

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**HONDA MFG. OF ALABAMA, LLC
2009 HONDA PILOT EX
5-DOOR MPV**

NHTSA NUMBER: M95301

**Prepared By:
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JUNE 11, 2008

FINAL REPORT

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16. Abstract A 55/28 km/h 90 deg. Moving Deformable Barrier Side Impact NCAP Test was conducted on the subject 2009 Honda Pilot EX 5-Dr MPV in accordance with the specifications of the Office of Crash Worthiness Standards Test Procedures for the generation of consumer information on vehicle side crash protection. The test was conducted at KARCO Engineering, LLC in Adelanto, CA, on June 11, 2008. The impact velocity of the Moving Deformable Barrier was 62.18 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 28.9 deg. C. The target vehicle's maximum post-test static crush was 248 mm located at level 3. The test vehicle's occupant performance data is as follows:					
Measurement Description		Driver SID/HIII	Pass. SID/HIII		
Left Upper Rib (LUR) G's		24.3	25.8		
Left Lower Rib (LLR) G's		26.8	30.3		
Lower Spine (T ₁₂) G's		25.2	35.2		
Thoracic Trauma Index (TTI) G's		26.0	33.0		
Pelvis (PEV) G's		31.3	44.8		
17. Key Words New Car Assessment Program (NCAP) Side Impact Moving Deformable Barrier (MDB) Side Impact Dummy (SID/HIII)				18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Admin. NHTSA Technical Reference Division 1200 New Jersey Ave., SE, Room W43-410 Washington, DC 20590	
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SECTION 1

PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

This Side Impact NCAP test is conducted as part of the FY' 2008 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-03-D-32005. The purpose of this test is to generate comparative side impact data on a 2009 Honda Pilot EX 5-Dr MPV manufactured by Honda Mfg. of Alabama, LLC.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Crashworthiness Standards (OCS), laboratory test procedure NCAP Side Impact Testing, dated November 2002. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT NCAP TEST

A model year 2009 Honda Pilot EX 5-Dr MPV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.18 km/h. The specified impact velocity range is from 61.14 to 62.75 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 2155 kg and the test weight of the MDB was 1361 kg. The test was conducted at KARCO Engineering, LLC in Adelanto, California, on June 11, 2008.

Two (2) real-time cameras and ten (10) high-speed video cameras were used to document the impact event. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and SID/HIIIs can be found in Appendix A. Two 50th percentile adult male Side Impact Dummies, Hybrid III (SID/HIIIs) were placed in the driver's and left rear passenger designated seating positions according to the test procedure. Each SID/HIII is instrumented with contact switches on the pelvis, thorax and six-axis neck load cells, and fourteen accelerometers in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axes primary and redundant)

SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Type	Left Front Driver		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	No	
Side Torso Airbag	Yes	Yes	No	
Head Airbag	No		No	
Curtain Airbag	Yes	Yes	Yes	Yes

SECTION 2...(CONTINUED)

The test vehicle was instrumented with twenty-one (21) structural accelerometers and the MDB was instrumented with five (5) accelerometers and one (1) contact switch on the right bumper to compare left side to right side bumper impact timing. All data channels were recorded with the fully self contained on-board Data Acquisition System (DAS). The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

Both the driver and passenger doors remained closed during the impact. The test vehicle sustained a maximum static crush of 248 mm at level 3, 1050 mm rearward of the left vertical impact point. The driver SID/Hybrid III, Serial No. 275 and the passenger SID/Hybrid III, Serial No. 274 were calibrated prior to this test. The SID/Hybrid III injury criteria are summarized as follows:

Measurement	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	26	33
Peak Pelvic G's (PEV)	G's	31	45

Tests summaries and post-test observations are presented in Section 3. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID/HIIIs, vehicle, and MDB response data traces. Appendix C contains the SID Configuration and performance verification data.

SECTION 3

OCCUPANT AND VEHICLE INFORMATION SHEETS

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	$=(t_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

DATA SHEET NO. 1**GENERAL TEST AND VEHICLE PARAMETER DATA**Test Vehicle: 2009 Honda Pilot EX 5-Dr MPVNHTSA No.: M95301Test Program: 55/28 km/h Side Impact NCAPTest Date: 6/11/08**TEST VEHICLE INFORMATION AND OPTIONS**

NHTSA No.	M95301
Make	Honda
Model	Pilot
Body Style	5-Dr MPV
Vin No.	5FNYF38479B002157
Color	Dark Cherry
Delivery Date	5/30/2008
Odometer (Miles)	24.0
Dealer	Valley Hi Honda
Transmission	4-Speed Automatic
Final Drive	Front
Type/No. Cyl.	V6
Engine Disp. (L)	3.5
Engine Placement	Transverse
Roof Rack	Yes
Sunroof/T-Top	No
Tinted Glass	Yes
Traction Control	Yes
Power Brakes	Yes
Front Disc	Yes
Rear Disc	Yes

Anti-Lock Brakes	Yes
All Wheel Drive	No
Power Steering	Yes
Driver Front Airbag	Yes
Driver Side Torso Airbag	Yes
Driver Side Head Airbag	No
Driver Curtain/Airbag	Yes
Rear Pass. Airbag	No
Rear Pass. Side Airbag	No
Rear Pass. Head Airbag	No
Rear Pass. Curtain/Airbag	Yes
Pre-Tensioners	Yes
Load Limiters	Yes
Bucket Seats	Yes
Air Cond.	Yes
AM/FM CD	Yes
Tilt Steering	Yes
Automatic Door Locks	Yes
Power Windows	Yes
Power Seats	Yes
Other	None

Does Owners Manual provide instructions to turn off automatic door locks.

Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda Mfg. of Alabama, LLC
Date of Manufacture	May-08

GVWR (kg)	2700
GAWR Front (kg)	1325
GAWR Rear (kg)	1450

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	Bench	
Number of Occupants	2	3	2	7
Capacity Weight (VCW) (kg)				600
Cargo Weight (RCLW) (kg)				122

DATA SHEET NO. 1...(CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

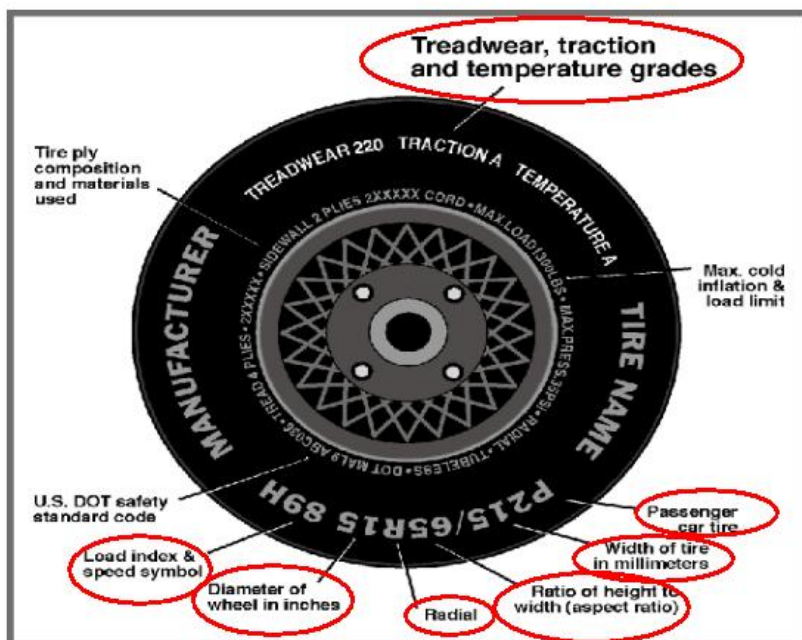
Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

Collect year, make, model, VIN, items circled in red, and tire manufacturer and tire name.



TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kpa)	350	350
Cold Pressure (kpa)	220	220
Recommended Tire Size	P245/65R17	P245/65R17
Tire Size on Vehicle	P245/65R17	P245/65R17
Tire Manufacturer	Goodyear	Goodyear
Treadwear	540	540
Traction	A	A
Temperature Grades	B	B
Tire Plies Sidewall	2 Ply Polyester	2 Ply Polyester
Tire Plies Body	2 Polyester + 2 Steel + 1 Nylon	2 Polyester + 2 Steel + 1 Nylon
Load Index/Speed Symbol	105T	105T
Tire Material	Polyester, Steel, Nylon	Polyester, Steel, Nylon
DOT Safety Code Right	5B8T 011R 1708	5B8T 011R 1708
DOT Safety Code Left	5B8T 011R 1708	5B8T 011R 1708

DATA SHEET NO. 1...(CONTINUED)**GENERAL TEST AND VEHICLE PARAMETER DATA**Test Vehicle: 2009 Honda Pilot EX 5-Dr MPVNHTSA No.: M95301Test Program: 55/28 km/h Side Impact NCAPTest Date: 6/11/08**TEST VEHICLE WEIGHTS**

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	547	425	972	597	504	1101
Right	kg	543	428	971	568	486	1054
Ratio	%	56.1	43.9	100.0	54.1	45.9	100.0
Totals	kg	1090	853	1943	1165	990	2155

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1943
Weight of 2 P572 ATD's	kg	162
Rated Cargo/Luggage Wt. (RCLW)	kg	55
Calculated Vehicle Target Wt. (TVTW)	kg	2161

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	821	822	837	843	1220
As Tested	mm	813	818	822	836	1277
Fully Loaded	mm	813	816	814	821	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2780
Total Vehicle Length at Left Side	mm	3370
Total Vehicle Length at Centerline	mm	4870
Total Vehicle Length at Right Side	mm	3370
Weight of Ballast In Cargo Area	kg	0
Amount of Stoddard Solvent in Fuel Tank	liters	73.92

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2780
Target Impact Point Aft of Front Axle	mm	450
Actual Impact Point Aft of Front Axle	mm	453

DATA SHEET NO. 1...(CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

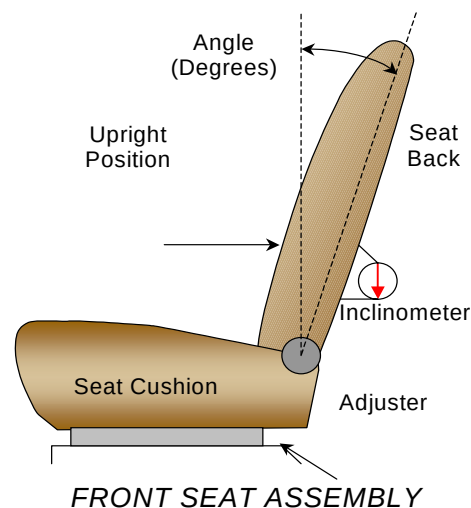
Test Date: 6/11/08

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturer's designated angle. The procedure is as follows: Seat back angle was measured at the headrest using a digital inclinometer.

SEAT BACK ANGLES

	Deg.
Driver w/seated Dummy	21.5 @ Seat back
Passenger w/seated Dummy	Fixed

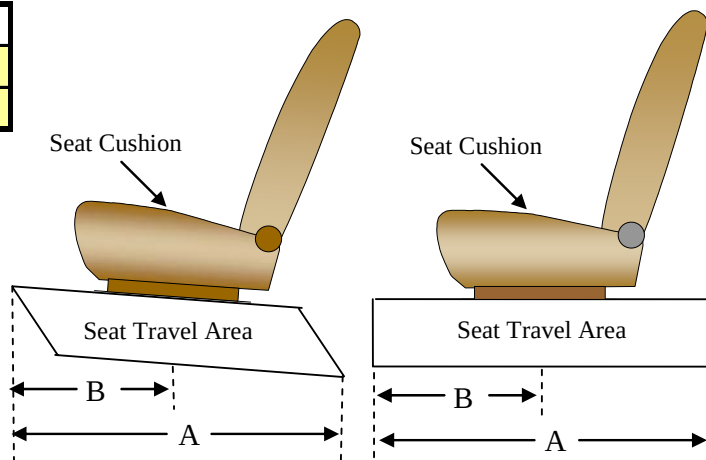


SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position at the highest vertical seat height to rearmost position at the lowest vertical seat height. The seat was set at the longitudinal mid position. There were vertical adjustments on the driver seat that was equipped with the vehicle. There were no adjustments on the passenger seat. The driver seat was placed at the lowermost position.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	291 mm	145 mm
Rear Seat	11 Detents	6th Detent



SEAT BELT UPPER ANCHORAGE

Position number zero (0) is the uppermost position

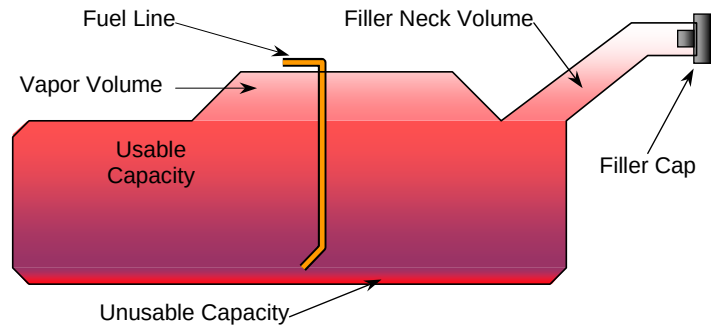
SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	4	0
Rear Seat	Fixed	Fixed

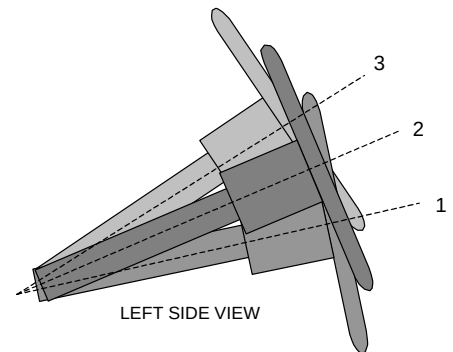
DATA SHEET NO. 1...(CONTINUED)**GENERAL TEST AND VEHICLE PARAMETER DATA**Test Vehicle: 2009 Honda Pilot EX 5-Dr MPVNHTSA No.: M95301Test Program: 55/28 km/h Side Impact NCAPTest Date: 6/11/08**FUEL TANK CAPACITY**

	Liters
Usable Capacity of "Standard Tank"	79.49
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	73.13 to 74.72
Actual Amount of Solvent used	73.92

The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately two (2) seconds with the ignition in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat and pickup bed.

**VEHICLE FUEL TANK ASSEMBLY****STEERING COLUMN ADJUSTMENT**

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.

**STEERING COLUMN ASSEMBLY****STEERING COLUMN POSITIONS**

	Degrees	Fore/Aft Position (mm)
Lowermost position No. 1	21.0	100
Geometric center position No. 2	24.2	120
Uppermost position No. 3	27.3	140

DATA SHEET NO. 2**TEST VEHICLE SUMMARY OF RESULTS**Test Vehicle: 2009 Honda Pilot EX 5-Dr MPVNHTSA No.: M95301Test Program: 55/28 km/h Side Impact NCAPTest Date: 6/11/08**TEST VEHICLE WEIGHTS**

	Units	As Delivered Weights (UWV)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	547	425		597	504	
Right	kg	543	428		568	486	
Ratio	%	56.1	43.9		54.1	45.9	
Totals	kg	1090	853	1943	1165	990	2155

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	105	345
Level 2	Occupant H-Point	mm	243	750
Level 3	Mid Door	mm	248	405
Level 4	Window Sill	mm	129	1065
Level 5	Window top	mm	38	1750
N/A	Maximum Penetration	mm	248	

INSTRUMENTATION

Driver SID/Hybrid III Accelerometers	20
Passenger SID/Hybrid III Accelerometers	20
Vehicle Structure Accelerometers	21
MDB Accelerometers	5
Total No. of Contact Switches	5
Total	71

CAMERA COVERAGE

High Speed, Vehicle On-Board	3
High Speed, Off-Board	4
High Speed, MDB On-Board	3
Real Time, Panning	2
Total	12

DATA SHEET NO. 3**MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS**Test Vehicle: 2009 Honda Pilot EX 5-Dr MPVNHTSA No.: M95301Test Program: 55/28 km/h Side Impact NCAPTest Date: 6/11/08**MDB SPECIFICATIONS (mm)**

Measurement Description	Length
Overall Width of Framework Carriage	1252
Overall Length including Honeycomb Face	4115
Wheel Base of Framework Carriage	2590
C.G. location aft of Front Axle	1127

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	384	308	
Right	kg	385	284	
Ratio	%	56.5	43.5	
Totals	kg	769	592	1361

SPEED AND IMPACT DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.18
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.18
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.5

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max. Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Right	238
B	Top of Bumper	533	800	Right	168
C	Mid Level	686	800	Left	123
D	Top of Stack	813	800	Right	151

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	1
High Speed Cameras	2

DATA SHEET NO. 4
POST-TEST OBSERVATIONS

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/Hybrid III	Rear Seat SID/Hybrid III
Dummy Type / Serial No.	P572F, SID / No. 275	P572F, SID / No. 274
Head Contact	Curtain Airbag	Curtain Airbag
Upper Torso Contact	Side Airbag	Curtain Airbag / Door Panel
Lower Torso Contact	Side Airbag / Door Panel	Door Panel
Left Knee Contact	Door Panel	Door Panel / Right Knee
Right Knee Contact	None	Left Knee

POST-TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Left Side Door Opening	Door remained closed and latched, jammed	Door remained closed and latched, jammed
Right Side Door Opening	Remained closed and latched, operational	Remained closed and latched, operational
Seat Movement	None	None
Seat Back Failure	None	None

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No separation
Sill Separation	No separation
Windshield Damage	None
Window Damage	Passenger Window Broken
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 01		Left Rear (Passenger) Occupant Location 04	
	Installed	Operation	Installed	Operation
Front Airbag	Yes	No	No	
Side Torso Airbag	Yes	Yes	No	
Head Airbag	No		No	
Curtain Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes		No	
Seat Belt Load Limiter	Yes		No	

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	+3 (Right)
Vertical Offset	mm	+/- 20	+2 (above)

