

**REPORT NUMBER: NCAP-KAR-18-004**

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

**FCA US LLC  
2018 JEEP COMPASS SPORT 4X4 5-DOOR MPV**

**NHTSA NUMBER: M20180306**

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



**NOVEMBER 22, 2017**

**FINAL REPORT**

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

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Approval Date: November 22, 2017

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Date: \_\_\_\_\_

\_\_\_\_\_  
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NHTSA, Office of Crashworthiness Standards

Date: \_\_\_\_\_

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<b>15. Supplementary Notes</b>																																																							
<b>16. Abstract</b> <p>A 56.3 km/h NCAP Frontal Impact Test was conducted on a 2018 Jeep Compass Sport 4x4 5-door MPV in accordance with the specifications of the Office of Crashworthiness Standards Frontal NCAP Laboratory Test Procedure. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on November 8, 2017.</p> <p>The impact velocity of the vehicle was 56.17 km/h and the ambient temperature at the barrier face at the time of impact was 23.3°C. The target vehicle's post-test maximum crush was 470 mm at the vehicle's centerline. The test vehicle's performance is as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Measurement Description</th> <th rowspan="2">Units</th> <th colspan="2">Driver ATD</th> <th colspan="2">Passenger ATD</th> </tr> <tr> <th>Threshold</th> <th>Result</th> <th>Threshold</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC<sub>15</sub>)</td> <td>N/A</td> <td>700</td> <td>196.0</td> <td>700</td> <td>171.9</td> </tr> <tr> <td>Maximum Chest Compression</td> <td>mm</td> <td>63</td> <td>-24</td> <td>52</td> <td>-21</td> </tr> <tr> <td>Nij</td> <td>N/A</td> <td>1</td> <td>0.41</td> <td>1</td> <td>0.36</td> </tr> <tr> <td>Neck Tension</td> <td>N</td> <td>4170</td> <td>1978.6</td> <td>2620</td> <td>1045.1</td> </tr> <tr> <td>Neck Compression</td> <td>N</td> <td>4000</td> <td>-169.7</td> <td>2520</td> <td>-407.1</td> </tr> <tr> <td>Left Femur Force</td> <td>N</td> <td>10000</td> <td>-1449.0</td> <td>6800</td> <td>-1328.8</td> </tr> <tr> <td>Right Femur Force</td> <td>N</td> <td>10000</td> <td>-2174.3</td> <td>6800</td> <td>-1720.7</td> </tr> </tbody> </table>				Measurement Description	Units	Driver ATD		Passenger ATD		Threshold	Result	Threshold	Result	Head Injury Criteria (HIC <sub>15</sub> )	N/A	700	196.0	700	171.9	Maximum Chest Compression	mm	63	-24	52	-21	Nij	N/A	1	0.41	1	0.36	Neck Tension	N	4170	1978.6	2620	1045.1	Neck Compression	N	4000	-169.7	2520	-407.1	Left Femur Force	N	10000	-1449.0	6800	-1328.8	Right Femur Force	N	10000	-2174.3	6800	-1720.7
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<b>17. Key Words</b> 35 mph Frontal Barrier Impact Test New Car Assessment Program (NCAP)		<b>18. Distribution Statement</b> Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave., SE Washington, DC 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833																																																					
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## **SECTION 1**

### **PURPOSE AND SUMMARY OF TEST**

#### **PURPOSE**

This 56.3 km/h frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program, sponsored by the National Highway Traffic Safety Administration (NHTSA) under contract number DTNH22-12-D-00259. 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 Frontal NCAP Laboratory Test Procedure, dated October 2015.

#### **SUMMARY**

A load cell barrier consisting of 176 load cells was impacted by a 2018 Jeep Compass Sport 4x4 5-door MPV at a velocity of 56.17 km/h. The test was performed at KARCO Engineering, LLC. on November 8, 2017. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A of this report.

Three (3) real-time cameras and sixteen (16) high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in Data Sheet 6 of this report.

One Part 572E 50<sup>th</sup> percentile male anthropomorphic test device (ATD) was placed in the driver seating position and one Part 572O 5<sup>th</sup> percentile female ATD was placed in the right-front passenger seating position according to dummy placement instructions specified in the Frontal NCAP Laboratory Test Procedure.

Both ATDs were fully instrumented with head, chest and pelvis tri-axial accelerometers, chest displacement potentiometers, upper neck force transducers, right / left femur load cells, and lower leg instrumentation. The driver (position 1) ATD (Serial No. 360) and the right-front passenger (position 2) ATD (Serial No. 630) were calibrated 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.

There was 100% windshield retention and no intrusion into the protected zone of the windshield during the event.

The maximum static crush was 470 mm at the vehicle's centerline. Both the driver and passenger side doors remained closed during the impact event and were operable after the impact.

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

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

The occupant data is summarized below:

ATD Position	HIC <sub>15</sub>	T <sup>1</sup> (ms)	T <sup>2</sup> (ms)	Chest Disp. (mm)	Nij	Neck Tension (N)	Neck Comp. (N)	Left Femur (N)	Right Femur (N)
Driver (50th)	196.0	60.6	75.6	-24	0.41	1978.6	-169.7	-1449.0	-2174.3
Passenger (5th)	171.9	61.6	76.6	-21	0.36	1045.1	-407.1	-1328.8	-1720.7

## SECTION 2

### OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

#### 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 <sup>2</sup>	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: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**TEST VEHICLE INFORMATION AND OPTIONS**

NHTSA Number	M20180306
Model Year	2018
Make	Jeep
Model	Compass Sport 4x4
Body Style	5-Door MPV
VIN	3C4NJDAB8JT126783
Body Color	Redline Pearl Coat
Odometer Reading (km / mi)	126 / 78
Engine Displacement (L)	2.4
Type / No. of Cylinders	Inline 4
Engine Placement	Transverse
Transmission Type	Manual
Transmission Speeds	6
Overdrive	Yes
Final Drive	4x4
Roof Rack	No
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
Anti-Lock Brakes (ABS)	Yes
Automatic Door Locks (ADLs)	Yes

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

Does Owner's Manual provide instructions to turn off automatic door locks? No

**DATA FROM CERTIFICATION LABEL**

Manufactured By	FCA US LLC
Date of Manufacture	Jul-17

GVWR (kg)	2089
GAWR Front (kg)	1180
GAWR Rear (kg)	1080

**VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION**

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Designated Seating Capacity	2	3		5
Capacity Weight (VCW) (kg)				390.0
DSC x 68.04 (kg)				340.2
Cargo Weight (RCLW) (kg)				49.8

## DATA SHEET NO. 1 ... (CONTINUED)

### GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17



### VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	220
Recommended Tire Size	P215/65/R16	P215/65/R16
Tire Size on Vehicle	P215/65/R16	P215/65/R17
Tire Manufacturer	Continental	Continental
Tire Model	Cross Contact	Cross Contact
Treadwear	480	480
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	1 Rayon	1 Rayon
Tire Plies Body	1 Rayon, 2 Steel, 2 Polyamide	1 Rayon, 2 Steel, 2 Polyamide
Load Index / Speed Symbol	98H	98H
Tire Material	Rayon, Steel, Polyamide	Rayon, Steel, Polyamide
DOT Safety Code Left	HW6V WD36 1817	HW6V WD36 1817
DOT Safety Code Right	HW6V WD36 1817	HW6V WD36 1817

**DATA SHEET NO. 1 ... (CONTINUED)**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**TEST VEHICLE WEIGHTS**

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	457.0	320.5		488.0	392.5	
Right	kg	446.5	312.0		466.5	373.0	
Ratio	%	58.8%	41.2%	100.0%	55.5%	44.5%	100.0%
Total	kg	903.5	632.5	1536.0	954.5	765.5	1720.0

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1536.0	A
Weight of 1 P572E ATD & 1 P572O ATD	kg	141.0	B
Rated Cargo/Luggage Weight (RCLW)	kg	49.8	C
Calculated Vehicle Target Weight (TVTW)	kg	1726.8	A+B+C

**TEST VEHICLE ATTITUDES**

Condition	Units	LF	RF	LR	RR	CG Aft of Front Axle
As Delivered	mm	861	860	878	877	1081
As Tested	mm	842	841	845	841	1168
Post-Test	mm	862	865	837	830	

**GENERAL TEST VEHICLE DATA**

Measurement Description	Units	Value
Total Vehicle Wheel Base	mm	2625
Total Vehicle Length at Left Side	mm	3773
Total Vehicle Length at Centerline	mm	4410
Total Vehicle Length at Right Side	mm	3773
Weight of Ballast in Cargo Area	kg	94.5
Weight of Vehicle Components Removed	kg	25.0
Amount of Stoddard Solvent in Fuel Tank	L	47.54

**VEHICLE COMPONENTS REMOVED TO MEET TEST WEIGHT:**

Trunk Trim (3.0 kg), Spare Tire (8.5 kg), Tail Lights and Outboard Mirrors (5.5 kg), Rear Seat Cushion (3.5 kg), Rear Trim (4.5 kg)

**DATA SHEET NO. 1 ... (CONTINUED)**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**TARGET VEHICLE STRUCTURAL MEASUREMENTS**

No.	Description	Pre-Test
1	Total Length	4410
2	Total Width	1800
3	Bumper Top Height	777
4	Bumper Bottom Height	487
5	Longitudinal Member Top Height	640
6	Distance Between Longitudinal Members	895
7	Longitudinal Member Width	65
8	Engine Top Height	978
9	Engine Bottom Height	291
10	Engine and Gearbox Width	520
11	Front Bumper to Engine Distance	495
12	Front Shock Absorber Fixing Height	1030
13	Bonnet Leading Edge Height	943
14	Front Shock Absorber Fixing Width	1165
15	Front Bumper to Front Axle Distance	935
16	Front Axle to A-Pillar Distance	515
17	A-Pillar to B-Pillar Distance	961
18	B-Pillar to Rear Axle Distance	1085
19	B-Pillar to C-Pillar Distance	833
20	Roof Sill Bottom Height	1483
21	Roof Sill Top Height	1613
22	Floor Sill Bottom Height	305
23	Floor Sill Top Height	440

All measurements in millimeters.

## DATA SHEET NO. 2

### SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV

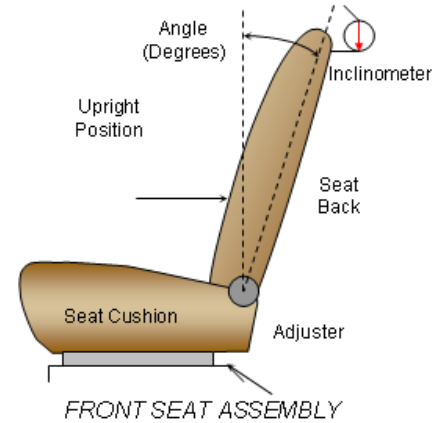
NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 11/08/17

#### 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.

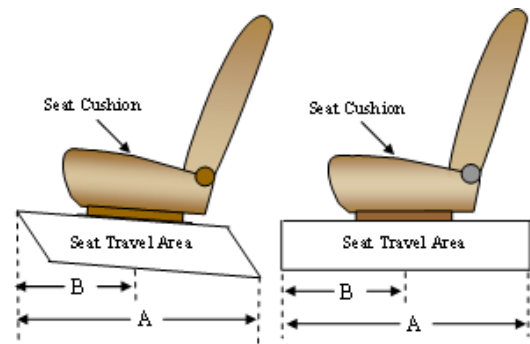


#### SEAT BACK ANGLE

Seating Position	Degrees
Driver Seat Back Angle	1.1
Passenger Seat Back Angle	1.8

#### 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	278 mm	139 mm
Passenger Seat	221 mm	0 mm

#### SEAT BELT UPPER ANCHORAGE

The seat belt upper anchorage is positioned to the manufacturer's design position for a 50<sup>th</sup> percentile adult male ATD for the driver, and a 5<sup>th</sup> percentile adult female ATD for the passenger. Position "H" is the uppermost position, followed by position "M2," and position M1. Position "L" is the lowermost position.

#### SEAT BELT UPPER ANCHORAGES

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

**DATA SHEET NO. 2 ... (CONTINUED)**

**SEAT ADJUSTMENT, FUEL SYSTEM, AND STEERING WHEEL DATA**

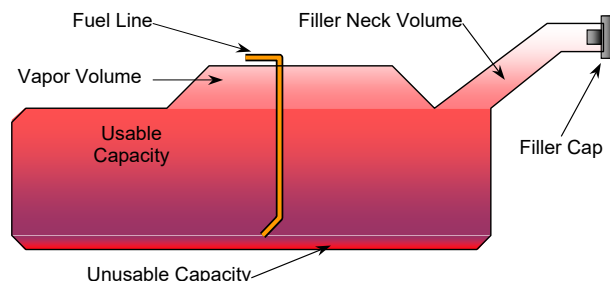
Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**FUEL TANK CAPACITY**

Description	Liters
Usable Capacity of "Standard Tank"	51.10
Usable Capacity of "Optional Tank"	N/A
92 - 94% of Usable Capacity	47.01 to 48.03
Actual Amount of Stoddard Solvent Used	47.54
1/3 of Usable Capacity	17.03

**FUEL PUMP**

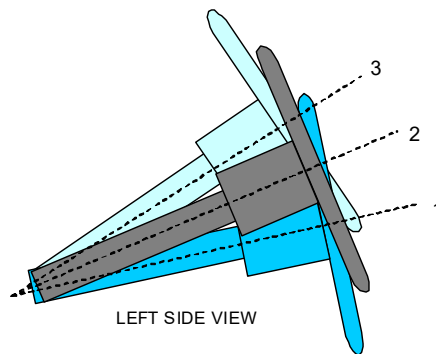
The vehicle is equipped with an electric fuel pump. The fuel pump operates when the key is in the "ON" position.



VEHICLE FUEL TANK ASSEMBLY

**STEERING COLUMN ADJUSTMENT**

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. A digital inclinometer is used to measure a plate which is placed across the rim of the steering wheel for angular measurements.



STEERING COLUMN ASSEMBLY

**STEERING COLUMN POSITIONING**

	Degrees	Fore-Aft Position (mm)
Lowermost Position, No. 1	24.2	173
Geometric Center Position, No. 2	26.9	198
Uppermost Position, No. 3	29.7	223
Telescoping Steering Wheel Travel		50
Test Position	26.9	198

### DATA SHEET NO. 3

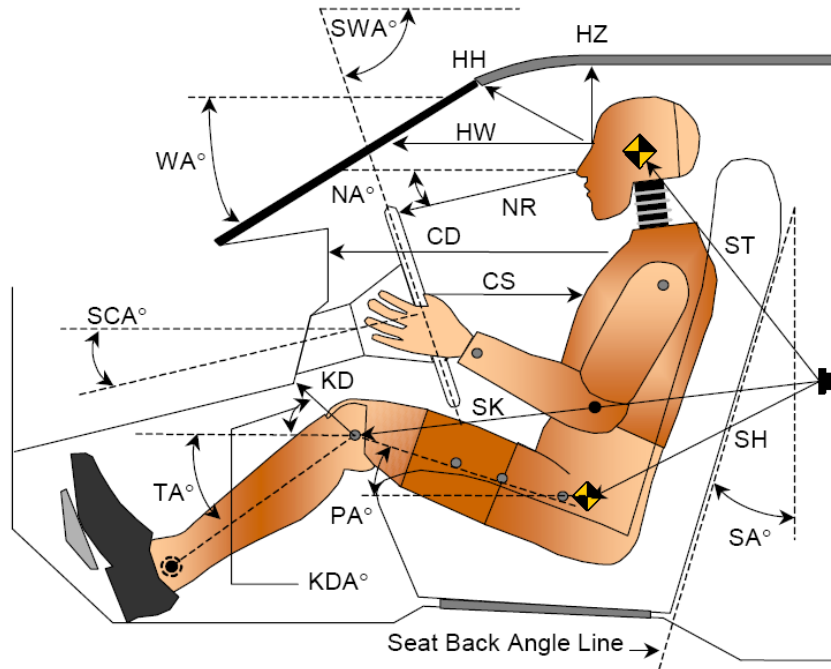
### DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV

NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 11/08/17



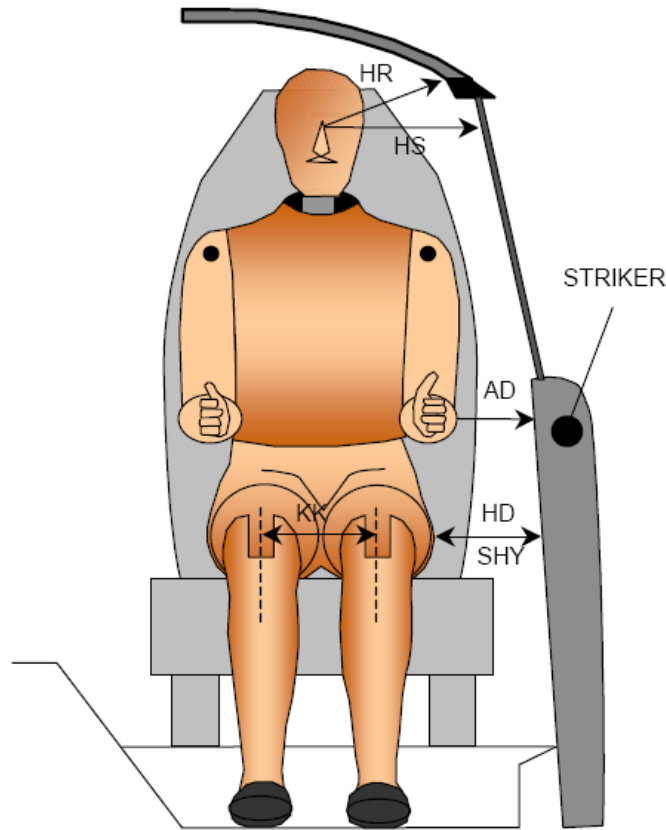
**LEFT SIDE VIEW**

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA°	Windshield Angle		24.2		
SWA°	Steering Wheel Angle		63.1		
SCA°	Steering Column Angle		26.9		
SA°	Seat Back Angle (On Headrest Post)		1.1		1.8
HZ	Head to Roof	210	90.0	226	90.0
HH	Head to Header	383	27.5	332	42.9
HW	Head to Windshield	672	0.0	686	0.0
NR	Nose to Rim	390	11.4	472	25.2
CD	Chest to Dash	552	8.7	400	
CS	Chest to Steering Hub	301	4.2		
RA	Rim to Abdomen	197	0.0		
KDL	Left Knee to Dash	186	38.3	115	23.8
KDR	Right Knee to Dash	146	23.4	119	34.2
PA°	Pelvic Angle		24.2		21.0
TA°	Tibia Angle		45.7		48.0
SK	Striker to Knee	598	3.5	649	3.5
ST	Striker to Head	520	79.6	472	72.1
SH	Striker to H-Point	232	43.6	330	18.4

## DATA SHEET NO. 4

### DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV      NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test      Test Date: 11/08/17



Code	Description	Driver (mm)	Passenger (mm)
AD	Arm to Door	134	100
HD	H-Point to Door	155	181
HR	Head to Side Header	231	260
HS	Head to Side Window	352	368
KK	Knee to Knee	277	215
SHY	Striker to H-Point (Y-Direction)	251	305
AA	Ankle to Ankle	343	180

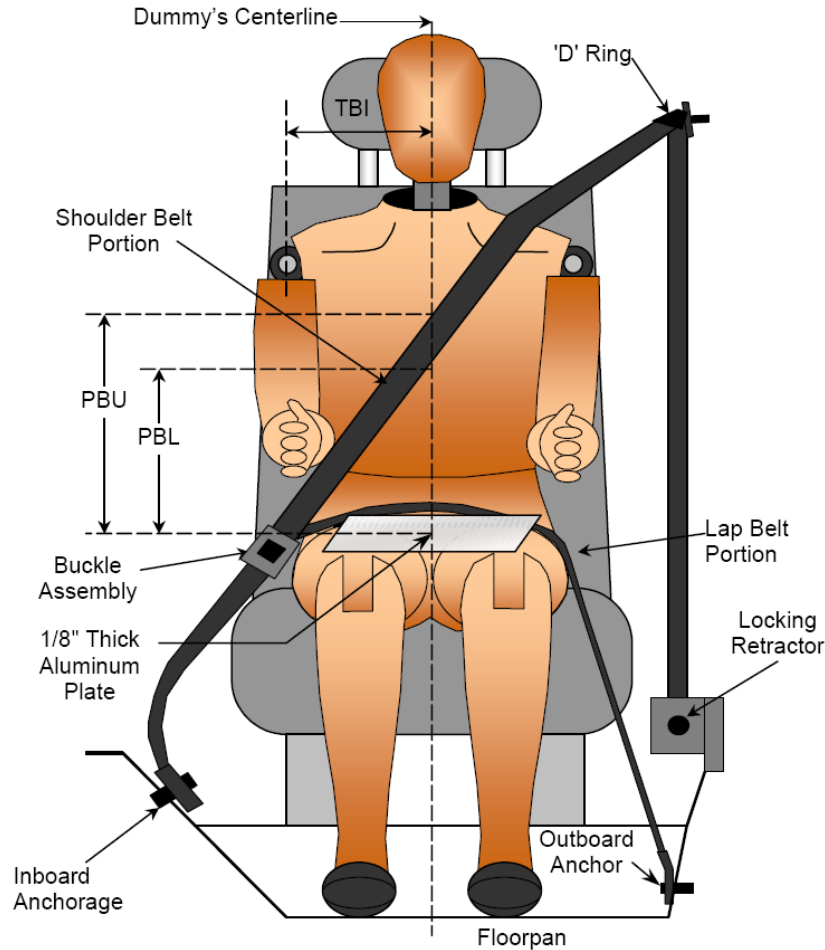
**DATA SHEET NO. 5**  
**SEAT BELT POSITIONING DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV

NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test

Test Date: 11/08/17



**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	278	270
PBL	Top Surface of Aluminum Plate to Belt Lower Edge	mm	206	180

**BELT LENGTH DATA**

Measurement Description	Units	Driver	Passenger
Shoulder Belt Length as Measured on ATD	mm	839	893
Lap Belt Length as Measured on ATD	mm	673	748
Remainder of Belt on Reel	mm	960	868
Total Belt Length for Continuous Webbing Systems	mm	2472	2509

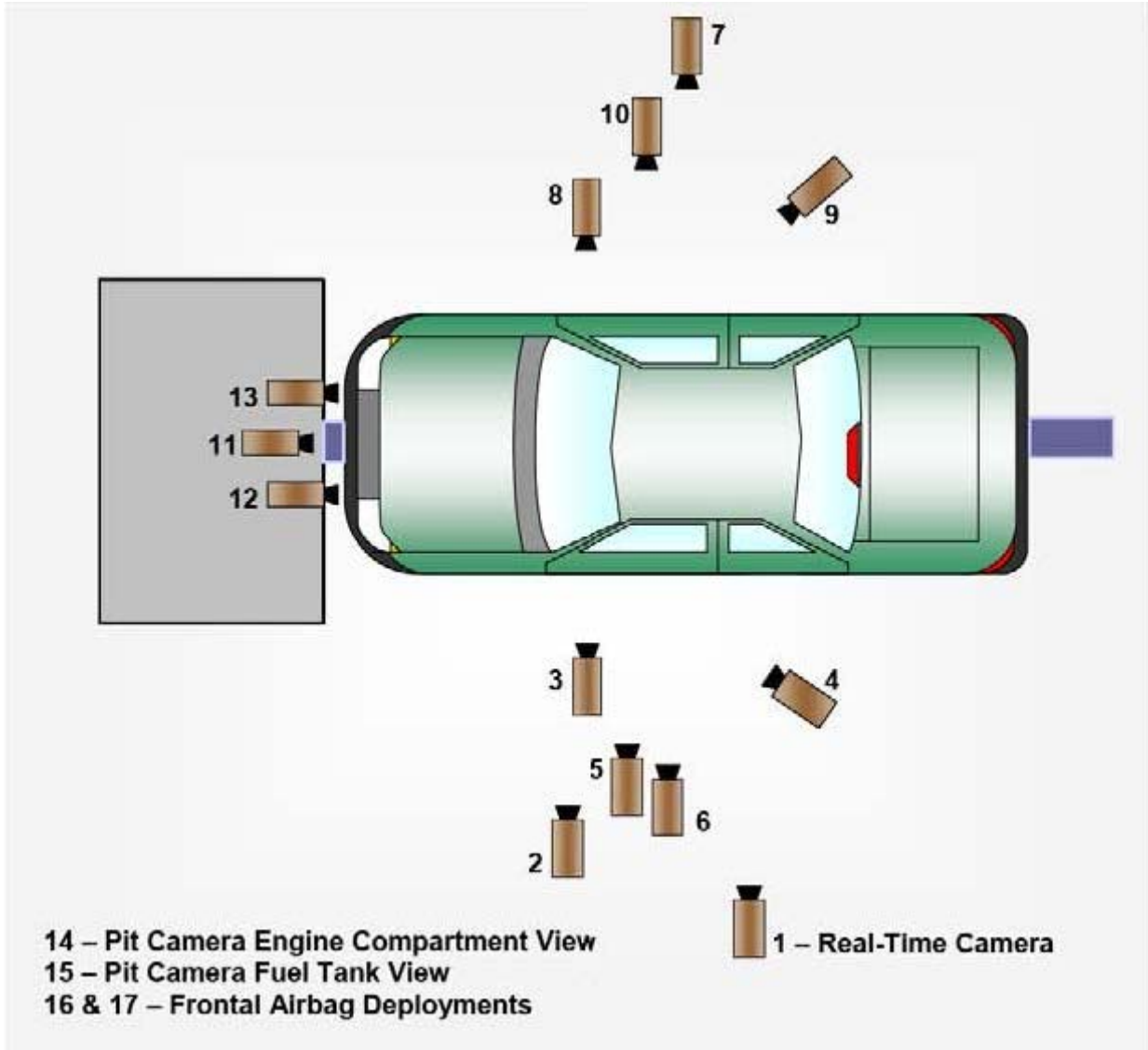
**DATA SHEET NO. 6**

**HIGH-SPEED CAMERA LOCATIONS AND DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**CAMERA POSITIONS FOR FRONTAL IMPACTS**



**DATA SHEET NO. 6 ... (CONTINUED)**

**HIGH-SPEED CAMERA LOCATIONS AND DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**CAMERA LOCATIONS**

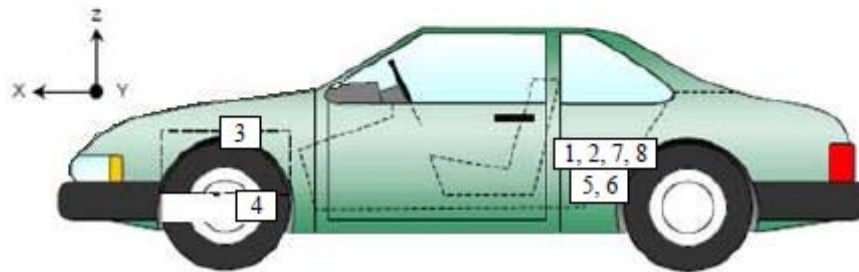
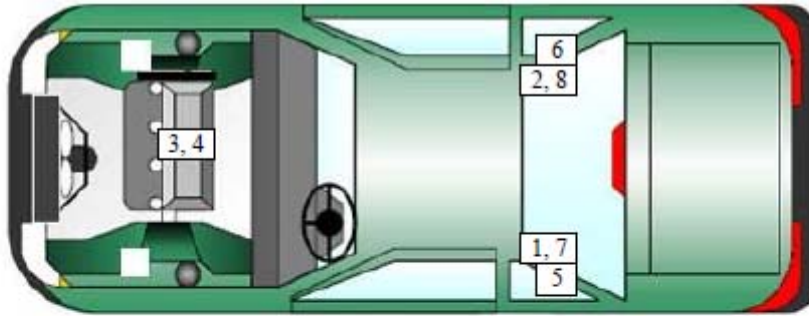
No.	Description	Location (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Overall	-11412	-8150	-1484		30
2	Driver Close-Up	-2590	-7950	-1371	50	1000
3	Left Front Half	-1701	-6197	-1701	35	1000
4	Left Angle	-6696	-10308	-3211	105	1000
5	Steering Column - Top	-1966	-10412	-3688	35	1000
6	Steering Column - Bottom	-1972	-10412	-3379	35	1000
7	Right Overall	-2336	7569	-1012	24	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	24	1000
12	Driver Windshield	297	-366	-2460	20	1000
13	Passenger Windshield	297	366	-2460	20	1000
14	Pit Front	-756	0	1495	20	1000
15	Pit Rear	-3398	0	1495	14	1000
16	Onboard Driver Airbag (Optional)	-1440	280	-1300	8	1000
17	Onboard Passenger Airbag (Optional)	-1440	-280	-1300	8	1000
18	Real-Time Left View of Impact					
19	Real-Time Right View of Impact					

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

**DATA SHEET NO. 7**

**VEHICLE ACCELEROMETER LOCATIONS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17



**VEHICLE ACCELEROMETER PRE-TEST LOCATIONS**

No.	Description	Location		
		X	Y	Z
1	Left Rear Accelerometer X-Direction	1705	-719	-428
2	Right Rear Accelerometer X-Direction	1705	719	-428
3	Engine Top X	3643	262	-912
4	Engine Bottom X	3811	148	-208
5	Left Rear Accelerometer Z-Direction	N/A	N/A	N/A
6	Right Rear Accelerometer Z-Direction	N/A	N/A	N/A
7	Left Rear Accelerometer X-Direction Redundant	1705	-719	-428
8	Right Rear Accelerometer X-Direction Redundant	1705	719	-428

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

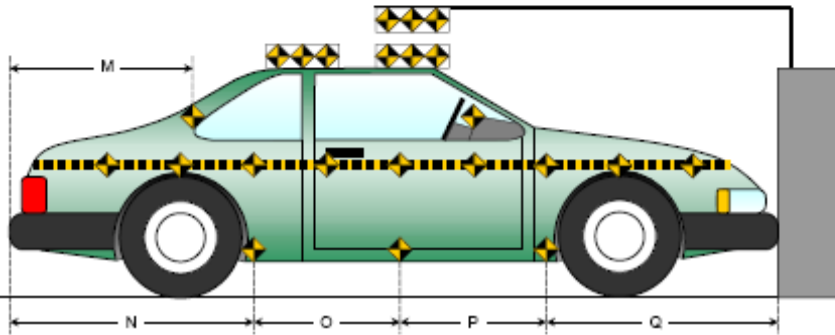
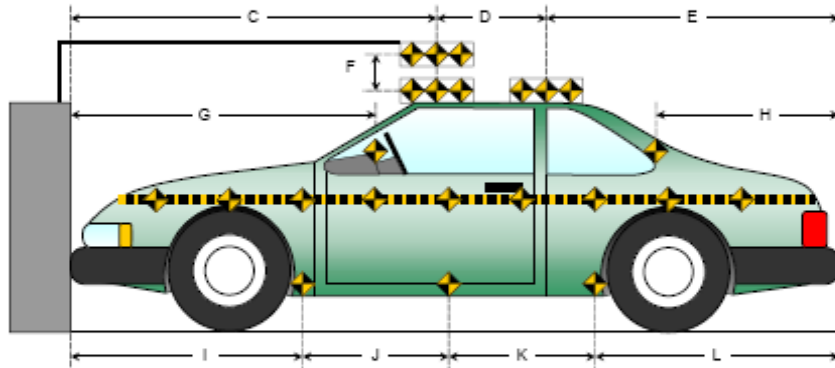
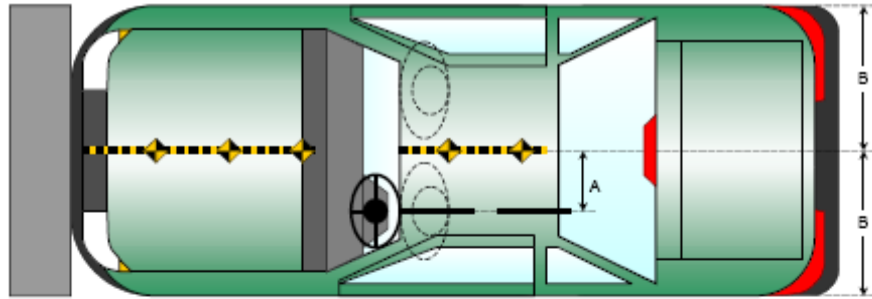
**DATA SHEET NO. 8**

**PHOTOGRAPHIC REFERENCE TARGET LOCATIONS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

Item	Value
A	375
B	900
C	2095
D	610
E	1710
F	305
G	1665
H	750
I	1413
J	849
K	849
L	1300
M	750
N	1295
O	853
P	853
Q	1410



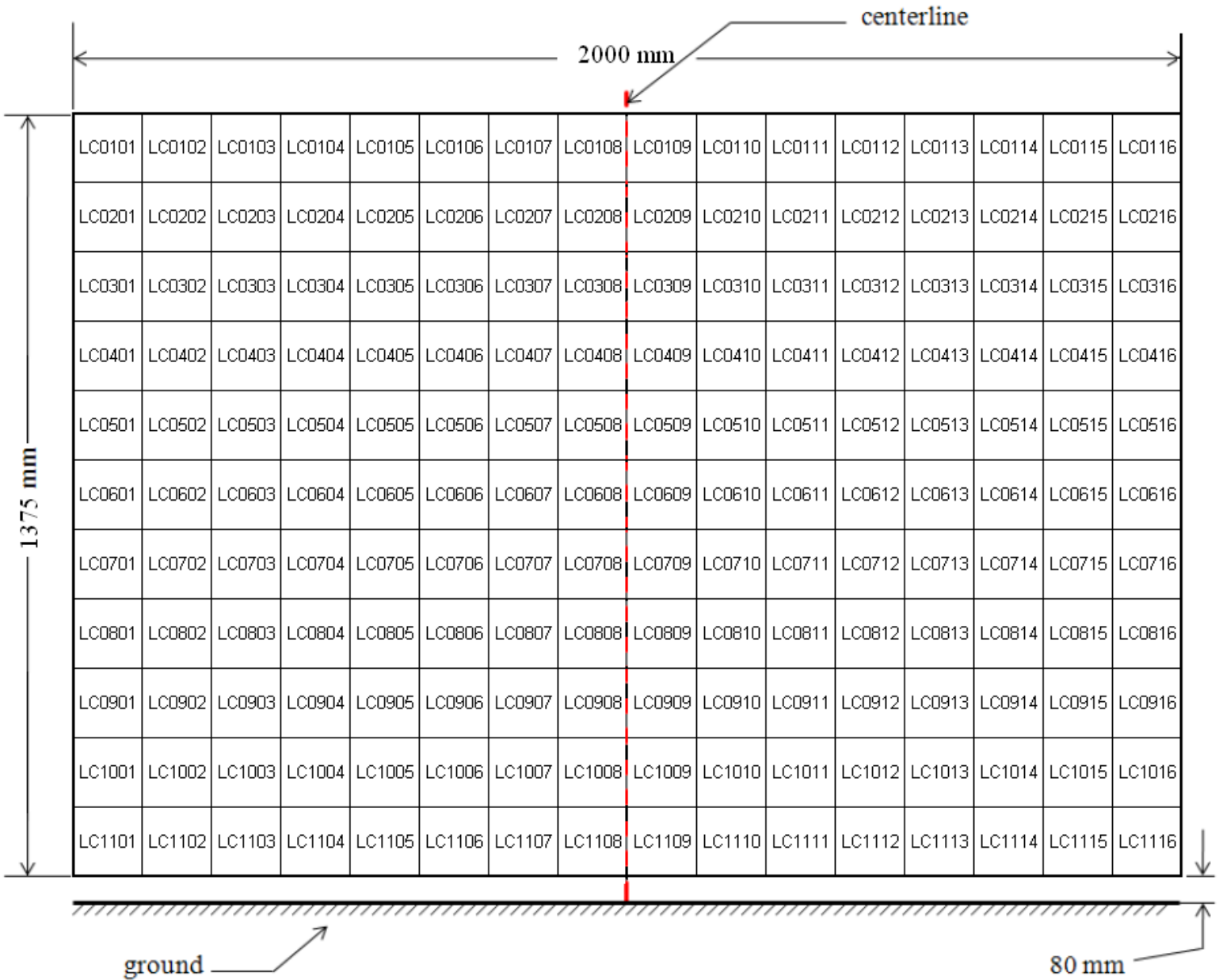
All measurements in millimeters.

