

REPORT NUMBER: SINCAP-KAR-13-059

**NEW CAR ASSESSMENT PROGRAM (NCAP)
MOVING DEFORMABLE BARRIER SIDE IMPACT TEST**

**NISSAN MOTOR CO., LTD.
2014 NISSAN VERSA NOTE S 5-DOOR HATCHBACK**

NHTSA No: M20145205

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



AUGUST 29, 2013

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
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7. Authors Mr. Balbino A. Beltran, Project Engineer, KARCO Mr. Frank Richardson, Program Manager, KARCO		8. Performing Organization Report No. TR-P33003-02-NC
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16. Abstract

A 55/28 km/h 90 deg. Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2014 Nissan Versa Note S 5-door hatchback in accordance with the specifications of the Office of Crash Worthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on August 15, 2013.

The impact velocity of the Moving Deformable Barrier was 62.21 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 38.8 deg. C. The target vehicle's maximum post-test static crush was 237 mm located at level 2. The test vehicle's occupant performance data is as follows:

Measurement Description	Driver ATD (ES-2re)		
	Units	IARV	Result
Head Injury Criteria (HIC ₃₆)		1000	136.3
Maximum Thorax Rib Deflection	mm	44	30
Total Abdominal Force	N	2500	1000
Pubic Symphysis Force	N	6000	1793

Measurement Description	Passenger ATD (SID-IIs)		
	Units	IARV	Result
Head Injury Criteria (HIC ₃₆)		1000	271.1
Resultant Lower Spine Acceleration	g	82	67
Total Pelvic Force (Sum of Acetubular and Iliac Forces)	N	5525	3745
Maximum Thoracic Rib Deflection	mm	38*	36
Maximum Abdominal Rib Deflection	mm	45*	32

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

* Proposed IARV

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SECTION 1

TEST PURPOSE AND PROCEDURE

This moving deformable barrier side impact test is part of the MY 2014 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number DTNH22-09-D-00122. The purpose of this test is to generate comparative side impact performance in a 2014 Nissan Versa Note S 5-door hatchback. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated September 2012.

SECTION 2

SUMMARY OF TEST RESULTS

A 2014 Nissan Versa Note S 5-door hatchback was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.21 km/h (38.66 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by KARCO Engineering, LLC. in Adelanto, California, on August 15, 2013. Pre- and post-test photographs of the test vehicle, the MDB and the dummies (ES-2re and SID-IIs) are included in Appendix A of this report.

Dummies were placed in the driver and left rear designated seating positions according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated September 2012. The side impact event was documented by 11 cameras. Camera locations are included in Data Sheet No. 5 of this report.

The dummies were instrumented in the following manner:

DRIVER ATD (ES-2re)

Primary and redundant head CG tri-axial accelerometers

Chest upper rib, middle rib and lower rib y-axis displacement potentiometers

Abdomen forward, middle, and rear y-axis load cells

Lower spine (12) tri-axial accelerometers

Pubic symphysis y-axis load cell

PASSENGER ATD (SID-IIs)

Primary and redundant head CG tri-axial accelerometers

Chest upper rib, middle rib and lower rib y-axis displacement potentiometers

Abdomen upper rib and lower rib y-axis displacement potentiometers

Lower spine (12) tri-axial accelerometers

Acetabulum and iliac wing y-axis load cells

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 of this report contains the test equipment and instrumentation calibration data.

Dummy injury readings were recorded as follows:

Measurement Description	Units	Driver ATD (ES-2re)	
		Threshold	Result
Head Injury Criteria (HIC ₃₆)		1000	136.3
Maximum Thorax Rib Deflection	mm	44	30
Combined Abdominal Force	N	2500	1000
Pubic Symphysis Force	N	6000	1793

Measurement Description	Units	Passenger ATD (SID-IIs)	
		Threshold	Result
Head Injury Criteria (HIC ₃₆)		1000	271.1
Lower Spine (T12) Resultant Acceleration	g	82	67
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3745
Maximum Thoracic Rib Deflection	mm	38*	36
Maximum Abdominal Rib Deflection	mm	45*	32

*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	Yes	No	
Knee Airbag	No		No	
Side Airbag 1 (Curtain)	Yes	Yes	Yes	Yes
Side Airbag 2 (Torso/Pelvis)	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes	Yes	No	
Other	No		No	

GENERAL COMMENTS

The two doors on the struck side of the vehicle remained closed and latched. There was no separation at the hinges or latches. The 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: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

CONVERSION FACTORS

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

DATA SHEET NO. 1

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20145205
Model Year	2014
Make	Nissan
Model	Versa Note S
Body Style	5-Door Hatchback
VIN	3N1CE2CP6EL356775
Body Color	Brilliant Silver
Odometer Reading (km / mi)	108 / 67
Engine Displacement (L)	1.6
Type / No. of Cylinders	Inline 4
Engine Placement	Transverse
Transmission Type	Manual
Transmission Speeds	5
Overdrive	Yes
Final Drive	Front
Roof Rack	No
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks	No
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	No
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	No
Driver Load Limiter	Yes
Rear Pass. Load Limiter	No
Other Safety Restraint	No

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

N/A

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Co., Ltd.
Date of Manufacture	Jun-13
Vehicle Type	Passenger Car

GVWR (kg)	1574
GAWR Front (kg)	847
GAWR Rear (kg)	755

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity	2	3		5	
Capacity Weight (VCW) (kg)				385.0	A
DSC x 68.04 (kg)				340.2	B
Cargo Weight (RCLW) (kg)				44.8	A-B

VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						w/ Lever	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: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	255	255	255	255
Tire Placard	kPa	250	250	250	250
Owner's Manual	kPa	250	250	250	250
As Tested	kPa	250	250	250	250

MDB TIRE SPECIFICATIONS

	Units	Requirement	LF	RF	LR	RR
Tire Size		P205/75R15	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire Pressure	kPa	200 ± 21	200	200	200	200

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	338.5	222.5		378.5	299.5		379.0	300.5	
Right	kg	306.5	217.5		310.0	258.5		310.0	264.5	
Ratio	%	59.4%	40.6%	100.0%	55.2%	44.8%	100.0%	54.9%	45.1%	100.0%
Total	kg	645.0	440.0	1085.0	688.5	558.0	1246.5	689.0	565.0	1254.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1085.0	A
Actual Weight of 2 P572 ATDs Used	kg	125.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	44.8	C
Calculated Vehicle Target Wt (TVTW)	kg	1254.8	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	Fully Loaded	As Tested	Meets Requirement***
LF	mm	675	675	Yes
RF	mm	690	686	Yes
RR	mm	650	646	Yes
LR	mm	657	655	Yes
Vehicle CG (Aft of Front Axle)	mm	1170	1162	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	62	65	

***The "As Tested" vehicle attitude measurements must be equal to or within ±10 mm of the "Fully Loaded" vehicle attitude measurements at each wheel well. Indicate "Yes" or "No" for "Meets Requirement"

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Non-Struck Side Windows	6.0
Spare Tire and Tools	14.0
Right Rear Taillight	1.0
Non-Struck Side Door Panels	5.0
Non-Struck Side Speakers	1.0
Ballast / Equipment Added	67.0

DATA SHEET NO. 2**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA**Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13**SEAT POSITIONING**

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

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	Fixed	Fixed	Fixed
Front Passenger Seat	Fixed	Fixed	Fixed
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

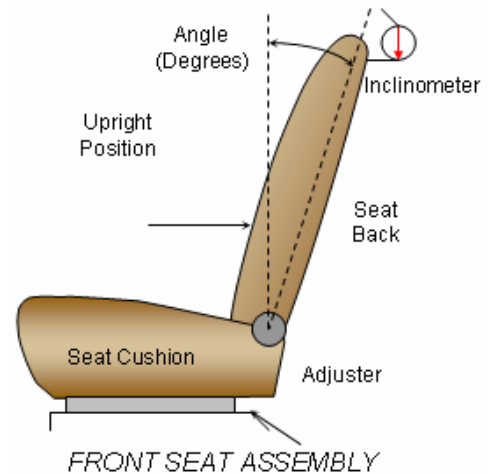
Seat	As Tested SCRL Angle	As Tested SCRP Height	SCRP Height Position	SCRP Height (mm)		
				Rearmost	Mid Fore/Aft	Forwardmost
Driver Seat	Fixed	550	Max	539	550	560
			Mid	539	550	560
			Min	539	550	560
Front Passenger Seat	Fixed	567	Max	557	567	577
			Mid	557	567	577
			Min	557	567	577
Front Center Seat			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: 2014 Nissan Versa Note S 5-Door HatchbackNHTSA No. M20145205Test Program: NCAP MDB Side Impact TestTest Date: 08/15/13**SEAT FORE/AFT POSITION**

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents	mm	Detent
Driver Seat	240	25	120	12
Front Passenger Seat	240	25	120	12
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

SEAT BACK ADJUSTMENT

The driver's seat back is positioned to the manufacturer's designated design angle. The right front passenger's seat back is positioned in a similar manner as the driver's seat back. The struck side rear seat back is positioned such that the dummy's head is level. The rear center and non-struck side rear outboard seat backs are positioned in a similar manner as the struck side rear seat back. Seat back angle is measured at the headrest post.

**SEAT BACK POSITION**

Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents	Degree	Detent
Driver Seat w/Seated Dummy	58.0	31	0.2	7
Front Passenger Seat	58.0	31	0.4	7
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

DATA SHEET NO. 2 ... (CONTINUED)

SEAT ADJUSTMENT, FUEL SYSTEMS, AND STEERING WHEEL DATA

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

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
Rear Seat	Fixed	Fixed

HEAD RESTRAINT ADJUSTMENT

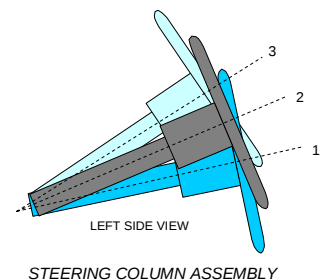
The driver's head restraint is adjusted to the highest and most full forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

	Total No. of Positions	Placed in Position
Driver Seat	6	H
Rear Seat	Fixed	Fixed

STEERING COLUMN ADJUSTMENT

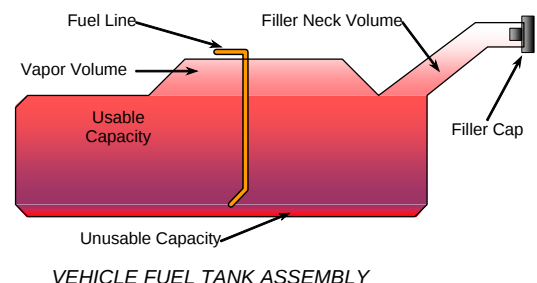
Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.

	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	24.2	Fixed
Geometric Center - Position 2	26.4	Fixed
Uppermost - Position 3	28.6	Fixed
Telescoping Steering Wheel Travel		Fixed
Test Position	26.4	Fixed



FUEL PUMP

The vehicle is equipped with an electric fuel pump. The fuel pump will pump fuel for 1.0 second after the ignition is switched to the "ON" position and while the engine is running.



DATA SHEET NO. 2 ... (CONTINUED)**SEAT ADJUSTMENT, FUEL SYSTEMS, AND STEERING WHEEL DATA**Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13**FUEL TANK CAPACITY**

Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	40.88
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	38.02
Actual amount of Solvent Used in Test	38.02
1/3 of Usable Capacity	13.63

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

DATA SHEET NO. 3

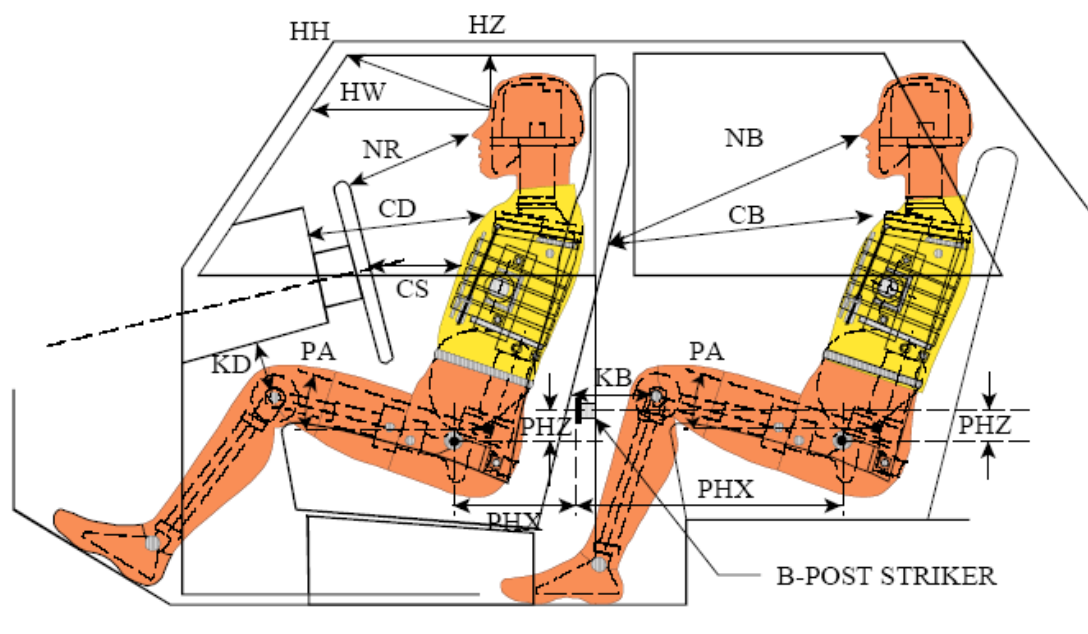
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

Test Date: 08/15/13



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Pass. Code	Description	Driver		Passenger	
			Length (mm)	Angle (°)	Length (mm)	Angle (°)
HH		Head to Header	360			
HW		Head to Windshield	680			
HZ	HZ	Head to Roof	167		258	
NR	NB	Nose to Rim/Seat Back	459		654	
CD	CB	Chest to Dash/Seat Back	574		649	
CS		Chest to Steering Wheel	301			
KD(L)/KDA(L)°	KB(L)/KBA(L)°	Left Knee to Dash/Seat Back	125	26.8	360	13.5
KD(R)/KDA(R)°	KB(R)/KBA(R)°	Right Knee to Dash/Seat Back	108	26.0	359	18.3
PAX°	PAX°	Pelvic Tilt Angle X		18.5		19.7
	PAY°	Pelvic Tilt Angle Y				0.2
PHX	PHX	Hip Point to Striker (x-axis)	248		165	
PHZ	PHZ	Hip Point to Striker (z-axis)	103		197	

DATA SHEET NO. 4

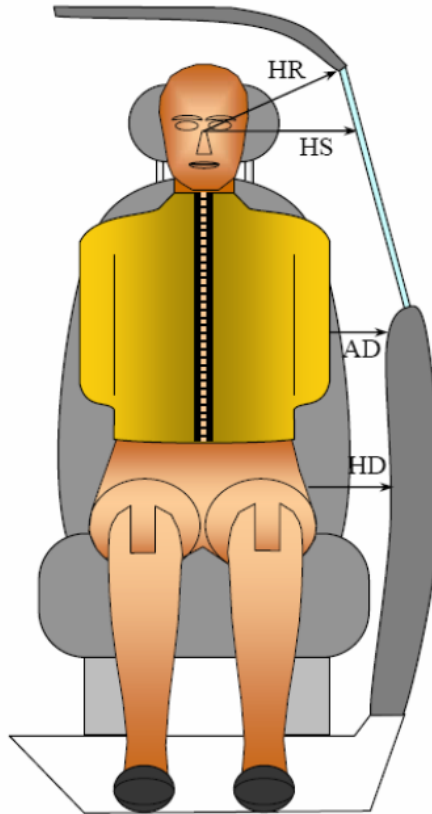
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

Test Date: 08/15/13



FRONT VIEW OF DUMMY

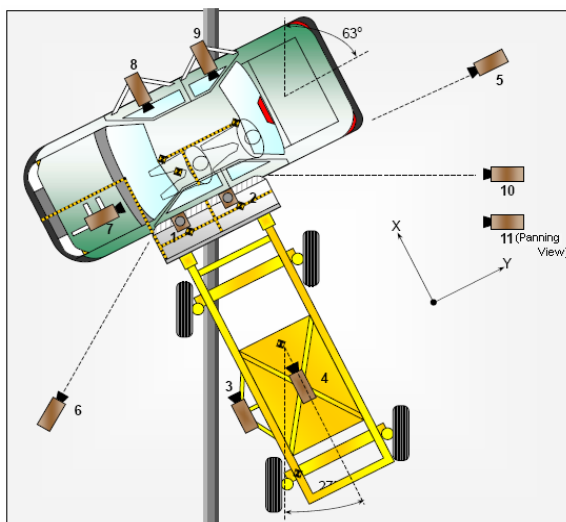
DUMMY LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	206	275
HS	Head to Side Window	mm	328	368
AD	Arm to Door	mm	73	121
HD	H-Point to Door	mm	135	154

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13



CAMERA LOCATIONS AND DATA

No.	View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1	Overhead Overall	1220	2287	-5486	14	1000
2	Overhead Close-Up	609	2287	-5102	35	1000
3	Left Impact Point (MDB)	-2134	0	-1143	25	1000
4	Side Overall (MDB)	-3912	838	-1829	12.5	1000
5	Rear	-64	2485	-1348	85	1000
6	Left Front	-2266	-3564	-1475	24	1000
7	Driver Front (On-Board)	470	-532	-692	35	1000
8	Driver Side (On-Board)	1703	725	-388	14	1000
9	Passenger Side (On-Board)	1669	1663	-462	14	1000
10	Real Time Overall				Zoom	30
11	Real Time Inrun				Zoom	30

Reference: Impact Point Projected to Ground; +X = To Front of MDB, +Y = To Right of MDB, +Z = Down

*All measurements accurate to ± 6 mm

INSTRUMENTATION

Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	18
MDB Accelerometers	5
Total	55

DATA SHEET NO. 6

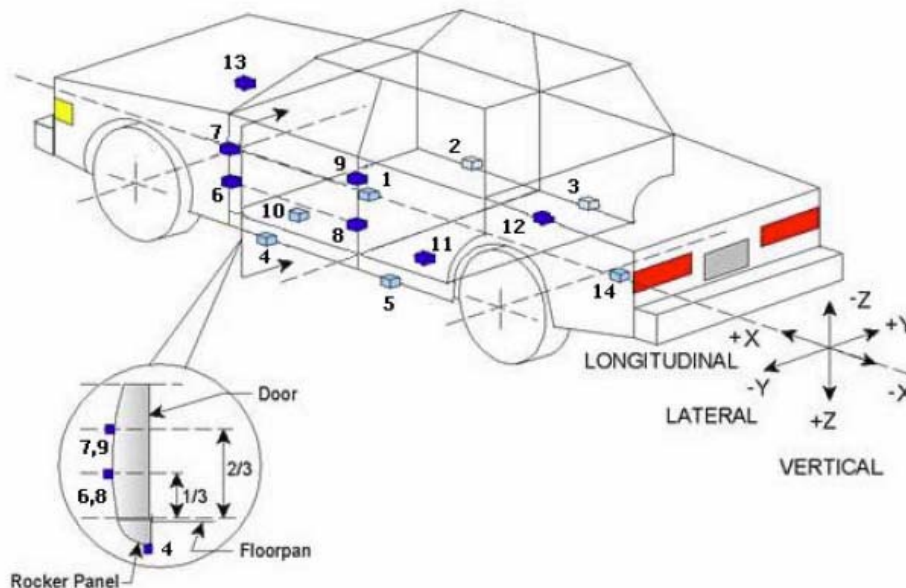
TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

Test Date: 08/15/13



VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	1542	25	-304
2	Right Sill at Front Seat	2498	657	-313
3	Right Sill at Rear Seat	1474	687	-320
4	Left Sill at Front Door	2066	-724	-186
5	Left Sill at Rear Door	1270	-722	-172
6	A-Pillar Lower	2887	-788	-487
7	A-Pillar Middle	2887	-760	-694
8	B-Pillar Lower			
9	B-Pillar Middle			
10	Front Seat Track	1998	-522	-353
11	Rear Seat Structure			
12	Right Rear Occupant Compartment	1538	414	-210
13	Engine Block	3511	370	-715
14	Rear Floorpan Above Axle	732	87	-408

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

DATA SHEET NO. 7

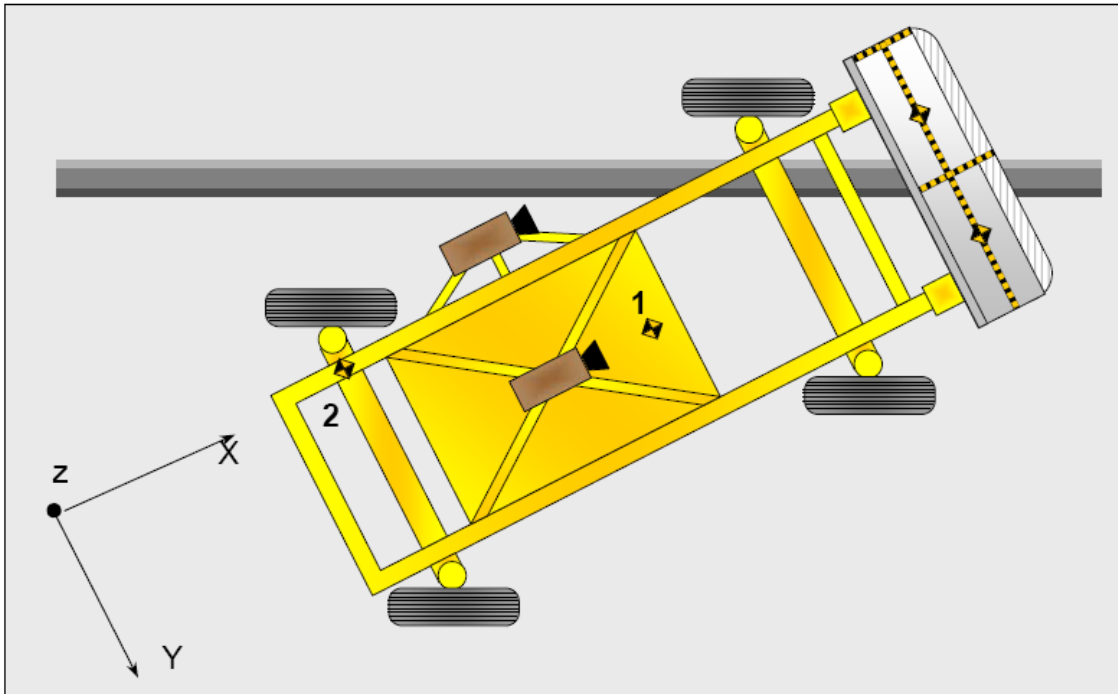
MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

Test Date: 08/15/13



MDB ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Measurement		
		X	Y	Z
1	MDB CG	-1195	0	-430
2	MDB Rear	-2642	-593	-608

Reference: X – Face of MDB (+ forward)
Y – MDB centerline (+ to right)
Z – Ground plane (+ down)

DATA SHEET NO. 8**POST-TEST OBSERVATIONS**

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Front Seat Dummy (ES-2re)	Rear Seat Dummy (SID-IIs)
Face	Curtain Airbag	Curtain Airbag
Top of Head	Side Header	Curtain Airbag
Left Side of Head	Side Header, Curtain Airbag	Curtain Airbag
Back of Head	Side Header, Curtain Airbag, Headrest	Curtain Airbag, Center Seat Back
Left Shoulder	Curtain Airbag, Torso/Pelvis Airbag	Curtain Airbag, Door Panel, Lower C-Pillar Trim
Upper Torso	Seat, Torso/Pelvis Airbag	Lower C-Pillar Trim
Lower Torso	Seat, Torso/Pelvis Airbag	Lower C-Pillar Trim, Door Panel
Left Hip	Torso/Pelvis Airbag, Door Panel	Seat, Door Panel
Left Knee	Door Panel, Right Knee	Door Panel, Right Knee

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/Other
	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

DATA SHEET NO. 8... (CONTINUED)**POST-TEST OBSERVATIONS**

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	No	No	No
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
Sill Separation	No Separation
Windshield Damage	Cracked
Side Window Damage	Both struck side windows broken
Other Notable Effects	None

DATA SHEET NO. 8 ... (CONTINUED)**POST-TEST OBSERVATIONS**

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

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

IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		2596
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		360
Actual Impact Point (Aft of Front Axle)	mm		357
Horizontal Offset (+ forward / - rearward)	mm	± 50 of Intended Impact Point	3
Vertical Offset (+ down / - up)	mm	± 20 of Intended Impact Point	12

DATA SHEET NO. 9**MDB SUMMARY OF RESULTS**

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1251
Overall Length including Honeycomb Face	4023
Wheel Base of Framework Carriage	2595
CG location aft of Front Axle	1118

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	401.8	298.0	699.8
Right	kg	376.9	291.6	668.5
Ratio	%	56.9%	43.1%	100.0%
Totals	kg	778.7	589.6	1368.3

SPEED AND IMPACT DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.21
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.14
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.3
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	63.1
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26.0 to 28.0	27.2

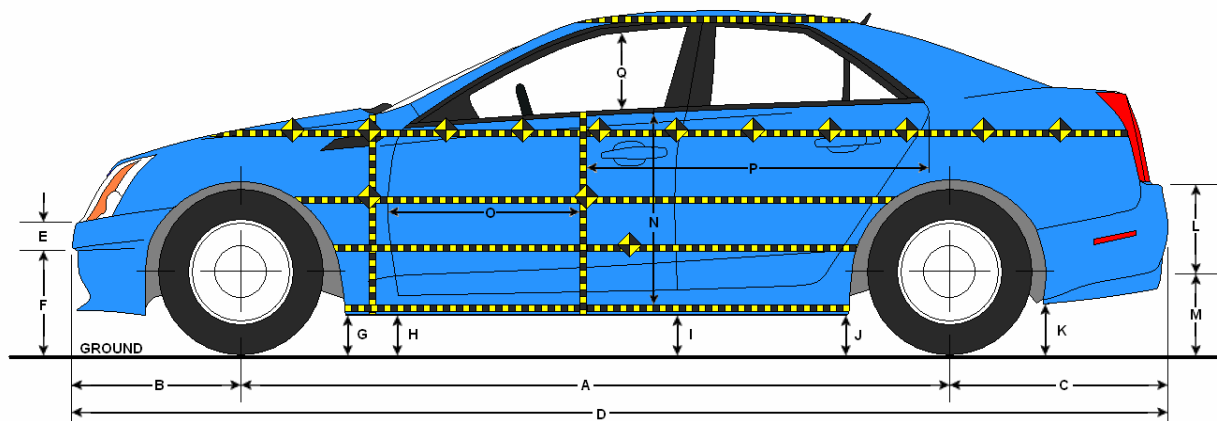
MAXIMUM STATIC CRUSH OF HONEYCOMB FACE

Vertical Location			From Centerline		Max. Crush (mm)
Row	Description	Height (mm)	Distance (mm)	Direction	
A	Center of Bumper	432	800	Right	210
B	Top of Bumper	533	800	Right	124
C	Mid Level	686	800	Right	117
D	Top of Stack	813	800	Left	150

DATA SHEET NO. 10

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13



LEFT SIDE VIEW

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2596	2600	4
B	Front Axle to FSOV	828	830	2
C	Rear Axle to RSOV	716	716	0
D	Total Length at Centerline	4141	4146	5
E	Front Bumper Thickness	136	137	1
F	Front Bumper Bottom to Ground	402	399	-3
G	Sill Height at Front Wheel Well	220	205	-15
H	Sill Height at Front Door Leading Edge	214	200	-14
I	Sill Height at B-Pillar	217	234	17
J1	Sill Height at Rear Wheel Well	226	229	3
J2	Pinch Weld Height at Rear Wheel Well	174	163	-11
K	Sill Height Aft of Rear Wheel Well	302	275	-27
L	Rear Bumper Thickness	164	163	-1
M	Rear Bumper Bottom to Ground	415	398	-17
N	Sill Height to Bottom of Front Window Sill	643	617	-26
O	Front Door Leading Edge to Impact CL	778	711	-67
P	Rear Door Trailing Edge to Impact CL	1273	1241	-32
Q	Front Window Opening	486	472	-14
R	Right Side Length	2996	2998	2
S	Left Side Length	2996	2979	-17
T	Vehicle Width at B-Pillar	1696	1523	-173

All measurements in mm with tolerance of ± 3 mm

DATA SHEET NO. 11

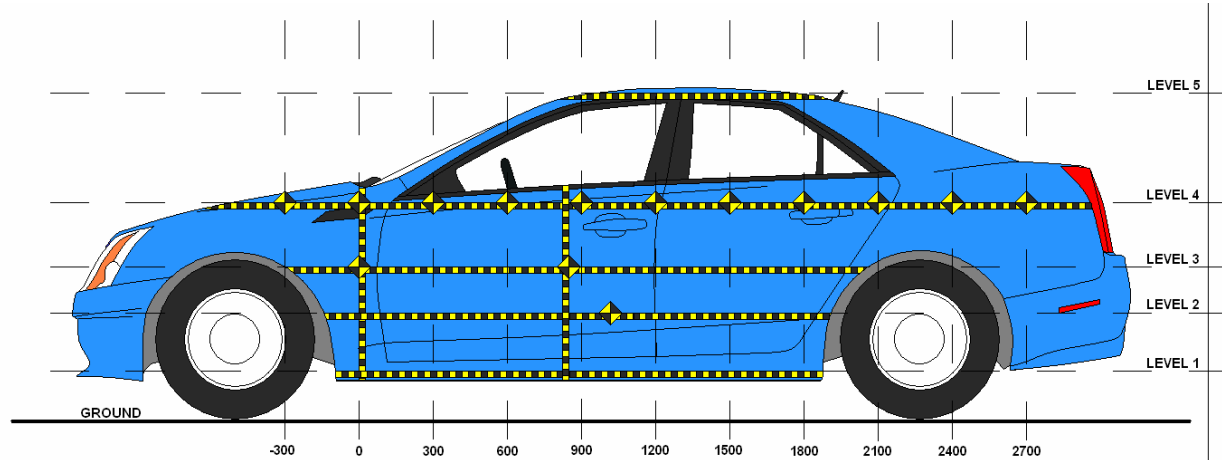
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

Test Date: 08/15/13



LEFT SIDE VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	261	86	750
2	Occupant H-Point	579	237	450
3	Mid-Door	678	235	600
4	Window Sill	882	200	1500
5	Window Top	1465	9	1350

DATA SHEET NO. 11 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13

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															
-750															
-600															
-450			656	755				674	757				18	2	
-300			654	741				667	747				13	6	
-150			654	734				670	746				16	12	
0		653	657	727			671	678	747			18	21	20	
150	699	656	659	722		770	843	829	769		71	187	170	47	
300	708	657	656	714		779	875	884	818		71	218	228	104	
450	711	656	655	709		781	893	884	844		70	237	229	135	
600	710	656	657	700		790	876	892	858		80	220	235	158	
750	709	656	659	692	960	795	865	893	860	955	86	209	234	168	-5
900	710	656	660	682	916	789	858	893	844	918	79	202	233	162	2
1050	710	657	661	673	913	786	856	873	824	917	76	199	212	151	4
1200	710	659	663	681	913	788	872	873	836	921	78	213	210	155	8
1350	713	661	665	682	915	789	879	893	860	924	76	218	228	178	9
1500	712	664	667	686	919	780	893	880	886	925	68	229	213	200	6
1650	706	667	670	695	931	767	869	846	862	933	61	202	176	167	2
1800	698	665	670	703	949	736	840	815	836	950	38	175	145	133	1
1950		664	665	718	995		730	746	809	993		66	81	91	-2
2100			664	723				701	771				37	48	
2250			667	738				687	743				20	5	
2400			677	757				689	760				12	3	
2550															
2700															
2850															

DATA SHEET NO. 11 ... (CONTINUED)

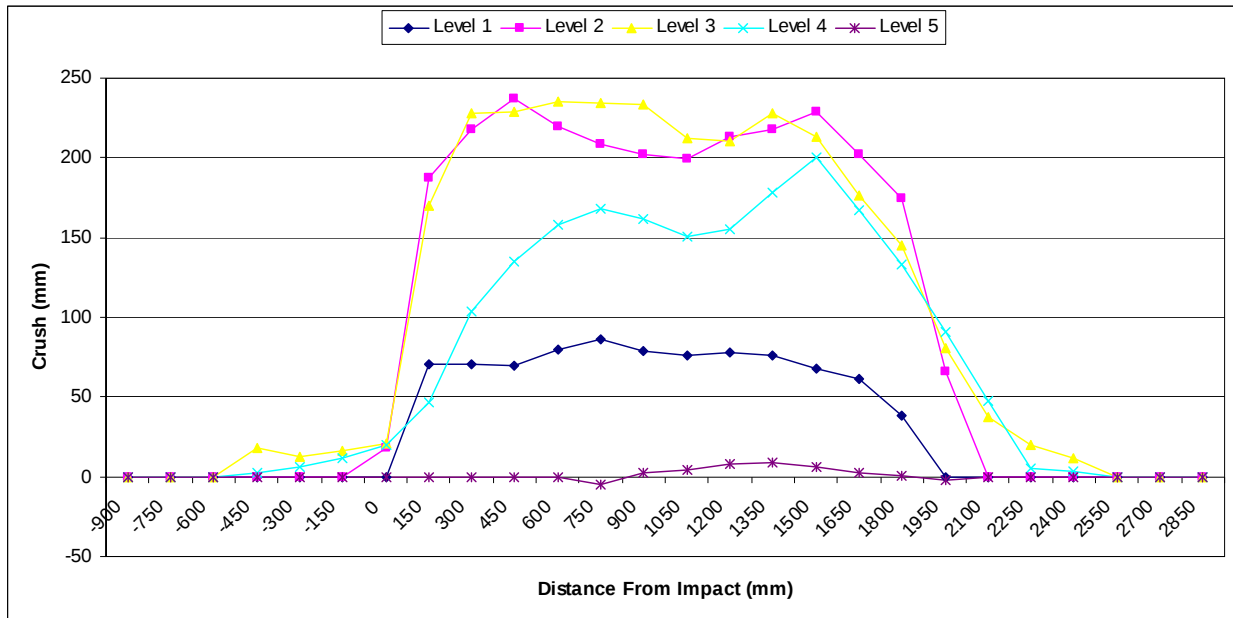
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

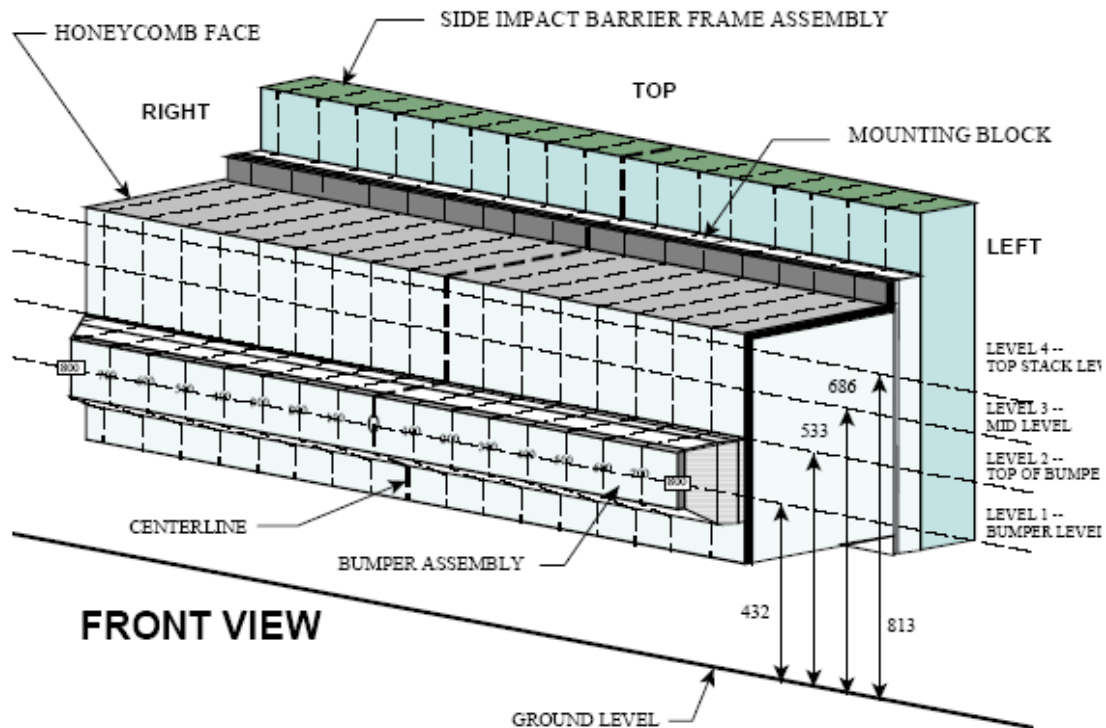
Test Date: 08/15/13



DATA SHEET NO. 12

MDB EXTERIOR STATIC CRUSH MEASUREMENTS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13



NOTE: Dimensions are shown in millimeters, mm

DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	210	184	173	169	163	161	156	149	143	137	131	126	121	116	113	113	134
2	124	99	104	87	73	68	77	70	62	62	65	69	69	67	61	66	71
3	117	81	53	33	35	42	69	63	39	27	22	20	24	32	40	51	107
4	75	44	20	23	42	76	92	67	56	52	41	39	42	56	76	114	150

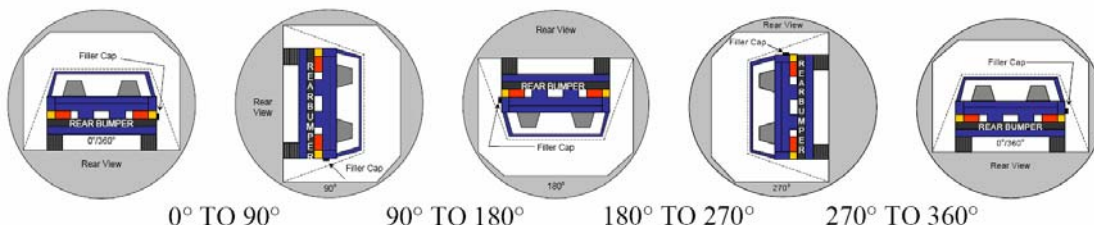
All dimensions in millimeters.

