

REPORT NUMBER: SNCAP-CAL-06-07

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**TOYOTA MOTOR CORPORATION
2006 TOYOTA RAV4
MPV**

NHTSA NUMBER: M65106

**PREPARED BY:
CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225**



Test Date: March 01, 2006

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NVS-111
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-03-D-22005.

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared by: _____
Lawrence Q. Valvo, Project Engineer

Date: _____

Reviewed by: _____
David J. Travale, Program Manager
Transportation Sciences Center

Date: _____

Technical Report Documentation Page

1. Report No. SNCAP-CAL-06-07	2. Government Accession No.	3. Recipient's Catalog No.																						
4. Title and Subtitle Final Report of New Car Assessment Program 2006 Toyota RAV4 MPV NHTSA No.: M65106		5. Report Date March 01, 2006																						
		6. Performing Organization Code CAL																						
7. Author(s) Lawrence Q. Valvo, Project Engineer		8. Performing Organization Report No. 8765-SNCAP-17																						
9. Performing Organization Name and Address Calspan Corporation Transportation Sciences Center P.O. Box 400 Buffalo, New York 14225		10. Work Unit No.																						
		11. Contract or Grant No. DTNH22-03-D-22005																						
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Rulemaking, Office of Crashworthiness Standards Mail Code: NVS-111 400 Seventh Street, SW, Room 5311 Washington, D.C. 20590		13. Type of Report and Period Covered: Final Report March 2006																						
		14. Sponsoring Agency Code NVS-111																						
15. Supplementary Notes																								
16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2006 Toyota RAV4 MPV in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at the Calspan Corporation Crash Test Facility in Buffalo, New York, on March 01, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 62.12 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 21.1°C. The target vehicle's maximum post test static crush was 249 mm at level 3. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">37.1</td> <td style="text-align: center;">33.3</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">33.4</td> <td style="text-align: center;">46.8</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">37.3</td> <td style="text-align: center;">52.0</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">37</td> <td style="text-align: center;">49</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">40</td> <td style="text-align: center;">69</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">135.1</td> <td style="text-align: center;">478.7</td> </tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	37.1	33.3	Left Lower Rib (LLR) Accel., g	33.4	46.8	Lower Spine (T ₁₂) Accel., g	37.3	52.0	Thoracic Trauma Index (TTI)	37	49	Pelvis (PEV) Accel., g	40	69	HIC	135.1	478.7
	<u>DRIVER</u>	<u>PASS.</u>																						
Left Upper Rib (LUR) Accel., g	37.1	33.3																						
Left Lower Rib (LLR) Accel., g	33.4	46.8																						
Lower Spine (T ₁₂) Accel., g	37.3	52.0																						
Thoracic Trauma Index (TTI)	37	49																						
Pelvis (PEV) Accel., g	40	69																						
HIC	135.1	478.7																						
17. Key Words New Car Assessment Program (NCAP) Side Impact Side Impact Hybrid III Dummy (SID/HIII) Occupant Side Impact Protection		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5111 (NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590																						
19. Security Class. (of this report) Unclassified	20. Security Class. (of this page) Unclassified	21. No. of Pages 121	22. Price																					

TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	Purpose and Test Procedure	1-1
2	Summary of NCAP Side Impact Test	2-1
 <u>Data Sheet No.</u>		 <u>Page No.</u>
1	General Test and Vehicle Parameter Data	2-3
2	Test Vehicle Tire Information	2-5
3	Test Vehicle Information	2-6
4	Moving Deformable Barrier (MDB) Summary of Results	2-8
5	Post Test Observations	2-9
6	Vehicle Pre-Test and Post Test Measurements	2-10
7	SID/HIII Longitudinal Clearance Dimensions	2-11
8	SID/HIII Lateral Clearance Dimensions	2-12
9	Vehicle Side Measurements	2-13
10	Vehicle Exterior Crush Profiles	2-14
11	Vehicle Damage Profile Distances	2-15
12	Deformable Barrier Honeycomb Face Static Crush	2-16
13	Vehicle Accelerometer Locations	2-17
14	MDB Accelerometer Locations	2-18
15	Vehicle Structural Measurements	2-19
16	High Speed Camera Locations and Data	2-20
17	Summary of FMVSS 301 Data	2-21
 <u>Appendix</u>		 <u>Page No</u>
A	Photographs	A-1
B	SID/HIII, Vehicle and MDB Response Data	B-1
C	SID/HIII Configuration and Performance Verification Data	C-1
D	Test Equipment and Calibration Information	D-1

SECTION 1
PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test was conducted as part of the FY' 2006 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-03-D-22005. The purpose of this test was to evaluate side impact protection in a 2006 Toyota RAV4 MPV manufactured by Toyota Motor Corporation. The side impact test was conducted in accordance with the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated July 1997.

SECTION 2

SUMMARY OF NCAP SIDE IMPACT TEST

A model year 2006 Toyota RAV4 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 62.12 km/h. The specified impact velocity range is from 61.1 to 62.7 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 1710.0 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on March 01, 2006.

One (1) real-time motion picture camera and ten (10) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID/HIII's) can be found in Appendix A.

Two 50th percentile adult male SID/HIII's were placed in the driver (P1) and left rear passenger (P4) designated seating positions according to instructions specified in the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated July 1997. Each SID/HIII was instrumented 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)
- Upper Neck load cell (Fx, Fy, Fz, Mx, My, Mz)

The test vehicle was instrumented with twenty-one (21) structural accelerometers and the MDB was instrumented with five (5) accelerometers.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 249 mm at level 3, 1500 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 905 and 906 respectively, were calibrated just prior to this test.

Test data and observations are presented in this section of the report. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID/HIII's, vehicle, and MDB response data traces. Appendix C contains the SID/HIII's configuration and performance verification data. Appendix D contains the test equipment information.

The occupant data is summarized below:

ATD position	HIC(36)	T ₁	T ₂	TTI (G's)	Peak Pelvis (G's)
Driver	135.1	67.8	103.8	37	40
Passenger	478.7	70.1	106.1	49	69

SUPPLEMENTAL RESTRAINT INFORMATION

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

The test instrumentation data listed in Appendix B can be found on the NHTSA website:
www.nhtsa.dot.gov.

DATA SHEET NO. 1**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Toyota Motor Corporation	Driver Front Airbag	Yes
Model	RAV4	Driver Side Curtain Airbag	No
Body Style	MPV	Driver Side Torso Airbag	No
NHTSA No.	M65106	Driver Pretensioners	Yes
VIN	JTMZD33VX65002421	Driver Load Limiters	Yes
Color	Black	Driver Power Seats	No
Engine Disp.(L)	2.4	Rear Pass. Side Curtain Airbag	No
Engine Cylinders	4	Rear Pass. Side Torso Airbag	No
Engine Placement	Lateral	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	4	Rear Pass. Power Seats	No
Final Drive	Front	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	Yes
Power Brakes	Yes	Power Windows	Yes
Delivery Date	02/10/2006	Power Door Locks	Yes
Odometer Reading (km)	386	Automatic Door Locks (ADL)	No
Dealer	Street Toyota, 4991 Commercial Drive, Yorkville, NY 13495	Owner's Manual Details Instructions on Disabling ADLs	NA

DATA FROM CERTIFICATION LABEL

Manufactured By	Toyota Motor Corporation	GVWR (kg)	2010
Date of Manufacture	11/05	GAWR Front (kg)	1150
		GAWR Rear (kg)	1105

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				375
Cargo Wt. (RCLW) (kg)				34.8

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

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			Fully Loaded (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	449.0	428.0		503.0	441.5		503.0	404.0	
Right	kg	331.0	311.0		413.0	360.5		430.0	373.0	
Ratio	%	51.3	48.7		53.3	46.7		54.6	45.4	
Totals	kg	780.0	739.0	1519.0	916.0	802.0	1718.0	933.0	777.0	1710.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1519.0
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	34.8
Calculated Vehicle Target Weight (TVTW)	kg	1716.2

* Actual As Tested Weight (ATW) will be TVTW -4.5/-9.1 kg

Weight of Ballast (including instrumentation package and cameras): 28.6 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	815	835	820	835
Fully Loaded	mm	800	809	815	819
As Tested	mm	803	809	815	819

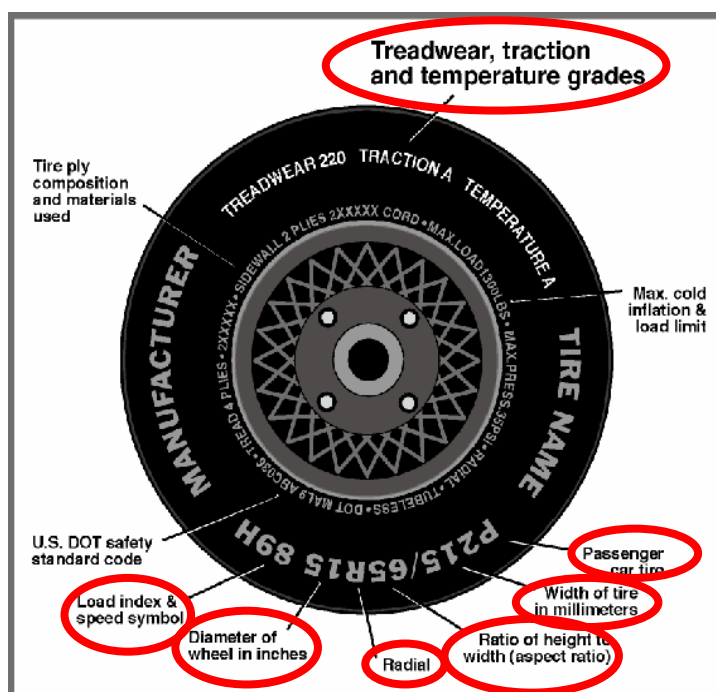
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2657
Target Impact Point Aft of Front Axle	mm	389
Actual Impact Point Aft of Front Axle	mm	393
As Tested CG (aft of front axle)	mm	1207

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	275	275
Cold / Test Pressure (kPa)	220	220
Recommended Tire Size	225/65R17 101H	225/65R17 101H
Tire Size on Vehicle	225/65R17	225/65R17
Tire Manufacturer	Yokohama	Yokohama
Tire Name	Geolander	Geolander
Tire Type	P	P
Tire Width (mm)	225	225
Ratio of Height to Width (aspect ratio)	65	65
Radial	R	R
Wheel Diameter	17	17
Load Index & Speed Symbol	101H	101H
Treadwear	280	280
Traction Grade	B	B
Temperature Grade	A	A

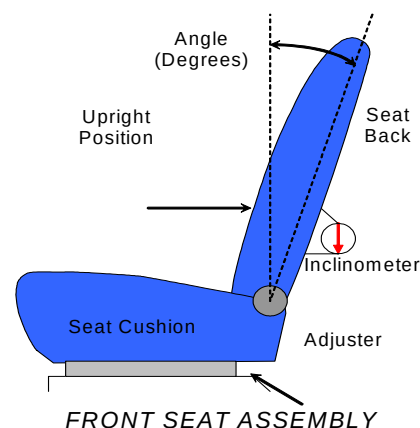
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle.

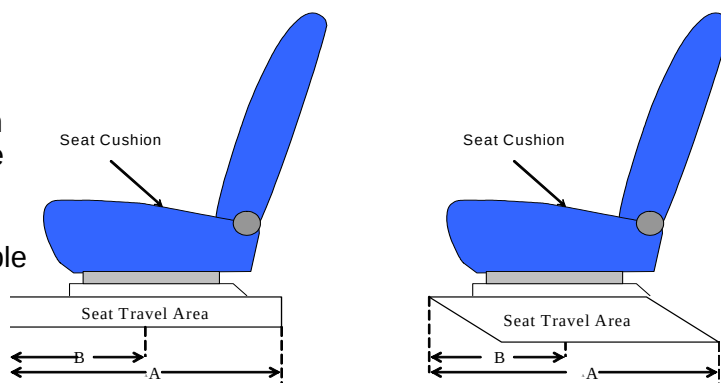


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	6	7
Angle (deg. from forward-most locking position)	12.0	14.0
Alternative Measurements to Verify Test Position	NA	NA

SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position to rearmost position irrespective of vertical seat height in those positions. The seat was set at the longitudinal mid position with vertical adjustment at the lowest position obtainable for both the driver and passenger.



SEAT FORE/AFT POSITION

	Driver Seat	Rear Seat
Total Fore/Aft Travel (A) (mm)	180	170
Test Position (B) (mm)	140	93
Test Detent (forward-most detent defined as 0)	7	6
Total Number of Detents (including 0)	17	12

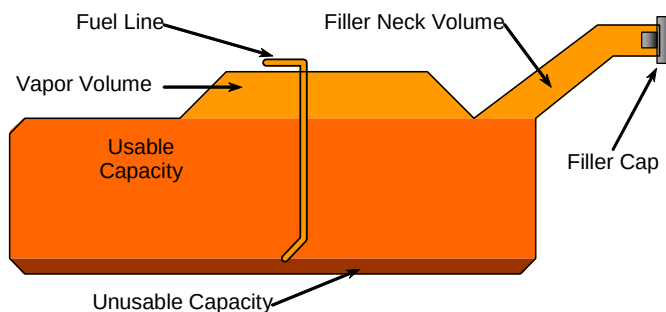
DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle: 2006 Toyota RAV4	NHTSA No. M65106
Test Program: NCAP Side Impact	Test Date: March 01, 2006

FUEL SYSTEM INFORMATION

The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed 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.



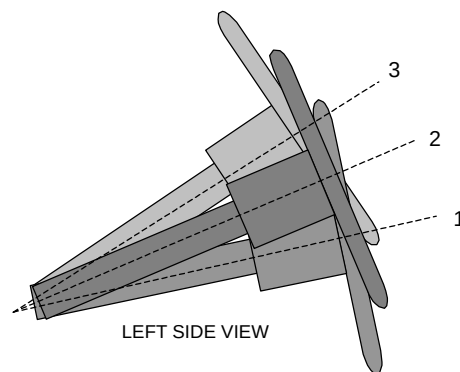
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	59.81
Usable Capacity of "Optional" Fuel Tank	-
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	55.65

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 POSITION

	Fore/Aft Position (mm)	Tilt (degrees)	Tilt (detent)
Lowermost Position No. 1	0 to 40	26.0	NA
Geometric Center Position No. 2 *	20	27.6	NA
Uppermost Position No. 3	0 to 40	29.2	NA

DATA SHEET NO. 4**MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS**

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1250
Overall Length Including Honeycomb Face	4120
Wheel base of Framework Carriage	2590
Tread of Framework Carriage (front & rear)	1875
C.G. Location aft of Front Axle	1104

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	409.5	281.5	
Right	kg	372.5	299.0	
Ratio	%	57.4	42.6	
Totals	kg	782.0	580.5	1362.5

MDB SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	62.12
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.12

POST TEST OBSERVATIONS**MDB LEFT EDGE IMPACT POINT DATA**

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	4 mm rearward
Vertical Offset	mm	+/-20	5 mm above

DATA SHEET NO. 5
POST TEST OBSERVATIONS

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 905	SID/HIII / 906
Head Contact	Top of head to side window; Back of head to B-pillar trim; Side of head to head restraint	Back of head to C-pillar trim; Side of head to quarter window frame; Side of head to top of door
Upper Torso Contact	Arm to door trim above arm rest	Arm to door trim above arm rest
Lower Torso Contact	Pelvis to door trim below arm rest	Pelvis to door trim below arm rest
Left Knee Contact	Left knee to door trim	Left knee to door trim
Right Knee Contact	Right knee to left knee	Right knee to left knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Doors were unlocked	Doors were unlocked
Left Side Door Opening	Door remained closed and latched	Door remained closed and latched
Right Side Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Seat Movement	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Window Damage	Left Rear Passenger Window Broke
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT INFORMATION

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

DATA SHEET NO. 6

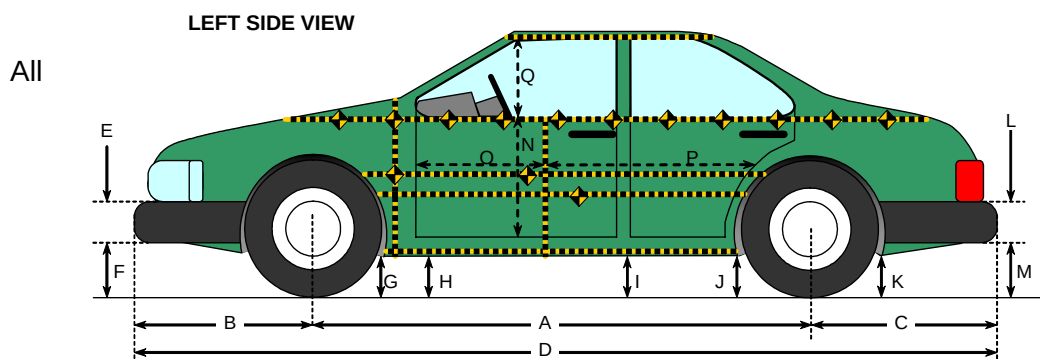
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006



Measurements in mm

Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2658	2657	2663	-6
B	Front Axle to FSOV	856	857	854	3
C	Rear Axle to RSOV	1086	1086	1077	9
D	Total Length at Centerline	4600	4600	4594	6
E	Front Bumper Thickness	247	247	247	0
F	Front Bumper Bottom to Ground	455	503	517	-14
G	Sill Height at Front Wheel Well	265	246	317	-71
H	Sill Height at Front Door Leading Edge	275	256	326	-70
I	Sill Height at "B" Pillar	285	262	325	-63
J1	Sill Height at Rear Wheel Well	265	238	246	-8
J2	Pinch Weld Height at Rear Wheel Well	307	280	287	-7
K	Sill Height Aft of Rear Wheel Well	357	325	338	-13
L	Rear Bumper Thickness	152	152	152	0
M	Rear Bumper Bottom to Ground	405	375	383	-8
N	Sill Height to Window Bottom Sill	778	778	781	-3
O	Front Door Leading Edge to Impact CL	756	756	737	19
P	Rear Door Trailing Edge to Impact CL	1084	1084	997	87
Q	Front Window Opening	483	483	506	-23
R	Right Side Length	4454	4454	4453	1
S	Left Side Length	4451	4451	4441	10
T	Vehicle Width at "B" Post	1785	1785	1657	128

DATA SHEET NO. 7

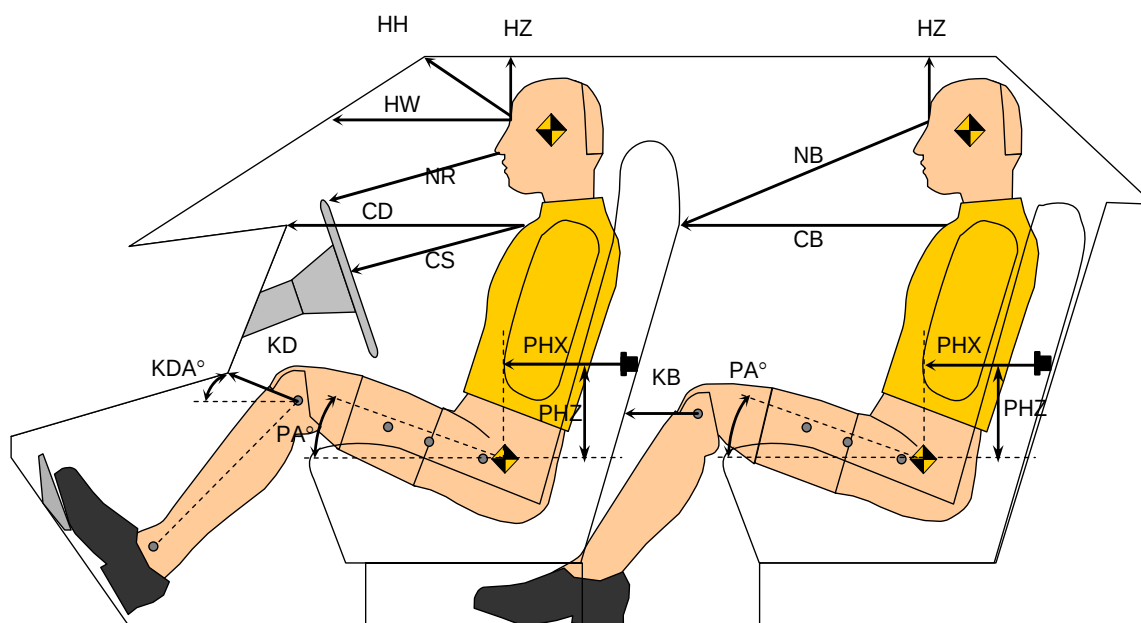
SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006

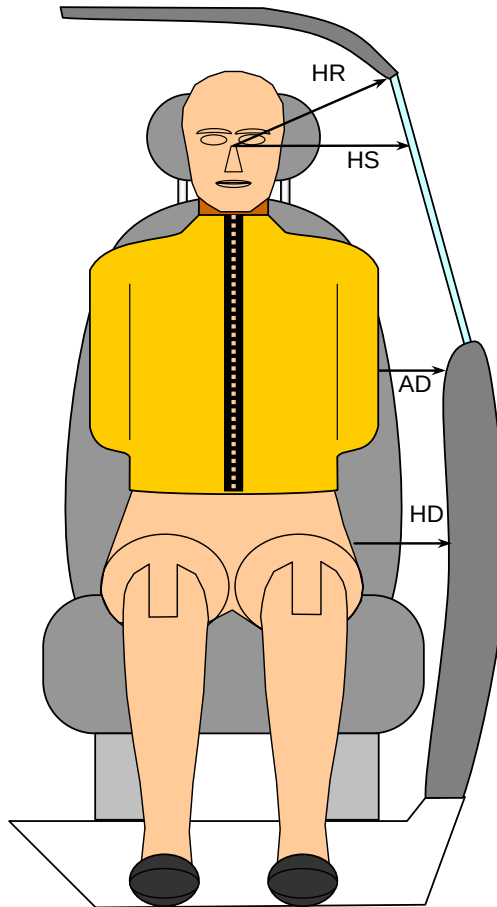


Driver Code	Pass. Code	Measurement Description	Driver S/N 905		Passenger S/N 906	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	408			
HW		Head to Windshield	657			
HZ	HZ	Head to Roof	220		208	
NR	NB	Nose to Rim/Nose to Seatback	478		631	
CD	CB	Chest to Dash or Seatback	558		552	
CS		Chest to Steering Wheel	297			
KDL	KBL	Left Knee to Dash or Seatback	152	32.0	184	30.0
KDR	KBR	Right Knee to Dash or Seatback	98	32.0	203	30.0
PA	PA	Pelvic Angle		24.0		24.0
PHX	PHX	H-Point to Striker (X-Axis)	241		331	
PHZ	PHZ	H-Point to Striker (Z-Axis)	202		255	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006



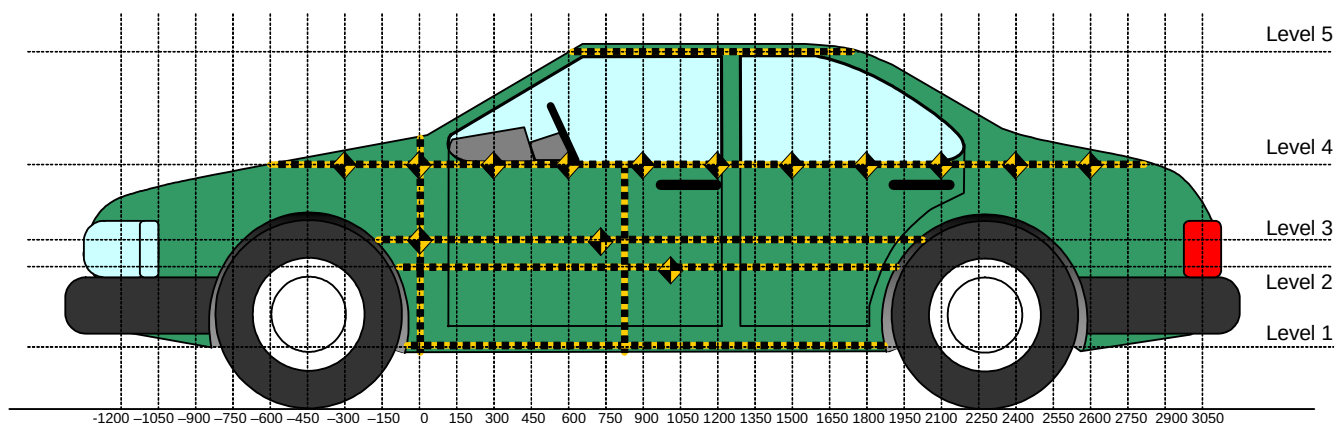
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 905	Passenger S/N 906
HR	Head to Side Header	mm	220	213
HS	Head to Side Window	mm	324	348
AD ₁	Arm to Door (at upper rib level)	mm	118	140
AD ₂	Arm to Door (at lower rib level)	mm	134	180
HD	H-Point to Door	mm	170	158

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.
Measurements along the vertical 750 mm.
All measurements below in mm.

Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	122	316	900
2	Occupant H-Point	231	671	1650
3	Mid Door	249	725	1500
4	Window Sill	150	998	1650
5	Window	6	1595	1200
	Maximum Penetration	249		

DATA SHEET NO. 10

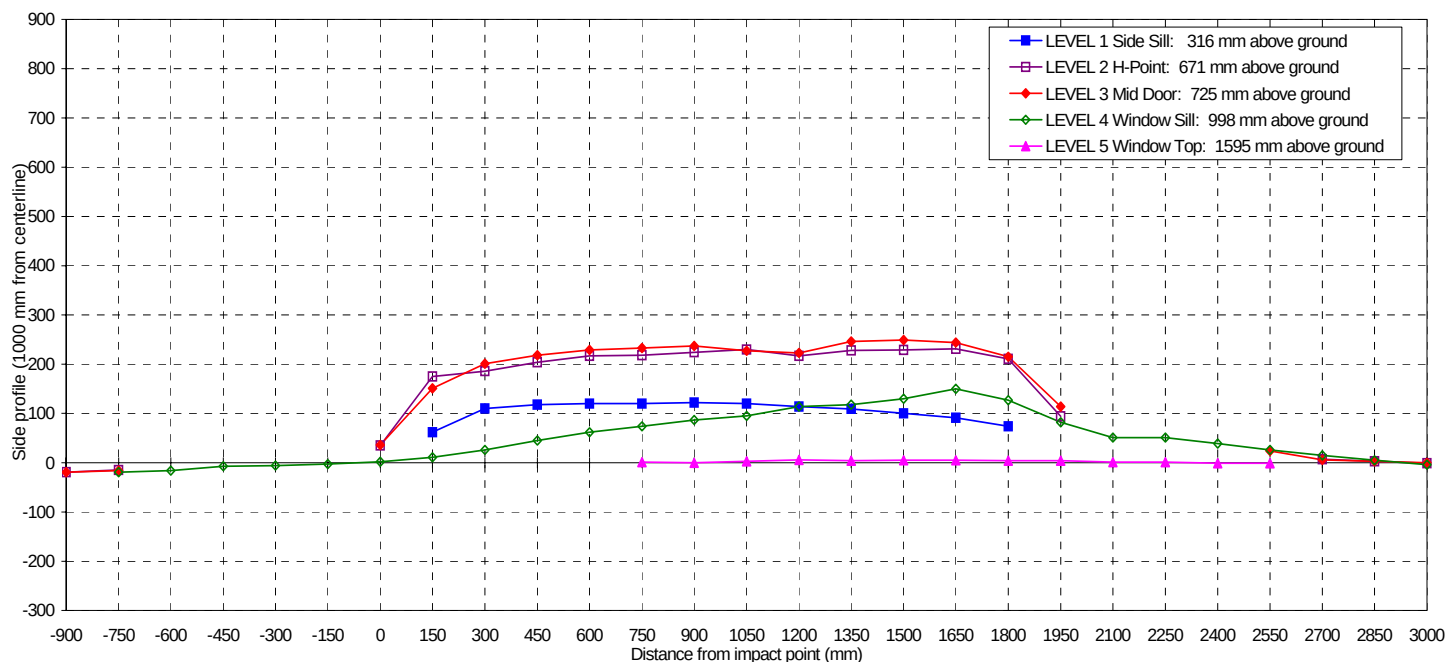
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006



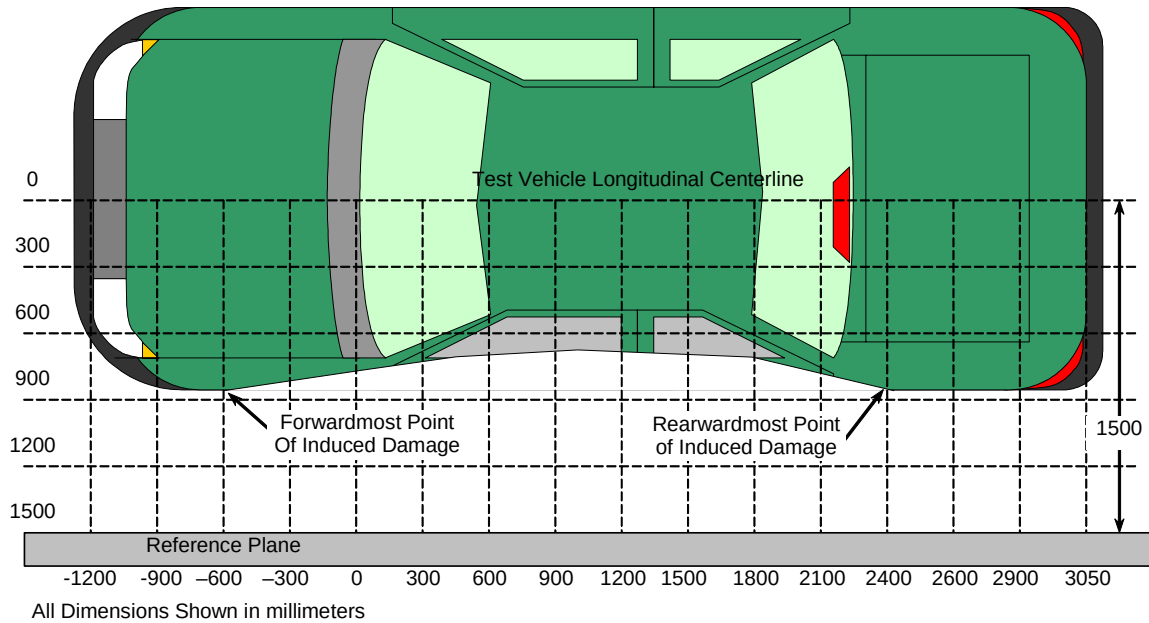
NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																												
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000		
LEVEL 1	316	PRE	--	--	--	--	--	--	--	176	191	191	190	190	187	188	190	190	191	191	194	--	--	--	--	--	--	--	--	--	
SIDE		POST	--	--	--	--	--	--	--	238	301	309	310	310	309	308	304	299	291	282	268	--	--	--	--	--	--	--	--		
SILL		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62	110	118	120	120	122	120	114	109	100	91	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2	671	PRE	151	102	--	--	--	--	94	112	117	117	116	115	114	113	113	114	115	116	107	98	--	--	--	--	107	130	157		
H		POST	132	87	--	--	--	--	129	287	303	321	333	333	338	343	330	342	344	347	318	192	--	--	--	--	114	133	156		
POINT		CRUSH	-19	-15	N/A	N/A	N/A	N/A	35	175	186	204	217	218	224	230	217	228	229	231	211	94	N/A	N/A	N/A	N/A	7	3	-1		
LEVEL 3	725	PRE	161	104	--	--	--	--	94	111	114	113	112	110	109	109	109	110	111	112	107	93	--	--	--	94	110	135	165		
MID		POST	142	88	--	--	--	--	130	262	315	331	341	343	346	336	332	356	360	356	322	207	--	--	--	118	116	138	165		
DOOR		CRUSH	-19	-16	N/A	N/A	N/A	N/A	36	151	201	218	229	233	237	227	223	246	249	244	215	114	N/A	N/A	N/A	24	6	3	0		
LEVEL 4	998	PRE	--	393	305	223	198	183	176	168	160	152	144	137	131	128	124	123	123	123	124	110	116	125	130	135	146	169	216		
WINDOW		POST	--	374	289	216	192	180	178	179	186	197	206	211	218	223	238	241	253	273	251	192	167	176	169	161	161	174	212		
SILL		CRUSH	N/A	-19	-16	-7	-6	-3	2	11	26	45	62	74	87	95	114	118	130	150	127	82	51	51	39	26	15	5	-4		
LEVEL 5	1595	PRE	--	--	--	--	--	--	--	--	--	--	--	551	401	389	386	388	388	389	395	400	409	423	441	450	--	--	--		
WINDOW		POST	--	--	--	--	--	--	--	--	--	1078	--	552	401	392	392	392	393	394	399	404	410	424	440	449	--	--	--		
TOP		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	0	3	6	4	5	5	4	4	1	1	-1	-1	N/A	N/A	N/A		

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006



TOP VIEW

DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2850	998	169	174	5
2	2280	998	126	175	49
3	1710	725	110	342	232
4	1140	725	109	334	225
5	570	725	112	339	227
6 (LF)	0	725	94	130	36

Reference plane is parallel to test vehicle longitudinal centerline.
 Given dimensions = Reference plane to vehicle body.

