

REPORT NUMBER: SPNCAP-KAR-14-014

**NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST**

AUDI AG

2014 AUDI Q5 2.0T QUATTRO 5-DOOR MPV

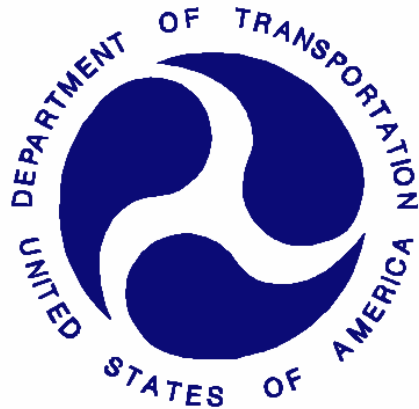
NHTSA No: M20145801

PREPARED BY:

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FEBRUARY 17, 2014

FINAL REPORT

PREPARED FOR:

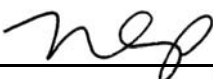
**U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS**


MAIL CODE: NVS-111

**1200 NEW JERSEY AVE, SE, ROOM W43-410
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Approval Date: February 17, 2014

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

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

Date: _____

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4. Title and Subtitle Final Report of New Car Assessment Program Side Impact Pole Testing of 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801		5. Report Date February 17, 2014																												
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9. Performing Organization Name and Address KARCO Engineering, LLC. 9270 Holly Rd. Adelanto, CA 92301		10. Work Unit No.																												
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12. Sponsoring Agency Name and Address U. S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NVS-111) 1200 New Jersey Ave., SE, Room W43-410 Washington, D.C. 20590		13. Type of Report and Period Covered Final Test Report, Feb. 3 - 17, 2013																												
		14. Sponsoring Agency Code NVS-111																												
15. Supplementary Notes																														
16. Abstract A 32.2 km/h (20 mph) 75 deg. oblique impact Side NCAP Test was conducted on the subject 2014 Audi Q5 2.0T Quattro 5-door MPV in accordance with the specifications of the Office of Crashworthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. The test was conducted at the KARCO Engineering, LLC. facility in Adelanto, California on February 3, 2014. The impact velocity was 32.01 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 17.0 deg. C. The target vehicle's maximum post-test static crush was 467 mm located at level 2 and 3. The test vehicle's occupant performance data is as follows:																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 35%;">Measurement Description</th> <th colspan="3">Driver ATD (SID-IIs)</th> </tr> <tr> <th style="width: 15%;">Units</th> <th style="width: 15%;">Threshold</th> <th style="width: 35%;">Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td></td> <td style="text-align: center;">1000</td> <td style="text-align: center;">253.2</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td style="text-align: center;">g</td> <td style="text-align: center;">82</td> <td style="text-align: center;">54</td> </tr> <tr> <td>Total Pelvic Force (Sum of Acetabular and Iliac Forces)</td> <td style="text-align: center;">N</td> <td style="text-align: center;">5525</td> <td style="text-align: center;">3454</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">38</td> <td style="text-align: center;">19</td> </tr> <tr> <td>Maximum Abdominal Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">45</td> <td style="text-align: center;">32</td> </tr> </tbody> </table>				Measurement Description	Driver ATD (SID-IIs)			Units	Threshold	Result	Head Injury Criteria (HIC ₃₆)		1000	253.2	Resultant Lower Spine Acceleration	g	82	54	Total Pelvic Force (Sum of Acetabular and Iliac Forces)	N	5525	3454	Maximum Thoracic Rib Deflection	mm	38	19	Maximum Abdominal Rib Deflection	mm	45	32
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The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches. The opposite doors did not open during the side impact event.																														
17. Key Words New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Admin. Technical Information Services Division, NPO-411 1200 New Jersey Ave., SE Washington, DC 20590 e-mail: tis@nhtsa.dot.gov FAX: 202-493-2833																												
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SECTION 1
TEST PURPOSE AND PROCEDURE

This 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 Audi Q5 2.0T Quattro 5-door MPV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated September 2013.

SECTION 2

SUMMARY OF TEST RESULTS

A rigid pole side impact test was conducted on a 2014 Audi Q5 2.0T Quattro 5-door MPV. The subject vehicle was towed into the rigid pole at an angle of 75.3° and a velocity of 32.01 km/h. The test was conducted by KARCO Engineering, LLC. in Adelanto, California on February 3, 2014. Pre- and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in Appendix A of this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure, dated September 2013. Camera locations and other pertinent camera information are included in this report.

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

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

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

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

Measurement Description	Units	Passenger ATD (SID-IIs)	
		IARV	Result
Head Injury Criteria (HIC ₃₆)		1000	253.2
Lower Spine (T12) Resultant Acceleration	g	82	54
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3454
Maximum Thoracic Rib Deflection	mm	38*	19
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	No	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	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Other	No		No	

GENERAL COMMENTS

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

SECTION 3

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

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 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA Number	M20145801
Model Year	2014
Make	Audi
Model	Q5 2.0T Quattro
Body Style	5-Door MPV
VIN	WA1CFAFP4EA053575
Body Color	Ice Silver Metallic
Odometer Reading (km / mi)	98 / 61
Engine Displacement (L)	2.0
Type / No. of Cylinders	Inline 4
Engine Placement	Longitudinal
Transmission Type	Automatic
Transmission Speeds	8
Overdrive	Yes
Final Drive	AWD
Roof Rack	Yes
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks	Yes
Power Window Auto-Reverse	No
Other Optional Feature	None
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	Yes
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	None

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Audi AG
Date of Manufacture	Oct-13
Vehicle Type	MPV

GVWR (kg)	2435
GAWR Front (kg)	1180
GAWR Rear (kg)	1350

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Designated Seating Capacity	2	3		5
Capacity Weight (VCW) (kg)				475.0
DSC x 68.04 (kg)				340.2
Cargo Weight (RCLW) (kg)				134.8

A
B
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 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	220	220	220	220
Tire Placard	kPa	220	220	220	220
Owner's Manual	kPa	220	220	220	220
As Tested	kPa	220	220	220	220

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	490.5	432.5		502.0	513.0		503.5	524.0	
Right	kg	500.0	431.5		505.0	513.5		495.5	514.5	
Ratio	%	53.4%	46.6%	100.0%	49.5%	50.5%	100.0%	49.0%	51.0%	100.0%
Total	kg	990.5	864.0	1854.5	1007.0	1026.5	2033.5	999.0	1038.5	2037.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1854.5	A
Actual Weight of 1 P572 O ATD Used	kg	49.0	B
Rated Cargo/Luggage Wt (RCLW)	kg	134.8	C
Calculated Vehicle Target Wt (TVTW)	kg	2038.3	A+B+C

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e.

Calculated Test Vehicle Target Weight -4.5 kg to -9.0 kg)? Yes No

TEST VEHICLE ATTITUDE AND CG

Measurement Description	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	°	0.2	0.8	0.8	Yes
Front Passenger Sill Angle (front-to-rear)*	°	-0.3	-0.8	-0.8	Yes
Front Bumper-Line Angle (left-to-right)**	°	0.0	-0.1	-0.1	Yes
Rear Bumper-Line Angle (left-to-right)**	°	0.0	0.0	-0.2	Yes
Vehicle CG (Aft of Front Axle)	mm	1308	1417	1431	
Vehicle CG (Left (+)/Right (-) from Longitudinal Centerline)	mm	-4	-1	7	

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

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

DATA SHEET NO. 1 ... (CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Trunk Soft Trim	12.0
Non-Struck Side Door Panels	7.5
Spare Tire and Tools	27.5
Roof Rail Attachments	5.5
Ballast / Equipment Added	170.0

Test Height Adjustable Setting (If Applicable)	
------------------------------------------------	--

DATA SHEET NO. 2

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

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

SEAT POSITIONING

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

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	9.7	0.0	4.8
Front Passenger Seat	8.6	0.0	4.3
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	4.8	704	Max	728	736	743
			Mid	689	697	704
			Min	650	658	665
Front Passenger Seat	4.3	707	Max	730	741	747
			Mid	692	700	707
			Min	653	659	666
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	663	Max	659	661	663
			Mid	659	661	663
			Min	659	661	663
Non-Struck Side Rear Seat	Fixed	668	Max	664	666	668
			Mid	664	666	668
			Min	664	666	668
Rear Center Seat	Fixed to LR	Fixed to LR	Max	Fixed to LR	Fixed to LR	Fixed to LR
			Mid	Fixed to LR	Fixed to LR	Fixed to LR
			Min	Fixed to LR	Fixed to LR	Fixed to LR

DATA SHEET NO. 2 ... (CONTINUED)

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

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

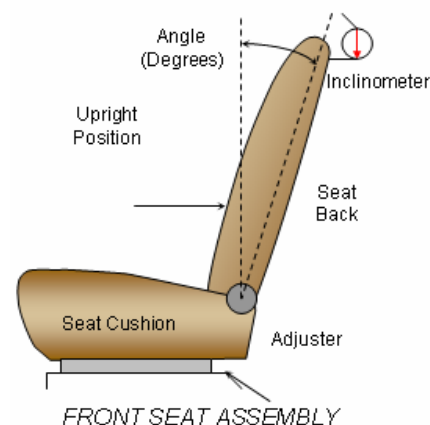
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position From Forwardmost Position	
	mm	Detents*	mm	Detent*
Driver Seat	254		127	
Front Passenger Seat	254		127	
Front Center Seat				
Struck Side Rear Seat	100	11 (0 - 10)	100	0
Non-Struck Side Rear Seat	100	11 (0 - 10)	100	0
Rear Center Seat	Fixed to LR	Fixed to LR	Fixed to LR	Fixed to LR

*Detent zero (0) is the forward most detent

SEAT BACK ADJUSTMENT

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



Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degree	Detent*
Driver Seat w/Seated Dummy	68.8		17.8	
Front Passenger Seat	71.1		17.8	
Front Center Seat				
Struck Side Rear Seat w/Seated Dummy	6.2	2 (0 - 1)	20.0	0
Non-Struck Side Rear Seat	6.2	2 (0 - 1)	20.0	0
Rear Center Seat	Fixed to LR	Fixed to LR	Fixed to LR	Fixed to LR

*Detent zero (0) is the forward most detent

DATA SHEET NO. 2 ... (CONTINUED)

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

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

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	5	M1

HEAD RESTRAINT ADJUSTMENT

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

	Total No. of Positions	Placed in Position
Driver Seat	3	Full Down

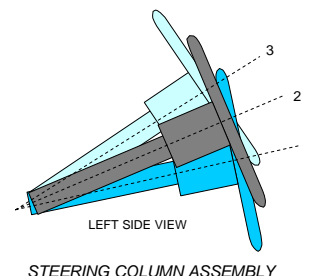
DATA SHEET NO. 2 ... (CONTINUED)

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

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

STEERING COLUMN ADJUSTMENT

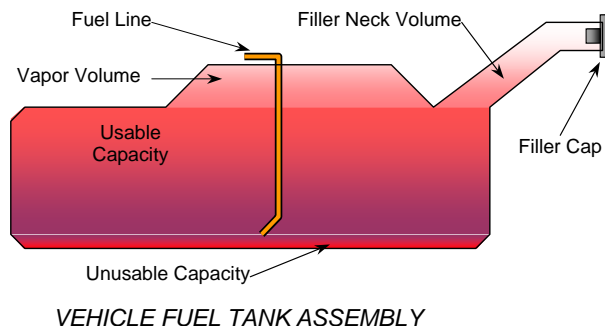
Steering wheel and column adjustments are made so that the steering wheel hub is at the center of the geometric locus it describes when it moves through its full range of motion.



	Degrees	Fore-Aft Position (mm)
Lowermost - Position 1	22.3	71
Geometric Center - Position 2	24.5	95
Uppermost - Position 3	26.7	119
Telescoping Steering Wheel Travel		48
Test Position	24.5	95

FUEL PUMP

The vehicle is equipped with an electric fuel pump.



FUEL TANK CAPACITY

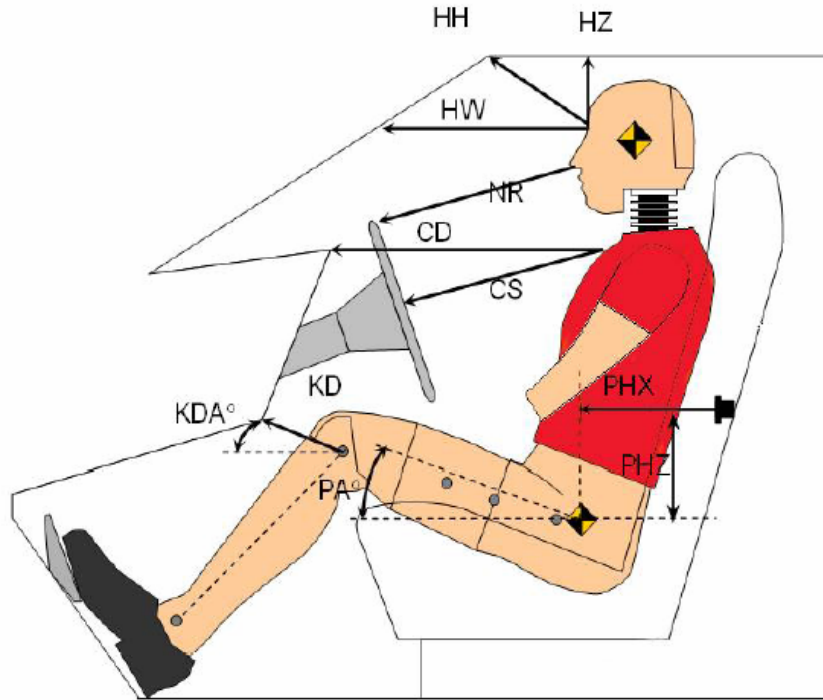
Description	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	74.98
Usable Capacity of "Optional Tank" (see Form No. 1)	
Usable Capacity of "Standard Tank" (see Owner's Manual)	
Usable Capacity of "Optional Tank" (see Owner's Manual)	
93% of Usable Capacity	69.72
Actual amount of Solvent Used in Test	69.72
1/3 of Usable Capacity	24.99

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

DATA SHEET NO. 3

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



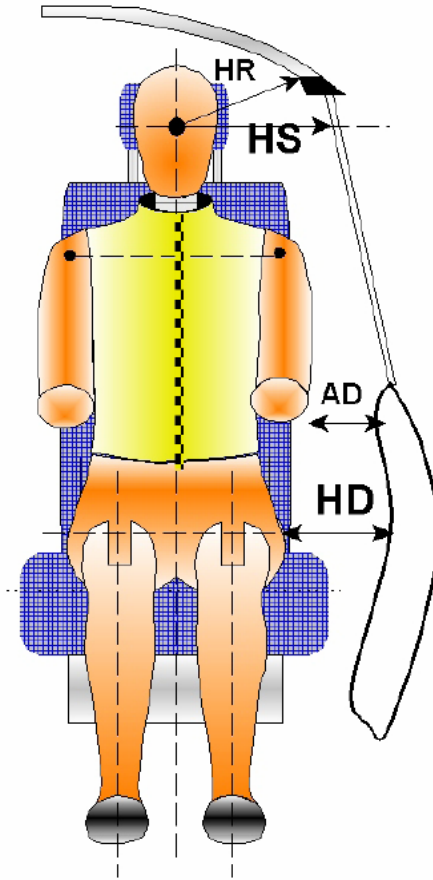
Driver Code	Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	279	
HW	Head to Windshield	584	
HZ	Head to Roof	198	
NR	Nose to Rim	225	
CD	Chest to Dash	383	
CS	Chest to Steering Wheel	166	
KD(L)/KDA(L)°	Left Knee to Dash	96	39.0
KD(R)/KDA(R)°	Right Knee to Dash	110	39.2
PAX°	Pelvic Tilt Angle (x-axis)		19.4
PAY°	Pelvic Tilt Angle (y-axis)		0.1
PHX	Hip Point to Striker (x-axis)	328	
PHZ	Hip Point to Striker (z-axis)	138	

DATA SHEET NO. 4

DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801

Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

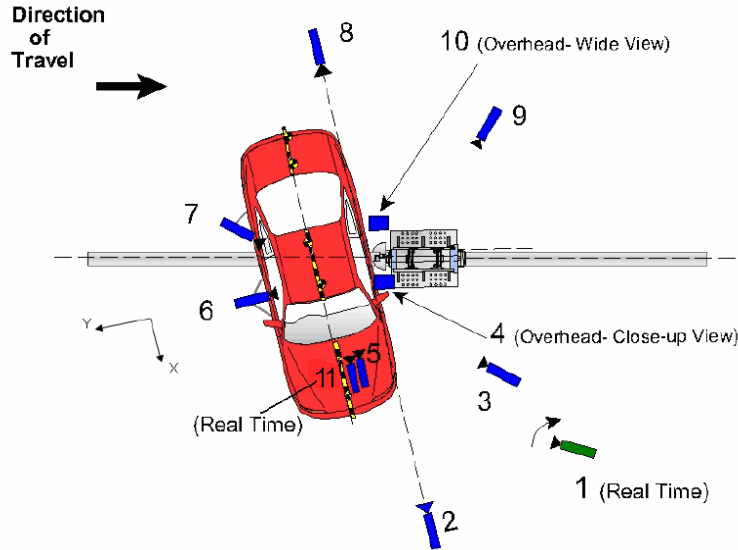


Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	242
HS	Head to Side Window	mm	372
AD	Arm to Door	mm	189
HD	Hip Point to Door	mm	250

DATA SHEET NO. 5

CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



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

Camera No.	View	Coordinates (m)			Lens (mm)	Film Speed (fps)
		X*	Y*	Z*		
1	Real Time Pan View of Impact	8.89	46.57	-3.04		30
2	Front Ground Level - Impact View	8.34	-0.05	-0.93	24	1000
3	Impact Side 45° - Forward Pole View	4.10	-2.15	-1.15	8.5	1000
4	Overhead Close-Up View of Impact	0.00	0.00	-5.79	12.5	1000
5	On-Board - Dummy Front View	1.72	0.58	-1.52	35	1000
6	On-Board - Dummy Side View	-0.04	1.76	-1.20	14	1000
7	On-Board - Dummy Rear Oblique View	-0.85	1.71	-1.22	20	1000
8	Rear Ground Level - Impact View	-6.12	-6.23	-0.96	24	1000
9	Impact Side 45° - Rearward Pole View	-8.02	0.04	-1.01	35	1000
10	Overhead Wide View of Impact	-0.06	0.22	-5.79	14	1000
11	Real Time Dummy Front View	1.74	0.73	-1.46		30

*All measurements accurate to ±6 mm

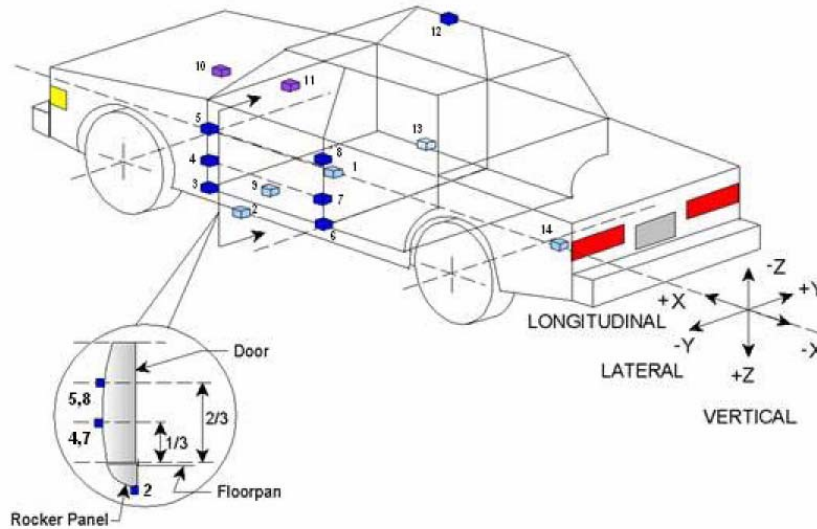
INSTRUMENTATION

Driver Dummy Channels	16
Vehicle Structure Accelerometers	18
Pole Load Cells	8
Total	42

DATA SHEET NO. 6

TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

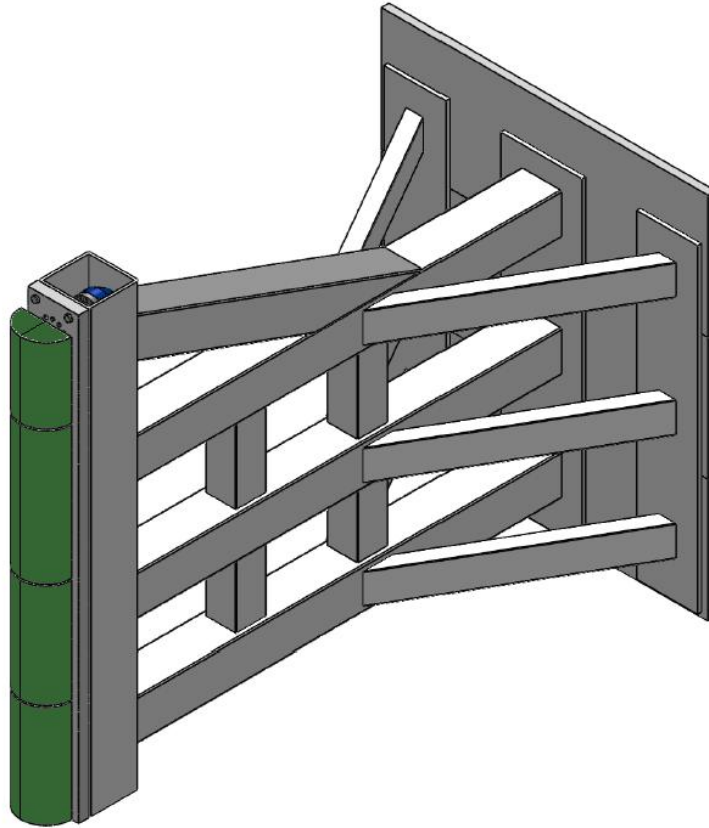


Loc. No.	Sensor Description	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	1932	196	-391
2	Left Floor Sill	2876	-766	-248
3	A-Pillar Sill	3094	-824	-420
4	A-Pillar Low	3094	-824	-587
5	A-Pillar Mid	3094	-824	-785
6	B-Pillar Sill	2027	-782	-460
7	B-Pillar Low	2027	-782	-685
8	B-Pillar Mid	2027	-782	-967
9	Driver Seat Track	2265	-221	-441
10	Engine Top	4140	-32	-879
11	Firewall	3458	26	-698
12	Right Roof	2080	525	-1613
13	Right Floor Sill	2022	756	-421
14	Rear Floorpan	1003	0	-451