DATA SHEET NO. 5

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

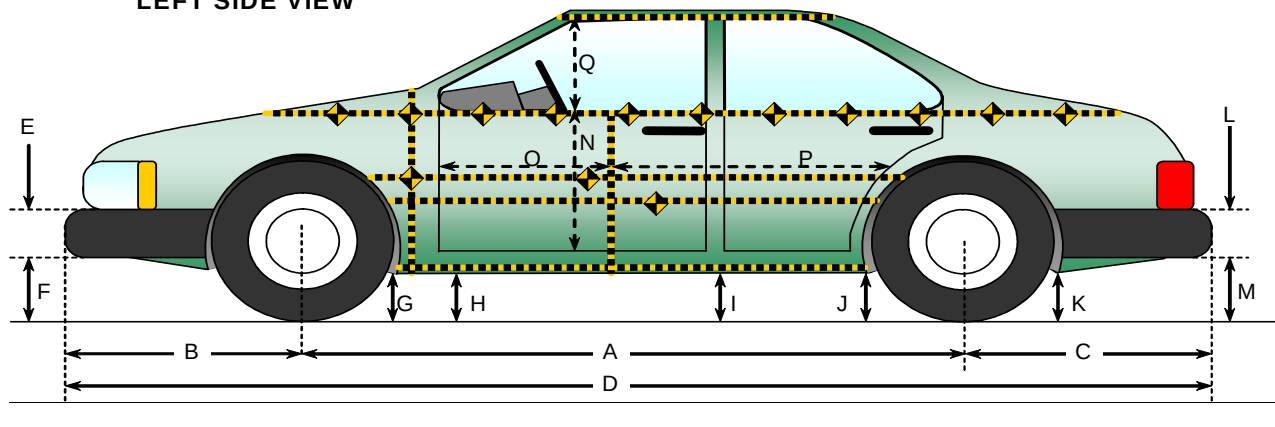
Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

LEFT SIDE VIEW



VEHICLE PRE AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2780	2743	-37
B	Front Axle to FSOV	965	965	0
C	Rear Axle to RSOV	1125	1127	2
D	Total Length at Centerline	4870	4835	-35
E	Front Bumper Thickness	390	405	15
F	Front Bumper Bottom to Ground	311	325	14
G	Sill Height at Front Wheel Well	237	254	17
H	Sill Height at Front Door Leading Edge	326	346	20
I	Sill Height at "B" Pillar	335	312	-23
J1	Sill Height at Rear Wheel Well	316	352	36
J2	Pinch Weld Height at Rear Wheel Well	331	369	38
K	Sill Height aft of Rear Wheel Well	254	311	57
L	Rear Bumper Thickness	295	290	-5
M	Rear Bumper Bottom to Ground	372	424	52
N	Sill Height to Window Bottom Sill	810	785	-25
O	Front Door Leading Edge to Impact CL	820	807	-13
P	Rear Door Trailing Edge to Impact CL	1270	1230	-40
Q	Front Window Opening	440	430	-10
R	Right Side Length	3370	3375	5
S	Left Side Length	3370	3335	-35
T	Vehicle Width at "B" Post	1970	1860	-110

All Dimensions shown in millimeters

DATA SHEET NO. 6

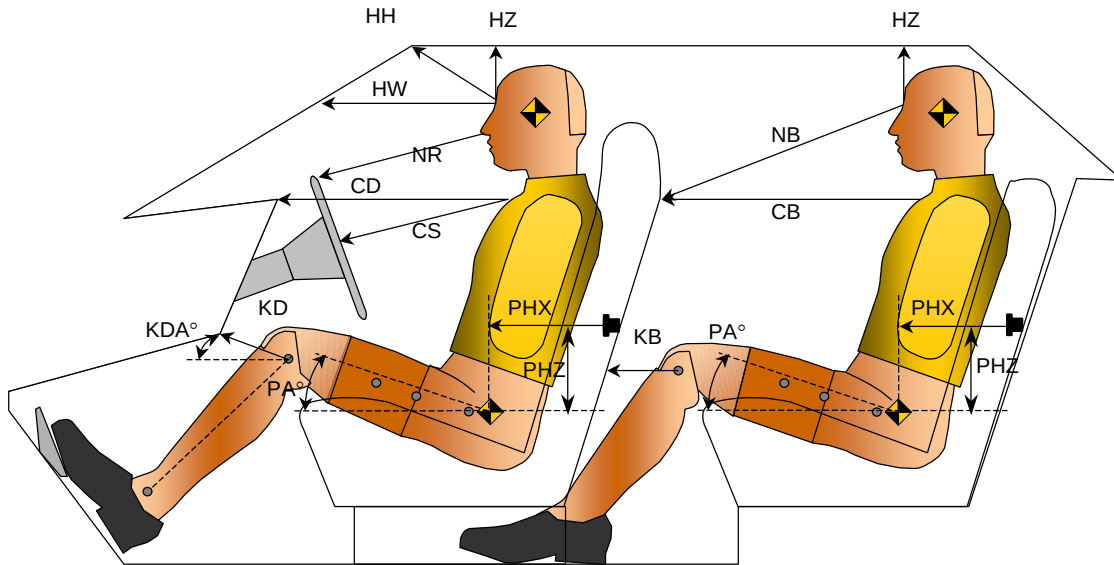
SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



LONGITUDINAL CLEARANCE DIMENSION INFORMATION

Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length(mm)	Angle	Length(mm)	Angle
HH		Head to Header	546	13.1		
HW		Head to Windshield	745	0.0		
HZ	HZ	Head to Roof	235	90.0	236	90.0
NR	NB	Nose to Rim/Nose to Seat Back	484	13.6	599	23.6
CD	CB	Chest to Dash or Seat Back	583	5.2	515	5.1
CS		Chest to Steering Wheel	364	11.7		
KDL	KBL	Left Knee to Dash or Seat Back	171	19.3	170	27.2
KDR	KBR	Right Knee to Dash or Seat Back	136		178	
PA	PA	Pelvic Angle		24.0		24.2
PHX	PHX	H-Point to Striker (X-Axis)	236		362	
PHZ	PHZ	H-Point to Striker (Z-Axis)	96		125	

All Dimensions shown in millimeters

DATA SHEET NO. 7

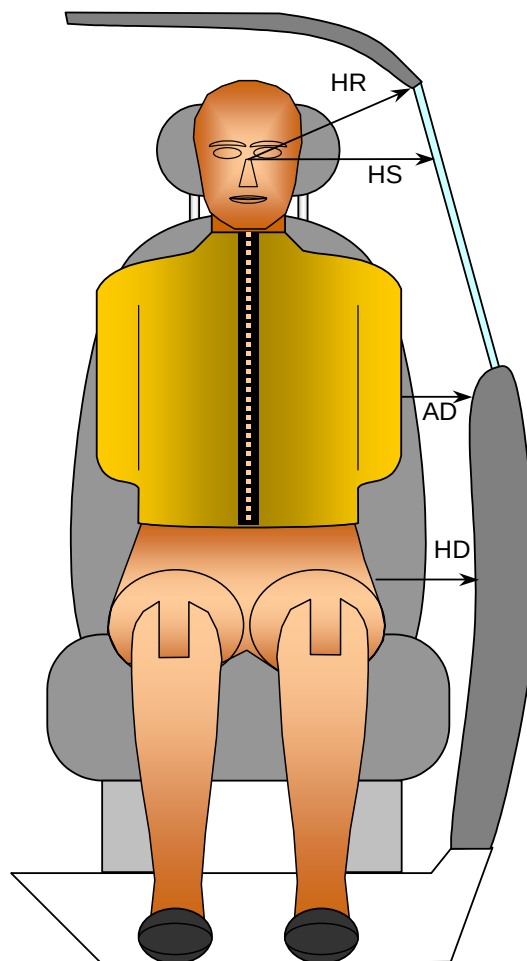
SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



FRONT VIEW OF DUMMY

LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	341	310
HS	Head to Side Window	mm	375	357
AD	Arm to Door	mm	101	119
HD	H-Point to Door	mm	172	149

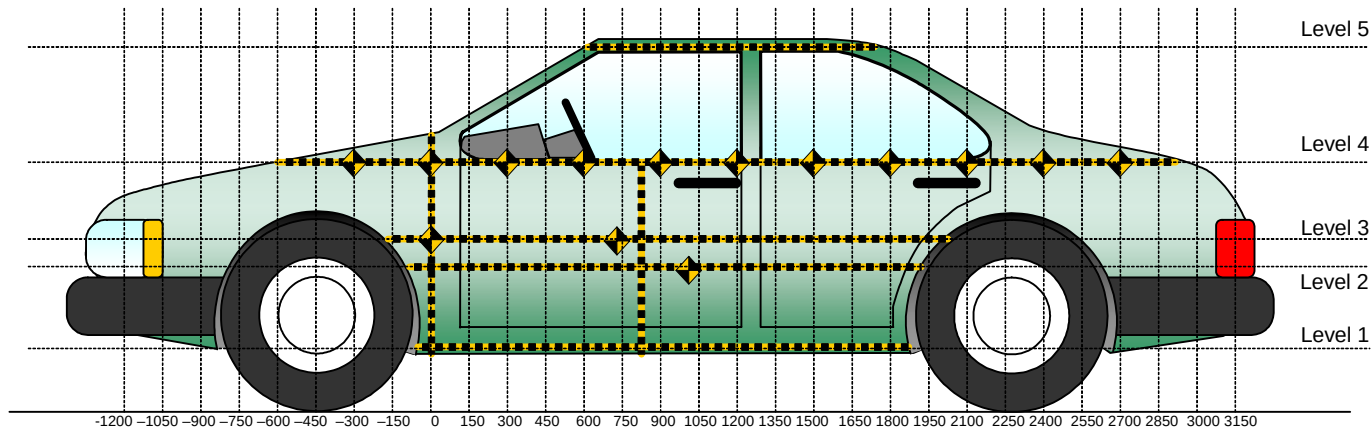
DATA SHEET NO. 8 **VEHICLE SIDE MEASUREMENTS**

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements taken 900 mm right of impact reference.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
1	Sill Top	345
2	Occupant H-Point	750
3	Mid Door	405
4	Window Sill	1065
5	Window Top	1750

All Dimensions shown in millimeters

DATA SHEET NO. 9

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600															
-450															
-300															
-150		501	506	556			527	535	596			26	29	40	
0	526	516	518	546		561	542	547	586		35	26	29	40	
150	591	511	519	541		665	667	602	616		74	156	83	75	
300	616	511	516	541		690	716	691	623		74	205	175	82	
450	616	509	516	536		697	731	712	630		81	222	196	94	
600	616	508	516	536		703	742	736	636		87	234	220	100	
750	616	509	516	536		707	748	749	651		91	239	233	115	
900	616	508	516	536	816	711	744	761	641	848	95	236	245	105	32
1050	616	510	516	536	798	718	726	764	652	836	102	216	248	116	38
1200	616	509	517	536	786	719	745	748	662	820	103	236	231	126	34
1350	620	509	519	538	781	723	752	758	666	808	103	243	239	128	27
1500	621	511	521	539	778	726	746	766	668	808	105	235	245	129	30
1650	621	515	526	541	778	711	706	761	661	808	90	191	235	120	30
1800	586	523	525	543	778	668	673	744	609	809	82	150	219	66	31
1950		506	506	550	779		586	686	583	808		80	180	33	29
2100			504	552	778			601	583	801			97	31	23
2250				556	781				604	812				48	31
2400															
2550															
2700															
2850															
3000															

All Dimensions shown in millimeters.

DATA SHEET NO. 9...(CONTINUED)

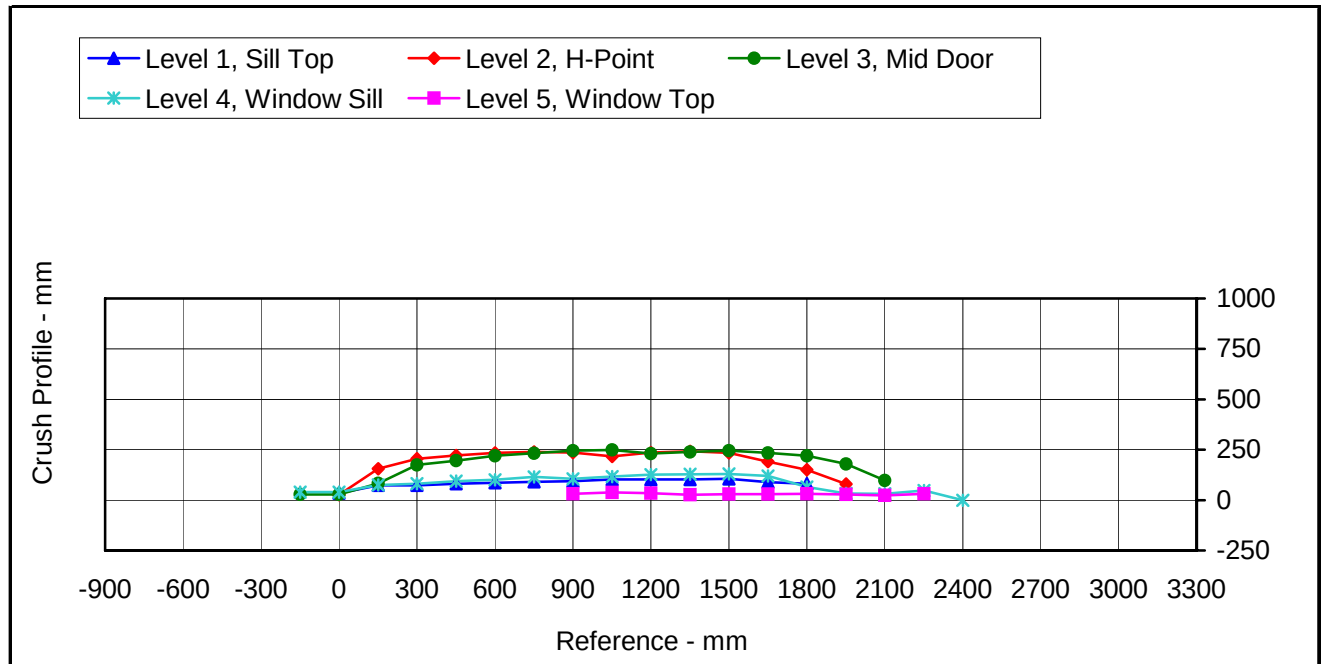
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



	Units	Level 1	Level 2	Level 3	Level 4	Level 5
Maximum Crush	mm	105	243	248	129	38
Distance from Impact	mm	1500	1350	1050	1500	1050

DATA SHEET NO. 10

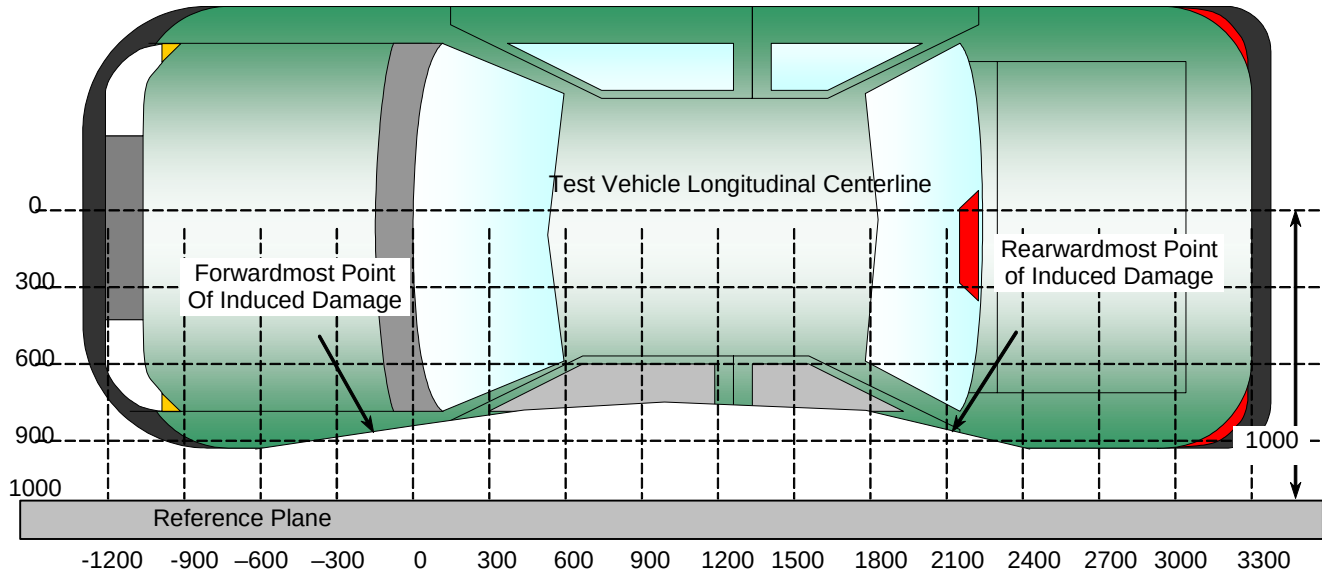
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



All Dimensions Shown in millimeters

TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	2100	3	504	601	97
2	1650	3	526	761	235
3	1200	2	509	745	236
4	750	2	509	748	239
5	300	2	511	716	205
6	-150	4	556	596	40

DATA SHEET NO. 11

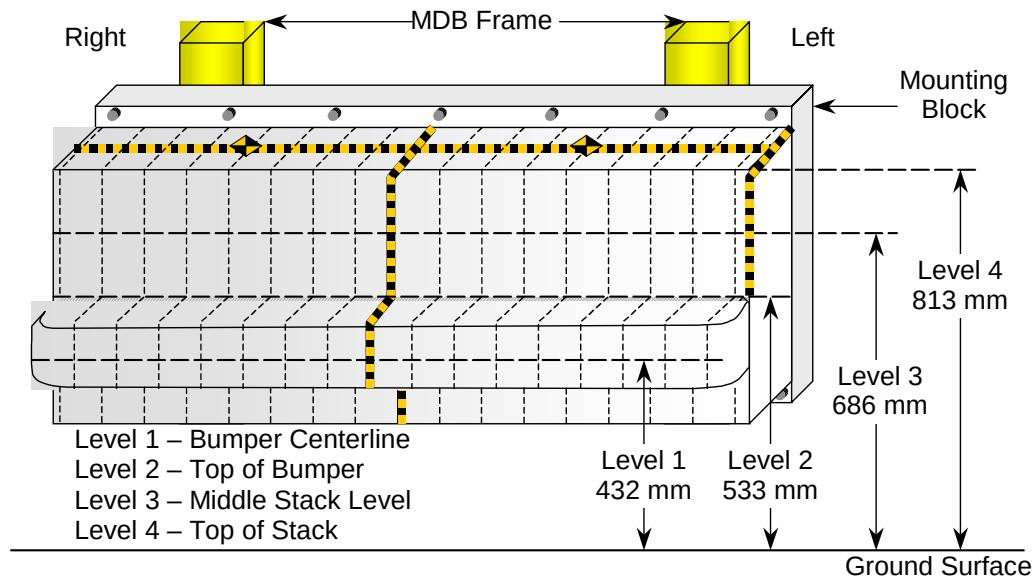
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
1	756	736	727	716	704	701	696	694	696	692	689	689	690	691	692	698	711
2	788	771	756	742	736	726	715	716	716	718	723	723	726	727	727	729	732
3	736	713	697	688	691	690	700	708	693	681	676	677	681	691	699	713	743
4	771	726	698	689	684	686	707	708	698	689	684	688	694	707	709	724	742

