REPORT NUMBER: SPNCAP-KAR-18-011

NEW CAR ASSESSMENT PROGRAM (NCAP)

SIDE IMPACT POLE TEST

DAIMLER AG STUTTGART

2018 MERCEDES-BENZ GLC300 5-DOOR MPV

NHTSA No: M20184301

PREPARED BY:

KARCO ENGINEERING, LLC.

9270 HOLLY ROAD

ADELANTO, CA 92301

DECEMBER 29, 2017

FINAL REPORT

PREPARED FOR:

U.S. DEPARTMENT OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

OFFICE OF CRASHWORTHINESS STANDARDS

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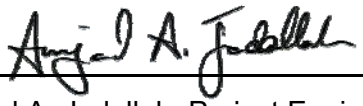
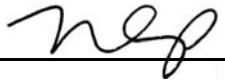
Prepared By: 

Mr. Amjad A. Jadallah, Project Engineer
KARCO Engineering, LLC.

Reviewed By: 

Mr. Michael L. Dunlap, Director of Operations
KARCO Engineering, LLC.

Approved By: 

Mr. Steven D. Matsusaka, Engineering Manager
KARCO Engineering, LLC.

Approval Date: December 29, 2017

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date:

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

Date:

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Side Impact Pole Testing of 2018 Mercedes-Benz GLC300 5-Door MPV
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7. Authors
Mr. Amjad A. Jadallah, Project Engineer, KARCO
Mr. Steven D. Matsusaka, Engineering Manager, KARCO

8. Performing Organization Report No.
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KARCO Engineering, LLC.
9270 Holly Rd.
Adelanto, CA 92301

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Final Test Report, December 14 - 29, 2017

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15. Supplementary Notes

16. Abstract

A 32.20 km/h 75° rigid pole side NCAP impact test was conducted on the subject 2018 Mercedes-Benz GLC300 5-door MPV in accordance with the specifications of the Office of Crashworthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on December 14, 2017.

The impact velocity was 32.87 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 19.6°C. The target vehicle's maximum post-test static crush was 318 mm located at level 3. The test vehicle's occupant performance data is as follows:

Measurement Description	Driver ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC_{36})		1000	205.5
Resultant Lower Spine Acceleration	g	82	40
Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	3501
Maximum Thoracic Rib Deflection	mm	38	30
Maximum Abdominal Rib Deflection	mm	45	24

The two doors on the struck side of the vehicle were jammed shut and did not separate from the body at the hinges or latches. The opposite doors did not open during the side impact event.

17. Key Words
New Car Assessment Program (NCAP)
Side Impact
Pole
Part 572V
SID-IIs

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SECTION 1
TEST PURPOSE AND PROCEDURE

This side impact test is part of the MY 2018 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number DTNH22-14-D-00355L. The purpose of this test is to generate comparative side impact performance in a 2018 Mercedes-Benz GLC300 5-door MPV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure date October 2015.

SECTION 2
SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2018 Mercedes-Benz GLC300 5-door MPV. The subject vehicle was towed into the rigid pole at an angle of 75.2° and a velocity of 32.87 km/h. The test was conducted by KARCO Engineering, LLC. in Adelanto, California on December 14, 2017. Pre- and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in Appendix A of this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure, dated October 2015. Camera locations and other pertinent camera information are included in this report.

The Part 572V (SID-IIs) was instrumented accordingly:

Primary and Redundant Head CG tri-axial accelerometers
Thorax upper, middle and lower rib displacement potentiometers
Abdomen upper and lower rib displacement potentiometers
Lower spine (12) tri-axial accelerometers
Iliac load cell
Acetabulum load cell

Appendix B contains the vehicle and dummy response data. Dummy configuration and performance verification data can be found in Appendix C of this report. Appendix D contains the test equipment and instrumentation calibration data.

Injury readings for the SID-IIs dummy were recorded as follows:

Measurement Description	Units	Passenger ATD (SID-IIs)	
		IARV	Result
Head Injury Criteria (HIC_{36})		1000	205.5
Lower Spine (T12) Resultant Acceleration	g	82	40
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3501
Maximum Thoracic Rib Deflection	mm	38*	30
Maximum Abdominal Rib Deflection	mm	45*	24

**Proposed IARV*

Supplemental restraint information is given below:

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No	No	
Knee Airbag	Yes	No	No	
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	Yes	No
Seat Belt Load Limiter	Yes	Yes	Yes	No

GENERAL COMMENTS

Both the front and rear doors on the struck side of the vehicle were jammed shut. There was no separation at the hinges or latches. Both doors on the non-struck side remained closed and latched. There were no ATD values that exceeded limits.

SECTION 3

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

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^2	kPa	6.895
Temperature	General Use	^oF	^oC	=(Tf -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 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20184301
Model Year	2018
Make	Mercedes-Benz
Model	GLC300
Body Style	5-Door MPV
VIN	WDC0G4JB7JV023731
Body Color	Brilliant Blue Metallic
Odometer Reading (km / mi)	50 / 31
Engine Displacement (L)	2.0
Type / No. of Cylinders	Inline 4
Engine Placement	Longitudinal
Transmission Type	Automatic
Transmission Speeds	9
Overdrive	Yes
Final Drive	RWD
Roof Rack	Yes
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks	Yes
Power Window Auto-Reverse	Yes
Other Optional Feature	No
Driver Front 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
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	No

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Daimler AG Stuttgart
Date of Manufacture	Jul-17
Vehicle Type	MPV

GVWR (kg)	2315
GAWR Front (kg)	1060
GAWR Rear (kg)	1255

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity	2	3		5	
Capacity Weight (VCW) (kg)				432.0	*A*
DSC x 68.04 (kg)				340.2	*B*
Cargo Weight (RCLW) (kg)				91.8	*A-B*

VEHICLE SEAT TYPE

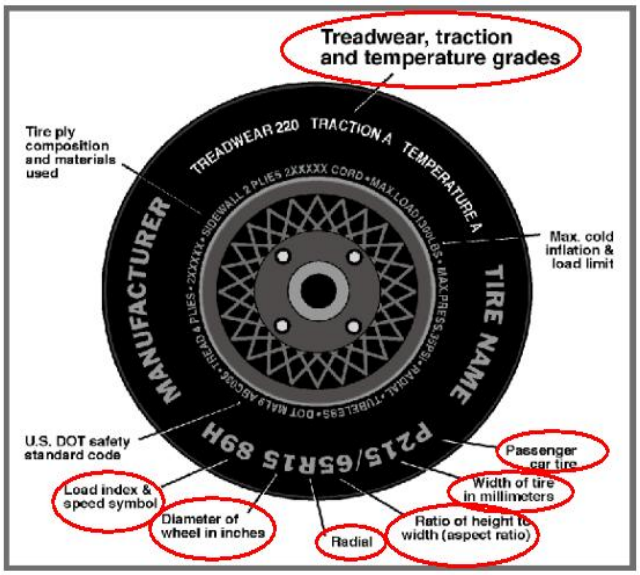
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable w/ Lever	Adjustable w/ Knob
Front Seat	Yes					Yes	
Rear or Second Row Seat			Yes		Yes		
Third Row Seat							

DATA SHEET NO. 1 … (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	240	290
Recommended Tire Size	P235/60/R18	P235/60/R18
Tire Size on Vehicle	P235/60/R18	P235/60/R18
Tire Manufacturer	Pirelli	Pirelli
Tire Model	Scorpion Verde	Scorpion Verde
Treadware	600	600
Traction Grade	A	A
Temperature Grade	A	A
Tire Plies Sidewall	1 Rayon	1 Rayon
Tire Plies Body	1 Rayon, 2 Steel, 1 Polyamide	1 Rayon, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	103H	103H
Tire Material	Rayon, Steel, Polyamide	Rayon, Steel, Polyamide
DOT Safety Code Left	93K3 T899 2617	93K3 T899 2617
DOT Safety Code Right	93K3 T899 2617	93K3 T899 2617

DATA SHEET NO. 1 … (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	240	240	290	290
Tire Placard	kPa	240	240	290	290
Owner's Manual	kPa	240	240	290	290
As Tested	kPa	240	240	290	290

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	446.5	408.5		475.5	477.5		466.0	480.0	
Right	kg	464.5	428.0		455.5	474.5		457.5	483.5	
Ratio	%	52.1%	47.9%	100.0%	49.4%	50.6%	100.0%	48.9%	51.1%	100.0%
Total	kg	911.0	836.5	1747.5	931.0	952.0	1883.0	923.5	963.5	1887.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1747.5	A
Actual Weight of 1 P572V ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	91.8	C
Calculated Vehicle Target Wt (TVTW)	kg	1888.3	A+B+C

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight -4.5 kg to -9.0 kg)? ☒ **Yes** ☐ **No**

TEST VEHICLE ATTITUDE AND CG

Measurement Description	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	°	-0.4	-0.3	-0.3	Yes
Front Passenger Sill Angle (front-to-rear)*	°	-0.2	0.4	0.8	Yes
Front Bumper-Line Angle (left-to-right)**	°	-0.4	-0.1	0.0	Yes
Rear Bumper-Line Angle (left-to-right)**	°	-0.4	0.0	0.0	Yes
Vehicle CG (Aft of Front Axle)	mm	1376	1453	1467	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	-17	10	2	

*ND=Nose Down (-), NU=Nose Up (+) **LD=Left Down (-), LU=Left Up (+)

***The "As Tested" vehicle attitude angle measurements must be within "As Delivered" and the "Fully Loaded" vehicle attitude measurements at each location. Indicate "Yes" or "No" for "Meets Requirement"

DATA SHEET NO. 1 … (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Trunk Trim	7.0
Ballast / Equipment Added	78.5

Test Height Adjustable Setting (If Applicable)	

DATA SHEET NO. 2

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

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and front passenger's seat should be set to the forward most, mid-height, mid-angle position. The struck side rear passenger's seat, rear center seat, and non-struck side rear passenger's seat should be set to the rear most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	8.8	0.0	4.4
Front Passenger Seat	8.0	0.0	4.0
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rearmost	Mid Fore/Aft	Forwardmost
Driver Seat	4.4	703	Max	707	721	735
			Mid	674	689	703
			Min	641	656	671
Front Passenger Seat	4.0	696	Max	701	712	726
			Mid	670	682	696
			Min	639	651	665
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

DATA SHEET NO. 2 … (CONTINUED)

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

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

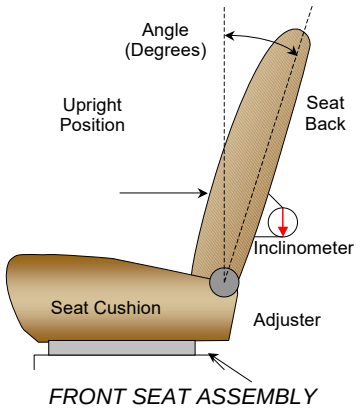
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	260		0	
Front Passenger Seat	235		0	
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

*Detent zero (0) is the forward most detent

SEAT BACK ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front passenger's seat backs is positioned in a similar manner to the driver's seat. The struck side rear passenger seat back is positioned in accordance with the information provided by the manufacturer in Form 1 for the 5th percentile female dummy in a Side NCAP MDB Test. The rear center and non-struck side rear passenger's seat back is set to match the struck side rear seat back. Seat back angle is measured with a straight edge along the seatback.



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degree	Detent*
Driver Seat w/Seated Dummy	55.1		15.0	
Front Passenger Seat	55.3		15.0	
Front Center Seat				
Struck Side Rear Seat w/Seated Dummy	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

*Detent zero (0) is the forward most detent

DATA SHEET NO. 2 … (CONTINUED)

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

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1. The positions are marked H, M1, …, L from top to bottom.

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

HEAD RESTRAINT ADJUSTMENT

The driver's head restraint is adjusted to the lowest and most full forward in-use position.

	Total No. of Positions	Placed in Position
Driver Seat	Electric	Full Down

DATA SHEET NO. 2 … (CONTINUED)

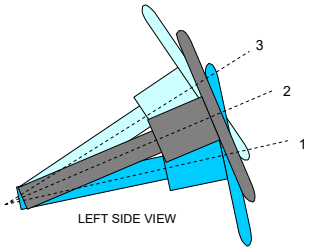
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT, AND FUEL SYSTEM DATA

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.

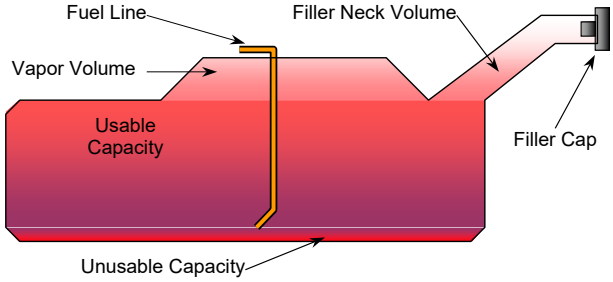


STEERING COLUMN ASSEMBLY

	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	20.9	76
Geometric Center - Position 2	23.1	105
Uppermost - Position 3	25.2	133
Telescoping Steering Wheel Travel		57
Test Position	23.1	105

FUEL PUMP

The vehicle is equipped with an electric fuel pump. The fuel pump is in operation if the ignition is switched to the "ON" position. If the engine is not started the pump switches back to standby mode after approximately 15 seconds.



VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	65.86
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	65.86
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	61.25
Actual amount of Solvent Used in Test	61.25
1/3 of Usable Capacity	21.95

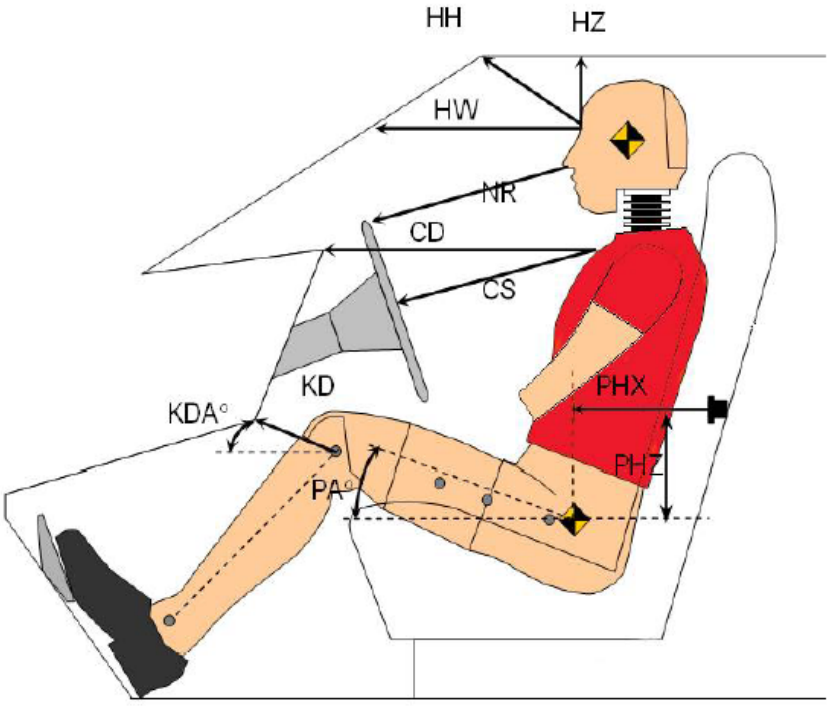
Is the Actual Amount of Solvent Used in the test equal to 93% ± 1% of the Usable Capacity stated in the Form No. 1? ☒ **Yes** ☐ **No**

DATA SHEET NO. 3

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



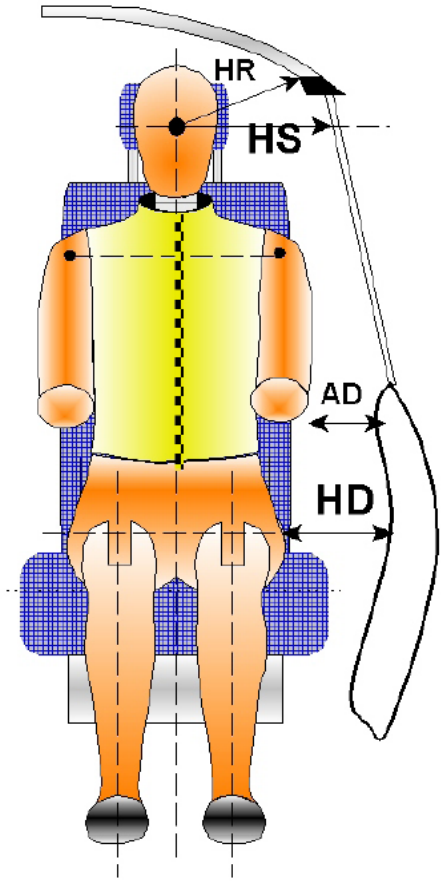
Driver Code	Description	Driver	
		Length (mm)	Angle (º)
HH	Head to Header	348	
HW	Head to Windshield	630	
HZ	Head to Roof	234	
NR	Nose to Rim	264	
CD	Chest to Dash	408	
CS	Chest to Steering Wheel	197	
KD(L)/KDA(L)°	Left Knee to Dash	114	18.7
KD(R)/KDA(R)°	Right Knee to Dash	95	40.2
PAX°	Pelvic Tilt Angle (x-axis)		20.5
PAY°	Pelvic Tilt Angle (y-axis)		0.2
PHX	Hip Point to Striker (x-axis)	277	
PHZ	Hip Point to Striker (z-axis)	160	

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



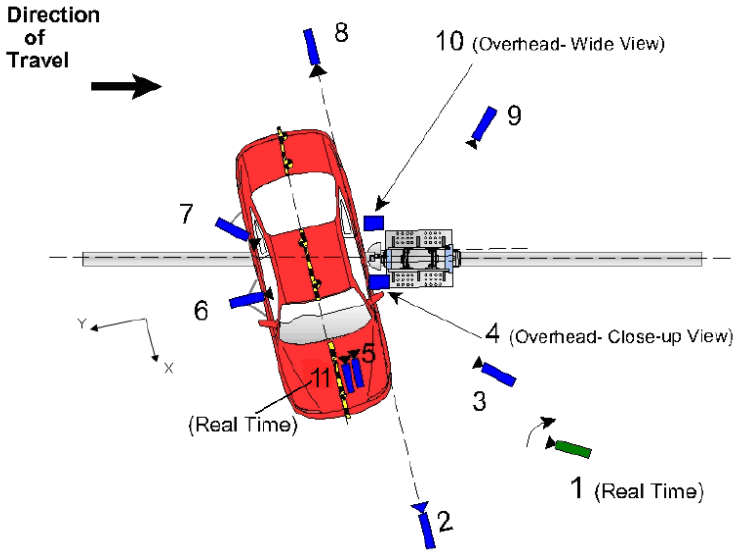
Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	246
HS	Head to Side Window	mm	355
AD	Arm to Door	mm	158
HD	Hip Point to Door	mm	178

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



Reference from Point of Impact for X and Y; from Ground for Z):
+X = Forward of Vehicle, +Y = Right of Vehicle, +Z = Down

Camera No.	View	Coordinates (m)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real Time Pan View of Impact	8.89	46.57	-3.04		30
2	Front Ground Level - Impact View	8.34	-0.05	-0.93	24	1000
3	Impact Side 45° - Forward Pole View	4.10	-2.15	-1.15	8.5	1000
4	Overhead Close-Up View of Impact	0.00	0.00	-5.79	12.5	1000
5	On-Board - Dummy Front View	1.18	0.56	-1.52	16	1000
6	On-Board - Dummy Side View	0.03	1.74	-1.24	6.5	1000
7	On-Board - Dummy Rear Oblique View	-0.82	1.73	-1.29	8.5	1000
8	Rear Ground Level - Impact View	-6.12	-6.23	-0.96	24	1000
9	Impact Side 45° - Rearward Pole View	-8.02	0.04	-1.01	35	1000
10	Overhead Wide View of Impact	-0.06	0.22	-5.79	14	1000
11	Real Time Dummy Front View	1.20	0.53	-1.51		30

*All measurements accurate to ±6 mm

INSTRUMENTATION

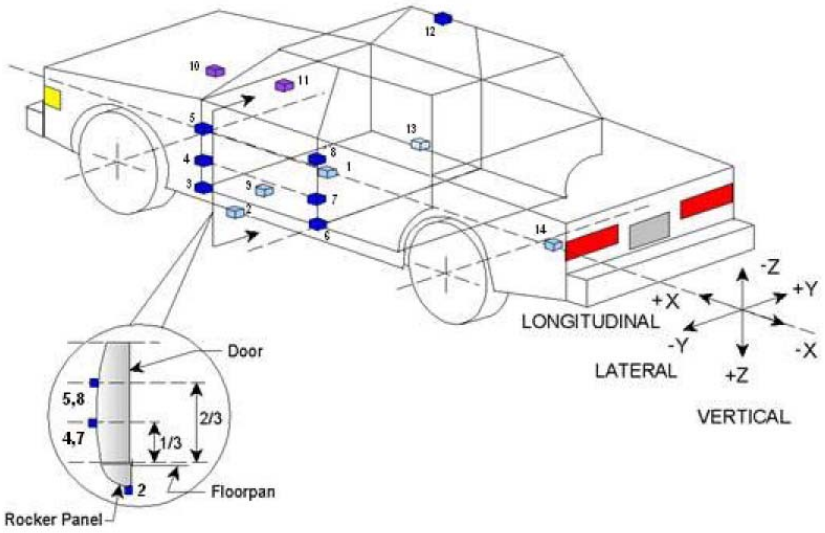
Driver Dummy Channels	19
Vehicle Structure Accelerometers	18
Pole Load Cells	8
Total	45

DATA SHEET NO. 6

TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	1835	0	-514
2	Left Floor Sill	2941	-742	-284
3	A-Pillar Sill	3074	-793	-486
4	A-Pillar Low	3068	-793	-752
5	A-Pillar Mid	3079	-793	-934
6	B-Pillar Sill	2004	-738	-482
7	B-Pillar Low	2001	-736	-671
8	B-Pillar Mid	1999	-736	-1012
9	Driver Seat Track	2305	-174	-434
10	Engine Top	3915	-5	-905
11	Firewall	3382	42	-1051
12	Right Roof	2095	476	-1598
13	Right Floor Sill	1974	738	-454
14	Rear Floorpan	905	0	-491

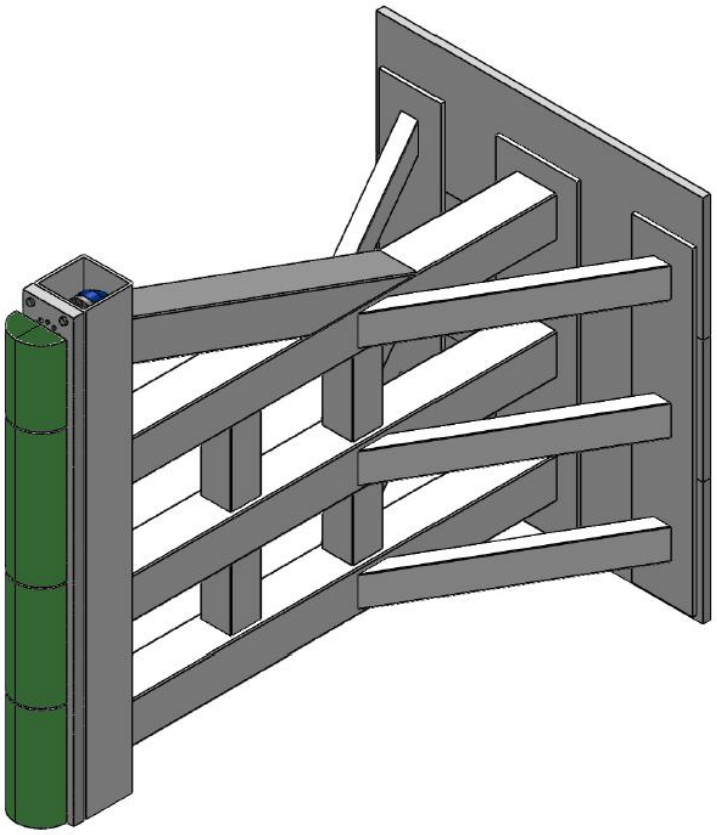
Reference: X – Rear surface of vehicle (+ forward)
Y – Vehicle centerline (+ to right)
Z – Ground plane (+ down)

DATA SHEET NO. 7

RIGID POLE LOAD CELL DATA

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



ID	Units	Height From Ground
1	mm	87
2	mm	468
3	mm	648
4	mm	978
5	mm	1168
6	mm	1651
7	mm	1816
8	mm	2057

DATA SHEET NO. 8

POST-TEST OBSERVATIONS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	Curtain Airbag
Top of Head	Curtain Airbag
Left Side of Head	Curtain Airbag
Back of Head	Curtain Airbag, Headrest
Left Shoulder	Torso/Pelvis Airbag, Seatback
Upper Torso	Torso/Pelvis Airbag, Seatback
Lower Torso	Torso/Pelvis Airbag, Seatback
Left Hip	Torso/Pelvis Airbag, Seat Bolster, Door Panel
Left Knee	Door Panel

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge System Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	N/A	N/A	N/A	N/A	N/A

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	N/A	No	N/A
Seat Disengagement from Floor Pan	No	No	No	No
Seat Back Movement from Initial Position	No	No	No	No
Seat Back Collapse	No	No	No	No

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No separation occurred
Sill Separation	No separation occurred
Windshield Damage	Broken
Side Window Damage	Driver front window broken
Other Notable Effects	None

DATA SHEET NO. 8 … (CONTINUED)

POST-TEST OBSERVATIONS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No	No	
Knee Airbag	Yes	No	No	
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	Yes	No
Seat Belt Load Limiter	Yes	Yes	Yes	No

IMPACT POINT LOCATION DATA

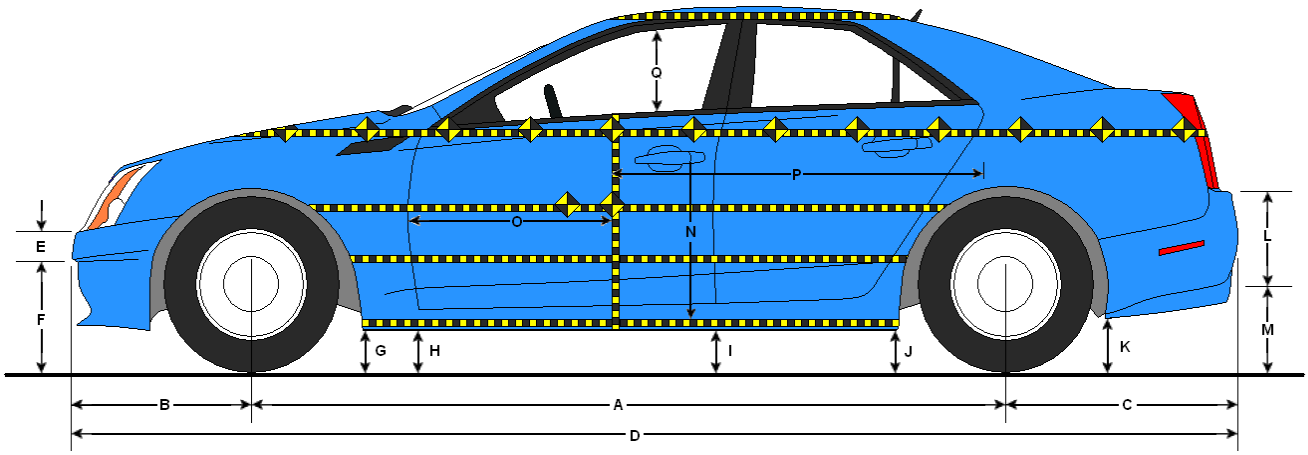
Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1350
Actual Impact Point (Aft of Front Axle)	mm		1361
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	-11
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	75.2
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.87
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.86