**DATA SHEET NO. 9**

**LOAD CELL LOCATIONS ON FIXED BARRIER**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17



**DATA SHEET NO. 10**

**TEST VEHICLE CAMERA AND INSTRUMENTATION SUMMARY**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**INSTRUMENTATION**

Driver Dummy Accelerometers	47
Passenger Dummy Accelerometers	47
Vehicle Structure Accelerometers	8
Seat Belt Load Cells	4
Load Cell Barrier	528
Total	634

**CAMERA COVERAGE**

High-Speed Vehicle On Board	2
High-Speed Off Board	14
Real Time	3
Total	19

**DATA SHEET NO. 11**  
**POST-TEST OBSERVATIONS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**TEST DUMMY INFORMATION AND CONTACT**

Description	Driver	Passenger
Dummy Type/Serial No.	P572E 50th Percentile Male ATD / 360	P572O 5th Percentile Female ATD / 630
Head Contact	Frontal Airbag, Headrest, Visor	Frontal Airbag, Headrest, Visor
Upper Torso Contact	Frontal Airbag	Frontal Airbag
Lower Torso Contact	None	None
Left Knee Contact	Knee Airbag	Knee Bolster
Right Knee Contact	Knee Airbag	Knee Bolster

**DOOR OPENING AND SEAT TRACK INFORMATION**

Description	Driver	Passenger
Locked / Unlocked Doors	Unlocked	Unlocked
Front Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Rear Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Seat Track Shift (mm)	0	0
Seat Back Failure	None	None
Glazing Damage	Yes	Yes

**POST TEST STRUCTURAL OBSERVATIONS**

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

**VEHICLE REBOUND FROM BARRIER**

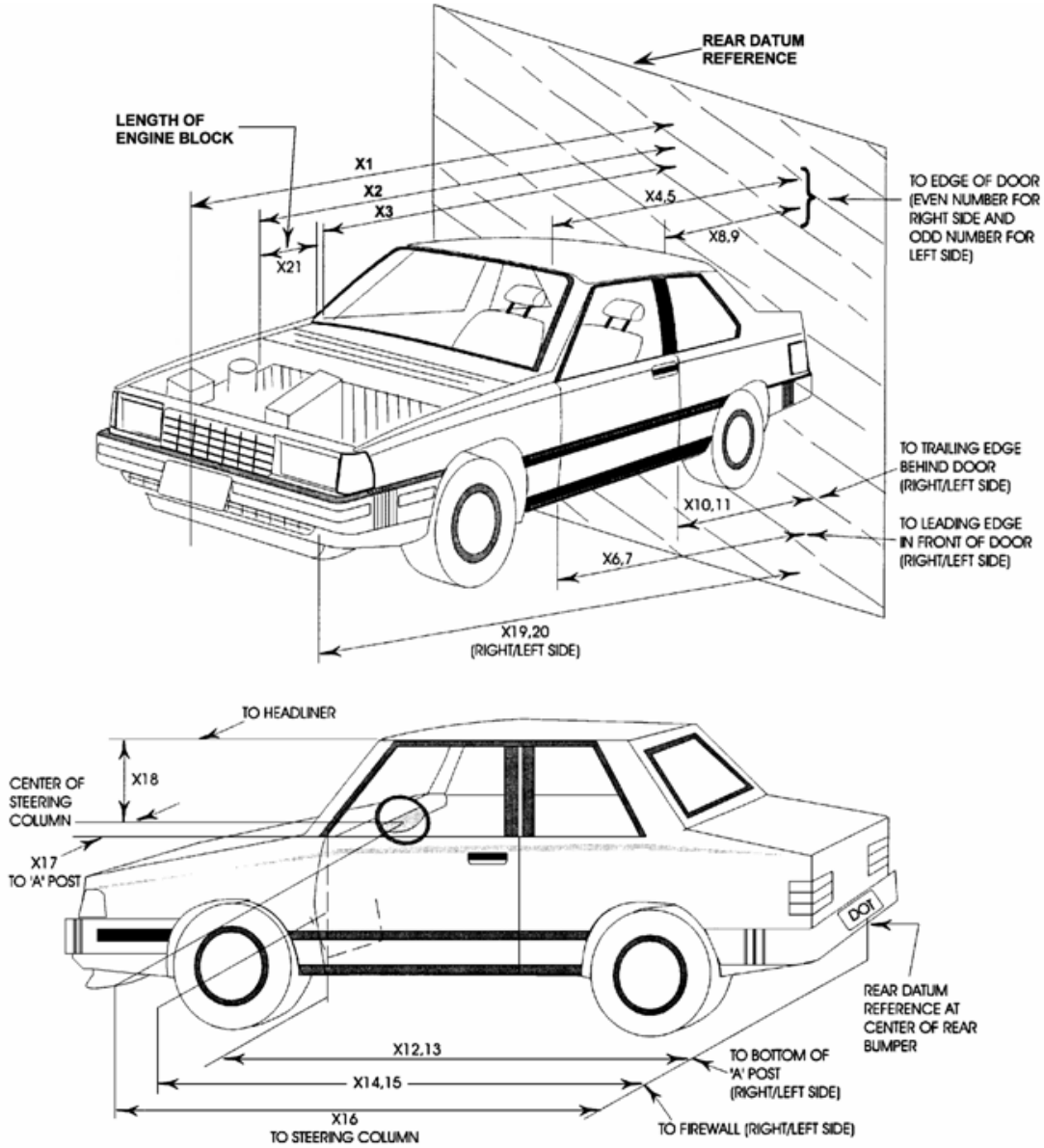
Measured Parameter	Units	Value
Left Side	mm	4150
Center	mm	4200
Right Side	mm	4275
Average	mm	4208

**SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION**

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

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

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV      NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test      Test Date: 11/08/17



**DATA SHEET NO. 12 ... (CONTINUED)**

**VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

No.	Description	Pre-Test	Post-Test	Difference
1	Total Length of Vehicle at Centerline	4410	3940	-470
2	Rear Surface of Vehicle to Front of Engine	3915	3675	-240
3	RSOV to Firewall	3443	3416	-27
4	RSOV to Upper Leading Edge of Right Door	3010	3010	0
5	RSOV to Upper Leading Edge of Left Door	3015	3004	-11
6	RSOV to Lower Leading Edge of Right Door	2963	2946	-17
7	RSOV to Lower Leading Edge of Left Door	2963	2938	-25
8	RSOV to Upper Trailing Edge of Right Door	1930	1920	-10
9	RSOV to Upper Trailing Edge of Left Door	1945	1912	-33
10	RSOV to Lower Trailing Edge of Right Door	1955	1928	-27
11	RSOV to Lower Trailing Edge of Left Door	1945	1922	-23
12	RSOV to Bottom of A-Pillar, Right Side	2956	2948	-8
13	RSOV to Bottom of A-Pillar, Left Side	2961	2941	-20
14	RSOV to Firewall, Right Side	3520	3485	-35
15	RSOV to Firewall, Left Side	3520	3482	-38
16	RSOV to Steering Column	2535	2625	90
17	Center of Steering Column to A-Pillar	440	435	-5
18	Center of Steering Column to Headliner	435	430	-5
19	RSOV to Right Side of Front Bumper	3773	3685	-88
20	RSOV to Left Side of Front Bumper	3773	3740	-33
21	Length of Engine Block	570	570	0
RD	RSOV to Right Side of Dash Panel	2723	2715	-8
CD	RSOV to Center of Dash Panel	2677	2675	-2
LD	RSOV to Left Side of Dash Panel	2730	2730	0

All measurements in millimeters.

**DATA SHEET NO. 13**

**ACCIDENT INVESTIGATION DIVISION DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

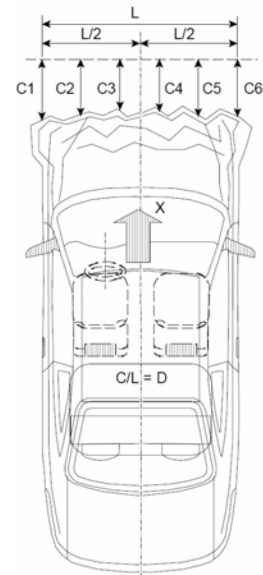
**VEHICLE INFORMATION**

VIN: 3C4NJDAB8JT126783 Wheelbase (mm): 2625  
 Vehicle Size Category: MPV Test Weight (kg): 1720.0

**ACCELEROMETER DATA**

Accelerometer Locations: Left Rear Crossmember  
 Cal. Procedure/Interval: Vibration Test / 6 months  
 Integration Algorithm: NHTSA Standard  
 Impact Velocity (km/h): 56.17  
 Velocity Change (km/h): 62.9  
 Time of Separation (msec): 60.7

Linearity: Good



**CRUSH PROFILE**

Collision Deformation Classification: 12FDEW2  
 Midpoint of Damage: Vehicle Centerline  
 Damage Region Length (mm): 1393  
 Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush Zone 1 at Left Side	mm	230	450	220
C2	Crush Zone 2 at Left Side	mm	50	490	440
C3	Crush Zone 3 at Left Side	mm	24	457	433
C4	Crush Zone 4 at Right Side	mm	24	447	423
C5	Crush Zone 5 at Right Side	mm	50	465	415
C6	Crush Zone 6 at Right Side	mm	230	440	210
L	C1 to C6	mm	1393		

**DATA SHEET NO. 14**

**VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306

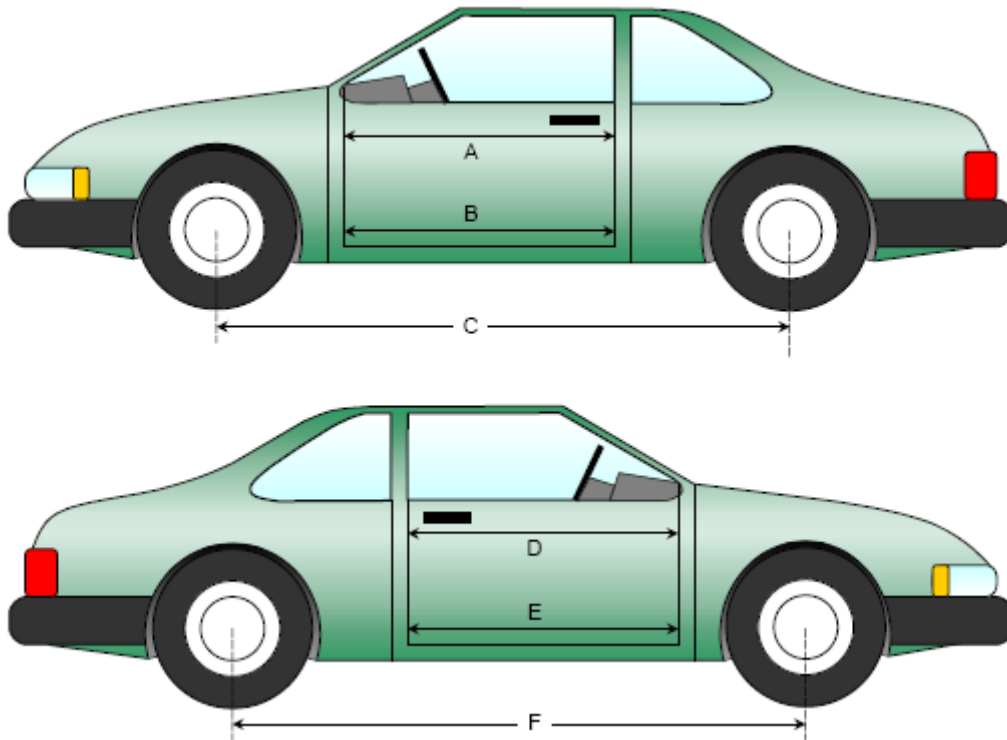
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**DOOR OPENING WIDTH**

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	961	955	6
B	Left Side Lower	mm	831	832	-1
D	Right Side Upper	mm	961	952	9
E	Right Side Lower	mm	826	826	0

**WHEELBASE MEASUREMENTS**

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheelbase	mm	2625	2575	50
F	Right Side Wheelbase	mm	2625	2610	15



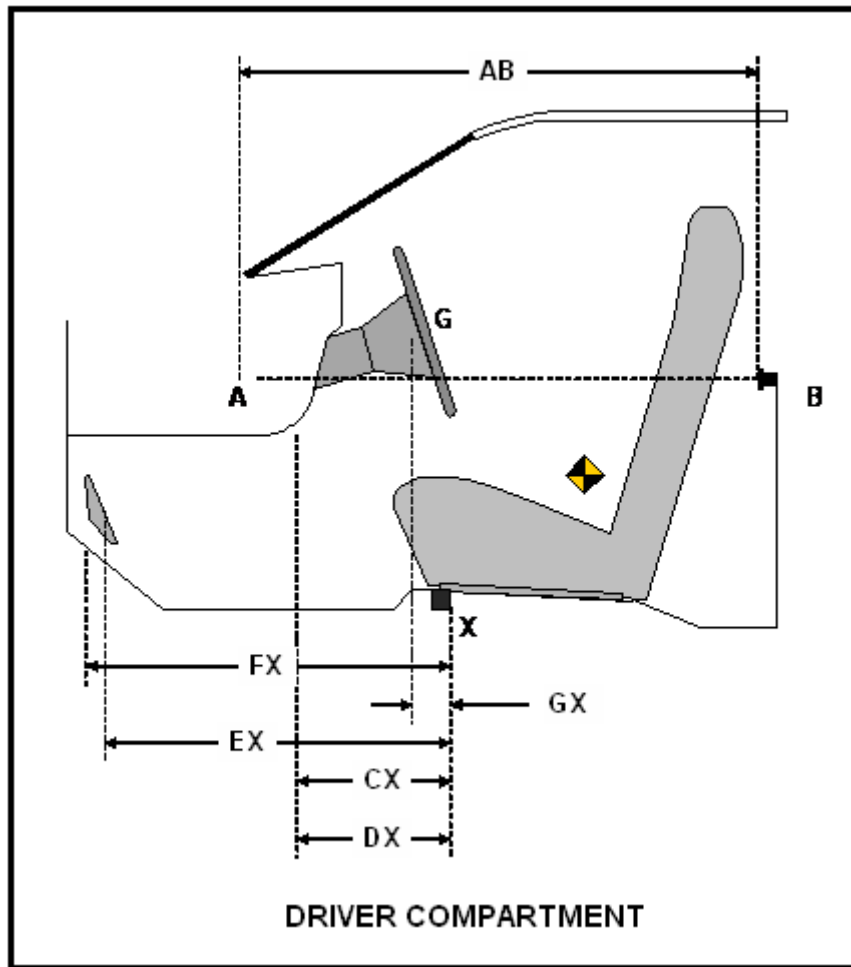
**DATA SHEET NO. 14 ... (CONTINUED)**  
**VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV      NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test      Test Date: 11/08/17

**DRIVER COMPARTMENT INTRUSION**

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside Window Jam)	mm	876	870	6
CX	Left Knee Bolster to X	mm	330	360	-30
DX	Right Knee Bolster to X	mm	335	365	-30
EX	Brake Pedal to X	mm	590	560	30
FX	Foot Rest to X	mm	605	590	15
GX	Center of Steering Wheel Hub to X	mm	80	180	-100

X = Front of Seat Track (Stationary)



**DATA SHEET NO. 15**

**SUMMARY OF FMVSS 212, 219 (PARTIAL), AND 301 DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

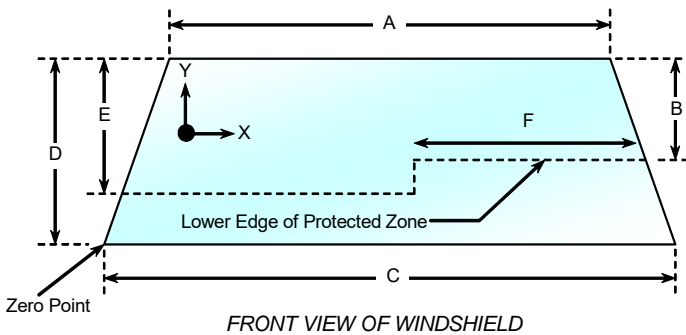
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with rubber molding and rubber cement.

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

Temperature of windshield molding during test: 21.4° C

**WINDSHIELD PERIPHERY MEASUREMENTS**

Measurement	Pre-Test (mm)	Post-Test (mm)	% Retention
Left Side	2260	2260	100.0%
Right Side	2260	2260	100.0%
Total	4520	4520	100.0%



Item	Units	Value
A	mm	1230
B	mm	390
C	mm	1470
D	mm	910
E	mm	532
F	mm	500

**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. 15 ... (CONTINUED)**

**SUMMARY OF FMVSS 212, 219 (PARTIAL), AND 301 DATA**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17

**FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA**

Temperature at Time of Impact: 23.3° C Test Time: 2:15 PM

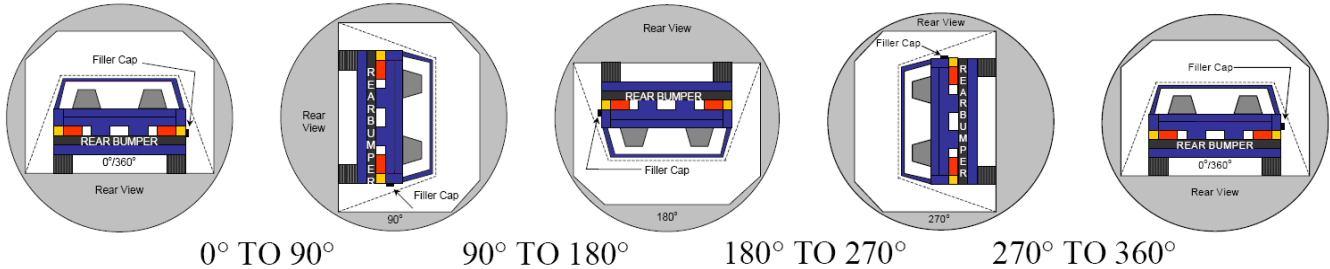
**Stoddard Solvent Spillage Measurements**

- A. From impact until vehicle motion ceases: 0 oz.  
(Maximum allowable = 1 oz.)
- B. For the 5 minute period after motion ceases: 0 oz.  
(Maximum allowable = 5 oz.)
- C. For the following 25 minutes: 0 oz.  
(Maximum allowable = 1 oz./minute)
- D. Spillage: There was no Stoddard solvent spillage.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DATA SHEET NO. 16**

**FMVSS 301 STATIC ROLLOVER RESULTS**

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306  
 Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17



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: There was no Stoddard solvent spillage.

**SOLVENT COLLECTION TIME TABLE IN SECONDS**

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	79	300	379
90° To 180°	83	300	383
180° To 270°	80	300	380
270° To 360°	81	300	381

**FMVSS 301 SPILLAGE TABLE**

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

**SOLVENT SPILLAGE LOCATION TABLE**

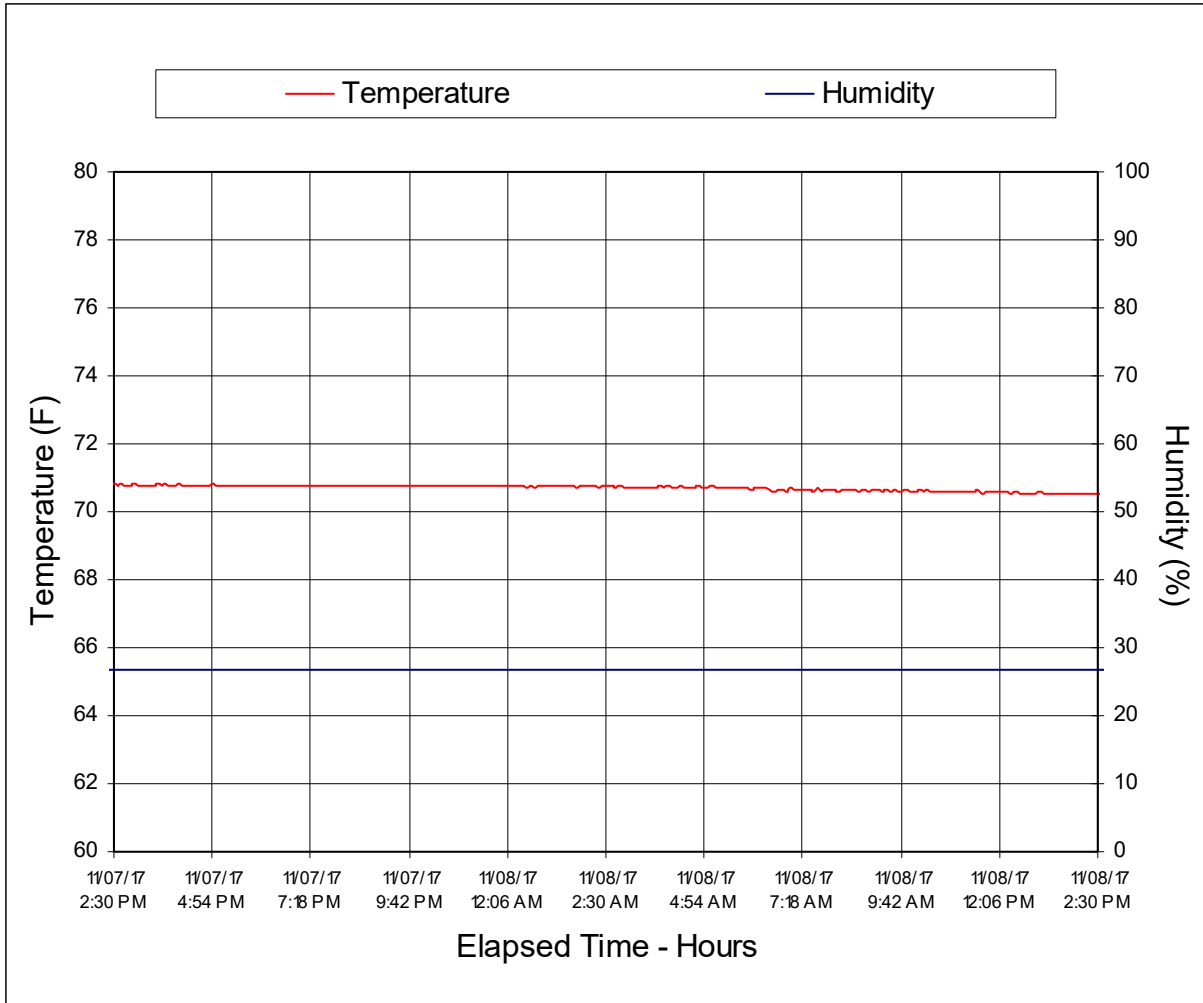
Test Phase	Spillage Location
0° To 90°	
90° To 180°	
180° To 270°	
270° To 360°	

DATA SHEET NO. 17

DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV NHTSA No.: M20180306

Test Program: 56.3 km/h Frontal Impact NCAP Test Test Date: 11/08/17



**APPENDIX A  
PHOTOGRAPHS**

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FIGURE 1. Load Cell Location



