

REPORT NUMBER: NCAP-MGA-25-021

**NEW CAR ASSESSMENT PROGRAM (NCAP)
Frontal Barrier Impact Test**

**FCA US LLC
2025 Ram 1500 Tradesman Quad Cab Truck
NHTSA No.: M20250303**

**MGA RESEARCH CORPORATION
5000 Warren Road
Burlington, WI 53105**



Test Date: April 25, 2025

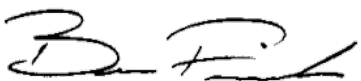
Final Report Date: May 5, 2025

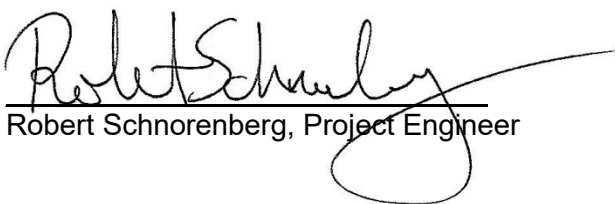
FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Crashworthiness Standards
Mail Code: NRM-110
1200 New Jersey Ave, SE
Washington, DC 20590**

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Approval Date: July 25, 2025

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

TECHNICAL REPORT DOCUMENTATION PAGE

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15. Supplementary Notes																																																									
16. Abstract A 56.3 km/h NCAP Full Frontal Rigid Barrier Impact Test was conducted on a 2025 Ram 1500 Tradesman Quad Cab Truck in accordance with the specifications of the Office of Crashworthiness Standards Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing. The test was conducted at MGA Research Corporation in Burlington, Wisconsin on April 25, 2025. The impact velocity of the vehicle was 56.83 km/h and the ambient temperature at the barrier face at the time of impact was 21.6°C. The target vehicle post-test maximum crush was 556 mm located to the right of the vehicle centerline. The test vehicle's performance was as follows:																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 30%;">Measurement Description</th> <th rowspan="2" style="width: 10%;">Units</th> <th colspan="2" style="width: 20%;">Driver ATD</th> <th colspan="2" style="width: 20%;">Passenger ATD</th> </tr> <tr> <th style="width: 10%;">Threshold</th> <th style="width: 10%;">Result</th> <th style="width: 10%;">Threshold</th> <th style="width: 10%;">Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₁₅)</td> <td></td> <td style="text-align: center;">700</td> <td style="text-align: center;">248.074</td> <td style="text-align: center;">700</td> <td style="text-align: center;">190.200</td> </tr> <tr> <td>Maximum Chest Compression</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">63</td> <td style="text-align: center;">24.282</td> <td style="text-align: center;">52</td> <td style="text-align: center;">10.941</td> </tr> <tr> <td>Nij</td> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">0.311</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0.447</td> </tr> <tr> <td>Neck Tension</td> <td style="text-align: center;">N</td> <td style="text-align: center;">4170</td> <td style="text-align: center;">1315.291</td> <td style="text-align: center;">2620</td> <td style="text-align: center;">739.152</td> </tr> <tr> <td>Neck Compression</td> <td style="text-align: center;">N</td> <td style="text-align: center;">4000</td> <td style="text-align: center;">376.758</td> <td style="text-align: center;">2520</td> <td style="text-align: center;">245.623</td> </tr> <tr> <td>Left Femur Force</td> <td style="text-align: center;">N</td> <td style="text-align: center;">10008</td> <td style="text-align: center;">506.284</td> <td style="text-align: center;">6805</td> <td style="text-align: center;">1800.979</td> </tr> <tr> <td>Right Femur Force</td> <td style="text-align: center;">N</td> <td style="text-align: center;">10008</td> <td style="text-align: center;">1768.267</td> <td style="text-align: center;">6805</td> <td style="text-align: center;">515.142</td> </tr> </tbody> </table>						Measurement Description	Units	Driver ATD		Passenger ATD		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC ₁₅)		700	248.074	700	190.200	Maximum Chest Compression	mm	63	24.282	52	10.941	Nij		1	0.311	1	0.447	Neck Tension	N	4170	1315.291	2620	739.152	Neck Compression	N	4000	376.758	2520	245.623	Left Femur Force	N	10008	506.284	6805	1800.979	Right Femur Force	N	10008	1768.267	6805	515.142
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17. Key Words 56.3 km/h (35 mph) Full Frontal Rigid Barrier Impact Test New Car Assessment Program (NCAP)			18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division 1200 New Jersey Ave, SE Washington, DC 20590																																																						
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SECTION 1 PURPOSE AND SUMMARY OF TEST

PURPOSE

This 56.3 km/h frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under contract number 693JJ919D000006. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for consumer information purposes.

The 56.3 km/h frontal barrier impact was conducted in accordance with the Office of Crashworthiness Standards Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing, dated May 2018.

SUMMARY

A load cell barrier consisting of 176 load cells was impacted by a 2025 Ram 1500 Tradesman Quad Cab Truck at a velocity of 56.83 km/h. The test was performed at MGA Research Corporation on April 25, 2025. Pre-test and post-test photographs of the vehicle and dummies can be found in Appendix A.

Two (2) real-time cameras and sixteen (16) high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

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

Both ATDs were fully instrumented with head, chest and pelvis tri-axial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were installed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading.

The driver (position 1) ATD (Serial No. 064) and the right-front passenger (position 2) ATD (Serial No. 142) were qualified previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C of this report.

The 106 channels of data were recorded on a data acquisition system. Appendix B contains the dummy response data traces.

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the event. There was no Stoddard Solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 556 mm located to the right of the vehicle centerline and both the driver and passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver's head contacted the airbag. The driver's head also contacted the headrest. The driver's knees contacted the knee bolster.

The passenger's visible contact points were as follows: The passenger's head contacted the airbag. The passenger's head also contacted the headrest. The passenger's knees contacted the glove box.

The occupant data is summarized below:

ATD position	HIC₁₅	Nij	Neck Tension (N)	Neck Comp. (N)	3ms Chest Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver (50 th)	248.074	0.311	1315.291	376.758	34.105	24.282	506.284	1768.267
Passenger (5 th)	190.200	0.447	739.152	245.623	38.103	10.941	1800.979	515.142

The test data can be found on the NHTSA website at www.nhtsa.gov

TEST NOTES

Camera No. 7, 8, 9, and 10 did not record. Trigger signal for all passenger-side offboard cameras was not received.

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

SECTION 2
OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20250303	Traction Control System (TCS)	Yes
Model Year	2025	Power Steering	Yes
Make	Ram	Power Window Auto-Reverse	Yes
Model	1500 Tradesman Quad Cab	Driver Frontal Airbag	Yes
Body Style	Truck	Driver Curtain Airbag	Yes
VIN	1C6RRFCGXSN648838	Driver Head/Torso Airbag	No
Body Color	Diamond Black	Driver Torso Airbag	No
Odometer (km/mi)	190 km / 118 mi	Driver Torso/Pelvis Airbag	Yes
Engine Displacement (L)	3.6	Driver Pelvis Airbag	No
Type/No. Cylinders	V6	Driver Knee Airbag	No
Engine Placement	Longitudinal	Front Pass. Frontal Airbag	Yes
Transmission Type	Automatic	Front Pass. Curtain Airbag	Yes
Transmission Speeds	8	Front Pass. Head/Torso Airbag	No
Overdrive	Yes	Front Pass. Torso Airbag	No
Final Drive	AWD	Front Pass. Torso/Pelvis Airbag	Yes
Roof Rack	No	Front Pass. Pelvis Airbag	No
Sunroof/T-Top	No	Front Pass. Knee Airbag	No
Running Boards	No	Driver Pretensioner	Yes
Tilt Steering Wheel	Yes	Driver Load Limiter	Yes
Power Seats	No	Front Pass. Pretensioner	Yes
Anti-Lock Brakes (ABS)	Yes	Front Pass. Load Limiter	Yes
Automatic Door Locks (ADLs)	Yes	Other	N/A

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

DATA FROM CERTIFICATION LABEL

Manufactured By	FCA US LLC	GVWR (kg)	3085
Date of Manufacture	1-25	GAWR Front (kg)	1770
		GAWR Rear (kg)	1860

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench		
Designated Seating Capacity (DSC)	3	3		6
Capacity Weight (VCW) (kg)				796
Cargo Weight (RCLW) (kg)				136

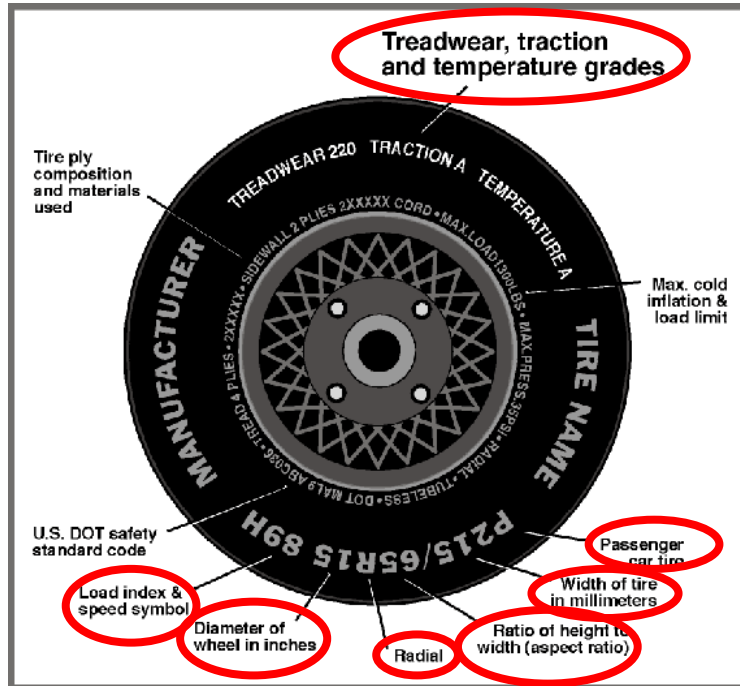
* Rated Cargo and Luggage Weight (RCLW) limited to maximum of 300 lbs (136 kg).

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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	250	250
Recommended Tire Size	275/65R18	275/65R18
Tire Size on Vehicle	275/65R18	275/65R18
Tire Manufacturer	Goodyear	Goodyear
Tire Model	Wrangler	Wrangler
Treadwear	680	680
Traction	A	A
Temperature Grade	B	B
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	116T	116T
Tire Material	Rubber	Rubber
DOT Safety Code Left	14BYJ JK1R 4824	14BYJ JK1R 4824
DOT Safety Code Right	14BYJ JK1R 4824	14BYJ JK1R 4824

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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	683.5	501.5		713.5	615.0	
Right	kg	652.0	459.5		668.0	569.0	
Ratio	%	58.2%	41.8%		53.8%	46.2%	
Totals	kg	1335.5	961.0	2296.5	1381.5	1184.0	2565.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2296.5
Weight of 1 P572E ATD & 1 P572O ATD	kg	141
Rated Cargo/Luggage Weight (RCLW)	kg	136
Calculated Test Vehicle Target Weight (TVTW)	kg	2573.5

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	937	946	998	1010	1497
As Tested	mm	924	936	969	972	1651
Post Test	mm	944	812	1032	922	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	3578
Total Vehicle Length at Left Side	mm	5640
Total Vehicle Length at Centerline	mm	5796
Total Vehicle Length at Right Side	mm	5647
Weight of Ballast in Cargo Area	kg	73
Weight of Vehicle Components Removed	kg	5
Amount of Stoddard Solvent in Fuel Tank	L	81.0

List of components removed to meet test weight: None.

List of components removed for instrumentation, data box, and equipment installation: Jack and tools.

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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
Test Date: 4/25/2025

TARGET VEHICLE STRUCTURAL MEASUREMENT

	Elements	Pre-Test (mm)
1	Total Length	5796
2	Total Width	2031
3	Bumper Top Height	623
4	Bumper Bottom Height	415
5	Longitudinal Member Top Height	600
6	Distance between Longitudinal Members	783
7	Longitudinal Member Width	78
8	Engine Top Height	1129
9	Engine Bottom Height	318
10	Engine and Gearbox Width	324
11	Front Bumper-Engine Distance	900
12	Front Shock Absorber Fixing Height	771
13	Bonnet Leading Edge Height	1161
14	Front Shock Absorber Fixing Width	1132
15	Front Bumper – Front Axle Distance	984
16	Front Axle – A-Pillar Distance	656
17	A-Pillar – B-Pillar Distance	1027
18	B-Pillar – Rear Axle Distance	1895
19	B-Pillar – C-Pillar Distance	890
20	Roof Sill Bottom Height	1740
21	Roof Sill Top Height	1831
22	Floor Sill Bottom Height	345
23	Floor Sill Top Height	548

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

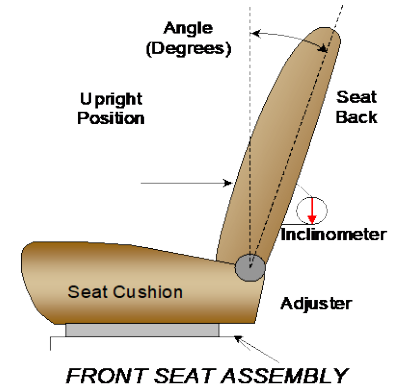
Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
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NHTSA No.: M20250303
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NOMINAL DESIGN RIDING POSITION

The driver seat back is positioned as close as possible to the manufacturer's design angle. For the passenger seat back, seat back is adjusted following Appendix F, "Driver & Passenger Dummy Seating & Positioning Procedures" in the NCAP Test Procedure dated May 2018.

	Degrees
Driver Seat Back Angle	2.4° on outboard headrest post
Passenger Seat Back Angle	-4.5° on outboard headrest post



SEAT FORE/AFT POSITIONS

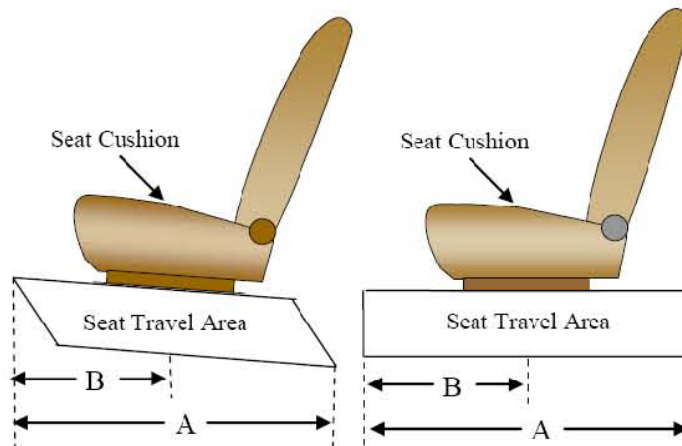
The driver and passenger seat fore/aft positions are adjusted following Appendix F, "Driver & Passenger Dummy Seating & Positioning Procedures" in the NCAP Test Procedure dated May 2018.

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	220 mm / 33 detents (1st as 1)	110 mm / 16th detent (1st as 0)
Passenger Seat	220 mm / 33 detents (1st as 1)	0 mm / 0th detent (1st as 0)

SEAT BELT UPPER ANCHORAGES

The seat belt upper anchorages are set following the manufacturer's specified position as listed in Form 1.

	Total # of Positions	Placed in Position #
Driver Seat	5 (1st as 1)	0 (1st as 0)
Passenger Seat	5 (1st as 1)	0 (1st as 0)



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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

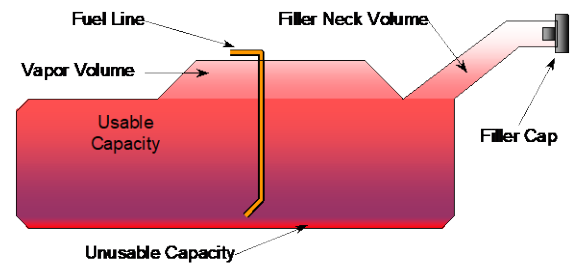
NHTSA No.: M20250303
 Test Date: 4/25/2025

FUEL TANK CAPACITY DATA

	Liters
Usable Capacity of "Standard Tank"	87.1
Usable Capacity of "Optional Tank"	
92-94% of Usable Capacity	80.1 to 81.9
Actual Amount of Solvent used	81.0
1/3 of Usable Capacity	29.0

FUEL PUMP

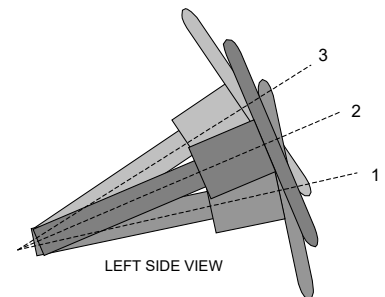
The vehicle is equipped with an electronic fuel pump. The fuel pump will run when the engine is running. The pump will also briefly run when the ignition key is turned to the "on" position. The filler neck is located on the driver's side.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

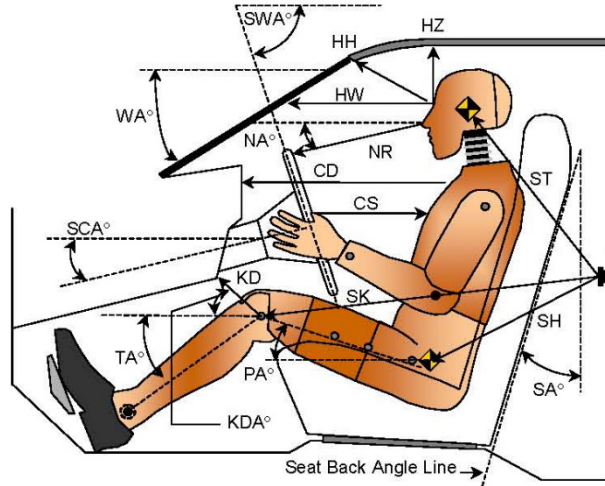
STEERING COLUMN POSITION

	Degrees	Fore/Aft Position (mm)
Lowermost Position 1	69.3	
Geometric Center Position 2	66.8	
Uppermost Position 3	64.3	
Telescoping Steering Wheel Travel		60
Test Position	66.8	30

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
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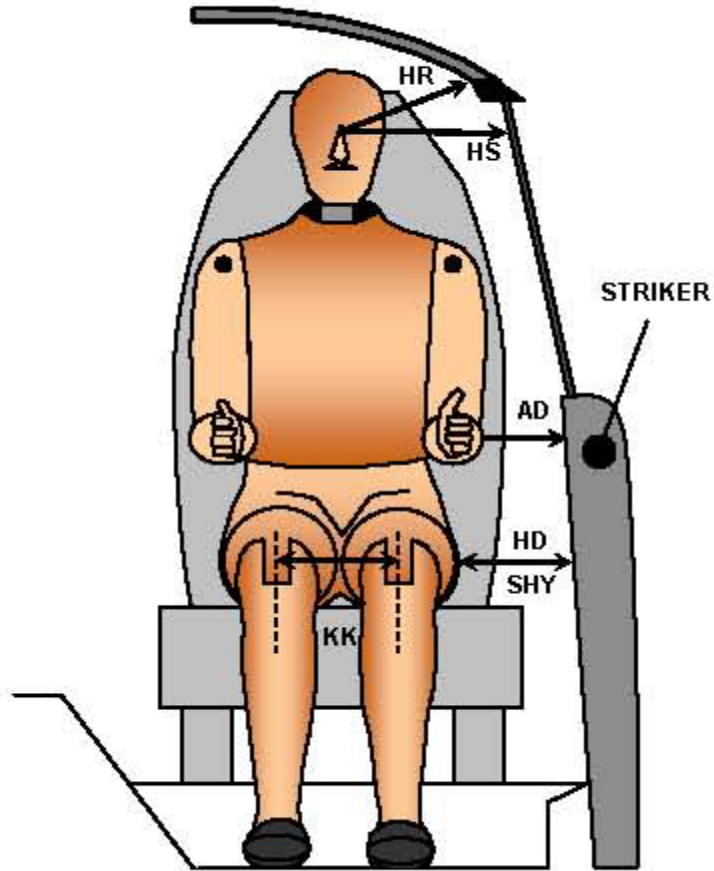
LEFT SIDE VIEW

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		30.4		
SWA°	Steering Wheel Angle		66.8		
SCA°	Steering Column Angle		23.2		
SA°	Seat Back Angle		2.4		-4.5
HZ	Head to Roof (Z)	210	90	256	90
HH	Head to Header	466	18.0	386	39.1
HW	Head to Windshield	712	0	722	0
NR	Nose to Rim	419	14.0		
CD	Chest to Dash	564		400	
CS	Chest to Steering Hub	334	11.0		
RA	Rim to Abdomen	203	0		
KDL	Left Knee to Dash	149	24.9	63	43.5
KDR	Right Knee to Dash	115	26.5	73	26.0
PA°	Pelvic Angle		22.4		22.1
TA°	Tibia Angle		45.4		61.4
SK	Striker to Knee	589	97.6	680	93.8
ST	Striker to Head	643	6.7	585	21.8
SH	Striker to H-Point	206	98.5	350	92.4

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

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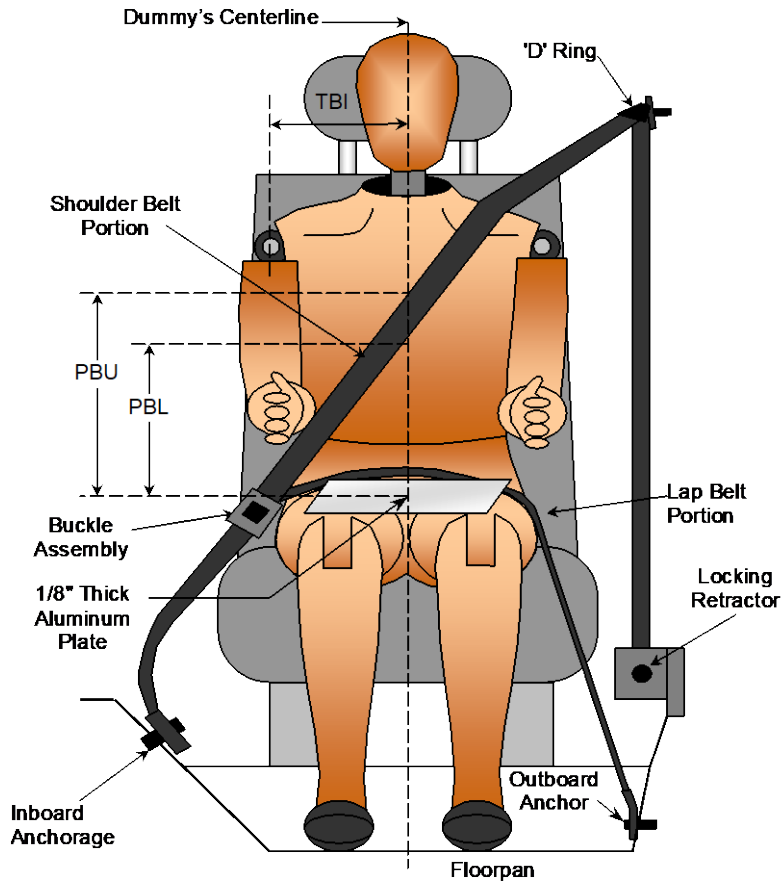
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver	Passenger
AD	Arm to Door	mm	111	88
HD	H-Point to Door	mm	133	185
HR	Head to Side Header	mm	248	306
HS	Head to Side Window	mm	325	363
KK	Knee to Knee	mm	365	233
SHY	Striker to H-Point (Y Direction)	mm	237	281
AA	Ankle to Ankle	mm	342	212

DATA SHEET NO. 5 **SEAT BELT POSITIONING DATA**

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU - Top surface of reference to belt upper edge	mm	350	300
PBL - Top surface of reference to belt lower edge	mm	260	200

BELT LENGTH DATA

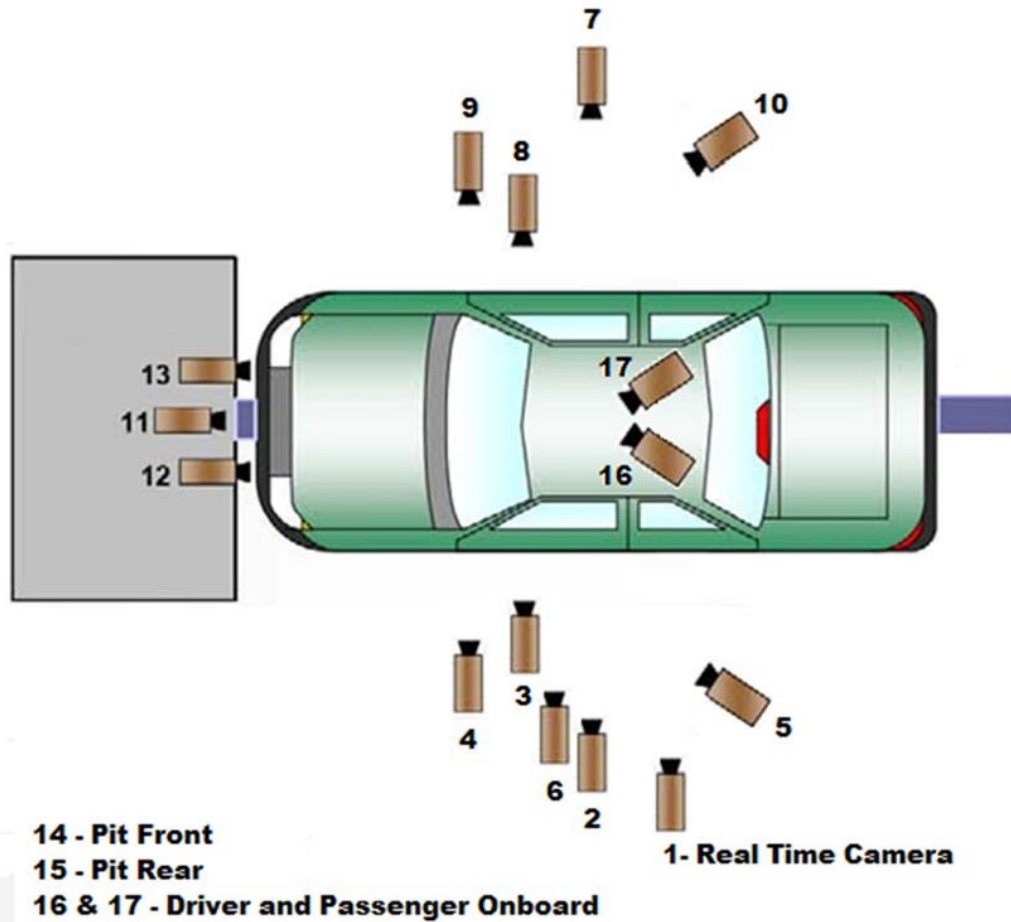
Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as measured on ATD	mm	830	890
Lap Belt Length as measured on ATD	mm	764	830
Remainder of belt on reel	mm	246	120
Total Belt Length for Continuous Webbing Systems	mm	2510	2510

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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
Test Date: 4/25/2025

CAMERA POSITIONS FOR FRONTAL IMPACTS



***Camera locations are approximate and not to scale*

DATA SHEET NO. 6 (CONTINUED)
HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

CAMERA LOCATIONS

No.	Camera View	Coordinates* (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall					30
2	Left Overall	-2980	-6030	-1540	12	1000
3	Driver Close-Up	-1810	-7250	-2240	50	1000
4	Left Front Half	-1530	-5950	-1540	24	1000
5	Left Angle	-7500	-5880	-2230	75	1000
6	Steering Column	-1130	-5590	-1250	50	1000
7	Right Overall	-2730	6430	-1510	12	1000
8	Passenger Close-Up	-1780	7550	-2160	50	1000
9	Right Front Half	-1300	6060	-1550	24	1000
10	Right Angle	-7710	5520	-2240	75	1000
11	Windshield	-80	0	-2310	12	1000
12	Driver Windshield	-20	-370	-2230	25	1000
13	Passenger Windshield	-20	370	-2230	25	1000
14	Pit Front	-1010	0	3340	24	1000
15	Pit Rear	-3450	0	3340	24	1000
16	Driver Onboard				12	1000
17	Passenger Onboard				12	1000
18	Real-Time Pan View					30

*COORDINATES:

+X = forward of impact plane

+Y = right of monorail centerline

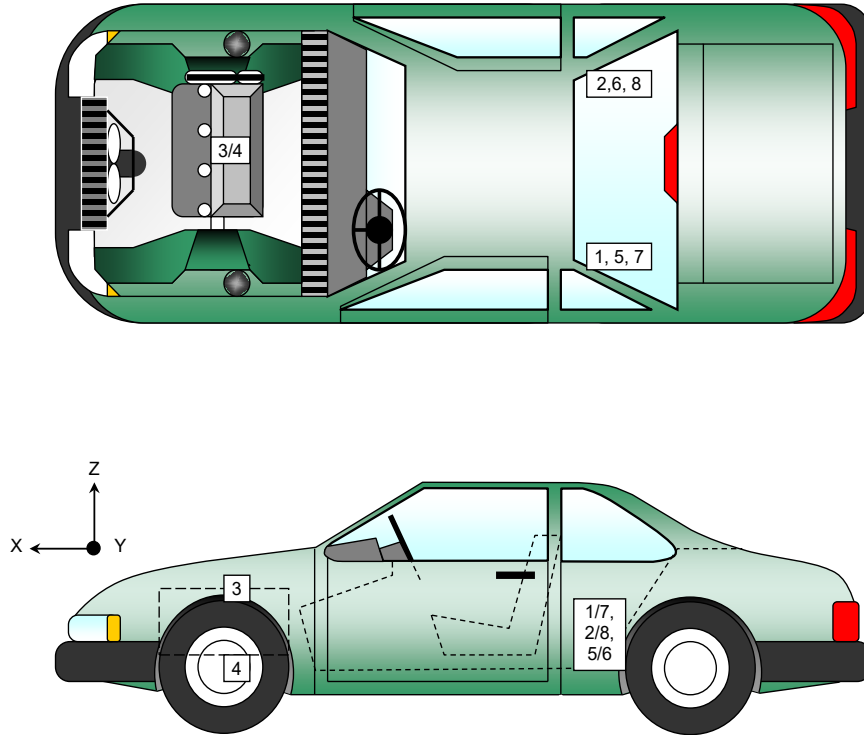
+Z = below ground level

Note: Camera No. 7, 8, 9, and 10 did not record. Trigger signal for all passenger-side offboard cameras was not received.

DATA SHEET NO. 7 **VEHICLE ACCELEROMETER LOCATIONS**

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
Test Date: 4/25/2025



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear Crossmember Accelerometer – X Direction	2438	-475	-745
2	Right Rear Crossmember Accelerometer – X Direction	2440	500	-754
3	Engine Top X	4653	-116	-1136
4	Engine Bottom X	4528	41	-307
5	Left Rear Crossmember Accelerometer – Z Direction	2438	-475	-745
6	Right Rear Crossmember Accelerometer – Z Direction	2440	500	-754
7	Left Rear Crossmember Accelerometer Redundant – X Direction	2438	-475	-745
8	Right Rear Crossmember Accelerometer Redundant – X Direction	2440	500	-754

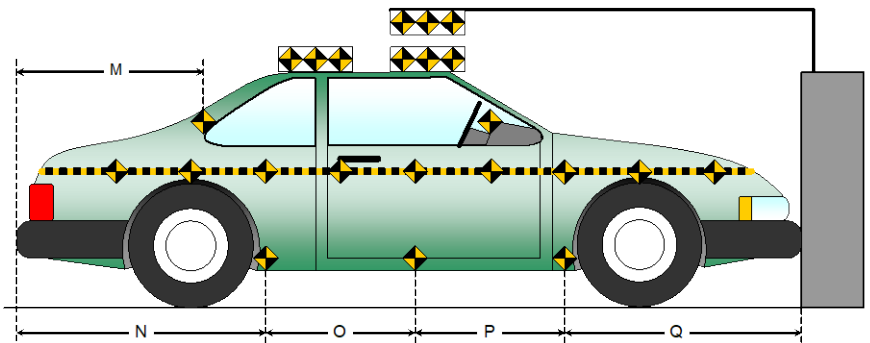
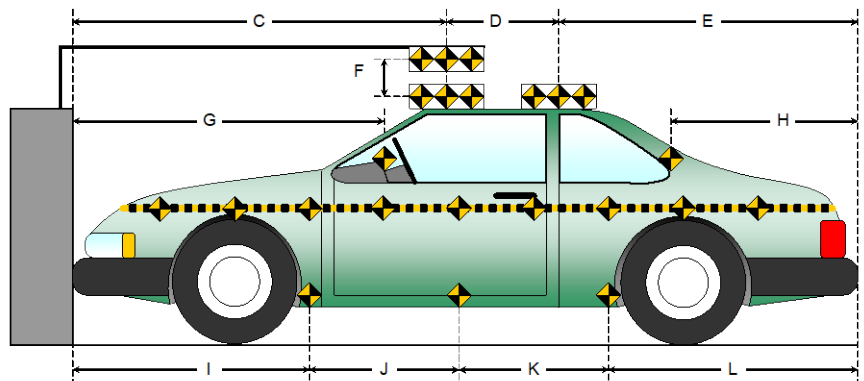
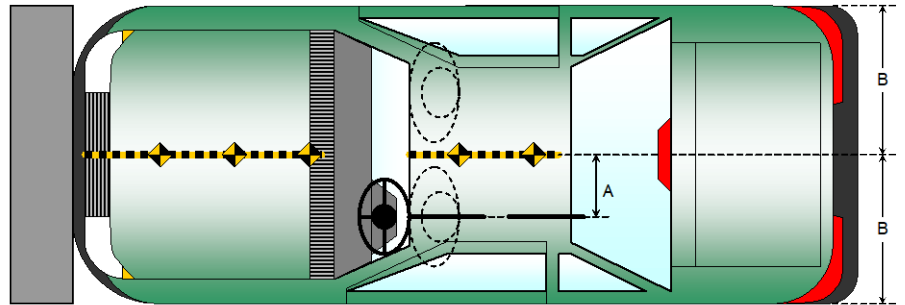
Reference Points: X - Rear Surface of Vehicle (+ forward)
Y - Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 8 **PHOTOGRAPHIC REFERENCE TARGET LOCATIONS**

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

Item	Value (mm)
A	491
B	1015
C	2518
D	610
E	2667
F	96
G	
H	2276
I	1525
J	968
K	965
L	2337
M	2276
N	2340
O	959
P	968
Q	1528



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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

ADVANCED RESEARCH LOAD CELL BARRIER

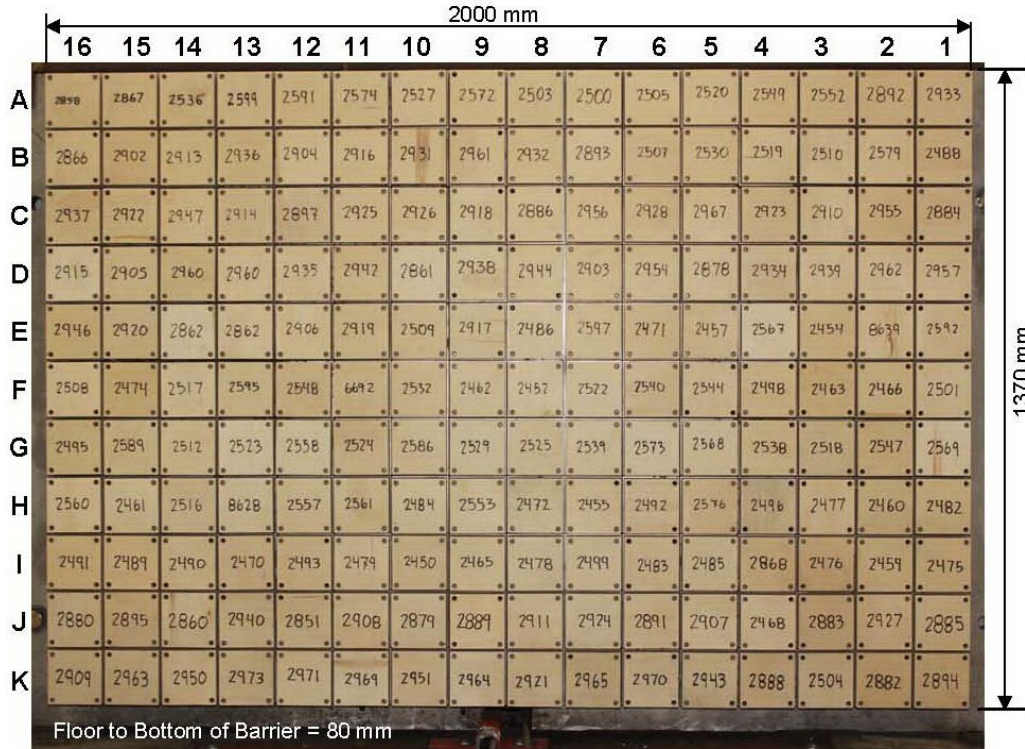


Photo for Reference Only

Centerline

A-16	A-15	A-14	A-13	A-12	A-11	A-10	A-09	A-08	A-07	A-06	A-05	A-04	A-03	A-02	A-01
B-16	B-15	B-14	B-13	B-12	B-11	B-10	B-09	B-08	B-07	B-06	B-05	B-04	B-03	B-02	B-01
C-16	C-15	C-14	C-13	C-12	C-11	C-10	C-09	C-08	C-07	C-06	C-05	C-04	C-03	C-02	C-01
D-16	D-15	D-14	D-13	D-12	D-11	D-10	D-09	D-08	D-07	D-06	D-05	D-04	D-03	D-02	D-01
E-16	E-15	E-14	E-13	E-12	E-11	E-10	E-09	E-08	E-07	E-06	E-05	E-04	E-03	E-02	E-01
F-16	F-15	F-14	F-13	F-12	F-11	F-10	F-09	F-08	F-07	F-06	F-05	F-04	F-03	F-02	F-01
G-16	G-15	G-14	G-13	G-12	G-11	G-10	G-09	G-08	G-07	G-06	G-05	G-04	G-03	G-02	G-01
H-16	H-15	H-14	H-13	H-12	H-11	H-10	H-09	H-08	H-07	H-06	H-05	H-04	H-03	H-02	H-01
I-16	I-15	I-14	I-13	I-12	I-11	I-10	I-09	I-08	I-07	I-06	I-05	I-04	I-03	I-02	I-01
J-16	J-15	J-14	J-13	J-12	J-11	J-10	J-09	J-08	J-07	J-06	J-05	J-04	J-03	J-02	J-01
K-16	K-15	K-14	K-13	K-12	K-11	K-10	K-09	K-08	K-07	K-06	K-05	K-04	K-03	K-02	K-01

Load Cells are 121 mm x 121 mm with a 7 mm gap in between each load cell.