DATA SHEET NO. 9

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



LEFT SIDE VIEW

All measurements in mm with tolerance of ± 3mm

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

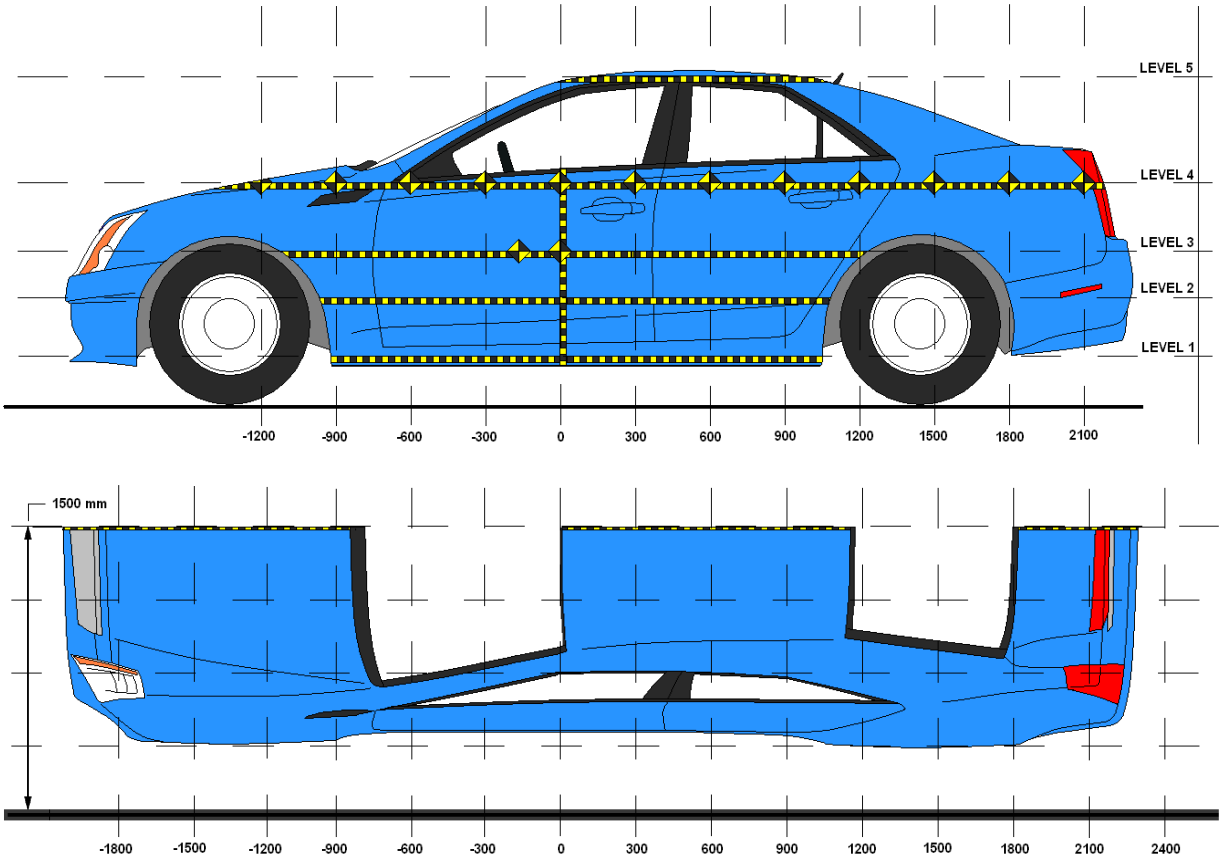
Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2874	2832	-42
B	Front Axle to FSOV	832	838	6
C	Rear Axle to RSOV	949	968	19
D	Total Length at Centerline	4648	4638	-10
E	Front Bumper Thickness	143	132	-11
F	Fromt Bumper Bottom to Ground	562	510	-52
G	Sill Height at Front Wheel Well	340	268	-72
H	Sill Height at Front Door Leading Edge	367	302	-65
I	Sill Height at B-Pillar	390	350	-40
J1	Sill Height at Rear Wheel Well	310	291	-19
J2	Pinch Weld Height at Rear Wheel Well	290	265	-25
K	Sill Height Aft of Rear Wheel Well	450	433	-17
L	Rear Bumper Thickness	69	69	0
M	Rear Bumper Bottom to Ground	635	629	-6
N	Sill Height to Bottom of Front Window Sill	687	689	2
O	Front Door Leading Edge to Impact CL	688	623	-65
P	Rear Door Trailing Edge to Impact CL	1440	1372	-68
Q	Front Window Opening	453	466	13
R	Right Side Length	3399	3404	5
S	Left Side Length	3398	3343	-55
T	Vehicle Width at B-Pillar	1842	1768	-74

DATA SHEET NO. 10

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



NOTE: All measurements in mm with tolerance of ± 3mm

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	361	231	0
2	Occupant H-Point	717	313	0
3	Mid-Door	784	318	0
4	Window Sill	1075	280	150
5	Window Top	1600	73	150

DATA SHEET NO. 10 … (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

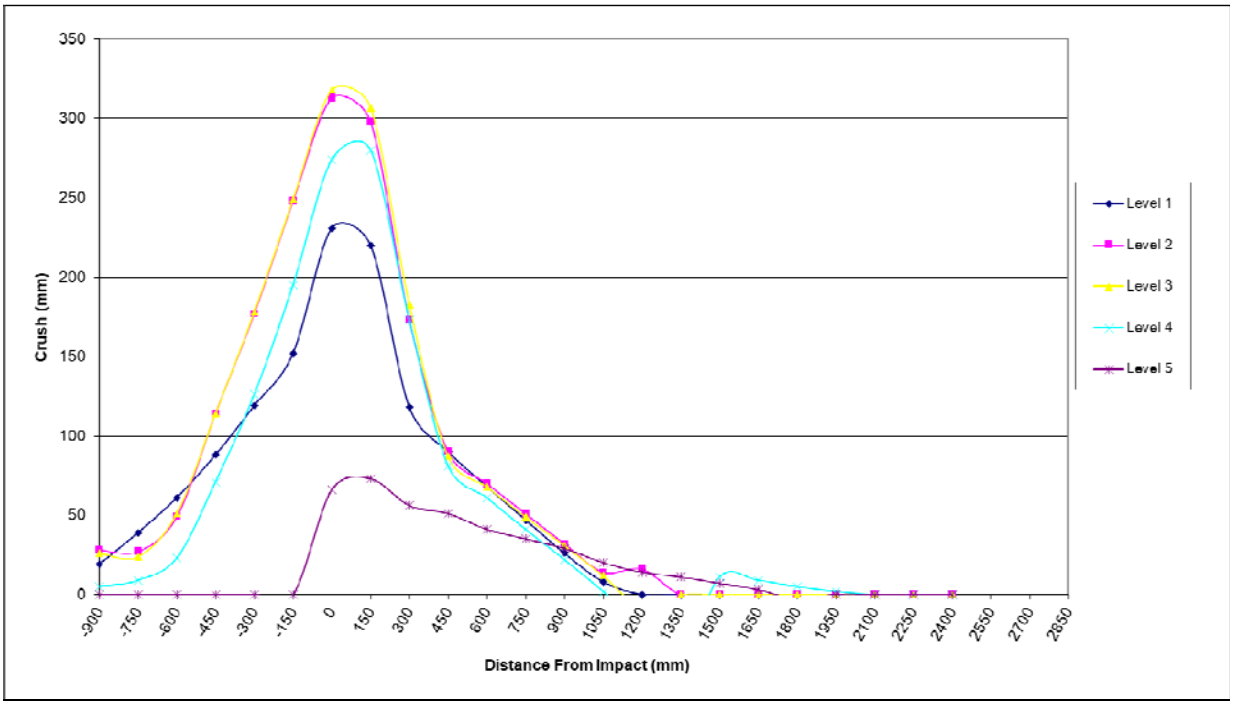
	Pre-Test (mm)					Post-Test (mm)					Difference (mm)				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900	617	572	573	680		636	600	599	685		19	28	26	5	
-750	621	581	579	665		660	608	603	674		39	27	24	9	
-600	626	583	579	656		687	632	630	679		61	49	51	23	
-450	632	582	578	646		720	696	692	717		88	114	114	71	
-300	639	582	577	639		758	759	755	765		119	177	178	126	
-150	643	582	577	631		795	830	826	826		152	248	249	195	
0	644	583	578	625	886	875	896	896	899	952	231	313	318	274	66
150	646	585	579	599	885	866	883	886	879	958	220	298	307	280	73
300	648	587	580	599	893	766	760	763	772	949	118	173	183	173	56
450	648	589	583	618	896	738	679	670	699	947	90	90	87	81	51
600	646	590	584	617	899	714	660	652	678	940	68	70	68	61	41
750	644	591	585	618	902	691	642	634	659	937	47	51	49	41	35
900	640	592	585	619	904	666	624	616	641	933	26	32	31	22	29
1050	634	586	583	621	907	642	600	595	623	927	8	14	12	2	20
1200		567	568	633	911		583	560	614	925		16	-8	-19	14
1350				627	915				588	926				-39	11
1500				631	923				642	930				11	7
1650				639	932				648	935				9	3
1800				650	950				655	947				5	-3
1950				667					669					2	
2100															
2250															
2400															
2550															
2700															
2850															

DATA SHEET NO. 10 … (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

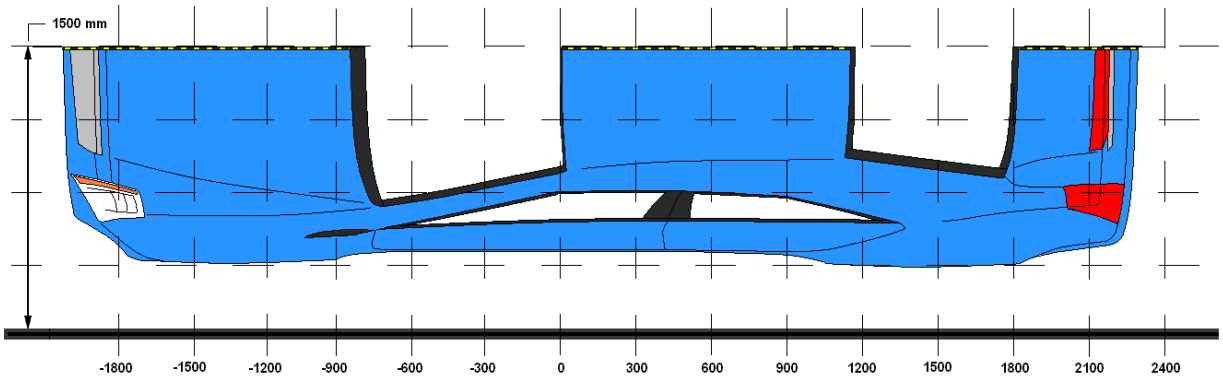


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



DPD	Distance From Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	1950	4	667	669	2
2	1350	5	915	926	11
3	750	2	591	642	51
4	300	3	580	763	183
5	-300	3	577	755	178
6	-900	2	572	600	28

DATA SHEET NO. 12

FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17

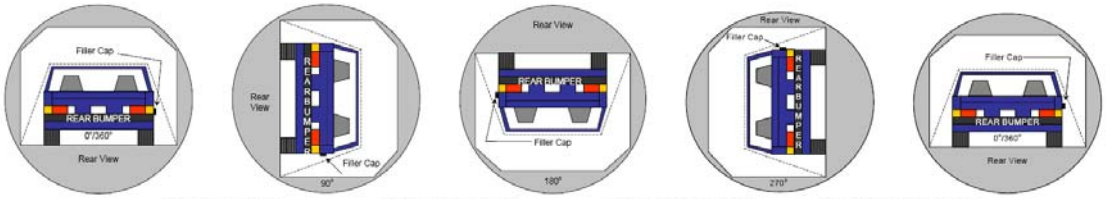
Temperature at Time of Impact: 19.6° C Test Time: 12:29 PM

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 Details: There was no Stoddard solvent spillage.



0° TO 90° 90° TO 180° 180° TO 270° 270° TO 360°

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	81	300	381
90° To 180°	80	300	380
180° To 270°	82	300	382
270° To 360°	80	300	380

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

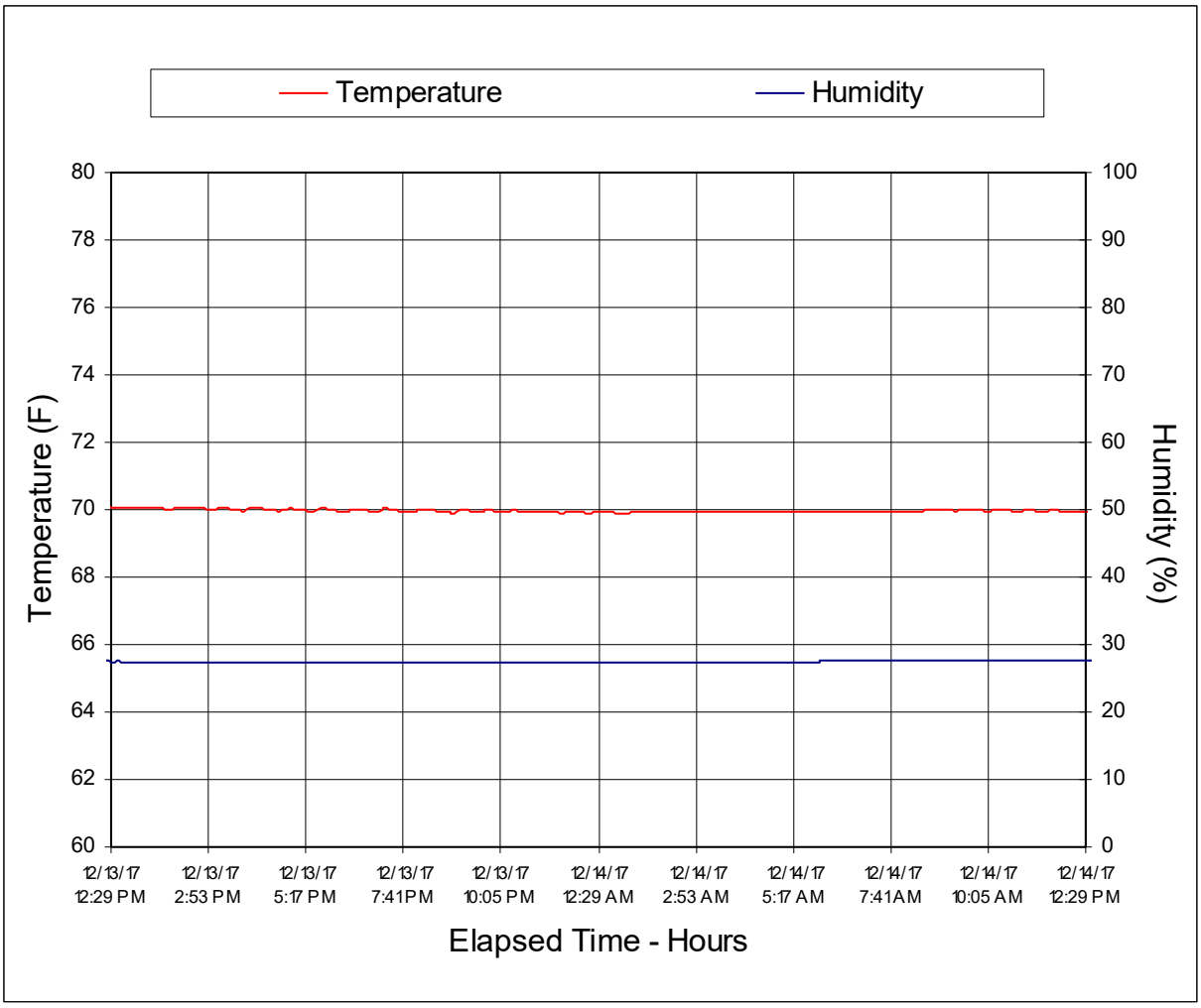
Test Phase	Spillage Location
0° To 90°	No Spillage Occurred
90° To 180°	No Spillage Occurred
180° To 270°	No Spillage Occurred
270° To 360°	No Spillage Occurred

DATA SHEET NO. 13

DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2018 Mercedes-Benz GLC300 5-Door MPV NHTSA No. M20184301

Test Program: NCAP Side Pole Impact Test Test Date: 12/14/17



APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS … (CONTINUED)

FIGURE 1. As-Delivered Right Front ¾ View of Test Vehicle

FIGURE 2. As-Delivered Left Rear ¾ View of Test Vehicle

FIGURE 3. Pre-Test Frontal View of Test Vehicle

FIGURE 4. Post-Test Frontal View of Test Vehicle

FIGURE 5. Pre-Test Left Front ¾ View of Test Vehicle

FIGURE 6. Post-Test Left Front ¾ View of Test Vehicle

FIGURE 7. Pre-Test Left Side View of Test Vehicle

FIGURE 8. Post-Test Left Side View of Test Vehicle

FIGURE 9. Pre-Test Left Rear ¾ View of Test Vehicle

FIGURE 10. Post-Test Left Rear ¾ View of Test Vehicle

FIGURE 11. Pre-Test Rear View of Test Vehicle

FIGURE 12. Post-Test Rear View of Test Vehicle

FIGURE 13. Pre-Test Right Side View of Test Vehicle

FIGURE 14. Post-Test Right Side View of Test Vehicle

FIGURE 15. Pre-Test Overhead View of Test Area

FIGURE 16. Post-Test Overhead View of Test Area

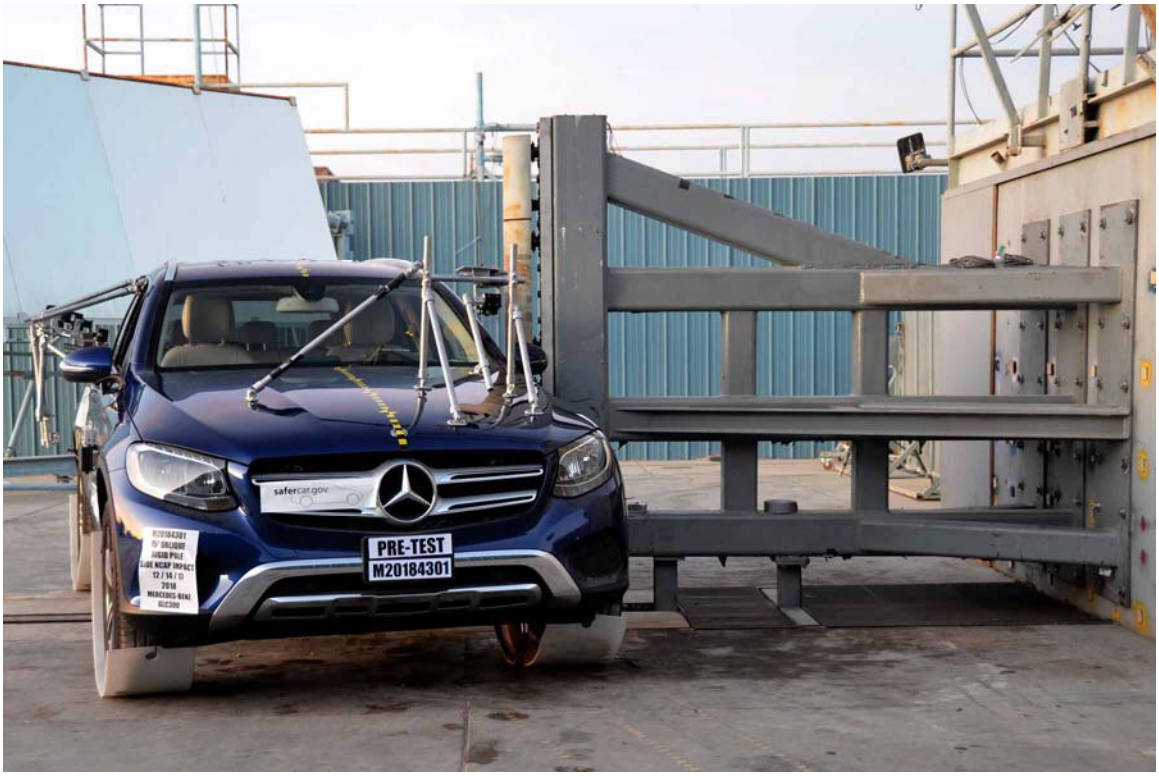


FIGURE 17. Pre-Test Left Side View of Pole Positioned Against Side of Vehicle

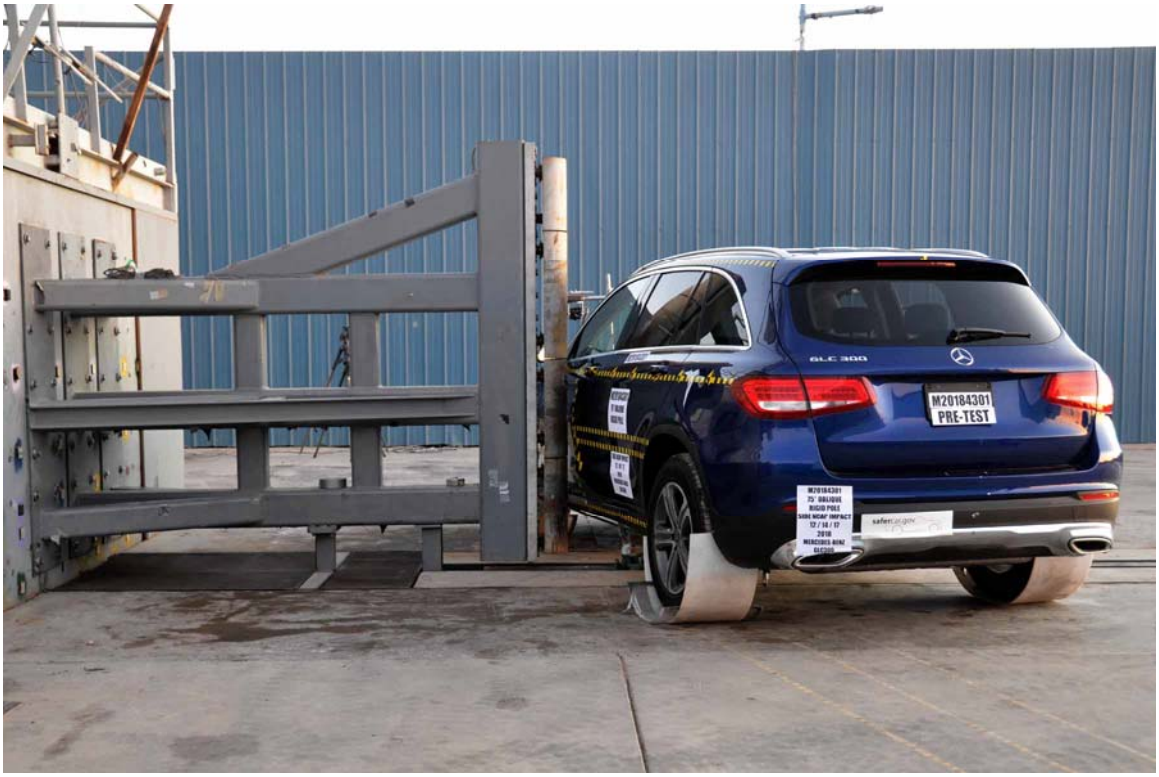


FIGURE 18. Pre-Test Right Side View of Pole Positioned Against Side of Vehicle

FIGURE 19. Pre-Test Close-Up View of Impact Point Target

FIGURE 20. Post-Test Close-Up View of Impact Point Target Showing Impact Location