All Dimensions in mm

DATA SHEET NO. 12

VEHICLE ACCELEROMETER LOCATIONS

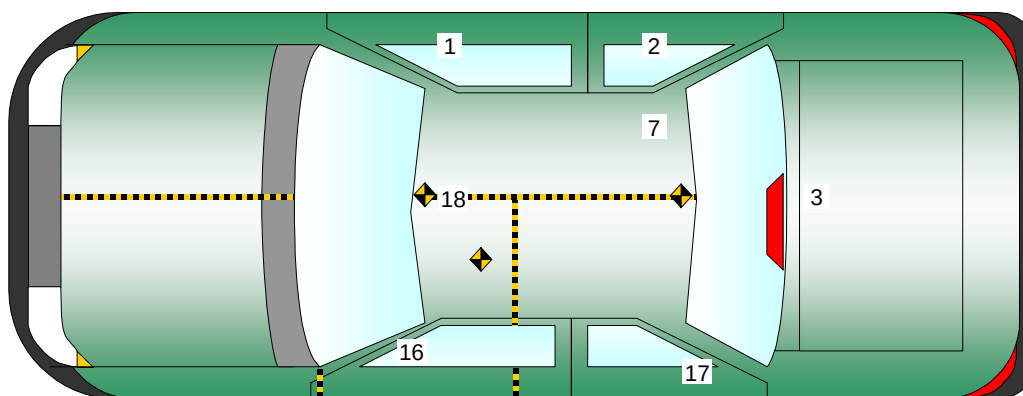
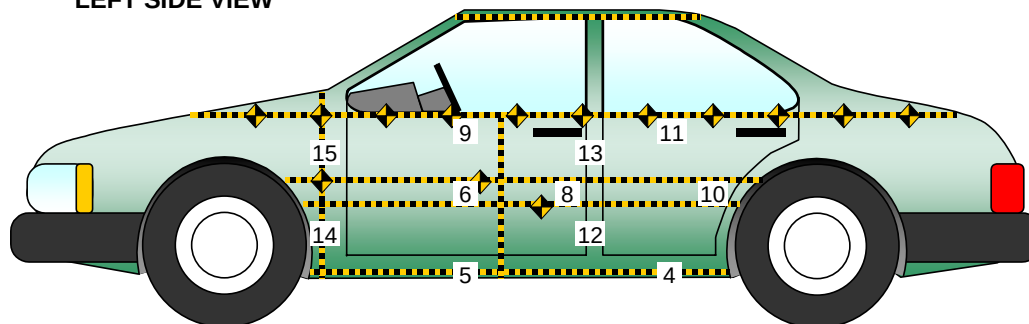
Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

LEFT SIDE VIEW



No.	Location
1	Right Sill at Front Seat
2	Right Sill at Rear Seat
3	Rear Floorpan Above Axle
4	Left Sill at Rear Door
5	Left Sill at Front Door
6	Left Front Door Centerline
7	Right Rear Occupant Compartment
8	Left Front Door Mid-Rear
9	Left Front Door Upper Centerline

No.	Location
10	Left Rear Door Mid-Rear
11	Left Rear Door Upper Centerline
12	Left Lower B-Post
13	Left Middle B-Post
14	Left Lower A-Post
15	Left Middle A-Post
16	Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 12..(CONTINUED)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV NHTSA No.: M95301
 Test Program: 55/28 km/h Side Impact NCAP Test Date: 6/11/08

VEHICLE ACCELEROMETER LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2725	750	495
2	Right Sill at Rear Seat	1690	755	545
3	Rear Floorpan Above Axle	535	-20	640
4	Left Sill at Rear Door	2680	-675	285
5	Left Sill at Front Door	2010	-680	285
6	Front Door Centerline			
7	Rt. Rear Occ. Compartment	2295	270	460
8	Front Door Mid-Rear			
9	Front Door Upper Centerline			
10	Rear Door Mid-Rear			
11	Rear Door Upper Centerline			
12	B-Post Lower	2340	-760	890
13	B-Post Middle	2340	-760	1050
14	A-Post Lower	3350	-865	500
15	A-Post Middle	3350	-875	760
16	Front Seat Track	2965	575	560
17	Rear Seat Structure	1940	665	610
18	Vehicle CG	3010	175	450

Reference Planes: X=From Rear Surface of Vehicle, Y=Vehicle Centerline, Z=Ground Plane

1.) Not installed

DATA SHEET NO. 13

MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

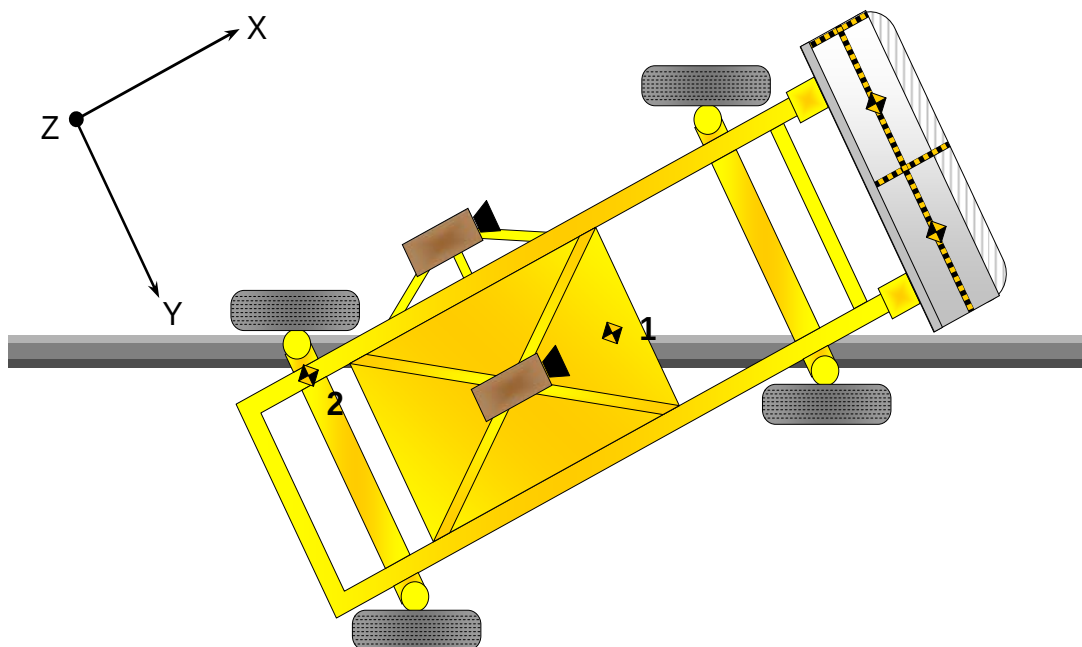
NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08

Loc. No.	Accelerometer Locations	Measurements (mm)		
		X	Y	Z
1	MDB CG	-1195	0	430
2	MDB Rear	-2642	-593	608

Reference Points:
X - MDB Front Axle
Y - MDB Centerline
Z - Ground Plane



DATA SHEET NO. 14

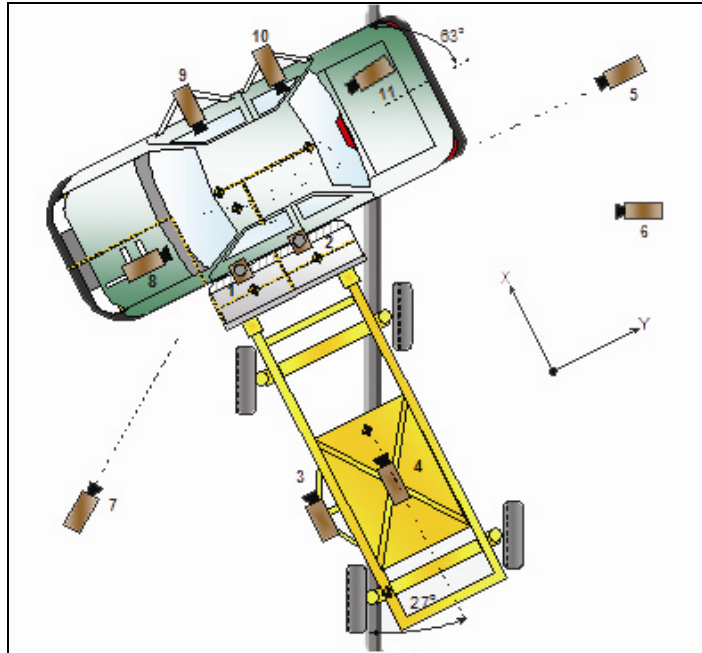
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
Doc	Real Time Inrun	-2484	-3958	-1506	0		30
Doc	Real Time Left Front	-2266	3549	-1475	-2		30
1	Overhead Overall	1220	2287	-5486	-90	14mm	1000
2	Overhead Close Up	609	2287	-5102	-90	Zoom	1000
3	Left Impact Point (MDB)	-2134	0	-1143	-2	12mm	1000
4	Side Overall (MDB)	-3912	838	-1829	-4	12mm	1000
5	Rear	-64	20485	-1348	0	105mm	1000
6	Left Rear (MDB)	-2137	-1302	-339	-4	85mm	1000
7	Left Front	-2266	-3564	-1475	-2	24mm	1000
8	Driver Front (O.B.)	457	800	-762	-7	35mm	1000
9	Driver Side (O.B.)	1994	724	-457	-9	20mm	1000
10	Passenger Side (O.B.)	2032	1676	-508	-7	20mm	1000

All measurements are made relative to the point of impact.

DATA SHEET NO. 15

FMVSS 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP Test Date: 6/11/08

Test Time: 11:47 AM

Temperature: 28.9 Deg. C.

Stoddard Solvent Spillage Measurements

- A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)
- D. Spillage Details: No leakage occurred

DATA SHEET NO. 16

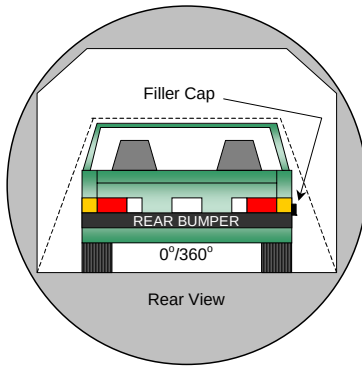
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

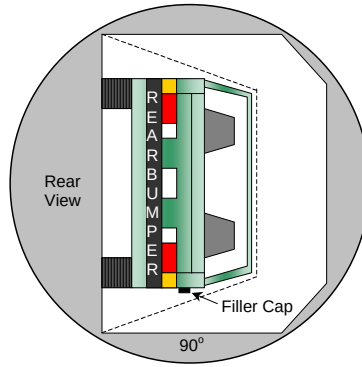
NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

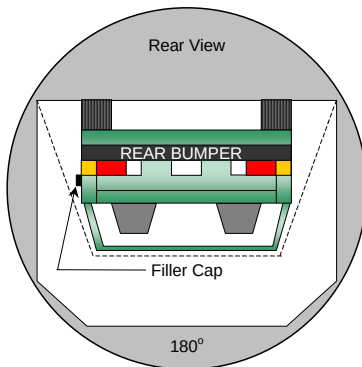
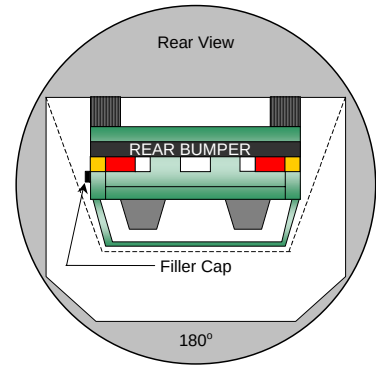
Test Date: 6/11/08



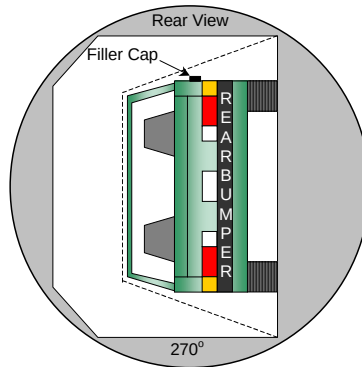
0° to 90°



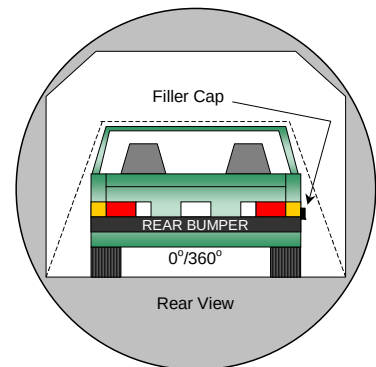
90° to 180°



180° to 270°



270° to 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations.
No solvent leakage occurred during static rollover testing.

DATA SHEET NO. 16...(CONTINUED)**FMVSS 301 STATIC ROLLOVER DATA SHEET**Test Vehicle: 2009 Honda Pilot EX 5-Dr MPVNHTSA No.: M95301Test Program: 55/28 km/h Side Impact NCAPTest Date: 6/11/08**SOLVENT COLLECTION TIME TABLE IN SECONDS**

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	80	306	386
90° to 180°	82	303	385
180° to 270°	77	311	388
270° to 360°	77	306	383

FMVSS 301 SPILLAGE TABLE REQUIREMENT (oz.)

First 5 Minutes	5.0
Sixth Minute	1.0
Seventh Minute	1.0
Eighth Minute	1.0

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

SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	None
90° to 180°	None
180° to 270°	None
270° to 360°	None

DATA SHEET NO. 17

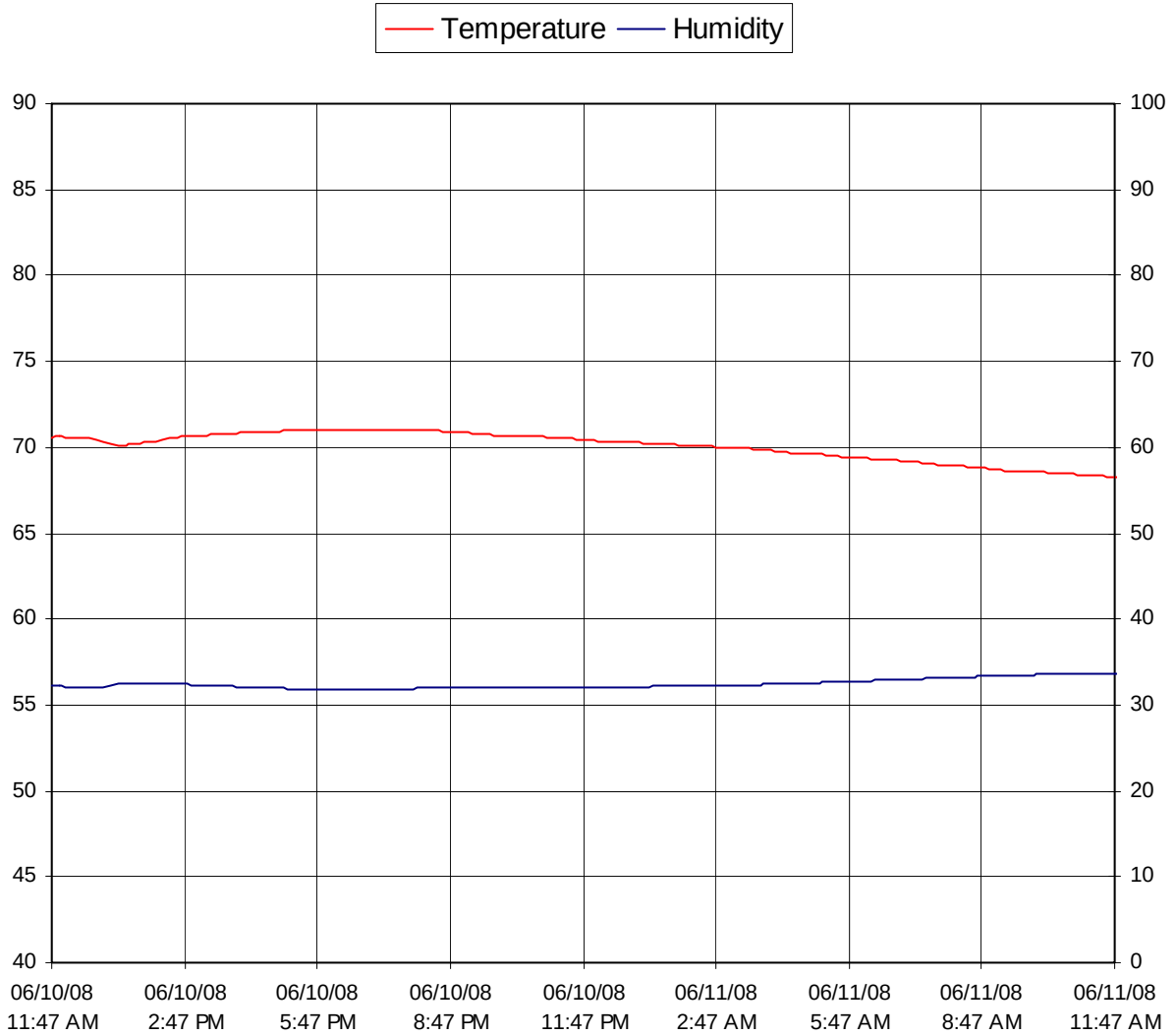
DUMMY / VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2009 Honda Pilot EX 5-Dr MPV

NHTSA No.: M95301

Test Program: 55/28 km/h Side Impact NCAP

Test Date: 6/11/08



APPENDIX A
PHOTOGRAPHS

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Figure A-1: Right Front $\frac{3}{4}$ View, as Received



Figure A-2: Left Rear $\frac{3}{4}$ View, as Received

MFD. BY HONDA MFG. OF ALABAMA, LLC 05/'08
GVWR 2700KG(5952LBS) TIRE SIZE RIM SIZE
GAWR F 1325KG(2921LBS) P245/65R17 105T 17X7.5J
GAWR R 1450KG(3197LBS) P245/65R17 105T 17X7.5J

**THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY
AND THEFT PREVENTION STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE.**

V.I.N.: 5FNYF38479B002157 TYPE: MPV



SZB 9 AB5 - R529P - F - B

Figure A-3: Manufacturer's Label



TIRE AND LOADING INFORMATION

SEATING CAPACITY: TOTAL 8 : FRONT 2 : SECOND 3 : THIRD 3

The combined weight of occupants and cargo should never exceed 600kg or 1322lbs.

