

Report Number: NCAP-KAR-25-004

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

**MITSUBISHI MOTORS CORPORATION
2025 MITSUBISHI OUTLANDER 5-DOOR MPV**

NHTSA NUMBER: M20255600

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



JUNE 16, 2025

FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE : NRM-100
1200 NEW JERSEY AVE, SE
WASHINGTON, DC 20590**

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Approval Date: June 16, 2025

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

COTR, New Car Assessment Program
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Date: _____

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16. Abstract A 56.3 km/h NCAP Frontal Impact Test was conducted on a 2025 Mitsubishi Outlander 5-Door MPV 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 June 3, 2025. The impact velocity of the vehicle was 56.34 km/h and the ambient temperature at the barrier face at the time of impact was 30.6°C. The target vehicle's post-test maximum crush was 473 mm at DPD 2 to the left of the vehicle's centerline. The test vehicle's performance is as follows:																																																							
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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 2025 Mitsubishi Outlander 5-Door MPV at a velocity of 56.34 km/h. The test was performed at Applus+ IDIADA KARCO Engineering, LLC. on June 3, 2025. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A of this report.

One (1) real-time camera 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 572E HIII 50th percentile male anthropomorphic test device (ATD) was placed in the driver seating position and one Part 572O 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. Seat belt load cells were installed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading.

The driver (position 1) ATD (Serial No. 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 no intrusion into the protected zone of the windshield during the event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the test vehicle was 473 mm at DPD 2 to the left of 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 air bag, and headrest. The upper and lower torso contacted the frontal air bag. Both left and right knees contacted the knee air bag.

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

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)	185.590	0.302	1685.328	327.631	38.514	24.638	1276.814	1667.026
Passenger (5th Female)	266.575	0.500	1257.708	248.434	43.231	20.362	671.914	947.335

GENERAL COMMENTS:

None.

SECTION 2

OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

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: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20255600
Model Year	2025
Make	Mitsubishi
Model	Outlander
Body Style	5-Door MPV
VIN	JA4J4UA87SZ020159
Body Color	White Diamond
Odometer Reading (km / mi)	19/12
Engine Displacement (L)	2.5
Type / No. of Cylinders	4 Cylinder
Engine Placement	Inline
Transmission Type	Automatic
Transmission Speeds	8
Overdrive	Yes
Final Drive	AWD
Roof Rack	No
Sunroof / T-Top	No
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	Yes
Driver Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Front Pass. Seat Belt Pretensioner	Yes
Front Pass. Load Limiter	Yes
Other Safety Restraint	Yes; Center Air Bag

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

Yes; Page 4-5

DATA FROM CERTIFICATION LABEL

Manufactured By	Mitsubishi Motors Corporation
Date of Manufacture	Jan-25

GVWR (kg)	2405
GAWR Front (kg)	1210
GAWR Rear (kg)	1365

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

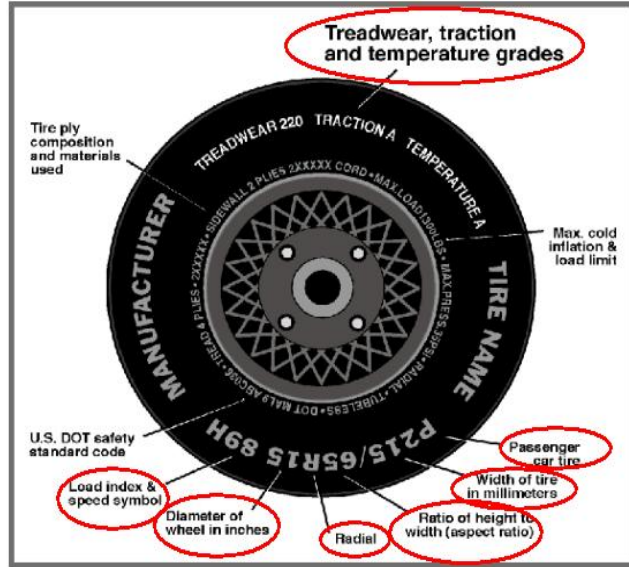
Measured Parameter	Front	Rear	Third	Total	
Type of Seats	Bucket	Split Bench	Split Bench		
Designated Seating Capacity	2	3	2	7	
Capacity Weight (VCW) (kg)				525.0	A
DSC x 68.0 (kg)				476.0	B
Cargo Weight (RCLW) (kg)				49.0	A-B

*For trucks, MPVs, or buses – if the RCLW calculated above is greater than 136 kg, use 136 kg as the RCLW.

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	240
Recommended Tire Size	P235/60 R18	P235/60 R18
Tire Size on Vehicle	P235/60 R18	P235/60 R18
Tire Manufacturer	Toyo	Toyo
Tire Model	Toyo A45	Toyo A45
Treadwear	300	300
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Steel, 2 Polyester, 1 Nylon	2 Steel, 2 Polyester, 1 Nylon
Load Index / Speed Symbol	102 H	102 H
Tire Material	Steel, Polyester, Nylon	Steel, Polyester, Nylon
DOT Safety Code Left	IN3DC 23EV 4924	IN3DC 23EV 4924
DOT Safety Code Right	IN3DC 23EV 4924	IN3DC 23EV 4924

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UWV)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	503.0	380.0		527.0	440.0	
Right	kg	495.0	366.0		503.0	456.5	
Ratio	%	57.2%	42.8%	100.0%	53.5%	46.5%	100.0%
Total	kg	998.0	746.0	1744.0	1030.0	896.5	1926.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UWV)	kg	1744.0	A
Weight of 1 P572E ATD & 1 P572O ATD	kg	141.0	B
Rated Cargo/Luggage Weight (RCLW)	kg	49.0	C
Calculated Vehicle Target Weight (TVTW)	kg	1934.0	A+B+C

TEST VEHICLE ATTITUDES

Condition	Units	LF	RF	LR	RR	CG Aft of Front Axle
As Delivered	mm	815	817	810	820	1155
As Tested	mm	822	827	805	800	1256
Post-Test	mm	890	895	870	865	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Total Vehicle Wheelbase	mm	2700
Total Vehicle Length at Left Side	mm	4585
Total Vehicle Length at Centerline	mm	4710
Total Vehicle Length at Right Side	mm	4585
Weight of Ballast in Cargo Area	kg	37.1
Weight of Vehicle Components Removed	kg	8.5
Amount of Stoddard Solvent in Fuel Tank	L	51.04

VEHICLE COMPONENTS REMOVED TO MEET TEST WEIGHT:

Rear trim (3.5 kg) and Tire Pump (5.0 kg) removed.

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

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

TARGET VEHICLE STRUCTURAL MEASUREMENTS

No.	Description	Pre-Test
1	Total Length	4710
2	Total Width	1895
3	Bumper Top Height	700
4	Bumper Bottom Height	550
5	Longitudinal Member Top Height	700
6	Distance Between Longitudinal Members	850
7	Longitudinal Member Width	117
8	Engine Top Height	800
9	Engine Bottom Height	320
10	Engine and Gearbox Width	794
11	Front Bumper to Engine Distance	430
12	Front Shock Absorber Fixing Height	975
13	Bonnet Leading Edge Height	857
14	Front Shock Absorber Fixing Width	1198
15	Front Bumper to Front Axle Distance	975
16	Front Axle to A-Pillar Distance	579
17	A-Pillar to B-Pillar Distance	941
18	B-Pillar to Rear Axle Distance	1180
19	B-Pillar to C-Pillar Distance	659
20	Roof Sill Bottom Height	1530
21	Roof Sill Top Height	1595
22	Floor Sill Bottom Height	536
23	Floor Sill Top Height	654

*All measurements in millimeters.

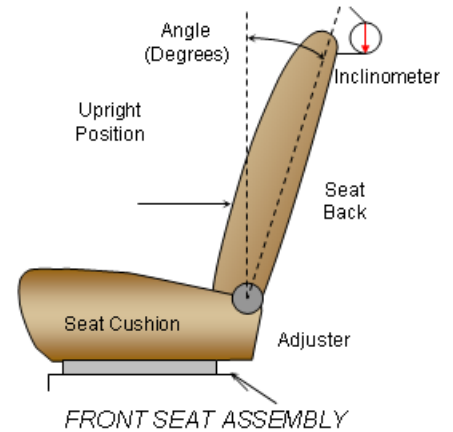
DATA SHEET NO. 2

SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

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 at the headrest post.

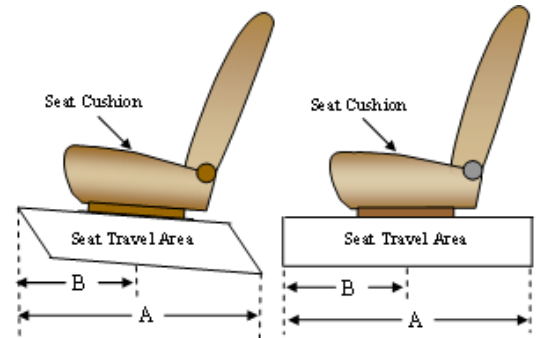


SEAT BACK ANGLE

Seating Position	Degrees
Driver Seat Back Angle	6.6
Passenger Seat Back Angle	1.2

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	316	158
Passenger Seat	220	0

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	M1
Passenger Seat	4	M1

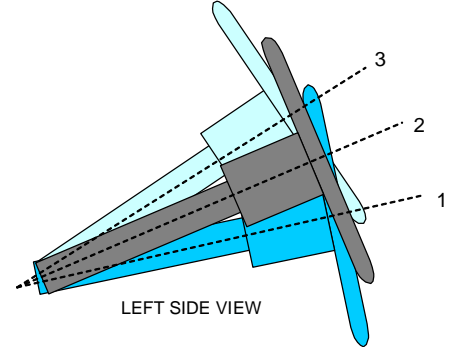
DATA SHEET NO. 2 ... (CONTINUED)

SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

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.



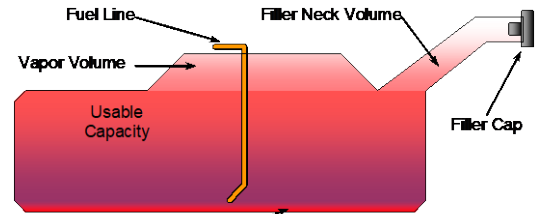
LEFT SIDE VIEW
STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONING

	Degrees	Fore-Aft Position (mm)
Lowermost Position, No. 1	22.5	78
Geometric Center Position, No. 2	25.0	105.5
Uppermost Position, No. 3	27.5	133
Telescoping Steering Wheel Travel		55
Test Position	25.0	105.5

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

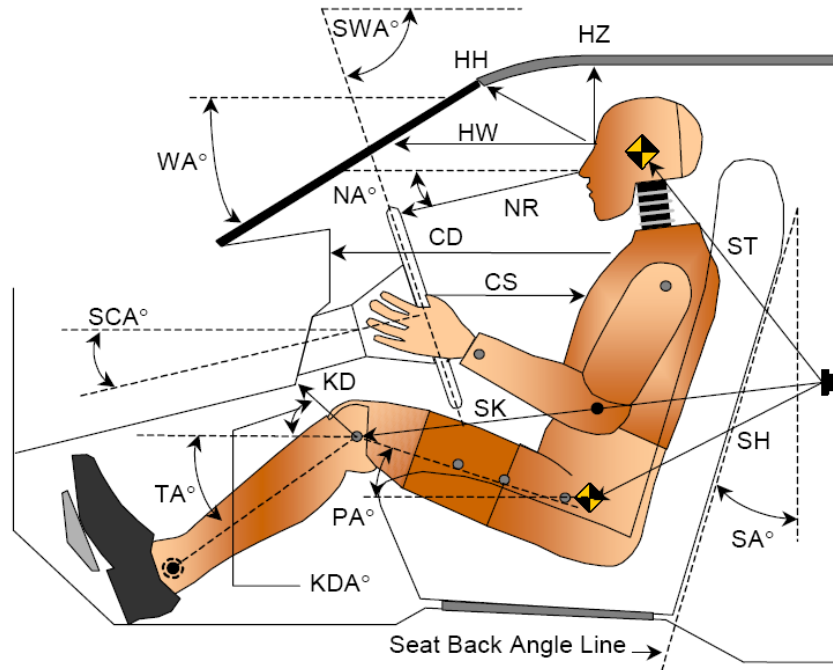
Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	54.88
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	54.88
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	51.04
Actual Amount of Solvent Used in Test	51.04
1/3 of Usable Capacity	18.29

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: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



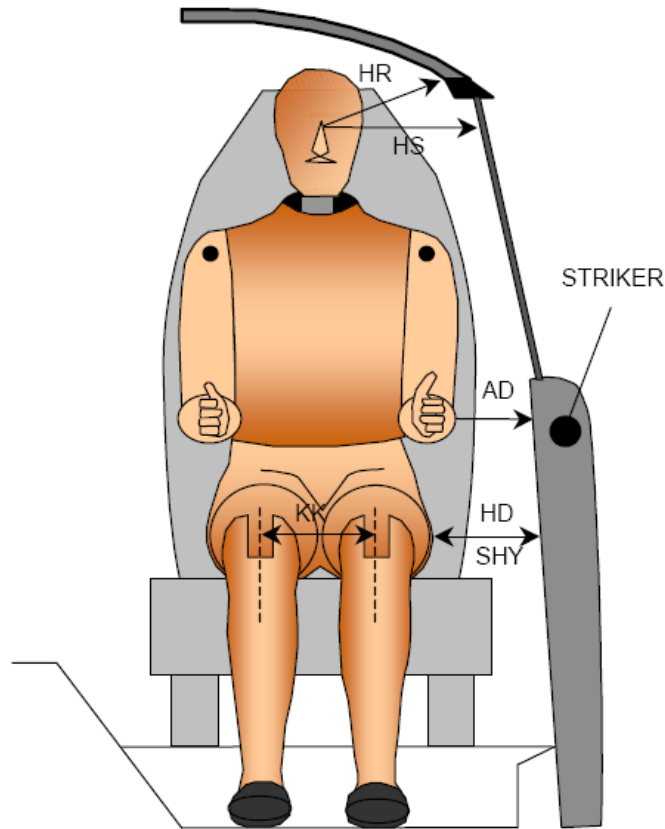
LEFT SIDE VIEW

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		31.8		
SWA°	Steering Wheel Angle		68.6		
SCA°	Steering Column Angle		21.4		
SA°	Seat Back Angle (On Headrest)		6.6		1.2
HZ	Head to Roof	235	90.0	215	90.0
HH	Head to Header	445	23.5	361	46.2
HW	Head to Windshield	721	0.0	700	0.0
NR	Nose to Rim	435	5.4	457	24.1
CD	Chest to Dash	545		435	
CS	Chest to Steering Hub	319	0.0		
RA	Rim to Abdomen	205	0.0		
KDL	Left Knee to Dash	193	16.7	102	31.3
KDR	Right Knee to Dash	160	20.0	131	25.6
PA°	Pelvic Angle		22.2		21.5
TA°	Tibia Angle		44.6		55.9
SK	Striker to Knee	693	12.7	791	13.1
ST	Striker to Head	501	70.4	536	52.2
SH	Striker to H-Point	392	45.9	469	31.3

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

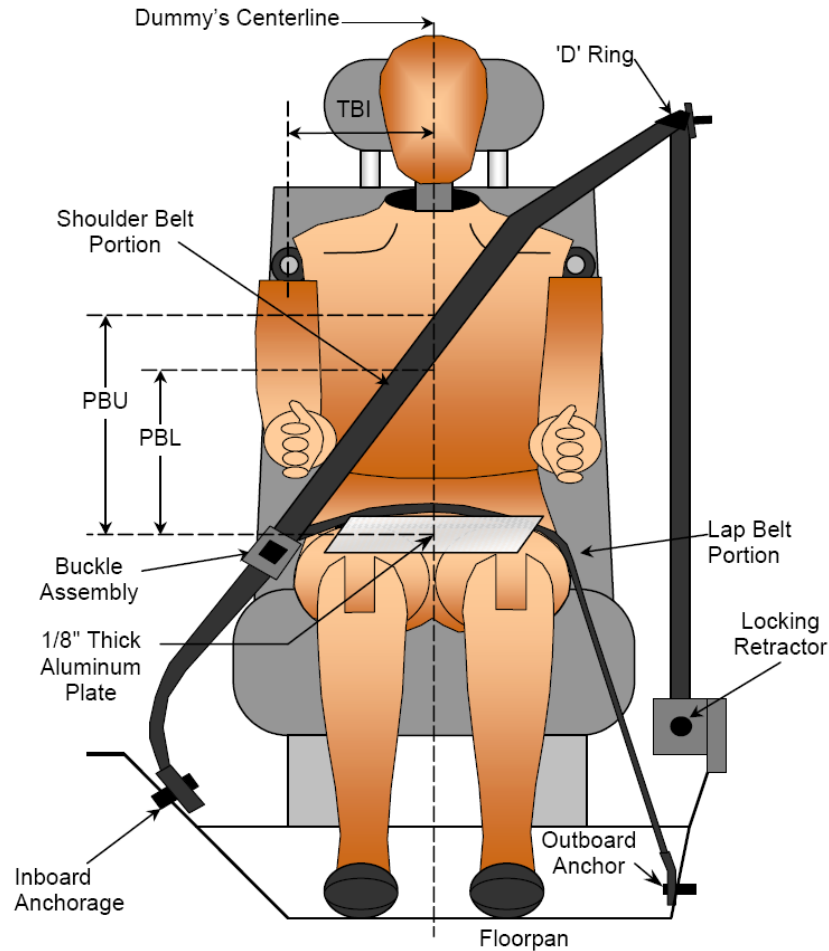
Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



Code	Description	Driver (mm)	Passenger (mm)
AD	Arm to Door	120	68
HD	H-Point to Door	145	185
HR	Head to Side Header	300	318
HS	Head to Side Window	385	400
KK	Knee to Knee	300	165
AA	Ankle to Ankle	310	240

DATA SHEET NO. 5
SEAT BELT POSITIONING DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



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	315	295
PBL	Top Surface of Aluminum Plate to Belt Lower Edge	mm	235	205

BELT LENGTH DATA

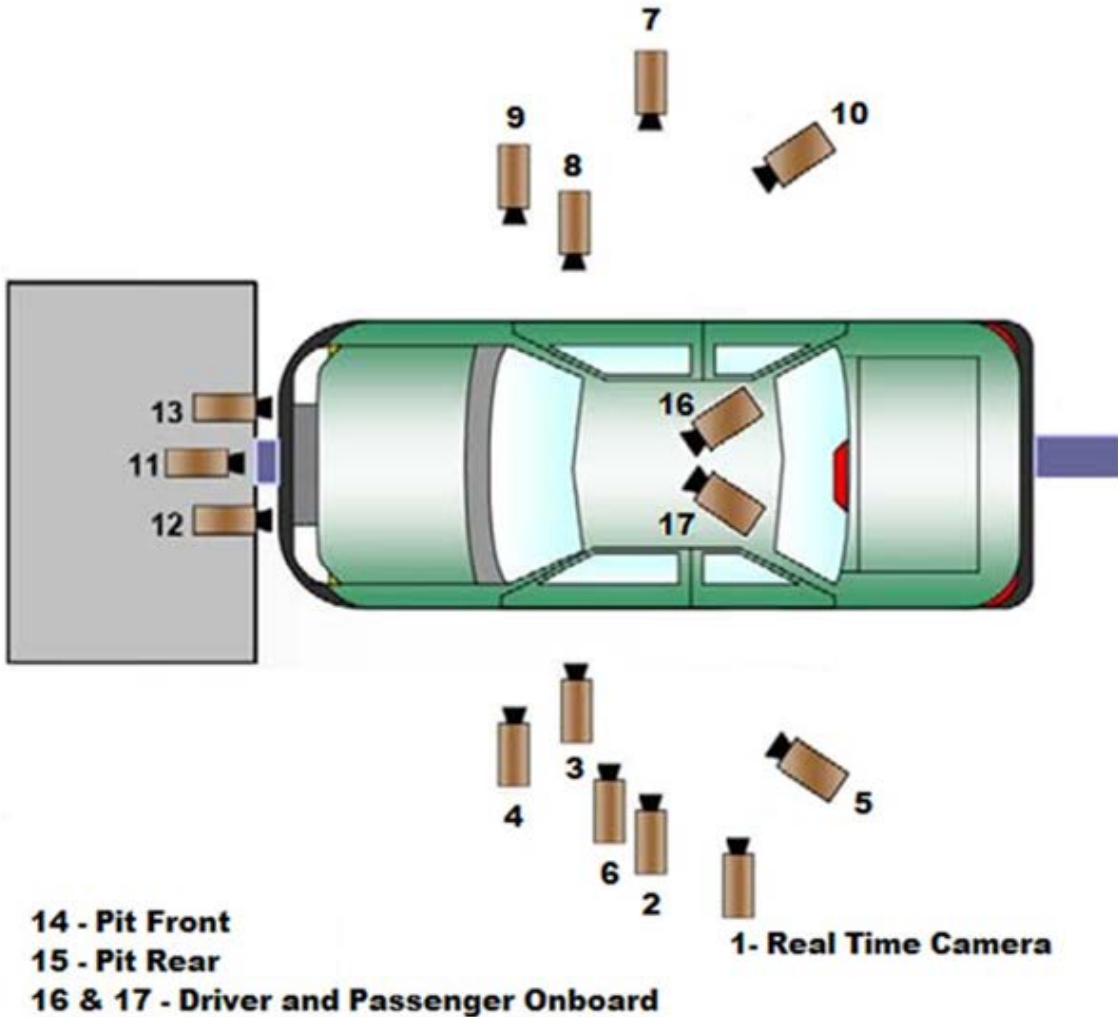
Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as Measured on ATD	mm	846	975
Lap Belt Length as Measured on ATD	mm	605	839
Remainder of Belt on Reel	mm	971	918
Total Belt Length for Continuous Webbing Systems	mm	2422	2732

DATA SHEET NO. 6

HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

CAMERA POSITIONS FOR FRONTAL IMPACTS



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

DATA SHEET NO. 6 ... (CONTINUED)

HIGH-SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

CAMERA LOCATIONS

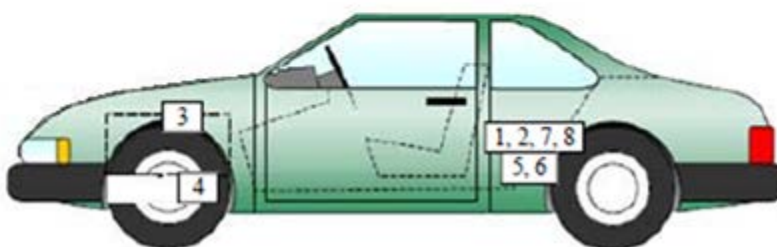
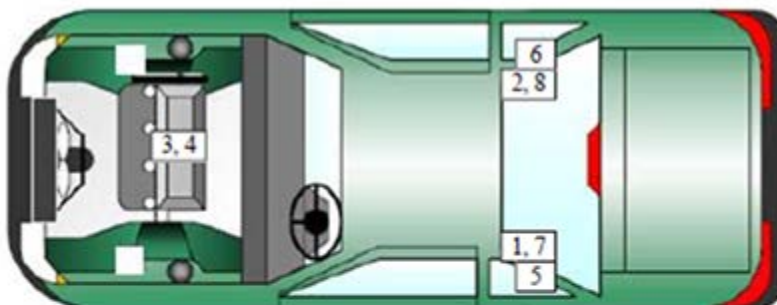
No.	Description	Location (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall	-11412	-8150	-1484		30
2	Left Overall	-2456	-7975	-1025	20	1000
3	Driver Close-Up	-2590	-7950	-1371	50	1000
4	Left Front Half	-1701	-6197	-1701	35	1000
5	Left Angle	-6696	-10308	-3211	105	1000
6	Steering Column	-1966	-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	15	1000
16	Driver Onboard	-1250	-275	-1510	8	1000
17	Passenger Onboard	-1250	275	-1510	8	1000

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

DATA SHEET NO. 7

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

No.	Description	Location		
		X	Y	Z
1	Left Rear Accelerometer X-Direction	2010	-750	-500
2	Right Rear Accelerometer X-Direction	2010	750	-500
3	Engine Top X	3070	0	-300
4	Engine Bottom X	3070	0	-1010
5	Left Rear Accelerometer Z-Direction	2010	-750	-500
6	Right Rear Accelerometer Z-Direction	2010	750	-500
7	Left Rear Accelerometer X-Direction Redundant	2010	-750	-500
8	Right Rear Accelerometer X-Direction Redundant	2010	750	-500

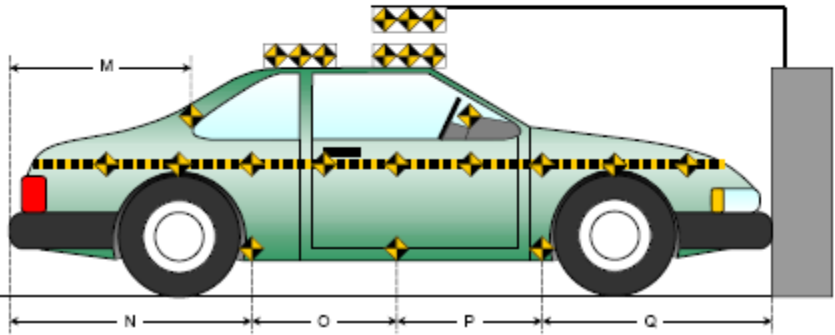
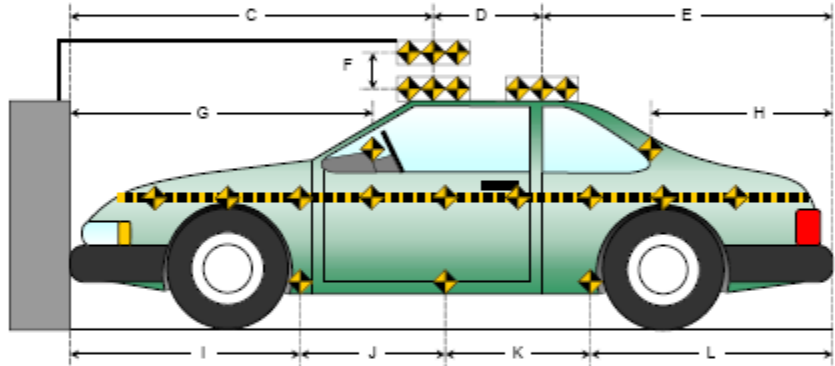
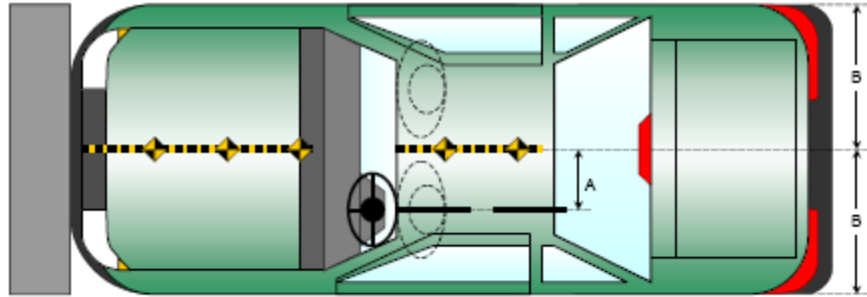
Reference Points: X – Rear Surface of Vehicle (+ forward)
 Y – Vehicle Centerline (+ to right)
 Z – Ground Plane (+ down)

DATA SHEET NO. 8

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

Item	Value
A	385
B	948
C	2285
D	635
E	1790
F	309
G	1760
H	520
I	1490
J	1060
K	665
L	1495
M	520
N	1495
O	665
P	1060
Q	1490



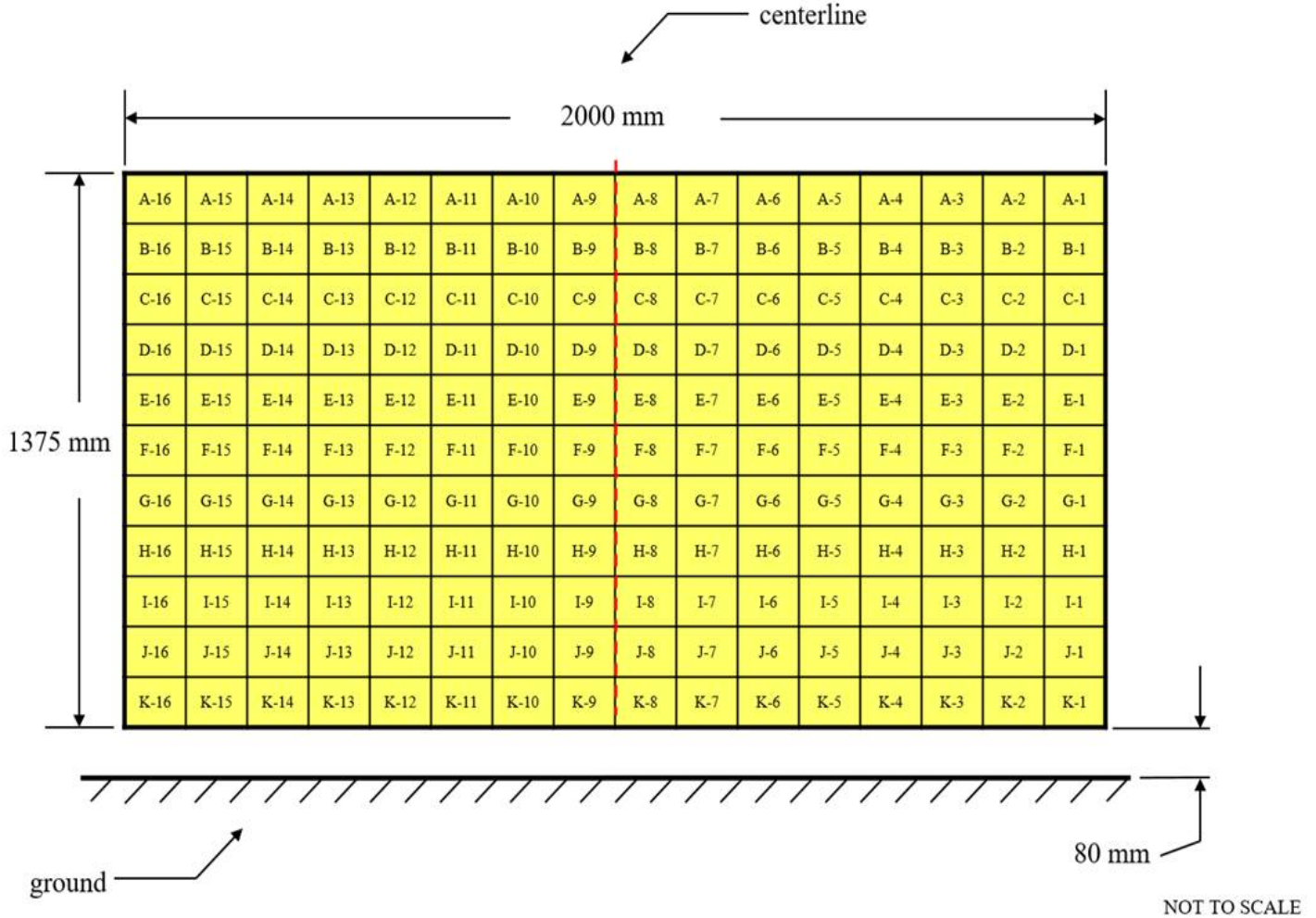
*All measurements in millimeters.

DATA SHEET NO. 9

LOAD CELL LOCATIONS ON FIXED BARRIER

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



DATA SHEET NO. 10

TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

INSTRUMENTATION

Instrumentation	Number of Channels Collected
Driver Dummy Sensors	47
Passenger Dummy Sensors	47
Vehicle Structure Accelerometers	8
Seat Belt Load Cells	4
Load Cell Barrier	528
Total	634

CAMERA COVERAGE

Type of Camera	Number Used in this Test
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: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

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 Air Bag, Headrest	Frontal Air Bag, Headrest
Upper Torso Contact	Frontal Air Bag	Frontal Air Bag
Lower Torso Contact	Frontal Air Bag	Frontal Air Bag
Left Knee Contact	Knee Air Bag	Knee Air Bag
Right Knee Contact	Knee Air Bag	Knee Air Bag

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	Remained closed, latched, and operational	
Seat Track Shift (mm)	N/A	N/A
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

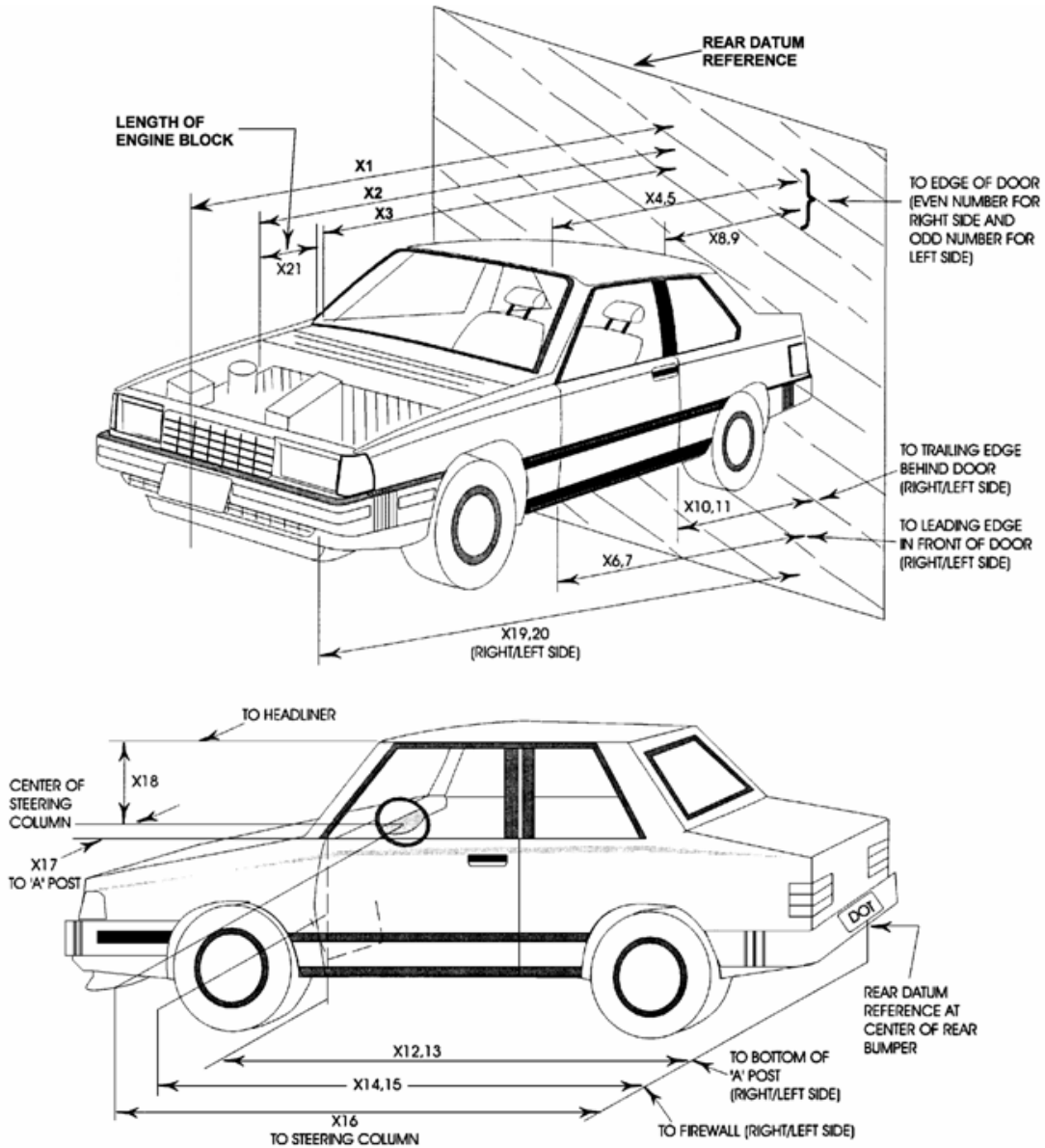
Measured Parameter	Units	Value
Left Side	mm	6610
Center	mm	6355
Right Side	mm	6685
Average	mm	6550

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

DATA SHEET NO. 12
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025



DATA SHEET NO. 12 ... (CONTINUED)

VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

No.	Description	Pre-Test	Post-Test	Change
1	Total Length of Vehicle at Centerline	4710	4237	-473
2	Rear Surface of Vehicle to Front of Engine	4190	4019	-171
3	RSOV to Firewall	3497	3470	-27
4	RSOV to Upper Leading Edge of Right Door	3294	3292	-2
5	RSOV to Upper Leading Edge of Left Door	3294	3289	-5
6	RSOV to Lower Leading Edge of Right Door	3219	3220	1
7	RSOV to Lower Leading Edge of Left Door	3219	3213	-6
8	RSOV to Upper Trailing Edge of Right Door	2119	2118	-1
9	RSOV to Upper Trailing Edge of Left Door	2119	2114	-5
10	RSOV to Lower Trailing Edge of Right Door	2161	2166	5
11	RSOV to Lower Trailing Edge of Left Door	2161	2155	-6
12	RSOV to Bottom of A-Pillar, Right Side	3154	3154	0
13	RSOV to Bottom of A-Pillar, Left Side	3154	3153	-1
14	RSOV to Firewall, Right Side	3497	3499	2
15	RSOV to Firewall, Left Side	3497	3470	-27
16	RSOV to Steering Column	2813	2824	11
17	Center of Steering Column to A-Pillar	341	329	-12
18	Center of Steering Column to Headliner	549	546	-3
19	RSOV to Right Side of Front Bumper	4572	4179	-393
20	RSOV to Left Side of Front Bumper	4572	4144	-428
21	Length of Engine Block	505	344	-161
RD	RSOV to Right Side of Dash Panel	2955	2958	3
CD	RSOV to Center of Dash Panel	2911	2917	6
LD	RSOV to Left Side of Dash Panel	2955	2956	1

All measurements in millimeters.

DATA SHEET NO. 13

ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

VEHICLE INFORMATION

VIN: JA4J4UA87SZ020159 Wheelbase (mm): 2700
 Vehicle Size Category: MPV Test Weight (kg): 1926.5

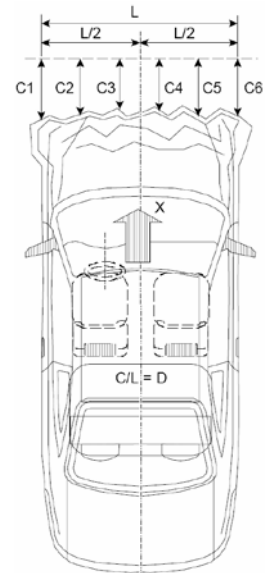
ACCELEROMETER DATA

Accelerometer Locations: Left Rear Crossmember
 Cal. Procedure/Interval: Vibration Test / 6 months
 Integration Algorithm: NHTSA Standard
 Impact Velocity (km/h): 56.34
 Velocity Change (km/h): 64.81
 Time of Separation (msec): 77.10

Linearity: Good

CRUSH PROFILE

Collision Deformation Classification: 12FDEW3
 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1338
 Impact Mode: Full Frontal



No.	Measurement Description	Units	Pre-Test	Post-Test	Crush
C1	Crush Zone 1 at Left Side	mm	2386	1956	430
C2	Crush Zone 2 at Left Side	mm	2489	2016	473
C3	Crush Zone 3 at Left Side	mm	2522	2053	469
C4	Crush Zone 4 at Right Side	mm	2524	2051	473
C5	Crush Zone 5 at Right Side	mm	2492	2034	458
C6	Crush Zone 6 at Right Side	mm	2386	1991	395
L	C1 to C6	mm	1338		

DATA SHEET NO. 14

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600

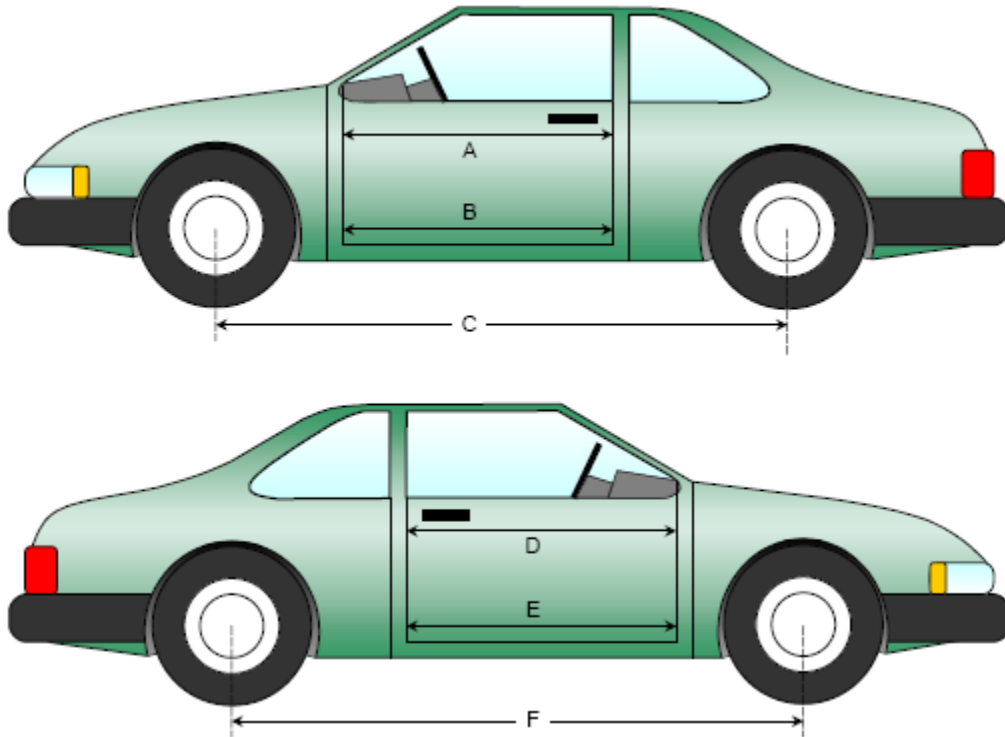
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Change
A	Left Side Upper	mm	1175	1175	0
B	Left Side Lower	mm	1058	1058	0
D	Right Side Upper	mm	1175	1174	-1
E	Right Side Lower	mm	1058	1054	-4

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Change
C	Left Side Wheelbase	mm	2700	2663	-37
F	Right Side Wheelbase	mm	2700	2671	-29



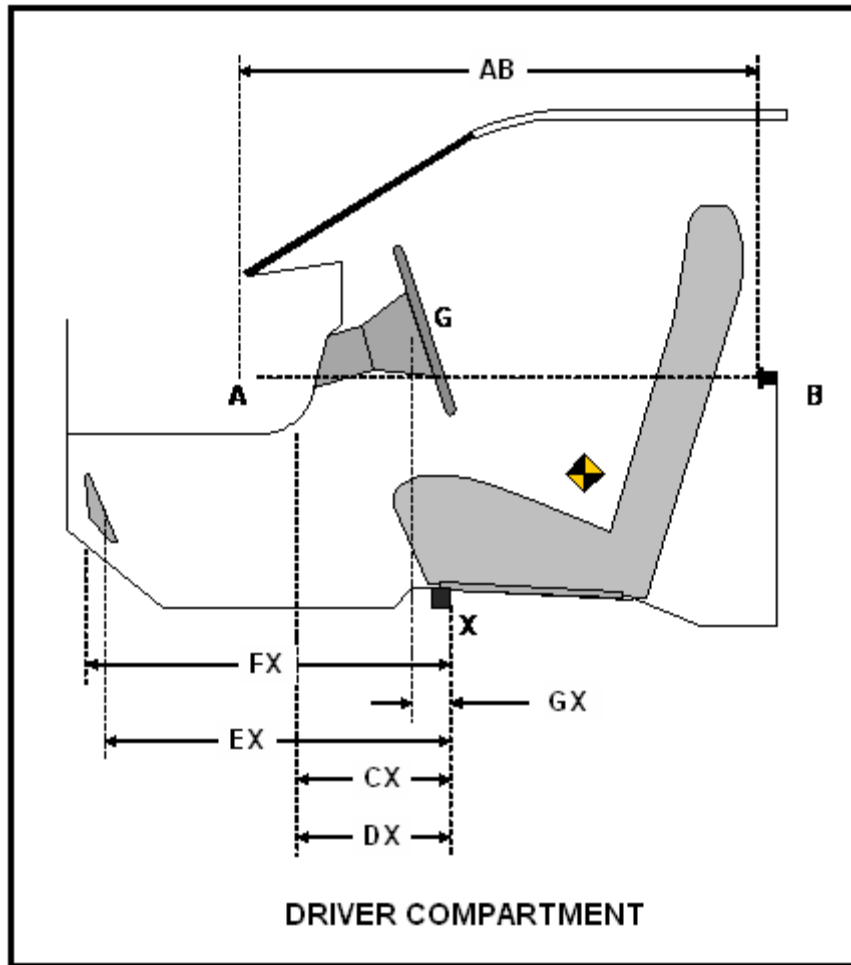
DATA SHEET NO. 14 ... (CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Change
AB	Door Opening (Inside Window Jam)	mm	1030	1031	1
CX	Left Knee Bolster to X	mm	263	266	3
DX	Right Knee Bolster to X	mm	238	245	7
EX	Brake Pedal to X	mm	505	490	-15
FX	Foot Rest to X	mm	508	508	0
GX	Center of Steering Wheel Hub to X	mm	47	57	10

X = Front of Seat Track (Stationary)



DATA SHEET NO. 15

SUMMARY OF INDICANT FMVSS 212 AND 219 (PARTIAL) DATA

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

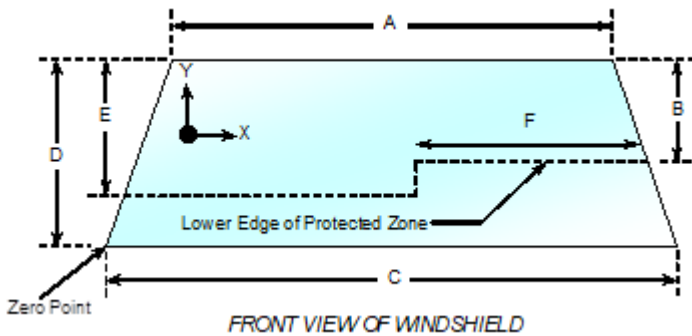
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with an adhesive and rubber molding.