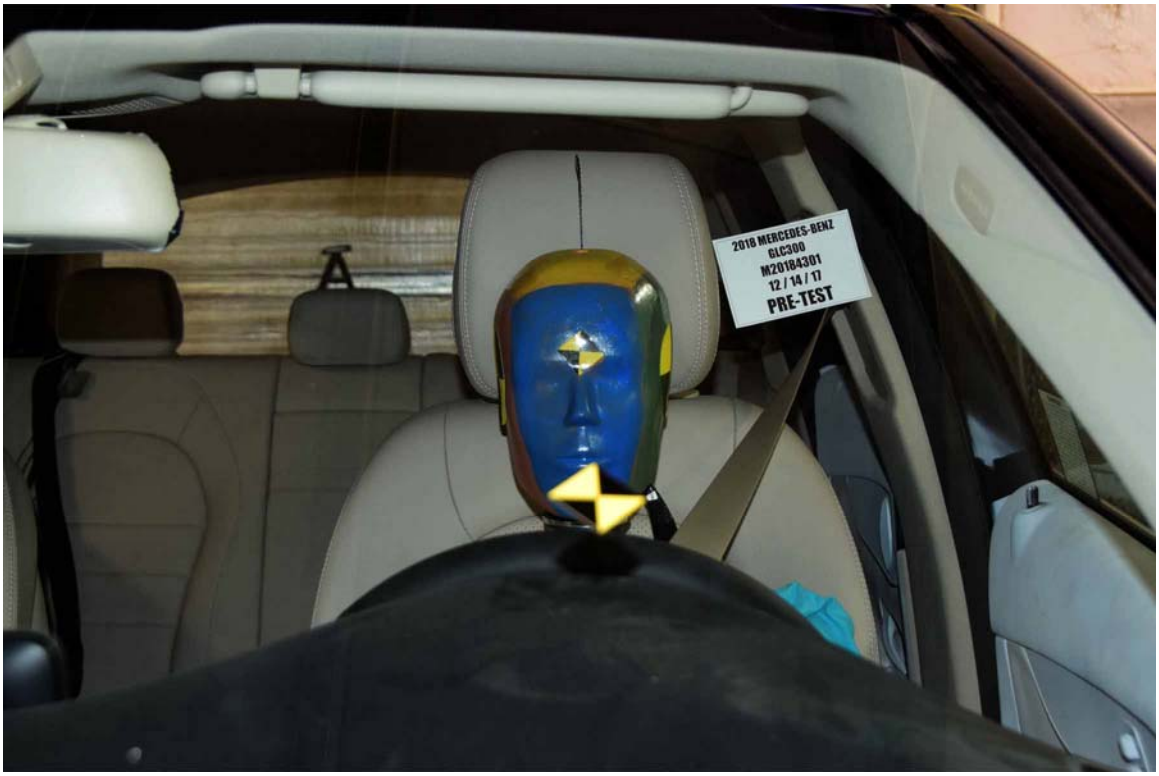


FIGURE 21. Pre-Test Front Close-Up View of Dummy Head and Chest

FIGURE 22. Post-Test Front Close-Up View of Dummy

FIGURE 23. Pre-Test Left Side View of Dummy Showing Belt and Chalking

FIGURE 24. Pre-Test Left Side View of Dummy Shoulder and Door Top View

FIGURE 25. Post-Test Left Side View of Dummy Shoulder and Door Top View

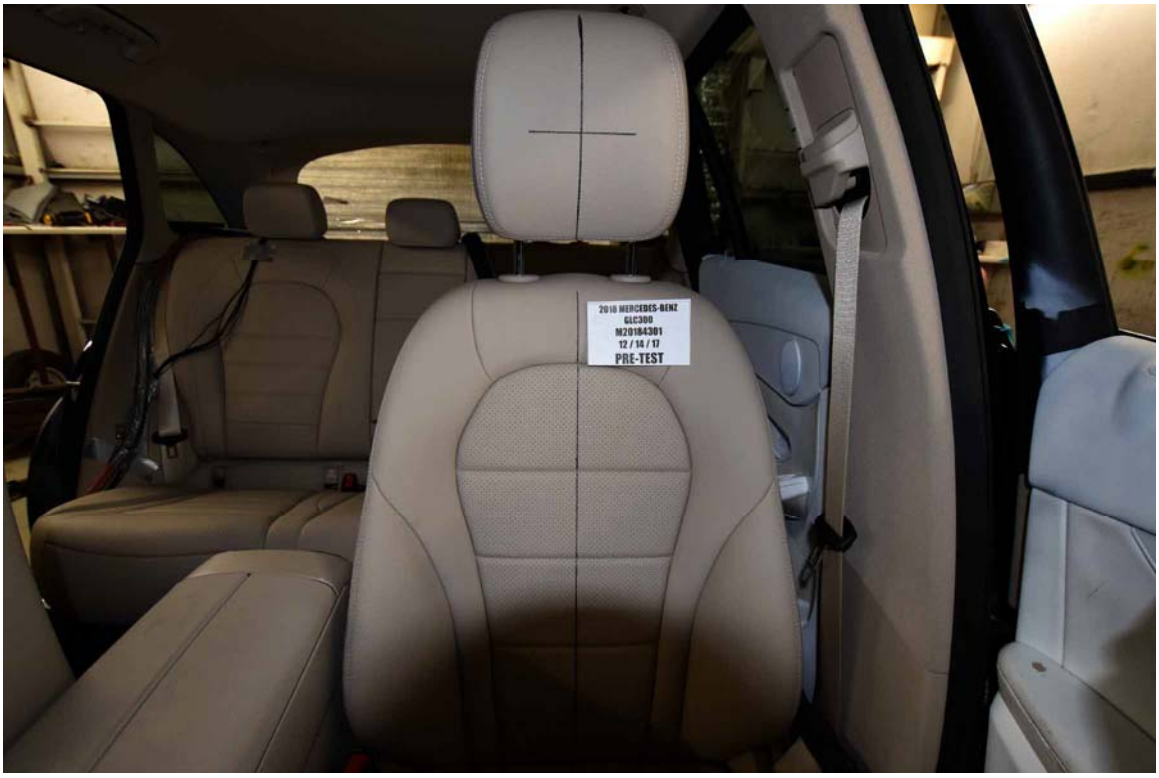


FIGURE 26. Pre-Test Frontal View of Seat Back Prior to Dummy Positioning

FIGURE 27. Pre-Test Frontal Close-Up View of
Dummy Head and Shoulders in Relation to Head Restraint

FIGURE 28. Pre-Test Overhead View of Seat Pan Prior to Dummy Positioning

FIGURE 29. Pre-Test Overhead View of Dummy Thighs on Seat Pan

FIGURE 30. Pre-Test Left Side View of Dummy's Neck
Showing Position of Adjustable Neck Bracket

FIGURE 31. Pre-Test Left Side View of Dummy's Head

Showing Dummy's Head is Level

FIGURE 32. Pre-Test Placement of Dummy's Feet

FIGURE 33. Pre-Test View of Belt Anchorage for Dummy

FIGURE 34. Pre-Test Left Side View of Steering Wheel

FIGURE 35. View of Disengaged Parking Brake

FIGURE 36. Pre-Test View of Parking Brake

FIGURE 37. Pre-Test Close-Up Left Side View of Driver Seat Track

FIGURE 38. Pre-Test Close-Up Left Side View of Driver Seat Back

FIGURE 39. Pre-Test Close-Up View of Driver Seat Back or Head Restraint

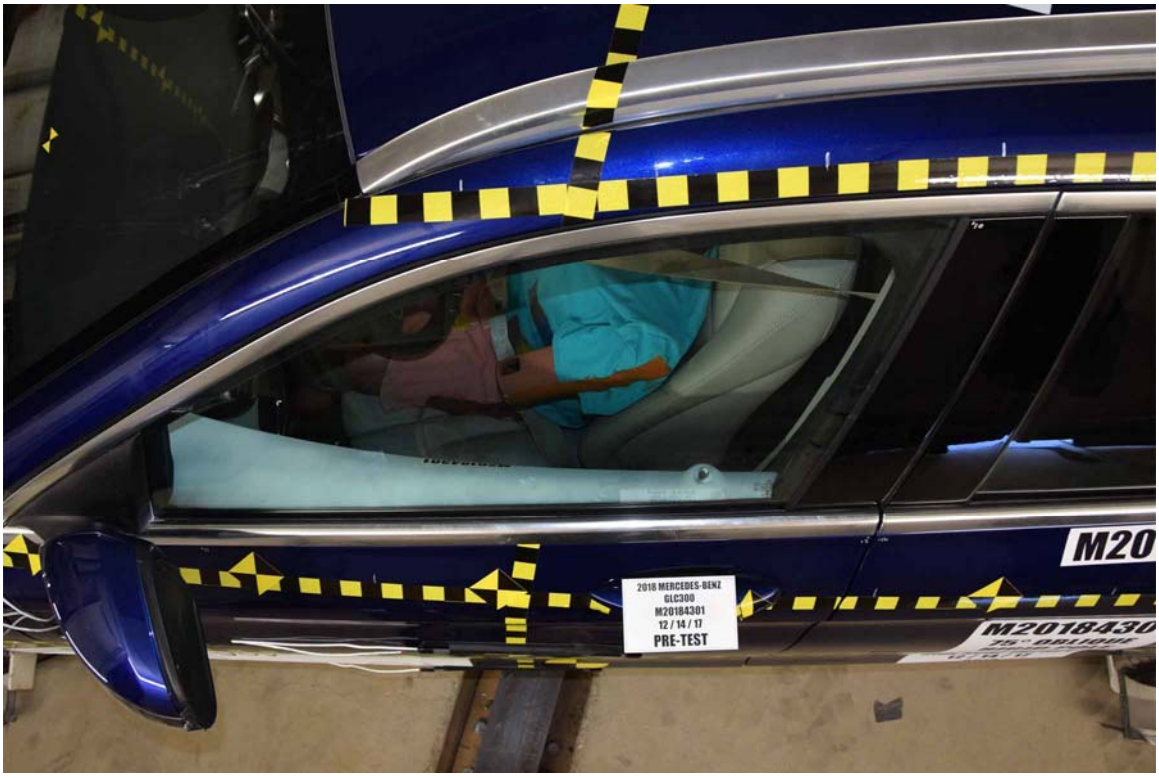


FIGURE 40. Pre-Test Dummy and Door Clearance View

FIGURE 41. Post-Test Dummy and Door Clearance View

FIGURE 42. Pre-Test Right Side View of Dummy and
Front Seat of Occupant Compartment

FIGURE 43. Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment

FIGURE 44. Pre-Test Inner Door Panel View

FIGURE 45. Post-Test Inner Door Panel View Showing Dummy Contact Locations

FIGURE 46. Post-Test Dummy Close-Up Head Contact with Vehicle Interior View

FIGURE 47. Post-Test Dummy Close-Up Head Contact With Side Airbag View

FIGURE 48. Post-Test Dummy Close-Up Torso Contact With Vehicle Interior View

FIGURE 49. Post-Test Dummy Close-Up Torso Contact With Side Airbag View

FIGURE 50. Post-Test Dummy Close-Up Pelvis Contact With Vehicle Interior View

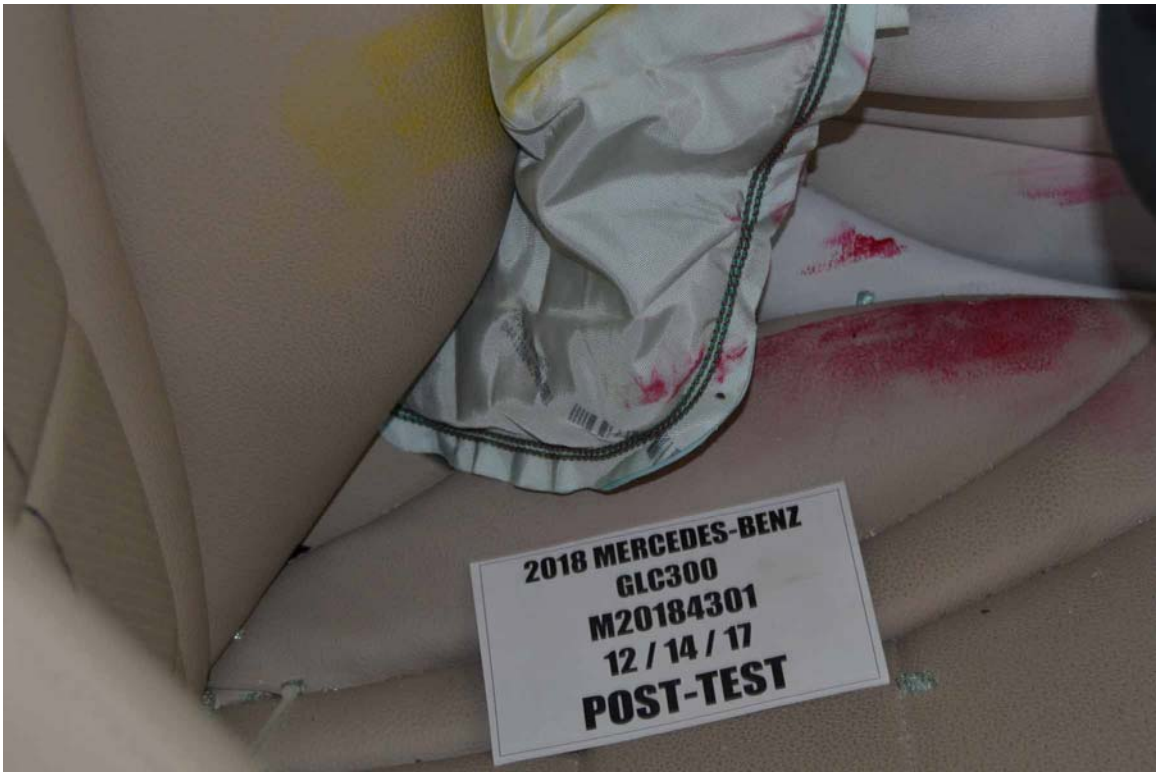


FIGURE 51. Post-Test Dummy Close-Up Pelvis Contact With Side Airbag View

FIGURE 52. Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View

FIGURE 53. Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

FIGURE 54. Post-Test View of Fuel Filler Cap or Fuel Filler Neck

FIGURE 55. Close-Up View of Vehicle's Certification Label

FIGURE 56. Close-Up View of Vehicle's Tire Information Placard or Label

FIGURE 57. Pre-Test Pole Barrier Front View

FIGURE 58. Post-Test Pole Barrier Front View

FIGURE 59. Pre-Test Pole Barrier Side View

FIGURE 60. Post-Test Pole Barrier Side View

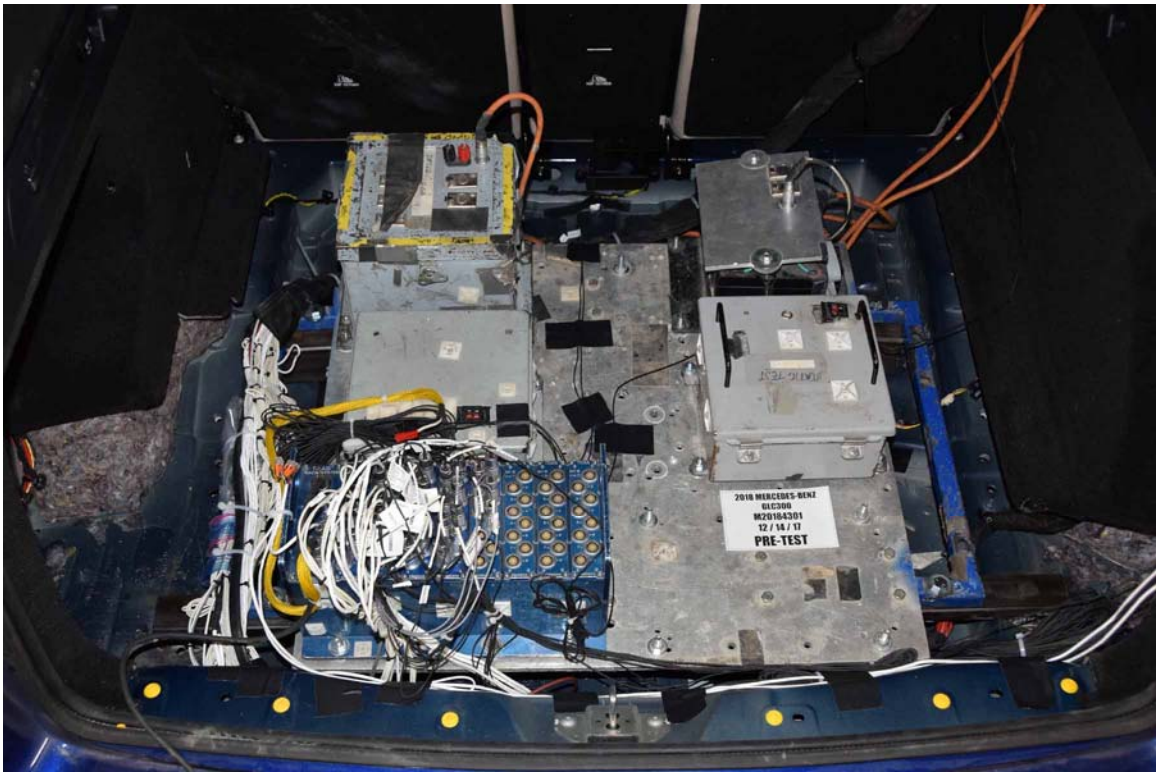


FIGURE 61. Pre-Test Ballast View

FIGURE 62. Post-Test Primary and Redundant Speed Trap Read-Out

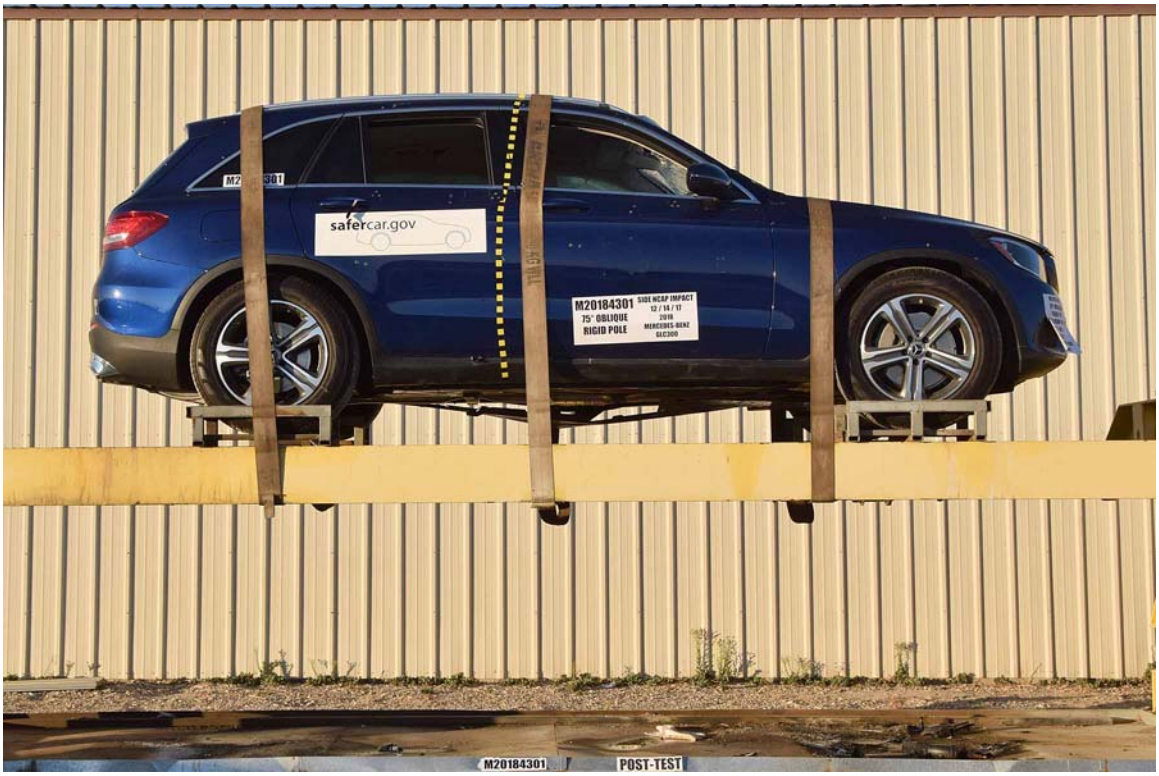


FIGURE 63. FMVSS No. 301 Static Rollover 0 Degrees

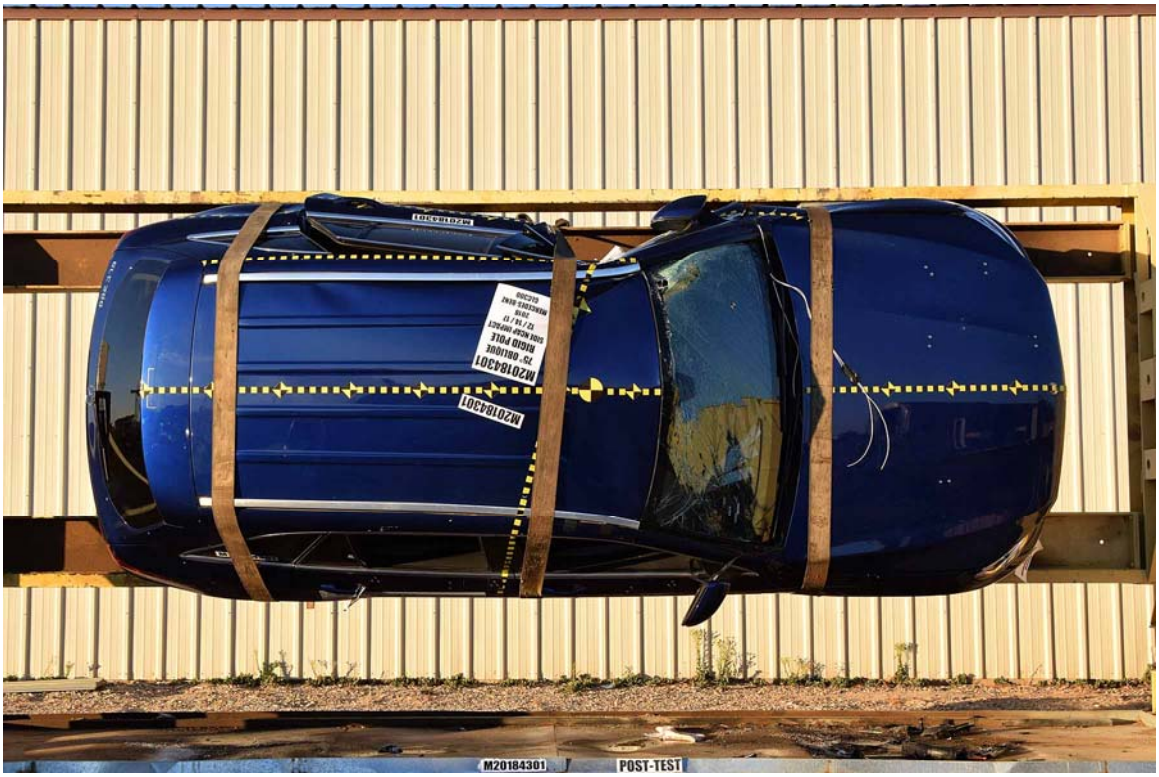


FIGURE 64. FMVSS No. 301 Static Rollover 90 Degrees

FIGURE 65. FMVSS No. 301 Static Rollover 180 Degrees

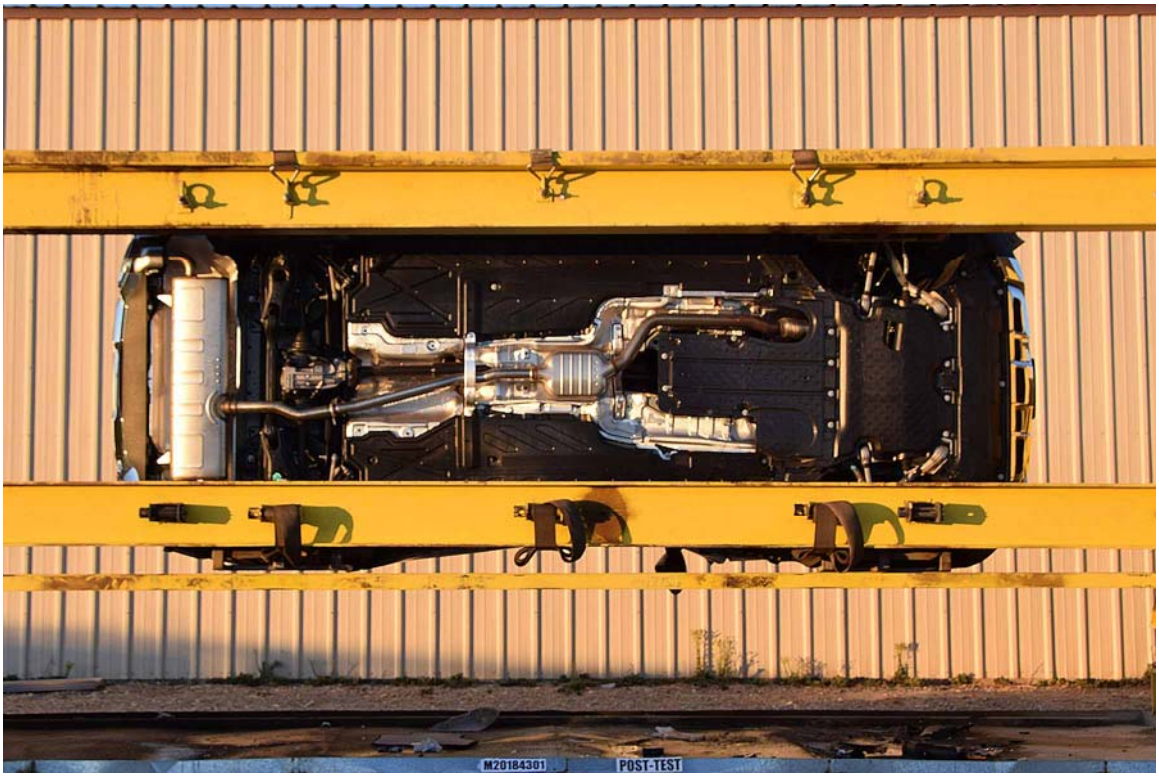


FIGURE 66. FMVSS No. 301 Static Rollover 270 Degrees

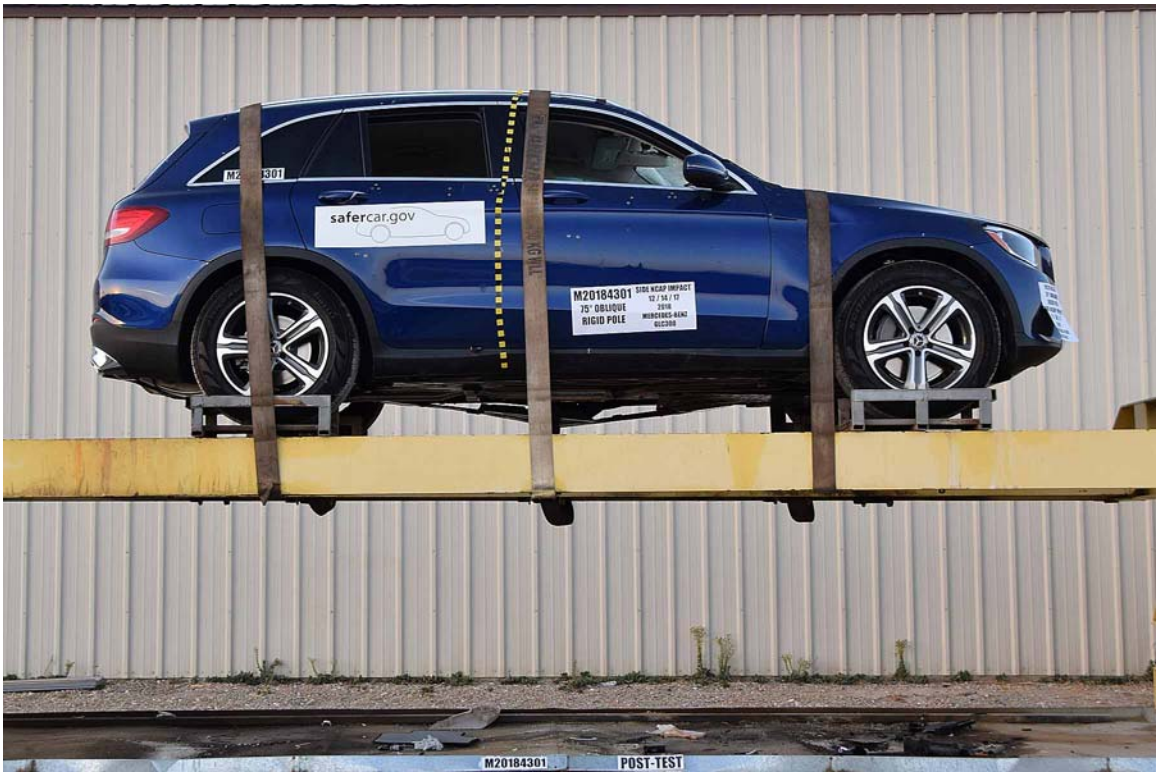
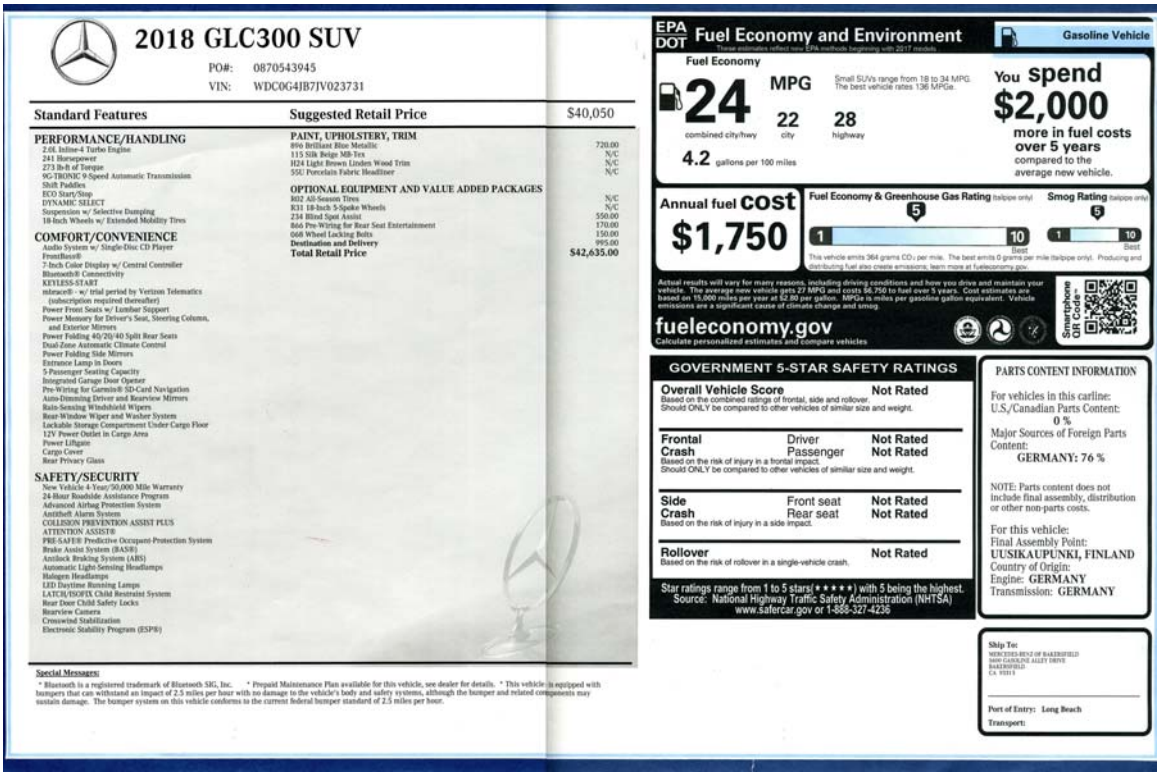