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

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



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

DATA SHEET NO. 8

POST-TEST OBSERVATIONS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	None
Top of Head	Curtain Airbag, Headrest
Left Side of Head	Curtain Airbag
Back of Head	Headrest
Left Shoulder	Seat, Torso/Pelvis Airbag
Upper Torso	Seat, Torso/Pelvis Airbag
Lower Torso	Seat, Torso/Pelvis Airbag
Left Hip	Seat, Torso/Pelvis Airbag, Door Panel
Left Knee	Door Panel, Right Knee

POST-TEST DOOR PERFORMANCE

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

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	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 occurred
Sill Separation	No separation occurred
Windshield Damage	Broken
Side Window Damage	Left front window broken
Other Notable Effects	None

DATA SHEET NO. 8 ... (CONTINUED)

POST-TEST OBSERVATIONS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No	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	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Other	No		No	

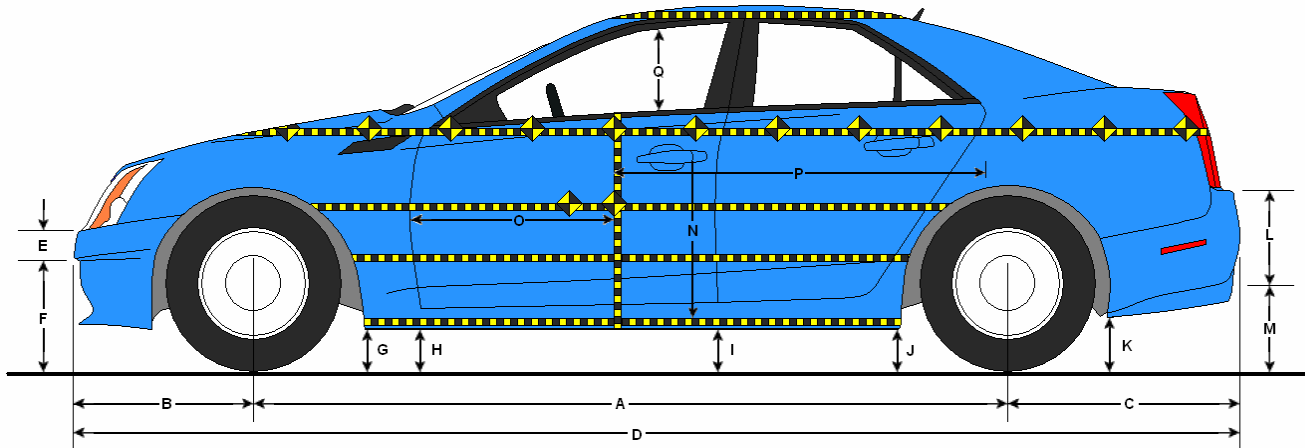
IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle)(Intended Impact Point)	mm		1192
Actual Impact Point (Aft of Front Axle)	mm		1211
Horizontal Offset (+ forward / - rearward)	mm	± 38 of Intended Impact Point	-19
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	°	75 ± 3	75.3
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	32.01
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	32.03

DATA SHEET NO. 9

TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



LEFT SIDE VIEW

All measurements in mm with tolerance of $\pm 3\text{mm}$

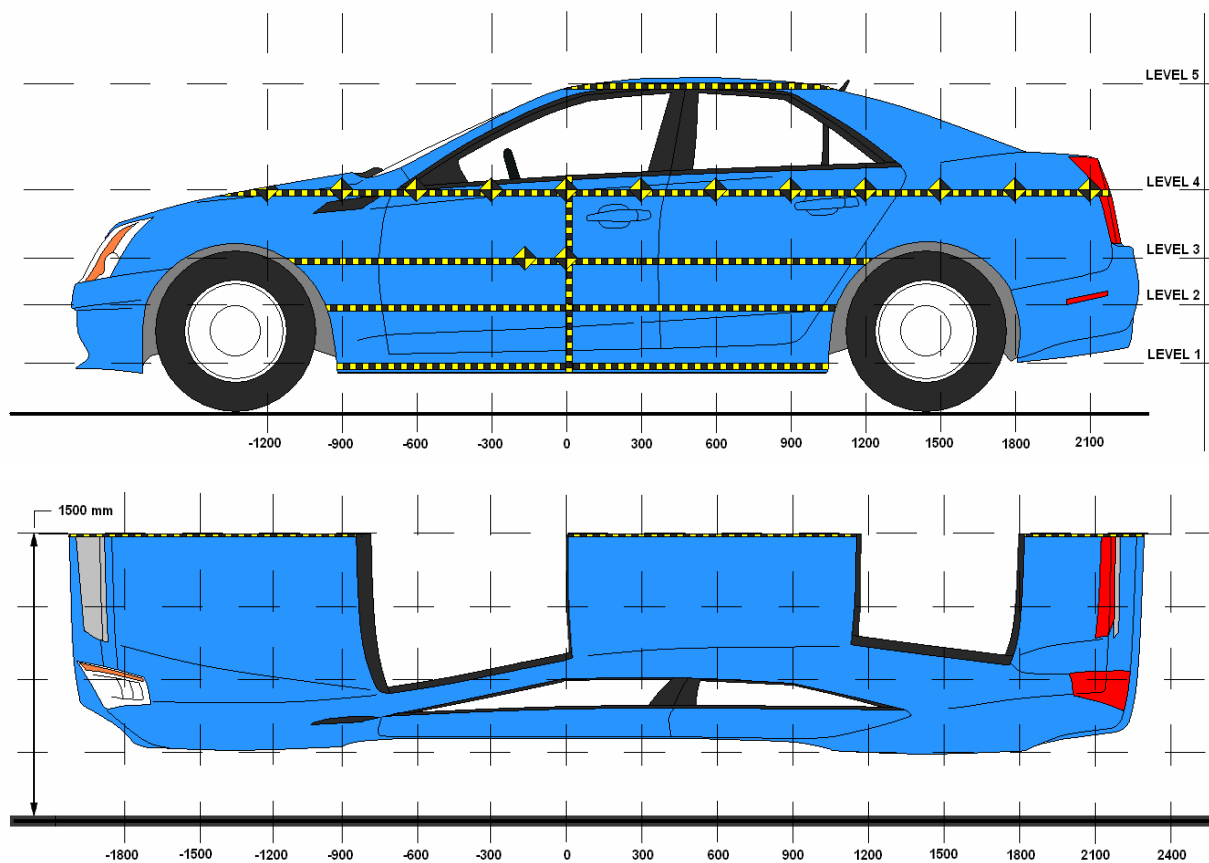
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2807	2698	-109
B	Front Axle to FSOV	900	932	32
C	Rear Axle to RSOV	922	952	30
D	Total Length at Centerline	4632	4583	-49
E	Front Bumper Thickness	134	132	-2
F	Front Bumper Bottom to Ground	505	548	43
G	Sill Height at Front Wheel Well	284	293	9
H	Sill Height at Front Door Leading Edge	283	306	23
I	Sill Height at B-Pillar	404	446	42
J1	Sill Height at Rear Wheel Well	287	329	42
J2	Pinch Weld Height at Rear Wheel Well	258	287	29
K	Sill Height Aft of Rear Wheel Well	330	340	10
L	Rear Bumper Thickness	159	161	2
M	Rear Bumper Bottom to Ground	469	446	-23
N	Sill Height to Bottom of Front Window Sill	767	769	2
O	Front Door Leading Edge to Impact CL	621	491	-130
P	Rear Door Trailing Edge to Impact CL	1495	1369	-126
Q	Front Window Opening	452	468	16
R	Right Side Length	3362	3382	20
S	Left Side Length	3365	3233	-132
T	Vehicle Width at B-Pillar	1884	1798	-86

DATA SHEET NO. 10

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



NOTE: All measurements in mm with tolerance of $\pm 3\text{mm}$

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	337	445	0
2	Occupant H-Point	673	467	0
3	Mid-Door	709	467	0
4	Window Sill	1077	423	150
5	Window Top	1576	274	150

DATA SHEET NO. 10 ... (CONTINUED)

TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14

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	593	564	565	693		692	649	654	764		99	85	89	71	
-600	594	575	573	675		684	675	678	774		90	100	105	99	
-450	589	579	576	671		763	749	743	806		174	170	167	135	
-300	584	578	576	659		848	833	833	871		264	255	257	212	
-150	581	577	575	649		937	943	940	956		356	366	365	307	
0	578	576	574	642	855	1023	1043	1041	1055	1112	445	467	467	413	257
150	576	576	573	637	856	976	1024	1020	1060	1130	400	448	447	423	274
300	574	575	573	631	880	840	889	885	943	1103	266	314	312	312	223
450	574	577	575	630	884	708	734	735	830	1074	134	157	160	200	190
600	575	578	576	630	886	683	714	714	788	1045	108	136	138	158	159
750	575	580	577	628	889	660	690	691	768	1015	85	110	114	140	126
900	578	580	578	630	885	637	666	667	748	988	59	86	89	118	103
1050	582	576	575	632	886	615	640	640	733	972	33	64	65	101	86
1200		560	562	635	884		610	604	716	961		50	42	81	77
1350				639	881				702	952				63	71
1500				645	881				698	948				53	67
1650				651	886				700	945				49	59
1800				659	893				703	948				44	55
1950				675	907				712	956				37	49
2100															
2250															
2400															
2550															
2700															
2850															

DATA SHEET NO. 10 ... (CONTINUED)

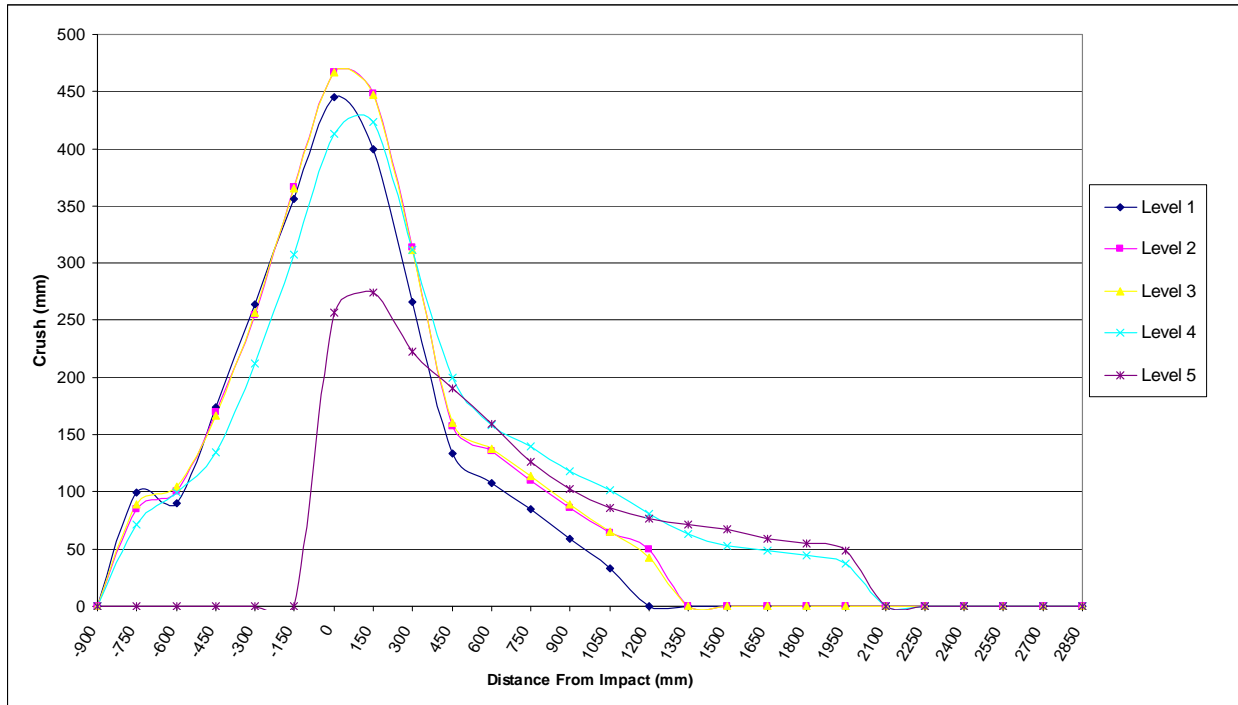
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV

NHTSA No. M20145801

Test Program: NCAP Side Pole Impact Test

Test Date: 02/03/14

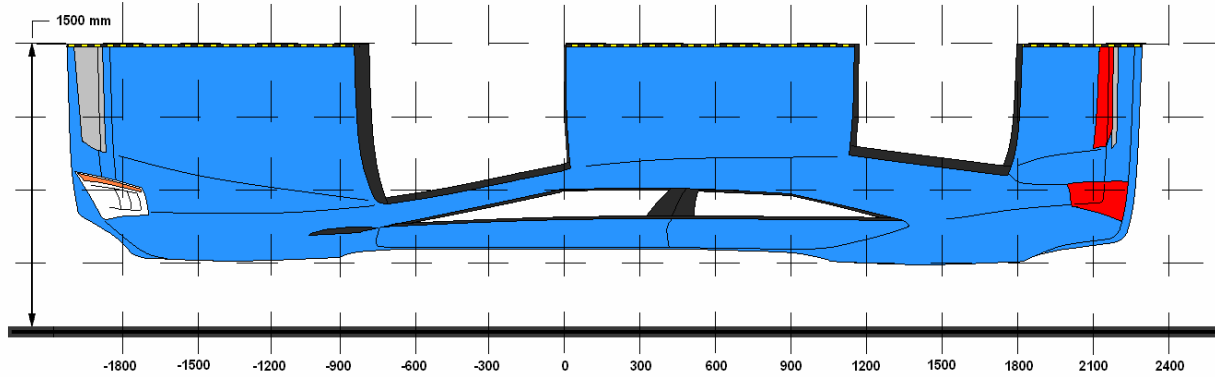


DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801

Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



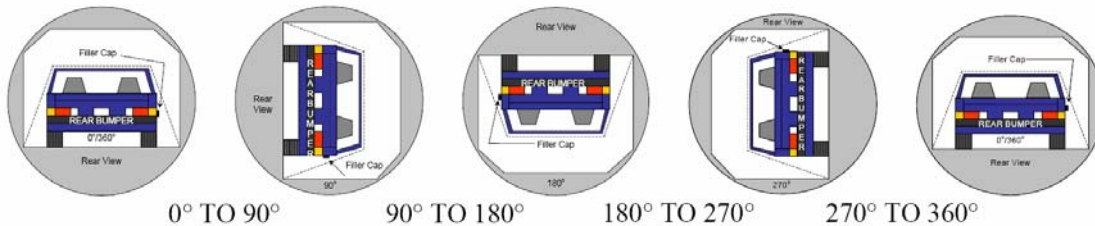
DPD	Distance From Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Crush (mm)
1	1950	5	907	956	49
2	1350	5	881	952	71
3	900	4	630	748	118
4	300	2	575	889	314
5	-150	2	577	943	366
6	-750	1	593	692	99

DATA SHEET NO. 12

FMVSS NO. 301 STATIC ROLLOVER RESULTS

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801
 Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14
 Temperature at Time of Impact: 17.0° C Test Time: 11:43 AM

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



SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° To 90°	83	300	383
90° To 180°	82	300	382
180° To 270°	80	300	380
270° To 360°	81	300	381

FMVSS 301 SPILLAGE TABLE

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

SOLVENT SPILLAGE LOCATION TABLE

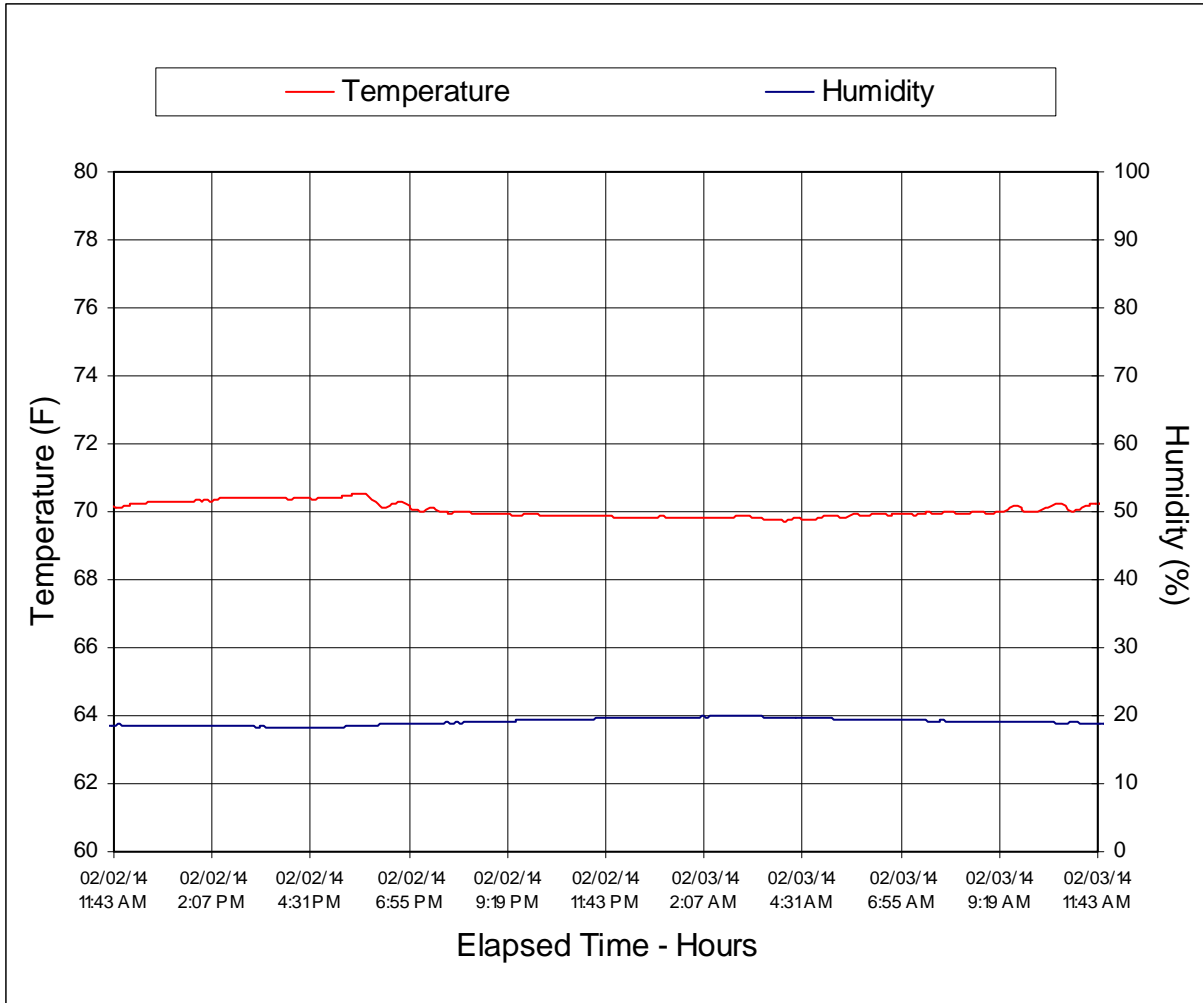
Test Phase	Spillage Location
0° To 90°	No Spillage Occurred
90° To 180°	No Spillage Occurred
180° To 270°	No Spillage Occurred
270° To 360°	No Spillage Occurred

DATA SHEET NO. 13

DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV NHTSA No. M20145801

Test Program: NCAP Side Pole Impact Test Test Date: 02/03/14



**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

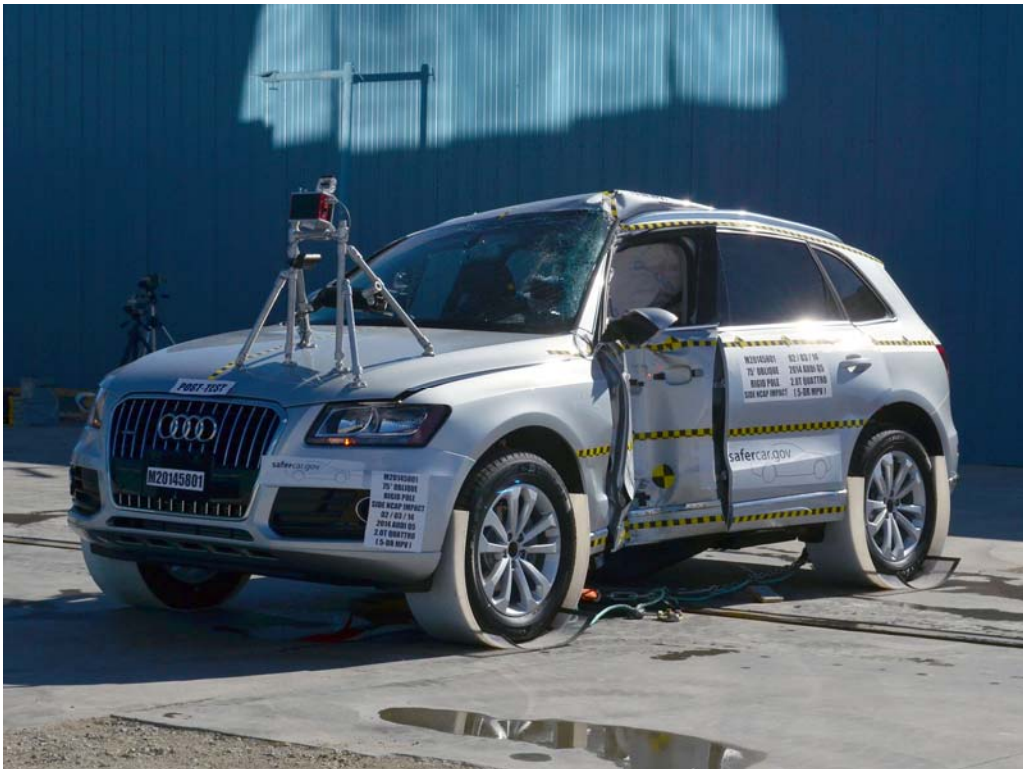


FIGURE 6. Post-Test Left Front $\frac{3}{4}$ View of Test Vehicle



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 $\frac{3}{4}$ View of Test Vehicle



