

REPORT NUMBER: NCAP-MGA-25-007

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

**FCA US LLC
2025 RAM 1500 Crew Cab 4x4 Truck
NHTSA No.: M20250302**

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



Test Date: December 13, 2024

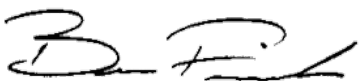
Final Report Date: January 27, 2024

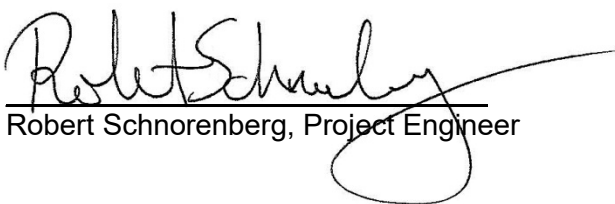
FINAL REPORT

**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: January 27, 2024

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: _____

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16. Abstract A 56.3 km/h NCAP Frontal Rigid Barrier Impact Test was conducted on a 2025 RAM 1500 Crew Cab 4x4 Truck in accordance with the specifications of the Office of Crashworthiness Standards Laboratory Procedure for NCAP Full Frontal Rigid Barrier Impact Testing. The test was conducted at MGA Research Corporation in Burlington, Wisconsin on December 13, 2024. The impact velocity of the vehicle was 56.57 km/h and the ambient temperature at the barrier face at the time of impact was 21.6°C. The target vehicle post-test maximum crush was 544 mm located to the left 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>189.343</td> <td>700</td> <td>225.573</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>31.536</td> <td>52</td> <td>9.649</td> </tr> <tr> <td>Nij</td> <td></td> <td>1</td> <td>0.375</td> <td>1</td> <td>0.615</td> </tr> <tr> <td>Neck Tension</td> <td>N</td> <td>4170</td> <td>1300.119</td> <td>2620</td> <td>729.802</td> </tr> <tr> <td>Neck Compression</td> <td>N</td> <td>4000</td> <td>140.242</td> <td>2520</td> <td>503.601</td> </tr> <tr> <td>Left Femur Force</td> <td>N</td> <td>10008</td> <td>1219.451</td> <td>6805</td> <td>1866.386</td> </tr> <tr> <td>Right Femur Force</td> <td>N</td> <td>10008</td> <td>2073.419</td> <td>6805</td> <td>596.908</td> </tr> </tbody> </table>						Measurement Description	Units	Driver ATD		Passenger ATD		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC ₁₅)		700	189.343	700	225.573	Maximum Chest Compression	mm	63	31.536	52	9.649	Nij		1	0.375	1	0.615	Neck Tension	N	4170	1300.119	2620	729.802	Neck Compression	N	4000	140.242	2520	503.601	Left Femur Force	N	10008	1219.451	6805	1866.386	Right Femur Force	N	10008	2073.419	6805	596.908
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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 RAM 1500 Crew Cab 4x4 Truck at a velocity of 56.57 km/h. The test was performed at MGA Research Corporation on December 13, 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 106 channels of data were recorded on a data acquisition system. Appendix B contains the dummy response data traces.

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

The maximum static crush of the vehicle was 544 mm located to the left of the vehicle centerline and both the driver and passenger side doors remained closed during the impact event and were operable after the impact.

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

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

The occupant data is summarized below:

ATD position	HIC₁₅	Nij	Neck Tension (N)	Neck Comp. (N)	3ms Chest Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver (50 th)	189.343	0.375	1300.119	140.242	37.169	31.536	1219.451	2073.419
Passenger (5 th)	225.573	0.615	729.802	503.601	42.423	9.649	1866.386	596.908

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

TEST NOTES

None.

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

SECTION 2
OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20250302	Traction Control System (TCS)	Yes
Model Year	2025	Power Steering	Yes
Make	RAM	Power Window Auto-Reverse	Yes
Model	1500 Crew Cab 4x4	Driver Frontal Airbag	Yes
Body Style	Truck	Driver Curtain Airbag	Yes
VIN	1C6SRFNP6SN551683	Driver Head/Torso Airbag	No
Body Color	Flame Red	Driver Torso Airbag	No
Odometer (km/mi)	98 km / 61 mi	Driver Torso/Pelvis Airbag	Yes
Engine Displacement (L)	3.0	Driver Pelvis Airbag	No
Type/No. Cylinders	Inline 6	Driver Knee Airbag	No
Engine Placement	Longitudinal	Front Pass. Frontal Airbag	Yes
Transmission Type	Automatic	Front Pass. Curtain Airbag	Yes
Transmission Speeds	8	Front Pass. Head/Torso Airbag	No
Overdrive	Yes	Front Pass. Torso Airbag	No
Final Drive	AWD	Front Pass. Torso/Pelvis Airbag	Yes
Roof Rack	No	Front Pass. Pelvis Airbag	No
Sunroof/T-Top	No	Front Pass. Knee Airbag	No
Running Boards	No	Driver Pretensioner	Yes
Tilt Steering Wheel	Yes	Driver Load Limiter	Yes
Power Seats	No	Front Pass. Pretensioner	Yes
Anti-Lock Brakes (ABS)	Yes	Front Pass. Load Limiter	Yes
Automatic Door Locks (ADLs)	Yes	Other	N/A

Does owner's manual provide instructions to turn off automatic door locks?	No
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DATA FROM CERTIFICATION LABEL

Manufactured By	FCA US LLC	GVWR (kg)	3221
Date of Manufacture	5-24	GAWR Front (kg)	1770
		GAWR Rear (kg)	1860

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench		
Designated Seating Capacity (DSC)	3	3		6
Capacity Weight (VCW) (kg)				758
Cargo Weight (RCLW) (kg)				136

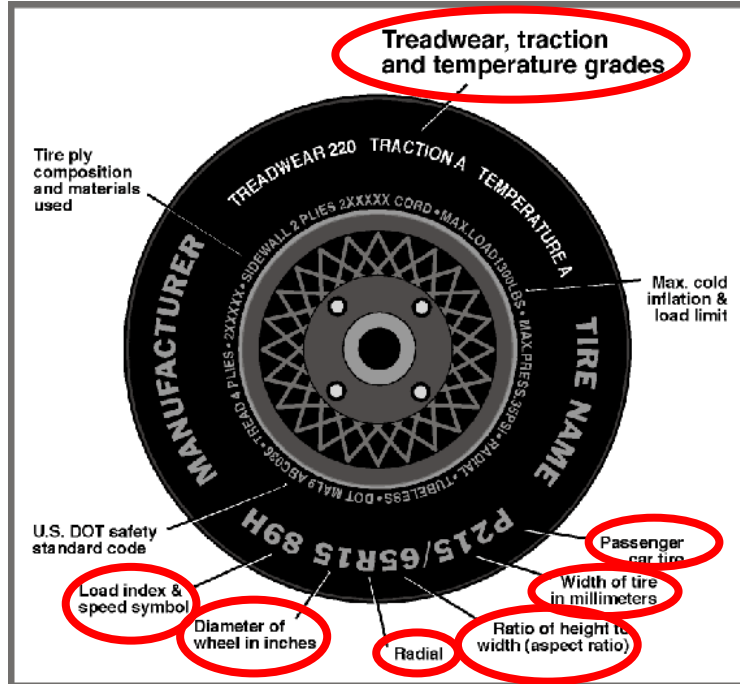
* Rated Cargo and Luggage Weight (RCLW) limited to maximum of 300 lbs (136 kg).

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	250	250
Recommended Tire Size	275/65R18	275/65R18
Tire Size on Vehicle	275/65R18	275/65R18
Tire Manufacturer	Goodyear	Goodyear
Tire Model	Wrangler	Wrangler
Treadwear	480	480
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	116T	116T
Tire Material	Rubber	Rubber
DOT Safety Code Left	14BYJ JK1R 1524	14BYJ JK1R 1524
DOT Safety Code Right	14BYJ JK1R 1524	14BYJ JK1R 1524

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
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 Test Date: 12/13/2024

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	751.5	515.0		782.5	620.0	
Right	kg	700.5	487.5		726.0	596.0	
Ratio	%	59.2%	40.8%		55.4%	44.6%	
Totals	kg	1452.0	1002.5	2454.5	1508.5	1216.0	2724.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2454.5
Weight of 1 P572E ATD & 1 P572O ATD	kg	141
Rated Cargo/Luggage Weight (RCLW)	kg	136
Calculated Test Vehicle Target Weight (TVTW)	kg	2731.5

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	937	948	998	1004	1595
As Tested	mm	916	925	963	975	1743
Post Test	mm	955	946	971	977	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	3906
Total Vehicle Length at Left Side	mm	5959
Total Vehicle Length at Centerline	mm	6124
Total Vehicle Length at Right Side	mm	5959
Weight of Ballast in Cargo Area	kg	73
Weight of Vehicle Components Removed	kg	0
Amount of Stoddard Solvent in Fuel Tank	L	116.2

List of components removed to meet test weight: None.

List of components removed for instrumentation, data box, and equipment installation: None.

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024

TARGET VEHICLE STRUCTURAL MEASUREMENT

	Elements	Pre-Test (mm)
1	Total Length	6124
2	Total Width	2033
3	Bumper Top Height	629
4	Bumper Bottom Height	437
5	Longitudinal Member Top Height	598
6	Distance between Longitudinal Members	768
7	Longitudinal Member Width	107
8	Engine Top Height	1079
9	Engine Bottom Height	286
10	Engine and Gearbox Width	268
11	Front Bumper-Engine Distance	764
12	Front Shock Absorber Fixing Height	745
13	Bonnet Leading Edge Height	1148
14	Front Shock Absorber Fixing Width	965
15	Front Bumper – Front Axle Distance	989
16	Front Axle – A-Pillar Distance	657
17	A-Pillar – B-Pillar Distance	1026
18	B-Pillar – Rear Axle Distance	2222
19	B-Pillar – C-Pillar Distance	1156
20	Roof Sill Bottom Height	1747
21	Roof Sill Top Height	1841
22	Floor Sill Bottom Height	338
23	Floor Sill Top Height	525

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

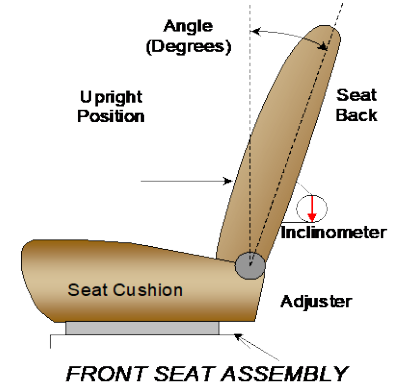
Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

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	2.2° on outboard headrest post
Passenger Seat Back Angle	-4.7° on outboard headrest post



SEAT FORE/AFT POSITIONS

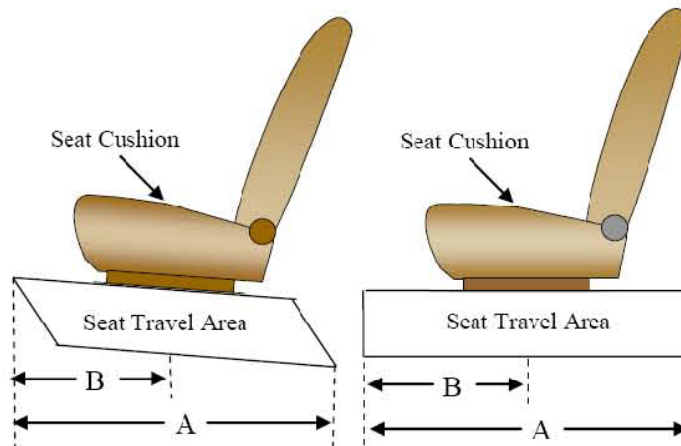
The driver and passenger seat fore/aft positions are adjusted following Appendix F, "Driver & Passenger Dummy Seating & Positioning Procedures" in the NCAP Test Procedure dated May 2018.

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

SEAT BELT UPPER ANCHORAGES

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

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



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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

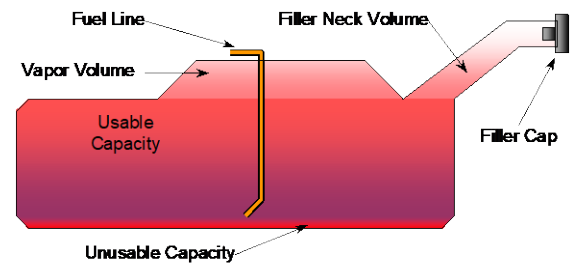
NHTSA No.: M20250302
 Test Date: 12/13/2024

FUEL TANK CAPACITY DATA

	Liters
Usable Capacity of "Standard Tank"	124.9
Usable Capacity of "Optional Tank"	
92-94% of Usable Capacity	114.9 to 117.4
Actual Amount of Solvent used	116.2
1/3 of Usable Capacity	41.6

FUEL PUMP

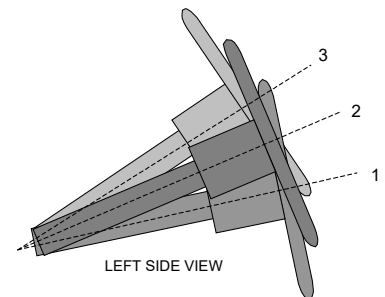
The vehicle is equipped with an electronic fuel pump. The fuel pump will run when the engine is running. The pump will also briefly run when the ignition key is turned to the "on" position. The filler neck is located on the driver's side.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

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



STEERING COLUMN ASSEMBLY

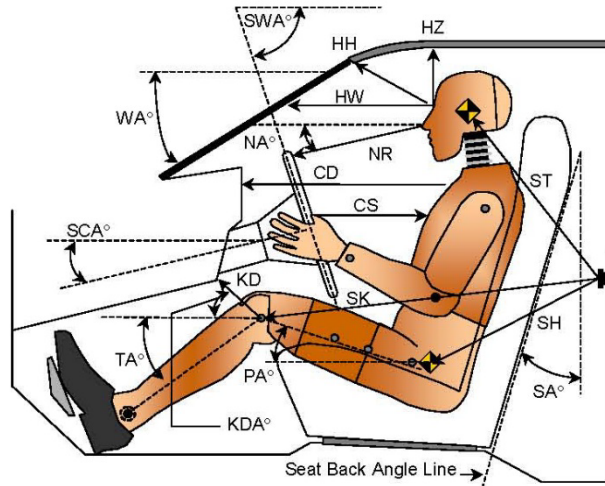
STEERING COLUMN POSITION

	Degrees	Fore/Aft Position (mm)
Lowermost Position 1	69.6	
Geometric Center Position 2	67.1	
Uppermost Position 3	64.5	
Telescoping Steering Wheel Travel		63
Test Position	67.1	32

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024



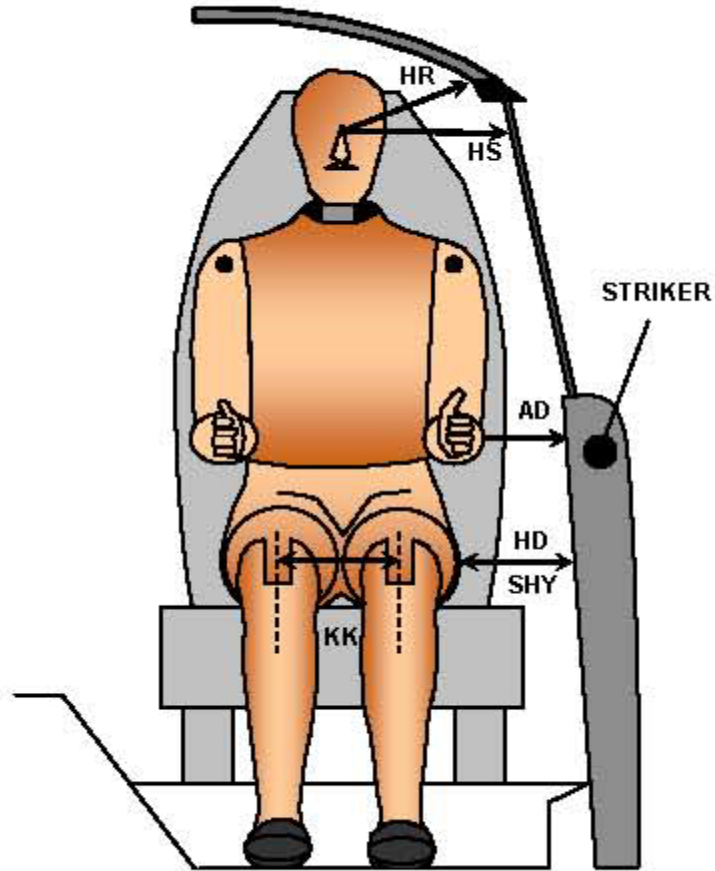
LEFT SIDE VIEW

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		31.8		
SWA°	Steering Wheel Angle		67.1		
SCA°	Steering Column Angle		22.9		
SA°	Seat Back Angle		2.2		-4.7
HZ	Head to Roof (Z)	204	90	222	90
HH	Head to Header	462	18.7	367	41.4
HW	Head to Windshield	717	0	683	0
NR	Nose to Rim	418	14.5		
CD	Chest to Dash	563		387	
CS	Chest to Steering Hub	334	12.8		
RA	Rim to Abdomen	200	0		
KDL	Left Knee to Dash	150	16.9	78	62.4
KDR	Right Knee to Dash	111	24.5	68	33.8
PA°	Pelvic Angle		23.5		19.5
TA°	Tibia Angle		43.3		56.2
SK	Striker to Knee	584	98.0	686	93.2
ST	Striker to Head	647	6.3	600	23.2
SH	Striker to H-Point	200	93.6	351	91.4

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024



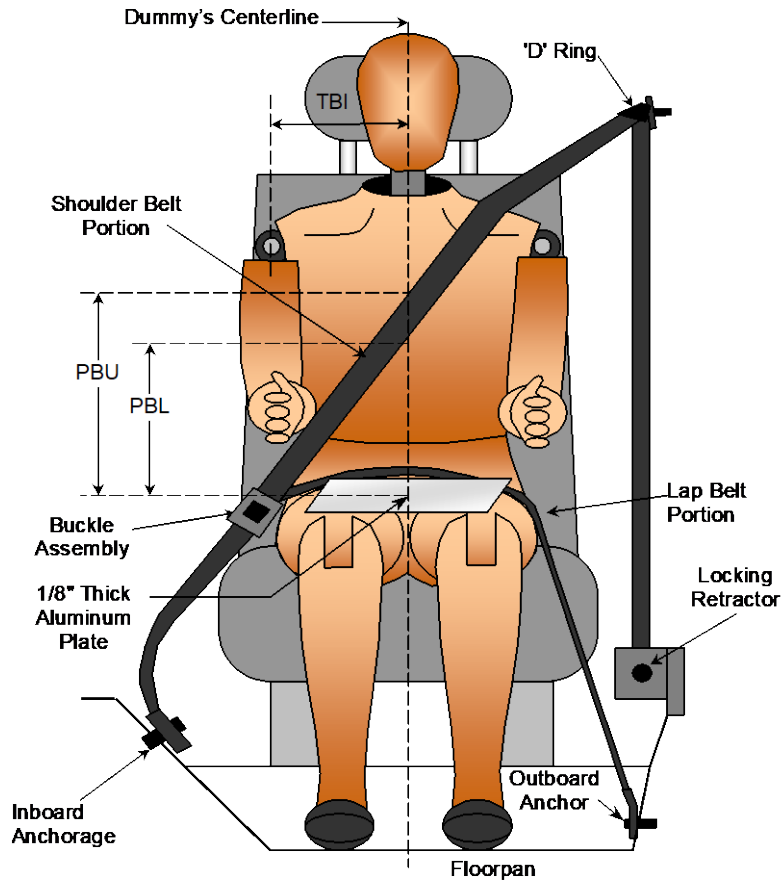
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver	Passenger
AD	Arm to Door	mm	120	98
HD	H-Point to Door	mm	137	179
HR	Head to Side Header	mm	204	261
HS	Head to Side Window	mm	326	347
KK	Knee to Knee	mm	376	222
SHY	Striker to H-Point (Y Direction)	mm	234	275
AA	Ankle to Ankle	mm	373	162

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU - Top surface of reference to belt upper edge	mm	360	280
PBL - Top surface of reference to belt lower edge	mm	270	170

BELT LENGTH DATA

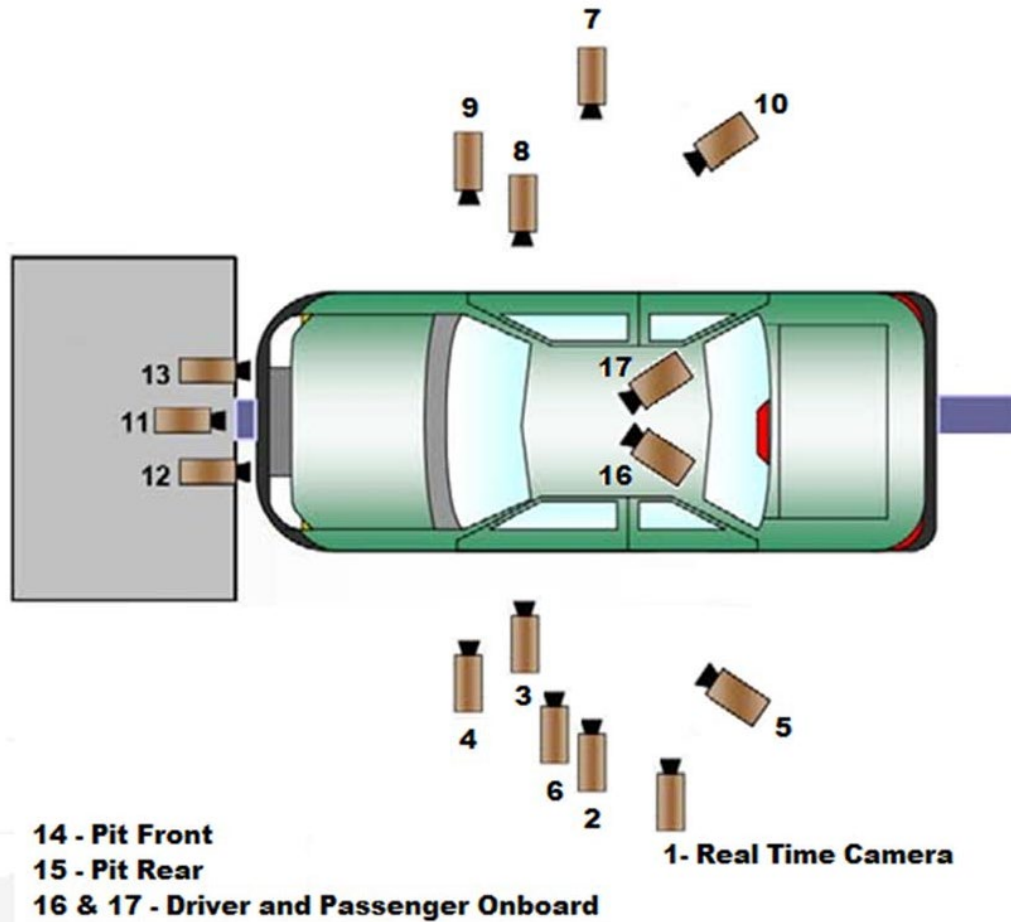
Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as measured on ATD	mm	825	932
Lap Belt Length as measured on ATD	mm	780	830
Remainder of belt on reel	mm	235	78
Total Belt Length for Continuous Webbing Systems	mm	2520	2520

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024

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 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

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CAMERA LOCATIONS

No.	Camera View	Coordinates* (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall					30
2	Left Overall	-3055	-6205	-1545	12	1000
3	Driver Close-Up	-2415	-6690	-2180	50	1000
4	Left Front Half	-1360	-5900	-1600	24	1000
5	Left Angle	-7310	-5780	-2180	75	1000
6	Steering Column	-1175	-7095	-1260	50	1000
7	Right Overall	-2895	5495	-1530	12	1000
8	Passenger Close-Up	-2040	6355	-2250	50	1000
9	Right Front Half	-1500	5725	-1655	24	1000
10	Right Angle	-7470	5500	-2065	75	1000
11	Windshield	160	0	-2310	12	1000
12	Driver Windshield	190	-370	-2230	25	1000
13	Passenger Windshield	190	370	-2230	25	1000
14	Pit Front	-985	0	3340	24	1000
15	Pit Rear	-3215	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

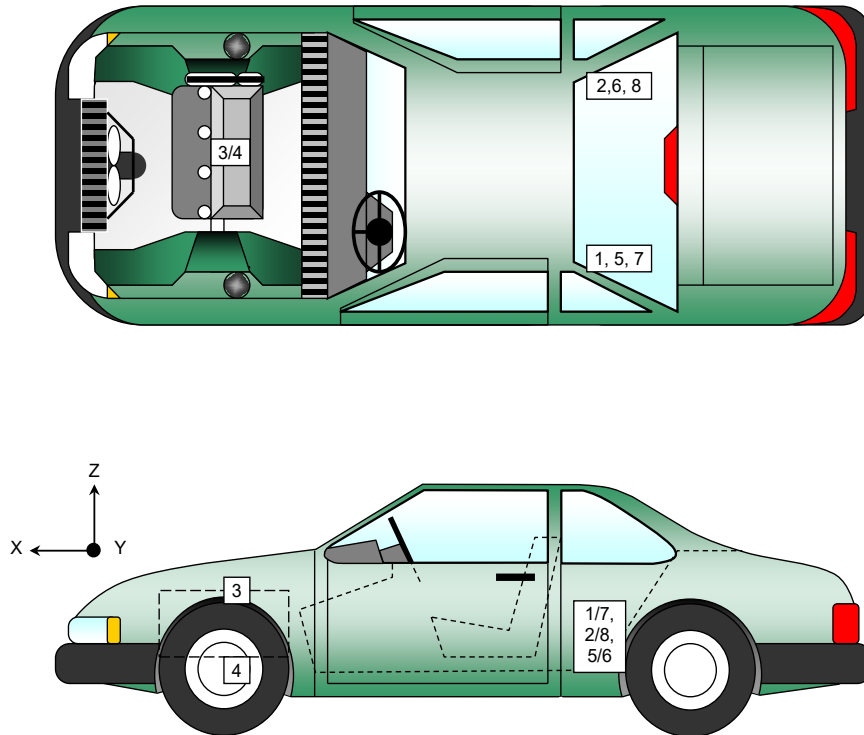
+Y = right of monorail centerline

+Z = below ground level

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Left Rear Crossmember Accelerometer – X Direction	2647	-527	-609
2	Right Rear Crossmember Accelerometer – X Direction	2644	559	-619
3	Engine Top X	5238	126	-1022
4	Engine Bottom X	4888	-50	-330
5	Left Rear Crossmember Accelerometer – Z Direction	2647	-527	-609
6	Right Rear Crossmember Accelerometer – Z Direction	2644	559	-619
7	Left Rear Crossmember Accelerometer Redundant – X Direction	2647	-527	-609
8	Right Rear Crossmember Accelerometer Redundant – X Direction	2644	559	-619

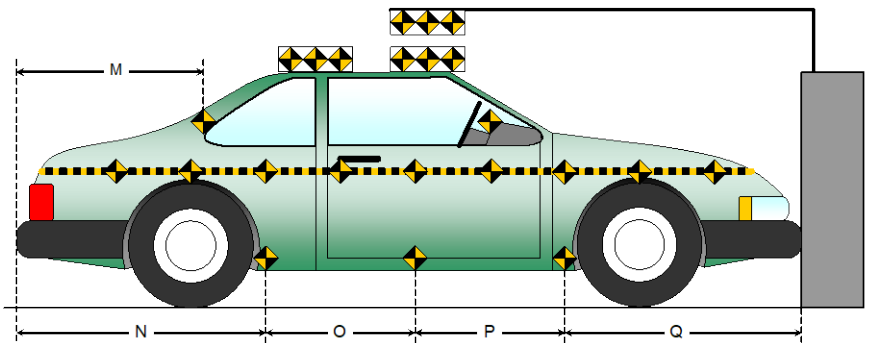
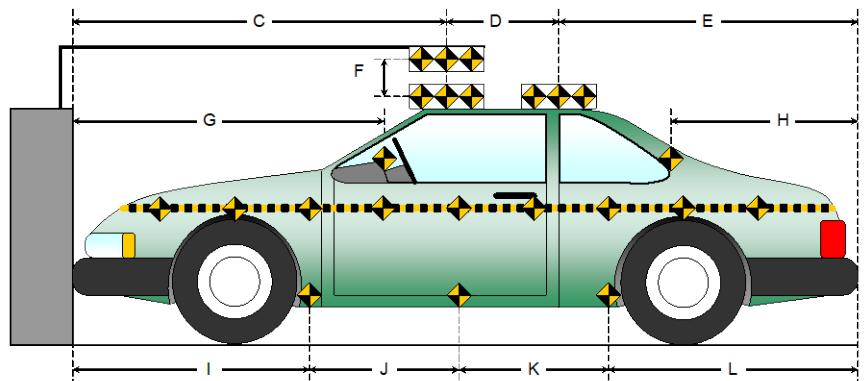
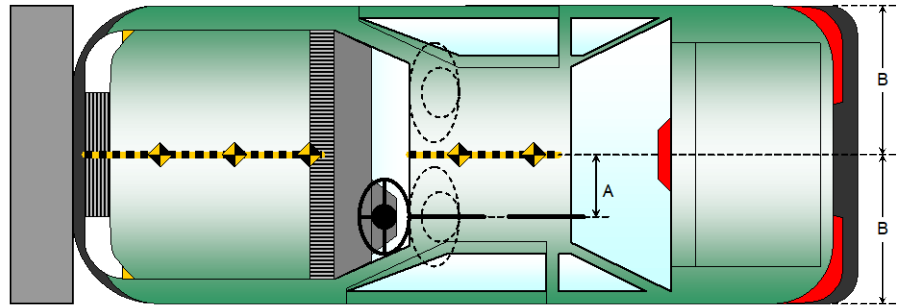
Reference Points: X - Rear Surface of Vehicle (+ forward)
Y - Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

Item	Value (mm)
A	479
B	1016
C	2516
D	610
E	2998
F	94
G	
H	2332
I	1536
J	1151
K	1137
L	2300
M	2334
N	2311
O	1142
P	1136
Q	1536



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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

ADVANCED RESEARCH LOAD CELL BARRIER

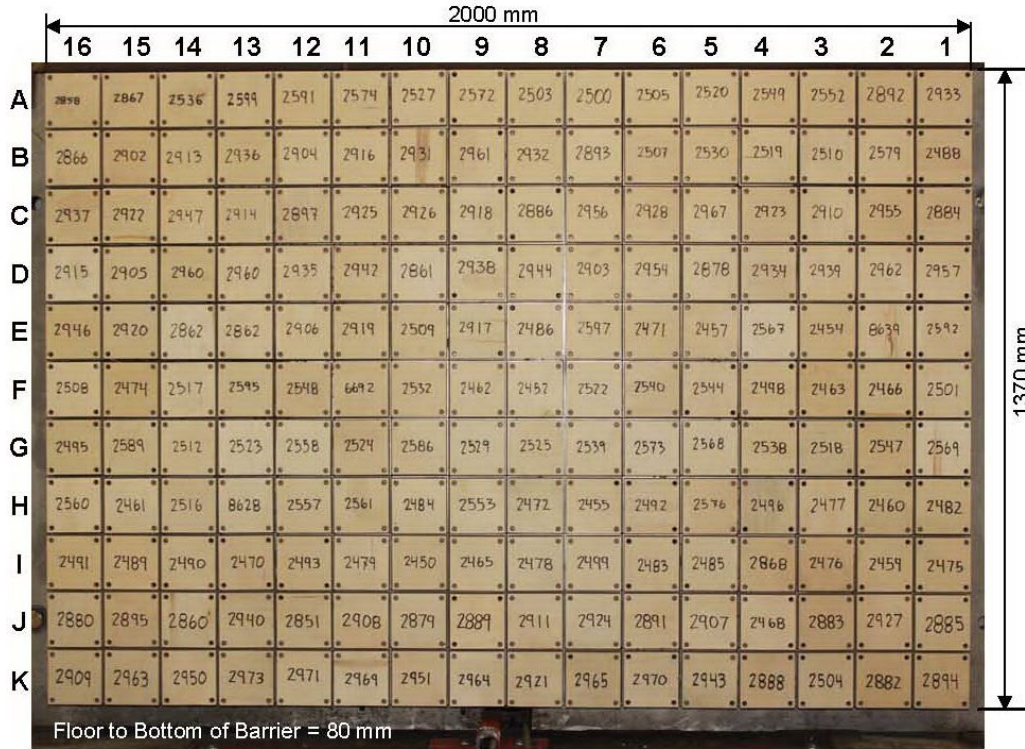


Photo for Reference Only

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 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024

INSTRUMENTATION

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

CAMERA COVERAGE

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

DATA SHEET NO. 11
POST-TEST OBSERVATIONS

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024

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	Knee Bolster	Glove Box
Right Knee Contact	Knee Bolster	Glove Box

DOOR OPENING, TRUNK OPENING, AND SEAT TRACK INFORMATION

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

OTHER VEHICLE POST-TEST OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	Cracked on passenger side by windshield wiper
Window Damage	None
Other Notable Effects	None

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	241
Center	mm	243
Right Side	mm	270
Average	mm	251

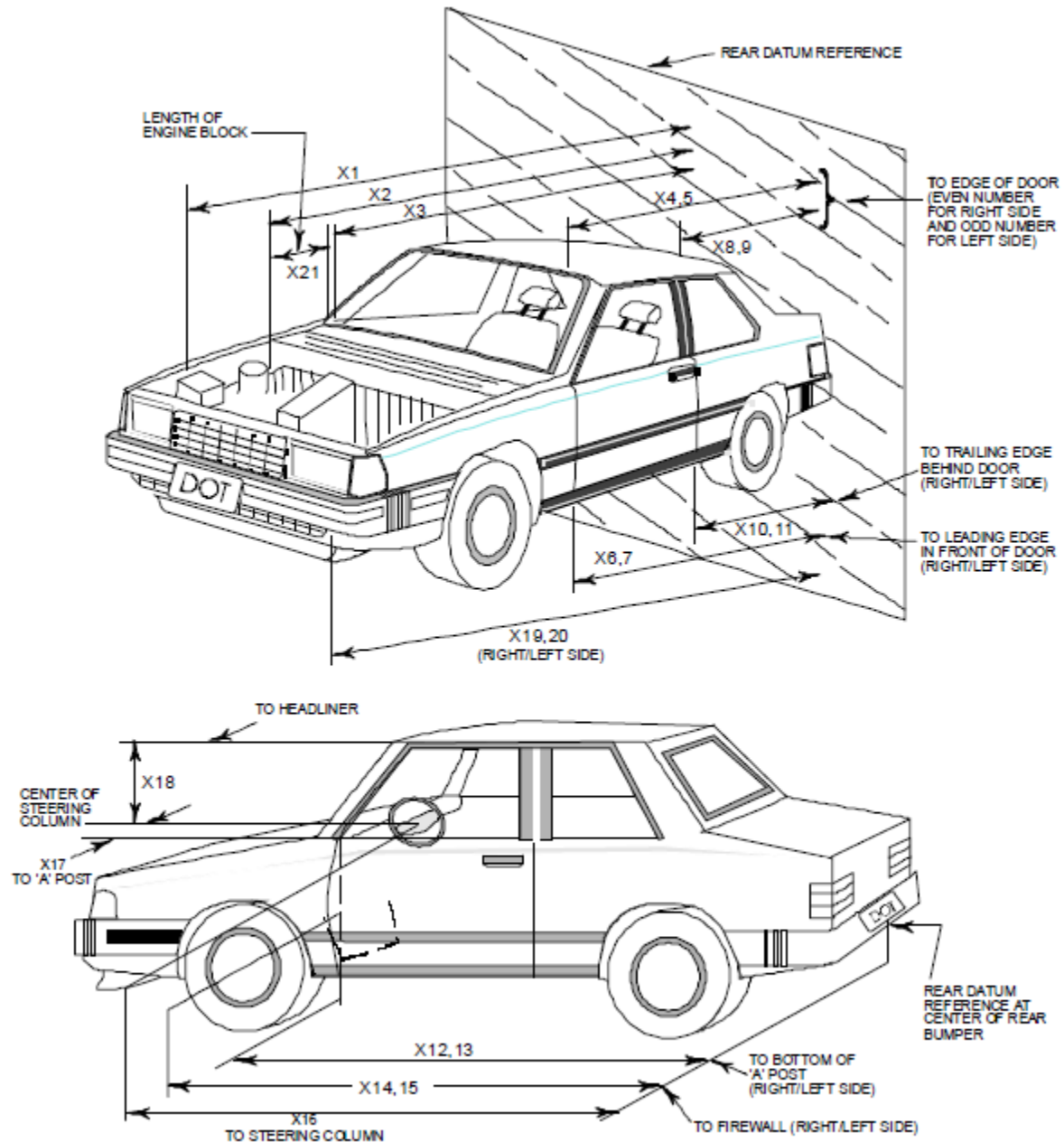
SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

DATA SHEET NO. 12
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024



DATA SHEET NO. 12 (CONTINUED)
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024

No.	Measurement Description	Pre-Test	Post-Test	Change
1	Total Length of Vehicle at Centerline	6124	5577	-547
2	RSOV to Front of Engine	5360	5282	-78
3	RSOV to Firewall	4982	4989	7
4	RSOV to Upper Leading Edge of Right Door	4566	4577	11
5	RSOV to Upper Leading Edge of Left Door	4566	4576	10
6	RSOV to Lower Leading Edge of Right Door	4496	4509	13
7	RSOV to Lower Leading Edge of Left Door	4495	4509	14
8	RSOV to Upper Trailing Edge of Right Door	3432	3444	12
9	RSOV to Upper Trailing Edge of Left Door	3429	3443	14
10	RSOV to Lower Trailing Edge of Right Door	3428	3442	14
11	RSOV to Lower Trailing Edge of Left Door	3428	3441	13
12	RSOV to Bottom of "A" Post of Right Side	4588	4600	12
13	RSOV to Bottom of "A" Post of Left Side	4588	4600	12
14	RSOV to Firewall, Right Side	4949	4961	12
15	RSOV to Firewall, Left Side	4901	4915	14
16	RSOV to Steering Column	4043	4166	123
17	Center of Steering Column to "A" Post	225	225	0
18	Center of Steering Column to Headliner	482	511	29
19	RSOV to Right Side of Front Bumper	5959	5565	-394
20	RSOV to Left Side of Front Bumper	5959	5564	-395
21	Length of Engine Block	554	554	0
RD	RSOV to Right Side of Dash Panel	4334	4350	16
CD	RSOV to Center of Dash Panel	4408	4428	20
LD	RSOV to Left Side of Dash Panel	4334	4354	20

All dimensions in mm

DATA SHEET NO. 13
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
Test Date: 12/13/2024

VEHICLE INFORMATION

VIN: 1C6SRFNP6SN551683
Vehicle Size Category: Truck

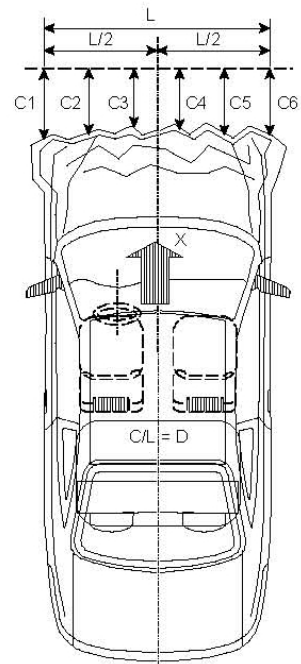
Wheelbase (mm): 3906
Test Weight (kg): 2724.5

ACCELEROMETER DATA

Accelerometer Locations: As per Data Sheet No. 7
Cal. Procedure/Interval: MGA Procedure / 6 month
Integration Algorithm: Trapezoidal
Linearity: > 99%
Impact Velocity (km/h): 56.57
Velocity Change (km/h): 62.6
Time of Separation (msec) 123

CRUSH PROFILE

Collision Deformation Classification: 12FDEW3
Midpoint of Damage: Centerline
Damage Region Length (mm): 1585
Impact Mode: Frontal



No.	Measurement Description	Units	Pre-Test	Post-Test	Exterior Crush
C1	Crush zone 1 at left side	mm	1041	1436	395
C2	Crush zone 2 at left side	mm	919	1432	513
C3	Crush zone 3 at left side	mm	880	1424	544
C4	Crush zone 4 at right side	mm	881	1424	543
C5	Crush zone 5 at right side	mm	920	1422	502
C6	Crush zone 6 at right side	mm	1041	1435	394
L	C1 TO C6	mm	1585	1617	-32

DATA SHEET NO. 14
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
Test Program: NCAP Frontal Barrier Impact Test

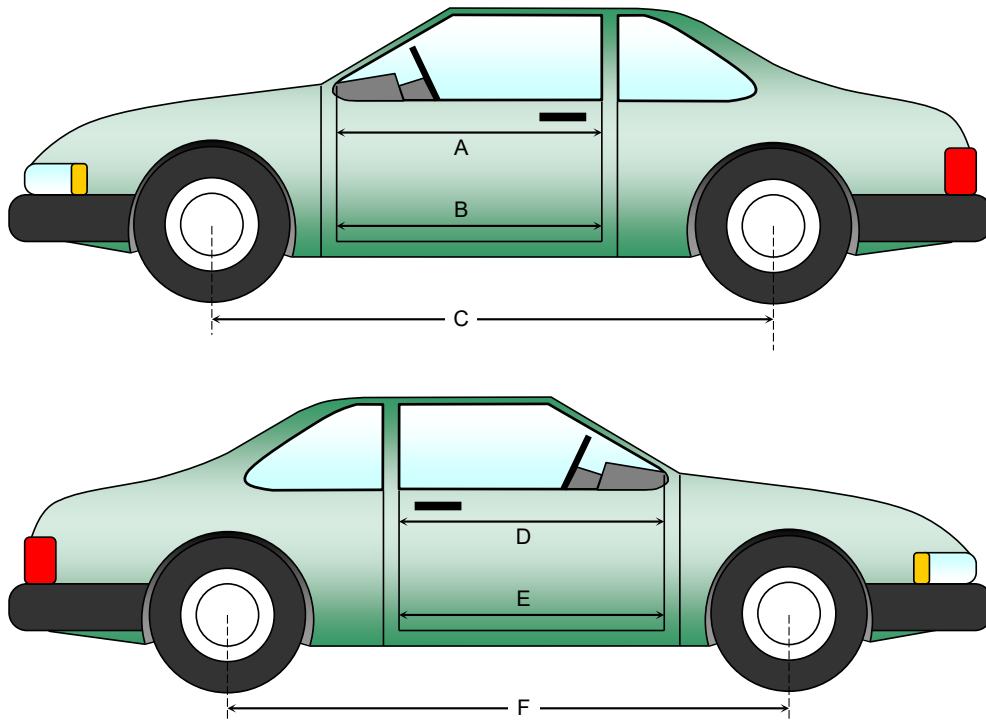
NHTSA No.: M20250302
Test Date: 12/13/2024

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Change
A	Left Side Upper	mm	989	989	0
B	Left Side Lower	mm	920	921	1
D	Right Side Upper	mm	989	988	-1
E	Right Side Lower	mm	912	912	0

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Change
C	Left Side Wheelbase	mm	3906	3858	-48
F	Right Side Wheelbase	mm	3906	3871	-35



DATA SHEET NO. 14 (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

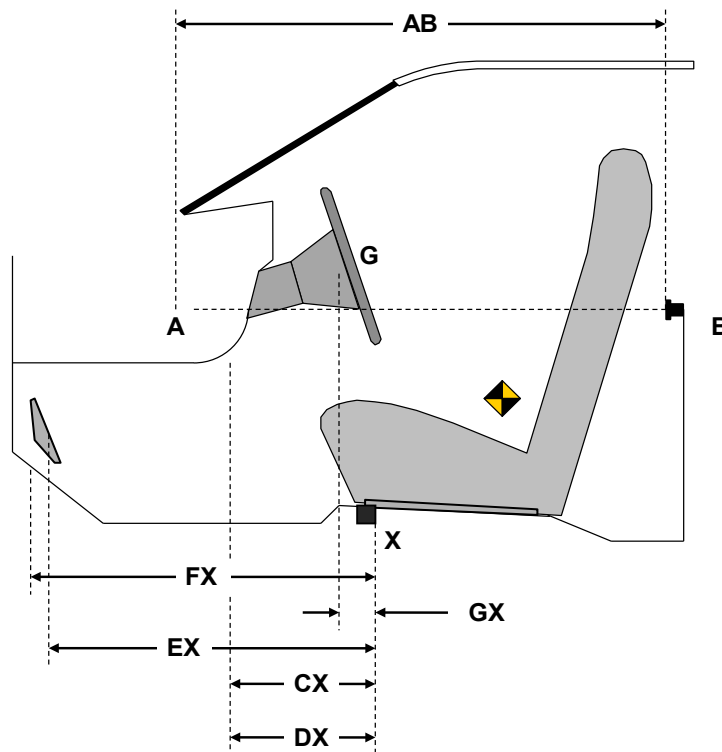
Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Change
AB	Door Opening (Inside Window Jam)	mm	727	726	-1
CX	Left Knee Bolster to X	mm	272	310	38
DX	Right Knee Bolster to X	mm	249	269	20
EX	Brake Pedal to X	mm	523	501	-22
FX	Foot Rest to X	mm	554	555	1
GX	Center of Steering Column Wheel Hub to X	mm	40	148	108

X = Front of Seat Track (stationary)



DRIVER COMPARTMENT

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

WINDSHIELD MOUNTING DETAILS

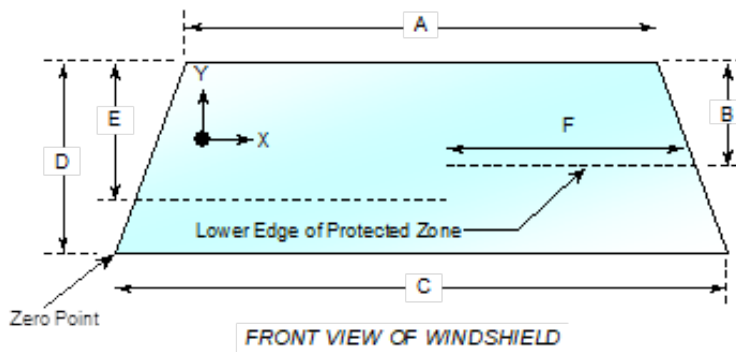
Windshield glass is secured to the vehicle frame with a rubber trim and glue.

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: 21.6°C.