FIGURE 67. FMVSS No. 301 Static Rollover 360 Degrees

FIGURE 68. Impact Event



2018 GLC300 SUV

PO#: 0870543945

VIN: WDC0G4JB7JV023731

Standard Features — **Suggested Retail Price** $40,050

PERFORMANCE/HANDLING
2.0L Inline-4 Turbo Engine
241 Horsepower
273 lb-ft of Torque
9G-TRONIC 9-Speed Automatic Transmission
Shift Paddles
ECO Start/Stop
DYNAMIC SELECT
Suspension w/ Selective Damping
18-Inch Wheels w/ Extended Mobility Tires

COMFORT/CONVENIENCE
Audio System w/ Single-Disc CD Player
FrontBoost®
7-Inch Color Display w/ Central Controller
Bluetooth® Connectivity
KEYLESS-START
mbrace® - w/ trial period by Verizon Telematics (subscription required thereafter)
Power Front Seats w/ Lumbar Support
Power Memory for Driver's Seat, Steering Column, and Exterior Mirrors
Power Folding 40/20/40 Split Rear Seats
Dual-Zone Automatic Climate Control
Power Folding Side Mirrors
Entrance Lamp in Doors
5-Passenger Seating Capacity
Integrated Garage Door Opener
Pre-Wiring for Garmin® SD-Card Navigation
Auto-Dimming Driver and Rearview Mirrors
Rain-Sensing Windshield Wipers
Rear-Window Wiper and Washer System
Lockable Storage Compartment Under Cargo Floor
12V Power Outlet in Cargo Area
Power Liftgate
Cargo Cover
Rear Privacy Glass

SAFETY/SECURITY
New Vehicle 4-Year/50,000 Mile Warranty
24-Hour Roadside Assistance Program
Advanced Airbag Protection System
AntiTheft Alarm System
COLLISION PREVENTION ASSIST PLUS
ATTENTION ASSIST®
PRE-SAFE® Predictive Occupant-Protection System
Brake Assist System (BAS®)
Antilock Braking System (ABS)
Automatic Light-Sensing Headlamps
Halogen Headlamps
LED Daytime Running Lamps
LATCH/ISOFIX Child Restraint System
Rear Door Child Safety Locks
Rearview Camera
Crosswind Stabilization
Electronic Stability Program (ESP®)

PAINT, UPHOLSTERY, TRIM

89b Brilliant Blue Metallic	720.00
115 Silk Beige MB-Tex	N/C
H24 Light Brown Linden Wood Trim	N/C
55U Porcelain Fabric Headliner	N/C

OPTIONAL EQUIPMENT AND VALUE ADDED PACKAGES

802 All-Season Tires	N/C
K31 18-Inch 5-Spoke Wheels	N/C
234 Blind Spot Assist	550.00
866 Pre-Wiring for Rear Seat Entertainment	170.00
668 Wheel Locking Bolts	150.00
Destination and Delivery	995.00
Total Retail Price	**$42,635.00**

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

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

Fuel Economy: **24** MPG combined city/hwy (22 city, 28 highway); 4.2 gallons per 100 miles. Small SUVs range from 18 to 34 MPG. The best vehicle rates 136 MPGe.

You spend **$2,000** more in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost **$1,750**

Fuel Economy & Greenhouse Gas Rating (tailpipe only): 5 (1 Worst, 10 Best). This vehicle emits 364 grams CO_2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fueleconomy.gov.

Smog Rating (tailpipe only): 5 (1 Worst, 10 Best)

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 27 MPG and costs $6,750 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at $2.50 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fueleconomy.gov — Calculate personalized estimates and compare vehicles

Smartphone QR Codes

GOVERNMENT 5-STAR SAFETY RATINGS

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

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

PARTS CONTENT INFORMATION

For vehicles in this carline:
U.S./Canadian Parts Content: 0 %
Major Sources of Foreign Parts Content:
GERMANY: 76 %

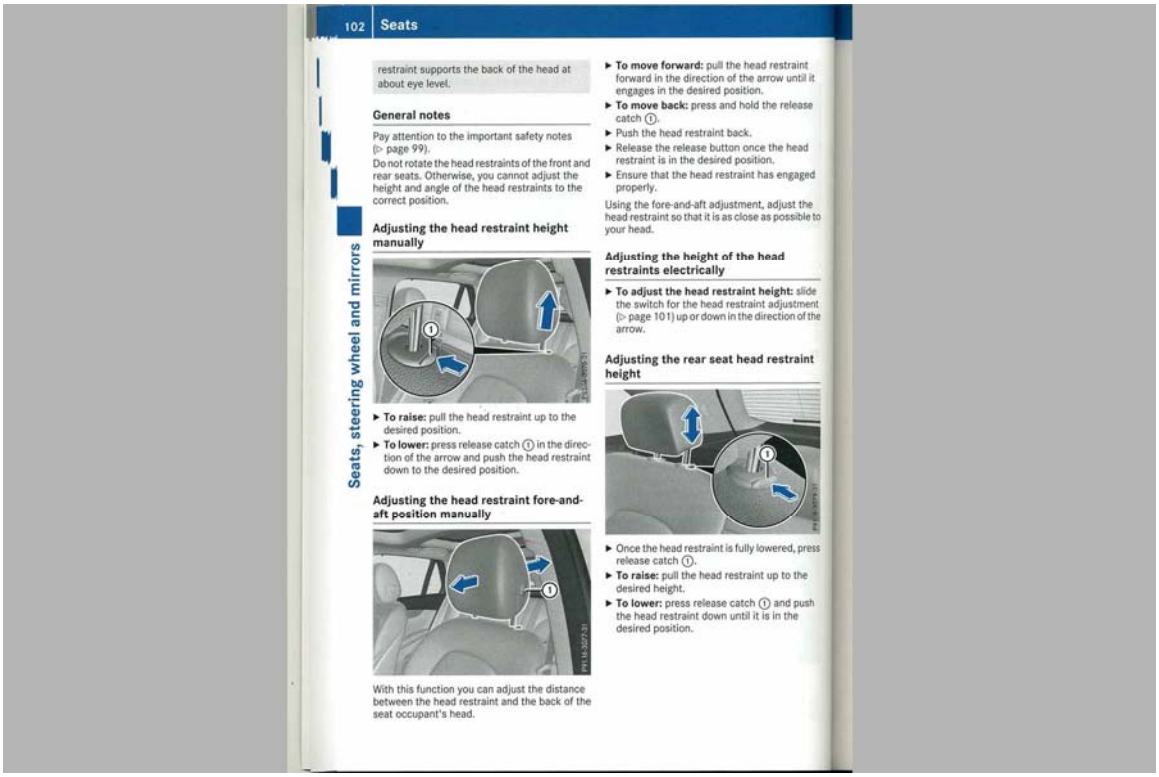
NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

For this vehicle:
Final Assembly Point: UUSIKAUPUNKI, FINLAND
Country of Origin:
Engine: GERMANY
Transmission: GERMANY

Ship To:
MERCEDES-BENZ OF BAKERSFIELD
5600 GASOLINE ALLEY DRIVE
BAKERSFIELD
CA 93313

Port of Entry: Long Beach
Transport:

FIGURE 69. Monroney Label



102 Seats

Seats, steering wheel and mirrors

restraint supports the back of the head at about eye level.

General notes

Pay attention to the important safety notes (▷ page 99).

Do not rotate the head restraints of the front and rear seats. Otherwise, you cannot adjust the height and angle of the head restraints to the correct position.

Adjusting the head restraint height manually

- **To raise:** pull the head restraint up to the desired position.
- **To lower:** press release catch ① in the direction of the arrow and push the head restraint down to the desired position.

Adjusting the head restraint fore-and-aft position manually

With this function you can adjust the distance between the head restraint and the back of the seat occupant's head.

- **To move forward:** pull the head restraint forward in the direction of the arrow until it engages in the desired position.
- **To move back:** press and hold the release catch ①.
- Push the head restraint back.
- Release the release button once the head restraint is in the desired position.
- Ensure that the head restraint has engaged properly.

Using the fore-and-aft adjustment, adjust the head restraint so that it is as close as possible to your head.

Adjusting the height of the head restraints electrically

- **To adjust the head restraint height:** slide the switch for the head restraint adjustment (▷ page 101) up or down in the direction of the arrow.

Adjusting the rear seat head restraint height

- Once the head restraint is fully lowered, press release catch ①.
- **To raise:** pull the head restraint up to the desired height.
- **To lower:** press release catch ① and push the head restraint down until it is in the desired position.

FIGURE 70. Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

APPENDIX B
DUMMY RESPONSE DATA

TABLE OF DATA PLOTS

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at www.NHTSA.dot.gov

Additional Driver Dummy Instrumentation Data

Driver Head Acceleration Redundant (X)

Driver Head Acceleration Redundant (Y)

Driver Head Acceleration Redundant (Z)

Driver Upper Thorax Rib Deflection (Y)

Driver Middle Thorax Rib Deflection (Y)

Driver Lower Thorax Rib Deflection (Y)

Driver Upper Abdomen Rib Deflection (Y)

Driver Lower Abdomen Rib Deflection (Y)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)

Vehicle Center of Gravity Acceleration (Y)

Vehicle Center of Gravity Acceleration (Z)

Left Floor Sill Acceleration (Y)

Left A-Pillar Sill Acceleration (Y)

Left Lower A-Pillar Acceleration (Y)

Left Mid A-Pillar Acceleration (Y)

Left B-Pillar Sill Acceleration

Left Lower B-Pillar Acceleration (Y)

Left Mid B-Pillar Acceleration (Y)

Driver Seat Track at Dummy Hip Point Acceleration (Y)

Engine Top Acceleration (X)

Engine Top Acceleration (Y)

Firewall Center Acceleration (Y)

Right Roof at Vertical Impact Reference Line Acceleration (Y)

Right Sill at Vertical Impact Reference Line Acceleration (Y)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (X)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (Y)

Pole Instrumentation Data

Load Cell Pole Barrier #1 Force (Y)

Load Cell Pole Barrier #2 Force (Y)

Load Cell Pole Barrier #3 Force (Y)

Load Cell Pole Barrier #4 Force (Y)

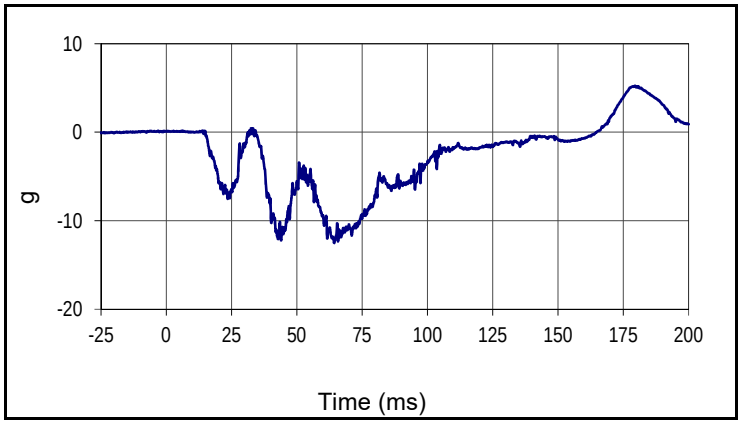
Load Cell Pole Barrier #5 Force (Y)

Load Cell Pole Barrier #6 Force (Y)

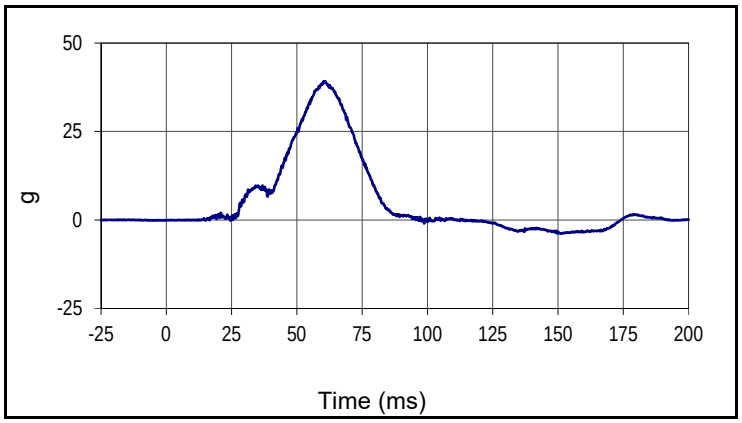
Load Cell Pole Barrier #7 Force (Y)

Load Cell Pole Barrier #8 Force (Y)

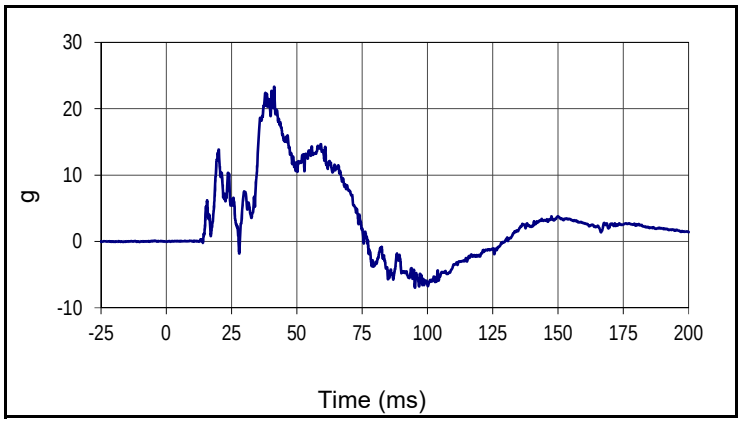
Test Vehicle:	2018 Mercedes-Benz GLC 300 5-Door MPV	Test Date:	12/14/2017
Test Program:	NCAP Side Pole Impact Test	NHTSA No.:	M20184301



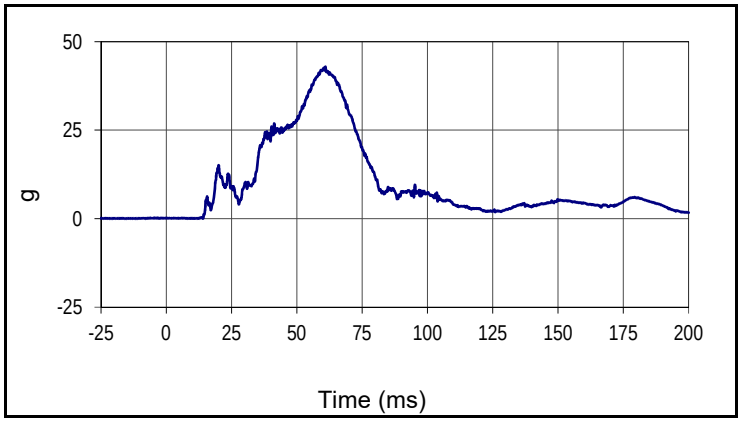
Curve Description			
Driver Head Acceleration X Primary			
Plot No.		SAE Class	Units
001		1000	g
Max	Time	Min	Time
5.2	179.5	-12.5	64.3



Curve Description			
Driver Head Acceleration Y Primary			
Plot No.		SAE Class	Units
002		1000	g
Max	Time	Min	Time
39.2	60.3	-3.8	151.4

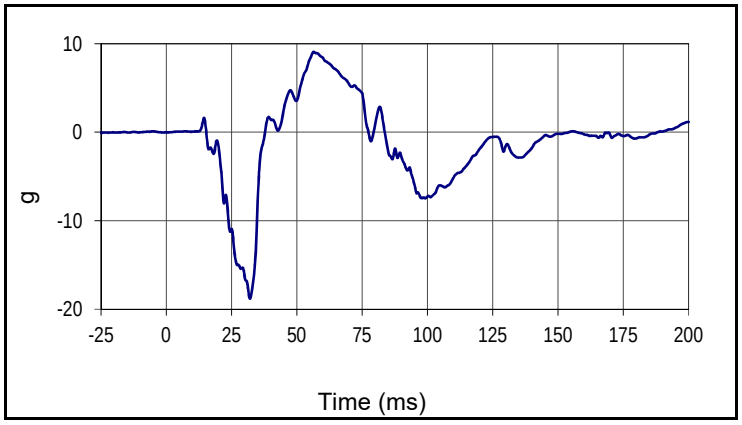


Curve Description			
Driver Head Acceleration Z Primary			
Plot No.		SAE Class	Units
003		1000	g
Max	Time	Min	Time
23.3	41.3	-7.0	95.2

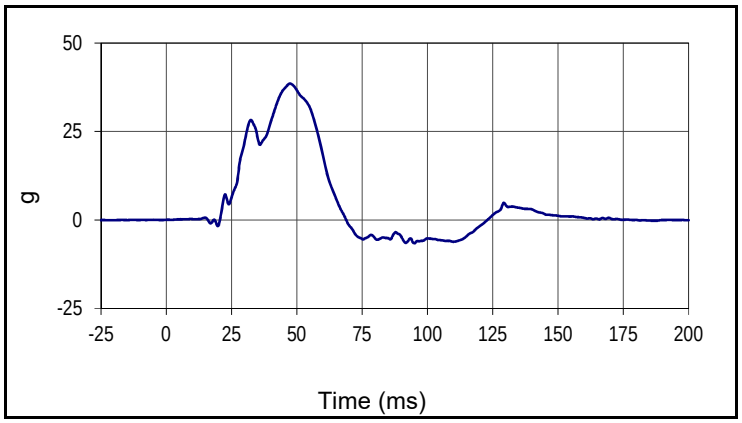


Curve Description			
Driver Head Acceleration Primary Res.			
Plot No.		SAE Class	Units
004		1000	g
Max	Time	Min	Time
42.9	60.9	0.0	12.3

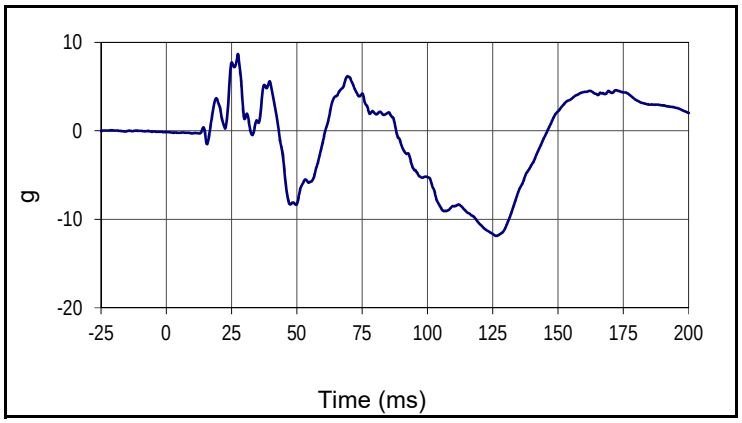
Test Vehicle:	2018 Mercedes-Benz GLC 300 5-Door MPV	Test Date:	12/14/2017
Test Program:	NCAP Side Pole Impact Test	NHTSA No.:	M20184301



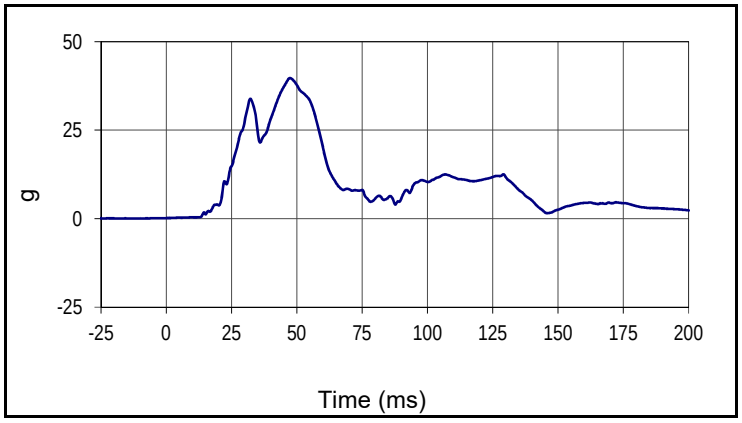
Curve Description			
Driver Lower Spine T12 Acceleration X			
Plot No.		SAE Class	Units
005		180	g
Max	Time	Min	Time
9.1	56.4	-18.8	32.0



Curve Description			
Driver Lower Spine T12 Acceleration Y			
Plot No.		SAE Class	Units
006		180	g
Max	Time	Min	Time
38.5	47.3	-6.6	95.0

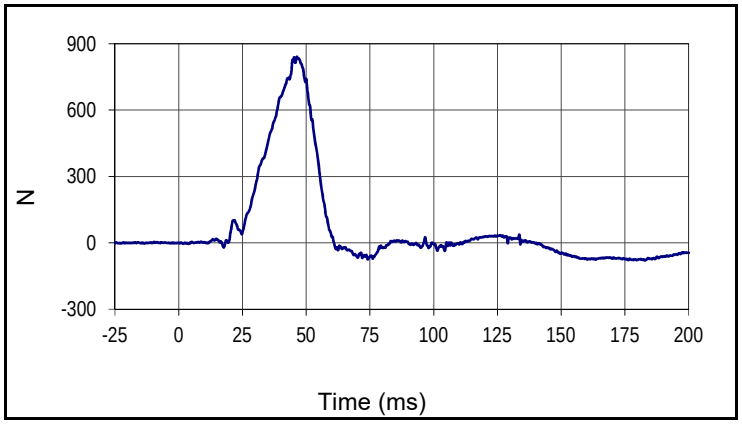


Curve Description			
Driver Lower Spine T12 Acceleration Z			
Plot No.		SAE Class	Units
007		180	g
Max	Time	Min	Time
8.7	27.4	-11.9	126.3

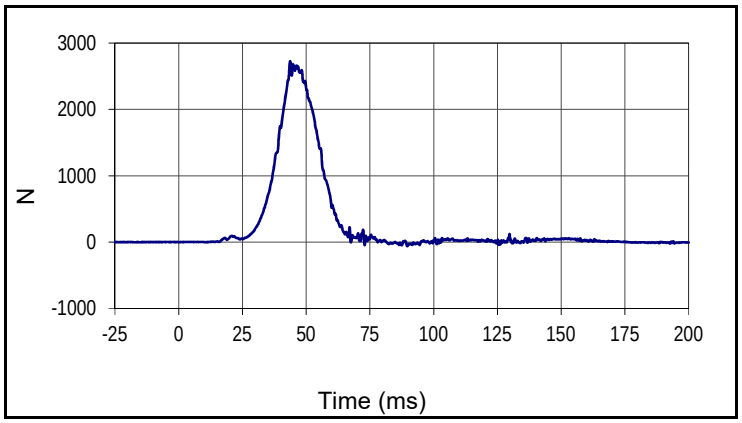


Curve Description			
Driver Lower Spine T12 Acceleration Res.			
Plot No.		SAE Class	Units
008		180	g
Max	Time	Min	Time
39.7	47.4	0.1	0.0

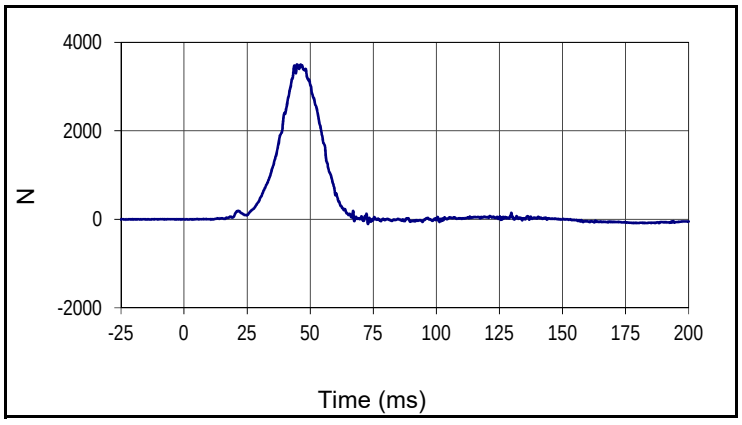
Test Vehicle:	2018 Mercedes-Benz GLC 300 5-Door MPV	Test Date:	12/14/2017
Test Program:	NCAP Side Pole Impact Test	NHTSA No.:	M20184301



Curve Description			
Driver Iliac Wing Force on Impact Side Y			
Plot No.		SAE Class	Units
009		600	N
Max	Time	Min	Time
840.8	46.4	-79.7	182.8



Curve Description			
Driver Acetabulum Force on Impact Side Y			
Plot No.		SAE Class	Units
010		600	N
Max	Time	Min	Time
2726.1	43.7	-60.3	89.6



Curve Description			
Driver Total Pelvic Force on Impact Side Y			
Plot No.		SAE Class	Units
011		600	N
Max	Time	Min	Time
3501.2	44.8	-105.0	72.9

