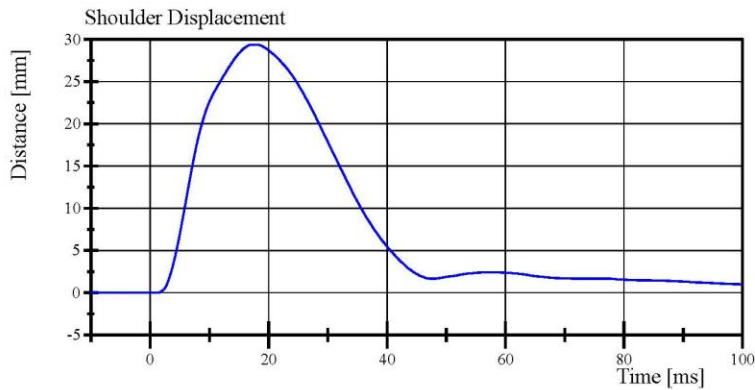
Left Lateral Shoulder

SID IIs Serial No. DQ0570 Certification No. 36-1

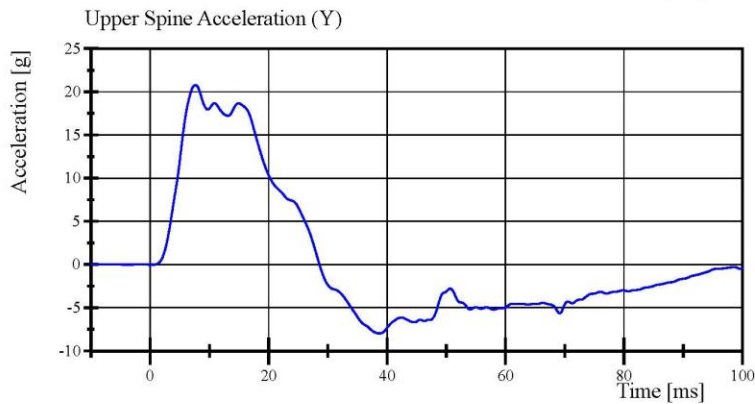
Test Date: 5/5/2025



Filter Class: CFC_180
Max: 0.1 g at -0.7 ms
Min: -15.7 g at 13.0 ms



Filter Class: CFC_600
Max: 29.4 mm at 17.6 ms
Min: -0.0 mm at -0.1 ms



Filter Class: CFC_180
Max: 20.8 g at 7.7 ms
Min: -8.0 g at 38.7 ms

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

05.05.2025 14:10:51 842



Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 36-1
Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.729 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-34.1 g	Yes
Shoulder Displacement	31 - 40 mm	34.3 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.4 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	30.5 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	32.8 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	39.1 g	Yes
Lower Spine Lateral Acceleration	29 - 37 g	36.0 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

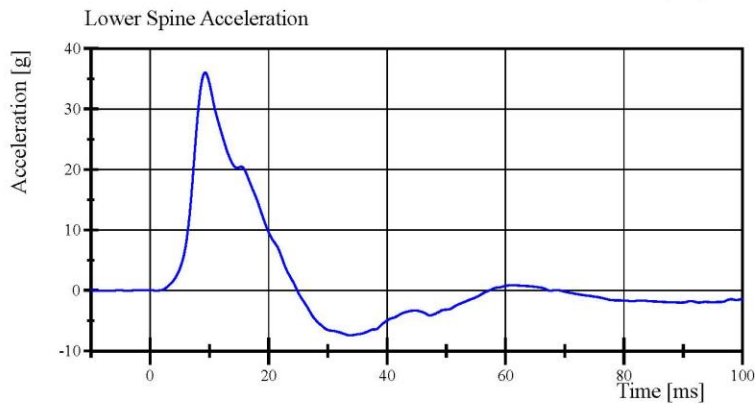
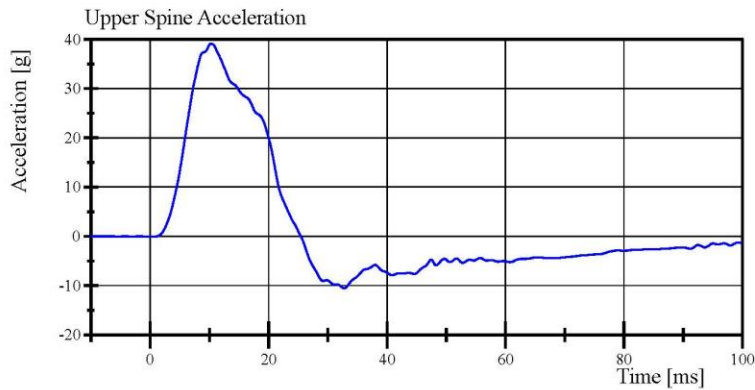
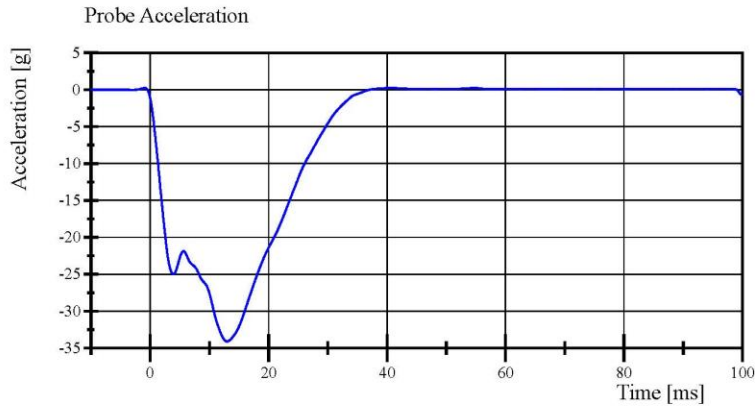
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.05.2025 15:00:53 627



Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 36-1
Test Date: 5/5/2025



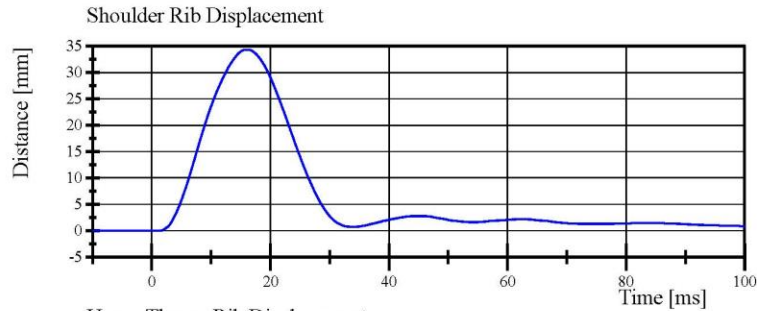
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.05.2025 15:02:03 627

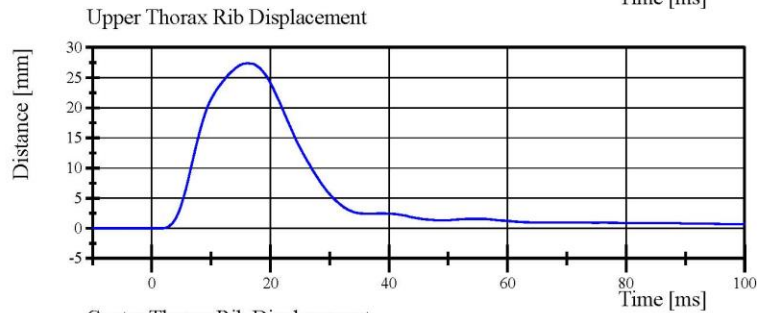


Transportation Research Center Inc.

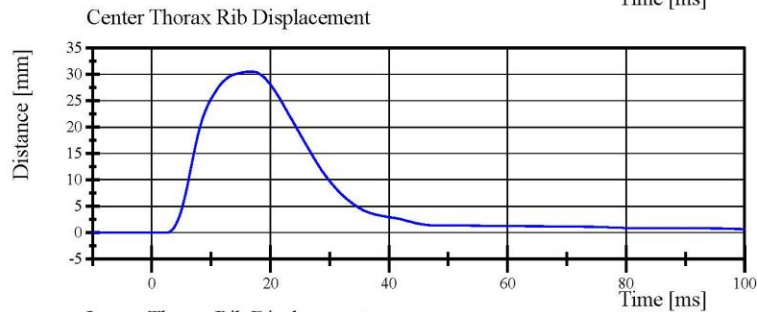
Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 36-1
Test Date: 5/5/2025



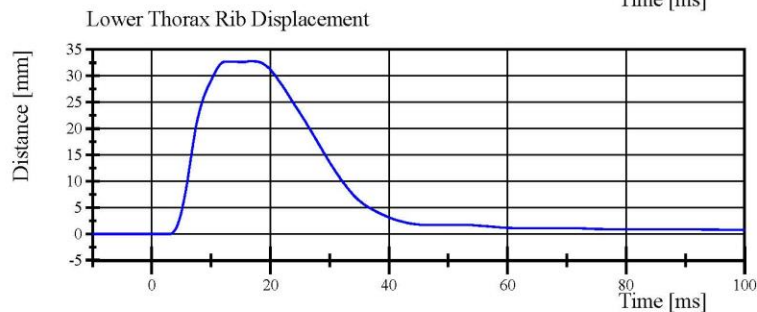
Filter Class: CFC_600
Max: 34.3 mm at 16.1 ms
Min: -0.0 mm at 1.4 ms



Filter Class: CFC_600
Max: 27.4 mm at 16.2 ms
Min: -0.0 mm at -3.2 ms



Filter Class: CFC_600
Max: 30.5 mm at 16.3 ms
Min: -0.0 mm at 2.6 ms



Filter Class: CFC_600
Max: 32.8 mm at 16.6 ms
Min: -0.0 mm at 3.0 ms

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

05.05.2025 15:02:04 627



Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 36-1
Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.240 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-15.9 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	35.8 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.0 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	38.6 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.4 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