DATA SHEET NO. 10
TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

INSTRUMENTATION

Instrumentation	Number of Channels Collected
Driver Dummy Data Channels	49
Passenger Dummy Data Channels	49
Vehicle Structure Accelerometers	8
Barrier Channels	0
Total	106

CAMERA COVERAGE

Type of Camera	Number Used in this Test
High-Speed Vehicle Onboard	2
High-Speed Offboard	10
Real-Time	2
Total	16

DATA SHEET NO. 11
POST-TEST OBSERVATIONS

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
Test Date: 4/25/2025

TEST DUMMY INFORMATION AND CONTACT LOCATIONS

Description	Driver	Passenger
Dummy Type / Serial No.	HIII 50% / 064	HIII 5% / 142
Head Contact	Frontal Airbag, Headrest	Frontal Airbag, Headrest
Upper Torso Contact	Frontal Airbag	Frontal Airbag
Lower Torso Contact	None	None
Left Knee Contact	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

DOOR OPENING, TRUNK OPENING, AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Locked/Unlocked Doors	Doors were locked pre-test	Doors were locked pre-test
Front Door Opening	Remained closed and locked; opened without tools	Remained closed and locked; opened without tools
Rear Door Opening	Remained closed and locked; opened without tools	Remained closed and locked; opened without tools
Trunk/Hatch/Tailgate Opening	Remained closed; opened without tools	
Seat Track Shift (mm)	0	0
Seat Back Movement	None	None

OTHER VEHICLE POST-TEST OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	Cracked by wiper arm
Window Damage	None
Other Notable Effects	RF tire deflated

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	340
Center	mm	350
Right Side	mm	355
Average	mm	348

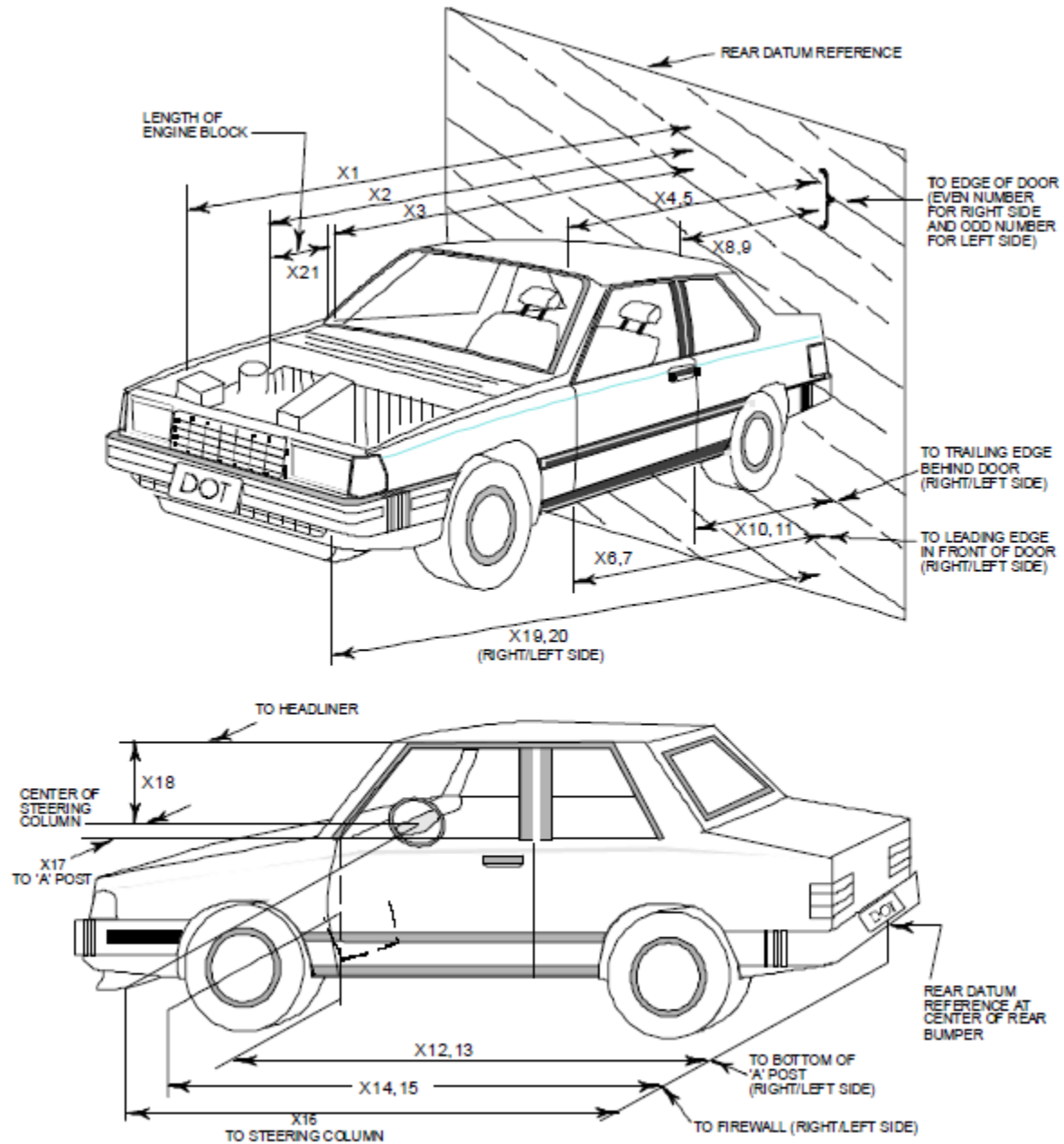
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

DATA SHEET NO. 12 **VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025



DATA SHEET NO. 12 (CONTINUED)
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
Test Date: 4/25/2025

No.	Measurement Description	Pre-Test	Post-Test	Change
1	Total Length of Vehicle at Centerline	5796	5248	-548
2	RSOV to Front of Engine	4895	4873	-22
3	RSOV to Firewall	4636	4649	13
4	RSOV to Upper Leading Edge of Right Door	4241	4253	12
5	RSOV to Upper Leading Edge of Left Door	4241	4252	11
6	RSOV to Lower Leading Edge of Right Door	4175	4186	11
7	RSOV to Lower Leading Edge of Left Door	4173	4183	10
8	RSOV to Upper Trailing Edge of Right Door	3105	3118	13
9	RSOV to Upper Trailing Edge of Left Door	3105	3116	11
10	RSOV to Lower Trailing Edge of Right Door	3107	3117	10
11	RSOV to Lower Trailing Edge of Left Door	3105	3117	12
12	RSOV to Bottom of "A" Post of Right Side	4267	4278	11
13	RSOV to Bottom of "A" Post of Left Side	4270	4281	11
14	RSOV to Firewall, Right Side	4697	4710	13
15	RSOV to Firewall, Left Side	4701	4715	14
16	RSOV to Steering Column	3724	3838	114
17	Center of Steering Column to "A" Post	226	227	1
18	Center of Steering Column to Headliner	480	521	41
19	RSOV to Right Side of Front Bumper	5646	5241	-405
20	RSOV to Left Side of Front Bumper	5640	5242	-398
21	Length of Engine Block	416	416	0
RD	RSOV to Right Side of Dash Panel	4039	4056	17
CD	RSOV to Center of Dash Panel	4081	4102	21
LD	RSOV to Left Side of Dash Panel	4040	4057	17

All dimensions in mm

DATA SHEET NO. 13
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
Test Date: 4/25/2025

VEHICLE INFORMATION

VIN: 1C6RRFCGXS648838
Vehicle Size Category: Truck

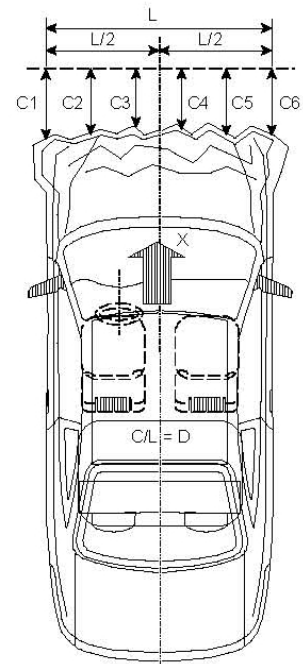
Wheelbase (mm): 3578
Test Weight (kg): 2565.5

ACCELEROMETER DATA

Accelerometer Locations: As per Data Sheet No. 7
Cal. Procedure/Interval: MGA Procedure / 6 month
Integration Algorithm: Trapezoidal
Linearity: > 99%
Impact Velocity (km/h): 56.83
Velocity Change (km/h): 63.9
Time of Separation (msec) 122

CRUSH PROFILE

Collision Deformation Classification: 12FDEW
Midpoint of Damage: Centerline
Damage Region Length (mm): 1550
Impact Mode: Frontal



No.	Measurement Description	Units	Pre-Test	Post-Test	Exterior Crush
C1	Crush zone 1 at left side	mm	1360	1758	398
C2	Crush zone 2 at left side	mm	1244	1751	507
C3	Crush zone 3 at left side	mm	1207	1763	556
C4	Crush zone 4 at right side	mm	1206	1762	556
C5	Crush zone 5 at right side	mm	1242	1752	510
C6	Crush zone 6 at right side	mm	1354	1759	405
L	C1 TO C6	mm	1550	1560	10

DATA SHEET NO. 14
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
Test Program: NCAP Frontal Barrier Impact Test

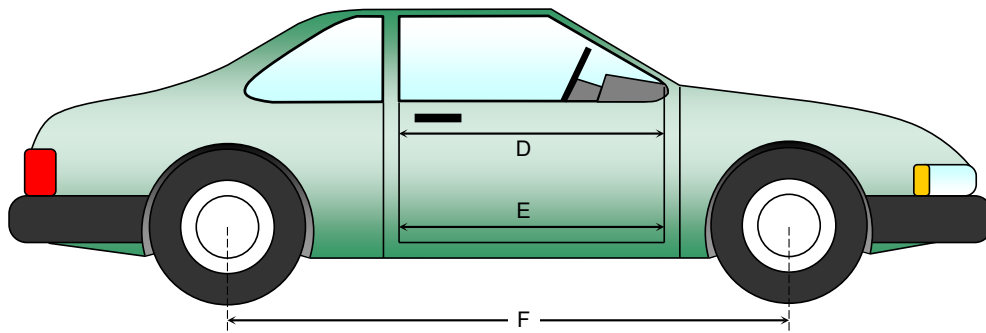
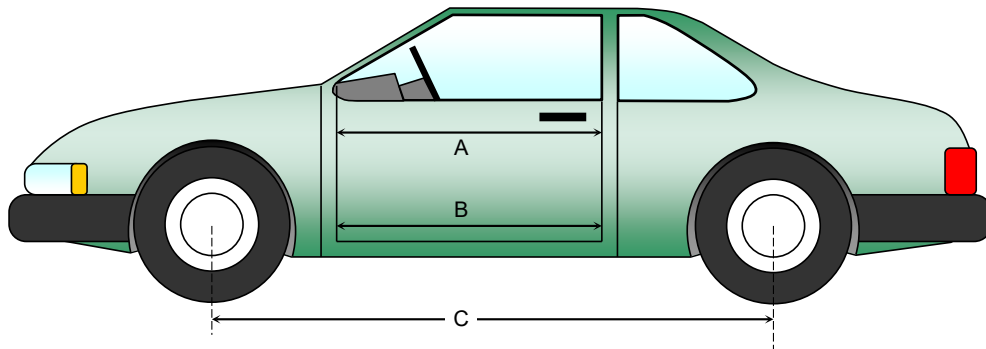
NHTSA No.: M20250303
Test Date: 4/25/2025

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Change
A	Left Side Upper	mm	989	989	0
B	Left Side Lower	mm	937	937	0
D	Right Side Upper	mm	989	989	0
E	Right Side Lower	mm	923	923	0

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Change
C	Left Side Wheelbase	mm	3578	3537	-41
F	Right Side Wheelbase	mm	3581	3544	-37



DATA SHEET NO. 14 (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

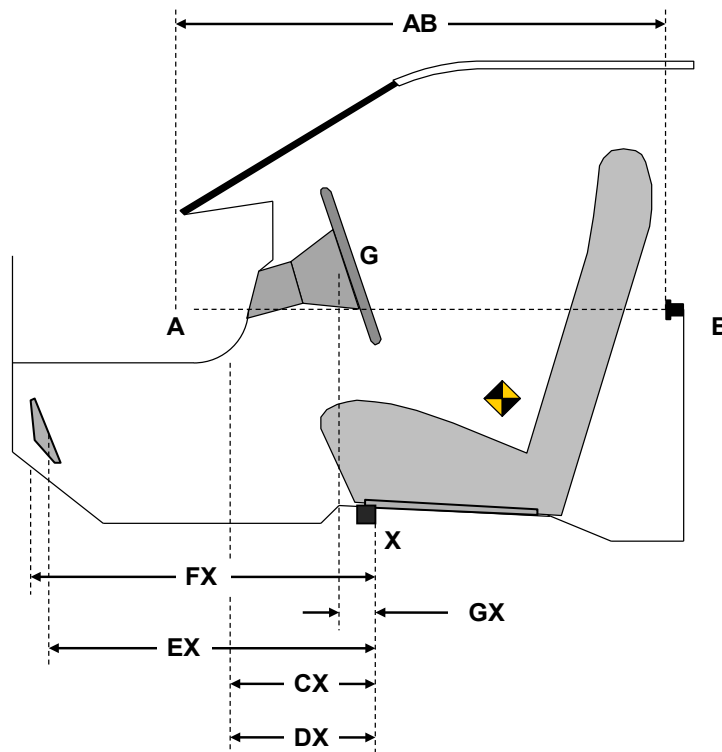
Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Change
AB	Door Opening (Inside Window Jam)	mm	726	724	-2
CX	Left Knee Bolster to X	mm	279	302	23
DX	Right Knee Bolster to X	mm	264	279	15
EX	Brake Pedal to X	mm	522	522	0
FX	Foot Rest to X	mm	556	554	-2
GX	Center of Steering Column Wheel Hub to X	mm	46	149	103

X = Front of Seat Track (stationary)



DRIVER COMPARTMENT

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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

WINDSHIELD MOUNTING DETAILS

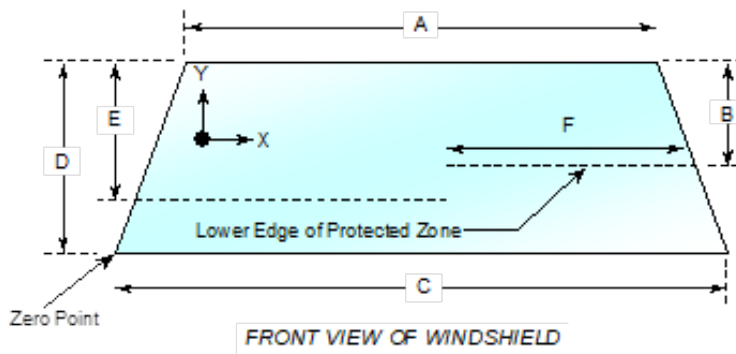
Windshield glass is secured to the vehicle frame with a rubber trim and glue.

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

Temperature of windshield molding during test: 21.6°C.

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% of Retention
Left Side	2350	2350	100
Right Side	2350	2350	100
Total	4700	4700	100



Item	Units	Value
A	mm	1412
B	mm	441
C	mm	1528
D	mm	880
E	mm	494
F	mm	561

AREA OF PROTECTED ZONE FAILURES

A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one that is normally in contact with the windshield. **None**

X	Y

B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component. **None**

X	Y

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

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

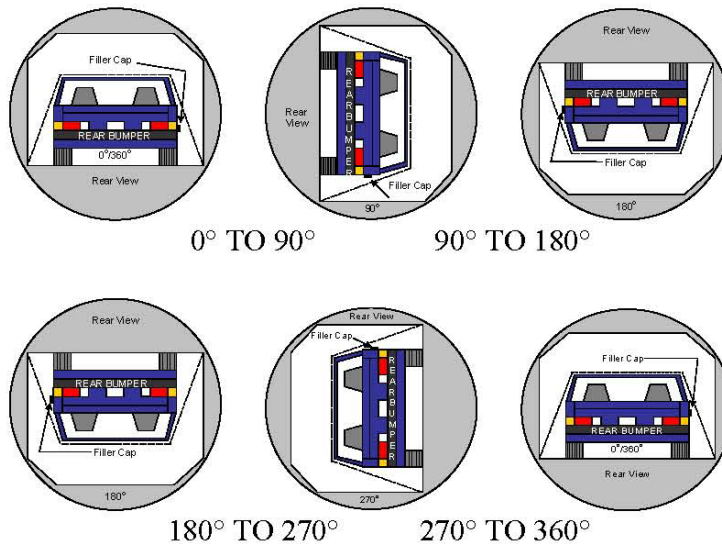
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21.6°C

Test Time: 10:44 a.m.

- A. From impact until vehicle motion ceases: (Maximum Allowable = 1 ounce) 0.0 oz.
 B. For the 5 minute period after motion ceases: (Maximum Allowable = 5 ounces) 0.0 oz.
 C. For the following 25 minutes: (Maximum Allowable = 1 ounce / minute) None
 D. Spillage Details: None

FMVSS 301 STATIC ROLLOVER RESULTS



1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage: **None**

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	90	300	390
90° to 180°	94	300	394
180° to 270°	89	300	389
270° to 360°	91	300	391

DATA SHEET NO. 16 (CONTINUED)
FMVSS 301 BARRIER IMPACT AND STATIC ROLLOVER

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025

FMVSS 301 SPILLAGE TABLE (UNITS IN OUNCES)

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eight Minute
0° to 90°	0	0	0	
90° to 180°	0	0	0	
180° to 270°	0	0	0	
270° to 360°	0	0	0	

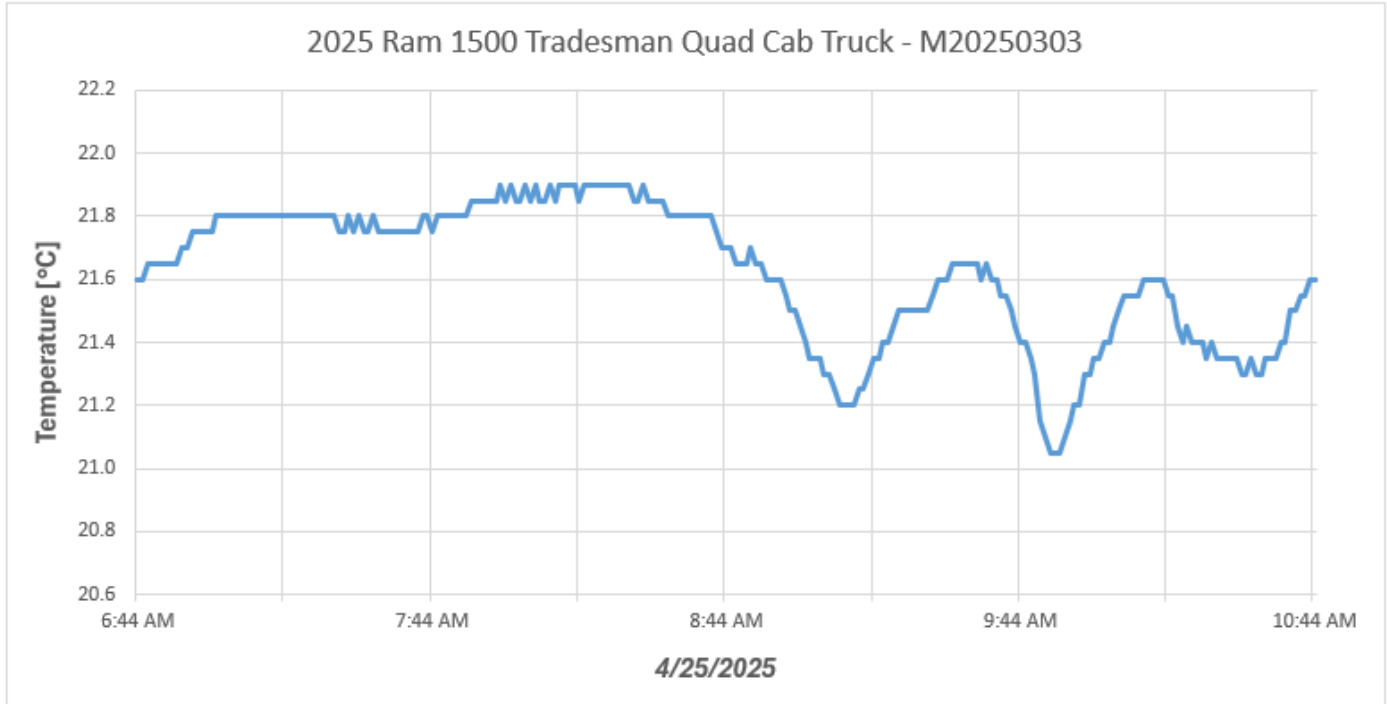
SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	
90° to 180°	
180° to 270°	
270° to 360°	

DATA SHEET NO. 17
DUMMY/VEHICLE TEMPERATURE STABILIZATION DATA

Test Vehicle: 2025 Ram 1500 Tradesman Quad Cab Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250303
 Test Date: 4/25/2025



Serial #	Description	Maximum	Average	Minimum	Units
W1443497	VSC Start Room A - Temp (1038)	21.90	21.62	21.05	°C

**APPENDIX A
PHOTOGRAPHS**

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PHOTOGRAPH NOT APPLICABLE

Photo No. 001 - Load Cell Location



Photo No. 002 - Pre-Test Load Cell Wall



Photo No. 003 - Post-Test Load Cell Wall



Photo No. 004 - Manufacturer's Label



Photo No. 005 - Tire Placard



Photo No. 006 - 2025 Ram 1500 Tradesman Quad Cab Truck Frontal As Delivered



Photo No. 007 - Left Rear 3-4 View, As Received



Photo No. 008 - Pre-Test Front View of Test Vehicle



Photo No. 009 - Post-Test Front View of Test Vehicle



Photo No. 010 - Pre-Test Left View of Test Vehicle



Photo No. 011 - Post-Test Left View of Test Vehicle



Photo No. 012 - Pre-Test Right View of Test Vehicle



Photo No. 013 - Post-Test Right View of Test Vehicle



Photo No. 014 - Pre-Test Right Front 3-4 View



Photo No. 015 - Post-Test Right Front 3-4 View



Photo No. 016 - Pre-Test Left Rear 3-4 View



Photo No. 017 - Post-Test Left Rear 3-4 View



Photo No. 018 - Pre-Test Windshield View



Photo No. 019 - Post-Test Windshield View



Photo No. 020 - Pre-Test Engine Compartment View



Photo No. 021 - Post-Test Engine Compartment View



Photo No. 022 - Pre-Test Fuel Filler Cap View



Photo No. 023 - Post-Test Fuel Filler Cap View

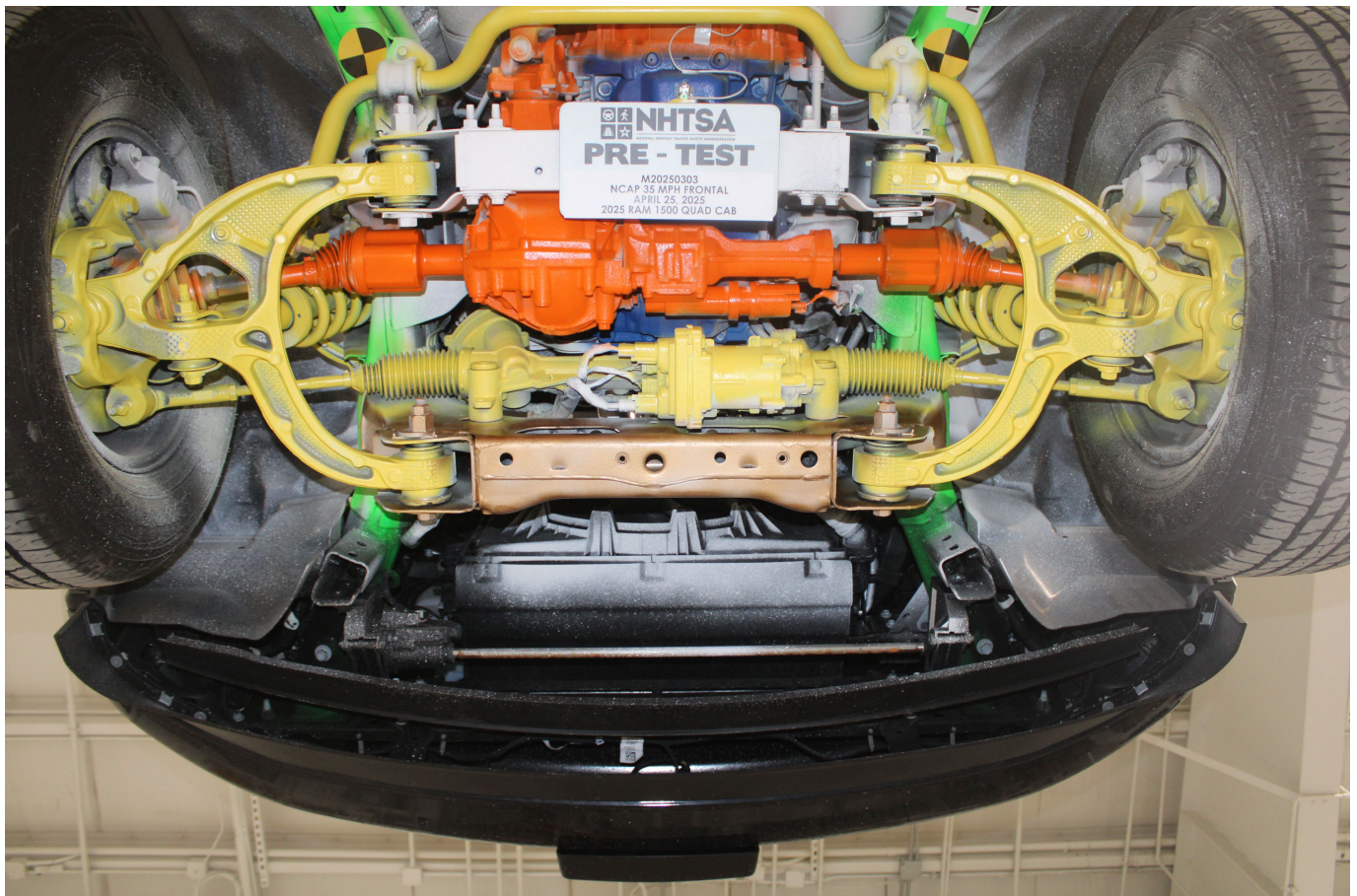


Photo No. 024 - Pre-Test Front Underbody View

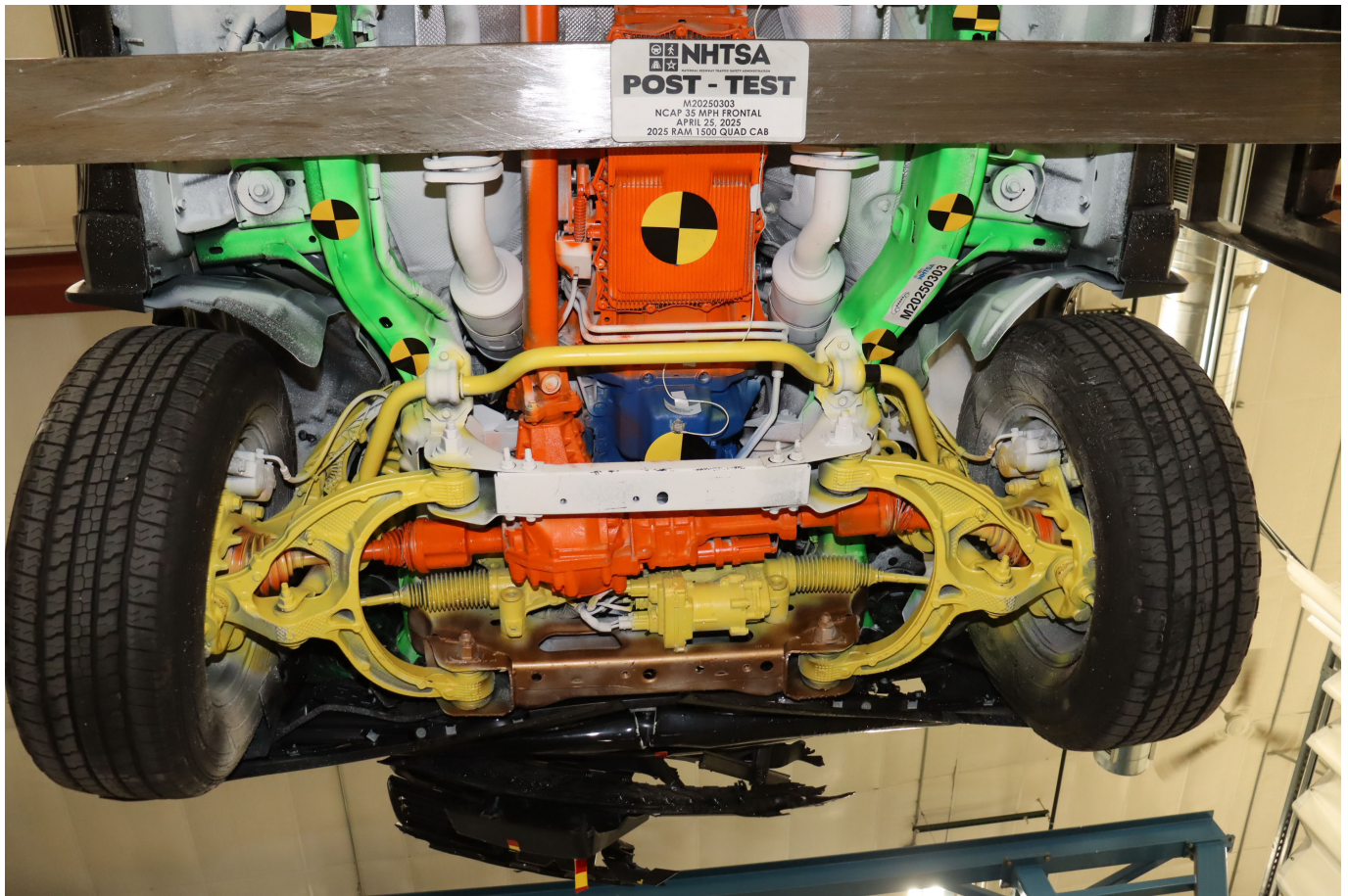


Photo No. 025 - Post-Test Front Underbody View

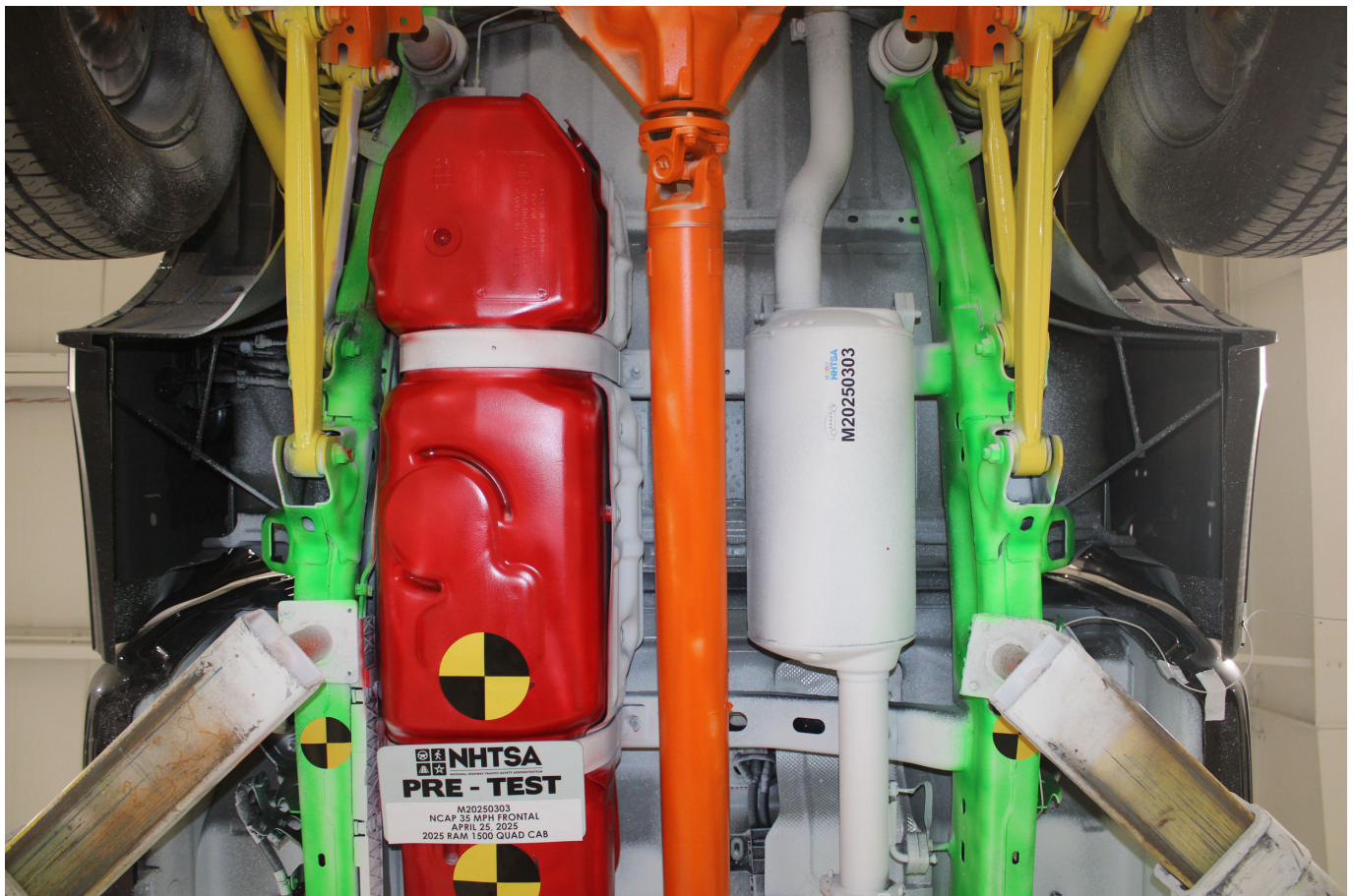


Photo No. 026 - Pre-Test Rear Underbody View



Photo No. 027 - Post-Test Rear Underbody View



Photo No. 028 - Pre-Test Dummy Cable Routing



Photo No. 029 - Post-Test Dummy Cable Routing



Photo No. 030 - Pre-Test Driver Dummy Front View



Photo No. 031 - Post-Test Driver Dummy Front View



Photo No. 032 - Pre-Test Driver Dummy Window View



Photo No. 033 - Post-Test Driver Dummy Window View



Photo No. 034 - Pre-Test Driver Dummy and Vehicle Interior View



Photo No. 035 - Post-Test Driver Dummy and Vehicle Interior View



Photo No. 036 - Pre-Test Driver's Seat Fore-Aft Markings



Photo No. 037 - Post-Test Driver's Seat Fore-Aft Markings



Photo No. 038 - Pre-Test View of Belt Anchorage for Driver Dummy



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Photo No. 040 - Pre-Test View of Belt Buckle and Latch Plate for Driver Dummy



Photo No. 041 - Post-Test View of Belt Buckle and Latch Plate for Driver Dummy



Photo No. 042 - Pre-Test Driver Dummy Feet



Photo No. 043 - Post-Test Driver Dummy Feet



Photo No. 044 - Pre-Test Driver's Side Knee Bolster



Photo No. 045 - Post-Test Driver's Side Knee Bolster



Photo No. 046 - Pre-Test Driver's Side Floorpan



Photo No. 047 - Post-Test Driver's Side Floorpan



Photo No. 048 - Post-Test Driver Dummy Face



Photo No. 049 - Post-Test Driver Dummy Contact with Airbag



Photo No. 050 - Post-Test Driver Dummy Contact with Headrest



Photo No. 051 - Pre-Test View of the Steering Wheel



Photo No. 052 - Post-Test View of the Steering Wheel



Photo No. 053 - Pre-Test Passenger Dummy Front View



Photo No. 054 - Post-Test Passenger Dummy Front View



Photo No. 055 - Pre-Test Passenger Dummy Window View



Photo No. 056 - Post-Test Passenger Dummy Window View



Photo No. 057 - Pre-Test Passenger Dummy and Vehicle Interior View



Photo No. 058 - Post-Test Passenger Dummy and Vehicle Interior View



Photo No. 059 - Pre-Test Passenger's Seat Fore-Aft Markings



Photo No. 060 - Post-Test Passenger's Seat Fore-Aft Markings



Photo No. 061 - Pre-Test View of Belt Anchorage for Passenger Dummy



Photo No. 062 - Post-Test View of Belt Anchorage for Passenger Dummy



Photo No. 063 - Pre-Test View of Belt Buckle and Latch Plate for Passenger Dummy



Photo No. 064 - Post-Test View of Belt Buckle and Latch Plate for Passenger Dummy



Photo No. 065 - Pre-Test Passenger Dummy Feet



Photo No. 066 - Post-Test Passenger Dummy Feet



Photo No. 067 - Pre-Test Passenger's Side Knee Bolster



Photo No. 068 - Post-Test Passenger's Side Knee Bolster



Photo No. 069 - Pre-Test Passenger's Side Floorpan



Photo No. 070 - Post-Test Passenger's Side Floorpan



Photo No. 071 - Post-Test Passenger Dummy Face



Photo No. 072 - Post-Test Passenger Dummy Contact with Airbag



Photo No. 073 - Post-Test Passenger Dummy Contact with Headrest

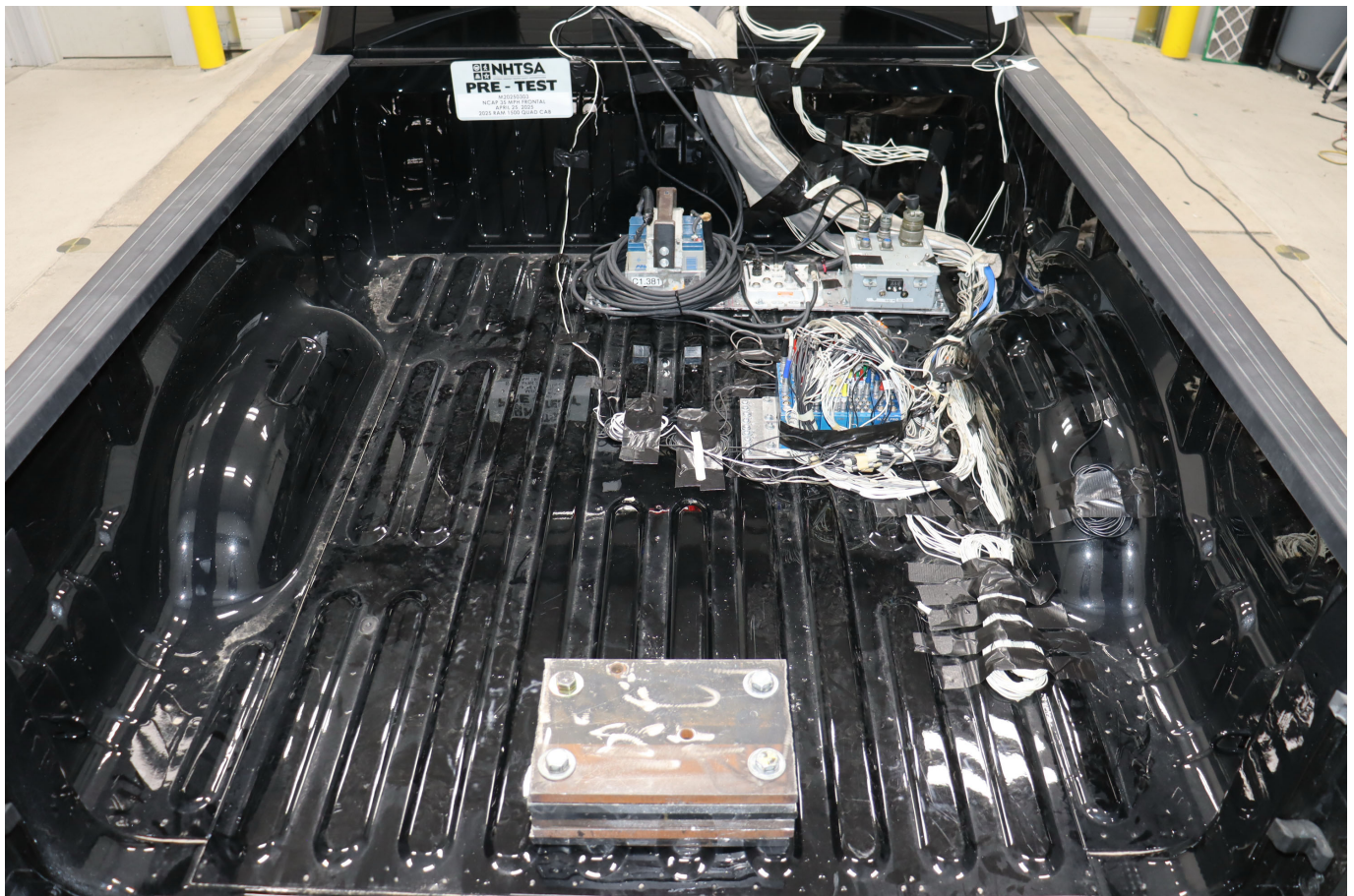


Photo No. 074 - Photograph of Ballast Installed in Vehicle

PHOTOGRAPH NOT APPLICABLE

Photo No. 075 - Post-Test Stoddard Solvent Spillage Location View

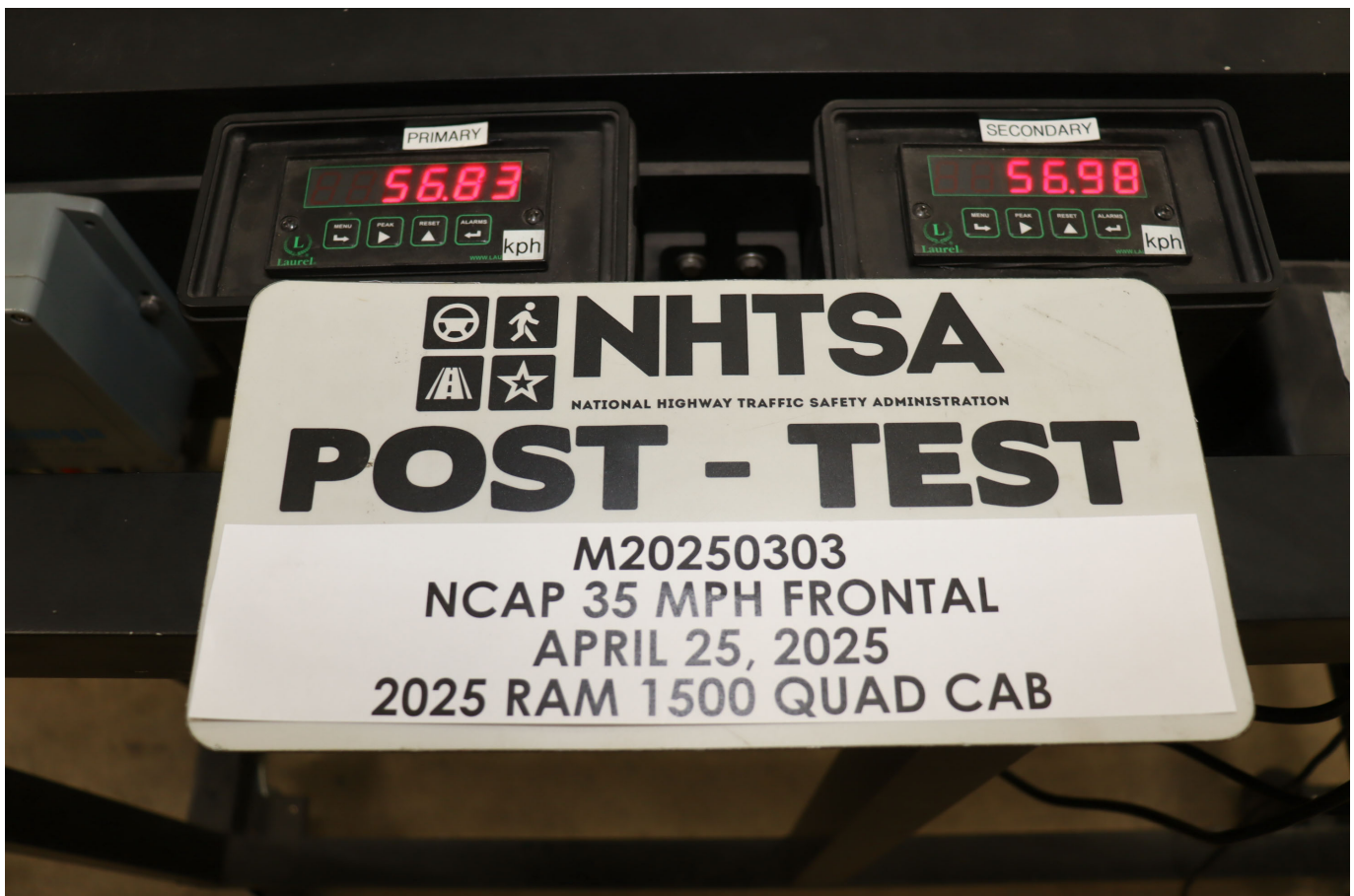


Photo No. 076 - Post-Test Speed Trap Read-Out



Photo No. 077 - Vehicle at 0 Degrees on Static Rollover Device



Photo No. 078 - Vehicle at 90 Degrees on Static Rollover Device



Photo No. 079 - Vehicle at 180 Degrees on Static Rollover Device



Photo No. 080 - Vehicle at 270 Degrees on Static Rollover Device



Photo No. 081 - Vehicle at 360 Degrees on Static Rollover Device



Photo No. 082 - 2025 Ram 1500 Tradesman Quad Cab Truck Frontal Impact Event



2025 MODEL YEAR RAM 1500 TRADESMAN QUAD CAB 4X4

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

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

Base Price: \$44,125

RAM 1500 TRADESMAN QUAD CAB 4X4
Exterior Color: Diamond Black Crystal Pearl-Coat Exterior Paint
Interior Color: Black Interior Color
Interior: Cloth Bench Seat
Engine: 3.6L V6 24V VVT eTorque Engine with Stop/Start
Transmission: 8-Speed Automatic 850RE Transmission

STANDARD EQUIPMENT (UNLESS REPLACED BY OPTIONAL EQUIPMENT)

FUNCTIONAL SAFETY FEATURES

Advanced Multistage Front Air Bags
Supplemental Front Seat-Mounted Side Air Bags
Supplemental Side-Curtain Front and Rear Air Bags
Advanced Brake-Assist
3.21 Rear Axle Ratio
Remote-Start System
Push-Button Start
Remote Keyless-Entry
ParkView® Rear Back-Up Camera
Sentry Key® Theft-Deterrent System
Anti-Lock 4-Wheel Disc Brakes
Electric Parking Brake
Telltale-Air Warning-Lamp
Tire-Fill Alert
Electronic Roll-Mitigation
Electronic Stability-Control
Trailer Sway Damping
Hill-Start Assist
Pedestrian Emergency Braking
Full-Speed Forward-Collision Warning Plus
Adaptive Cruise Control with Stop and Go
Blind-Spot and Cross-Path Detection
ParkSense® Front and Rear Park-Assist
Active Lane-Management System
Black Rotary-Shifter
Class IV Receiver-Hitch
7-Pin Wiring Harness
Capless Fuel-Fill
23-Gallon Fuel Tank

INTERIOR FEATURES
4-Way Manual Adjustable Driver Seat
4-Way Manual Adjustable Front Passenger Seat
Uconnect® 5 with 8.4-Inch Touch Screen Display
Handsfree Phone and Audio
Ram Connect (Connected Services) with Trial
4G LTE Wi-Fi® Hot Spot

Ram Clean-Air System
Full Function Media Hub with 2-USB Plus Aux Port
12-Volt Auxiliary Power-Outlet
6 Speakers

EXTERIOR FEATURES

18-Inch x 7.5-Inch Steel Painted Wheels
275/65R18 BSW All-Season LRR Tires
18-Inch Full-Size Steel Spare Wheel
LED Low/High Reflector Headlamps
Automatic High-Beam Headlamp-Control
Power Mirrors
Cargo Tie-Down Loops

OPTIONAL EQUIPMENT (May Replace Standard Equipment)

Diamond Black Crystal Pearl-Coat Exterior Paint \$245
Customer Preferred Package 23A
Night Edition \$1,995
18-Inch x 8.0-Inch Black Painted Aluminum Wheels
Anti-Spin Differential Rear Axle
Black Interior Accents
Tradesman Level 1 Equipment Group \$1,695
Rear 60/40 Folding Seat
Rear Power-Sliding Window
Front and Rear Floor Mats
Front Seat-Back Map-Pockets
SiriusXM® with 3-Month Radio Sub Call 800-645-2112
3.55 Rear Axle Ratio \$145
Trailer Brake-Controller \$295

DESTINATION CHARGE \$1,995

TOTAL PRICE: * \$50,495

WARRANTY COVERAGE

5-year or 60,000-mile Powertrain Limited Warranty.
3-year or 36,000-mile Basic Limited Warranty.
Ask Dealer for a copy of the limited warranties or see your owner's manual for details.