FIGURE 10. Post-Test Left Rear $\frac{3}{4}$ View of Test Vehicle



FIGURE 11. Pre-Test Rear View of Test Vehicle



FIGURE 12. Post-Test Rear View of Test Vehicle



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



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



FIGURE 15. Pre-Test Overhead View of Test Area



FIGURE 16. Post-Test Overhead View of Test Area



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



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



FIGURE 35. View of Disengaged Parking Brake



FIGURE 36. Pre-Test View of Parking Brake

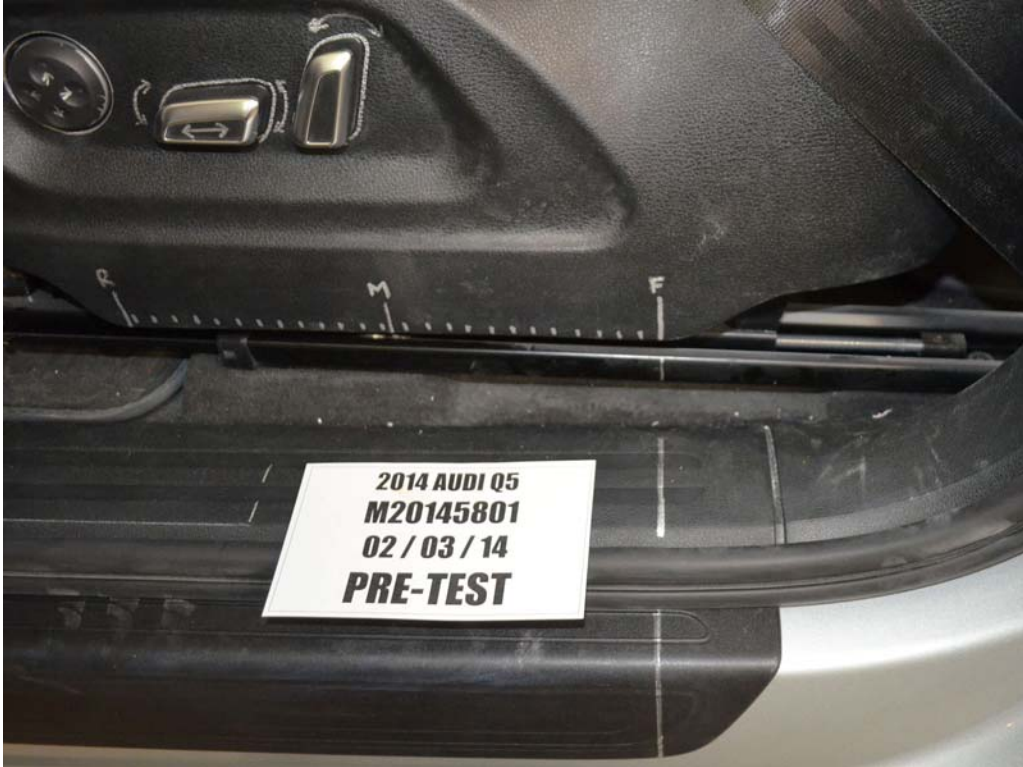


FIGURE 37. Pre-Test Close-Up Left Side View of Driver Seat Track



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



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



FIGURE 40. Pre-Test Dummy and Door Clearance View



FIGURE 41. Post-Test Dummy and Door Clearance View



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



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



FIGURE 44. Pre-Test Inner Door Panel View



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



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



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



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

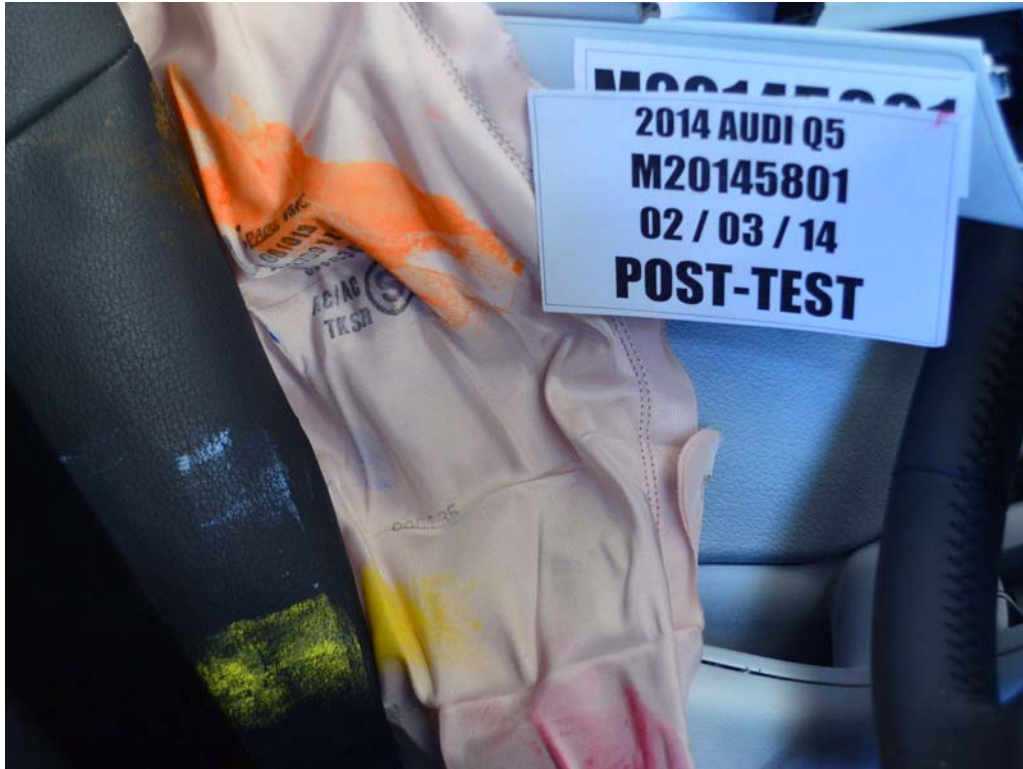


FIGURE 49. Post-Test Dummy Close-Up Torso Contact With Side Airbag View



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

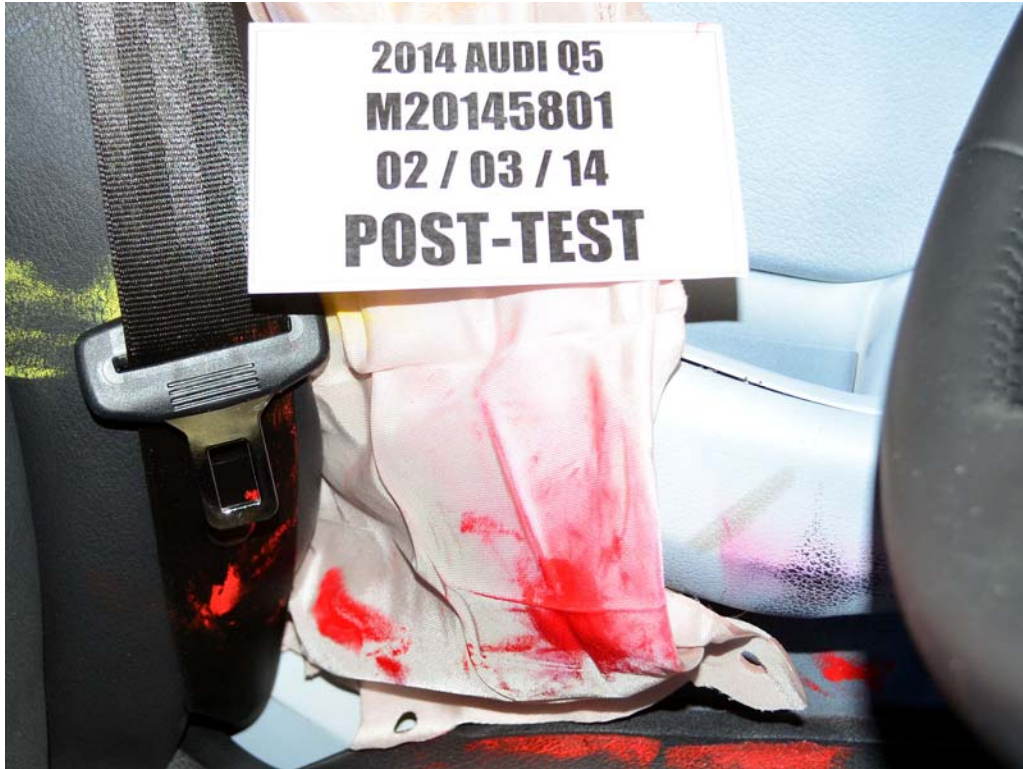


FIGURE 51. Post-Test Dummy Close-Up Pelvis Contact With Side Airbag View



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



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



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



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



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



FIGURE 57. Pre-Test Pole Barrier Front View



FIGURE 58. Post-Test Pole Barrier Front View



FIGURE 59. Pre-Test Pole Barrier Side View



FIGURE 60. Post-Test Pole Barrier Side View

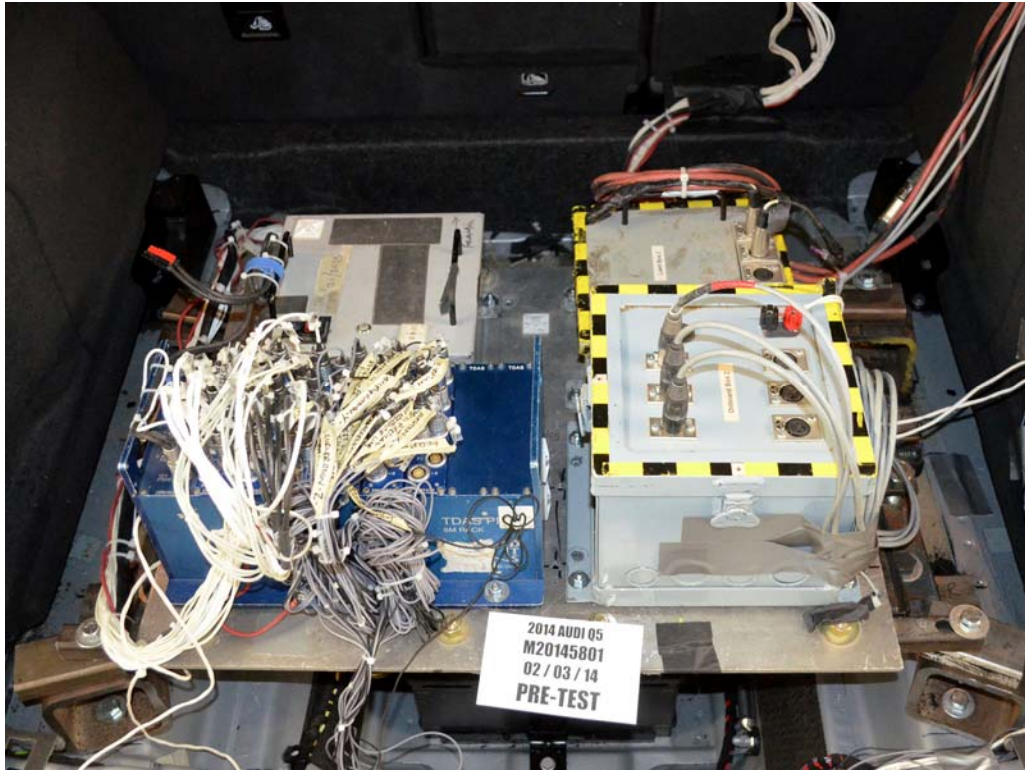


FIGURE 61. Pre-Test Ballast View



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

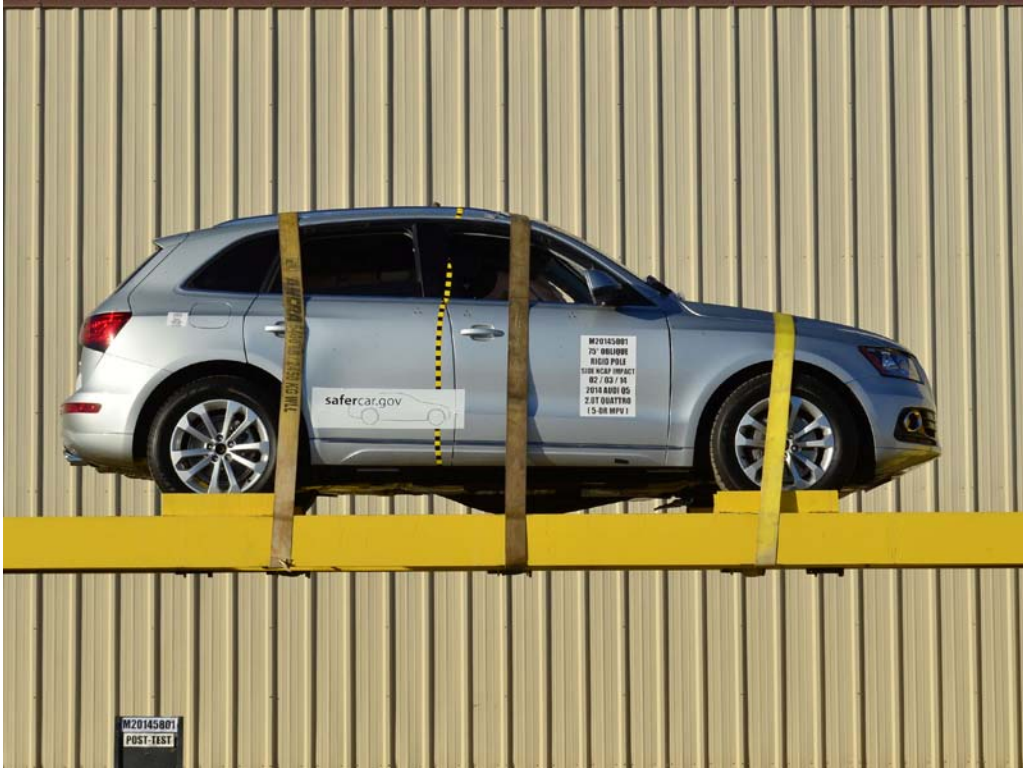


FIGURE 63. FMVSS No. 301 Static Rollover 0 Degrees



FIGURE 64. FMVSS No. 301 Static Rollover 90 Degrees

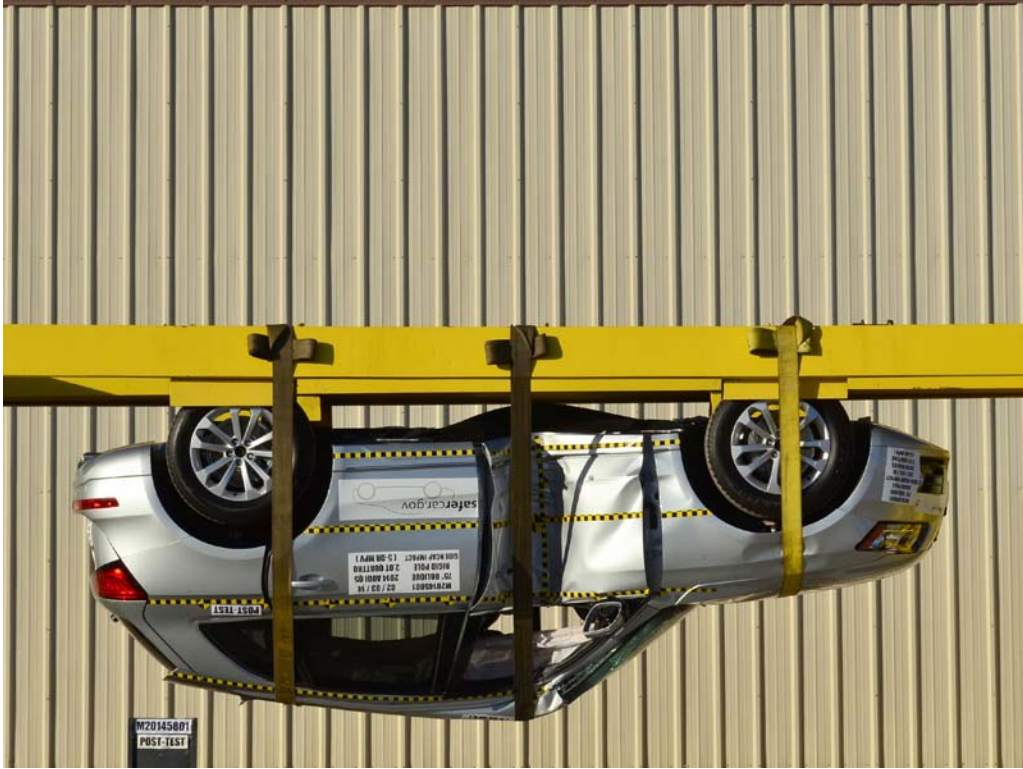


FIGURE 65. FMVSS No. 301 Static Rollover 180 Degrees

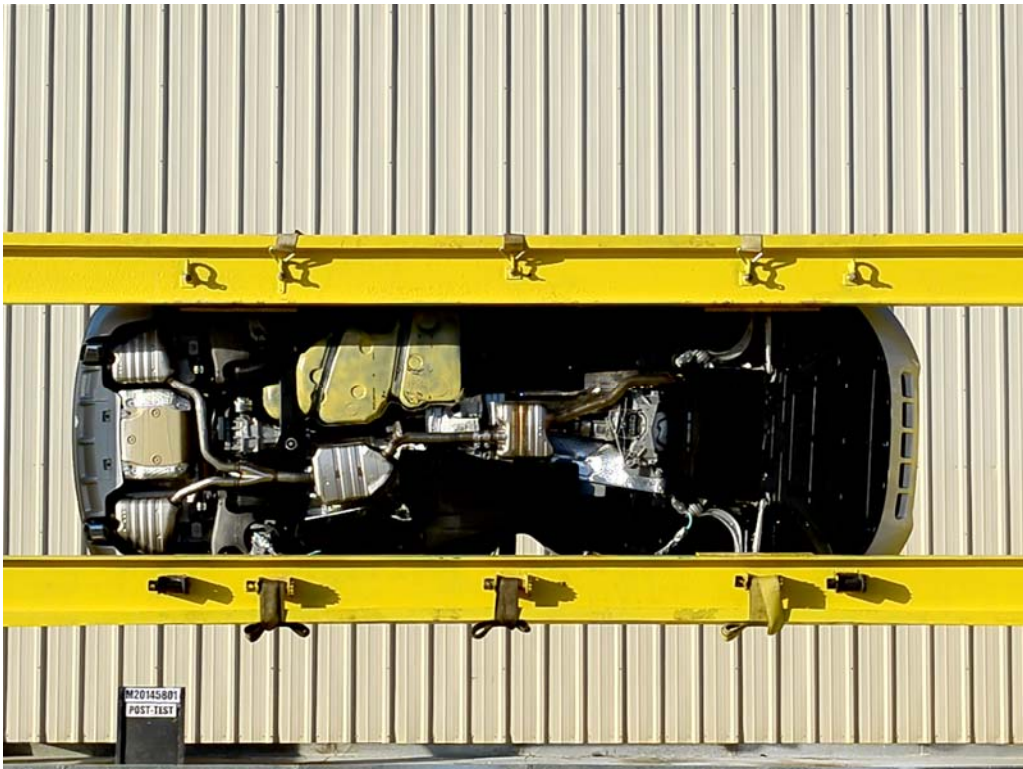


FIGURE 66. FMVSS No. 301 Static Rollover 270 Degrees

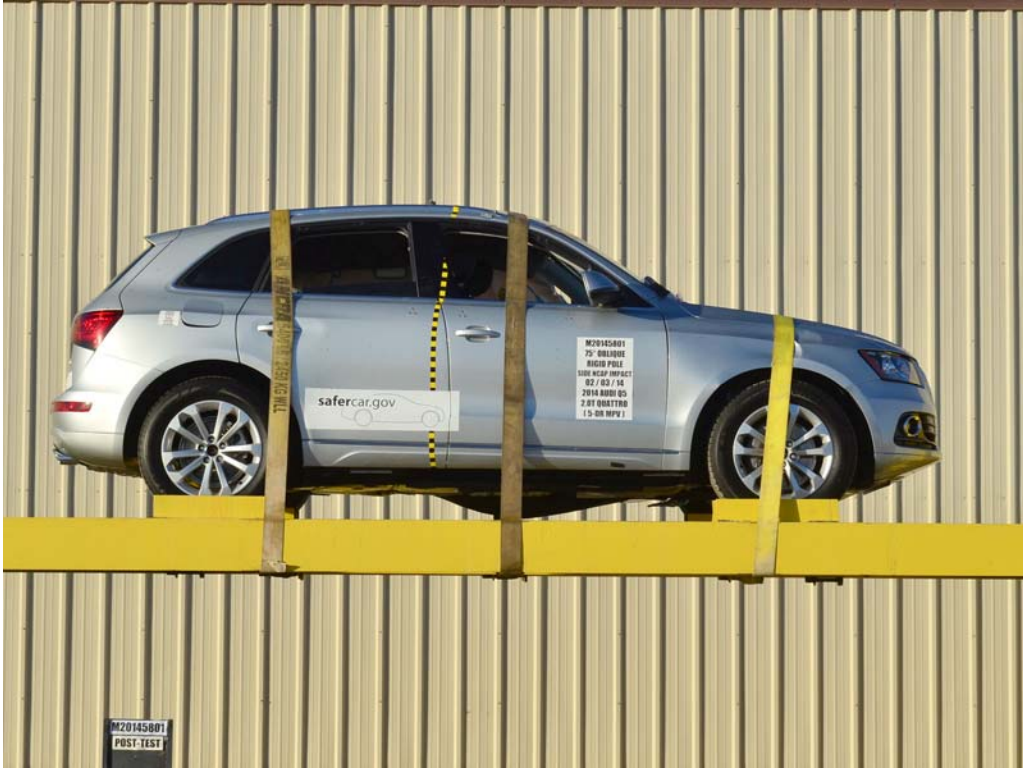


FIGURE 67. FMVSS No. 301 Static Rollover 360 Degrees



FIGURE 68. Impact Event

2014 Audi Q5 2.0T quattro Tiptronic Audi Truth in Engineering

<p>STANDARD EQUIPMENT (unless replaced by options)</p> <p>TECHNICAL</p> <ul style="list-style-type: none"> 2.0L 198hp 250 hp / 250hp-4 turbocharged I4 with FSI® direct injection 6-speed Tiptronic® transmission with sport program 3 manual shift modes Optional permanent all-wheel drive with 40:60 torque split 17 5-spoke sports-design wheels, 205/55 all-season tires ABS (Anti-lock brake system) with brake assist ESC (Electronic Stability Control) with rollover mitigation Front air bag suspension Rear transversal air fully independent suspension Dimensional wheel-override power steering Rear axle with crossbars Torque Shift pre-energizing Adjustable, overmap space-saving temporary open tire <p>COMFORT/CONVENIENCE</p> <ul style="list-style-type: none"> Heated headlights with front and rear fog lights Heated, power exterior mirrors Leather seating surfaces 3-way power front seats with memory driver function 82/220 mph test with active steering, traction, and forward adjustment Wood decorative inlays Priority glass Three-zone automatic climate control Track & Off road Audi compass radio with Audi premium sound AM/FM/STereo radio with 60 preset radio and aux in Bluetooth® (radio) with 3-month complimentary subscription Change view speed (Digital Assist) Preparation for mobile phone (Bluetooth) Audi mobile media for iPod®/iPhone <p>SAFETY/SECURITY</p> <ul style="list-style-type: none"> Driver & front passenger dual-stage airbags, thorax side airbags & Sideguard head curtain airbags Front safety belts with pretensioning and force limiters Rear outboard safety belts with pretensioner and load limiter Active and passive rollover protection Lower Anchors and Tethers for Children (LATCH) Side-impact protection Front and rear-impact body structure Audi theft alarm system Rear cross-traffic alert <p>WARRANTY/MAINTENANCE</p> <ul style="list-style-type: none"> 4 Year/50,000 mile (whichever occurs first) vehicle limited warranty* 12 Year limited warranty against corrosion** 13 Month/100,000 mile (whichever occurs first) NO CHARGE first scheduled maintenance 4 Year Roadside Assistance coverage provided by a third party supplier *Please refer to the 2014 Audi Warranty Manual for complete coverage information 	<p>MANUFACTURER'S SUGGESTED RETAIL PRICE</p> <p>2014 Audi Q5 2.0T quattro Tiptronic \$37,300.00</p> <p>PACKAGES / OPTIONS</p> <ul style="list-style-type: none"> Ice Silver metallic \$500.00 Included Black interior \$150.00 Included Cargo net \$105.00 Included Audi Guard wheel lock kit \$105.00 Included Front license plate holder Included 	<p>MODEL: 8R852A</p> <p>VIN: WA1CFFAEAD5375</p> <p>DEALER: 422A22 RUSNAK AUDI 287 WEST COLORADO BOULEVARD PASADENA, CA 91105 Port of Entry: SAN DIEGO</p> <p>SHIP TO: 422A22 RUSNAK AUDI 287 WEST COLORADO BOULEVARD PASADENA, CA 91105 COMM. INJ. #02884 Transportation Method: TRUCK</p>	<p>GOVERNMENT 5-STAR SAFETY RATINGS</p> <p>Overall Vehicle Score Not Rated Based on the combined ratings of frontal, side and rollover. Should ONLY be compared to other vehicles of similar size and weight.</p> <table border="1"> <tr> <td>Frontal Crash</td> <td>Driver Passenger</td> <td>Not Rated</td> </tr> <tr> <td>Side Crash</td> <td>Front Seat</td> <td>Not Rated</td> </tr> <tr> <td>Side Crash</td> <td>Rear Seat</td> <td>Not Rated</td> </tr> </table> <p>Rollover: ★★★★★ Based on the risk of rollover in a single-vehicle crash.</p> <p>Star ratings range from 1 to 5 stars ★★★★★ with 5 being the highest Source: National Highway Traffic Safety Administration (NHTSA) www.safercar.gov or 1-888-327-4238</p>	Frontal Crash	Driver Passenger	Not Rated	Side Crash	Front Seat	Not Rated	Side Crash	Rear Seat	Not Rated
Frontal Crash	Driver Passenger	Not Rated										
Side Crash	Front Seat	Not Rated										
Side Crash	Rear Seat	Not Rated										

<p>Fuel Economy and Environment</p> <p>Fuel Economy</p> <p>23 MPG combined city/hwy</p> <p>20 city 28 highway 4.3 gallons per 100 miles</p> <p>Annual fuel cost \$2,450</p>	<p>Flexible-Fuel Vehicle Gasoline-Ethanol (E85)</p> <p>You spend \$750 more in fuel costs over 5 years compared to the average new vehicle.</p> <p>Fuel Economy & Greenhouse Gas Rating (EPA-estimated)</p> <p>6 (Best)</p> <p>This vehicle emits 283 grams of CO₂ per mile. The best emits 123 grams per mile (multiple only). Producing and distributing fuel also creates emissions. Learn more at fuel-economy.gov</p>
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<p>PARTS CONTENT INFORMATION</p> <p>FOR VEHICLES IN THIS CARLINE: U.S./CANADIAN PARTS CONTENT: 1% MAJOR SOURCES OF FOREIGN PARTS CONTENT: GERMANY: 75%</p> <p>FOR THIS VEHICLE: FINAL ASSEMBLY POINT: INGOLSTADT, GERMANY COUNTRY OF ORIGIN: HUNGARY TRANSMISSION: GERMANY</p> <p>NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION OR OTHER NON-PARTS COSTS.</p>