FIGURE 2. Pre-Test Load Cell Wall



FIGURE 3. Post-Test Load Cell Wall



FIGURE 4. Manufacturer's Label

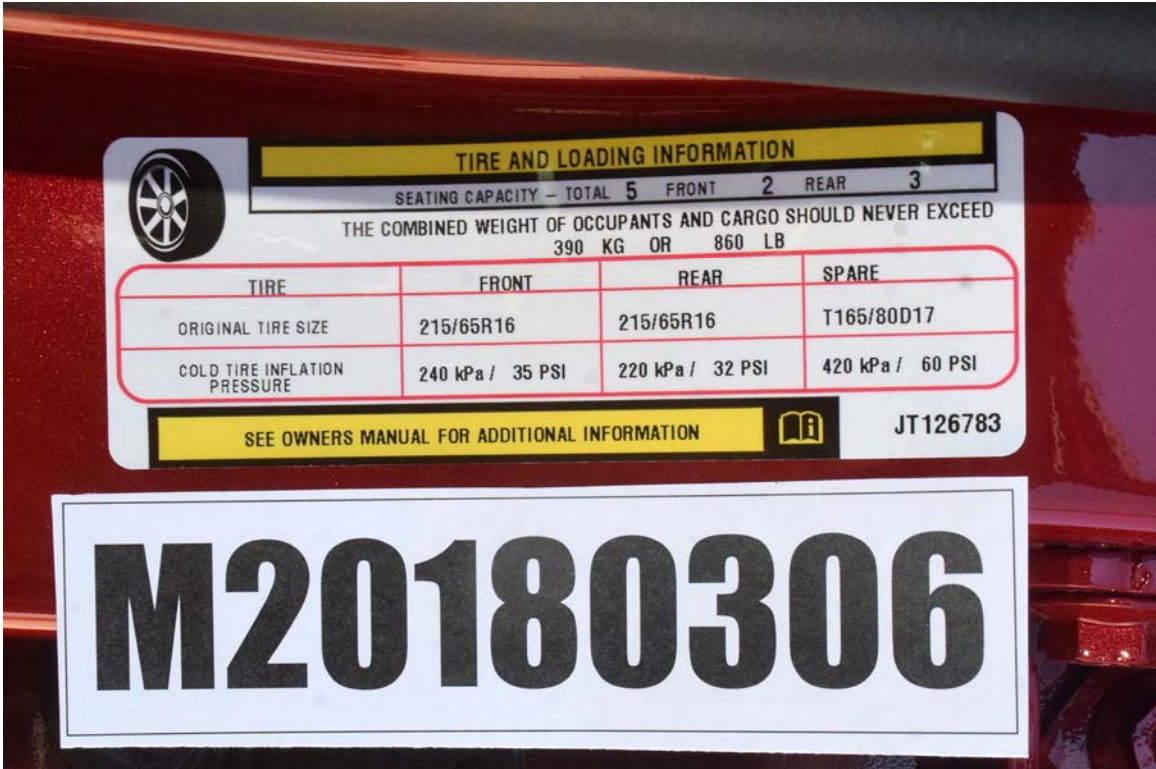


FIGURE 5. Tire Placard



FIGURE 6. 2018 Jeep Compass Sport 4X4 Frontal as Delivered



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



FIGURE 8. Pre-Test Front View of Test Vehicle



FIGURE 9. Post-Test Front View of Test Vehicle



FIGURE 10. Pre-Test Left View of Test Vehicle



FIGURE 11. Post-Test Left View of Test Vehicle



FIGURE 12. Pre-Test Right View of Test Vehicle



FIGURE 13. Post-Test Right View of Test Vehicle



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



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



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



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



FIGURE 18. Pre-Test Windshield View



FIGURE 19. Post-Test Windshield View



FIGURE 20. Pre-Test Engine Compartment View



FIGURE 21. Post-Test Engine Compartment View



FIGURE 22. Pre-Test Fuel Filler Cap View



FIGURE 23. Post-Test Fuel Filler Cap View

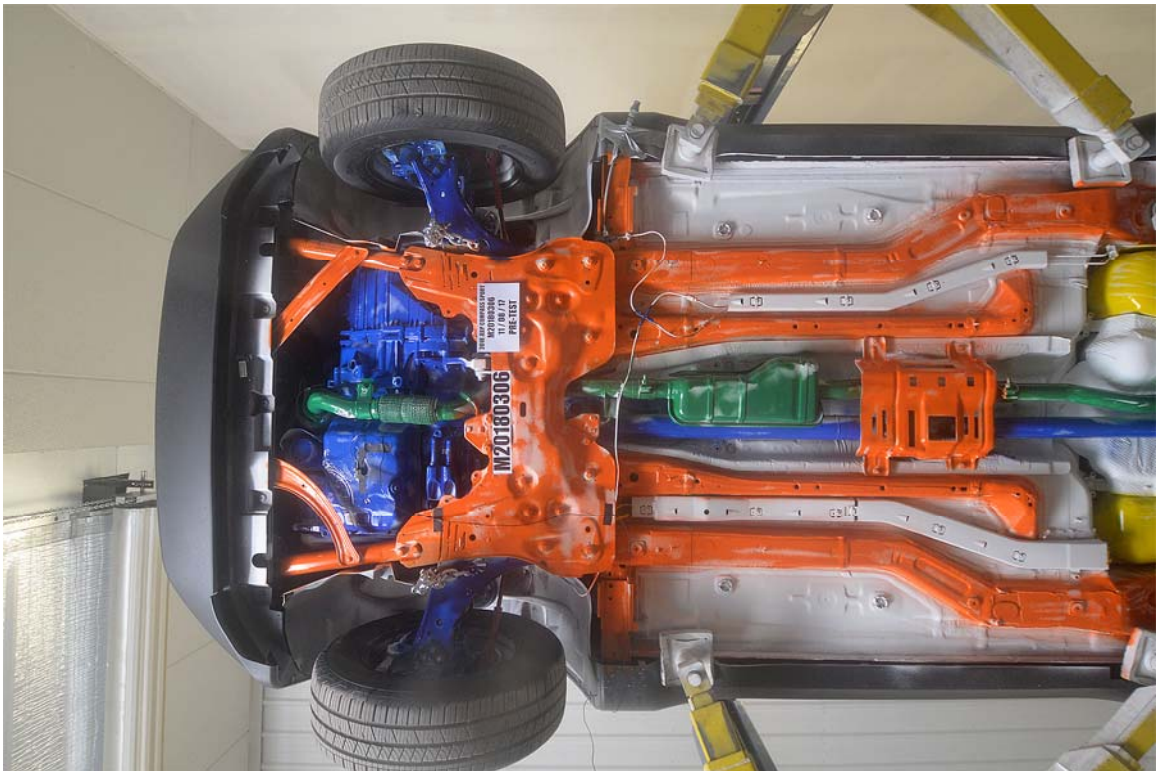


FIGURE 24. Pre-Test Front Underbody View



FIGURE 25. Post-Test Front Underbody View



FIGURE 26. Pre-Test Rear Underbody View



FIGURE 27. Post-Test Rear Underbody View

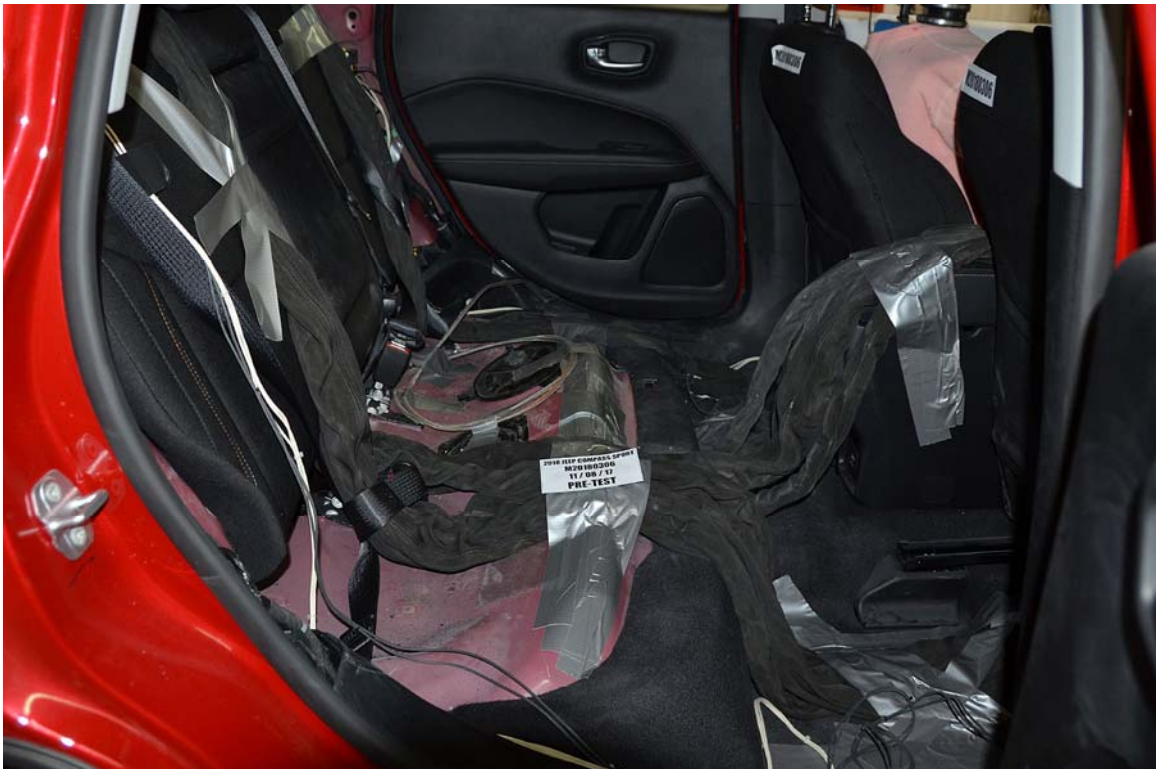


FIGURE 28. Pre-Test Dummy Cable Routing



FIGURE 29. Post-Test Dummy Cable Routing



FIGURE 30. Pre-Test Driver Dummy Front View

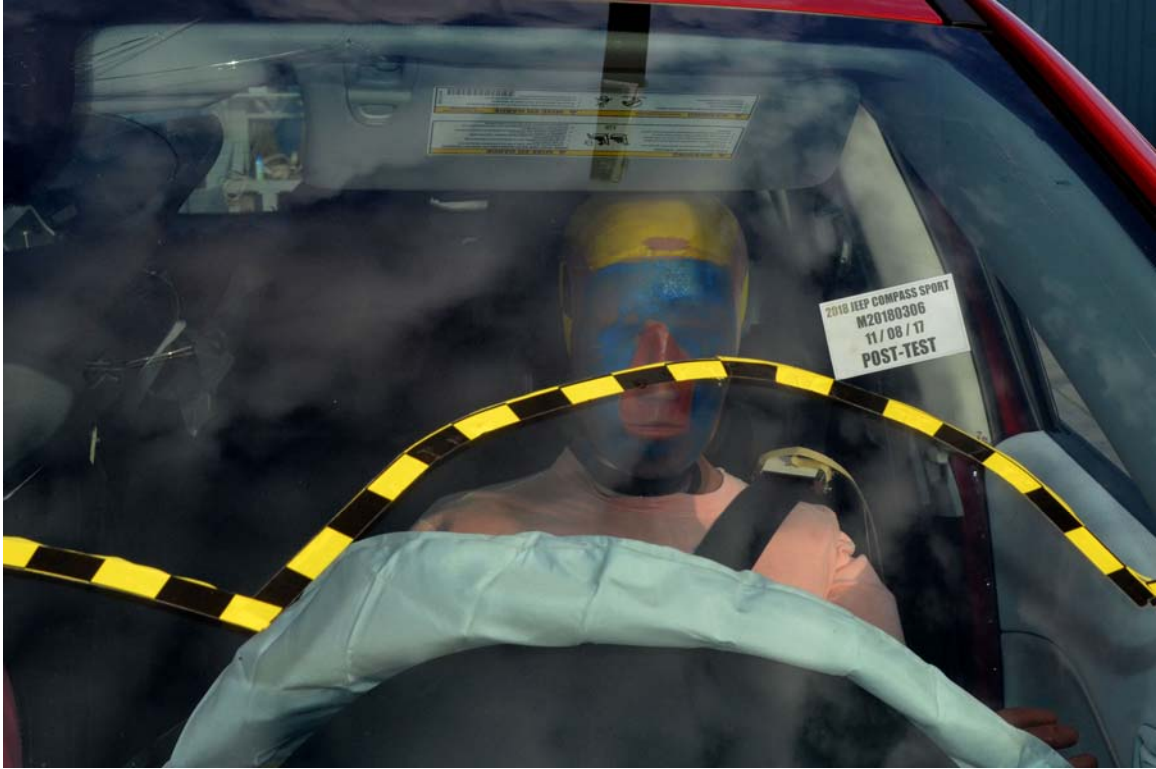


FIGURE 31. Post-Test Driver Dummy Front View



FIGURE 32. Pre-Test Driver Dummy Window View



FIGURE 33. Post-Test Driver Dummy Window View



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



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



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



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



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



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



FIGURE 40. Pre-Test Driver Dummy Feet



FIGURE 41. Post-Test Driver Dummy Feet



FIGURE 42. Pre-Test Driver's Side Knee Bolster



FIGURE 43. Post-Test Driver's Side Knee Bolster



FIGURE 44. Pre-Test Driver's Side Floorpan



FIGURE 45. Post-Test Driver's Side Floorpan



FIGURE 46. Post-Test Driver Dummy Face



FIGURE 47. Post-Test Driver Dummy Contact with Airbag



FIGURE 48. Post-Test Driver Dummy Contact with Headrest



FIGURE 48a. Post-Test Driver Dummy Contact with Sun Visor



FIGURE 48b. Post-Test Driver Dummy Contact with Knee Airbag



FIGURE 49. Pre-Test View of the Steering Wheel



FIGURE 50. Post-Test View of the Steering Wheel



FIGURE 51. Pre-Test Passenger Dummy Front View



FIGURE 52. Post-Test Passenger Dummy Front View



FIGURE 53. Pre-Test Passenger Dummy Window View



FIGURE 54. Post-Test Passenger Dummy Window View



FIGURE 55. Pre-Test Passenger Dummy and Vehicle Interior View



FIGURE 56. Post-Test Passenger Dummy and Vehicle Interior View



FIGURE 57. Pre-Test Passenger's Seat Fore-Aft Markings



FIGURE 58. Post-Test Passenger's Seat Fore-Aft Markings



FIGURE 59. Pre-Test View of Belt Anchorage for Passenger Dummy



FIGURE 60. Post-Test View of Belt Anchorage for Passenger Dummy

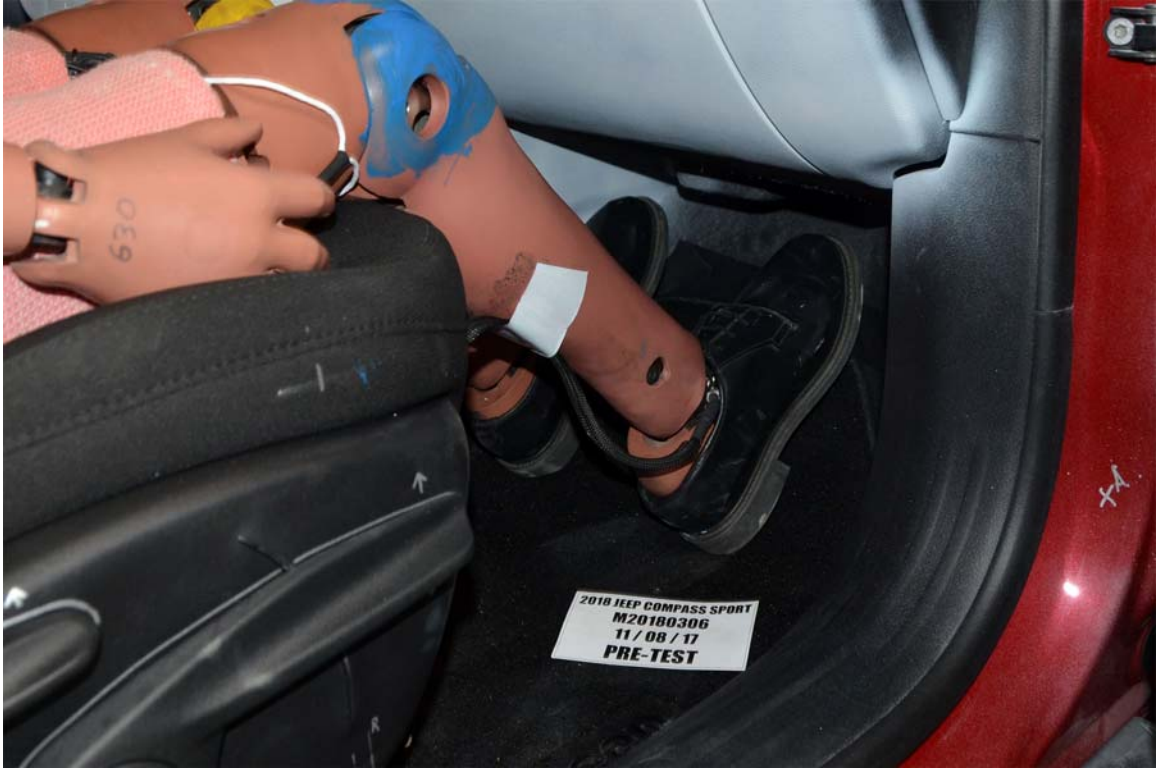


FIGURE 61. Pre-Test Passenger Dummy Feet



FIGURE 62. Post-Test Passenger Dummy Feet



FIGURE 63. Pre-Test Passenger's Side Knee Bolster



FIGURE 64. Post-Test Passenger's Side Knee Bolster



FIGURE 65. Pre-Test Passenger's Side Floorpan



FIGURE 66. Post-Test Passenger's Side Floorpan



FIGURE 67. Post-Test Passenger Dummy Face

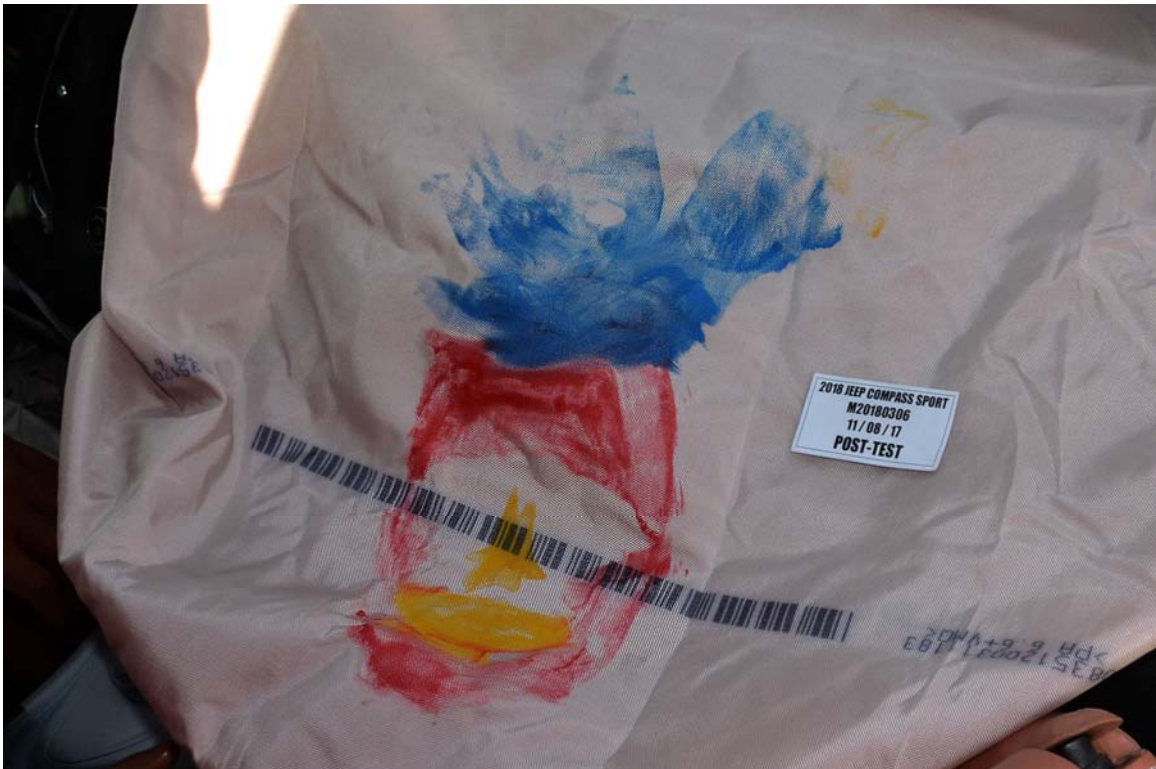


FIGURE 68. Post-Test Passenger Dummy Contact with Airbag



FIGURE 69. Post-Test Passenger Dummy Contact with Headrest



FIGURE 69a. Post-Test Passenger Dummy Contact with Sun Visor



FIGURE 69b. Post-Test Passenger Dummy Contact with Knee Bolster



FIGURE 70. Photograph of Ballast Installed in Vehicle

# Photograph Not Applicable

## No Stoddard Solvent Spillage

FIGURE 71. Post-Test Stoddard Solvent Spillage Location View



FIGURE 72. Post-Test Speed Trap Read-Out



FIGURE 73. Vehicle at 0° on Static Rollover Device



FIGURE 74. Vehicle at 90° on Static Rollover Device



FIGURE 75. Vehicle at 180° on Static Rollover Device

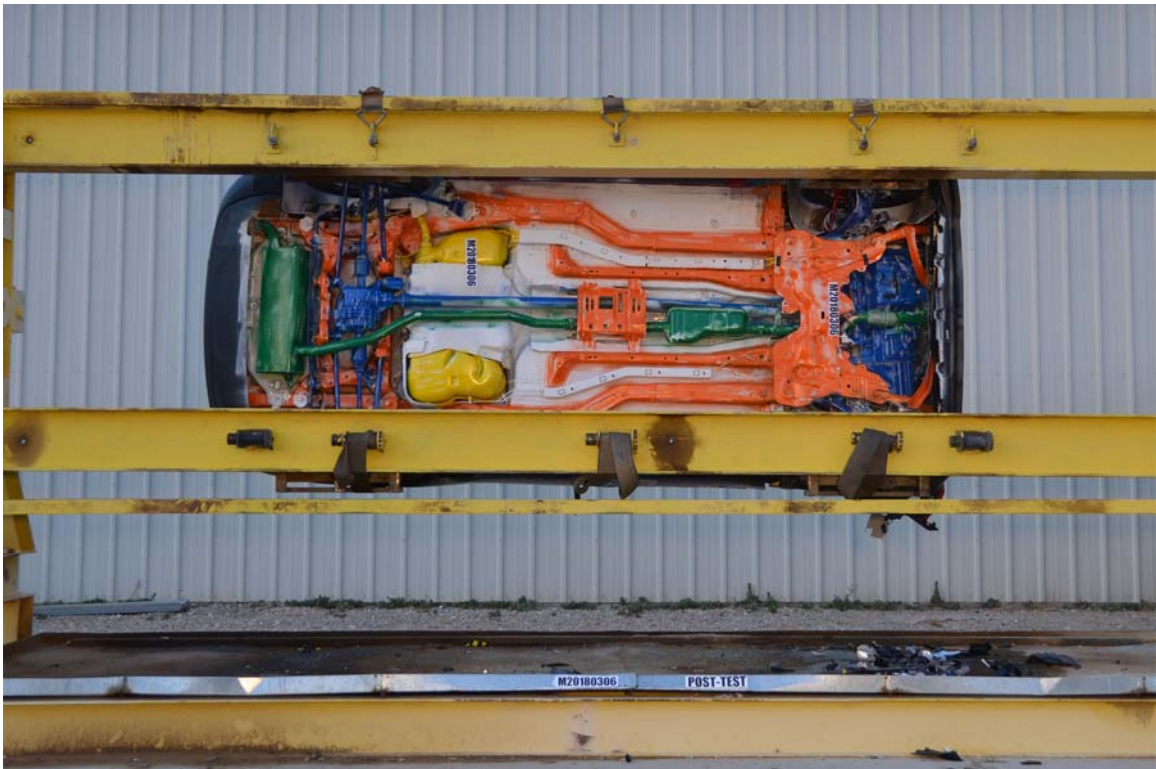


FIGURE 76. Vehicle at 270° on Static Rollover Device



FIGURE 77. Vehicle at 360° on Static Rollover Device



FIGURE 78. 2018 Jeep Compass Sport 4X4 Frontal Impact Event

## 2018 MODEL YEAR Jeep COMPASS SPORT 4X4

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

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

**Base Price: \$22,495**

**Jeep COMPASS SPORT 4X4**  
 Exterior Color: Redline Pearl Coat Exterior Paint  
 Interior Color: Black Interior Color  
 Interior: Cloth Bucket Seats  
 Engine: 2.4-Liter I4 MultiAir® Engine  
 Transmission: 6-Speed Manual Transmission

**STANDARD EQUIPMENT (UNLESS REPLACED BY OPTIONAL EQUIPMENT)**

**FUNCTIONAL/SAFETY FEATURES**  
 Rear View Day / Night Mirror  
 Remote Keyless Entry  
 Pushbutton Start  
 Speed Control  
 Speed Sensitive Power Locks  
 ParkView® Rear Back Up Camera  
 Rear Window Defroster  
 Advanced Multistage Front Airbags  
 Supplemental Side-Curtain Front and Rear Airbags  
 Supplemental Front Seat-Mounted Side Airbags  
 Setao-Terrain™ System  
 Anti-Lock 4-Wheel Disc Brakes  
 Electronic Stability Control  
 Electric Park Brake  
 Electronic Roll Mitigation  
 13.5 Gallon Fuel Tank  
 Tire Service Kit  
 Panic Alarm  
 Capless Fuel Filler

**INTERIOR FEATURES**  
 Air Conditioning  
 Uconnect® 3 with 5-inch Display  
 Bluetooth® Streaming Audio  
 Steering Wheel Mounted Audio Controls  
 Power Front Windows w/ 1-Touch Up and Down Feature  
 Cluster 3.5-inch Black / White Driver Info Display  
 Auxiliary 12-Volt Rear Power Outlet  
 Remote USB Port Second Row  
 Media Hub (USB, Aux)  
 Illuminated Entry  
 Tilt / Telescope Steering Column

**EXTERIOR FEATURES**  
 16-inch x 6.5-inch Styled Black Steel Wheels  
 Power Adjustable Mirrors  
 Exterior Mirrors with Heating Element  
 Daytime Running Lamp System  
 Halogen Quad Headlamps  
 Headlamps with Turn-Off Time Delay  
 Black Day Light Opening Moldings  
 Incandescent Tail Lamps

**OPTIONAL EQUIPMENT (May Replace Standard Equipment)**  
 Customer Preferred Package Z1A  
 Compact Spare Tire

**DESTINATION CHARGE** \$1,095

**TOTAL PRICE: \* \$23,835**

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

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

Assembly Point/Port of Entry: TOLUCA, MEXICO  
 VIN: 3C4-NJDA86JT-126783 14-078 5327 0000  
 SHIP TO: 4040 14 JACK PHELAN CHRYSLER DOODGE JEEP COUNTRY/STATE: IL 60255-4005  
 2018 LA DODGE 40 COUNTRY/STATE: IL 60255-4005  
 ON ALTERED MODEL TO COMPLY TO THE U.S. MAIN PURCHASER.  
 \*EXcludes taxes, title, license, and dealer prep fees.  
 \*\*EXcludes destination charge and dealer prep fees.  
 \*\*EXcludes taxes, title, license, and dealer prep fees.  
 \*\*EXcludes taxes, title, license, and dealer prep fees.  
 \*\*EXcludes taxes, title, license, and dealer prep fees.

For more information visit: [www.jeep.com](http://www.jeep.com) or call 1-877-IAM-JEEP

FCA US LLC

**EPA DOT Fuel Economy and Environment** Gasoline Vehicle

**Fuel Economy** **25** MPG Small SUV 4WD range from 18 to 34 MPG. The best vehicle rates 126 MPG.  
combined city/hwy **22** **31**  
city highway  
**4.0** gallons per 100 miles

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

**Annual fuel cost \$1,450**

**Fuel Economy & Greenhouse Gas Rating (tailpipe only)** **5** Best  
This vehicle emits 395 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates emissions. Learn more at [fuelconomy.gov](http://fuelconomy.gov)

**Smog Rating (tailpipe only)** **3** Best  
This vehicle emits 395 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates emissions. Learn more at [fuelconomy.gov](http://fuelconomy.gov)

**Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 22 MPG and costs \$6,750 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$2.40 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.**

**fuelconomy.gov**  
Calculate personalized estimates and compare vehicles

Smartphone QR Code

**GOVERNMENT 5-STAR SAFETY RATINGS**

This vehicle has not been rated by the government for frontal crash, side crash or rollover risk.

Source: National Highway Traffic Safety Administration (NHTSA) [www.safercar.gov](http://www.safercar.gov) or 1-888-327-4238

**PARTS CONTENT INFORMATION**

**FOR VEHICLES IN THIS CARLINE:**  
 U.S./CANADIAN PARTS CONTENT: 17%  
 MAJOR SOURCES OF FOREIGN PARTS CONTENT:  
 MEXICO: 69%  
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.

**FOR THIS VEHICLE:**  
 FINAL ASSEMBLY POINT:  
 TOLUCA, MEXICO  
 COUNTRY OF ORIGIN:  
 ENGINE: UNITED STATES  
 TRANSMISSION: ITALY

FIGURE 79. Monroney Label Photograph

**APPENDIX B**  
**DUMMY RESPONSE DATA TRACES**

## TABLE OF DATA PLOTS

<u>Plot</u>		<u>Page</u>
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 Chest Acceleration X Primary	B-3
7	Driver Chest Acceleration Y Primary	B-3
8	Driver Chest Acceleration Z Primary	B-3
9	Driver Chest Resultant Acceleration Primary	B-3
10	Driver Upper Neck Force X	B-4
11	Driver Upper Neck Force Z	B-4
12	Driver Upper Neck Moment Y	B-4
13	Driver Nij	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 Chest Acceleration X Primary	B-8
22	Passenger Chest Acceleration Y Primary	B-8
23	Passenger Chest Acceleration Z Primary	B-8
24	Passenger Chest Resultant Acceleration Primary	B-8
25	Passenger Upper Neck Force X	B-9
26	Passenger Upper Neck Force Z	B-9
27	Passenger Upper Neck Moment Y	B-9
28	Passenger Nij	B-9
29	Passenger Left Femur Force Z	B-10
30	Passenger Right Femur Force Z	B-10

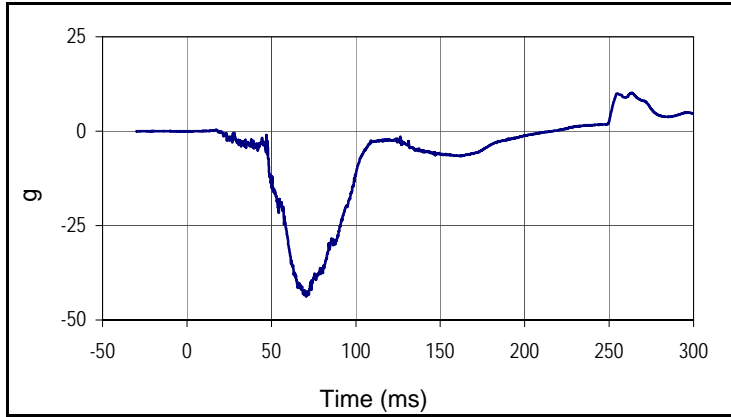
The following additional dummy and vehicle response data can be found in the R&D section of the NHTSA website at [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)

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  
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

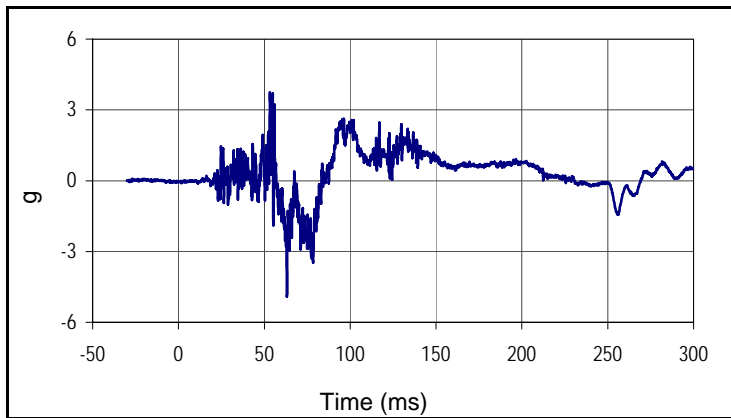
Passenger Pelvis X  
Passenger Pelvis Y  
Passenger Pelvis Z  
Passenger Left Femur Force Redundant  
Passenger Right Femur Force Redundant  
Passenger Left Upper Tibia Moment X  
Passenger Left Upper Tibia Moment Y  
Passenger Left Upper Tibia Force Z  
Passenger Left Lower Tibia Moment X  
Passenger 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  
Left Rear Seat Crossmember X  
Left Rear Seat Crossmember Z  
Right Rear Seat Crossmember X  
Right Rear Seat Crossmember Z  
Left Rear Seat Crossmember X Redundant  
Right Rear Seat Crossmember X Redundant  
Vehicle Engine Top X  
Vehicle Engine Bottom X  
Load Cell Barrier Forces and Moments

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

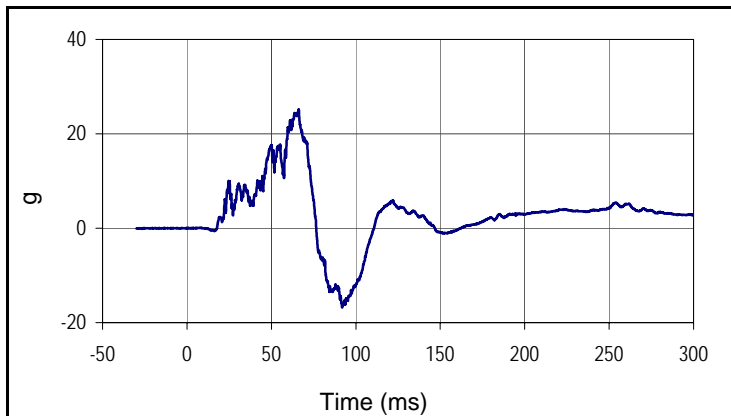
NHTSA No.: M20180306  
 Test Date: 11/8/17



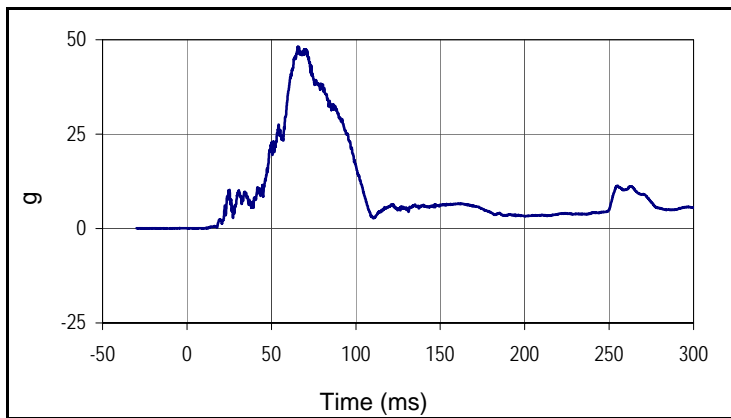
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10.2	263.3	-43.7	70.6



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Driver Head Acceleration Y Primary			
Plot No.		SAE Class	Units
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Max	Time	Min	Time
3.7	53.3	-4.9	63.2



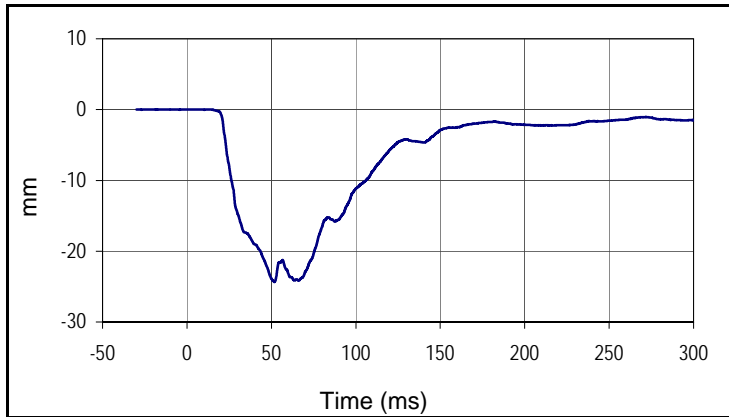
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Driver Head Acceleration Z Primary			
Plot No.		SAE Class	Units
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Max	Time	Min	Time
25.1	66.2	-16.8	91.9



Curve Description			
Driver Head Resultant Acceleration Primary			
Plot No.		SAE Class	Units
004		1000	g
Max	Time	Min	Time
48.2	66.1	0.0	9.3

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

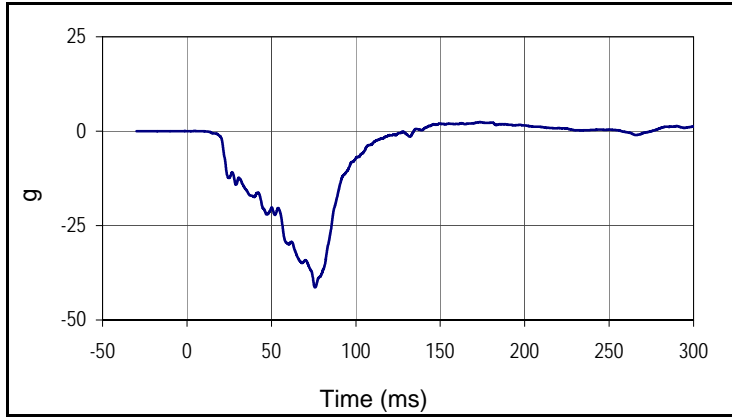
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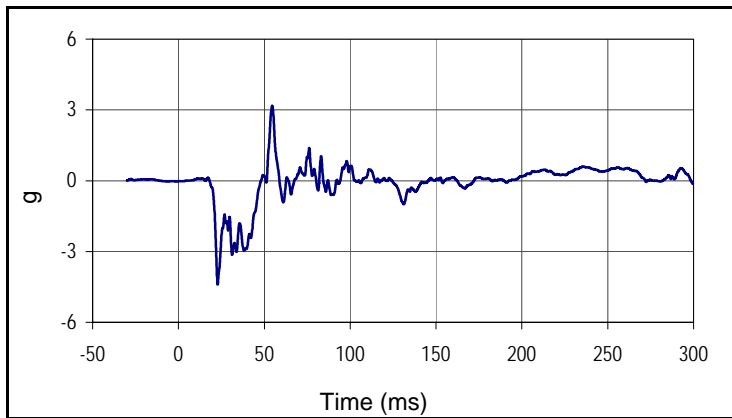
Curve Description			
Driver Chest Deflection			
Plot No.		SAE Class	Units
005		600	mm
Max	Time	Min	Time
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Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

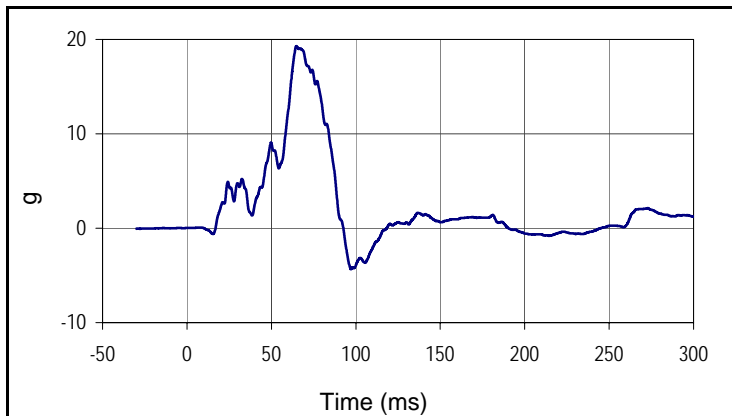
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 Test Date: 11/8/17



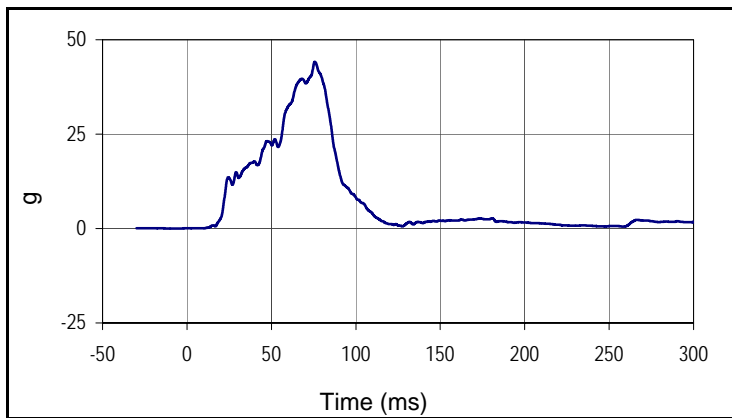
Curve Description			
Driver Chest Acceleration X Primary			
Plot No.		SAE Class	Units
006		180	g
Max	Time	Min	Time
2.4	173.6	-41.4	75.9



Curve Description			
Driver Chest Acceleration Y Primary			
Plot No.		SAE Class	Units
007		180	g
Max	Time	Min	Time
3.2	54.6	-4.4	22.8



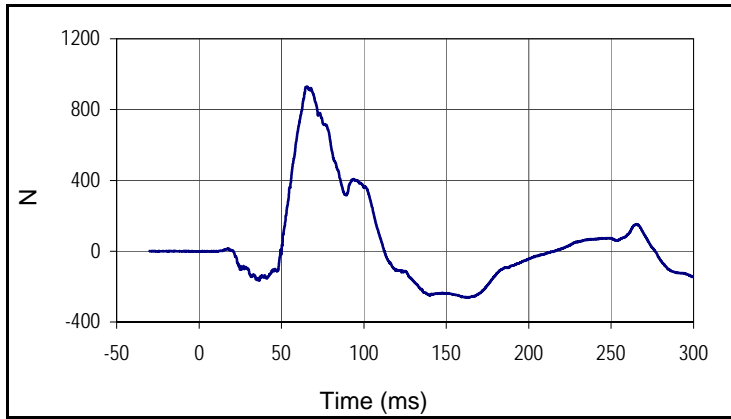
Curve Description			
Driver Chest Acceleration Z Primary			
Plot No.		SAE Class	Units
008		180	g
Max	Time	Min	Time
19.3	64.8	-4.3	97.1



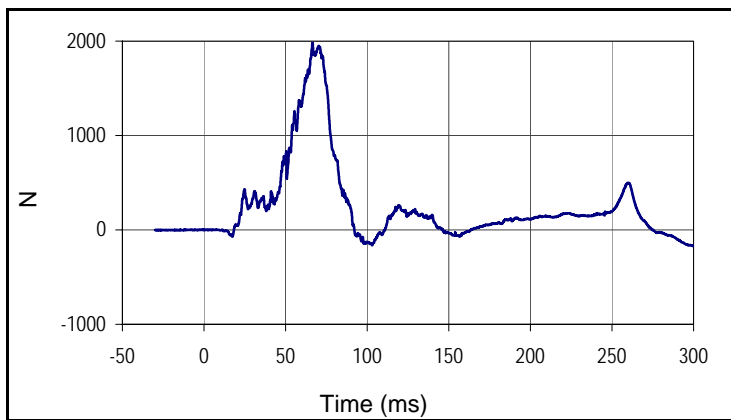
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Driver Chest Resultant Acceleration Primary			
Plot No.		SAE Class	Units
009		180	g
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Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

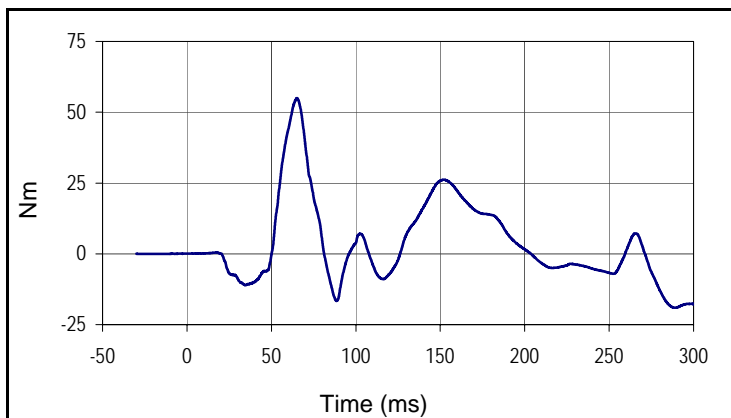
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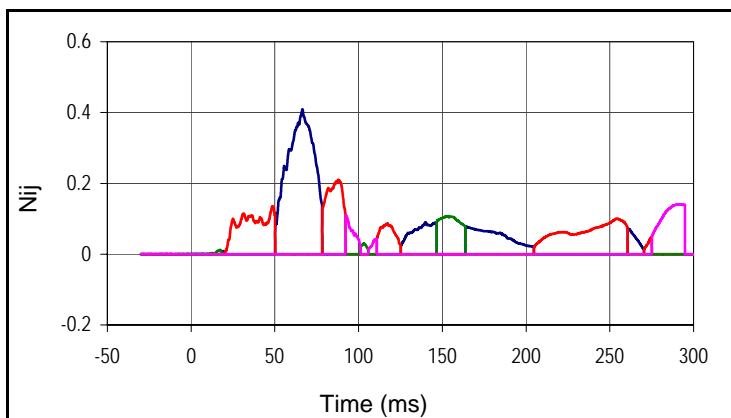
Curve Description			
Driver Upper Neck Force X			
Plot No.		SAE Class	Units
010		1000	N
Max	Time	Min	Time
928.4	65.3	-262.3	163.7



Curve Description			
Driver Upper Neck Force Z			
Plot No.		SAE Class	Units
011		1000	N
Max	Time	Min	Time
1978.6	66.5	-169.7	299.7



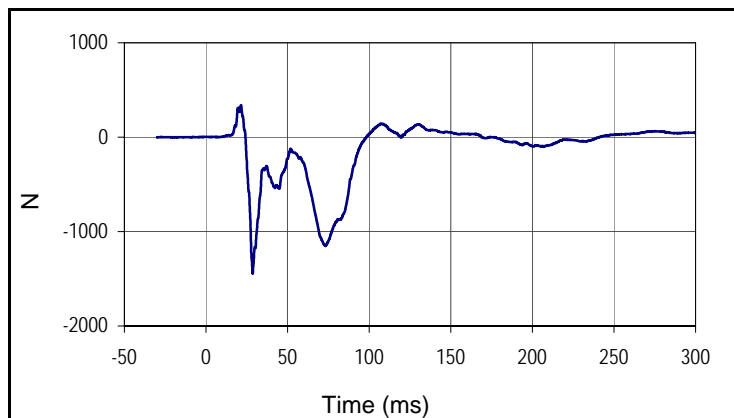
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Driver Upper Neck Moment Y			
Plot No.		SAE Class	Units
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Max	Time	Min	Time
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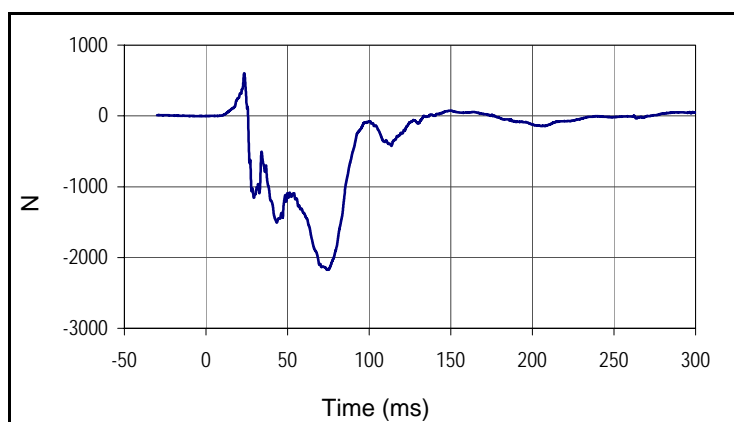
Curve Description		
Driver Nij		
Units	Max	Time
Ntf	0.41	66.5
Units	Max	Time
Nte	0.21	87.8
Units	Max	Time
Ncf	0.11	152.4
Units	Max	Time
Nce	0.14	291.1

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

NHTSA No.: M20180306  
 Test Date: 11/8/17



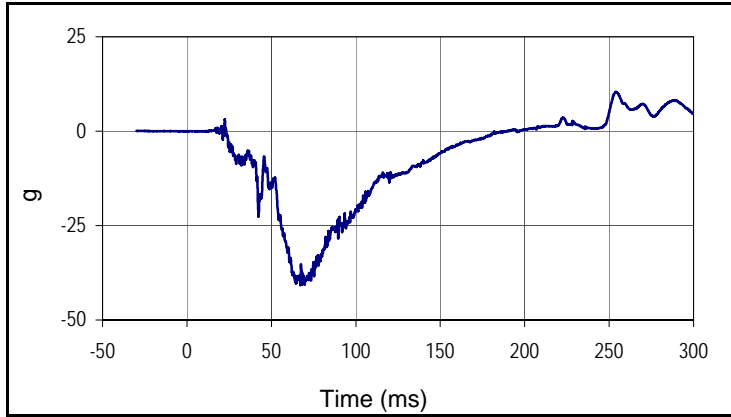
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Driver Left Femur Force Z			
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Max	Time	Min	Time
340.5	21.5	-1449.0	28.7



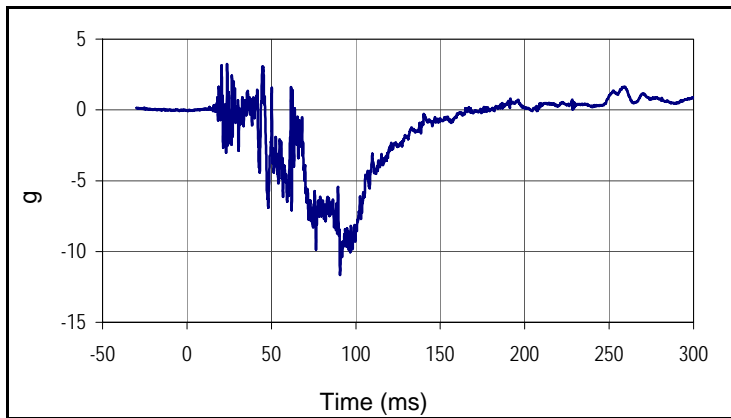
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Driver Right Femur Force Z			
Plot No.		SAE Class	Units
015		600	N
Max	Time	Min	Time
603.6	23.5	-2174.3	74.2

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

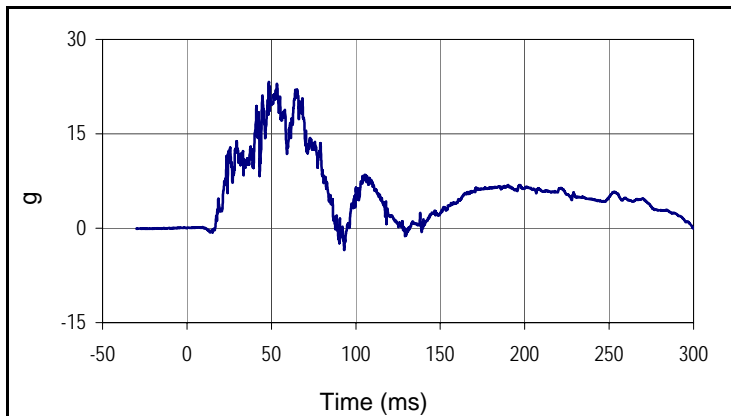
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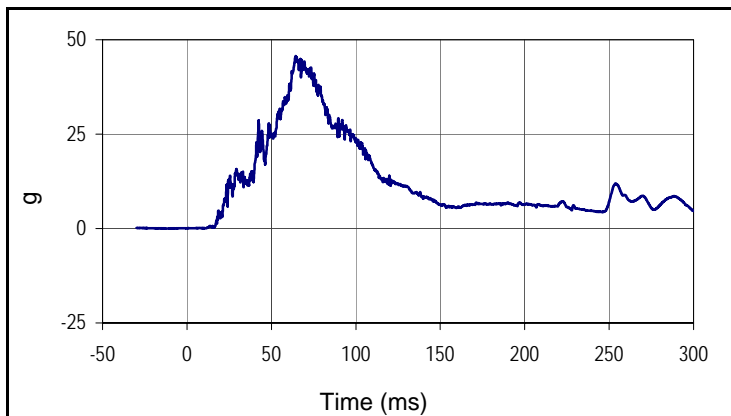
Curve Description			
Passenger Head Acceleration X Primary			
Plot No.		SAE Class	Units
016		1000	g
Max	Time	Min	Time
10.4	253.9	-40.8	67.2



Curve Description			
Passenger Head Acceleration Y Primary			
Plot No.		SAE Class	Units
017		1000	g
Max	Time	Min	Time
3.2	23.8	-11.7	90.7



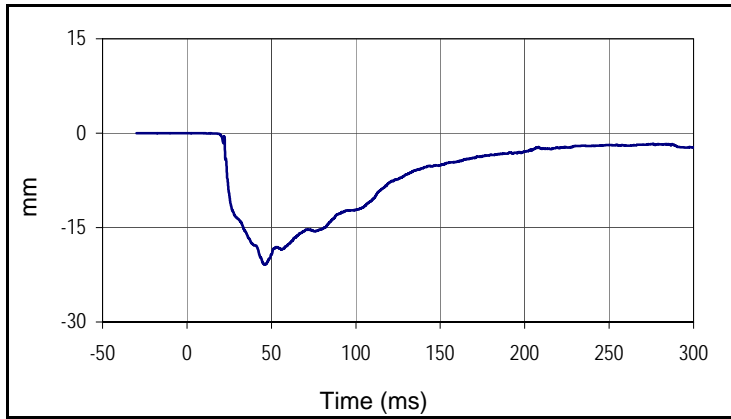
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Passenger Head Acceleration Z Primary			
Plot No.		SAE Class	Units
018		1000	g
Max	Time	Min	Time
23.2	48.5	-3.5	93.1