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

Assembly Point (Port of Entry): STERLING HTS, MICH., U.S.A.

VIN: 1C6RFFCGXN-648838

4-410N 6916

0121-0

SHIP TO: 44891 50
DON MILLER DODGE CHRYSLER JEEP RAM
5802 OGDEN RD
MADISON, WI 53719-1212

SOLD TO: 51 44991
DON MILLER DODGE CHRYSLER JEEP RAM
5802 OGDEN RD
MADISON, WI 53719-1212

THIS LABEL IS ADDED TO THIS VEHICLE TO COMPLY WITH FEDERAL LAW. THE LABEL CANNOT BE REMOVED OR ALTERED PRIOR TO DELIVERY TO THE ULTIMATE PURCHASER.

* STATE AND/OR LOCAL TAXES IF ANY, LICENSE AND TITLE FEES AND DEALER SUPPLIED AND INSTALLED OPTIONS AND ACCESSORIES ARE NOT INCLUDED IN THIS PRICE. DISCOUNT, IF ANY, IS BASED ON PRICE OF OPTIONS IF PURCHASED SEPARATELY.

For more information visit: www.ramtrucks.com
or call 1-866-RAMINFO

FCA US LLC

EPA DOT Fuel Economy and Environment

Gasoline Vehicle

Fuel Economy

21 MPG
combined city/hwy
4.8 gallons per 100 miles

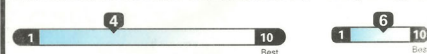
19 city
24 highway

These estimates reflect new EPA methods beginning with 2017 models.
Standard pickups range from 12 to 84 MPG.
The best vehicle rates 140 MPG.

**You spend
\$3,000
more in fuel costs
over 5 years
compared to the
average new vehicle.**

**Annual fuel Cost
\$2,500**

Fuel Economy & Greenhouse Gas Rating (tailpipe only)



This vehicle emits 417 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates emissions. Learn more at fuelconomy.gov

Smog Rating (tailpipe only)



Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 28 MPG and cost \$3,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.50 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov

Calculate personalized estimates and compare vehicles



GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score

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

Not Rated

Frontal
Crash

Driver
Passenger

Not Rated
Not Rated

Based on the risk of injury in a frontal impact.
Should ONLY be compared to other vehicles of similar size and weight.

Side
Crash

Front seat
Rear seat

★★★★★
★★★★★

Based on the risk of injury in a side impact.

Rollover

★★★★

Based on the risk of rollover in a single-vehicle crash.

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

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

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 55%
MAJOR SOURCES OF FOREIGN PARTS CONTENT:
MEXICO: 39%
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY DISTRIBUTION, OR OTHER NON-PARTS COSTS.
FOR THIS VEHICLE:
FINAL ASSEMBLY POINT:
STERLING HTS, MICH., U.S.A.
COUNTRY OF ORIGIN:
ENGINE: UNITED STATES
TRANSMISSION: UNITED STATES



VEHICLE PROTECTION
A PRODUCT OF FCA US LLC

Ask for Mopar Vehicle Protection for your vehicle. We Built It. We Back It.

Photo No. 083 - Monroney Label Photograph

APPENDIX B
DUMMY RESPONSE DATA TRACES

TABLE OF DATA PLOTS

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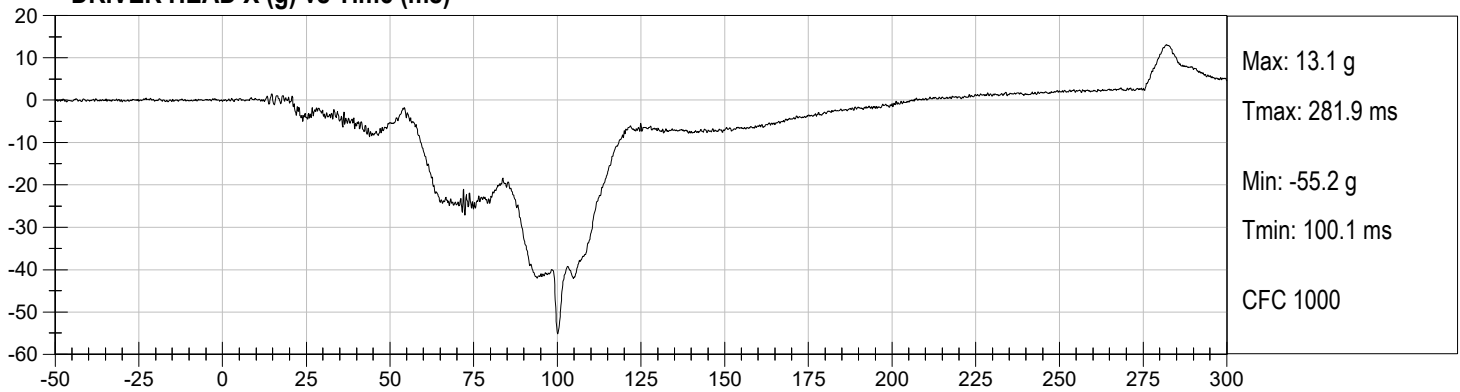
The following additional dummy and vehicle response data can be found in the R&D section of the NHTSA website at www.nhtsa.gov

Driver Head X Redundant
 Driver Head Y Redundant
 Driver Head Z Redundant
 Driver Head Angular Velocity X
 Driver Head Angular Velocity Y
 Driver Head Angular Velocity Z
 Driver Upper Neck Force Y
 Driver Upper Neck Moment X
 Driver Upper Neck Moment Z
 Driver Chest X Redundant
 Driver Chest Y Redundant
 Driver Chest Z Redundant
 Driver Pelvis X
 Driver Pelvis Y
 Driver Pelvis Z
 Driver Left Femur Redundant
 Driver Right Femur Redundant
 Driver Left Upper Tibia Moment X
 Driver Left Upper Tibia Moment Y

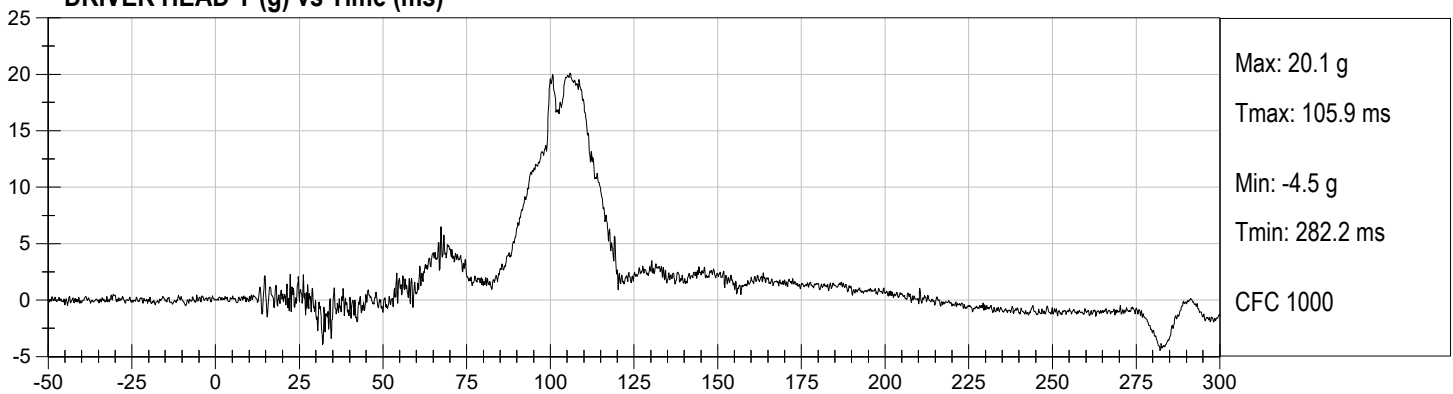
Driver Left Upper Tibia Force Z
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Upper Tibia Moment X
Driver Right Upper Tibia Moment Y
Driver Right Upper Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y
Driver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

Passenger Pelvis Z
Passenger Left Femur Redundant
Passenger Right Femur Redundant
Passenger Left Upper Tibia Moment X
Passenger Left Upper Tibia Moment Y
Passenger Left Upper Tibia Force Z
Passenger Left Lower Tibia Moment X
Passenger Left Lower Tibia Moment Y
Passenger Left Lower Tibia Force Z
Passenger Right Upper Tibia Moment X
Passenger Right Upper Tibia Moment Y
Passenger Right Upper Tibia Force Z
Passenger Right Lower Tibia Moment X
Passenger Right Lower Tibia Moment Y
Passenger Right Lower Tibia Force Z
Passenger Left Foot Fore Z
Passenger Left Foot Aft X
Passenger Left Foot Aft Z
Passenger Right Foot Fore Z
Passenger Right Foot Aft X
Passenger Right Foot Aft Z
Passenger Lap Belt Force
Passenger Shoulder Belt Force
Left Rear Seat Crossmember X
Right Rear Seat Crossmember X
Vehicle Engine Top X
Vehicle Engine Bottom X
Left Rear Seat Crossmember Z
Right Rear Seat Crossmember Z
Left Rear Seat Crossmember Xr
Right Rear Seat Crossmember Xr
Advanced Research Load Cell Barrier – 528 channels

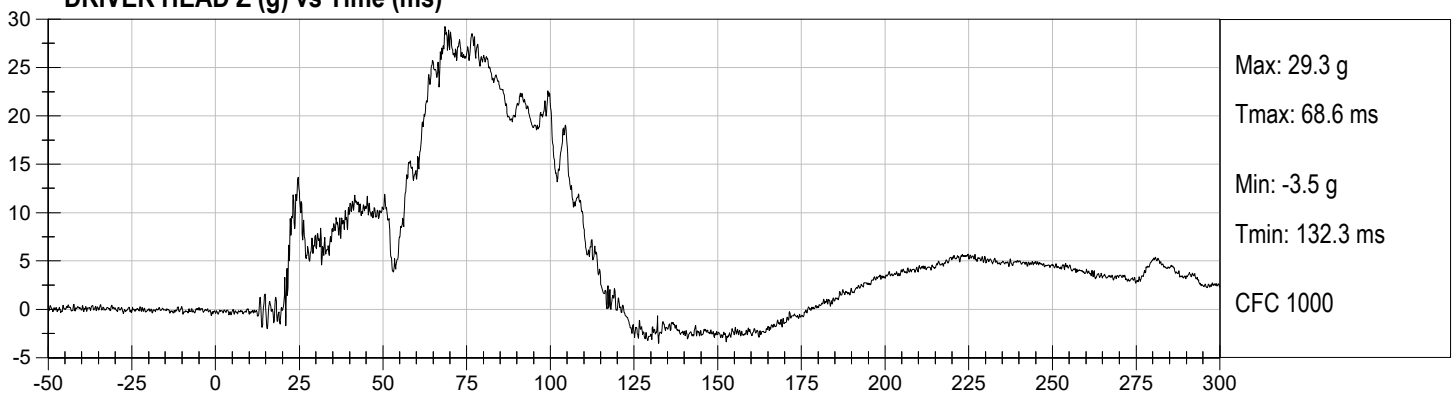
DRIVER HEAD X (g) vs Time (ms)



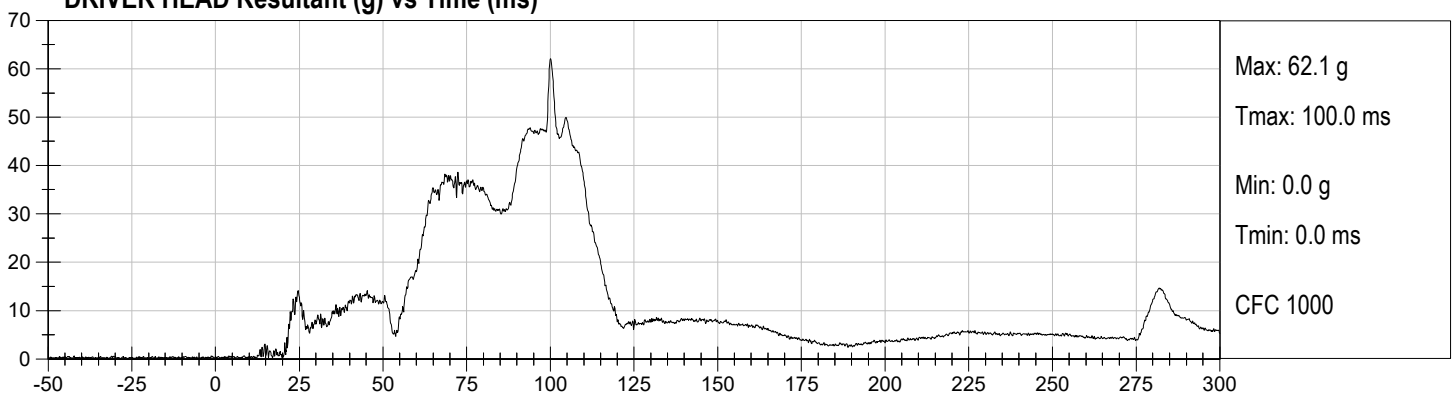
DRIVER HEAD Y (g) vs Time (ms)

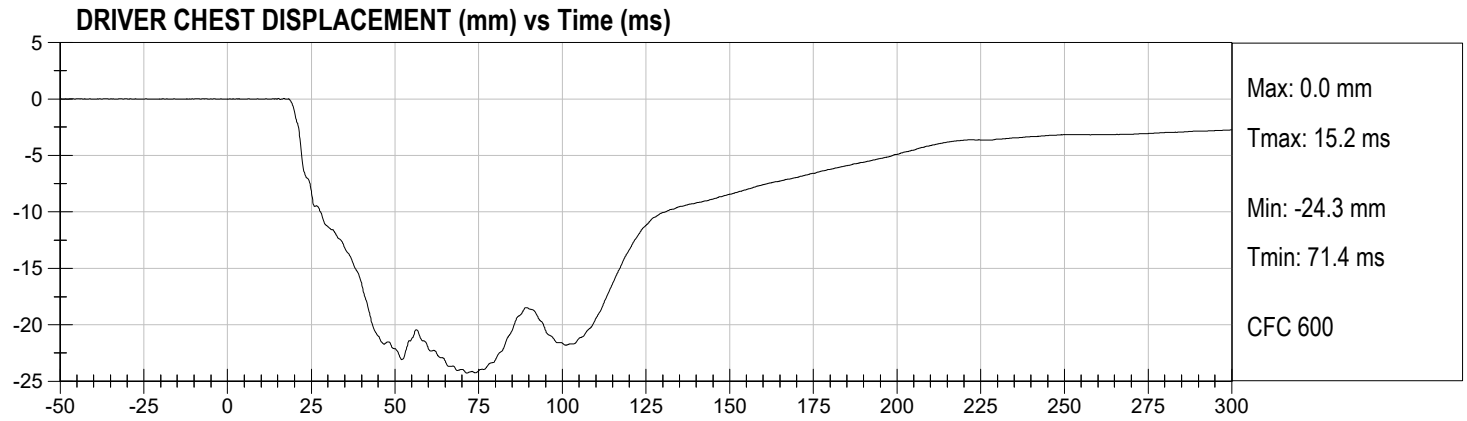


DRIVER HEAD Z (g) vs Time (ms)

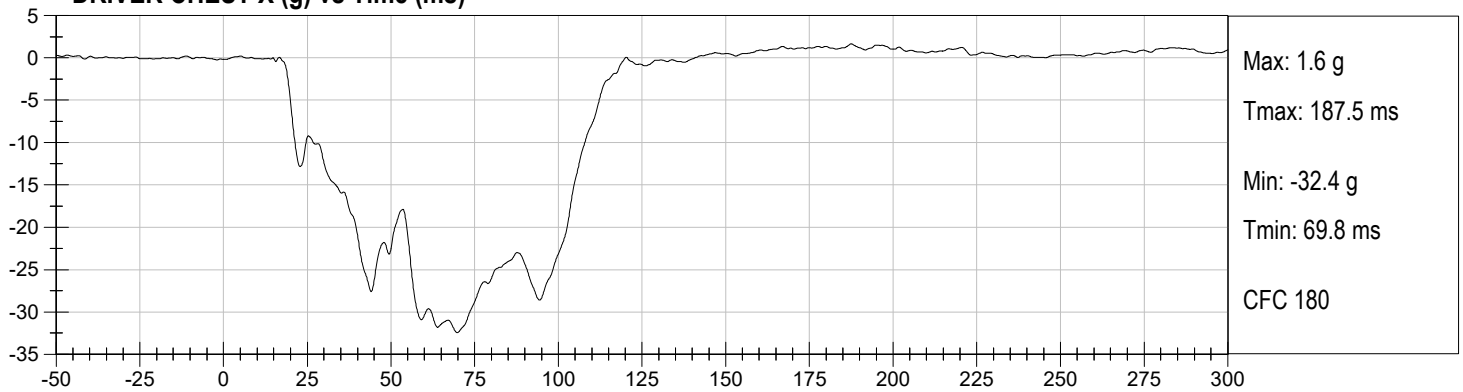


DRIVER HEAD Resultant (g) vs Time (ms)

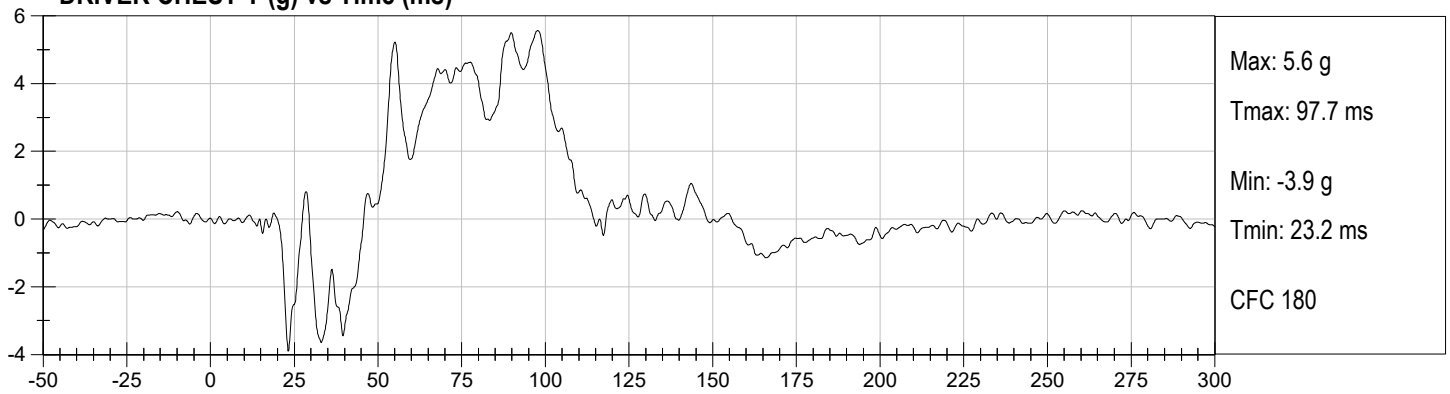




DRIVER CHEST X (g) vs Time (ms)



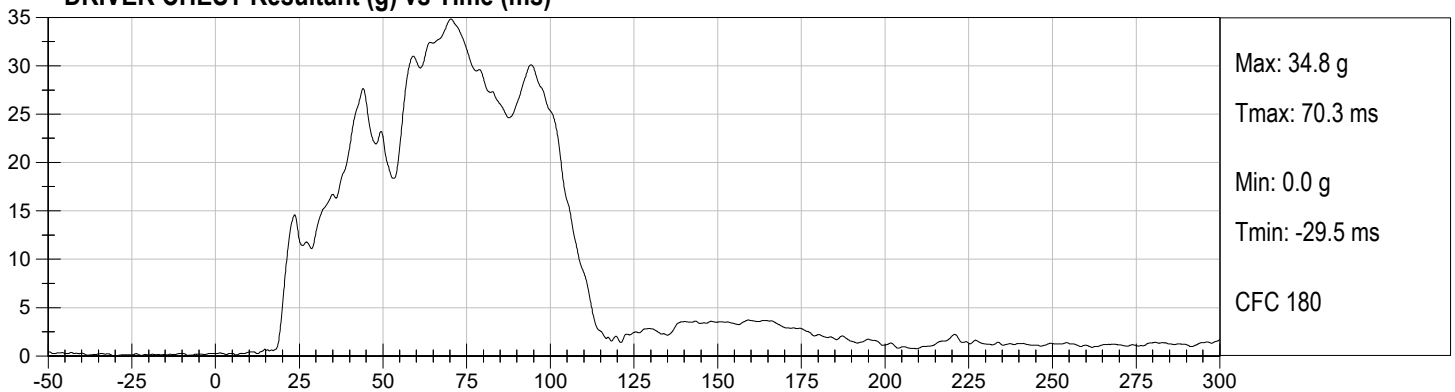
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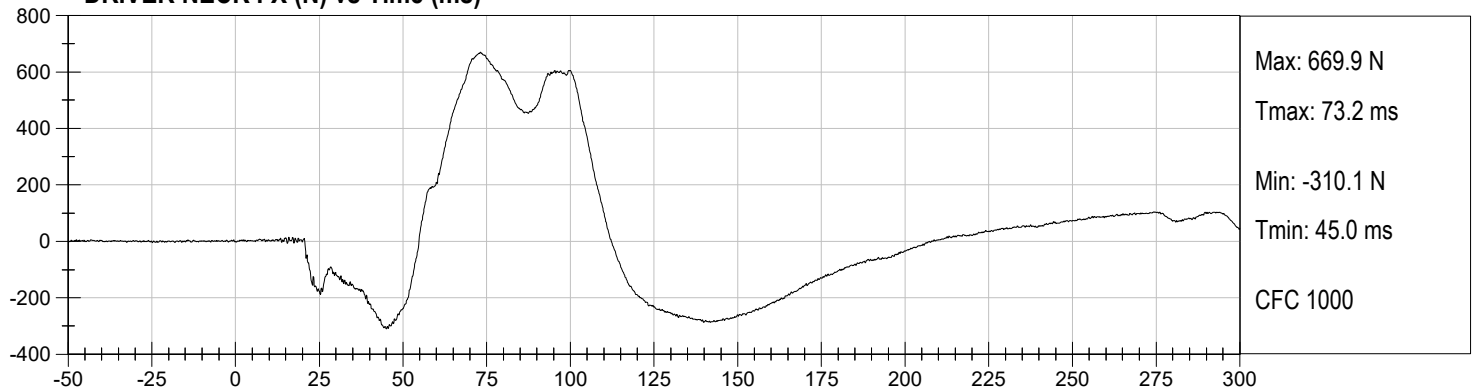
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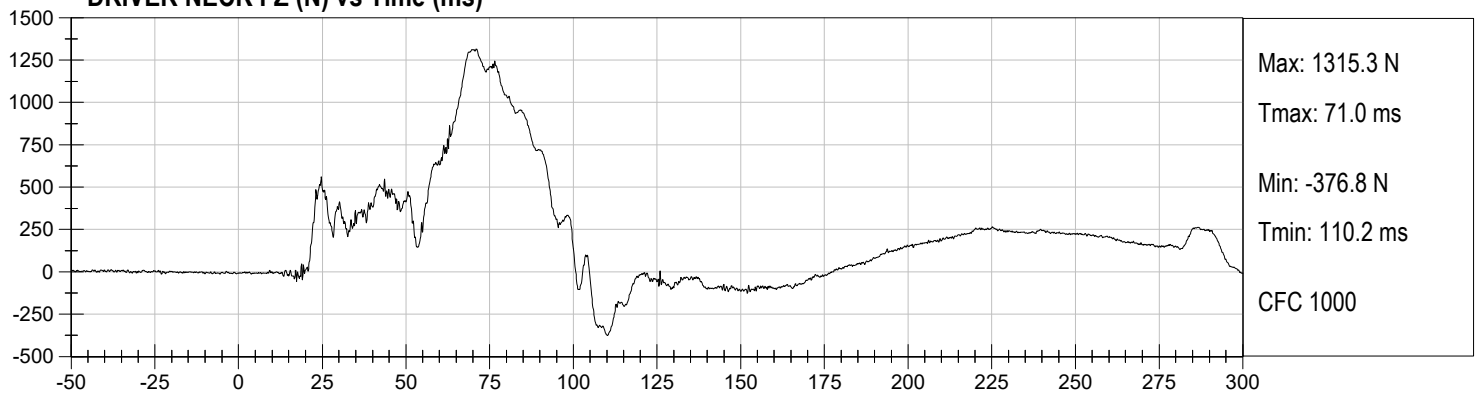
DRIVER CHEST Resultant (g) vs Time (ms)



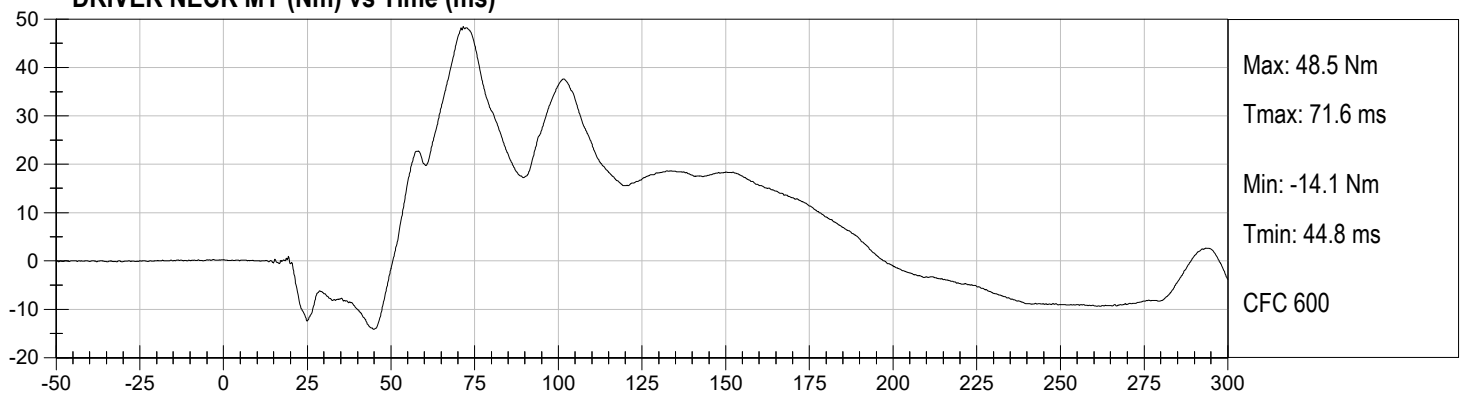
DRIVER NECK FX (N) vs Time (ms)



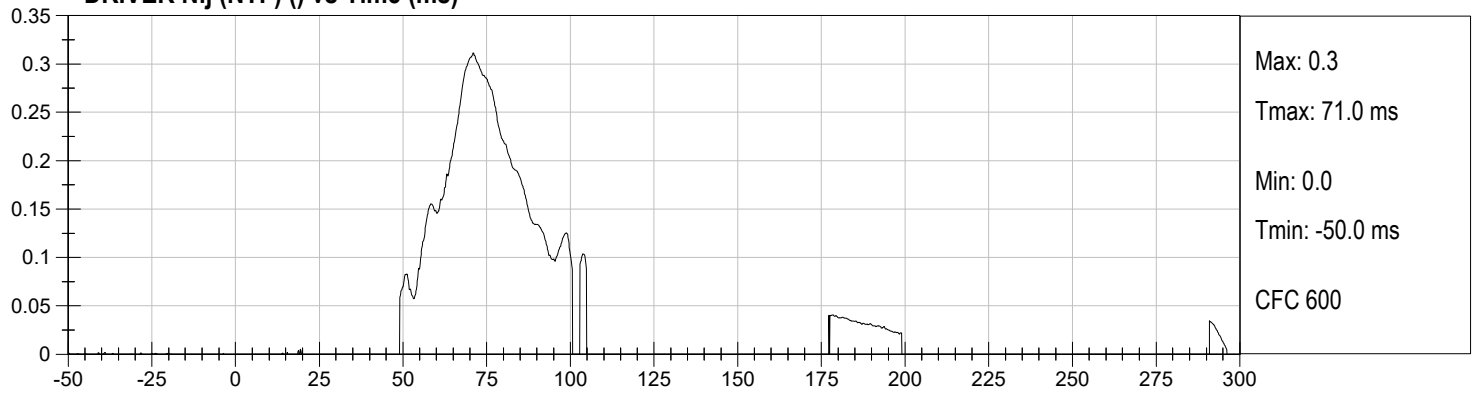
DRIVER NECK FZ (N) vs Time (ms)



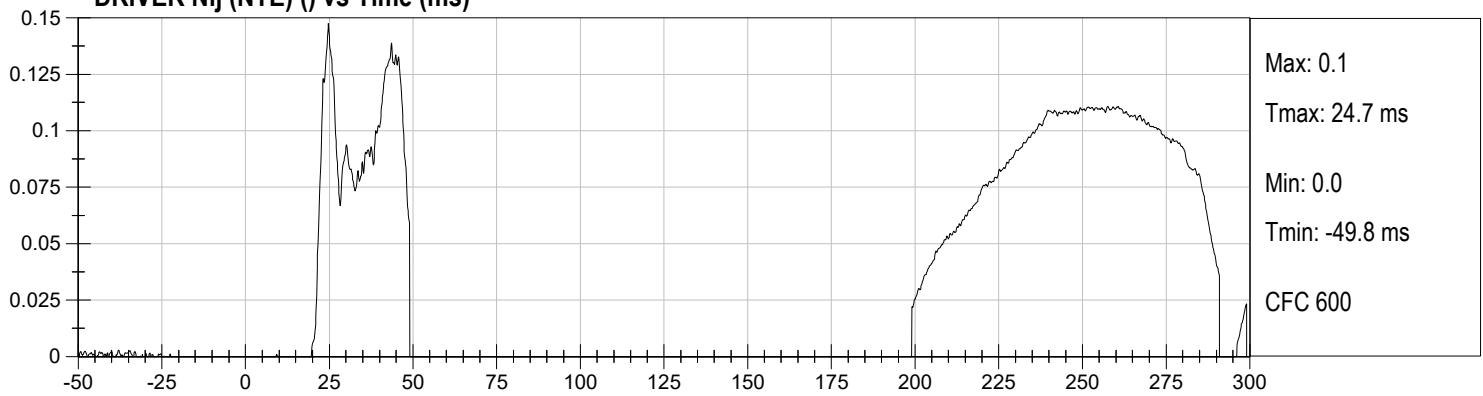
DRIVER NECK MY (Nm) vs Time (ms)



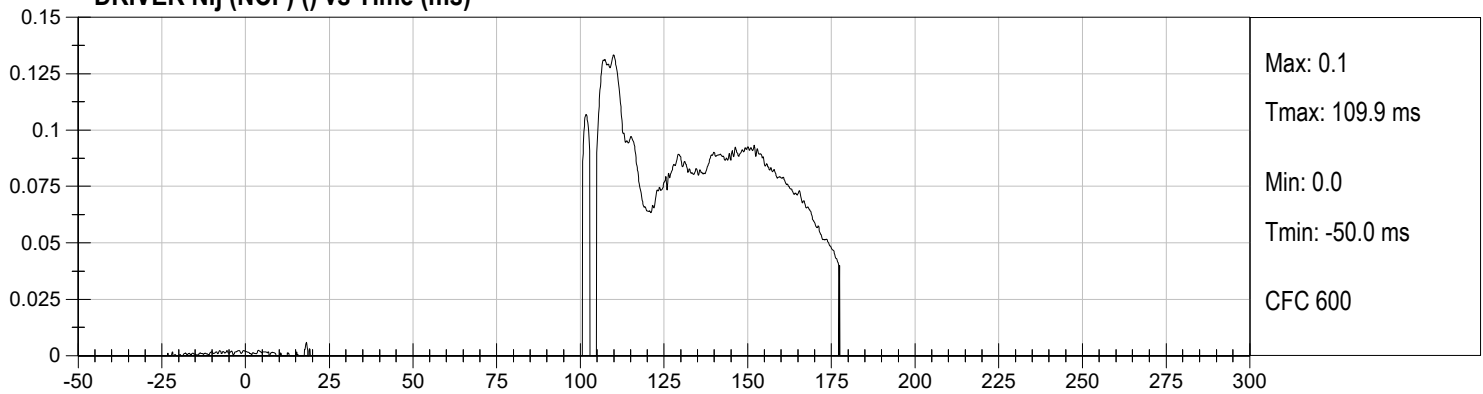
DRIVER Nij (NTF) () vs Time (ms)



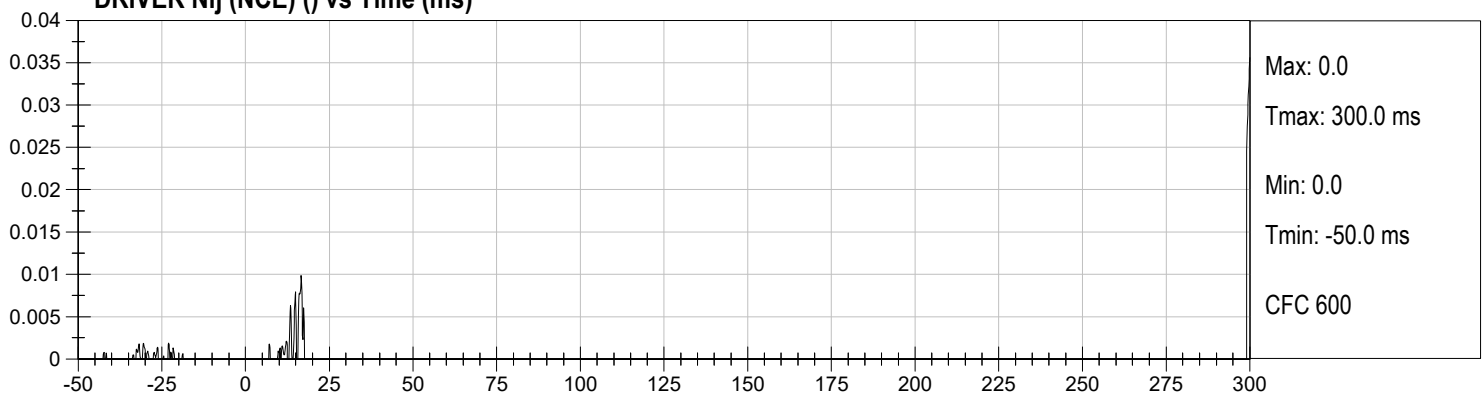
DRIVER Nij (NTE) () vs Time (ms)



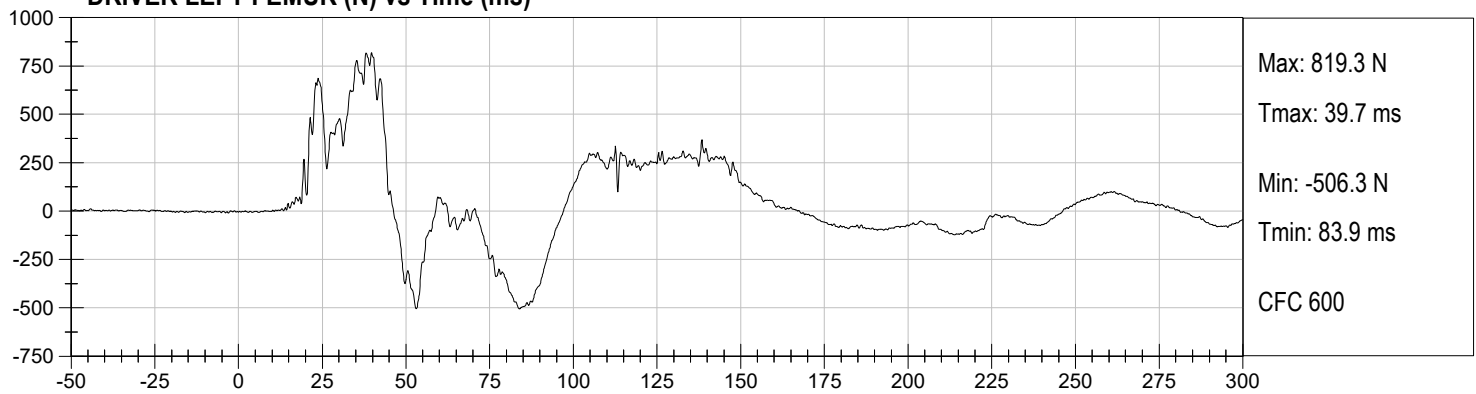
DRIVER Nij (NCF) () vs Time (ms)