DATA SHEET NO. 13

FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback NHTSA No. M20145205
 Test Program: NCAP MDB Side Impact Test Test Date: 08/15/13
 Temperature at Time of Impact: 38.8° C Test Time: 12:32 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: No Stoddard solvent spillage occurred.



SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	88	300	388
90° To 180°	84	300	384
180° To 270°	84	300	384
270° To 360°	87	300	387

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. 14

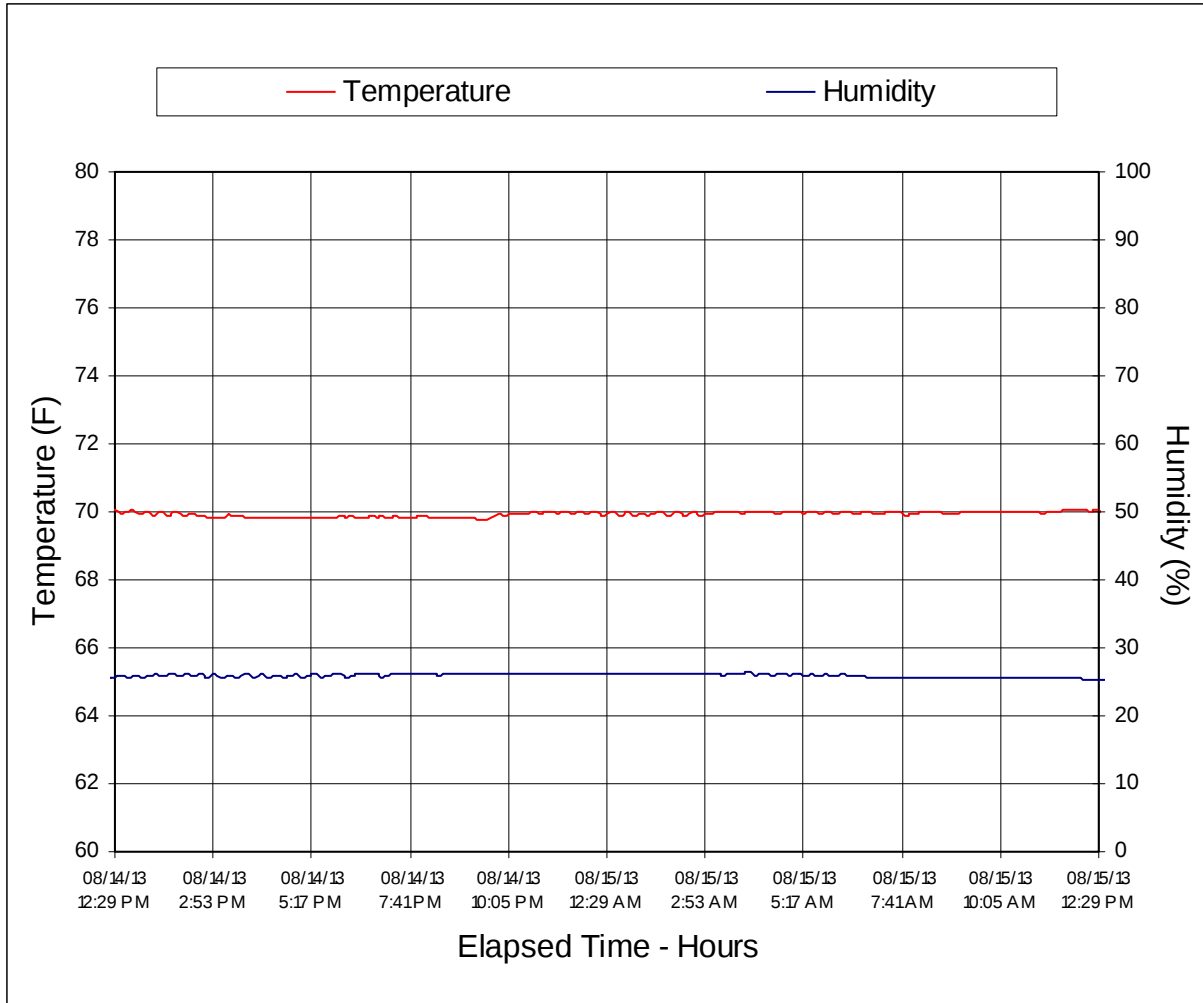
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback

NHTSA No. M20145205

Test Program: NCAP MDB Side Impact Test

Test Date: 08/15/13



APPENDIX A
PHOTOGRAPHS

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FIGURE 1. As-Delivered Right Front $\frac{3}{4}$ View of Test Vehicle



FIGURE 2. As-Delivered Left Rear $\frac{3}{4}$ 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 $\frac{3}{4}$ View of Test Vehicle



FIGURE 6. Post-Test Left Front $\frac{3}{4}$ 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 $\frac{3}{4}$ View of Impact Zone



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

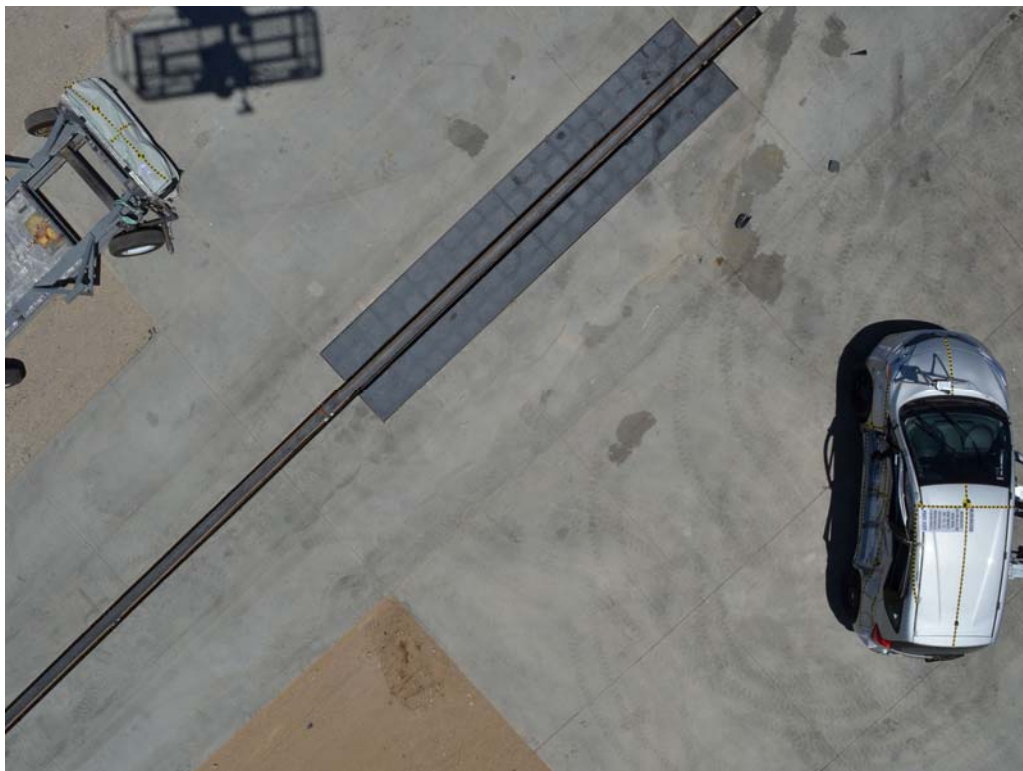


FIGURE 16. Post-Test Overhead View of Test Area



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



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



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



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



FIGURE 21. Pre-Test Left Front Door Latch Close-Up



FIGURE 22. Post-Test Left Front Door Latch Close-Up



FIGURE 23. Pre-Test Left Rear Door Latch Close-Up



FIGURE 24. Post-Test Left Rear Door Latch Close-Up



FIGURE 25. Pre-Test Front Close-Up View of Driver Dummy



FIGURE 26. Post-Test Front Close-Up View of Driver Dummy



FIGURE 27. Pre-Test Left Side View of Driver Dummy
Showing Belt and Chalking

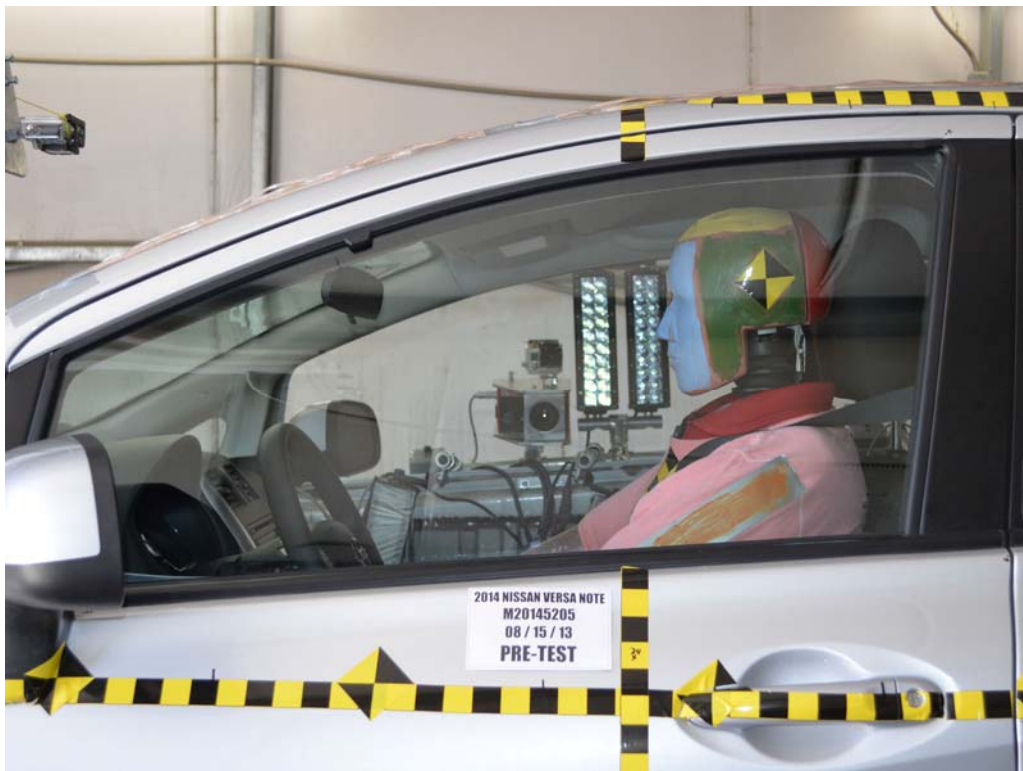


FIGURE 28. Pre-Test Left Side View of Driver Dummy Shoulder and Door Top View



FIGURE 29. Post-Test Left Side View of Driver Dummy Shoulder and Door Top View



FIGURE 30. Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning



FIGURE 31. Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



FIGURE 32. Pre-Test Overhead View of Driver Seat Pan Prior to Dummy Positioning



FIGURE 33. Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan



FIGURE 34. Pre-Test Placement of Driver Dummy's Feet



FIGURE 35. Pre-Test View of Belt Anchorage for Driver Dummy

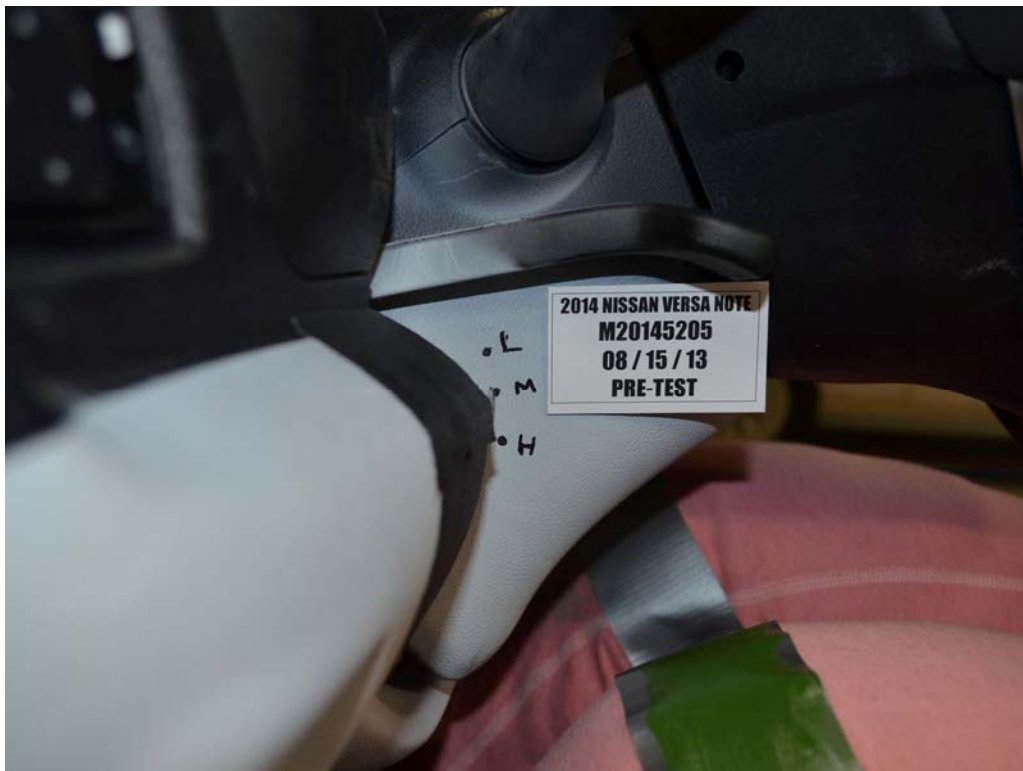


FIGURE 36. Pre-Test Left Side View of Steering Wheel



FIGURE 37. View of Disengaged Parking Brake



FIGURE 38. Pre-Test View of Parking Brake



FIGURE 39. Pre-Test Close-Up Left Side View of Driver Seat Track

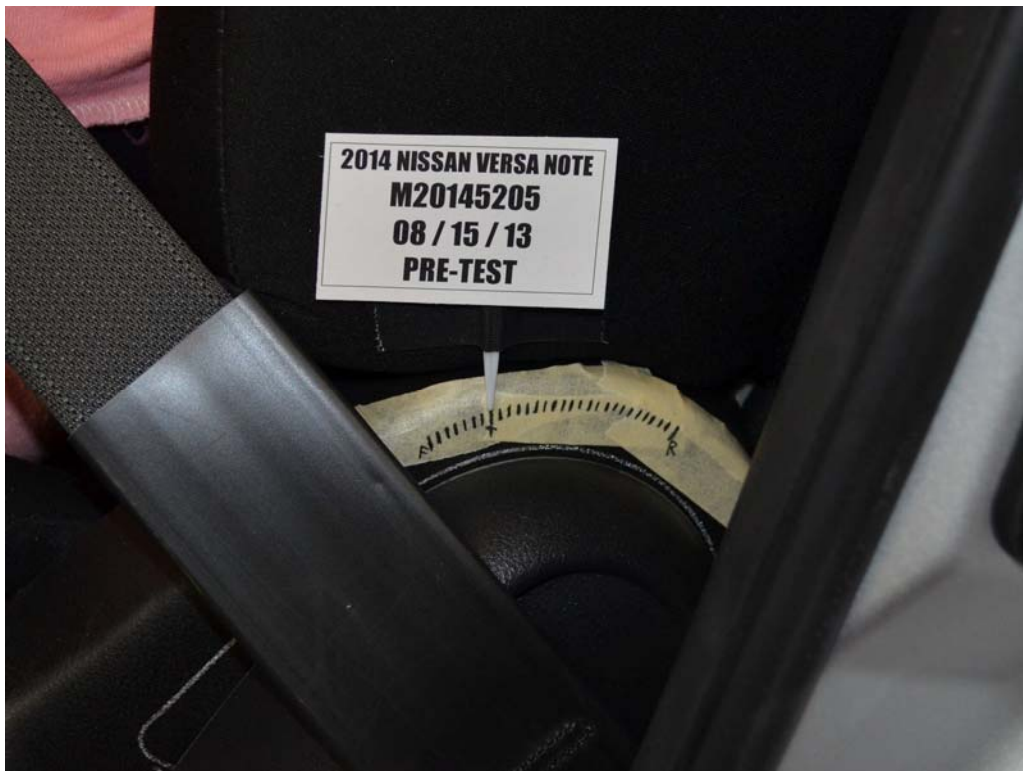


FIGURE 40. Pre-Test Close-Up Left Side View of Driver Seat Back



FIGURE 41. Pre-Test Close-Up View of Driver Seat Back or Head Restraint



FIGURE 42. Pre-Test Driver Dummy and Door Clearance View



FIGURE 43. Post-Test Driver Dummy and Door Clearance View



FIGURE 44. Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



FIGURE 45. Post-Test Right Side View of Driver Dummy and Front Seat Occupant Compartment



FIGURE 46. Pre-Test Driver Inner Door Panel View



FIGURE 47. Post-Test Driver Inner Door Panel View

Showing Driver Dummy Contact Locations



FIGURE 48. Post-Test Driver Dummy Close-Up Head Contact with Vehicle Interior View

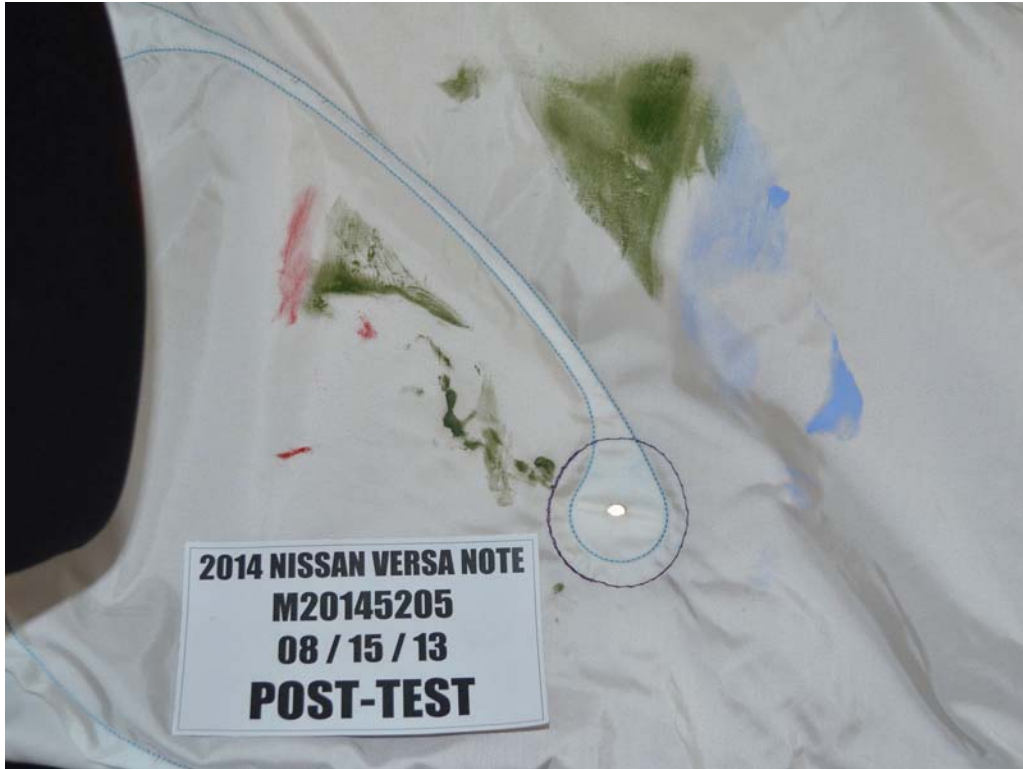


FIGURE 49. Post-Test Driver Dummy Close-Up Head Contact with Side Airbag View



FIGURE 50. Post-Test Driver Dummy Close-Up Torso Contact with Vehicle Interior View

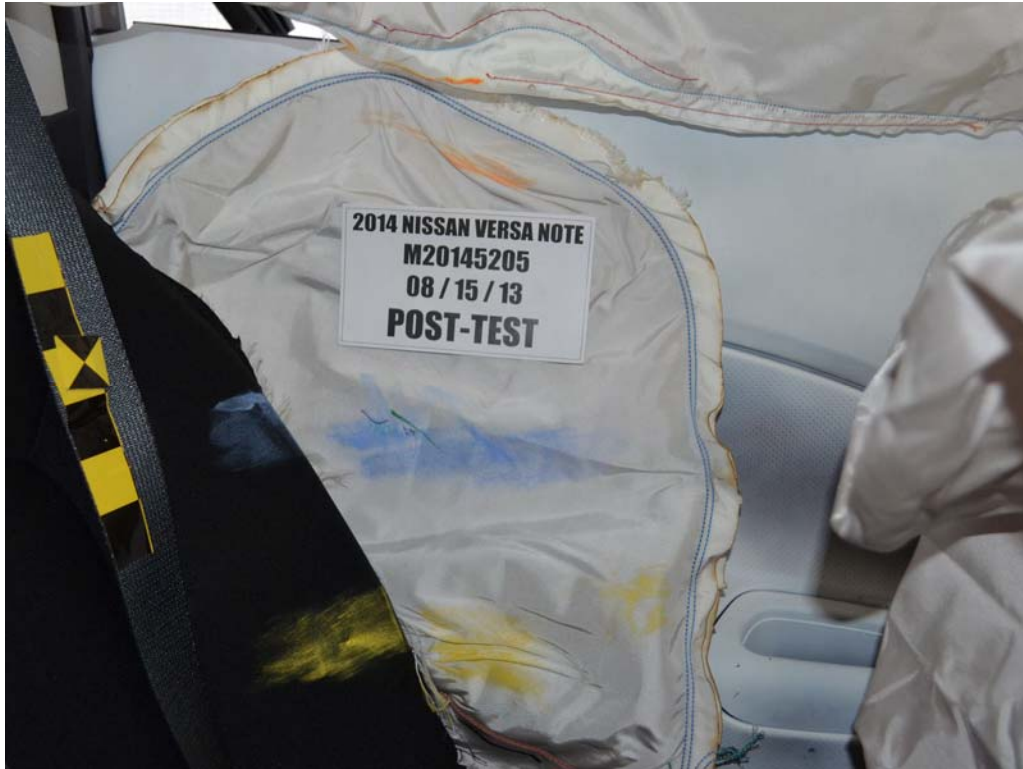


FIGURE 51. Post-Test Driver Dummy Close-Up Torso Contact with Side Airbag View



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



FIGURE 53. Post-Test Driver Dummy Close-Up Pelvis Contact with Side Airbag View



FIGURE 54. Post-Test Driver Dummy Close-Up Knee Contact View



FIGURE 55. Pre-Test Left Side View of Rear Passenger Dummy
Showing Belt and Chalking



FIGURE 56. Pre-Test Left Side View of Rear Passenger Dummy
Shoulder and Door Top View



FIGURE 57. Post-Test Left Side View of Rear Passenger Dummy
Shoulder and Door Top View



FIGURE 58. Pre-Test Frontal View of Rear Passenger Seat Back
Prior to Dummy Positioning



FIGURE 59. Pre-Test Frontal View of Rear Passenger Dummy
Head and Shoulders in Relation to Head Restraint



FIGURE 60. Pre-Test Overhead View of Rear Passenger
Seat Pan Prior to Dummy Positioning

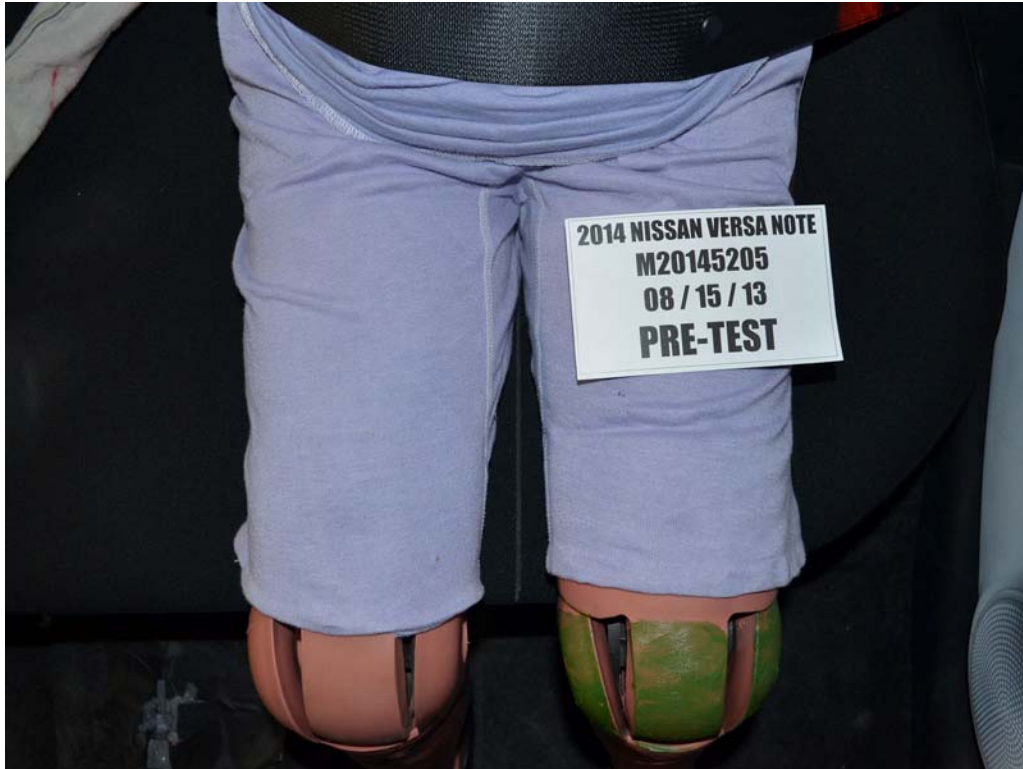


FIGURE 61. Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan

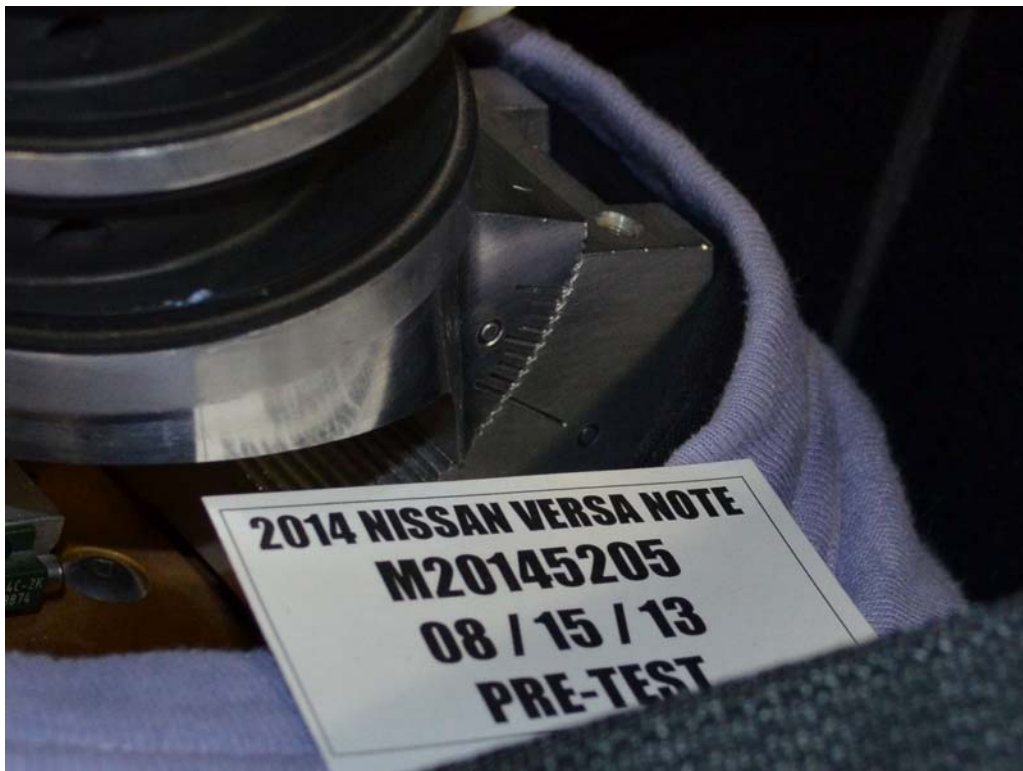


FIGURE 62. Pre-Test View of Rear Passenger Dummy's Neck
Showing Position of Adjustable Neck Bracket



FIGURE 63. Pre-Test View of Rear Passenger Dummy's Head
Showing Dummy's Head is Level



FIGURE 64. Pre-Test Placement of Rear Passenger Dummy's Feet



FIGURE 65. Pre-Test View of Belt Anchorage for Rear Passenger Dummy



FIGURE 66. Pre-Test Close-Up Left Side View of Rear Passenger Seat Track



FIGURE 67. Pre-Test Close-Up Left Side View of Rear Passenger Seat Back



FIGURE 68. Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint



FIGURE 69. Pre-Test Rear Passenger Dummy and Door Clearance View



FIGURE 70. Post-Test Rear Passenger Dummy and Door Clearance View



FIGURE 71. Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



FIGURE 72. Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



FIGURE 73. Pre-Test Rear Passenger Inner Door Panel View



FIGURE 74. Post-Test Rear Passenger Inner Door Panel View
Showing Rear Passenger Dummy Contact Locations



FIGURE 75. Post-Test Rear Passenger Dummy Close-Up
Head Contact with Vehicle Interior View



FIGURE 76. Post-Test Rear Passenger Dummy Close-Up
Head Contact with Side Airbag View

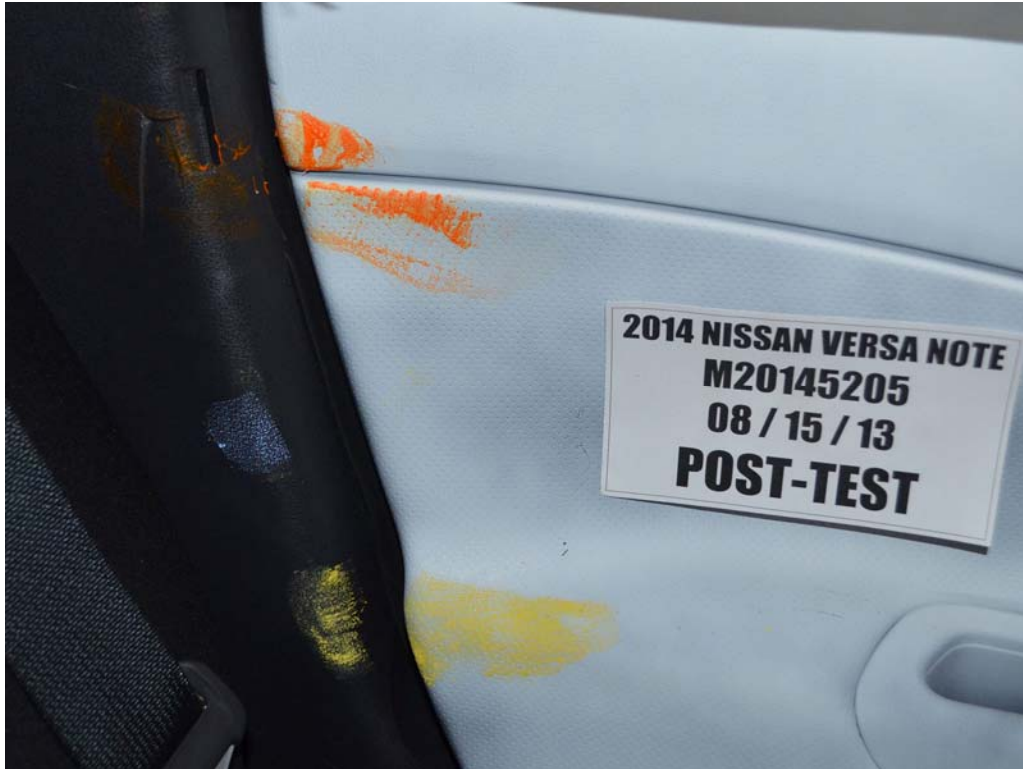


FIGURE 77. Post-Test Rear Passenger Dummy Close-Up
Torso Contact with Vehicle Interior View

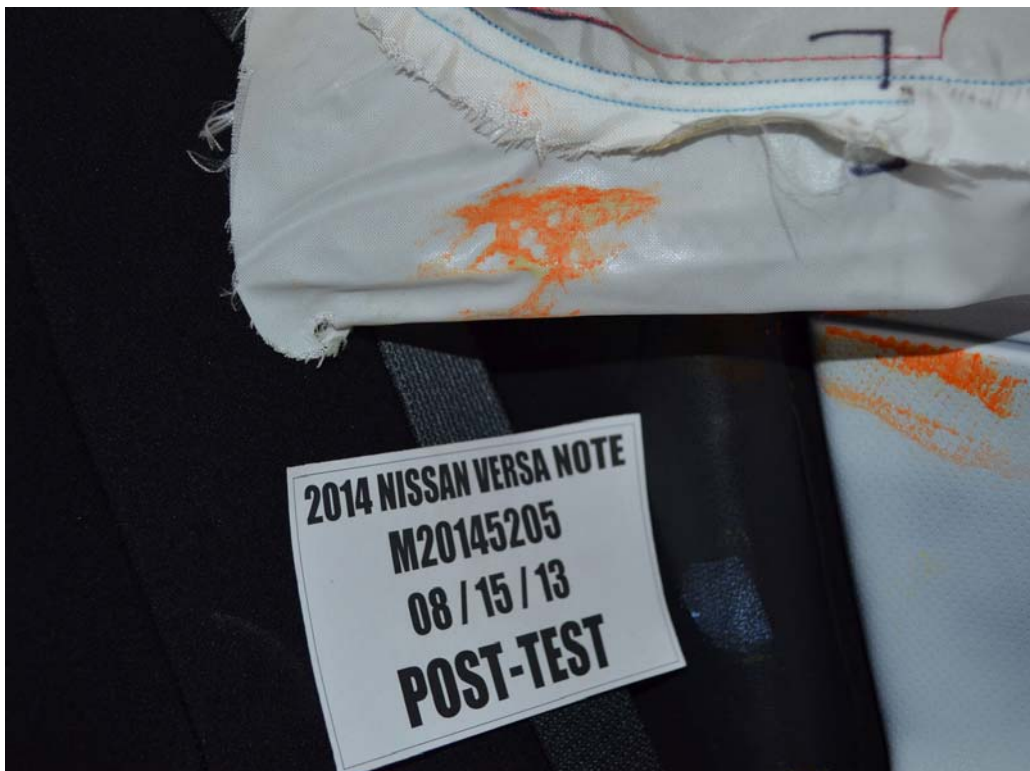


FIGURE 78. Post-Test Rear Passenger Dummy Close-Up
Torso Contact with Side Airbag View



FIGURE 79. Post-Test Rear Passenger Dummy Close-Up
Pelvis Contact with Vehicle Interior View

Photograph Not Applicable

Vehicle Not Equipped With
Rear Passenger Side Airbag

FIGURE 80. Post-Test Rear Passenger Dummy Close-Up
Pelvis Contact with Side Airbag View