FIGURE 69. Monroney Label

Seats and storage 65

Head restraints

Front head restraints




Fig. 65 Front seats head restraints: adjusting the height

The head restraints on the front seats can be adjusted to provide safe support to head and neck at the optimum height. When optimally adjusted, the top of the restraint should be level with the top of the head. If that is not possible, try to adjust the head restraint so that it is as close to this position as possible → page 142, **Proper adjustment of head restraints**.

• Grasp the sides of the head restraint with both hands and slide it upward/downward until you feel it click into place → fig. 65.

Refer to → page 142, **Proper adjustment of rear restraints** for guidelines on how to adjust the height of the front head restraints to suit the occupant's body size.

WARNING

- Driving without head restraints or with head restraints that are not properly adjusted increases the risk of serious or fatal neck injury dramatically.
- Read and heed all WARNINGS → page 142.

Tips

Correctly adjusted head restraints and safety belts are an extremely effective combination of safety features.

Rear head restraints




Fig. 66 Rear seat: head restraints




Fig. 67 Rear seat: outer head restraint

If there is a passenger on the rear center seating position, slide the center head restraint upward at least to the next notch → ⚠.

Adjusting the head restraints

- To move the head restraint up, hold it at the sides with both hands and slide it upward until you feel it click into place.
- To move the head restraint down, press the button ⓐ and slide the head restraint downward.

Removing the outer head restraints

- Fold the backrest forward → page 67.
- Move the head restraint upward as far as it can go.
- Press the release ⓑ → fig. 67 with the mechanical key → page 37 and the button ⓐ → fig. 66. Pull the head restraint out of the backrest at the same time → ⚠.

Seats and storage 66

Installing the outer head restraints

- Slide the posts on the head restraint down into the guides until you feel the posts click into place.
- Press the button ⓐ → fig. 66 and slide the head restraint all the way down. You should not be able to pull the head restraint out of the backrest.

Removing the center head restraint

- Move the head restraint upward as far as it can go.
- Press the button ⓐ → fig. 66 and pull the head restraint out of the backrest → ⚠.

Installing the center head restraint

- Slide the posts on the head restraint down into the guides until you feel the posts click into place.
- Press the button ⓐ → fig. 66 and slide the head restraint all the way down. You should not be able to pull the head restraint out of the backrest.

So that the driver can have a better view to the rear, the head restraints should be pushed down completely when the rear seats are not occupied.

WARNING

- Only remove the rear seat head restraints when necessary in order to install a child seat. Install the head restraint again immediately once the child seat is removed. Driving without head restraints or with head restraints that are not properly adjusted increases the risk of serious or fatal neck injury dramatically.
- Read and heed all WARNINGS → page 142.

Tips

Correctly adjusted head restraints and safety belts are an extremely effective combination of safety features.

Center armrest

The armrest is adjustable in several stages and can be moved forward and back.




Fig. 68 Armrest between driver's and passenger's seat.

Adjusting the armrest

- To adjust the armrest angle, pivot the armrest fully down.
- Lift the armrest detent by detent until the desired position is reached.

Moving the armrest

- You can move the armrest forward or back → fig. 68.

There is a storage compartment under the armrest.

FIGURE 70. 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 Lower Spine T12 Acceleration (X) vs. Time	B-2
6	Driver Lower Spine T12 Acceleration (Y) vs. Time	B-2
7	Driver Lower Spine T12 Acceleration (Z) vs. Time	B-2
8	Driver Lower Spine T12 Resultant Acceleration vs. Time	B-2
9	Driver Iliac Wing Force on Impact Side (Y) vs. Time	B-3
10	Driver Acetabulum Force on Impact Side (Y) vs. Time	B-3
11	Driver Total Pelvis Force on Impact Side (Y) vs. Time	B-3

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

www.NHTSA.dot.gov

Additional Driver Dummy Instrumentation Data

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

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Left Floor Sill Acceleration (Y)
Left A-Pillar Sill Acceleration (Y)
Left Lower A-Pillar Acceleration (Y)
Left Mid A-Pillar Acceleration (Y)

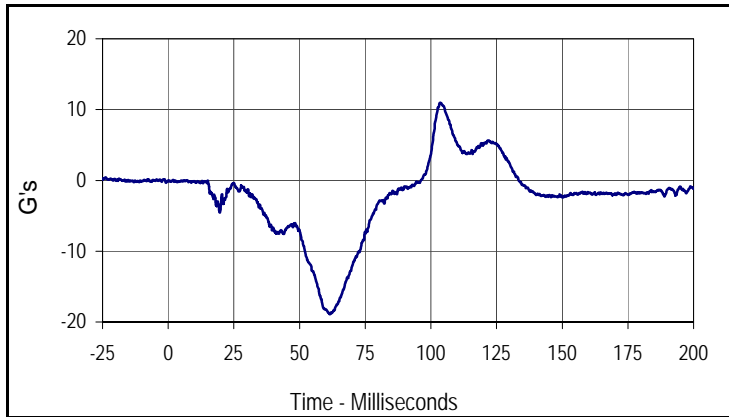
Left B-Pillar Sill Acceleration
Left Lower B-Pillar Acceleration (Y)
Left Mid B-Pillar Acceleration (Y)
Driver Seat Track at Dummy Hip Point Acceleration (Y)
Engine Top Acceleration (X)
Engine Top Acceleration (Y)
Firewall Center Acceleration (Y)
Right Roof at Vertical Impact Reference Line Acceleration (Y)
Right Sill at Vertical Impact Reference Line Acceleration (Y)
Rear Floorpan Behind Rear Axle at Centerline Acceleration (X)
Rear Floorpan Behind Rear Axle at Centerline Acceleration (Y)

Pole Instrumentation Data

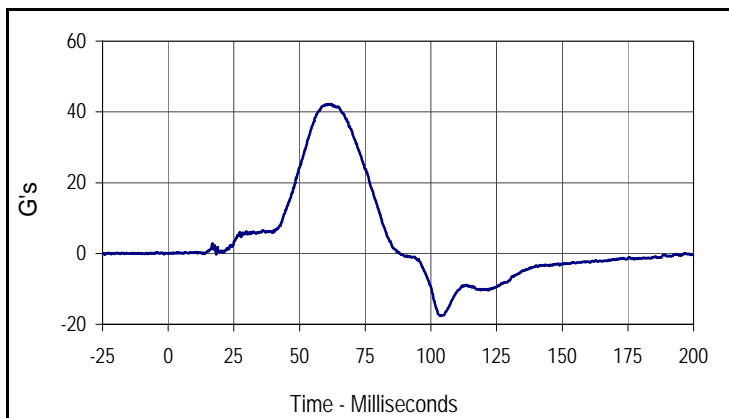
Load Cell Pole Barrier #1 Force (Y)
Load Cell Pole Barrier #2 Force (Y)
Load Cell Pole Barrier #3 Force (Y)
Load Cell Pole Barrier #4 Force (Y)
Load Cell Pole Barrier #5 Force (Y)
Load Cell Pole Barrier #6 Force (Y)
Load Cell Pole Barrier #7 Force (Y)
Load Cell Pole Barrier #8 Force (Y)

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV
 Test Program: 32 km/h (20 mph) Side Impact NCAP 75° Rigid Pole Test

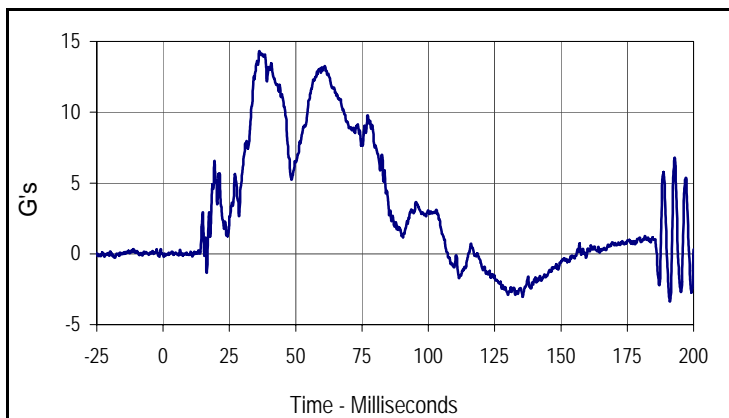
Test Date: 2/3/14
 NHTSA No.: M20145801



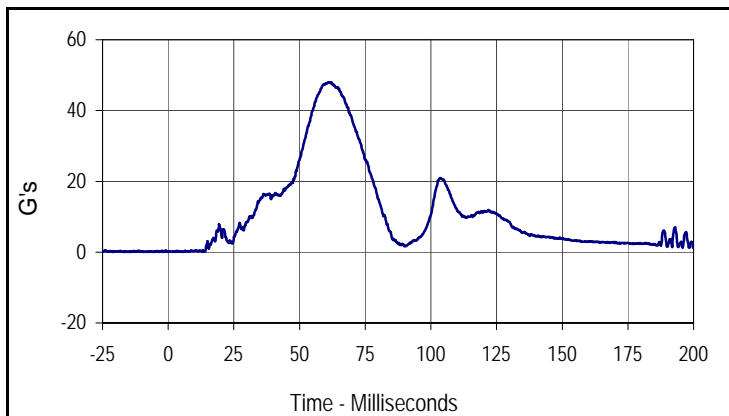
Curve Description			
Driver Head Acceleration X Primary			
Plot No.	Type	SAE Class	Units
001	FIL	1000	G's
Max	Time	Min	Time
10.9	103.5	-18.9	61.5



Curve Description			
Driver Head Acceleration Y Primary			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
42.2	61.6	-17.6	103.6



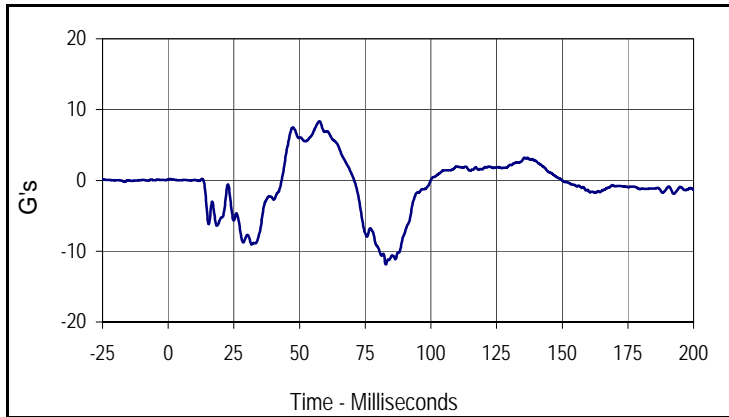
Curve Description			
Driver Head Acceleration Z Primary			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
14.3	36.3	-3.4	191.1



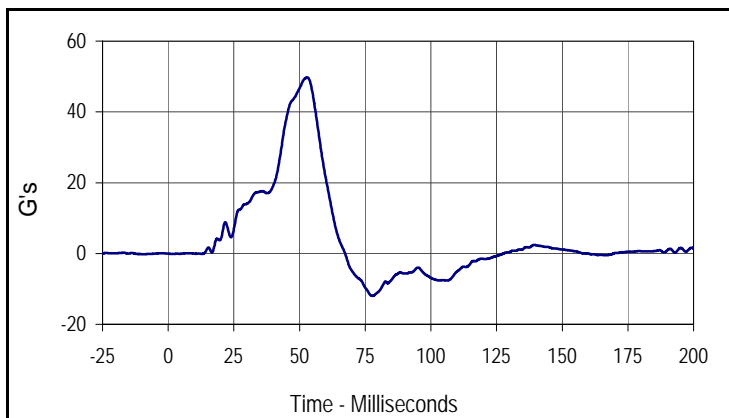
Curve Description			
Driver Head Acceleration Primary Res.			
Plot No.	Type	SAE Class	Units
004	RES	1000	G's
Max	Time	Min	Time
48.0	61.6	0.0	1.7

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV
 Test Program: 32 km/h (20 mph) Side Impact NCAP 75° Rigid Pole Test

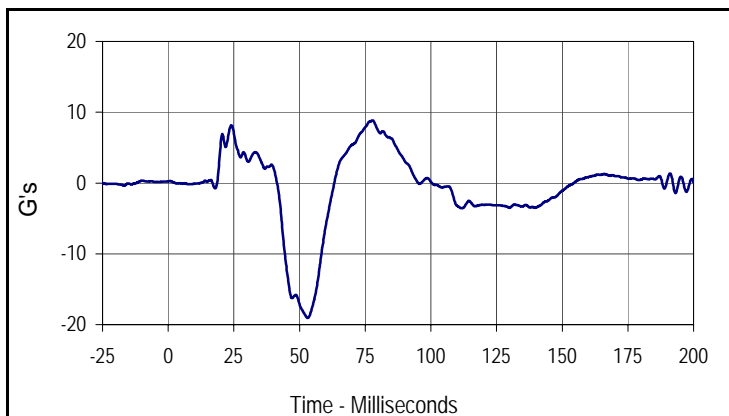
Test Date: 2/3/14
 NHTSA No.: M20145801



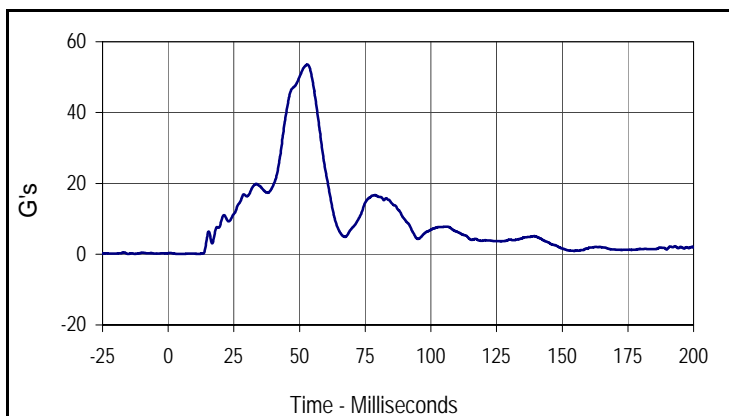
Curve Description			
Driver Lower Spine T12 Acceleration X			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
8.4	57.6	-11.9	82.8



Curve Description			
Driver Lower Spine T12 Acceleration Y			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
49.7	52.9	-12.0	77.7



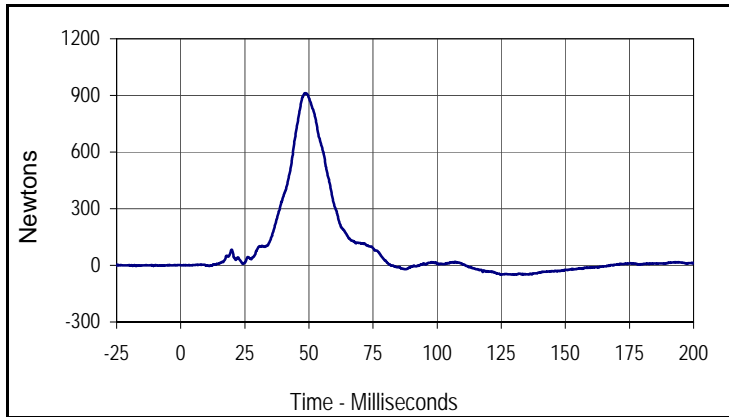
Curve Description			
Driver Lower Spine T12 Acceleration Z			
Plot No.	Type	SAE Class	Units
007	FIL	180	G's
Max	Time	Min	Time
8.8	77.7	-19.1	53.1