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% of Retention
Left Side	2349	2349	100
Right Side	2349	2349	100
Total	4698	4698	100



Item	Units	Value
A	mm	1416
B	mm	411
C	mm	1550
D	mm	866
E	mm	492
F	mm	600

AREA OF PROTECTED ZONE FAILURES

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

X	Y

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

X	Y

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

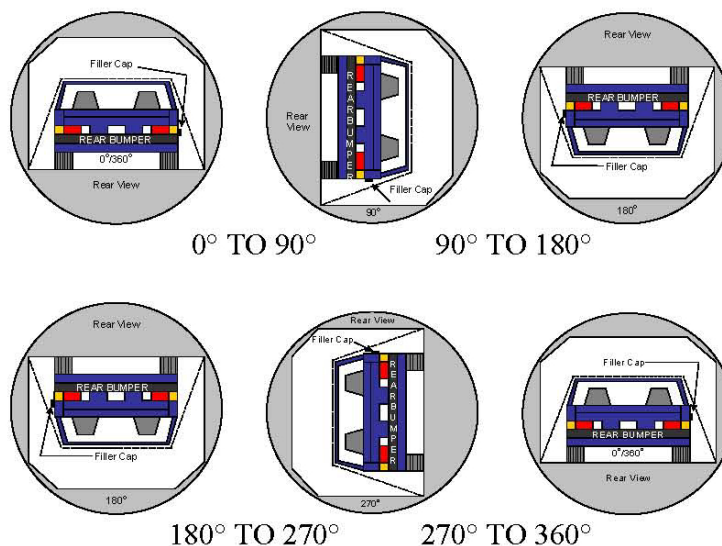
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 21.6°C

Test Time: 11:23 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°	92	300	392
90° to 180°	90	300	390
180° to 270°	87	300	387
270° to 360°	91	300	391

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

Test Vehicle: 2025 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024

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	

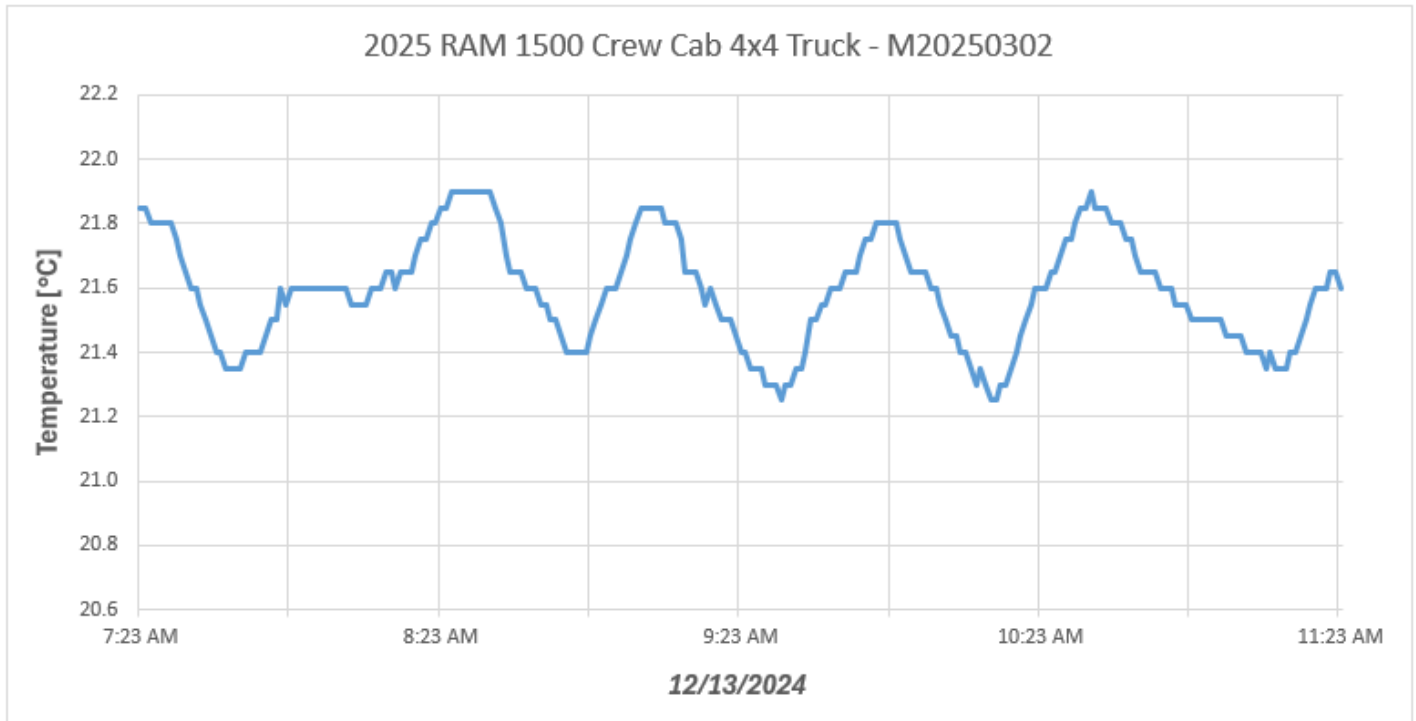
SOLVENT SPILLAGE LOCATION TABLE

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 RAM 1500 Crew Cab 4x4 Truck
 Test Program: NCAP Frontal Barrier Impact Test

NHTSA No.: M20250302
 Test Date: 12/13/2024



Serial #	Description	Maximum	Average	Minimum	Units
W1443497	VSC Start Room A - Temp (1038)	21.90	21.59	21.25	°C

APPENDIX A
PHOTOGRAPHS

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PHOTOGRAPH NOT APPLICABLE

Photo No. 001 - Load Cell Location

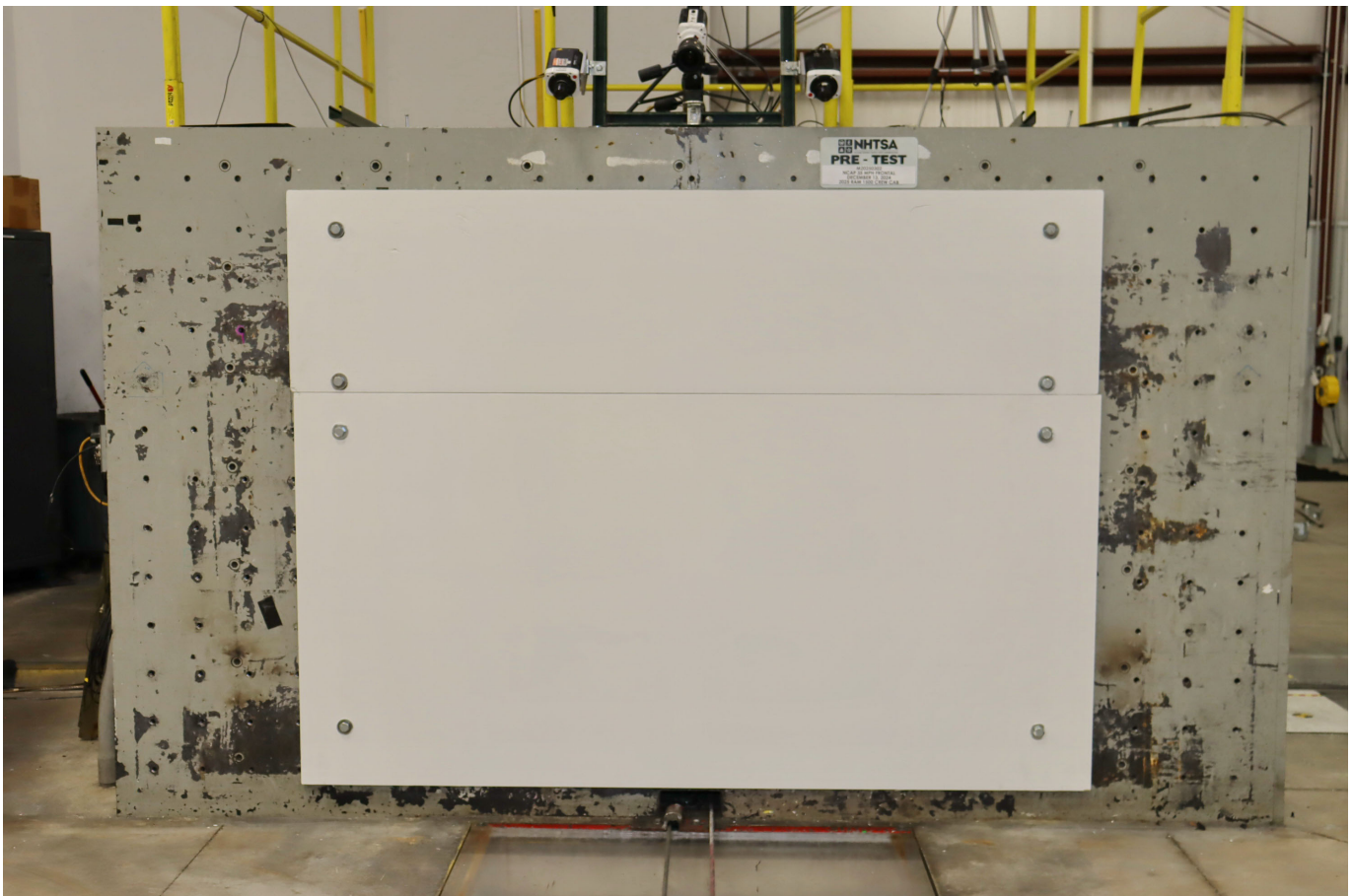


Photo No. 002 - Pre-Test Load Cell Wall

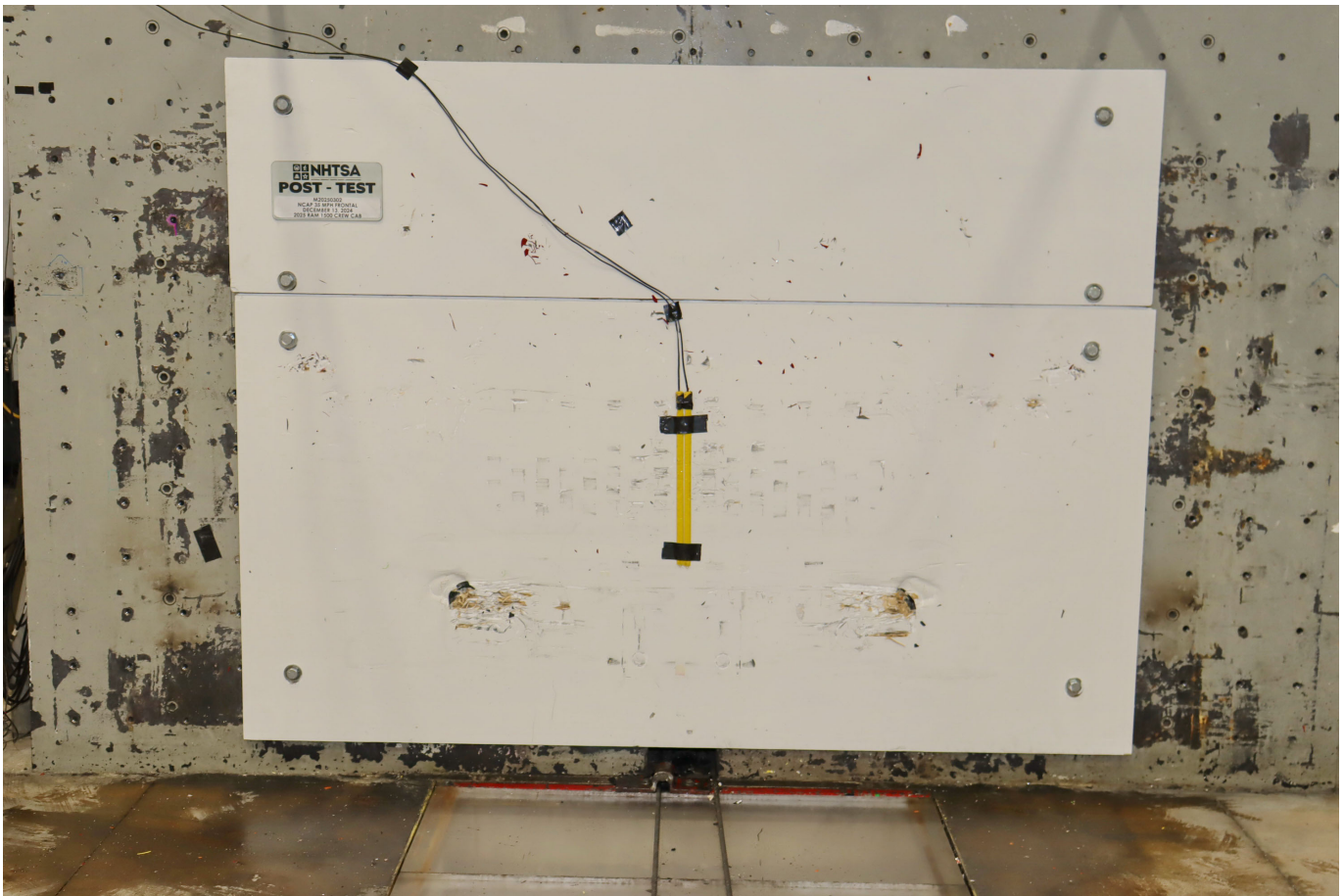


Photo No. 003 - Post-Test Load Cell Wall



Photo No. 004 - Manufacturer's Label



Photo No. 005 - Tire Placard



Photo No. 006 - 2025 RAM 1500 Crew Cab 4x4 Truck Frontal As Delivered



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



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



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



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



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



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



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



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



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



Photo No. 018 - Pre-Test Windshield View

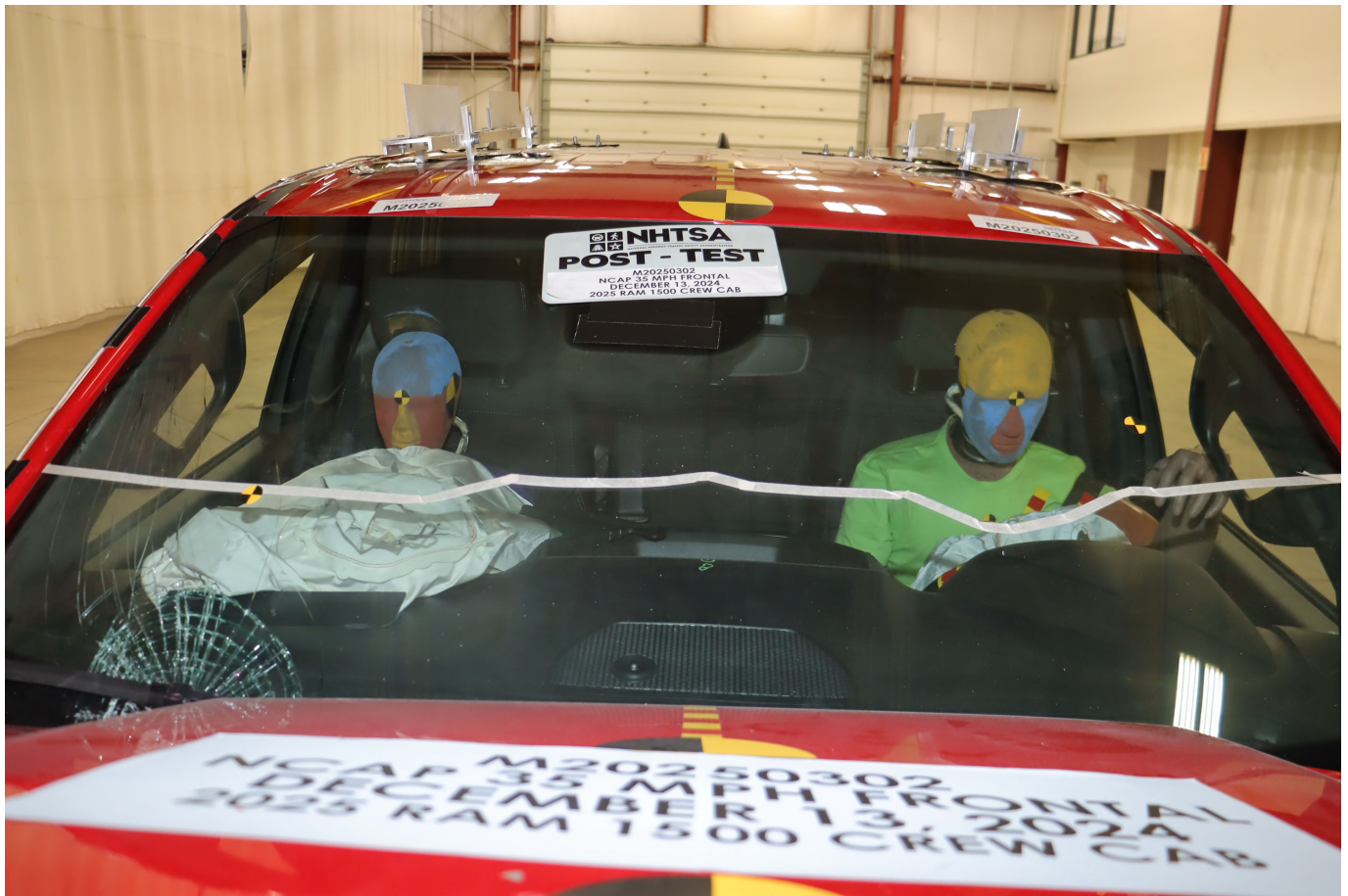


Photo No. 019 - Post-Test Windshield View



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

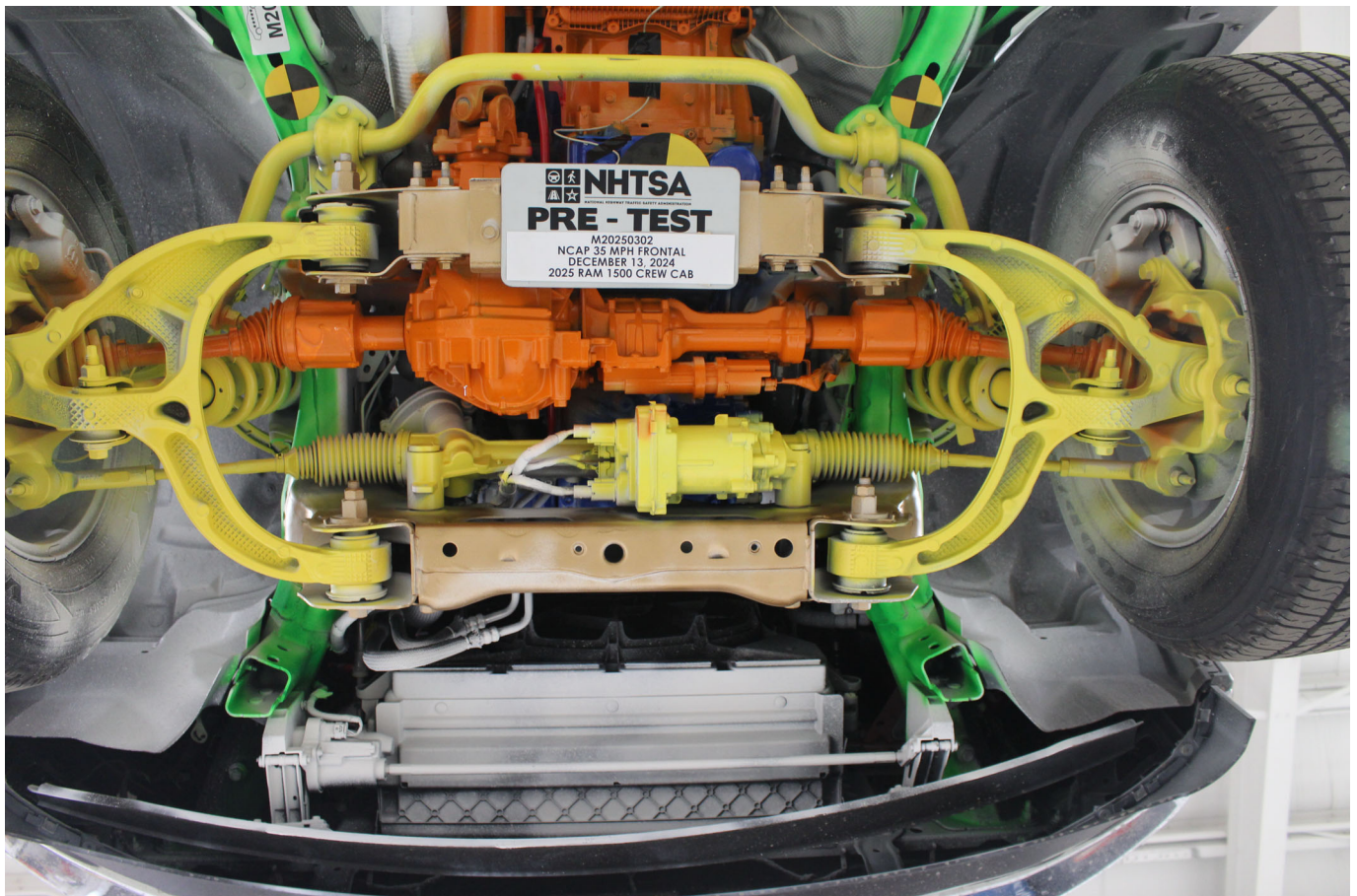


Photo No. 024 - Pre-Test Front Underbody View

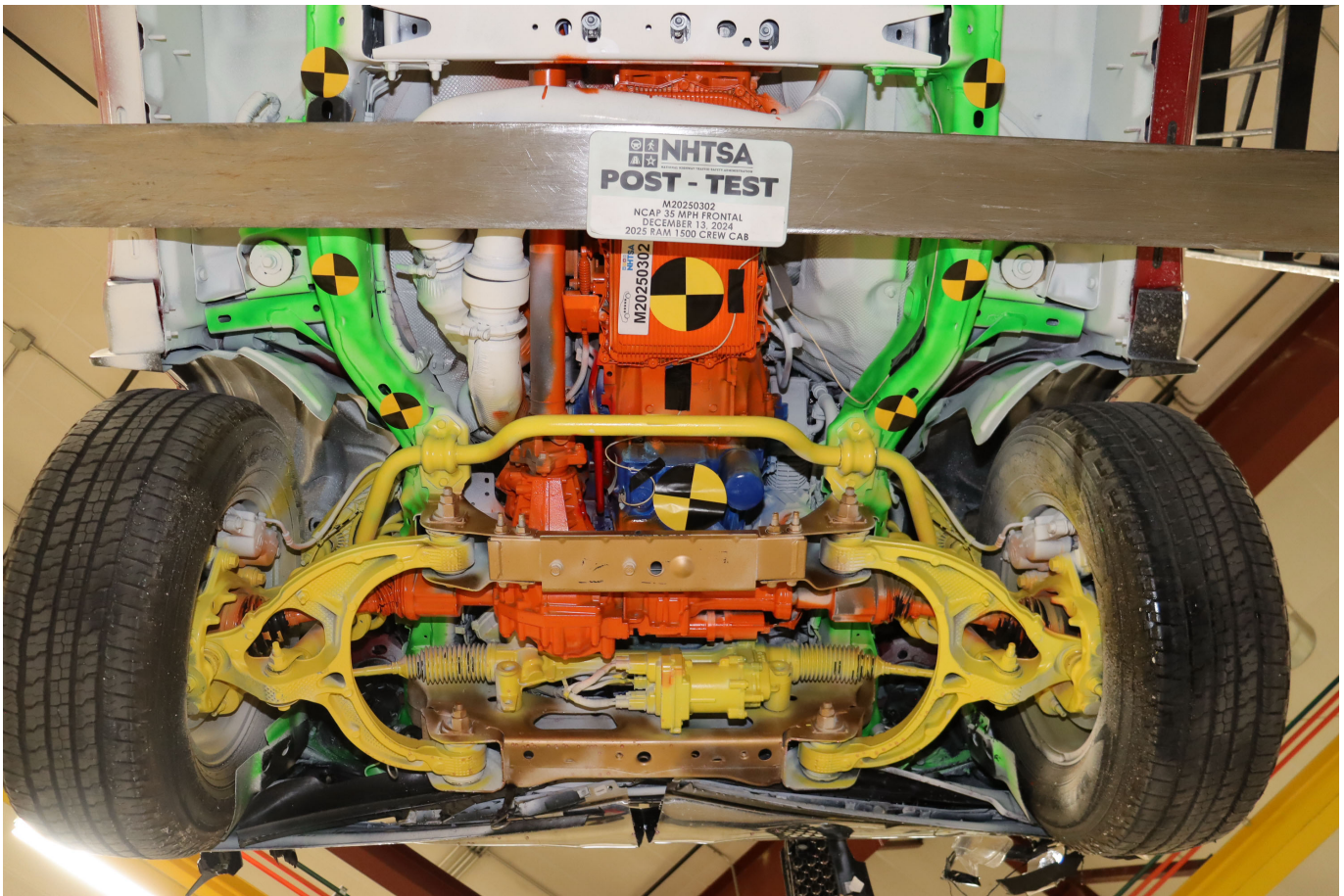


Photo No. 025 - Post-Test Front Underbody View



Photo No. 026 - Pre-Test Rear Underbody View

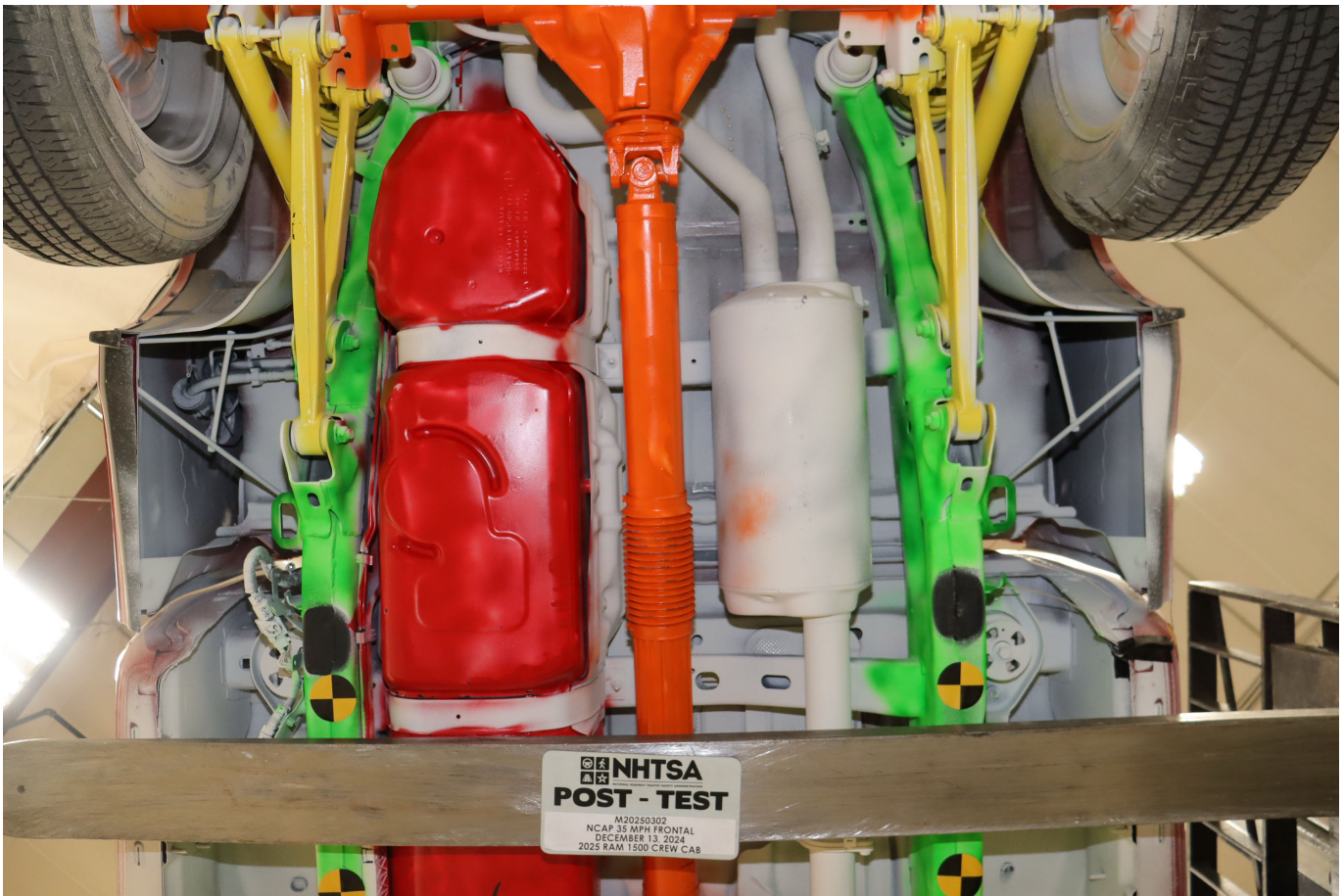


Photo No. 027 - Post-Test Rear Underbody View



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

PHOTOGRAPH NOT AVAILABLE

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



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



Photo No. 048 - Post-Test Driver Dummy Face



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



Photo No. 065 - Pre-Test Passenger Dummy Feet



Photo No. 066 - Post-Test Passenger Dummy Feet



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



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

PHOTOGRAPH NOT AVAILABLE

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



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



Photo No. 071 - Post-Test Passenger Dummy Face



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



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



Photo No. 074 - Photograph of Ballast Installed in Vehicle

PHOTOGRAPH NOT APPLICABLE

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



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



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

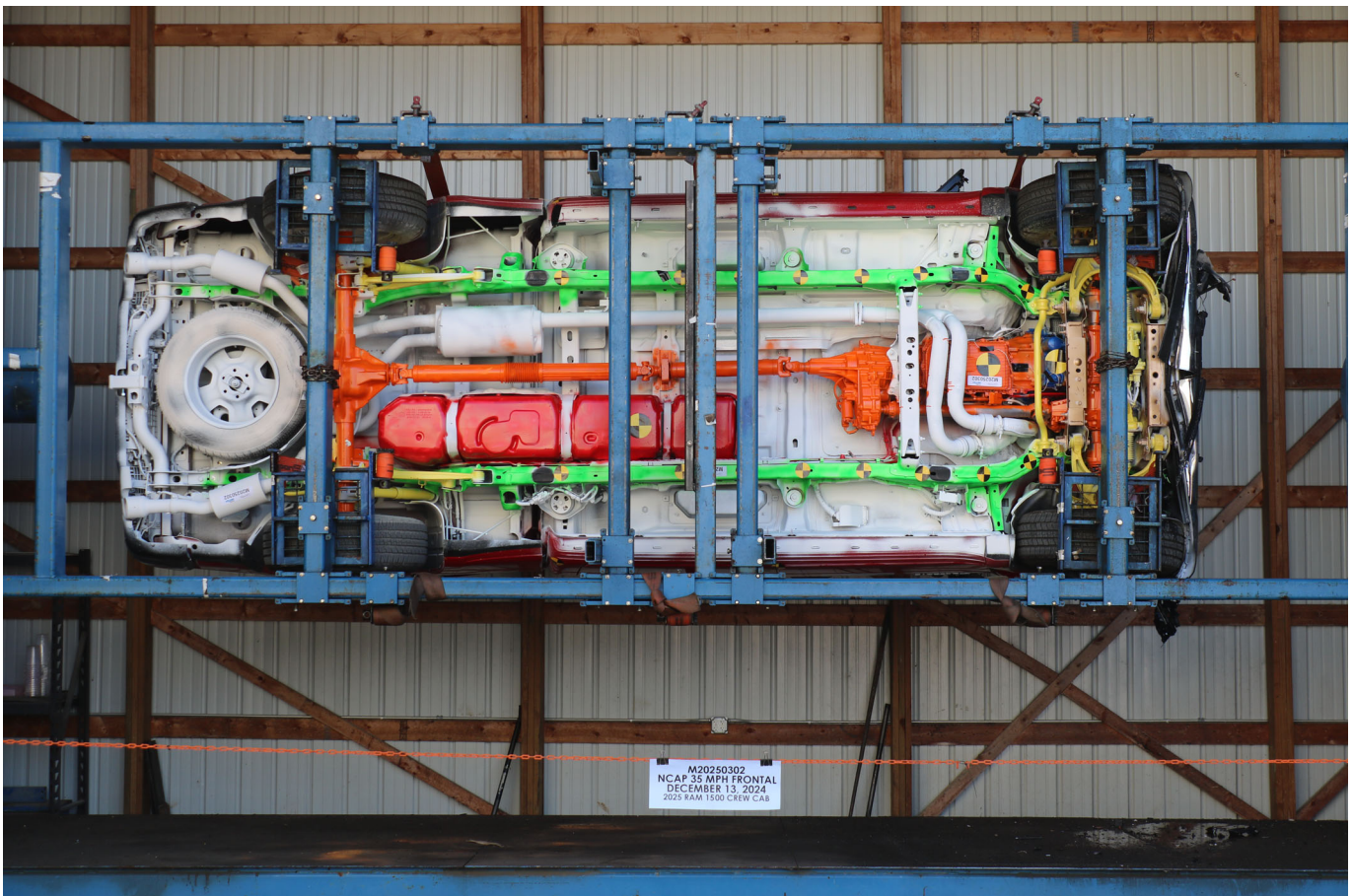


Photo No. 078 - Vehicle at 90 Degrees on Static Rollover Device



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



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



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



Photo No. 082 - 2025 RAM 1500 Crew Cab 4x4 Truck Frontal Impact Event



2025 MODEL YEAR

RAM 1500 TRADESMAN CREW CAB 4X4

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

FCA US LLC

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

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

Base Price: \$50,015

RAM 1500 TRADESMAN CREW CAB 4X4

Exterior Color: Flame Red Clear-Coat Exterior Paint

Interior Color: Black Interior Color

Interior: Cloth Bench Seat

Engine: 3.0L I6 Hurricane SO Twin Turbo with Stop/Start

Transmission: 8-Speed Automatic 8HP75 Transmission

STANDARD EQUIPMENT (UNLESS REPLACED BY OPTIONAL EQUIPMENT)

FUNCTIONAL SAFETY FEATURES

Advanced Multistage Front Air Bags

Supplemental Front Seat-Mounted Side Air Bags

Supplemental Side-Curtain Front and Rear Air Bags

Advanced Brake-Assist

Remote-Start System

Push-Button Start

Remote Keyless-Entry

ParkView® Rear Back-Up Camera

Sentry Key® Theft-Deterrent System

Anti-Lock 4-Wheel Disc Brakes

Electric Parking Brake

Tailgate-Ajar Warning-Lamp

Tire-Fill Alert

Electronic Roll-Mitigation

Electronic Stability-Control

Trailer Sway Damping

Hill-Start Assist

Pedestrian Emergency Braking

Full-Speed Forward-Collision Warning Plus

Adaptive Cruise Control with Stop and Go

Blind-Spot and Cross-Path Detection

ParkSense® Front and Rear Park-Assist

Active Lane-Management System

Black Rotary-Shifter

Class IV Receiver-Hitch

7-Pin Wiring Harness

33-Gallon Fuel Tank

Capless Fuel-Fill

INTERIOR FEATURES

4-Way Manual Adjustable Driver Seat

4-Way Manual Adjustable Front Passenger Seat

Uconnect® 5 with 8.4-inch Touch Screen Display

Handsfree Phone and Audio

Ram Connect (Connected Services) with Trial

4G LTE Wi-Fi Hot Spot Trial Incl (NA in PR or USVI)

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

EXTERIOR FEATURES

18-inch x 7.5-inch Steel Painted Wheels

275/65R18 BSW All-Season LRR Tires

18-inch Full-Size Steel Spare Wheel

LED Low/High Reflector Headlamps

Automatic High-Beam Headlamp-Control

Power Mirrors

Cargo Tie-Down Loops

OPTIONAL EQUIPMENT (May Replace Standard Equipment)

Customer Preferred Package 21A

Chrome Appearance Group \$1,100

Tradesman Level 1 Equipment Group \$1,695

18-Inch x 8.0-Inch Cast Aluminum Painted Wheels

Rear 60/40 Folding Seat

2nd-Row In-Floor Storage Bins

Rear Power-Sliding Window

Front and Rear Floor Mats

Front Seat-Back Map-Pockets

SiriusXM® with 3-Month Radio Sub Call 800-643-2112

115-Volt Auxiliary Power-Outlet \$255

400W Inverter

Trailer Brake-Controller \$295

DESTINATION CHARGE \$1,995

TOTAL PRICE: *\$55,355

WARRANTY COVERAGE

5-year or 60,000-mile Powertrain Limited Warranty.

3-year or 36,000-mile Basic Limited Warranty.

Ask Dealer for a copy of the limited warranties or

see your owner's manual for details.

5 YEAR/60,000 MILE
POWERTRAIN WARRANTY

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

VIN: 1C6SRFP6SN-551683

L4-VIN: 6833

0822-0

SHIP TO: 27298 33

Wally's Chrysler Dodge Jeep Ram of

4388 STATE HIGHWAY 30

AMSTERDAM NY 12010-6211

SOLD TO: 32 27298

Wally's Chrysler Dodge Jeep Ram of

4388 STATE HIGHWAY 30

AMSTERDAM NY 12010-6211

THIS LABEL IS ADDED TO THIS VEHICLE TO COMPLY WITH FEDERAL LAW. THE LABEL CANNOT BE REMOVED OR ALTERED PRIOR TO DELIVERY TO THE ULTIMATE PURCHASER.
* STATE AND/OR LOCAL TAXES IF ANY, LICENSE AND TITLE FEES AND DEALER SUPPLIED AND INSTALLED OPTIONS AND ACCESSORIES ARE NOT INCLUDED IN THIS PRICE. DISCOUNT, IF ANY, IS BASED ON PRICE OF OPTIONS IF PURCHASED SEPARATELY.

EPA DOT Fuel Economy and Environment

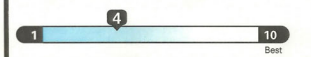
Fuel Economy
19 MPG
combined city/hwy
5.3 gallons per 100 miles

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

You spend
\$4,250
more in fuel costs
over 5 years
compared to the
average new vehicle.

Annual fuel cost
\$2,750

Fuel Economy & Greenhouse Gas Rating (tailpipe only)



This vehicle emits 458 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates emissions. Learn more at fuelconomy.gov

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 28 MPG and cost \$9,250 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.50 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Calculate personalized estimates and compare vehicles

Gasoline Vehicle

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score

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

Not Rated

Frontal

Crash

Driver

Passenger

Not Rated

Not Rated

Based on the risk of injury in a frontal impact.

Should ONLY be compared to other vehicles of similar size and weight.

Side

Crash

Front seat

Rear seat

★★★★★

★★★★★

Based on the risk of injury in a side impact.

Rollover

★★★★★

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

Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest.

Source: National Highway Traffic Safety Administration (NHTSA)

www.safercar.gov or 1-888-327-4236

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

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 55%
MAJOR SOURCES OF FOREIGN PARTS

CONTENT:

MEXICO: 39%

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

FOR THIS VEHICLE:

FINAL ASSEMBLY POINT:

STERLING HTS, MICH., U.S.A.

COUNTRY OF ORIGIN:

ENGINE: MEXICO

TRANSMISSION: UNITED STATES



VEHICLE PROTECTION

A PRODUCT OF FCA US LLC

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

Photo No. 083 - Monroney Label Photograph

APPENDIX B
DUMMY RESPONSE DATA TRACES

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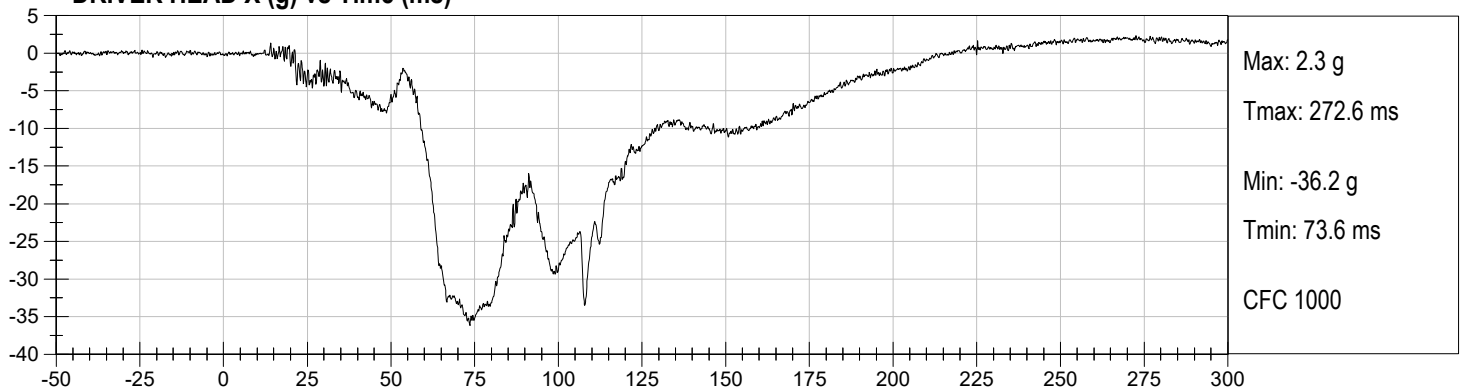
The following additional dummy and vehicle response data can be found in the R&D section of the NHTSA website at www.nhtsa.gov

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

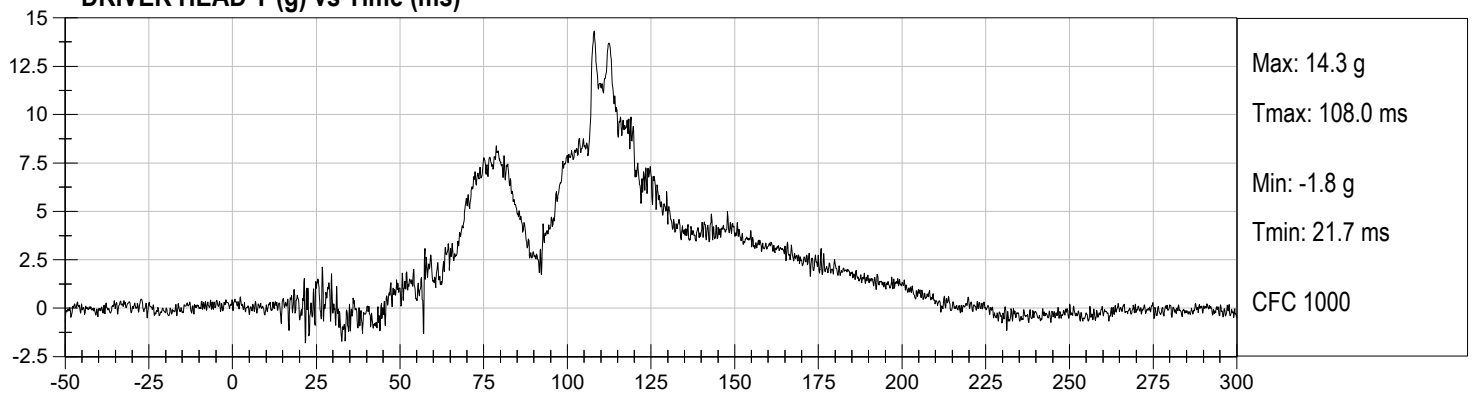
Driver Left Upper Tibia Force Z
Driver Left Lower Tibia Moment X
Driver Left Lower Tibia Moment Y
Driver Left Lower Tibia Force Z
Driver Right Upper Tibia Moment X
Driver Right Upper Tibia Moment Y
Driver Right Upper Tibia Force Z
Driver Right Lower Tibia Moment X
Driver Right Lower Tibia Moment Y
Driver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

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

DRIVER HEAD X (g) vs Time (ms)



DRIVER HEAD Y (g) vs Time (ms)



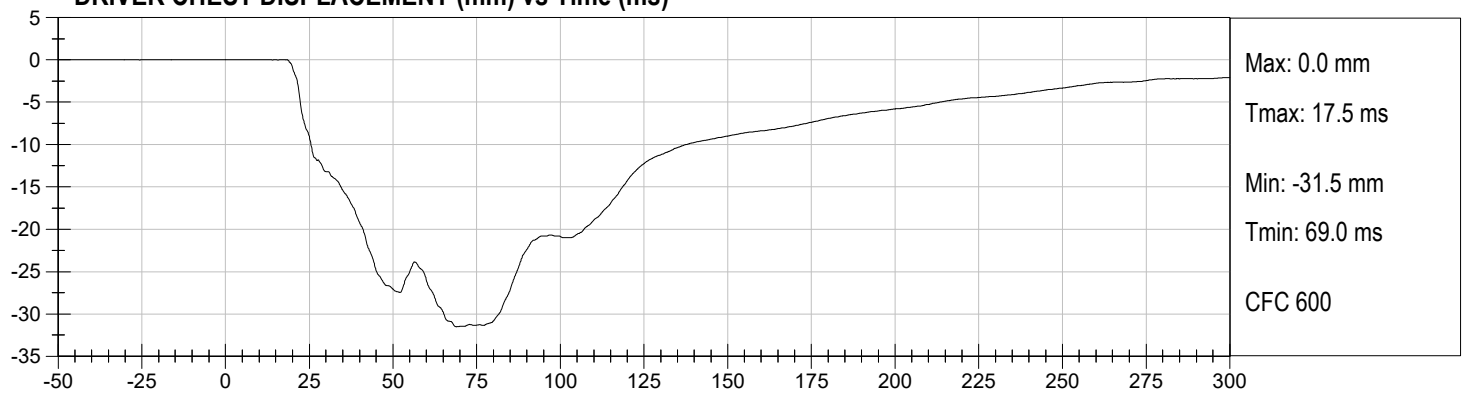
DRIVER HEAD Z (g) vs Time (ms)



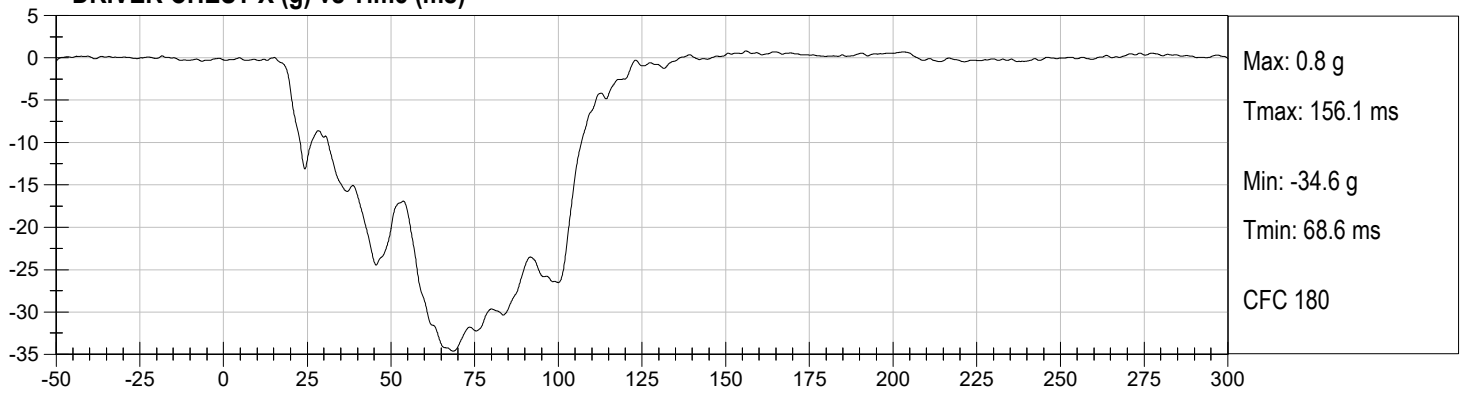
DRIVER HEAD Resultant (g) vs Time (ms)



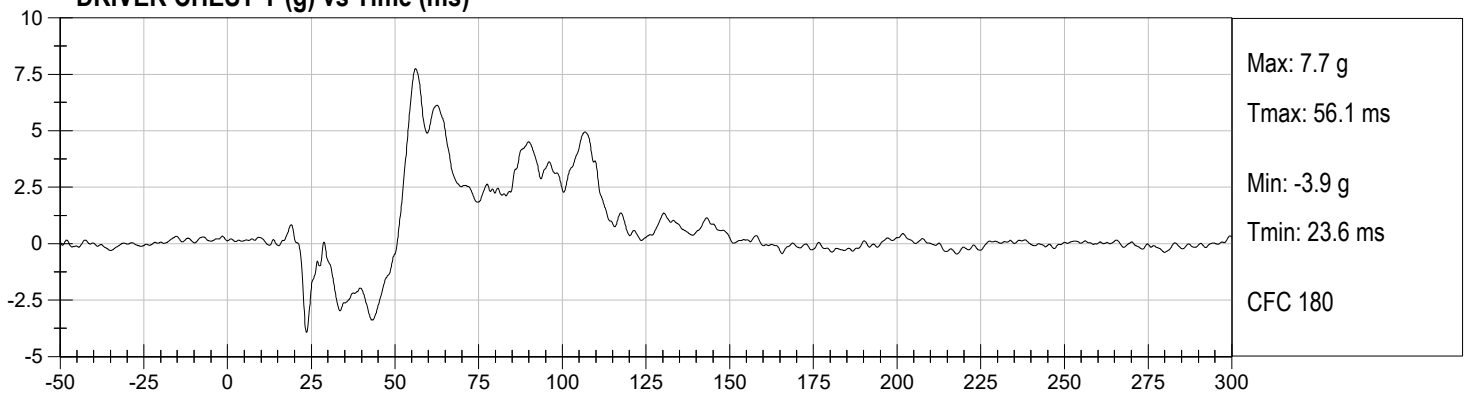
DRIVER CHEST DISPLACEMENT (mm) vs Time (ms)



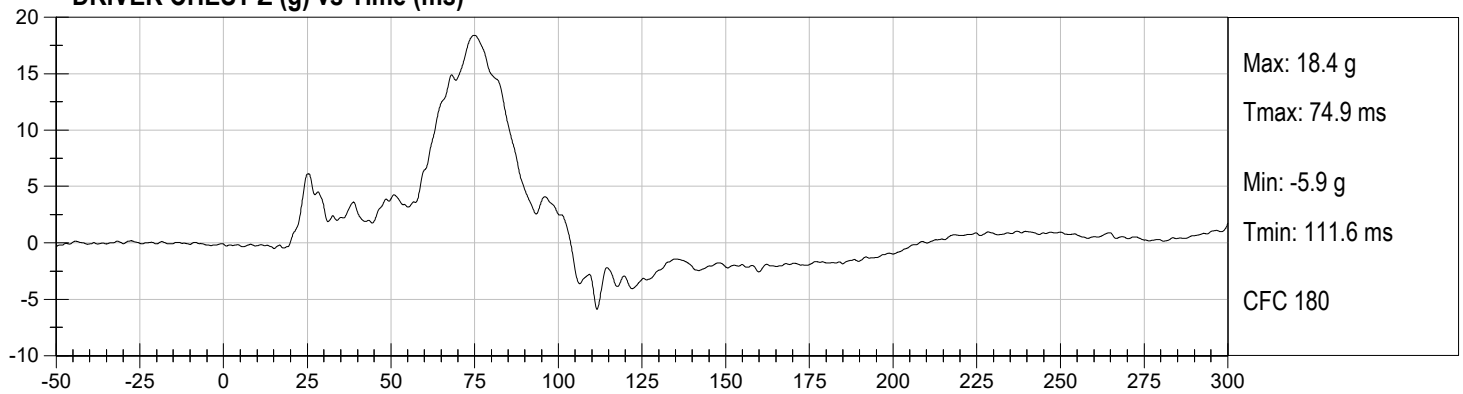
DRIVER CHEST X (g) vs Time (ms)