APPENDIX C
ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
PRE-TEST ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

SID-IIs Small Side Impact Dummy
External Measurements

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	20	Pass
A - Sitting Height	mm	772	788	785	Pass
B - Shoulder Pivot Height	mm	437	453	450	Pass
C - Hpoint Height	mm	79	89	84	Pass
D - H Point From Seatback	mm	141	151	145	Pass
E - Shoulder Pivot From Backline	mm	97	107	102	Pass
F - Thigh Clearance	mm	119	135	125	Pass
G - Head Breadth	mm	140	148	148	Pass
H - Head Back From Backline	mm	40	46	43	Pass
I - Head Depth	mm	178	188	186	Pass
J - Head Circumference	mm	541	551	544	Pass
K - Buttock To Knee Length	mm	514	540	527	Pass
L - Popliteal Height	mm	343	369	356	Pass
K - Knee Pivot To Floor Height	mm	392	409	402	Pass
N - Buttock Popliteal Length	mm	416	442	438	Pass
O - Chest Depth W/O Jacket	mm	195	211	203	Pass
P - Foot Length	mm	216	232	220	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	319	Pass
R - Arm Length	mm	249	259	254	Pass
S - Knee Joint To Seatback	mm	477	493	481	Pass
V - Shoulder Width	mm	341	357	346	Pass
W - Foot Width	mm	78	94	89	Pass
Y - Chest Circumference W/Jacket	mm	851	881	870	Pass
Z - Waist Circumference	mm	761	791	772	Pass
			Overall Test Results		Pass

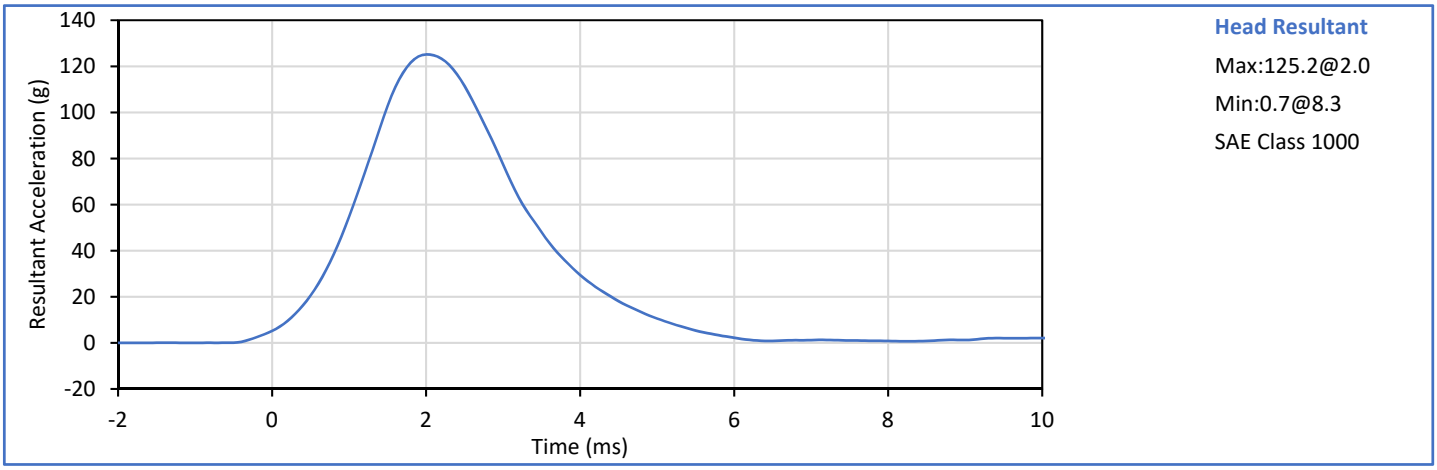
Technician: Approved By:

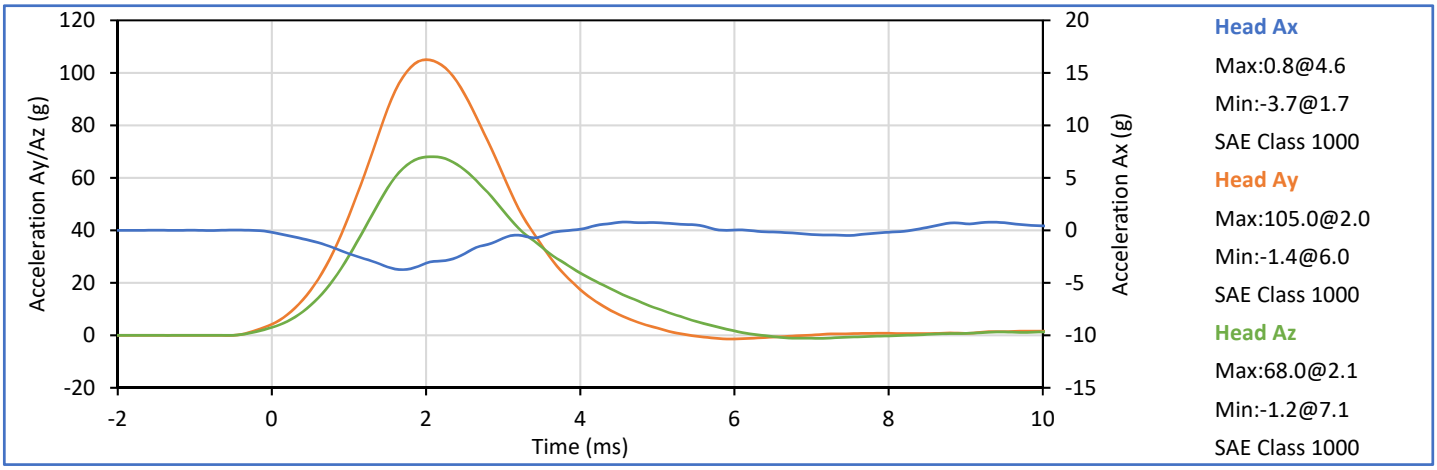
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Head Drop

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.1	Pass
Laboratory Humidity	%	10	70	21	Pass
Peak Resultant Acceleration	g	115.0	137.0	125.2	Pass
Peak Head Ax	g	-15.0	15.0	-3.7	Pass
Oscillations After Main Pulse	%	0.0	15.0	1.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
			Overall Test Results		Pass





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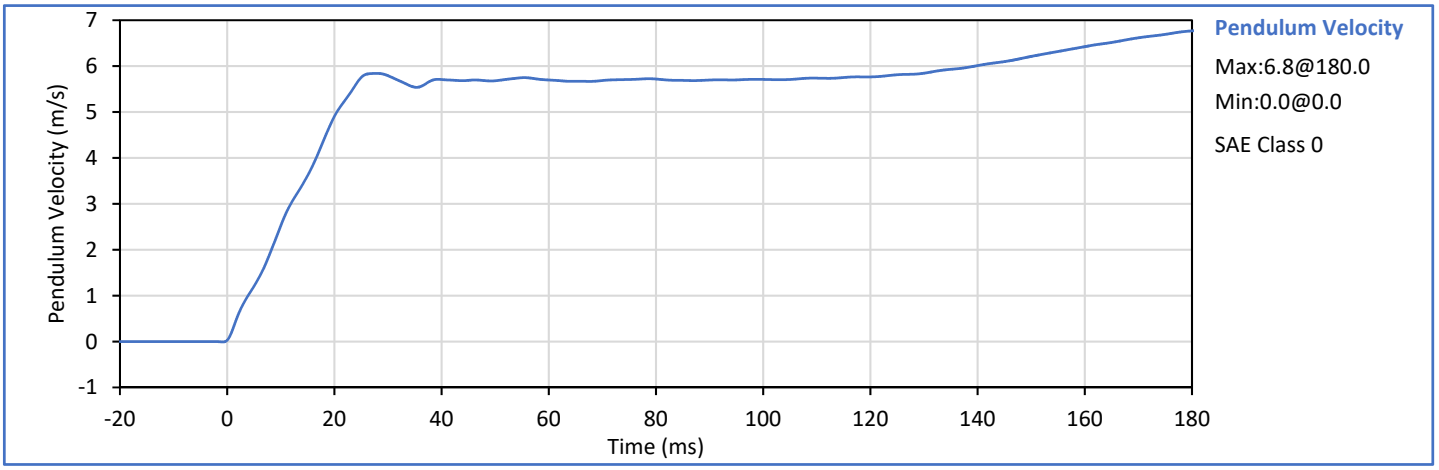
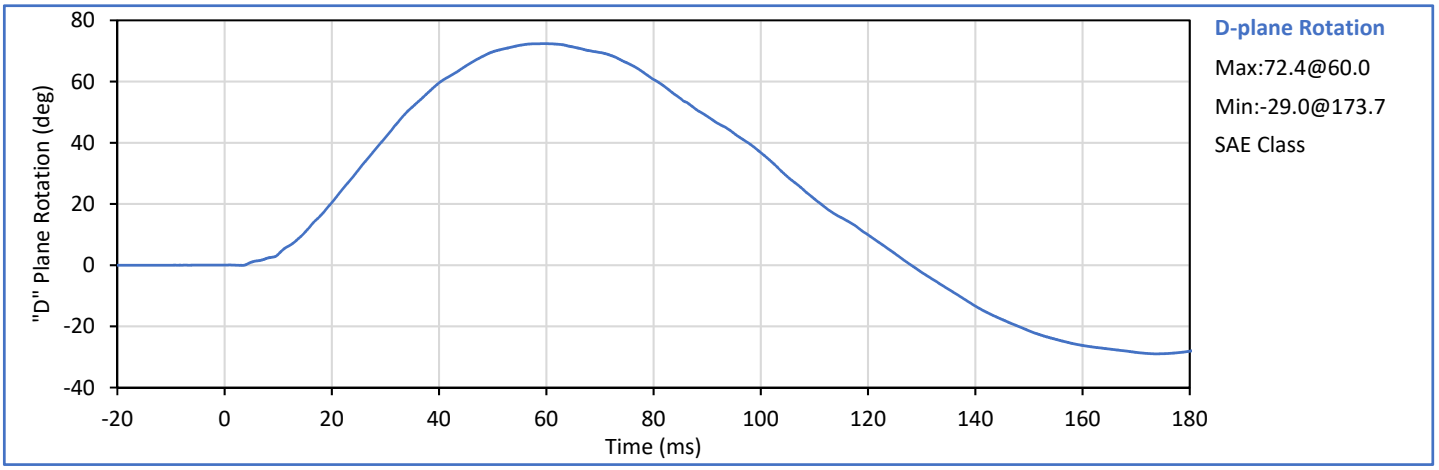
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Neck Flexion

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Humidity	%	10	70	20	Pass
Pendulum Velocity	m/s	5.51	5.63	5.52	Pass
Pendulum Decel at 10 ms	m/s	2.20	2.80	2.52	Pass
Pendulum Decel at 15 ms	m/s	3.30	4.10	3.61	Pass
Pendulum Decel at 20 ms	m/s	4.40	5.40	4.90	Pass
Pendulum Decel at 25 ms	m/s	5.40	6.10	5.75	Pass
Pendulum Decel from 25-100 ms	m/s	5.50	6.20	5.84	Pass
Peak "D" Plane Rotation	deg	71.0	81.0	72.4	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	60.0	Pass
Peak Occ. Condyle Moment	Nm	-44.0	-36.0	-41.1	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	110.0	Pass
			Overall Test Results		Pass



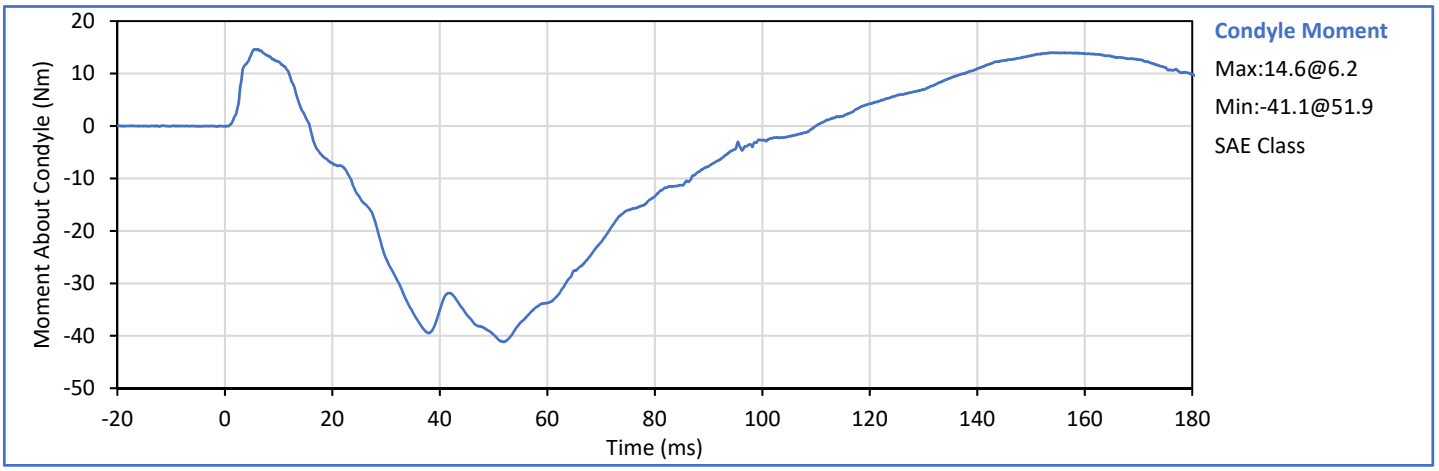


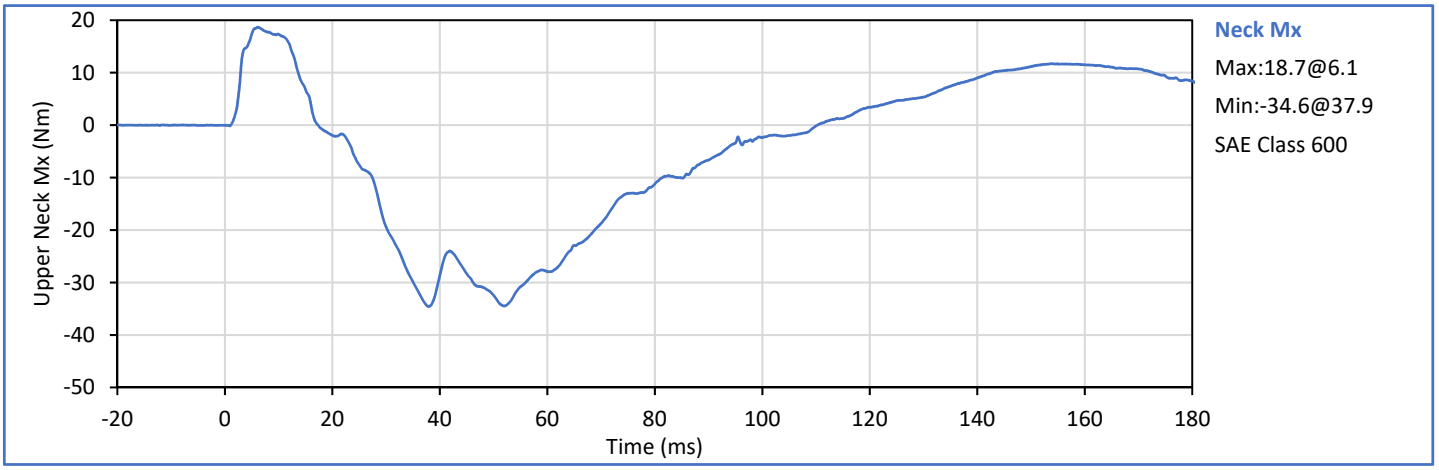
Technician: Approved By:

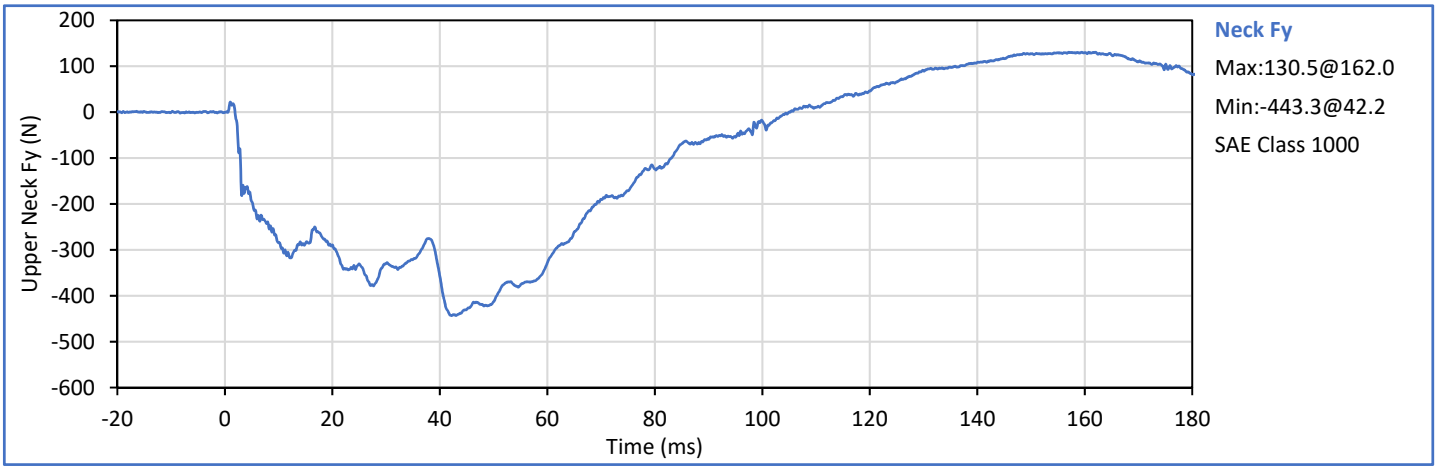
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Neck Flexion

ATD Serial No.: 299 Test Date: 2017-12-13





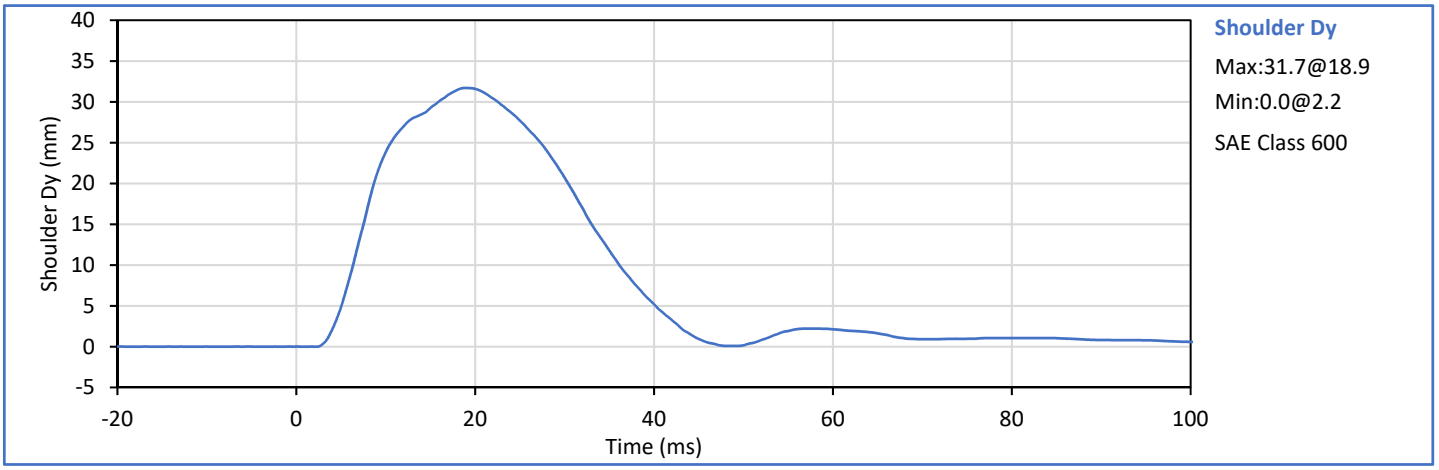


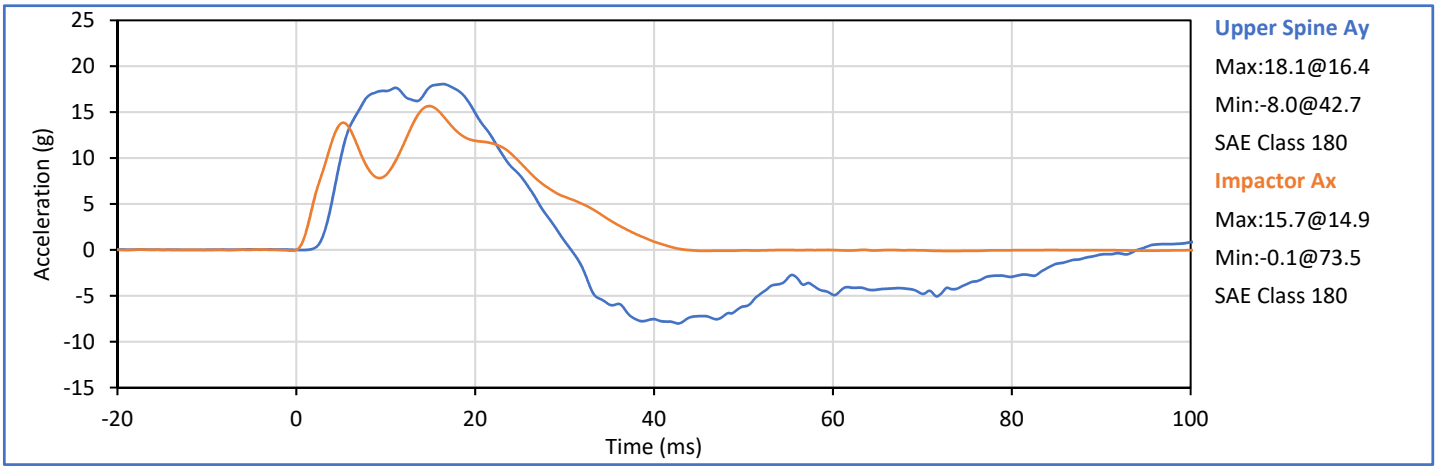
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Shoulder Impact Test

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	20	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Shoulder Dy	mm	28.0	37.0	31.7	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.1	Pass
Peak Impactor Ax	g	13.0	18.0	15.7	Pass
			Overall Test Results		Pass





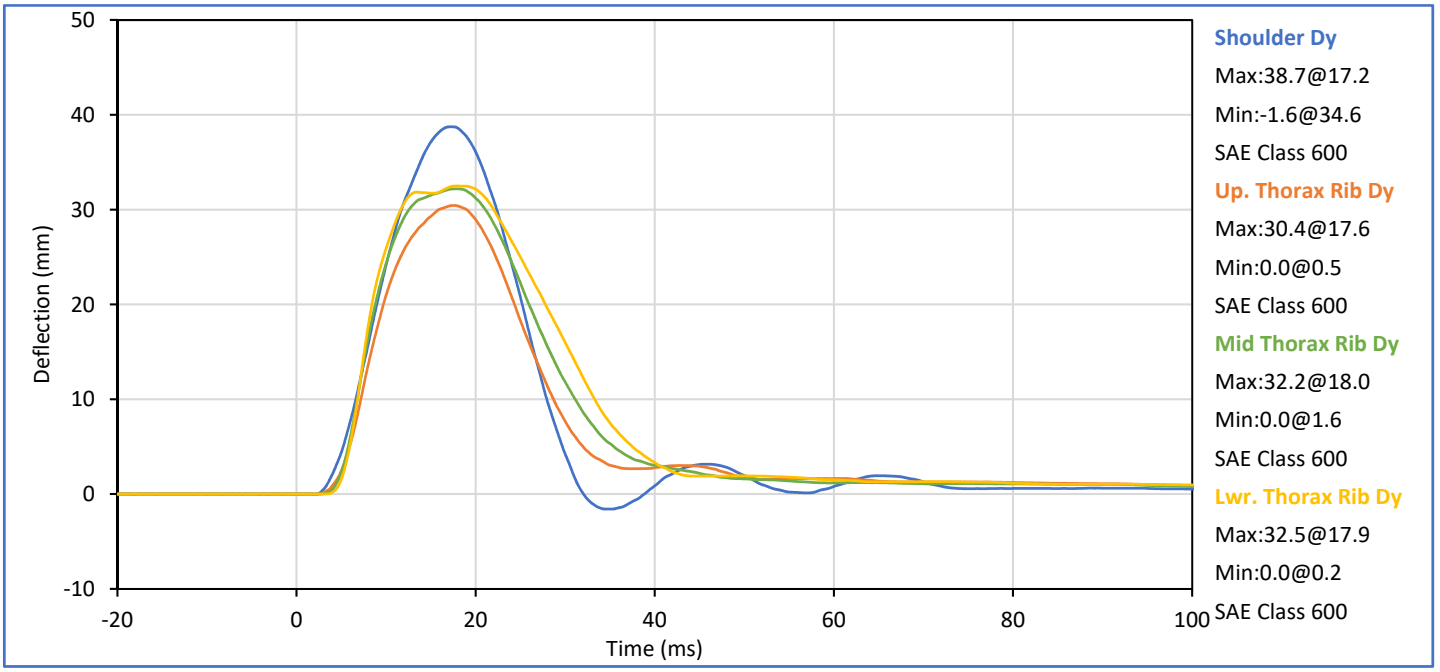
Technician: Approved By:

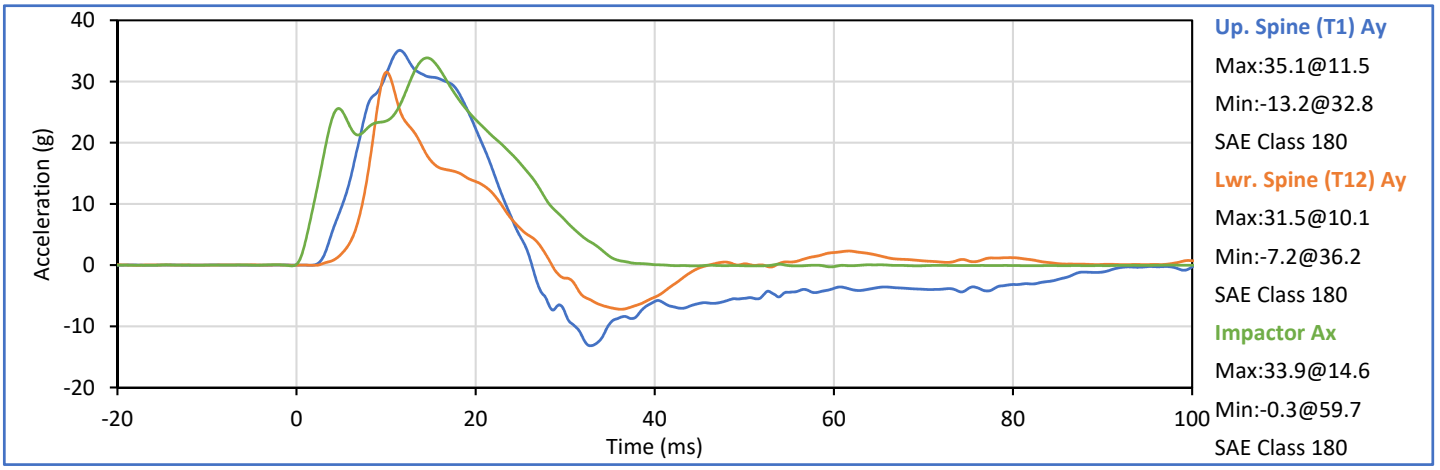
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Thorax (With Arm)