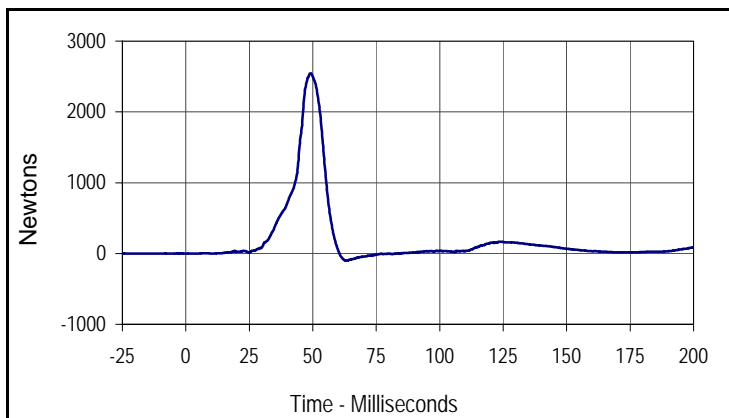
Curve Description			
Driver Lower Spine T12 Acceleration Res.			
Plot No.	Type	SAE Class	Units
008	RES	180	G's
Max	Time	Min	Time
53.6	53.0	0.0	12.1

Test Vehicle: 2014 Audi Q5 2.0T Quattro 5-Door MPV
 Test Program: 32 km/h (20 mph) Side Impact NCAP 75° Rigid Pole Test

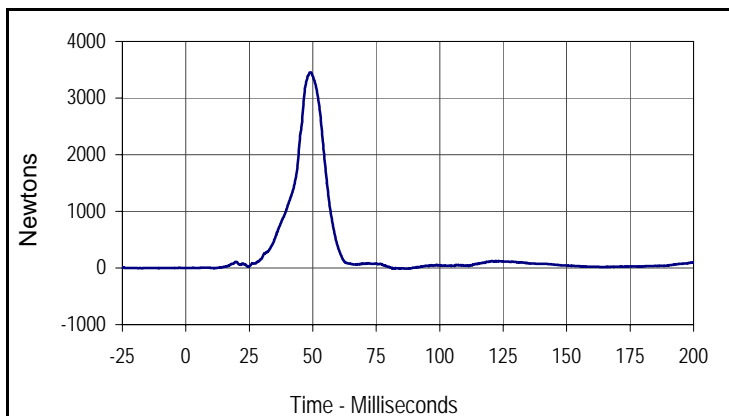
Test Date: 2/3/14
 NHTSA No.: M20145801



Curve Description			
Driver Iliac Wing Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
009	FIL	600	Newtons
Max	Time	Min	Time
912.1	48.7	-49.9	130.6



Curve Description			
Driver Acetabulum Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
010	FIL	600	Newtons
Max	Time	Min	Time
2543.4	49.0	-102.5	63.1



Curve Description			
Driver Total Pelvic Force on Impact Side Y			
Plot No.	Type	SAE Class	Units
011	SUM	600	Newtons
Max	Time	Min	Time
3453.8	48.9	-11.7	87.4

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

Test Program: SID IIs External Measurements

Test Date: 12/13/13



ATD Serial No.: 299

Test I.D.: N/A

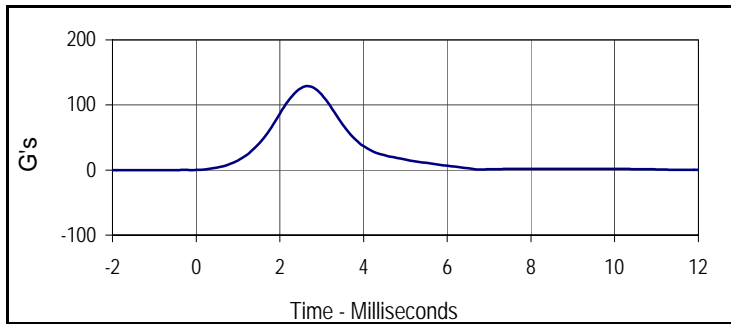
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
A Sitting Height	mm	772 - 788	780	Pass
B Shoulder Pivot Height	mm	437 - 453	445	Pass
C H-Point Height	mm	79 - 89	85	Pass
D H-Point from Seatback	mm	141 - 151	145	Pass
E Shoulder Pivot from Backline	mm	97 - 107	102	Pass
F Thigh Clearance	mm	119 - 135	125	Pass
G Head Breadth	mm	140 - 148	145	Pass
H Head Back from Backline	mm	40 - 46	44	Pass
I Head Depth	mm	178 - 188	184	Pass
J Head Circumference	mm	541 - 551	545	Pass
K Buttock to Knee Length	mm	514 - 540	527	Pass
L Popliteal Height	mm	343 - 369	352	Pass
M Knee Pivot to Floor Height	mm	392 - 409	401	Pass
N Buttock Popliteal Length	mm	416 - 442	432	Pass
O Chest Depth w/o Jacket	mm	195 - 211	202	Pass
P Foot Length	mm	216 - 232	221	Pass
Q Hip Breadth with Pelvic Plug	mm	313 - 323	315	Pass
R Arm Length	mm	249 - 259	252	Pass
S Knee Joint to Seatback	mm	477 - 493	481	Pass
V Shoulder Width	mm	341 - 357	352	Pass
W Foot Width	mm	78 - 94	86	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.: 299

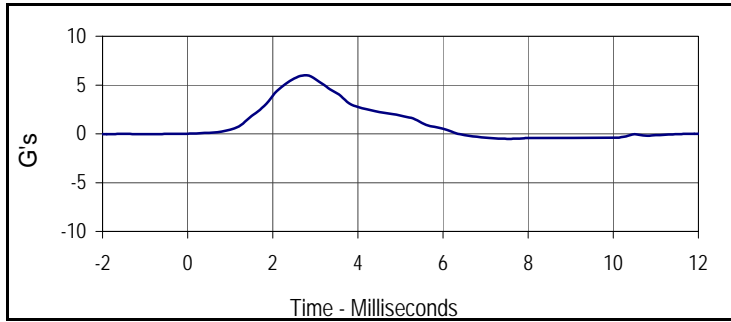
Test Date: 12/13/13
 Test I.D.: 299HD067



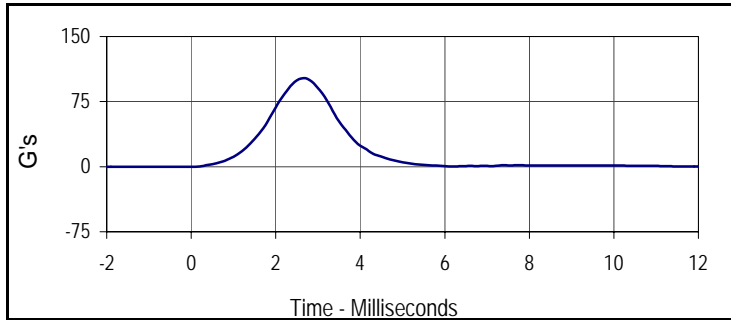
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	400	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.7	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	25.8	Pass
Peak Head Resultant Acceleration	G's	115 to 137	128.9	Pass
Peak Head X Acceleration	G's	<15	6.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	1.6	Pass
Overall Test Results				Pass



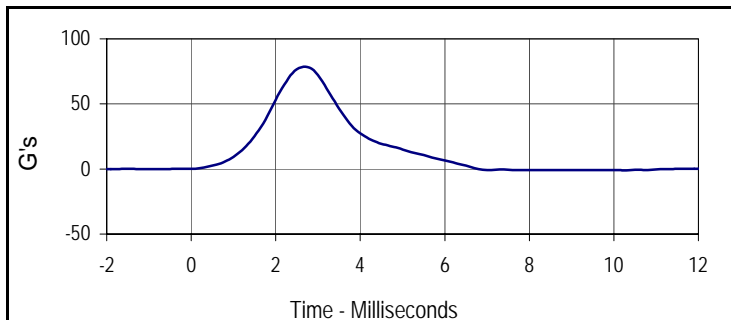
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
128.9	2.7	0.0	-0.9



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
6.0	2.8	0.0	-1.2



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
101.9	2.7	-0.1	0.0



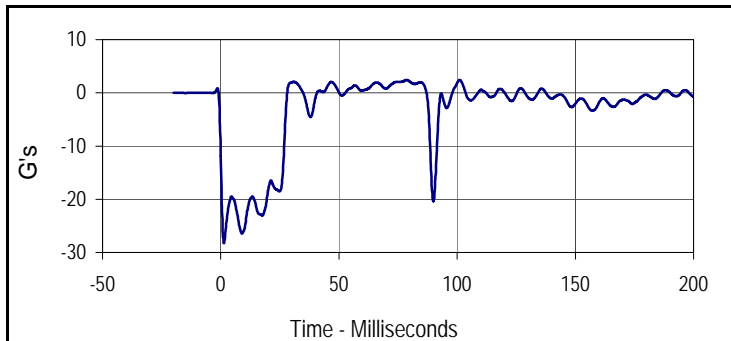
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
78.7	2.7	-1.1	10.3

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 299

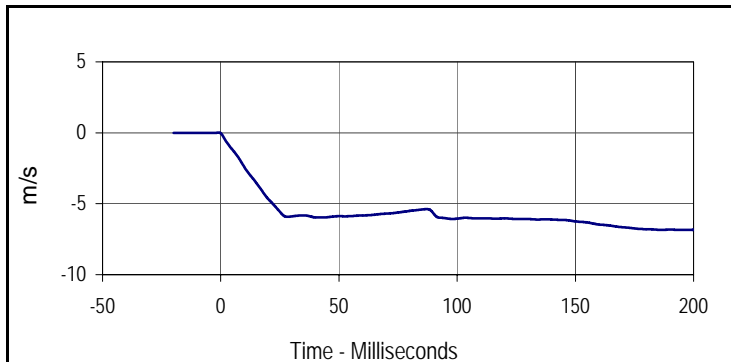
Test Date: 12/13/13
 Test I.D.: 299NB067



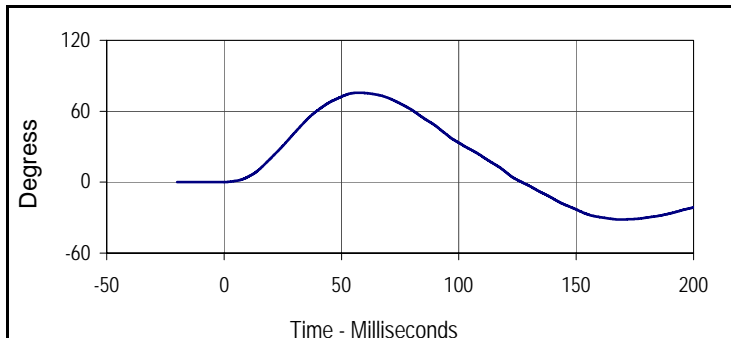
Tested Parameter	Units	Specification	Result	Pass/Fail	
Neck Assembly Soak Time	Minutes	≥240	465	Pass	
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass	
	Min		20.8	Pass	
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass	
	Min		24.6	Pass	
Laboratory Temperature During Test	°C	20.6 to 22.2	21.2	Pass	
Laboratory Humidity During Test	%	10.0 to 70.0	25.9	Pass	
Pendulum Velocity	m/s	5.51 to 5.63	5.56	Pass	
Pendulum Deceleration	10 msec	m/s	-2.20 to -2.80	-2.42	Pass
	15 msec	m/s	-3.30 to -4.10	-3.52	Pass
	20 msec	m/s	-4.40 to -5.40	-4.65	Pass
	25 msec	m/s	-5.40 to -6.10	-5.56	Pass
	25-100 msec	m/s	-5.50 to -6.20	-6.08	Pass
D-Plane Rotation	Max	Degrees	71 to 81	75.7	Pass
	Time	msec	50 to 70	57.6	Pass
Peak Occipital Condyle Moment	Nm	-36 to -44	-40.1	Pass	
Decaying Moment Time to Cross 0 Nm	msec	102 to 126	113.5	Pass	
Overall Test Results				Pass	



Curve Description			
Pendulum Deceleration			
Plot No.	Type	SAE Class	Units
001	FIL	180	G's
Max	Time	Min	Time
2.4	0.0	-28.3	0.0



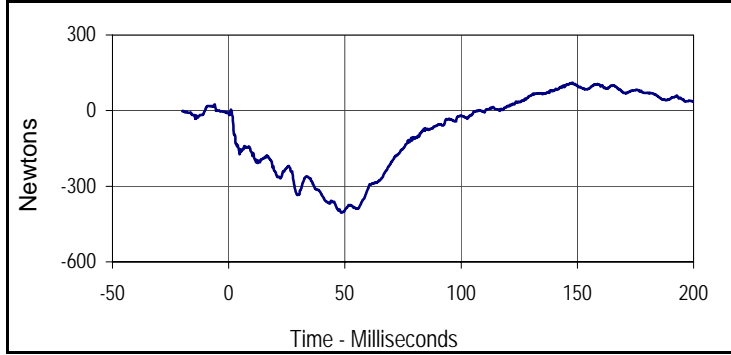
Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
002	FIL	180	m/s
Max	Time	Min	Time
0.0	-0.9	-6.8	194.6



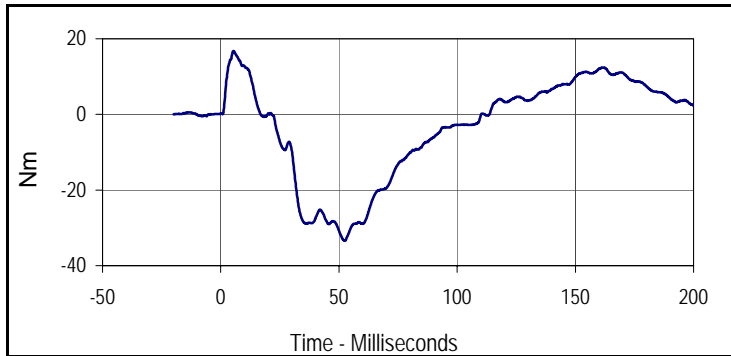
Curve Description			
D-Plane Rotation			
Plot No.	Type	SAE Class	Units
003	FIL	60	Degress
Max	Time	Min	Time
75.7	57.6	-31.7	169.1

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 299

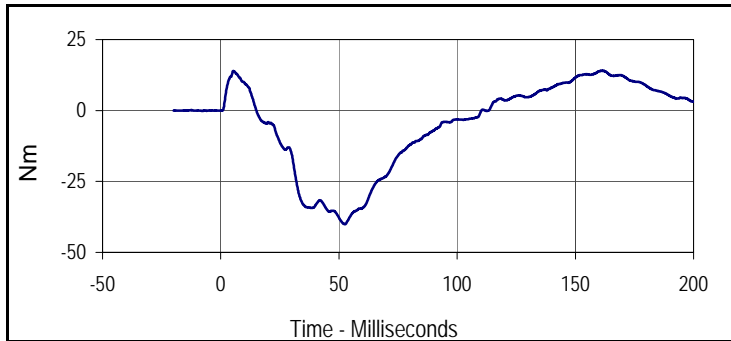
Test Date: 12/13/13
 Test I.D.: 299NB067



Curve Description			
Neck Force Y			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
110.3	147.9	-403.9	48.6



Curve Description			
Neck Moment X			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
16.8	5.3	-33.4	52.6



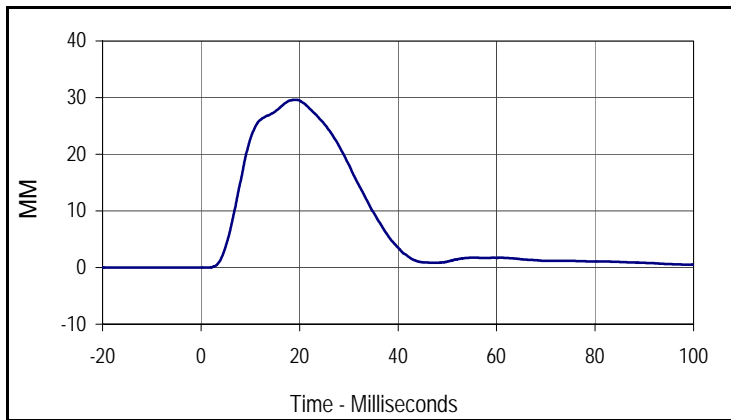
Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
006	FIL	600	Nm
Max	Time	Min	Time
14.0	161.7	-40.1	52.5

Test Program: SID IIs Shoulder Impact Test
 ATD Serial No.: 299

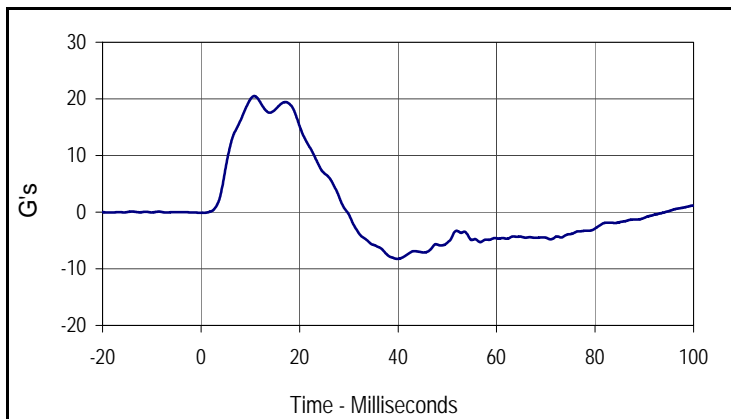
Test Date: 12/13/13
 Test I.D.: 299SH067



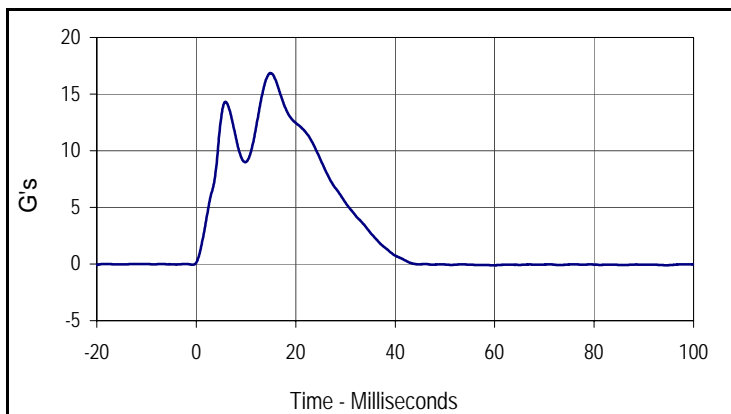
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	540	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	25.5	Pass
Impactor Velocity	m/s	4.20 to 4.40	4.31	Pass
Peak Shoulder Deflection	mm	28 to 37	29.6	Pass
Peak Lateral Spine Acceleration Y	G's	17 to 22	20.5	Pass
Peak Impactor Acceleration	G's	13 to 18	16.9	Pass
Overall Test Results			Pass	Pass



Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
29.6	19.0	0.0	-11.2



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
20.5	10.8	-8.2	39.9



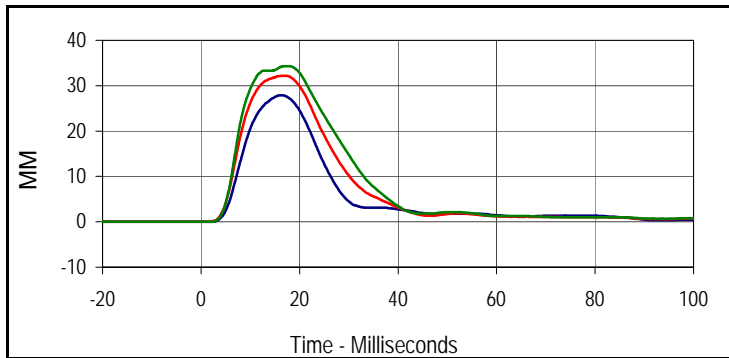
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
16.9	14.9	-0.1	59.9

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 299

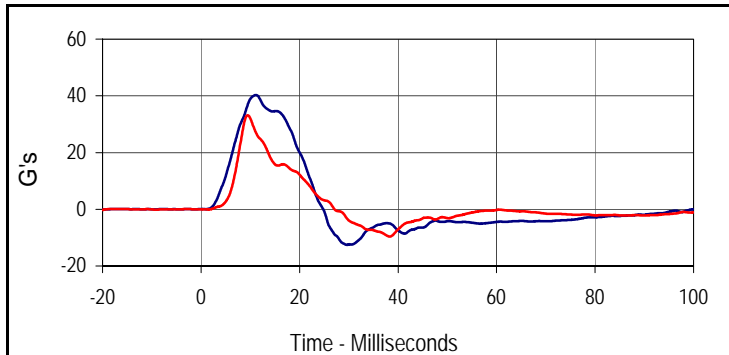
Test Date: 12/13/13
 Test I.D.: 299TWA067



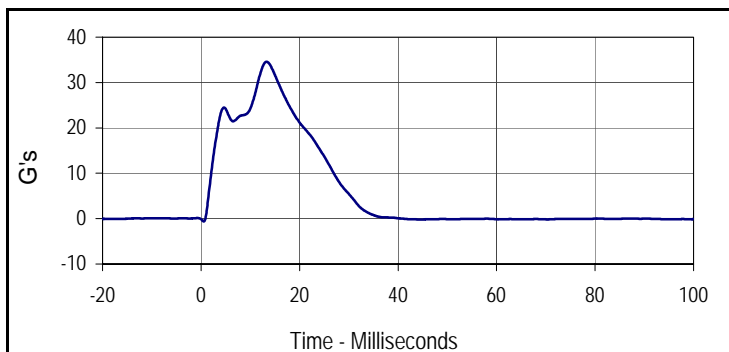
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	590	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	25.4	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.67	Pass
Peak Shoulder Deflection	mm	31 to 40	36.1	Pass
Peak Upper Thorax Rib Deflection	mm	25 to 32	27.9	Pass
Peak Middle Thorax Rib Deflection	mm	30 to 36	32.2	Pass
Peak Lower Thorax Rib Deflection	mm	32 to 38	34.3	Pass
Peak Upper Spine Y Acceleration	G's	34 to 43	40.3	Pass
Peak Lower Spine Y Acceleration	G's	29 to 37	33.2	Pass
Peak Impactor Acceleration	G's	30 to 36	34.6	Pass
Overall Test Results				Pass



