

REPORT NUMBER: NCAP-MGA-25-006

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

**NISSAN MOTOR CO., LTD.
2025 Nissan Kicks S AWD 5-Door SUV
NHTSA No.: M20255200**

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



Test Date: December 5, 2024

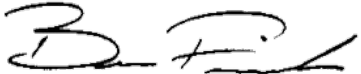
Final Report Date: March 14, 2025

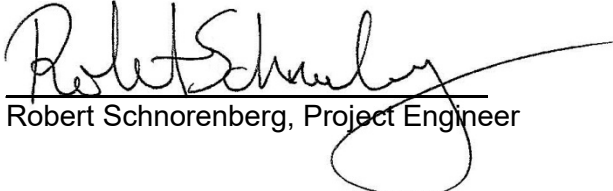
FINAL REPORT

**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: March 14, 2025

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. NCAP-MGA-25-006	2. Government Accession No.	3. Recipient's Catalog No.																																																							
4. Title and Subtitle Final Report of New Car Assessment Program Frontal Impact Testing of a 2025 Nissan Kicks S AWD 5-Door SUV, NHTSA No.: M20255200		5. Report Date March 14, 2025																																																							
		6. Performing Organization Code MGA																																																							
7. Author(s) Ben Fischer, Program Manager		8. Performing Organization Report No. NCAP-MGA-25-006																																																							
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105		10. Work Unit No.																																																							
		11. Contract or Grant No. 693JJ919D000006																																																							
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NRM-110) 1200 New Jersey Ave, SE Washington, D.C. 20590		13. Type of Report and Period Covered Final Test Report December 5, 2024 to March 14, 2025																																																							
		14. Sponsoring Agency Code NRM-110																																																							
15. Supplementary Notes																																																									
16. Abstract A 56.3 km/h NCAP Frontal Rigid Barrier Impact Test was conducted on a 2025 Nissan Kicks S AWD 5-Door SUV 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 December 5, 2024. The impact velocity of the vehicle was 56.35 km/h and the ambient temperature at the barrier face at the time of impact was 21.3°C. The target vehicle post-test maximum crush was 402 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; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th rowspan="2">Units</th> <th colspan="2">Driver ATD</th> <th colspan="2">Passenger ATD</th> </tr> <tr> <th>Threshold</th> <th>Result</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₁₅)</td> <td></td> <td>700</td> <td>476.163</td> <td>700</td> <td>337.814</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>27.086</td> <td>52</td> <td>16.678</td> </tr> <tr> <td>Nij</td> <td></td> <td>1</td> <td>0.438</td> <td>1</td> <td>0.675</td> </tr> <tr> <td>Neck Tension</td> <td>N</td> <td>4170</td> <td>2116.180</td> <td>2620</td> <td>1125.587</td> </tr> <tr> <td>Neck Compression</td> <td>N</td> <td>4000</td> <td>337.347</td> <td>2520</td> <td>336.990</td> </tr> <tr> <td>Left Femur Force</td> <td>N</td> <td>10008</td> <td>536.909</td> <td>6805</td> <td>1039.682</td> </tr> <tr> <td>Right Femur Force</td> <td>N</td> <td>10008</td> <td>614.074</td> <td>6805</td> <td>1137.587</td> </tr> </tbody> </table>						Measurement Description	Units	Driver ATD		Passenger ATD		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC ₁₅)		700	476.163	700	337.814	Maximum Chest Compression	mm	63	27.086	52	16.678	Nij		1	0.438	1	0.675	Neck Tension	N	4170	2116.180	2620	1125.587	Neck Compression	N	4000	337.347	2520	336.990	Left Femur Force	N	10008	536.909	6805	1039.682	Right Femur Force	N	10008	614.074	6805	1137.587
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17. Key Words 35 mph Frontal 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																																																						
19. Security Classification of Report Unclassified	20. Security Classification of Page Unclassified	21. No. of Pages 178	22. Price																																																						

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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.

SUMMARY

A load cell barrier consisting of 176 load cells was impacted by a 2025 Nissan Kicks S AWD 5-Door SUV at a velocity of 56.35 km/h. The test was performed at MGA Research Corporation on December 5, 2024. 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 278 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 402 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 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 knee airbag.

The occupant data is summarized below:

ATD position	HIC ₁₅	Nij	Neck Tension (N)	Neck Comp. (N)	3ms Chest Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver (50 th)	476.163	0.438	2116.180	337.347	45.780	27.086	536.909	614.074
Passenger (5 th)	337.814	0.675	1125.587	336.990	57.081	16.678	1039.682	1137.587

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

TEST NOTES

Driver Shoulder Belt load cell was not installed.

Driver Lap Belt load cell was not installed.

Passenger Shoulder Belt load cell was not installed.

Passenger Lap Belt load cell was not installed.

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 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20255200	Traction Control System (TCS)	Yes
Model Year	2025	Power Steering	Yes
Make	Nissan	Power Window Auto-Reverse	Yes
Model	Kicks S AWD	Driver Frontal Airbag	Yes
Body Style	5-Door SUV	Driver Curtain Airbag	Yes
VIN	3N8AP6BB7SL309976	Driver Head/Torso Airbag	No
Body Color	Deep Blue Pearl	Driver Torso Airbag	No
Odometer (km/mi)	164 km / 102 mi	Driver Torso/Pelvis Airbag	Yes
Engine Displacement (L)	2.0	Driver Pelvis Airbag	No
Type/No. Cylinders	Inline 4	Driver Knee Airbag	Yes
Engine Placement	Lateral	Front Pass. Frontal Airbag	Yes
Transmission Type	Automatic	Front Pass. Curtain Airbag	Yes
Transmission Speeds	CVT	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	Yes
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	NISSAN MOTOR CO., LTD.	GVWR (kg)	1910
Date of Manufacture	08/24	GAWR Front (kg)	1025
		GAWR Rear (kg)	890

VEHICLE SEATING AND WEIGHT CAPACITY DATA

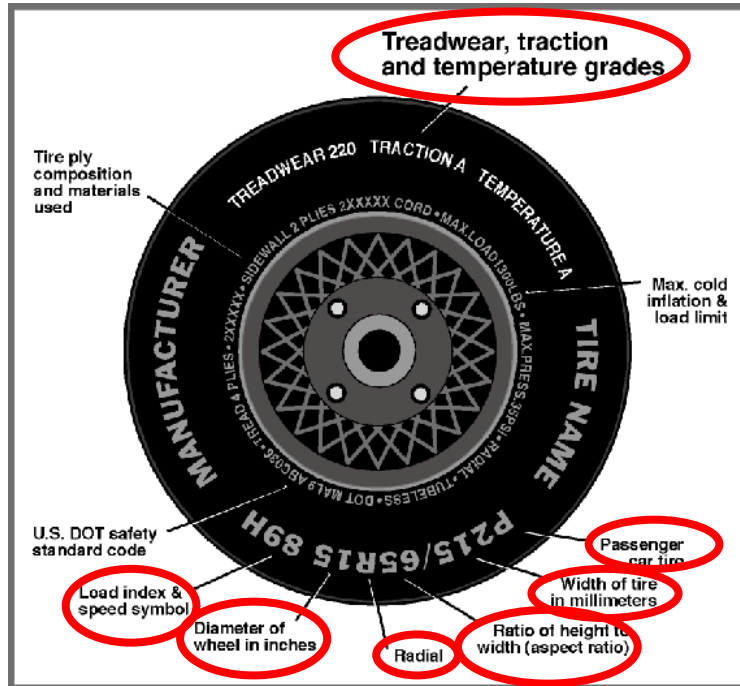
Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Contoured		
Designated Seating Capacity (DSC)	2	3		5
Capacity Weight (VCW) (kg)				375
Cargo Weight (RCLW) (kg)				35

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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	230	230
Recommended Tire Size	215/65R16	215/65R16
Tire Size on Vehicle	215/65R16	215/65R16
Tire Manufacturer	Kumho	Kumho
Tire Model	Solus TA31	Solus TA31
Treadwear	380	380
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Steel, 2 Polyester, 1 Nylon	2 Steel, 2 Polyester, 1 Nylon
Load Index/Speed Symbol	98H	98H
Tire Material	Rubber	Rubber
DOT Safety Code Left	000 K4YAY1 2924	000 K4YAY1 2924
DOT Safety Code Right	000 K4YAY1 2924	000 K4YAY1 2924

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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
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TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	447.5	282.5		487.5	336.5	
Right	kg	442.5	272.5		473.0	319.0	
Ratio	%	61.6%	38.4%		59.4%	40.6%	
Totals	kg	890.0	555.0	1445.0	960.5	655.5	1616.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1445.0
Weight of 1 P572E ATD & 1 P572O ATD	kg	141
Rated Cargo/Luggage Weight (RCLW)	kg	35
Calculated Test Vehicle Target Weight (TVTW)	kg	1621.0

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	765	769	771	772	1022
As Tested	mm	755	756	743	752	1080
Post Test	mm	811	816	734	737	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	2662
Total Vehicle Length at Left Side	mm	4093
Total Vehicle Length at Centerline	mm	4300
Total Vehicle Length at Right Side	mm	4102
Weight of Ballast in Cargo Area	kg	0
Weight of Vehicle Components Removed	kg	32
Amount of Stoddard Solvent in Fuel Tank	L	43.5

List of components removed to meet test weight:

LR/RR door trim panel, LR/RR headrest, rear speakers, wheel covers.

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

Cargo area carpet/trim/divider, jack and tools, underbody plastic.

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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

TARGET VEHICLE STRUCTURAL MEASUREMENT

	Elements	Pre-Test (mm)
1	Total Length	4300
2	Total Width	1701
3	Bumper Top Height	620
4	Bumper Bottom Height	493
5	Longitudinal Member Top Height	648
6	Distance between Longitudinal Members	774
7	Longitudinal Member Width	59
8	Engine Top Height	851
9	Engine Bottom Height	242
10	Engine and Gearbox Width	687
11	Front Bumper-Engine Distance	534
12	Front Shock Absorber Fixing Height	924
13	Bonnet Leading Edge Height	947
14	Front Shock Absorber Fixing Width	1139
15	Front Bumper – Front Axle Distance	753
16	Front Axle – A-Pillar Distance	507
17	A-Pillar – B-Pillar Distance	1035
18	B-Pillar – Rear Axle Distance	1120
19	B-Pillar – C-Pillar Distance	1068
20	Roof Sill Bottom Height	1423
21	Roof Sill Top Height	1525
22	Floor Sill Bottom Height	262
23	Floor Sill Top Height	435

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

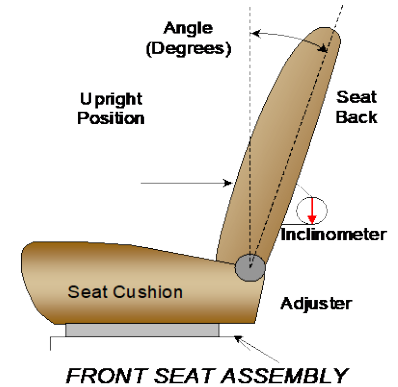
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NHTSA No.: M20255200
 Test Date: 12/5/2024

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	12.7° on outboard headrest post
Passenger Seat Back Angle	2.3° on outboard headrest post



SEAT FORE/AFT POSITIONS

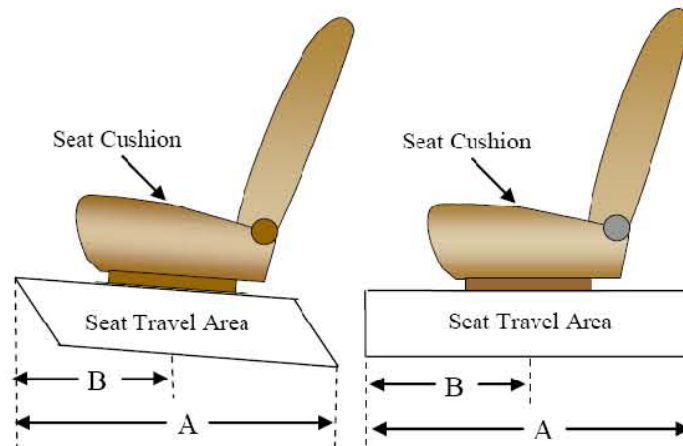
The driver and passenger seat fore/aft positions are adjusted following Appendix F, "Driver & Passenger Dummy Seating & Positioning Procedures" in the NCAP Test Procedure dated May 2018.

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	295 mm / 25 detents (1st as 1)	155 mm / 10th detent (1st as 0)
Passenger Seat	240 mm / 25 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	3 (1st as 1)	0 (1st as 0)
Passenger Seat	3 (1st as 1)	0 (1st as 0)



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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

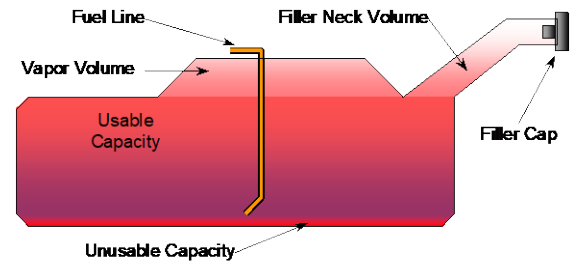
NHTSA No.: M20255200
 Test Date: 12/5/2024

FUEL TANK CAPACITY DATA

	Liters
Usable Capacity of "Standard Tank"	46.9
Usable Capacity of "Optional Tank"	
92-94% of Usable Capacity	43.1 to 44.1
Actual Amount of Solvent used	43.5
1/3 of Usable Capacity	15.6

FUEL PUMP

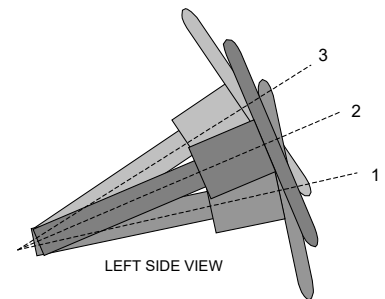
The vehicle is equipped with an electronic fuel pump. The fuel pump will run when the engine is running. The pump will also briefly run when the ignition key is turned to the "on" position. The filler neck is located on the passenger side.



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

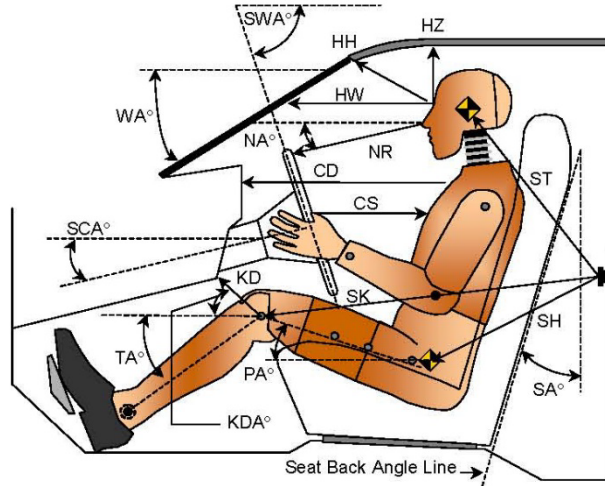
STEERING COLUMN POSITION

	Degrees	Fore/Aft Position (mm)
Lowermost Position 1	65.0	
Geometric Center Position 2	63.1	
Uppermost Position 3	61.1	
Telescoping Steering Wheel Travel		49
Test Position	63.1	25

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
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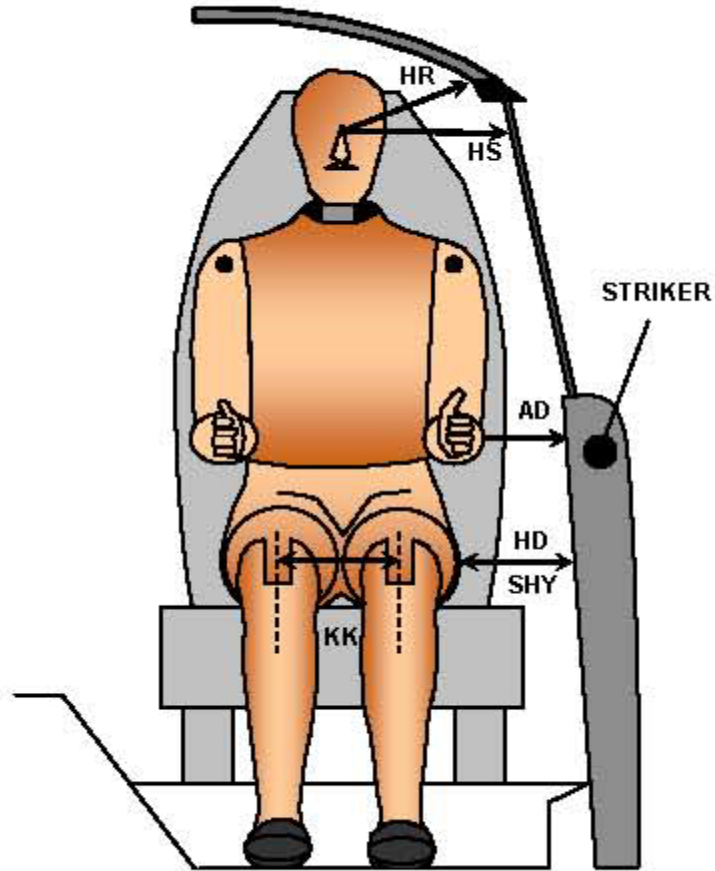
LEFT SIDE VIEW

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		28.1		
SWA°	Steering Wheel Angle		63.1		
SCA°	Steering Column Angle		26.9		
SA°	Seat Back Angle		12.7		2.3
HZ	Head to Roof (Z)	214	90	216	90
HH	Head to Header	398	23.1	312	43.9
HW	Head to Windshield	706	0	656	0
NR	Nose to Rim	417	8.3		
CD	Chest to Dash	592		336	
CS	Chest to Steering Hub	333	0.4		
RA	Rim to Abdomen	195	0		
KDL	Left Knee to Dash	197	34.2	114	51.8
KDR	Right Knee to Dash	201	22.1	121	42.7
PA°	Pelvic Angle		24.4		21.9
TA°	Tibia Angle		37.8		49.8
SK	Striker to Knee	562	93.7	671	95.7
ST	Striker to Head	476	5.7	454	25.7
SH	Striker to H-Point	275	133.7	376	114.9

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024



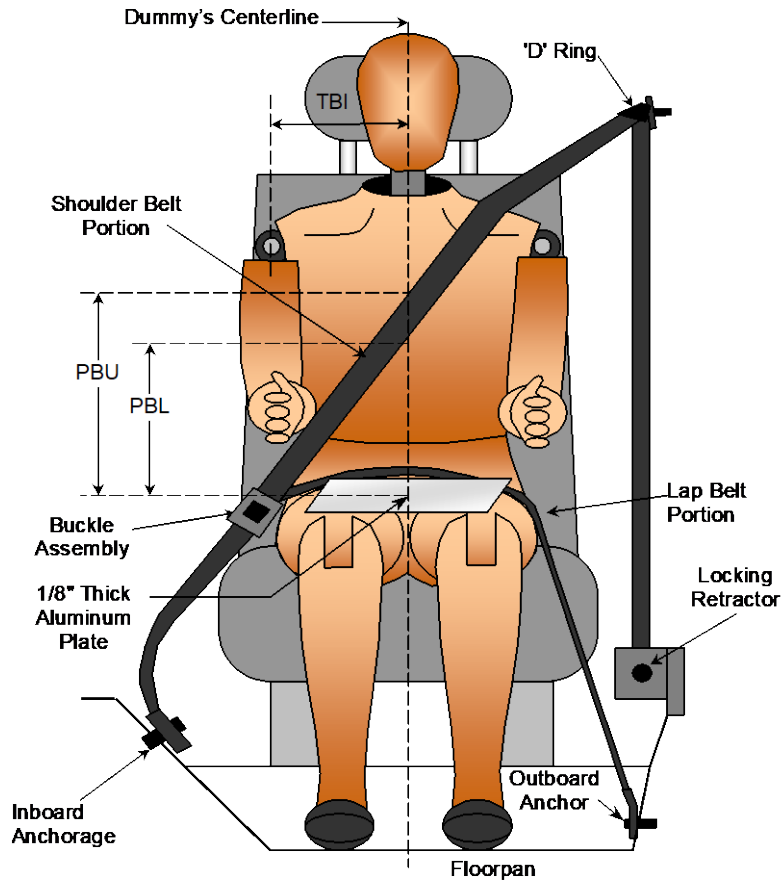
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver	Passenger
AD	Arm to Door	mm	107	73
HD	H-Point to Door	mm	134	190
HR	Head to Side Header	mm	224	287
HS	Head to Side Window	mm	324	353
KK	Knee to Knee	mm	350	225
SHY	Striker to H-Point (Y Direction)	mm	229	267
AA	Ankle to Ankle	mm	358	168

DATA SHEET NO. 5 SEAT BELT POSITIONING DATA

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
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FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU - Top surface of reference to belt upper edge	mm	315	290
PBL - Top surface of reference to belt lower edge	mm	230	195

BELT LENGTH DATA

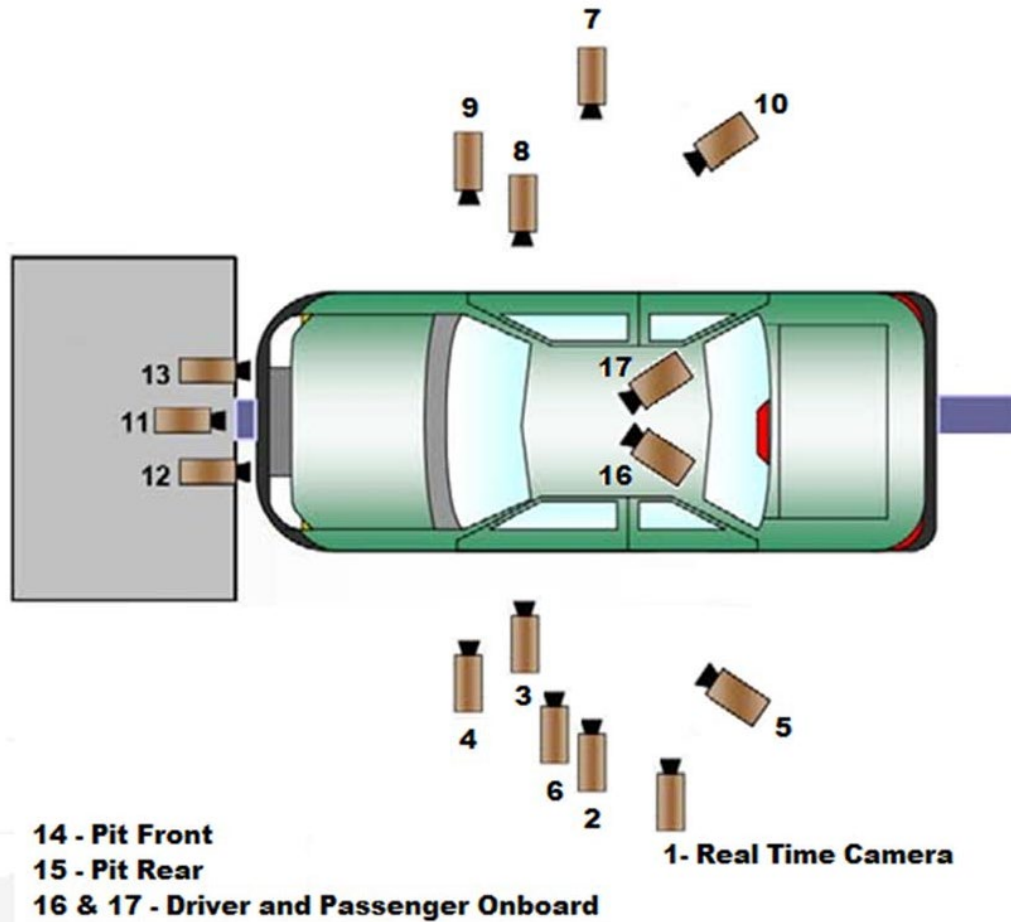
Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as measured on ATD	mm	822	920
Lap Belt Length as measured on ATD	mm	670	790
Remainder of belt on reel	mm	738	520
Total Belt Length for Continuous Webbing Systems	mm	2730	2730

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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

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 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

CAMERA LOCATIONS

No.	Camera View	Coordinates* (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall					30
2	Left Overall	-2040	-5500	-1410	12	1000
3	Driver Close-Up	-1520	-6920	-2170	50	1000
4	Left Front Half	-1240	-5410	-1450	24	1000
5	Left Angle	-7270	-5830	-2160	75	1000
6	Steering Column	-900	-5320	-1220	50	1000
7	Right Overall	-1770	5480	-1430	12	1000
8	Passenger Close-Up	-1420	6660	-2060	50	1000
9	Right Front Half	-1180	5250	-1420	24	1000
10	Right Angle	-7390	5520	-2180	75	1000
11	Windshield	150	0	-2310	12	1000
12	Driver Windshield	200	-370	-2230	25	1000
13	Passenger Windshield	200	370	-2230	25	1000
14	Pit Front	-830	0	3340	24	1000
15	Pit Rear	-2930	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

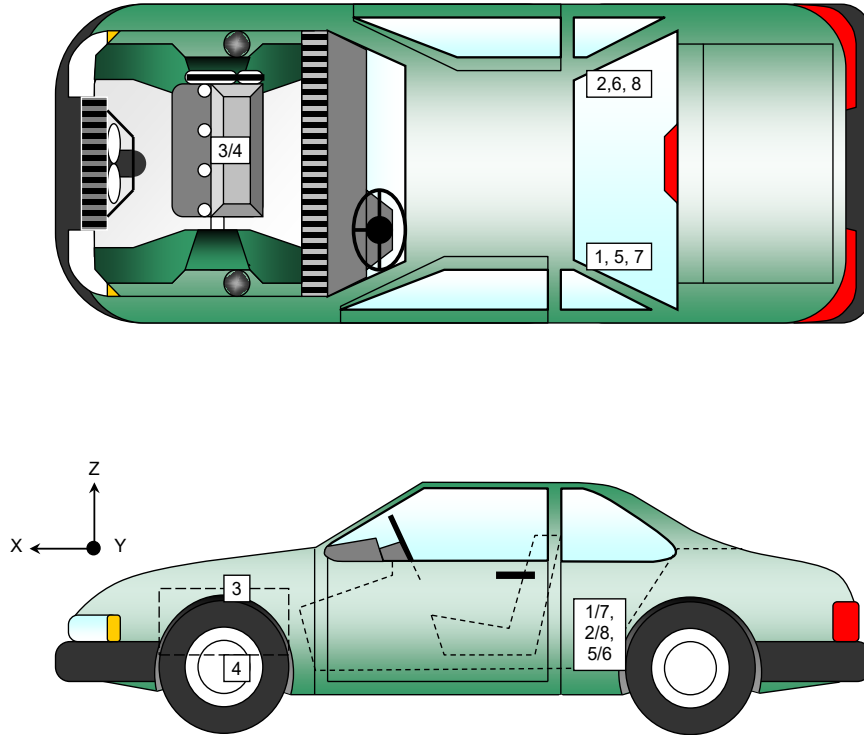
+Y = right of monorail centerline

+Z = below ground level

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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear Crossmember Accelerometer – X Direction	1666	-321	-311
2	Right Rear Crossmember Accelerometer – X Direction	1665	353	-318
3	Engine Top X	3609	21	-862
4	Engine Bottom X	3553	149	-245
5	Left Rear Crossmember Accelerometer – Z Direction	1666	-321	-311
6	Right Rear Crossmember Accelerometer – Z Direction	1665	353	-318
7	Left Rear Crossmember Accelerometer Redundant – X Direction	1666	-321	-311
8	Right Rear Crossmember Accelerometer Redundant – X Direction	1665	353	-318

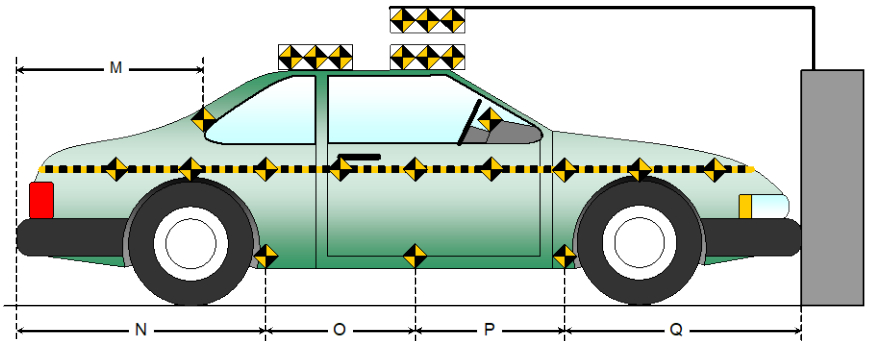
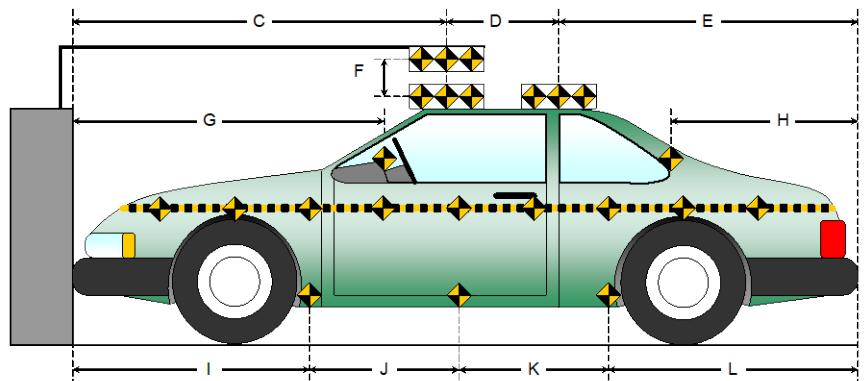
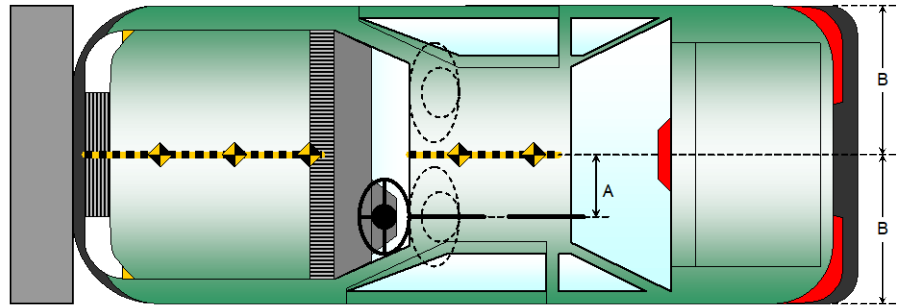
Reference Points: X - Rear Surface of Vehicle (+ forward)
Y - Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 8
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

Item	Value (mm)
A	372
B	850
C	2277
D	609
E	1413
F	185
G	
H	834
I	1377
J	847
K	843
L	1233
M	833
N	1232
O	842
P	848
Q	1378



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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

ADVANCED RESEARCH LOAD CELL BARRIER

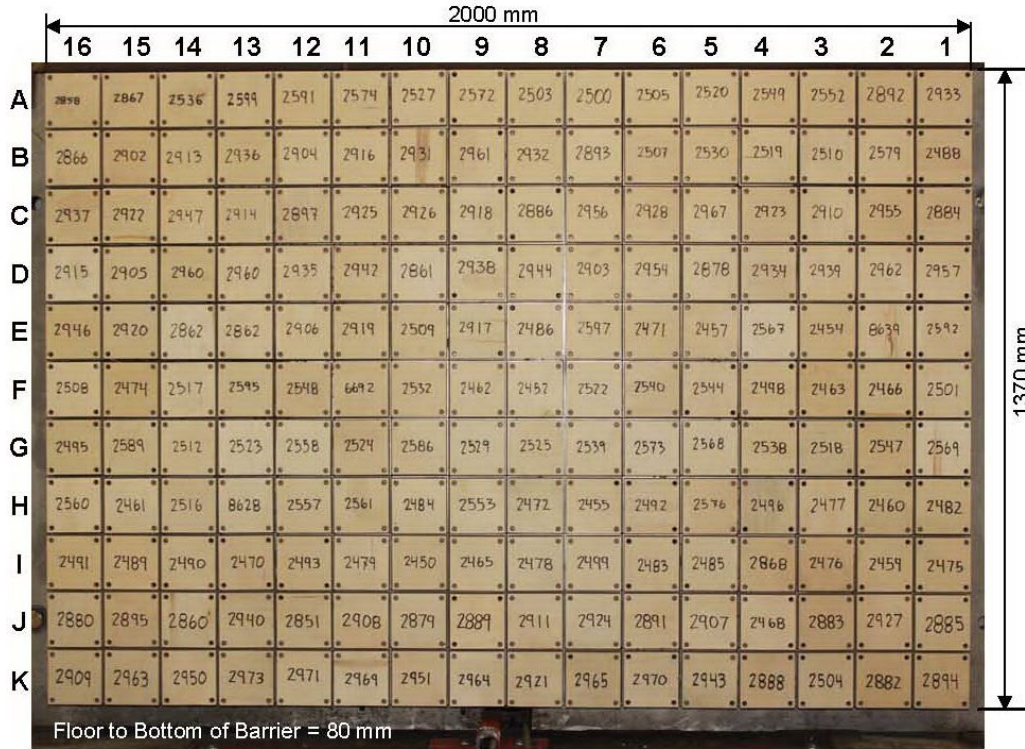


Photo for Reference Only

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 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

INSTRUMENTATION

Instrumentation	Number of Channels Collected
Driver Dummy Data Channels	47
Passenger Dummy Data Channels	47
Vehicle Structure Accelerometers	8
Barrier Channels	176
Total	278

CAMERA COVERAGE

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

DATA SHEET NO. 11
POST-TEST OBSERVATIONS

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

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	None	Knee Airbag
Right Knee Contact	None	Knee Airbag

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
Window Damage	None
Other Notable Effects	None

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	2535
Center	mm	2228
Right Side	mm	2001
Average	mm	2255

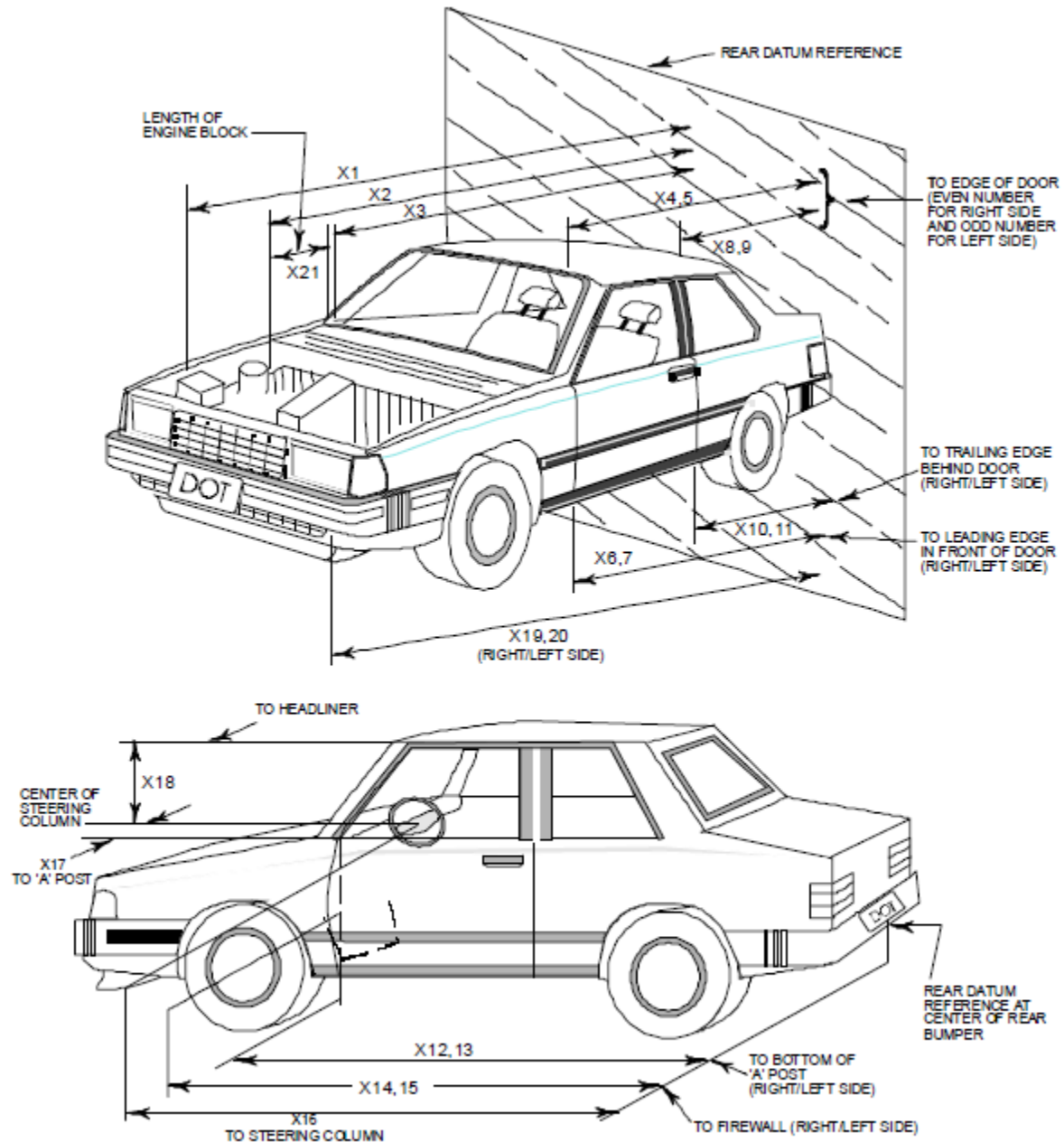
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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	Yes	Yes	Yes	Yes
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 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024



DATA SHEET NO. 12 (CONTINUED)
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

No.	Measurement Description	Pre-Test	Post-Test	Change
1	Total Length of Vehicle at Centerline	4300	4021	-279
2	RSOV to Front of Engine	3627	3455	-172
3	RSOV to Firewall	3358	3318	-40
4	RSOV to Upper Leading Edge of Right Door	2909	2905	-4
5	RSOV to Upper Leading Edge of Left Door	2908	2904	-4
6	RSOV to Lower Leading Edge of Right Door	2928	2925	-3
7	RSOV to Lower Leading Edge of Left Door	2927	2924	-3
8	RSOV to Upper Trailing Edge of Right Door	1860	1857	-3
9	RSOV to Upper Trailing Edge of Left Door	1860	1857	-3
10	RSOV to Lower Trailing Edge of Right Door	1900	1896	-4
11	RSOV to Lower Trailing Edge of Left Door	1900	1896	-4
12	RSOV to Bottom of "A" Post of Right Side	2921	2919	-2
13	RSOV to Bottom of "A" Post of Left Side	2922	2920	-2
14	RSOV to Firewall, Right Side	3288	3257	-31
15	RSOV to Firewall, Left Side	3290	3244	-46
16	RSOV to Steering Column	2472	2507	35
17	Center of Steering Column to "A" Post	248	261	13
18	Center of Steering Column to Headliner	420	453	33
19	RSOV to Right Side of Front Bumper	4102	3865	-237
20	RSOV to Left Side of Front Bumper	4093	3892	-201
21	Length of Engine Block	168	168	0
RD	RSOV to Right Side of Dash Panel	2676	2674	-2
CD	RSOV to Center of Dash Panel	2770	2776	6
LD	RSOV to Left Side of Dash Panel	2675	2724	49

All dimensions in mm

DATA SHEET NO. 13
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
Test Date: 12/5/2024

VEHICLE INFORMATION

VIN: 3N8AP6BB7SL309976
Vehicle Size Category: MPV

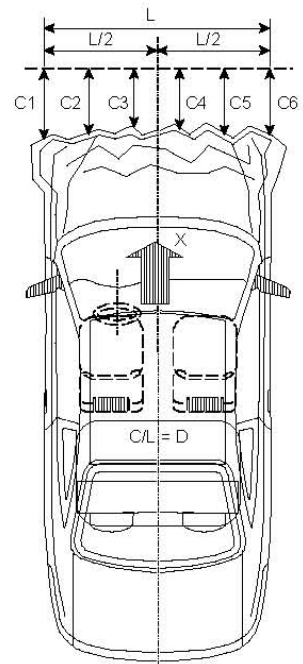
Wheelbase (mm): 2662
Test Weight (kg): 1616.0

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): 56.35
Velocity Change (km/h): 64.6
Time of Separation (msec) 94

CRUSH PROFILE

Collision Deformation Classification: 12FDEW3
Midpoint of Damage: Centerline
Damage Region Length (mm): 1466
Impact Mode: Frontal



No.	Measurement Description	Units	Pre-Test	Post-Test	Exterior Crush
C1	Crush zone 1 at left side	mm	2907	3108	201
C2	Crush zone 2 at left side	mm	2743	3078	335
C3	Crush zone 3 at left side	mm	2708	3098	390
C4	Crush zone 4 at right side	mm	2707	3109	402
C5	Crush zone 5 at right side	mm	2738	3096	358
C6	Crush zone 6 at right side	mm	2898	3135	237
L	C1 TO C6	mm	1466	1538	-72

DATA SHEET NO. 14
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
Test Program: NCAP Frontal Barrier Impact Test

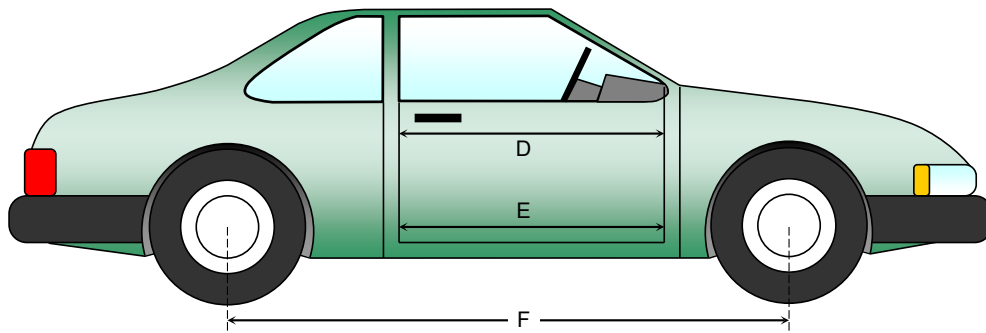
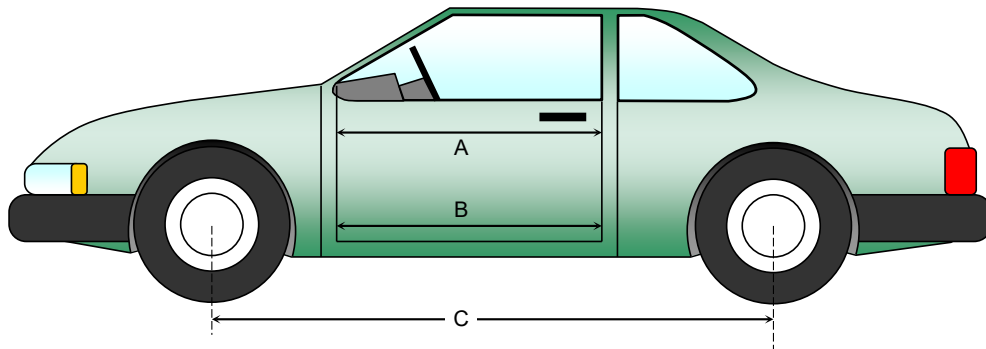
NHTSA No.: M20255200
Test Date: 12/5/2024

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Change
A	Left Side Upper	mm	968	967	-1
B	Left Side Lower	mm	906	905	-1
D	Right Side Upper	mm	967	965	-2
E	Right Side Lower	mm	906	906	0

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Change
C	Left Side Wheelbase	mm	2662	2662	0
F	Right Side Wheelbase	mm	2662	2632	-30



DATA SHEET NO. 14 (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

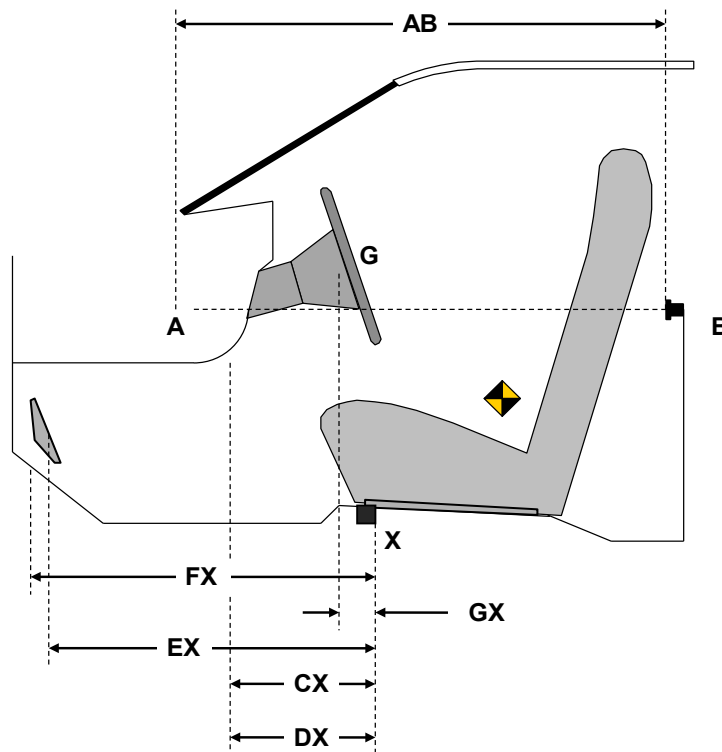
Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Change
AB	Door Opening (Inside Window Jam)	mm	738	738	0
CX	Left Knee Bolster to X	mm	309	303	-6
DX	Right Knee Bolster to X	mm	334	316	-18
EX	Brake Pedal to X	mm	553	526	-27
FX	Foot Rest to X	mm	569	568	-1
GX	Center of Steering Column Wheel Hub to X	mm	64	102	38

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 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

WINDSHIELD MOUNTING DETAILS

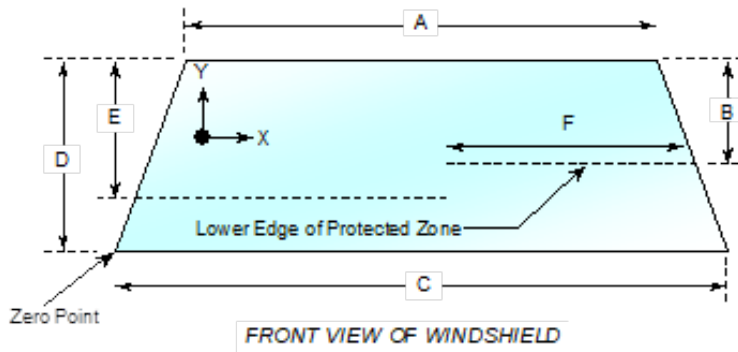
Windshield glass is secured to the vehicle frame with a rubber trim and glue.

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: 21.3°C.