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Humidity	%	10	70	20	Pass
Impactor Velocity	m/s	6.60	6.80	6.78	Pass
Peak Shoulder Dy	mm	31.0	40.0	38.7	Pass
Peak Upper Rib Dy	mm	25.0	32.0	30.4	Pass
Peak Middle Rib Dy	mm	30.0	36.0	32.2	Pass
Peak Lower Rib Dy	mm	32.0	38.0	32.5	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	35.1	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	31.5	Pass
Peak Impactor Ax	g	30.0	36.0	33.9	Pass
			Overall Test Results		Pass





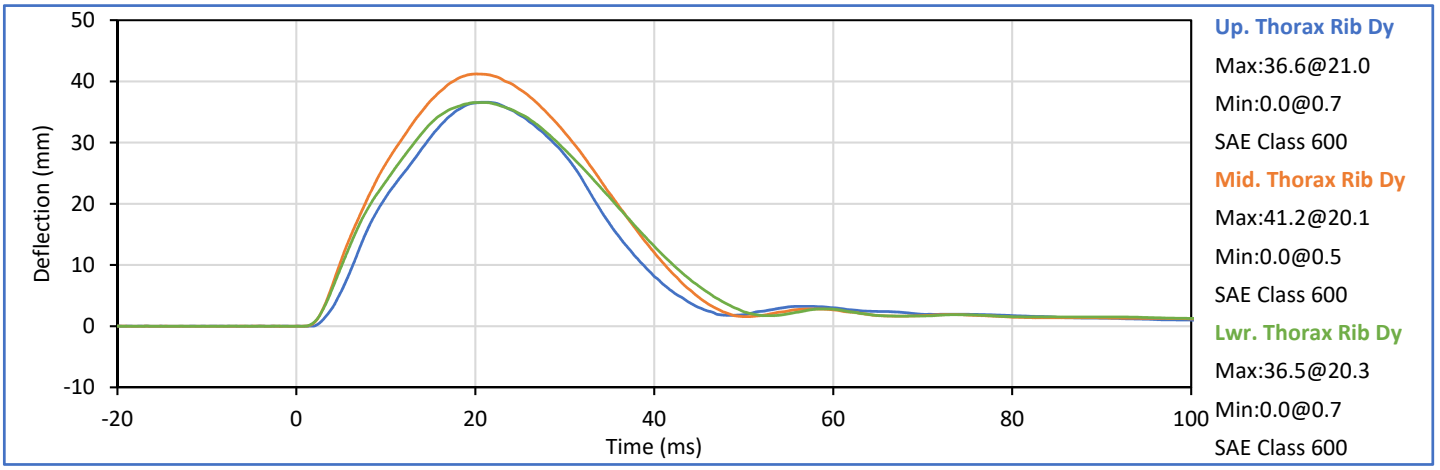
Technician: Approved By:

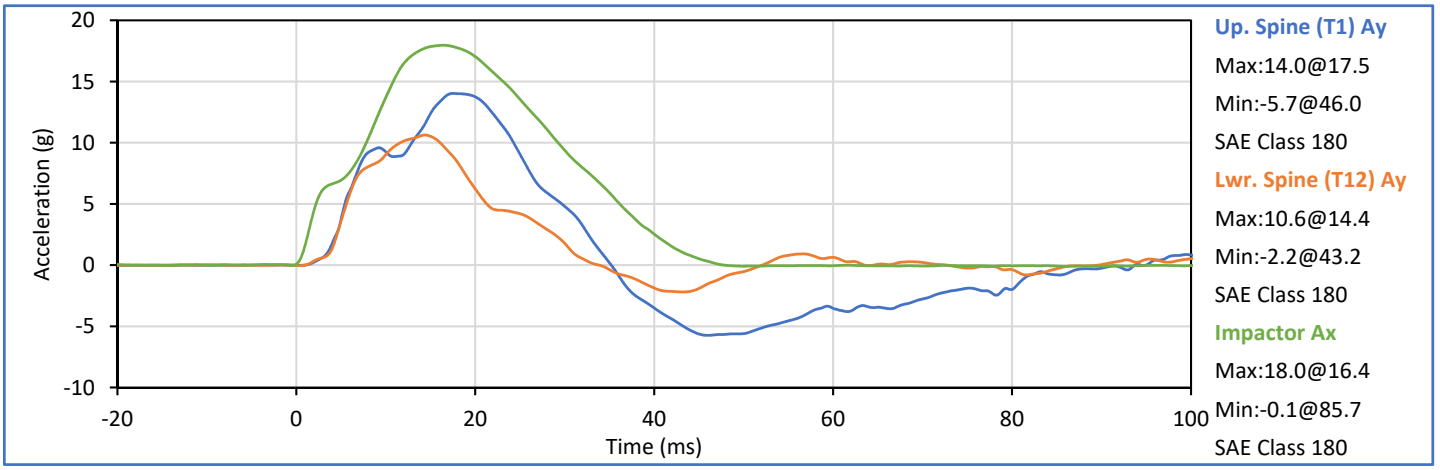
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Thorax (No Arm)

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	21	Pass
Impactor Velocity	m/s	4.20	4.40	4.32	Pass
Peak Upper Rib Dy	mm	32.0	40.0	36.6	Pass
Peak Middle Rib Dy	mm	39.0	45.0	41.2	Pass
Peak Lower Rib Dy	mm	35.0	43.0	36.5	Pass
Peak Upper Spine (T1) Ay	g	13.0	17.0	14.0	Pass
Peak Lower Spine (T12) Ay	g	7.0	11.0	10.6	Pass
Peak Impactor Ax	g	14.0	18.0	18.0	Pass
			Overall Test Results		Pass





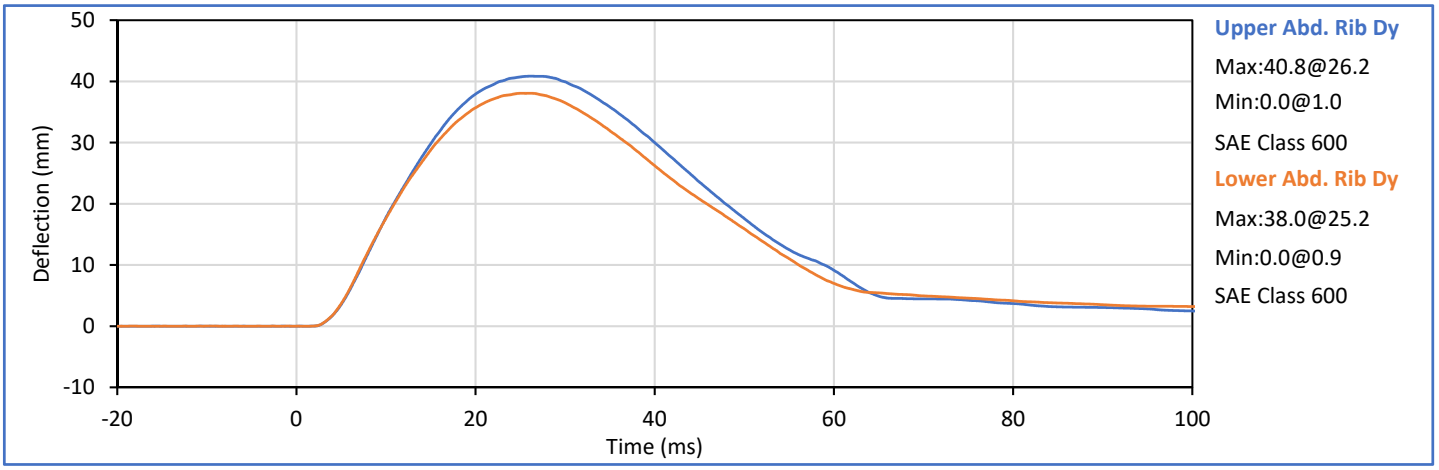
Technician: Approved By:

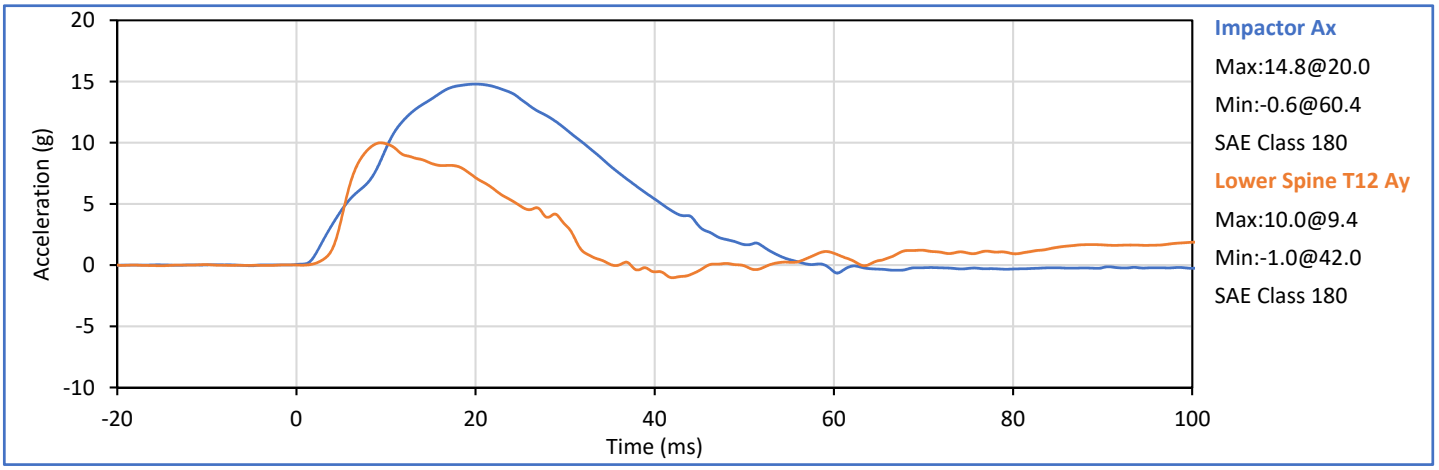
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Abdomen Impact

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	21	Pass
Impactor Velocity	m/s	4.20	4.40	4.37	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	40.8	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	38.0	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	10.0	Pass
Peak Impactor Ax	g	12.0	16.0	14.8	Pass
			Overall Test Results		Pass





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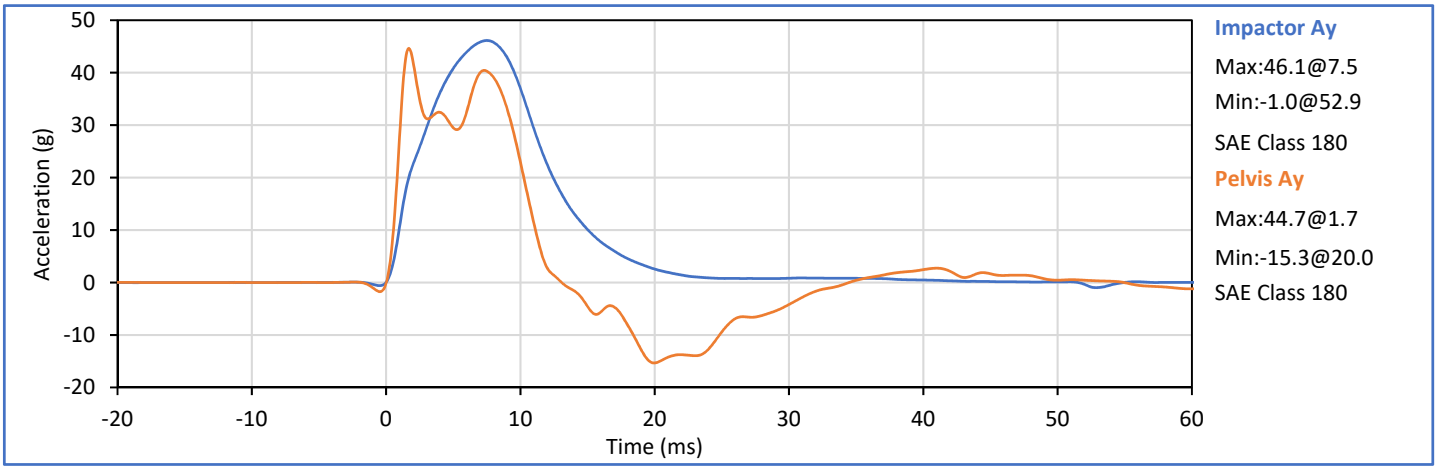
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

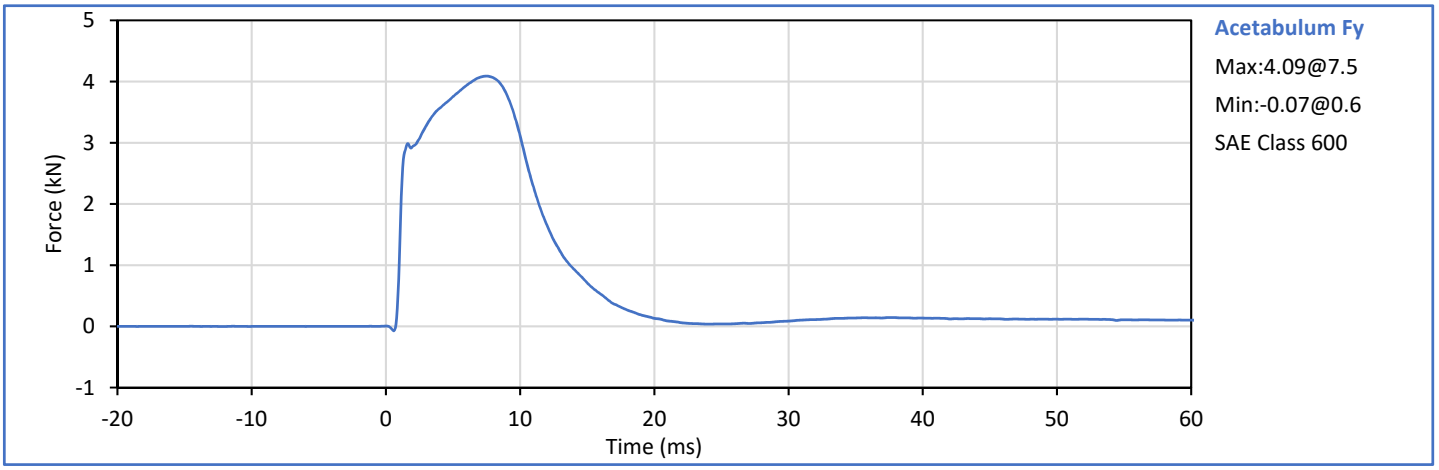
SID-IIs Small Side Impact Dummy
Pelvis Acetabulum Impact

ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	22	Pass
Impactor Velocity	m/s	6.60	6.80	6.74	Pass
Peak Acetabulum Fy	kN	3.600	4.300	4.089	Pass
Pelvis Ay after 6ms	g	34.0	42.0	40.4	Pass
Peak Impactor Ax	g	38.0	47.0	46.1	Pass
			Overall Test Results		Pass

Pelvis Plug S/N: 70814 (HIS)





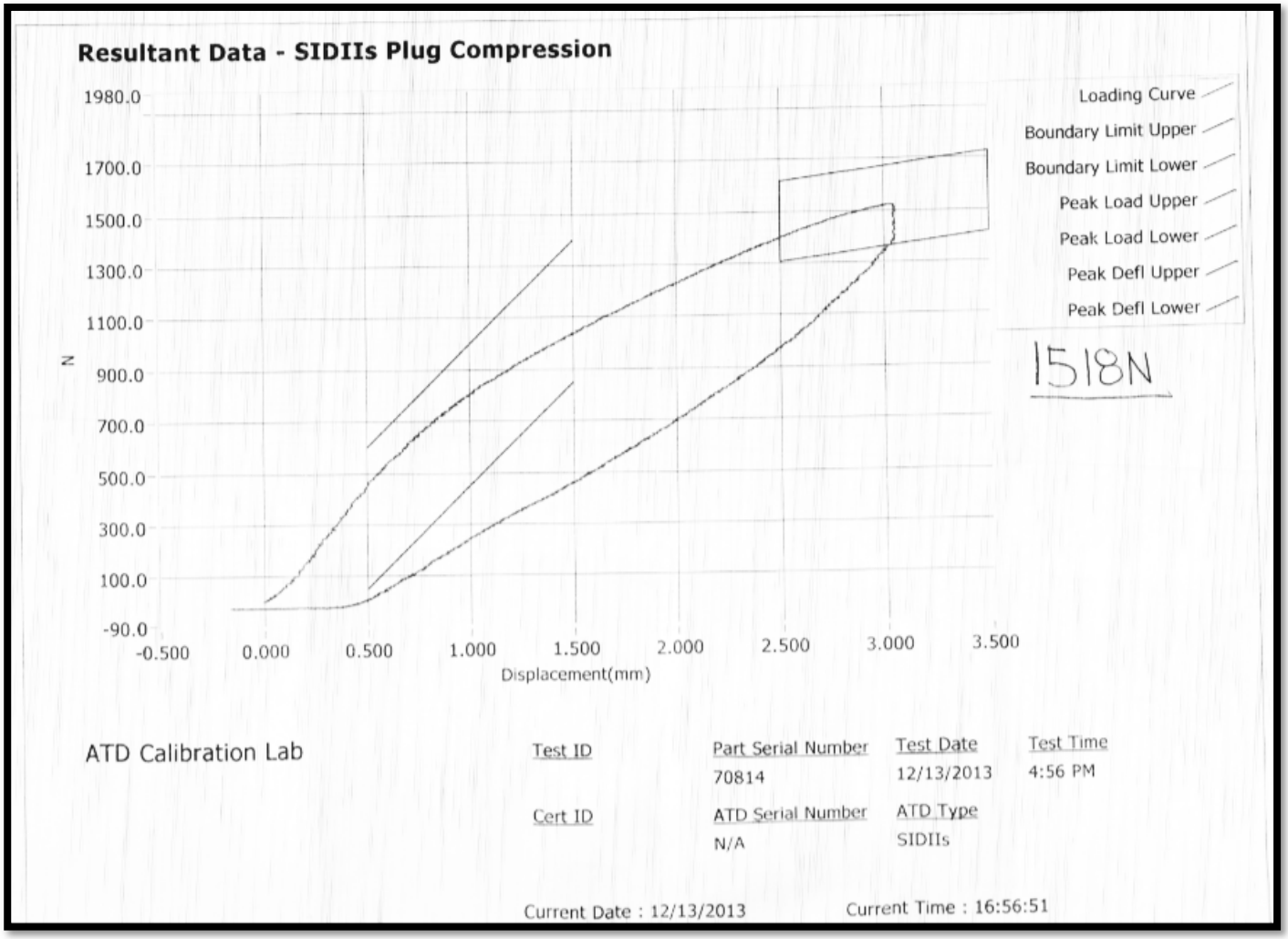
Technician: Approved By:

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

SID-IIs Small Side Impact Dummy
Pelvis Acetabulum Impact

ATD Serial No.: 299 Test Date: 2017-12-13

Pelvis Plug S/N: 70814 (HIS)



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

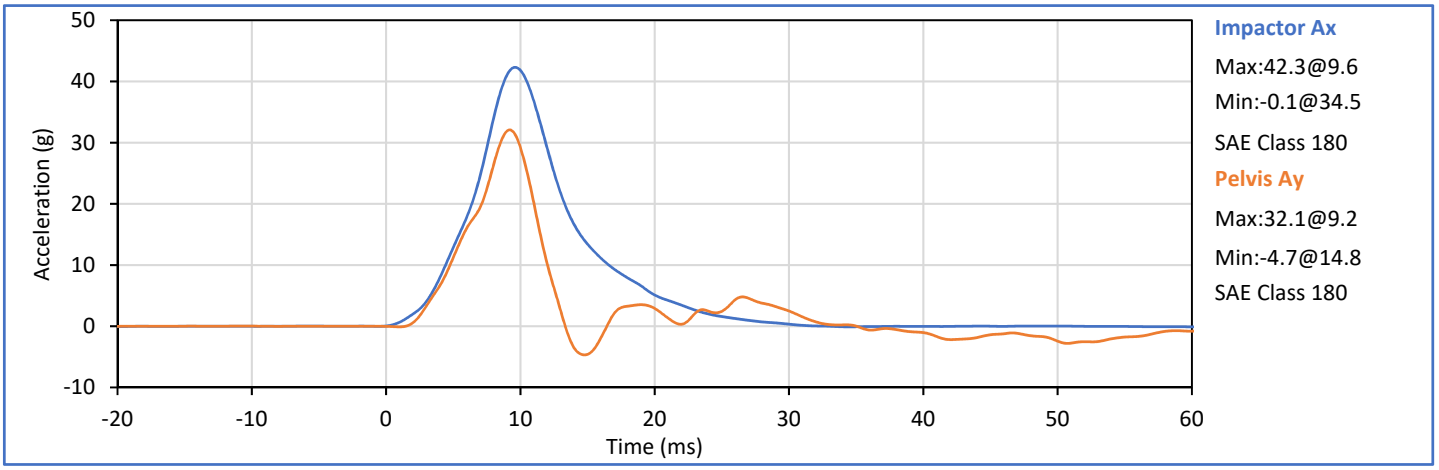
SID-IIs Small Side Impact Dummy
Pelvis Iliac Impact

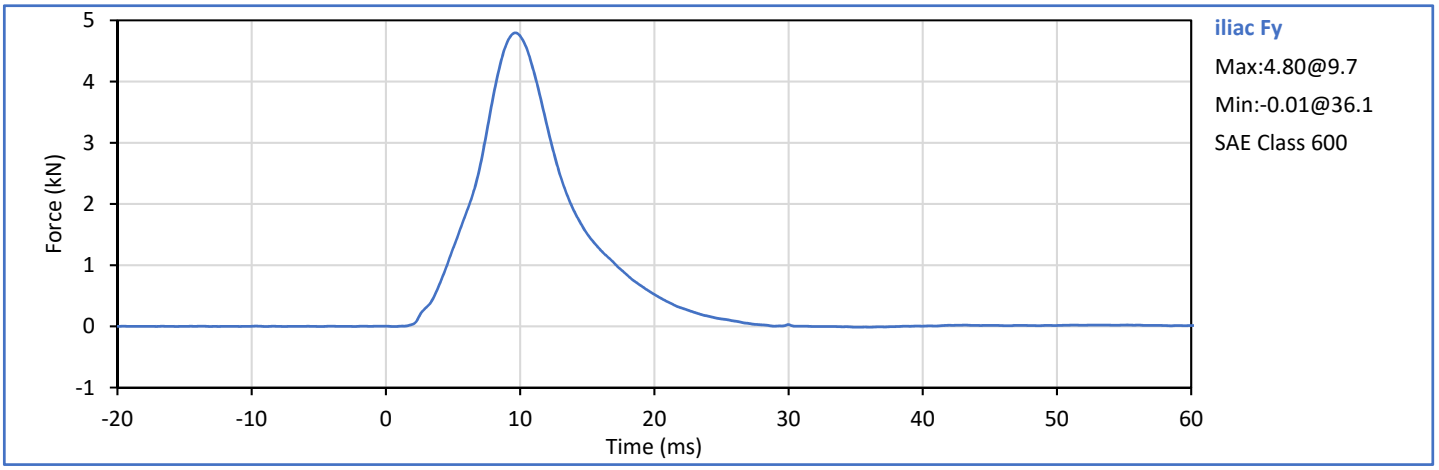
ATD Serial No.: 299 Test Date: 2017-12-13

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	20	Pass
Impactor Velocity	m/s	4.20	4.40	4.26	Pass
Peak Acetabulum Fy	kN	4.100	5.100	4.796	Pass
Pelvis Ay	g	28.0	39.0	32.1	Pass
Peak Impactor Ax	g	36.0	45.0	42.3	Pass
			Overall Test Results		Pass

Pelvis Plug S/N: 71052 (HIS) *

** Plug is not impacted and remains certified*





Technician: Approved By:

APPENDIX C
POST-TEST ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

SID-IIs Small Side Impact Dummy
External Measurements

ATD Serial No.: 299 Test Date: 2017-12-21

Tested Parameter	Units	Spec Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Relative Humidity	%	10	70	20	Pass
A - Sitting Height	mm	772	788	785	Pass
B - Shoulder Pivot Height	mm	437	453	450	Pass
C - Hpoint Height	mm	79	89	87	Pass
D - H Point From Seatback	mm	141	151	146	Pass
E - Shoulder Pivot From Backline	mm	97	107	100	Pass
F - Thigh Clearance	mm	119	135	131	Pass
G - Head Breadth	mm	140	148	148	Pass
H - Head Back From Backline	mm	40	46	43	Pass
I - Head Depth	mm	178	188	183	Pass
J - Head Circumference	mm	541	551	544	Pass
K - Buttock To Knee Length	mm	514	540	534	Pass
L - Popliteal Height	mm	343	369	348	Pass
K - Knee Pivot To Floor Height	mm	392	409	398	Pass
N - Buttock Popliteal Length	mm	416	442	434	Pass
O - Chest Depth W/O Jacket	mm	195	211	206	Pass
P - Foot Length	mm	216	232	223	Pass
Q - Hip Breadth (W/Pelvic Plugs)	mm	313	323	319	Pass
R - Arm Length	mm	249	259	255	Pass
S - Knee Joint To Seatback	mm	477	493	480	Pass
V - Shoulder Width	mm	341	357	350	Pass
W - Foot Width	mm	78	94	86	Pass
Y - Chest Circumference W/Jacket	mm	851	881	873	Pass
Z - Waist Circumference	mm	761	791	781	Pass
			Overall Test Results		Pass