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
27.9	16.3	0.0	-17.2
Middle Thorax Deflection			
Max	Time	Min	Time
32.2	16.9	0.0	-17.7
Lower Thorax Deflection			
Max	Time	Min	Time
34.3	17.0	0.0	-12.4



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
40.3	11.1	-12.6	29.6
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
33.2	9.5	-9.6	38.3



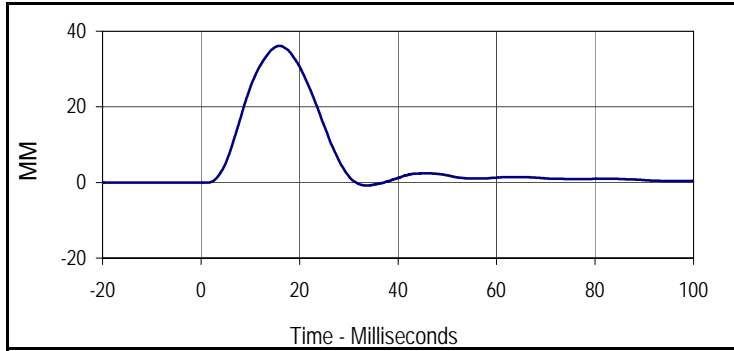
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
34.6	13.3	-0.6	0.6

Test Program: SID IIs Thorax with Arm Impact Test

ATD Serial No.: 299

Test Date: 12/13/13

Test I.D.: 299TWA067



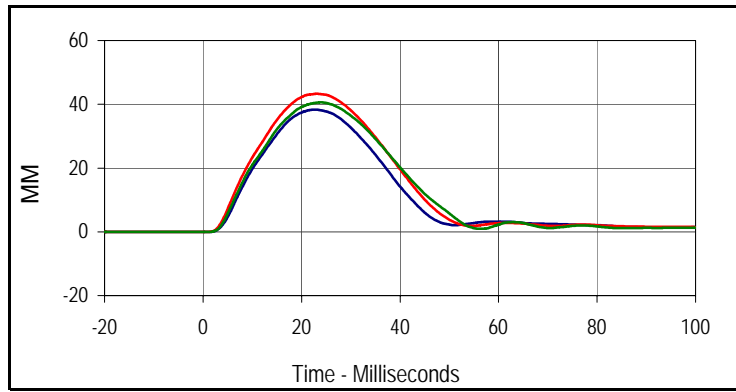
Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
007	FIL	600	MM
Max	Time	Min	Time
36.1	15.9	-0.8	33.8

Test Program: SID IIs Thorax without Arm Impact Test
 ATD Serial No.: 299

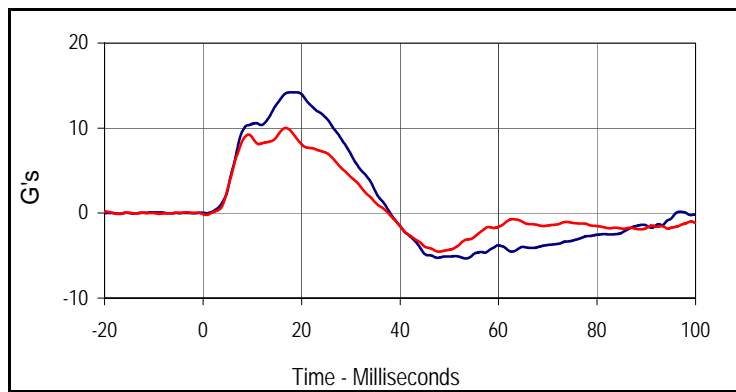
Test Date: 12/13/13
 Test I.D.: 299TWOA067



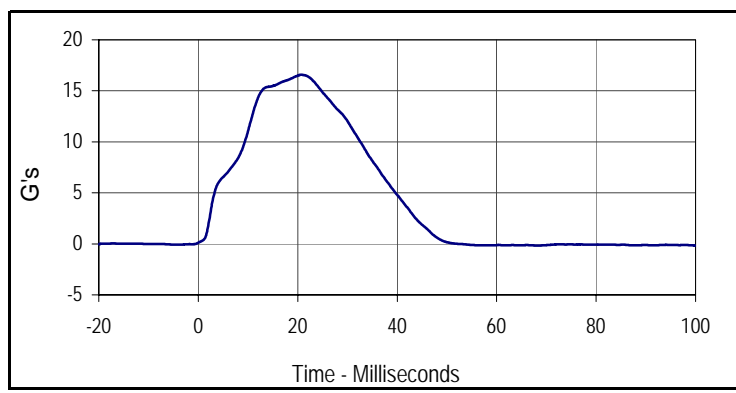
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	645	Pass
Temperature During Soak	Max	18.9 to 25.6	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.0	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	24.6	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.37	Pass
Peak Upper Thorax Rib Deflection	mm	32 to 40	38.3	Pass
Peak Middle Thorax Rib Deflection	mm	39 to 45	43.3	Pass
Peak Lower Thorax Rib Deflection	mm	35 to 43	40.6	Pass
Peak Upper Spine Y Acceleration	G's	13 to 17	14.2	Pass
Peak Lower Spine Y Acceleration	G's	7 to 11	10.0	Pass
Peak Impactor Acceleration	G's	14 to 18	16.6	Pass
Overall Test Results				Pass



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
38.3	22.6	0.0	-3.8
Middle Thorax Deflection			
Max	Time	Min	Time
43.3	23.1	0.0	-5.0
Lower Thorax Deflection			
Max	Time	Min	Time
40.6	24.0	0.0	-1.3



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
14.2	18.0	-5.4	53.3
Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
10.0	16.8	-4.5	47.9



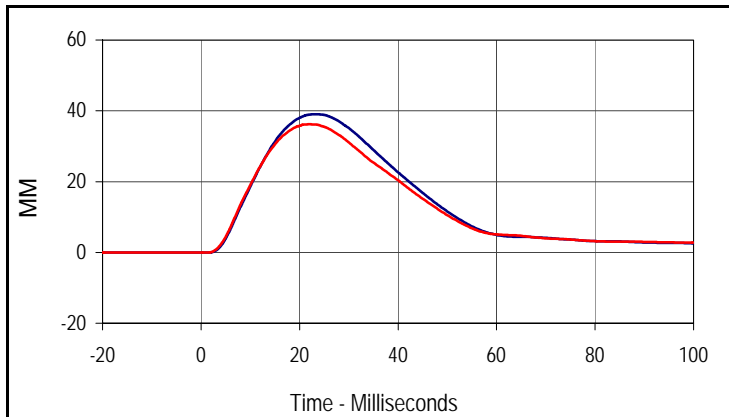
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
16.6	20.8	-0.2	99.9

Test Program: SID IIs Abdomen Impact Test
 ATD Serial No.: 299

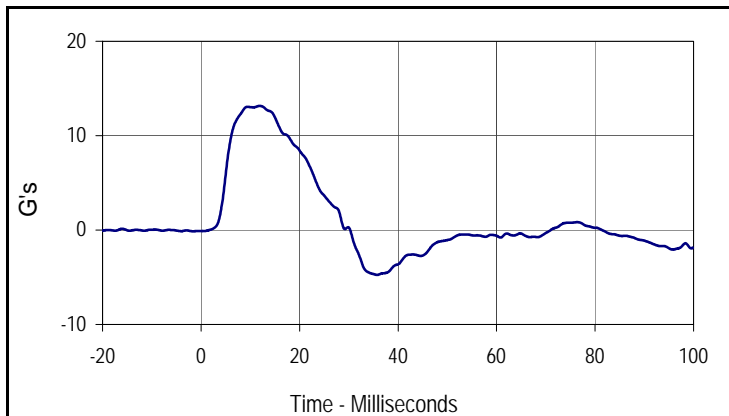
Test Date: 12/13/13
 Test I.D.: 299ABD067



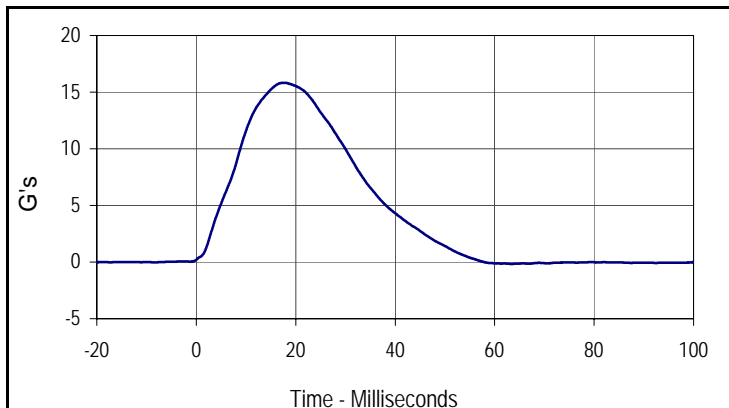
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	705	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	20.9	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	24.6	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.29	Pass
Peak Upper Abdominal Rib Deflection	mm	36 to 47	39.0	Pass
Peak Lower Abdominal Rib Deflection	mm	33 to 44	36.2	Pass
Peak Lower Spine Y Acceleration	G's	9 to 14	13.1	Pass
Peak Impactor Acceleration	G's	12 to 16	15.8	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
39.0	23.3	0.0	-7.3



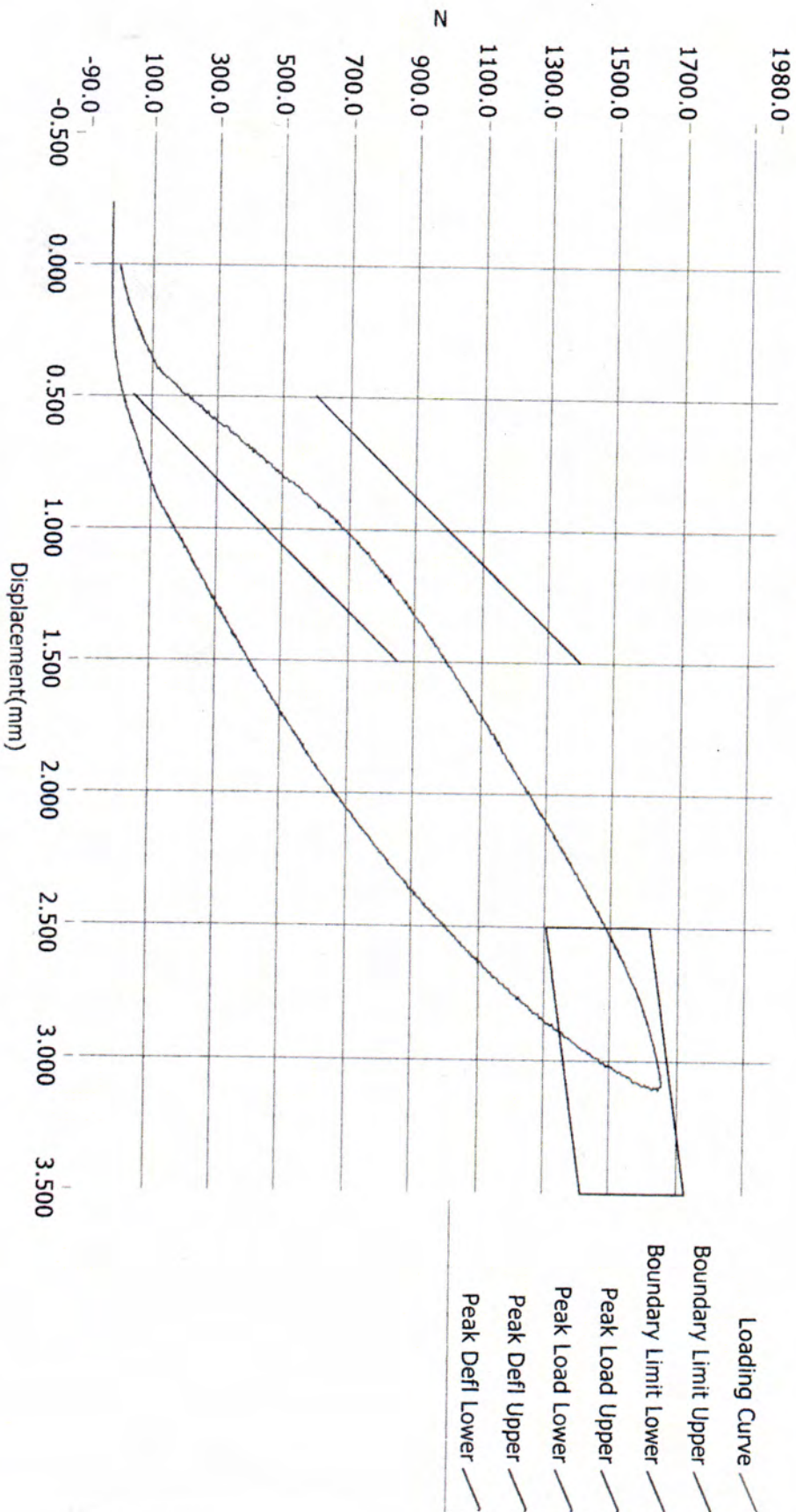
Curve Description			
Lower Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	600	MM
Max	Time	Min	Time
36.2	21.9	0.0	-20.0



Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
13.1	11.9	-4.8	35.7

Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
15.8	17.5	-0.2	63.4

Resultant Data - SIDIIs Plug Compression



ATD Calibration Lab

Test ID

Part Serial Number

Test Date

Test Time

48939

12/6/2011

8:07 PM

Cert ID

ATD Serial Number

ATD Type

N/A

SIDIIs

M20145801 PRE-TEST

Current Date : 12/6/2011

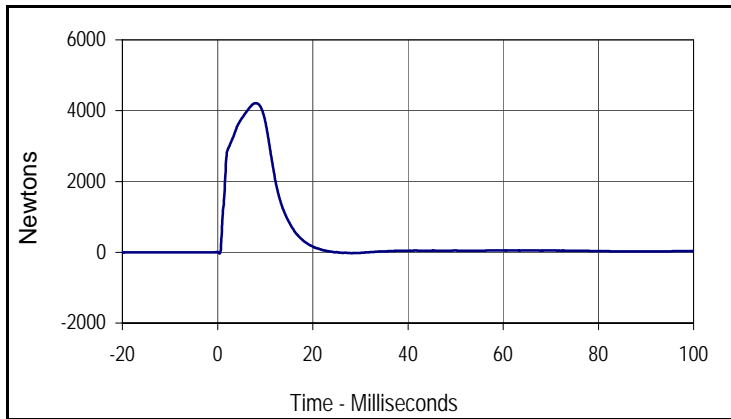
Current Time : 20:08:17

Test Program: SID IIs Pelvis Acetabulum Impact Test
 ATD Serial No.: 299

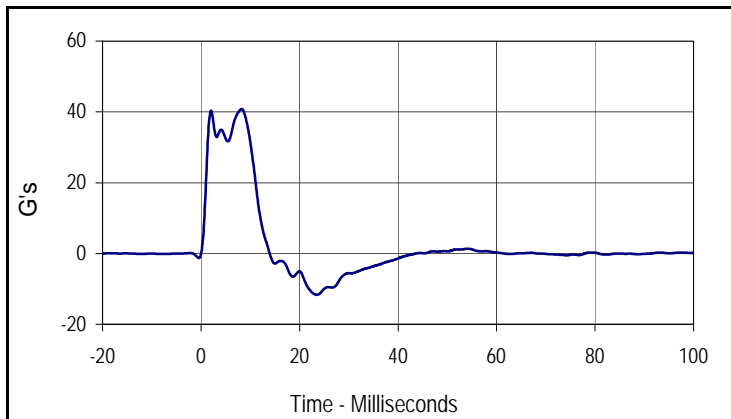
Test Date: 12/13/13
 Test I.D.: 299ACET067



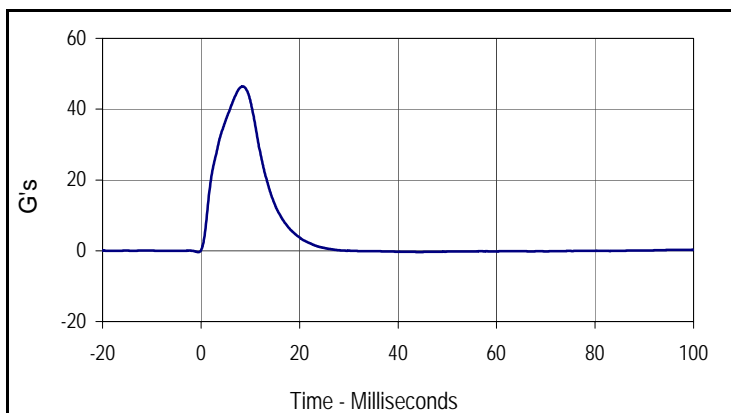
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	780	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	20.8	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	25.2	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.73	Pass
Peak Acetabulum Force Y	Newtons	3600 to 4300	4213.6	Pass
Peak Pelvis Y Acceleration After 6 msec.	G's	34 to 42	40.8	Pass
Peak Impactor Acceleration	G's	38 to 47	46.4	Pass
Overall Test Results				Pass



Curve Description			
Pelvis Acetabulum Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4213.6	8.0	-33.1	0.5



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
40.8	8.2	-11.6	23.5



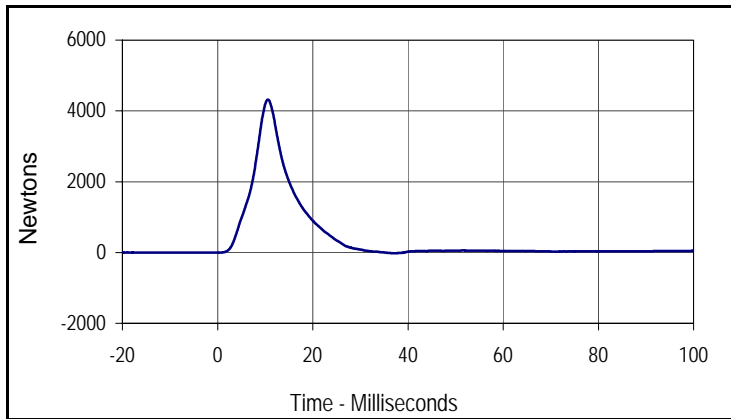
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.4	8.4	-0.4	-0.5

Test Program: SID IIs Pelvis Iliac Calibration
 ATD Serial No.: 299

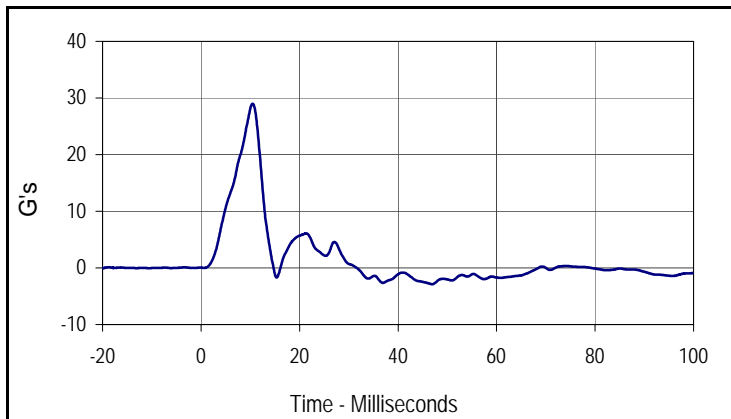
Test Date: 12/13/13
 Test I.D.: 299PL067



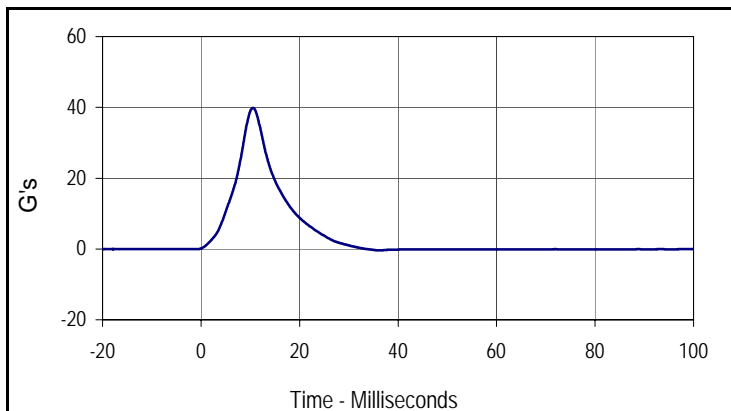
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	845	Pass
Temperature During Soak	Max	20.6 to 22.2	21.7	Pass
	Min		20.8	Pass
Humidity During Soak	Max	10.0 to 70.0	25.9	Pass
	Min		24.6	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.0	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	25.7	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.23	Pass
Peak Iliac Force	Newtons	4100 to 5100	4322.1	Pass
Peak Pelvis Y Acceleration	G's	28 to 39	29.0	Pass
Peak Impactor Acceleration	G's	36 to 45	39.9	Pass
Overall Test Results				Pass



Curve Description			
Pelvis Iliac Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4322.1	10.6	-21.7	37.3