DATA SHEET NO. 12

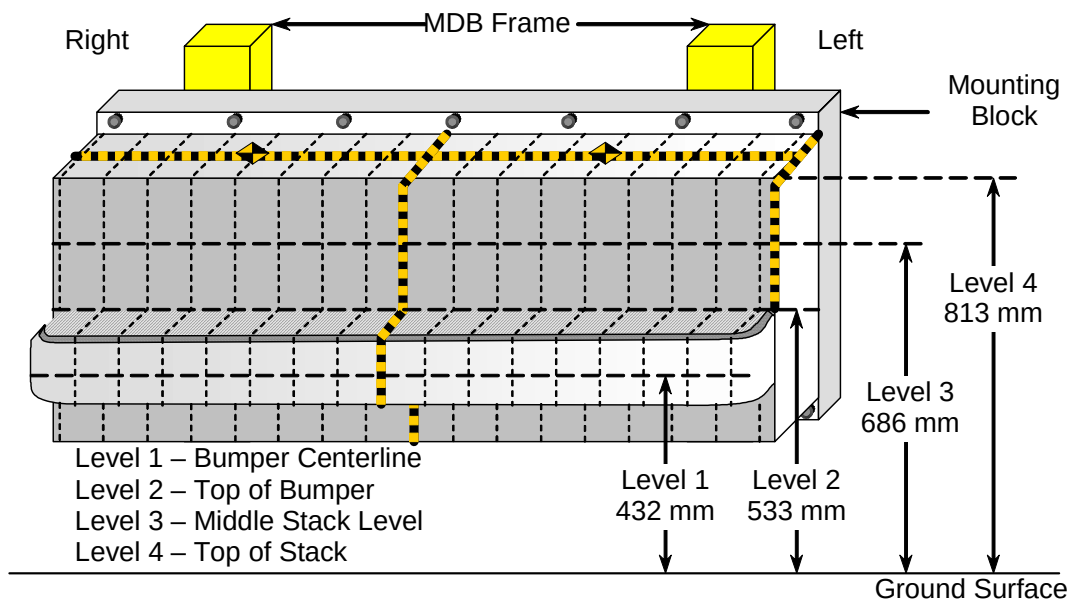
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006



NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			NOTES: All dimensions are in millimeters with a tolerance of ±5 mm																	
			DISTANCE RIGHT OF CENTER (mm)										DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800	
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	659	639	628	627	639	654	676	669	659	654	652	658	660	670	671	687	741	
		CRUSH	40	20	9	8	20	35	57	50	40	35	33	39	41	51	52	68	122	
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	659	647	643	643	645	643	657	638	632	632	626	629	626	630	640	658	684	
		CRUSH	40	28	24	24	26	24	38	19	13	13	7	10	7	11	21	39	65	
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	751	741	730	718	713	704	702	694	692	688	686	678	675	672	670	679	679	
		CRUSH	132	122	111	99	94	85	83	75	73	69	67	59	56	53	51	60	60	
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535	
		POST	708	682	666	651	648	642	637	634	626	622	621	613	614	615	612	616	627	
		CRUSH	173	163	148	133	130	124	119	116	108	104	103	95	96	97	94	97	92	

*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

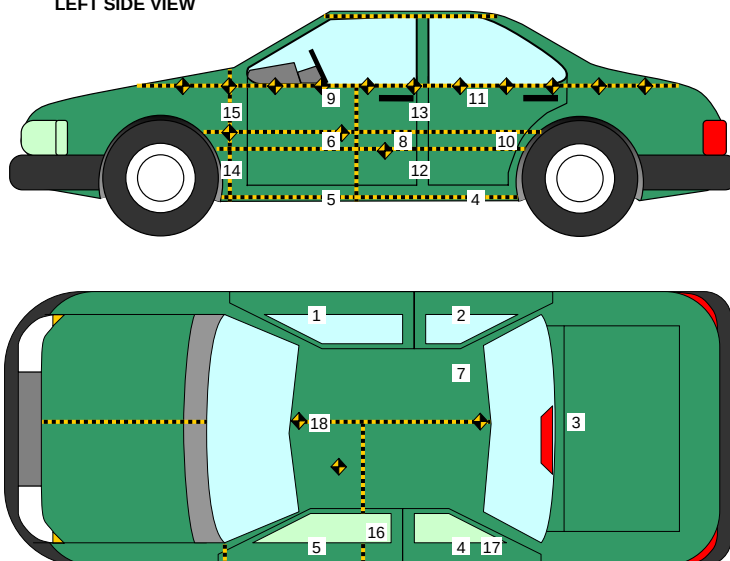
Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2779	653	-381
2	Right Sill at Rear Seat	2012	662	-400
3	Rear Floorpan Above Axle	989	43	-570
4	Left Sill at Rear Door	2056	-674	-394
5	Left Sill at Front Door	3209	-645	-351
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	2009	-520	-392
8	Left Front Door Mid-Rear**	-	-	-
9	Left Front Door Upper C/L**	-	-	-
10	Left Rear Door Mid-Rear**	-	-	-
11	Left Rear Door Upper C/L**	-	-	-
12	Left Lower B-Post	2172	-691	-513
13	Left Middle B-Post	2124	-695	-1099
14	Left Lower A-Post	3277	-651	-512
15	Left Middle A-Post	3224	-655	-1136
16	Front Seat Track	2321	-560	-426
17	Rear Seat Track or Structure	1887	-488	-418
18	Vehicle CG	2939	-55	-604

Reference Points X - Test Vehicle Rear Bumper (+ forward)

Y - Test Vehicle Centerline (+ to right)

Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

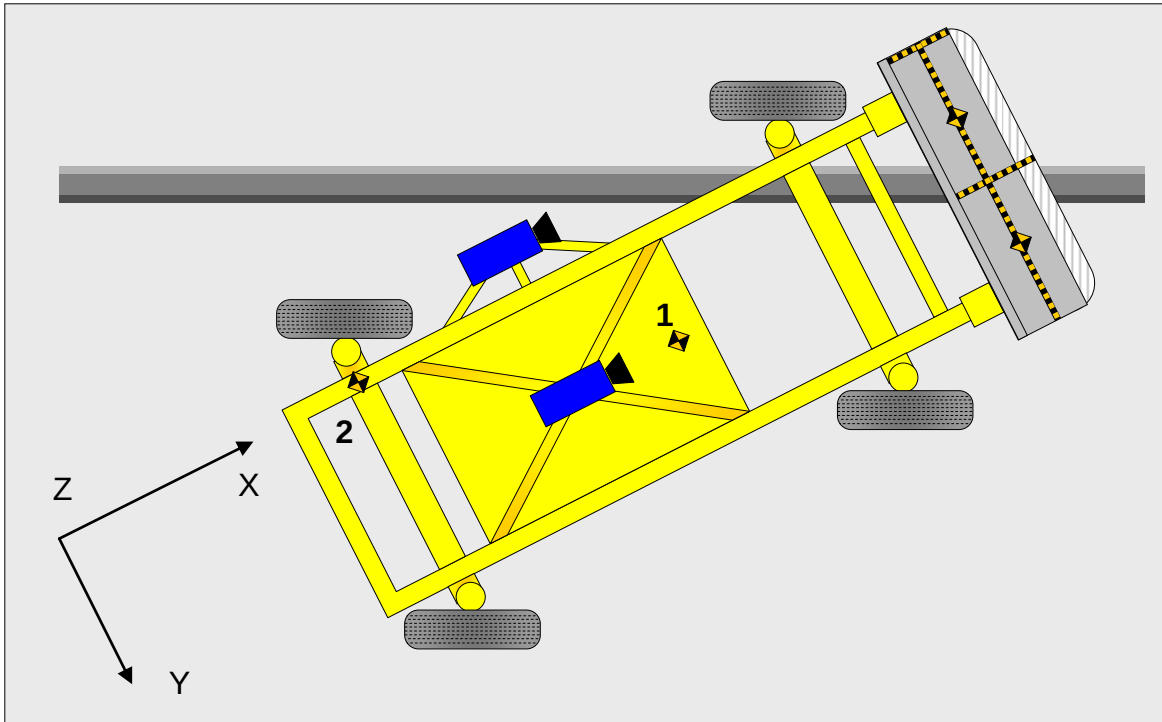
MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	MDB CG	1859	0	-330
2	MDB Rear	386	-660	-660

Reference Points
X - MDB Rear Bumper (+ forward)
Y - MDB Centerline (+ to right)
Z - Ground Plane (+ down)

DATA SHEET NO. 15**VEHICLE STRUCTURAL MEASUREMENTS**

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006

	Elements	Pre-Test (mm)
1	Total Length	4600
2	Total Width	1785
3	Bumper Top Height	600
4	Bumper Bottom Height	492
5	Longitudinal Member Top Height	601
6	Distance between Longitudinal Members	982
7	Longitudinal Member Width	66
8	Engine Top Height	898
9	Engine Bottom Height	225
10	Engine and gearbox width	754
11	Front bumper-engine distance	528
12	Front shock absorber fixing height	956
13	Bonnet leading edge height	898
14	Front shock absorber fixing width	1192
15	Front bumper – front axle distance	852
16	Front axle – a pillar distance	509
17	A-pillar – B-pillar distance	1027
18	B-Pillar – rear axle distance	1108
19	B-pillar – C-pillar distance	658
20	Roof sill bottom height	1540
21	Roof sill top height	1628
22	Floor sill bottom height	302
23	Floor sill top height	439

DATA SHEET NO. 16

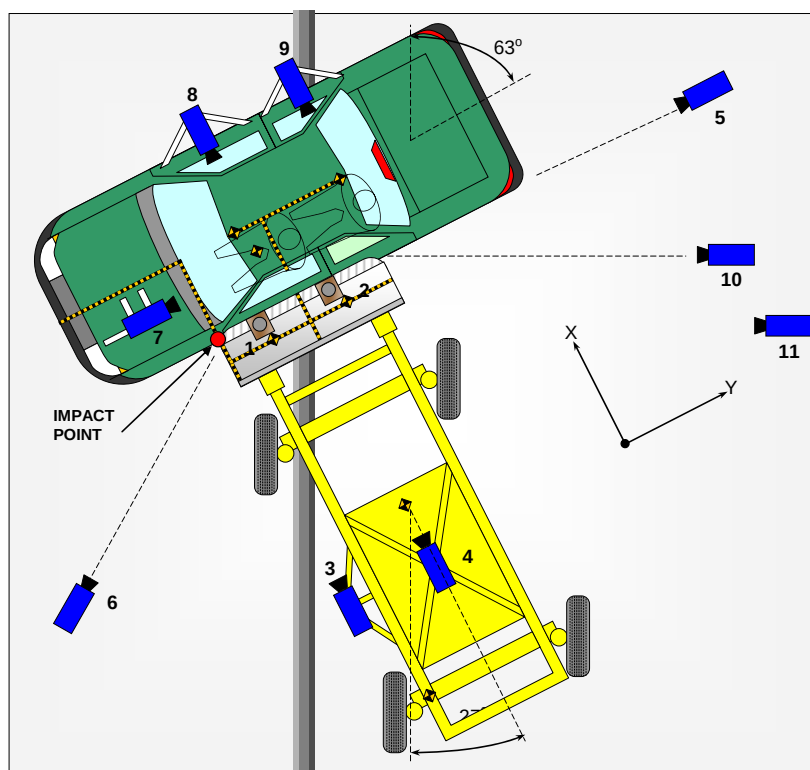
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2006 Toyota RAV4

NHTSA No. M65106

Test Program: NCAP Side Impact

Test Date: March 01, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Overall	72	812	-4880	-90	8	500
2	Overhead Close-up	195	855	-4880	-90	28	1000
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0	13	500
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	7.5	500
5	Right Side, Ground Level, Overall	50	10442	-1162	-2	50	1000
6	Left Side, Ground Level, Overall	-2415	-1922	-1012	-4	28	1000
7	Vehicle Onboard Front SID/HIII, Front	546	-432	-1425	-4	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1628	715	-1218	-7	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1665	1681	-1242	-7	12.5	1000
10	Secondary Impact Point	-4265	3315	-1088	-2	25	500
11	Real Time Coverage						30

Reference Points
 X - Impact Line
 Y - MDB Left Edge Impact Point
 Z - Ground Plane

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

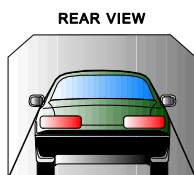
Test Vehicle:	2006 Toyota RAV4	NHTSA No.	M65106
Test Program:	NCAP Side Impact	Test Date:	March 01, 2006

FUEL SYSTEM INTEGRITY POST IMPACT DATA

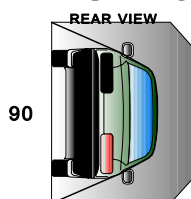
Time Interval	FMVSS 301 Maximum Allowable Spillage	Spillage (g)
Impact Until Motion Ceases	28 g	0
First Five Minutes Following Impact	142 g	0
Next 25 Minutes	28 g / 1 minute	0

Spillage Location(s)	None
----------------------	------

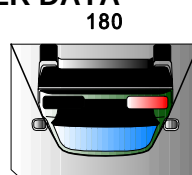
STATIC ROLLOVER DATA



0/360

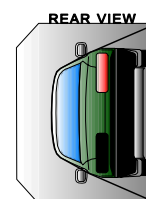


90



REAR VIEW

180



270

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	15	seconds	5	minutes	6	minutes	15	seconds	7	minutes
90° - 180°	1	minutes	9	seconds	5	minutes	6	minutes	9	seconds	7	minutes
180°-270°	1	minutes	1	seconds	5	minutes	6	minutes	1	seconds	7	minutes
270°-360°	1	minutes	11	seconds	5	minutes	6	minutes	11	seconds	7	minutes

Rollover Stage	Spillage (g)			
	First 5 min. from onset of rotation	6 th min.	7 th min.	8 th min. (if required)
0° - 90°	0	0	0	0
90° - 180°	0	0	0	0
180°-270°	0	0	0	0
270°-360°	0	0	0	0
FMVSS 301 Maximum Allowable (for each 90° stage)	142	28	28	28

Rollover Stage	Spillage Location(s)
0° - 90°	None
90° - 180°	None
180°-270°	None
270°-360°	None

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

FIGURE	TITLE	PAGE
A-1	As Received Left Front $\frac{3}{4}$ View	A-4
A-2	As Received Right Rear $\frac{3}{4}$ View	A-4
A-3	Vehicle Certification Label	A-5
A-4	Vehicle Tire Placard Label	A-5
A-5	Pre-Test Front View	A-6
A-6	Post-Test Front View	A-6
A-7	Pre-Test Left Front $\frac{3}{4}$ View	A-7
A-8	Post-Test Left Front $\frac{3}{4}$ View	A-7
A-9	Pre-Test Left Side View	A-8
A-10	Post-Test Left Side View	A-8
A-11	Pre-Test Left Rear $\frac{3}{4}$ View	A-9
A-12	Post-Test Left Rear $\frac{3}{4}$ View	A-9
A-13	Pre-Test Rear View	A-10
A-14	Post-Test Rear View	A-10
A-15	Pre-Test Right Rear $\frac{3}{4}$ View	A-11
A-16	Post-Test Right Rear $\frac{3}{4}$ View	A-11
A-17	Pre-Test Right Side View	A-12
A-18	Post-Test Right Side View	A-12
A-19	Pre-Test Right Front $\frac{3}{4}$ View	A-13
A-20	Post-Test Right Front $\frac{3}{4}$ View	A-13
A-21	Pre-Test Frontal View of MDB Impactor Face	A-14
A-22	Post-Test Frontal View of MDB Impactor Face	A-14
A-23	Pre-Test Left Side View of MDB Impactor Face	A-15
A-24	Post-Test Left Side View of MDB Impactor Face	A-15
A-25	Pre-Test Right Side View of MDB Impactor Face	A-16
A-26	Post-Test Right Side View of MDB Impactor Face	A-16
A-27	Pre-Test Top View of MDB Impactor Face	A-17
A-28	Post-Test Top View of MDB Impactor Face	A-17
A-29	Pre-Test Left Side View of Aligned MDB and Vehicle	A-18
A-30	Pre-Test Right Side View of Aligned MDB and Vehicle	A-18
A-31	Pre-Test Overhead View of Aligned MDB and Vehicle	A-19
A-32	Post-Test Overhead View of MDB and Vehicle	A-19
A-33	Pre-Test Close-Up View of Impact Point Target	A-20
A-34	Post-Test Close-Up View of Impact Point Target	A-20

TABLE OF PHOTOGRAPHS (continued)

FIGURE	TITLE	PAGE
A-35	Pre-Test Right Occupant Compartment View of Driver	A-21
A-36	Post-Test Right Occupant Compartment View of Driver	A-21
A-37	Pre-Test Right Occupant Compartment View of Passenger	A-22
A-38	Post-Test Right Occupant Compartment View of Passenger	A-22
A-39	Pre-Test Left Occupant Compartment View of Driver	A-23
A-40	Post-Test Left Occupant Compartment View of Driver	A-23
A-41	Pre-Test Left Occupant Compartment View of Passenger	A-24
A-42	Post-Test Left Occupant Compartment View of Passenger	A-24
A-43	Pre-Test Left Front Interior Trim	A-25
A-44	Post-Test Left Front Interior Trim	A-25
A-45	Pre-Test Left Rear Interior Trim	A-26
A-46	Post-Test Left Rear Interior Trim	A-26
A-47	Pre-Test Left Front $\frac{3}{4}$ View of Left Side Doors	A-27
A-48	Post-Test Left Front $\frac{3}{4}$ View of Left Side Doors	A-27
A-49	Pre-Test Left Rear $\frac{3}{4}$ View of Left Side Doors	A-28
A-50	Post-Test Left Rear $\frac{3}{4}$ View of Left Side Doors	A-28
A-51	Rollover 90 Degrees	A-29
A-52	Rollover 180 Degrees	A-29
A-53	Rollover 270 Degrees	A-30
A-54	Rollover 360 Degrees	A-30
A-55	Impact Photo	A-31



Figure A-1: As Received Left Front $\frac{3}{4}$ View



Figure A-2: As Received Right Rear $\frac{3}{4}$ View

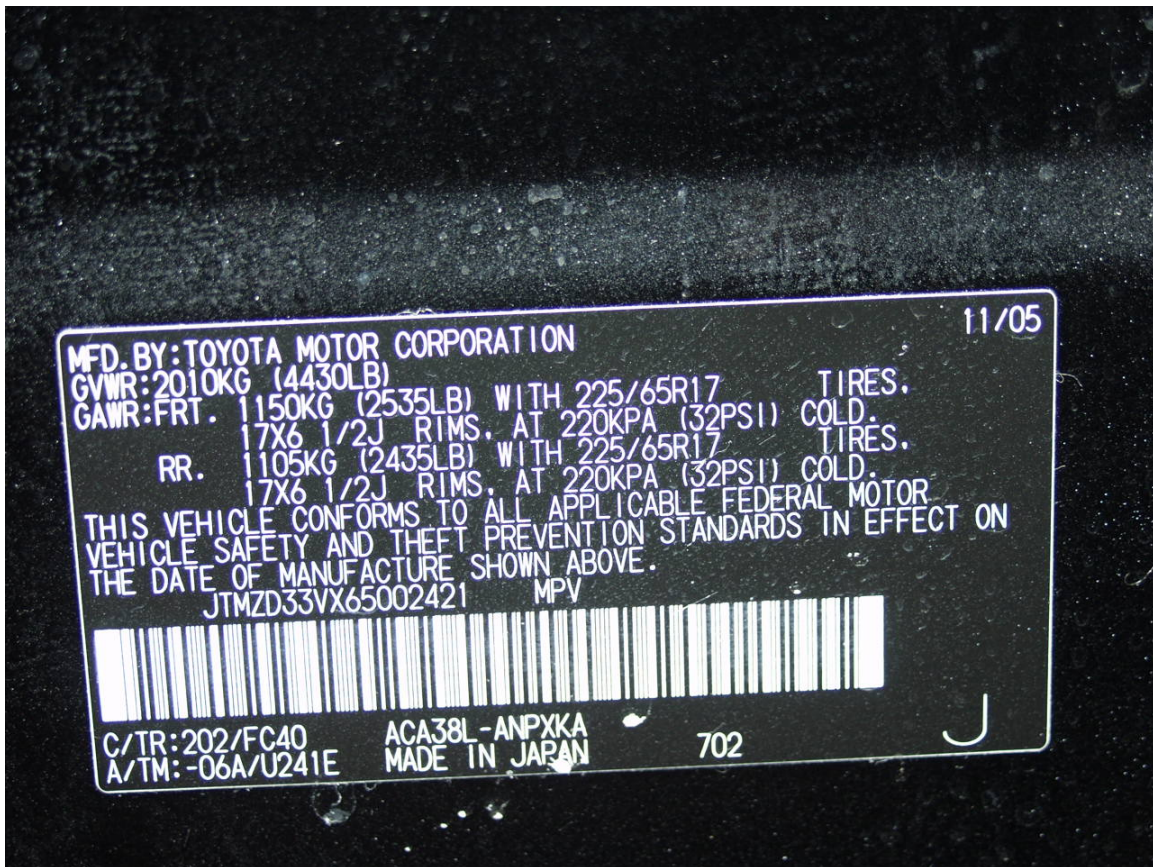


Figure A-3: Vehicle Certification Label



Figure A-4: Vehicle Tire Placard Label



Figure A-5: Pre-Test Front View

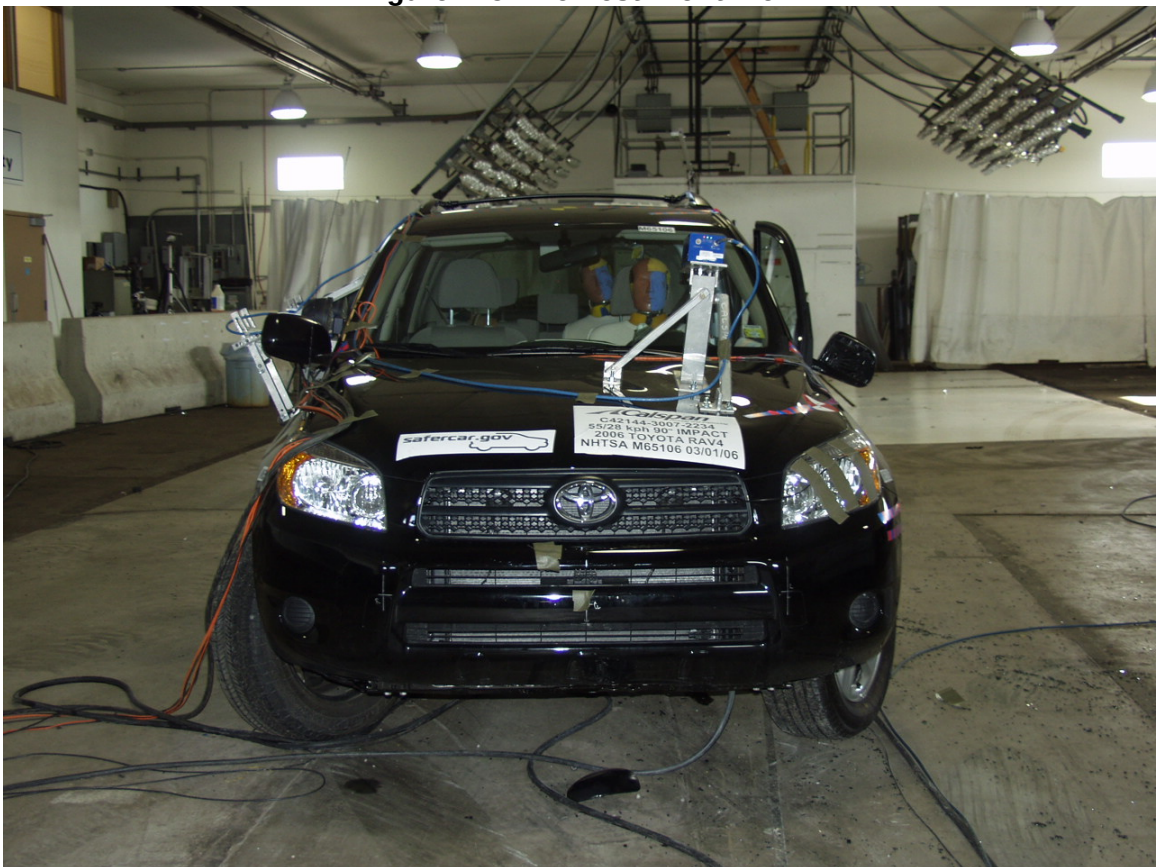


Figure A-6: Post-Test Front View



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 $\frac{3}{4}$ 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 Frontal View of MDB Impactor Face



