REPORT NUMBER TR-P27003-05-NC

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST

TOYOTA MOTOR CORPORATION
2007 TOYOTA PRIUS
5-DOOR HATCHBACK

NHTSA NUMBER: M75110

Prepared By:
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OCTOBER 12, 2006

FINAL REPORT

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Date of Acceptance

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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 2007 Toyota Prius 5-Door Hatchback 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, California, on October 12, 2006. The impact velocity of the Moving Deformable Barrier was 62.15 km/h and the outside ambient temperature at the struck (driver's) side of the vehicle was 25.6 deg. C. The target vehicle's maximum post-test static crush was 331 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	38.3	55.0
Left Lower Rib (LLR) G's	42.4	55.2
Lower Spine (T_{12}) G's	41.0	72.5
Thoracic Trauma Index (TTI) G's	42.0	64.0
Pelvis (PEV) G's	60.0	71.0

17. Key Words	18. Distribution Statement
New Car Assessment Program (NCAP) Side Impact Moving Deformable Barrier (MDB) Side Impact Dummy (SID/HIII)	Copies of this report are available from: National Highway Traffic Safety Admin. NHTSA Technical Reference Division 400 Seventh St., SW, Room 5108 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' 2007 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 2007 Toyota Prius 5-Door Hatchback manufactured by Toyota Motor Corporation.

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 2007 Toyota Prius 5-Door Hatchback was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.15 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 1517 kg and the test weight of the MDB was 1361 kg. The test was conducted at KARCO Engineering, LLC in Adelanto, California, on October 12, 2006.

Two (2) real-time cameras and eleven (11) 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

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

The driver and passenger doors remained closed during impact. The test vehicle sustained a maximum static crush of 331 mm at level 3, 1500 mm rearward of the left vertical impact point. The driver SID/Hybrid III, Serial No. 274 and the passenger SID/Hybrid III, Serial No. 275 were calibrated prior to this test. The SID/Hybrid III injury criteria is summarized as follows:

Measurement	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	42.0	64.0
Peak Pelvic G's (PEV)	G's	60.0	71.0

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: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

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	^oF	^oC	=(tf -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: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M75110	Anti-Lock Brakes	Yes
Make	Toyota	All Wheel Drive	No
Model	prius	Power Steering	Yes
Body Style	5-Door Hatchback	Driver Front Airbag	Yes
Vin No.	JTDKB20U477548019	Driver Side Torso Airbag	Yes
Color	Black	Driver Side Head Airbag	No
Delivery Date	10/2/2006	Driver Curtain/Airbag	Yes
Odometer (Miles)	22	Rear Pass. Airbag	No
Dealer	Valley-Hi Toyota	Rear Pass. Side Airbag	No
Transmission	5-Speed Automatic	Rear Pass. Head Airbag	No
Final Drive	Front	Rear Pass. Curtain/Airbag	Yes
Type/No. Cyl.	In-line 4	Pre-Tensioners	Yes
Engine Disp. (L)	1.5	Load Limiters	Yes
Engine Placement	Transverse	Bucket Seats	Yes
Roof Rack	No	Air Cond.	Yes
Sunroof/T-Top	No	AM/FM CD	Yes
Tinted Glass	No	Tilt Steering	Yes
Traction Control	Yes	Automatic Door Locks	No
Power Brakes	Yes	Power Windows	Yes
Front Disc	Yes	Power Seats	No
Rear Disc	No	Other	None

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Toyota Motor Corporation	GVWR (kg)	1721
		GAWR Front (kg)	1059
Date of Manufacture	Sep-06	GAWR Rear (kg)	1021

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	2	3		5
Capacity Weight (VCW) (kg)				365
Cargo Weight (RCLW) (kg)				27

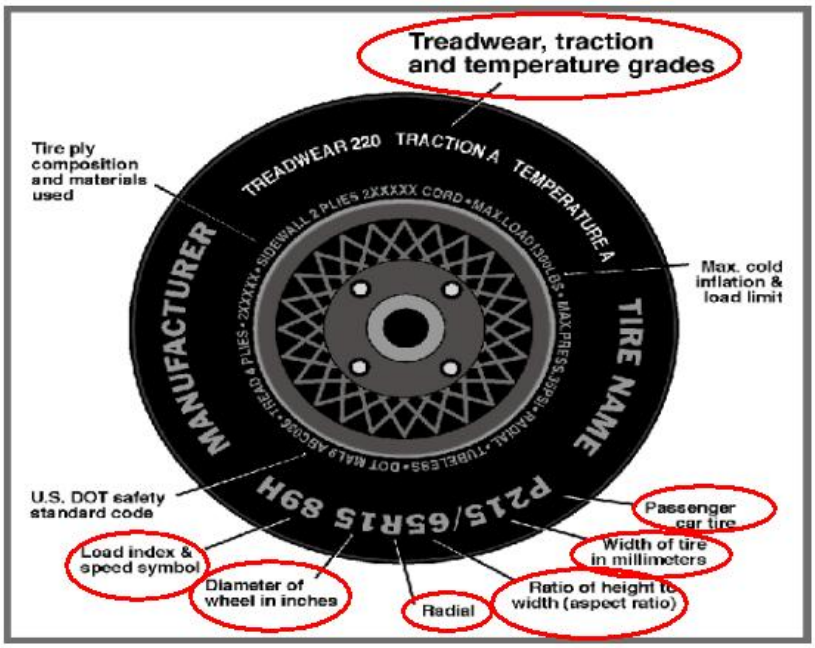
DATA SHEET NO. 1...(CONTINUED)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

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)	300	300
Cold Pressure (kpa)	240	230
Recommended Tire Size	P185/65R13	P185/65R13
Tire Size on Vehicle	P185/65R13	P185/65R13
Tire Manufacturer	Goodyear	Goodyear
Treadwear	460	460
Traction	A	A
Temperature Grades	B	B
Tire Plies Sidewall	1 Ply Polyester	1 Ply Polyester
Tire Plies Body	3 Plies + 1 Polyester cord + 2 Steel cord	3 Plies + 1 Polyester cord + 2 Steel cord
Load Index/Speed Symbol	86S	86S
Tire Material	Polyester + Steel	Polyester + Steel
DOT Safety Code Right	DOT VWIX 2KAR3406	DOT VWIX 2KAR3406
DOT Safety Code Left	DOT VWIX 2KAR3406	DOT VWIX 2KAR3406

DATA SHEET NO. 1...(CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	411	265		470	334	
Right	kg	386	273		405	308	
Ratio	%	59.7	40.3		57.7	42.3	
Totals	kg	797	538	1335	875	642	1517

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1335
Weight of 2 P572 ATD's	kg	162
Rated Cargo/Luggage Wt. (RCLW)	kg	27
Calculated Vehicle Target Wt. (TVTW)	kg	1524

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	664	668	664	673	1088
As Tested	mm	643	654	640	655	1142
Fully Loaded	mm	646	664	633	648	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2700
Total Vehicle Length at Left Side	mm	3061
Total Vehicle Length at Centerline	mm	4445
Total Vehicle Length at Right Side	mm	3061
Weight of Ballast In Cargo Area	kg	6
Amount of Stoddard Solvent in Fuel Tank	liters	41.86

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2700
Target Impact Point Aft of Front Axle	mm	410
Actual Impact Point Aft of Front Axle	mm	512

DATA SHEET NO. 1... (CONTINUED)

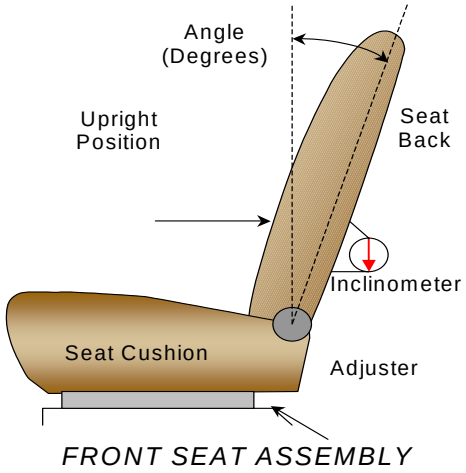
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

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.



FRONT SEAT ASSEMBLY

SEAT BACK ANGLES

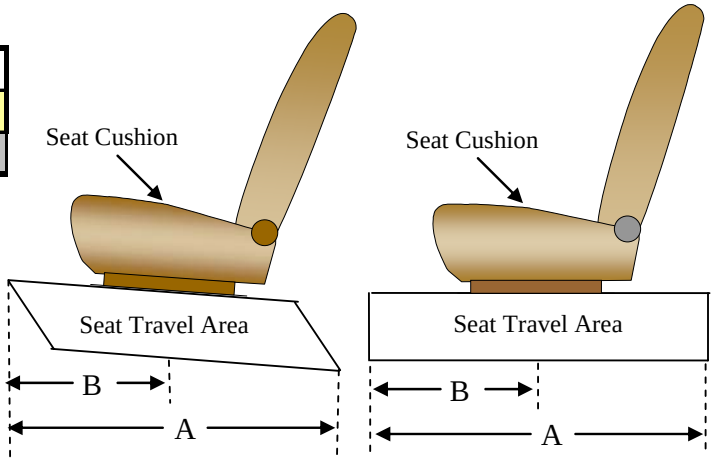
	Deg.
Driver Seat Back Angle	1 @ headrest
Rear Seat Back Angle	

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 with the vertical adjustment at the lowest position obtainable for the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	240 mm	120 mm
Rear Seat		



SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position

SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	5	2
Rear Seat	Fixed	Fixed

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

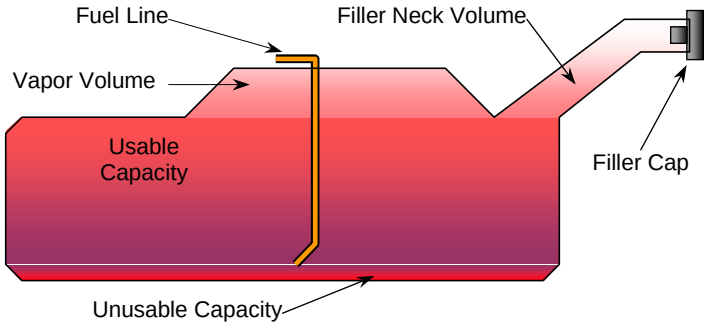
Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

.

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	45.04
Usable Capacity of "Optional" Tank	
Usable Capacity used for FMVSS 301	41.40 to 42.31
Actual Amount of Solvent used	41.86

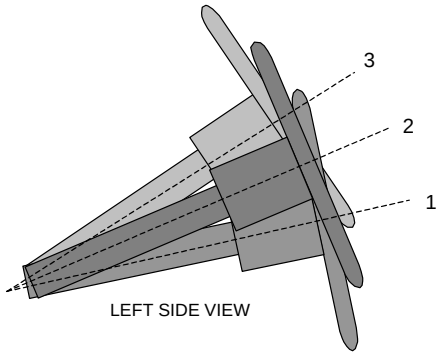
The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately three (3) seconds with the ignition in the “ON” position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender.



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 positon No. 1	26.3	
Geometric center position No. 2	28.0	
Uppermost position No. 3	29.7	

DATA SHEET NO. 2

TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

TEST VEHICLE WEIGHTS

	Units	As Delivered Weights (UVW)			As Tested Weights (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	411	265		470	334	
Right	kg	386	273		405	308	
Ratio	%	59.7	40.3		57.7	42.3	
Totals	kg	797	538	1335	875	642	1517

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	70	255
Level 2	Occupant H-Point	mm	283	557
Level 3	Mid Door	mm	331	350
Level 4	Window Sill	mm	227	900
Level 5	Window top	mm	41	1410
N/A	Maximum Penetration	mm	331	

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: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

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	62.15
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.16
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	300	Left	433
B	Top of Bumper	533	300	Right	396
C	Mid Level	686	600	Right	424
D	Top of Stack	813	500	Right	436

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	1
High Speed Cameras	2

DATA SHEET NO. 4

POST-TEST OBSERVATIONS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/Hybrid III	Rear Seat SID/Hybrid III
Dummy Type / Serial No.	P572F, SID / No. 274	P572F, SID / No. 275
Head Contact	Curtain Airbag	Curtain Airbag and Side Header
Upper Torso Contact	Side Airbag	Door Panel
Lower Torso Contact	Side Airbag	Door Panel
Left Knee Contact	Door Panel	Door Panel
Right Knee Contact	Left Knee	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	Front & Rear passenger side sill separated
Windshield Damage	None
Window Damage	Front & Rear passenger side windows broke
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	-12 (left)
Vertical Offset	mm	+/- 20	+9 (above)

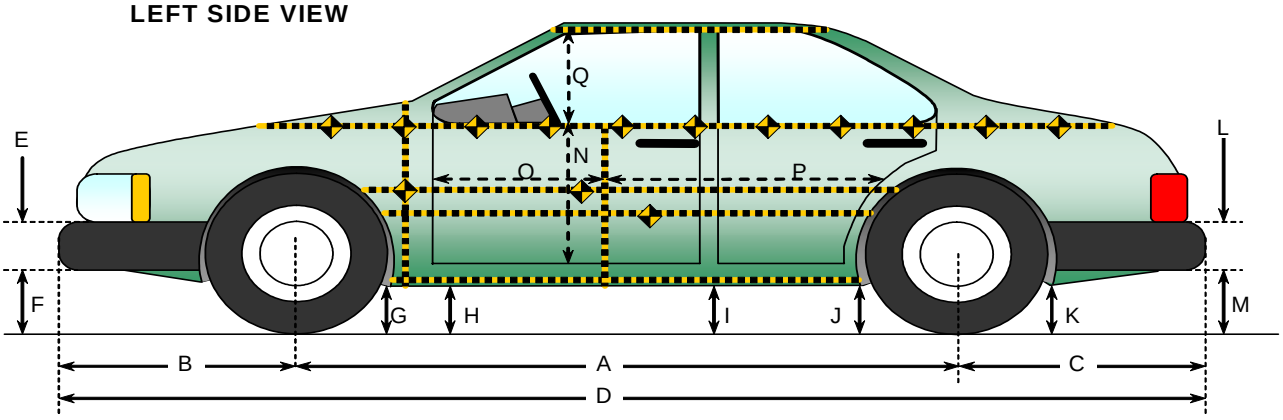
DATA SHEET NO. 5

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

LEFT SIDE VIEW



VEHICLE PRE AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2700	2709	9
B	Front Axle to FSOV	935	888	-47
C	Rear Axle to RSOV	842	850	8
D	Total Length at Centerline	4445	4462	17
E	Front Bumper Thickness	485	431	-54
F	Front Bumper Bottom to Ground	177	217	40
G	Sill Height at Front Wheel Well	168	256	88
H	Sill Height at Front Door Leading Edge	171	285	114
I	Sill Height at "B" Pillar	186	284	98
J1	Sill Height at Rear Wheel Well	168	234	66
J2	Pinch Weld Height at Rear Wheel Well	176	234	58
K	Sill Height aft of Rear Wheel Well	208	275	67
L	Rear Bumper Thickness	474	410	-64
M	Rear Bumper Bottom to Ground	211	280	69
N	Sill Height to Window Bottom Sill	701	615	-86
O	Front Door Leading Edge to Impact CL	783	770	-13
P	Rear Door Trailing Edge to Impact CL	1313	1270	-43
Q	Front Window Opening	425	400	-25
R	Right Side Length	3061	3063	2
S	Left Side Length	3061	3053	-8
T	Vehicle Width at "B" Post	1732	1511	-221