TIRE	SIZE	COLD TIRE PRESSURE	SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
FRONT	P245/65R17 105T	220KPA, 32PSI	
REAR		220KPA, 32PSI	
SPARE	T165/80D17 104M	420KPA, 60PSI	

ZAO

Figure A-4: Tire Placard



Figure A-5: Pre-Test Front View



Figure A-6: Post-Test Front View



Figure A-7: Pre-Test Left Front $\frac{3}{4}$ View



Figure A-8: Post-Test Left Front $\frac{3}{4}$ View



Figure A-9: Pre-Test Left Side View



Figure A-10: Post-Test Left Side View



Figure A-11: Pre-Test Left Rear $\frac{3}{4}$ View



Figure A-12: Post-Test Left Rear $\frac{3}{4}$ View



Figure A-13: Pre-Test Rear View



Figure A-14: Post-Test Rear View



Figure A-15: Pre-Test Right Rear $\frac{3}{4}$ View



Figure A-16: Post-Test Right Rear ¾ View



Figure A-17: Pre-Test Right Side View



Figure A-18: Post-Test Right Side View



Figure A-19: Pre-Test Right Front $\frac{3}{4}$ View



Figure A-20: Post-Test Right Front $\frac{3}{4}$ View



Figure A-21: Pre-Test Overhead View



Figure A-22: Post-Test Overhead View

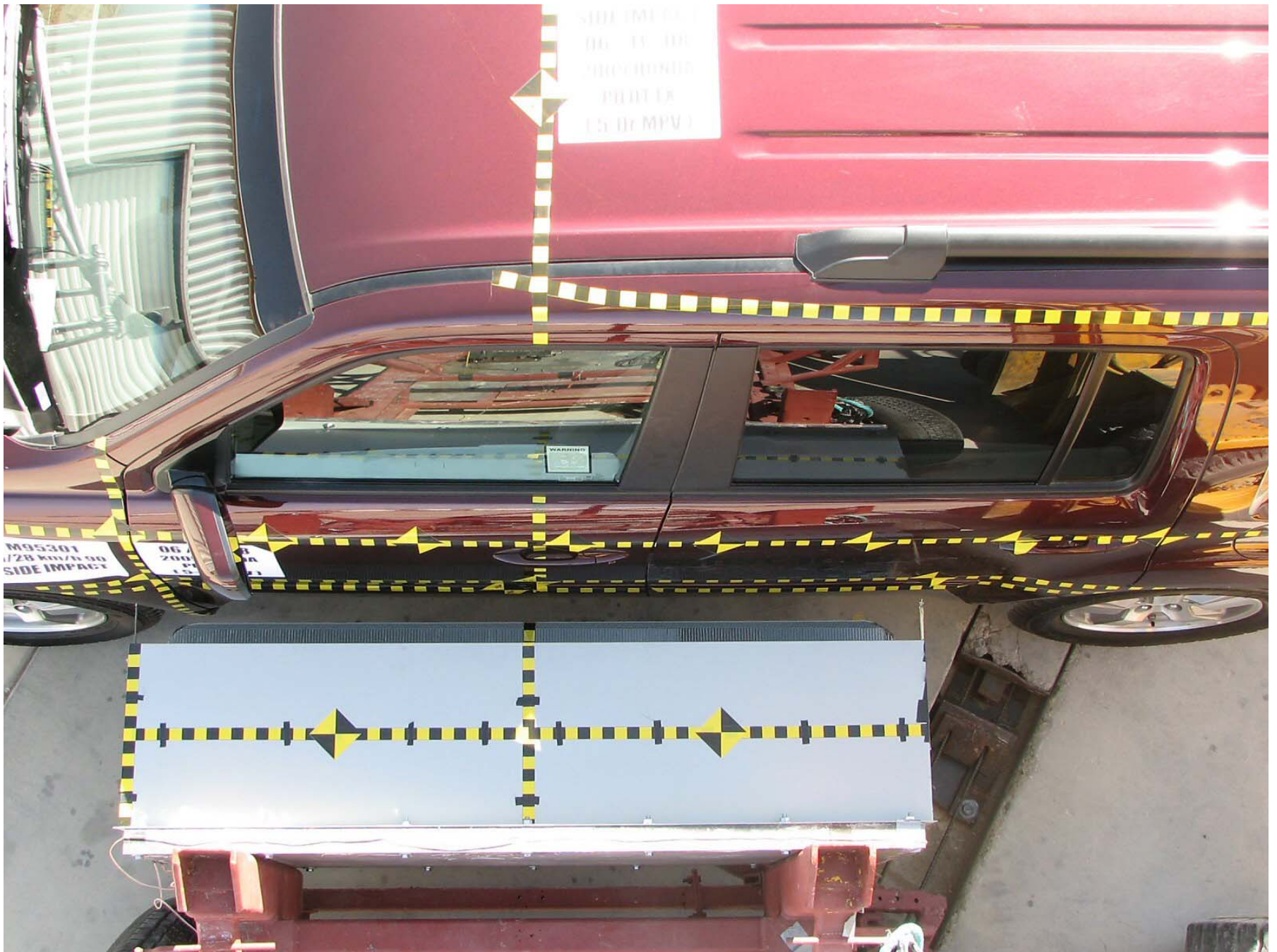


Figure A-23: Pre-Test Overhead Close-up View



Figure A-24: Post-Test Overhead Close-up View

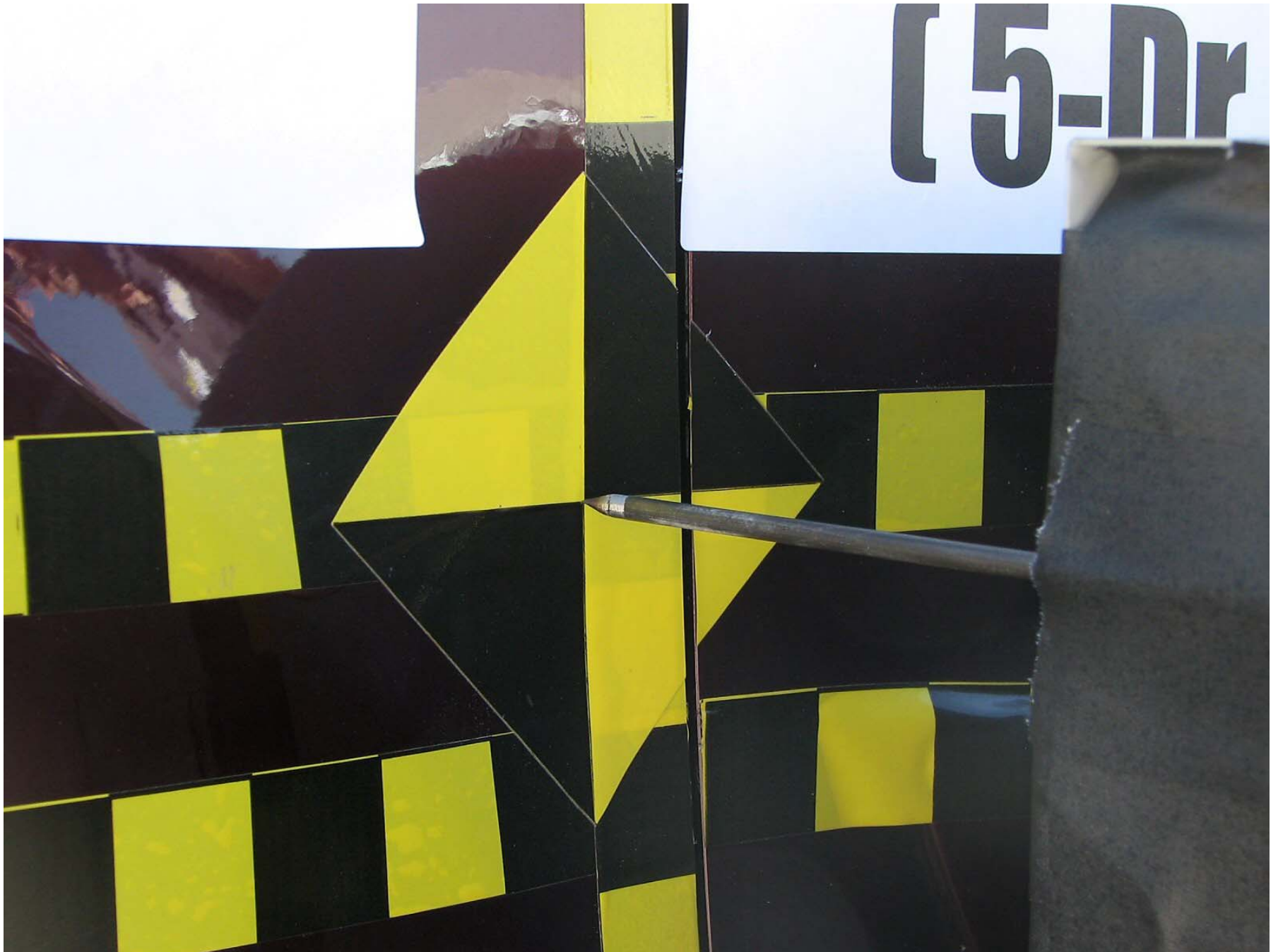


Figure A-25: Pre-Test Left Impact Point

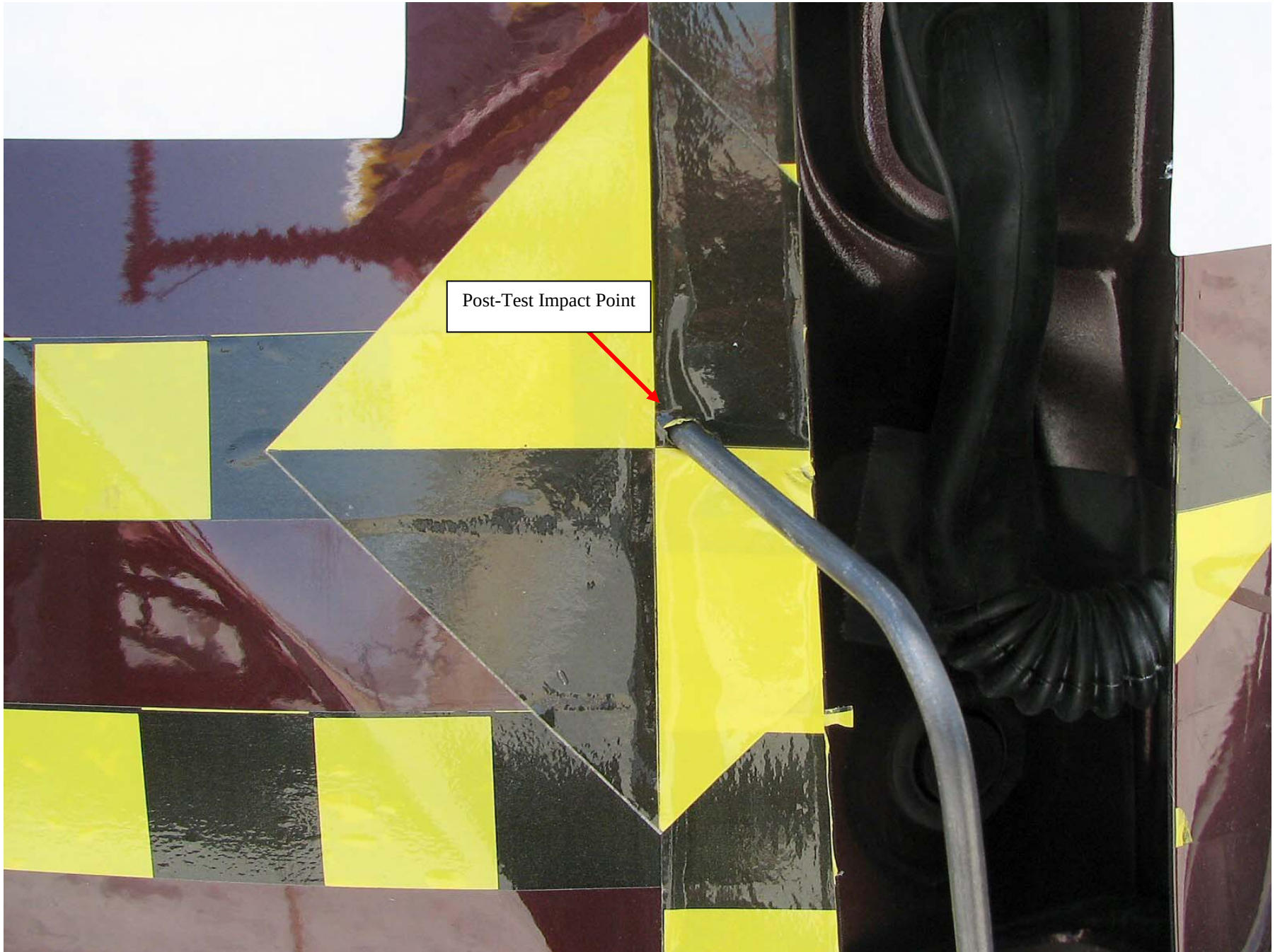


Figure A-26: Post-Test Left Impact Point



Figure A-27: Pre-Test Front $\frac{3}{4}$ View of Left Side Door



Figure A-28: Post-Test Front $\frac{3}{4}$ View of Left Side Door



Figure A-29: Pre-Test Rear $\frac{3}{4}$ View of Left Side Door



Figure A-30: Post-Test Rear $\frac{3}{4}$ View of Left Side Door



Figure A-31: Pre-Test Left Front Door



Figure A-32: Post-Test Left Front Door



Figure A-33: Pre-Test Left Rear Door



Figure A-34: Post-Test Left Rear Door



Figure A-35: Pre-Test Driver Dummy (Door Open)



Figure A-36: Pre-Test Driver Dummy (Through Window)



Figure A-37: Post-Test Driver Dummy (Through Window)



Figure A-38: Pre-Test Driver Dummy Clearance From Door

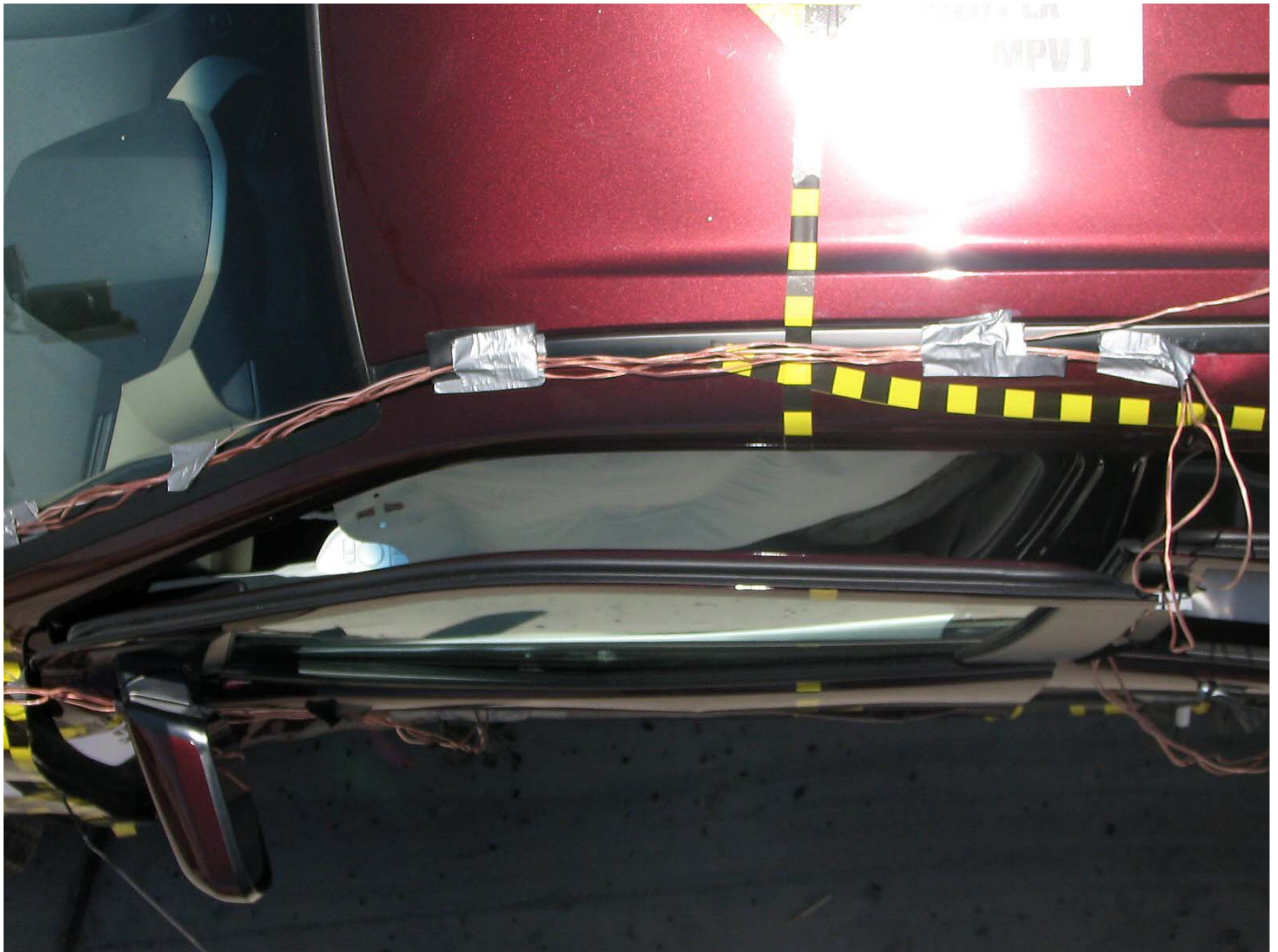


Figure A-39: Post-Test Driver Dummy Clearance From Door



Figure A-40: Pre-Test Driver Dummy Right Side View



Figure A-41: Post-Test Driver Dummy Right Side View



Figure A-42: Pre-Test Front Door Panel (Interior)



Figure A-43: Post-Test Front Door Panel (Interior)



Figure A-44: Pre-Test Passenger Dummy Left Side (Door Open)



Figure A-45: Pre-Test Passenger Dummy Left Side (Through Window)