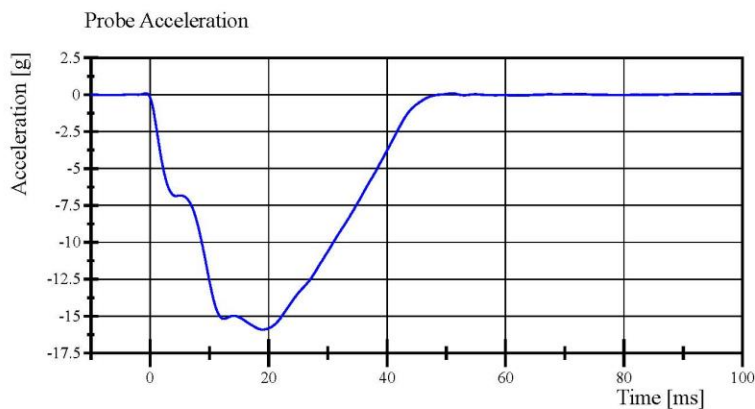
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.05.2025 14:32:23 858

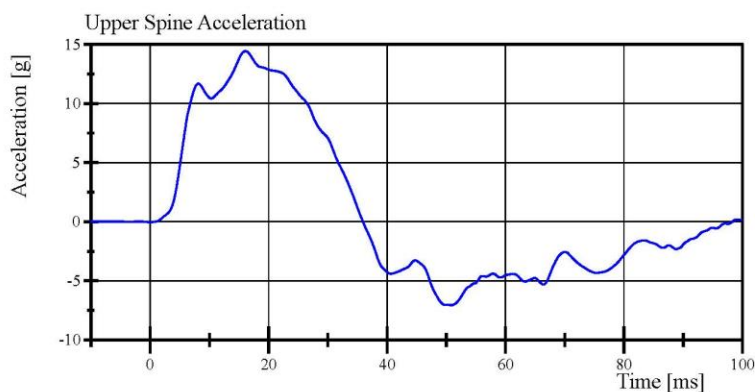


Transportation Research Center Inc.

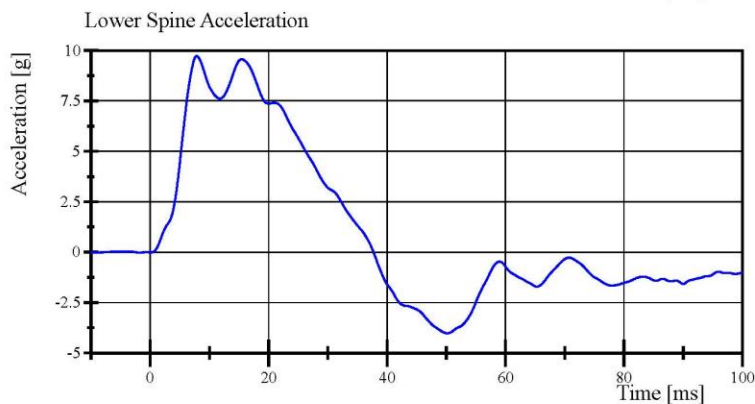
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 36-1
Test Date: 5/5/2025



Filter Class: CFC_180
Max: 0.1 g at 100.0 ms
Min: -15.9 g at 19.0 ms



Filter Class: CFC_180
Max: 14.4 g at 16.1 ms
Min: -7.1 g at 50.8 ms



Filter Class: CFC_180
Max: 9.7 g at 7.8 ms
Min: -4.0 g at 50.1 ms

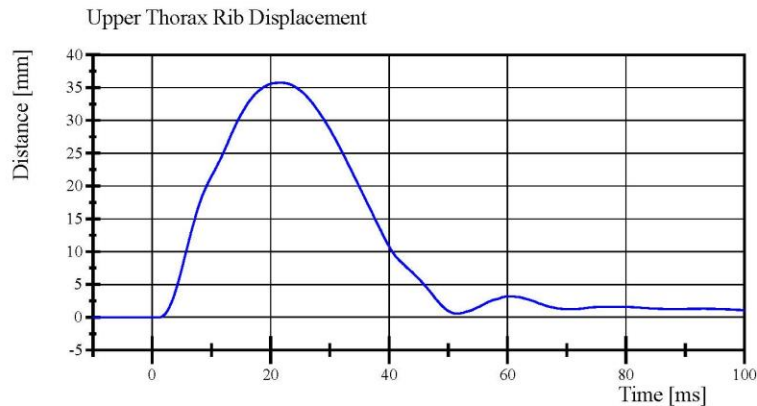
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.05.2025 14:32:51 858

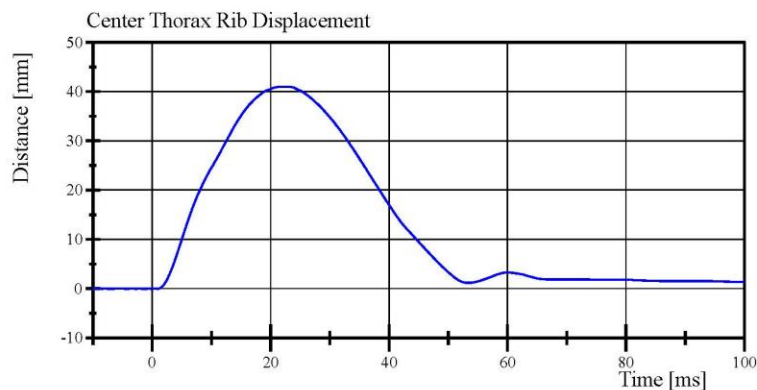


Transportation Research Center Inc.

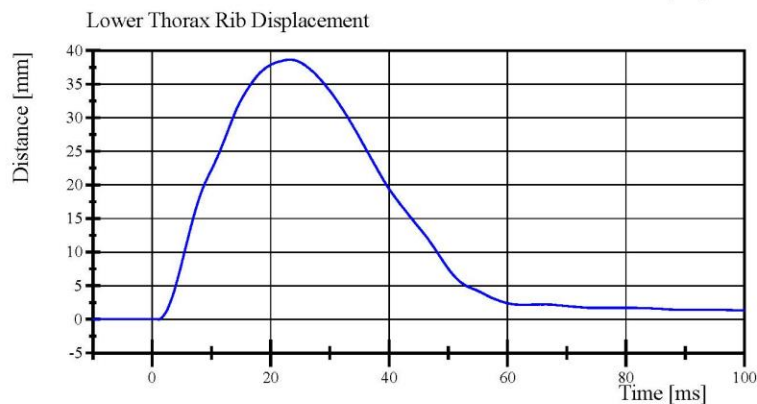
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 36-1
Test Date: 5/5/2025



Filter Class: CFC_600
Max: 35.8 mm at 21.6 ms
Min: -0.0 mm at 1.2 ms



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



Filter Class: CFC_600
Max: 38.6 mm at 23.4 ms
Min: -0.0 mm at 1.1 ms

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

05.05.2025 14:32:51 858



Transportation Research Center Inc.

Left Lateral Abdomen

SID IIs Serial No. DQ0570 Certification No. 36-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.38 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-15.0 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	40.1 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	39.2 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	11.43 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

05.05.2025 14:19:41 681

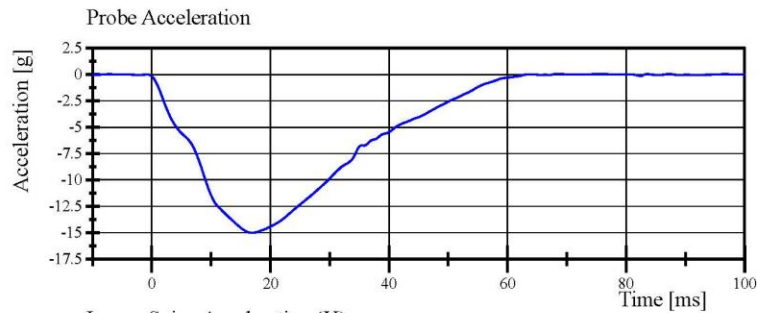


Transportation Research Center Inc.

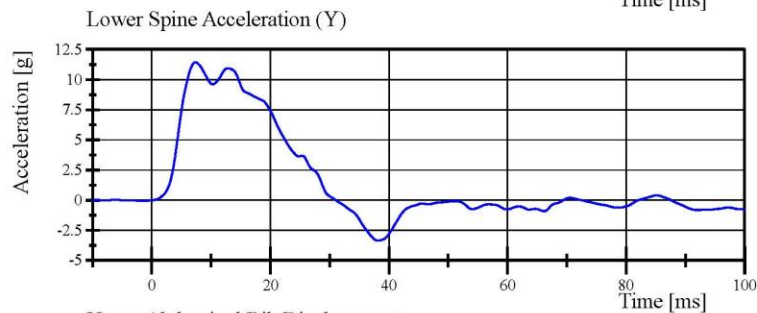
Left Lateral Abdomen

SID IIs Serial No. DQ0570 Certification No. 36-1

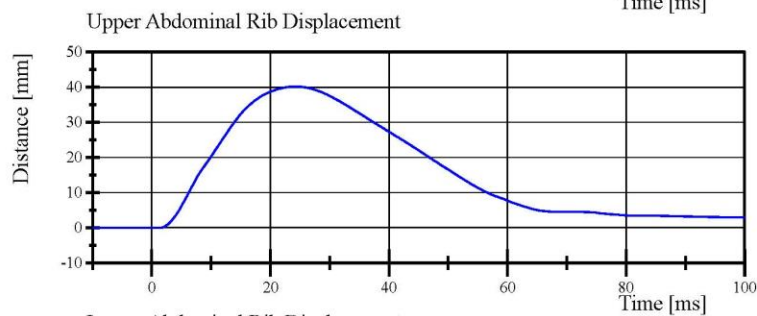
Test Date: 5/5/2025



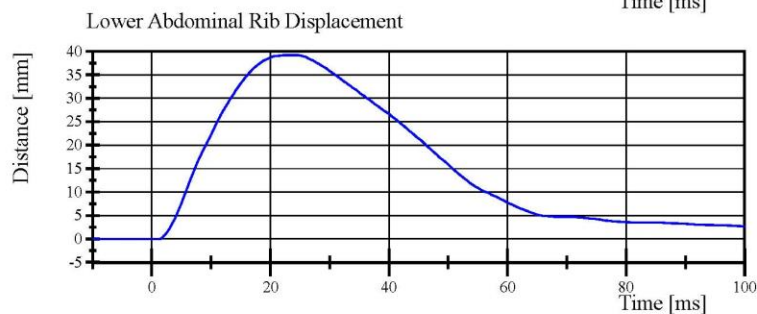
Filter Class: CFC_180
Max: 0.1 g at 68.5 ms
Min: -15.0 g at 17.0 ms



Filter Class: CFC_180
Max: 11.4 g at 7.4 ms
Min: -3.4 g at 38.2 ms



Filter Class: CFC_600
Max: 40.1 mm at 24.2 ms
Min: -0.0 mm at 1.4 ms



Filter Class: CFC_600
Max: 39.2 mm at 23.1 ms
Min: -0.0 mm at 1.2 ms

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

05.05.2025 14:20:03 681



Transportation Research Center Inc.