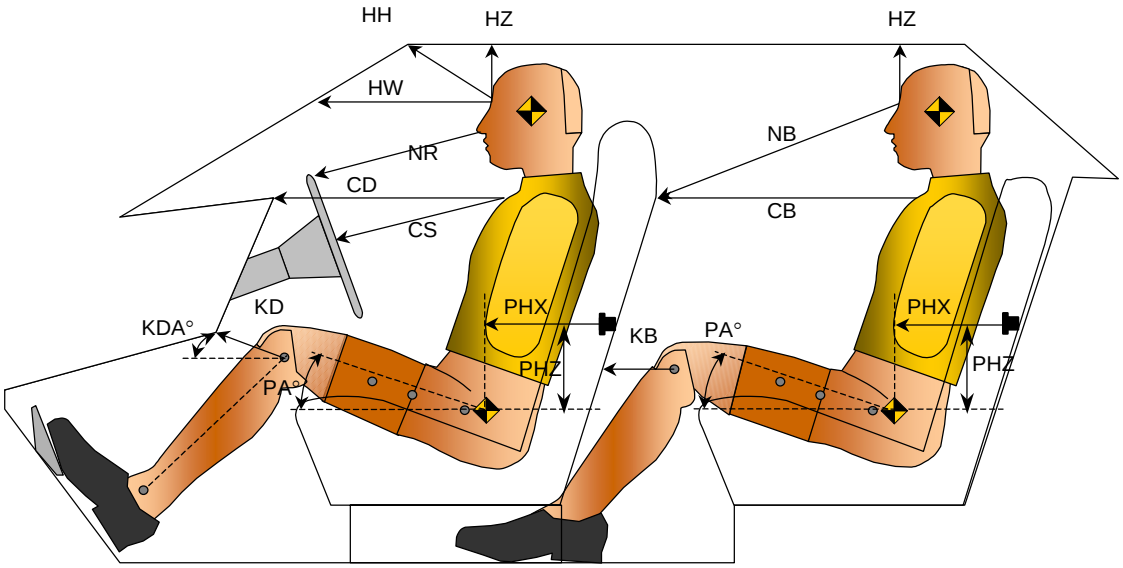
All Dimensions shown in millimeters

DATA SHEET NO. 6

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



LONGITUDINAL CLEARANCE DIMENSION INFORMATION

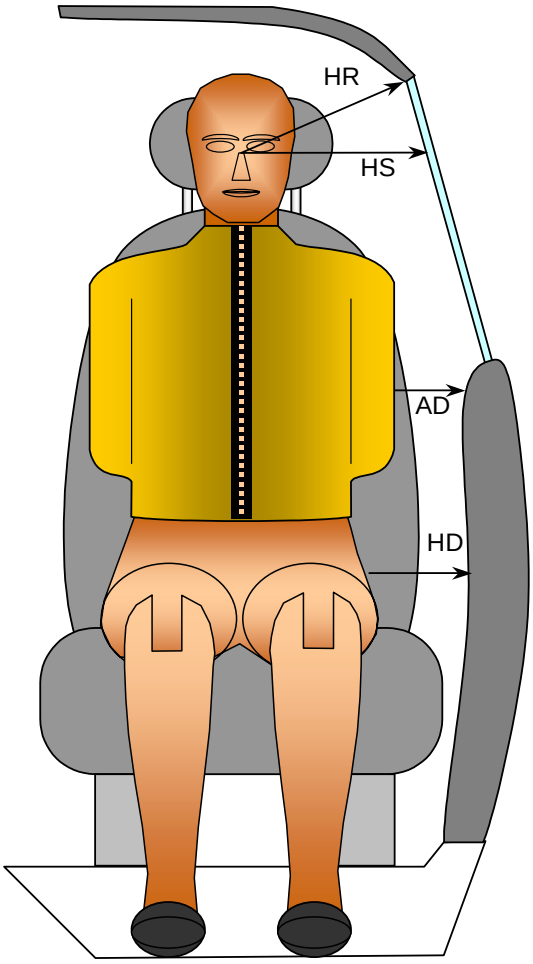
Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length(mm)	Angle	Length(mm)	Angle
HH		Head to Header	342	12.8		
HW		Head to Windshield	505	0.0		
HZ	HZ	Head to Roof	150	90.0	150	90.0
NR	NB	Nose to Rim/Nose to Seat Back	458	24.6	680	16.3
CD	CB	Chest to Dash or Seat Back	978	2.5	628	1.9
CS		Chest to Steering Wheel	351	0.4		
KDL	KBL	Left Knee to Dash or Seat Back	150	23.5	300	14.8
KDR	KBR	Right Knee to Dash or Seat Back	92		298	
PA	PA	Pelvic Angle		23.0		23.1
PHX	PHX	H-Point to Striker (X-Axis)	262		340	
PHZ	PHZ	H-Point to Striker (Z-Axis)	162		276	

DATA SHEET NO. 7

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



FRONT VIEW OF DUMMY

LATERAL CLEARANCE DIMENSION INFORMATION

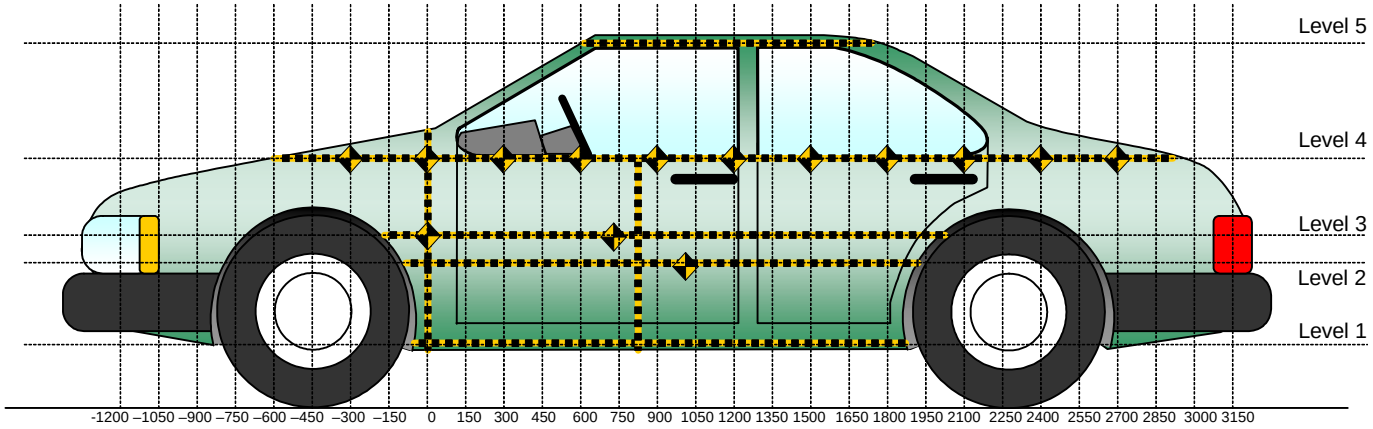
Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	232	272
HS	Head to Side Window	mm	308	335
AD	Arm to Door	mm	112	108
HD	H-Point to Door	mm	147	167

DATA SHEET NO. 8

VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



All Measurements Shown in mm

LEFT SIDE VIEW

Level	Measurement Description	Height Above Ground
1	Sill Top	255
2	Occupant H-Point	557
3	Mid Door	350
4	Window Sill	900
5	Window Top	1410

All Dimensions shown in millimeters

DATA SHEET NO. 9

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

	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		638	636	690			648	653	720			10	17	30	
0	686	638	636	692		686	684	677	723		0	46	41	31	
150	687	640	638	690		710	861	838	746		23	221	200	56	
300	683	638	638	689		718	882	876	808		35	244	238	119	
450	685	638	638	686		730	883	867	854		45	245	229	168	
600	684	639	639	686	894	748	867	852	870	935	64	228	213	184	41
750	684	641	639	685	894	753	853	831	881	922	69	212	192	196	28
900	689	641	640	685	896	751	866	818	881	924	62	225	178	196	28
1050	683	643	642	686	898	750	816	809	879	927	67	173	167	193	29
1200	686	643	643	689	901	756	926	879	881	926	70	283	236	192	25
1350	685	644	643	692	901	746	925	886	916	924	61	281	243	224	23
1500	684	644	644	696	906	734	903	975	923	921	50	259	331	227	15
1650	681	646	646	701	913	706	876	866	880	922	25	230	220	179	9
1800		646	646	707	916		830	817	870	921		184	171	163	5
1950		649	647	712			668	698	757			19	51	45	
2100			650	716				652	702				2	-14	
2250				718					712					-6	
2400															
2550															
2700															
2850															
3000															

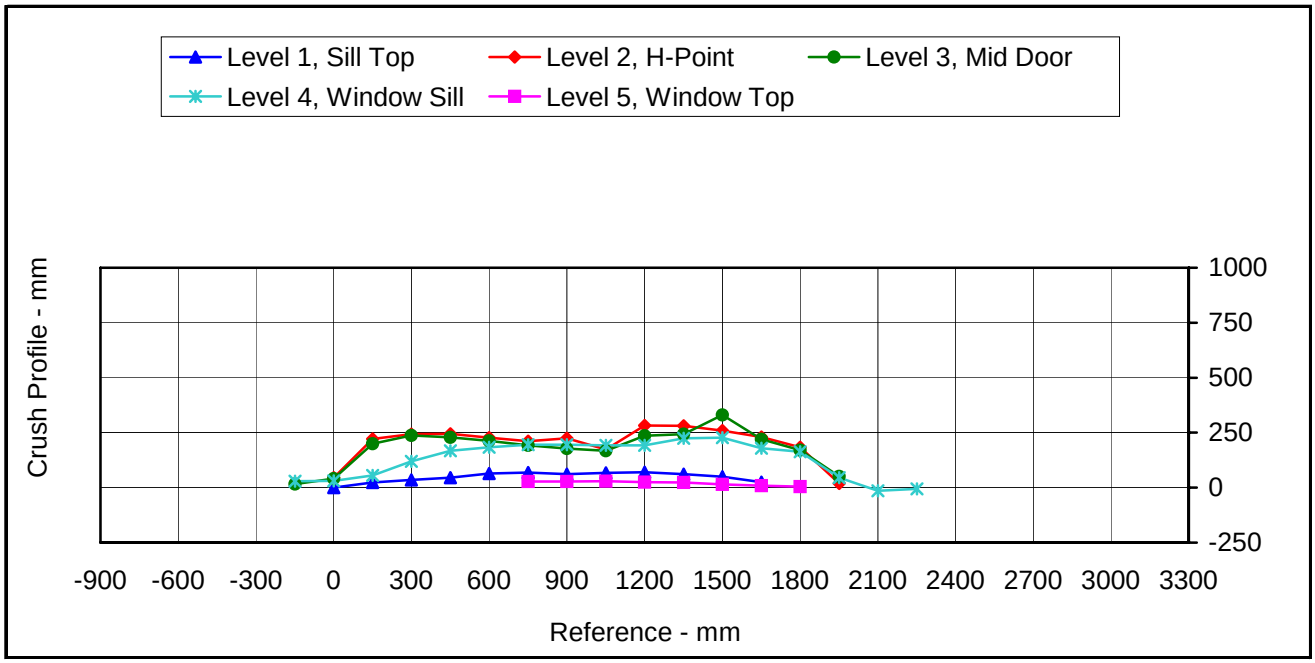
All Dimensions shown in millimeters.

DATA SHEET NO. 9…(CONTINUED)

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



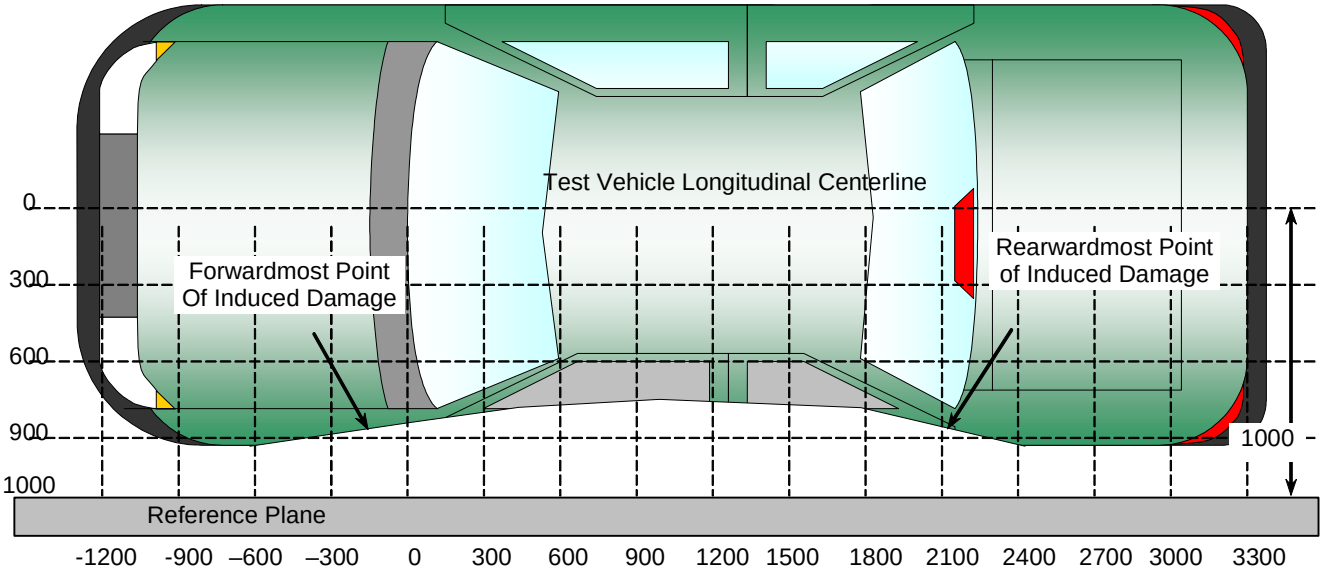
	Units	Level 1	Level 2	Level 3	Level 4	Level 5
Maximum Crush	mm	70	283	331	227	41
Distance from Impact	mm	1200	1200	1500	1500	600

DATA SHEET NO. 10

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



All Dimensions Shown in millimeters

TOP VIEW

DAMAGE PROFILE DISTANCES

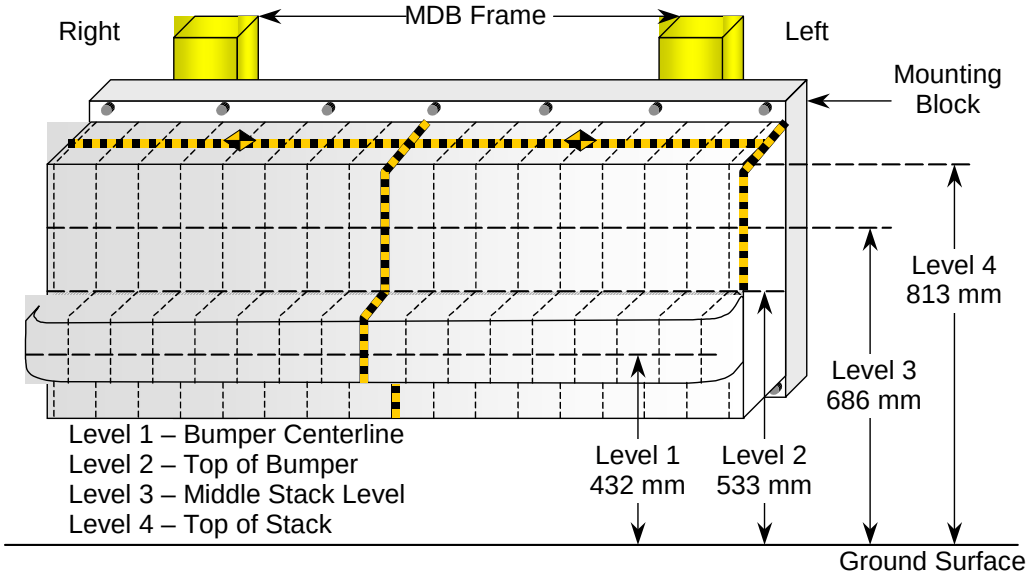
DPD	Distance From Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	1950	2	649	668	19
2	1500	2	644	903	259
3	1050	2	643	816	173
4	600	2	639	867	228
5	150	2	640	861	221
6	-150	2	638	648	10

DATA SHEET NO. 11

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	340	368	390	409	419	419	421	422	427	430	429	433	433	429	428	414	380
2	360	373	390	382	391	396	394	389	389	389	391	386	385	381	375	369	368
3	365	395	424	424	418	393	383	390	397	414	420	422	419	414	404	381	337
4	350	394	425	436	433	421	398	382	404	416	416	413	407	398	374	329	267