Curve Description			
Passenger Head Resultant Acceleration Primary			
Plot No.		SAE Class	Units
019		1000	g
Max	Time	Min	Time
45.6	64.5	0.0	10.0

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

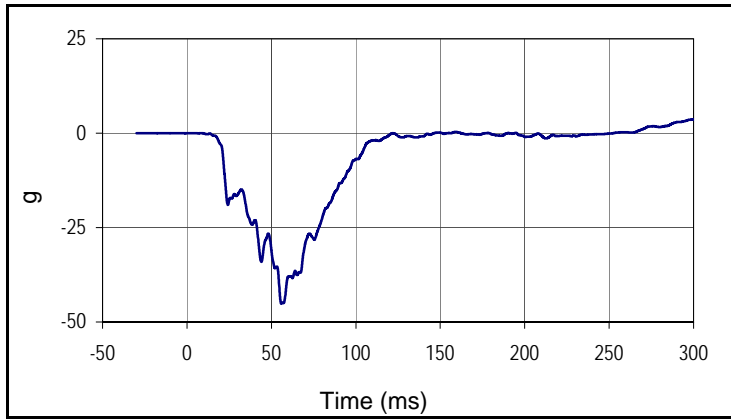
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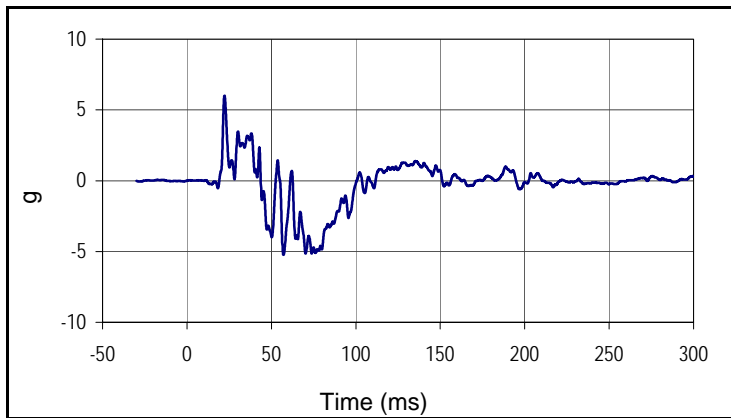
Curve Description			
Passenger Chest Deflection			
Plot No.		SAE Class	Units
020		600	mm
Max	Time	Min	Time
0.0	6.5	-20.9	46.1

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

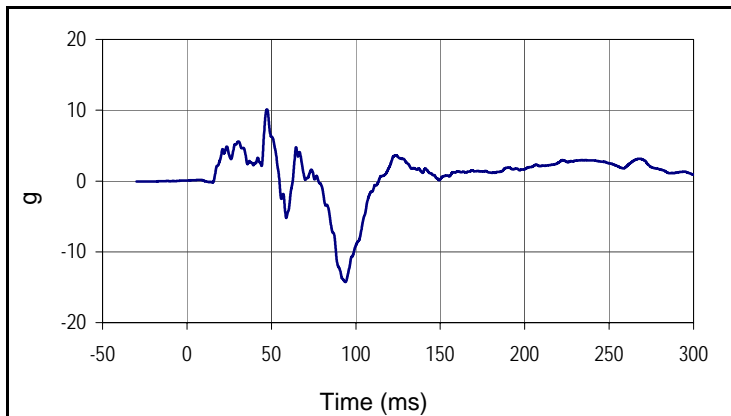
NHTSA No.: M20180306  
 Test Date: 11/8/17



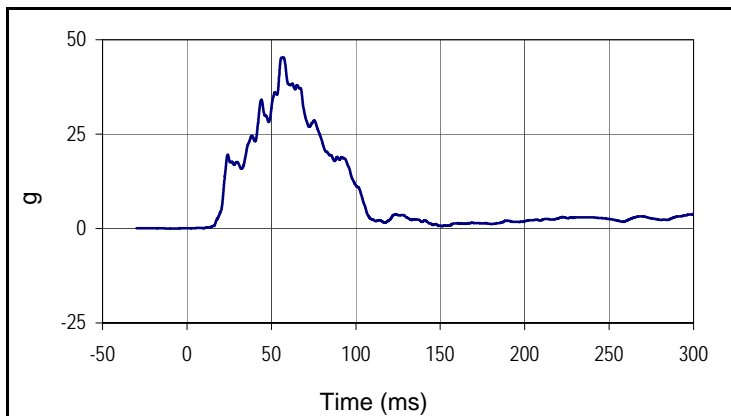
Curve Description			
Passenger Chest Acceleration X Primary			
Plot No.		SAE Class	Units
021		180	g
Max	Time	Min	Time
3.7	299.8	-45.1	55.9



Curve Description			
Passenger Chest Acceleration Y Primary			
Plot No.		SAE Class	Units
022		180	g
Max	Time	Min	Time
6.0	22.2	-5.2	57.1



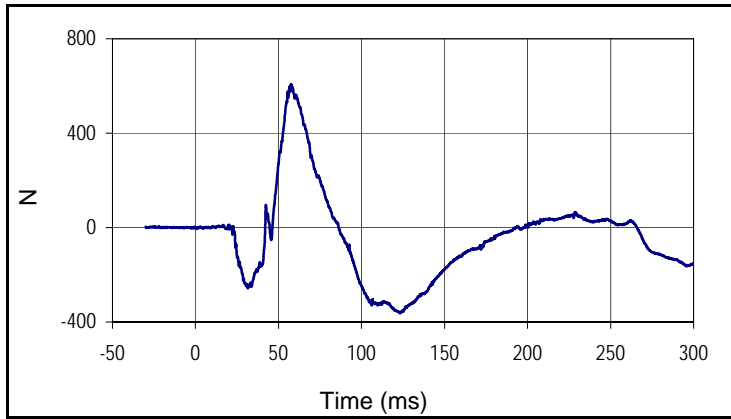
Curve Description			
Passenger Chest Acceleration Z Primary			
Plot No.		SAE Class	Units
023		180	g
Max	Time	Min	Time
10.1	47.4	-14.3	93.9



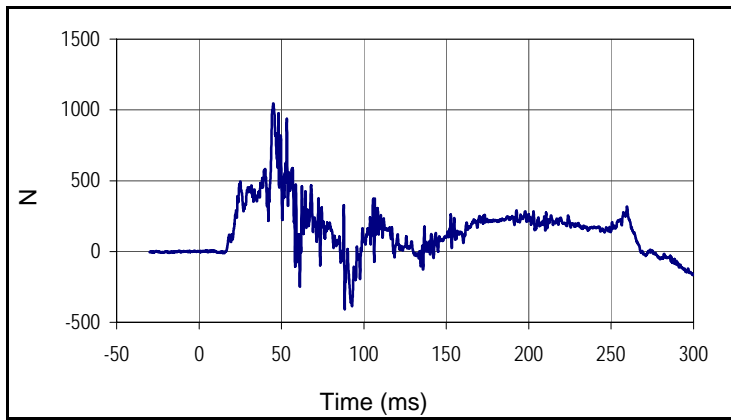
Curve Description			
Passenger Chest Resultant Acceleration Primary			
Plot No.		SAE Class	Units
024		180	g
Max	Time	Min	Time
45.3	57.2	0.1	0.0

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

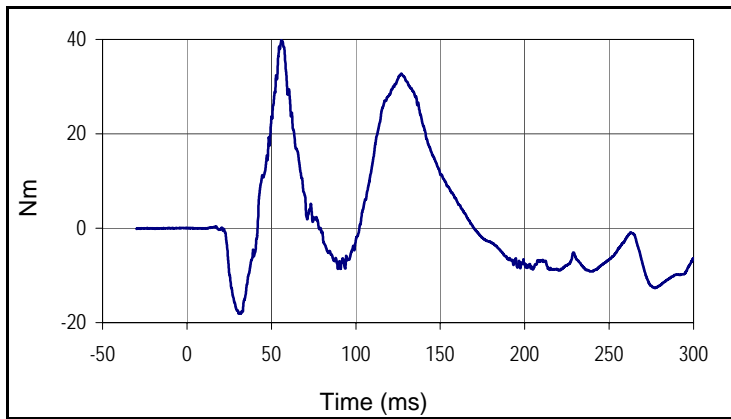
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 Test Date: 11/8/17



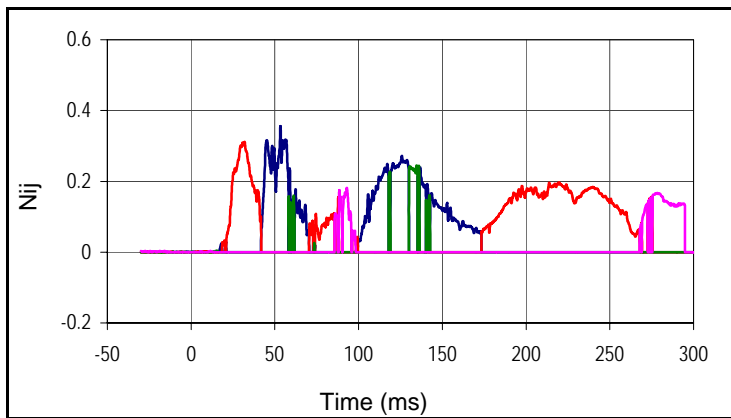
Curve Description			
Passenger Upper Neck Force X			
Plot No.		SAE Class	Units
025		1000	N
Max	Time	Min	Time
608.1	57.6	-362.8	123.1



Curve Description			
Passenger Upper Neck Force Z			
Plot No.		SAE Class	Units
026		1000	N
Max	Time	Min	Time
1045.1	45.1	-407.1	88.4



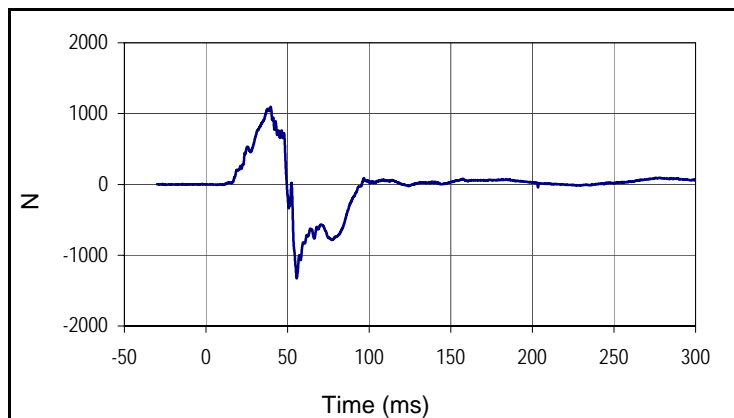
Curve Description			
Passenger Upper Neck Moment Y			
Plot No.		SAE Class	Units
027		600	Nm
Max	Time	Min	Time
39.8	55.9	-18.1	31.7



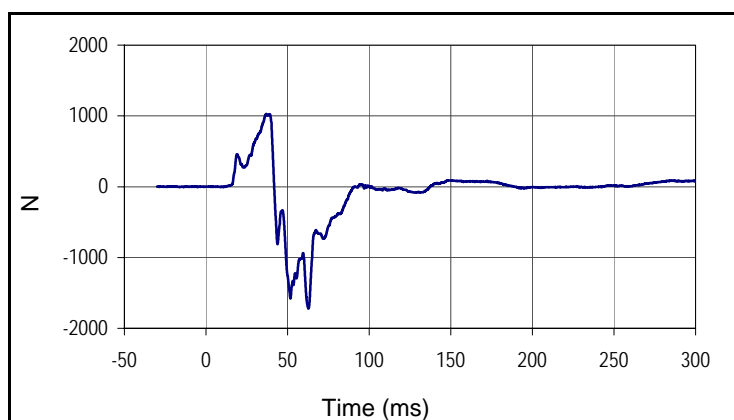
Curve Description		
Passenger Nij		
Units	Max	Time
Ntf	0.36	53.3
Units	Max	Time
Nte	0.31	32.0
Units	Max	Time
Ncf	0.24	134.7
Units	Max	Time
Nce	0.18	92.9

Test Vehicle: 2018 Jeep Compass Sport 4x4 5-Door MPV  
 Test Program: 56 km/h Frontal Impact NCAP Test

NHTSA No.: M20180306  
 Test Date: 11/8/17



Curve Description			
Passenger Left Femur Force Z			
Plot No.		SAE Class	Units
029		600	N
Max	Time	Min	Time
1096.7	39.7	-1328.8	55.6



Curve Description			
Passenger Right Femur Force Z			
Plot No.		SAE Class	Units
030		600	N
Max	Time	Min	Time
1029.2	37.0	-1720.7	62.9

**APPENDIX C**  
**ATD CALIBRATION AND PERFORMANCE VERIFICATION DATA**

**APPENDIX C**  
**PRE-TEST ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA**



ATD Serial No.: 360

Test Date: 2017-10-23

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 neck			✓
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:

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Technician: 

Lab Supervisor: 



ATD Serial No.: 360

Test Date: 2017-10-23

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Relative Humidity	%	10	70	29	Pass
A - Total sitting height	mm	879.0	889.0	886	Pass
B - Shoulder pivot height	mm	505.0	521.0	510	Pass
C - 'H' point height	mm	84.0	89.0	86	Pass
D - 'H' point location from backline	mm	135.0	140.0	139	Pass
E - Shoulder pivot from backline	mm	84.0	94.0	91	Pass
F - Thigh clearance	mm	140.0	155.0	147	Pass
G - Back of elbow to wrist pivot	mm	290.0	305.0	298	Pass
H - Head back to backline	mm	41.0	46.0	44	Pass
I - Shoulder to elbow length	mm	330.0	345.0	337	Pass
J - Elbow rest height	mm	190.0	211.0	205	Pass
K - Buttock to knee length	mm	579.0	604.0	587	Pass
L - Popliteal length	mm	429.0	455.0	437	Pass
M - Knee pivot height	mm	485.0	500.0	495	Pass
N - Buttock popliteal length	mm	452.0	477.0	473	Pass
O - Chest depth without jacket	mm	213.0	229.0	227	Pass
P - Foot length	mm	251.0	267.0	263	Pass
V - Shoulder breadth	mm	422.0	437.0	436	Pass
W - Foot breadth	mm	91.0	107.0	99	Pass
Y - Chest circum. (w/chest jacket)	mm	970.0	1001.0	982	Pass
Z - Waist circum.	mm	836.0	866.0	865	Pass
AA - Location for chest circum.	mm	429.0	434.0	431	Pass
BB - Location for waist circum.	mm	226.0	231.0	231	Pass
Overall Test Results					Pass

Technician: 

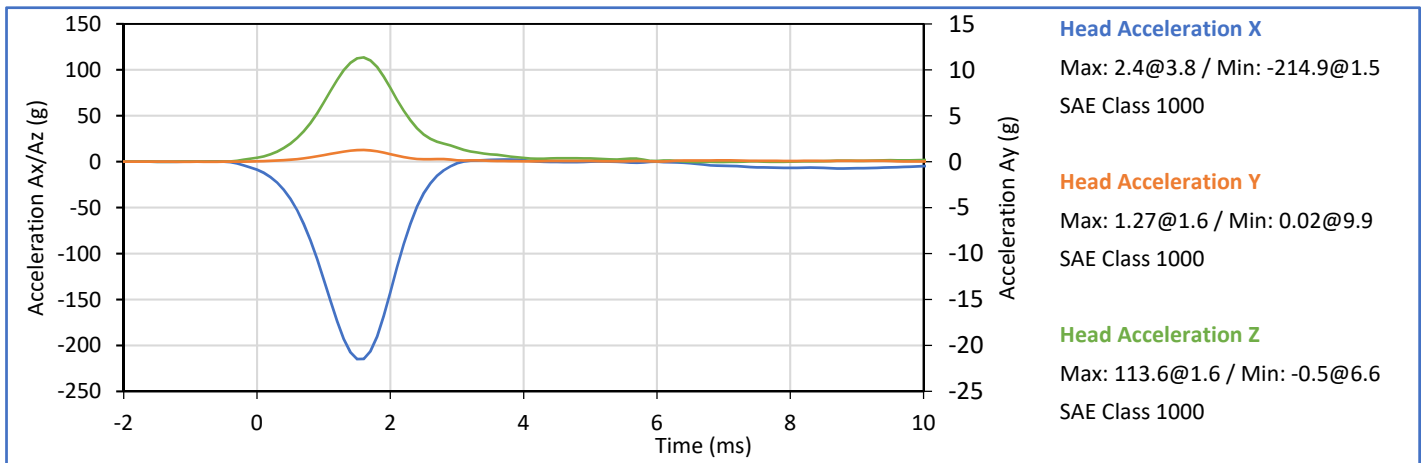
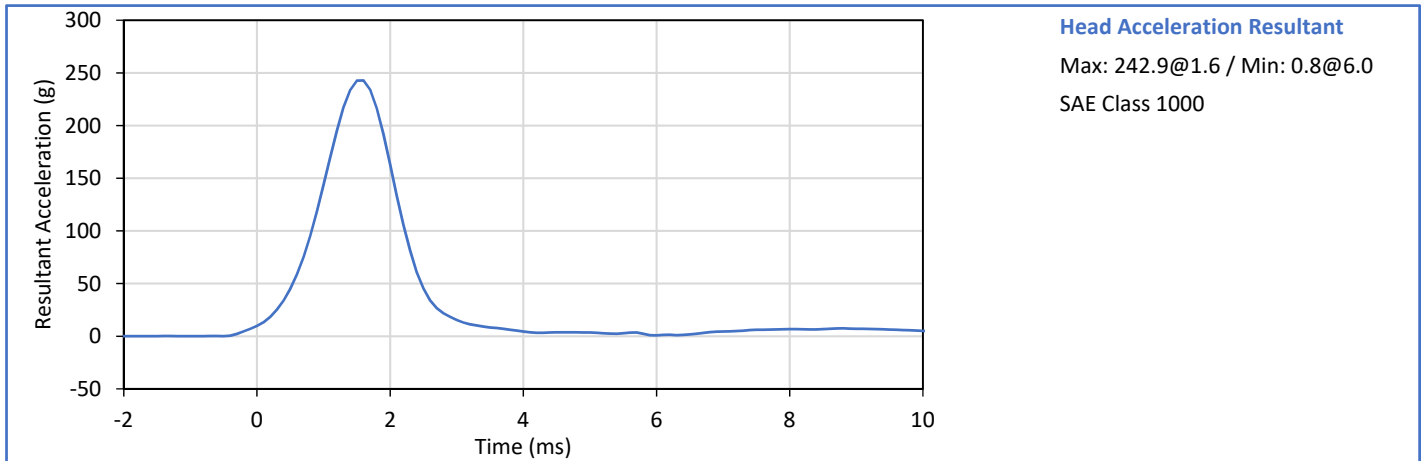
Lab Supervisor: 



ATD Serial No.: 360

Test Date: 2017-10-19

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	23	Pass
Peak Resultant Acceleration	g	225.0	275.0	242.9	Pass
Peak Lateral Acceleration	g	-15.00	15.00	1.27	Pass
Oscillations After Main Pulse	%	0.0	10.0	3.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
<b>Overall Test Results</b>					<b>Pass</b>



Technician: *Smith*

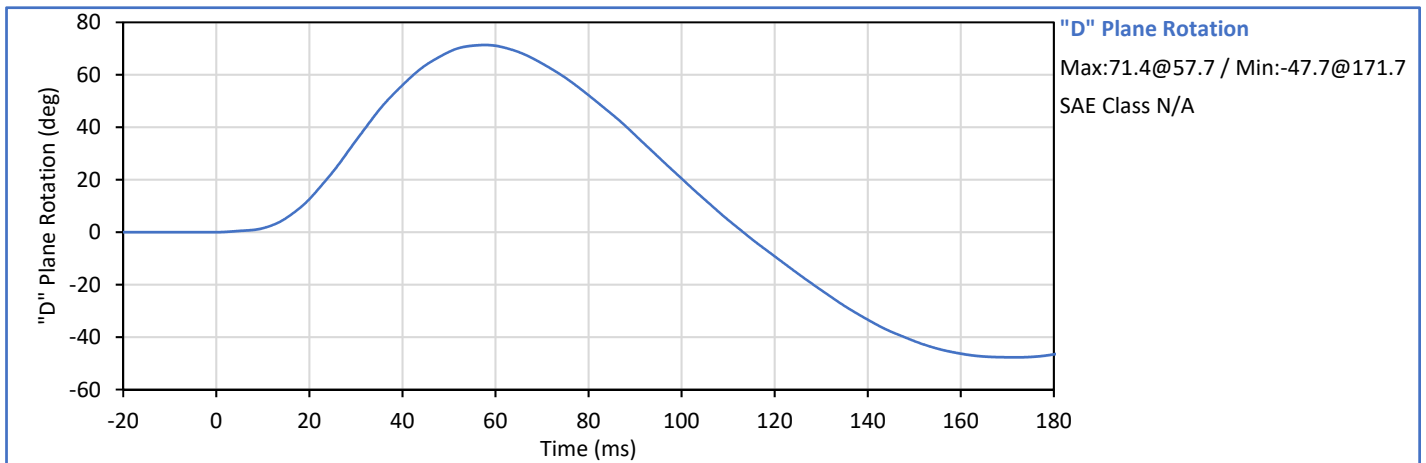
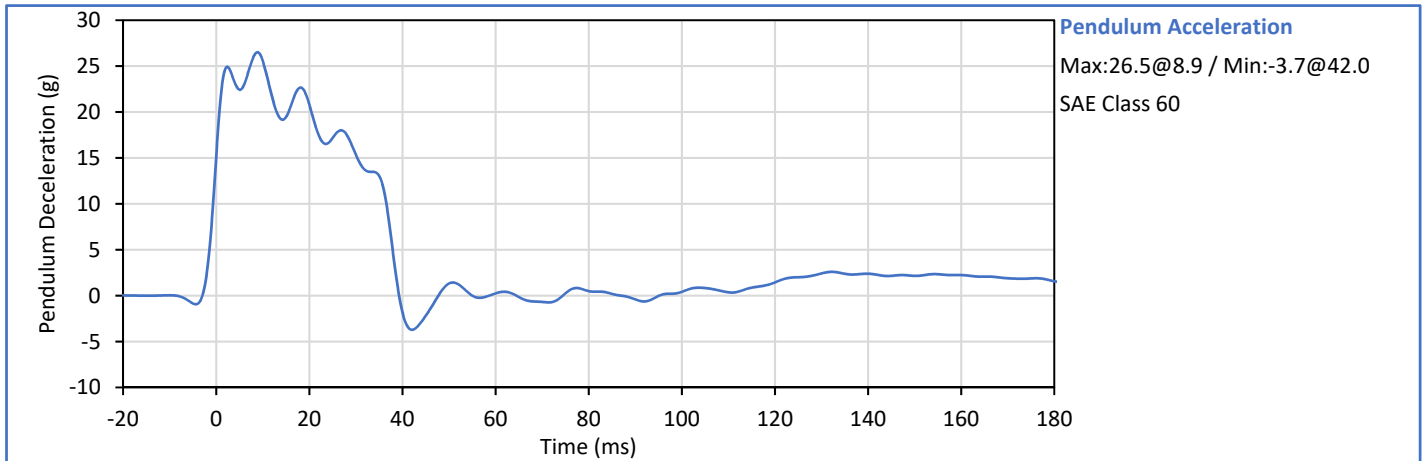
Lab Supervisor: *Wep*



ATD Serial No.: 360

Test Date: 2017-10-20

Tested Parameter	Units	Spec. Low	Spec High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Humidity	%	10	70	22	Pass
Pendulum Velocity	m/s	6.89	7.13	7.06	Pass
Pendulum Deceleration at 10 ms	g	22.5	27.5	25.6	Pass
Pendulum Deceleration at 20 ms	g	17.6	22.6	20.8	Pass
Pendulum Deceleration at 30 ms	g	12.5	18.5	15.4	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	29.0	15.4	Pass
Deceleration Decay to Cross 5 g	ms	34.0	42.0	37.9	Pass
"D" Plane Rotation peak	deg	64.0	78.0	71.4	Pass
	ms	57.0	64.0	57.7	Pass
"D" Plane Rotation Decay To Zero	ms	113.0	128.0	113.3	Pass
Moment About Occipital Condyle	Nm	88.1	108.5	89.3	Pass
	ms	47.0	58.0	50.7	Pass
Moment Decay, Peak to Zero	deg	97.0	107.0	97.7	Pass
<b>Overall Test Results</b>					<b>Pass</b>



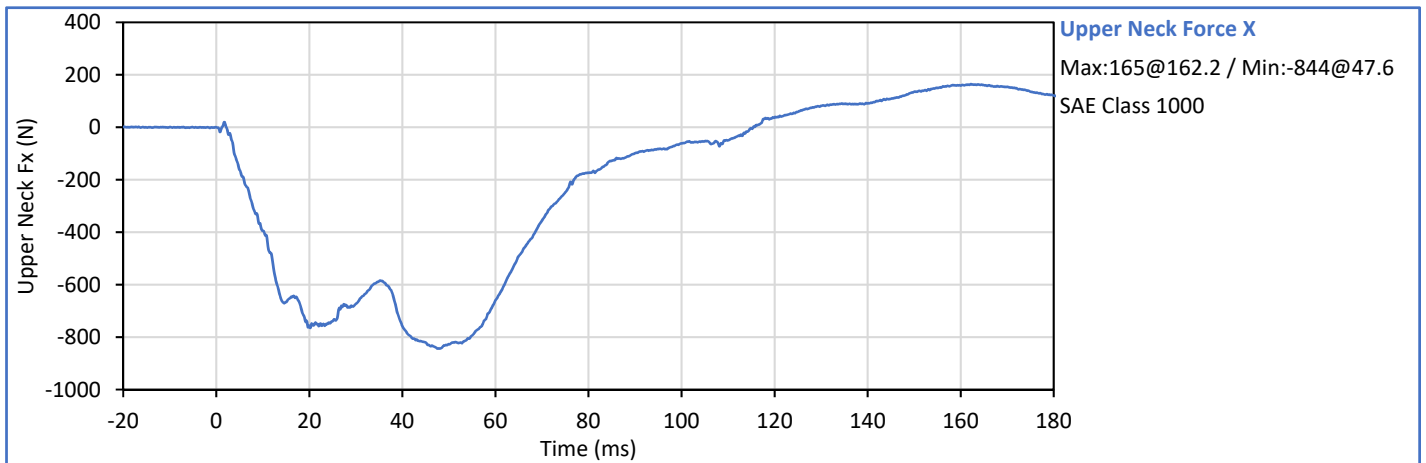
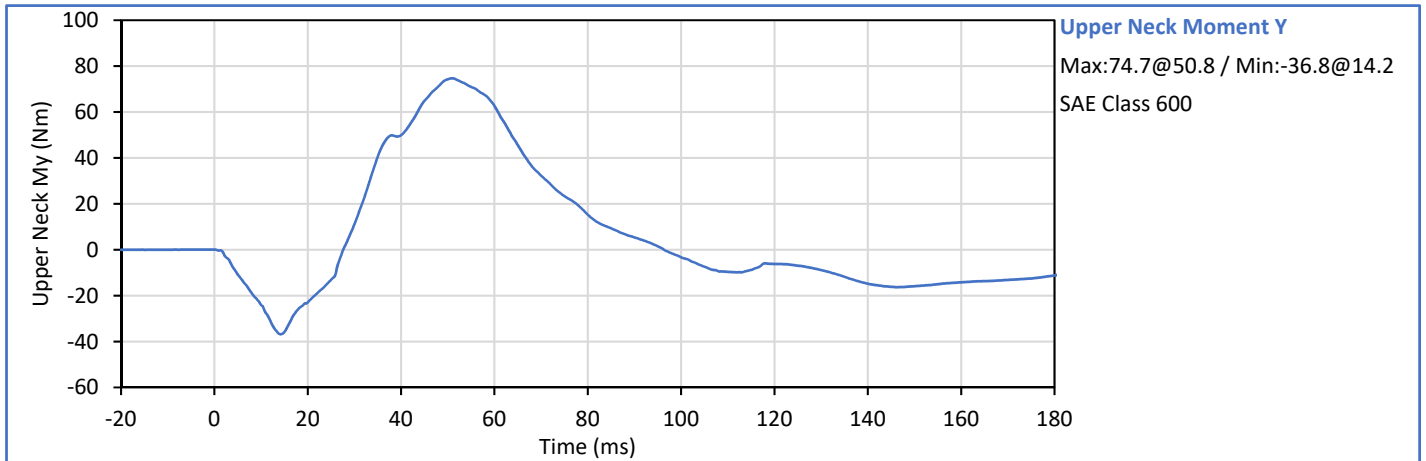
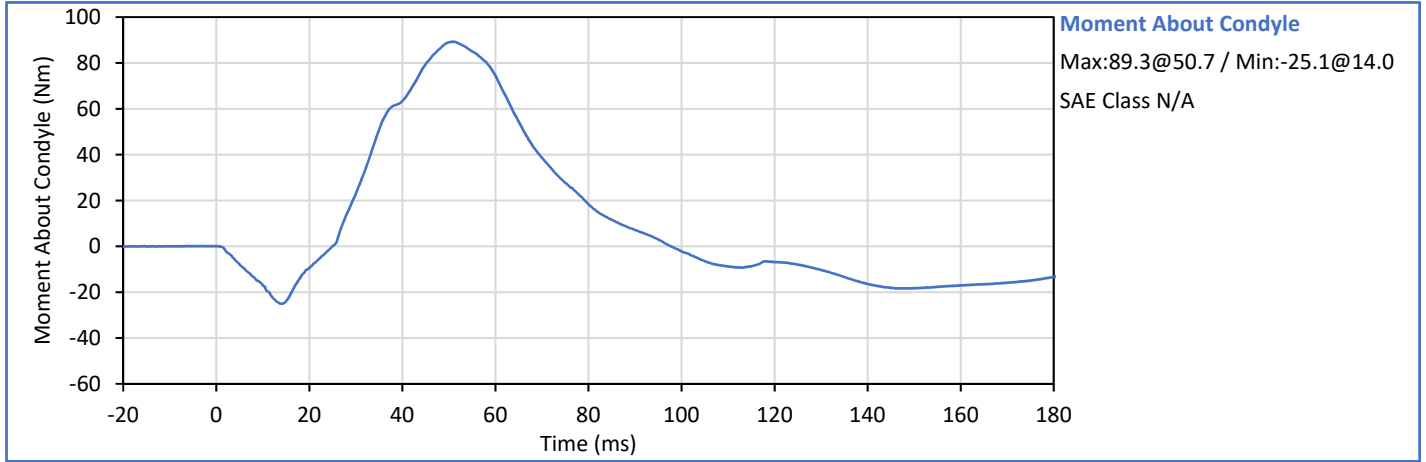
Technician: *Smith*

Lab Supervisor: *Wep*



ATD Serial No.: 360

Test Date: 2017-10-20

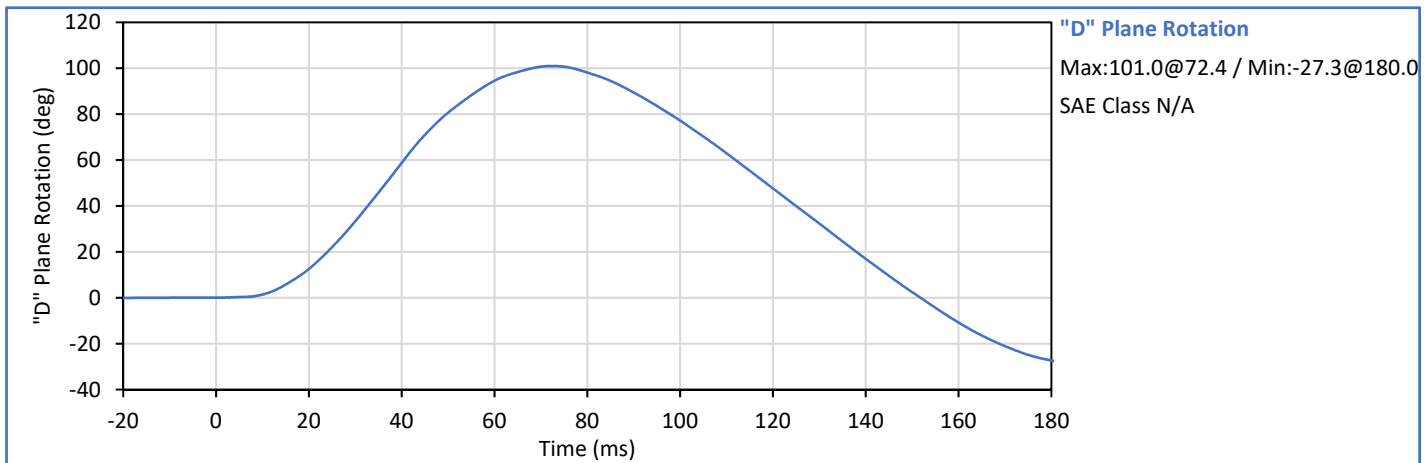
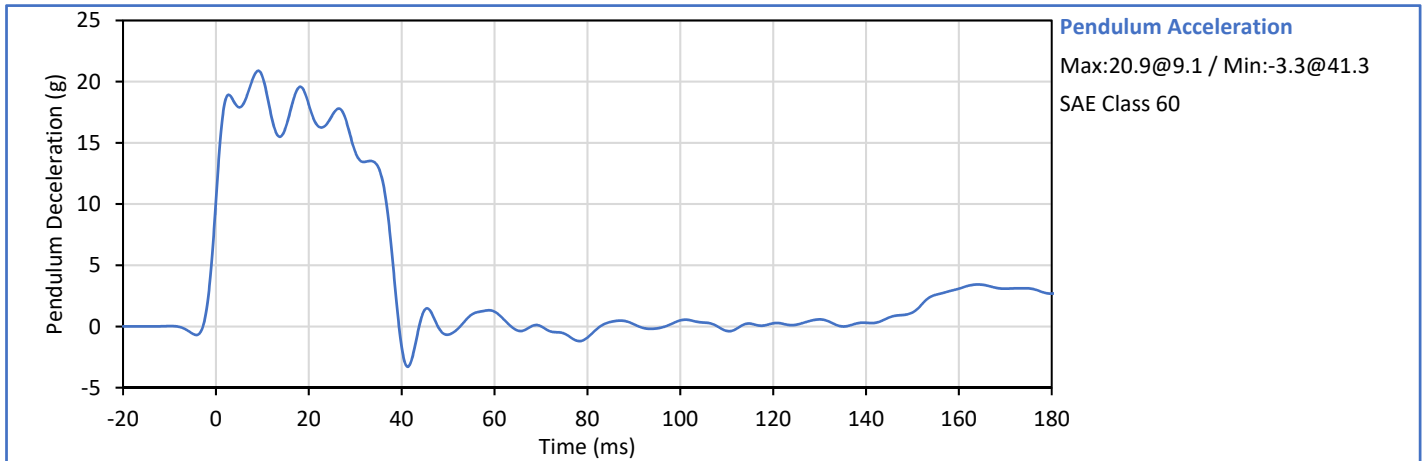




ATD Serial No.: 360

Test Date: 2017-10-20

Tested Parameter	Units	Spec. Low	Spec High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Humidity	%	10	70	35	Pass
Pendulum Velocity	m/s	5.94	6.19	6.08	Pass
Pendulum Deceleration at 10 ms	g	17.2	21.2	20.4	Pass
Pendulum Deceleration at 20 ms	g	14.0	19.0	18.1	Pass
Pendulum Deceleration at 30 ms	g	11.0	16.0	14.3	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	22.0	14.3	Pass
Deceleration Decay to Cross 5 g	ms	38.0	46.0	38.2	Pass
"D" Plane Rotation peak	deg	81.0	106.0	101.0	Pass
	ms	72.0	82.0	72.4	Pass
"D" Plane Rotation Decay To Zero	ms	147.0	174.0	151.9	Pass
Moment About Occipital Condyle	Nm	-79.9	-52.9	-73.3	Pass
	ms	65.0	79.0	66.4	Pass
Moment Decay, Peak to Zero	deg	120.0	148.0	131.3	Pass
<b>Overall Test Results</b>					<b>Pass</b>