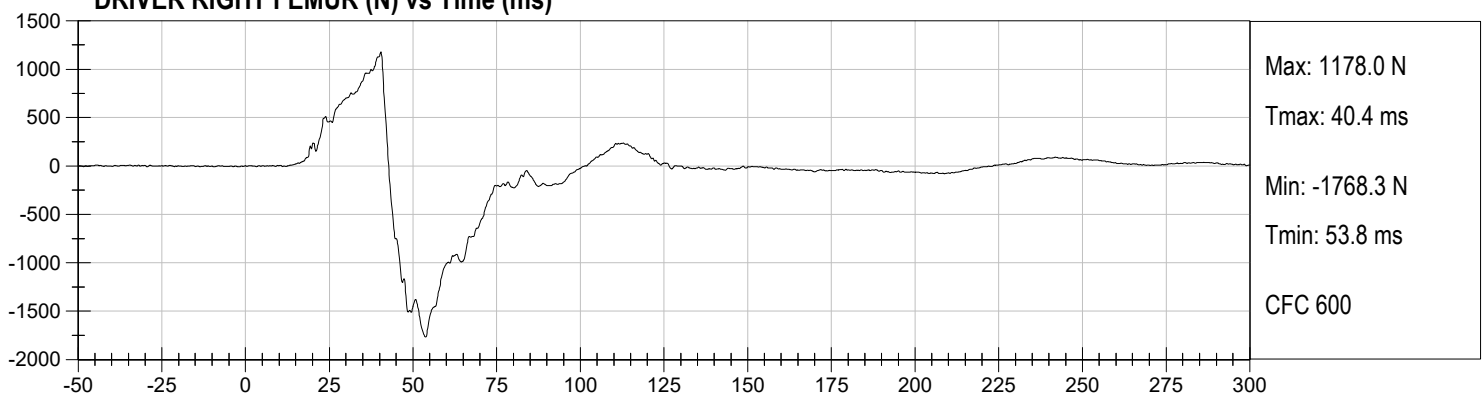
DRIVER Nij (NCE) () vs Time (ms)



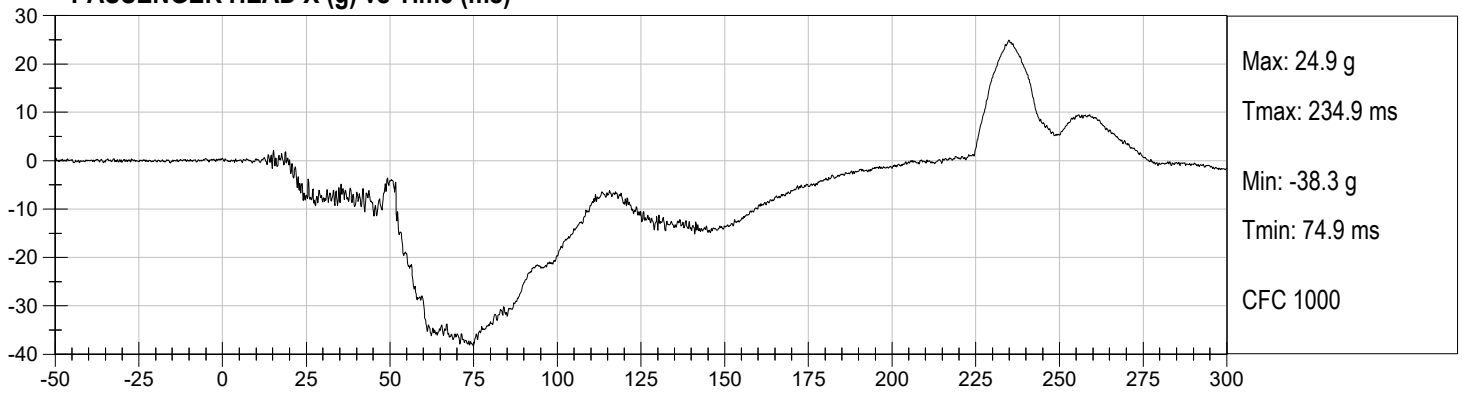
DRIVER LEFT FEMUR (N) vs Time (ms)



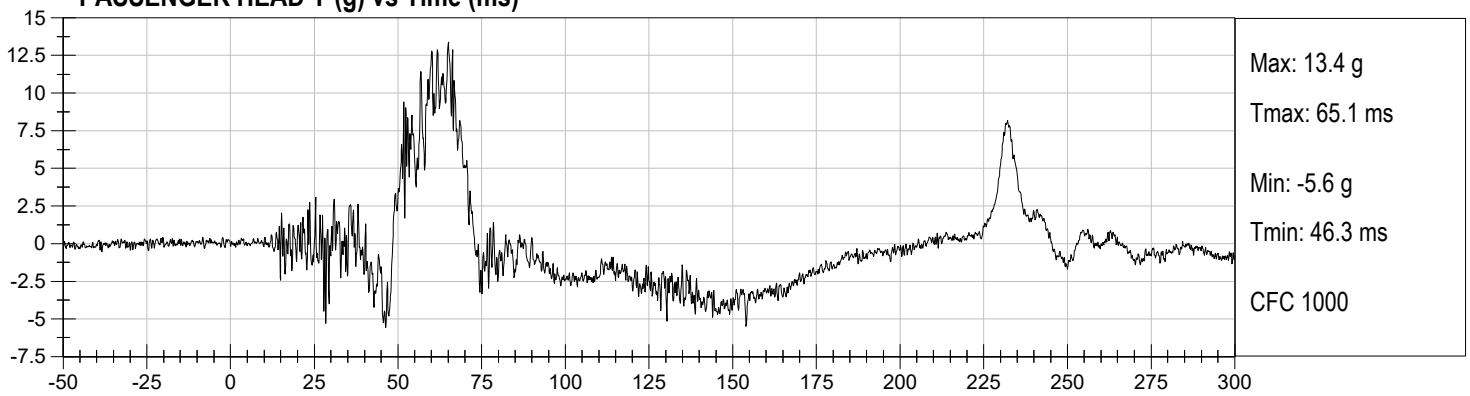
DRIVER RIGHT FEMUR (N) vs Time (ms)



PASSENGER HEAD X (g) vs Time (ms)



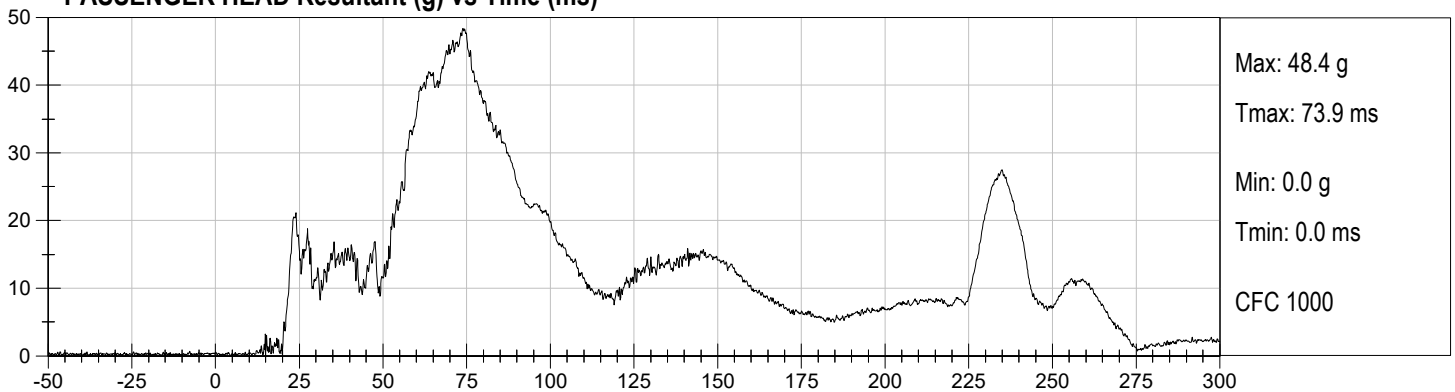
PASSENGER HEAD Y (g) vs Time (ms)

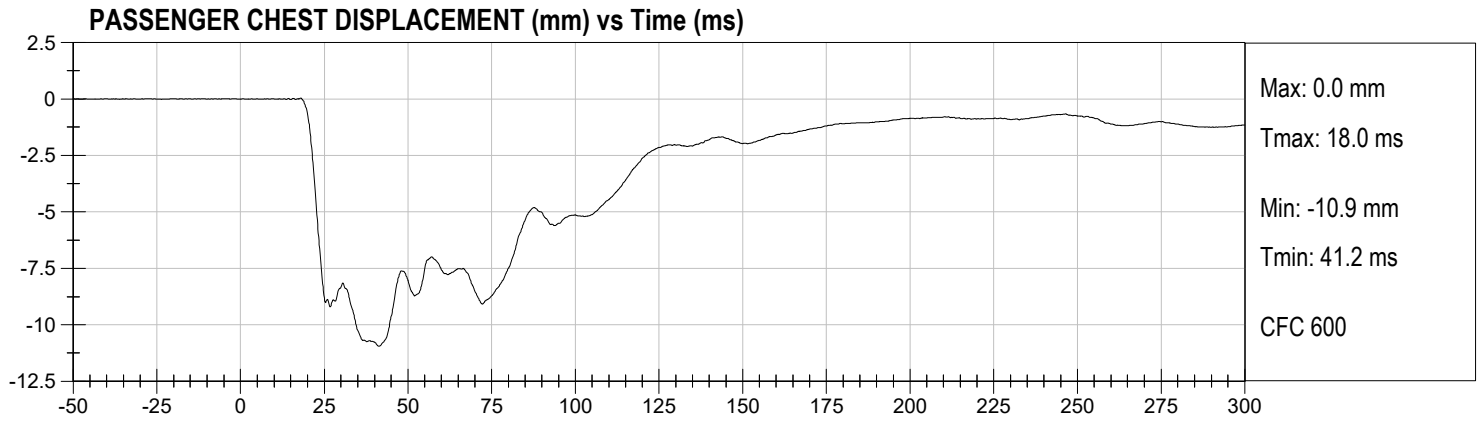


PASSENGER HEAD Z (g) vs Time (ms)

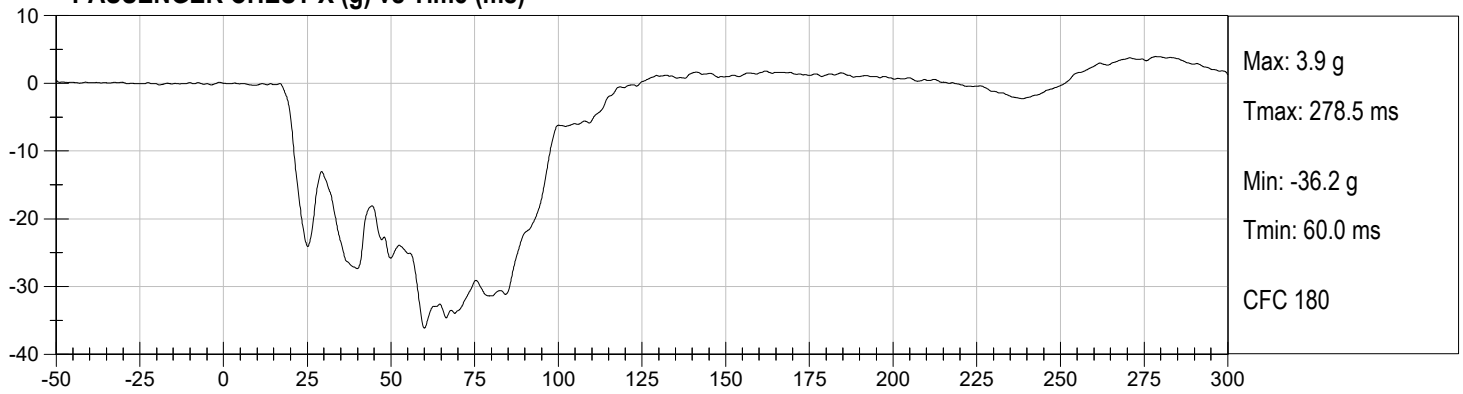


PASSENGER HEAD Resultant (g) vs Time (ms)

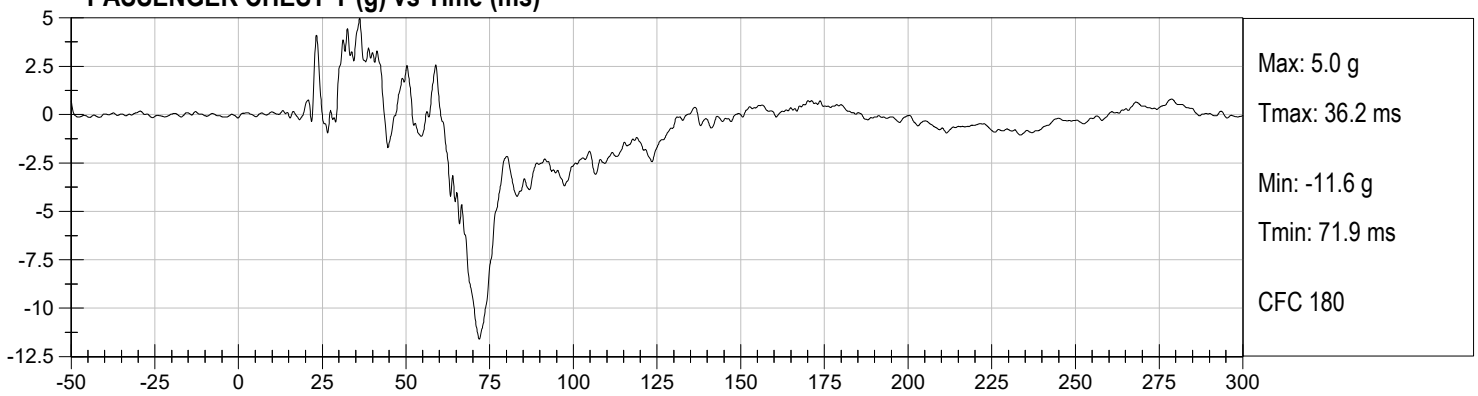




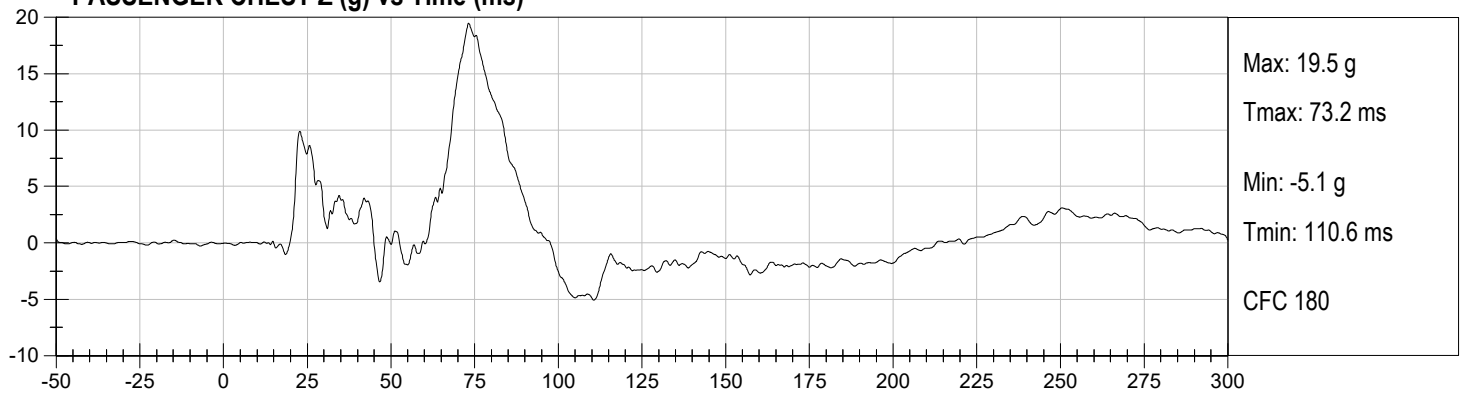
PASSENGER CHEST X (g) vs Time (ms)



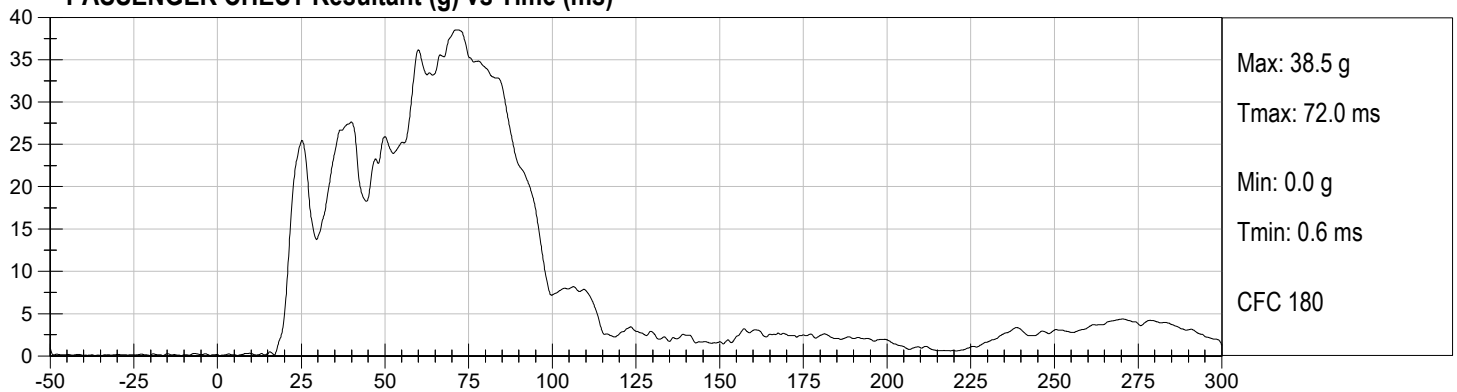
PASSENGER CHEST Y (g) vs Time (ms)



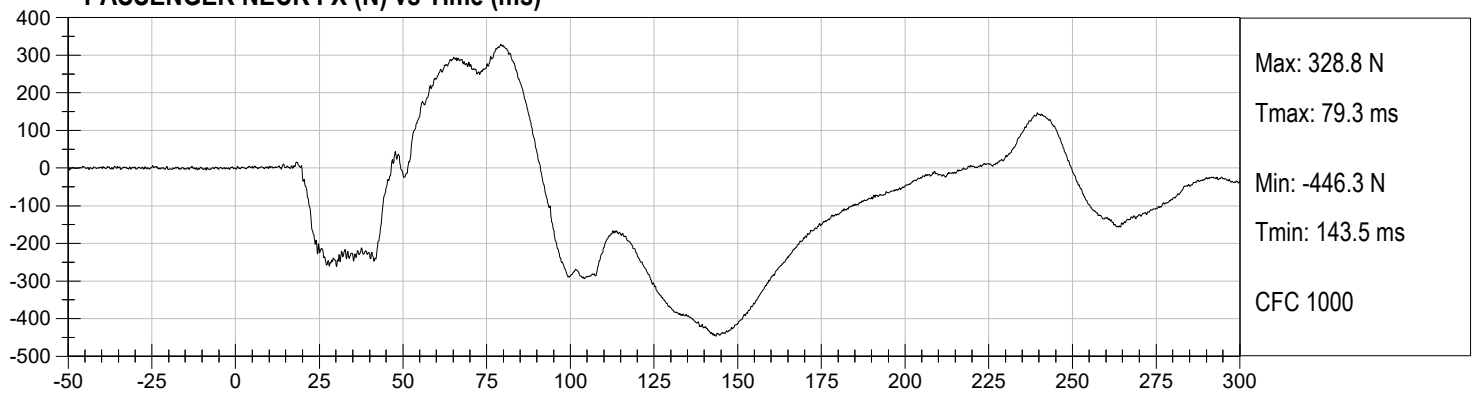
PASSENGER CHEST Z (g) vs Time (ms)



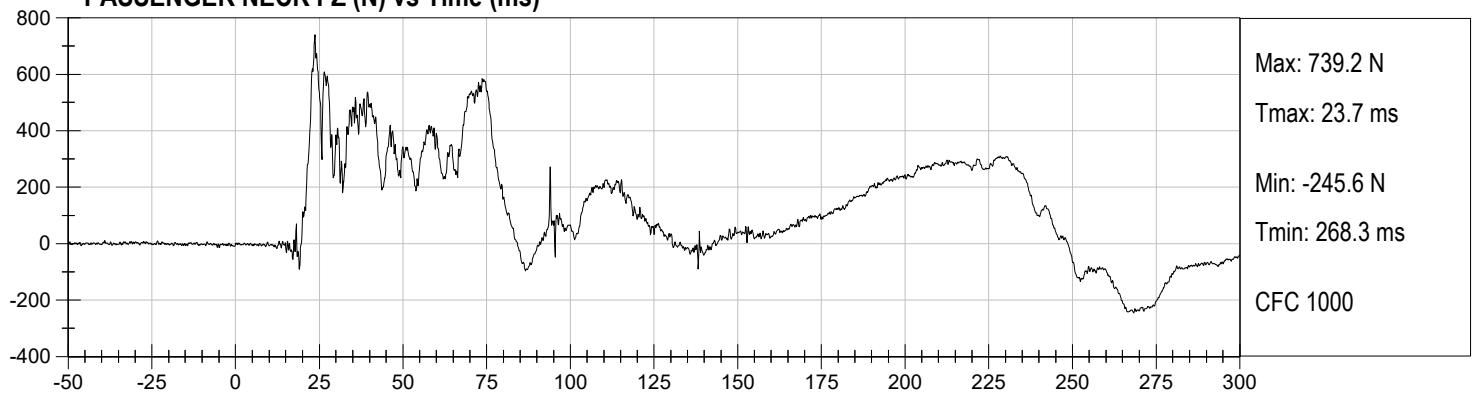
PASSENGER CHEST Resultant (g) vs Time (ms)



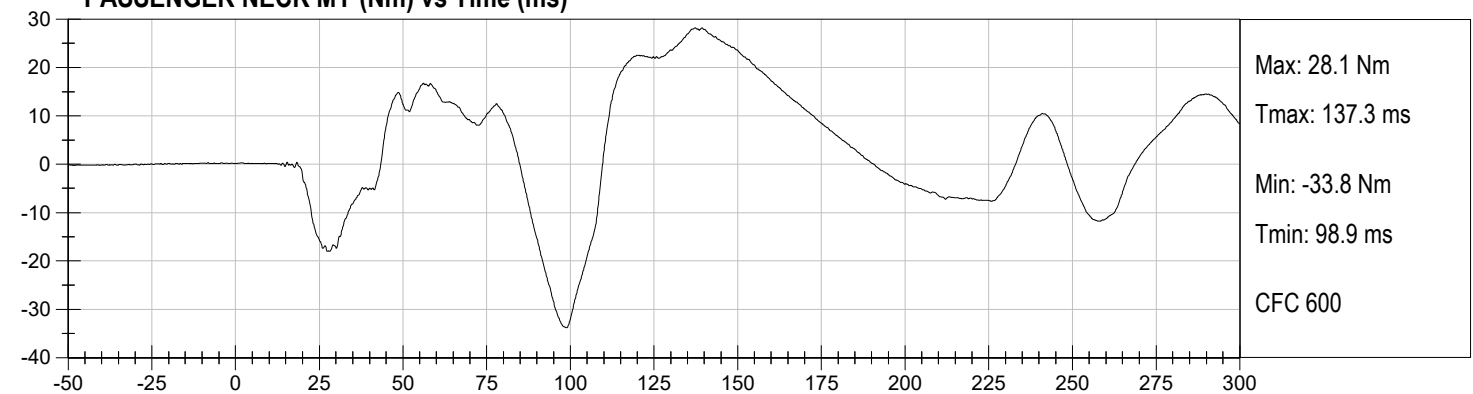
PASSENGER NECK FX (N) vs Time (ms)



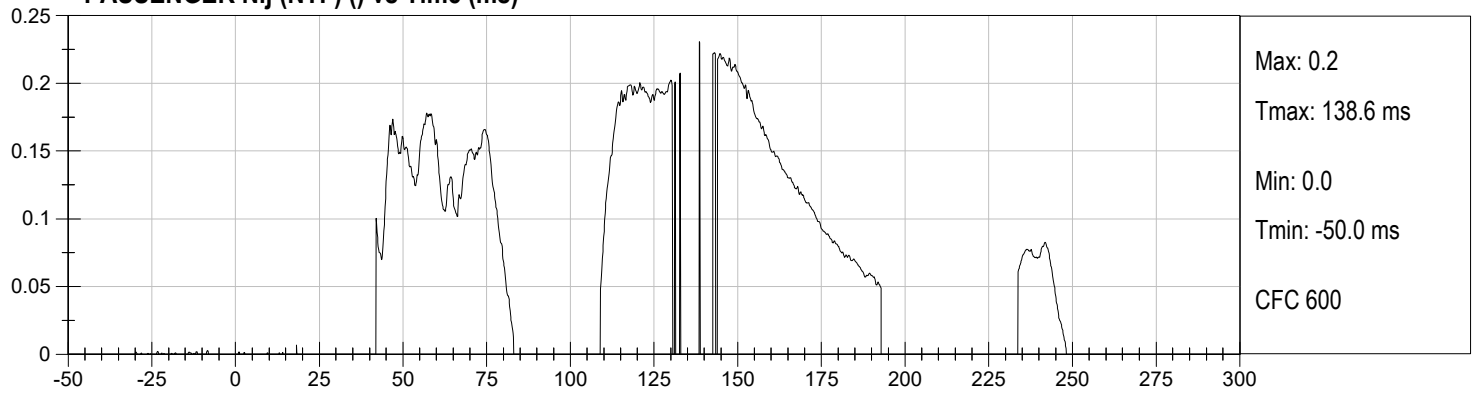
PASSENGER NECK FZ (N) vs Time (ms)



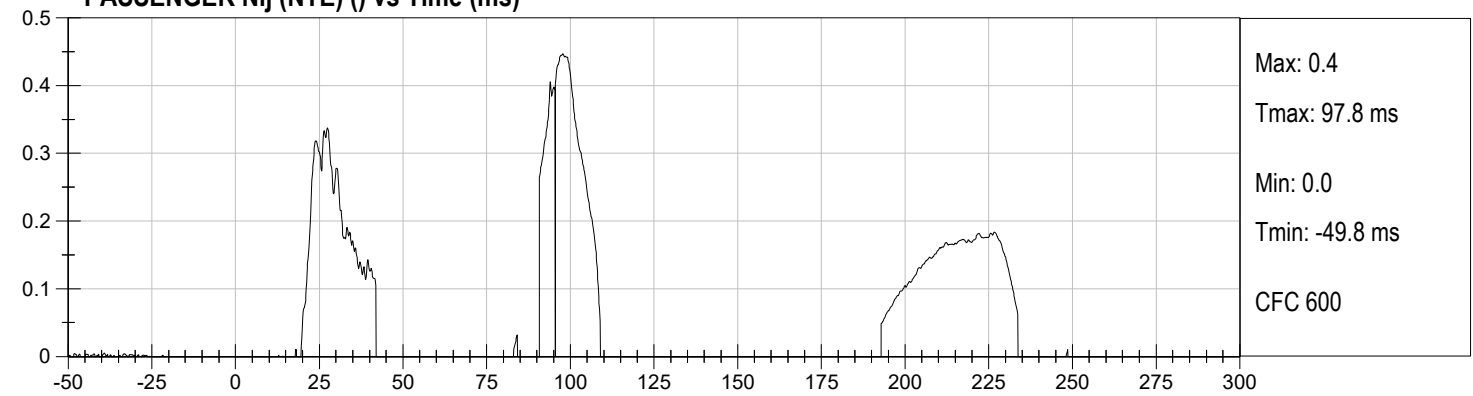
PASSENGER NECK MY (Nm) vs Time (ms)



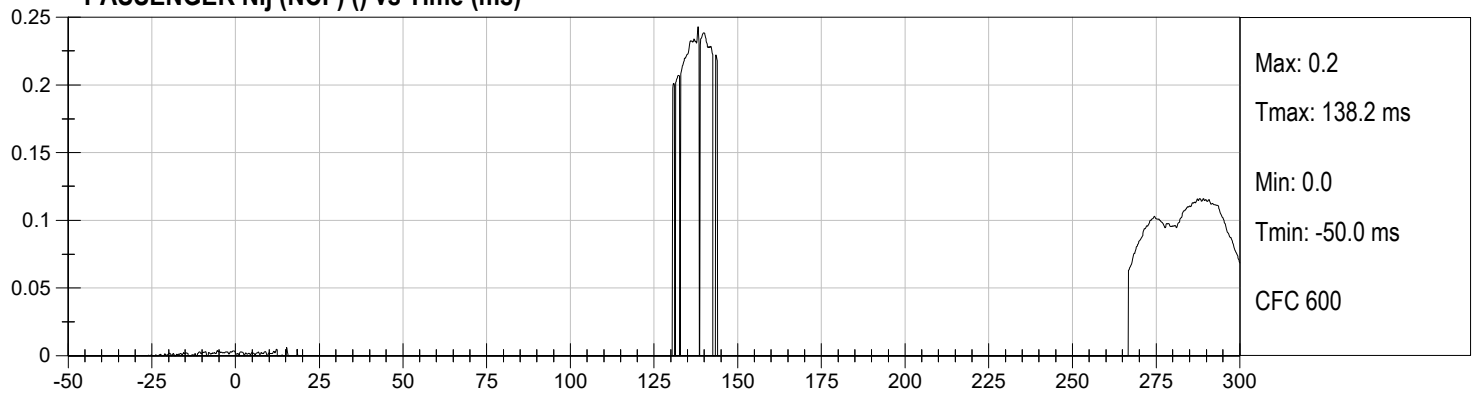
PASSENGER Nij (NTF) () vs Time (ms)



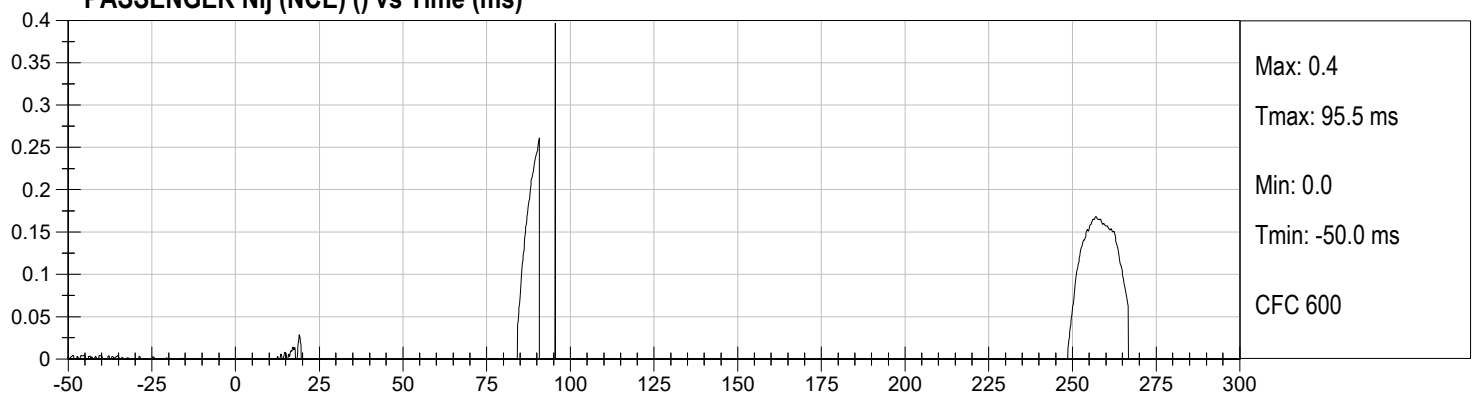
PASSENGER Nij (NTE) () vs Time (ms)



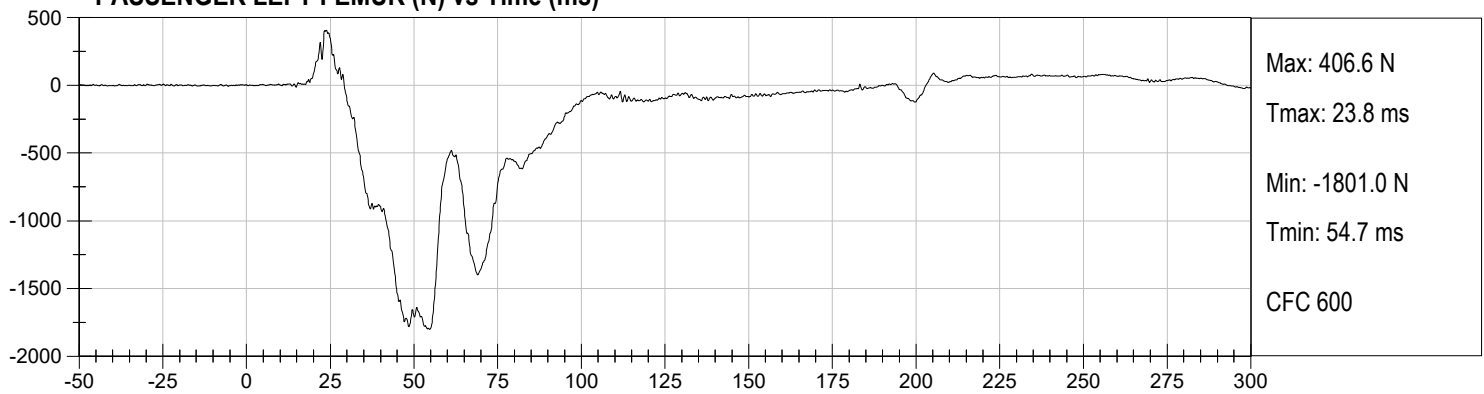
PASSENGER Nij (NCF) () vs Time (ms)



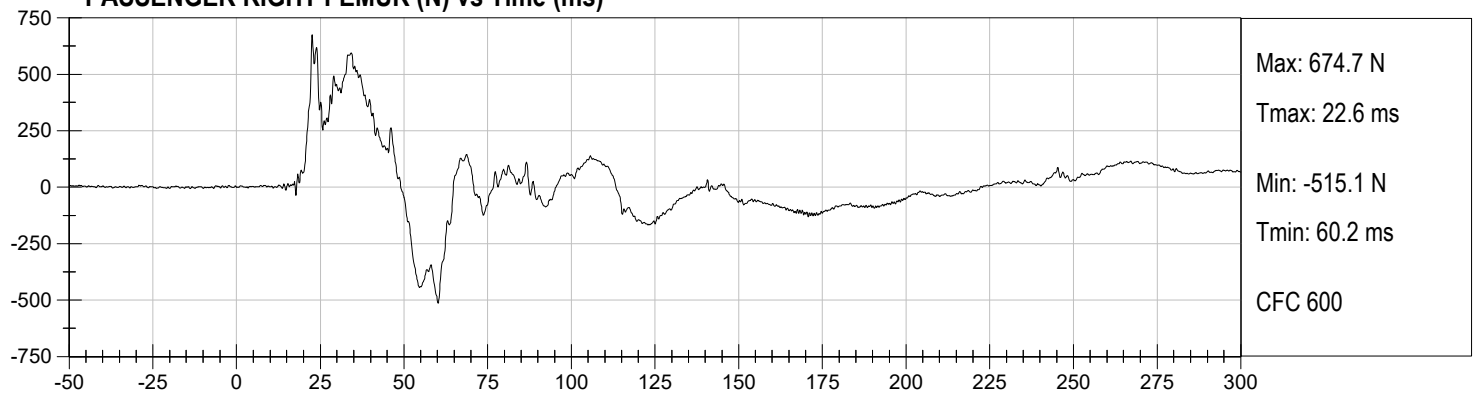
PASSENGER Nij (NCE) () vs Time (ms)



PASSENGER LEFT FEMUR (N) vs Time (ms)



PASSENGER RIGHT FEMUR (N) vs Time (ms)



APPENDIX C
DUMMY QUALIFICATION AND PERFORMANCE VERIFICATION

QUALIFICATION TEST RESULTS

PRE-TEST

HYBRID III 50TH PERCENTILE MALE - DRIVER ATD

**Hybrid III 50th, External Measurements
SN: 064**

HYBRID III, PART 572, SUBPART E EXTERNAL DIMENSIONS				
DIMENSION	DESCRIPTION	DETAILS	ASSEMBLY DIMENSION (inches)	ACTUAL MEASUREMENT
A	TOTAL SITTING HEIGHT	Seat surface to highest point on top of the head.	34.6–35.0	34.71
B	SHOULDER PIVOT HEIGHT	Centerline of shoulder pivot bolt to the seat surface.	19.9-20.5	20.31
C	H-POINT HEIGHT	Reference	3.3-3.5	3.38
D	H-POINT LOCATION FROM BACKLINE	Reference	5.3-5.5	5.40
E	SHOULDER PIVOT FROM BACKLINE	Center of the shoulder clevis to the rear vertical surface of the fixture.	3.3-3.7	3.46
F	THIGH CLEARANCE	Measured at the highest point on the upper femur segment.	5.5-6.1	6.09
G	BACK OF ELBOW TO WRIST PIVOT	back of the elbow flesh to the wrist pivot in line with the elbow and wrist pivots	11.4-12.0	11.48
H	HEAD BACK TO BACKLINE	Back of Skull cap skin to seat rear vertical surface (Reference)	1.6-1.8	1.75
I	SHOULDER TO- ELBOW LENGTH	Measure from the highest point on top of the shoulder clevis to the lowest part of the flesh on the elbow in line with the elbow pivot bolt.	13.0-13.6	13.08
J	ELBOW REST HEIGHT	Measure from the flesh below the elbow pivot bolt to the seat surface.	7.5-8.3	8.13
K	BUTTOCK TO KNEE LENGTH	The forward most part of the knee flesh to the rear vertical surface of the fixture.	22.8-23.8	23.49
L	POPLITEAL HEIGHT	Seat surface to the plane of the horizontal plane of the bottom of the feet.	16.9-17.9	17.01
M	KNEE PIVOT HEIGHT	Centerline of knee pivot bolt to the horizontal plane of the bottom of the feet.	19.1-19.7	19.22
N	BUTTOCK POPLITEAL LENGTH	The rearmost surface of the lower leg to the same point on the rear surface of the buttocks used for dim. "K".	17.8-18.8	18.20

HYBRID III, SUBPART E EXTERIOR DIMENSIONS, continued				
DIMENSION	DESCRIPTION	DETAILS		ACTUAL MEASUREMENT
O	CHEST DEPTH WITHOUT JACKET	Measured 16.9-17.1 in. above seat surface	8.4-9.0	8.43
P	FOOT LENGTH	Tip of toe to rear of heel	9.9-10.5	10.33
V	SHOULDER BREADTH	Outside edges of right and left shoulder clevises	16.3-17.2	16.65
W	FOOT BREADTH	The widest part of the foot	3.6-4.2	3.94
Y	CHEST CIRCUMFERENCE (WITH CHEST JACKET)	Measured 16.9-17.1 in. above seat surface	38.2-39.4	39.25
Z	WAIST CIRCUMFERENCE	Measured 8.9-9.1 in. above seat surface	32.9-34.1	33.89
AA	REFERENCE LOCATION FOR MEASUREMENT OF CHEST CIRCUMFERENCE	Reference	16.9-17.1	17.00
BB	REFERENCE LOCATION FOR MEASUREMENT OF WAIST CIRCUMFERENCE	Reference	8.9-9.1	9.00

NOTE: THE H-POINT IS LOCATED 1.83 INCHES FORWARD AND 2.57 INCHES DOWN FROM THE CENTER OF THE PELVIS ANGLE REFERENCE HOLE.