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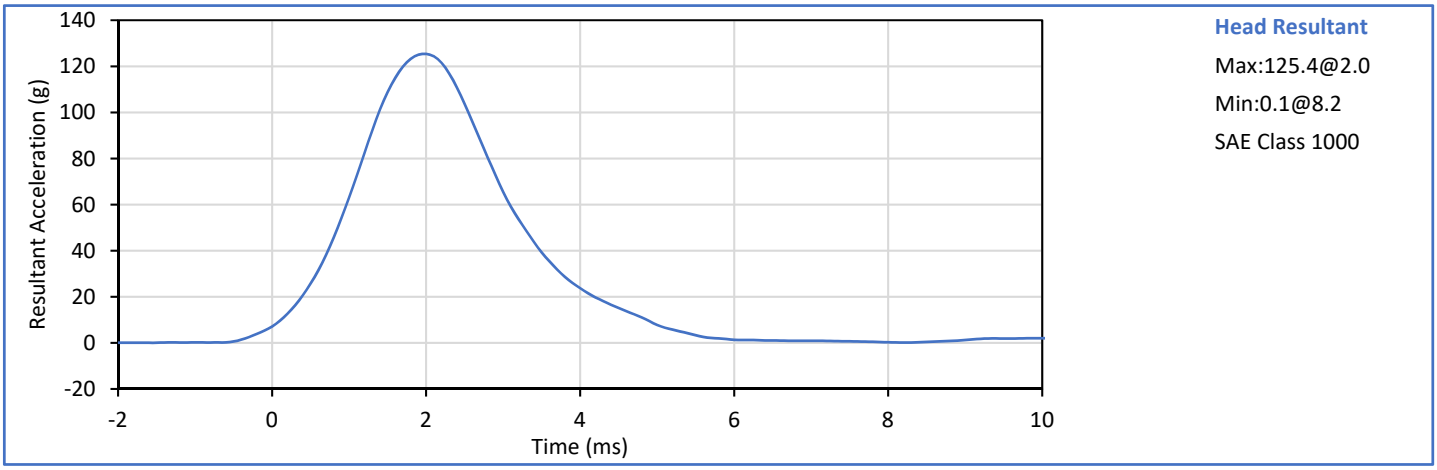
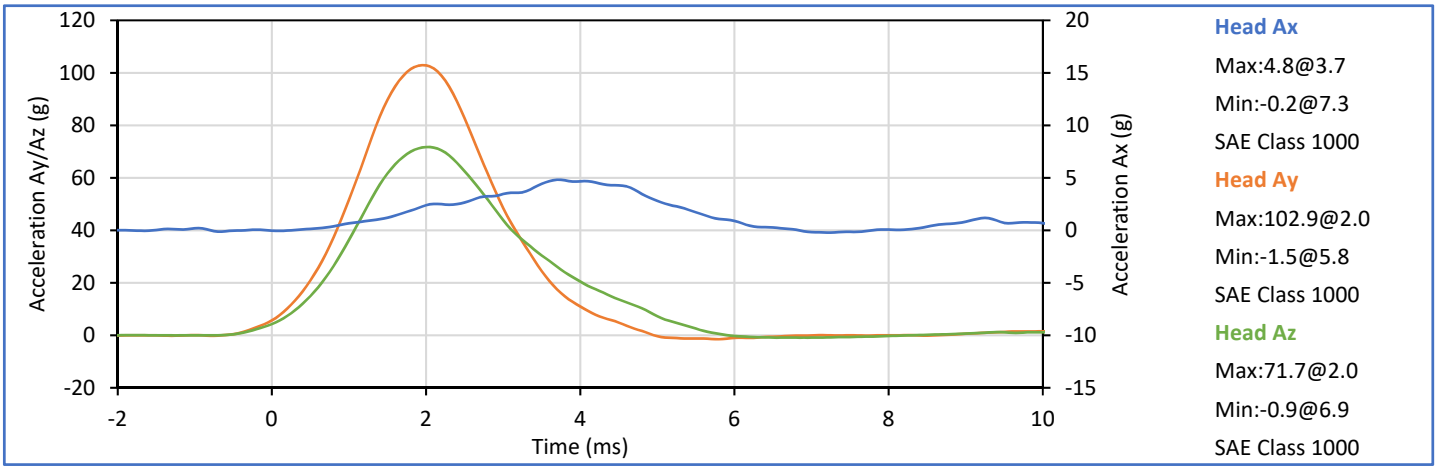
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Head Drop

ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	18.9	25.6	21.4	Pass
Laboratory Humidity	%	10	70	22	Pass
Peak Resultant Acceleration	g	115.0	137.0	125.4	Pass
Peak Head Ax	g	-15.0	15.0	-0.2	Pass
Oscillations After Main Pulse	%	0.0	15.0	1.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes		Yes	Pass
			Overall Test Results		Pass





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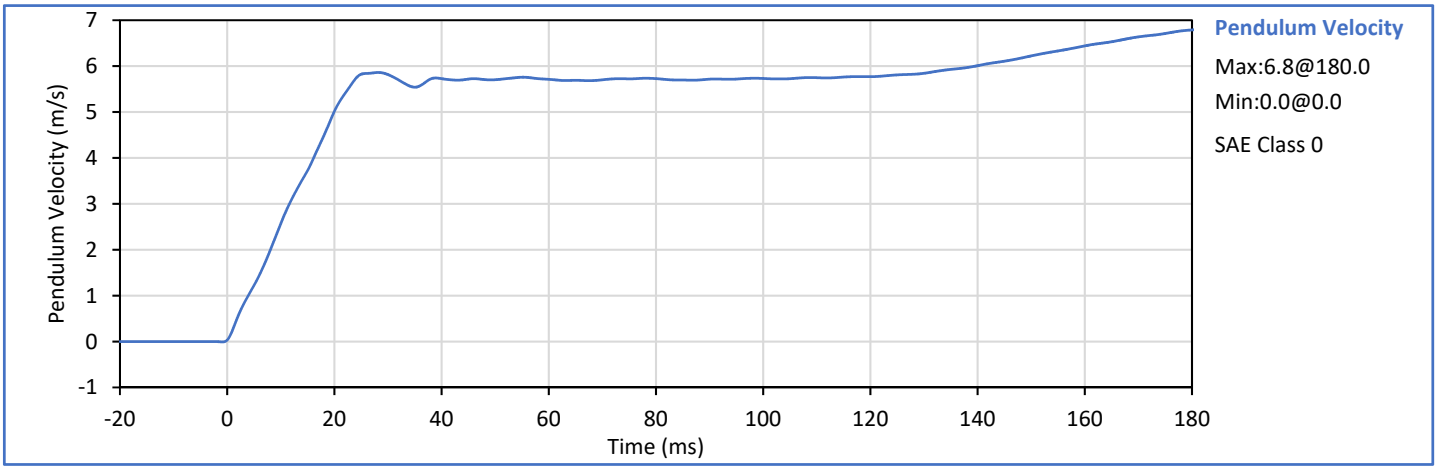
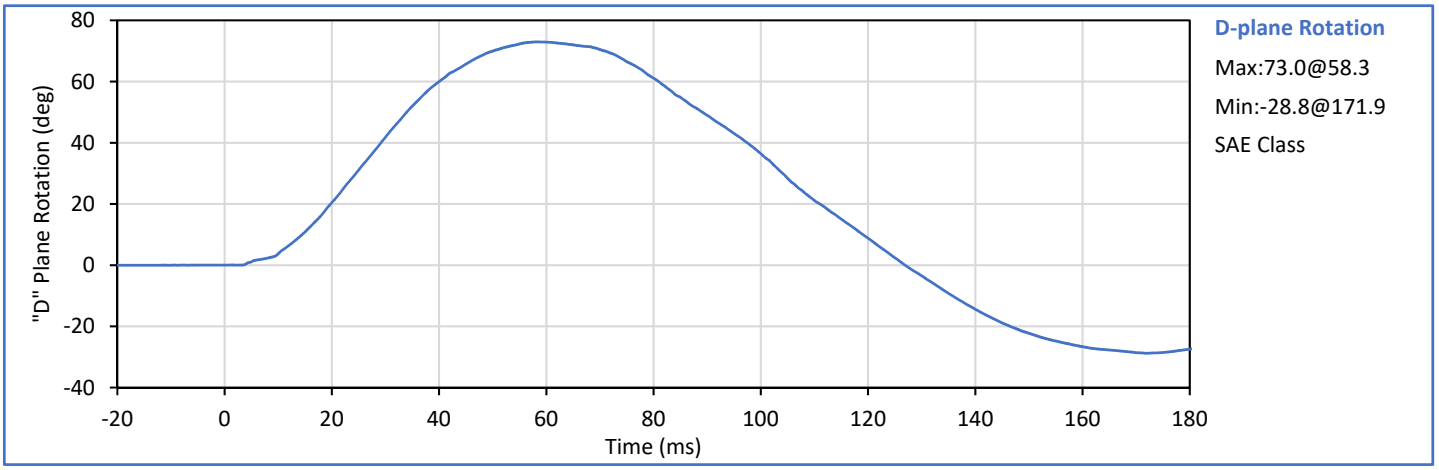
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Neck Flexion

ATD Serial No.: 299 Test Date: 2017-12-21

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.7	Pass
Laboratory Humidity	%	10	70	20	Pass
Pendulum Velocity	m/s	5.51	5.63	5.52	Pass
Pendulum Decel at 10 ms	m/s	2.20	2.80	2.57	Pass
Pendulum Decel at 15 ms	m/s	3.30	4.10	3.72	Pass
Pendulum Decel at 20 ms	m/s	4.40	5.40	5.01	Pass
Pendulum Decel at 25 ms	m/s	5.40	6.10	5.82	Pass
Pendulum Decel from 25-100 ms	m/s	5.50	6.20	5.86	Pass
Peak "D" Plane Rotation	deg	71.0	81.0	73.0	Pass
Time of Peak "D" Plane Rotation	ms	50.0	70.0	58.3	Pass
Peak Occ. Condyle Moment	Nm	-44.0	-36.0	-43.2	Pass
Time of Moment Decay to 0 Nm	ms	102.0	126.0	110.8	Pass
			Overall Test Results		Pass



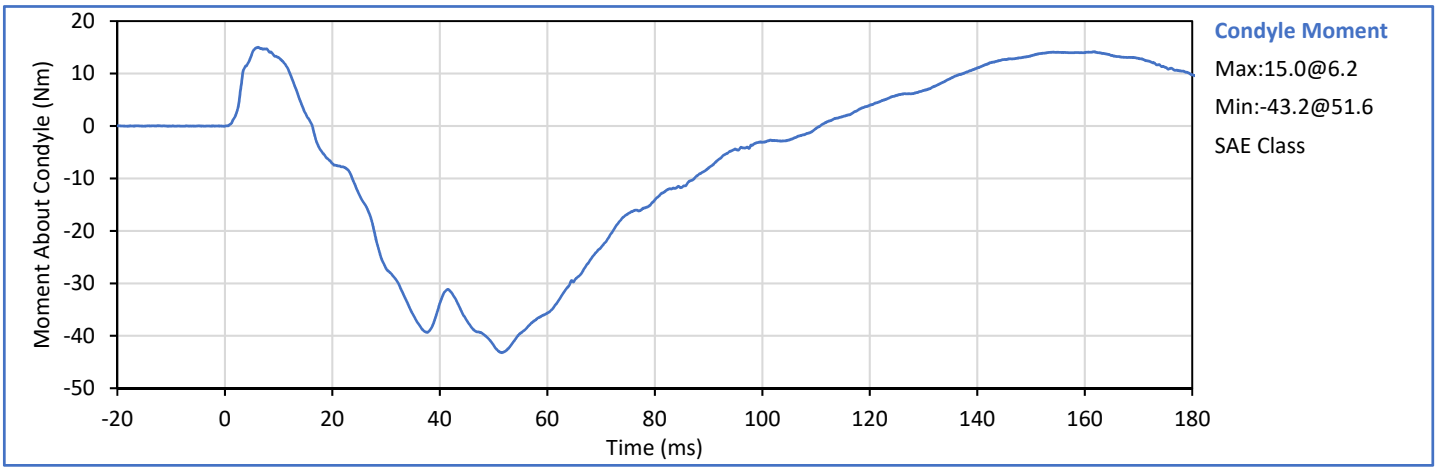


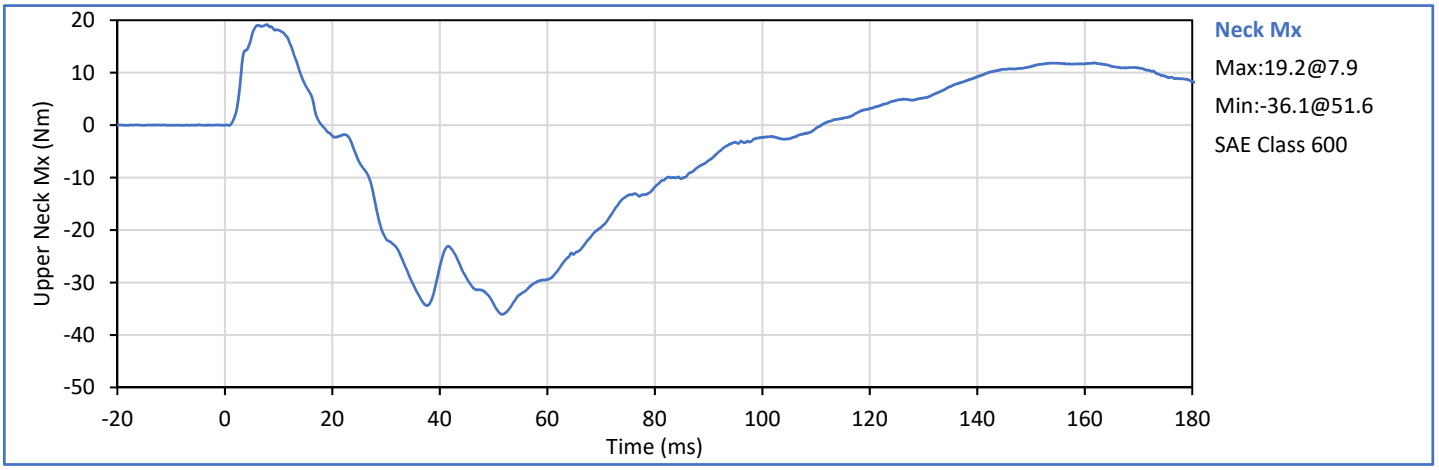
Technician: Approved By:

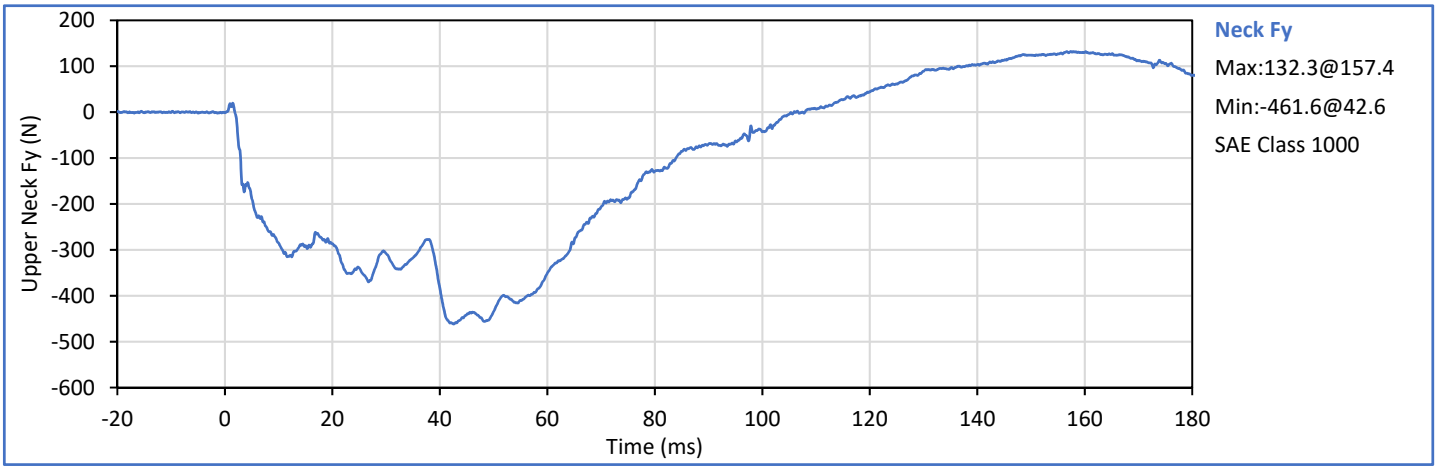
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Neck Flexion

ATD Serial No.: 299 Test Date: 2017-12-21





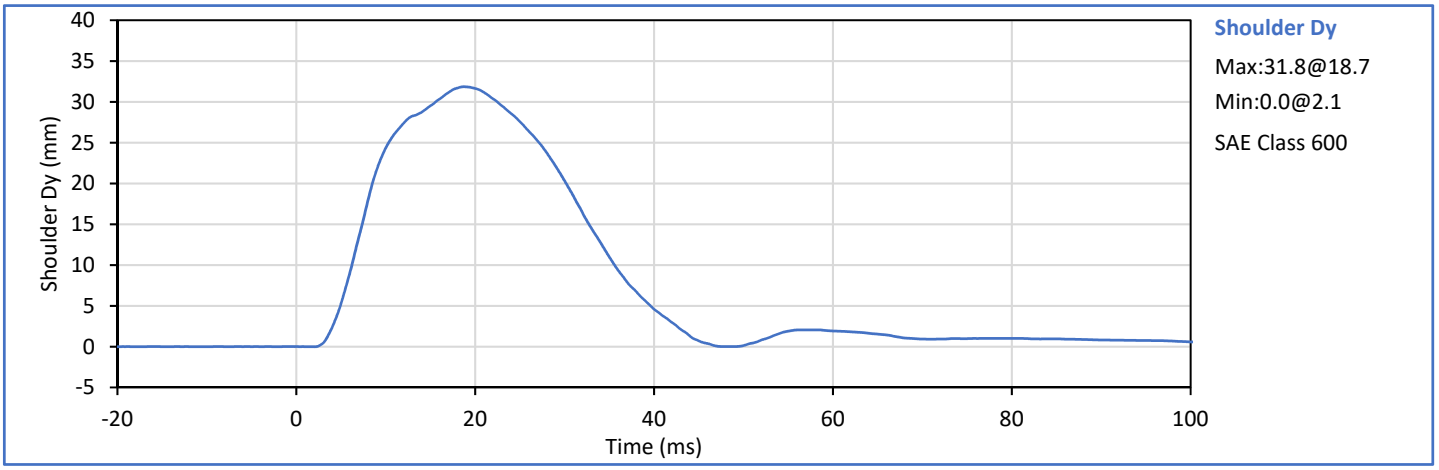


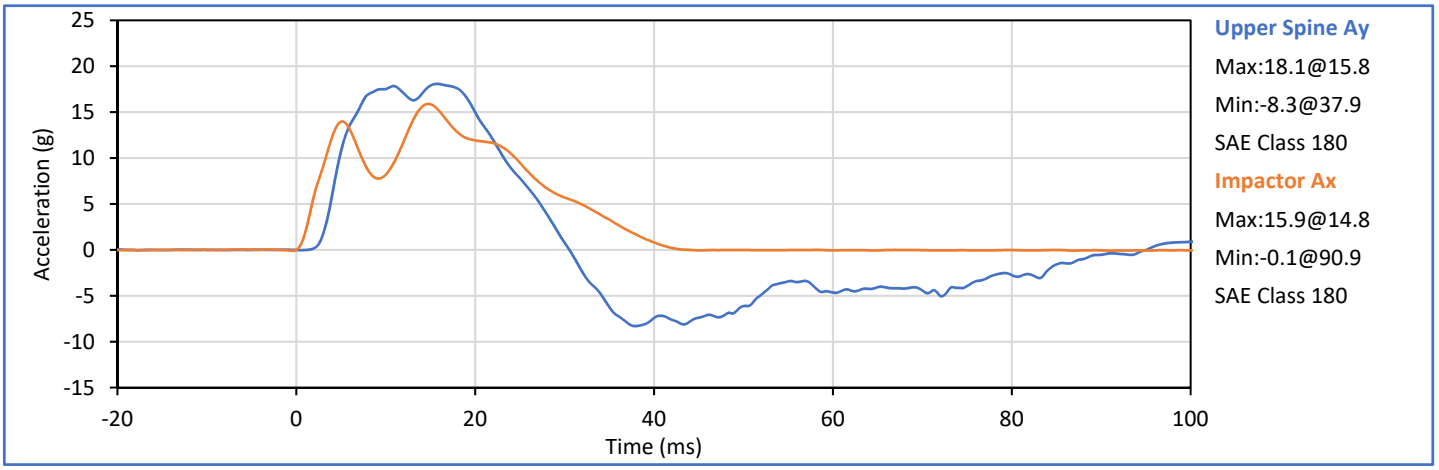
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Shoulder Impact Test

ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.2	Pass
Laboratory Humidity	%	10	70	21	Pass
Impactor Velocity	m/s	4.20	4.40	4.34	Pass
Peak Shoulder Dy	mm	28.0	37.0	31.8	Pass
Peak Upper Spine (T1) Ay	g	17.0	22.0	18.1	Pass
Peak Impactor Ax	g	13.0	18.0	15.9	Pass
			Overall Test Results		Pass





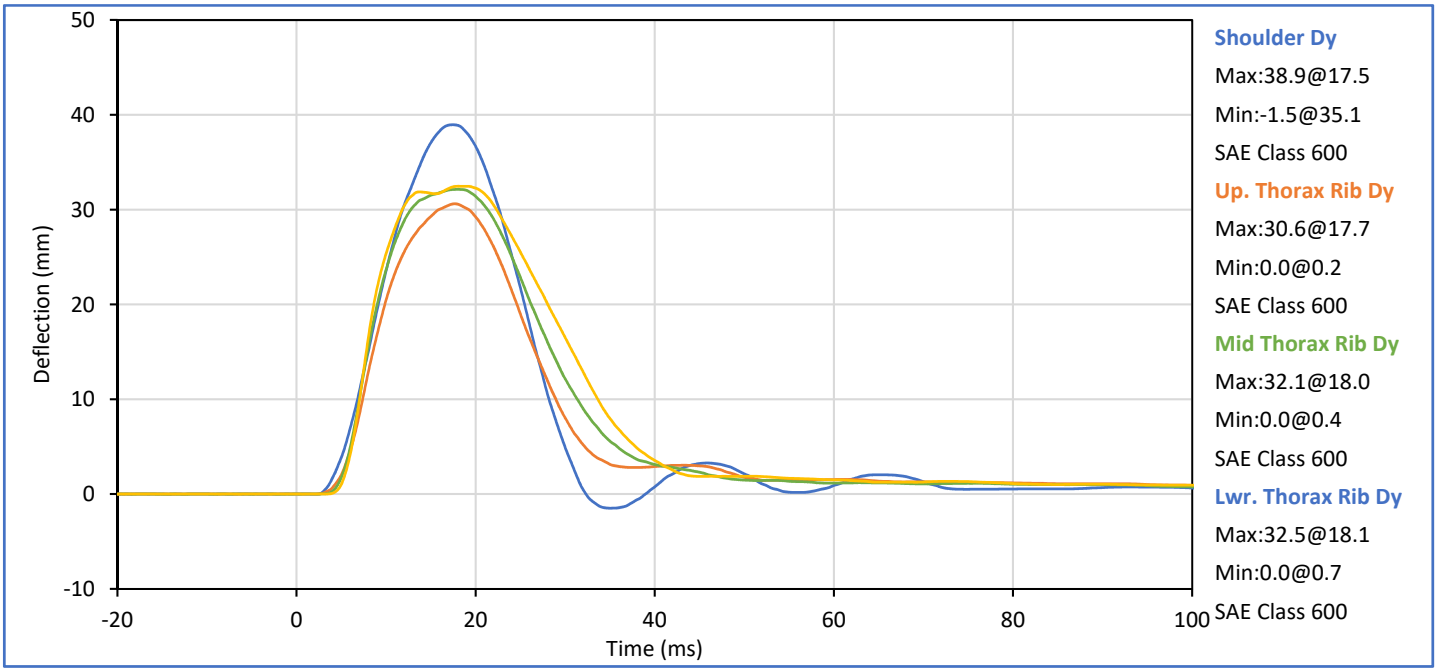
Technician: Approved By:

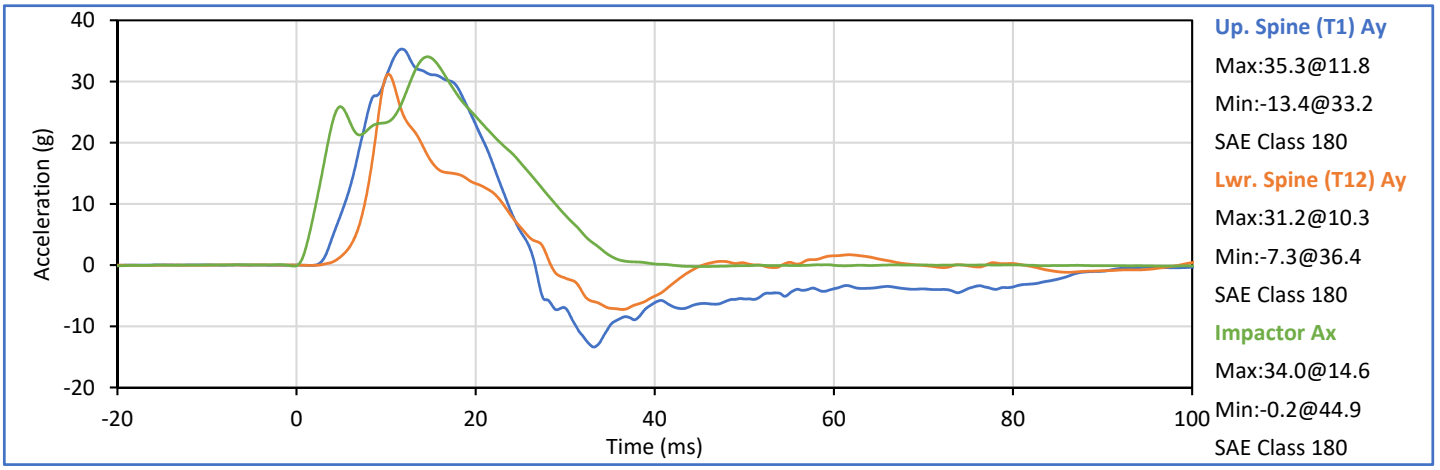
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Thorax (With Arm)

ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	21	Pass
Impactor Velocity	m/s	6.60	6.80	6.71	Pass
Peak Shoulder Dy	mm	31.0	40.0	38.9	Pass
Peak Upper Rib Dy	mm	25.0	32.0	30.6	Pass
Peak Middle Rib Dy	mm	30.0	36.0	32.1	Pass
Peak Lower Rib Dy	mm	32.0	38.0	32.5	Pass
Peak Upper Spine (T1) Ay	g	34.0	43.0	35.3	Pass
Peak Lower Spine (T12) Ay	g	29.0	37.0	31.2	Pass
Peak Impactor Ax	g	30.0	36.0	34.0	Pass
			Overall Test Results		Pass