All Dimensions in mm

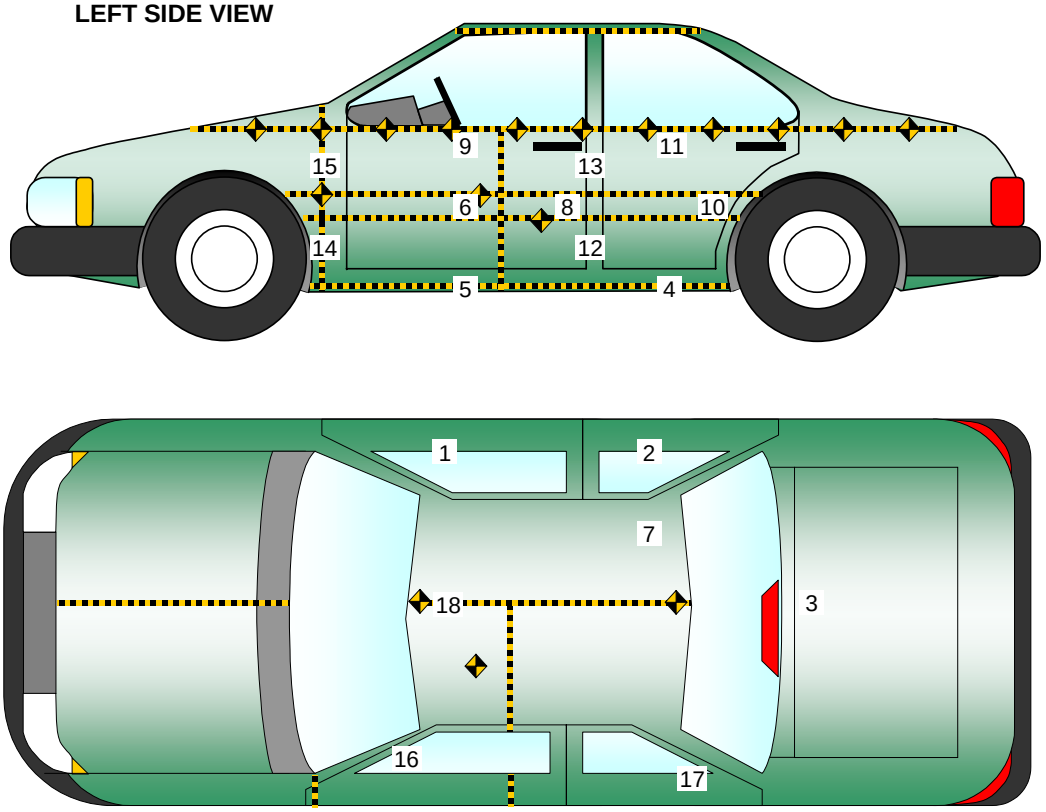
DATA SHEET NO. 12

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

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 LOCATIONS

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

VEHICLE ACCELEROMETER PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			
		X	Y	Z	
1	Right Sill at Front Seat	2390	696	315	
2	Right Sill at Rear Seat	1549	696	315	
3	Rear Floorpan Above Axle	630	-385	480	
4	Left Sill at Rear Door	1810	-646	1053	
5	Left Sill at Front Door	2315	-646	1053	
6	Front Door Centerline				1
7	Rt. Rear Occ. Compartment	2030	-272	250	
8	Front Door Mid-Rear				1
9	Front Door Upper Centerline				1
10	Rear Door Mid-Rear				1
11	Rear Door Upper Centerline				1
12	B-Post Lower	2032	-705	612	
13	B-Post Middle	2032	-705	820	
14	A-Post Lower	3005	-755	530	
15	A-Post Middle	3005	-755	725	
16	Front Seat Track	2503	-569	358	
17	Rear Seat Structure				1
18	Vehicle CG	2889	272	250	

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

1.) Not installed

DATA SHEET NO. 13
MDB ACCELEROMETER LOCATIONS

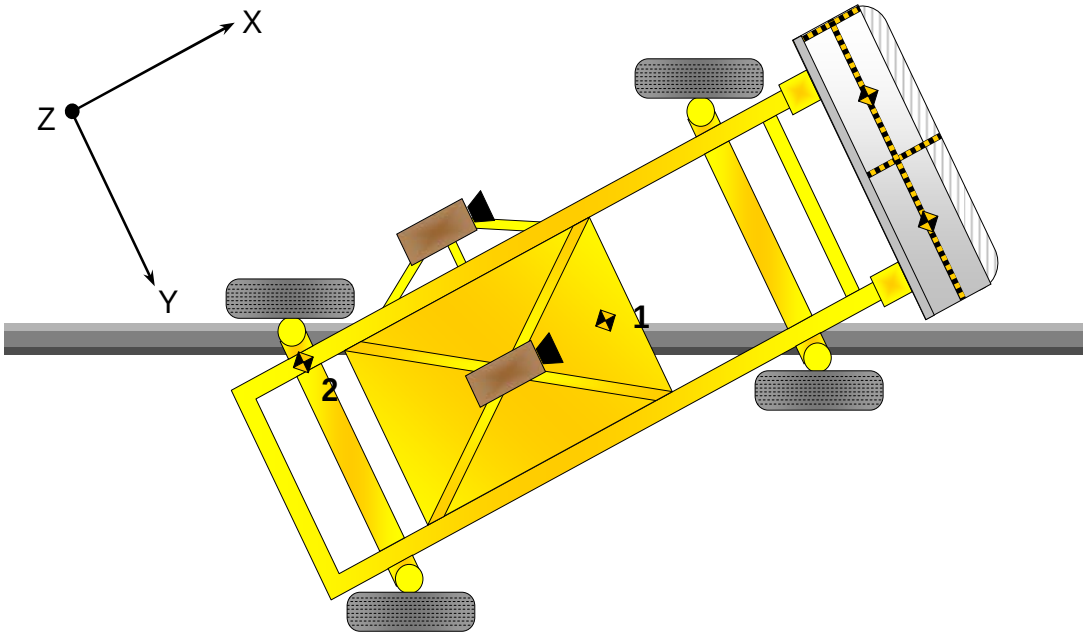
Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

MDB ACCELEROMETER LOCATIONS

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

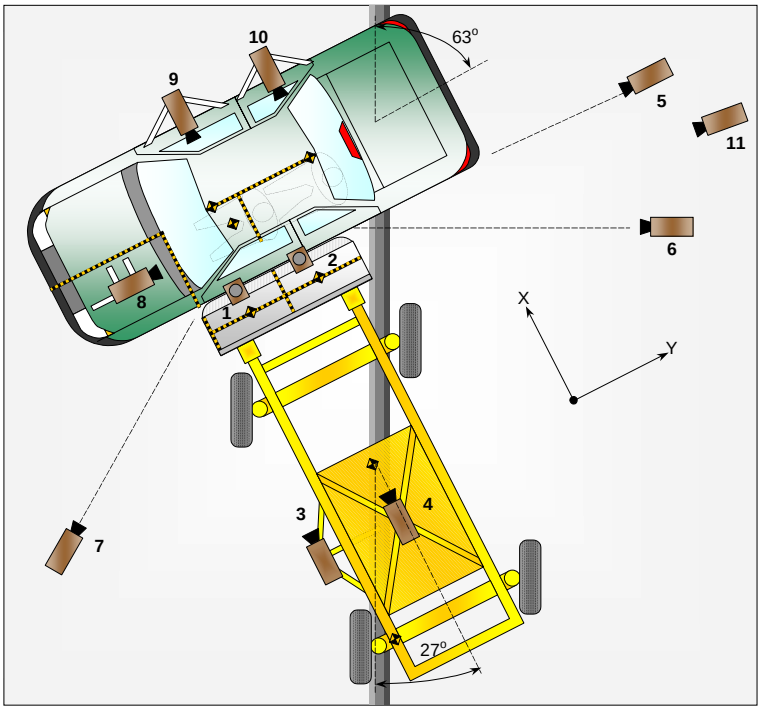


DATA SHEET NO. 14

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06



No.	Camera View	Location			Angle (Deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
DOC	REAL TIME DIGITAL	-7239	16851	-1806	-2	N/A	30
1	OVERHEAD OVERALL	1224	2281	-5484	-90	14mm	1000
2	OVERHEAD CLOSE UP	612	2286	-5452	-90	ZOOM	1000
3	LEFT IMPACT POINT (MDB)	-2134	0	-1143	-7	25mm	1000
4	SIDE OVERALL (MDB)	-3912	838	-1685	-11	12mm	1000
5	REAR	264	14754	-1298	0	ZOOM	1000
6	LEFT REAR (MDB)	-2137	1302	-939	-4	25mm	1000
7	LEFT FRONT	-2812	3560	-1572	-4	24mm	1000
8	DRIVER FRONT (O.B.)	538	-264	-1289	-15	35mm	1000
9	DRIVER SIDE (O.B.)	1985	338	-1238	-2	20mm	1000
10	PASSENGER SIDE (O.B.)	1985	867	-1238	-2	20mm	1000
DOC	REAL TIME DIGITAL	261	15559	-1364	0	N/A	30
11	LEFT REAR	-7100	16459	-839	0	ZOOM	1000
AV1	RIGHT IMPACT POINT (MDE	-2148	-1302	-938	-7	25mm	1000

All camera measurements were made relative to the point of impact.

DATA SHEET NO. 15

FMVSS 301 FUEL SYSTEM INTEGRITY POST-IMPACT DATA

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

Test Time: 12:25 PM Temperature: 25.6 Deg. C.

Stoddard Solvent Spillage Measurements

A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)

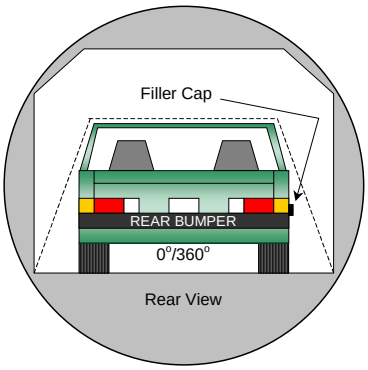
B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)

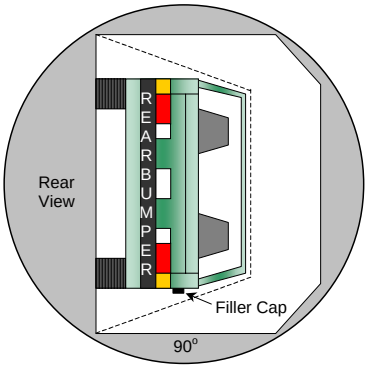
C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)

D. Spillage Details: No leakage occurred

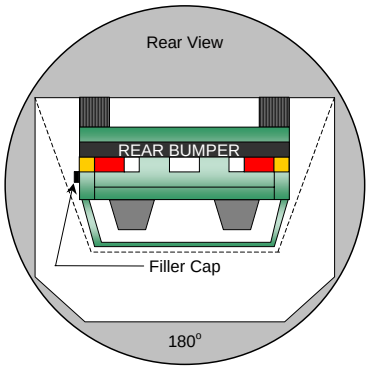
DATA SHEET NO. 16
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110
Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

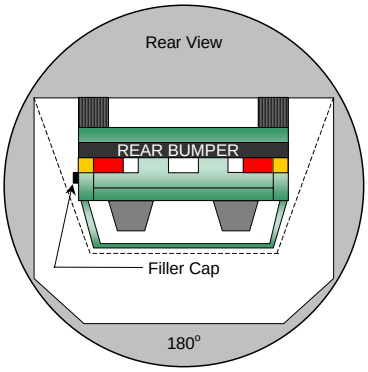




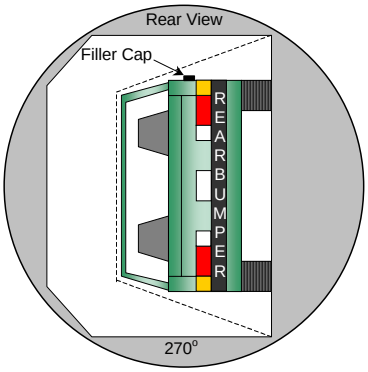
0° to 90°

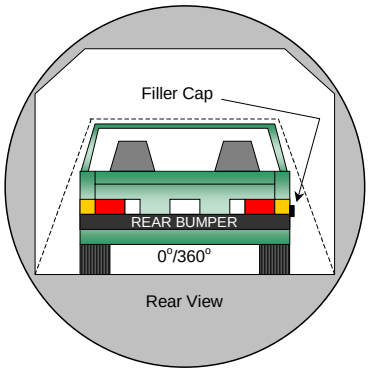


90° to 180°



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: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

SOLVENT COLLECTION TIME TABLE IN SECONDS

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

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. 16…(CONTINUED)

FMVSS 305 ELECTRICAL ISOLATION DATA SHEET

Test Vehicle: 2007 Toyota Prius 5-Door Hatchback NHTSA No.: M75110

Test Program: 55/28 km/h Side Impact NCAP Test Date: 10/12/06

MEASUREMENT OF ELECTRICAL ISOLATION VALUE

		Pre-Test	Post-Test
Voltage of Propulsion Battery	Vb	221.2	0.261
Voltage from (-) side to chassis	V1	0.023	-0.056
Voltage from (+) side to chassis	V2	0.024	0.159
Voltage across Resistor Ro (-) to chassis	V1'	-4.96	0
Voltage across Resistor Ro (+) to chassis	V2'	4.96	0.007

Test Phase	V1	V2	V1'	V2'
0°	0.013 V	0.005 V	0.136 V	0.050 V
90°	0.035 V	0.011 V	0.150 V	0.056 V
180°	0.038 V	0.012 V	0.155 V	0.061 V
270°	0.027 V	0.008 V	0.140 V	0.052 V

ELECTROLYTE SPILLAGE LOCATION TABLE

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

Note: Test vehicle was equipped with a safety circuit that would not allow voltage to be drawn from the propulsion battery if the vehicle transmission was in neutral.

APPENDIX A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

LIST OF PHOTOGRAPHS…(CONTINUED)