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% of Retention
Left Side	2118	2118	100
Right Side	2118	2118	100
Total	4236	4236	100



Item	Units	Value
A	mm	1196
B	mm	420
C	mm	1356
D	mm	842
E	mm	422
F	mm	486

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 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

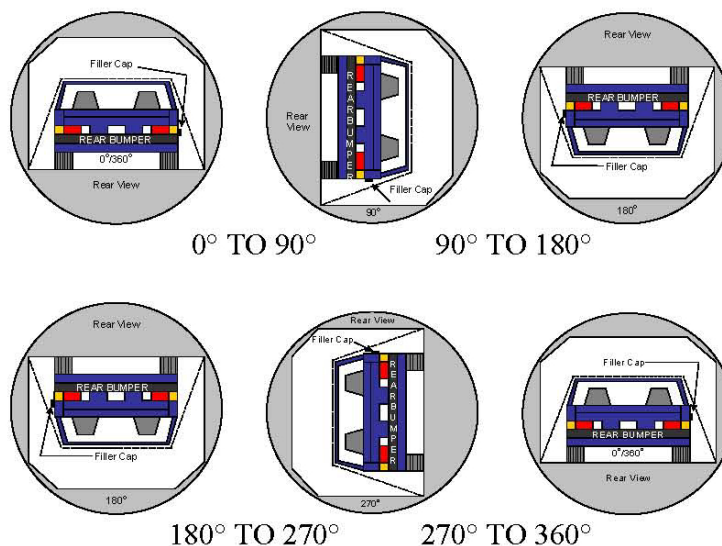
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21.3°C

Test Time: 11:36 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°	111	300	411
90° to 180°	110	300	410
180° to 270°	108	300	408
270° to 360°	112	300	412

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

Test Vehicle: 2025 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024

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 Nissan Kicks S AWD 5-Door SUV
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20255200
 Test Date: 12/5/2024



Serial #	Description	Maximum	Average	Minimum	Units
W1443497	VSC Start Room A - Temp (1038)	22.05	21.51	21.15	°C

**APPENDIX A
PHOTOGRAPHS**

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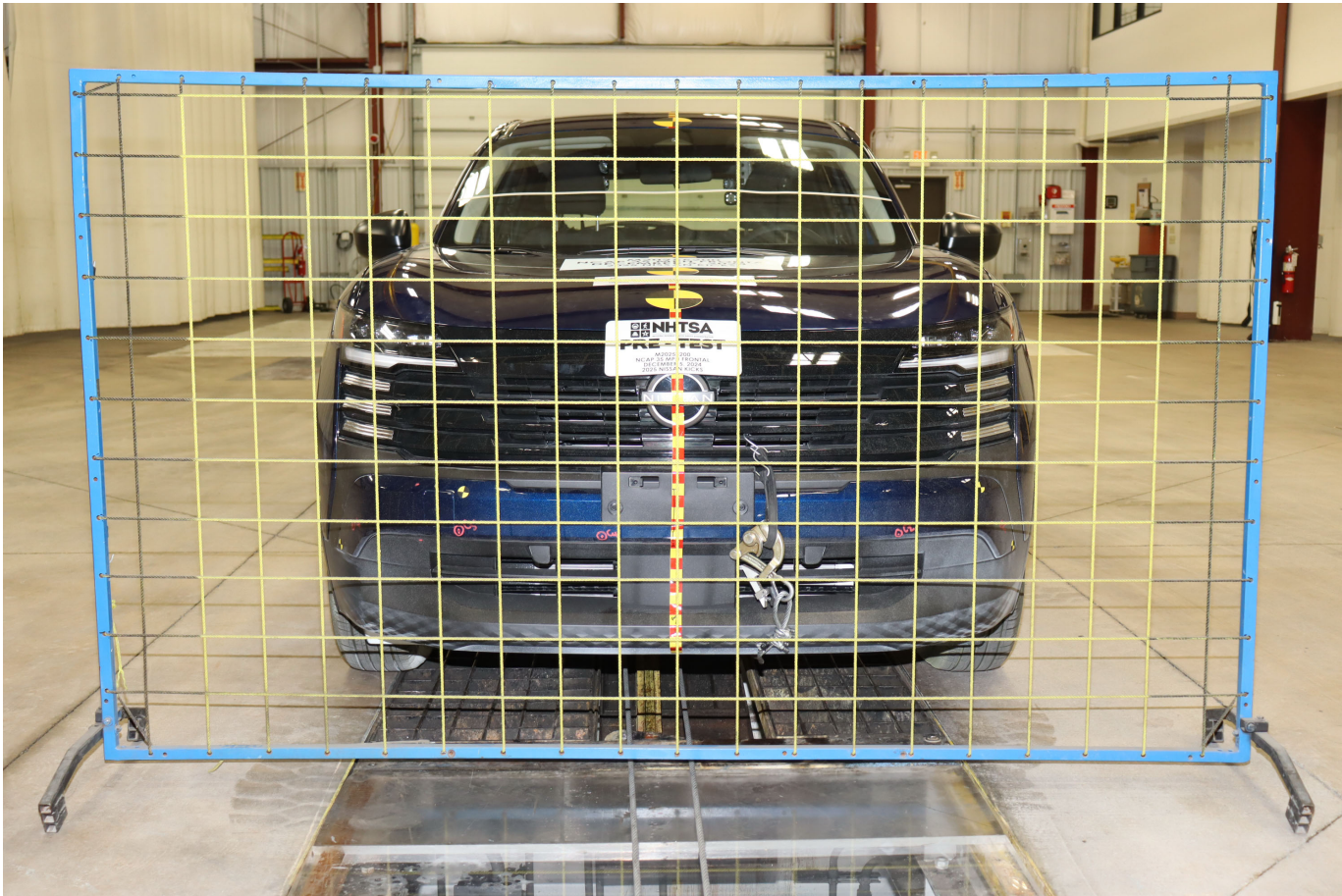


Photo No. 001 - Load Cell Location



Photo No. 002 - Pre-Test Load Cell Wall



Photo No. 003 - Post-Test Load Cell Wall



Photo No. 004 - Manufacturer's Label

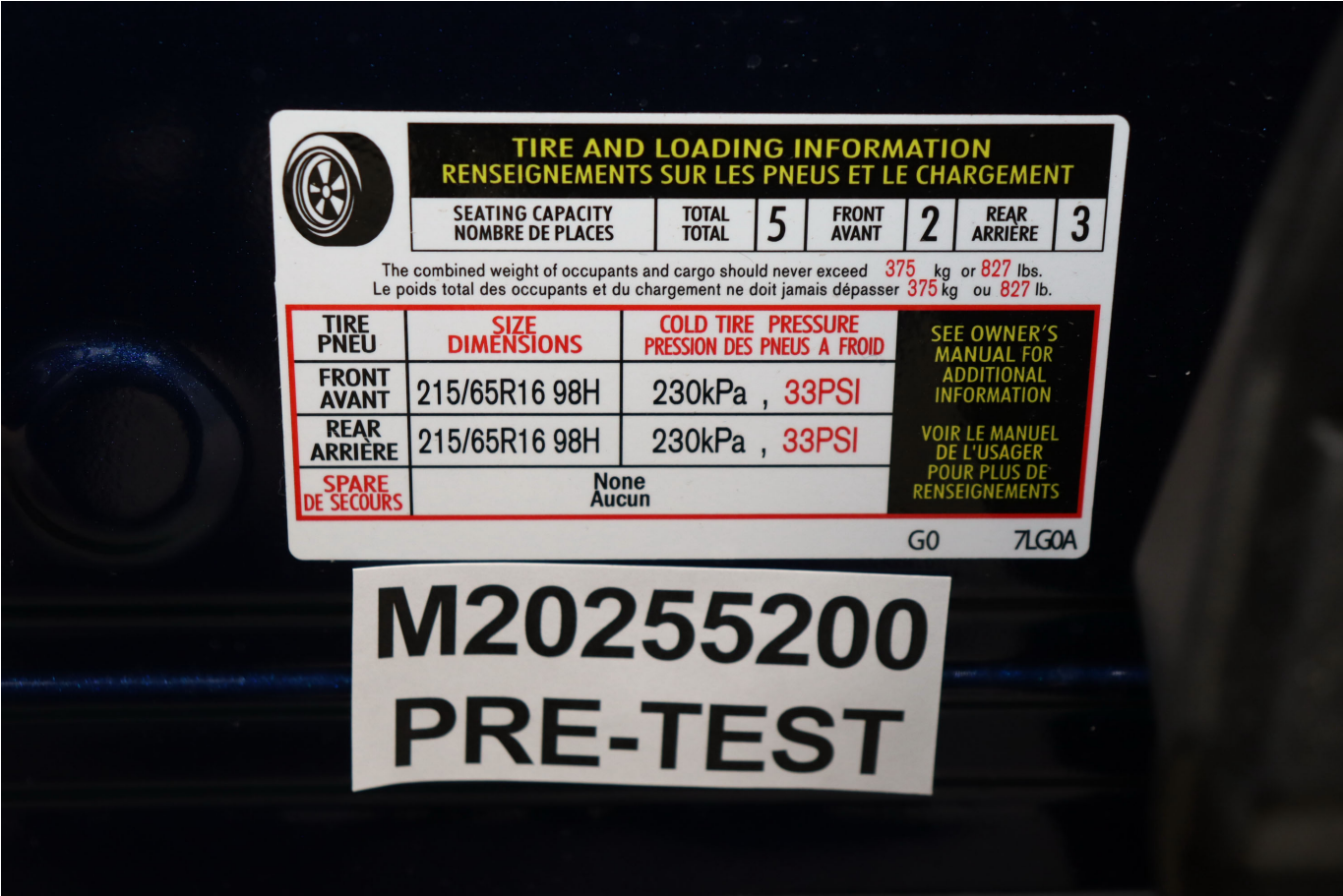


Photo No. 005 - Tire Placard



Photo No. 006 - 2025 Nissan Kicks S AWD 5-Door SUV 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

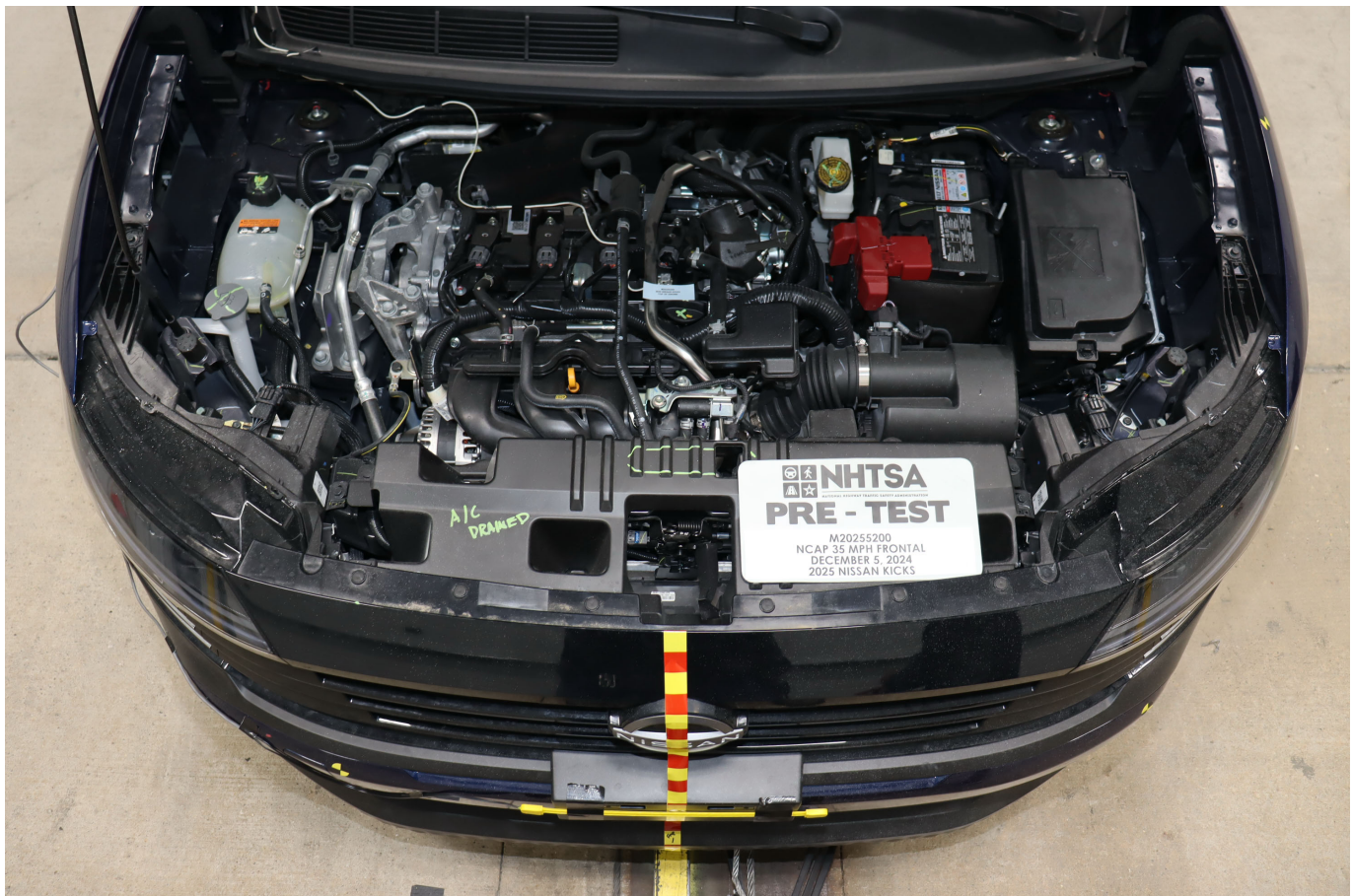


Photo No. 020 - Pre-Test Engine Compartment View



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

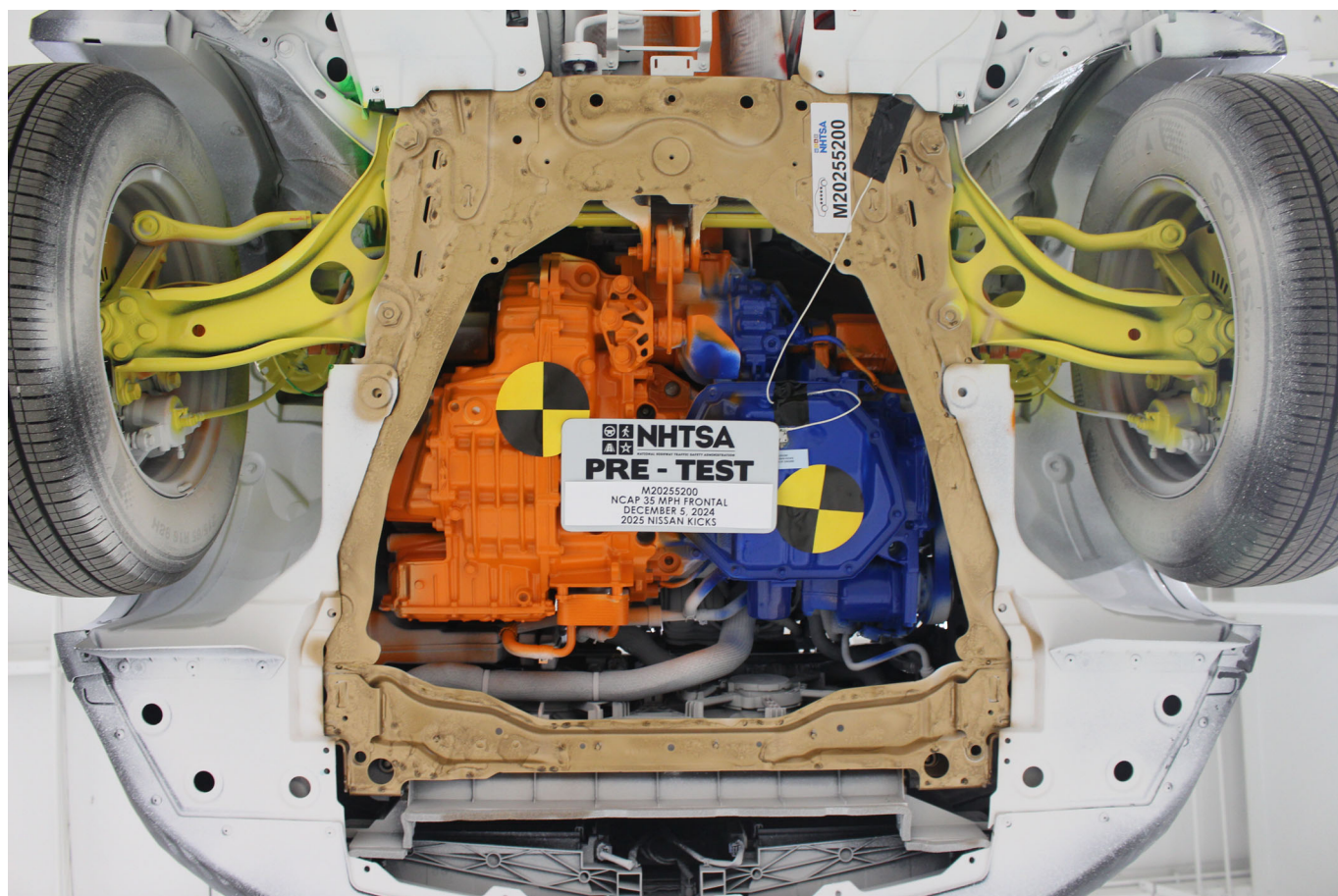


Photo No. 024 - Pre-Test Front Underbody View

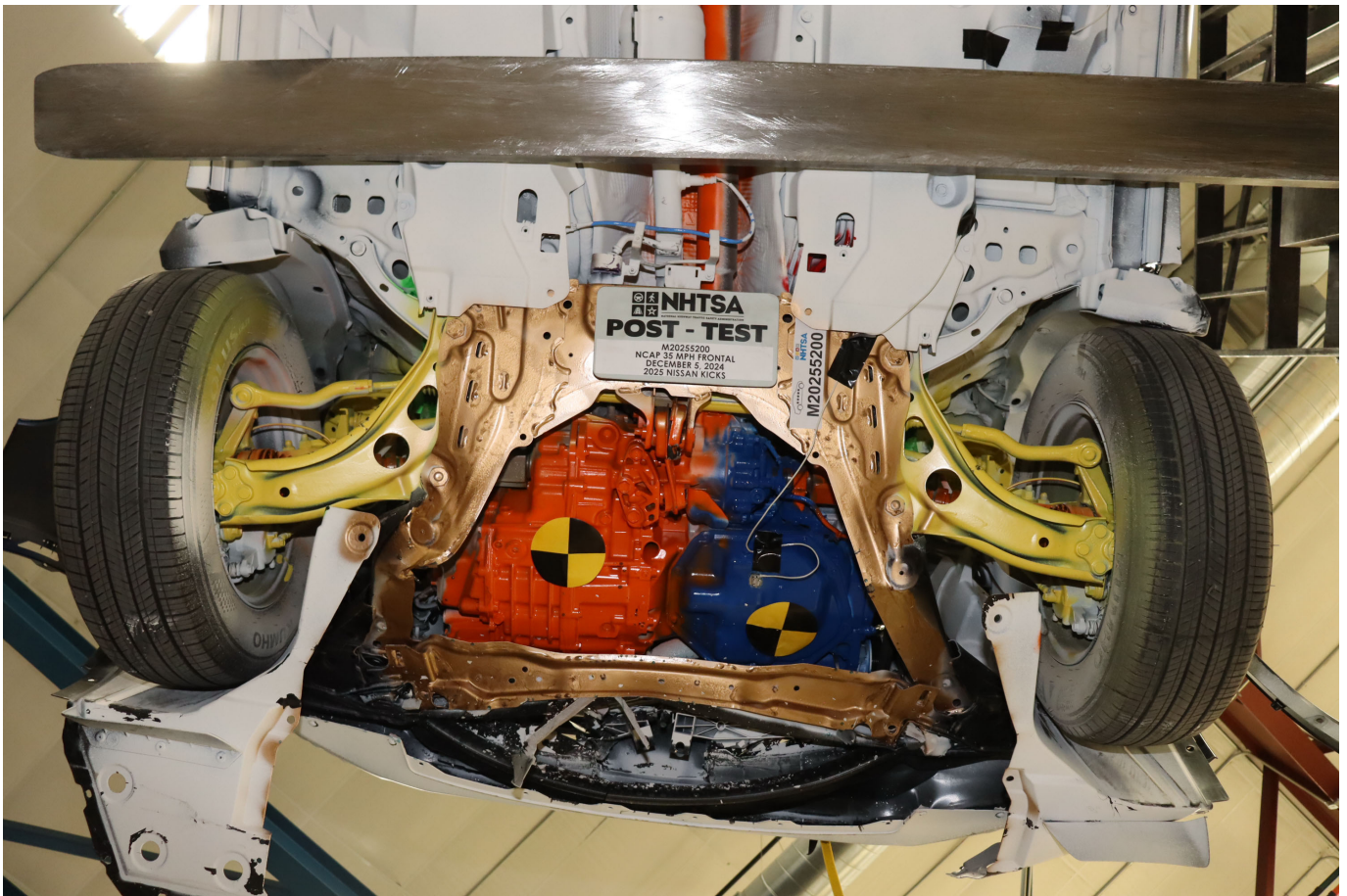


Photo No. 025 - Post-Test Front Underbody View

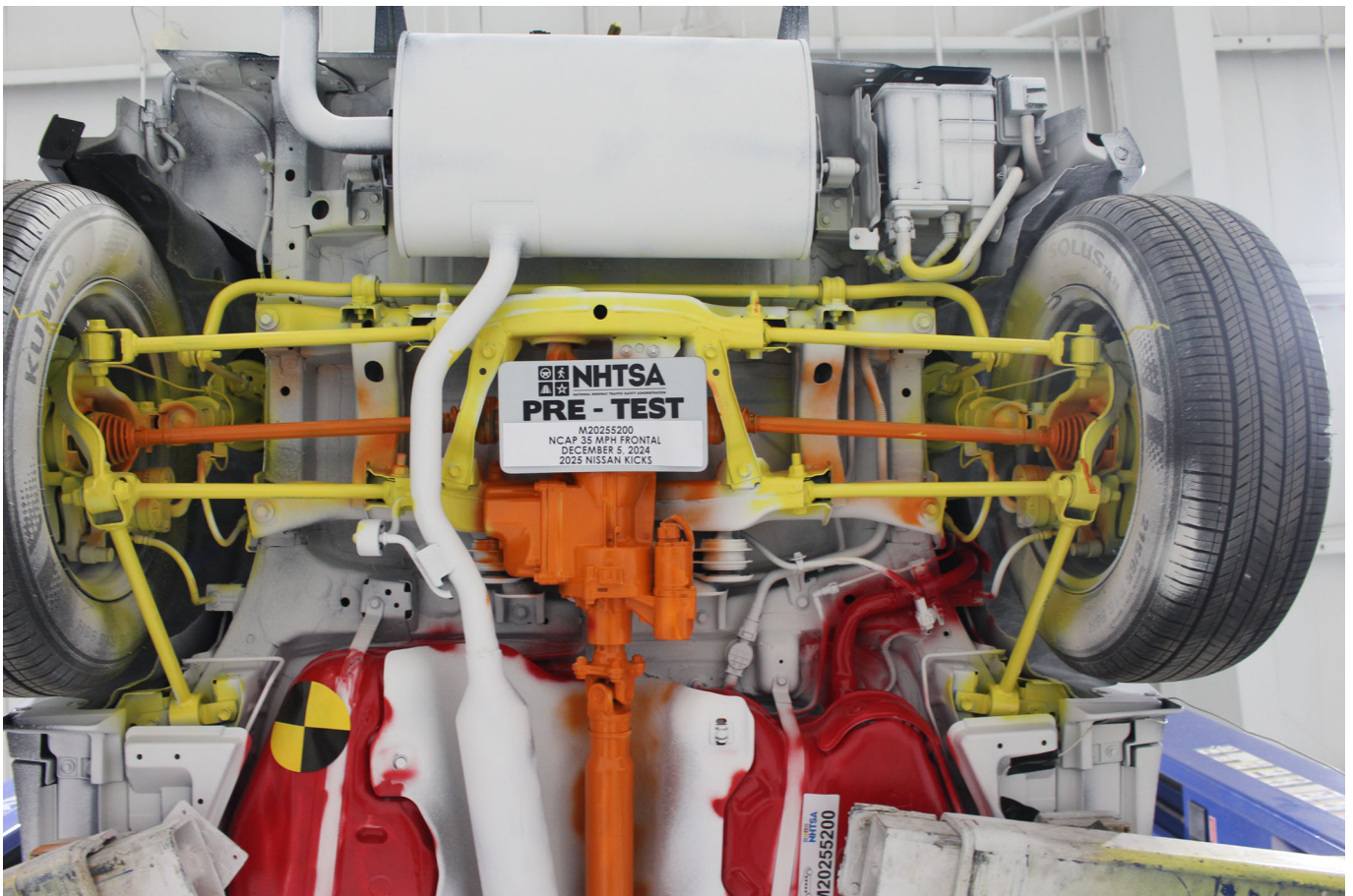


Photo No. 026 - Pre-Test Rear Underbody View

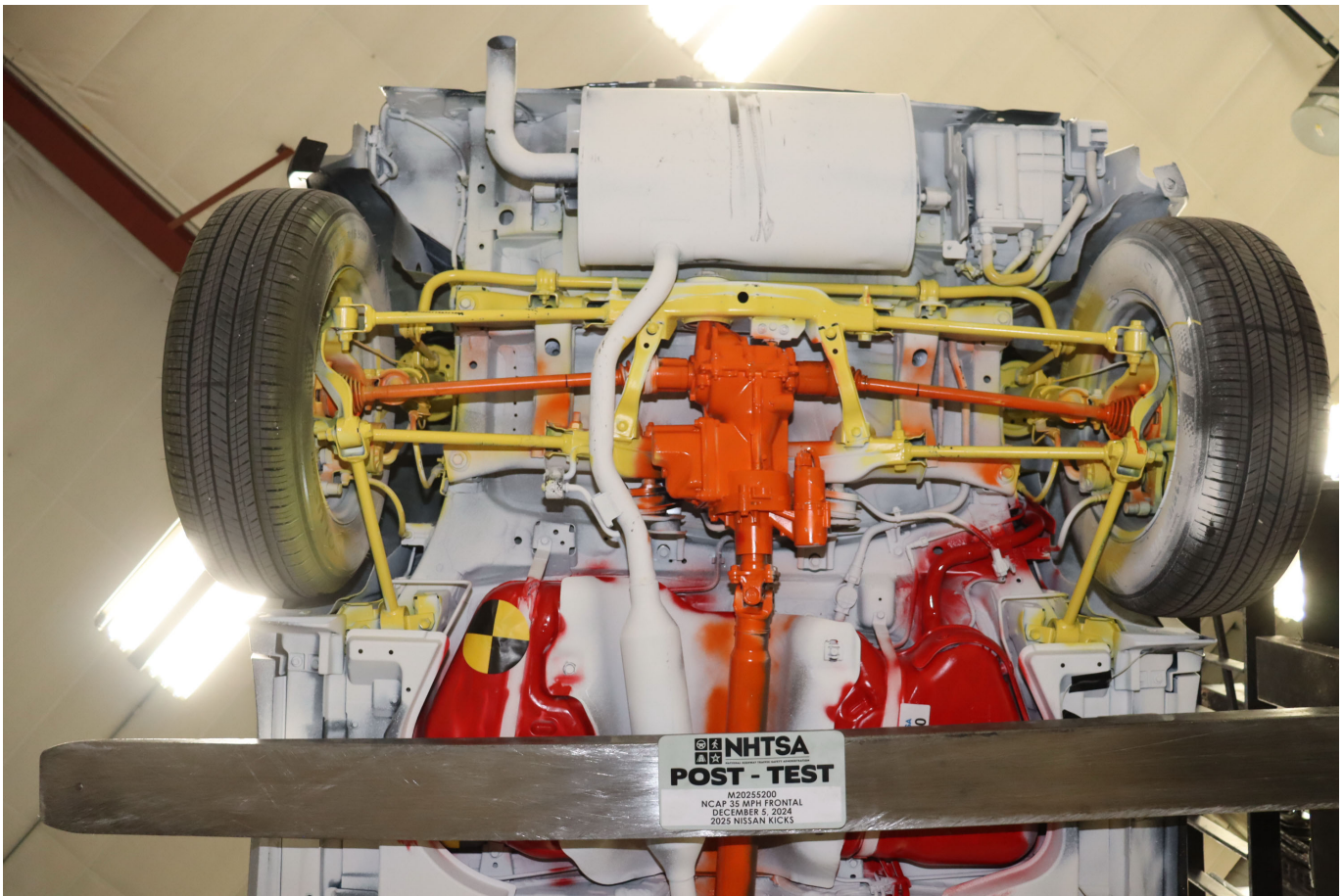


Photo No. 027 - Post-Test Rear Underbody View



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



Photo No. 039 - Post-Test View of Belt Anchorage for Driver Dummy



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. 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

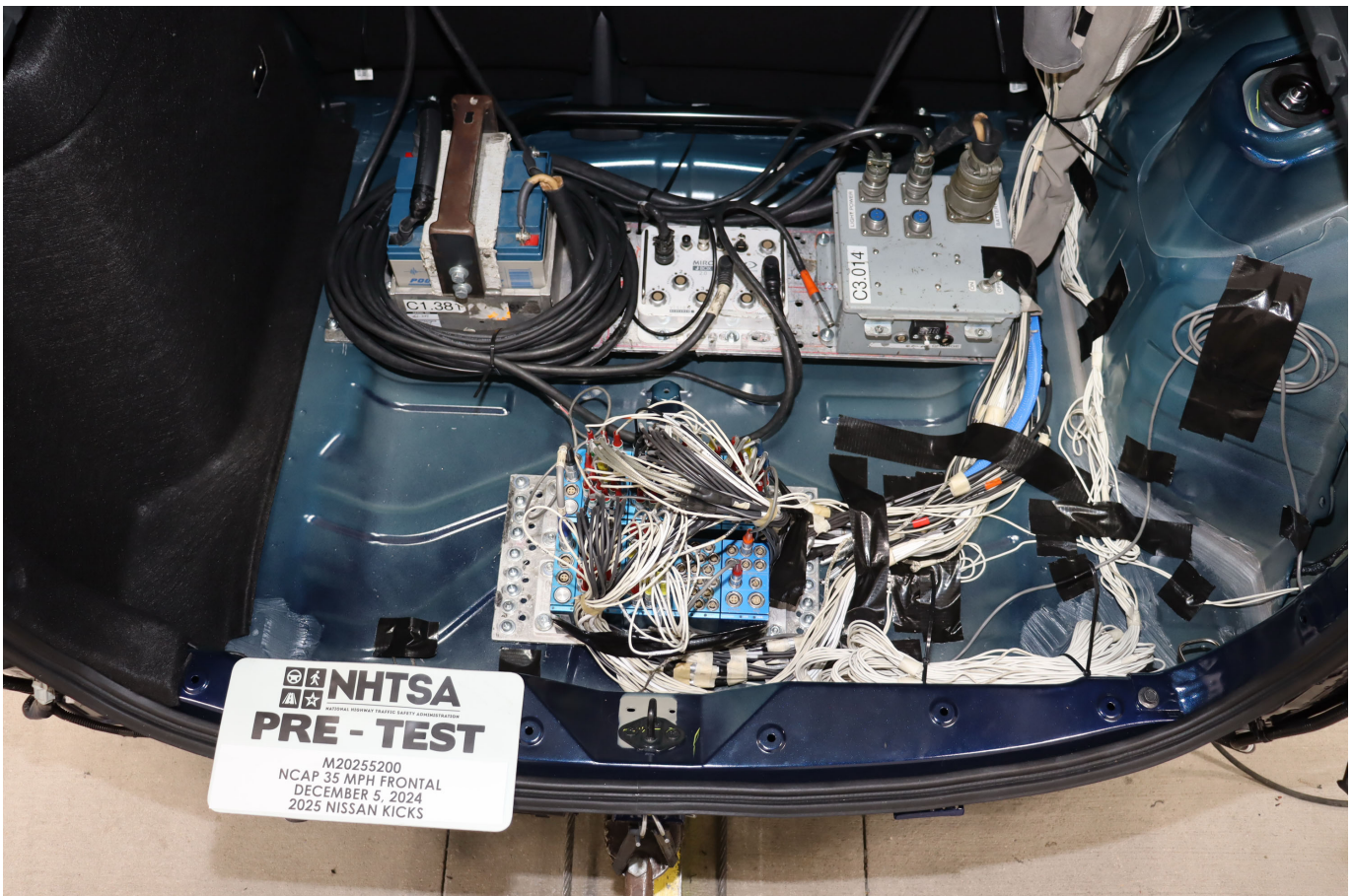


Photo No. 074 - Photograph of Ballast Installed in Vehicle

PHOTOGRAPH NOT APPLICABLE

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

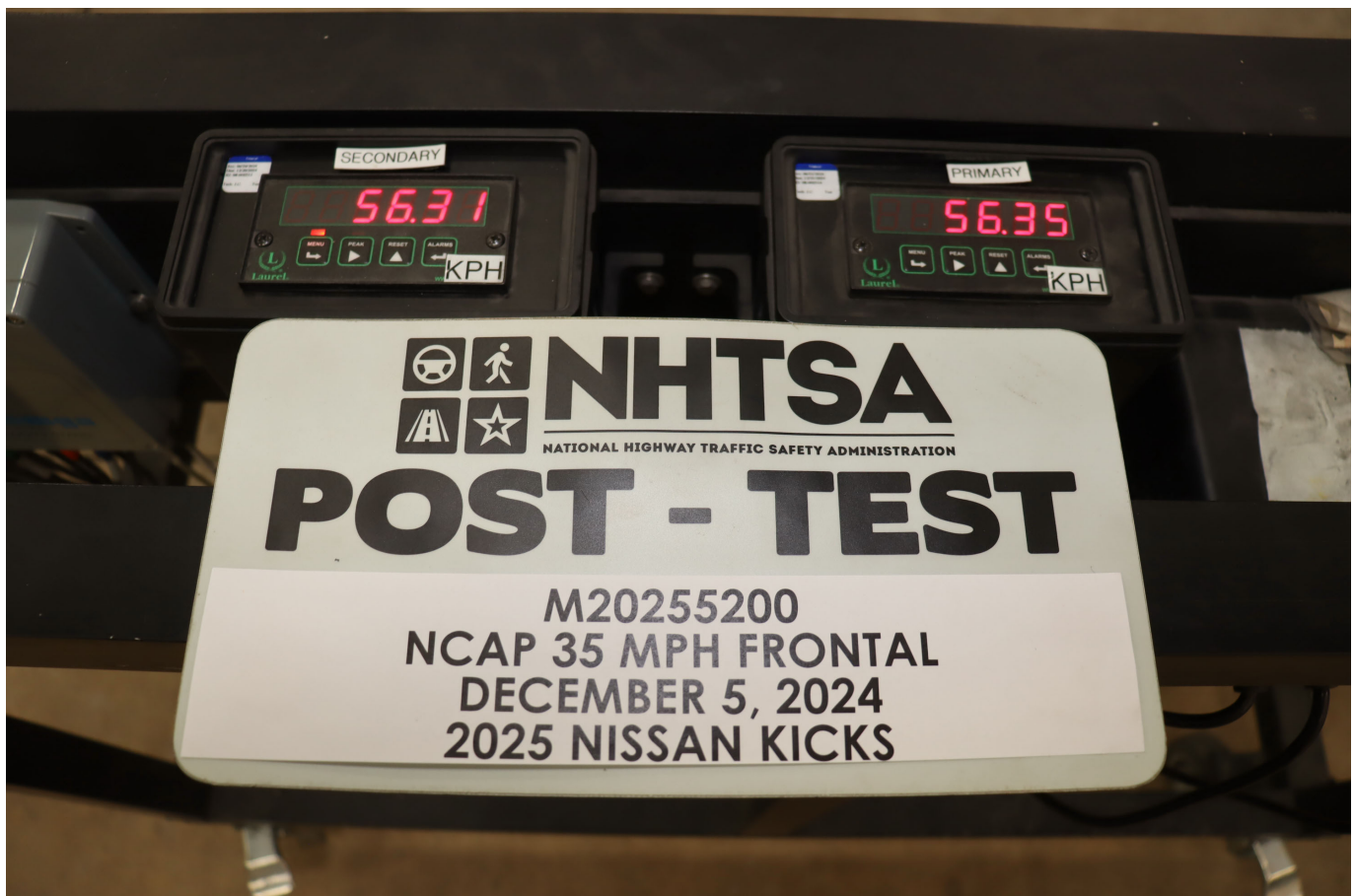


Photo No. 076 - Post-Test Speed Trap Read-Out



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

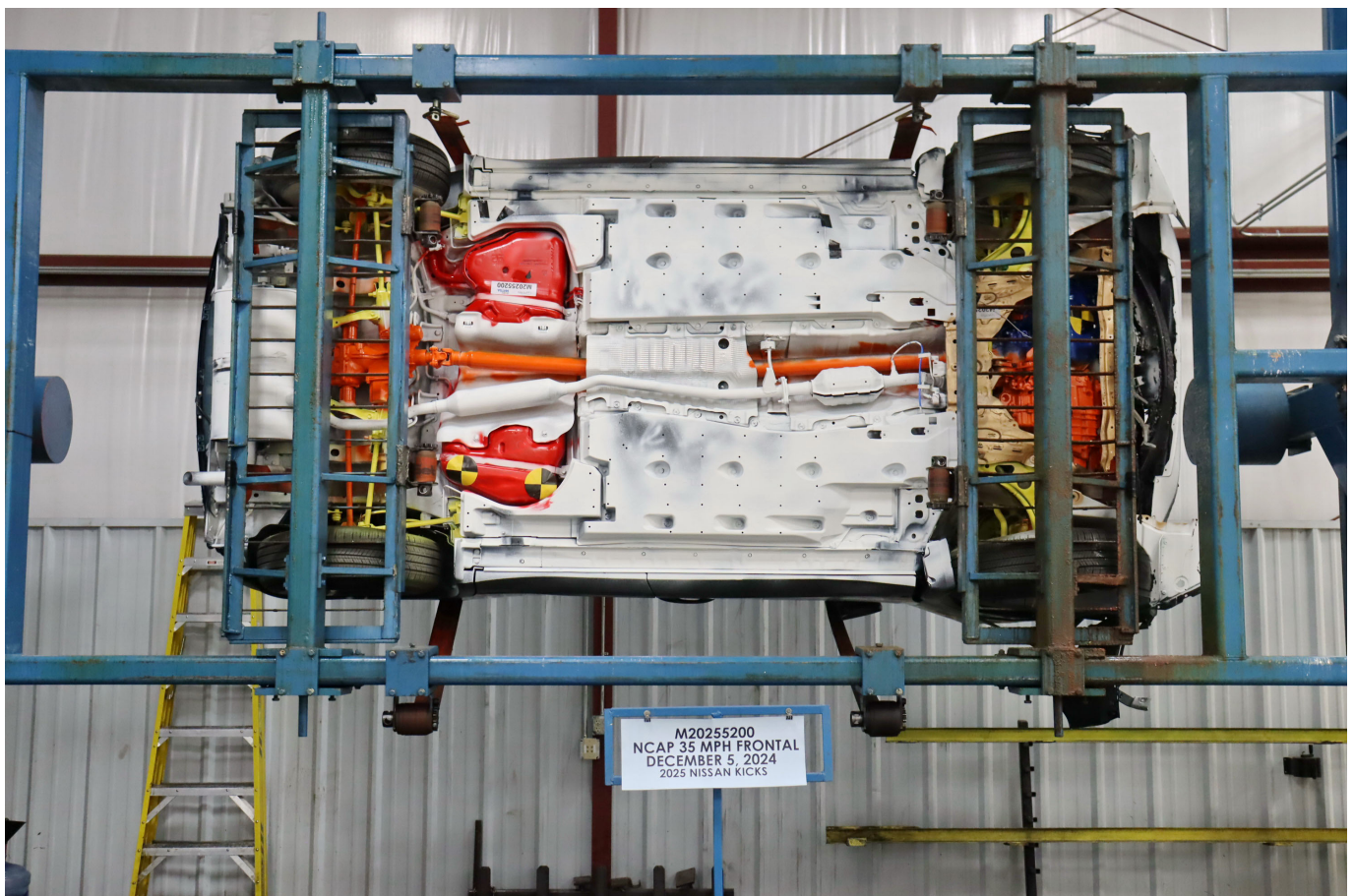


Photo No. 080 - Vehicle at 270 Degrees on Static Rollover Device



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



Photo No. 082 - 2025 Nissan Kicks S AWD 5-Door SUV Frontal Impact Event

2025 NISSAN KICKS S AWD CVT



Scan QR code for general
model information & options

Compact Meets Confidence

Standard Equipment Included at No Extra Charge

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

MECHANICAL & PERFORMANCE

2.0L DOHC 4-cylinder engine
141 hp, 140 lb-ft torque
Xtronic CVT (Continuously
Variable Transmission)
Intelligent All-Wheel Drive System
Drive Mode Selector
(Normal - Eco - Sport - Snow)
Hill Start Assist
Electric Parking Brake w/ Auto Hold

SAFETY & SECURITY

Nissan Advanced Air Bag System
Automatic Emergency Braking
w/ Pedestrian Detection
Rear Automatic Braking
Blind Spot Warning
Rear Cross Traffic Alert
Lane Departure Warning
High Beam Assist

COMFORT & CONVENIENCE

Front and Rear Cloth Seats
60/40 Split Rear Seats
7" Digital Color Meter
12 volt Socket
USB A Port (1x Front Charge and Data)
Easy Fill Tire Alert
Fixed floor w/ Under Floor Storage System
Heated Mirrors
Rear Floor Heater Ducts

AUDIO & INFOTAINMENT

7" Color Touchscreen Display Audio System

EXTERIOR

Body Color Manual Folding
Power Outside Mirrors
Front and Rear Bumper
w/ Black Fascia Accent
Low Profile LED Low and High Beam Headlights
LED Daytime Running Lights and Turn Signals
16" Steel Wheels w/ Full Wheel Covers

*See your Dealer for terms,
conditions and limitations

**Optional equipment replaces
standard equipment where applicable

**State laws may apply. Review before using

Manufacturer's Suggested Retail Base Price:	\$23,330.00
Options Included by Manufacturer	
Splash Guards	250.00
Carpeted Floor Mats	190.00
DESTINATION CHARGES	1,390.00
Total*	\$25,160.00

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

EPA DOT Fuel Economy and Environment

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

Fuel Economy

30 MPG

combined city/hwy

27 city

34 highway

3.3 gallons per 100 miles

You save

\$750

in fuel costs
over 5 years
compared to the
average new vehicle.

Annual fuel cost

\$1,750

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 28 MPG and costs \$9,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.80 per gallon. MPG is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuel economy.gov

Calculate personalized estimates and compare vehicles

Fuel Economy & Greenhouse Gas Rating (tailpipe only)

6

1 10 Best

This vehicle emits 299 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fuel economy.gov

Smog Rating (tailpipe only)

6

1 10 Best

Smartphone QR Code

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score Not Rated

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

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

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

This Vehicle qualifies for Nissan's

Security+Plus Extended Protection Plan

The only service agreement backed by
Nissan Extended Services North America!
Ask your dealer for details, or call 1-800-NISSAN-1
for more information

DELIVERY

VEHICLE COLORS:
EXT: DEEP BLUE PEARL
INT: CHARCOAL

FINAL ASSEMBLY POINT:
AGUAS(ABV)MEX

TRANSPORT METHOD:
TRUCK

DEALER:
ROSEN NISSAN
5505 S 27TH STREET
MILWAUKEE WI
53221

VIN: 3N8AP6BB7SL309976
EMS: 50 STATE EMISSIONS
MDL: 21015-309976 RAY-G
OPT: 8-C03892L95

20240815231141AS5522

Photo No. 083 - Monroney Label Photograph

APPENDIX B
DUMMY RESPONSE DATA TRACES

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Figure No. 3.	Driver Head Z Acceleration vs. Time	B-1
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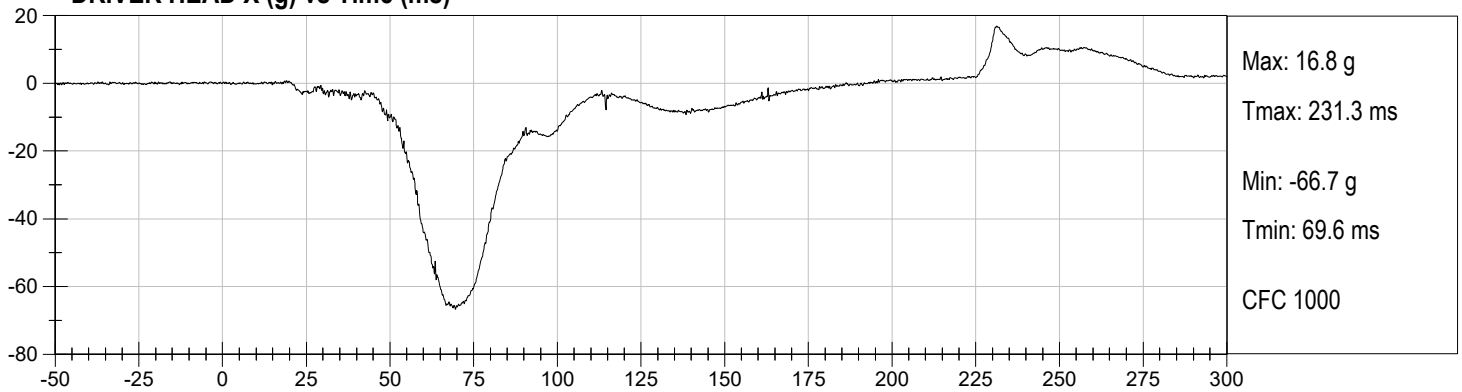
The following additional dummy and vehicle response data can be found in the R&D section of the NHTSA website at www.nhtsa.gov

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

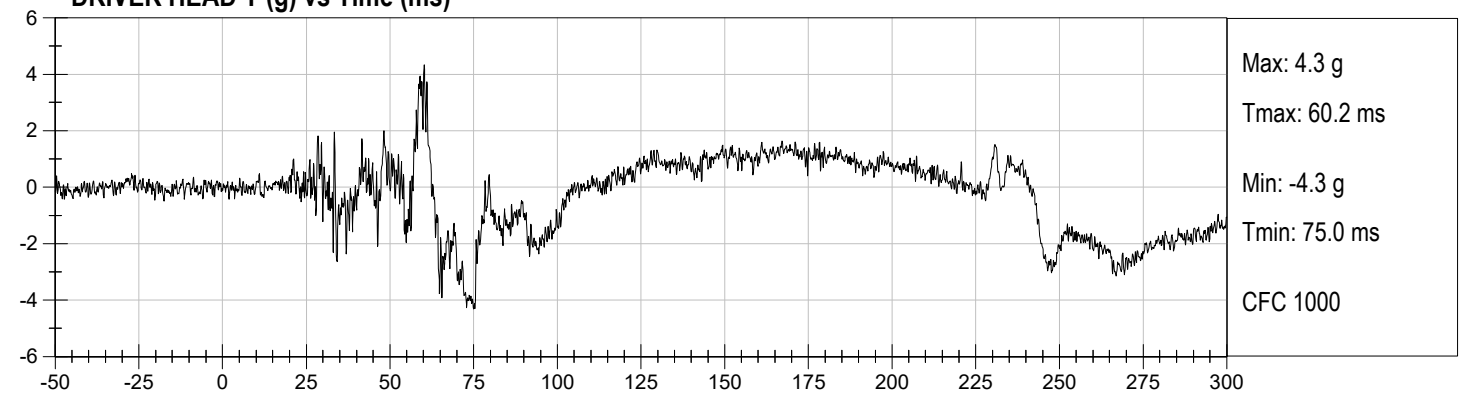
Driver Left Upper Tibia Force Z
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Upper Tibia Moment X
Driver Right Upper Tibia Moment Y
Driver Right Upper Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y
Driver 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

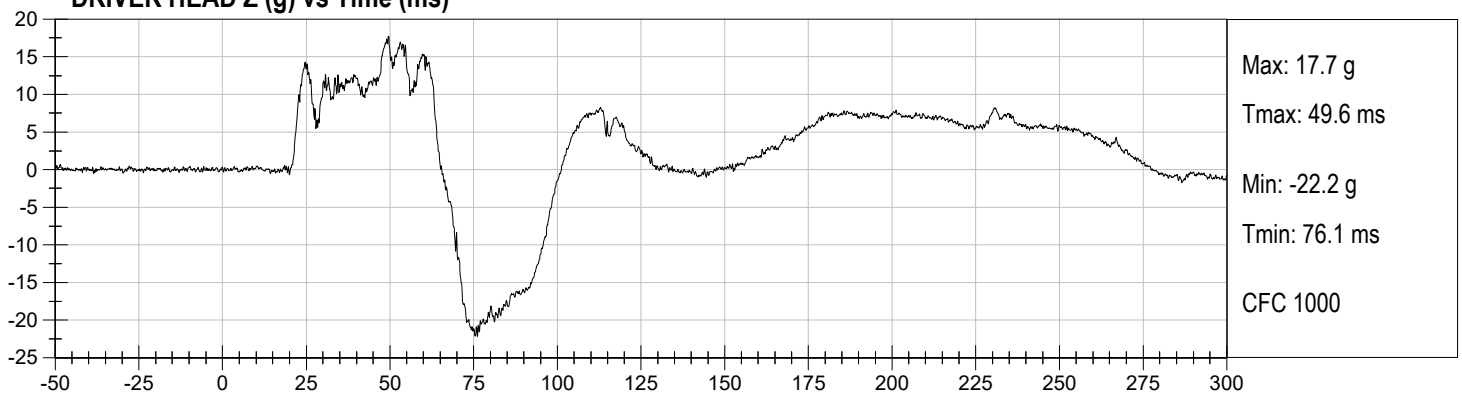
DRIVER HEAD X (g) vs Time (ms)



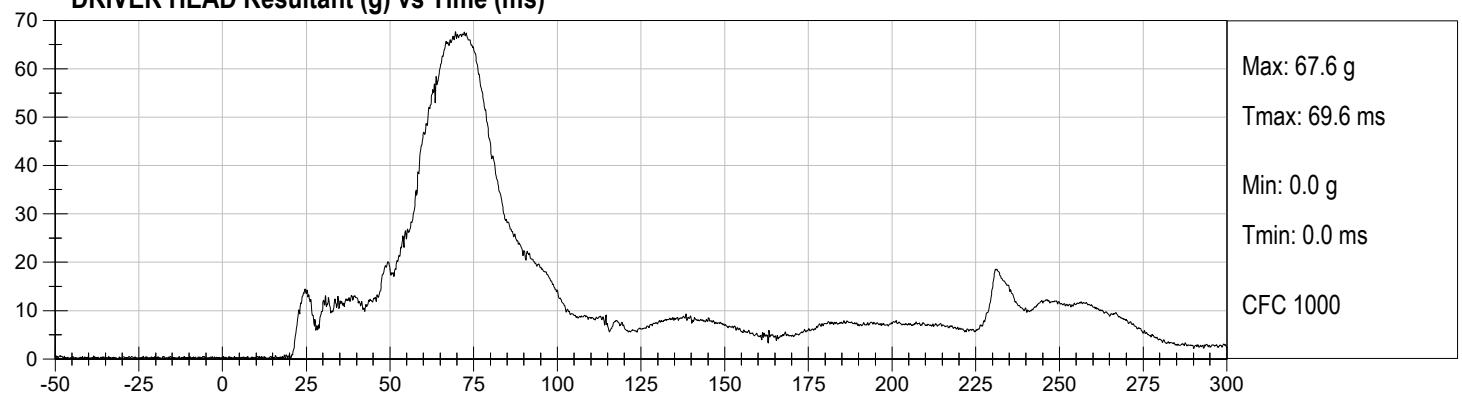
DRIVER HEAD Y (g) vs Time (ms)

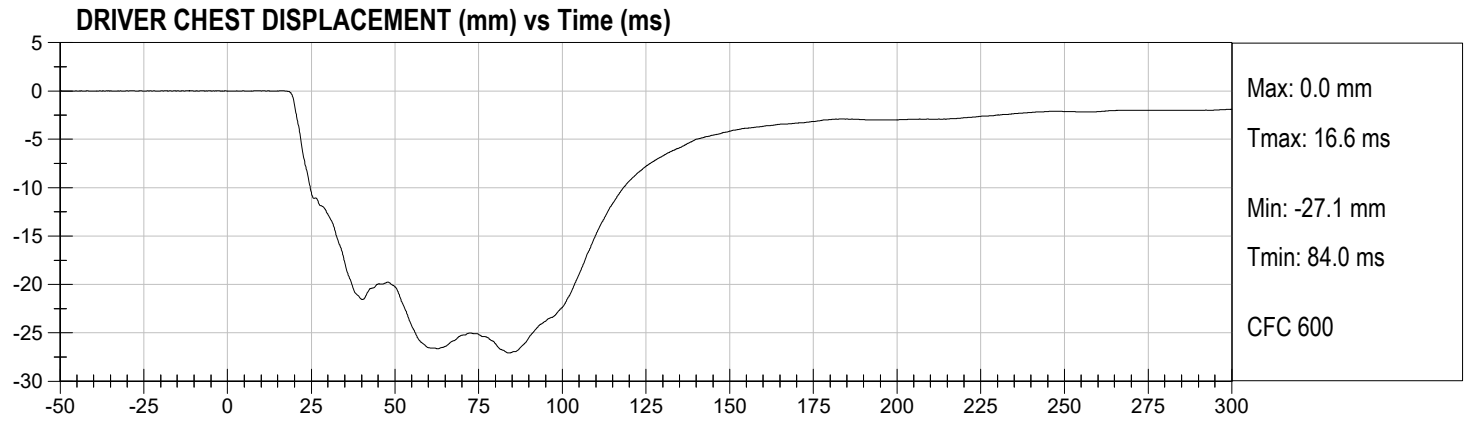


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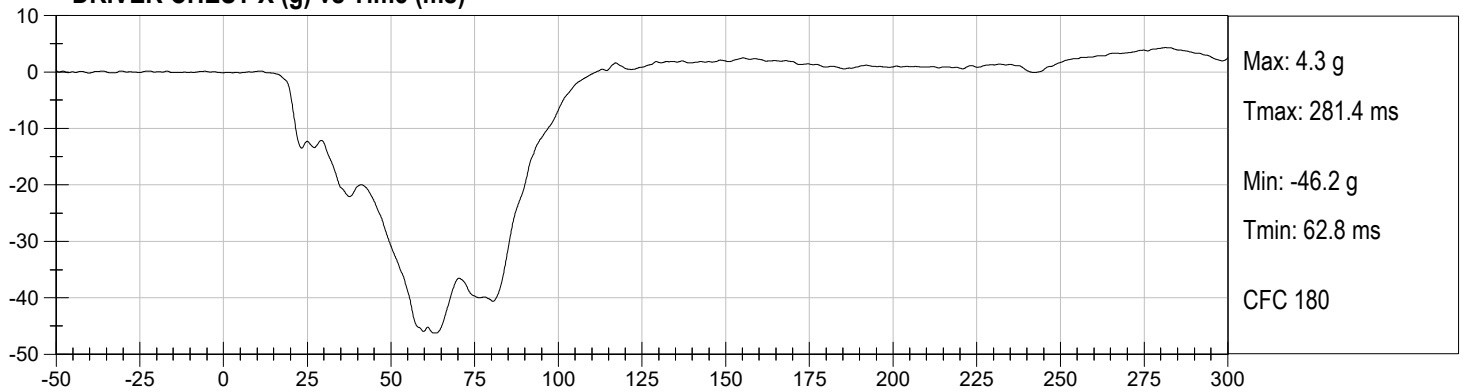