Figure A-22: Post-Test Frontal View of MDB Impactor Face



Figure A-23: Pre-Test Left Side View of MDB Impactor Face



Figure A-24: Post-Test Left Side View of MDB Impactor Face

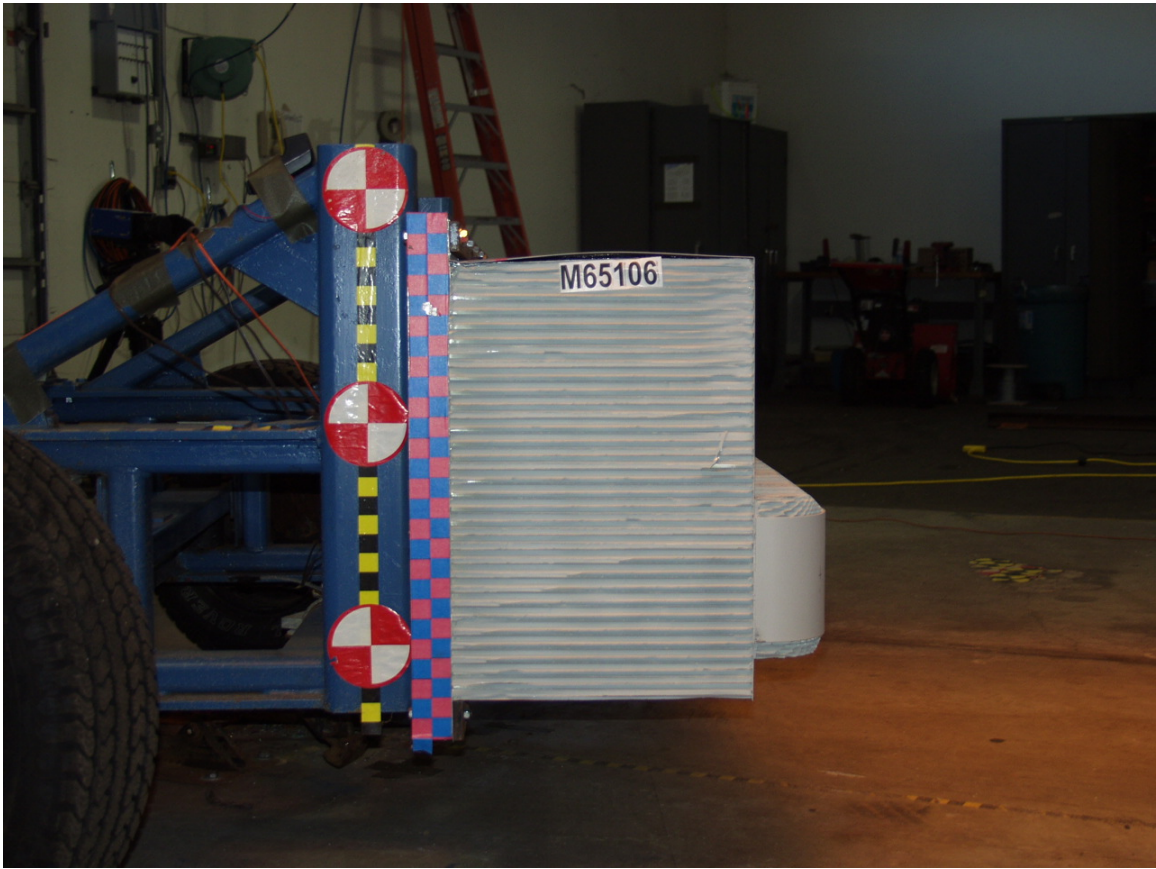


Figure A-25: Pre-Test Right Side View of MDB Impactor Face



Figure A-26: Post-Test Right Side View of MDB Impactor Face



Figure A-27: Pre-Test Top View of MDB Impactor Face



Figure A-28: Post-Test Top View of MDB Impactor Face



Figure A-29: Pre-Test Left Side View of Aligned MDB and Vehicle



Figure A-30: Pre-Test Right Side View of Aligned MDB and Vehicle

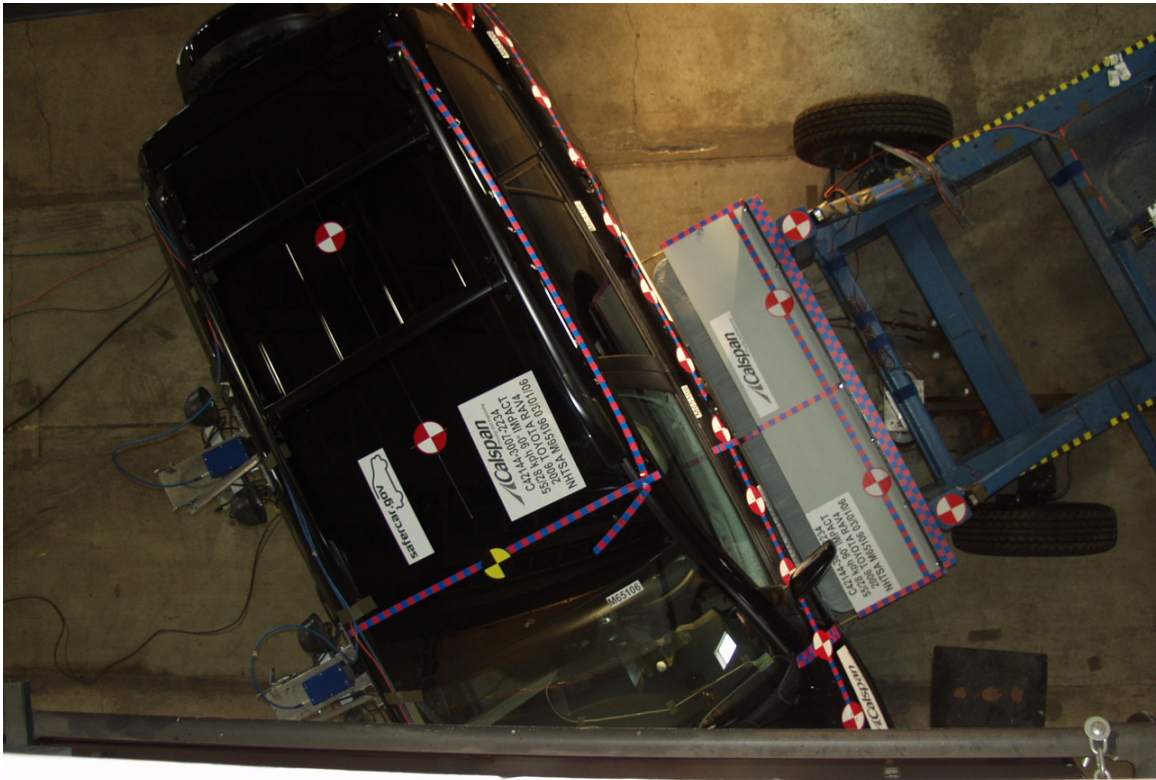


Figure A-31: Pre-Test Overhead View of Aligned MDB and Vehicle

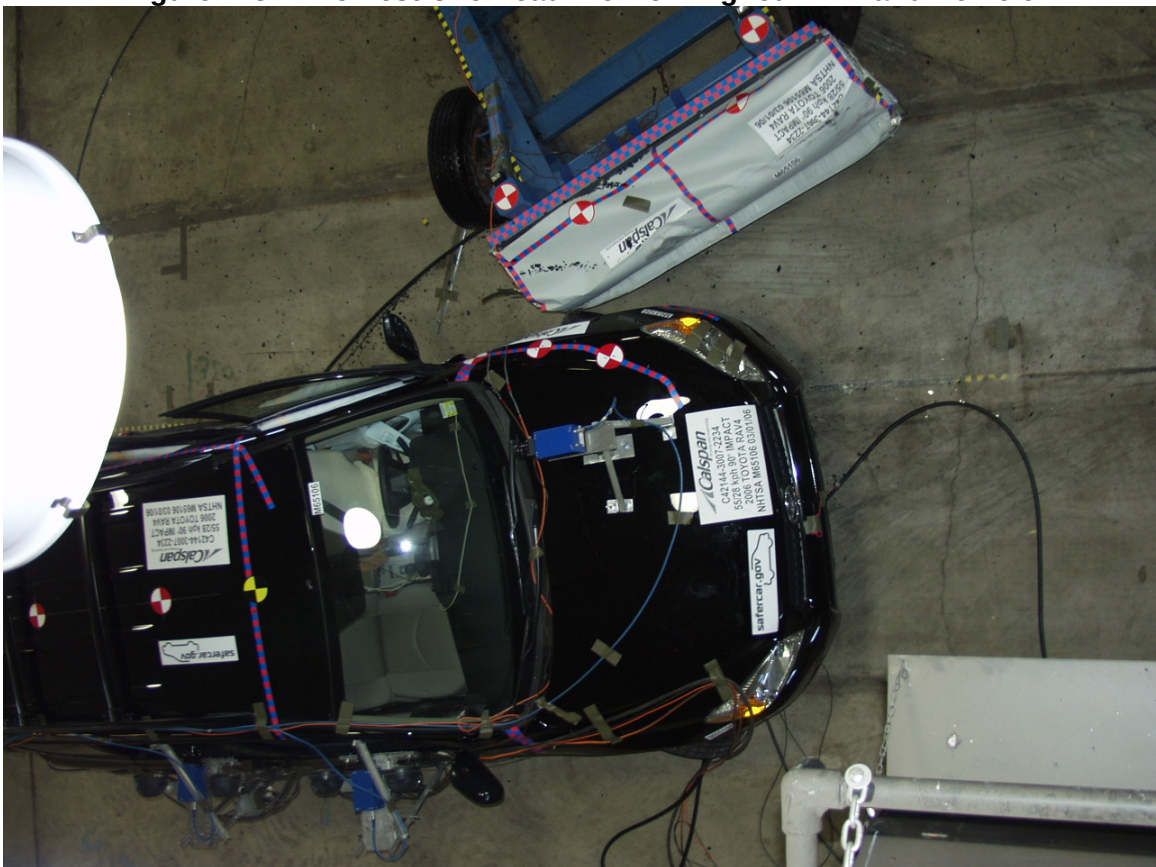


Figure A-32: Post-Test Overhead View of MDB and Vehicle

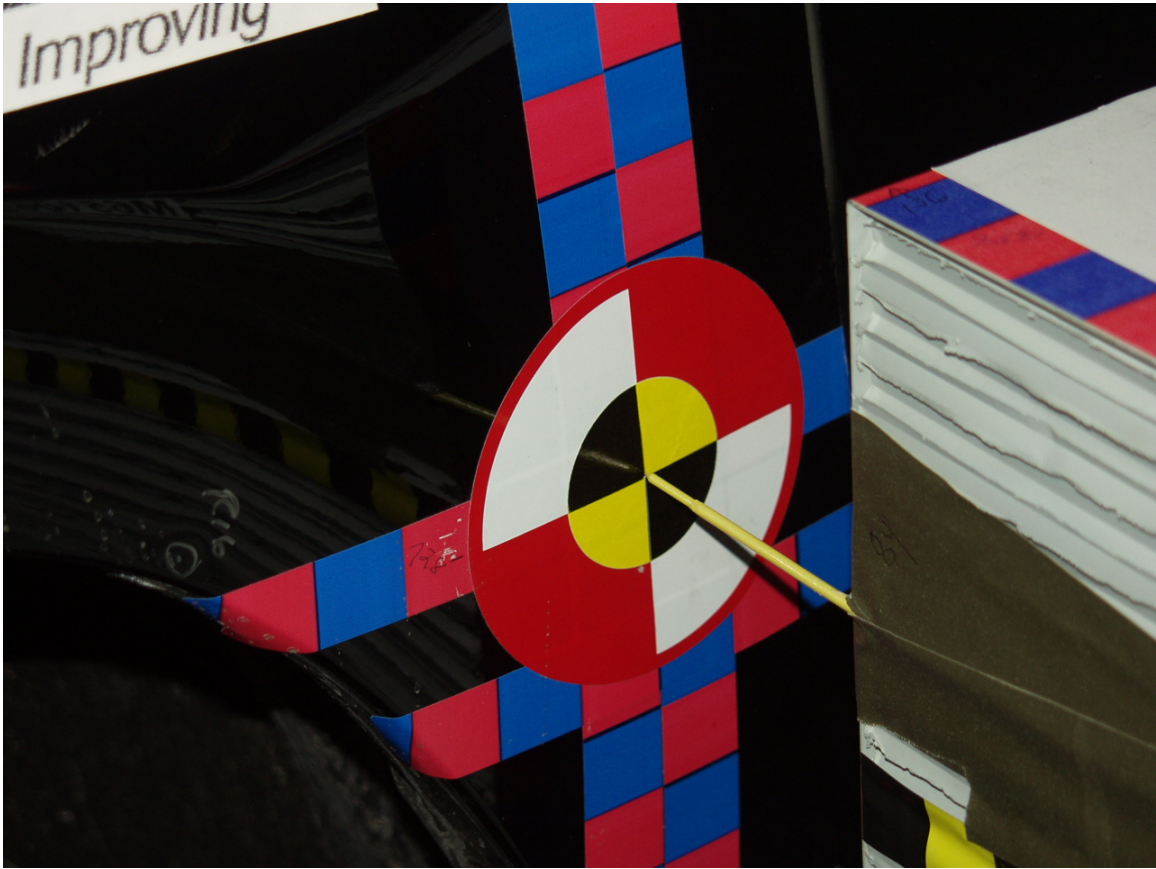


Figure A-33: Pre-Test Close-Up View of Impact Point Target

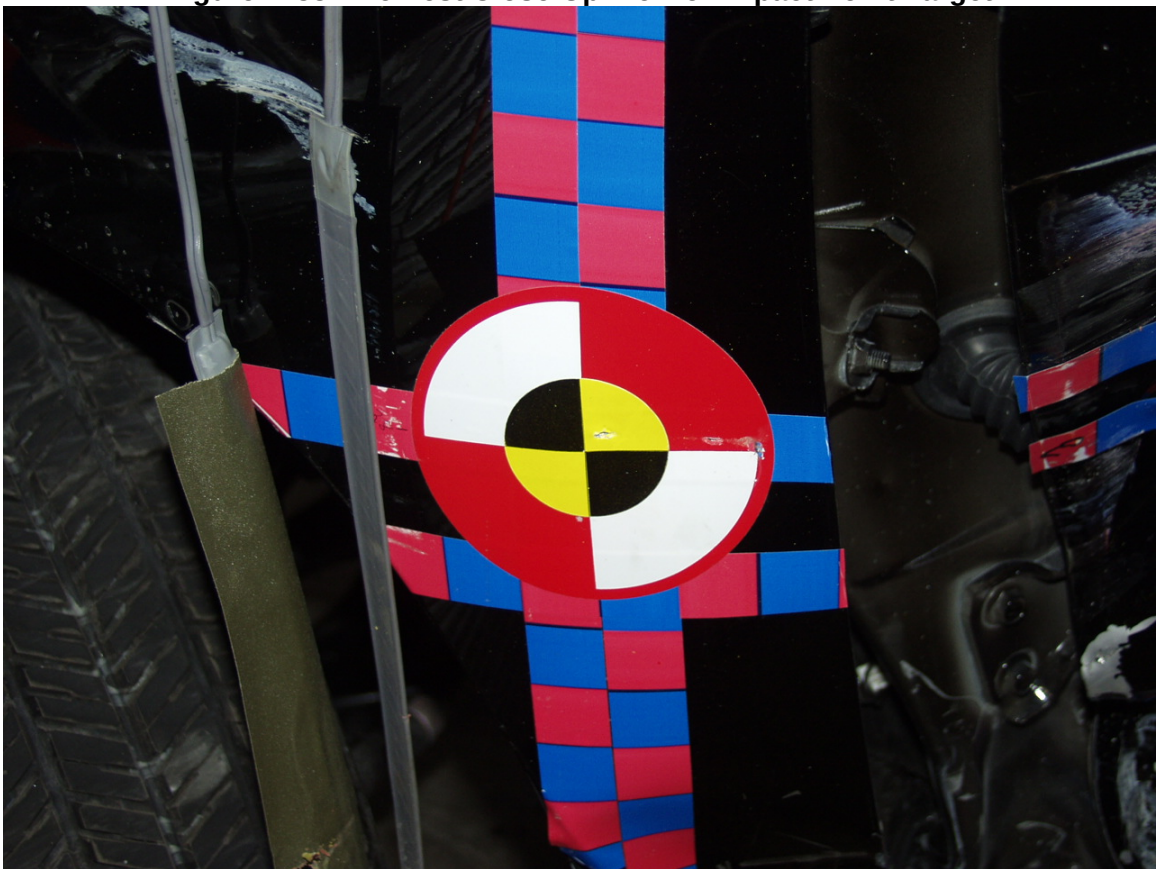


Figure A-34: Post-Test Close-Up View of Impact Point Target



Figure A-35: Pre-Test Right Occupant Compartment View of Driver



Figure A-36: Post-Test Right Occupant Compartment View of Driver



Figure A-37: Pre-Test Right Occupant Compartment View of Passenger



Figure A-38: Post-Test Right Occupant Compartment View of Passenger



Figure A-39: Pre-Test Left Occupant Compartment View of Driver



Figure A-40: Post-Test Left Occupant Compartment View of Driver



Figure A-41: Pre-Test Left Occupant Compartment View of Passenger



Figure A-42: Post-Test Left Occupant Compartment View of Passenger



Figure A-43: Pre-Test Left Front Interior Trim



Figure A-44: Post-Test Left Front Interior Trim



Figure A-45: Pre-Test Left Rear Interior Trim



Figure A-46: Post-Test Left Rear Interior Trim



Figure A-47: Pre-Test Left Front $\frac{3}{4}$ View of Left Side Doors



Figure A-48: Post-Test Left Front $\frac{3}{4}$ View of Left Side Doors



Figure A-49: Pre-Test Left Rear $\frac{3}{4}$ View of Left Side Doors



Figure A-50: Post-Test Left Rear ¾ View of Left Side Doors

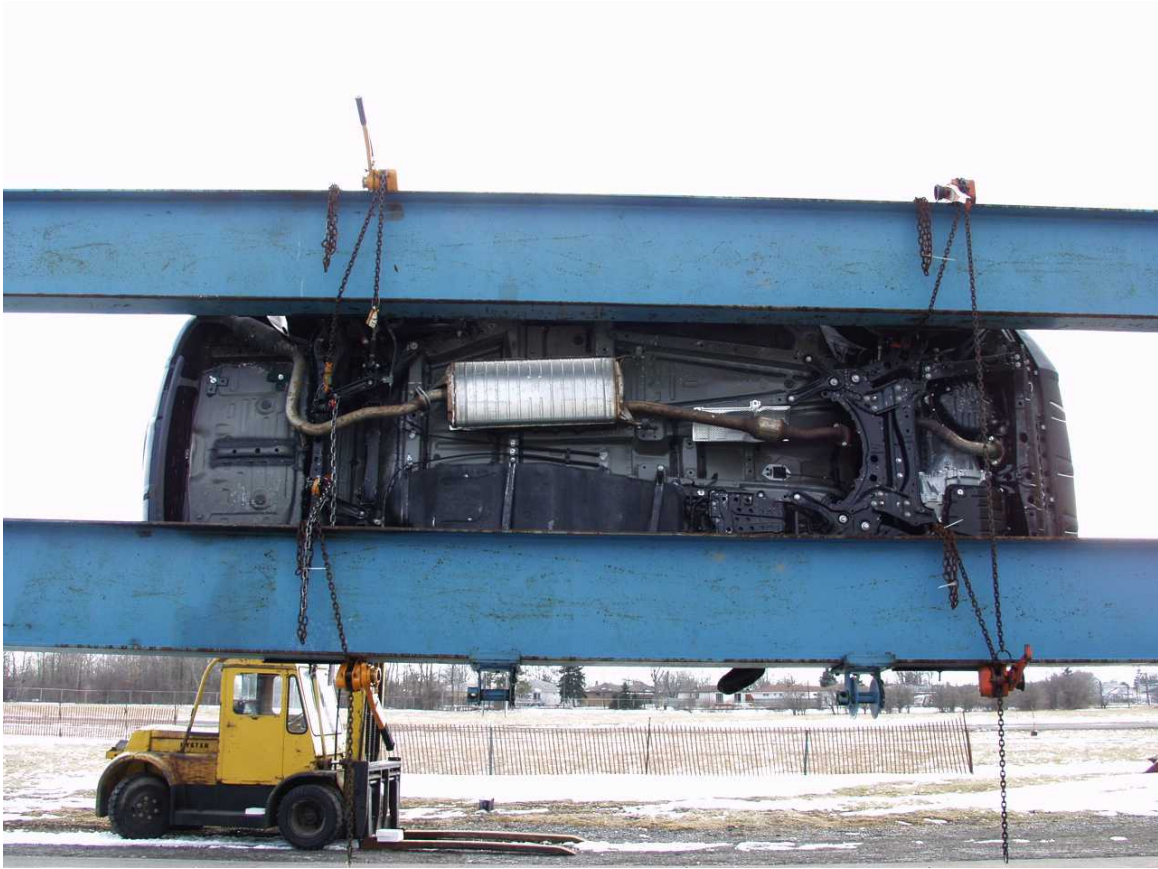


Figure A-51: Rollover 90 Degrees

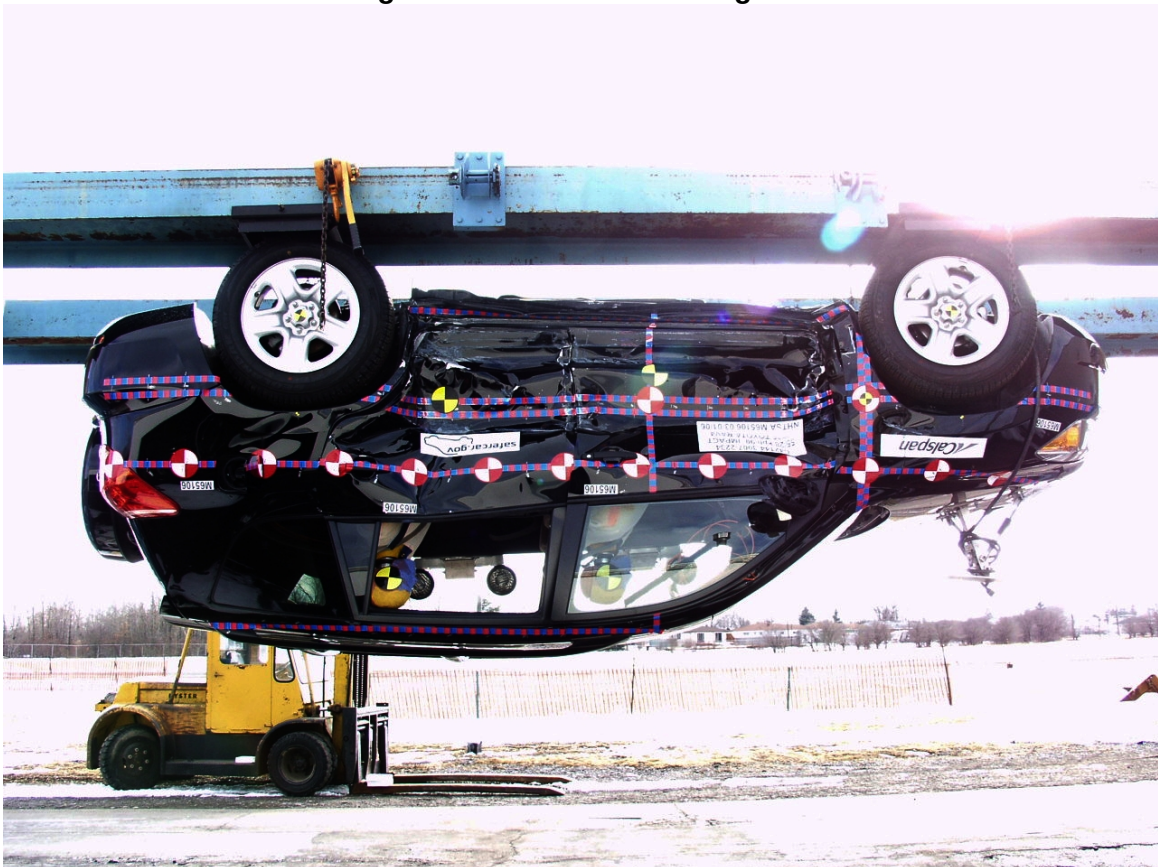


Figure A-52: Rollover 180 Degrees



Figure A-53: Rollover 270 Degrees



Figure A-54: Rollover 360 Degrees

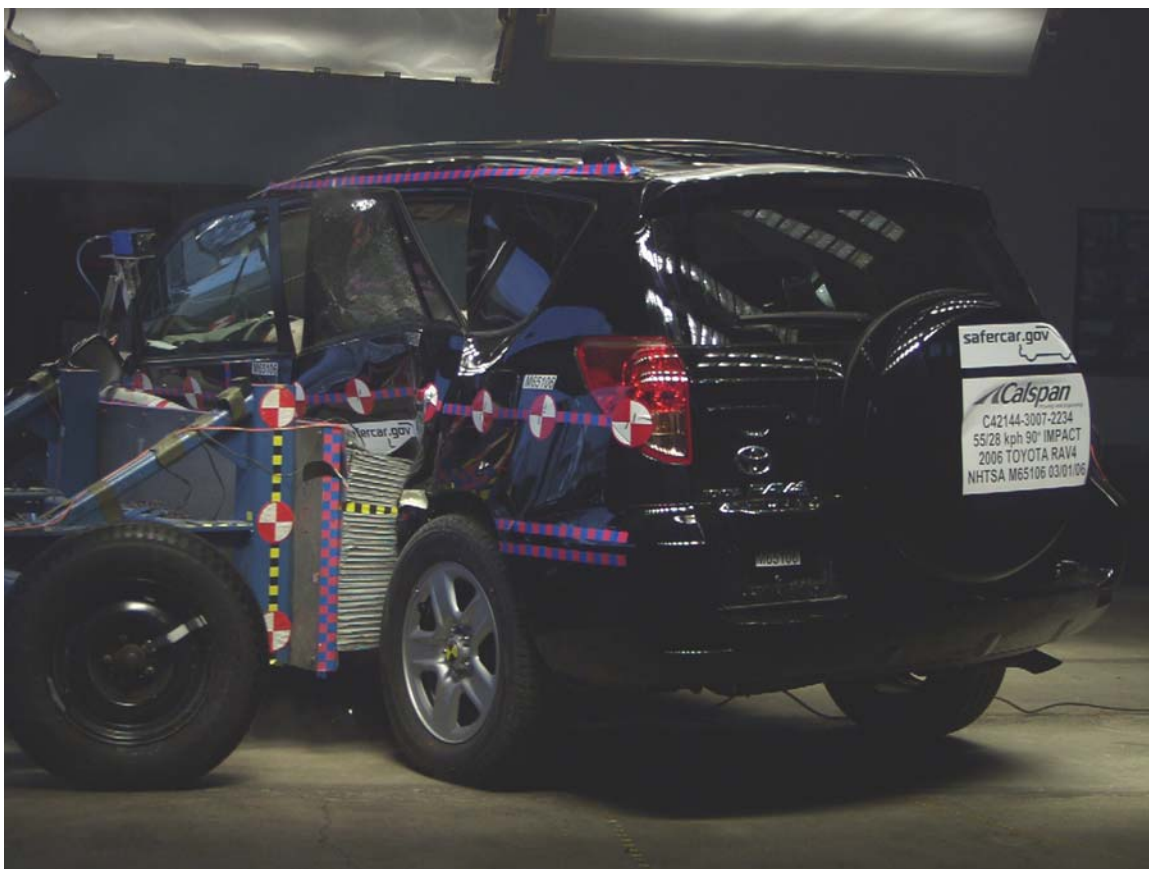


Figure A-55: Impact Photo

APPENDIX B
SID/HIII, VEHICLE AND MDB RESPONSE DATA
(SAE sign convention)

DATA CHANNEL FILTER CLASS SUMMARY

Data Type	SAE Filter Class
Dummy Head Accelerations	CFC 1000
Rib Accelerations	FIR 100
Spine Accelerations	FIR 100
Pelvis Accelerations	FIR 100

DATA CHANNEL TITLE KEY

Prefix	Suffix
V1 = Vehicle 1 (Moving Barrier)	Ax = Acceleration, X-direction
V2 = Vehicle 2 (Test Vehicle)	Ay = Acceleration, Y-direction
P1 = Left Front Seating Position (Driver)	Az = Acceleration, Z-direction
P4 = Left Second Row Seating Position (Passenger)	Fx = Force, X-direction
A1-A18 = Accelerometer Location Number	Fy = Force, Y-direction
	Fz = Force, Z-direction
	Mx = Moment about X
	My = Moment about Y
	Mz = Moment about Z

TABLE OF DATA PLOTS

PLOT	PLOT NAME[UNITS, CHANNEL FILTER CLASS]	PAGE
1	V2P1 Head Ax [g, CFC_1000]	B-5
2	V2P1 Head Ay [g, CFC_1000]	B-5
3	V2P1 Head Az [g, CFC_1000]	B-5
4	V2P1 Head Ar [g, CFC_1000]	B-5
5	V1P1 Upper Rib Ay [g, FIR_100]	B-6
6	V1P1 Lower Rib Ay [g, FIR_100]	B-6
7	V1P1 Lower Spine Ay [g, FIR_100]	B-6
8	V1P1 Pelvic Ay [g, FIR_100]	B-6
9	V2P4 Head Ax [g, CFC_1000]	B-7
10	V2P4 Head Ay [g, CFC_1000]	B-7
11	V2P4 Head Az [g, CFC_1000]	B-7
12	V2P4 Head Ar [g, CFC_1000]	B-7
13	V1P4 Upper Rib Ay [g, FIR_100]	B-8
14	V1P4 Lower Rib Ay [g, FIR_100]	B-8
15	V1P4 Lower Spine Ay [g, FIR_100]	B-8
16	V1P4 Pelvic Ay [g, FIR_100]	B-8

The following dummy, vehicle and load cell response data can be found in the research and development section of the NHTSA website at: www.nhtsa.dot.gov

V2P1 Head Ax	V2A1 Right Front Sill Ax
V2P1 Head Ay	V2A1 Right Front Sill Ay
V2P1 Head Az	V2A1 Right Front Sill Az
V2P1 Upper Neck Fx	V2A2 Right Rear Sill Ax
V2P1 Upper Neck Fy	V2A2 Right Rear Sill Ay
V2P1 Upper Neck Fz	V2A2 Right Rear Sill Az
V2P1 Upper Neck Mx	V2A3 Rear Floorpan Ax
V2P1 Upper Neck My	V2A3 Rear Floorpan Ay
V2P1 Upper Neck Mz	V2A3 Rear Floorplan Az
V2P1 Upper Rib Ay	V2A4 Left Rear Sill Ay
V2P1 Upper Rib Redundant Ay	V2A5 Left Front Sill Ay
V2P1 Lower Rib Ay	V2A7 Right Rear Compartment Ay
V2P1 Lower Rib Redundant Ay	V2A12 Left Lower B Post Ay
V2P1 Lower Spine Ay	V2A13 Left Mid B Post Ay
V2P1 Lower Spine Redundant Ay	V2A14 Left Lower A Post Ay
V2P1 Pelvic Ay	V2A15 Left Mid A Post Ay
V2P1 Pelvic Redundant Ay	V2A16 Front Seat Track Ay
V2P4 Head Ax	V2A17 Rear Seat Track Ay
V2P4 Head Ay	V2A18 Target CG Ax
V2P4 Head Az	V2A18 Target CG Ay
V2P4 Upper Neck Fx	V2A18 Target CG Az
V2P4 Upper Neck Fy	V1 Moving Barrier CG Ax
V2P4 Upper Neck Fz	V1 Moving Barrier CG Ay
V2P4 Upper Neck Mx	V1 Moving Barrier CG Az
V2P4 Upper Neck My	V1 Moving Barrier Left Rail Ax
V2P4 Upper Neck Mz	V1 Moving Barrier Left Rail Ay
V2P4 Upper Rib Ay	
V2P4 Upper Rib Redundant Ay	
V2P4 Lower Rib Ay	
V2P4 Lower Rib Redundant Ay	
V2P4 Lower Spine Ay	
V2P4 Lower Spine Redundant Ay	
V2P4 Pelvic Ay	
V2P4 Pelvic Redundant Ay	

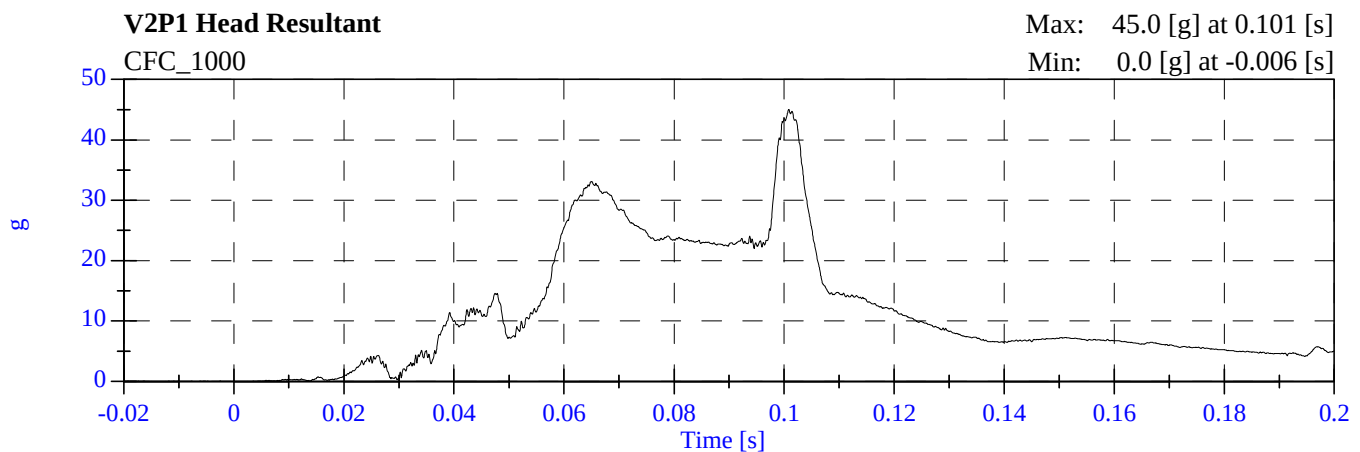
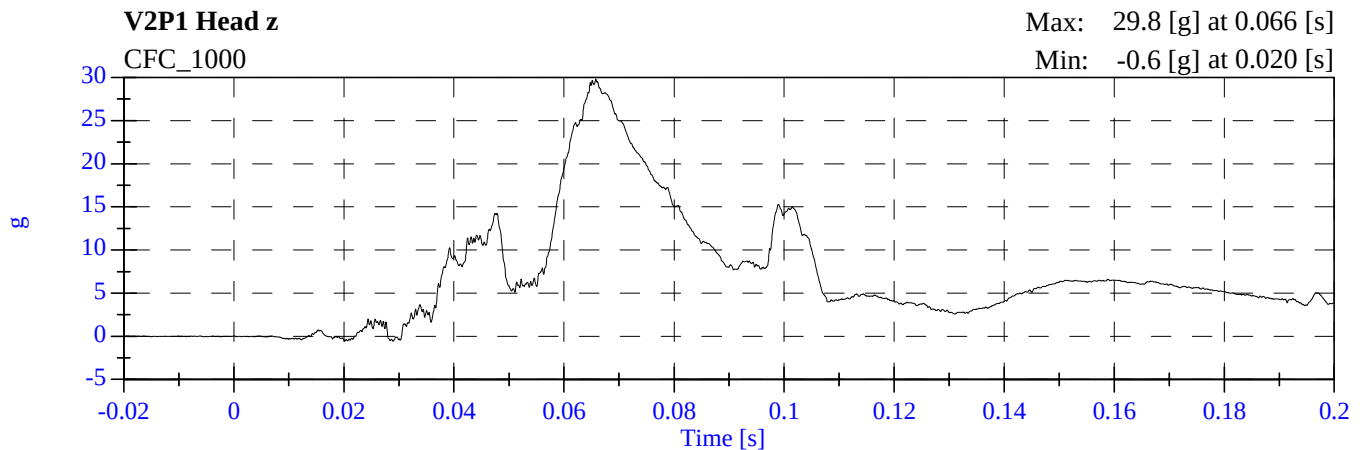
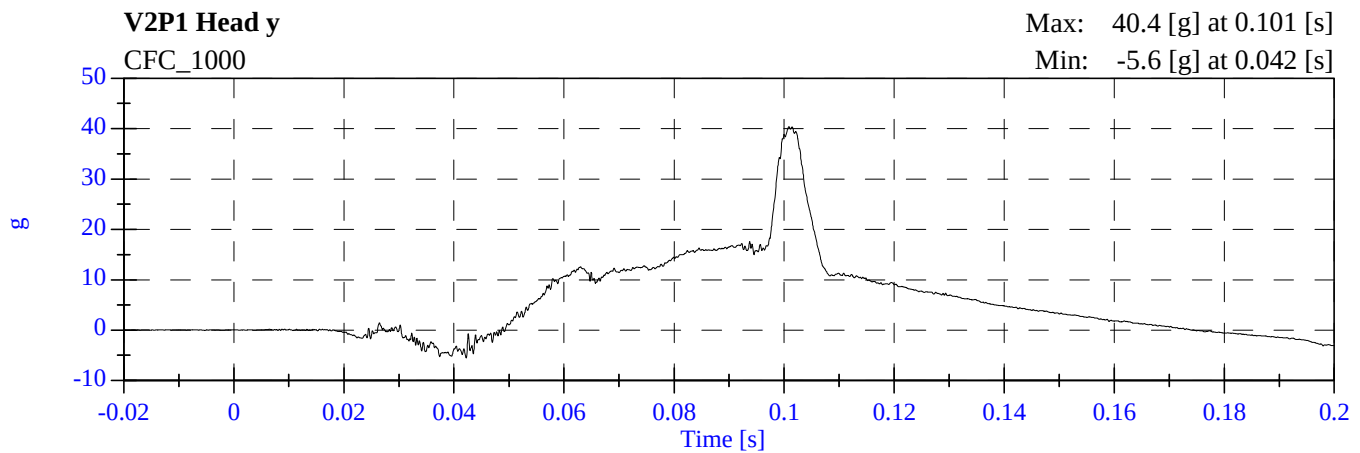
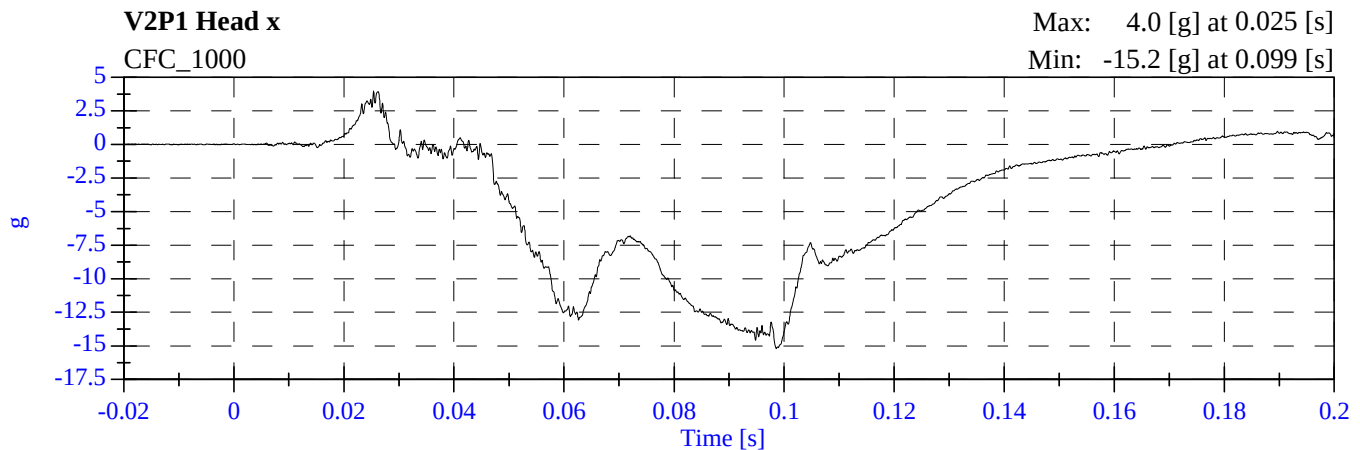
TEST NOTES

The following data anomalies occurred:

V2A2 Right Rear Sill Az Transducer Failed

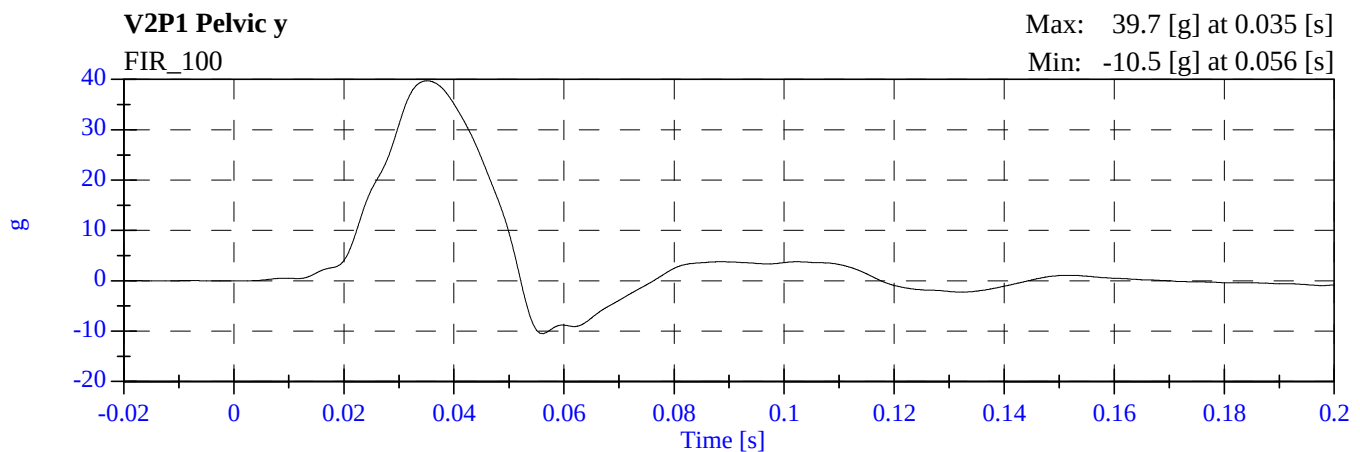
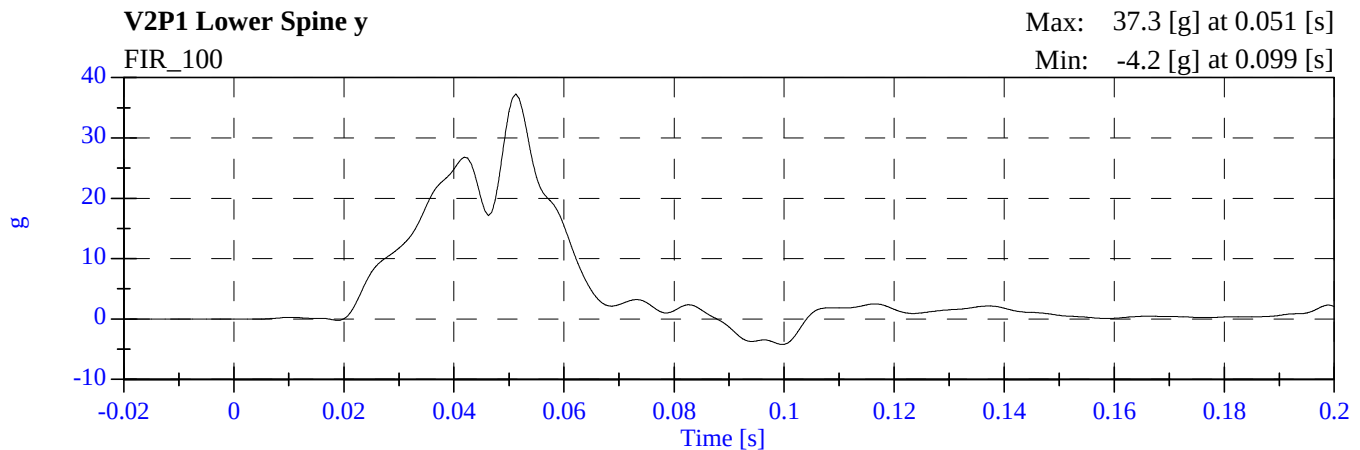
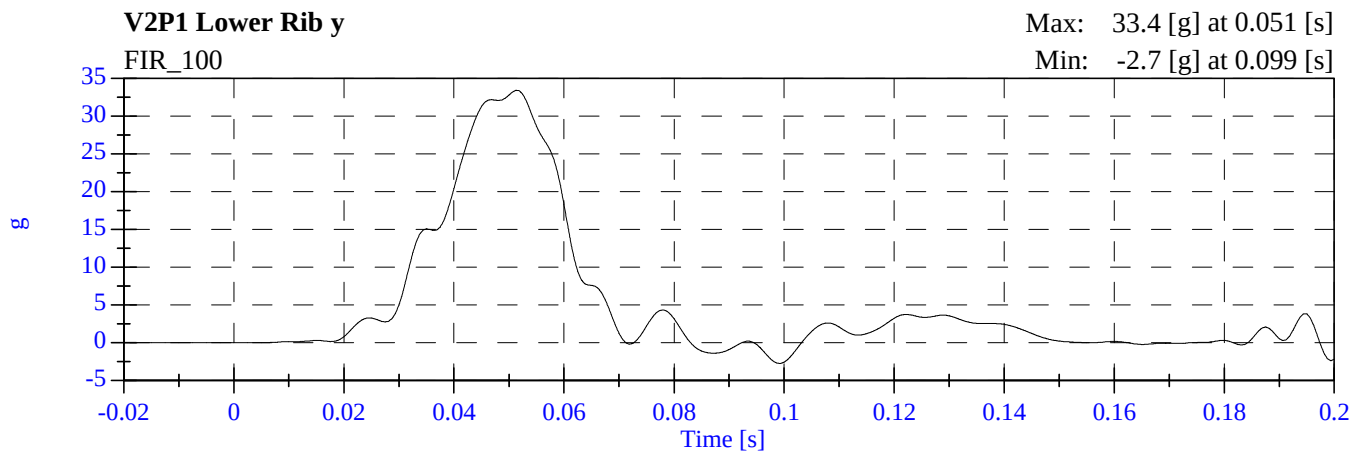
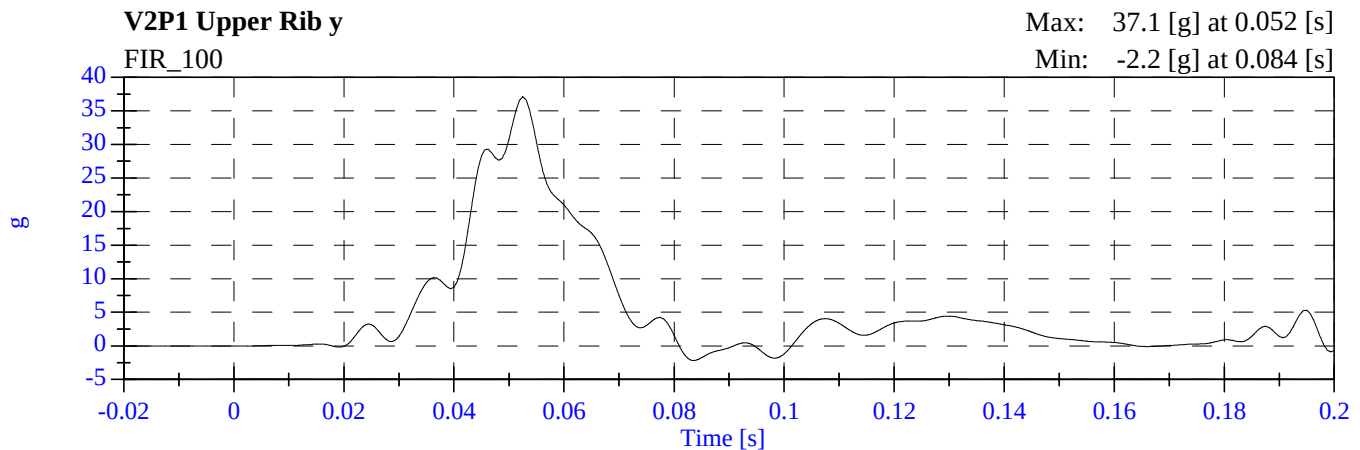
2006 SNCAP Test 7 - 2006 Toyota RAV4

M65106 - March 01, 2006



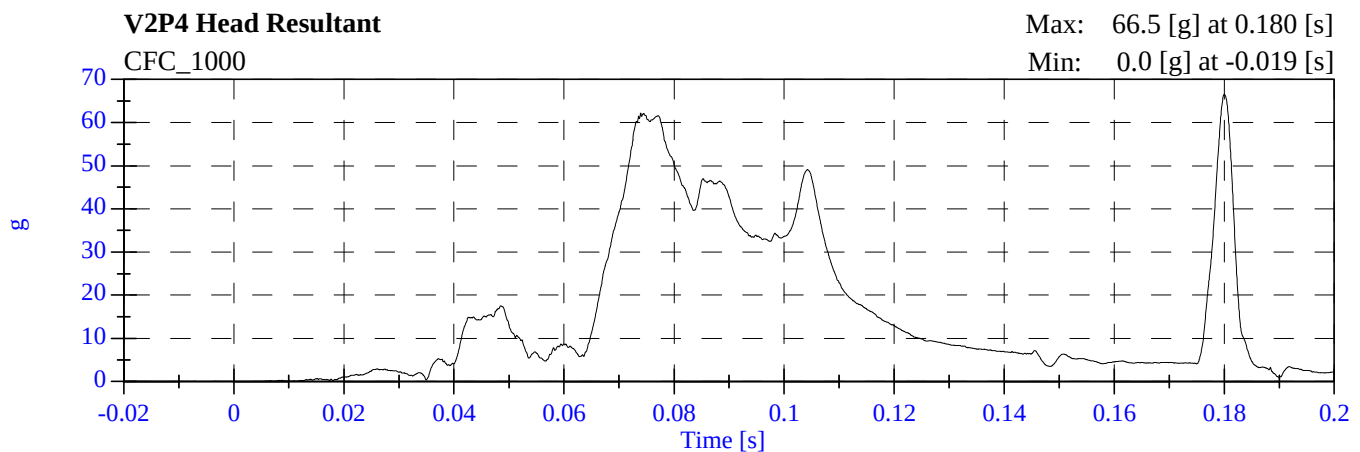
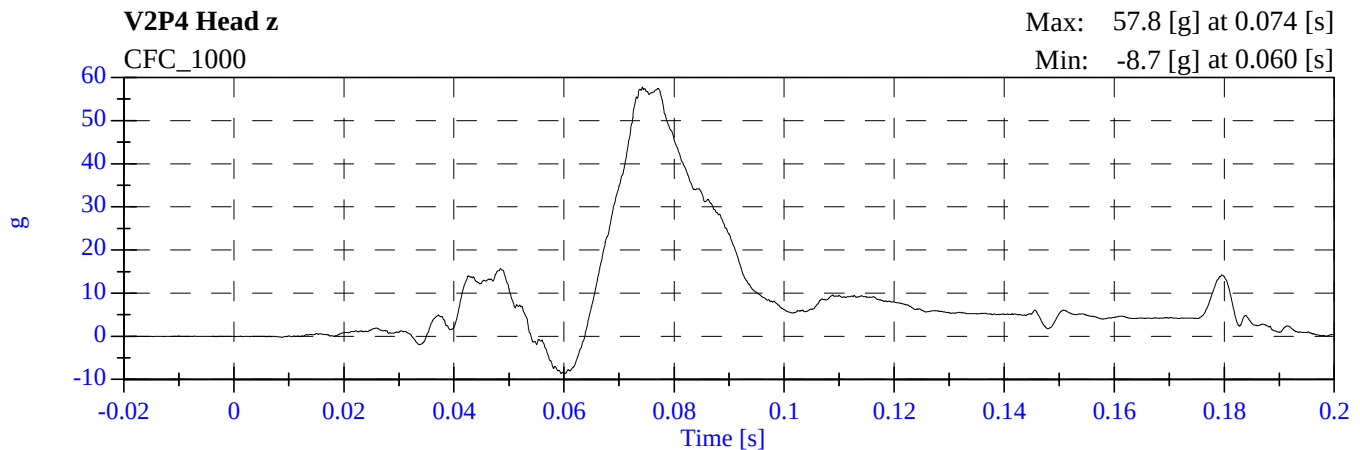
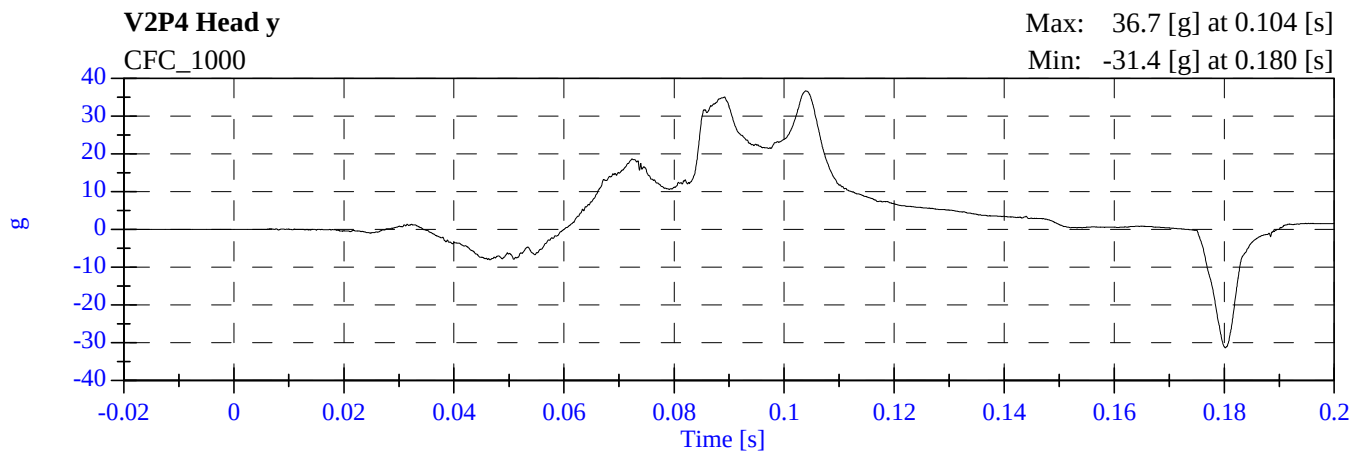
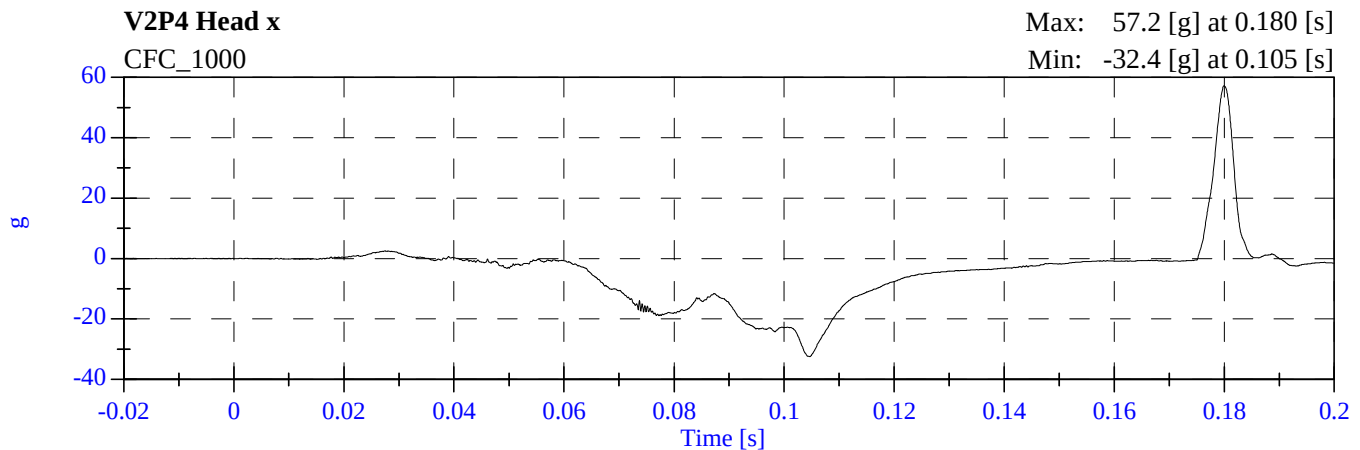
2006 SNCAP Test 7 - 2006 Toyota RAV4

M65106 - March 01, 2006



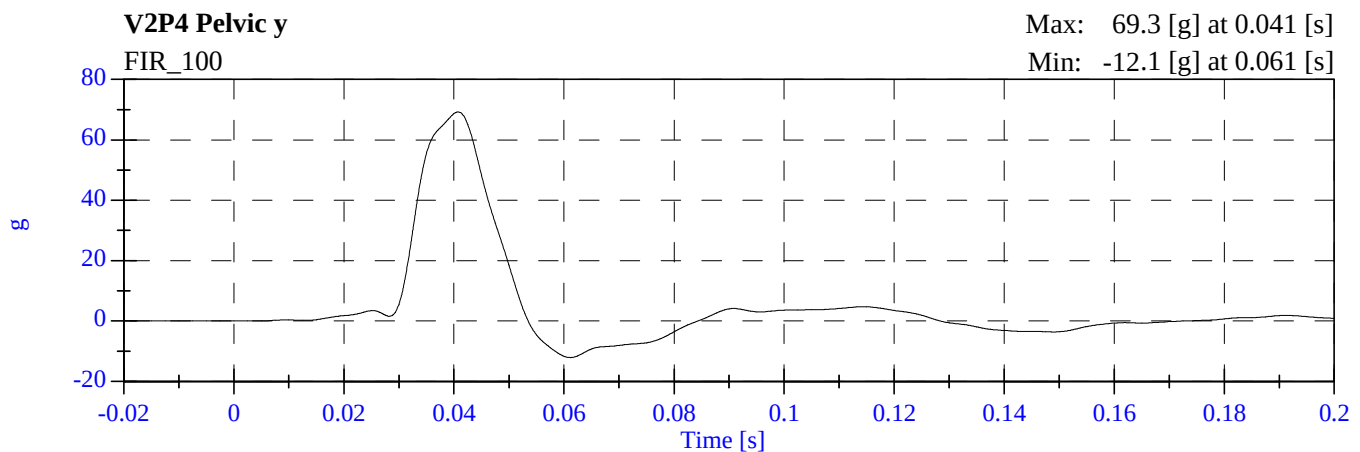
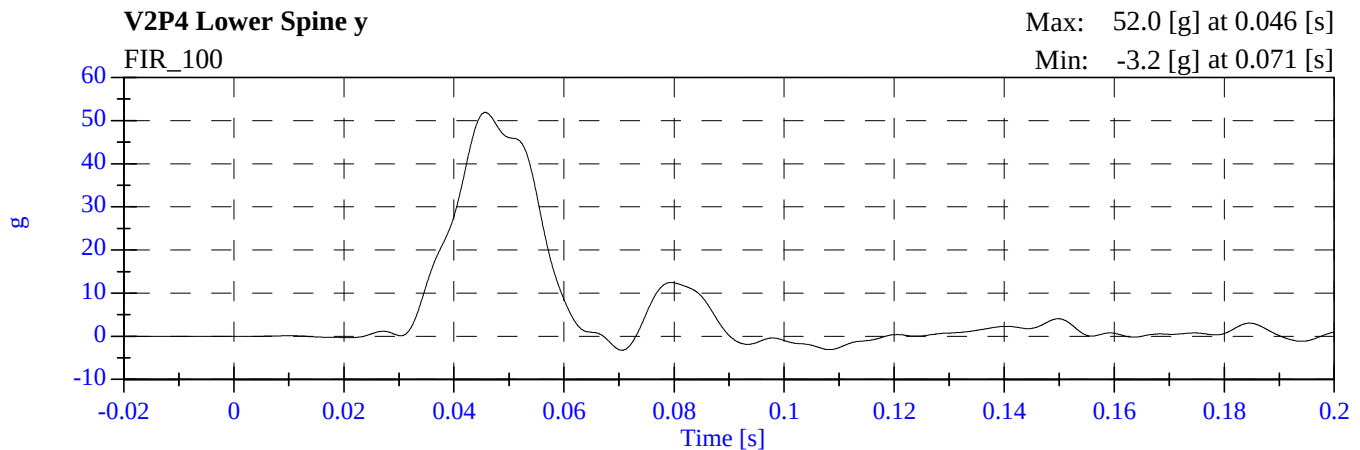
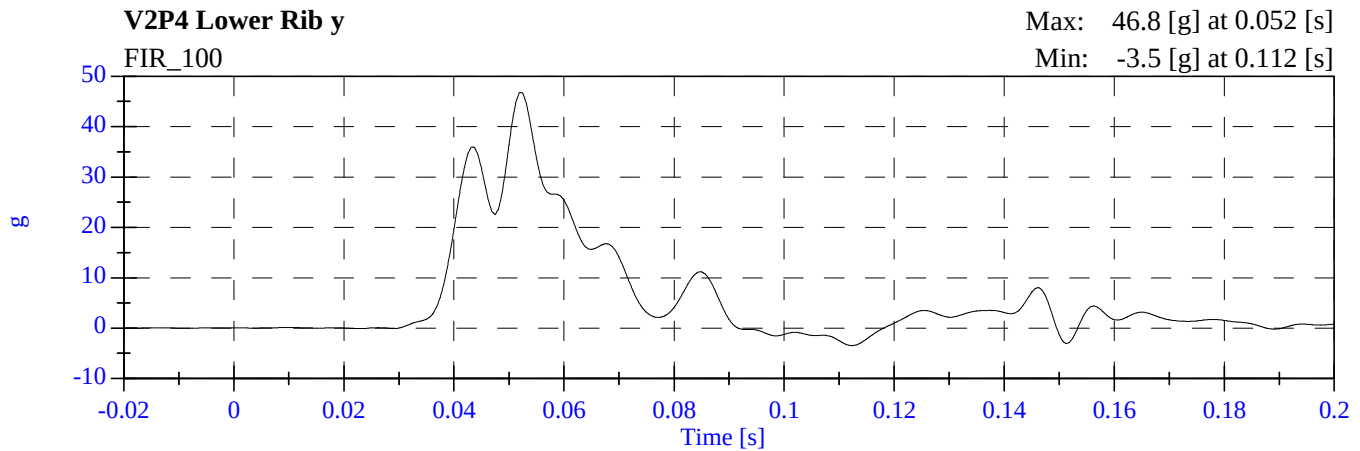
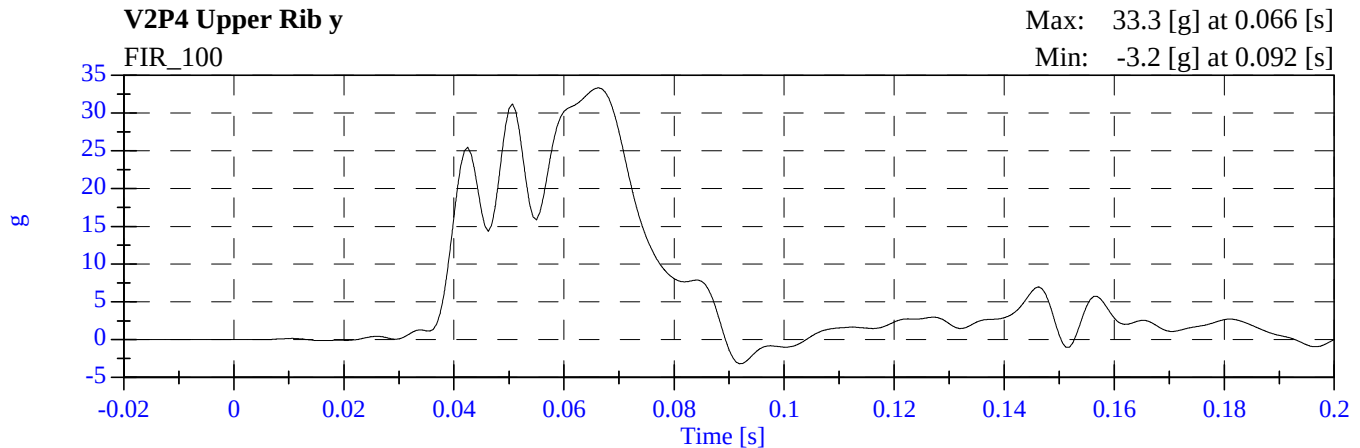
2006 SNCAP Test 7 - 2006 Toyota RAV4

M65106 - March 01, 2006



2006 SNCAP Test 7 - 2006 Toyota RAV4

M65106 - March 01, 2006



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: January 31, 2006; January 31, 2006 Sequential Test Number: 1.2, 1.2
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 905		SID H3 NO.: 906	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	904	904	907	907
RH- Rib Height (mm)	501 - 521	516	516	516	516
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	241	241	241	241
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	518	518
SW- Knee Pivot to Floor (mm)	490 - 505	493	493	493	493
HW- Hip Width (mm)	356 - 391	371	371	381	381
THORAX IMPACTS					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	37.00	31.00	37.00	31.00
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.27	4.28	4.29
UPPER RIB (g's)	37 - 46	38.83	41.59	44.88	44.14
LOWER RIB (g's)	37 - 46	37.80	39.54	43.17	42.43
LOWER SPINE (g's)	15 - 22	19.37	21.97	21.36	21.88
PELVIS IMPACT					
TEMPERATURE (C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	37.00	31.00	37.00	38.00
PROBE SPEED (m/s)	4.27 - 4.33	4.29	4.27	4.28	4.29
PELVIS (g's)	40 - 60	42.23	41.83	53.36	50.64

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 905

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1
Date: January 31, 2006 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1
Date: January 31, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	904
RH- Rib Height (mm)	502 – 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	241
KH- Knee Pivot from Back Line (mm)	511 – 526	521
KV- Knee Pivot to Floor (mm)	490 – 505	493
HW- Hip Width (mm)	356 - 391	371

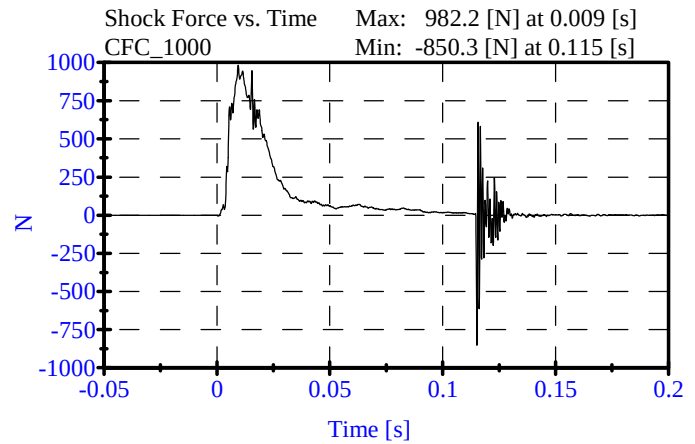
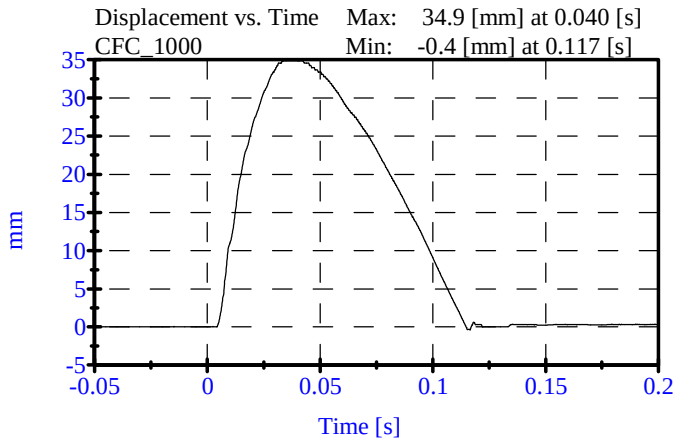
REMARKS: None

Shock Impact (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 01-02-06

Sequential Test Number: 1 File: 905SL 01-02-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Displacement:	30.00-35.00 mm	34.87 mm	Passed
Maximum Force:	836.00-1125.00 N	982.25 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	905		
Damper Setting:	5		

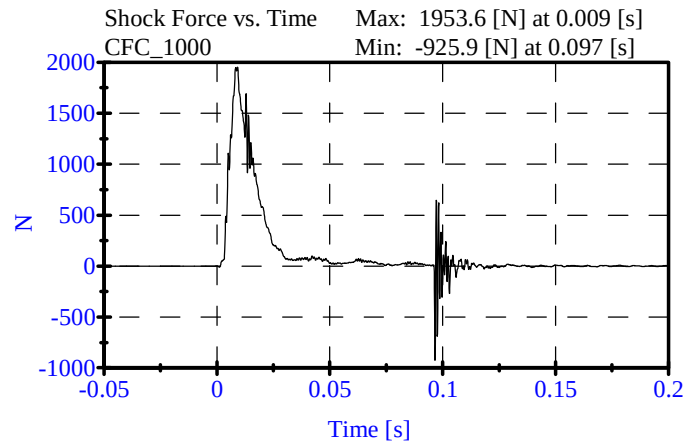
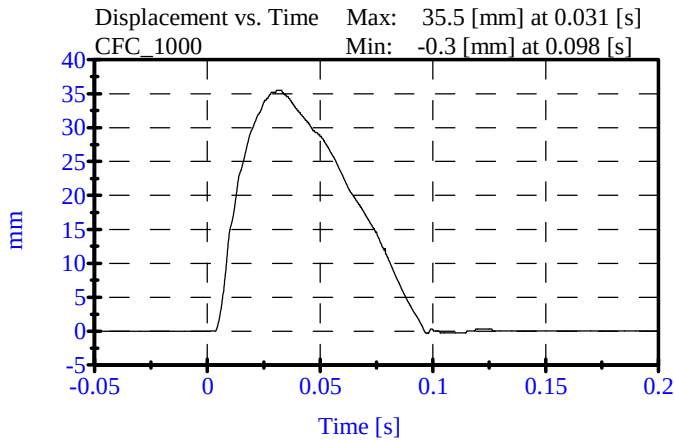


Shock Impact (4.27 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 01-02-06

Sequential Test Number: 1 File: 905SM 01-02-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Displacement:	32.00-37.00 mm	35.53 mm	Passed
Maximum Force:	1730.00-2099.00 N	1953.64 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	905		
Damper Setting:	5		

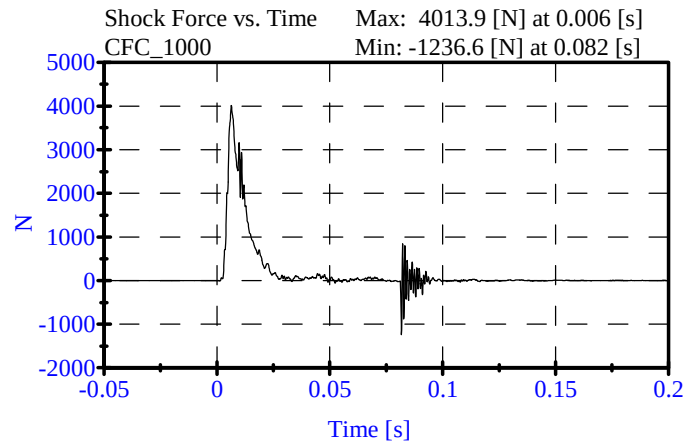
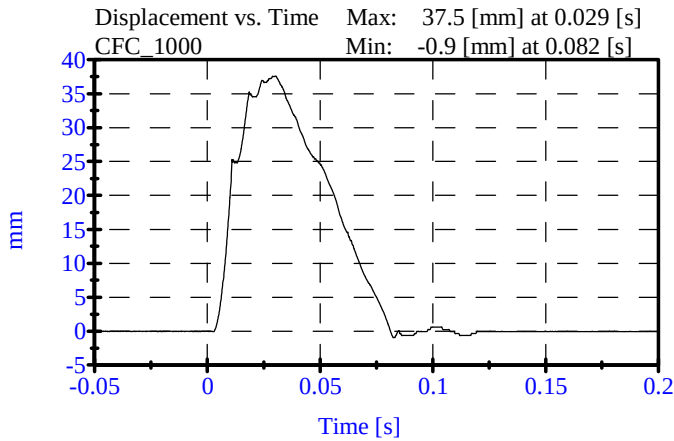


Shock Impact (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 01-02-06

Sequential Test Number: 1 File: 905SH 01-02-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Displacement:	33.00-40.00 mm	37.54 mm	Passed
Maximum Force:	3741.00-4448.00 N	4013.86 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	905		
Damper Setting:	5		