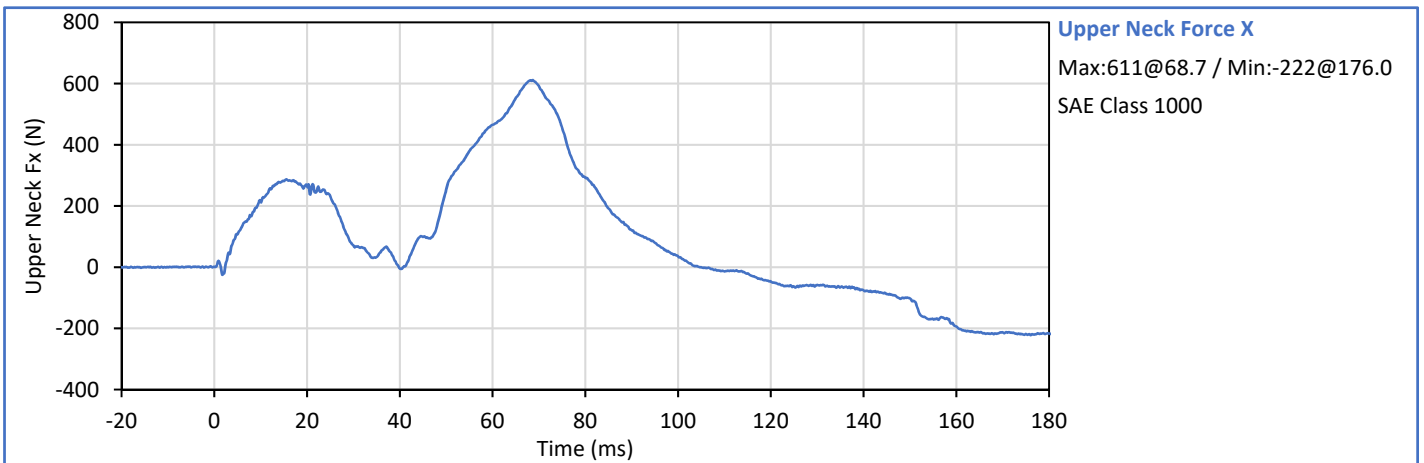
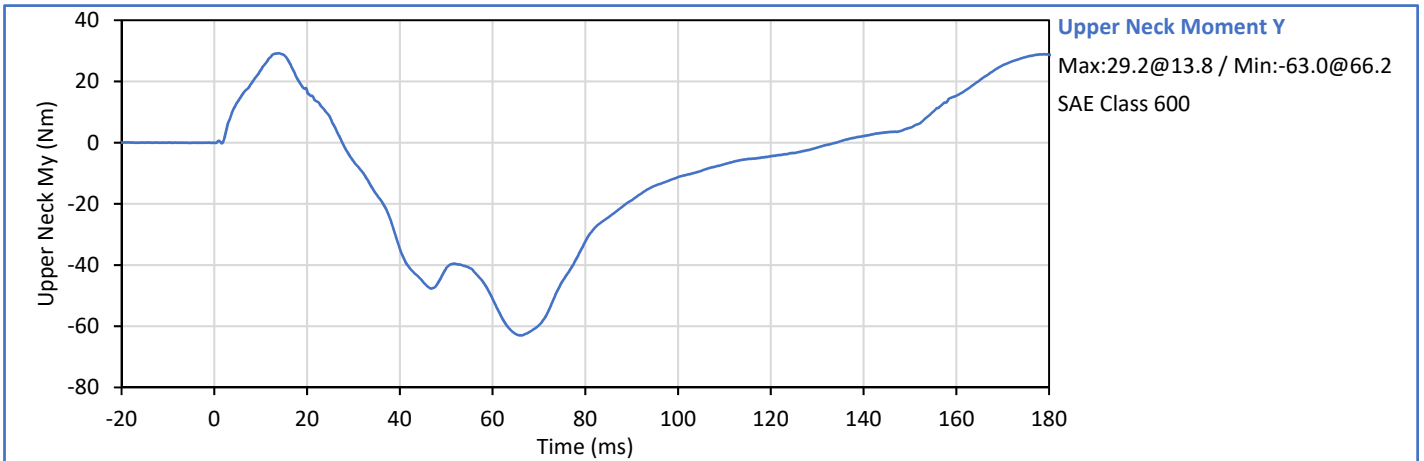
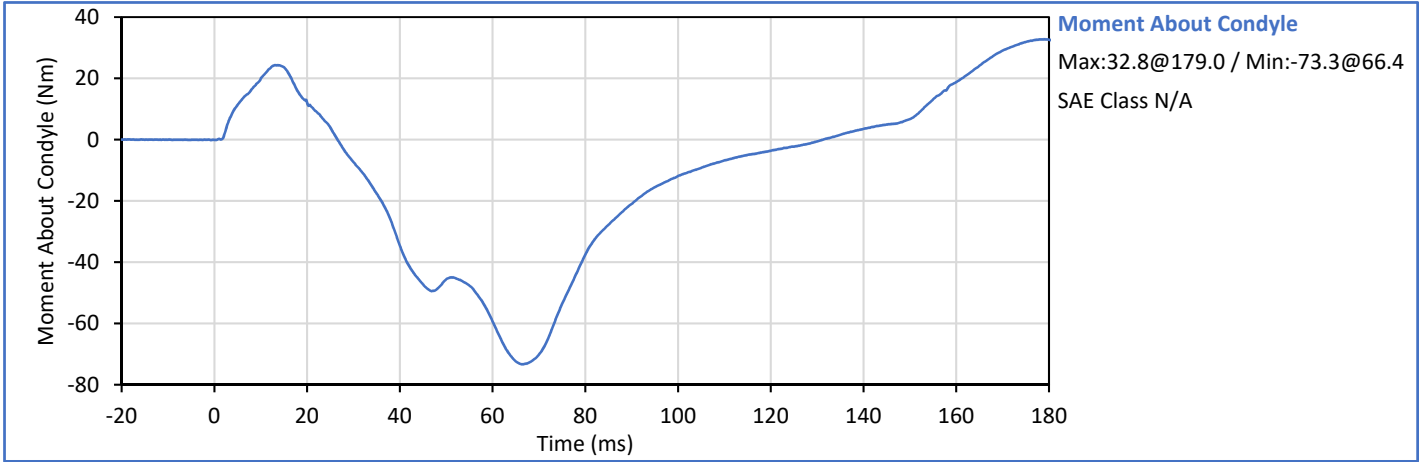
Technician: *Smith*

Lab Supervisor: *Wep*



ATD Serial No.: 360

Test Date: 2017-10-20

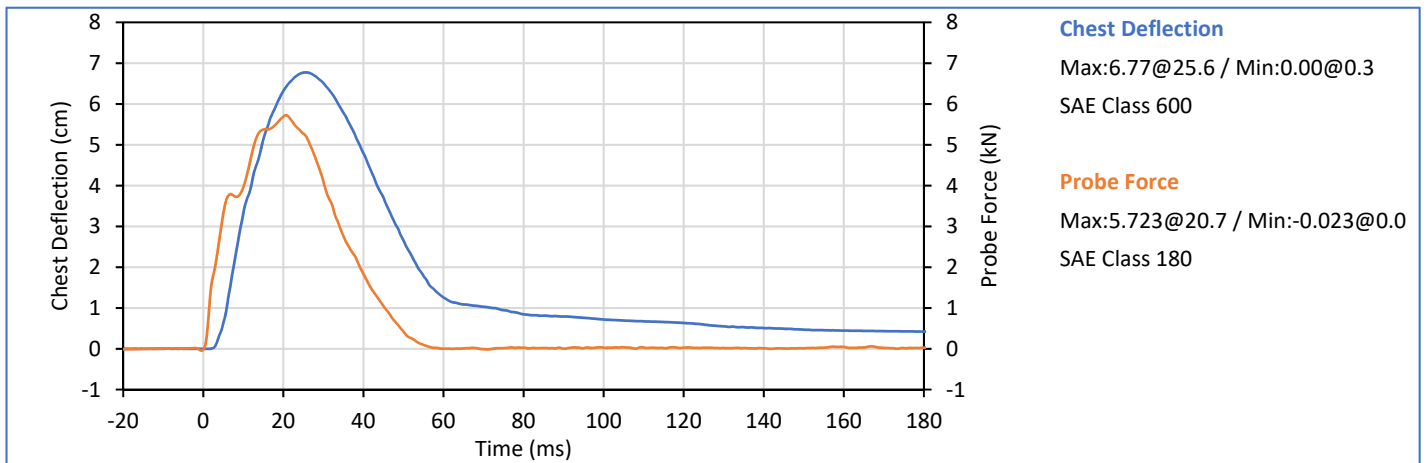
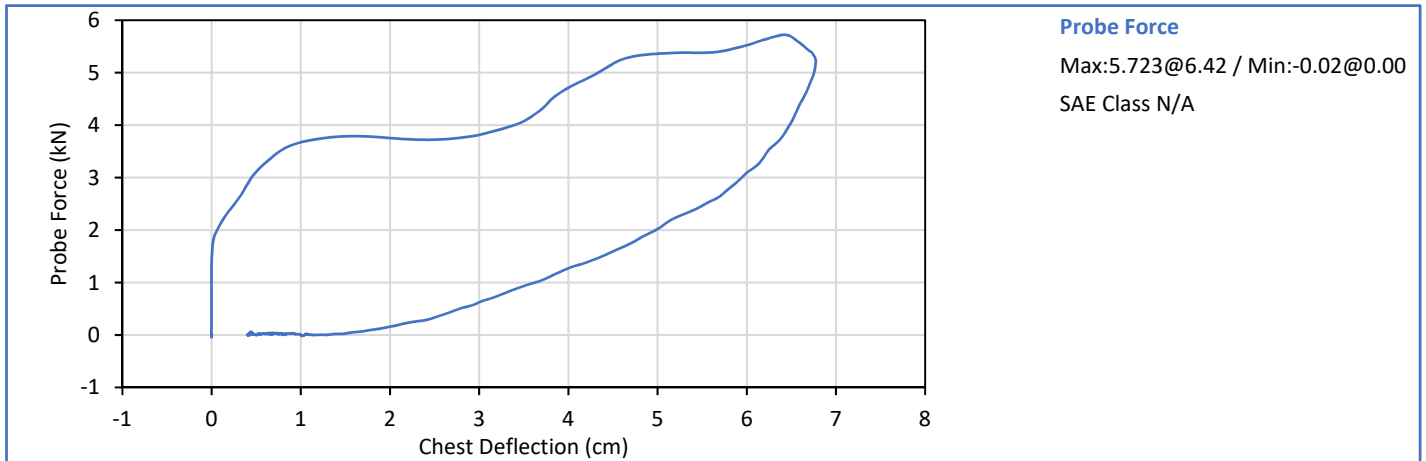




ATD Serial No.: 360

Test Date: 2017-10-19

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	Pass
Laboratory Humidity	%	10	70	26	Pass
Probe Velocity	m/s	6.58	6.82	6.75	Pass
Peak Chest Deflection	cm	6.35	7.26	6.77	Pass
Peak Probe Force	kN	5.159	5.893	5.723	Pass
Internal Hysteresis	%	69.0	85.0	71.3	Pass
<b>Overall Test Results</b>					<b>Pass</b>



Technician: 

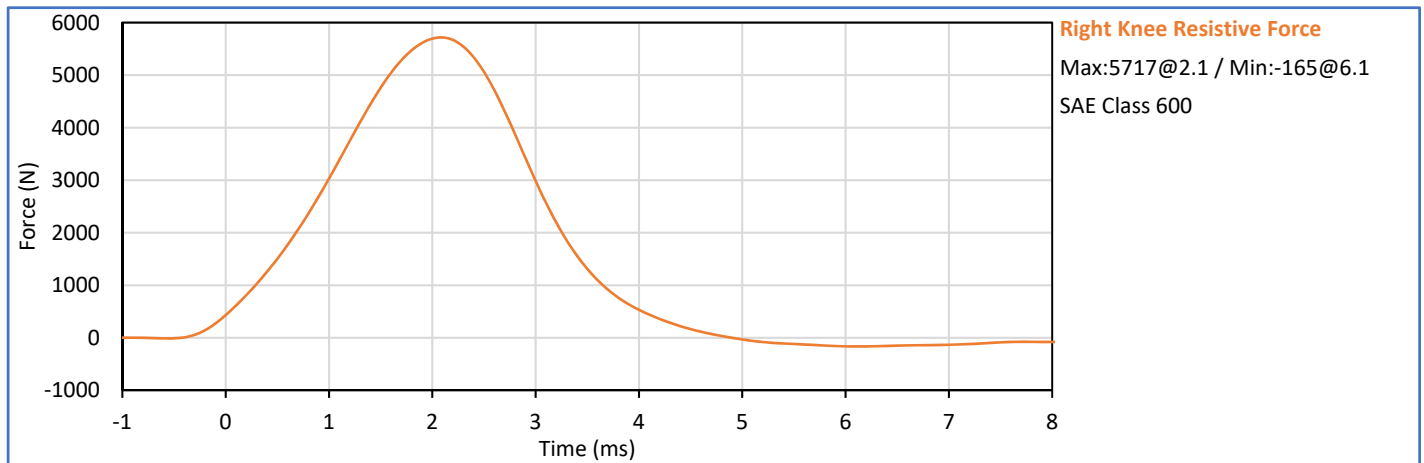
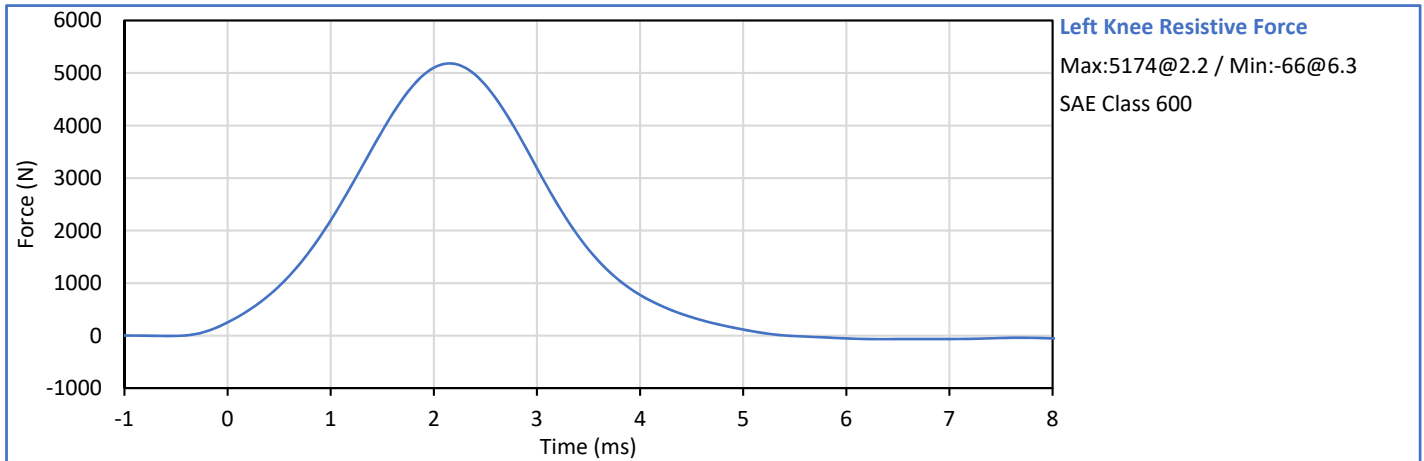
Lab Supervisor: 



ATD Serial No.: 360

Test Date: 2017-10-19

	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	20.6	22.2	21.3	Pass
	Laboratory Humidity	%	10	70	23	Pass
Left Knee	Probe Velocity	m/s	2.070	2.130	2.083	Pass
	Peak Resistive Force	N	4715	5782	5174	Pass
Right Knee	Probe Velocity	m/s	2.070	2.130	2.111	Pass
	Peak Resistive Force	N	4715	5782	5717	Pass
Overall Test Results						Pass



Technician: *Smith*

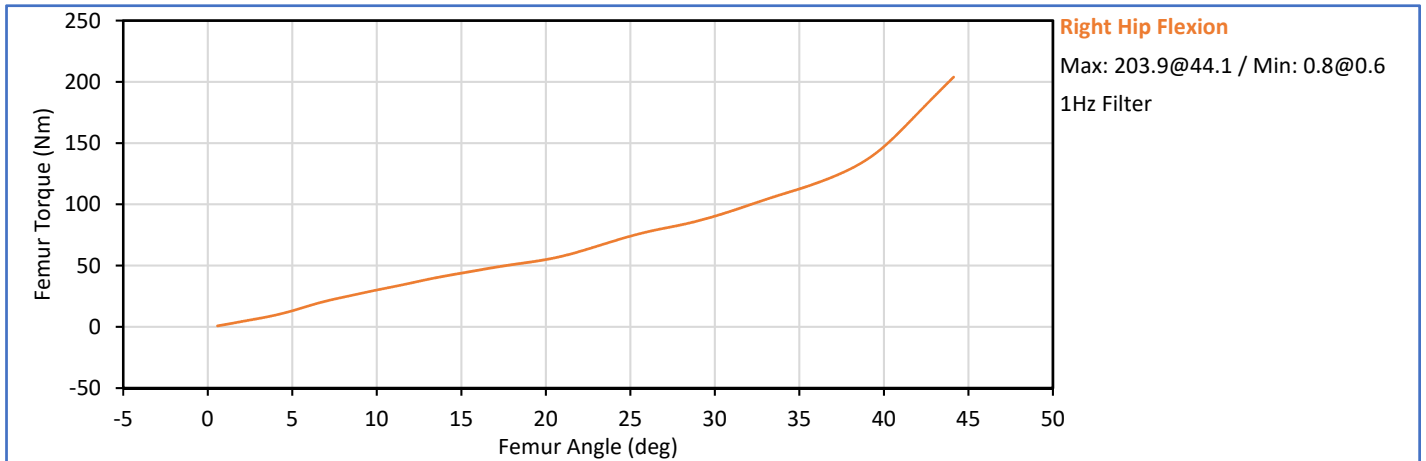
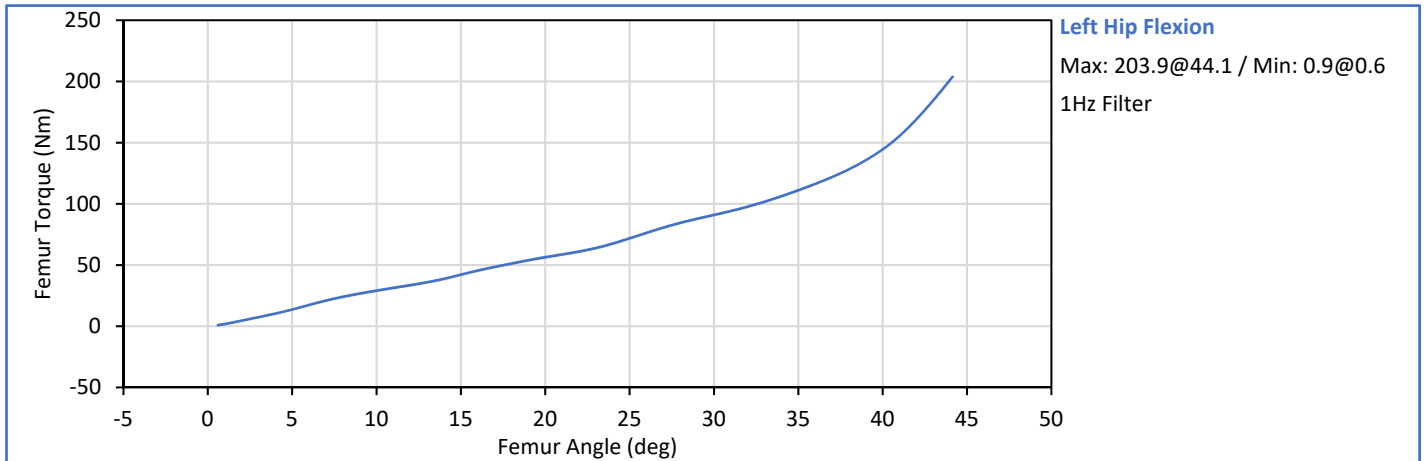
Lab Supervisor: *Wep*



ATD Serial No.: 360

Test Date: 2017-10-23

Tested Parameter		Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature		°C	20.6	22.2	21.7	Pass
Laboratory Humidity		%	10	70	26	Pass
Left Hip	Left Hip Rotation Rate	deg/s	5.0	10.0	8.4	Pass
	Left Femur Torque at 30°	Nm	0.0	95.0	91.0	Pass
	Left Hip Rotation at 203 Nm	deg	40.0	50.0	44.1	Pass
Right Hip	Right Hip Rotation Rate	deg/s	5.0	10.0	8.0	Pass
	Right Femur Torque at 30°	Nm	0.0	95.0	90.4	Pass
	Right Hip Rotation at 203 Nm	deg	40.0	50.0	44.1	Pass
Overall Test Results					Pass	Pass



Technician: *Smith*

Lab Supervisor: *Wep*



ATD Serial No.: 630

Test Date: 2017-10-23

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 neck			✓
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:

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Technician: 

Lab Supervisor: 



ATD Serial No.: 630

Test Date: 2017-10-23

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	45	Pass
A - Total sitting height	mm	774.7	800.1	786	Pass
B - Shoulder pivot height	mm	431.8	457.2	450	Pass
C - 'H' point height	mm	81.3	86.3	85	Pass
D - 'H' point location from backline	mm	144.8	149.8	146	Pass
E - Shoulder pivot from backline	mm	68.6	83.8	77	Pass
F - Thigh clearance	mm	119.4	134.6	126	Pass
G - Back of elbow to wrist pivot	mm	243.9	259.1	250	Pass
H - Head back to backline	mm	40.7	45.7	44	Pass
I - Shoulder to elbow length	mm	276.8	297.2	285	Pass
J - Elbow rest height	mm	182.8	203.2	198	Pass
K - Buttock to knee length	mm	520.7	546.1	531	Pass
L - Popliteal length	mm	355.6	376.0	371	Pass
M - Knee pivot height	mm	393.7	419.1	402	Pass
N - Buttock popliteal length	mm	414.0	439.4	420	Pass
O - Chest depth without jacket	mm	175.3	190.5	186	Pass
P - Foot length	mm	218.5	233.7	221	Pass
R - Buttock to Knee Pivot Length	mm	457.2	482.6	473	Pass
S - Head Breadth	mm	137.1	147.3	144	Pass
T - Head Depth	mm	177.8	188.0	180	Pass
U - Hip Breadth	mm	299.7	314.9	302	Pass
V - Shoulder breadth	mm	350.5	365.7	359	Pass
W - Foot breadth	mm	78.8	94.0	90	Pass
X - Head circum.	mm	528.3	548.7	541	Pass
Y - Chest circum. (w/chest jacket)	mm	850.8	881.3	864	Pass
Z - Waist circum.	mm	759.5	789.9	766	Pass
AA - Location for chest circum.	mm	299.7	309.9	300	Pass
BB - Location for waist circum.	mm	160.1	170.2	164	Pass
<b>Overall Test Results</b>					<b>Pass</b>

Technician: 

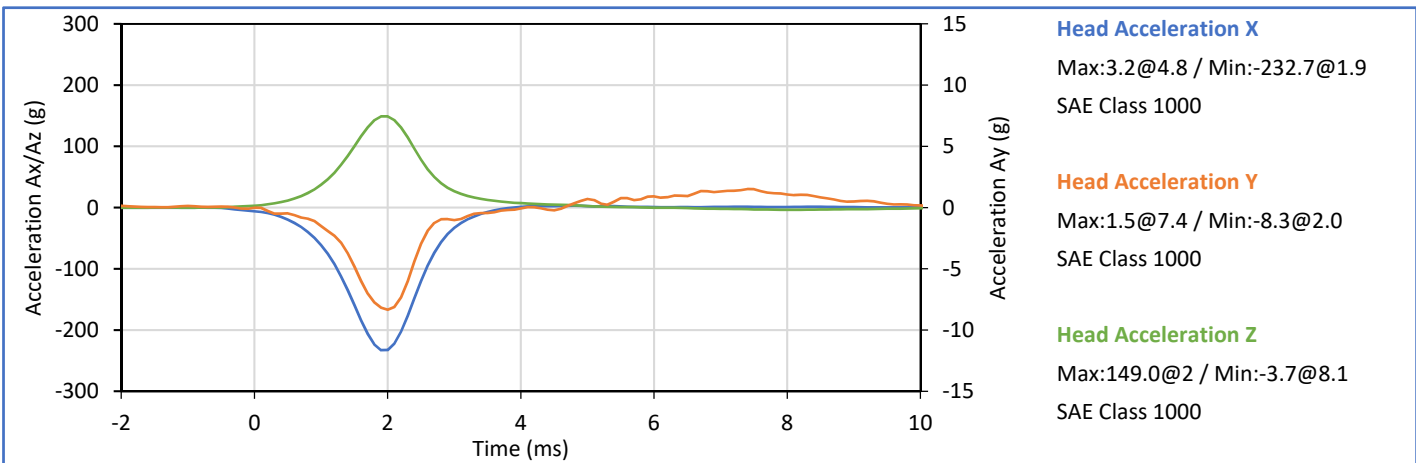
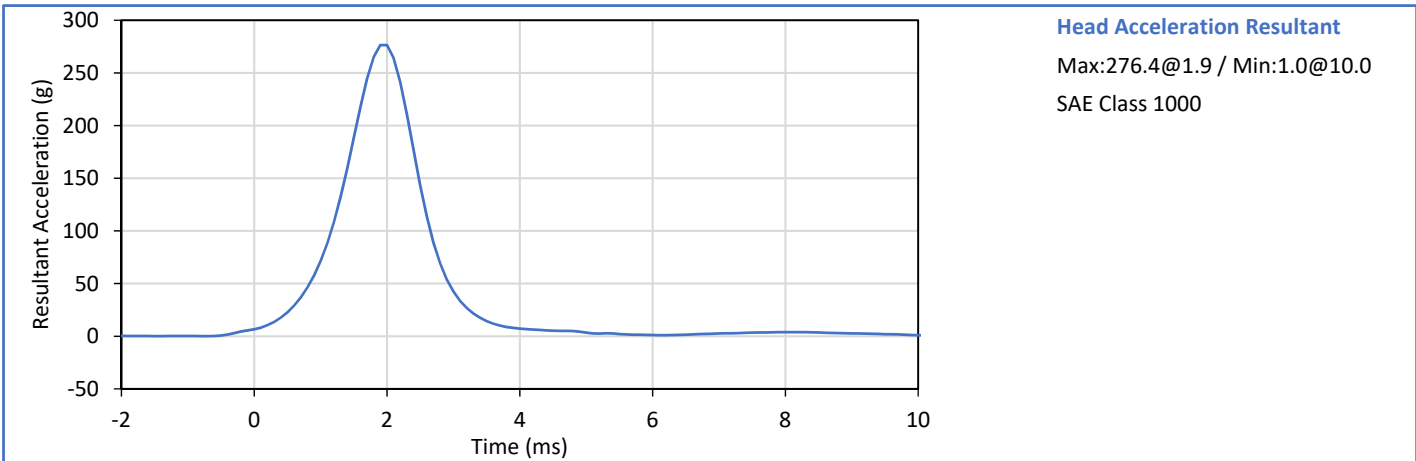
Lab Supervisor: 



ATD Serial No.: 630

Test Date: 2017-10-19

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.9	Pass
Laboratory Humidity	%	10	70	24	Pass
Peak Resultant Acceleration	g	250.0	300.0	276.4	Pass
Peak Lateral Acceleration	g	-15.00	15.00	-8.33	Pass
Oscillations After Main Pulse	%	0.0	10.0	2.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
<b>Overall Test Results</b>					<b>Pass</b>



Technician: *Smith*

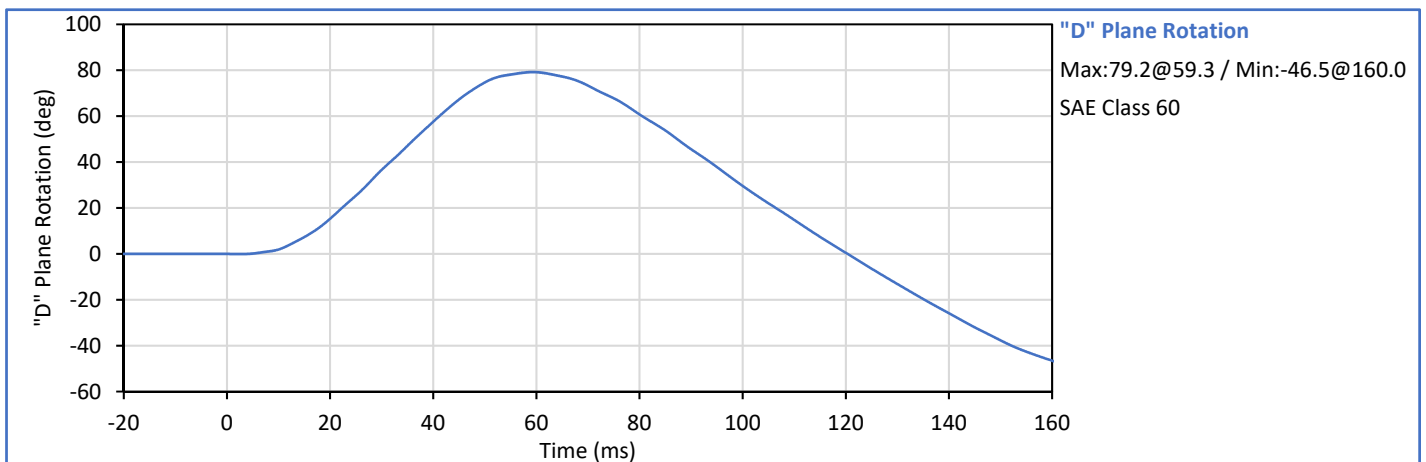
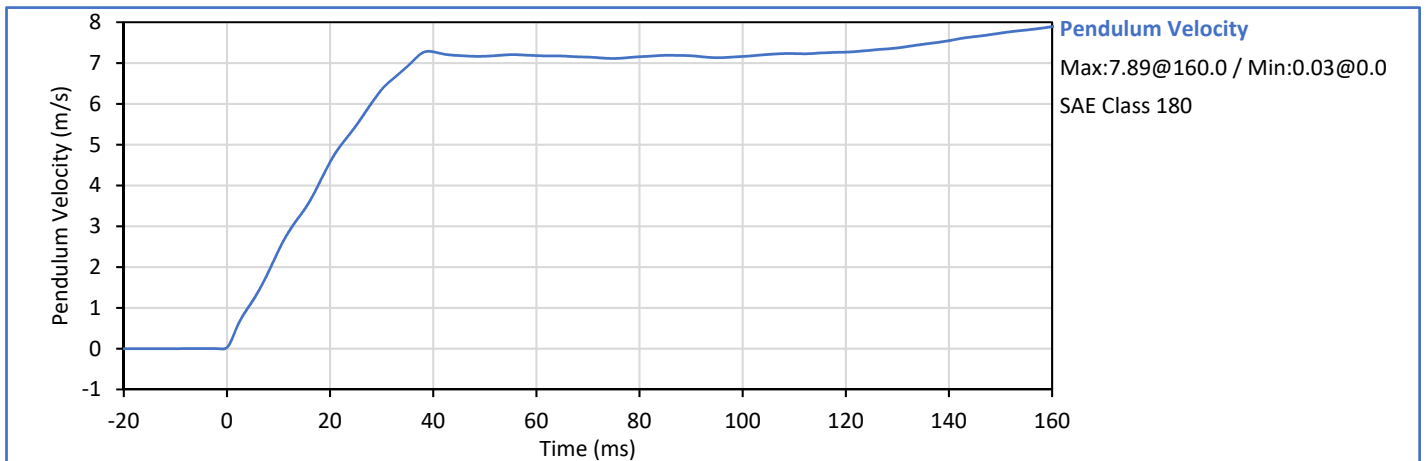
Lab Supervisor: *Wep*



ATD Serial No.: 630

Test Date: 2017-10-20

Tested Parameter	Units	Spec. High	Spec Low	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	Pass
Laboratory Humidity	%	10	70	34	Pass
Pendulum Velocity	m/s	6.89	7.13	7.00	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	4.57	Pass
Pendulum Velocity at 30 ms	m/s	5.80	7.00	6.35	Pass
Peak "D" Plane Rotation	deg	77.0	91.0	79.2	Pass
Peak Moment in Rotation	Nm	69.0	83.0	79.6	Pass
Positive Moment Decay to 10 Nm	ms	80.0	100.0	86.4	Pass
<b>Overall Test Results</b>					<b>Pass</b>



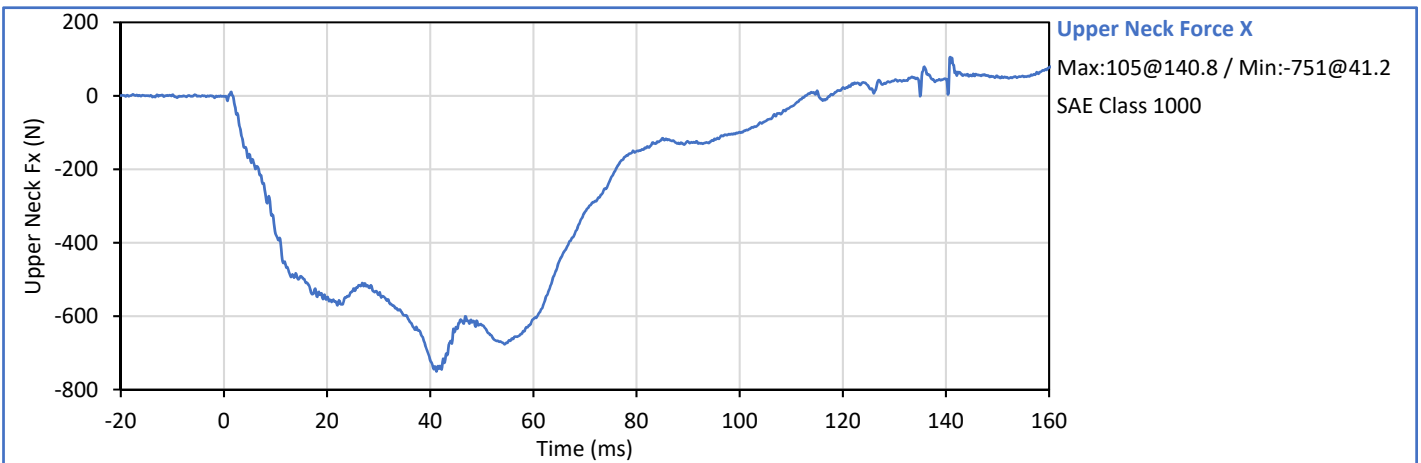
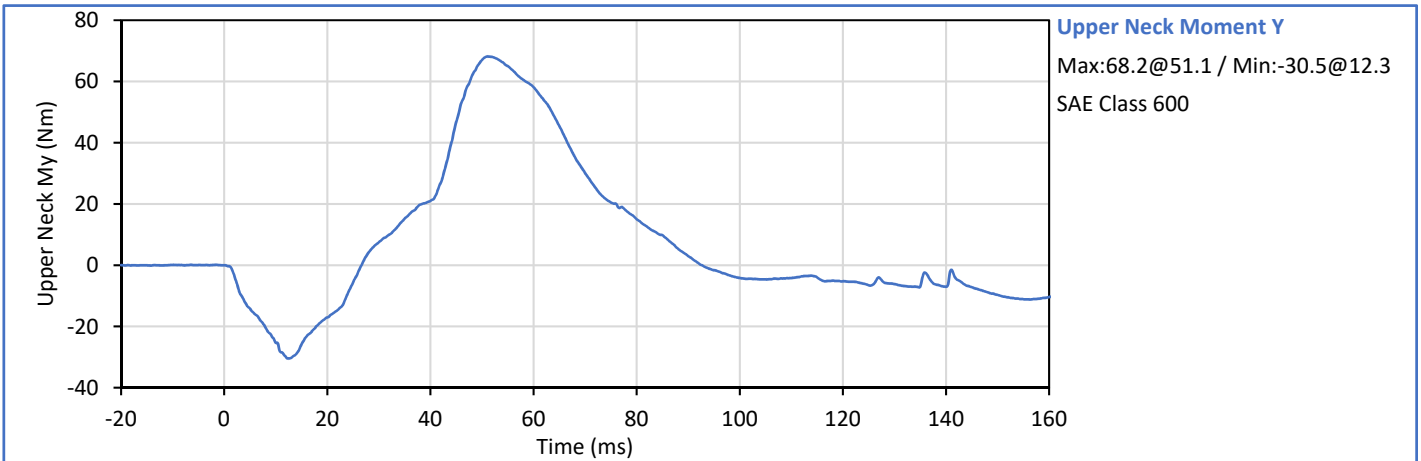
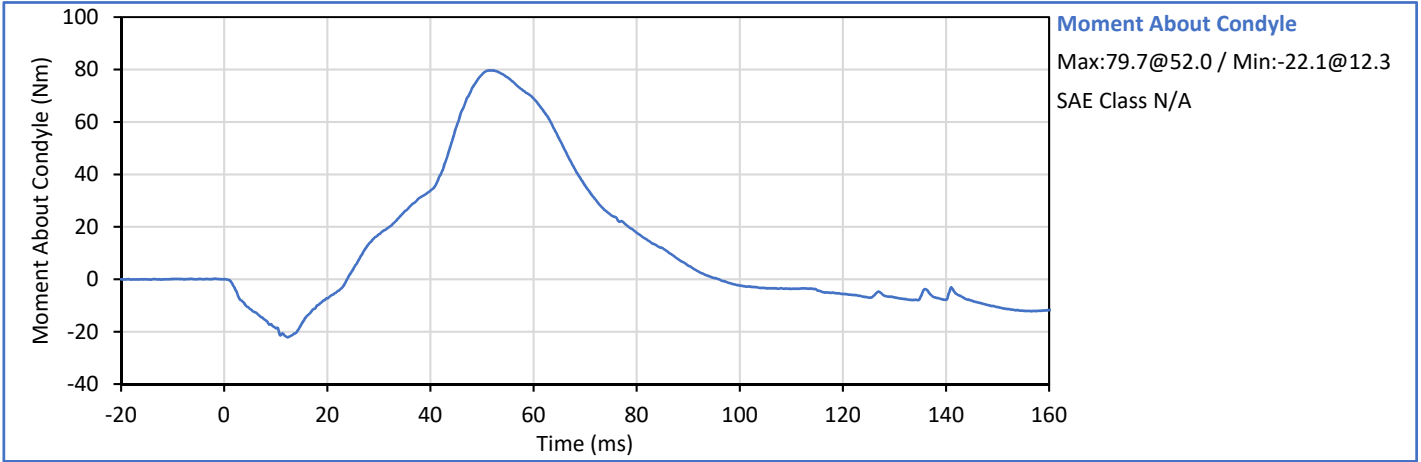
Technician: *Scotty*