DRIVER HEAD Resultant (g) vs Time (ms)

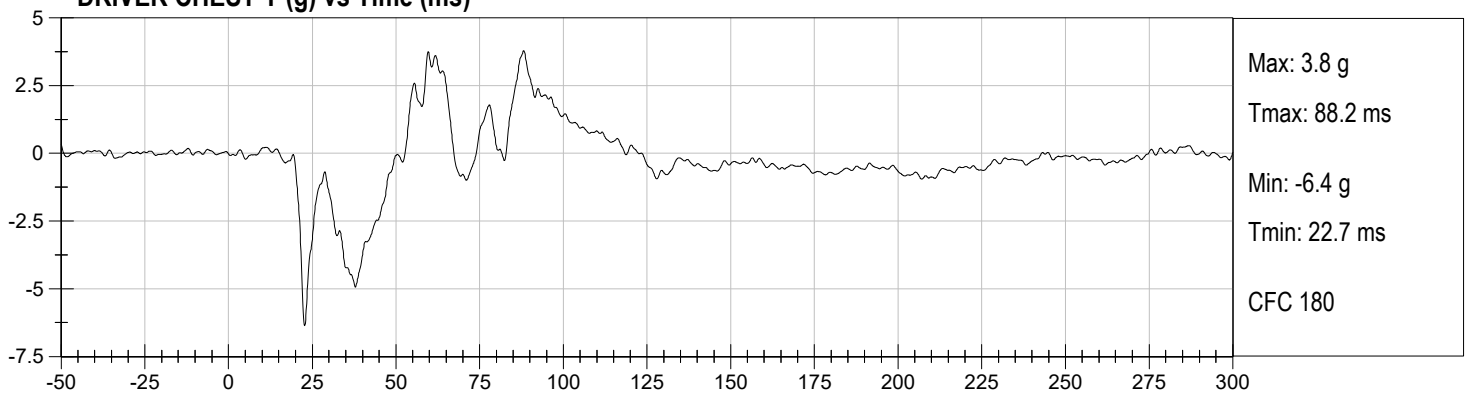




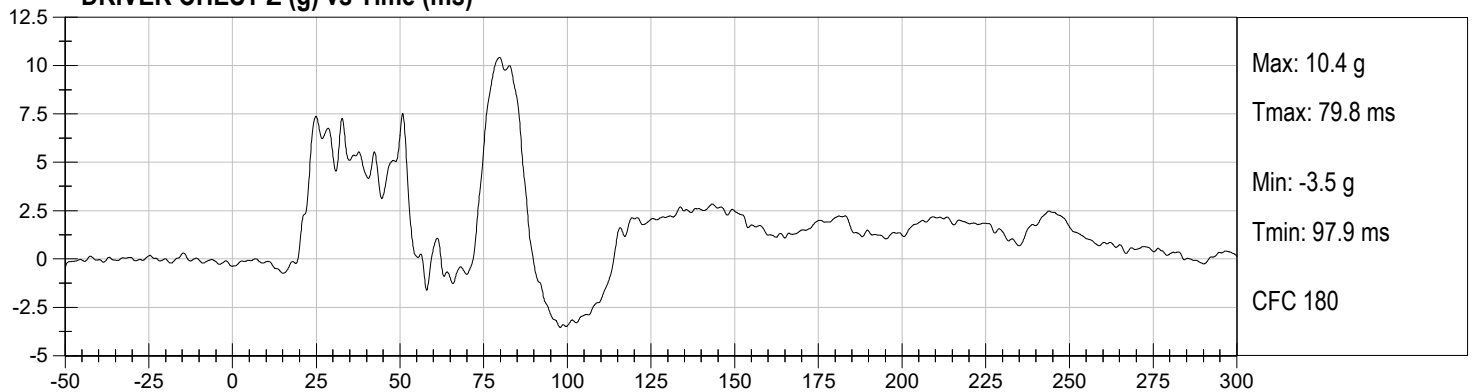
DRIVER CHEST X (g) vs Time (ms)



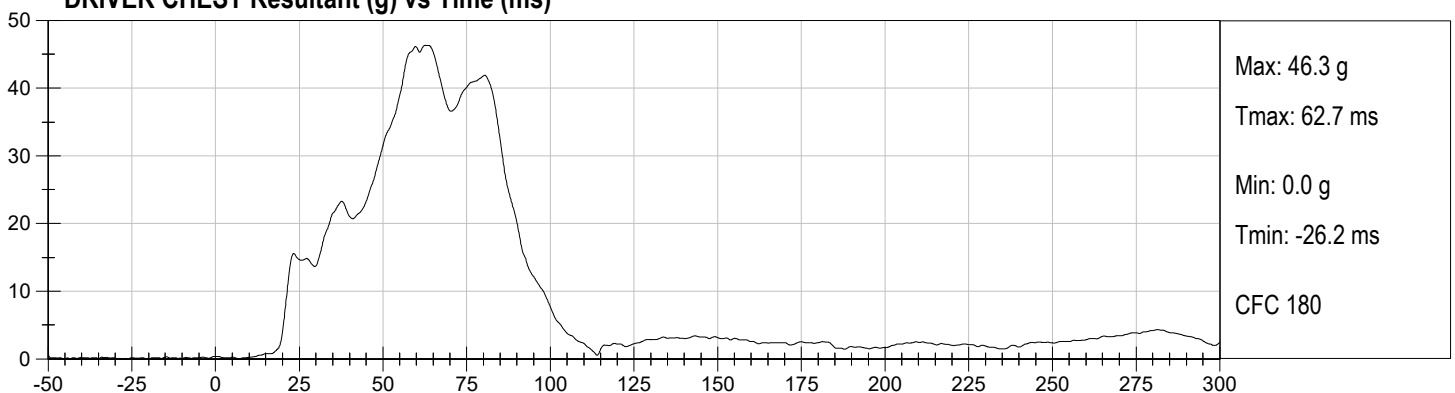
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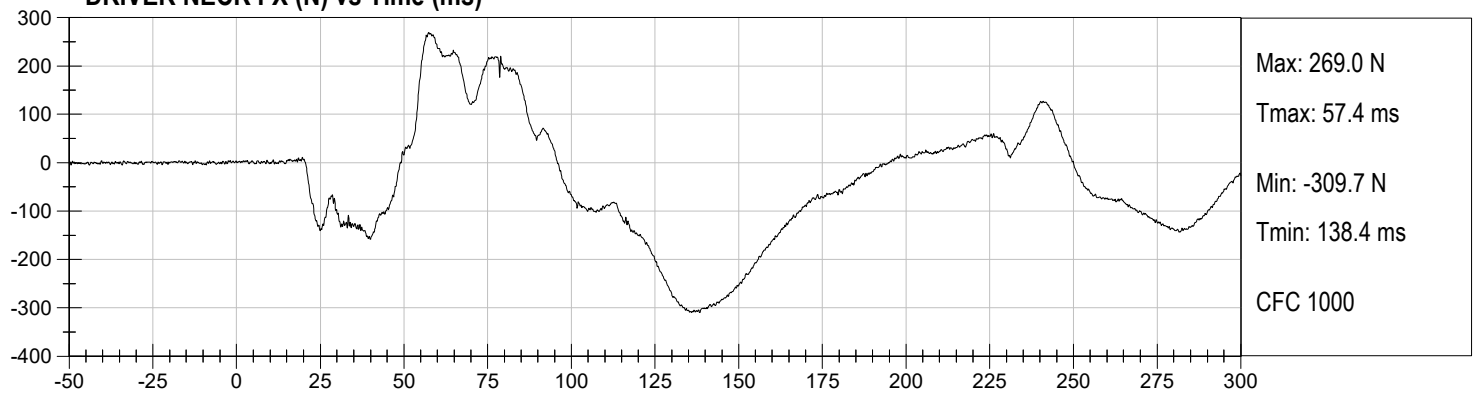
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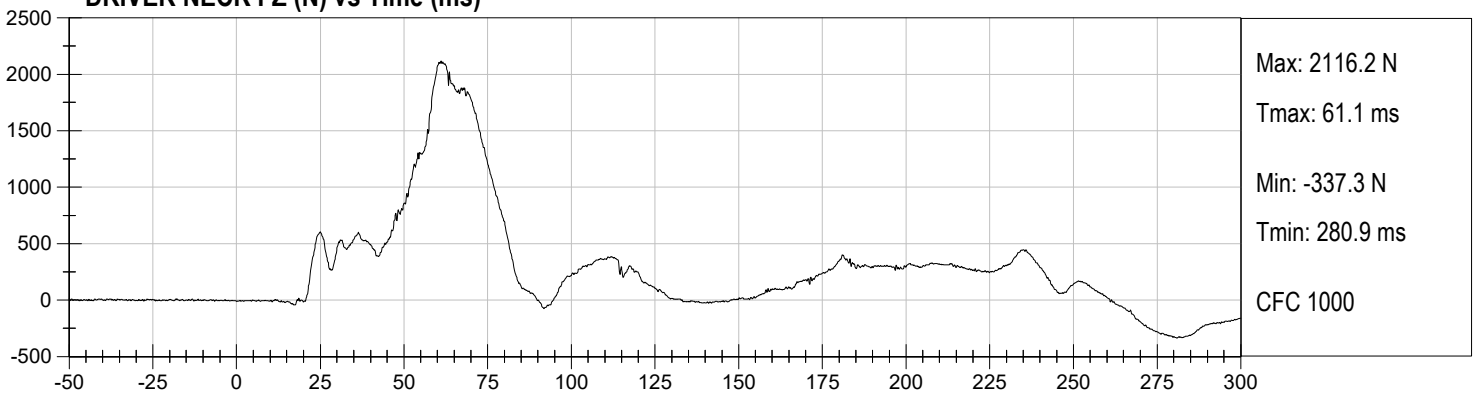
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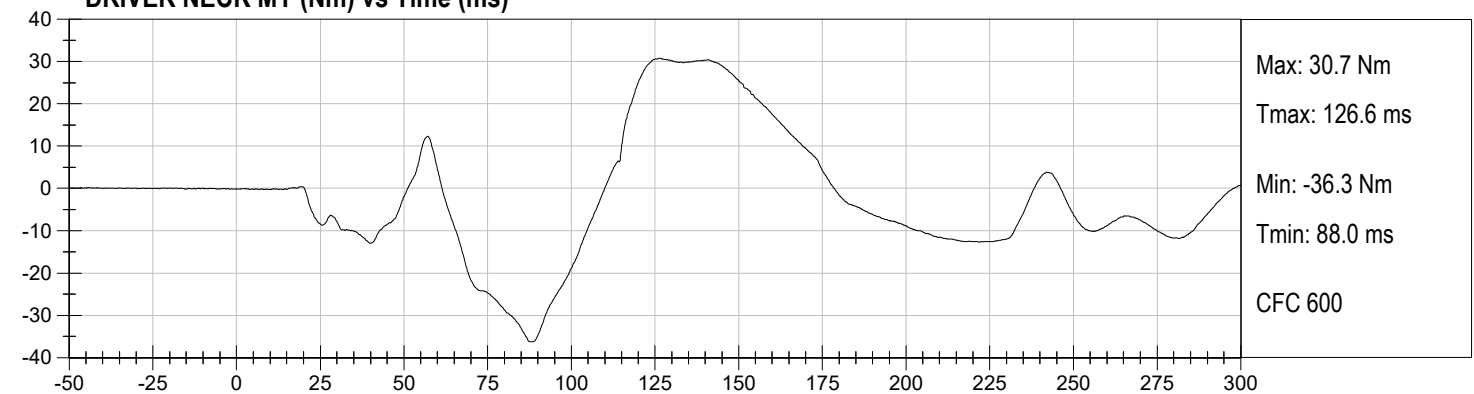
DRIVER NECK FX (N) vs Time (ms)



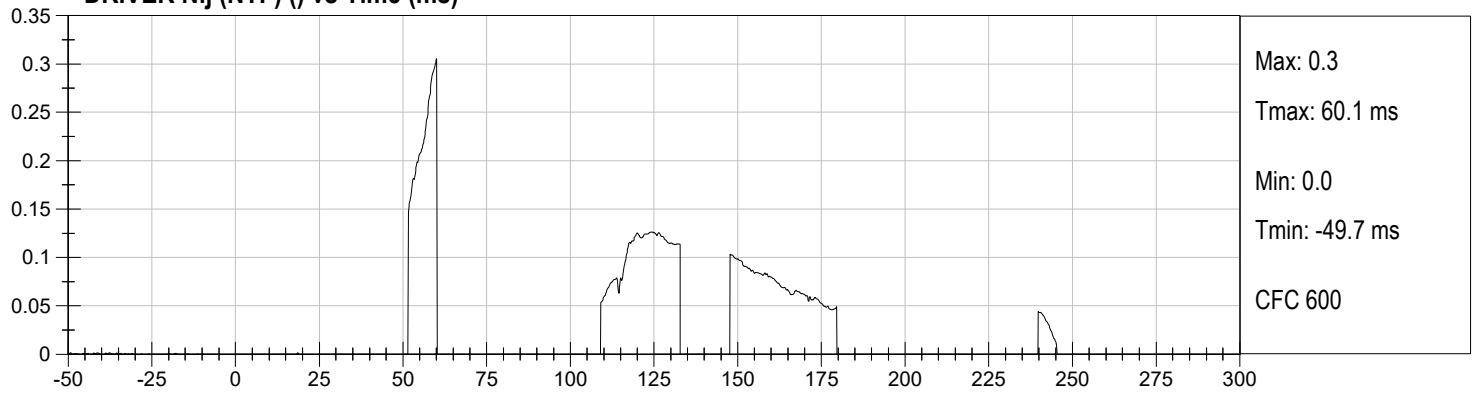
DRIVER NECK FZ (N) vs Time (ms)



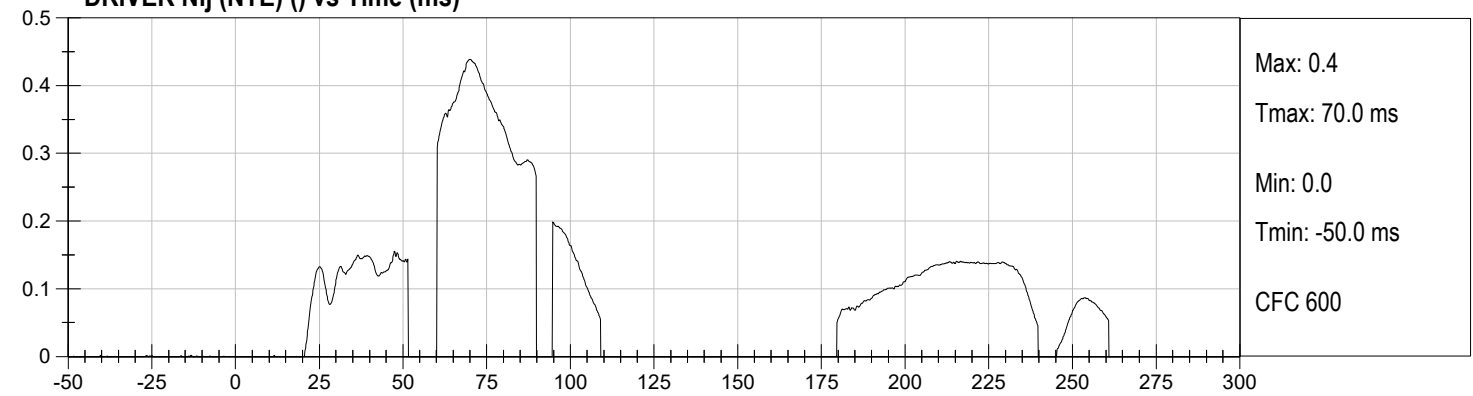
DRIVER NECK MY (Nm) vs Time (ms)



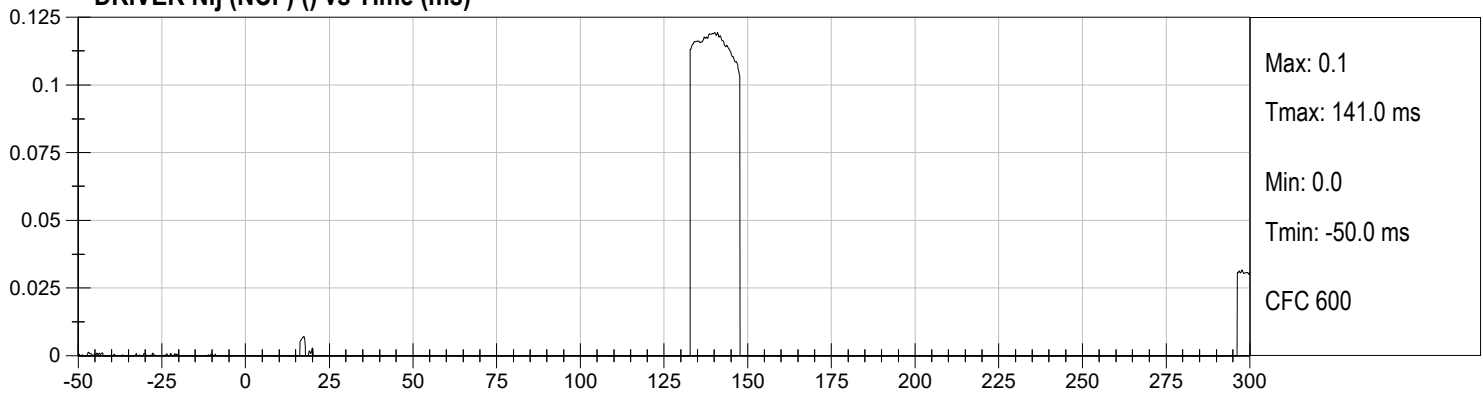
DRIVER Nij (NTF) () vs Time (ms)



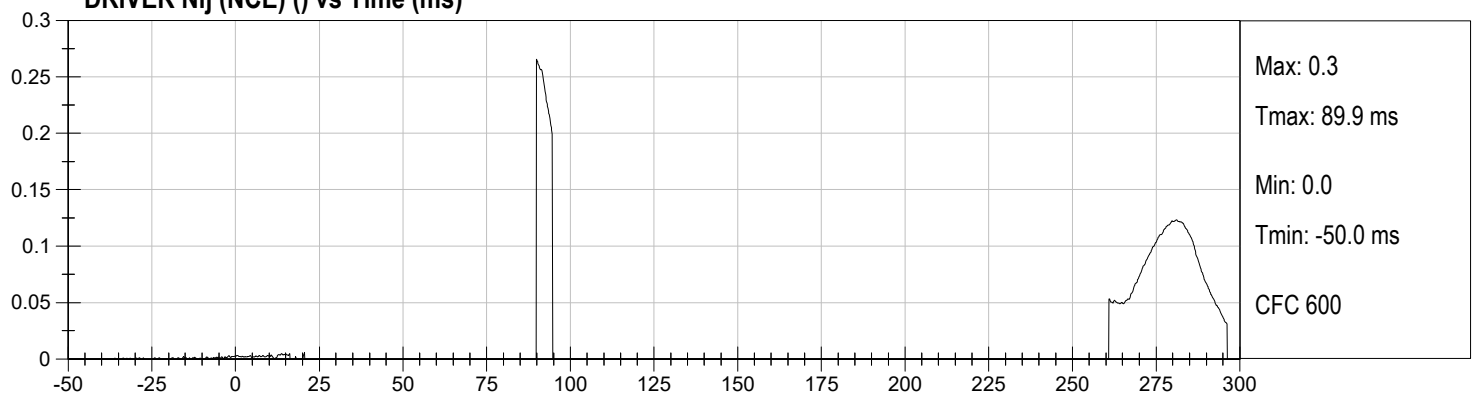
DRIVER Nij (NTE) () vs Time (ms)

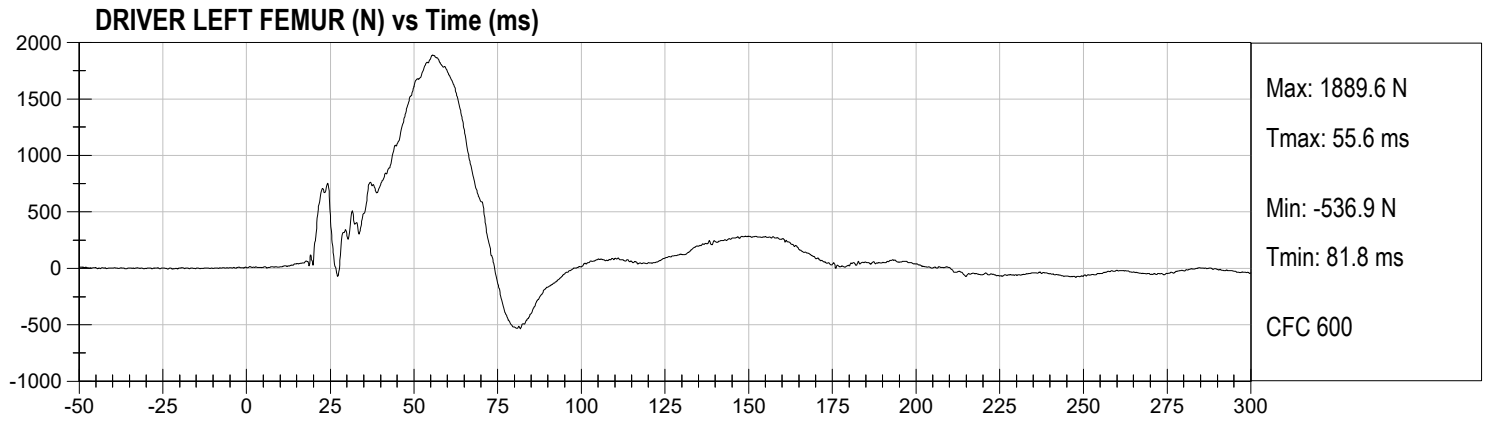


DRIVER Nij (NCF) () vs Time (ms)

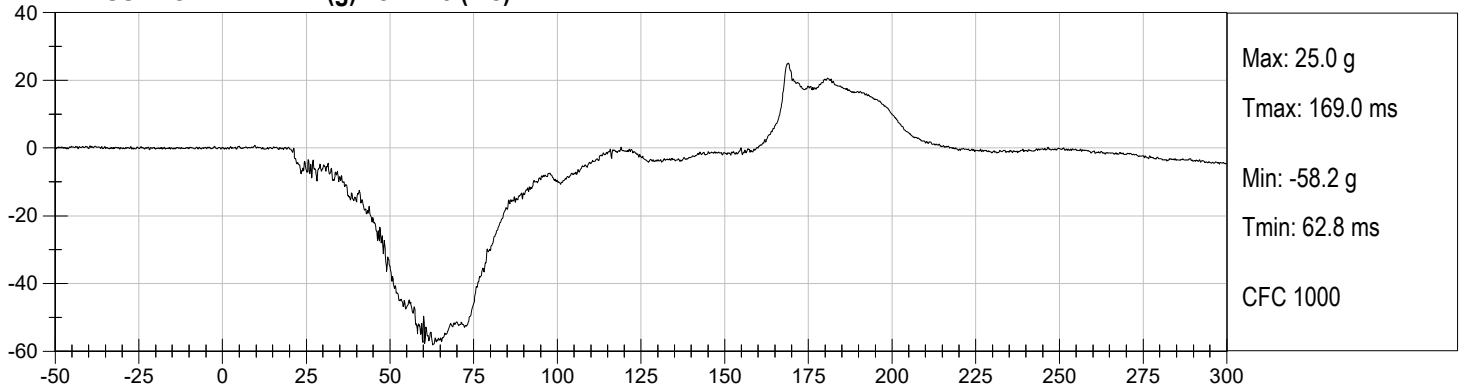


DRIVER Nij (NCE) () vs Time (ms)

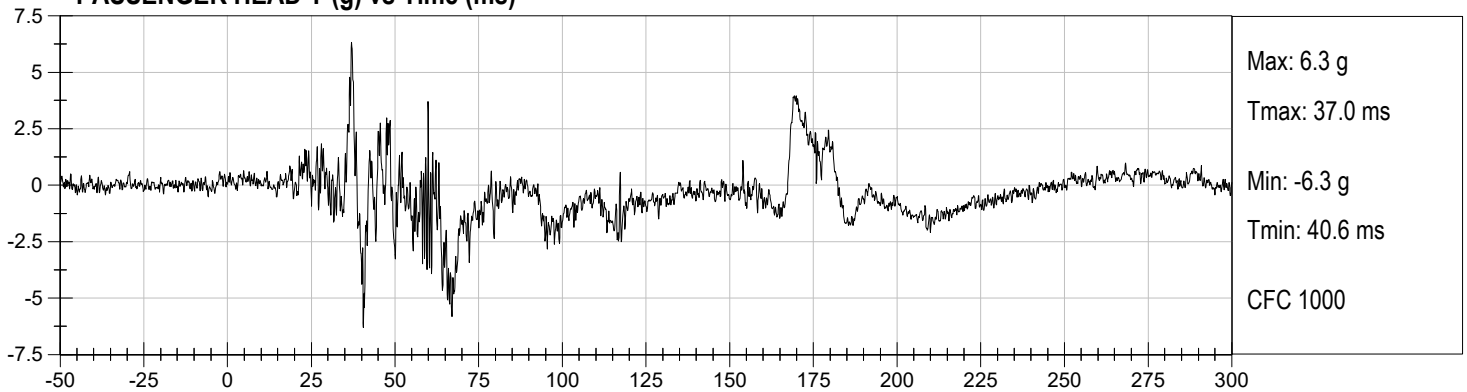




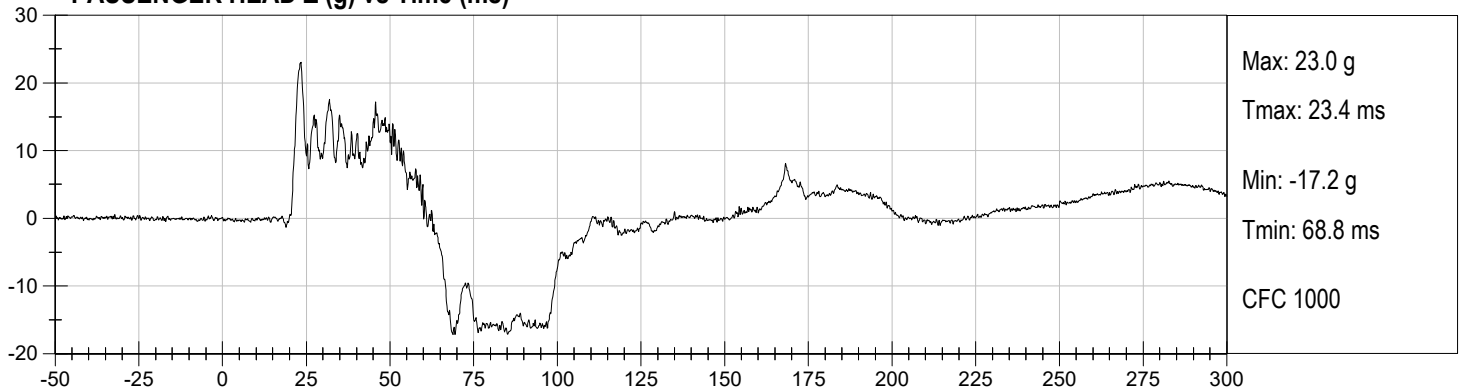
PASSENGER HEAD X (g) vs Time (ms)



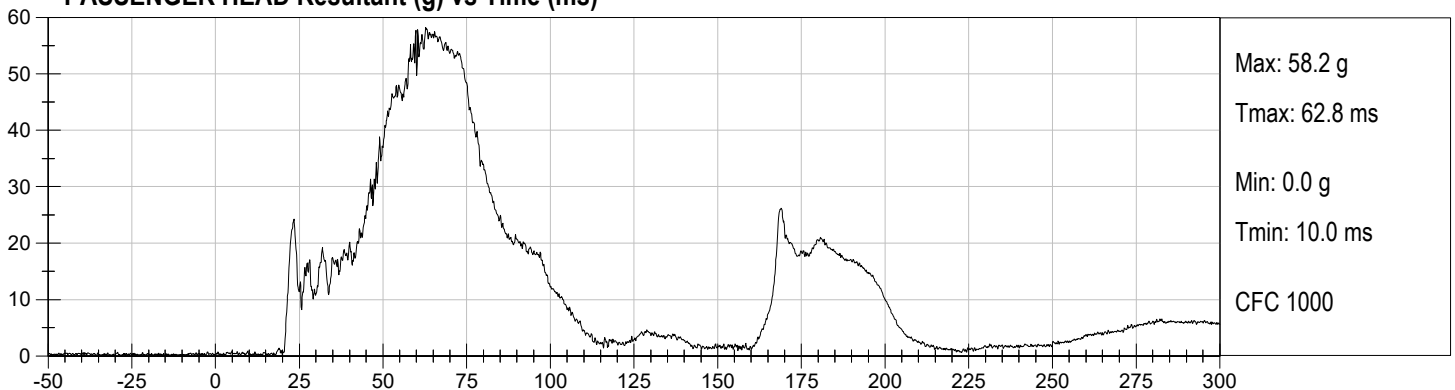
PASSENGER HEAD Y (g) vs Time (ms)

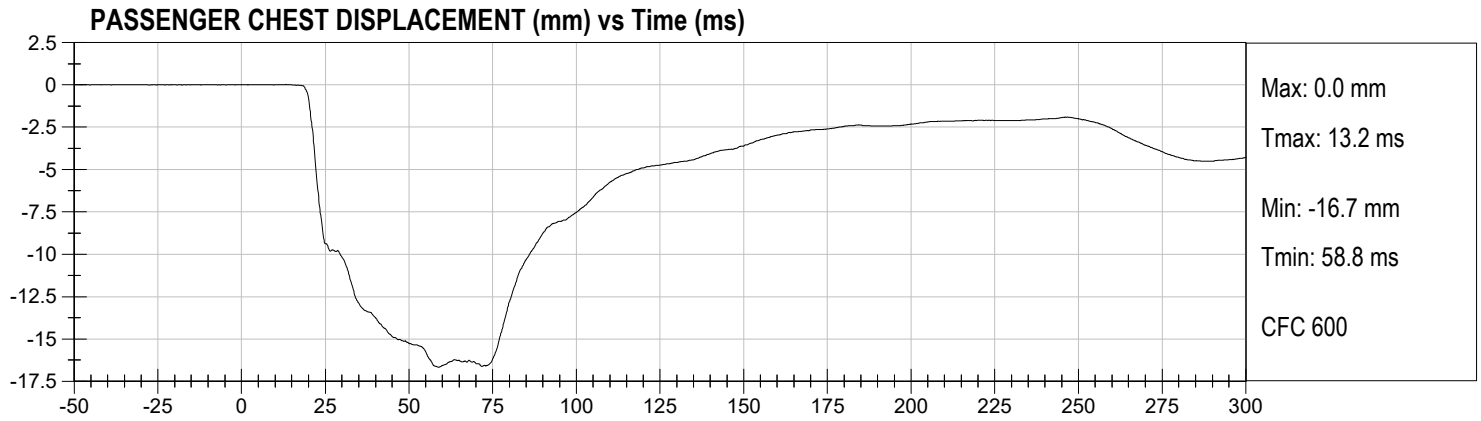


PASSENGER HEAD Z (g) vs Time (ms)

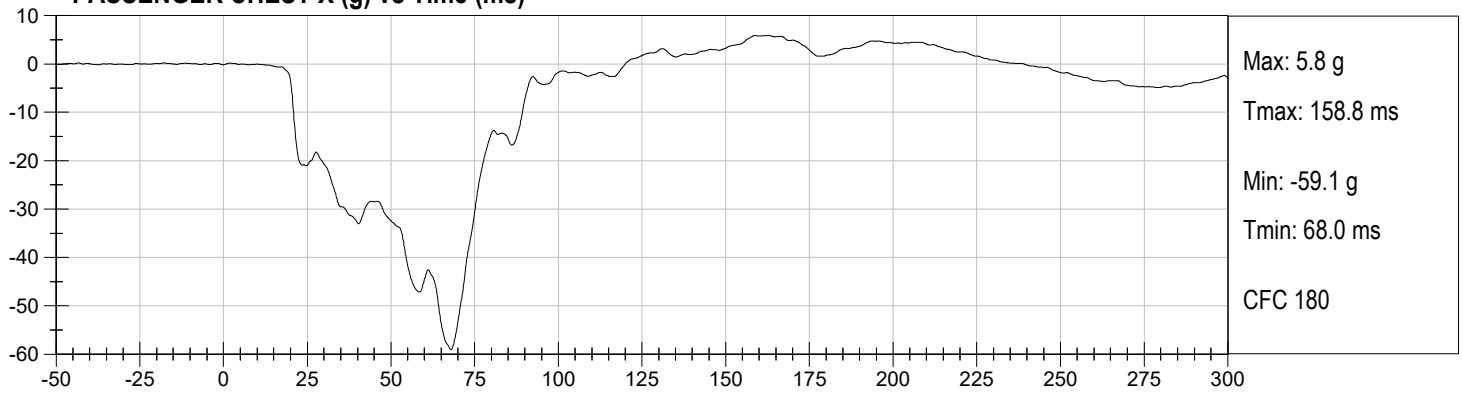


PASSENGER HEAD Resultant (g) vs Time (ms)

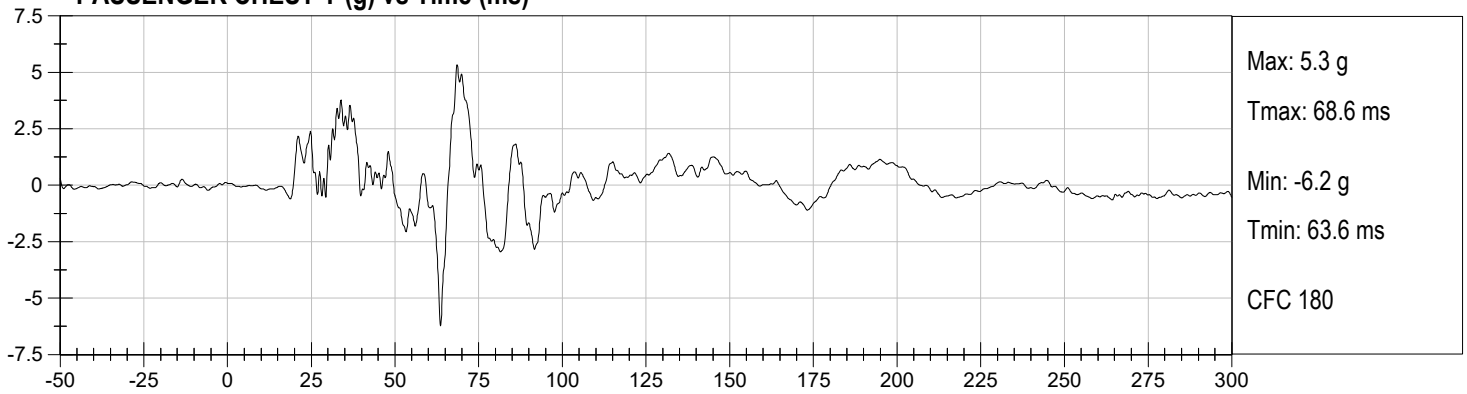




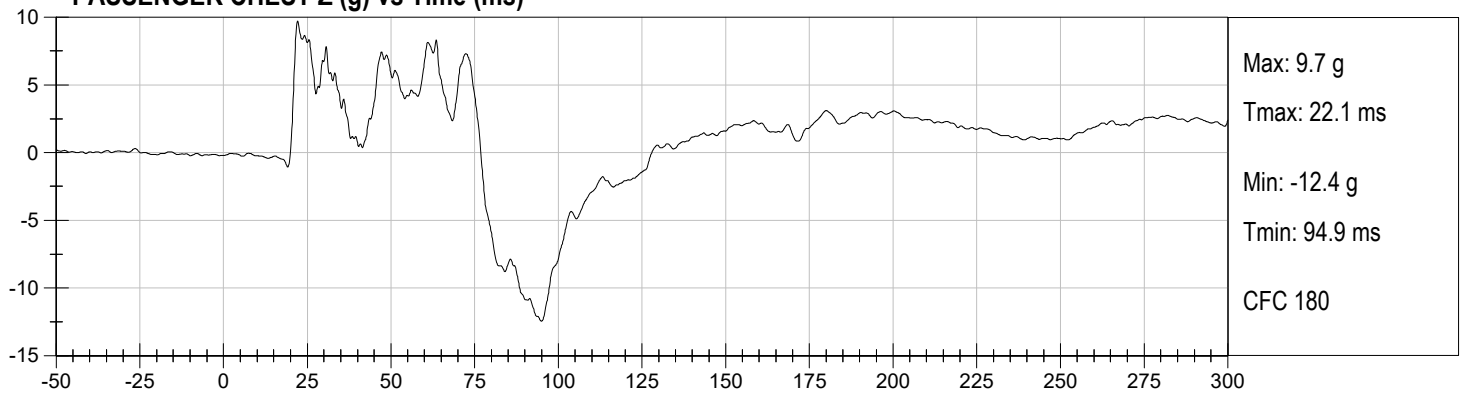
PASSENGER CHEST X (g) vs Time (ms)



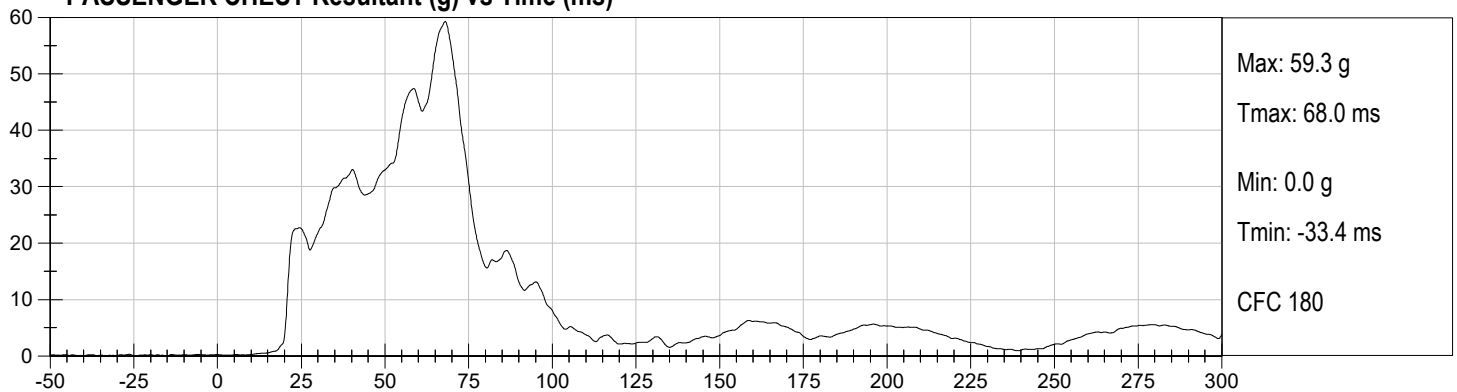
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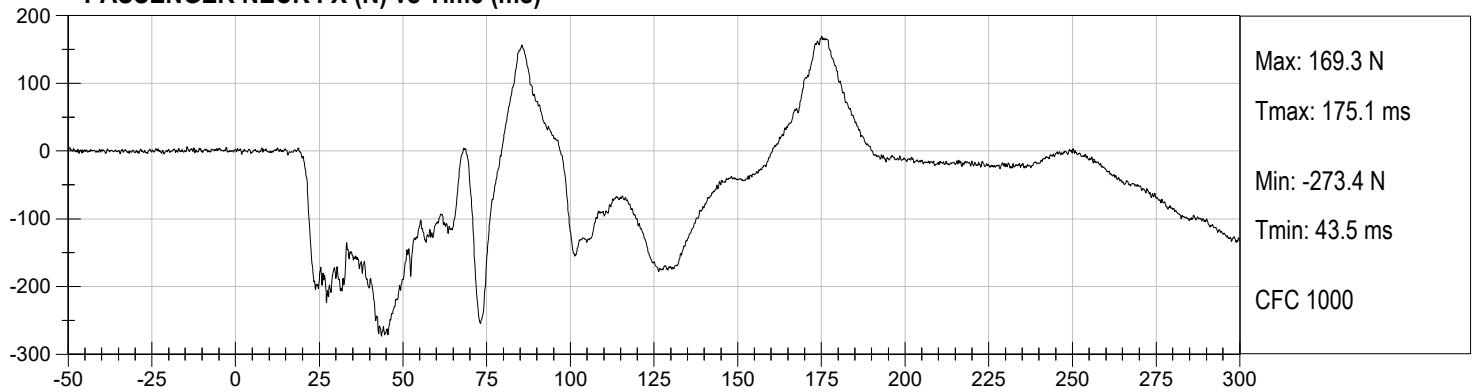
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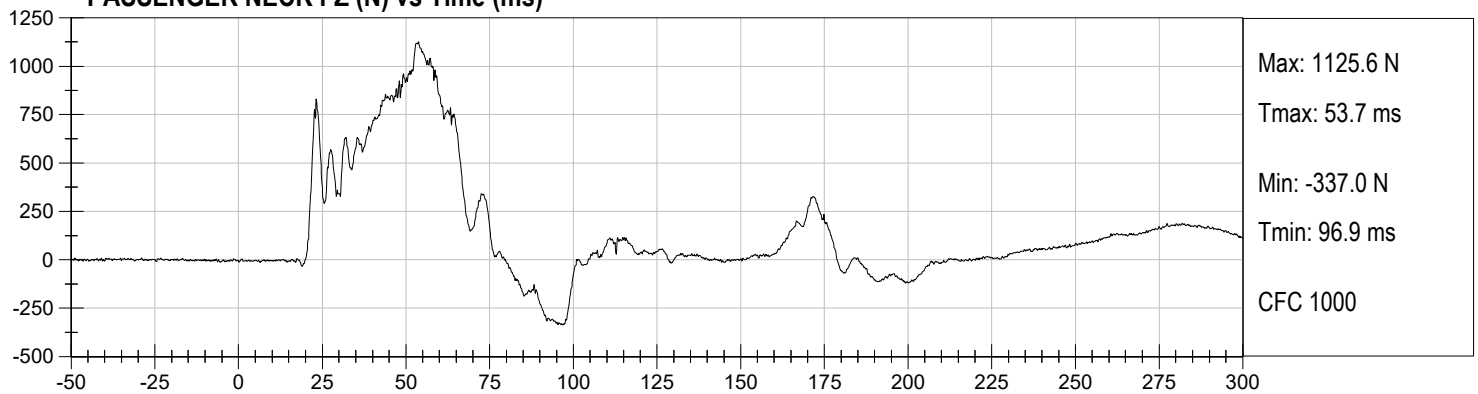
PASSENGER CHEST Resultant (g) vs Time (ms)



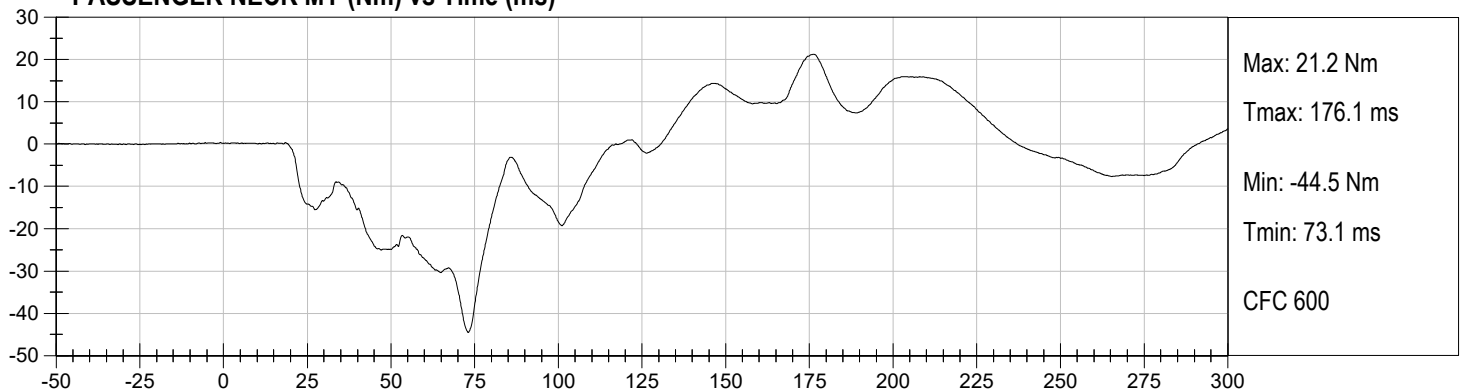
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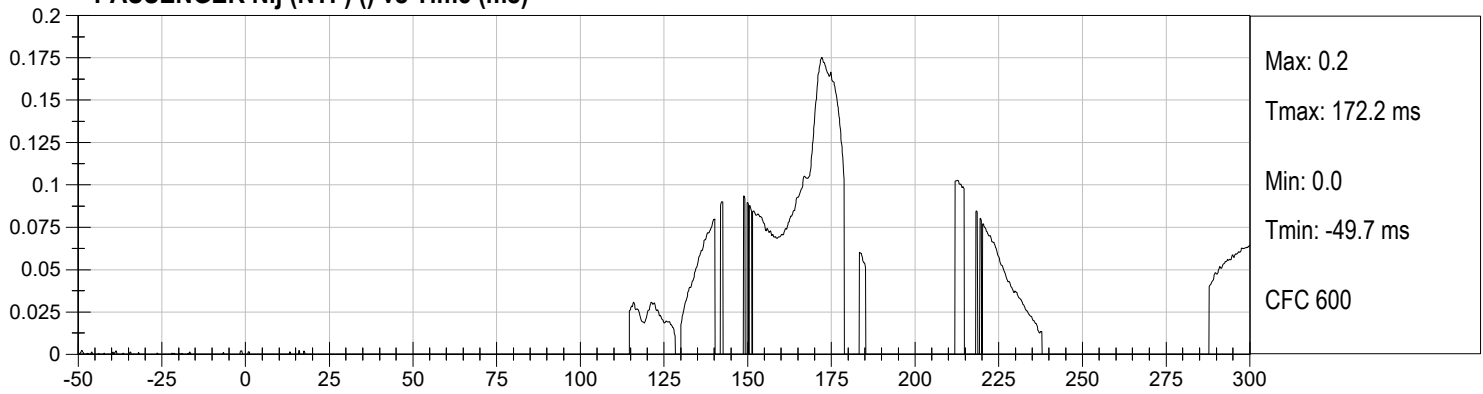
PASSENGER NECK FZ (N) vs Time (ms)



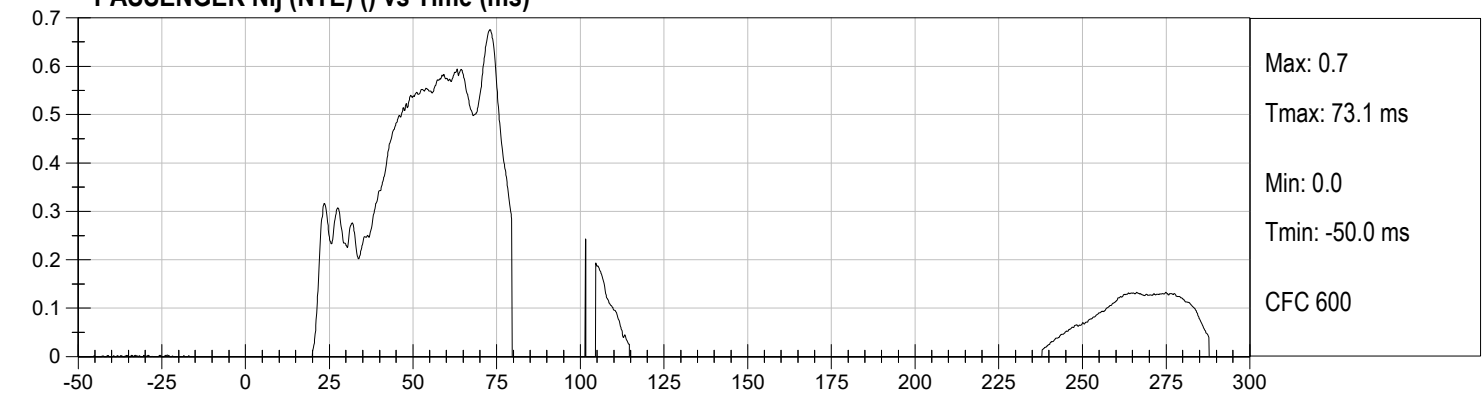
PASSENGER NECK MY (Nm) vs Time (ms)



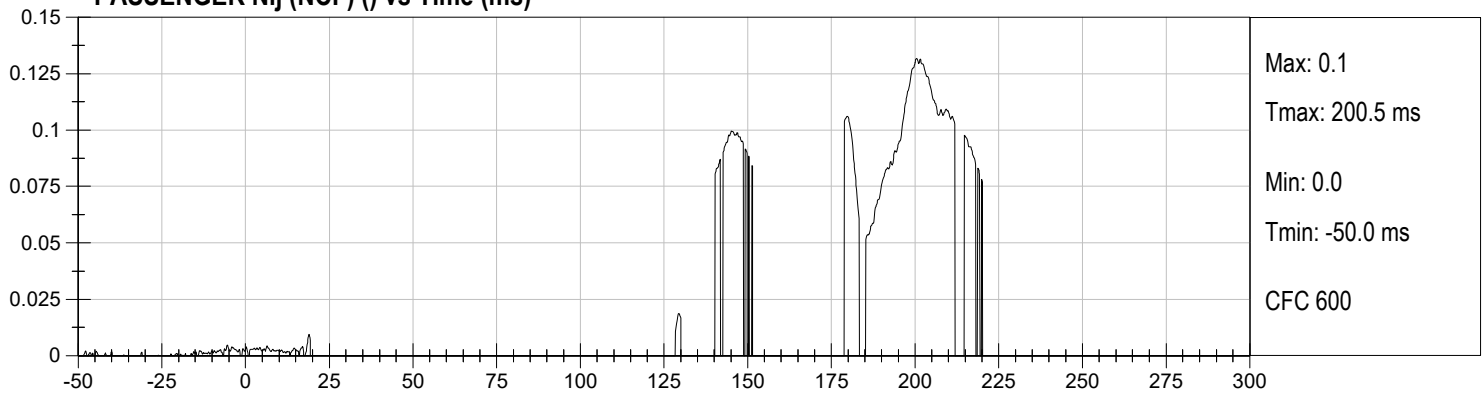
PASSENGER Nij (NTF) () vs Time (ms)



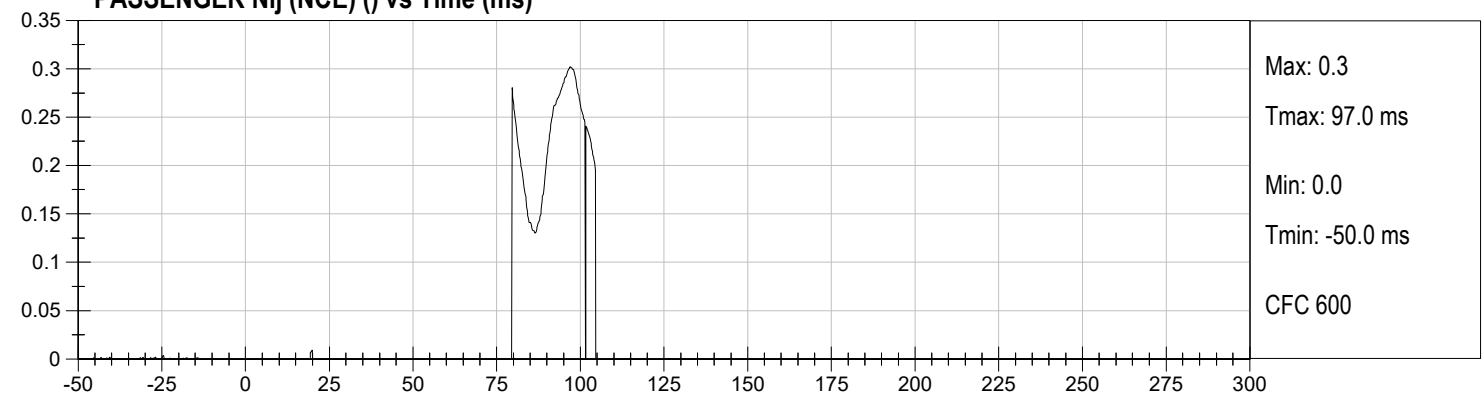
PASSENGER Nij (NTE) () vs Time (ms)



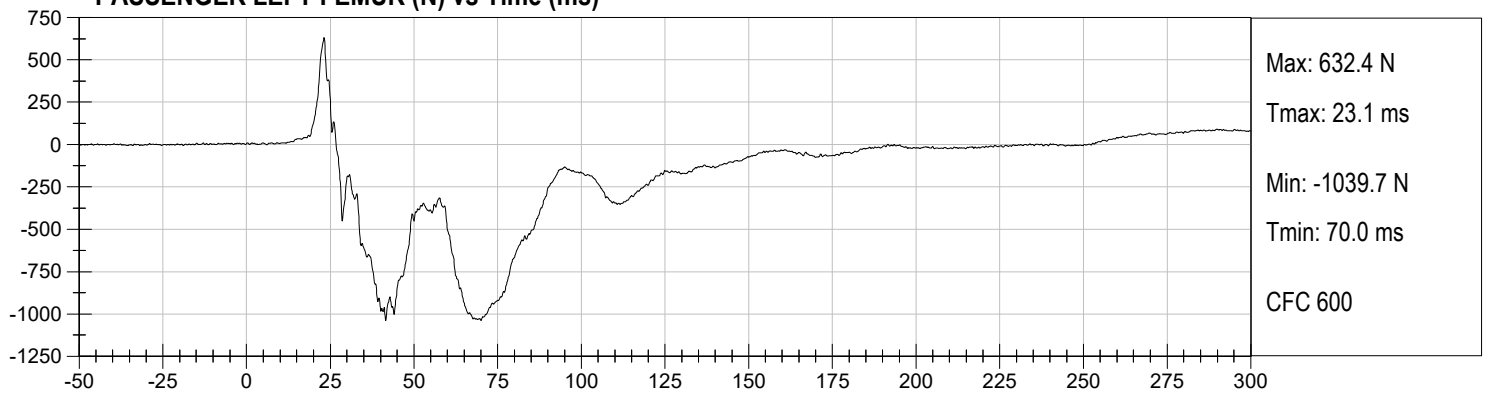
PASSENGER Nij (NCF) () vs Time (ms)



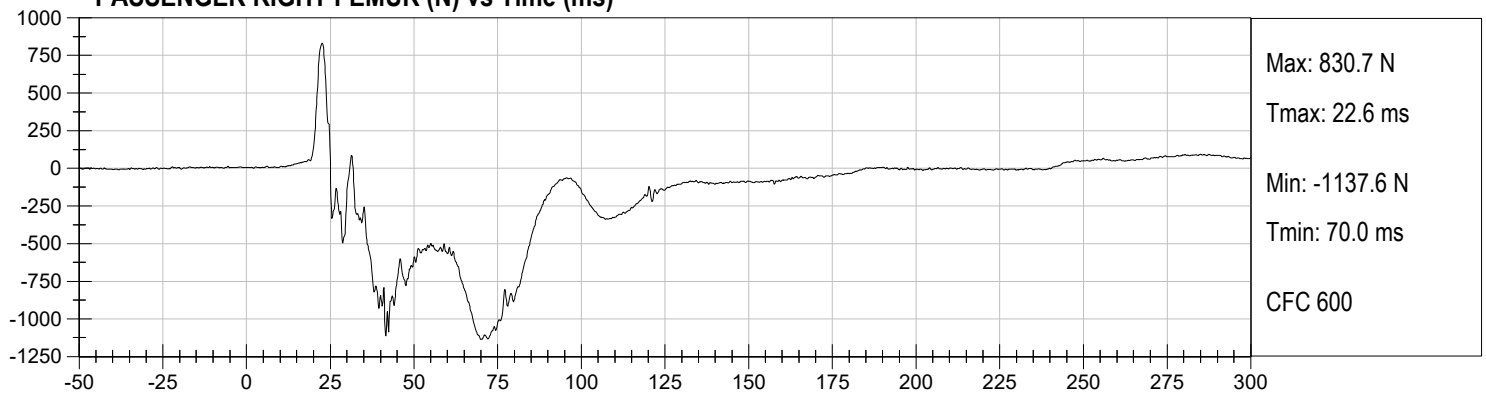
PASSENGER Nij (NCE) () vs Time (ms)



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.

