

REPORT NUMBER: NCAP-KAR-21-003

**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**MERCEDES-BENZ U.S. INTERNATIONAL INC.
2021 MERCEDES-BENZ GLE350 4MATIC 5-DOOR SUV**

NHTSA NUMBER: M20214307

**PREPARED BY:
APPLUS+ IDIADA KARCO ENGINEERING, LLC.
9270 HOLLY ROAD
ADELANTO, CA 92301**



FEBRUARY 12, 2021

FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
1200 NEW JERSEY AVE, SE
ROOM W43-410
WASHINGTON, DC 20590**

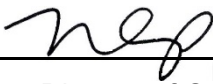
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Approval Date: _____ February 12, 2021 _____

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

TECHNICAL REPORT DOCUMENTATION PAGE

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4. Title and Subtitle Final Report of New Car Assessment Program Frontal Impact Testing of a 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No. M20214307		5. Report Date February 12, 2021																																																					
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		14. Sponsoring Agency Code NRM-100																																																					
15. Supplementary Notes																																																							
16. Abstract A 56.3 km/h NCAP Frontal Impact Test was conducted on a 2021 Mercedes-Benz GLE350 4MATIC in accordance with the specifications of the Office of Crashworthiness Standards Frontal NCAP Laboratory Test Procedure. The test was conducted at the Applus+ IDIADA KARCO Engineering, LLC. facility in Adelanto, California on January 29, 2021. The impact velocity of the vehicle was 56.50 km/h and the ambient temperature at the barrier face at the time of impact was 16.1°C. The target vehicle's post-test maximum crush was 318 mm at the vehicle's centerline. The test vehicle's performance is as follows:																																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <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>N/A</td> <td>700</td> <td>83.8</td> <td>700</td> <td>209.0</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>-21</td> <td>52</td> <td>-10</td> </tr> <tr> <td>Nij</td> <td>N/A</td> <td>1</td> <td>0.24</td> <td>1</td> <td>0.31</td> </tr> <tr> <td>Neck Tension</td> <td>N</td> <td>4170</td> <td>923.5</td> <td>2620</td> <td>555.4</td> </tr> <tr> <td>Neck Compression</td> <td>N</td> <td>4000</td> <td>-73.7</td> <td>2520</td> <td>-135.9</td> </tr> <tr> <td>Left Femur Force</td> <td>N</td> <td>10000</td> <td>1340.7*</td> <td>6800</td> <td>-1783.7</td> </tr> <tr> <td>Right Femur Force</td> <td>N</td> <td>10000</td> <td>-820.4</td> <td>6800</td> <td>-1947.9</td> </tr> </tbody> </table>				Measurement Description	Units	Driver ATD		Passenger ATD		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC ₁₅)	N/A	700	83.8	700	209.0	Maximum Chest Compression	mm	63	-21	52	-10	Nij	N/A	1	0.24	1	0.31	Neck Tension	N	4170	923.5	2620	555.4	Neck Compression	N	4000	-73.7	2520	-135.9	Left Femur Force	N	10000	1340.7*	6800	-1783.7	Right Femur Force	N	10000	-820.4	6800	-1947.9
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TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	Purpose and Summary of Test	1
2	Occupant and Vehicle Information / Data Sheets	3
<u>Data Sheet No.</u>		<u>Page No.</u>
1	General Test and Vehicle Parameter Data	4
2	Seat Adjustment, Fuel System, And Steering Wheel Data	8
3	Dummy Longitudinal Clearance Dimensions	10
4	Dummy Lateral Clearance Dimensions	11
5	Seat Belt Positioning Data	12
6	High-Speed Camera Locations and Data	13
7	Vehicle Accelerometer Locations	15
8	Photographic Reference Target Locations	16
9	Load Cell Locations on Fixed Barrier	17
10	Test Vehicle Summary of Results	18
11	Post-Test Observations	19
12	Vehicle Profile Measurements	20
13	Accident Investigation Division Data	22
14	Vehicle Intrusion Measurements	23
15	Summary of Indicant FMVSS 212 and 219 (Partial) Data	25
16	FMVSS 301 Barrier Impact and Static Rollover Results	26
17	Dummy / Vehicle Temperature Stabilization Chart	28
<u>Appendix</u>		<u>Page No.</u>
A	Photographic Documentation	A
B	Dummy Response Data Traces	B
C	Dummy Qualification and Performance Verification Data	C
D	Test Equipment and Instrumentation Calibration	D

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 693JJ919D000004. 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 test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Procedure dated May 2018 for NCAP Full Frontal Rigid Barrier Impact Testing.

SUMMARY

A load cell barrier consisting of 176 load cells was impacted by a 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV at a velocity of 56.50 km/h. The test was performed at Applus+ IDIADA KARCO Engineering, LLC. on January 29, 2021. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A of this report.

One (1) 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 Data Sheet 6 of this report.

One Part HIII 50th percentile male anthropomorphic test device (ATD) was placed in the driver seating position and one Part HIII 5th percentile female 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 force transducers, right / left femur load cells, and lower leg instrumentation.

The driver (position 1) ATD (Serial No. 360) and the right-front passenger (position 2) ATD (Serial No. DH1644) were qualified prior to this test. Certification details, along with instrumentation calibration data, are found in Appendix C of this report.

The 106 channels of dummy and vehicle response data were recorded on an on-board data acquisition system. Appendix B contains the dummy response data traces. Appendix D contains a complete list of instrumentation used for dummies and the vehicle.

There was 100 percent windshield retention and 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 test vehicle was 318 mm at the vehicle's centerline. 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 ATD's head contacted the frontal airbag and headrest. The upper torso contacted the frontal airbag. The left knee contacted the knee airbag. The right knee contacted the knee airbag and steering wheel rim.

The passenger's visible contact points were as follows: the passenger ATD's head contacted the frontal airbag and headrest. The upper torso and lower torso contacted the frontal airbag. Both left and right knees contacted the knee bolster.

The occupant data is summarized below:

ATD Position	HIC ₁₅	Nij	Neck Tension (N)	Neck Comp. (N)	3ms Chest Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)
Driver (50th Male)	83.8	0.24	923.5	-73.7	35	-21	-1340.7	-820.4
Passenger (5th Female)	209.0	0.31	555.4	-135.9	37	-10	-1783.7	-1947.9

*Redundant signal used

GENERAL COMMENTS:

- Engine top AX, channel failed at 63.4 ms
- Left Femur Primary Fz has a noise spike near the peak at 47.1 ms and is considered questionable. The redundant signal is used in this case.
- Passenger Left Lower Tibia My, questionable data

SECTION 2

OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

CONVERSION FACTORS

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	miles/hr	km/hr	1.609344
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.574
Pressure	Tire Pressures	lbf/in ²	kPa	6.895
Temperature	General Use	°F	°C	$=(T_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf-ft	N•m	1.355

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20214307
Model Year	2021
Make	Mercedes-Benz
Model	GLE350 4MATIC
Body Style	5-Door SUV
VIN	4JGFB4KB6MA320655
Body Color	Silver Metallic
Odometer Reading (km / mi)	51 / 32
Engine Displacement (L)	2.0
Type / No. of Cylinders	Inline 4-Cylinder
Engine Placement	Longitudinal
Transmission Type	Automatic
Transmission Speeds	9
Overdrive	Yes
Final Drive	AWD
Roof Rack	Yes
Sunroof / T-Top	Yes
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes
Automatic Door Locks (ADLs)	Yes

Traction Control System	Yes
Power Steering	Yes
Power Window Auto-Reverse	Yes
Driver Frontal Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	Yes
Front Pass. Frontal Airbag	Yes
Front Pass. Curtain Airbag	Yes
Front Pass. Head/Torso Airbag	No
Front Pass. Torso Airbag	No
Front Pass. Torso/Pelvis Airbag	Yes
Front Pass. Pelvis Airbag	No
Front Pass. Knee Airbag	No
Driver Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Front Pass. Seat Belt Pretensioner	Yes
Front Pass. Load Limiter	Yes
Other Safety Restraint	No

Does Owner's Manual provide instructions to turn off automatic door locks? Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Mercedes-Benz U.S. International Inc.
Date of Manufacture	Oct-20

GVWR (kg)	2820
GAWR Front (kg)	1350
GAWR Rear (kg)	1650

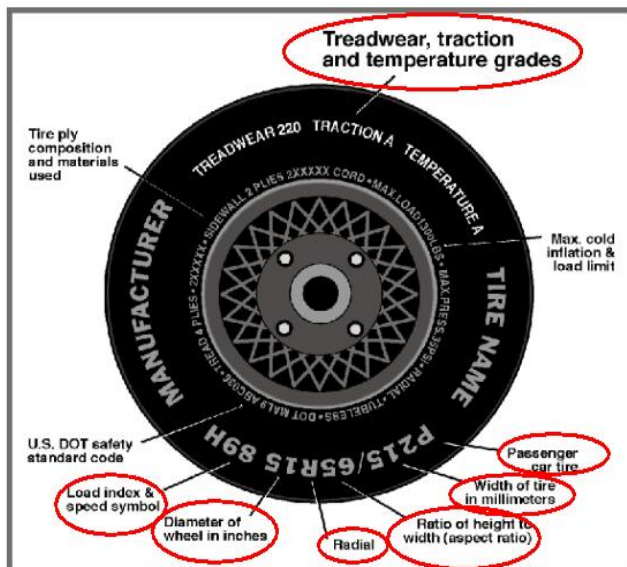
VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Type of Seats	Bucket	Split Bench			
Designated Seating Capacity	2	3		5	
Capacity Weight (VCW) (kg)				443.0	A
DSC x 68.04 (kg)				340.2	B
Cargo Weight (RCLW) (kg)				102.8	A-B

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	340	340
Cold Pressure (kPa)	270	340
Recommended Tire Size	P255/50 R19	P255/50 R19
Tire Size on Vehicle	P255/50 R19	P255/50 R19
Tire Manufacturer	Pirelli	Pirelli
Tire Model	Scorpion Zero	Scorpion Zero
Treadwear	500	500
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2 Rayon	2 Rayon
Tire Plies Body	2 Rayon, 2 Steel, 1 Polyamide	2 Rayon, 2 Steel, 1 Polyamide
Load Index / Speed Symbol	107 H	107 H
Tire Material	Rayon, Steel, Polyamide	Rayon, Steel, Polyamide
DOT Safety Code Left	UN64 W115 2819	UN64 W115 2819
DOT Safety Code Right	UN64 W115 2819	UN64 W115 2819

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UWV)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	579.0	506.5		610.0	615.0	
Right	kg	554.5	495.0		558.5	586.5	
Ratio	%	53.1%	46.9%	100.0%	49.3%	50.7%	100.0%
Total	kg	1133.5	1001.5	2135.0	1168.5	1201.5	2370.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UWV)	kg	2135.0	A
Weight of 1 P572E ATD & 1 P572O ATD	kg	141.0	B
Rated Cargo/Luggage Weight (RCLW)	kg	102.8	C
Calculated Vehicle Target Weight (TVTW)	kg	2378.8	A+B+C

TEST VEHICLE ATTITUDES

Condition	Units	LF	RF	LR	RR	CG Aft of Front Axle
As Delivered	mm	845	853	865	862	1403
As Tested	mm	830	835	830	835	1516
Post-Test	mm	900	900	841	836	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheelbase	mm	2991
Total Vehicle Length at Left Side	mm	4300
Total Vehicle Length at Centerline	mm	4928
Total Vehicle Length at Right Side	mm	4300
Weight of Ballast in Cargo Area	kg	76.0
Weight of Vehicle Components Removed	kg	21.0
Amount of Stoddard Solvent in Fuel Tank	L	79.23

VEHICLE COMPONENTS REMOVED TO MEET TEST WEIGHT:

Rear trunk trim (3.0 kg), Spare tire and jack (18.0 kg)

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

TARGET VEHICLE STRUCTURAL MEASUREMENTS

No.	Description	Pre-Test
1	Total Length	4928
2	Total Width	1945
3	Bumper Top Height	660
4	Bumper Bottom Height	370
5	Longitudinal Member Top Height	600
6	Distance Between Longitudinal Members	820
7	Longitudinal Member Width	65
8	Engine Top Height	1040
9	Engine Bottom Height	265
10	Engine and Gearbox Width	700
11	Front Bumper to Engine Distance	707
12	Front Shock Absorber Fixing Height	1020
13	Bonnet Leading Edge Height	985
14	Front Shock Absorber Fixing Width	1000
15	Front Bumper to Front Axle Distance	920
16	Front Axle to A-Pillar Distance	620
17	A-Pillar to B-Pillar Distance	950
18	B-Pillar to Rear Axle Distance	1300
19	B-Pillar to C-Pillar Distance	890
20	Roof Sill Bottom Height	1680
21	Roof Sill Top Height	1710
22	Floor Sill Bottom Height	380
23	Floor Sill Top Height	450

All measurements in millimeters.

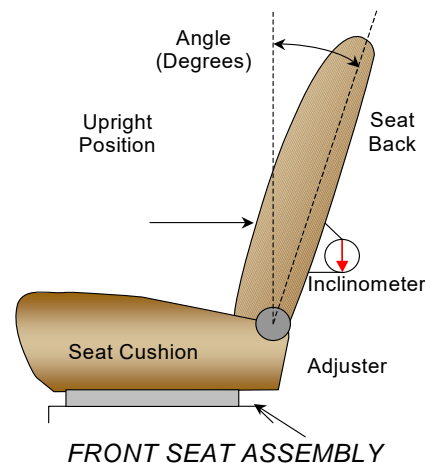
DATA SHEET NO. 2

SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

NOMINAL DESIGN RIDING POSITION

The procedure for the driver is as follows: the seat back is set to the manufacturer’s designated angle. The procedure for the passenger is as follows: the seat back is set to position the transverse instrumentation platform of the dummy’s head at $0^\circ \pm 0.5^\circ$. Seat back angle is measured with a flat edge along the seat back.

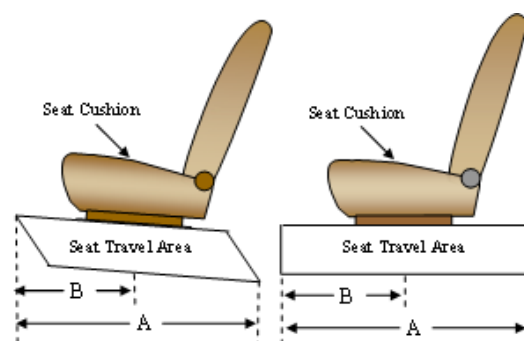


SEAT BACK ANGLE

Seating Position	Degrees
Driver Seat Back Angle	19.3
Passenger Seat Back Angle	8.1

SEAT FORE / AFT POSITIONING

The total seat travel is measured from the forward most possible position to the rear most possible position. The driver’s seat is set to the middle of the fore-aft travel. The passenger’s seat is set to the forward most position where the ATD will not contact any interior panels.



SEAT FORE/AFT POSITIONS

Seating Position	Total Fore-Aft Travel	Placed in Position
Driver Seat	310 mm	155 mm
Passenger Seat	265 mm	0 mm

SEAT BELT UPPER ANCHORAGE

The seat belt upper anchorage is positioned to the manufacturer’s design position for a 50th percentile adult male ATD for the driver, and a 5th percentile adult female ATD for the passenger. Position “L” is the lowermost position, followed by position “M1”. Position “H” is the uppermost position.

SEAT BELT UPPER ANCHORAGES

Seating Position	Total No. of Positions	Placed in Position
Driver Seat	4	H
Passenger Seat	4	L

DATA SHEET NO. 2 ... (CONTINUED)

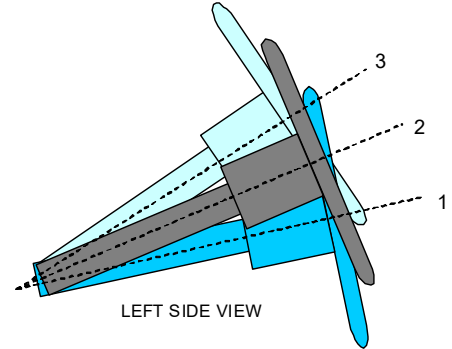
SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

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. A digital inclinometer is used to measure a plate which is placed across the rim of the steering wheel for angular measurements.



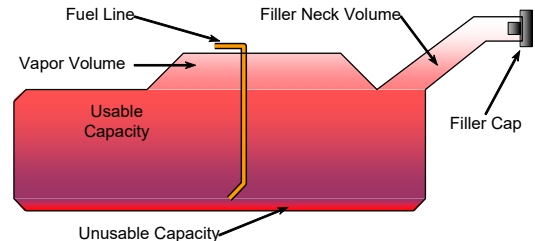
LEFT SIDE VIEW
STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONING

	Degrees	Fore-Aft Position (mm)
Lowermost Position, No. 1	20.4	95
Geometric Center Position, No. 2	22.6	125
Uppermost Position, No. 3	24.8	155
Telescoping Steering Wheel Travel		60
Test Position	22.6	125

FUEL PUMP

The vehicle is equipped with an electric fuel pump. The pump will work at "ignition on" until pressure in the system has reached working pressure in the system; then it will stop pumping fuel until the engine has been started.



VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	85.17
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	85.17
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	79.23
Actual amount of Solvent Used in Test	79.23
1/3 of Usable Capacity	28.39

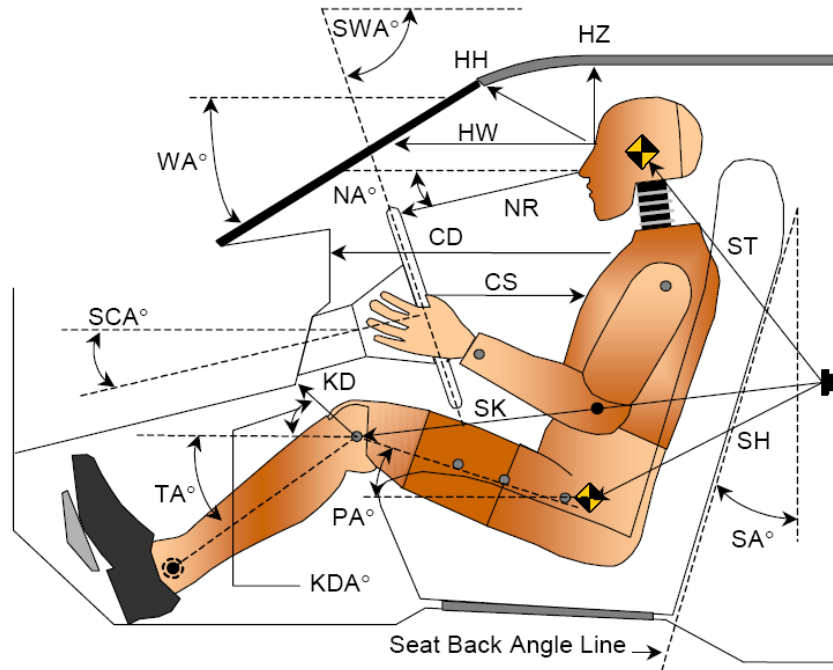
Is the Actual Amount of Solvent Used in the test equal to 93% ± 1% of the Usable Capacity stated in the Form No. 1? Yes No

DATA SHEET NO. 3

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



LEFT SIDE VIEW

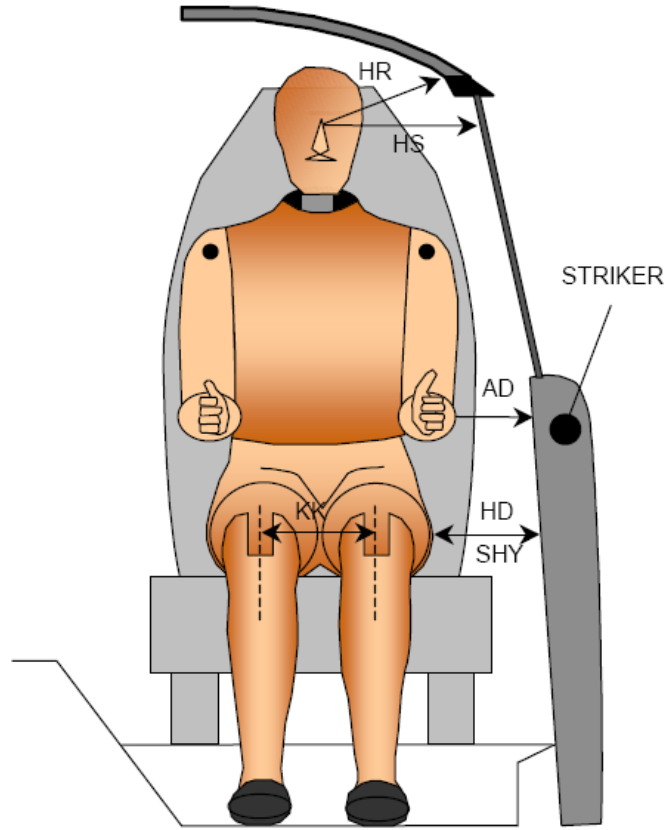
Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		31.4		
SWA°	Steering Wheel Angle		68.1		
SCA°	Steering Column Angle		21.9		
SA°	Seat Back Angle (On Headrest Post)		19.3		8.1
HZ	Head to Roof	219	90.0	244	90.0
HH	Head to Header	421	25.2	395	37.8
HW	Head to Windshield	736	0.0	674	0.0
NR	Nose to Rim	325	8.3	507	33.5
CD	Chest to Dash	599	8.3	507	33.5
CS	Chest to Steering Hub	298	0.0		
RA	Rim to Abdomen	195	0.0		
KDL	Left Knee to Dash	154	33.2	72	33.2
KDR	Right Knee to Dash	97	35.5	103	31.4
PA°	Pelvic Angle		23.0		19.0
TA°	Tibia Angle		47.5		50.3
SK	Striker to Knee	558	5	661	6
ST	Striker to Head	497	81	447	71
SH	Striker to H-Point	237	44	343	22

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



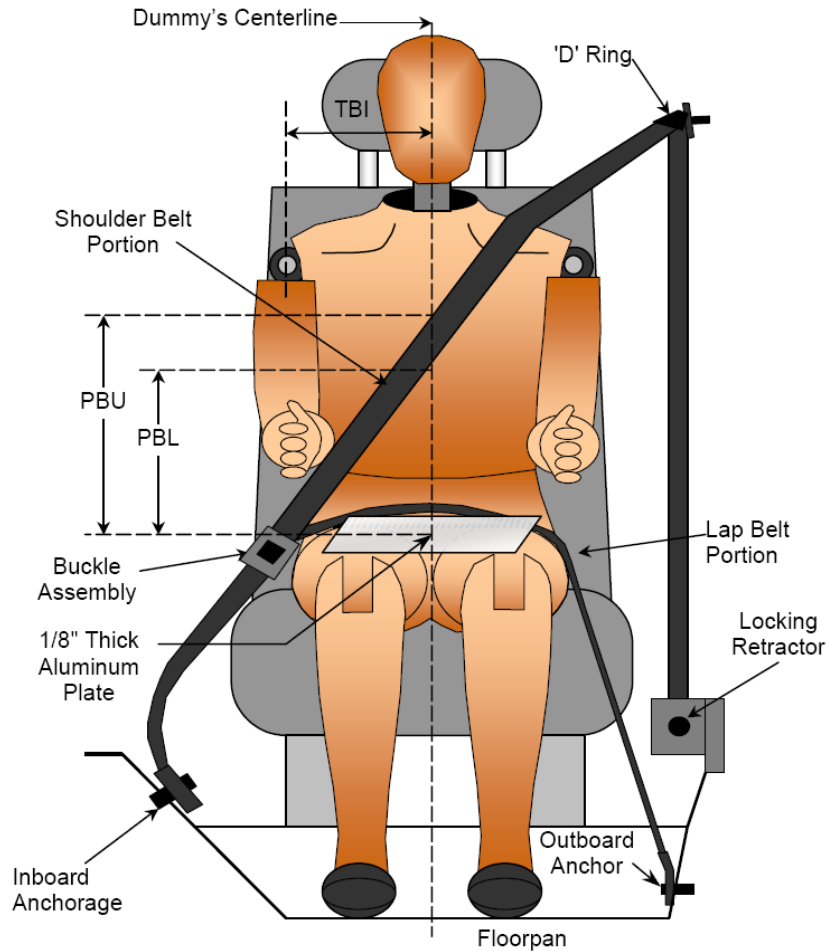
Code	Description	Driver (mm)	Passenger (mm)
AD	Arm to Door	129	163
HD	H-Point to Door	145	170
HR	Head to Side Header	242	269
HS	Head to Side Window	357	420
KK	Knee to Knee	310	210
SHY	Striker to H-Point (Y-Direction)	259	276
AA	Ankle to Ankle	305	165

DATA SHEET NO. 5

SEAT BELT POSITIONING DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Code	Measurement Description	Units	Driver	Passenger
PBU	Top Surface of Aluminum Plate to Belt Upper Edge	mm	313	275
PBL	Top Surface of Aluminum Plate to Belt Lower Edge	mm	242	185

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as Measured on ATD	mm	930	925
Lap Belt Length as Measured on ATD	mm	623	550
Remainder of Belt on Reel	mm	883	971
Total Belt Length for Continuous Webbing Systems	mm	2436	2446

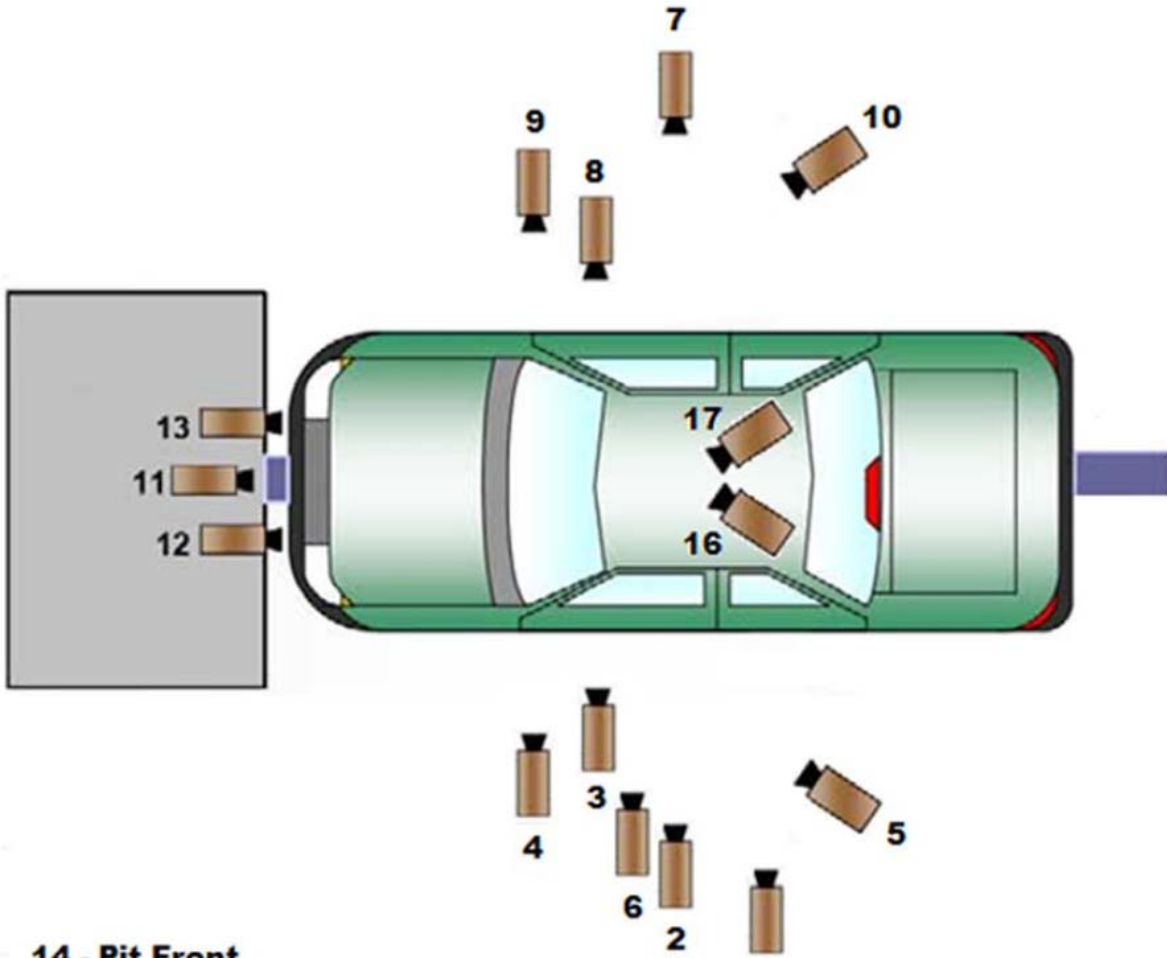
DATA SHEET NO. 6

HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

CAMERA POSITIONS FOR FRONTAL IMPACTS



14 - Pit Front

15 - Pit Rear

16 & 17 - Driver and Passenger Onboard

1- Real Time Camera

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

DATA SHEET NO. 6 ... (CONTINUED)

HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

CAMERA LOCATIONS

No.	Description	Location (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall	-11412	-8150	-1484		30
2	Left Overall	-2456	-7975	-1025	20	1000
3	Driver Close-Up	-2590	-7950	-1371	50	1000
4	Left Front Half	-1701	-6197	-1701	35	1000
5	Left Angle	-6696	-10308	-3211	105	1000
6	Steering Column	-1966	-10412	-3688	35	1000
7	Right Overall	-2336	7569	-1012	20	1000
8	Passenger Close-Up	-1733	7581	-1408	50	1000
9	Right Front Half	-1600	8214	-1811	35	1000
10	Right Angle	-6217	9516	-4830	85	1000
11	Windshield	-354	0	-5749	28	1000
12	Driver Windshield	297	-366	-2460	24	1000
13	Passenger Windshield	297	366	-2460	24	1000
14	Pit Front	-756	0	1495	21	1000
15	Pit Rear	-3398	0	1495	14	1000
16	Driver Onboard	-1710	-460	-1680	6	1000
17	Passenger Onboard	-1710	460	-1680	6	1000

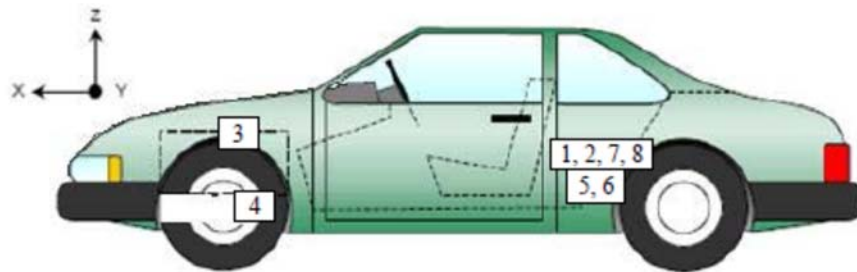
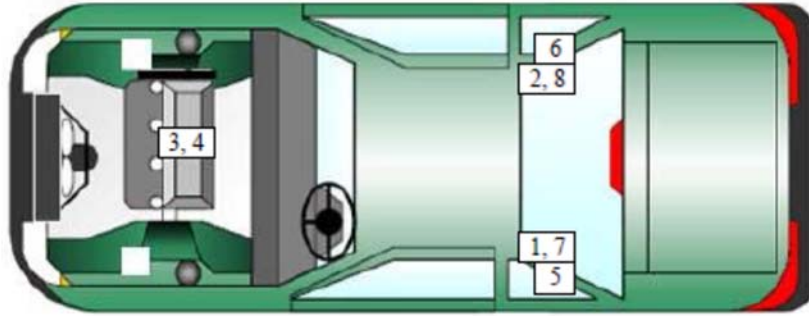
Coordinates: +X = forward impact plane
 +Y = right of monorail center
 +Z = into ground

DATA SHEET NO. 7

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Description	Location		
		X	Y	Z
1	Left Rear Accelerometer X-Direction	820	300	170
2	Right Rear Accelerometer X-Direction	830	310	180
3	Engine Top X	1750	0	1110
4	Engine Bottom X	1740	0	130
5	Left Rear Accelerometer Z-Direction	820	300	170
6	Right Rear Accelerometer Z-Direction	830	310	180
7	Left Rear Accelerometer X-Direction Redundant	820	300	170
8	Right Rear Accelerometer X-Direction Redundant	830	310	180

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

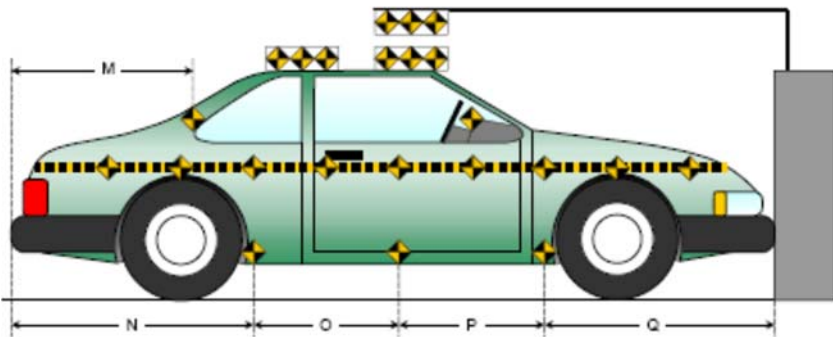
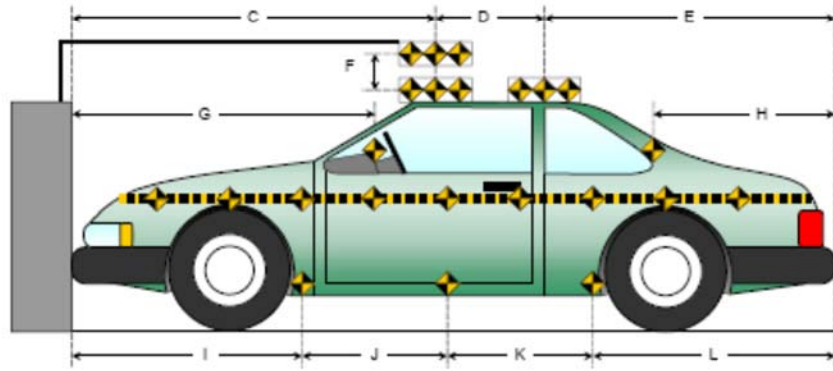
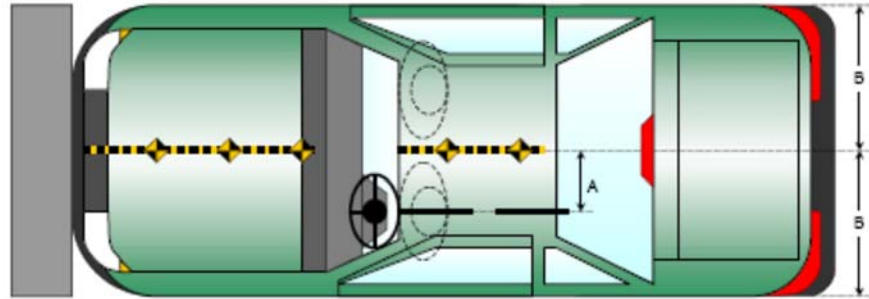
DATA SHEET NO. 8

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

Item	Value
A	N/A
B	973
C	2290
D	610
E	2065
F	305
G	1930
H	1170
I	1549
J	913
K	913
L	1554
M	1170
N	1554
O	913
P	913
Q	1549



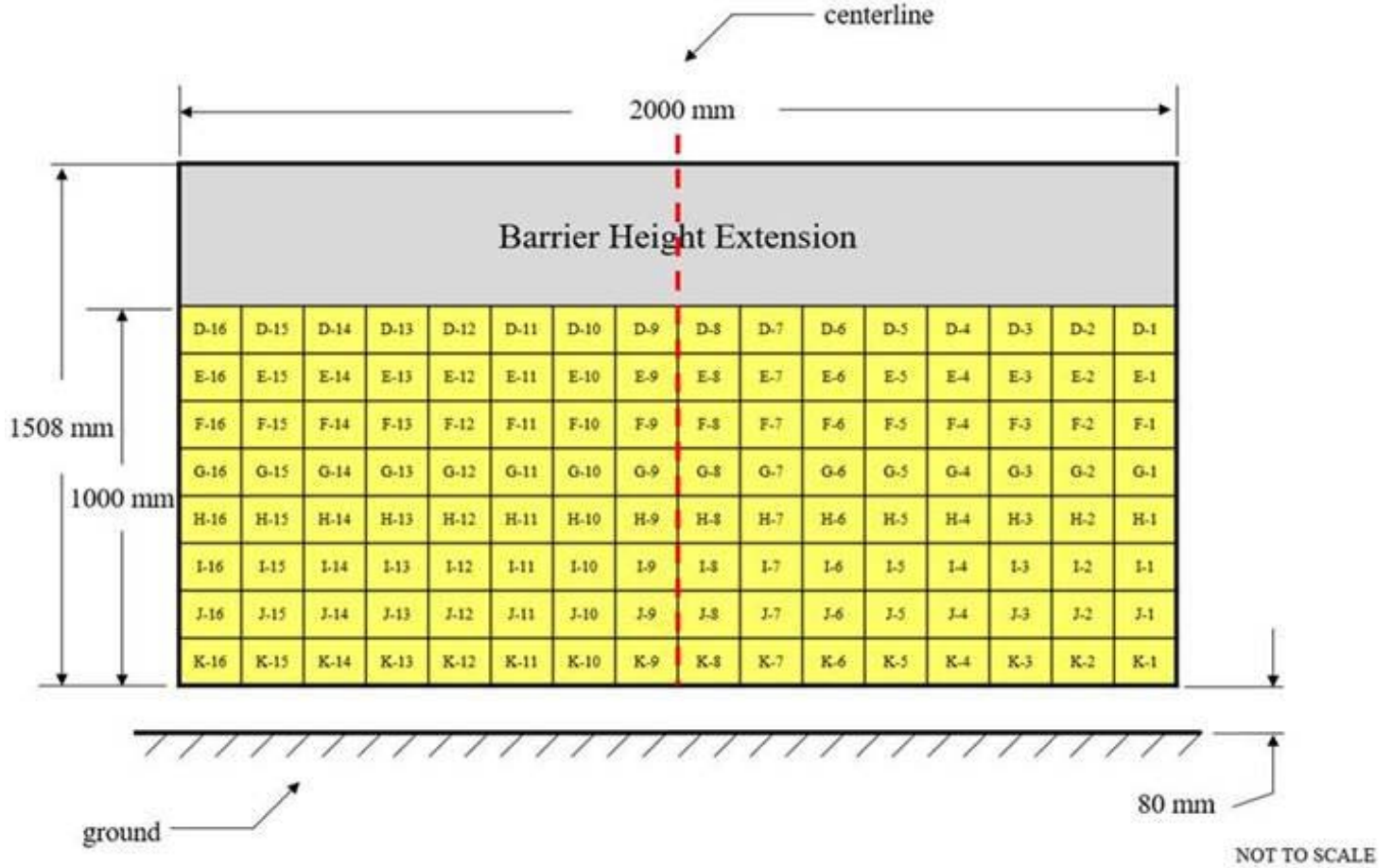
All measurements in millimeters.

DATA SHEET NO. 9

LOAD CELL LOCATIONS ON FIXED BARRIER

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



DATA SHEET NO. 10

TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

INSTRUMENTATION

Driver Dummy Accelerometers	49
Passenger Dummy Accelerometers	49
Vehicle Structure Accelerometers	8
Load Cell Barrier	528
Total	634

CAMERA COVERAGE

High-Speed Vehicle On Board	2
High-Speed Off Board	14
Real Time	1
Total	17

DATA SHEET NO. 11

POST-TEST OBSERVATIONS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

TEST DUMMY INFORMATION AND CONTACT LOCATIONS

Description	Driver	Passenger
Dummy Type/Serial No.	HIII 50th Percentile Male ATD / 360	HIII 5th Percentile Female ATD / DH1644
Head Contact	Frontal Airbag, Headrest	Frontal Airbag, Headrest
Upper Torso Contact	Frontal Airbag	Frontal Airbag
Lower Torso Contact	None	Frontal Airbag
Left Knee Contact	Knee Airbag	Knee Bolster
Right Knee Contact	Knee Airbag, Steering Wheel Rim	Knee Bolster

DOOR OPENING, TRUNK OPENING, AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Locked / Unlocked Doors	Unlocked	Unlocked
Front Door Opening	Remained closed, latched, and operational	Remained closed, latched, and operational
Rear Door Opening	Remained closed, latched, and operational	Remained closed, latched, and operational
Trunk/Hatch/Tailgate Opening	None	
Seat Track Shift (mm)	0	0
Seat Back Movement from Initial Position	None	None

OTHER VEHICLE POST-TEST OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	None
Window Damage	None
Other Notable Effects	None

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	541
Center	mm	490
Right Side	mm	498
Average	mm	510

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

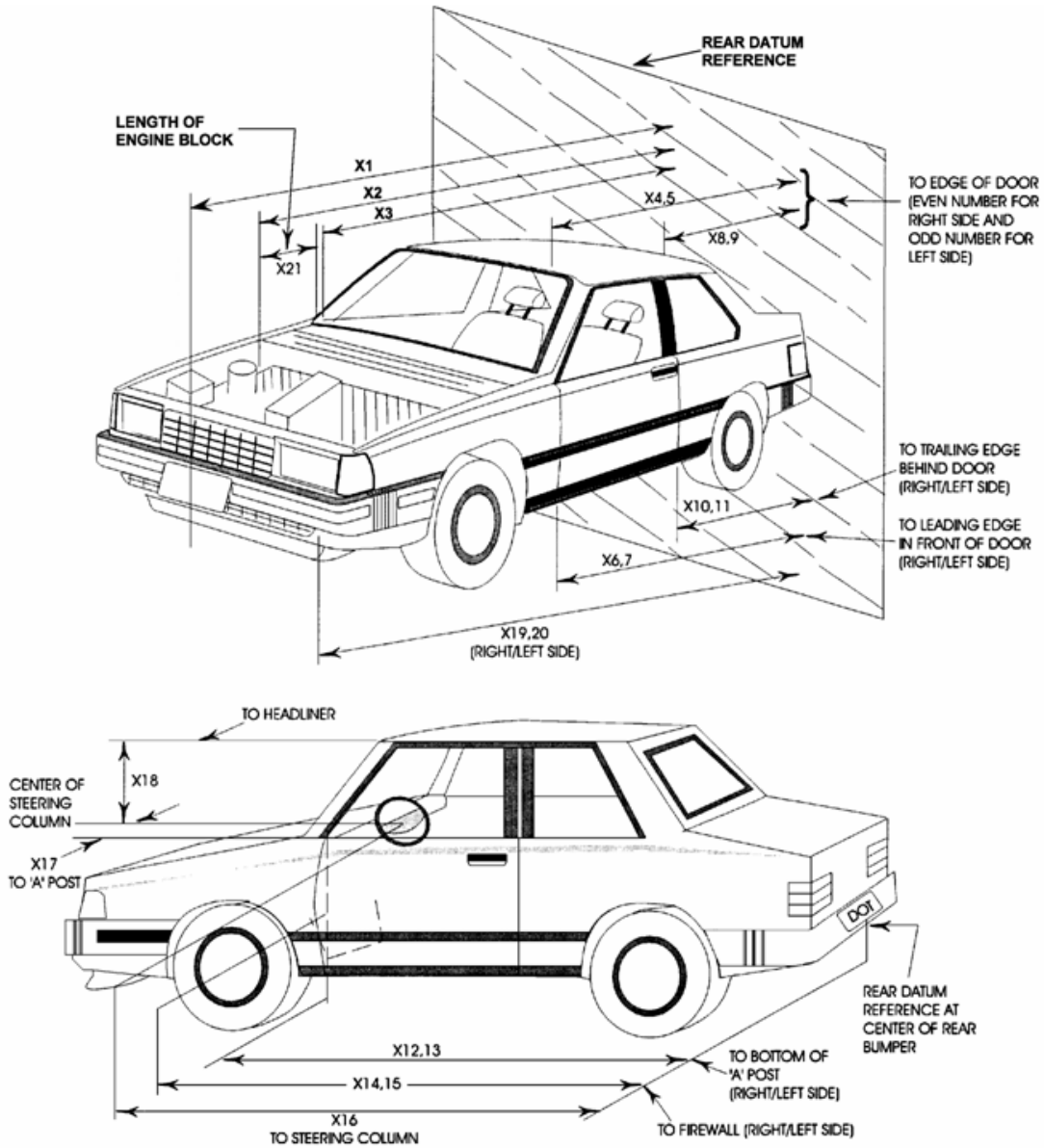
Restraint Type	Driver		Passenger	
	Installed	Operated	Installed	Operated
Front Airbag	Yes	Yes	Yes	Yes
Side Airbag 1 (Curtain)	Yes	No	Yes	No
Side Airbag 2 (Torso/Pelvis)	Yes	No	Yes	No
Knee Airbag	Yes	Yes	No	No
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes

DATA SHEET NO. 12

VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



DATA SHEET NO. 12 ... (CONTINUED)**VEHICLE PROFILE MEASUREMENTS**Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

No.	Description	Pre-Test	Post-Test	Difference
1	Total Length of Vehicle at Centerline	4928	4610	-318
2	Rear Surface of Vehicle to Front of Engine	4163	4150	-13
3	RSOV to Firewall	3583	3584	1
4	RSOV to Upper Leading Edge of Right Door	3390	3398	8
5	RSOV to Upper Leading Edge of Left Door	3390	3393	3
6	RSOV to Lower Leading Edge of Right Door	3380	3385	5
7	RSOV to Lower Leading Edge of Left Door	3380	3386	6
8	RSOV to Upper Trailing Edge of Right Door	2240	2241	1
9	RSOV to Upper Trailing Edge of Left Door	2240	2240	0
10	RSOV to Lower Trailing Edge of Right Door	2300	2305	5
11	RSOV to Lower Trailing Edge of Left Door	2300	2300	0
12	RSOV to Bottom of A-Pillar, Right Side	3270	3268	-2
13	RSOV to Bottom of A-Pillar, Left Side	3270	3268	-2
14	RSOV to Firewall, Right Side	3680	3680	0
15	RSOV to Firewall, Left Side	3680	3683	3
16	RSOV to Steering Column	2910	2920	10
17	Center of Steering Column to A-Pillar	430	441	11
18	Center of Steering Column to Headliner	470	468	-2
19	RSOV to Right Side of Front Bumper	4300	4200	-100
20	RSOV to Left Side of Front Bumper	4300	4245	-55
21	Length of Engine Block	530	530	0
RD	RSOV to Right Side of Dash Panel	3035	3038	3
CD	RSOV to Center of Dash Panel	3010	3005	-5
LD	RSOV to Left Side of Dash Panel	3030	3030	0

All measurements in millimeters.