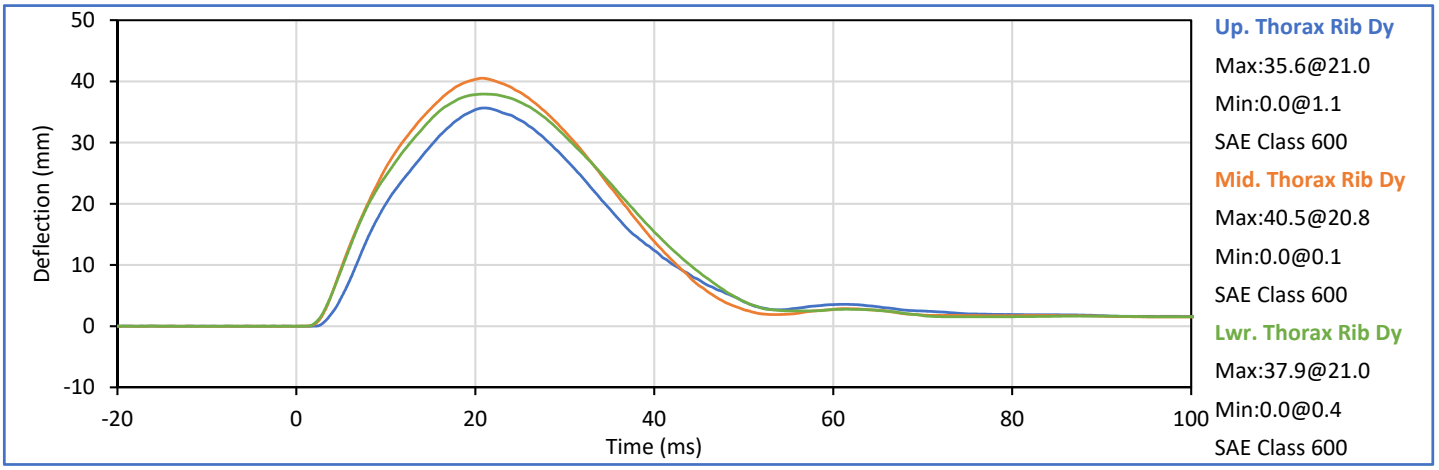
Technician: Approved By:

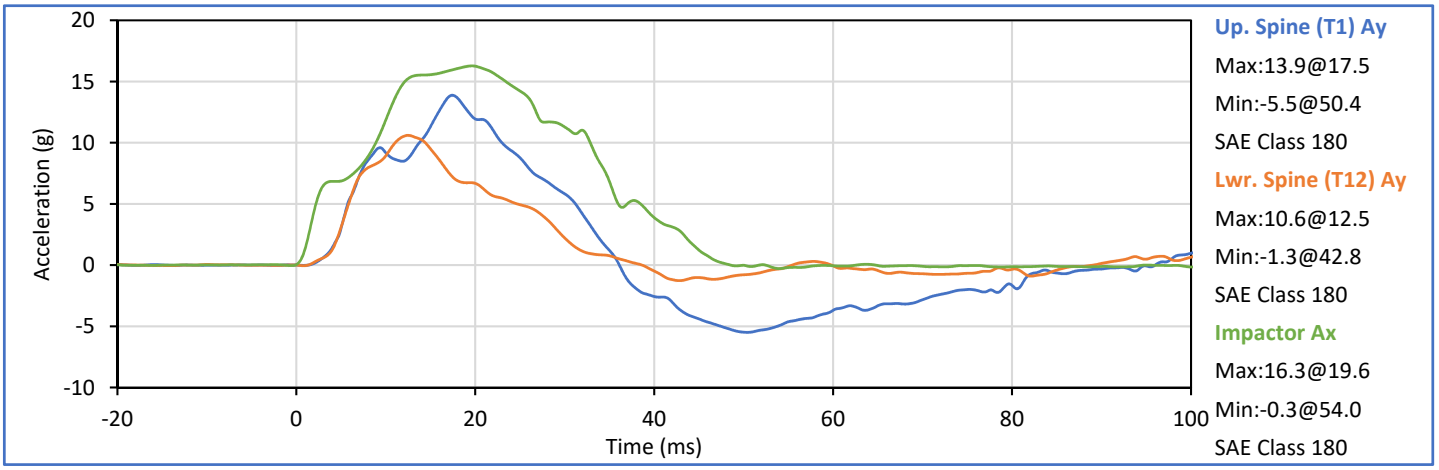
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Thorax (No Arm)

ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	22	Pass
Impactor Velocity	m/s	4.20	4.40	4.31	Pass
Peak Upper Rib Dy	mm	32.0	40.0	35.6	Pass
Peak Middle Rib Dy	mm	39.0	45.0	40.5	Pass
Peak Lower Rib Dy	mm	35.0	43.0	37.9	Pass
Peak Upper Spine (T1) Ay	g	13.0	17.0	13.9	Pass
Peak Lower Spine (T12) Ay	g	7.0	11.0	10.6	Pass
Peak Impactor Ax	g	14.0	18.0	16.3	Pass
			Overall Test Results		Pass





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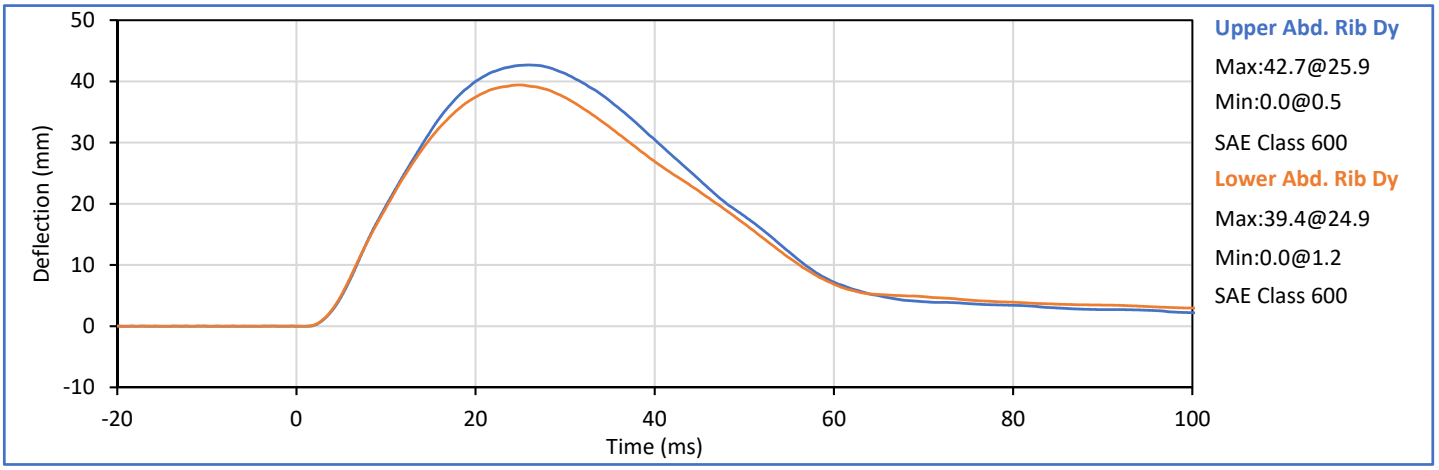
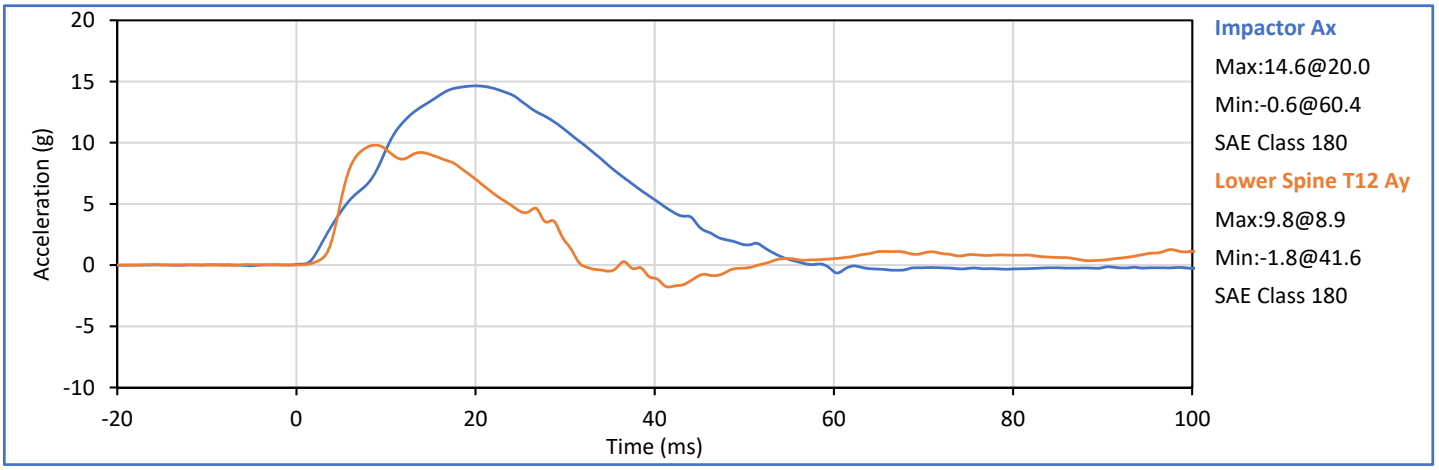
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Abdomen Impact

ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.6	Pass
Laboratory Humidity	%	10	70	22	Pass
Impactor Velocity	m/s	4.20	4.40	4.27	Pass
Peak Upper Abdomen Rib Dy	mm	36.0	47.0	42.7	Pass
Peak Lower Abdomen Rib Dy	mm	33.0	44.0	39.4	Pass
Peak Lower Spine T12 Ay	mm	9.0	14.0	9.8	Pass
Peak Impactor Ax	g	12.0	16.0	14.6	Pass
			Overall Test Results		Pass





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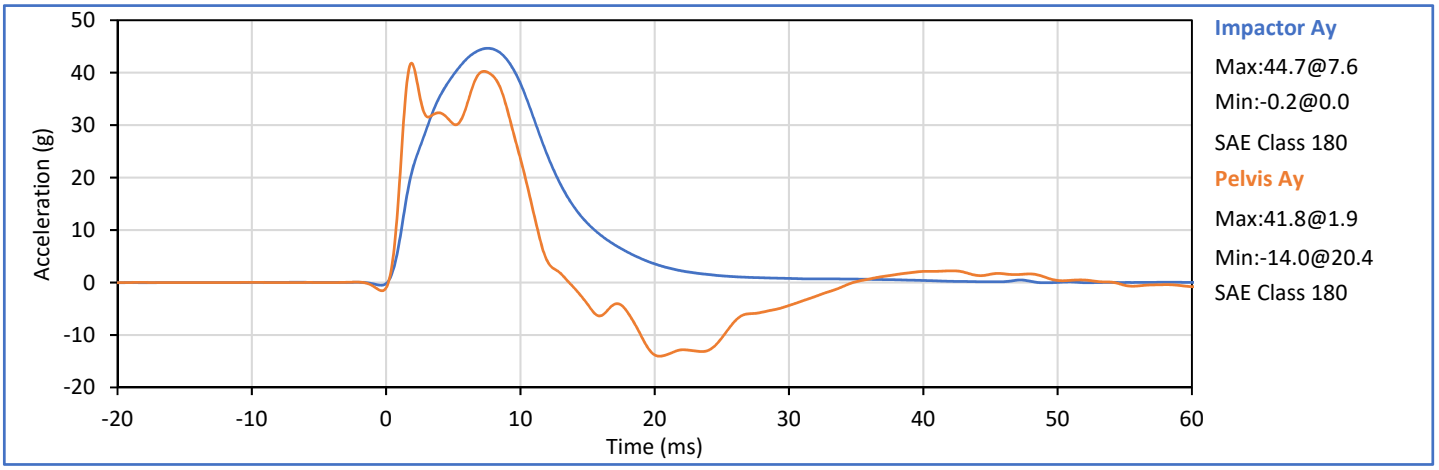
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

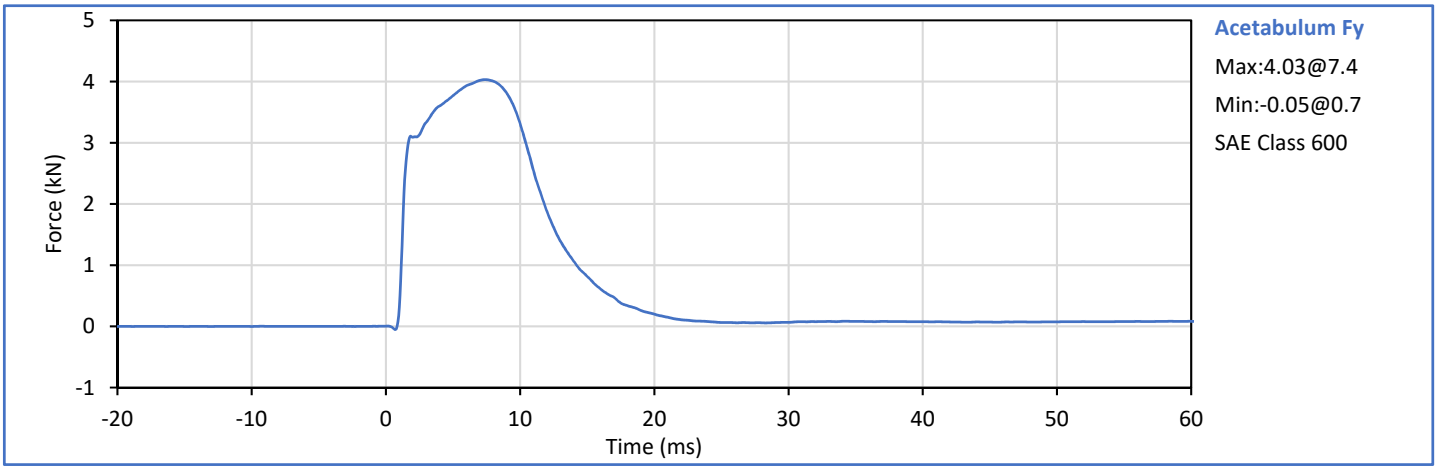
SID-IIs Small Side Impact Dummy
Pelvis Acetabulum Impact

ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	20	Pass
Impactor Velocity	m/s	6.60	6.80	6.76	Pass
Peak Acetabulum Fy	kN	3.600	4.300	4.032	Pass
Pelvis Ay after 6ms	g	34.0	42.0	40.3	Pass
Peak Impactor Ax	g	38.0	47.0	44.7	Pass
			Overall Test Results		Pass

Pelvis Plug S/N: 70849 (HIS)





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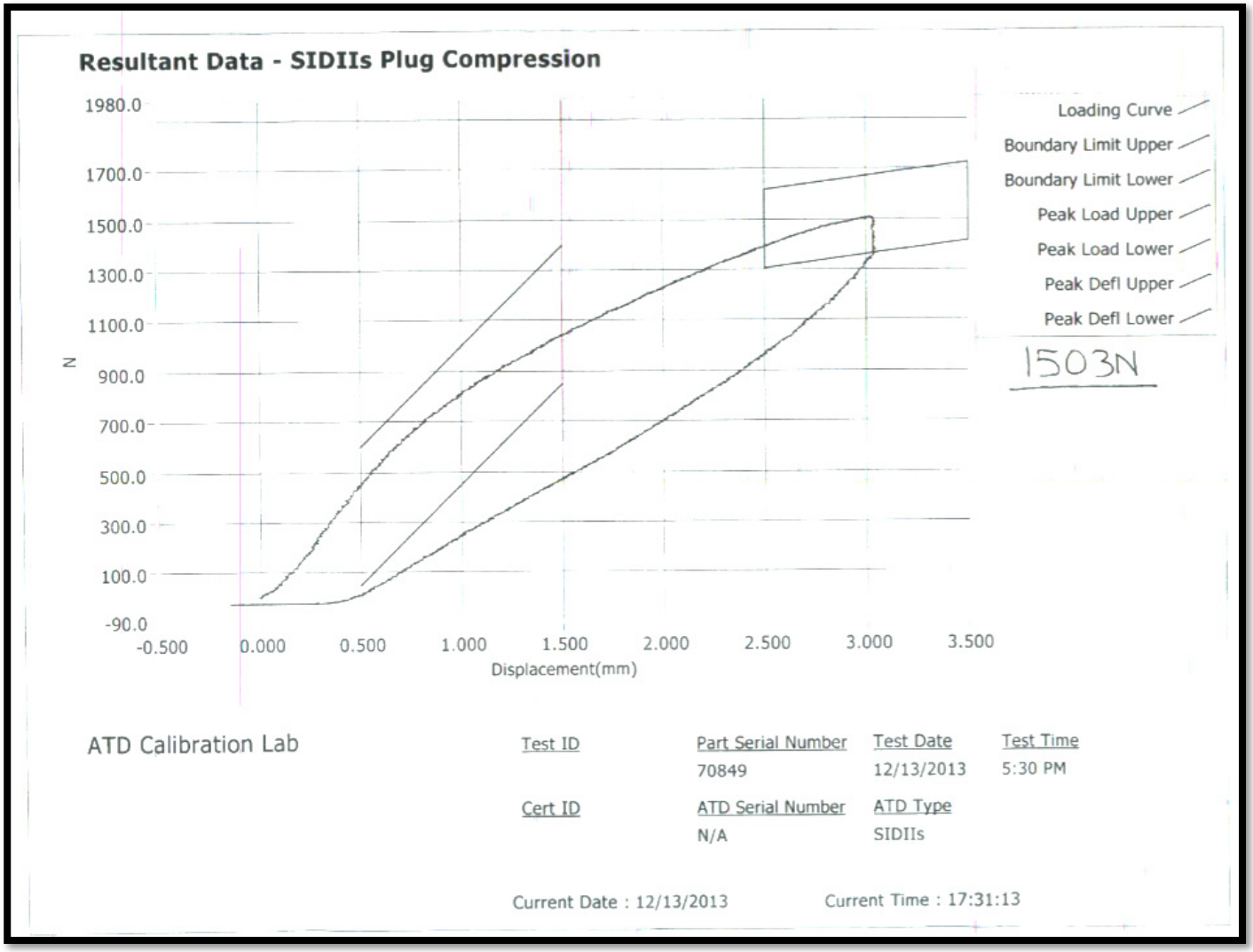
KARCO Engineering
9270 Holly Road, Adelanto, CA 92301
Tel: +1 760 246 1672 Fax: +1 760 246 8112
Info@karco.com www.karco.com

SID-IIs Small Side Impact Dummy
Pelvis Acetabulum Impact

ATD Serial No.: 299 Test Date: 2017-12-20

Pelvis Plug S/N: 70849 (HIS)



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

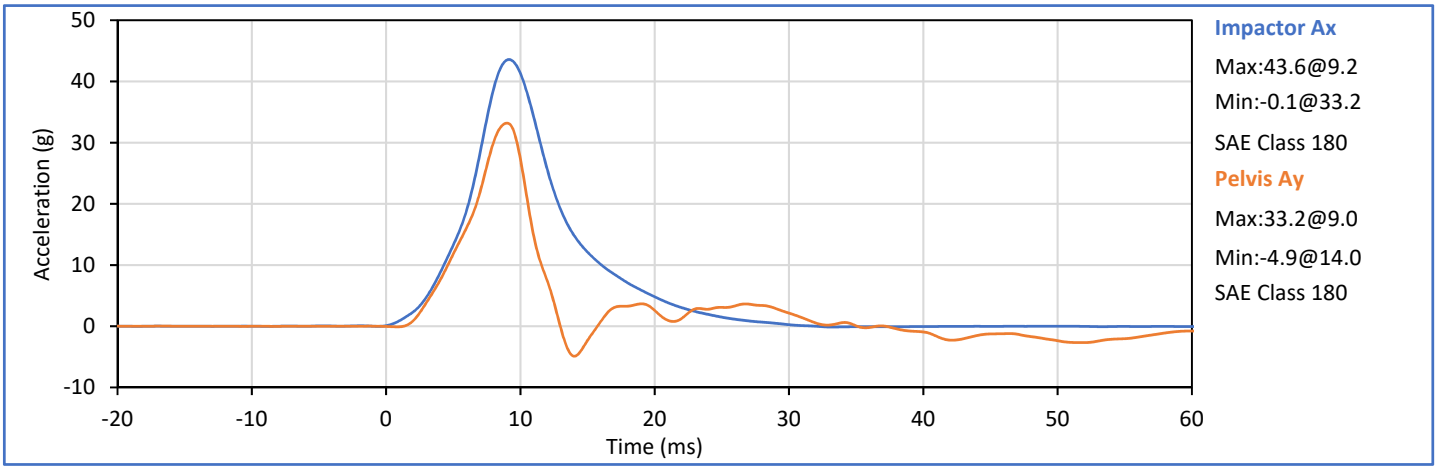
SID-IIs Small Side Impact Dummy
Pelvis Iliac Impact

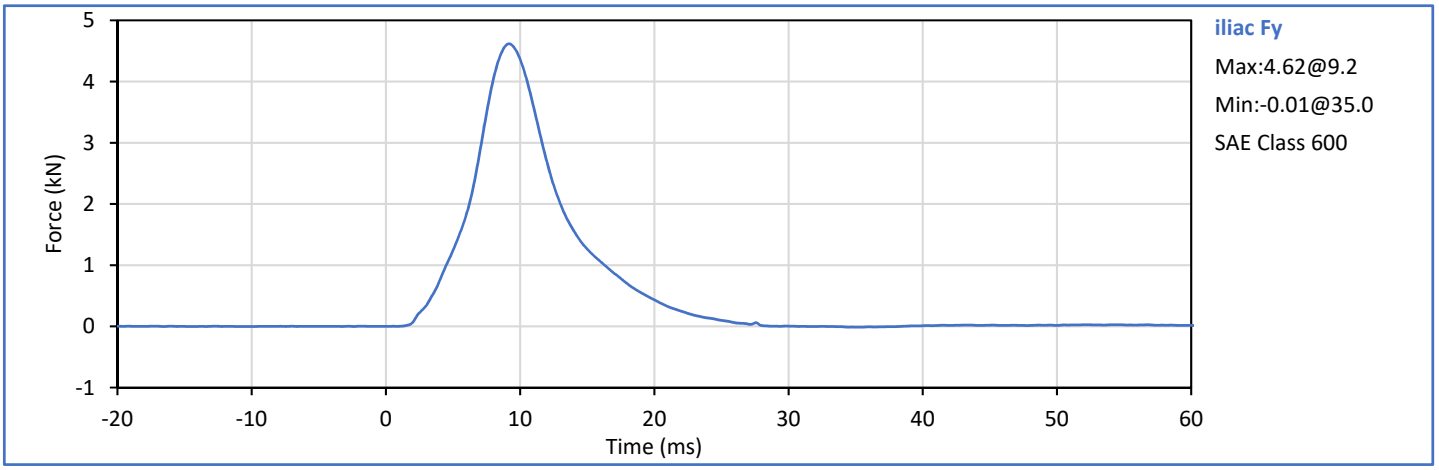
ATD Serial No.: 299 Test Date: 2017-12-20

Tested Parameter	Units	Spec. Low	Spec. High	Result	Pass/Fail
Laboratory Temperature	°C	20.6	22.2	21.4	Pass
Laboratory Humidity	%	10	70	24	Pass
Impactor Velocity	m/s	4.20	4.40	4.26	Pass
Peak Acetabulum Fy	kN	4.100	5.100	4.618	Pass
Pelvis Ay	g	28.0	39.0	33.2	Pass
Peak Impactor Ax	g	36.0	45.0	43.6	Pass
			Overall Test Results		Pass

Pelvis Plug S/N: 71052 (HIS) *

** Plug is not impacted and remains certified*





Technician: Approved By:

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

Table 1 - Driver ATD Instrumentation

Position:	Driver
ATD Type:	SID-IIs
ATD S/N:	299

Sensor Location	Sensor S/N	Mfr	Last Cal
Head Acceleration X Primary	P51929	Endevco	2017-06-27
Head Acceleration Y Primary	P50086	Endevco	2017-07-25
Head Acceleration Z Primary	P51931	Endevco	2017-07-28
Head Acceleration X Redundant	P68604	Endevco	2017-07-03
Head Acceleration Y Redundant	P51934	Endevco	2017-06-28
Head Acceleration Z Redundant	P58736	Endevco	2017-07-24
Head Rotation Rate X	ARS7571	DTS	2017-06-11
Head Rotation Rate Y	ARS7316	DTS	2017-06-11
Head Rotation Rate Z	ARS7330	DTS	2017-06-11
Upper Thorax Rib Deflection Y	1143	FTSS	2017-02-08
Middle Thorax Rib Deflection Y	1160	FTSS	2017-02-09
Lower Thorax Rib Deflection Y	1213	FTSS	2017-02-09
Upper Abdomen Rib Deflection Y	1218	FTSS	2017-02-09
Lower Abdomen Rib Deflection Y	1177	FTSS	2017-02-08
Lower Spine T12 Acceleration X	04I20-Z04	Entran	2017-07-22
Lower Spine T12 Acceleration Y	06A07-R08	Entran	2017-07-31
Lower Spine T12 Acceleration Z	P58795	Endevco	2017-07-02
Acetabulum Impact Side Force Y	272 Fy	Denton	2017-07-03
Iliac Wing Impact Side Force Y	284 Fy	Denton	2017-06-27

Table 2 - Vehicle Instrumentation

Sensor Location	Sensor S/N	Mfr	Last Cal
Vehicle CG Ax	A224499	MSI	2017-03-22
Vehicle CG Ay	A224546	MSI	2017-03-18
Vehicle CG Az	A224561	MSI	2017-03-17
Left Floor Sill Ay	A227263	MSI	2017-03-18
A-Pillar Sill Ay	A224543	MSI	2017-03-18
A-Pillar Low Ay	A227278	MSI	2017-03-18
A-Pillar Mid Ay	A224560	MSI	2017-03-18
B-Pillar Sill Ay	A224567	MSI	2017-03-17
B-Pillar Low Ay	A209101	MSI	2017-04-17
B-Pillar Mid Ay	A224564	MSI	2017-03-17
Driver Seat Track at H-Point Ay	A224531	MSI	2017-03-22
Engine Top Ax	A224535	MSI	2017-03-16
Engine Top Ay	A224505	MSI	2017-03-15
Firewall Ay	A224566	MSI	2017-03-18
Right Roof Ay	A224526	MSI	2017-03-15
Right Floor Sill Ay	A224559	MSI	2017-03-17
Rear Floorpan Ax	A224571	MSI	2017-03-18
Rear Floorpan Ay	A224542	MSI	2017-03-18

Table 3 - Rigid Pole Instrumentation

Sensor Location	Sensor S/N	Mfr	Last Cal
Load Cell Pole Barrier #1 Fx	131822A	Interface	2017-05-07
Load Cell Pole Barrier #2 Fx	132304A	Interface	2017-05-07
Load Cell Pole Barrier #3 Fx	19477	Interface	2017-05-07
Load Cell Pole Barrier #4 Fx	19325	Interface	2017-05-07
Load Cell Pole Barrier #5 Fx	131827A	Interface	2017-05-07
Load Cell Pole Barrier #6 Fx	132302A	Interface	2017-05-07
Load Cell Pole Barrier #7 Fx	19267	Interface	2017-05-07
Load Cell Pole Barrier #7 Fx	19321	Interface	2017-05-07