MGA RESEARCH CORPORATION
HEAD DROP TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 064

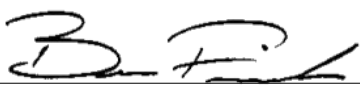
Test ID: D242941

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Peak Resultant Acceleration	G's	225 to 275	239	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	1.2	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 10% of peak	Yes	Pass
			Overall Test Results	Pass

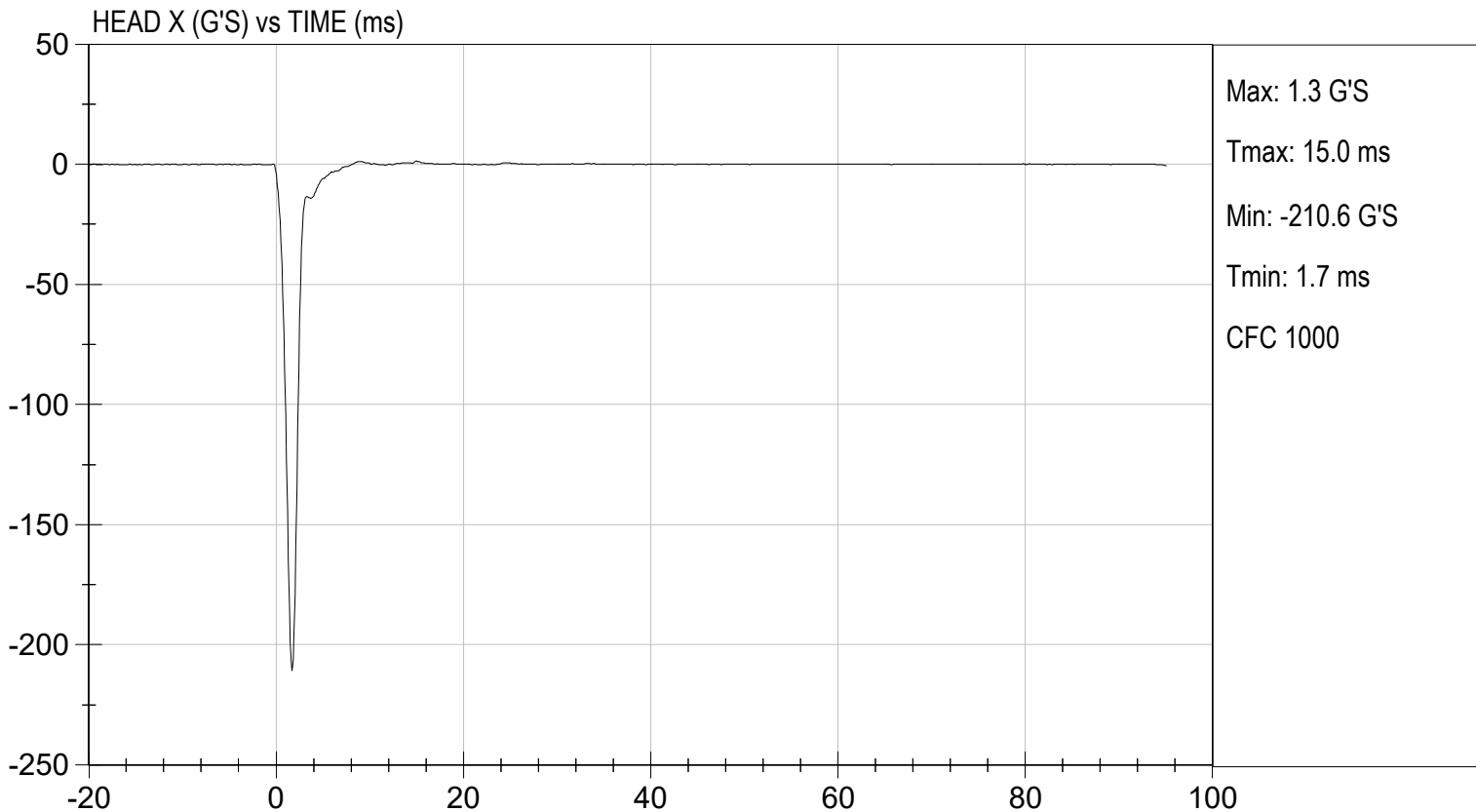
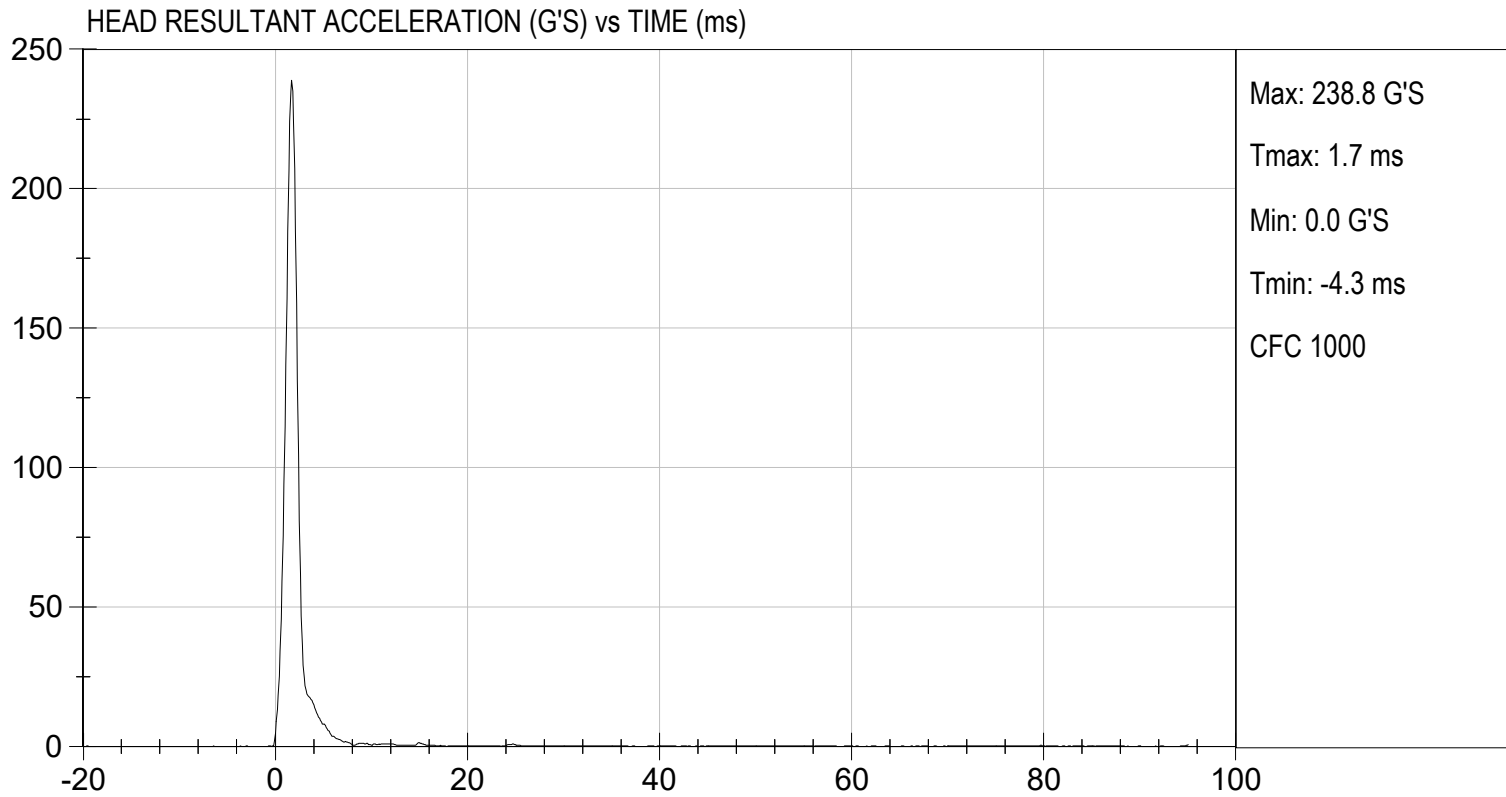


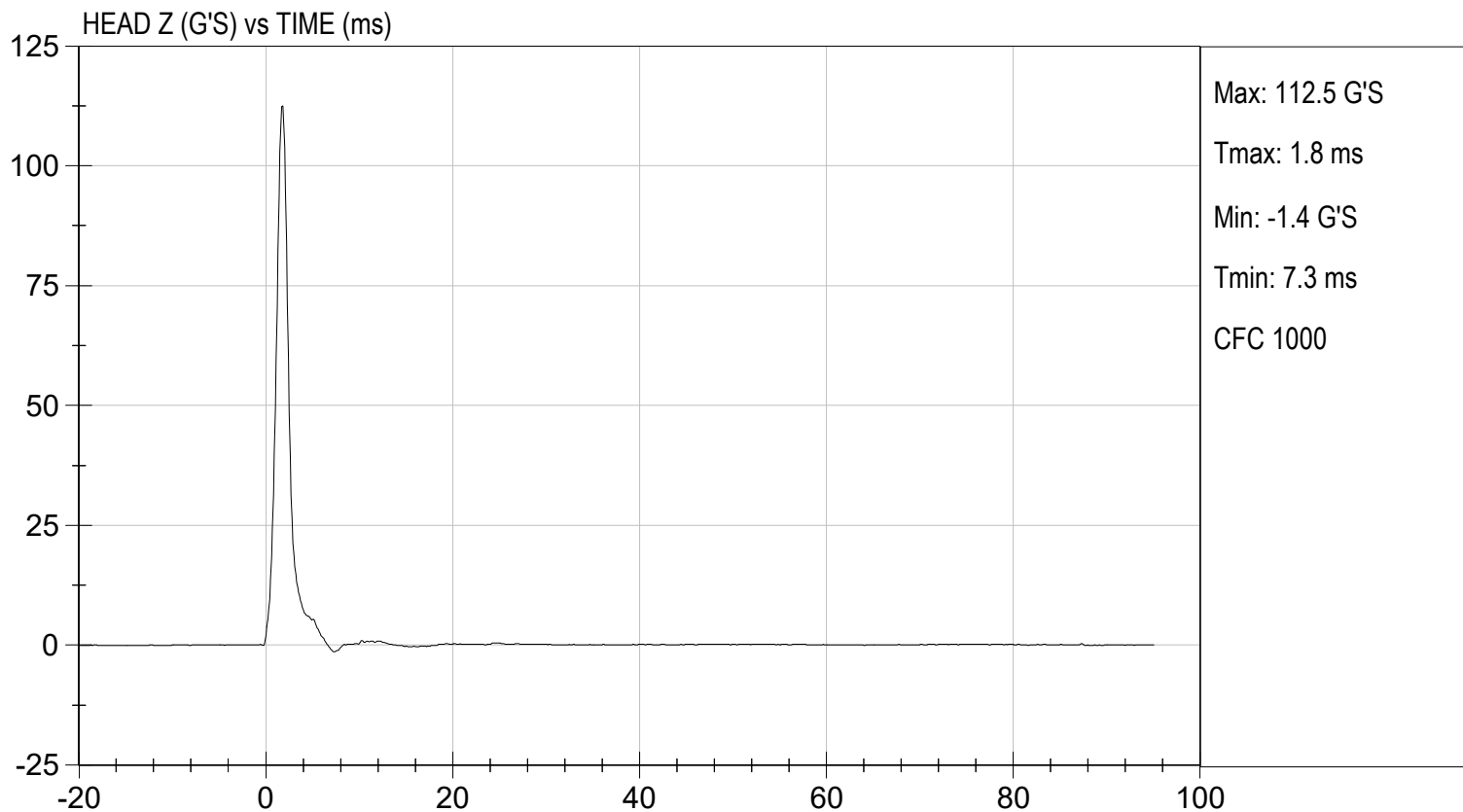
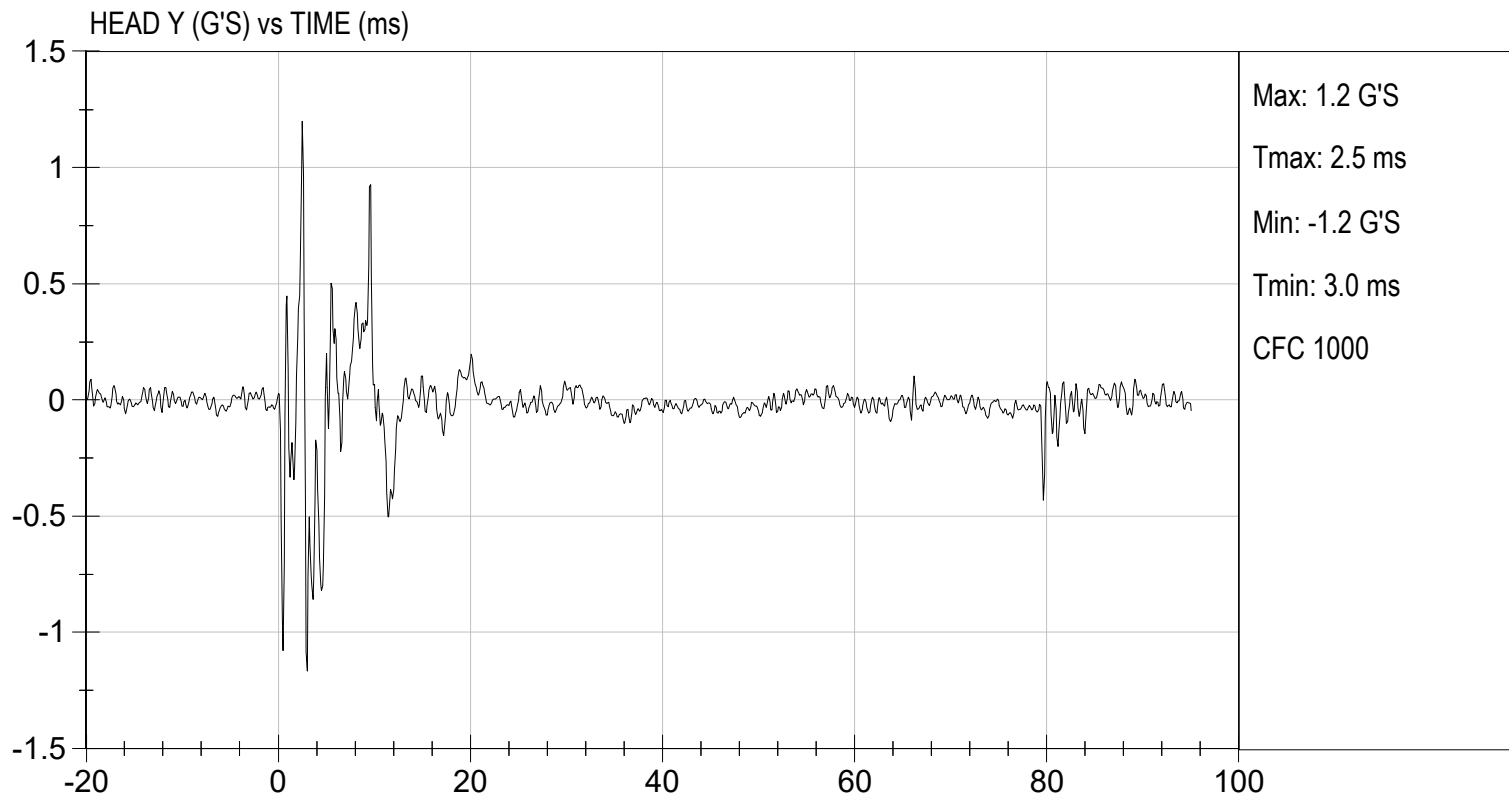
Laboratory Technician

11/11/2024
Test Date



Approved By





MGA RESEARCH CORPORATION
NECK FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

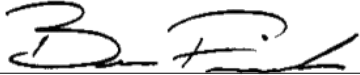
ATD Serial No: 064

Test I.D: D242942

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 ms	G's	22.50 to 27.50	23.16	Pass
	20 ms	G's	17.60 to 22.60	21.45	Pass
	30 ms	G's	12.50 to 18.50	15.04	Pass
Peak Pendulum Deceleration After 30 ms		G's	<= 29.0	15.0	Pass
Deceleration Decay Time to Cross 5 G's		ms	34.0 to 42.0	38.6	Pass
Maximum "D" Plane Rotation	Maximum	Deg	64.0 to 78.0	71.1	Pass
	Time	ms	57.0 to 64.0	59.2	Pass
"D" Plane Rotation Decay Time To Zero Crossing		ms	113.0 to 128.0	115.4	Pass
Moment About Occipital Condyle	Maximum	Nm	88.1 to 108.5	99.4	Pass
	Time	ms	47.0 to 58.0	50.8	Pass
Positive Moment Decay Time To Zero Crossing		ms	97.0 to 107.0	97.6	Pass
Overall Test Results					Pass


 Laboratory Technician

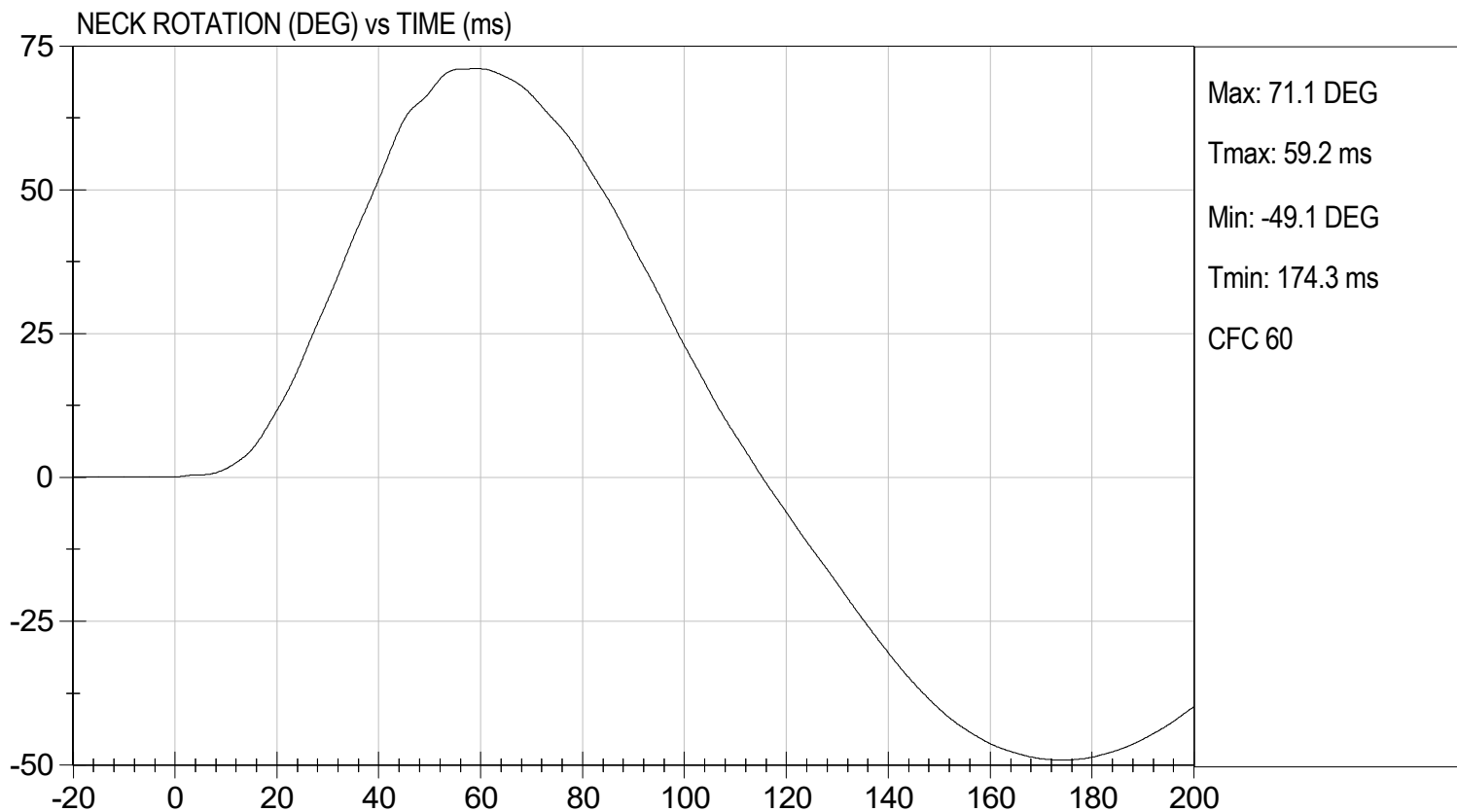
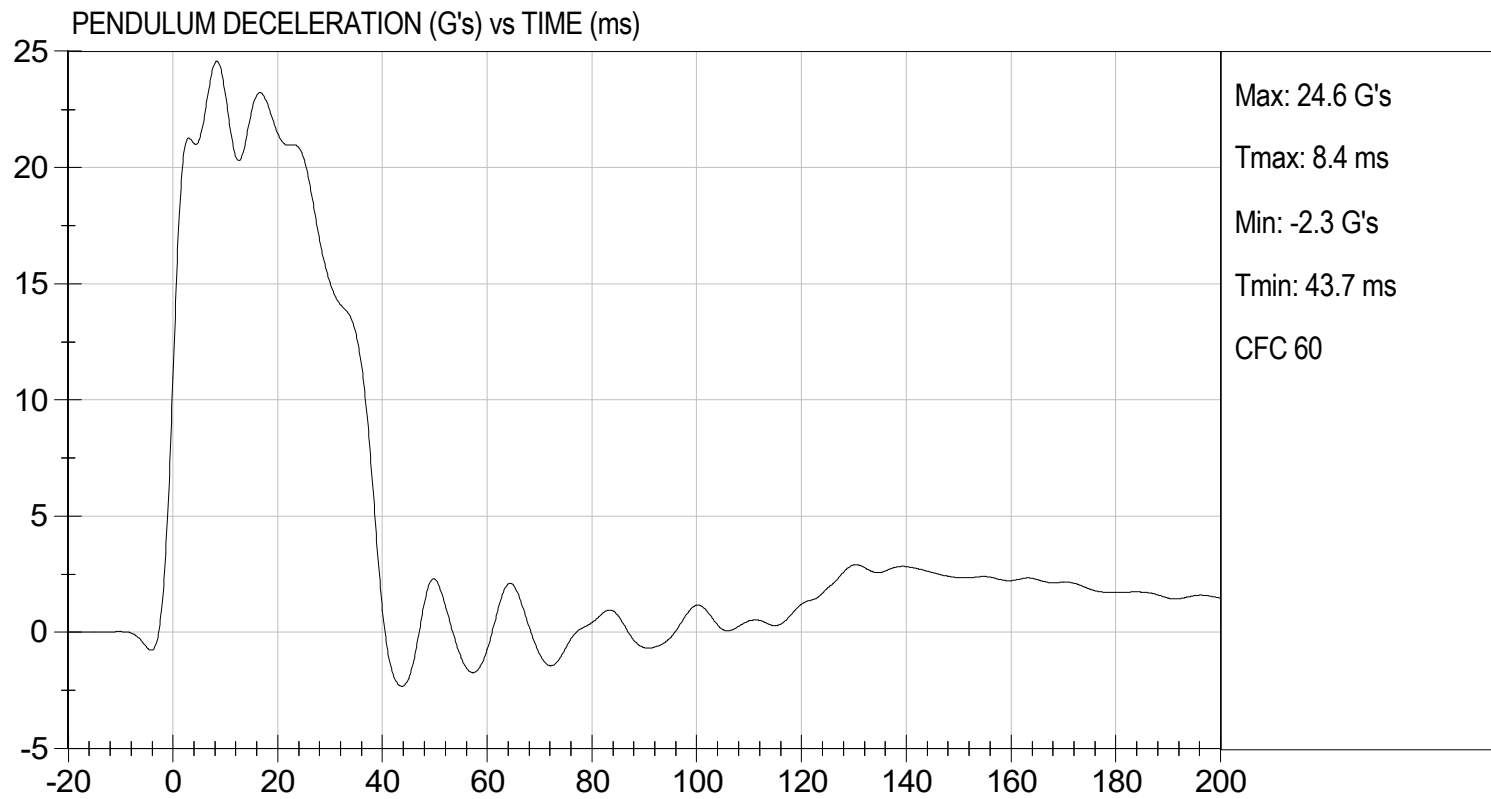
11/11/2024
 Test Date


 Approved By



TEST DESC: NECK FLEXION
VELOCITY: 23.12 ft/s, 7.05 m/s

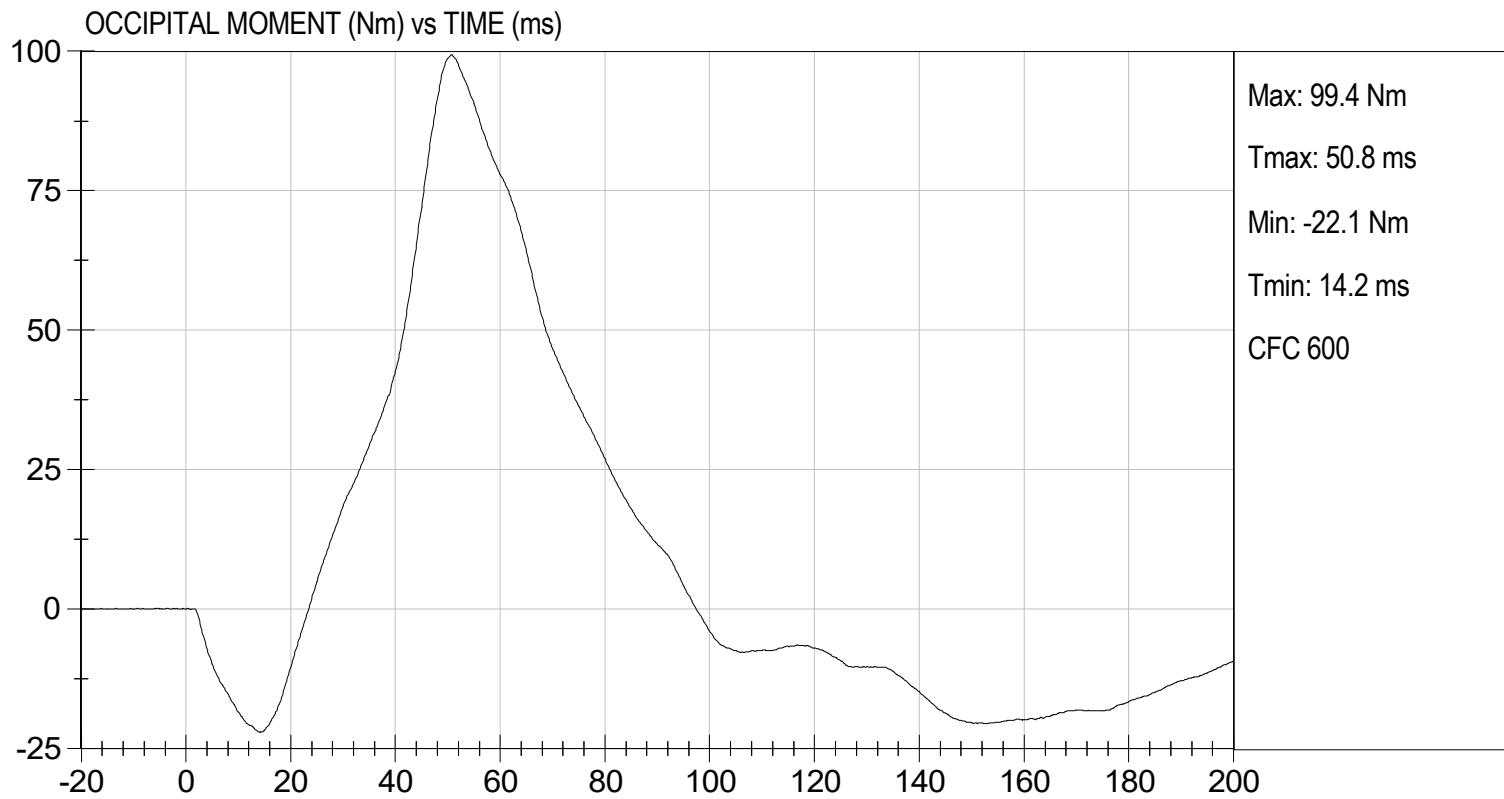
TEST DATE: 11/11/2024
TEST #: D242942





TEST DESC: NECK FLEXION
VELOCITY: 23.12 ft/s, 7.05 m/s

TEST DATE: 11/11/2024
TEST #: D242942



MGA RESEARCH CORPORATION
NECK EXTENSION TEST
HYBRID III 50TH PERCENTILE MALE

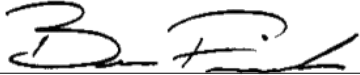
ATD Serial No: 064

Test I.D: D242943

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	38	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.12	Pass
Pendulum Deceleration	10 ms	G's	17.20 to 21.20	17.43	Pass
	20 ms	G's	14.00 to 19.00	15.07	Pass
	30 ms	G's	11.00 to 16.00	11.89	Pass
Peak Pendulum Deceleration After 30 ms		G's	<= 22.0	12.7	Pass
Deceleration Decay Time to Cross 5 G's		ms	38.0 to 46.0	41.1	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	95.2	Pass
	Time	ms	72.0 to 82.0	80.0	Pass
"D" Plane Rotation Decay Time To Zero Crossing		ms	147.0 to 174.0	161.9	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to -79.9	-53.9	Pass
	Time	ms	65.0 to 79.0	78.6	Pass
Negative Moment Decay Time To Zero Crossing		ms	120.0 to 148.0	147.5	Pass
Overall Test Results					Pass


 Laboratory Technician

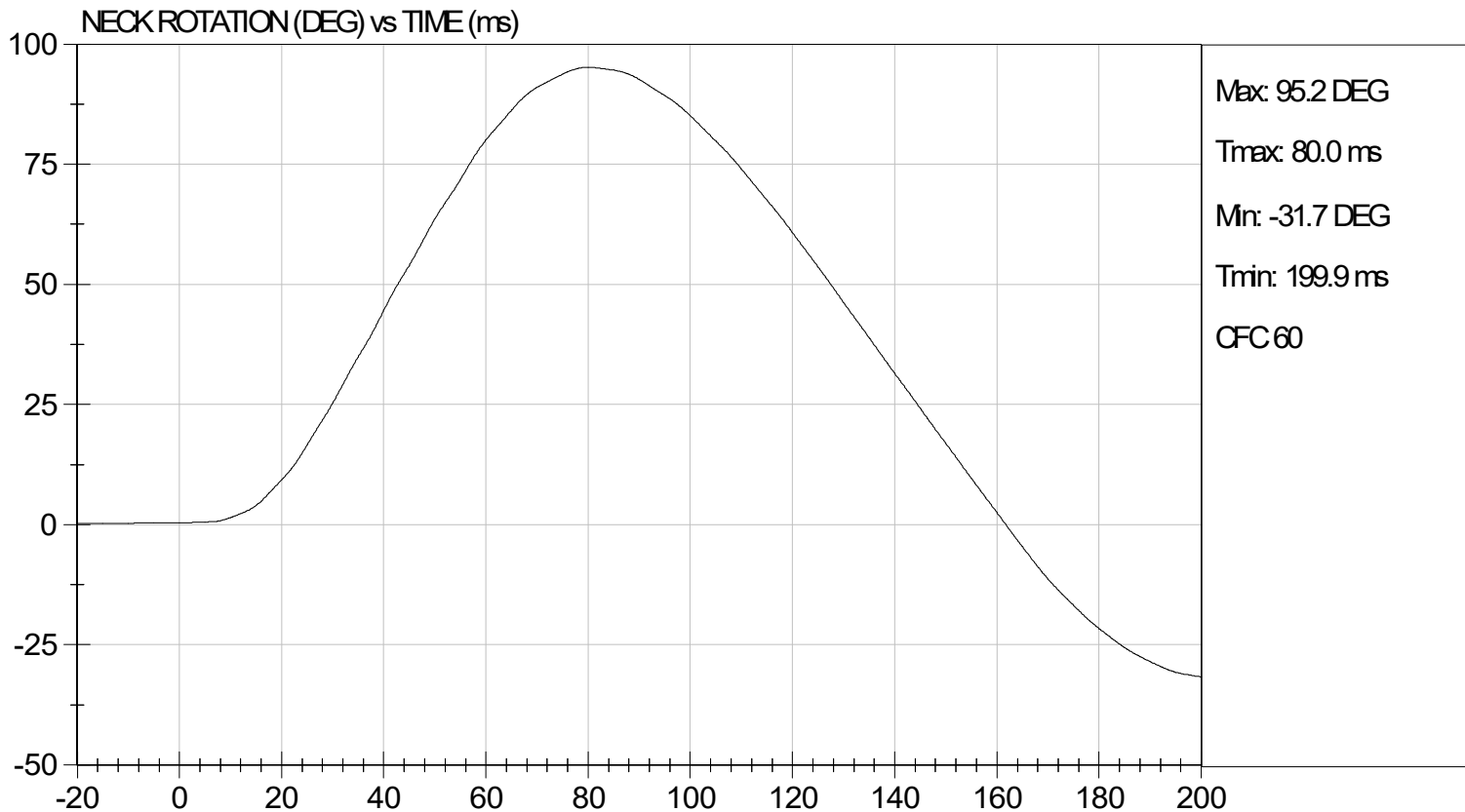
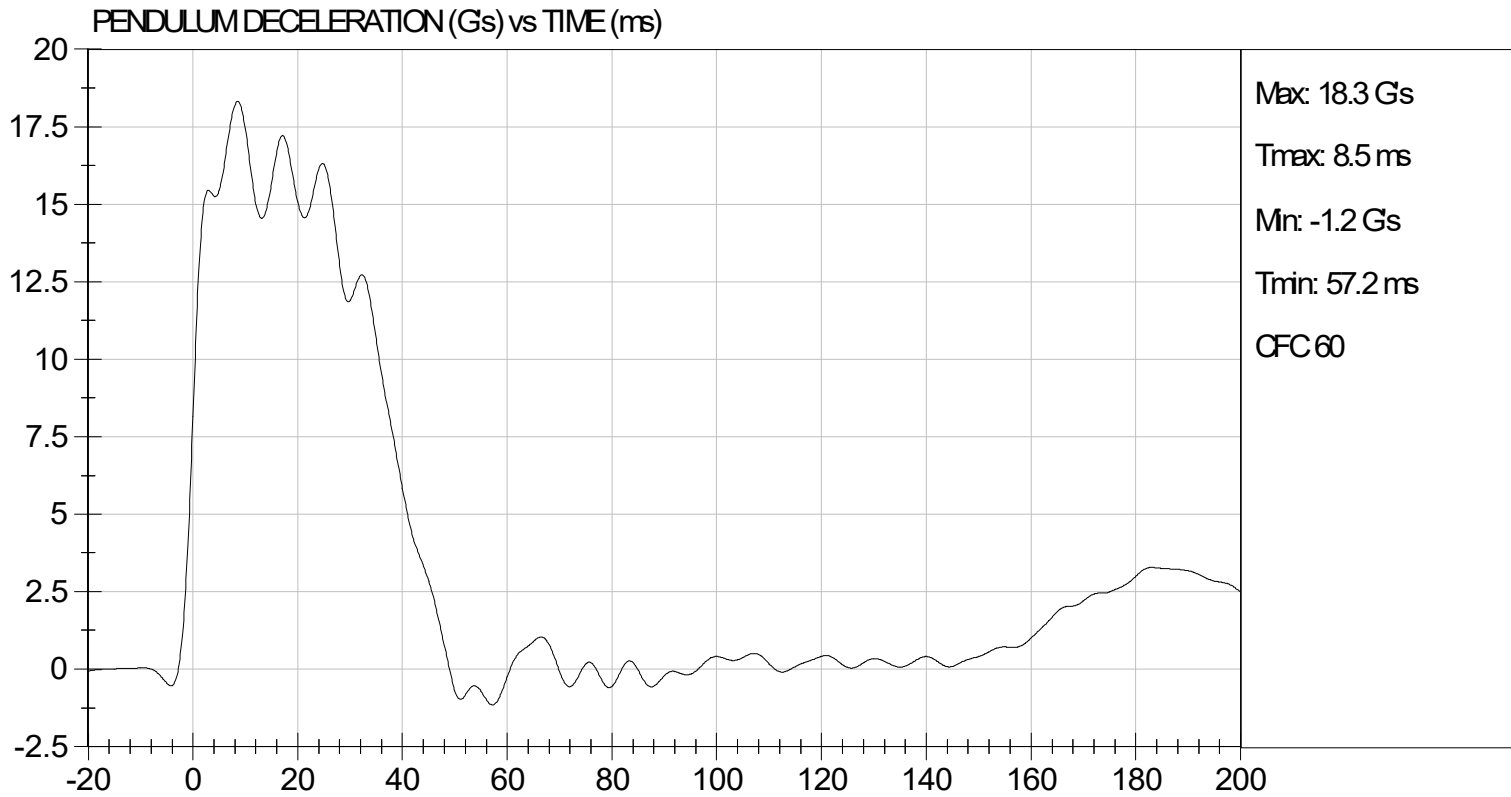
11/11/2024
 Test Date


 Approved By



TEST DESC: NECK EXTENSION
VELOCITY: 20.08 ft/s, 6.12 m/s

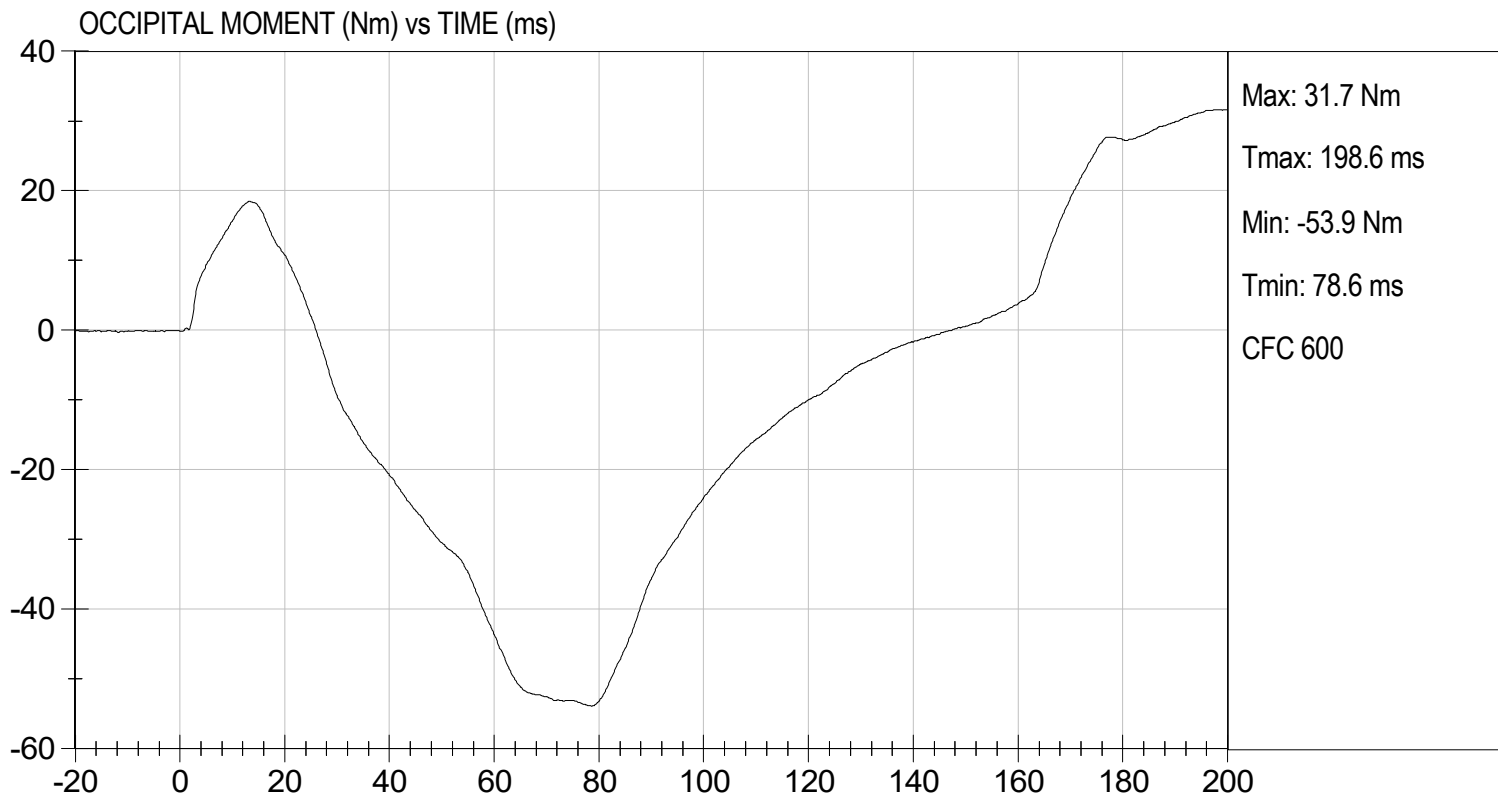
TEST DATE: 11/11/2024
TEST #: D242943





TEST DESC: NECK EXTENSION
VELOCITY: 20.08 ft/s, 6.12 m/s

TEST DATE: 11/11/2024
TEST #: D242943



MGA RESEARCH CORPORATION
THORAX IMPACT
HYBRID III 50TH PERCENTILE MALE

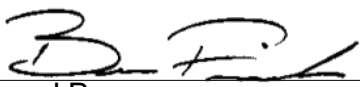
ATD Serial No: 064

Test I.D: D242944

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	43	Pass
Probe Velocity	m/s	6.58 to 6.82	6.68	Pass
Peak Probe Force	N	5159 to 5893	5,325	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.97	Pass
Internal Hysteresis	%	69 to 85	71	Pass
Overall Test Results			Pass	


Laboratory Technician

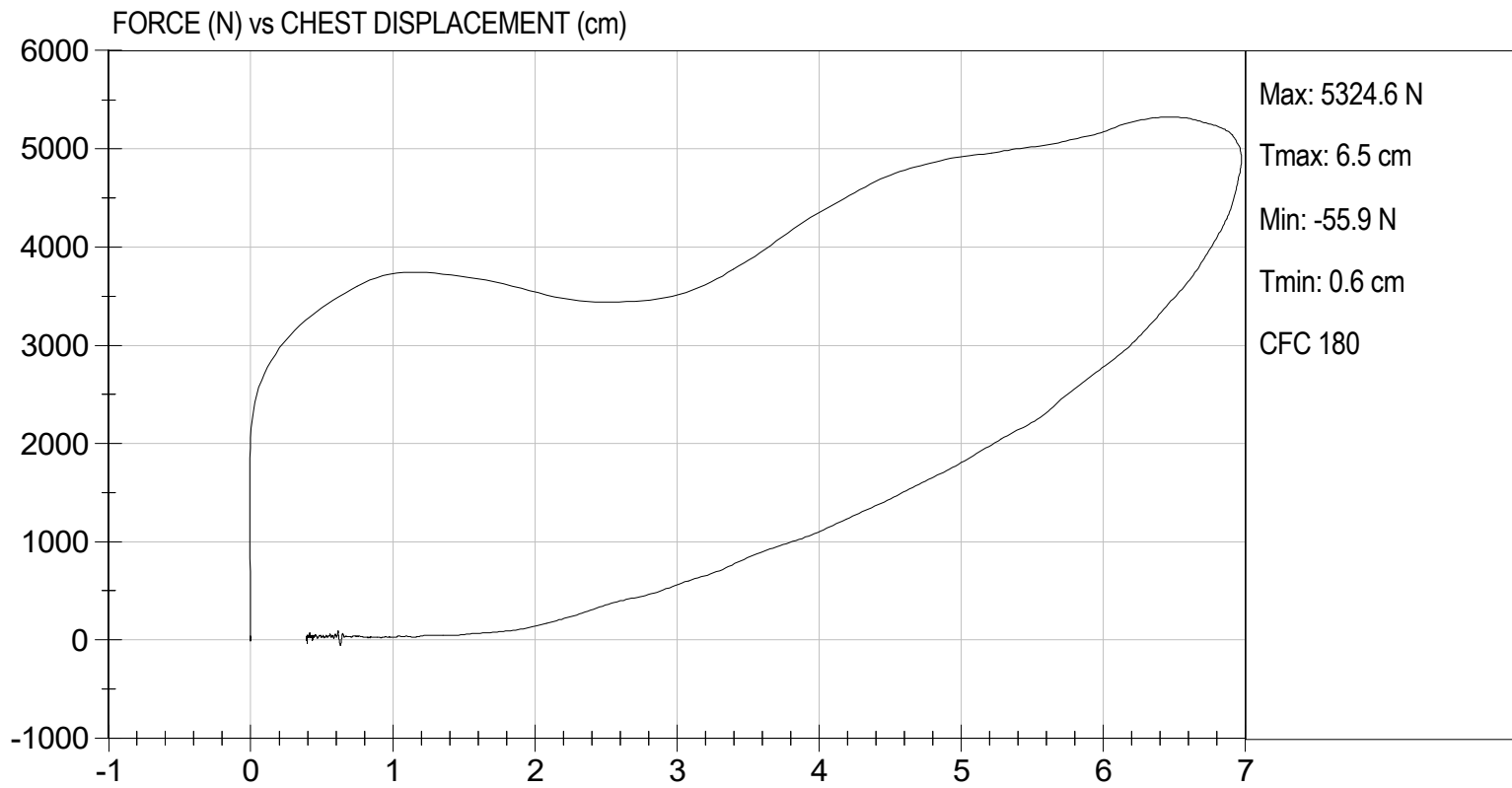
11/11/2024
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 21.93 ft/s, 6.68 m/s

TEST DATE: 11/11/2024
TEST #: D242944



MGA RESEARCH CORPORATION
RIGHT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

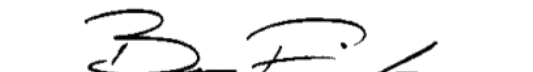
ATD Serial No: 064

Test I.D: D242945

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	43	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	4715 to 5782	5,017	Pass
			Overall Test Results	Pass