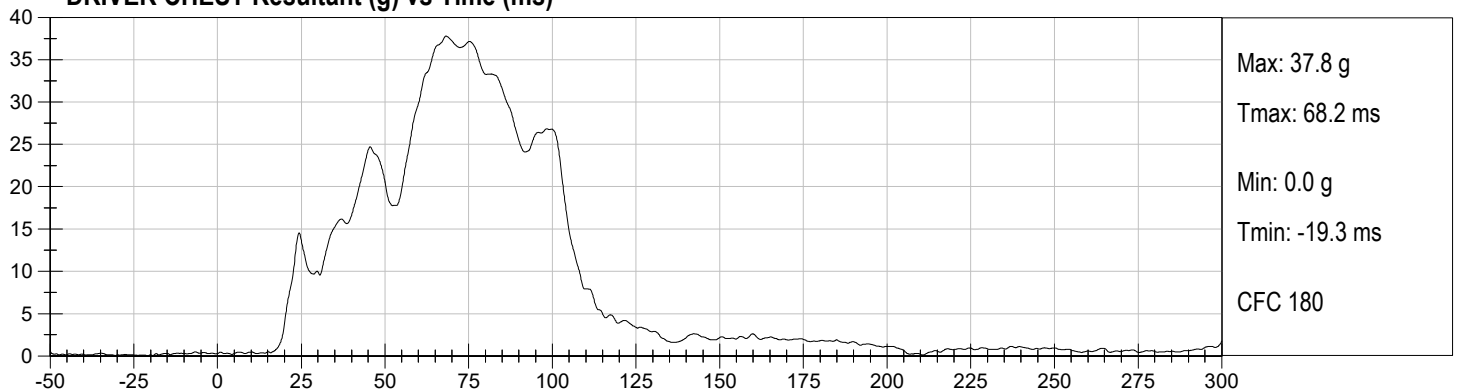
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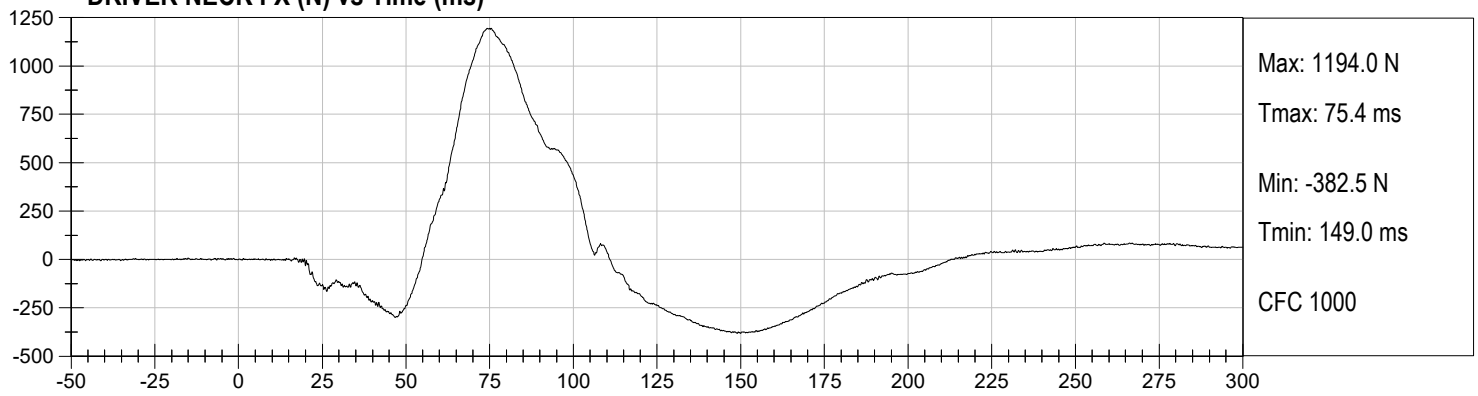
DRIVER CHEST Z (g) vs Time (ms)



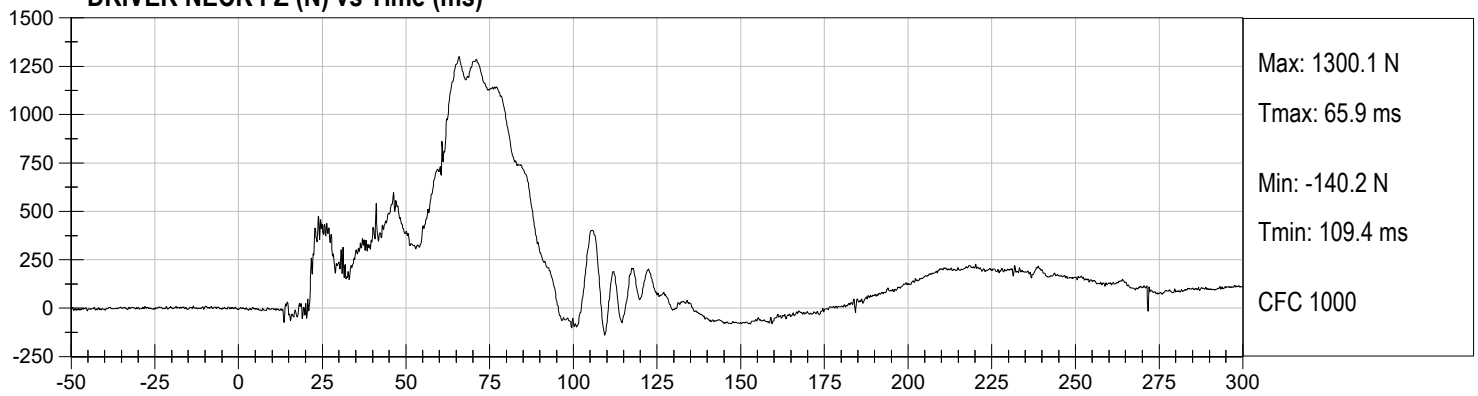
DRIVER CHEST Resultant (g) vs Time (ms)



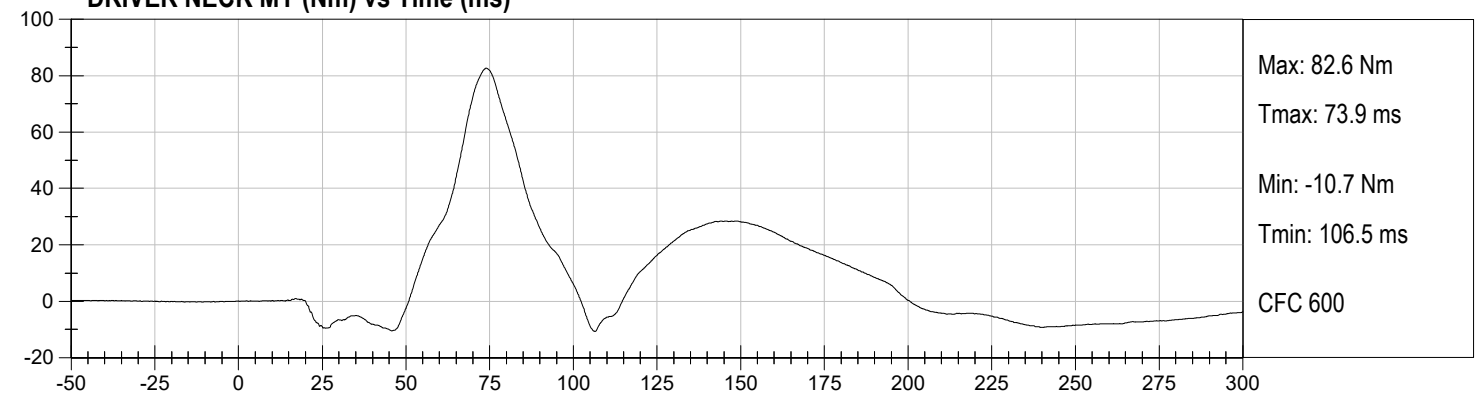
DRIVER NECK FX (N) vs Time (ms)



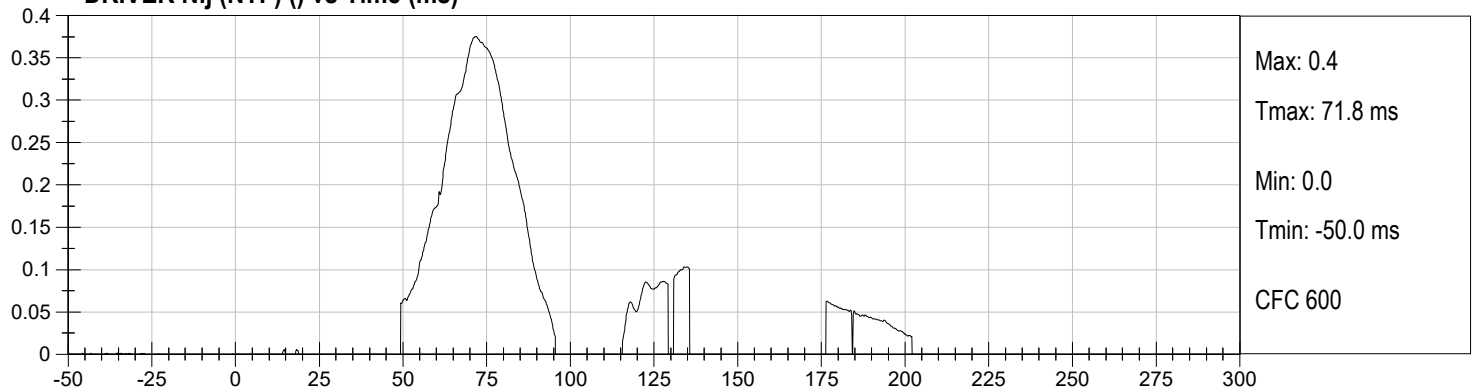
DRIVER NECK FZ (N) vs Time (ms)



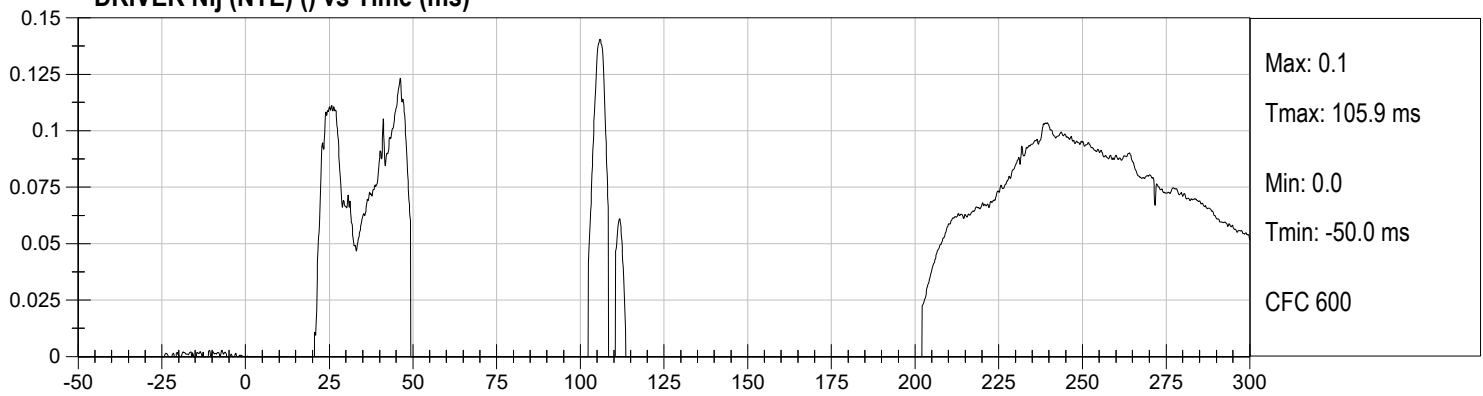
DRIVER NECK MY (Nm) vs Time (ms)



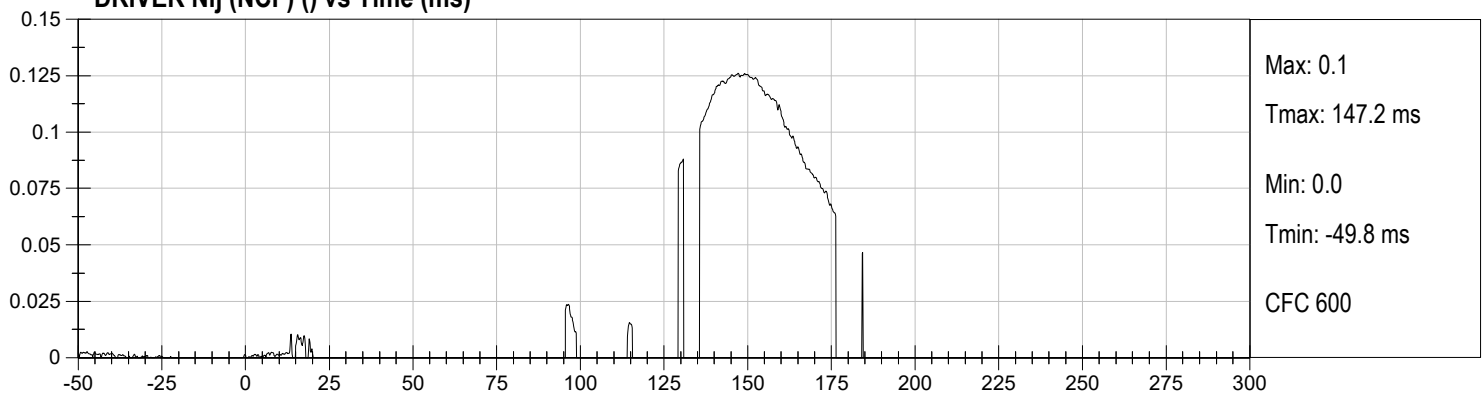
DRIVER Nij (NTF) () vs Time (ms)



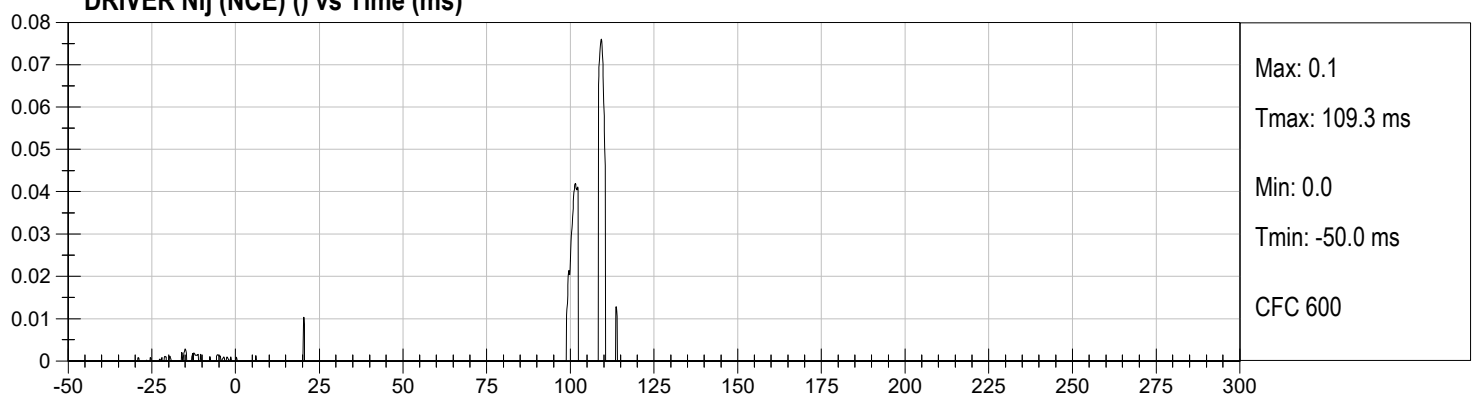
DRIVER Nij (NTE) () vs Time (ms)

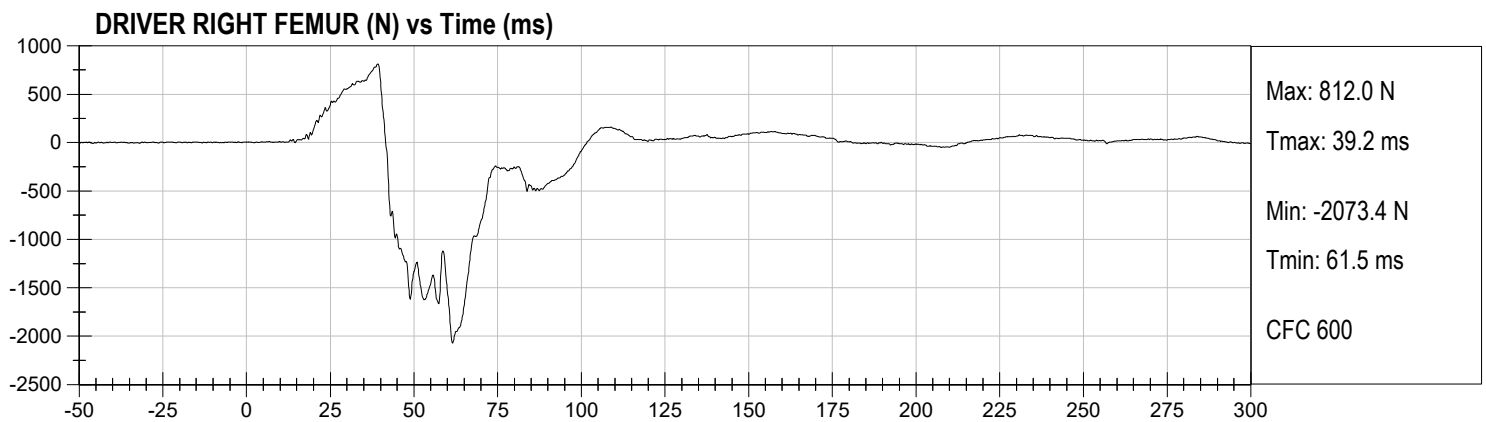
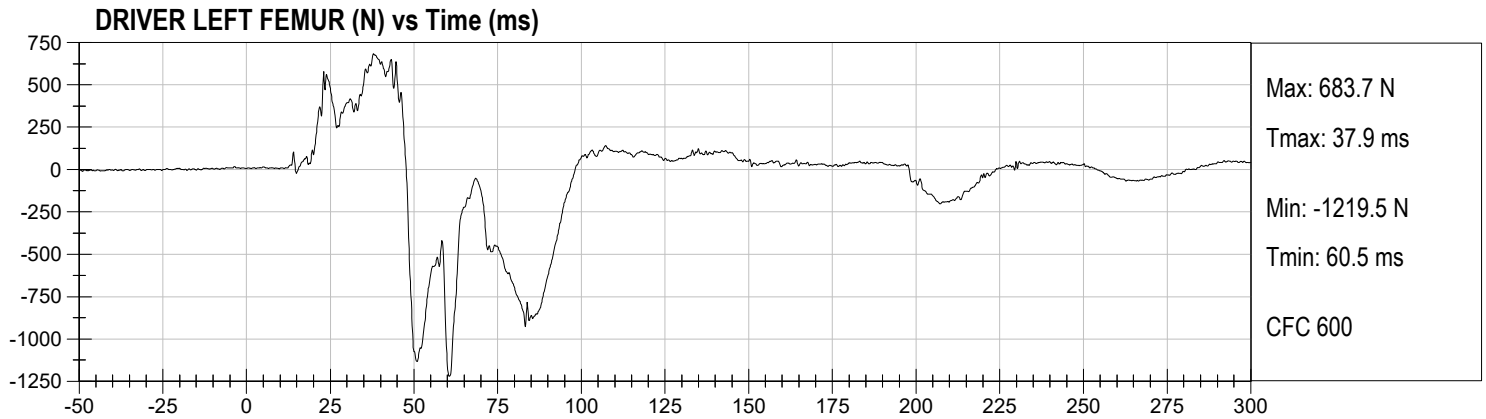


DRIVER Nij (NCF) () vs Time (ms)

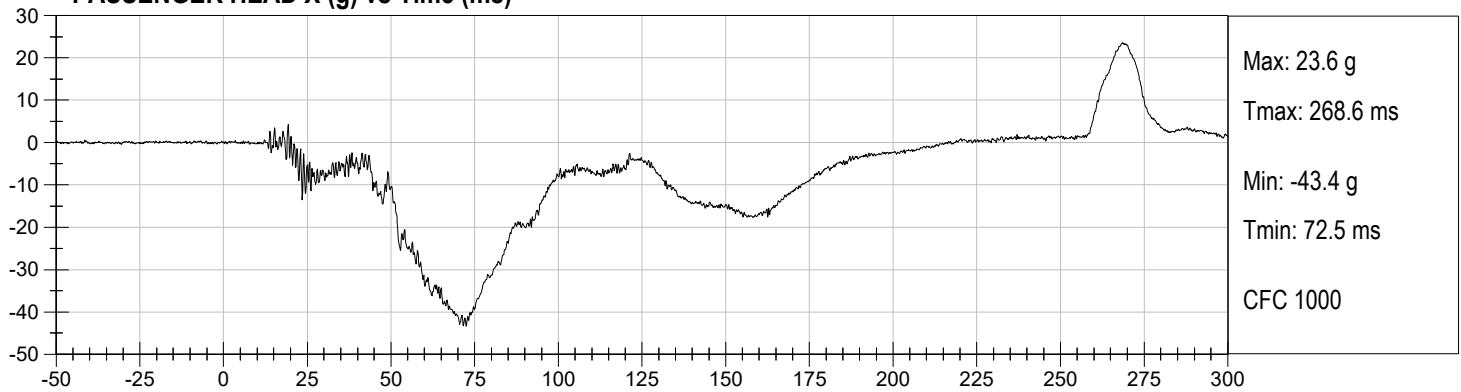


DRIVER Nij (NCE) () vs Time (ms)

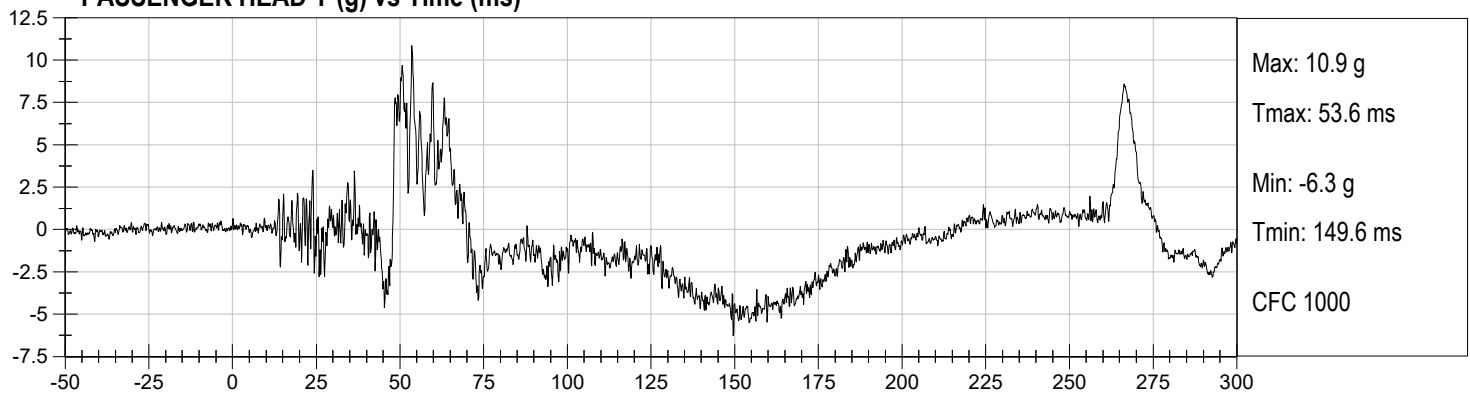




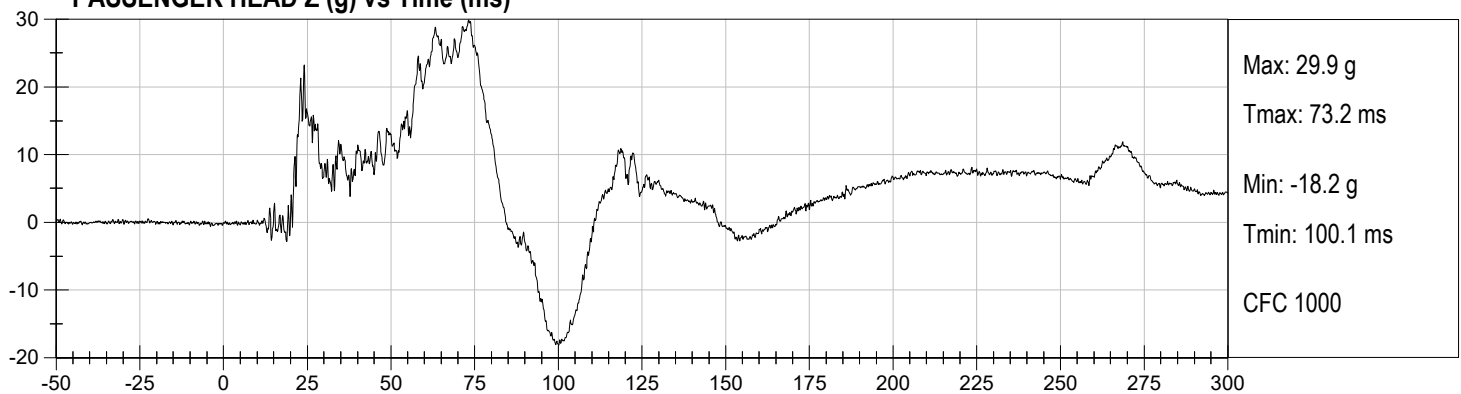
PASSENGER HEAD X (g) vs Time (ms)



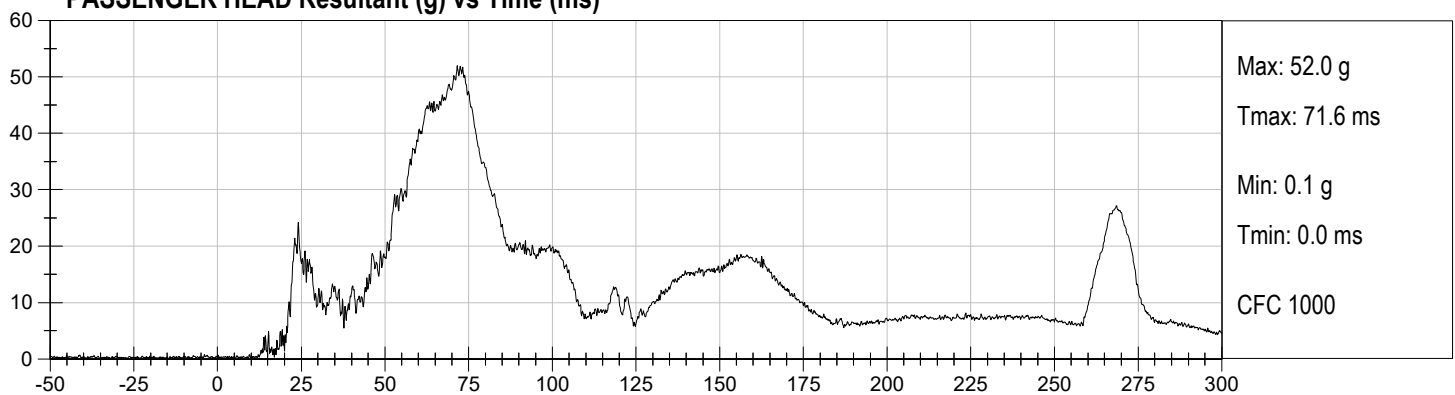
PASSENGER HEAD Y (g) vs Time (ms)

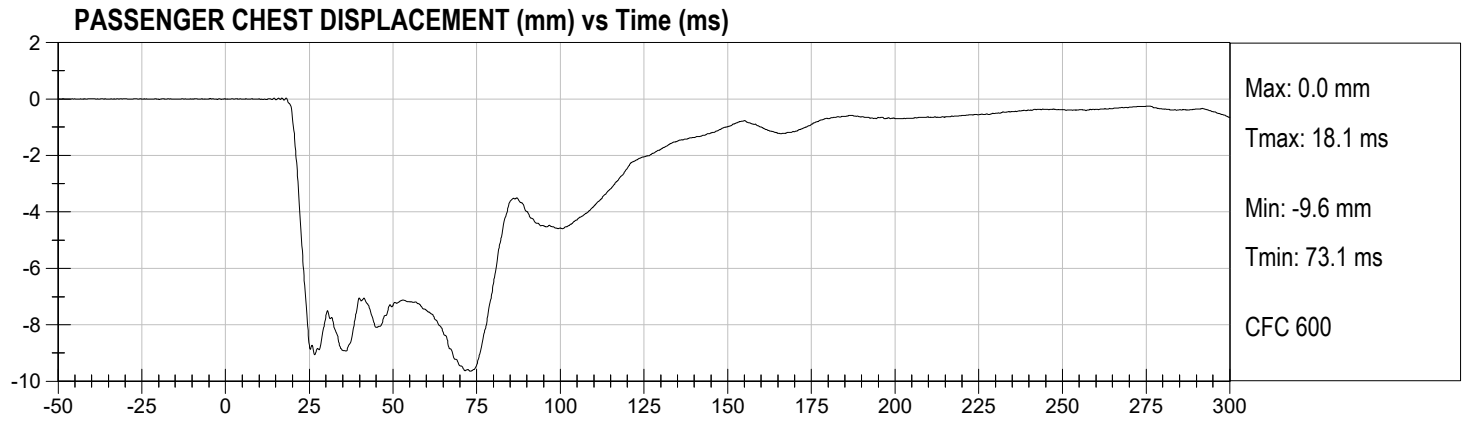


PASSENGER HEAD Z (g) vs Time (ms)

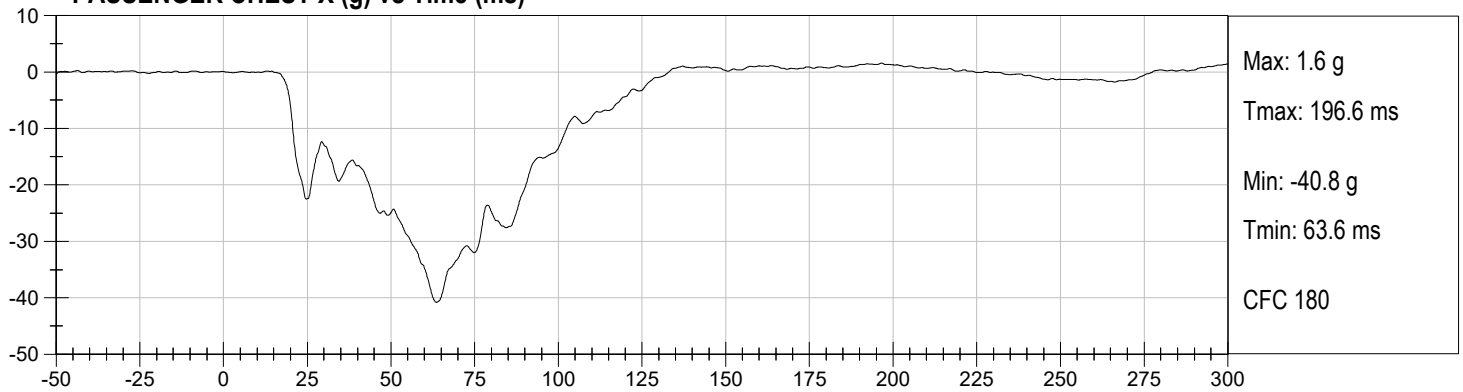


PASSENGER HEAD Resultant (g) vs Time (ms)

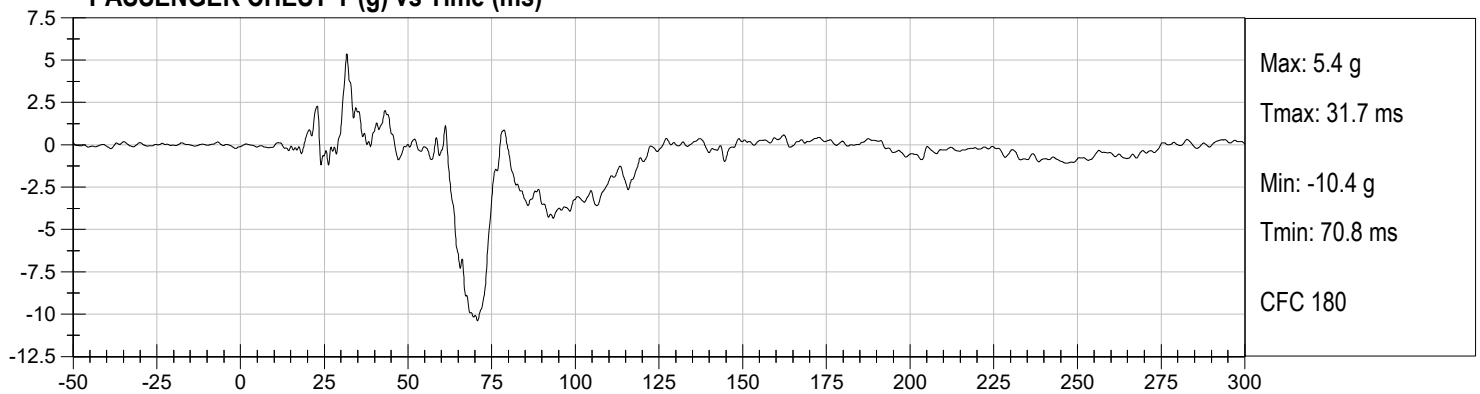




PASSENGER CHEST X (g) vs Time (ms)



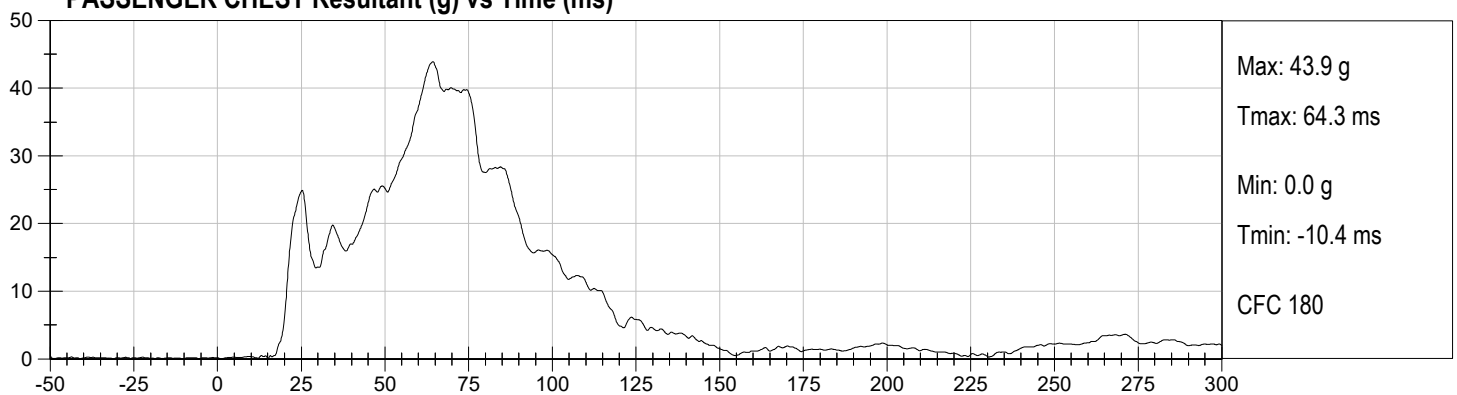
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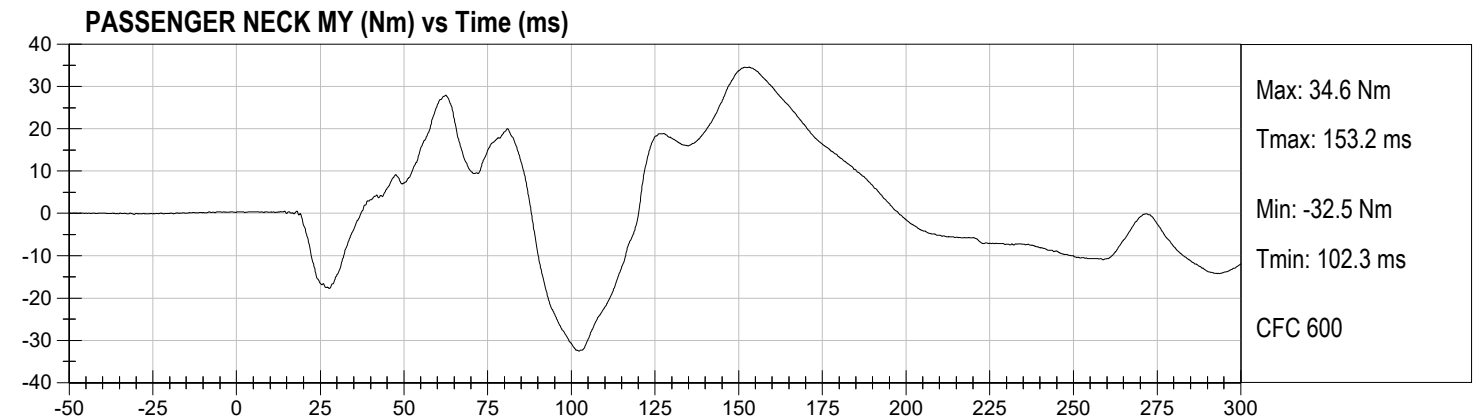
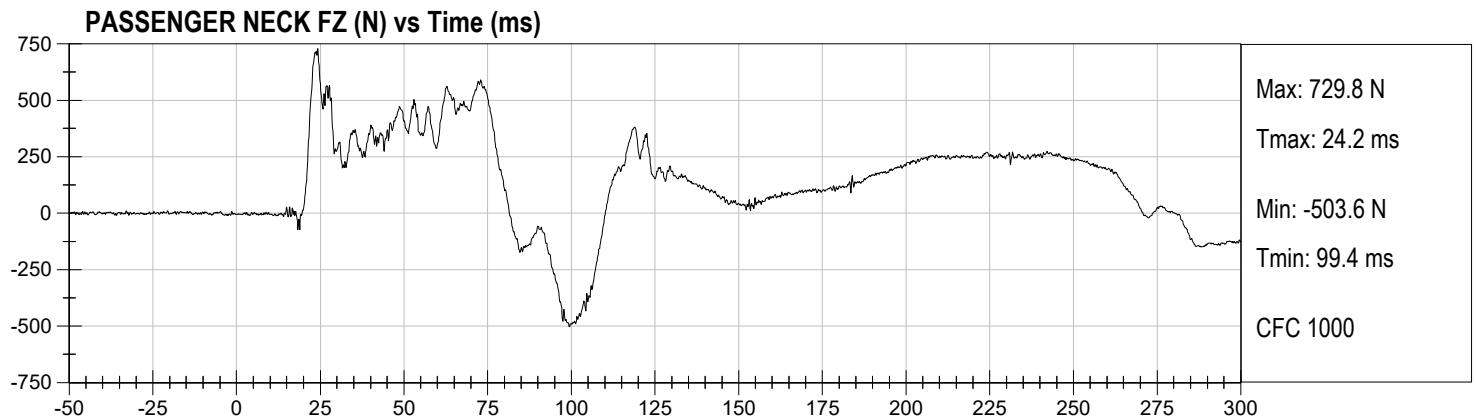
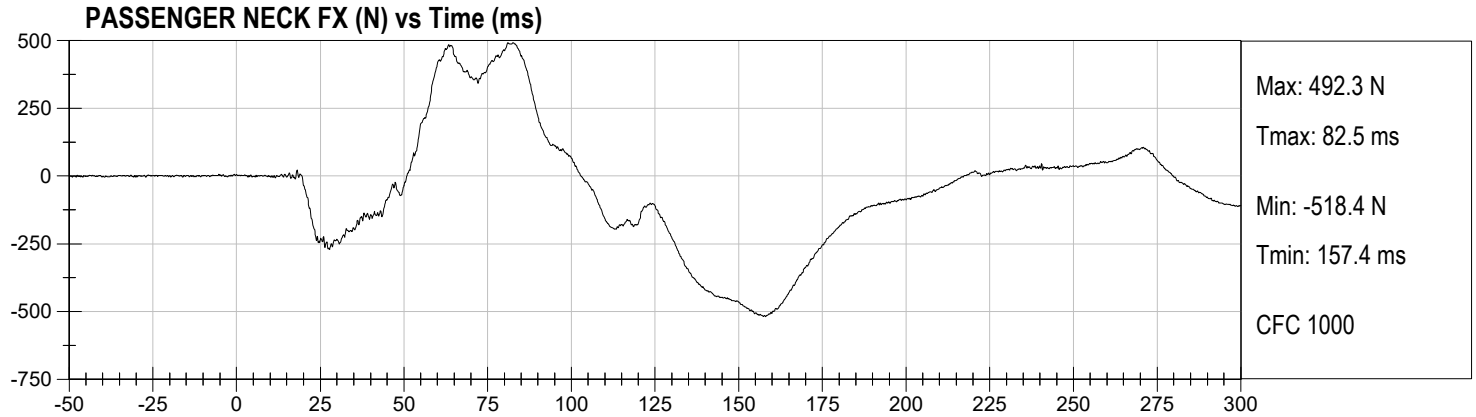


PASSENGER CHEST Z (g) vs Time (ms)

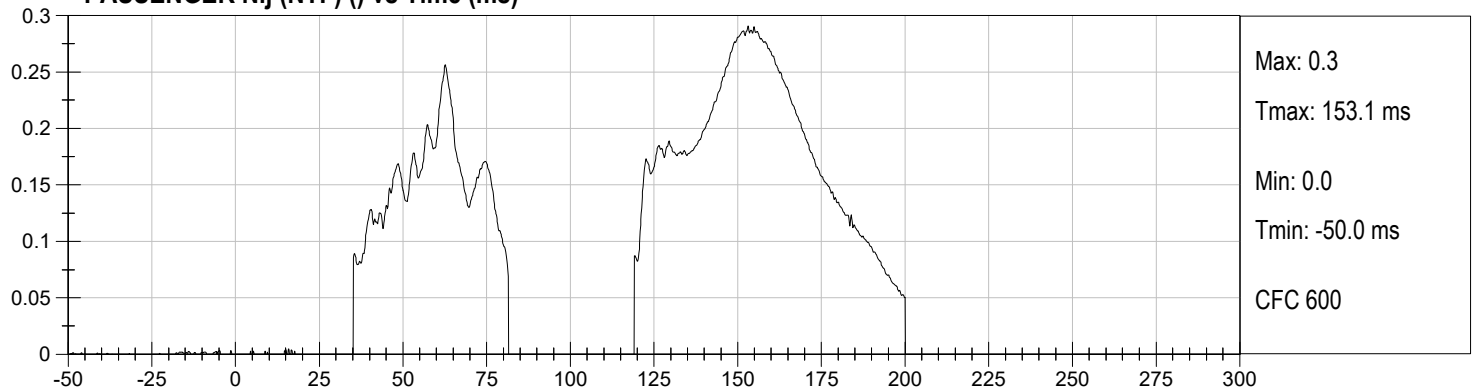


PASSENGER CHEST Resultant (g) vs Time (ms)

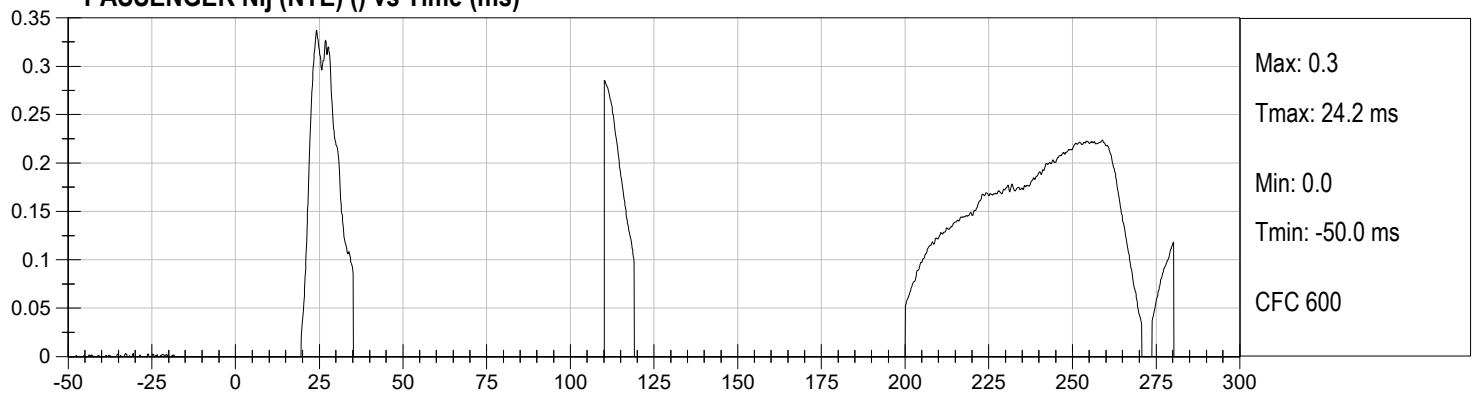




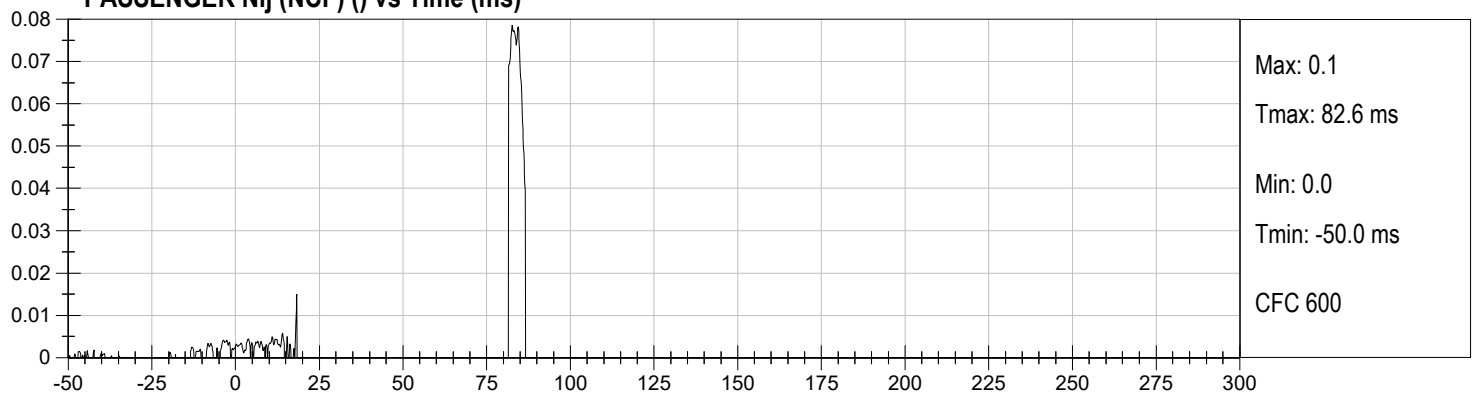
PASSENGER Nij (NTF) () vs Time (ms)



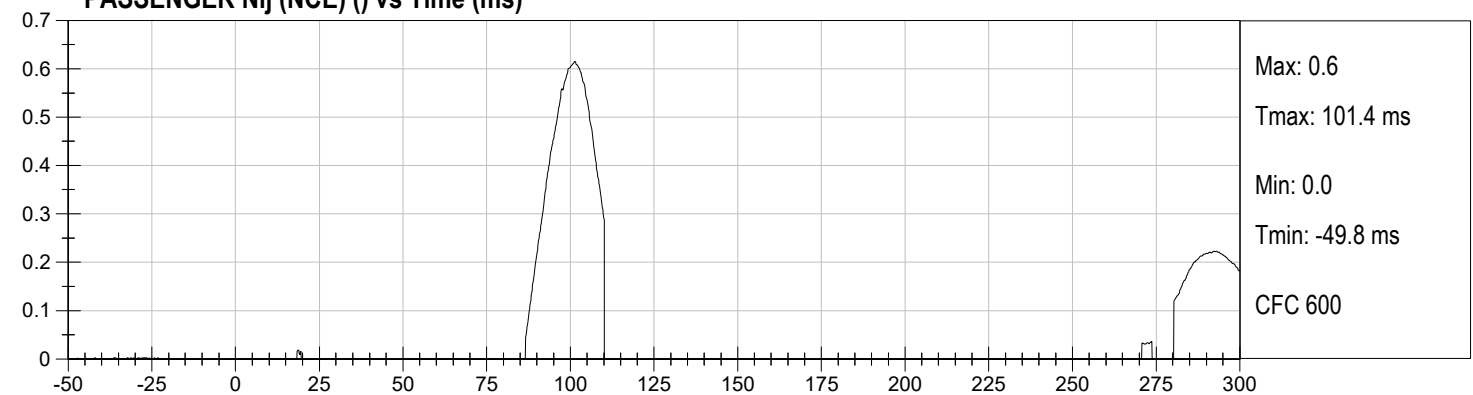
PASSENGER Nij (NTE) () vs Time (ms)



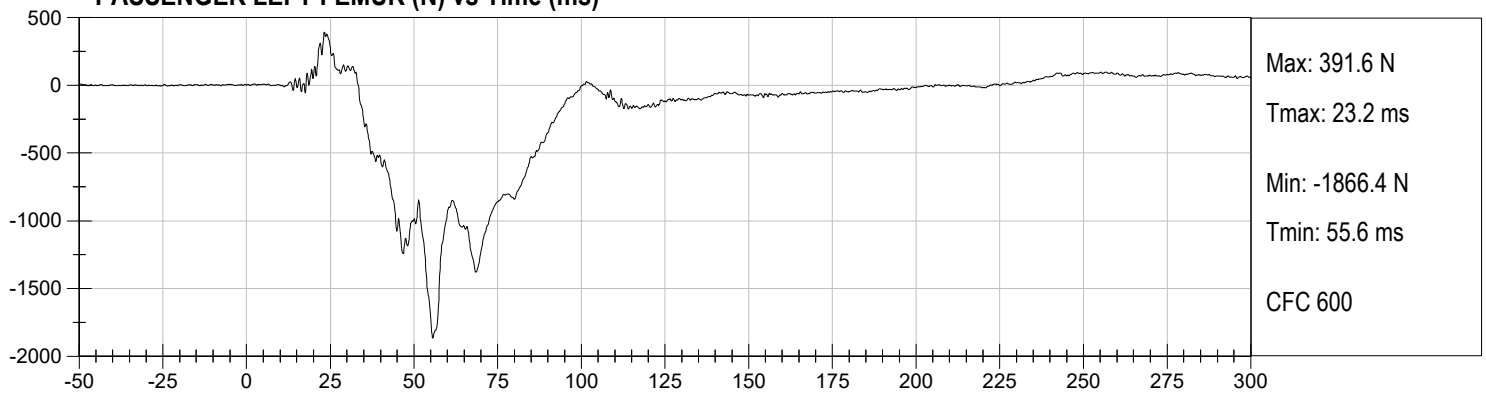
PASSENGER Nij (NCF) () vs Time (ms)