FIGURE 81. Post-Test Rear Passenger Dummy Close-Up Knee Contact View



FIGURE 82. Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 83. Post-Test View of Fuel Filler Cap or Fuel Filler Neck



FIGURE 84. Pre-Test Front View of MDB Impactor Face



FIGURE 85. Post-Test Front View of MDB Impactor Face

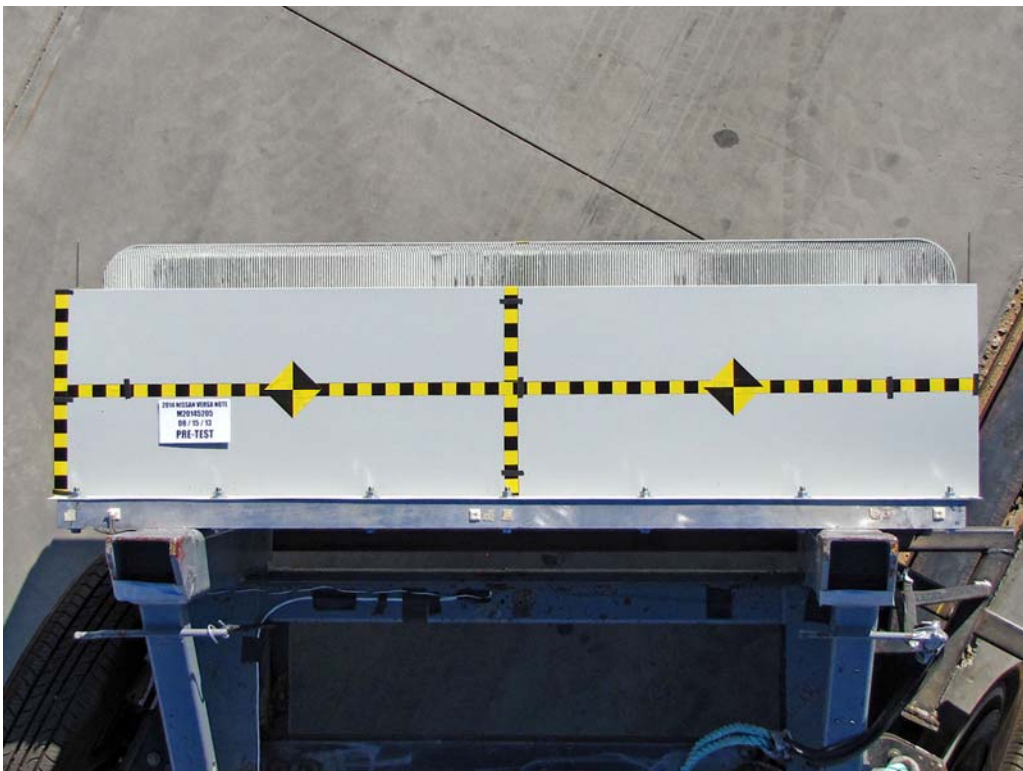


FIGURE 86. Pre-Test Top View of MDB Impactor Face



FIGURE 87. Post-Test Top View of MDB Impactor Face



FIGURE 88. Pre-Test Left Side View of MDB Impactor Face



FIGURE 89. Post-Test Left Side View of MDB Impactor Face



FIGURE 90. Pre-Test Right Side View of MDB Impactor Face



FIGURE 91. Post-Test Right Side View of MDB Impactor Face



FIGURE 92. Close-Up View of Vehicle's Certification Label



FIGURE 93. Close-Up View of Vehicle's Tire Information Placard or Label



FIGURE 94. Pre-Test Ballast View



FIGURE 95. Post-Test Primary and Redundant Speed Trap Read-Out



FIGURE 96. FMVSS No. 301 Static Rollover 0 Degrees

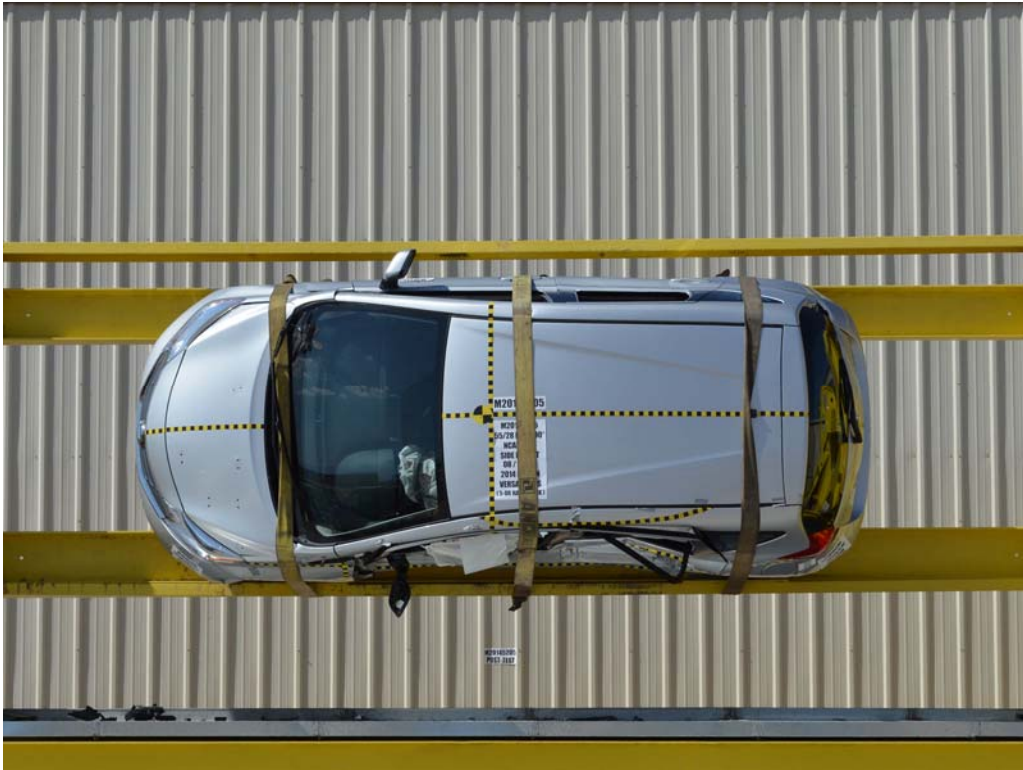


FIGURE 97. FMVSS No. 301 Static Rollover 90 Degrees

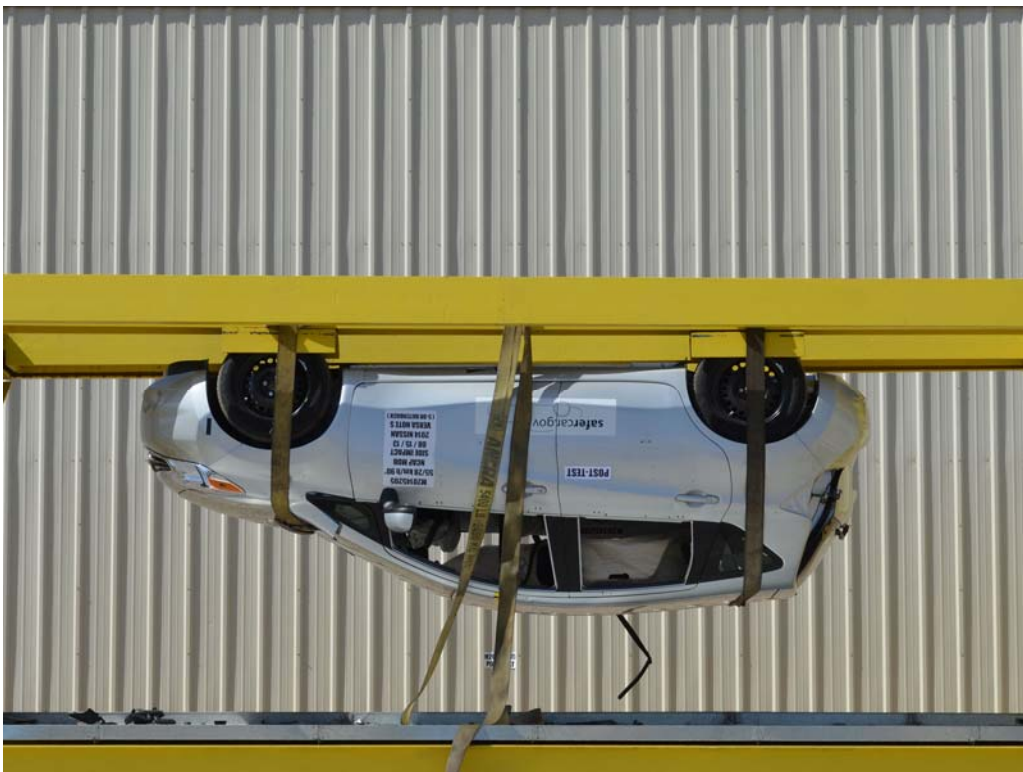


FIGURE 98. FMVSS No. 301 Static Rollover 180 Degrees



FIGURE 99. FMVSS No. 301 Static Rollover 270 Degrees



FIGURE 100. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 101. Impact Event

2014 VERSA NOTE S		EPA DOT Fuel Economy and Environment	
AMERICA'S BEST SELLING ENTRY HATCH+ Standard Equipment Included at No Extra Charge MECHANICAL & PERFORMANCE 1.8-Liter DOHC 16-Valve 4-Cylinder Engine 5-Speed Manual Transmission Front and Rear Stabilizer Bars Power-Assisted Variable Front Disc / Rear Drum Brakes 15" Steel Wheels w/ Full Wheel Covers SAFETY & SECURITY Driver and Front Passenger, Side Impact and Curtain Air Bags Lower Anchors and Tethers for Children (LATCH) Anti-Lock Braking System (ABS) Traction Control System (TCS) Vehicle Dynamic Control (VDC) Electronic Brake Force Distribution (EBD) and Brake Assist Tire Pressure Monitoring System (TPMS) COMFORT & CONVENIENCE 6-Way Adjustable Front Seats AM/FM/CD/Aux-In Audio System EXTERIOR Chrome-Accented Multi-Reflector Halogen Headlights Chrome-Accented Front Grille *According to Park U.S. New Vehicle Registrations, for the entry level segment, hatch only, January-December 2012.		Fuel Economy 30 MPG combined city/hwy 27 city 36 highway 3.3 gallons per 100 miles You save \$2,750 in fuel costs over 5 years compared to the average new vehicle. Annual fuel cost \$1,750 Fuel Economy & Greenhouse Gas Rating 8 (out of 10) Smog Rating (out of 10) GOVERNMENT 5-STAR SAFETY RATINGS Overall Vehicle Score: To Be Rated Frontal Crash: To Be Rated Driver Passenger: To Be Rated Side Crash: To Be Rated Rear seat: To Be Rated Rollover: To Be Rated DELIVERY VEHICLE COLORS: EXT: BRILLIANT SILVER INT: CHARCOAL FINAL ASSEMBLY POINT: AQUAS/ABV JMEX TRANSPORT METHOD: TRUCK DEALER: KELLY NISSAN, INC. 4300 W 10TH ST QAK LAWN IL 60453	
Manufacturer's Suggested Retail Base Price: \$13,990.00 Options Included by Manufacturer: Mules 66 DESTINATION CHARGES: 790.00 Total: \$14,780.00		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 This Vehicle qualifies for Nissan's Security+Plus Vehicle Protection Plan The only service agreement backed by Nissan Ask your dealer for details, or call 1-800-NISSAN-1 for more information VIN: 3N1CE3CP6EL356775 EPA: 50 STATE EMISSIONS MDL: 11454-356775 K23-G OPT: C-03	

FIGURE 102. Monroney Label

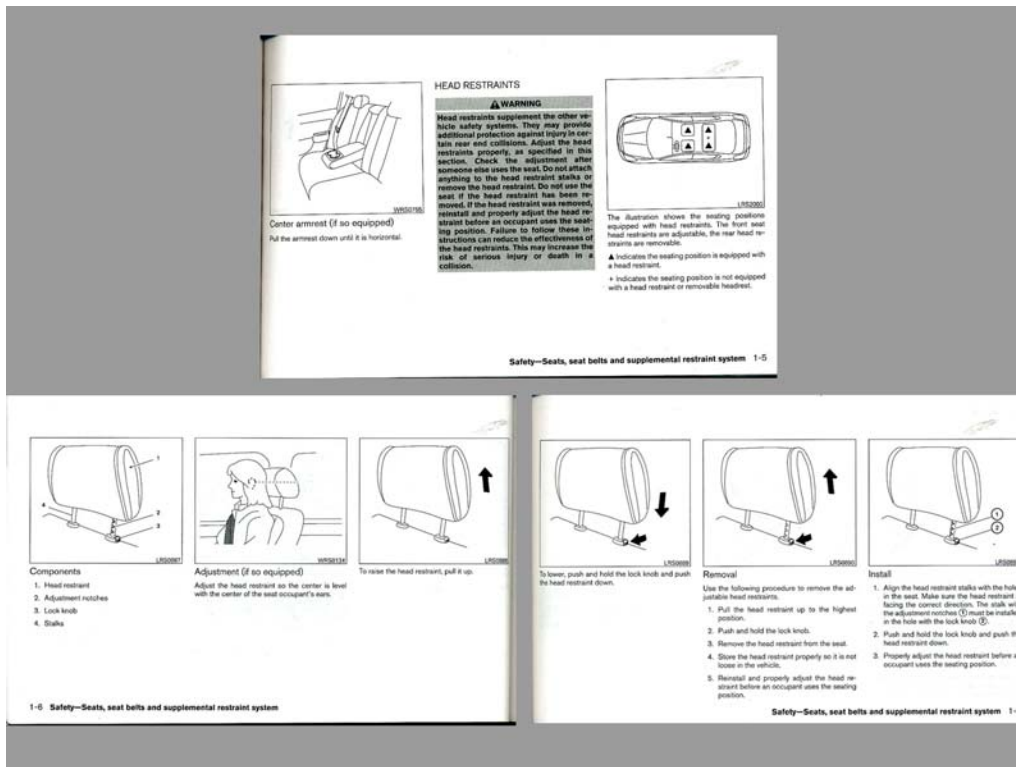


FIGURE 103. Driver Head Restraint Use and Adjustment
Information from Vehicle Owner's Manual

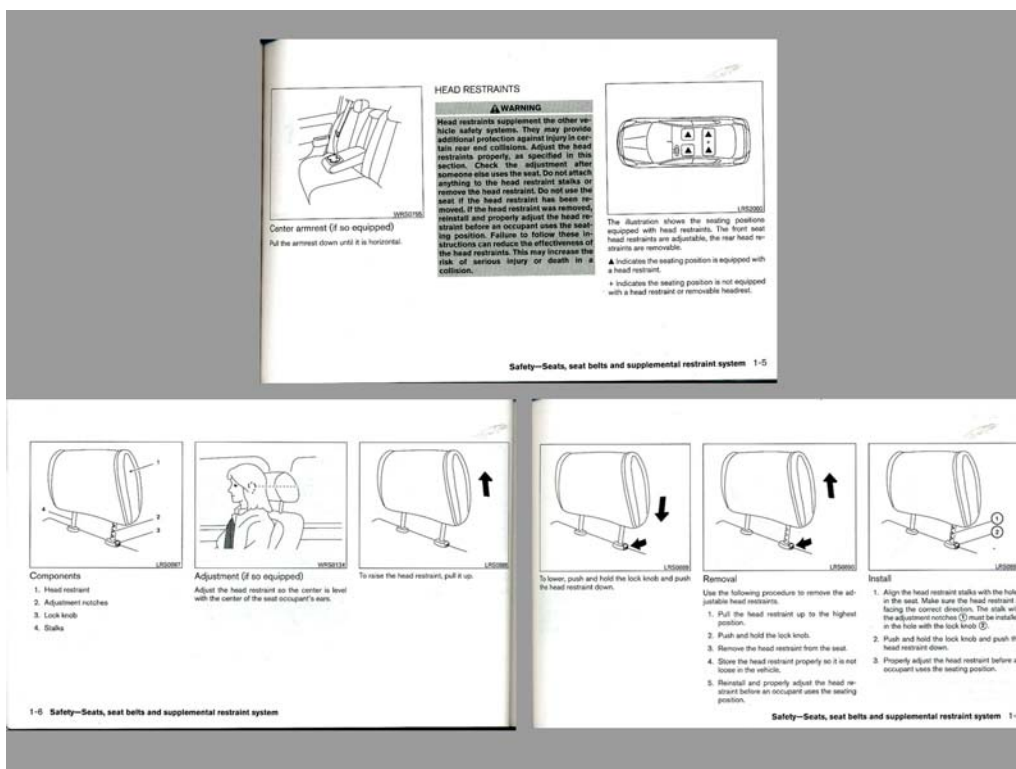


FIGURE 104. Left Rear Passenger Head Restraint
Use and Adjustment Information from Vehicle Owner's Manual

APPENDIX B
DUMMY RESPONSE DATA

TABLE OF DATA PLOTS

Plot		Page
1	Driver Head Acceleration (X) Primary vs. Time	B-1
2	Driver Head Acceleration (Y) Primary vs. Time	B-1
3	Driver Head Acceleration (Z) Primary vs. Time	B-1
4	Driver Head Resultant Acceleration Primary vs. Time	B-1
5	Driver Upper Thorax Rib Deflection (Y) vs. Time	B-2
6	Driver Middle Thorax Rib Deflection (Y) vs. Time	B-2
7	Driver Lower Thorax Rib Deflection (Y) vs. Time	B-2
8	Driver Thorax Rib Deflection Maximum vs. Time	B-2
9	Driver Anterior Abdominal Force (Y) vs. Time	B-3
10	Driver Middle Abdominal Force (Y) vs. Time	B-3
11	Driver Posterior Abdominal Force (Y) vs. Time	B-3
12	Driver Total Abdominal Force (Y) vs. Time	B-3
13	Driver Pubic Symphysis Force (Y) vs. Time	B-4
14	Passenger Head Acceleration (X) vs. Time Primary	B-5
15	Passenger Head Acceleration (Y) vs. Time Primary	B-5
16	Passenger Head Acceleration (Z) vs. Time Primary	B-5
17	Passenger Head Resultant Acceleration Primary vs. Time	B-5
18	Passenger Lower Spine T12 Acceleration (X) vs. Time	B-6
19	Passenger Lower Spine T12 Acceleration (Y) vs. Time	B-6
20	Passenger Lower Spine T12 Acceleration (Z) vs. Time	B-6
21	Passenger Lower Spine T12 Resultant Acceleration vs. Time	B-6
22	Passenger Iliac Force on Impact Side (Y) vs. Time	B-7
23	Passenger Acetabulum Force on Impact Side (Y) vs. Time	B-7
24	Passenger Total Pelvic Force on Impact Side (Y) vs. Time	B-7

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

Additional Driver & Passenger Dummy Instrumentation Data

Driver Lower Spine T12 Acceleration (X)

Driver Lower Spine T12 Acceleration (Y)

Driver Lower Spine T12 Acceleration (Z)

Passenger Upper Thorax Rib Deflection (Y)

Passenger Middle Thorax Rib Deflection (Y)

Passenger Lower Thorax Rib Deflection (Y)

Passenger Upper Abdomen Rib Deflection (Y)
Passenger Lower Abdomen Rib Deflection (Y)
Driver Head Acceleration Redundant (X)
Driver Head Acceleration Redundant (Y)
Driver Head Acceleration Redundant (Z)
Passenger Head Acceleration Redundant (X)
Passenger Head Acceleration Redundant (Y)
Passenger Head Acceleration Redundant (Z)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Right Side Sill at Front Seat Acceleration (X)
Right Side Sill at Front Seat Acceleration (Y)
Right Side Sill at Front Seat Acceleration (Z)
Right Side Sill at Rear Seat Acceleration (X)
Right Side Sill at Rear Seat Acceleration (Y)
Right Side Sill at Rear Seat Acceleration (Z)
Left Side Sill at Front Seat Acceleration (Y)
Left Side Sill at Rear Seat Acceleration (Y)
Lower A-Post Acceleration (Y)
Middle A-Post Acceleration (Y)
Lower B-Post Acceleration (Y)
Middle B-Post Acceleration (Y)
Front Seat Track Acceleration (Y)
Rear Seat Structure Acceleration (Y)
Right Rear Occupant Compartment Acceleration (Y)
Engine Block (X)
Engine Block (Y)
Rear Floorpan Above Axle Acceleration (X)
Rear Floorpan Above Axle Acceleration (Y)
Rear Floorpan Above Axle Acceleration (Z)

MDB Instrumentation Data

MDB Center of Gravity Acceleration (X)

MDB Center of Gravity Acceleration (Y)

MDB Center of Gravity Acceleration (Z)

MDB Rear Acceleration (X)

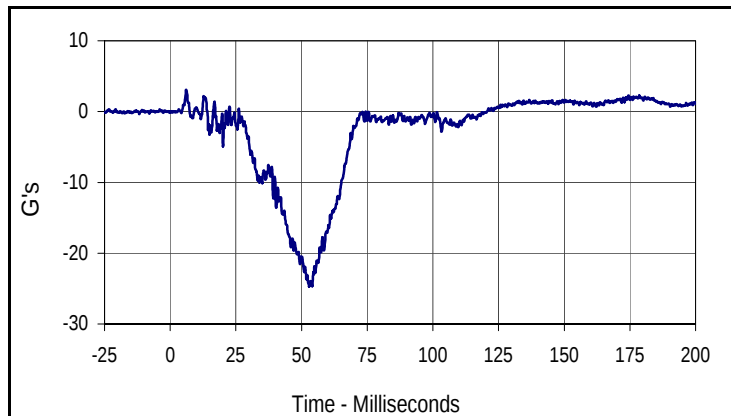
MDB Rear Acceleration (Y)

Left MDB Contact Switch

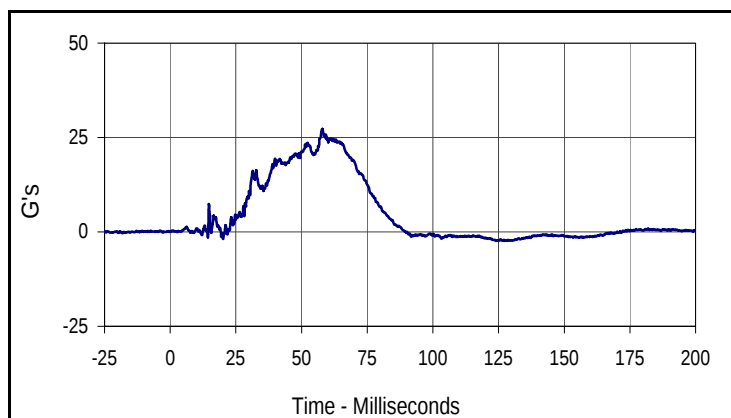
Right MDB Contact Switch

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
 Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

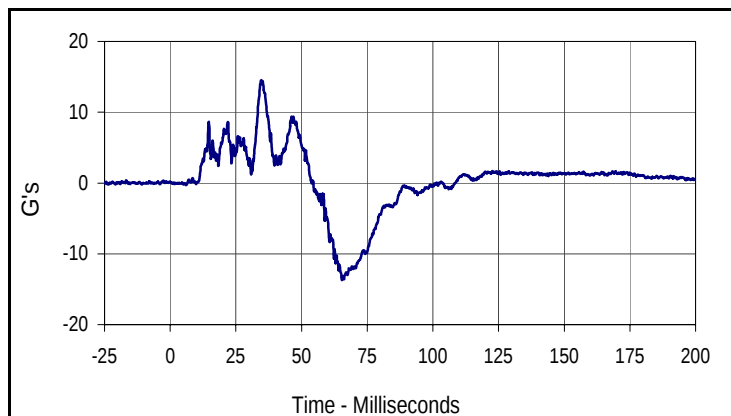
NHTSA No.: M20145205
 Test Date: 8/15/13



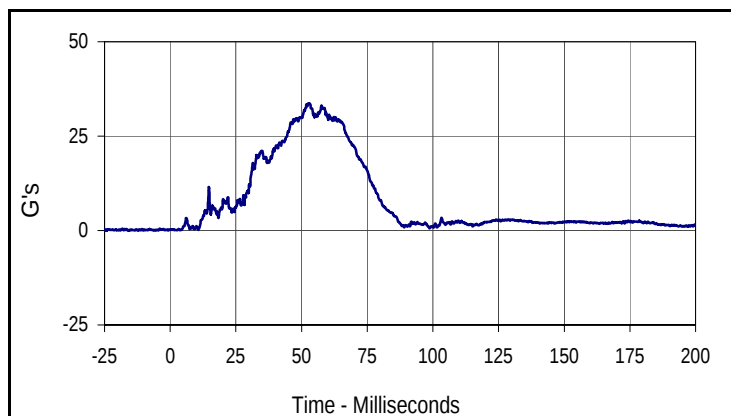
Curve Description			
Driver Head Acceleration X Primary			
Plot No.	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
3.1	6.1	-24.7	52.9



Curve Description			
Driver Head Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
27.3	57.9	-2.4	124.1



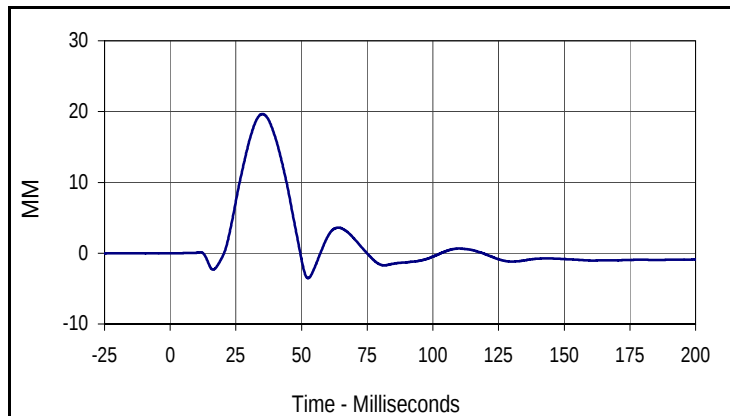
Curve Description			
Driver Head Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
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Max	Time	Min	Time
14.5	34.7	-13.7	65.4



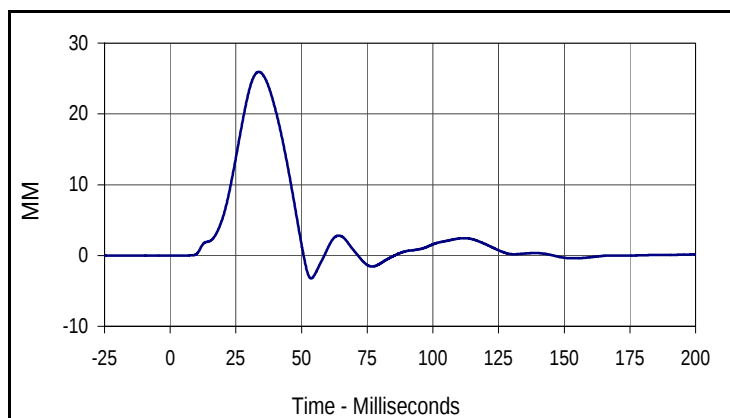
Curve Description			
Driver Head Resultant Acceleration Primary			
Plot No.	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
33.7	52.9	0.1	2.4

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
 Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

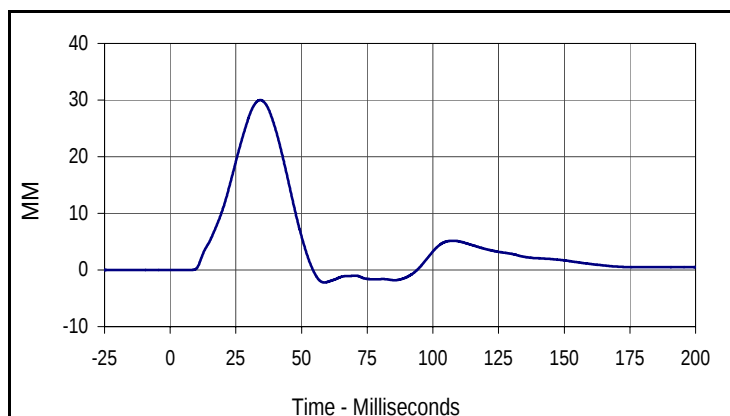
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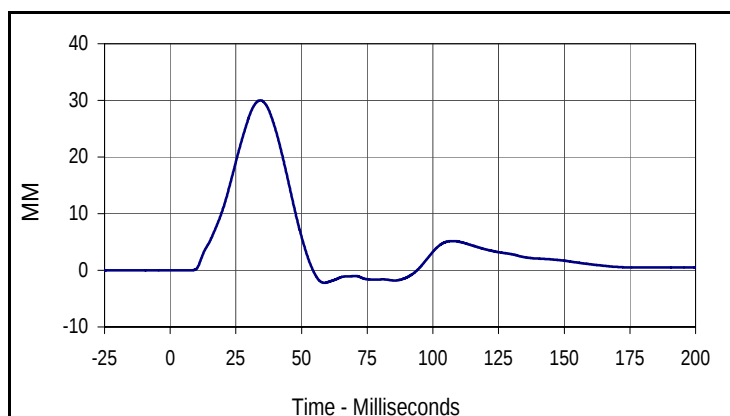
Curve Description			
Driver Upper Thorax Rib Deflection Y			
Plot No.	Type	SAE Class	Units
005	FIL	180	MM
Max	Time	Min	Time
19.7	35.1	-3.5	52.4



Curve Description			
Driver Middle Thorax Rib Deflection Y			
Plot No.	Type	SAE Class	Units
006	FIL	180	MM
Max	Time	Min	Time
26.0	33.7	-3.2	53.6



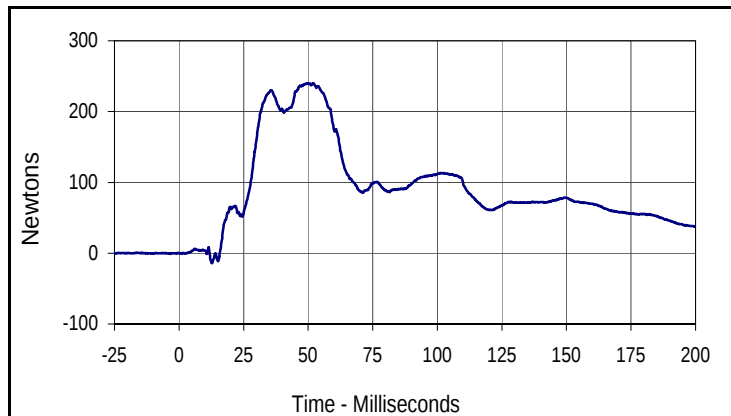
Curve Description			
Driver Lower Thorax Rib Deflection Y			
Plot No.	Type	SAE Class	Units
007	FIL	180	MM
Max	Time	Min	Time
30.0	34.3	-2.2	58.7



Curve Description			
Driver Thorax Rib Deflection Maximum			
Plot No.	Type	SAE Class	Units
010	FIL	180	MM
Max	Time	Min	Time
30.0	34.3	-2.2	58.7

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
 Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

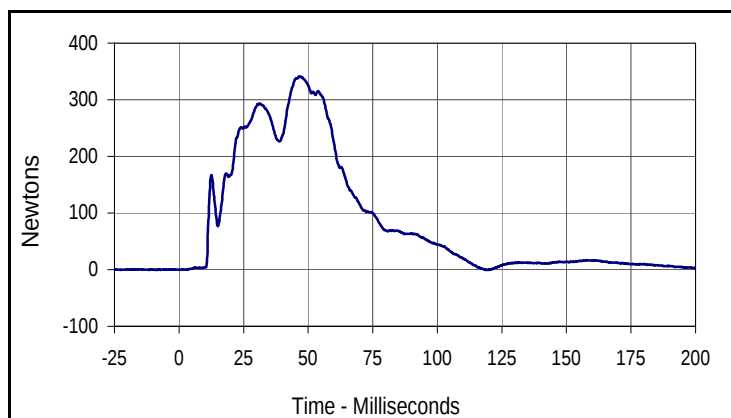
NHTSA No.: M20145205
 Test Date: 8/15/13



Curve Description

Driver Anterior Abdominal Force Y

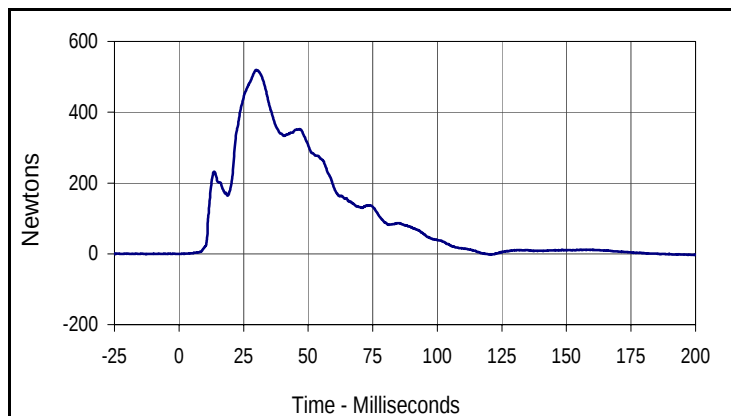
Plot No.	Type	SAE Class	Units
008	FIL	600	Newtons
Max	Time	Min	Time
240.2	52.0	-14.2	12.7



Curve Description

Driver Middle Abdominal Force Y

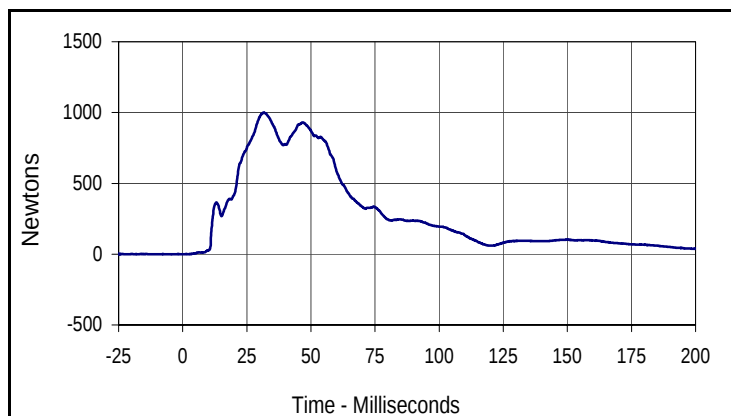
Plot No.	Type	SAE Class	Units
009	FIL	600	Newtons
Max	Time	Min	Time
341.4	46.8	-0.5	0.1



Curve Description

Driver Posterior Abdominal Force Y

Plot No.	Type	SAE Class	Units
011	FIL	600	Newtons
Max	Time	Min	Time
519.2	29.9	-3.3	198.9



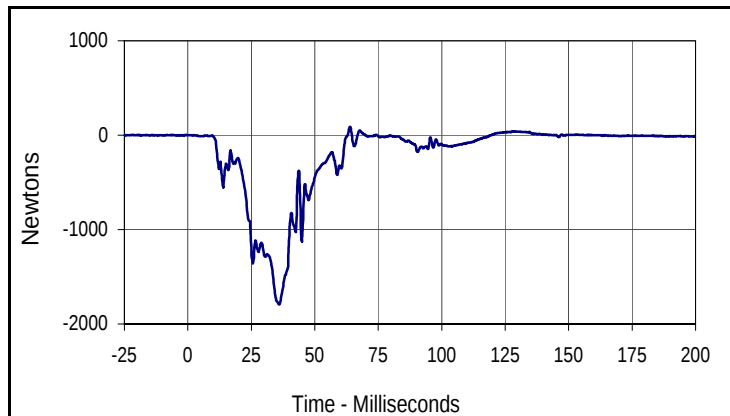
Curve Description

Driver Total Abdominal Force

Plot No.	Type	SAE Class	Units
012	SUM	600	Newtons
Max	Time	Min	Time
999.7	31.4	-1.0	0.2

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

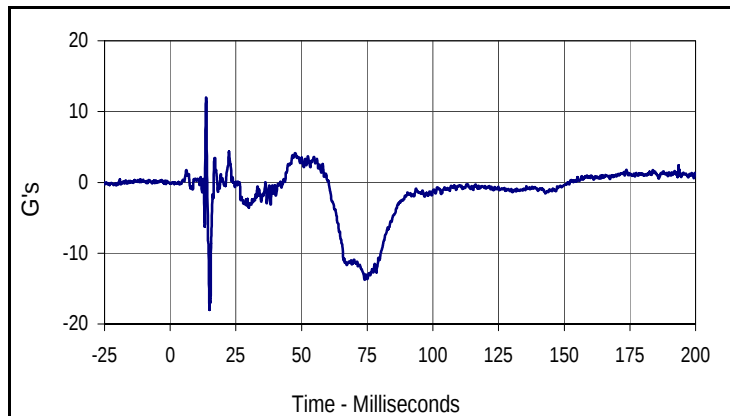
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Test Date: 8/15/13