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
29.0	10.5	-2.9	46.9



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
39.9	10.5	-0.4	36.2

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

Test Program: SID IIs External Measurements

Test Date: 2/5/14



ATD Serial No.: 299

Test I.D.: N/A

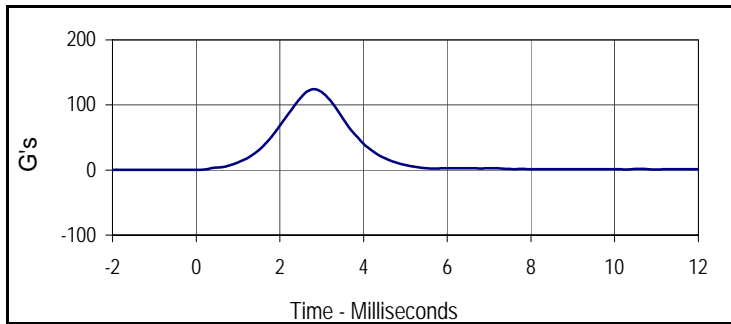
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	37	Pass
A Sitting Height	mm	772 - 788	780	Pass
B Shoulder Pivot Height	mm	437 - 453	445	Pass
C H-Point Height	mm	79 - 89	85	Pass
D H-Point from Seatback	mm	141 - 151	145	Pass
E Shoulder Pivot from Backline	mm	97 - 107	102	Pass
F Thigh Clearance	mm	119 - 135	125	Pass
G Head Breadth	mm	140 - 148	145	Pass
H Head Back from Backline	mm	40 - 46	44	Pass
I Head Depth	mm	178 - 188	184	Pass
J Head Circumference	mm	541 - 551	545	Pass
K Buttock to Knee Length	mm	514 - 540	527	Pass
L Popliteal Height	mm	343 - 369	352	Pass
M Knee Pivot to Floor Height	mm	392 - 409	401	Pass
N Buttock Popliteal Length	mm	416 - 442	432	Pass
O Chest Depth w/o Jacket	mm	195 - 211	202	Pass
P Foot Length	mm	216 - 232	221	Pass
Q Hip Breadth with Pelvic Plug	mm	313 - 323	315	Pass
R Arm Length	mm	249 - 259	252	Pass
S Knee Joint to Seatback	mm	477 - 493	481	Pass
V Shoulder Width	mm	341 - 357	352	Pass
W Foot Width	mm	78 - 94	86	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.: 299

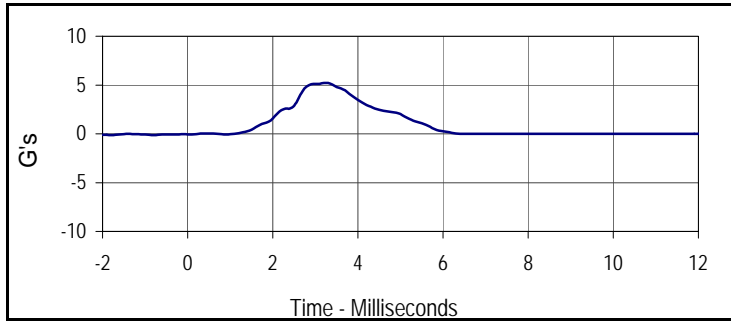
Test Date: 2/5/14
 Test I.D.: 299HD068



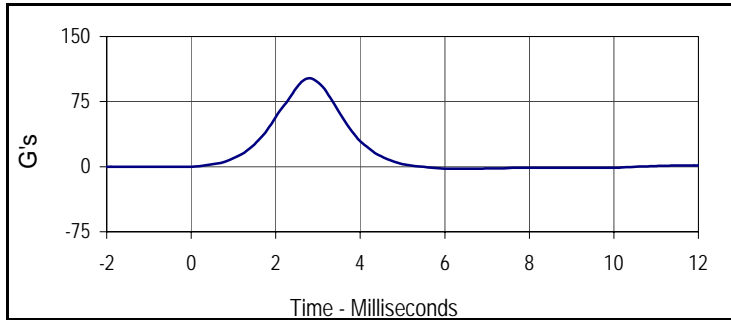
Tested Parameter	Units	Specification	Result	Pass/Fail
Head Assembly Soak Time	Minutes	≥240	376	Pass
Temperature During Soak	Max	18.9 to 25.6	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.4	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	32.2	Pass
Peak Head Resultant Acceleration	G's	115 to 137	124.0	Pass
Peak Head X Acceleration	G's	<15	5.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	2.4	Pass
Overall Test Results				Pass



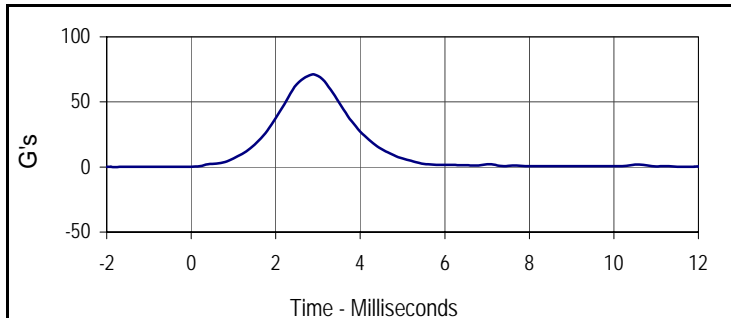
Curve Description			
Head Resultant			
Plot No.	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
124.0	2.8	0.1	-0.5



Curve Description			
Head X			
Plot No.	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
5.2	3.3	-0.1	-1.8



Curve Description			
Head Y			
Plot No.	Type	SAE Class	Units
003	FIL	1000	G's
Max	Time	Min	Time
101.9	2.8	-2.3	6.4



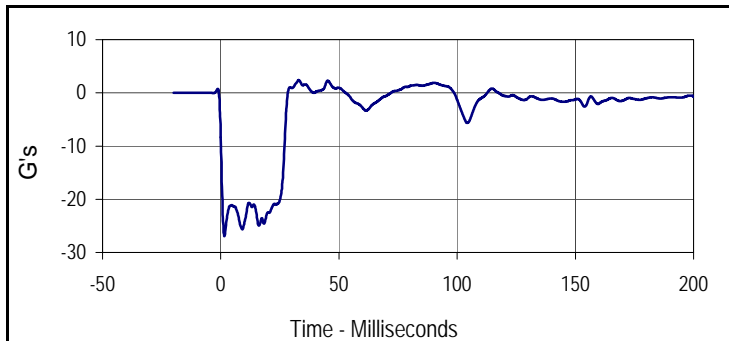
Curve Description			
Head Z			
Plot No.	Type	SAE Class	Units
004	FIL	1000	G's
Max	Time	Min	Time
71.2	2.9	0.0	-1.8

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 299

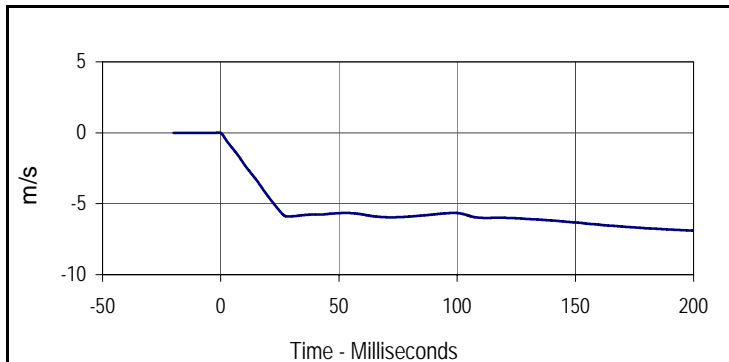
Test Date: 2/5/14
 Test I.D.: 299NB068



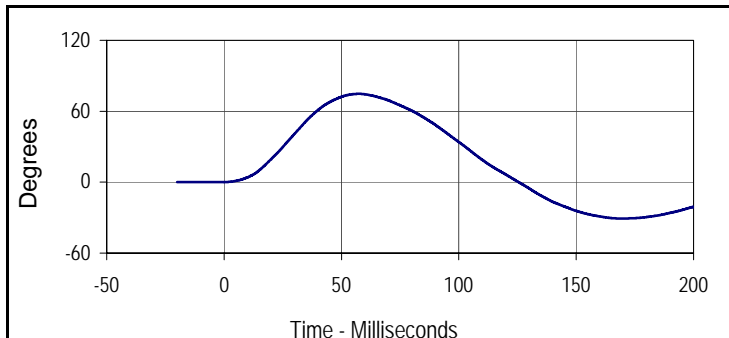
Tested Parameter	Units	Specification	Result	Pass/Fail
Neck Assembly Soak Time	Minutes	≥240	441	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.6	Pass
Pendulum Velocity	m/s	5.51 to 5.63	5.59	Pass
Pendulum Deceleration	10 msec	-2.20 to -2.80	-2.24	Pass
	15 msec	-3.30 to -4.10	-3.31	Pass
	20 msec	-4.40 to -5.40	-4.48	Pass
	25 msec	-5.40 to -6.10	-5.52	Pass
	25-100 msec	-5.50 to -6.20	-5.96	Pass
D-Plane Rotation	Max	71 to 81	74.7	Pass
	Time	50 to 70	57.5	Pass
Peak Occipital Condyle Moment	Nm	-36 to -44	-38.9	Pass
Decaying Moment Time to Cross 0 Nm	msec	102 to 126	105.3	Pass
Overall Test Results			Pass	Pass



Curve Description			
Pendulum Deceleration			
Plot No.	Type	SAE Class	Units
001	FIL	180	G's
Max	Time	Min	Time
2.4	0.0	-26.9	0.0



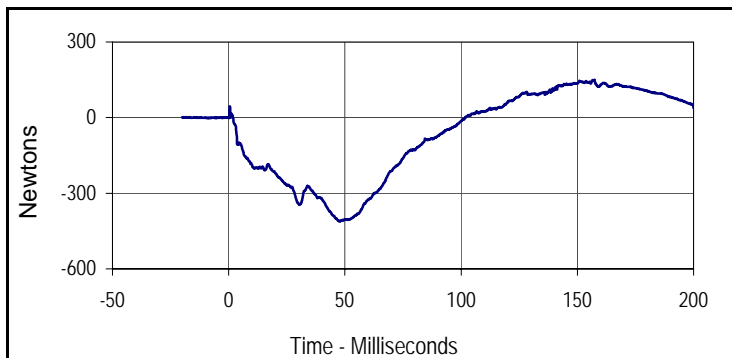
Curve Description			
Pendulum Velocity			
Plot No.	Type	SAE Class	Units
002	FIL	180	m/s
Max	Time	Min	Time
0.0	-0.8	-6.9	199.9



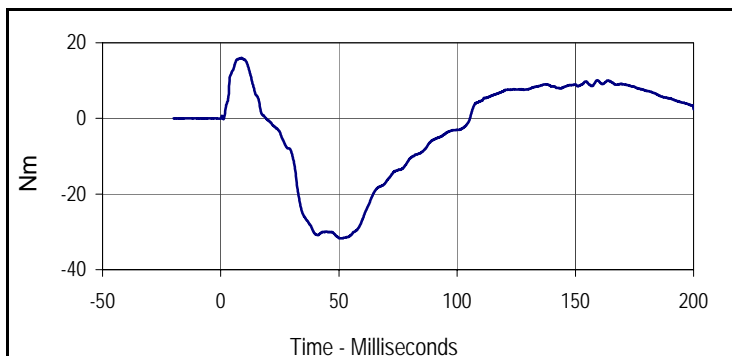
Curve Description			
D-Plane Rotation			
Plot No.	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
74.7	57.5	-30.7	169.2

Test Program: SID IIs Neck Flexion Test
 ATD Serial No.: 299

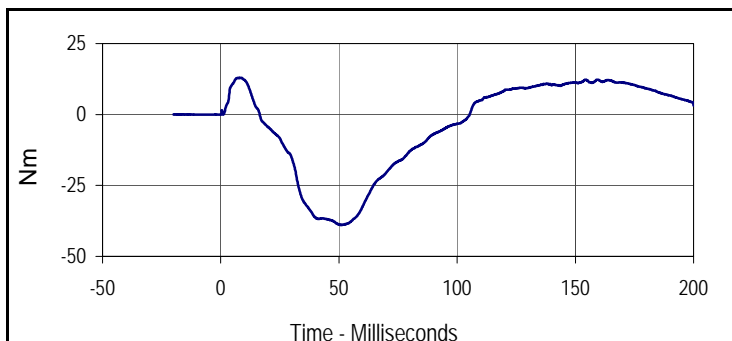
Test Date: 2/5/14
 Test I.D.: 299NB068



Curve Description			
Neck Force Y			
Plot No.	Type	SAE Class	Units
004	FIL	1000	Newtons
Max	Time	Min	Time
149.8	157.4	-411.7	47.6



Curve Description			
Neck Moment X			
Plot No.	Type	SAE Class	Units
005	FIL	600	Nm
Max	Time	Min	Time
16.0	8.8	-31.7	50.5



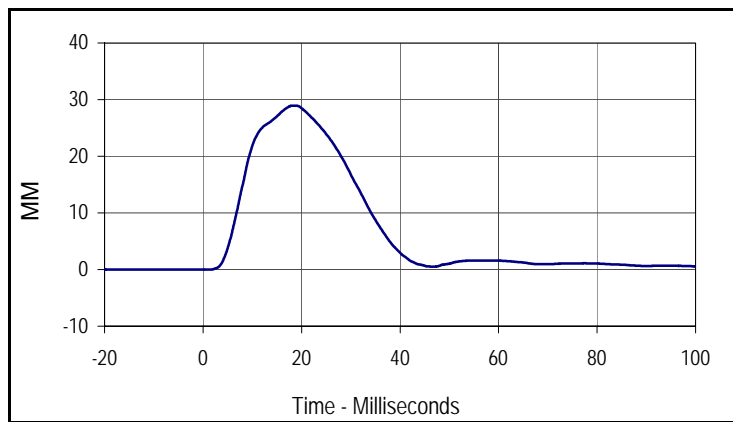
Curve Description			
Moment About Occipital Condyle			
Plot No.	Type	SAE Class	Units
006	FIL	600	Nm
Max	Time	Min	Time
13.0	8.3	-38.9	50.6

Test Program: SID IIs Shoulder Impact Test
 ATD Serial No.: 299

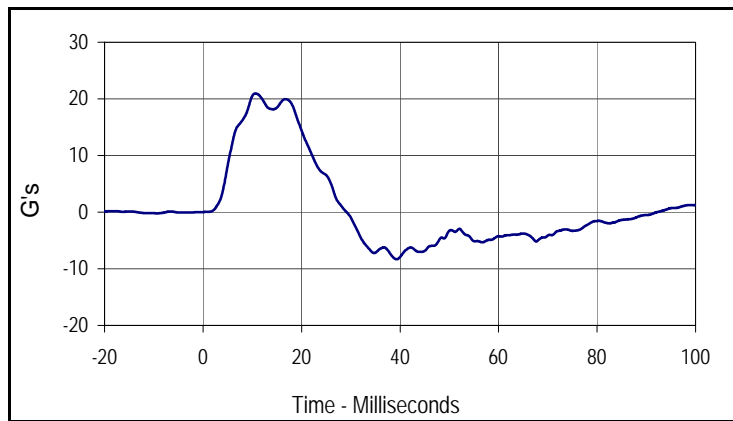
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 Test I.D.: 299SH068



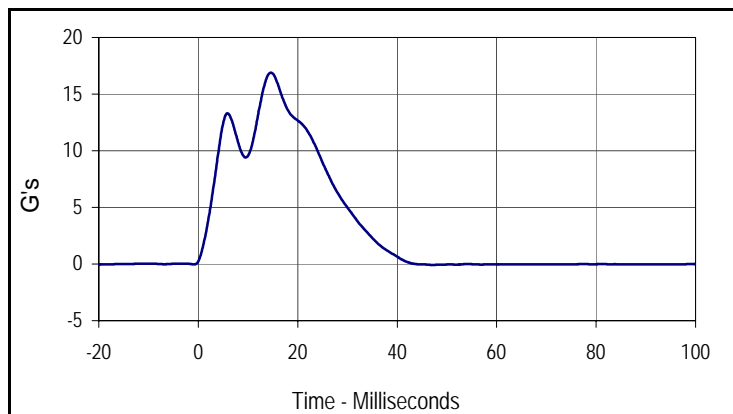
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	516	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	20.6 to 22.2	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.8	Pass
Impactor Velocity	m/s	4.20 to 4.40	4.28	Pass
Peak Shoulder Deflection	mm	28 to 37	28.9	Pass
Peak Lateral Spine Acceleration Y	G's	17 to 22	20.9	Pass
Peak Impactor Acceleration	G's	13 to 18	16.9	Pass
Overall Test Results			Pass	Pass



Curve Description			
Shoulder Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
28.9	18.5	0.0	-18.7



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
20.9	10.6	-8.3	39.3



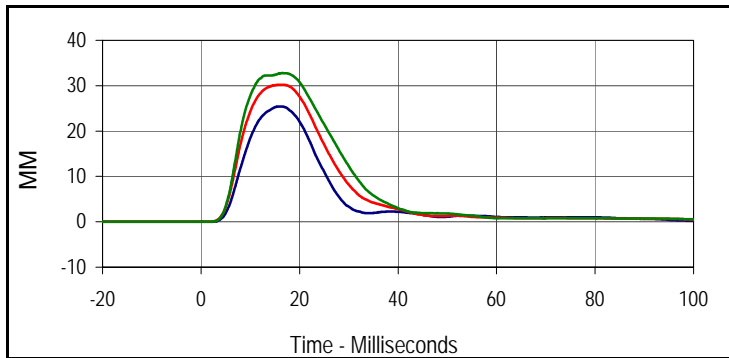
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
16.9	14.6	-0.1	47.1

Test Program: SID IIs Thorax with Arm Impact Test
 ATD Serial No.: 299

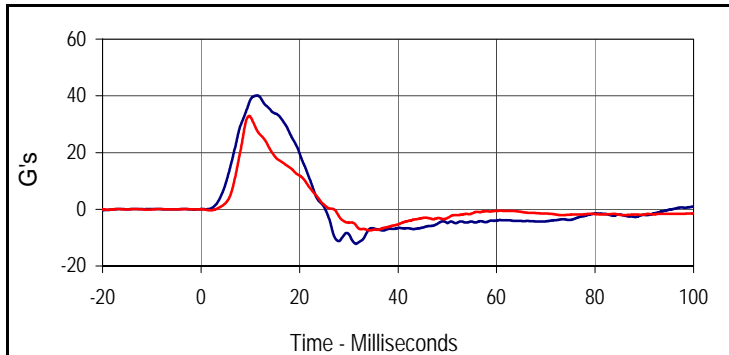
Test Date: 2/5/14
 Test I.D.: 299TWA068



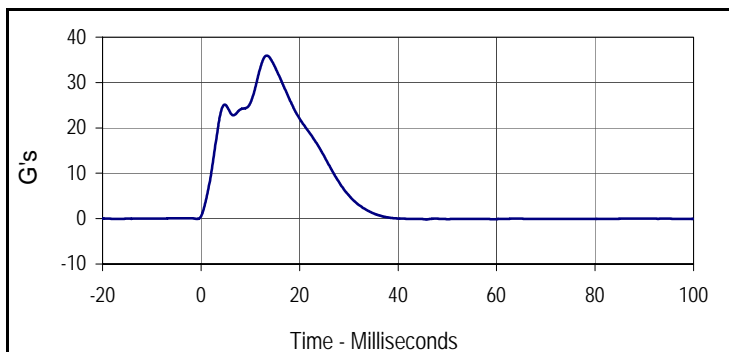
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	566	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.5	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.67	Pass
Peak Shoulder Deflection	mm	31 to 40	33.2	Pass
Peak Upper Thorax Rib Deflection	mm	25 to 32	25.4	Pass
Peak Middle Thorax Rib Deflection	mm	30 to 36	30.2	Pass
Peak Lower Thorax Rib Deflection	mm	32 to 38	32.8	Pass
Peak Upper Spine Y Acceleration	G's	34 to 43	40.2	Pass
Peak Lower Spine Y Acceleration	G's	29 to 37	32.9	Pass
Peak Impactor Acceleration	G's	30 to 36	35.9	Pass
Overall Test Results				Pass



Curve Description			
Upper Thorax Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
25.4	16.2	0.0	-10.4
Middle Thorax Deflection			
Max	Time	Min	Time
30.2	16.4	0.0	-8.7
Lower Thorax Deflection			
Max	Time	Min	Time
32.8	16.5	0.0	-8.7



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
40.2	11.4	-12.2	31.4
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
32.9	9.7	-7.5	34.2



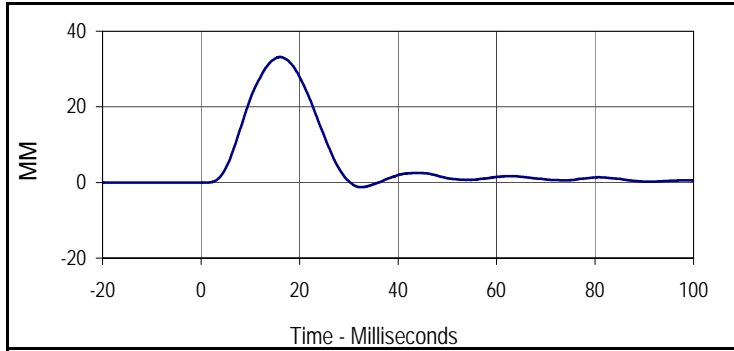
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
35.9	13.3	-0.2	45.7

Test Program: SID IIs Thorax with Arm Impact Test

ATD Serial No.: 299

Test Date: 2/5/14

Test I.D.: 299TWA068



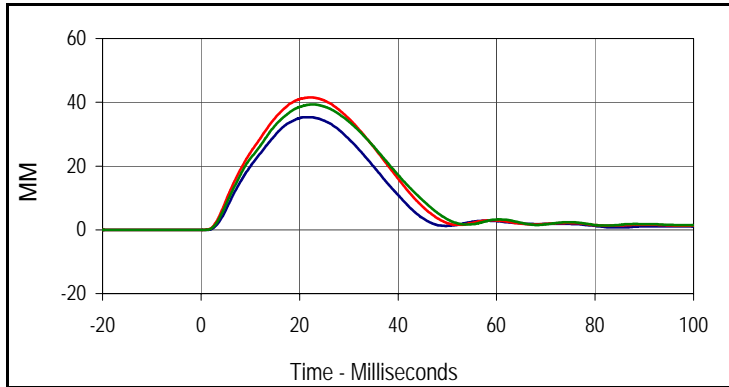
Curve Description			
Shoulder Deflection Y			
Plot No.	Type	SAE Class	Units
007	FIL	600	MM
Max	Time	Min	Time
33.2	16.1	-1.2	32.7