Left Lateral Pelvis

SID IIs Serial No. DQ0570 Certification No. 36-1

Test Date: 5/6/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.62 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-43.66 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	36.5 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,725.2 N	Yes

Test meets specifications.

Condition: Used

Comments:

Pelvis Skin S/N: 1173

Pelvis Plug Info:

Manufacturer: SACO

S/N: 14467

Cal Date: 20201218

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

05.06.2025 08:29:22 484

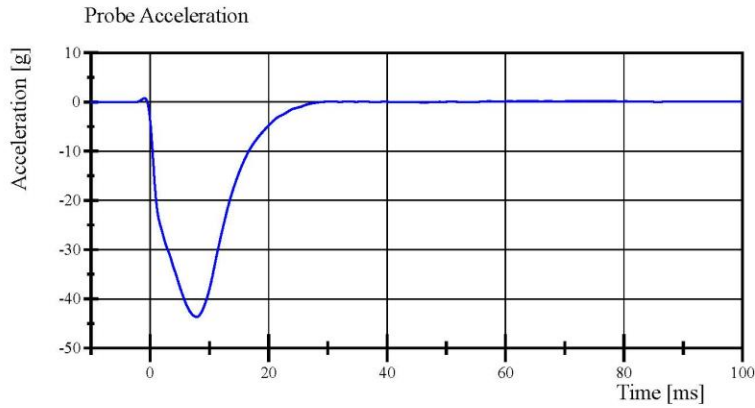


Transportation Research Center Inc.

Left Lateral Pelvis

SID IIs Serial No. DQ0570 Certification No. 36-1

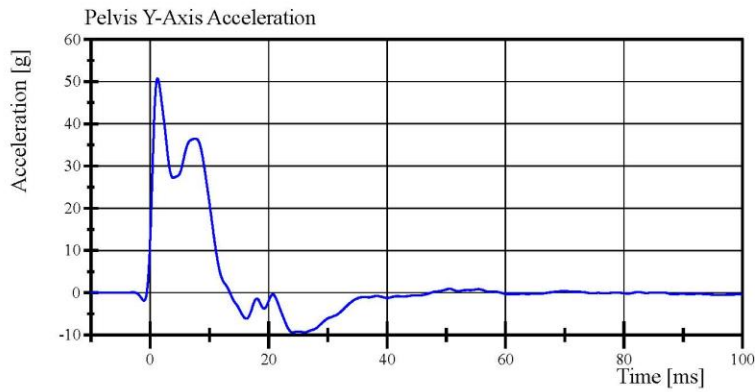
Test Date: 5/6/2025



Filter Class: CFC_180

Max: 0.7 g at -1.0 ms

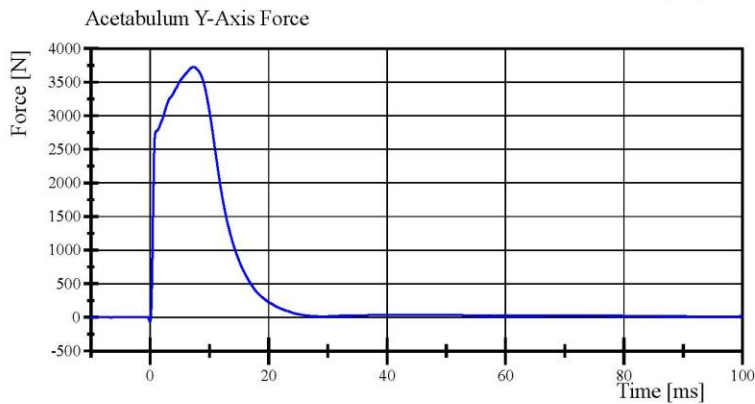
Min: -43.7 g at 7.8 ms



Filter Class: CFC_180

Max: 50.7 g at 1.3 ms

Min: -9.4 g at 24.1 ms



Filter Class: CFC_600

Max: 3,725.2 N at 7.4 ms

Min: -67.0 N at 0.0 ms

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

05.06.2025 08:30:18 484



Transportation Research Center Inc.

Left Lateral Iliac

SID IIs Serial No. DQ0570 Certification No. 36-1

Test Date: 5/5/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.22 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-42.4 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	37.4 g	Yes
Iliac Force	4,100 - 5,100 N	4,974.3 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

05.05.2025 13:54:39 706

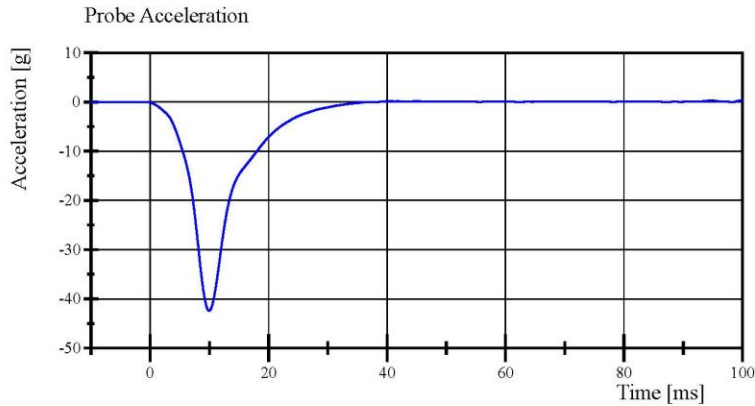


Transportation Research Center Inc.

Left Lateral Iliac

SID IIs Serial No. DQ0570 Certification No. 36-1

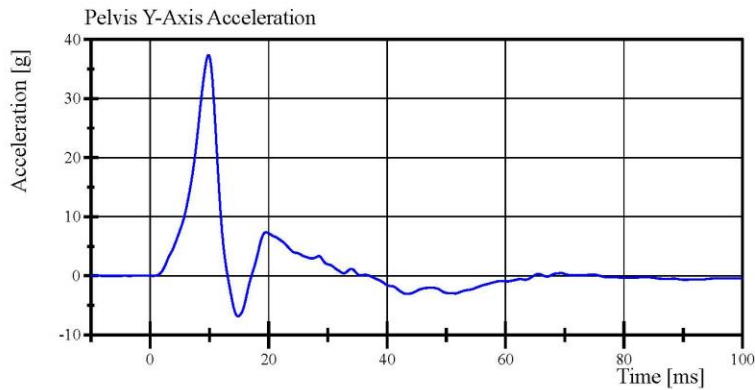
Test Date: 5/5/2025



Filter Class: CFC_180

Max: 0.4 g at 99.9 ms

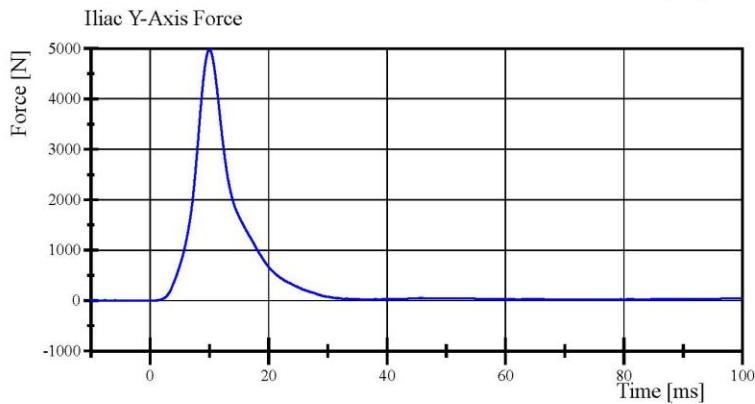
Min: -42.4 g at 9.9 ms



Filter Class: CFC_180

Max: 37.4 g at 9.8 ms

Min: -6.8 g at 14.8 ms



Filter Class: CFC_600

Max: 4,974.3 N at 10.0 ms

Min: -0.7 N at -4.0 ms

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

05.05.2025 13:55:19 706



Post-Test Calibration Sheets
Passenger S/N DQ0570

Transportation Research Center Inc.
SIDI's Dummy - Level D
External Dimensions
Serial No. DQ0570 Calibration No. 37

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

Revised 9/29/2005



Report Number: DQ0570_S2H37

Page 29 of 31

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIs Serial No. DQ0570 Certification No. 37-2

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Peak Head Resultant Acceleration	115 - 137 g	131.0 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	3.0 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 15% of Peak?	< 15 %	1.39 %	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