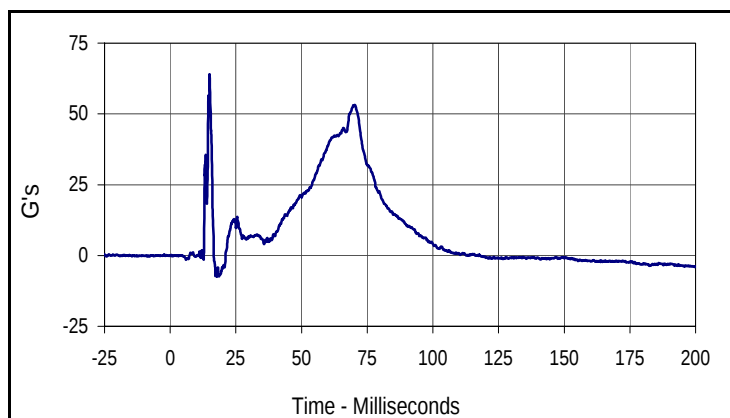
Curve Description			
Driver Pubic Symphysis Force Y			
Plot No.	Type	SAE Class	Units
013	FIL	600	Newtons
Max	Time	Min	Time
89.2	63.9	-1792.7	36.0

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
 Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

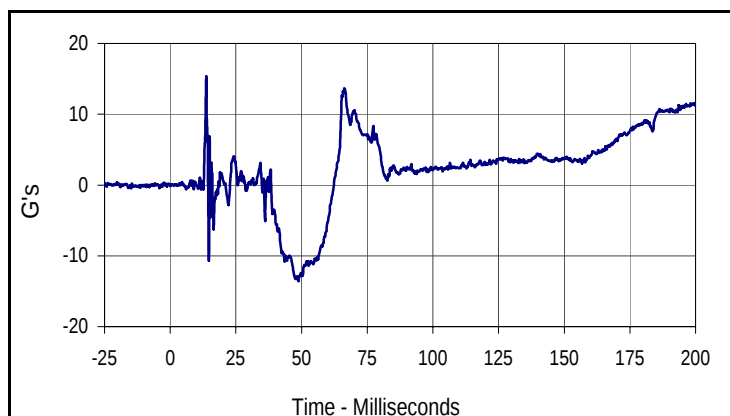
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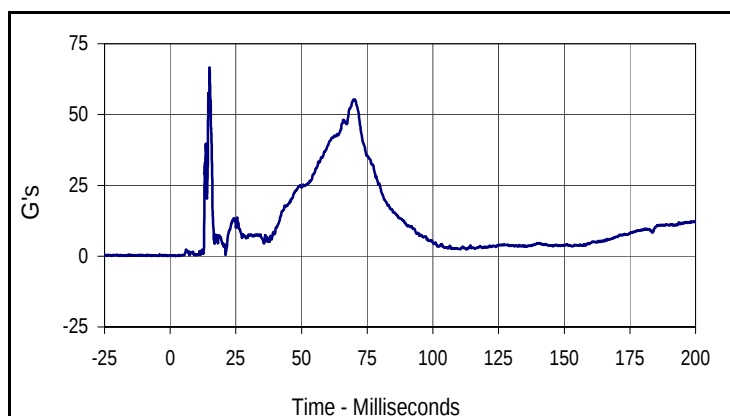
Curve Description			
Passenger Head Acceleration X Primary			
Plot No.	Type	SAE Class	Units
014	FIL	1000	G's
Max	Time	Min	Time
12.0	13.6	-18.0	14.9



Curve Description			
Passenger Head Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
015	FIL	1000	G's
Max	Time	Min	Time
63.9	15.0	-7.4	18.5



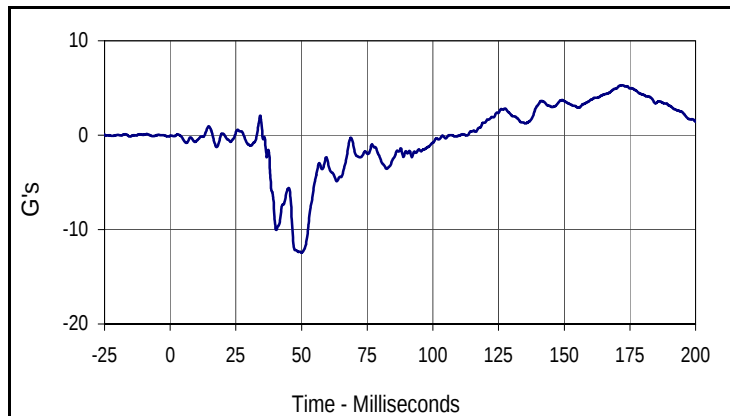
Curve Description			
Passenger Head Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
016	FIL	1000	G's
Max	Time	Min	Time
15.4	13.7	-13.6	48.8



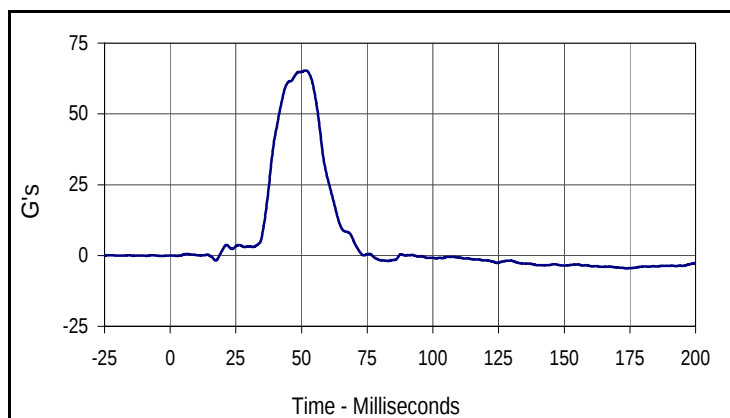
Curve Description			
Passenger Head Acceleration Resultant Primary			
Plot No.	Type	SAE Class	Units
017	RES	1000	G's
Max	Time	Min	Time
66.4	15.0	0.0	2.0

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
 Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

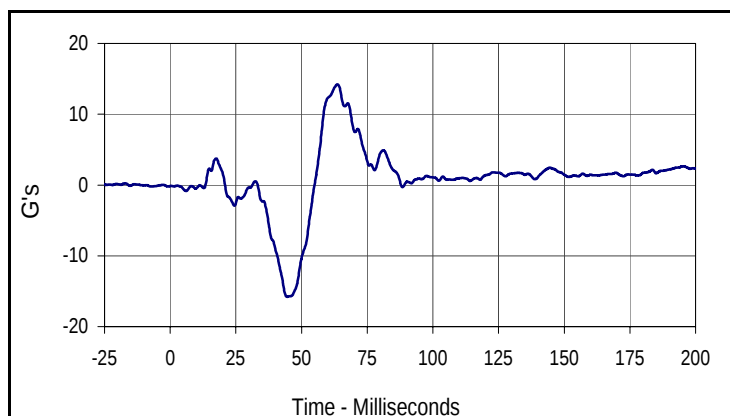
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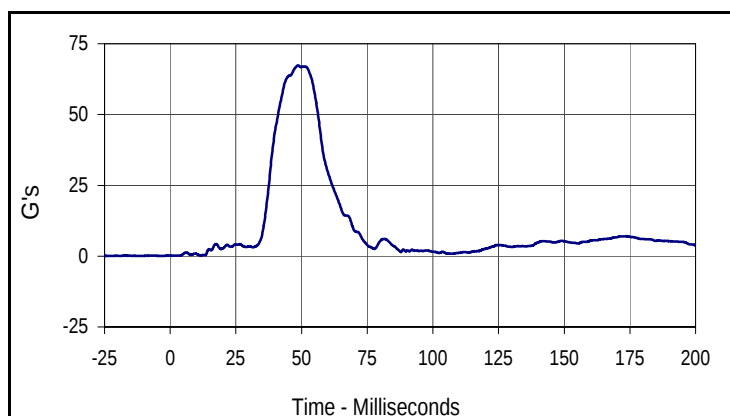
Curve Description			
Passenger Lower Spine T12 Acceleration X			
Plot No.	Type	SAE Class	Units
019	FIL	180	G's
Max	Time	Min	Time
5.3	172.1	-12.4	50.1



Curve Description			
Passenger Lower Spine T12 Acceleration Y			
Plot No.	Type	SAE Class	Units
020	FIL	180	G's
Max	Time	Min	Time
65.3	51.6	-4.5	173.7



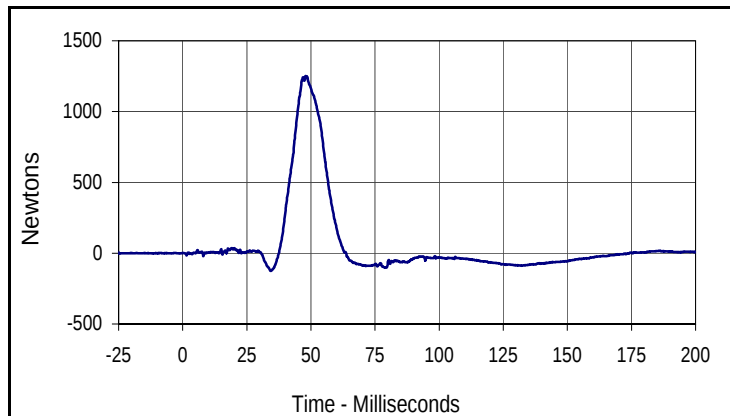
Curve Description			
Passenger Lower Spine T12 Acceleration Z			
Plot No.	Type	SAE Class	Units
021	FIL	180	G's
Max	Time	Min	Time
14.2	63.6	-15.8	44.5



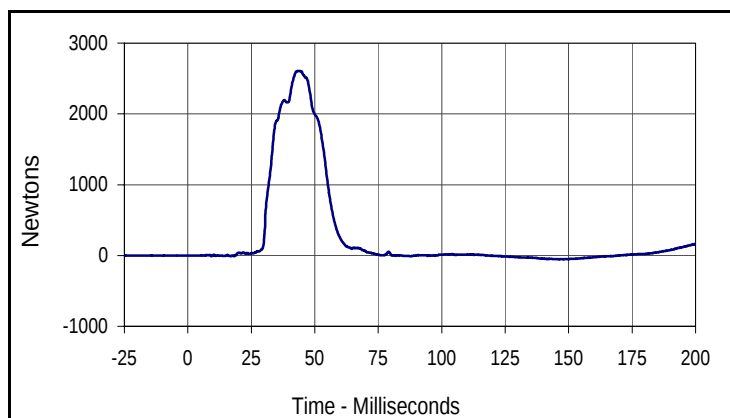
Curve Description			
Passenger Lower Spine T12 Acceleration Res.			
Plot No.	Type	SAE Class	Units
022	RES	180	G's
Max	Time	Min	Time
67.3	48.7	0.1	0.4

Test Vehicle: 2014 Nissan Versa Note S 5-Door Hatchback
 Test Program: 61 km/h (38 mph) Side Impact NCAP 27° Moving Deformable Barrier Test

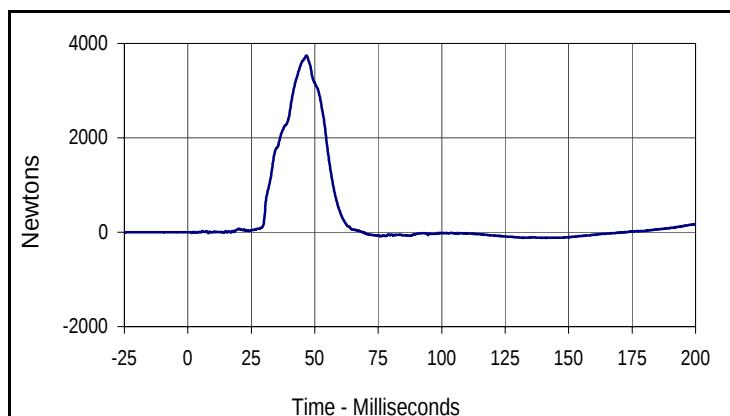
NHTSA No.: M20145205
 Test Date: 8/15/13



Curve Description			
Passenger Iliac Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
023	FIL	600	Newtons
Max	Time	Min	Time
1251.6	48.0	-125.5	34.3



Curve Description			
Passenger Acetabulum Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
024	FIL	600	Newtons
Max	Time	Min	Time
2607.4	44.1	-53.7	146.1



Curve Description			
Passenger Total Pelvic Force			
Plot No.	Type	SAE Class	Units
018	SUM	600	Newtons
Max	Time	Min	Time
3744.9	46.7	-121.7	139.5

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

Test Program: ES2re External Measurements
 ATD Serial No.: F037

Test Date: 8/1/13
 Test I.D.: N/A



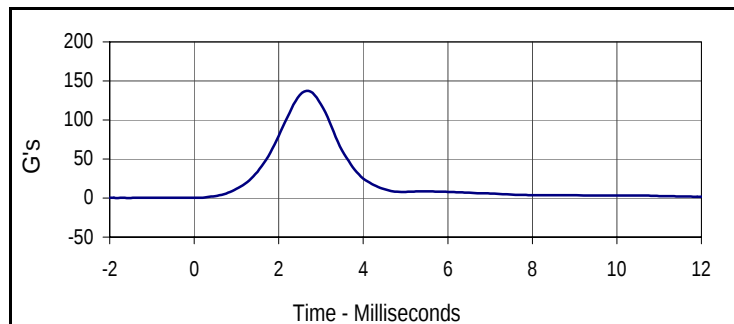
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	30.0	Pass
1	Sitting Height	mm	900 - 918	909	Pass
2	Seat to Shoulder Joint	mm	558 - 572	564	Pass
3	Seat to Lower Face of Thoracic Spine Box	mm	346 - 356	350	Pass
4	Seat to Hip Joint (Center of Bolt)	mm	97 - 103	99	Pass
5	Sole to Seat, Sitting	mm	333 - 451	395	Pass
6	Head Width	mm	152 - 158	156	Pass
7	Shoulder / Arm Width	mm	461 - 479	470	Pass
8	Thorax Width	mm	322 - 332	326	Pass
9	Abdomen Width	mm	273 - 287	280	Pass
10	Pelvis Lap Width	mm	359 - 373	363	Pass
11	Head Depth	mm	196 - 206	201	Pass
12	Thorax Depth	mm	262 - 272	270	Pass
13	Abdomen Width	mm	194 - 204	199	Pass
14	Pelvis Depth	mm	235 - 245	240	Pass
15	Back of Buttocks to Hip Joint (Center of Bolt)	mm	150 - 160	155	Pass
16	Back of Buttocks to Front Knee	mm	597 - 615	608	Pass
Overall Test Results					Pass

Test Program: ES2re Head Drop Test
 ATD Serial No.: F037

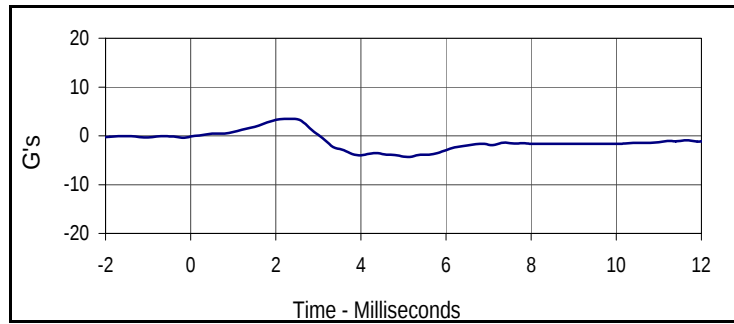
Test Date: 8/1/13
 Test I.D.: F037HD024



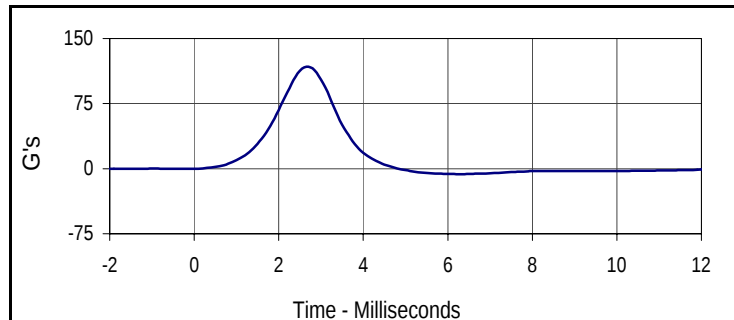
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	250	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.3	Pass
Peak Head Resultant Acceleration	G's	125 to 155	137.3	Pass
Peak Head X Acceleration	G's	≤15	4.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	6.3	Pass
Overall Test Results				Pass



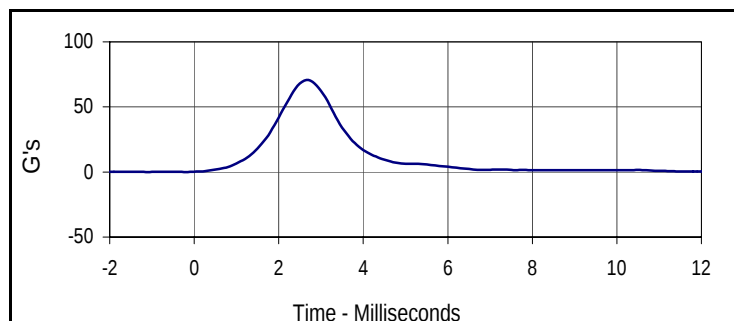
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
137.3	2.7	0.2	-1.6



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
3.5	2.3	-4.4	5.1



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
117.7	2.7	-6.3	6.3



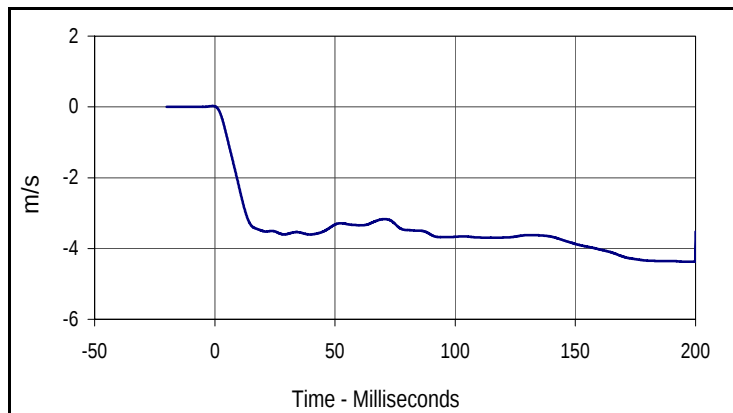
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
70.6	2.7	0.0	-0.2

Test Program: ES2re Neck Flexion Test
 ATD Serial No.: F037

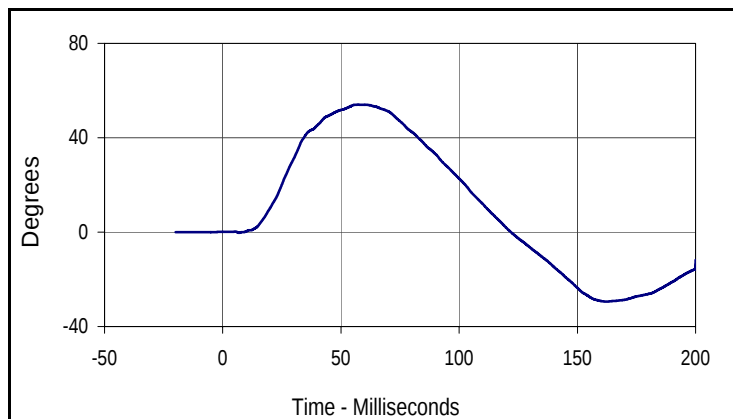
Test Date: 8/1/13
 Test I.D.: F037NB024



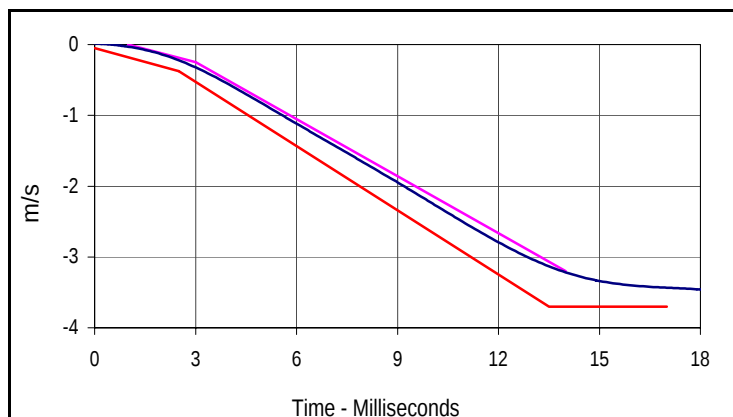
Tested Parameter	Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time	Minutes	≥240	310	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.1	Pass
Pendulum Velocity	m/s	3.3 to 3.5	3.45	Pass
Headform Flexion	Max	49 to 59	54.0	Pass
	Time	54 to 66	57.3	Pass
Headform Flexion Decay (Peak to Zero)	msec	53 to 88	64.7	Pass
Overall Test Results				Pass



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-0.9	-4.4	199.9



Curve Description			
Headform Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	180	Degrees
Max	Time	Min	Time
54.0	57.3	-29.5	162.3



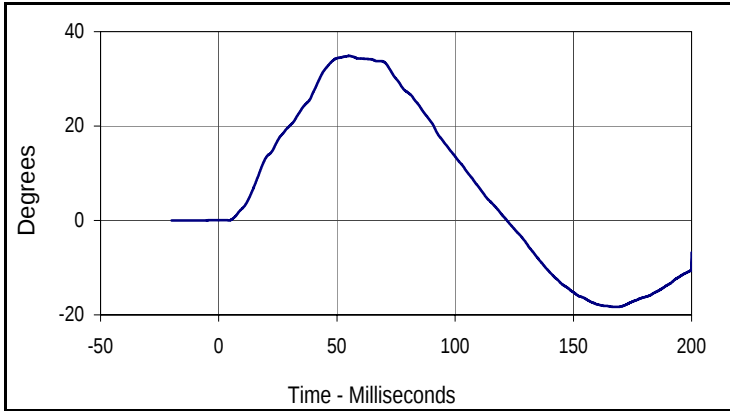
Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-0.9	-4.4	199.9

Velocity Corridors

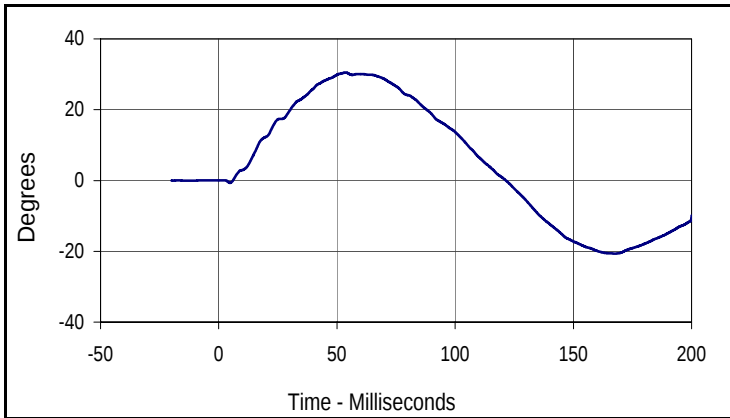
Upper Boundary		Lower Boundary	
Time (msec)	Velocity (m/s)	Time (msec)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.0	-0.03	2.5	-0.375
14.0	-3.20	13.5	-3.70
		17.0	-3.70

Test Program: ES2re Neck Flexion Test
 ATD Serial No.: F037

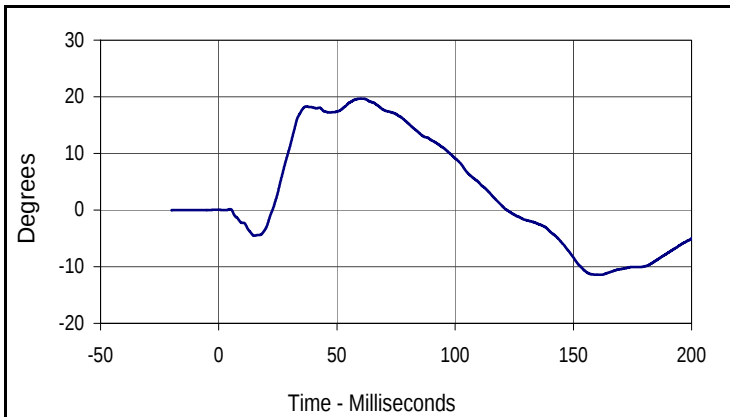
Test Date: 8/1/13
 Test I.D.: F037NB024



Curve Description			
Potentiometer A			
Plot No.	Type	SAE Class	Units
003	FIL	180	Degrees
Max	Time	Min	Time
34.9	55.1	-18.3	169.0



Curve Description			
Potentiometer B			
Plot No.	Type	SAE Class	Units
004	FIL	180	Degrees
Max	Time	Min	Time
30.5	53.6	-20.6	167.5



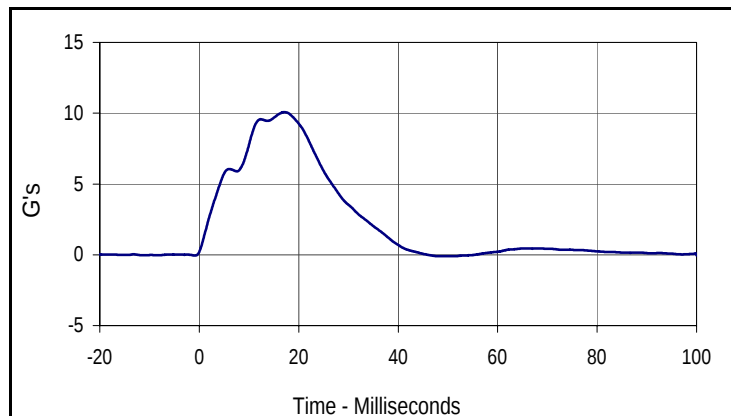
Curve Description			
Potentiometer C			
Plot No.	Type	SAE Class	Units
005	FIL	180	Degrees
Max	Time	Min	Time
19.6	60.9	-11.4	161.5

Test Program: ES2re Shoulder Impact Test
 ATD Serial No.: F037

Test Date: 8/1/13
 Test I.D.: F037SH024



Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	385	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Pendulum Speed	m/s	4.2 to 4.4	4.31	Pass
Peak Impactor Acceleration	G's	7.5 to 10.5	10.1	Pass
Overall Test Results				Pass



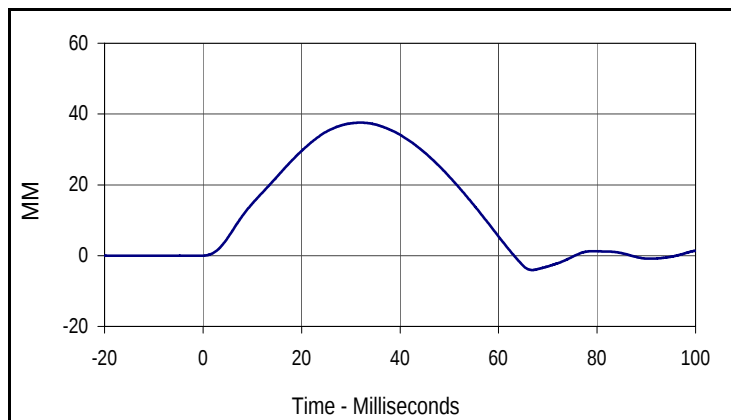
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
001	FIL	180	G's
Max	Time	Min	Time
10.1	17.1	-0.1	51.3

Test Program: ES2re Thorax - Rib Drop Test
 ATD Serial No.: F037 Rib # 1

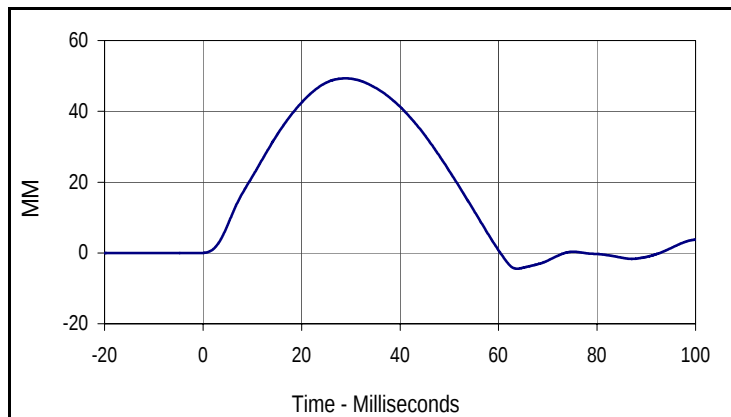
Test Date: 8/1/13
 Test I.D.: F037RB1024



Tested Parameter	Units	Specification	Result	Pass/Fail
Rib Module Soak Time	Minutes	≥240	450	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.3	Pass
Peak Rib Deflection at 459 +/- 5 mm Drop Height	mm	36 to 40	37.6	Pass
Peak Rib Deflection at 815 +/- 8 mm Drop Height	mm	46 to 51	49.3	Pass
Overall Test Results				Pass



Curve Description			
Upper Rib Deflection (459 mm Drop Height)			
Plot No.	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
37.6	32.0	-4.1	66.8



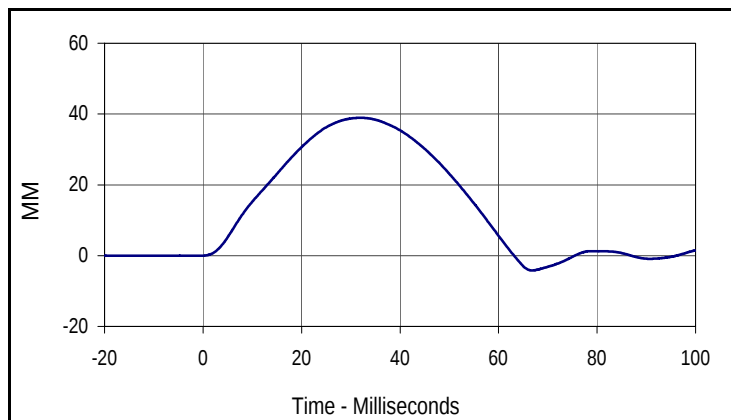
Curve Description			
Upper Rib Deflection (815 mm Drop Height)			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max	Time	Min	Time
49.3	28.9	-4.5	63.7

Test Program: ES2re Thorax - Rib Drop Test
 ATD Serial No.: F037 Rib # 2

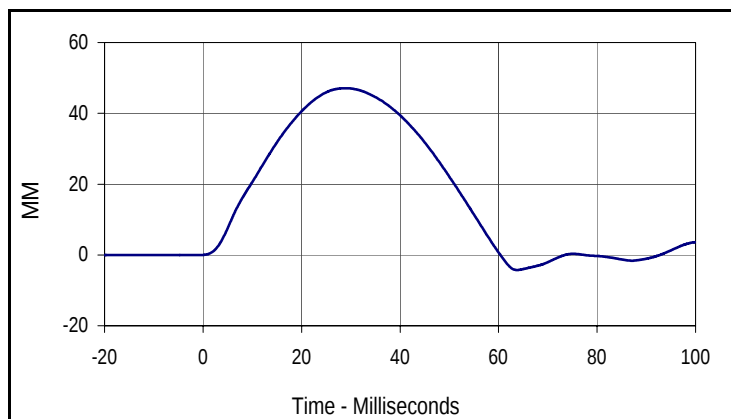
Test Date: 8/1/13
 Test I.D.: F037RB2024



Tested Parameter	Units	Specification	Result	Pass/Fail
Rib Module Soak Time	Minutes	≥240	480	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.3	Pass
Peak Rib Deflection at 459 +/- 5 mm Drop Height	mm	36 to 40	38.9	Pass
Peak Rib Deflection at 815 +/- 8 mm Drop Height	mm	46 to 51	47.1	Pass
Overall Test Results				Pass



Curve Description			
Middle Rib Deflection (459 mm Drop Height)			
Plot No.	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
38.9	32.0	-4.2	66.8



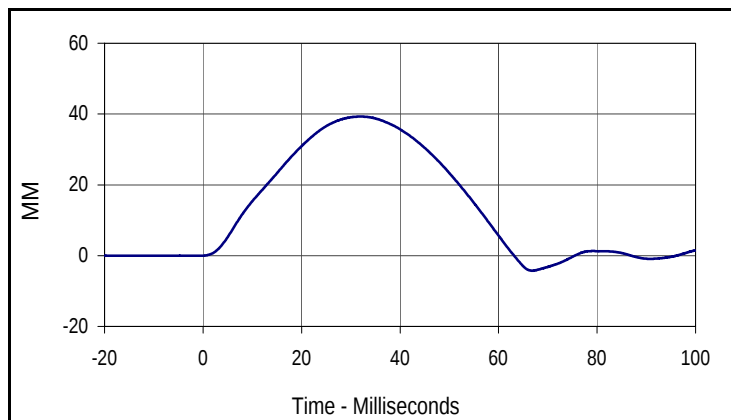
Curve Description			
Middle Rib Deflection (815 mm Drop Height)			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max	Time	Min	Time
47.1	28.9	-4.3	63.7

Test Program: ES2re Thorax - Rib Drop Test
 ATD Serial No.: F037 Rib # 3

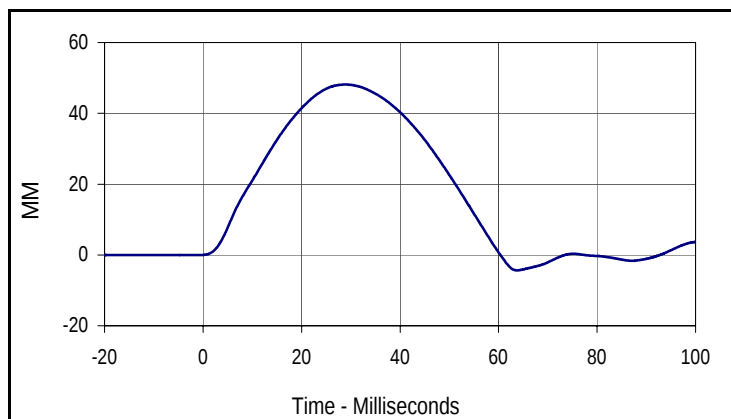
Test Date: 8/1/13
 Test I.D.: F037RB3024



Tested Parameter	Units	Specification	Result	Pass/Fail
Rib Module Soak Time	Minutes	≥240	515	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Peak Rib Deflection at 459 +/- 5 mm Drop Height	mm	36 to 40	39.3	Pass
Peak Rib Deflection at 815 +/- 8 mm Drop Height	mm	46 to 51	48.1	Pass
Overall Test Results				Pass



Curve Description			
Lower Rib Deflection (459 mm Drop Height)			
Plot No.	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
39.3	32.0	-4.3	66.8



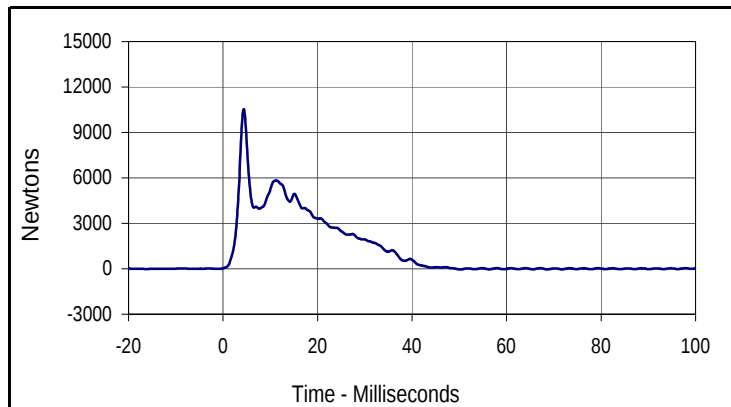
Curve Description			
Lower Rib Deflection (815 mm Drop Height)			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max	Time	Min	Time
48.1	28.9	-4.4	63.7