Figure A-46: Post-Test Passenger Dummy Left Side (Through Window)



Figure A-47: Pre-Test Passenger Dummy Clearance From Door



Figure A-48: Post-Test Passenger Dummy Clearance From Door



Figure A-49: Pre-Test Passenger Dummy Right Side View



Figure A-50: Post-Test Passenger Dummy Right Side View



Figure A-51: Pre-Test Rear Door Panel (Interior)



Figure A-52: Post-Test Rear Door Panel (Interior)



Figure A-53: Pre-Test Front View of Deformable Barrier



Figure A-54: Post-Test Front View of Deformable Barrier



Figure A-55: Pre-Test Top View of Deformable Barrier



Figure A-56: Post-Test Top View of Deformable Barrier



Figure A-57: Pre-Test Right Side View of Deformable Barrier



Figure A-58: Post-Test Right Side View of Deformable Barrier



Figure A-59: Pre-Test Left Side View of Deformable Barrier

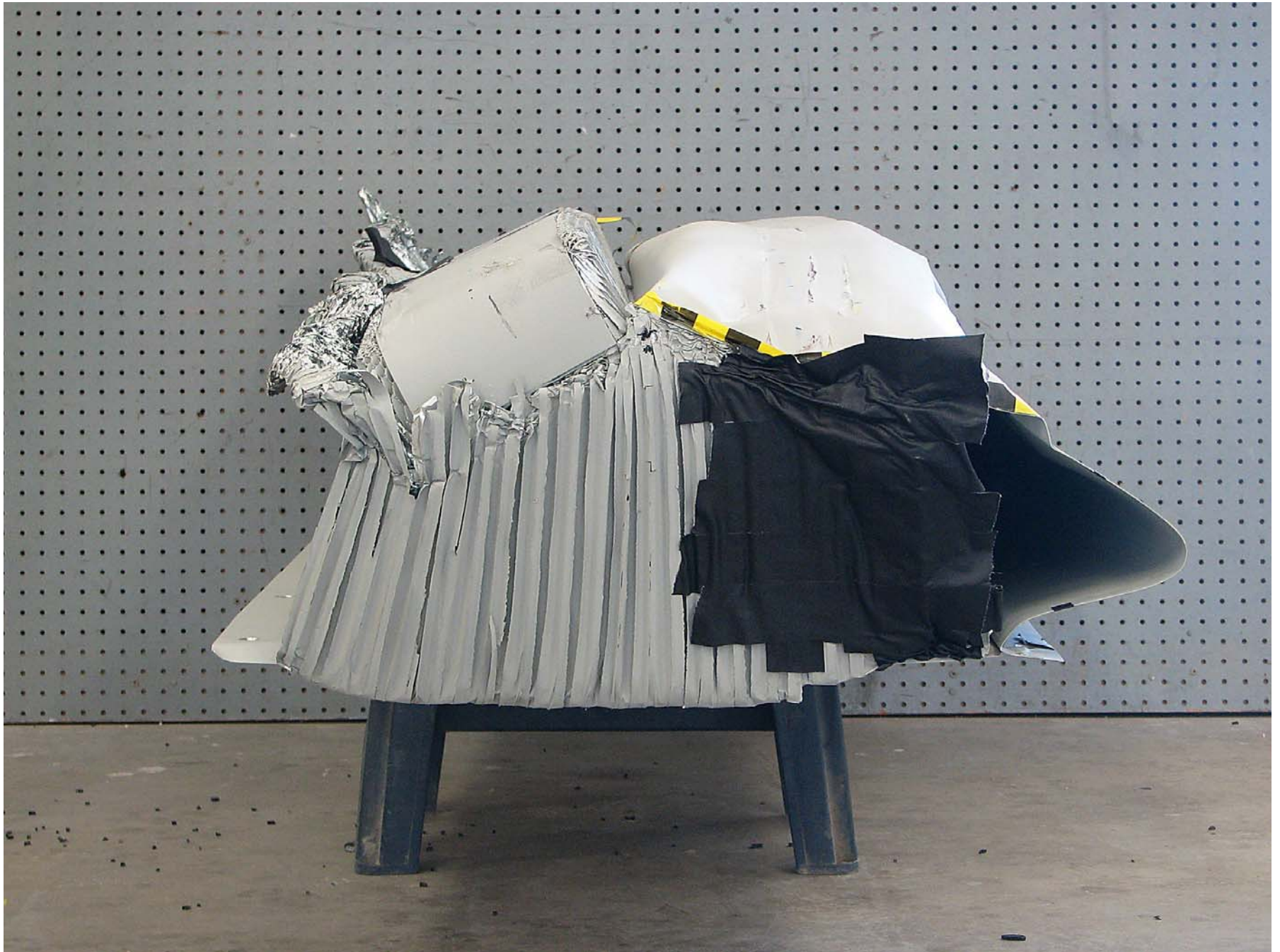


Figure A-60: Post-Test Left Side View of Deformable Barrier

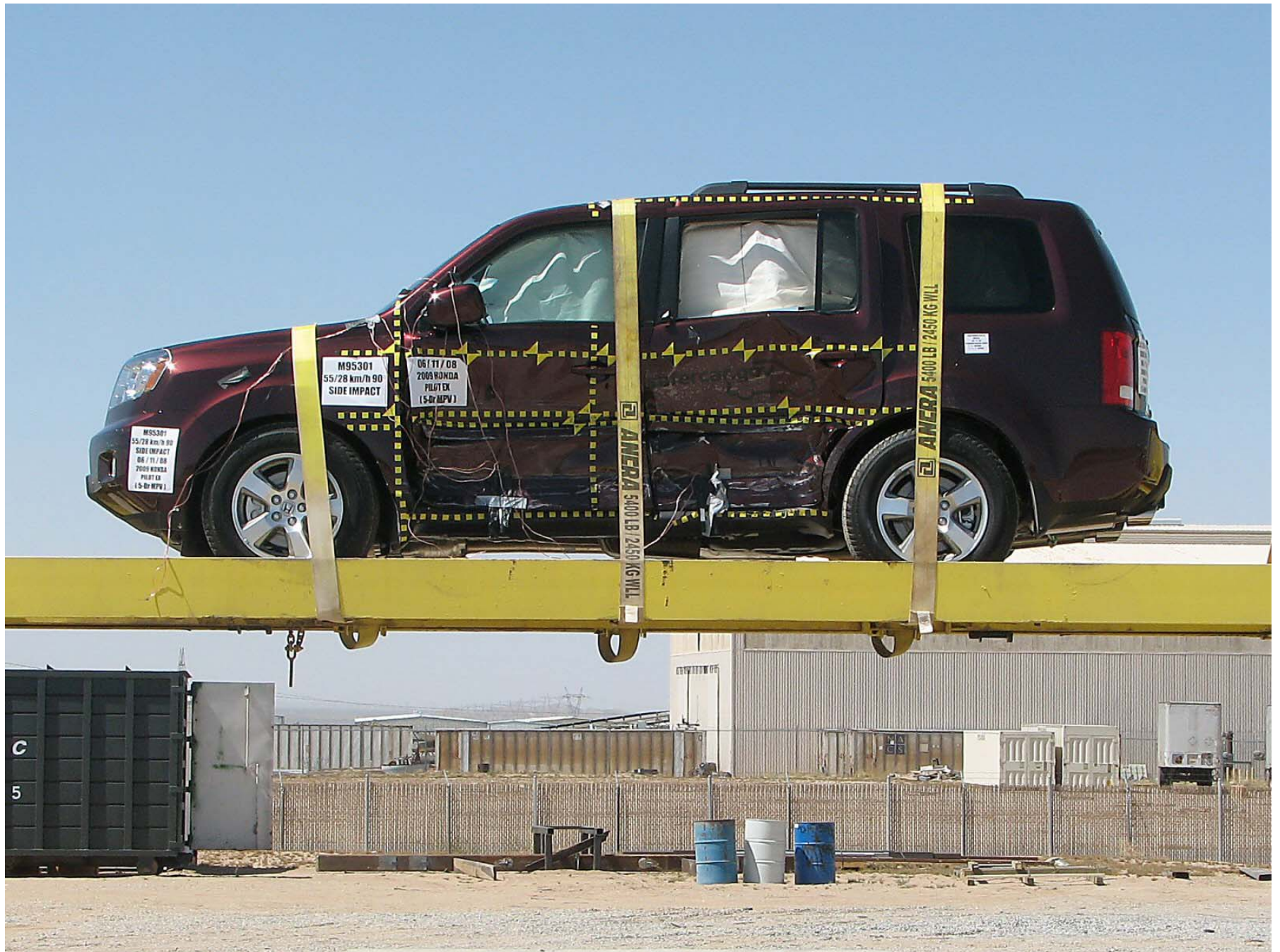


Figure A-61: Vehicle on Rollover Device (0°)



Figure A-62: Vehicle on Rollover Device (90°)



Figure A-63: Vehicle on Rollover Device (180°)

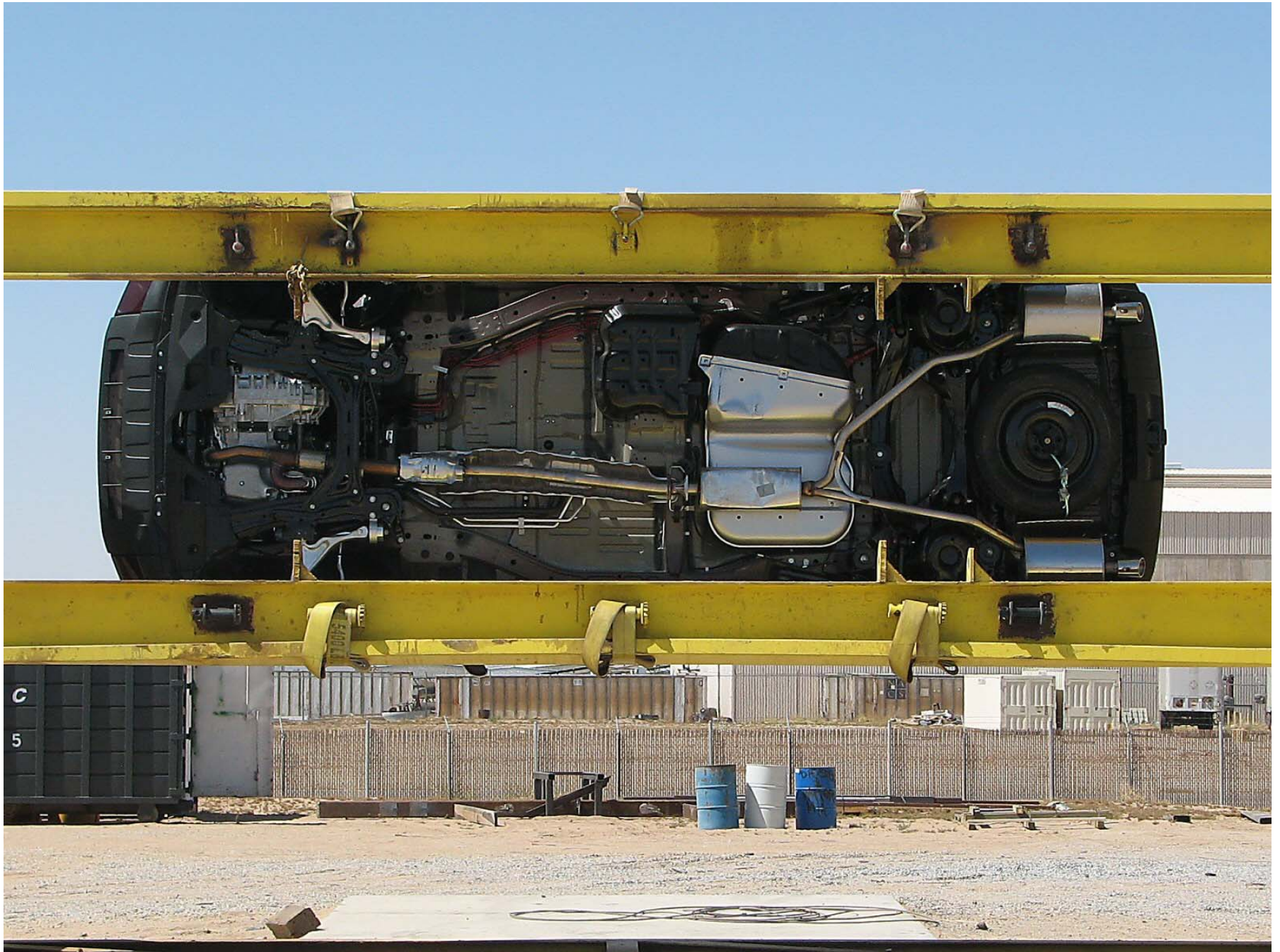


Figure A-64: Vehicle on Rollover Device (270°)



Figure A-65: Vehicle Impact

APPENDIX B
SID/HIII, VEHICLE AND MDB RESPONSE DATA

LIST OF DATA PLOTS

<u>Data Plot</u>	<u>Page</u>
B-1	Driver Upper Rib Primary Y
	Driver Lower Rib Primary Y
	Driver Lower Spine Primary Y
	Driver Pelvis Primary Y
B-2	Passenger Upper Rib Primary Y
	Passenger Lower Rib Primary Y
	Passenger Lower Spine Primary Y
	Passenger Pelvis Primary Y

The following additional data plots 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

LIST OF DATA PLOTS...(CONTINUED)

Driver Head X Primary
Driver Head Y Primary
Driver Head Z Primary
Driver Head Resultant Primary
Driver Head Primary X Velocity
Driver Head Primary Y Velocity
Driver Head Primary Z Velocity
Driver Head X Redundant
Driver Head Y Redundant
Driver Head Z Redundant
Driver Head Resultant Redundant
Driver Head Redundant X Velocity
Driver Head Redundant Y Velocity
Driver Head Redundant Z Velocity
Driver Upper Neck Force X
Driver Upper Neck Force Y
Driver Upper Neck Force Z
Driver Upper Neck Force Resultant
Driver Upper Neck Moment X
Driver Upper Neck Moment Y
Driver Upper Neck Moment Z
Driver Upper Neck Moment Resultant
Driver Upper Rib Primary Y Velocity
Driver Lower Rib Primary Y Velocity
Driver Lower Spine Primary Y Velocity
Driver Pelvis Primary Y Velocity
Driver Upper Rib Redundant Y
Driver Lower Rib Redundant Y
Driver Lower Spine Redundant Y
Driver Pelvis Redundant Y

LIST OF DATA PLOTS...(CONTINUED)

Driver Upper Rib Redundant Y Velocity
Driver Lower Rib Redundant Y Velocity
Driver Lower Spine Redundant Y Velocity
Driver Pelvis Redundant Y Velocity
Driver Thorax Contact
Driver Pelvis Contact
Passenger Head X Primary
Passenger Head Y Primary
Passenger Head Z Primary
Passenger Head Resultant Primary
Passenger Head Primary X Velocity
Passenger Head Primary Y Velocity
Passenger Head Primary Z Velocity
Passenger Head X Redundant
Passenger Head Y Redundant
Passenger Head Z Redundant
Passenger Head Resultant Redundant
Passenger Head Redundant X Velocity
Passenger Head Redundant Y Velocity
Passenger Head Redundant Z Velocity
Passenger Upper Neck Force X
Passenger Upper Neck Force Y
Passenger Upper Neck Force Z
Passenger Upper Neck Force Resultant
Passenger Upper Neck Moment X
Passenger Upper Neck Moment Y
Passenger Upper Neck Moment Z
Passenger Upper Neck Moment Resultant

LIST OF DATA PLOTS...(CONTINUED)

Passenger Upper Rib Primary Y Velocity
Passenger Lower Rib Primary Y Velocity
Passenger Lower Spine Primary Y Velocity
Passenger Pelvis Primary Y Velocity
Passenger Upper Rib Redundant Y
Passenger Lower Rib Redundant Y
Passenger Lower Spine Redundant Y
Passenger Pelvis Redundant Y
Passenger Upper Rib Redundant Y Velocity
Passenger Lower Rib Redundant Y Velocity
Passenger Lower Spine Redundant Y Velocity
Passenger Pelvis Redundant Y Velocity
Passenger Thorax Contact
Passenger Pelvis Contact
Vehicle Right Sill at Front Seat X
Vehicle Right Sill at Front Seat Y
Vehicle Right Sill at Front Seat Z
Vehicle Right Sill Front Seat Resultant
Vehicle Right Sill at Front Seat X Velocity
Vehicle Right Sill at Front Seat Y Velocity
Vehicle Right Sill at Front Seat Z Velocity
Vehicle Right Sill at Rear Seat X
Vehicle Right Sill at Rear Seat Y
Vehicle Right Sill at Rear Seat Z
Vehicle Right Sill Rear Seat Resultant
Vehicle Right Sill at Rear Seat X Velocity
Vehicle Right Sill at Rear Seat Y Velocity
Vehicle Right Sill at Rear Seat Z Velocity
Vehicle Rear Floor Above Axle X
Vehicle Rear Floor Above Axle Y
Vehicle Rear Floor Above Axle Z
Vehicle Rear Floor Above Axle Resultant
Vehicle Rear Floor Above Axle X Velocity
Vehicle Rear Floor Above Axle Y Velocity
Vehicle Rear Floor Above Axle Z Velocity

LIST OF DATA PLOTS...(CONTINUED)