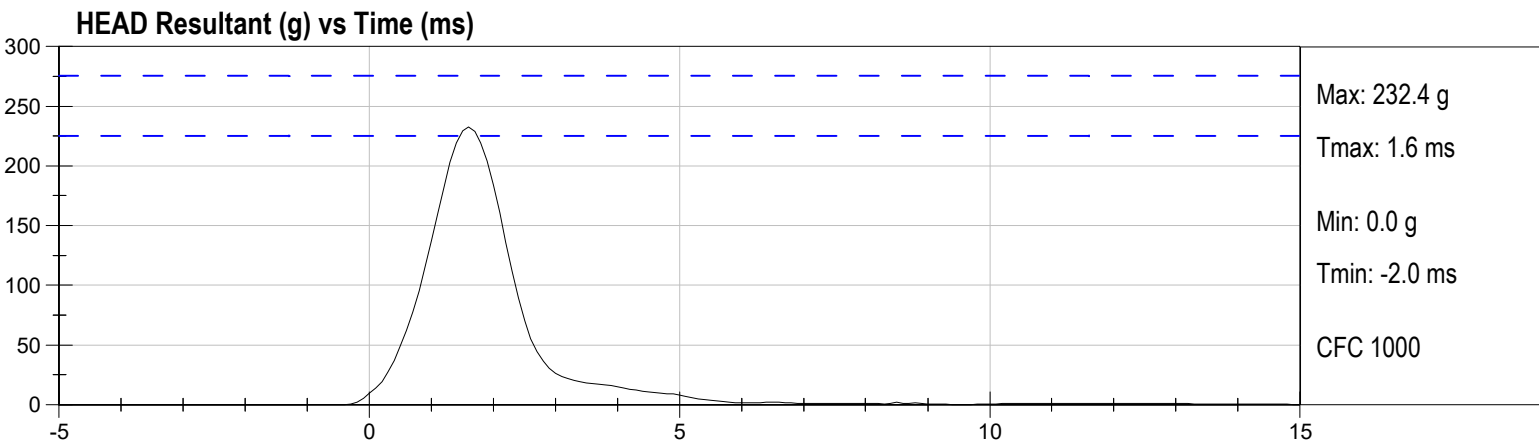
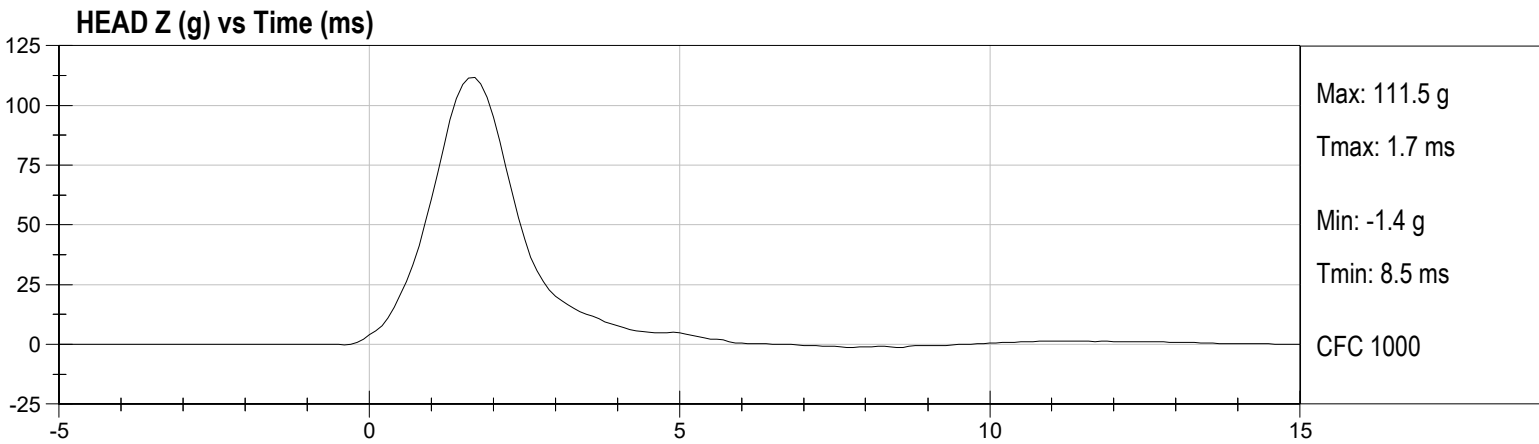
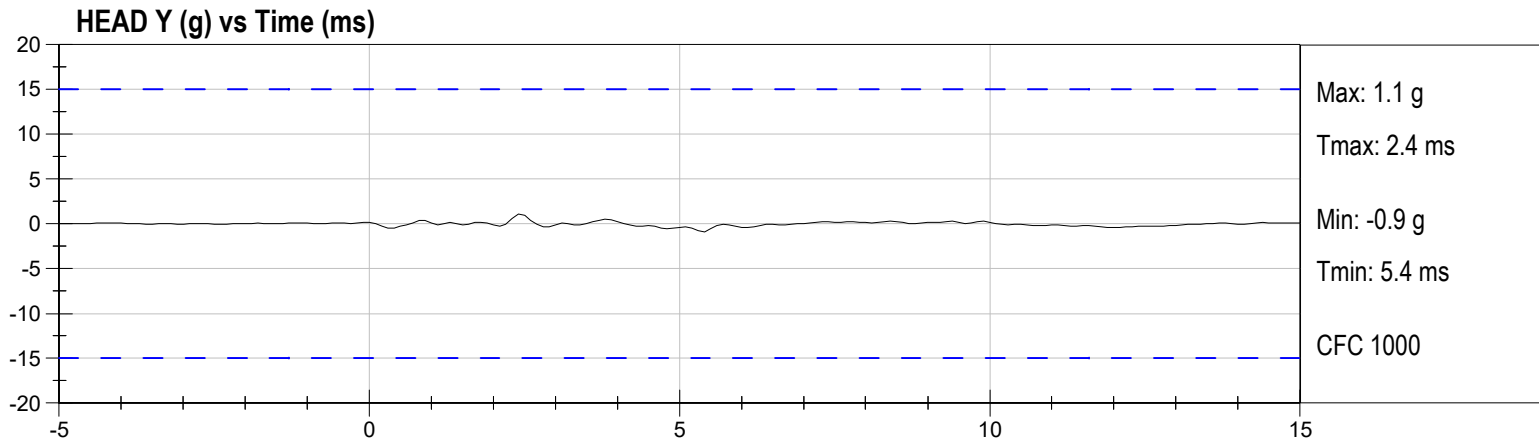
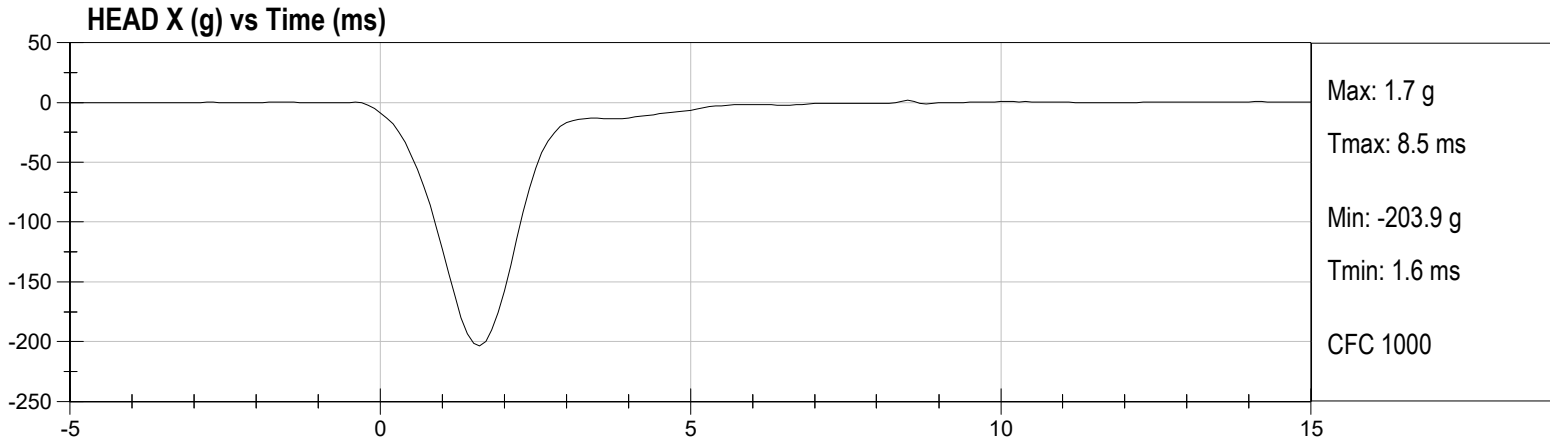


Head Drop Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 03/31/2025
Test ID: D250991
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Peak Resultant Acceleration	g	225 to 275	232	Pass
Peak Lateral Acceleration	g	-15.0 to 15.0	1.1	Pass
Unimodal	%	within 10% of peak	1	Pass

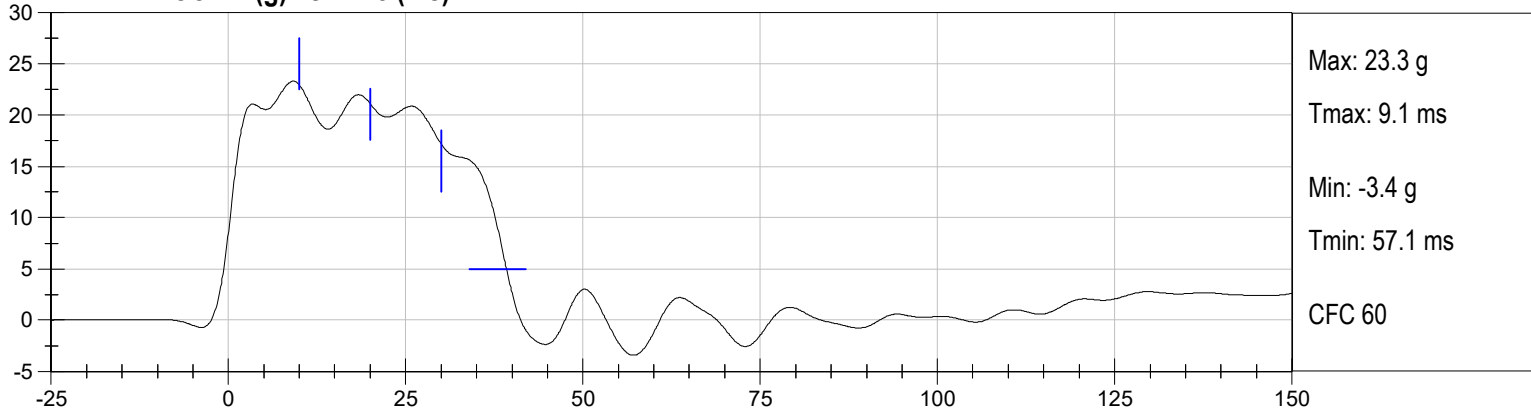
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
HEAD X	Endevco	T30974	11/25/2024	5/27/2025
HEAD Y	Endevco	T30975	11/25/2024	5/27/2025
HEAD Z	Endevco	T30976	11/25/2024	5/27/2025



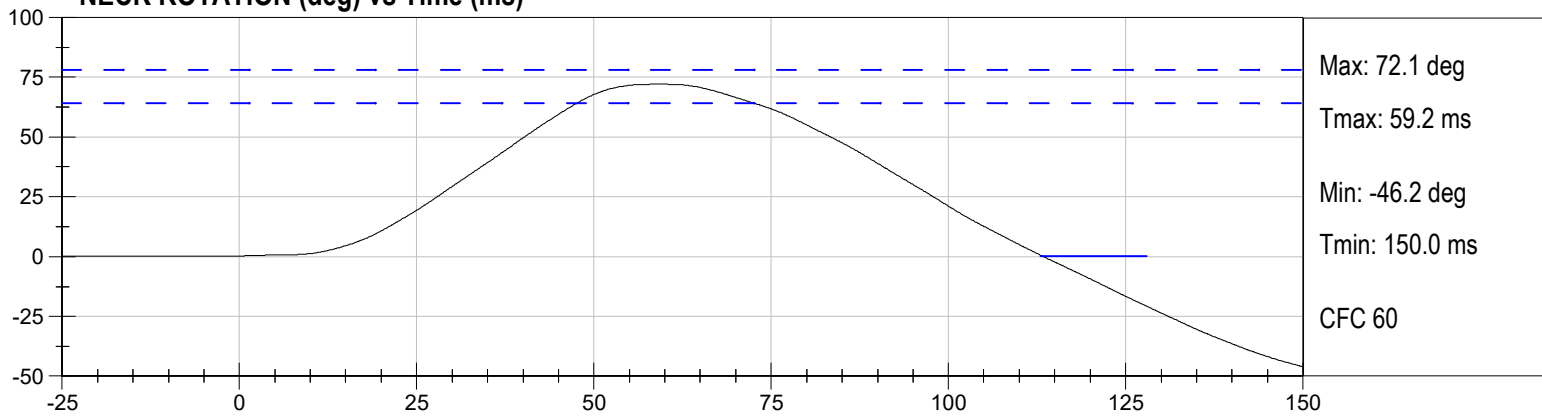
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity	m/s	6.89 to 7.13	6.98	Pass
Pendulum Deceleration At 10 ms After T0	g	22.50 to 27.50	23.02	Pass
Pendulum Deceleration At 20 ms After T0	g	17.60 to 22.60	21.19	Pass
Pendulum Deceleration At 30 ms After T0	g	12.50 to 18.50	17.29	Pass
Peak Pendulum Deceleration After 30 ms	g	<= 29.0	17.2	Pass
Deceleration Decay Time to Cross 5 g	ms	34.0 to 42.0	39.4	Pass
Maximum "D" Plane Rotation	deg	64.0 to 78.0	72.1	Pass
Time of Maximum "D" Plane Rotation	ms	57.0 to 64.0	59.2	Pass
"D" Plane Rotation Decay Time To Zero Crossing	ms	113.0 to 128.0	113.5	Pass
Maximum Moment About Occipital Condyle	Nm	88.1 to 108.5	106.1	Pass
Time of Maximum Moment About Occipital Condyle	ms	47.0 to 58.0	51.2	Pass
Positive Moment Decay Time To Zero Crossing	ms	97.0 to 107.0	97.3	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2022FX	05/24/2024	5/24/2025
NECK MOMENT Y	Denton	NG2022MY	05/24/2024	5/24/2025
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

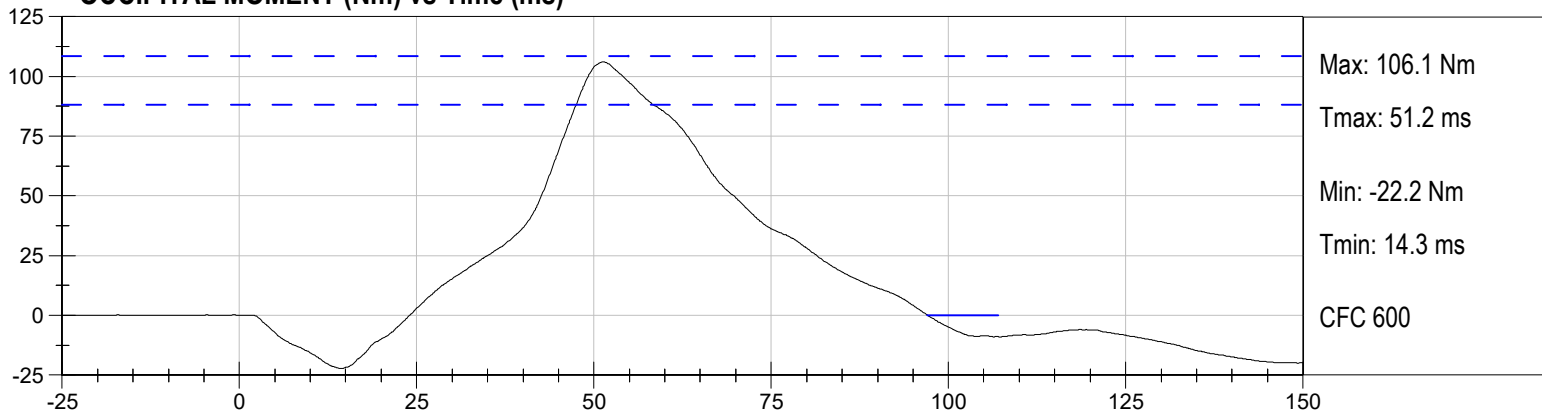
PEND. ACCEL. (g) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



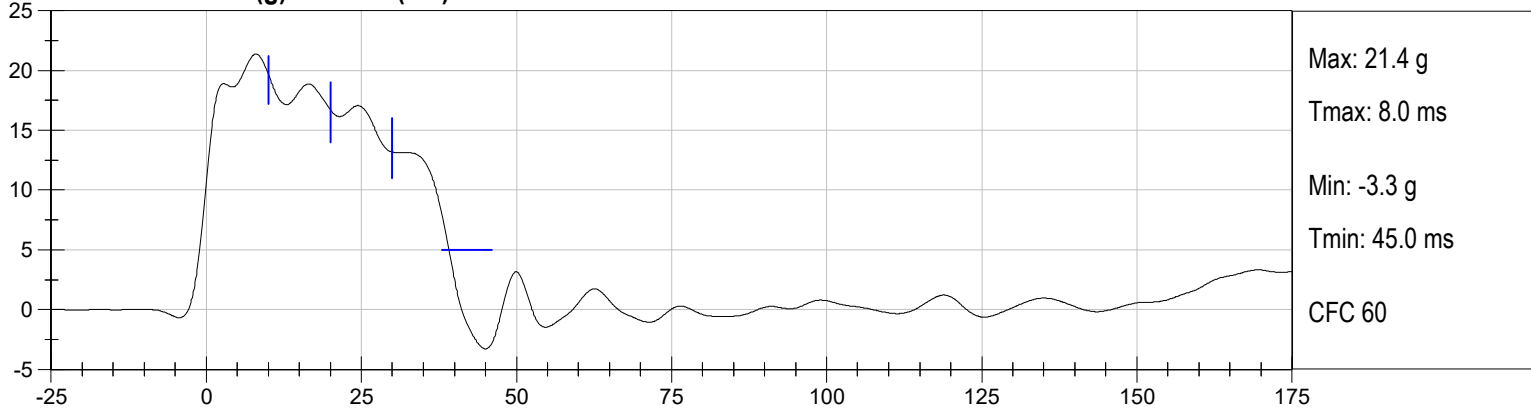
OCCIPITAL MOMENT (Nm) vs Time (ms)



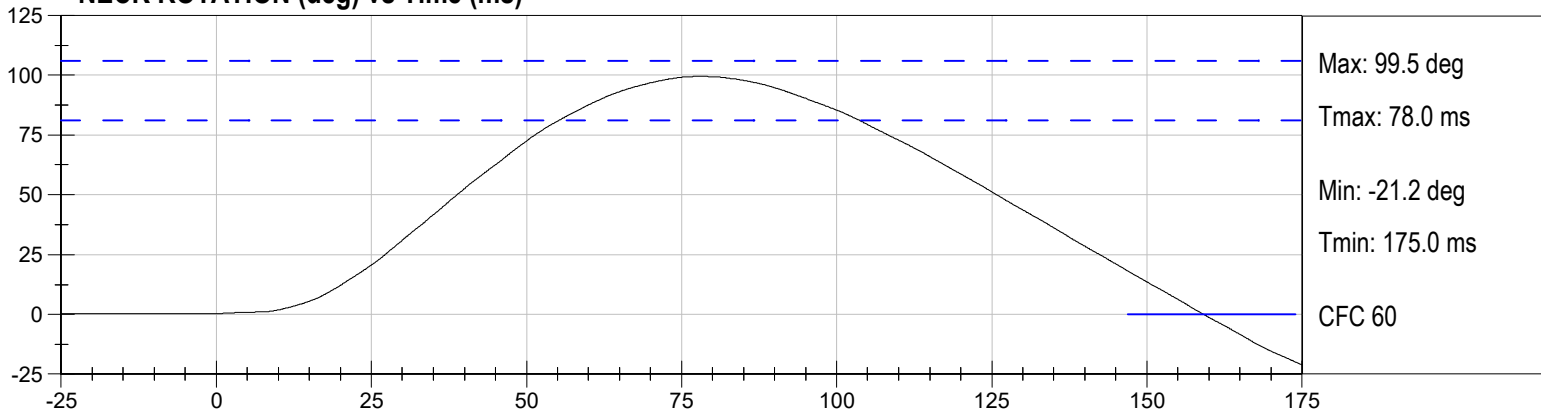
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Pendulum Velocity	m/s	5.95 to 6.19	5.98	Pass
Pendulum Deceleration At 10 ms After T0	g	17.20 to 21.20	19.80	Pass
Pendulum Deceleration At 20 ms After T0	g	14.00 to 19.00	16.78	Pass
Pendulum Deceleration At 30 ms After T0	g	11.00 to 16.00	13.18	Pass
Peak Pendulum Deceleration After 30 ms	g	<= 22.0	13.2	Pass
Deceleration Decay Time to Cross 5 G's	ms	38.0 to 46.0	39.2	Pass
Maximum "D" Plane Rotation	deg	81.0 to 106.0	99.5	Pass
Time of Maximum "D" Plane Rotation	ms	72.0 to 82.0	78.0	Pass
"D" Plane Rotation Decay Time To Zero Crossing	ms	147.0 to 174.0	159.3	Pass
Minimum Moment About Occipital Condyle	Nm	-79.9 to -52.9	-59.4	Pass
Time of Minimum Moment About Occipital Condyle	ms	65.0 to 79.0	72.9	Pass
Negative Moment Decay Time To Zero Crossing	ms	120.0 to 148.0	143.8	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2022FX	05/24/2024	5/24/2025
NECK MOMENT Y	Denton	NG2022MY	05/24/2024	5/24/2025
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

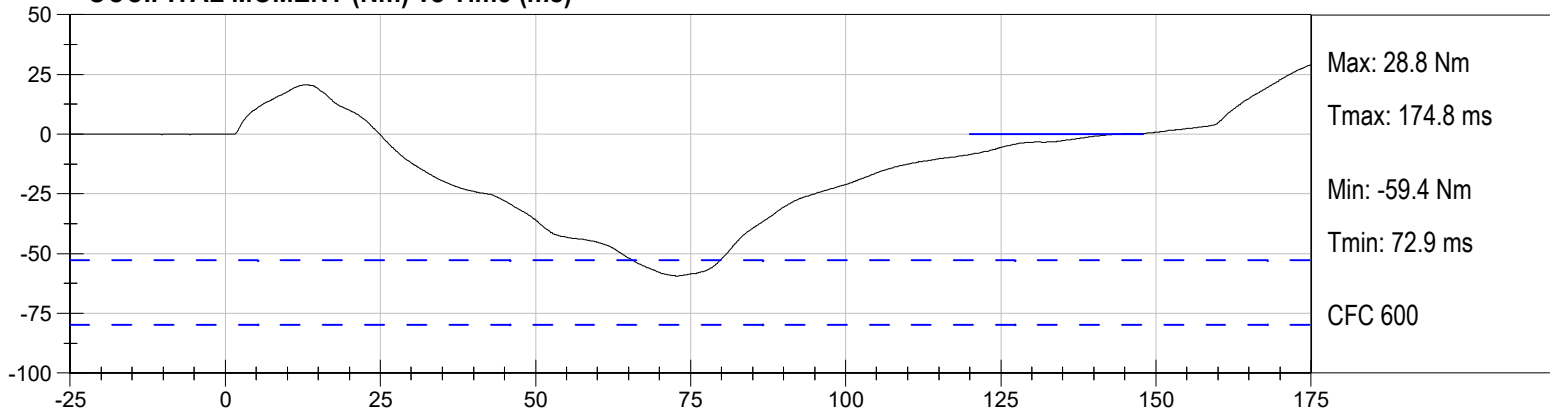
PEND. ACCEL. (g) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



OCCIPITAL MOMENT (Nm) vs Time (ms)





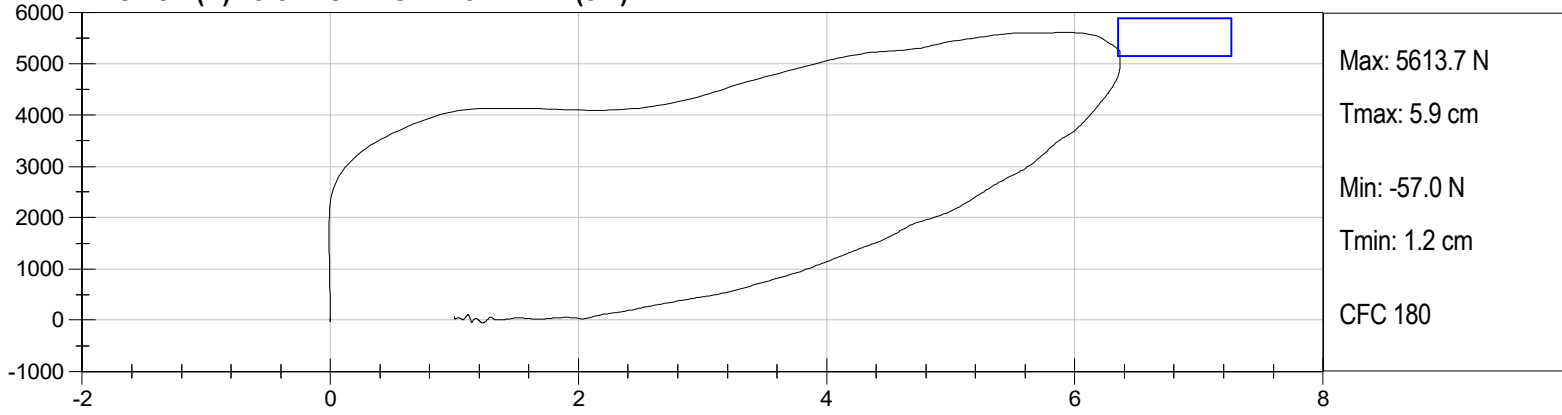
Thorax Impact Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 03/31/2025
Test ID: D250994-PRE
Test Technician: Jonah Pulokas

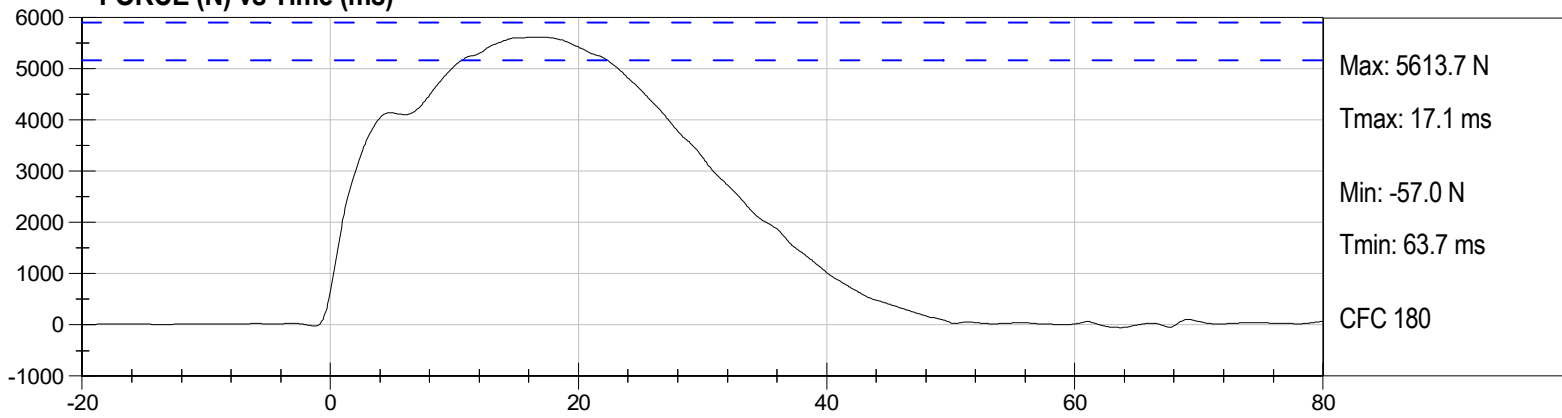
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	6.58 to 6.82	6.77	Pass
Peak Probe Force	N	5159 to 5893	5614	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.37	Pass
Internal Hysteresis	%	69 to 85	76	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PROBE	Endevco	P79577	03/21/2025	9/20/2025
CHEST DISPLACEMENT	Humanetics	064	11/19/2024	5/21/2025

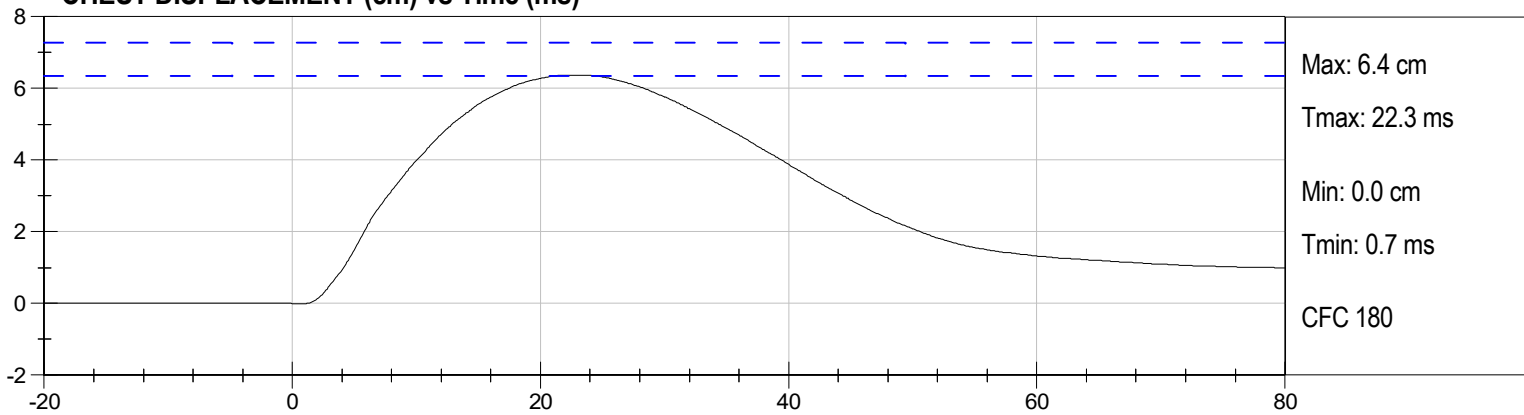
FORCE (N) vs CHEST DISPLACEMENT (cm)



FORCE (N) vs Time (ms)



CHEST DISPLACEMENT (cm) vs Time (ms)



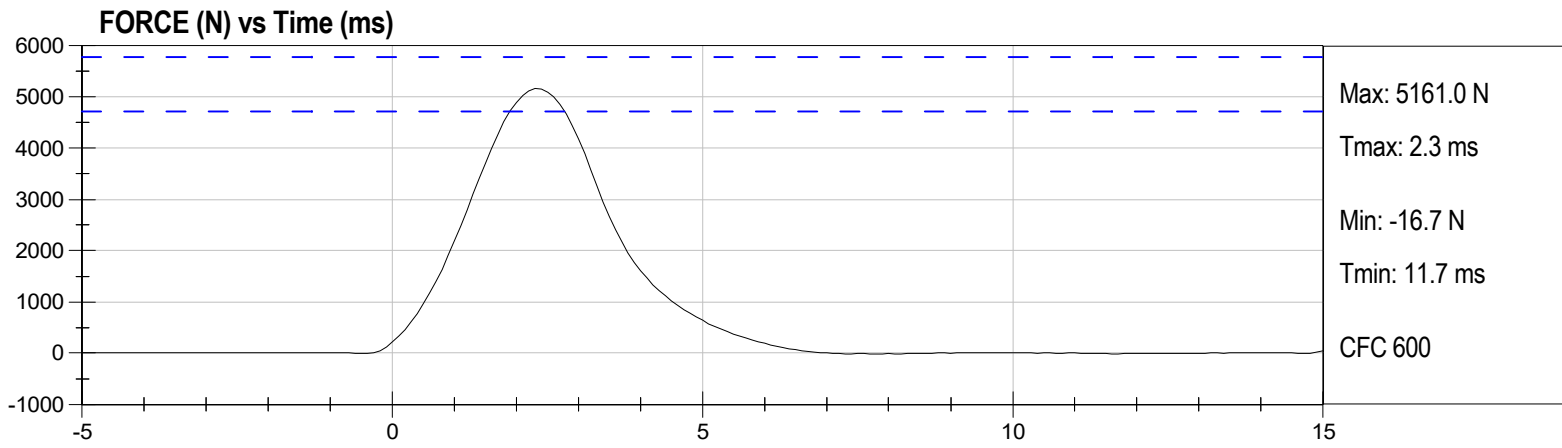


Right Knee Impact Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 03/31/2025
Test ID: D250995
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.07 to 2.13	2.08	Pass
Peak Probe Force	N	4715 to 5782	5161	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



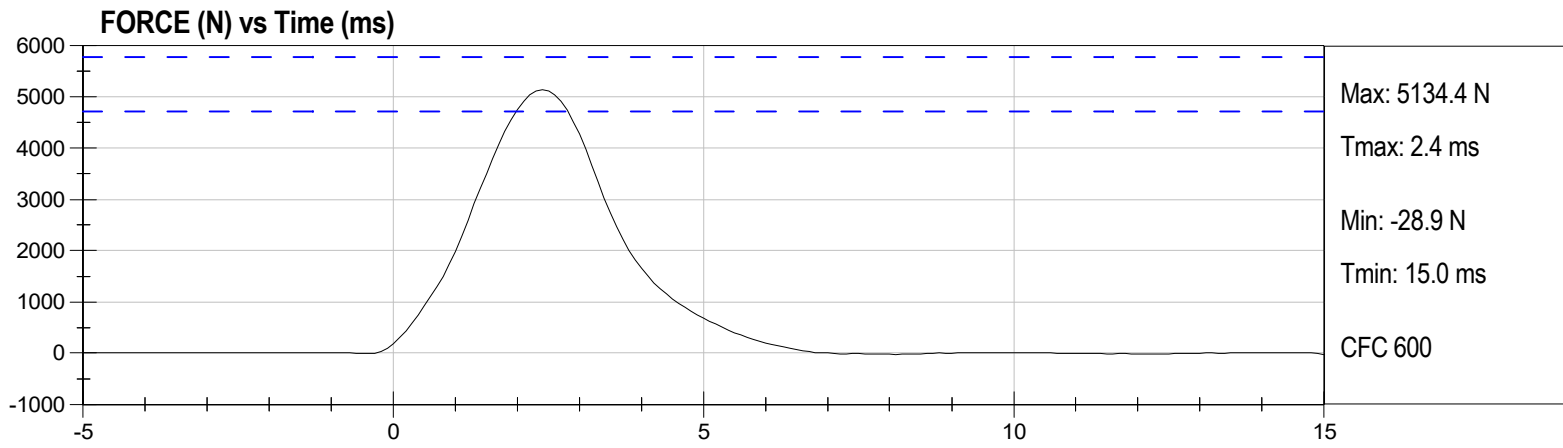


Left Knee Impact Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 03/31/2025
Test ID: D250996
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Probe Velocity	m/s	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	4715 to 5782	5134	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



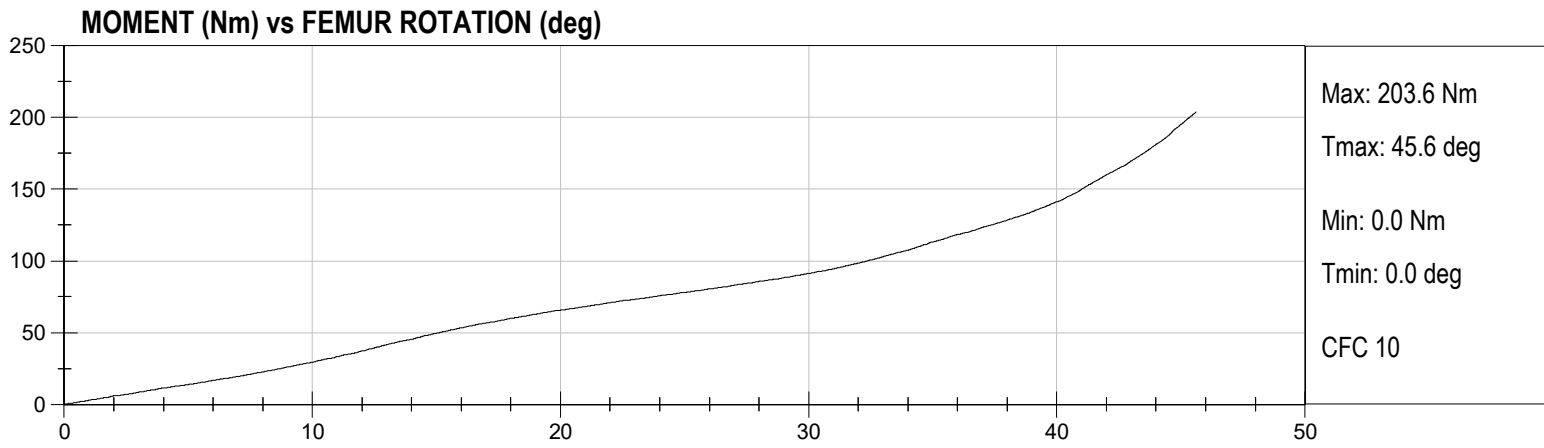


Right Hip-Femur Flexion Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 03/31/2025
Test ID: D250999
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.5	Pass
Moment at 30 Degrees	Nm	<= 94.9	91.3	Pass
Rotation Angle at 203.4 Nm	deg	40.0 to 50.0	45.6	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
LOAD CELL	FTSS	DS8350MY	03/11/2025	3/11/2026
FRAME ANGLE	Servo	3966	03/27/2025	9/26/2025
FEMUR ANGLE	Servo	4714	03/27/2025	9/26/2025



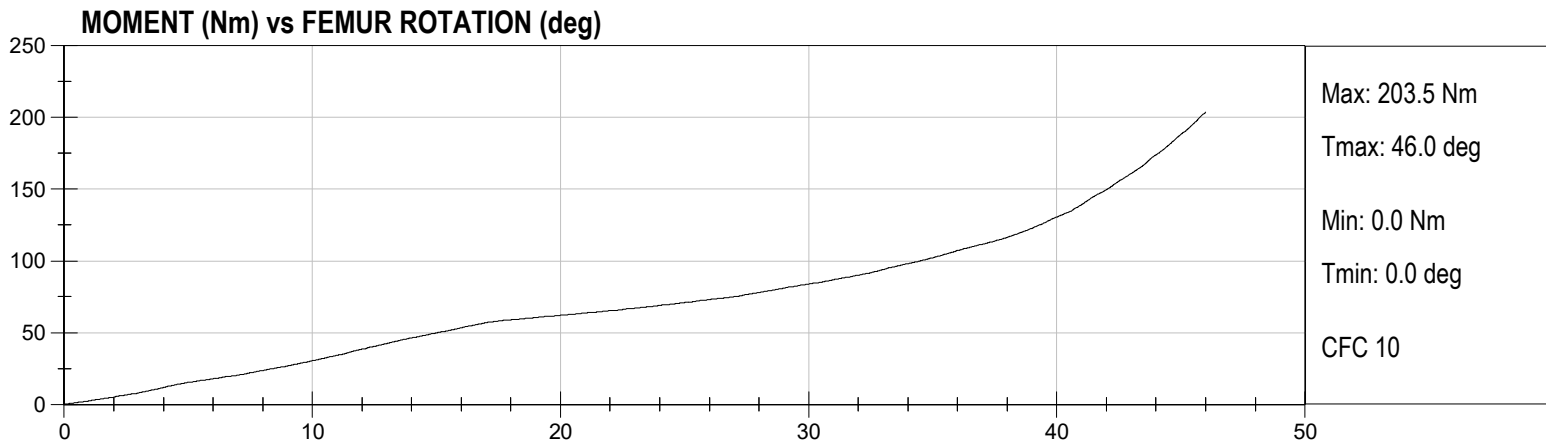


Left Hip-Femur Flexion Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 03/31/2025
Test ID: D250990
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.5	Pass
Moment at 30 Degrees	Nm	<= 94.9	83.8	Pass
Rotation Angle at 203.4 Nm	deg	40.0 to 50.0	46.0	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
LOAD CELL	FTSS	DS8350MY	03/11/2025	3/11/2026
FRAME ANGLE	Servo	3966	03/27/2025	9/26/2025
FEMUR ANGLE	Servo	4714	03/27/2025	9/26/2025