Laboratory Technician

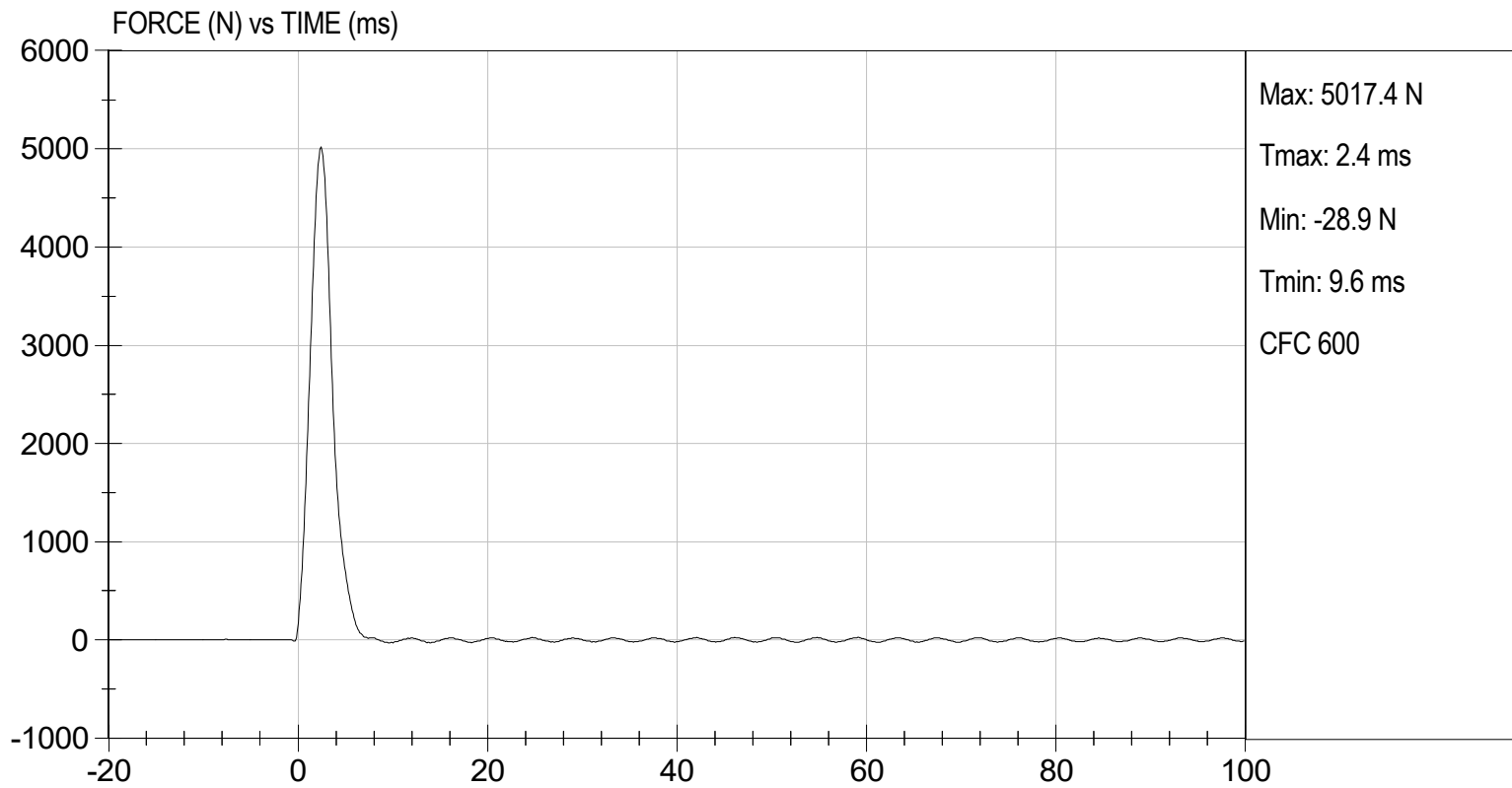
11/11/2024
Test Date


Approved By



TEST DESC: RIGHT KNEE
VELOCITY: 6.97 ft/s, 2.12 m/s

TEST DATE: 11/11/2024
TEST #: D242945



MGA RESEARCH CORPORATION
LEFT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

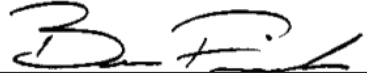
ATD Serial No: 064

Test I.D: D242946

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Probe Velocity	m/s	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	4715 to 5782	4,819	Pass
			Overall Test Results	Pass


Laboratory Technician

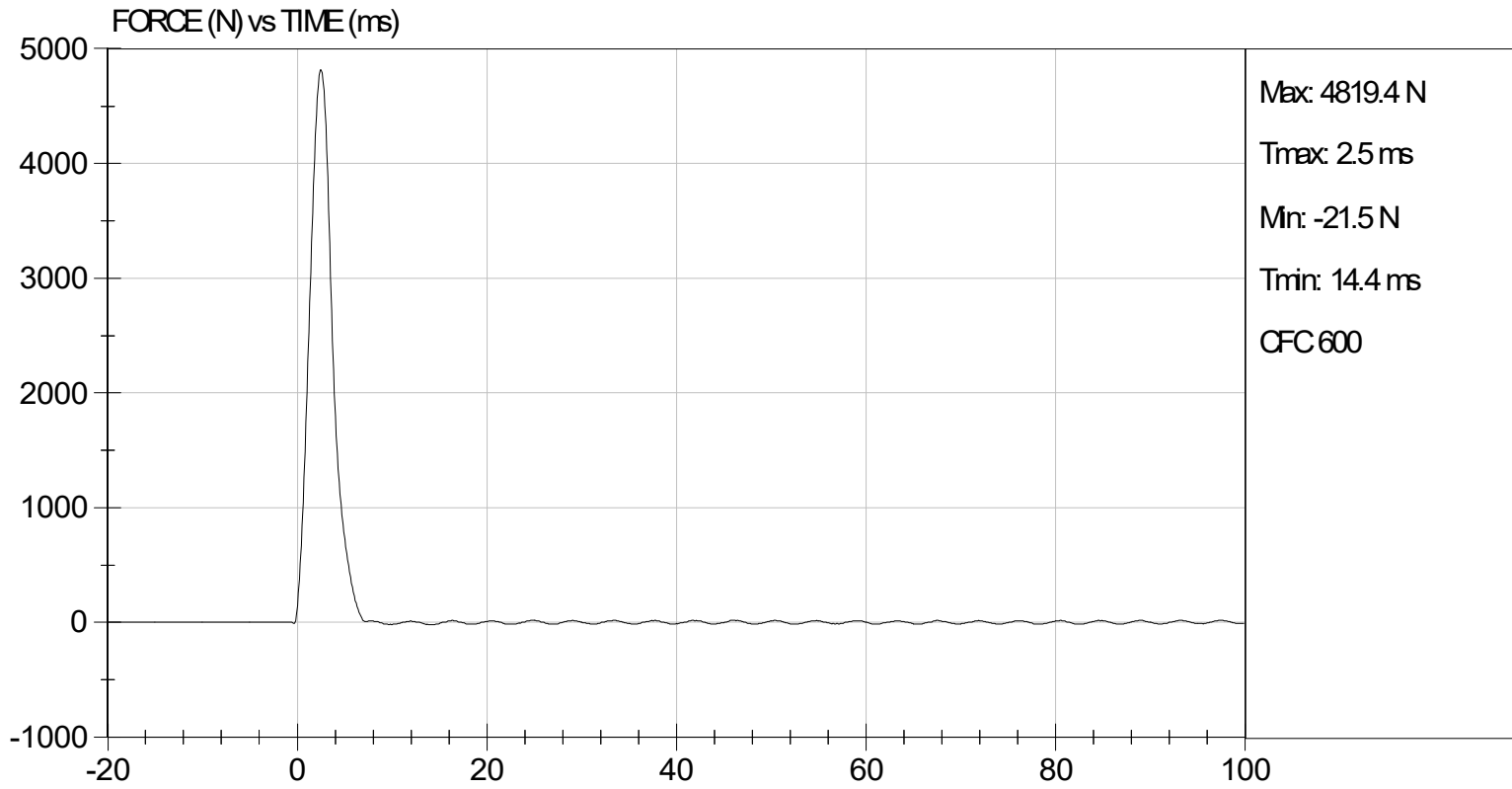
11/11/2024
Test Date


Approved By



TEST DESC: LEFT KNEE
VELOCITY: 6.89 ft/s, 2.10 m/s

TEST DATE: 11/11/2024
TEST #: D242946



MGA RESEARCH CORPORATION
HIP-FEMUR FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

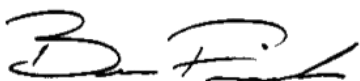
ATD Serial No: 064

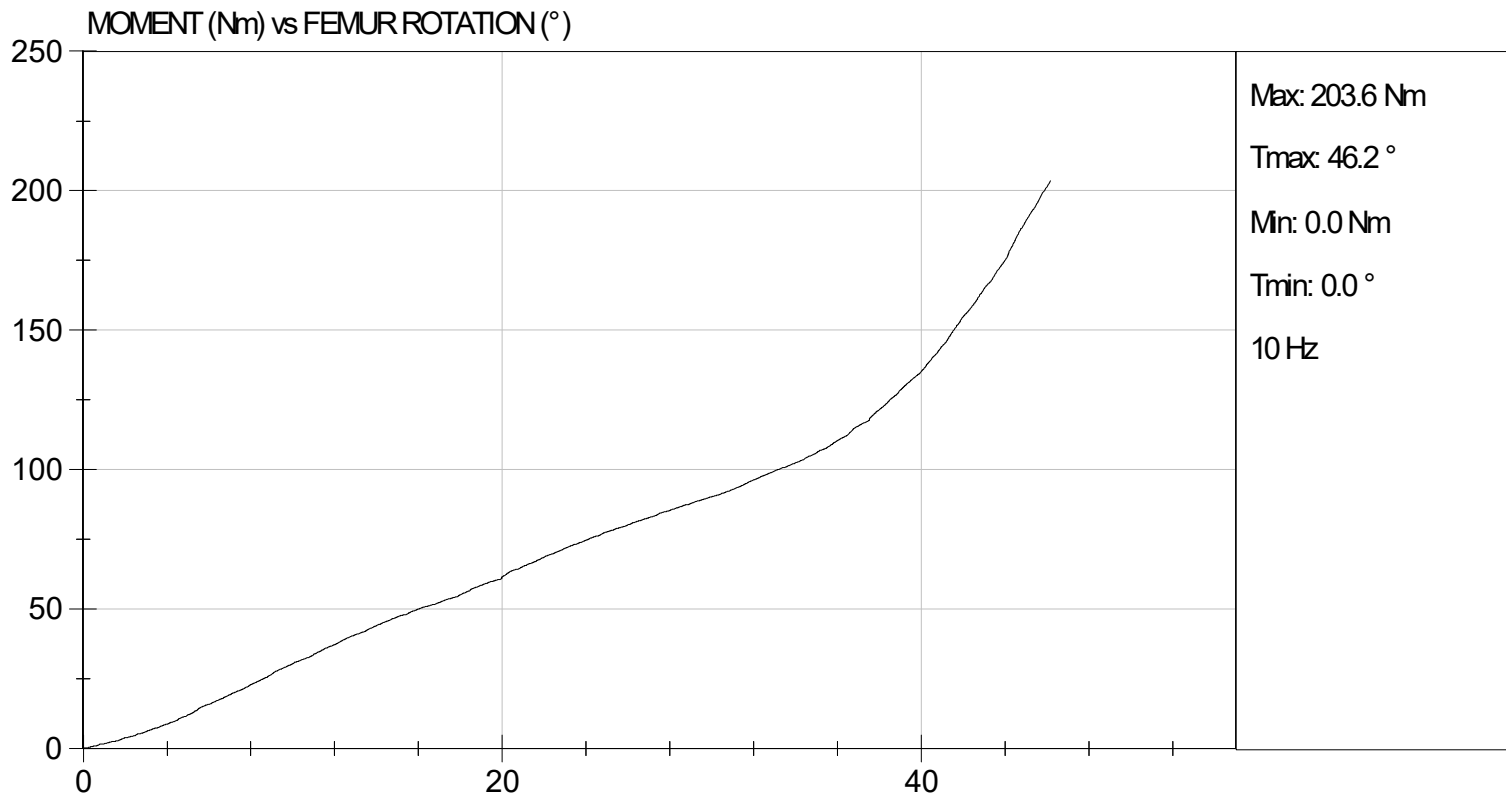
Test I.D: D242940

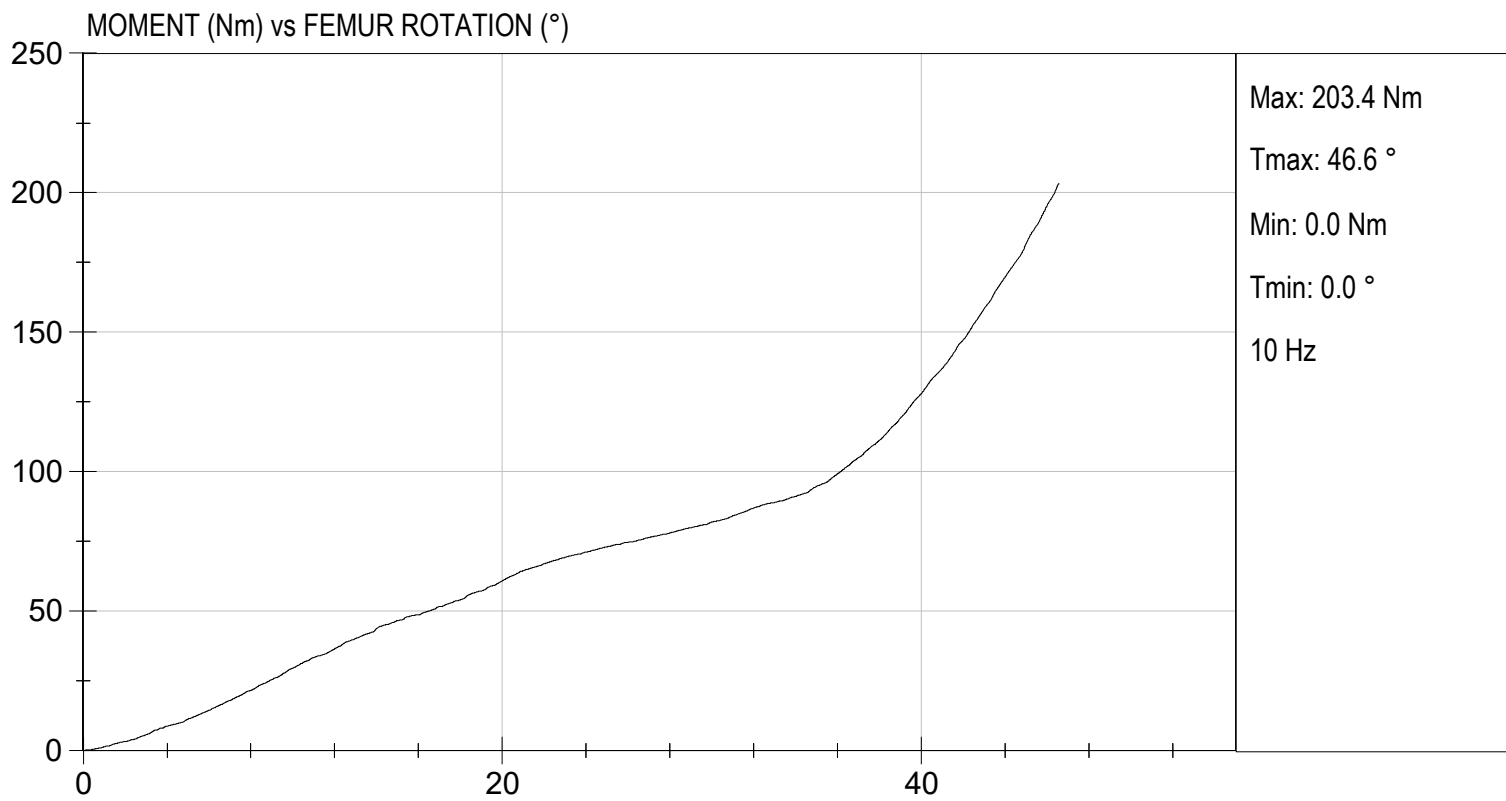
Tested Parameter	Units	Specification	Result		Pass/Fail
			Right	Left	
Laboratory Temperature	deg C	18.9 to 25.6	21.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	43	43	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.4	6.4	Pass
30 Degrees	Nm	94.9 Nm Max	90.3	81.9	Pass
150 ft-lbf / 203.4 Nm	Deg	40.0 to 50.0 Degree Max Rotation	46.2	46.6	Pass
Overall Test Results					Pass


 Laboratory Technician

11/11/2024
 Test Date


 Approved By





QUALIFICATION TEST RESULTS

POST-TEST

HYBRID III 50TH PERCENTILE MALE - DRIVER ATD

MGA RESEARCH CORPORATION
HEAD DROP TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 064

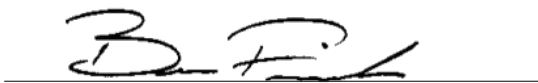
Test ID: D243131

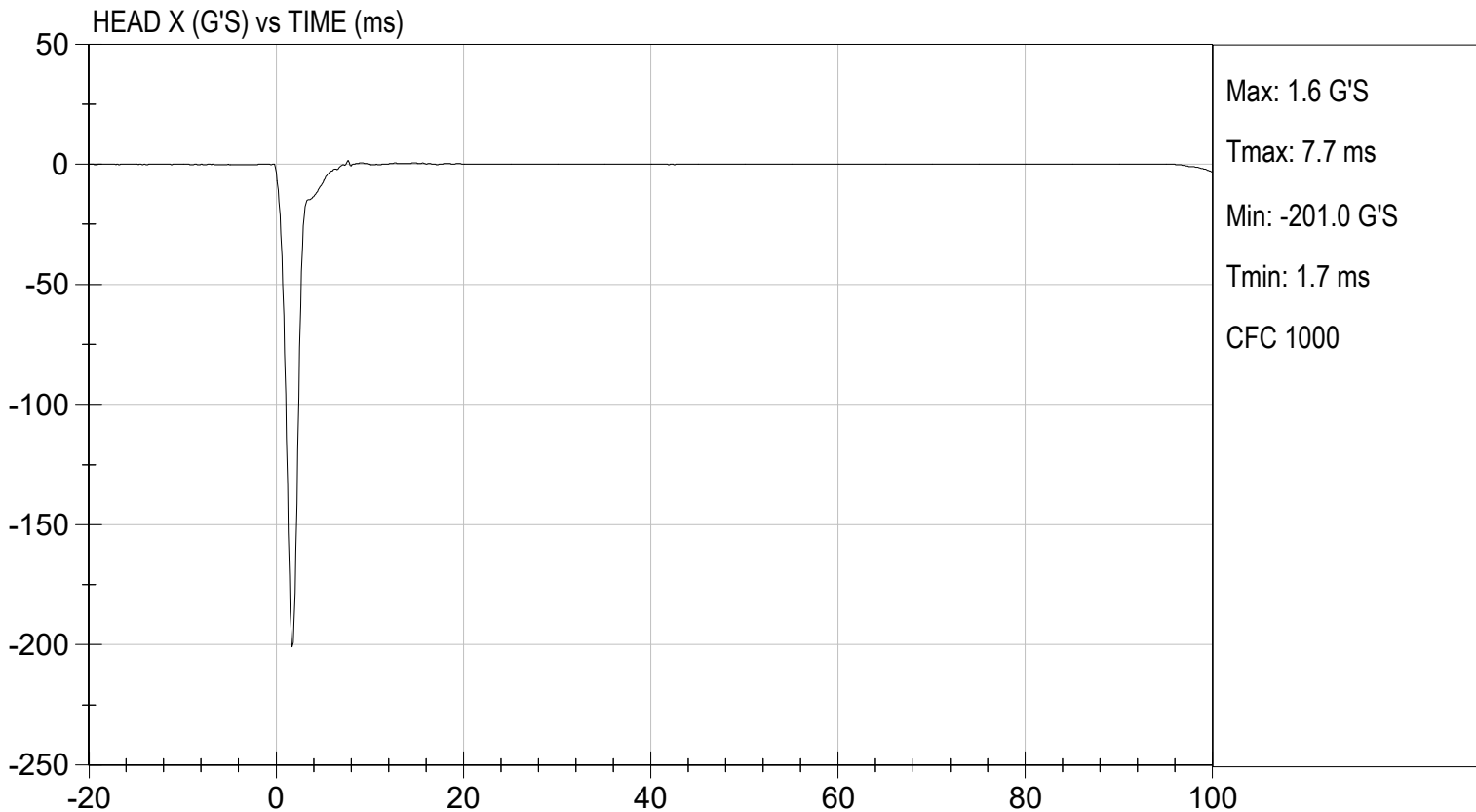
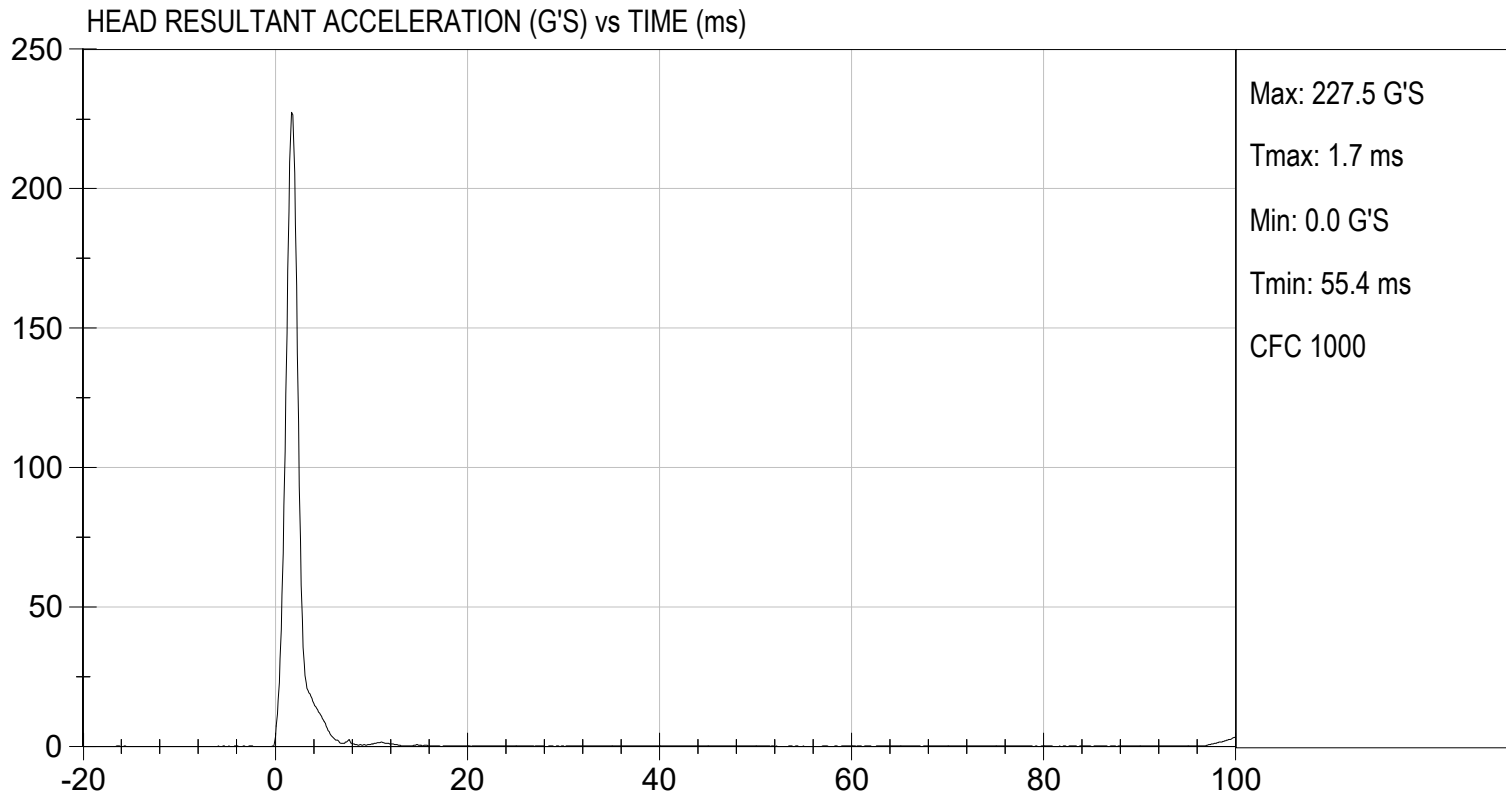
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	21	Pass
Peak Resultant Acceleration	G's	225 to 275	228	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	-2.4	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 10% of peak	Yes	Pass
			Overall Test Results	Pass

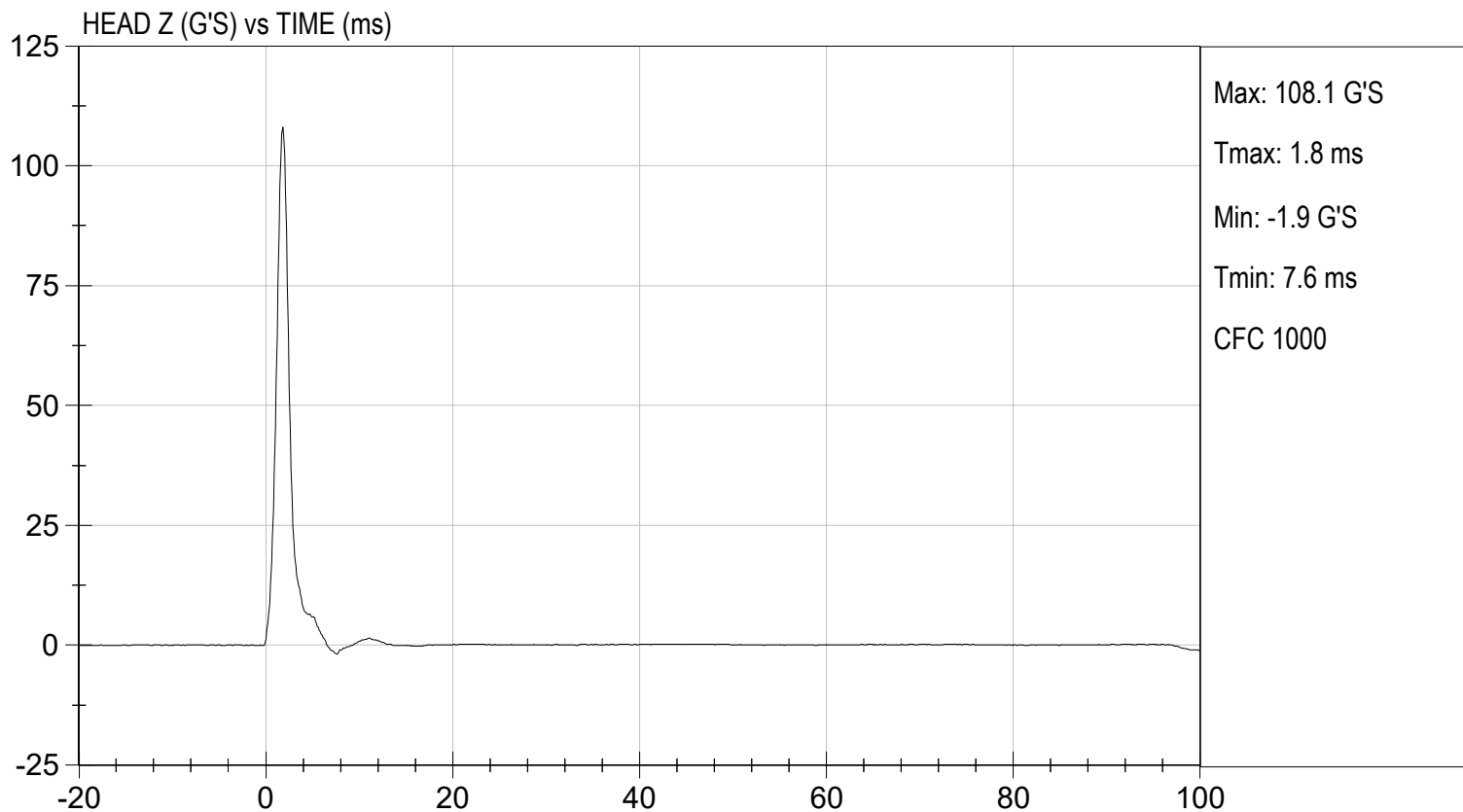
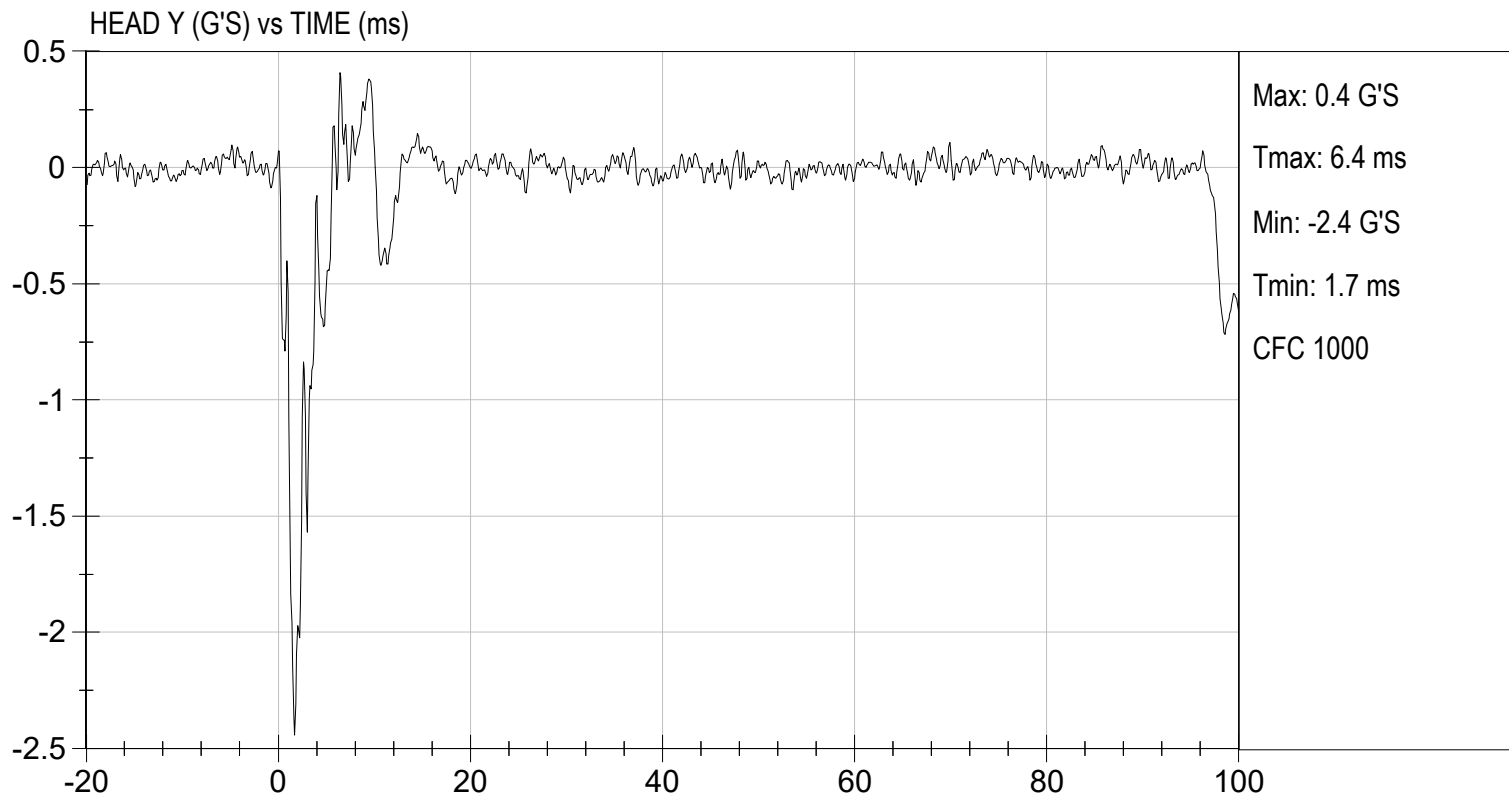

Laboratory Technician

12/06/2024

Test Date


Approved By





MGA RESEARCH CORPORATION
NECK FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

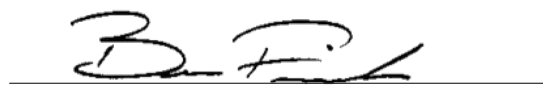
ATD Serial No: 064

Test I.D: D243132

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	22	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.96	Pass
Pendulum Deceleration	10 ms	G's	22.50 to 27.50	23.42	Pass
	20 ms	G's	17.60 to 22.60	20.22	Pass
	30 ms	G's	12.50 to 18.50	15.76	Pass
Peak Pendulum Deceleration After 30 ms		G's	<= 29.0	15.7	Pass
Deceleration Decay Time to Cross 5 G's		ms	34.0 to 42.0	40.8	Pass
Maximum "D" Plane Rotation	Maximum	Deg	64.0 to 78.0	72.7	Pass
	Time	ms	57.0 to 64.0	59.9	Pass
"D" Plane Rotation Decay Time To Zero Crossing		ms	113.0 to 128.0	115.7	Pass
Moment About Occipital Condyle	Maximum	Nm	88.1 to 108.5	101.7	Pass
	Time	ms	47.0 to 58.0	52.9	Pass
Positive Moment Decay Time To Zero Crossing		ms	97.0 to 107.0	98.0	Pass
Overall Test Results					Pass


Laboratory Technician

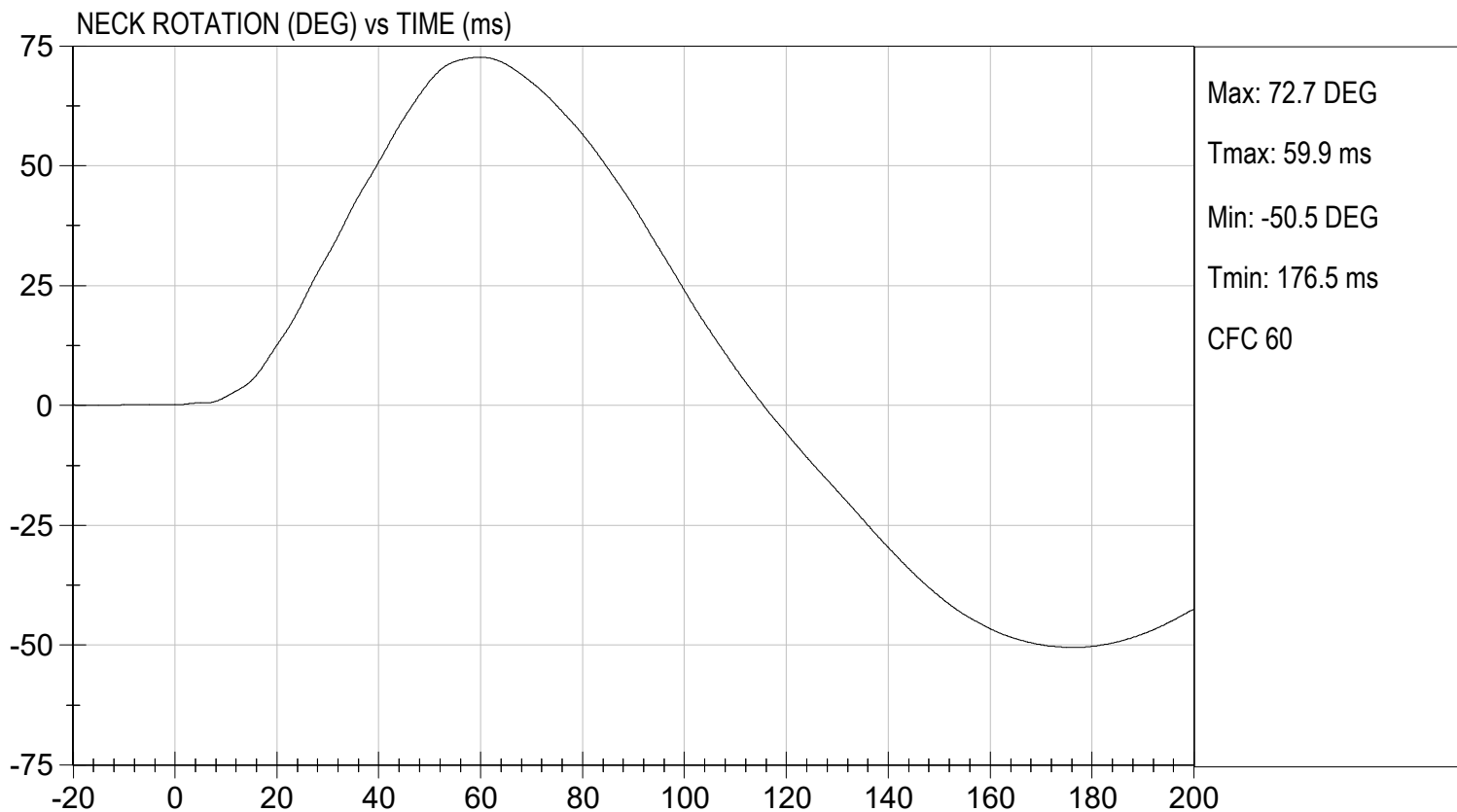
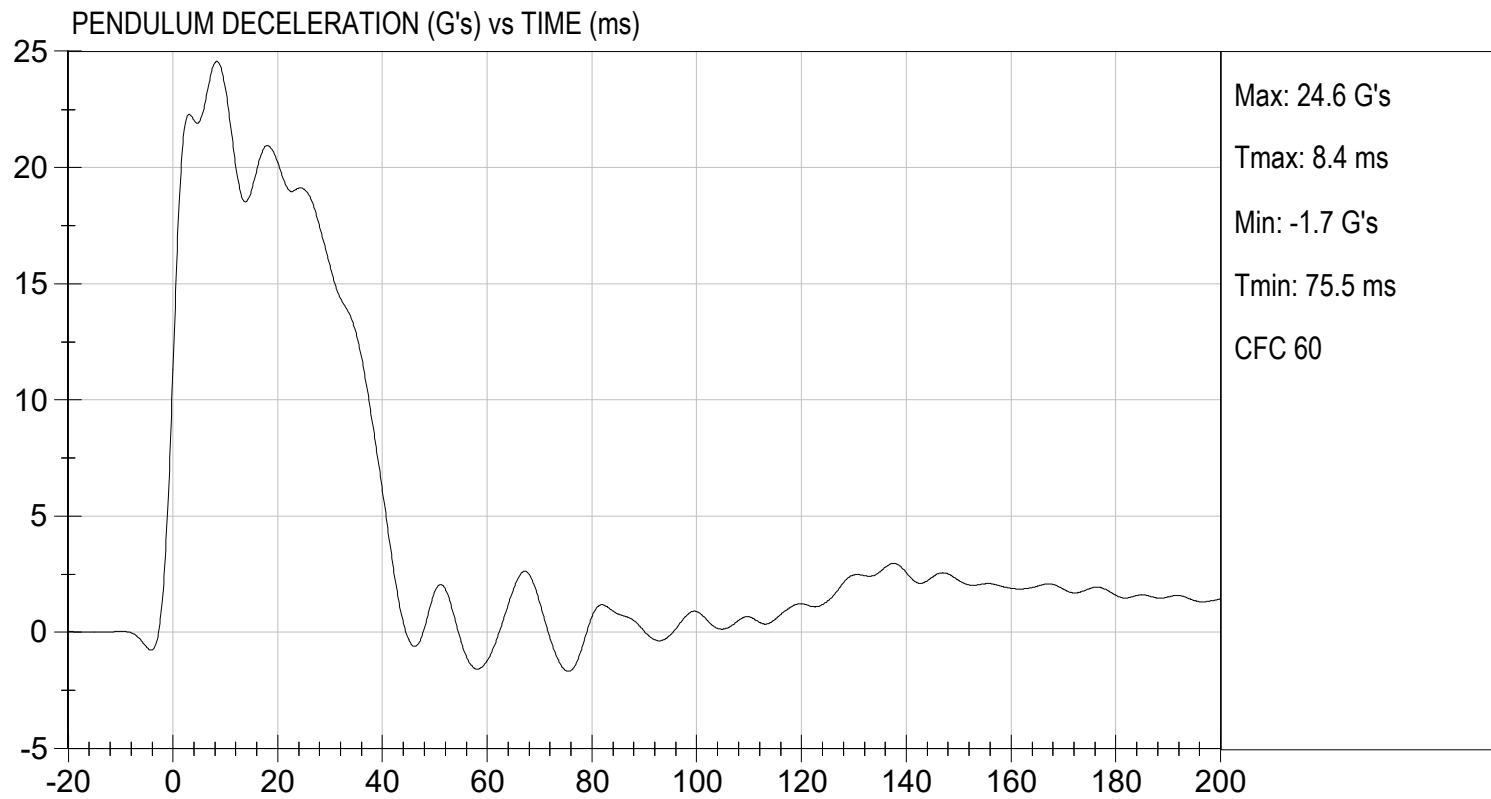
12/06/2024
Test Date


Approved By



TEST DESC: NECK FLEXION
VELOCITY: 22.83 ft/s, 6.96 m/s

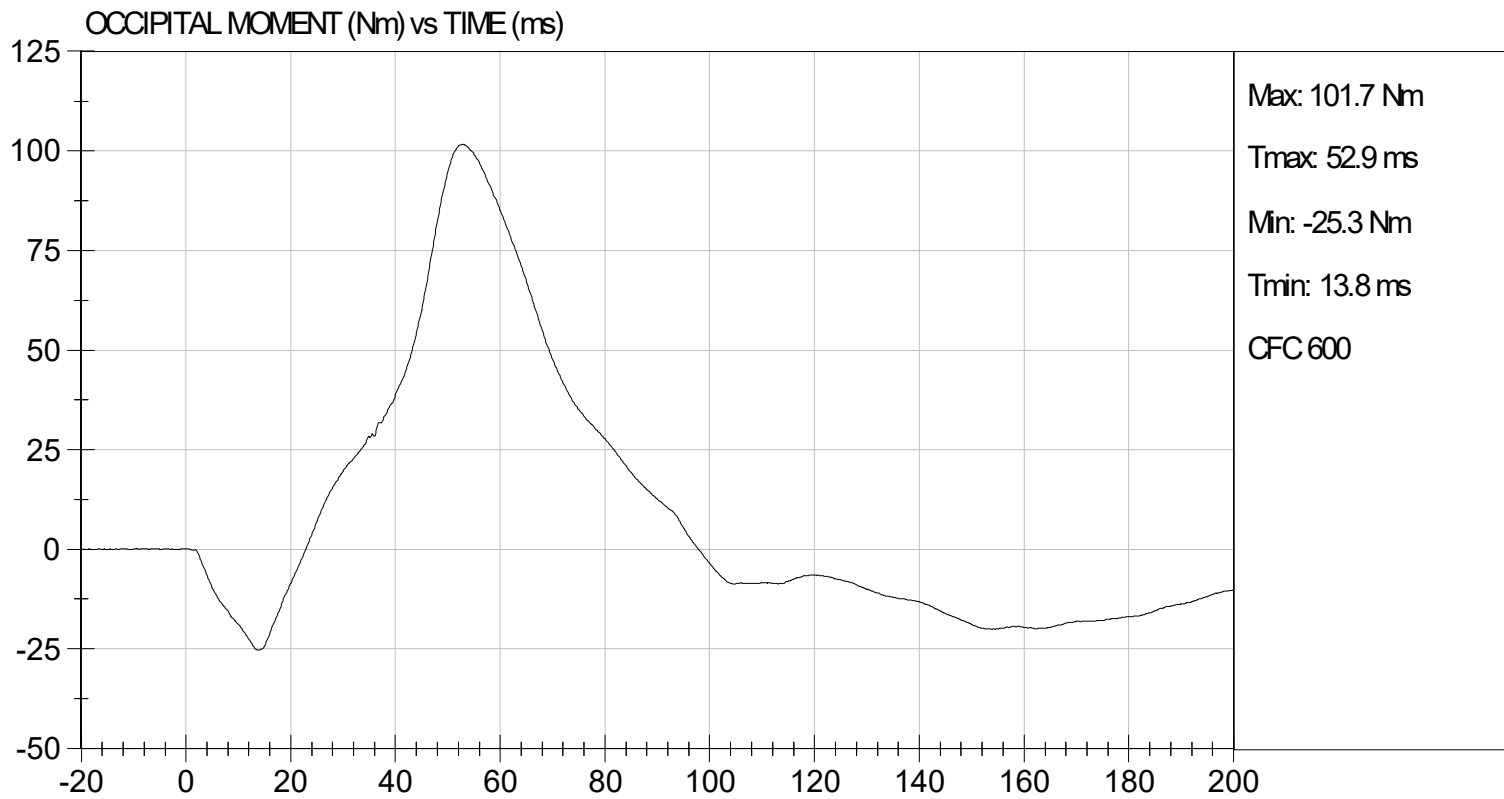
TEST DATE: 12/06/2024
TEST #: D243132





TEST DESC: NECK FLEXION
VELOCITY: 22.83 ft/s, 6.96 m/s

TEST DATE: 12/06/2024
TEST #: D243132



MGA RESEARCH CORPORATION
NECK EXTENSION TEST
HYBRID III 50TH PERCENTILE MALE

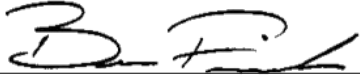
ATD Serial No: 064

Test I.D: D243133

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	22	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.05	Pass
Pendulum Deceleration	10 ms	G's	17.20 to 21.20	18.05	Pass
	20 ms	G's	14.00 to 19.00	15.78	Pass
	30 ms	G's	11.00 to 16.00	13.10	Pass
Peak Pendulum Deceleration After 30 ms		G's	<= 22.0	13.0	Pass
Deceleration Decay Time to Cross 5 G's		ms	38.0 to 46.0	44.5	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	97.4	Pass
	Time	ms	72.0 to 82.0	80.6	Pass
"D" Plane Rotation Decay Time To Zero Crossing		ms	147.0 to 174.0	160.6	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to -79.9	-57.8	Pass
	Time	ms	65.0 to 79.0	76.7	Pass
Negative Moment Decay Time To Zero Crossing		ms	120.0 to 148.0	144.6	Pass
Overall Test Results					Pass


Laboratory Technician

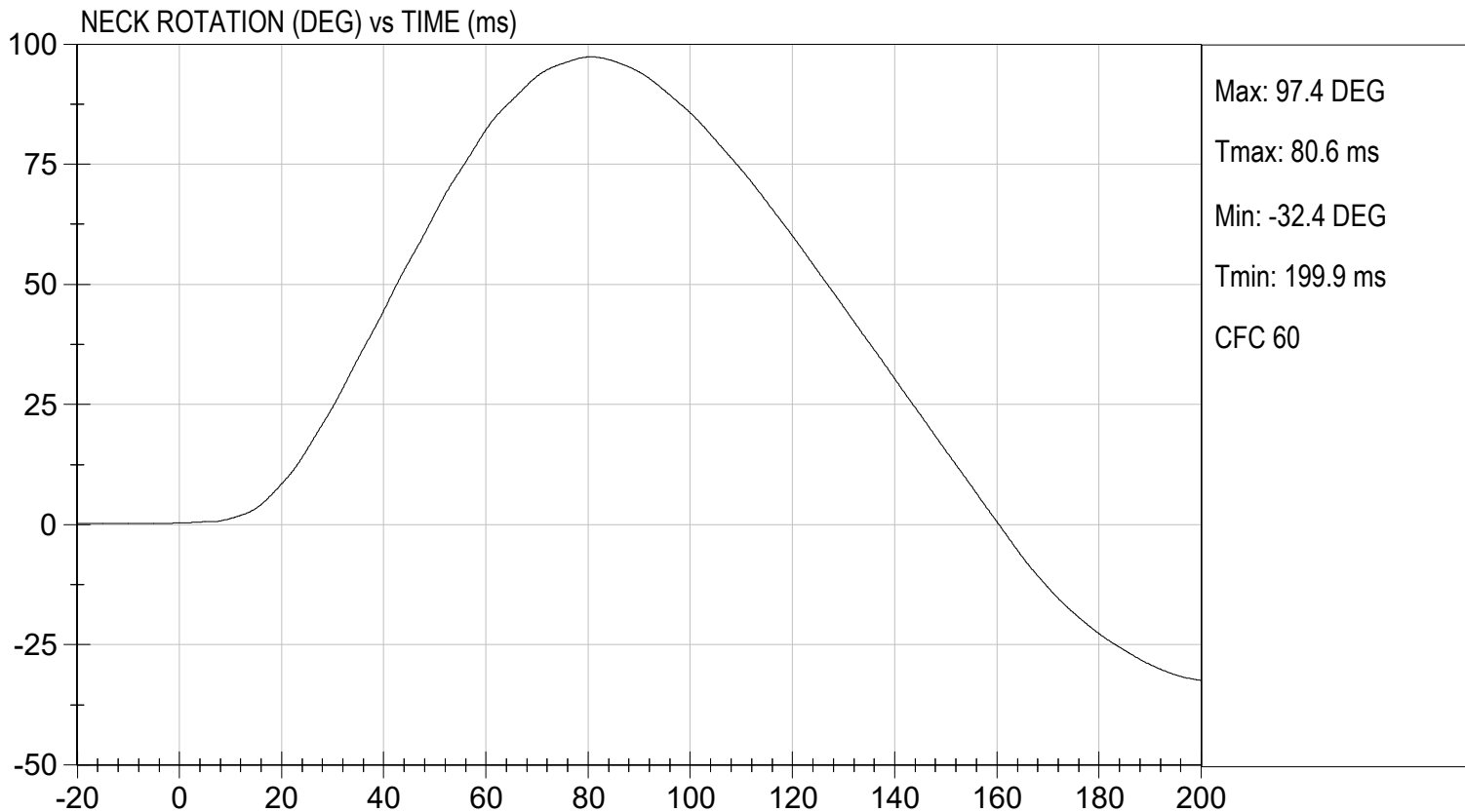
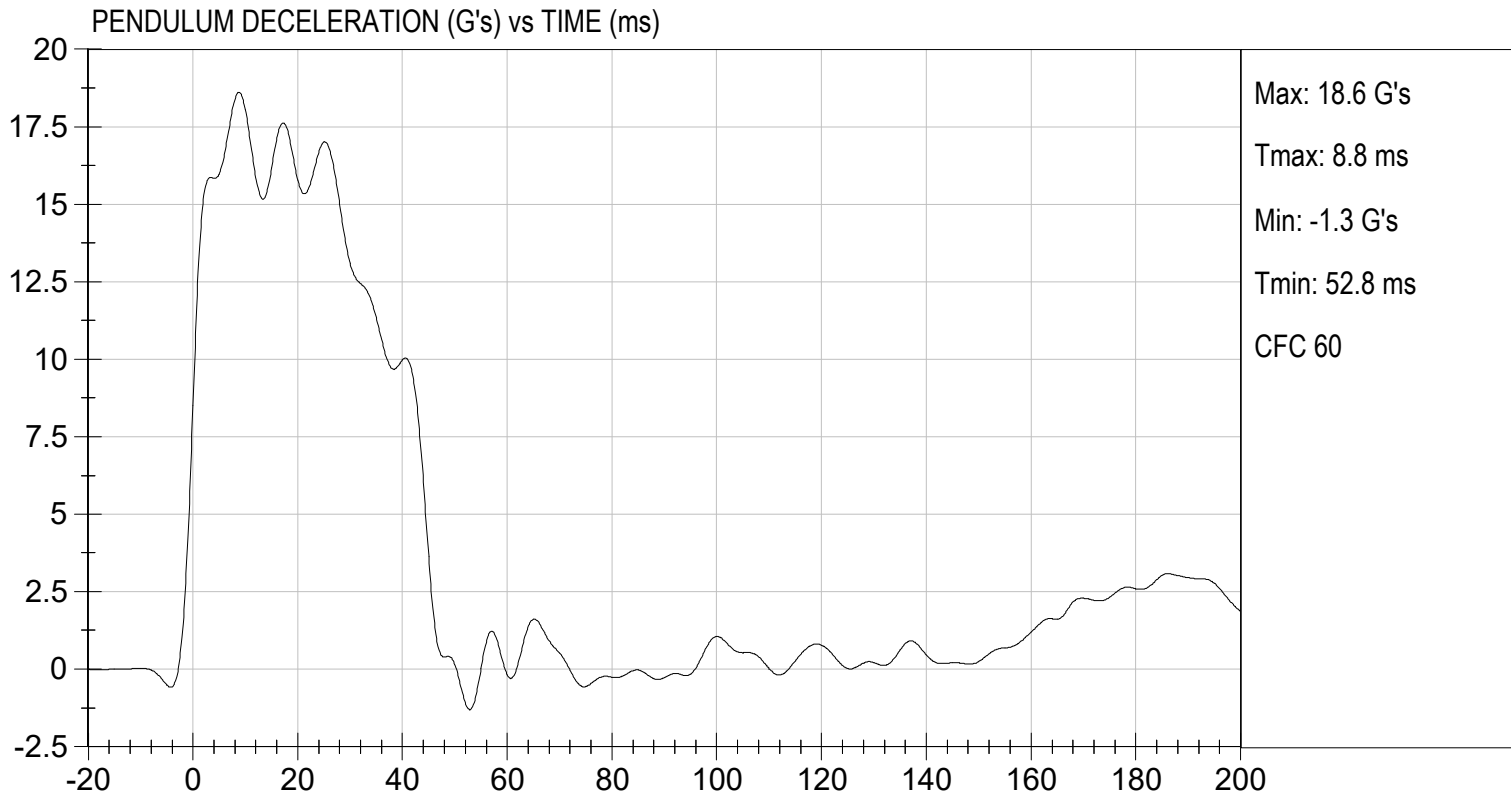
12/06/2024
Test Date