DATA SHEET NO. 13

ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

VEHICLE INFORMATION

VIN: 4JGFB4KB6MA320655
 Vehicle Size Category: 5-Door SUV

Wheelbase (mm): 2991
 Test Weight (kg): 2370.0

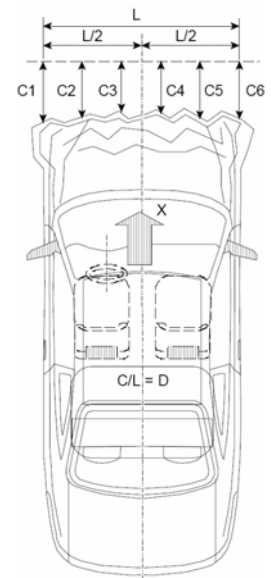
ACCELEROMETER DATA

Accelerometer Locations: Left Rear Crossmember
 Cal. Procedure/Interval: Vibration Test / 6 months
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 56.50
 Velocity Change (km/h): 64.1
 Time of Separation (msec): 76.6

Linearity: Good

CRUSH PROFILE

Collision Deformation Classification: 12FDEW2
 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1668
 Impact Mode: Full Frontal



No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush Zone 1 at Left Side	mm	180	420	240
C2	Crush Zone 2 at Left Side	mm	65	370	305
C3	Crush Zone 3 at Left Side	mm	40	355	315
C4	Crush Zone 4 at Right Side	mm	40	330	290
C5	Crush Zone 5 at Right Side	mm	65	310	245
C6	Crush Zone 6 at Right Side	mm	180	390	210
L	C1 to C6	mm	1668		

DATA SHEET NO. 14

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

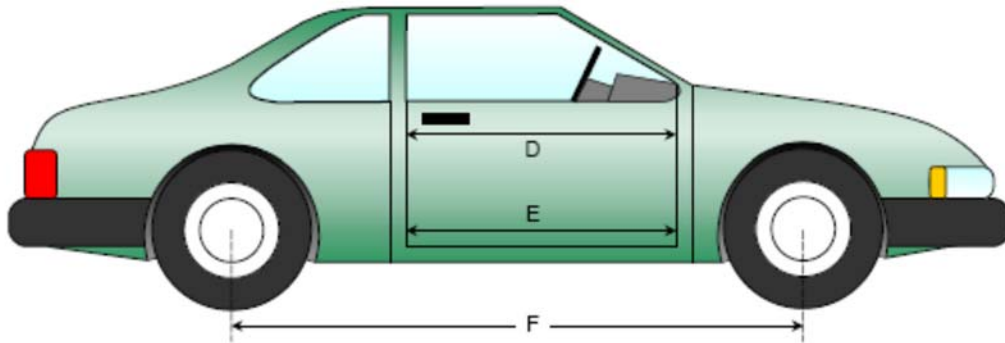
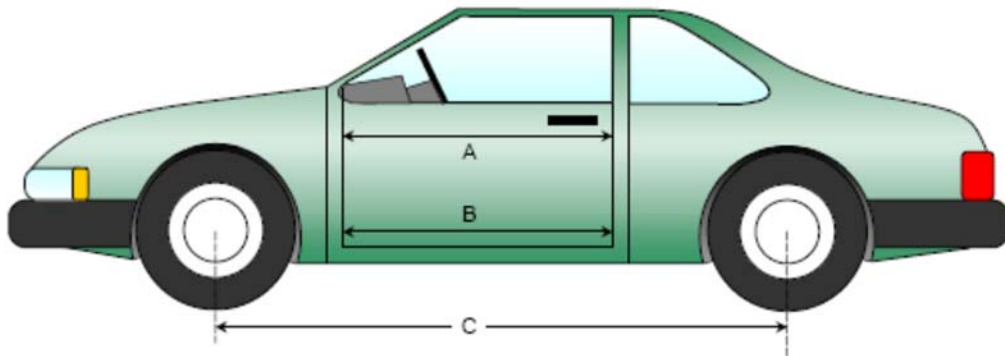
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	950	943	7
B	Left Side Lower	mm	850	850	0
D	Right Side Upper	mm	950	947	3
E	Right Side Lower	mm	850	853	-3

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheelbase	mm	2991	2930	61
F	Right Side Wheelbase	mm	2991	2885	106



DATA SHEET NO. 14 ... (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

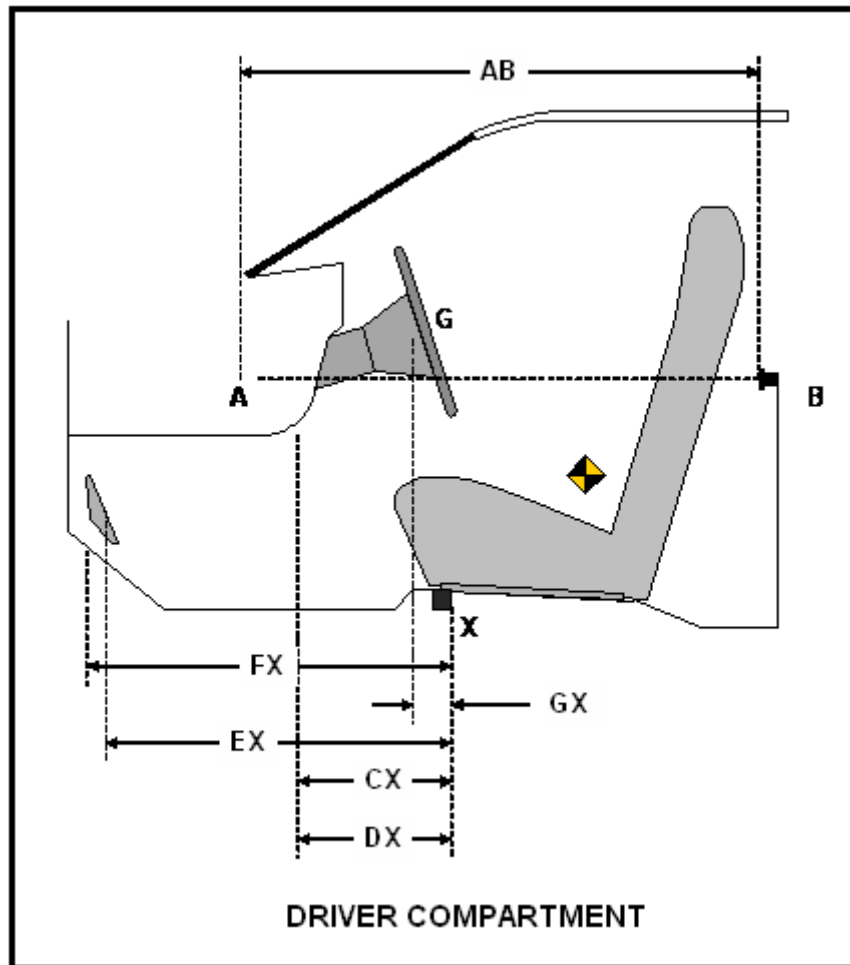
Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside Window Jam)	mm	846	850	-4
CX	Left Knee Bolster to X	mm	320	330	-10
DX	Right Knee Bolster to X	mm	320	346	-26
EX	Brake Pedal to X	mm	545	545	0
FX	Foot Rest to X	mm	505	508	-3
GX	Center of Steering Wheel Hub to X	mm	70	165	-95

X = Front of Seat Track (Stationary)



DATA SHEET NO. 15

SUMMARY OF INDICANT FMVSS 212 AND 219 (PARTIAL) DATA

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

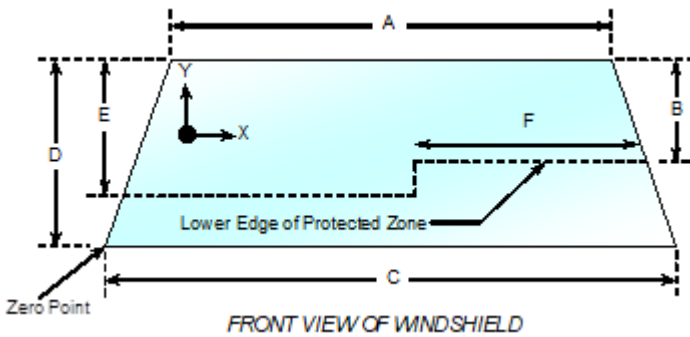
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with rubber molding and rubber cement.

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

Temperature of windshield molding during test: 16.1° C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2218	2218	100.0%
Right Side	2218	2218	100.0%
Total	4435	4435	100.0%



Item	Units	Value
A	mm	1262
B	mm	440
C	mm	1473
D	mm	850
E	mm	480
F	mm	560

AREAS 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.

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.

X	Y

DATA SHEET NO. 16

FMVSS 301 BARRIER IMPACT AND STATIC ROLLOVER RESULTS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

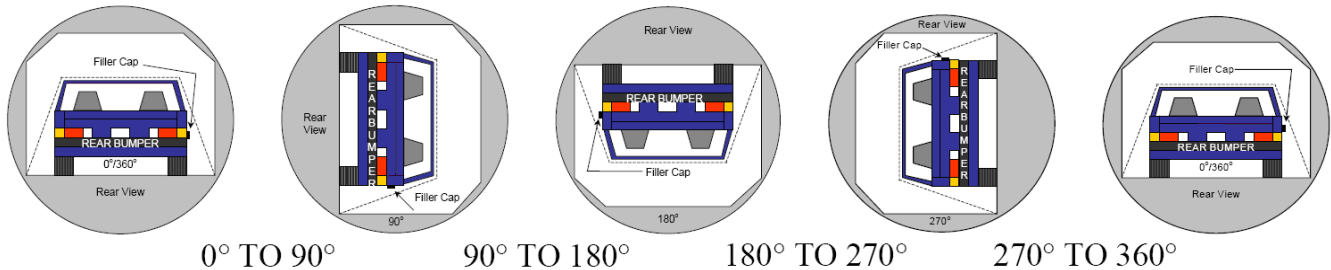
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 16.1°C Test Time: 2:14 PM

Stoddard Solvent Spillage Measurements

- A. From impact until vehicle motion ceases: N/A oz.
(Maximum allowable = 1 oz.)
- B. For the 5 minute period after motion ceases: N/A oz.
(Maximum allowable = 5 oz.)
- C. For the following 25 minutes: N/A oz.
(Maximum allowable = 1 oz./minute)
- D. Spillage: _____



- The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
- The position hold time at each position is 300 seconds (minimum).
- Details of Stoddard solvent spillage: N/A

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	80	300	380
90° To 180°	80	300	380
180° To 270°	80	300	380
270° To 360°	80	300	380

DATA SHEET NO. 16 ... (CONTINUED)

FMVSS 301 BARRIER IMPACT AND STATIC ROLLOVER RESULTS

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21

FMVSS 301 SPILLAGE TABLE

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° To 90°				
90° To 180°				
180° To 270°				
270° To 360°				

SOLVENT SPILLAGE LOCATION TABLE

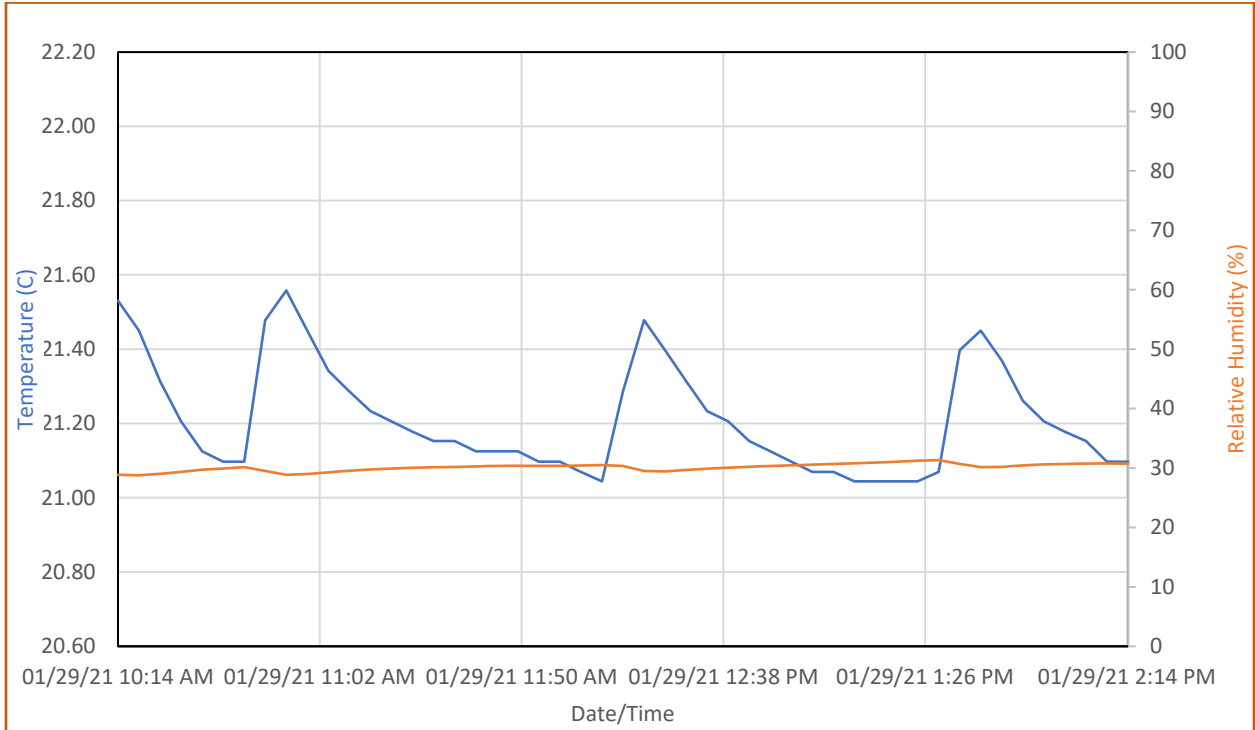
Test Phase	Spillage Location
0° To 90°	
90° To 180°	
180° To 270°	
270° To 360°	

DATA SHEET NO. 17

DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV NHTSA No.: M20214307

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 01/29/21



APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

TABLE OF PHOTOGRAPHS

Figure		Page
1	Load Cell Location	A-1
2	Pre-Test Load Cell Wall	A-1
3	Post-Test Load Cell Wall	A-2
4	Manufacturer's Label	A-2
5	Tire Placard	A-3
6	2021 Mercedes-Benz GLE350 4MATIC Frontal as Delivered	A-3
7	Left Rear $\frac{3}{4}$ View, as Received	A-4
8	Pre-Test Front View of Test Vehicle	A-4
9	Post-Test Front View of Test Vehicle	A-5
10	Pre-Test Left View of Test Vehicle	A-5
11	Post-Test Left View of Test Vehicle	A-6
12	Pre-Test Right View of Test Vehicle	A-6
13	Post-Test Right View of Test Vehicle	A-7
14	Pre-Test Right Front $\frac{3}{4}$ View	A-7
15	Post-Test Right Front $\frac{3}{4}$ View	A-8
16	Pre-Test Left Rear $\frac{3}{4}$ View	A-8
17	Post-Test Left Rear $\frac{3}{4}$ View	A-9
18	Pre-Test Windshield View	A-9
19	Post-Test Windshield View	A-10
20	Pre-Test Engine Compartment View	A-10
21	Post-Test Engine Compartment View	A-11
22	Pre-Test Fuel Filler Cap View	A-11
23	Post-Test Fuel Filler Cap View	A-12
24	Pre-Test Front Underbody View	A-12
25	Post-Test Front Underbody View	A-13
26	Pre-Test Rear Underbody View	A-13
27	Post-Test Rear Underbody View	A-14
28	Pre-Test Dummy Cable Routing	A-14
29	Post-Test Dummy Cable Routing	A-15
30	Pre-Test Driver Dummy Front View	A-15
31	Post-Test Driver Dummy Front View	A-16
32	Pre-Test Driver Dummy Window View	A-16
33	Post-Test Driver Dummy Window View	A-17
34	Pre-Test Driver Dummy and Vehicle Interior View	A-17
35	Post-Test Driver Dummy and Vehicle Interior View	A-18
36	Pre-Test Driver's Seat Fore-Aft Markings	A-18

TABLE OF PHOTOGRAPHS ... (CONTINUED)

<u>Figure</u>		<u>Page</u>
37	Post-Test Driver's Seat Fore-Aft Markings	A-19
38	Pre-Test View of Belt Anchorage for Driver Dummy	A-19
39	Post-Test View of Belt Anchorage for Driver Dummy	A-20
40	Pre-Test View of Belt Buckle and Latch Plate for Driver Dummy	A-20
41	Post-Test View of Belt Buckle and Latch Plate for Driver Dummy	A-21
42	Pre-Test Driver Dummy Feet	A-21
43	Post-Test Driver Dummy Feet	A-22
44	Pre-Test Driver's Side Knee Bolster	A-22
45	Post-Test Driver's Side Knee Bolster	A-23
46	Pre-Test Driver's Side Floorpan	A-23
47	Post-Test Driver's Side Floorpan	A-24
48	Post-Test Driver Dummy Face	A-24
49	Post-Test Driver Dummy Contact with Airbag	A-25
50	Post-Test Driver Dummy Contact with Headrest	A-25
50a	Post-Test Driver Dummy Contact with Knee Airbag	A-26
51	Pre-Test View of the Steering Wheel	A-26
52	Post-Test View of the Steering Wheel	A-27
53	Pre-Test Passenger Dummy Front View	A-27
54	Post-Test Passenger Dummy Front View	A-28
55	Pre-Test Passenger Dummy Window View	A-28
56	Post-Test Passenger Dummy Window View	A-29
57	Pre-Test Passenger Dummy and Vehicle Interior View	A-29
58	Post-Test Passenger Dummy and Vehicle Interior View	A-30
59	Pre-Test Passenger's Seat Fore-Aft Markings	A-30
60	Post-Test Passenger's Seat Fore-Aft Markings	A-31
61	Pre-Test View of Belt Anchorage for Passenger Dummy	A-31
62	Post-Test View of Belt Anchorage for Passenger Dummy	A-32
63	Pre-Test View of Belt Buckle and Latch Plate for Passenger Dummy	A-32
64	Post-Test View of Belt Buckle and Latch Plate for Passenger Dummy	A-33
65	Pre-Test Passenger Dummy Feet	A-33
66	Post-Test Passenger Dummy Feet	A-34
67	Pre-Test Passenger's Side Knee Bolster	A-34
68	Post-Test Passenger's Side Knee Bolster	A-35
69	Pre-Test Passenger's Side Floorpan	A-35
70	Post-Test Passenger's Side Floorpan	A-36

TABLE OF PHOTOGRAPHS ... (CONTINUED)

<u>Figure</u>		<u>Page</u>
72	Post-Test Passenger Dummy Contact with Airbag	A-37
73	Post-Test Passenger Dummy Contact with Headrest	A-37
73a	Post-Test Passenger Dummy Contact with Knee Bolster	A-38
74	Photograph of Ballast Installed in Vehicle	A-38
75	Post-Test Stoddard Solvent Spillage Location View	A-39
76	Post-Test Speed Trap Read-Out	A-39
77	Vehicle at 0° on Static Rollover Device	A-40
78	Vehicle at 90° on Static Rollover Device	A-40
79	Vehicle at 180° on Static Rollover Device	A-41
80	Vehicle at 270° on Static Rollover Device	A-41
81	Vehicle at 360° on Static Rollover Device	A-42
82	2021 Mercedes-Benz GLE350 4MATIC Frontal Impact Event	A-42
83	Monroney Label Photograph	A-43

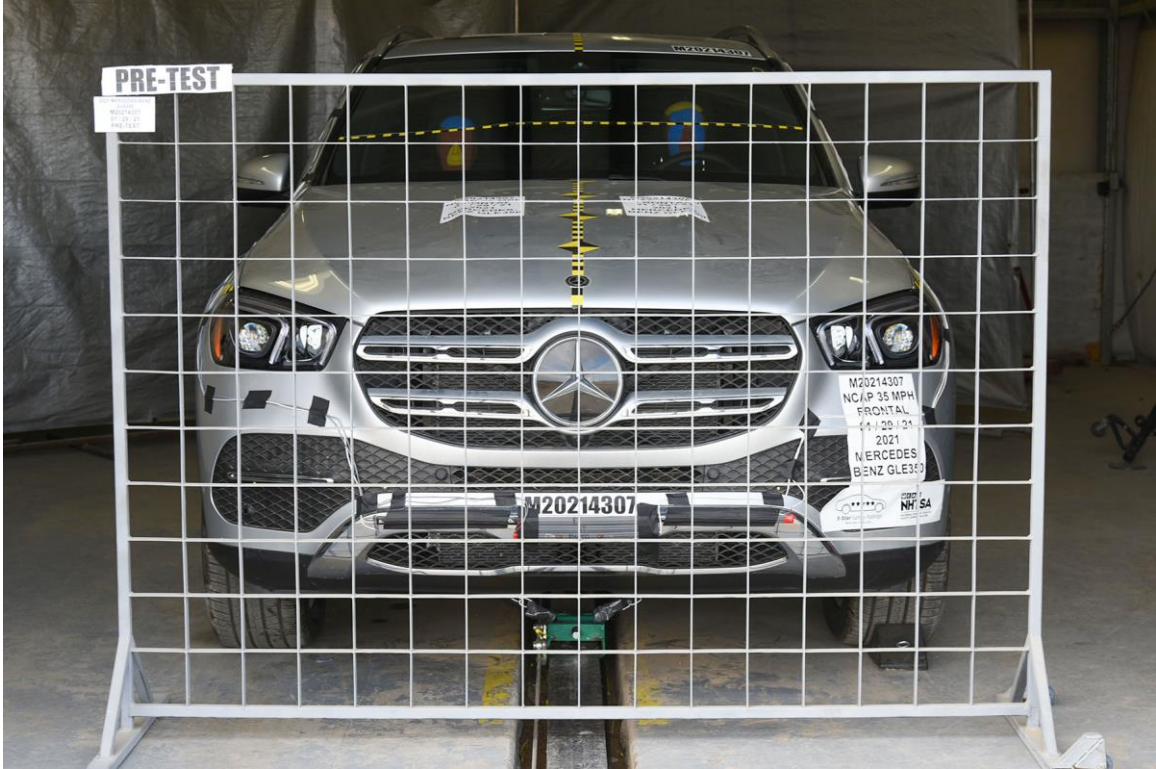


FIGURE 1. Load Cell Location

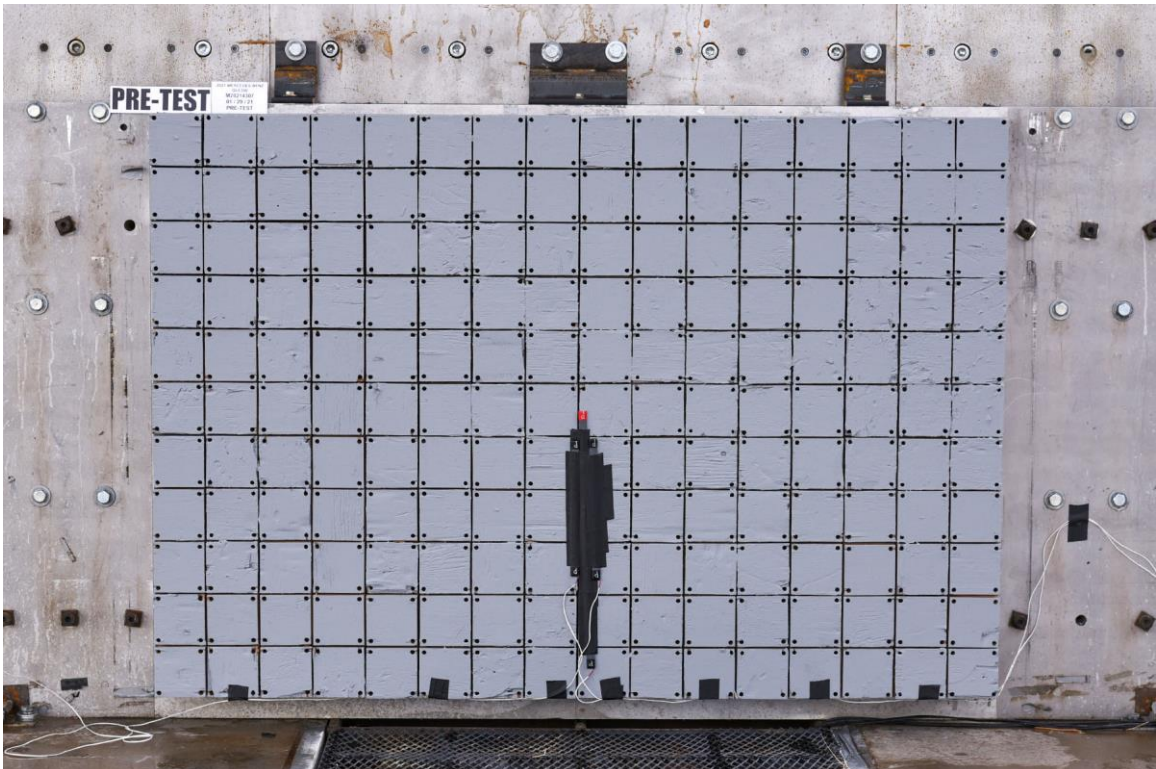


FIGURE 2. Pre-Test Load Cell Wall

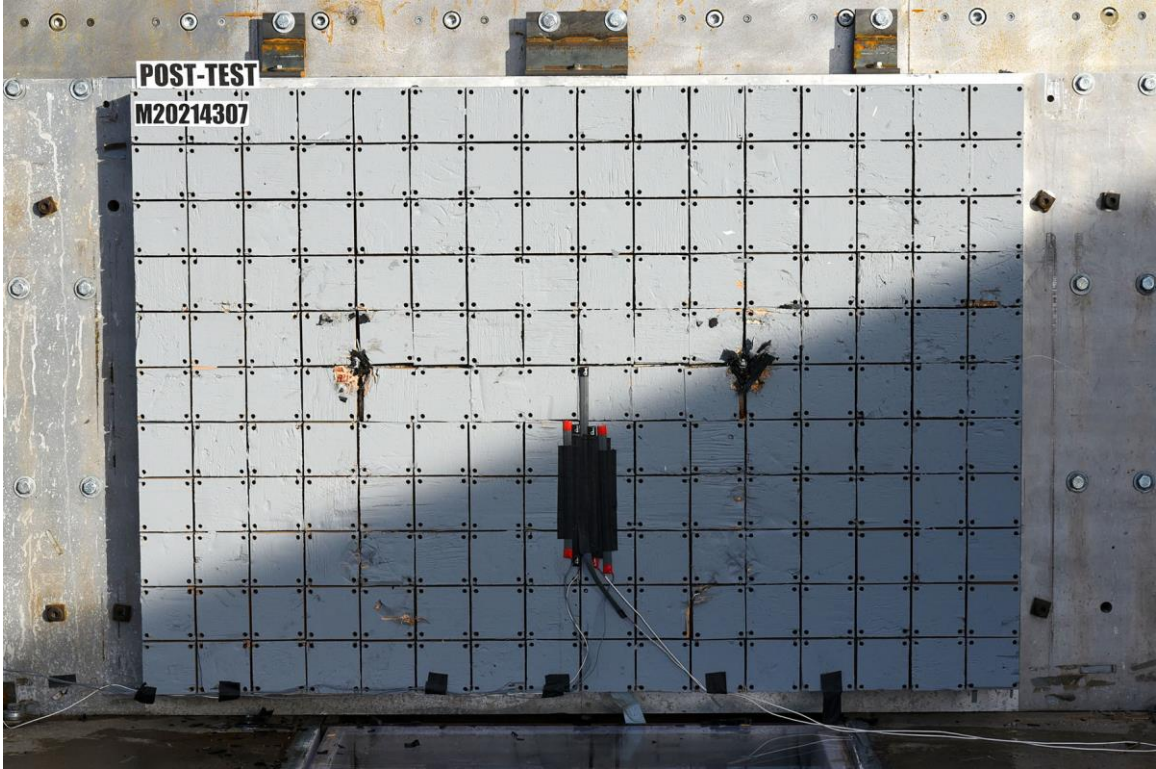


FIGURE 3. Post-Test Load Cell Wall



FIGURE 4. Manufacturer's Label

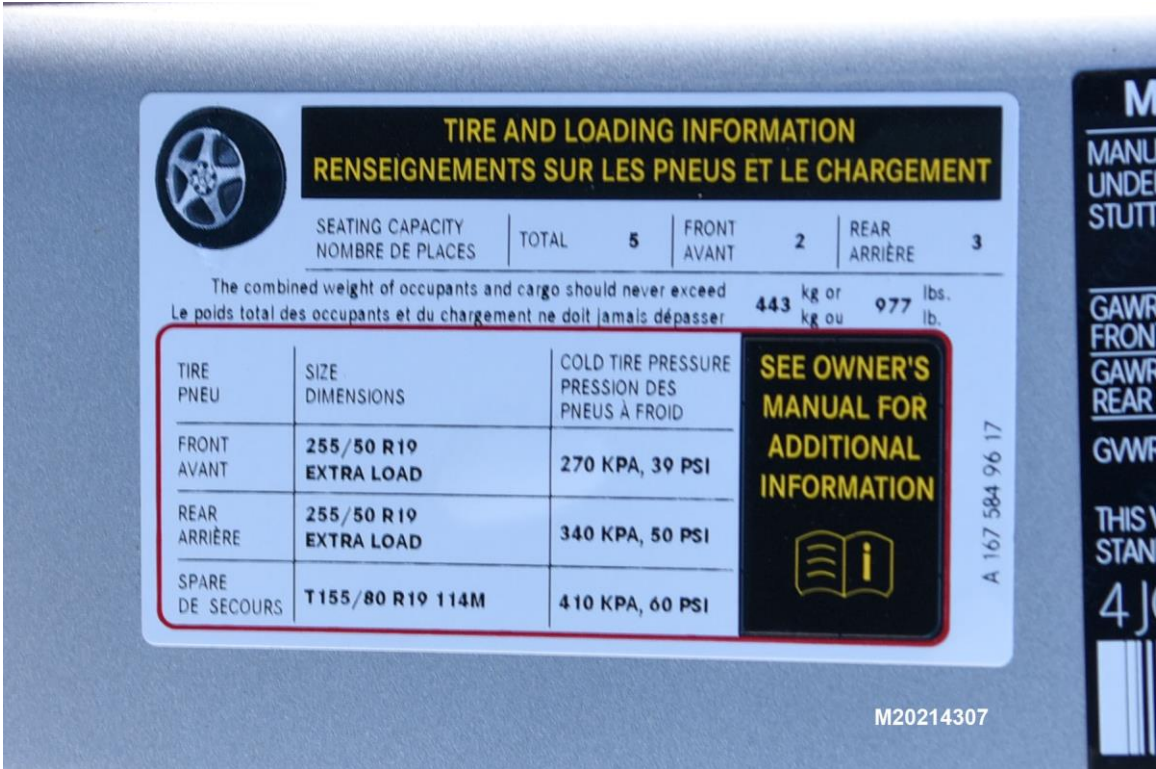


FIGURE 5. Tire Placard



FIGURE 6. 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV Frontal as Delivered