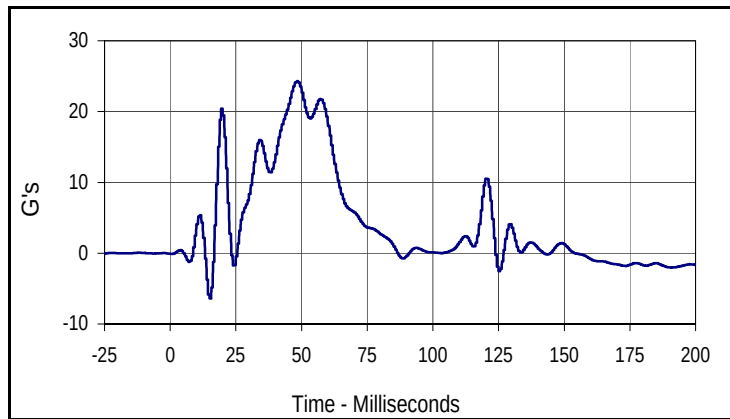
Vehicle Left Sill at Rear Door Y
Vehicle Left Sill at Front Door Y
Vehicle Left Sill at Rear Door Y Velocity
Vehicle Left Sill at Front Door Y Velocity
Vehicle Left Front Door C/L Y
Vehicle Right Rear Occupant Compartment
Vehicle Left Front Door Mid Rear Y
Vehicle Left Front Door Upper CL Y
Vehicle Left Front Door CL Y Velocity
Vehicle Right Rear Occupant Compartment Y Velocity
Vehicle Left Front Door Mid Rear Y Velocity
Vehicle Left Rear Door Upper CL Y Velocity
Vehicle Left Rear Door Mid Rear Y
Vehicle Left Rear Door Upper C/L Y
Vehicle Left Rear Door Mid Rear Y Velocity
Vehicle Left Rear Door Upper CL Y Velocity
Vehicle B-Post Lower Y
Vehicle B-Post Middle Y
Vehicle B-Post Lower Y Velocity
Vehicle B-Post Middle Y Velocity
Vehicle A-Post Lower Y
Vehicle A-Post Middle Y
Vehicle A-Post Lower Y Velocity
Vehicle A-Post Middle Y Velocity
Vehicle Left Front Seat Track
Vehicle Rear Seat Structure
Vehicle Left Front Seat Track Y Velocity
Vehicle Rear Seat Structure Y Velocity
Vehicle CG X
Vehicle CG Y
Vehicle CG Z
Vehicle CG Resultant
Vehicle CG X Velocity
Vehicle CG Y Velocity
Vehicle CG Z Velocity

LIST OF DATA PLOTS...(CONTINUED)

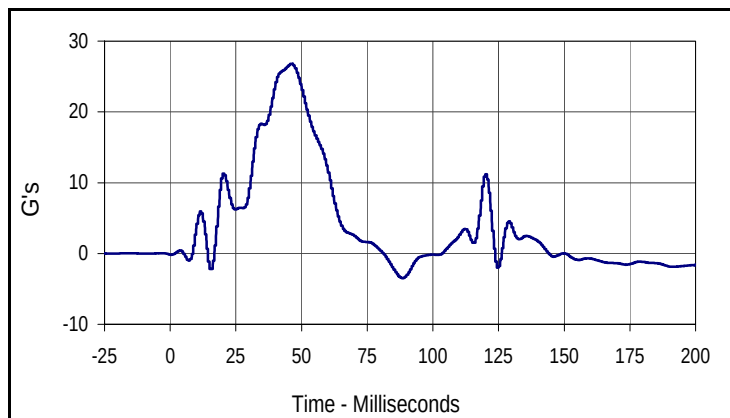
Driver Upper Rib Primary Y
Driver Lower Rib Primary Y
Driver Lower Spine Primary Y
Driver Pelvis Primary Y
Driver Upper Rib Redundant Y
Driver Lower Rib Redundant Y
Driver Lower Spine Redundant Y
Driver Pelvis Redundant Y
Passenger Upper Rib Primary Y
Passenger Lower Rib Primary Y
Passenger Lower Spine Primary Y
Passenger Pelvis Primary Y
Passenger Upper Rib Redundant Y
Passenger Lower Rib Redundant Y
Passenger Lower Spine Redundant Y
Passenger Pelvis Redundant Y
MDB CG X
MDB CG Y
MDB CG Z
MDB CG Resultant
MDB CG X Velocity
MDB CG Y Velocity
MDB CG Z Velocity
MDB Rear X
MDB Rear Y
MDB Rear X Velocity
MDB Rear Y Velocity
MDB Right Bumper Contact

Test Vehicle: 2009 Honda Pilot EX 5-Door MPV
 Test Program: 55/28 km/h Side Impact NCAP

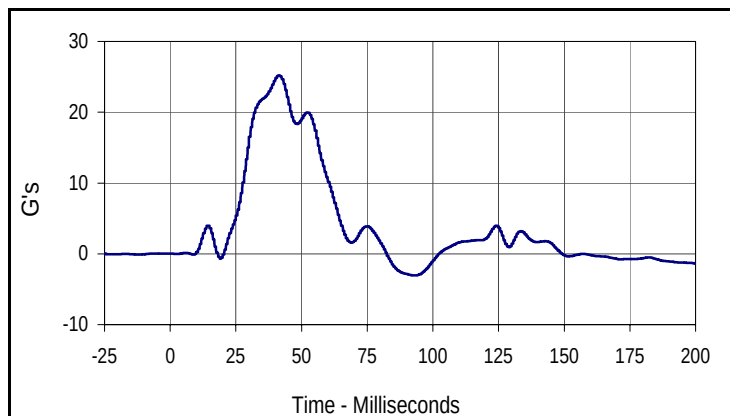
Test Date: 6/11/08
 NHTSA No.: M95301



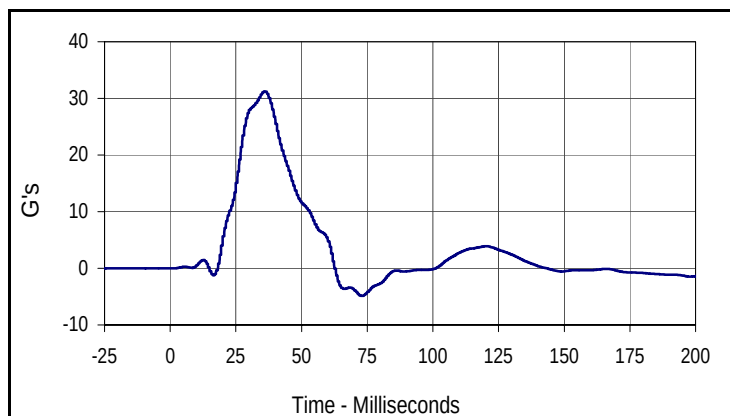
Curve Description			
Driver Upper Rib Y Primary			
CURNO	Type	SAE Class	Units
001	FIR	FIR100	G's
Max	Time	Min	Time
24.3	48.2	-6.4	15.0



Curve Description			
Driver Lower Rib Y Primary			
CURNO	Type	SAE Class	Units
002	FIR	FIR100	G's
Max	Time	Min	Time
26.8	45.7	-3.5	88.2



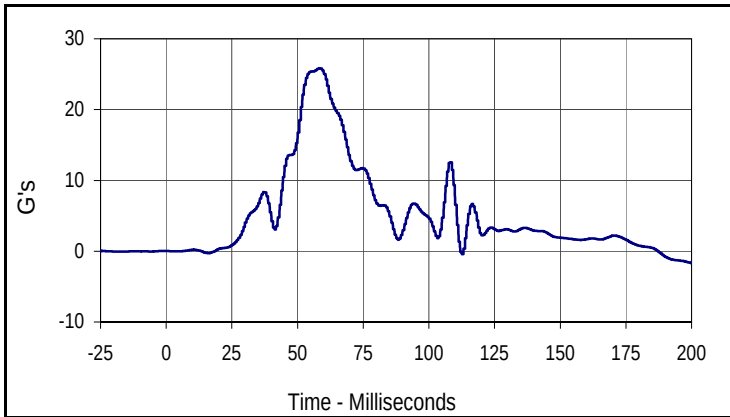
Curve Description			
Driver Lower Spine Y Primary			
CURNO	Type	SAE Class	Units
003	FIR	FIR100	G's
Max	Time	Min	Time
25.2	41.3	-3.1	93.2



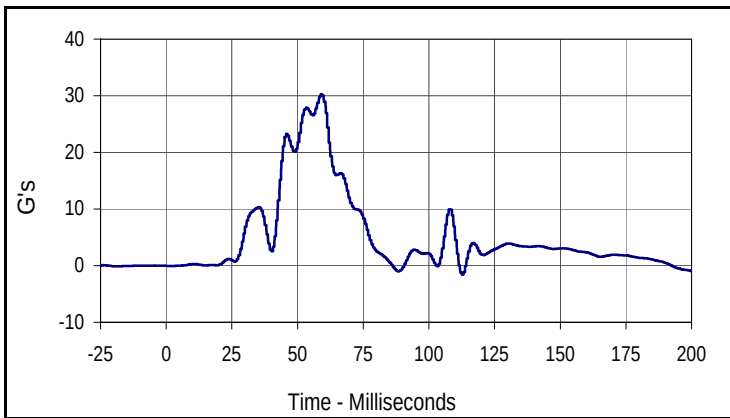
Curve Description			
Driver Pelvis Primary Y			
CURNO	Type	SAE Class	Units
004	FIR	FIR100	G's
Max	Time	Min	Time
31.3	35.7	-4.9	72.5

Test Vehicle: 2009 Honda Pilot EX 5-Door MPV
 Test Program: 55/28 km/h Side Impact NCAP

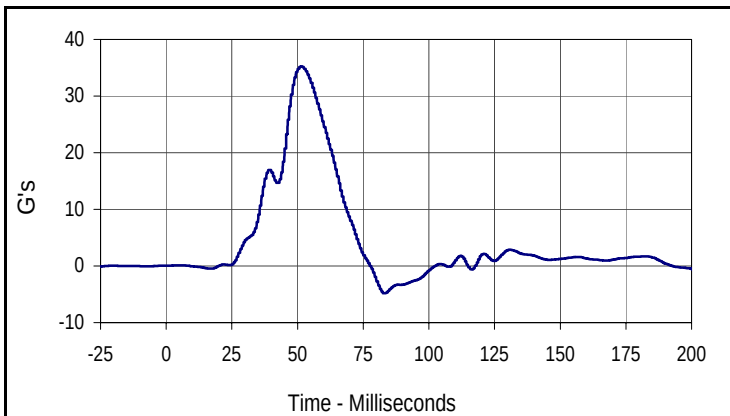
Test Date: 6/11/08
 NHTSA No.: M95301



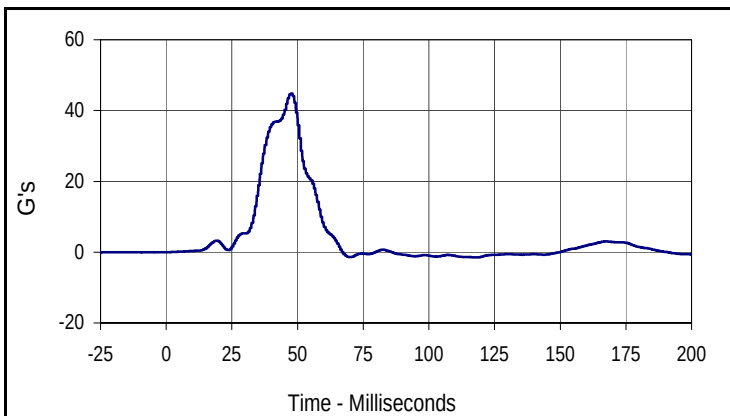
Curve Description			
Passenger Upper Rib Y Primary			
CURNO	Type	SAE Class	Units
005	FIR	FIR100	G's
Max	Time	Min	Time
25.8	58.2	-2.3	217.5



Curve Description			
Passenger Lower Rib Y Primary			
CURNO	Type	SAE Class	Units
006	FIR	FIR100	G's
Max	Time	Min	Time
30.3	58.8	-2.7	220.0



Curve Description			
Passenger Lower Spine Y Primary			
CURNO	Type	SAE Class	Units
007	FIR	FIR100	G's
Max	Time	Min	Time
35.2	51.3	-4.8	83.2



Curve Description			
Passenger Pelvis Y Primary			
CURNO	Type	SAE Class	Units
008	FIR	FIR100	G's
Max	Time	Min	Time
44.8	47.5	-1.5	117.5

APPENDIX C
SID/HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Test Program: SID / HIII External Measurements
ATD Serial No.: 275

Test Date: 6/10/08
Test I.D.: N/A



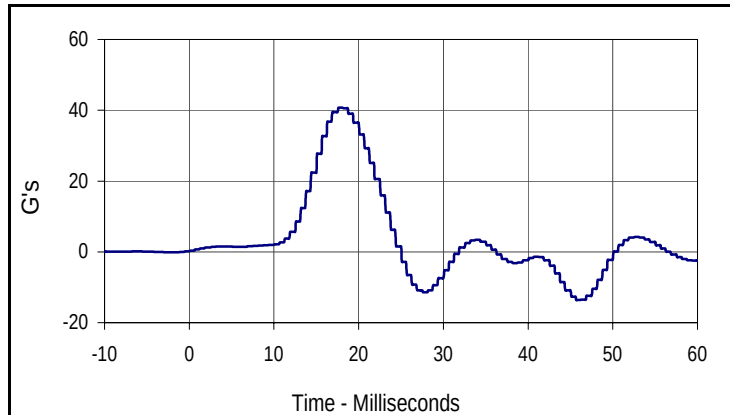
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	895	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	514	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	520	Pass
KV- Knee Pivot From Floor	mm	490 to 505	497	Pass
HW- Hip Width	mm	356 to 391	362	Pass
Overall Test Results				Pass

Test Program: SID / HIII Thorax Lateral Impact
 ATD Serial No.: 275

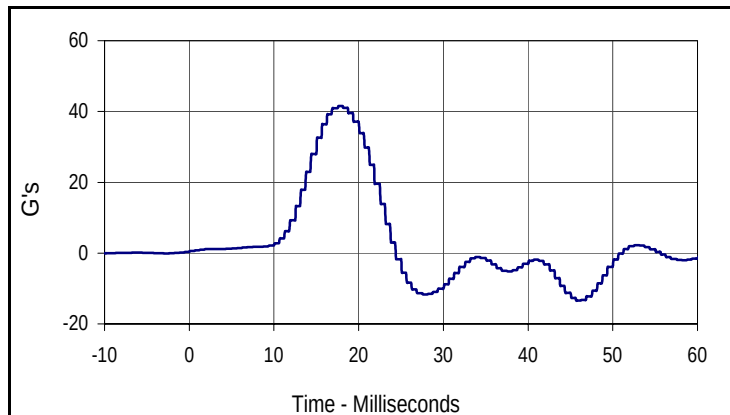
Test Date: 6/10/08
 Test I.D.: TH06E



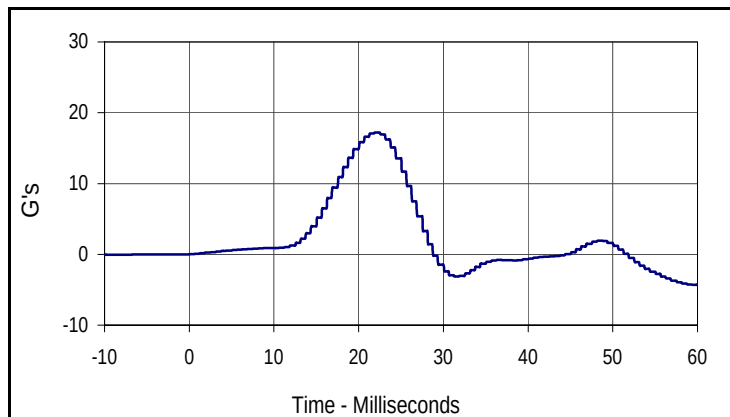
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	40.8	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	41.5	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	17.2	Pass
Overall Test Results			Pass	



Curve Description			
Upper Rib Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
40.8	17.6	-13.6	45.7



Curve Description			
Lower Rib Y Primary			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
41.5	17.6	-13.4	45.7



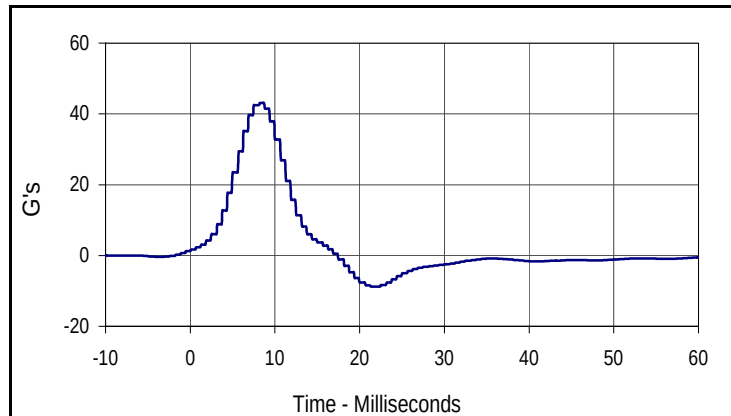
Curve Description			
Lower Spine Y Primary			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
17.2	21.9	-4.3	60.1

Test Program: SID / HIII Pelvis Lateral Impact
 ATD Serial No.: 275

Test Date: 6/10/08
 Test I.D.: PL06E



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.32	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	43.1	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	4.90	Pass
Overall Test Results				Pass



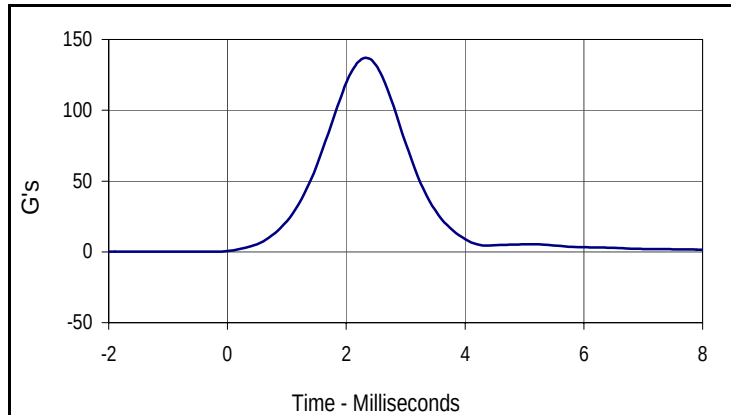
Curve Description			
Pelvis Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
43.1	8.2	-8.8	21.3

Test Program: SID / HIII Head Drop Lateral Impact Test
 ATD Serial No.: 275

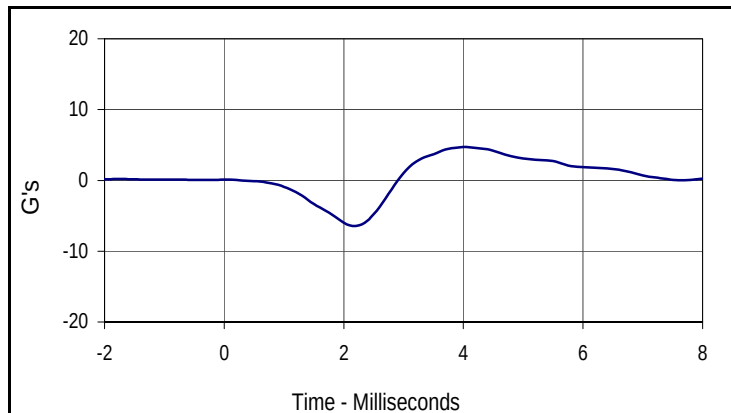
Test Date: 6/10/08
 Test I.D.: HD06E



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	120.0 to 150.0	136.9	Pass
Peak Longitudinal Acceleration	G's	≤15.0	6.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	4.0	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
136.9	2.3	0.1	-1.0