QUALIFICATION TEST RESULTS

POST-TEST

HYBRID III 50TH PERCENTILE MALE - DRIVER ATD

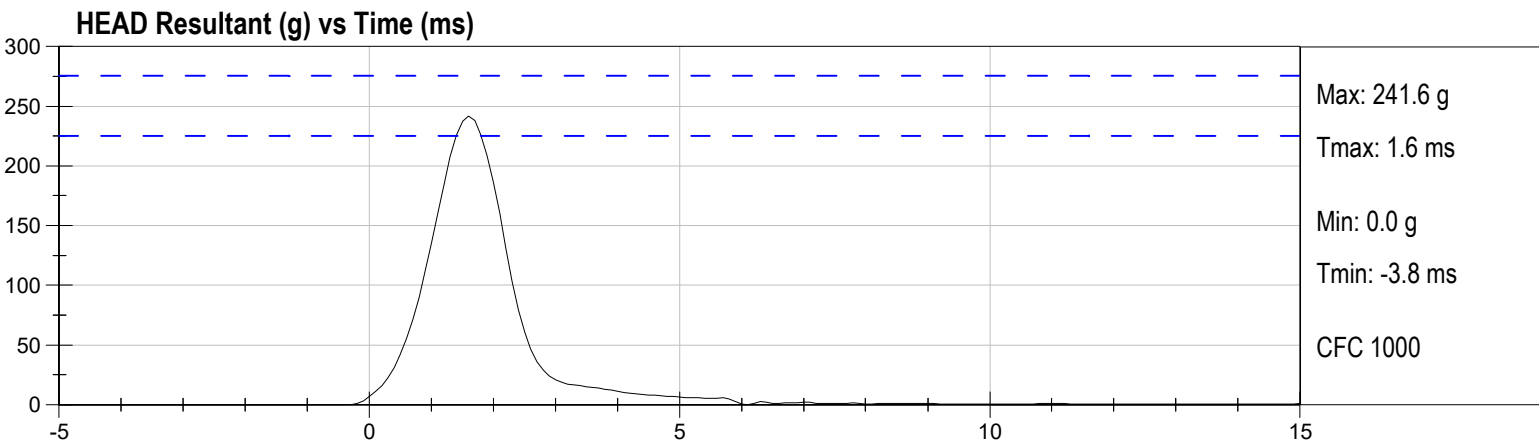
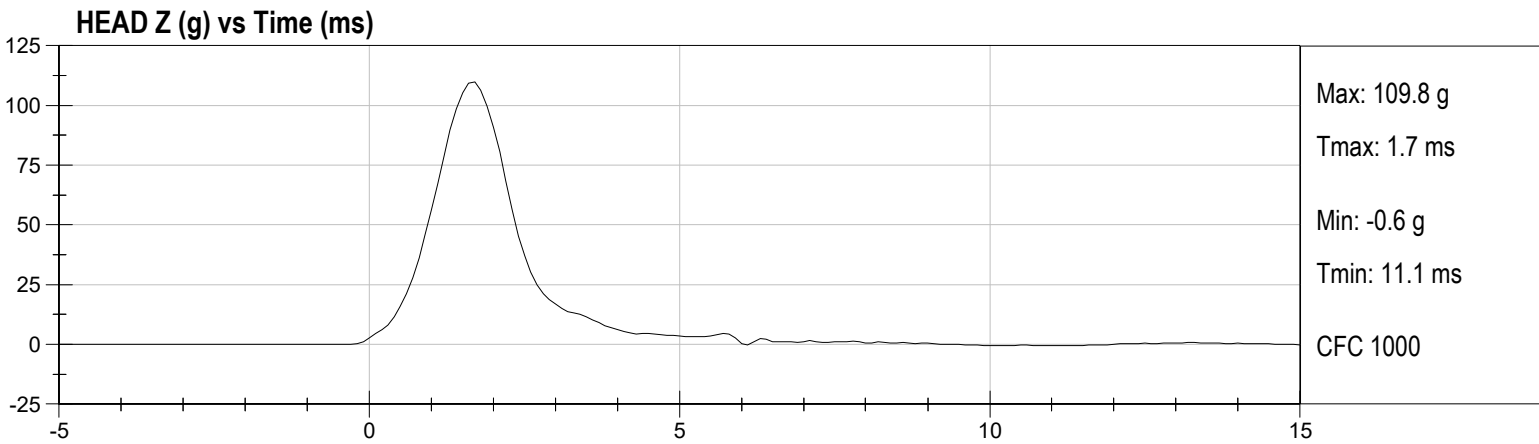
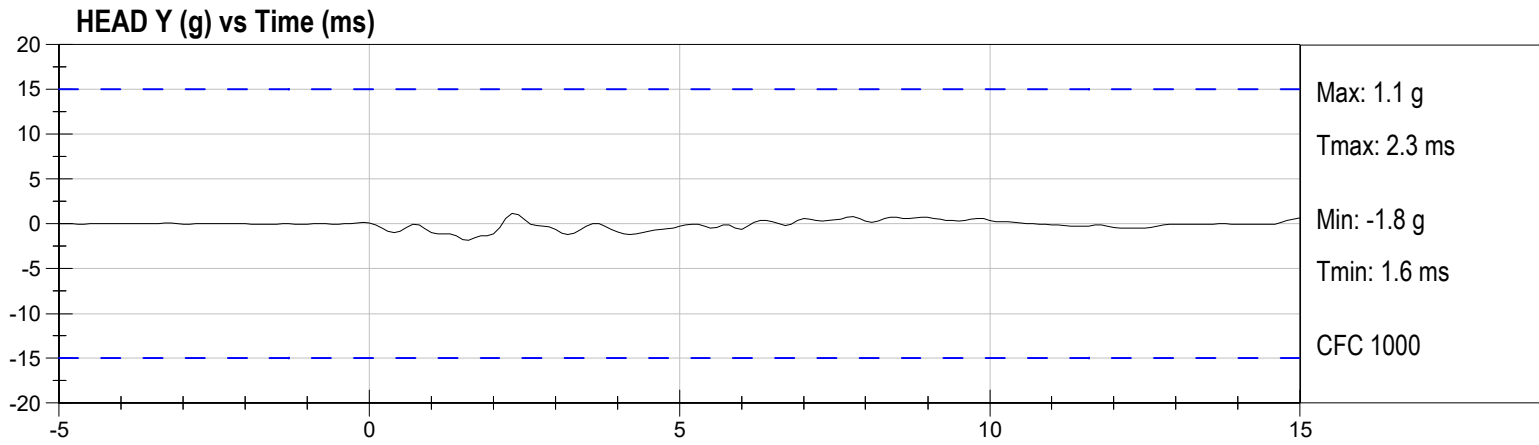
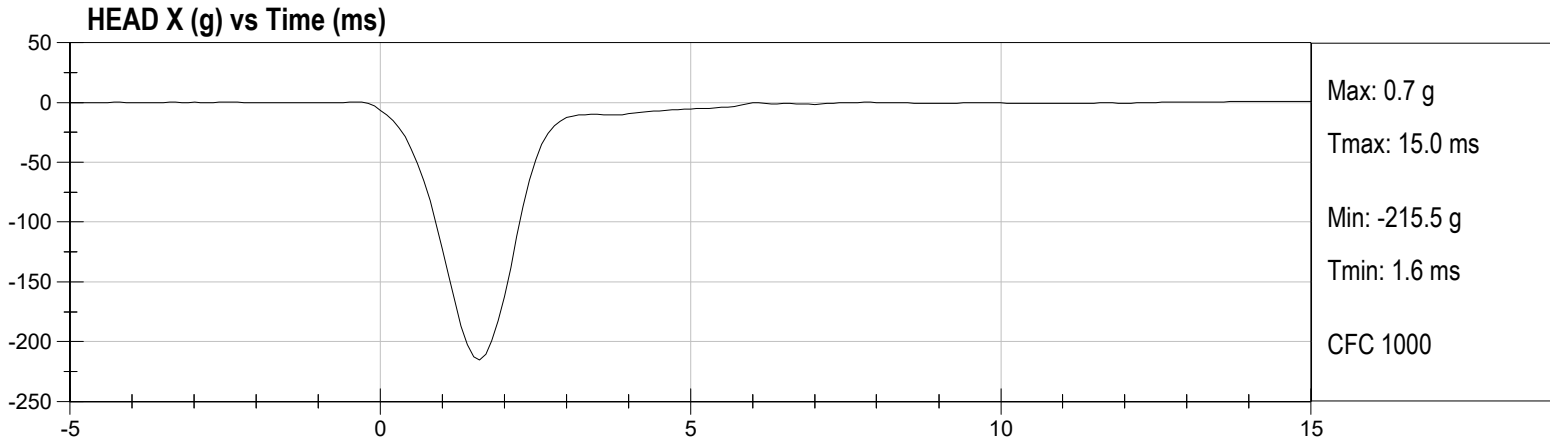


Head Drop Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 04/28/2025
Test ID: D251301
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	50	Pass
Peak Resultant Acceleration	g	225 to 275	242	Pass
Peak Lateral Acceleration	g	-15.0 to 15.0	-1.8	Pass
Unimodal	%	within 10% of peak	2	Pass

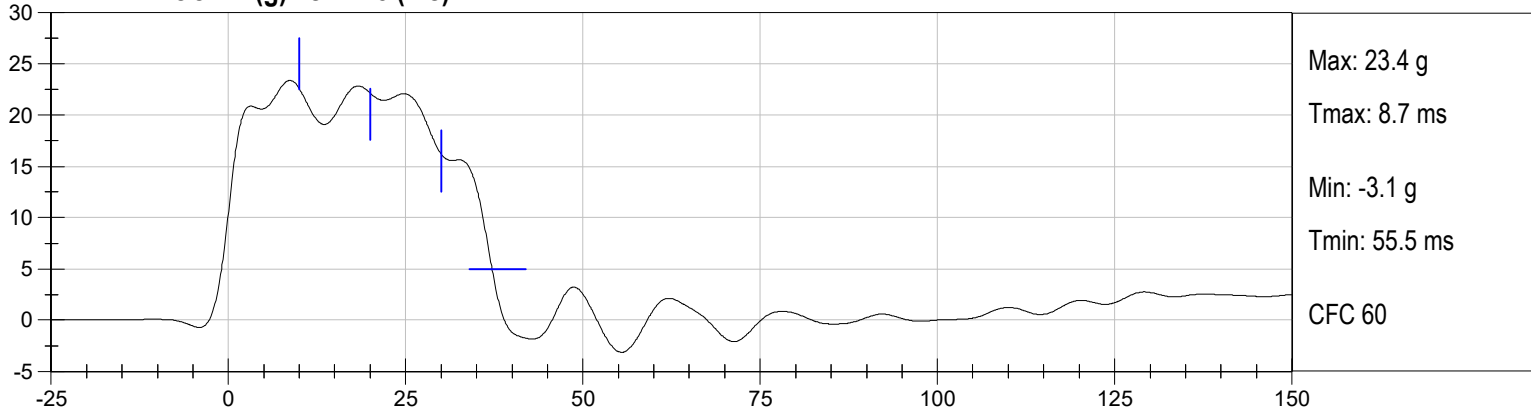
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
HEAD X	Endevco	T30974	11/25/2024	5/27/2025
HEAD Y	Endevco	T30975	11/25/2024	5/27/2025
HEAD Z	Endevco	T30976	11/25/2024	5/27/2025



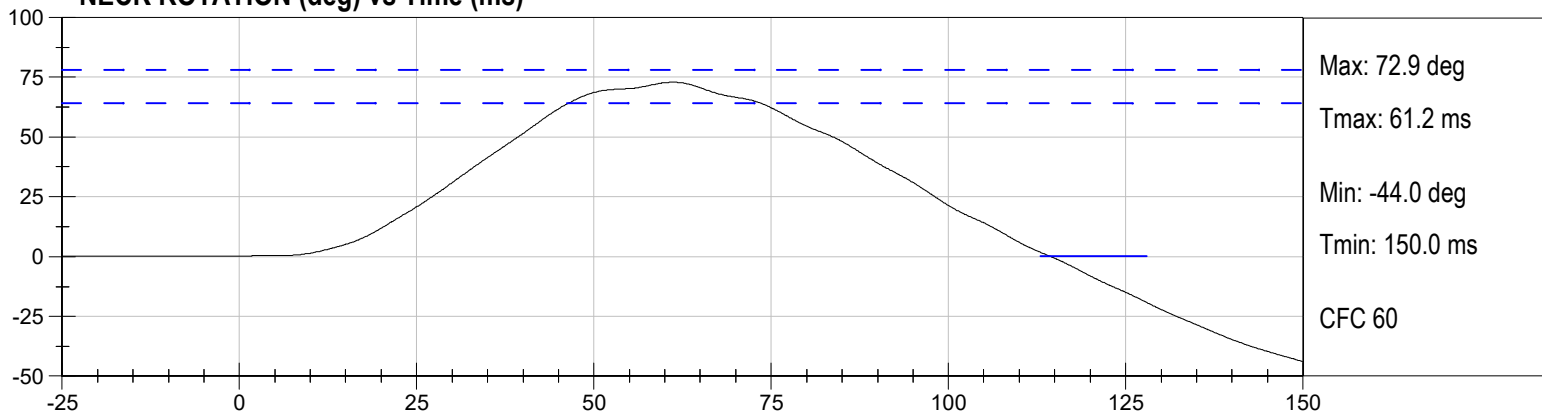
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	46	Pass
Pendulum Velocity	m/s	6.89 to 7.13	6.91	Pass
Pendulum Deceleration At 10 ms After T0	g	22.50 to 27.50	22.68	Pass
Pendulum Deceleration At 20 ms After T0	g	17.60 to 22.60	22.22	Pass
Pendulum Deceleration At 30 ms After T0	g	12.50 to 18.50	16.29	Pass
Peak Pendulum Deceleration After 30 ms	g	<= 29.0	16.2	Pass
Deceleration Decay Time to Cross 5 g	ms	34.0 to 42.0	37.3	Pass
Maximum "D" Plane Rotation	deg	64.0 to 78.0	72.9	Pass
Time of Maximum "D" Plane Rotation	ms	57.0 to 64.0	61.2	Pass
"D" Plane Rotation Decay Time To Zero Crossing	ms	113.0 to 128.0	114.5	Pass
Maximum Moment About Occipital Condyle	Nm	88.1 to 108.5	101.5	Pass
Time of Maximum Moment About Occipital Condyle	ms	47.0 to 58.0	49.5	Pass
Positive Moment Decay Time To Zero Crossing	ms	97.0 to 107.0	97.7	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2022FX	05/24/2024	5/24/2025
NECK MOMENT Y	Denton	NG2022MY	05/24/2024	5/24/2025
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

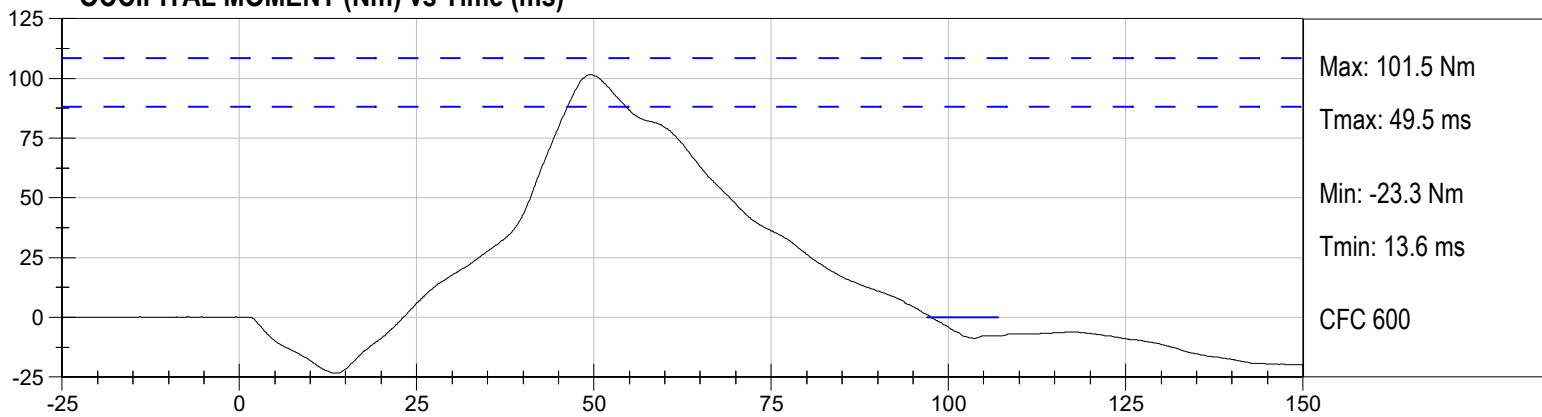
PEND. ACCEL. (g) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



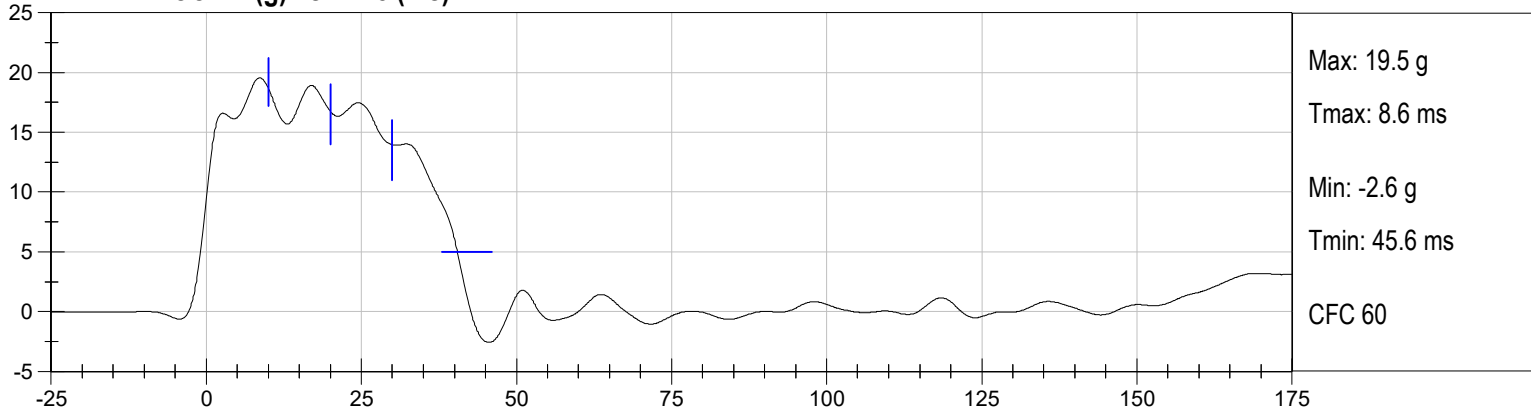
OCCIPITAL MOMENT (Nm) vs Time (ms)



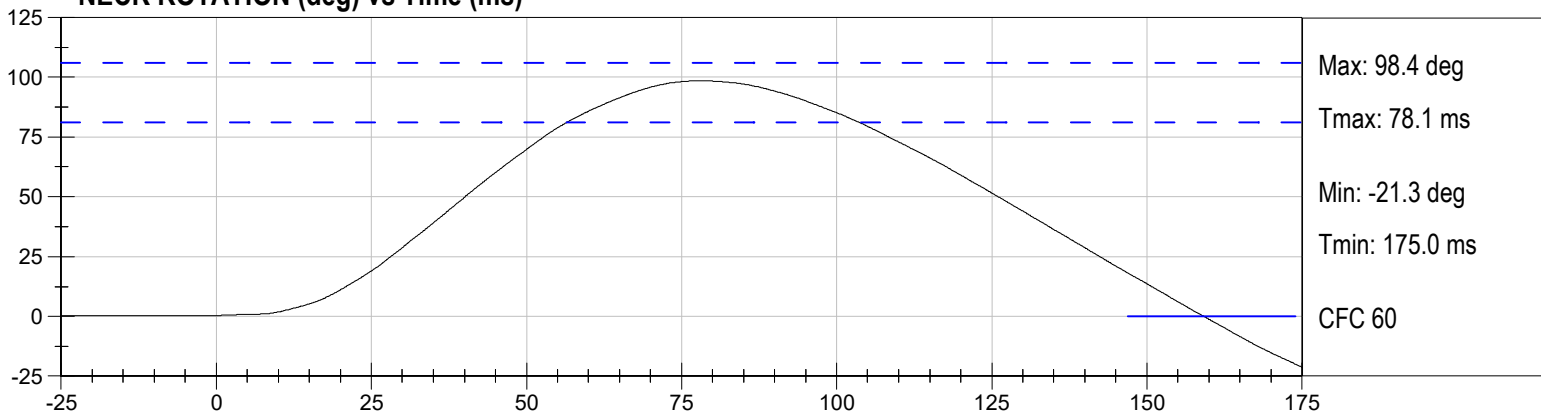
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Pendulum Velocity	m/s	5.95 to 6.19	6.11	Pass
Pendulum Deceleration At 10 ms After T0	g	17.20 to 21.20	18.76	Pass
Pendulum Deceleration At 20 ms After T0	g	14.00 to 19.00	16.80	Pass
Pendulum Deceleration At 30 ms After T0	g	11.00 to 16.00	13.97	Pass
Peak Pendulum Deceleration After 30 ms	g	<= 22.0	14.0	Pass
Deceleration Decay Time to Cross 5 G's	ms	38.0 to 46.0	40.6	Pass
Maximum "D" Plane Rotation	deg	81.0 to 106.0	98.4	Pass
Time of Maximum "D" Plane Rotation	ms	72.0 to 82.0	78.1	Pass
"D" Plane Rotation Decay Time To Zero Crossing	ms	147.0 to 174.0	159.3	Pass
Minimum Moment About Occipital Condyle	Nm	-79.9 to -52.9	-59.4	Pass
Time of Minimum Moment About Occipital Condyle	ms	65.0 to 79.0	73.5	Pass
Negative Moment Decay Time To Zero Crossing	ms	120.0 to 148.0	142.9	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2022FX	05/24/2024	5/24/2025
NECK MOMENT Y	Denton	NG2022MY	05/24/2024	5/24/2025
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

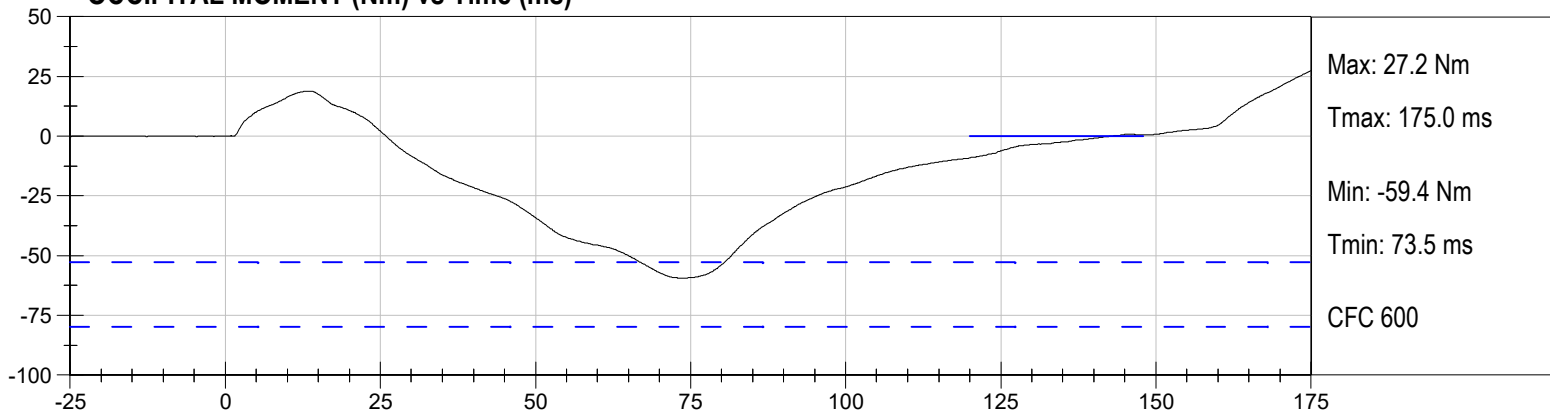
PEND. ACCEL. (g) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



OCCIPITAL MOMENT (Nm) vs Time (ms)





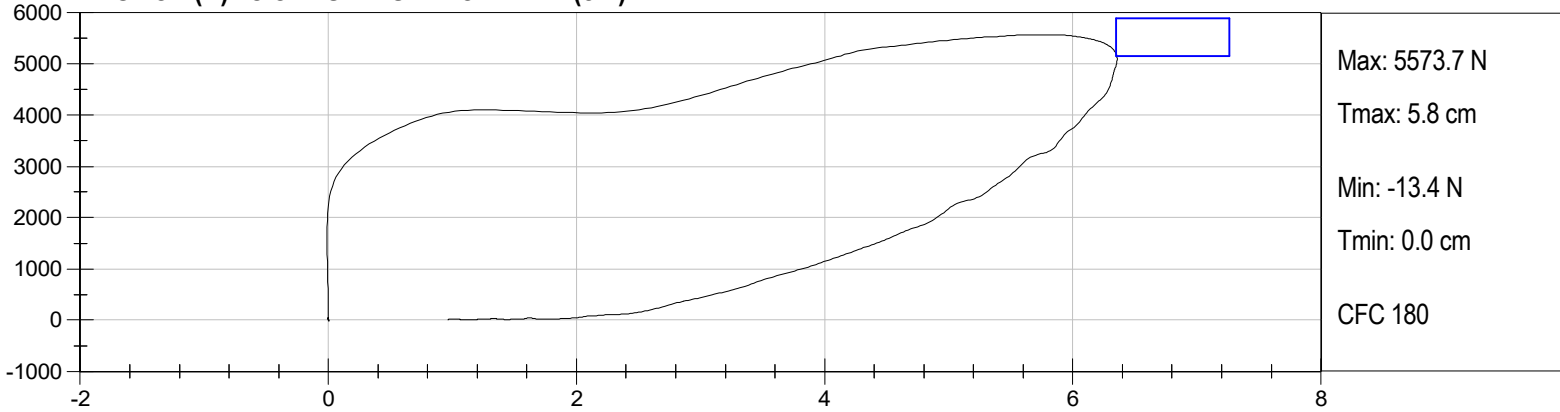
Thorax Impact Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 04/28/2025
Test ID: D251304
Test Technician: Jonah Pulokas

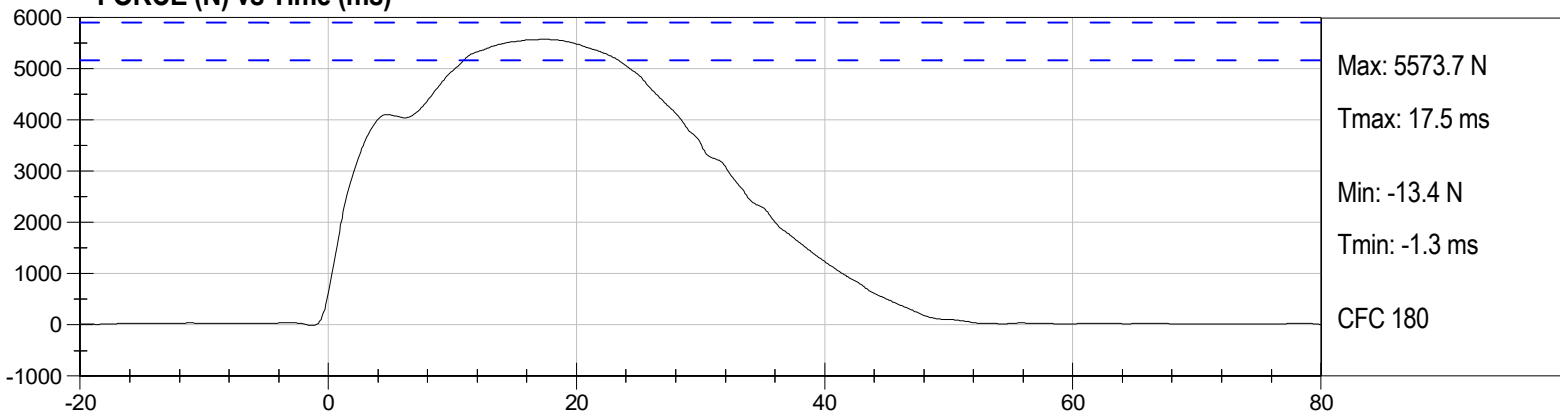
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	6.58 to 6.82	6.77	Pass
Peak Probe Force	N	5159 to 5893	5574	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.36	Pass
Internal Hysteresis	%	69 to 85	76	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PROBE	Endevco	P79577	03/21/2025	9/20/2025
CHEST DISPLACEMENT	Humanetics	064	11/19/2024	5/21/2025

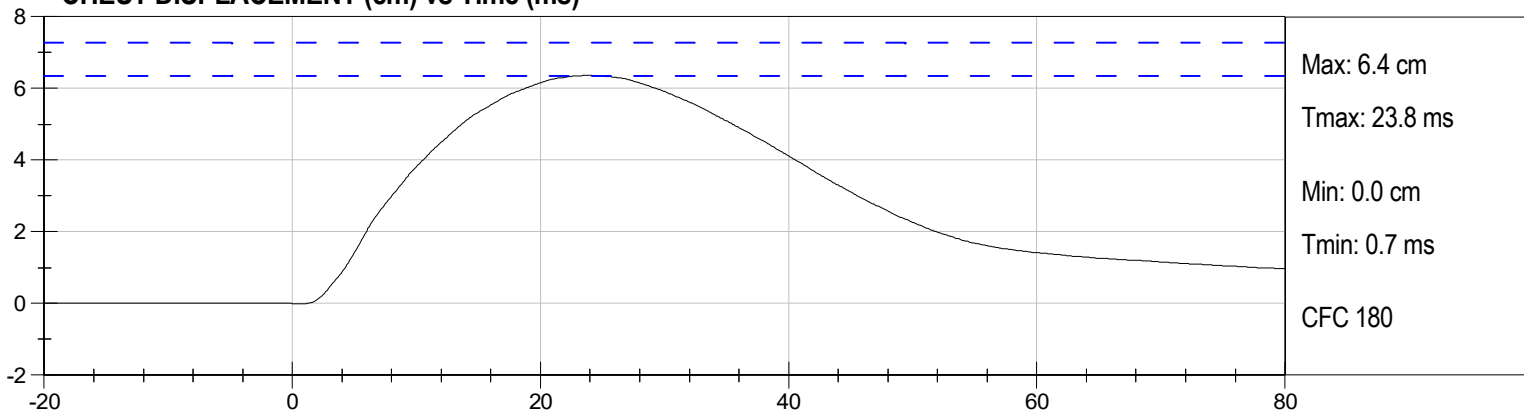
FORCE (N) vs CHEST DISPLACEMENT (cm)



FORCE (N) vs Time (ms)



CHEST DISPLACEMENT (cm) vs Time (ms)



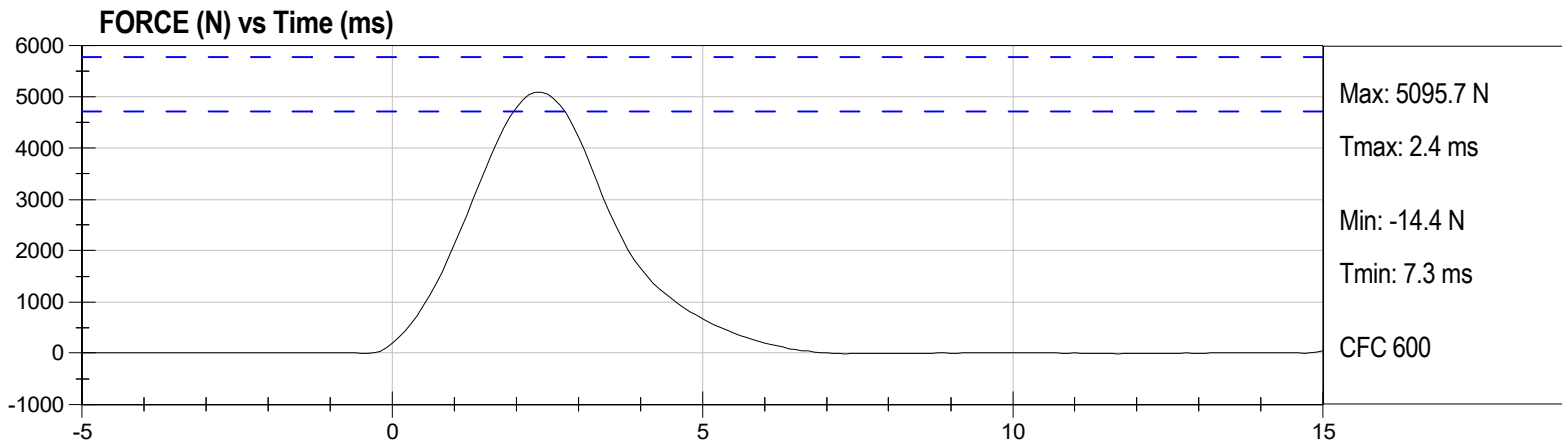


Right Knee Impact Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 04/28/2025
Test ID: D251305
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	4715 to 5782	5096	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



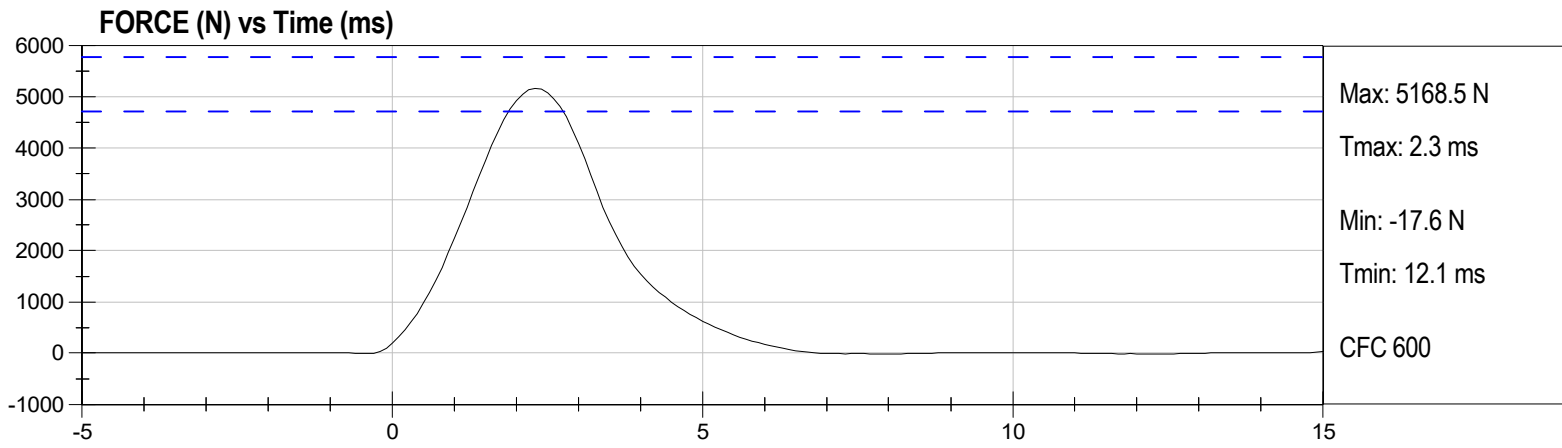


Left Knee Impact Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 04/28/2025
Test ID: D251306
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	4715 to 5782	5169	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



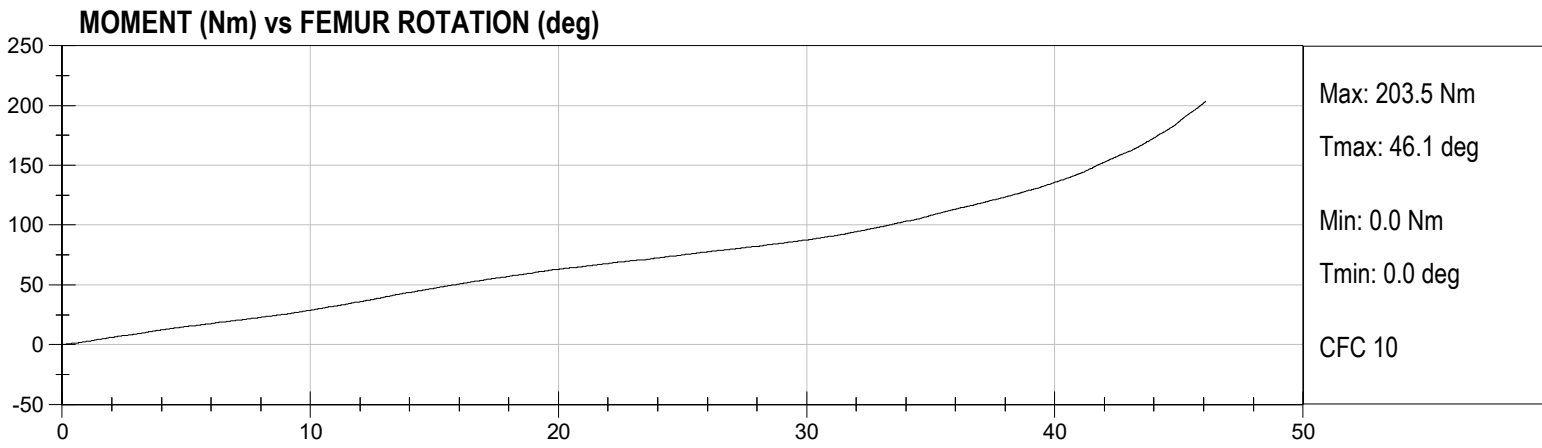


Right Hip-Femur Flexion Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 04/28/2025
Test ID: D251309
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	46	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.5	Pass
Moment at 30 Degrees	Nm	<= 94.9	87.4	Pass
Rotation Angle at 203.4 Nm	deg	40.0 to 50.0	46.1	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
LOAD CELL	FTSS	DS8350MY	03/11/2025	3/11/2026
FRAME ANGLE	Servo	3966	03/27/2025	9/26/2025
FEMUR ANGLE	Servo	4714	03/27/2025	9/26/2025



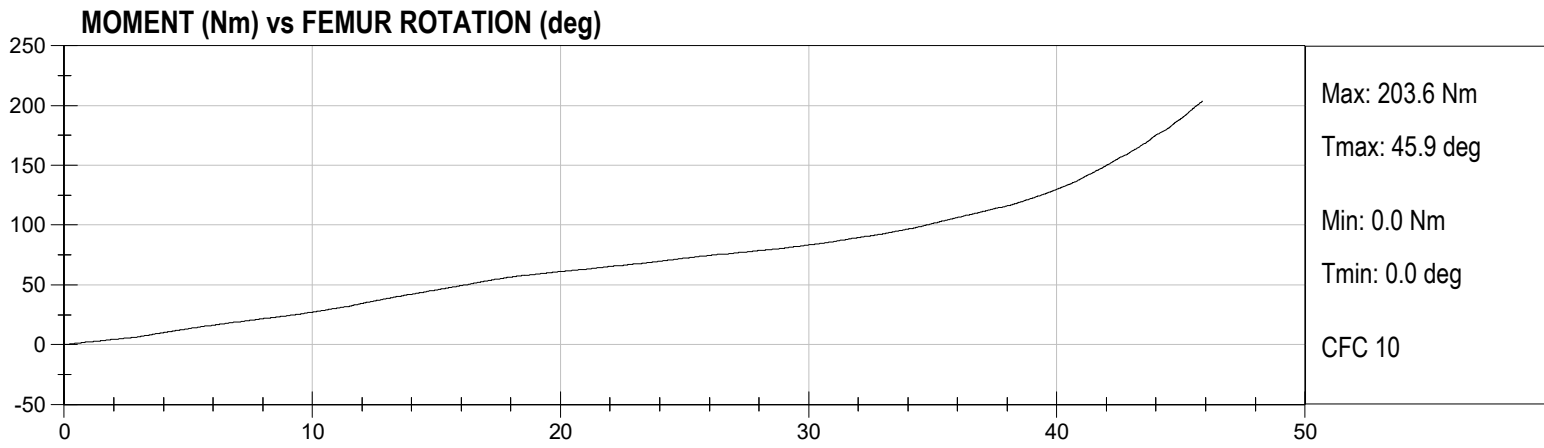


Left Hip-Femur Flexion Test
Hybrid III 50th Percentile Male
ATD Serial No: 064

Test Date: 04/28/2025
Test ID: D251300
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	48	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.5	Pass
Moment at 30 Degrees	Nm	<= 94.9	83.3	Pass
Rotation Angle at 203.4 Nm	deg	40.0 to 50.0	45.9	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
LOAD CELL	FTSS	DS8350MY	03/11/2025	3/11/2026
FRAME ANGLE	Servo	3966	03/27/2025	9/26/2025
FEMUR ANGLE	Servo	4714	03/27/2025	9/26/2025



QUALIFICATION TEST RESULTS

PRE-TEST

HYBRID III 5TH PERCENTILE FEMALE - PASSENGER ATD

Hybrid III, 5th External Measurements
SN: 142

HYBRID III, PART 572, SUBPART O EXTERNAL DIMENSIONS				
DIMENSION	DESCRIPTION	DETAILS	ASSEMBLY DIMENSION (mm)	ACTUAL MEASUREMENT
A	TOTAL SITTING HEIGHT	Seat surface to highest point on top of the head.	774.7-800.1	775.0
B	SHOULDER PIVOT HEIGHT	Centerline of shoulder pivot bolt to the seat surface.	431.8-457.2	438.2
C	H-POINT HEIGHT	Reference	81.3-86.3	81.8
D	H-POINT LOCATION FROM BACKLINE	Reference	144.8-149.8	148.3
E	SHOULDER PIVOT FROM BACKLINE	Center of the shoulder clevis to the rear vertical surface of the fixture.	68.6-83.8	83.0
F	THIGH CLEARANCE	Measured at the highest point on the upper femur segment.	119.4-134.6	124.4
G	BACK OF ELBOW TO WRIST PIVOT	back of the elbow flesh to the wrist pivot in line with the elbow and wrist pivots	243.9-259.1	245.2
H	HEAD BACK TO BACKLINE	Back of Skull cap skin to seat rear vertical surface (Reference)	43.2-48.2	43.4
I	SHOULDER TO- ELBOW LENGTH	Measure from the highest point on top of the shoulder clevis to the lowest part of the flesh on the elbow in line with the elbow pivot bolt.	276.8-297.2	281.1
J	ELBOW REST HEIGHT	Measure from the flesh below the elbow pivot bolt to the seat surface.	182.8-203.2	197.2
K	BUTTOCK TO KNEE LENGTH	The forward most part of the knee flesh to the rear vertical surface of the fixture.	520.7-546.1	537.2
L	POPLITEAL HEIGHT	Seat surface to the plane of the horizontal plane of the bottom of the feet.	355.6-376	358.8
M	KNEE PIVOT HEIGHT	Centerline of knee pivot bolt to the horizontal plane of the bottom of the feet.	393.7-419.1	403.1
N	BUTTOCK POPLITEAL LENGTH	The rearmost surface of the lower leg to the same point on the rear surface of the buttocks used for dim. "K".	414-439.4	435.2

HYBRID III, SUBPART O EXTERNAL DIMENSIONS, continued				
DIMENSION	DESCRIPTION	DETAILS	ASSEMBLY DIMENSION (mm)	ACTUAL MEASUREMENT
O	CHEST DEPTH WITHOUT JACKET	Measured 304.8 ± 5.1 mm above seat surface	175.3-190.5	181.2
P	FOOT LENGTH	Tip of toe to rear of heel	218.5-233.7	227.3
Q	STANDING HEIGHT	(THEORETICAL)	1501.1	N/A
R	BUTTOCK TO KNEE PIVOT LENGTH	The rear surface of the buttocks to the knee pivot bolt	457.2-482.6	475.0
S	HEAD BREADTH	The widest part of the head	137.1-147.3	138.6
T	HEAD DEPTH	Back of the head to the forehead	177.8-188	181.0
U	HIP BREADTH	The widest part of the hip	299.7-314.9	308.4
V	SHOULDER BREADTH	Outside edges of right and left shoulder clevises	350.5-365.7	362.1
W	FOOT BREADTH	The widest part of the foot	78.8-94	82.8
X	HEAD CIRCUMFERENCE	Measured at the point as in dim. "T"	528.3-548.7	545.2
Y	CHEST CIRCUMFERENCE (WITH CHEST JACKET)	Measured 345.4 ± 12.7 mm above seat surface	850.9-881.3	870.7
Z	WAIST CIRCUMFERENCE	Measured 165.1 ± 5.1 mm above seat surface	759.5-789.9	779.9
AA	REFERENCE LOCATION FOR MEASUREMENT OF CHEST CIRCUMFERENCE	Reference	332.7-358.1	350.1
BB	REFERENCE LOCATION FOR MEASUREMENT OF WAIST CIRCUMFERENCE	Reference	160.1-170.2	170.0