05.27.2025 13:41:30 235



Report Number: DQ0570_S2H37

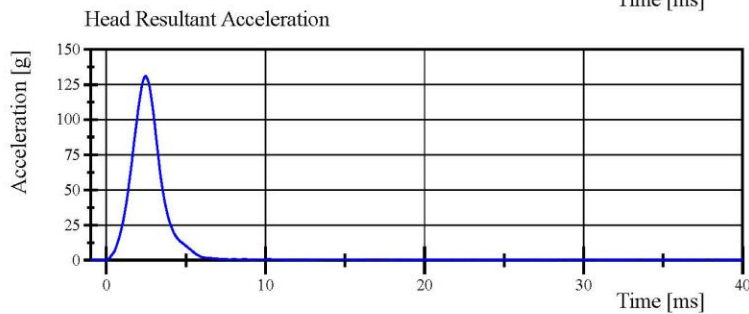
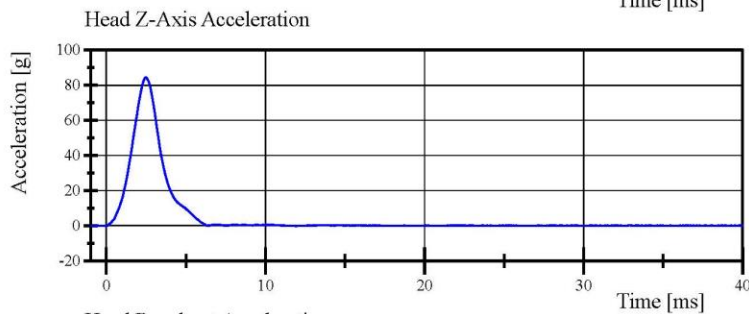
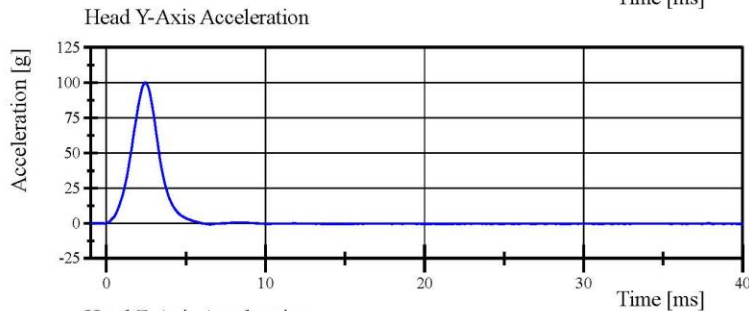
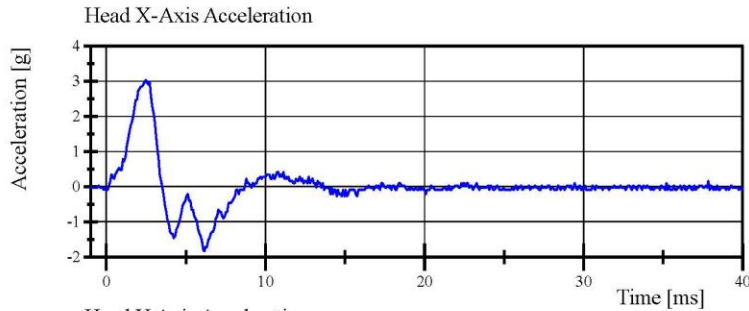
Page 9 of 31

Transportation Research Center Inc.

Left Lateral Head Drop

SID IIs Serial No. DQ0570 Certification No. 37-2

Test Date: 5/27/2025



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

05.27.2025 13:42:08 235



Transportation Research Center Inc.

Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 37-1

Test Date: 5/27/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	(-5.51) - (-5.63) m/s	-5.600 m/s	Yes
Pendulum Integrated Velocity Change at 10 ms	2.20 - 2.80 m/s	2.576 m/s	Yes
Change at 15 ms	3.30 - 4.10 m/s	3.878 m/s	Yes
Change at 20 ms	4.40 - 5.40 m/s	5.209 m/s	Yes
Change at 25 ms	5.40 - 6.10 m/s	5.866 m/s	Yes
Change at 25 to 100 ms	5.50 - 6.20 m/s	5.868 m/s	Yes
Maximum Headform Flexion			
Peak	(-71) - (-81) deg	-73.0 deg	Yes
Time of Peak	50 - 70 ms	59.0 ms	Yes
Total Neck Occipital Condyles Moment	36 - 44 N·m	42.9 N·m	Yes
Decay to 0 N·m	102 - 126 ms	108.2 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

05.27.2025 14:30:49 751

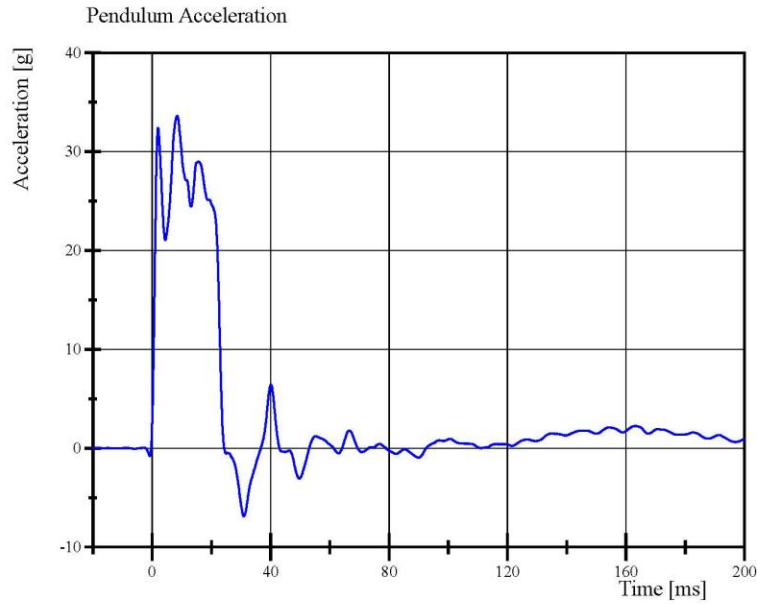


Transportation Research Center Inc.

Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 37-1

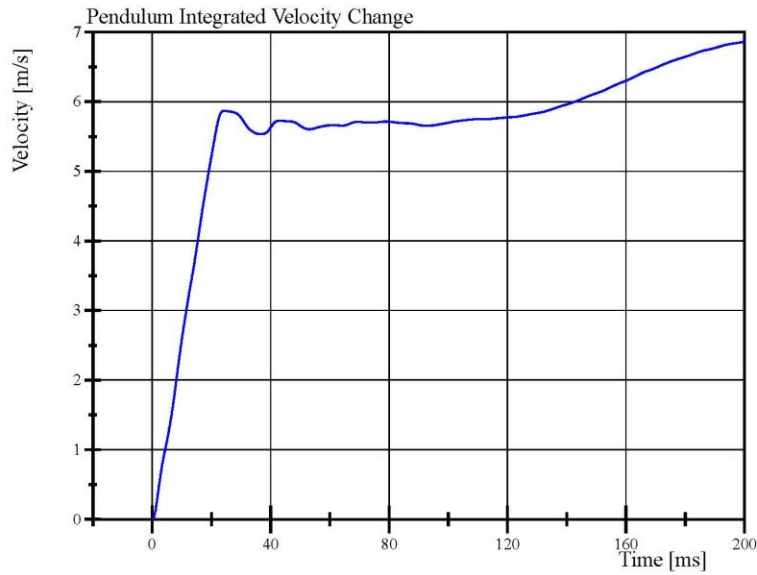
Test Date: 5/27/2025



Filter Class: CFC_180

Max: 33.6 g at 8.4 ms

Min: -6.9 g at 31.0 ms



Filter Class: CFC_180

Max: 6.9 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

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

05.27.2025 14:31:24 751

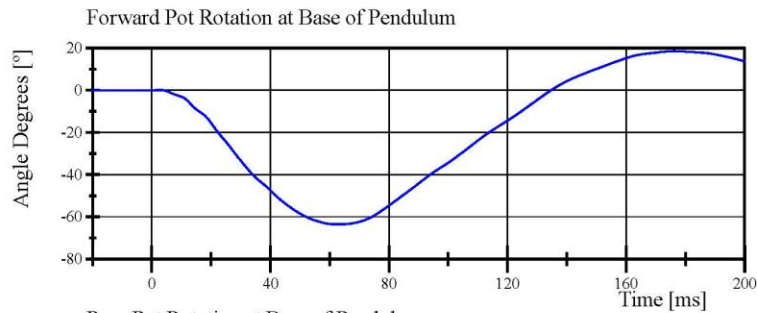


Transportation Research Center Inc.

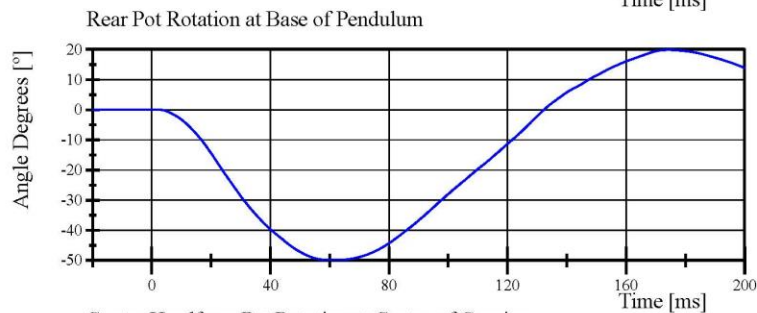
Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 37-1

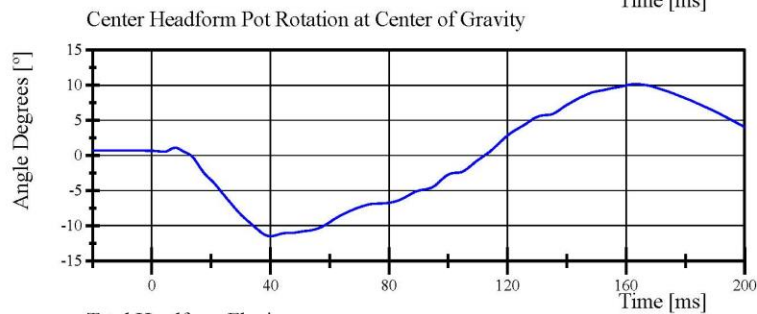
Test Date: 5/27/2025



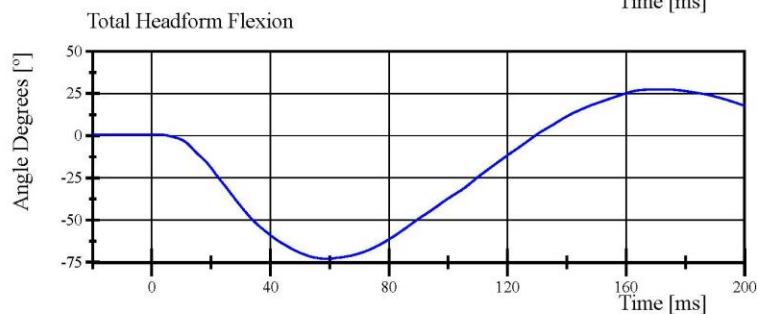
Filter Class: CFC_60
Max: 18.5 ° at 176.2 ms
Min: -63.5 ° at 62.7 ms