Test Program: ES2re Thorax - Full Body Impact Test
 ATD Serial No.: F037

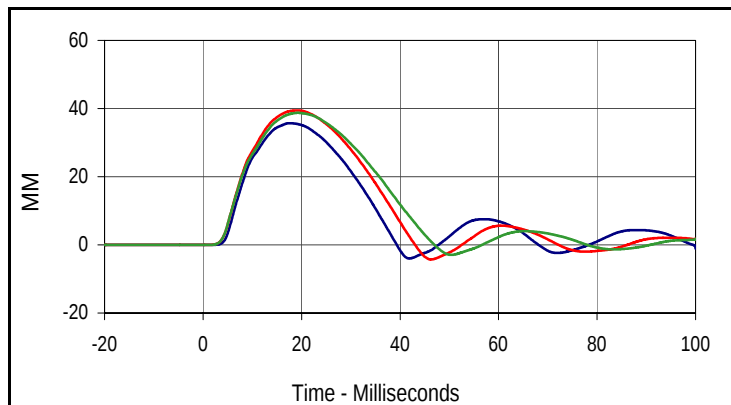
Test Date: 8/1/13
 Test I.D.: F037TH024



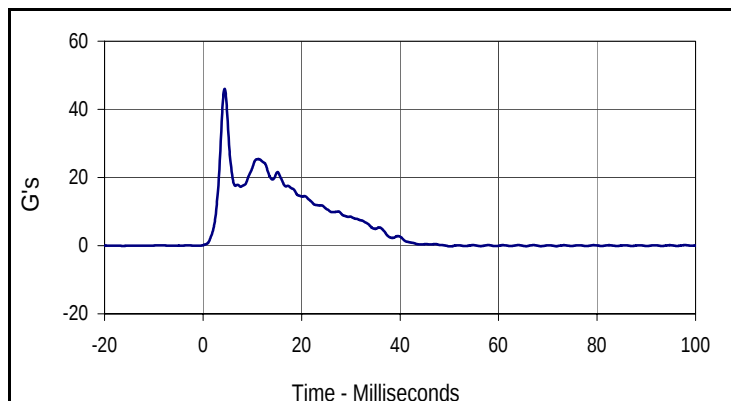
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	590	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Peak Impactor Velocity	m/s	5.4 to 5.6	5.57	Pass
Peak Impactor Force	N	5100 to 6200	5820.5	Pass
	msec	> 6.0 msec	11.3	Pass
Peak Upper Rib Deflection	mm	34 to 41	35.7	Pass
Peak Middle Rib Deflection	mm	37 to 45	39.4	Pass
Peak Lower Rib Deflection	mm	37 to 44	38.7	Pass
Overall Test Results				Pass



Curve Description			
Impactor Force			
Plot No.	Type	SAE Class	Units
001	FIL	180	Newtons
Max	Time	Min	Time
10546.0	4.4	-44.7	50.3



Curve Description			
Upper, Middle, Lower Rib Deflections			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max (Upper)	Time	Min (Upper)	Time
35.7	17.7	-4.0	41.9
Max (Middle)	Time	Min (Middle)	Time
39.4	19.1	-4.3	46.3
Max (Lower)	Time	Min (Lower)	Time
38.7	19.3	-2.9	50.4



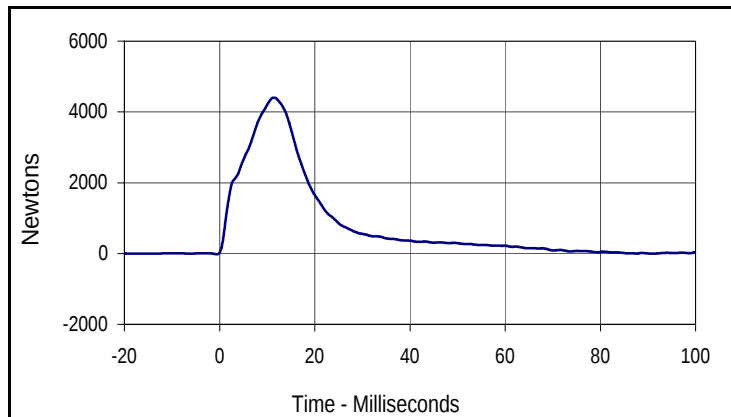
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.0	4.4	-0.2	50.3

Test Program: ES2re Abdomen Impact Test
 ATD Serial No.: F037

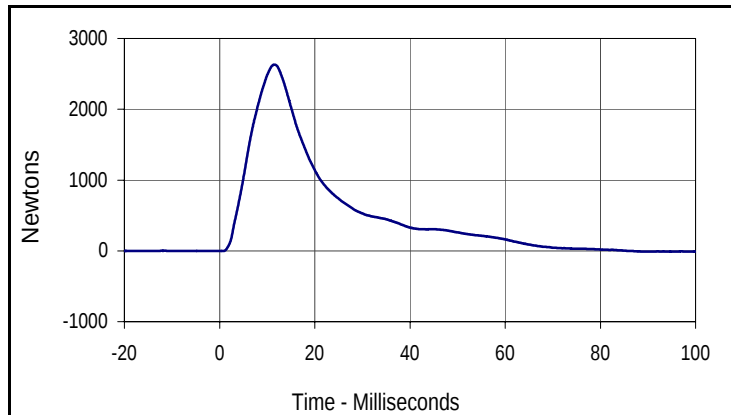
Test Date: 8/1/13
 Test I.D.: F037ABD024



Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	635	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Probe Velocity	m/s	3.9 to 4.1	4.05	Pass
Peak Impactor Force	N	4000 to 4800	4404.0	Pass
	msec	10.6 to 13.0	11.4	Pass
Sum of Abdominal Forces	N	2200 to 2700	2628.9	Pass
	msec	10.0 to 12.3	11.6	Pass
Overall Test Results				Pass



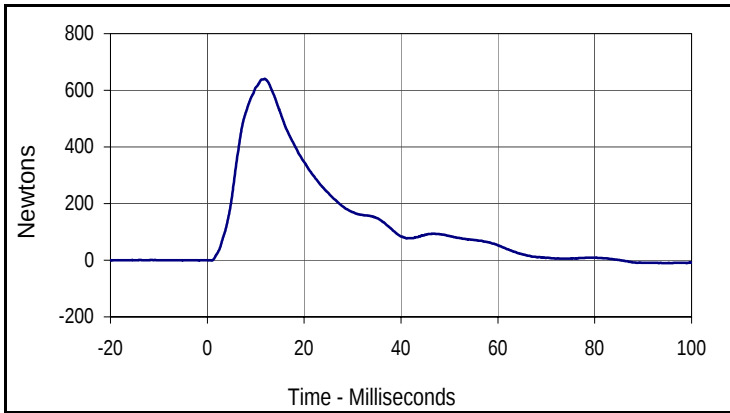
Curve Description			
Impactor Force			
Plot No.	Type	SAE Class	Units
001	FIL	180	Newtons
Max	Time	Min	Time
4404.0	11.4	-20.5	-0.6



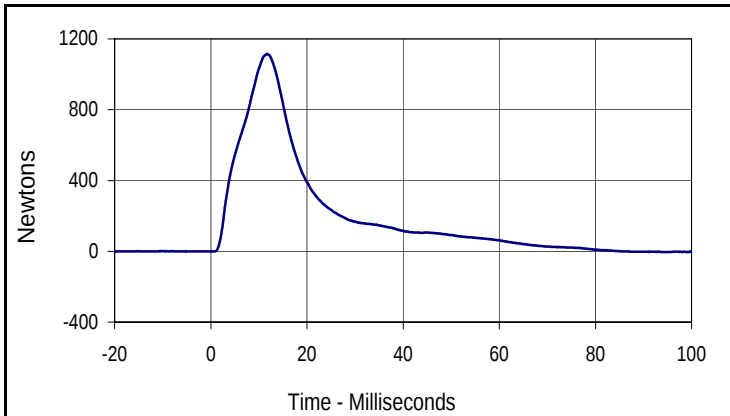
Curve Description			
Abdomen Sum Resultant			
Plot No.	Type	SAE Class	Units
002	RES	600	Newtons
Max	Time	Min	Time
2628.9	11.6	-11.3	99.0

Test Program: ES2re Abdomen Impact Test
 ATD Serial No.: F037

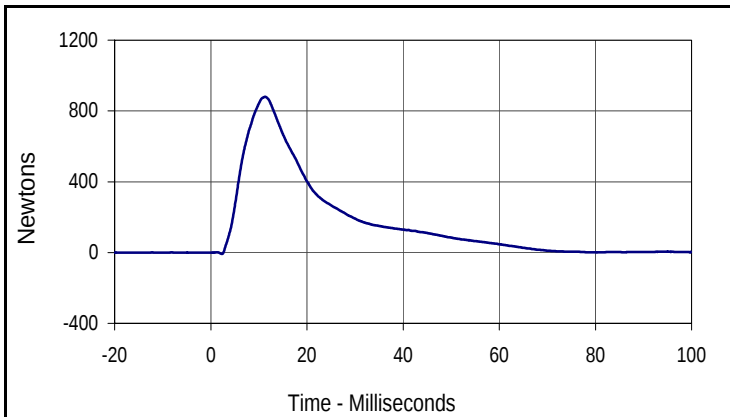
Test Date: 8/1/13
 Test I.D.: F037ABD024



Curve Description			
Front Abdomen Force			
Plot No.	Type	SAE Class	Units
003	FIL	600	Newtons
Max	Time	Min	Time
640.7	11.9	-10.4	94.1



Curve Description			
Middle Abdomen Force			
Plot No.	Type	SAE Class	Units
004	FIL	600	Newtons
Max	Time	Min	Time
1114.1	11.7	-5.0	100.0



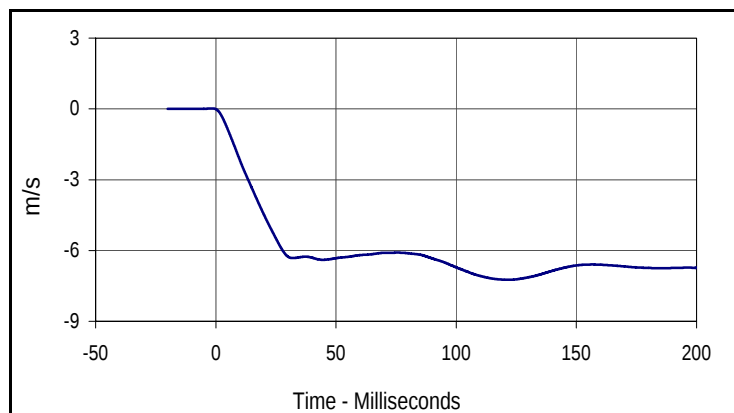
Curve Description			
Rear Abdomen Force			
Plot No.	Type	SAE Class	Units
005	FIL	600	Newtons
Max	Time	Min	Time
880.2	11.3	-8.4	2.3

Test Program: ES2re Lumbar Flexion Test
 ATD Serial No.: F037

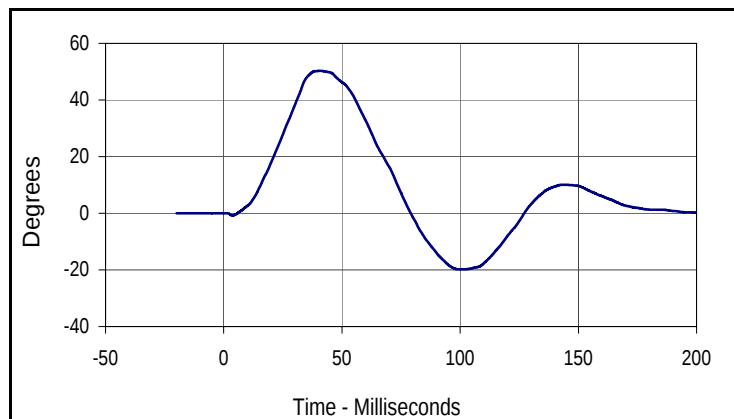
Test Date: 8/1/13
 Test I.D.: F037LB024



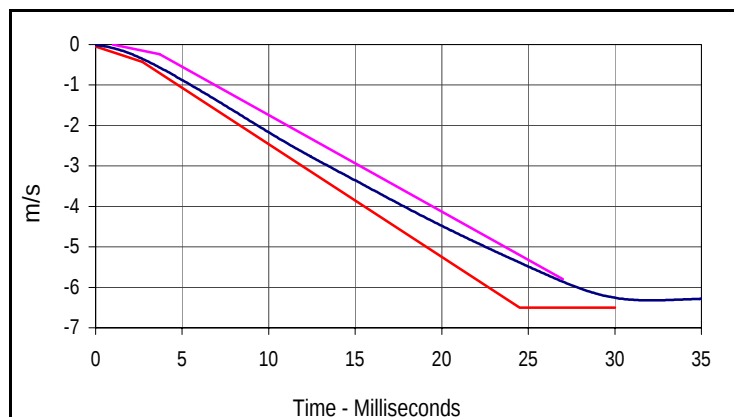
Tested Parameter	Units	Specification	Result	Pass/Fail
Lumbar Spine Assembly Soak Time	Minutes	≥240	705	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	34.7	Pass
	Min		30.3	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Pendulum Velocity	m/s	5.95 to 6.15	5.96	Pass
Headform Rotation	Max	45 to 55	50.3	Pass
	Time	39 to 53	41.6	Pass
Time of Decay to Zero Angle from Peak	msec	37 to 57	44.7	Pass
Overall Test Results				Pass



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-1.1	-7.2	122.3



Curve Description			
Headform Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	180	Degrees
Max	Time	Min	Time
50.3	41.6	-19.8	99.8



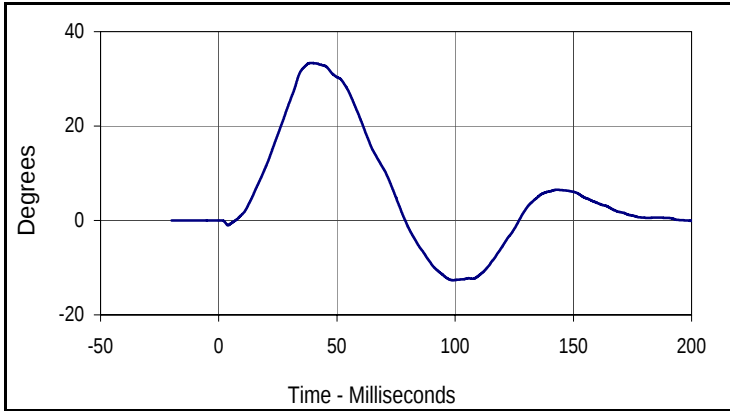
Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-1.1	-7.2	122.3

Velocity Corridors

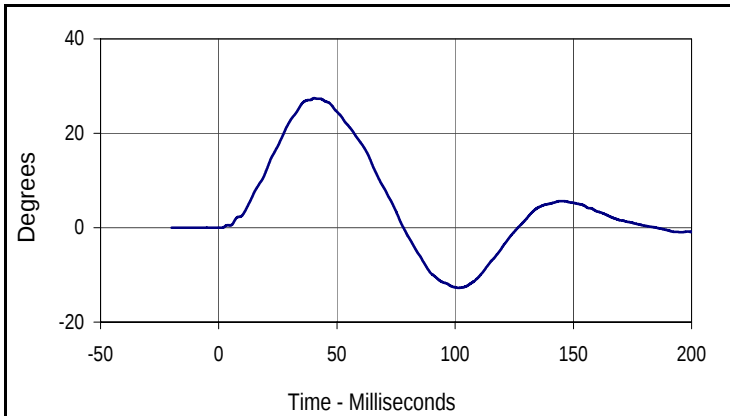
Upper Boundary		Lower Boundary	
Time (msec)	Velocity (m/s)	Time (msec)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.7	-0.24	2.7	-0.425
27.0	-5.80	24.5	-6.50
		30.0	-6.50

Test Program: ES2re Lumbar Flexion Test
 ATD Serial No.: F037

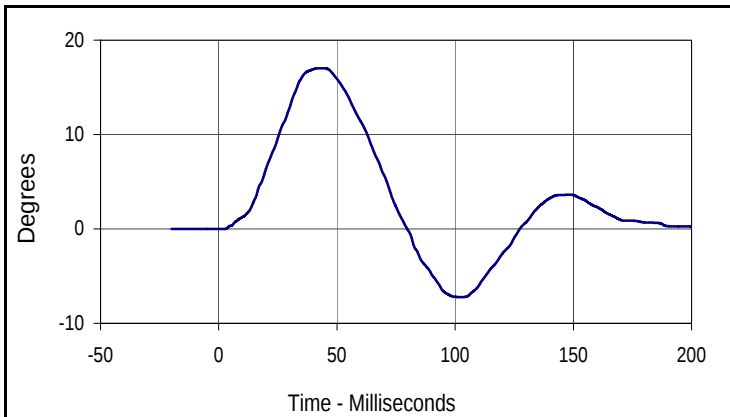
Test Date: 8/1/13
 Test I.D.: F037LB024



Curve Description			
Potentiometer A			
Plot No.	Type	SAE Class	Units
003	FIL	180	Degrees
Max	Time	Min	Time
33.4	39.5	-12.7	99.6



Curve Description			
Potentiometer B			
Plot No.	Type	SAE Class	Units
004	FIL	180	Degrees
Max	Time	Min	Time
27.5	40.9	-12.7	102.1



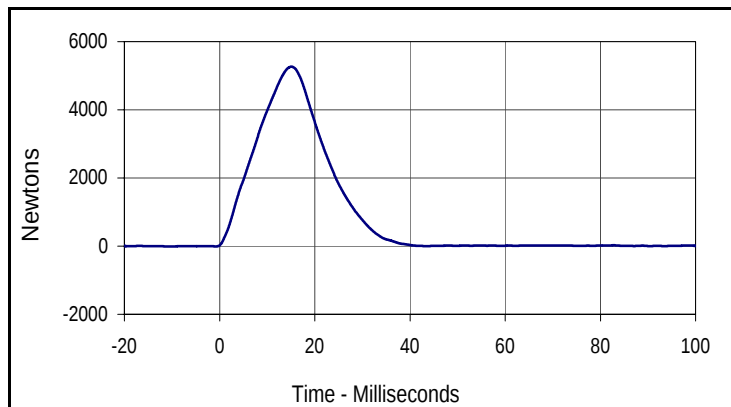
Curve Description			
Potentiometer C			
Plot No.	Type	SAE Class	Units
005	FIL	180	Degrees
Max	Time	Min	Time
17.0	43.0	-7.2	103.1

Test Program: ES2re Pelvis Impact Test
 ATD Serial No.: F037

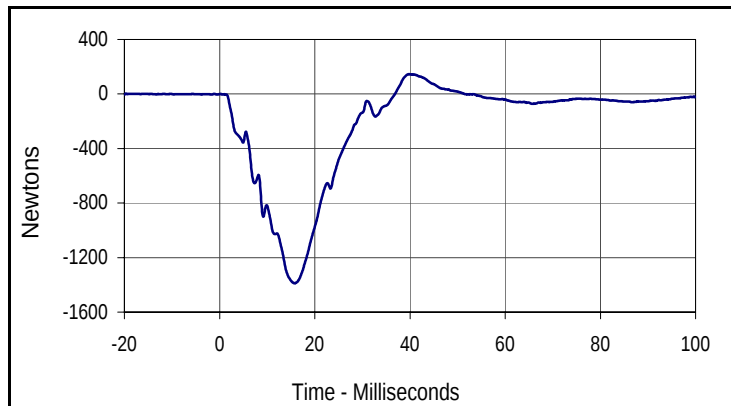
Test Date: 8/1/13
 Test I.D.: F037PL024



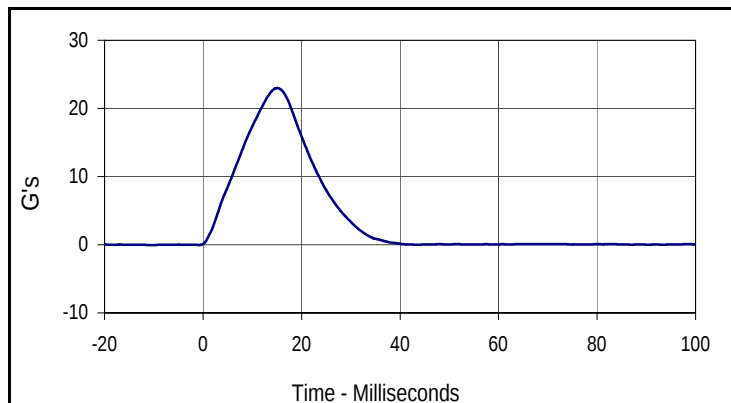
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥240	770	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.4	Pass
	Min	°C		21.2	Pass
Humidity During Soak	Max	%	10.0 to 70.0	34.7	Pass
	Min	%		30.3	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	33.4	Pass
Pendulum Velocity		m/s	4.2 to 4.4	4.40	Pass
Peak Impactor Force	N		4700 to 5400	5265.8	Pass
	msec		11.8 to 16.1	15.1	Pass
Peak Pubic Symphysis Load	N		-1230 to -1590	-1388.0	Pass
	msec		12.2 to 17.0	15.8	Pass
Overall Test Results					Pass



Curve Description			
Impactor Force			
Plot No.	Type	SAE Class	Units
001	FIL	180	Newtons
Max	Time	Min	Time
5265.8	15.1	-6.8	-0.8



Curve Description			
Pubic Symphysis Force Y			
Plot No.	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
145.4	39.8	-1388.0	15.8



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
23.0	15.1	0.0	-0.8

Test Program: SID IIs External Measurements
 ATD Serial No.: 307

Test Date: 7/30/13
 Test I.D.: N/A



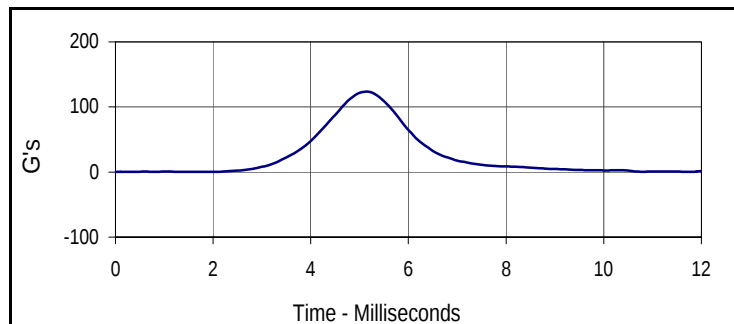
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
A	Sitting Height	mm	772 - 788	778	Pass
B	Shoulder Pivot Height	mm	437 - 453	443	Pass
C	H-Point Height	mm	79 - 89	85	Pass
D	H-Point from Seatback	mm	141 - 151	144	Pass
E	Shoulder Pivot from Backline	mm	97 - 107	102	Pass
F	Thigh Clearance	mm	119 - 135	128	Pass
G	Head Breadth	mm	140 - 148	145	Pass
H	Head Back from Backline	mm	40 - 46	43	Pass
I	Head Depth	mm	178 - 188	185	Pass
J	Head Circumference	mm	541 - 551	546	Pass
K	Buttock to Knee Length	mm	514 - 540	525	Pass
L	Popliteal Height	mm	343 - 369	351	Pass
M	Knee Pivot to Floor Height	mm	392 - 409	400	Pass
N	Buttock Popliteal Length	mm	416 - 442	432	Pass
O	Chest Depth w/o Jacket	mm	195 - 211	205	Pass
P	Foot Length	mm	216 - 232	223	Pass
Q	Hip Breadth with Pelvic Plug	mm	313 - 323	319	Pass
R	Arm Length	mm	249 - 259	254	Pass
S	Knee Joint to Seatback	mm	477 - 493	483	Pass
V	Shoulder Width	mm	341 - 357	351	Pass
W	Foot Width	mm	78 - 94	89	Pass
Y	Chest Circumference with Jacket	mm	851 - 881	872	Pass
Z	Waist Circumference	mm	760 - 791	774	Pass
Overall Test Results					Pass

Test Program: SID IIs Head Drop Test
 ATD Serial No.: 307

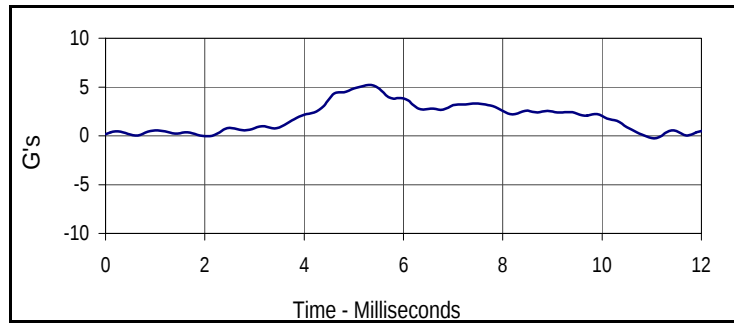
Test Date: 7/30/13
 Test I.D.: 307HD056



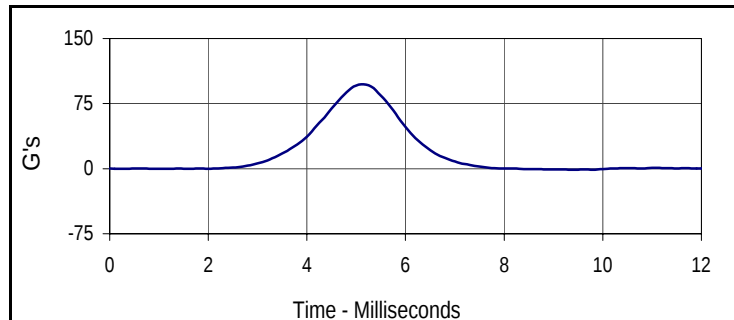
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	250	Pass
Temperature During Soak	Max	18.9 to 25.6	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	31.4	Pass
	Min		30.2	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.2	Pass
Peak Head Resultant Acceleration	G's	115 to 137	123.4	Pass
Peak Head X Acceleration	G's	<15	5.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	3.8	Pass
Overall Test Results				Pass



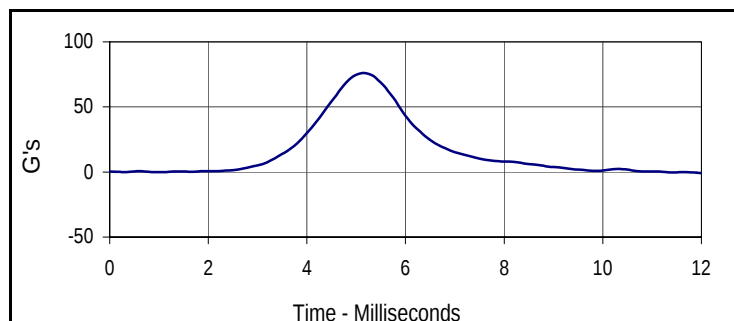
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
123.4	5.1	0.4	0.4



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
5.2	5.3	0.0	2.1



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
97.1	5.1	-1.1	9.4



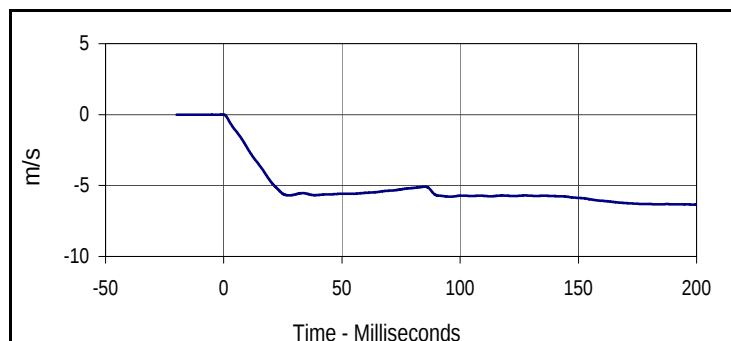
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
75.9	5.1	-0.9	12.0

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 307

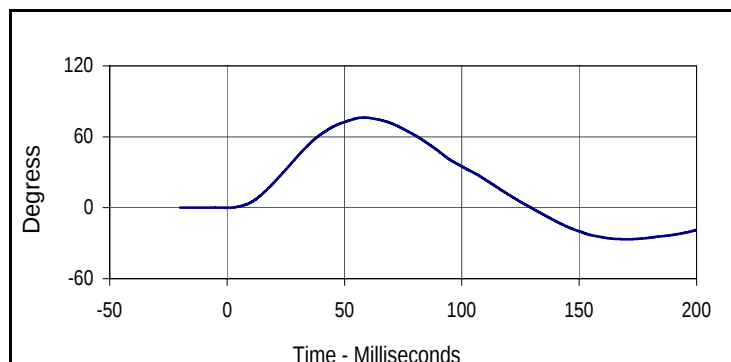
Test Date: 7/30/13
 Test I.D.: 307NB056



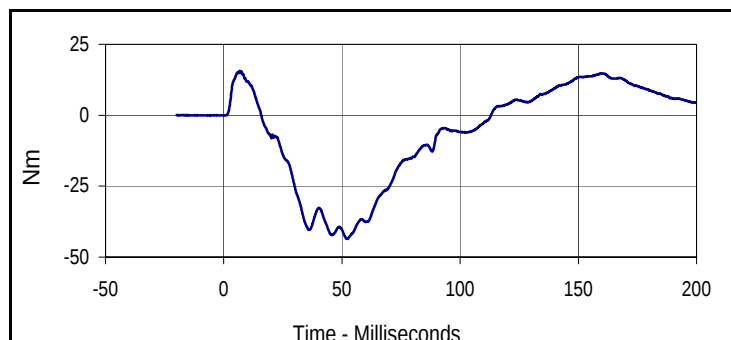
Tested Parameter		Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time		Minutes	≥240	325	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.8	Pass
	Min	°C		20.8	Pass
Humidity During Soak	Max	%	10.0 to 70.0	31.4	Pass
	Min	%		30.2	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.2	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	31.3	Pass
Pendulum Velocity		m/s	5.51 to 5.63	5.60	Pass
Pendulum Deceleration	10 msec	m/s	-2.20 to -2.80	-2.36	Pass
	15 msec	m/s	-3.30 to -4.10	-3.55	Pass
	20 msec	m/s	-4.40 to -5.40	-4.74	Pass
	25 msec	m/s	-5.40 to -6.10	-5.58	Pass
	25-100 msec	m/s	-5.50 to -6.20	-5.79	Pass
D-Plane Rotation	Max	Degrees	71 to 81	76.3	Pass
	Time	msec	50 to 70	58.2	Pass
Peak Occipital Condyle Moment		Nm	-36 to -44	-43.6	Pass
Decaying Moment Time to Cross 0 Nm		msec	102 to 126	113.1	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
0.0	-0.4	-6.4	200.0



Curve Description			
Maximum Translation Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degress
Max	Time	Min	Time
76.3	58.2	-26.7	170.4



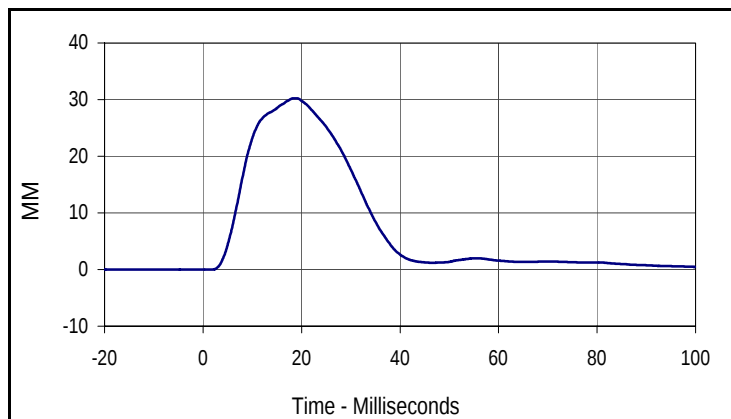
Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
15.6	6.7	-43.6	52.1

Test Program: SID IIs Shoulder Impact Test
 ATD Serial No.: 307

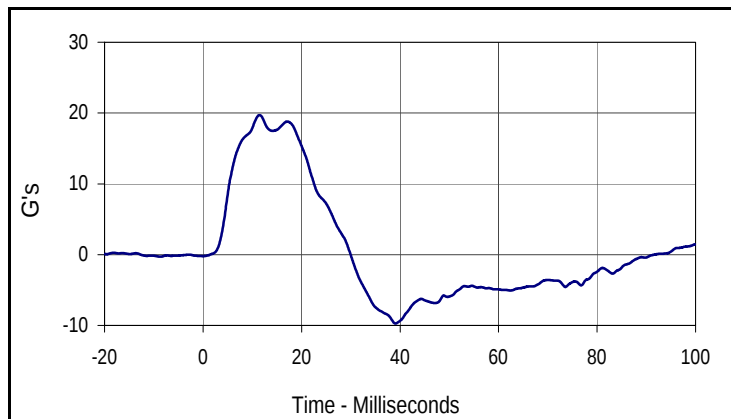
Test Date: 7/30/13
 Test I.D.: 307SH056



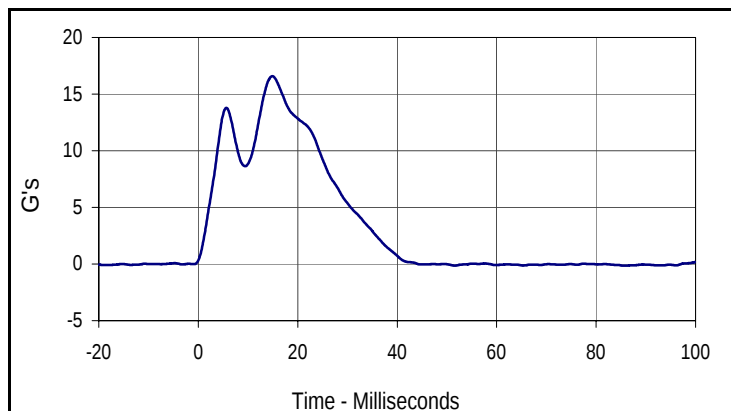
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	380	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.8	Pass
	Min	°C		20.8	Pass
Humidity During Soak	Max	%	10.0 to 70.0	31.4	Pass
	Min	%		30.2	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	31.3	Pass
Impactor Velocity		m/s	4.20 to 4.40	4.24	Pass
Peak Shoulder Deflection		mm	28 to 37	30.2	Pass
Peak Lateral Spine Acceleration Y		G's	17 to 22	19.7	Pass
Peak Impactor Acceleration		G's	13 to 18	16.6	Pass
Overall Test Results				Pass	



Curve Description			
Shoulder Acceleration			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
30.2	18.5	0.0	1.3



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
19.7	11.5	-9.7	39.1



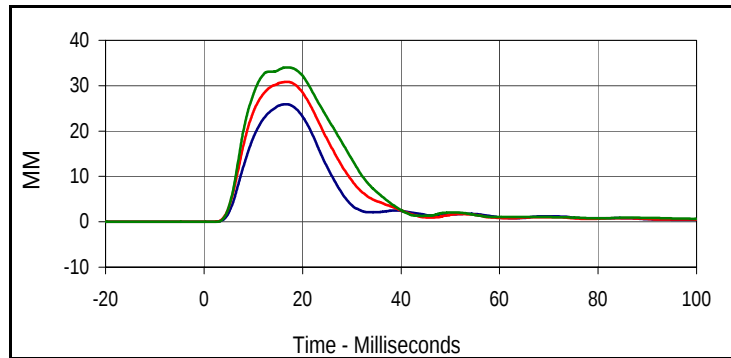
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
16.6	14.9	-0.2	85.9

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 307

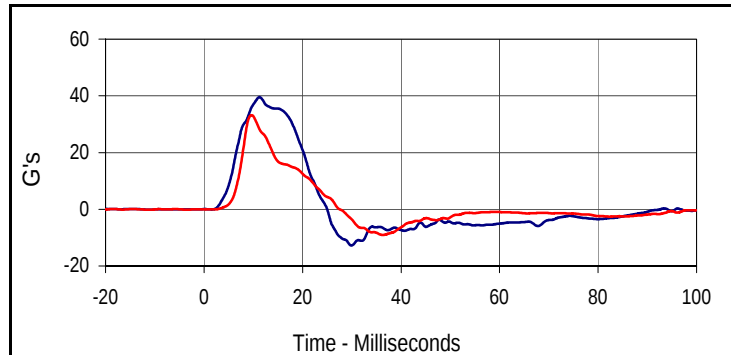
Test Date: 7/30/13
 Test I.D.: 307TWA056



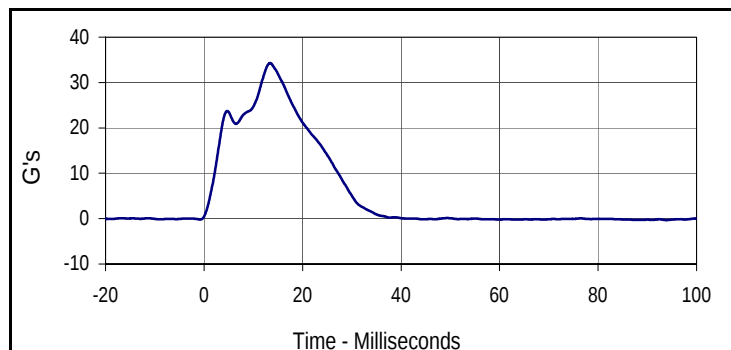
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	425	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	31.4	Pass
	Min		30.2	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.2	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.69	Pass
Peak Shoulder Deflection	mm	31 to 40	32.5	Pass
Peak Upper Thorax Rib Deflection	mm	25 to 32	25.9	Pass
Peak Middle Thorax Rib Deflection	mm	30 to 36	30.9	Pass
Peak Lower Thorax Rib Deflection	mm	32 to 38	34.0	Pass
Peak Upper Spine Y Acceleration	G's	34 to 43	39.5	Pass
Peak Lower Spine Y Acceleration	G's	29 to 37	33.2	Pass
Peak Impactor Acceleration	G's	30 to 36	34.3	Pass
Overall Test Results			Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
25.9	16.6	0.0	-8.7
Middle Thorax Deflection			
Max	Time	Min	Time
30.9	16.8	0.0	-6.0
Lower Thorax Deflection			
Max	Time	Min	Time
34.0	16.6	0.0	-0.7