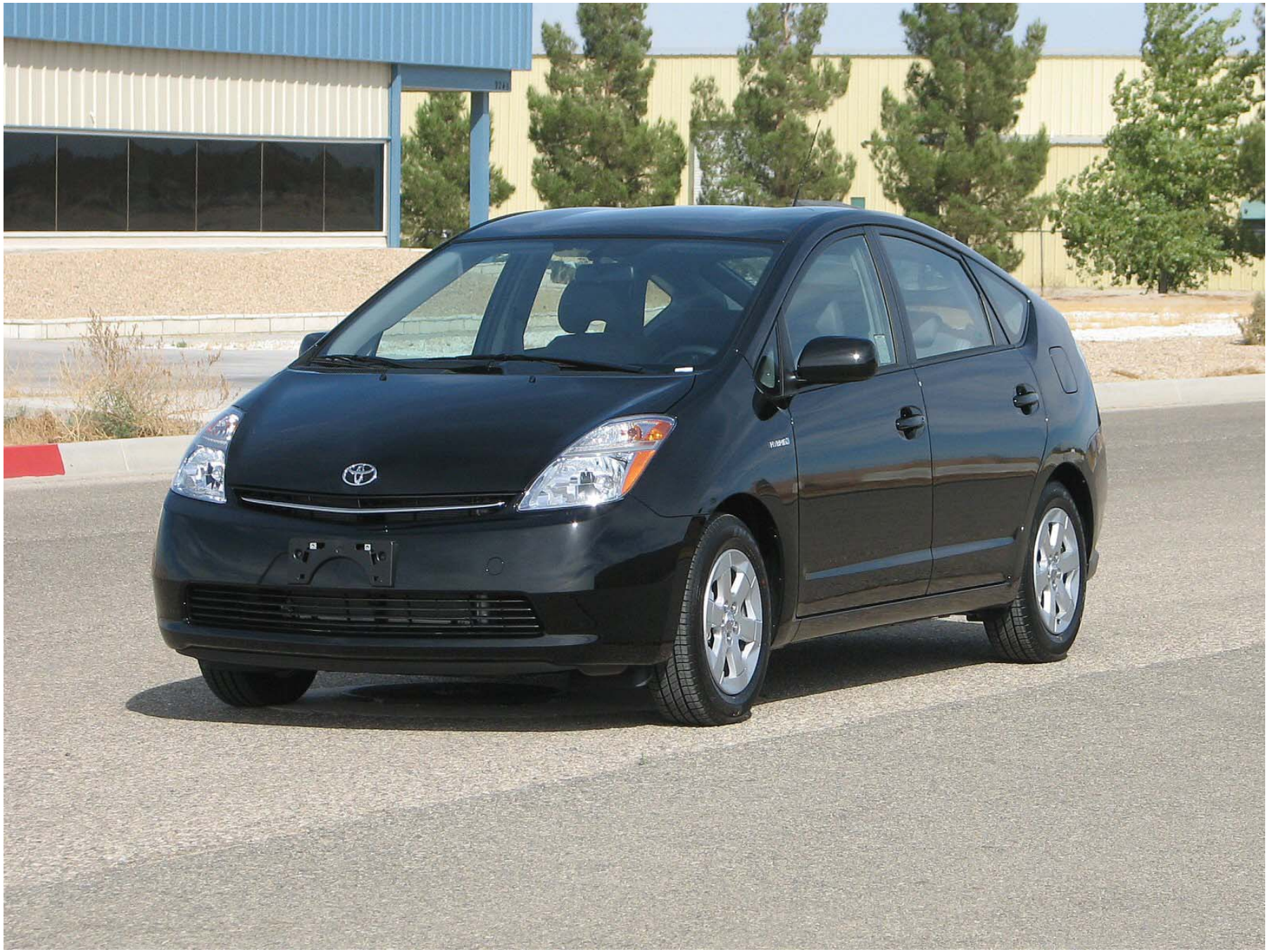


Figure A-1: Left Front ¾ View, as Received

Figure A-2: Right Rear ¾ View, as Received

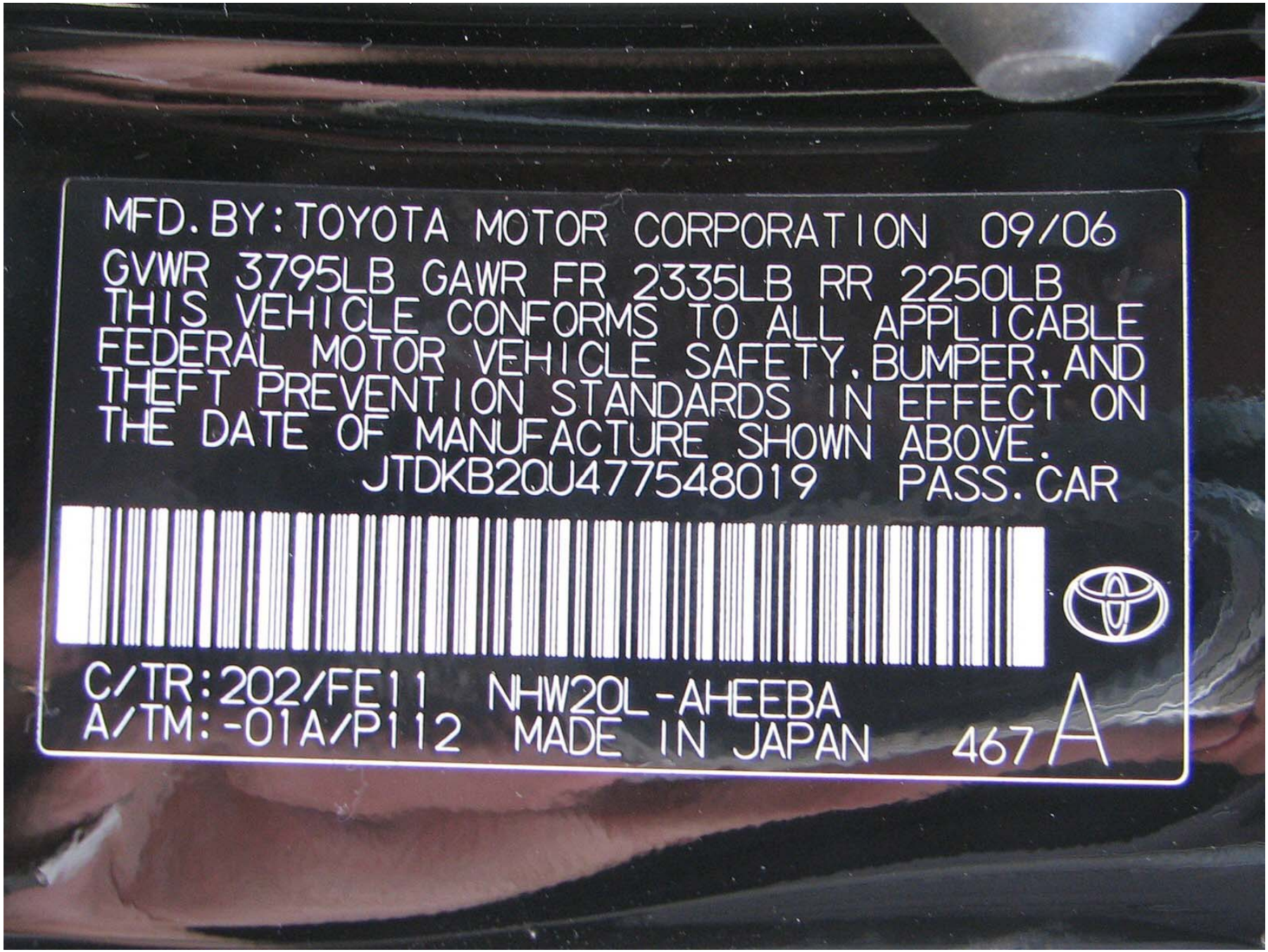


Figure A-3: Manufacturer's Label

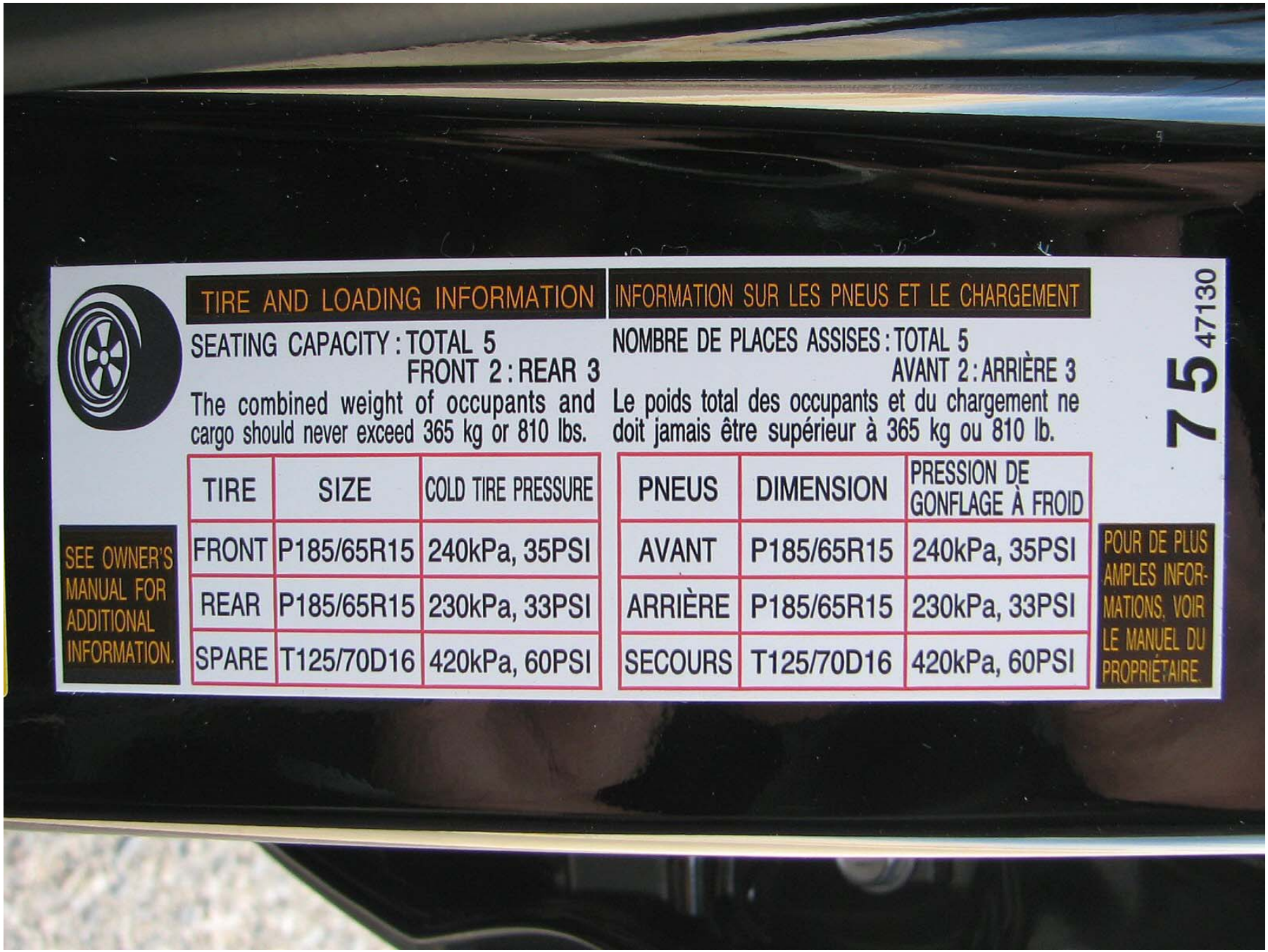


Figure A-4: Tire Placard

Figure A-5: Pre-Test Front View

Figure A-6: Post-Test Front View

Figure A-7: Pre-Test Left Front ¾ View

Figure A-8: Post-Test Left Front ¾ View

Figure A-9: Pre-Test Left Side View

Figure A-10: Post-Test Left Side View

Figure A-11: Pre-Test Left Rear ¾ View

Figure A-12: Post-Test Left Rear ¾ View

Figure A-13: Pre-Test Rear View

Figure A-14: Post-Test Rear View

Figure A-15: Pre-Test Right Rear ¾ 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 ¾ View

Figure A-20: Post-Test Right Front ¾ 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 ¾ View of Left Side Door

Figure A-28: Post-Test Front ¾ View of Left Side Door

Figure A-29: Pre-Test Rear ¾ View of Left Side Door

Figure A-30: Post-Test Rear ¾ 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)

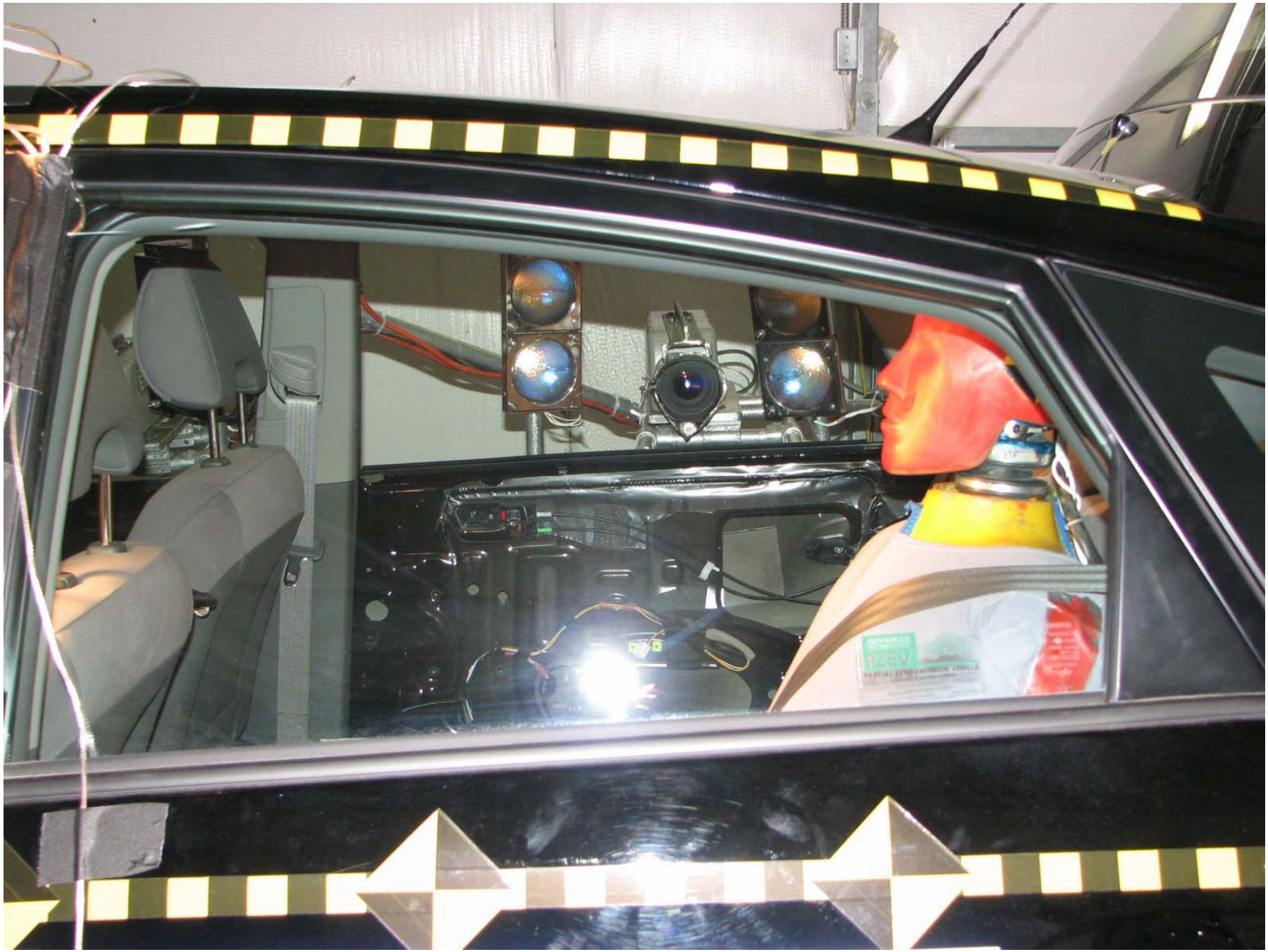


Figure A-45: Pre-Test Passenger Dummy Left Side (Through Window)

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)

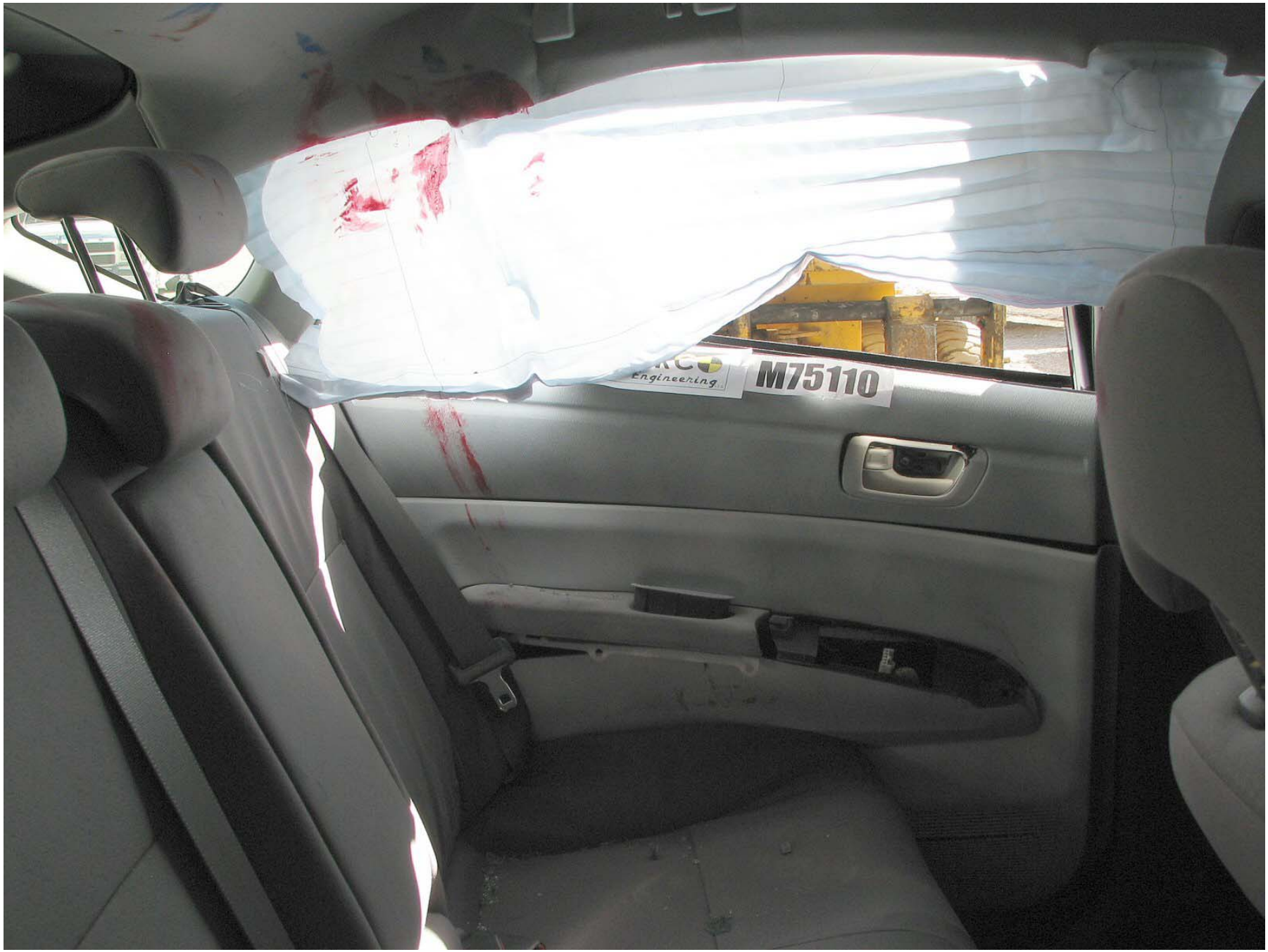


Figure A-52: Post-Test Rear Door Panel (Interior)