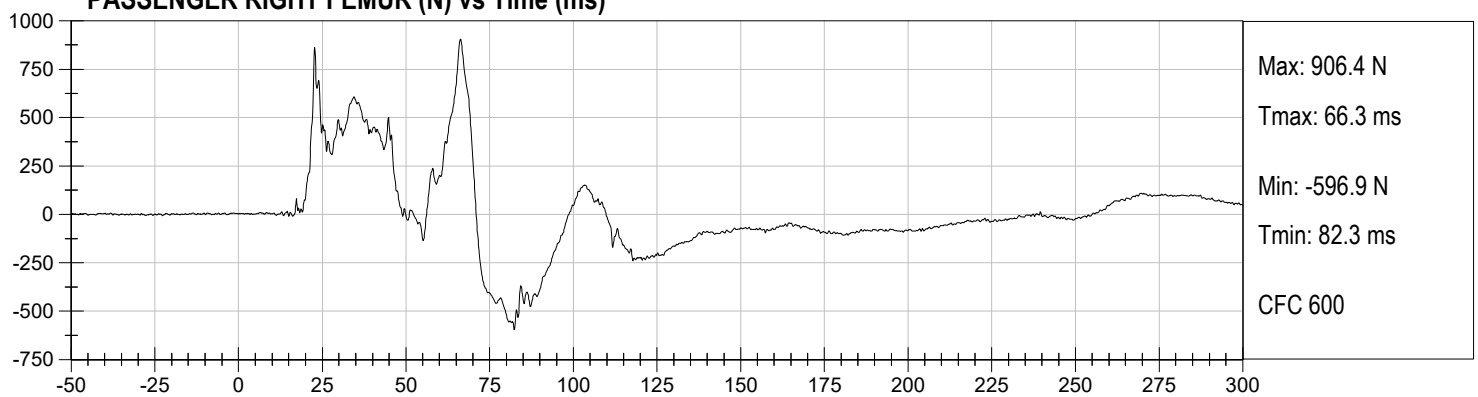
PASSENGER Nij (NCE) () vs Time (ms)



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

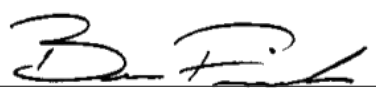
ATD Serial No: 064

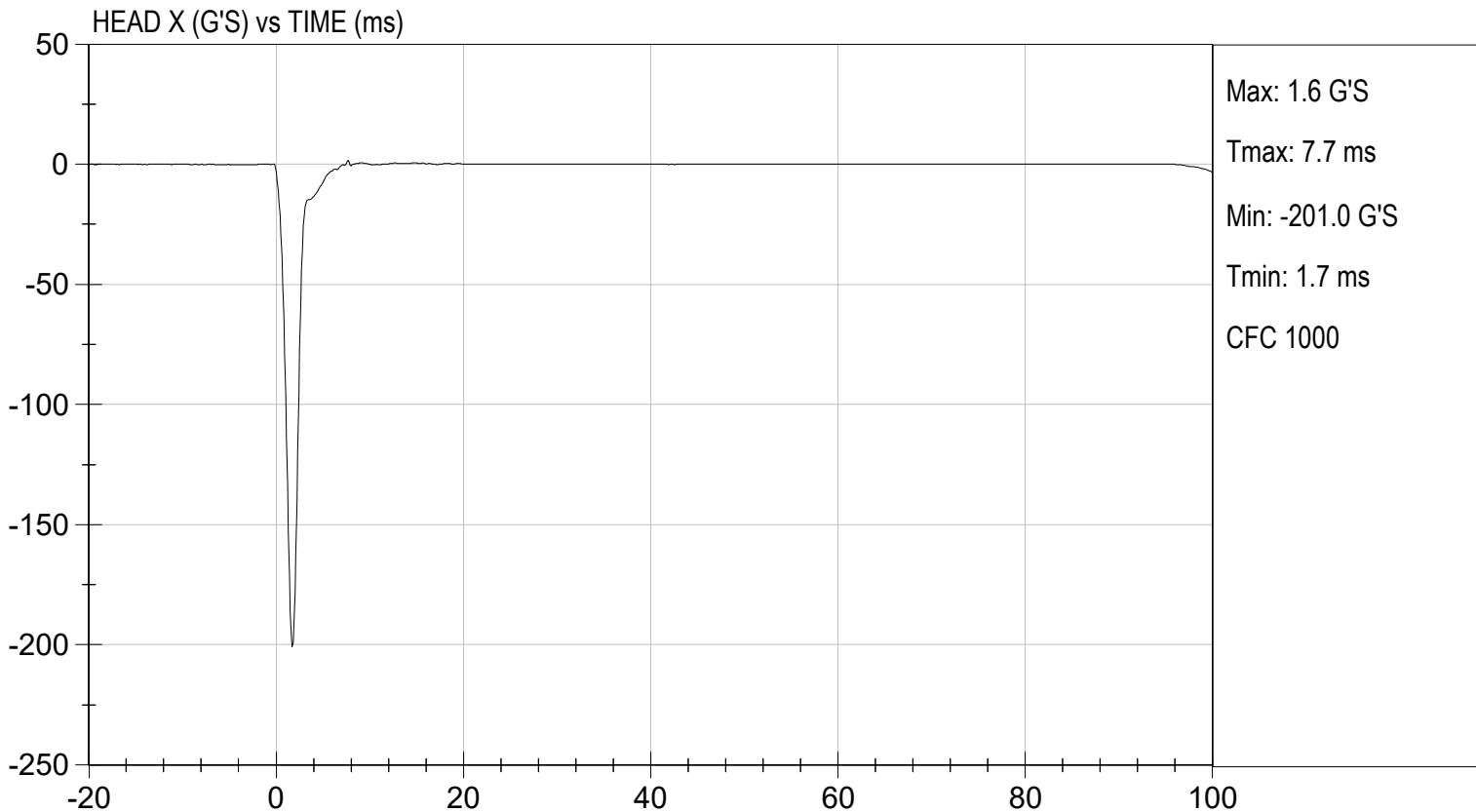
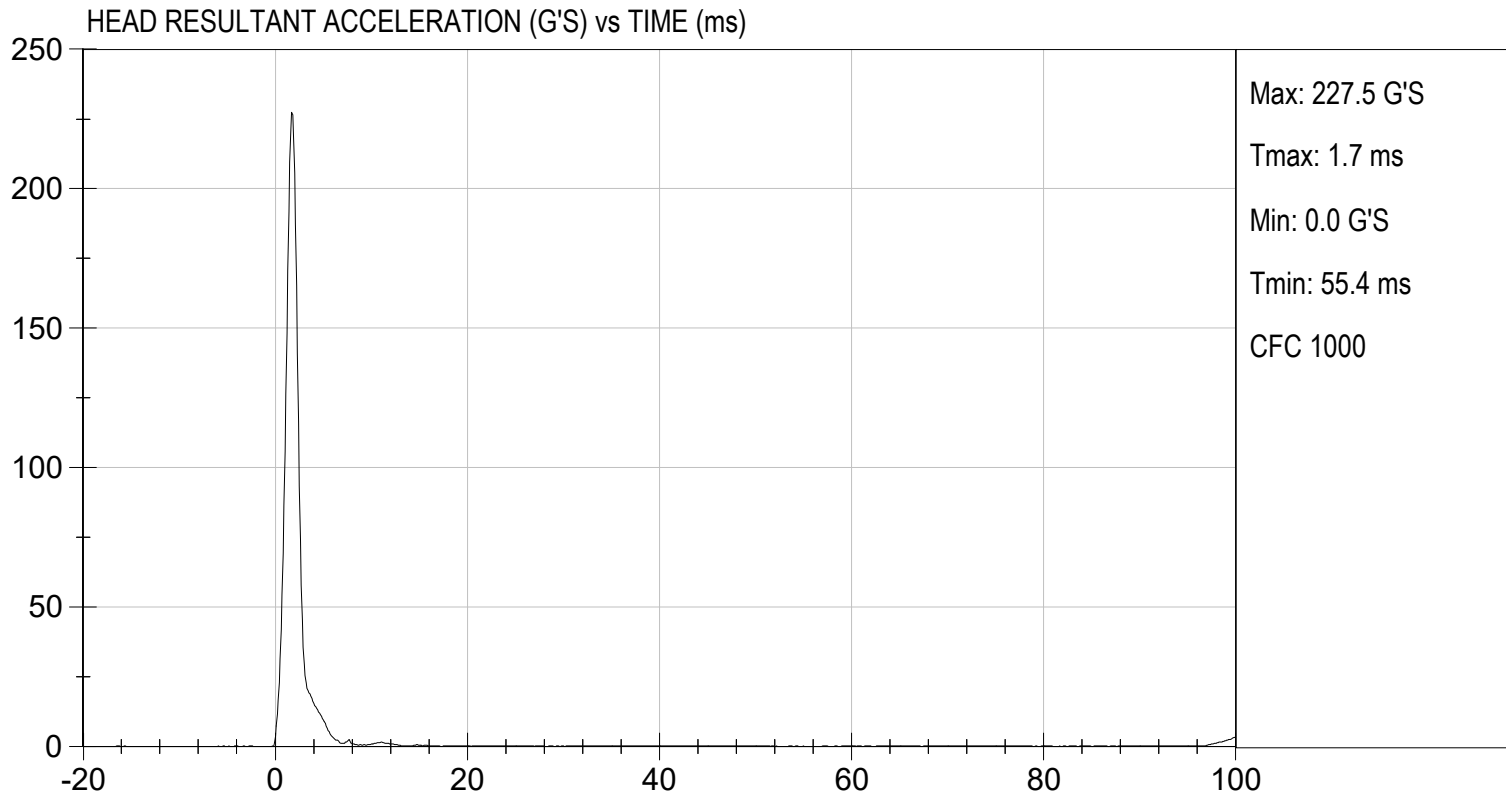
Test ID: D243131

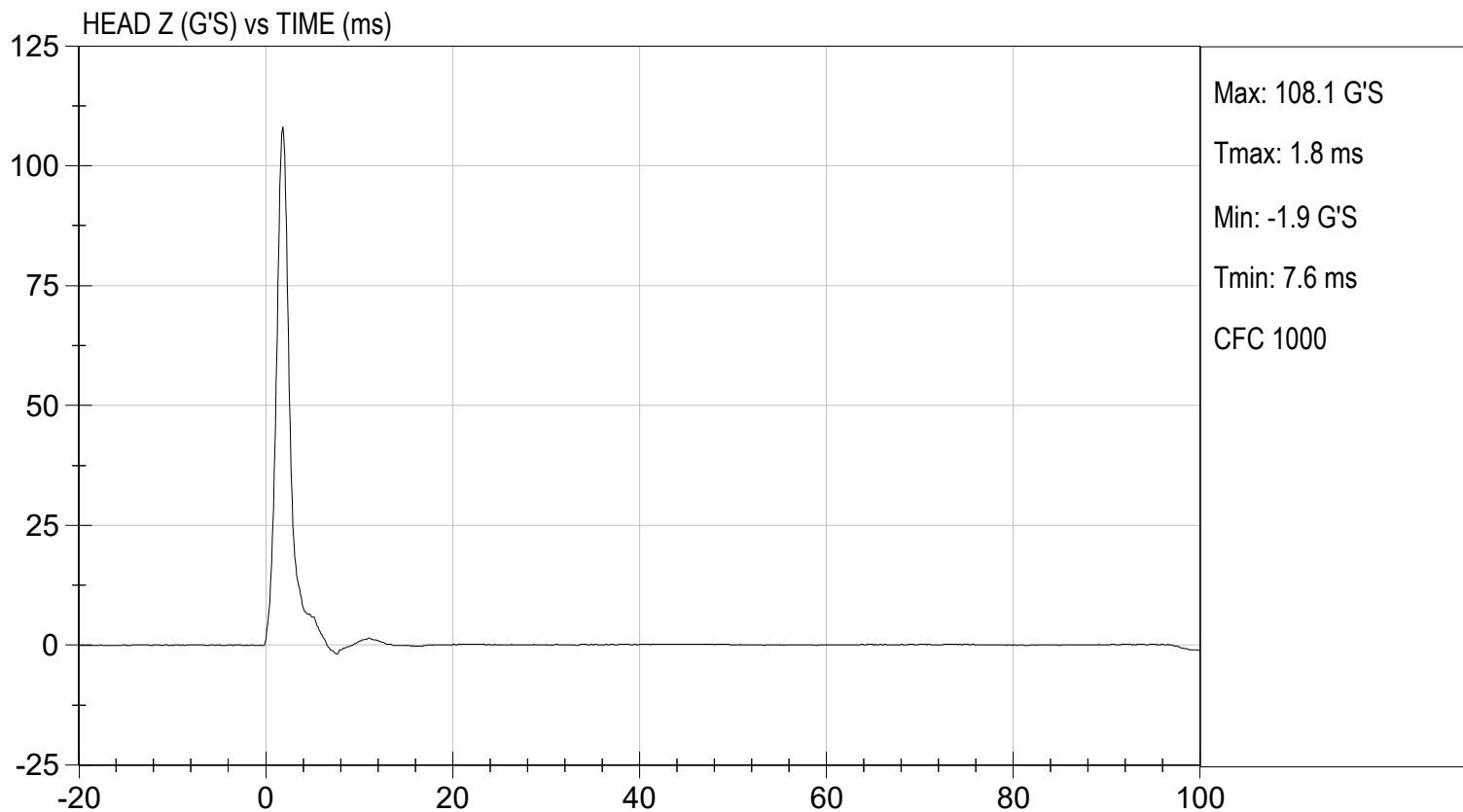
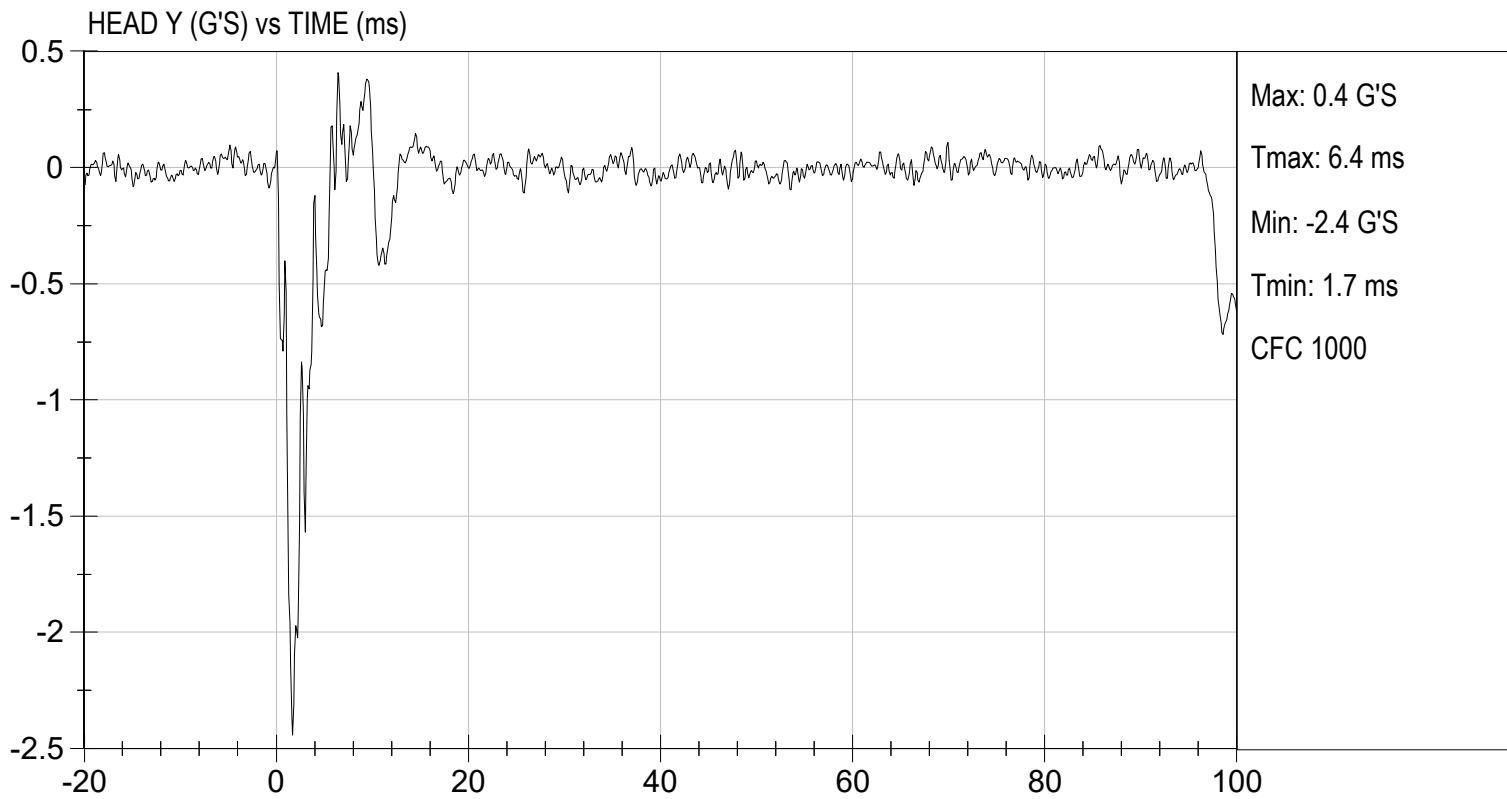
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	21	Pass
Peak Resultant Acceleration	G's	225 to 275	228	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	-2.4	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A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

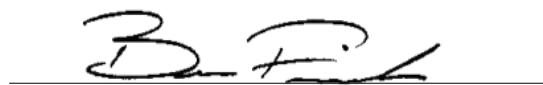
Test I.D: D243132

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

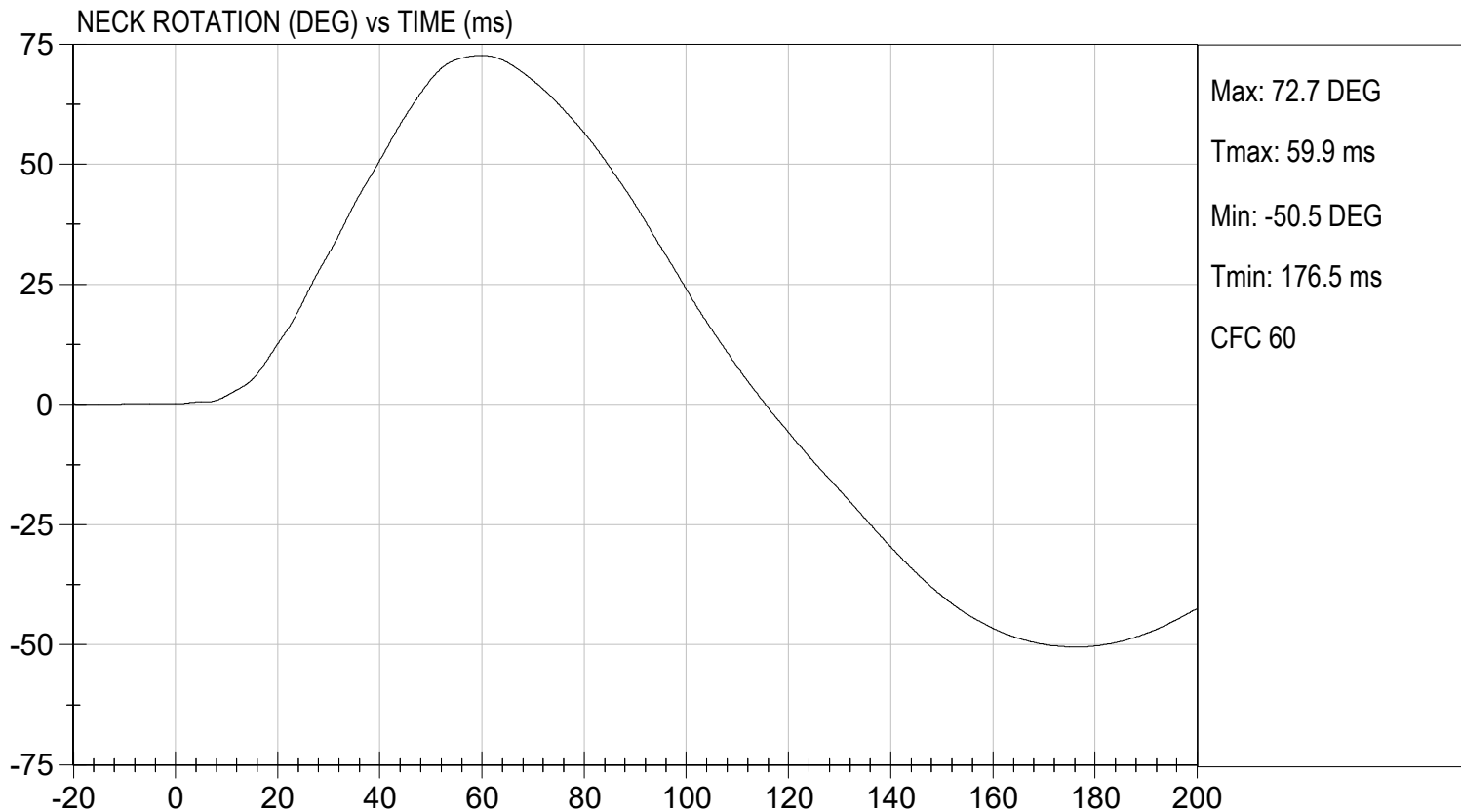
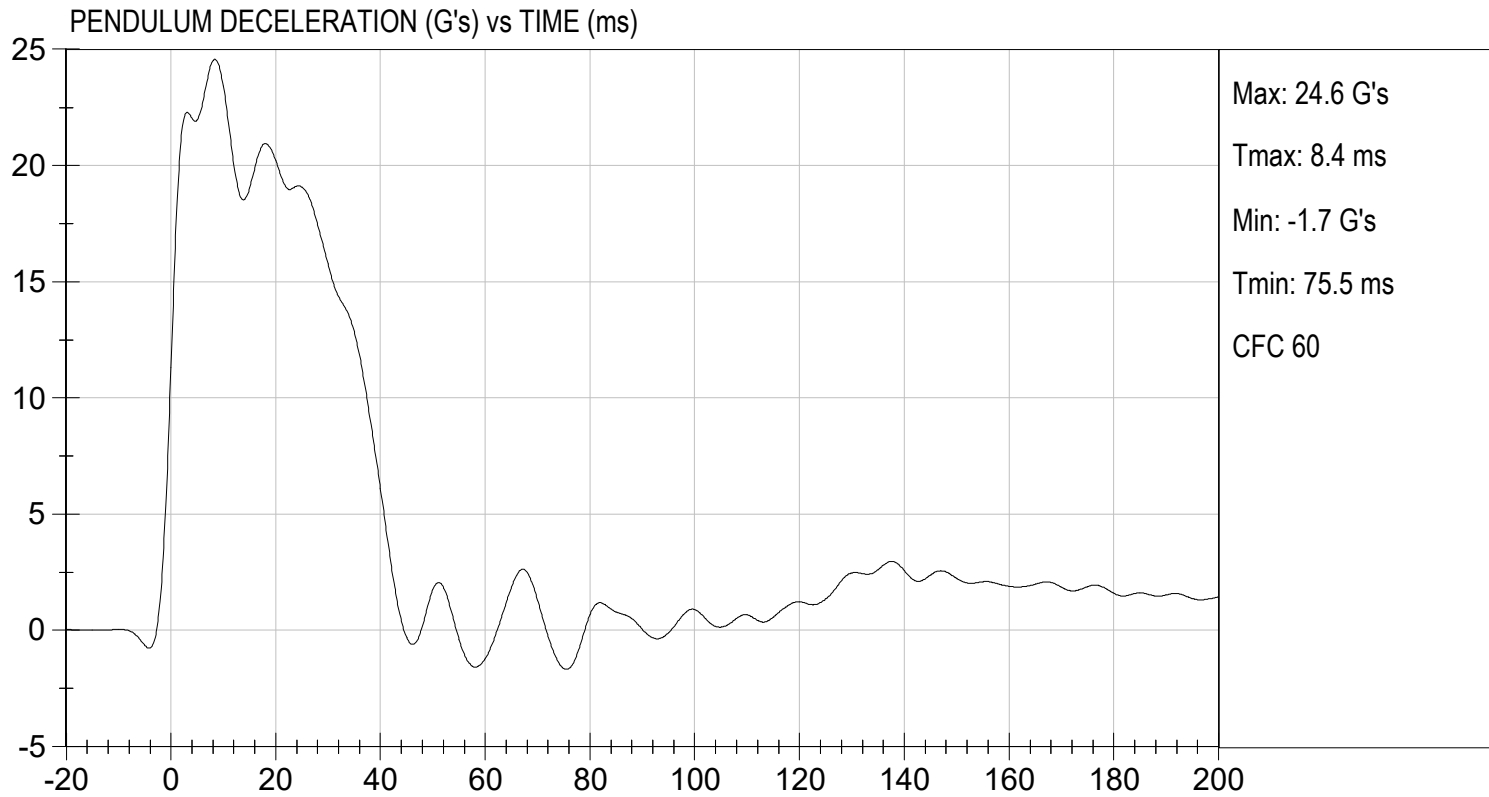
Test Date


Approved By



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

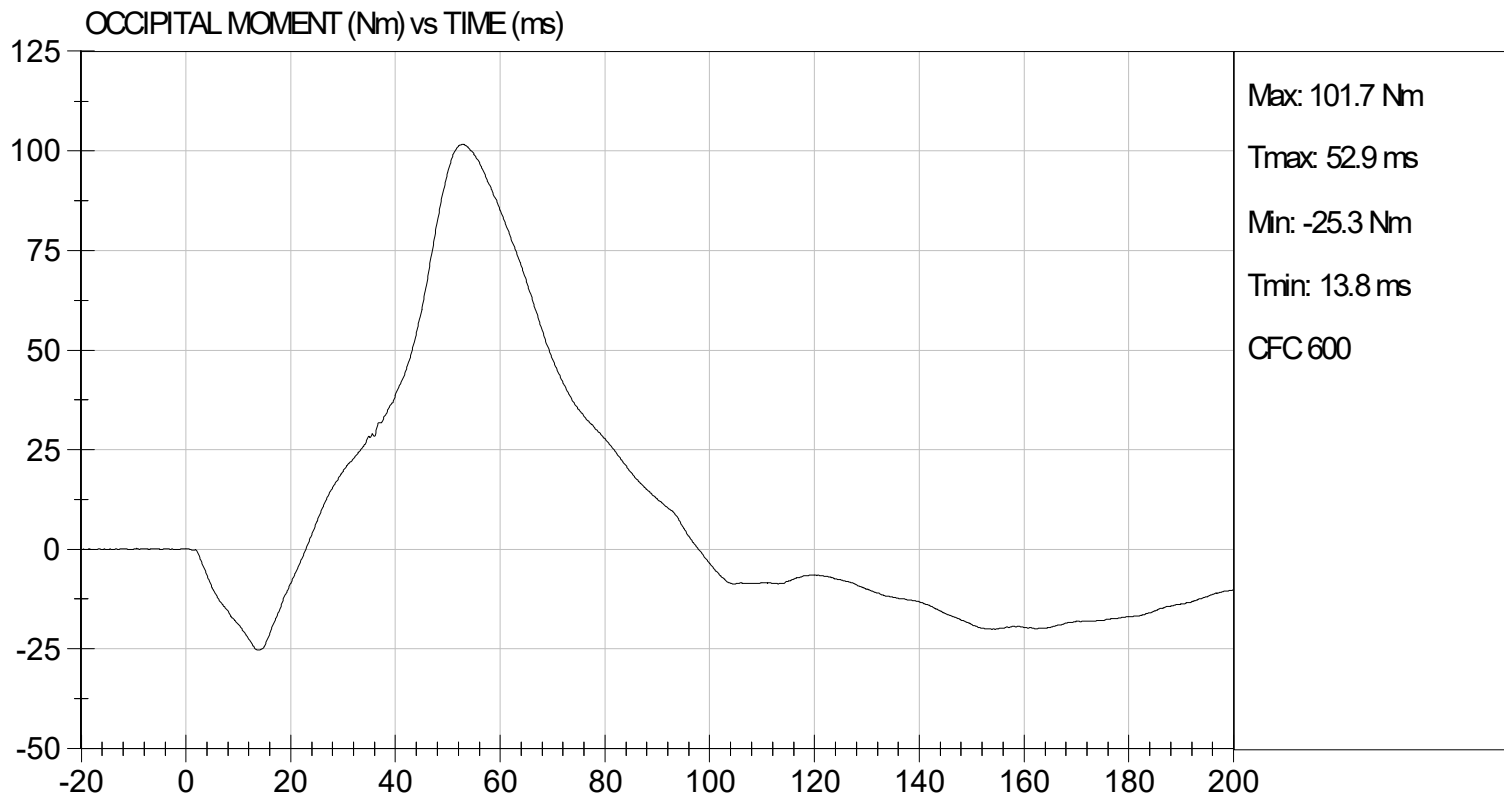
TEST DATE: 12/06/2024
TEST #: D243132





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

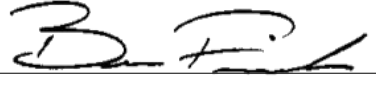
Test I.D: D243133

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

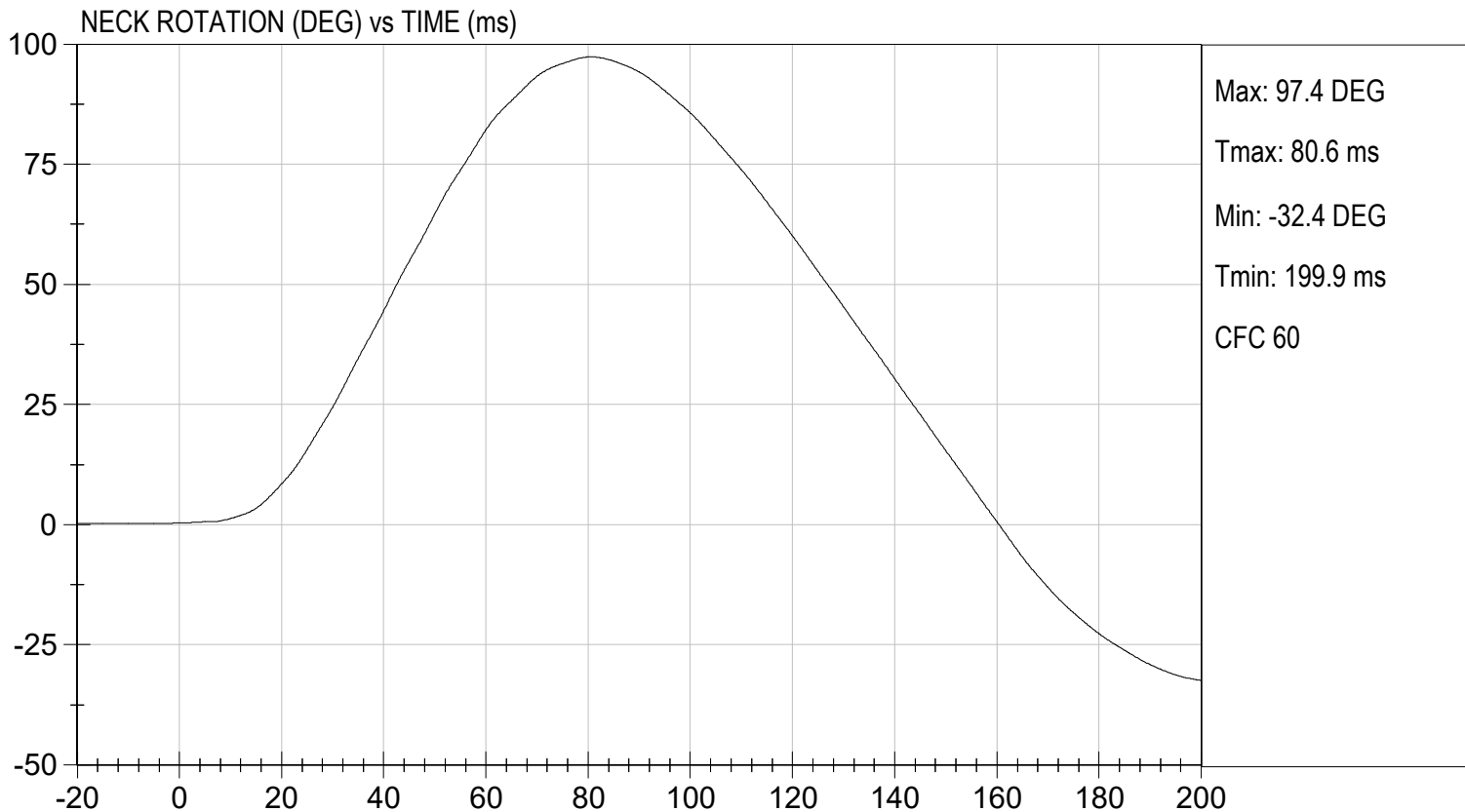
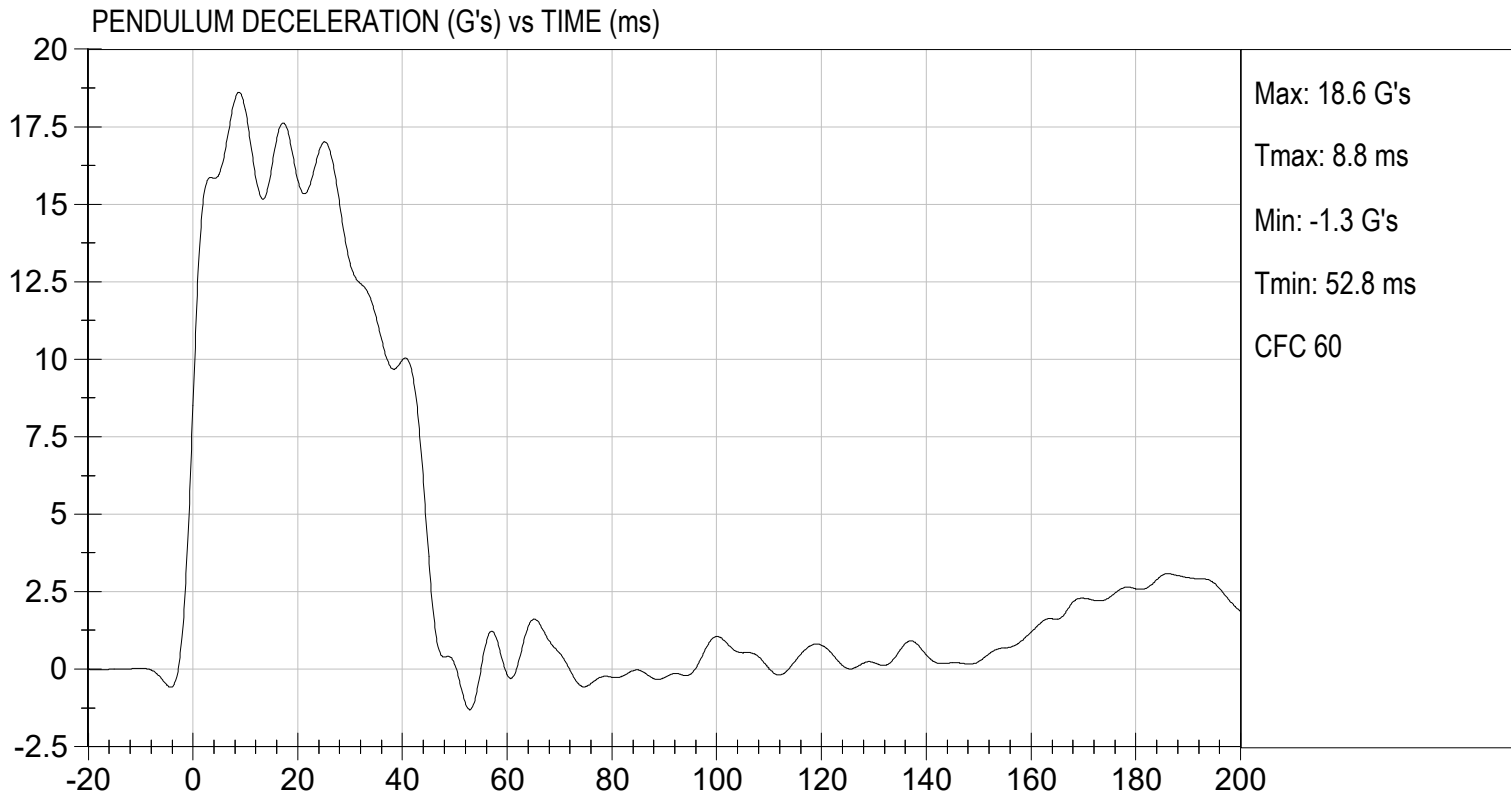
Test Date


Approved By



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

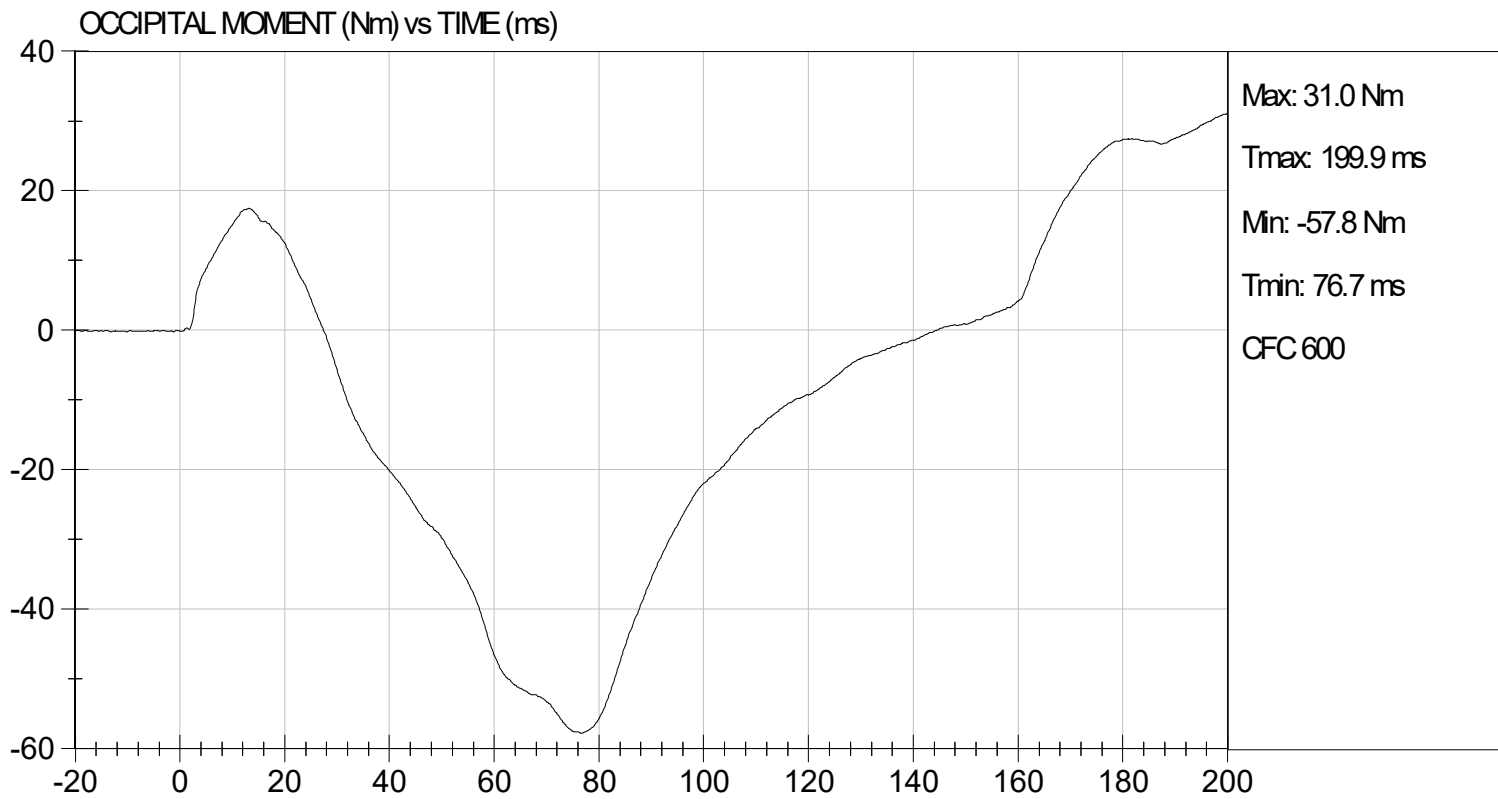
TEST DATE: 12/06/2024
TEST #: D243133





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

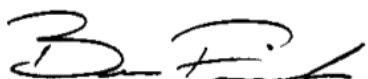
ATD Serial No: 064

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

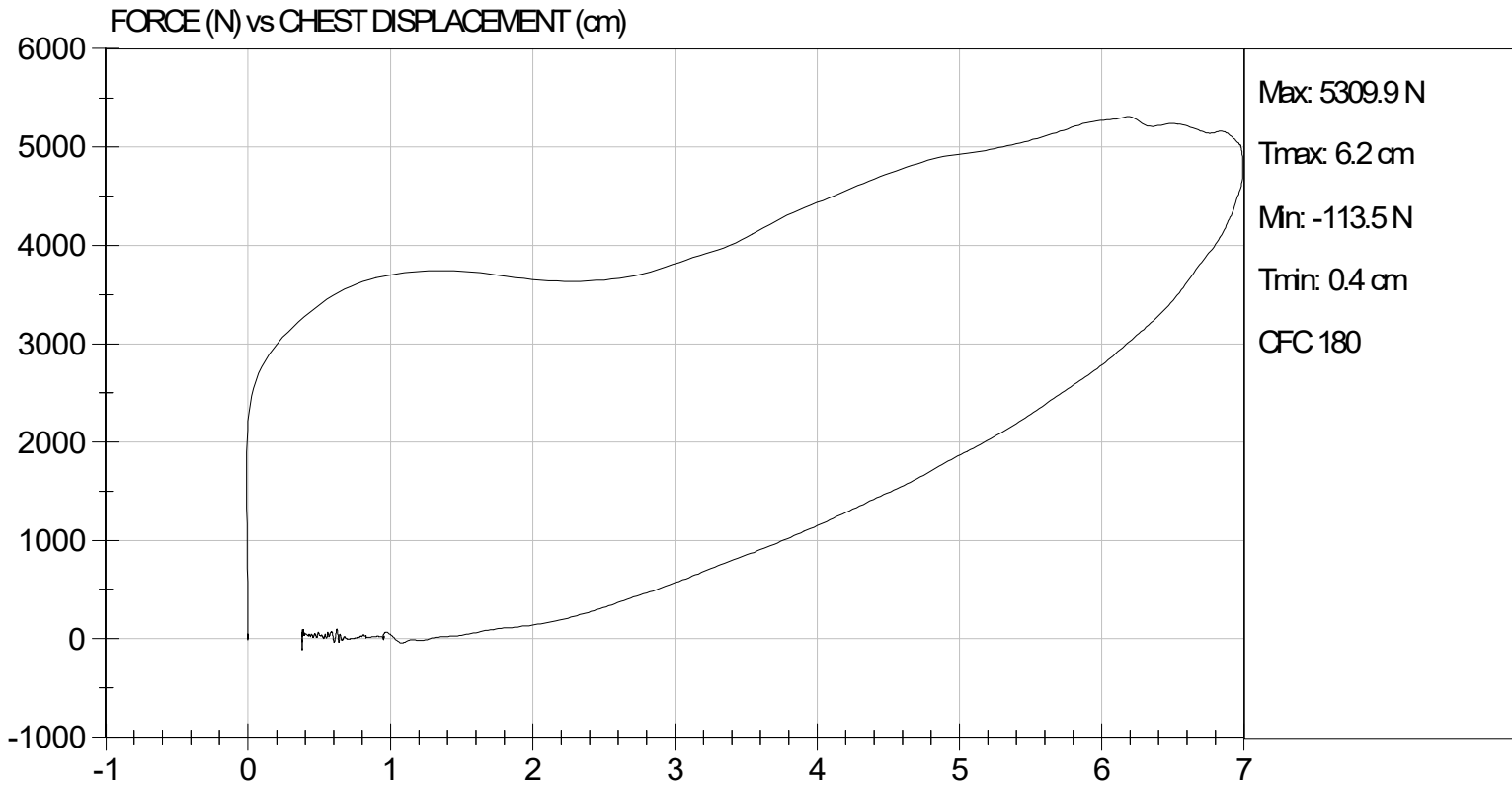
12/06/2024
Test Date


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

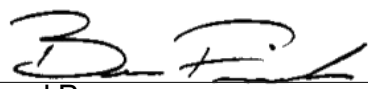
ATD Serial No: 064

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

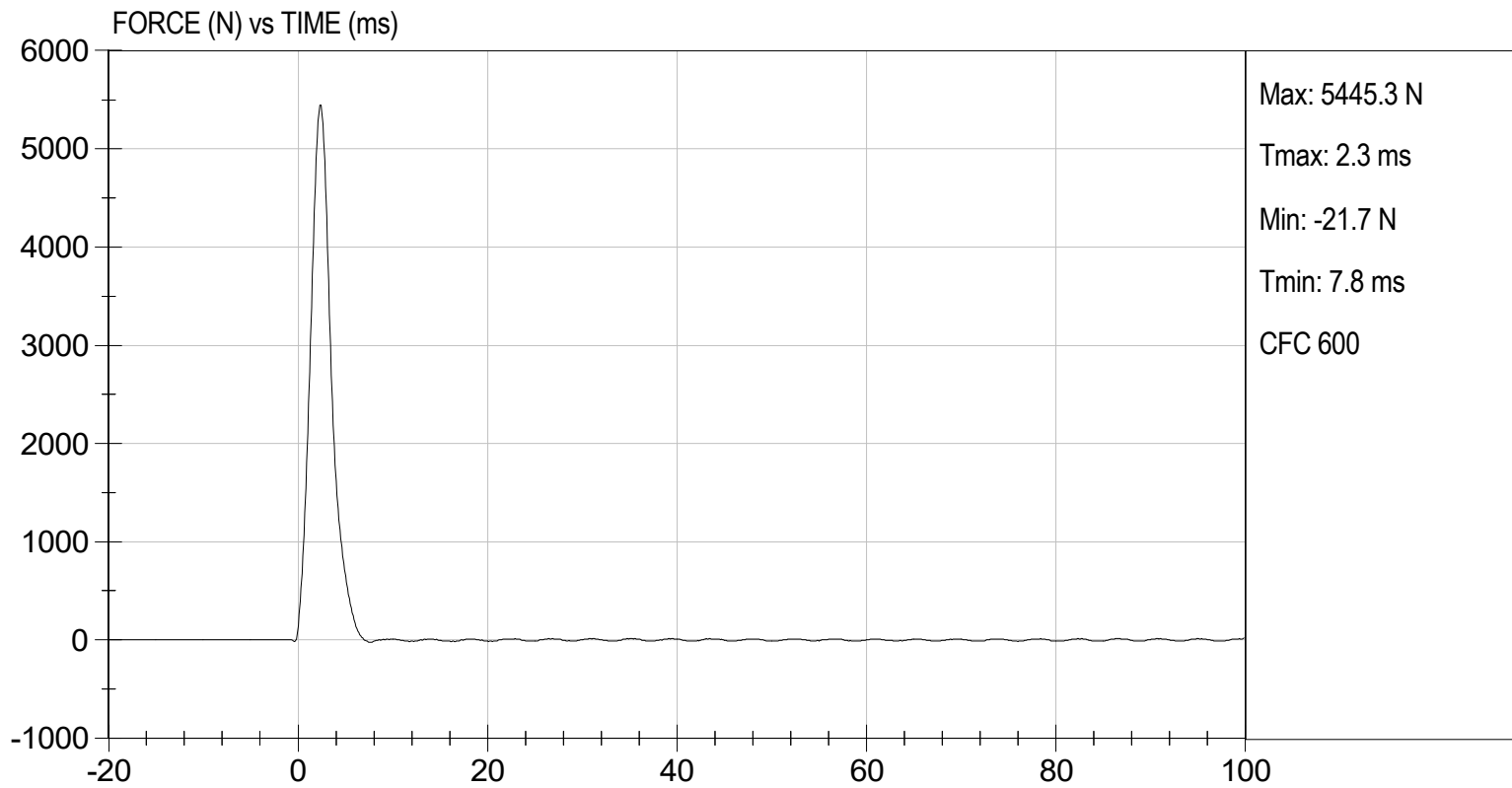
12/06/2024
Test Date


Approved By



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

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

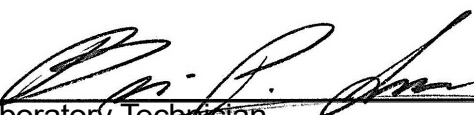


MGA RESEARCH CORPORATION
LEFT KNEE IMPACT TEST
HYBRID III 50TH PERCENTILE MALE

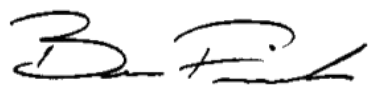
ATD Serial No: 064

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

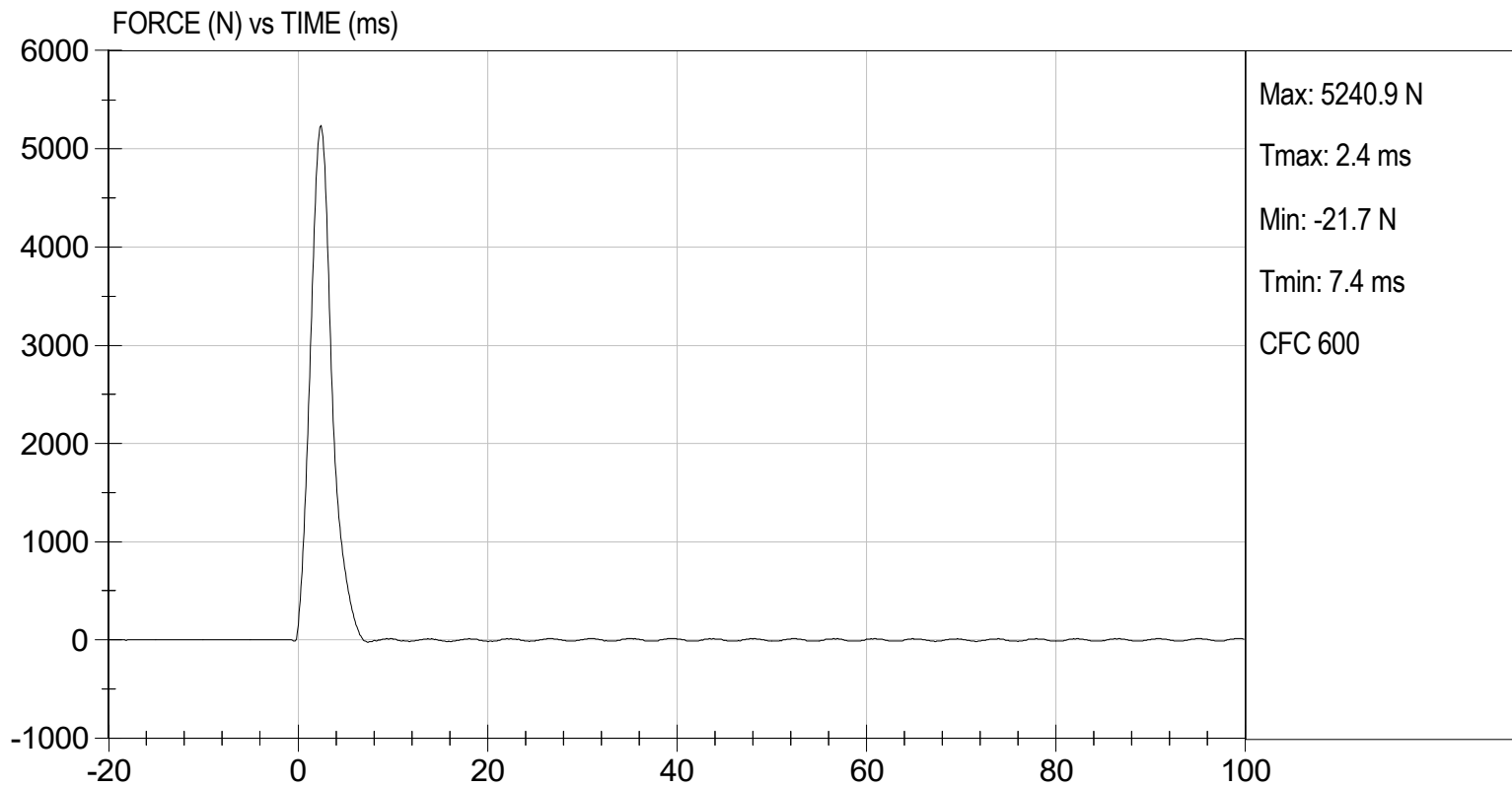
12/06/2024
Test Date


Approved By



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

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

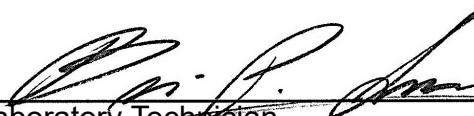


MGA RESEARCH CORPORATION
HIP-FEMUR FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