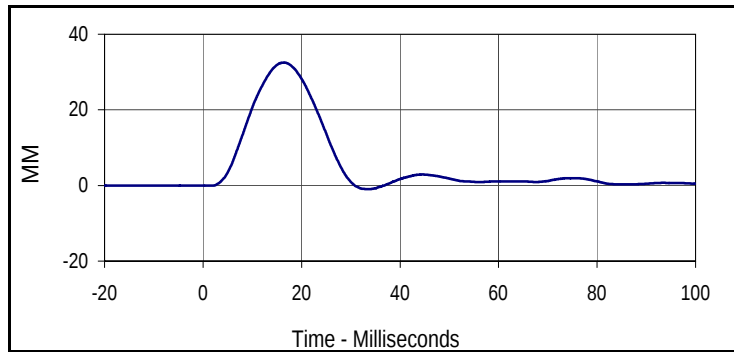
Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
39.5	11.3	-12.8	29.9
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
33.2	9.7	-9.1	36.3



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
34.3	13.4	-0.3	93.8

Test Program: SID IIs Thorax with Arm Impact Test
ATD Serial No.: 307

Test Date: 7/30/13
Test I.D.: 307TWA056



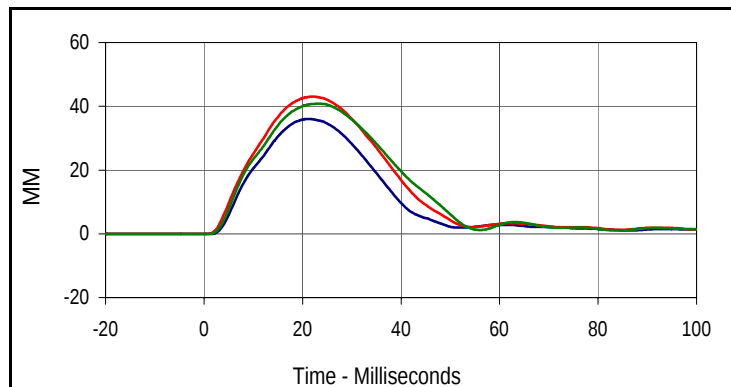
Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
007	FIL	600	MM
Max	Time	Min	Time
32.5	16.5	-1.0	33.3

Test Program: SID IIs Thorax without Arm Impact Test
 ATD Serial No.: 307

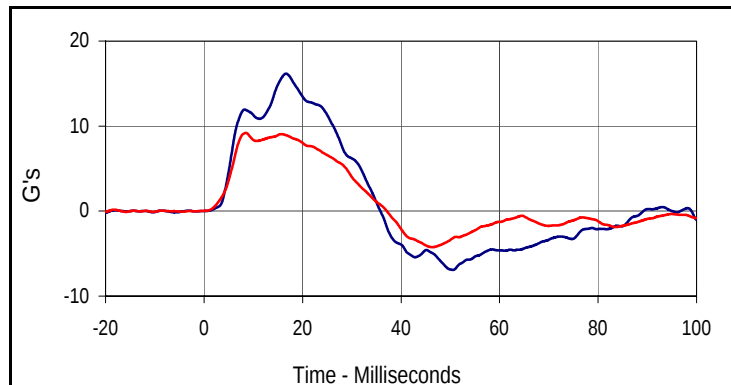
Test Date: 7/30/13
 Test I.D.: 307TWOA056



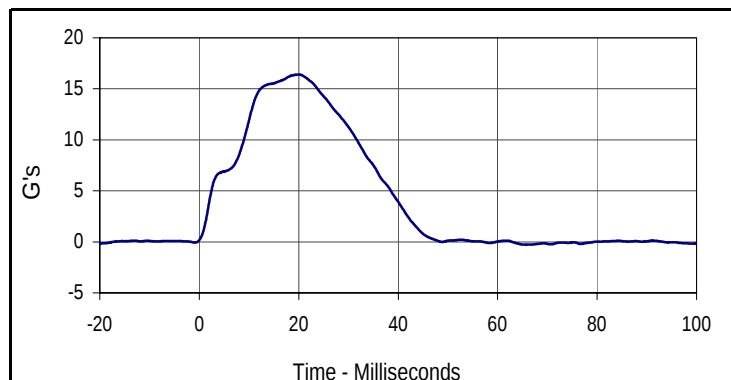
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	475	Pass
Temperature During Soak	Max	°C	18.9 to 25.6	21.8	Pass
	Min	°C		20.8	Pass
Humidity During Soak	Max	%	10.0 to 70.0	31.4	Pass
	Min	%		30.2	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	31.3	Pass
Impactor Velocity		m/s	4.2 to 4.4	4.31	Pass
Peak Upper Thorax Rib Deflection		mm	32 to 40	36.0	Pass
Peak Middle Thorax Rib Deflection		mm	39 to 45	43.0	Pass
Peak Lower Thorax Rib Deflection		mm	35 to 43	40.8	Pass
Peak Upper Spine Y Acceleration		G's	13 to 17	16.2	Pass
Peak Lower Spine Y Acceleration		G's	7 to 11	9.2	Pass
Peak Impactor Acceleration		G's	14 to 18	16.4	Pass
Overall Test Results				Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
36.0	21.0	0.0	0.0
Middle Thorax Deflection			
Max	Time	Min	Time
43.0	22.1	0.0	-18.6
Lower Thorax Deflection			
Max	Time	Min	Time
40.8	23.2	0.0	0.2



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
16.2	16.6	-6.9	50.5
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
9.2	8.4	-4.2	46.5



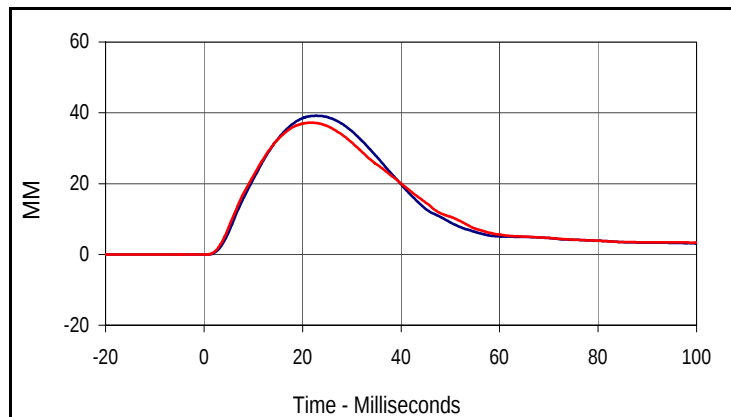
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
16.4	20.0	-0.3	65.7

Test Program: SID IIs Abdomen Impact Test
 ATD Serial No.: 307

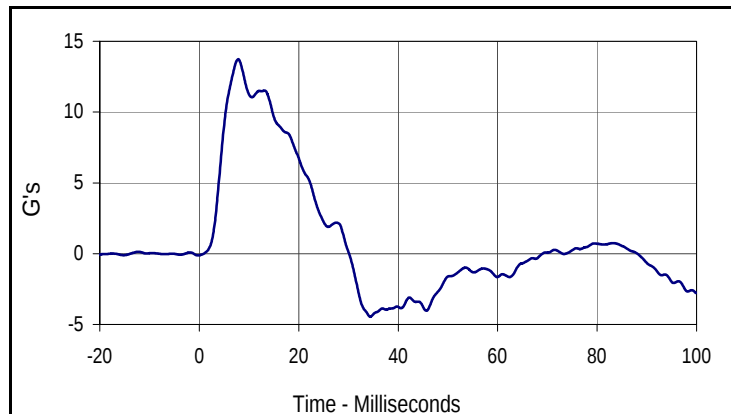
Test Date: 7/30/13
 Test I.D.: 307ABD056



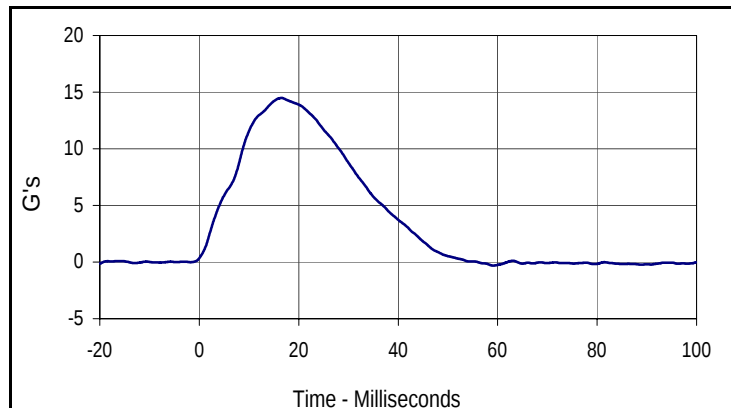
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	510	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	31.4	Pass
	Min		30.2	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.3	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.36	Pass
Peak Upper Abdominal Rib Deflection	mm	36 to 47	39.2	Pass
Peak Lower Abdominal Rib Deflection	mm	33 to 44	37.2	Pass
Peak Lower Spine Y Acceleration	G's	9 to 14	13.7	Pass
Peak Impactor Acceleration	G's	12 to 16	14.5	Pass
Overall Test Results			Pass	



Curve Description			
Upper Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
39.2	22.8	0.0	-20.0
Curve Description			
Lower Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	600	MM
Max	Time	Min	Time
37.2	21.5	0.0	-19.0

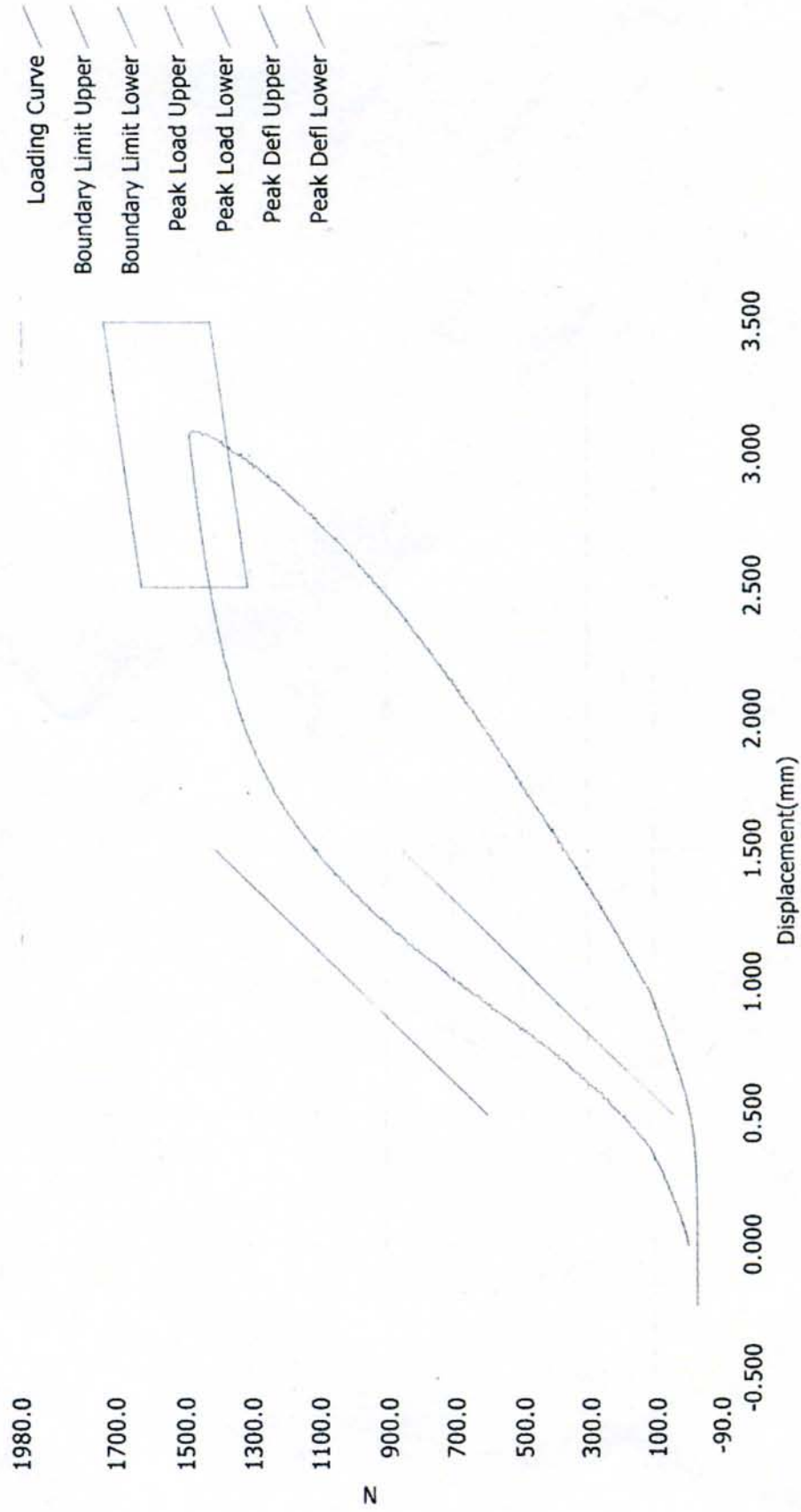


Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
13.7	7.8	-4.5	34.4



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
14.5	16.5	-0.3	59.1

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

<u>Test ID</u>	<u>Part Serial Number</u>	<u>Test Date</u>	<u>Test Time</u>
	46000	9/20/2011	9:19 PM
<u>Cert ID</u>	<u>ATD Serial Number</u>	<u>ATD Type</u>	
	N/A	SIDIIs	

M20145205 PRE TEST

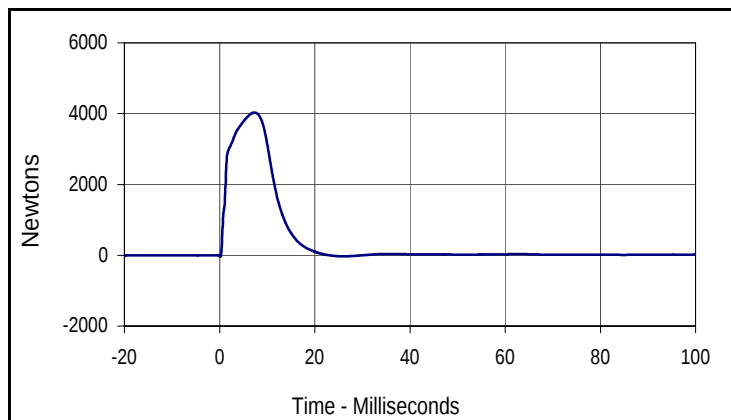
Current Date : 9/20/2011 Current Time : 21:19:53

Test Program: SID IIs Pelvis Acetabulum Impact Test
 ATD Serial No.: 307

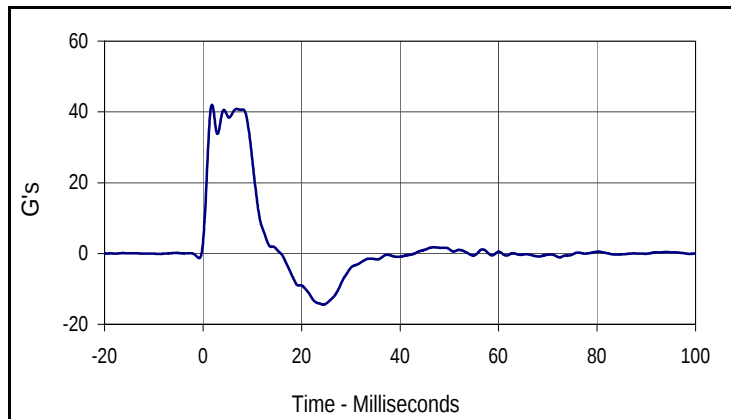
Test Date: 7/30/13
 Test I.D.: 307ACET056



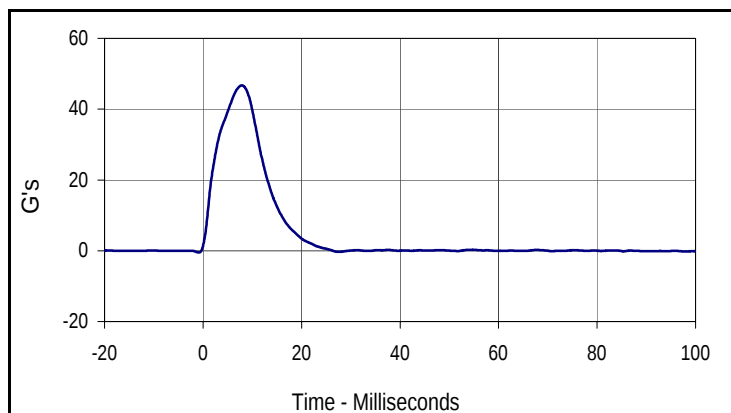
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	555	Pass
Temperature During Soak	Max	20.6 to 22.2	21.8	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	31.4	Pass
	Min		30.2	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.2	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.70	Pass
Peak Acetabulum Force Y	Newtons	3600 to 4300	4031.4	Pass
Peak Pelvis Y Acceleration After 6 msec.	G's	34 to 42	40.8	Pass
Peak Impactor Acceleration	G's	38 to 47	46.7	Pass
Overall Test Results			Pass	



Curve Description			
Pelvis Acetabulum Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4031.4	7.4	-36.9	0.2



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
42.0	1.8	-14.5	24.4



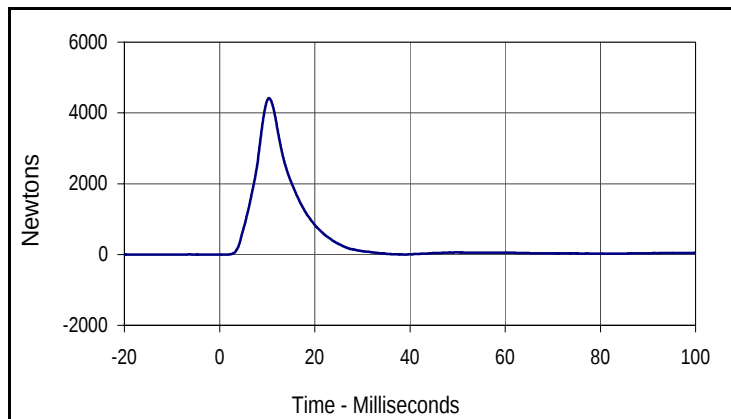
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.7	7.9	-0.5	-0.9

Test Program: SID IIs Pelvis Iliac Calibration
 ATD Serial No.: 307

Test Date: 7/30/13
 Test I.D.: 307PL056



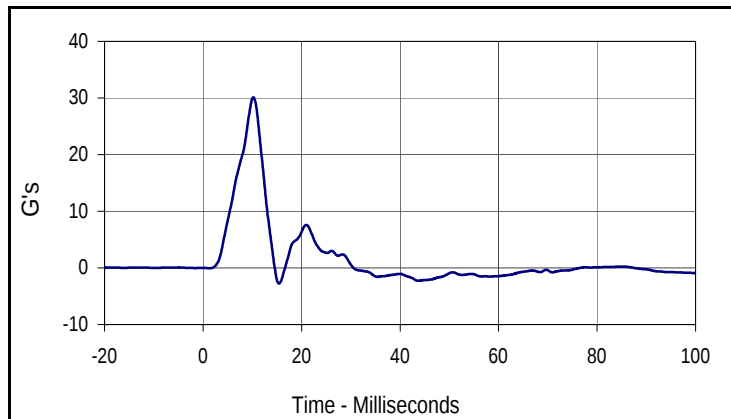
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	625	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.8	Pass
	Min	°C		20.8	Pass
Humidity During Soak	Max	%	10.0 to 70.0	31.4	Pass
	Min	%		30.2	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	31.3	Pass
Impactor Velocity		m/s	4.2 to 4.4	4.31	Pass
Peak Iliac Force		Newtons	4100 to 5100	4414.0	Pass
Peak Pelvis Y Acceleration		G's	28 to 39	30.1	Pass
Peak Impactor Acceleration		G's	36 to 45	40.3	Pass
Overall Test Results				Pass	



Curve Description

Pelvis Iliac Force

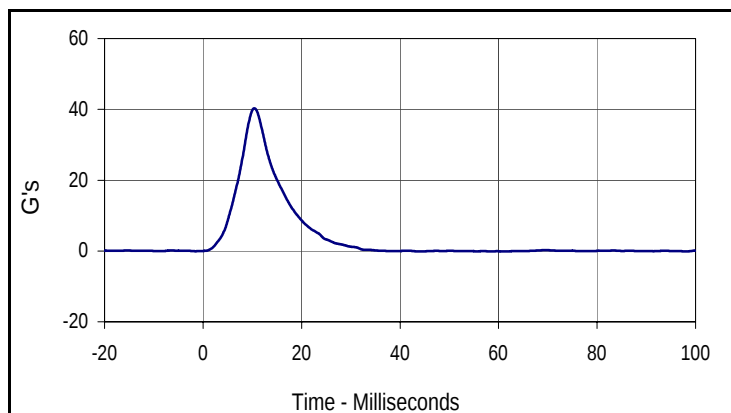
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4414.0	10.4	-1.9	-16.2



Curve Description

Pelvis Y Acceleration

Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
30.1	10.2	-2.8	15.4



Curve Description

Impactor Acceleration

Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
40.3	10.4	-0.2	61.4

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

Test Program: ES2re External Measurements
 ATD Serial No.: F037

Test Date: 8/19/13
 Test I.D.: N/A



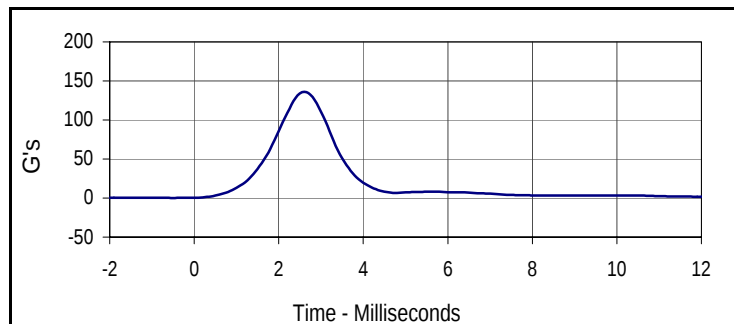
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity		%	10 to 70	30.0	Pass
1	Sitting Height	mm	900 - 918	909	Pass
2	Seat to Shoulder Joint	mm	558 - 572	564	Pass
3	Seat to Lower Face of Thoracic Spine Box	mm	346 - 356	350	Pass
4	Seat to Hip Joint (Center of Bolt)	mm	97 - 103	99	Pass
5	Sole to Seat, Sitting	mm	333 - 451	395	Pass
6	Head Width	mm	152 - 158	156	Pass
7	Shoulder / Arm Width	mm	461 - 479	470	Pass
8	Thorax Width	mm	322 - 332	326	Pass
9	Abdomen Width	mm	273 - 287	280	Pass
10	Pelvis Lap Width	mm	359 - 373	363	Pass
11	Head Depth	mm	196 - 206	201	Pass
12	Thorax Depth	mm	262 - 272	270	Pass
13	Abdomen Width	mm	194 - 204	199	Pass
14	Pelvis Depth	mm	235 - 245	240	Pass
15	Back of Buttocks to Hip Joint (Center of Bolt)	mm	150 - 160	155	Pass
16	Back of Buttocks to Front Knee	mm	597 - 615	608	Pass
Overall Test Results					Pass

Test Program: ES2re Head Drop Test
 ATD Serial No.: F037

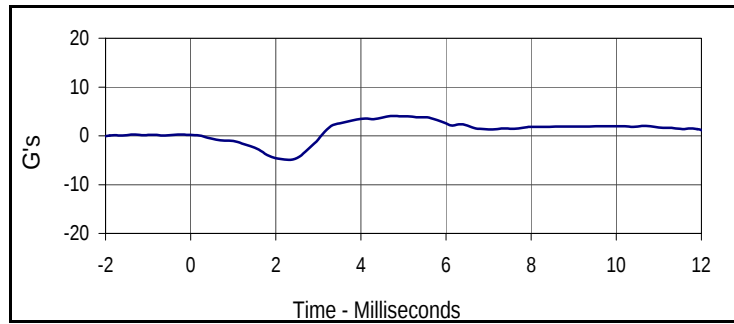
Test Date: 8/19/13
 Test I.D.: F037HD025



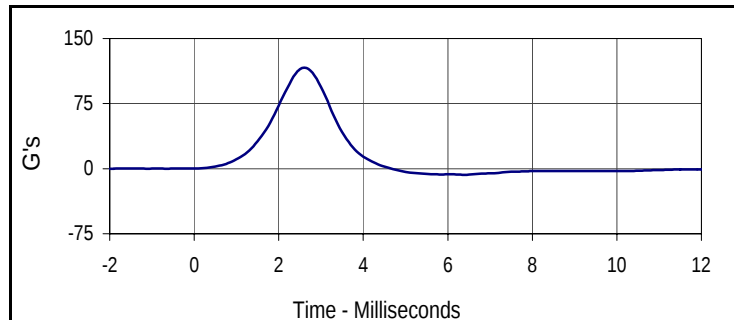
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	375	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.3	Pass
Peak Head Resultant Acceleration	G's	125 to 155	136.1	Pass
Peak Head X Acceleration	G's	≤15	4.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	6.1	Pass
Overall Test Results				Pass



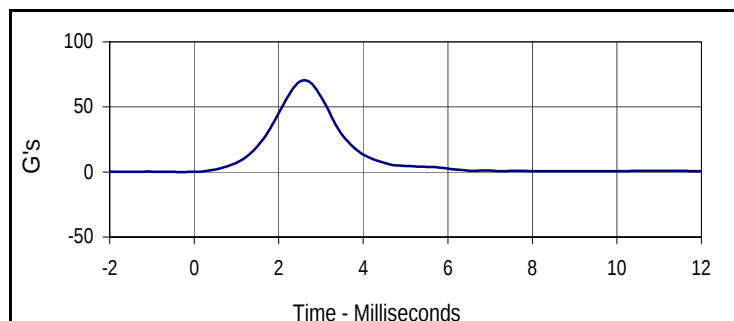
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
136.1	2.6	0.2	-0.5



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
4.1	4.8	-4.9	2.3



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
116.3	2.6	-7.0	6.4



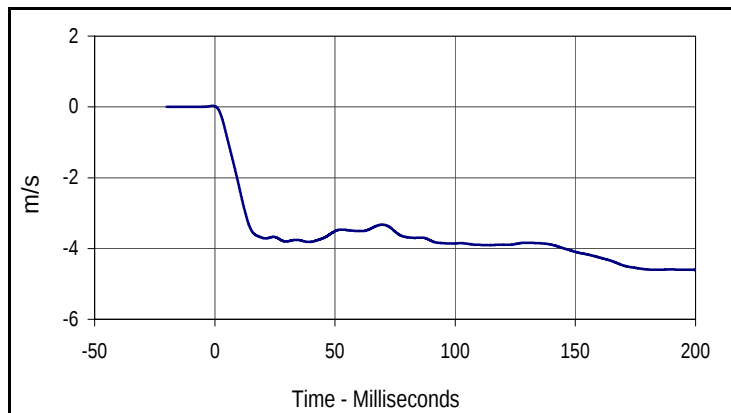
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
70.5	2.6	0.0	-0.3

Test Program: ES2re Neck Flexion Test
 ATD Serial No.: F037

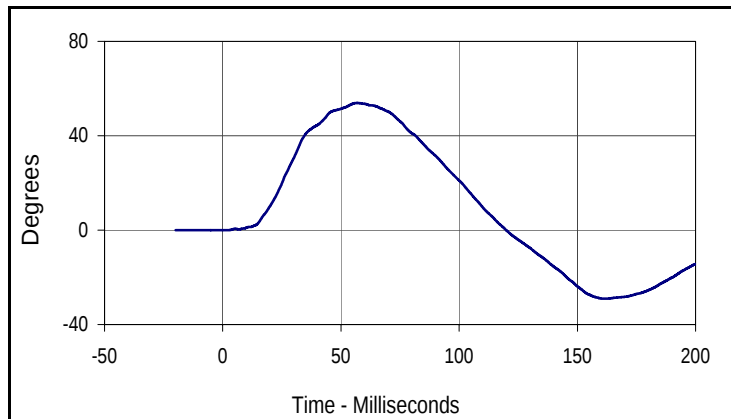
Test Date: 8/19/13
 Test I.D.: F037NB025



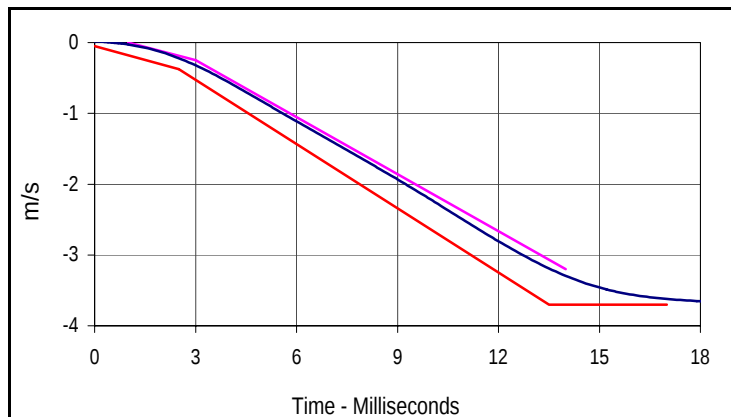
Tested Parameter	Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time	Minutes	≥240	310	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.1	Pass
Pendulum Velocity	m/s	3.3 to 3.5	3.45	Pass
Headform Flexion	Max	49 to 59	53.9	Pass
	Time	54 to 66	57.0	Pass
Headform Flexion Decay (Peak to Zero)	msec	53 to 88	62.9	Pass
Overall Test Results				Pass



Curve Description			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-0.9	-4.6	199.9



Curve Description			
Headform Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	180	Degrees
Max	Time	Min	Time
53.9	57.0	-29.1	161.7



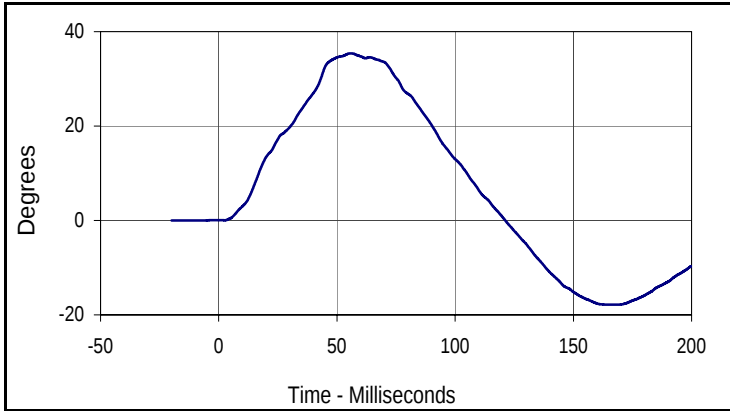
Curve Description			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-0.9	-4.6	199.9

Velocity Corridors

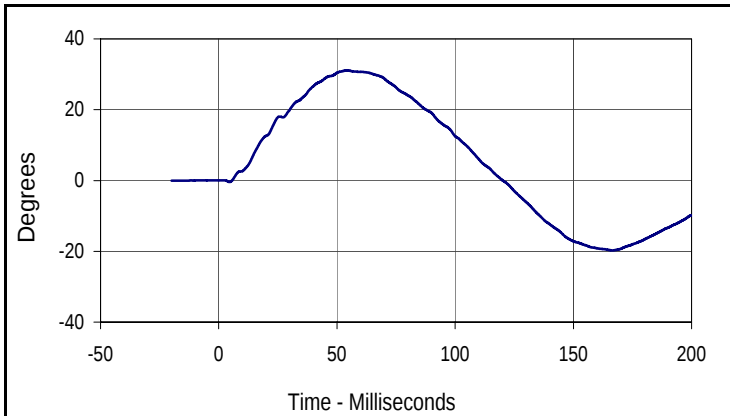
Upper Boundary		Lower Boundary	
Time (msec)	Velocity (m/s)	Time (msec)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.0	-0.03	2.5	-0.375
14.0	-3.20	13.5	-3.70
		17.0	-3.70

Test Program: ES2re Neck Flexion Test
 ATD Serial No.: F037

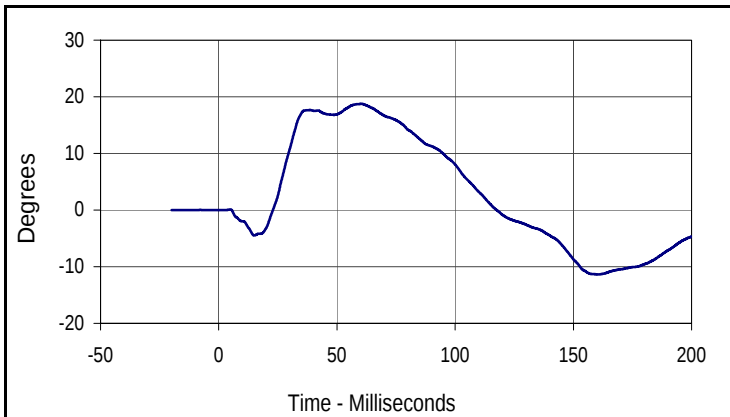
Test Date: 8/19/13
 Test I.D.: F037NB025



Curve Description			
Potentiometer A			
Plot No.	Type	SAE Class	Units
003	FIL	180	Degrees
Max	Time	Min	Time
35.4	55.7	-17.8	168.2



Curve Description			
Potentiometer B			
Plot No.	Type	SAE Class	Units
004	FIL	180	Degrees
Max	Time	Min	Time
31.1	54.2	-19.7	166.4



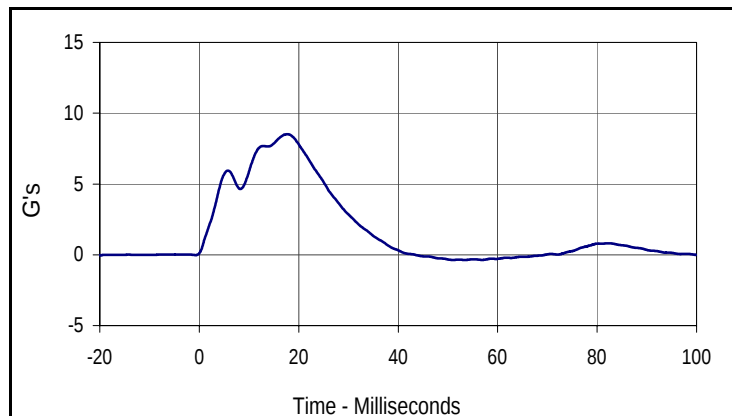
Curve Description			
Potentiometer C			
Plot No.	Type	SAE Class	Units
005	FIL	180	Degrees
Max	Time	Min	Time
18.7	60.2	-11.3	160.4

Test Program: ES2re Shoulder Impact Test
 ATD Serial No.: F037

Test Date: 8/19/13
 Test I.D.: F037SH025



Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	385	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Pendulum Speed	m/s	4.2 to 4.4	4.30	Pass
Peak Impactor Acceleration	G's	7.5 to 10.5	8.5	Pass
Overall Test Results				Pass



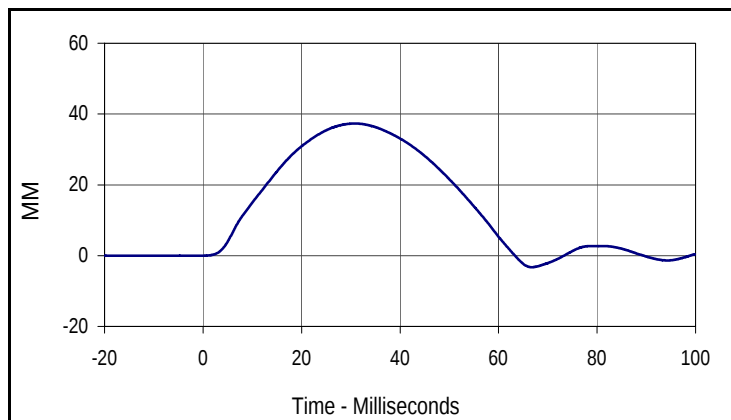
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
001	FIL	180	G's
Max	Time	Min	Time
8.5	17.7	-0.4	50.9