Filter Class: CFC_60
Max: 19.9 ° at 174.2 ms
Min: -49.8 ° at 59.7 ms



Filter Class: CFC_60
Max: 10.2 ° at 163.1 ms
Min: -11.5 ° at 40.1 ms



Filter Class: CFC_60
Max: 27.5 ° at 173.0 ms
Min: -73.0 ° at 59.0 ms

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

05.27.2025 14:31:24 751

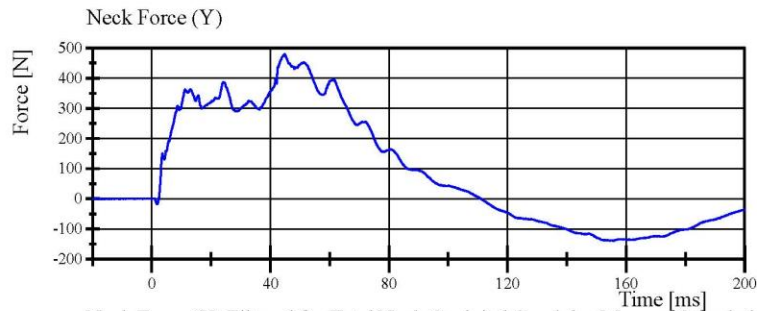


Transportation Research Center Inc.

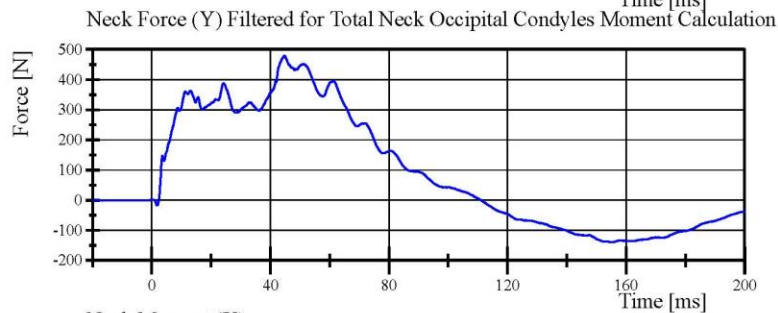
Left Lateral Neck

SID IIs Serial No. DQ0570 Certification No. 37-1

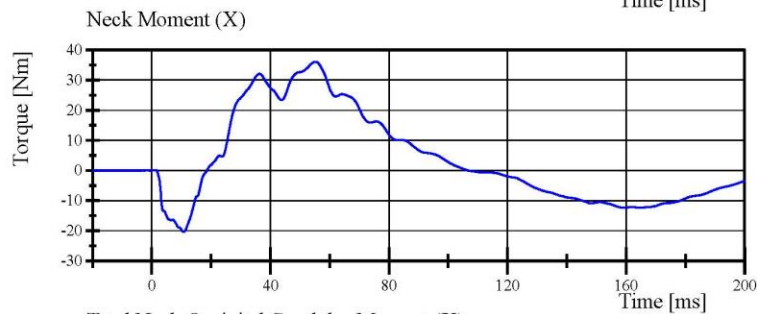
Test Date: 5/27/2025



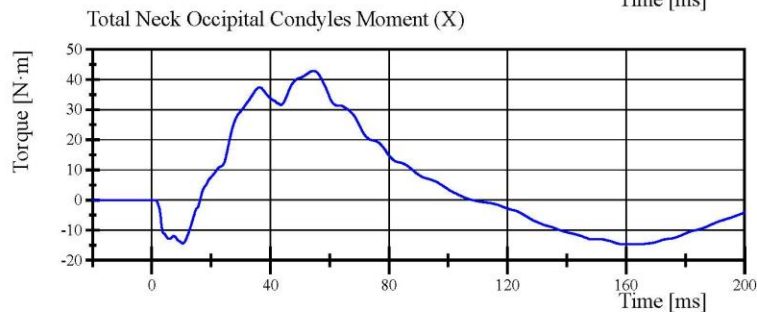
Filter Class: CFC_1000
Max: 480.2 N at 44.8 ms
Min: -139.4 N at 155.6 ms



Filter Class: CFC_600
Max: 479.1 N at 44.8 ms
Min: -139.2 N at 155.6 ms



Filter Class: CFC_600
Max: 36.0 Nm at 55.3 ms
Min: -20.3 Nm at 10.9 ms



Filter Class: Without_(Constar
Max: 42.9 N·m at 54.6 ms
Min: -14.7 N·m at 164.6 ms

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

05.27.2025 14:31:24 751



Transportation Research Center Inc.

Left Lateral Shoulder

SID IIs Serial No. DQ0570 Certification No. 37-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.24 m/s	Yes
Impactor Acceleration	(-13) - (-18) g	-15.2 g	Yes
Shoulder Displacement	28 - 37 mm	29.1 mm	Yes
Upper Spine Lateral Acceleration	17 - 22 g	19.7 g	Yes

Test meets specifications.

Condition: Used

Comments:

Left Arm S/N: DP8451

Shoulder Rib S/N: 180-3355 DL9246

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

05.28.2025 09:46:05 867

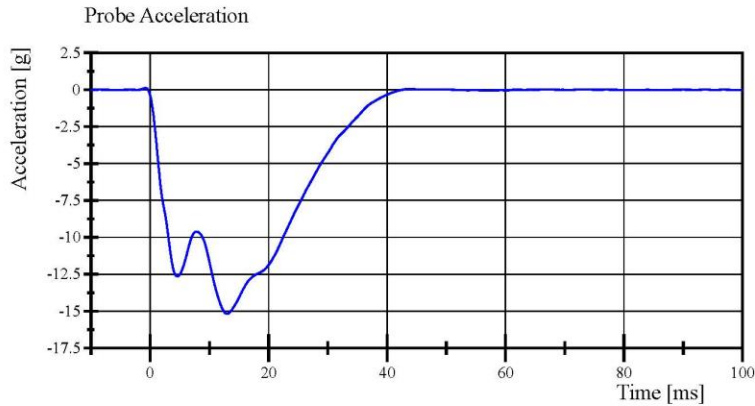


Transportation Research Center Inc.

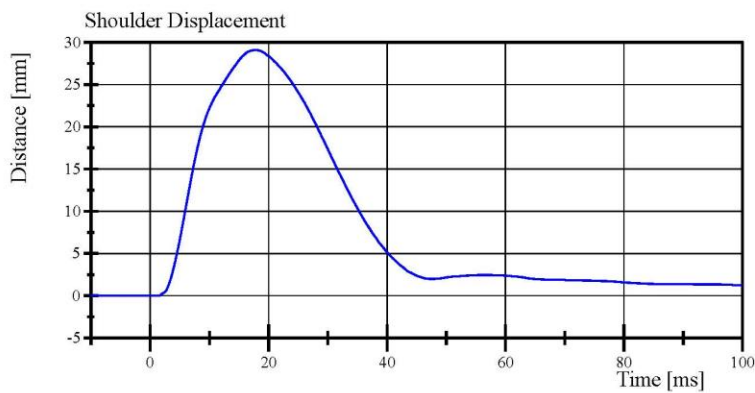
Left Lateral Shoulder

SID IIs Serial No. DQ0570 Certification No. 37-1

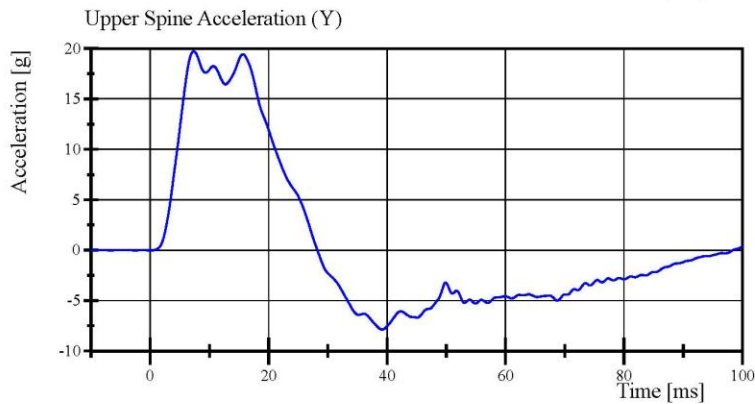
Test Date: 5/28/2025



Filter Class: CFC_180
Max: 0.1 g at -0.8 ms
Min: -15.2 g at 13.0 ms



Filter Class: CFC_600
Max: 29.1 mm at 17.8 ms
Min: -0.0 mm at 1.4 ms



Filter Class: CFC_180
Max: 19.7 g at 7.4 ms
Min: -7.9 g at 39.1 ms

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

05.28.2025 09:46:53 867



Transportation Research Center Inc.

Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 37-1
Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.733 m/s	Yes
Impactor Acceleration	(-30) - (-36) g	-35.2 g	Yes
Shoulder Displacement	31 - 40 mm	34.2 mm	Yes
Upper Thorax Rib Displacement	25 - 32 mm	27.6 mm	Yes
Center Thorax Rib Displacement	30 - 36 mm	31.6 mm	Yes
Lower Thorax Rib Displacement	32 - 38 mm	34.4 mm	Yes
Upper Spine Lateral Acceleration	34 - 43 g	39.6 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

05.28.2025 10:30:55 621

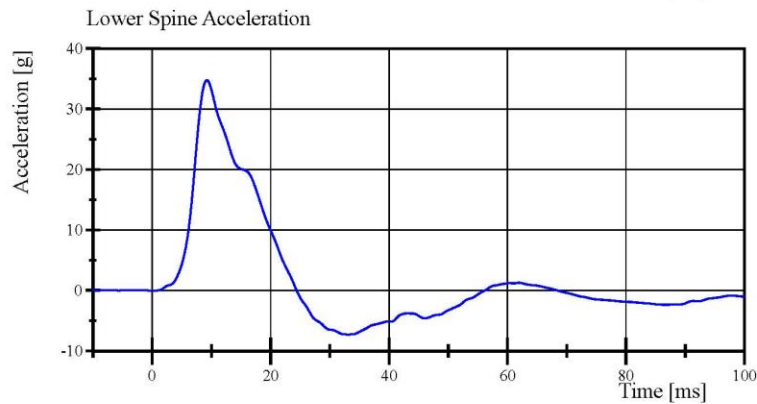
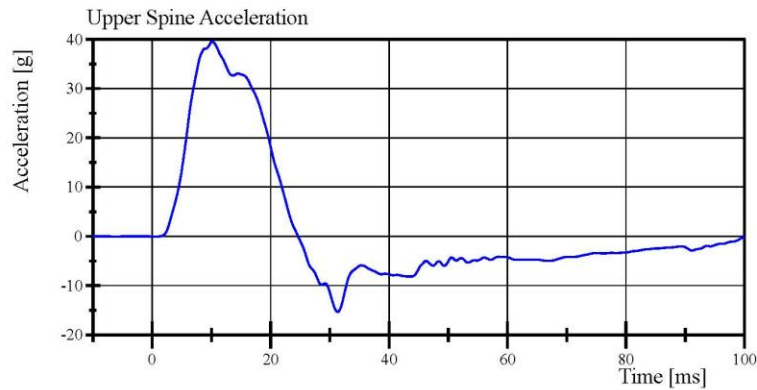
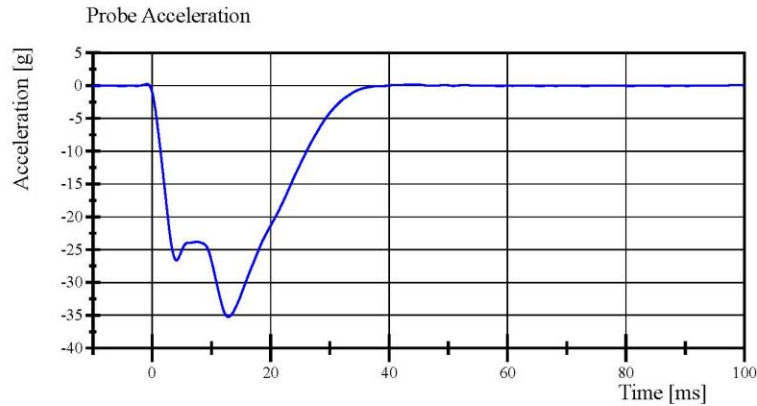


Transportation Research Center Inc.

Left Lateral Thorax with Arm

SID IIs Serial No. DQ0570 Certification No. 37-1

Test Date: 5/28/2025



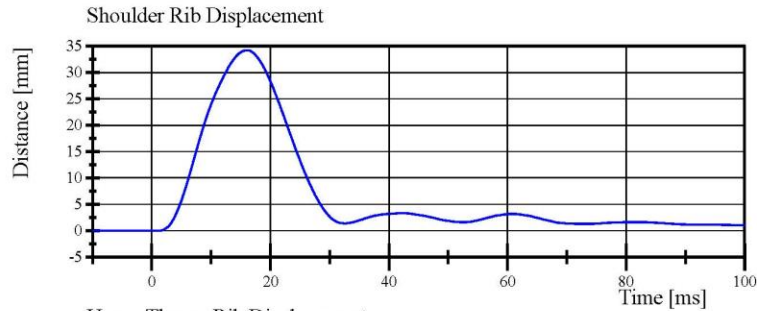
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.28.2025 10:32:01 621

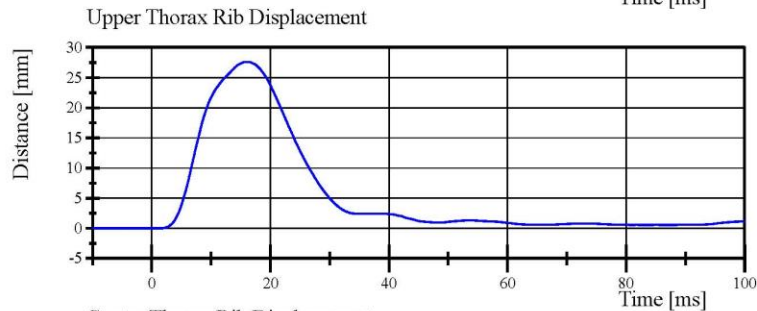


Transportation Research Center Inc.

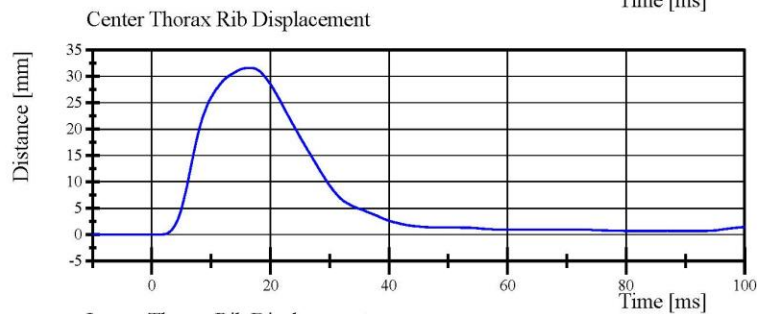
Left Lateral Thorax with Arm
SID IIs Serial No. DQ0570 Certification No. 37-1
Test Date: 5/28/2025



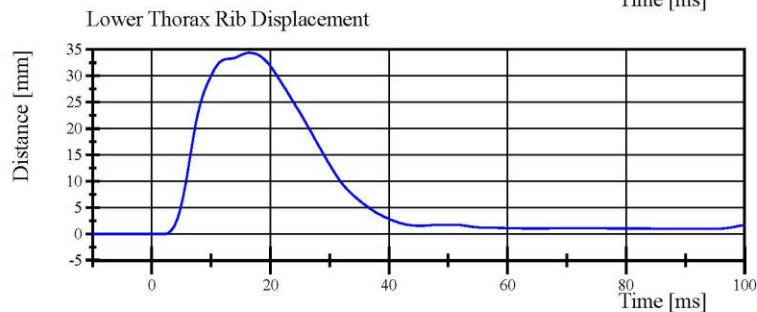
Filter Class: CFC_600
Max: 34.2 mm at 16.1 ms
Min: -0.0 mm at -7.2 ms



Filter Class: CFC_600
Max: 27.6 mm at 16.1 ms
Min: -0.0 mm at -0.5 ms



Filter Class: CFC_600
Max: 31.6 mm at 16.2 ms
Min: -0.0 mm at -0.5 ms



Filter Class: CFC_600
Max: 34.4 mm at 16.4 ms
Min: -0.0 mm at 2.1 ms

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

05.28.2025 10:32:01 621



Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 37-1
Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.246 m/s	Yes
Impactor Acceleration	(-14) - (-18) g	-16.0 g	Yes
Upper Thorax Rib Displacement	32 - 40 mm	35.7 mm	Yes
Center Thorax Rib Displacement	39 - 45 mm	41.2 mm	Yes
Lower Thorax Rib Displacement	35 - 43 mm	39.3 mm	Yes
Upper Spine Lateral Acceleration	13 - 17 g	14.9 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

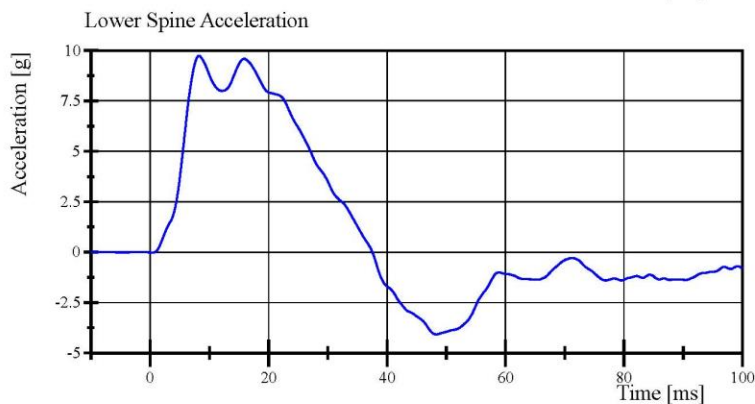
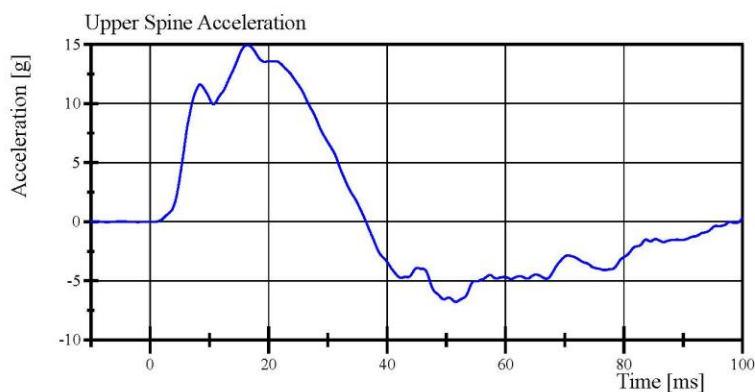
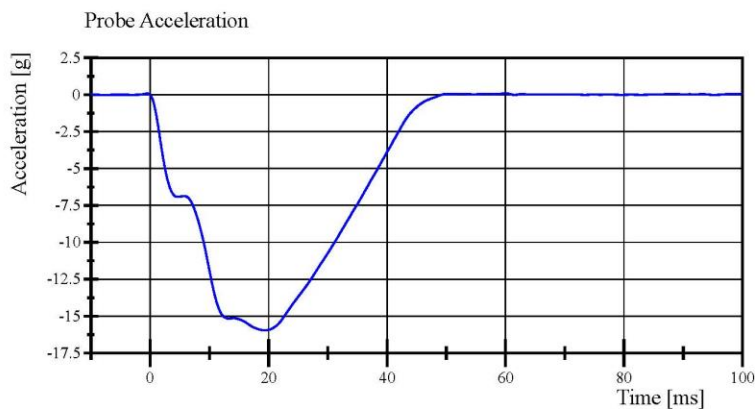
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.28.2025 09:58:24 886



Transportation Research Center Inc.

Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 37-1
Test Date: 5/28/2025



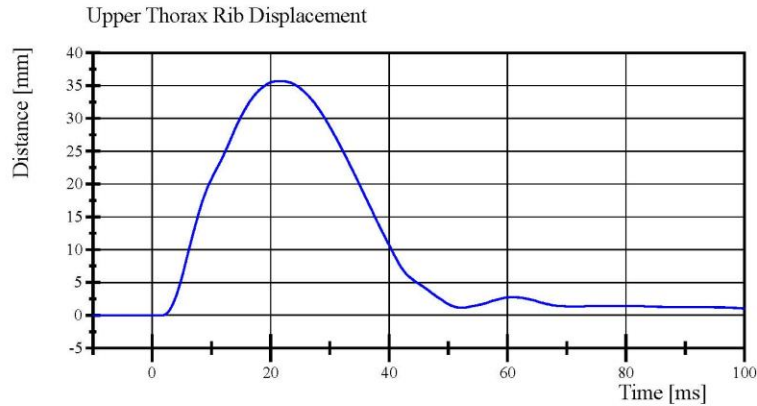
Specification Source: CFR49 Part 572 Subpart V
with Polarity in accordance with J211

05.28.2025 09:59:21 886

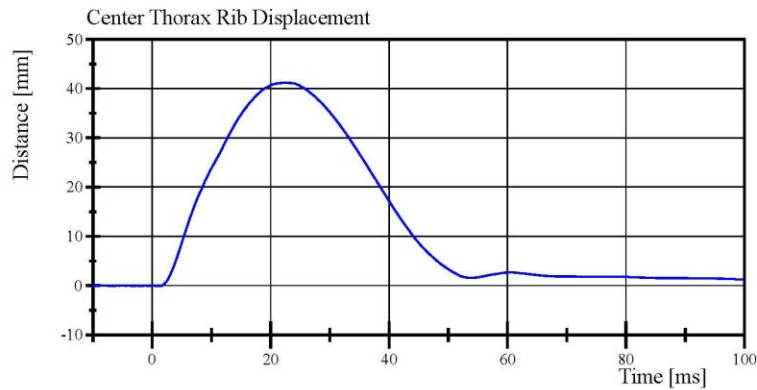


Transportation Research Center Inc.

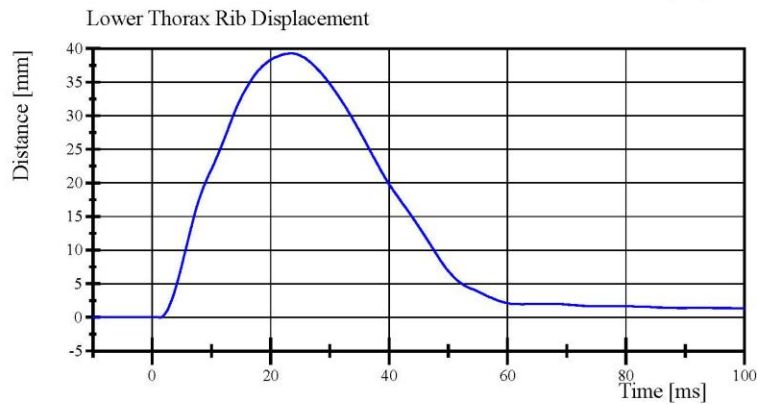
Left Lateral Thorax without Arm
SID IIs Serial No. DQ0570 Certification No. 37-1
Test Date: 5/28/2025



Filter Class: CFC_600
Max: 35.7 mm at 21.4 ms
Min: -0.0 mm at 1.7 ms



Filter Class: CFC_600
Max: 41.2 mm at 22.4 ms
Min: -0.0 mm at 1.4 ms



Filter Class: CFC_600
Max: 39.3 mm at 23.5 ms
Min: -0.0 mm at 1.4 ms

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

05.28.2025 09:59:21 886



Transportation Research Center Inc.

Left Lateral Abdomen

SID IIs Serial No. DQ0570 Certification No. 37-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.39 m/s	Yes
Impactor Acceleration	(-12) - (-16) g	-15.0 g	Yes
Upper Abdominal Rib Displacement	36 - 47 mm	38.8 mm	Yes
Lower Abdominal Rib Displacement	33 - 44 mm	41.4 mm	Yes
Lower Spine Lateral Acceleration	9 - 14.0 g	11.46 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

05.28.2025 09:52:39 655

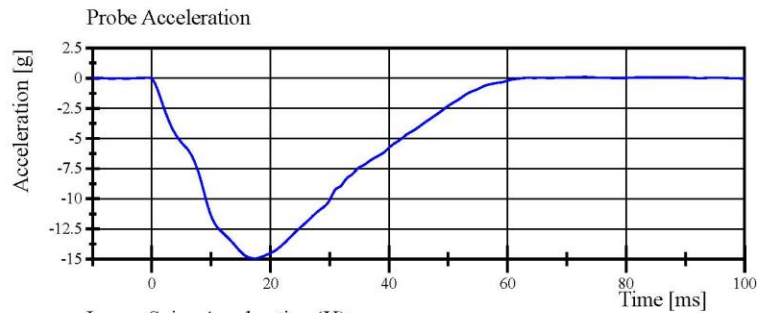


Transportation Research Center Inc.

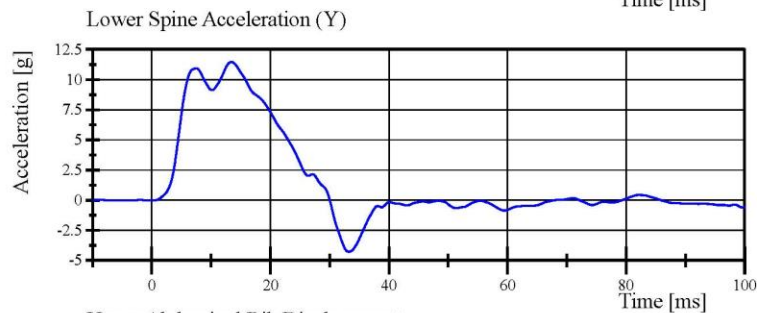
Left Lateral Abdomen

SID IIs Serial No. DQ0570 Certification No. 37-1

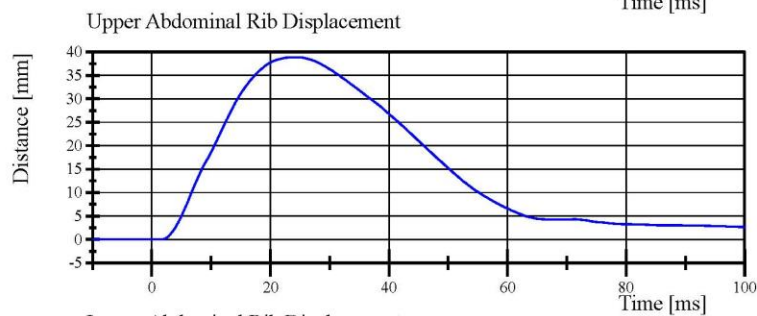
Test Date: 5/28/2025



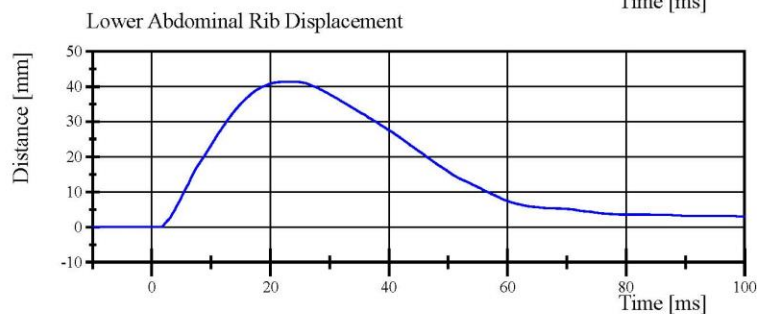
Filter Class: CFC_180
Max: 0.1 g at 73.0 ms
Min: -15.0 g at 17.4 ms



Filter Class: CFC_180
Max: 11.5 g at 13.4 ms
Min: -4.3 g at 33.3 ms



Filter Class: CFC_600
Max: 38.8 mm at 24.6 ms
Min: -0.0 mm at 1.6 ms



Filter Class: CFC_600
Max: 41.4 mm at 23.0 ms
Min: -0.0 mm at 1.3 ms

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

05.28.2025 09:53:29 655



Transportation Research Center Inc.

Left Lateral Pelvis

SID IIs Serial No. DQ0570 Certification No. 37-1

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	6.6 - 6.8 m/s	6.62 m/s	Yes
Impactor Acceleration	(-38.0) - (-47.0) g	-43.28 g	Yes
Peak Pelvis Lateral Acceleration after 6ms	34 - 42 g	36.9 g	Yes
Acetabulum Force	3,600 - 4,300 N	3,685.6 N	Yes

Test meets specifications.

Condition: Used

Comments:

Pelvis Skin S/N: 1173

Pelvis Plug Info:

Manufacturer: SACO

S/N: 14460

Cal Date: 20201218

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

05.28.2025 11:37:09 464

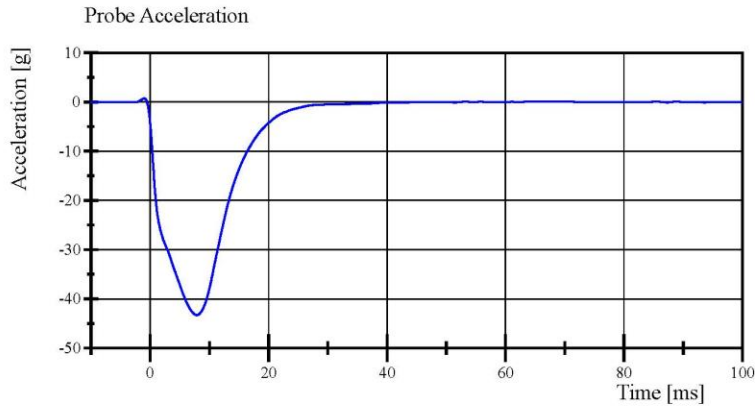


Transportation Research Center Inc.