Approved By



TEST DESC: NECK EXTENSION
VELOCITY: 19.84 ft/s, 6.05 m/s

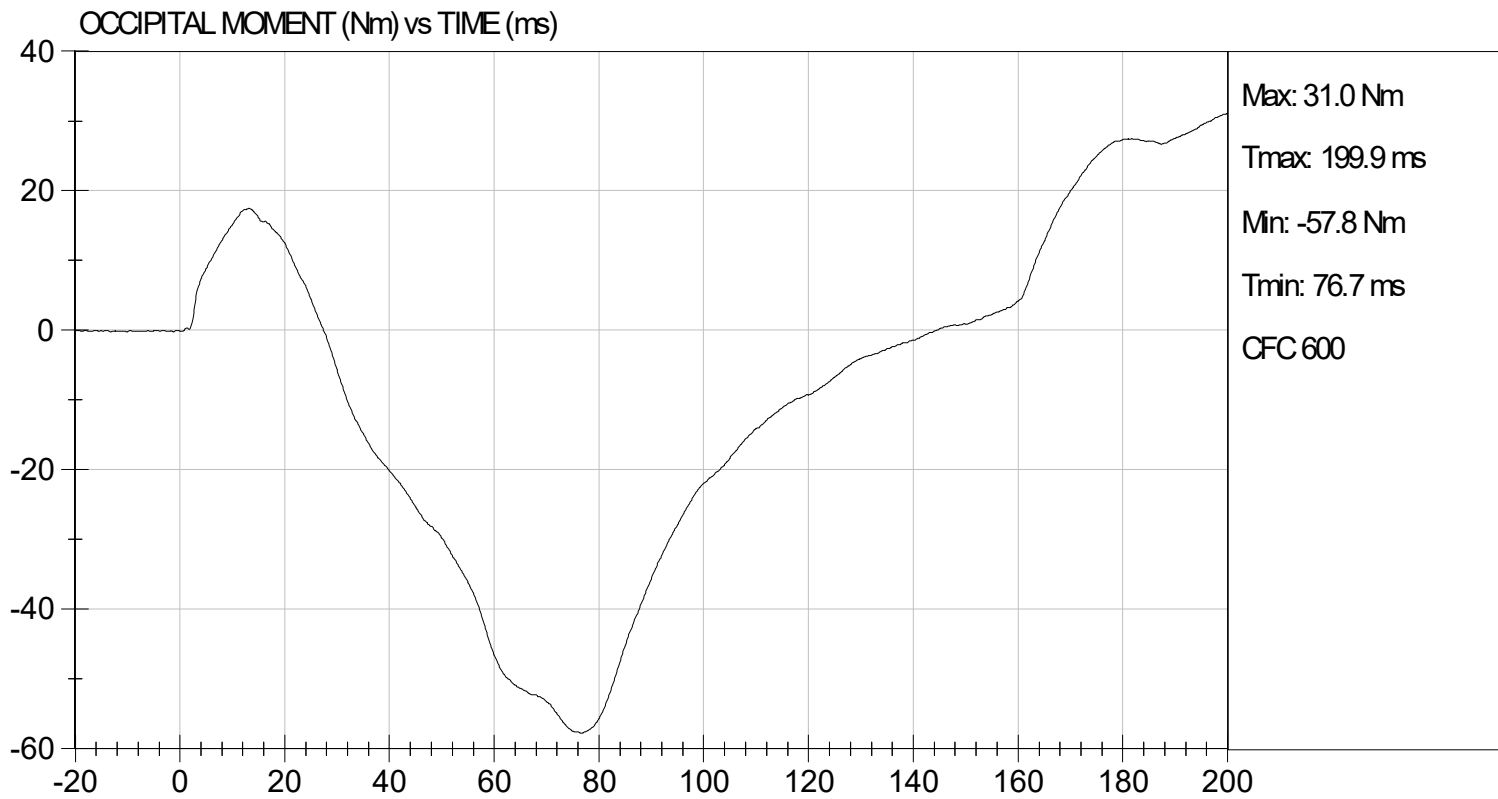
TEST DATE: 12/06/2024
TEST #: D243133





TEST DESC: NECK EXTENSION
VELOCITY: 19.84 ft/s, 6.05 m/s

TEST DATE: 12/06/2024
TEST #: D243133



MGA RESEARCH CORPORATION
THORAX IMPACT
HYBRID III 50TH PERCENTILE MALE

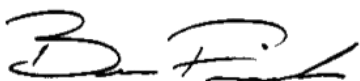
ATD Serial No: 064

Test I.D: D243134

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	21	Pass
Probe Velocity	m/s	6.58 to 6.82	6.60	Pass
Peak Probe Force	N	5159 to 5893	5,310	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.99	Pass
Internal Hysteresis	%	69 to 85	71	Pass
			Overall Test Results	Pass


Laboratory Technician

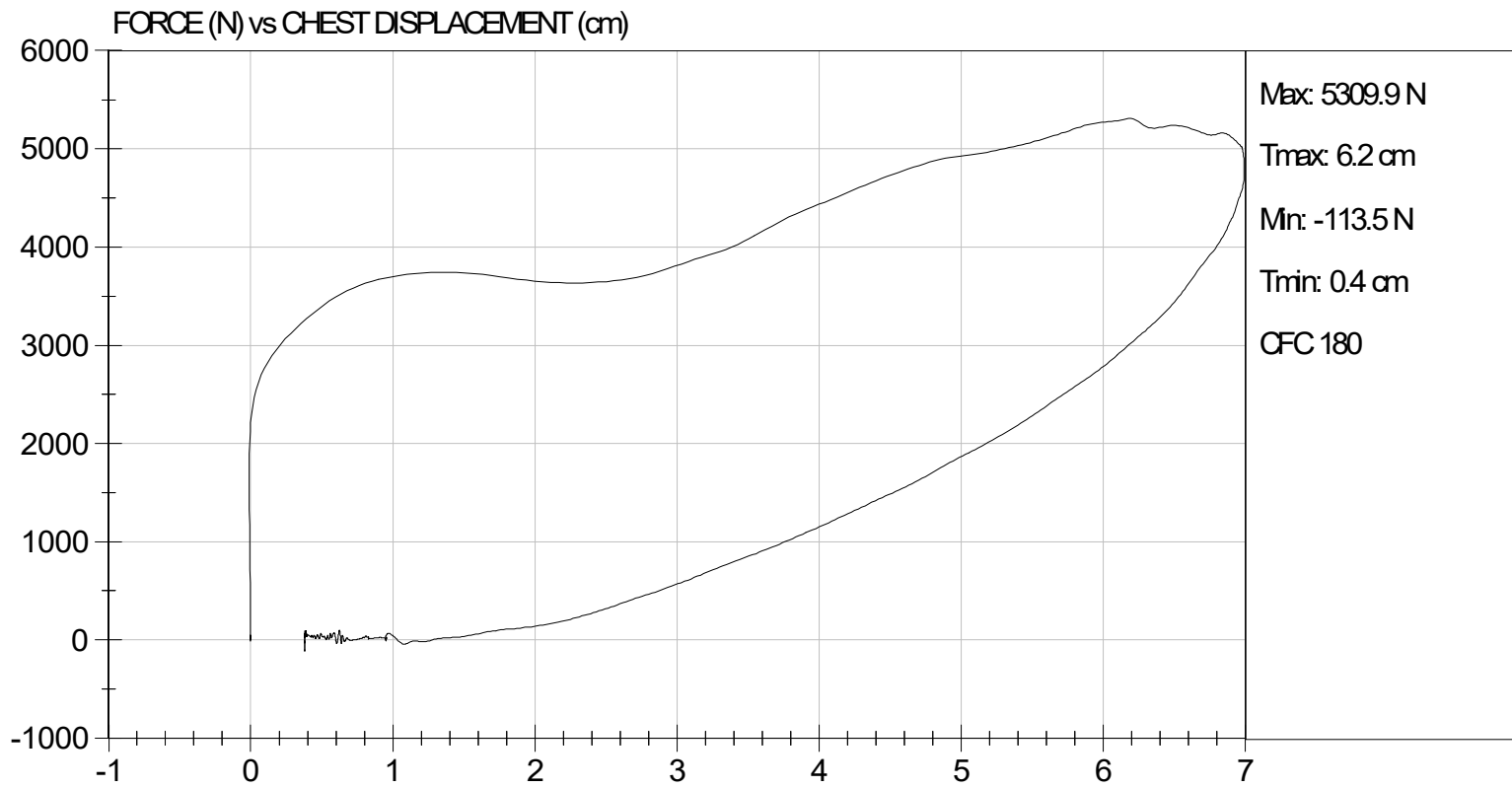
12/06/2024
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 21.65 ft/s, 6.60 m/s

TEST DATE: 12/06/2024
TEST #: D243134



MGA RESEARCH CORPORATION
RIGHT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

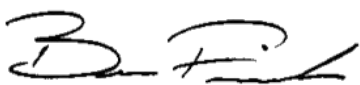
ATD Serial No: 064

Test I.D: D243135

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	22	Pass
Probe Velocity	m/s	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	4715 to 5782	5,445	Pass
			Overall Test Results	Pass


Laboratory Technician

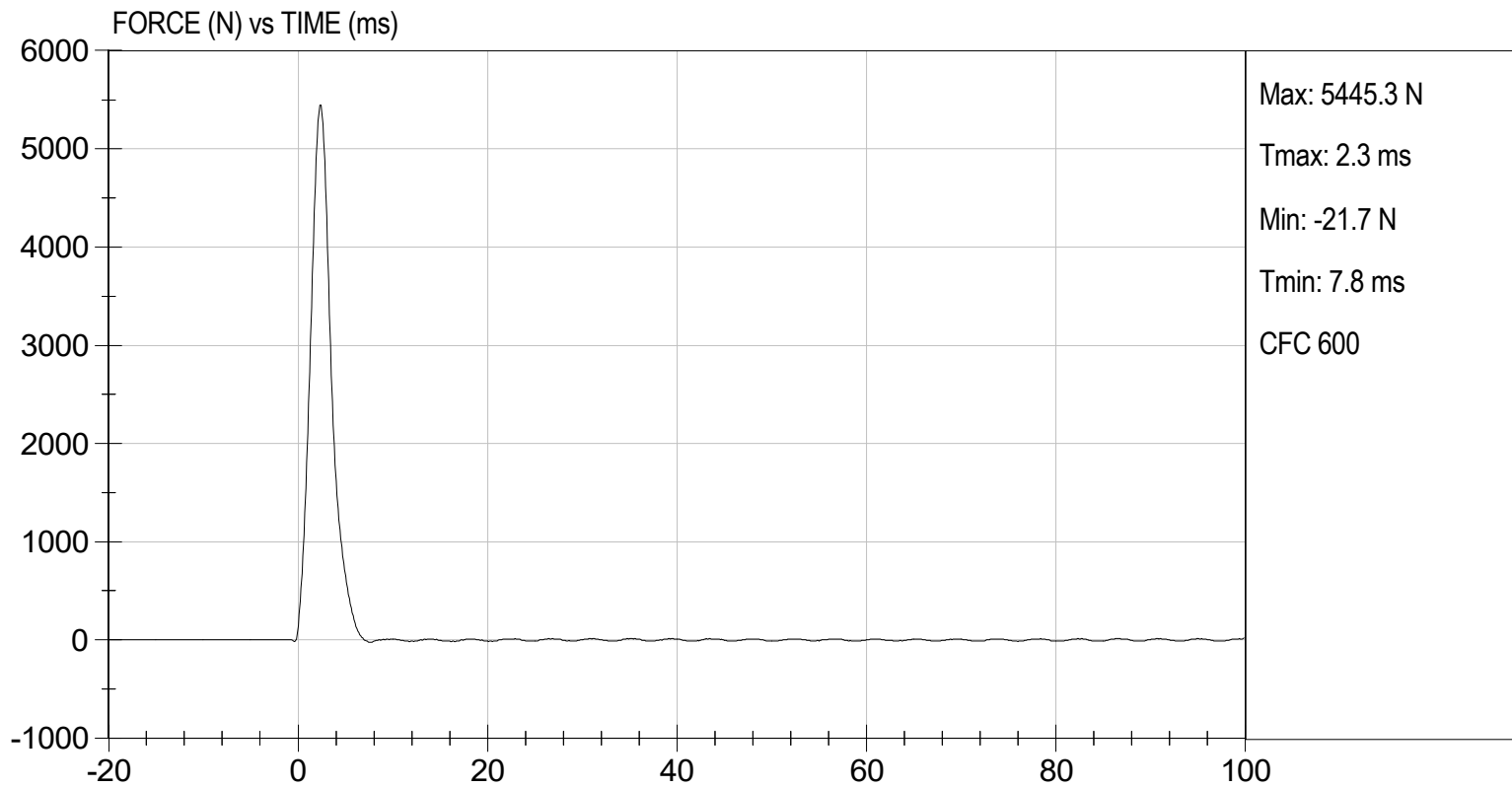
12/06/2024
Test Date


Approved By



TEST DESC: RIGHT KNEE
VELOCITY: 7 ft/s, 2.13 m/s

TEST DATE: 12/06/2024
TEST #: D243135

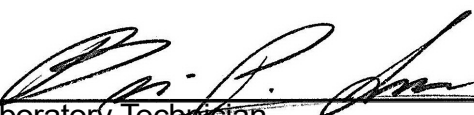


MGA RESEARCH CORPORATION
LEFT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

ATD Serial No: 064

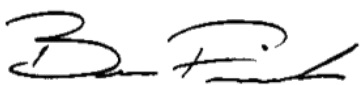
Test I.D: D243136

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	22	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	4715 to 5782	5,241	Pass
Overall Test Results				Pass


Laboratory Technician

12/06/2024

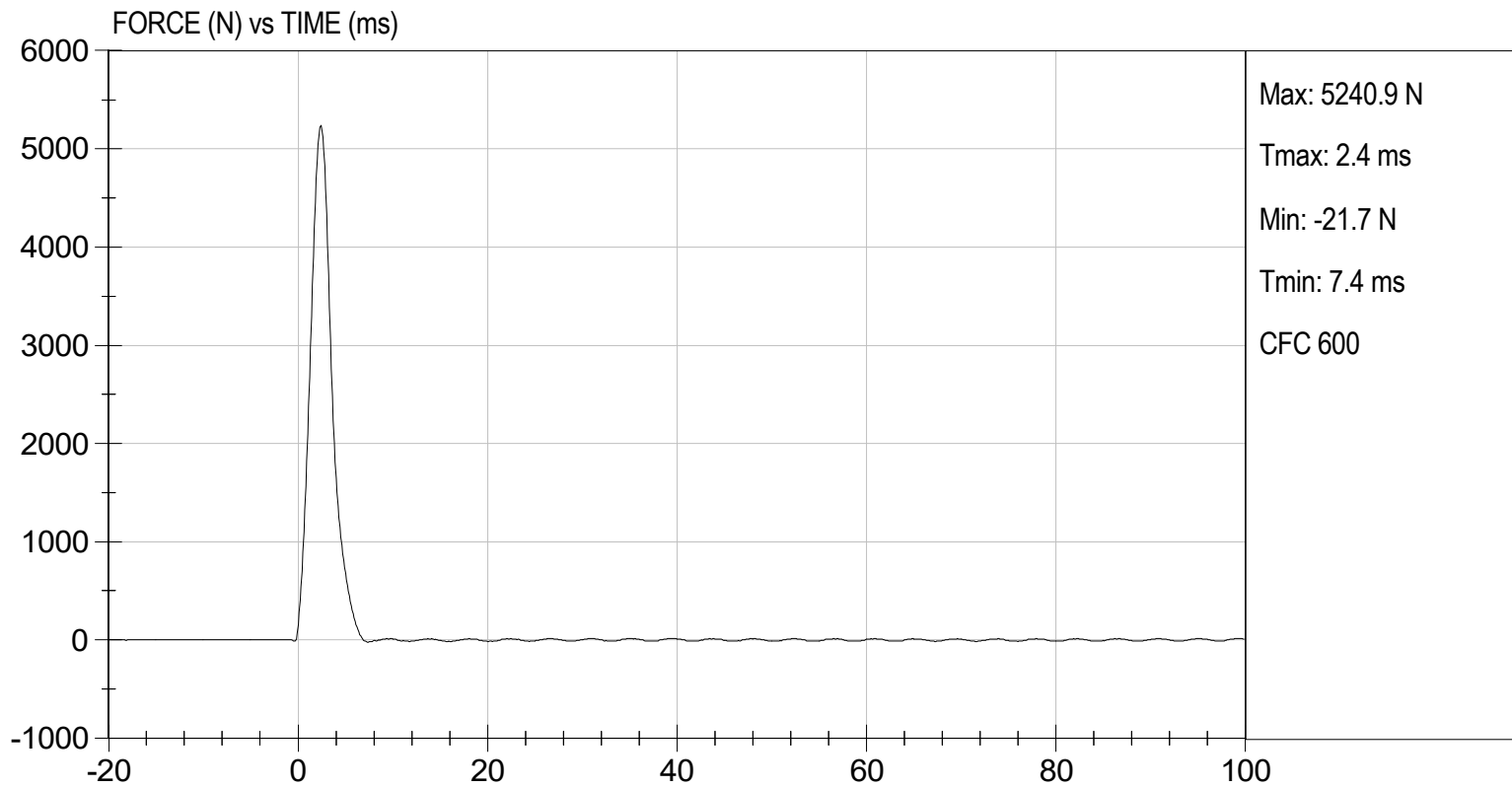
Test Date


Approved By



TEST DESC: LEFT KNEE
VELOCITY: 6.97 ft/s, 2.12 m/s

TEST DATE: 12/06/2024
TEST #: D243136

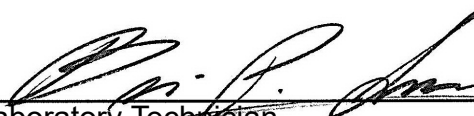


MGA RESEARCH CORPORATION
HIP-FEMUR FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

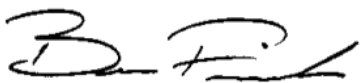
ATD Serial No: 064

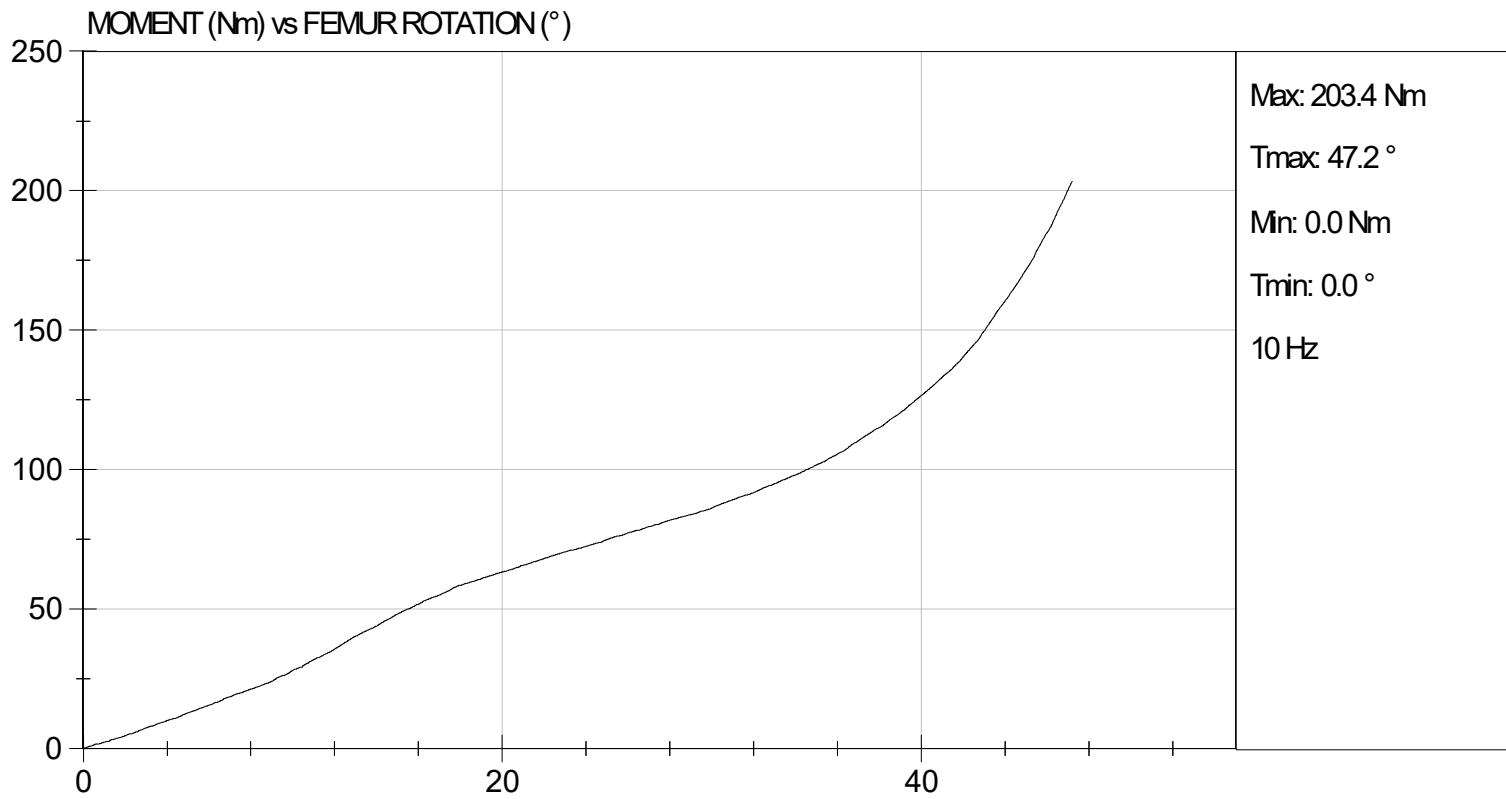
Test I.D: D243130

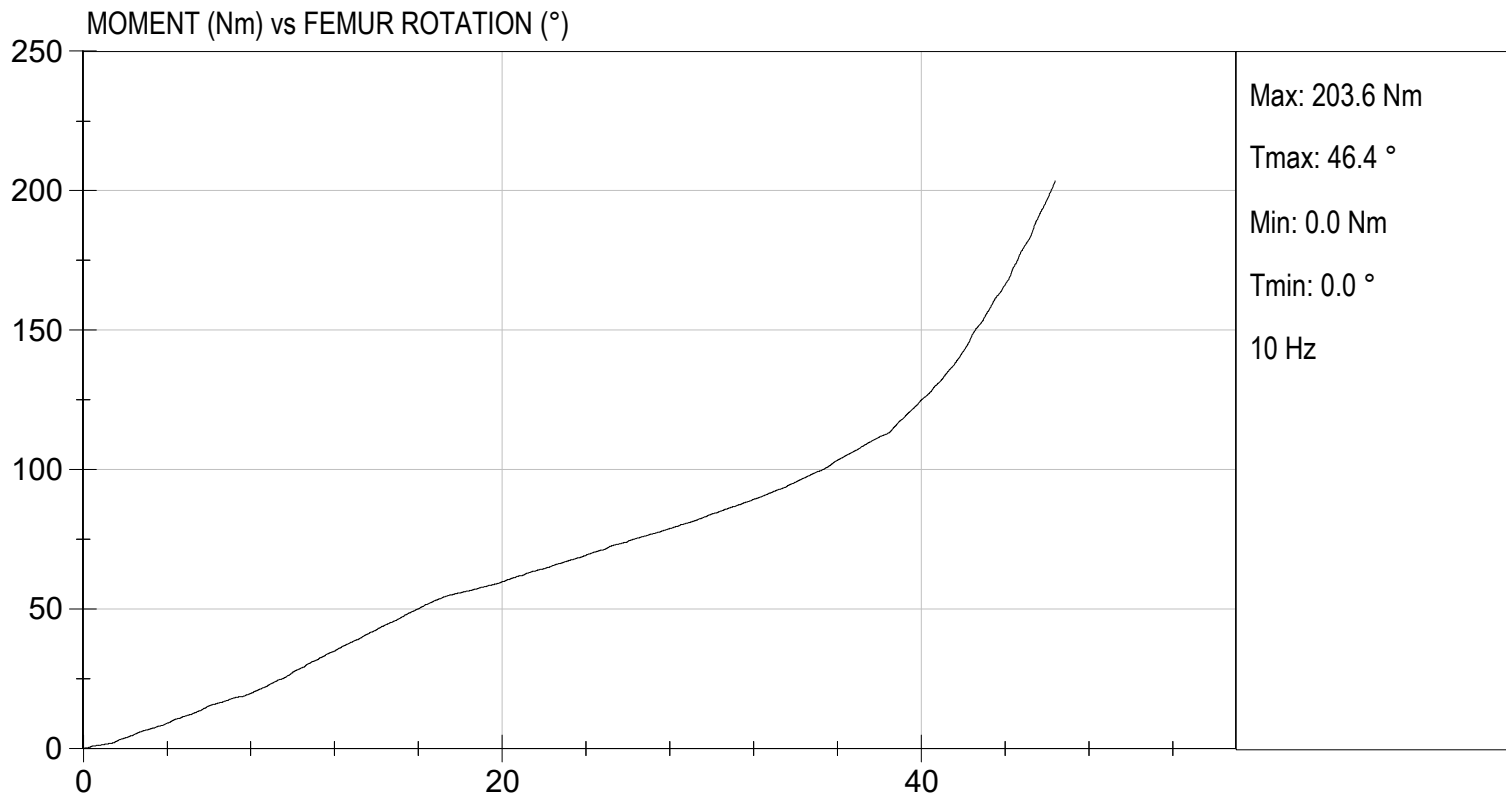
Tested Parameter	Units	Specification	Result		Pass/Fail
			Right	Left	
Laboratory Temperature	deg C	18.9 to 25.6	21.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	22	22	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.5	6.5	Pass
30 Degrees	Nm	94.9 Nm Max	86.2	84.1	Pass
150 ft-lbf / 203.4 Nm	Deg	40.0 to 50.0 Degree Max Rotation	47.2	46.4	Pass
Overall Test Results					Pass


 Laboratory Technician

12/06/2024
 Test Date


 Approved By





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

MGA RESEARCH CORPORATION
HEAD DROP TEST
HYBRID III 5TH PERCENTILE

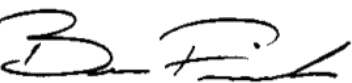
ATD Serial No: 142

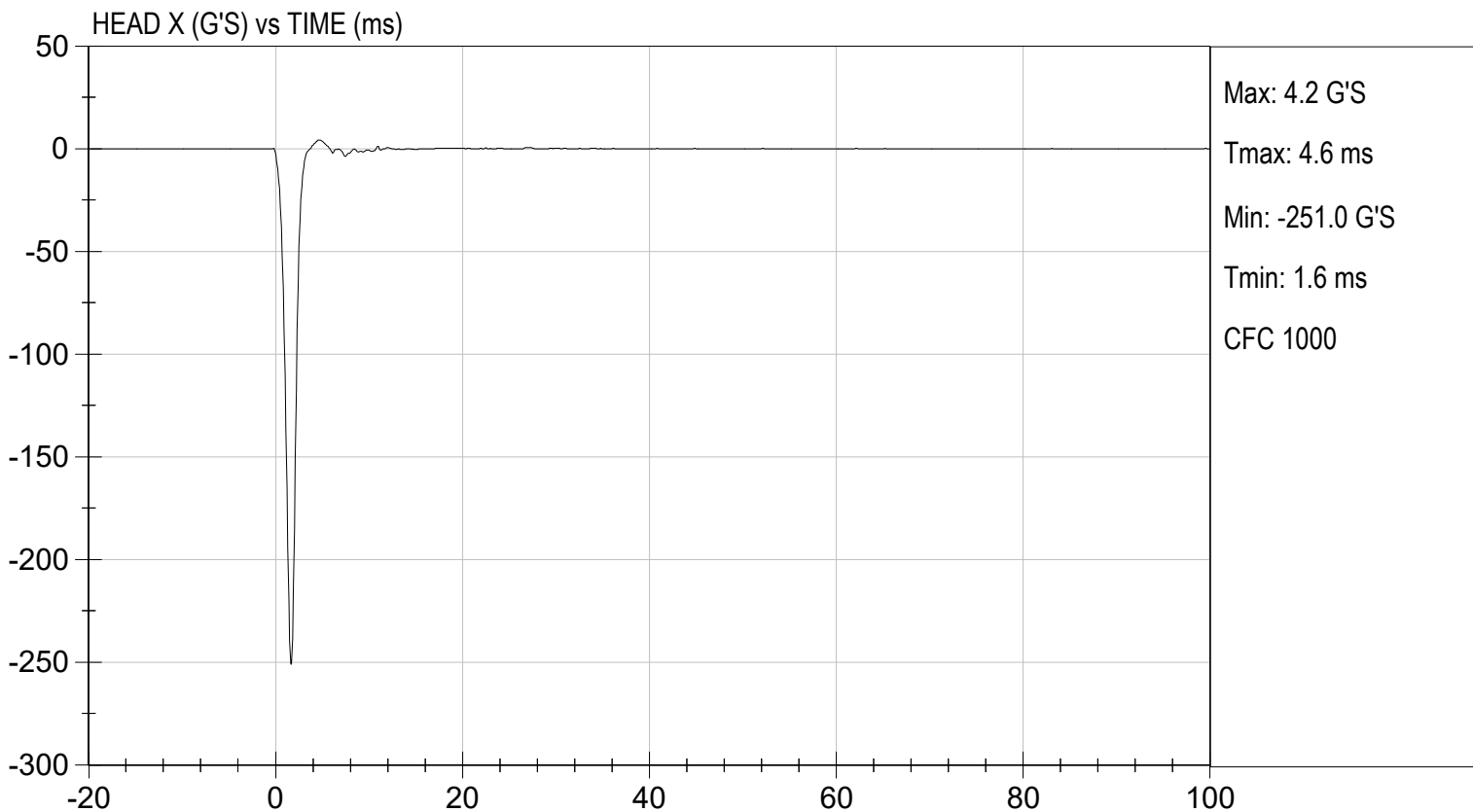
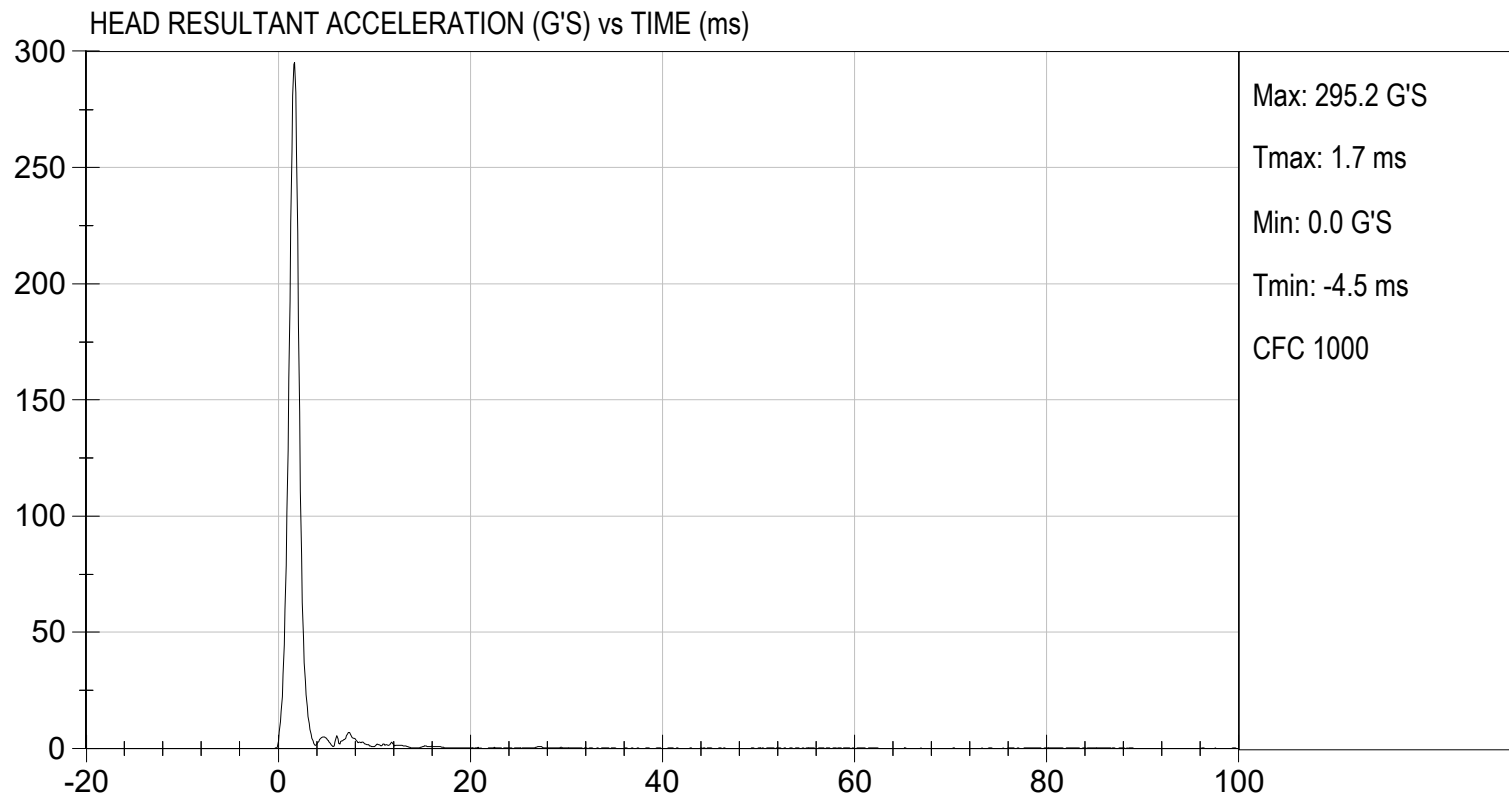
Test ID: D242931

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Peak Resultant Acceleration	G's	250 to 300	295	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	4.6	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 10% of peak	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

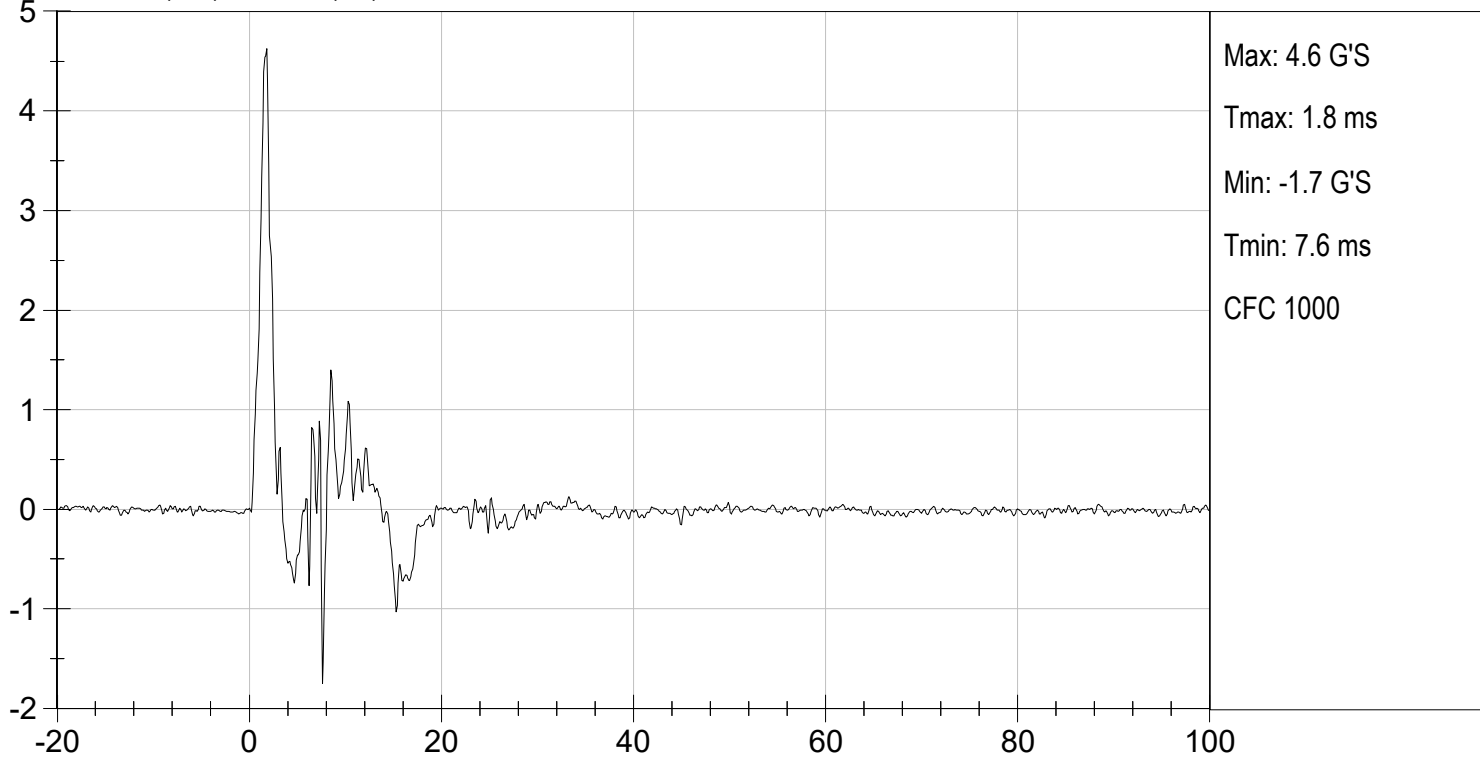
11/11/2024
Test Date


Approved By

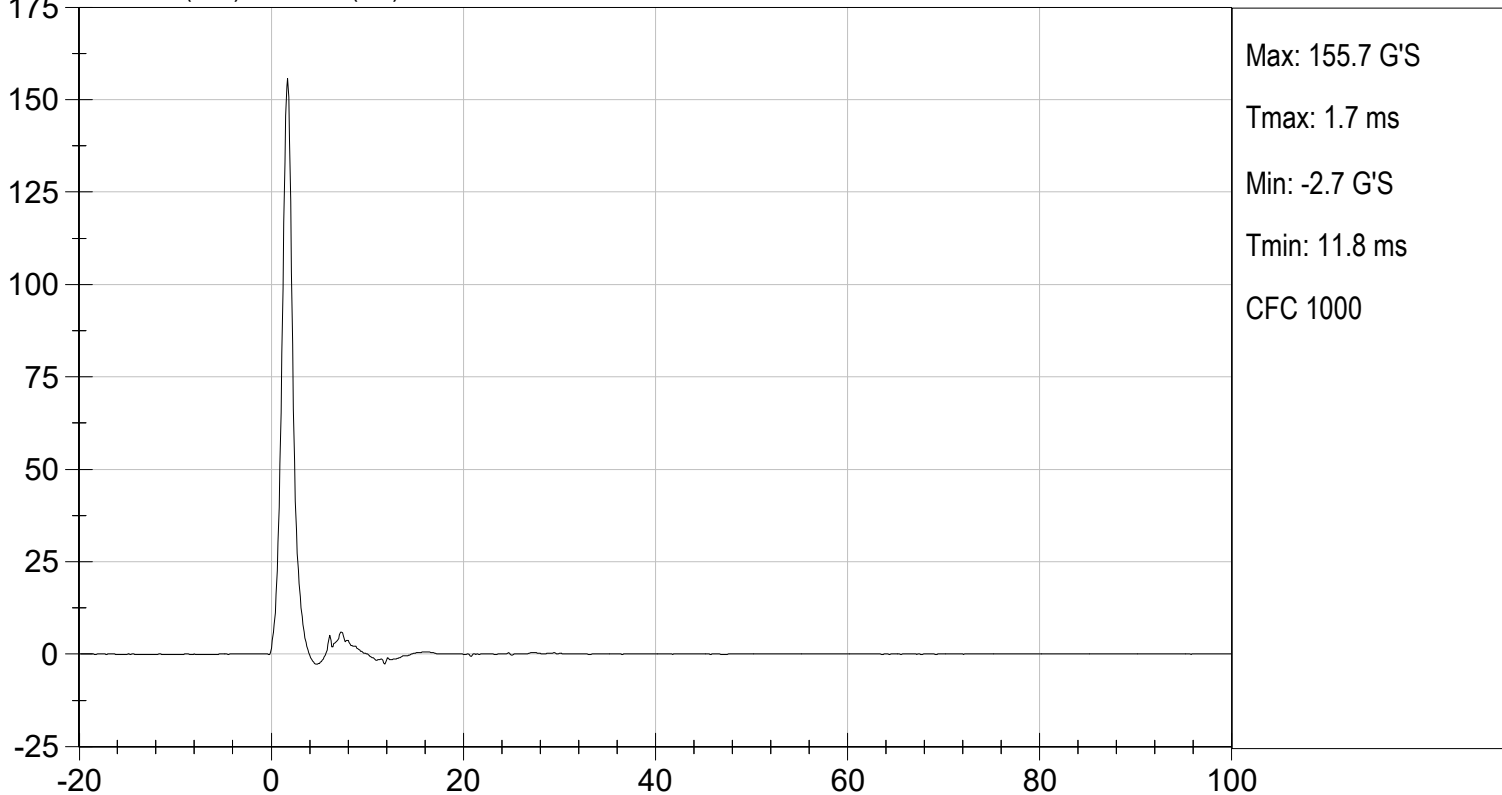




HEAD Y (G'S) vs TIME (ms)



HEAD Z (G'S) vs TIME (ms)



MGA RESEARCH CORPORATION

NECK FLEXION TEST

HYBRID III 5TH PERCENTILE

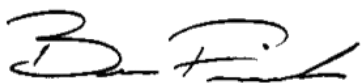
ATD Serial No: 142

Test I.D: D242932

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Pendulum Speed		m/s	6.89 to 7.13	7.06	Pass
Pendulum Velocity	10 ms	m/s	2.1 to 2.5	2.2	Pass
	20 ms	m/s	4.0 to 5.0	4.3	Pass
	30 ms	m/s	5.8 to 7.0	6.3	Pass
D Plane Rotation	Max	deg	77 to 91	79	Pass
Occipital Condyle Moment within Rotation Corridor		Nm	69 to 83	73	Pass
Positive Moment Time Curve Decay to 10 Nm		ms	80 to 100	88	Pass
Overall Results					Pass


Laboratory Technician

11/11/2024
Test Date

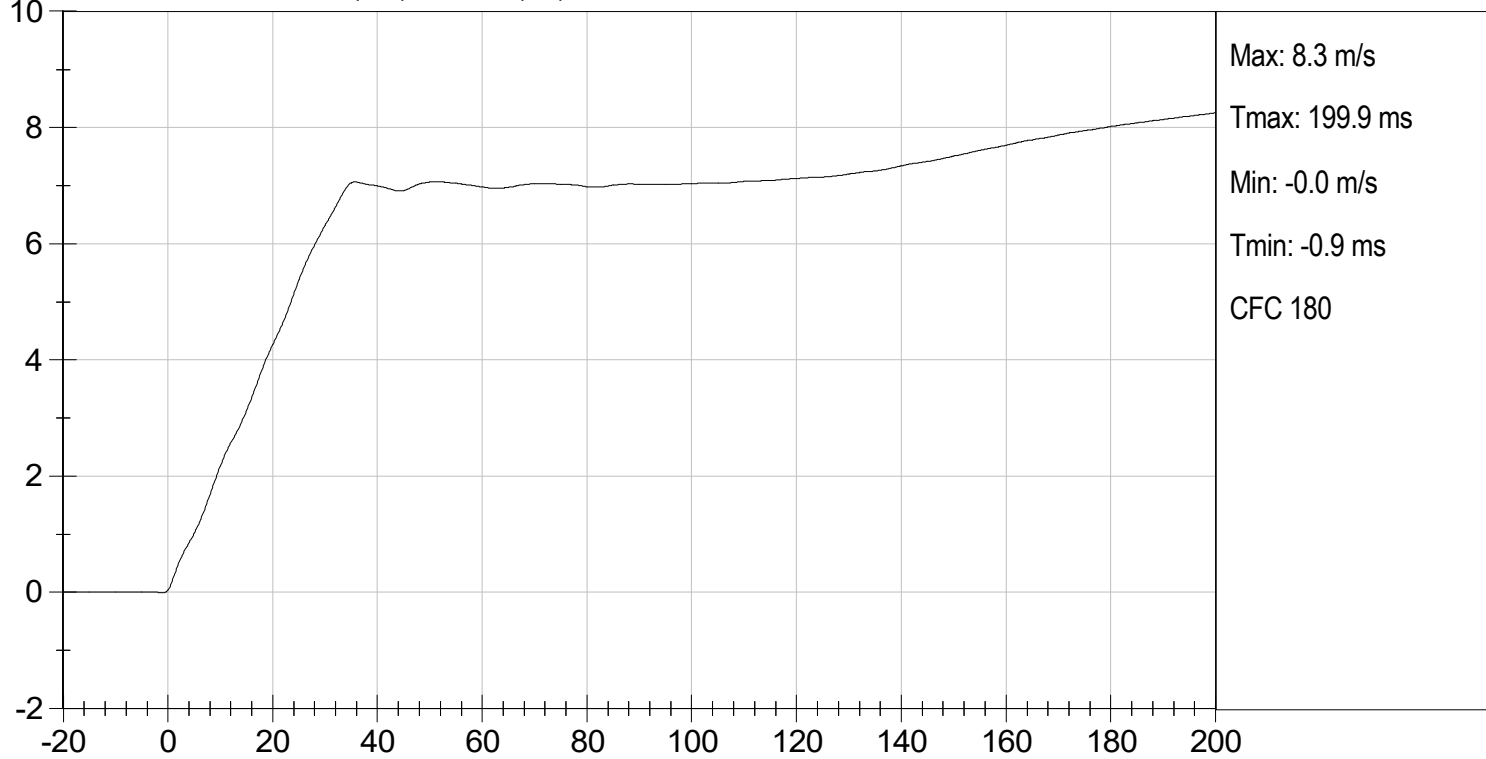

Approved By



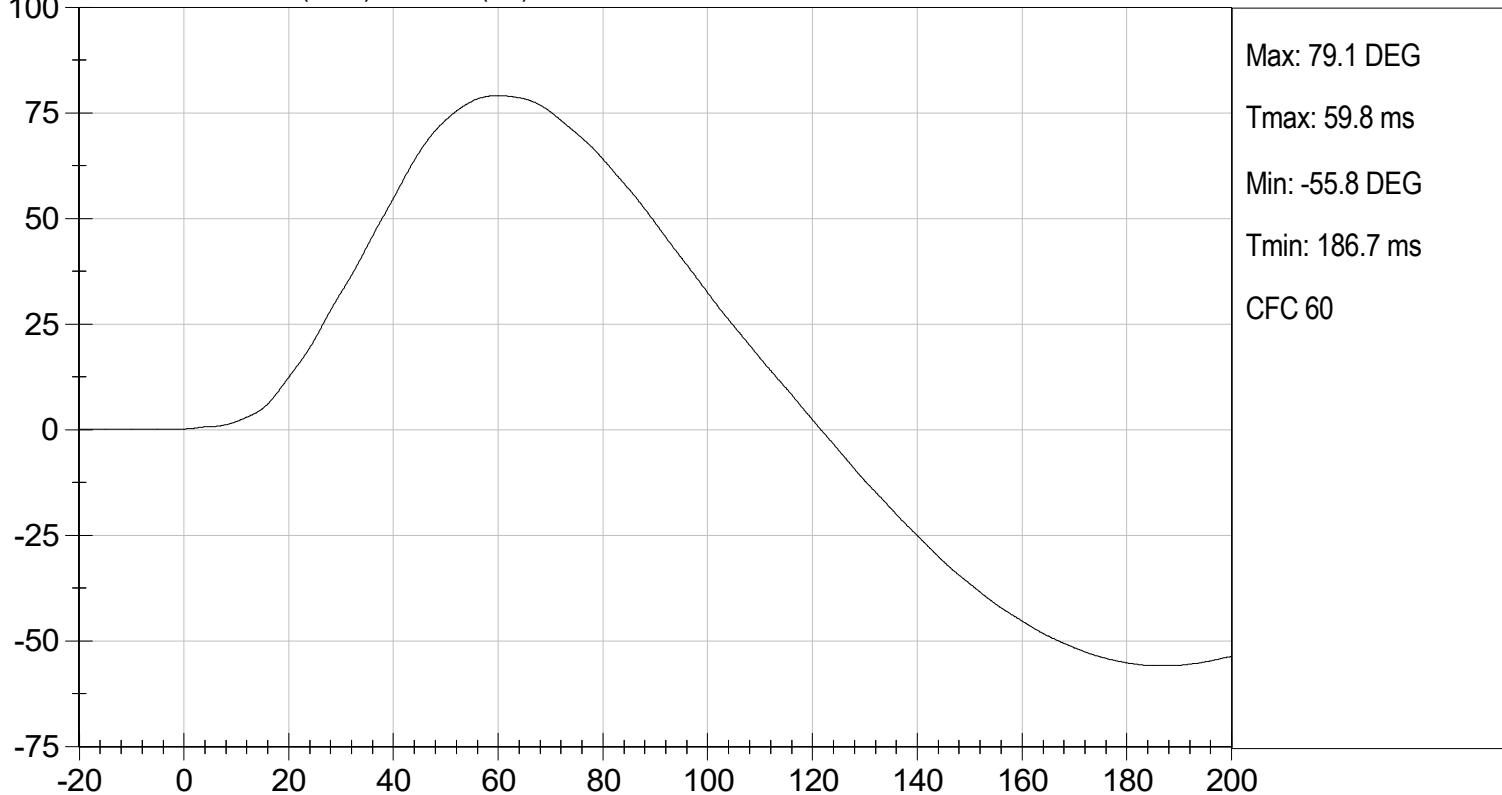
TEST DESC: NECK FLEXION
VELOCITY: 23.15 ft/s, 7.06 m/s