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

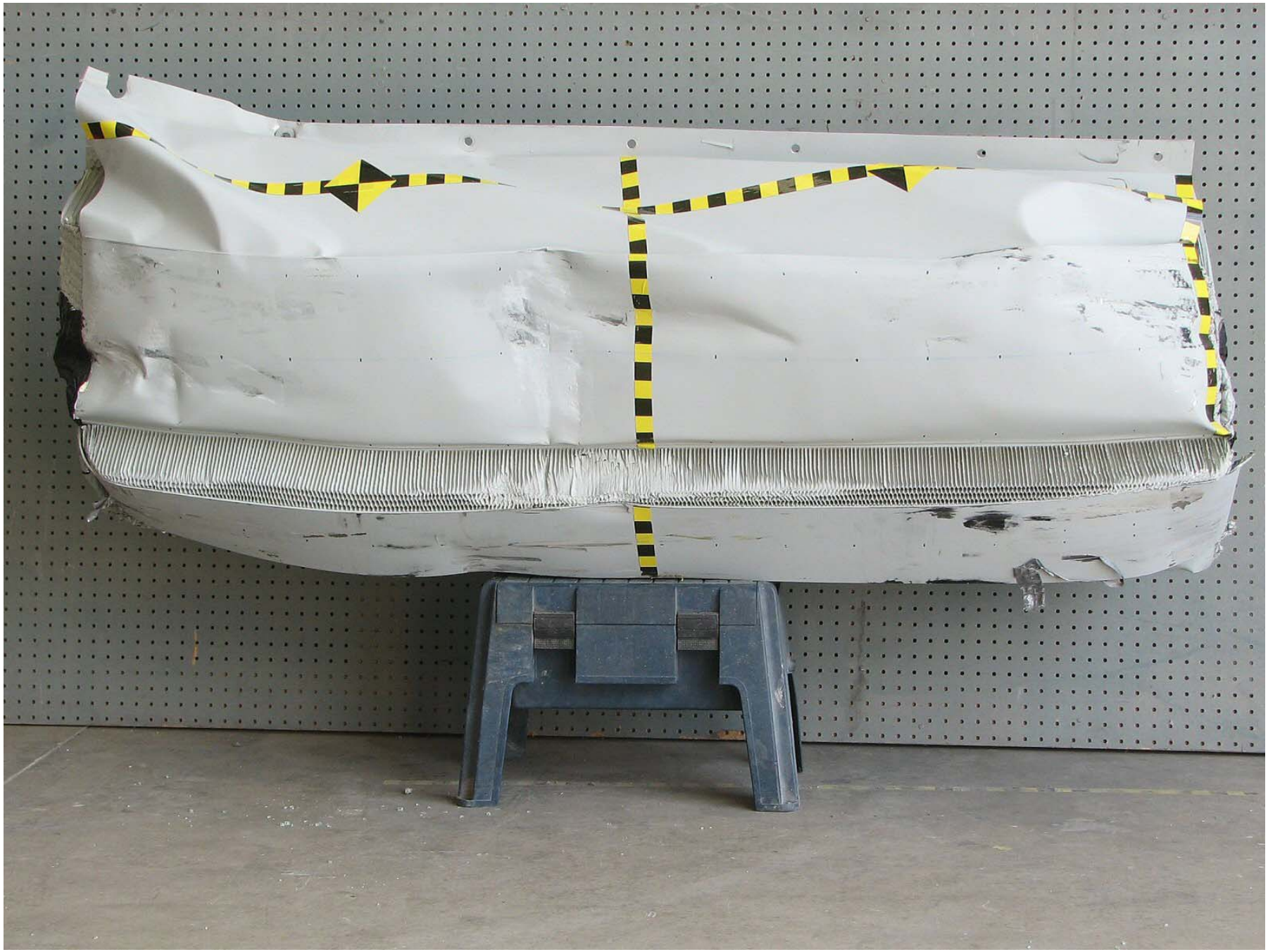


Figure A-54: Post-Test Front View of Deformable Barrier

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°)

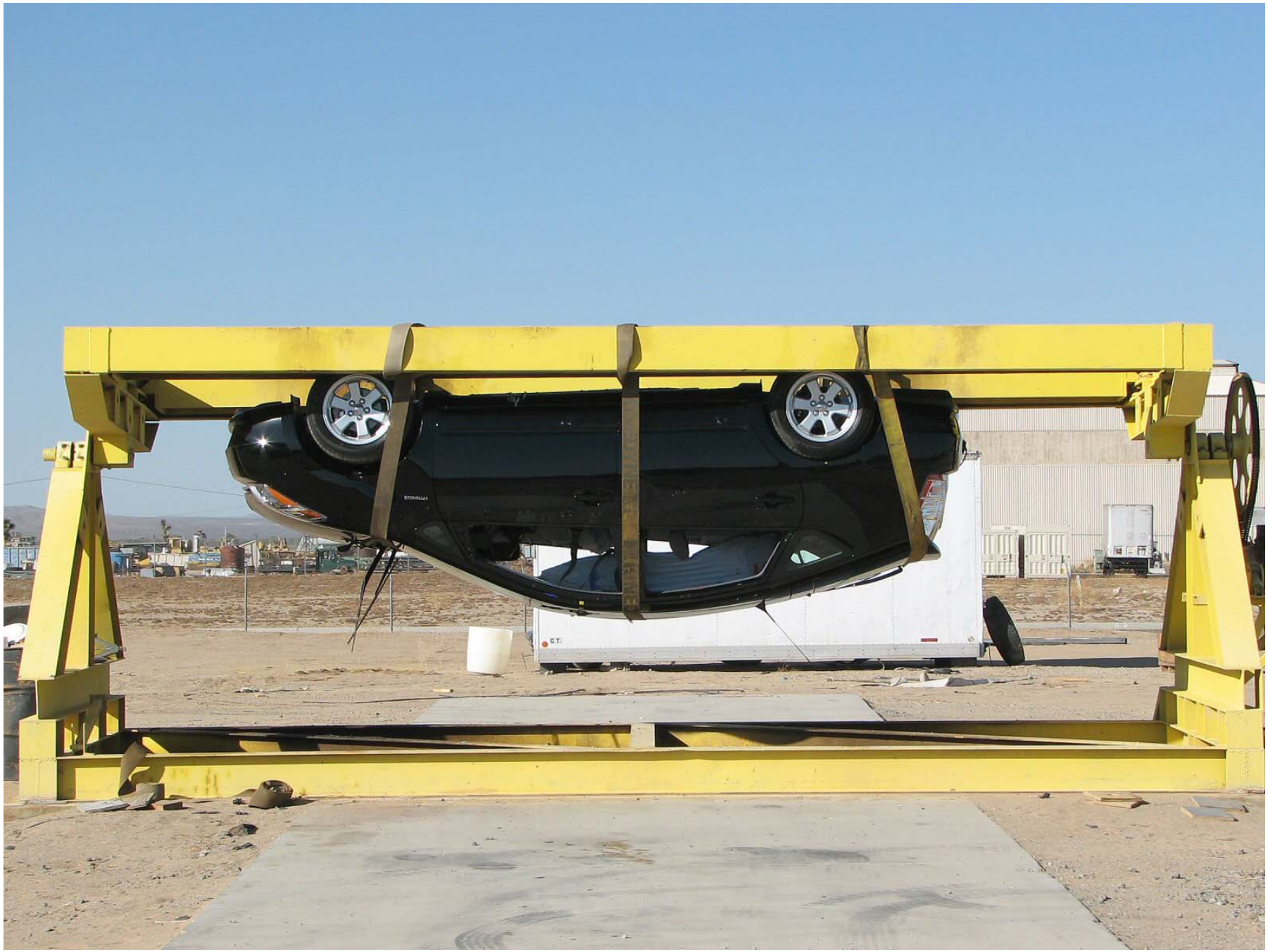


Figure A-63: Vehicle on Rollover Device (180°)

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

Figure A-65: Vehicle Impact

APPENDIX B

SID/HIII, VEHICLE AND MDB RESPONSE DATA

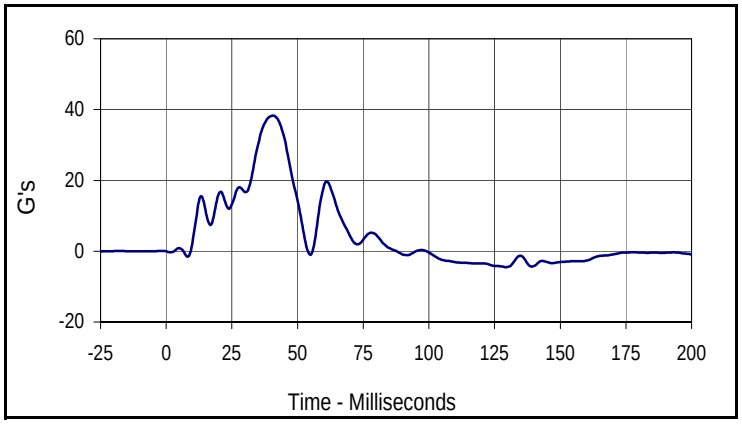
LIST OF DATA PLOTS

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

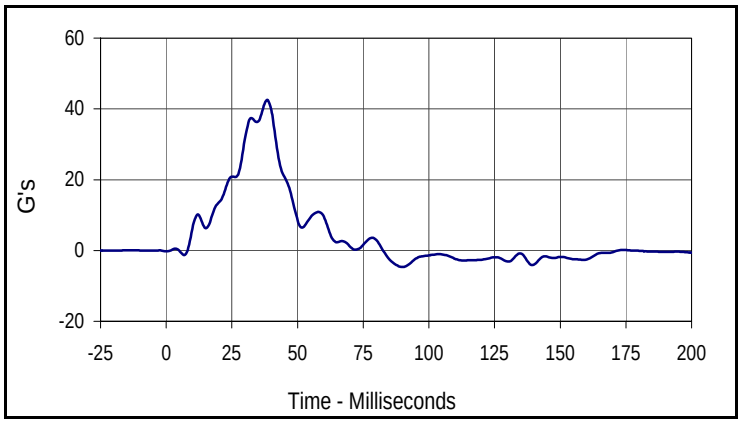
LIST OF DATA PLOTS…(CONTINUED)

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

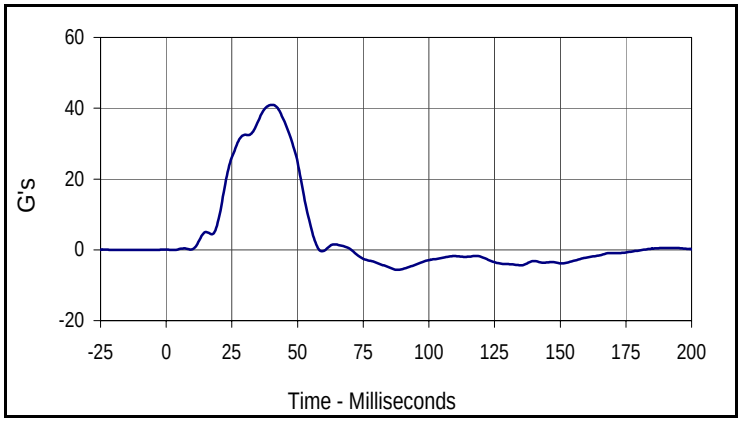
Test Vehicle:	2007 Toyota Prius 5-Door Hatchback	Test Date:	10/12/06
Test Program:	55/28 km/h Side Impact NCAP	NHTSA No.:	M75110



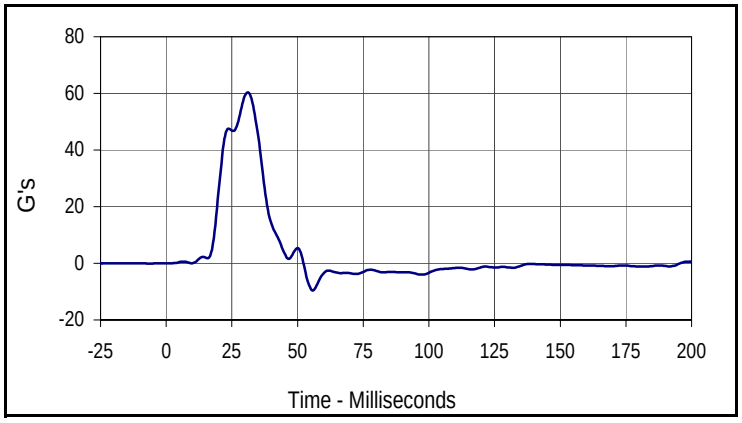
Curve Description			
Driver Upper Rib Primary Y			
CURNO	Type	SAE Class	Units
001	FIR	FIR100	G's
Max	Time	Min	Time
38.3	40.6	-4.5	129.4



Curve Description			
Driver Lower Rib Primary Y			
CURNO	Type	SAE Class	Units
002	FIR	FIR100	G's
Max	Time	Min	Time
42.4	38.8	-4.7	90.0

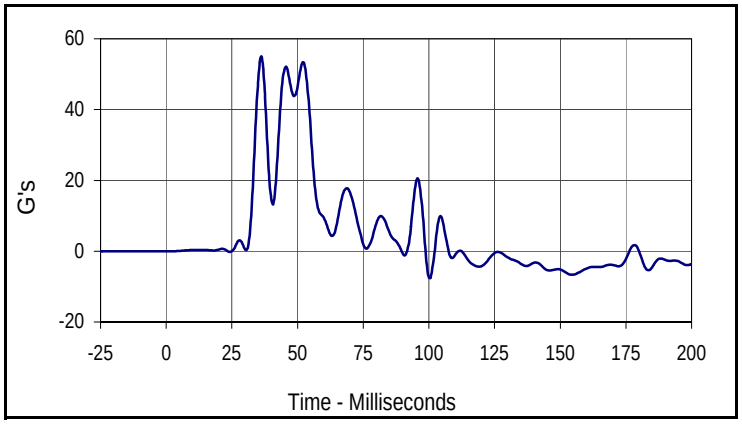


Curve Description			
Driver Lower Spine Primary Y			
CURNO	Type	SAE Class	Units
003	FIR	FIR100	G's
Max	Time	Min	Time
41.0	40.6	-5.6	88.1

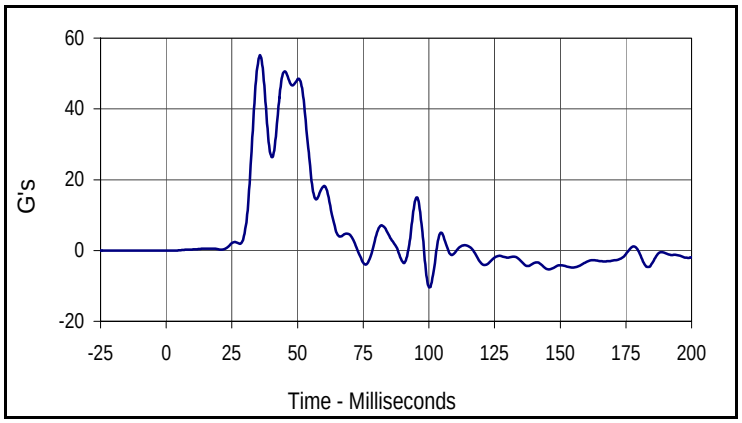


Curve Description			
Driver Pelvis Primary Y			
CURNO	Type	SAE Class	Units
004	FIR	FIR100	G's
Max	Time	Min	Time
60.4	31.3	-9.6	55.6

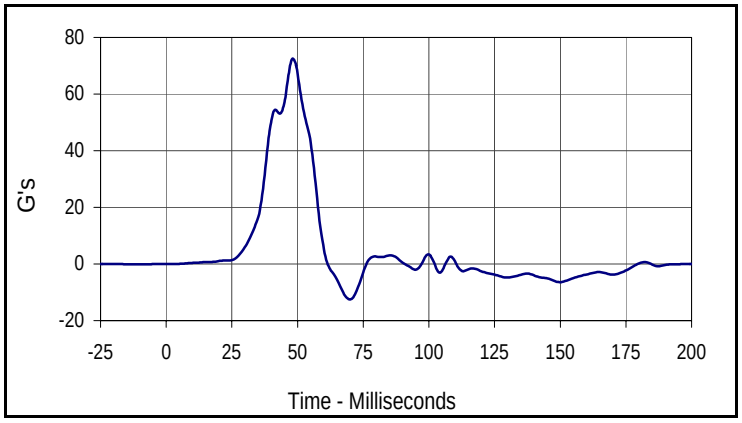
Test Vehicle:	2007 Toyota Prius 5-Door Hatchback	Test Date:	10/12/06
Test Program:	55/28 km/h Side Impact NCAP	NHTSA No.:	M75110