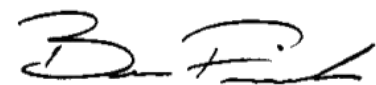
ATD Serial No: 064

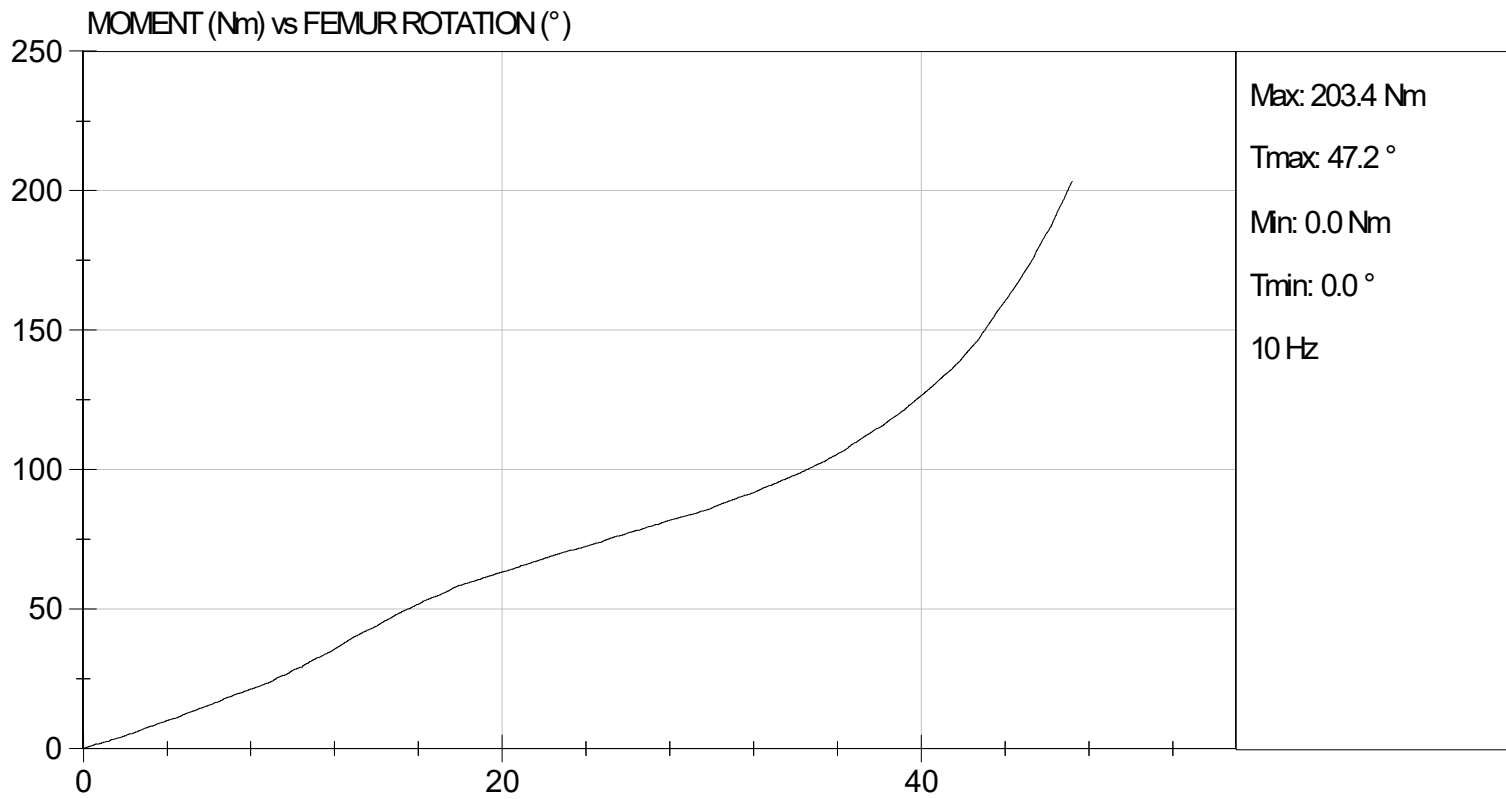
Test I.D: D243130

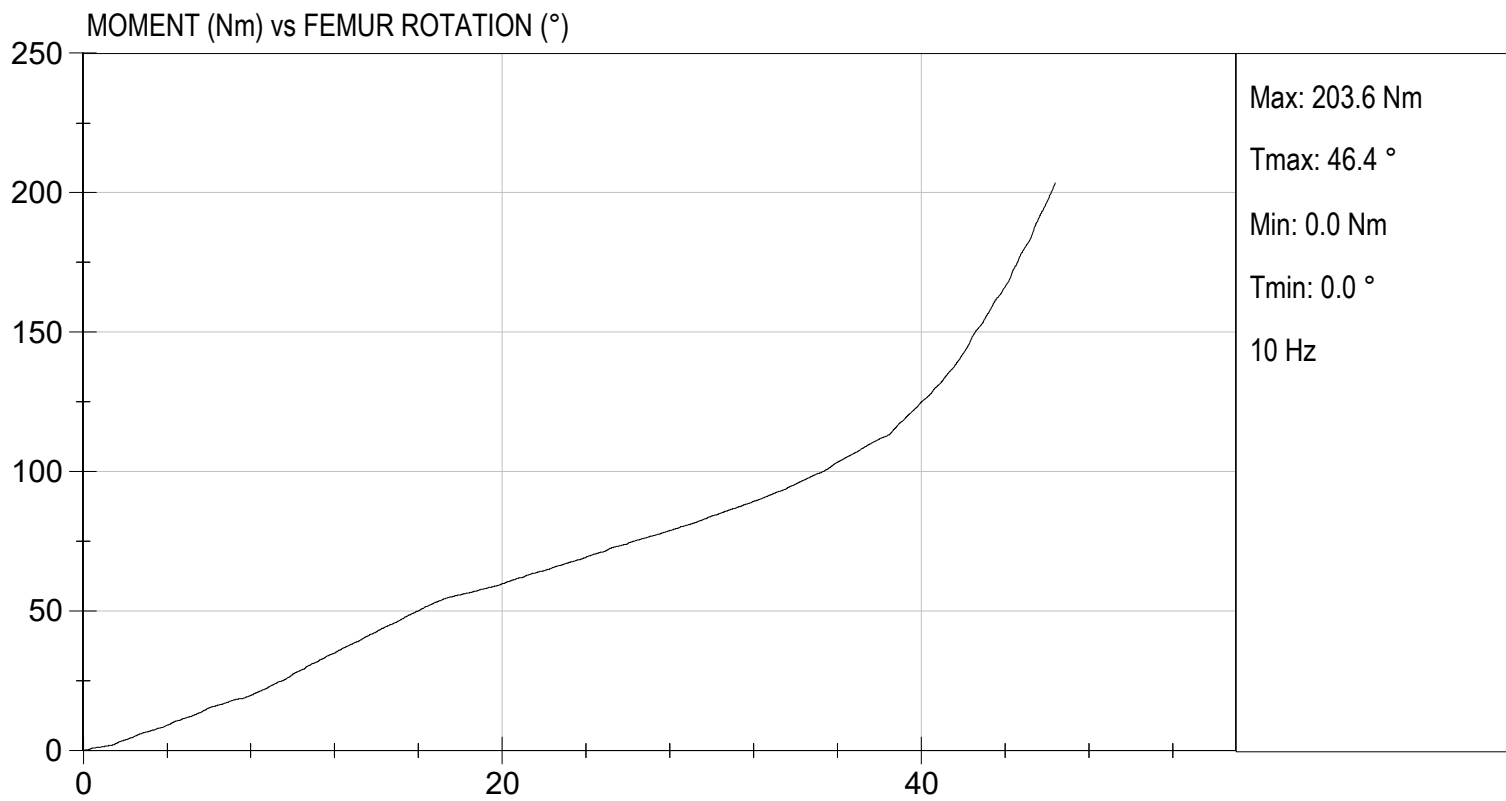
Tested Parameter	Units	Specification	Result		Pass/Fail
			Right	Left	
Laboratory Temperature	deg C	18.9 to 25.6	21.5	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	22	22	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.5	6.5	Pass
30 Degrees	Nm	94.9 Nm Max	86.2	84.1	Pass
150 ft-lbf / 203.4 Nm	Deg	40.0 to 50.0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


 Laboratory Technician

12/06/2024
 Test Date


 Approved By





QUALIFICATION TEST RESULTS

POST-TEST

HYBRID III 50TH PERCENTILE MALE - DRIVER ATD

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

ATD Serial No: 064

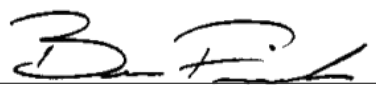
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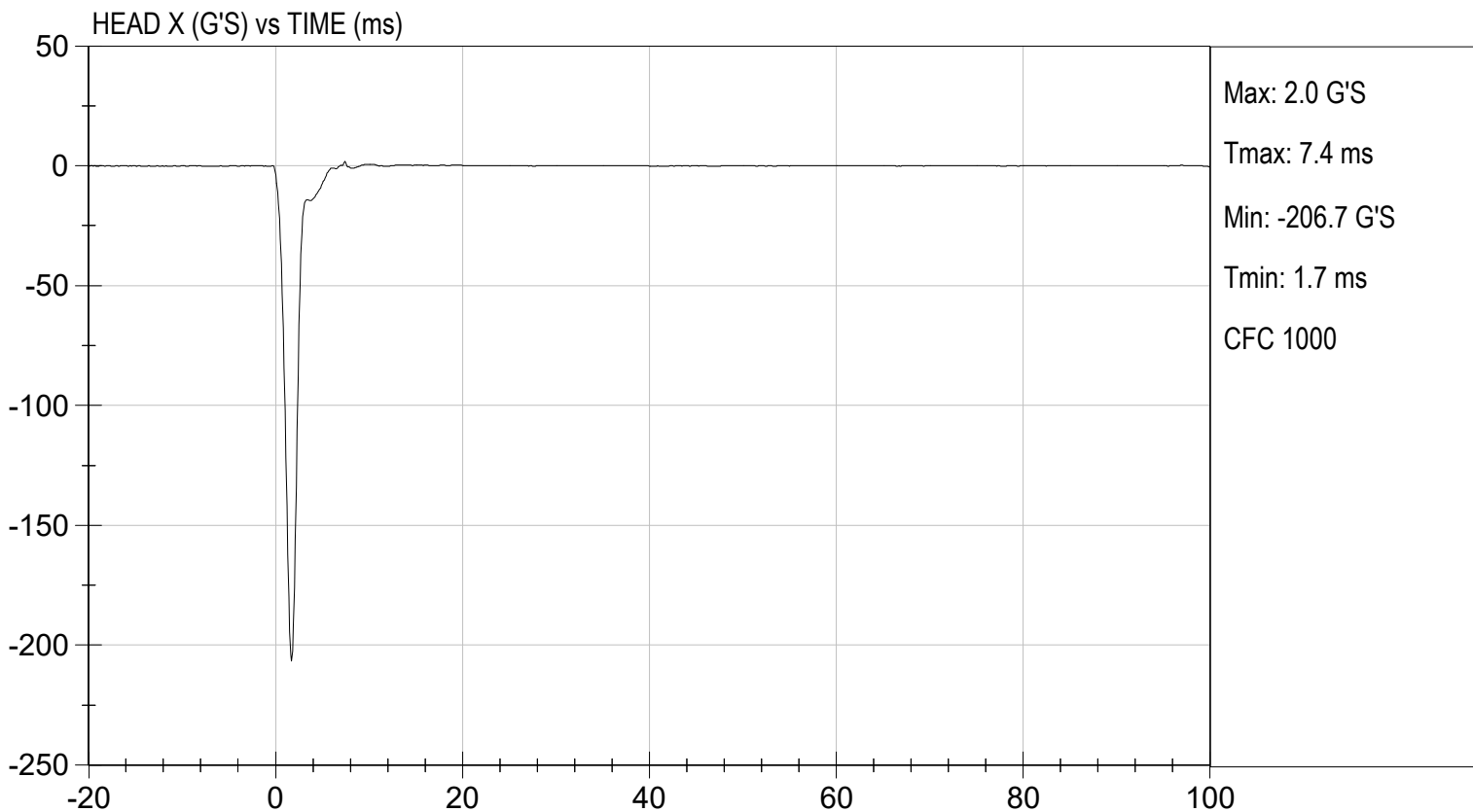
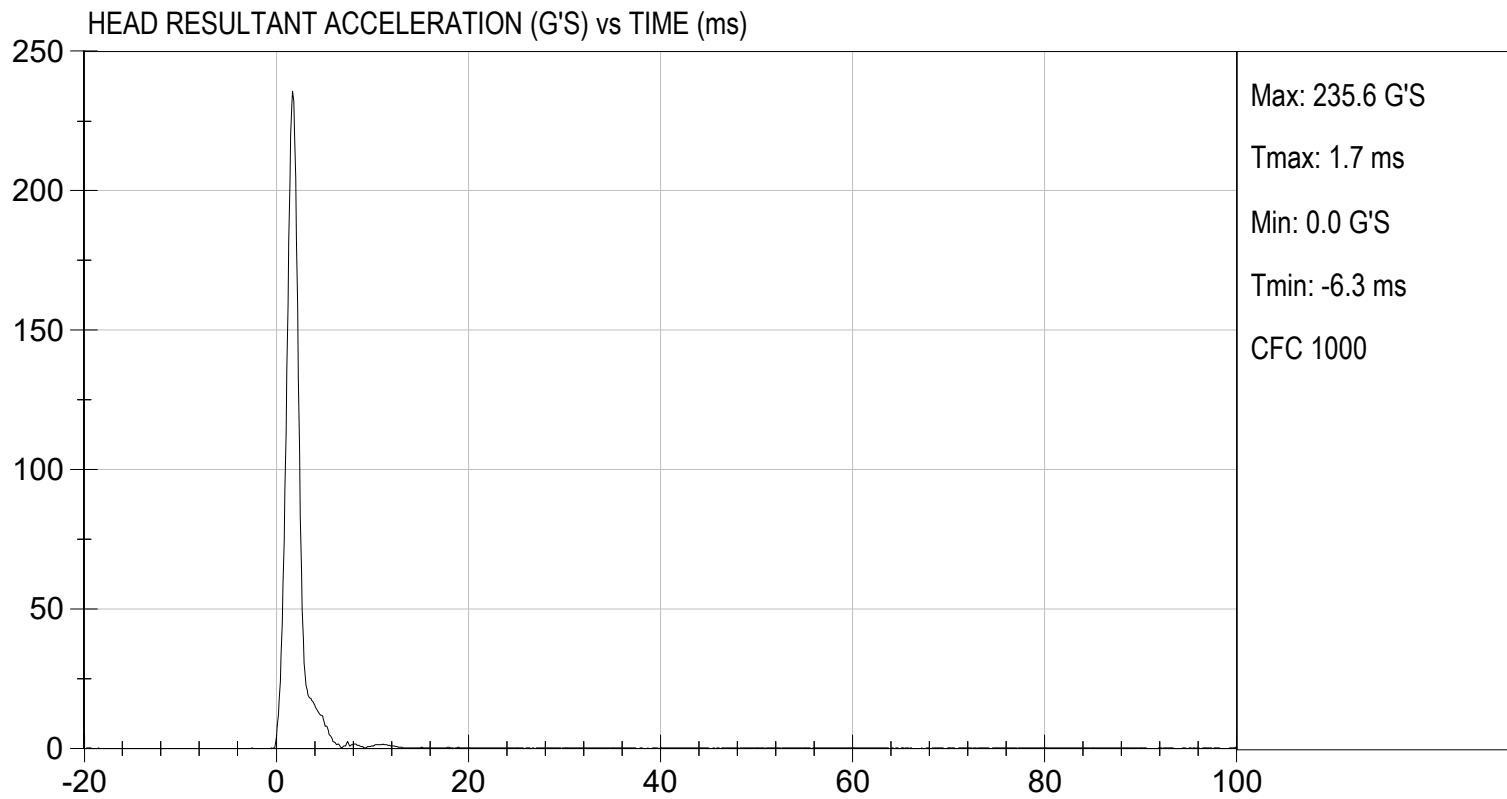
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	37	Pass
Peak Resultant Acceleration	G's	225 to 275	236	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	3.2	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 10% of peak	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

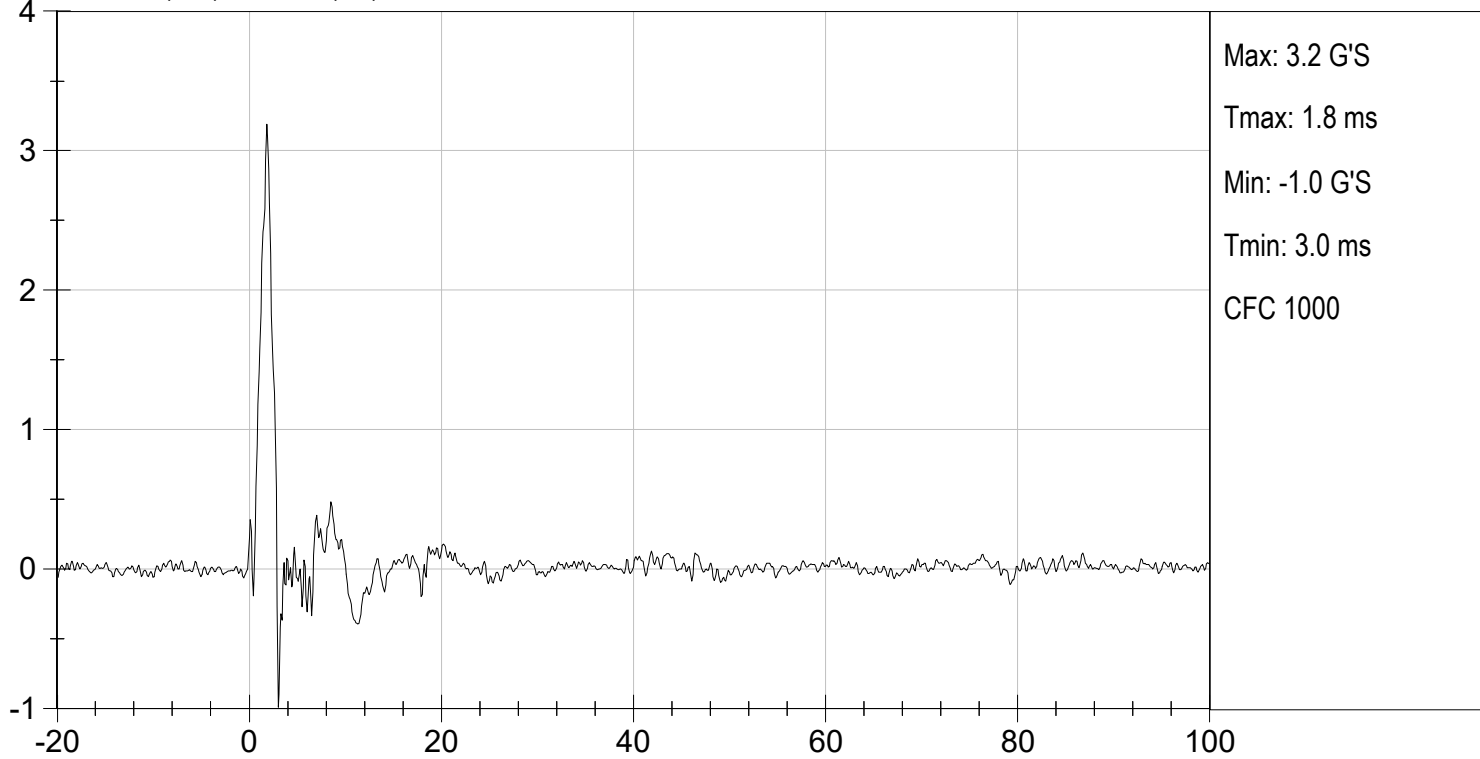
12/16/2024

Test Date

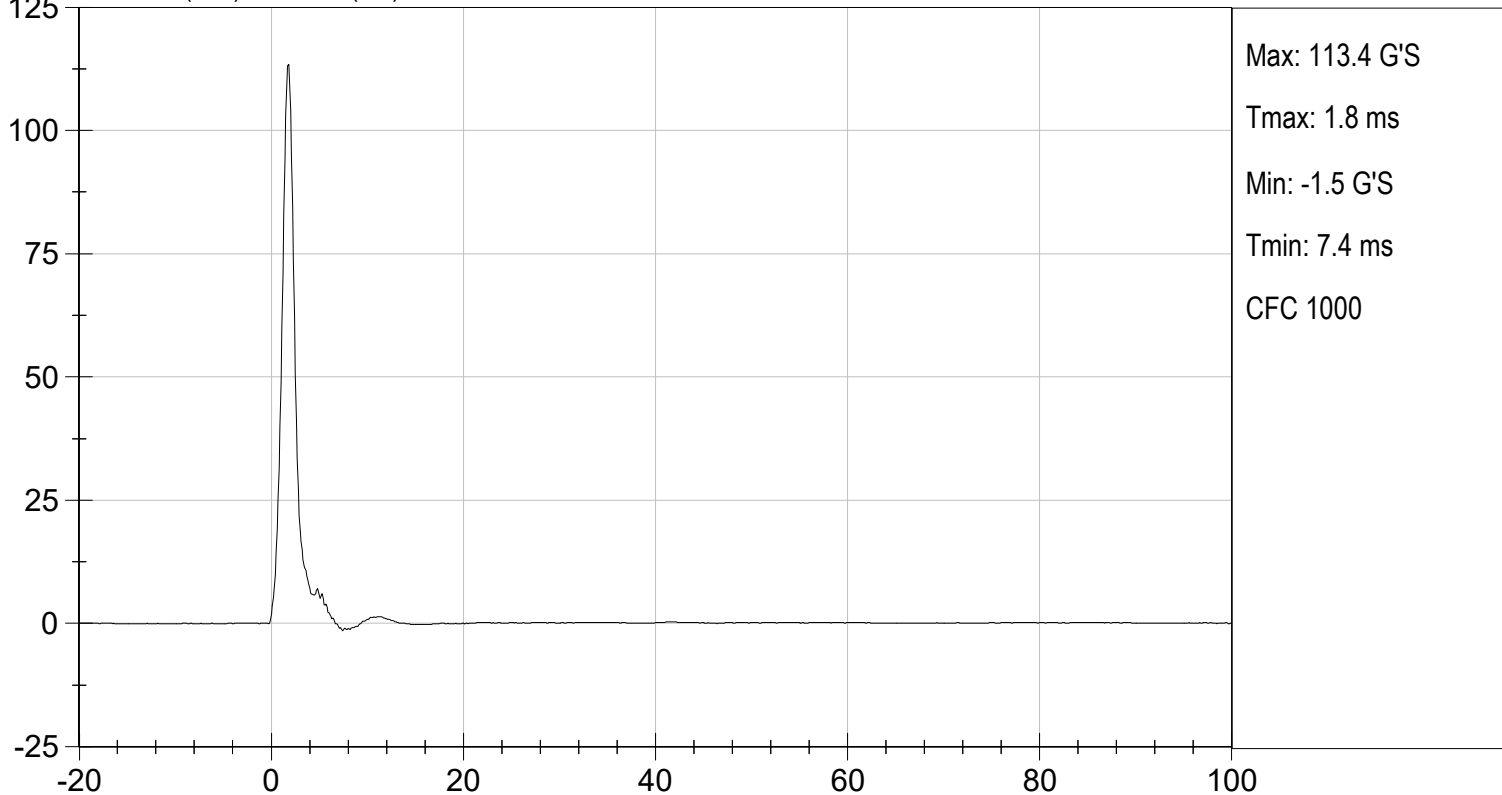

Approved By



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



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



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

ATD Serial No: 064

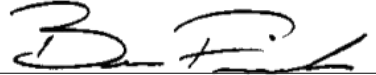
Test I.D: D243202

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	33	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.96	Pass
Pendulum Deceleration	10 ms	G's	22.50 to 27.50	23.35	Pass
	20 ms	G's	17.60 to 22.60	20.51	Pass
	30 ms	G's	12.50 to 18.50	14.90	Pass
Peak Pendulum Deceleration After 30 ms		G's	<= 29.0	14.8	Pass
Deceleration Decay Time to Cross 5 G's		ms	34.0 to 42.0	39.5	Pass
Maximum "D" Plane Rotation	Maximum	Deg	64.0 to 78.0	71.6	Pass
	Time	ms	57.0 to 64.0	59.3	Pass
"D" Plane Rotation Decay Time To Zero Crossing		ms	113.0 to 128.0	113.9	Pass
Moment About Occipital Condyle	Maximum	Nm	88.1 to 108.5	101.5	Pass
	Time	ms	47.0 to 58.0	51.1	Pass
Positive Moment Decay Time To Zero Crossing		ms	97.0 to 107.0	97.5	Pass
Overall Test Results					Pass


Laboratory Technician

12/17/2024

Test Date

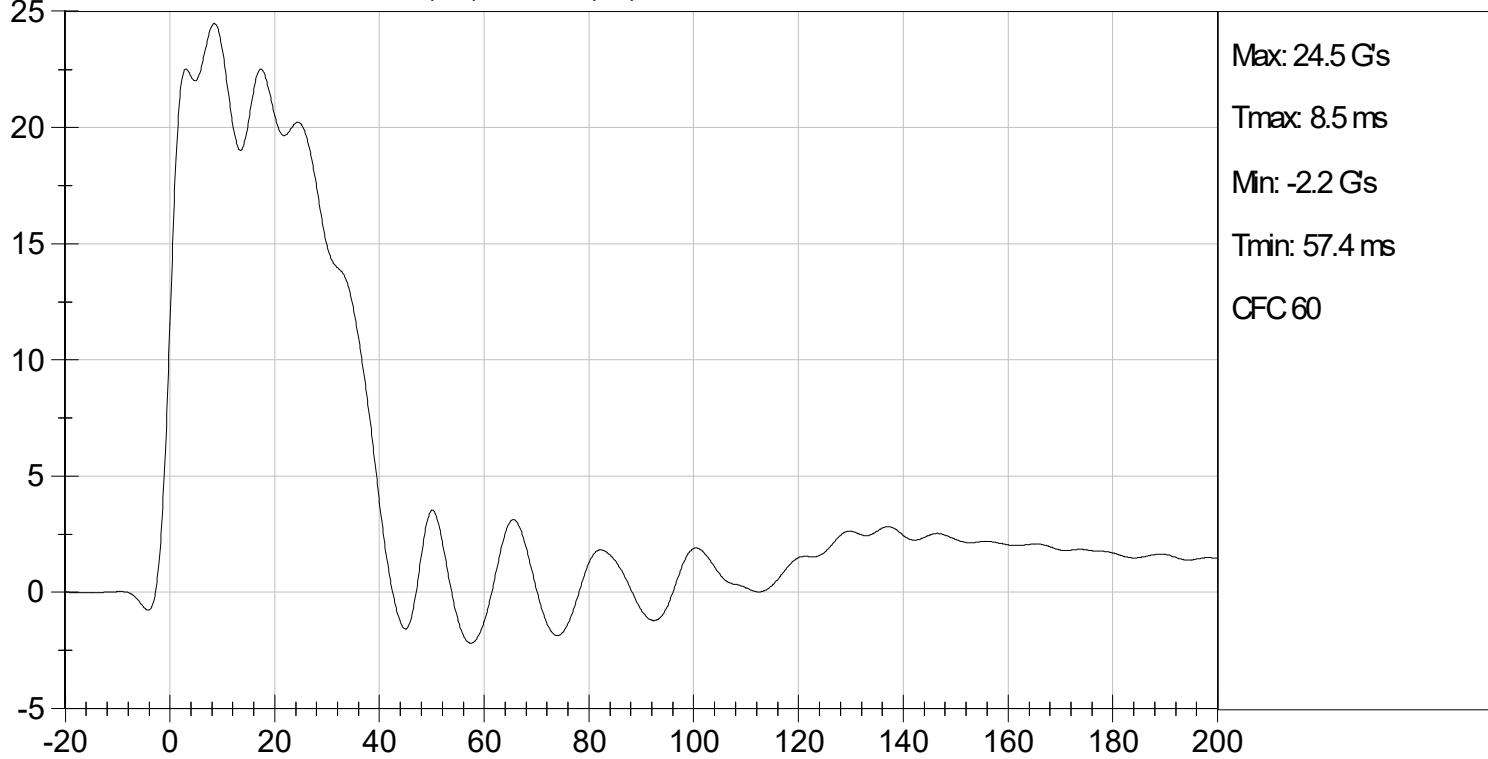

Approved By



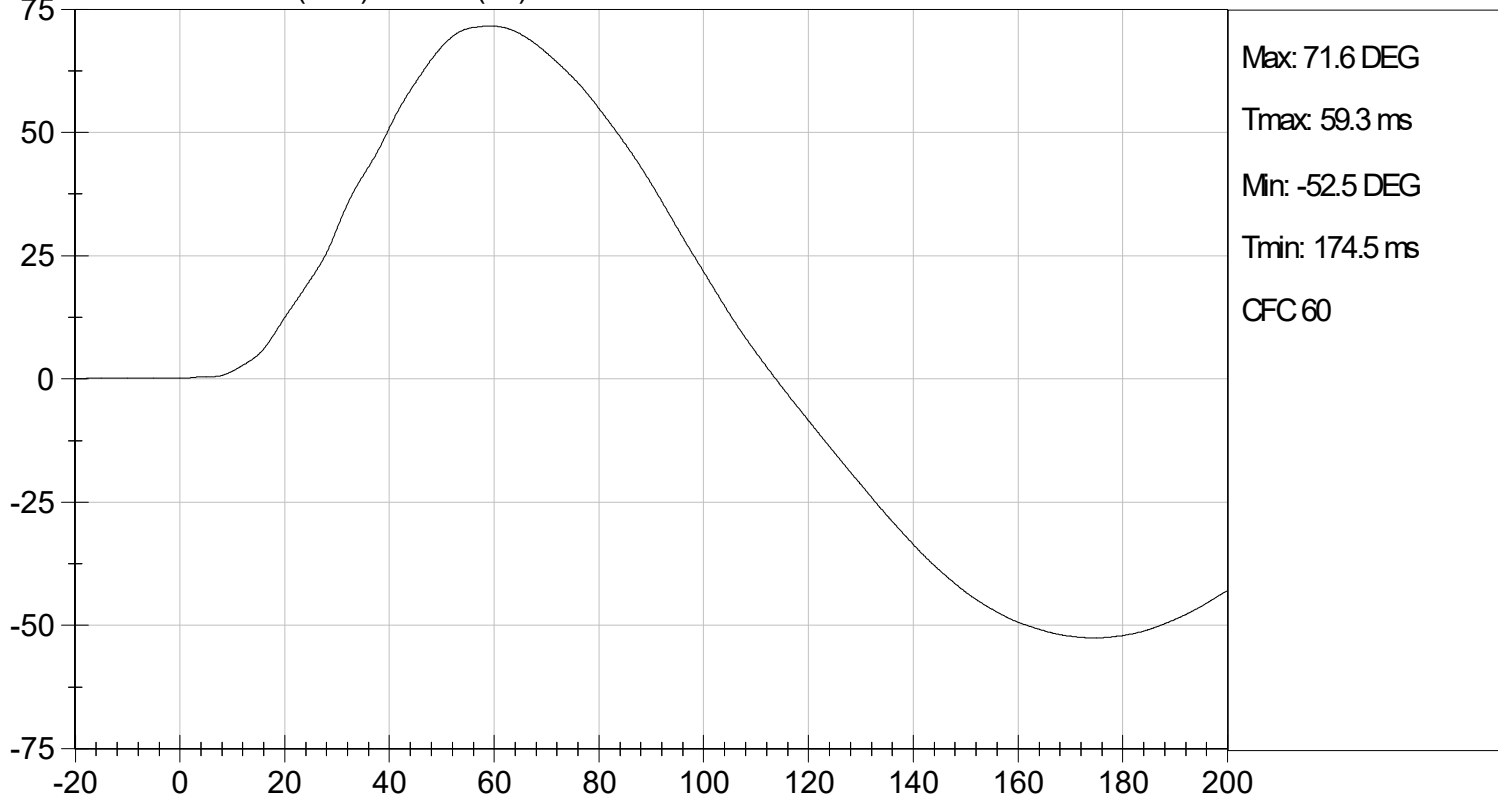
TEST DESC: NECK FLEXION
VELOCITY: 22.83 ft/s, 6.96 m/s

TEST DATE: 12/17/2024
TEST #: D243202

PENDULUM DECELERATION (Gs) vs TIME (ms)



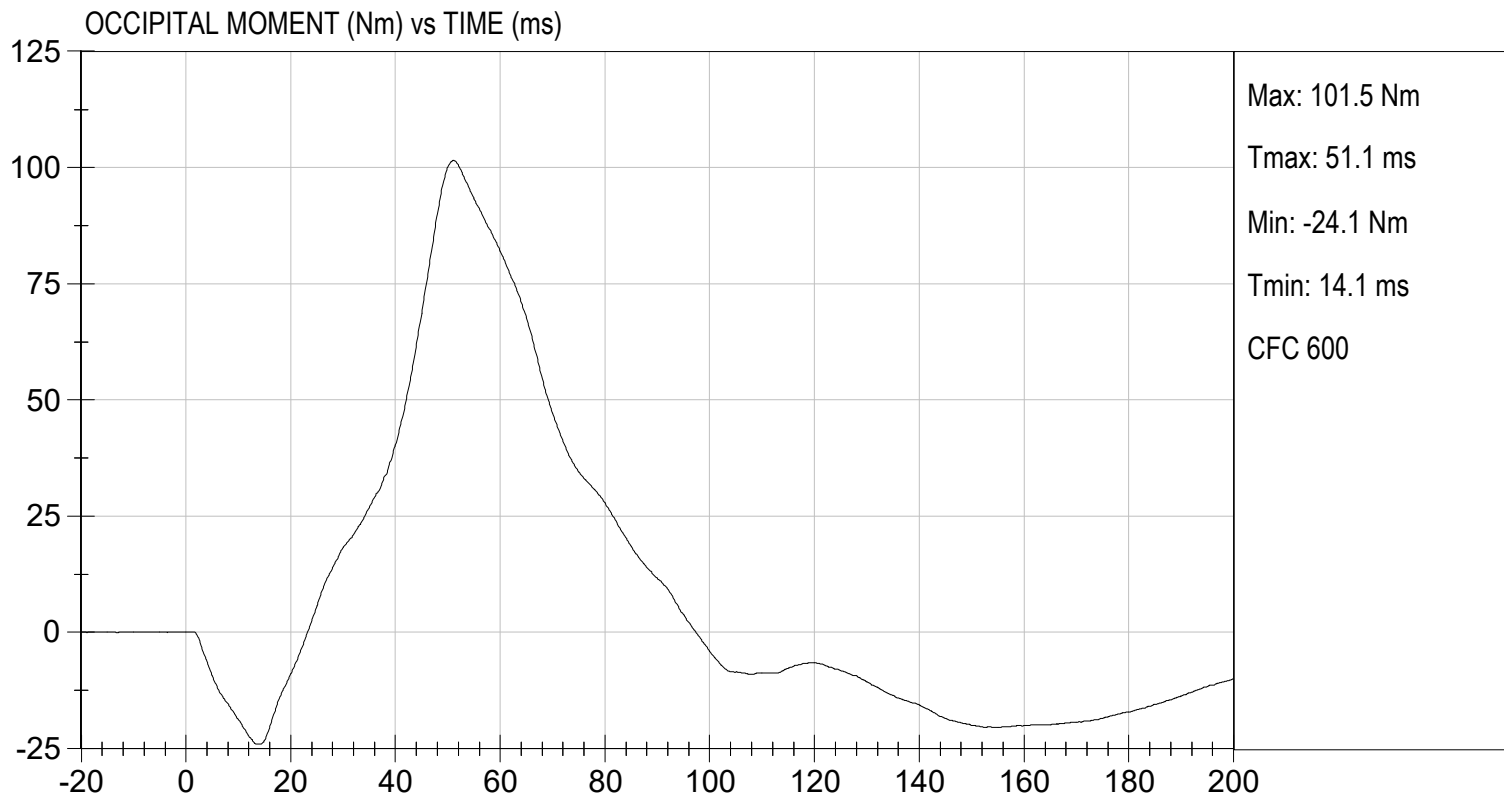
NECK ROTATION (DEG) vs TIME (ms)





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

TEST DATE: 12/17/2024
TEST #: D243202



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

ATD Serial No: 064

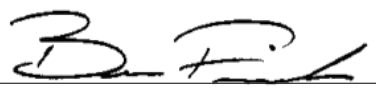
Test I.D: D243203

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		deg C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity		%	10 to 70	32	Pass
Pendulum Velocity		m/s	5.95 to 6.19	5.98	Pass
Pendulum Deceleration	10 ms	G's	17.20 to 21.20	18.63	Pass
	20 ms	G's	14.00 to 19.00	15.39	Pass
	30 ms	G's	11.00 to 16.00	12.91	Pass
Peak Pendulum Deceleration After 30 ms		G's	<= 22.0	13.4	Pass
Deceleration Decay Time to Cross 5 G's		ms	38.0 to 46.0	42.7	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	97.0	Pass
	Time	ms	72.0 to 82.0	79.8	Pass
"D" Plane Rotation Decay Time To Zero Crossing		ms	147.0 to 174.0	158.9	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to -79.9	-56.7	Pass
	Time	ms	65.0 to 79.0	76.7	Pass
Negative Moment Decay Time To Zero Crossing		ms	120.0 to 148.0	143.4	Pass
Overall Test Results					Pass


Laboratory Technician

12/17/2024

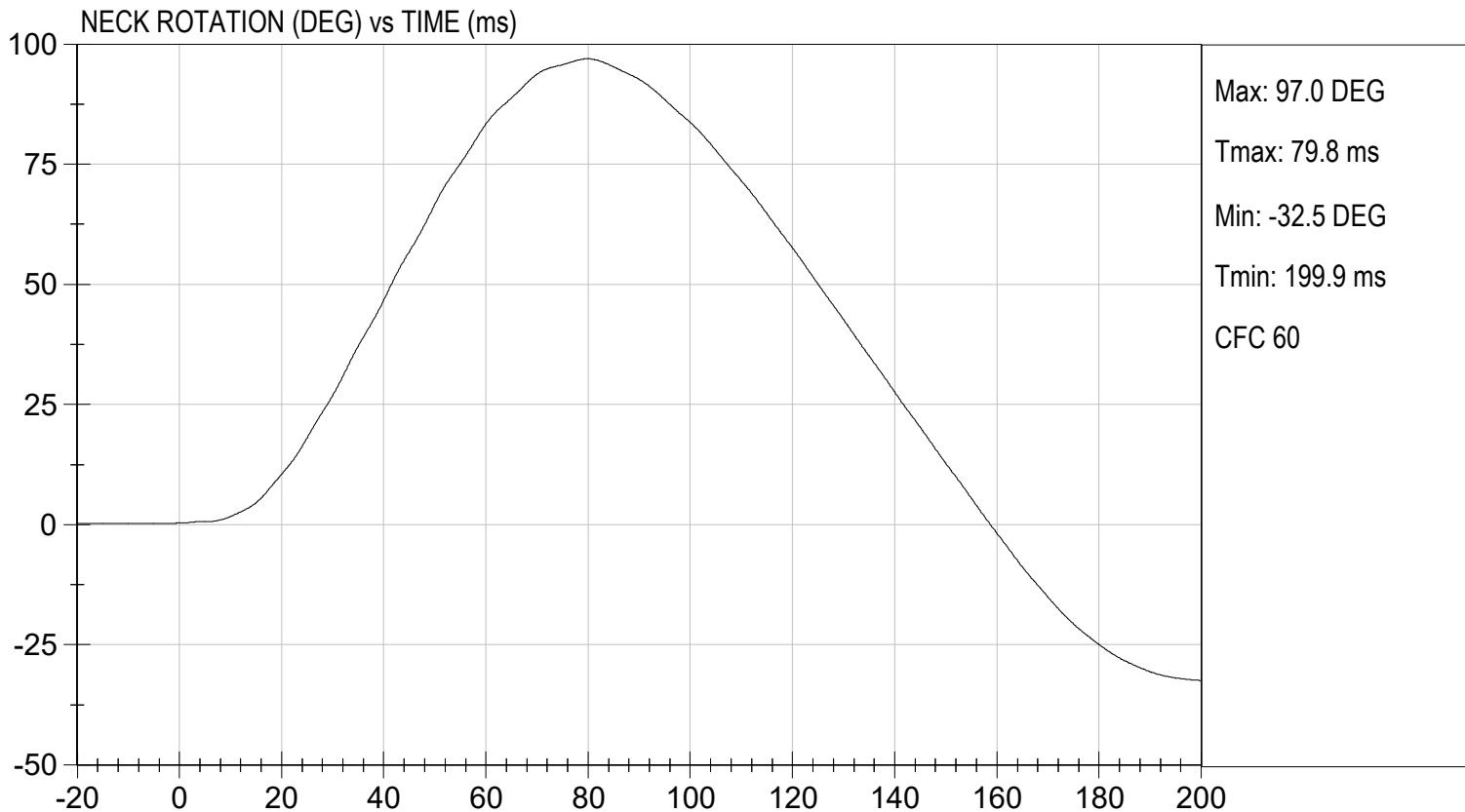
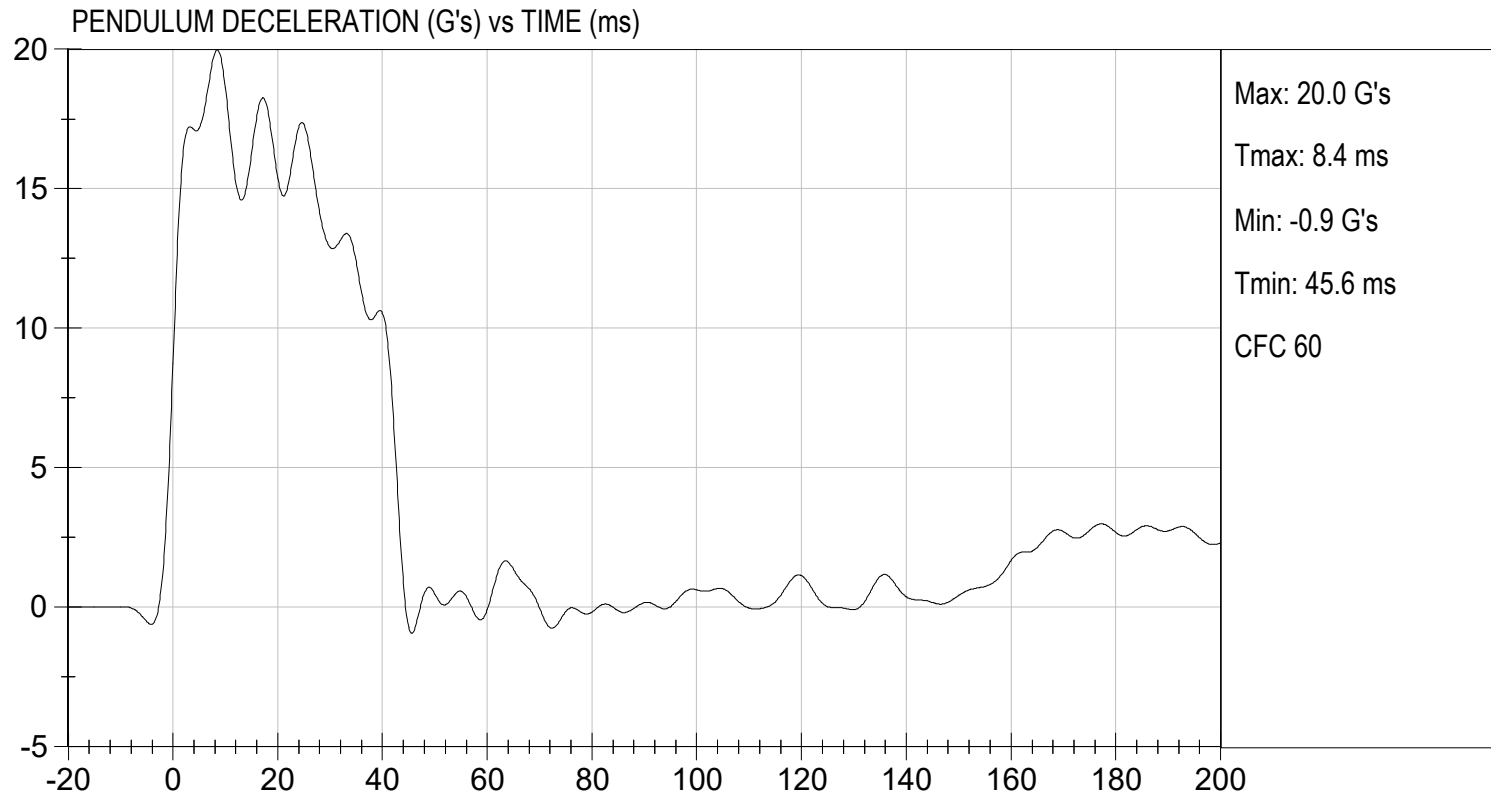
Test Date