Left Lateral Pelvis

SID IIs Serial No. DQ0570 Certification No. 37-1

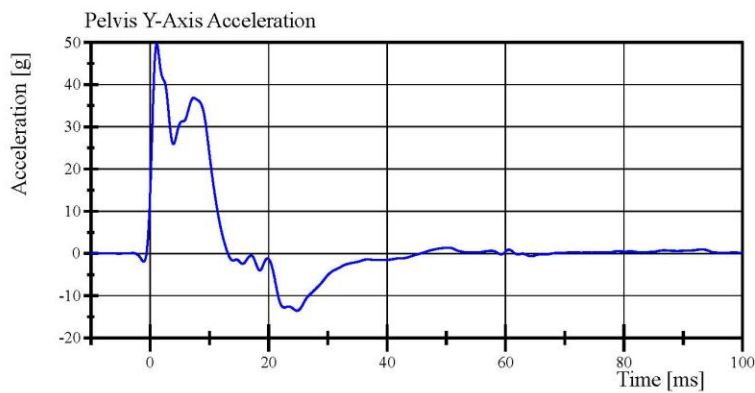
Test Date: 5/28/2025



Filter Class: CFC_180

Max: 0.7 g at -1.0 ms

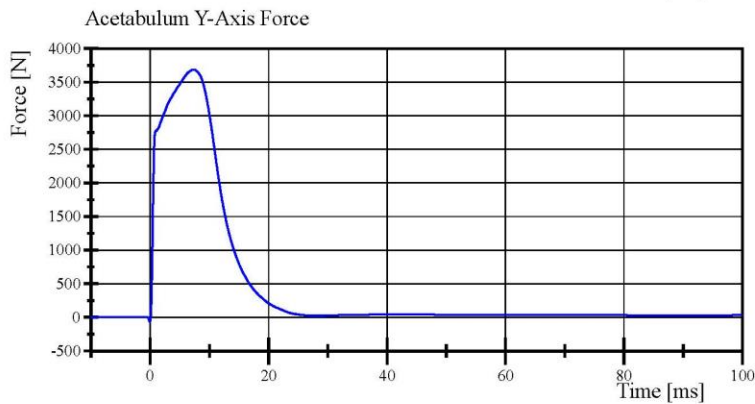
Min: -43.3 g at 7.8 ms



Filter Class: CFC_180

Max: 49.7 g at 1.1 ms

Min: -13.6 g at 24.8 ms



Filter Class: CFC_600

Max: 3,685.6 N at 7.4 ms

Min: -64.7 N at -0.1 ms

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

05.28.2025 11:38:39 464



Transportation Research Center Inc.

Left Lateral Iliac

SID IIs Serial No. DQ0570 Certification No. 37-2

Test Date: 5/28/2025

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Pendulum Velocity	4.2 - 4.4 m/s	4.21 m/s	Yes
Impactor Acceleration	(-36) - (-45) g	-41.7 g	Yes
Peak Pelvis Lateral Acceleration	28 - 39 g	38.5 g	Yes
Iliac Force	4,100 - 5,100 N	4,885.7 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

05.28.2025 13:38:26 701

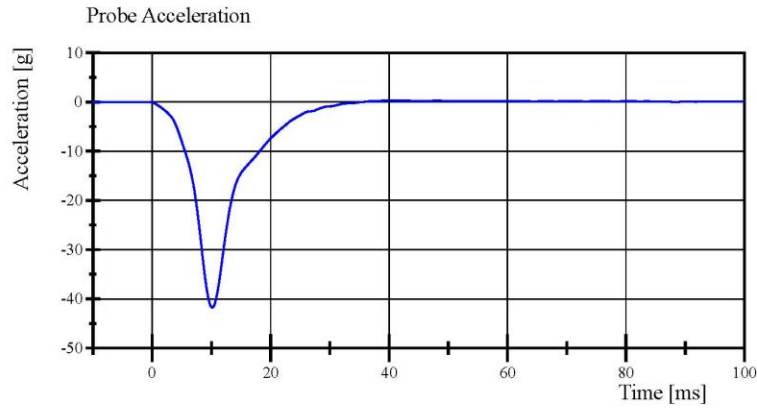


Transportation Research Center Inc.

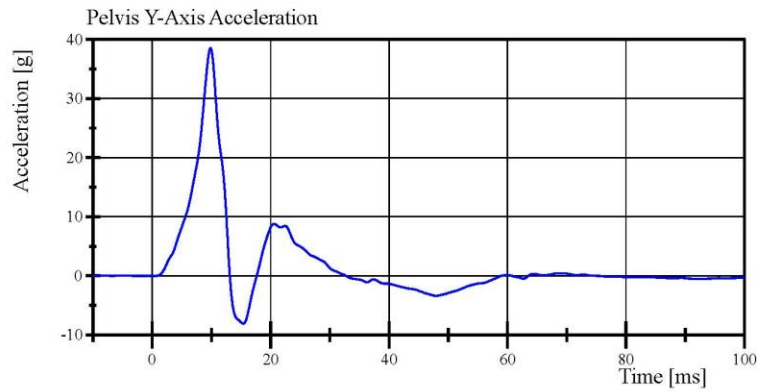
Left Lateral Iliac

SID IIs Serial No. DQ0570 Certification No. 37-2

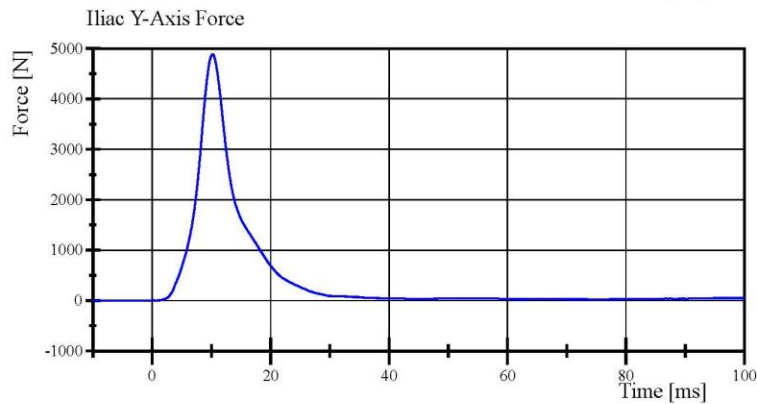
Test Date: 5/28/2025



Filter Class: CFC_180
Max: 0.3 g at 39.8 ms
Min: -41.7 g at 10.2 ms



Filter Class: CFC_180
Max: 38.5 g at 9.8 ms
Min: -8.1 g at 15.4 ms



Filter Class: CFC_600
Max: 4,885.7 N at 10.2 ms
Min: -1.1 N at -5.0 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		P69075	Endevco	9-Apr-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)					14459	SACO	18-Dec-2020
Pelvis Plug (non-struck side)					14468	SACO	18-Dec-2020

TABLE 3 – Vehicle Instrumentation

Vehicle Instrumentation			Serial Number	Manufacturer	Calibration Date
1	Vehicle Center of Gravity	X	A378307	Measurement Specialties	13-Feb-2025
	Vehicle Center of Gravity	Y	A367450	Measurement Specialties	2-Apr-2025
	Vehicle Center of Gravity	Z	A379023	Measurement Specialties	3-Mar-2025
2	Right Sill at Front Seat	X	A377519	Measurement Specialties	3-Mar-2025
	Right Sill at Front Seat	Y	A297045	Measurement Specialties	2-Apr-2025
	Right Sill at Front Seat	Z	A349806	Measurement Specialties	2-Apr-2025
3	Right Sill at Rear Seat	X	A386339	Measurement Specialties	2-Apr-2025
	Right Sill at Rear Seat	Y	A386357	Measurement Specialties	2-Apr-2025
	Right Sill at Rear Seat	Z	A379051	Measurement Specialties	3-Mar-2025
4	Left Sill at Front Door	Y	A385757	Measurement Specialties	2-Apr-2025
5	Left Sill at Rear Door	Y	A230699	Measurement Specialties	16-Apr-2025
6	Left A-Post Lower	Y	A385750	Measurement Specialties	14-May-2025
7	Left A-Post Middle	Y	A378304	Measurement Specialties	14-May-2025
8	Left B-Post Lower	Y	A386338	Measurement Specialties	14-May-2025
9	B-Post Middle	Y	A386347	Measurement Specialties	14-May-2025
10	Front Seat Track	Y	A400070	Measurement Specialties	14-May-2025
11	Rear Seat Track or Structure	Y	A385714	Measurement Specialties	21-Apr-2025
12	Right Rear Occupant Compartment	Y	A377499	Measurement Specialties	2-Apr-2025
13	Engine Block	X	N/A	N/A	N/A
	Engine Block	Y	N/A	N/A	N/A
14	Rear Floorpan Above Axle	X	A349788	Measurement Specialties	14-May-2025
	Rear Floorpan Above Axle	Y	A386297	Measurement Specialties	14-May-2025
	Rear Floorpan Above Axle	Z	A386358	Measurement Specialties	14-May-2025

TABLE 4 – MDB Instrumentation

MDB Instrumentation		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	A227171	Measurement Specialties	2-Apr-2025
MDB Center of Gravity	Y	A379029	Measurement Specialties	27-Feb-2025
MDB Center of Gravity	Z	A377524	Measurement Specialties	3-Mar-2025
Left Frame Rail at Rear Axle Centerline	X	A377538	Measurement Specialties	2-Apr-2025
Left Frame Rail at Rear Axle Centerline	Y	A378300	Measurement Specialties	2-Apr-2025