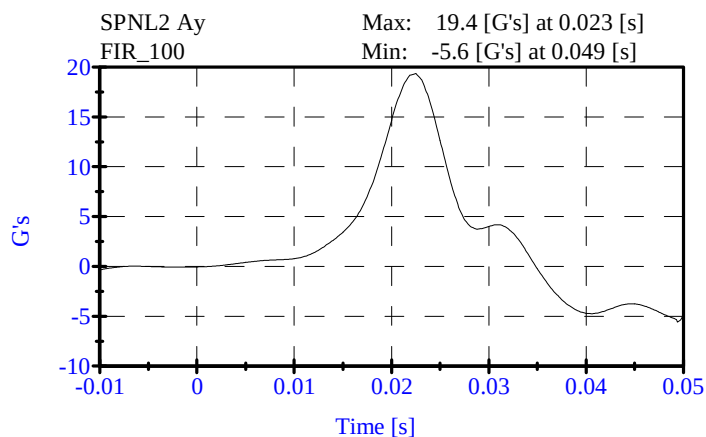
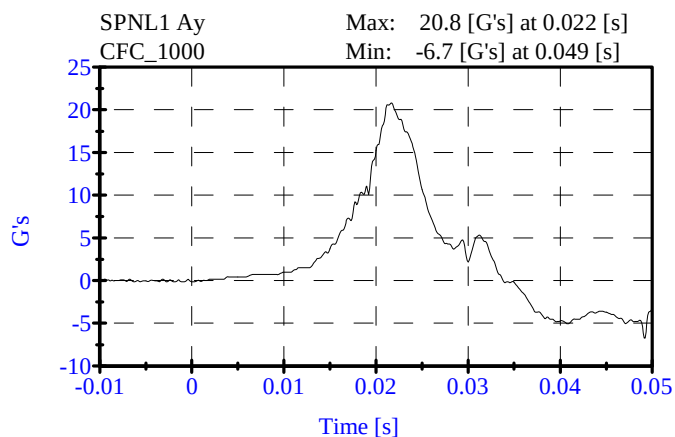
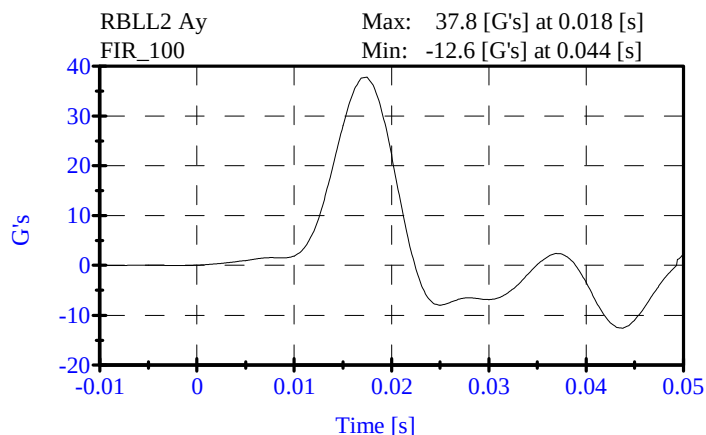
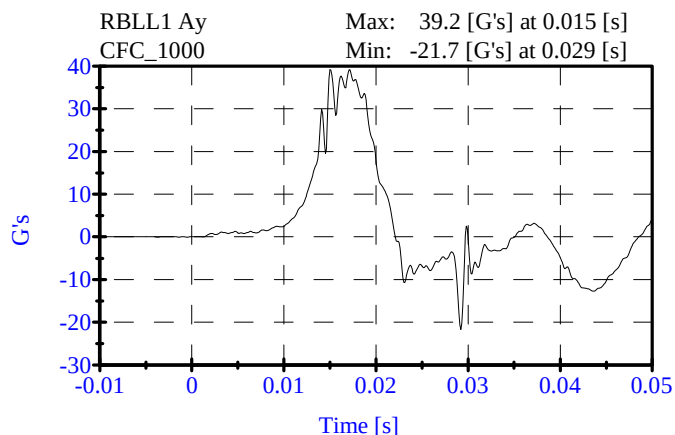
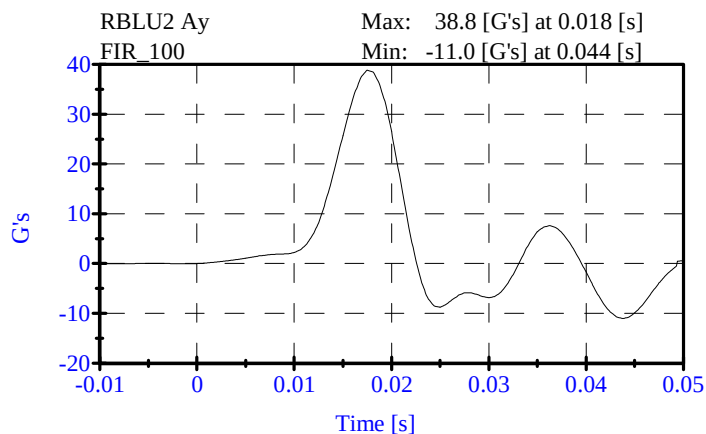
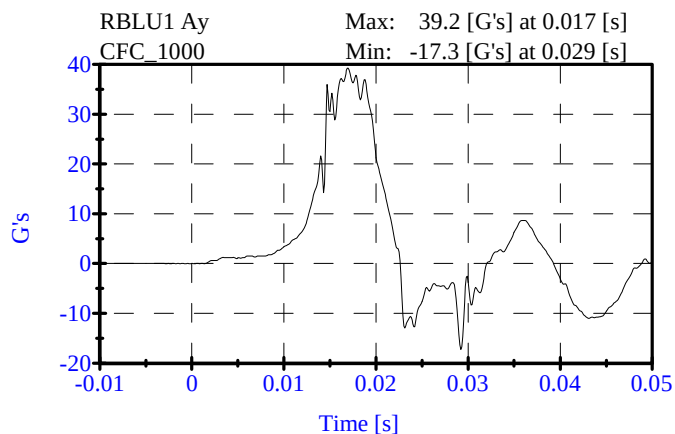
Thorax Impact **PRE TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 01-31-06

Sequential Test Number: 1 File: 905T 01-31-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.83 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.80 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.37 G's	Passed

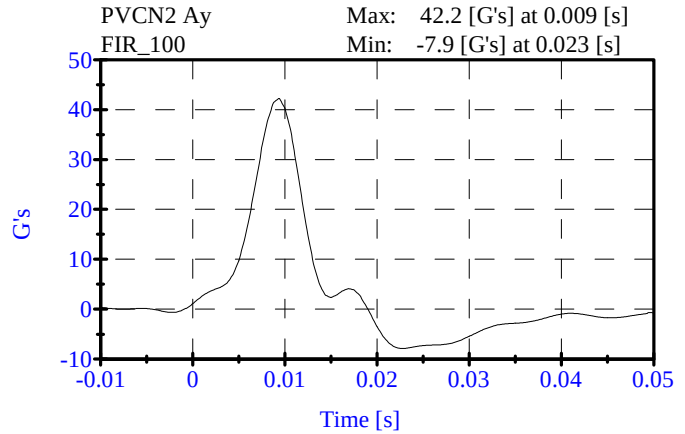
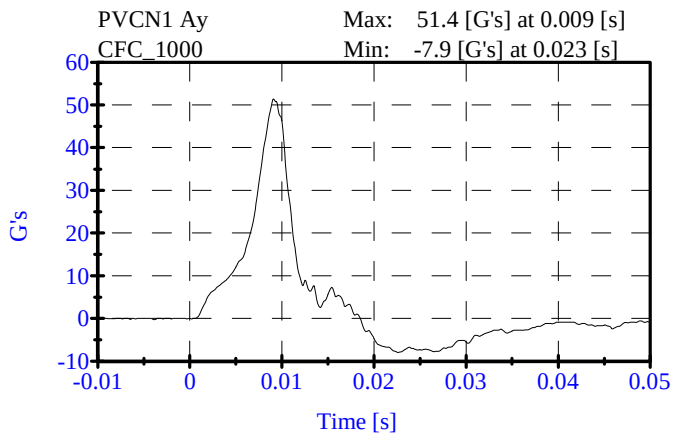


Pelvic Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 01-31-06

Sequential Test Number: 1 File: 905P 01-31-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	42.23 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed



Head Drop

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

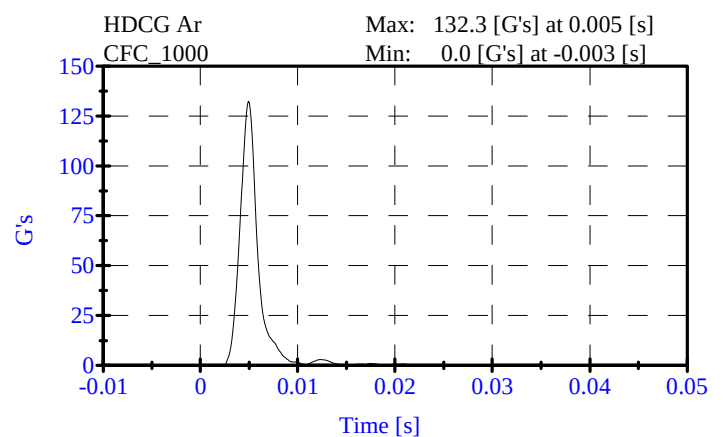
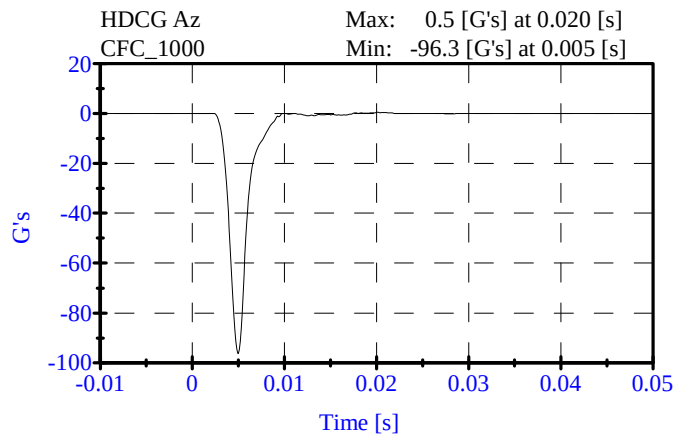
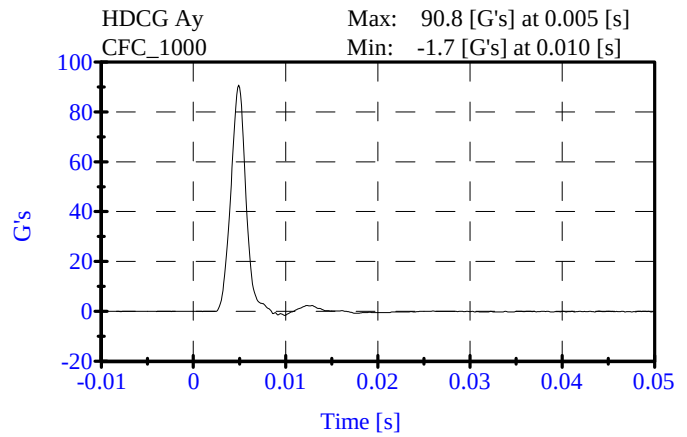
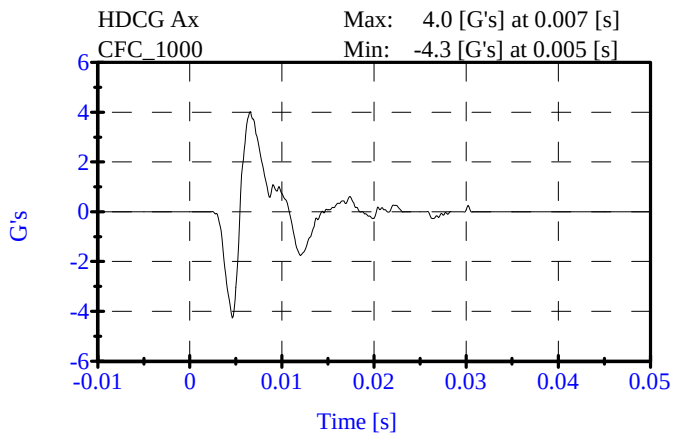
ATD Serial No: 905

Date: 01-27-06

Sequential Test Number: 1 File: 905H 01-27-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	132.26 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.02 Gs	Passed
Curve PerCent NonModal:	< 15%	2.26 %	Passed



Neck Test**PRE TEST****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905

Sequential Test Number: 1 File: 905N 01-30-06

Date: 01-30-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.10 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.38 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.46 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.34 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	71.86 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.70 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	85.01 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.90 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	11.10 ms	Passed

Neck Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

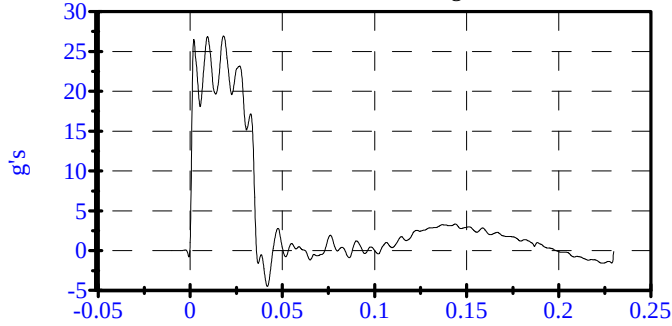
ATD Serial No: 905

Date: 01-30-06

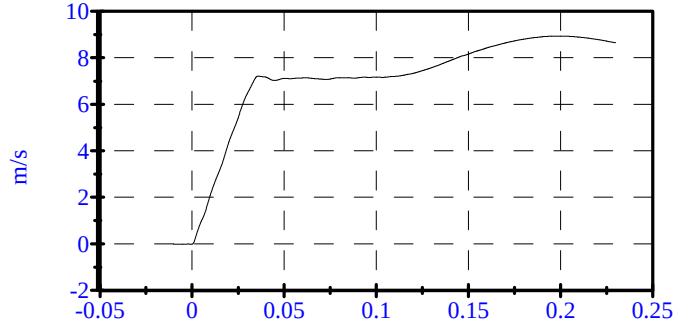
Sequential Test Number: 1 File: 905N 01-30-06

Laboratory Technician: B. Swiecicki

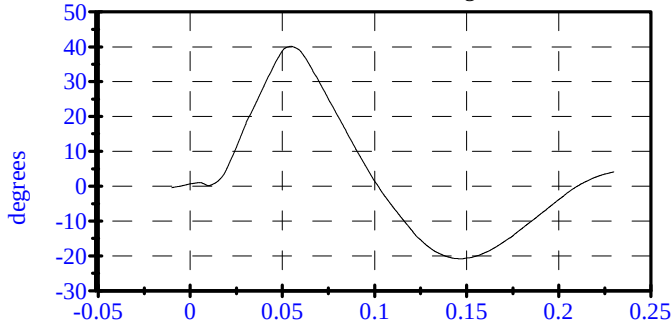
Pend Ax
CFC_180
Max: 26.9 [g's] at 0.018 [s]
Min: -4.5 [g's] at 0.042 [s]



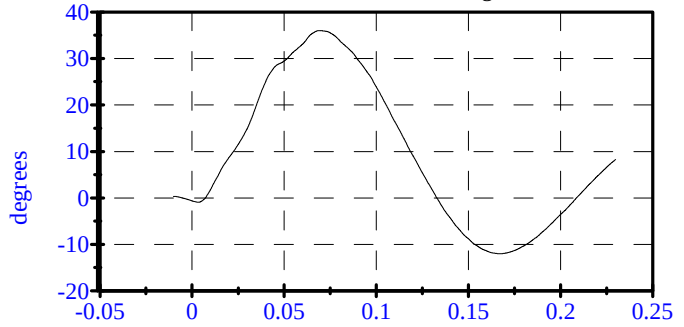
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.198 [s]
Min: -0.0 [m/s] at -0.000 [s]



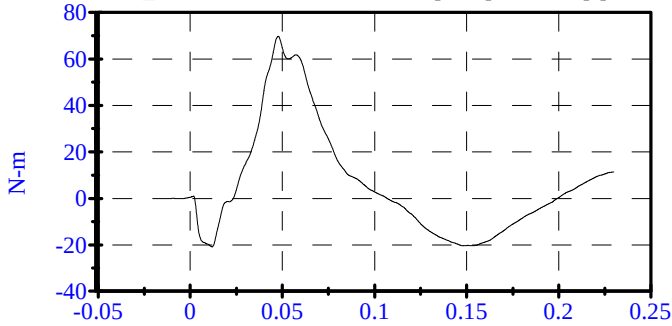
Head Rot
CFC_180
Max: 40.2 [degrees] at 0.055 [s]
Min: -20.8 [degrees] at 0.147 [s]



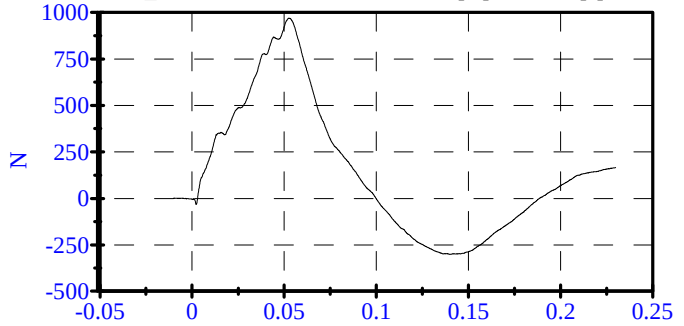
Arm Rot
CFC_180
Max: 36.0 [degrees] at 0.069 [s]
Min: -12.0 [degrees] at 0.167 [s]



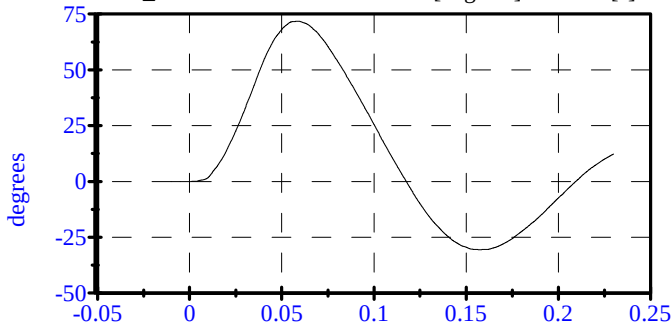
Neck Mx
CFC_600
Max: 69.7 [N-m] at 0.048 [s]
Min: -20.9 [N-m] at 0.012 [s]



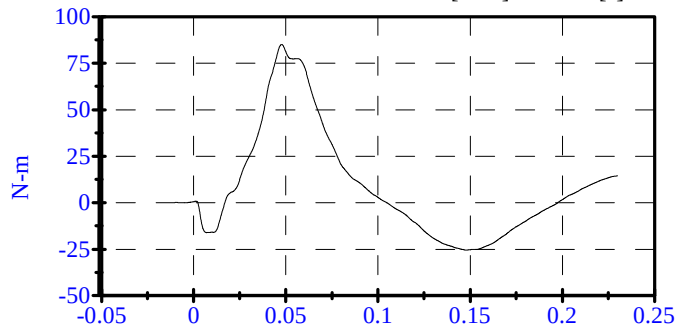
Neck Fy
CFC_1000
Max: 968.1 [N] at 0.053 [s]
Min: -300.4 [N] at 0.141 [s]



Tot Rot
CFC_180
Max: 71.9 [degrees] at 0.059 [s]
Min: -30.7 [degrees] at 0.157 [s]



Mocx
Max: 85.0 [N-m] at 0.048 [s]
Min: -25.6 [N-m] at 0.148 [s]



Abdomen Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

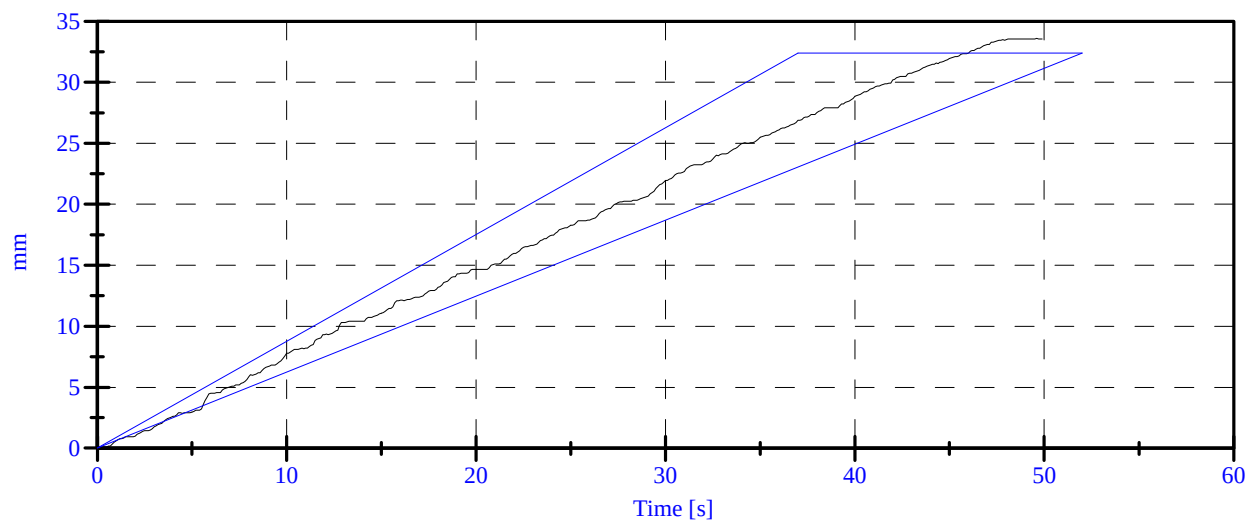
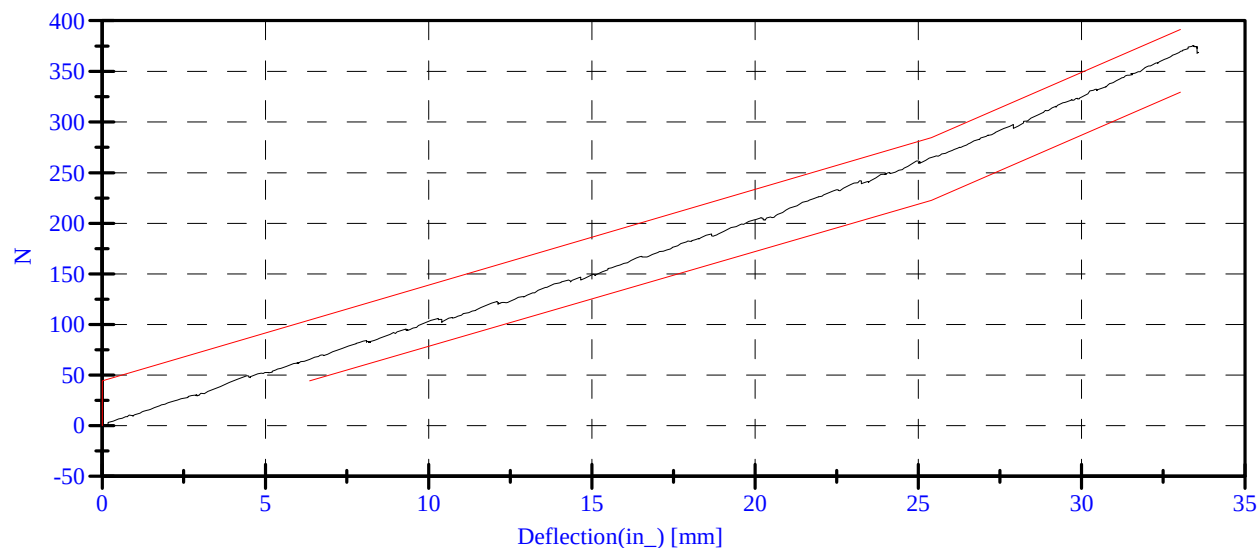
Date: 01-31-06

Sequential Test Number: 1 File: 905AB 01-31-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	127.67 N	Passed
Force at 19.05 mm :	162.98-220.99 N	191.83 N	Passed
Force at 25.40 mm :	221.97-280.02 N	264.32 N	Passed
Force at 33.02 mm :	324.99-391.00 N	369.80 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

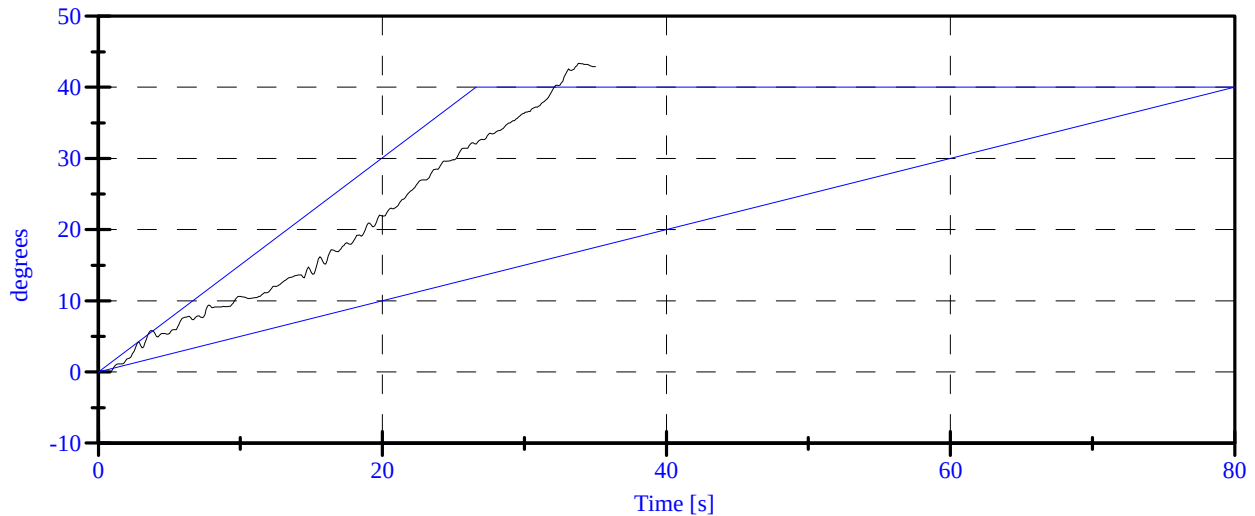
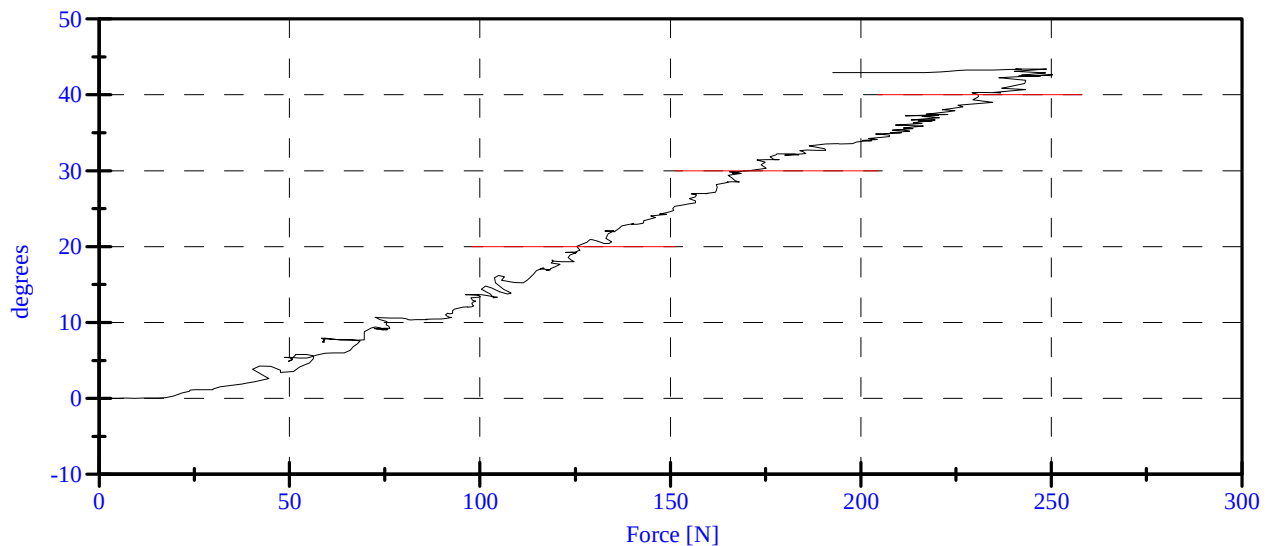
Date: 01-31-06

Sequential Test Number: 1 File: 905SP 01-31-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.22 N	Passed
Force at 20 Deg:	97.86-151.24 N	125.49 N	Passed
Force at 30 Deg:	151.24-204.62 N	170.93 N	Passed
Force at 40 Deg:	204.62-258.00 N	230.73 N	Passed
Return Angle	12 Deg Max	1.33 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1
 Date: January 31, 2006 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906	Sequential Test Number: 1
Date: January 31, 2006	Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1
Date: January 31, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	241
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	381

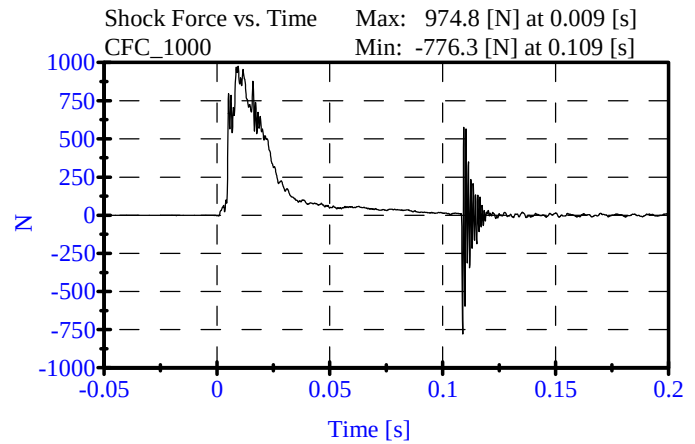
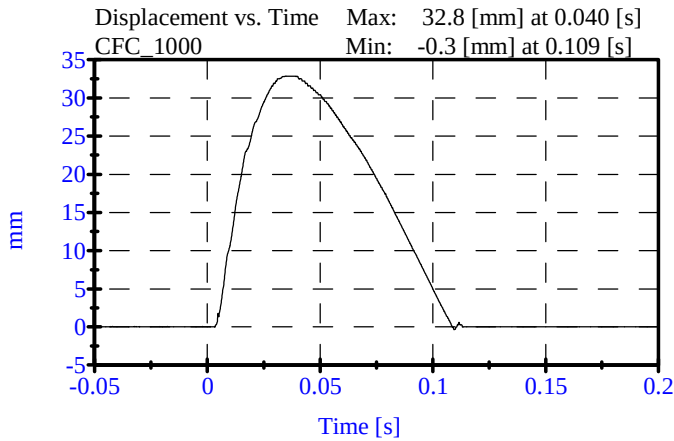
REMARKS: None

Shock Impact (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 01-02-06

Sequential Test Number: 1 File: 906SL 01-02-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Displacement:	30.00-35.00 mm	32.81 mm	Passed
Maximum Force:	836.00-1125.00 N	974.84 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	906		
Damper Setting:	5		

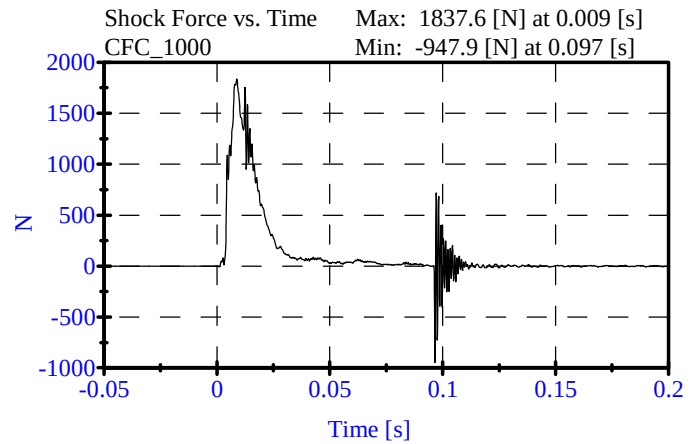
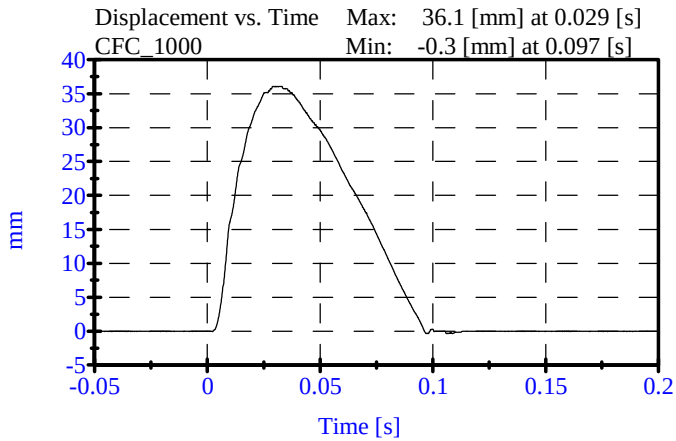


Shock Impact (4.27 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 01-02-06

Sequential Test Number: 1 File: 906M 01-02-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Displacement:	32.00-37.00 mm	36.07 mm	Passed
Maximum Force:	1730.00-2099.00 N	1837.62 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	906		
Damper Setting:	5		