Approved By



TEST DESC: NECK EXTENSION
VELOCITY: 19.61 ft/s, 5.98 m/s

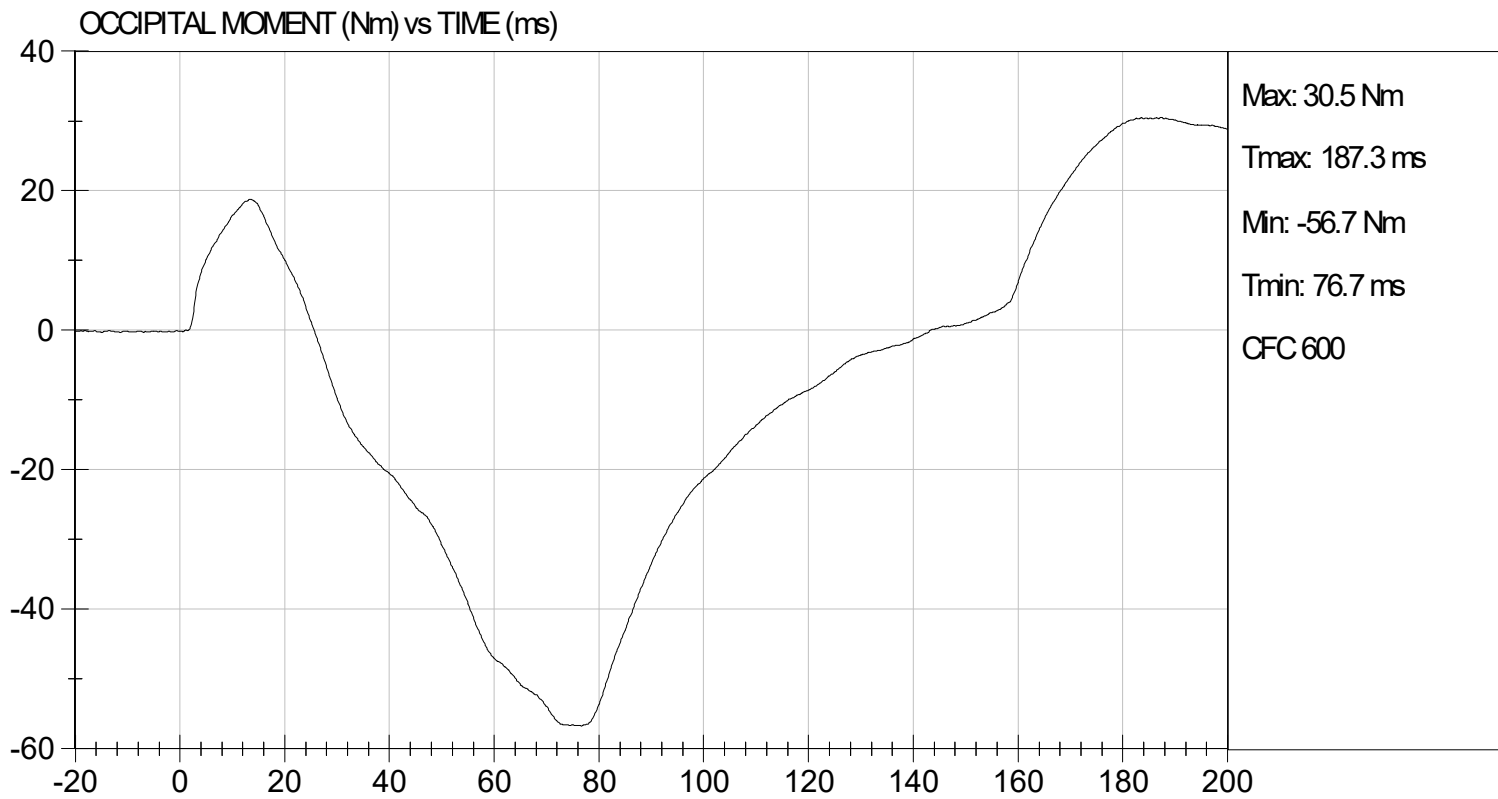
TEST DATE: 12/17/2024
TEST #: D243203





TEST DESC: NECK EXTENSION
VELOCITY: 19.61 ft/s, 5.98 m/s

TEST DATE: 12/17/2024
TEST #: D243203



MGA RESEARCH CORPORATION
THORAX IMPACT
HYBRID III 50TH PERCENTILE MALE

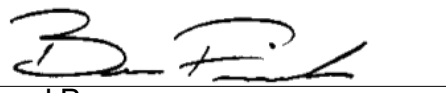
ATD Serial No: 064

Test I.D: D243204

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	36	Pass
Probe Velocity	m/s	6.58 to 6.82	6.68	Pass
Peak Probe Force	N	5159 to 5893	5,346	Pass
Peak Sternum Displacement	cm	6.35 to 7.26	6.77	Pass
Internal Hysteresis	%	69 to 85	72	Pass
			Overall Test Results	Pass


Laboratory Technician

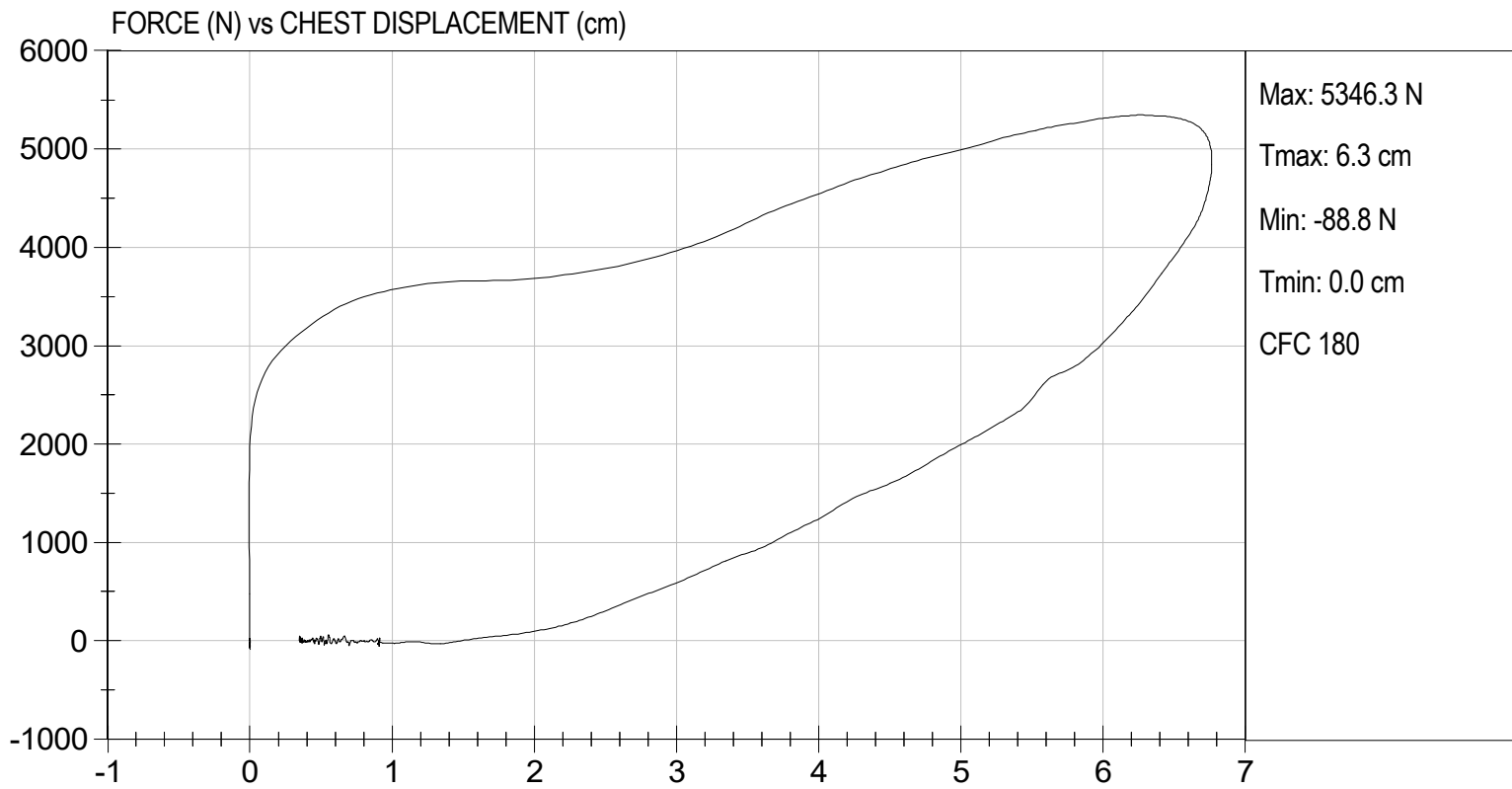
12/16/2024
Test Date


Approved By



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

TEST DATE: 12/16/2024
TEST #: D243204



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

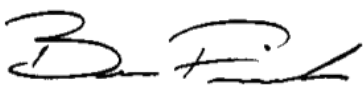
ATD Serial No: 064

Test I.D: D243205

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	34	Pass
Probe Velocity	m/s	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	4715 to 5782	5,133	Pass
			Overall Test Results	Pass


Laboratory Technician

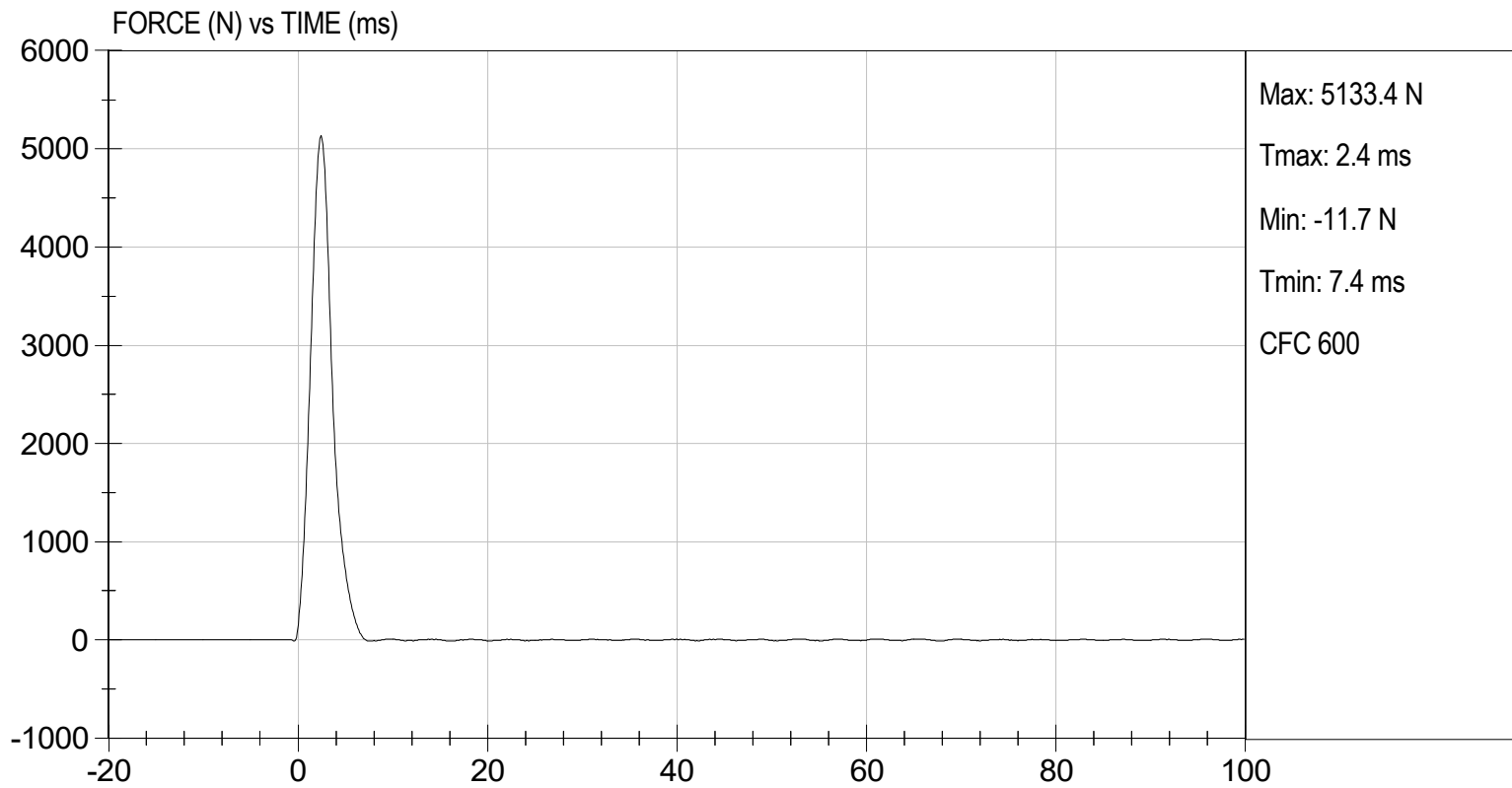
12/17/2024
Test Date


Approved By



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

TEST DATE: 12/17/2024
TEST #: D243205



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

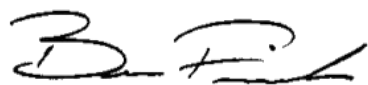
ATD Serial No: 064

Test I.D: D243206

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	34	Pass
Probe Velocity	m/s	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	4715 to 5782	5,093	Pass
Overall Test Results				Pass


Laboratory Technician

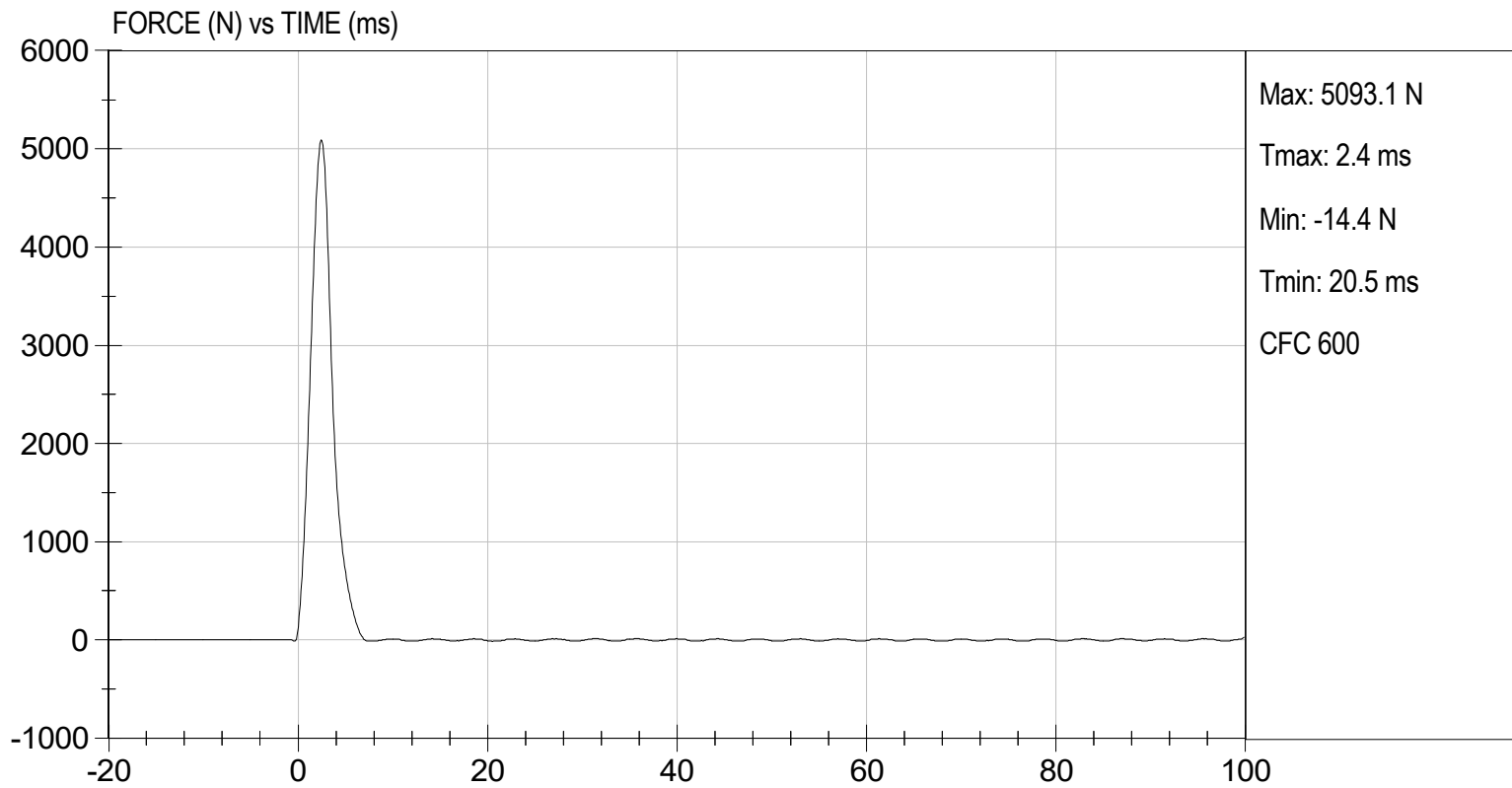
12/17/2024
Test Date


Approved By



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

TEST DATE: 12/17/2024
TEST #: D243206

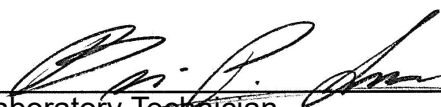


MGA RESEARCH CORPORATION
HIP-FEMUR FLEXION TEST
HYBRID III 50TH PERCENTILE MALE

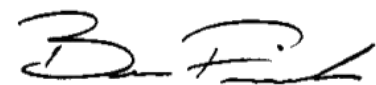
ATD Serial No: 064

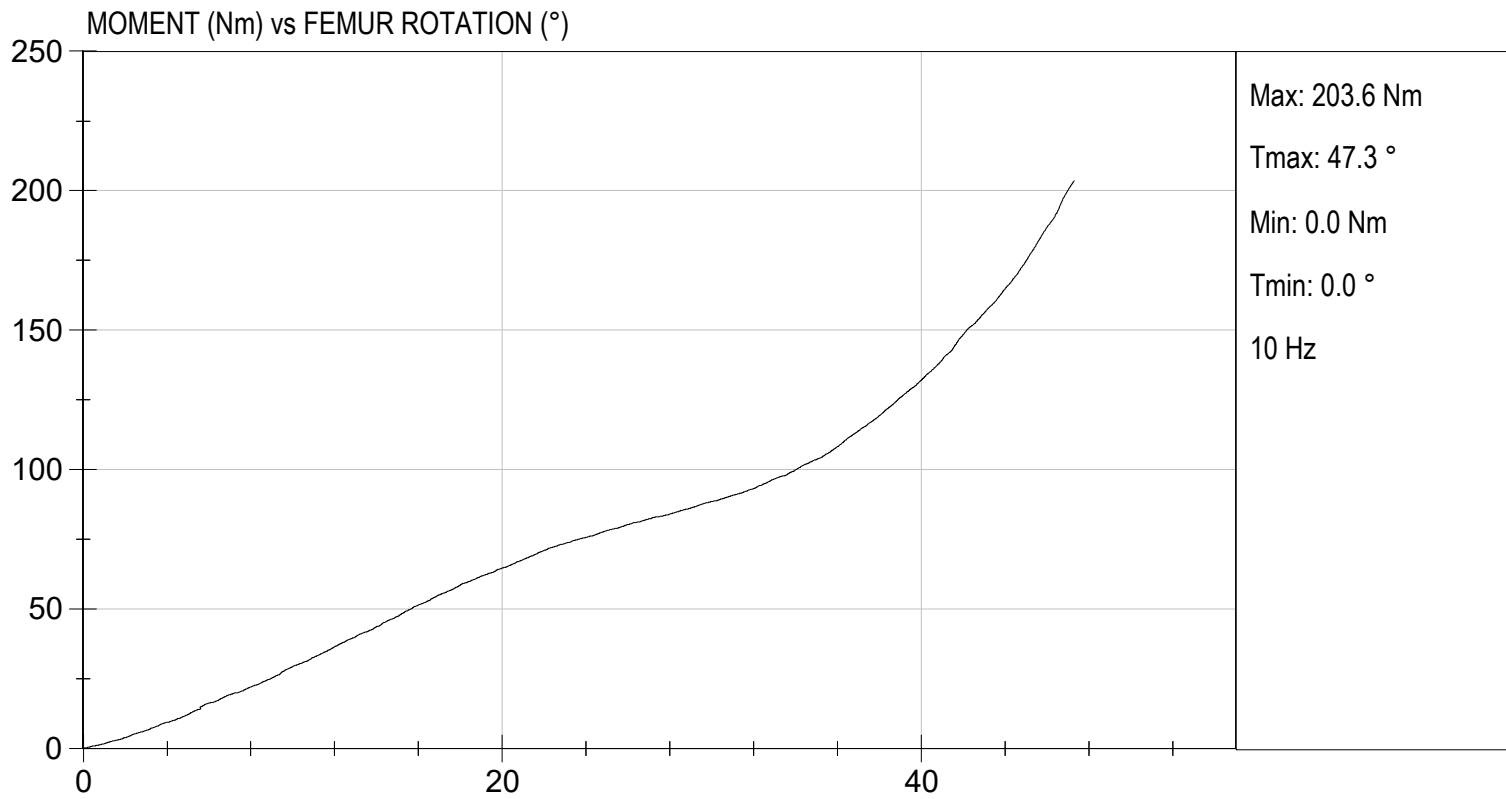
Test I.D: D243200

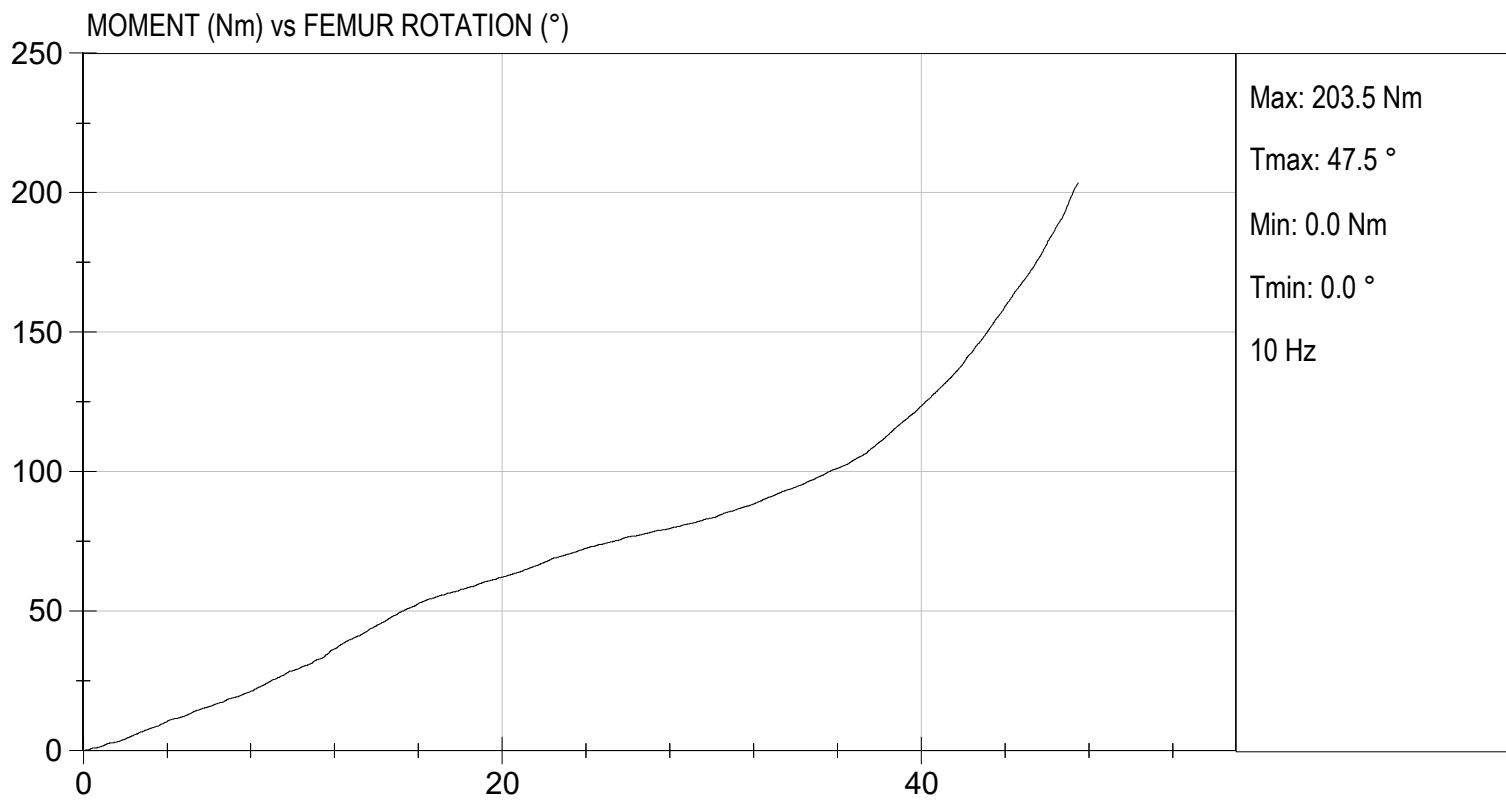
Tested Parameter	Units	Specification	Result		Pass/Fail
			Right	Left	
Laboratory Temperature	deg C	18.9 to 25.6	21.8	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	37	37	Pass
Rotation Rate	deg/s	5.0 to 10.0	6.4	6.5	Pass
30 Degrees	Nm	94.9 Nm Max	88.5	83.4	Pass
150 ft-lbf / 203.4 Nm	Deg	40.0 to 50.0 Degree Max Rotation	47.3	47.5	Pass
Overall Test Results					Pass


 Laboratory Technician

12/16/2024
 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

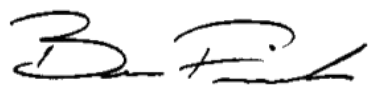
ATD Serial No: 142

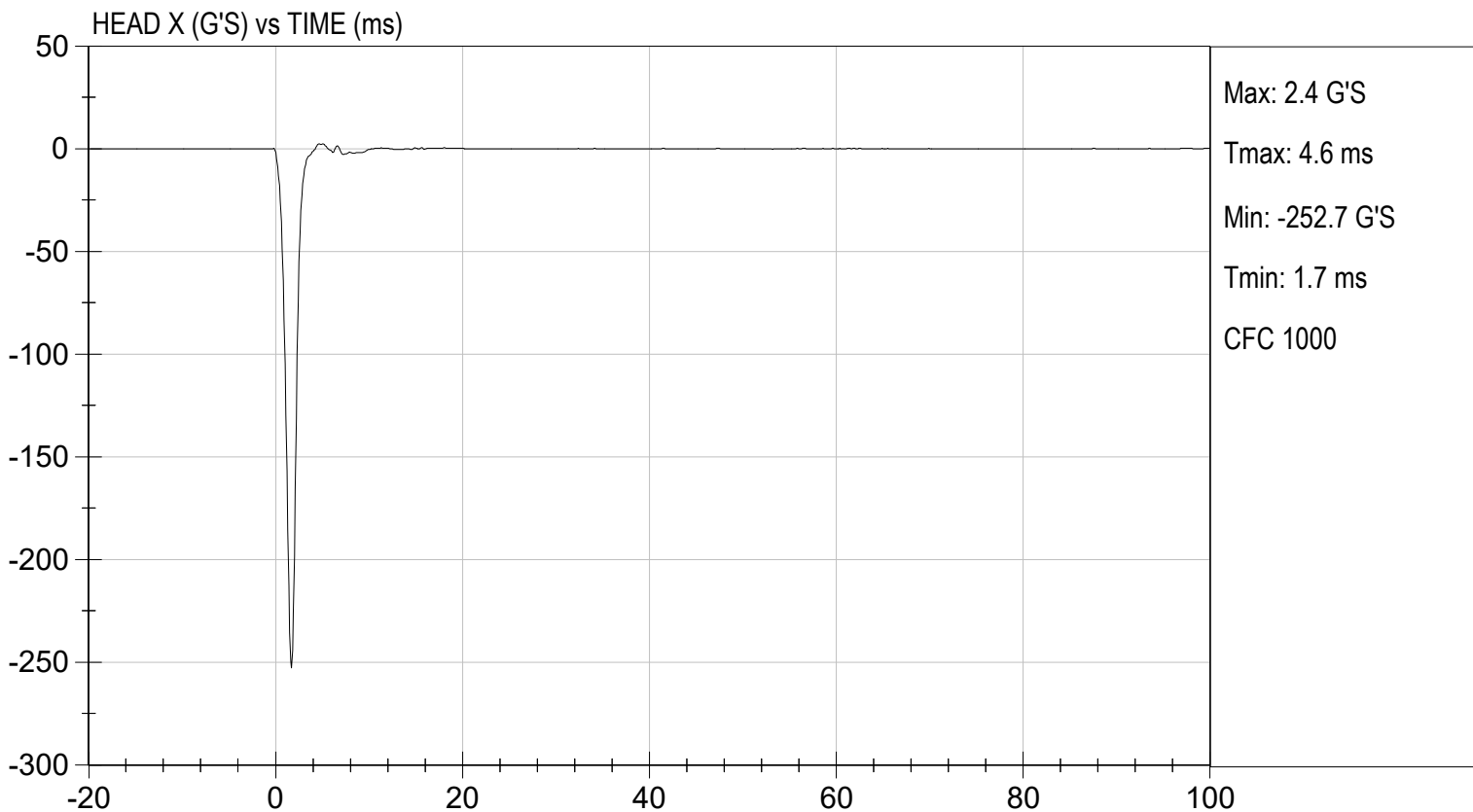
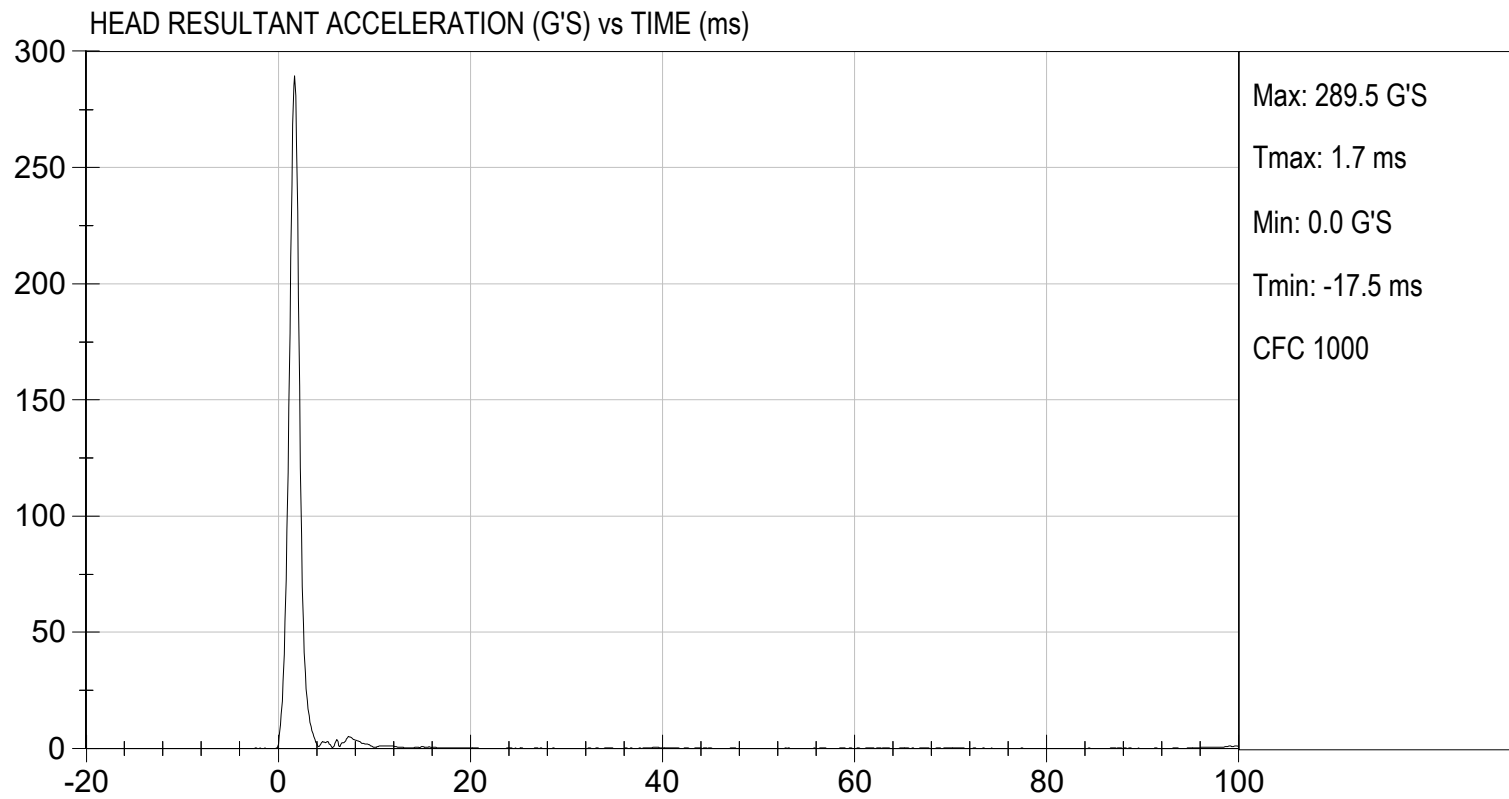
Test ID: D243121

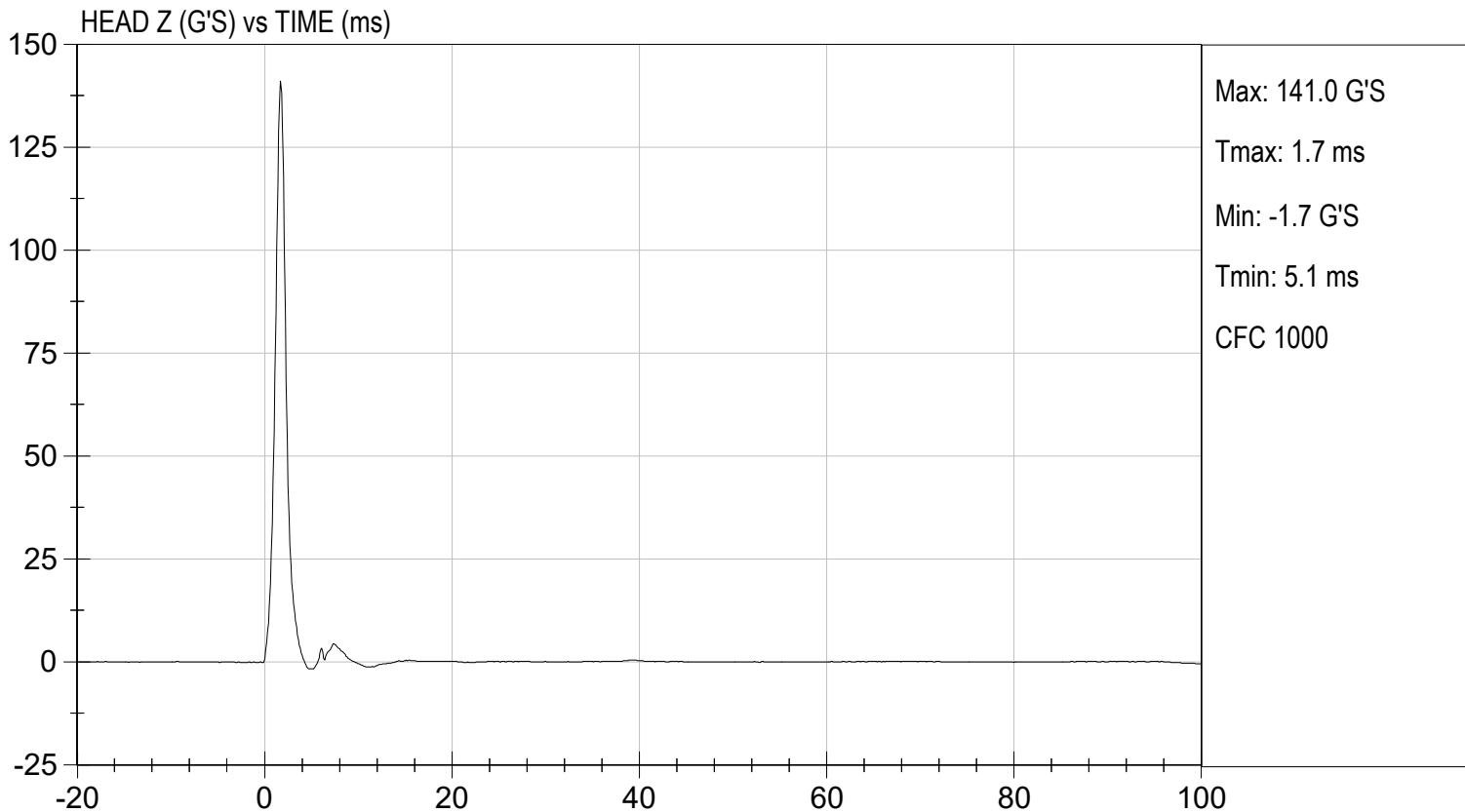
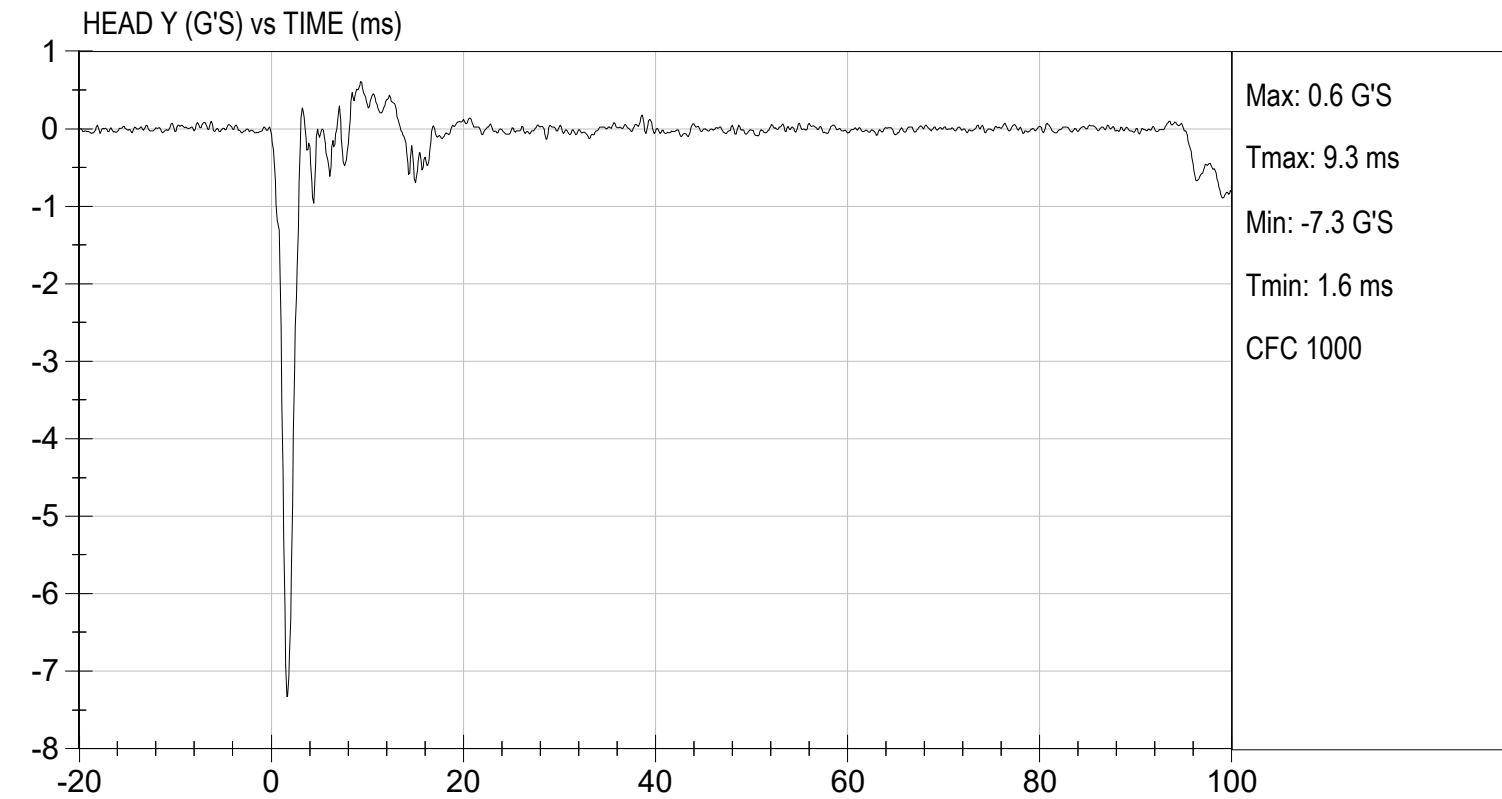
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	22	Pass
Peak Resultant Acceleration	G's	250 to 300	289	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	-7.3	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A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

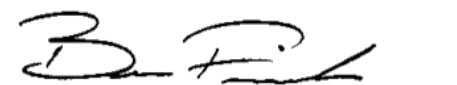
Test I.D: D243122

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

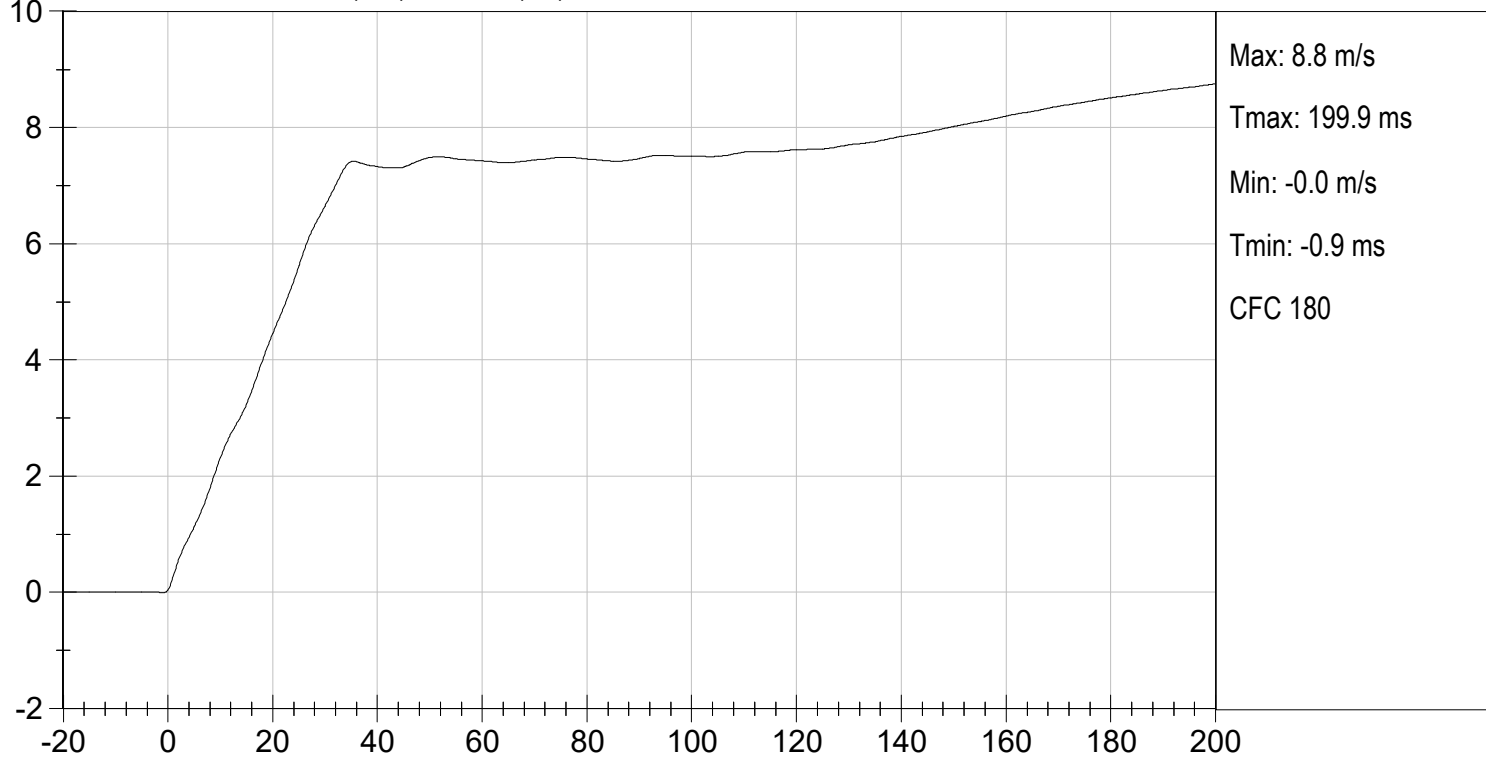

Approved By



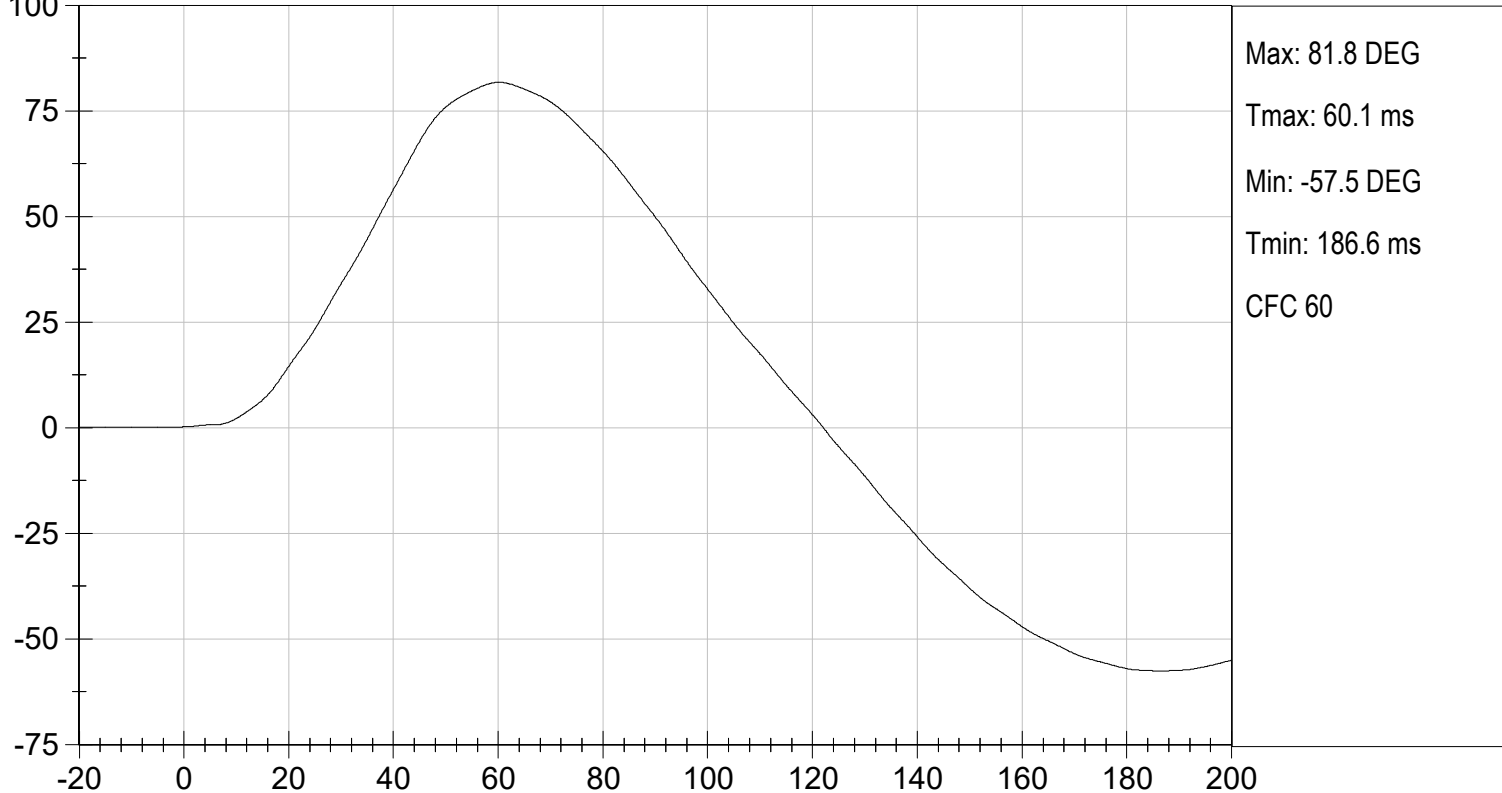
TEST DESC: NECK FLEXION
VELOCITY: 23.15 ft/s, 7.06 m/s