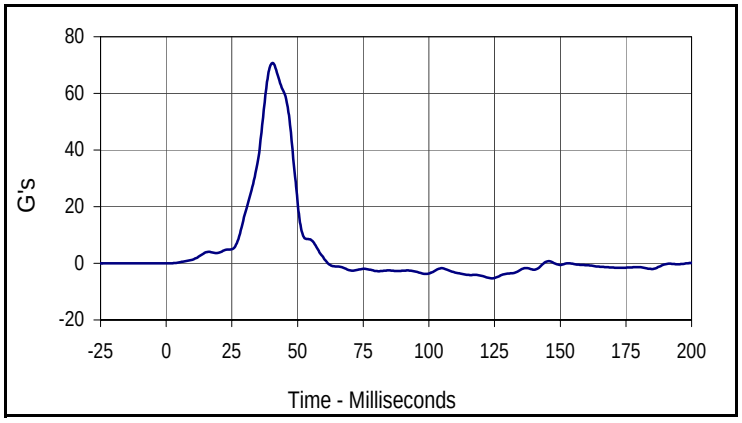
Curve Description			
Passenger Upper Rib Primary Y			
CURNO	Type	SAE Class	Units
005	FIR	FIR100	G's
Max	Time	Min	Time
55.0	36.3	-7.5	100.6



Curve Description			
Passenger Lower Rib Primary Y			
CURNO	Type	SAE Class	Units
006	FIR	FIR100	G's
Max	Time	Min	Time
55.2	35.6	-10.4	100.0



Curve Description			
Passenger Lower Spine Primary Y			
CURNO	Type	SAE Class	Units
007	FIR	FIR100	G's
Max	Time	Min	Time
72.5	48.1	-12.6	70.0



Curve Description			
Passenger Pelvis Primary Y			
CURNO	Type	SAE Class	Units
008	FIR	FIR100	G's
Max	Time	Min	Time
70.8	40.6	-5.3	123.8

APPENDIX C
SID/HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

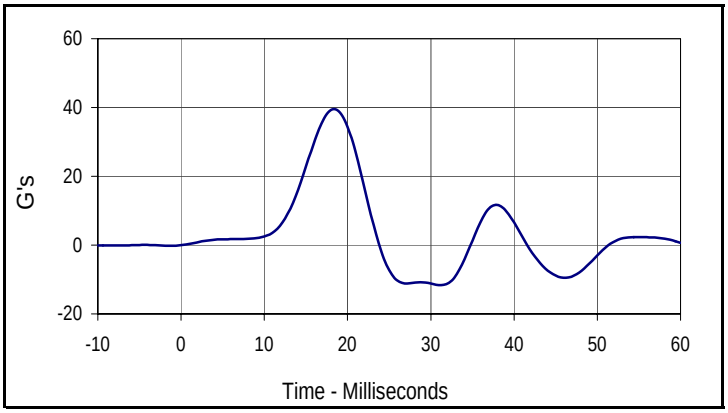
APPENDIX C
PRE-TEST SID / HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Test Program:	SID / HIII External Measurements	Test Date:	9/29/06
ATD Serial No.:	274	Test I.D.:	N/A

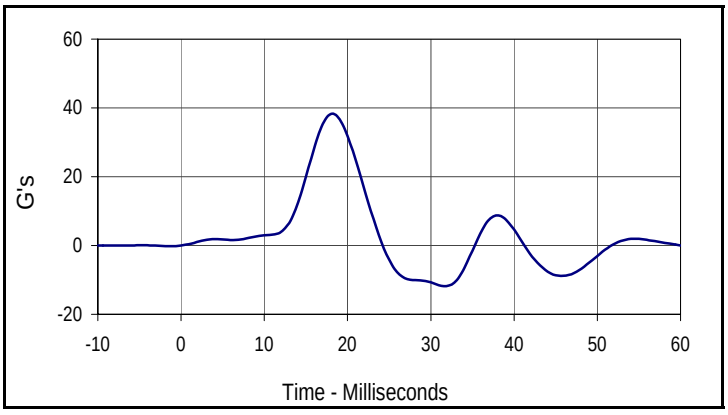
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
SH- Seated Height	mm	889 to 909	902	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	503	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	514	Pass
KV- Knee Pivot From Floor	mm	490 to 505	496	Pass
HW- Hip Width	mm	356 to 391	361	Pass
		Overall Test Results		Pass

Test Program:	SID / HIII Thorax Lateral Impact	Test Date:	9/29/06
ATD Serial No.:	274	Test I.D.:	TH91D

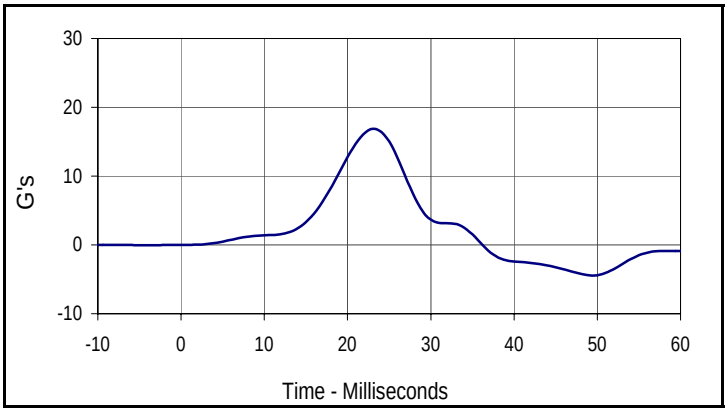
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	22.2	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	39.4	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	38.3	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	16.9	Pass
		Overall Test Results		Pass



Curve Description			
Upper Rib Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
39.4	18.1	-11.7	31.3



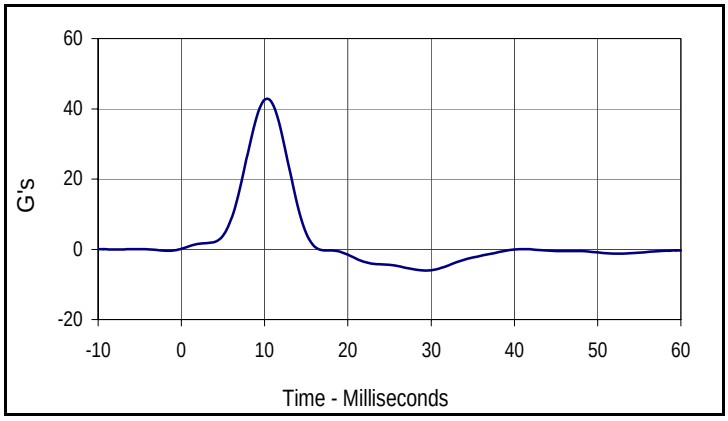
Curve Description			
Lower Rib Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
38.3	18.1	-11.8	31.9



Curve Description			
Lower Spine Primary Y			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
16.9	23.1	-4.5	49.4

Test Program:	SID / HIII Pelvis Lateral Impact	Test Date:	9/29/06
ATD Serial No.:	274	Test I.D.:	PL91D

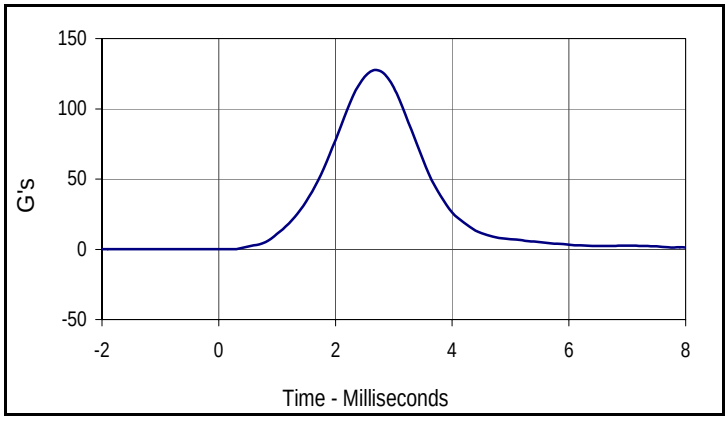
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.29	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	42.6	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	6.25	Pass
		Overall Test Results		Pass



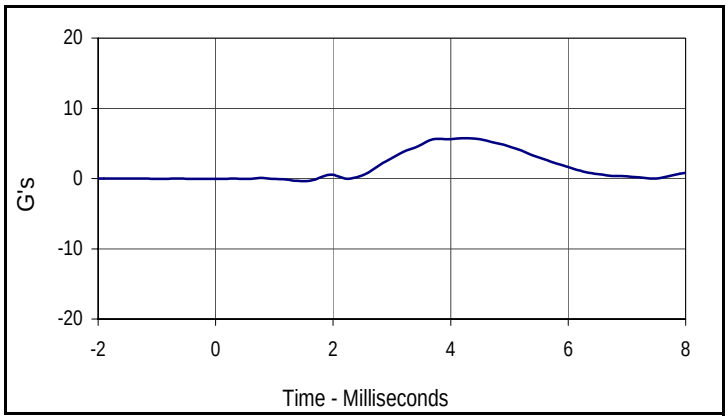
Curve Description			
Pelvis Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
42.6	10.0	-6.1	29.4

Test Program:	SID / HIII Head Drop Lateral Impact Test	Test Date:	9/29/06
ATD Serial No.:	274	Test I.D.:	HD91D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	22.2	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	120.0 to 150.0	127.8	Pass
Peak Longitudinal Acceleration	G's	≤15.0	5.8	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	5.7	Pass
		Overall Test Results		Pass



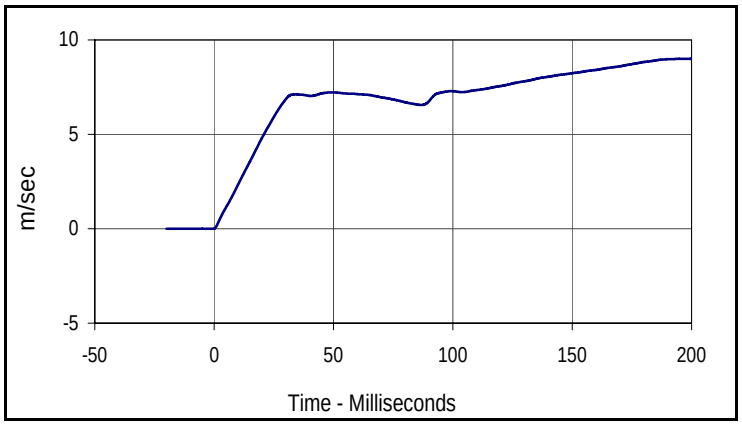
Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
127.8	2.7	0.0	-1.2



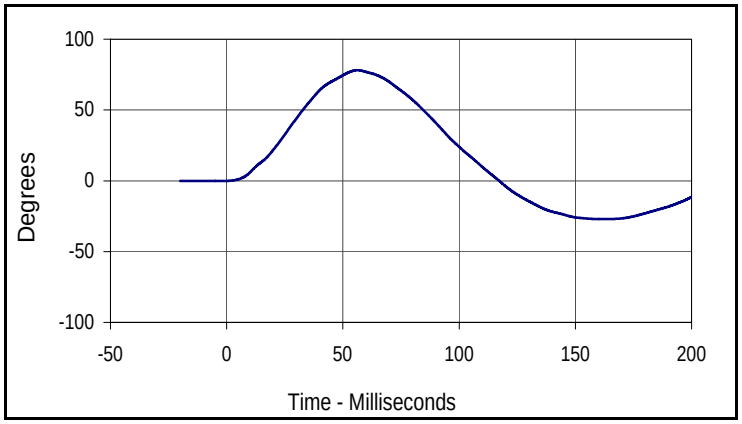
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
5.8	4.2	-0.4	1.5

Test Program:	SID / HIII Neck Pendulum Lateral Test	Test Date:	9/29/06
ATD Serial No.:	274	Test I.D.:	NB91A

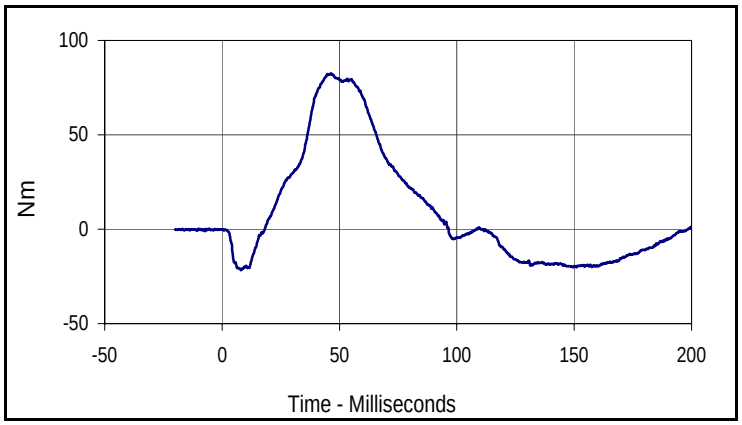
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	31	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.08	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.34	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.80	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.86	Pass
	40 to 70	m/sec	6.27 to 7.64	7.22	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	78.1	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	9.8	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	61.0	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	82.5	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	50.1	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/sec
Max	Time	Min	Time
9.0	196.0	0.0	-0.5



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
78.1	56.2	-27.0	163.5



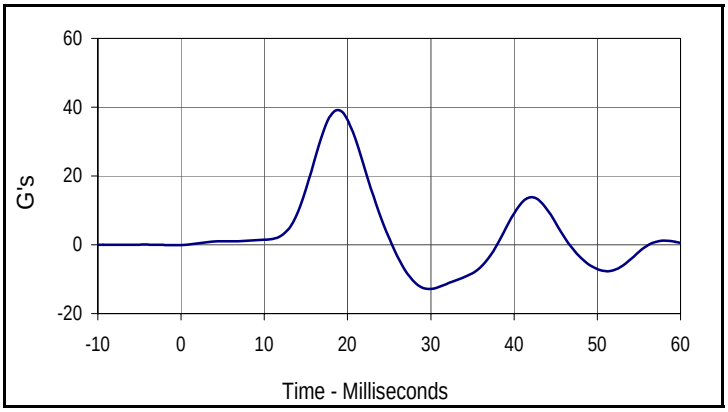
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
82.5	46.4	-21.7	8.1

Test Program:	SID / HIII External Measurements	Test Date:	9/29/06
ATD Serial No.:	275	Test I.D.:	N/A

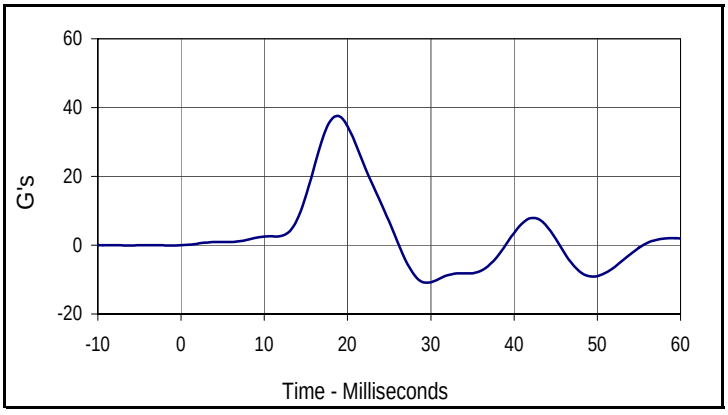
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
SH- Seated Height	mm	889 to 909	901	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	502	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	513	Pass
KV- Knee Pivot From Floor	mm	490 to 505	494	Pass
HW- Hip Width	mm	356 to 391	362	Pass
		Overall Test Results		Pass

Test Program:	SID / HIII Thorax Lateral Impact	Test Date:	9/29/06
ATD Serial No.:	275	Test I.D.:	TH91C