Lab Supervisor: *Wep*



ATD Serial No.: 630

Test Date: 2017-10-20

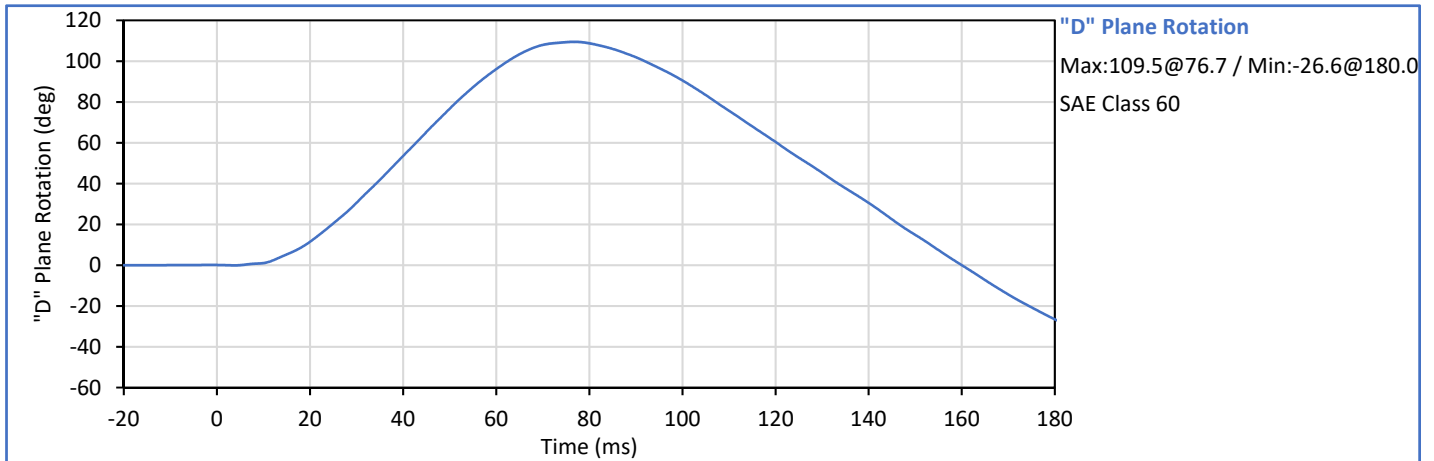
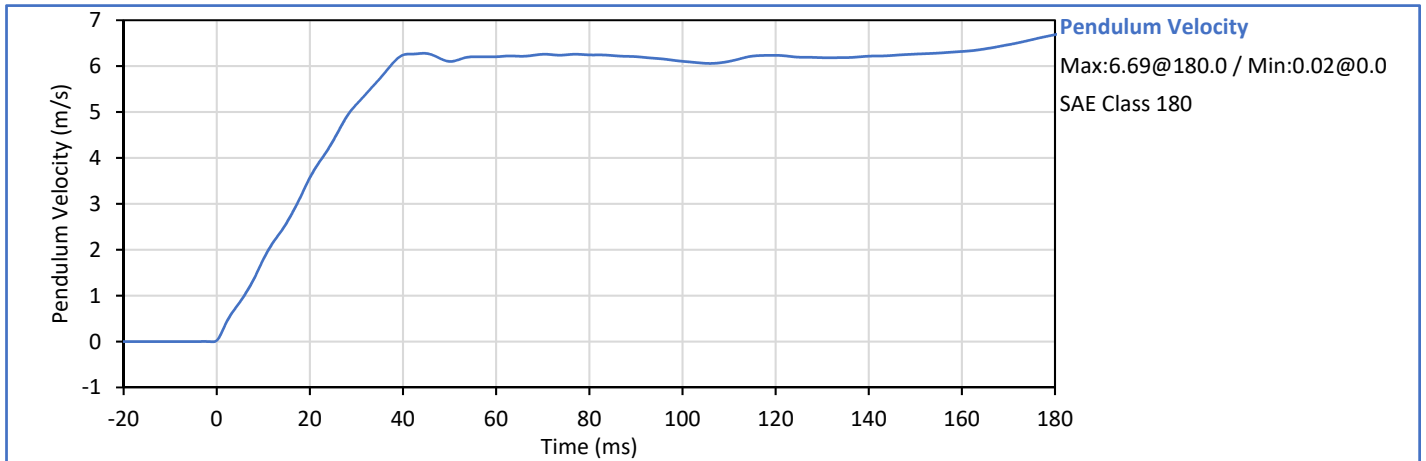




ATD Serial No.: 630

Test Date: 2017-10-20

Tested Parameter	Units	Spec. High	Spec Low	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Humidity	%	10	70	35	Pass
Pendulum Velocity	m/s	5.95	6.19	6.07	Pass
Pendulum Velocity at 10 ms	m/s	1.50	1.90	1.79	Pass
Pendulum Velocity at 20 ms	m/s	3.10	3.90	3.57	Pass
Pendulum Velocity at 30 ms	m/s	4.60	5.60	5.17	Pass
Peak "D" Plane Rotation	deg	99.0	114.0	109.5	Pass
Peak Moment in Rotation	Nm	-65.0	-53.0	-63.1	Pass
Negative Moment Decay to -10 Nm	ms	94.0	114.0	102.4	Pass
<b>Overall Test Results</b>					<b>Pass</b>



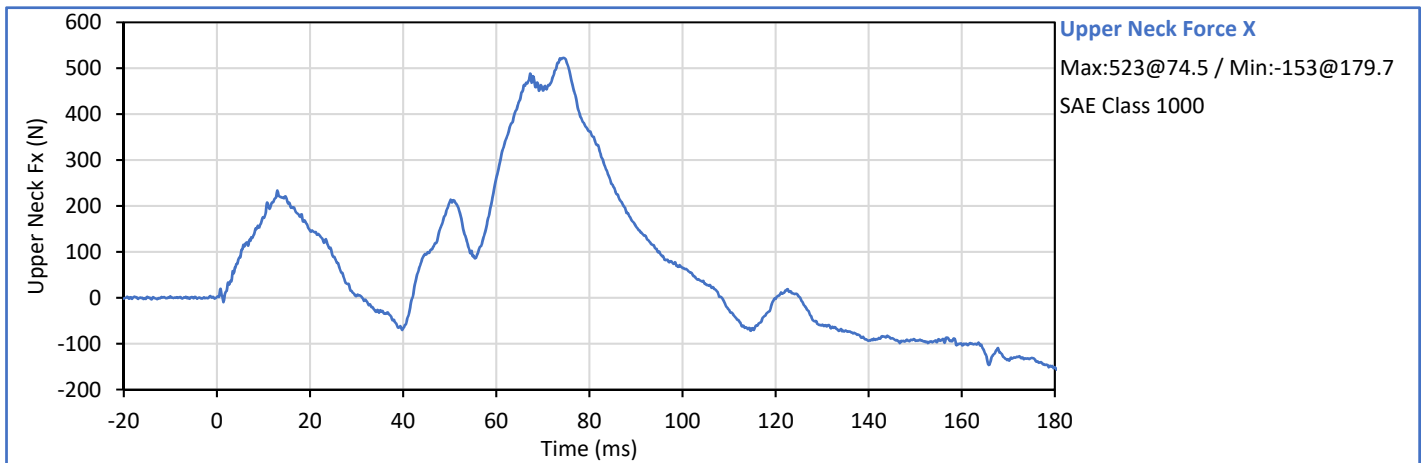
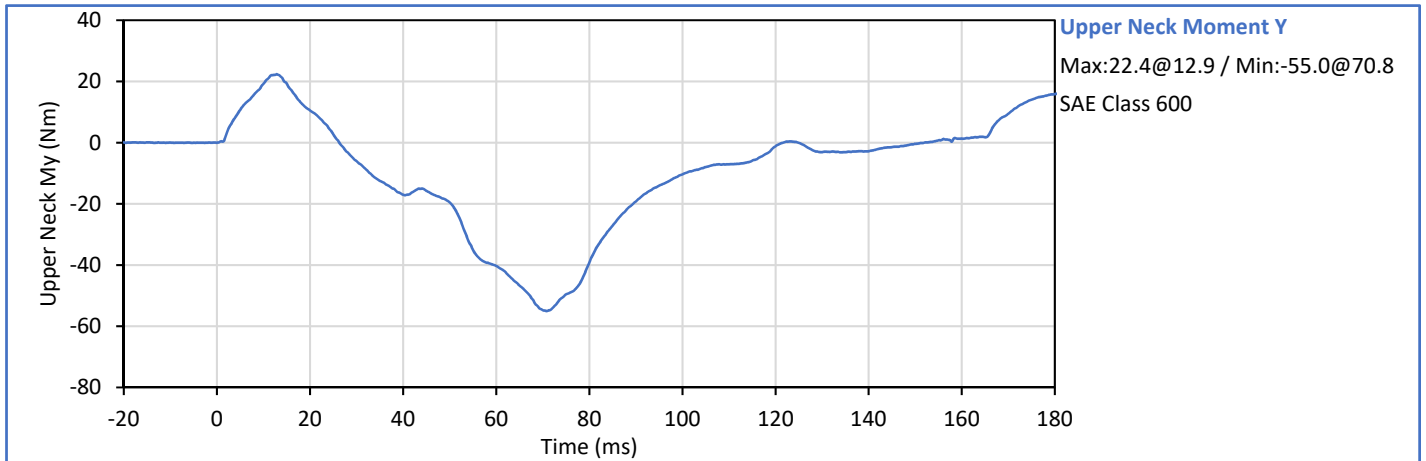
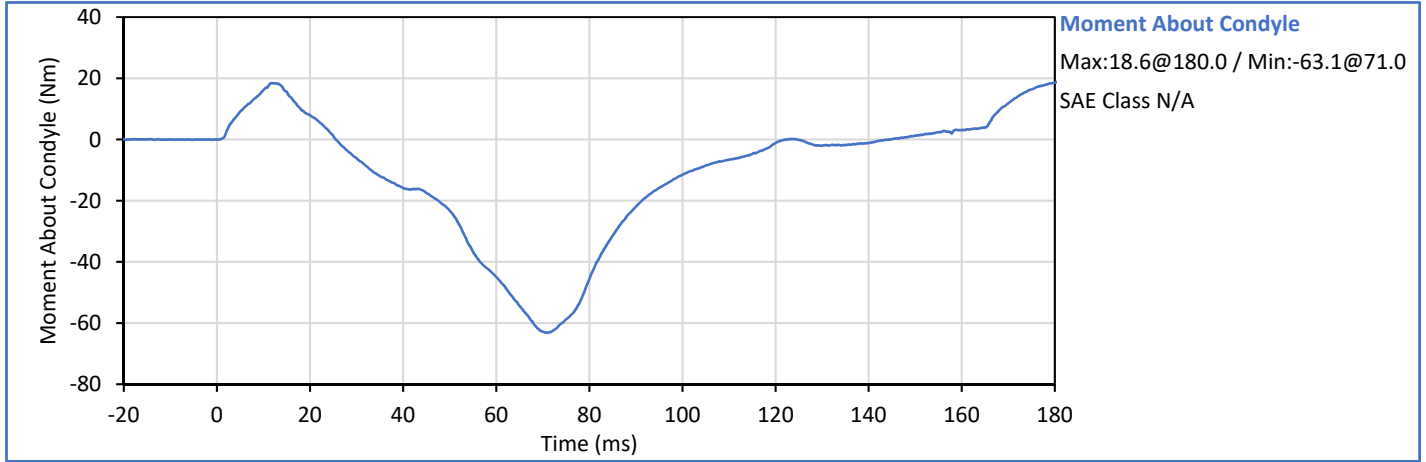
Technician: *Scotty*

Lab Supervisor: *Wep*



ATD Serial No.: 630

Test Date: 2017-10-20

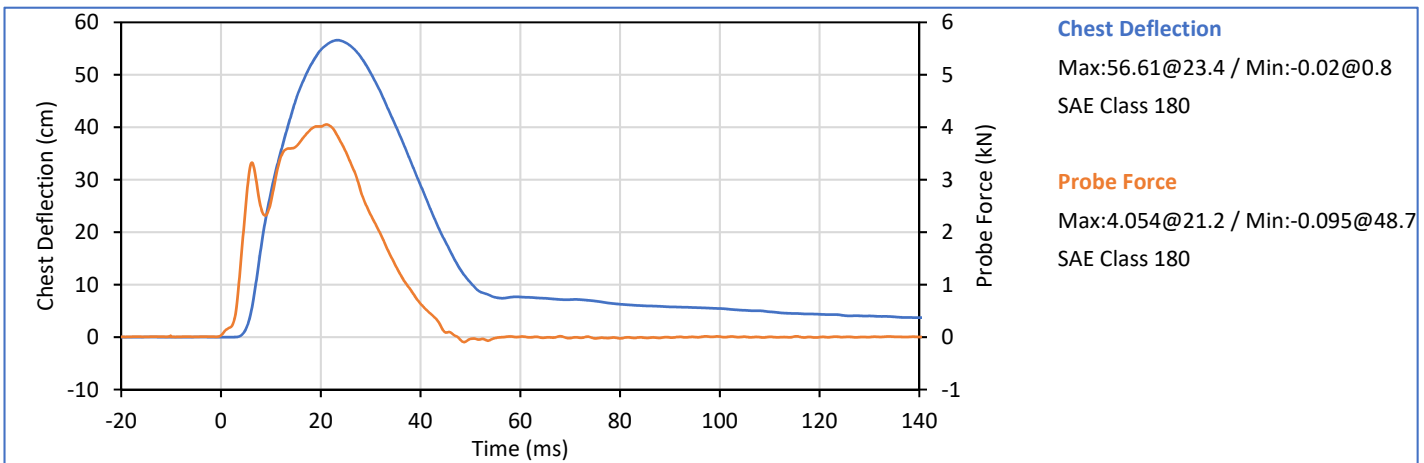
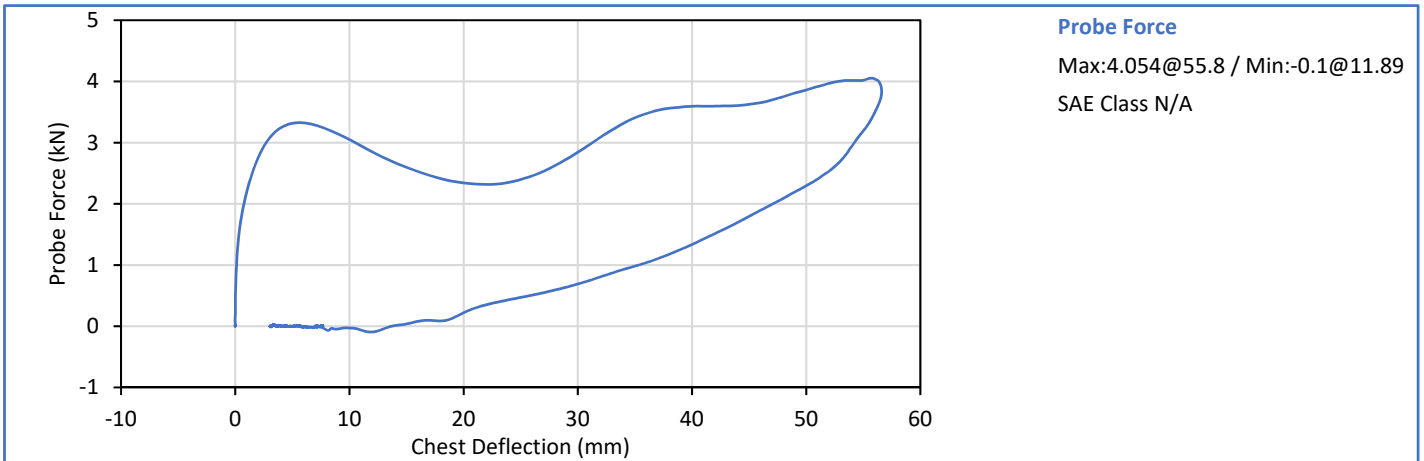




ATD Serial No.: 630

Test Date: 2017-10-19

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	20.7	Pass
Laboratory Humidity	%	10	70	19	Pass
Probe Velocity	m/s	6.58	6.82	6.78	Pass
Peak Chest Deflection	mm	50.0	58.0	56.6	Pass
Peak Probe Force, 50 and 58 mm	kN	3.900	4.400	4.054	Pass
Peak Probe Force, 18 and 50 mm	kN	0.000	4.600	3.857	Pass
Internal Hysterisis	%	69.0	85.0	70.7	Pass
<b>Overall Test Results</b>					<b>Pass</b>



Technician: *Scott J*

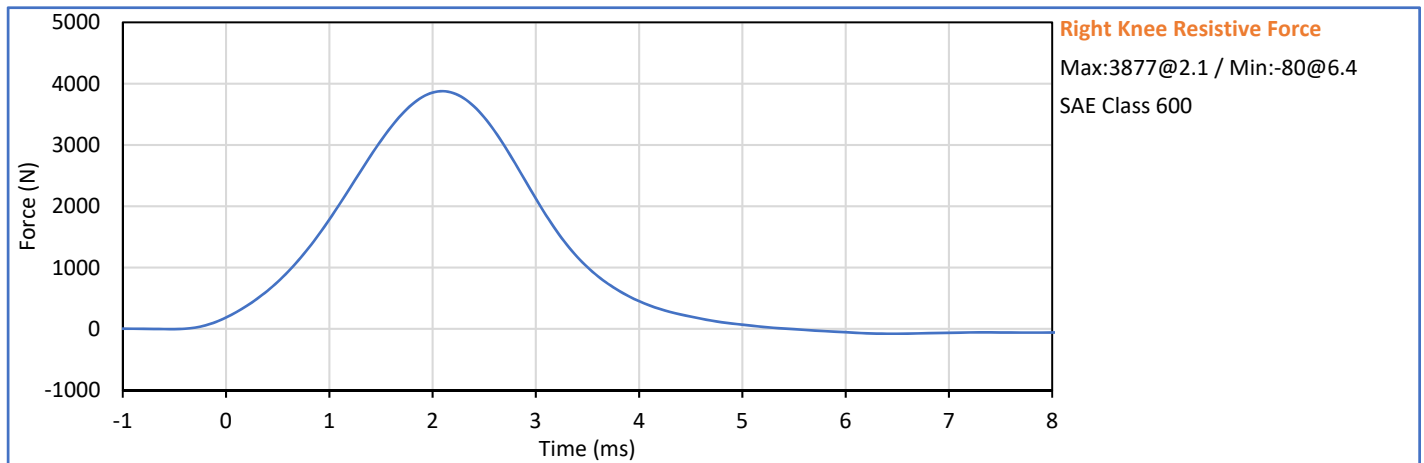
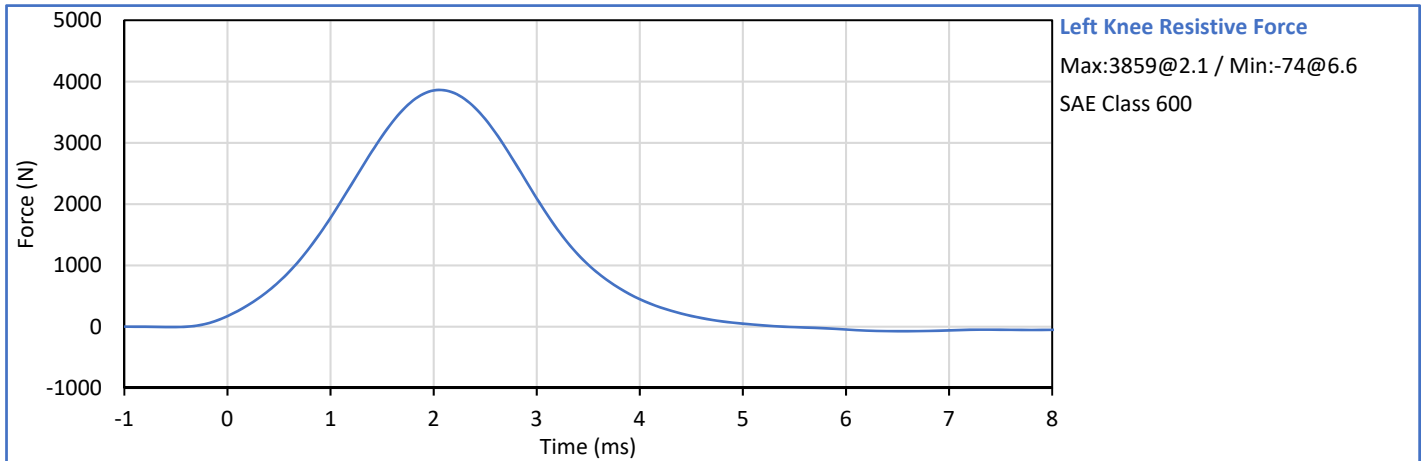
Lab Supervisor: *Wep*



ATD Serial No.: 630

Test Date: 2017-10-19

Tested Parameter		Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature		°C	20.6	22.2	22.0	Pass
Laboratory Humidity		%	10	70	22	Pass
Left Knee	Probe Velocity	m/s	2.070	2.130	2.110	Pass
	Peak Resistive Force	N	3450	4060	3859	Pass
Right Knee	Probe Velocity	m/s	2.070	2.130	2.106	Pass
	Peak Resistive Force	N	3450	4060	3877	Pass
Overall Test Results					Pass	Pass



Technician: 

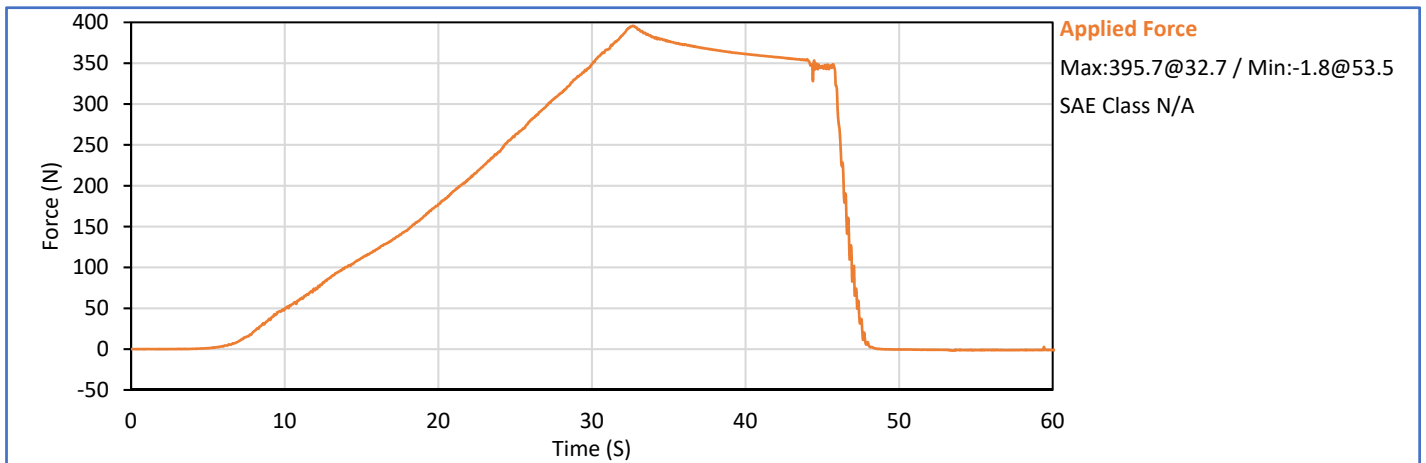
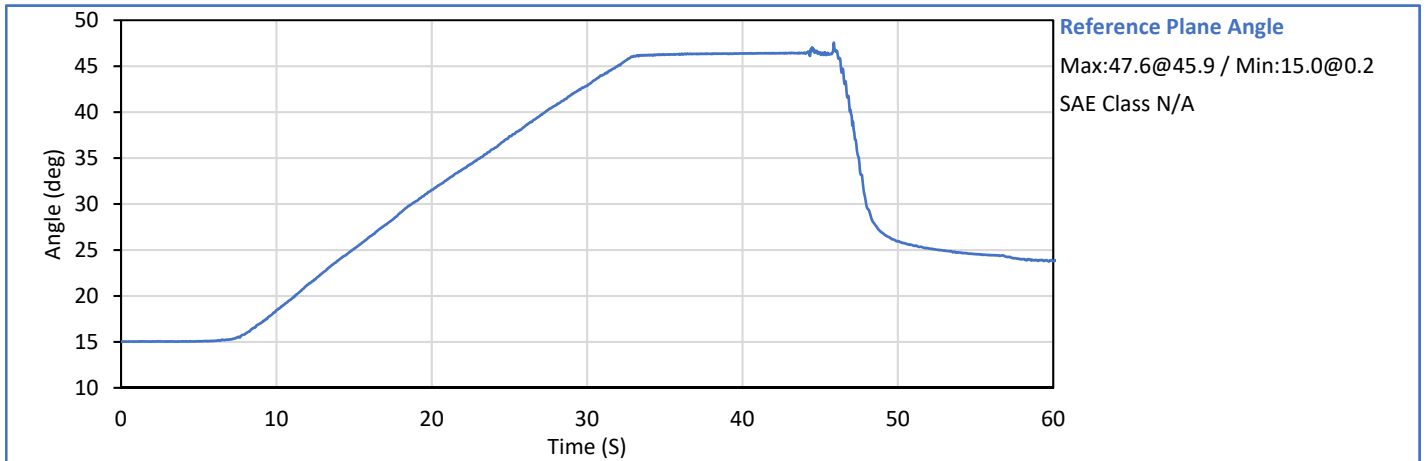
Lab Supervisor: 



ATD Serial No.: 630

Test Date: 2017-10-23

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Humidity	%	10	70	31	Pass
Orientation Angle	deg	0.0	20.0	12.2	Pass
Test Initial Angle	deg	11.0	19.0	15.0	Pass
Peak Force at 45° (+/-0.5°)	N	320.0	390.0	383.3	Pass
Torso Flexion Rate	deg/s	0.50	1.50	1.22	Pass
Final Reference Plane Angle	deg	-8.0	8.0	7.6	Pass
Overall Test Results					Pass



Technician: *Smith*

Lab Supervisor: *Wep*

**APPENDIX C**  
**POST-TEST ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA**



**Hybrid III 50th Percentile Male  
 ATD Damage Checklist**

ATD Serial No.: 360

Test Date: 2017-11-09

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:

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Technician:

Approved By:



**Hybrid III 50th Percentile Male  
 External Measurements**

ATD Serial No.: 360

Test Date: 2017-11-15

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.1	Pass
Laboratory Relative Humidity	%	10	70	29	Pass
A - Total sitting height	mm	879.0	889.0	885	Pass
B - Shoulder pivot height	mm	505.0	521.0	514	Pass
C - 'H' point height	mm	84.0	89.0	85	Pass
D - 'H' point location from backline	mm	135.0	140.0	139	Pass
E - Shoulder pivot from backline	mm	84.0	94.0	89	Pass
F - Thigh clearance	mm	140.0	155.0	153	Pass
G - Back of elbow to wrist pivot	mm	290.0	305.0	299	Pass
H - Head back to backline	mm	41.0	46.0	45	Pass
I - Shoulder to elbow length	mm	330.0	345.0	342	Pass
J - Elbow rest height	mm	190.0	211.0	200	Pass
K - Buttock to knee length	mm	579.0	604.0	592	Pass
L - Popliteal length	mm	429.0	455.0	435	Pass
M - Knee pivot height	mm	485.0	500.0	491	Pass
N - Buttock popliteal length	mm	452.0	477.0	472	Pass
O - Chest depth without jacket	mm	213.0	229.0	220	Pass
P - Foot length	mm	251.0	267.0	259	Pass
V - Shoulder breadth	mm	422.0	437.0	429	Pass
W - Foot breadth	mm	91.0	107.0	101	Pass
Y - Chest circum. (w/chest jacket)	mm	970.0	1001.0	983	Pass
Z - Waist circum.	mm	836.0	866.0	852	Pass
AA - Location for chest circum.	mm	429.0	434.0	430	Pass
BB - Location for waist circum.	mm	226.0	231.0	230	Pass
				Overall Test Results	Pass

Technician: 

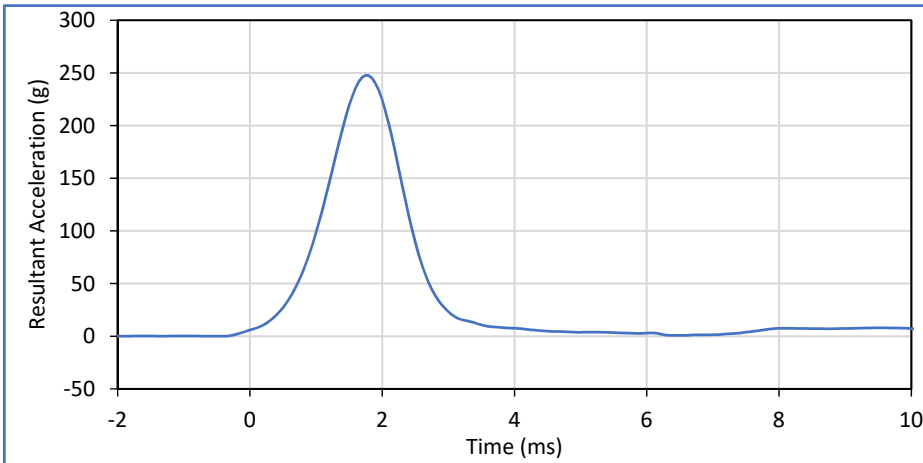
Approved By: 



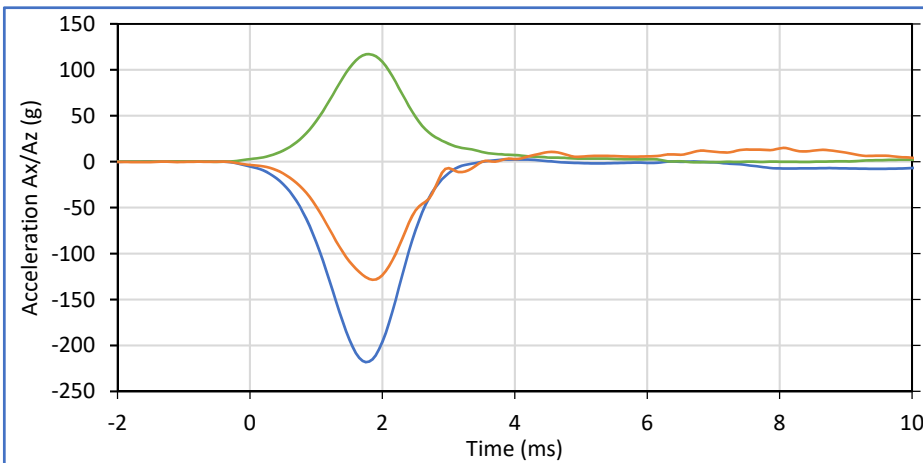
ATD Serial No.: 360

Test Date: 2017-11-14

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.7	Pass
Laboratory Humidity	%	10	70	35	Pass
Peak Resultant Acceleration	g	225.0	275.0	247.8	Pass
Peak Lateral Acceleration	g	-15.0	15.0	-12.8	Pass
Oscillations After Main Pulse	%	0.0	10.0	3.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
<b>Overall Test Results</b>					<b>Pass</b>



**Head Acceleration Resultant**  
 Max:247.8@1.8 / Min:0.8@6.6  
 SAE Class 1000



**Head Acceleration X**  
 Max:2.4@4.2 / Min:-218.1@1.8  
 SAE Class 1000

**Head Acceleration Y**  
 Max:1.5@8.1 / Min:-12.8@1.9  
 SAE Class 1000

**Head Acceleration Z**  
 Max:117.2@1.8 / Min:-0.7@6.8  
 SAE Class 1000

Technician: *Smith*

Approved By: *Wep*

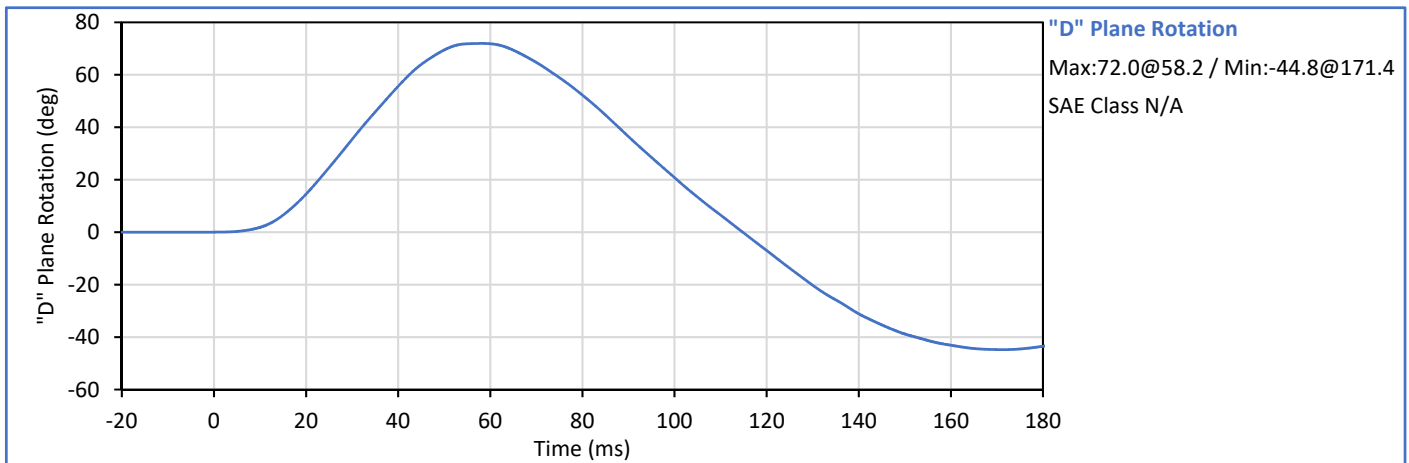
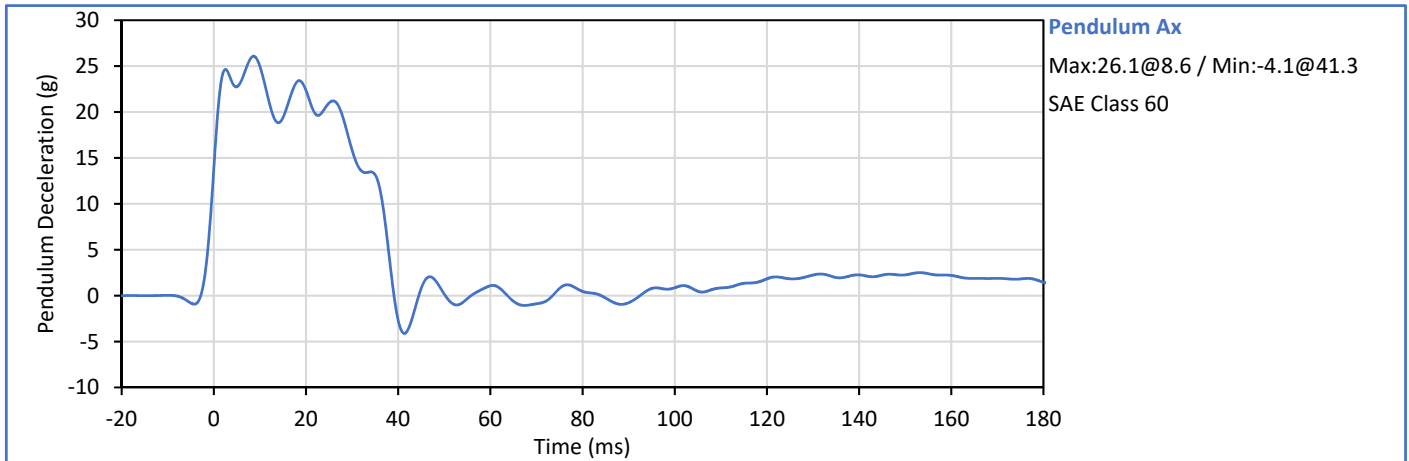


**Hybrid III 50th Percentile Male  
 Neck Flexion Test**

ATD Serial No.: 360

Test Date: 2017-11-15

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	Pass
Laboratory Humidity	%	10	70	26	Pass
Pendulum Velocity	m/s	6.89	7.13	7.05	Pass
Pendulum Deceleration at 10 ms	g	22.5	27.5	24.9	Pass
Pendulum Deceleration at 20 ms	g	17.6	22.6	22.3	Pass
Pendulum Deceleration at 30 ms	g	12.5	18.5	15.8	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	29.0	15.8	Pass
Deceleration Decay to Cross 5 g	ms	34.0	42.0	37.9	Pass
"D" Plane Rotation peak	deg	64.0	78.0	72.0	Pass
	ms	57.0	64.0	58.2	Pass
"D" Plane Rotation Decay To Zero	ms	113.0	128.0	114.9	Pass
Moment About Occipital Condyle	Nm	88.1	108.5	92.1	Pass
	ms	47.0	58.0	48.1	Pass
Moment Decay, Peak to Zero	deg	97.0	107.0	99.0	Pass
<b>Overall Test Results</b>					<b>Pass</b>