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

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



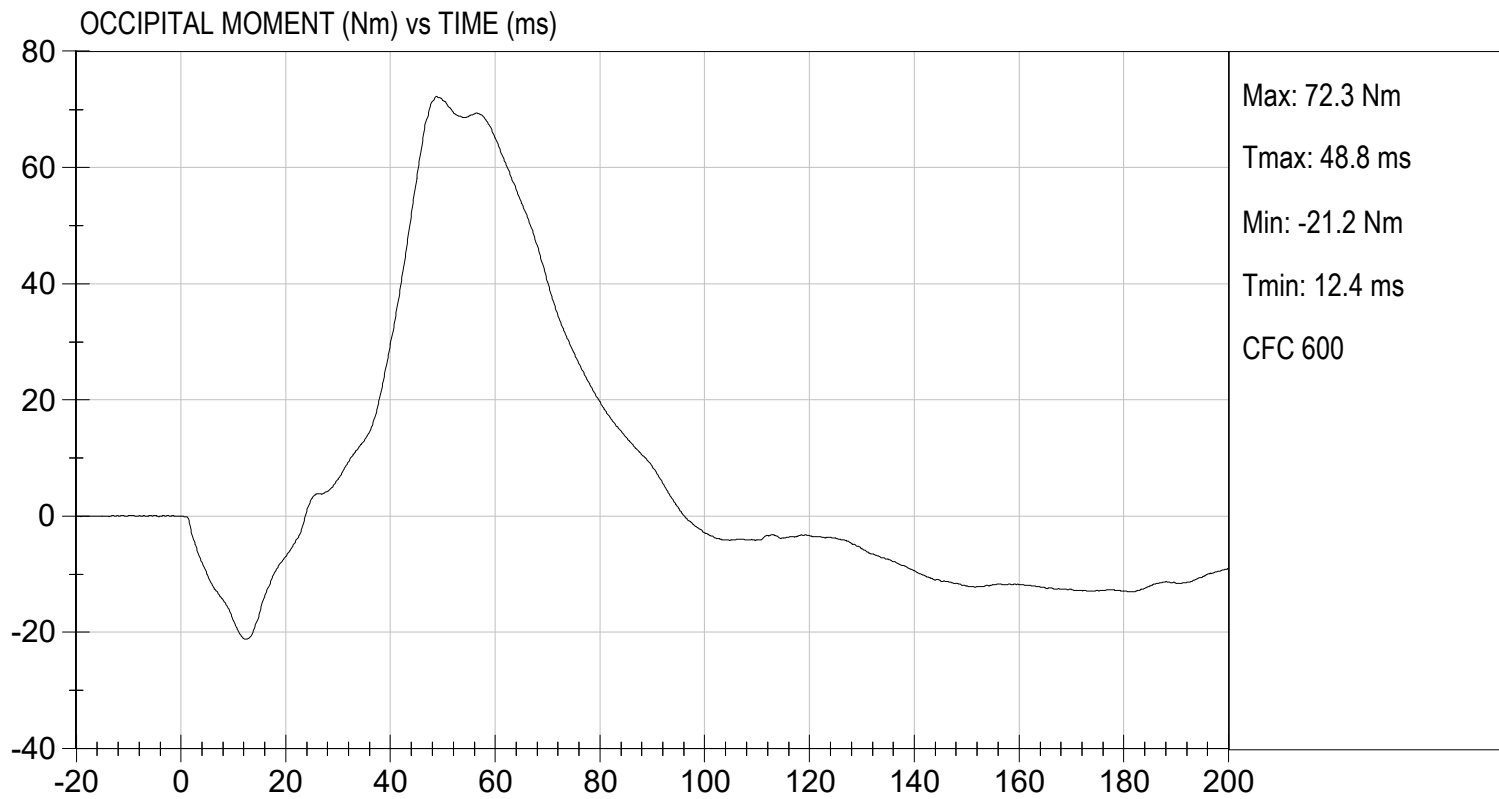
NECK ROTATION (DEG) vs TIME (ms)





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

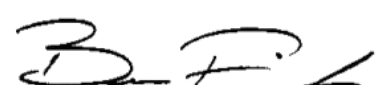
Test I.D: D243123

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

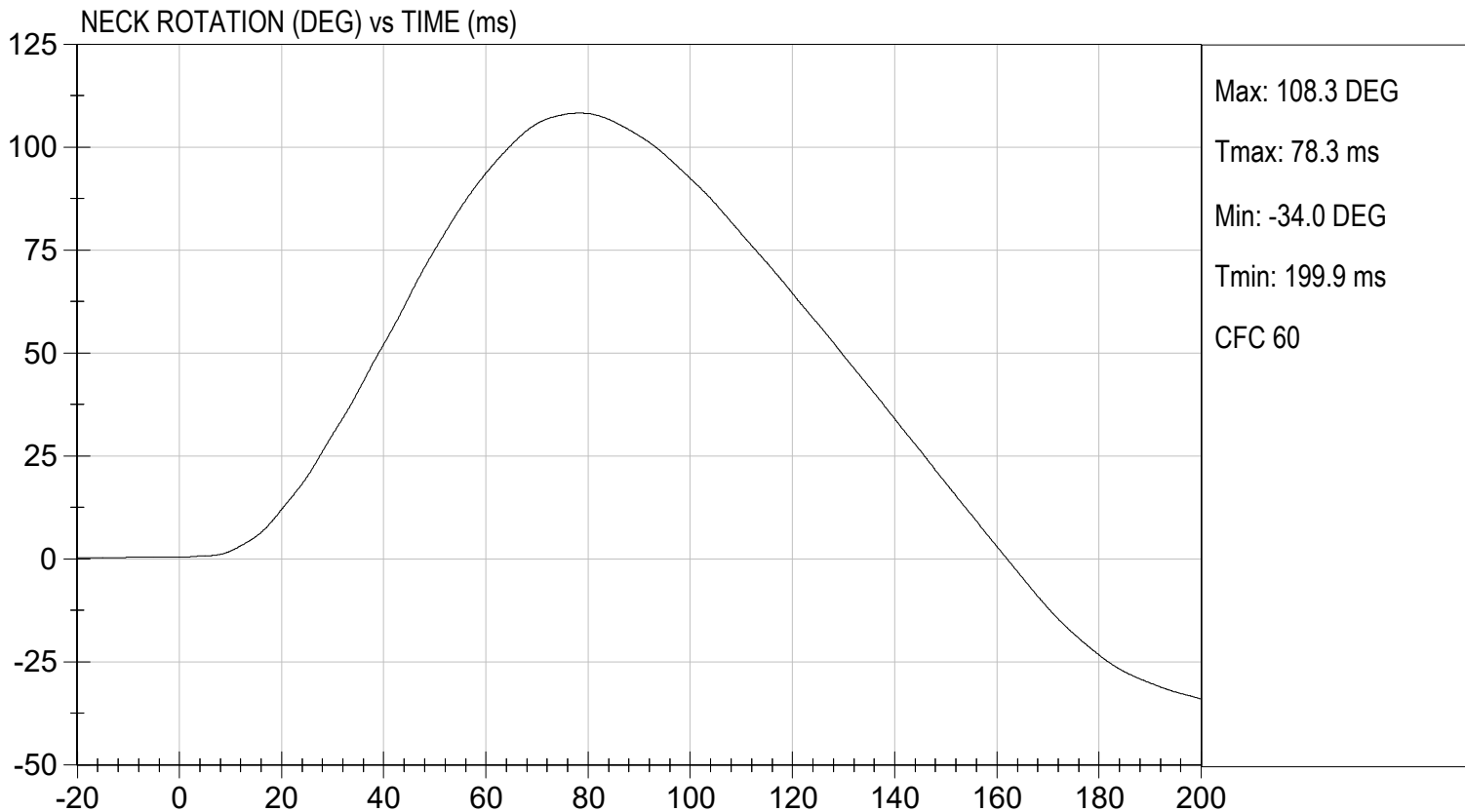
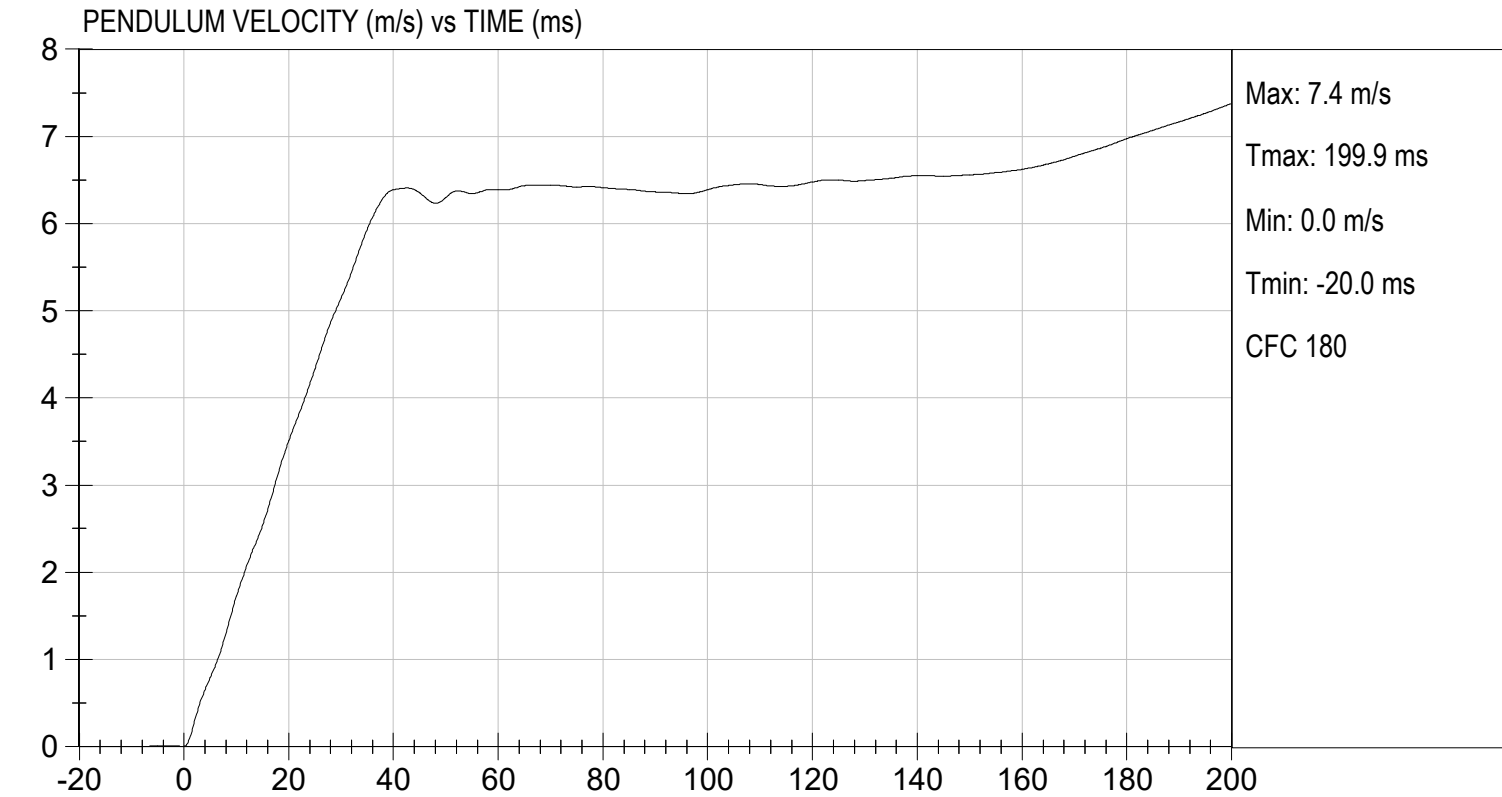
Test Date


Approved By



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

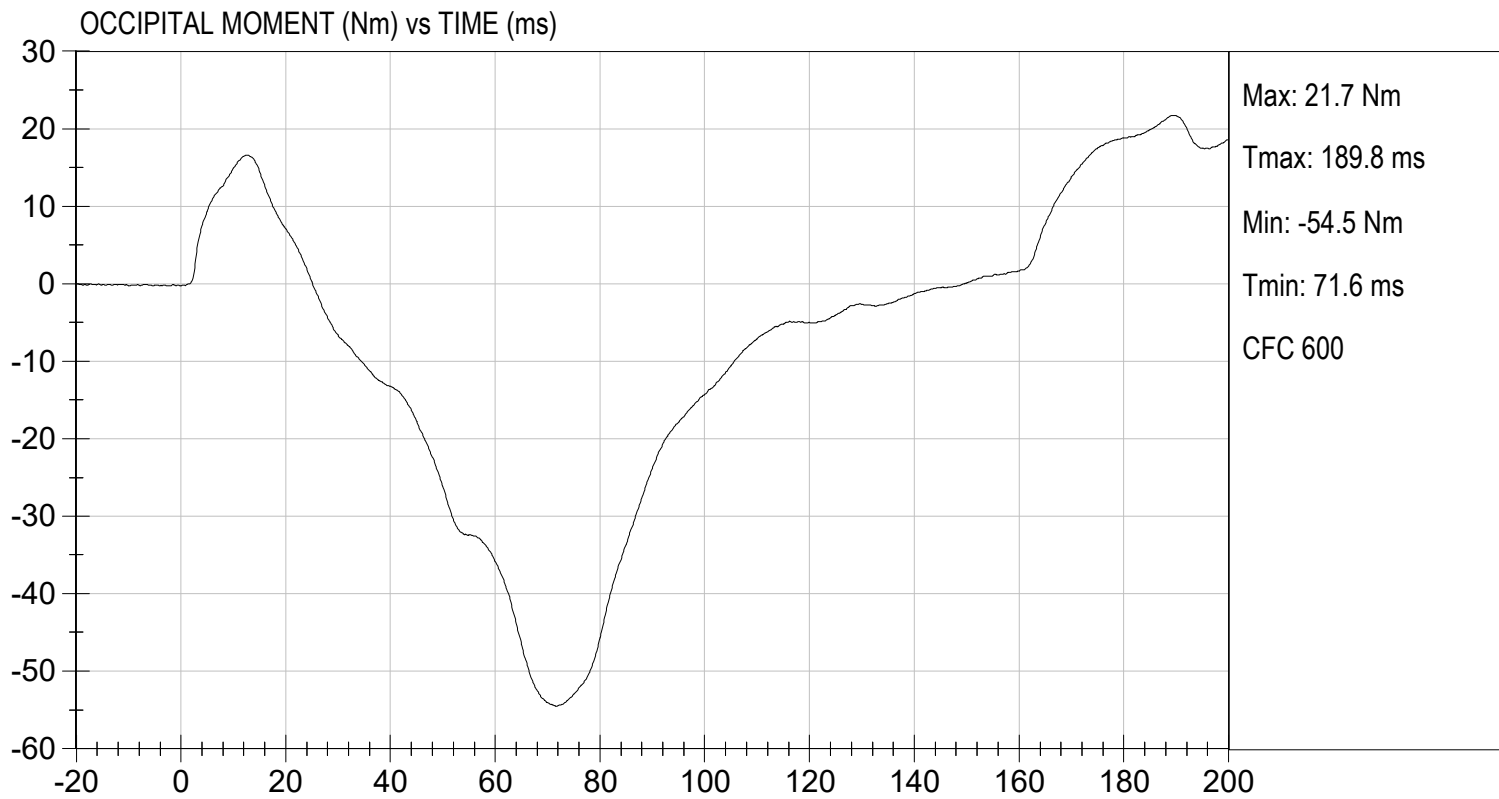
TEST DATE: 12/09/2024
TEST #: D243123





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

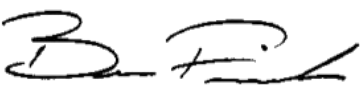
Test I.D: D243124

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

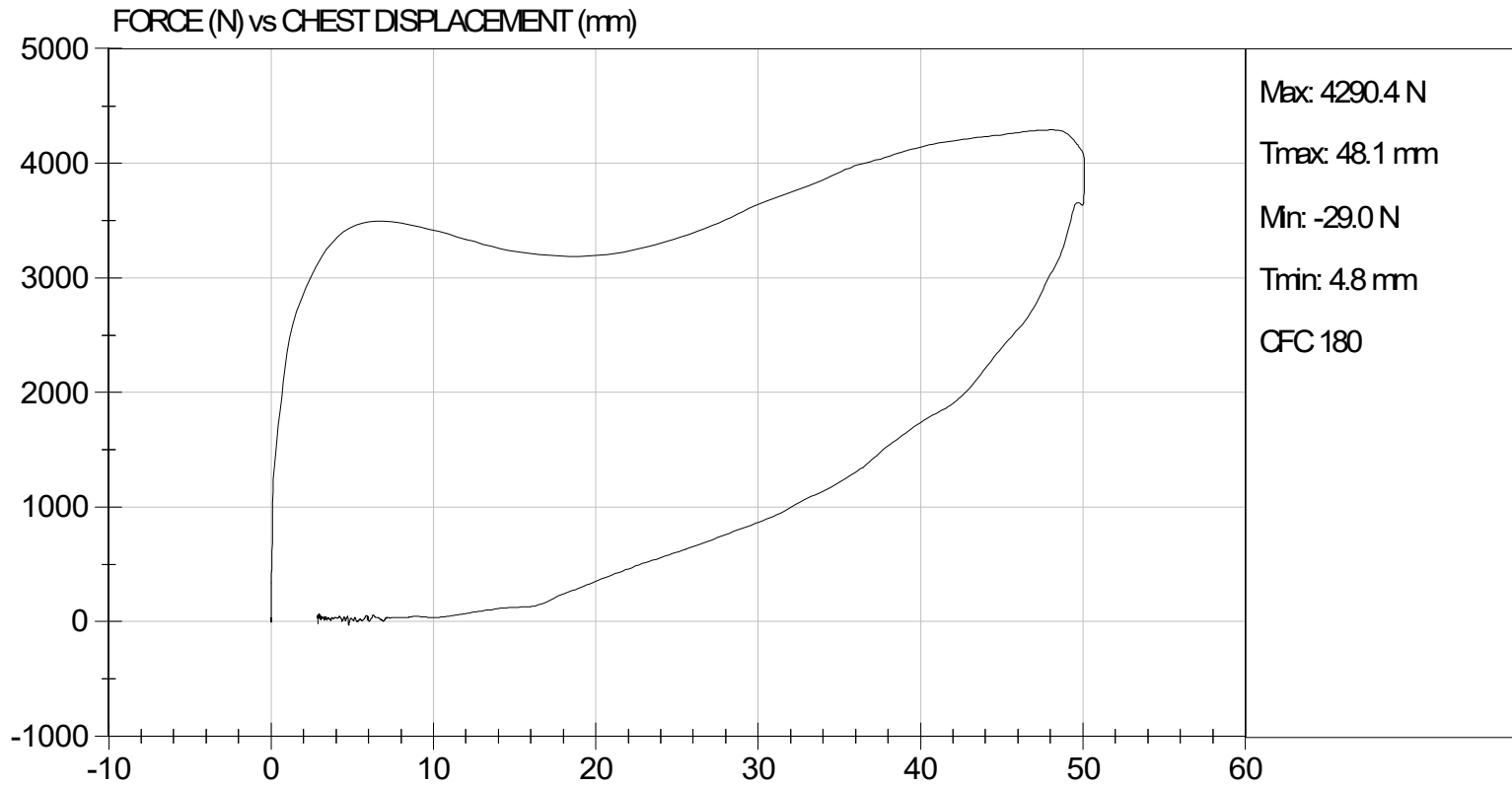
Test Date


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

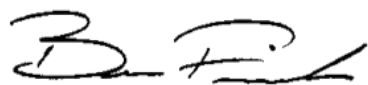
ATD Serial No: 142

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

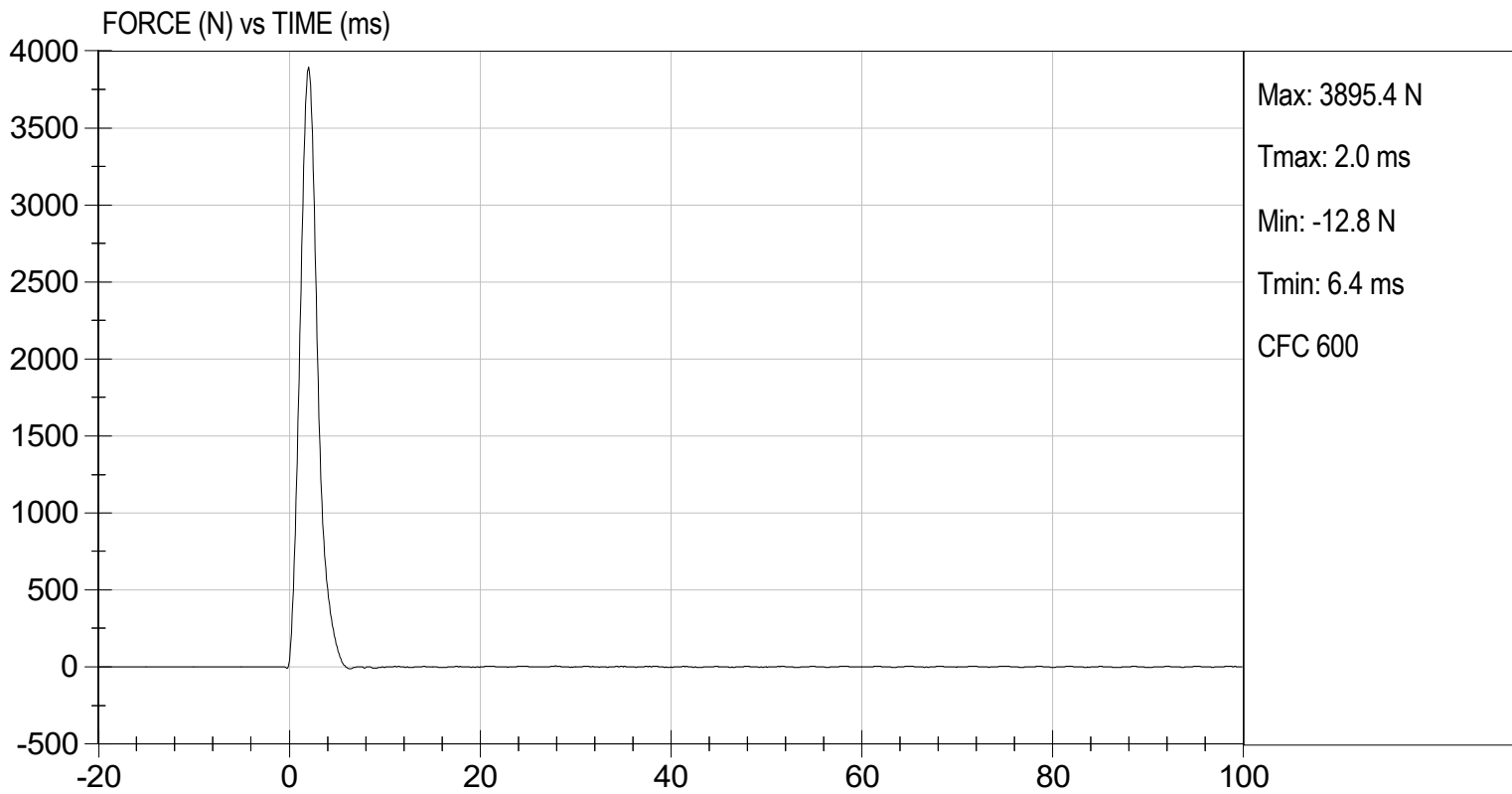
12/09/2024
Test Date


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

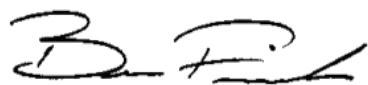
ATD Serial No: 142

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

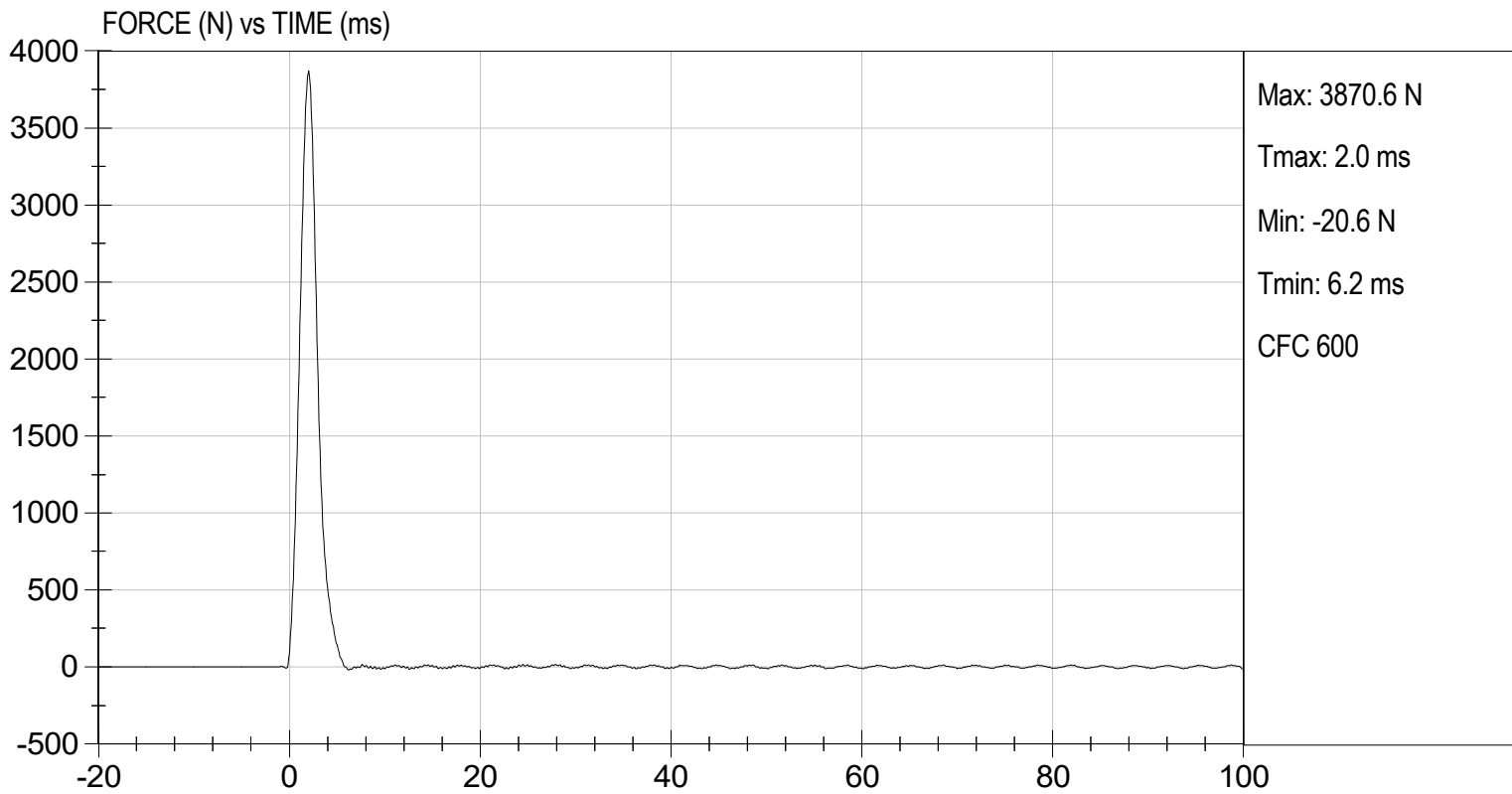
12/09/2024
Test Date


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

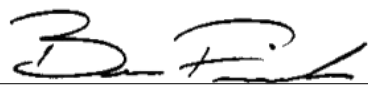
ATD Serial No: 142

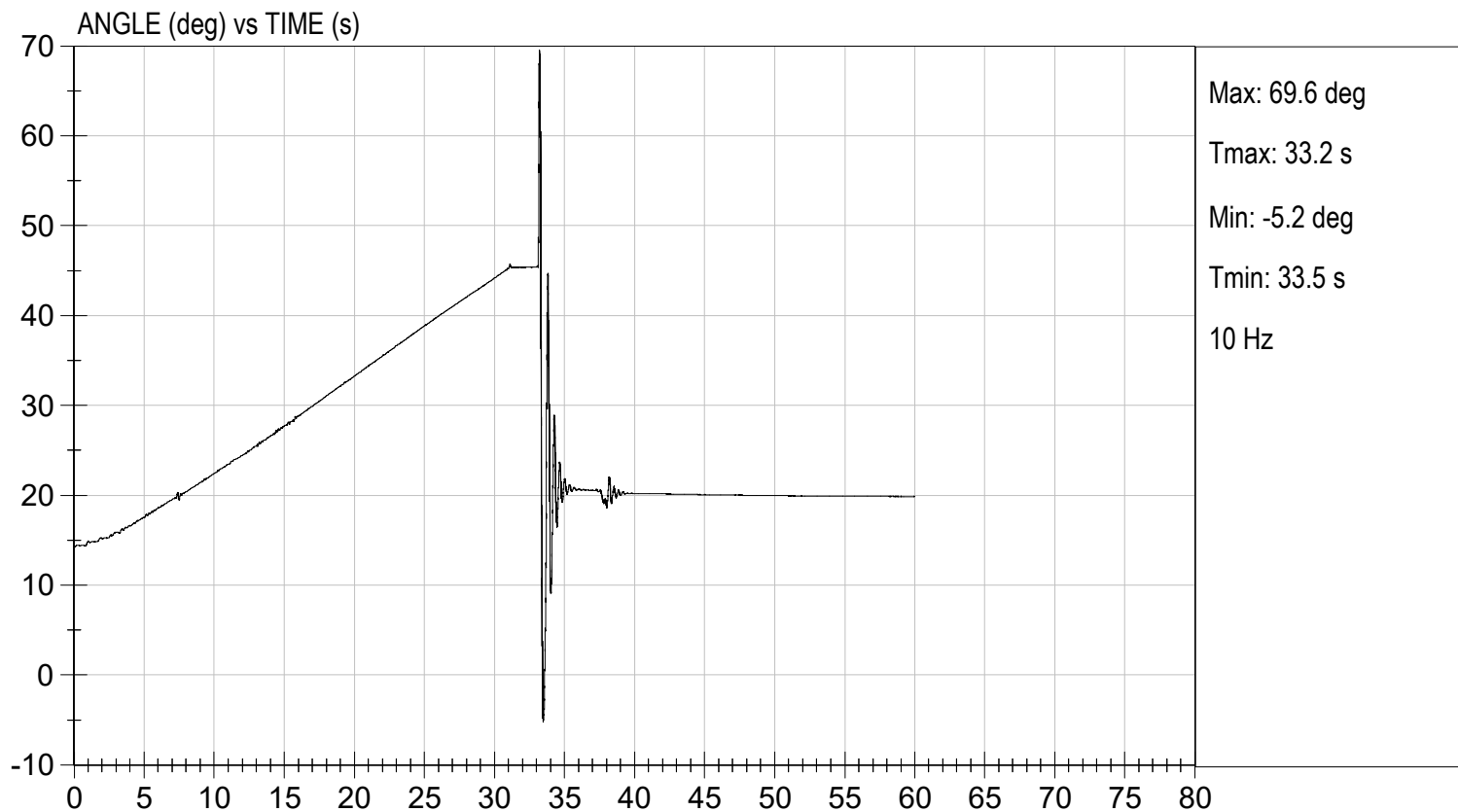
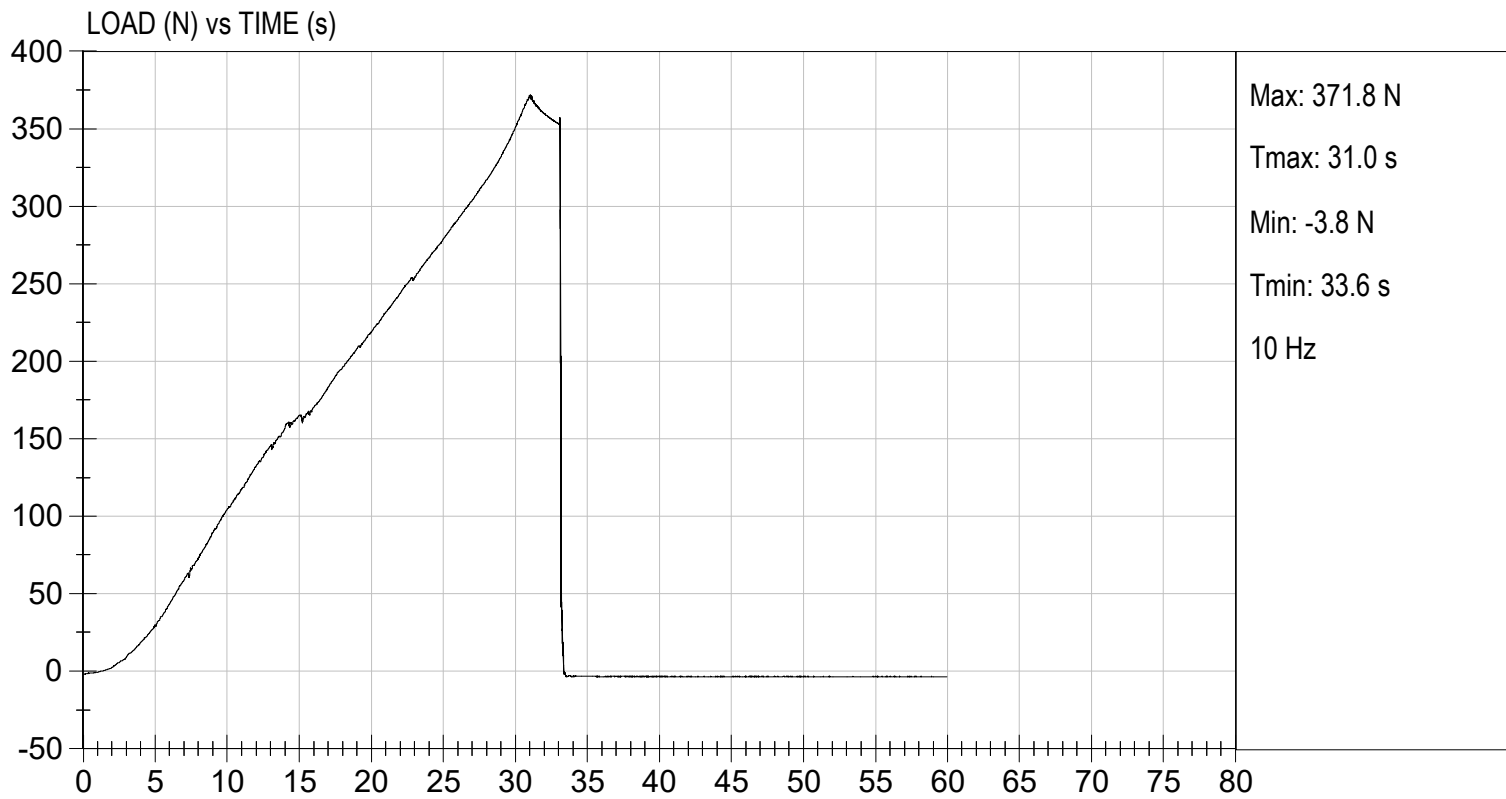
Test I.D: D243127

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



QUALIFICATION TEST RESULTS

POST-TEST

HYBRID III 5TH PERCENTILE FEMALE - PASSENGER ATD

MGA RESEARCH CORPORATION
HEAD DROP TEST
HYBRID III 5TH PERCENTILE

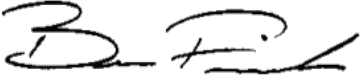
ATD Serial No: 142

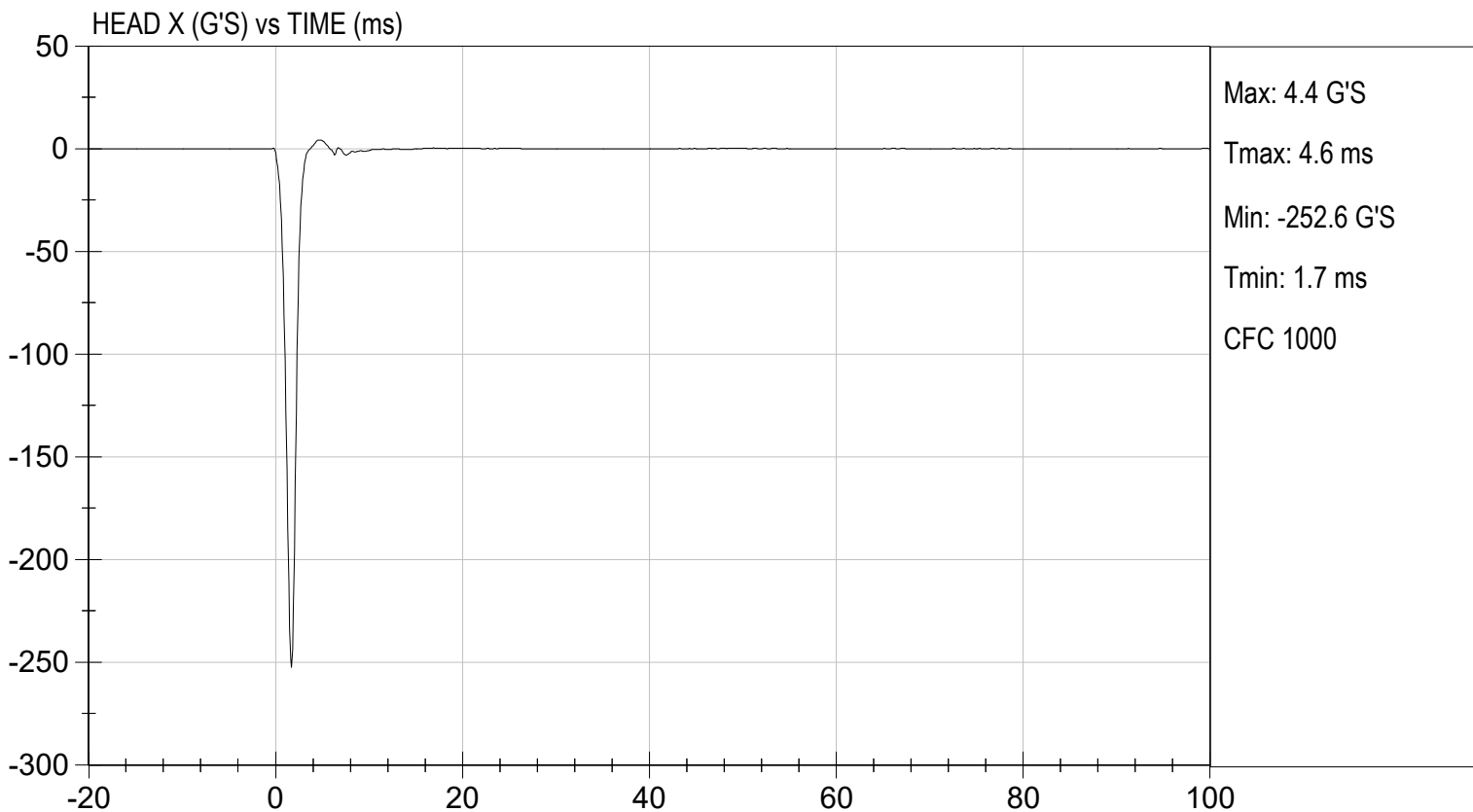
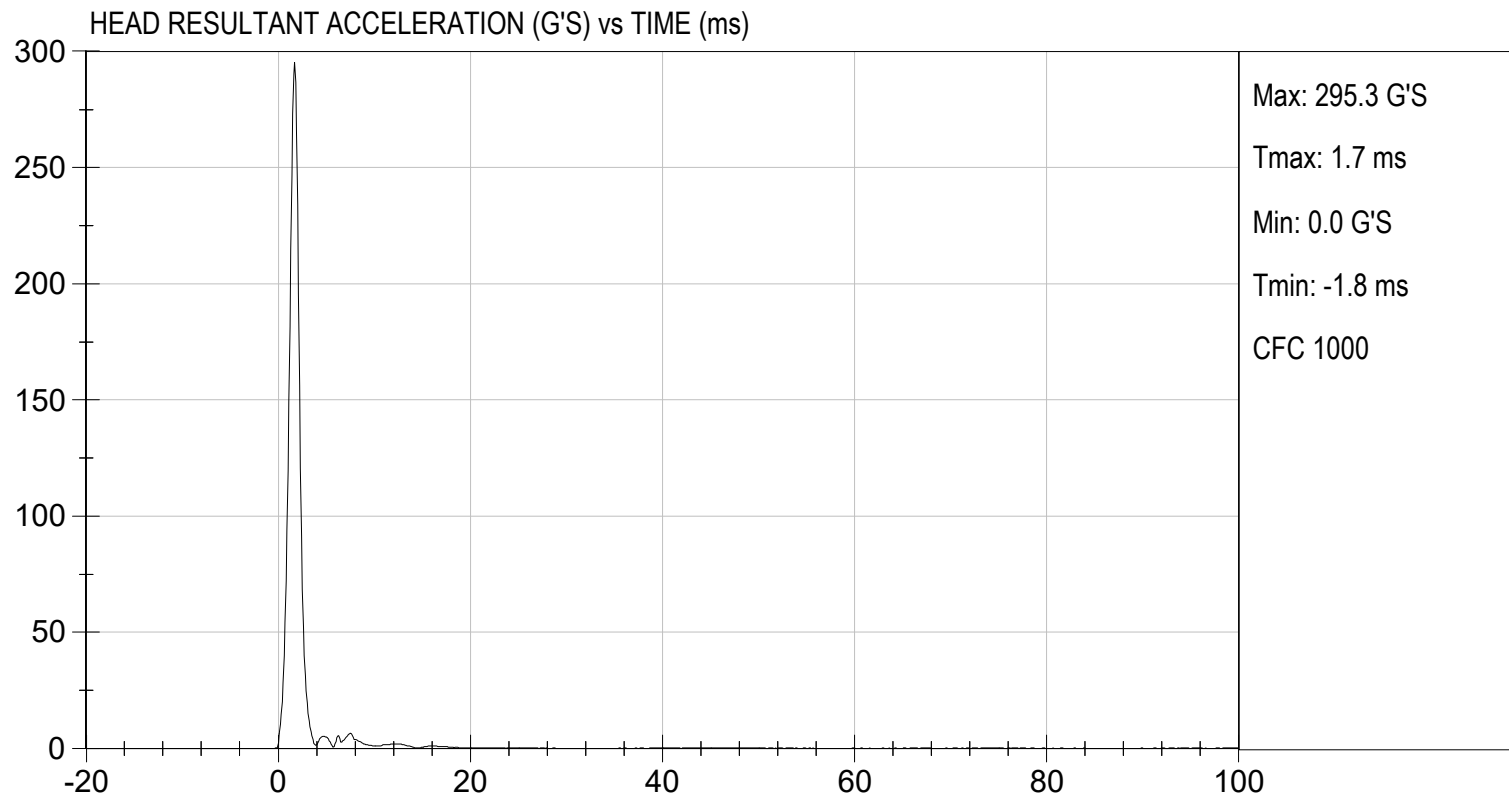
Test ID: D243191

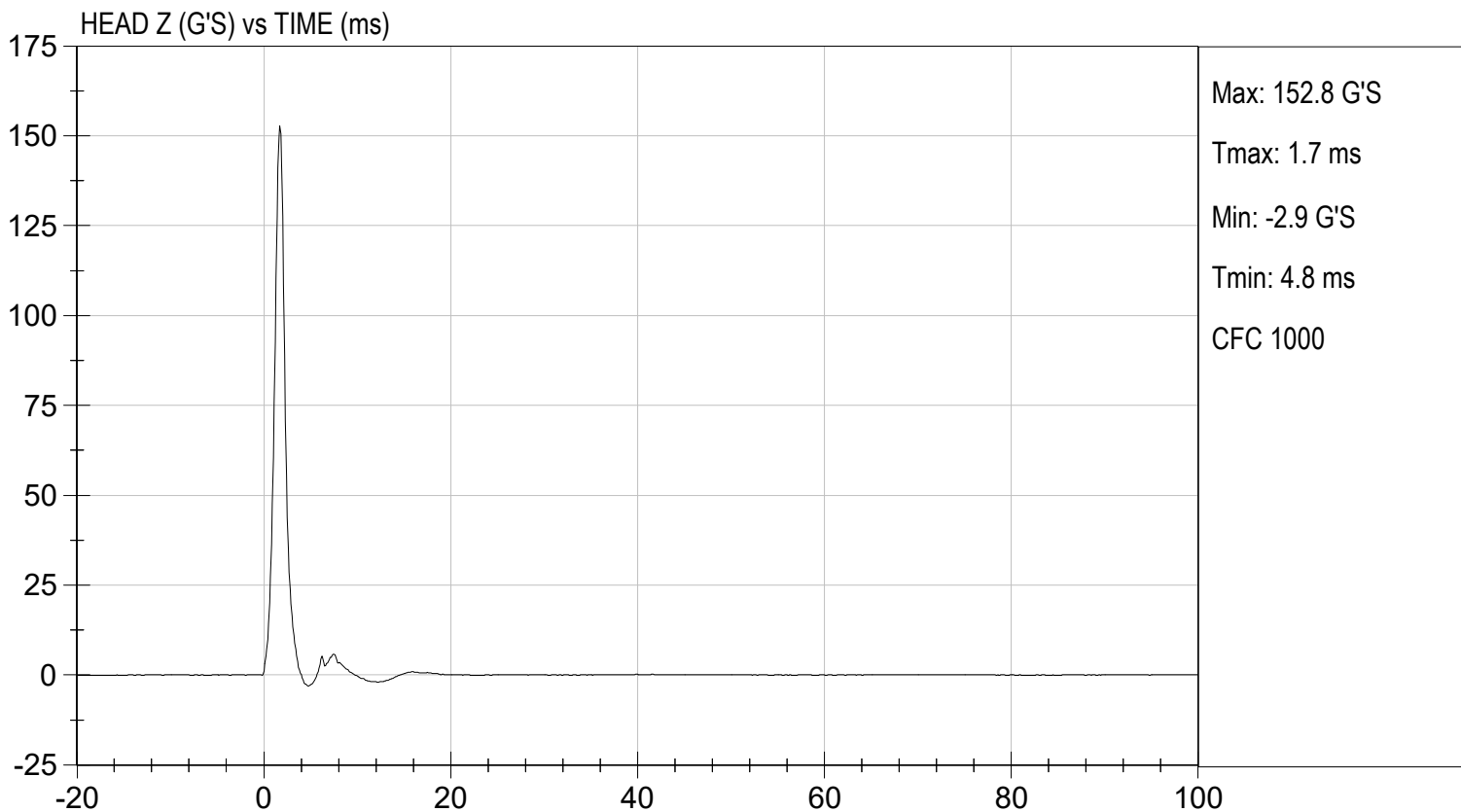
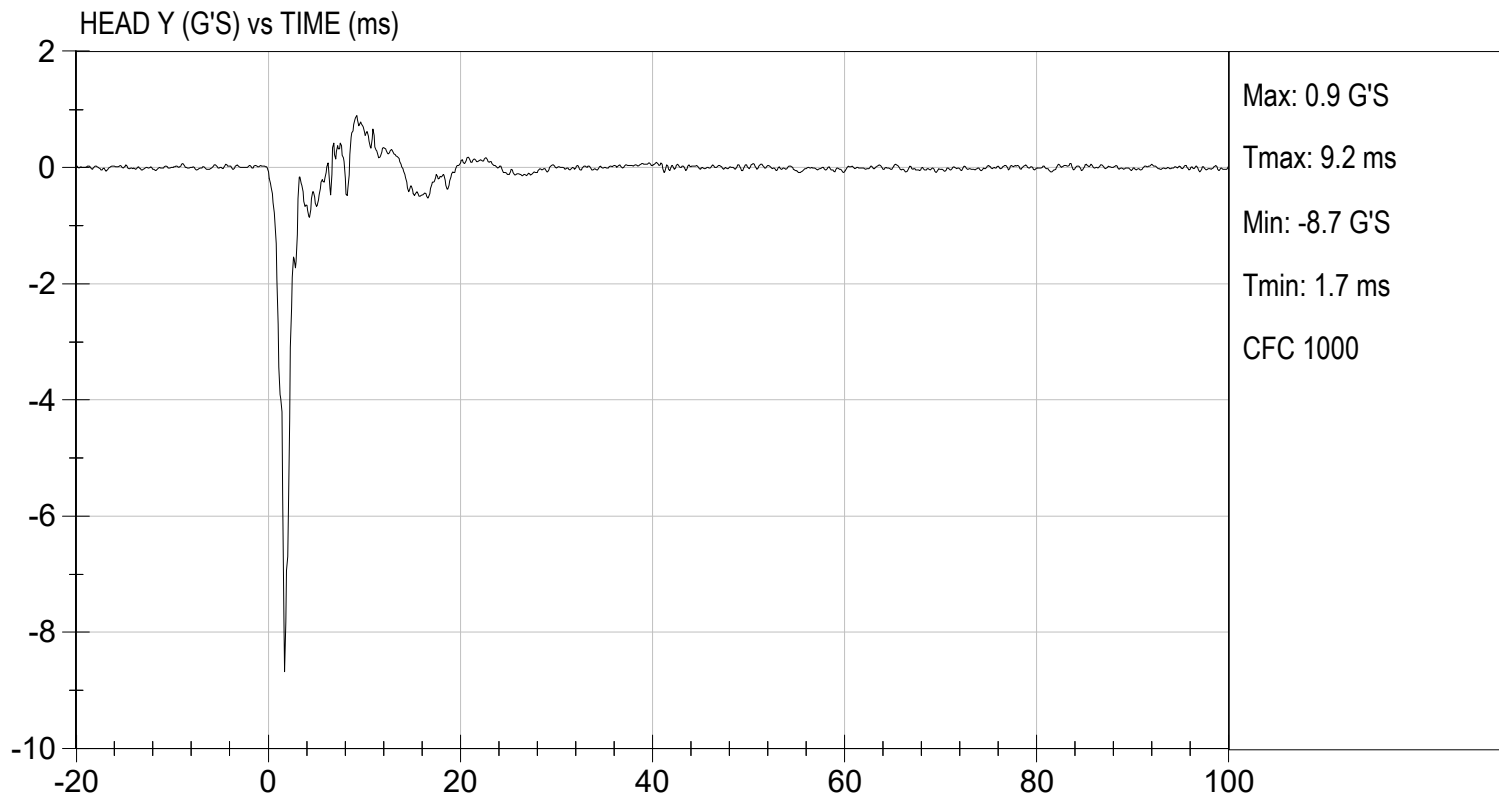
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	37	Pass
Peak Resultant Acceleration	G's	250 to 300	295	Pass
Peak Lateral Acceleration	G's	<= +/- 15.0	-8.7	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	within 10% of peak	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