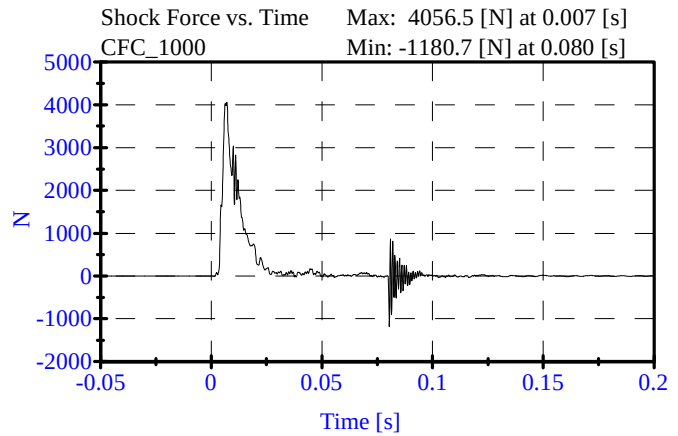
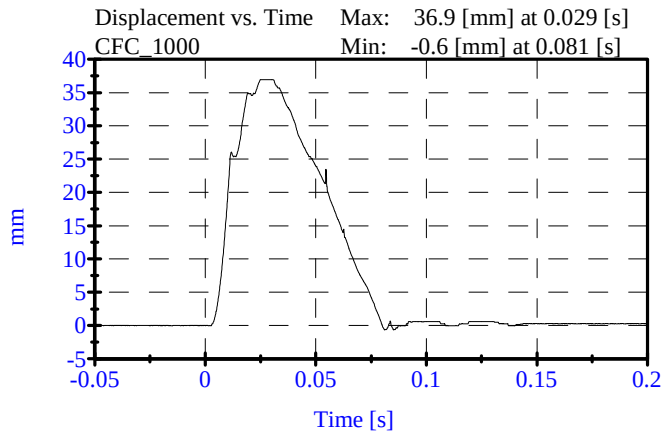
Shock Impact (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 01-02-06

Sequential Test Number: 1 File: 906SH 01-02-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Displacement:	33.00-40.00 mm	36.93 mm	Passed
Maximum Force:	3741.00-4448.00 N	4056.45 N	Passed

Impact Test Velocity: 6.10 m/s
Damper Identification: 906
Damper Setting: 5



Thorax Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

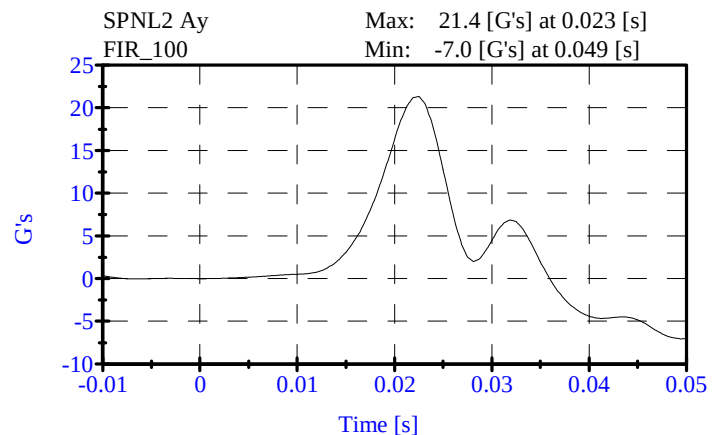
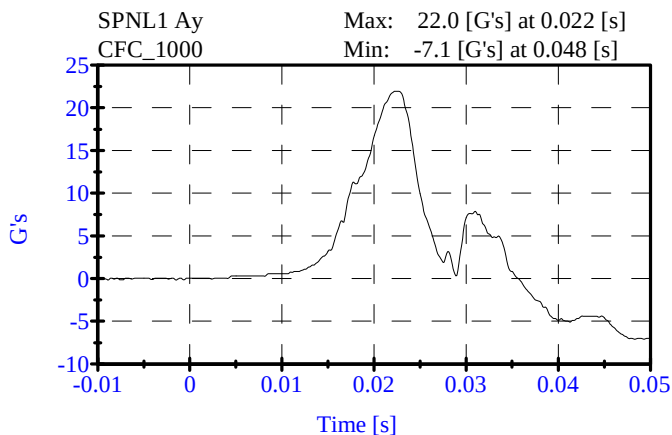
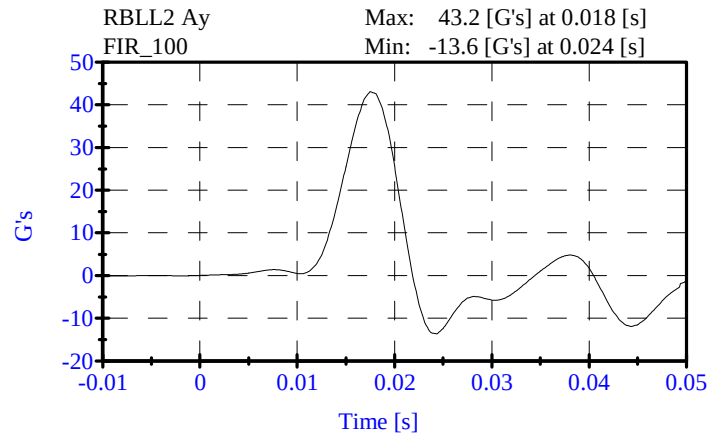
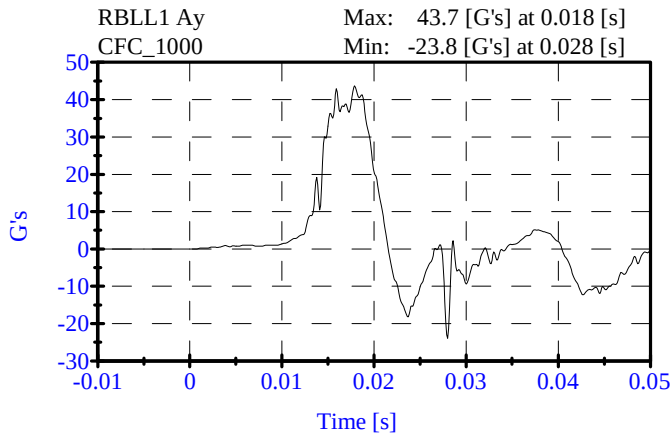
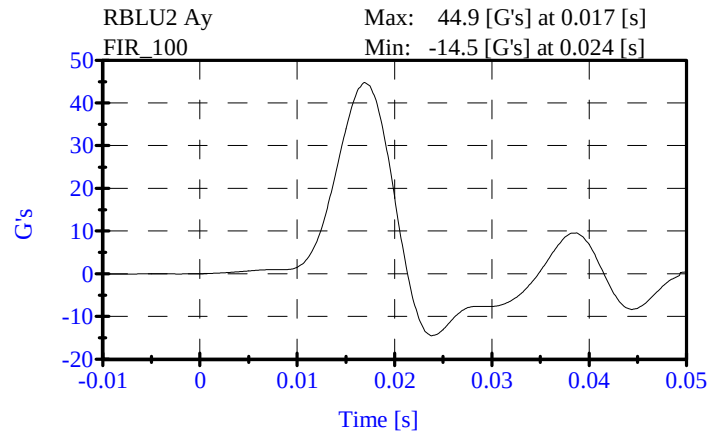
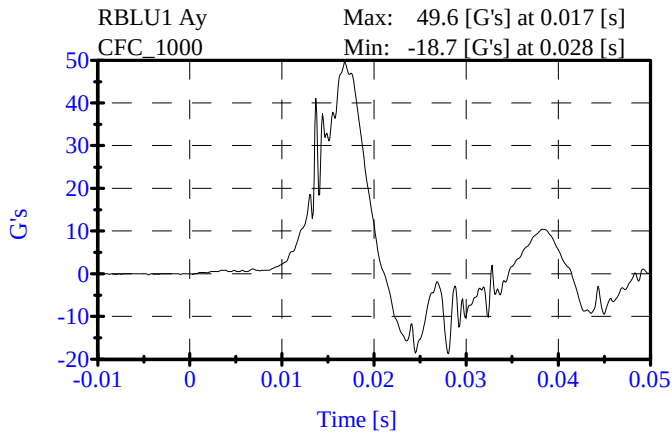
ATD Serial No: 906

Date: 01-31-06

Sequential Test Number: 1 File: 906T 01-31-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	44.88 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	43.17 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.36 G's	Passed



Pelvic Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

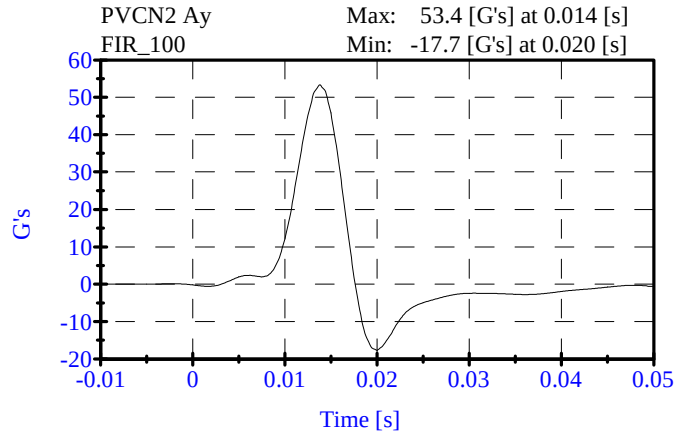
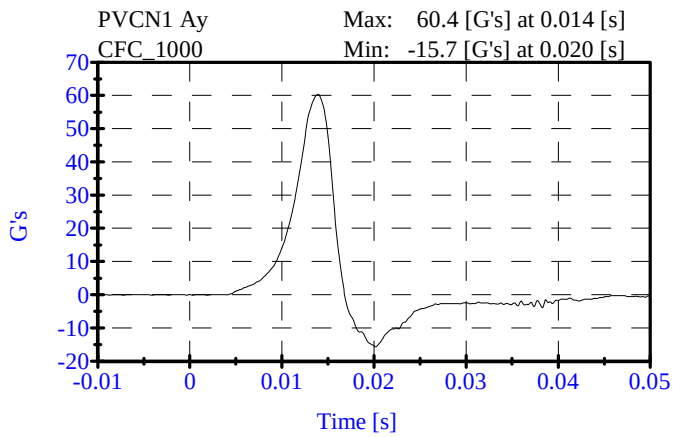
ATD Serial No: 906

Date: 01-31-06

Sequential Test Number: 1 File: 906P 01-31-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	53.36 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.8 ms	Passed



Head Drop

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

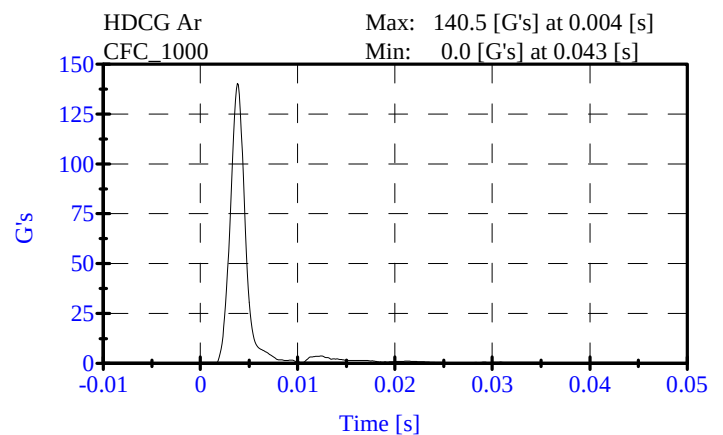
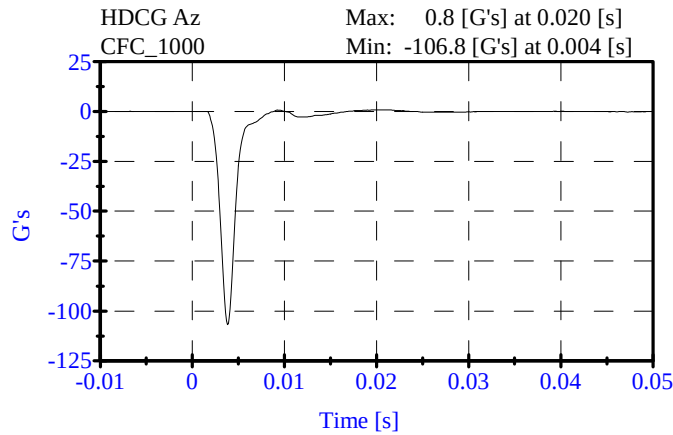
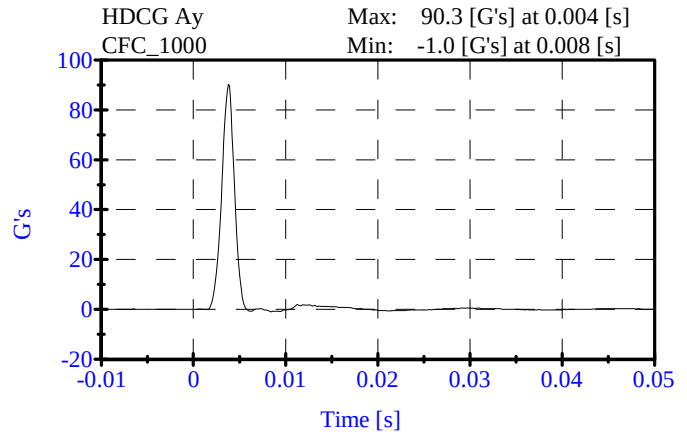
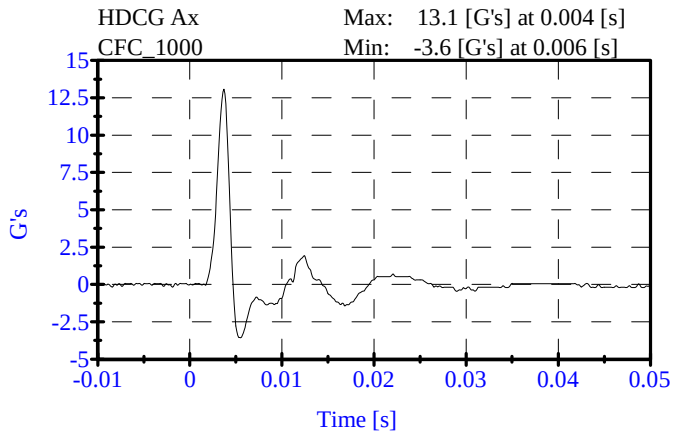
ATD Serial No: 906

Date: 01-30-06

Sequential Test Number: 1 File: 906H1 01-30-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	140.46 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	13.07 Gs	Passed
Curve PerCent NonModal:	< 15%	2.65 %	Passed



Neck Test**PRE TEST****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906

Date: 01-30-06

Sequential Test Number: 1 File: 906N1 01-30-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.16 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.51 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.48 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.48 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.56 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.00 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.50 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.30 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.10 ms	Passed

Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

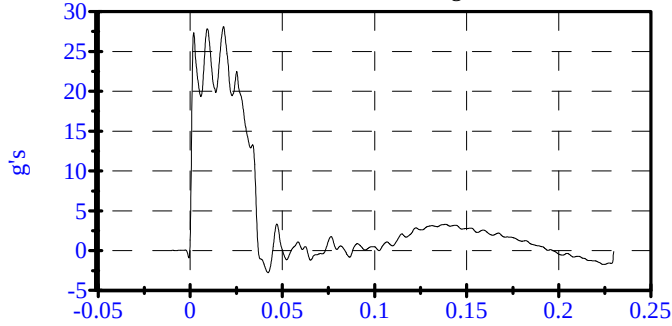
ATD Serial No: 906

Date: 01-30-06

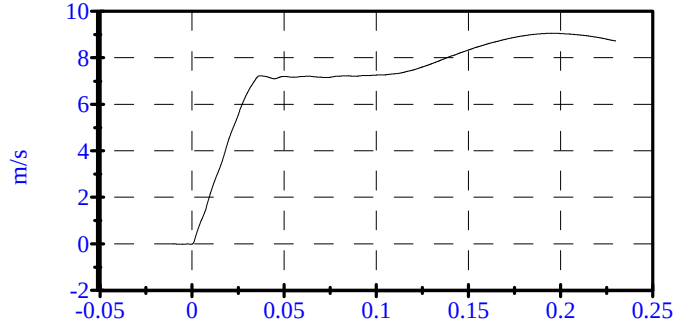
Sequential Test Number: 1 File: 906N1 01-30-06

Laboratory Technician: B. Swiecicki

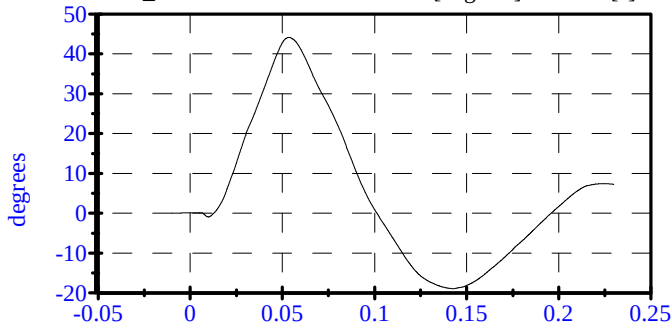
Pend Ax
CFC_180
Max: 28.1 [g's] at 0.018 [s]
Min: -2.8 [g's] at 0.042 [s]



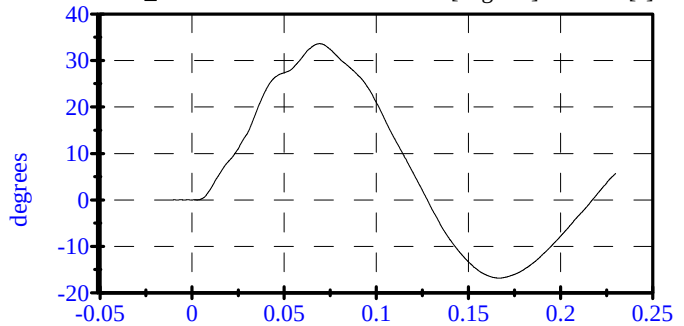
Pend Vx
CFC_180
Max: 9.1 [m/s] at 0.197 [s]
Min: -0.0 [m/s] at -0.000 [s]



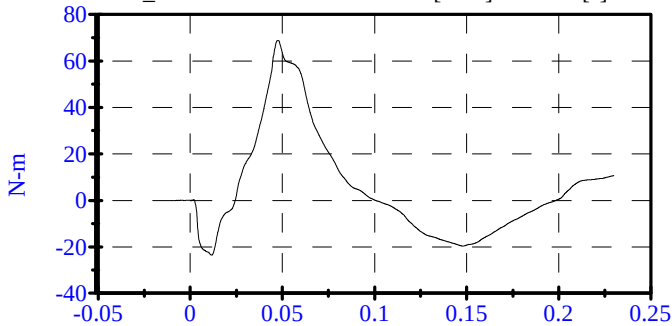
Head Rot
CFC_180
Max: 44.1 [degrees] at 0.054 [s]
Min: -18.9 [degrees] at 0.143 [s]



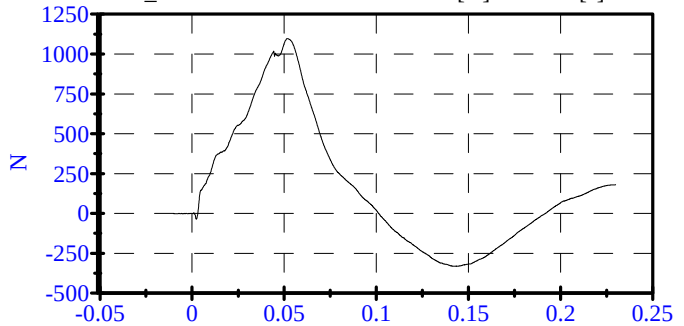
Arm Rot
CFC_180
Max: 33.6 [degrees] at 0.069 [s]
Min: -16.8 [degrees] at 0.167 [s]



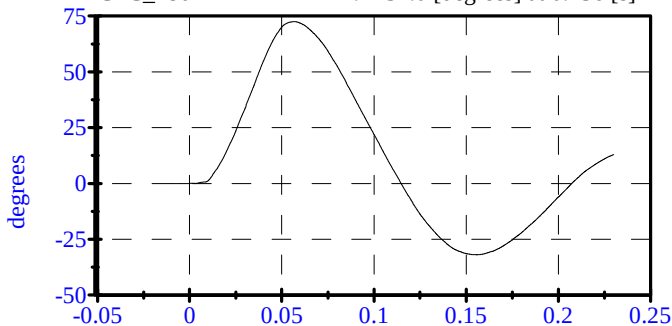
Neck Mx
CFC_600
Max: 68.8 [N-m] at 0.048 [s]
Min: -23.5 [N-m] at 0.012 [s]



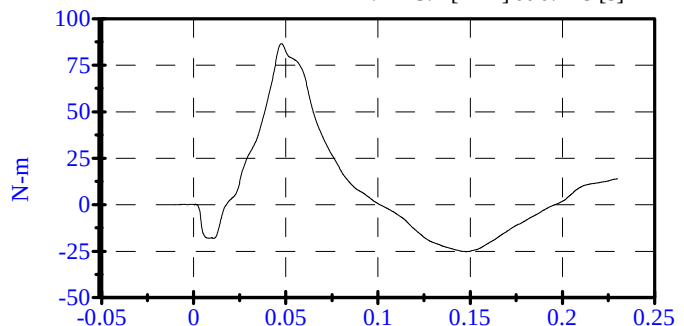
Neck Fy
CFC_1000
Max: 1098.7 [N] at 0.052 [s]
Min: -330.8 [N] at 0.143 [s]



Tot Rot
CFC_180
Max: 72.6 [degrees] at 0.057 [s]
Min: -32.0 [degrees] at 0.156 [s]



Mocx
Max: 86.5 [N-m] at 0.048 [s]
Min: -25.4 [N-m] at 0.148 [s]



Abdomen Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

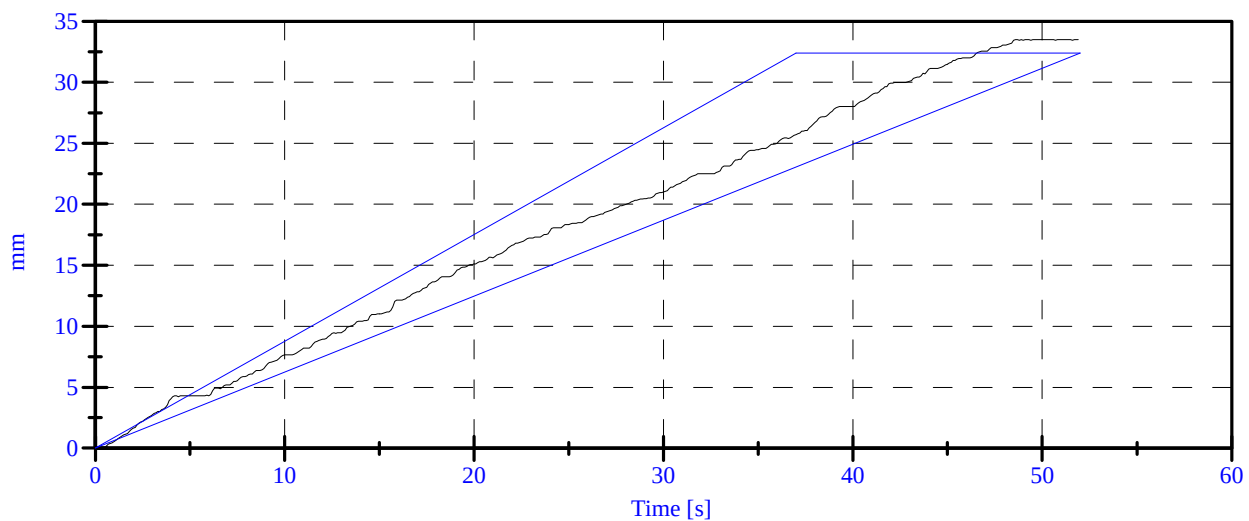
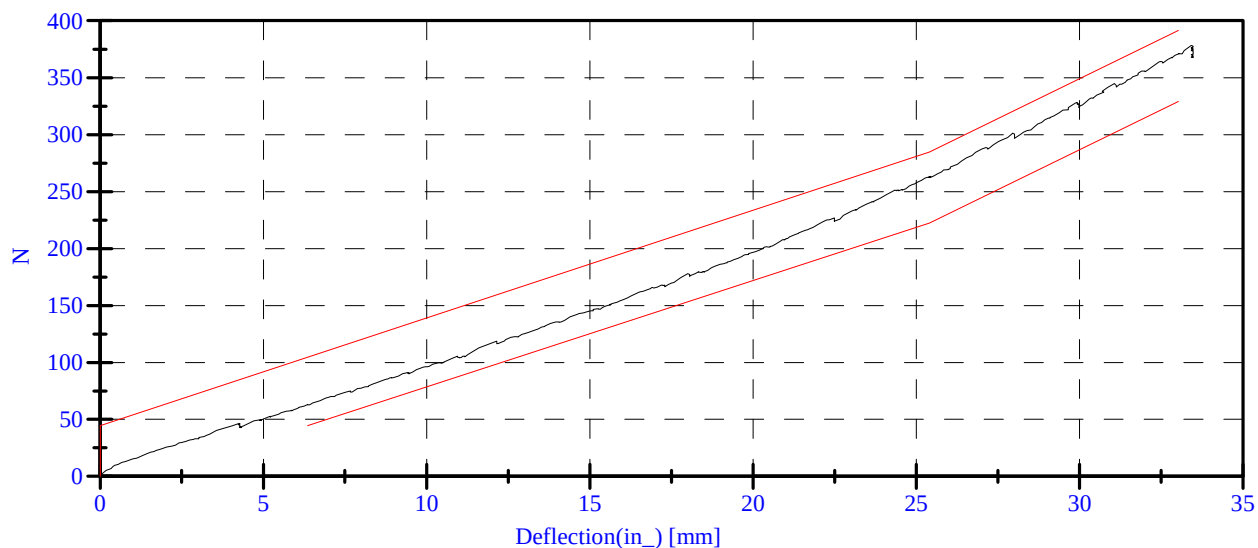
Date: 01-31-06

Sequential Test Number: 1 File: 906AB 01-31-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	124.77 N	Passed
Force at 19.05 mm :	162.98-220.99 N	186.39 N	Passed
Force at 25.40 mm :	221.97-280.02 N	262.87 N	Passed
Force at 33.02 mm :	324.99-391.00 N	370.89 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

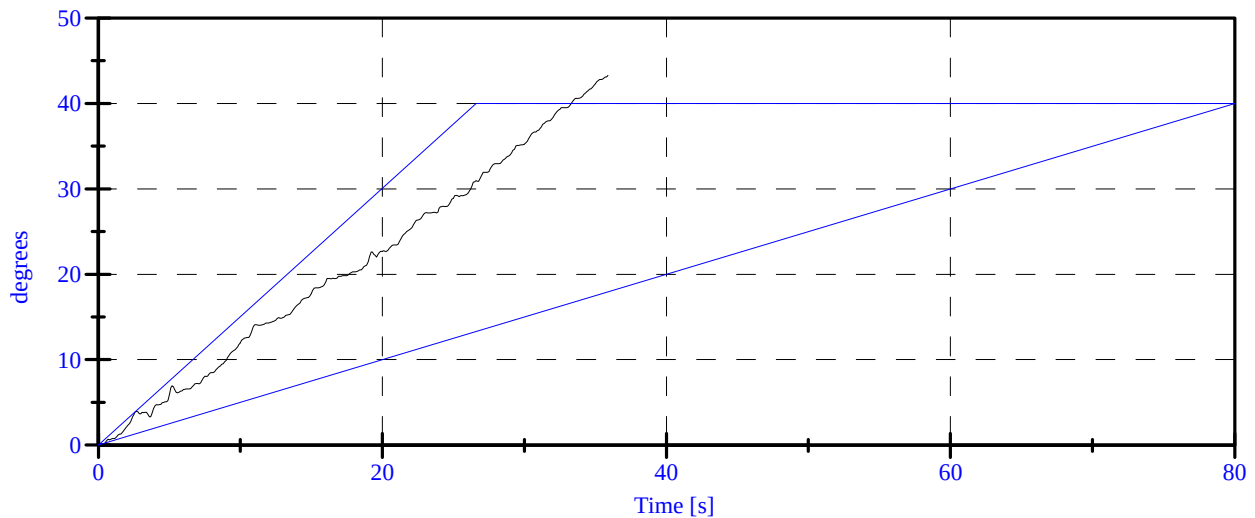
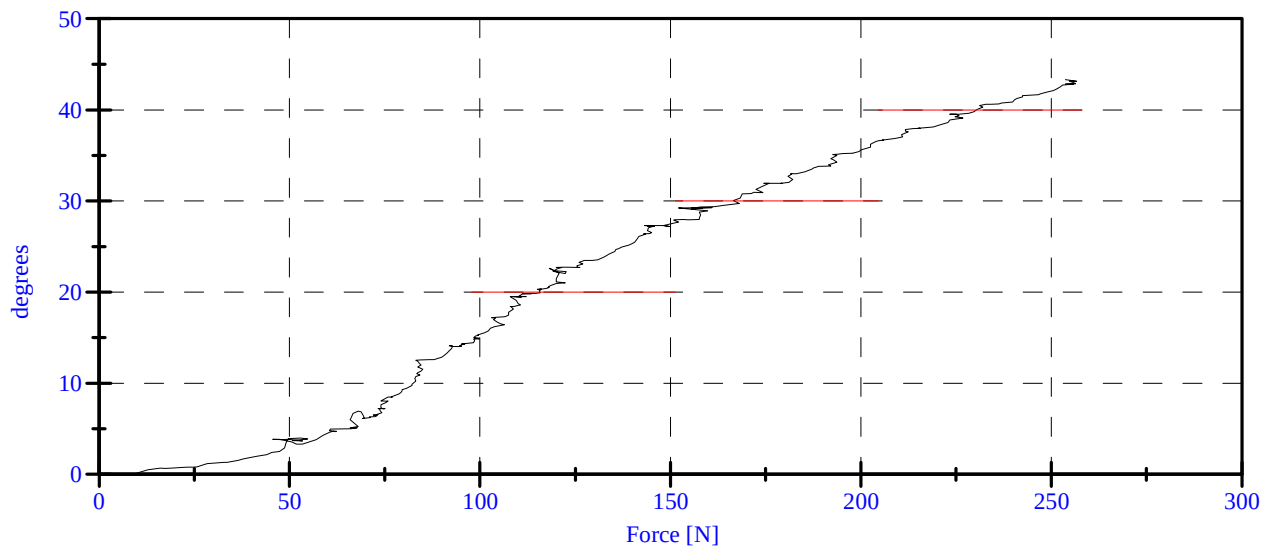
Date: 01-31-06

Sequential Test Number: 1 File: 906SP1 01-31-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.75 N	Passed
Force at 20 Deg:	97.86-151.24 N	115.83 N	Passed
Force at 30 Deg:	151.24-204.62 N	166.49 N	Passed
Force at 40 Deg:	204.62-258.00 N	230.47 N	Passed
Return Angle	12 Deg Max	1.95 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1
Date: January 31, 2006 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 905

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905	Sequential Test Number: 2
Date: March 13, 2006	Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 2
Date: March 13, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	241
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