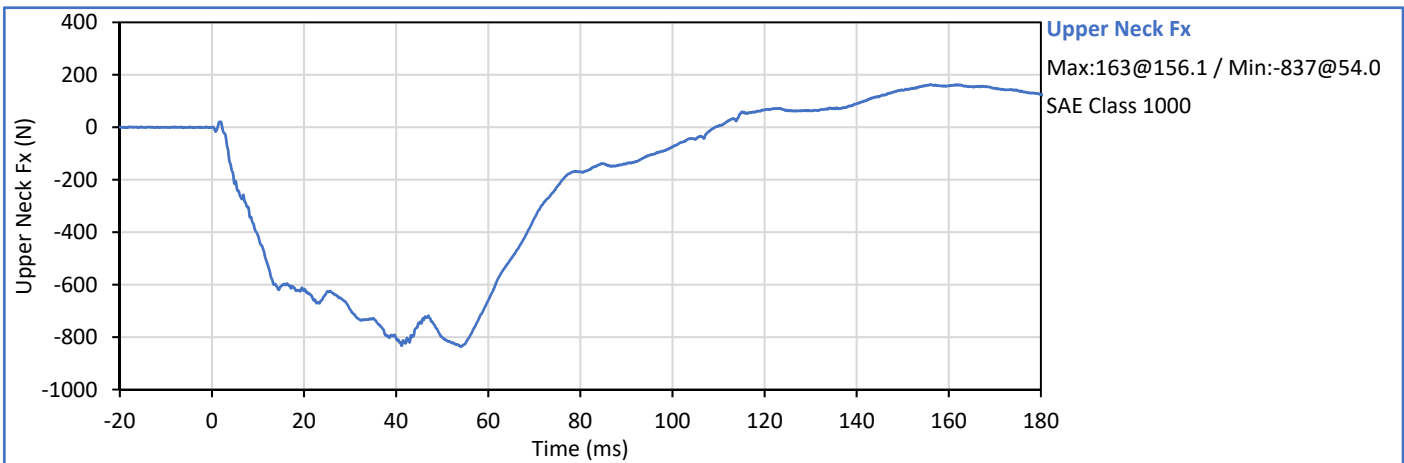
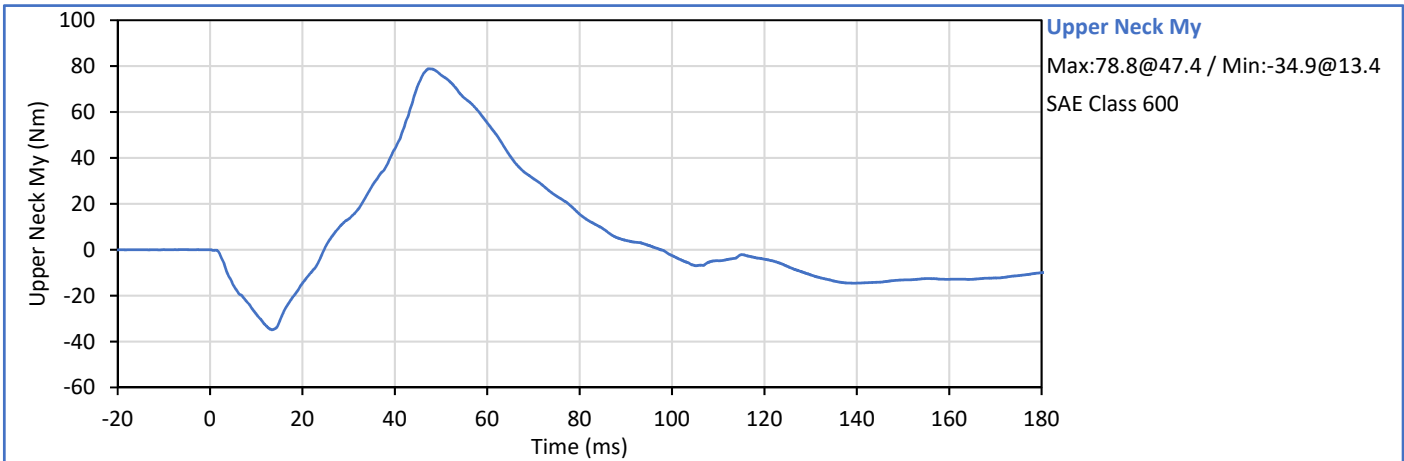
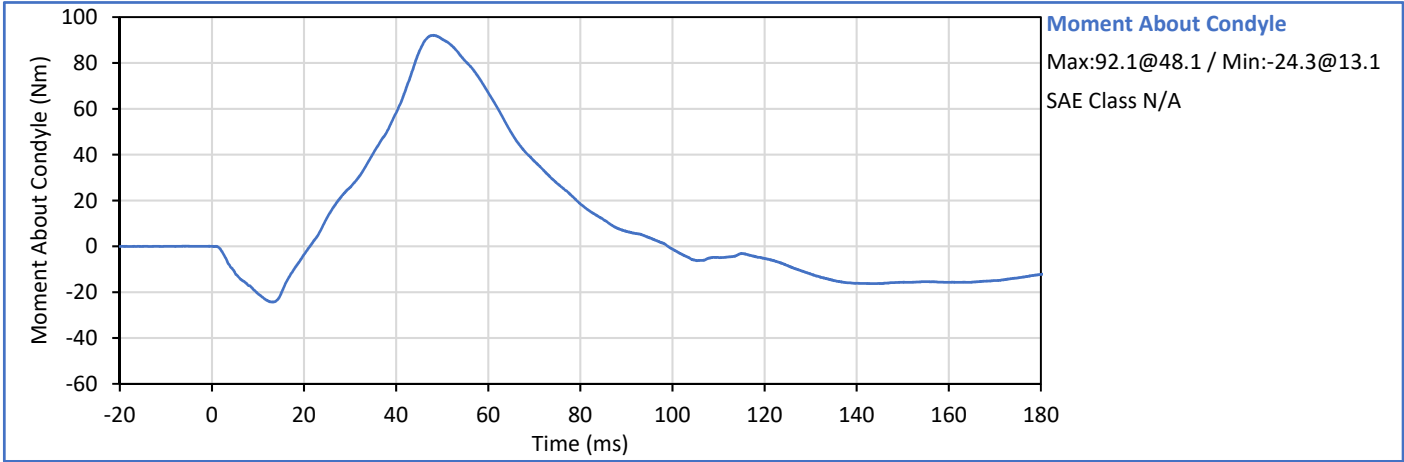
Technician: *Scotty*

Approved By: *Wep*



ATD Serial No.: 360

Test Date: 2017-11-15



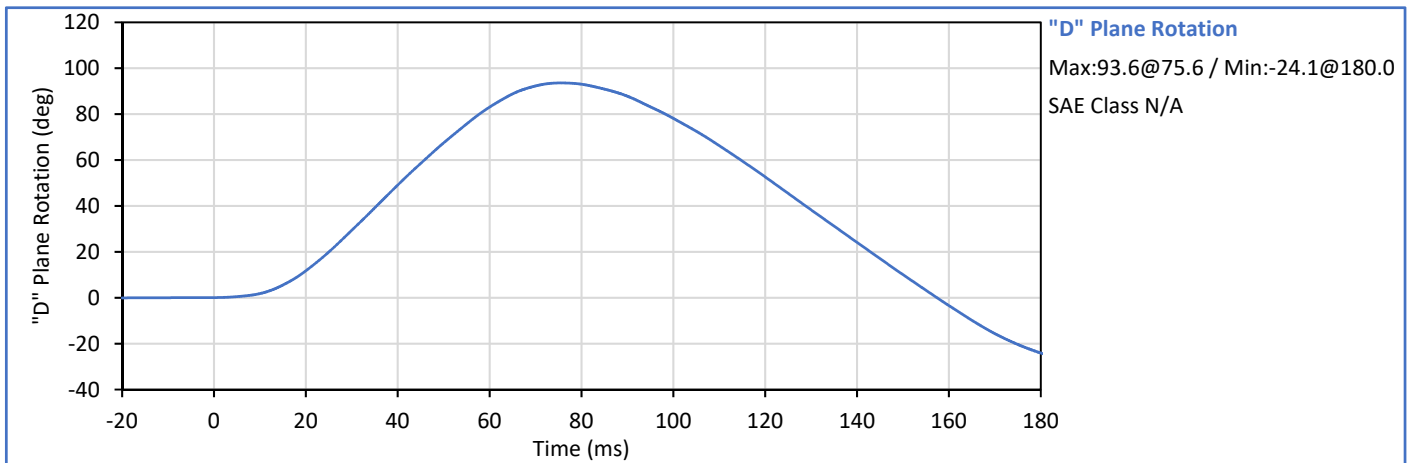
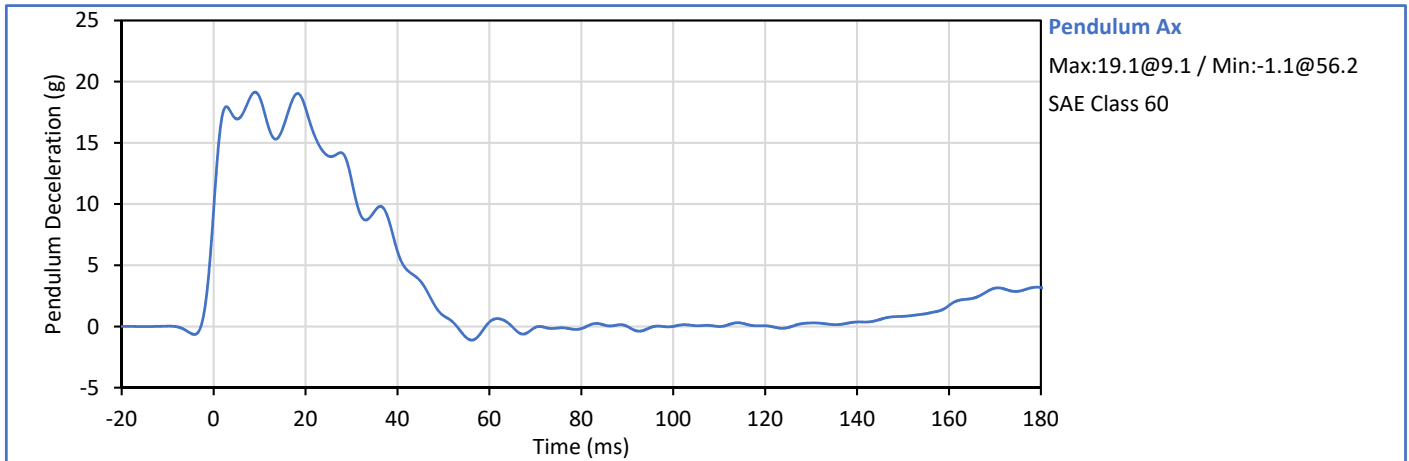


**Hybrid III 50th Percentile Male  
 Neck Extension Test**

ATD Serial No.: 360

Test Date: 2017-11-15

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Humidity	%	10	70	35	Pass
Pendulum Velocity	m/s	5.94	6.19	6.04	Pass
Pendulum Deceleration at 10 ms	g	17.2	21.2	18.7	Pass
Pendulum Deceleration at 20 ms	g	14.0	19.0	17.8	Pass
Pendulum Deceleration at 30 ms	g	11.0	16.0	12.0	Pass
Peak Pendulum Decel. after 30 ms	g	0.0	22.0	12.0	Pass
Deceleration Decay to Cross 5 g	ms	38.0	46.0	41.5	Pass
"D" Plane Rotation peak	deg	81.0	106.0	93.6	Pass
	ms	72.0	82.0	75.6	Pass
"D" Plane Rotation Decay To Zero	ms	147.0	174.0	157.5	Pass
Moment About Occipital Condyle	Nm	-79.9	-52.9	-61.3	Pass
	ms	65.0	79.0	67.2	Pass
Moment Decay, Peak to Zero	deg	120.0	148.0	138.7	Pass
<b>Overall Test Results</b>					<b>Pass</b>



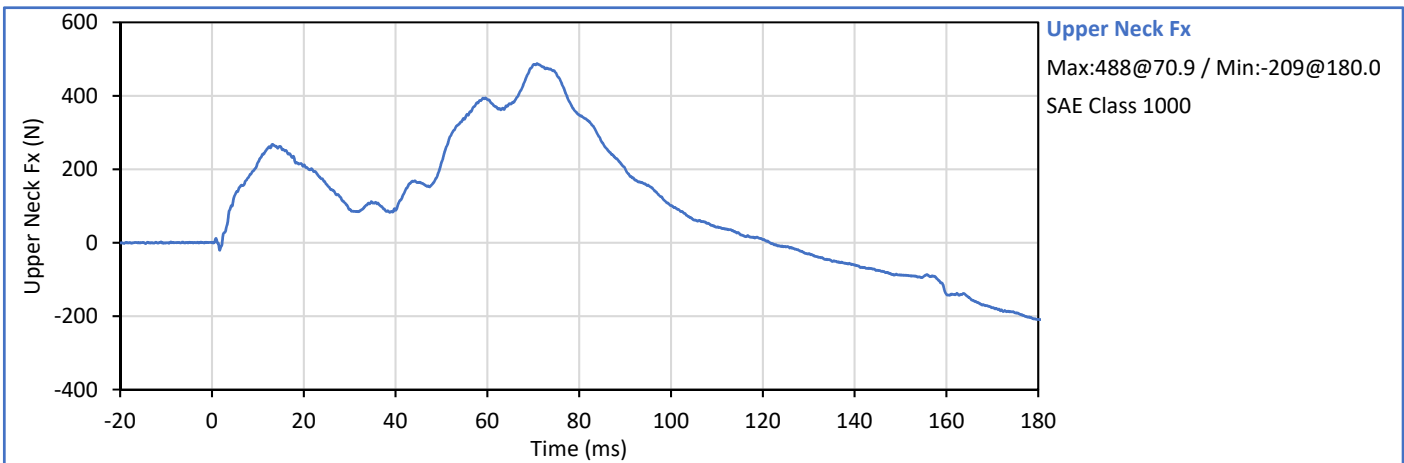
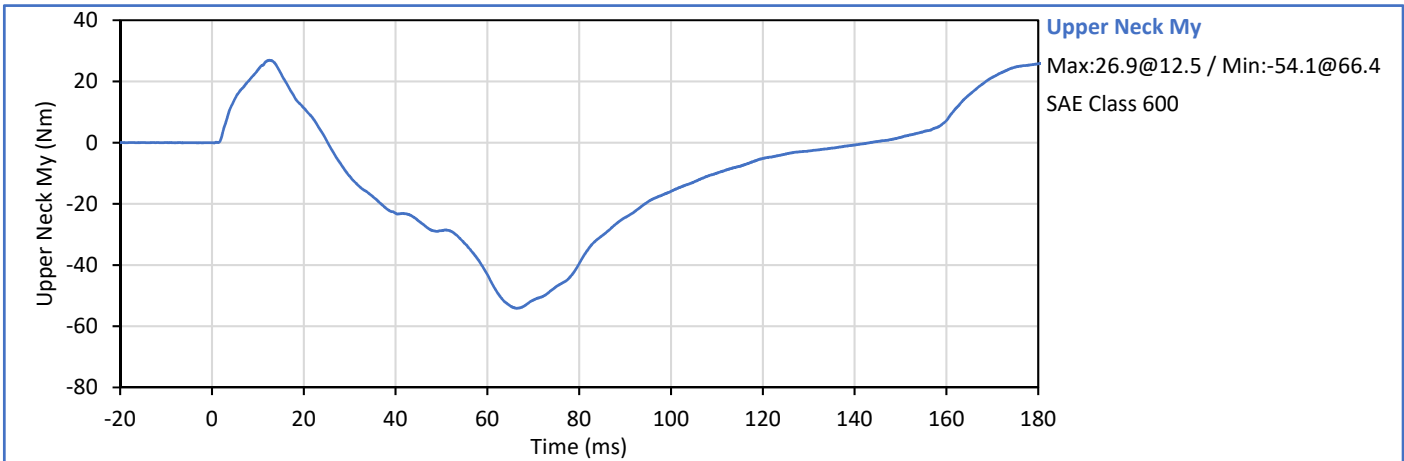
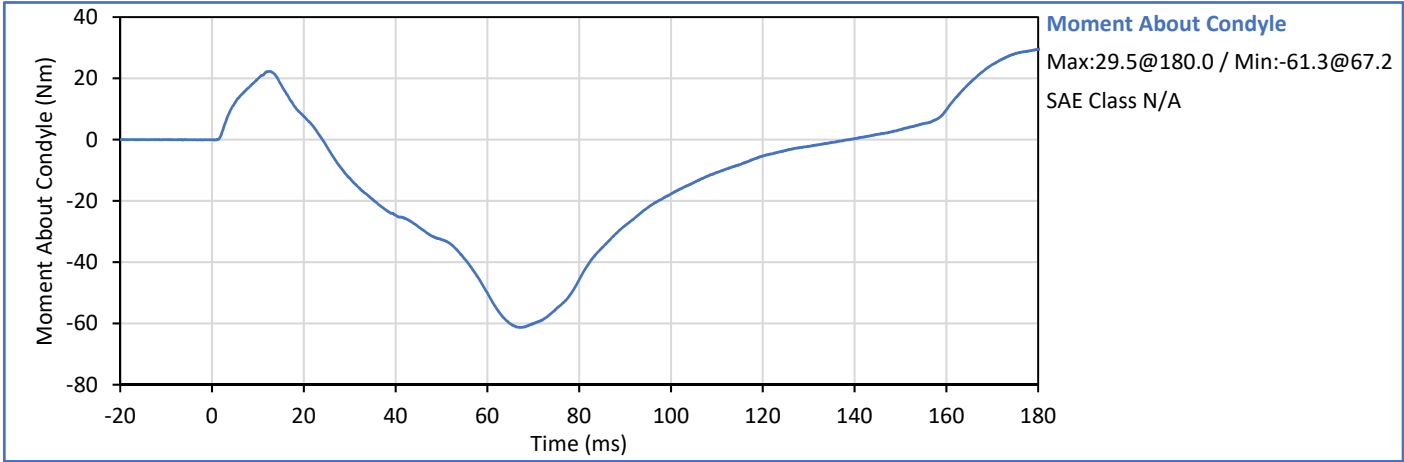
Technician: *Smith*

Approved By: *Wep*



ATD Serial No.: 360

Test Date: 2017-11-15

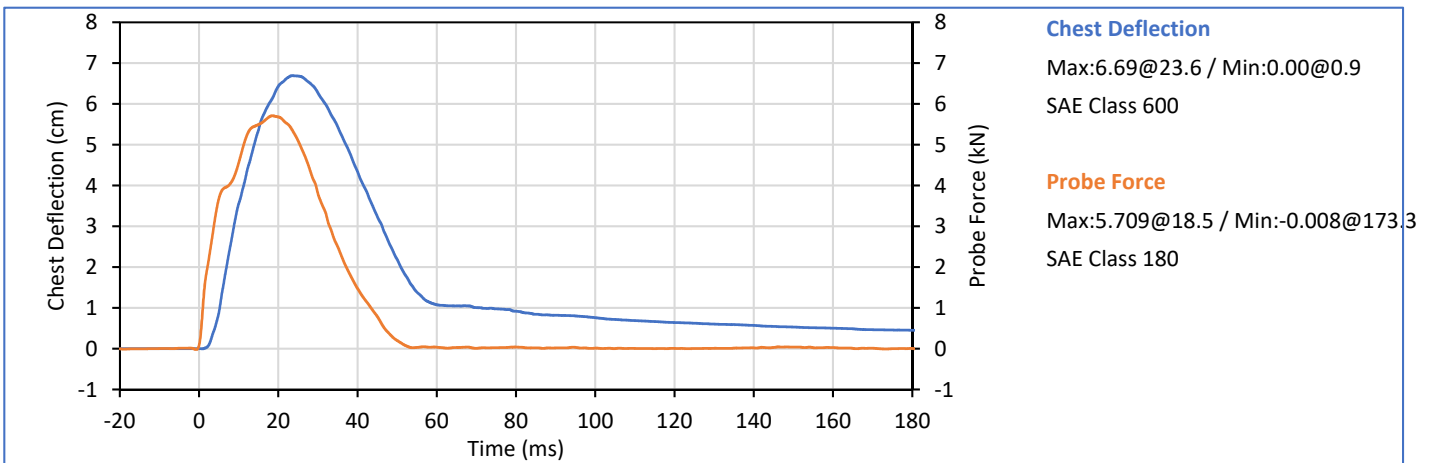
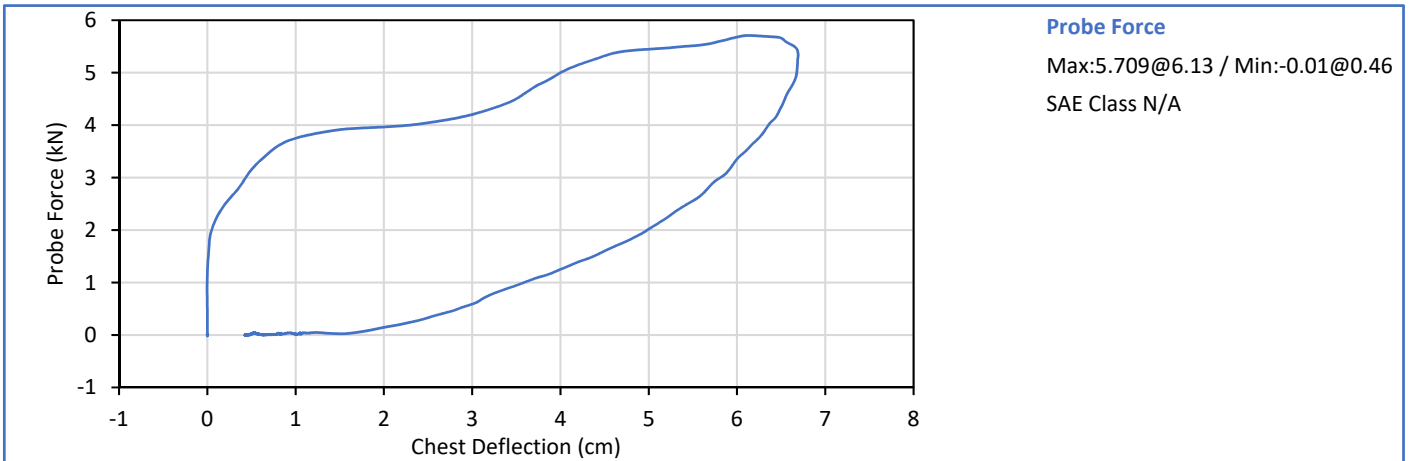




ATD Serial No.: 360

Test Date: 2017-11-15

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	Pass
Laboratory Humidity	%	10	70	26	Pass
Probe Velocity	m/s	6.58	6.82	6.76	Pass
Peak Chest Deflection	cm	6.35	7.26	6.69	Pass
Peak Probe Force	kN	5.159	5.893	5.709	Pass
Internal Hysterisis	%	69.0	85.0	72.4	Pass
Overall Test Results					Pass



Technician: *Smith*

Approved By: *Wep*

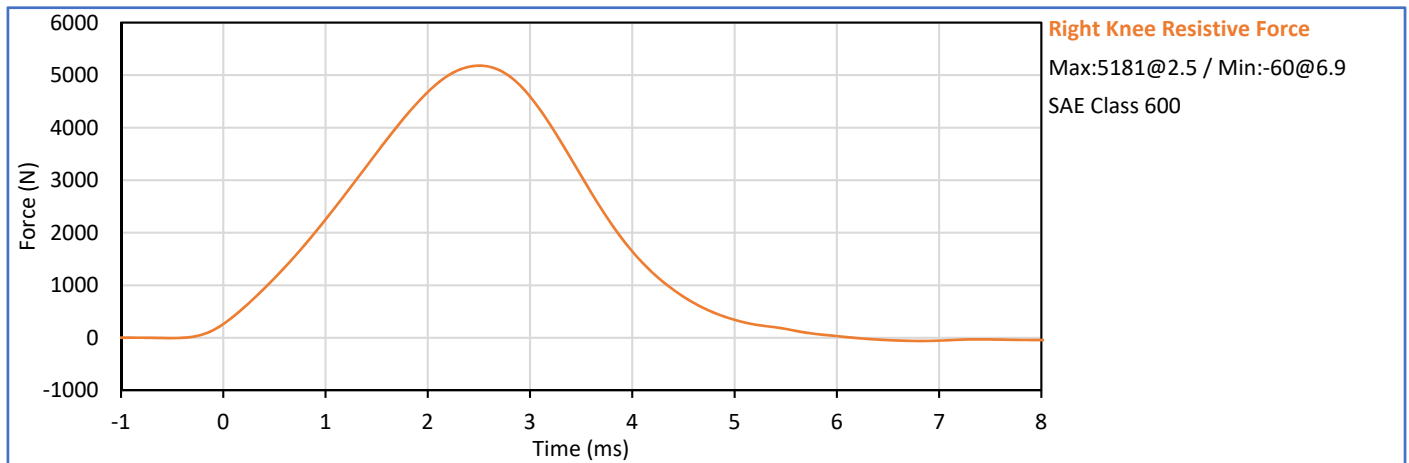
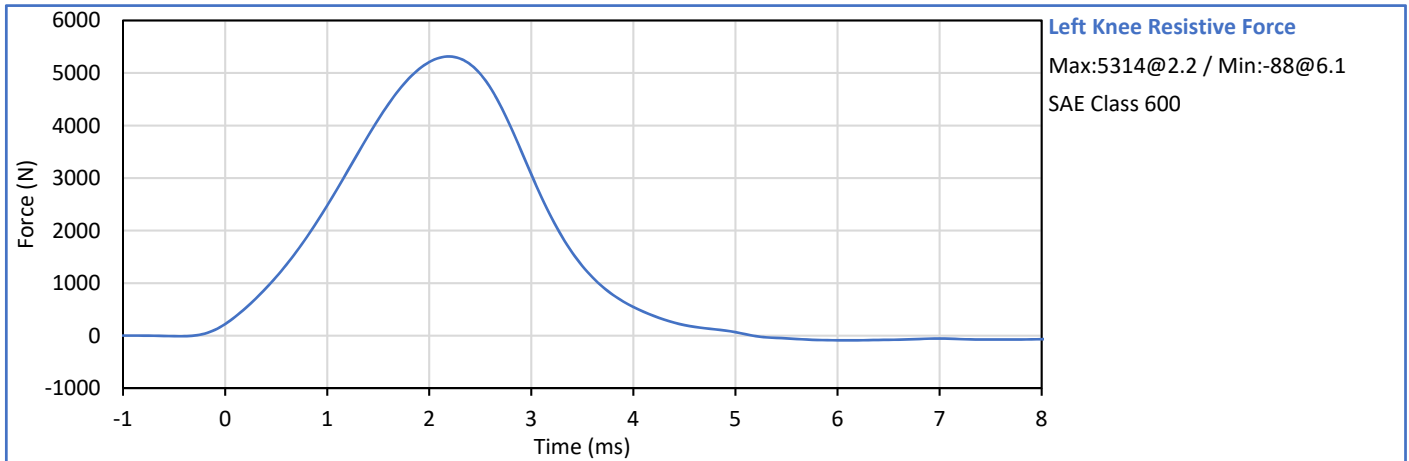


**Hybrid III 50th Percentile Male  
 Knee Impact (Left/Right)**

ATD Serial No.: 360

Test Date: 2017-11-15

	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	21.4	Pass
	Laboratory Humidity	%	10	70	27	Pass
Left	Probe Velocity	m/s	2.070	2.130	2.097	Pass
Knee	Peak Resistive Force	N	4715	5782	5314	Pass
Right	Probe Velocity	m/s	2.070	2.130	2.102	Pass
Knee	Peak Resistive Force	N	4715	5782	5181	Pass
Overall Test Results						Pass



Technician: *Scotty*

Approved By: *Wep*

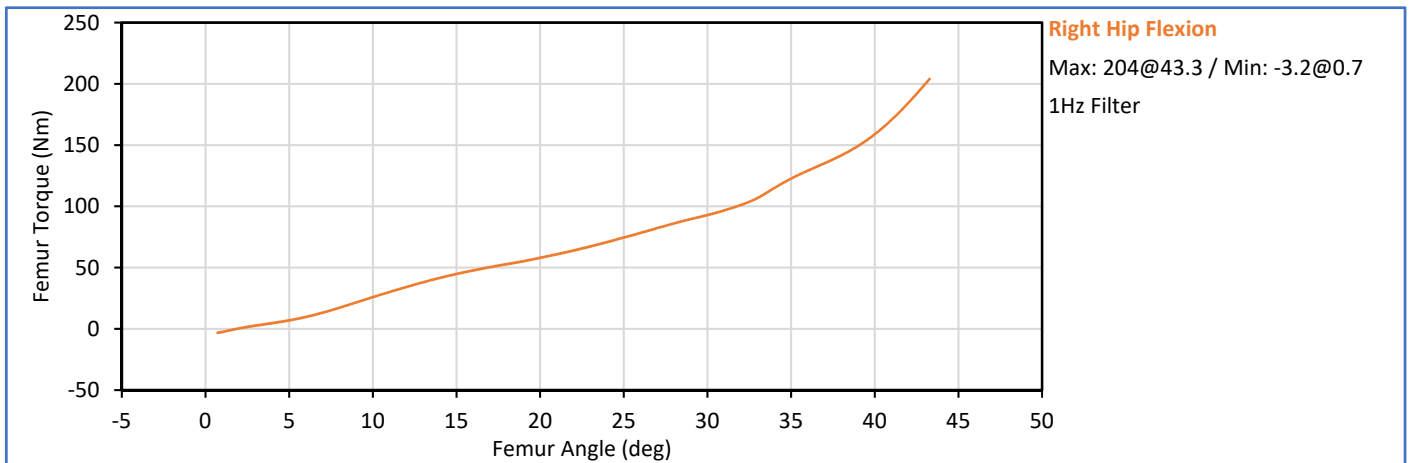
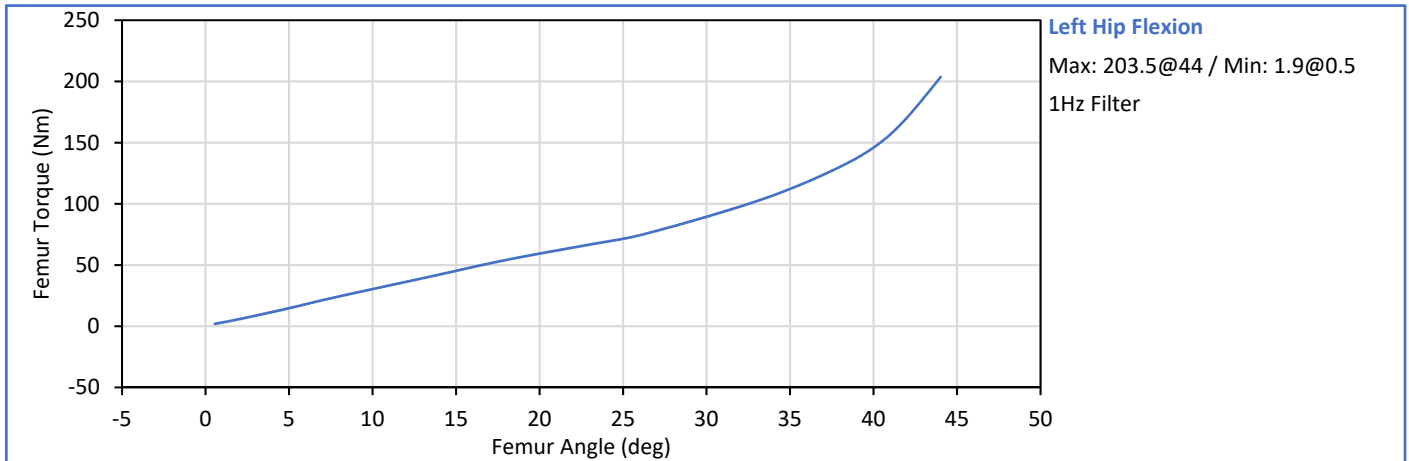


**Hybrid III 50th Percentile Male  
 Hip Flexion (Left/Right)**

ATD Serial No.: 360

Test Date: 2017-11-15

	Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
	Laboratory Temperature	°C	18.9	25.6	20.8	Pass
	Laboratory Humidity	%	10	70	26	Pass
Left Hip	Left Hip Rotation Rate	deg/s	5.0	10.0	8.3	Pass
	Left Femur Torque at 30°	Nm	0.0	95.0	89.5	Pass
	Left Hip Rotation at 203 Nm	deg	40.0	50.0	44.0	Pass
Right Hip	Right Hip Rotation Rate	deg/s	5.0	10.0	8.0	Pass
	Right Femur Torque at 30°	Nm	0.0	95.0	92.9	Pass
	Right Hip Rotation at 203 Nm	deg	40.0	50.0	43.2	Pass
					Overall Test Results	Pass



Technician: *Scotty*

Approved By: *Wep*



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**Hybrid III 5th Percentile Female  
 ATD Damage Checklist**

ATD Serial No.: 630

Test Date: 2017-11-09

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	Redundant Femur Cable LEMO	*	
	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:

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Technician:

Approved By:



**Hybrid III 5th Percentile Female  
 External Measurements**

ATD Serial No.: 630

Test Date: 2017-11-15

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	33	Pass
A - Total sitting height	mm	775	800	785	Pass
B - Shoulder pivot height	mm	432	457	442	Pass
C - 'H' point height	mm	81	86	85	Pass
D - 'H' point location from backline	mm	145	150	147	Pass
E - Shoulder pivot from backline	mm	69	84	77	Pass
F - Thigh clearance	mm	119	135	127	Pass
G - Back of elbow to wrist pivot	mm	244	259	253	Pass
H - Head back to backline	mm	41	46	43	Pass
I - Shoulder to elbow length	mm	277	297	282	Pass
J - Elbow rest height	mm	183	203	199	Pass
K - Buttock to knee length	mm	521	546	529	Pass
L - Popliteal length	mm	356	376	369	Pass
M - Knee pivot height	mm	394	419	402	Pass
N - Buttock popliteal length	mm	414	439	425	Pass
O - Chest depth without jacket	mm	175	191	182	Pass
P - Foot length	mm	219	234	227	Pass
R - Buttock to Knee Pivot Length	mm	457	483	475	Pass
S - Head Breadth	mm	137	147	142	Pass
T - Head Depth	mm	178	188	182	Pass
U - Hip Breadth	mm	300	315	303	Pass
V - Shoulder breadth	mm	351	366	361	Pass
W - Foot breadth	mm	79	94	88	Pass
X - Head circum.	mm	528	549	542	Pass
Y - Chest circum. (w/chest jacket)	mm	851	881	869	Pass
Z - Waist circum.	mm	760	790	764	Pass
AA - Location for chest circum.	mm	300	310	304	Pass
BB - Location for waist circum.	mm	160	170	164	Pass
				Overall Test Results	Pass

Technician: 

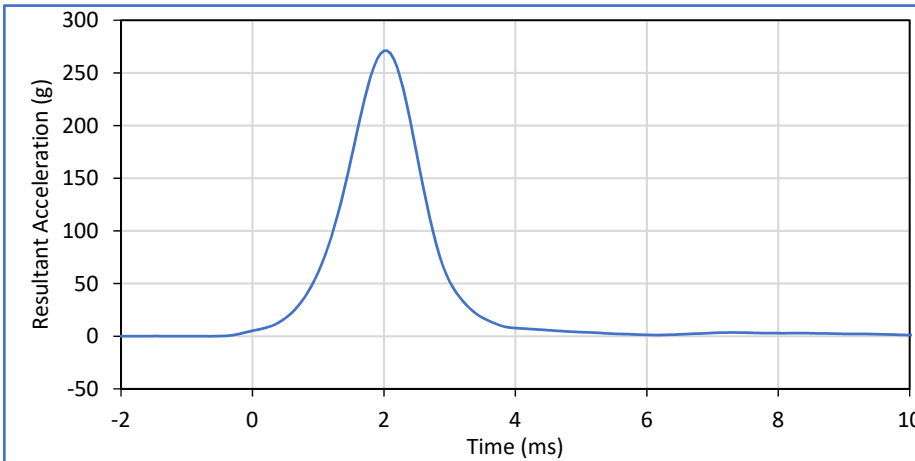
Approved By: 



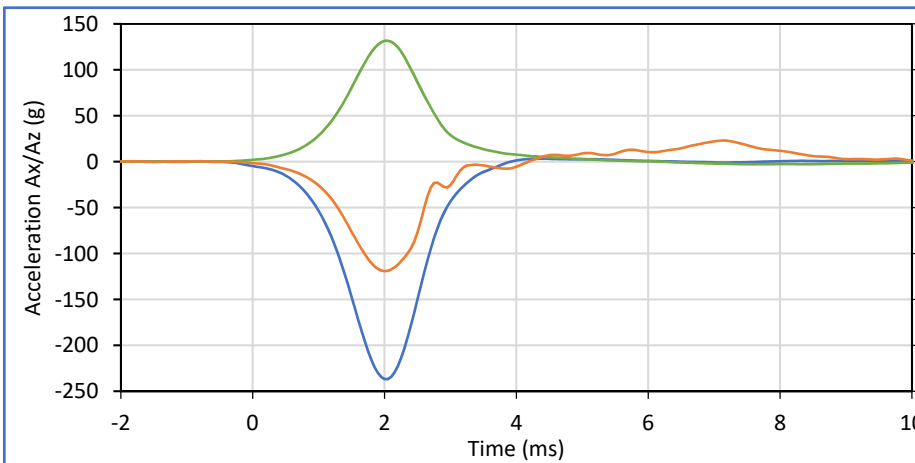
ATD Serial No.: 630

Test Date: 2017-11-14

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.7	Pass
Laboratory Humidity	%	10	70	35	Pass
Peak Resultant Acceleration	g	250.0	300.0	271.1	Pass
Peak Lateral Acceleration	g	-15.0	15.0	-11.9	Pass
Oscillations After Main Pulse	%	0.0	10.0	1.3	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
<b>Overall Test Results</b>					<b>Pass</b>