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: 30.6°C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2210	2210	100.0%
Right Side	2210	2210	100.0%
Total	4420	4420	100.0%



Item	Units	Value
A	mm	1210
B	mm	400
C	mm	1410
D	mm	900
E	mm	508
F	mm	590

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

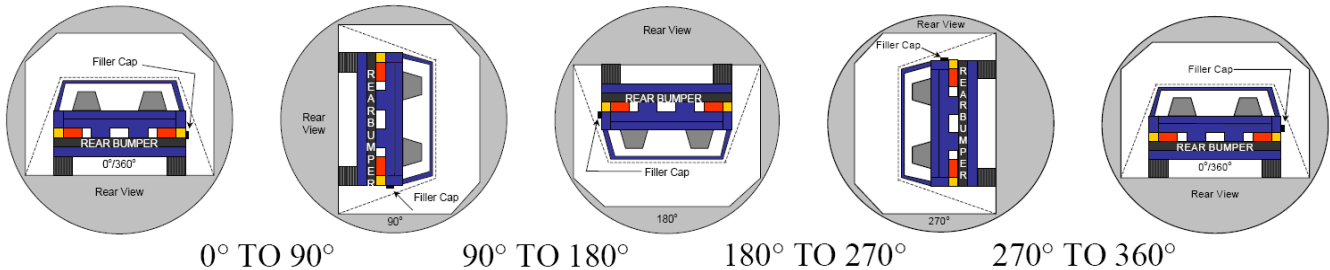
Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Temperature at Time of Impact: 30.6°C Test Time: 2:15 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: _____



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

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	81	300	381
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: 2025 Mitsubishi Outlander 5-Door MPV NHTSA No.: M20255600

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 06/03/2025

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

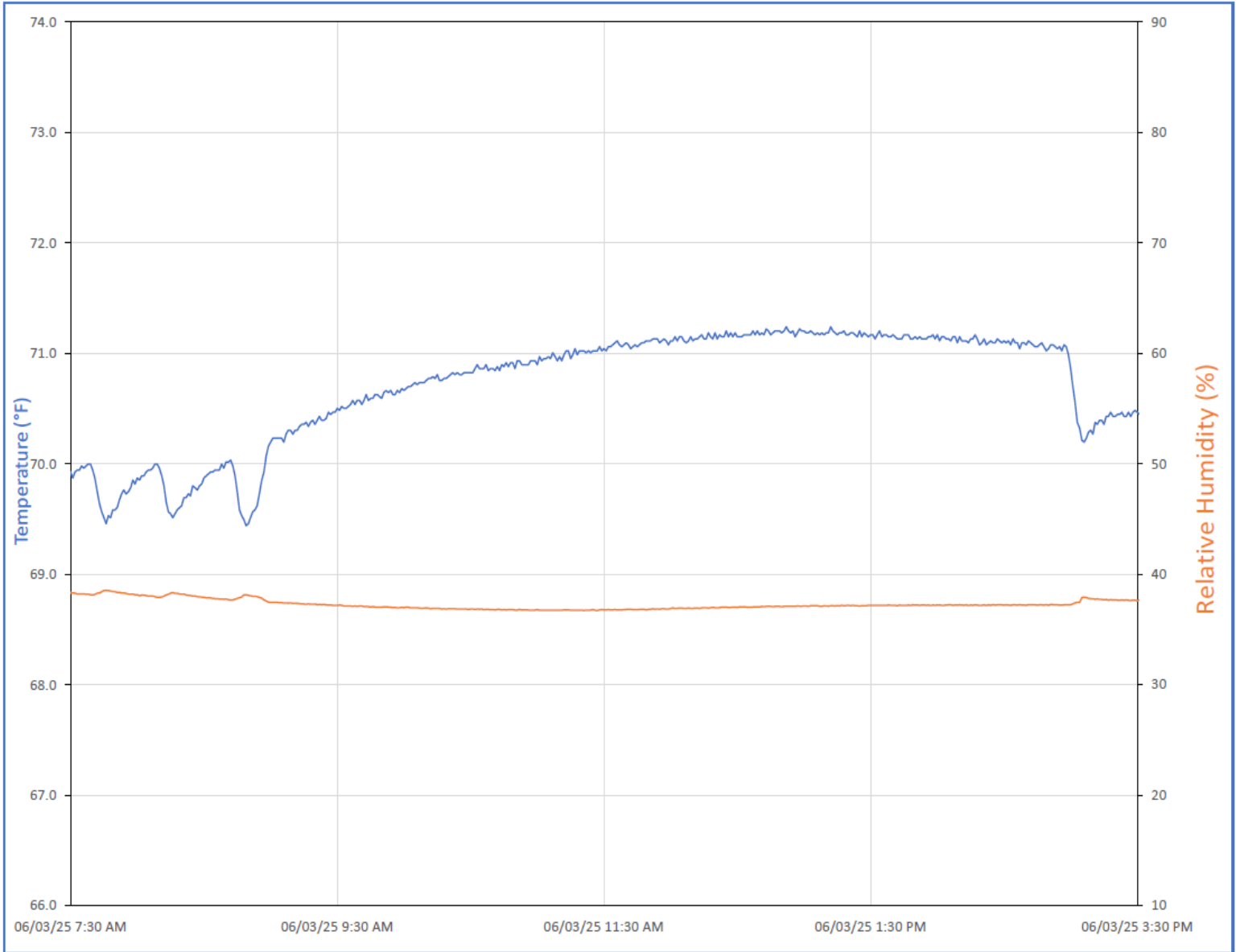
DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV

NHTSA No.: M20255600

Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 06/03/2025



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	2025 Mitsubishi Outlander 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 Air Bag	A-25
49a	Post-Test Driver Dummy Contact with Air Bag	A-25
50	Post-Test Driver Dummy Contact with Headrest	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
71	Post-Test Passenger Dummy Face	A-36
72	Post-Test Passenger Dummy Contact with Air bag	A-37

TABLE OF PHOTOGRAPHS ... (CONTINUED)

Figure		Page
72a	Post-Test Passenger Dummy Contact with Air bag	A-37
73	Post-Test Passenger Dummy Contact with Headrest	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	2025 Mitsubishi Outlander Frontal Impact Event	A-42
83	Monroney Label Photograph	A-43

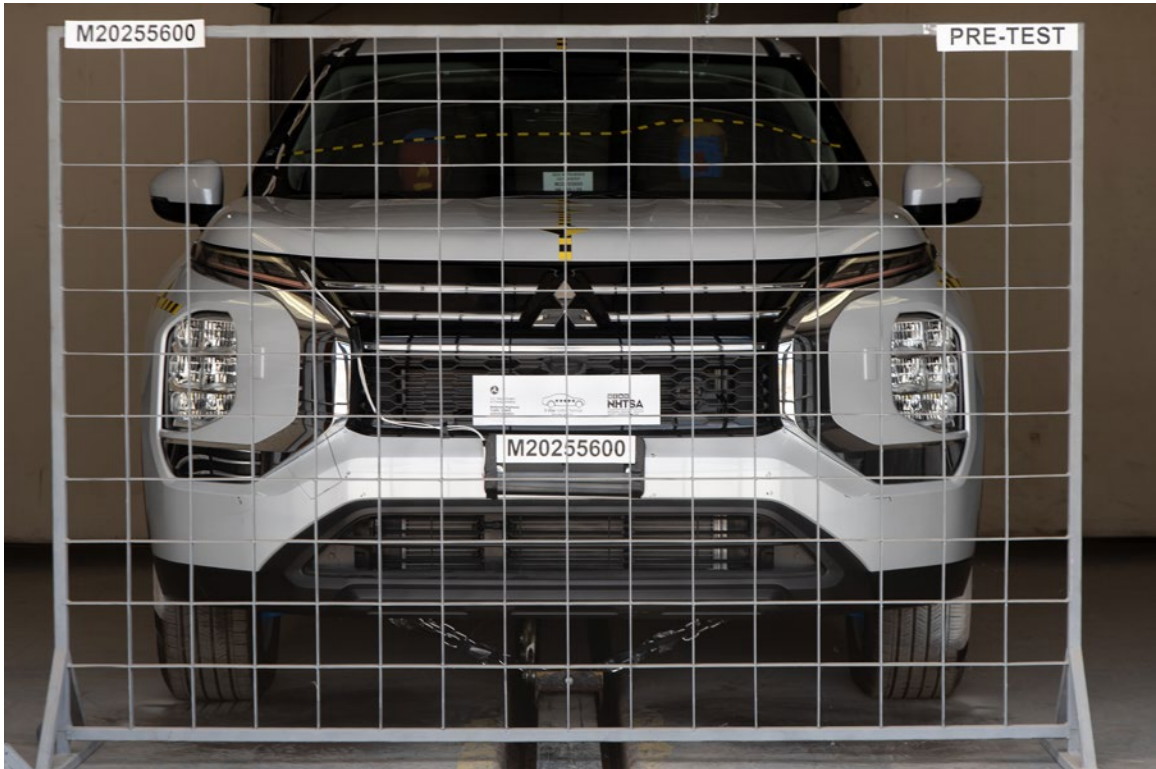


FIGURE 1. Load Cell Location

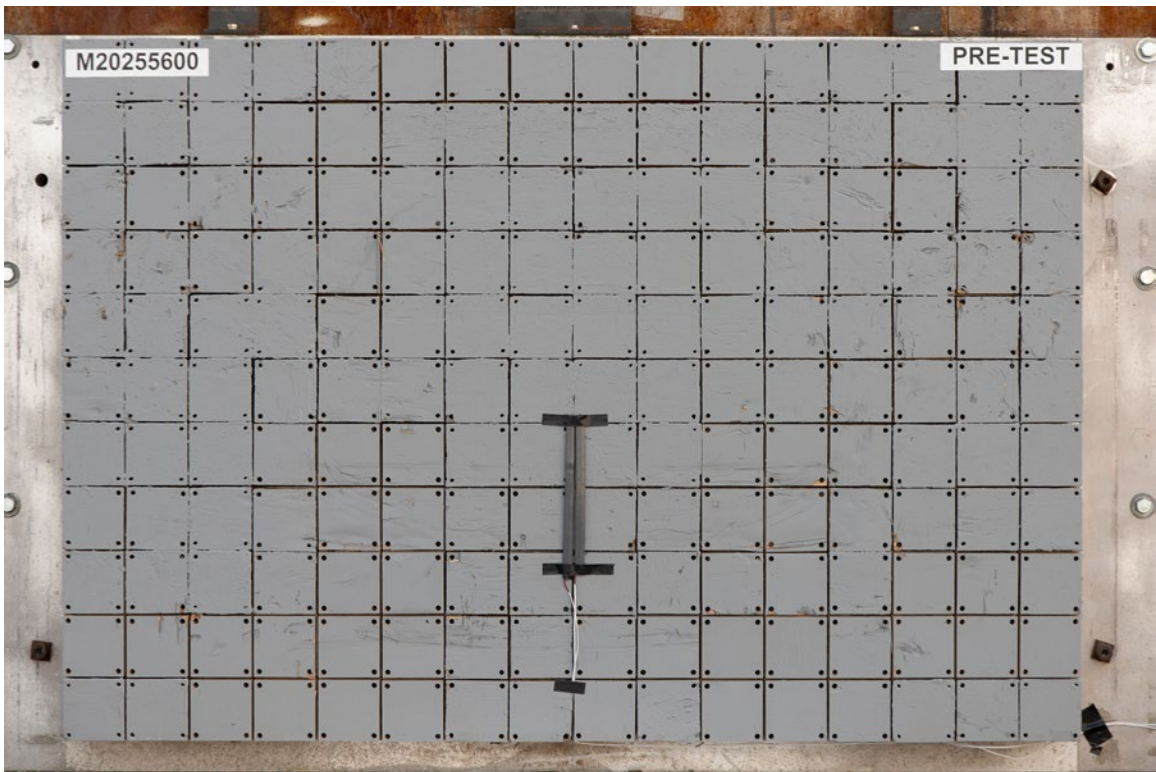


FIGURE 2. Pre-Test Load Cell Wall

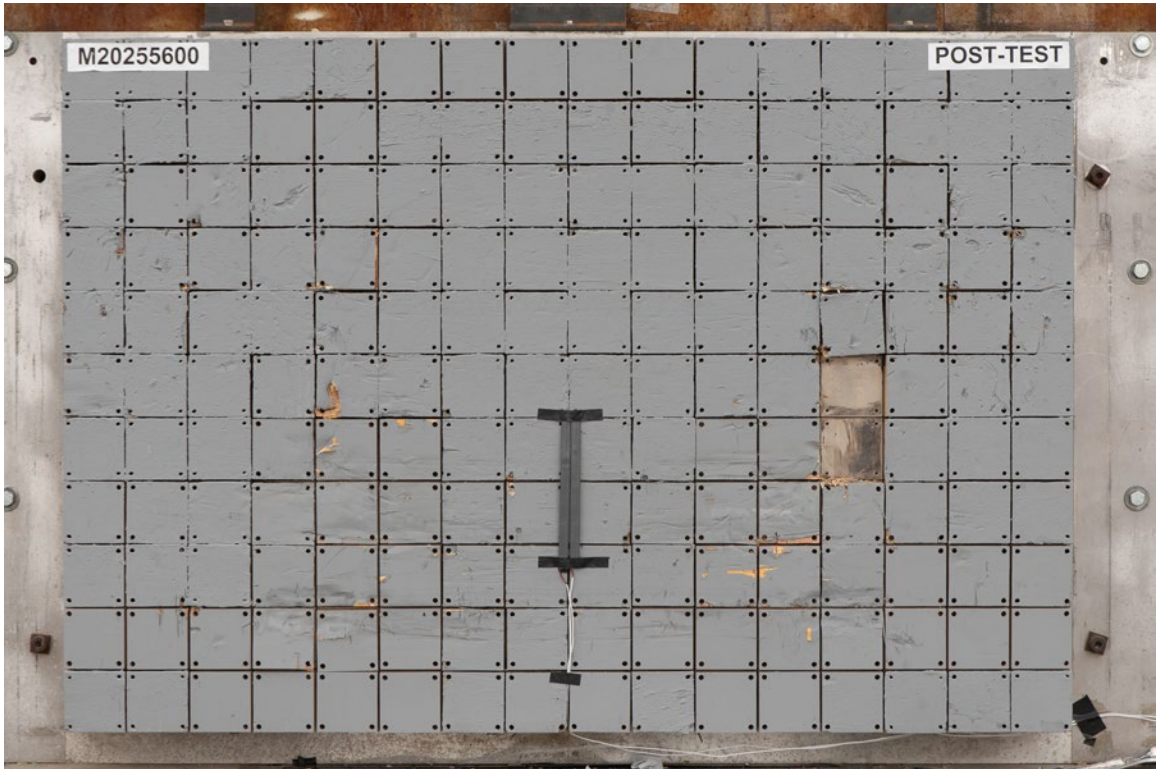


FIGURE 3. Post-Test Load Cell Wall



FIGURE 4. Manufacturer's Label



FIGURE 5. Tire Placard



FIGURE 6. 2025 Mitsubishi Outlander Frontal As Delivered



FIGURE 7. Left Rear 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 Vehicle of Test Vehicle