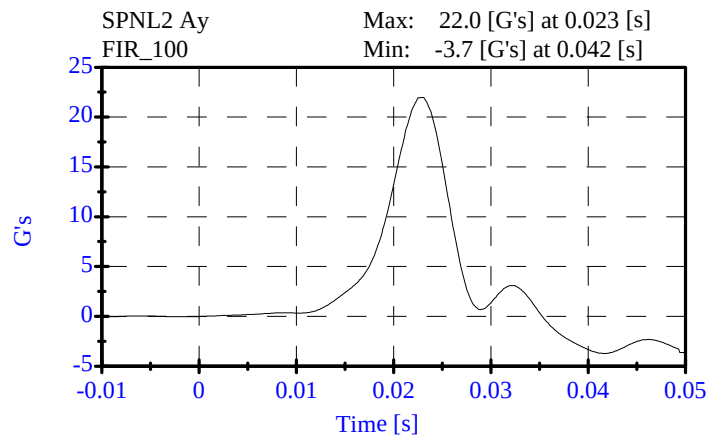
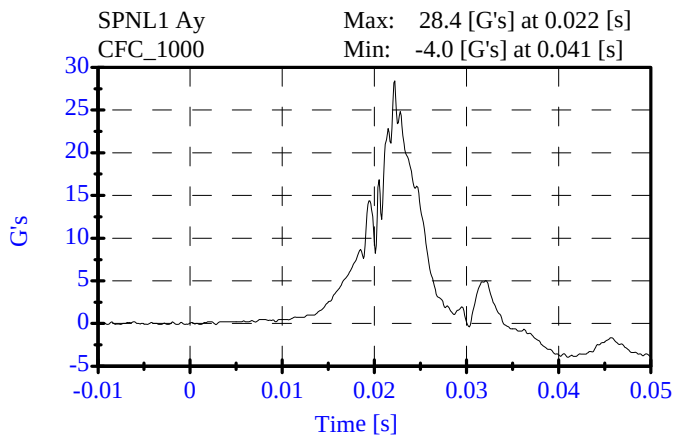
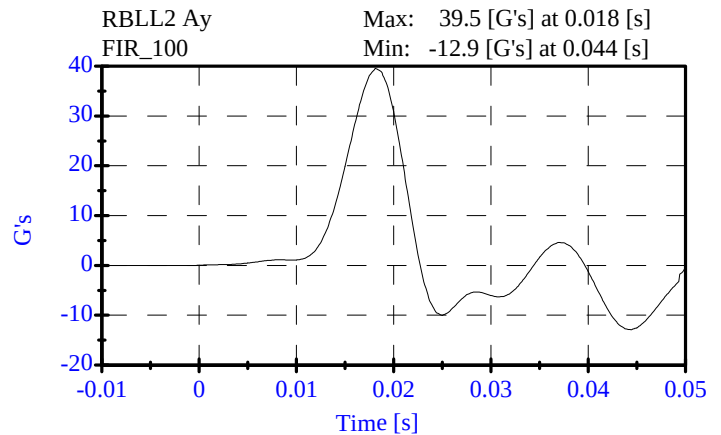
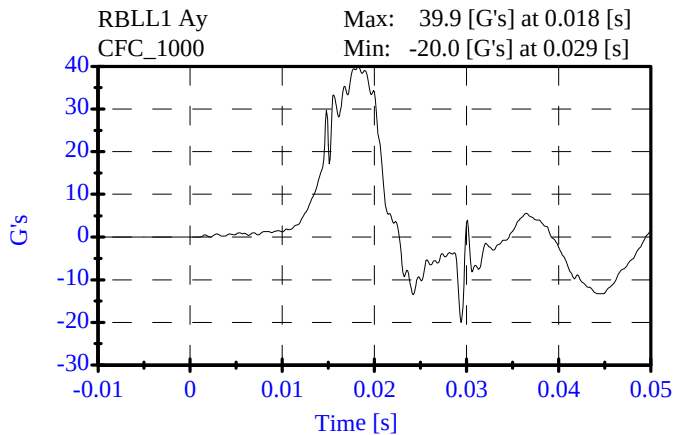
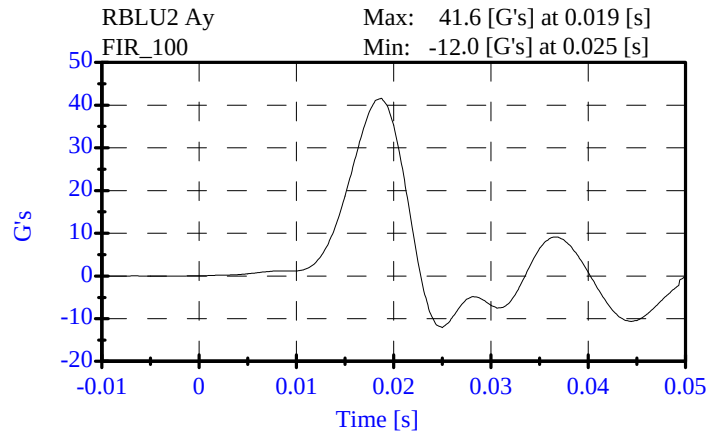
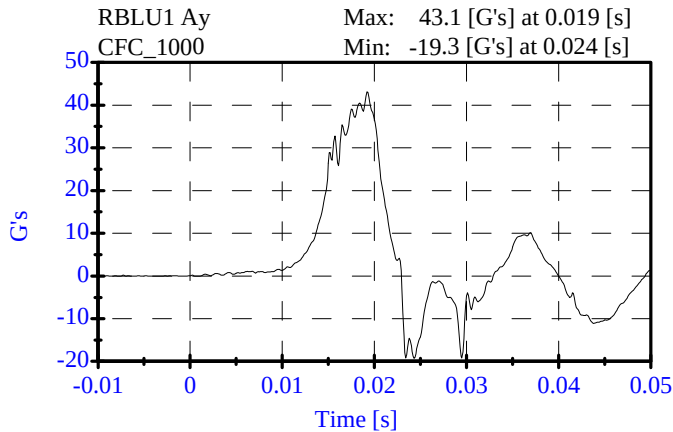
Thorax Impact **POST -TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: March 9, 2006

Sequential Test Number: 1 File: 905T1 03-09-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.59 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	39.54 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.97 G's	Passed



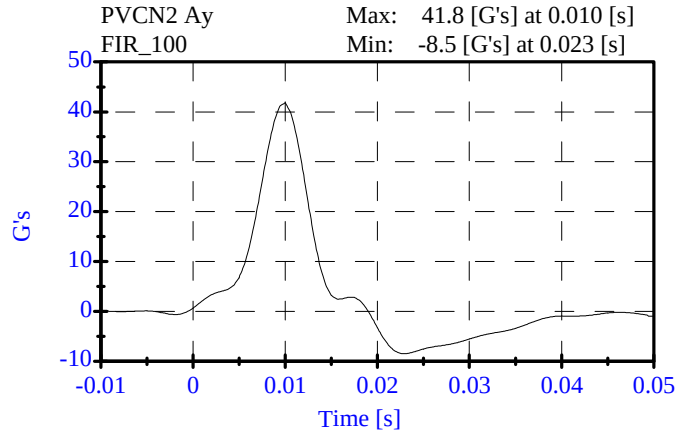
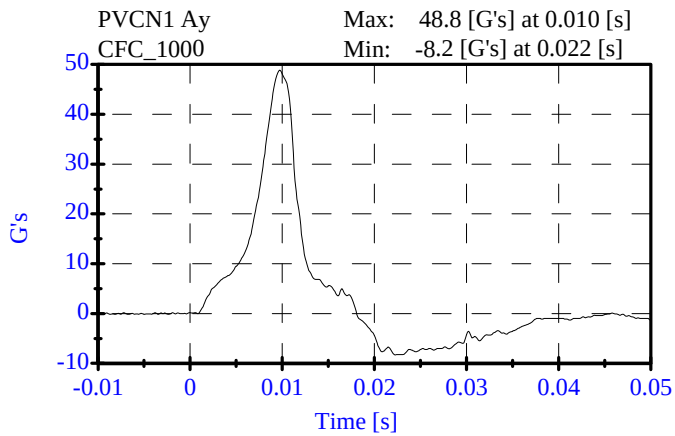
**Pelvic Impact
POST -TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: March 9, 2006

Sequential Test Number: 1 File: 905P 03-09-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	41.83 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed



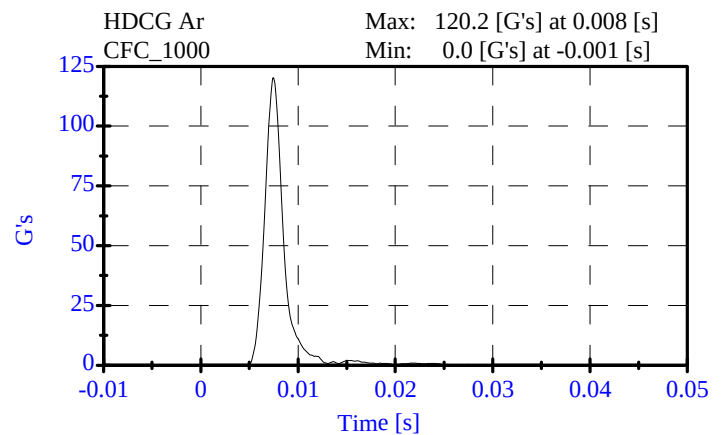
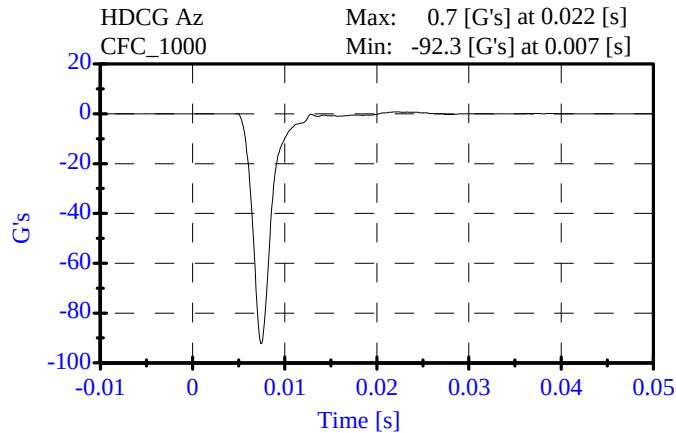
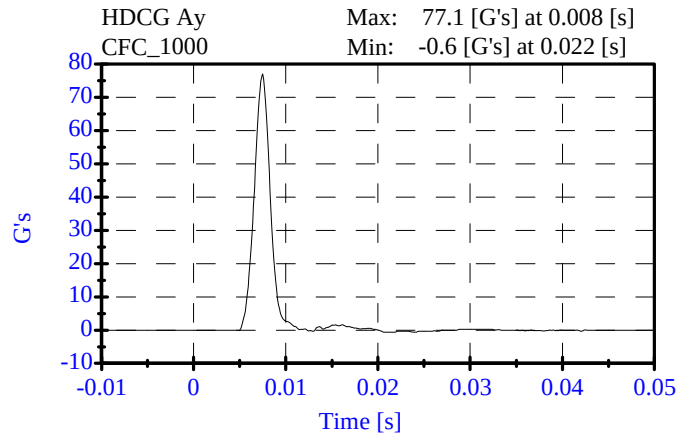
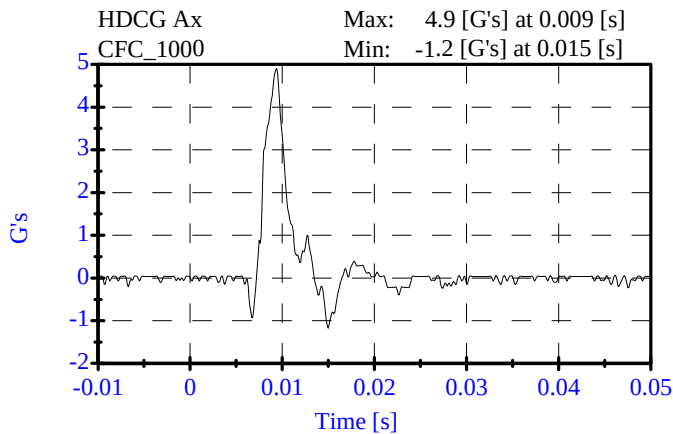
Head Drop POST -TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: March 6, 2006

Sequential Test Number: 1 File: 905H 03-06-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	120.23 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.90 Gs	Passed
Curve PerCent NonModal:	< 15%	3.20 %	Passed



**Neck Test
POST -TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: March 7, 2006

Sequential Test Number: 1 File: 905N 03-07-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.92 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.06 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.32 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.21 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.46 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.65 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.60 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	85.17 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.90 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.50 ms	Passed

Neck Test
POST -TEST

CONFIGURED FOR LEFT SIDE IMPACT

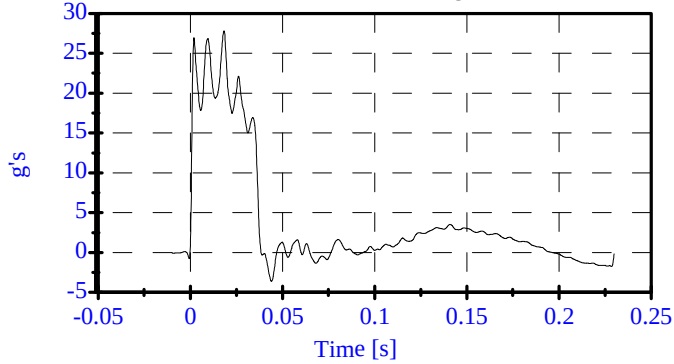
ATD Serial No: 905

Date: March 7, 2006

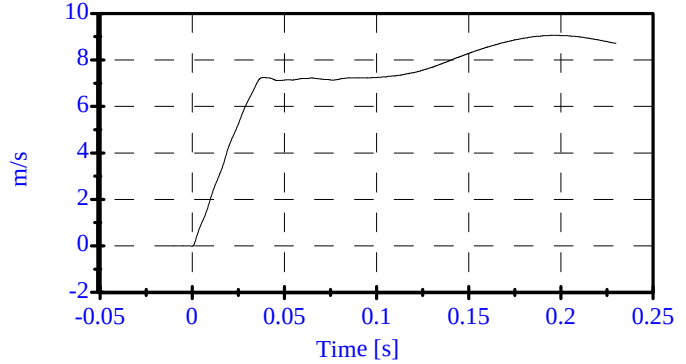
Sequential Test Number: 1 File: 905N 03-07-06

Laboratory Technician: B. Swiecicki

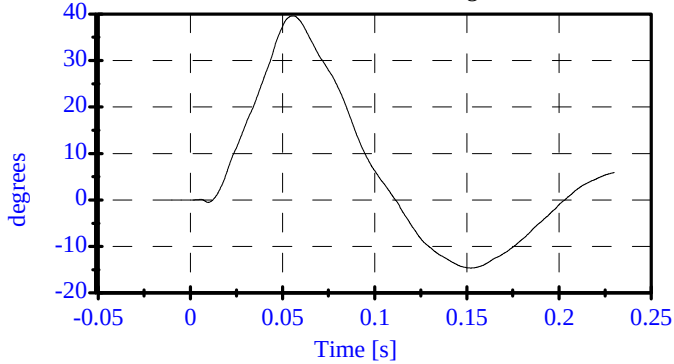
Pend Ax
CFC_180
Max: 27.8 [g's] at 0.018 [s]
Min: -3.6 [g's] at 0.044 [s]



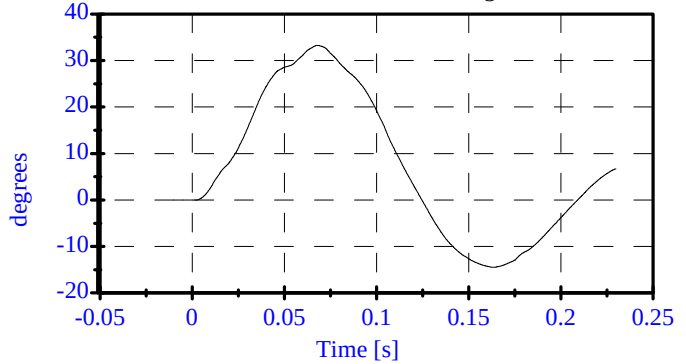
Pend Vx
CFC_180
Max: 9.1 [m/s] at 0.197 [s]
Min: -0.0 [m/s] at -0.000 [s]



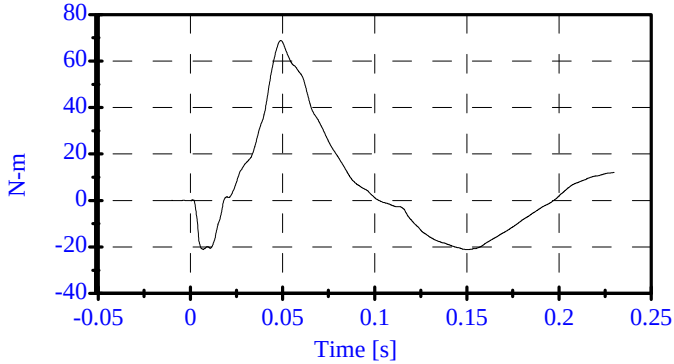
Head Rot
CFC_180
Max: 39.6 [degrees] at 0.056 [s]
Min: -14.6 [degrees] at 0.152 [s]



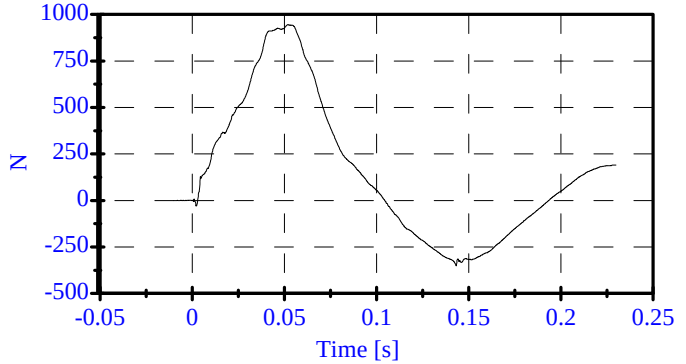
Arm Rot
CFC_180
Max: 33.3 [degrees] at 0.068 [s]
Min: -14.5 [degrees] at 0.164 [s]



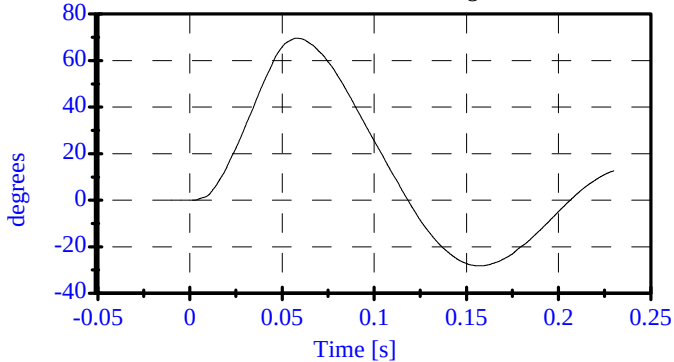
Neck Mx
CFC_600
Max: 68.8 [N-m] at 0.049 [s]
Min: -21.2 [N-m] at 0.151 [s]



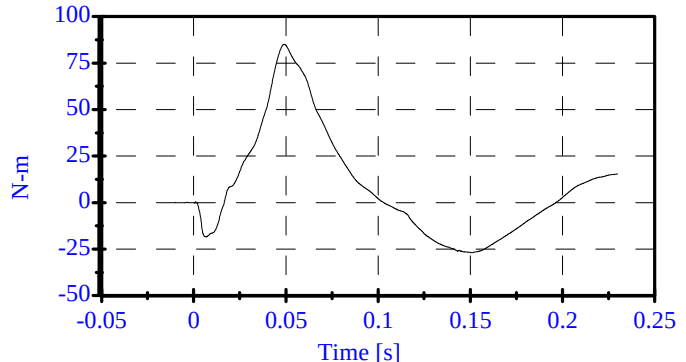
Neck Fy
CFC_1000
Max: 945.7 [N] at 0.052 [s]
Min: -351.7 [N] at 0.143 [s]



Tot Rot
CFC_180
Max: 69.6 [degrees] at 0.058 [s]
Min: -28.3 [degrees] at 0.157 [s]



MOCX
Max: 85.2 [N-m] at 0.049 [s]
Min: -26.8 [N-m] at 0.151 [s]



**Abdomen Test
POST -TEST**

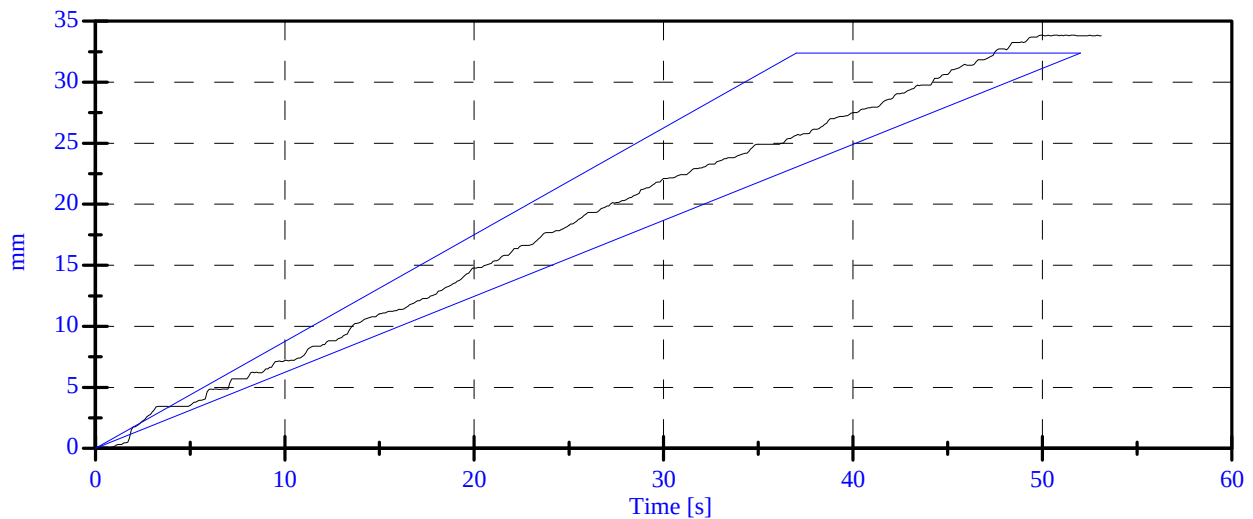
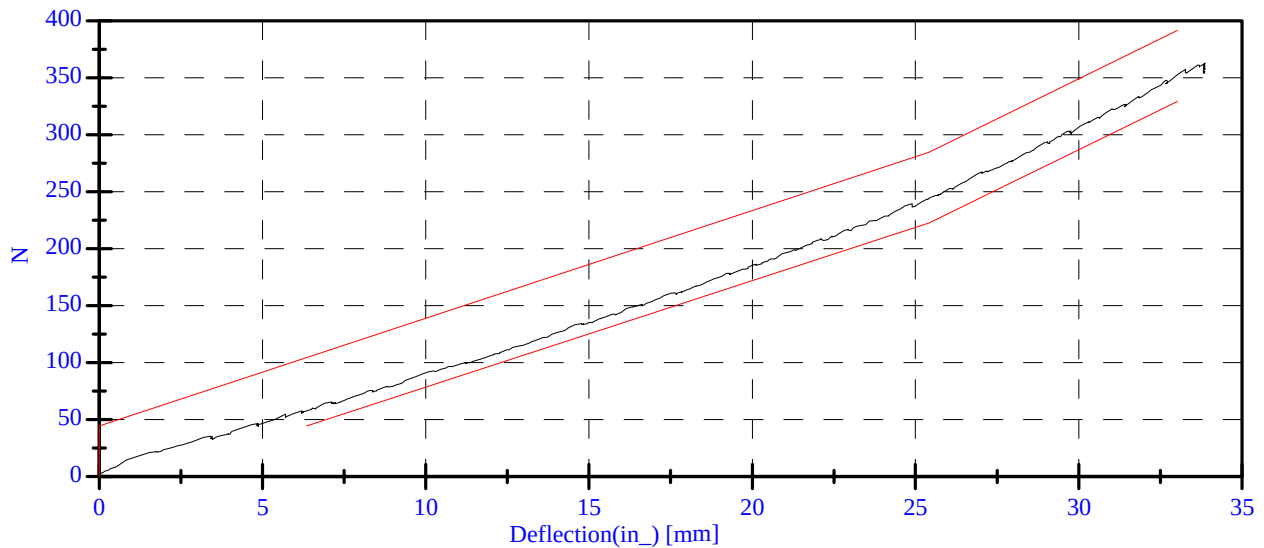
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: March 12, 2006

Sequential Test Number: 1 File: 905ab 03-13-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	115.15 N	Passed
Force at 19.05 mm :	162.98-220.99 N	176.23 N	Passed
Force at 25.40 mm :	221.97-280.02 N	243.38 N	Passed
Force at 33.02 mm :	324.99-391.00 N	353.40 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine POST -TEST

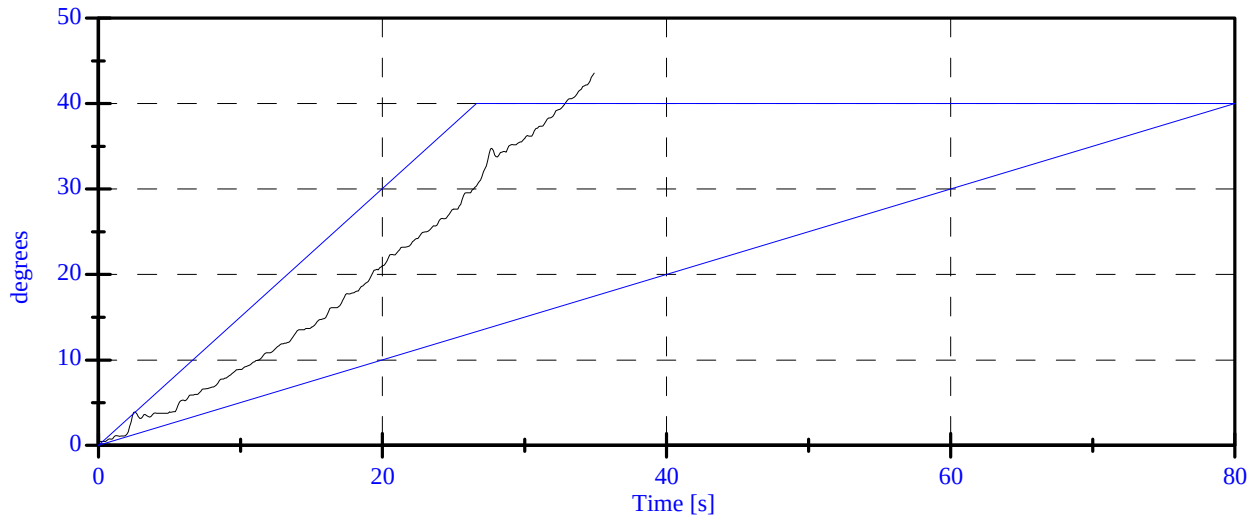
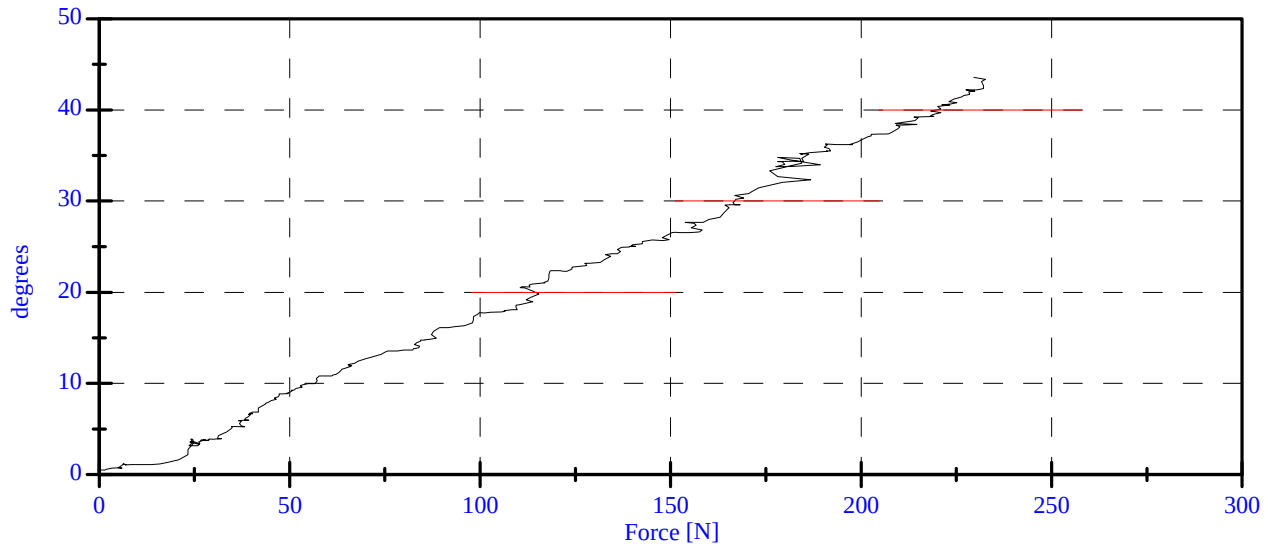
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: March 10, 2006

Sequential Test Number: 1 File: 905sp 03-10-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.00 N	Passed
Force at 20 Deg:	97.86-151.24 N	113.86 N	Passed
Force at 30 Deg:	151.24-204.62 N	166.88 N	Passed
Force at 40 Deg:	204.62-258.00 N	218.33 N	Passed
Return Angle	12 Deg Max	3.51 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 2
Date: March 13, 2006 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906	Sequential Test Number: 2
Date: March 13, 2006	Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 2
Date: March 13, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	241
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	381

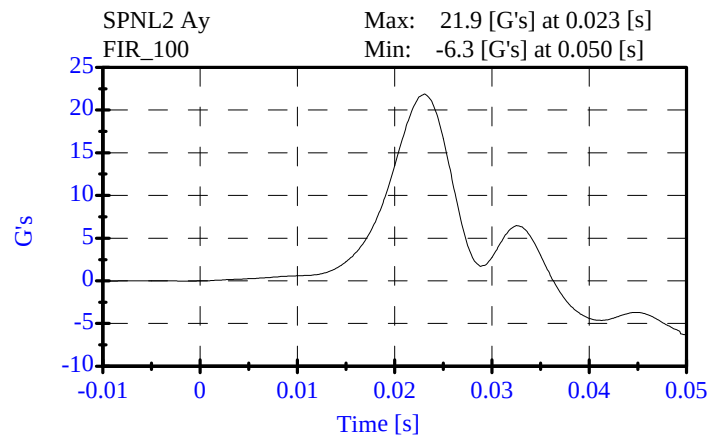
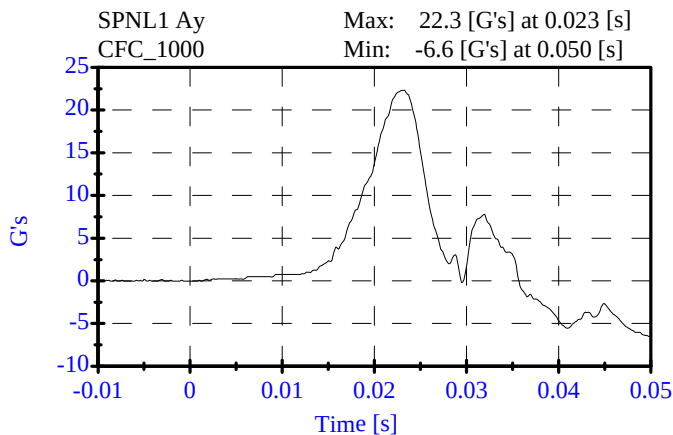
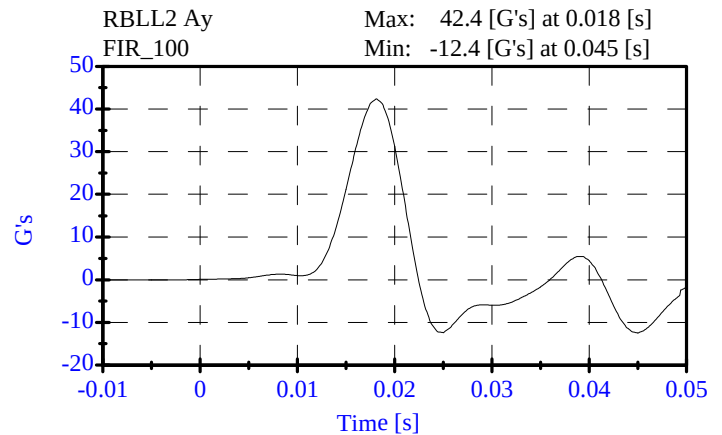
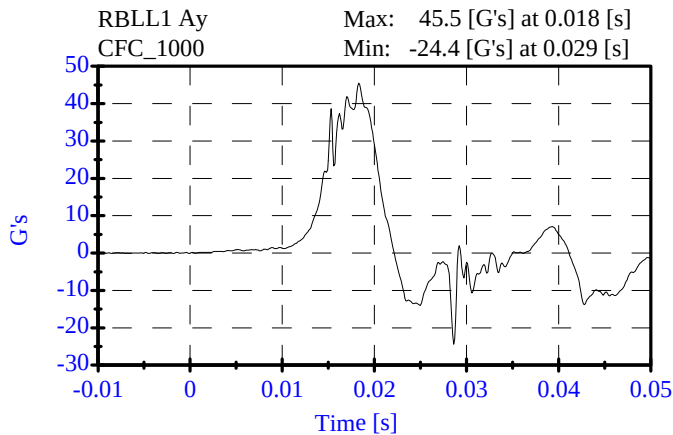
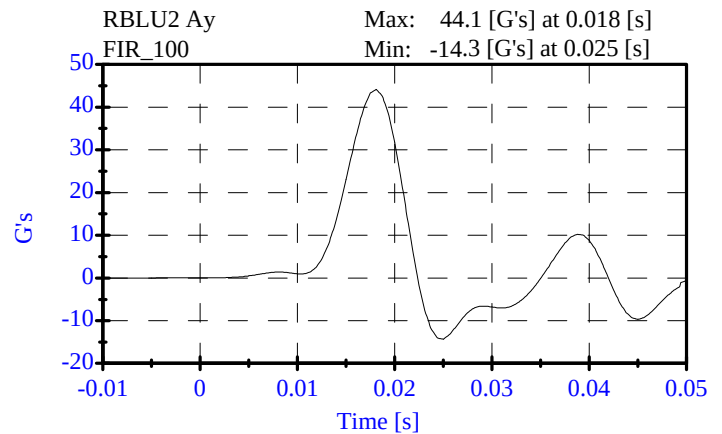
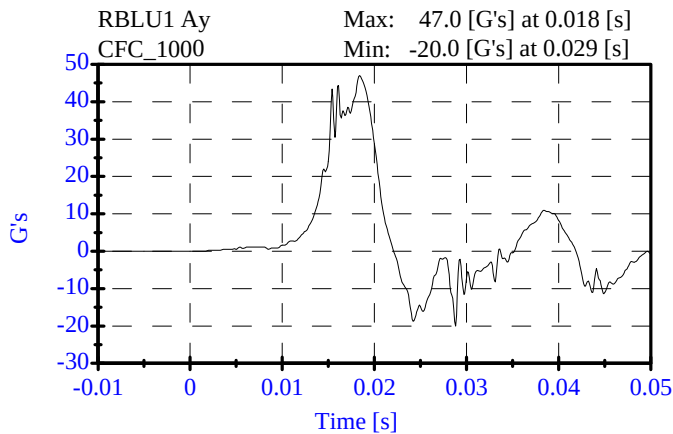
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: March 9, 2006