**Head Acceleration Resultant**  
 Max:271.1@2.1 / Min:1.1@10.0  
 SAE Class 1000



**Head Acceleration X**  
 Max:3.3@4.4 / Min:-236.7@2.0  
 SAE Class 1000

**Head Acceleration Y**  
 Max:2.3@7.2 / Min:-11.9@2.0  
 SAE Class 1000

**Head Acceleration Z**  
 Max:131.7@2.1 / Min:-2.8@7.6  
 SAE Class 1000

Technician: *Scotty*

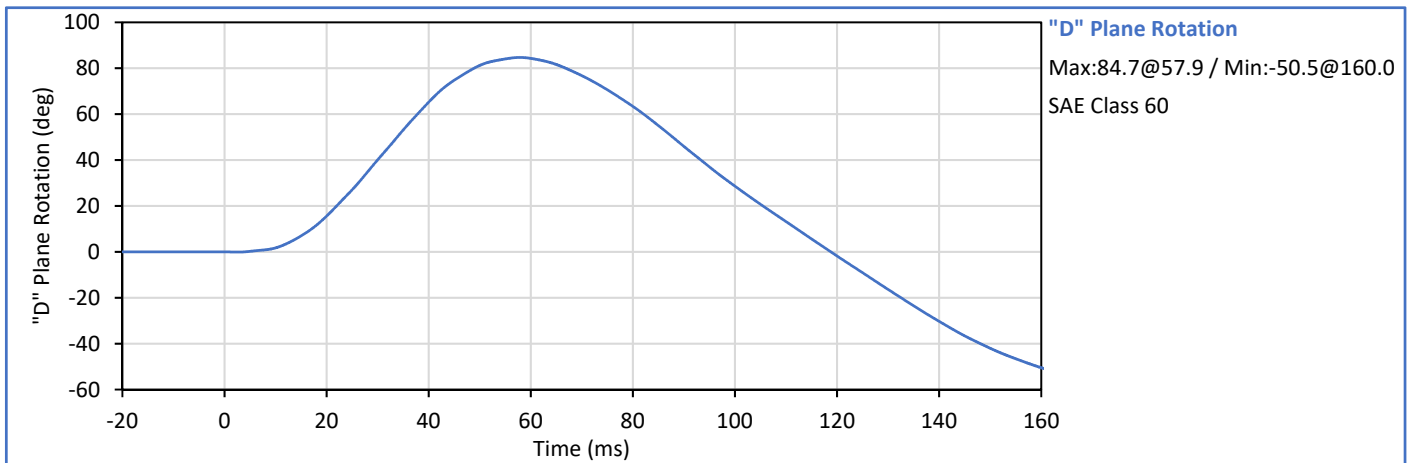
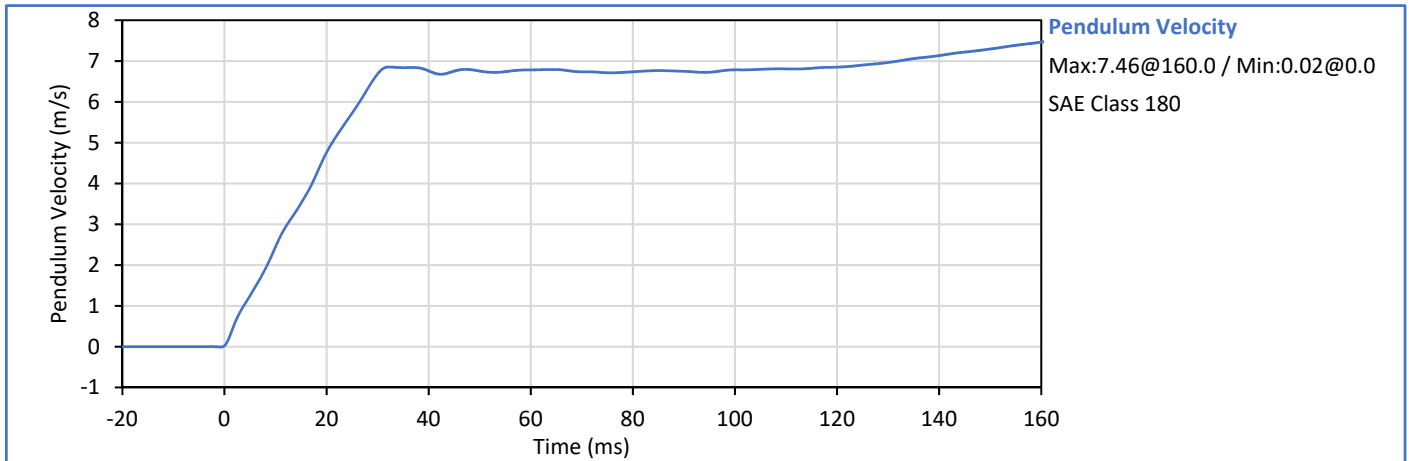
Approved By: *Wep*



ATD Serial No.: 630

Test Date: 2017-11-14

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.8	Pass
Laboratory Humidity	%	10	70	34	Pass
Pendulum Velocity	m/s	6.89	7.13	7.00	Pass
Pendulum Velocity at 10 ms	m/s	2.10	2.50	2.45	Pass
Pendulum Velocity at 20 ms	m/s	4.00	5.00	4.76	Pass
Pendulum Velocity at 30 ms	m/s	5.80	7.00	6.69	Pass
Peak "D" Plane Rotation	deg	77.0	91.0	84.7	Pass
Peak Moment in Rotation	Nm	69.0	83.0	80.0	Pass
Positive Moment Decay to 10 Nm	ms	80.0	100.0	84.1	Pass
<b>Overall Test Results</b>					<b>Pass</b>



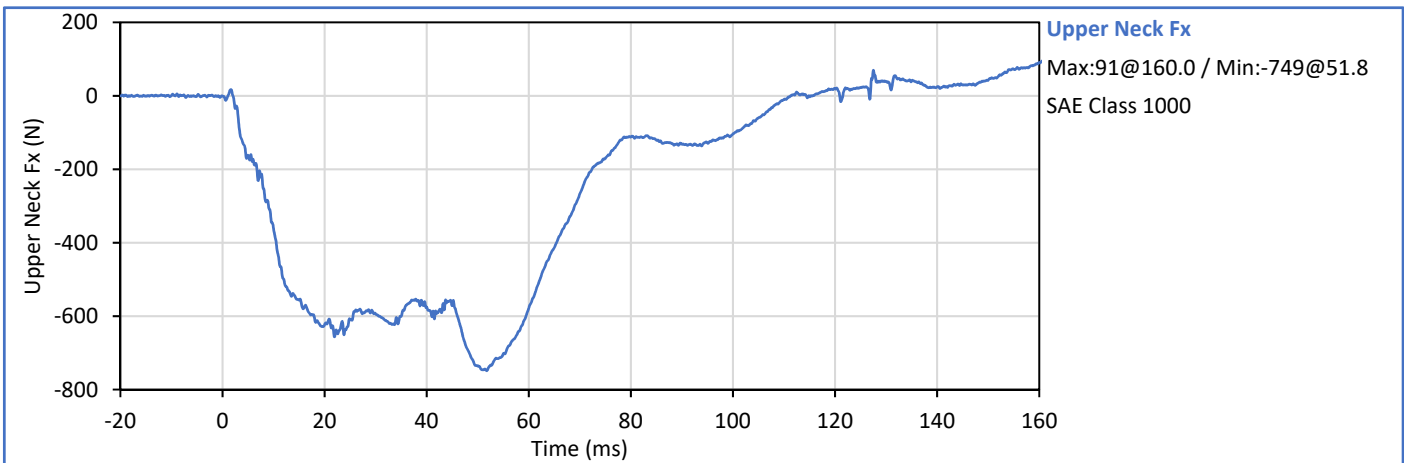
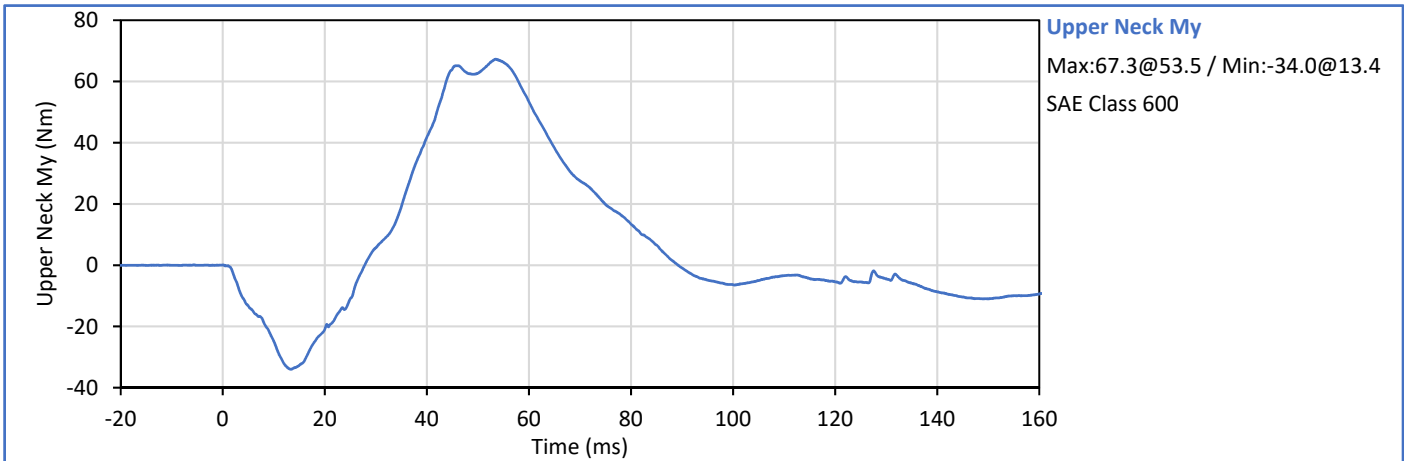
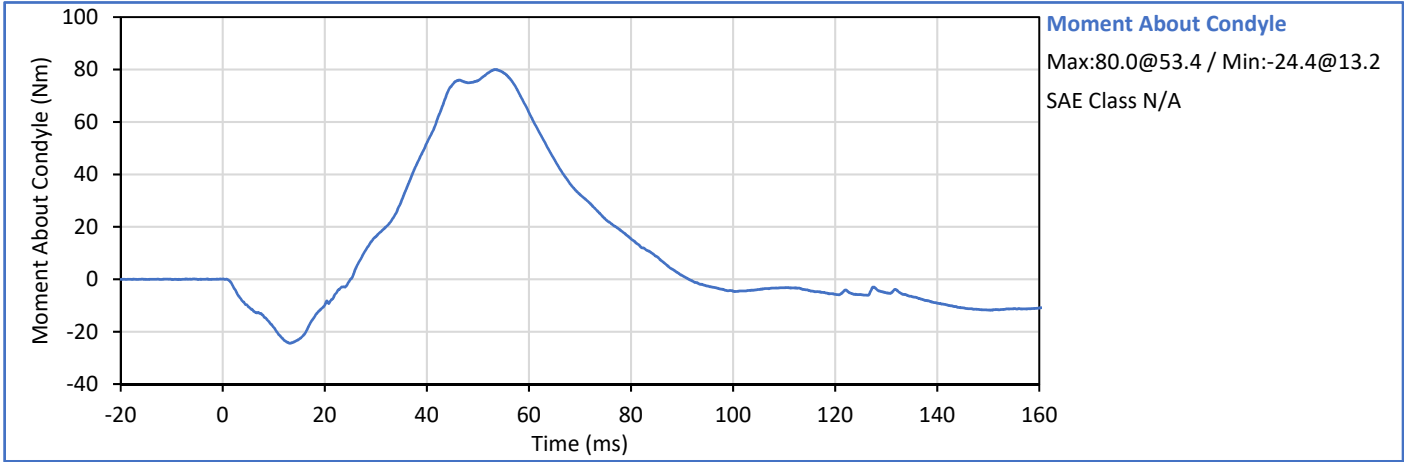
Technician: *Scotty*

Approved By: *Wep*



ATD Serial No.: 630

Test Date: 2017-11-14

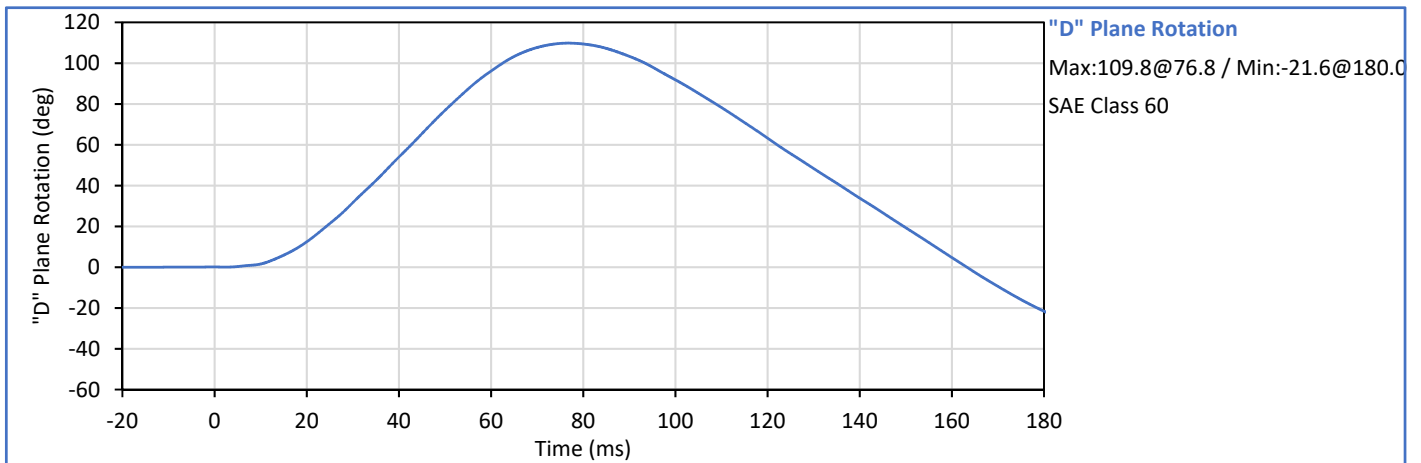
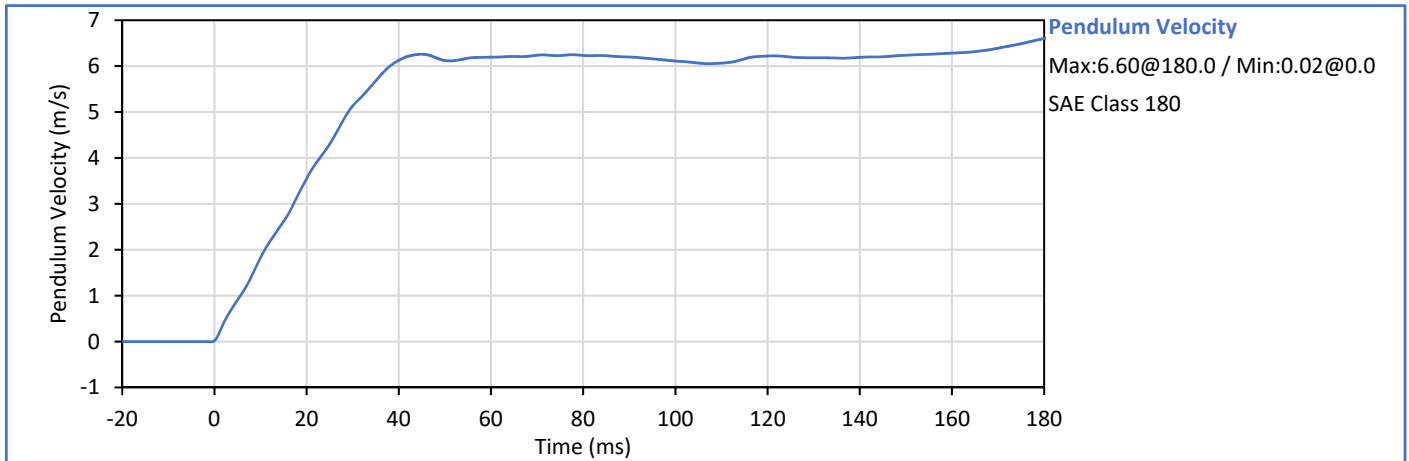




ATD Serial No.: 630

Test Date: 2017-11-14

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	28	Pass
Pendulum Velocity	m/s	5.95	6.19	6.05	Pass
Pendulum Velocity at 10 ms	m/s	1.50	1.90	1.83	Pass
Pendulum Velocity at 20 ms	m/s	3.10	3.90	3.55	Pass
Pendulum Velocity at 30 ms	m/s	4.60	5.60	5.13	Pass
Peak "D" Plane Rotation	deg	99.0	114.0	109.8	Pass
Peak Moment in Rotation	Nm	-65.0	-53.0	-58.0	Pass
Negative Moment Decay to -10 Nm	ms	94.0	114.0	101.5	Pass
<b>Overall Test Results</b>					<b>Pass</b>



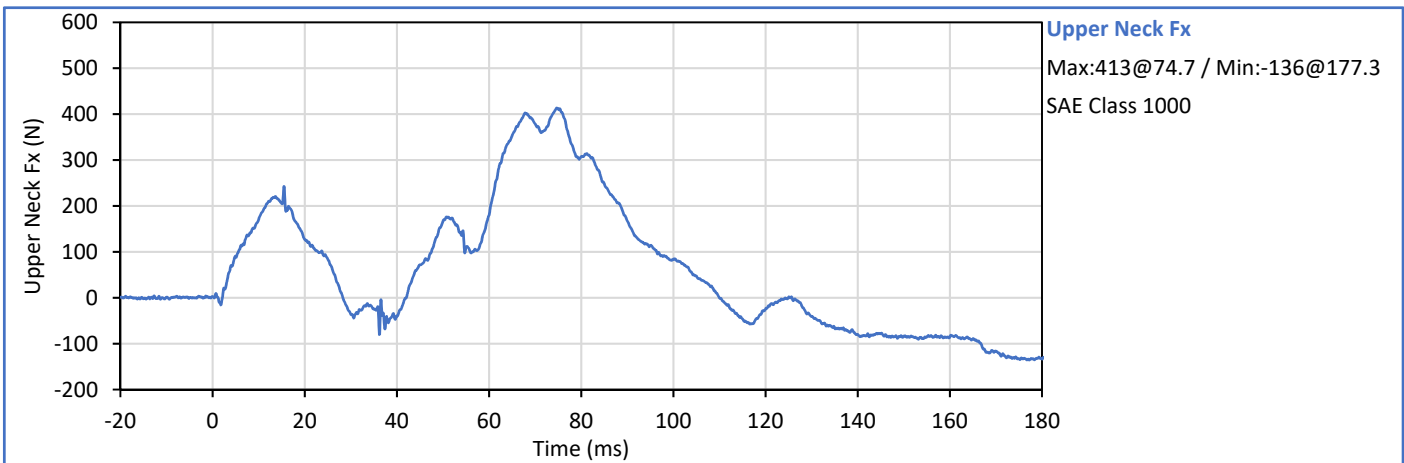
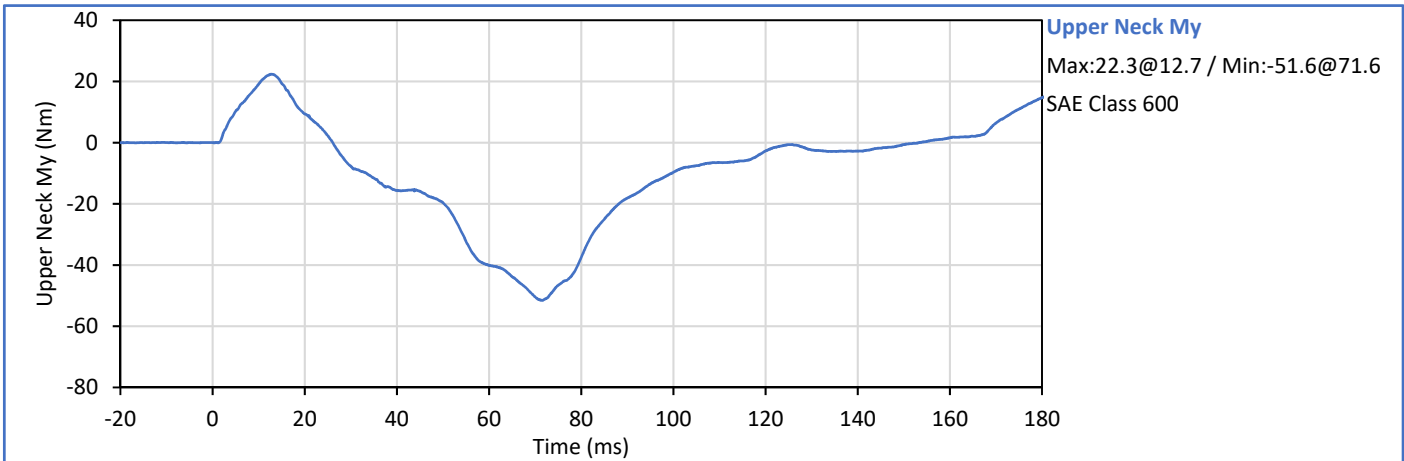
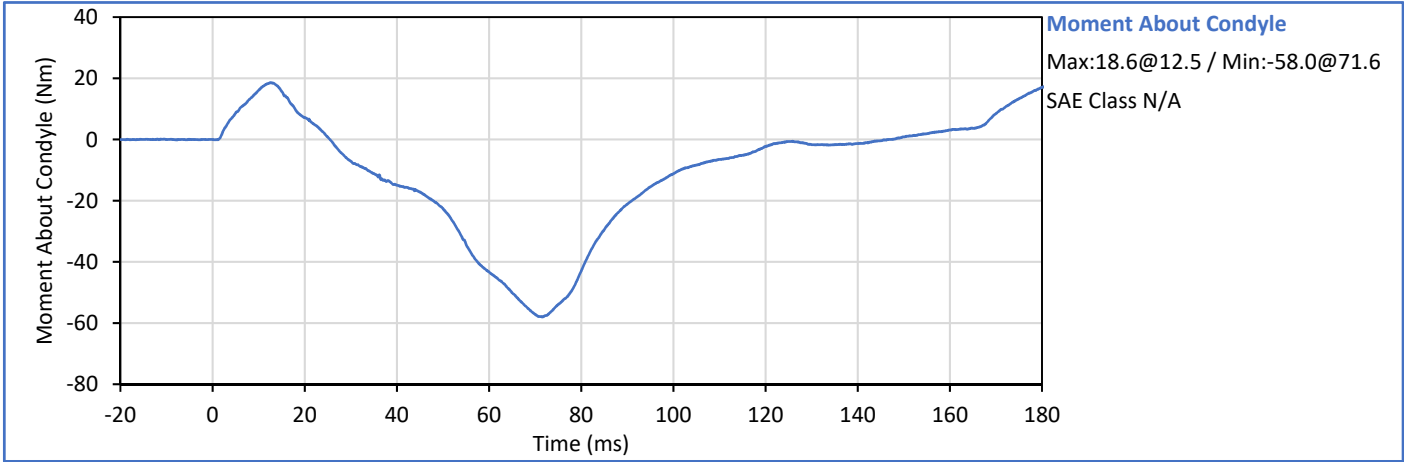
Technician: *Scotty*

Approved By: *Wep*



ATD Serial No.: 630

Test Date: 2017-11-14

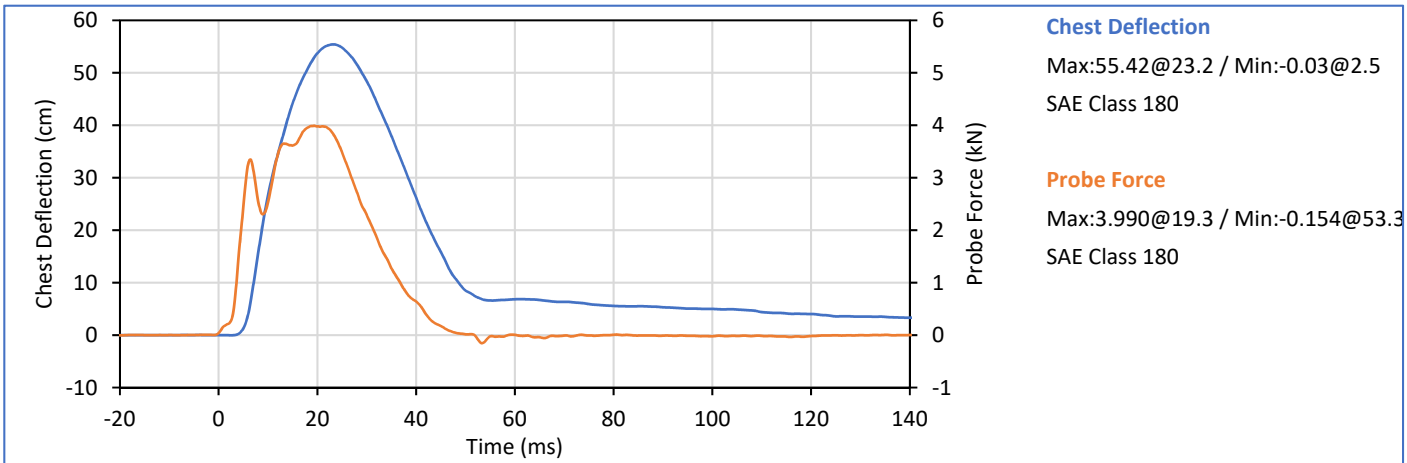
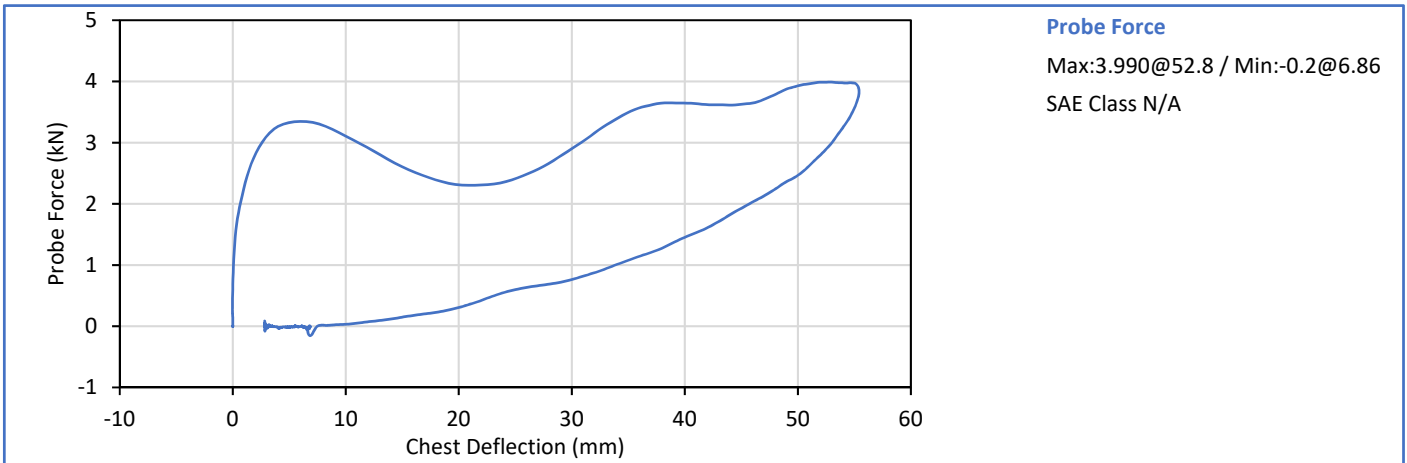




ATD Serial No.: 630

Test Date: 2017-11-09

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Humidity	%	10	70	35	Pass
Probe Velocity	m/s	6.59	6.83	6.70	Pass
Peak Chest Deflection	mm	50.0	58.0	55.4	Pass
Peak Probe Force, 50 and 58 mm	kN	3.900	4.400	3.990	Pass
Peak Probe Force, 18 and 50 mm	kN	0.000	4.600	3.927	Pass
Internal Hysterisis	%	69.0	85.0	69.2	Pass
<b>Overall Test Results</b>					<b>Pass</b>



Technician: *Scotty*

Approved By: *Wep*



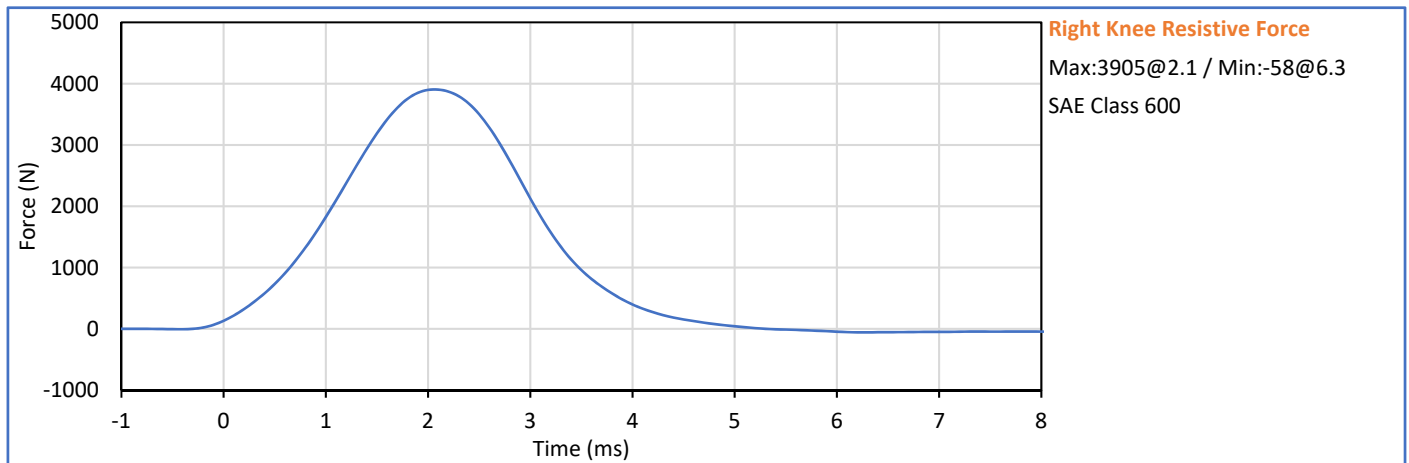
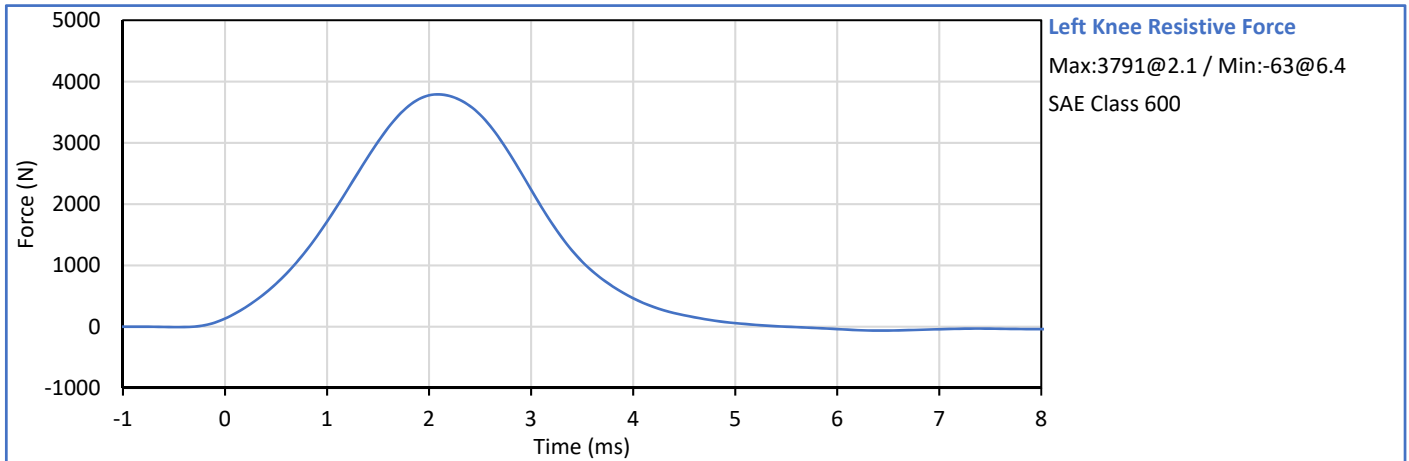
9270 Holly Road, Adelanto, CA 92301  
 Tel: +1 760 246 1672 Fax: +1 760 246 8112  
 Info@karco.com www.karco.com

### Hybrid III 5th Percentile Female Knee Impact (Left/Right)

ATD Serial No.: 630

Test Date: 2017-11-15

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	22.0	Pass
Laboratory Humidity	%	10	70	22	Pass
Left Knee Probe Velocity	m/s	2.070	2.130	2.097	Pass
Left Knee Peak Resistive Force	N	3450	4060	3791	Pass
Right Knee Probe Velocity	m/s	2.070	2.130	2.105	Pass
Right Knee Peak Resistive Force	N	3450	4060	3905	Pass
Overall Test Results					Pass



Technician: *Smith*

Approved By: *Wep*

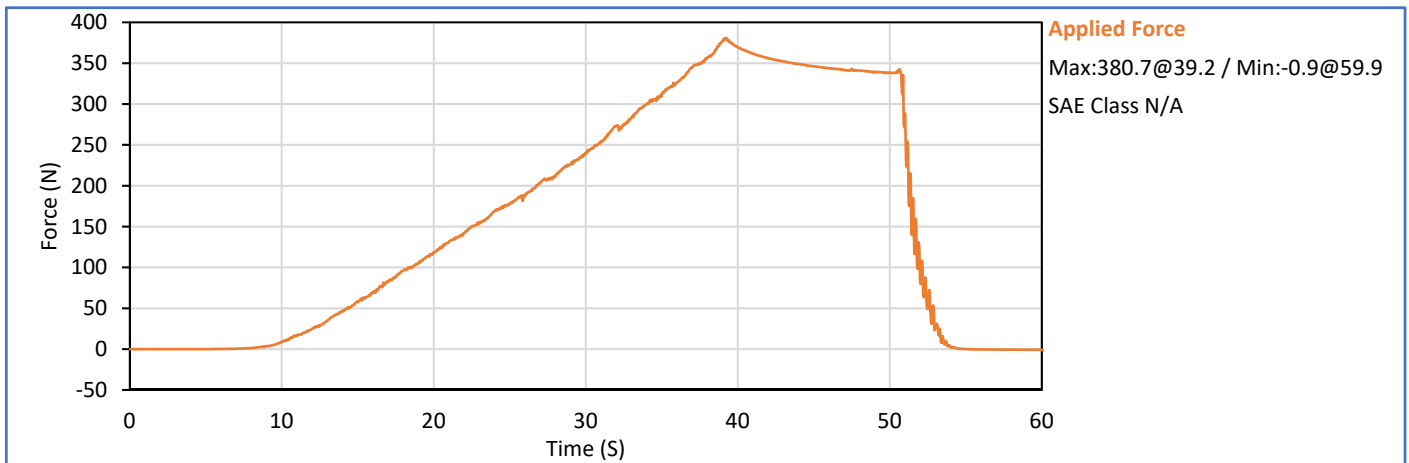
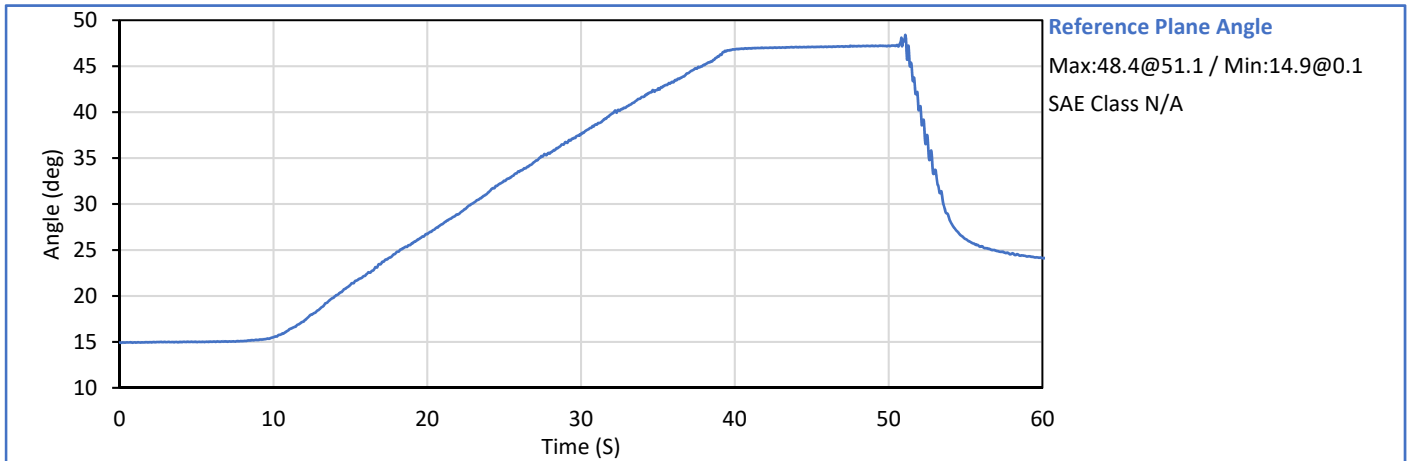


### Hybrid III 5th Percentile Female Torso Flexion Test

ATD Serial No.: 630

Test Date: 2017-11-15

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.0	Pass
Laboratory Humidity	%	10	70	28	Pass
Orientation Angle	deg	0.0	20.0	13.2	Pass
Test Initial Angle	deg	11.0	19.0	14.9	Pass
Peak Force at 45° (+/-0.5°)	N	320.0	390.0	355.5	Pass
Torso Flexion Rate	deg/s	0.50	1.50	1.06	Pass
Final Reference Plane Angle	deg	-8.0	8.0	6.1	Pass
Overall Test Results					Pass



Technician: *Scotty*

Approved By: *Wep*