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



FIGURE 15. Post-Test Right Front 3/4 View



FIGURE 16. Pre-Test Left Rear 3/4 View



FIGURE 17. Post-Test Left Rear 3/4 View

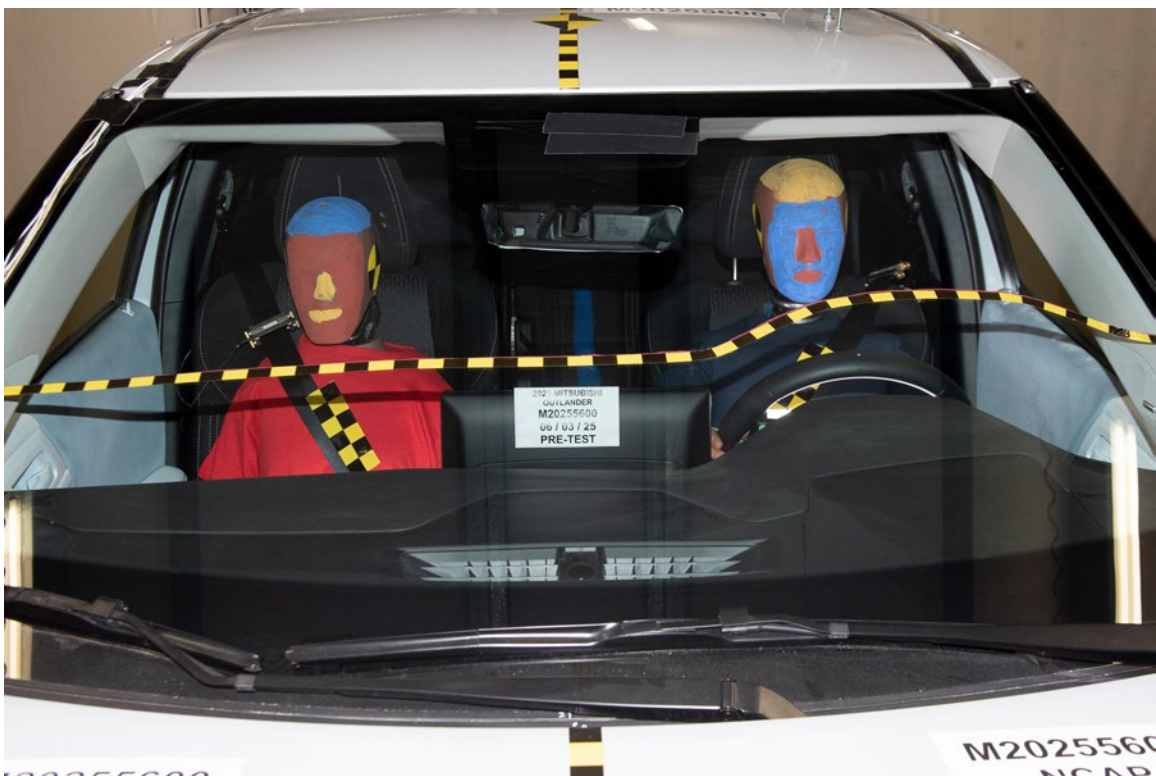


FIGURE 18. Pre-Test Windshield View



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

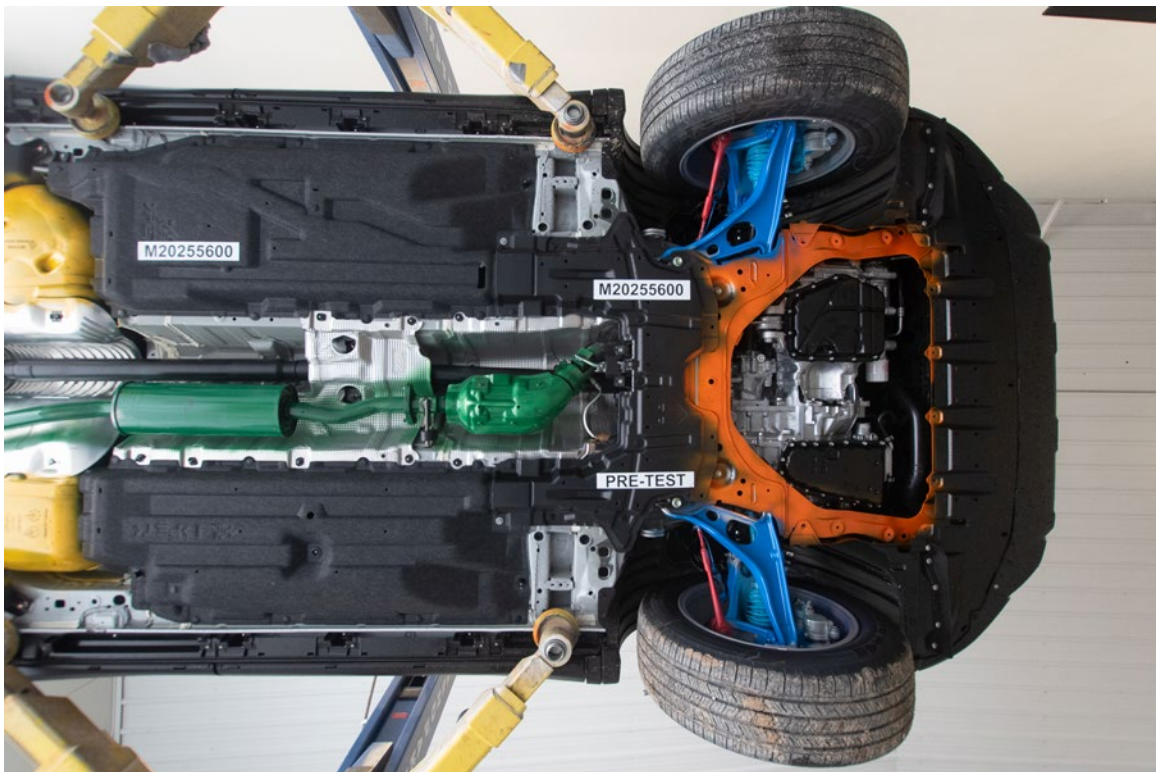


FIGURE 24. Pre-Test Front Underbody View

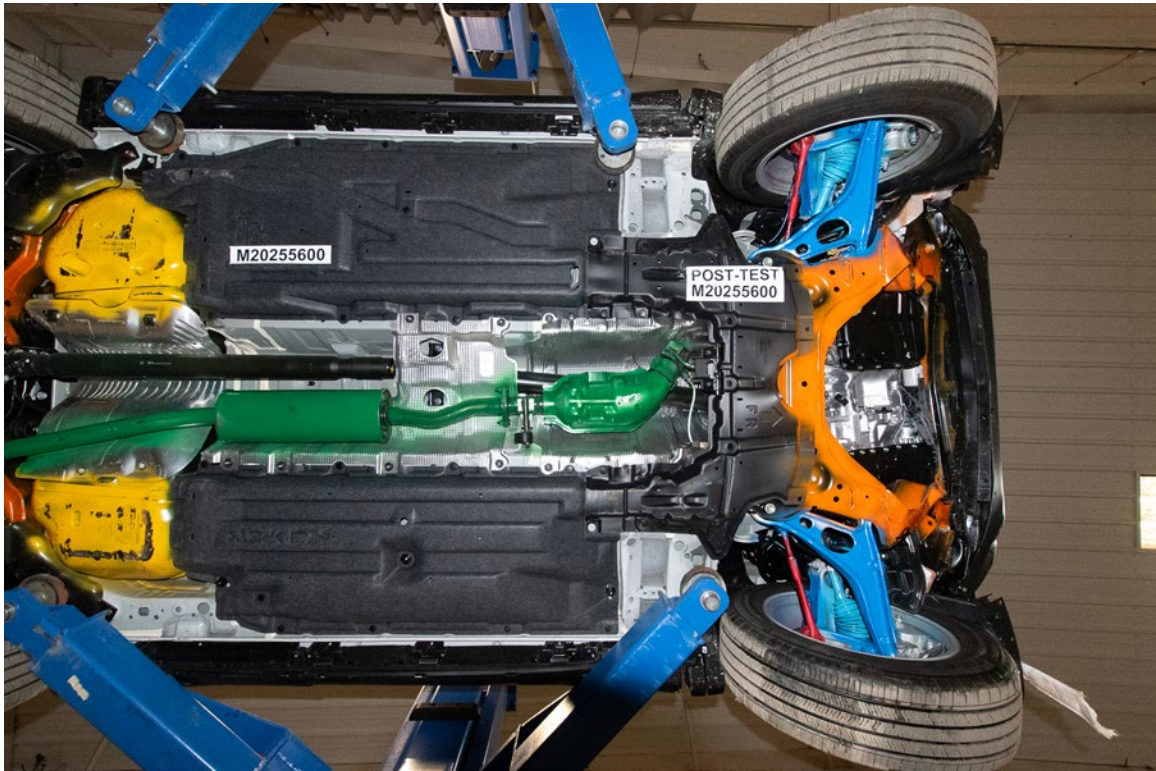


FIGURE 25. Post-Test Front Underbody View

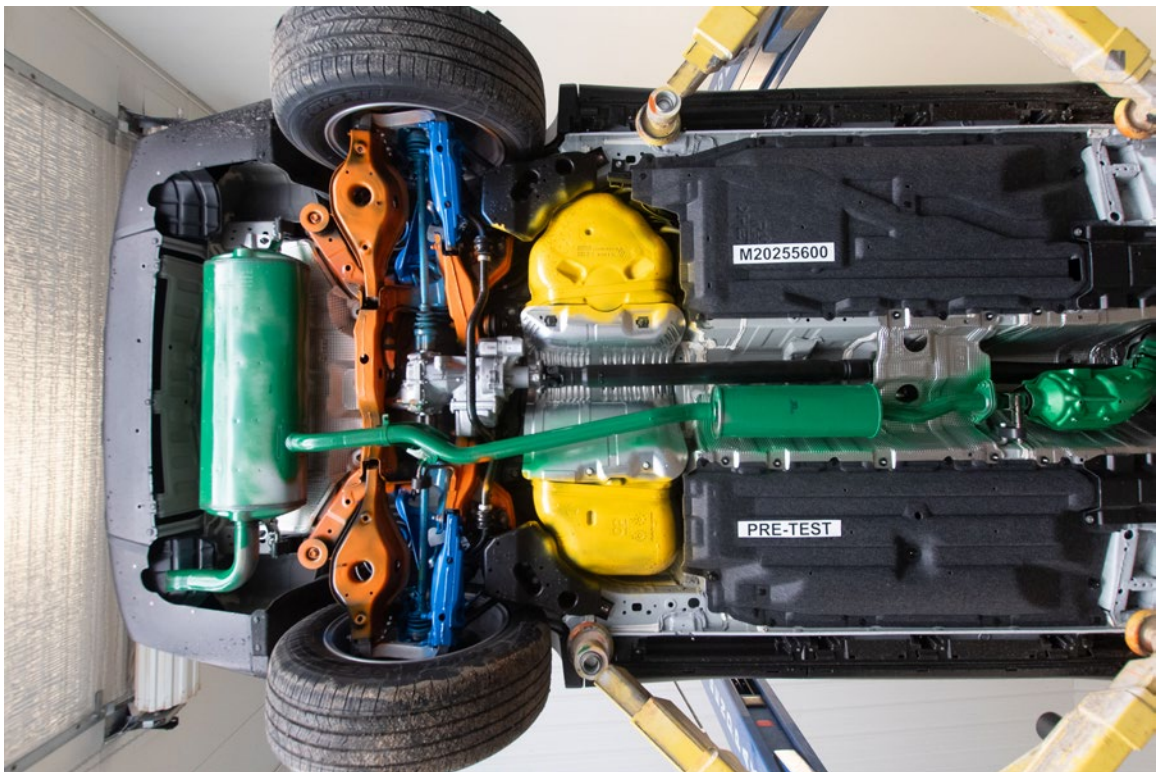


FIGURE 26. Pre-Test Rear Underbody View

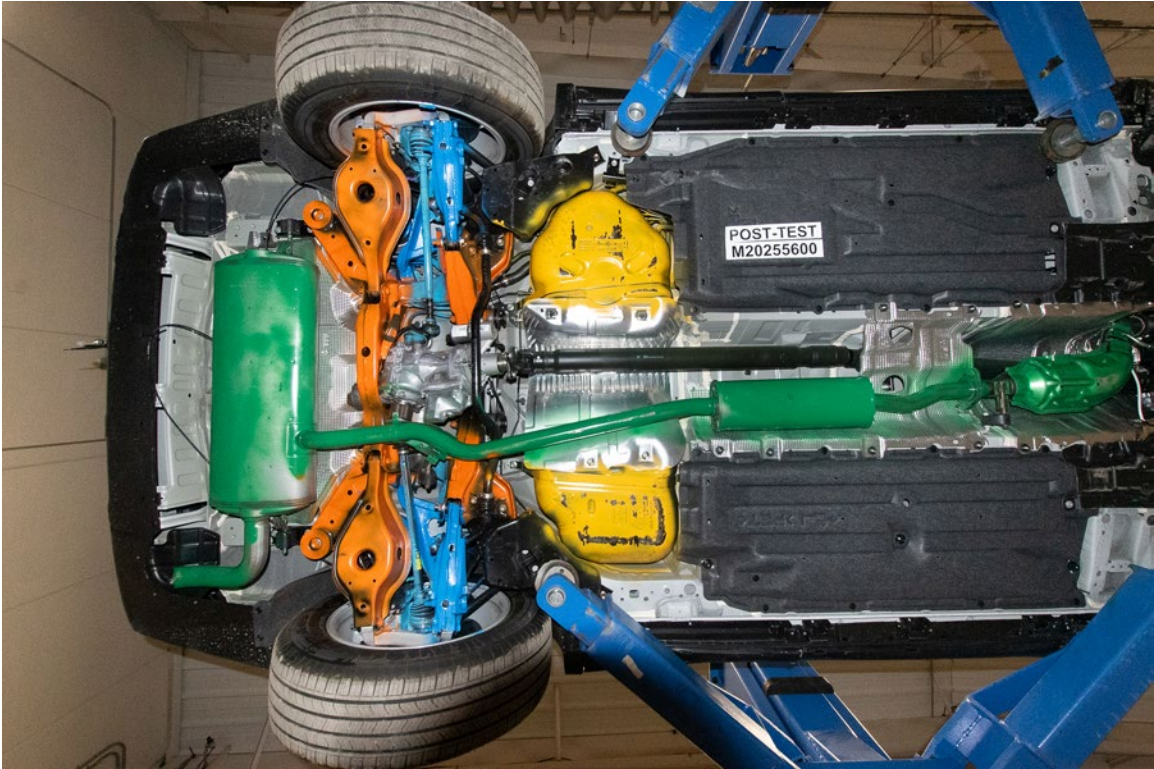


FIGURE 27. Post-Test Rear Underbody View



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

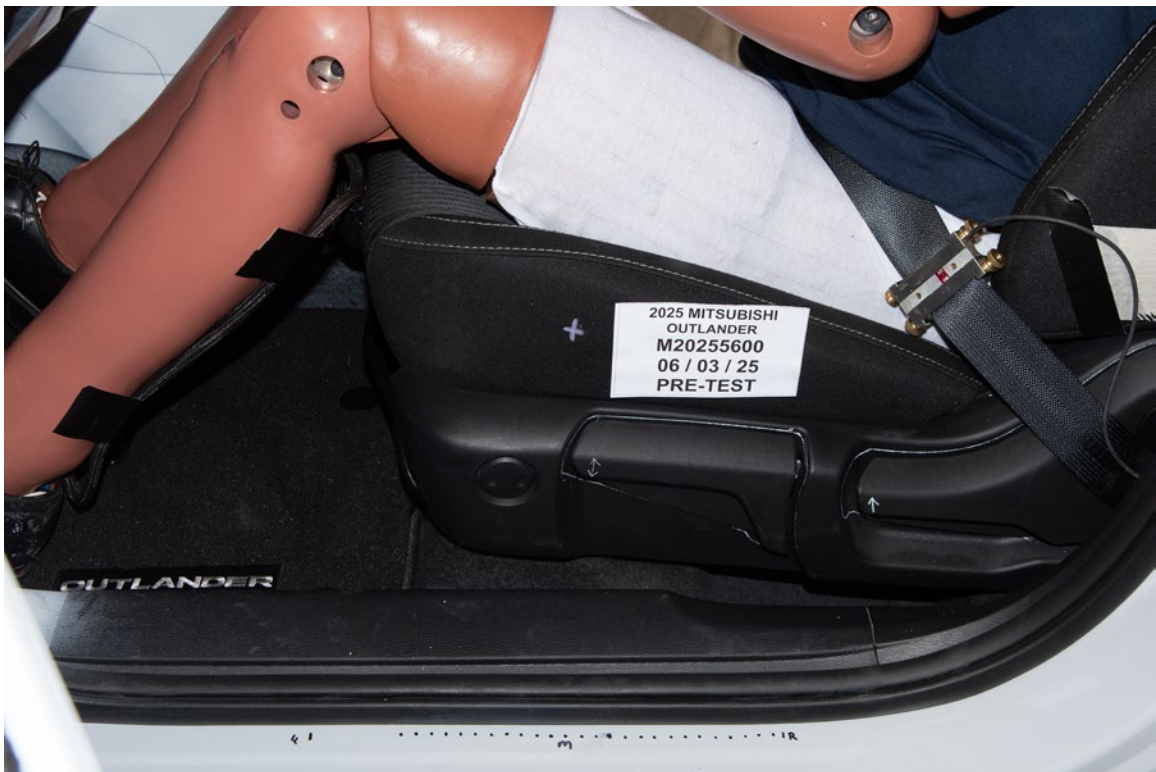


FIGURE 36. Pre-Test Driver's Seat Fore-Aft Markings



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

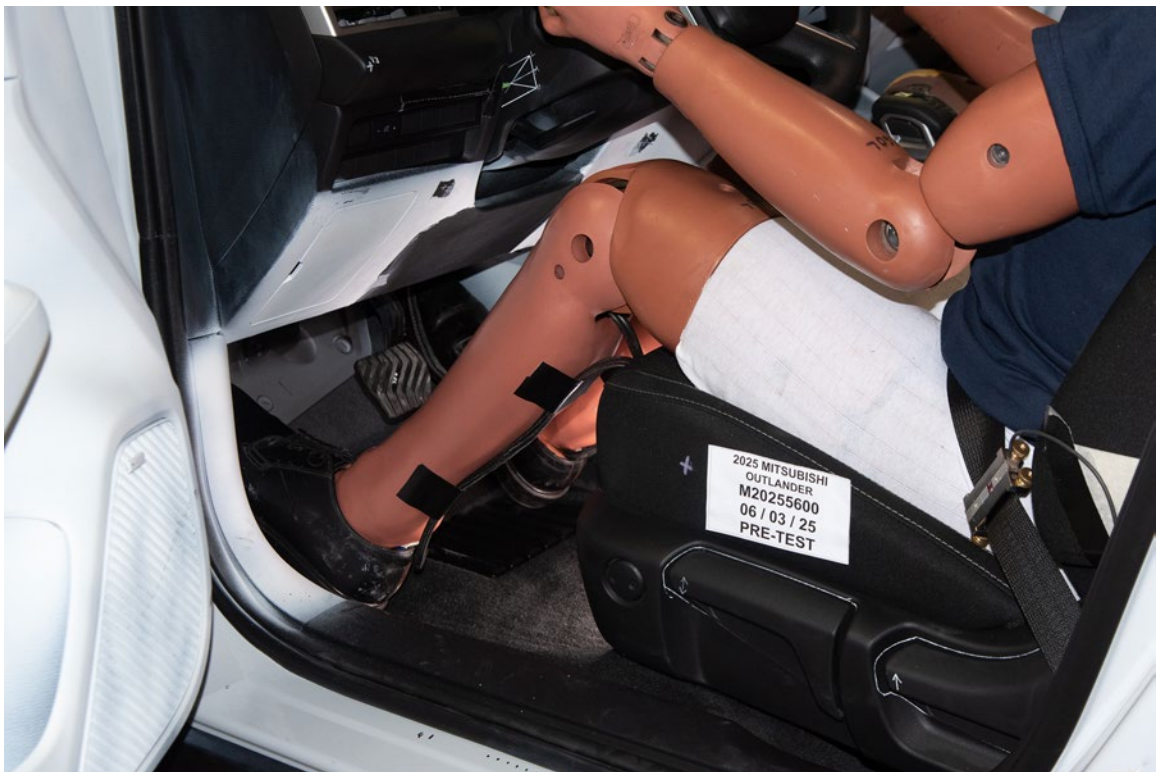


FIGURE 42. Pre-Test Driver Dummy Feet

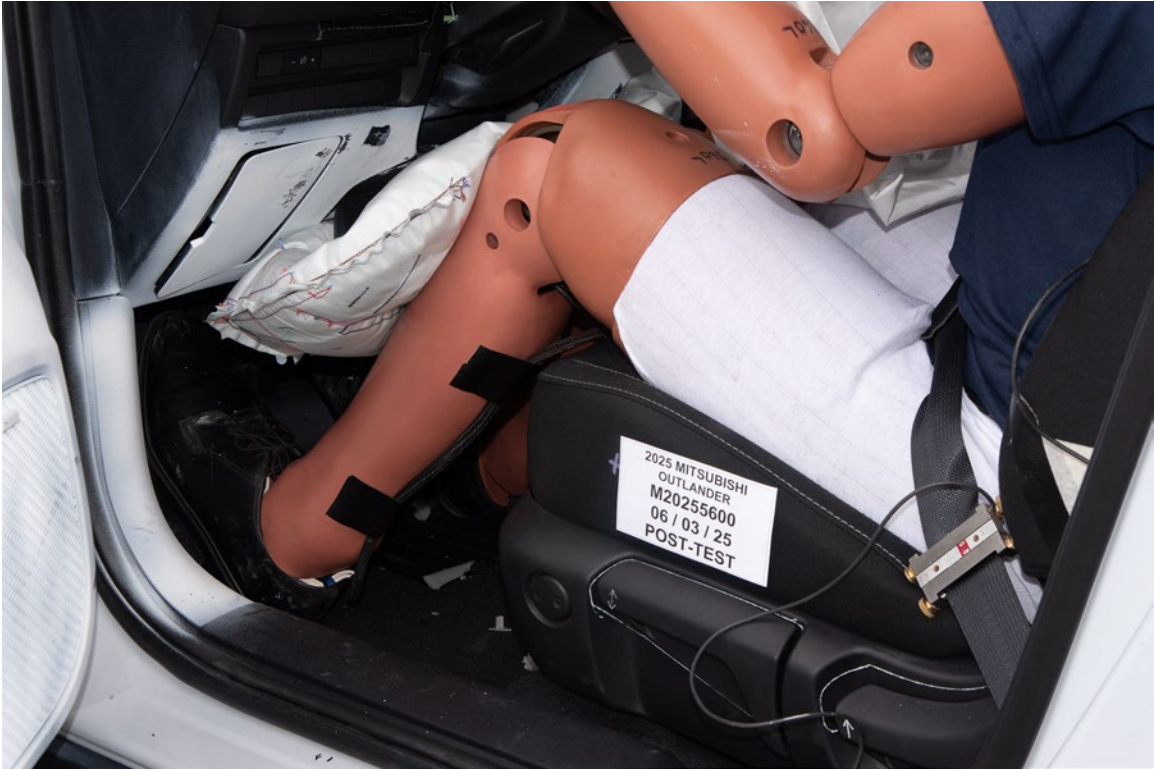


FIGURE 43. Post-Test Driver Dummy Feet



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



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



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 Air Bag



FIGURE 49a. Post-Test Driver Dummy Contact with Air Bag



FIGURE 50. Post-Test Driver Dummy Contact with Headrest



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



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



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



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 Air Bag



FIGURE 72a. Post-Test Passenger Dummy Contact with Air Bag



FIGURE 73. Post-Test Passenger Dummy Contact with Headrest

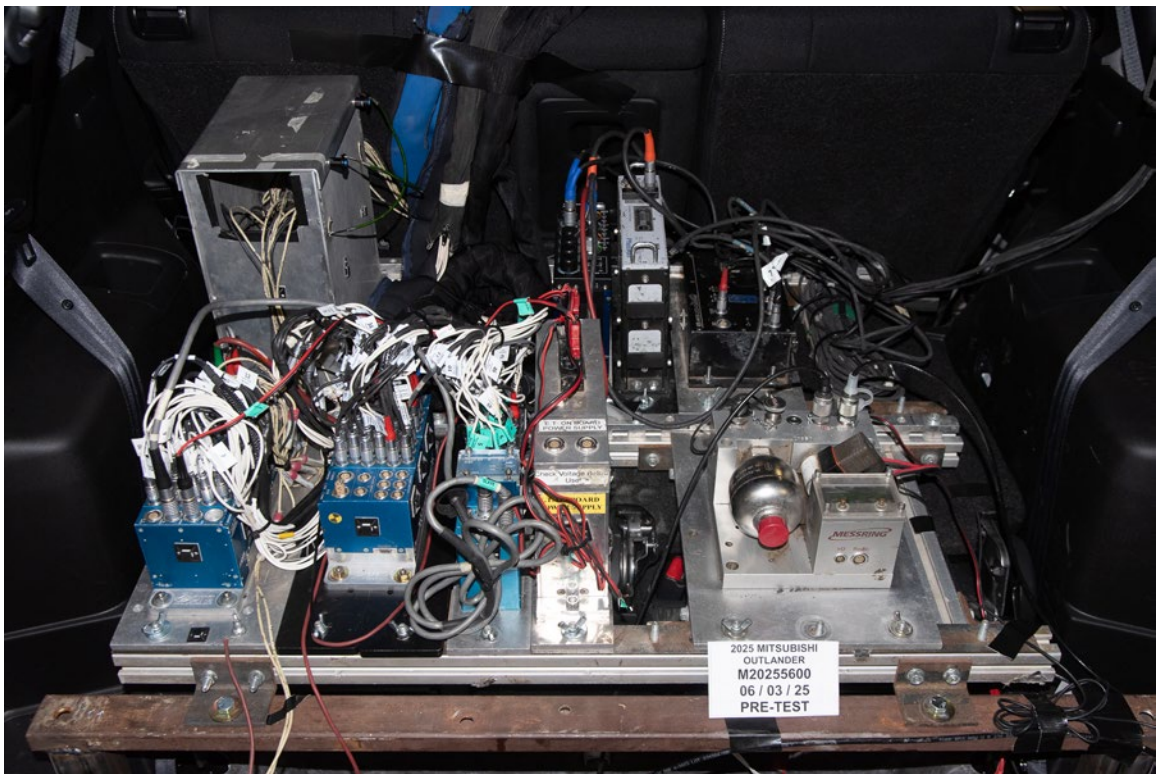


FIGURE 74. Photograph of Ballast Installed in Vehicle

Photograph Not Applicable No Stoddard Solvent Spillage

FIGURE 75. Post-Test Stoddard Solvent Spillage Location View

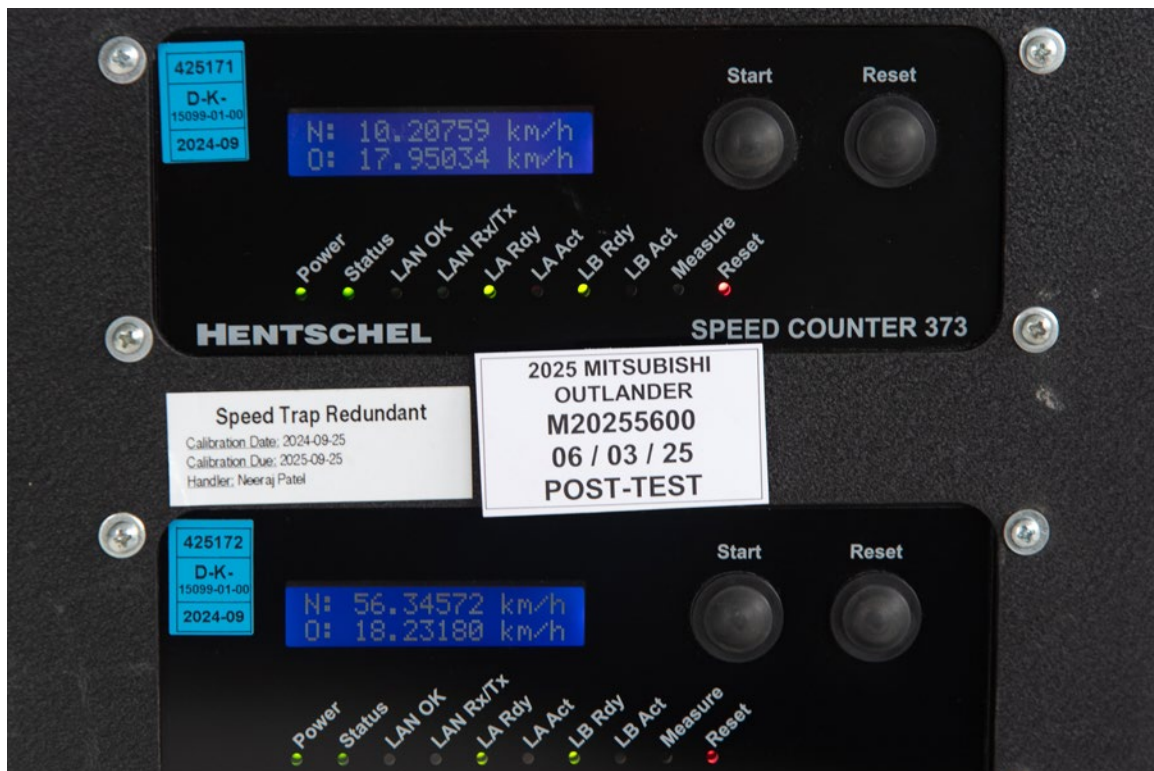


FIGURE 76. Post-Test Speed Trap Read-Out



FIGURE 77. Vehicle at 0° on Static Rollover Device

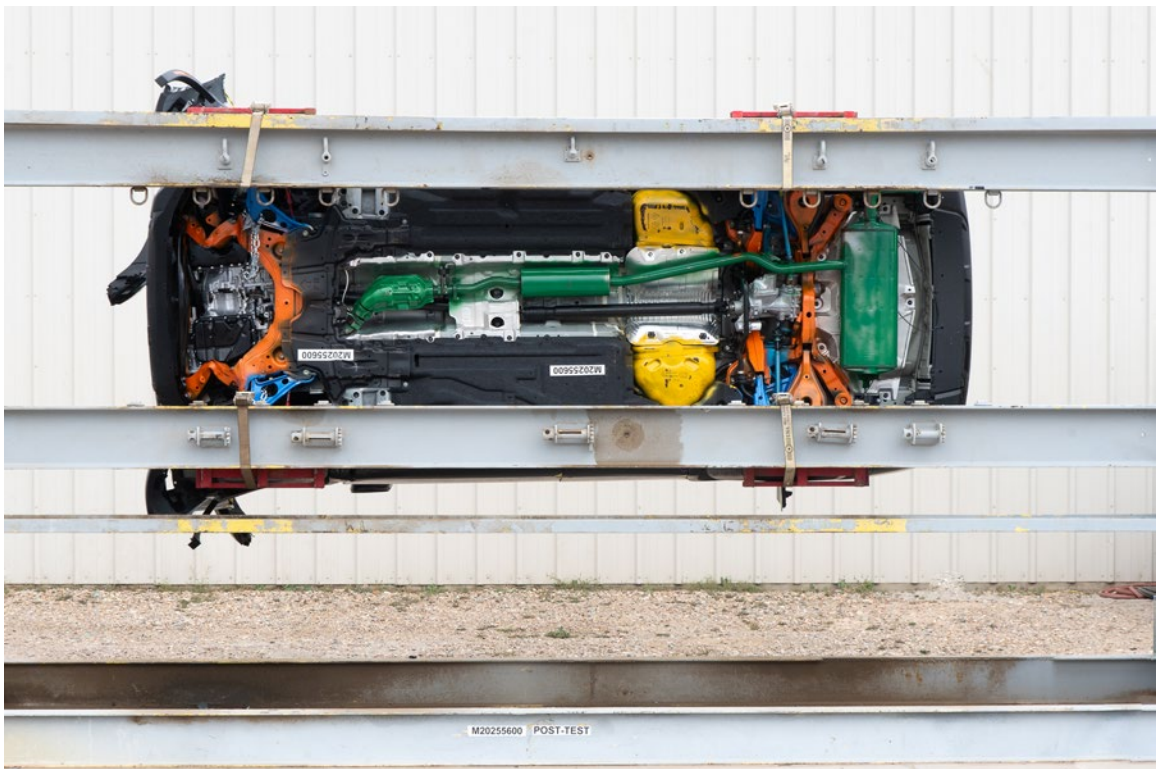


FIGURE 78. Vehicle at 90° on Static Rollover Device



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. 2025 Mitsubishi Outlander Frontal Impact Event

2025OT45BCVT5-E51-W8524P

Location : Loaded



2025 OUTLANDER ES 2.5 4-DOOR SUV
WHITE DIAMOND / BLACK

2.5L DOHC 4-CYLINDER DIRECT INJECTION CONTINUOUSLY VARIABLE TRANSMISSION 50-STATE EMISSIONS STANDARD

Mechanical Features

- 2.5L DOHC 4-cylinder Direct-Injection
- 9-Speed Continuously Variable Transmission (CVT)
- Super All-Wheel Control (S-AWC)
- Shift by wire
- Paddle shifters

Exterior Features

- LED low and high beam headlights
- LED daytime running lights
- LED Combination Tail Lights
- LED License Plate Light
- Headlight washers
- Automatic headlights
- Body-colored side mirrors w/ LED turn indicators
- Front wiper de-icer
- Rear window defroster with timer
- Capless fuel filler
- 16-inch alloy wheels
- P235/60 R18 all-season tires
- Tire repair kit

Interior Features

- Heated front seats
- Fabric seating surfaces
- 40:20:40 split-type 2nd row seat with folding function
- 7 Passenger seating
- Auto-Dimming Rearview Mirror

Convenience Features

- 12.3" Smartphone-Link Display Audio with Navigation
- Dynamic Sound Yamaha Premium (8 speakers)
- Wireless Apple CarPlay®
- Wireless Google Android Auto®
- XM® 360L audio with 90-day XM® All Access subscription
- XM® All Access and XM® Traffic & Travel Link with 90-day subscription
- 7.2" Multi-information display
- Bluetooth® wireless technology
- Steering wheel audio and phone controls
- Steering wheel voice recognition control
- Free 2x USB-C
- Center Console Box 1x USB-C
- Rearview Camera
- Drive mode selector (Tarmac, Gravel, Snow, Normal, Eco, Mud)
- Dual-zone automatic climate control
- Remote keyless entry
- Push button start

Safety & Security

- Adaptive Brake System (ABS) with Electronic Brakeforce Distribution (EBD) and brake assist
- Electronic parking brake with auto hold
- Active Stability Control (ASC)
- Hill Start Assist (HSA)
- Trailer Stability Assist (TSA)
- Tire Pressure Monitoring System (TPMS) with tire fill notification

Additional Equipment

- White Diamond Paint \$595.00
- Full Tank of Gas INCLUDED
- Mitsubishi Motors Confidence™ 10-Year/100,000-Mile Limited Powertrain Warranty INCLUDED
- 5-Year/Unlimited-Mile Roadside Assistance Warranty
- 2-Year/50,000-Mile Limited Maintenance Oil Changes, 3 Tire Rotations and 1 Cabin Filter
- See Participating Retailer for Details

Mitsubishi Connect Subscriptions INCLUDED

- 5-year Subcompact Services Trial, and 1-year Remote Services Trial
- Enrollment required. Trial period starts at vehicle delivery. After trial, standard subscription costs apply.

Reversible Cargo Mat \$105.00

Tonneau Cover \$210.00

Welcome Package \$185.00

- Touch Up Paint Pen (Body Color)
- Console Tray Mat
- Floor Mats, Carpet
- Vehicle Manuals Binder

All-Weather Floor Mats \$120.00

MSRP: \$31,445.00
 Total Additional Equipment: \$1,215.00
 Subtotal: \$32,660.00
 Destination/Handling: \$1,495.00
Total MSRP: \$34,155.00

MSRP (Manufacturer's Suggested Retail Price)

SALE PRICE 33655
 DOC FEE 275
 TRANSPORT 1150
35080

Visit us at www.mitsubishi.com

EPA DOT Fuel Economy and Environment

Fuel Economy

26 MPG combined city/hwy
24 MPG city
30 MPG highway

Small SUVs range from 14 to 18 MPG. The best vehicle rates 140 MPG.

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

3.8 gallons per 100 miles

Annual fuel cost \$2,000

Fuel Economy & Greenhouse Gas Rating (subcompact only)

5 (Best)

This vehicle emits 342 grams CO₂ per mile. The best emits 0 grams per mile (battery only). Producing and distributing fuel also create emissions. Learn more at fuelconomy.gov.

Smog Rating (subcompact only)

5 (Best)

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 26 MPG and costs \$500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.36 per gallon. EPA's is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Generate personalized estimates and compare vehicles.

10-year LIMITED POWERTRAIN WARRANTY

10"/100,000" 7"/100,000" anti-rust/corrosion/undercoating

5"/60,000" 5"/UNLIMITED" limited corrosion

*See participating retailer for Limited Warranty and Excludes other vehicles and components.

Parts Content Information

For vehicles in this country:

U.S./Canadian Parts Content: 4%	Major Sources of Foreign Parts Content: JAPAN 85%
---------------------------------	---

For this vehicle:

Final Assembly Point: OKAZAKI, JAPAN

Country of Origin: JAPAN

Engine: JAPAN

Transmission: JAPAN

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

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score

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

Frontal Crash	Driver	To be Rated
	Passenger	To be Rated
Based on the risk of injury in a frontal impact.		
Side Crash	Front seat	To be Rated
	Rear seat	To be Rated
Based on the risk of injury in a side impact.		
Rollover		★★★★
Based on the risk of rollover in a single-vehicle crash.		

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

Cumulative Accessory Weight is 30.8 lbs

FIGURE 83. Monroney Label Photograph

APPENDIX B
DUMMY RESPONSE DATA TRACES

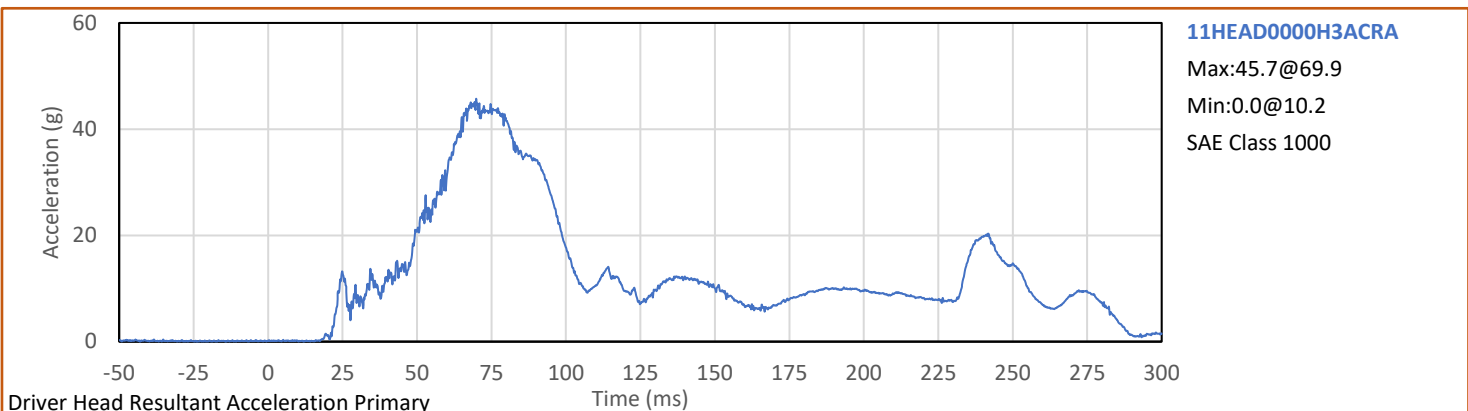
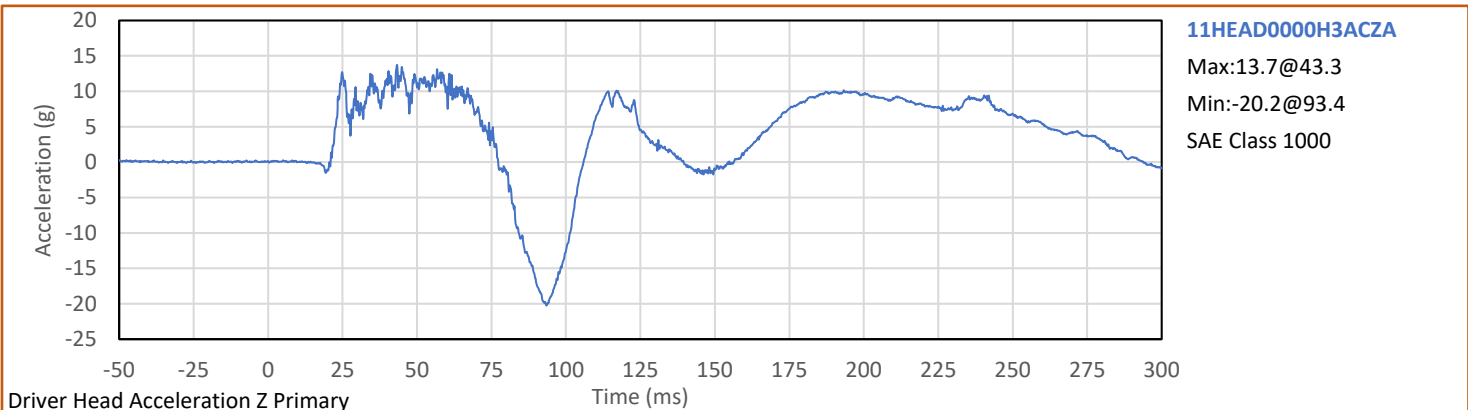
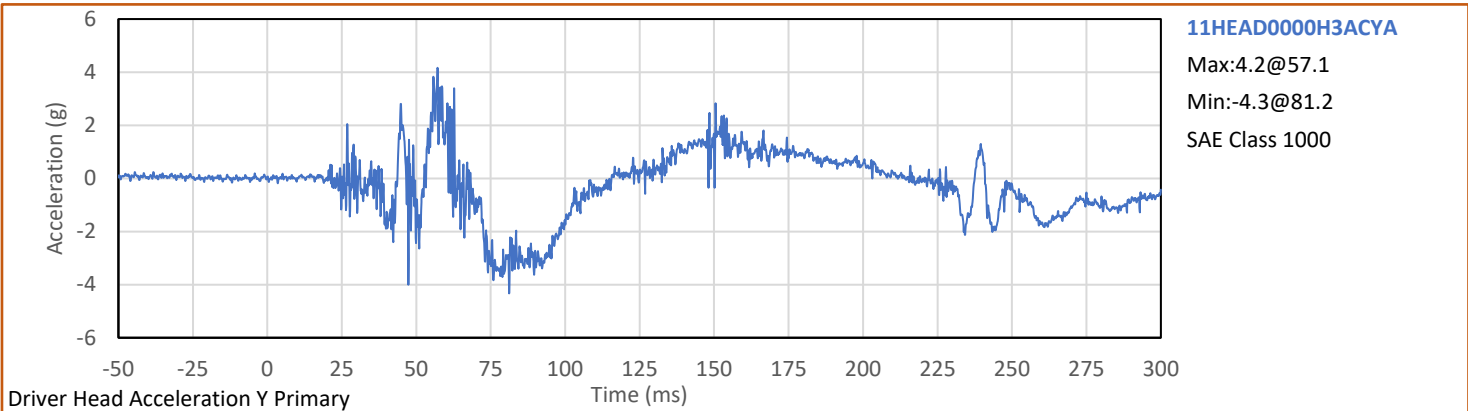
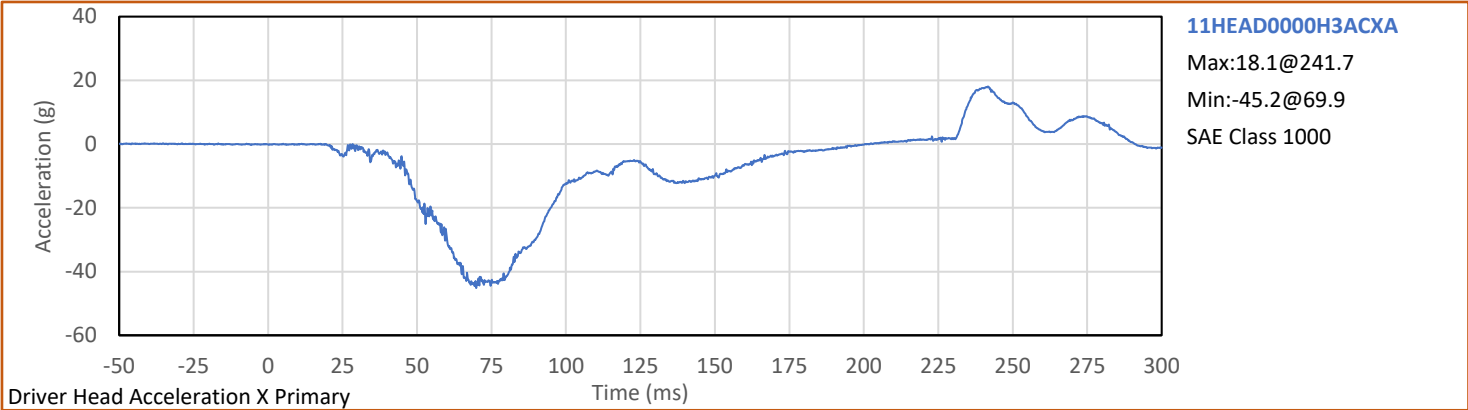
TABLE OF DATA PLOTS

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



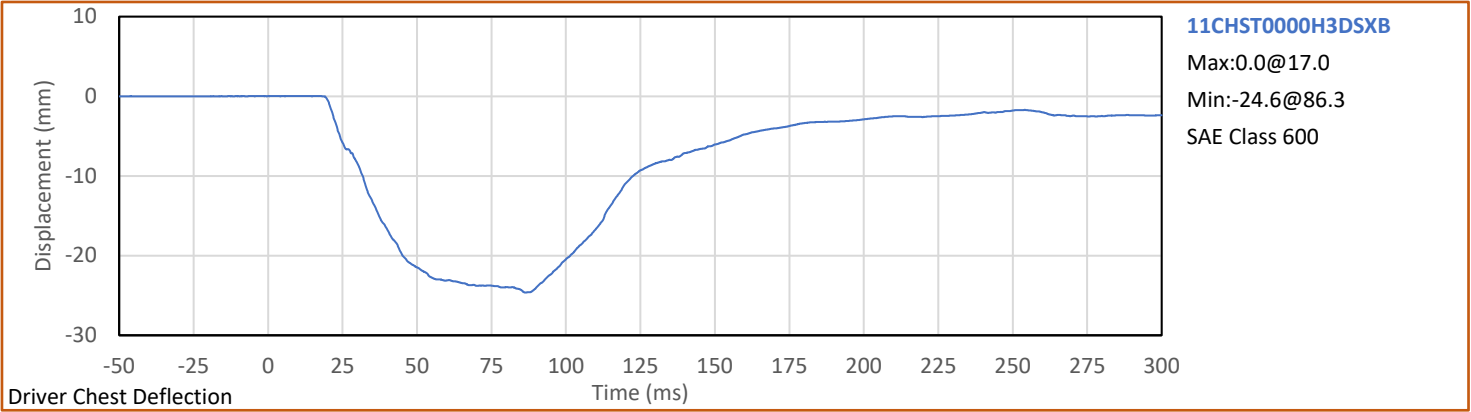
Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV

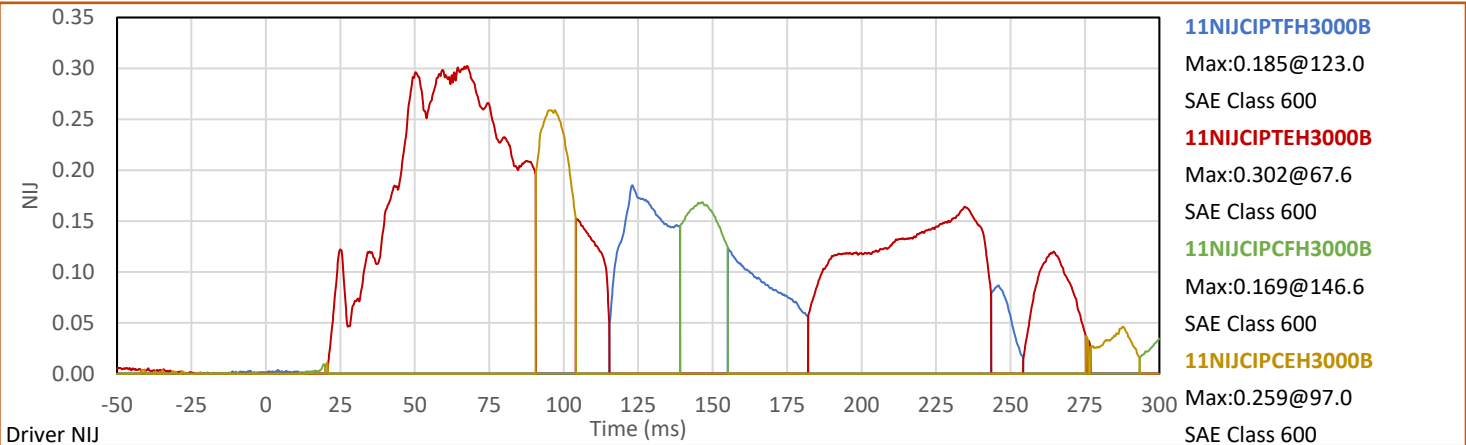
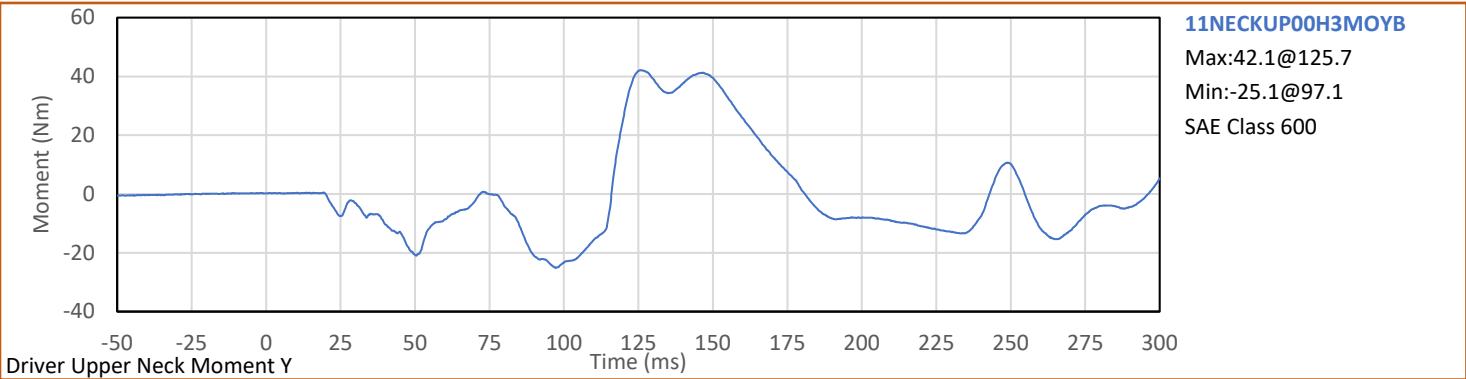
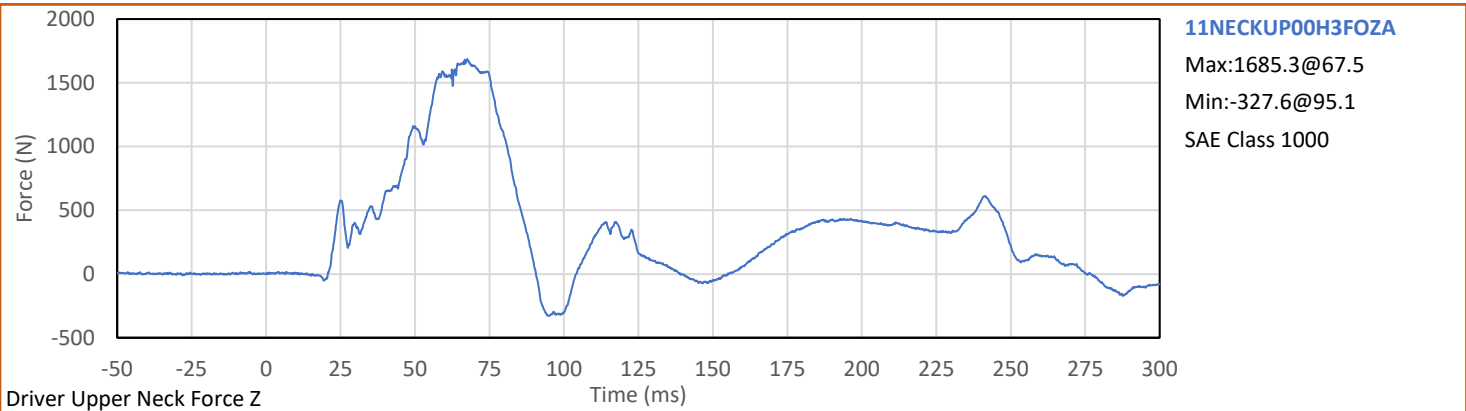
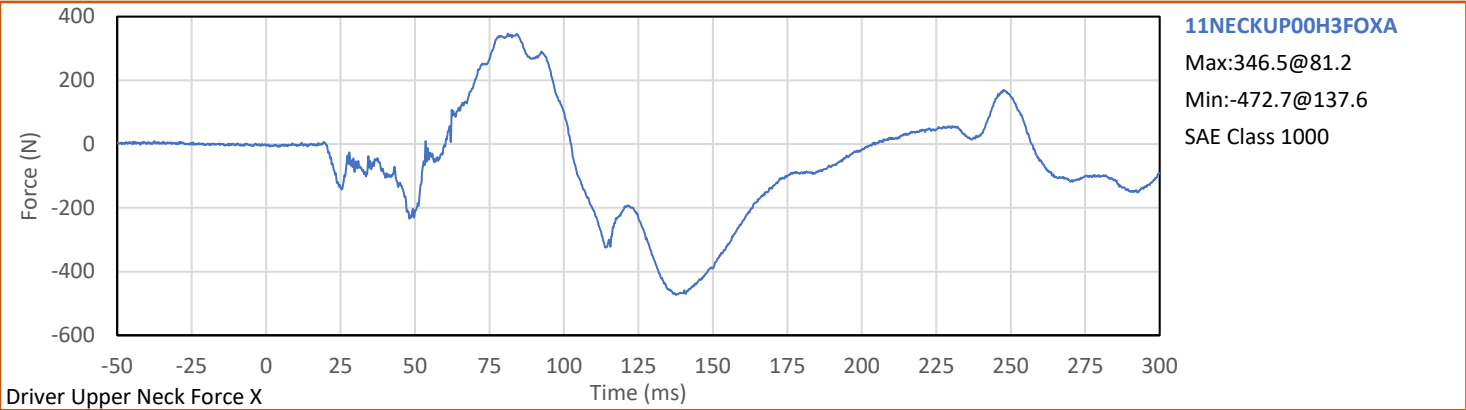
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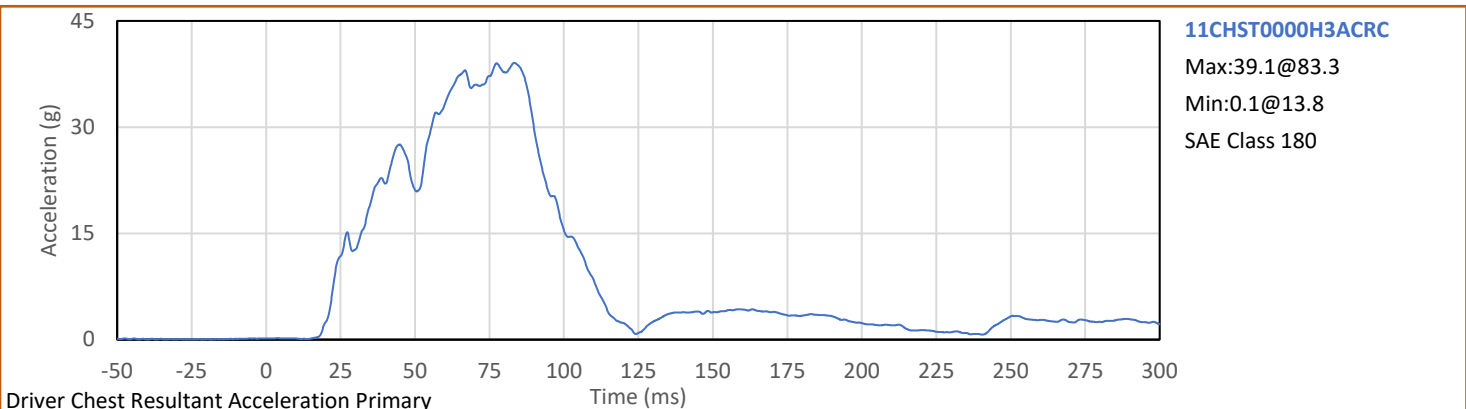
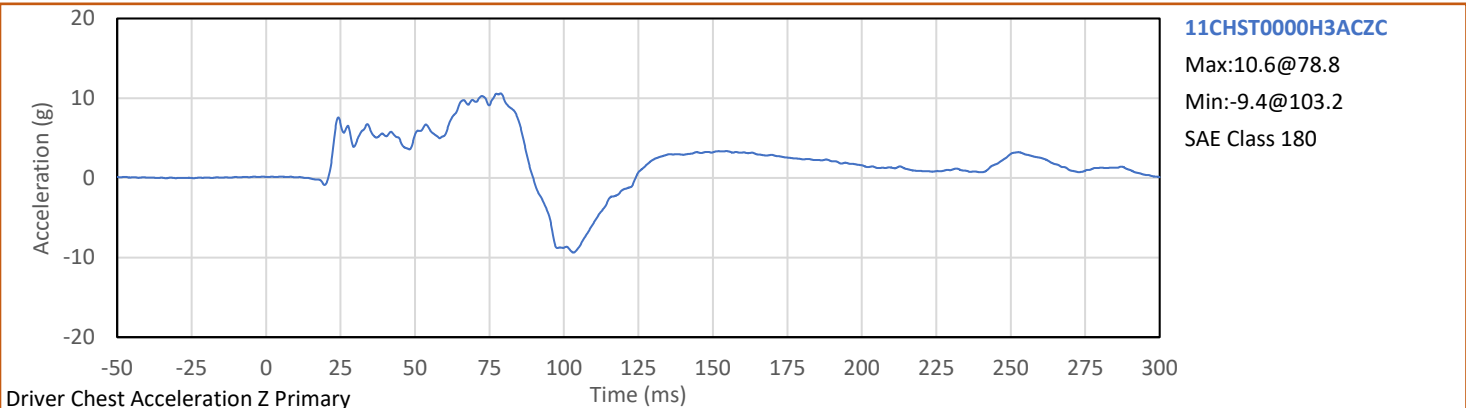
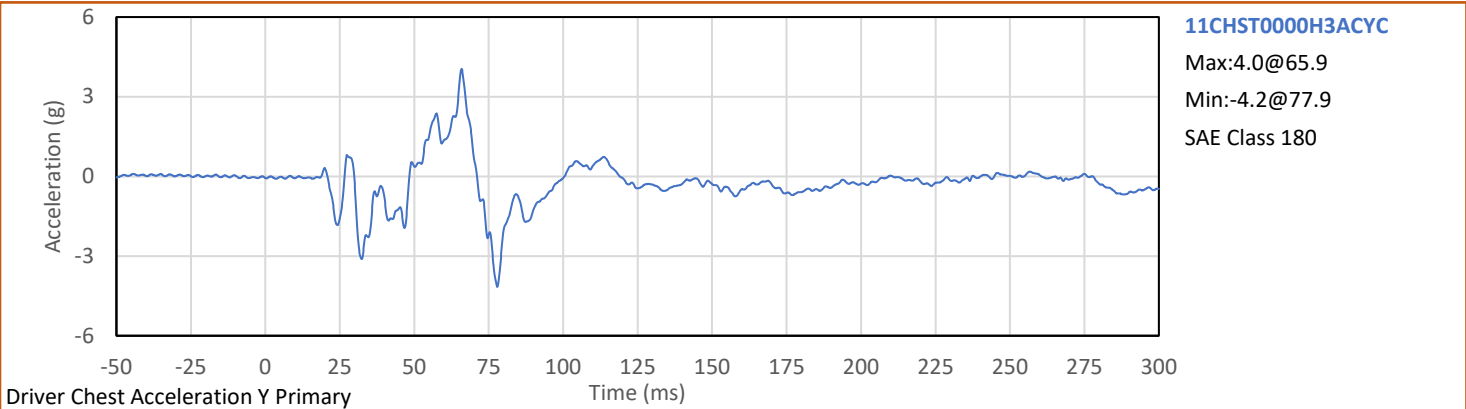
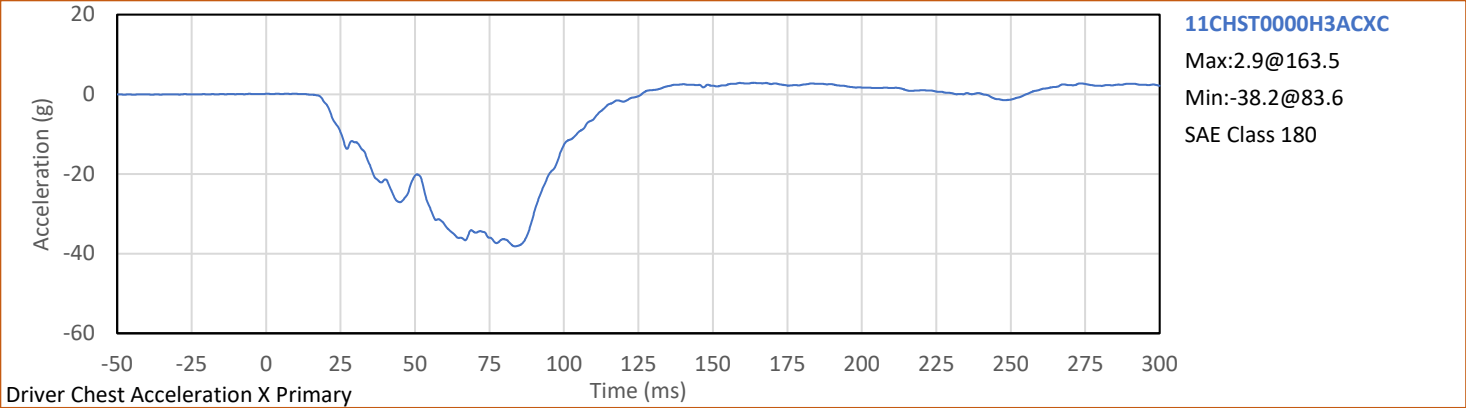


Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 6/3/2025







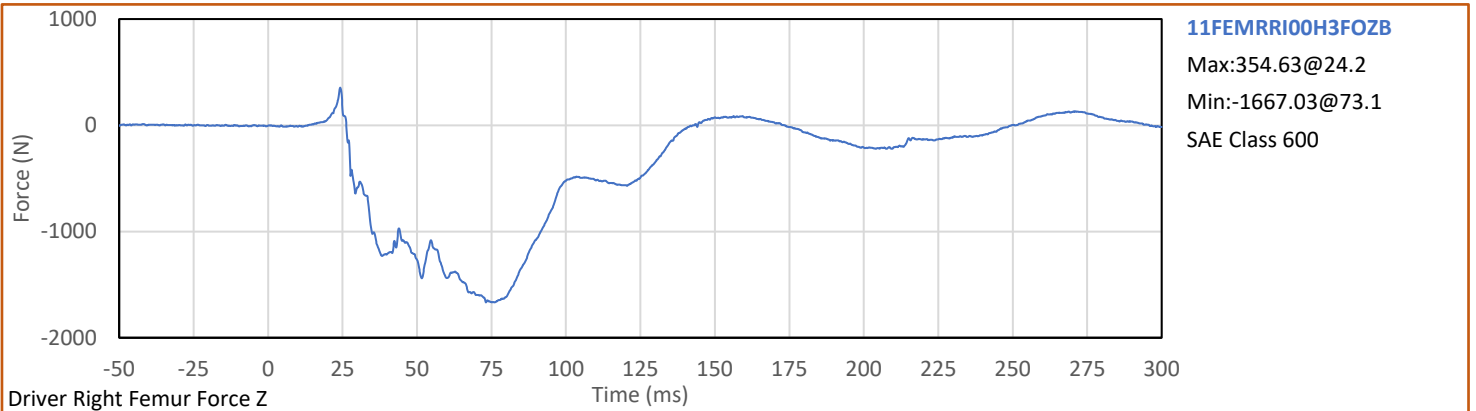
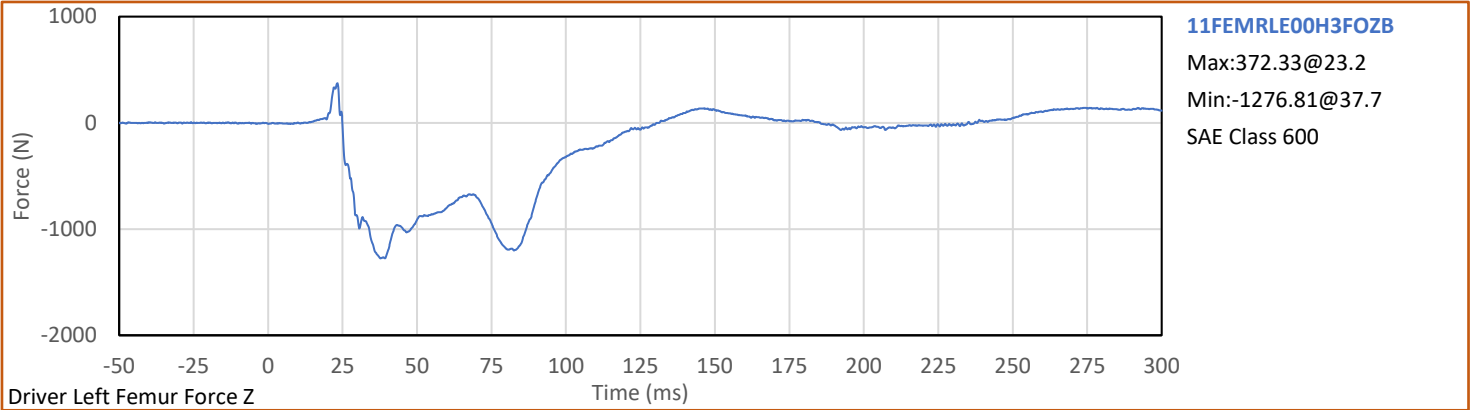
Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV

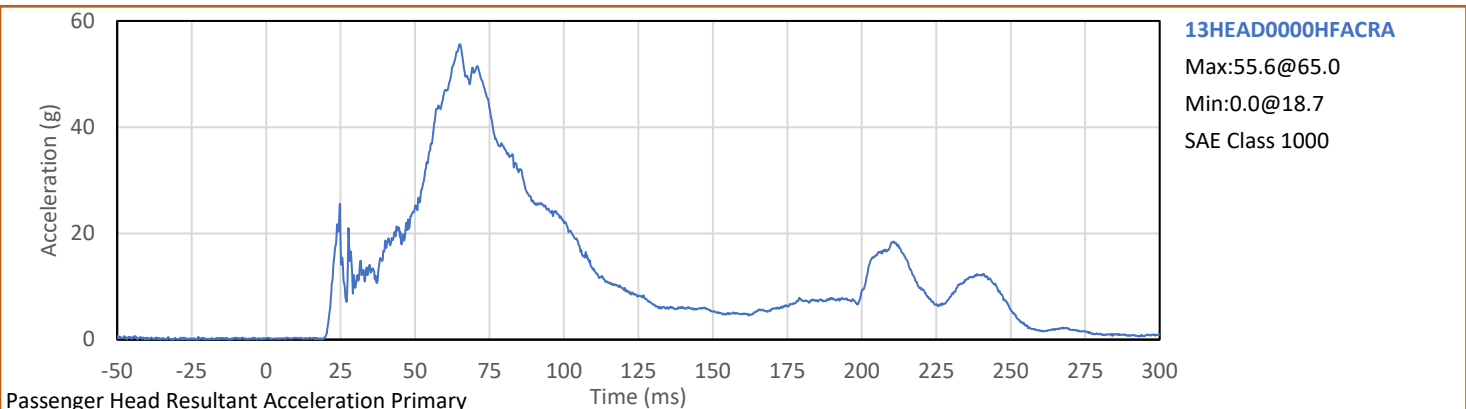
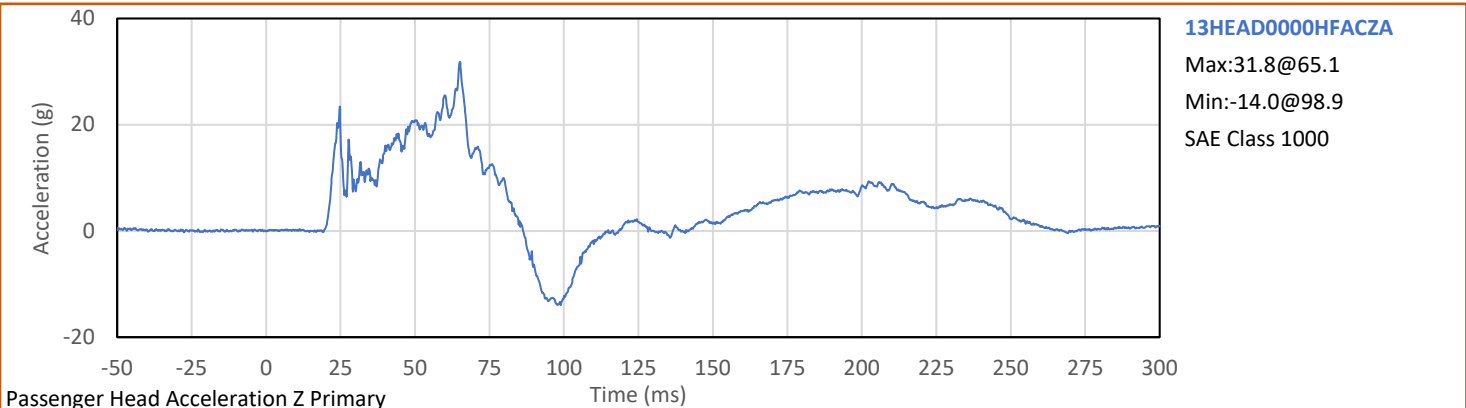
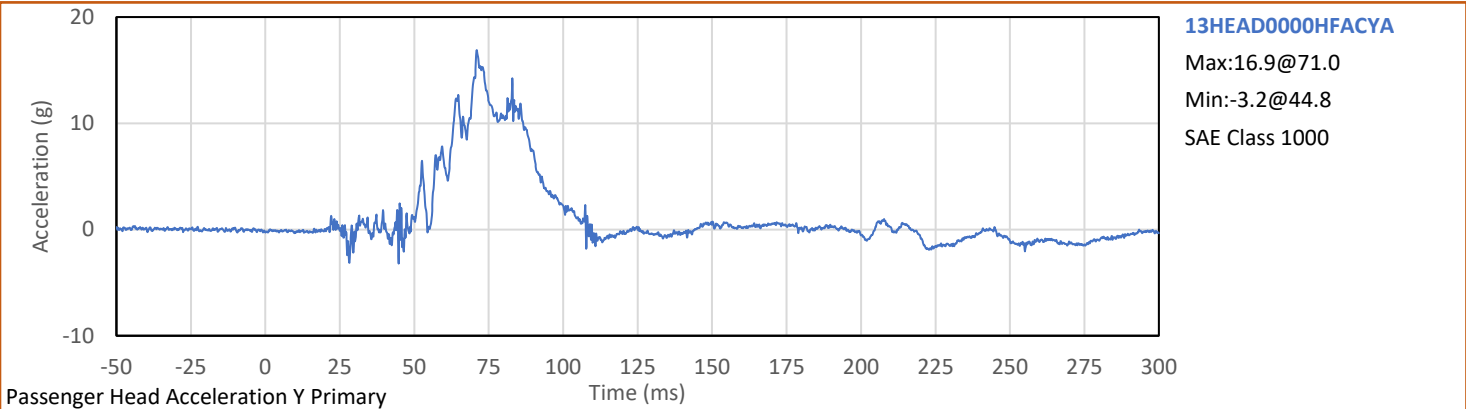
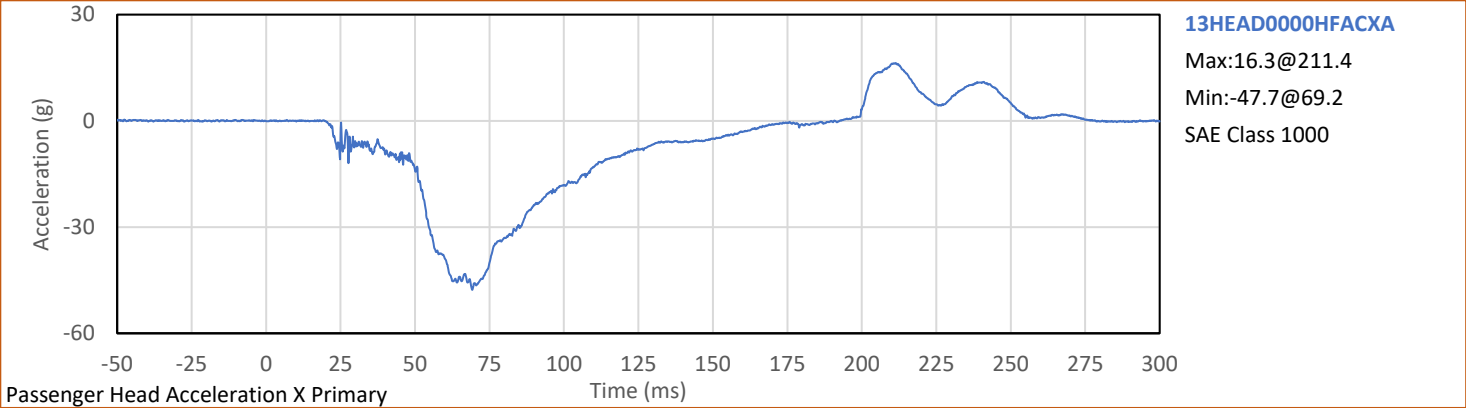
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Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 6/3/2025





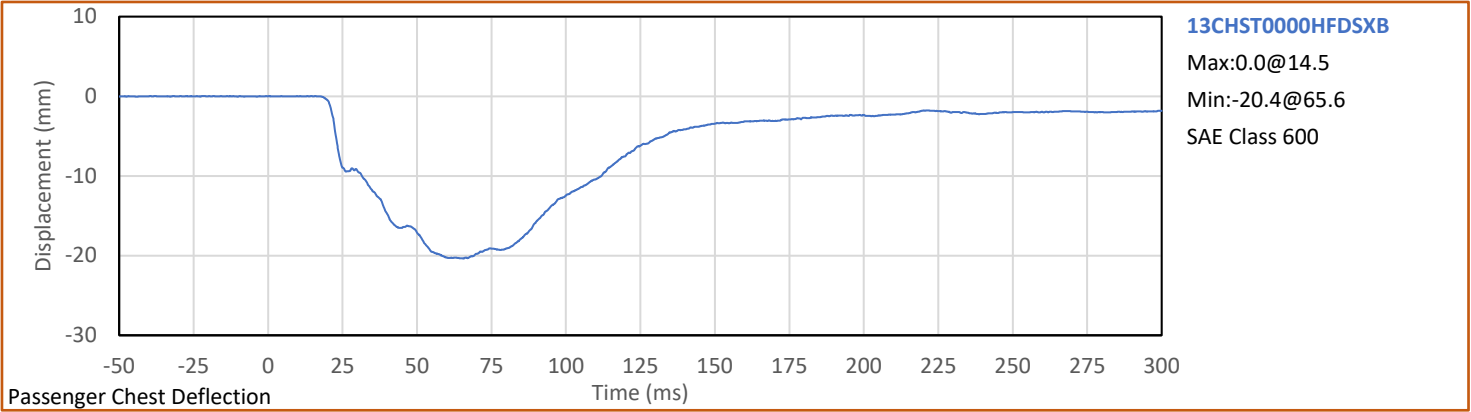
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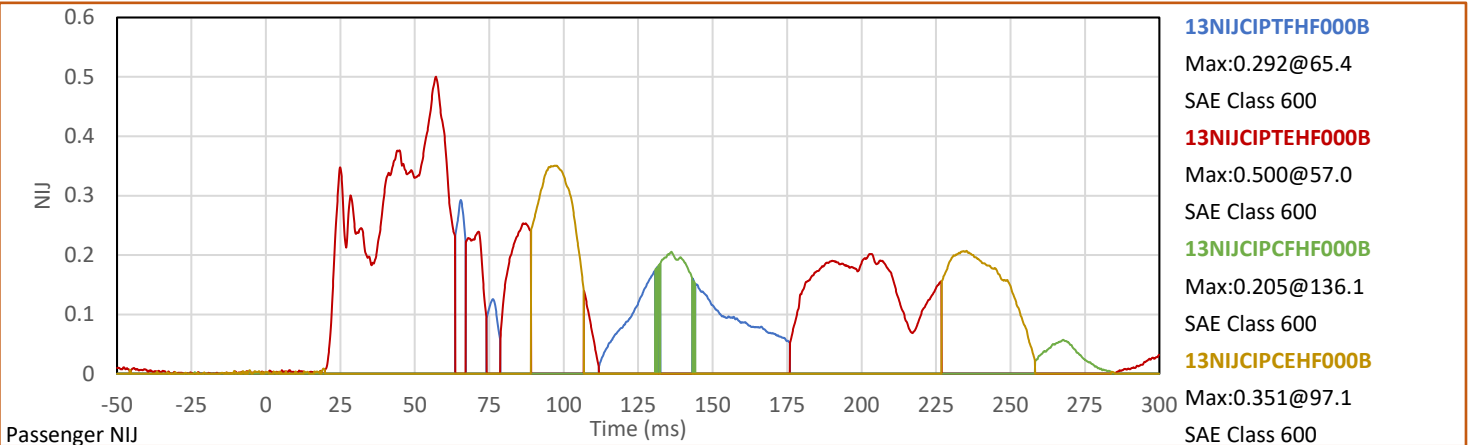
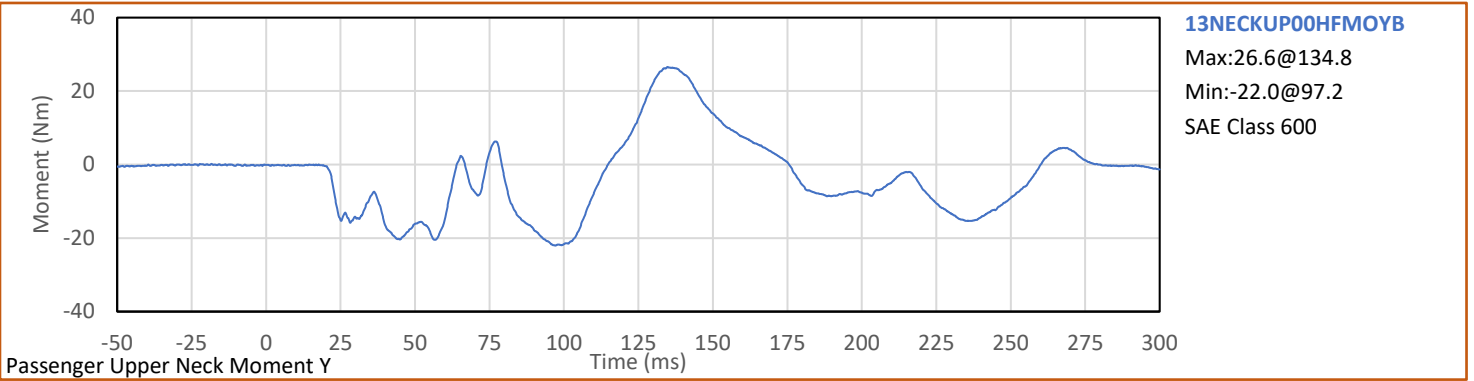
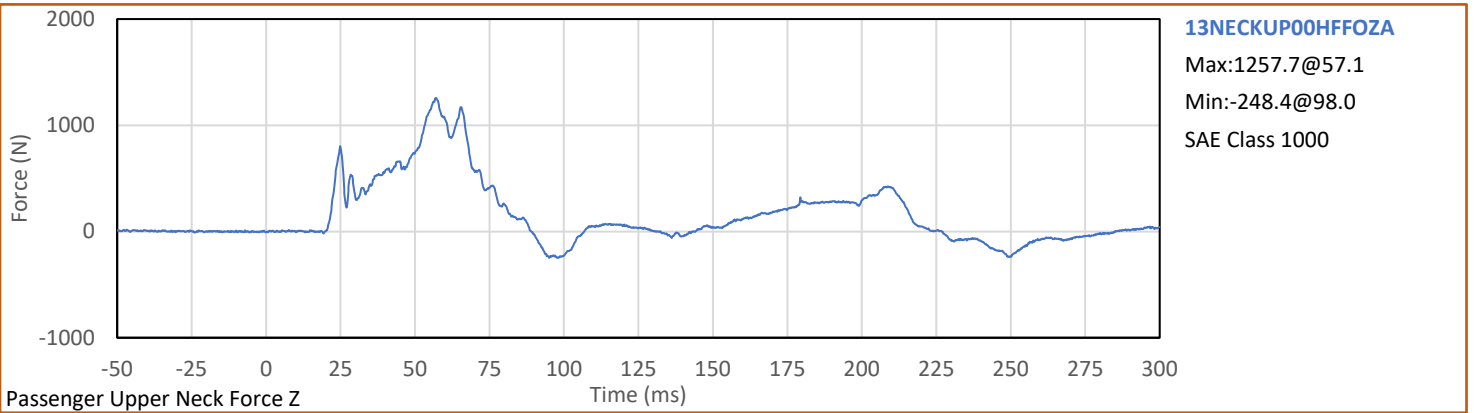
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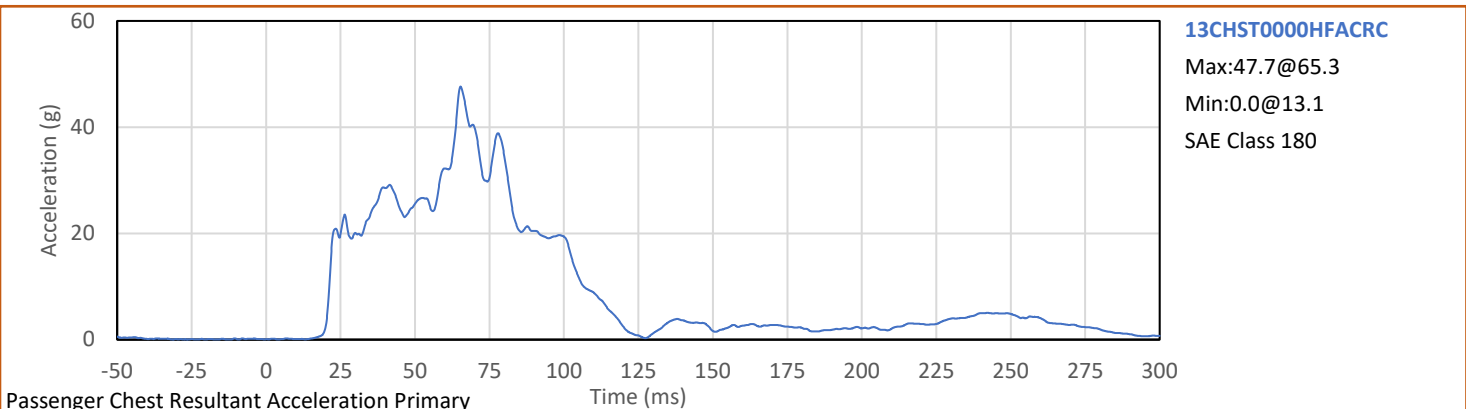
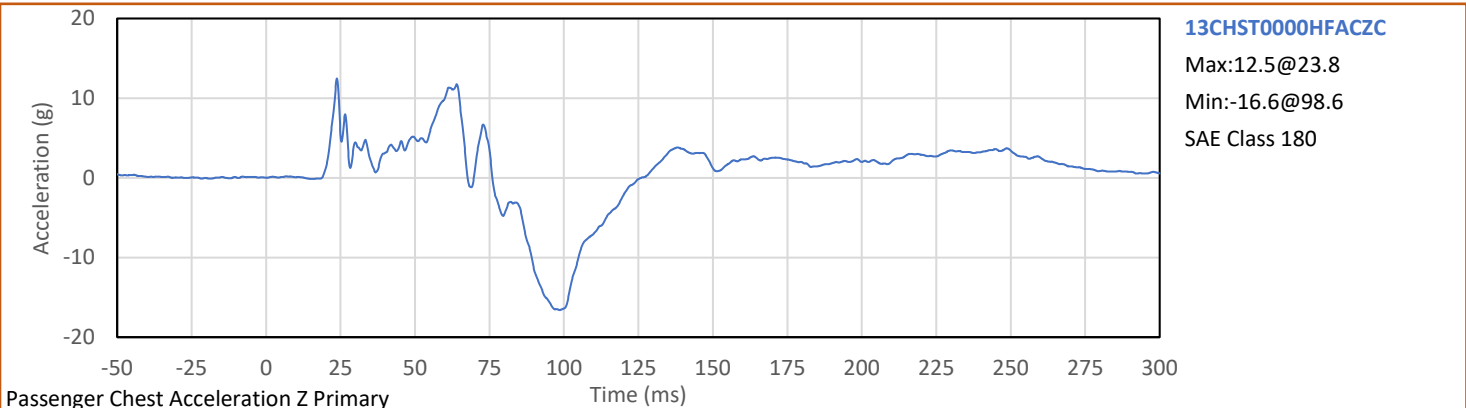
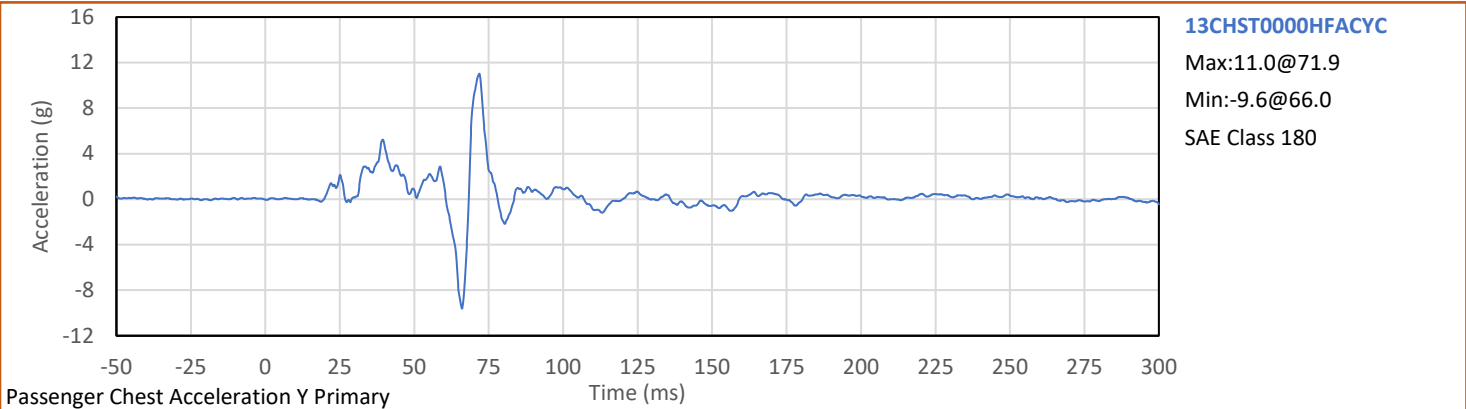
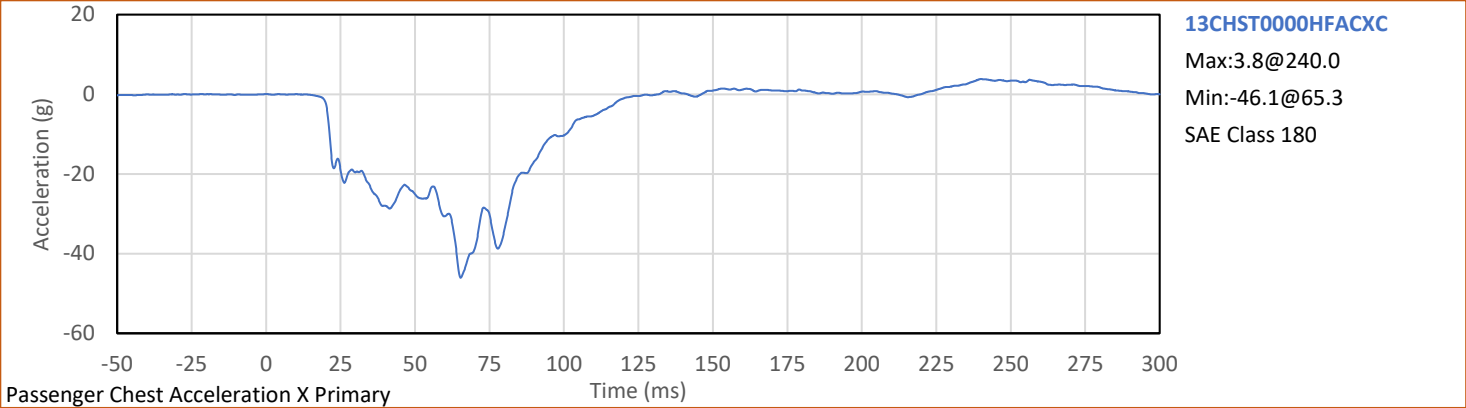


Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 6/3/2025







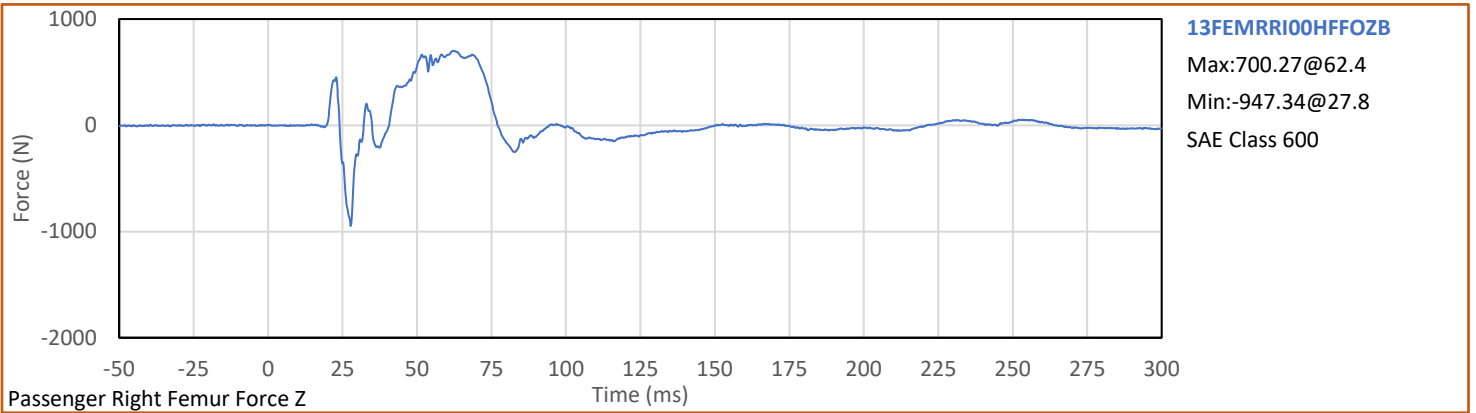
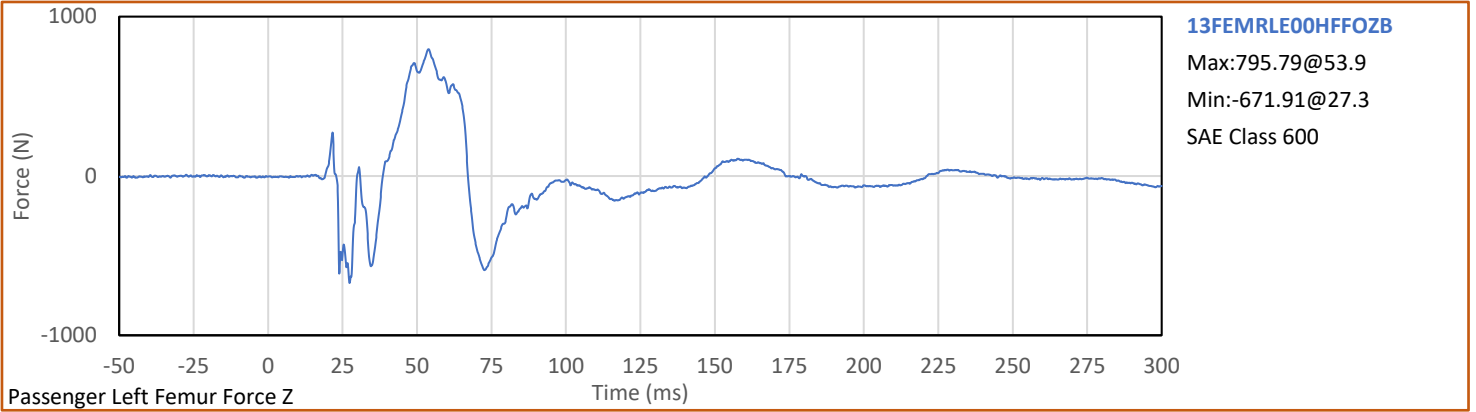
Test Vehicle: 2025 Mitsubishi Outlander 5-Door MPV

NHTSA No.: M20255600



Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 6/3/2025



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

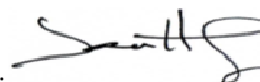
Test Date: 2025-05-27

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. Perez

Approved By: 
J. Hernandez

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	38	Pass
A - Total sitting height	mm	879	889	882	Pass
B - Shoulder pivot height	mm	505	521	518	Pass
C - 'H' point height	mm	84	89	85	Pass
D - 'H' point location from backline	mm	135	140	137	Pass
E - Shoulder pivot from backline	mm	84	94	89	Pass
F - Thigh clearance	mm	140	155	148	Pass
G - Back of elbow to wrist pivot	mm	290	305	296	Pass
H - Head back to backline	mm	41	46	43	Pass
I - Shoulder to elbow length	mm	330	345	334	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	436	Pass
M - Knee pivot height	mm	485	500	489	Pass
N - Buttock popliteal length	mm	452	477	462	Pass
O - Chest depth without jacket	mm	213	229	219	Pass
P - Foot length	mm	251	267	262	Pass
V - Shoulder breadth	mm	422	437	429	Pass
W - Foot breadth	mm	91	107	103	Pass
Y - Chest circum. (w/chest jacket)	mm	970	1001	982	Pass
Z - Waist circum.	mm	836	866	852	Pass
AA - Location for chest circum.	mm	429	434	431	Pass
BB - Location for waist circum.	mm	226	231	229	Pass
Overall Test Results					Pass

Technician.



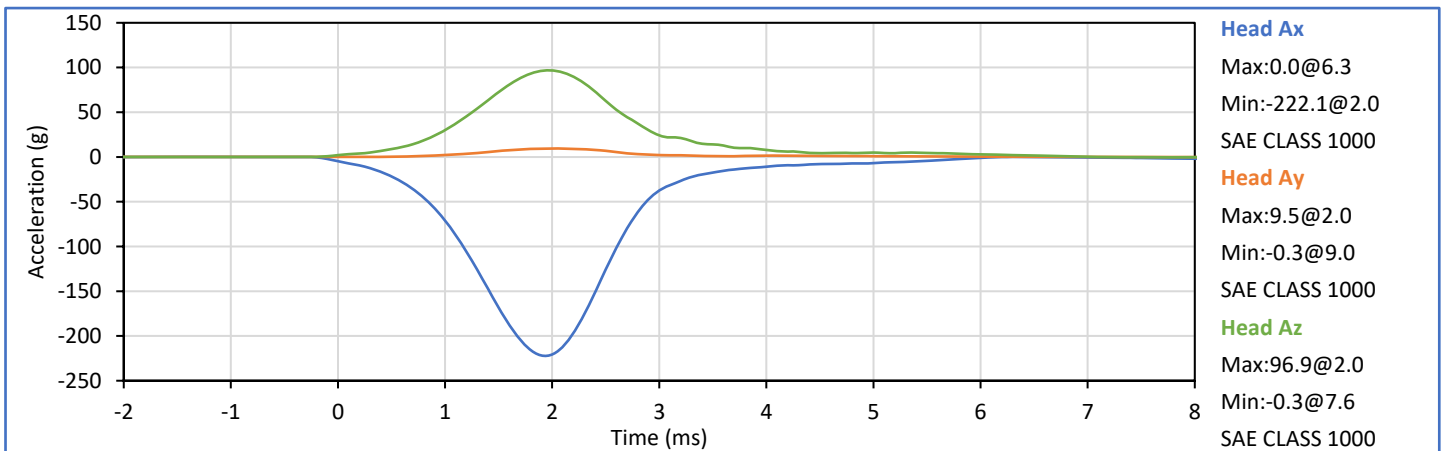
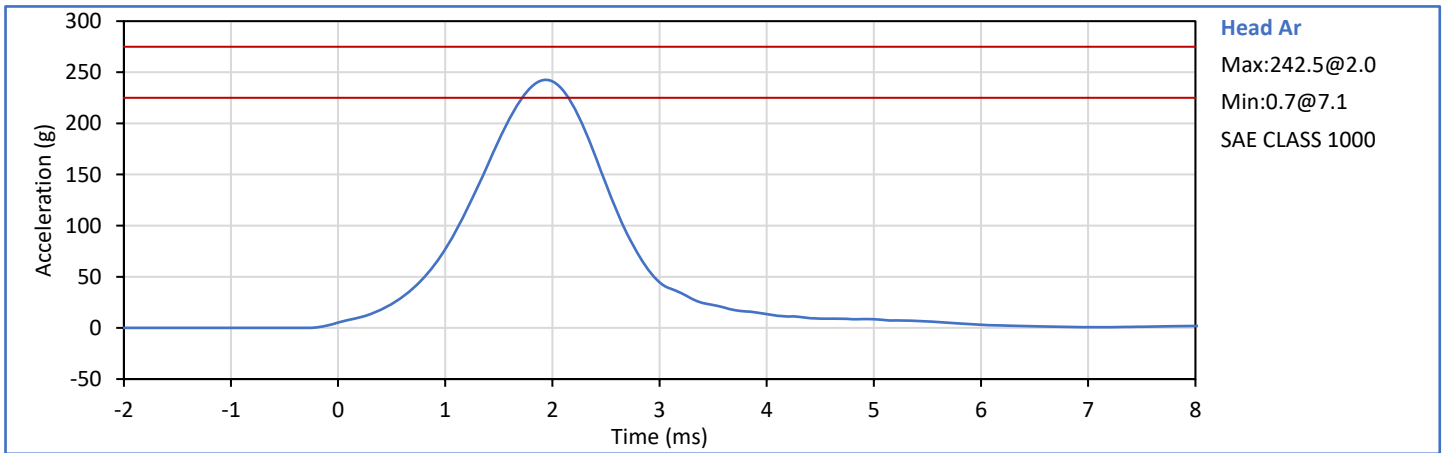
J. Perez


Approved By:




J. Hernandez

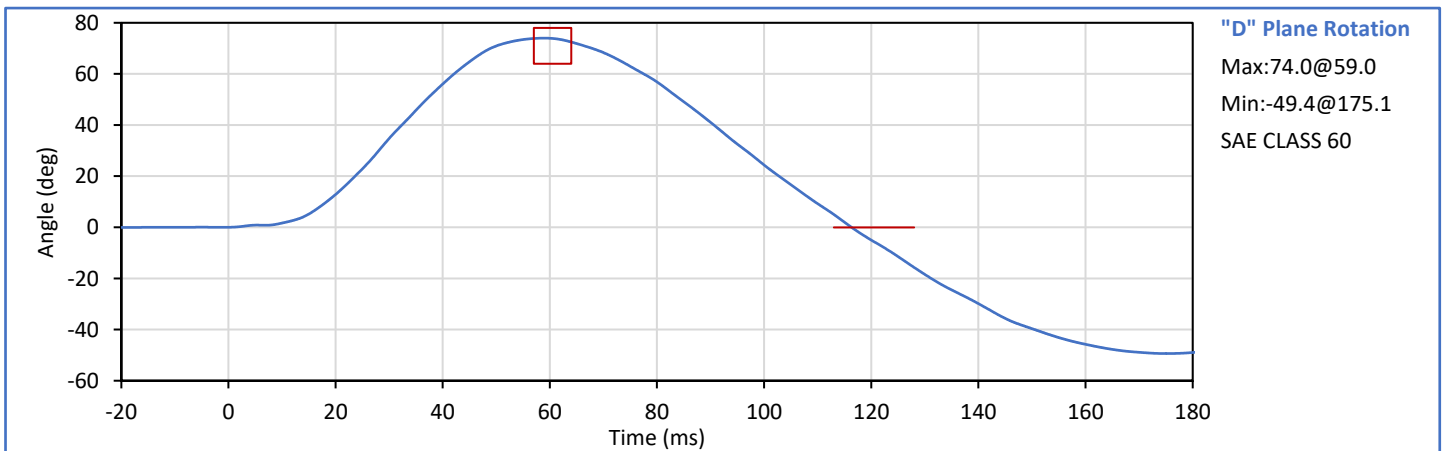
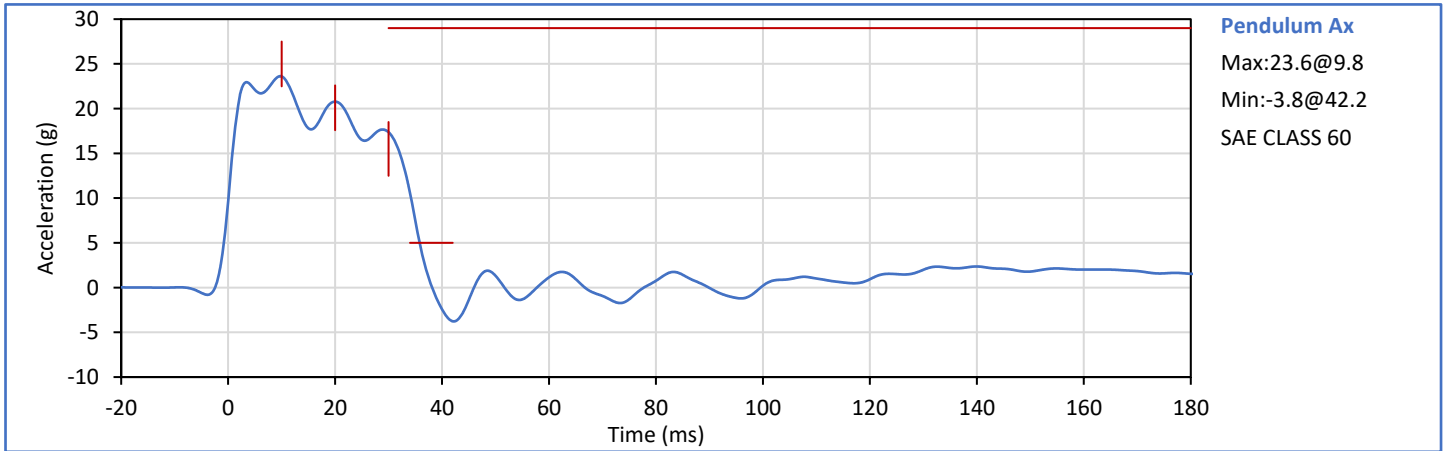
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Laboratory Temperature	°C	18.9	25.6	21.3	Pass
Laboratory Relative Humidity	%	10	70	38	Pass
Peak Resultant Acceleration	g	225.0	275.0	242.5	Pass
Peak Lateral Acceleration	g	-15.0	15.0	9.5	Pass
Oscillations After Main Pulse	%	0.0	10.0	0.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass





Technician: 
J. Perez

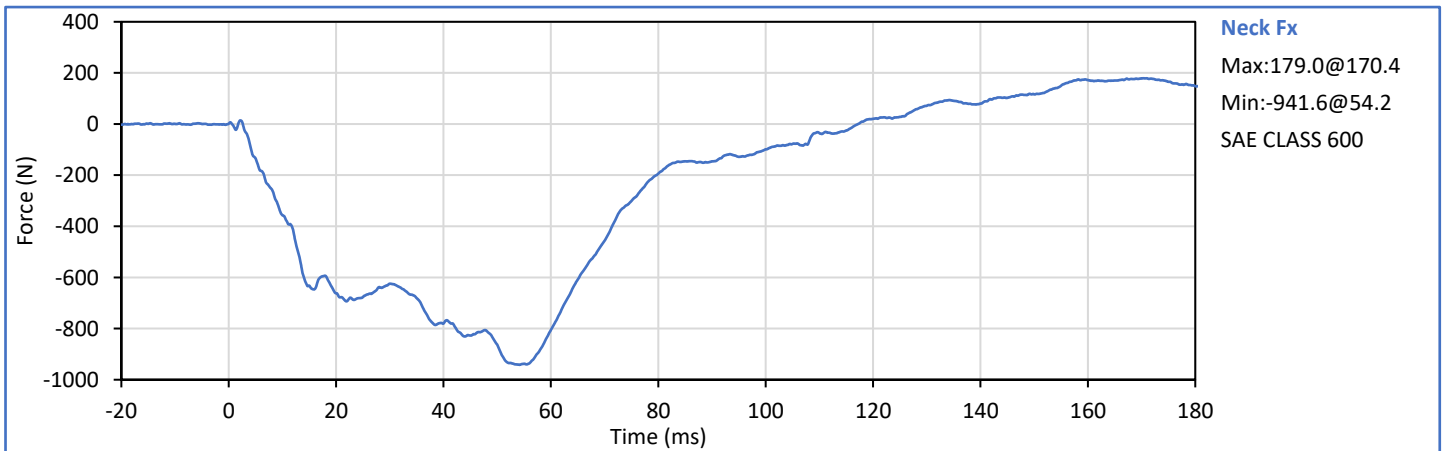
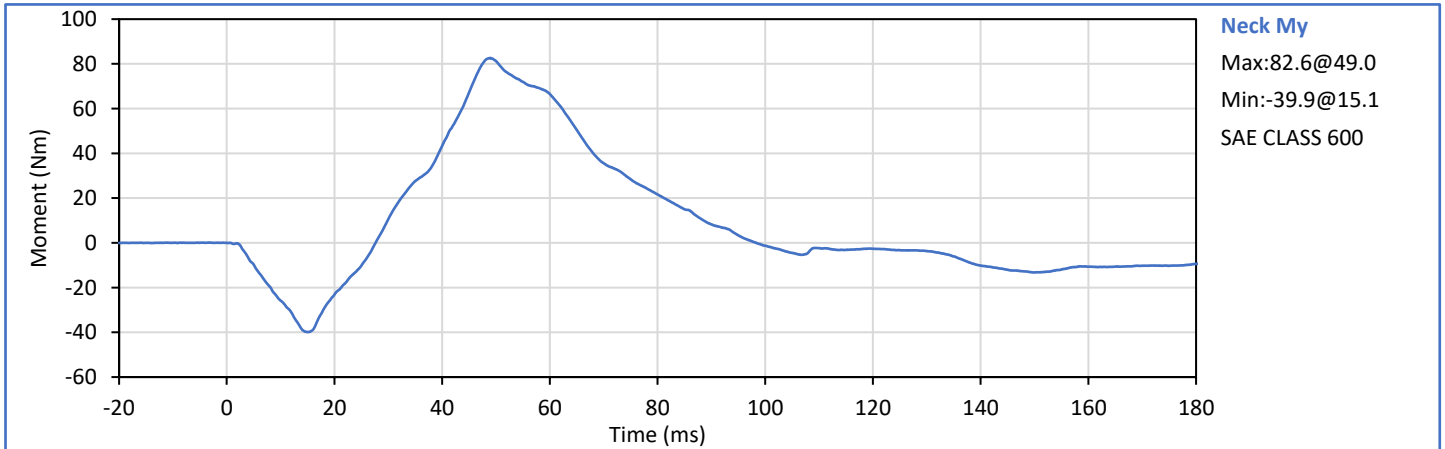
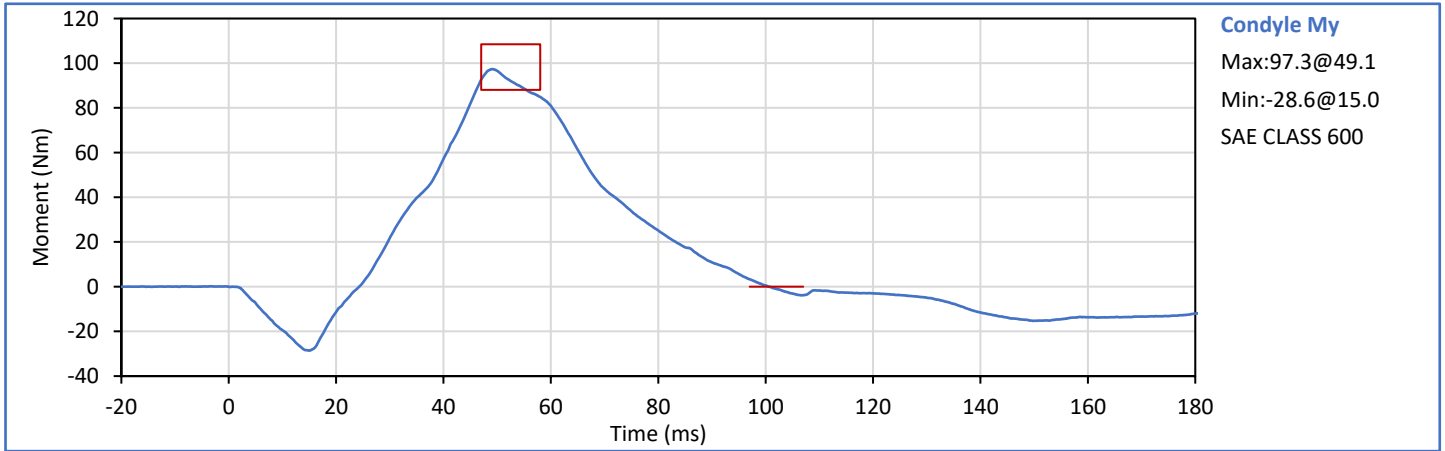
Approved By: 
J. Hernandez