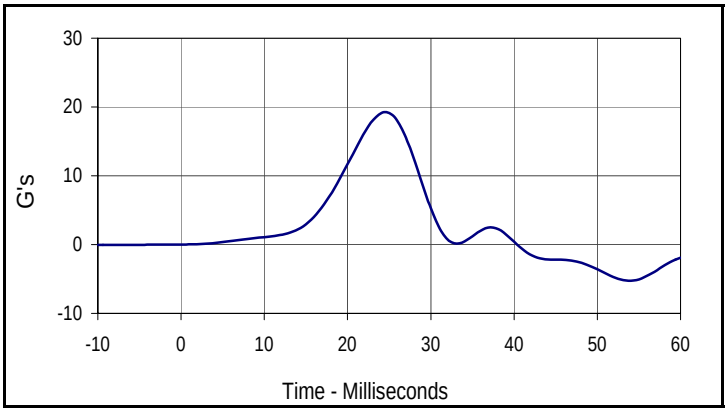
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	39.2	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	37.6	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	19.2	Pass
		Overall Test Results		Pass



Curve Description			
Upper Rib Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
39.2	18.8	-12.8	30.0



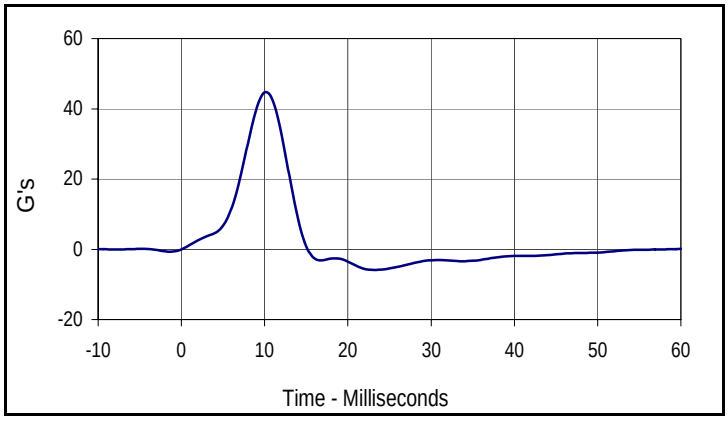
Curve Description			
Lower Rib Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
37.6	18.8	-10.9	29.4



Curve Description			
Lower Spine Primary Y			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
19.2	24.4	-5.3	53.8

Test Program:	SID / HIII Pelvis Lateral Impact	Test Date:	9/29/06
ATD Serial No.:	275	Test I.D.:	PL91A

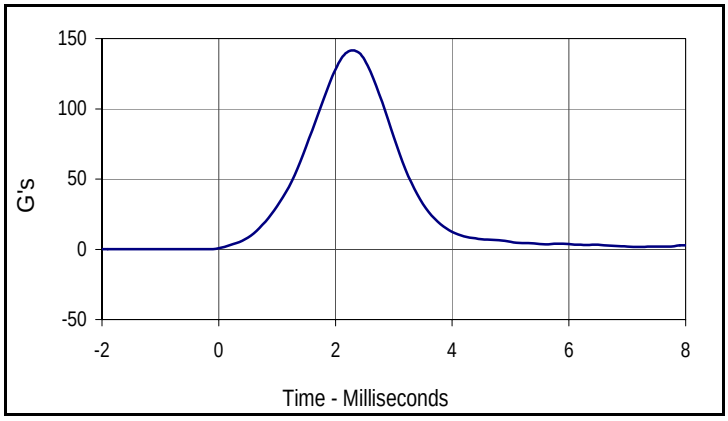
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	44.7	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	5.63	Pass
		Overall Test Results		Pass



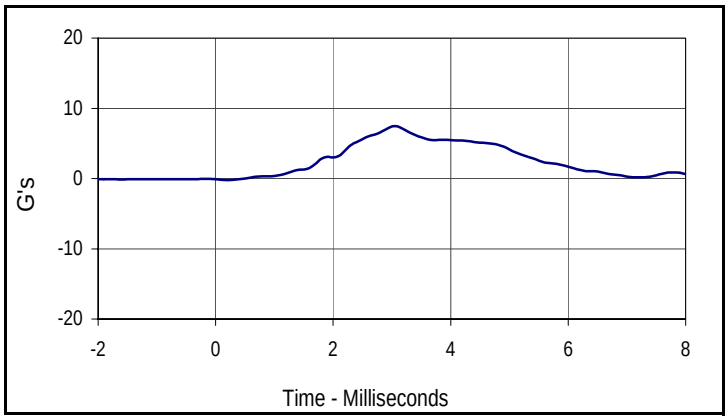
Curve Description			
Pelvis Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
44.7	10.0	-5.9	23.1

Test Program:	SID / HIII Head Drop Lateral Impact Test	Test Date:	9/29/06
ATD Serial No.:	275	Test I.D.:	HD91C

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
Peak Resultant Acceleration	G's	120.0 to 150.0	141.6	Pass
Peak Longitudinal Acceleration	G's	≤15.0	7.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	3.7	Pass
		Overall Test Results		Pass



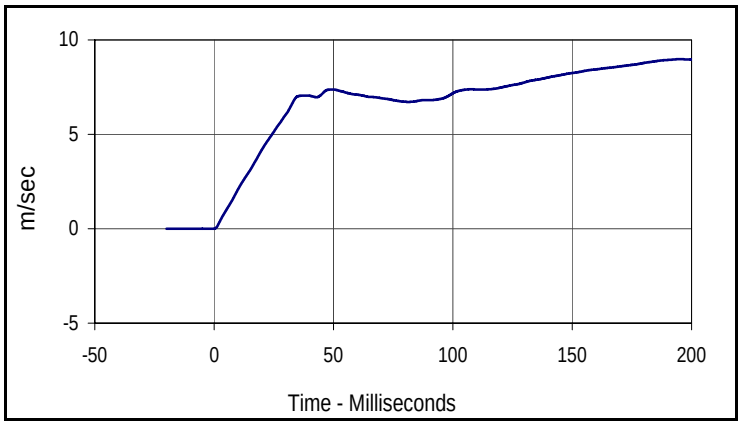
Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
141.6	2.3	0.1	-0.2



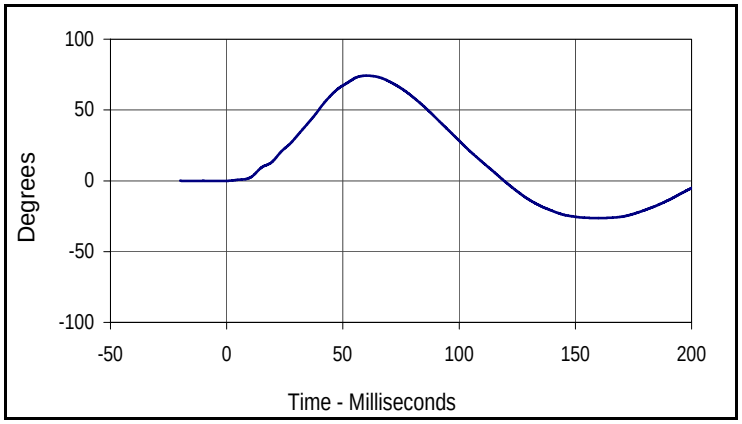
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
7.4	3.0	-0.2	0.2

Test Program:	SID / HIII Neck Pendulum Lateral Test	Test Date:	9/29/06
ATD Serial No.:	275	Test I.D.:	NB91A

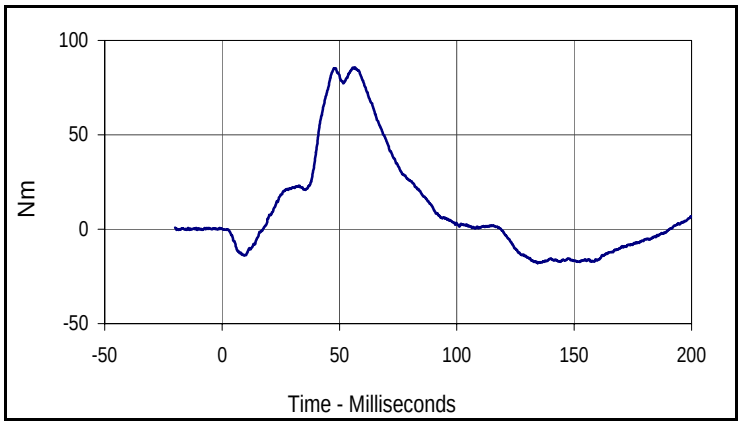
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	31	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.12	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.09	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.19	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.04	Pass
	40 to 70	m/sec	6.27 to 7.64	7.38	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	74.2	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	3.7	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	59.2	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	85.8	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	62.4	Pass
			Overall Test Results		Pass



Curve Description			
Pendulum Velocity			
CURNO	Type	SAE Class	Units
001	FIL	180	m/sec
Max	Time	Min	Time
9.0	194.7	0.0	-0.3



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
74.2	60.2	-26.3	159.3



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	600	Nm
Max	Time	Min	Time
85.8	56.5	-18.0	134.5

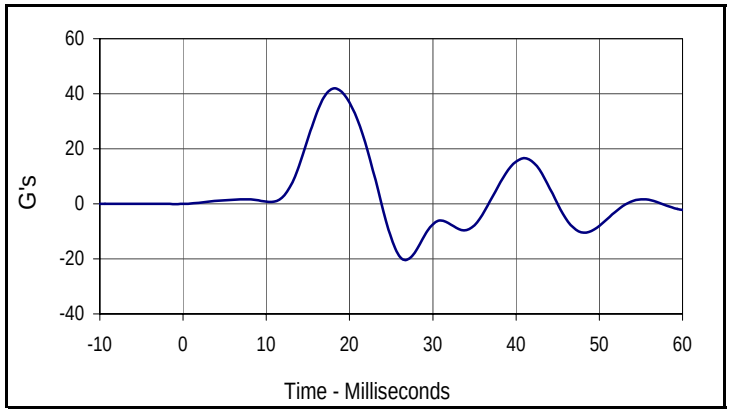
APPENDIX C
POST-TEST SID / HIII CONFIGURATION AND PERFORMANCE VERIFICATION DATA

Test Program:	SID / HIII External Measurements	Test Date:	10/13/06
ATD Serial No.:	274	Test I.D.:	N/A

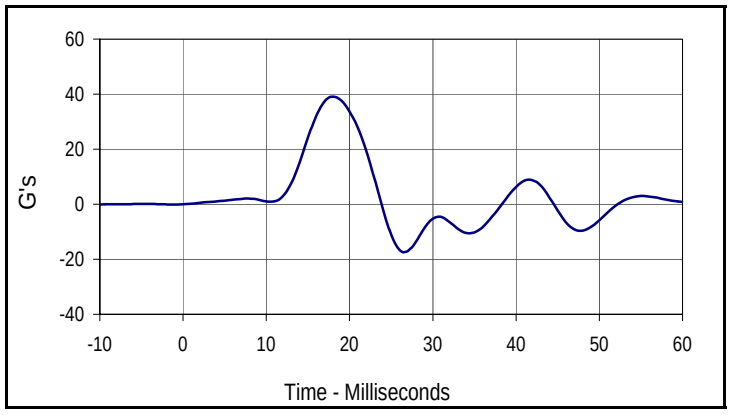
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	901	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	504	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	515	Pass
KV- Knee Pivot From Floor	mm	490 to 505	497	Pass
HW- Hip Width	mm	356 to 391	361	Pass
		Overall Test Results		Pass

Test Program:	SID / HIII Thorax Lateral Impact	Test Date:	10/13/06
ATD Serial No.:	274	Test I.D.:	TH10A

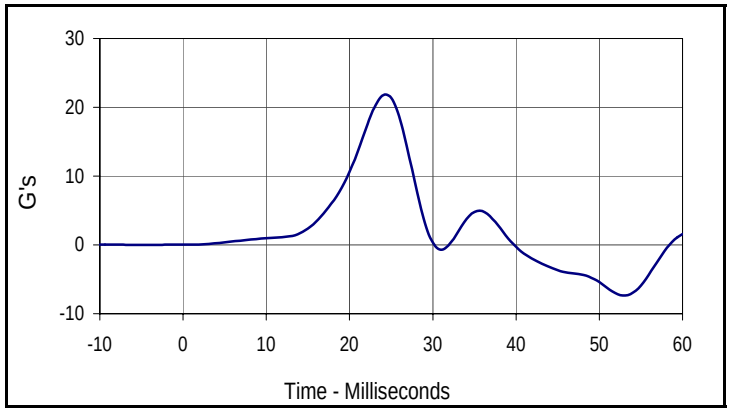
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.27	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	41.9	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	39.1	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	21.9	Pass
		Overall Test Results		Pass



Curve Description			
Upper Rib Primary			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
41.9	18.1	-20.4	26.9



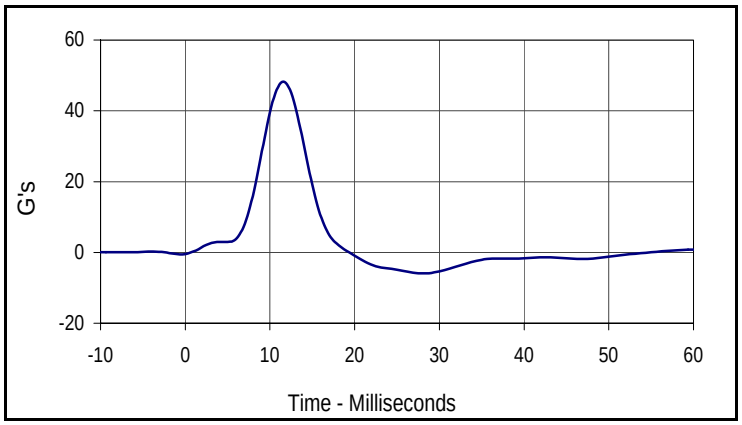
Curve Description			
Lower Rib Primary			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
39.1	18.1	-17.2	26.9



Curve Description			
Lower Spine Primary			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
21.9	24.4	-7.4	53.1

Test Program:	SID / HIII Pelvis Lateral Impact	Test Date:	10/13/06
ATD Serial No.:	274	Test I.D.:	PI10A

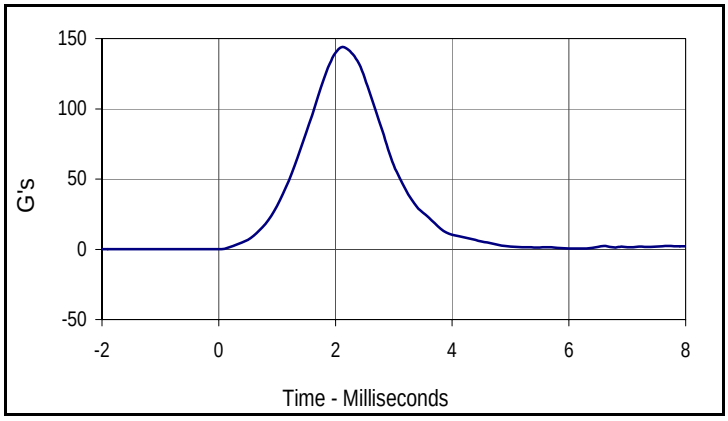
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.29	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	47.9	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	6.25	Pass
		Overall Test Results		Pass



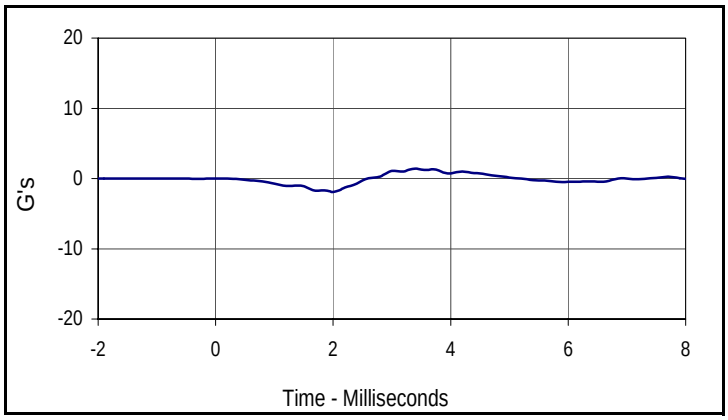
Curve Description			
Pelvis Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
47.9	11.9	-5.9	28.1

Test Program:	SID / HIII Head Drop Lateral Impact Test	Test Date:	10/13/06
ATD Serial No.:	274	Test I.D.:	HD10A

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
Peak Resultant Acceleration	G's	120.0 to 150.0	143.8	Pass
Peak Longitudinal Acceleration	G's	≤15.0	1.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	1.7	Pass
		Overall Test Results		Pass