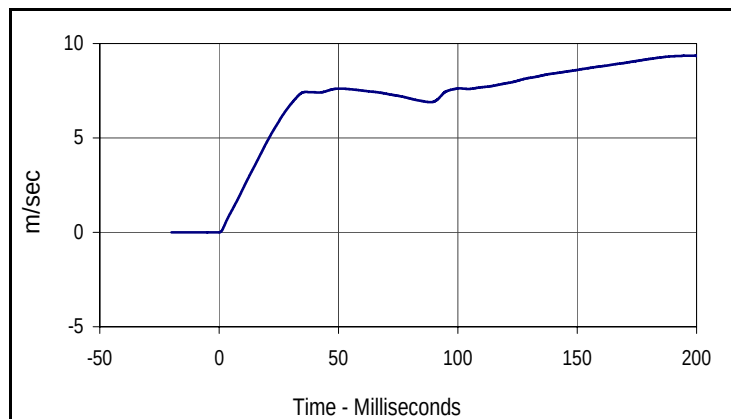
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
4.7	4.0	-6.4	2.2

Test Program: SID / HIII Neck Pendulum Lateral Test
 ATD Serial No.: 275

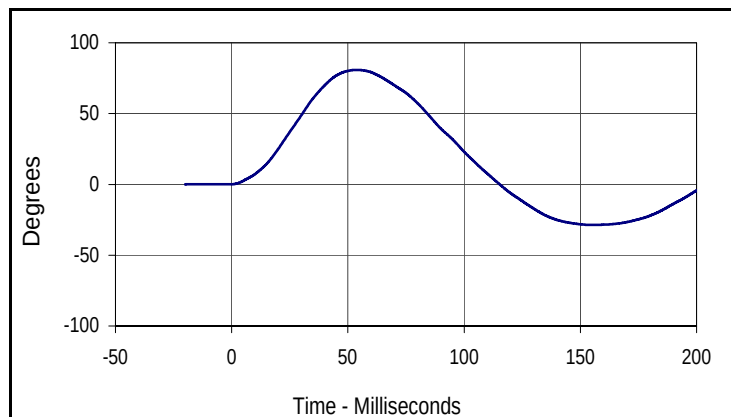
Test Date: 6/10/08
 Test I.D.: NB06E



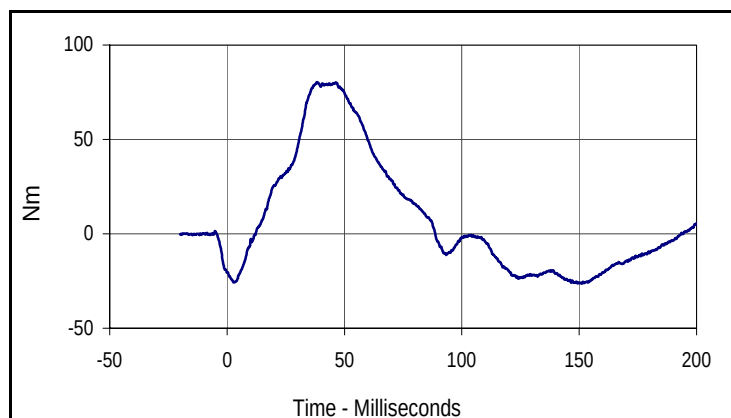
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.09	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.32	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.79	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.79	Pass
	40 to 70	m/sec	6.27 to 7.64	7.62	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	80.9	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	15.5	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	61.6	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	80.4	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	50.4	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/sec
Max	Time	Min	Time
9.4	196.6	0.0	-0.1



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
80.9	53.8	-28.7	155.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
80.4	38.3	-26.4	151.0

Test Program: SID / HIII External Measurements
 ATD Serial No.: 274

Test Date: 6/10/08
 Test I.D.: N/A



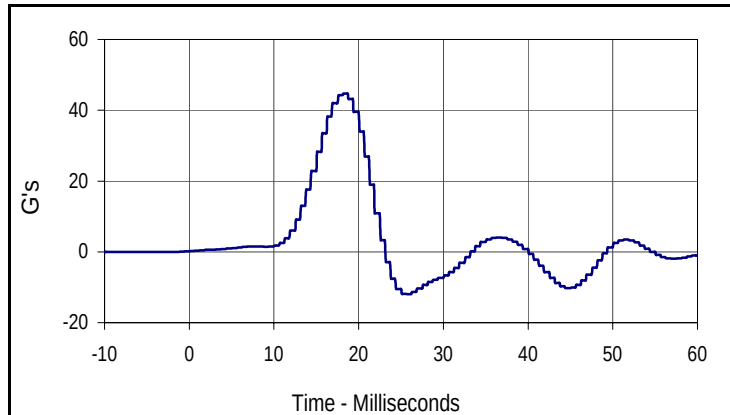
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	894	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	518	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	515	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	370	Pass
Overall Test Results				Pass

Test Program: SID / HIII Thorax Lateral Impact
 ATD Serial No.: 274

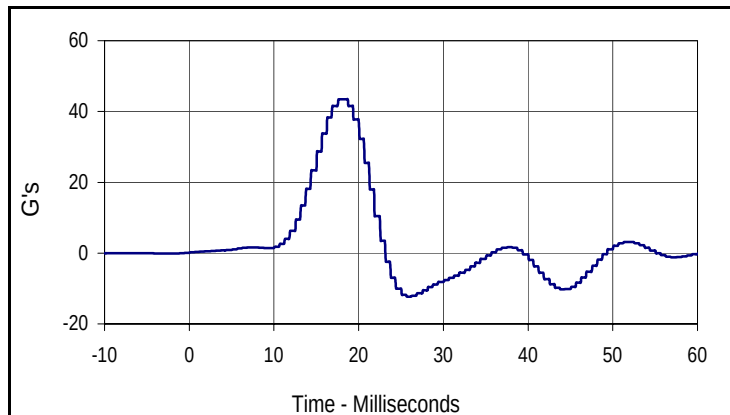
Test Date: 6/10/08
 Test I.D.: TH06F



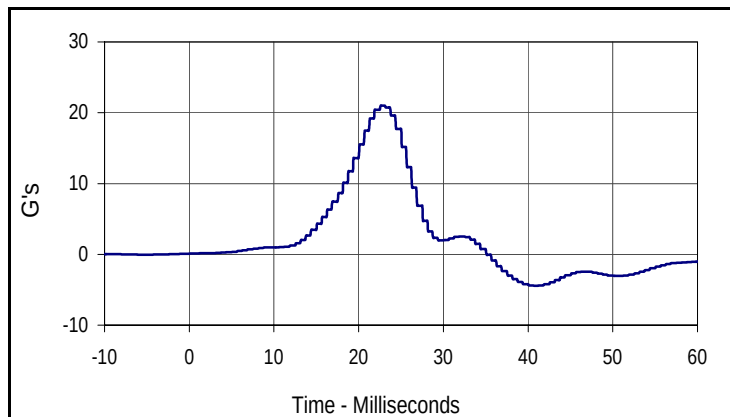
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	44.7	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	43.5	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	21.0	Pass
Overall Test Results			Pass	



Curve Description			
Upper Rib Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
44.7	18.2	-12.0	25.7



Curve Description			
Lower Rib Y Primary			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
43.5	18.2	-12.3	25.7



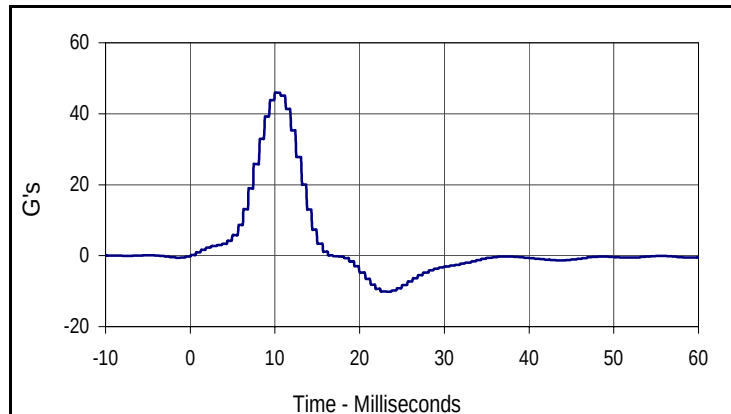
Curve Description			
Lower Spine Y Primary			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
21.0	22.6	-4.5	40.7

Test Program: SID / HIII Pelvis Lateral Impact
 ATD Serial No.: 274

Test Date: 6/10/08
 Test I.D.: PL06F



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.32	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	46.0	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	4.90	Pass
Overall Test Results				Pass



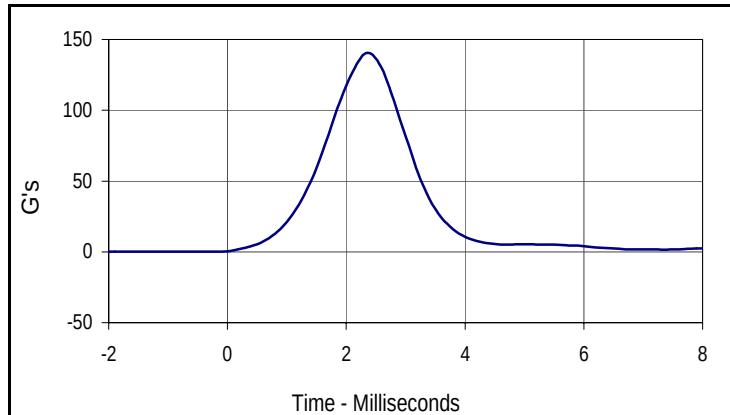
Curve Description			
Pelvis Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
46.0	10.0	-10.2	23.2

Test Program: SID / HIII Head Drop Lateral Impact Test
 ATD Serial No.: 274

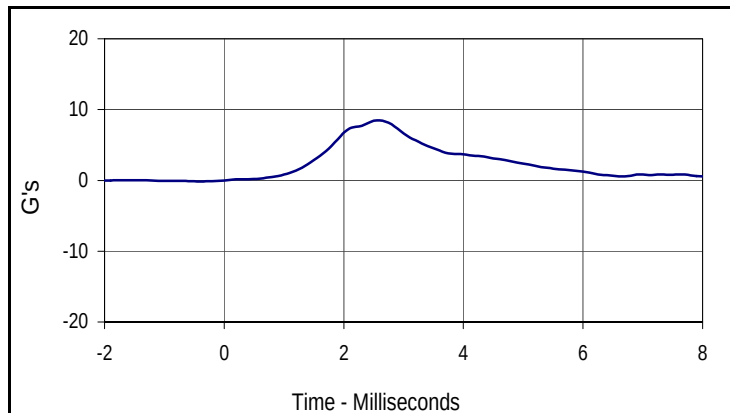
Test Date: 6/10/08
 Test I.D.: HD06F



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	120.0 to 150.0	140.4	Pass
Peak Longitudinal Acceleration	G's	≤15.0	8.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	3.9	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
140.4	2.4	0.1	-1.0



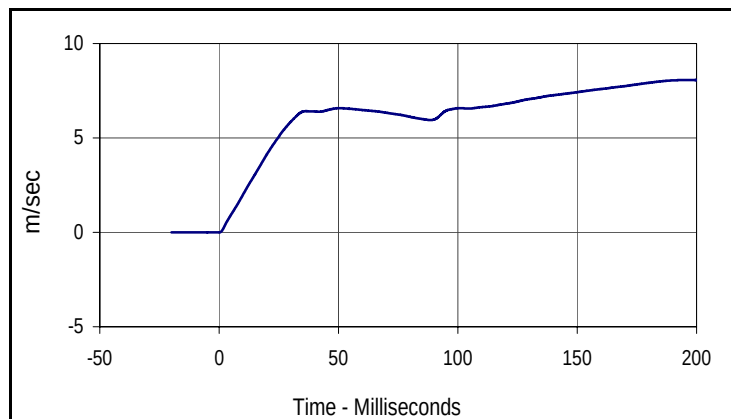
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
8.5	2.6	-0.1	-0.4

Test Program: SID / HIII Neck Pendulum Lateral Test
 ATD Serial No.: 274

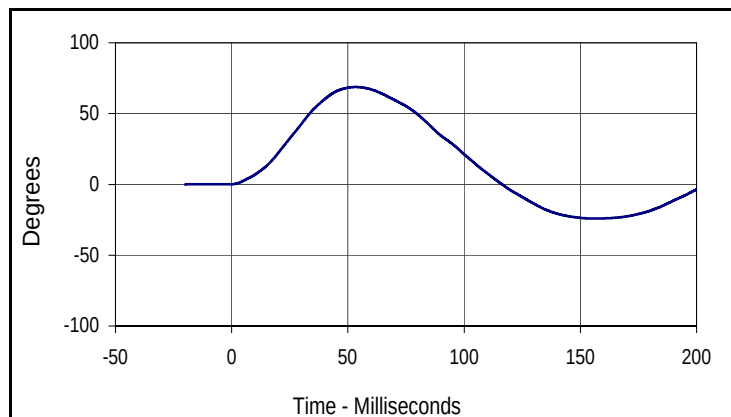
Test Date: 6/10/08
 Test I.D.: NB06F



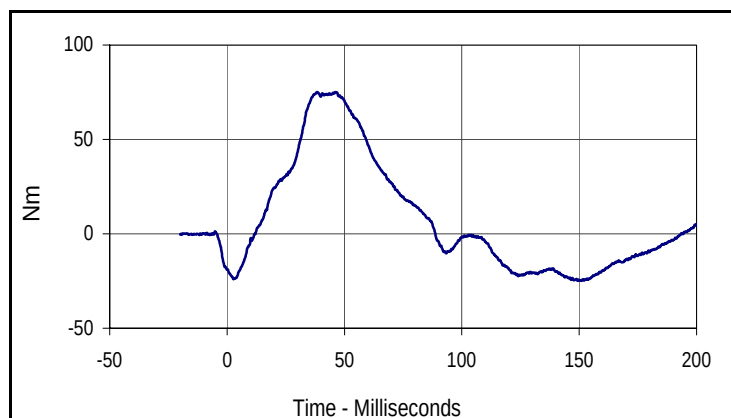
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.09	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.00	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.13	Pass
	30 Msec.	m/sec	5.73 to 7.01	5.86	Pass
	40 to 70	m/sec	6.27 to 7.64	6.57	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	68.7	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	15.0	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	63.1	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	75.2	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	50.4	Pass
Overall Test Results					Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/sec
Max	Time	Min	Time
8.1	196.6	0.0	-0.1



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
68.7	53.3	-24.1	155.4



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
75.2	38.3	-24.9	151.1

APPENDIX C
POST-TEST SID / HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Test Program: SID / HIII External Measurements
 ATD Serial No.: 275

Test Date: 6/12/08
 Test I.D.: N/A



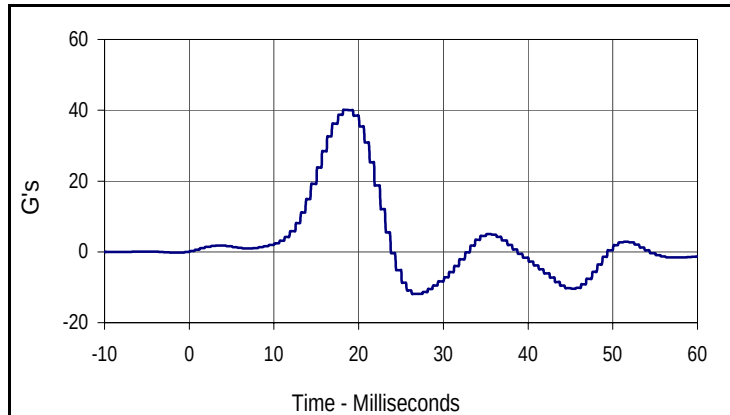
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	898	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	513	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	519	Pass
KV- Knee Pivot From Floor	mm	490 to 505	495	Pass
HW- Hip Width	mm	356 to 391	361	Pass
Overall Test Results				Pass

Test Program: SID / HIII Thorax Lateral Impact
 ATD Serial No.: 275

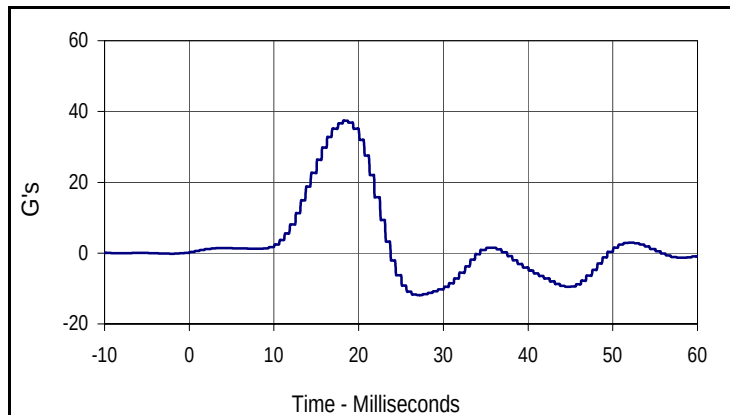
Test Date: 6/12/08
 Test I.D.: TH06G



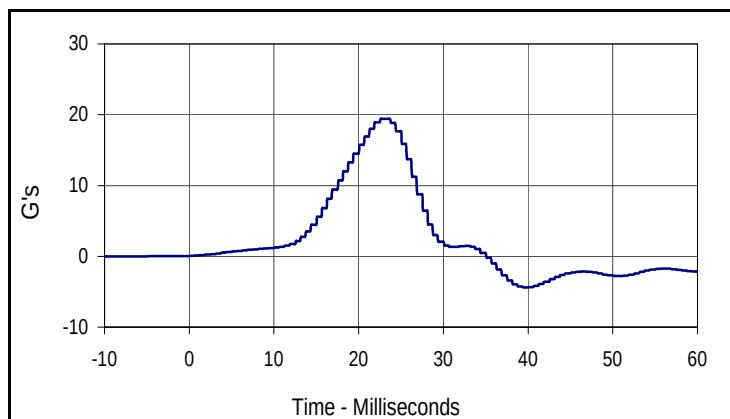
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	40.1	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	37.4	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	19.4	Pass
Overall Test Results			Pass	



Curve Description			
Upper Rib Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
40.1	18.2	-11.9	26.9