TEST DATE: 11/11/2024
TEST #: D242932

PENDULUM VELOCITY (m/s) vs TIME (ms)



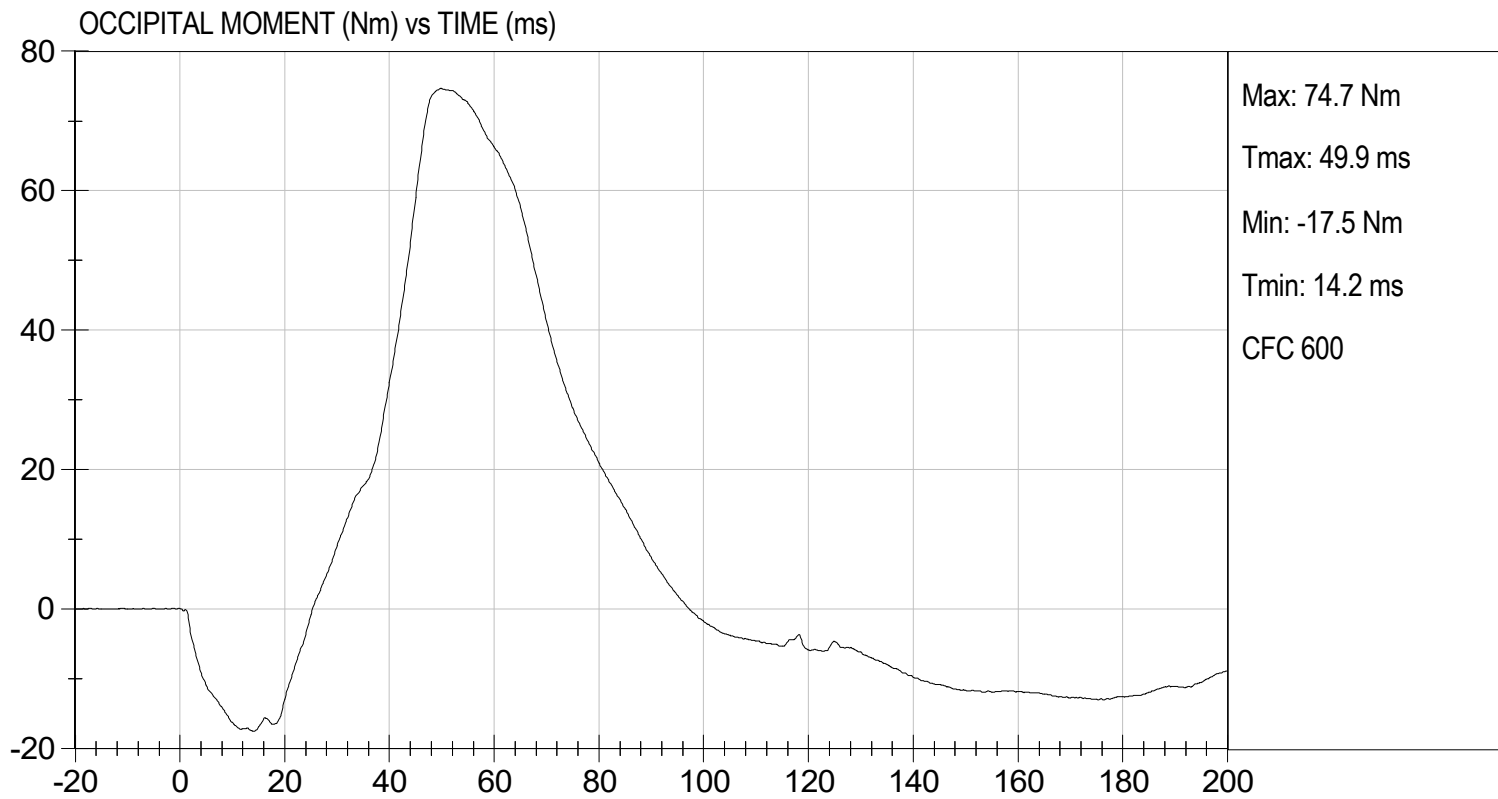
NECK ROTATION (DEG) vs TIME (ms)





TEST DESC: NECK FLEXION
VELOCITY: 23.15 ft/s, 7.06 m/s

TEST DATE: 11/11/2024
TEST #: D242932



MGA RESEARCH CORPORATION

NECK EXTENSION TEST

HYBRID III 5TH PERCENTILE

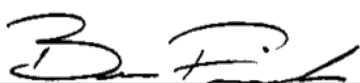
ATD Serial No: 142

Test I.D: D242933

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Pendulum Speed		m/s	5.95 to 6.19	6.14	Pass
Pendulum Velocity	10 ms	m/s	1.5 to 1.9	1.7	Pass
	20 ms	m/s	3.1 to 3.9	3.4	Pass
	30 ms	m/s	4.6 to 5.6	5	Pass
D Plane Rotation	Max	deg	99 to 114	107	Pass
Occipital Condyle Moment within Rotation Corridor		Nm	-65 to -53	-55	Pass
Negative Moment Time Curve Decay to -10 Nm		ms	94 to 114	108	Pass
Overall Results					Pass


Laboratory Technician

11/11/2024
Test Date

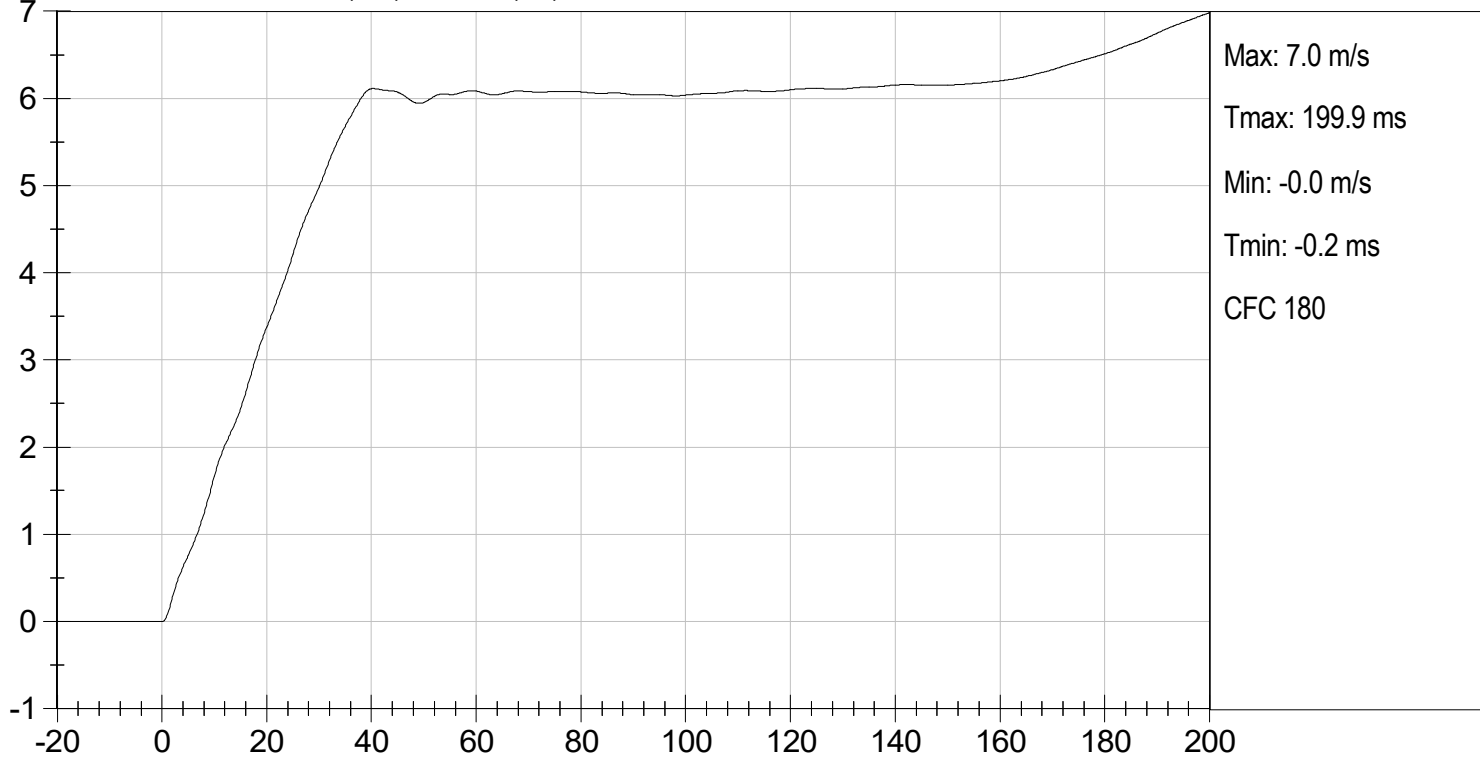

Approved By



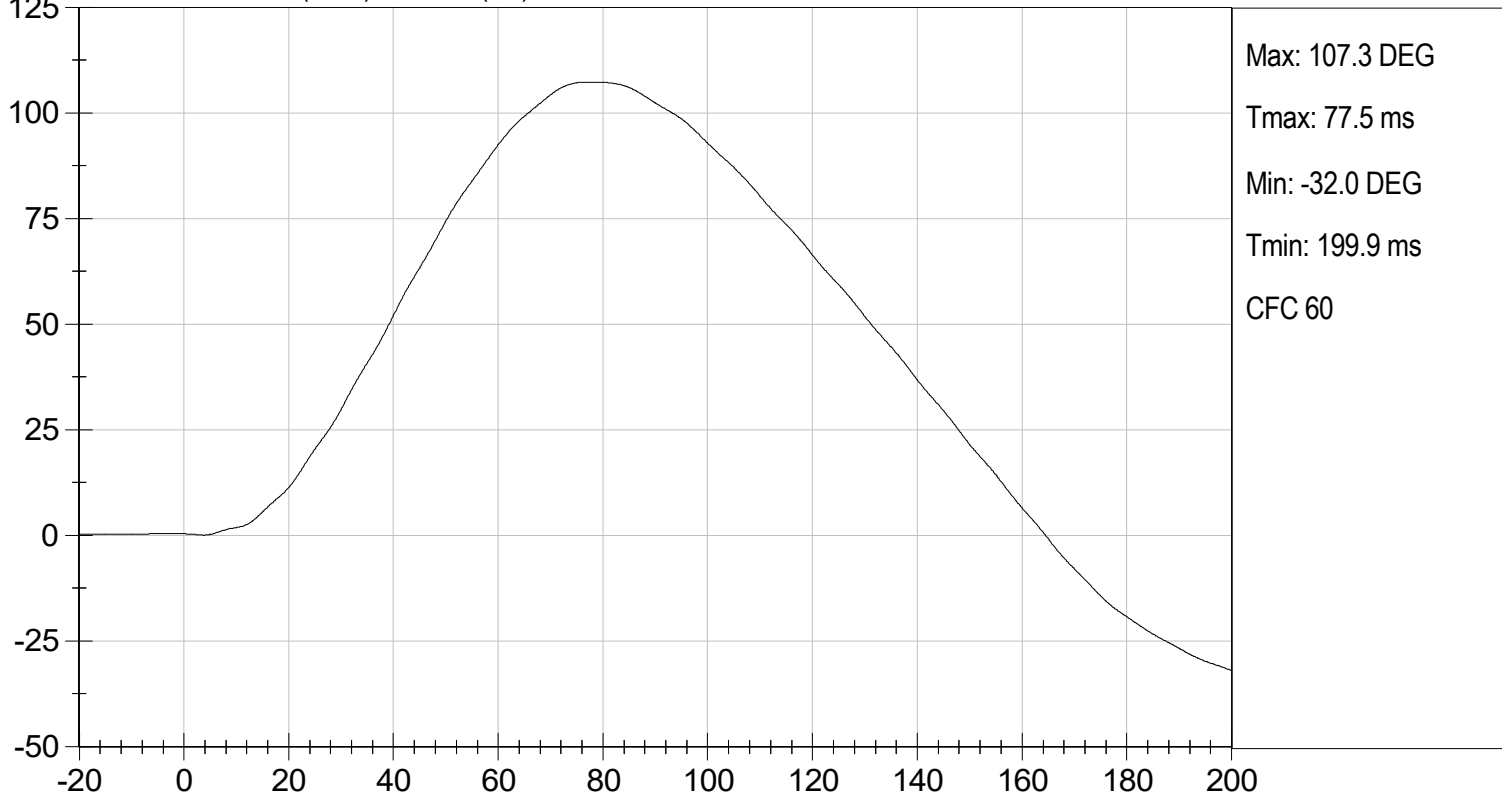
TEST DESC: NECK EXTENSION
VELOCITY: 20.15 ft/s, 6.14 m/s

TEST DATE: 11/11/2024
TEST #: D242933

PENDULUM VELOCITY (m/s) vs TIME (ms)



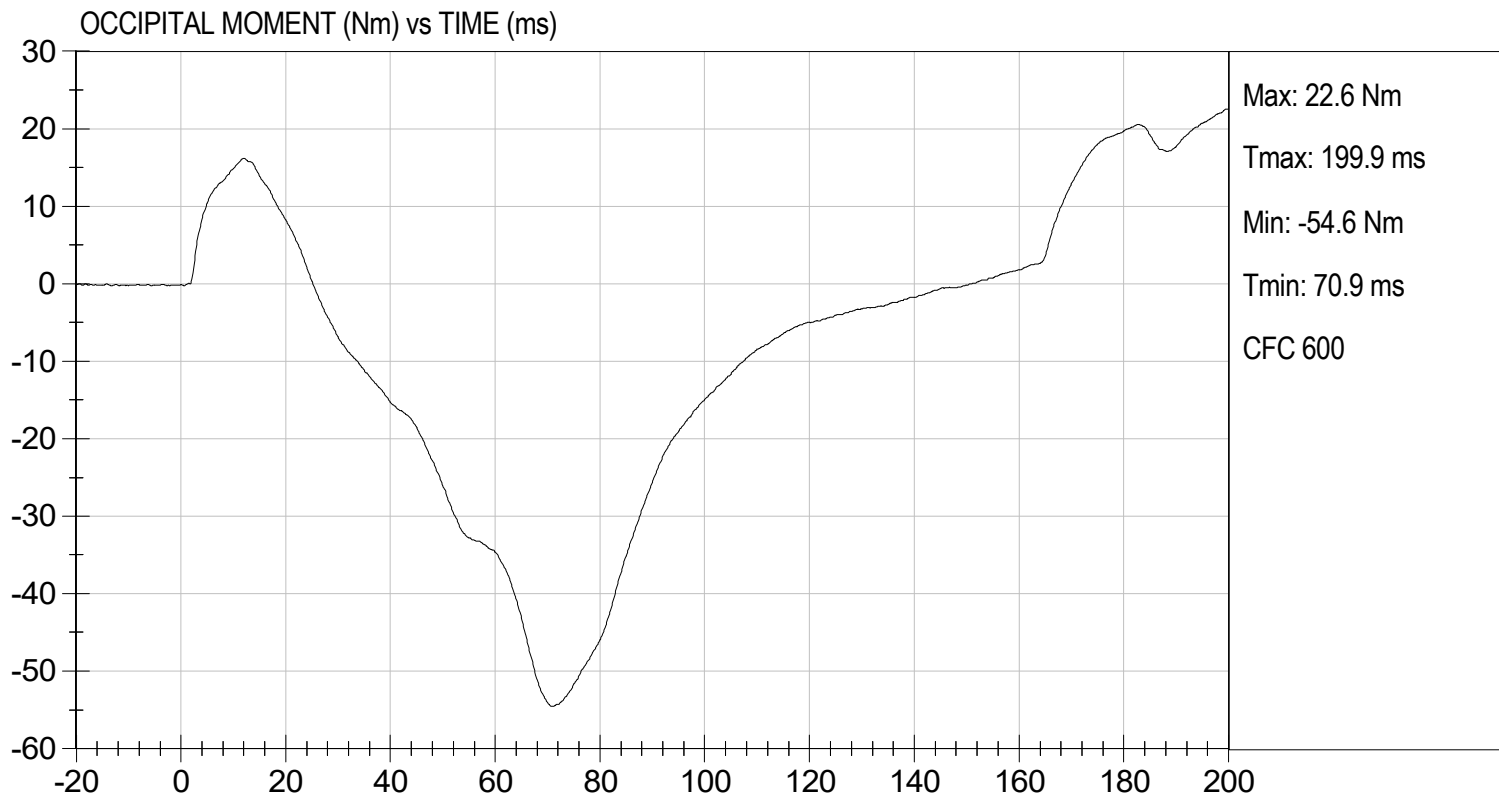
NECK ROTATION (DEG) vs TIME (ms)





TEST DESC: NECK EXTENSION
VELOCITY: 20.15 ft/s, 6.14 m/s

TEST DATE: 11/11/2024
TEST #: D242933



MGA RESEARCH CORPORATION

THORAX IMPACT

HYBRID III 5TH PERCENTILE

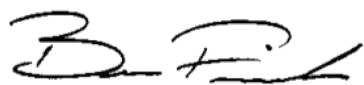
ATD Serial No: 142

Test I.D: D242934

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Relative Humidity	%	10 to 70	43	Pass
Probe Speed	m/s	6.59 to 6.83	6.68	Pass
Peak Deflection	mm	50 to 58	52	Pass
Peak Resistive Force w/in Deflection Corridor	N	3900 to 4400	4188	Pass
Internal Hysteresis	%	69 to 85	75	Pass
Peak Force 18 mm - 50 mm	N	<= 4600	4213	Pass
Overall Test Results			Pass	


Laboratory Technician

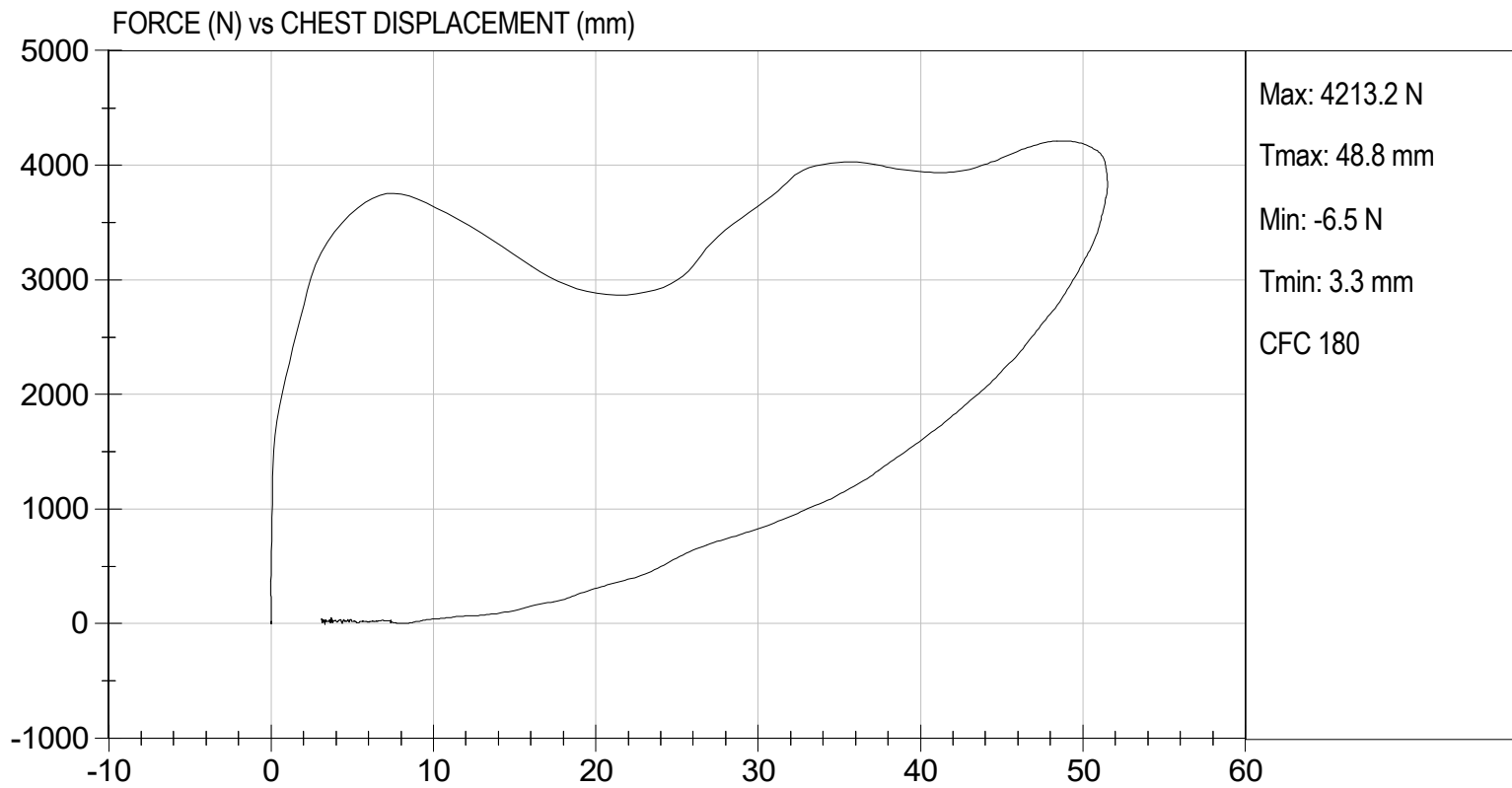
11/11/2024
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 21.93 ft/s, 6.68 m/s

TEST DATE: 11/11/2024
TEST #: D242934



MGA RESEARCH CORPORATION

RIGHT KNEE IMPACT TEST

HYBRID III 5TH PERCENTILE

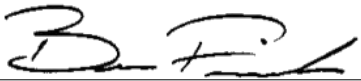
ATD Serial No: 142

Test I.D: D242935

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Probe Speed	m/s	2.07 to 2.13	2.10	Pass
Maximum Force	N	3450 to 4060	3500	Pass
Overall Test Results				Pass


Laboratory Technician

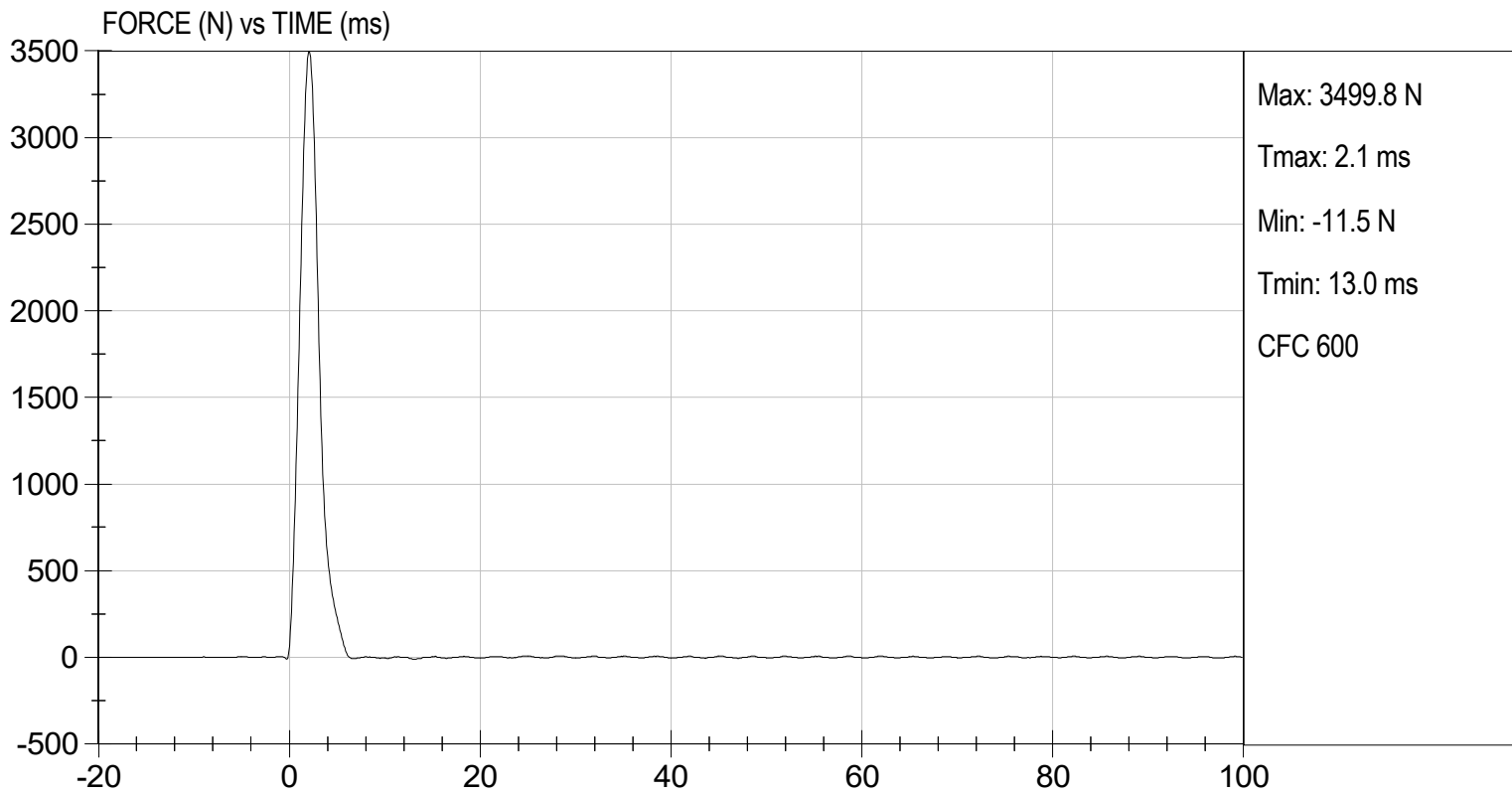
11/11/2024
Test Date


Approved By



TEST DESC: RIGHT KNEE
VELOCITY: 6.89 ft/s, 2.10 m/s

TEST DATE: 11/11/2024
TEST #: D242935



MGA RESEARCH CORPORATION

**LEFT KNEE IMPACT TEST
HYBRID III 5TH PERCENTILE**

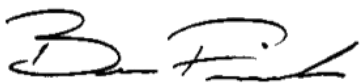
ATD Serial No: 142

Test I.D: D242936

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Probe Speed	m/s	2.07 to 2.13	2.10	Pass
Maximum Force	N	3450 to 4060	3604	Pass
			Overall Test Results	Pass


Laboratory Technician

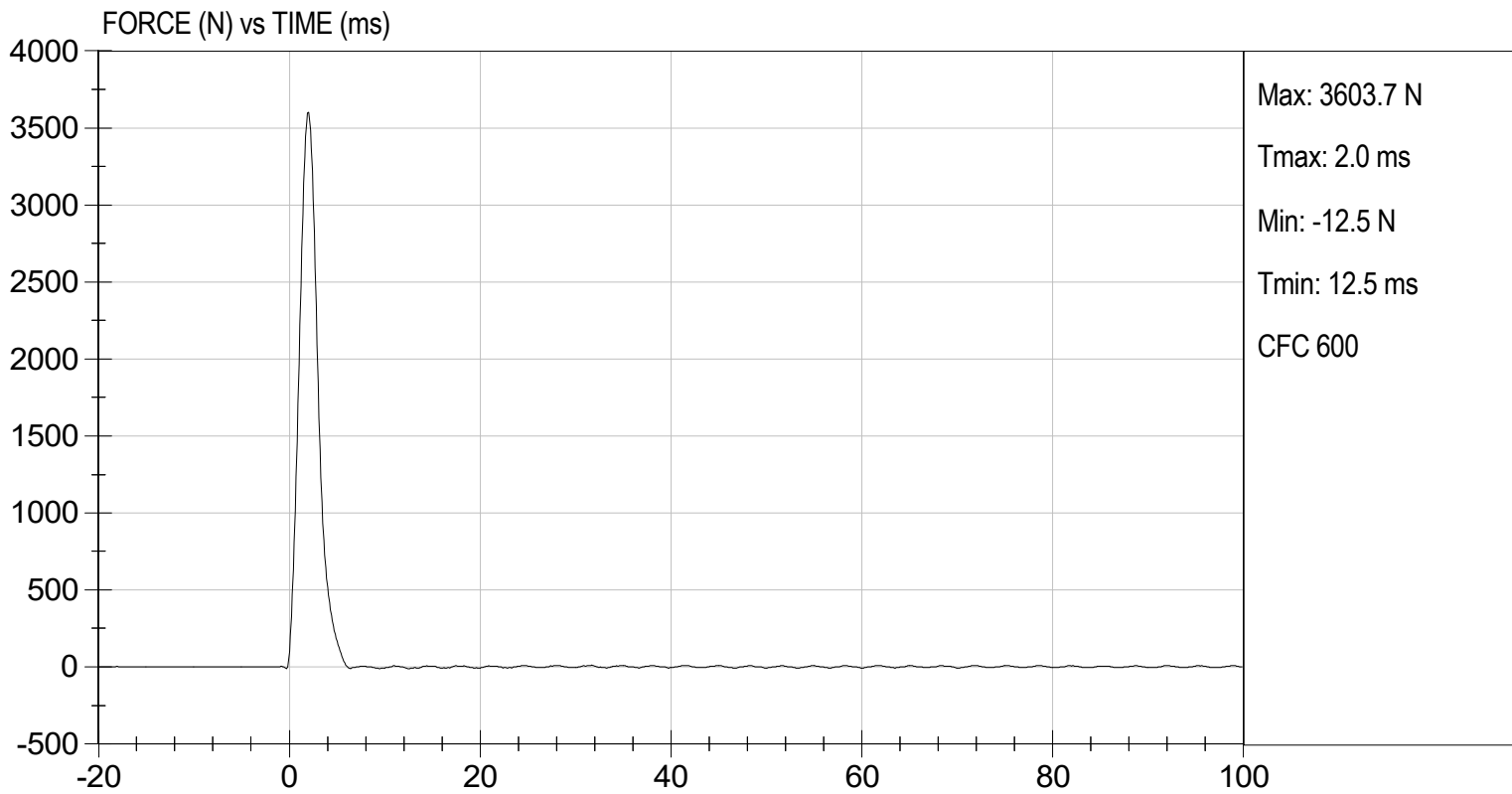
11/11/2024
Test Date


Approved By



TEST DESC: LEFT KNEE
VELOCITY: 6.89 ft/s, 2.10 m/s

TEST DATE: 11/11/2024
TEST #: D242936



MGA RESEARCH CORPORATION

TORSO FLEXION TEST

HYBRID III 5TH PERCENTILE

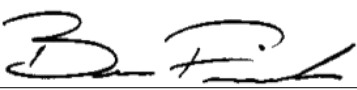
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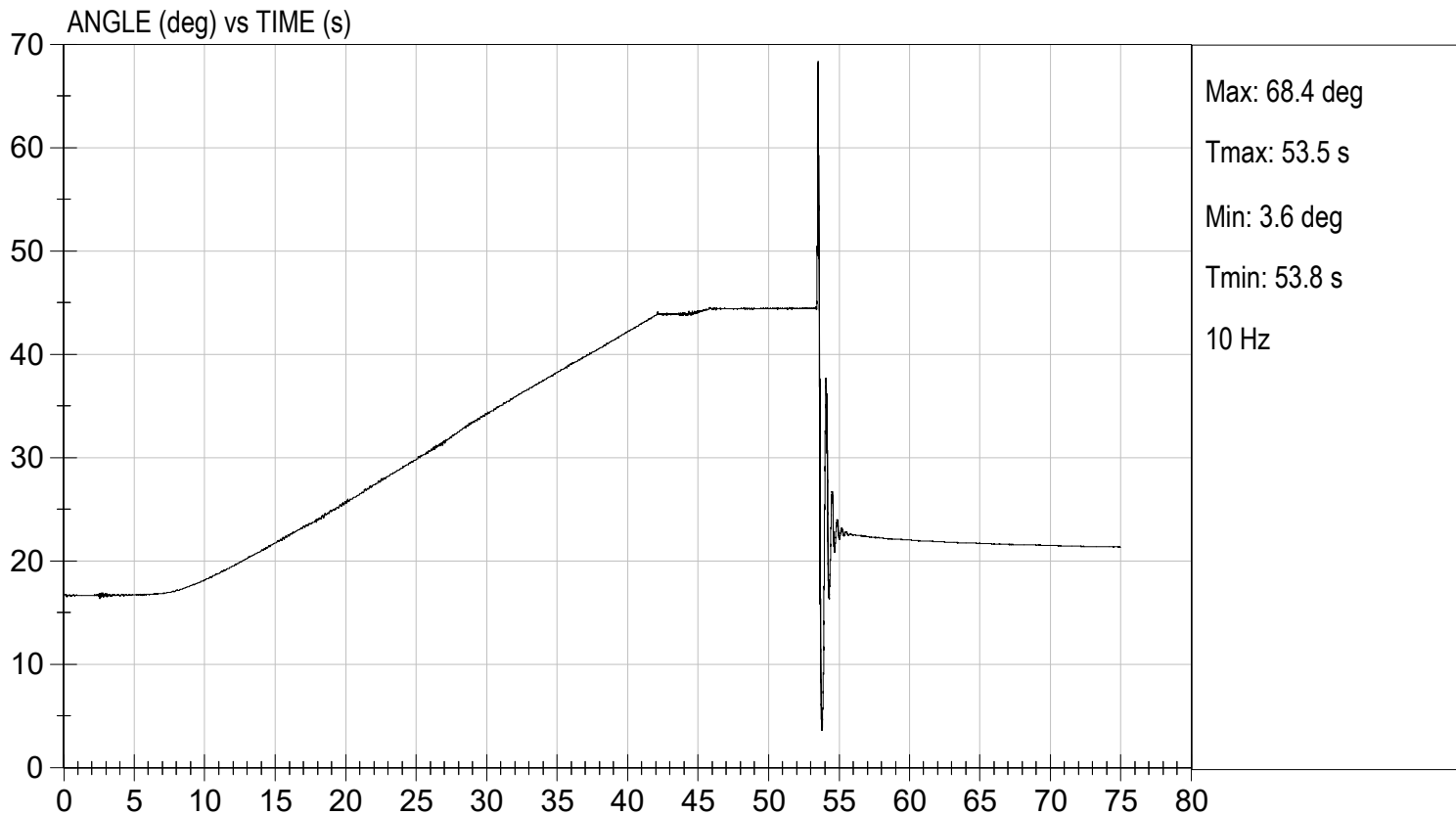
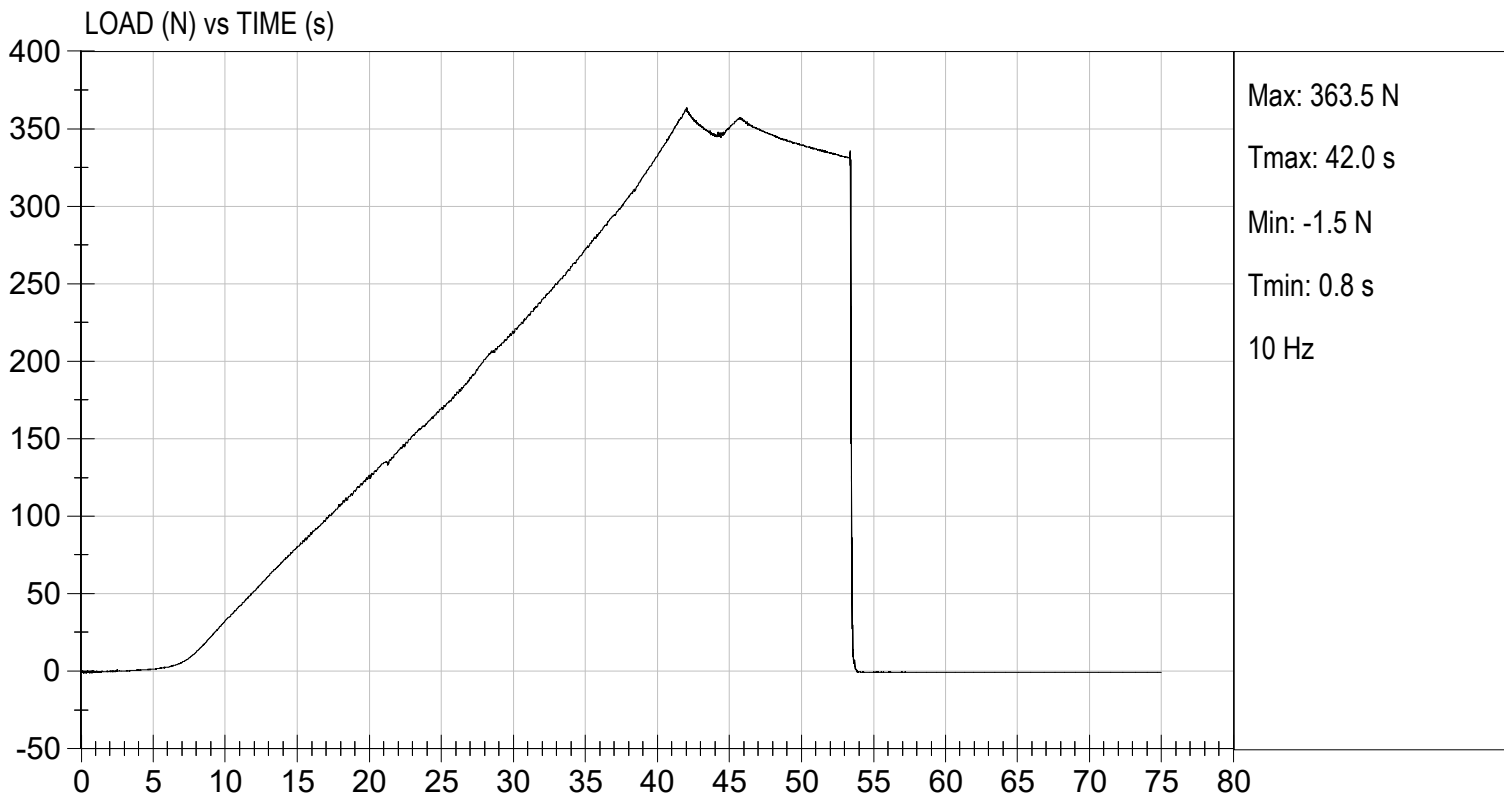
Test I.D: D242937

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	42	Pass
Initial Angle	deg	0 to 20	17	Pass
Return Angle	deg	+/- 8	5	Pass
Force at 45 deg	N	320 to 390	357	Pass
Upper Torso Deflection Rate	deg/s	0.5 to 1.5	0.7	Pass
Overall Result			Pass	


Laboratory Technician

11/11/2024
Test Date


Approved By



QUALIFICATION TEST RESULTS

POST-TEST

HYBRID III 5TH PERCENTILE FEMALE - PASSENGER ATD

MGA RESEARCH CORPORATION

HEAD DROP TEST

HYBRID III 5TH PERCENTILE

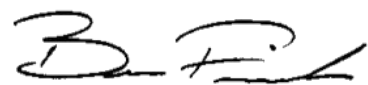
ATD Serial No: 142

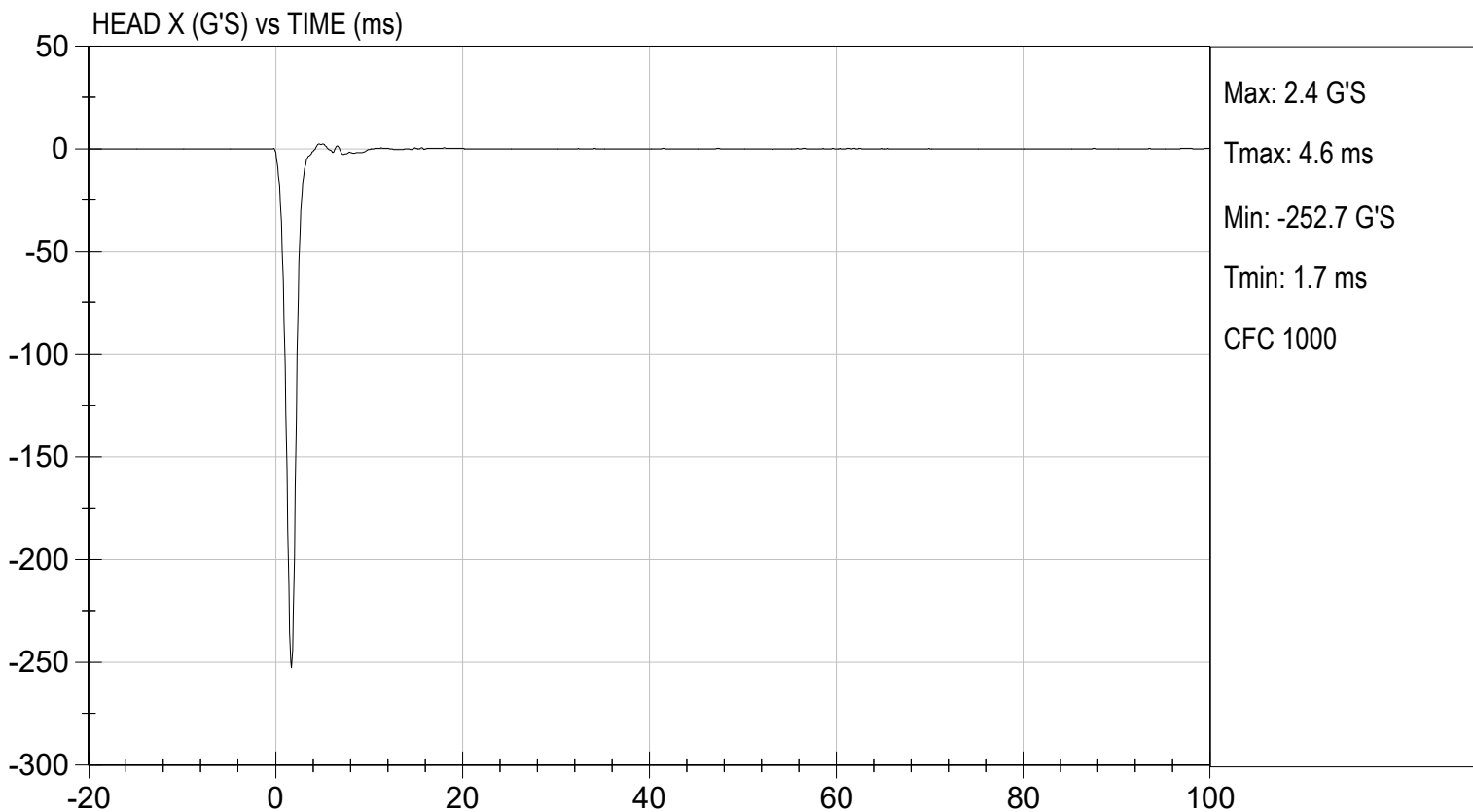
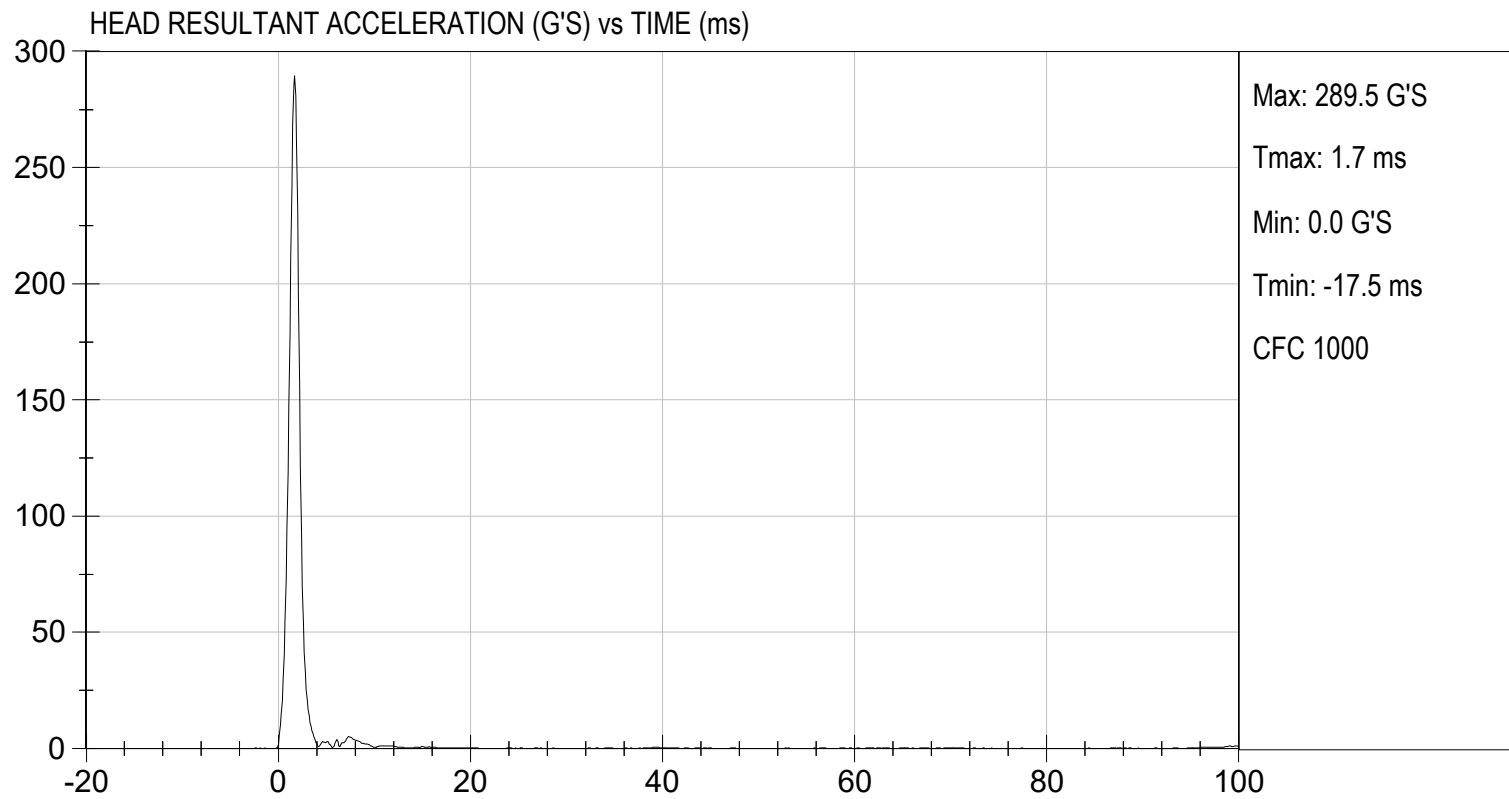
Test ID: D243121

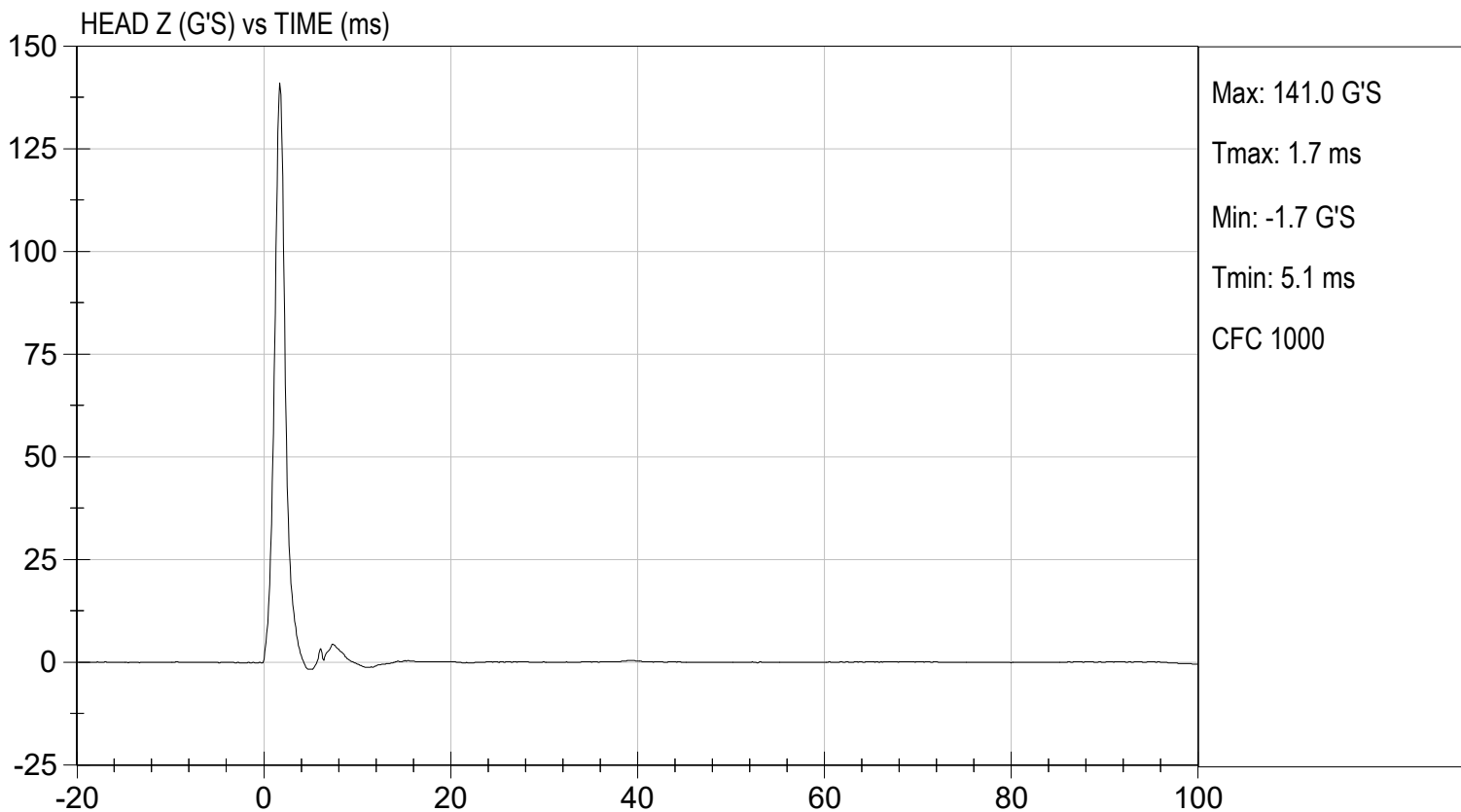
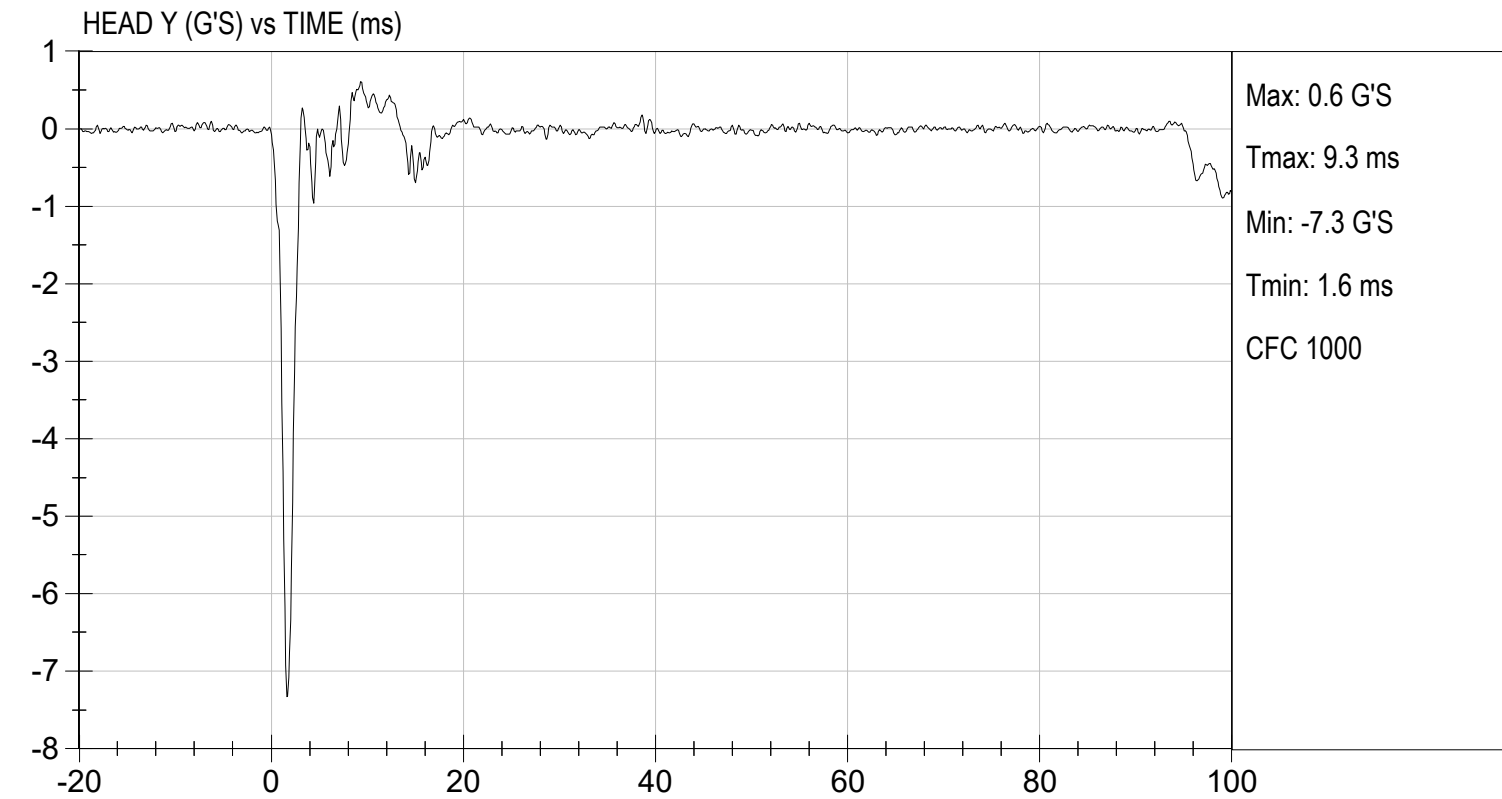
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	22	Pass
Peak Resultant Acceleration	G's	250 to 300	289	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	-7.3	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 10% of peak	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