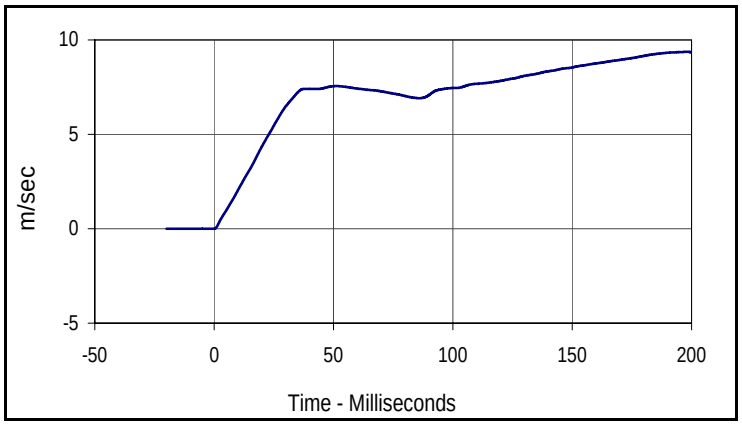
Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
143.8	2.1	0.0	-1.6



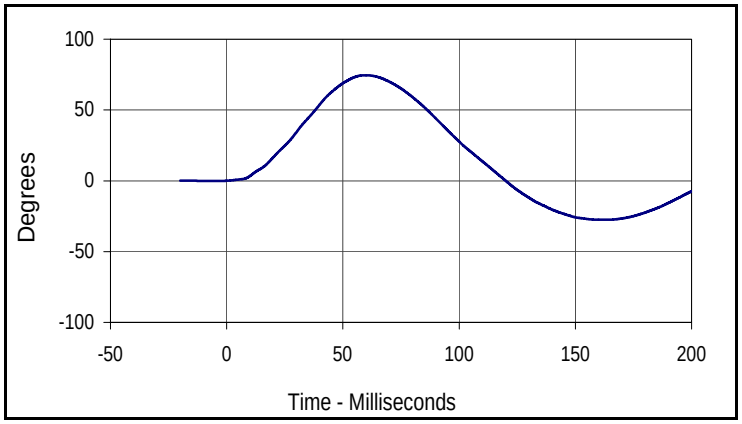
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
1.4	3.4	-1.9	2.0

Test Program:	SID / HIII Neck Pendulum Lateral Test	Test Date:	10/13/06
ATD Serial No.:	274	Test I.D.:	NB10A

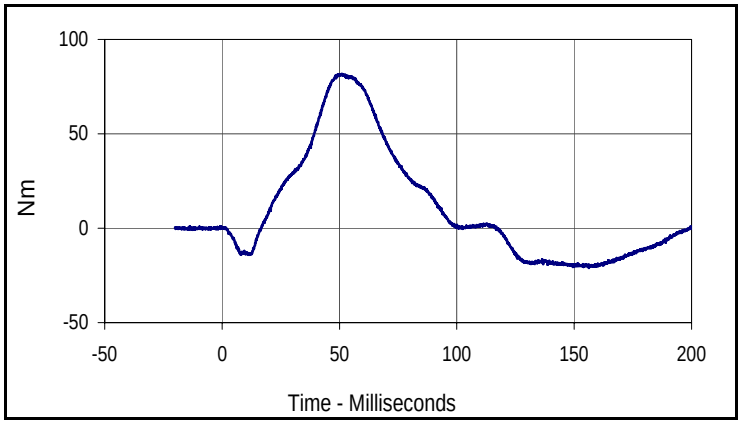
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	6.95	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.05	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.35	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.48	Pass
	40 to 70	m/sec	6.27 to 7.64	7.55	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	74.6	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	8.6	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	60.4	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	81.7	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	49.7	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	197.9	0.0	-0.3



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
74.6	59.7	-27.5	161.4



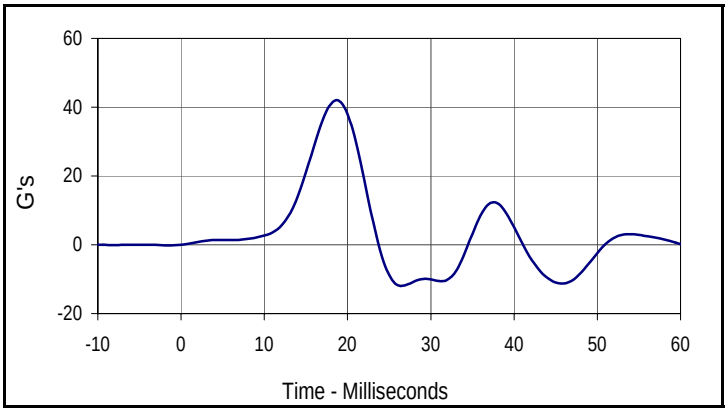
Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	60	Nm
Max	Time	Min	Time
81.7	51.1	-21.0	156.3

Test Program:	SID / HIII External Measurements	Test Date:	10/13/06
ATD Serial No.:	275	Test I.D.:	N/A

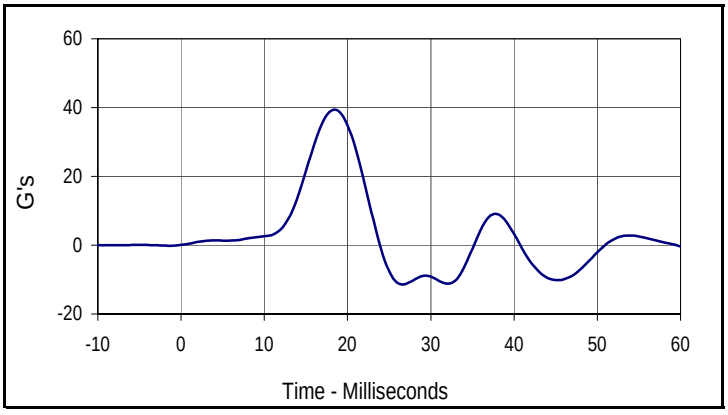
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.5	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
SH- Seated Height	mm	889 to 909	900	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	504	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	515	Pass
KV- Knee Pivot From Floor	mm	490 to 505	495	Pass
HW- Hip Width	mm	356 to 391	360	Pass
		Overall Test Results		Pass

Test Program:	SID / HIII Thorax Lateral Impact	Test Date:	10/13/06
ATD Serial No.:	275	Test I.D.:	TH10B

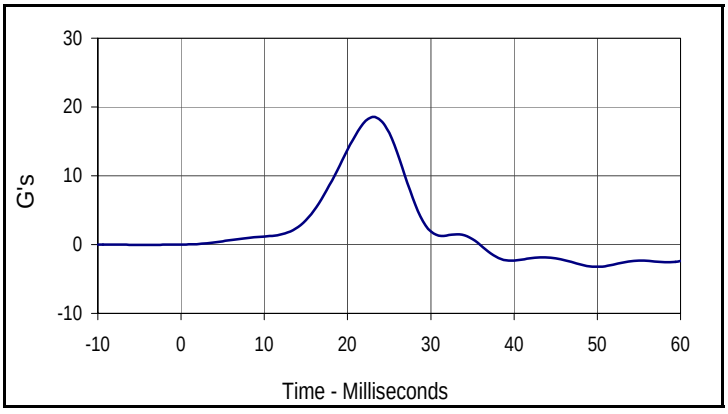
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.30	Pass
Upper Rib Acceleration	G's	37.0 to 46.0	42.1	Pass
Lower Rib Acceleration	G's	37.0 to 46.0	39.2	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	18.5	Pass
		Overall Test Results		Pass



Curve Description			
Upper Rib Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
42.1	18.8	-11.9	26.3



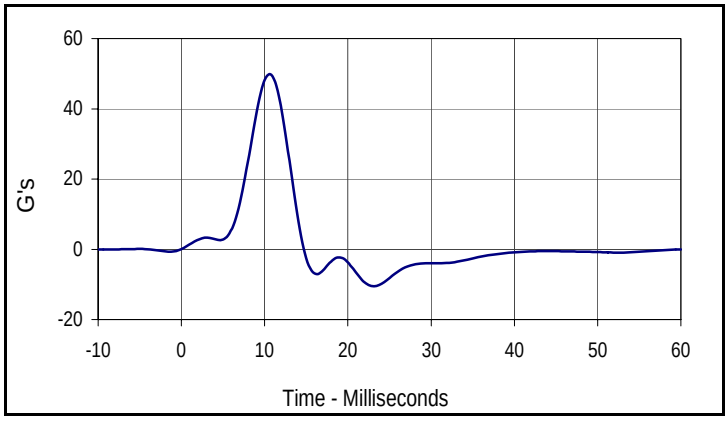
Curve Description			
Lower Rib Primary Y			
CURNO	Type	SAE Class	Units
002	FIL	FIR100	G's
Max	Time	Min	Time
39.2	18.1	-11.4	26.9



Curve Description			
Lower Spine Primary Y			
CURNO	Type	SAE Class	Units
003	FIL	FIR100	G's
Max	Time	Min	Time
18.5	23.1	-3.2	50.0

Test Program:	SID / HIII Pelvis Lateral Impact	Test Date:	10/13/
ATD Serial No.:	275	Test I.D.:	PL10B

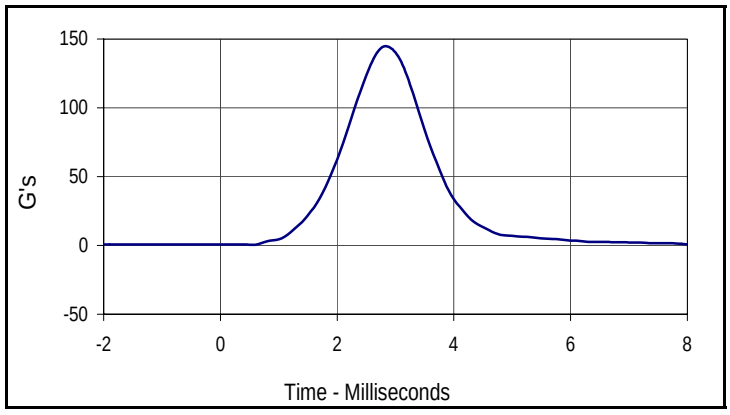
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.30	Pass
Peak Pelvis Acceleration	G's	40.0 to 60.0	49.9	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0	5.63	Pass
		Overall Test Results		Pass



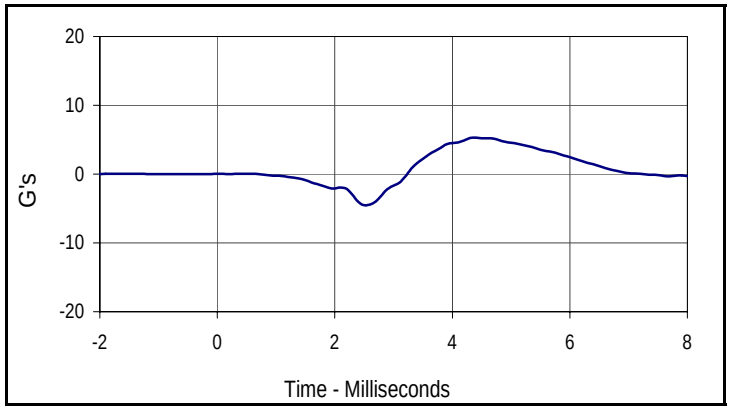
Curve Description			
Pelvis Primary Y			
CURNO	Type	SAE Class	Units
001	FIL	FIR100	G's
Max	Time	Min	Time
49.9	10.6	-10.5	23.1

Test Program:	SID / HIII Head Drop Lateral Impact Test	Test Date:	10/13/06
ATD Serial No.:	275	Test I.D.:	HD10S

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
Peak Resultant Acceleration	G's	120.0 to 150.0	144.6	Pass
Peak Longitudinal Acceleration	G's	≤15.0	5.3	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<15	4.8	Pass
		Overall Test Results		Pass



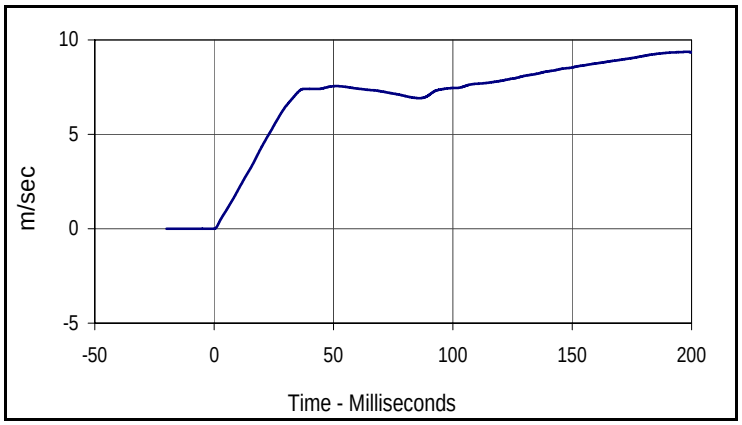
Curve Description			
Head Resultant			
CURNO	Type	SAE Class	Units
001	RES	1000	G's
Max	Time	Min	Time
144.6	2.8	0.5	0.5



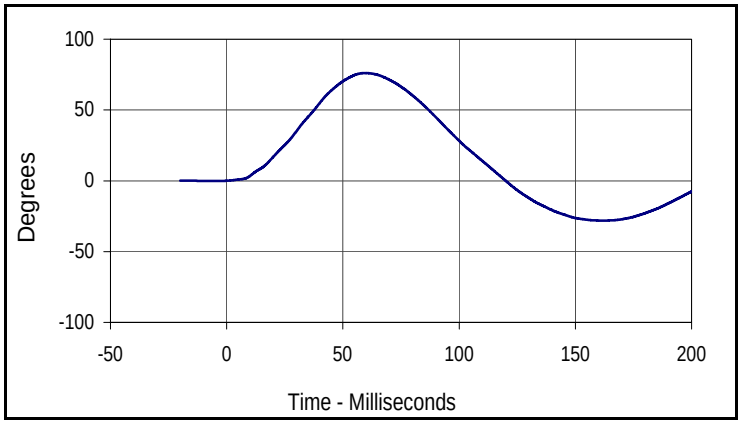
Curve Description			
Head X			
CURNO	Type	SAE Class	Units
002	FIL	1000	G's
Max	Time	Min	Time
5.3	4.4	-4.5	2.5

Test Program:	SID / HIII Neck Pendulum Lateral Test	Test Date:	10/13/06
ATD Serial No.:	275	Test I.D.:	NB10B

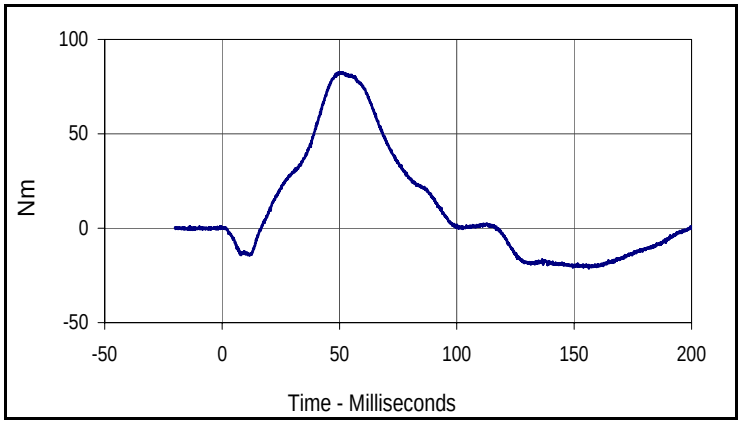
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	31	Pass
Pendulum Velocity		m/sec	6.89 to 7.13	7.12	Pass
Pendulum Deceleration	10 Msec.	m/sec	1.96 to 2.55	2.05	Pass
	20 Msec.	m/sec	4.12 to 5.10	4.35	Pass
	30 Msec.	m/sec	5.73 to 7.01	6.48	Pass
	40 to 70	m/sec	6.27 to 7.64	7.55	Pass
"D" Plane Rotation	Max	Degrees	66.0 to 82.0	76.1	Pass
Max Rotation Time After Peak Moment		Msec.	2.0 to 16.0	8.6	Pass
Rotation Time From Peak to Zero Angle		Msec.	58.0 to 67.0	60.4	Pass
Moment About Occipital Condyle		Nm	73.0 to 88.0	82.5	Pass
Positive Moment Decay, Time To 0 Nm		Msec.	49.0 to 64.0	49.7	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	197.9	0.0	-0.3



Curve Description			
"D" Plane Rotation			
CURNO	Type	SAE Class	Units
003	FIL	60	Degrees
Max	Time	Min	Time
76.1	59.7	-28.1	161.4



Curve Description			
Moment About Occipital Condyle			
CURNO	Type	SAE Class	Units
004	FIL	60	Nm
Max	Time	Min	Time
82.5	51.1	-21.2	156.3