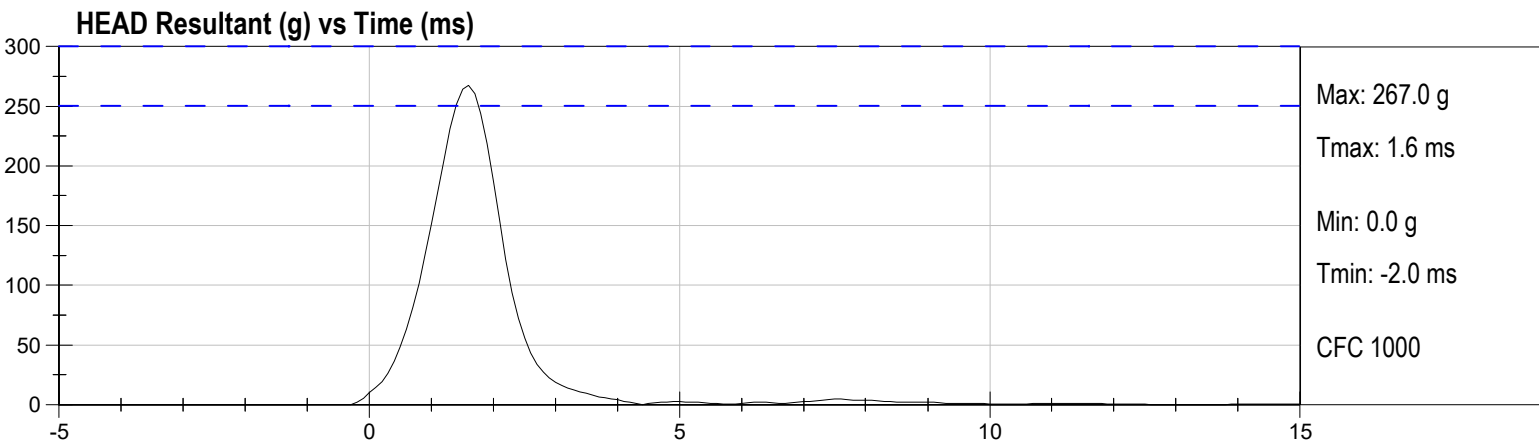
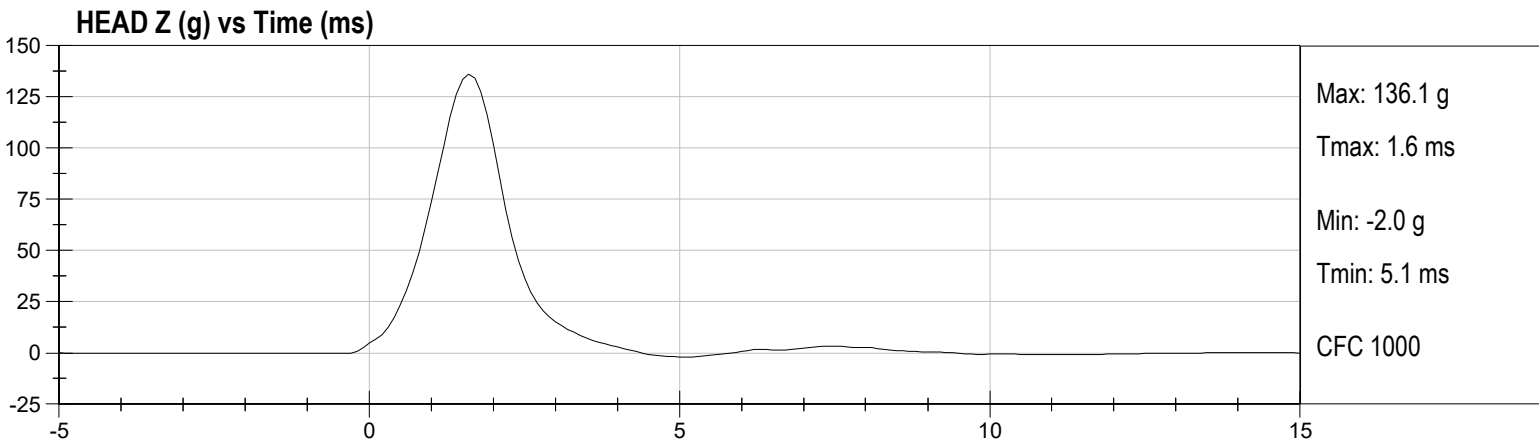
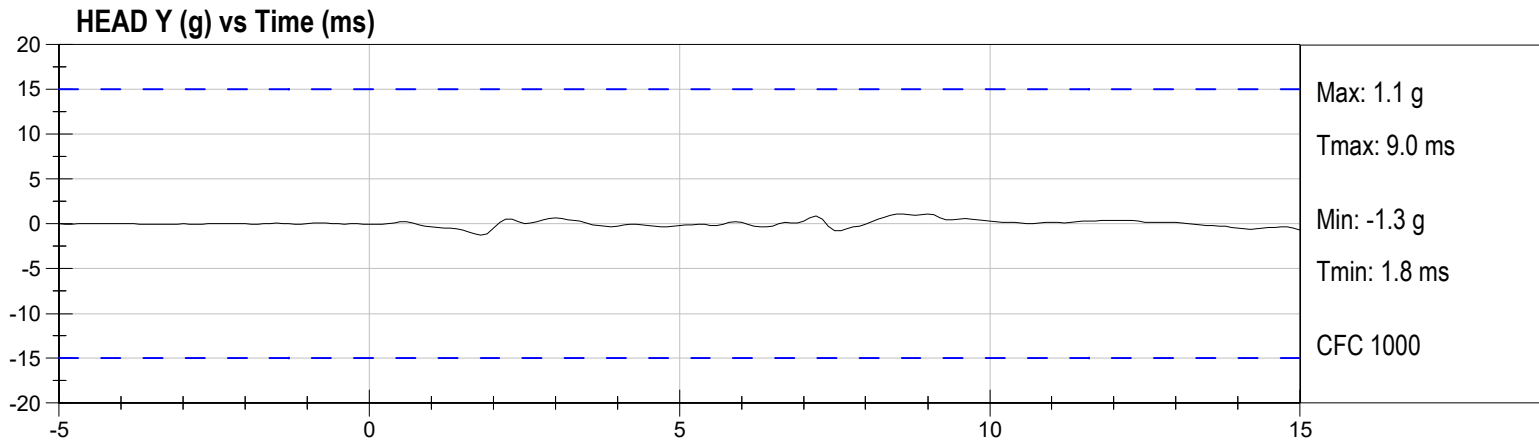
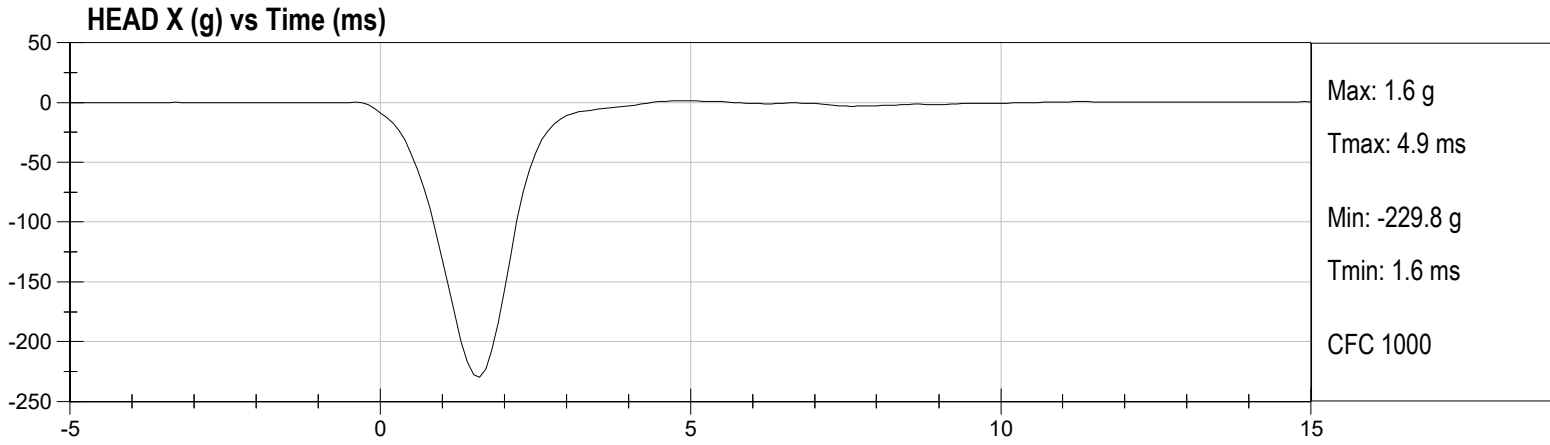


Head Drop Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 03/31/2025
Test ID: D250981
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Peak Resultant Acceleration	g	250 to 300	267	Pass
Peak Lateral Acceleration	g	-15.0 to 15.0	-1.3	Pass
Unimodal	%	within 10% of peak	2	Pass

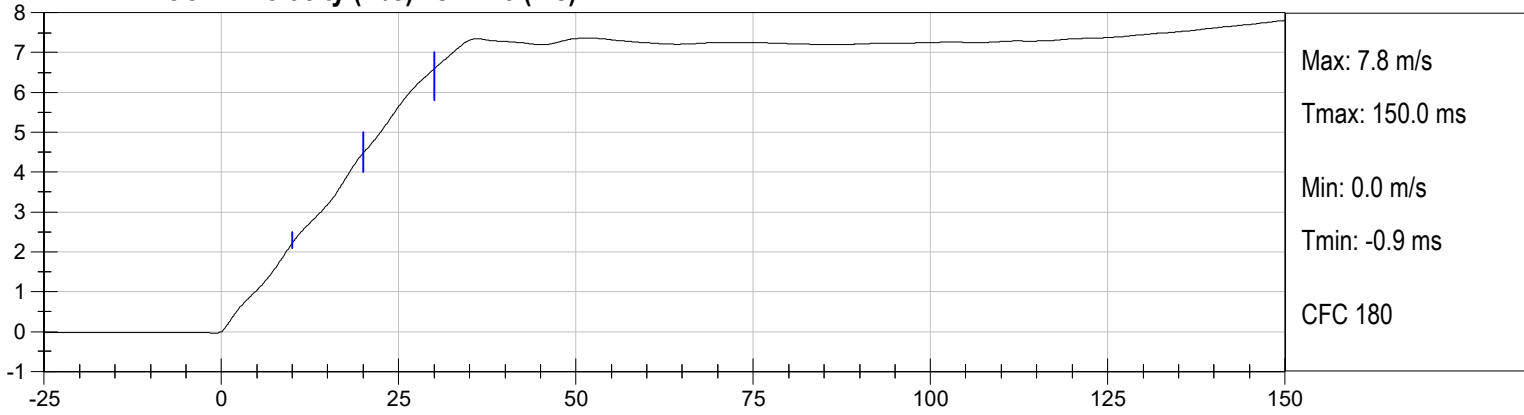
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
HEAD X	Endevco	T30974	11/25/2024	5/27/2025
HEAD Y	Endevco	T30975	11/25/2024	5/27/2025
HEAD Z	Endevco	T30976	11/25/2024	5/27/2025



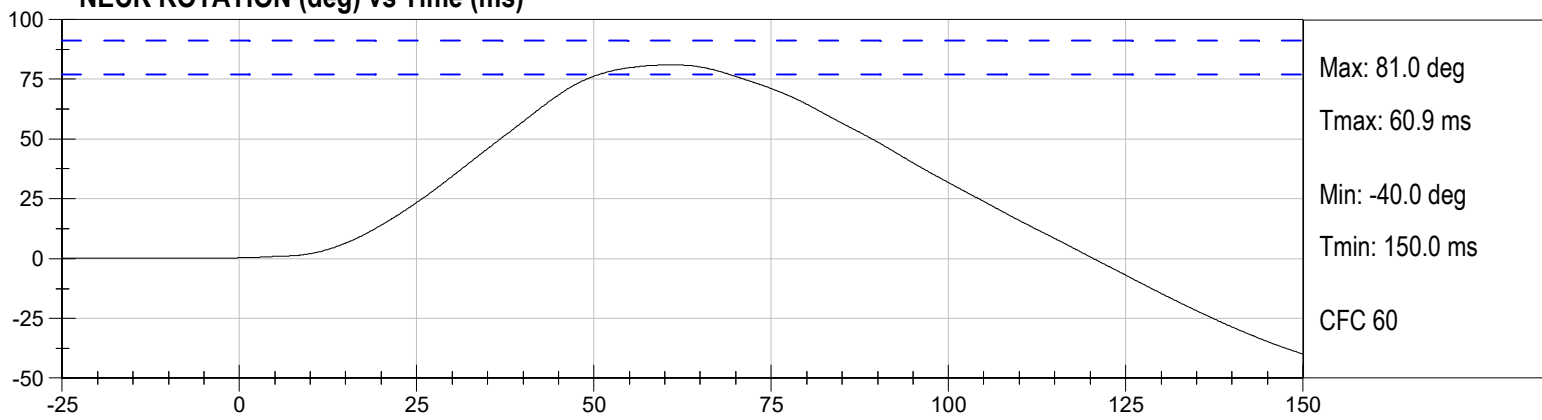
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Pendulum Velocity	m/s	6.89 to 7.13	7.06	Pass
Pendulum Velocity At 10 ms After T0	m/s	2.1 to 2.5	2.2	Pass
Pendulum Velocity At 20 ms After T0	m/s	4.0 to 5.0	4.5	Pass
Pendulum Velocity At 30 ms After T0	m/s	5.8 to 7.0	6.6	Pass
Maximum "D" Plane Rotation	Deg	77 to 91	81	Pass
Occipital Condyle Moment within Rotation Corridor	Nm	69 to 83	72	Pass
Positive Moment Time Curve Decay to 10 Nm	ms	80 to 100	87	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2203FX	01/20/2025	1/20/2026
NECK MOMENT Y	Denton	NG2203MY	01/20/2025	1/20/2026
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

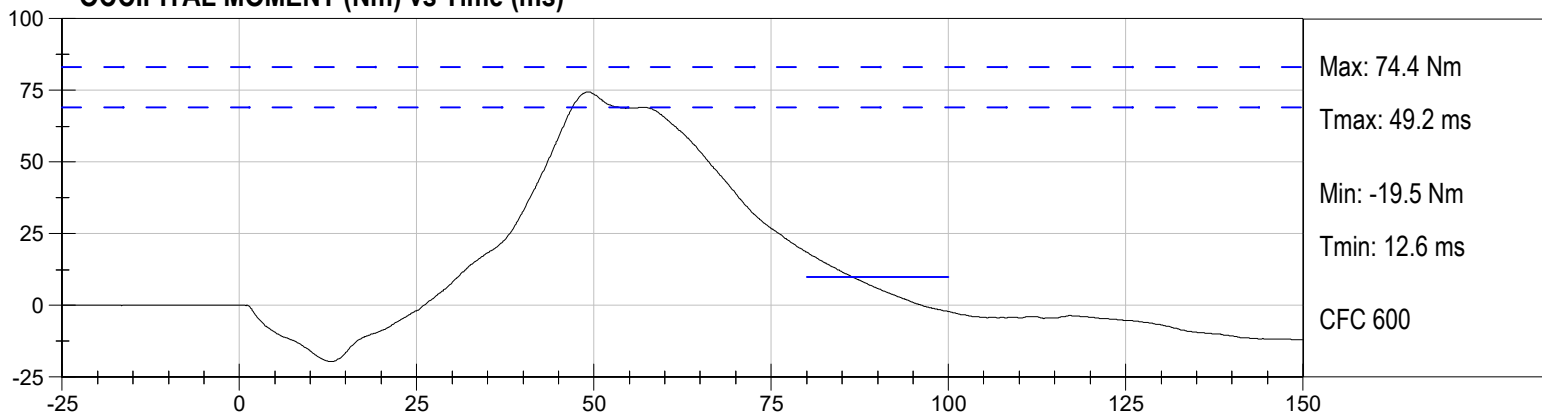
PEND. ACCEL. Velocity (m/s) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



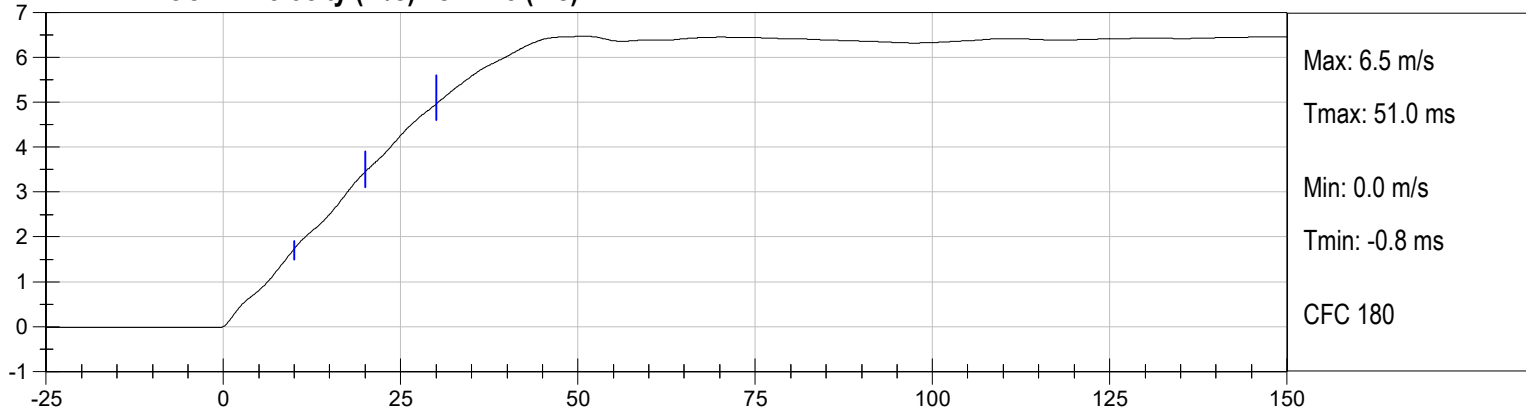
OCCIPITAL MOMENT (Nm) vs Time (ms)



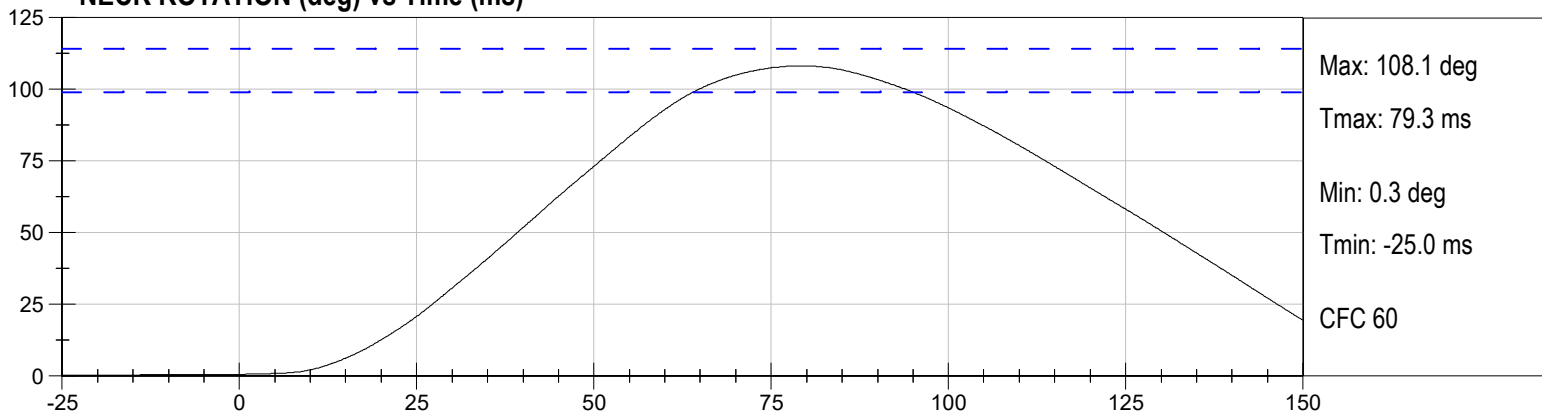
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Pendulum Velocity	m/s	5.95 to 6.19	6.12	Pass
Pendulum Velocity At 10 ms After T0	m/s	1.5 to 1.9	1.72	Pass
Pendulum Velocity At 20 ms After T0	m/s	3.1 to 3.9	3.44	Pass
Pendulum Velocity At 30 ms After T0	m/s	4.6 to 5.6	4.95	Pass
Maximum "D" Plane Rotation	Deg	99 to 114	108.1	Pass
Occipital Condyle Moment within Rotation Corridor	Nm	-53 to -65	-54	Pass
Negative Moment Time Curve Decay to -10 Nm	ms	94 to 114	108	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2203FX	01/20/2025	1/20/2026
NECK MOMENT Y	Denton	NG2203MY	01/20/2025	1/20/2026
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

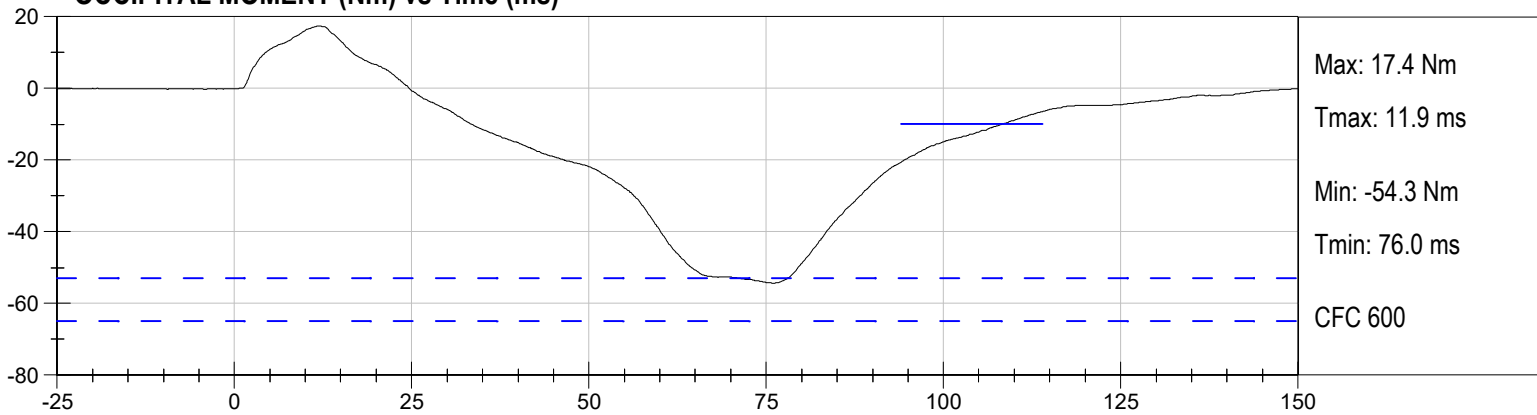
PEND. ACCEL. Velocity (m/s) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



OCCIPITAL MOMENT (Nm) vs Time (ms)





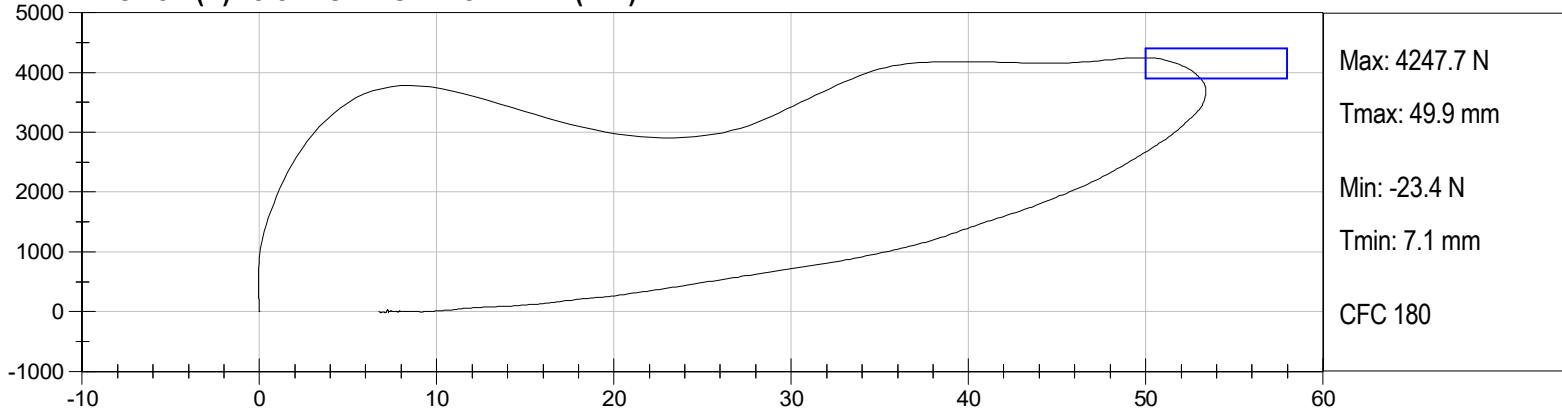
Thorax Impact Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 03/31/2025
Test ID: D250984
Test Technician: Jonah Pulokas

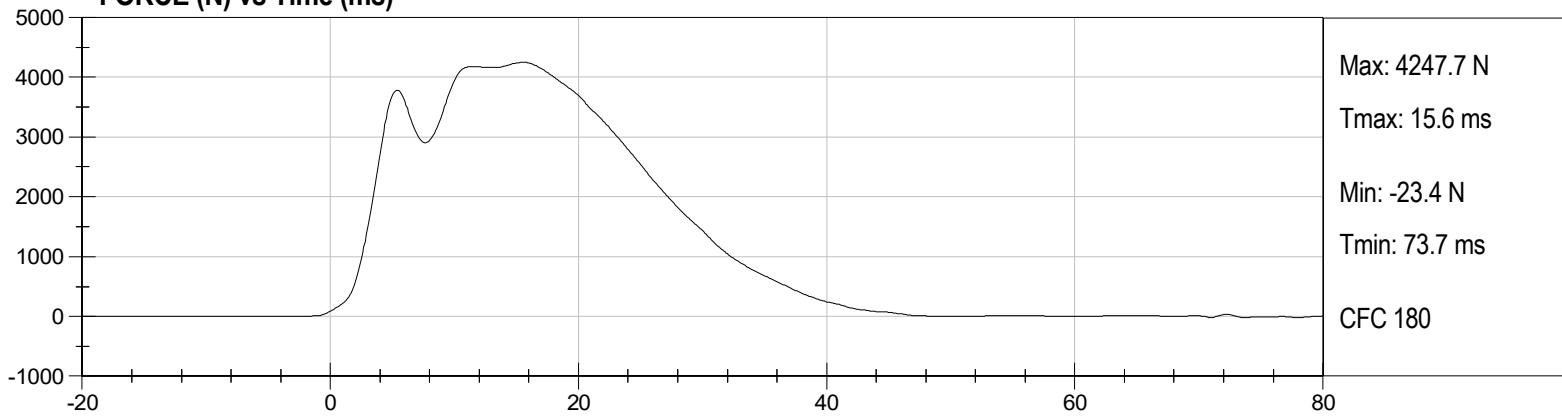
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	6.59 to 6.83	6.77	Pass
Peak Deflection	mm	50 to 58	53	Pass
Peak Resistive Force w/in Corridor	N	3900 to 4400	4247	Pass
Internal Hysteresis	%	69 to 85	76	Pass
Peak Force 18 mm - 50 mm	N	0 to 4600	4248	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PROBE	Endevco	P79577	03/21/2025	9/20/2025
CHEST DISPLACEMENT	Humanetics	142	10/29/2024	4/30/2025

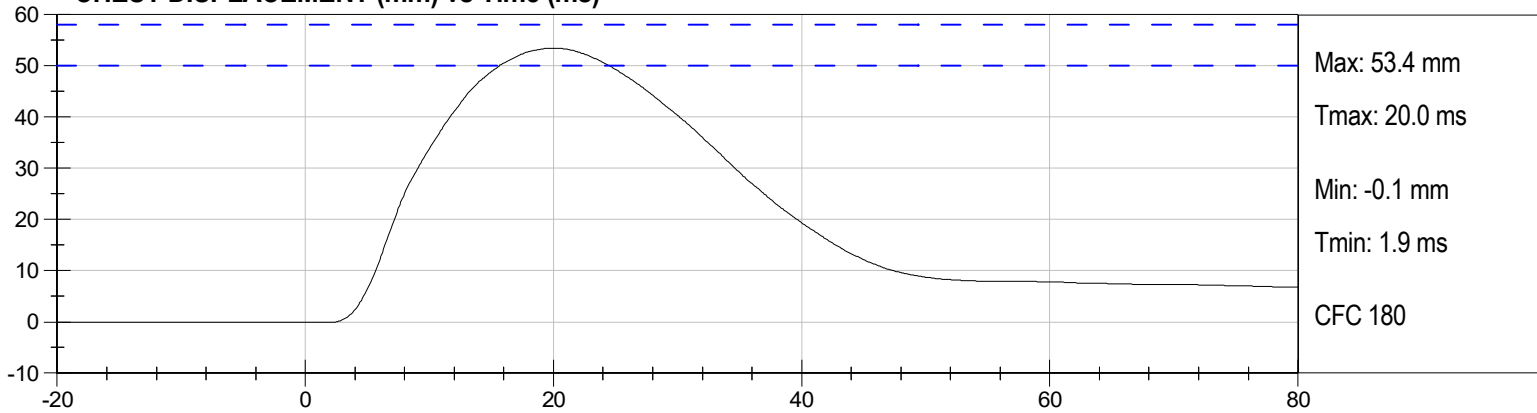
FORCE (N) vs CHEST DISPLACEMENT (mm)



FORCE (N) vs Time (ms)



CHEST DISPLACEMENT (mm) vs Time (ms)



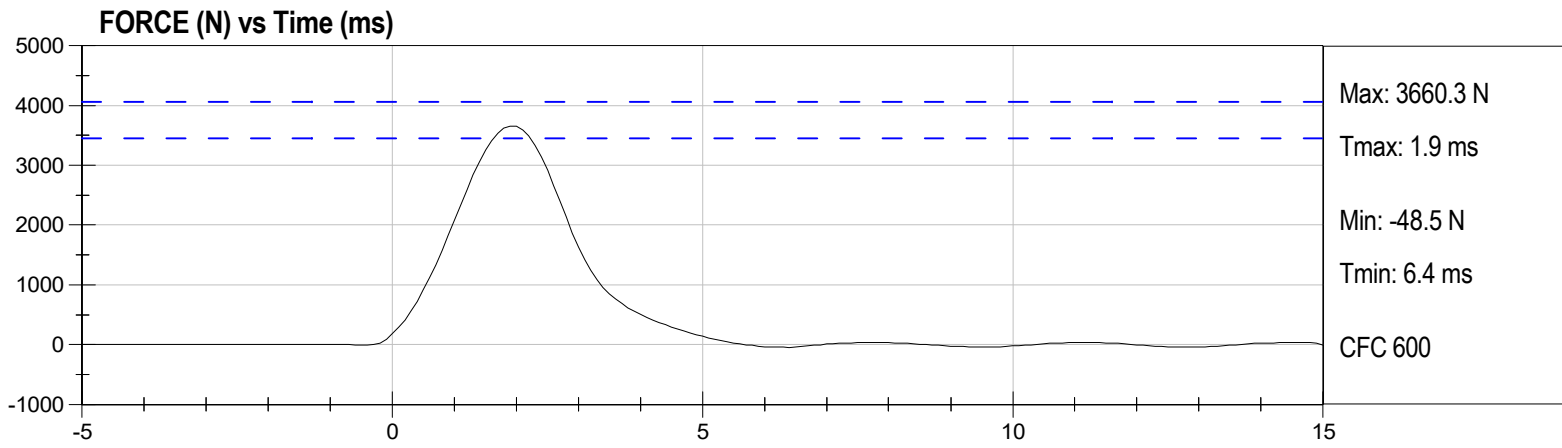


Right Knee Impact Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 03/31/2025
Test ID: D250985
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	3450 to 4060	3660	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



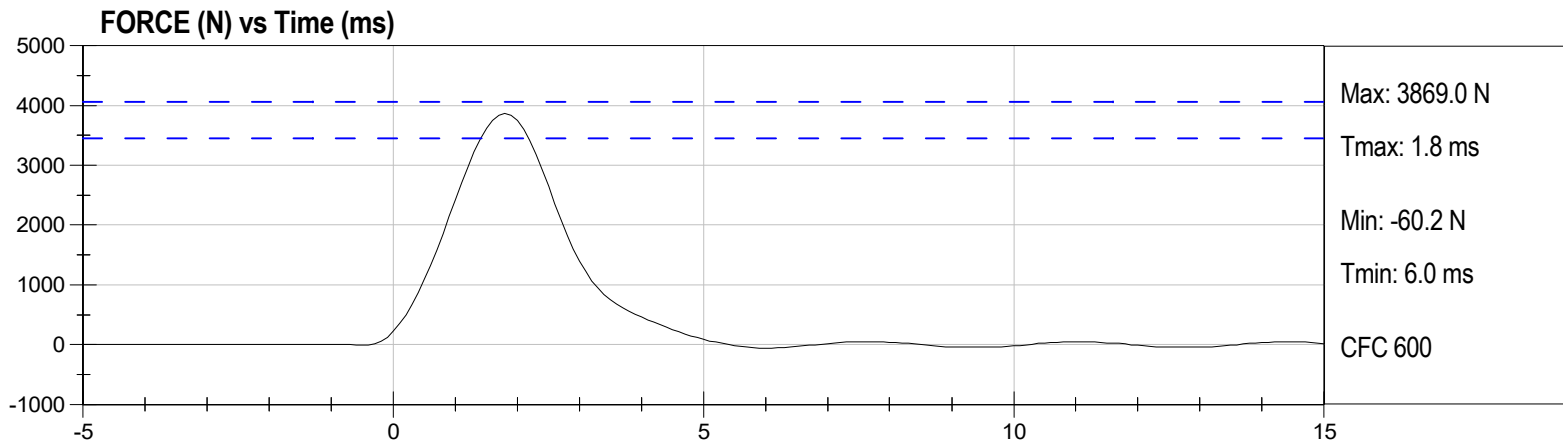


Left Knee Impact Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 03/31/2025
Test ID: D250986
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	3450 to 4060	3869	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



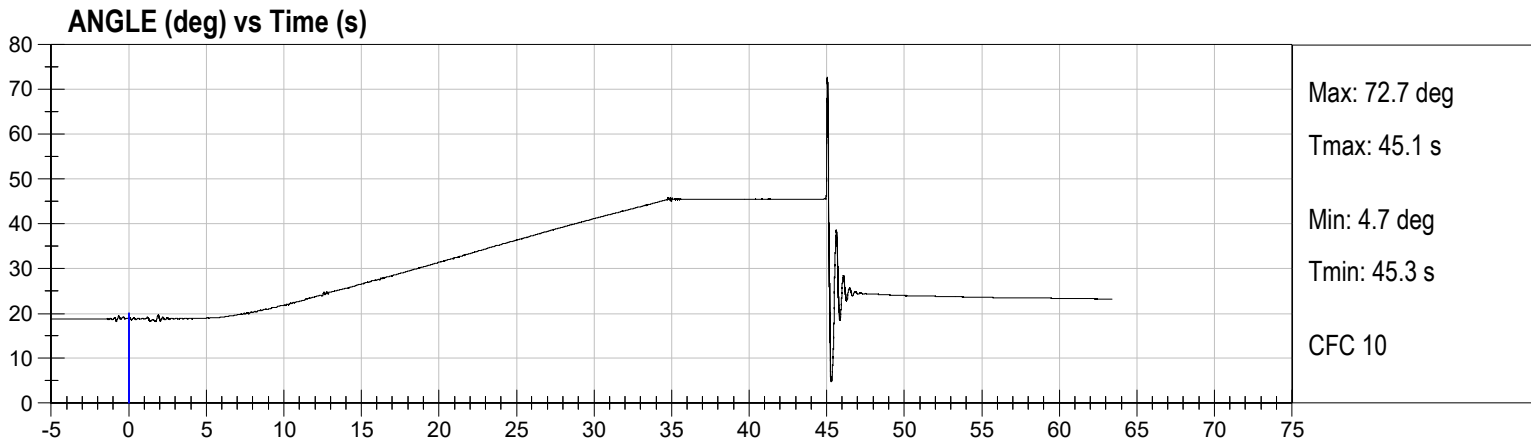
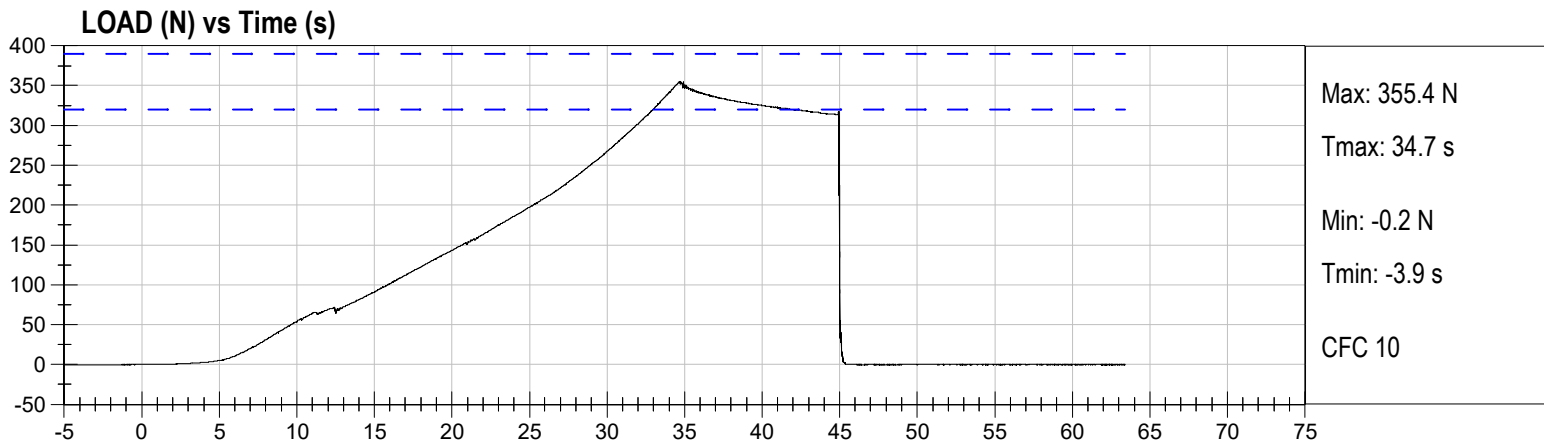


Torso Flexion Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 03/31/2025
Test ID: D250987
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Initial Angle	deg	0 to 20	19	Pass
Return Angle Relative to Initial	deg	-8 to 8	3	Pass
Force at 45 deg	N	320 to 390	355	Pass
Upper Torso Deflection Rate	deg/s	0.5 to 1.5	0.9	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
LOAD	Interface	479661	01/29/2025	7/31/2025
ANGLE	Seika	494819	05/21/2024	5/21/2025