12/06/2024
Test Date


Approved By





MGA RESEARCH CORPORATION

NECK FLEXION TEST

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

Test I.D: D243122

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity		%	10 to 70	25	Pass
Pendulum Speed		m/s	6.89 to 7.13	7.06	Pass
Pendulum Velocity	10 ms	m/s	2.1 to 2.5	2.3	Pass
	20 ms	m/s	4.0 to 5.0	4.5	Pass
	30 ms	m/s	5.8 to 7.0	6.7	Pass
D Plane Rotation	Max	deg	77 to 91	82	Pass
Occipital Condyle Moment within Rotation Corridor		Nm	69 to 83	71	Pass
Positive Moment Time Curve Decay to 10 Nm		ms	80 to 100	89	Pass
Overall Results					Pass


Laboratory Technician

12/09/2024

Test Date

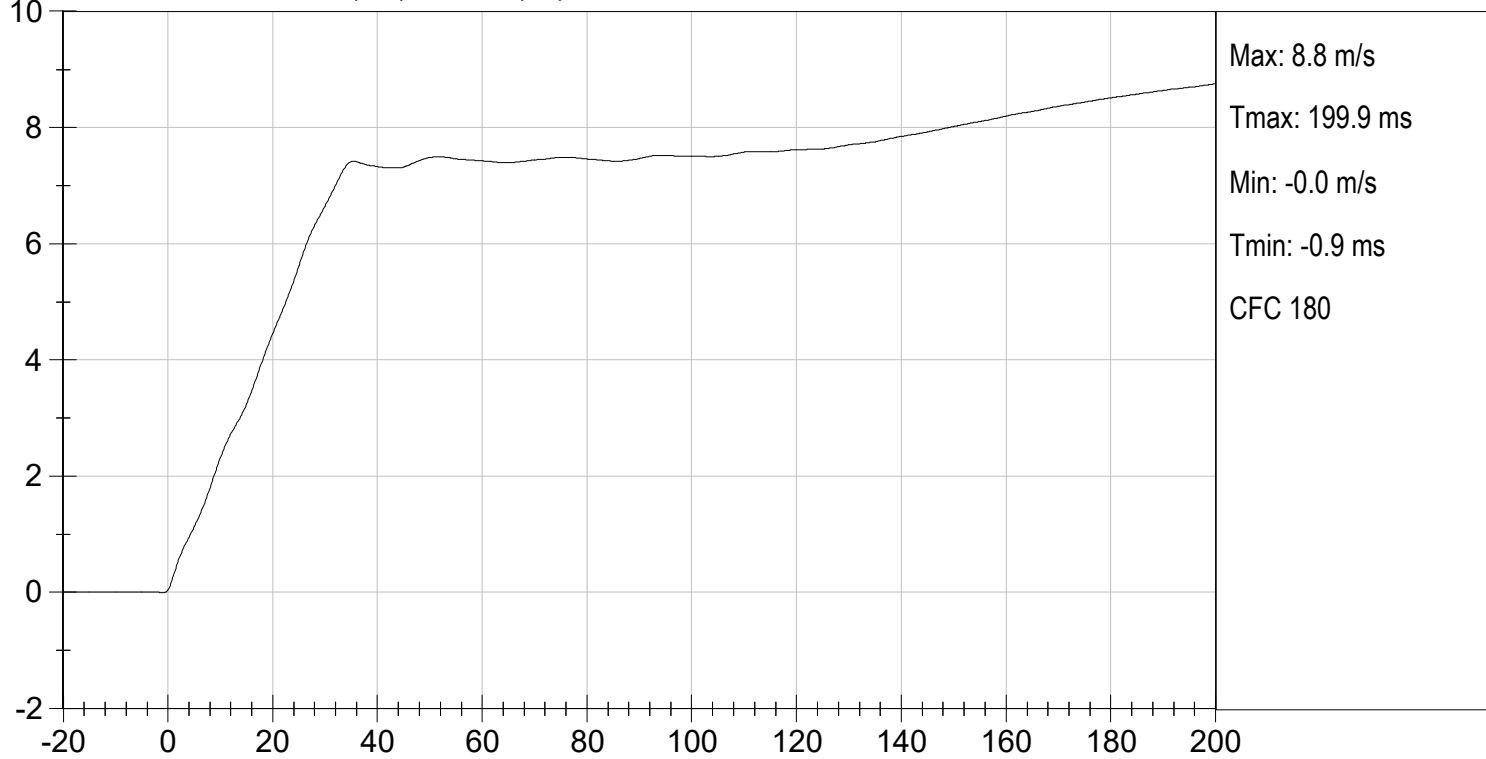

Approved By



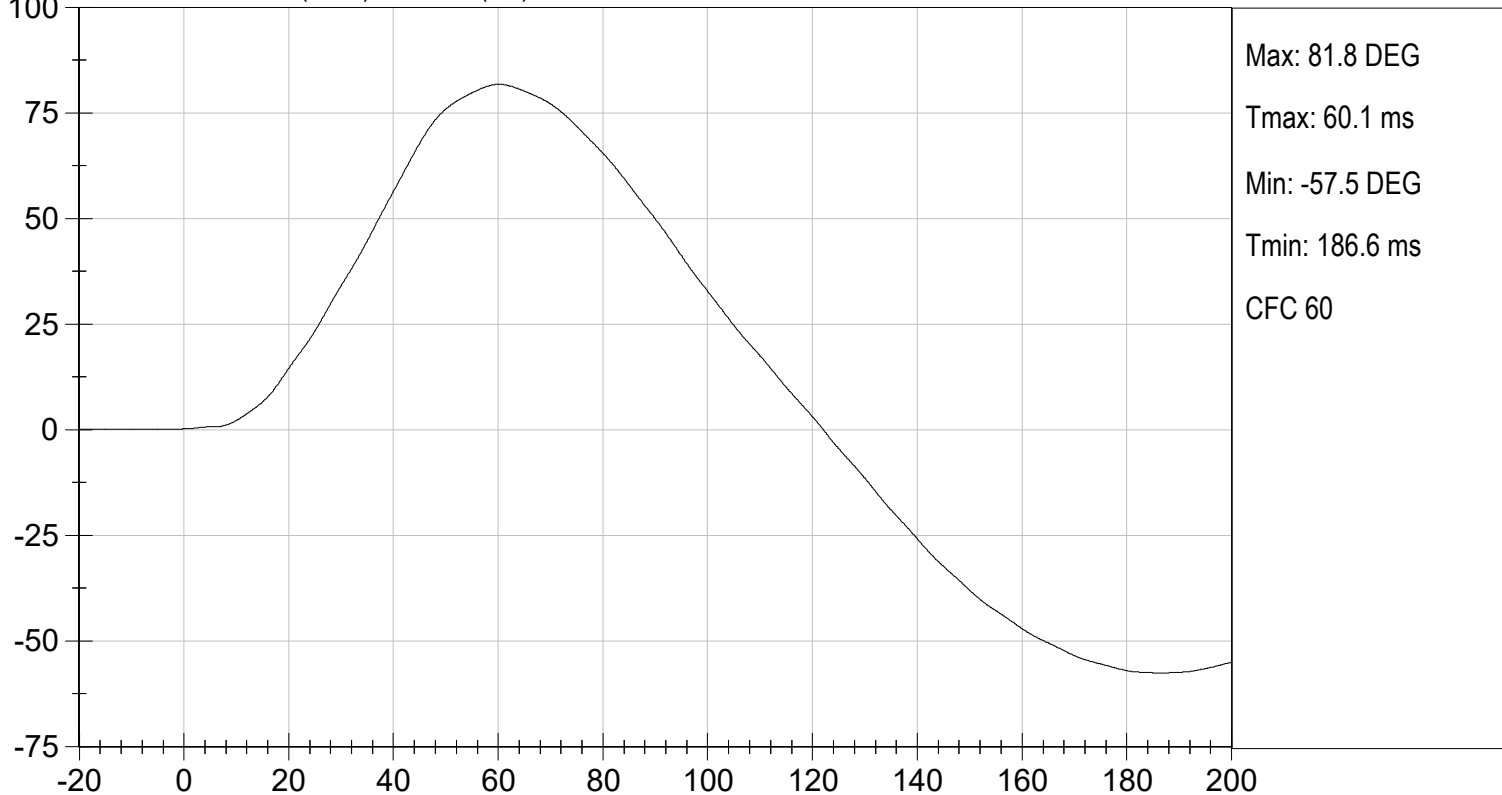
TEST DESC: NECK FLEXION
VELOCITY: 23.15 ft/s, 7.06 m/s

TEST DATE: 12/09/2024
TEST #: D243122

PENDULUM VELOCITY (m/s) vs TIME (ms)



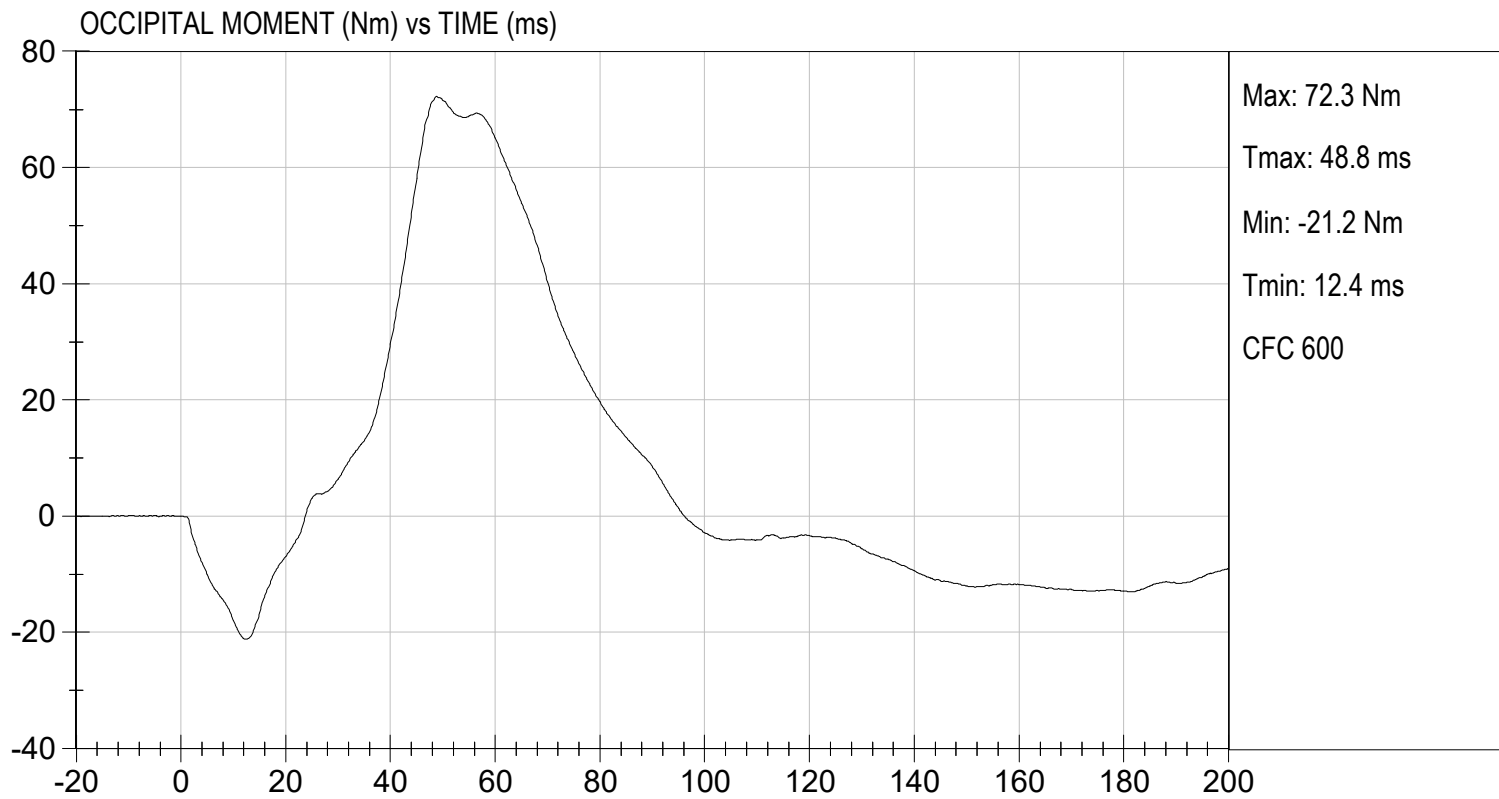
NECK ROTATION (DEG) vs TIME (ms)





TEST DESC: NECK FLEXION
VELOCITY: 23.15 ft/s, 7.06 m/s

TEST DATE: 12/09/2024
TEST #: D243122



MGA RESEARCH CORPORATION

NECK EXTENSION TEST

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

Test I.D: D243123

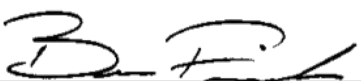
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.6	Pass
Laboratory Relative Humidity		%	10 to 70	25	Pass
Pendulum Speed		m/s	5.95 to 6.19	6.05	Pass
Pendulum Velocity	10 ms	m/s	1.5 to 1.9	1.7	Pass
	20 ms	m/s	3.1 to 3.9	3.5	Pass
	30 ms	m/s	4.6 to 5.6	5.1	Pass
D Plane Rotation	Max	deg	99 to 114	108	Pass
Occipital Condyle Moment within Rotation Corridor		Nm	-65 to -53	-55	Pass
Negative Moment Time Curve Decay to -10 Nm		ms	94 to 114	106	Pass
Overall Results					Pass



Laboratory Technician

12/09/2024

Test Date

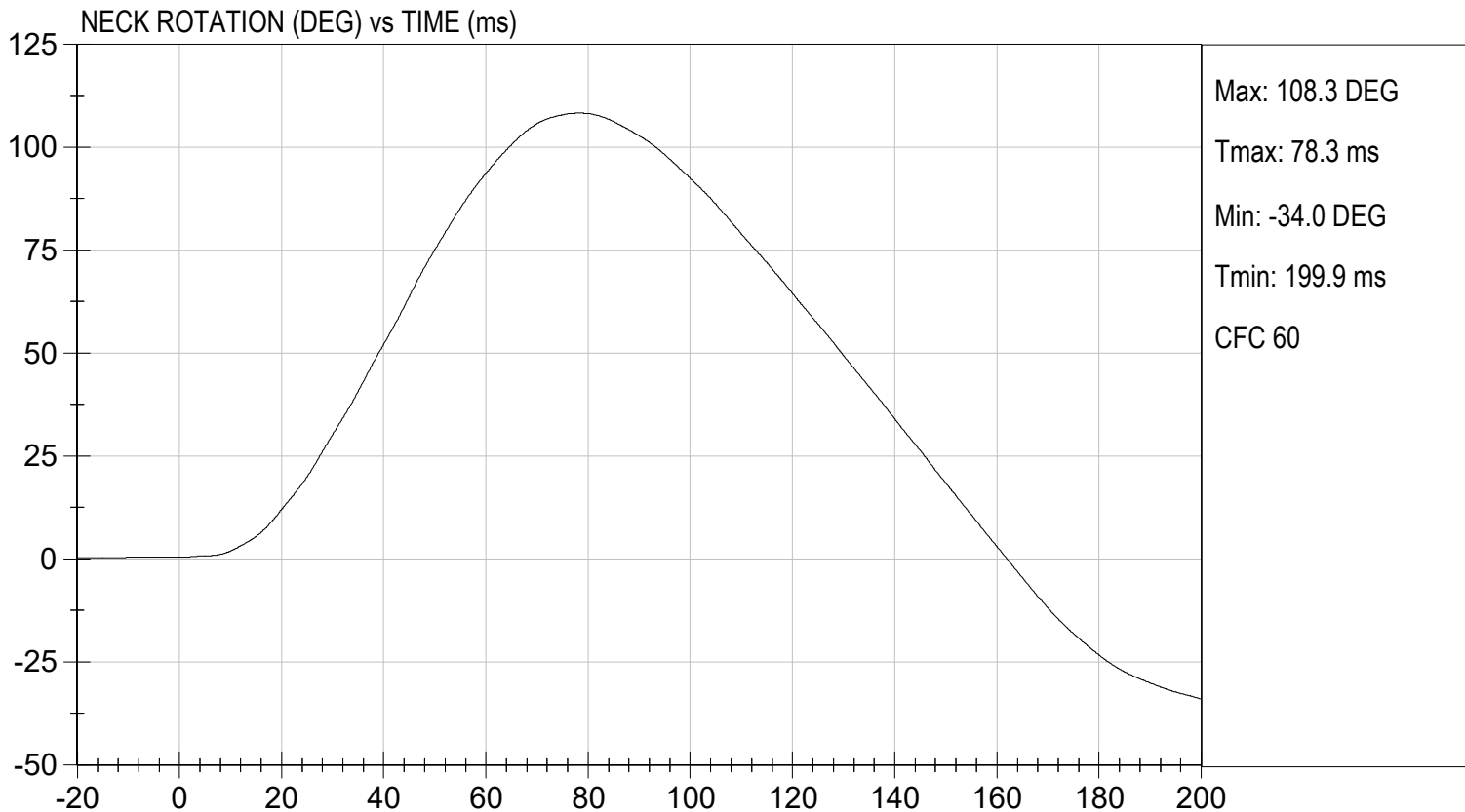
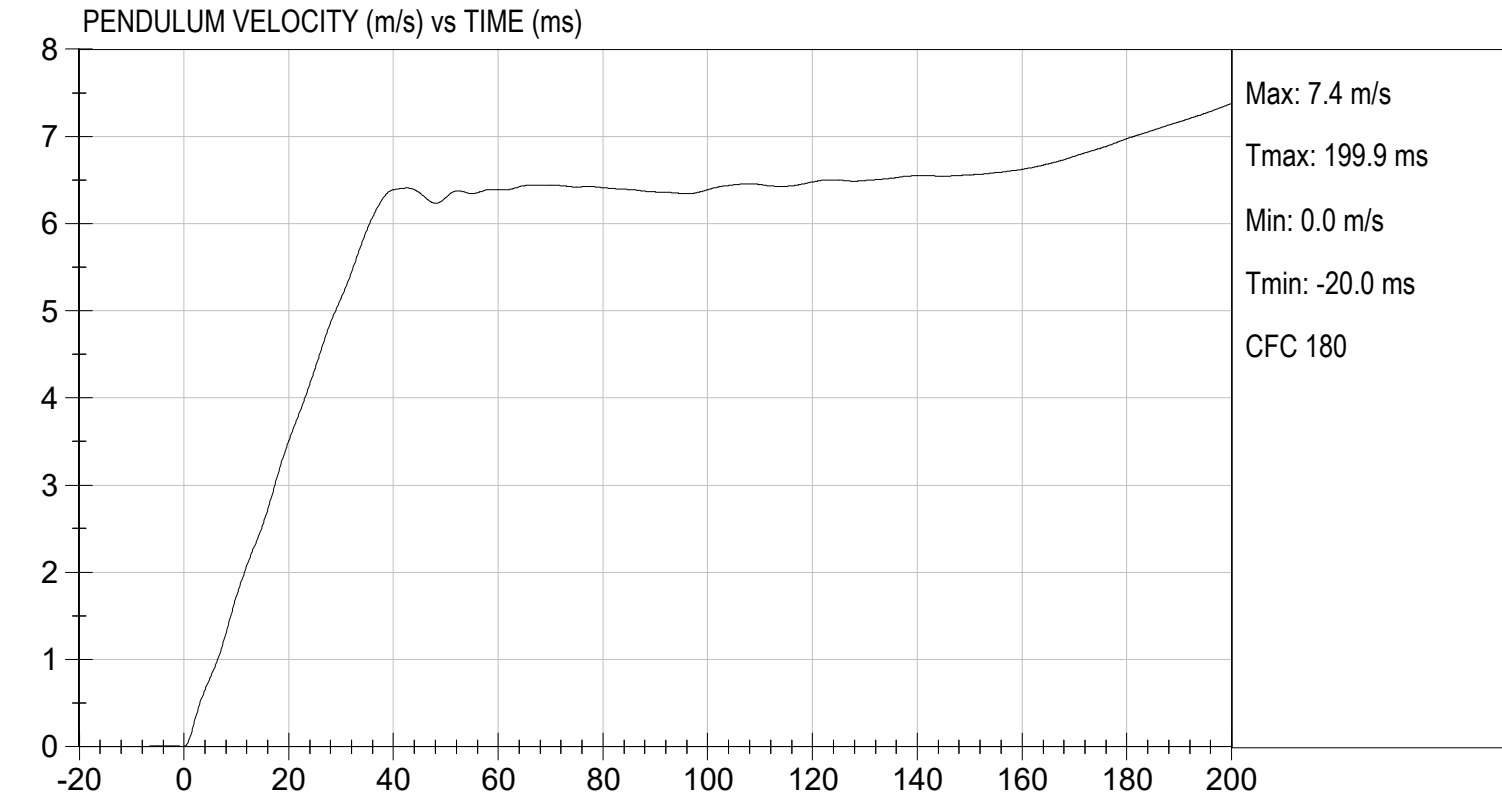


Approved By



TEST DESC: NECK EXTENSION
VELOCITY: 19.84 ft/s, 6.05 m/s

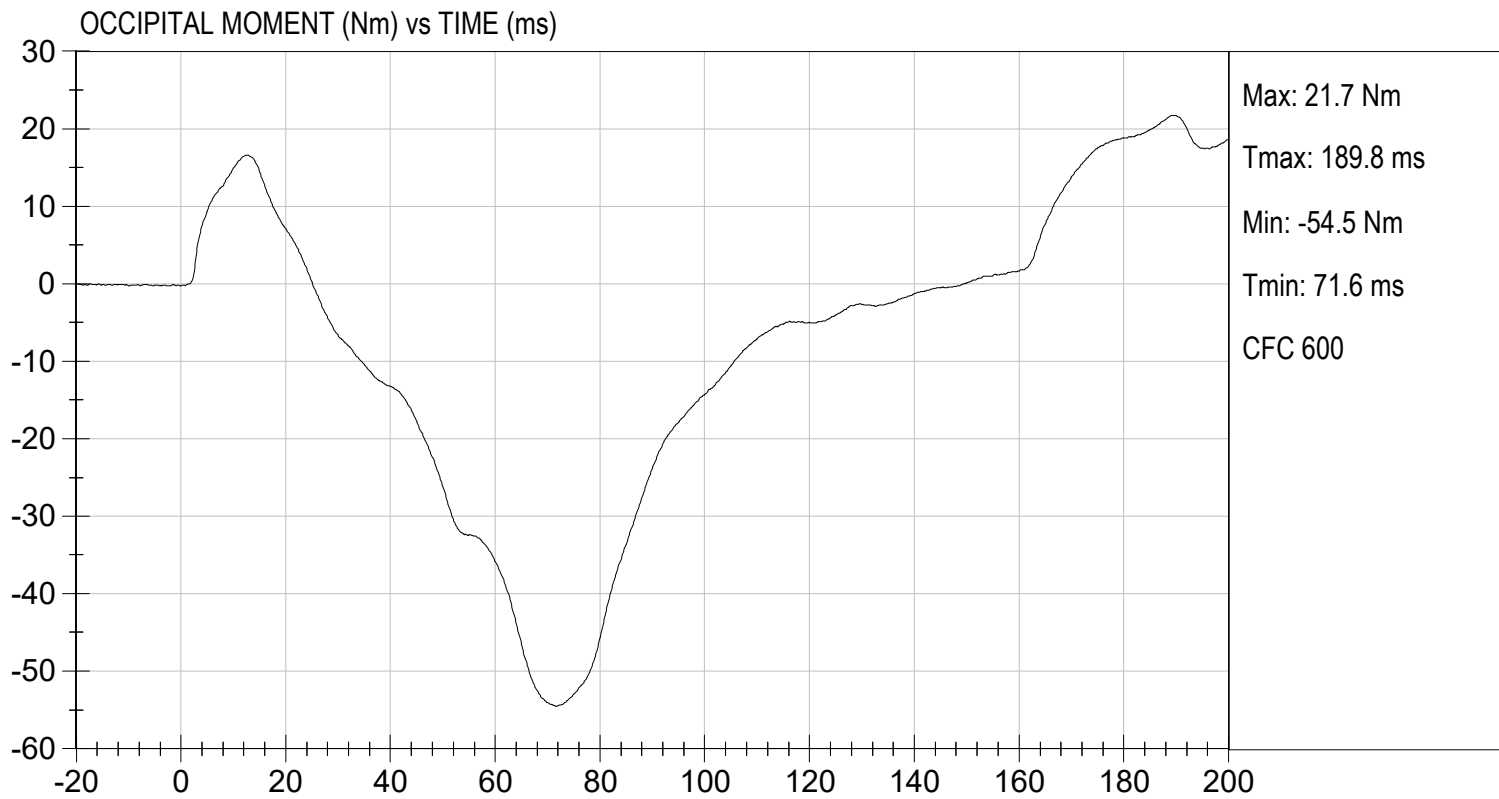
TEST DATE: 12/09/2024
TEST #: D243123





TEST DESC: NECK EXTENSION
VELOCITY: 19.84 ft/s, 6.05 m/s

TEST DATE: 12/09/2024
TEST #: D243123



MGA RESEARCH CORPORATION

THORAX IMPACT

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

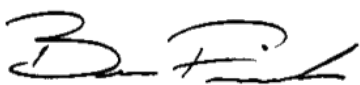
Test I.D: D243124

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.5	Pass
Relative Humidity	%	10 to 70	21	Pass
Probe Speed	m/s	6.59 to 6.83	6.60	Pass
Peak Deflection	mm	50 to 58	50	Pass
Peak Resistive Force w/in Deflection Corridor	N	3900 to 4400	4088	Pass
Internal Hysteresis	%	69 to 85	75	Pass
Peak Force 18 mm - 50 mm	N	<= 4600	4290	Pass
			Overall Test Results	Pass


Laboratory Technician

12/06/2024

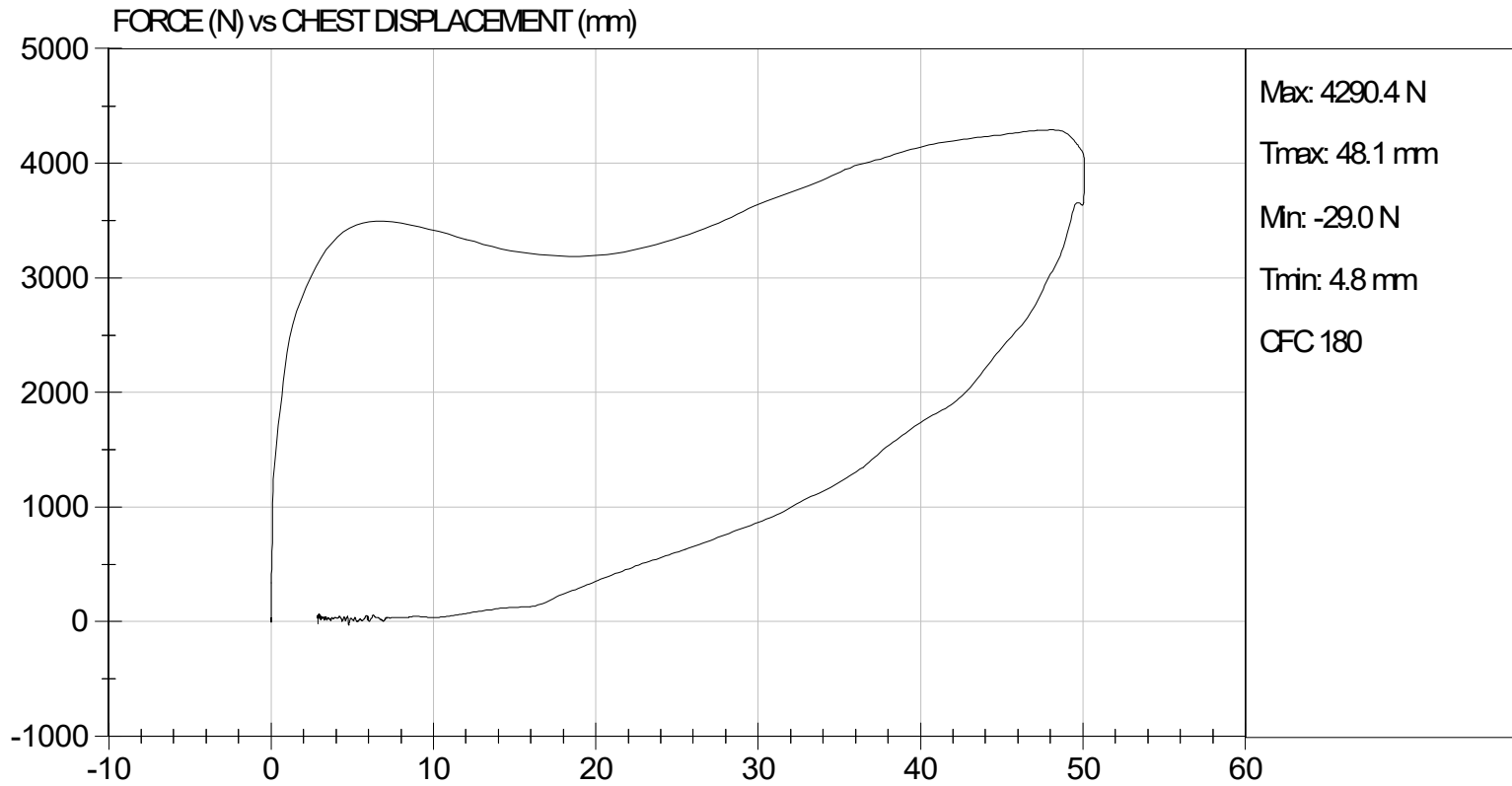
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 21.65 ft/s, 6.60 m/s

TEST DATE: 12/06/2024
TEST #: D243124



MGA RESEARCH CORPORATION

RIGHT KNEE IMPACT TEST

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

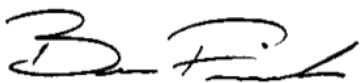
Test I.D: D243125

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Probe Speed	m/s	2.07 to 2.13	2.12	Pass
Maximum Force	N	3450 to 4060	3895	Pass
Overall Test Results				Pass


Laboratory Technician

12/09/2024

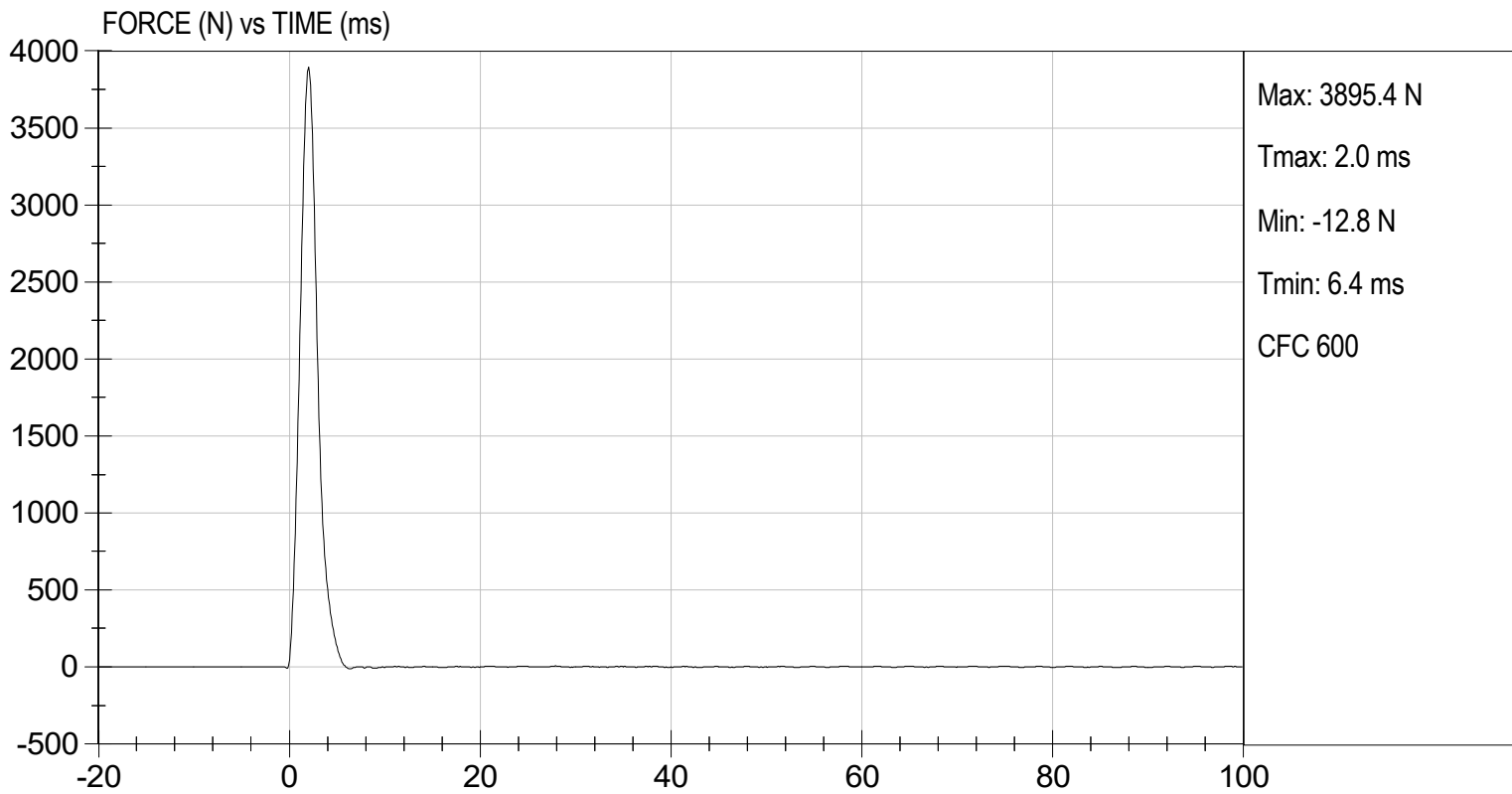
Test Date


Approved By



TEST DESC: RIGHT KNEE
VELOCITY: 6.97 ft/s, 2.12 m/s

TEST DATE: 12/09/2024
TEST #: D243125



MGA RESEARCH CORPORATION

**LEFT KNEE IMPACT TEST
HYBRID III 5TH PERCENTILE**

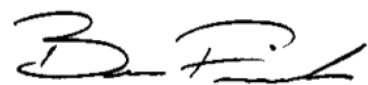
ATD Serial No: 142

Test I.D: D243126

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Probe Speed	m/s	2.07 to 2.13	2.12	Pass
Maximum Force	N	3450 to 4060	3871	Pass
			Overall Test Results	Pass


Laboratory Technician

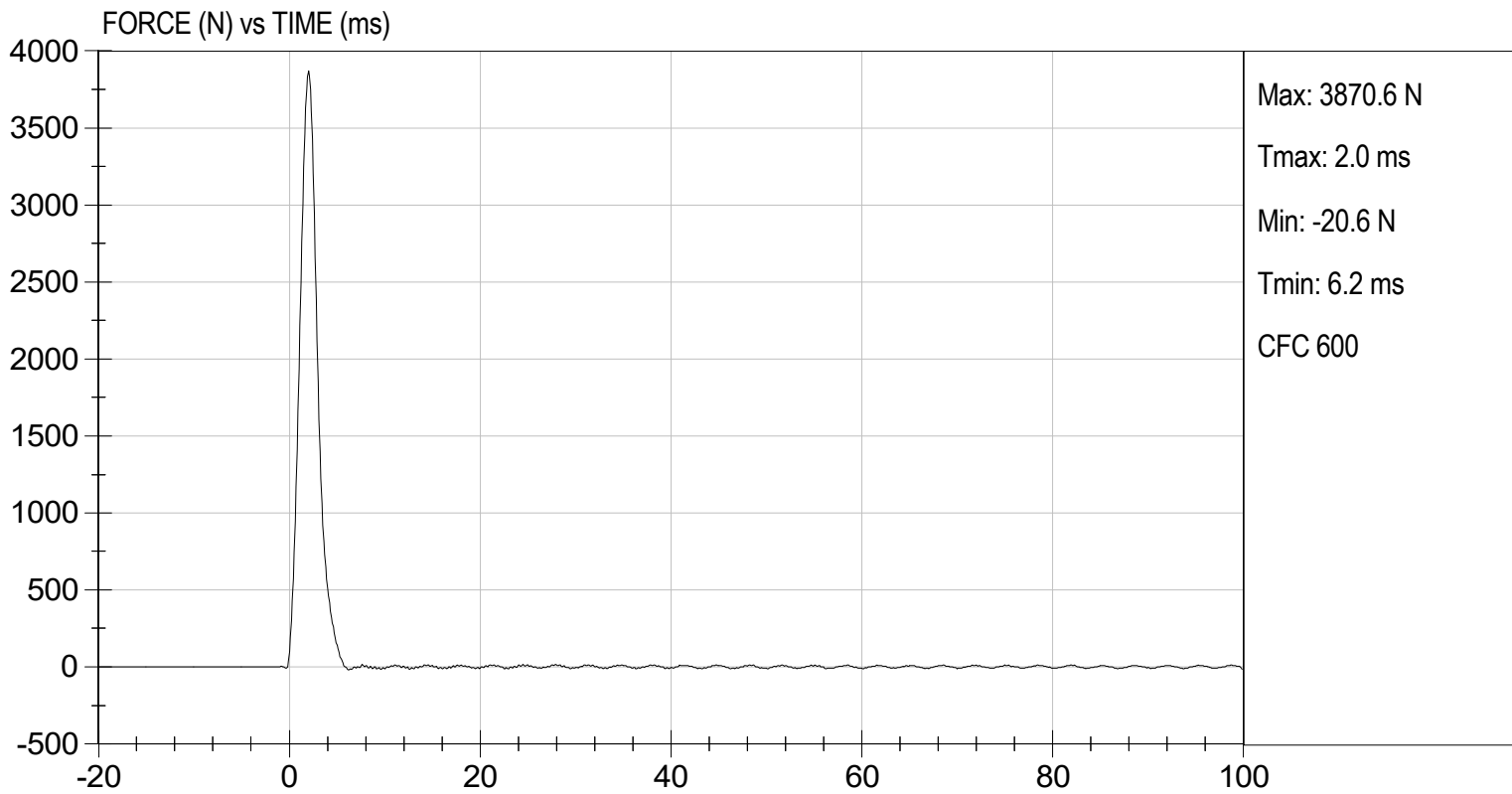
12/09/2024
Test Date


Approved By



TEST DESC: LEFT KNEE
VELOCITY: 6.97 ft/s, 2.12 m/s

TEST DATE: 12/09/2024
TEST #: D243126



MGA RESEARCH CORPORATION

TORSO FLEXION TEST

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

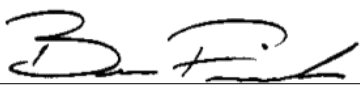
Test I.D: D243127

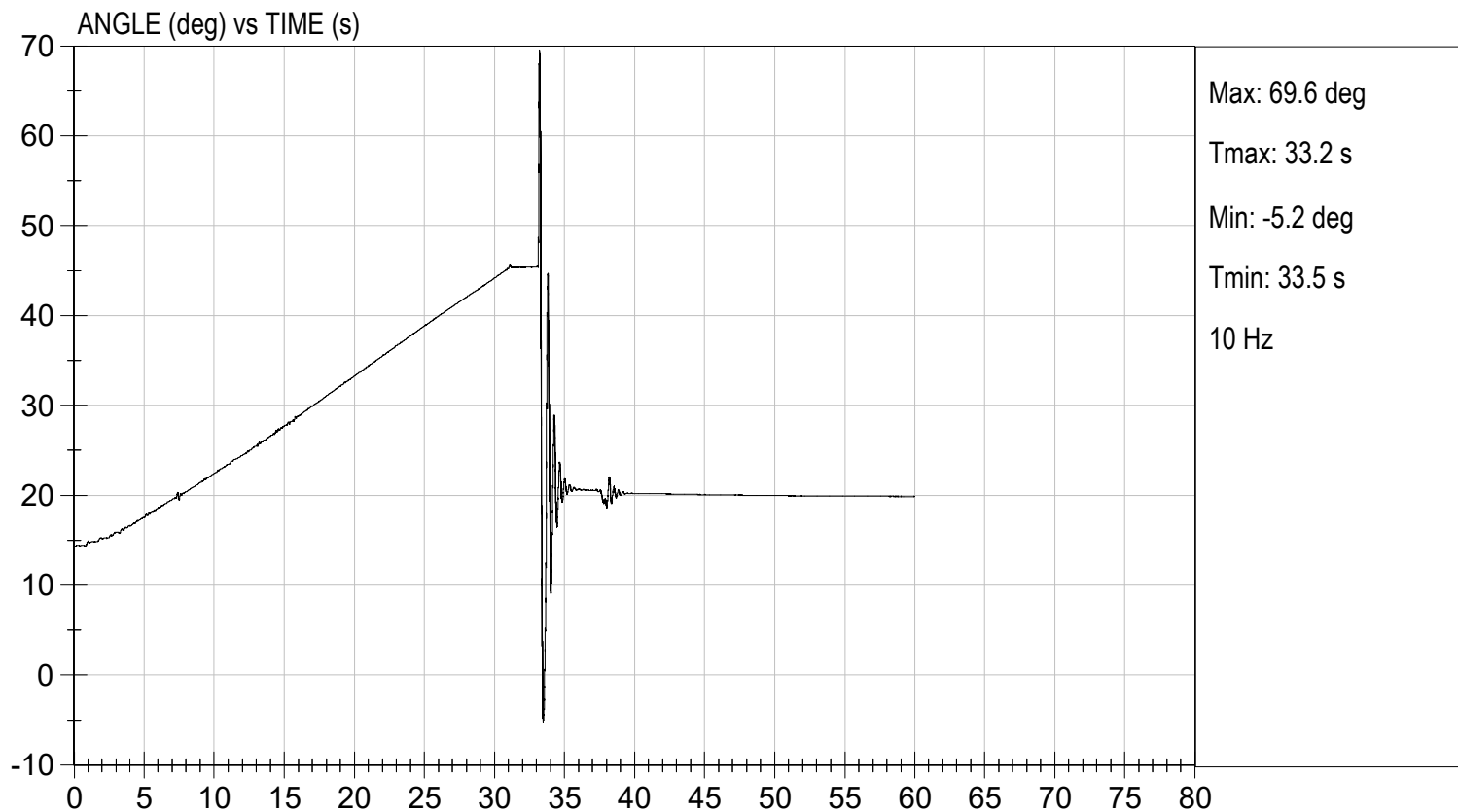
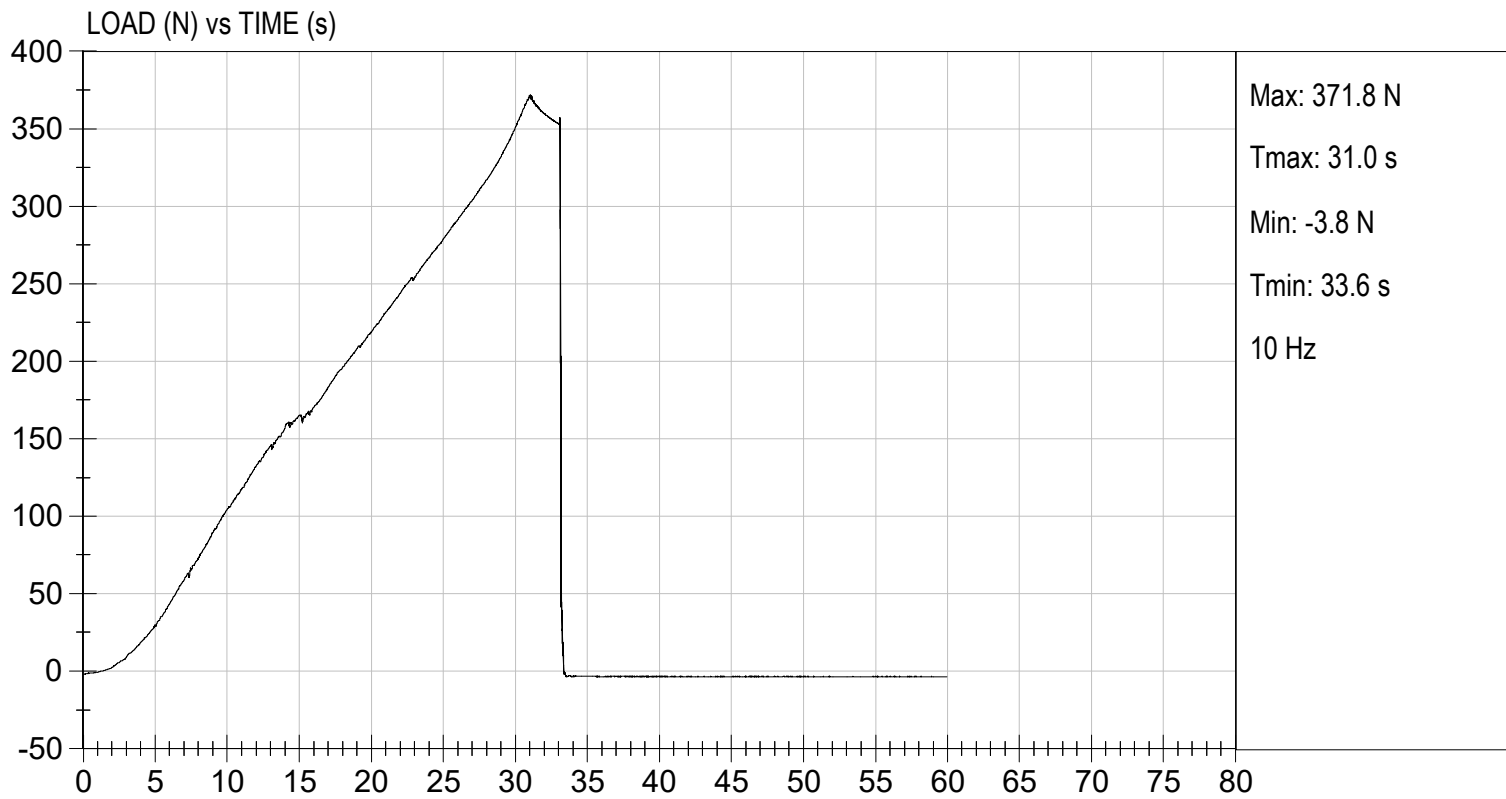
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	28	Pass
Initial Angle	deg	0 to 20	14	Pass
Return Angle	deg	+/- 8	6	Pass
Force at 45 deg	N	320 to 390	372	Pass
Upper Torso Deflection Rate	deg/s	0.5 to 1.5	1.1	Pass
Overall Result			Pass	


Laboratory Technician

12/09/2024

Test Date


Approved By



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	P82120	Endevco	11/19/2024
		Front	Z	P97382	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				
		Shoulder				

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	01/22/2024	
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	TG467	Denton	01/22/2024
		Lower	Mx, My, Fz	AG500	Denton	01/22/2024
	Left	Upper	Mx, My, Fz	TG478	Denton	01/22/2024
		Lower	Mx, My, Fz	AG491	Denton	01/22/2024
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				
		Shoulder				

TABLE 3 – VEHICLE INSTRUMENTATION

Instrument Location			Axis	Serial Number	Manufacturer	Calibration Date
Crossmember / Rear Seat Accelerometers	Left	Primary	X	T44156	Endevco	11/01/2024
			Z	T44168	Endevco	10/31/2024
		Redundant	X	T44133	Endevco	10/25/2024
	Right	Primary	X	T44158	Endevco	10/31/2024
			Z	T44151	Endevco	11/01/2024
		Redundant	X	T44155	Endevco	11/01/2024
Engine Accelerometers		Top	X	T40114	Endevco	10/30/2024
		Bottom	X	T43546	Endevco	10/10/2024