12/16/2024
Test Date


Approved By





MGA RESEARCH CORPORATION

NECK FLEXION TEST

HYBRID III 5TH PERCENTILE

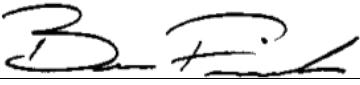
ATD Serial No: 142

Test I.D: D243192

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	33	Pass
Pendulum Speed		m/s	6.89 to 7.13	7.06	Pass
Pendulum Velocity	10 ms	m/s	2.1 to 2.5	2.4	Pass
	20 ms	m/s	4.0 to 5.0	4.7	Pass
	30 ms	m/s	5.8 to 7.0	6.9	Pass
D Plane Rotation	Max	deg	77 to 91	82	Pass
Occipital Condyle Moment within Rotation Corridor		Nm	69 to 83	72	Pass
Positive Moment Time Curve Decay to 10 Nm		ms	80 to 100	87	Pass
Overall Results					Pass


Laboratory Technician

12/17/2024
Test Date

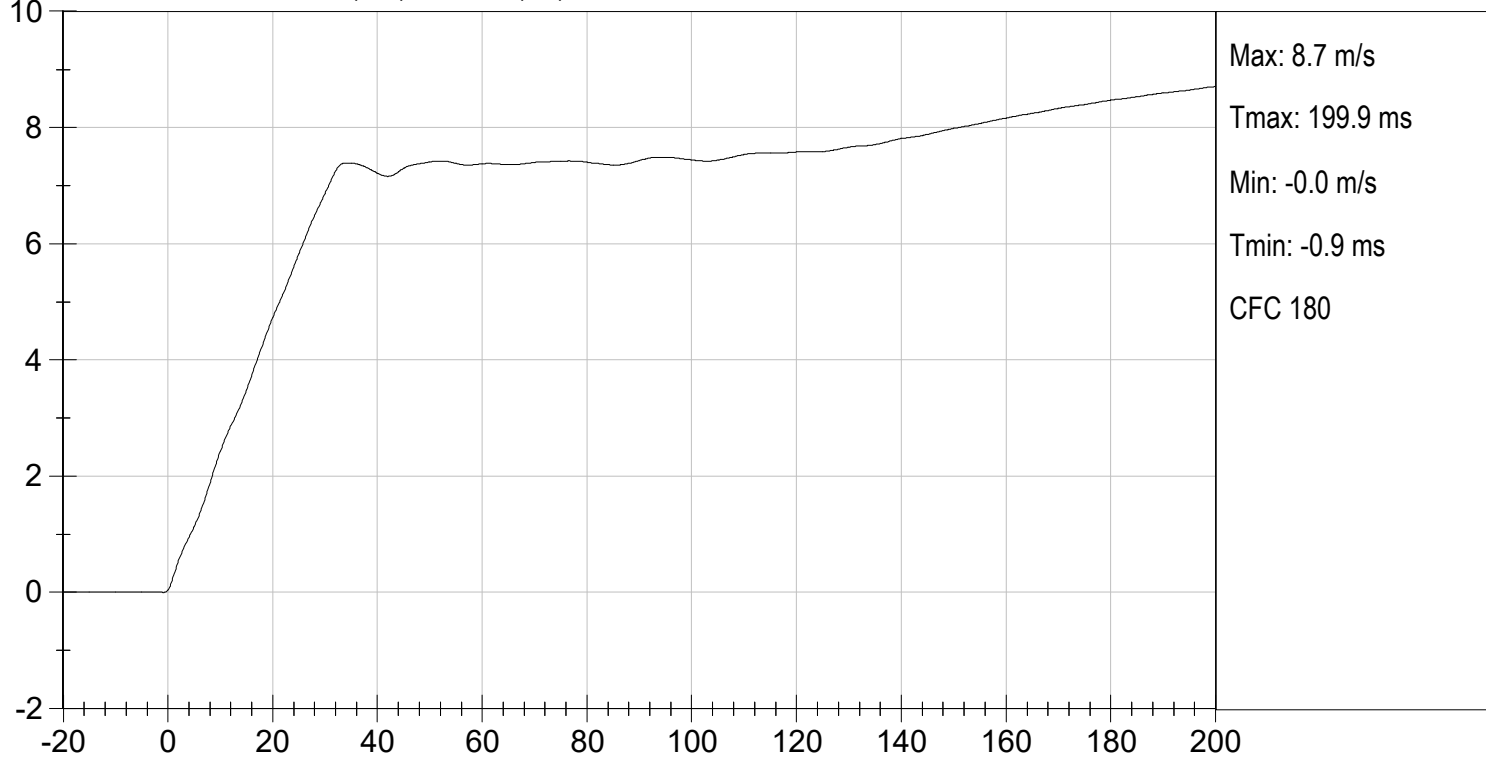

Approved By



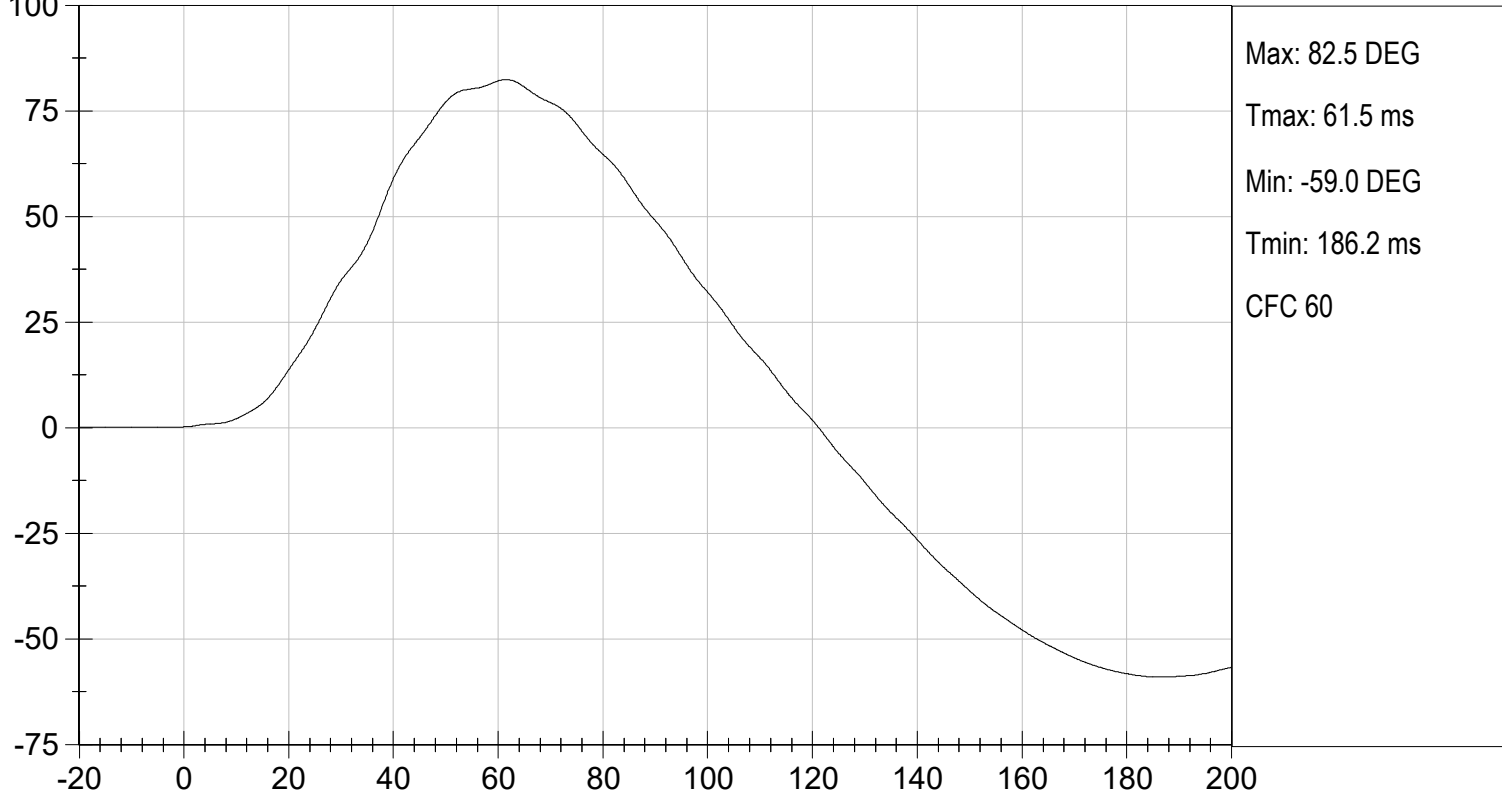
TEST DESC: NECK FLEXION
VELOCITY: 23.15 ft/s, 7.06 m/s

TEST DATE: 12/17/2024
TEST #: D243192

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



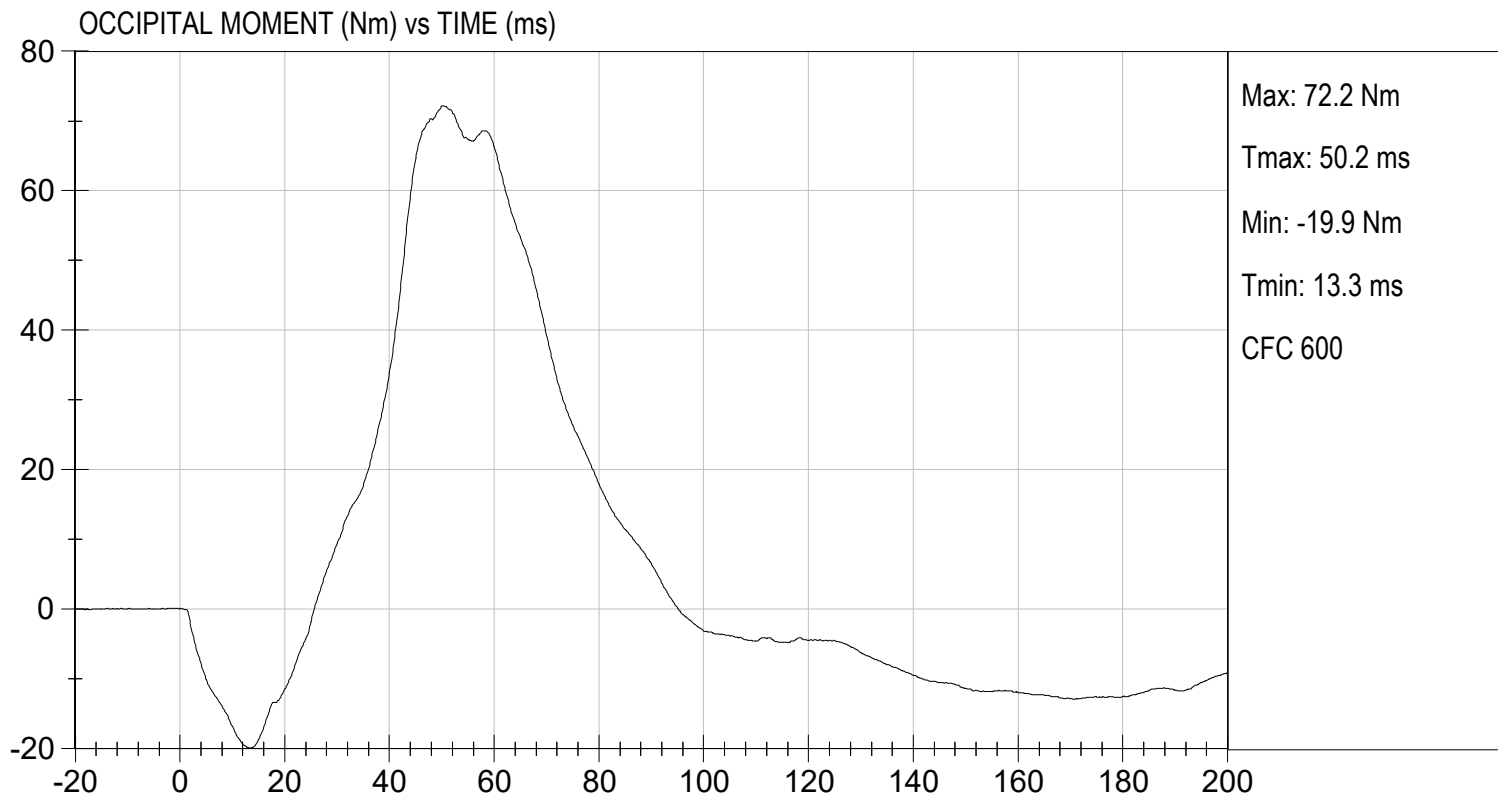
NECK ROTATION (DEG) vs TIME (ms)





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

TEST DATE: 12/17/2024
TEST #: D243192



MGA RESEARCH CORPORATION

NECK EXTENSION TEST

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

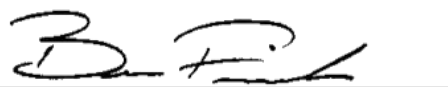
Test I.D: D243193

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	33	Pass
Pendulum Speed		m/s	5.95 to 6.19	6.12	Pass
Pendulum Velocity	10 ms	m/s	1.5 to 1.9	1.88	Pass
	20 ms	m/s	3.1 to 3.9	3.89	Pass
	30 ms	m/s	4.6 to 5.6	5.4	Pass
D Plane Rotation	Max	deg	99 to 114	110	Pass
Occipital Condyle Moment within Rotation Corridor		Nm	-65 to -53	-57	Pass
Negative Moment Time Curve Decay to -10 Nm		ms	94 to 114	103	Pass
Overall Results					Pass


 Laboratory Technician

12/17/2024

Test Date

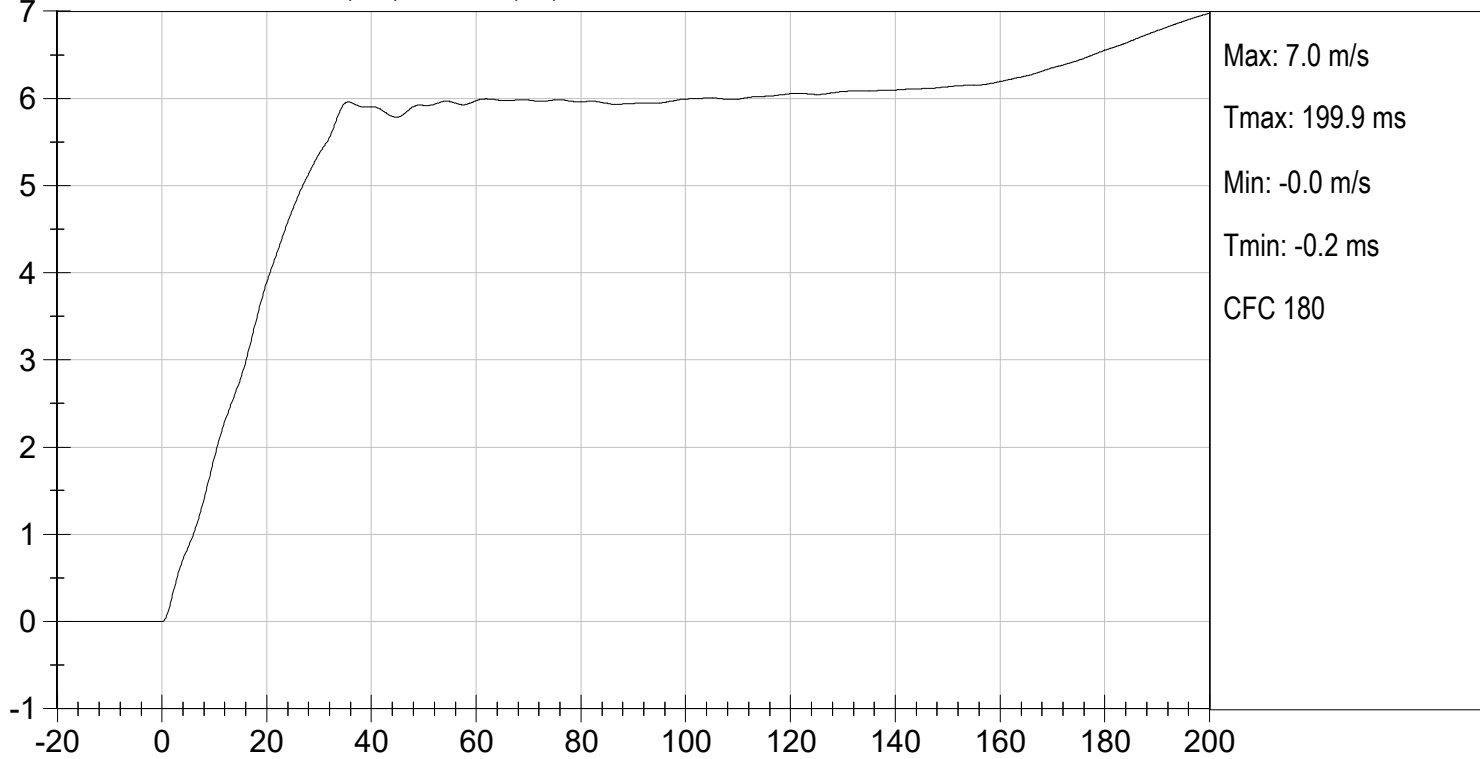

 Approved By



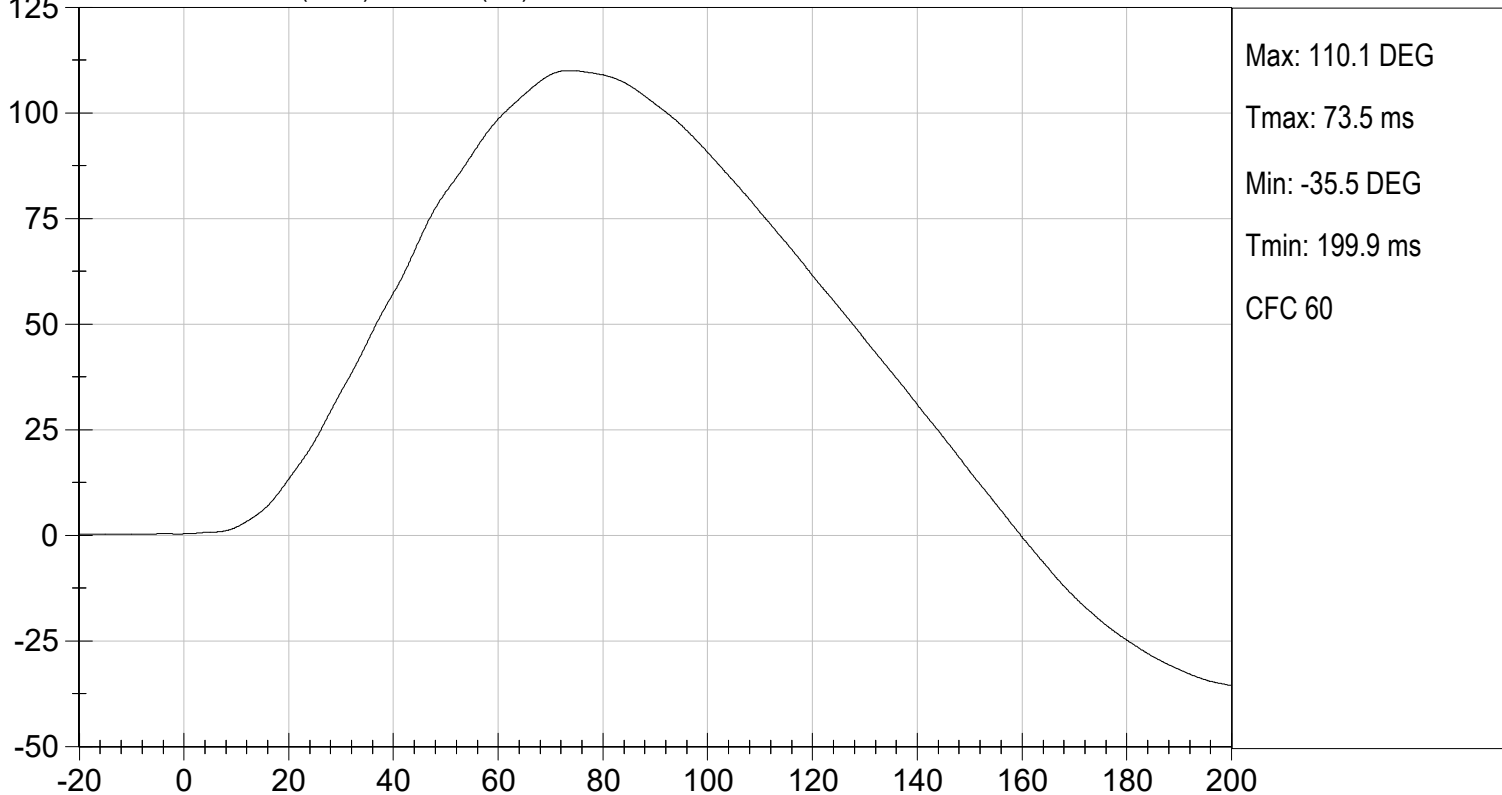
TEST DESC: NECK EXTENSION
VELOCITY: 20.08 ft/s, 6.12 m/s

TEST DATE: 12/17/2024
TEST #: D243193

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



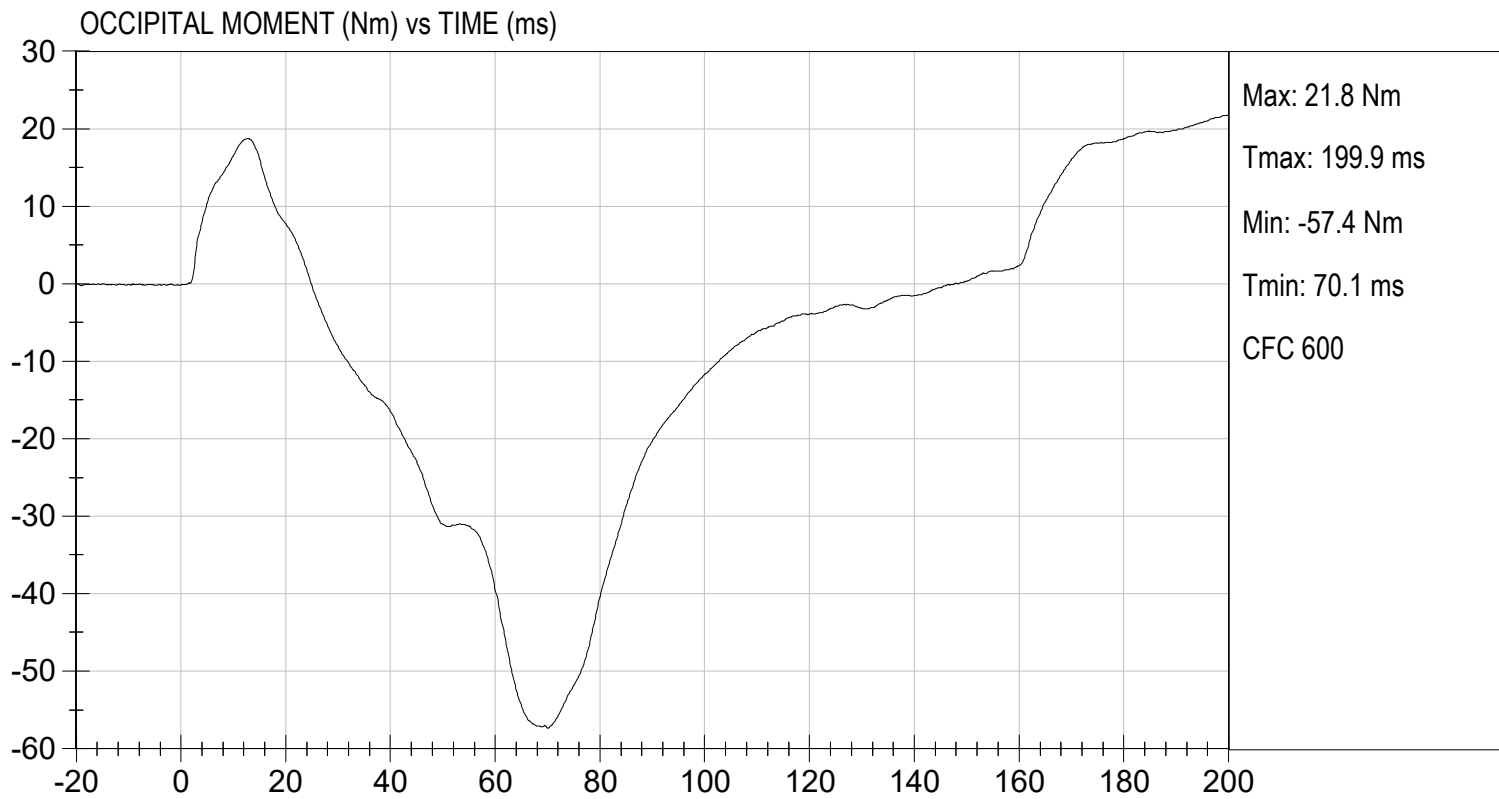
NECK ROTATION (DEG) vs TIME (ms)





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

TEST DATE: 12/17/2024
TEST #: D243193



MGA RESEARCH CORPORATION

THORAX IMPACT

HYBRID III 5TH PERCENTILE

ATD Serial No: 142

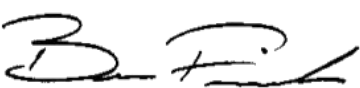
Test I.D: D243194

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.6	Pass
Relative Humidity	%	10 to 70	36	Pass
Probe Speed	m/s	6.59 to 6.83	6.62	Pass
Peak Deflection	mm	50 to 58	50	Pass
Peak Resistive Force w/in Deflection Corridor	N	3900 to 4400	4169	Pass
Internal Hysteresis	%	69 to 85	74	Pass
Peak Force 18 mm - 50 mm	N	<= 4600	4298	Pass
Overall Test Results				Pass


Laboratory Technician

12/16/2024

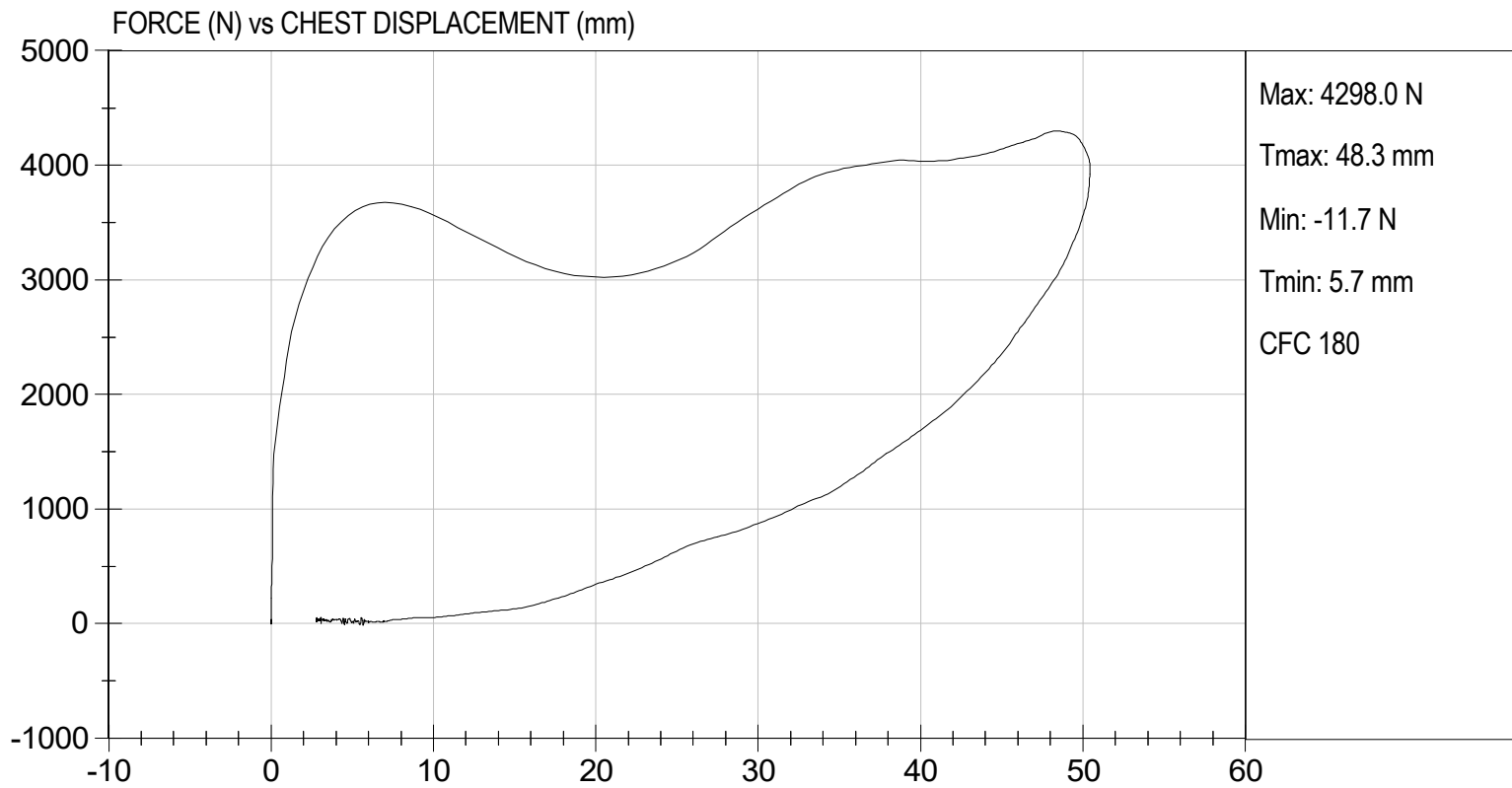
Test Date


Approved By



TEST DESC: THORAX IMPACT
VELOCITY: 21.73 ft/s, 6.62 m/s

TEST DATE: 12/16/2024
TEST #: D243194



MGA RESEARCH CORPORATION

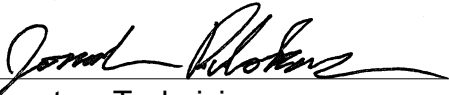
RIGHT KNEE IMPACT TEST

HYBRID III 5TH PERCENTILE

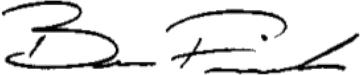
ATD Serial No: 142

Test I.D: D243195

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	34	Pass
Probe Speed	m/s	2.07 to 2.13	2.10	Pass
Maximum Force	N	3450 to 4060	3942	Pass
			Overall Test Results	Pass


Laboratory Technician

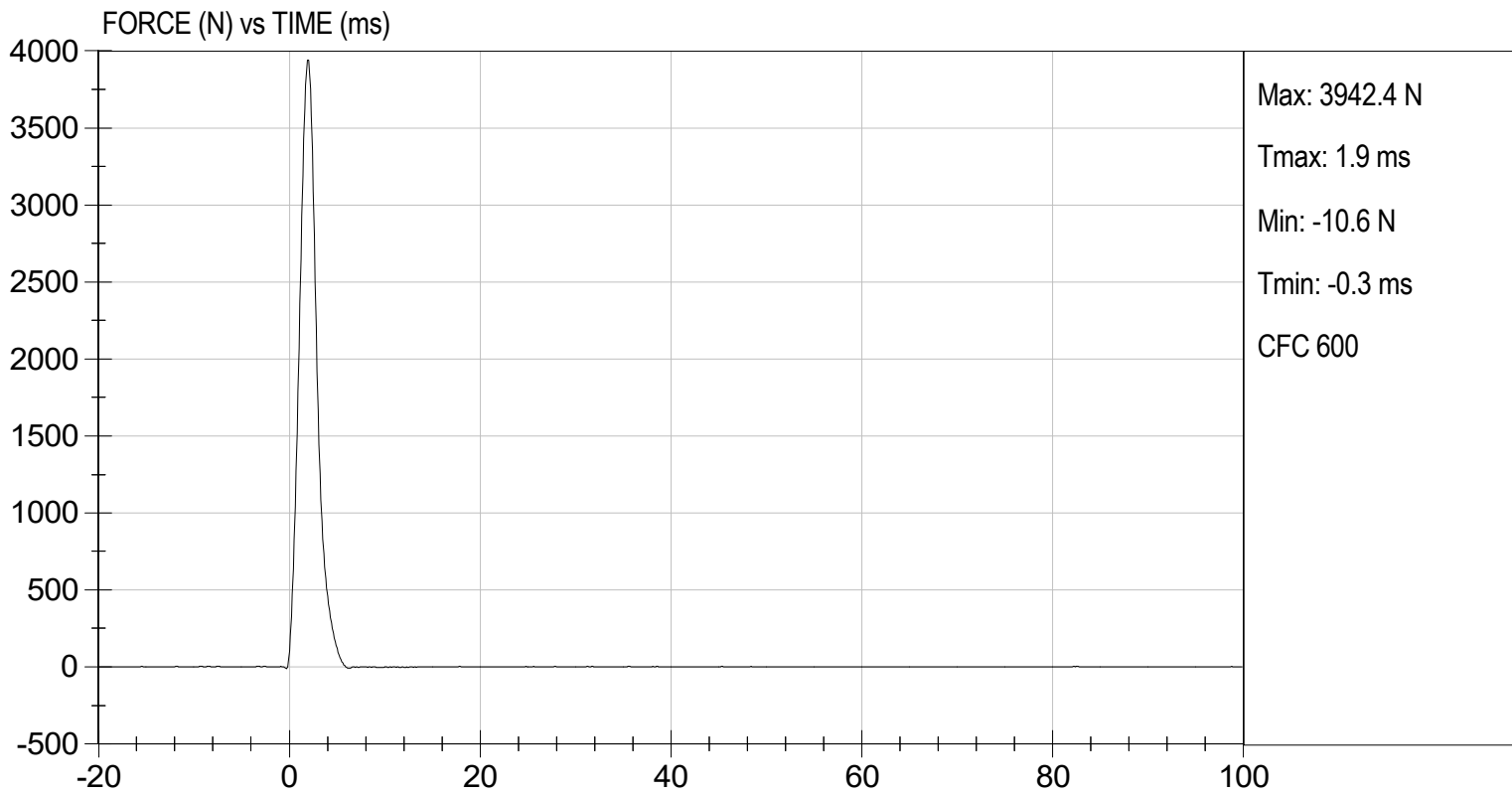
12/17/2024
Test Date


Approved By



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

TEST DATE: 12/17/2024
TEST #: D243195



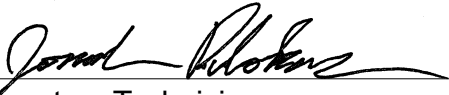
MGA RESEARCH CORPORATION

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

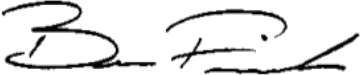
ATD Serial No: 142

Test I.D: D243196

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	34	Pass
Probe Speed	m/s	2.07 to 2.13	2.10	Pass
Maximum Force	N	3450 to 4060	3849	Pass
			Overall Test Results	Pass


Laboratory Technician

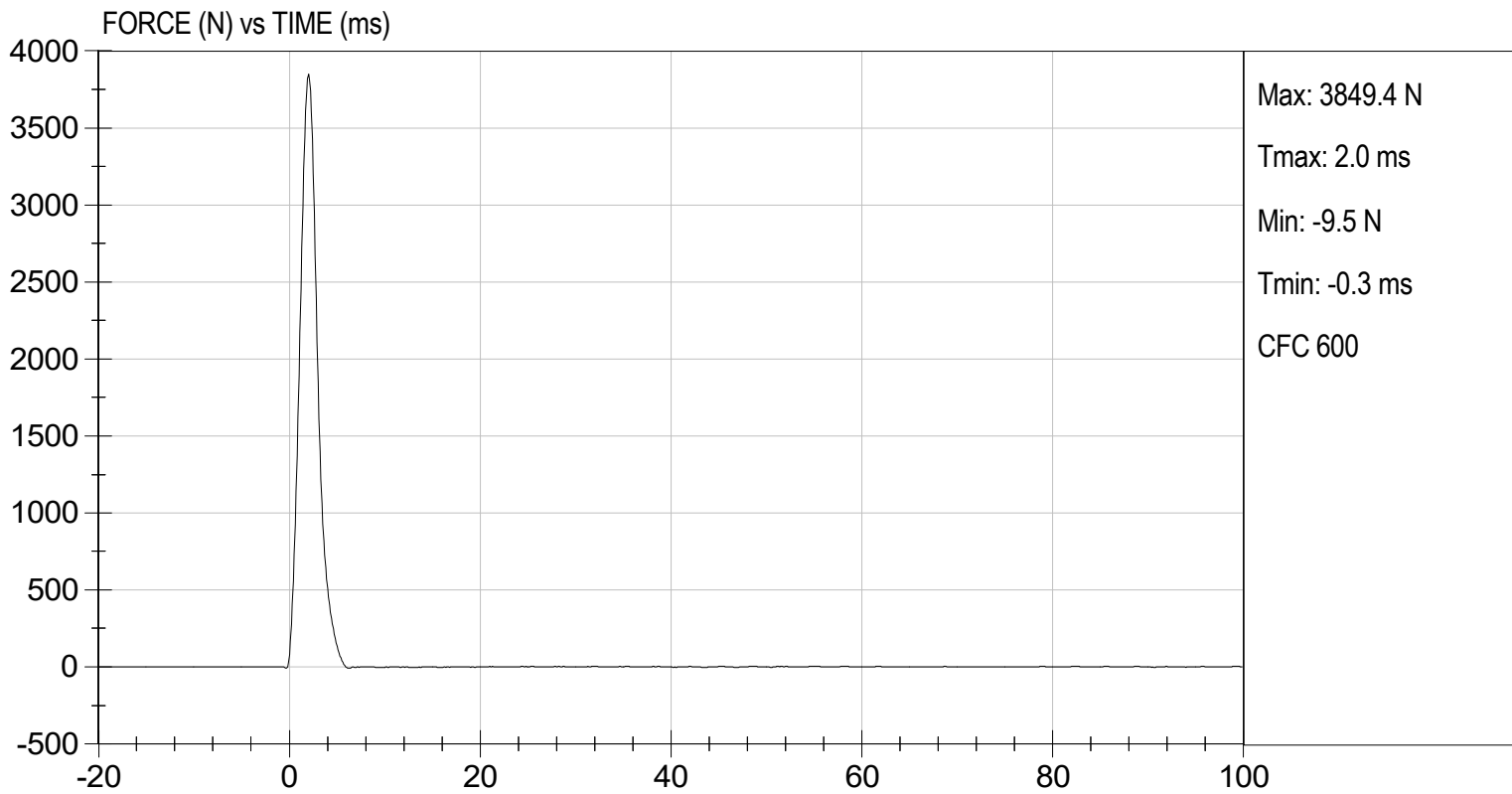
12/17/2024
Test Date


Approved By



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

TEST DATE: 12/17/2024
TEST #: D243196



MGA RESEARCH CORPORATION

TORSO FLEXION TEST

HYBRID III 5TH PERCENTILE

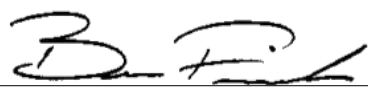
ATD Serial No: 142

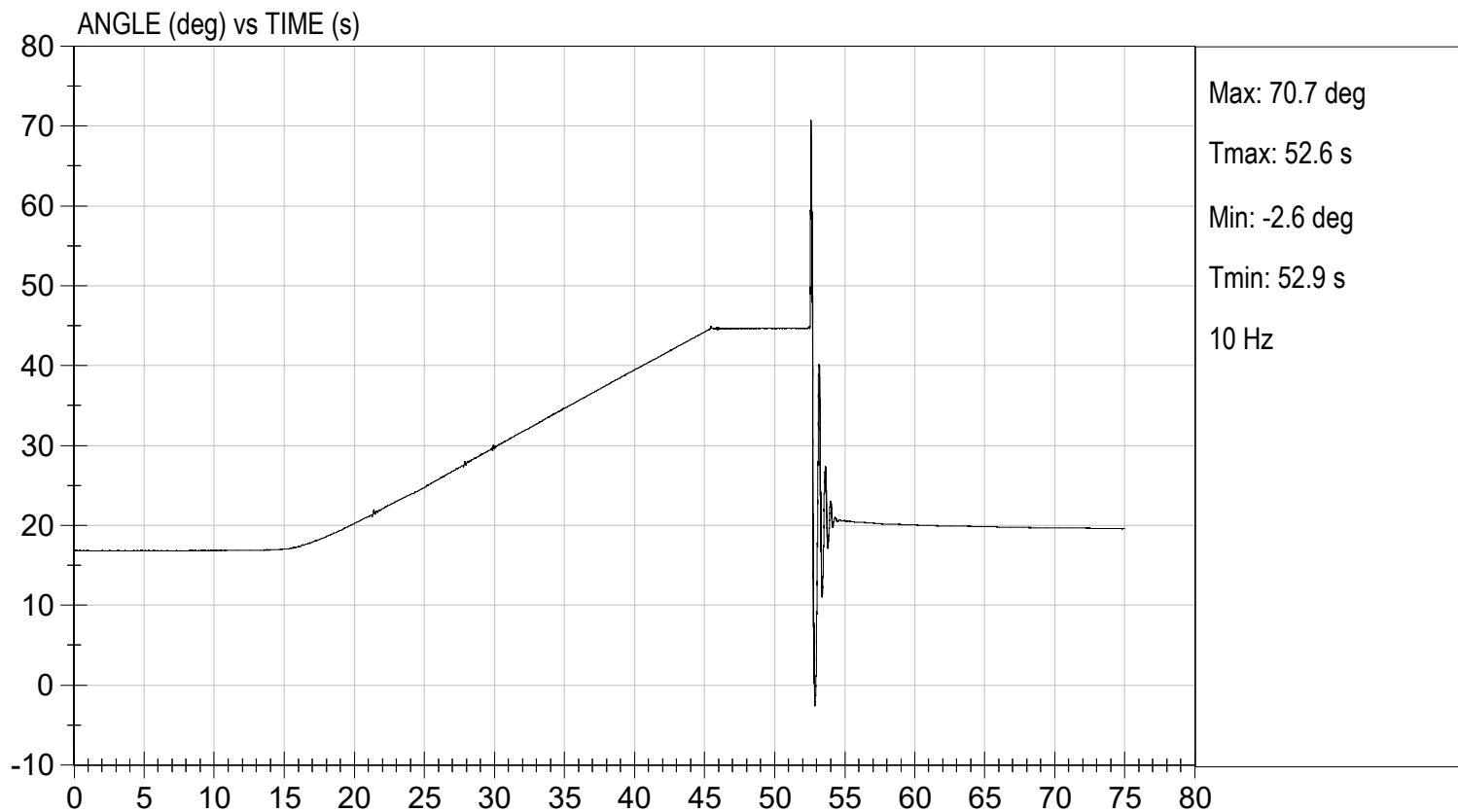
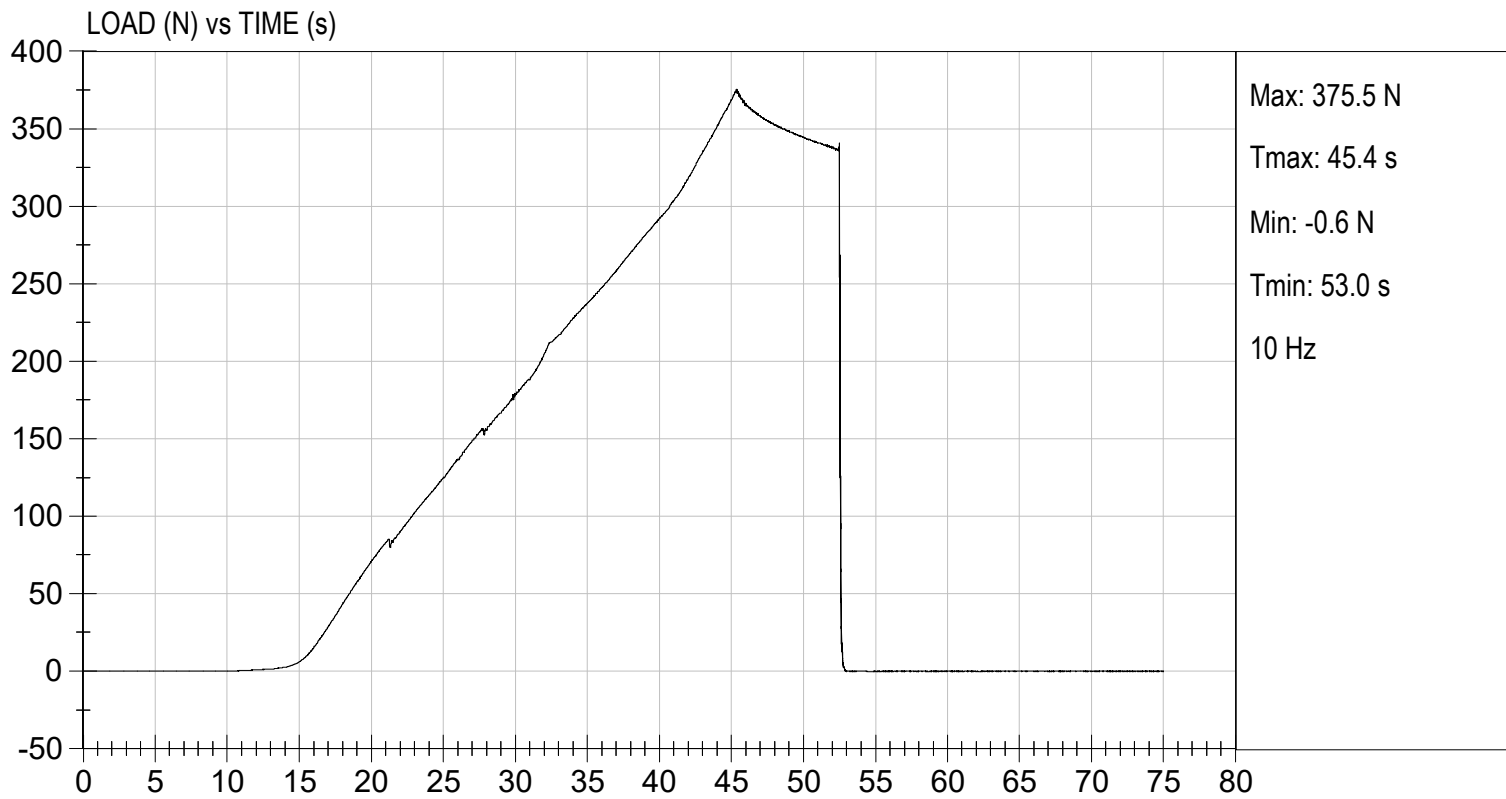
Test I.D: D243197

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	37	Pass
Initial Angle	deg	0 to 20	17	Pass
Return Angle	deg	+/- 8	3	Pass
Force at 45 deg	N	320 to 390	376	Pass
Upper Torso Deflection Rate	deg/s	0.5 to 1.5	1.0	Pass
Overall Result			Pass	


Laboratory Technician

12/16/2024
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	P97382	Endevco	11/19/2024
		Front	Z	P82120	Endevco	11/19/2024
	Left	Rear	X	T16468	Endevco	11/19/2024
			Z	T32154	Endevco	11/19/2024
		Front	Z	T32190	Endevco	11/19/2024
Seat Belt Load Cells		Lap		SBG161	FTSS	10/21/2024
		Shoulder		SBG157	FTSS	10/21/2024

TABLE 2 – FRONT PASSENGER DUMMY INSTRUMENTATION

Instrument Location			Axis	Hybrid III 5 th S/N 142		
				Serial Number	Manufacturer	Calibration Date
Head Accelerometers	Primary		X	P94799	Endevco	10/29/2024
			Y	P94800	Endevco	10/29/2024
			Z	P94801	Endevco	10/29/2024
	Redundant		X	P94802	Endevco	10/29/2024
			Y	P94803	Endevco	10/29/2024
			Z	P97377	Endevco	10/29/2024
Head Angular Rate Sensors			X	ARS7413	DTS	07/31/2024
			Y	ARS7421	DTS	07/31/2024
			Z	ARS7423	DTS	07/31/2024
Upper Neck Load Cell		Fx, Fy, Fz Mx, My, Mz		NG2203	Denton	01/22/2024
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		SBG273	FTSS	10/21/2024
		Shoulder		SBG272	FTSS	10/21/2024

TABLE 3 – VEHICLE INSTRUMENTATION

Instrument Location			Axis	Serial Number	Manufacturer	Calibration Date
Crossmember / Rear Seat Accelerometers	Left	Primary	X	A395091	MSI	07/22/2024
			Z	A383108	MSI	11/04/2024
		Redundant	X	A395061	MSI	10/04/2024
	Right	Primary	X	T29894	Endevco	06/04/2024
			Z	T40091	Endevco	11/05/2024
		Redundant	X	T39071	Endevco	11/11/2024
Engine Accelerometers		Top	X	A383478	MSI	07/22/2024
		Bottom	X	A383714	MSI	07/22/2024