Test Program: SID IIs Thorax without Arm Impact Test
 ATD Serial No.: 299

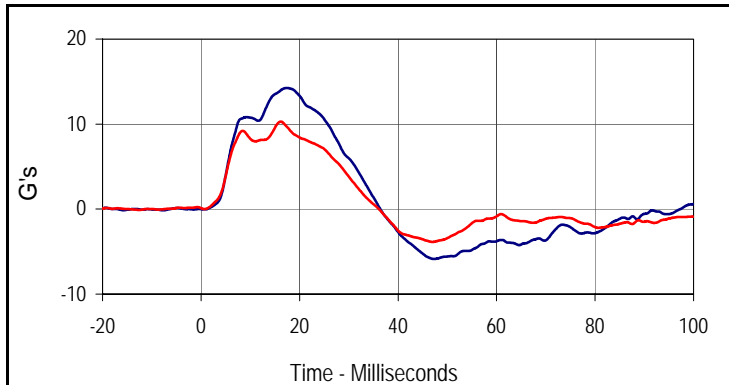
Test Date: 2/5/14
 Test I.D.: 299TWOA068



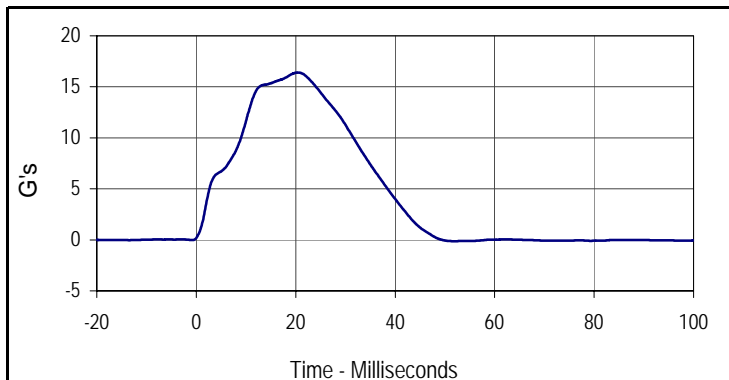
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	621	Pass
Temperature During Soak	Max	18.9 to 25.6	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.4	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.28	Pass
Peak Upper Thorax Rib Deflection	mm	32 to 40	35.3	Pass
Peak Middle Thorax Rib Deflection	mm	39 to 45	41.5	Pass
Peak Lower Thorax Rib Deflection	mm	35 to 43	39.3	Pass
Peak Upper Spine Y Acceleration	G's	13 to 17	14.3	Pass
Peak Lower Spine Y Acceleration	G's	7 to 11	10.3	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
35.3	21.5	0.0	-11.5
Middle Thorax Deflection			
Max	Time	Min	Time
41.5	22.3	0.0	-17.8
Lower Thorax Deflection			
Max	Time	Min	Time
39.3	22.8	0.0	-13.6



Curve Description			
Upper Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
14.3	17.4	-5.9	47.2
Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
005	FIL	180	G's
Max	Time	Min	Time
10.3	16.2	-3.9	47.0



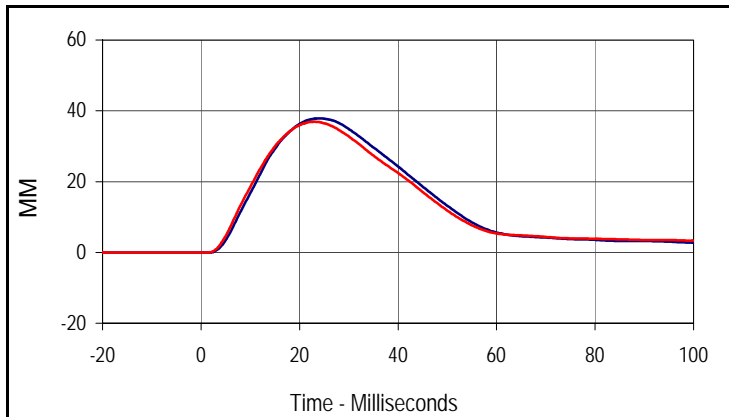
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
006	FIL	180	G's
Max	Time	Min	Time
16.4	20.4	-0.1	52.0

Test Program: SID IIs Abdomen Impact Test
 ATD Serial No.: 299

Test Date: 2/5/14
 Test I.D.: 299ABD068

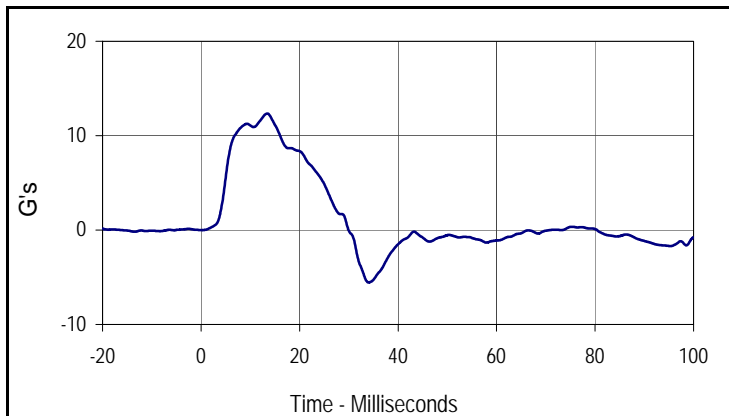


Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	681	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.3	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.26	Pass
Peak Upper Abdominal Rib Deflection	mm	36 to 47	37.9	Pass
Peak Lower Abdominal Rib Deflection	mm	33 to 44	36.9	Pass
Peak Lower Spine Y Acceleration	G's	9 to 14	12.4	Pass
Peak Impactor Acceleration	G's	12 to 16	15.2	Pass
Overall Test Results				Pass

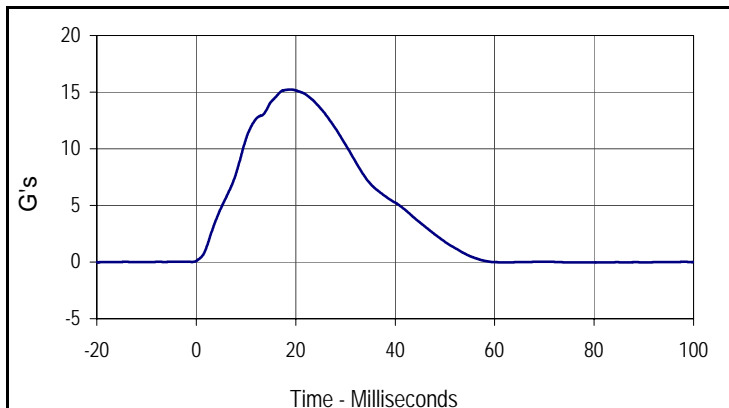


Curve Description			
Upper Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
001	FIL	600	MM
Max	Time	Min	Time
37.9	24.0	0.0	-20.0

Curve Description			
Lower Abdominal Rib Deflection			
Plot No.	Type	SAE Class	Units
002	FIL	600	MM
Max	Time	Min	Time
36.9	23.1	0.0	-19.6



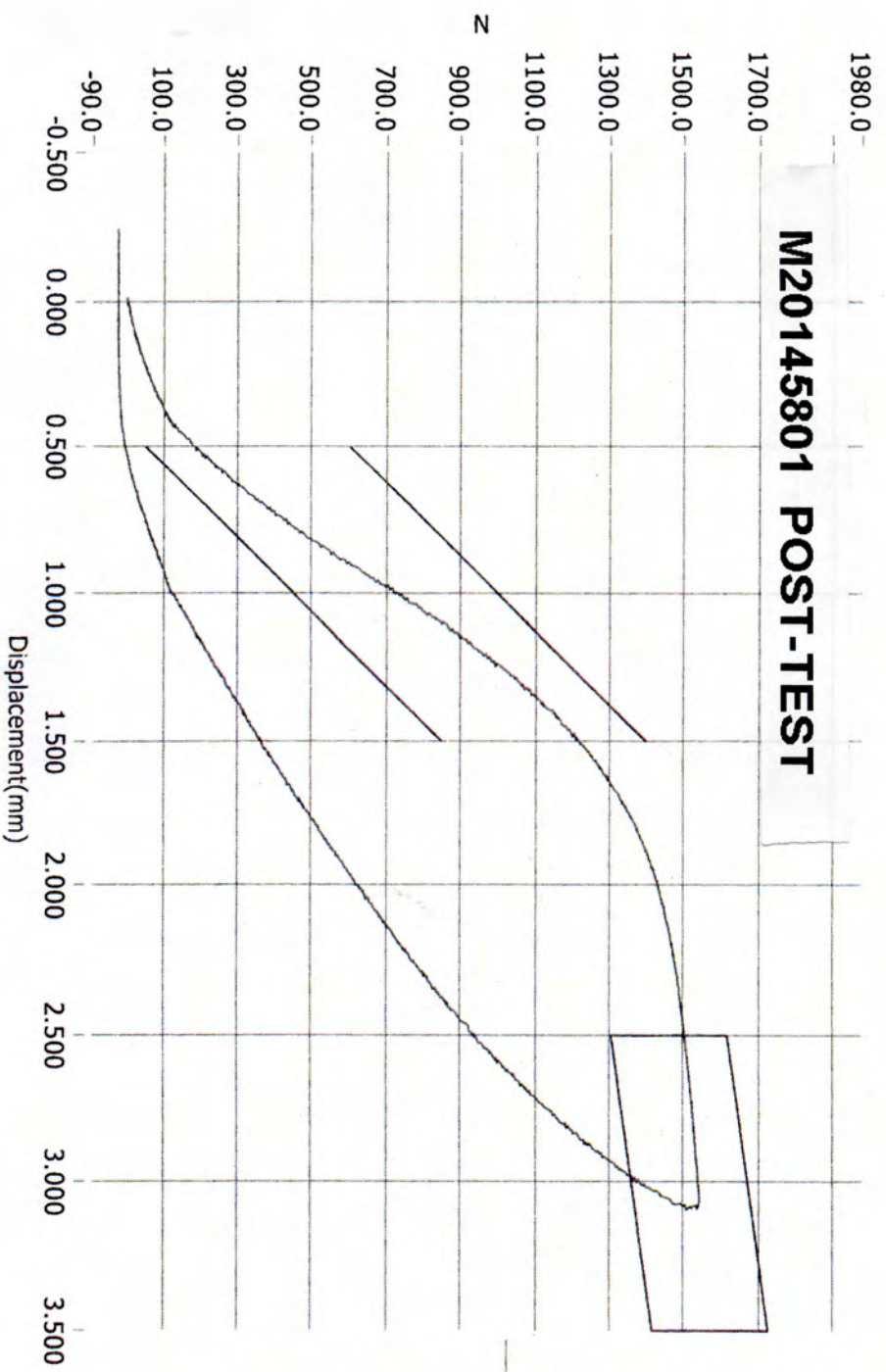
Curve Description			
Lower Spine Y Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
12.4	13.4	-5.6	34.0



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
004	FIL	180	G's
Max	Time	Min	Time
15.2	18.9	0.0	74.7

Resultant Data - SIDII's Plug Compression

M20145801 POST-TEST



ATD Calibration Lab

Test ID: 48985 Part Serial Number: 12/6/2011 Test Date: 10:41 PM

Cert ID: N/A ATD Serial Number: N/A ATD Type: SIDII's

Current Date : 12/6/2011

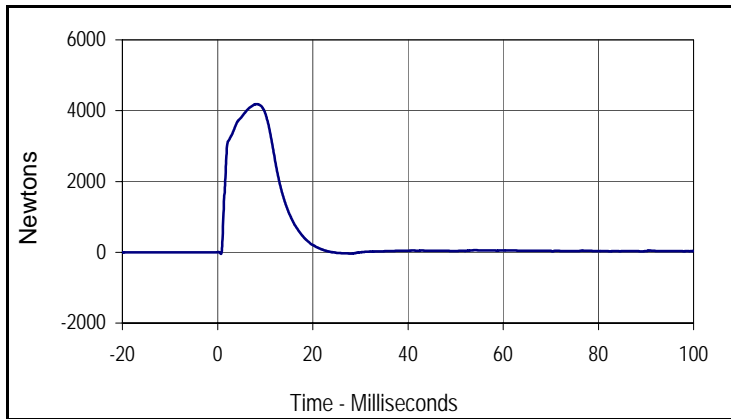
Current Time : 22:42:16

Test Program: SID IIs Pelvis Acetabulum Impact Test
 ATD Serial No.: 299

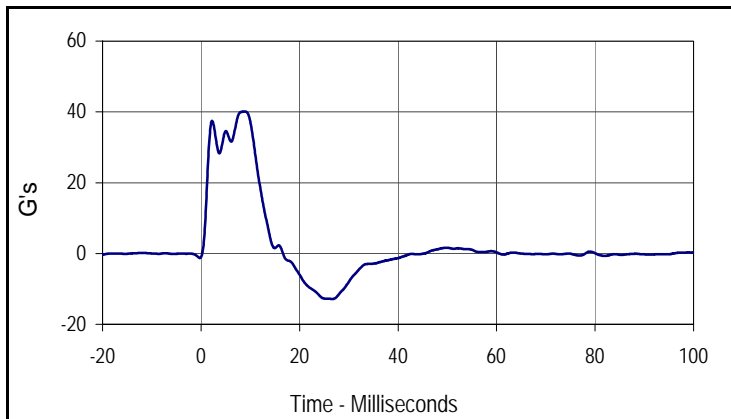
Test Date: 2/5/14
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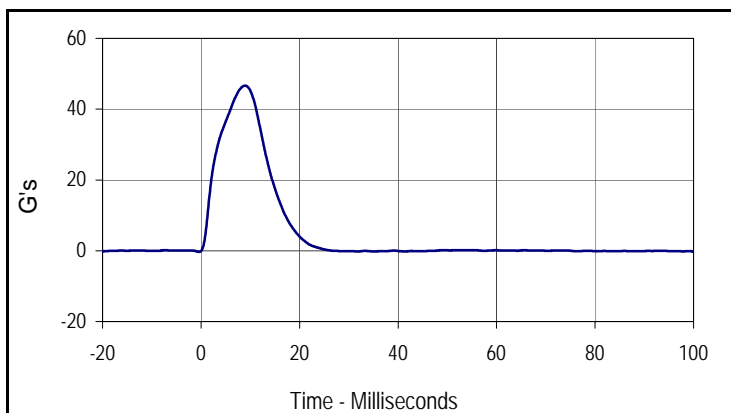
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	756	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.3	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.2	Pass
Impactor Velocity	m/s	6.6 to 6.8	6.75	Pass
Peak Acetabulum Force Y	Newtons	3600 to 4300	4187.1	Pass
Peak Pelvis Y Acceleration After 6 msec.	G's	34 to 42	40.1	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
4187.1	8.2	-45.5	0.7



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
40.1	8.9	-12.9	26.6



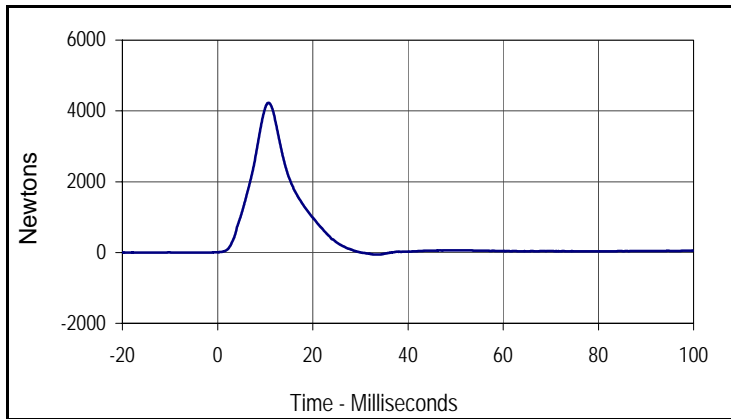
Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
46.7	8.9	-0.3	-0.4

Test Program: SID IIs Pelvis Iliac Calibration Test
 ATD Serial No.: 299

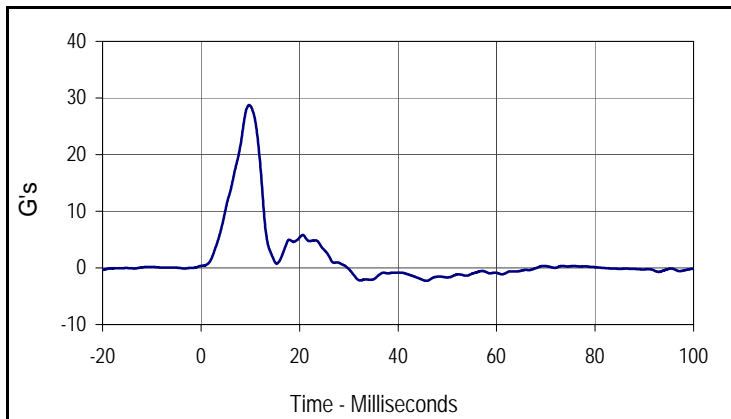
Test Date: 2/5/14
 Test I.D.: 299PL068



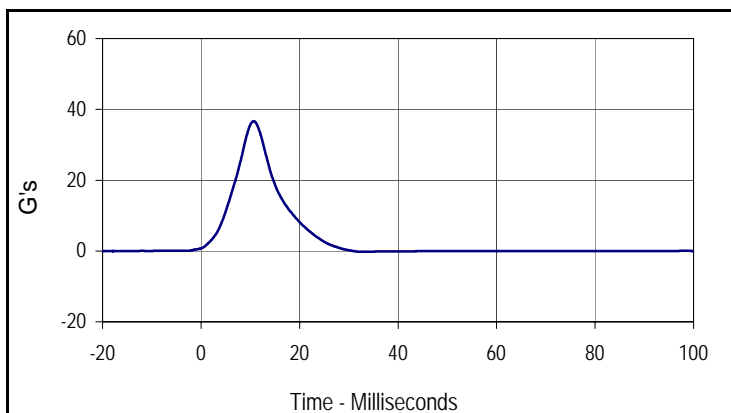
Tested Parameter	Units	Specification	Result	Pass/Fail
Dummy Soak Time	Minutes	≥180	821	Pass
Temperature During Soak	Max	20.6 to 22.2	21.4	Pass
	Min		21.1	Pass
Humidity During Soak	Max	10.0 to 70.0	37.0	Pass
	Min		31.1	Pass
Laboratory Temperature During Test	°C	18.9 to 25.6	21.2	Pass
Laboratory Humidity During Test	%	10.0 to 70.0	31.1	Pass
Impactor Velocity	m/s	4.2 to 4.4	4.37	Pass
Peak Iliac Force	Newtons	4100 to 5100	4227.7	Pass
Peak Pelvis Y Acceleration	G's	28 to 39	28.8	Pass
Peak Impactor Acceleration	G's	36 to 45	36.7	Pass
Overall Test Results				Pass



Curve Description			
Pelvis Iliac Force			
Plot No.	Type	SAE Class	Units
001	FIL	600	Newtons
Max	Time	Min	Time
4227.7	10.7	-60.5	34.0



Curve Description			
Pelvis Y Acceleration			
Plot No.	Type	SAE Class	Units
002	FIL	180	G's
Max	Time	Min	Time
28.8	9.8	-2.3	45.8



Curve Description			
Impactor Acceleration			
Plot No.	Type	SAE Class	Units
003	FIL	180	G's
Max	Time	Min	Time
36.7	10.7	-0.2	32.5

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 – Dummy Instrumentation (SID-IIs)

			SID-IIs S/N 299			
			Serial Number	Manufacturer	Calibration	
Head Accelerometers	Primary	X	P51926	Endevco	10/14/13	
		Y	P51929	Endevco	10/14/13	
		Z	P51934	Endevco	10/14/13	
	Redundant	X	P68604	Endevco	10/14/13	
		Y	P51931	Endevco	10/14/13	
		Z	P51939	Endevco	10/14/13	
Displacement Potentiometers	Shoulder		Y	1293	FTSS	6/21/13
	Thoracic Rib	Upper	Y	1143	FTSS	5/2/13
		Middle	Y	1160	FTSS	5/2/13
		Lower	Y	1213	FTSS	5/2/13
	Abdominal Rib	Upper	Y	1218	FTSS	5/2/13
		Lower	Y	1234	FTSS	5/2/13
Lower Spine Accelerometers (T12)			X	P63999	Endevco	10/15/13
			Y	P58872	Endevco	10/15/13
			Z	P58795	Endevco	10/15/13
Acetabulum Load Cell			Y	272	Denton	4/19/13
Iliac Wing Load Cell			Y	284	Denton	4/19/13
Pelvis Plug (Struck Side)				47770	FTSS	10/28/11
Pelvis Plug (Non-Struck Side)				47760	FTSS	10/28/11

TABLE 2 – Vehicle Instrumentation

Vehicle Instrumentation		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	Ketx5x	ICSensor	6/28/13
Vehicle Center of Gravity	Y	Ketx5y	ICSensor	6/28/13
Vehicle Center of Gravity	Z	Ketx5z	ICSensor	6/28/13
Left Floor Sill	Y	13663	Endevco	7/1/13
A-Pillar Sill	Y	13746	Endevco	10/22/13
A-Pillar Low	Y	13729	Endevco	10/22/13
A-Pillar Mid	Y	13724	Endevco	6/26/13
B-Pillar Sill	Y	13337	Endevco	10/29/13
B-Pillar Low	Y	13740	Endevco	10/22/13
B-Pillar Mid	Y	13734	Endevco	10/22/13
Driver Seat	Y	13493	Endevco	11/15/13
Engine Top	X	13742	Endevco	10/22/13
Engine Top	Y	13331	Endevco	6/26/13
Firewall	Y	13725	Endevco	10/22/13
Right Roof	Y	13480	Endevco	6/26/13
Right Floor Sill	Y	13488	Endevco	6/17/13
Rear Floorpan	X	13717	Endevco	6/17/13
Rear Floorpan	Y	13737	Endevco	10/22/13

TABLE 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	131822A	Interface	10/21/13
Load Cell 2	132304A	Interface	10/21/13
Load Cell 3	19477	Interface	10/21/13
Load Cell 4	19325	Interface	10/22/13
Load Cell 5	131827A	Interface	10/22/13
Load Cell 6	132302A	Interface	10/22/13
Load Cell 7	19267	Interface	10/22/13
Load Cell 8	19321	Interface	10/22/13