Sequential Test Number: 1 File: 906T 03-09-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	44.14 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.43 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.88 G's	Passed



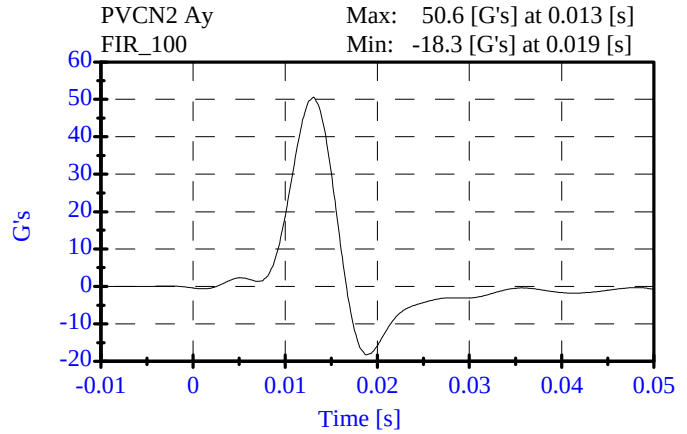
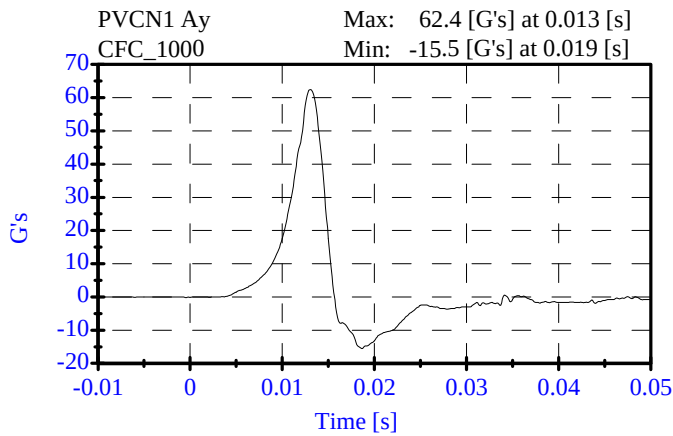
**Pelvic Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: March 10, 2006

Sequential Test Number: 1 File: 906P 03-10-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	50.64 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



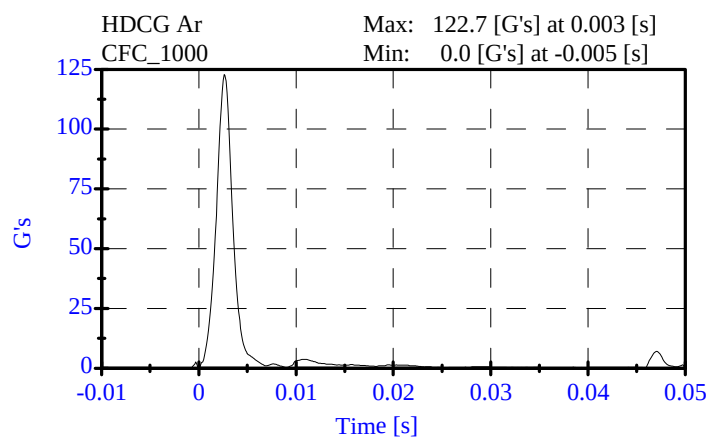
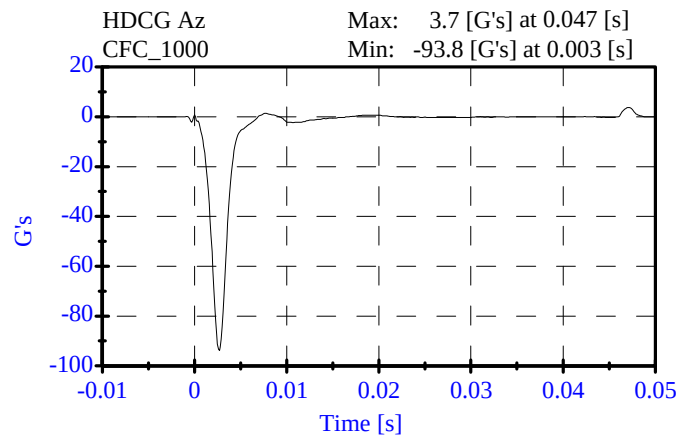
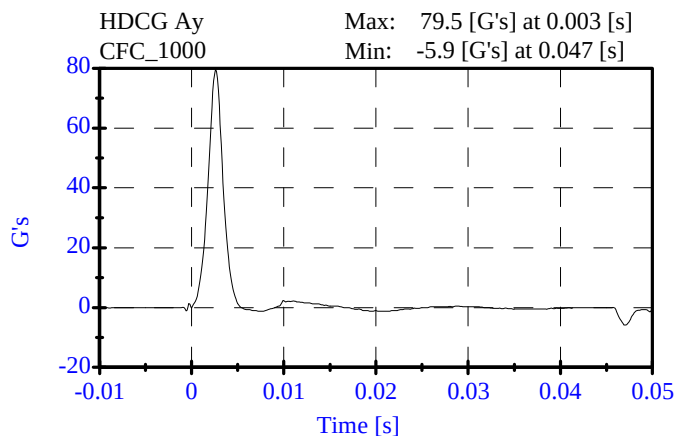
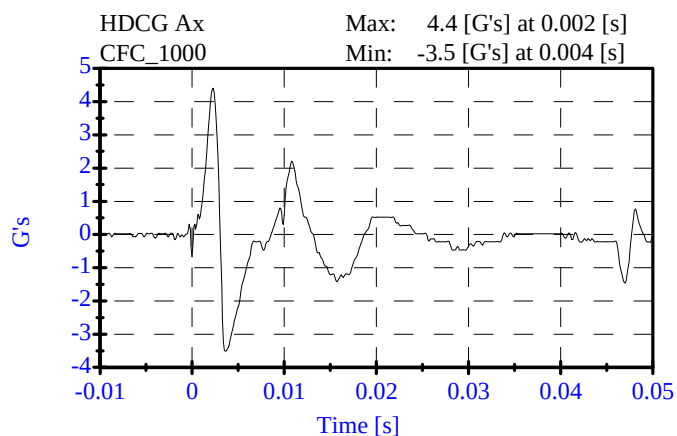
Head Drop **Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: March 6, 2006

Sequential Test Number: 1 File: 906H1 03-06-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	122.69 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.40 Gs	Passed
Curve PerCent NonModal:	< 15%	5.76 %	Passed



Neck Test**Post-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906

Date: March 7, 2006

Sequential Test Number: 1 File: 906N 03-07-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.02 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.18 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	5.98 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.42 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.13 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.60 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	78.83 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	49.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	5.50 ms	Passed

Neck Test
Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

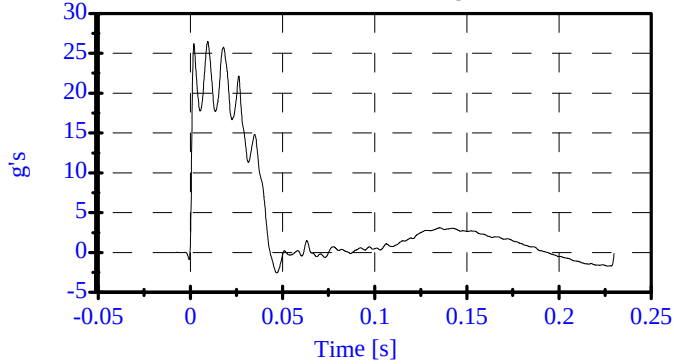
ATD Serial No: 906

Date: March 7, 2006

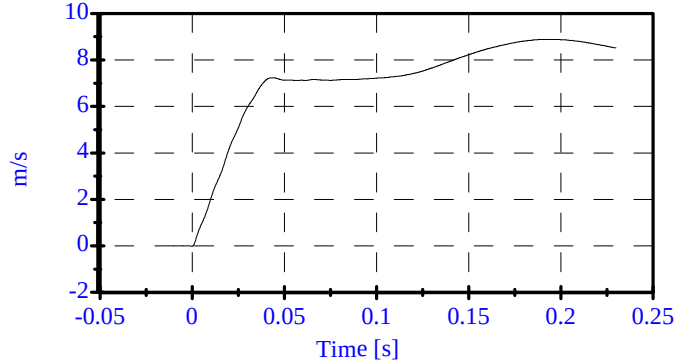
Sequential Test Number: 1 File: 906N 03-07-06

Laboratory Technician: B. Swiecicki

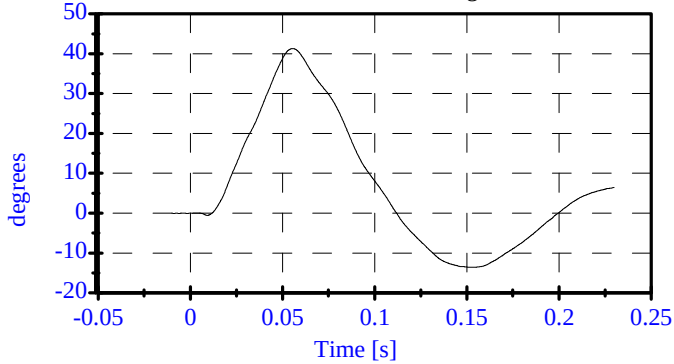
Pend Ax
CFC_180
Max: 26.5 [g's] at 0.009 [s]
Min: -2.5 [g's] at 0.047 [s]



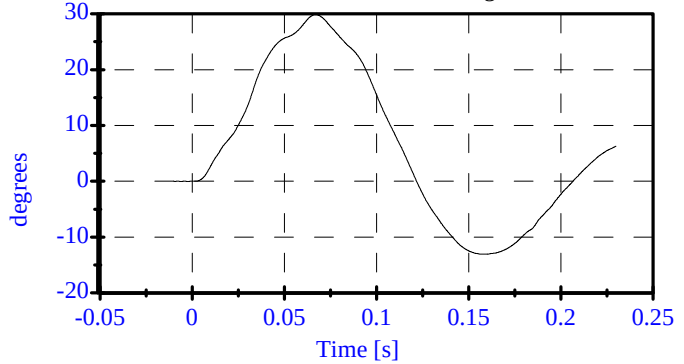
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



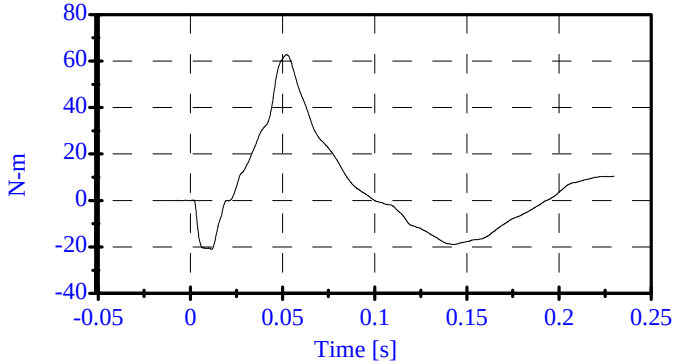
Head Rot
CFC_180
Max: 41.3 [degrees] at 0.056 [s]
Min: -13.6 [degrees] at 0.153 [s]



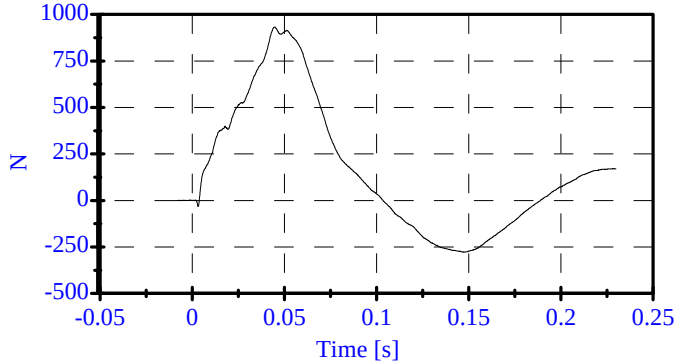
Arm Rot
CFC_180
Max: 29.9 [degrees] at 0.067 [s]
Min: -13.0 [degrees] at 0.159 [s]



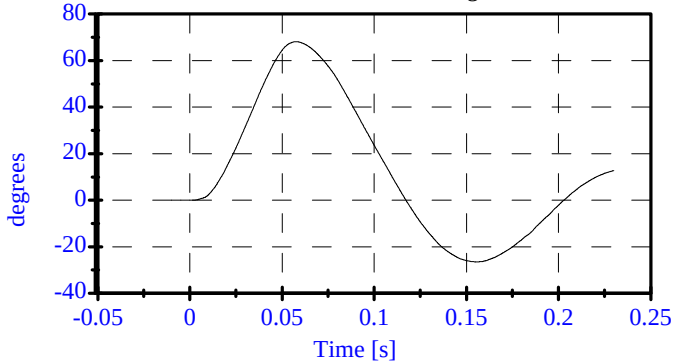
Neck Mx
CFC_600
Max: 62.7 [N-m] at 0.052 [s]
Min: -21.0 [N-m] at 0.011 [s]



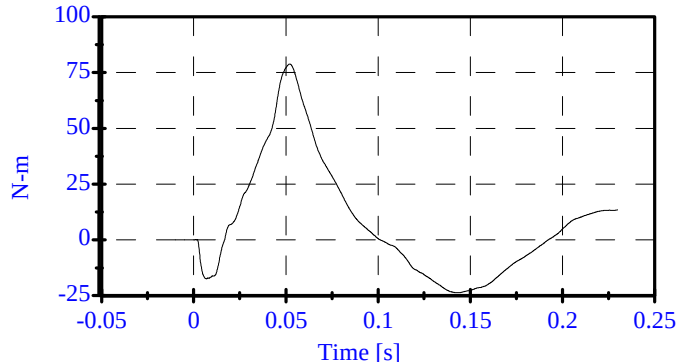
Neck Fy
CFC_1000
Max: 931.5 [N] at 0.045 [s]
Min: -278.1 [N] at 0.147 [s]



Tot Rot
CFC_180
Max: 68.1 [degrees] at 0.058 [s]
Min: -26.5 [degrees] at 0.156 [s]



MOCX
Max: 78.8 [N-m] at 0.052 [s]
Min: -23.7 [N-m] at 0.143 [s]



Abdomen Test

Post-Test

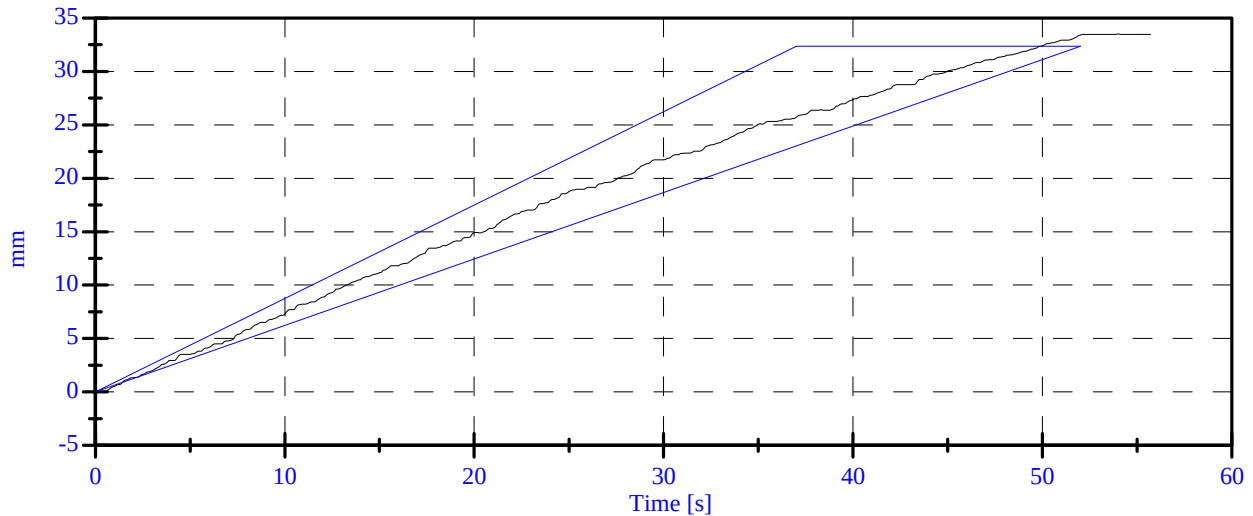
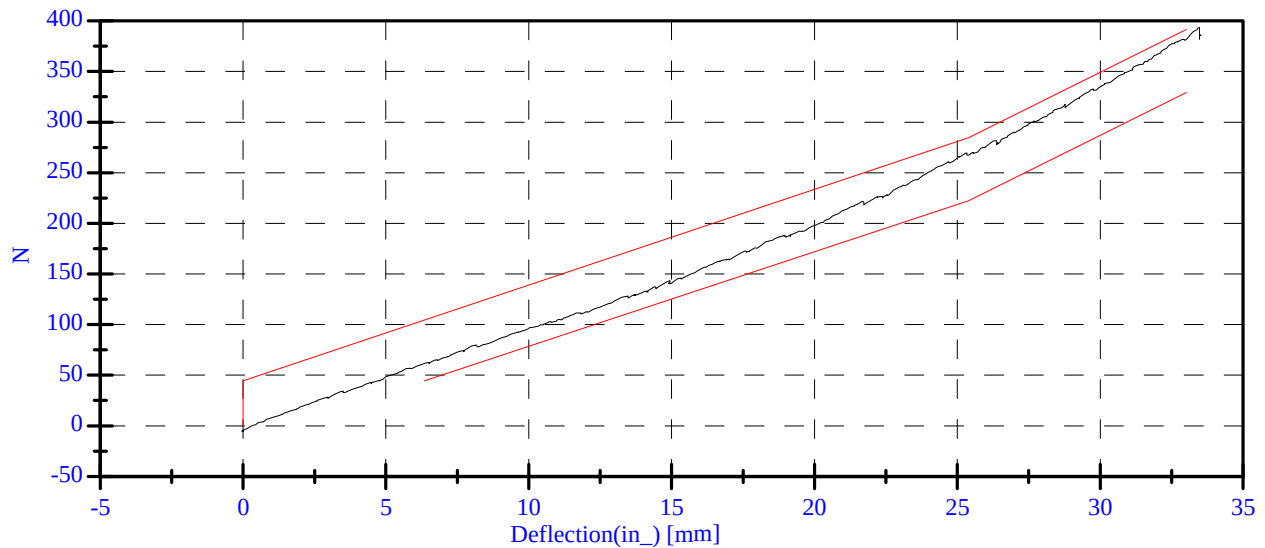
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: March 13, 2006

Sequential Test Number: 1 File: 906ab 03-13-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	122.95 N	Passed
Force at 19.05 mm :	162.98-220.99 N	187.84 N	Passed
Force at 25.40 mm :	221.97-280.02 N	267.22 N	Passed
Force at 33.02 mm :	324.99-391.00 N	382.49 N	Passed

ABDOMINAL COMPRESSION TEST



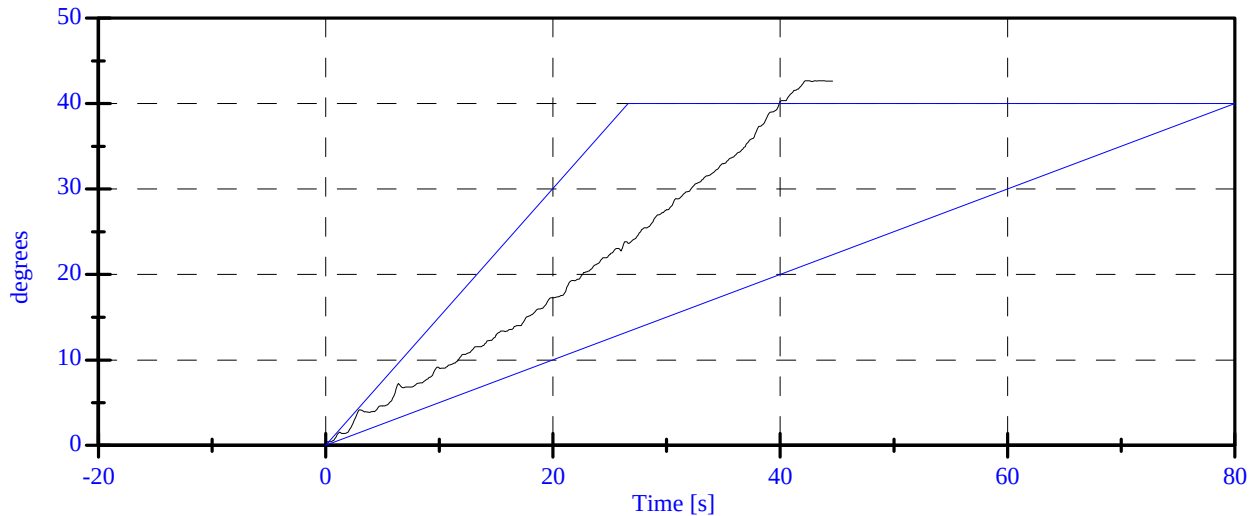
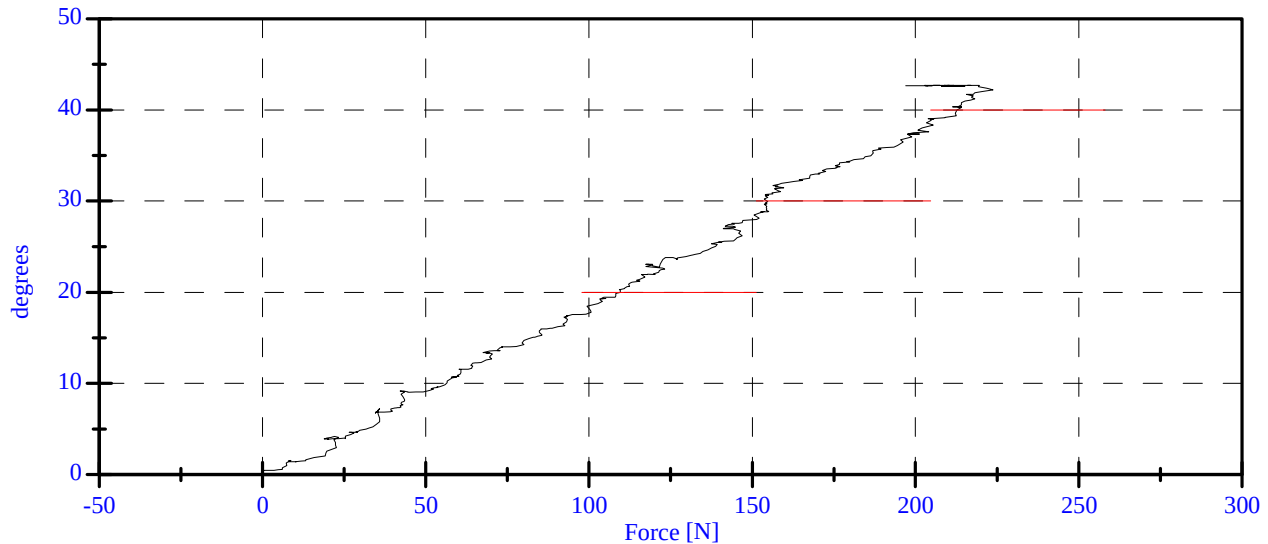
Lumbar Spine Test
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: March 10, 2006

Sequential Test Number: 1 File: 906sp2 03-10-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.40 N	Passed
Force at 20 Deg:	97.86-151.24 N	109.56 N	Passed
Force at 30 Deg:	151.24-204.62 N	154.74 N	Passed
Force at 40 Deg:	204.62-258.00 N	212.71 N	Passed
Return Angle	12 Deg Max	2.71 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

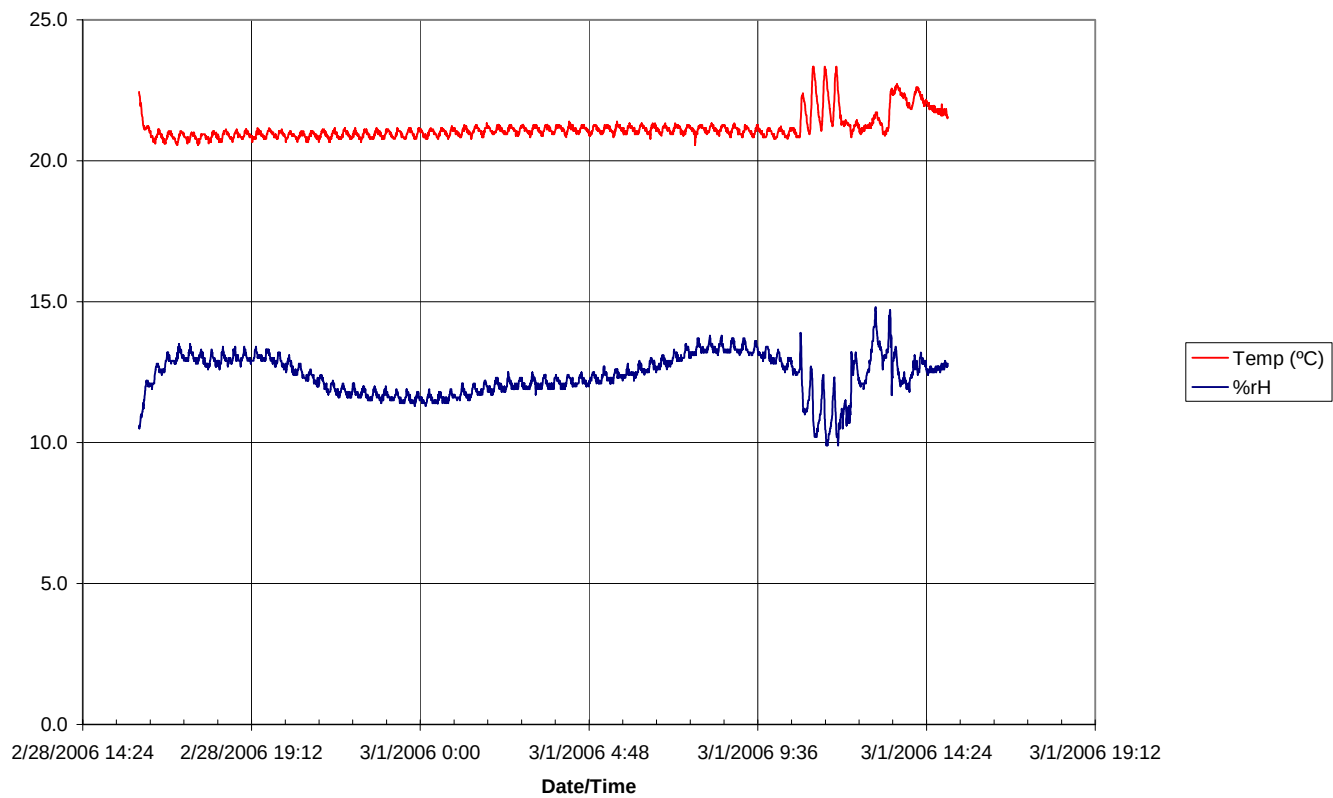
SID H3 Serial No.: 906 Sequential Test Number: 2
 Date: March 13, 2006 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE

Toyota RAV4 M65106 Environmental Conditions



APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	FRONT SID/HIII NO.: 905		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P21373	ENDEVCO	5-Jan-06
HEAD AY	AC-P23128	ENDEVCO	5-Jan-06
HEAD AZ	AC-P21297	ENDEVCO	5-Jan-06
UPPER NECK FX	LC-1626FX	DENTON	25-Jun-05
UPPER NECK FY	LC-1626FY	DENTON	25-Jun-05
UPPER NECK FZ	LC-1626FZ	DENTON	25-Jun-05
UPPER NECK MX	LC-1626MX	DENTON	25-Jun-05
UPPER NECK MY	LC-1626MY	DENTON	25-Jun-05
UPPER NECK MZ	LC-1626MZ	DENTON	25-Jun-05
UPPER RIB	AC-P15736	ENDEVCO	6-Jan-06
LOWER RIB	AC-P16593	ENDEVCO	5-Jan-06
LOWER SPINE	AC-P16289	ENDEVCO	5-Jan-06
PELVIS	AC-P23142	ENDEVCO	5-Jan-06
UPPER RIB REDUNDANT	AC-P16593	ENDEVCO	5-Jan-06
LOWER RIB REDUNDANT	AC-P16289	ENDEVCO	5-Jan-06
LOWER SPINE REDUNDANT	AC-P23142	ENDEVCO	5-Jan-06
PELVIS REDUNDANT	AC-P16761	ENDEVCO	6-Jan-06

	REAR SID/HIII NO.: 906		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P23788	ENDEVCO	6-Jan-06
HEAD AY	AC-P21393	ENDEVCO	6-Jan-06
HEAD AZ	AC-P16845	ENDEVCO	6-Jan-06
UPPER NECK FX	LC-798FX	DENTON	31-May-05
UPPER NECK FY	LC-798FY	DENTON	31-May-05
UPPER NECK FZ	LC-798FZ	DENTON	31-May-05
UPPER NECK MX	LC-798MX	DENTON	31-May-05
UPPER NECK MY	LC-798MY	DENTON	31-May-05
UPPER NECK MZ	LC-798MZ	DENTON	31-May-05
UPPER RIB	AC-P16862	ENDEVCO	6-Jan-06
LOWER RIB	AC-P23156	ENDEVCO	6-Jan-06
LOWER SPINE	AC-P16866	ENDEVCO	6-Jan-06
PELVIS	AC-P16656	ENDEVCO	6-Jan-06
UPPER RIB REDUNDANT	AC-P23156	ENDEVCO	6-Jan-06
LOWER RIB REDUNDANT	AC-P16866	ENDEVCO	6-Jan-06
LOWER SPINE REDUNDANT	AC-P16656	ENDEVCO	6-Jan-06
PELVIS REDUNDANT	AC-P16645	ENDEVCO	10-Jan-06

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-J31101	ENDEVCO	16-Feb-06
RIGHT FRONT SILL (Y)	AC-J31059	ENDEVCO	16-Feb-06
RIGHT FRONT SILL (Z)	AC-J31020	ENDEVCO	16-Feb-06
RIGHT REAR SILL (X)	AC-J32838	ENDEVCO	21-Dec-05
RIGHT REAR SILL (Y)	AC-P23358	ENDEVCO	21-Dec-05
RIGHT REAR SILL (Z)	AC-J32143	ENDEVCO	21-Dec-05
REAR FLOORPAN ABOVE AXLE (X)	AC-P19111	ENDEVCO	19-Dec-05
REAR FLOORPAN ABOVE AXLE (Y)	AC-P23161	ENDEVCO	19-Dec-05
REAR FLOORPAN ABOVE AXLE (Z)	AC-P24011	ENDEVCO	19-Dec-05
LEFT REAR SILL (Y)	AC-8083-037	ICS	12-Oct-05
LEFT FRONT SILL (Y)	AC-FGP18	ICS	12-Oct-05
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8086-047	ICS	13-Oct-05
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C/L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER C/L (Y)	-	-	-
LOWER LEFT B- PILLAR (Y)	AC-P21399	ENDEVCO	20-Dec-05
MIDDLE LEFT B-PILLAR (Y)	AC-P19374	ENDEVCO	20-Dec-05
LOWER LEFT A-PILLAR (Y)	AC-P23136	ENDEVCO	20-Dec-05
UPPER LEFT A-PILLAR (Y)	AC-P13323	ENDEVCO	20-Dec-05
FRONT SEAT TRACK (Y)	AC-P23155	ENDEVCO	20-Dec-05
REAR SEAT TRACK (Y)	AC-P18728	ENDEVCO	20-Dec-05
VEHICLE CG (X)	AC-P16625	ENDEVCO	21-Dec-05
VEHICLE CG (Y)	AC-J33843	ENDEVCO	21-Dec-05
VEHICLE CG (Z)	AC-P23178	ENDEVCO	21-Dec-05
MDB CG (X)	AC-C16433	ENDEVCO	8-Dec-05
MDB CG (Y)	AC-C16416	ENDEVCO	8-Dec-05
MDB CG (Z)	AC-C16499	ENDEVCO	8-Dec-05
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	8-Dec-05
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	8-Dec-05

REMARKS: None