FIGURE 7. Left Rear $\frac{3}{4}$ View, as Received



FIGURE 8. Pre-Test Front View of Test Vehicle



FIGURE 9. Post-Test Front View of Test Vehicle



FIGURE 10. Pre-Test Left View of Test Vehicle



FIGURE 11. Post-Test Left View of Test Vehicle



FIGURE 12. Pre-Test Right View of Test Vehicle



FIGURE 13. Post-Test Right View of Test Vehicle



FIGURE 14. Pre-Test Right Front 3/4 View



FIGURE 15. Post-Test Right Front $\frac{3}{4}$ View



FIGURE 16. Pre-Test Left Rear $\frac{3}{4}$ View



FIGURE 17. Post-Test Left Rear $\frac{3}{4}$ View



FIGURE 18. Pre-Test Windshield View



FIGURE 19. Post-Test Windshield View



FIGURE 20. Pre-Test Engine Compartment View



FIGURE 21. Post-Test Engine Compartment View



FIGURE 22. Pre-Test Fuel Filler Cap View



FIGURE 23. Post-Test Fuel Filler Cap View

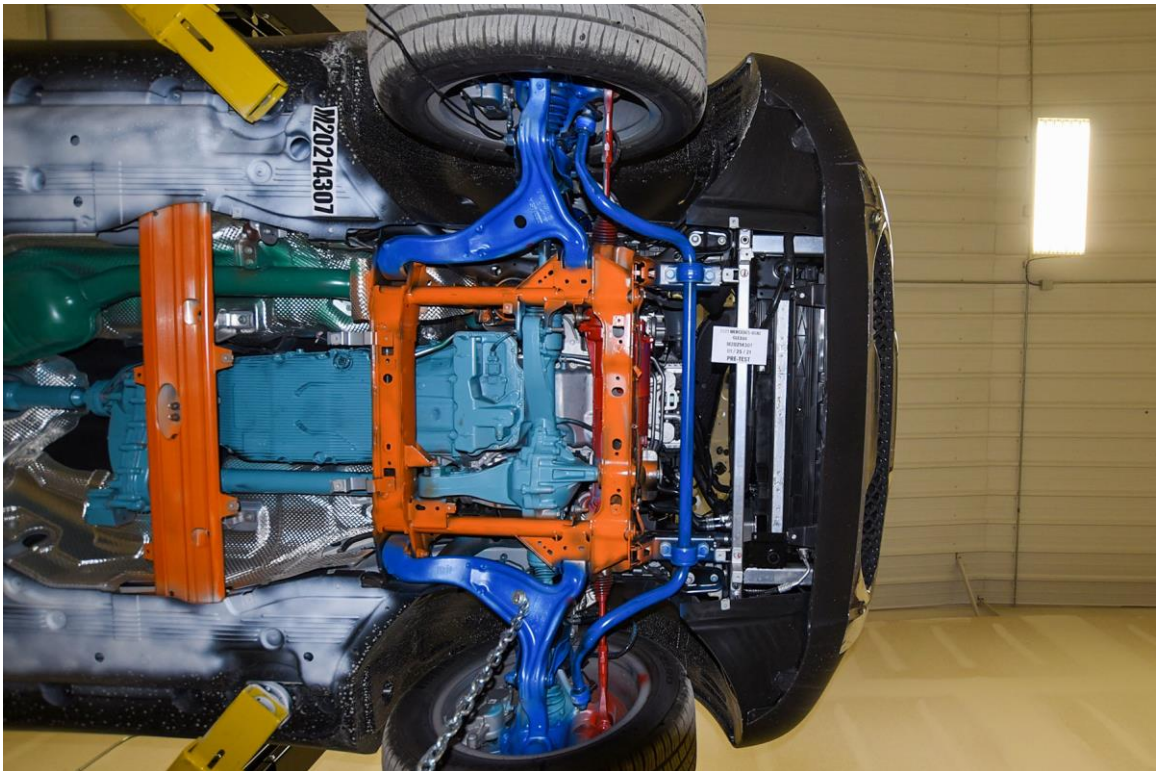


FIGURE 24. Pre-Test Front Underbody View



FIGURE 25. Post-Test Front Underbody View

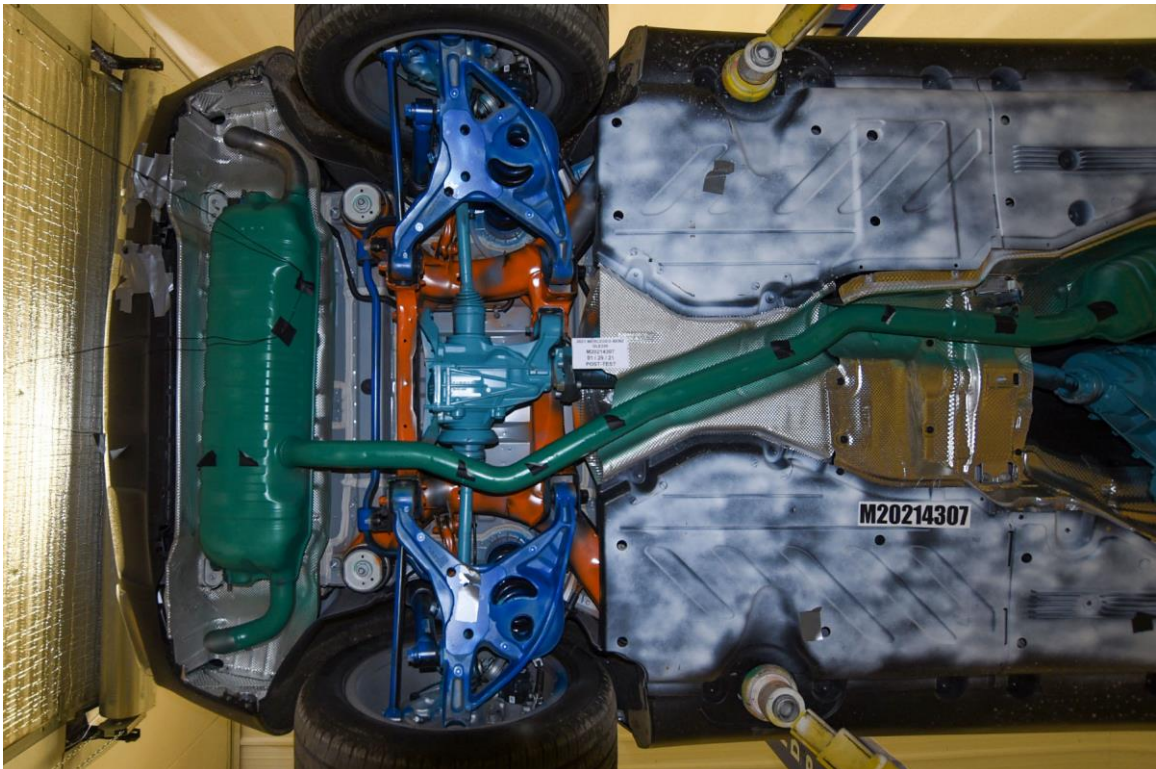


FIGURE 26. Pre-Test Rear Underbody View

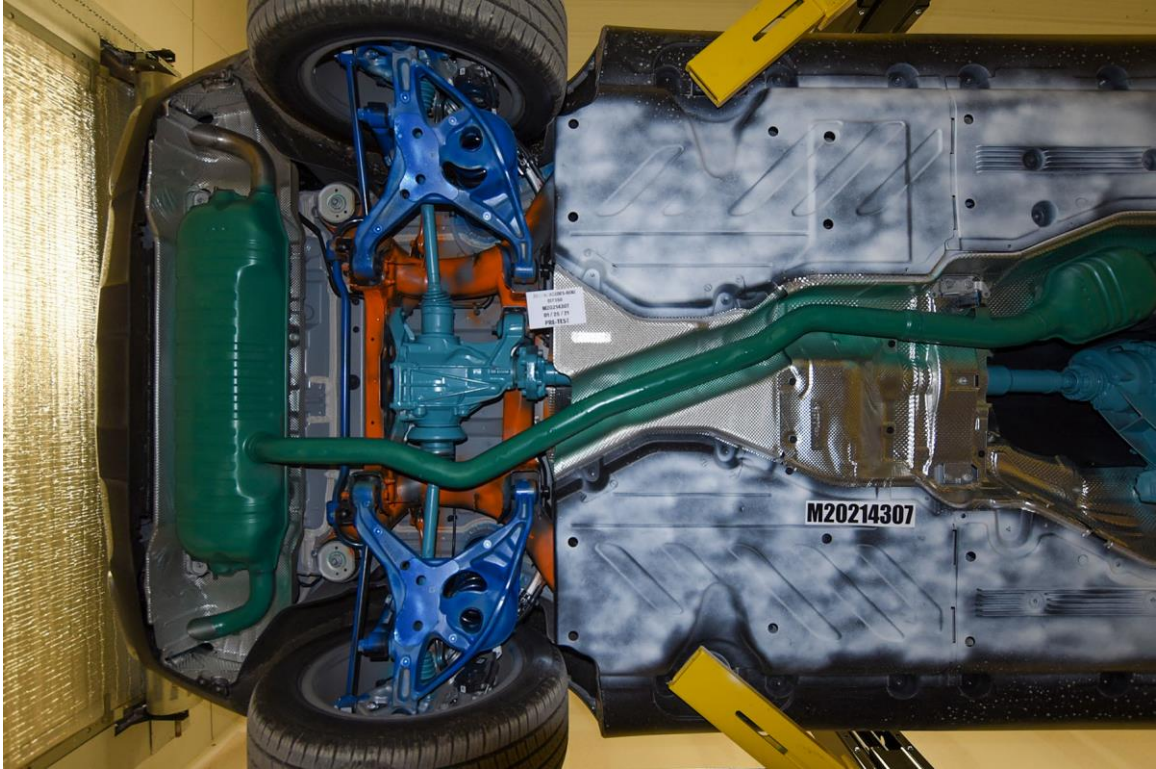


FIGURE 27. Post-Test Rear Underbody View



FIGURE 28. Pre-Test Dummy Cable Routing



FIGURE 29. Post-Test Dummy Cable Routing



FIGURE 30. Pre-Test Driver Dummy Front View



FIGURE 31. Post-Test Driver Dummy Front View



FIGURE 32. Pre-Test Driver Dummy Window View



FIGURE 33. Post-Test Driver Dummy Window View



FIGURE 34. Pre-Test Driver Dummy and Vehicle Interior View



FIGURE 35. Post-Test Driver Dummy and Vehicle Interior View



FIGURE 36. Pre-Test Driver's Seat Fore-Aft Markings



FIGURE 37. Post-Test Driver's Seat Fore-Aft Markings



FIGURE 38. Pre-Test View of Belt Anchorage for Driver Dummy



FIGURE 39. Post-Test View of Belt Anchorage for Driver Dummy



FIGURE 40. Pre-Test View of Belt Buckle and Latch Plate for Driver Dummy



FIGURE 41. Post-Test View of Belt Buckle and Latch Plate for Driver Dummy



FIGURE 42. Pre-Test Driver Dummy Feet



FIGURE 43. Post-Test Driver Dummy Feet

Photograph Not Available

FIGURE 44. Pre-Test Driver's Side Knee Bolster



FIGURE 45. Post-Test Driver's Side Knee Bolster

Photograph Not Available

FIGURE 46. Pre-Test Driver's Side Floorpan



FIGURE 47. Post-Test Driver's Side Floorpan



FIGURE 48. Post-Test Driver Dummy Face



FIGURE 49. Post-Test Driver Dummy Contact with Airbag



FIGURE 50. Post-Test Driver Dummy Contact with Headrest



FIGURE 50a. Post-Test Driver Dummy Contact with Knee Airbag



FIGURE 51. Pre-Test View of the Steering Wheel



FIGURE 52. Post-Test View of the Steering Wheel



FIGURE 53. Pre-Test Passenger Dummy Front View



FIGURE 54. Post-Test Passenger Dummy Front View



FIGURE 55. Pre-Test Passenger Dummy Window View



FIGURE 56. Post-Test Passenger Dummy Window View



FIGURE 57. Pre-Test Passenger Dummy and Vehicle Interior View



FIGURE 58. Post-Test Passenger Dummy and Vehicle Interior View

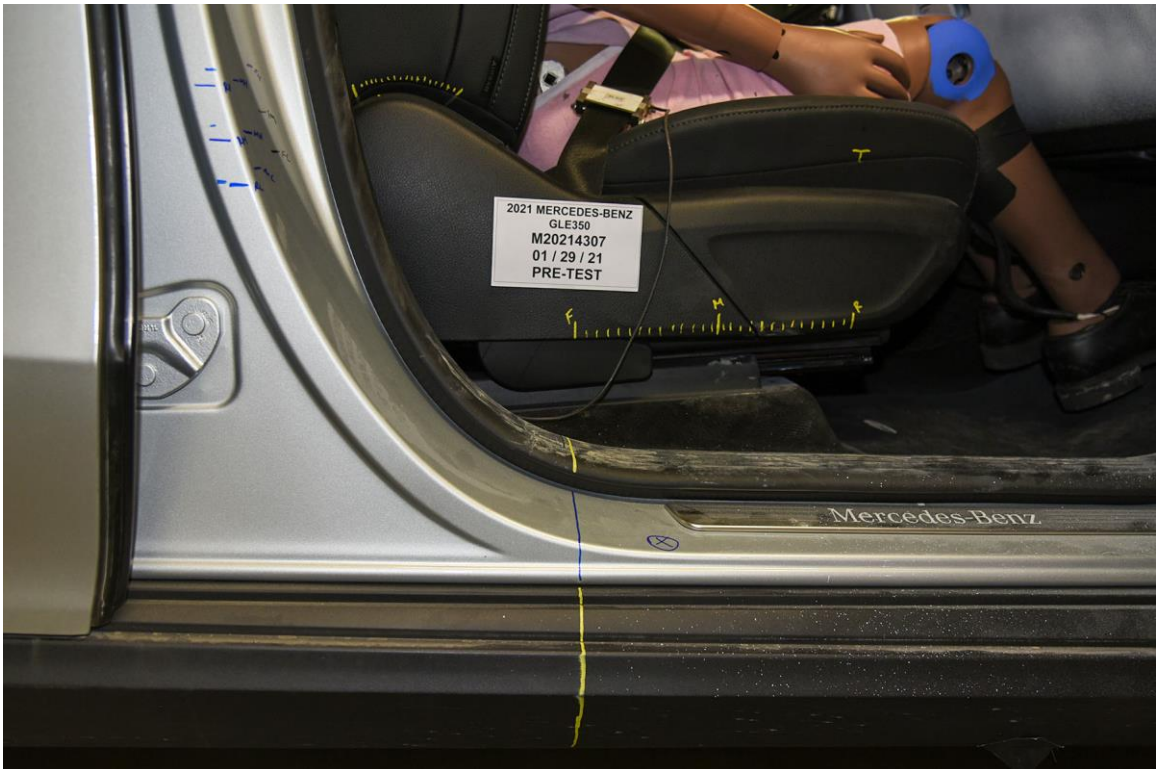


FIGURE 59. Pre-Test Passenger's Seat Fore-Aft Markings



FIGURE 60. Post-Test Passenger's Seat Fore-Aft Markings



FIGURE 61. Pre-Test View of Belt Anchorage for Passenger Dummy



FIGURE 62. Post-Test View of Belt Anchorage for Passenger Dummy



FIGURE 63. Pre-Test View of Belt Buckle and Latch Plate for Passenger Dummy



FIGURE 64. Post-Test View of Belt Buckle and Latch Plate for Passenger Dummy



FIGURE 65. Pre-Test Passenger Dummy Feet



FIGURE 66. Post-Test Passenger Dummy Feet

Photograph Not Applicable

FIGURE 67. Pre-Test Passenger's Side Knee Bolster



FIGURE 68. Post-Test Passenger's Side Knee Bolster

Photograph Not Applicable

FIGURE 69. Pre-Test Passenger's Side Floorpan



FIGURE 70. Post-Test Passenger's Side Floorpan



FIGURE 71. Post-Test Passenger Dummy Face



FIGURE 72. Post-Test Passenger Dummy Contact with Airbag



FIGURE 73. Post-Test Passenger Dummy Contact with Headrest



FIGURE 73a. Post-Test Passenger Dummy Contact with Knee Bolster



FIGURE 74. Photograph of Ballast Installed in Vehicle

Photograph Not Applicable

No Stoddard Solvent Spillage

FIGURE 75. Post-Test Stoddard Solvent Spillage Location View



FIGURE 76. Post-Test Speed Trap Read-Out



FIGURE 77. Vehicle at 0° on Static Rollover Device



FIGURE 78. Vehicle at 90° on Static Rollover Device



FIGURE 79. Vehicle at 180° on Static Rollover Device

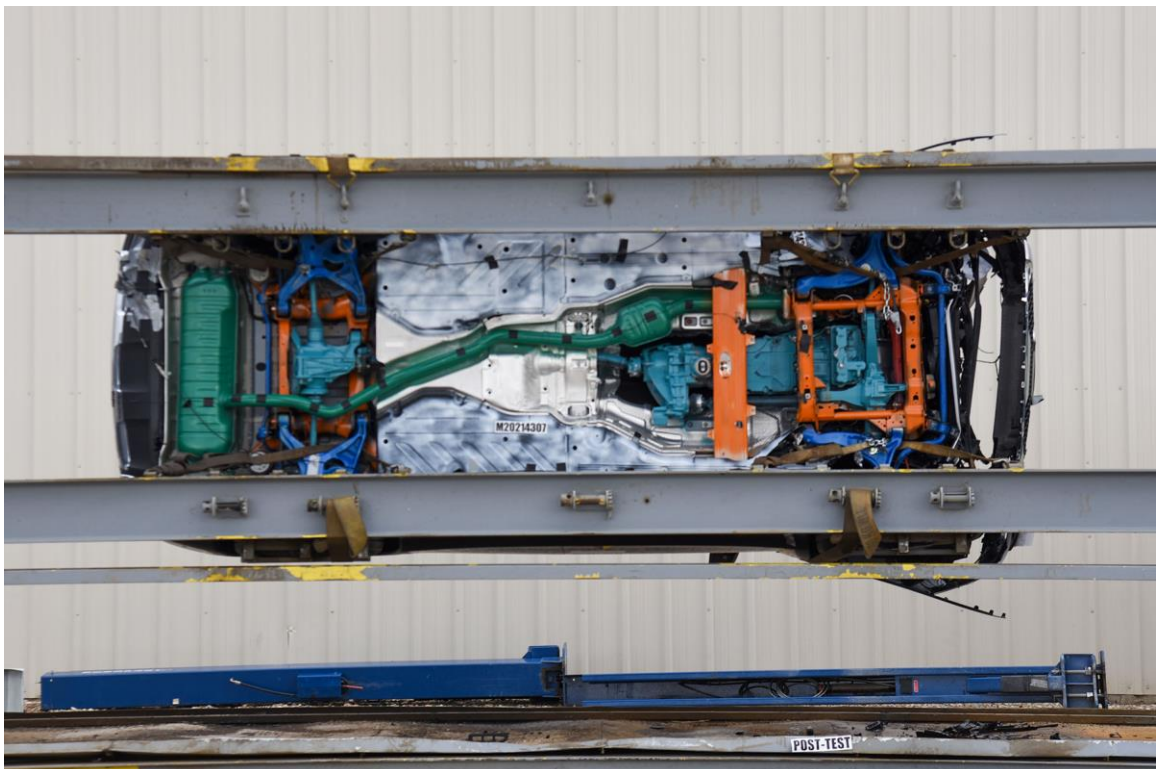



FIGURE 80. Vehicle at 270° on Static Rollover Device



FIGURE 81. Vehicle at 360° on Static Rollover Device



FIGURE 82. 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV Frontal Impact Event



2021 GLE350 4MATIC SUV

PO#: 0170407901
VIN: 4JGFB4KB6MA320655

Standard Features	Suggested Retail Price	
PERFORMANCE/HANDLING	PAINT, UPHOLSTERY, TRIM	720.00
2.0L Inline-4 Turbo Engine	775 Indian Silver Metallic	N/A
255 Sorento tires	111 Black MB Tex	N/A
273 hp of Torque	R18 Dark Grey Linden Wood Trim	N/A
48-HP/2000-rpm 9-speed Automatic Transmission		
ECO Start/Stop	OPTIONAL EQUIPMENT AND VALUE ADDED PACKAGES	N/A
DYNAMIC SELECT	226 19" Turb 5-Spoke Wheels	N/A
4MATIC All Wheel Drive	S11 Black Headliner	600.00
COMFORT/CONVENIENCE	S11 Black Spoiler, Body Color	1,375.00
Dual-Zone Automatic Climate Control	DP1 Premium Package: 115V AC Inboard-type Power Outlet, Second Row	1,950.00
KEYLESS-GO®	* View System, Burmester Surround Sound System	\$60,995.00
Bluetooth® Connectivity	Destination and Delivery	
12.3" Widescreen Digital Instrument Cluster	Total Retail Price	
12.3" Widescreen Display		
MB Navigation		
with Map Updates for First Three Years		
Touchpad		
Apple CarPlay™		
Android Auto		
Voice Control		
Mercedes me connect services w/ trial period (subscription required thereafter)		
Power-Folding Side Mirrors		
LED Side Mirror Lamps Projectors		
Power Tilting Steering		
NIC Wireless Charging		
64-Color Interior Ambient Lighting		
Sonos® Radio w. 4 mos. service		
SAFETY/SECURITY		
New Vehicle 4-Year/50,000 Mile Warranty		
24-Hour Roadside Assistance Program		
Advanced Air Bag Protection System		
ATTENTION ASSIST®		
Active Brake Assist		
Active Parking Assist		
Blind Spot Assist		
LATCH®/GVSR® Child Restrain System		
Rearview Camera		
LED Headlamps		
LED Taillamps		
Mercedes-Benz Emergency Call Service		
PRE-SAFE® Predictive Occupant Protection System		
PRE-SAFE® Sound		
Advanced Alarm System		

Special Messages:

* Bluetooth is a registered trademark of Bluetooth SIG, Inc. * Prepaid Maintenance Plan available for this vehicle, see dealer for details. * This vehicle is equipped with bumpers that can withstand an impact of 2.5 miles per hour with no damage to the vehicle's body and safety systems, although the bumper and related components may sustain damage. The bumper system on this vehicle conforms to the current federal bumper standard of 2.5 miles per hour.

EPA DOT Fuel Economy and Environment

Fuel Economy

22 MPG
combined city/hwy

19 MPG
city

26 MPG
highway

4.5 gallons per 100 miles

Standard GVW range from 133 to 1011 MPGs. The best vehicle rates 141 MPGs.

You spend \$3,500 more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$2,200

This vehicle emits 409 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions. Learn more at fuelconomy.gov.

Fuel Economy & Greenhouse Gas Rating (tailpipe only)

Best 10 Worst

Smog Rating (tailpipe only) Best 10 Worst

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score Not Rated
Based on the combined ratings of frontal, side and rollover. Should ONLY be compared to other vehicles of similar size and weight.

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

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

PARTS CONTENT INFORMATION

For vehicles in this carline:
U.S./Canadian Parts Content: 69 %
Major Sources of Foreign Parts Content: GERMANY: 12 %

NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

For this vehicle:
Final Assembly Point: VANCE, ALABAMA USA
Country of Origin: Engine: USA
Transmission: GERMANY

Ship To: VANCE, ALABAMA USA
Model: GLE350 4MATIC SUV
AL 36066

Port of Entry: MBUSA1-Alabama
Transport:

FIGURE 83. Monroney Label Photograph

APPENDIX B
DUMMY RESPONSE DATA TRACES

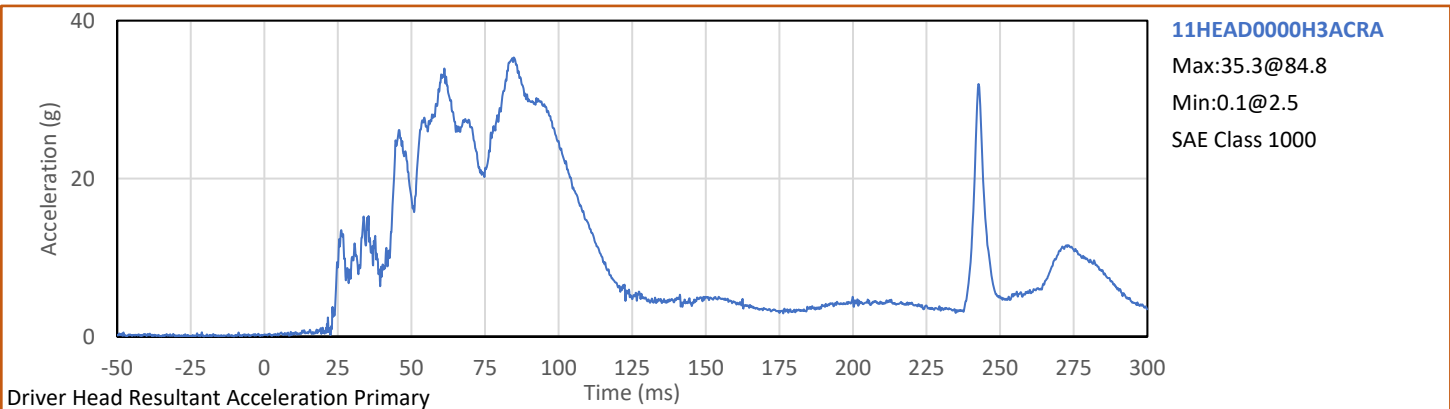
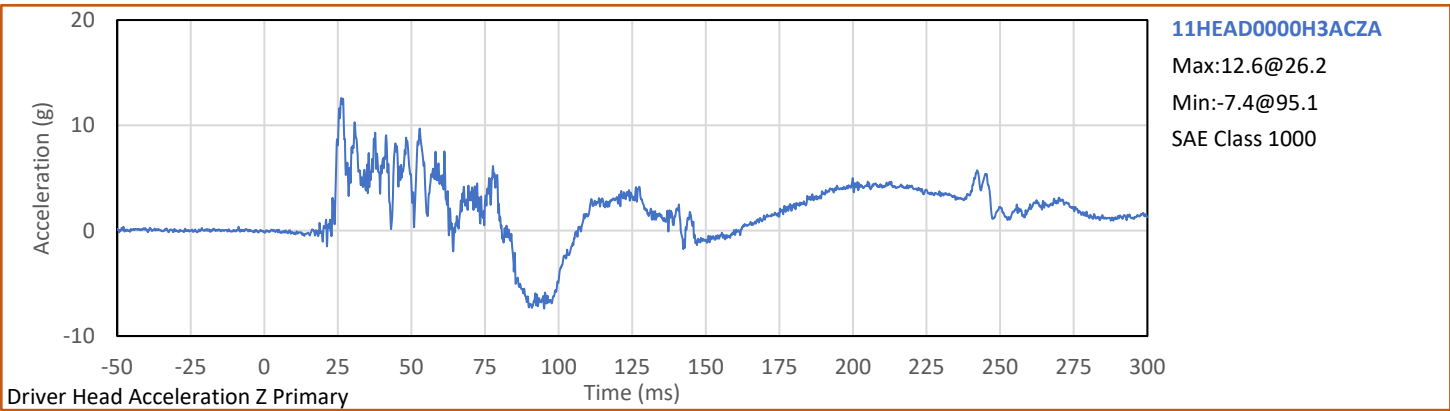
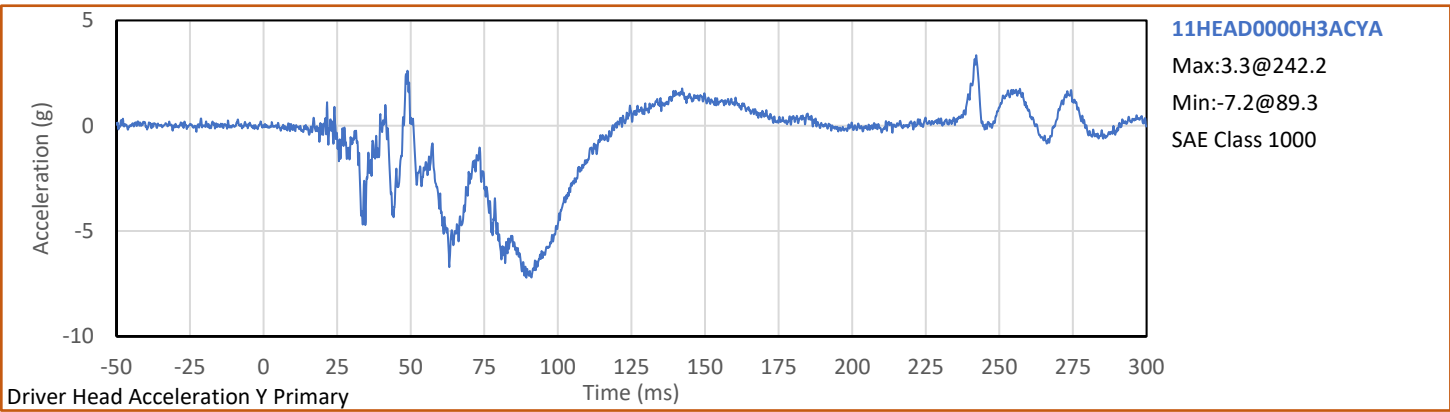
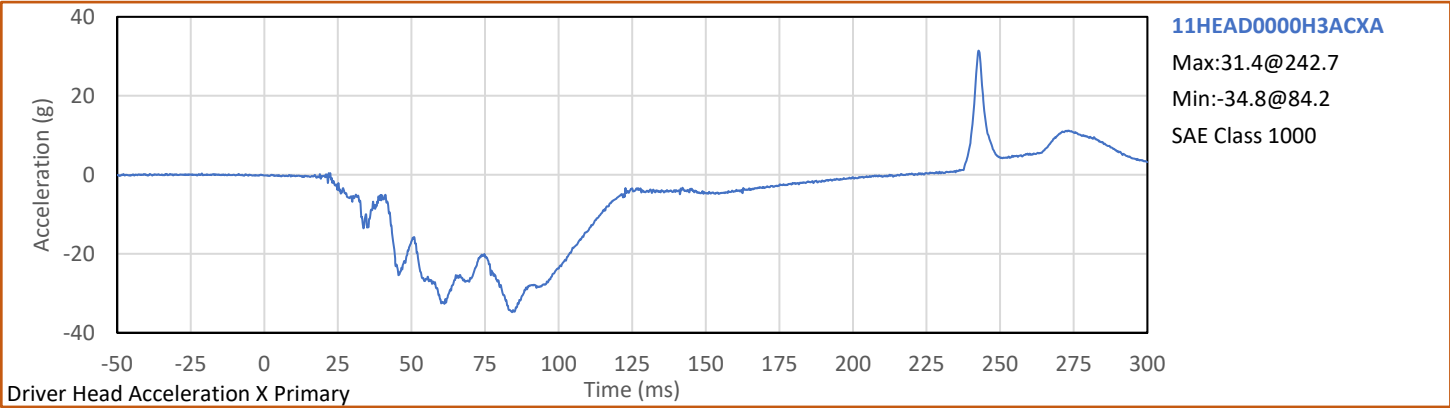
TABLE OF DATA PLOTS

Plot		Page
1	Driver Head Acceleration X Primary	B-1
2	Driver Head Acceleration Y Primary	B-1
3	Driver Head Acceleration Z Primary	B-1
4	Driver Head Resultant Acceleration Primary	B-1
5	Driver Chest X Deflection	B-2
6	Driver Upper Neck Force X	B-3
7	Driver Upper Neck Force Z	B-3
8	Driver Upper Neck Moment Y	B-3
9	Driver Nij	B-3
10	Driver Chest Acceleration X Primary	B-4
11	Driver Chest Acceleration Y Primary	B-4
12	Driver Chest Acceleration Z Primary	B-4
13	Driver Chest Resultant Acceleration Primary	B-4
14	Driver Left Femur Force Z	B-5
15	Driver Right Femur Force Z	B-5
16	Passenger Head Acceleration X Primary	B-6
17	Passenger Head Acceleration Y Primary	B-6
18	Passenger Head Acceleration Z Primary	B-6
19	Passenger Head Resultant Acceleration Primary	B-6
20	Passenger Chest X Deflection	B-7
21	Passenger Upper Neck Force X	B-8
22	Passenger Upper Neck Force Z	B-8
23	Passenger Upper Neck Moment Y	B-8
24	Passenger Nij	B-8
25	Passenger Chest Acceleration X Primary	B-9
26	Passenger Chest Acceleration Y Primary	B-9
27	Passenger Chest Acceleration Z Primary	B-9
28	Passenger Chest Resultant Acceleration Primary	B-9
29	Passenger Left Femur Force Z	B-10
30	Passenger Right Femur Force Z	B-10

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 Acceleration Redundant
Driver Head Y Acceleration Redundant
Driver Head Z Acceleration Redundant
Driver Upper Neck Force Y
Driver Upper Neck Moment X
Driver Upper Neck Moment Z
Driver Chest X Acceleration Redundant
Driver Chest Y Acceleration Redundant
Driver Chest Z Acceleration Redundant
Driver Pelvis X
Driver Pelvis Y
Driver Pelvis Z
Driver Left Femur Force Z Redundant
Driver Right Femur Force Z 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 Shoulder Belt Force
Driver Lap Belt Force
Driver Head Angular Velocity X
Driver Head Angular Velocity Y
Driver Head Angular Velocity Z
Passenger Head X Acceleration Redundant
Passenger Head Y Acceleration Redundant
Passenger Head Z Acceleration Redundant
Passenger Upper Neck Force X
Passenger Upper Neck Force Z
Passenger Upper Neck Moment Y

Passenger Chest X Acceleration Redundant
Passenger Chest Y Acceleration Redundant
Passenger Chest Z Acceleration Redundant
Passenger Pelvis X
Passenger Pelvis Y
Passenger Pelvis Z
Passenger Left Femur Force Redundant
Passenger Right Femur Force 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 Shoulder Belt Force
Passenger Lap Belt Force
Passenger Head Angular Velocity X
Passenger Head Angular Velocity Y
Passenger Head Angular Velocity Z
Left Rear Seat Crossmember X
Left Rear Seat Crossmember Z
Right Rear Seat Crossmember X
Right Rear Seat Crossmember Z
Left Rear Seat Crossmember X Redundant
Right Rear Seat Crossmember X Redundant
Vehicle Engine Top X
Vehicle Engine Bottom X
Load Cell Barrier Forces and Moments



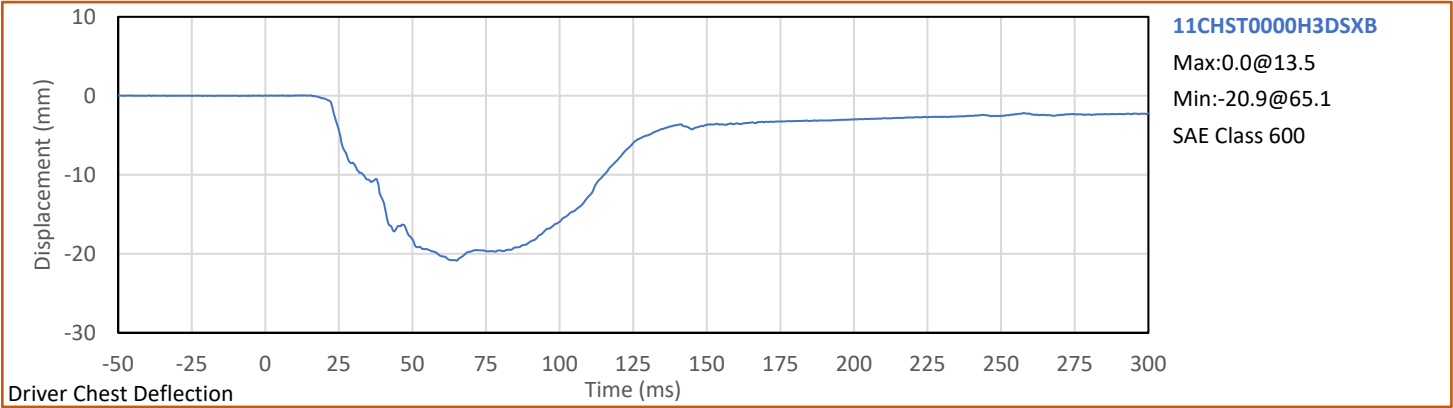
Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV

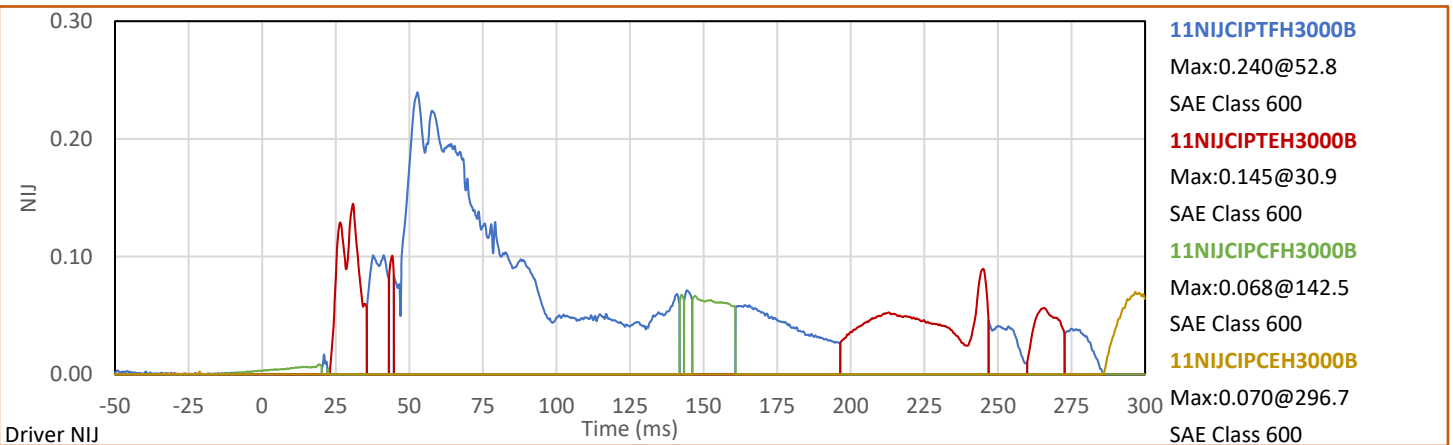
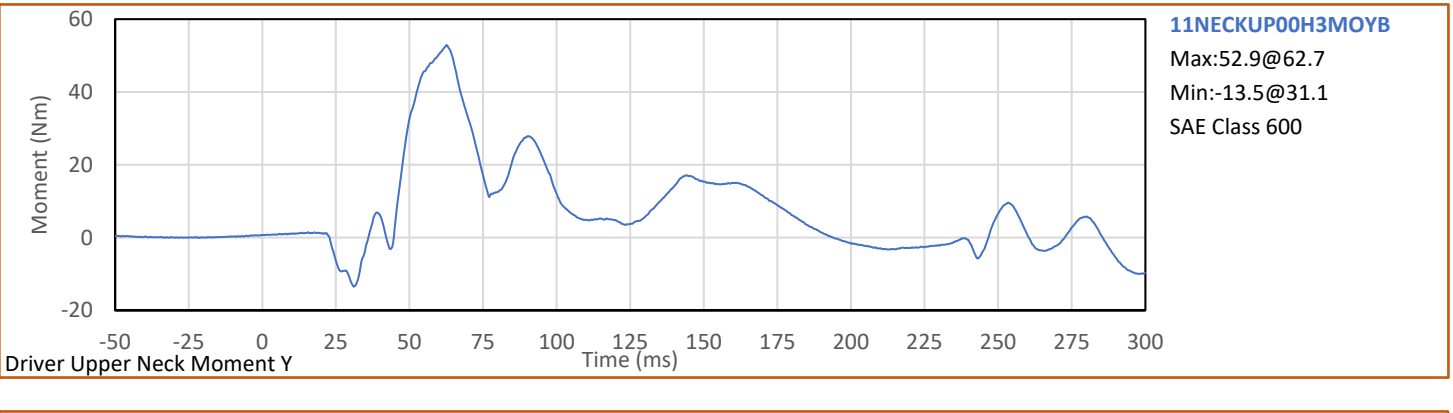
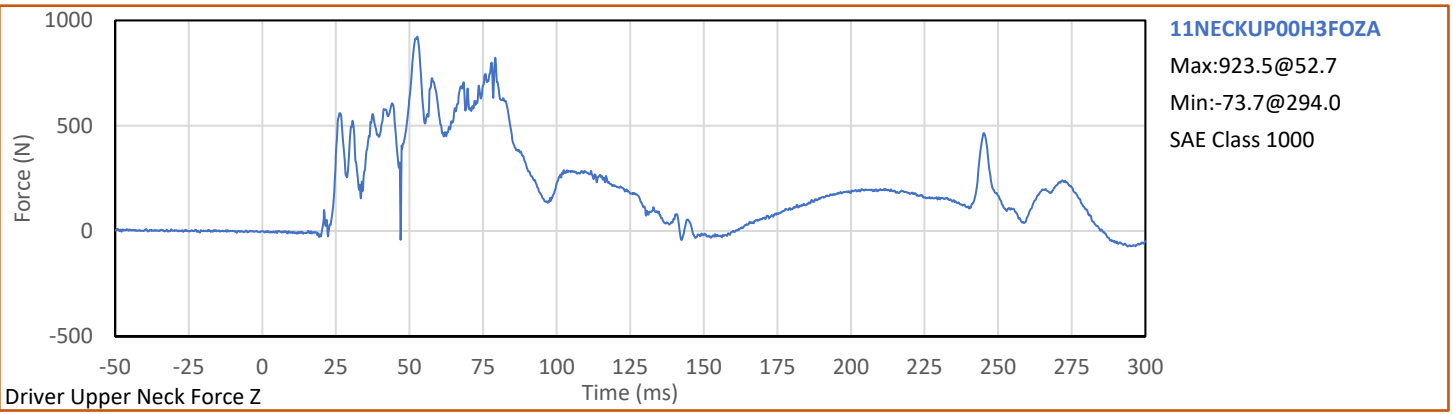
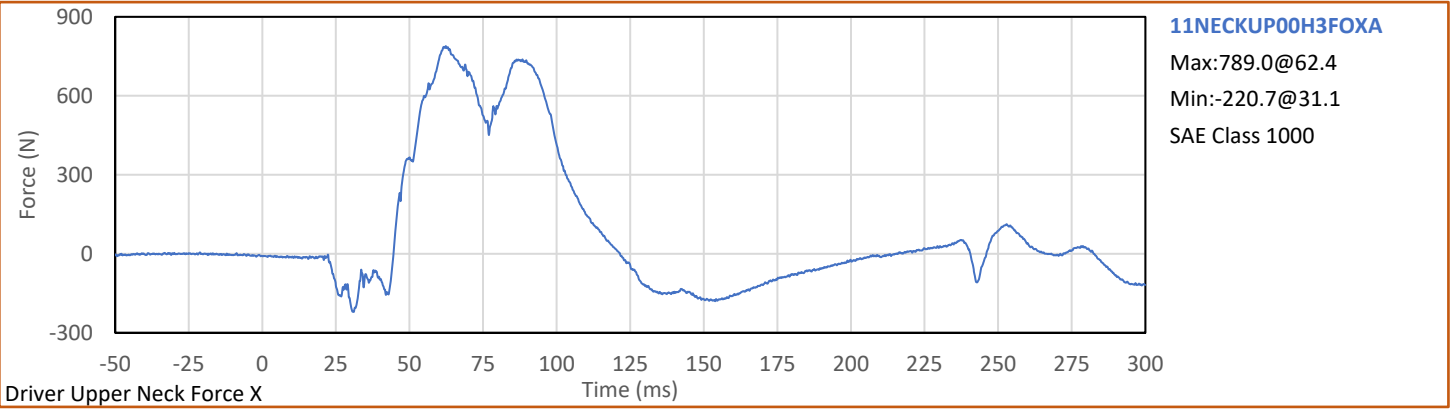
NHTSA No.: M20214307

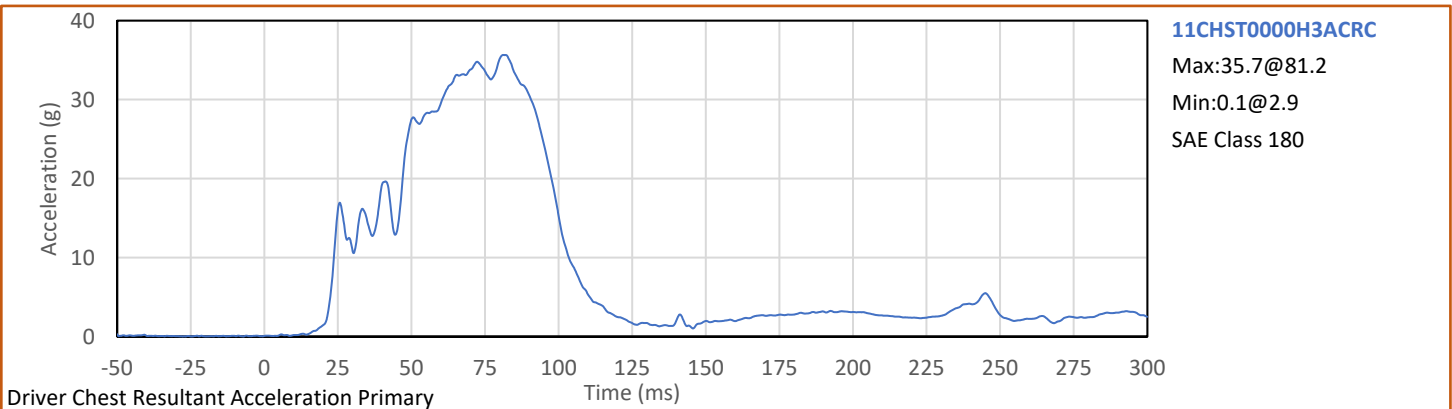
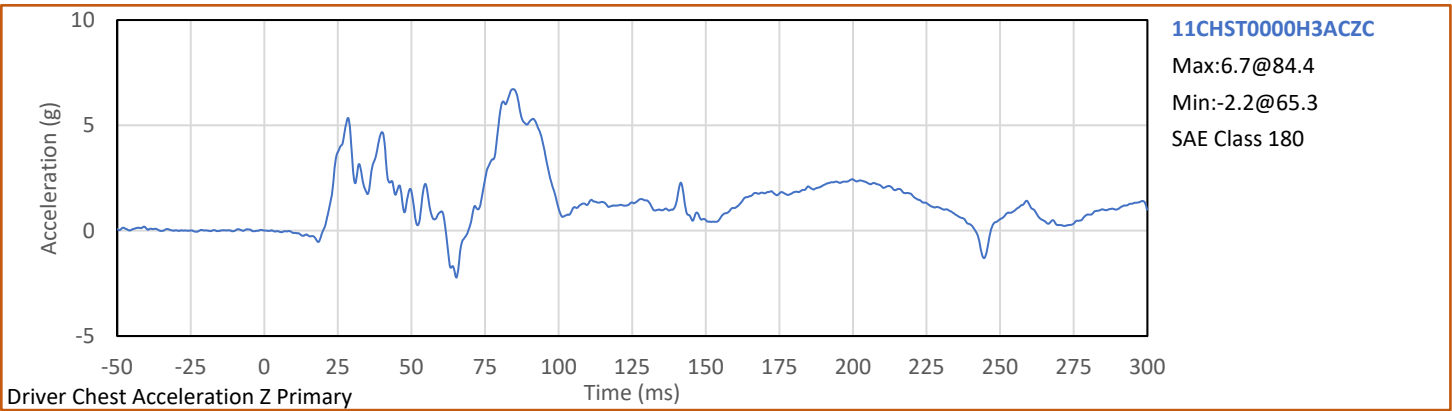
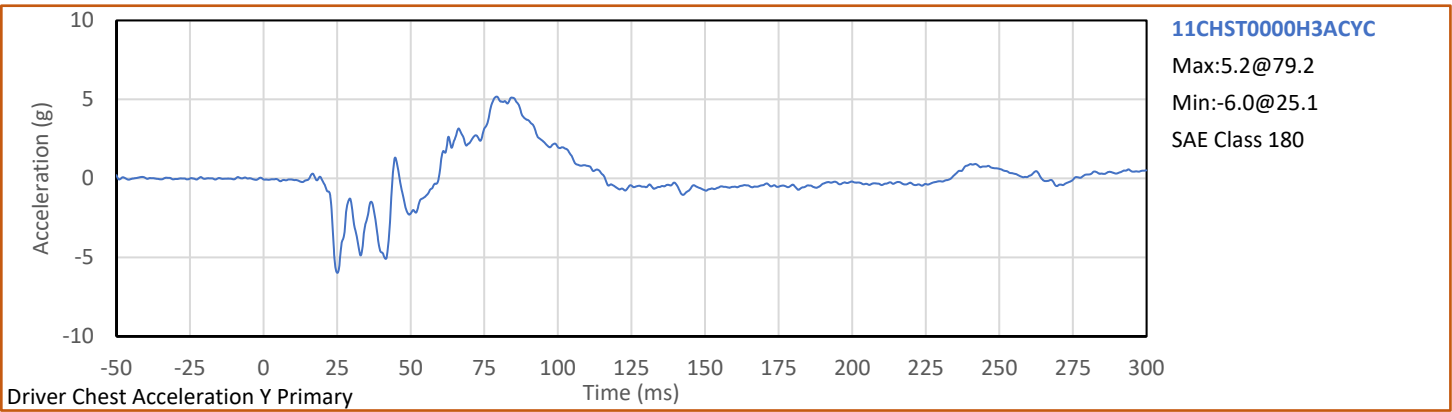
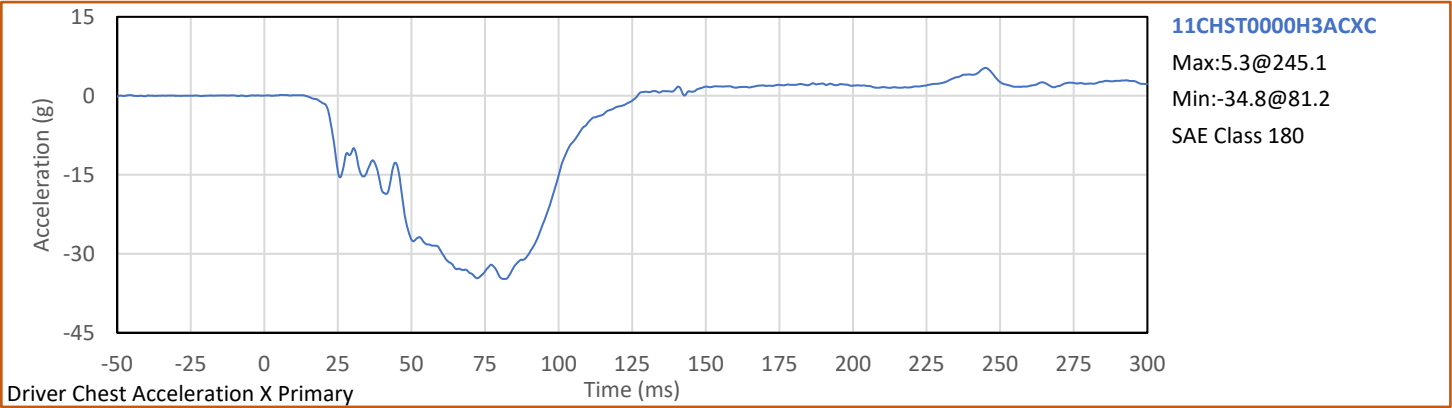


Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 1/29/2021

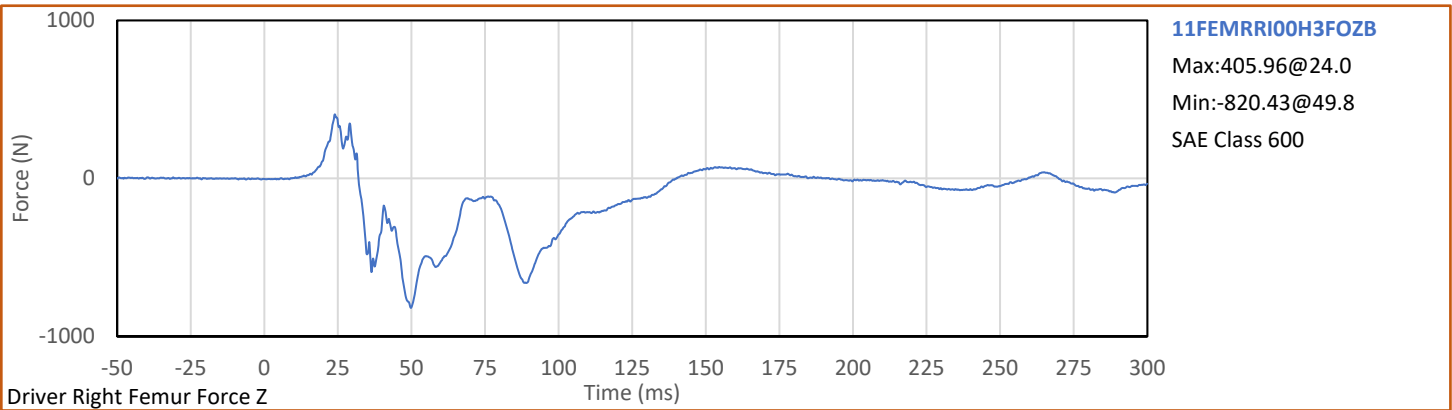
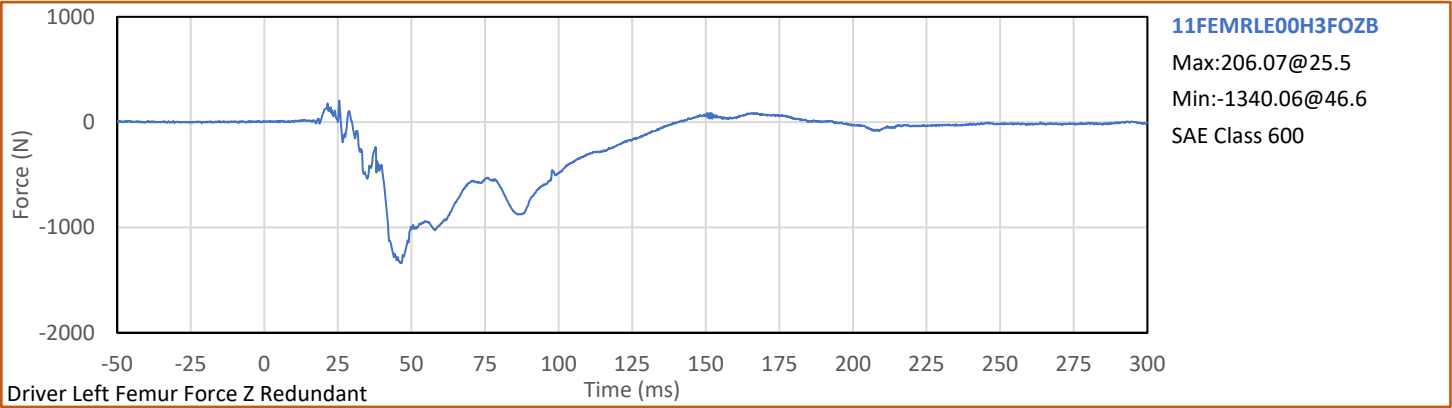


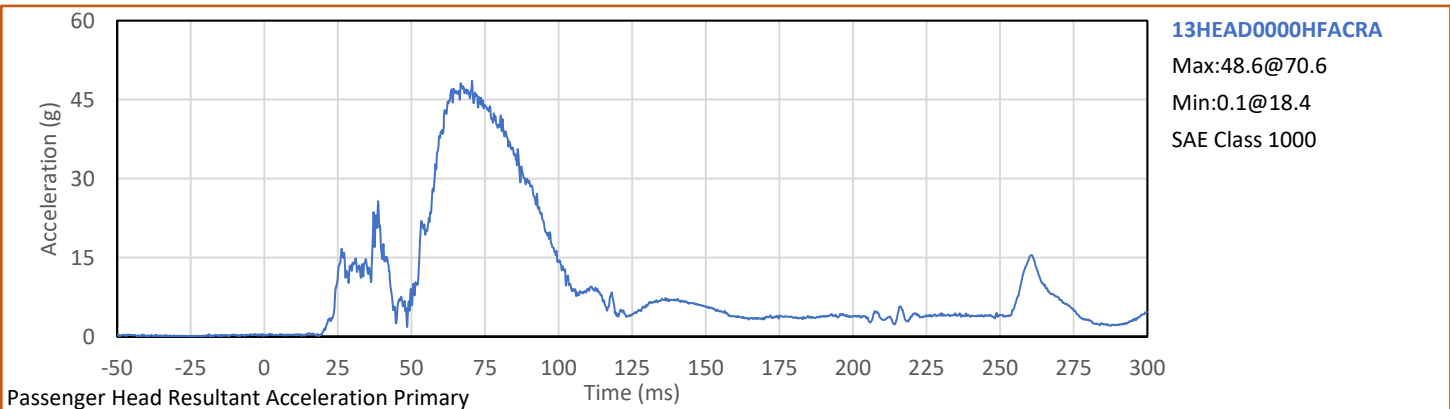
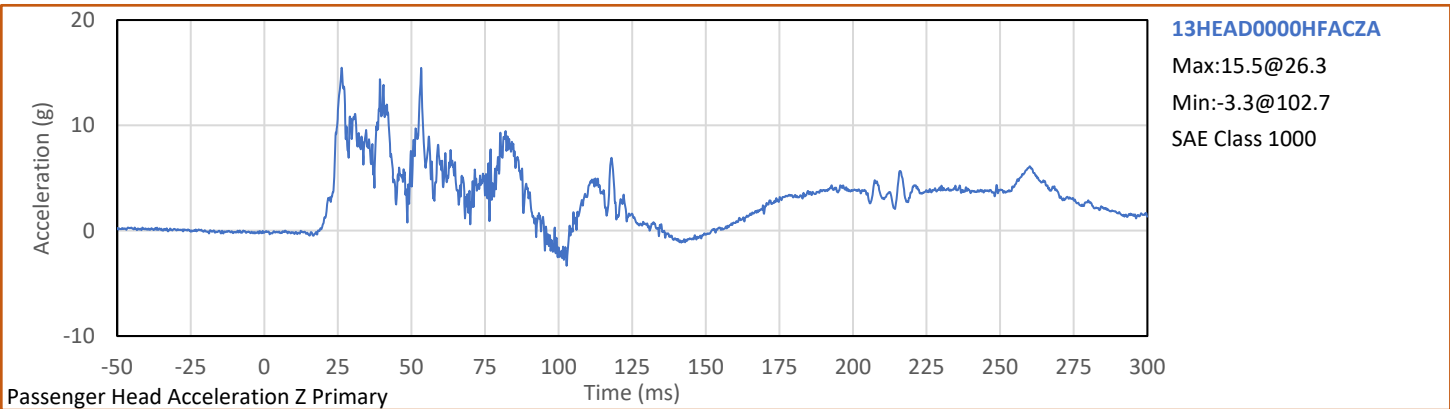
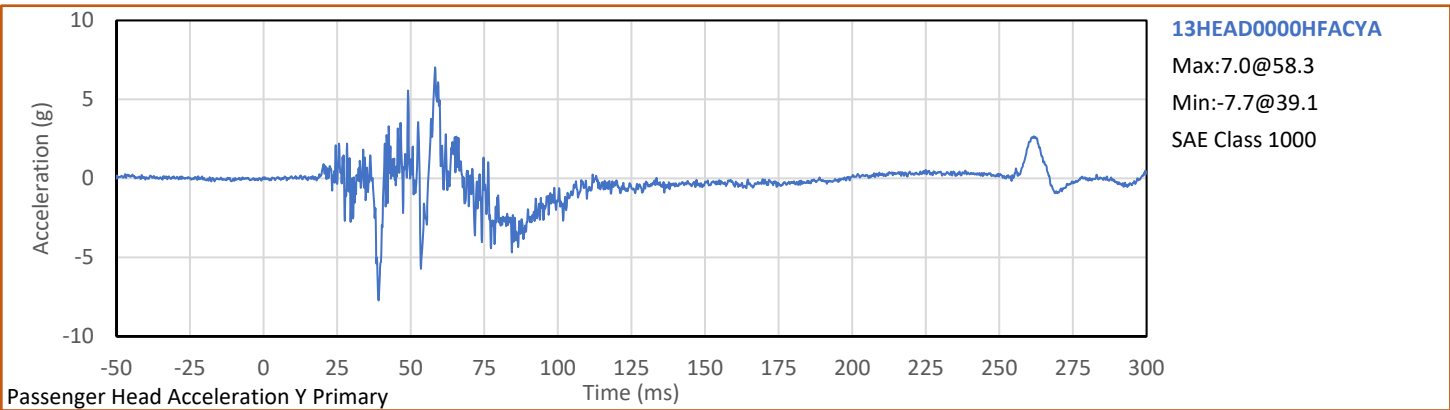
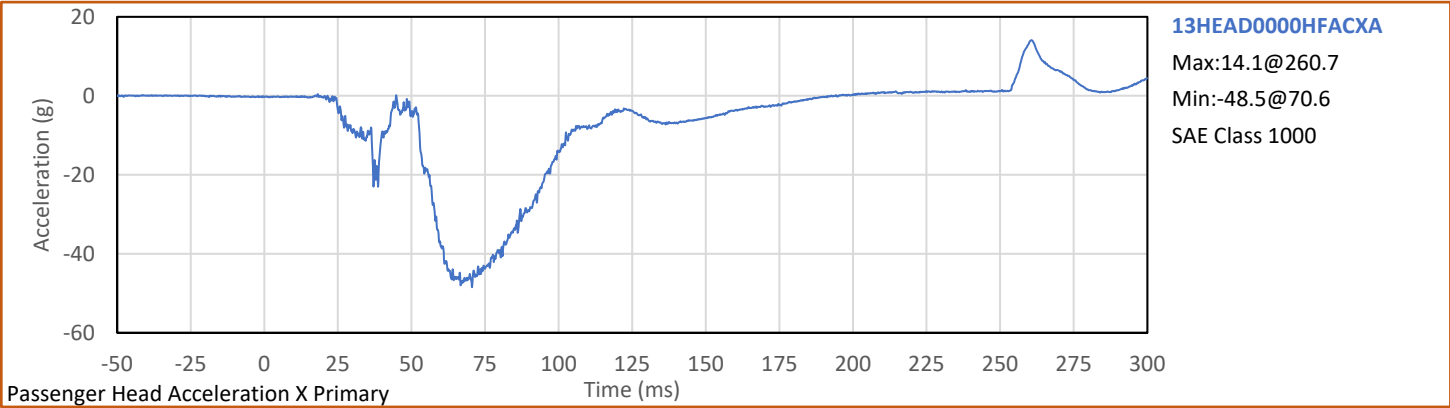




Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV
Test Program: 56.3 km/h Frontal Impact NCAP Test

NHTSA No.: M20214307
Test Date: 1/29/2021





Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV

NHTSA No.: M20214307

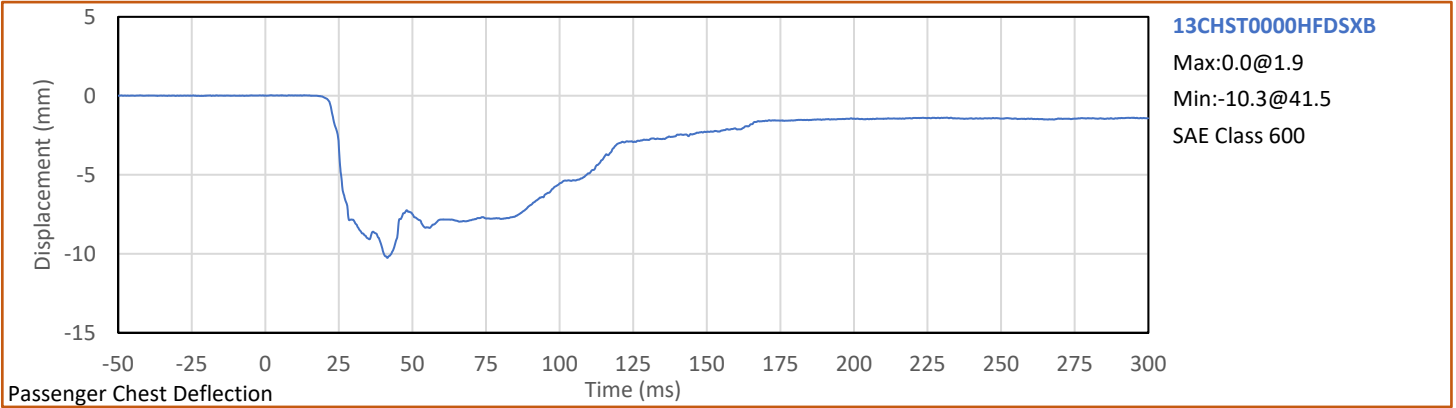
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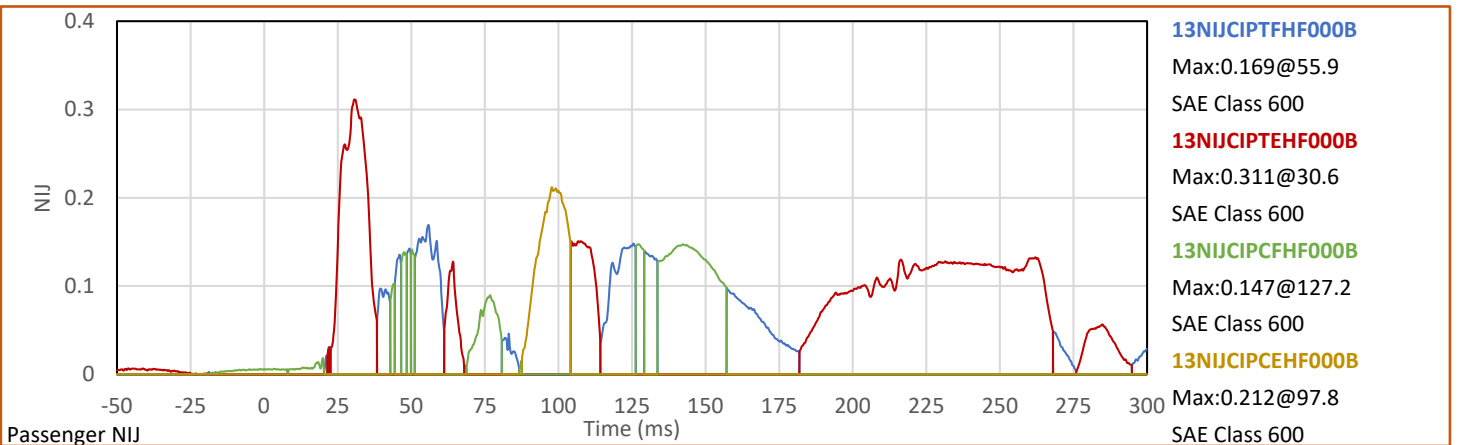
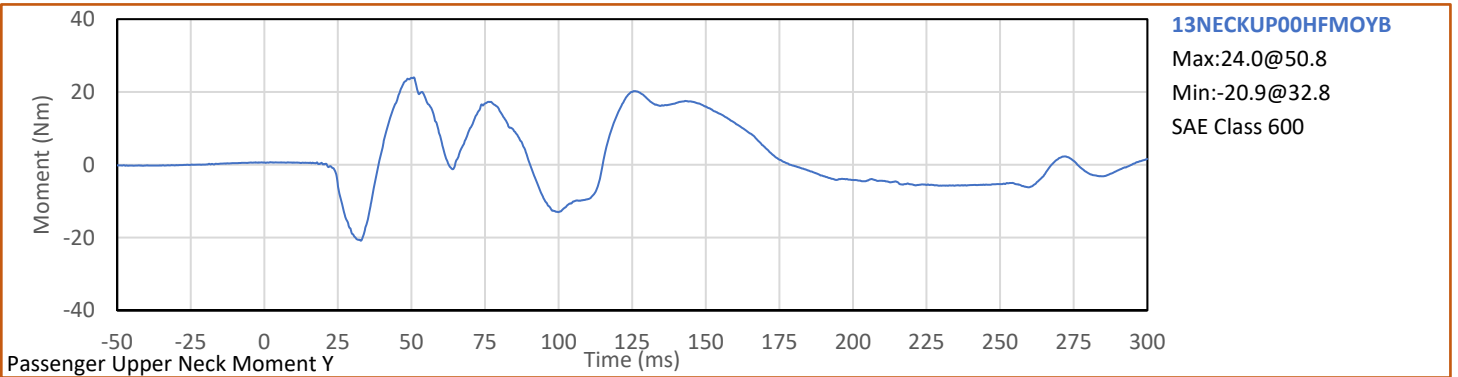
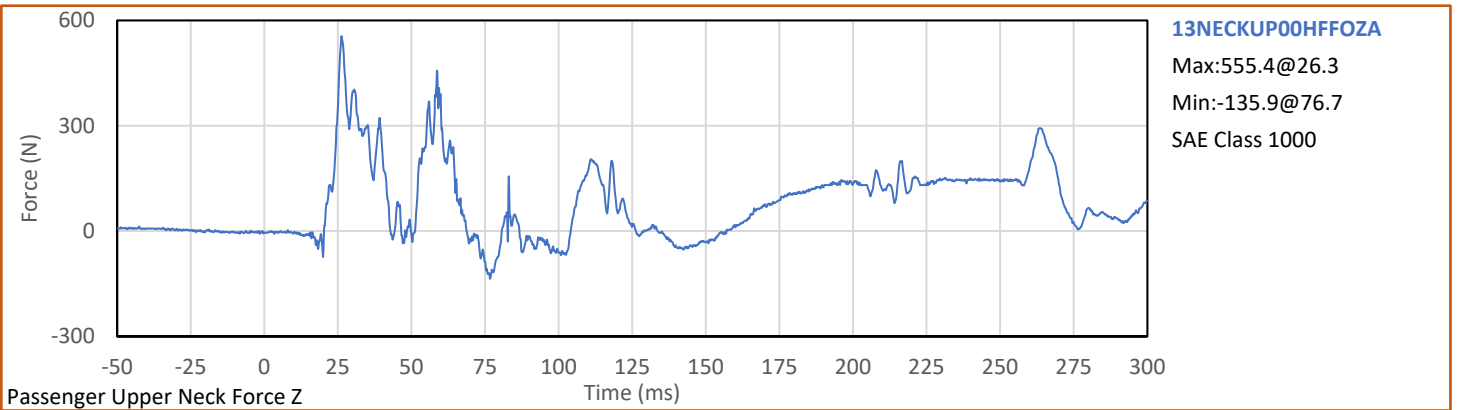
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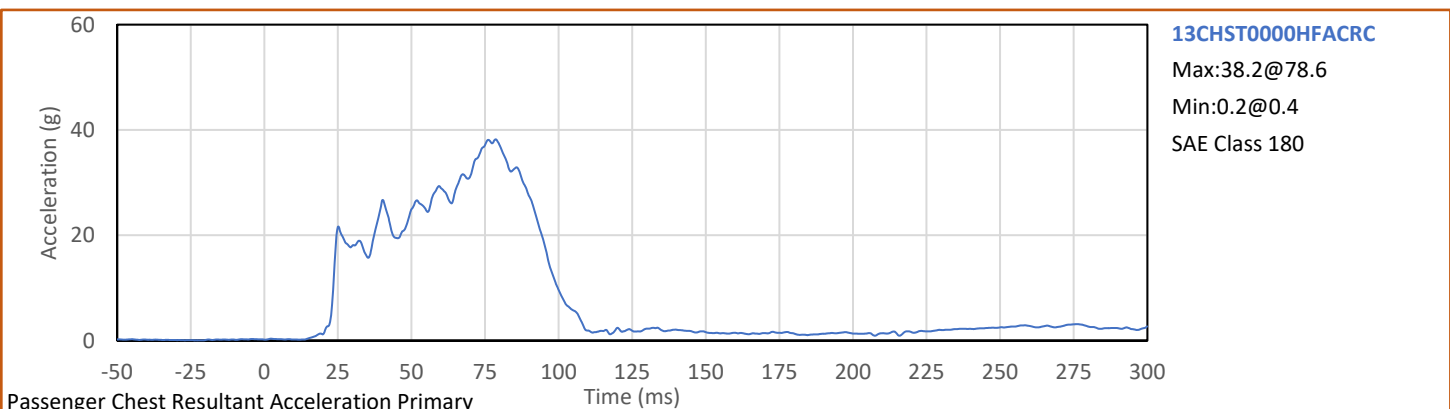
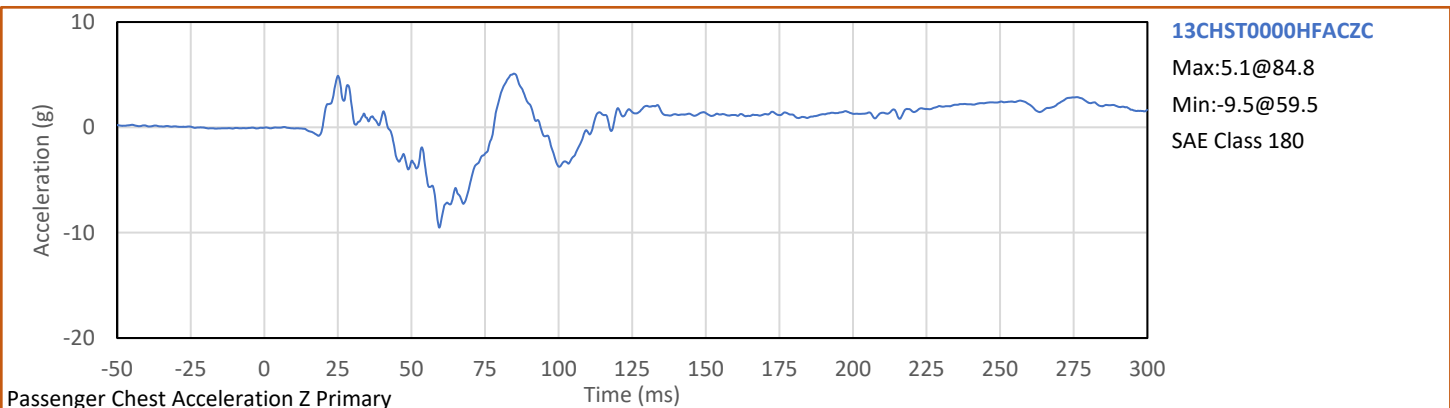
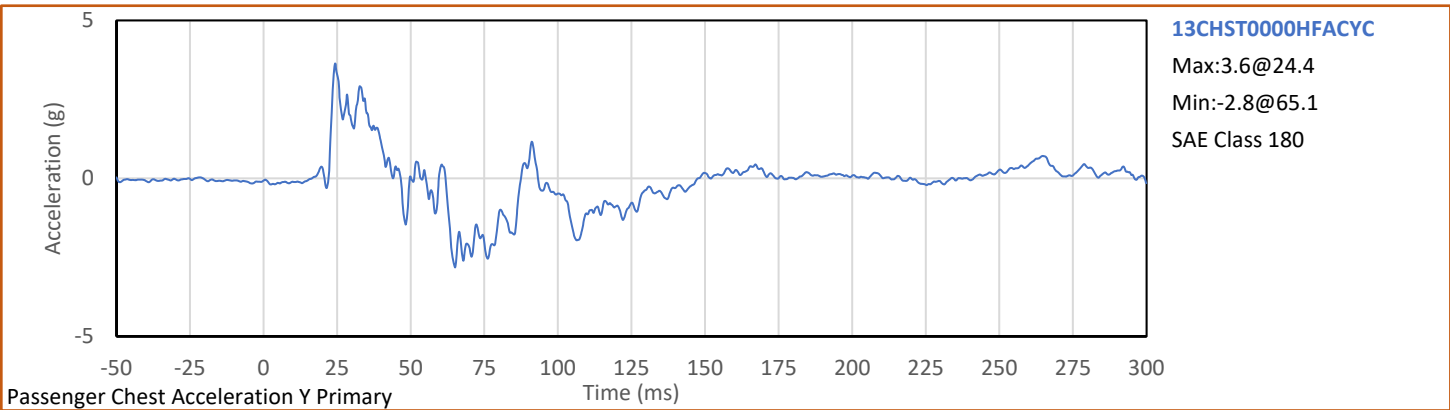
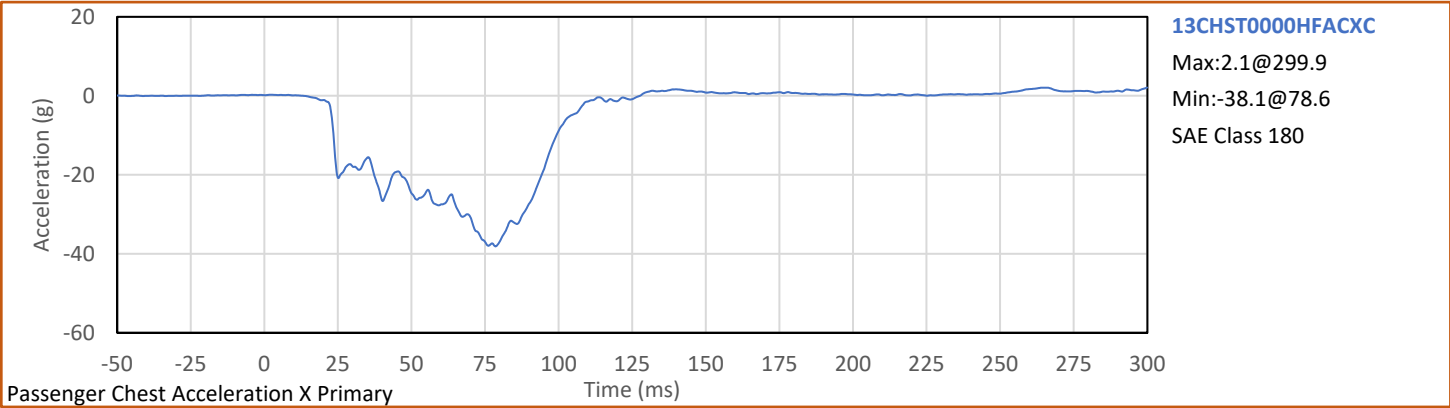
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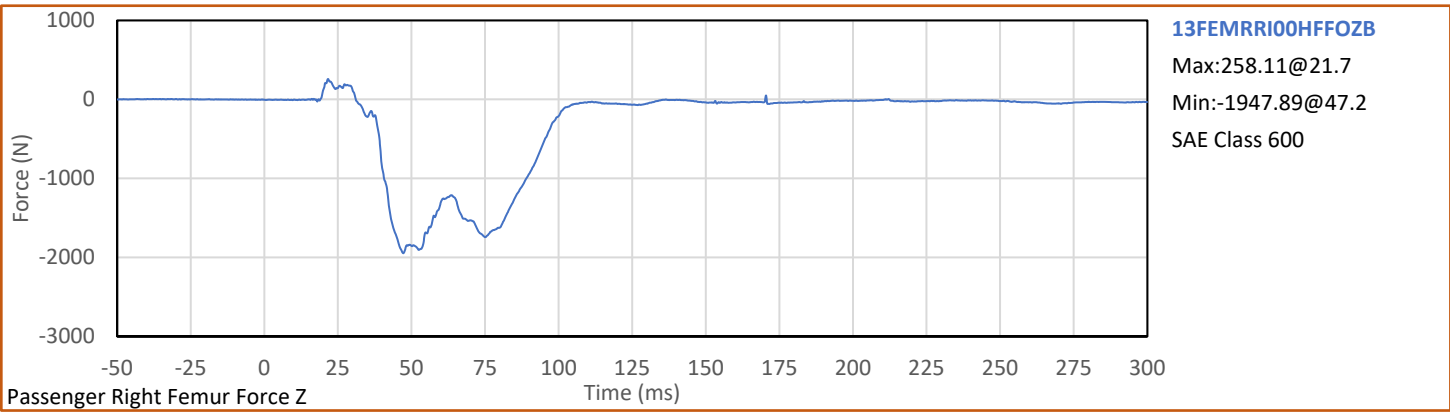
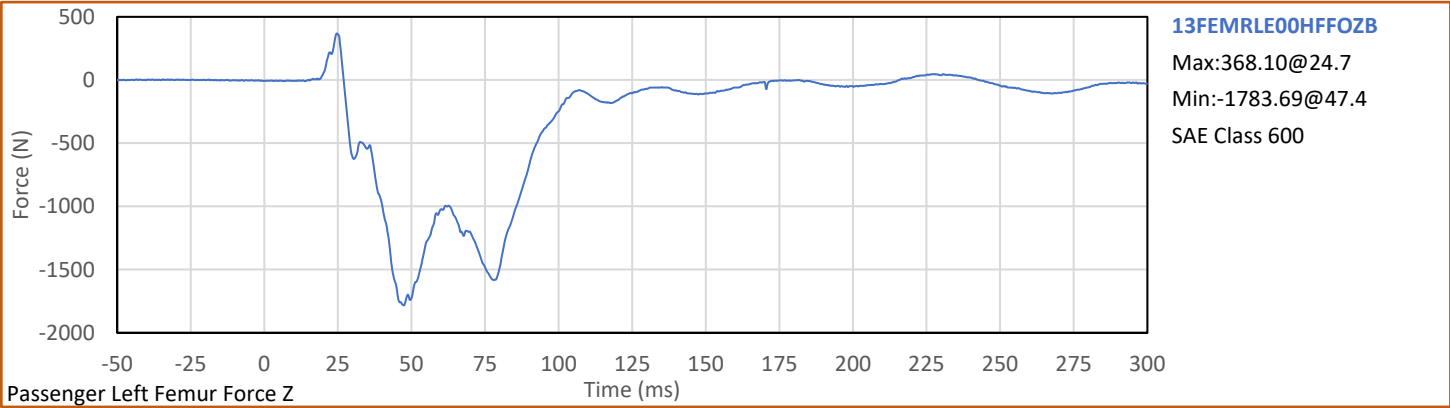






Test Vehicle: 2021 Mercedes-Benz GLE350 4MATIC 5-Door SUV
Test Program: 56.3 km/h Frontal Impact NCAP Test

NHTSA No.: M20214307
Test Date: 1/29/2021



APPENDIX C
DUMMY QUALIFICATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
Pre-Test ATD Qualification and Performance Verification
Hybrid III 50th Percentile Male ATD
S/N: 360

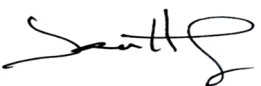
ATD Serial No.: 360


Test Date: 2021-01-25

Dummy Item	Inspect for	Comments	Damage	OK
Entire ATD	Perform general cleaning			✓
Outer Skin	Gashes, rips, cracks			✓
Head	Ballast secure			✓
	General appearance			✓
Neck bracket	Upper neck firmly attached to lower bracket			✓
Neck	Broken or cracked rubber			✓
	Looseness at the condyle joint			✓
Nodding block	Cracked or out of position			✓
Lumbar Spine	Broken or cracked rubber			✓
Ribs	Broken or bent ribs			✓
	Broken or bent rib supports			✓
	Damping material separated or cracked			✓
	Rubber bumpers in place			✓
Chest Displ. Assembly	Bent shaft			✓
	Slider arm riding in track			✓
Sensors	Check cables for cuts, tears			✓
	Check for damaged insulation			✓
Accelerometer Mounting	Head mounting secure			✓
	Chest mounting secure			✓
Knees	Skin condition			✓
	Insert (do not remove)			✓
	Casting			✓
Limbs	Normal movement and adjustment			✓
Knee Sliders	Wires intact			✓
	Rubber returned to "resting" position			✓
Pelvis	Broken			✓
Other	Describe below as needed			✓

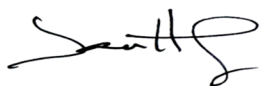
Describe any repairs or replacement of parts or other findings:


No Problems Found

Technician: 
J. Hernandez

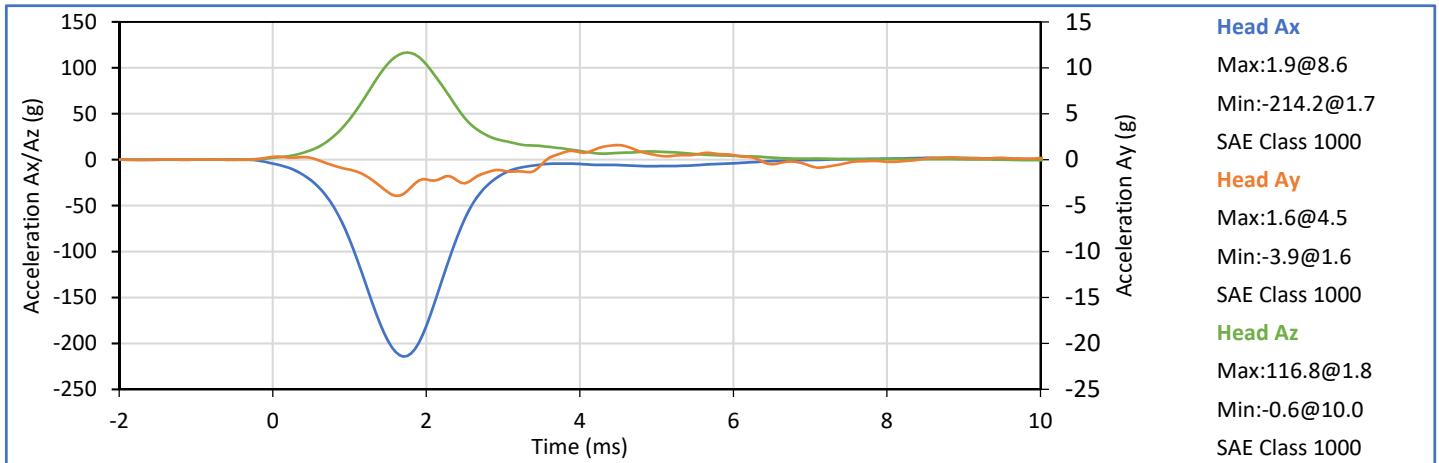
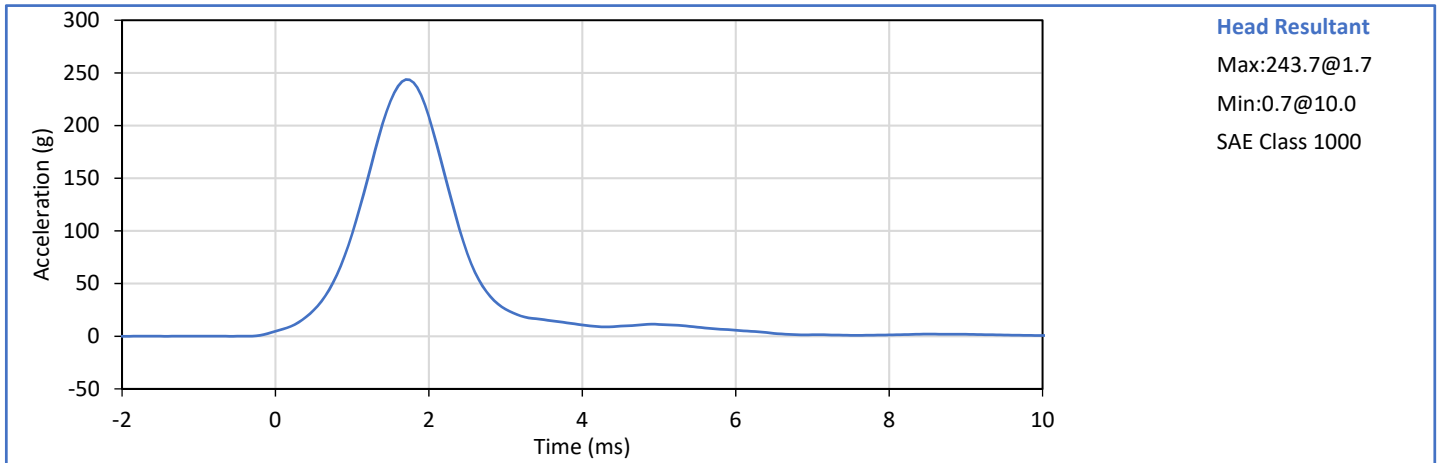
Approved By: 
P. Puzzuto


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	26	Pass
A - Total sitting height	mm	879	889	887	Pass
B - Shoulder pivot height	mm	505	521	517	Pass
C - 'H' point height	mm	84	89	87	Pass
D - 'H' point location from backline	mm	135	140	139	Pass
E - Shoulder pivot from backline	mm	84	94	91	Pass
F - Thigh clearance	mm	140	155	151	Pass
G - Back of elbow to wrist pivot	mm	290	305	297	Pass
H - Head back to backline	mm	41	46	46	Pass
I - Shoulder to elbow length	mm	330	345	343	Pass
J - Elbow rest height	mm	190	211	204	Pass
K - Buttock to knee length	mm	579	604	589	Pass
L - Popliteal length	mm	429	455	440	Pass
M - Knee pivot height	mm	485	500	495	Pass
N - Buttock popliteal length	mm	452	477	464	Pass
O - Chest depth without jacket	mm	213	229	220	Pass
P - Foot length	mm	251	267	258	Pass
V - Shoulder breadth	mm	422	437	431	Pass
W - Foot breadth	mm	91	107	103	Pass
Y - Chest circum. (w/chest jacket)	mm	970	1001	980	Pass
Z - Waist circum.	mm	836	866	851	Pass
AA - Location for chest circum.	mm	429	434	432	Pass
BB - Location for waist circum.	mm	226	231	228	Pass
Overall Test Results					Pass


Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

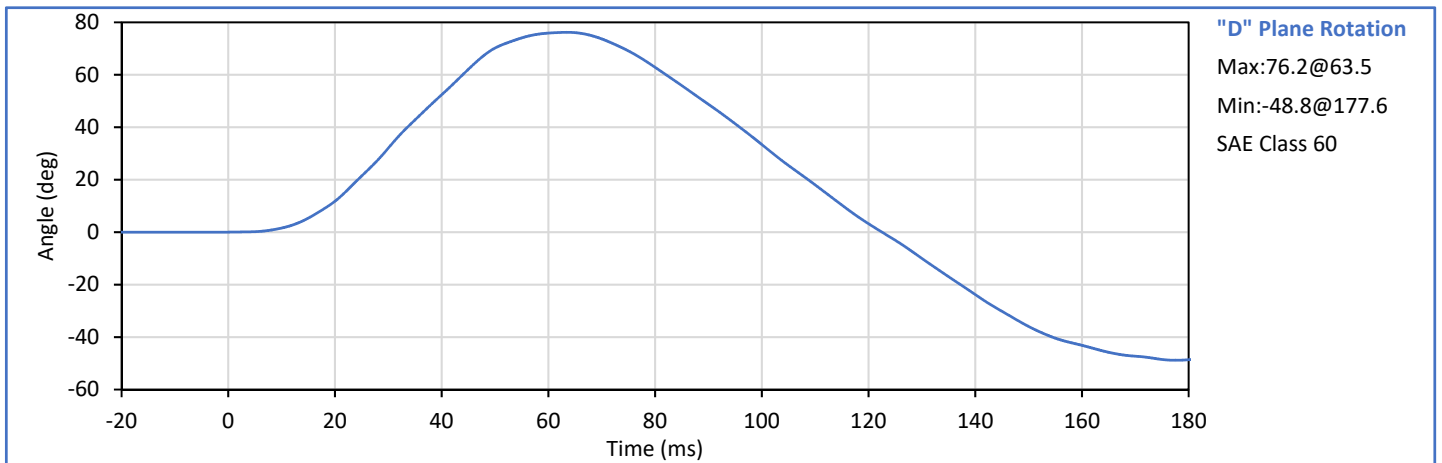
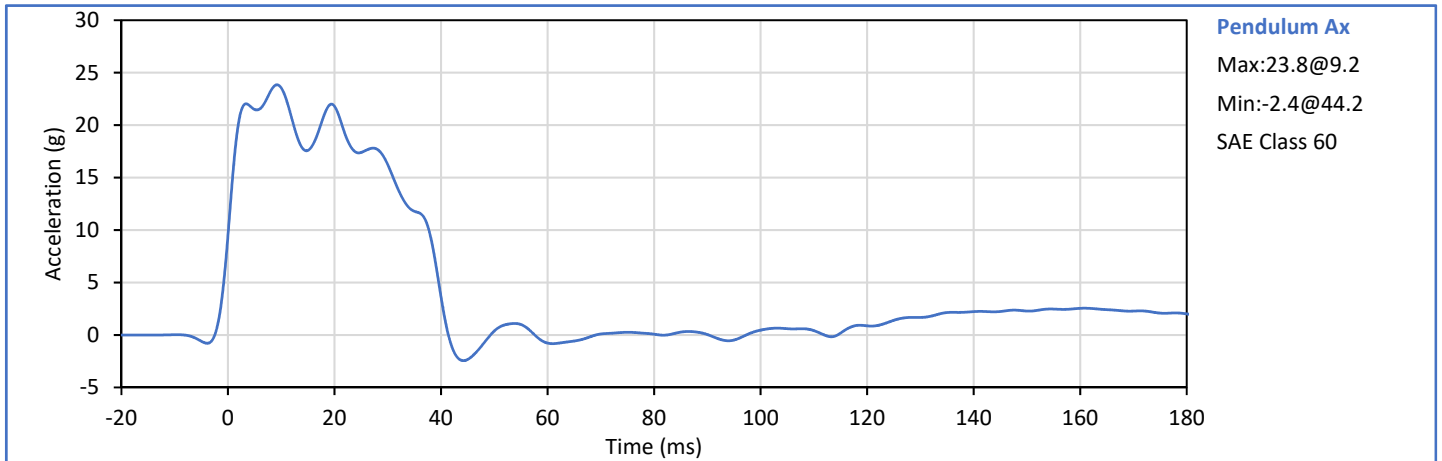
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Laboratory Temperature	°C	18.9	25.6	21.7	Pass
Laboratory Relative Humidity	%	10	70	22	Pass
Peak Resultant Acceleration	g	225.0	275.0	243.7	Pass
Peak Lateral Acceleration	g	-15.0	15.0	-3.9	Pass
Oscillations After Main Pulse	%	0.0	10.0	3.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass





Technician: 
J. Hernandez

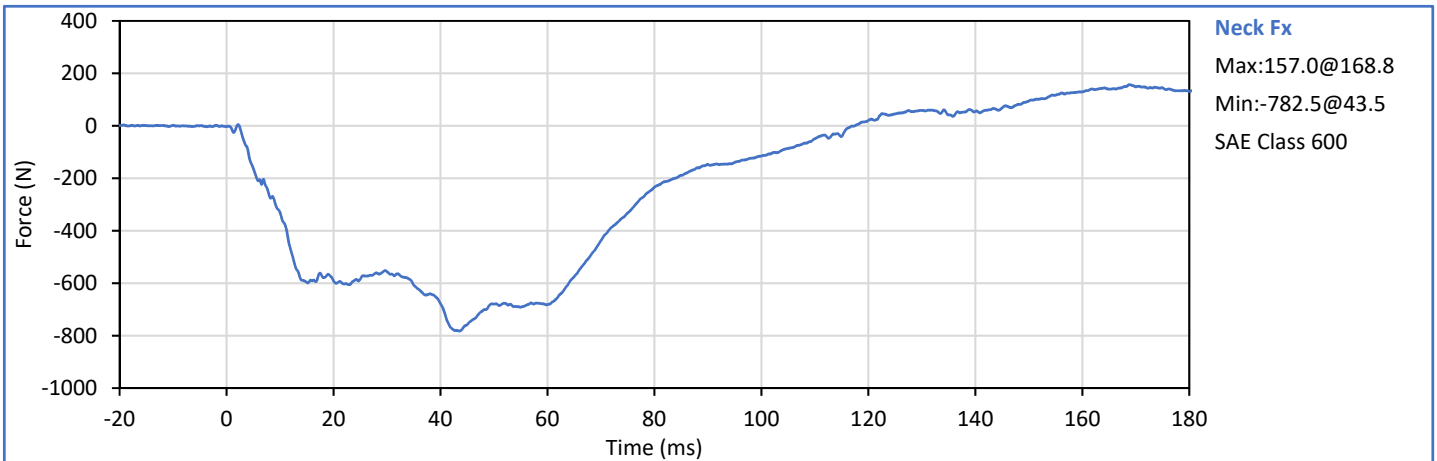
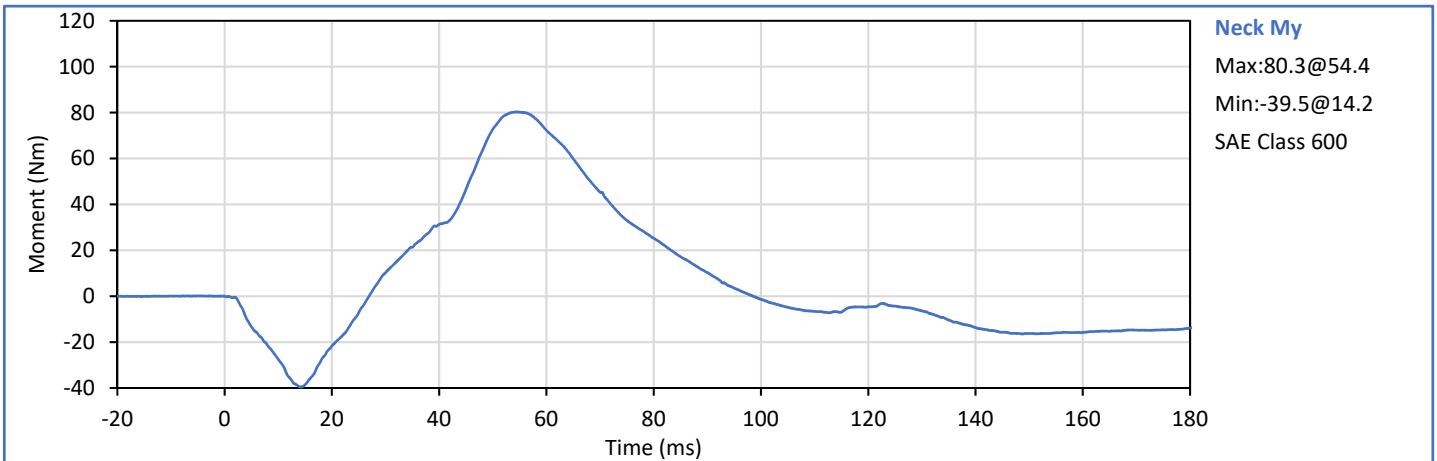
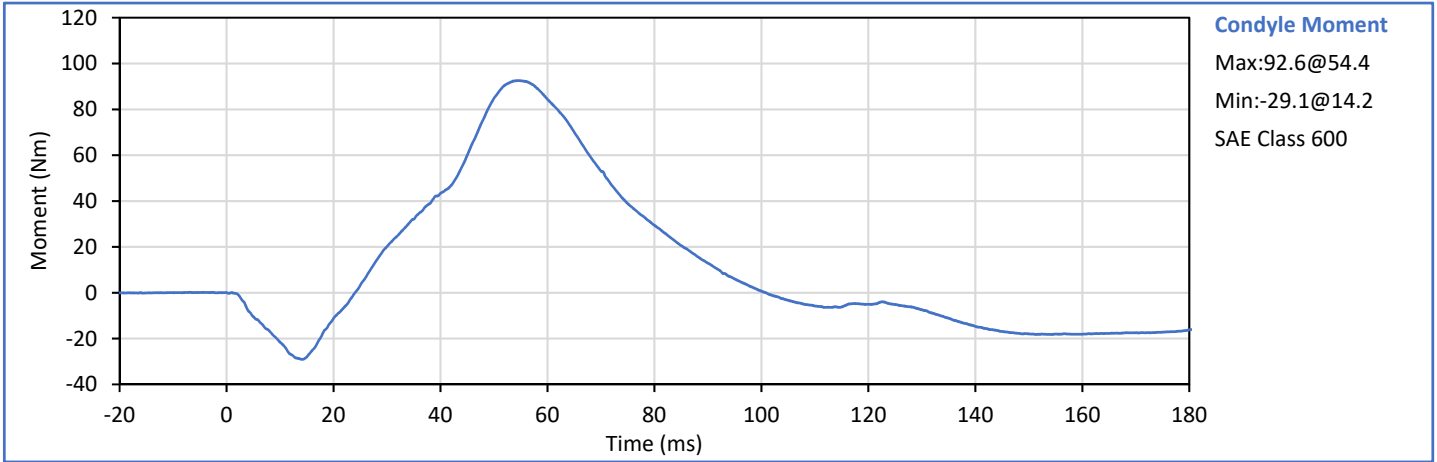
Approved By: 
P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Relative Humidity	%	10	70	25	Pass
Pendulum Velocity	m/s	6.89	7.13	7.00	Pass
Pendulum Deceleration at 10 ms	g	22.5	27.5	23.6	Pass
Pendulum Deceleration at 20 ms	g	17.6	22.6	21.8	Pass
Pendulum Deceleration at 30 ms	g	12.5	18.5	16.2	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	29.0	16.2	Pass
Deceleration Decay to Cross 5 g	ms	34.0	42.0	39.6	Pass
"D" Plane Rotation peak	deg	64.0	78.0	76.2	Pass
	ms	57.0	64.0	63.5	Pass
"D" Plane Rotation Decay To Zero	ms	113.0	128.0	122.6	Pass
Moment About Occipital Condyle	Nm	88.1	108.5	92.6	Pass
	ms	47.0	58.0	54.4	Pass
Moment Decay, Peak to Zero	ms	97.0	107.0	100.8	Pass
Overall Test Results					Pass

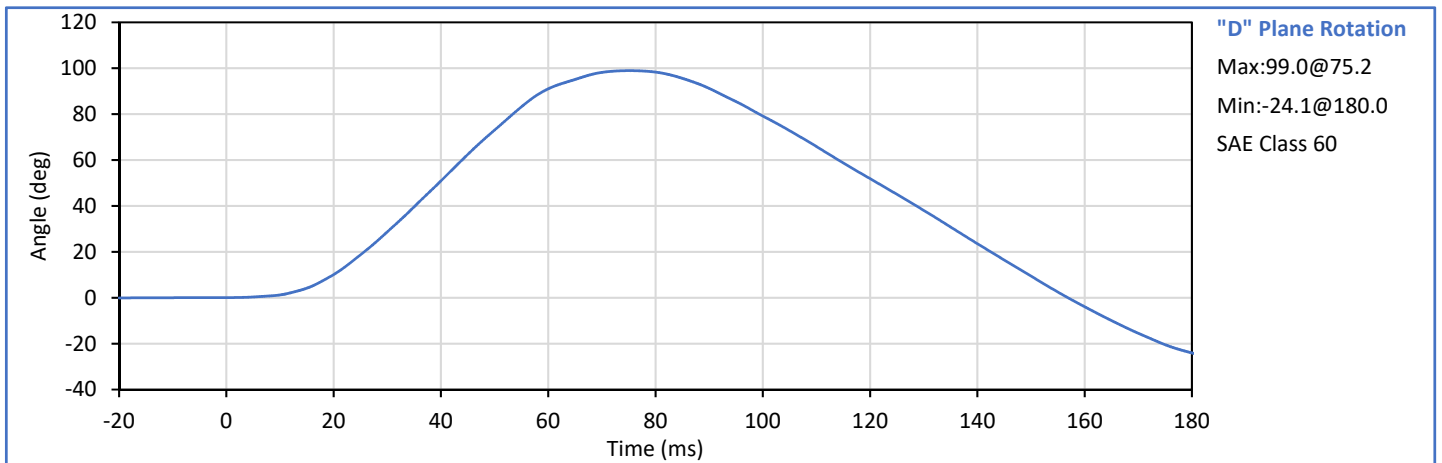
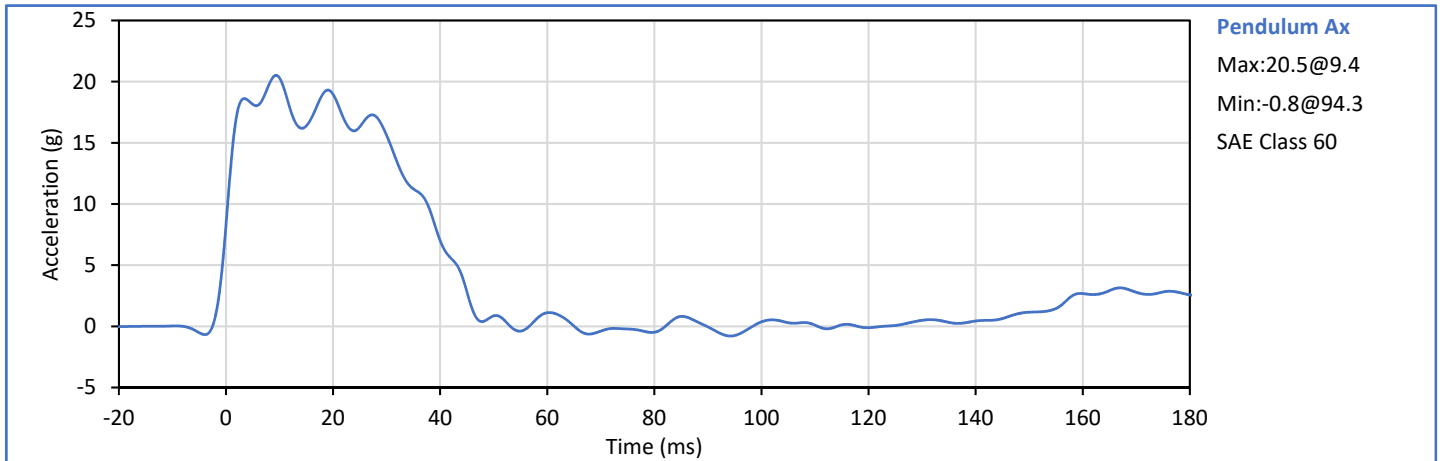


Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

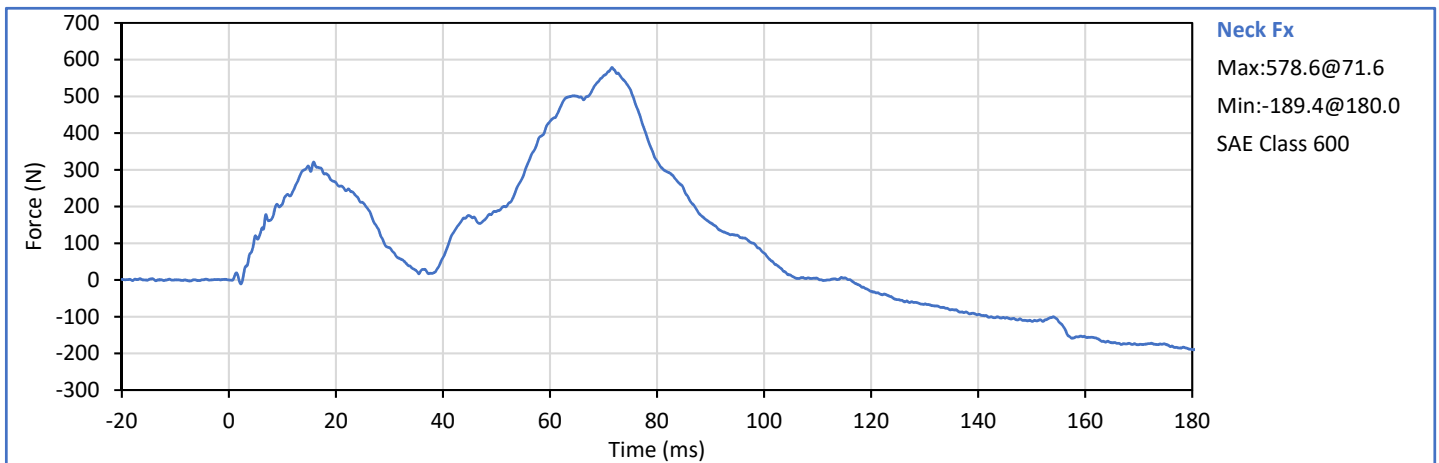
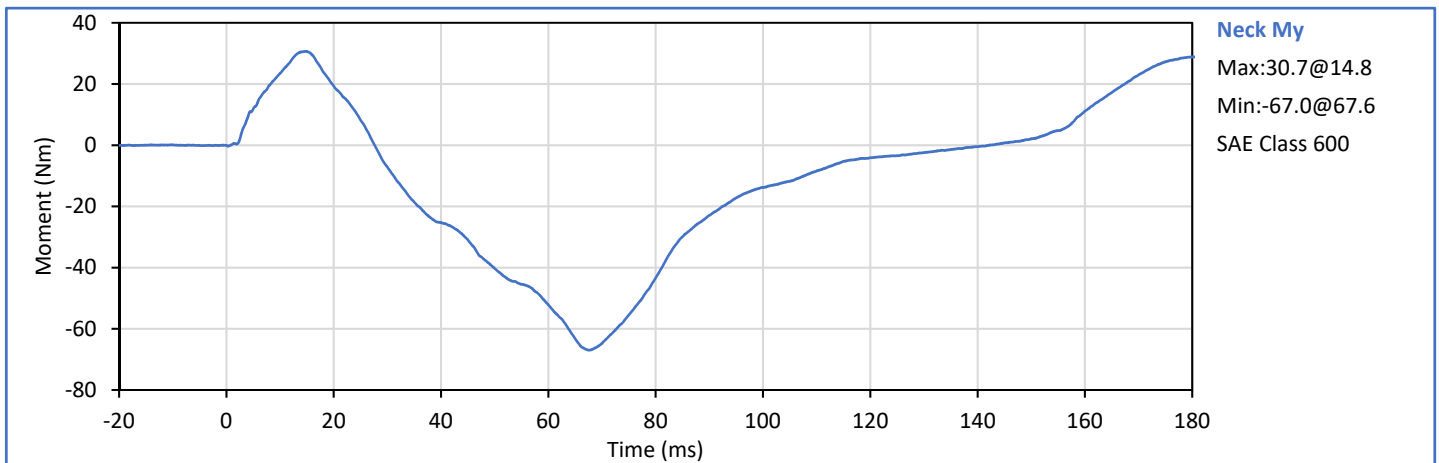
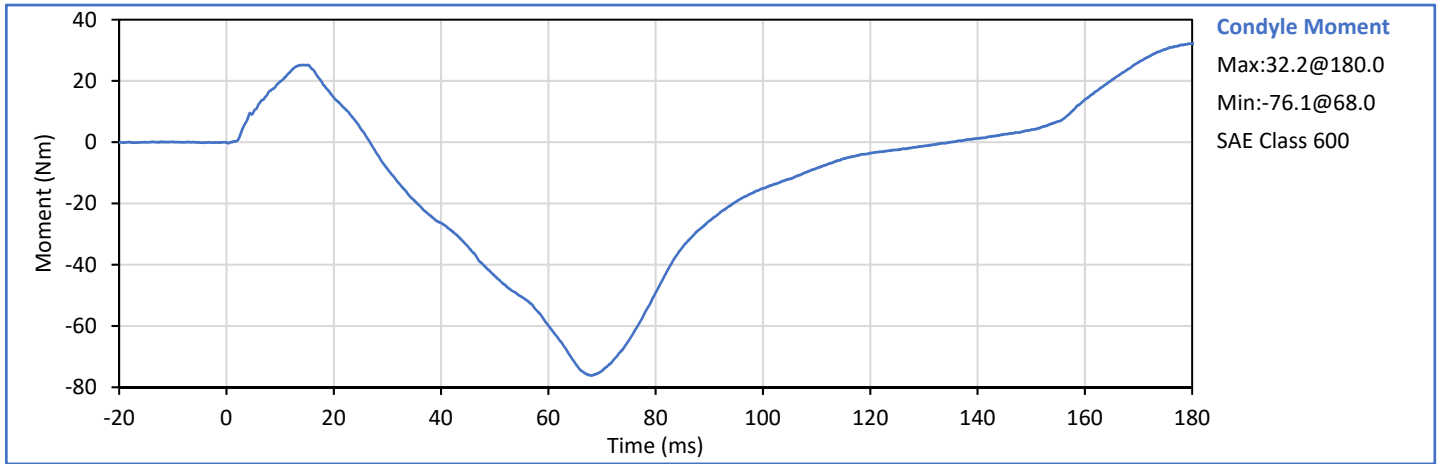


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Relative Humidity	%	10	70	25	Pass
Pendulum Velocity	m/s	5.94	6.19	6.09	Pass
Pendulum Deceleration at 10 ms	g	17.2	21.2	20.3	Pass
Pendulum Deceleration at 20 ms	g	14.0	19.0	19.0	Pass
Pendulum Deceleration at 30 ms	g	11.0	16.0	15.6	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	22.0	15.6	Pass
Deceleration Decay to Cross 5 g	ms	38.0	46.0	43.1	Pass
"D" Plane Rotation peak	deg	81.0	106.0	99.0	Pass
	ms	72.0	82.0	75.2	Pass
"D" Plane Rotation Decay To Zero	ms	147.0	174.0	157.0	Pass
Moment About Occipital Condyle	Nm	-79.9	-52.9	-76.1	Pass
	ms	65.0	79.0	68.0	Pass
Moment Decay, Peak to Zero	ms	120.0	148.0	135.0	Pass
Overall Test Results					Pass

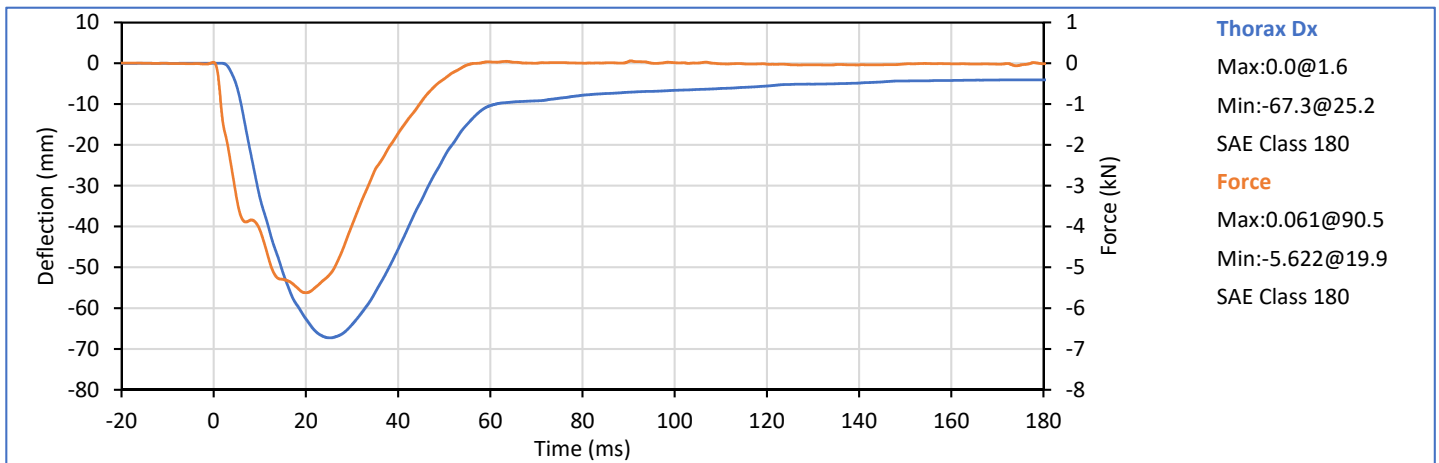
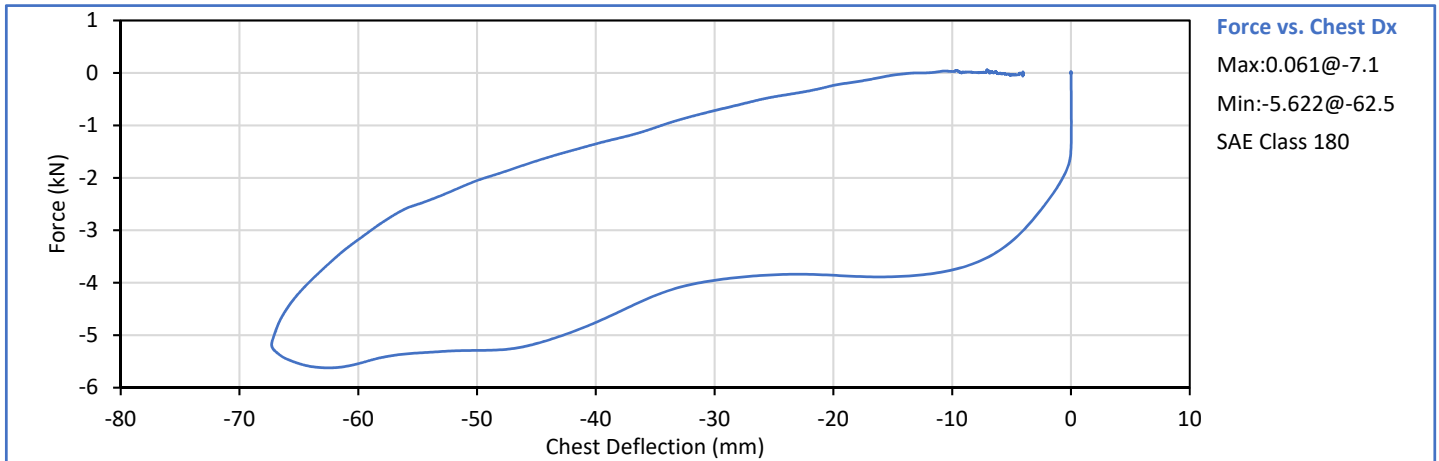


Technician: *J. Hernandez*
J. Hernandez


Approved By: *P. Puzzuto*
P. Puzzuto



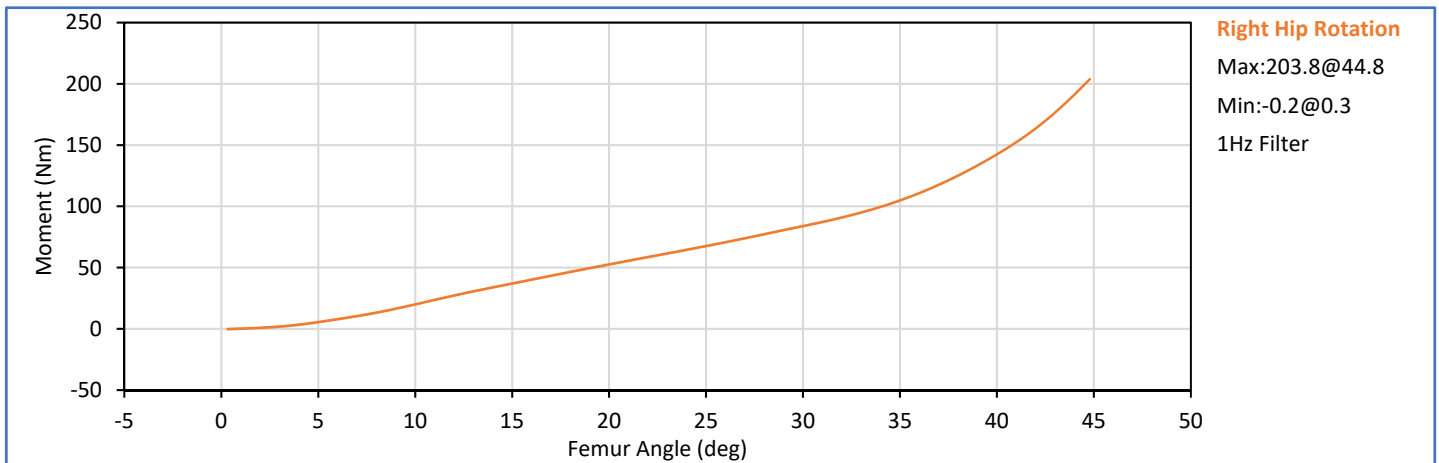
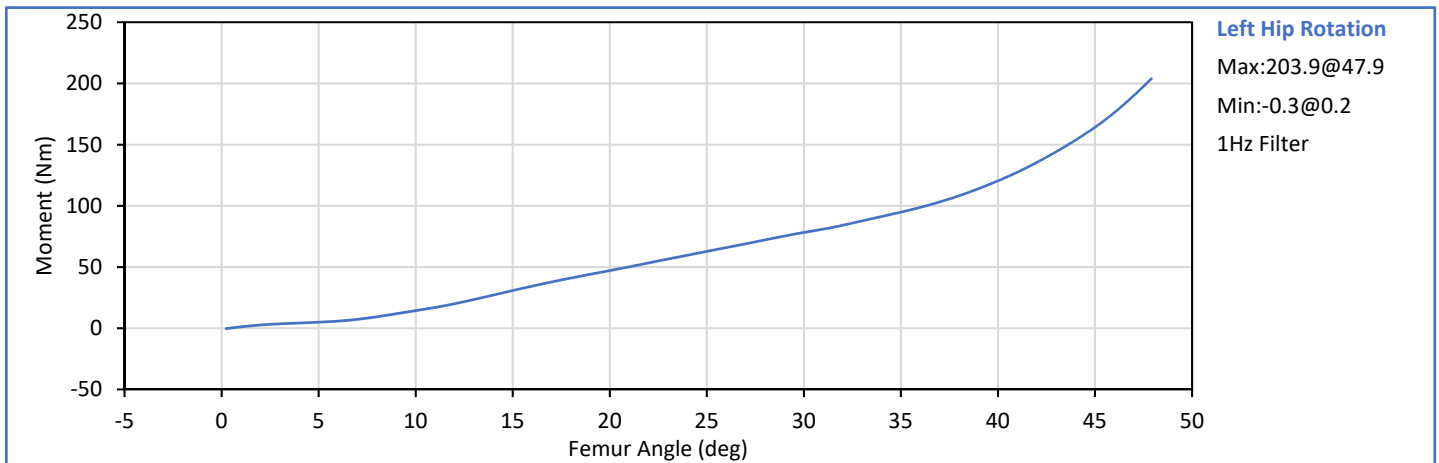
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Relative Humidity	%	10	70	19	Pass
Probe Velocity	m/s	6.58	6.82	6.78	Pass
Peak Chest Deflection	mm	-72.6	-63.5	-67.3	Pass
Peak Probe Force	kN	-5.893	-5.159	-5.622	Pass
Internal Hysterisis	%	69.0	85.0	70.6	Pass
Overall Test Results					Pass





Technician: 
 J. Hernandez

Approved By: 
 P. Puzzuto

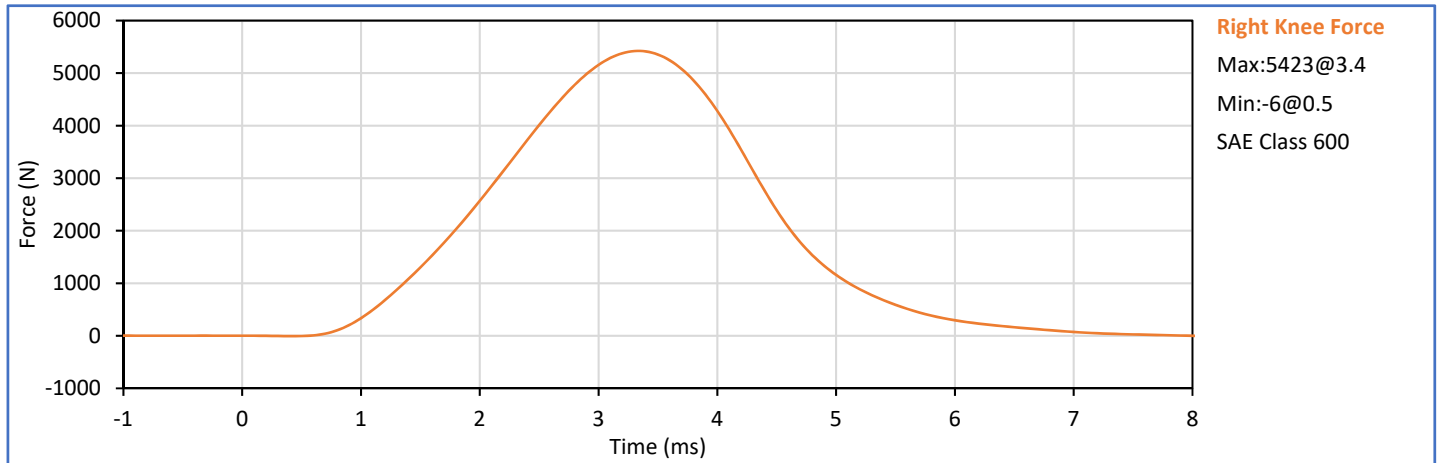
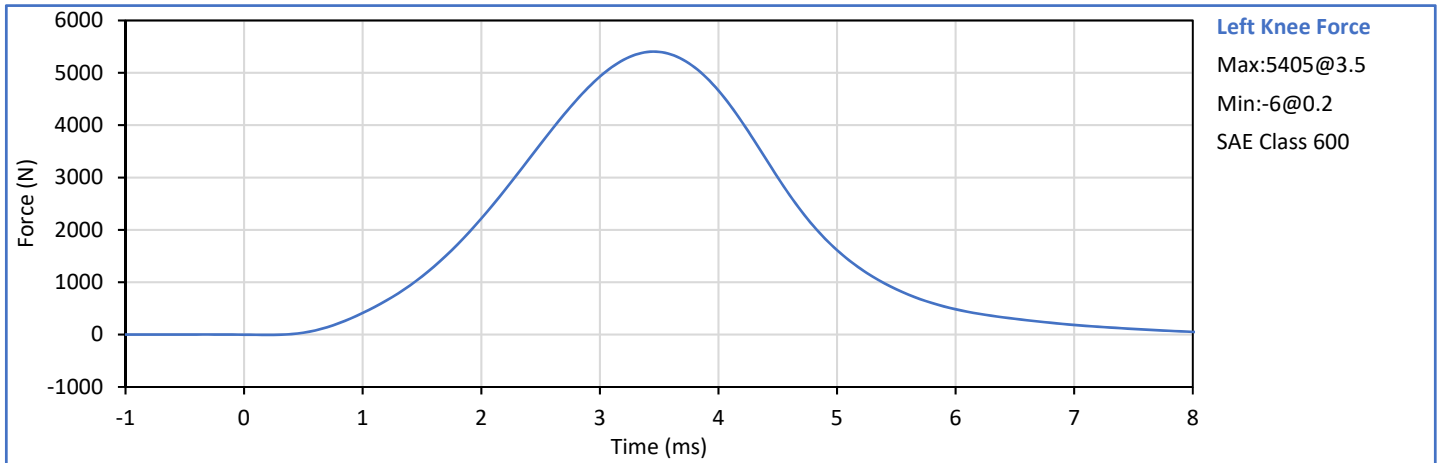
	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	21.7	Pass
	Laboratory Relative Humidity	%	10	70	19	Pass
Left Hip	Left Hip Rotation Rate	deg/s	5.0	10.0	6.0	Pass
	Left Femur Torque at 30°	Nm	0.0	95.0	78.3	Pass
	Left Hip Rotation at 203 Nm	deg	40.0	50.0	47.8	Pass
Right Hip	Right Hip Rotation Rate	deg/s	5.0	10.0	6.1	Pass
	Right Femur Torque at 30°	Nm	0.0	95.0	83.9	Pass
	Right Hip Rotation at 203 Nm	deg	40.0	50.0	44.7	Pass
Overall Test Results						Pass




Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	21.7	Pass
	Laboratory Relative Humidity	%	10	70	23	Pass
Left	Probe Velocity	m/s	2.070	2.130	2.092	Pass
Knee	Peak Resistive Force	N	4715	5782	5405	Pass
Right	Probe Velocity	m/s	2.070	2.130	2.097	Pass
Knee	Peak Resistive Force	N	4715	5782	5423	Pass
Overall Test Results						Pass



Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

APPENDIX C
Pre-Test ATD Qualification and Performance Verification
Hybrid III 5th Percentile Female ATD
S/N: DH1644

Dummy Item	Inspect for	Comments	Damage	Okay
Entire ATD	Perform general cleaning			✓
Outer Skin	Gashes, rips, cracks			✓
Head	Ballast secure			✓
	General appearance			✓
Neck bracket	Upper neck firmly attached to lower bracket			✓
Neck	Broken or cracked rubber			✓
	Looseness at the condyle joint			✓
Nodding block	Cracked or out of position			✓
Lumbar Spine	Broken or cracked rubber			✓
Ribs	Broken or bent ribs			✓
	Broken or bent rib supports			✓
	Damping material separated or cracked			✓
	Rubber bumpers in place			✓
Chest Displ. Assembly	Bent shaft			✓
	Slider arm riding in track			✓
Sensors	Check cables for cuts, tears			✓
	Check for damaged insulation			✓
Accelerometer	Head mounting secure			✓
Mounting	Chest mounting secure			✓
Knees	Skin condition			✓
	Insert (do not remove)			✓
	Casting			✓
Limbs	Normal movement and adjustment			✓
Knee Sliders	Wires intact			✓
	Rubber returned to "resting" position			✓
Pelvis	Broken			✓
Other	Describe below as needed			✓

Describe any repairs or replacement of parts or other findings:

No Problems Found

Technician: _____

J. Hernandez

Approved By: _____

P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Relative Humidity	%	10	70	22	Pass
A - Total sitting height	mm	775	800	786	Pass
B - Shoulder pivot height	mm	432	457	445	Pass
C - 'H' point height	mm	81	86	84	Pass
D - 'H' point location from backline	mm	145	150	149	Pass
E - Shoulder pivot from backline	mm	69	84	79	Pass
F - Thigh clearance	mm	119	135	123	Pass
G - Back of elbow to wrist pivot	mm	244	259	254	Pass
H - Head back to backline	mm	41	46	43	Pass
I - Shoulder to elbow length	mm	277	297	283	Pass
J - Elbow rest height	mm	183	203	191	Pass
K - Buttock to knee length	mm	521	546	534	Pass
L - Popliteal length	mm	356	376	364	Pass
M - Knee pivot height	mm	394	419	415	Pass
N - Buttock popliteal length	mm	414	439	429	Pass
O - Chest depth without jacket	mm	175	191	182	Pass
P - Foot length	mm	219	234	228	Pass
R - Buttock to Knee Pivot Length	mm	457	483	465	Pass
S - Head Breadth	mm	137	147	141	Pass
T - Head Depth	mm	178	188	185	Pass
U - Hip Breadth	mm	300	315	310	Pass
V - Shoulder breadth	mm	351	366	357	Pass
W - Foot breadth	mm	79	94	88	Pass
X - Head circum.	mm	528	549	534	Pass
Y - Chest circum. (w/chest jacket)	mm	851	881	863	Pass
Z - Waist circum.	mm	760	790	782	Pass
AA - Location for chest circum.	mm	333	358	349	Pass
BB - Location for waist circum.	mm	160	170	169	Pass
Overall Test Results					Pass

Technician: _____



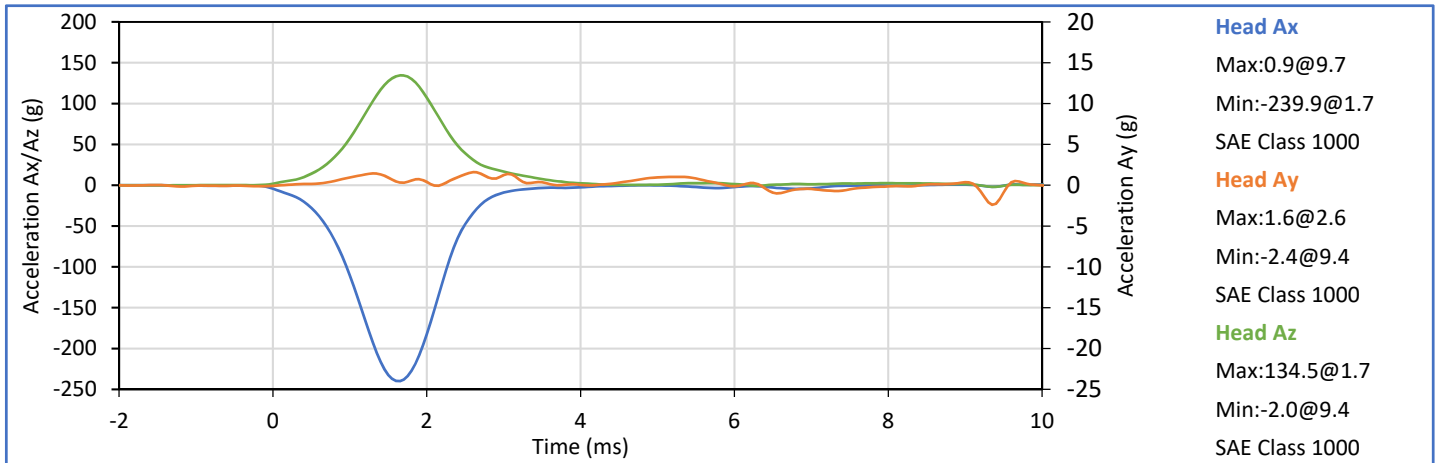
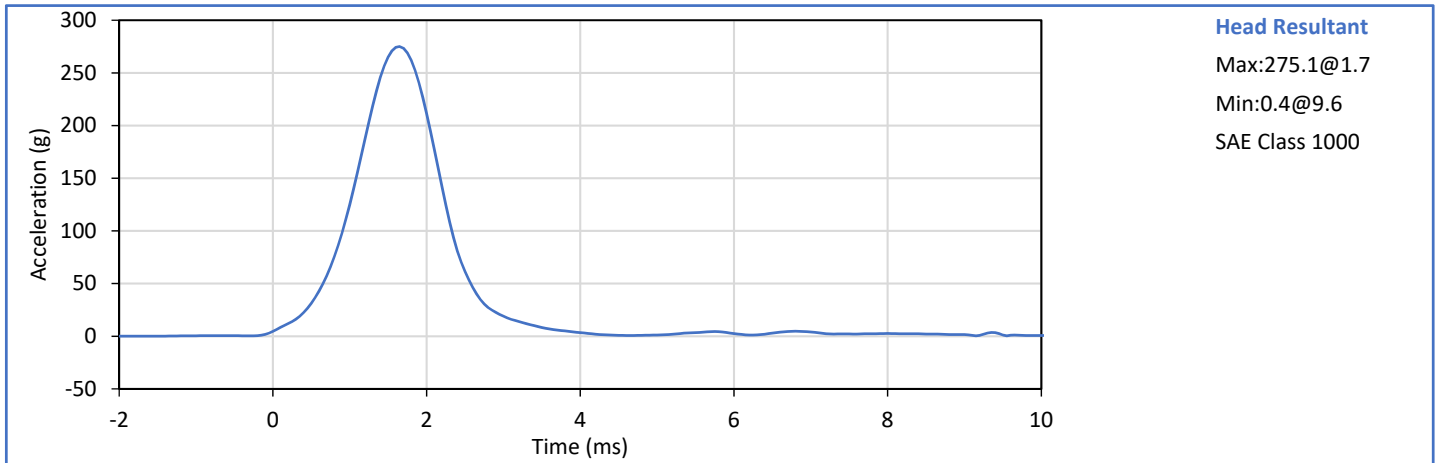
J. Hernandez

Approved By: _____




P. Puzzuto

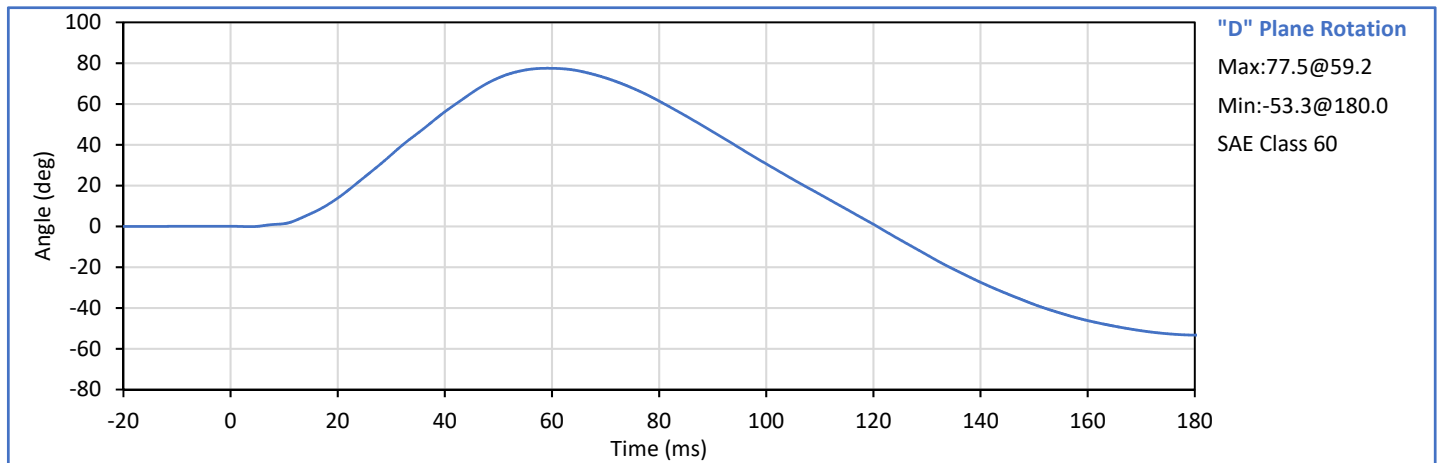
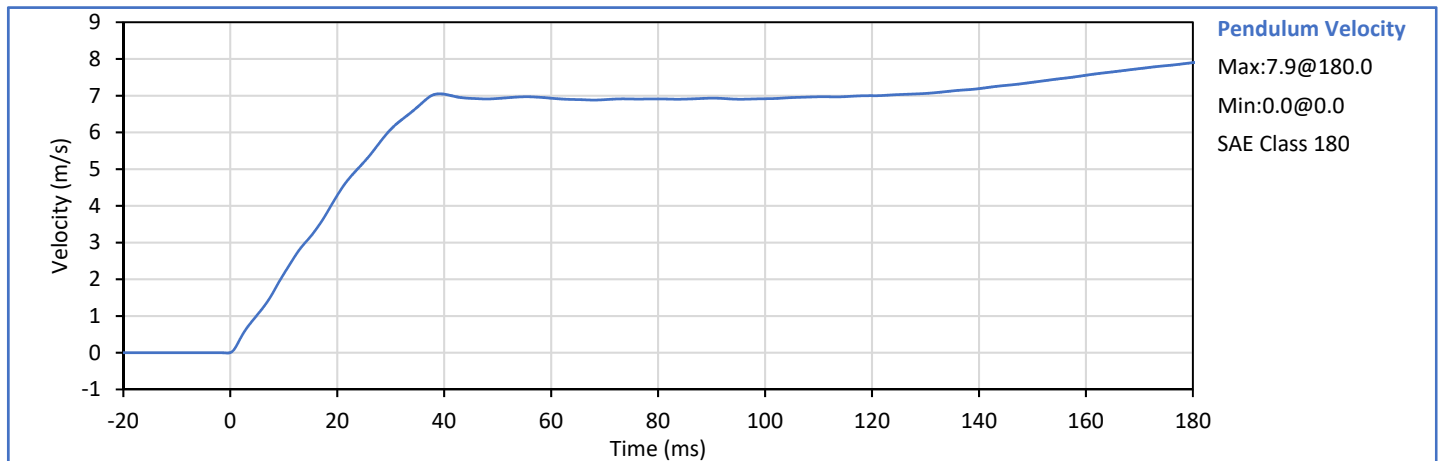
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.7	Pass
Laboratory Humidity	%	10	70	28	Pass
Peak Resultant Acceleration	g	250.0	300.0	275.1	Pass
Peak Lateral Acceleration	g	-15.0	15.0	-2.4	Pass
Oscillations After Main Pulse	%	0.0	10.0	1.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass



Technician: 
J. Hernandez

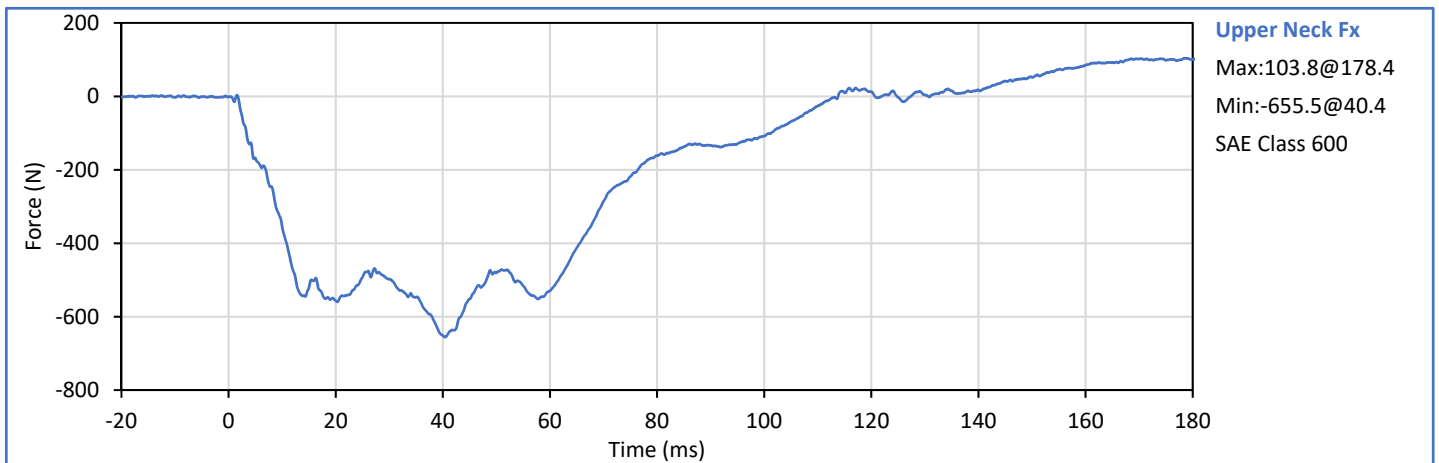
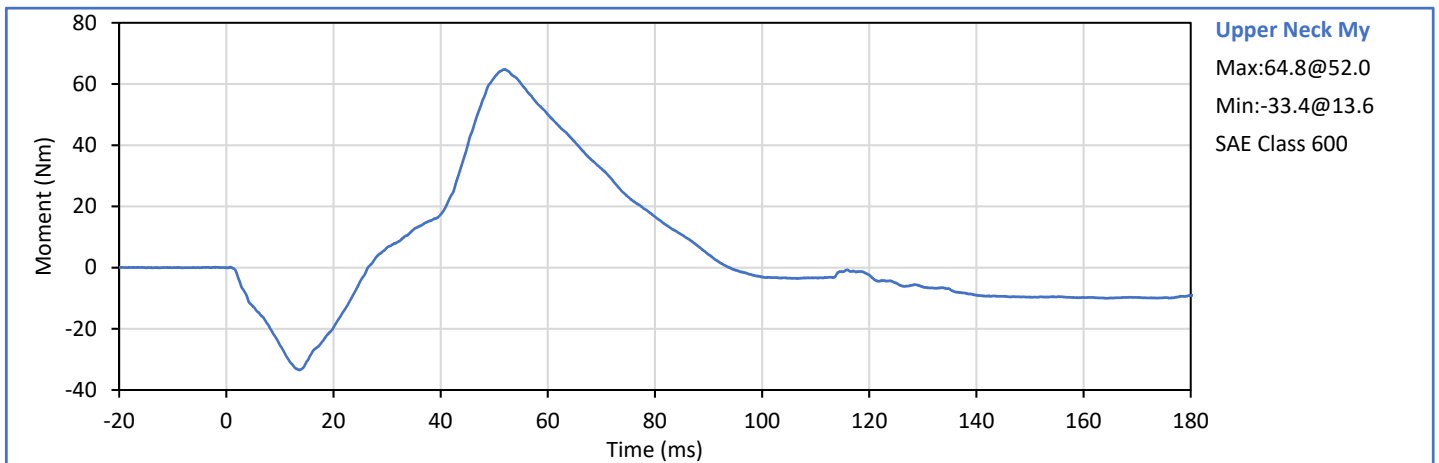
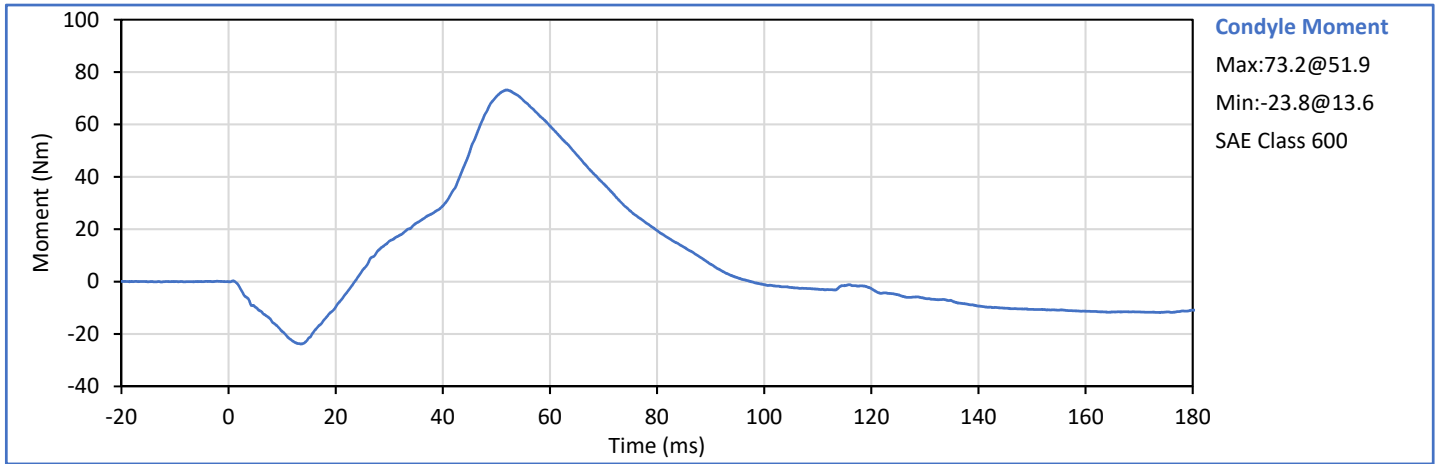
Approved By: 
P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	22	Pass
Pendulum Velocity	m/s	6.89	7.13	6.96	Pass
Pendulum Velocity at 10 ms	m/s	2.10	2.50	2.14	Pass
Pendulum Velocity at 20 ms	m/s	4.00	5.00	4.28	Pass
Pendulum Velocity at 30 ms	m/s	5.80	7.00	6.08	Pass
Peak "D" Plane Rotation	deg	77.0	91.0	77.5	Pass
Peak Moment in Rotation	Nm	69.0	83.0	73.2	Pass
Positive Moment Decay to 10 Nm	ms	80.0	100.0	87.7	Pass
Overall Test Results					Pass

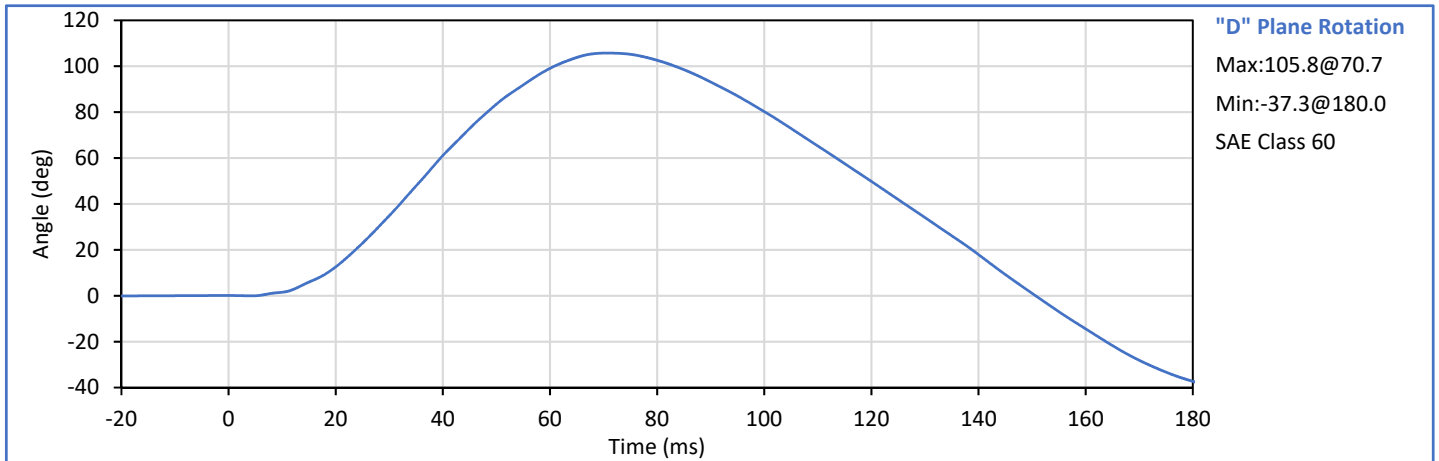
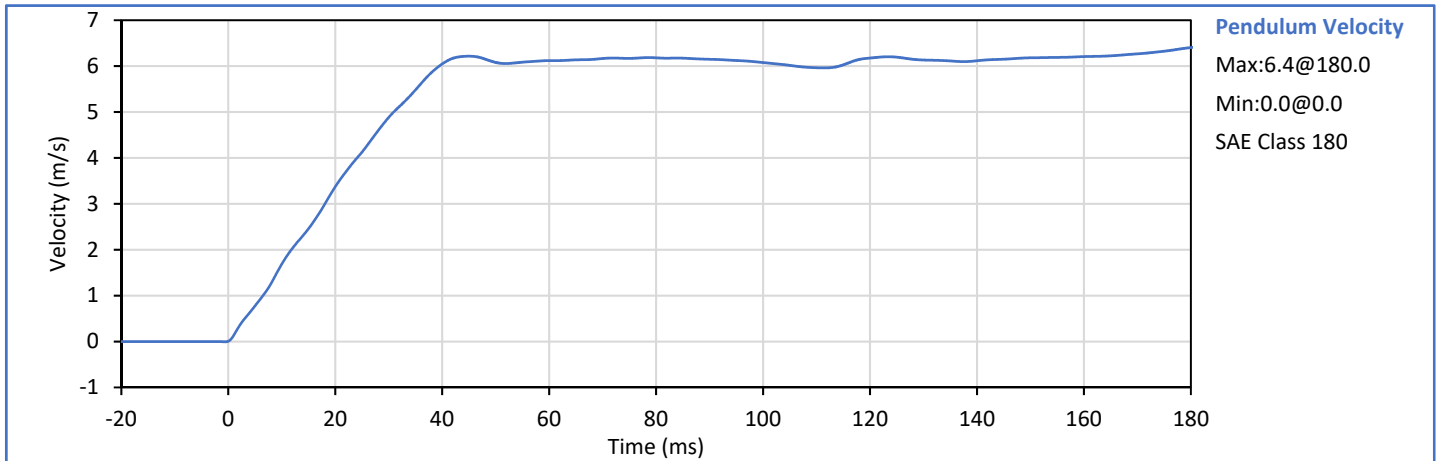


Technician: J. Hernandez


Approved By: P. Puzzuto

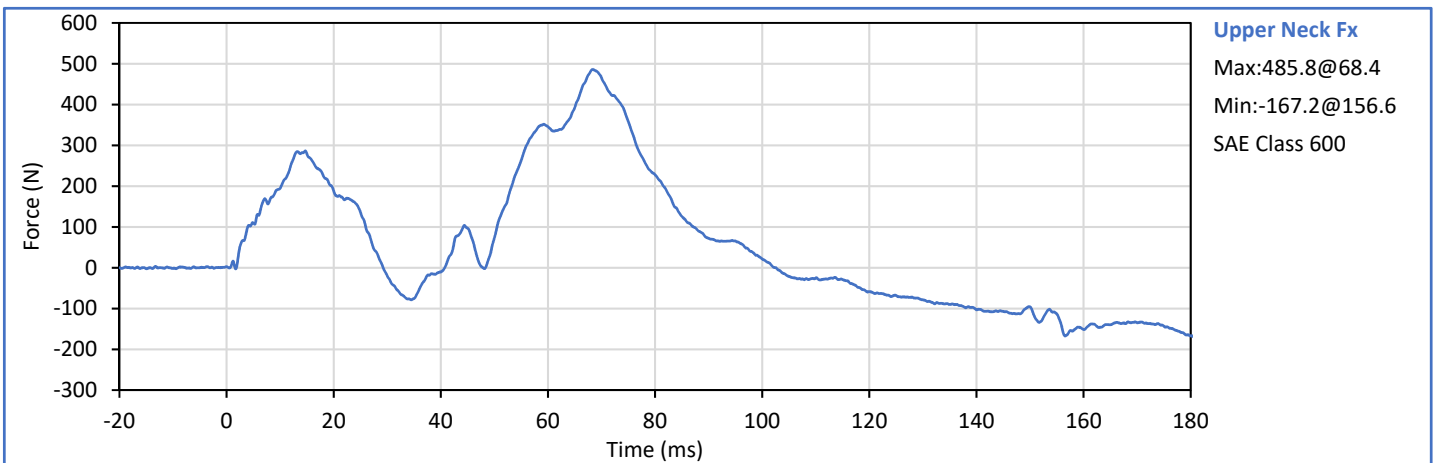
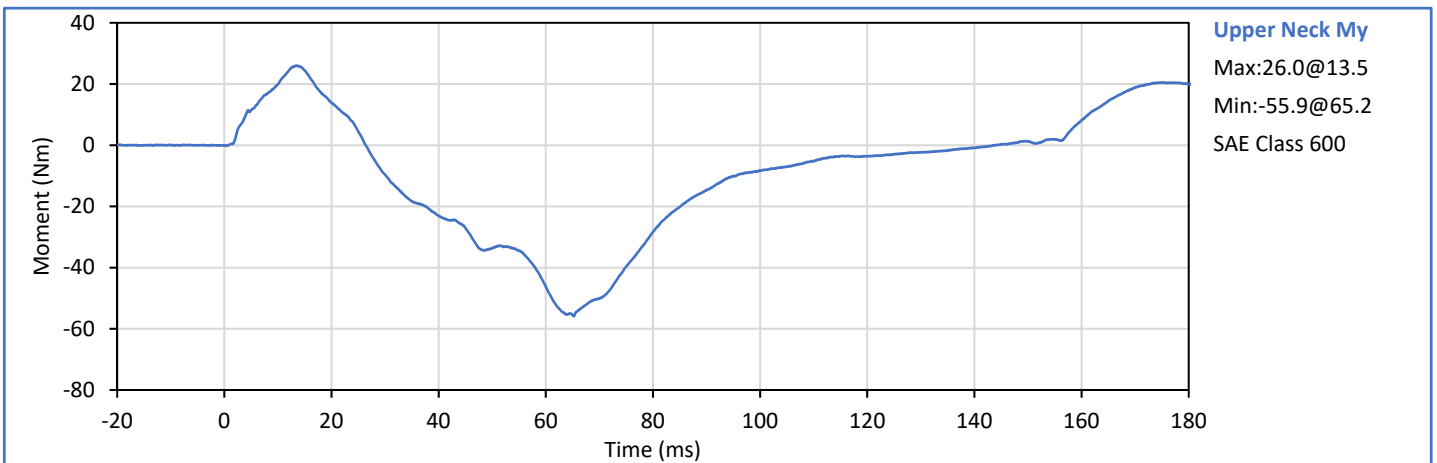
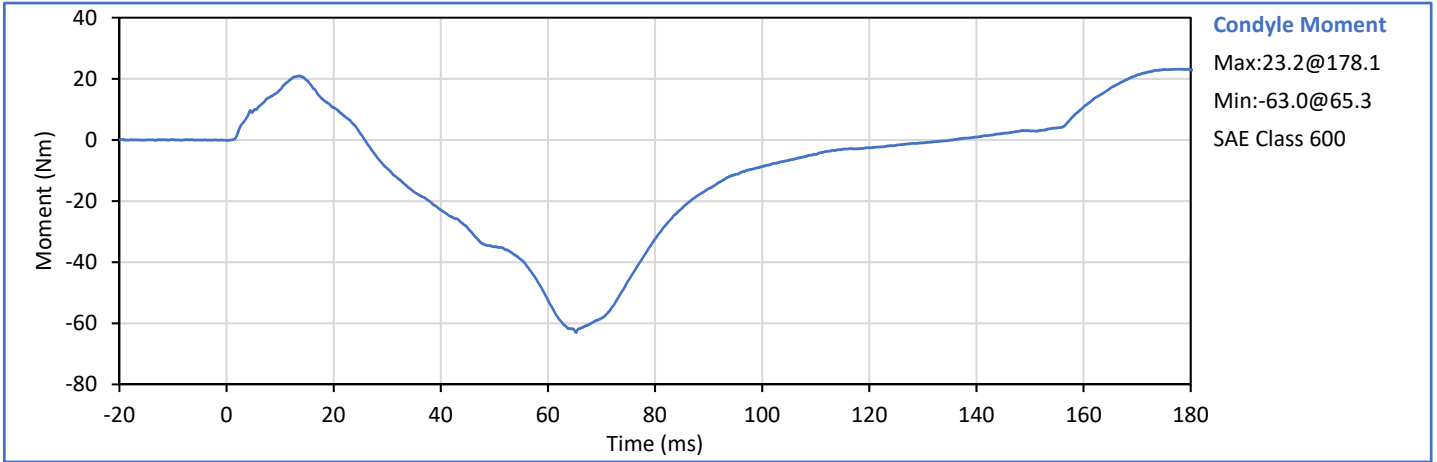


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	25	Pass
Pendulum Velocity	m/s	5.95	6.19	6.05	Pass
Pendulum Velocity at 10 ms	m/s	1.50	1.90	1.69	Pass
Pendulum Velocity at 20 ms	m/s	3.10	3.90	3.37	Pass
Pendulum Velocity at 30 ms	m/s	4.60	5.60	4.88	Pass
Peak "D" Plane Rotation	deg	99.0	114.0	105.8	Pass
Peak Moment in Rotation	Nm	-65.0	-53.0	-63.0	Pass
Negative Moment Decay to -10 Nm	ms	94.0	114.0	97.2	Pass
Overall Test Results					Pass

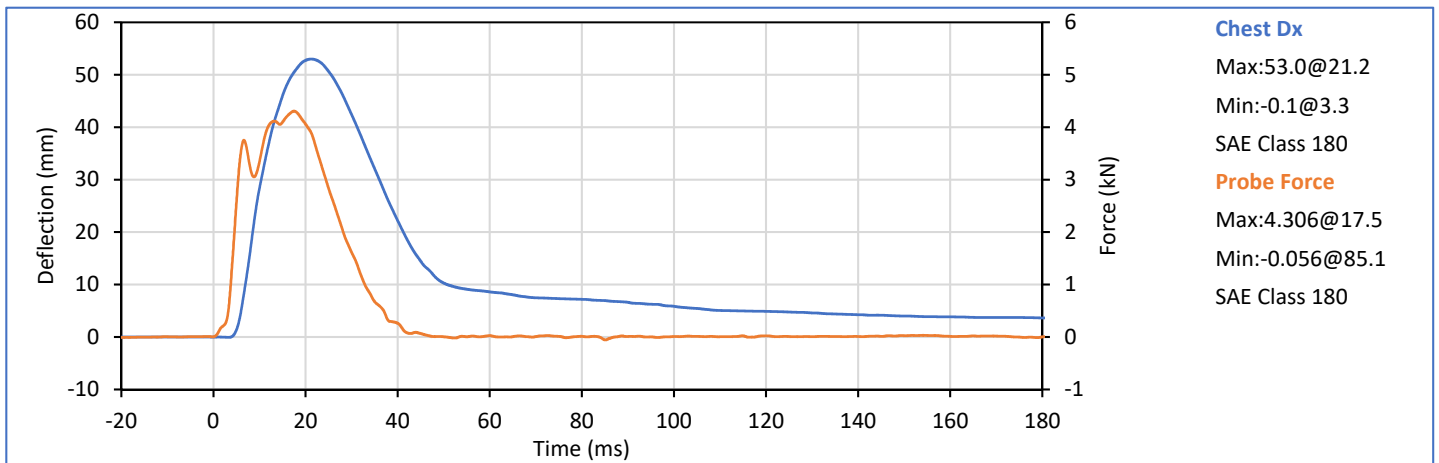
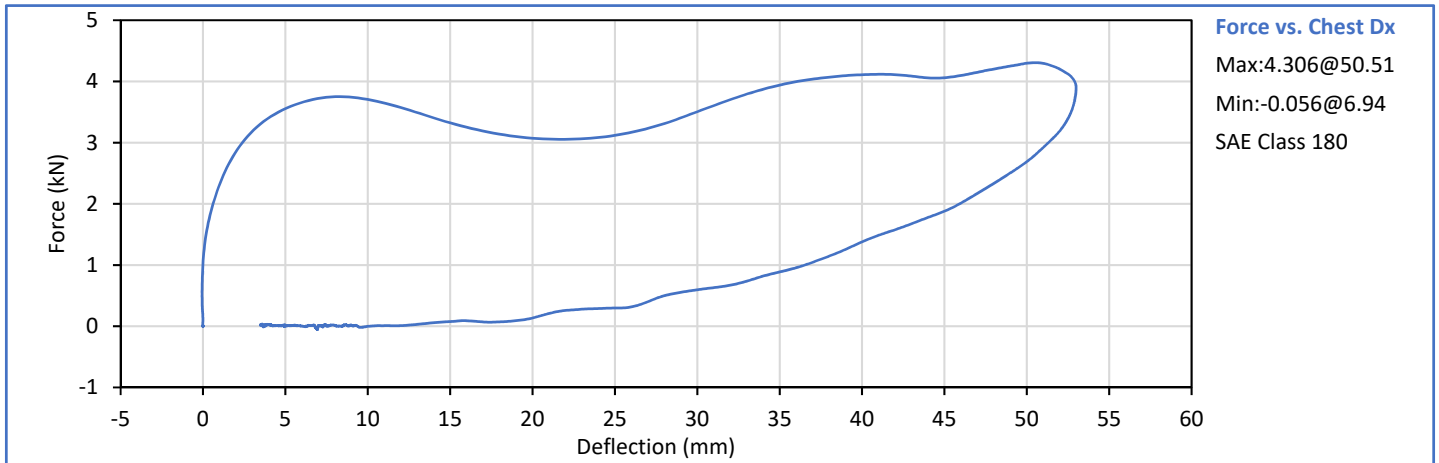


Technician: 
J. Hernandez


Approved By: 
P. Puzzuto



Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Humidity	%	10	70	33	Pass
Probe Velocity	m/s	6.59	6.83	6.70	Pass
Peak Chest Deflection	mm	50.0	58.0	53.0	Pass
Peak Probe Force, 50 and 58 mm	kN	3.900	4.400	4.306	Pass
Peak Probe Force, 18 and 50 mm	kN	0.000	4.600	4.297	Pass
Internal Hysterisis	%	69.0	85.0	78.1	Pass
Overall Test Results					Pass



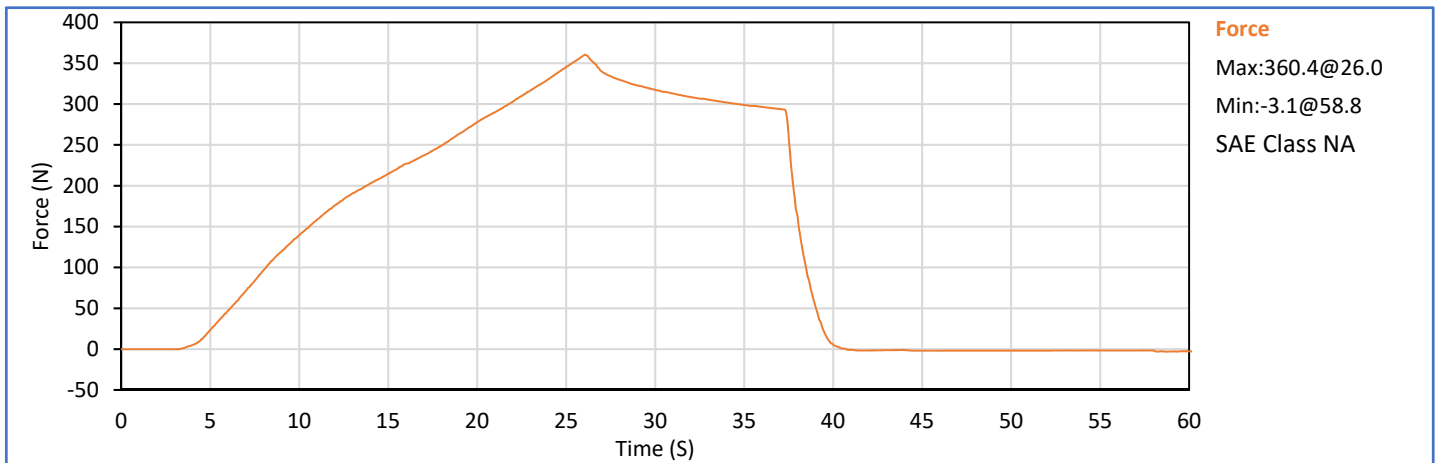
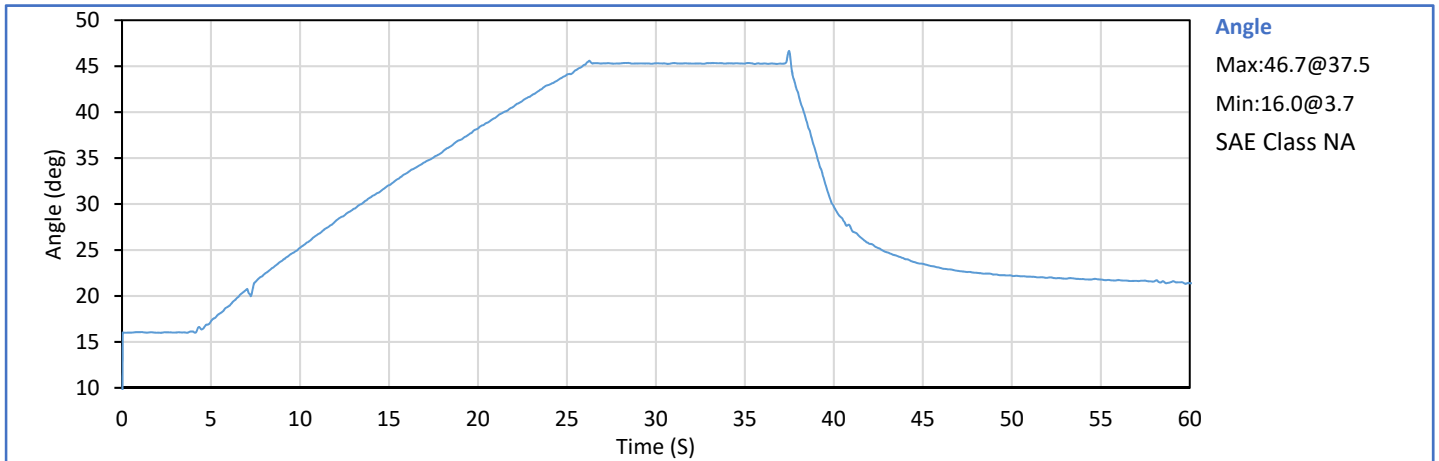
Technician: 
 J. Hernandez

Approved By: 
 P. Puzzuto


ATD Serial No.: DH1644

Test Date: 2021-01-20

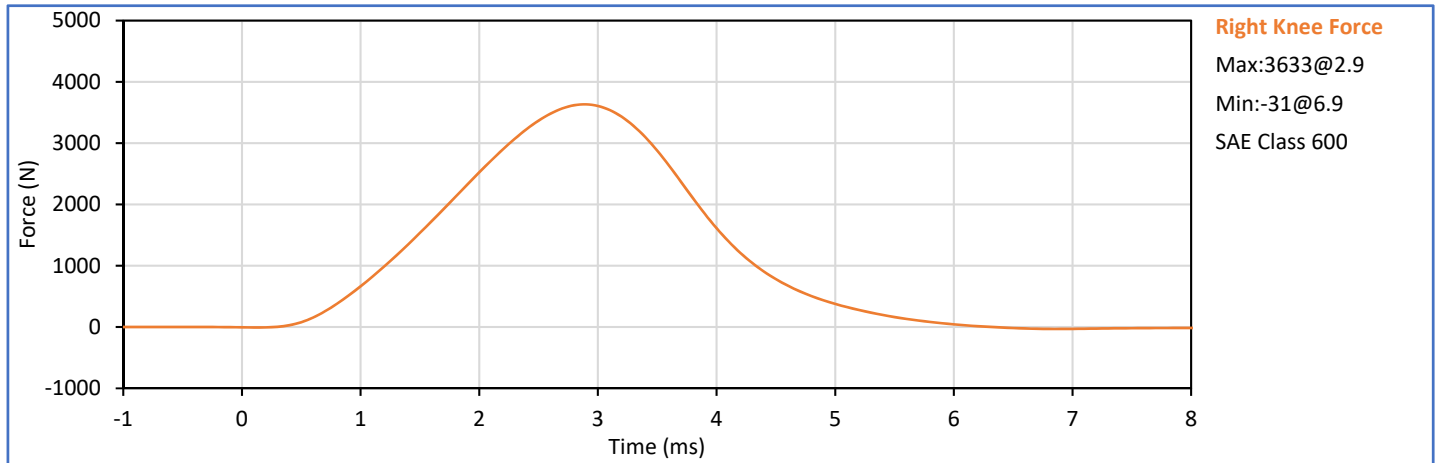
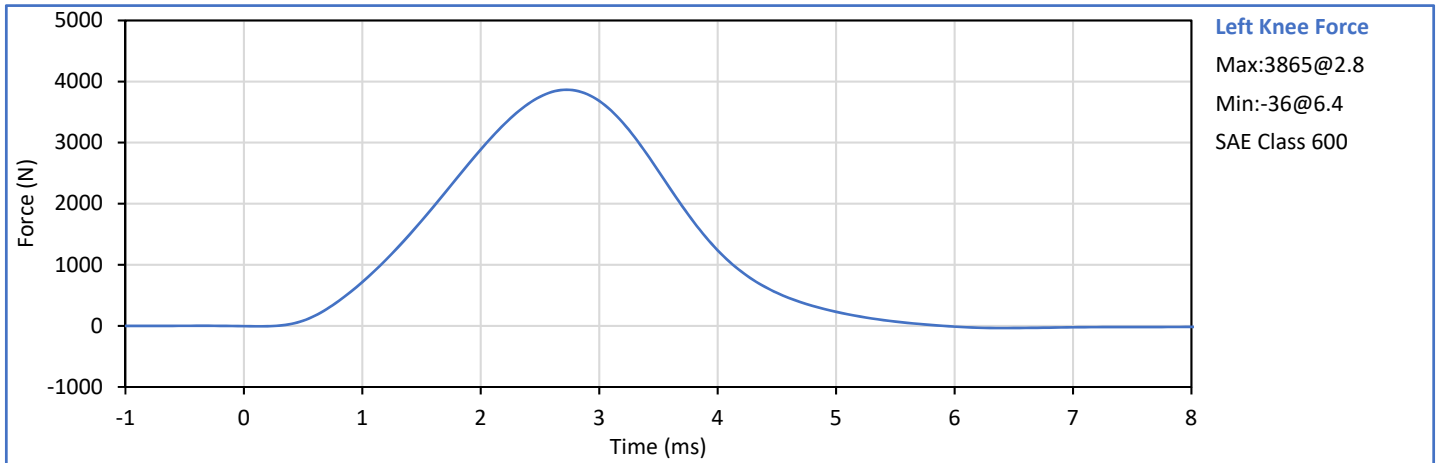
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.7	Pass
Laboratory Humidity	%	10	70	25	Pass
Orientation Angle	deg	0.0	20.0	15.7	Pass
Test Initial Angle	deg	11.0	19.0	16.0	Pass
Peak Force at 45° (+/-0.5°)	N	320.0	390.0	358.8	Pass
Torso Flexion Rate	deg/s	0.50	1.50	1.34	Pass
Final Reference Plane Angle	deg	-8.0	8.0	3.9	Pass
Overall Test Results					Pass




Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	21.7	Pass
	Laboratory Humidity	%	10	70	20	Pass
Left	Probe Velocity	m/s	2.070	2.130	2.110	Pass
Knee	Peak Resistive Force	N	3450	4060	3865	Pass
Right	Probe Velocity	m/s	2.070	2.130	2.112	Pass
Knee	Peak Resistive Force	N	3450	4060	3633	Pass
Overall Test Results						Pass



Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

APPENDIX C
Post-Test ATD Qualification and Performance Verification
Hybrid III 50th Percentile Male ATD
S/N: 360

ATD Serial No.: 360


Test Date: 2021-01-30

Dummy Item	Inspect for	Comments	Damage	OK
Entire ATD	Perform general cleaning			✓
Outer Skin	Gashes, rips, cracks			✓
Head	Ballast secure			✓
	General appearance			✓
Neck bracket	Upper neck firmly attached to lower bracket			✓
Neck	Broken or cracked rubber			✓
	Looseness at the condyle joint			✓
Nodding block	Cracked or out of position			✓
Lumbar Spine	Broken or cracked rubber			✓
Ribs	Broken or bent ribs			✓
	Broken or bent rib supports			✓
	Damping material separated or cracked			✓
	Rubber bumpers in place			✓
Chest Displ. Assembly	Bent shaft			✓
	Slider arm riding in track			✓
Sensors	Check cables for cuts, tears			✓
	Check for damaged insulation			✓
Accelerometer Mounting	Head mounting secure			✓
	Chest mounting secure			✓
Knees	Skin condition			✓
	Insert (do not remove)			✓
	Casting			✓
Limbs	Normal movement and adjustment			✓
Knee Sliders	Wires intact			✓
	Rubber returned to "resting" position			✓
Pelvis	Broken			✓
Other	Describe below as needed			✓

Describe any repairs or replacement of parts or other findings:

No Problems Found

Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	26	Pass
A - Total sitting height	mm	879	889	887	Pass
B - Shoulder pivot height	mm	505	521	517	Pass
C - 'H' point height	mm	84	89	87	Pass
D - 'H' point location from backline	mm	135	140	139	Pass
E - Shoulder pivot from backline	mm	84	94	91	Pass
F - Thigh clearance	mm	140	155	151	Pass
G - Back of elbow to wrist pivot	mm	290	305	297	Pass
H - Head back to backline	mm	41	46	46	Pass
I - Shoulder to elbow length	mm	330	345	343	Pass
J - Elbow rest height	mm	190	211	204	Pass
K - Buttock to knee length	mm	579	604	589	Pass
L - Popliteal length	mm	429	455	440	Pass
M - Knee pivot height	mm	485	500	495	Pass
N - Buttock popliteal length	mm	452	477	464	Pass
O - Chest depth without jacket	mm	213	229	220	Pass
P - Foot length	mm	251	267	258	Pass
V - Shoulder breadth	mm	422	437	431	Pass
W - Foot breadth	mm	91	107	103	Pass
Y - Chest circum. (w/chest jacket)	mm	970	1001	980	Pass
Z - Waist circum.	mm	836	866	851	Pass
AA - Location for chest circum.	mm	429	434	432	Pass
BB - Location for waist circum.	mm	226	231	228	Pass
Overall Test Results					Pass

Technician: _____



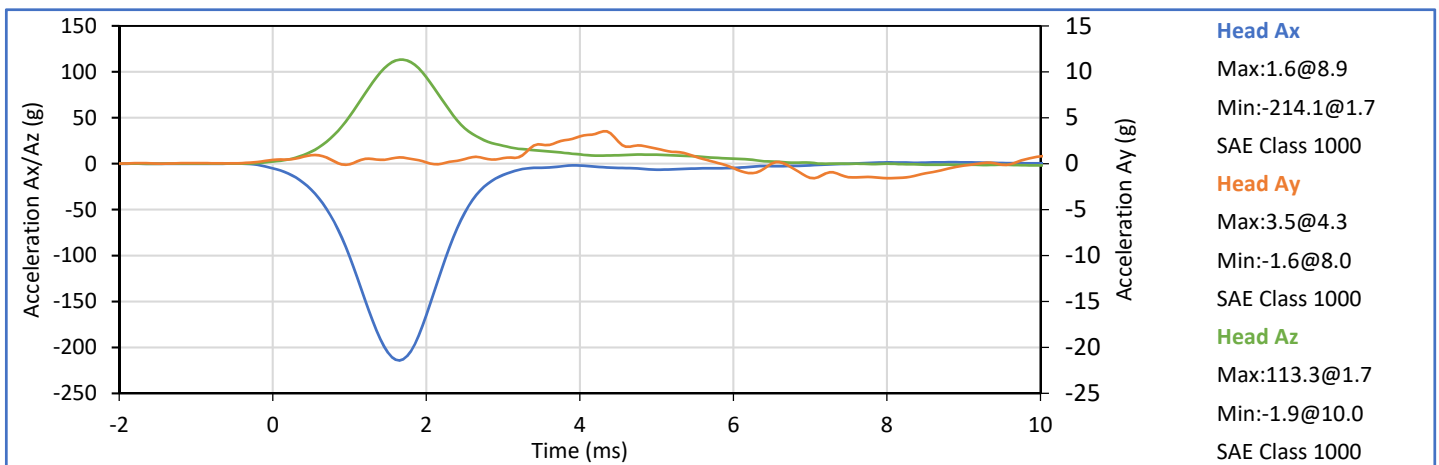
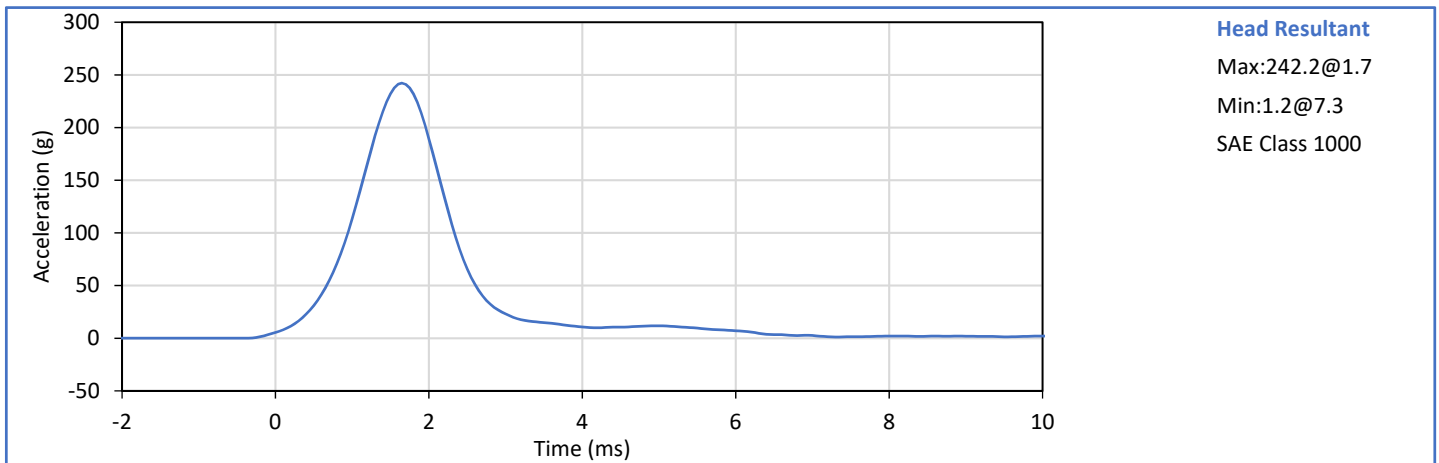
J. Hernandez


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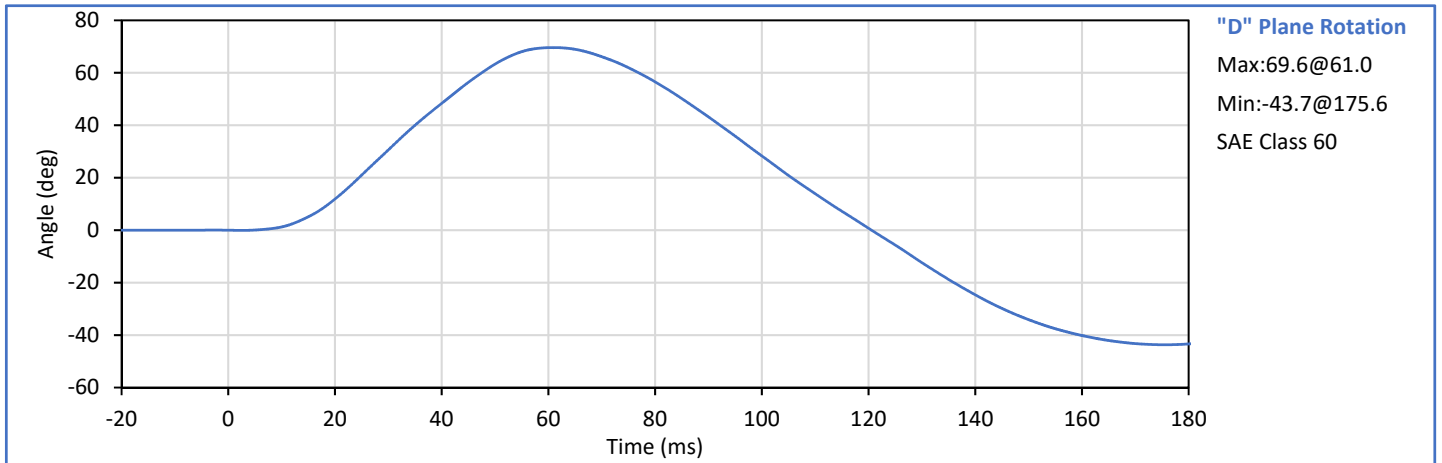
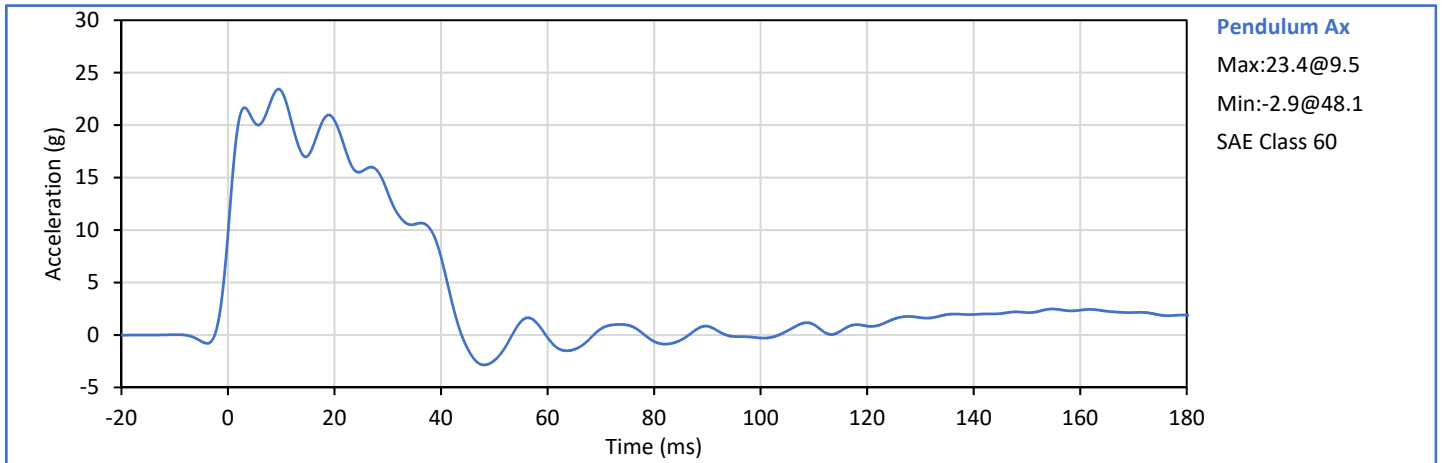
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.6	Pass
Laboratory Relative Humidity	%	10	70	27	Pass
Peak Resultant Acceleration	g	225.0	275.0	242.2	Pass
Peak Lateral Acceleration	g	-15.0	15.0	3.5	Pass
Oscillations After Main Pulse	%	0.0	10.0	3.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass





Technician: 
J. Hernandez

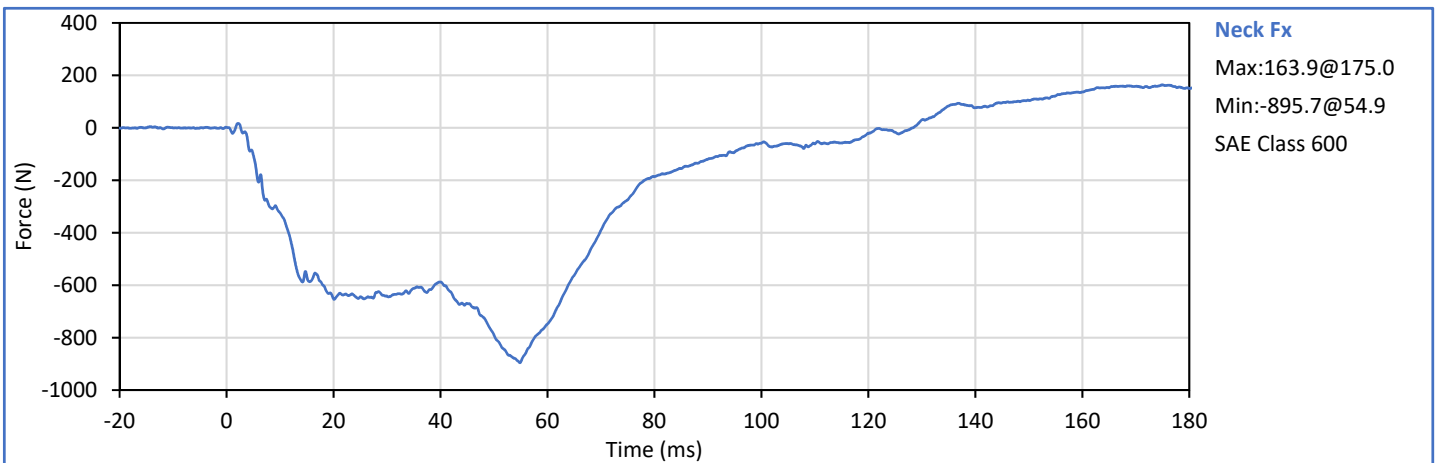
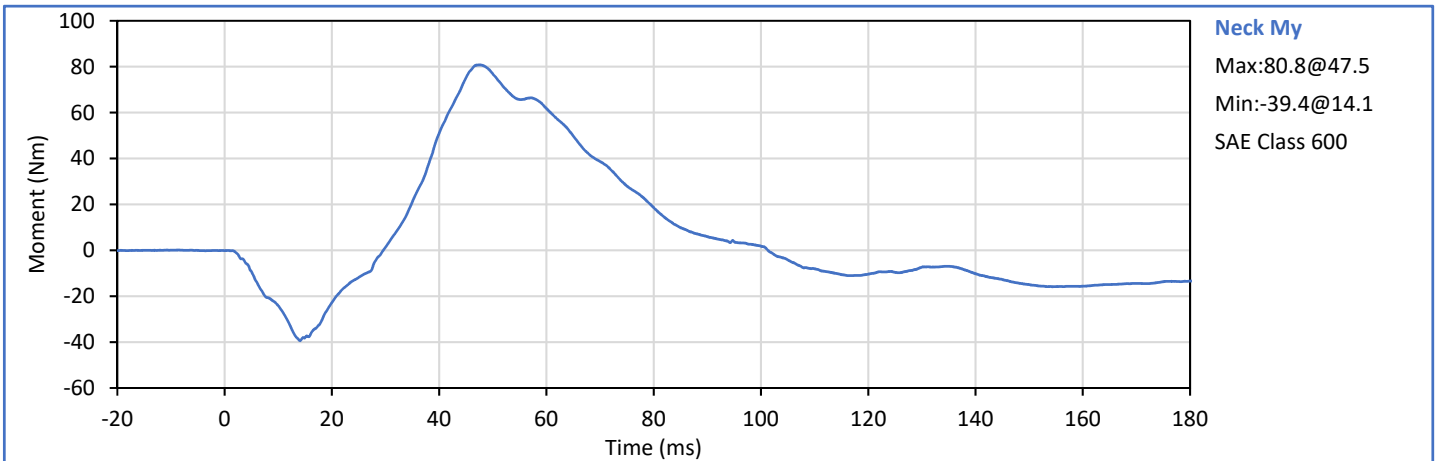
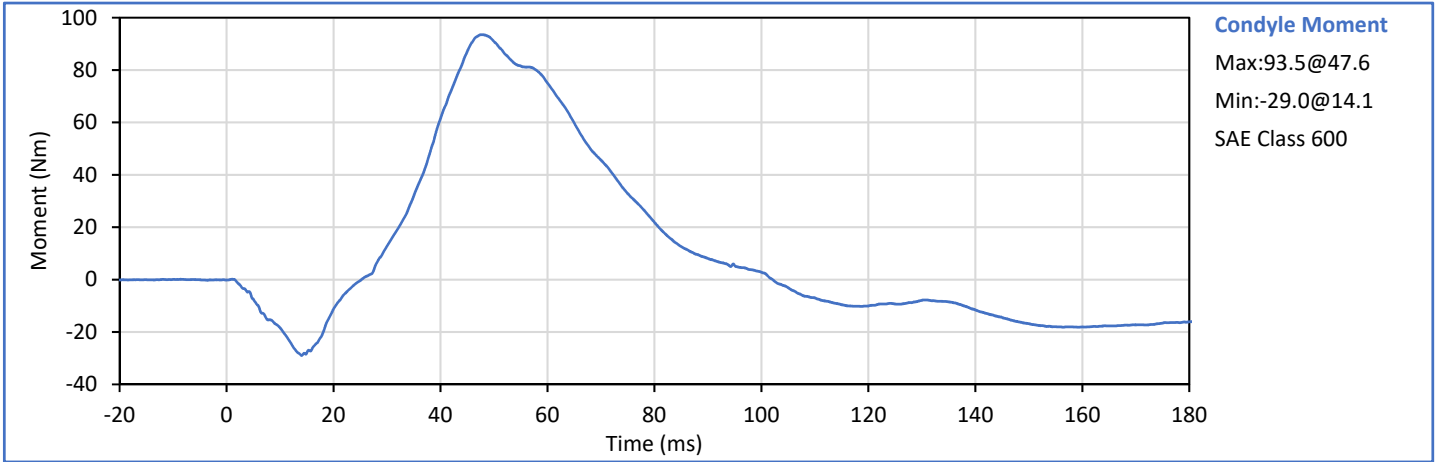
Approved By: 
P. Puzzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Relative Humidity	%	10	70	30	Pass
Pendulum Velocity	m/s	6.89	7.13	6.92	Pass
Pendulum Deceleration at 10 ms	g	22.5	27.5	23.3	Pass
Pendulum Deceleration at 20 ms	g	17.6	22.6	20.4	Pass
Pendulum Deceleration at 30 ms	g	12.5	18.5	13.6	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	29.0	13.6	Pass
Deceleration Decay to Cross 5 g	ms	34.0	42.0	41.2	Pass
"D" Plane Rotation peak	deg	64.0	78.0	69.6	Pass
	ms	57.0	64.0	61.0	Pass
"D" Plane Rotation Decay To Zero	ms	113.0	128.0	120.6	Pass
Moment About Occipital Condyle	Nm	88.1	108.5	93.5	Pass
	ms	47.0	58.0	47.6	Pass
Moment Decay, Peak to Zero	ms	97.0	107.0	102.1	Pass
Overall Test Results					Pass

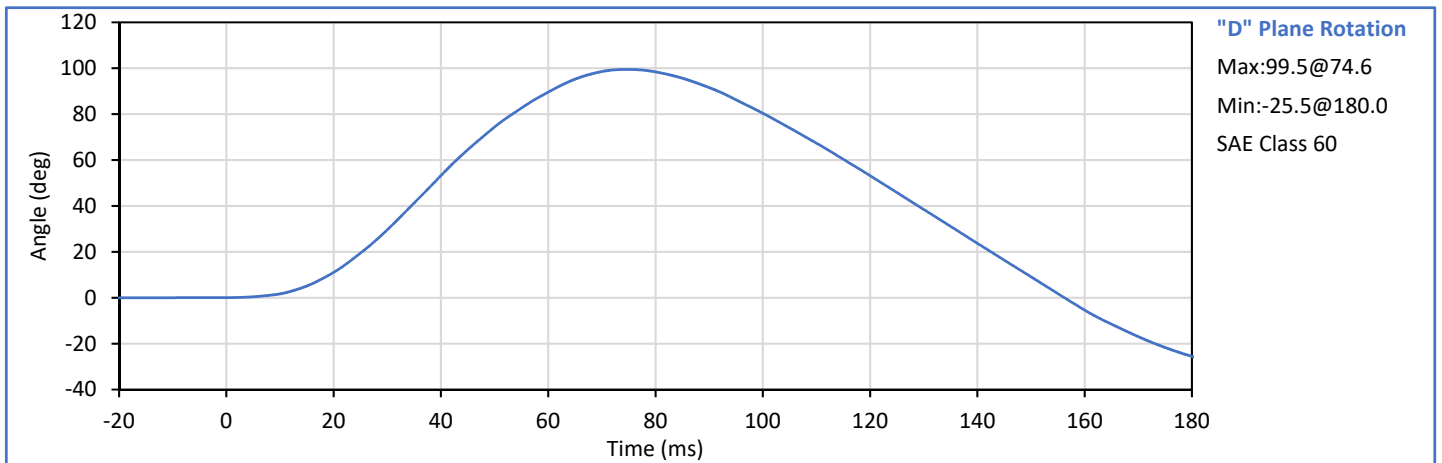
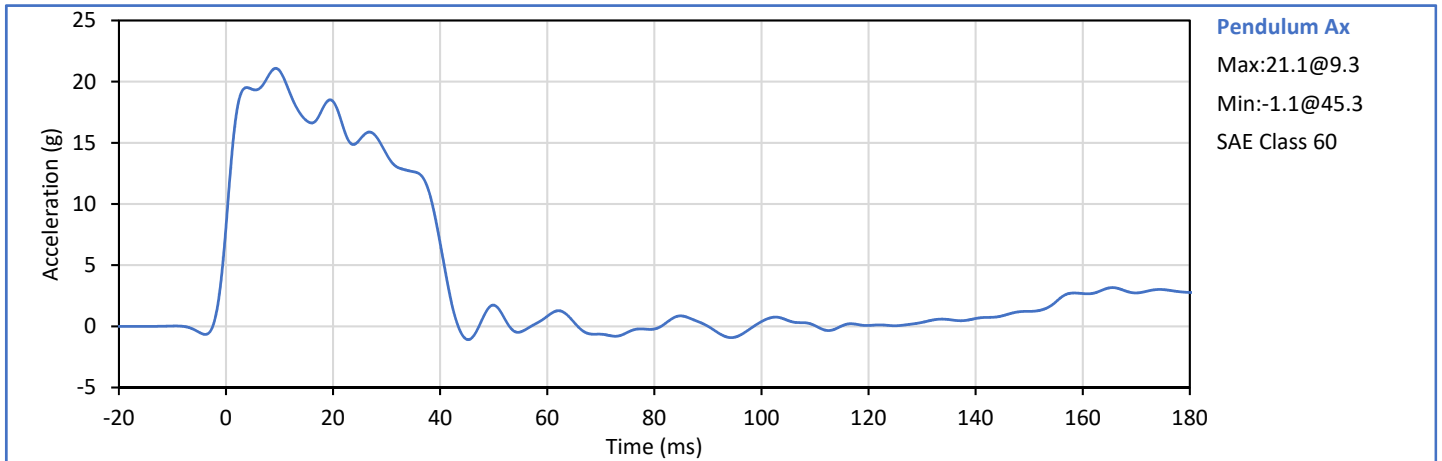



Technician: 
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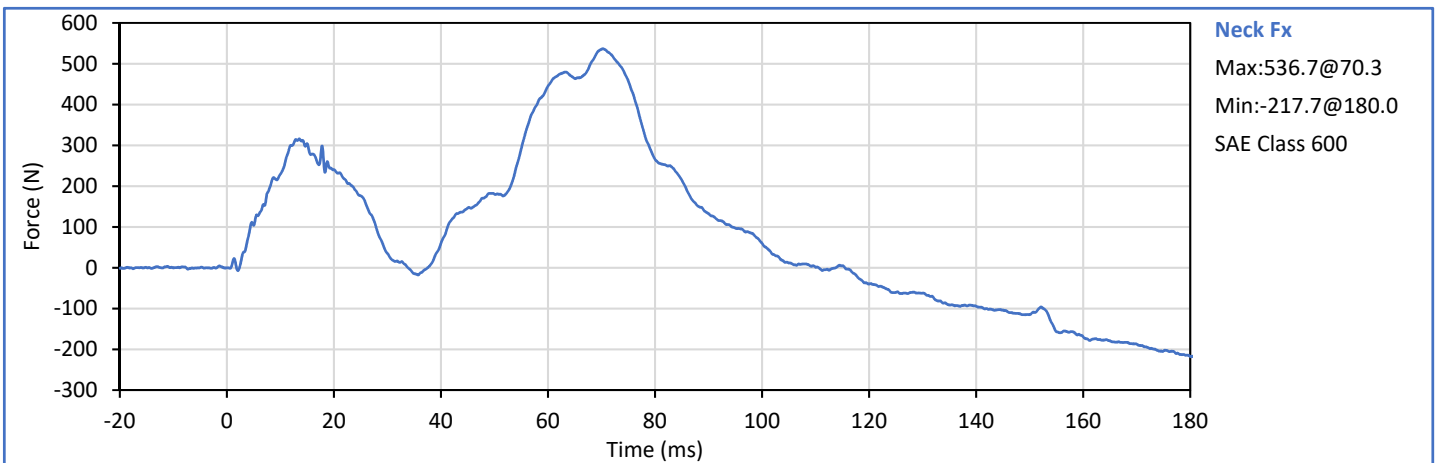
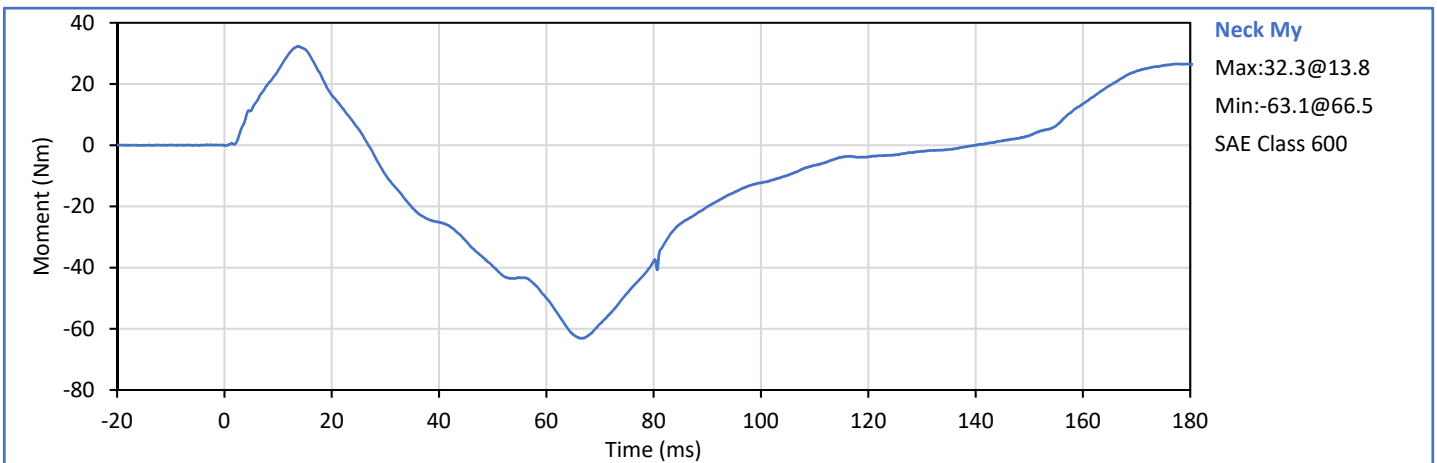
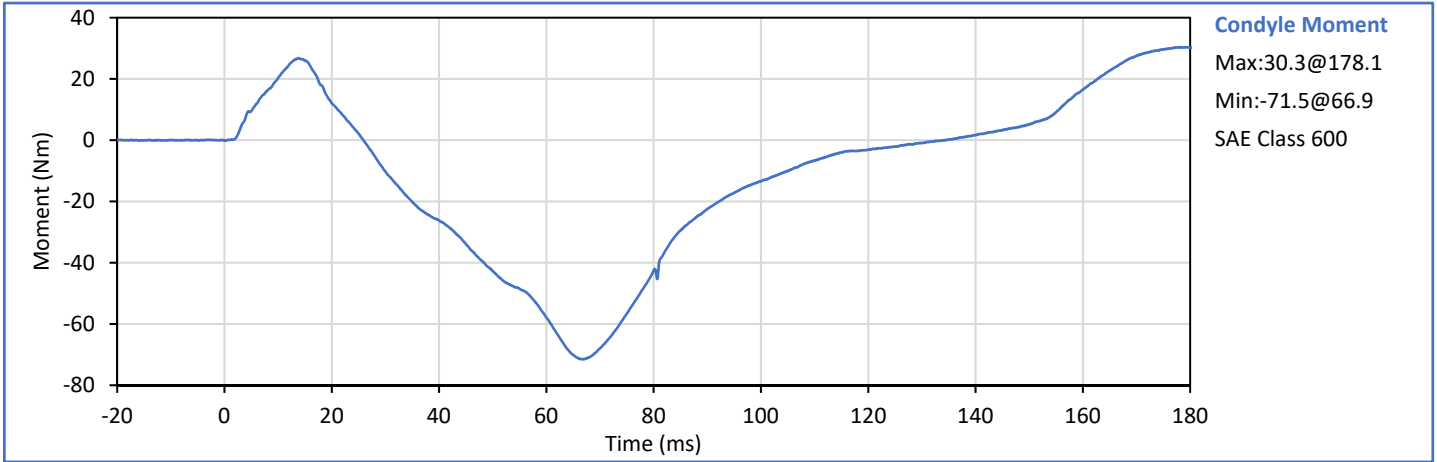


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Relative Humidity	%	10	70	30	Pass
Pendulum Velocity	m/s	5.94	6.19	6.09	Pass
Pendulum Deceleration at 10 ms	g	17.2	21.2	20.9	Pass
Pendulum Deceleration at 20 ms	g	14.0	19.0	18.4	Pass
Pendulum Deceleration at 30 ms	g	11.0	16.0	14.1	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	22.0	14.1	Pass
Deceleration Decay to Cross 5 g	ms	38.0	46.0	40.8	Pass
"D" Plane Rotation peak	deg	81.0	106.0	99.5	Pass
	ms	72.0	82.0	74.6	Pass
"D" Plane Rotation Decay To Zero	ms	147.0	174.0	156.3	Pass
Moment About Occipital Condyle	Nm	-79.9	-52.9	-71.5	Pass
	ms	65.0	79.0	66.9	Pass
Moment Decay, Peak to Zero	ms	120.0	148.0	134.2	Pass
Overall Test Results					Pass

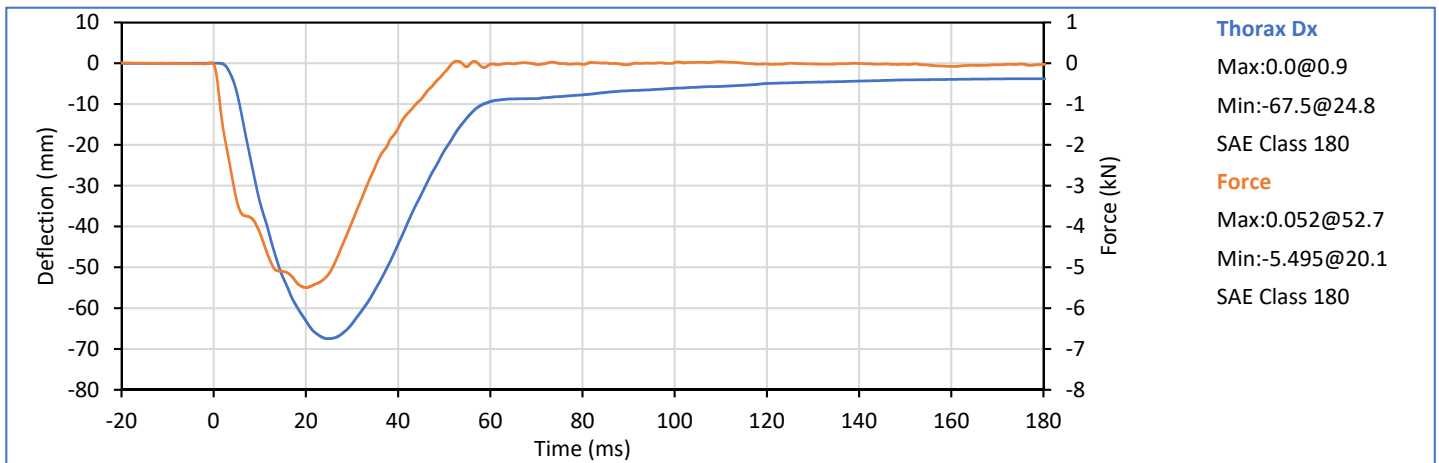
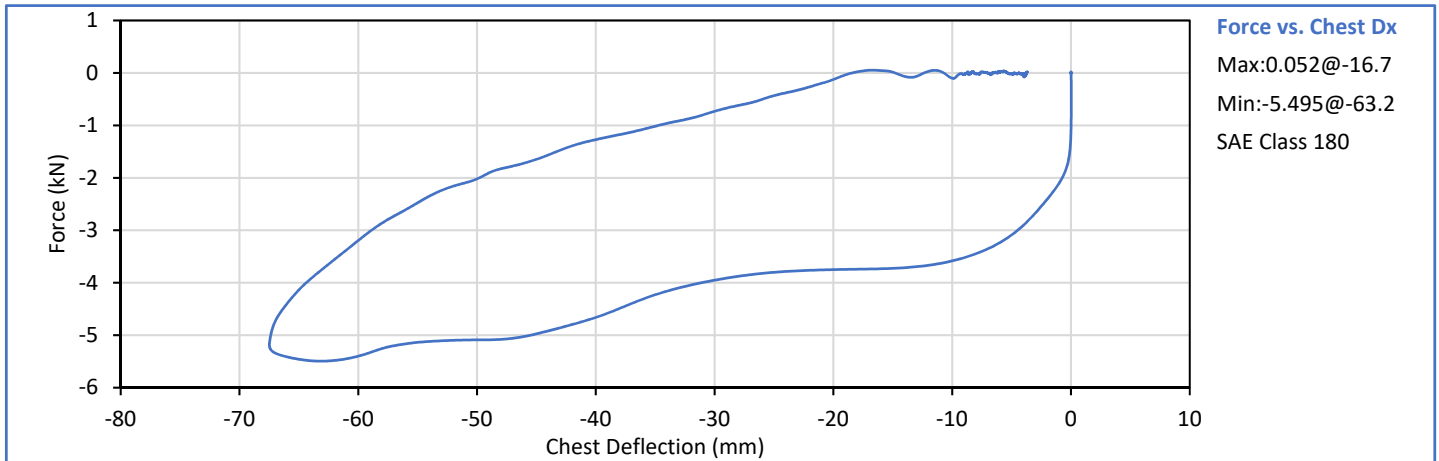


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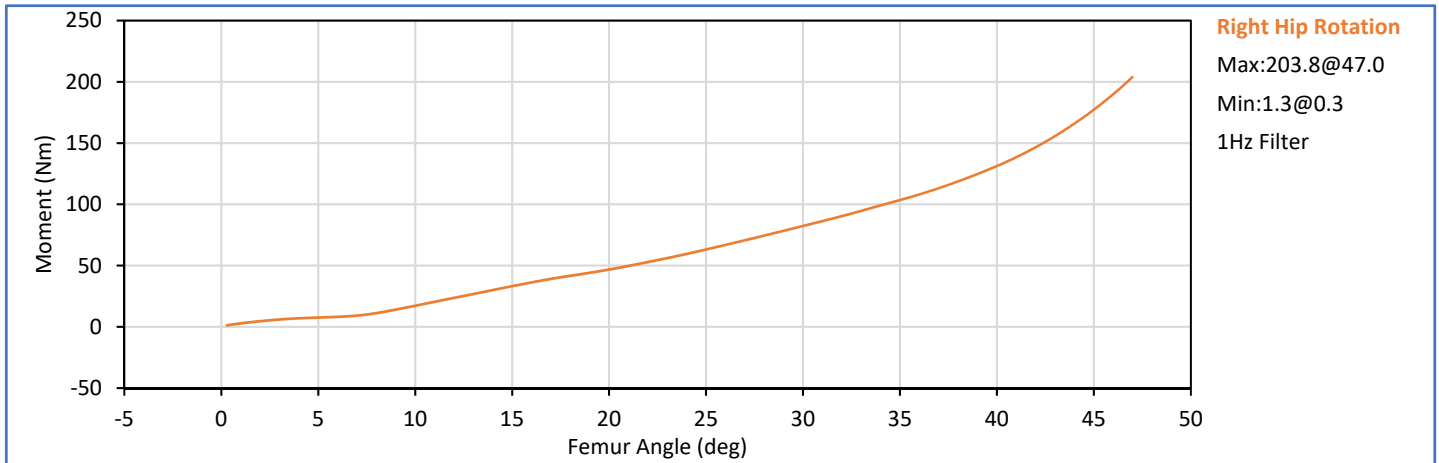
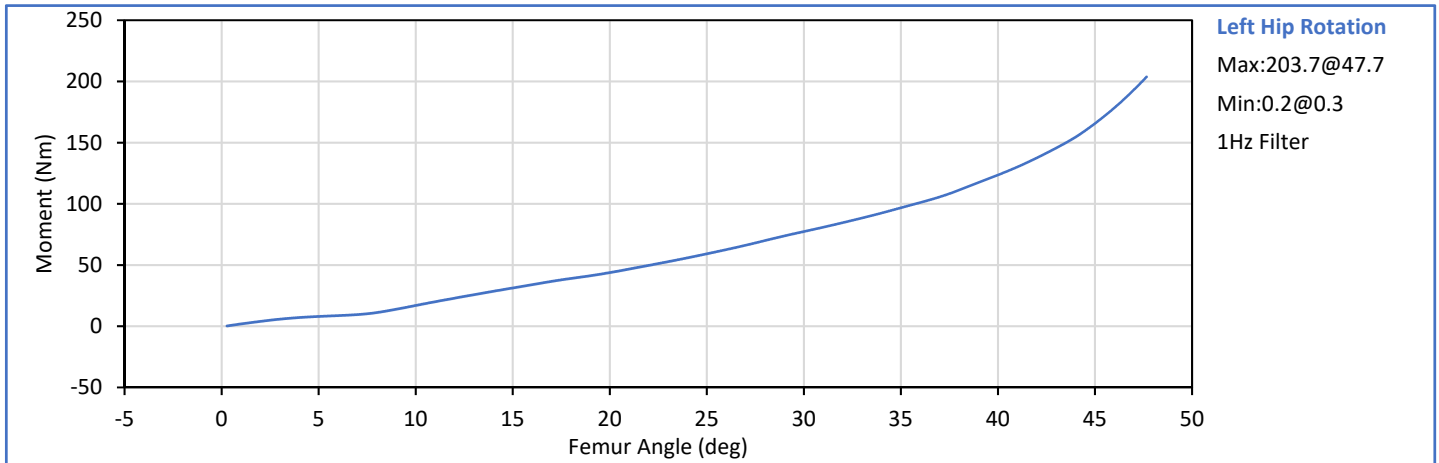
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.9	Pass
Laboratory Relative Humidity	%	10	70	29	Pass
Probe Velocity	m/s	6.58	6.82	6.71	Pass
Peak Chest Deflection	mm	-72.6	-63.5	-67.5	Pass
Peak Probe Force	kN	-5.893	-5.159	-5.495	Pass
Internal Hysteresis	%	69.0	85.0	70.3	Pass
Overall Test Results					Pass




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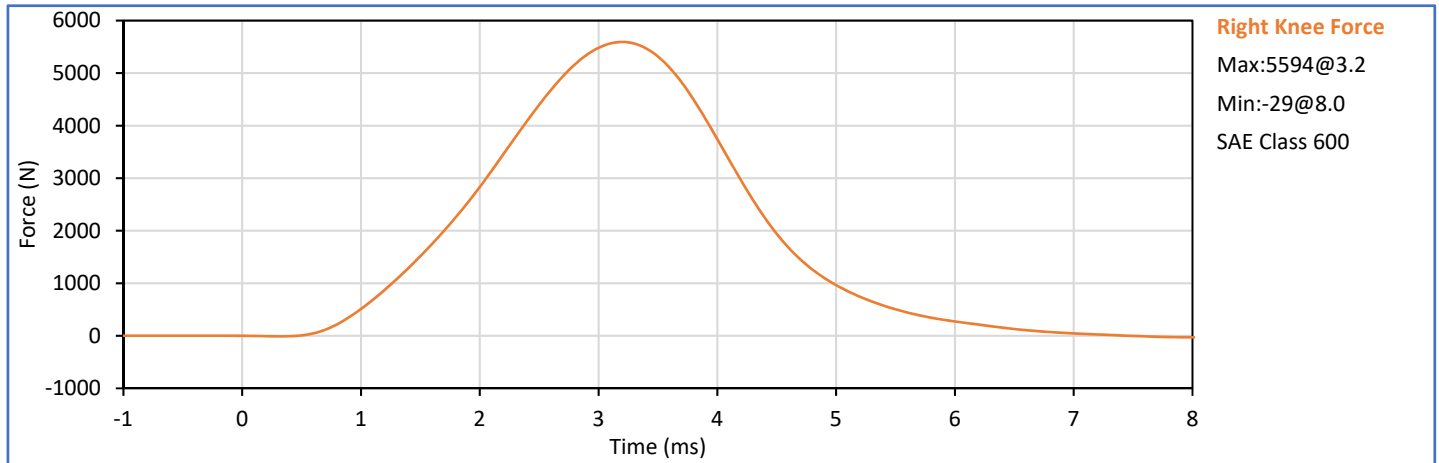
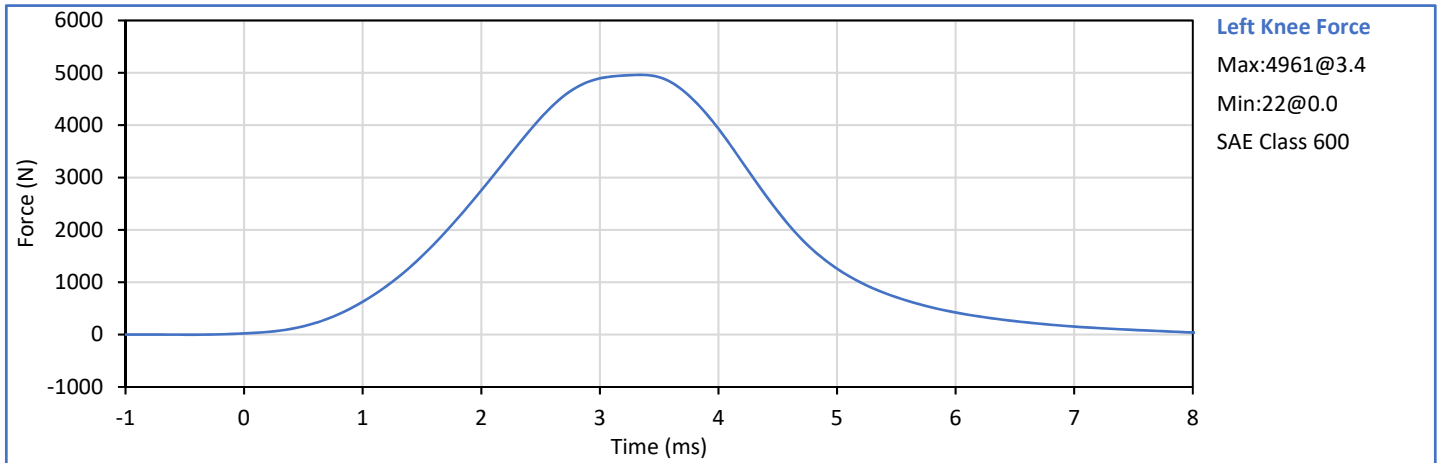
	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	21.2	Pass
	Laboratory Relative Humidity	%	10	70	21	Pass
Left Hip	Left Hip Rotation Rate	deg/s	5.0	10.0	5.8	Pass
	Left Femur Torque at 30°	Nm	0.0	95.0	77.4	Pass
	Left Hip Rotation at 203 Nm	deg	40.0	50.0	47.6	Pass
Right Hip	Right Hip Rotation Rate	deg/s	5.0	10.0	5.7	Pass
	Right Femur Torque at 30°	Nm	0.0	95.0	82.4	Pass
	Right Hip Rotation at 203 Nm	deg	40.0	50.0	46.9	Pass
Overall Test Results						Pass




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	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	22.2	Pass
	Laboratory Relative Humidity	%	10	70	35	Pass
Left	Probe Velocity	m/s	2.070	2.130	2.109	Pass
Knee	Peak Resistive Force	N	4715	5782	4961	Pass
Right	Probe Velocity	m/s	2.070	2.130	2.111	Pass
Knee	Peak Resistive Force	N	4715	5782	5594	Pass
Overall Test Results						Pass



Technician: 
J. Hernandez

Approved By: 
P. Puzzuto

APPENDIX C
Post-Test ATD Qualification and Performance Verification
Hybrid III 5th Percentile Female ATD
S/N: DH1644

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Relative Humidity	%	10	70	28	Pass
A - Total sitting height	mm	775	800	782	Pass
B - Shoulder pivot height	mm	432	457	450	Pass
C - 'H' point height	mm	81	86	85	Pass
D - 'H' point location from backline	mm	145	150	148	Pass
E - Shoulder pivot from backline	mm	69	84	80	Pass
F - Thigh clearance	mm	119	135	129	Pass
G - Back of elbow to wrist pivot	mm	244	259	257	Pass
H - Head back to backline	mm	41	46	44	Pass
I - Shoulder to elbow length	mm	277	297	287	Pass
J - Elbow rest height	mm	183	203	199	Pass
K - Buttock to knee length	mm	521	546	533	Pass
L - Popliteal length	mm	356	376	370	Pass
M - Knee pivot height	mm	394	419	401	Pass
N - Buttock popliteal length	mm	414	439	431	Pass
O - Chest depth without jacket	mm	175	191	180	Pass
P - Foot length	mm	219	234	232	Pass
R - Buttock to Knee Pivot Length	mm	457	483	469	Pass
S - Head Breadth	mm	137	147	142	Pass
T - Head Depth	mm	178	188	185	Pass
U - Hip Breadth	mm	300	315	310	Pass
V - Shoulder breadth	mm	351	366	361	Pass
W - Foot breadth	mm	79	94	85	Pass
X - Head circum.	mm	528	549	537	Pass
Y - Chest circum. (w/chest jacket)	mm	851	881	867	Pass
Z - Waist circum.	mm	760	790	768	Pass
AA - Location for chest circum.	mm	333	358	348	Pass
BB - Location for waist circum.	mm	160	170	167	Pass
Overall Test Results					Pass

Technician: _____



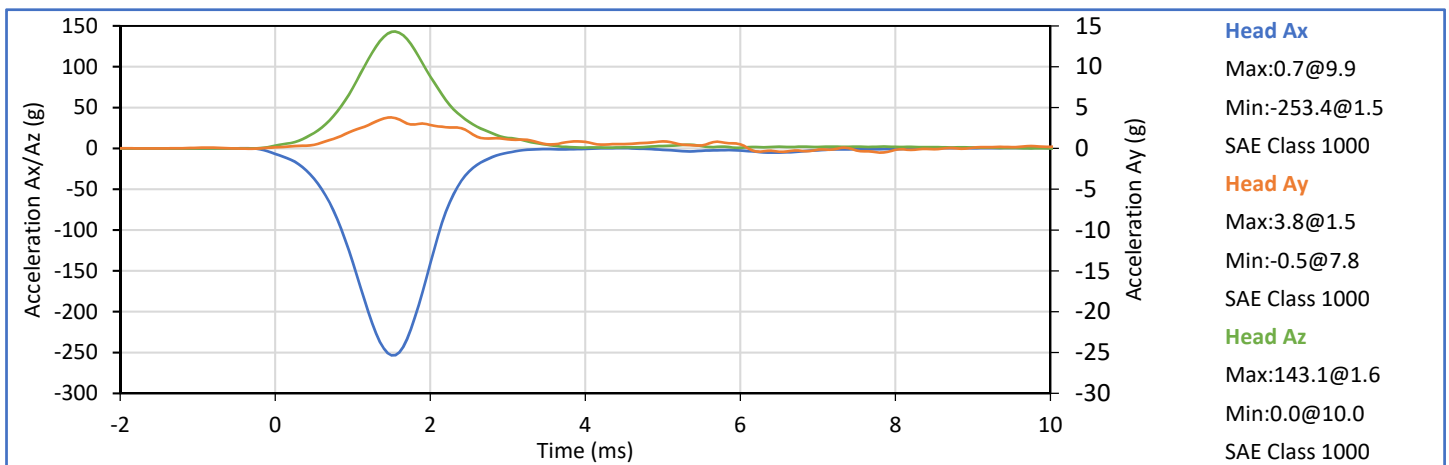
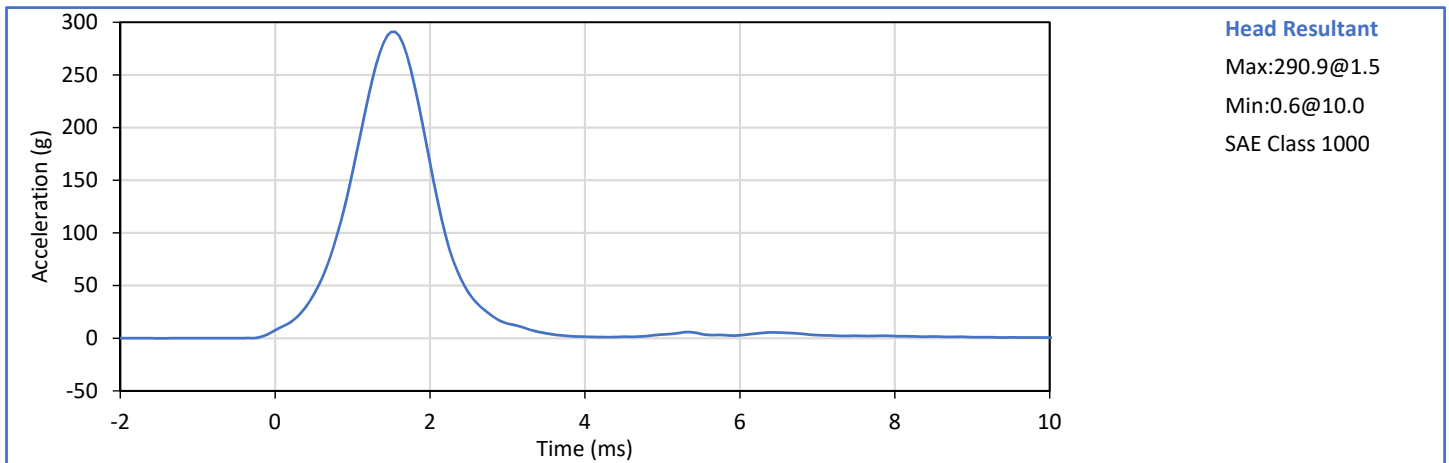
J. Hernandez

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P. Puzzuto

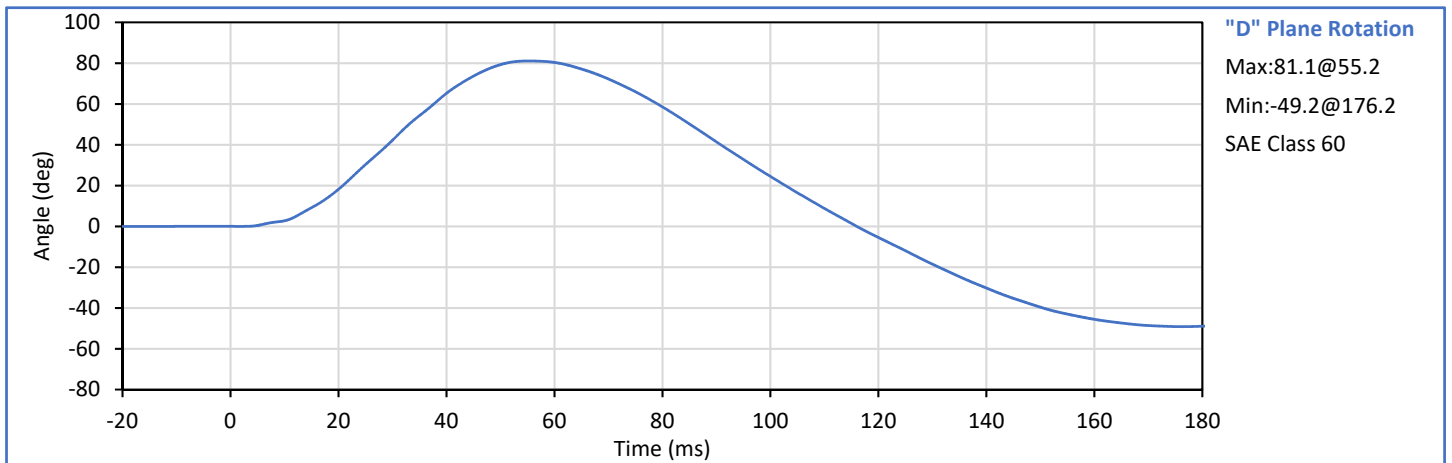
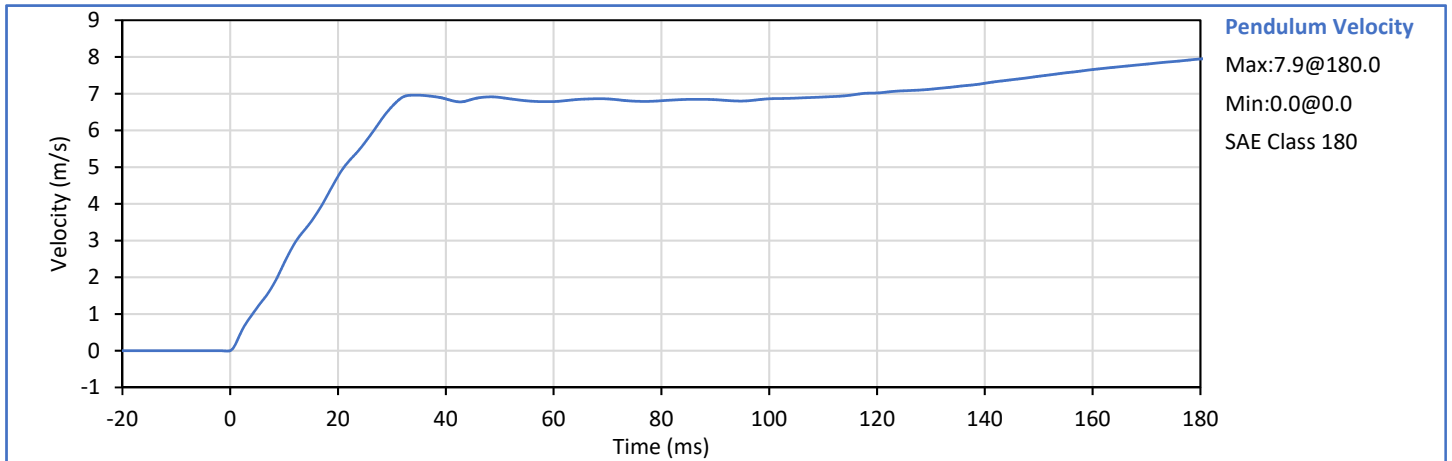
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.1	Pass
Laboratory Humidity	%	10	70	28	Pass
Peak Resultant Acceleration	g	250.0	300.0	290.9	Pass
Peak Lateral Acceleration	g	-15.0	15.0	3.8	Pass
Oscillations After Main Pulse	%	0.0	10.0	1.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass



Technician: 
J. Hernandez

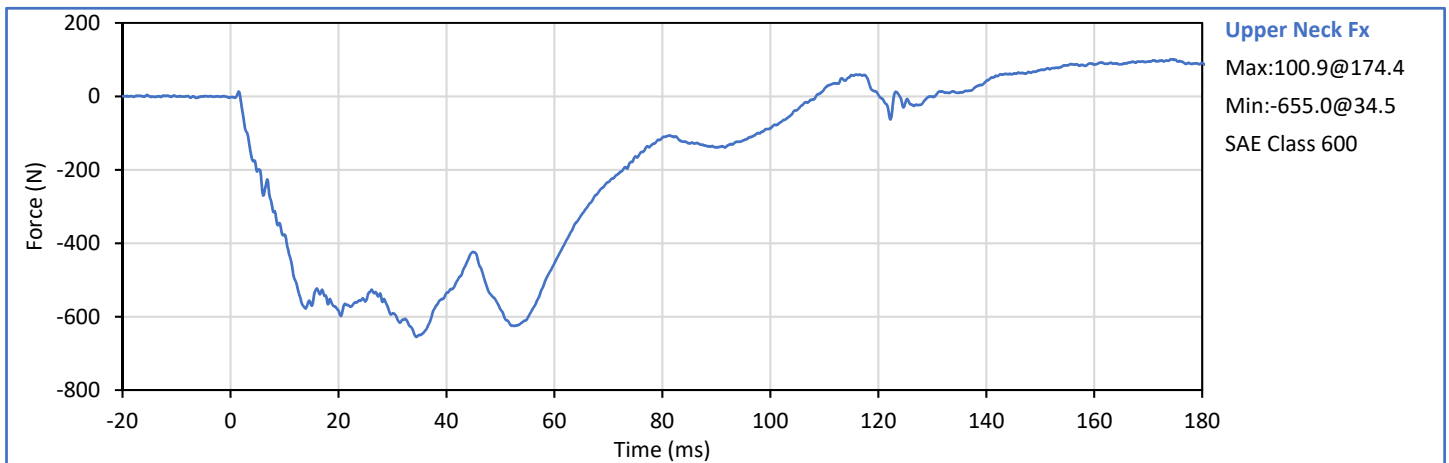
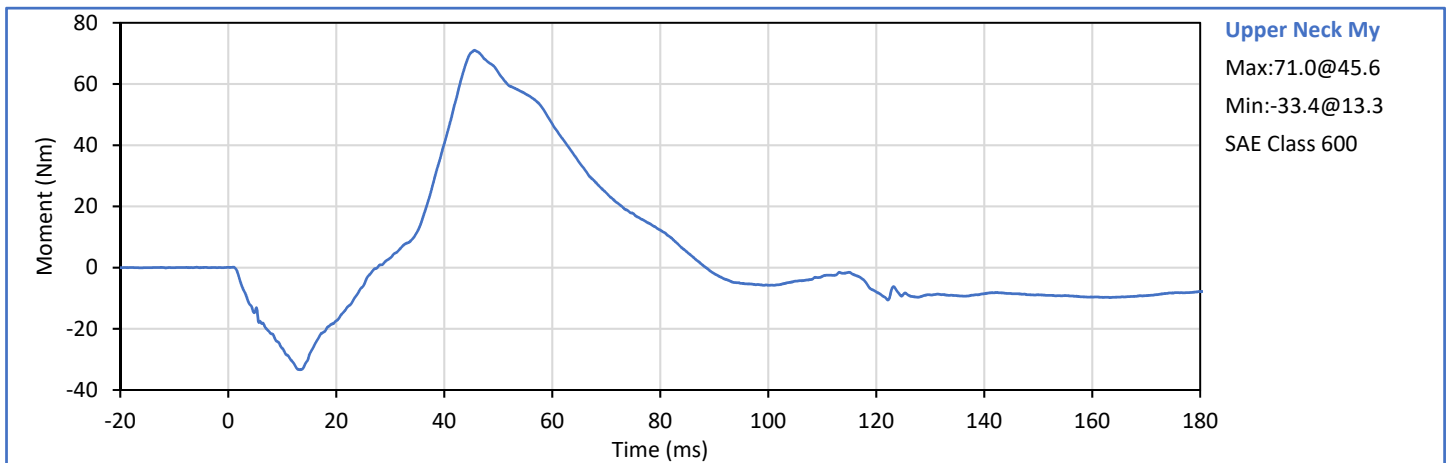
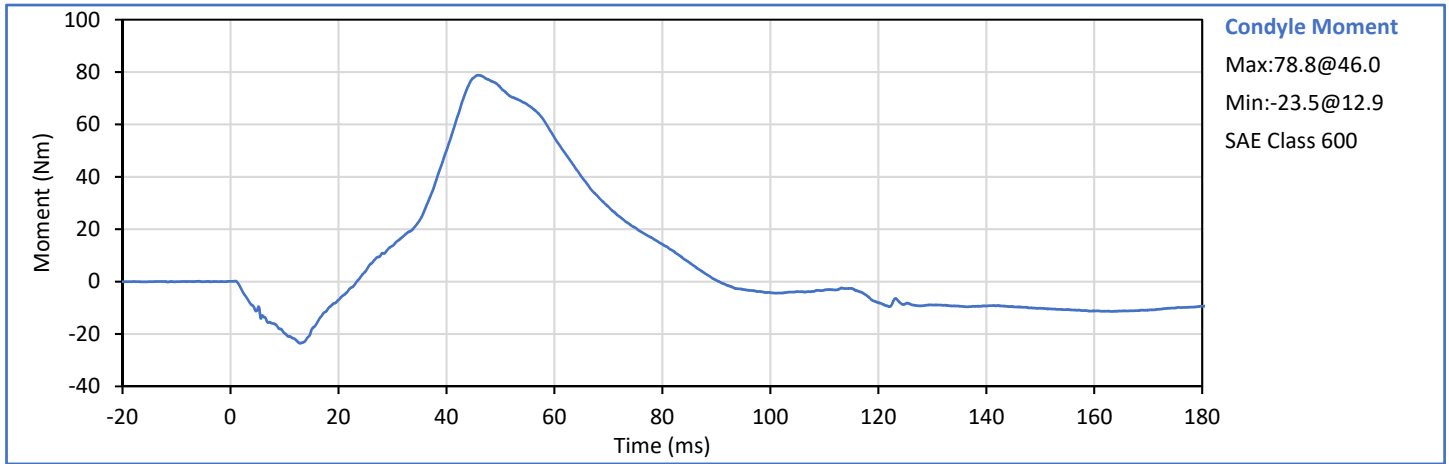
Approved By: 
P. Puzuto

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Humidity	%	10	70	28	Pass
Pendulum Velocity	m/s	6.89	7.13	7.03	Pass
Pendulum Velocity at 10 ms	m/s	2.10	2.50	2.39	Pass
Pendulum Velocity at 20 ms	m/s	4.00	5.00	4.75	Pass
Pendulum Velocity at 30 ms	m/s	5.80	7.00	6.65	Pass
Peak "D" Plane Rotation	deg	77.0	91.0	81.1	Pass
Peak Moment in Rotation	Nm	69.0	83.0	78.8	Pass
Positive Moment Decay to 10 Nm	ms	80.0	100.0	83.3	Pass
Overall Test Results					Pass

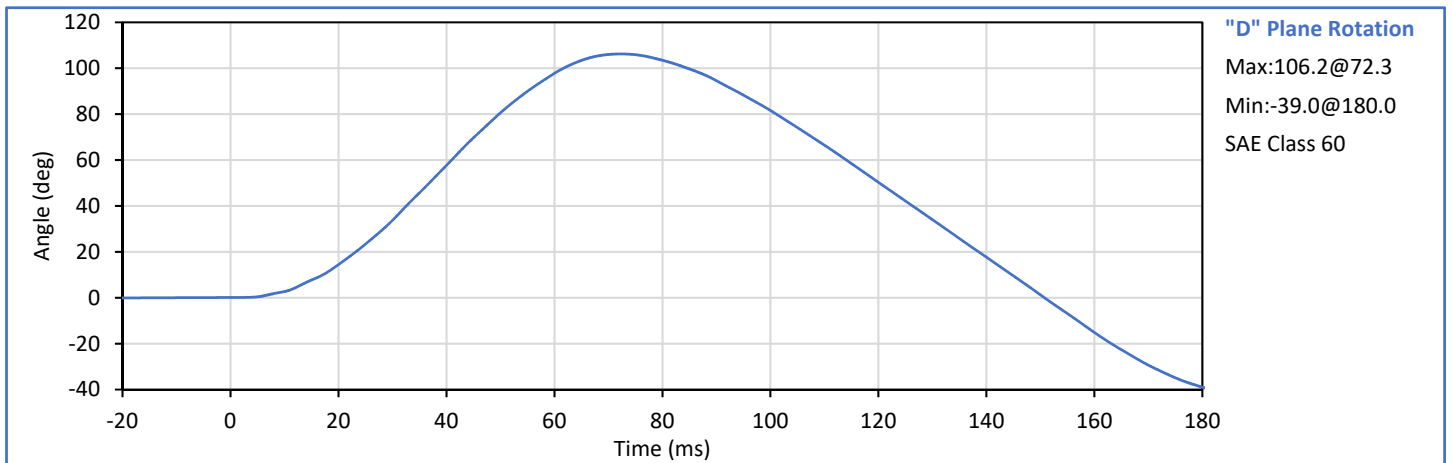
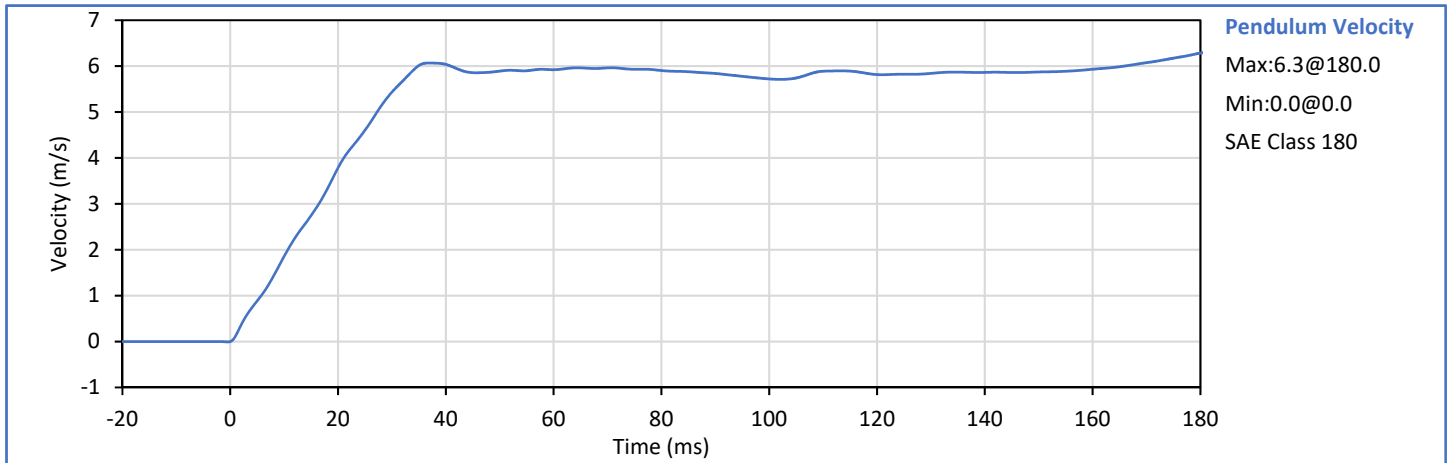


Technician: *J. Hernandez*
J. Hernandez

Approved By: *P. Puzzuto*
P. Puzzuto

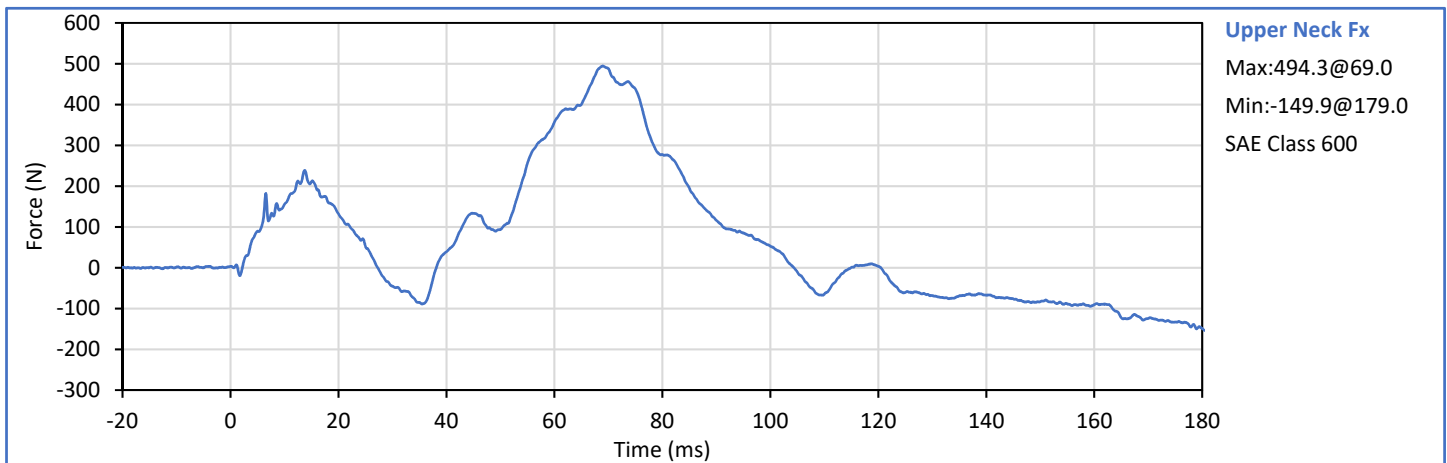
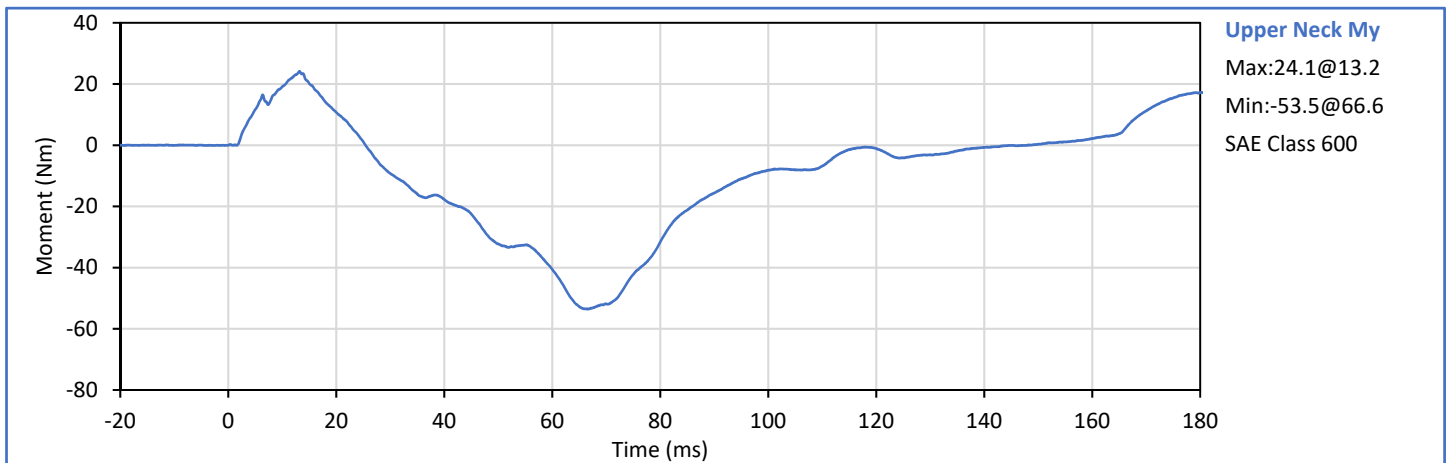
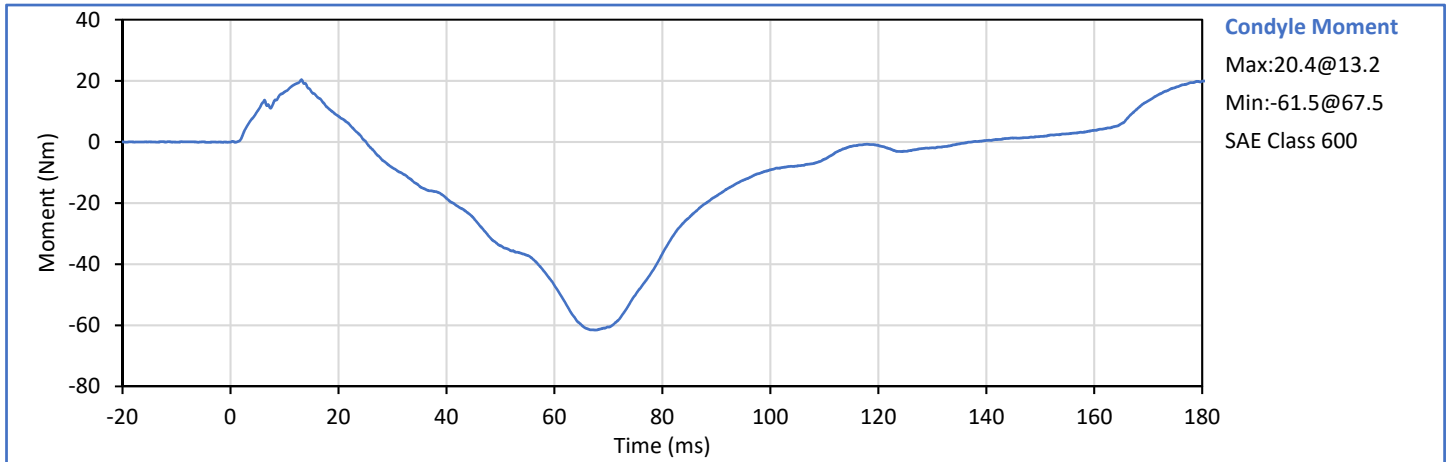


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Humidity	%	10	70	28	Pass
Pendulum Velocity	m/s	5.95	6.19	6.00	Pass
Pendulum Velocity at 10 ms	m/s	1.50	1.90	1.86	Pass
Pendulum Velocity at 20 ms	m/s	3.10	3.90	3.78	Pass
Pendulum Velocity at 30 ms	m/s	4.60	5.60	5.43	Pass
Peak "D" Plane Rotation	deg	99.0	114.0	106.2	Pass
Peak Moment in Rotation	Nm	-65.0	-53.0	-61.5	Pass
Negative Moment Decay to -10 Nm	ms	94.0	114.0	98.5	Pass
Overall Test Results					Pass

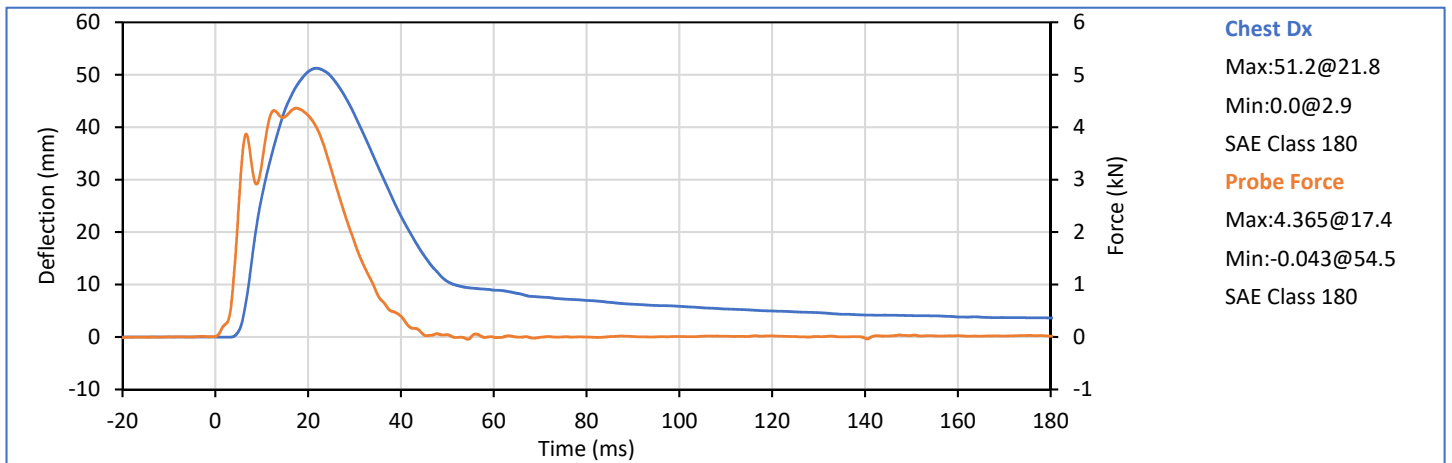
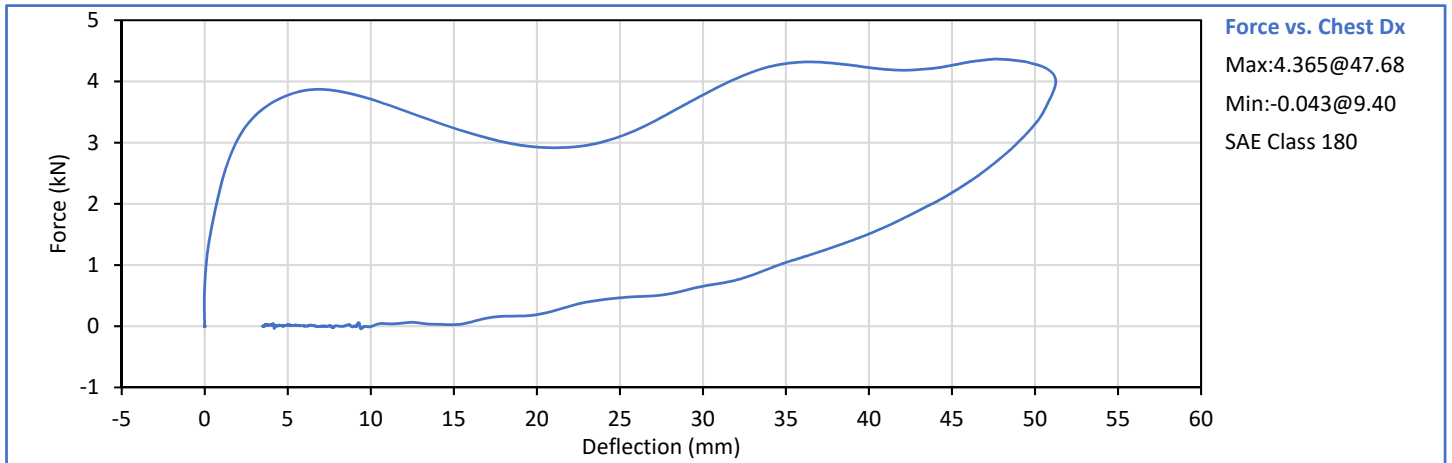


Technician: *J. Hernandez*
J. Hernandez

Approved By: *P. Puzzuto*
P. Puzzuto



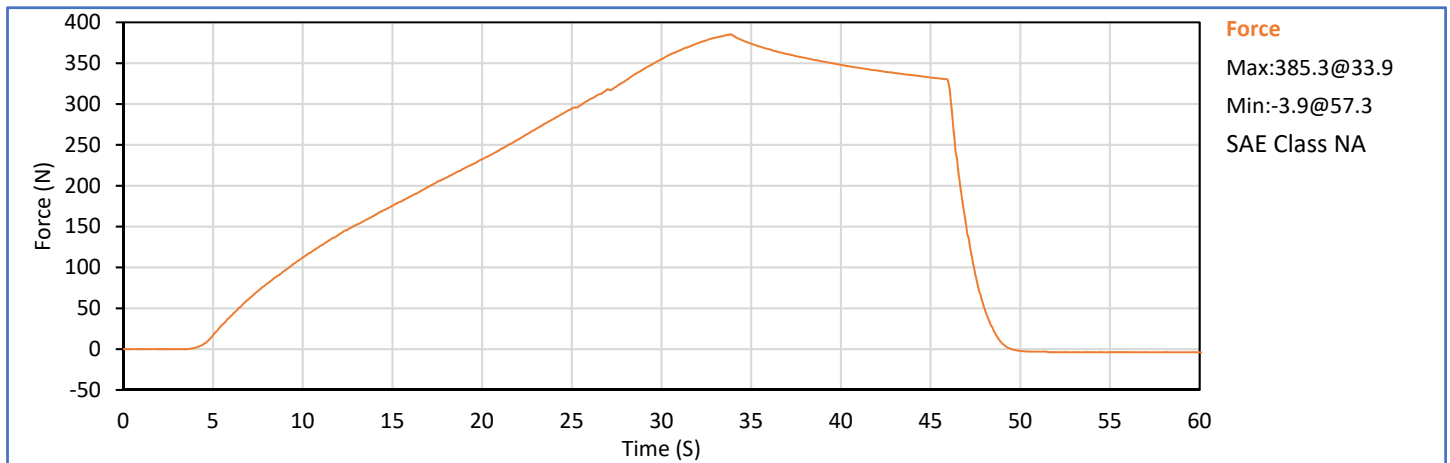
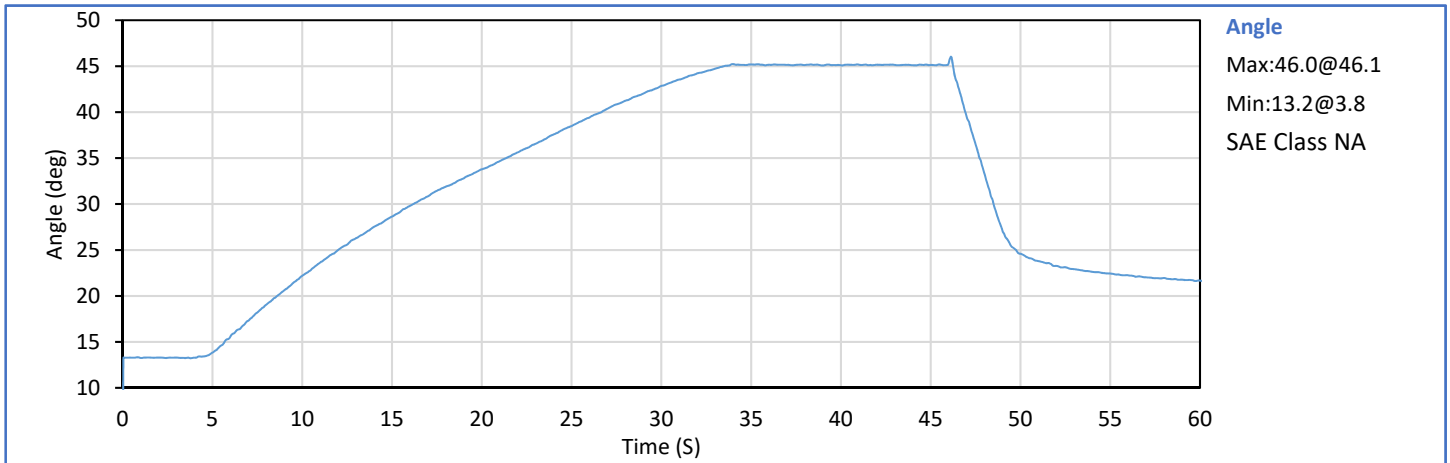
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Humidity	%	10	70	28	Pass
Probe Velocity	m/s	6.59	6.83	6.70	Pass
Peak Chest Deflection	mm	50.0	58.0	51.2	Pass
Peak Probe Force, 50 and 58 mm	kN	3.900	4.400	4.281	Pass
Peak Probe Force, 18 and 50 mm	kN	0.000	4.600	4.365	Pass
Internal Hysterisis	%	69.0	85.0	77.3	Pass
Overall Test Results					Pass



Technician: *J. Hernandez*
 J. Hernandez

Approved By: *P. Puzzuto*
 P. Puzzuto

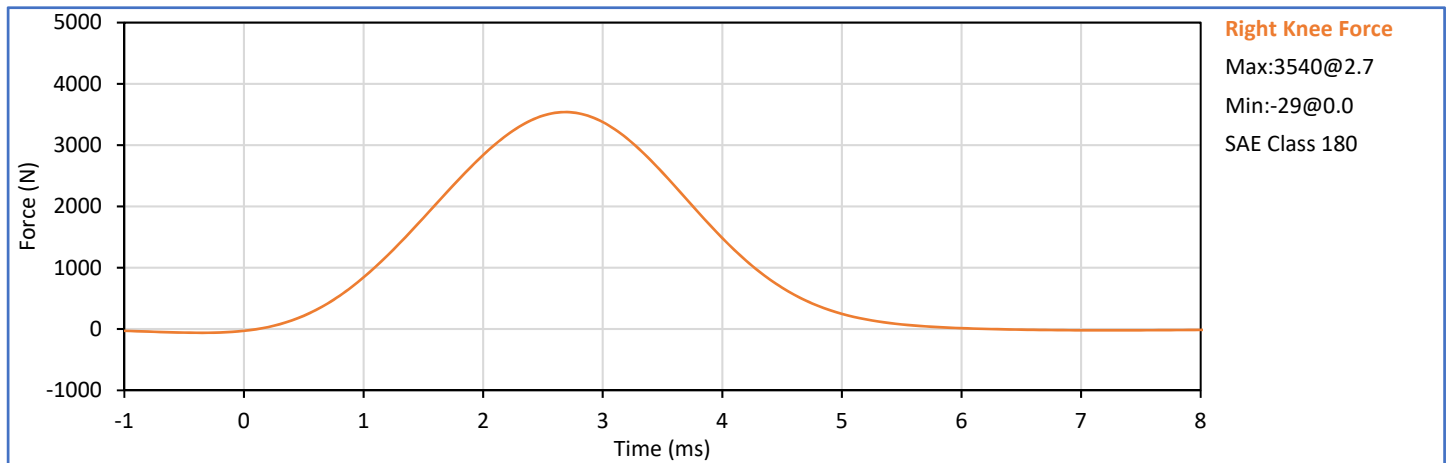
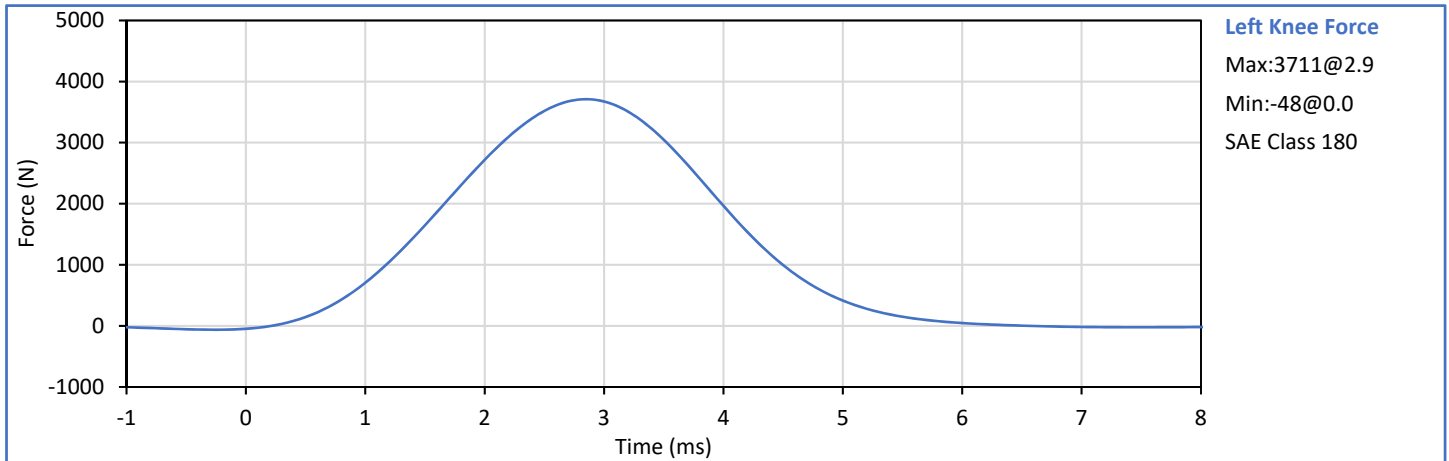
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.7	Pass
Laboratory Humidity	%	10	70	39	Pass
Orientation Angle	deg	0.0	20.0	13.5	Pass
Test Initial Angle	deg	11.0	19.0	13.3	Pass
Peak Force at 45° (+/-0.5°)	N	320.0	390.0	385.3	Pass
Torso Flexion Rate	deg/s	0.50	1.50	1.08	Pass
Final Reference Plane Angle	deg	-8.0	8.0	6.6	Pass
Overall Test Results					Pass



Technician: *J. Hernandez*
J. Hernandez

Approved By: *P. Puzzuto*
P. Puzzuto

	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	22.1	Pass
	Laboratory Humidity	%	10	70	35	Pass
Left	Probe Velocity	m/s	2.070	2.130	2.117	Pass
Knee	Peak Resistive Force	N	3450	4060	3711	Pass
Right	Probe Velocity	m/s	2.070	2.130	2.113	Pass
Knee	Peak Resistive Force	N	3450	4060	3540	Pass
Overall Test Results						Pass



Technician: *J. Hernandez*
J. Hernandez

Approved By: *P. Puzzuto*
P. Puzzuto

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

Table 1 - Driver ATD Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Head Acceleration X Primary	P49209	Endevco	7264C-2k	2020-08-20
Head Acceleration Y Primary	P49228	Endevco	7264C-2k	2020-08-20
Head Acceleration Z Primary	P50101	Endevco	7264C-2k	2020-08-20
Head Acceleration X Redundant	P50103	Endevco	7264C-2k	2020-08-20
Head Acceleration Y Redundant	P49210	Endevco	7264C-2k	2020-08-20
Head Acceleration Z Redundant	P58713	Endevco	7264C-2k	2020-08-20
Head Rotation Rate X	ARS14943	DTS	ARS PRO-18k (2kHz)	2020-08-04
Head Rotation Rate Y	ARS14944	DTS	ARS PRO-18k (2kHz)	2020-08-04
Head Rotation Rate Z	ARS14954	DTS	ARS PRO-18k (2kHz)	2020-08-04
Upper Neck Force X	1633 Fx	R.A. Denton	1716A	2020-07-20
Upper Neck Force Y	1633 Fy	R.A. Denton	1716A	2020-07-20
Upper Neck Force Z	1633 Fz	R.A. Denton	1716A	2020-07-20
Upper Neck Moment X	1633 Mx	R.A. Denton	1716A	2020-07-20
Upper Neck Moment Y	1633 My	R.A. Denton	1716A	2020-07-20
Upper Neck Moment Z	1633 Mz	R.A. Denton	1716A	2020-07-20
Chest Acceleration X Primary	P52112	Endevco	7264C-2k	2020-08-20
Chest Acceleration Y Primary	P49208	Endevco	7264C-2k	2020-08-20
Chest Acceleration Z Primary	P51264	Endevco	7264C-2k	2020-08-20
Chest Acceleration X Redundant	P49461	Endevco	7264C-2k	2020-08-20
Chest Acceleration Y Redundant	P58774	Endevco	7264C-2k	2020-08-20
Chest Acceleration Z Redundant	P49168	Endevco	7264C-2k	2020-08-20
Chest Deflection	0606 (H3)	Servo	14CBI-3615	2020-08-27
Pelvis Acceleration X	P49238	Endevco	7264C-2k	2020-08-20
Pelvis Acceleration Y	P58877	Endevco	7264C-2k	2020-08-20
Pelvis Acceleration Z	P50087	Endevco	7264C-2k	2020-08-20
Left Femur Force Z	DS9756 (pri)	Humanetics	3821JLN2	2021-01-18
Right Femur Force Z	DS4141 (pri)	Humanetics	3821JLN2	2021-01-18
Left Femur Force Z Redundant	DS9756 (red)	Humanetics	3821JLN2	2021-01-18
Right Femur Force Z Redundant	DS4141 (red)	Humanetics	3821JLN2	2021-01-18
Left Upper Tibia Moment X	DH3054 Mx	R.A. Denton	IF-857	2020-02-18
Left Upper Tibia Moment Y	DH3054 My	R.A. Denton	IF-857	2020-02-18
Left Upper Tibia Force Z	DH3054 Fz	R.A. Denton	IF-857	2020-02-18
Left Lower Tibia Moment X	494 Mx	R.A. Denton	3644	2020-02-18
Left Lower Tibia Moment Y	494 My	R.A. Denton	3644	2020-02-18
Left Lower Tibia Force Z	494 Fz	R.A. Denton	3644	2020-02-18
Right Upper Tibia Moment X	482 Mx	R.A. Denton	3643	2020-02-18
Right Upper Tibia Moment Y	482 My	R.A. Denton	3643	2020-02-18
Right Upper Tibia Force Z	482 Fz	R.A. Denton	3643	2020-02-18
Right Lower Tibia Moment X	499 Mx	R.A. Denton	3644	2020-02-18
Right Lower Tibia Moment Y	499 My	R.A. Denton	3644	2020-02-18
Right Lower Tibia Force Z	499 Fz	R.A. Denton	3644	2020-02-18
Left Ankle Acceleration X	03E20-N09	Entran	EGEB6Q-2k	2020-08-24
Left Ankle Acceleration Z	03D30-N13	Entran	EGEB6Q-2k	2020-08-24
Left Toe Acceleration Z	03H07-Z10	Entran	EGEB6Q-2k	2020-08-24
Right Ankle Acceleration X	03E29-N20	Entran	EGEB6Q-2k	2020-08-24
Right Ankle Acceleration Z	03E18-F02	Entran	EGEB6Q-2k	2020-08-24
Right Toe Acceleration Z	05H31-Z04	Entran	EGEB6Q-2k	2020-08-24
Lap Belt Force	251	FTSS	IF-964	2020-10-02
Shoulder Belt Force	Not installed			

Table 2 - Right Front Passenger ATD Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Head Acceleration X Primary	P51889	Endevco	7264C-2k	2021-01-15
Head Acceleration Y Primary	P51861	Endevco	7264C-2k	2021-01-15
Head Acceleration Z Primary	P52077	Endevco	7264C-2k	2021-01-15
Head Acceleration X Redundant	P58835	Endevco	7264C-2k	2021-01-15
Head Acceleration Y Redundant	P51703	Endevco	7264C-2k	2021-01-15
Head Acceleration Z Redundant	P52096	Endevco	7264C-2k	2021-01-15
Head Rotation Rate X	ARS14907	DTS	ARS PRO-18k (2kHz)	2020-08-04
Head Rotation Rate Y	ARS14935	DTS	ARS PRO-18k (2kHz)	2020-08-04
Head Rotation Rate Z	ARS14936	DTS	ARS PRO-18k (2kHz)	2020-08-04
Upper Neck Force X	2185 Fx	R.A. Denton	1716ATF	2021-01-18
Upper Neck Force Y	2185 Fy	R.A. Denton	1716ATF	2021-01-18
Upper Neck Force Z	2185 Fz	R.A. Denton	1716ATF	2021-01-18
Upper Neck Moment X	2185 Mx	R.A. Denton	1716ATF	2021-01-18
Upper Neck Moment Y	2185 My	R.A. Denton	1716ATF	2021-01-18
Upper Neck Moment Z	2185 Mz	R.A. Denton	1716ATF	2021-01-18
Chest Acceleration X Primary	P58860	Endevco	7264C-2k	2021-01-15
Chest Acceleration Y Primary	P51876	Endevco	7264C-2k	2021-01-15
Chest Acceleration Z Primary	P58711	Endevco	7264C-2k	2021-01-15
Chest Acceleration X Redundant	P52049	Endevco	7264C-2k	2021-01-15
Chest Acceleration Y Redundant	P51862	Endevco	7264C-2k	2021-01-15
Chest Acceleration Z Redundant	P52048	Endevco	7264C-2k	2021-01-15
Chest Deflection	0724 (HF)	Servo	14CBI-3615	2021-01-19
Pelvis Acceleration X	P52090	Endevco	7264C-2k	2021-01-15
Pelvis Acceleration Y	P58849	Endevco	7264C-2k	2021-01-15
Pelvis Acceleration Z	P58756	Endevco	7264C-2k	2021-01-15
Left Femur Force Z	DS4136 (pri)	Humanetics	3821JLN2	2020-02-17
Right Femur Force Z	DS4138 (pri)	Humanetics	3821JLN2	2020-02-17
Left Femur Force Z Redundant	DS4136 (red)	Humanetics	3821JLN2	2020-02-17
Right Femur Force Z Redundant	DS4138 (red)	Humanetics	3821JLN2	2020-02-17
Left Upper Tibia Moment X	468 Mx	R.A. Denton	3643	2020-02-18
Left Upper Tibia Moment Y	468 My	R.A. Denton	3643	2020-02-18
Left Upper Tibia Force Z	468 Fz	R.A. Denton	3643	2020-02-18
Left Lower Tibia Moment X	91 Mx	R.A. Denton	3644	2020-02-18
Left Lower Tibia Moment Y	91 My	R.A. Denton	3644	2020-02-18
Left Lower Tibia Force Z	91 Fz	R.A. Denton	3644	2020-02-18
Right Upper Tibia Moment X	477 Mx	R.A. Denton	3643	2020-02-18
Right Upper Tibia Moment Y	477 My	R.A. Denton	3643	2020-02-18
Right Upper Tibia Force Z	477 Fz	R.A. Denton	3643	2020-02-18
Right Lower Tibia Moment X	399 Mx	R.A. Denton	3644	2020-02-11
Right Lower Tibia Moment Y	399 My	R.A. Denton	3644	2020-02-11
Right Lower Tibia Force Z	399 Fz	R.A. Denton	3644	2020-02-11
Left Ankle Acceleration X	P52057	Endevco	7264C-2k	2021-01-15
Left Ankle Acceleration Z	03E18-F07	Entran	EGEB6Q-2k	2021-01-15
Left Toe Acceleration Z	P49224	Endevco	7264C-2k	2021-01-15
Right Ankle Acceleration X	P52019	Endevco	7264C-2k	2021-01-15
Right Ankle Acceleration Z	P58755	Endevco	7264C-2k	2021-01-15
Right Toe Acceleration Z	P52076	Endevco	7264C-2k	2021-01-15
Passenger Lap Belt Force	313	FTSS	IF-964	2020-10-02
Passenger Shoulder Belt Force	Not installed			

Table 3 - Vehicle Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Left Rear Sill Ax	A356473	MSI	52F-2k	2020-09-15
Right Rear Sill Ax	A358692	MSI	52F-2k	2020-09-21
Engine Top Ax	A358543	MSI	52F-2k	2020-09-20
Engine Bottom Ax	A358526	MSI	52F-2k	2020-09-20
Left Rear Sill Az	A358691	MSI	52F-2k	2020-09-21
Right Rear Sill Az	A356291	MSI	52F-2k	2020-09-16
Left Rear Sill Redundant Ax	A358581	MSI	52F-2k	2020-09-20
Right Rear Sill Redundant Ax	A358530	MSI	52F-2k	2020-09-20