Test Program: ES2re Thorax - Rib Drop Test
 ATD Serial No.: F037 Rib # 1

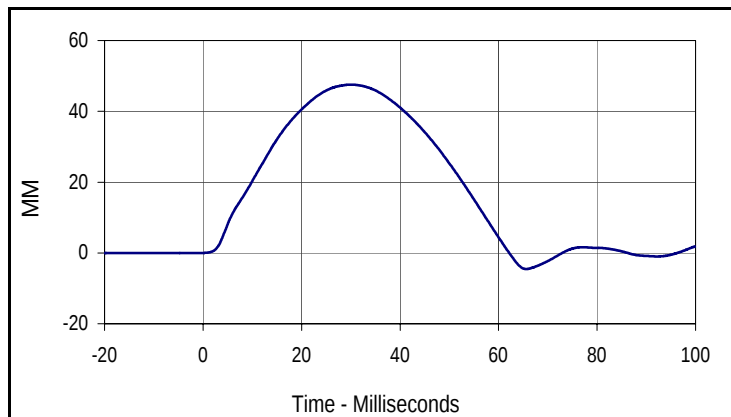
Test Date: 8/19/13
 Test I.D.: F037RB1025



Tested Parameter	Units	Specification	Result	Pass/Fail
Rib Module Soak Time	Minutes	≥240	450	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.3	Pass
Peak Rib Deflection at 459 +/- 5 mm Drop Height	mm	36 to 40	37.3	Pass
Peak Rib Deflection at 815 +/- 8 mm Drop Height	mm	46 to 51	47.5	Pass
Overall Test Results				Pass



Curve Description			
Upper Rib Deflection (459 mm Drop Height)			
Plot No.	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
37.3	30.8	-3.3	66.8



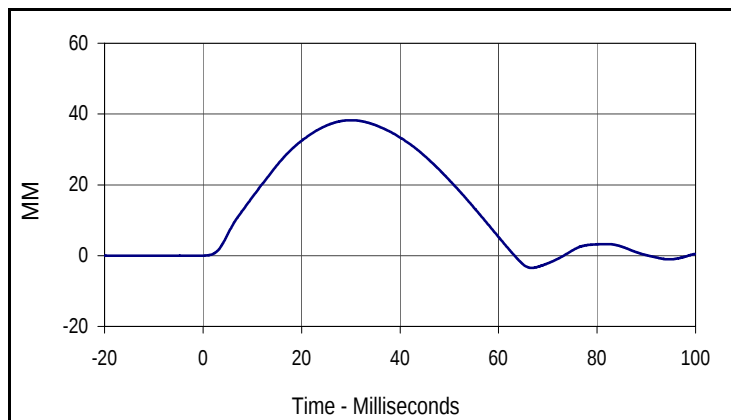
Curve Description			
Upper Rib Deflection (815 mm Drop Height)			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max	Time	Min	Time
47.5	30.1	-4.6	65.7

Test Program: ES2re Thorax - Rib Drop Test
 ATD Serial No.: F037 Rib # 2

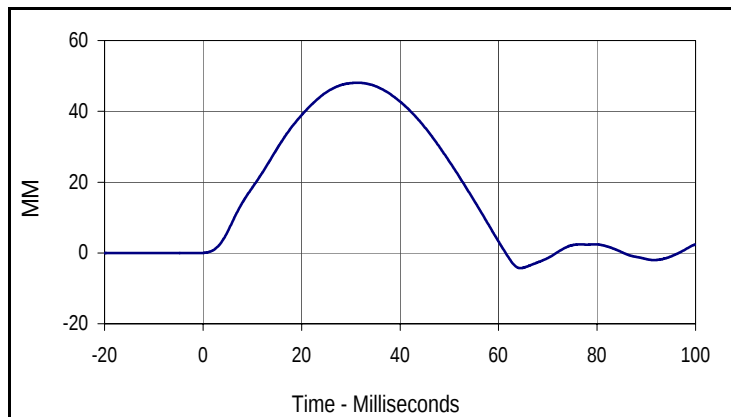
Test Date: 8/19/13
 Test I.D.: F037RB2025



Tested Parameter	Units	Specification	Result	Pass/Fail
Rib Module Soak Time	Minutes	≥240	480	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.3	Pass
Peak Rib Deflection at 459 +/- 5 mm Drop Height	mm	36 to 40	38.3	Pass
Peak Rib Deflection at 815 +/- 8 mm Drop Height	mm	46 to 51	48.1	Pass
Overall Test Results				Pass



Curve Description			
Middle Rib Deflection (459 mm Drop Height)			
Plot No.	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
38.3	30.1	-3.5	66.7



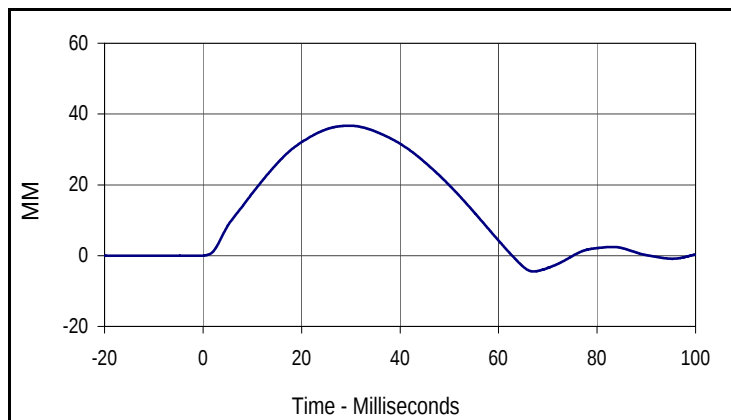
Curve Description			
Middle Rib Deflection (815 mm Drop Height)			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max	Time	Min	Time
48.1	31.4	-4.3	64.5

Test Program: ES2re Thorax - Rib Drop Test
 ATD Serial No.: F037 Rib # 3

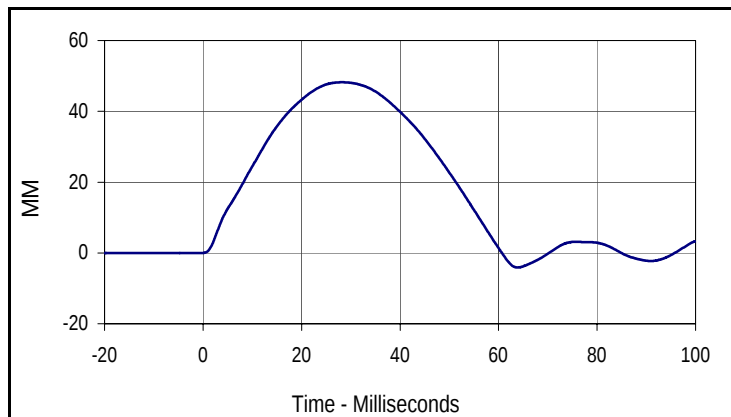
Test Date: 8/19/13
 Test I.D.: F037RB3025



Tested Parameter	Units	Specification	Result	Pass/Fail
Rib Module Soak Time	Minutes	≥240	515	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Peak Rib Deflection at 459 +/- 5 mm Drop Height	mm	36 to 40	36.7	Pass
Peak Rib Deflection at 815 +/- 8 mm Drop Height	mm	46 to 51	48.2	Pass
Overall Test Results				Pass



Curve Description			
Lower Rib Deflection (459 mm Drop Height)			
Plot No.	Type	SAE Class	Units
001	FIL	180	MM
Max	Time	Min	Time
36.7	29.9	-4.5	67.1



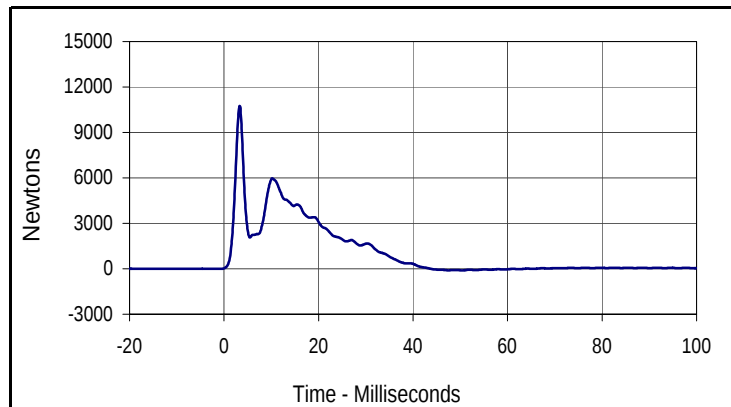
Curve Description			
Lower Rib Deflection (815 mm Drop Height)			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max	Time	Min	Time
48.2	28.2	-4.1	63.8

Test Program: ES2re Thorax - Full Body Impact Test
 ATD Serial No.: F037

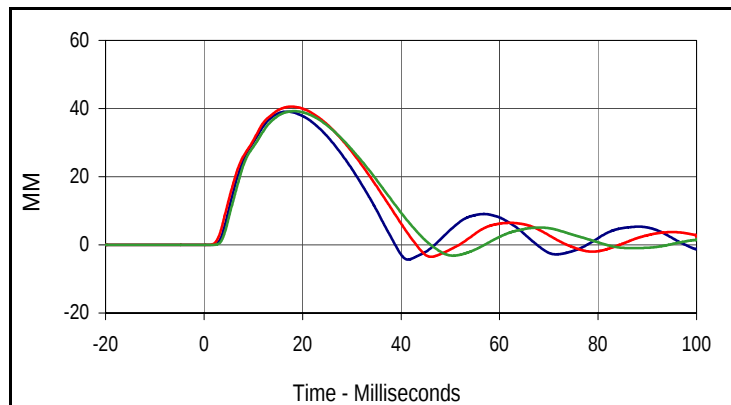
Test Date: 8/19/13
 Test I.D.: F037TH025



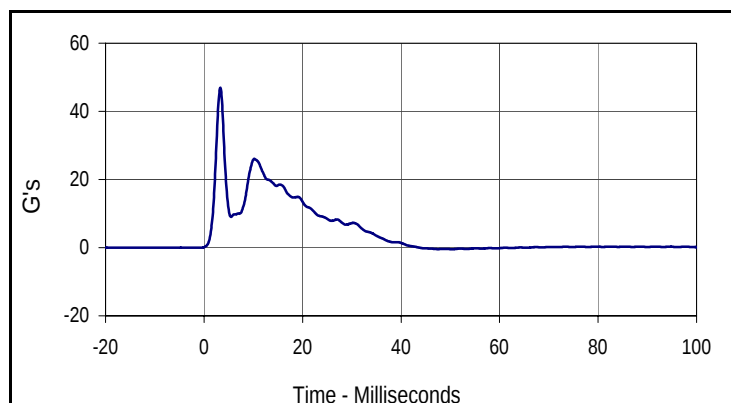
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	590	Pass
Temperature During Soak	Max °C	20.6 to 22.2	21.4	Pass
	Min °C		21.2	Pass
Humidity During Soak	Max %	10.0 to 70.0	35.7	Pass
	Min %		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Peak Impactor Velocity	m/s	5.4 to 5.6	5.55	Pass
Peak Impactor Force	N	5100 to 6200	5971.2	Pass
	msec	> 6.0 msec	10.2	Pass
Peak Upper Rib Deflection	mm	34 to 41	39.1	Pass
Peak Middle Rib Deflection	mm	37 to 45	40.5	Pass
Peak Lower Rib Deflection	mm	37 to 44	39.2	Pass
Overall Test Results			Pass	



Curve Description			
Impactor Force			
Plot No.	Type	SAE Class	Units
001	FIL	180	Newtons
Max	Time	Min	Time
10756.8	3.3	-103.1	50.3



Curve Description			
Upper, Middle, Lower Rib Deflections			
Plot No.	Type	SAE Class	Units
002	FIL	180	MM
Max (Upper)	Time	Min (Upper)	Time
39.1	16.9	-4.3	41.4
Max (Middle)	Time	Min (Middle)	Time
40.5	17.7	-3.5	46.1
Max (Lower)	Time	Min (Lower)	Time
39.2	18.4	-3.2	50.5



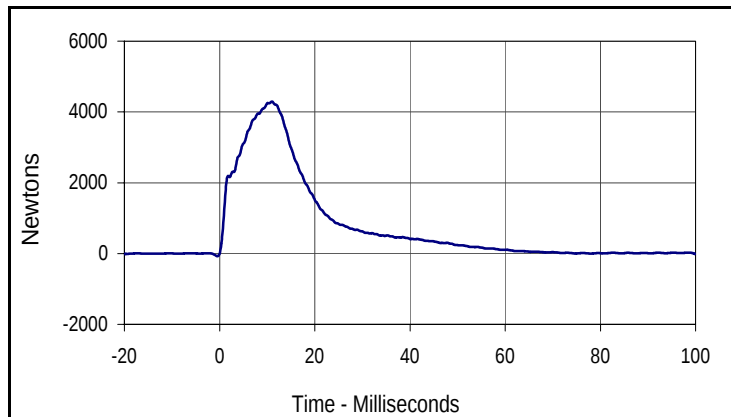
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
47.0	3.3	-0.5	50.3

Test Program: ES2re Abdomen Impact Test
 ATD Serial No.: F037

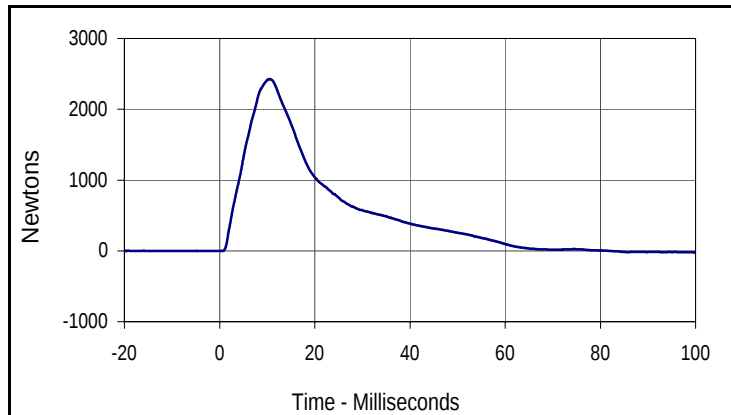
Test Date: 8/19/13
 Test I.D.: F037ABD025



Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	635	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Probe Velocity	m/s	3.9 to 4.1	4.05	Pass
Peak Impactor Force	N	4000 to 4800	4293.9	Pass
	msec	10.6 to 13.0	11.0	Pass
Sum of Abdominal Forces	N	2200 to 2700	2426.2	Pass
	msec	10.0 to 12.3	10.6	Pass
Overall Test Results				Pass



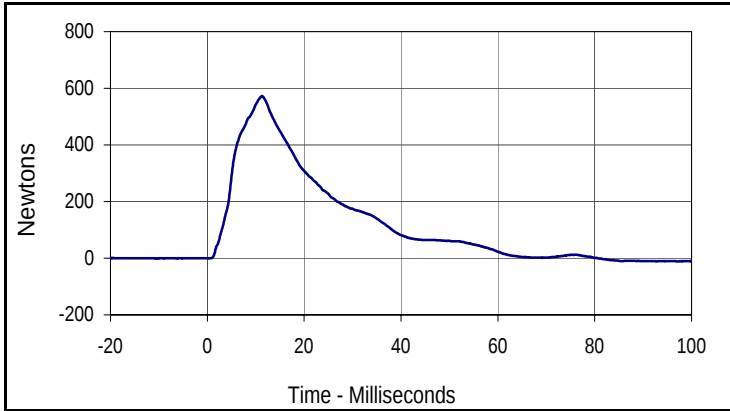
Curve Description			
Impactor Force			
Plot No.	Type	SAE Class	Units
001	FIL	180	Newtons
Max	Time	Min	Time
4293.9	11.0	-76.1	-0.5



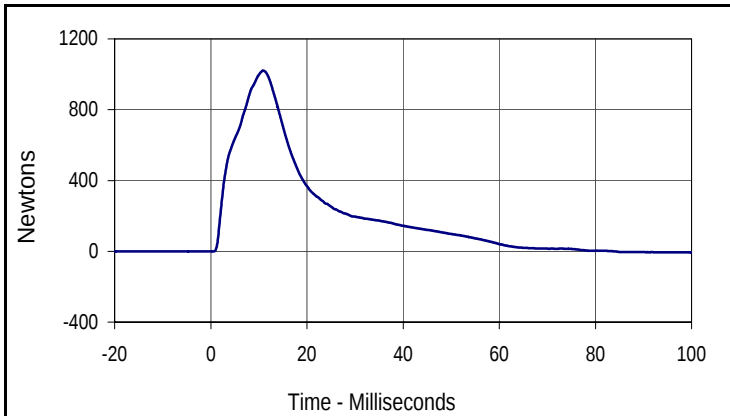
Curve Description			
Abdomen Sum Resultant			
Plot No.	Type	SAE Class	Units
002	RES	600	Newtons
Max	Time	Min	Time
2426.2	10.6	-20.7	99.9

Test Program: ES2re Abdomen Impact Test
 ATD Serial No.: F037

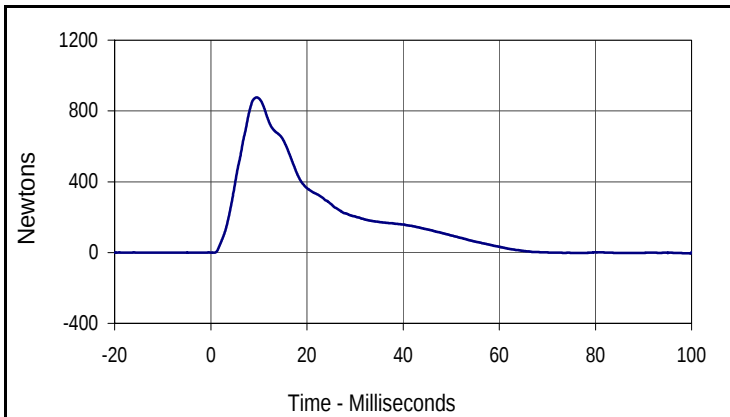
Test Date: 8/19/13
 Test I.D.: F037ABD025



Curve Description			
Front Abdomen Force			
Plot No.	Type	SAE Class	Units
003	FIL	600	Newtons
Max	Time	Min	Time
572.4	11.3	-11.0	97.3



Curve Description			
Middle Abdomen Force			
Plot No.	Type	SAE Class	Units
004	FIL	600	Newtons
Max	Time	Min	Time
1020.2	10.9	-6.5	99.9



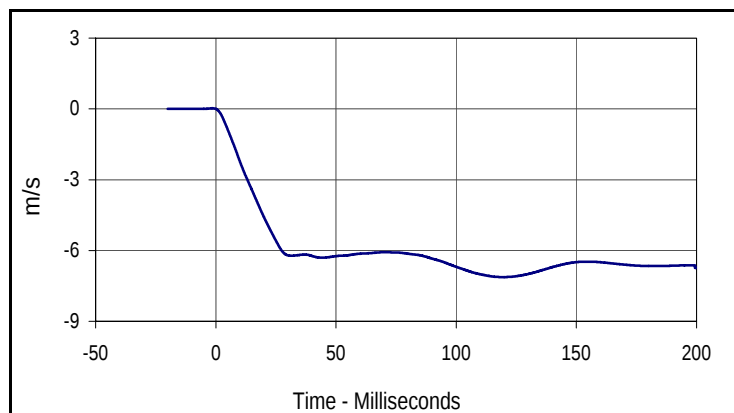
Curve Description			
Rear Abdomen Force			
Plot No.	Type	SAE Class	Units
005	FIL	600	Newtons
Max	Time	Min	Time
876.3	9.5	-4.1	99.9

Test Program: ES2re Lumbar Flexion Test
 ATD Serial No.: F037

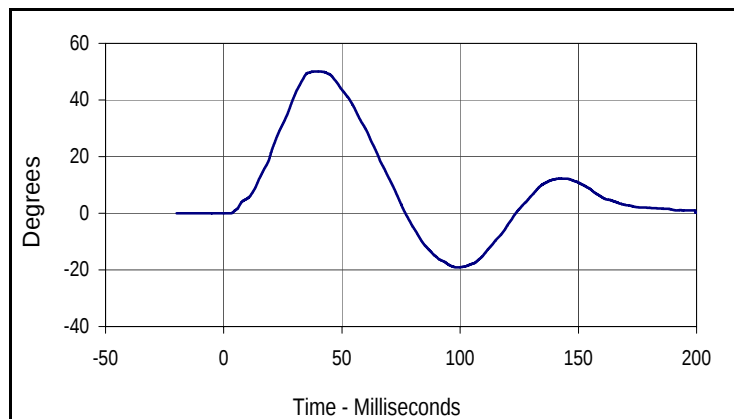
Test Date: 8/19/13
 Test I.D.: F037LB025



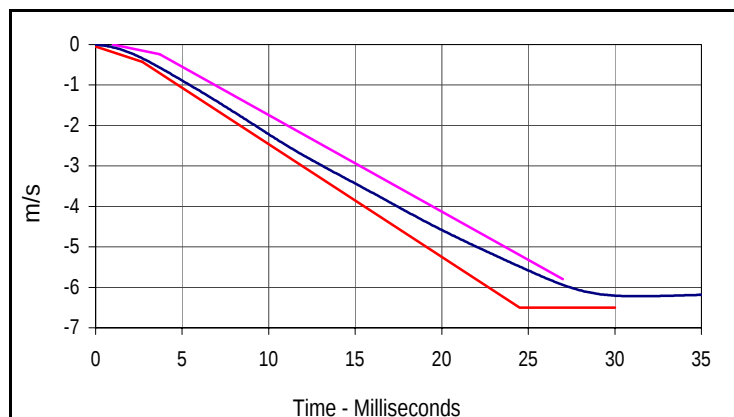
Tested Parameter	Units	Specification	Result	Pass/Fail
Lumbar Spine Assembly Soak Time	Minutes	≥240	705	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Pendulum Velocity	m/s	5.95 to 6.15	6.06	Pass
Headform Rotation	Max	45 to 55	50.1	Pass
	Time	39 to 53	40.4	Pass
Time of Decay to Zero Angle from Peak	msec	37 to 57	45.9	Pass
Overall Test Results				Pass



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-0.8	-7.1	119.9



Curve Description			
Headform Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	180	Degrees
Max	Time	Min	Time
50.1	40.4	-19.1	99.5



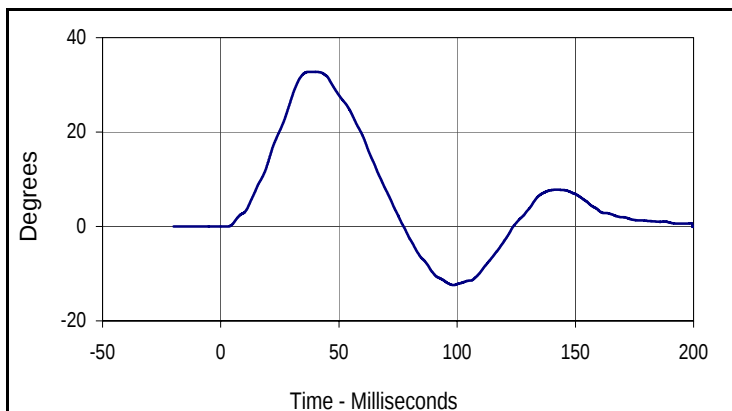
Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	60	m/s
Max	Time	Min	Time
0.0	-0.8	-7.1	119.9

Velocity Corridors

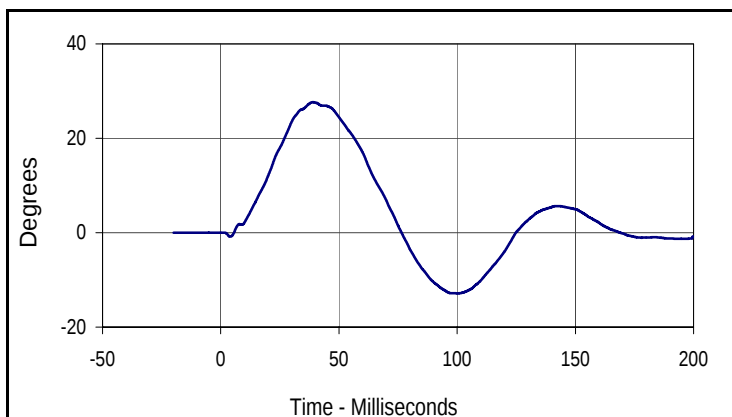
Upper Boundary		Lower Boundary	
Time (msec)	Velocity (m/s)	Time (msec)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.7	-0.24	2.7	-0.425
27.0	-5.80	24.5	-6.50
		30.0	-6.50

Test Program: ES2re Lumbar Flexion Test
 ATD Serial No.: F037

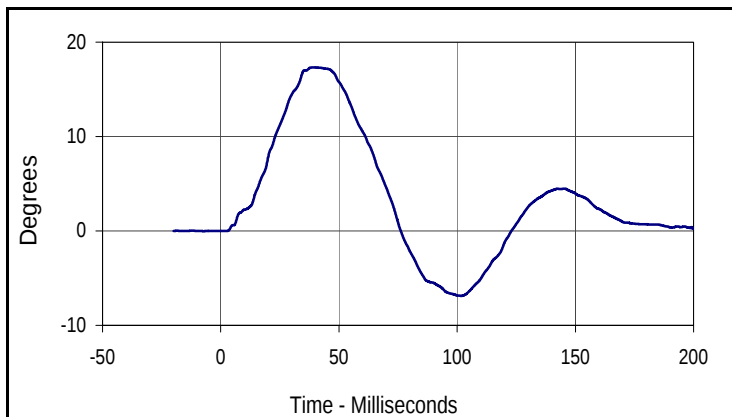
Test Date: 8/19/13
 Test I.D.: F037LB025



Curve Description			
Potentiometer A			
Plot No.	Type	SAE Class	Units
003	FIL	180	Degrees
Max	Time	Min	Time
32.8	40.5	-12.4	99.0



Curve Description			
Potentiometer B			
Plot No.	Type	SAE Class	Units
004	FIL	180	Degrees
Max	Time	Min	Time
27.7	39.4	-12.9	100.8



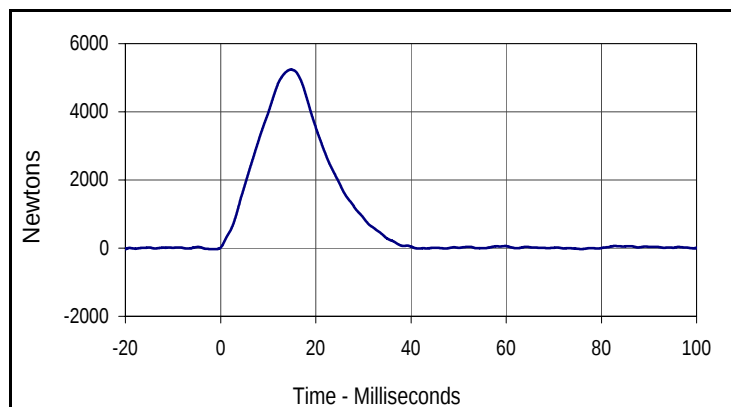
Curve Description			
Potentiometer C			
Plot No.	Type	SAE Class	Units
005	FIL	180	Degrees
Max	Time	Min	Time
17.3	40.3	-6.9	102.3

Test Program: ES2re Pelvis Impact Test
 ATD Serial No.: F037

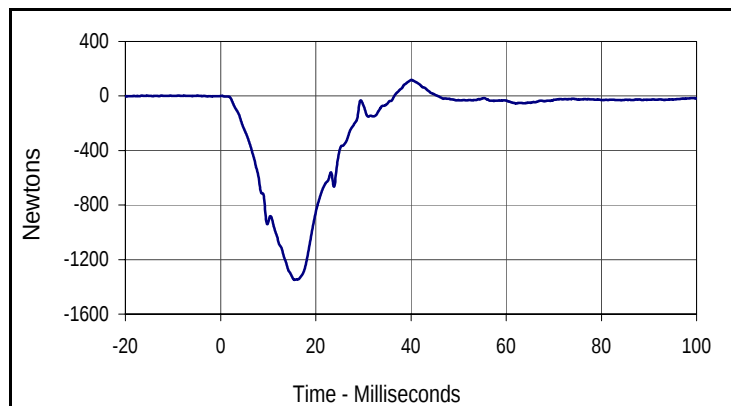
Test Date: 8/19/13
 Test I.D.: F037PL025



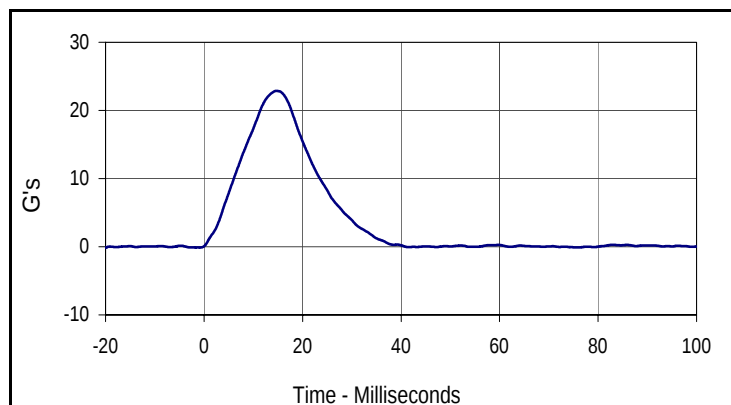
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥240	770	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.2	Pass
Humidity During Soak	Max	10.0 to 70.0	35.7	Pass
	Min		32.2	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.4	Pass
Pendulum Velocity	m/s	4.2 to 4.4	4.25	Pass
Peak Impactor Force	N	4700 to 5400	5236.7	Pass
	msec	11.8 to 16.1	14.7	Pass
Peak Pubic Symphysis Load	N	-1230 to -1590	-1347.9	Pass
	msec	12.2 to 17.0	15.5	Pass
Overall Test Results				Pass



Curve Description			
Impactor Force			
Plot No.	Type	SAE Class	Units
001	FIL	180	Newtons
Max	Time	Min	Time
5236.7	14.7	-27.0	-1.7



Curve Description			
Pubic Symphysis Force Y			
Plot No.	Type	SAE Class	Units
002	FIL	600	Newtons
Max	Time	Min	Time
118.1	40.1	-1347.9	15.5



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
22.9	14.7	-0.1	-20.0

Test Program: SID IIs External Measurements
 ATD Serial No.: 307

Test Date: 8/20/13
 Test I.D.: N/A



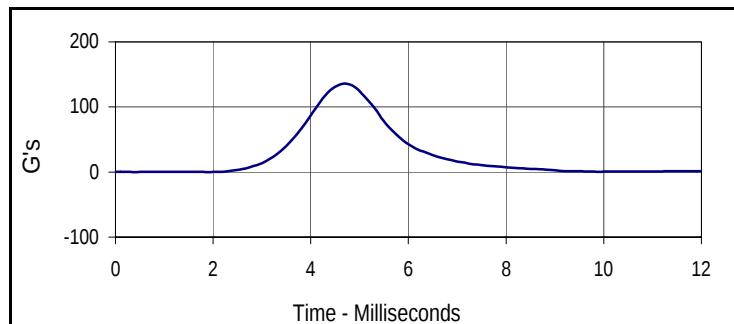
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity		%	10 to 70	34	Pass
A	Sitting Height	mm	772 - 788	778	Pass
B	Shoulder Pivot Height	mm	437 - 453	443	Pass
C	H-Point Height	mm	79 - 89	85	Pass
D	H-Point from Seatback	mm	141 - 151	144	Pass
E	Shoulder Pivot from Backline	mm	97 - 107	102	Pass
F	Thigh Clearance	mm	119 - 135	128	Pass
G	Head Breadth	mm	140 - 148	145	Pass
H	Head Back from Backline	mm	40 - 46	43	Pass
I	Head Depth	mm	178 - 188	185	Pass
J	Head Circumference	mm	541 - 551	546	Pass
K	Buttock to Knee Length	mm	514 - 540	525	Pass
L	Popliteal Height	mm	343 - 369	351	Pass
M	Knee Pivot to Floor Height	mm	392 - 409	400	Pass
N	Buttock Popliteal Length	mm	416 - 442	432	Pass
O	Chest Depth w/o Jacket	mm	195 - 211	205	Pass
P	Foot Length	mm	216 - 232	223	Pass
Q	Hip Breadth with Pelvic Plug	mm	313 - 323	319	Pass
R	Arm Length	mm	249 - 259	254	Pass
S	Knee Joint to Seatback	mm	477 - 493	483	Pass
V	Shoulder Width	mm	341 - 357	351	Pass
W	Foot Width	mm	78 - 94	89	Pass
Y	Chest Circumference with Jacket	mm	851 - 881	872	Pass
Z	Waist Circumference	mm	760 - 791	774	Pass
Overall Test Results					Pass

Test Program: SID IIs Head Drop Test
 ATD Serial No.: 307

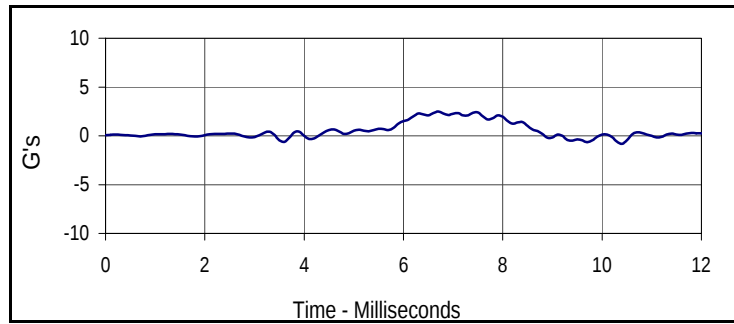
Test Date: 8/20/13
 Test I.D.: 307HD057



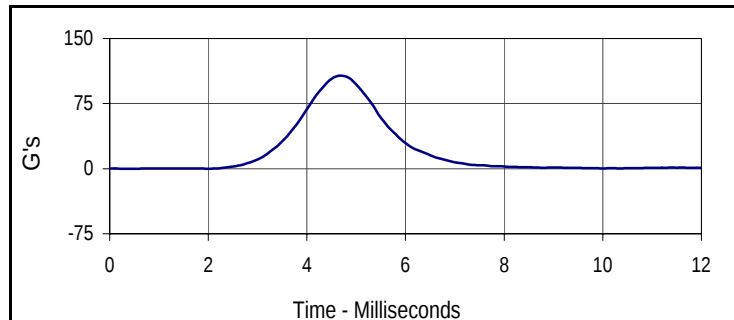
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	250	Pass
Temperature During Soak	Max	18.9 to 25.6	21.4	Pass
	Min		21.3	Pass
Humidity During Soak	Max	10.0 to 70.0	34.6	Pass
	Min		33.9	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	34.1	Pass
Peak Head Resultant Acceleration	G's	115 to 137	135.8	Pass
Peak Head X Acceleration	G's	<15	2.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	1.9	Pass
Overall Test Results				Pass



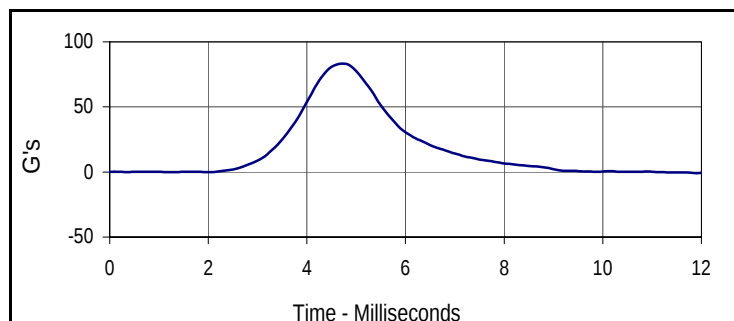
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
135.8	4.7	0.1	1.9



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
2.5	6.7	-0.6	3.6



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
107.3	4.7	0.0	0.3



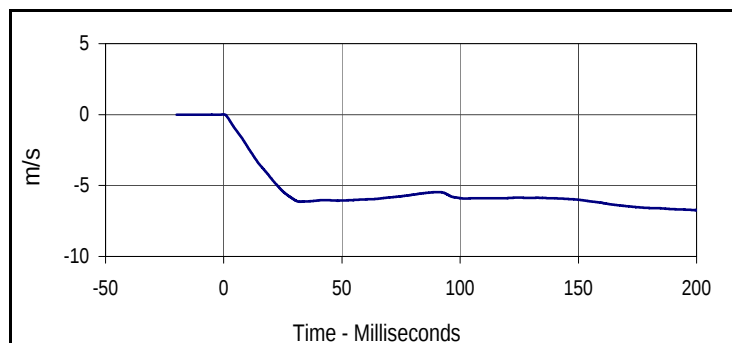
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
83.3	4.7	-0.7	11.9