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	40	Pass
Pendulum Velocity	m/s	6.89	7.13	7.04	Pass
Pendulum Deceleration at 10 ms	g	22.5	27.5	23.6	Pass
Pendulum Deceleration at 20 ms	g	17.6	22.6	20.8	Pass
Pendulum Deceleration at 30 ms	g	12.5	18.5	17.4	Pass
Peak Pendulum Decel After 30 ms	g	0.0	29.0	17.4	Pass
Deceleration Decay to Cross 5g	ms	34.0	42.0	35.8	Pass
"D" Plane Rotation peak	deg	64.0	78.0	74.0	Pass
	ms	57.0	64.0	59.0	Pass
"D" Plane Rotation Decay to Zero	ms	113.0	128.0	116.4	Pass
Moment About Occipital Condyle	Nm	88.1	108.5	97.3	Pass
	ms	47.0	58.0	49.1	Pass
Moment Decay, Peak to Zero	ms	97.0	107.0	100.6	Pass
Overall Test Results					Pass

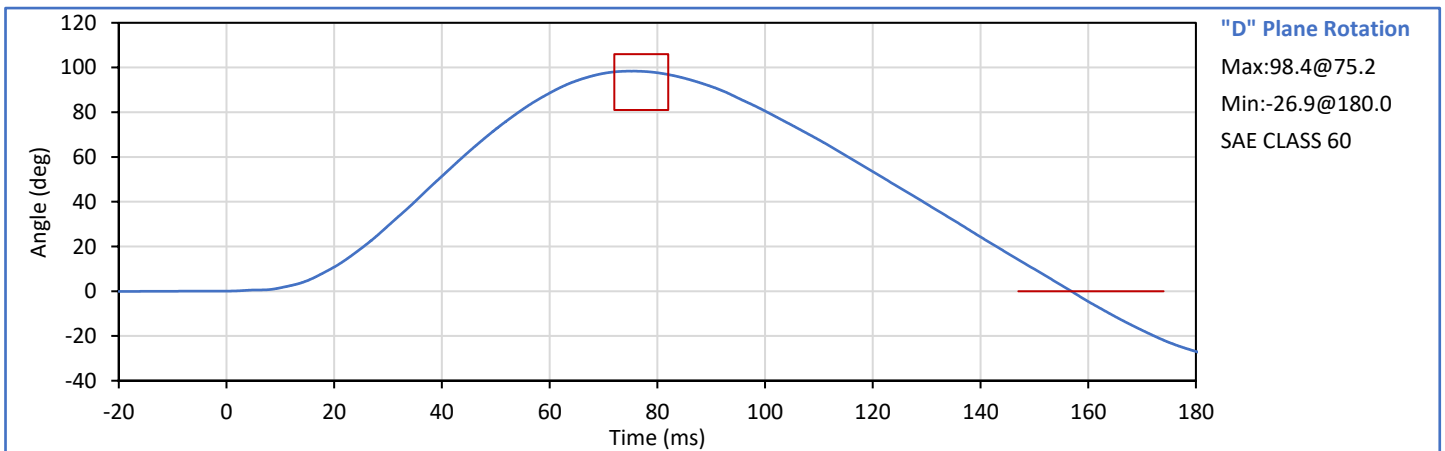
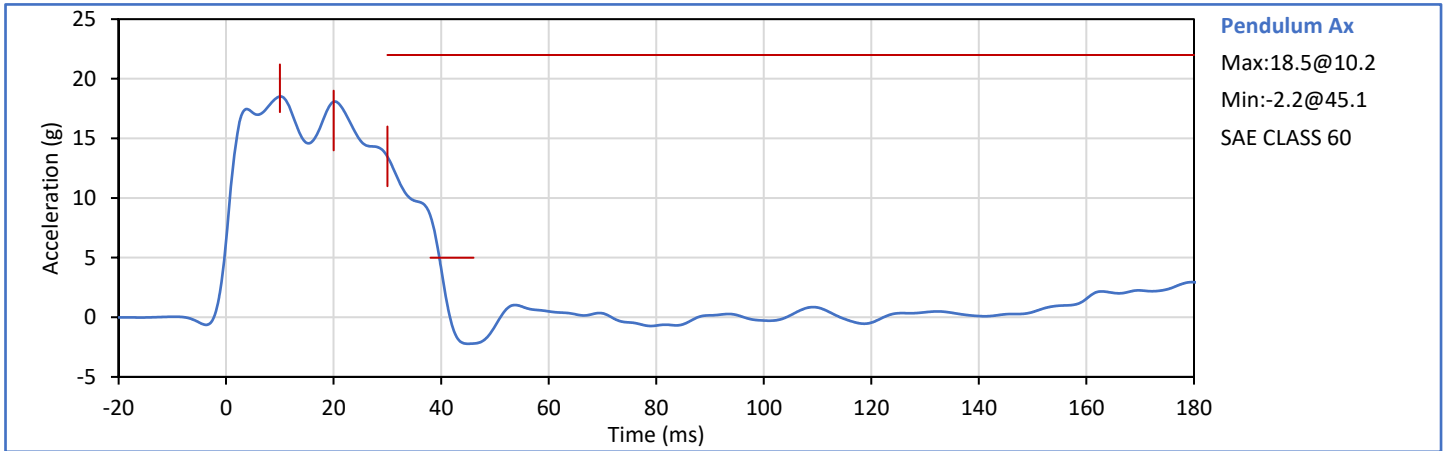



Technician: 
J. Perez


Approved By: 
J. Hernandez

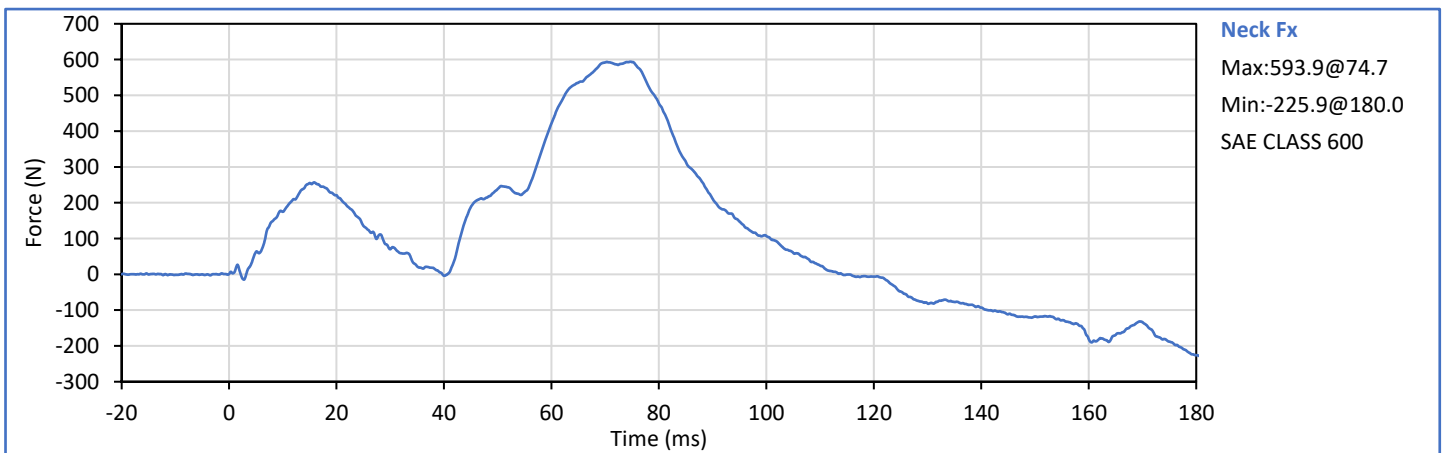
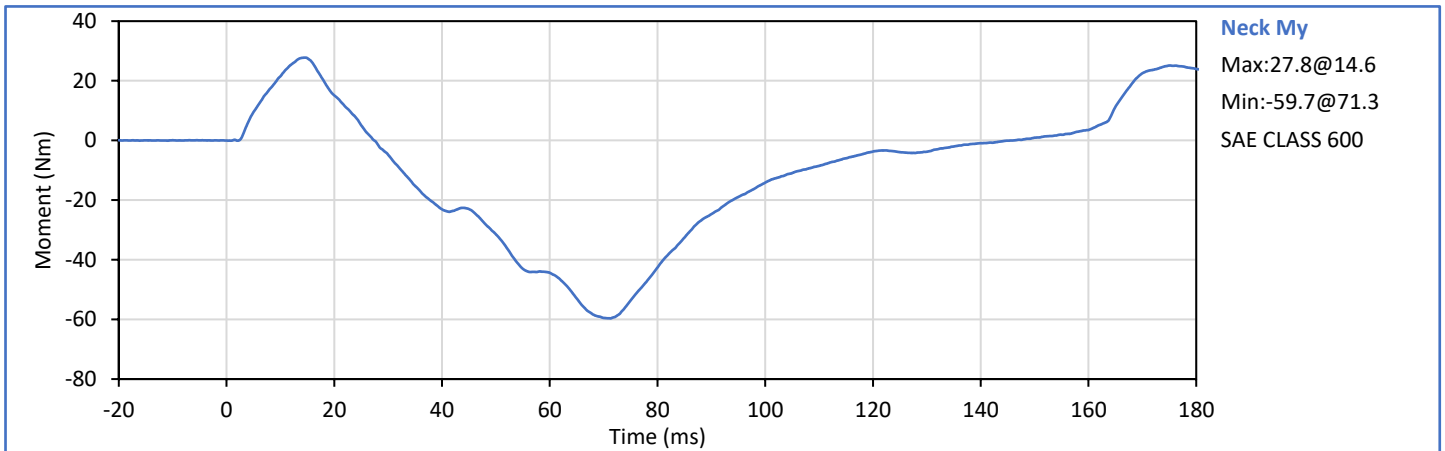
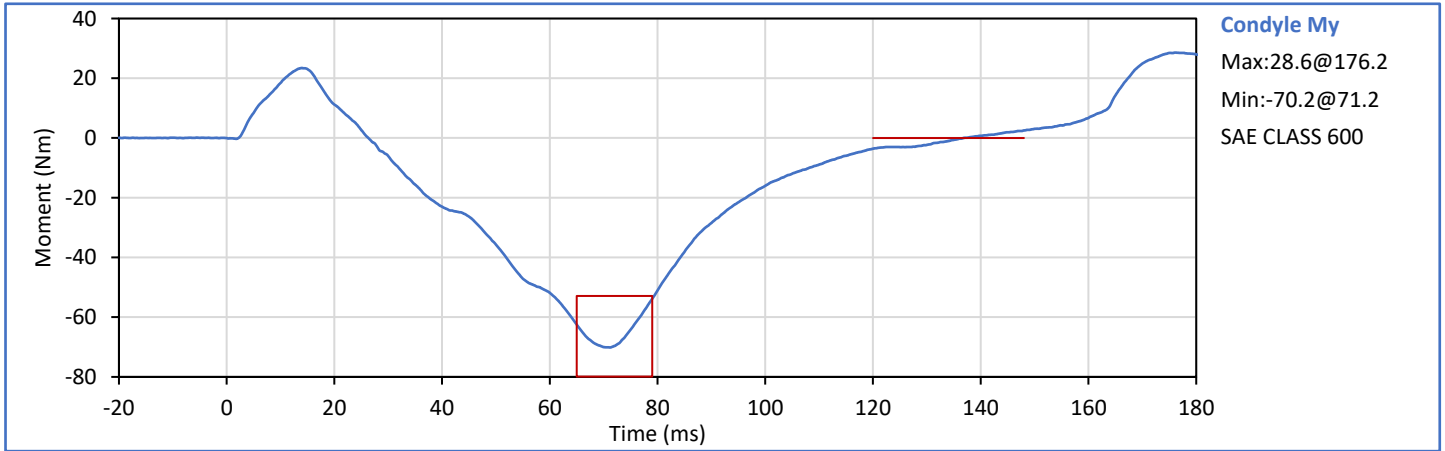


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	40	Pass
Pendulum Velocity	m/s	5.94	6.19	6.09	Pass
Pendulum Deceleration at 10 ms	g	17.2	21.2	18.5	Pass
Pendulum Deceleration at 20 ms	g	14.0	19.0	18.1	Pass
Pendulum Deceleration at 30 ms	g	11.0	16.0	13.5	Pass
Peak Pendulum Decel After 30 ms	g	0.0	22.0	13.5	Pass
Deceleration Decay to Cross 5g	ms	38.0	46.0	39.7	Pass
"D" Plane Rotation peak	deg	81.0	106.0	98.4	Pass
	ms	72.0	82.0	75.2	Pass
"D" Plane Rotation Decay to Zero	ms	147.0	174.0	156.9	Pass
Moment About Occipital Condyle	Nm	-79.9	-52.9	-70.2	Pass
	ms	65.0	79.0	71.2	Pass
Moment Decay, Peak to Zero	ms	120.0	148.0	136.9	Pass
Overall Test Results					Pass

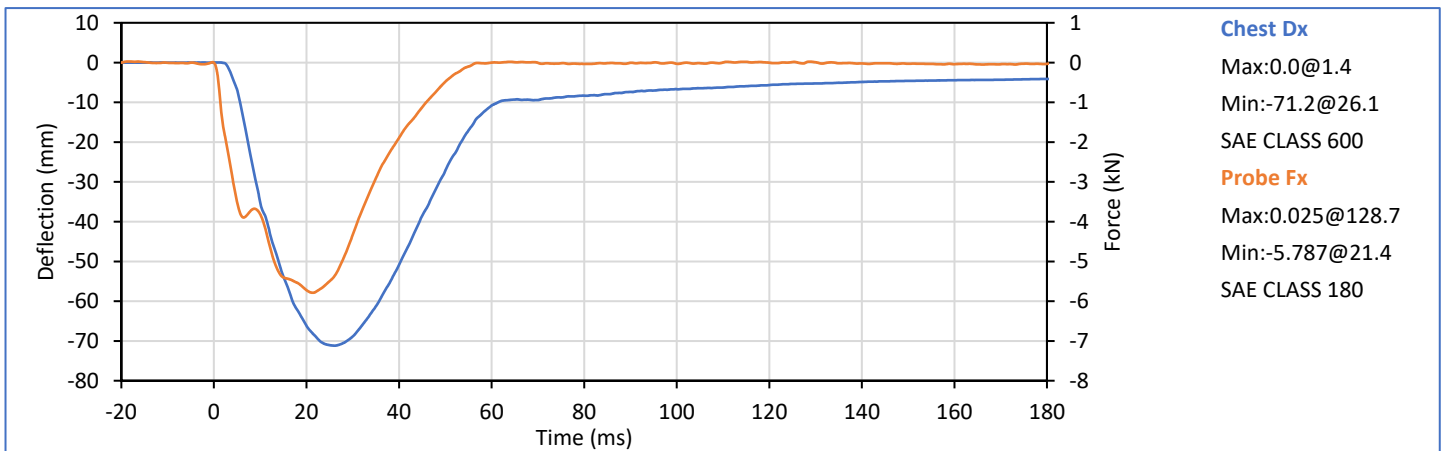
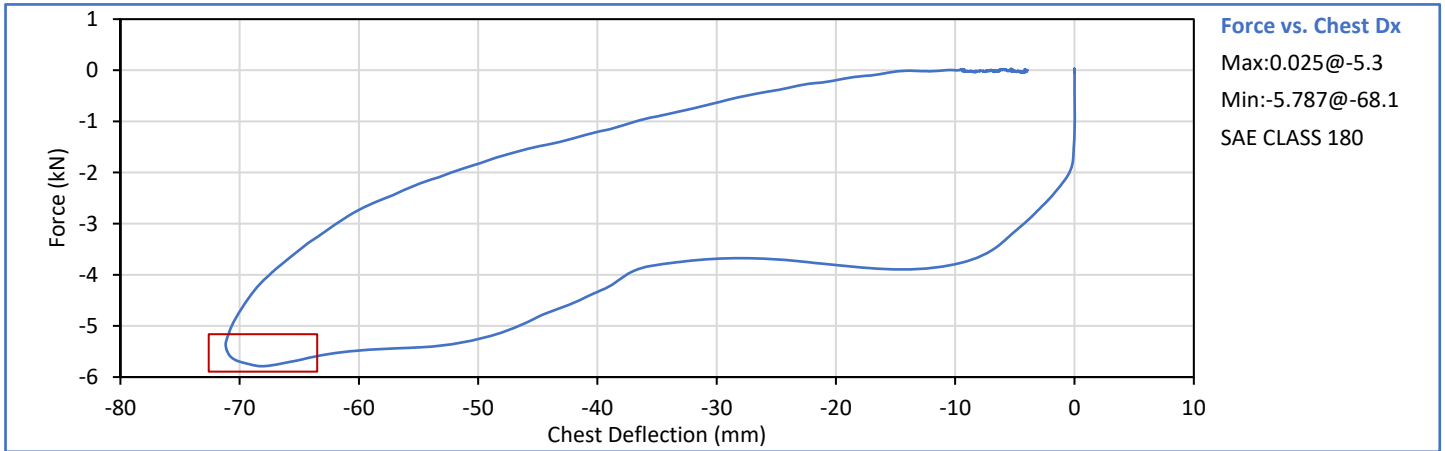


Technician: 
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Approved By: 
J. Hernandez



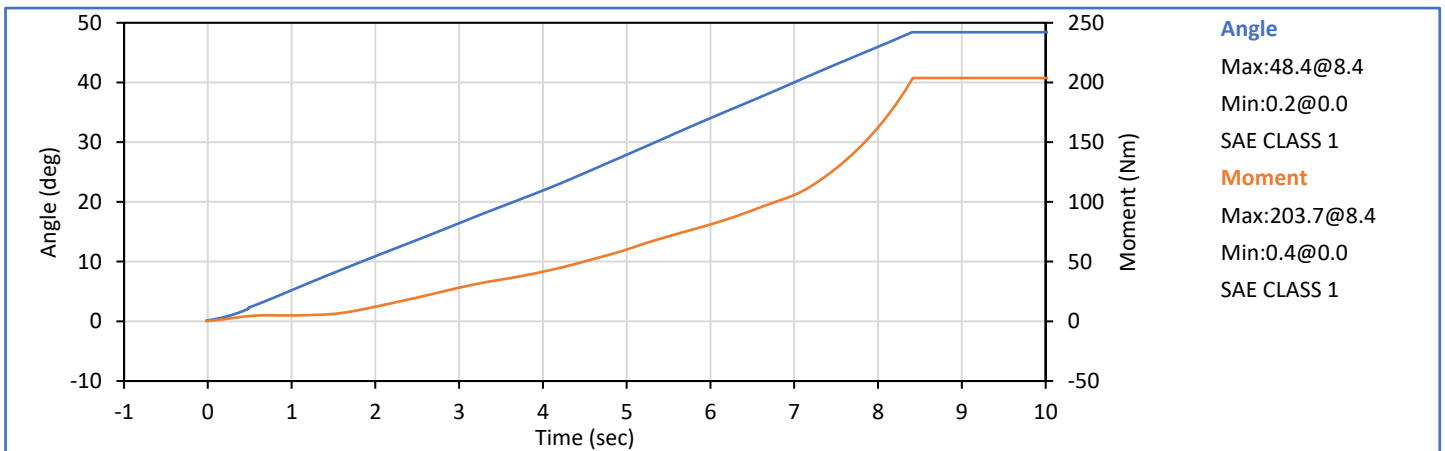
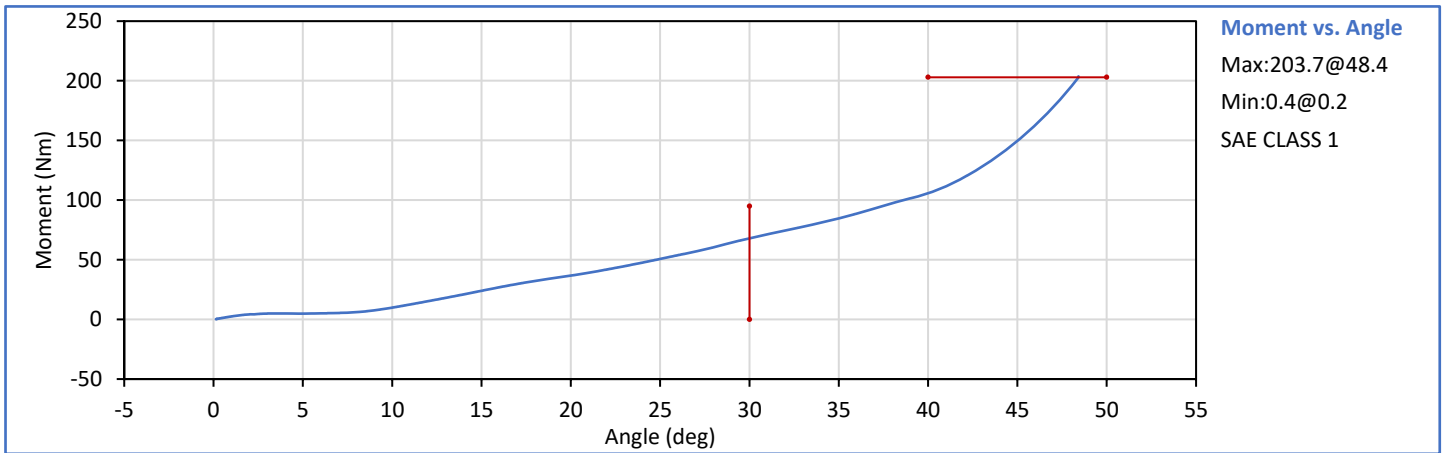
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Probe Velocity	m/s	6.58	6.82	6.72	Pass
Peak Chest Deflection	mm	-72.6	-63.5	-71.2	Pass
Peak Probe Force	kN	-5.893	-5.159	-5.787	Pass
Internal Hysteresis	%	69.0	85.0	70.1	Pass
Overall Test Results					Pass





Technician: J. Perez

Approved By: J. Hernandez

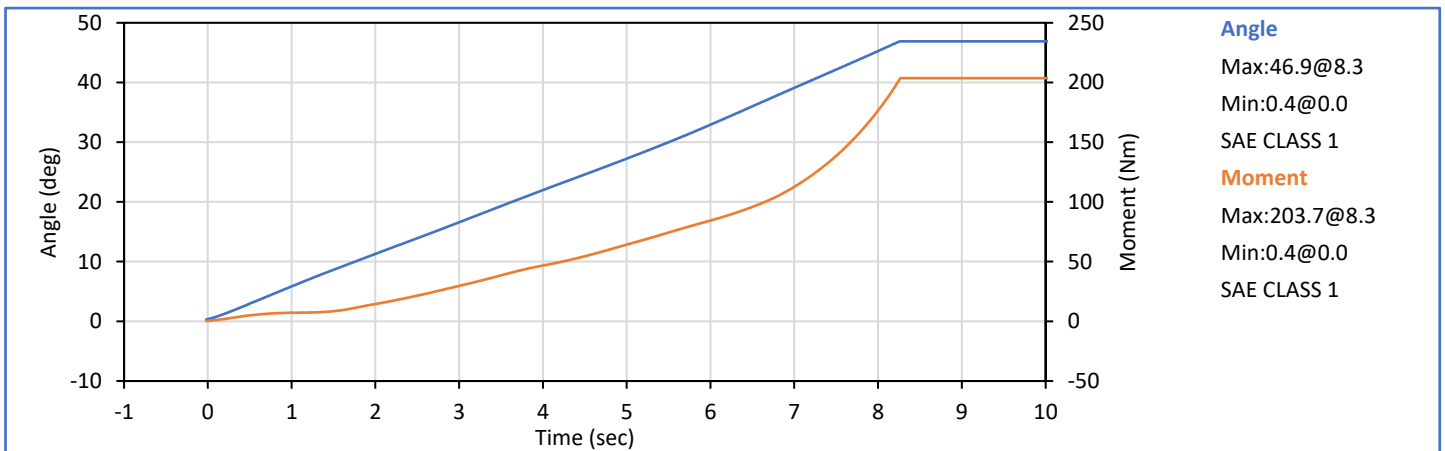
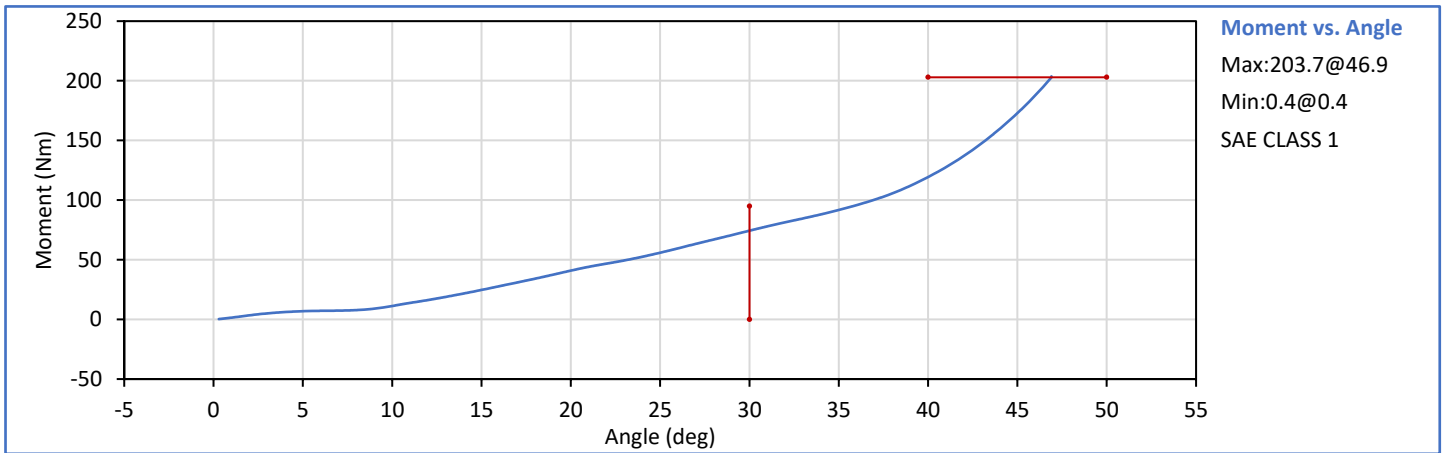
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.2	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Left Hip Rotation Rate	deg/s	5.0	10.0	5.8	Pass
Left Femur Torque at 30°	Nm	0.0	95.0	67.9	Pass
Left Hip Rotation at 203 Nm	deg	40.0	50.0	48.4	Pass
Overall Test Results					Pass



Technician: 
J. Perez

Approved By: 
J. Hernandez

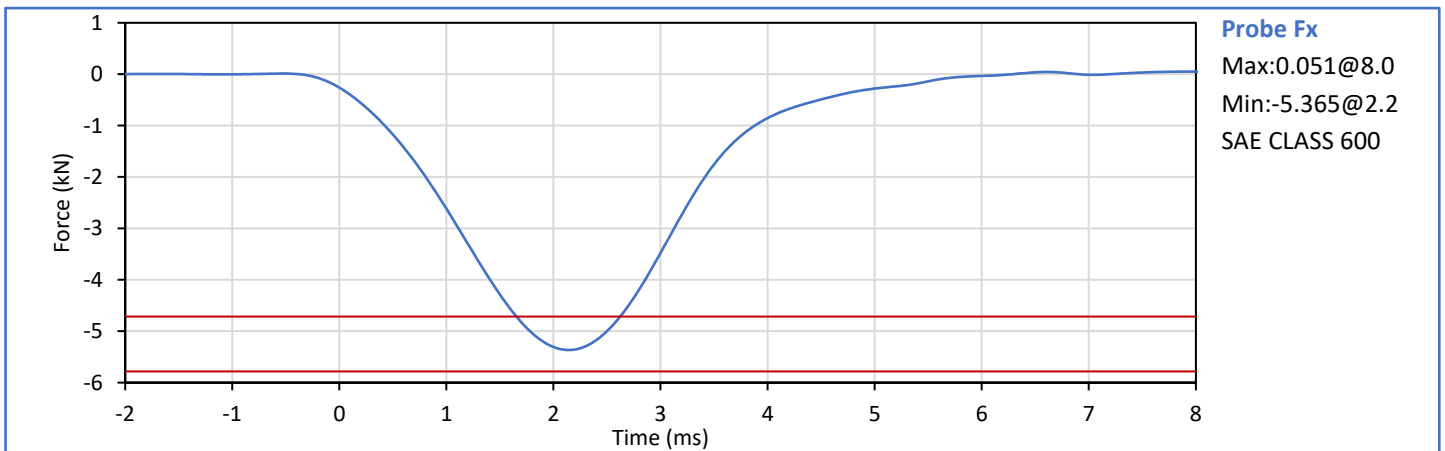
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.5	Pass
Laboratory Relative Humidity	%	10	70	40	Pass
Right Hip Rotation Rate	deg/s	5.0	10.0	5.6	Pass
Right Femur Torque at 30°	Nm	0.0	95.0	74.3	Pass
Right Hip Rotation at 203 Nm	deg	40.0	50.0	46.9	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

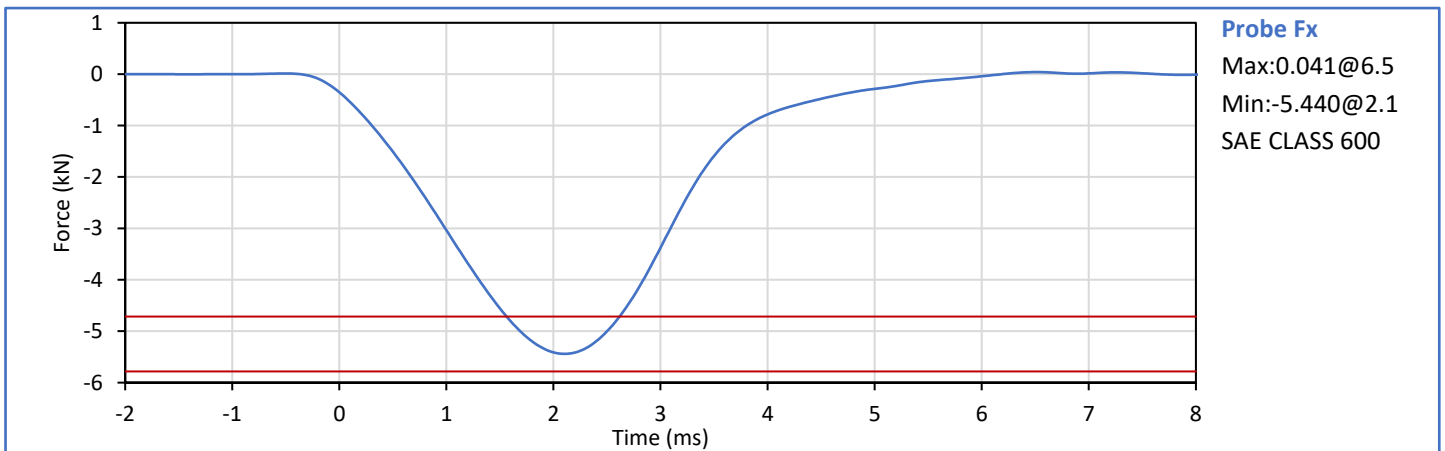
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Relative Humidity	%	10	70	43	Pass
Probe Velocity	m/s	2.070	2.130	2.103	Pass
Peak Resistive Force	kN	-5.782	-4.715	-5.365	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Probe Velocity	m/s	2.070	2.130	2.101	Pass
Peak Resistive Force	kN	-5.782	-4.715	-5.440	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

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 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. Perez

Approved By: _____



J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
A - Total sitting height	mm	775	800	797	Pass
B - Shoulder pivot height	mm	432	457	448	Pass
C - 'H' point height	mm	81	86	86	Pass
D - 'H' point location from backline	mm	145	150	148	Pass
E - Shoulder pivot from backline	mm	69	84	75	Pass
F - Thigh clearance	mm	119	135	128	Pass
G - Back of elbow to wrist pivot	mm	244	259	248	Pass
H - Head back to backline	mm	41	46	44	Pass
I - Shoulder to elbow length	mm	277	297	290	Pass
J - Elbow rest height	mm	183	203	188	Pass
K - Buttock to knee length	mm	521	546	533	Pass
L - Popliteal length	mm	356	376	361	Pass
M - Knee pivot height	mm	394	419	401	Pass
N - Buttock popliteal length	mm	414	439	429	Pass
O - Chest depth without jacket	mm	175	191	188	Pass
P - Foot length	mm	219	234	228	Pass
R - Buttock to Knee Pivot Length	mm	457	483	475	Pass
S - Head Breadth	mm	137	147	144	Pass
T - Head Depth	mm	178	188	186	Pass
U - Hip Breadth	mm	300	315	312	Pass
V - Shoulder breadth	mm	351	366	358	Pass
W - Foot breadth	mm	79	94	83	Pass
X - Head circum.	mm	528	549	540	Pass
Y - Chest circum. (w/chest jacket)	mm	851	881	868	Pass
Z - Waist circum.	mm	760	790	778	Pass
AA - Location for chest circum.	mm	333	358	353	Pass
BB - Location for waist circum.	mm	160	170	164	Pass
Overall Test Results					Pass

Technician:



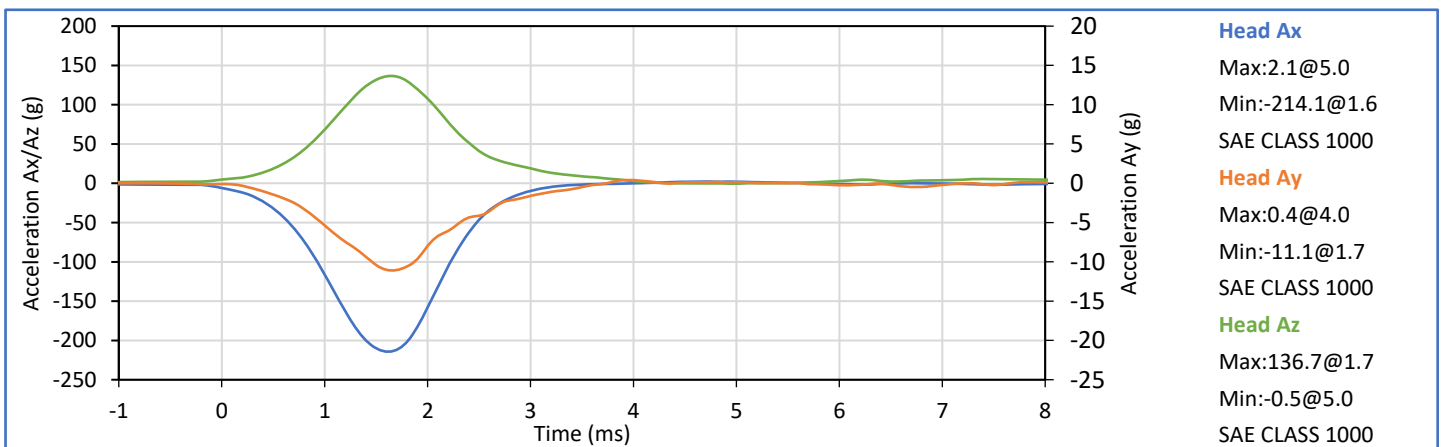
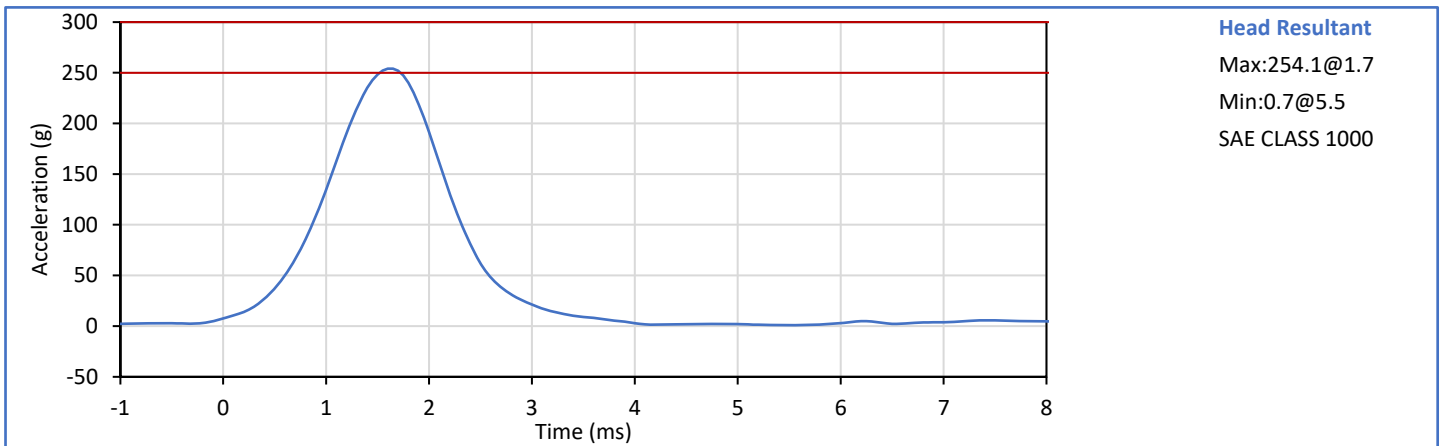
J. Perez

Approved By:



J. Hernandez

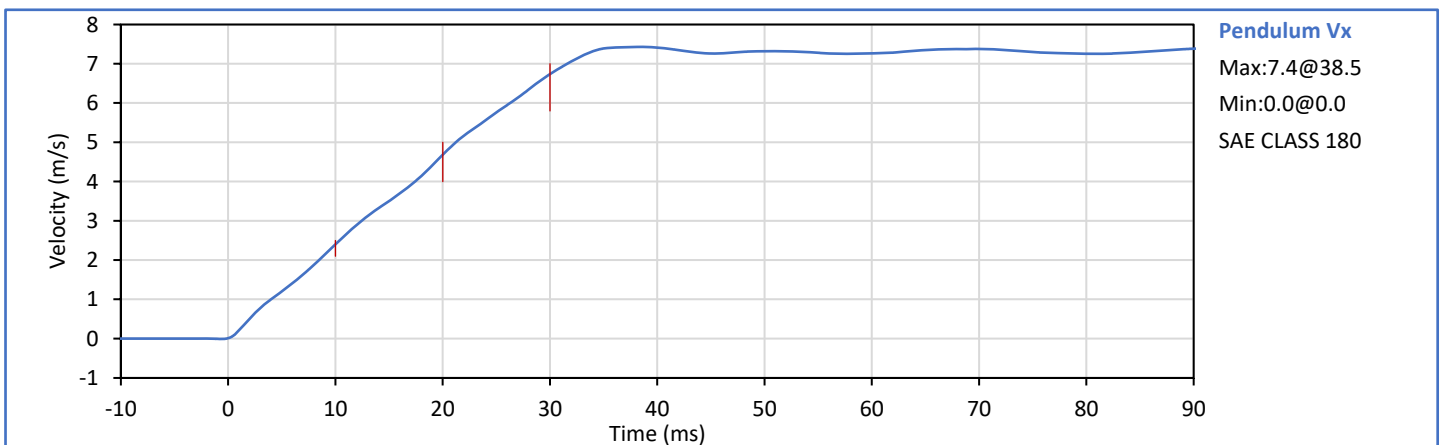
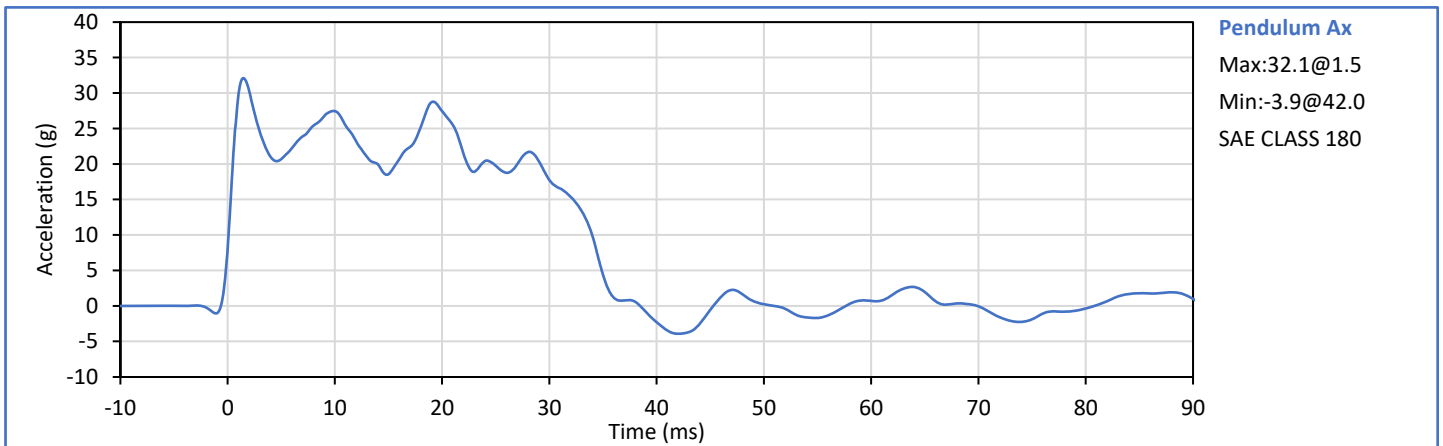
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Humidity	%	10	70	45	Pass
Peak Resultant Acceleration	g	250.0	300.0	254.1	Pass
Peak Lateral Acceleration	g	-15.0	15.0	-11.1	Pass
Oscillations After Main Pulse	%	0.0	10.0	2.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