Curve Description			
Lower Rib Y Primary			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
37.4	18.2	-11.8	26.9



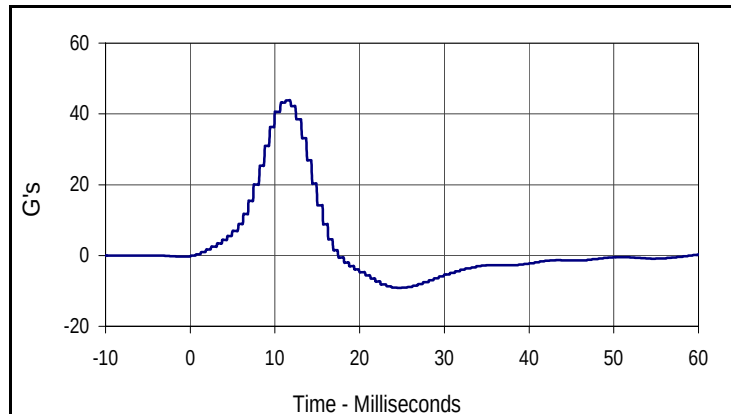
Curve Description			
Lower Spine Y Primary			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
19.4	23.2	-4.4	39.4

Test Program: SID / HIII Pelvis Lateral Impact
 ATD Serial No.: 275

Test Date: 6/12/08
 Test I.D.: PL06G



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.32	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	43.8	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	4.90	Pass
Overall Test Results				Pass



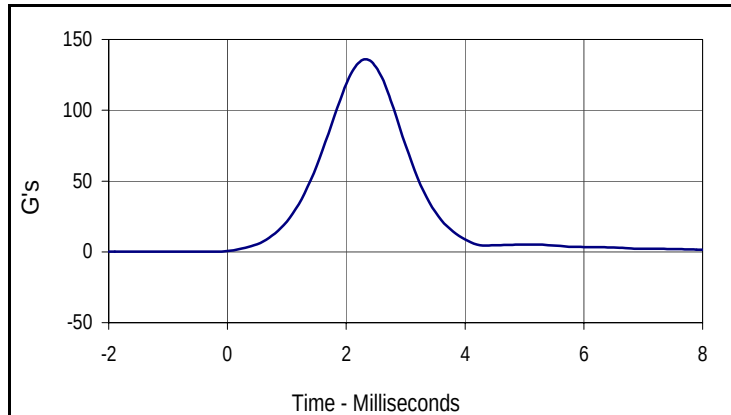
Curve Description			
Pelvis Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
43.8	11.3	-9.2	24.4

Test Program: SID / HIII Head Drop Lateral Impact Test
 ATD Serial No.: 275

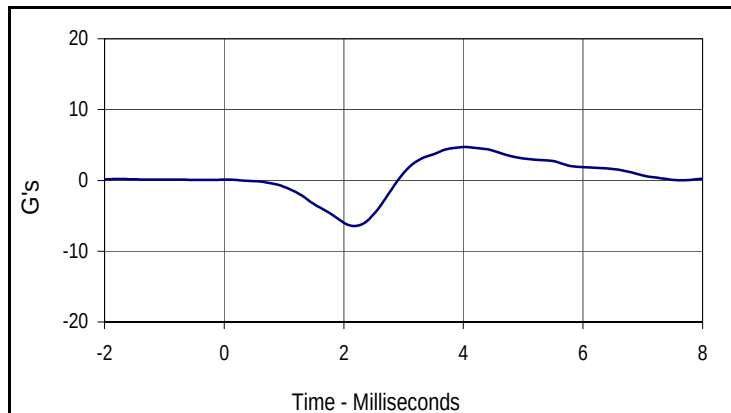
Test Date: 6/12/08
 Test I.D.: HD06G



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	120.0 to 150.0	135.9	Pass
Peak Longitudinal Acceleration	G's	≤15.0	6.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	3.8	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
135.9	2.3	0.1	-1.0



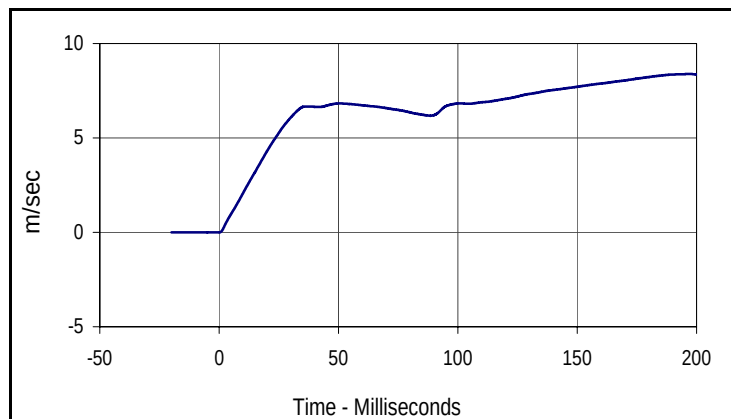
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
4.7	4.0	-6.4	2.2

Test Program: SID / HIII Neck Pendulum Lateral Test
 ATD Serial No.: 275

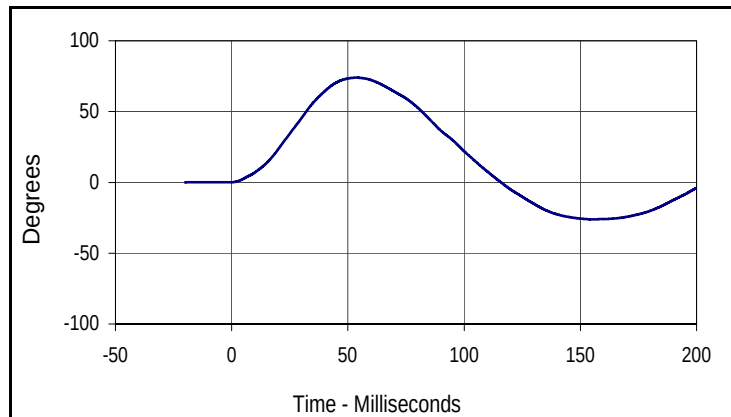
Test Date: 6/12/08
 Test I.D.: NB06G



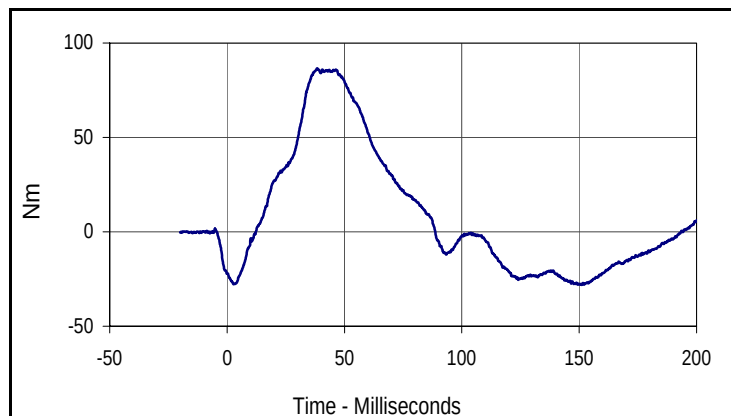
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.09	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.08	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.29	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.08	Pass
	40 to 70	m/sec	6.27 to 7.64	6.83	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	74.0	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	15.2	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	62.4	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	86.6	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	50.4	Pass
Overall Test Results				Pass	



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/sec
Max	Time	Min	Time
8.4	196.6	0.0	-0.1



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
74.0	53.5	-26.1	155.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
86.6	38.3	-28.1	151.0

Test Program: SID / HIII External Measurements
 ATD Serial No.: 274

Test Date: 6/12/08
 Test I.D.: N/A



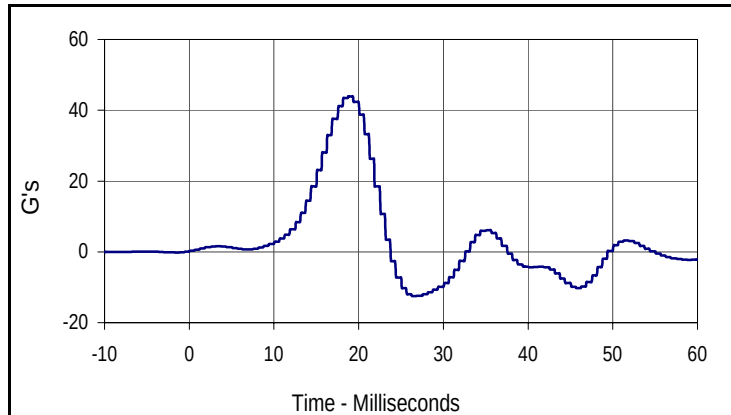
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	895	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	517	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	514	Pass
KV- Knee Pivot From Floor	mm	490 to 505	499	Pass
HW- Hip Width	mm	356 to 391	372	Pass
Overall Test Results				Pass

Test Program: SID / HIII Thorax Lateral Impact
 ATD Serial No.: 274

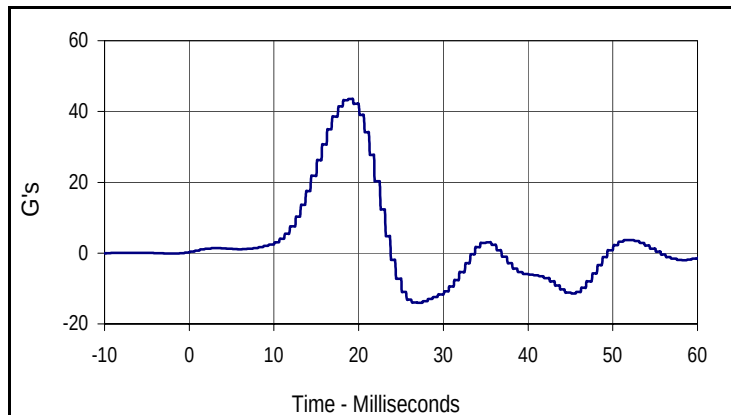
Test Date: 6/12/08
 Test I.D.: TH06H



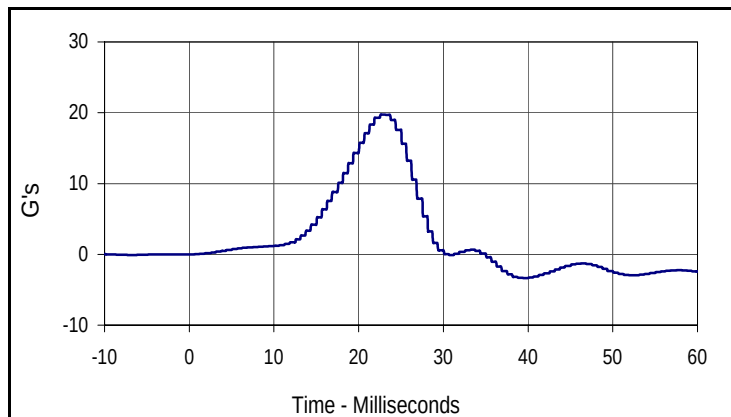
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	43.9	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	43.5	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	19.8	Pass
Overall Test Results			Pass	



Curve Description			
Upper Rib Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
43.9	18.8	-12.5	26.3



Curve Description			
Lower Rib Y Primary			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
43.5	18.8	-14.0	26.9



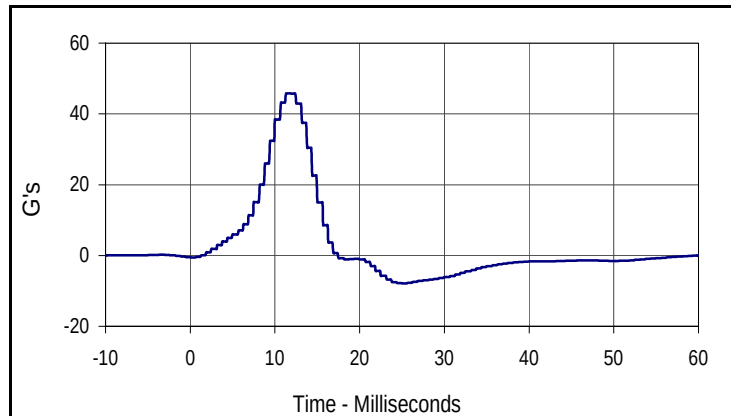
Curve Description			
Lower Spine Y Primary			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
19.8	22.6	-3.4	39.4

Test Program: SID / HIII Pelvis Lateral Impact
 ATD Serial No.: 274

Test Date: 6/12/08
 Test I.D.: PL06H



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.32	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	45.8	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	6.70	Pass
Overall Test Results				Pass



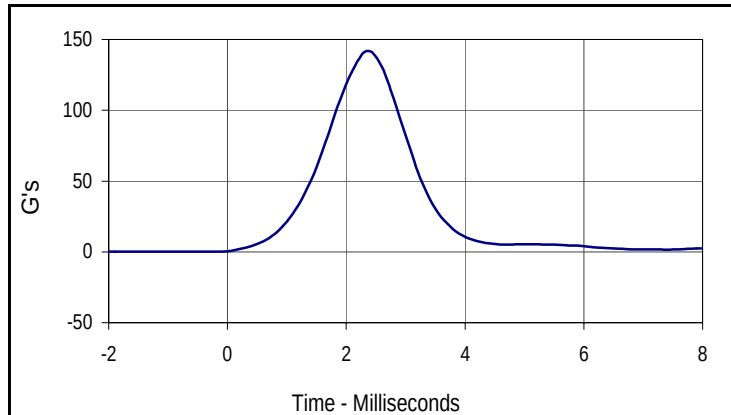
Curve Description			
Pelvis Y Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
45.8	11.3	-7.9	25.0

Test Program: SID / HIII Head Drop Lateral Impact Test
 ATD Serial No.: 274

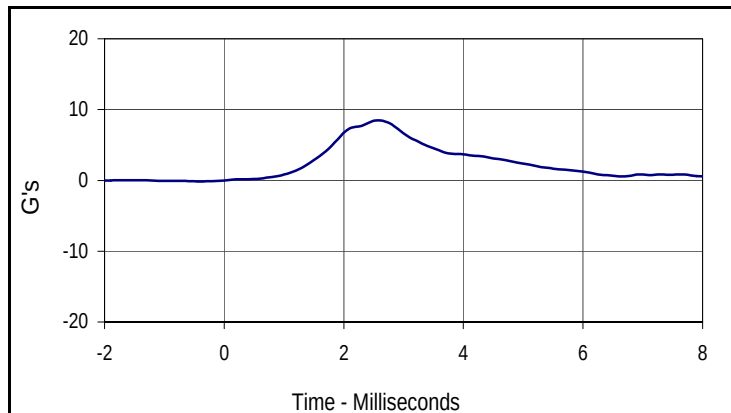
Test Date: 6/12/08
 Test I.D.: HD06H



Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	120.0 to 150.0	141.7	Pass
Peak Longitudinal Acceleration	G's	≤15.0	8.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	3.8	Pass
Overall Test Results			Pass	



Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
141.7	2.4	0.1	-1.0



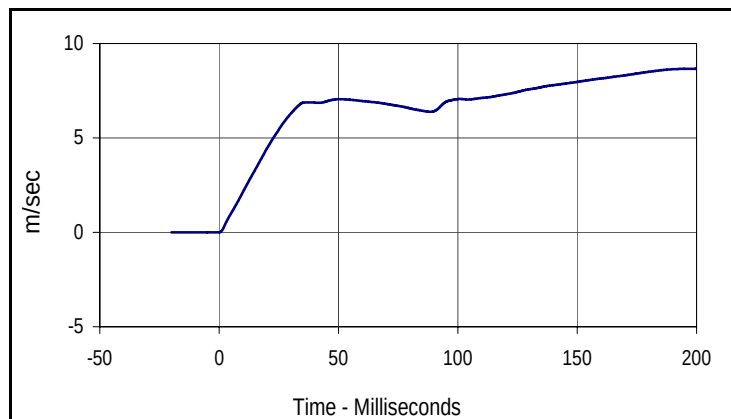
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
8.5	2.6	-0.1	-0.4

Test Program: SID / HIII Neck Pendulum Lateral Test
 ATD Serial No.: 274

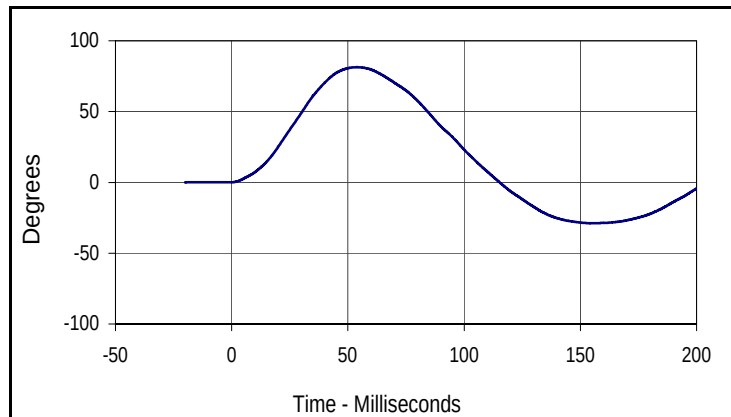
Test Date: 6/12/08
 Test I.D.: NB06H



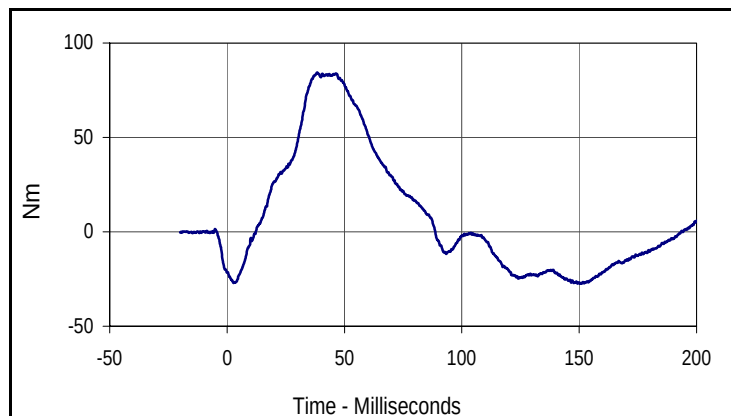
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.09	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.15	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.44	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.29	Pass
	40 to 70	m/sec	6.27 to 7.64	7.06	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	81.4	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	15.5	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	61.5	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	84.4	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	50.4	Pass
Overall Test Results					Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/sec
Max	Time	Min	Time
8.7	196.6	0.0	-0.1



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
81.4	53.8	-28.9	155.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
84.4	38.3	-27.5	151.0