QUALIFICATION TEST RESULTS

POST-TEST

HYBRID III 5TH PERCENTILE FEMALE - PASSENGER ATD

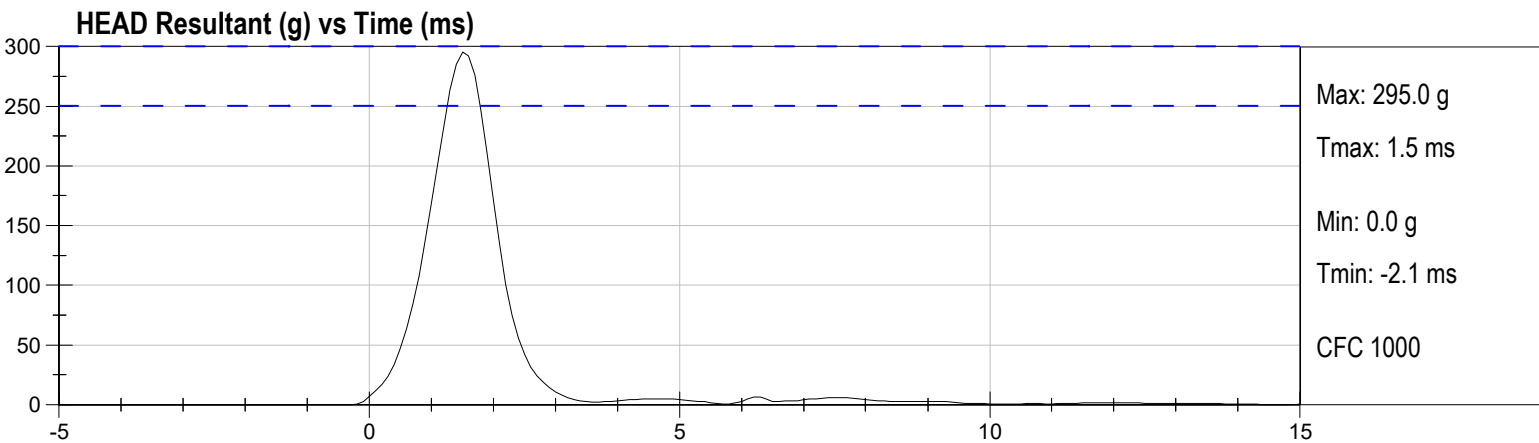
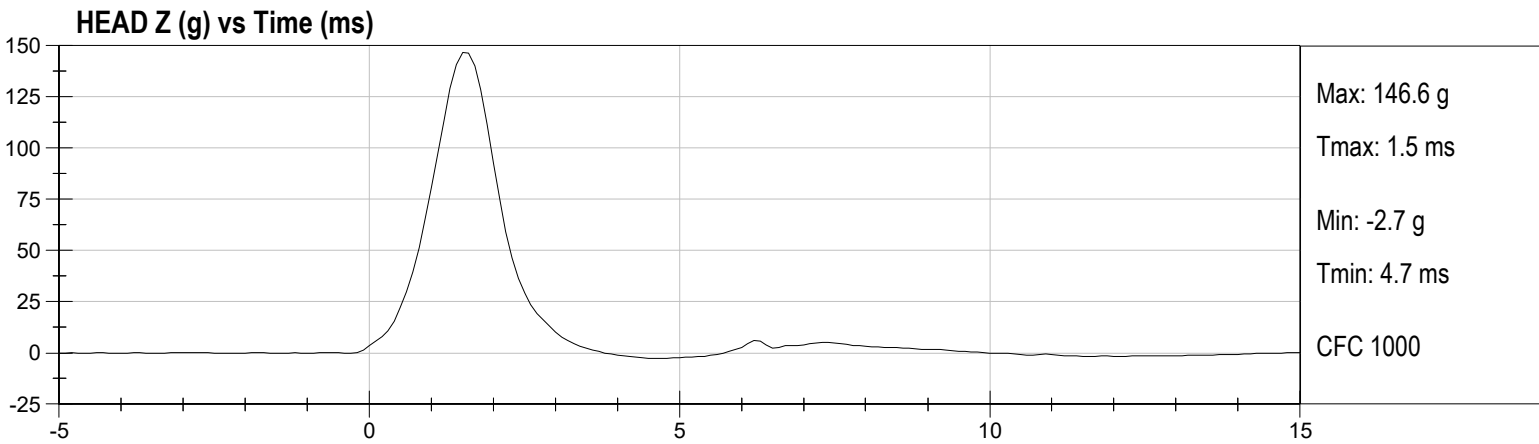
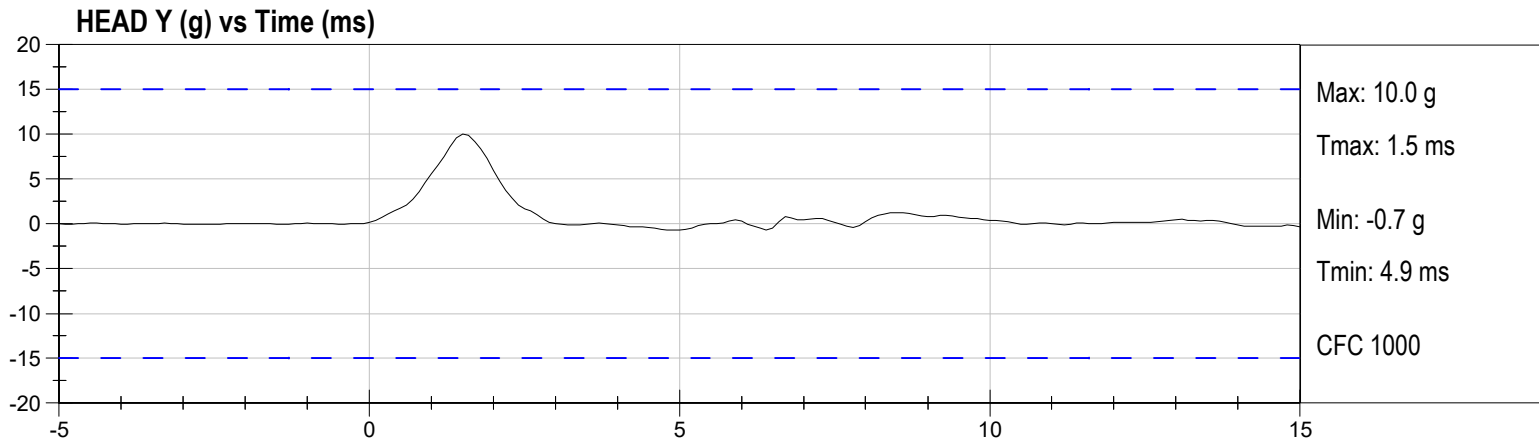
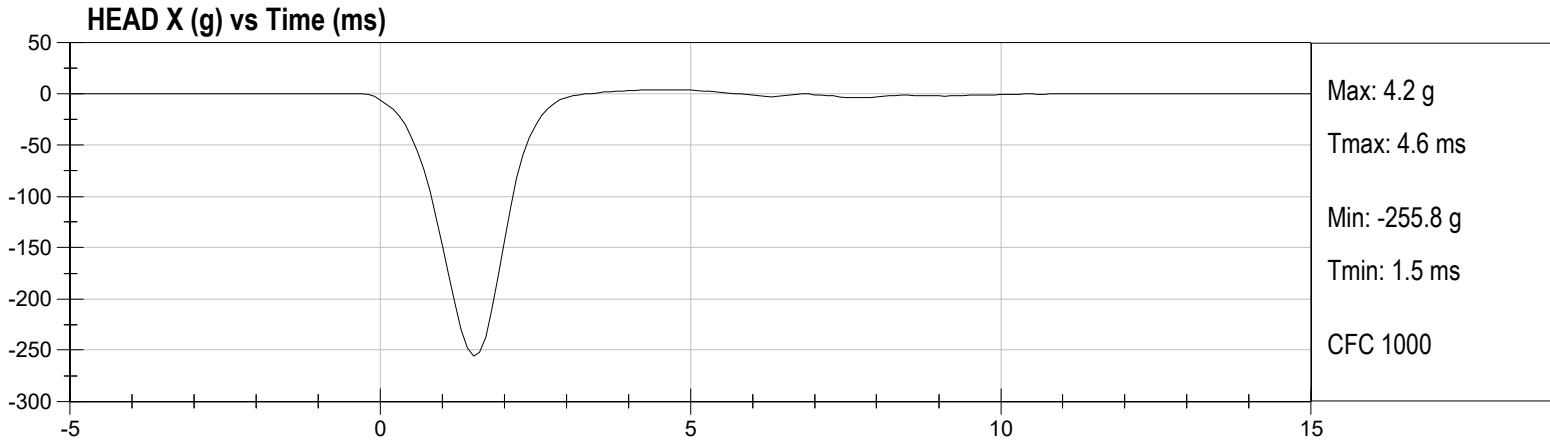


Head Drop Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 04/28/2025
Test ID: D251291
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Peak Resultant Acceleration	g	250 to 300	295	Pass
Peak Lateral Acceleration	g	-15.0 to 15.0	10.0	Pass
Unimodal	%	within 10% of peak	2	Pass

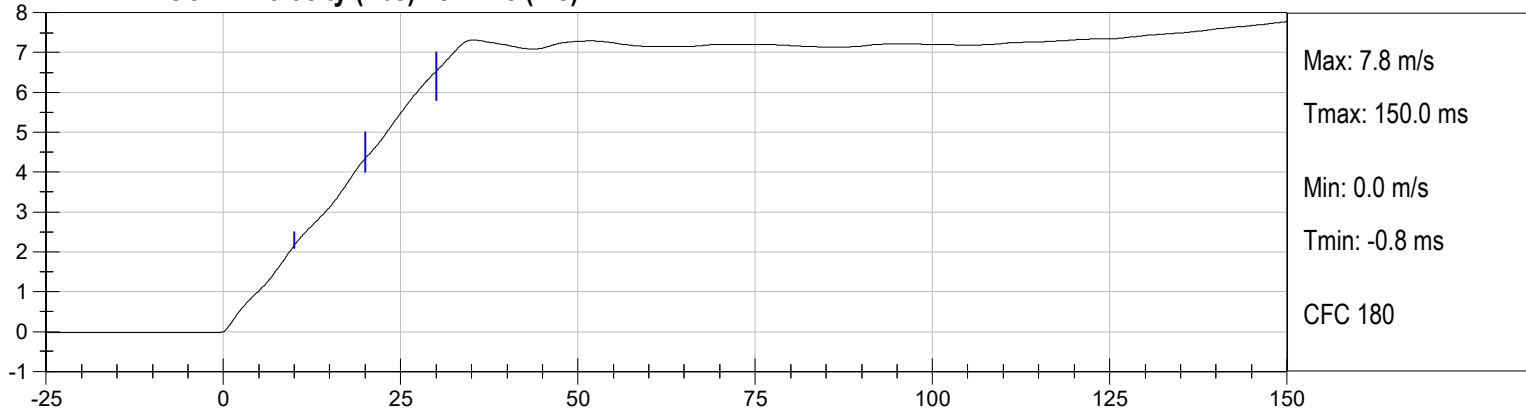
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
HEAD X	Endevco	T30974	11/25/2024	5/27/2025
HEAD Y	Endevco	T30975	11/25/2024	5/27/2025
HEAD Z	Endevco	T30976	11/25/2024	5/27/2025



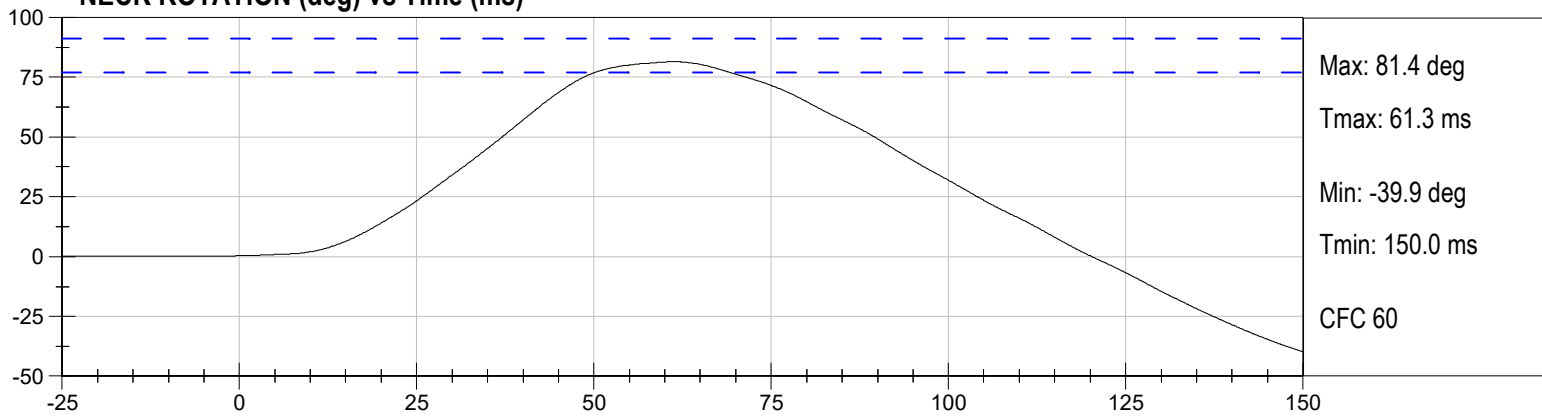
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Pendulum Velocity	m/s	6.89 to 7.13	6.96	Pass
Pendulum Velocity At 10 ms After T0	m/s	2.1 to 2.5	2.14	Pass
Pendulum Velocity At 20 ms After T0	m/s	4.0 to 5.0	4.33	Pass
Pendulum Velocity At 30 ms After T0	m/s	5.8 to 7.0	6.51	Pass
Maximum "D" Plane Rotation	Deg	77 to 91	81	Pass
Occipital Condyle Moment within Rotation Corridor	Nm	69 to 83	75	Pass
Positive Moment Time Curve Decay to 10 Nm	ms	80 to 100	87	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2203FX	01/20/2025	1/20/2026
NECK MOMENT Y	Denton	NG2203MY	01/20/2025	1/20/2026
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

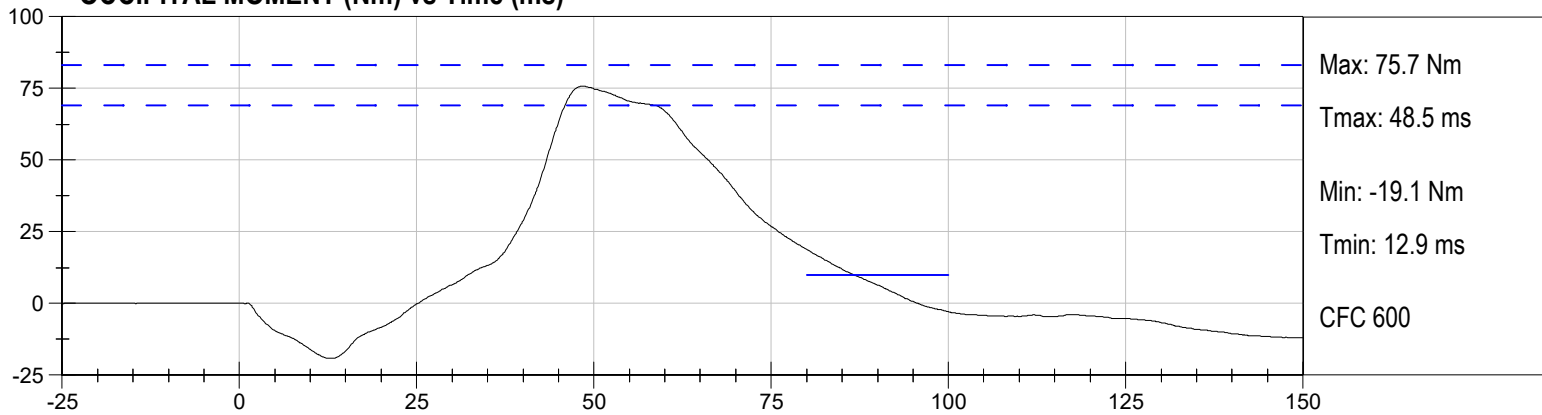
PEND. ACCEL. Velocity (m/s) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



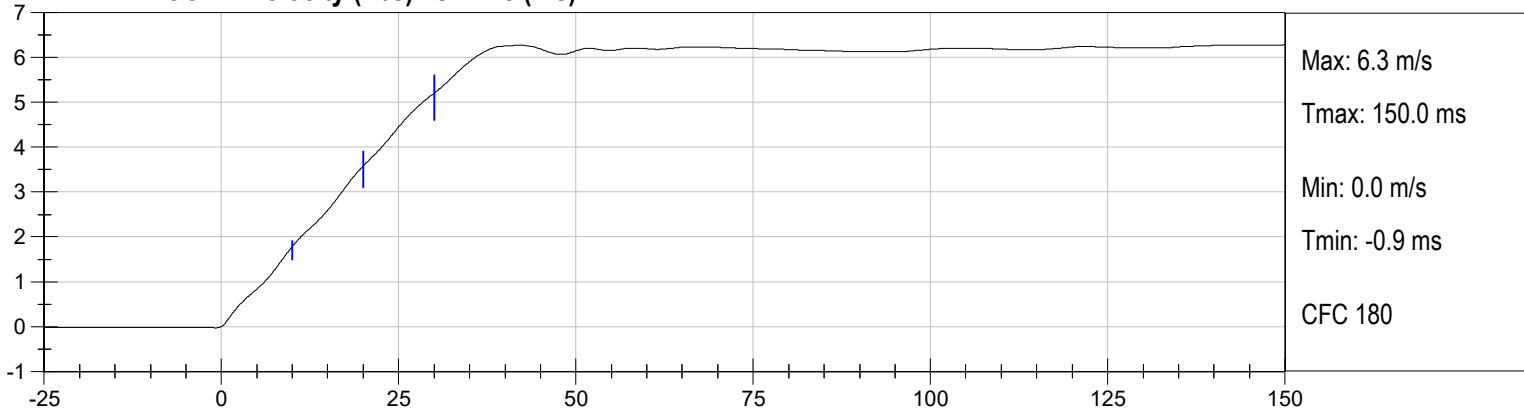
OCCIPITAL MOMENT (Nm) vs Time (ms)



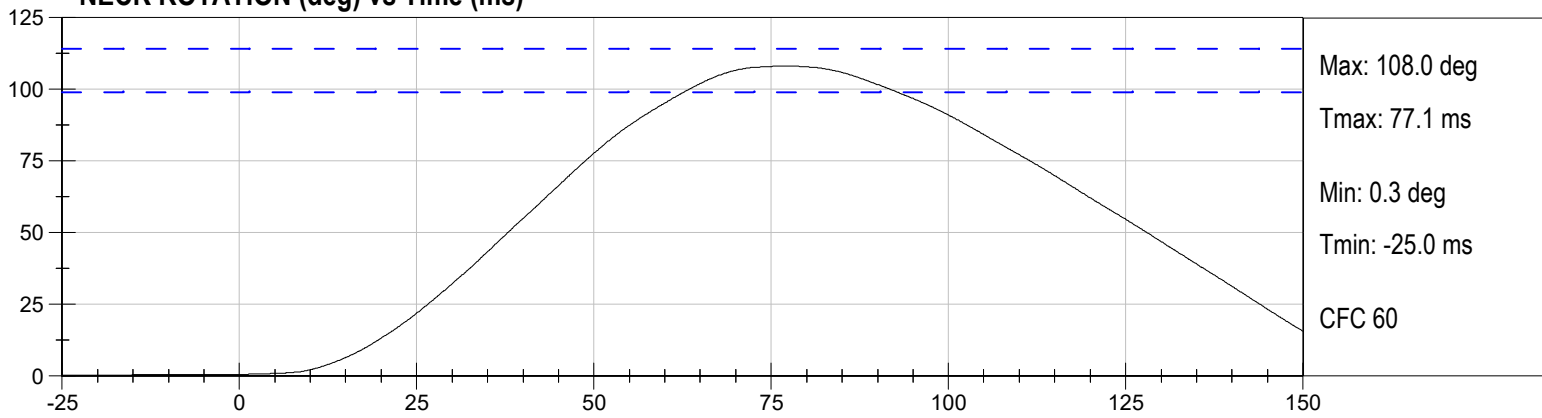
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Pendulum Velocity	m/s	5.95 to 6.19	5.98	Pass
Pendulum Velocity At 10 ms After T0	m/s	1.5 to 1.9	1.77	Pass
Pendulum Velocity At 20 ms After T0	m/s	3.1 to 3.9	3.56	Pass
Pendulum Velocity At 30 ms After T0	m/s	4.6 to 5.6	5.19	Pass
Maximum "D" Plane Rotation	Deg	99 to 114	108.0	Pass
Occipital Condyle Moment within Rotation Corridor	Nm	-53 to -65	-54	Pass
Negative Moment Time Curve Decay to -10 Nm	ms	94 to 114	105	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PEND. ACCEL.	Endevco	AH5P1	01/13/2025	7/15/2025
NECK FORCE X	Denton	NG2203FX	01/20/2025	1/20/2026
NECK MOMENT Y	Denton	NG2203MY	01/20/2025	1/20/2026
PEND. POT	Servo	4707	02/25/2025	8/27/2025
HEAD POT	Servo	7297	02/25/2025	8/27/2025

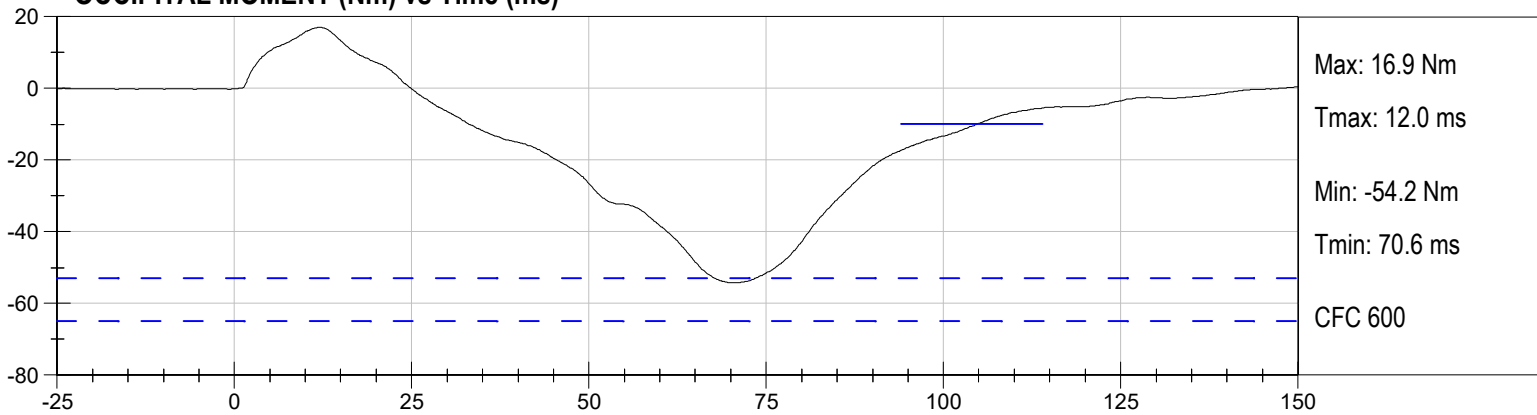
PEND. ACCEL. Velocity (m/s) vs Time (ms)



NECK ROTATION (deg) vs Time (ms)



OCCIPITAL MOMENT (Nm) vs Time (ms)





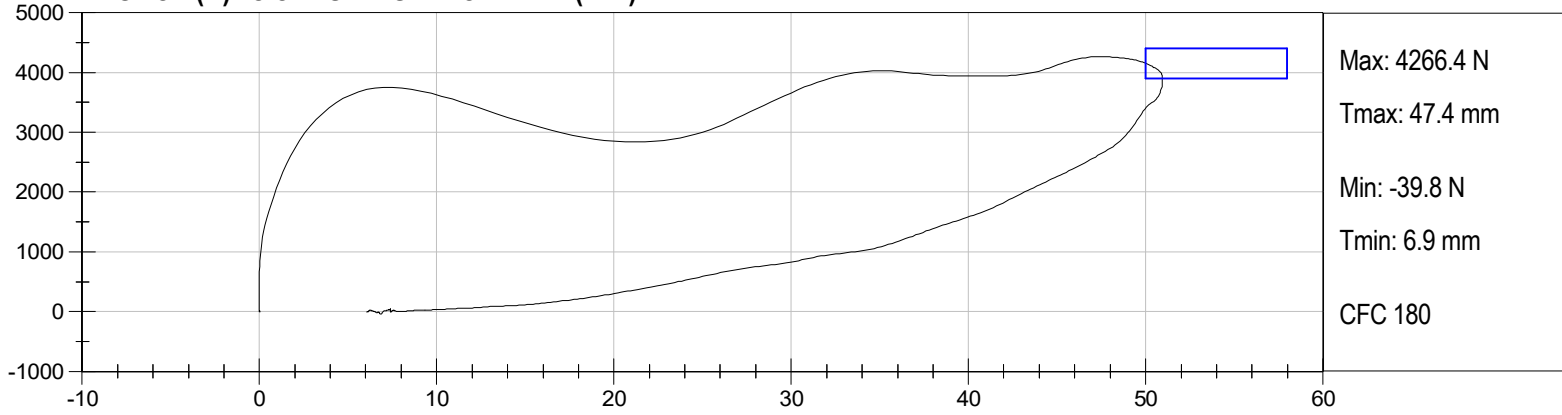
Thorax Impact Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 04/28/2025
Test ID: D251294
Test Technician: Jonah Pulokas

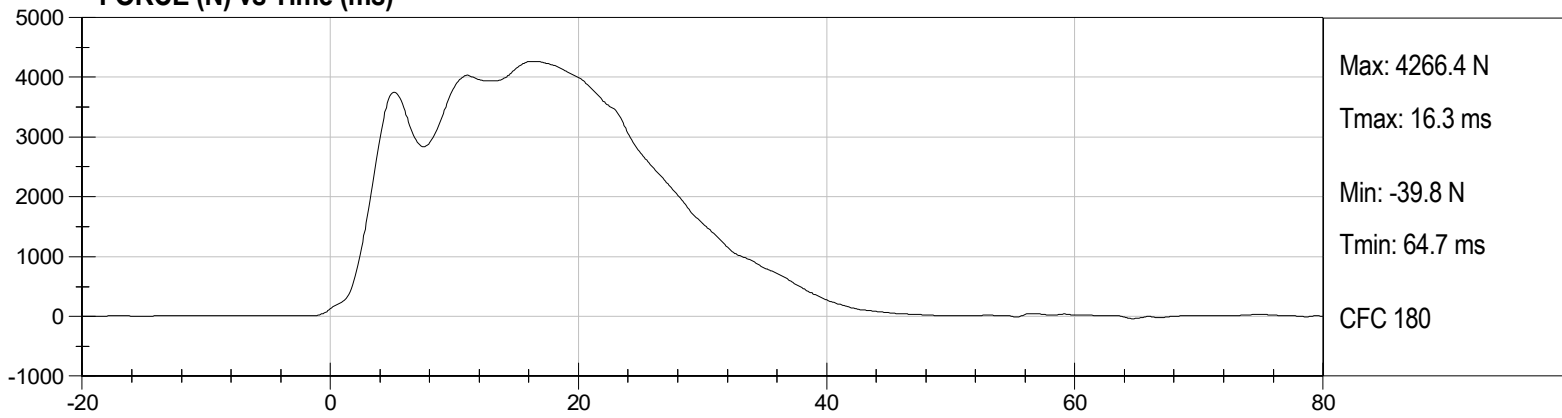
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	6.59 to 6.83	6.77	Pass
Peak Deflection	mm	50 to 58	51	Pass
Peak Resistive Force w/in Corridor	N	3900 to 4400	4142	Pass
Internal Hysteresis	%	69 to 85	75	Pass
Peak Force 18 mm - 50 mm	N	0 to 4600	4266	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
PROBE	Endevco	P79577	03/21/2025	9/20/2025
CHEST DISPLACEMENT	Humanetics	142	10/29/2024	4/30/2025

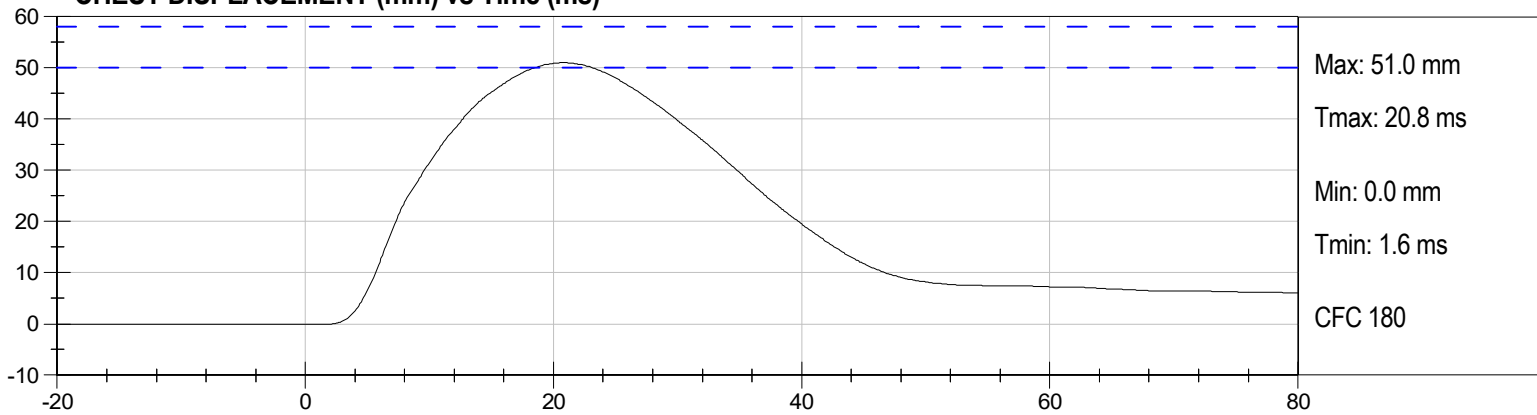
FORCE (N) vs CHEST DISPLACEMENT (mm)



FORCE (N) vs Time (ms)



CHEST DISPLACEMENT (mm) vs Time (ms)



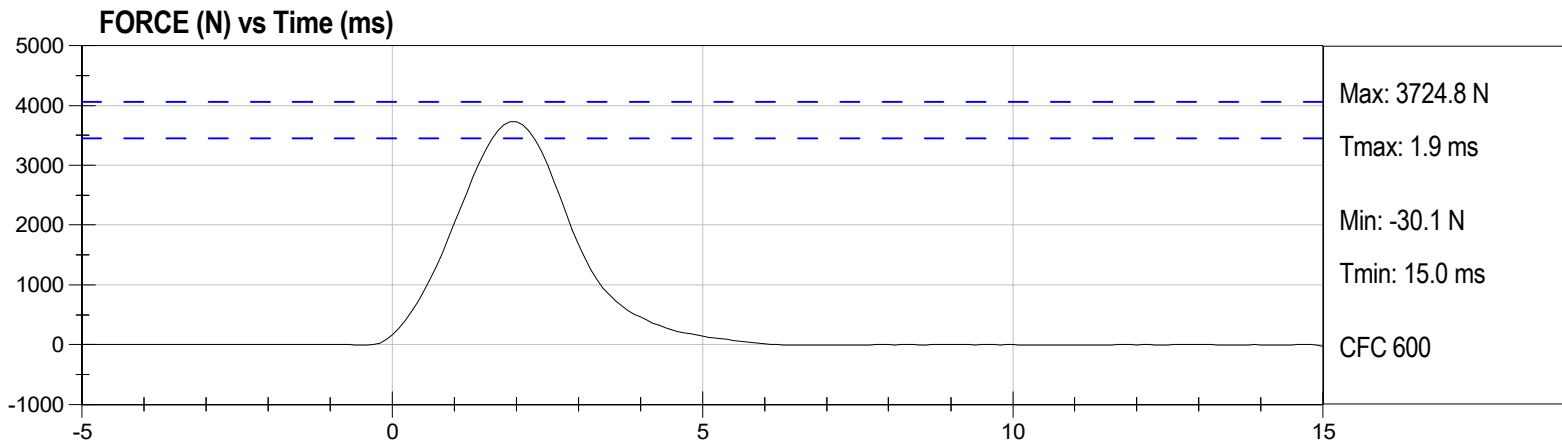


Right Knee Impact Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 04/28/2025
Test ID: D251295
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	3450 to 4060	3725	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



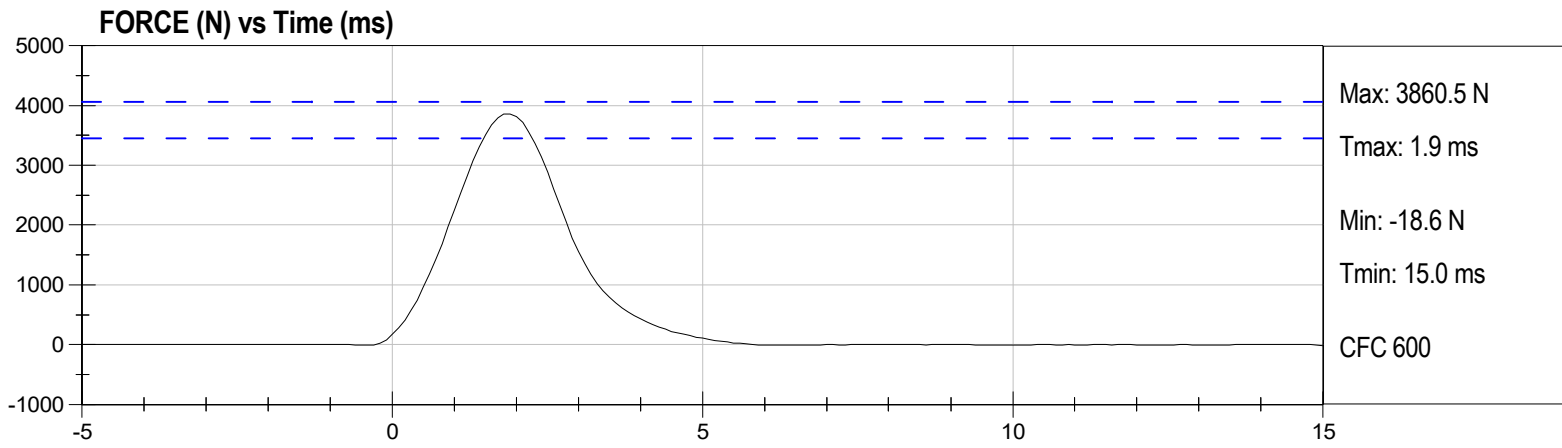


Left Knee Impact Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 04/28/2025
Test ID: D251296
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
Probe Velocity	m/s	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	3450 to 4060	3861	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
KNEE PROBE	Endevco	P82128	12/03/2024	6/4/2025



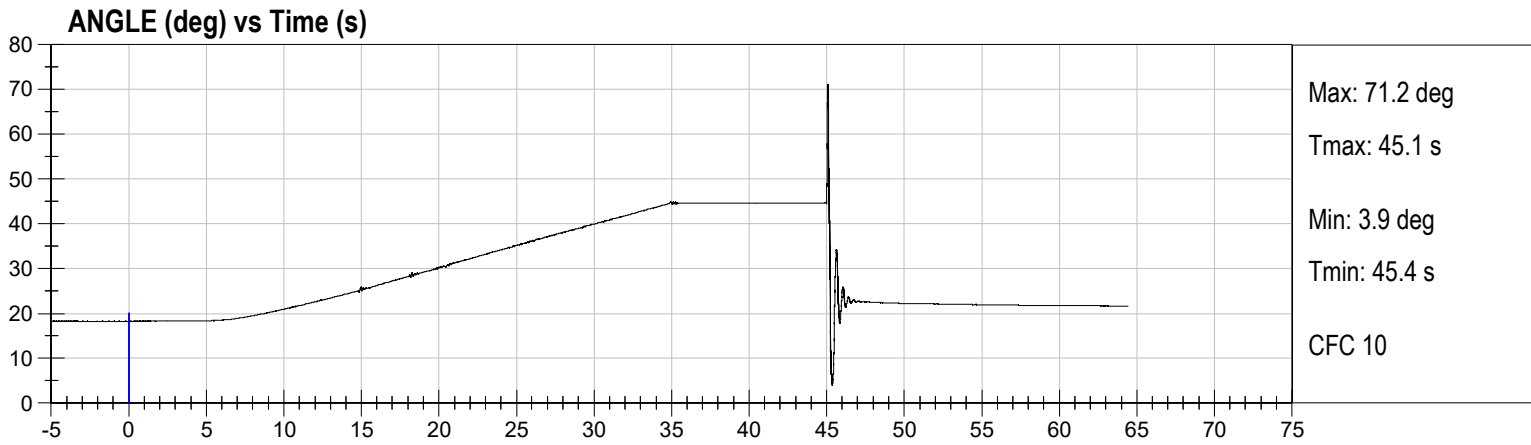
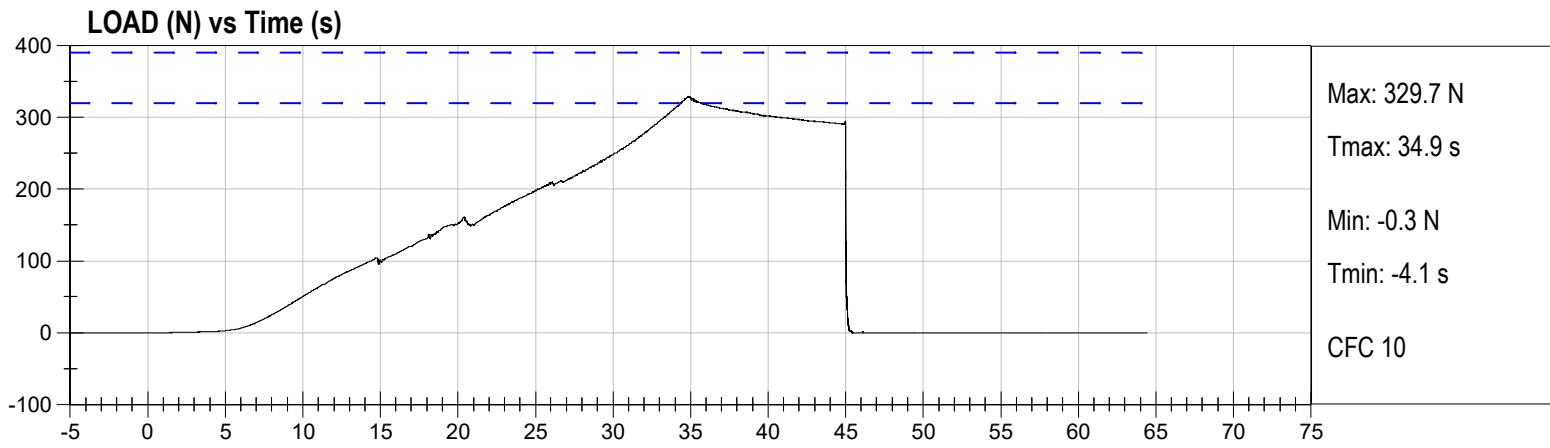


Torso Flexion Test
Hybrid III 5th Percentile Female
ATD Serial No: 142

Test Date: 04/28/2025
Test ID: D251297
Test Technician: Jonah Pulokas

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
Initial Angle	deg	0 to 20	18	Pass
Return Angle Relative to Initial	deg	-8 to 8	3	Pass
Force at 45 deg	N	320 to 390	330	Pass
Upper Torso Deflection Rate	deg/s	0.5 to 1.5	0.9	Pass

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
LOAD	Interface	479661	01/29/2025	7/31/2025
ANGLE	Seika	494819	05/21/2024	5/21/2025



APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

TABLE 1 – DRIVER DUMMY INSTRUMENTATION

Instrument Location			Axis	Hybrid III 50 th S/N 064		
				Serial Number	Manufacturer	Calibration Date
Head Accelerometers	Primary		X	T30960	Endevco	11/19/2024
			Y	P79743	Endevco	11/19/2024
			Z	P79741	Endevco	11/19/2024
	Redundant		X	P79744	Endevco	11/19/2024
			Y	P94834	Endevco	11/19/2024
			Z	P94856	Endevco	11/19/2024
Head Angular Rate Sensors			X	ARS7502	DTS	07/31/2024
			Y	ARS7524	DTS	07/31/2024
			Z	ARS7547	DTS	07/31/2024
Upper Neck Load Cell		Fx, Fy, Fz Mx, My, Mz	NG2022	Denton	05/24/2024	
Chest Accelerometers	Primary		X	P86793	Endevco	11/19/2024
			Y	P88348	Endevco	11/19/2024
			Z	P86792	Endevco	11/19/2024
	Redundant		X	P88667	Endevco	11/19/2024
			Y	P94109	Endevco	11/19/2024
			Z	P88666	Endevco	11/19/2024
Chest Potentiometer		X	064	Humanetics	11/19/2024	
Pelvis Accelerometers			X	P97742	Endevco	11/19/2024
			Y	P96038	Endevco	11/19/2024
			Z	P95526	Endevco	11/19/2024
Femur Load Cells	Right	Primary	Z	FG121P	Denton	11/19/2024
		Redundant	Z	FG121R	Denton	11/19/2024
	Left	Primary	Z	FG122P	Denton	11/19/2024
		Redundant	Z	FG122R	Denton	11/19/2024
Tibia Load Cells	Right	Upper	Mx, My, Fz	TG405	Denton	11/12/2024
		Lower	Mx, My, Fz	AG368	Denton	11/11/2024
	Left	Upper	Mx, My, Fz	TG475	Denton	11/12/2024
		Lower	Mx, My, Fz	AG504	Denton	11/12/2024
Foot Accelerometers	Right	Rear	X	T22486	Endevco	11/19/2024
			Z	P97382	Endevco	11/19/2024
		Front	Z	P82120	Endevco	11/19/2024
	Left	Rear	X	T16468	Endevco	11/19/2024
			Z	T32154	Endevco	11/19/2024
		Front	Z	T32190	Endevco	11/19/2024
Seat Belt Load Cells		Lap		SBG161	FTSS	10/21/2024
		Shoulder		SBG272	FTSS	10/21/2024

TABLE 2 – FRONT PASSENGER DUMMY INSTRUMENTATION

Instrument Location			Axis	Hybrid III 5 th S/N 142		
				Serial Number	Manufacturer	Calibration Date
Head Accelerometers	Primary		X	P94799	Endevco	10/29/2024
			Y	P94800	Endevco	10/29/2024
			Z	P94801	Endevco	10/29/2024
	Redundant		X	P94802	Endevco	10/29/2024
			Y	P94803	Endevco	10/29/2024
			Z	P97377	Endevco	10/29/2024
Head Angular Rate Sensors			X	ARS7413	DTS	07/31/2024
			Y	ARS7421	DTS	07/31/2024
			Z	ARS7423	DTS	07/31/2024
Upper Neck Load Cell		Fx, Fy, Fz Mx, My, Mz	NG2203	Denton	01/20/2025	
Chest Accelerometers	Primary		X	P88719	Endevco	10/29/2024
			Y	P94785	Endevco	10/29/2024
			Z	P94793	Endevco	10/29/2024
	Redundant		X	P95322	Endevco	10/29/2024
			Y	P95370	Endevco	10/29/2024
			Z	T30901	Endevco	10/29/2024
Chest Potentiometer		X	142	Humanetics	10/29/2024	
Pelvis Accelerometers			X	P94798	Endevco	10/29/2024
			Y	P82646	Endevco	10/29/2024
			Z	P97705	Endevco	10/29/2024
Femur Load Cells	Right	Primary	Z	FG126P	Denton	10/29/2024
		Redundant	Z	FG126R	Denton	10/29/2024
	Left	Primary	Z	FG127P	Denton	10/29/2024
		Redundant	Z	FG127R	Denton	10/29/2024
Tibia Load Cells	Right	Upper	Mx, My, Fz	TG408	Denton	01/17/2025
		Lower	Mx, My, Fz	AG116	Denton	01/17/2025
	Left	Upper	Mx, My, Fz	TG480	Denton	01/17/2025
		Lower	Mx, My, Fz	AG502	Denton	01/17/2025
Foot Accelerometers	Right	Rear	X	P94795	Endevco	10/29/2024
			Z	P94796	Endevco	10/29/2024
		Front	Z	P94797	Endevco	10/29/2024
	Left	Rear	X	P83167	Endevco	10/29/2024
			Z	P83168	Endevco	10/29/2024
		Front	Z	P83169	Endevco	10/29/2024
Seat Belt Load Cells		Lap		SBG273	FTSS	10/21/2024
		Shoulder		SBG272	FTSS	10/21/2024

TABLE 3 – VEHICLE INSTRUMENTATION

Instrument Location			Axis	Serial Number	Manufacturer	Calibration Date
Crossmember / Rear Seat Accelerometers	Left	Primary	X	T41507	Endevco	03/17/2025
			Z	T39758	Endevco	03/26/2025
		Redundant	X	T42715	Endevco	03/18/2025
	Right	Primary	X	T45287	Endevco	04/11/2025
			Z	T44003	Endevco	04/11/2025
		Redundant	X	T45076	Endevco	04/11/2025
Engine Accelerometers		Top	X	T45534	Endevco	03/21/2025
		Bottom	X	T43782	Endevco	03/21/2025