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 307

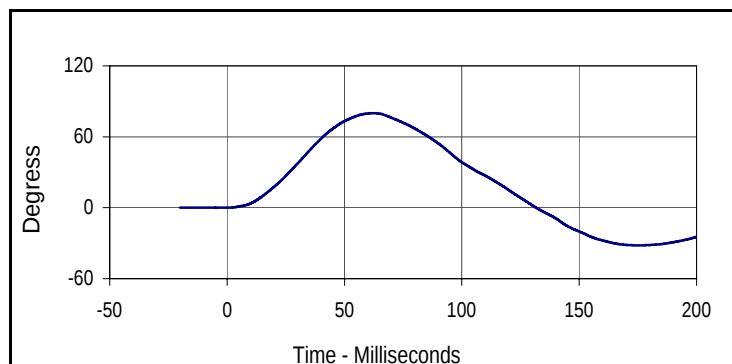
Test Date: 8/20/13
 Test I.D.: 307NB057



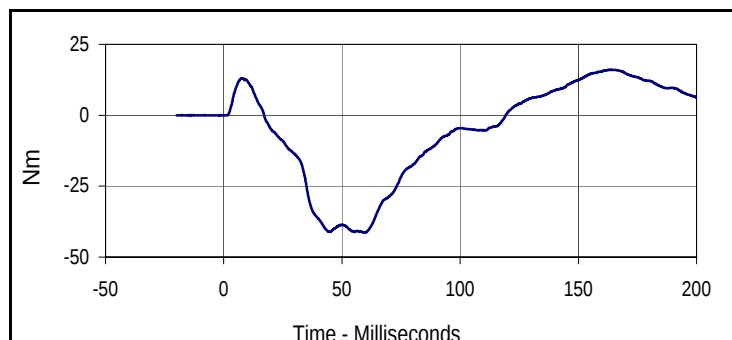
Tested Parameter	Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time	Minutes	≥240	325	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.3	Pass
Humidity During Soak	Max	10.0 to 70.0	34.6	Pass
	Min		33.9	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	34.0	Pass
Pendulum Velocity	m/s	5.51 to 5.63	5.59	Pass
Pendulum Deceleration	10 msec	-2.20 to -2.80	-2.26	Pass
	15 msec	-3.30 to -4.10	-3.49	Pass
	20 msec	-4.40 to -5.40	-4.48	Pass
	25 msec	-5.40 to -6.10	-5.41	Pass
	25-100 msec	-5.50 to -6.20	-6.14	Pass
D-Plane Rotation	Max	71 to 81	79.9	Pass
	Time	50 to 70	62.4	Pass
Peak Occipital Condyle Moment	Nm	-36 to -44	-41.3	Pass
Decaying Moment Time to Cross 0 Nm	msec	102 to 126	119.3	Pass
Overall Test Results			Pass	



Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
001	FIL	180	m/s
Max	Time	Min	Time
0.0	-0.3	-6.7	200.0



Curve Description			
Maximum Translation Rotation			
Plot No.	Type	SAE Class	Units
002	FIL	60	Degress
Max	Time	Min	Time
79.9	62.4	-31.9	175.1



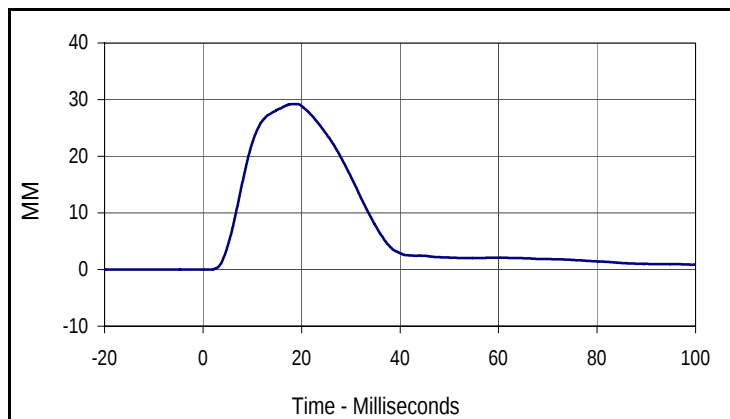
Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
003	FIL	600	Nm
Max	Time	Min	Time
16.0	163.0	-41.3	59.3

Test Program: SID IIs Shoulder Impact Test
 ATD Serial No.: 307

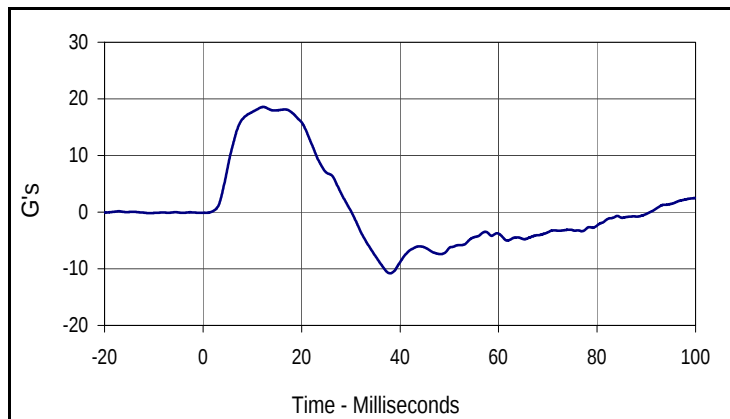
Test Date: 8/20/13
 Test I.D.: 307SH057



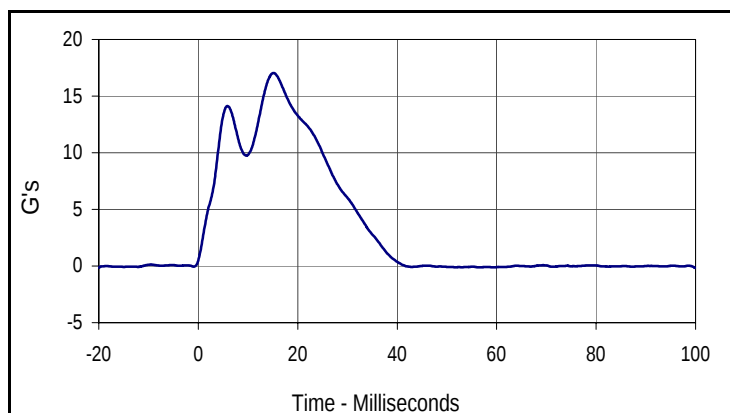
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	380	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.4	Pass
	Min	°C		21.3	Pass
Humidity During Soak	Max	%	10.0 to 70.0	34.6	Pass
	Min	%		33.9	Pass
Laboratory Temperature During Test		°C	20.6 to 22.2	21.4	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	33.9	Pass
Impactor Velocity		m/s	4.20 to 4.40	4.33	Pass
Peak Shoulder Deflection		mm	28 to 37	29.2	Pass
Peak Lateral Spine Acceleration Y		G's	17 to 22	18.6	Pass
Peak Impactor Acceleration		G's	13 to 18	17.0	Pass
Overall Test Results				Pass	



Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
29.2	18.5	0.0	-14.5



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
18.6	12.2	-10.8	38.0



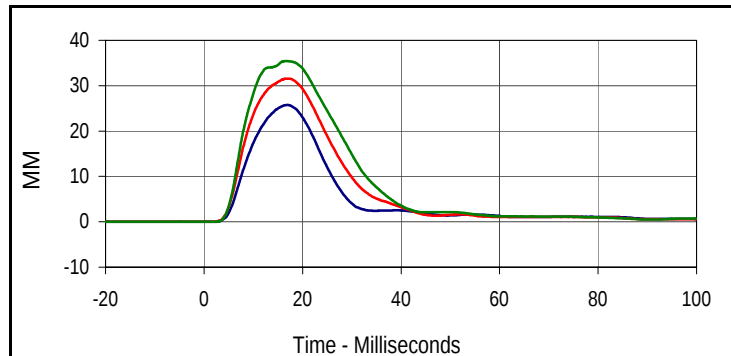
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
17.0	15.1	-0.2	99.9

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 307

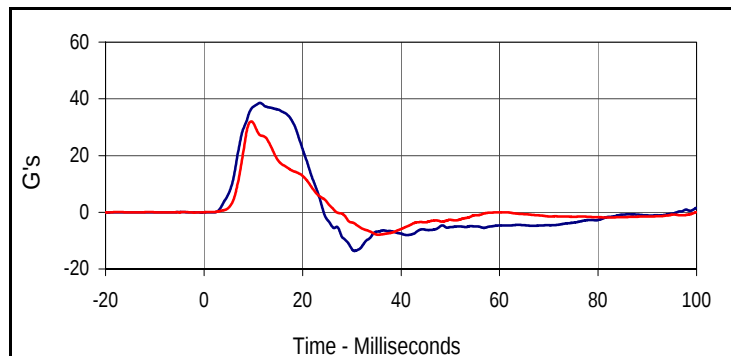
Test Date: 8/20/13
 Test I.D.: 307TWA057



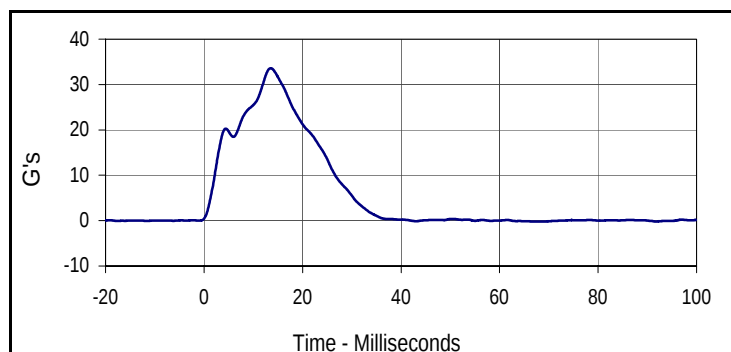
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	425	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.3	Pass
Humidity During Soak	Max	10.0 to 70.0	34.6	Pass
	Min		33.9	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.9	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.71	Pass
Peak Shoulder Deflection	mm	31 to 40	35.4	Pass
Peak Upper Thorax Rib Deflection	mm	25 to 32	25.7	Pass
Peak Middle Thorax Rib Deflection	mm	30 to 36	31.6	Pass
Peak Lower Thorax Rib Deflection	mm	32 to 38	35.4	Pass
Peak Upper Spine Y Acceleration	G's	34 to 43	38.6	Pass
Peak Lower Spine Y Acceleration	G's	29 to 37	32.1	Pass
Peak Impactor Acceleration	G's	30 to 36	33.6	Pass
Overall Test Results			Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
25.7	16.9	0.0	0.3
Middle Thorax Deflection			
Max	Time	Min	Time
31.6	17.0	0.0	-0.4
Lower Thorax Deflection			
Max	Time	Min	Time
35.4	16.6	0.0	-1.7



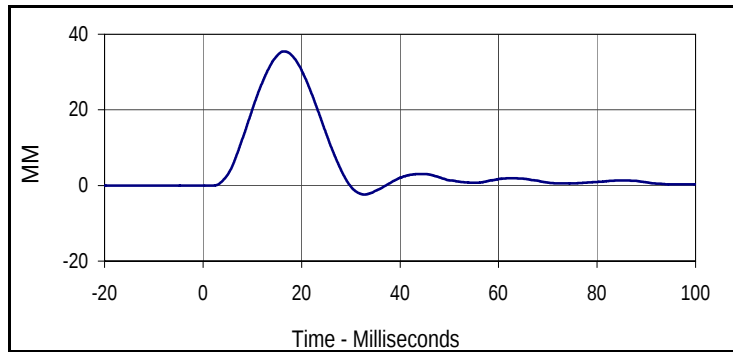
Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
38.6	11.4	-13.6	30.5
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
32.1	9.6	-7.9	35.3



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
33.6	13.5	-0.2	68.5

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 307

Test Date: 8/20/13
 Test I.D.: 307TWA057



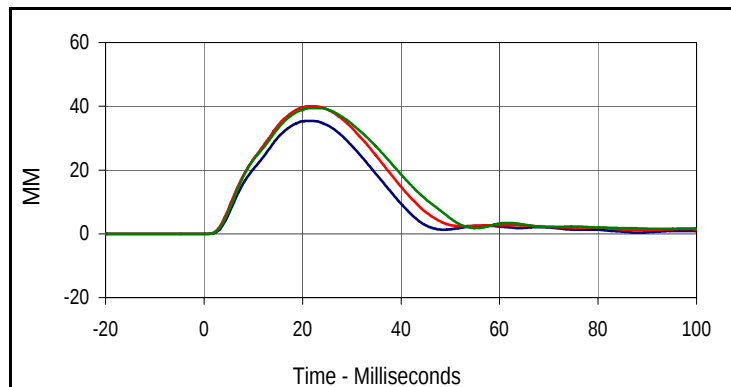
Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
007	FIL	600	MM
Max	Time	Min	Time
35.4	16.3	-2.4	32.7

Test Program: SID IIs Thorax without Arm Impact Test
 ATD Serial No.: 307

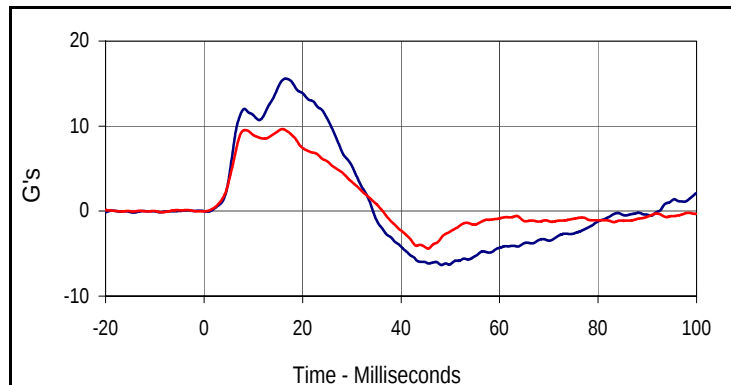
Test Date: 8/20/13
 Test I.D.: 307TWOA057



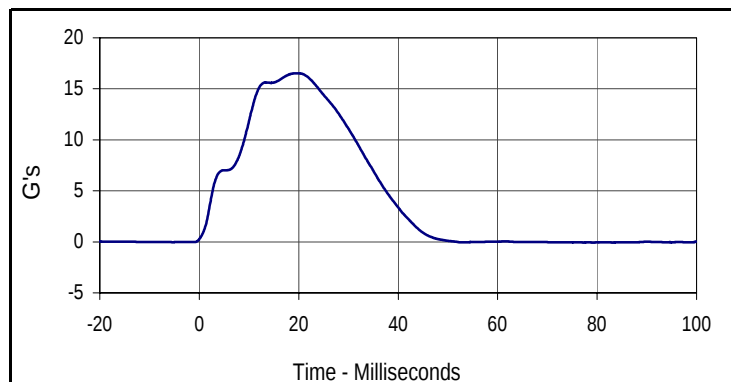
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	475	Pass
Temperature During Soak	Max	°C	18.9 to 25.6	21.4	Pass
	Min	°C		21.3	Pass
Humidity During Soak	Max	%	10.0 to 70.0	34.6	Pass
	Min	%		33.9	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	34.0	Pass
Impactor Velocity		m/s	4.2 to 4.4	4.35	Pass
Peak Upper Thorax Rib Deflection		mm	32 to 40	35.4	Pass
Peak Middle Thorax Rib Deflection		mm	39 to 45	40.1	Pass
Peak Lower Thorax Rib Deflection		mm	35 to 43	39.5	Pass
Peak Upper Spine Y Acceleration		G's	13 to 17	15.6	Pass
Peak Lower Spine Y Acceleration		G's	7 to 11	9.6	Pass
Peak Impactor Acceleration		G's	14 to 18	16.5	Pass
Overall Test Results				Pass	



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
35.4	21.4	0.0	-2.1
Middle Thorax Deflection			
Max	Time	Min	Time
40.1	22.1	0.0	-3.6
Lower Thorax Deflection			
Max	Time	Min	Time
39.5	22.4	0.0	-3.5



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
15.6	16.5	-6.3	48.2
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
9.6	15.9	-4.4	45.5



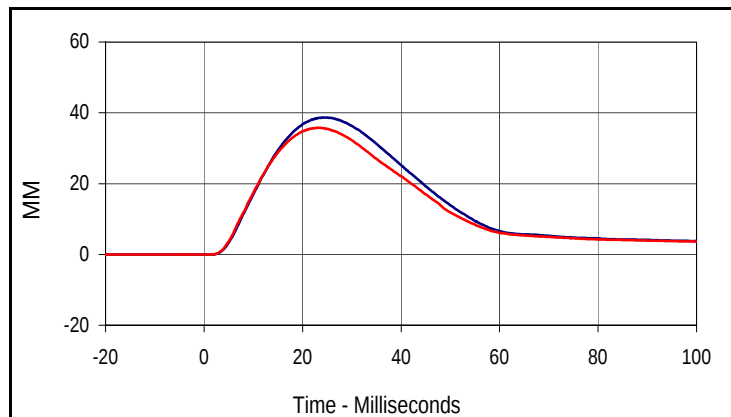
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
16.5	19.7	-0.1	79.2

Test Program: SID IIs Abdomen Impact Test
 ATD Serial No.: 307

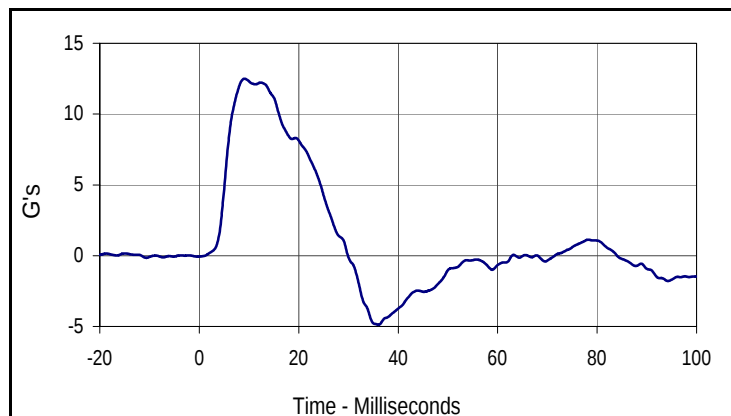
Test Date: 8/20/13
 Test I.D.: 307ABD057



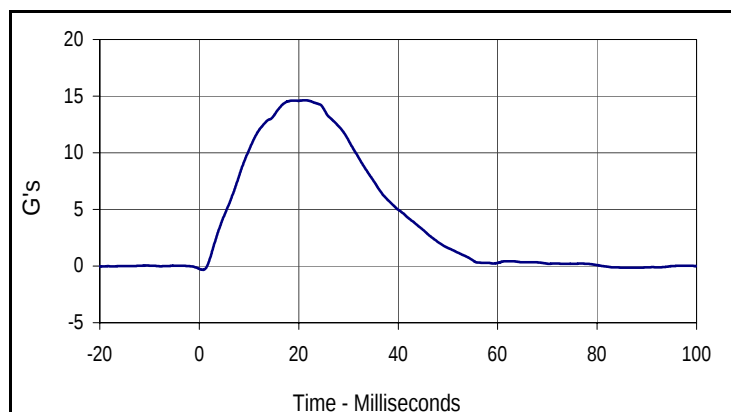
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	510	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.3	Pass
Humidity During Soak	Max	10.0 to 70.0	34.6	Pass
	Min		33.9	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	34.0	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.26	Pass
Peak Upper Abdominal Rib Deflection	mm	36 to 47	38.6	Pass
Peak Lower Abdominal Rib Deflection	mm	33 to 44	35.8	Pass
Peak Lower Spine Y Acceleration	G's	9 to 14	12.5	Pass
Peak Impactor Acceleration	G's	12 to 16	14.6	Pass
Overall Test Results			Pass	



Curve Description			
Upper Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
38.6	24.8	0.0	1.6
Curve Description			
Lower Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	600	MM
Max	Time	Min	Time
35.8	23.1	0.0	-16.6

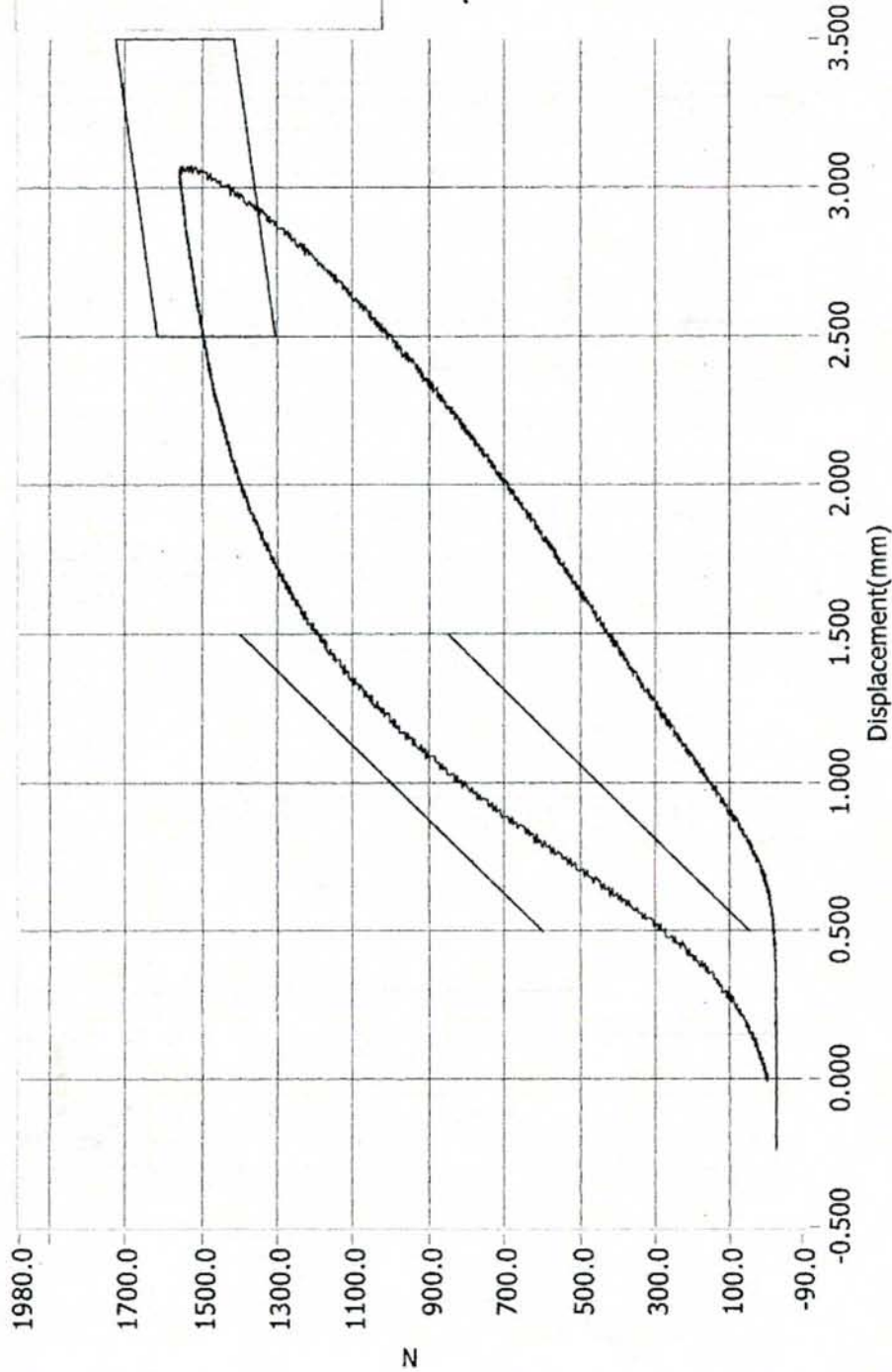


Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
12.5	9.1	-4.9	36.0



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
14.6	21.3	-0.3	0.8

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

<u>Test ID</u>	<u>Part Serial Number</u>	<u>Test Date</u>	<u>Test Time</u>
	63424	1/28/2013	7:53 PM
<u>Cert ID</u>	<u>ATD Serial Number</u>	<u>ATD Type</u>	
	N/A	SIDIIs	

M20145205 POST TEST

Current Date : 1/28/2013

Current Time : 19:54:33

1555N

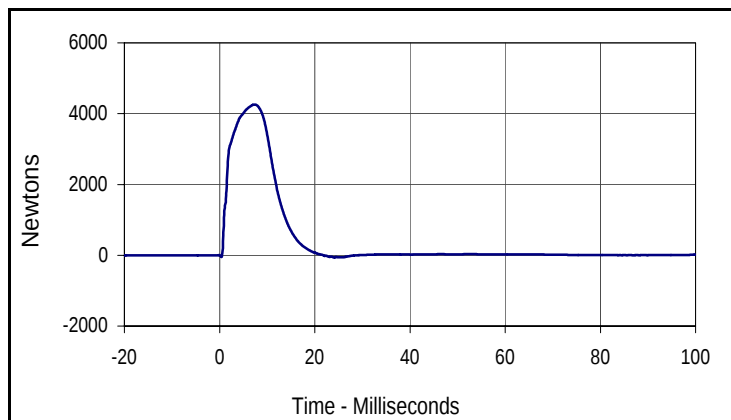
Loading Curve
 Boundary Limit Upper
 Boundary Limit Lower
 Peak Load Upper
 Peak Load Lower
 Peak Defl Upper
 Peak Defl Lower

Test Program: SID IIs Pelvis Acetabulum Impact Test
 ATD Serial No.: 307

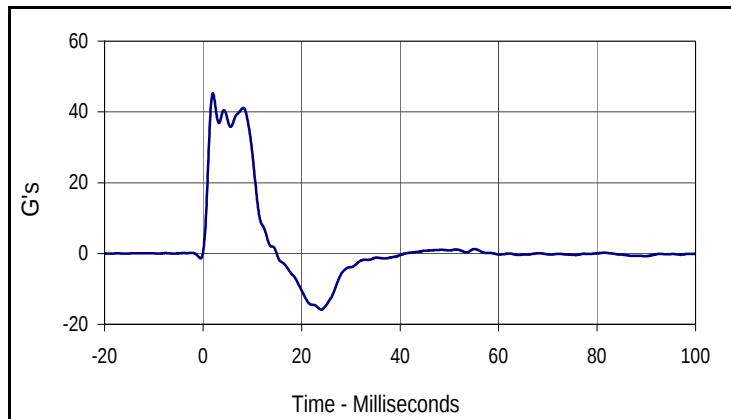
Test Date: 8/20/13
 Test I.D.: 307ACET057



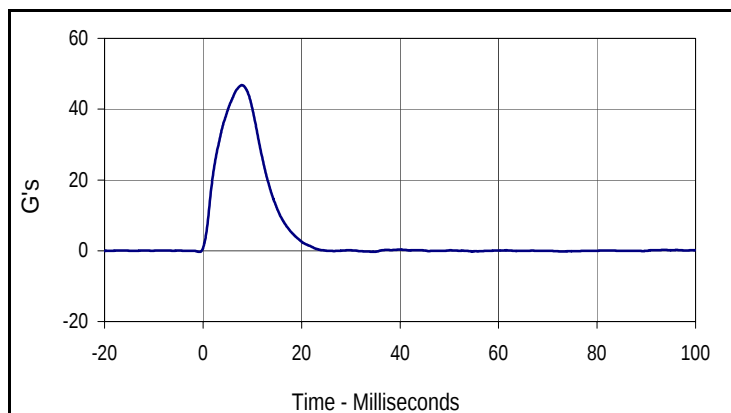
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	555	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.3	Pass
Humidity During Soak	Max	10.0 to 70.0	34.6	Pass
	Min		33.9	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	33.9	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.71	Pass
Peak Acetabulum Force Y	Newtons	3600 to 4300	4257.5	Pass
Peak Pelvis Y Acceleration After 6 msec.	G's	34 to 42	41.1	Pass
Peak Impactor Acceleration	G's	38 to 47	46.8	Pass
Overall Test Results			Pass	



Curve Description			
Pelvis Acetabulum Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4257.5	7.3	-64.2	24.0



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
45.2	2.0	-15.9	24.0



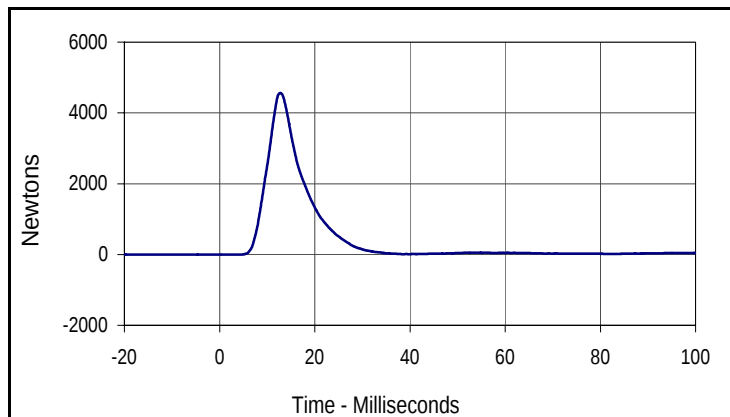
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.8	7.9	-0.3	-0.7

Test Program: SID IIs Pelvis Iliac Calibration
 ATD Serial No.: 307

Test Date: 8/20/13
 Test I.D.: 307PL057



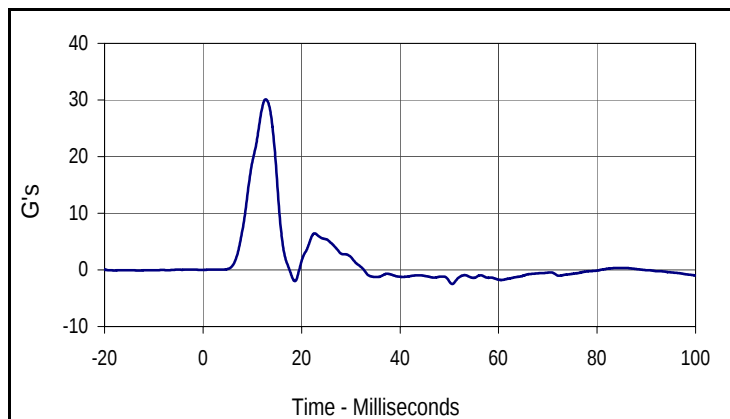
Tested Parameter		Units	Specification	Result	Pass/Fail
Dummy Soak Time		Minutes	≥180	625	Pass
Temperature During Soak	Max	°C	20.6 to 22.2	21.4	Pass
	Min	°C		21.3	Pass
Humidity During Soak	Max	%	10.0 to 70.0	34.6	Pass
	Min	%		33.9	Pass
Laboratory Temperature During Test		°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test		%	10.0 to 70.0	34.0	Pass
Impactor Velocity		m/s	4.2 to 4.4	4.34	Pass
Peak Iliac Force		Newtons	4100 to 5100	4563.7	Pass
Peak Pelvis Y Acceleration		G's	28 to 39	30.1	Pass
Peak Impactor Acceleration		G's	36 to 45	40.0	Pass
Overall Test Results				Pass	



Curve Description

Pelvis Iliac Force

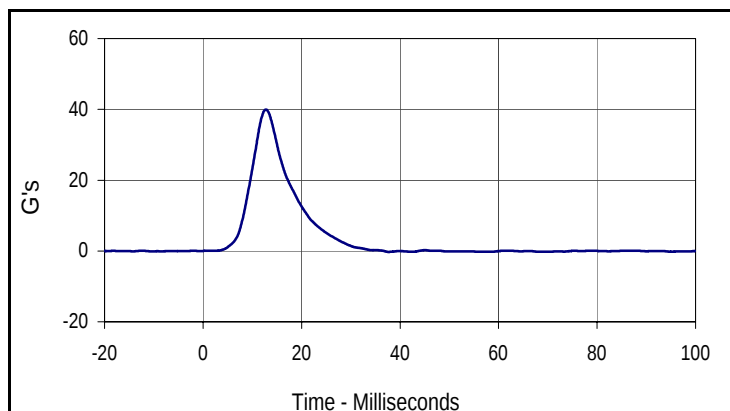
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4563.7	12.8	-2.9	-17.7



Curve Description

Pelvis Y Acceleration

Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
30.1	12.7	-2.5	50.6



Curve Description

Impactor Acceleration

Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
40.0	12.8	-0.3	37.7

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 – Dummy Instrumentation (ES-2re)

			ES-2re S/N F037		
			Serial Number	Manufacturer	Calibration
Head Accelerometers		X	P58858	Endevco	4/29/13
		Y	P58865	Endevco	4/29/13
		Z	P58867	Endevco	4/29/13
Thorax Rib Displacement Potentiometers	Upper	Y	209	FTSS	4/29/13
	Middle	Y	210	FTSS	4/29/13
	Lower	Y	207	FTSS	4/29/13
Abdomen Load Cells	Forward	Y	1504	Denton	5/9/13
	Middle	Y	1505	Denton	5/9/13
	Rear	Y	1506	Denton	5/9/13
Lower Spine Accelerometers (T12)		X	P16336	Endevco	7/25/13
		Y	P58876	Endevco	4/30/13
		Z	P58877	Endevco	4/30/13
Pubic Symphysis Load Cell		Y	DG6834	Denton	5/9/13

TABLE 2 – Dummy Instrumentation (SID-IIs)

				SID-IIs S/N 307		
				Serial Number	Manufacturer	Calibration
Head Accelerometers			X	P58900	Endevco	3/4/13
			Y	P58902	Endevco	3/4/13
			Z	P58983	Endevco	3/4/13
Displacement Potentiometers	Shoulder		Y	1244	FTSS	3/5/13
	Thoracic Rib	Upper	Y	1249	FTSS	3/5/13
		Middle	Y	1265	FTSS	3/5/13
		Lower	Y	1277	FTSS	3/5/13
	Abdominal Rib	Upper	Y	1286	FTSS	3/5/13
		Lower	Y	1290	FTSS	3/5/13
Lower Spine Accelerometers (T12)			X	P59007	Endevco	3/5/13
			Y	P59015	Endevco	3/5/13
			Z	P59016	Endevco	3/5/13
Acetabulum Load Cell			Y	277	Denton	4/19/13
Iliac Wing Load Cell			Y	289	Denton	4/19/13
Pelvis Plug (Struck Side)				48901	FTSS	12/5/11
Pelvis Plug (Non-Struck Side)				49032	FTSS	12/7/11

TABLE 3 – Vehicle Instrumentation

	Vehicle Center of Gravity	Z	Ketx5c	ICSensor	6/28/13
2	Right Sill at Front Seat	X	13656	Endevco	4/17/13
	Right Sill at Front Seat	Y	13489	Endevco	4/17/13
	Right Sill at Front Seat	Z	13655	Endevco	4/19/13
	Right Sill at Front Seat	Z	13655	Endevco	4/19/13
3	Right Sill at Rear Seat	X	13665	Endevco	6/24/13
	Right Sill at Rear Seat	Y	13502	Endevco	7/1/13
	Right Sill at Rear Seat	Z	13747	Endevco	7/1/13
4	Left Sill at Front Door	Y	13680	Endevco	6/25/13
5	Left Sill at Rear Door	Y	13480	Endevco	6/26/13
6	Left A-Post Lower	Y	13722	Endevco	6/26/13
7	Left A-Post Middle	Y	13468	Endevco	6/26/13
8	Left B-Post Lower	Y	N/A	N/A	N/A
9	Left B-Post Middle	Y	N/A	N/A	N/A
10	Front Seat Track	Y	13479	Endevco	6/19/13
11	Rear Seat Structure	Y	N/A	N/A	N/A
12	Right Rear Occ. Compartment	Y	13474	Endevco	6/18/13
13	Engine Block	X	12418	Endevco	6/18/13
	Engine Block	Y	13378	Endevco	6/18/13
14	Rear Floorpan Above Axle	X	13497	Endevco	7/1/13
	Rear Floorpan Above Axle	Y	13723	Endevco	6/18/13
	Rear Floorpan Above Axle	Z	13348	Endevco	6/18/13

TABLE 4 – MDB Instrumentation

		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	13682	Endevco	6/24/13
MDB Center of Gravity	Y	13706	Endevco	6/24/13
MDB Center of Gravity	Z	13715	Endevco	6/24/13
Left Frame at Rear Axle Centerline	X	13705	Endevco	6/24/13
Left Frame at Rear Axle Centerline	Y	13711	Endevco	6/24/13