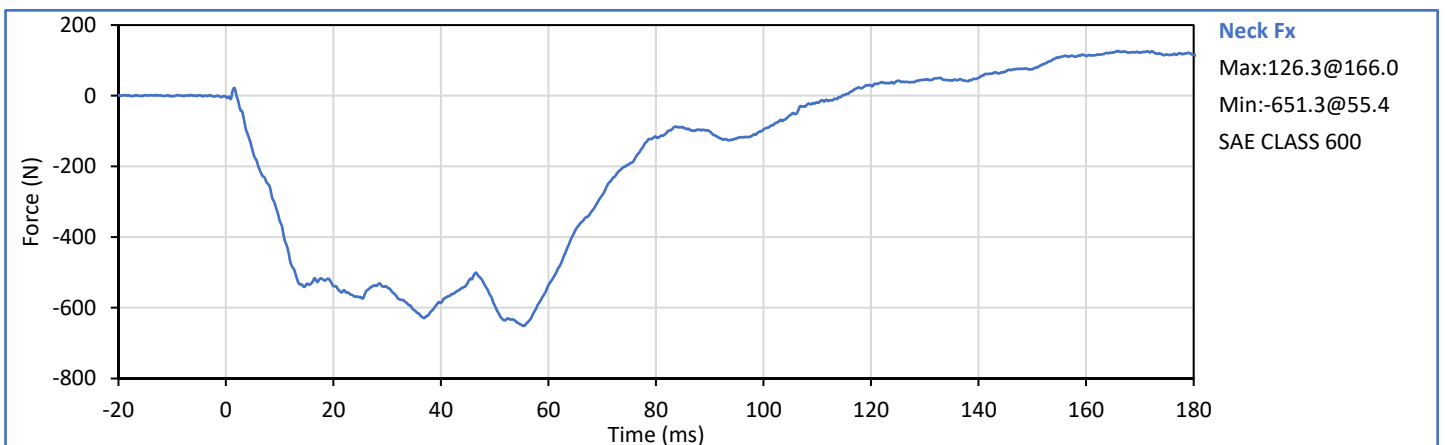
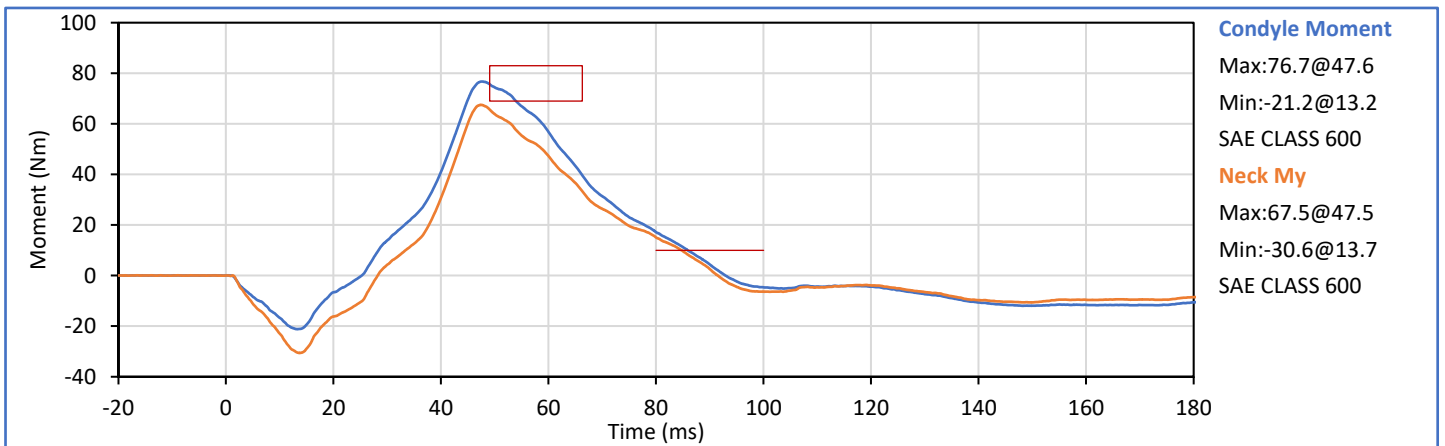
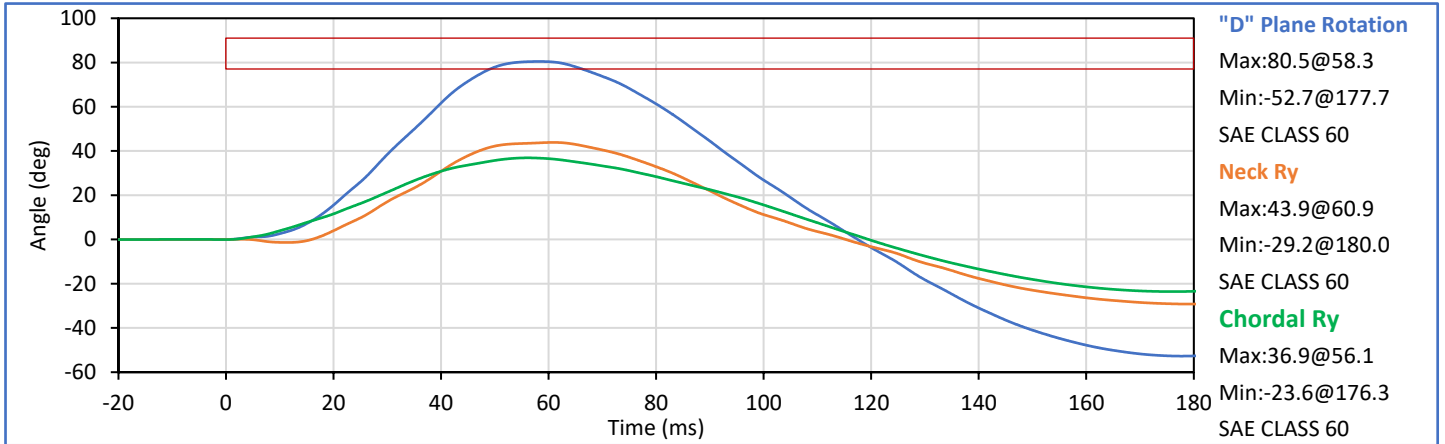
Approved By: *J. Hernandez*
J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.9	Pass
Laboratory Humidity	%	10	70	43	Pass
Pendulum Velocity	m/s	6.89	7.13	7.04	Pass
Pendulum Velocity at 10 ms	m/s	2.10	2.50	2.40	Pass
Pendulum Velocity at 20 ms	m/s	4.00	5.00	4.68	Pass
Pendulum Velocity at 30 ms	m/s	5.80	7.00	6.73	Pass
Peak "D" Plane Rotation	deg	77.0	91.0	80.5	Pass
Peak Moment in Rotation	Nm	69.0	83.0	75.7	Pass
Positive Moment Decay to 10 Nm	ms	80.0	100.0	85.9	Pass
Overall Test Results					Pass

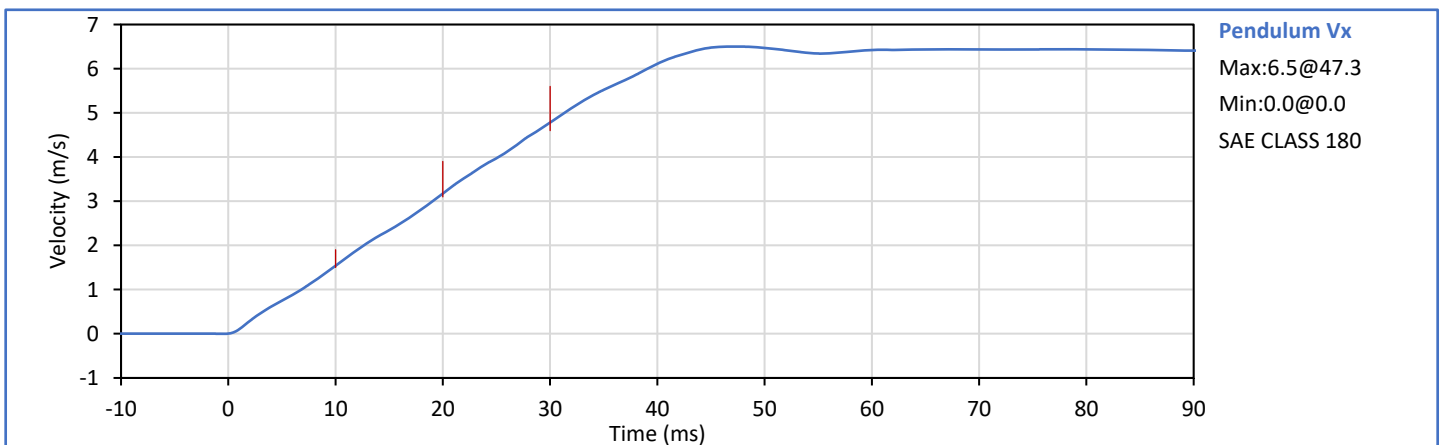
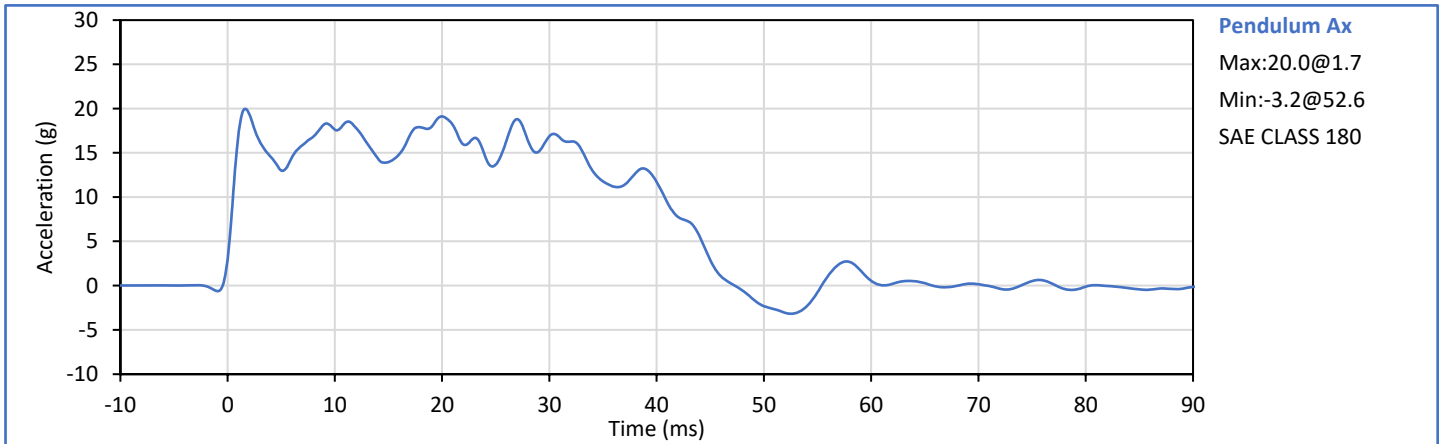


Technician: *J. Perez*
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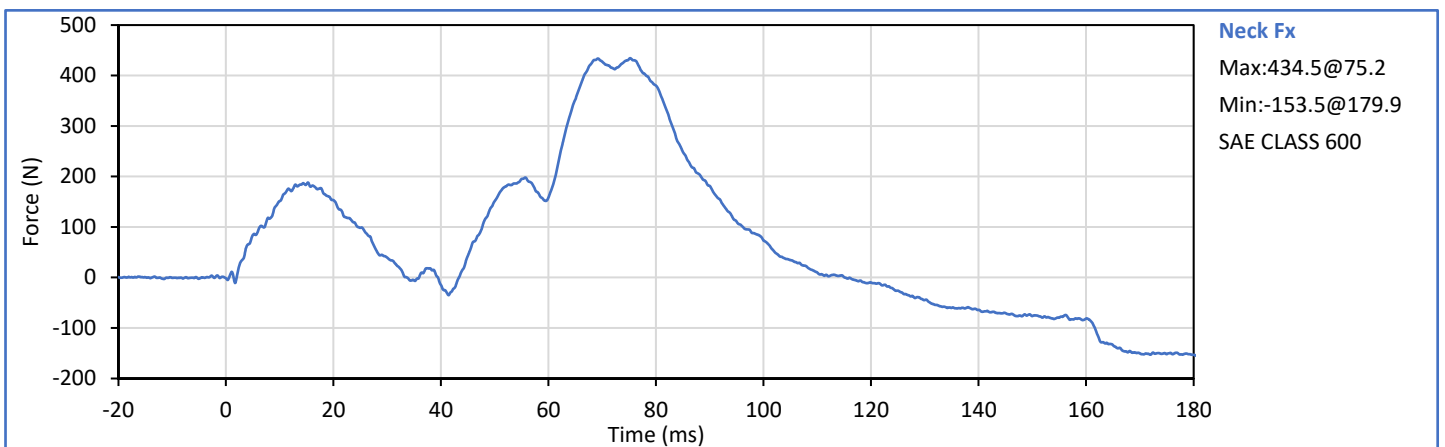
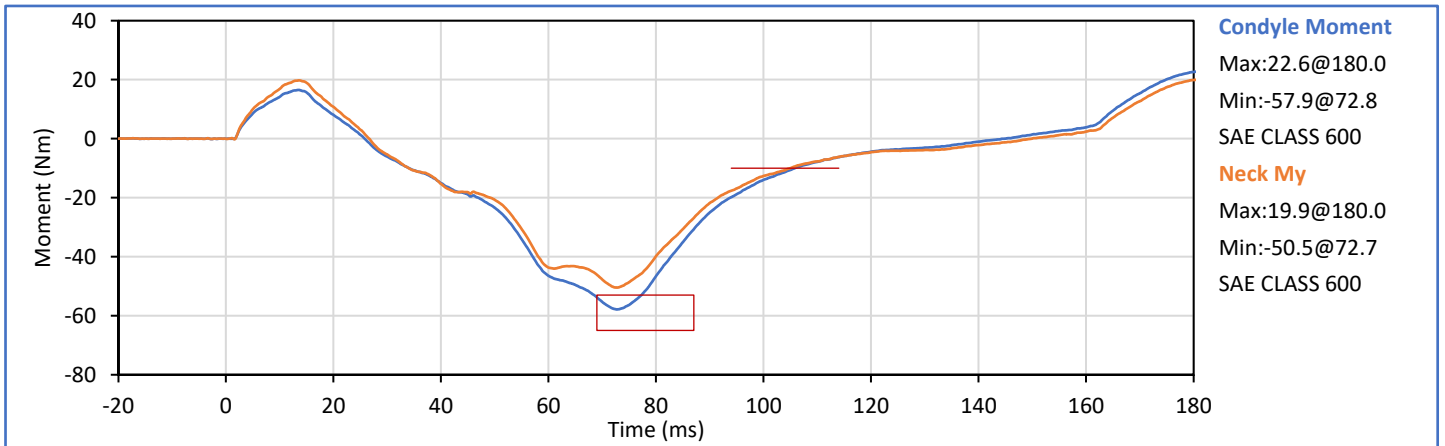
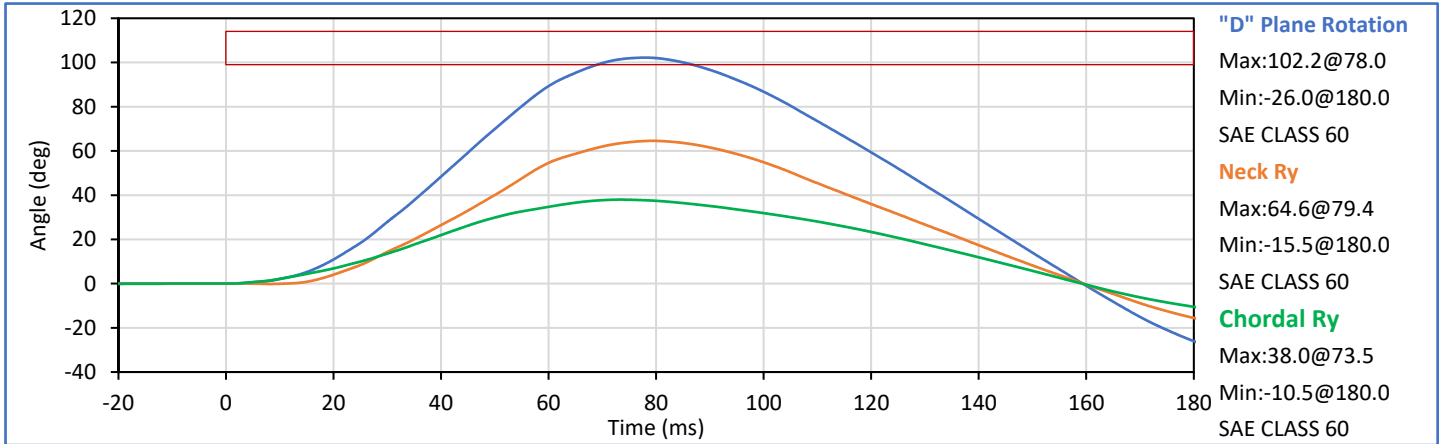


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.9	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Pendulum Velocity	m/s	5.95	6.19	6.13	Pass
Pendulum Velocity at 10 ms	m/s	1.50	1.90	1.54	Pass
Pendulum Velocity at 20 ms	m/s	3.10	3.90	3.17	Pass
Pendulum Velocity at 30 ms	m/s	4.60	5.60	4.78	Pass
Peak "D" Plane Rotation	deg	99.0	114.0	102.2	Pass
Peak Moment in Rotation	Nm	-65.0	-53.0	-57.9	Pass
Negative Moment Decay to -10 Nm	ms	94.0	114.0	105.8	Pass
Overall Test Results					Pass

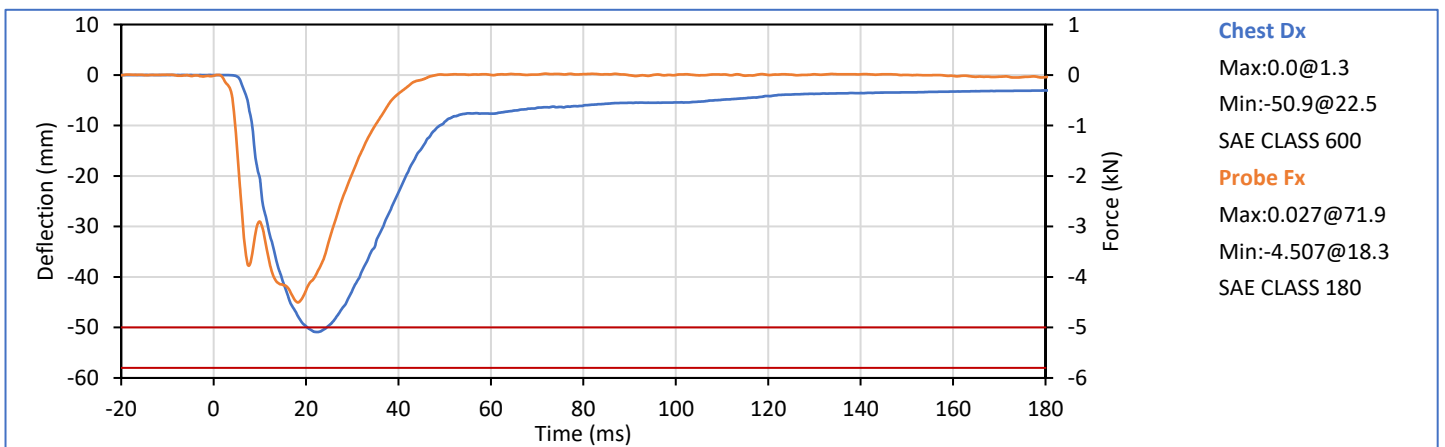
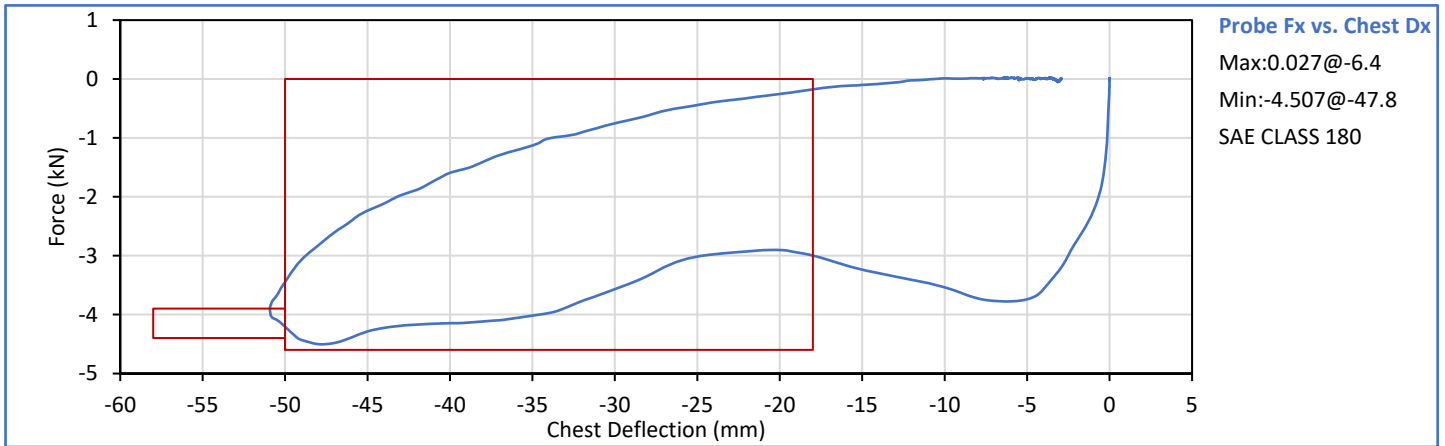


Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez



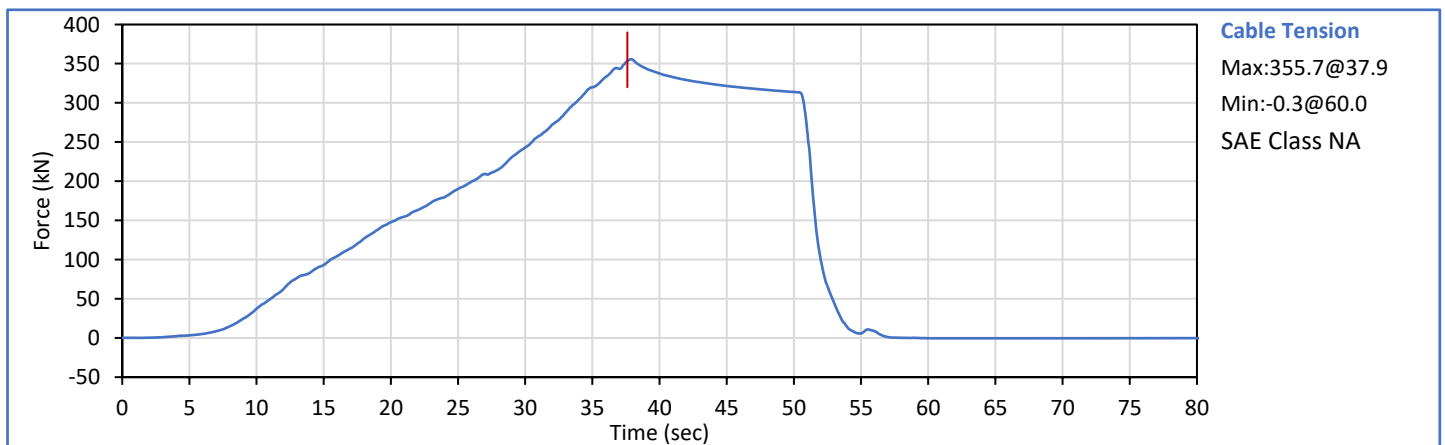
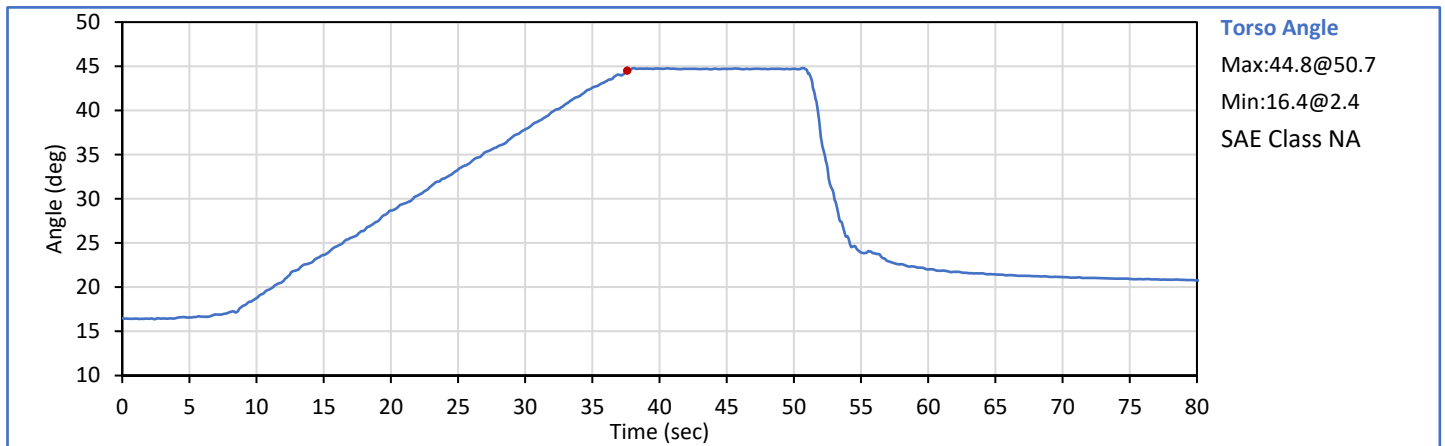
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.5	Pass
Laboratory RelativeHumidity	%	10	70	43	Pass
Probe Velocity	m/s	6.59	6.83	6.71	Pass
Peak Chest Deflection	mm	-58.0	-50.0	-50.9	Pass
Peak Probe Force, 50 and 58 mm	kN	-4.400	-3.900	-4.209	Pass
Peak Probe Force, 18 and 50 mm	kN	-4.600	0.000	-4.507	Pass
Internal Hysteresis	%	69.0	85.0	75.9	Pass
Overall Test Results					Pass



Technician: *J. Perez*
 J. Perez

Approved By: *J. Hernandez*
 J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.6	Pass
Laboratory Humidity	%	10	70	38	Pass
Orientation Angle	deg	0.0	20.0	17.1	Pass
Test Initial Angle	deg	11.0	19.0	16.4	Pass
Peak Force at 45° (+/-0.5°)	N	320.0	390.0	353.3	Pass
Torso Flexion Rate	deg/s	0.50	1.50	0.94	Pass
Final Reference Plane Angle	deg	-8.0	8.0	3.1	Pass
Overall Test Results					Pass



Technician: _____

J. Perez

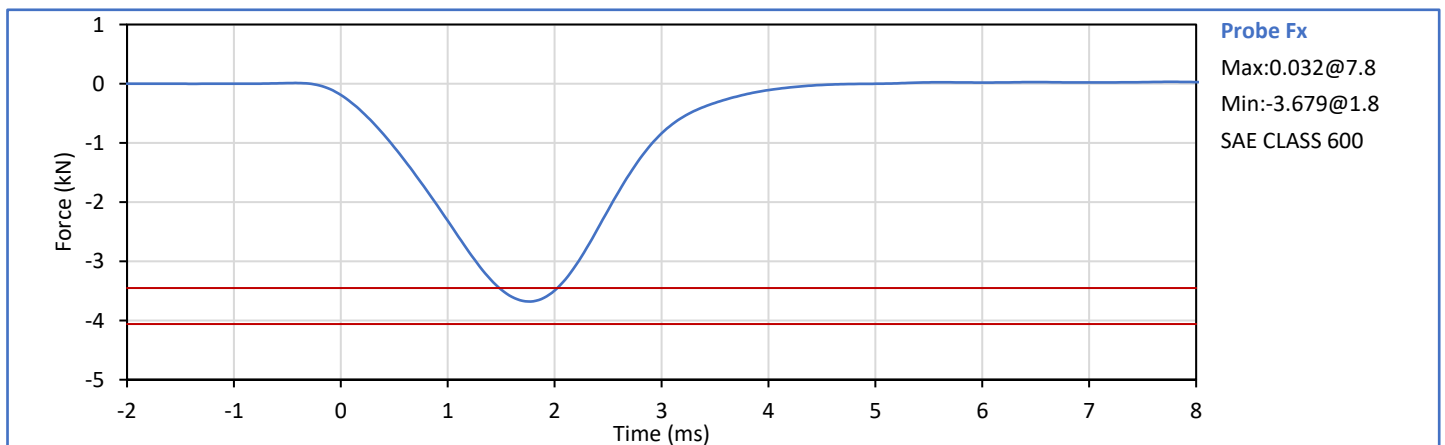
J. Perez

Approved By: _____

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.3	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Probe Velocity	m/s	2.070	2.130	2.098	Pass
Peak Resistive Force	kN	-4.060	-3.450	-3.679	Pass
Overall Test Results					Pass



Technician: _____

J. Perez

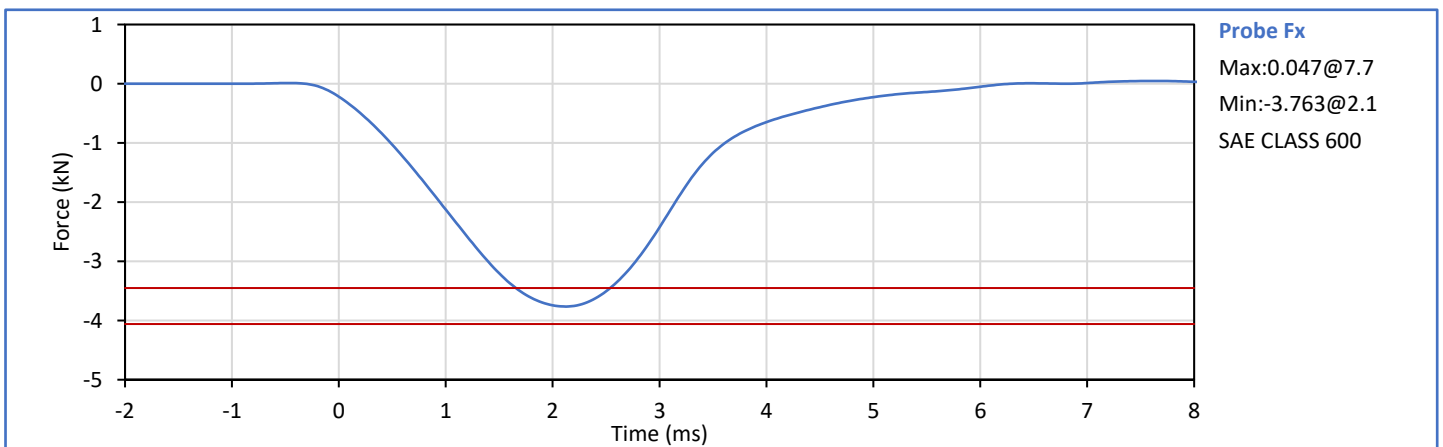
J. Perez

Approved By: _____

J. Hernandez

J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.3	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Probe Velocity	m/s	2.070	2.130	2.103	Pass
Peak Resistive Force	kN	-4.060	-3.450	-3.763	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

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

ATD Serial No.: 360

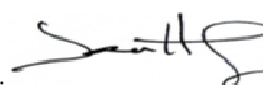
Test Date: 2025-06-04

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. Perez

Approved By: 
J. Hernandez

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	39	Pass
A - Total sitting height	mm	879	889	885	Pass
B - Shoulder pivot height	mm	505	521	516	Pass
C - 'H' point height	mm	84	89	88	Pass
D - 'H' point location from backline	mm	135	140	137	Pass
E - Shoulder pivot from backline	mm	84	94	87	Pass
F - Thigh clearance	mm	140	155	146	Pass
G - Back of elbow to wrist pivot	mm	290	305	298	Pass
H - Head back to backline	mm	41	46	43	Pass
I - Shoulder to elbow length	mm	330	345	334	Pass
J - Elbow rest height	mm	190	211	202	Pass
K - Buttock to knee length	mm	579	604	588	Pass
L - Popliteal length	mm	429	455	446	Pass
M - Knee pivot height	mm	485	500	488	Pass
N - Buttock popliteal length	mm	452	477	457	Pass
O - Chest depth without jacket	mm	213	229	225	Pass
P - Foot length	mm	251	267	261	Pass
V - Shoulder breadth	mm	422	437	428	Pass
W - Foot breadth	mm	91	107	100	Pass
Y - Chest circum. (w/chest jacket)	mm	970	1001	984	Pass
Z - Waist circum.	mm	836	866	855	Pass
AA - Location for chest circum.	mm	429	434	432	Pass
BB - Location for waist circum.	mm	226	231	230	Pass
Overall Test Results					Pass

Technician.



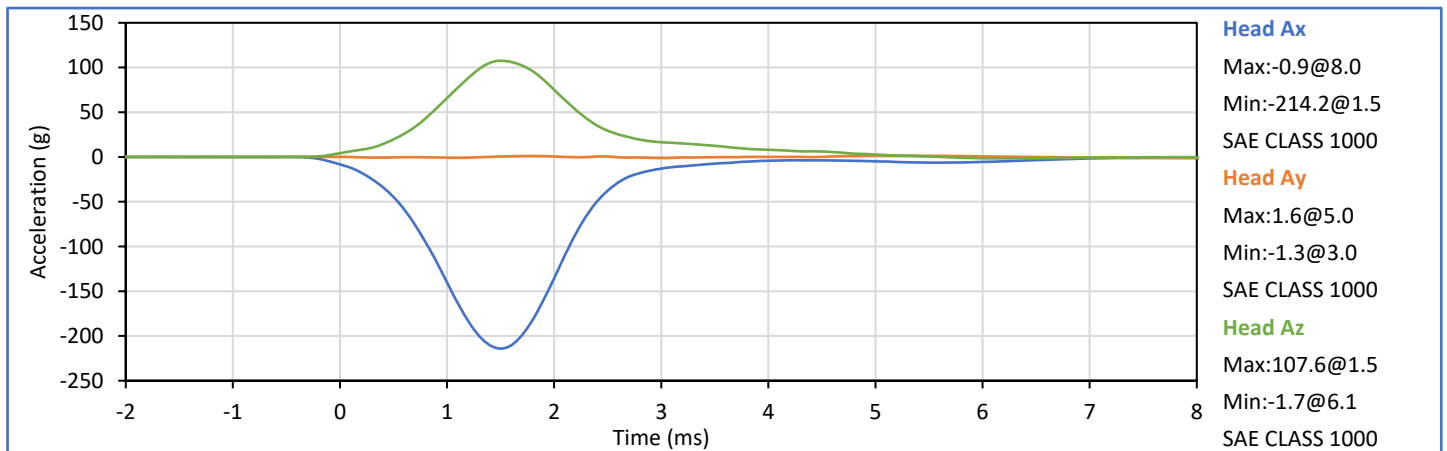
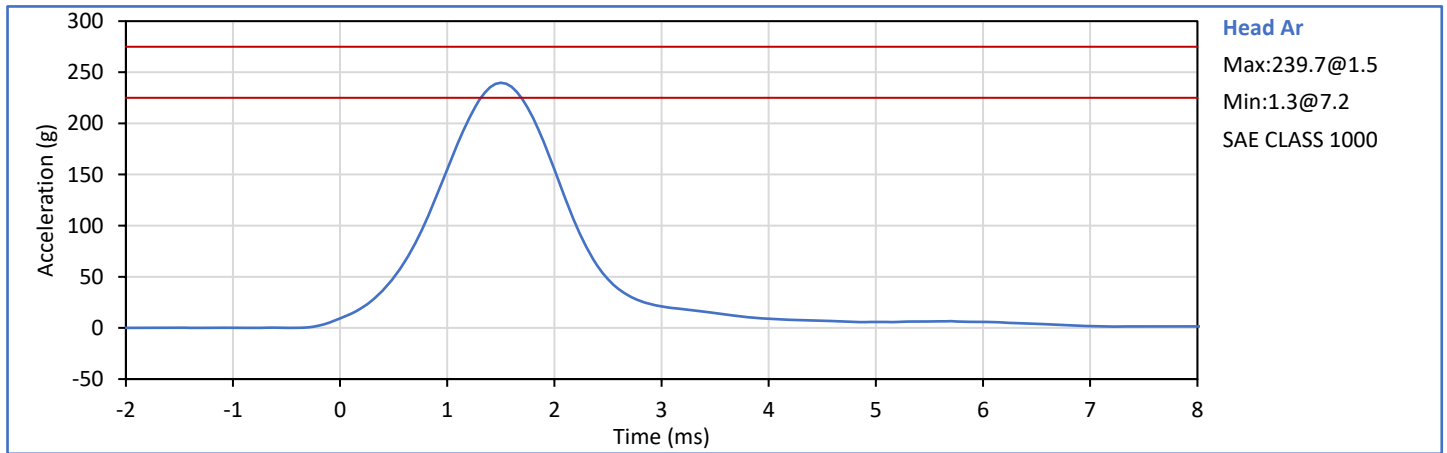
J. Perez

Approved By:



J. Hernandez

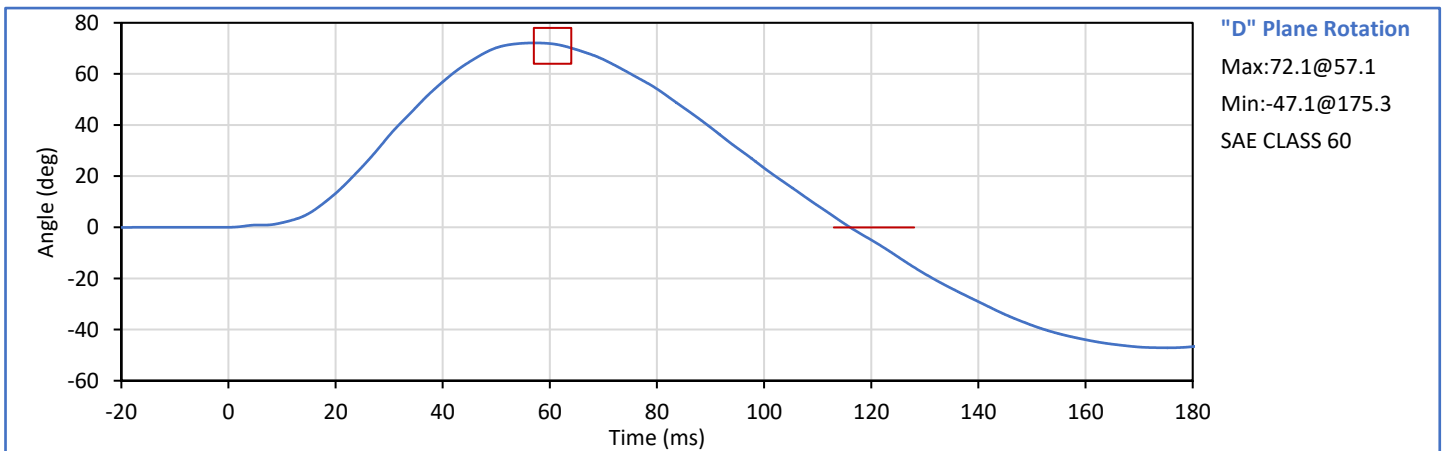
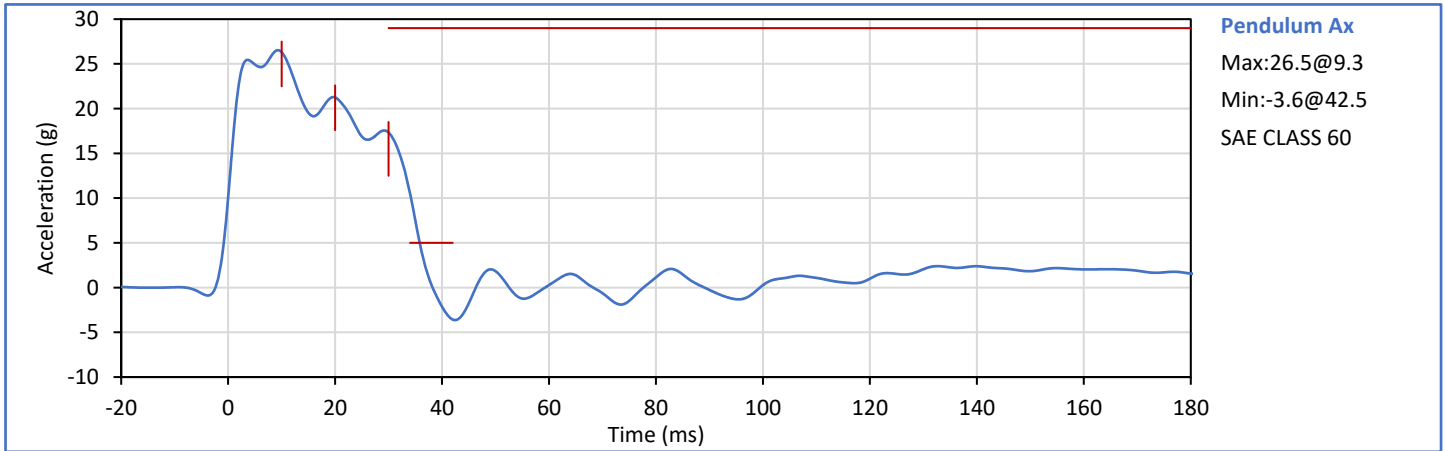
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.5	Pass
Laboratory Relative Humidity	%	10	70	39	Pass
Peak Resultant Acceleration	g	225.0	275.0	239.7	Pass
Peak Lateral Acceleration	g	-15.0	15.0	1.6	Pass
Oscillations After Main Pulse	%	0.0	10.0	0.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass



Technician: J. Perez

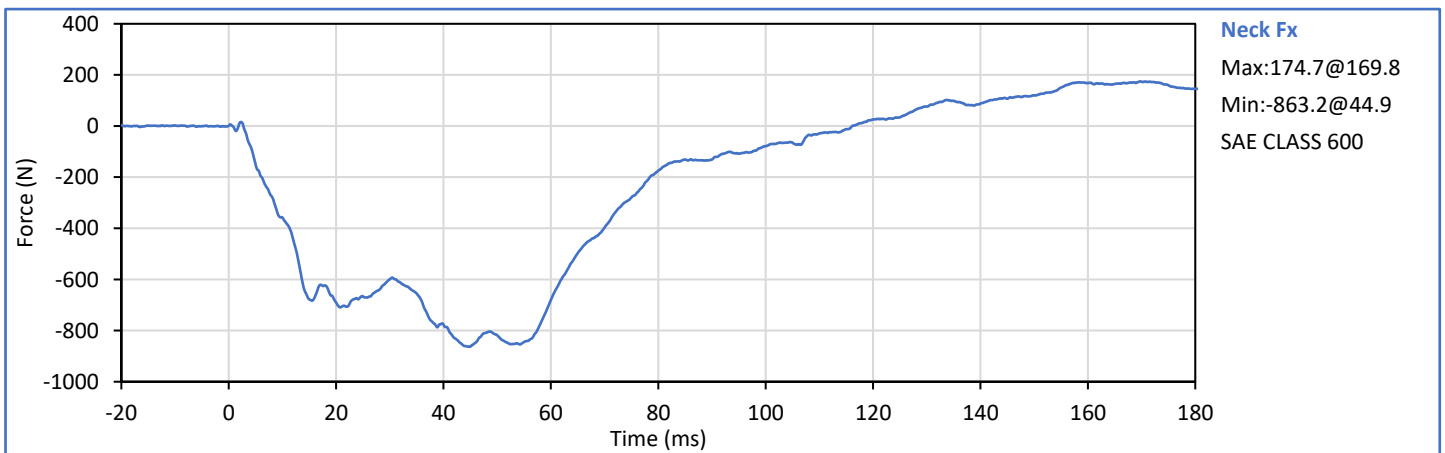
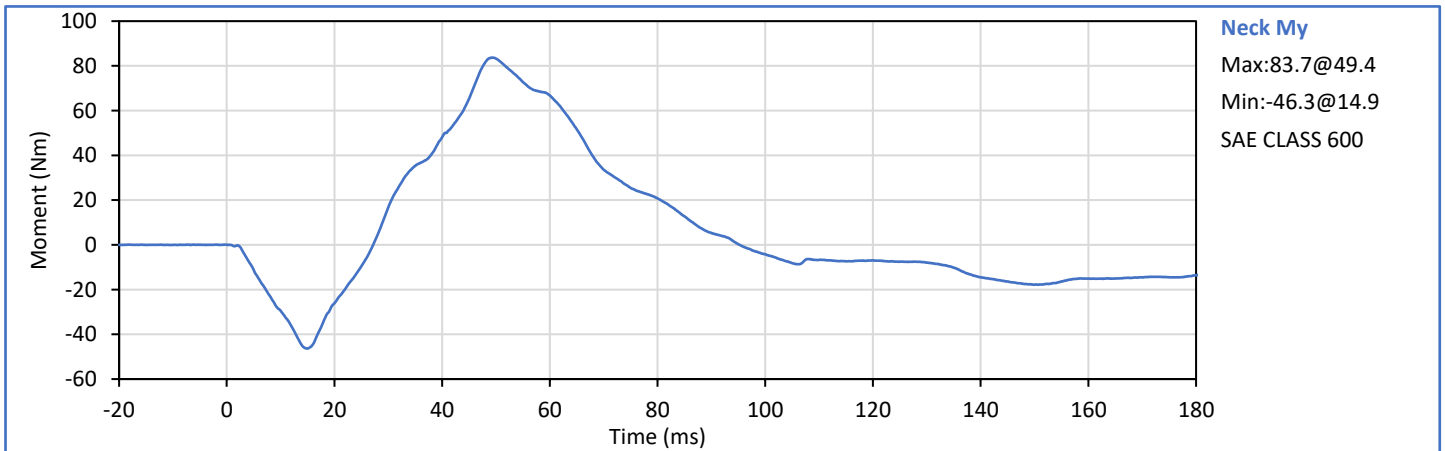
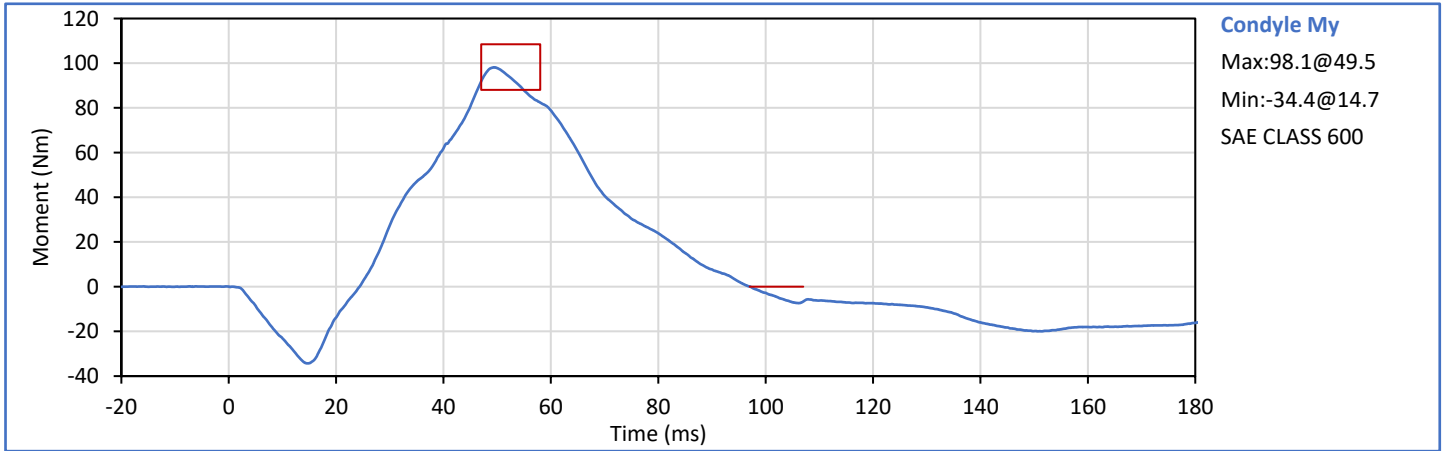
Approved By: J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	42	Pass
Pendulum Velocity	m/s	6.89	7.13	7.04	Pass
Pendulum Deceleration at 10 ms	g	22.5	27.5	26.3	Pass
Pendulum Deceleration at 20 ms	g	17.6	22.6	21.2	Pass
Pendulum Deceleration at 30 ms	g	12.5	18.5	17.3	Pass
Peak Pendulum Decel After 30 ms	g	0.0	29.0	17.3	Pass
Deceleration Decay to Cross 5g	ms	34.0	42.0	35.8	Pass
"D" Plane Rotation peak	deg	64.0	78.0	72.1	Pass
	ms	57.0	64.0	57.1	Pass
"D" Plane Rotation Decay to Zero	ms	113.0	128.0	116.1	Pass
Moment About Occipital Condyle	Nm	88.1	108.5	98.1	Pass
	ms	47.0	58.0	49.5	Pass
Moment Decay, Peak to Zero	ms	97.0	107.0	97.1	Pass
Overall Test Results					Pass

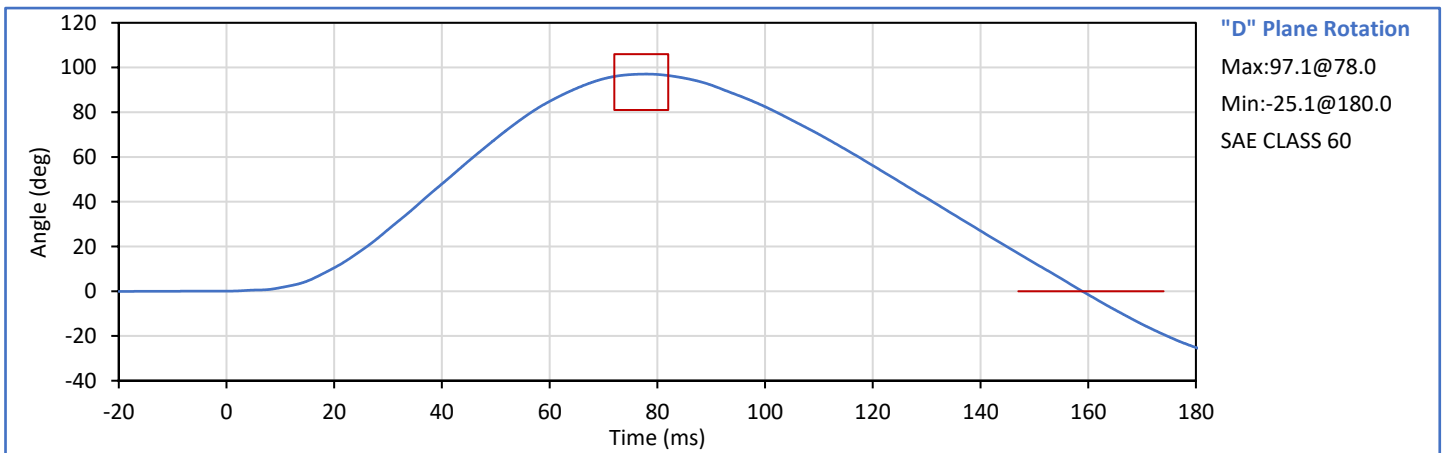
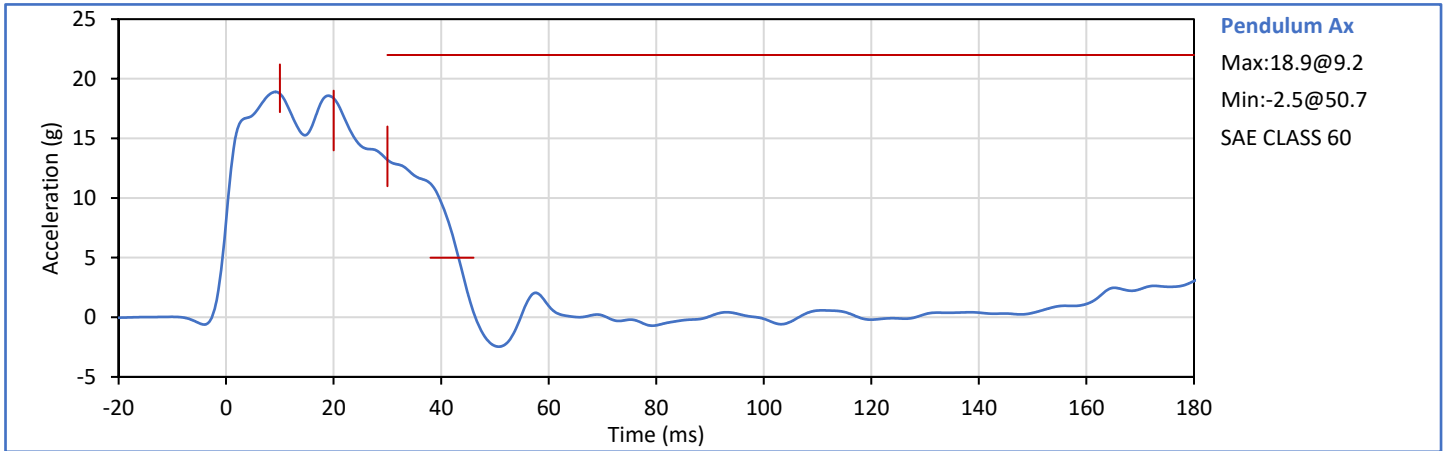


Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

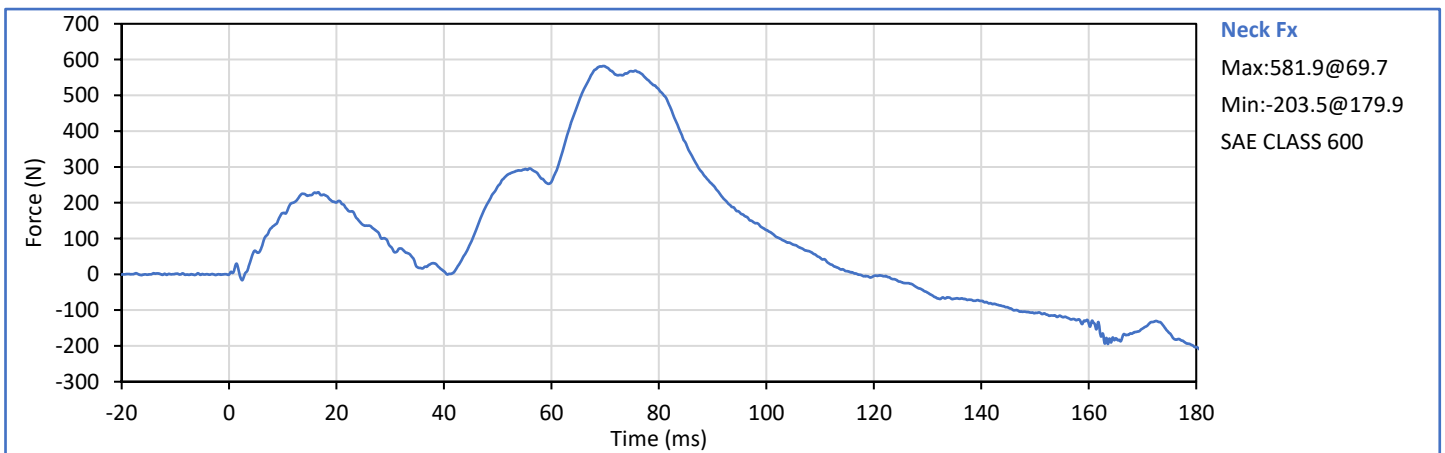
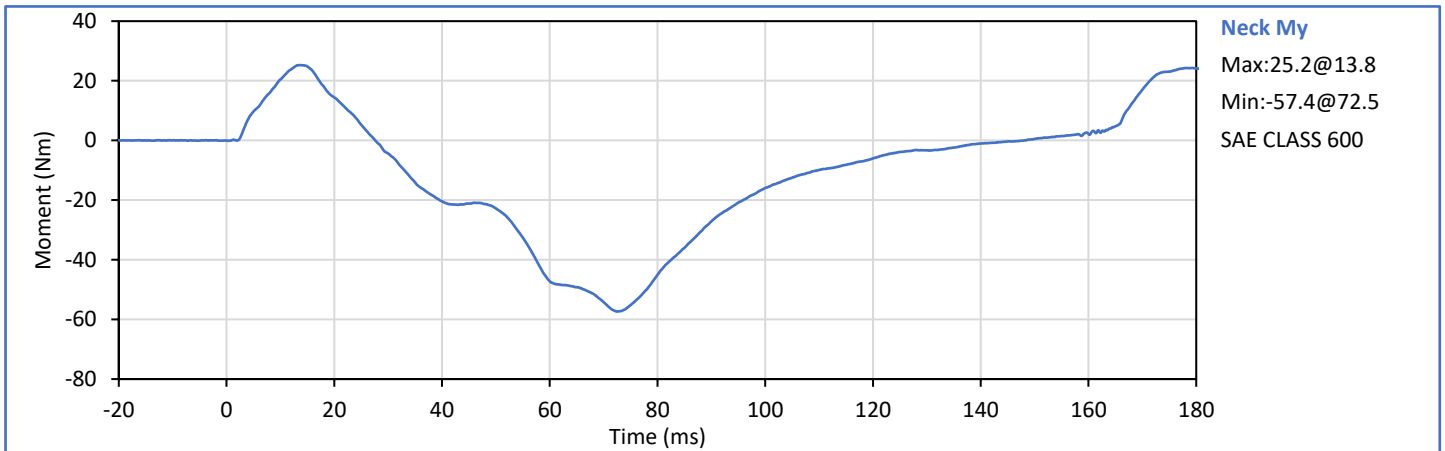
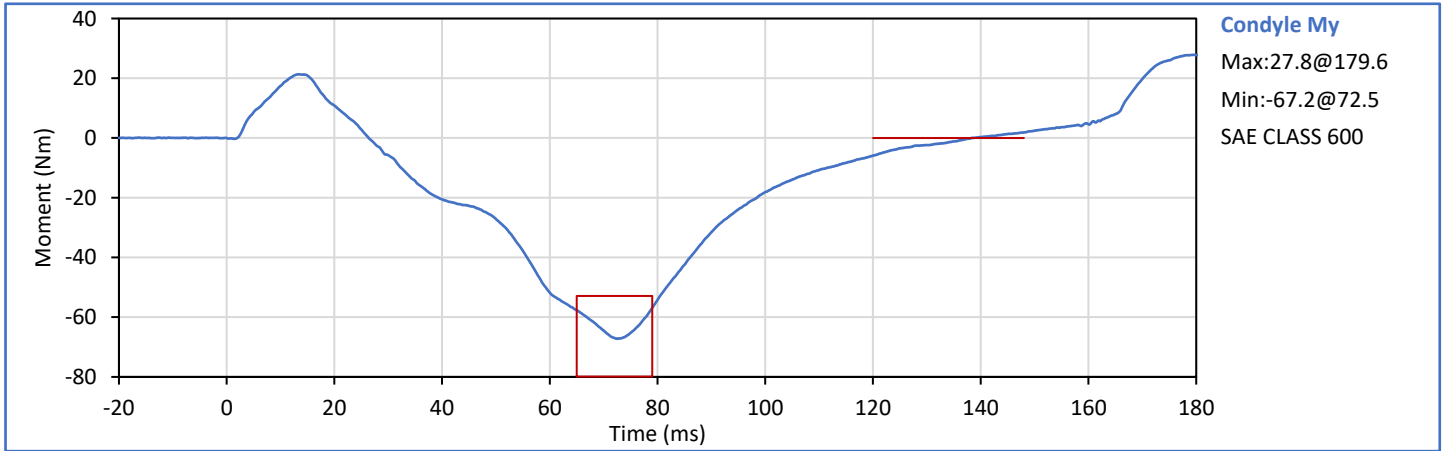


Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.3	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Pendulum Velocity	m/s	5.94	6.19	6.10	Pass
Pendulum Deceleration at 10 ms	g	17.2	21.2	18.7	Pass
Pendulum Deceleration at 20 ms	g	14.0	19.0	18.4	Pass
Pendulum Deceleration at 30 ms	g	11.0	16.0	13.2	Pass
Peak Pendulum Decel After 30 ms	g	0.0	22.0	13.2	Pass
Deceleration Decay to Cross 5g	ms	38.0	46.0	43.3	Pass
"D" Plane Rotation peak	deg	81.0	106.0	97.1	Pass
	ms	72.0	82.0	78.0	Pass
"D" Plane Rotation Decay to Zero	ms	147.0	174.0	159.0	Pass
Moment About Occipital Condyle	Nm	-79.9	-52.9	-67.2	Pass
	ms	65.0	79.0	72.5	Pass
Moment Decay, Peak to Zero	ms	120.0	148.0	138.4	Pass
Overall Test Results					Pass

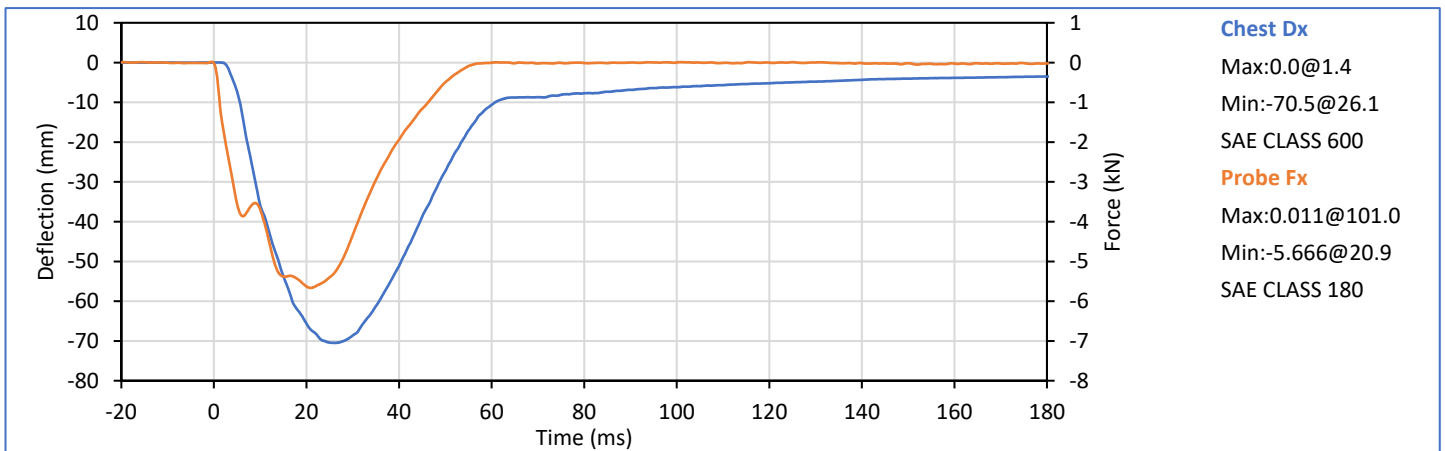
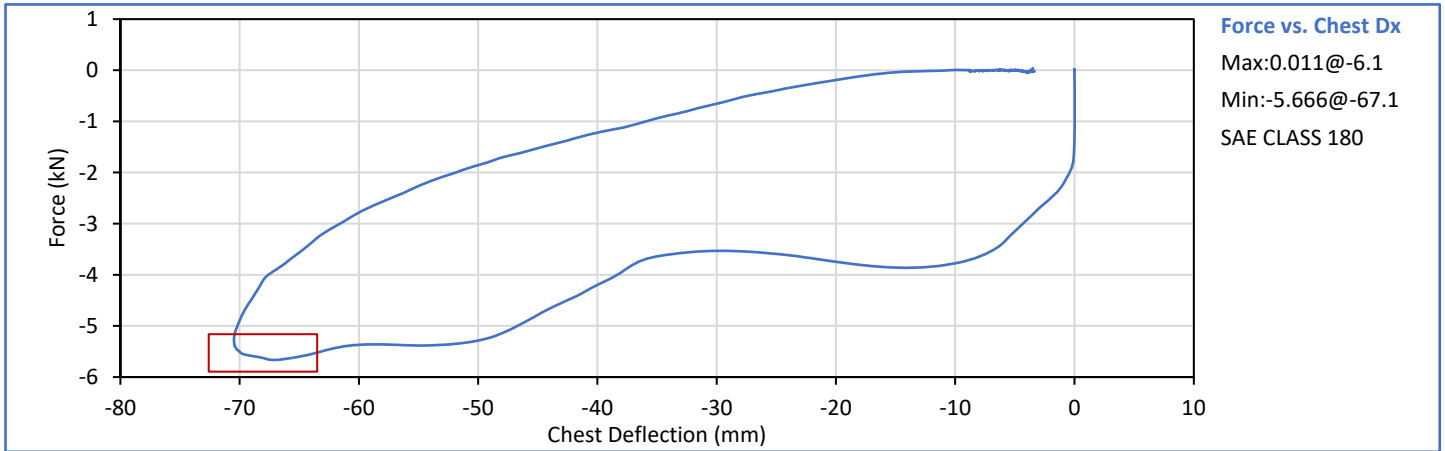


Technician: J. Perez

Approved By: J. Hernandez



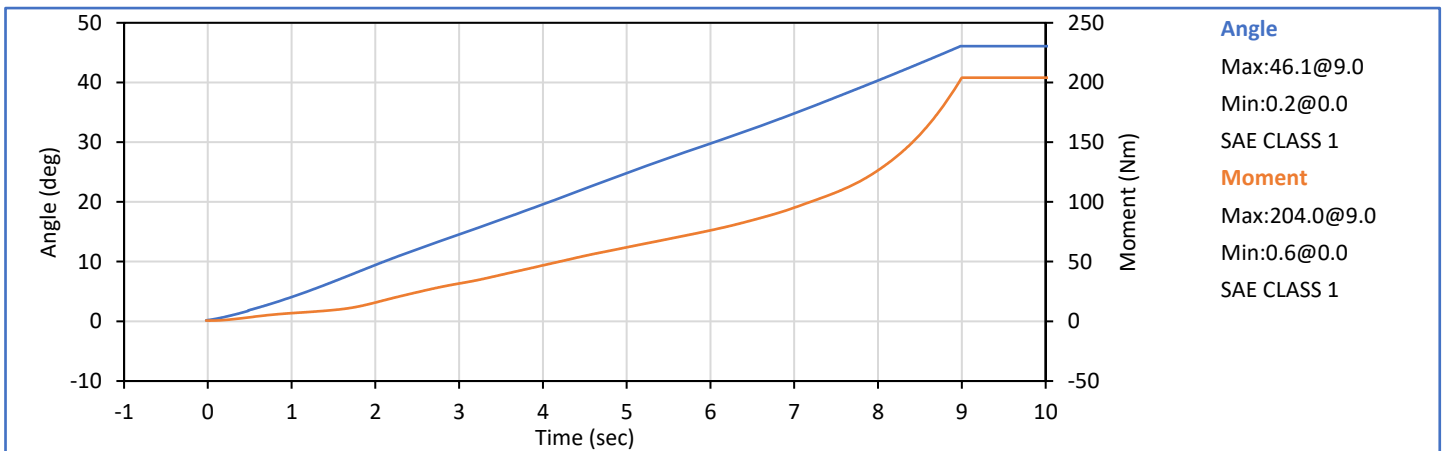
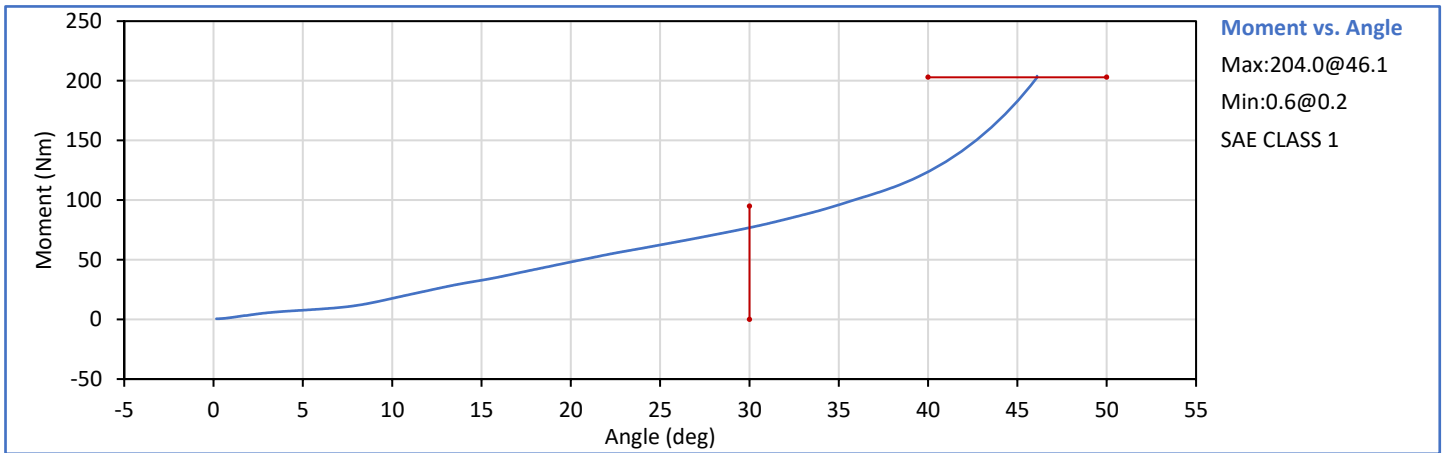
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	41	Pass
Probe Velocity	m/s	6.58	6.82	6.71	Pass
Peak Chest Deflection	mm	-72.6	-63.5	-70.5	Pass
Peak Probe Force	kN	-5.893	-5.159	-5.666	Pass
Internal Hysteresis	%	69.0	85.0	69.9	Pass
Overall Test Results					Pass



Technician: J. Perez

Approved By: J. Hernandez

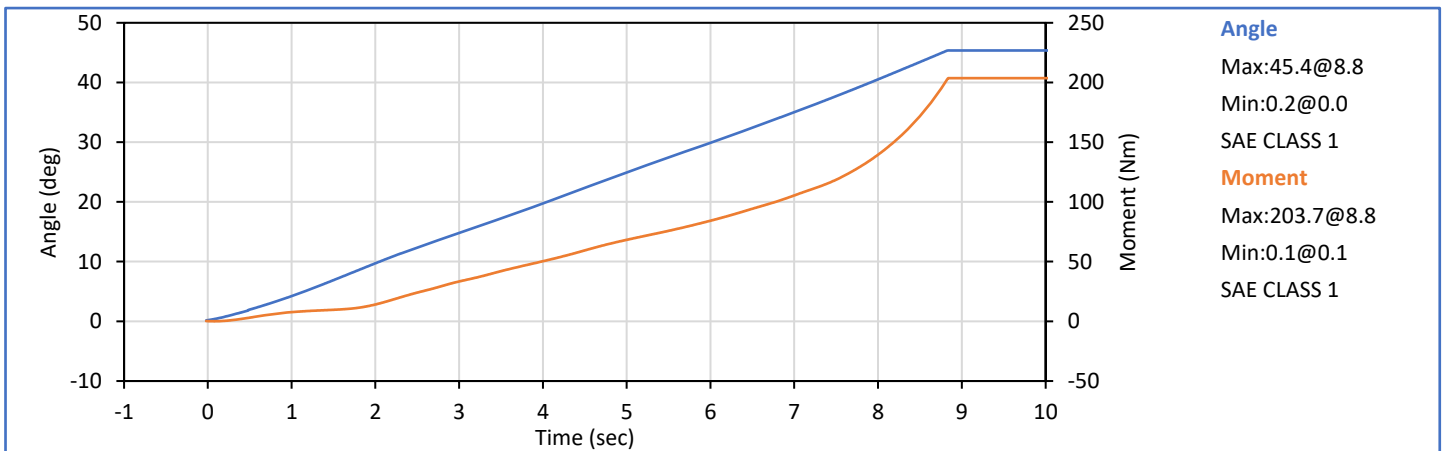
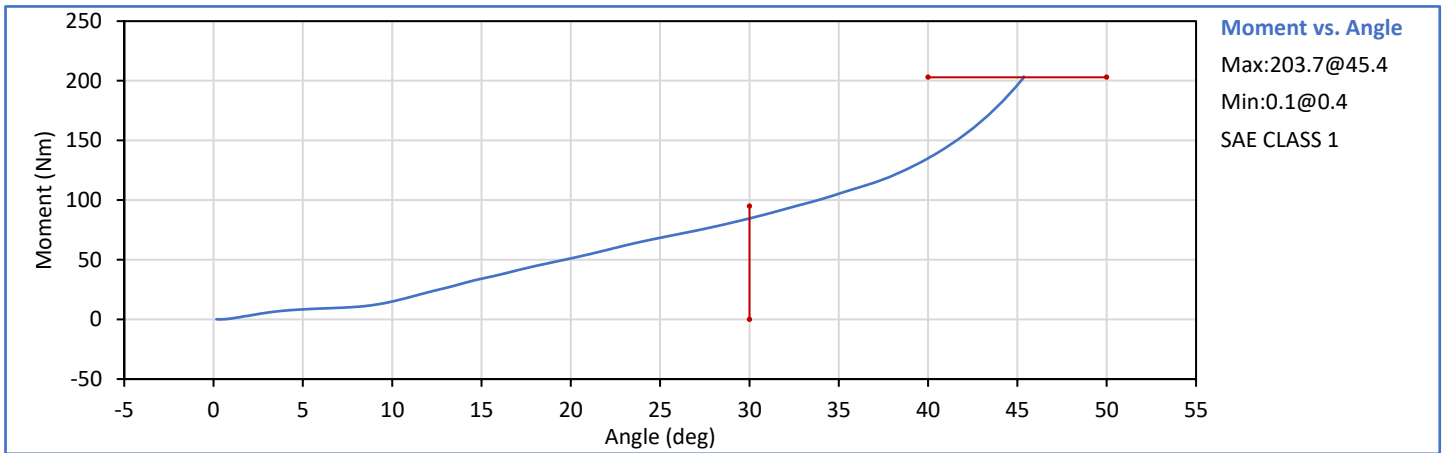
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.5	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Left Hip Rotation Rate	deg/s	5.0	10.0	5.1	Pass
Left Femur Torque at 30°	Nm	0.0	95.0	76.8	Pass
Left Hip Rotation at 203 Nm	deg	40.0	50.0	46.1	Pass
Overall Test Results					Pass



Technician: J. Perez

Approved By: J. Hernandez

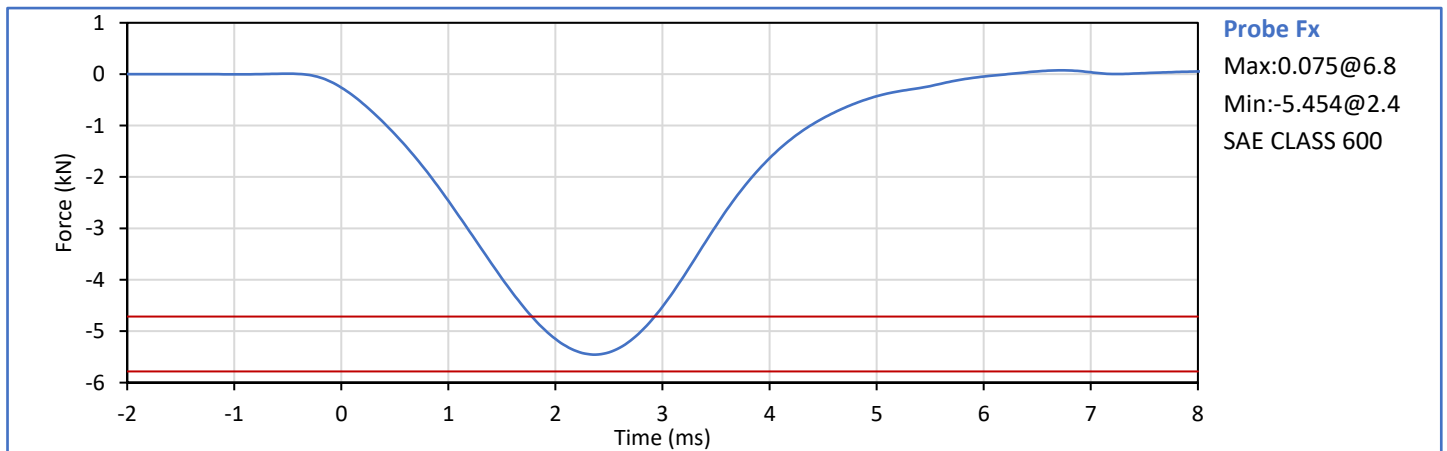
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	20.4	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Right Hip Rotation Rate	deg/s	5.0	10.0	5.1	Pass
Right Femur Torque at 30°	Nm	0.0	95.0	84.6	Pass
Right Hip Rotation at 203 Nm	deg	40.0	50.0	45.4	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

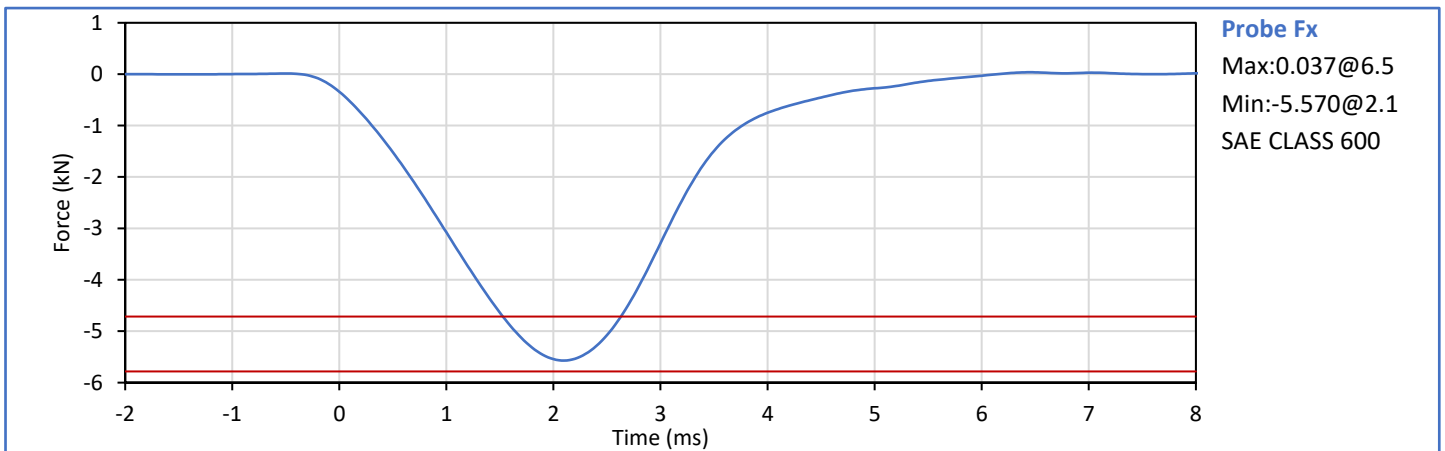
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.3	Pass
Laboratory Relative Humidity	%	10	70	39	Pass
Probe Velocity	m/s	2.070	2.130	2.102	Pass
Peak Resistive Force	kN	-5.782	-4.715	-5.454	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.3	Pass
Laboratory Relative Humidity	%	10	70	39	Pass
Probe Velocity	m/s	2.070	2.130	2.104	Pass
Peak Resistive Force	kN	-5.782	-4.715	-5.570	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

APPENDIX C
Post-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 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. Perez

Approved By: _____

J. Hernandez

ATD Serial No.: DH1644

Test Date: 2025-06-04

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.8	Pass
Laboratory Relative Humidity	%	10	70	45	Pass
A - Total sitting height	mm	775	800	792	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	148	Pass
E - Shoulder pivot from backline	mm	69	84	72	Pass
F - Thigh clearance	mm	119	135	129	Pass
G - Back of elbow to wrist pivot	mm	244	259	247	Pass
H - Head back to backline	mm	41	46	44	Pass
I - Shoulder to elbow length	mm	277	297	292	Pass
J - Elbow rest height	mm	183	203	190	Pass
K - Buttock to knee length	mm	521	546	537	Pass
L - Popliteal length	mm	356	376	361	Pass
M - Knee pivot height	mm	394	419	407	Pass
N - Buttock popliteal length	mm	414	439	426	Pass
O - Chest depth without jacket	mm	175	191	188	Pass
P - Foot length	mm	219	234	225	Pass
R - Buttock to Knee Pivot Length	mm	457	483	467	Pass
S - Head Breadth	mm	137	147	142	Pass
T - Head Depth	mm	178	188	186	Pass
U - Hip Breadth	mm	300	315	307	Pass
V - Shoulder breadth	mm	351	366	357	Pass
W - Foot breadth	mm	79	94	91	Pass
X - Head circum.	mm	528	549	538	Pass
Y - Chest circum. (w/chest jacket)	mm	851	881	868	Pass
Z - Waist circum.	mm	760	790	773	Pass
AA - Location for chest circum.	mm	333	358	345	Pass
BB - Location for waist circum.	mm	160	170	167	Pass
Overall Test Results					Pass

Technician:



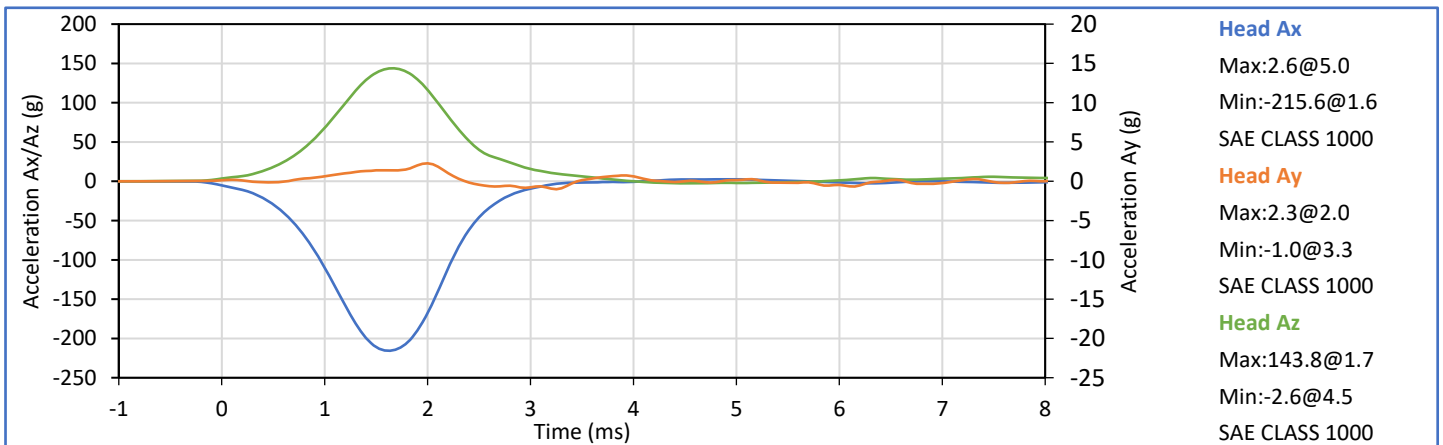
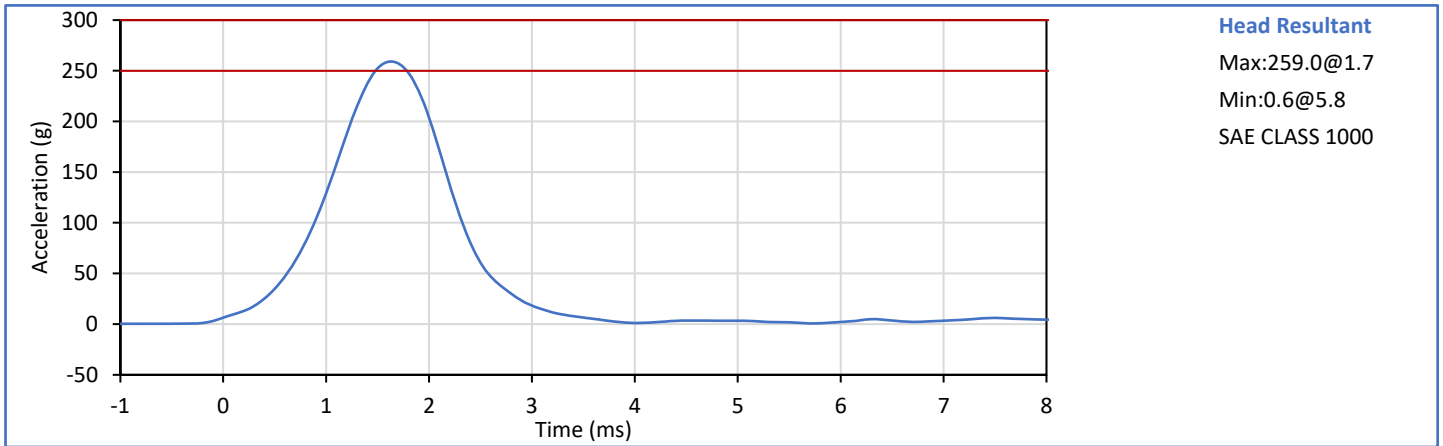
J. Perez

Approved By:



J. Hernandez

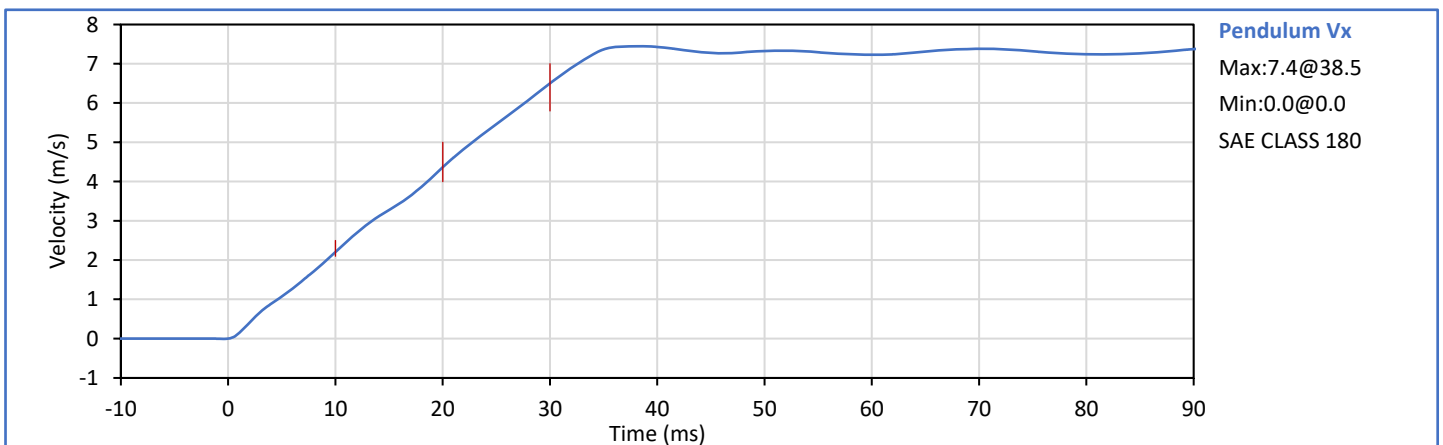
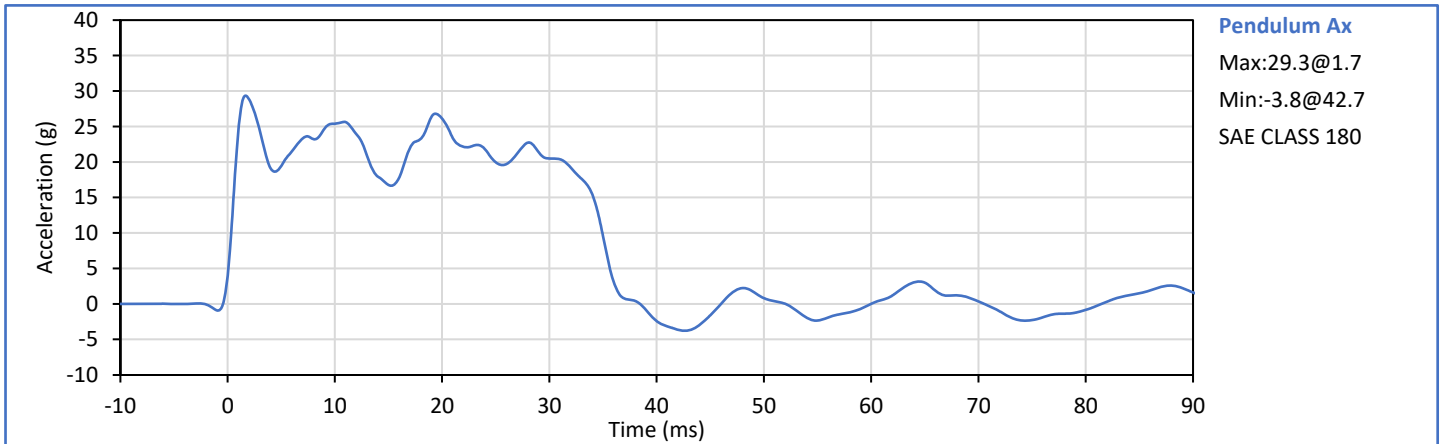
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Humidity	%	10	70	42	Pass
Peak Resultant Acceleration	g	250.0	300.0	259.0	Pass
Peak Lateral Acceleration	g	-15.0	15.0	2.3	Pass
Oscillations After Main Pulse	%	0.0	10.0	2.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.9	Pass
Laboratory Humidity	%	10	70	43	Pass
Pendulum Velocity	m/s	6.89	7.13	7.04	Pass
Pendulum Velocity at 10 ms	m/s	2.10	2.50	2.20	Pass
Pendulum Velocity at 20 ms	m/s	4.00	5.00	4.36	Pass
Pendulum Velocity at 30 ms	m/s	5.80	7.00	6.50	Pass
Peak "D" Plane Rotation	deg	77.0	91.0	82.6	Pass
Peak Moment in Rotation	Nm	69.0	83.0	80.7	Pass
Positive Moment Decay to 10 Nm	ms	80.0	100.0	87.1	Pass
Overall Test Results					Pass



Technician: _____

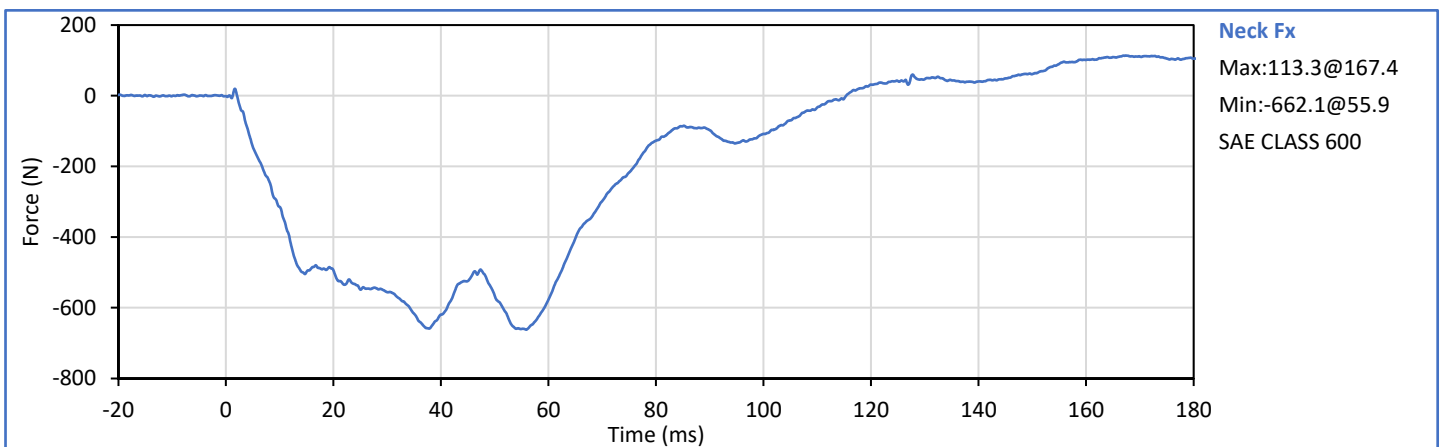
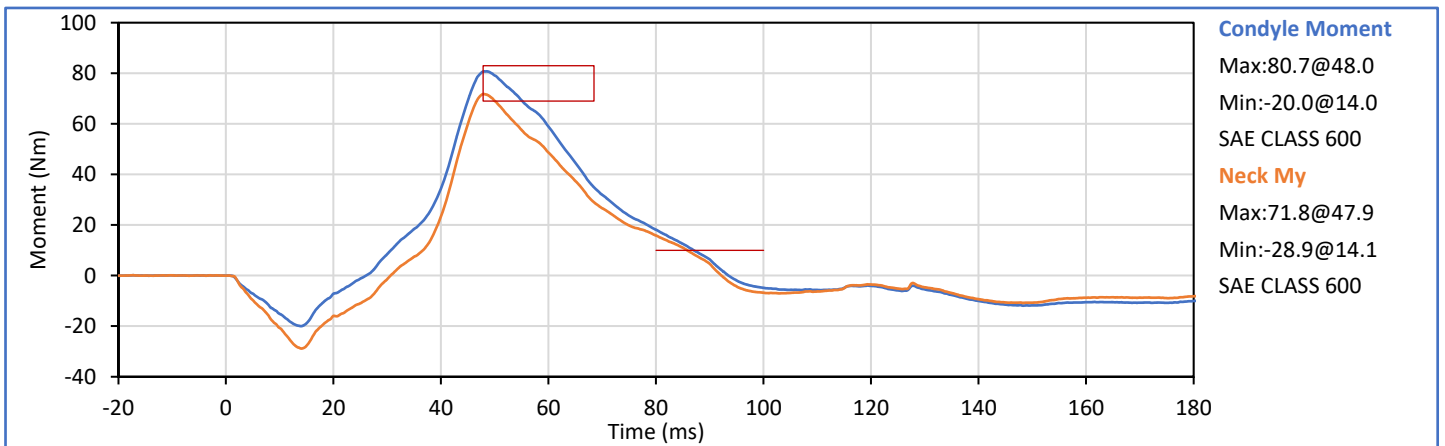
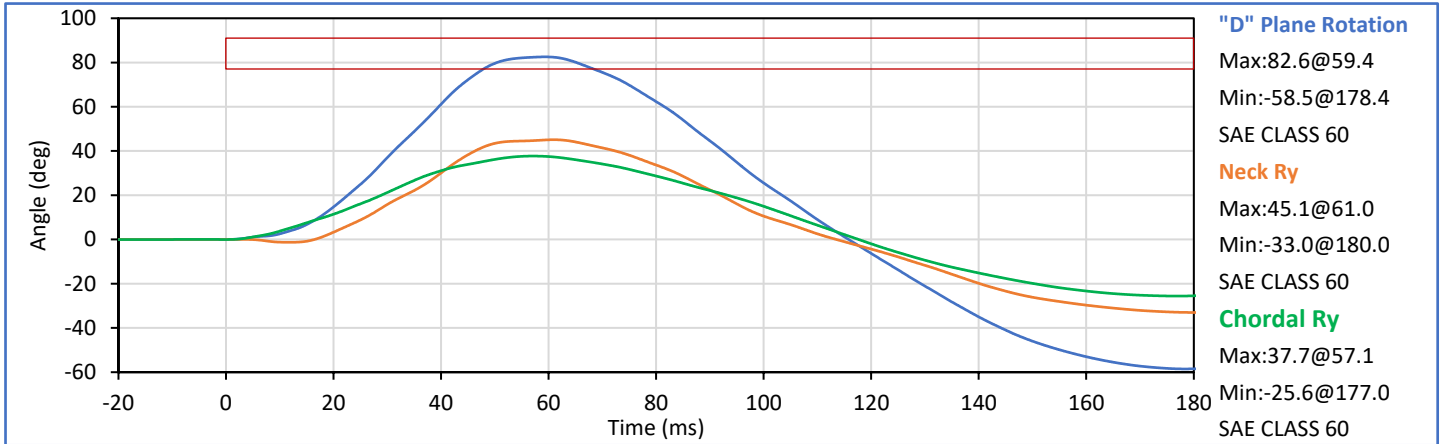
J. Perez

J. Perez

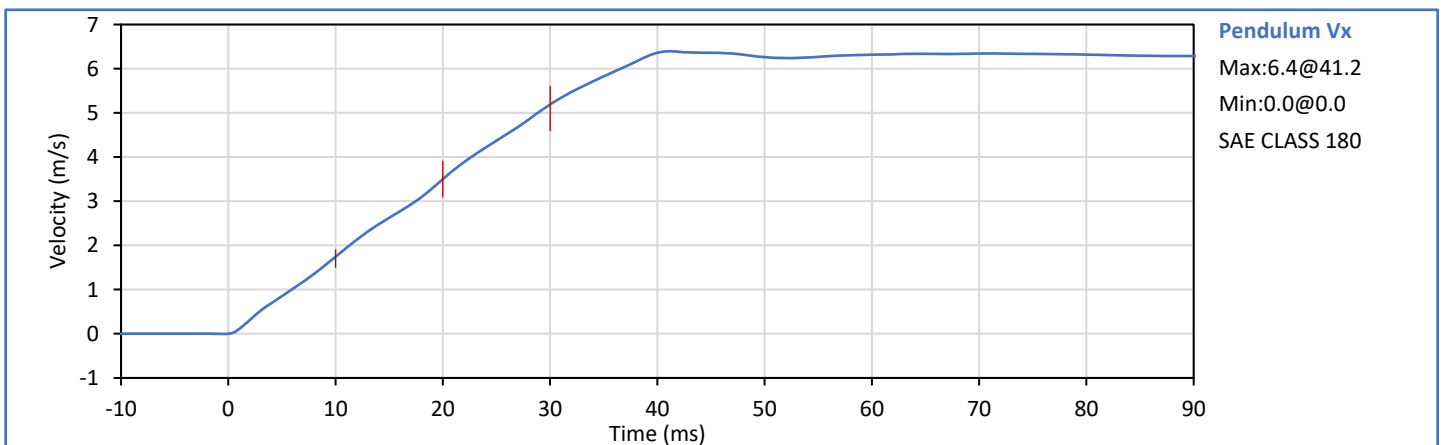
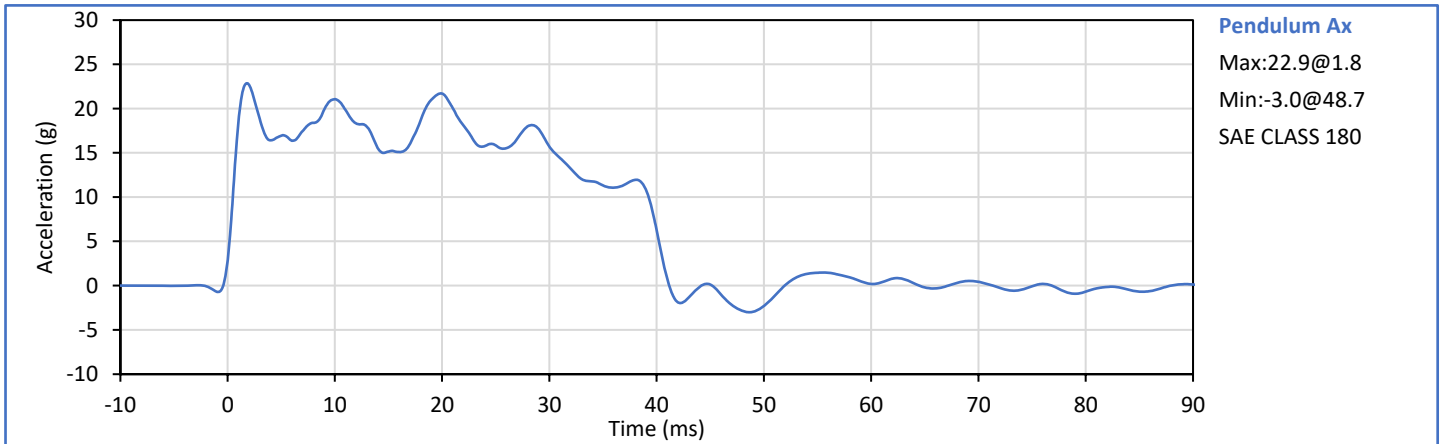
Approved By: _____

J. Hernandez

J. Hernandez



Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.8	Pass
Laboratory Relative Humidity	%	10	70	44	Pass
Pendulum Velocity	m/s	5.95	6.19	6.11	Pass
Pendulum Velocity at 10 ms	m/s	1.50	1.90	1.74	Pass
Pendulum Velocity at 20 ms	m/s	3.10	3.90	3.50	Pass
Pendulum Velocity at 30 ms	m/s	4.60	5.60	5.19	Pass
Peak "D" Plane Rotation	deg	99.0	114.0	103.5	Pass
Peak Moment in Rotation	Nm	-65.0	-53.0	-56.1	Pass
Negative Moment Decay to -10 Nm	ms	94.0	114.0	101.6	Pass
Overall Test Results					Pass



Technician:

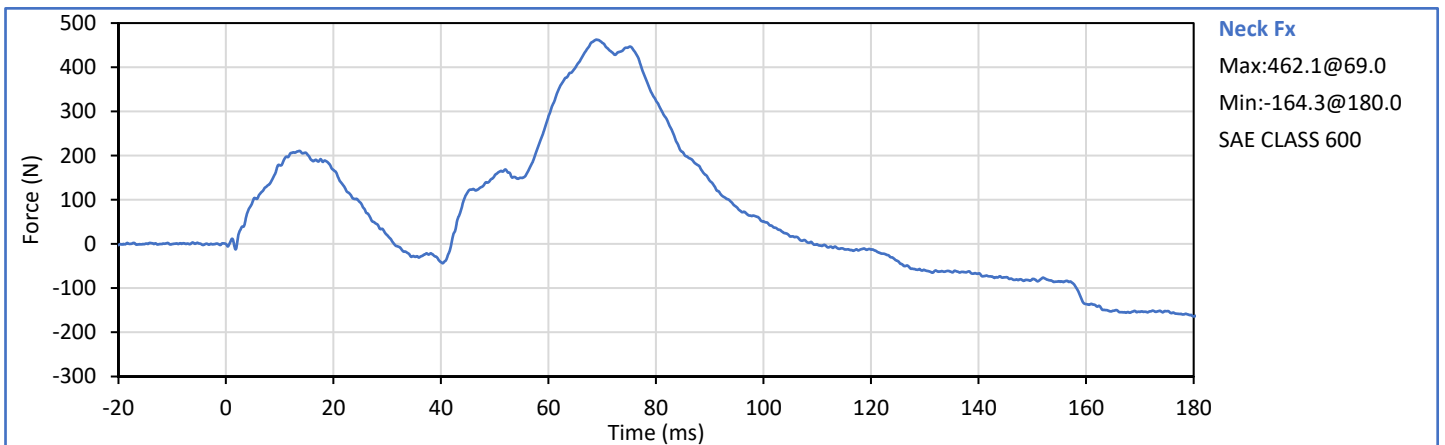
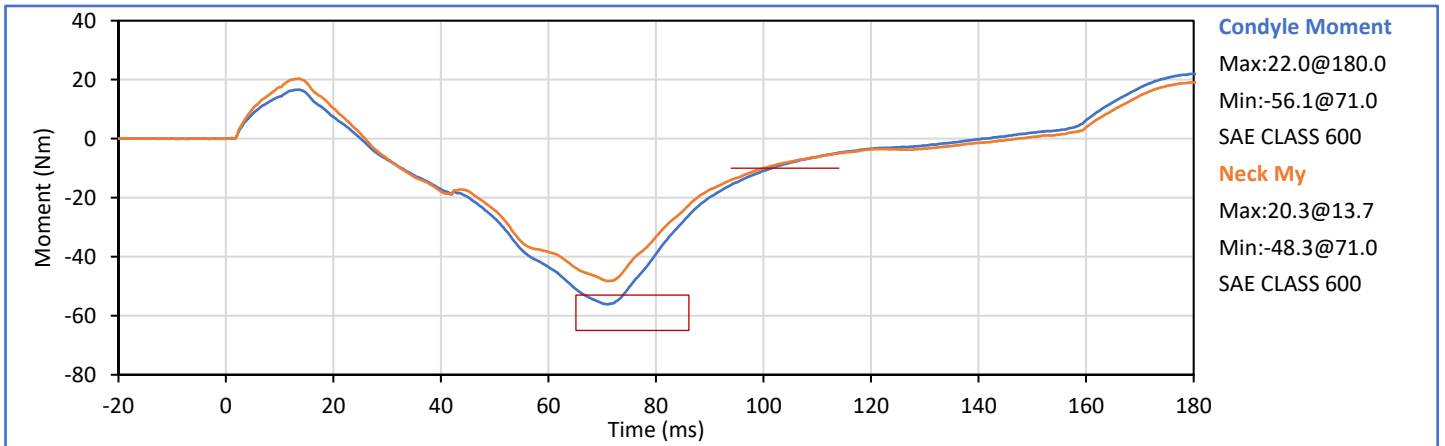
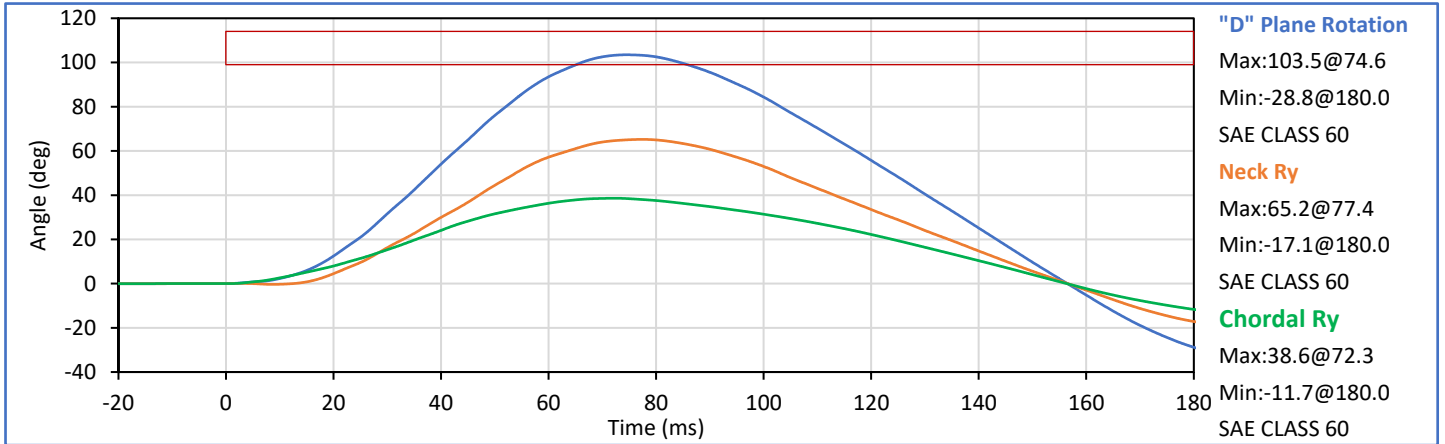
J. Perez

J. Perez

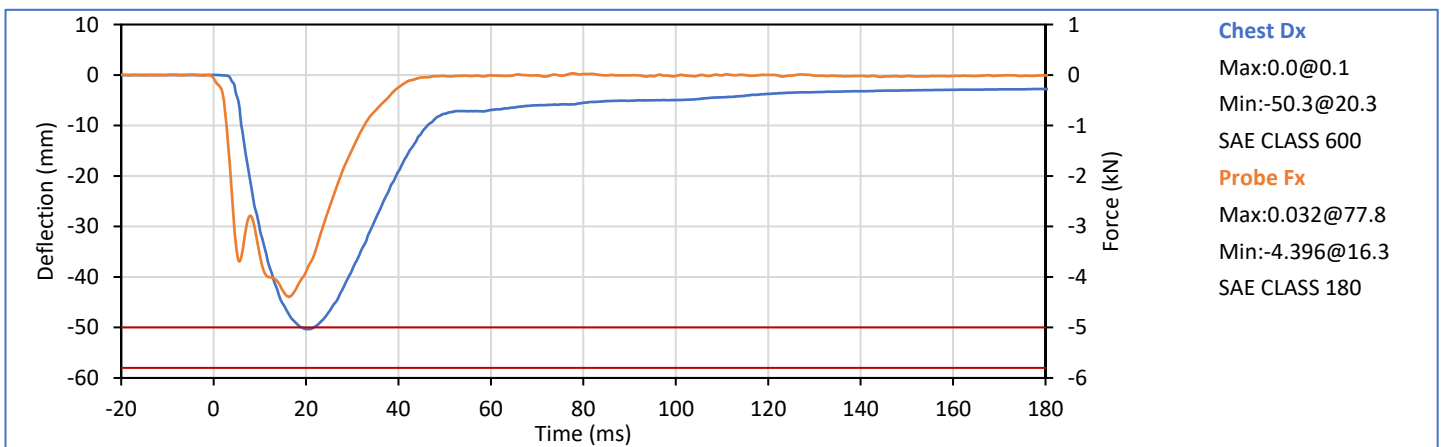
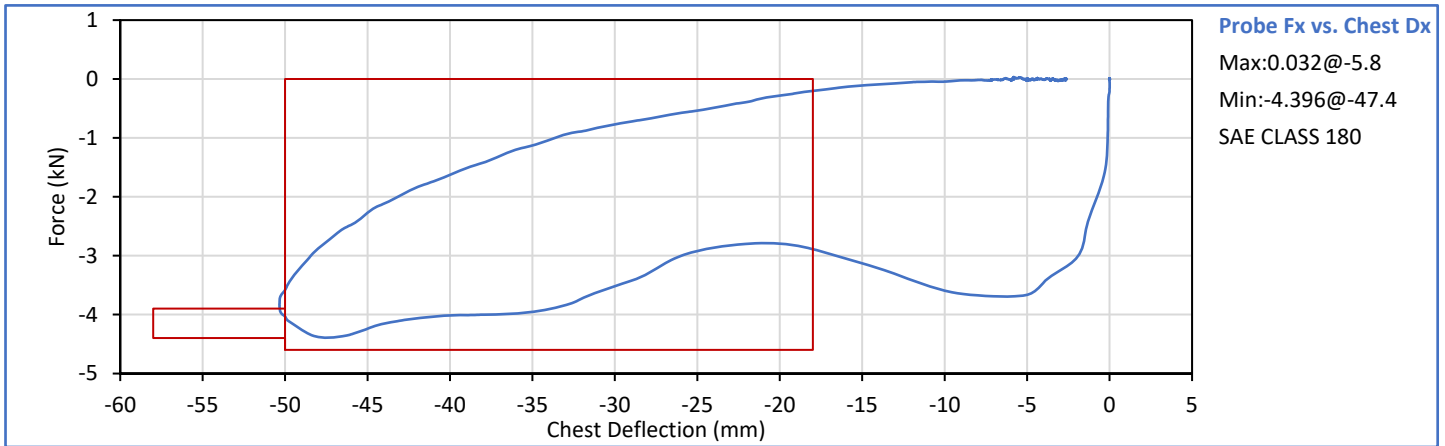
Approved By:

J. Hernandez

J. Hernandez



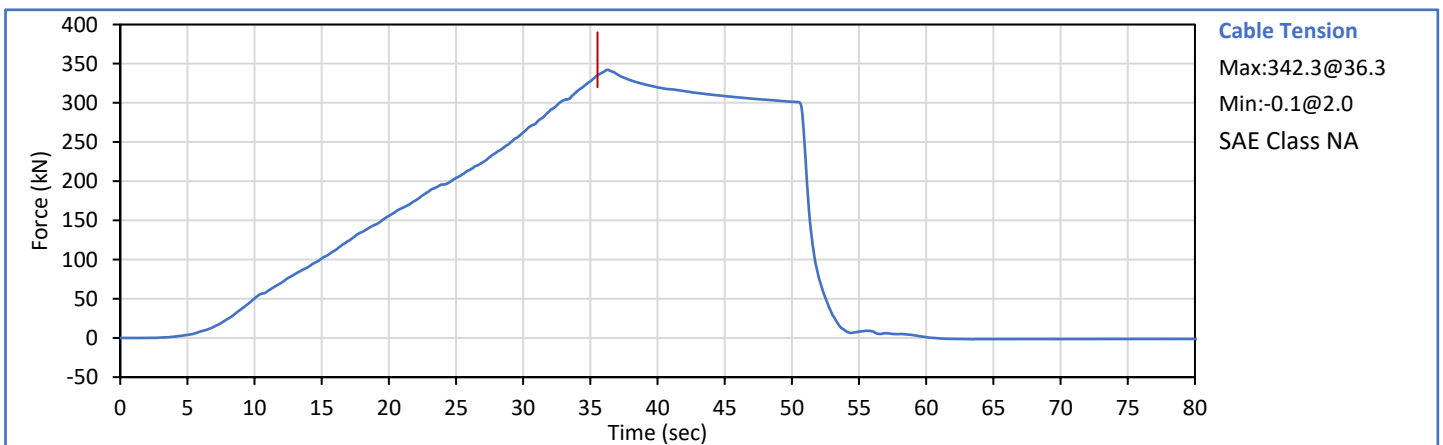
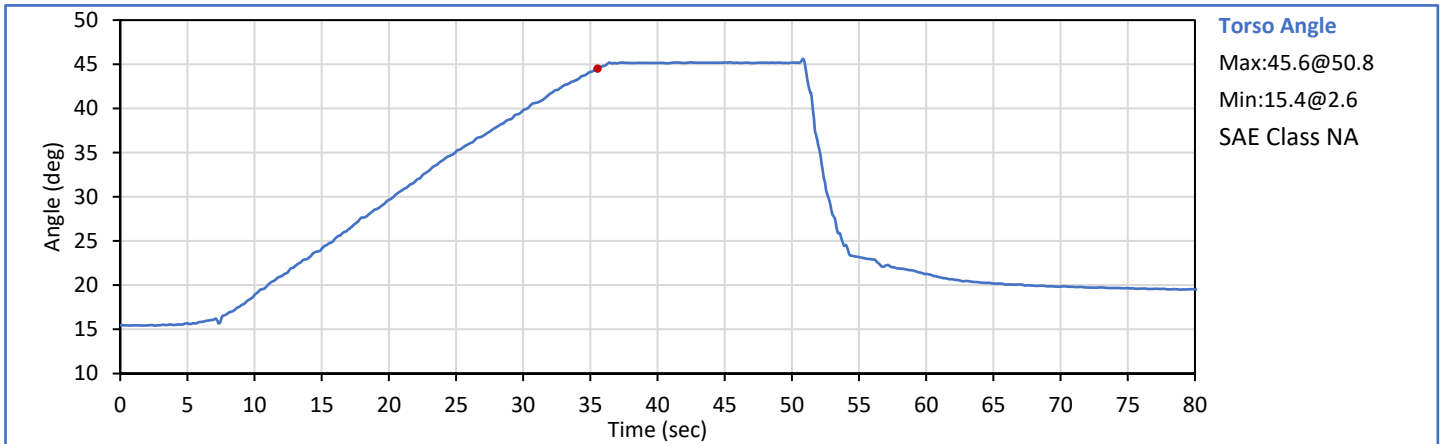
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory RelativeHumidity	%	10	70	38	Pass
Probe Velocity	m/s	6.59	6.83	6.71	Pass
Peak Chest Deflection	mm	-58.0	-50.0	-50.3	Pass
Peak Probe Force, 50 and 58 mm	kN	-4.400	-3.900	-4.037	Pass
Peak Probe Force, 18 and 50 mm	kN	-4.600	0.000	-4.396	Pass
Internal Hysteresis	%	69.0	85.0	75.6	Pass
Overall Test Results					Pass



Technician: J. Perez

Approved By: J. Hernandez

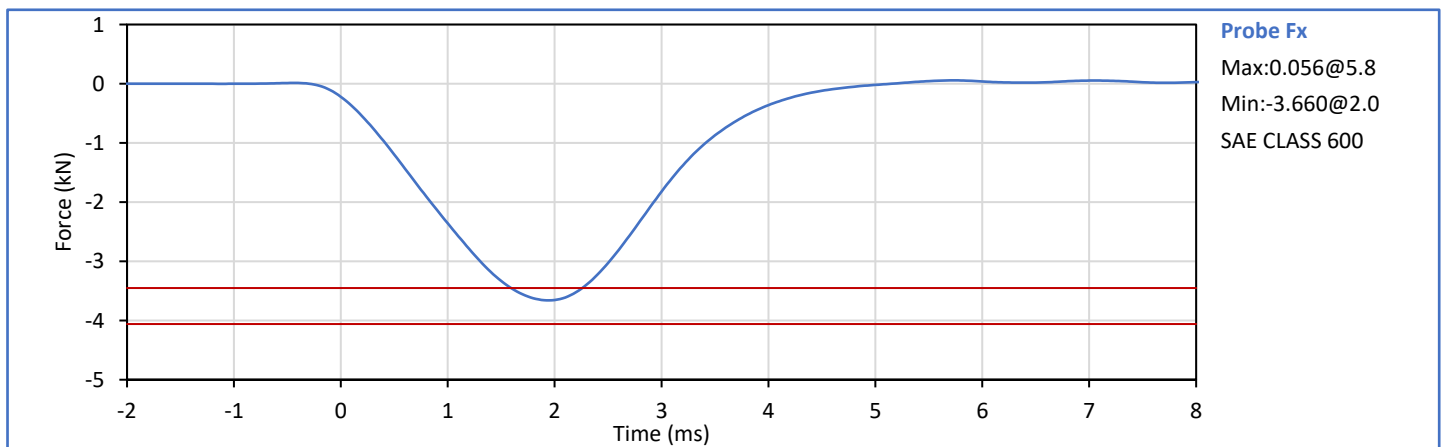
Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.5	Pass
Laboratory Humidity	%	10	70	43	Pass
Orientation Angle	deg	0.0	20.0	17.1	Pass
Test Initial Angle	deg	11.0	19.0	15.5	Pass
Peak Force at 45° (+/-0.5°)	N	320.0	390.0	335.2	Pass
Torso Flexion Rate	deg/s	0.50	1.50	1.02	Pass
Final Reference Plane Angle	deg	-8.0	8.0	3.1	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

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	41	Pass
Probe Velocity	m/s	2.070	2.130	2.105	Pass
Peak Resistive Force	kN	-4.060	-3.450	-3.660	Pass
Overall Test Results					Pass



Technician: _____

J. Perez

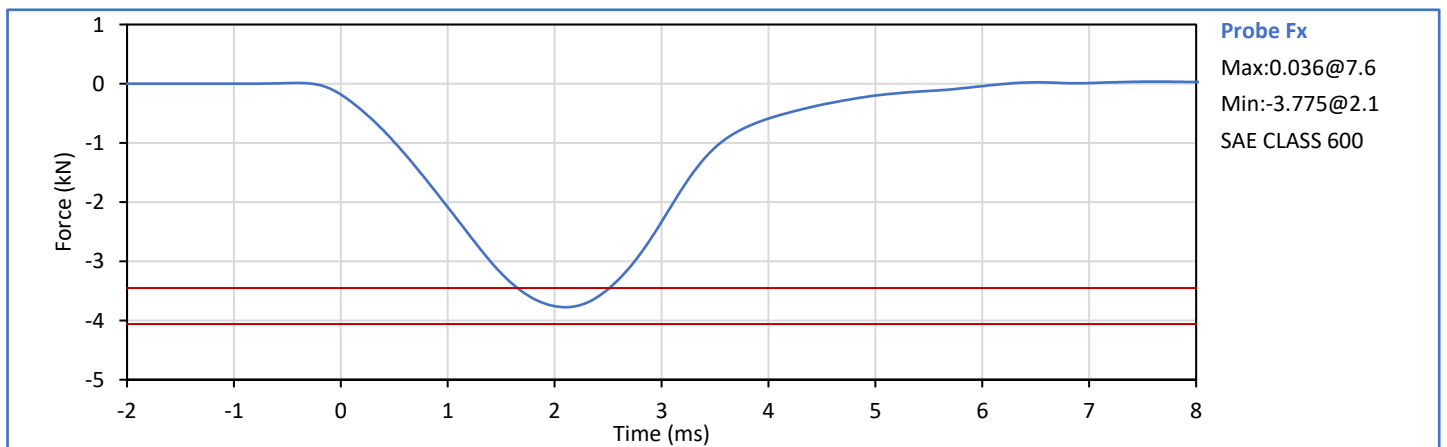
J. Perez

Approved By: _____

J. Hernandez

J. Hernandez

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	41	Pass
Probe Velocity	m/s	2.070	2.130	2.102	Pass
Peak Resistive Force	kN	-4.060	-3.450	-3.775	Pass
Overall Test Results					Pass



Technician: *J. Perez*
J. Perez

Approved By: *J. Hernandez*
J. Hernandez

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	2025-05-29
Head Acceleration Y Primary	P49228	Endevco	7264C-2k	2025-05-29
Head Acceleration Z Primary	P50101	Endevco	7264C-2k	2025-05-29
Head Acceleration X Redundant	P50103	Endevco	7264C-2k	2025-05-29
Head Acceleration Y Redundant	P49210	Endevco	7264C-2k	2025-05-29
Head Acceleration Z Redundant	P58713	Endevco	7264C-2k	2025-05-29
Head Rotation Rate X	ARS7426	DTS	ARS PRO-8k (2kHz)	2024-07-26
Head Rotation Rate Y	ARS7587	DTS	ARS PRO-8k (2kHz)	2024-07-31
Head Rotation Rate Z	ARS7480	DTS	ARS PRO-8k (2kHz)	2024-07-31
Upper Neck Force X	1646 Fx	R.A. Denton	1716A	2024-09-20
Upper Neck Force Y	1646 Fy	R.A. Denton	1716A	2024-09-20
Upper Neck Force Z	1646 Fz	R.A. Denton	1716A	2024-09-20
Upper Neck Moment X	1646 Mx	R.A. Denton	1716A	2024-09-20
Upper Neck Moment Y	1646 My	R.A. Denton	1716A	2024-09-20
Upper Neck Moment Z	1646 Mz	R.A. Denton	1716A	2024-09-20
Chest Acceleration X Primary	P52072	Endevco	7264C-2k	2025-05-28
Chest Acceleration Y Primary	P49208	Endevco	7264C-2k	2025-05-28
Chest Acceleration Z Primary	P51264	Endevco	7264C-2k	2025-05-28
Chest Acceleration X Redundant	P49461	Endevco	7264C-2k	2025-05-28
Chest Acceleration Y Redundant	P58774	Endevco	7264C-2k	2025-05-28
Chest Acceleration Z Redundant	P49168	Endevco	7264C-2k	2025-05-28
Chest Deflection	0606 (H3)	Servo	14CBI-3615	2025-05-31
Pelvis Acceleration X	P49238	Endevco	7264C-2k	2025-05-28
Pelvis Acceleration Y	P51278	Endevco	7264C-2KTZ	2025-05-28
Pelvis Acceleration Z	P50087	Endevco	7264C-2k	2025-05-28
Left Femur Force Z	DT0999 (pri)	Humanetics	3821JLN2	2024-07-25
Right Femur Force Z	DS4141 (pri)	Humanetics	3821JLN2	2024-07-25
Left Femur Force Z Redundant	DT0999 (red)	Humanetics	3821JLN2	2024-07-25
Right Femur Force Z Redundant	DS4141 (red)	Humanetics	3821JLN2	2024-07-25
Left Upper Tibia Moment X	481 Mx	R.A. Denton	3643	2025-01-30
Left Upper Tibia Moment Y	481 My	R.A. Denton	3643	2025-01-30
Left Upper Tibia Force Z	481 Fz	R.A. Denton	3643	2025-01-30
Left Lower Tibia Moment X	DI4209 Mx	FTSS	IF-853	2025-02-04
Left Lower Tibia Moment Y	DI4209 My	FTSS	IF-853	2025-02-04
Left Lower Tibia Force Z	DI4209 Fz	FTSS	IF-853	2025-02-04
Right Upper Tibia Moment X	482 Mx	R.A. Denton	3643	2024-09-20
Right Upper Tibia Moment Y	482 My	R.A. Denton	3643	2024-09-20
Right Upper Tibia Force Z	482 Fz	R.A. Denton	3643	2024-09-20
Right Lower Tibia Moment X	503 Mx	R.A. Denton	3644	2024-09-20
Right Lower Tibia Moment Y	503 My	R.A. Denton	3644	2024-09-20
Right Lower Tibia Force Z	503 Fz	R.A. Denton	3644	2024-09-20
Left Ankle Acceleration X	03E20-N09	Entran	EGEB6Q-2k	2025-05-30
Left Ankle Acceleration Z	P68074	Endevco	7264C-2k	2025-05-30
Left Toe Acceleration Z	03H07-Z10	Entran	EGEB6Q-2k	2025-05-30
Right Ankle Acceleration X	06E20-R08	Entran	EGEB6Q-2k	2025-05-30
Right Ankle Acceleration Z	06A07-R08	Entran	EGEB6Q-2k	2025-05-30
Right Toe Acceleration Z	02I10-N27	Entran	EGEB6Q-2k	2025-05-30
Seat Belt Outside Lap Force	313	FTSS	IF-964	2025-04-03
Seat Belt Upper Diagonal Force	315	FTSS	IF-964	2025-04-03

Table 2 - Right Front Passenger ATD Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Head Acceleration X Primary	P51889	Endevco	7264C-2k	2025-04-03
Head Acceleration Y Primary	P51861	Endevco	7264C-2k	2025-04-03
Head Acceleration Z Primary	P52077	Endevco	7264C-2k	2025-04-03
Head Acceleration X Redundant	P58835	Endevco	7264C-2k	2025-04-03
Head Acceleration Y Redundant	P51703	Endevco	7264C-2k	2025-04-03
Head Acceleration Z Redundant	P52096	Endevco	7264C-2k	2025-04-03
Head Rotation Rate X	ARS7510	DTS	ARS PRO-8k (2kHz)	2024-07-31
Head Rotation Rate Y	ARS7548	DTS	ARS PRO-8k (2kHz)	2024-07-31
Head Rotation Rate Z	ARS7573	DTS	ARS PRO-8k (2kHz)	2024-07-31
Upper Neck Force X	2254 Fx	R.A. Denton	1716ATF	2025-01-23
Upper Neck Force Y	2254 Fy	R.A. Denton	1716ATF	2025-01-23
Upper Neck Force Z	2254 Fz	R.A. Denton	1716ATF	2025-01-23
Upper Neck Moment X	2254 Mx	R.A. Denton	1716ATF	2025-01-23
Upper Neck Moment Y	2254 My	R.A. Denton	1716ATF	2025-01-23
Upper Neck Moment Z	2254 Mz	R.A. Denton	1716ATF	2025-01-23
Chest Acceleration X Primary	P58860	Endevco	7264C-2k	2025-04-02
Chest Acceleration Y Primary	P51724	Endevco	7264C-2k	2025-04-02
Chest Acceleration Z Primary	P58711	Endevco	7264C-2k	2025-04-02
Chest Acceleration X Redundant	P52049	Endevco	7264C-2k	2025-04-02
Chest Acceleration Y Redundant	P49241	Endevco	7264C-2k	2025-04-02
Chest Acceleration Z Redundant	P52048	Endevco	7264C-2k	2025-04-02
Chest Deflection	0724 (HF)	Servo	14CBI-3615	2025-05-23
Pelvis Acceleration X	P52090	Endevco	7264C-2k	2025-04-02
Pelvis Acceleration Y	P58849	Endevco	7264C-2k	2025-04-02
Pelvis Acceleration Z	P58756	Endevco	7264C-2k	2025-04-02
Left Femur Force Z	DS4137 (pri)	Humanetics	3821JLN2	2025-01-23
Right Femur Force Z	DS9756 (pri)	Humanetics	3821JLN2	2025-01-23
Left Femur Force Z Redundant	DS4137 (red)	Humanetics	3821JLN2	2025-01-23
Right Femur Force Z Redundant	DS9756 (red)	Humanetics	3821JLN2	2025-01-23
Left Upper Tibia Moment X	468 Mx	R.A. Denton	3643	2025-05-15
Left Upper Tibia Moment Y	468 My	R.A. Denton	3643	2025-05-25
Left Upper Tibia Force Z	468 Fz	R.A. Denton	3643	2025-05-15
Left Lower Tibia Moment X	499 Mx	R.A. Denton	3644	2025-05-15
Left Lower Tibia Moment Y	499 My	R.A. Denton	3644	2025-05-15
Left Lower Tibia Force Z	499 Fz	R.A. Denton	3644	2025-05-15
Right Upper Tibia Moment X	DH3302 Mx	FTSS	IF-857	2025-05-15
Right Upper Tibia Moment Y	DH3302 My	FTSS	IF-857	2025-05-15
Right Upper Tibia Force Z	DH3302 Fz	FTSS	IF-857	2025-05-15
Right Lower Tibia Moment X	399 Mx	R.A. Denton	3644	2025-05-15
Right Lower Tibia Moment Y	399 My	R.A. Denton	3644	2025-05-15
Right Lower Tibia Force Z	399 Fz	R.A. Denton	3644	2025-05-15
Left Ankle Acceleration X	P49224	Endevco	7264C-2k	2025-05-06
Left Ankle Acceleration Z	P52057	Endevco	7264C-2k	2025-05-06
Left Toe Acceleration Z	P58897	Endevco	7264C-2k	2025-05-06
Right Ankle Acceleration X	P52019	Endevco	7264C-2k	2025-05-06
Right Ankle Acceleration Z	P58755	Endevco	7264C-2k	2025-05-06
Right Toe Acceleration Z	P52076	Endevco	7264C-2k	2025-05-06
Seat Belt Outside Lap Force	251	FTSS	IF-964	2025-04-03
Seat Belt Upper Diagonal Force	263	FTSS	IF-964	2025-04-03

Table 3 - Vehicle Instrumentation

Sensor Location	Sensor S\N	Mfr	Model	Cal Date
Left Rear Primary Ax	M12842	Endevco	758H-2k	2025-02-06
Right Rear Primary Ax	M13687	Endevco	758H-2k	2025-02-06
Engine Top Ax	M12858	Endevco	758H-2k	2025-02-11
Engine Bottom Ax	M12890	Endevco	758H-2k	2025-02-22
Left Rear Az	M11232	Endevco	758H-2k	2025-02-24
Right Rear Az	M12831	Endevco	758H-2k	2025-02-22
Left Rear Redundant Ax	M13671	Endevco	758H-2k	2025-02-11
Right Rear Redundant Ax	M12878	Endevco	758H-2k	2025-02-06