

REPORT NUMBER: SNCAP-CAL-07-04

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**GENERAL MOTORS OF CANADA, LTD.
2007 BUICK LACROSSE
FOUR-DOOR SEDAN**

NHTSA NUMBER: M70108

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



Test Date: October 26, 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: _____
Michael J. Kilgallon, Program Manager
Transportation Sciences Center

Date: _____

Technical Report Documentation Page

1. Report No. SNCAP-CAL-07-04	2. Government Accession No.	3. Recipient's Catalog No.																						
4. Title and Subtitle Final Report of New Car Assessment Program 2007 Buick LaCrosse four-door sedan NHTSA No.: M70108		5. Report Date October 26, 2006																						
		6. Performing Organization Code CAL																						
7. Author(s) Lawrence Q. Valvo, Project Engineer		8. Performing Organization Report No. 8765-SNCAP-21																						
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: <i>Final Report</i> October 2006 – November 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 2007 Buick LaCrosse four-door sedan 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 October 26, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 61.96 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 299 mm at level 2. 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;">91.86</td> <td style="text-align: center;">70.22</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">100.91</td> <td style="text-align: center;">82.09</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">99.21</td> <td style="text-align: center;">66.26</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">100</td> <td style="text-align: center;">74</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">89</td> <td style="text-align: center;">67</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">271.9</td> <td style="text-align: center;">976.9</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	91.86	70.22	Left Lower Rib (LLR) Accel., g	100.91	82.09	Lower Spine (T ₁₂) Accel., g	99.21	66.26	Thoracic Trauma Index (TTI)	100	74	Pelvis (PEV) Accel., g	89	67	HIC	271.9	976.9
	<u>DRIVER</u>	<u>PASS.</u>																						
Left Upper Rib (LUR) Accel., g	91.86	70.22																						
Left Lower Rib (LLR) Accel., g	100.91	82.09																						
Lower Spine (T ₁₂) Accel., g	99.21	66.26																						
Thoracic Trauma Index (TTI)	100	74																						
Pelvis (PEV) Accel., g	89	67																						
HIC	271.9	976.9																						
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' 2007 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 2007 Buick LaCrosse four-door sedan manufactured by General Motors of Canada, Ltd.. 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 2007 Buick LaCrosse four-door sedan 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 61.96 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 1840.5 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on October 26, 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/HIIIs) 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 299 mm at level 2, 1050 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 270 and 269 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	271.9	34.4	59.9	100	89
Passenger	976.9	47.8	52.5	74	67

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	Yes	Yes	Yes	Yes

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:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	General Motors of Canada, Ltd.	Driver Front Airbag	Yes
Model	LaCrosse	Driver Side Curtain Airbag	Yes
Body Style	four-door sedan	Driver Side Torso Airbag	No
NHTSA No.	M70108	Driver Pretensioners	Yes
VIN	2G4WC582771129951	Driver Load Limiters	Yes
Color	Blue	Driver Power Seats	Yes
Engine Disp.(L)	3.8	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	6	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	NA
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	9/18/2006	Power Door Locks	Yes
Odometer Reading (km)	55	Automatic Door Locks (ADL)	Yes
Dealer	East Aurora Pontiac GMC Cadillac	Owner's Manual Details Instructions on Disabling ADLs	No

DATA FROM CERTIFICATION LABEL

Manufactured By	General Motors of Canada, Ltd.	GVWR (kg)	2042
Date of Manufacture	08/06	GAWR Front (kg)	1114
		GAWR Rear (kg)	928

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				416
Cargo Wt. (RCLW) (kg)				75.8

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

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 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	496.0	300.0		553.0	408.0		549.0	404.5	
Right	kg	521.0	292.0		528.0	362.0		529.5	357.5	
Ratio	%	63.2	36.8		58.4	41.6		58.6	41.4	
Totals	kg	1017.0	592.0	1609.0	1081.0	770.0	1851.0	1078.5	762.0	1840.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1609.0
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	75.8
Calculated Vehicle Target Weight (TVTW)	kg	1847.2

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

Weight of Ballast (including instrumentation package and cameras): 69.1 kg

TEST VEHICLE ATTITUDES

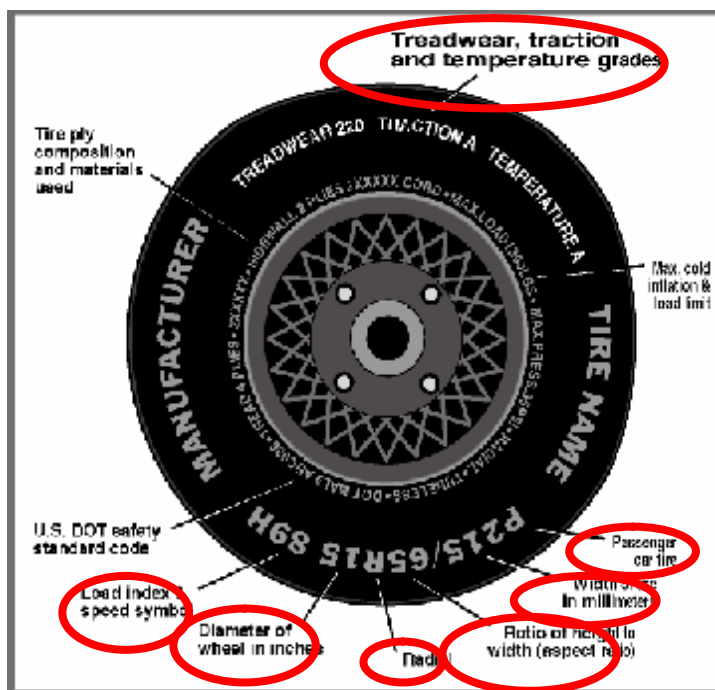
	Units	LF	RF	LR	RR
As Delivered	mm	748	750	749	748
Fully Loaded	mm	729	702	744	714
As Tested	mm	732	707	748	716

TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2814
Target Impact Point Aft of Front Axle	mm	467
Actual Impact Point Aft of Front Axle	mm	467
As Tested CG (aft of front axle)	mm	1165

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	210	210
Recommended Tire Size	P225/60R16 S	P225/60R16 S
Tire Size on Vehicle	P225/60R16	P225/60R16
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Integrity	Integrity
Tire Type	Passenger	Passenger
Tire Width (mm)	225	225
Ratio of Height to Width (aspect ratio)	60	60
Radial	Yes	Yes
Wheel Diameter	16	16
Load Index & Speed Symbol	97S	97S
Treadwear	460	460
Traction Grade	A	A
Temperature Grade	B	B

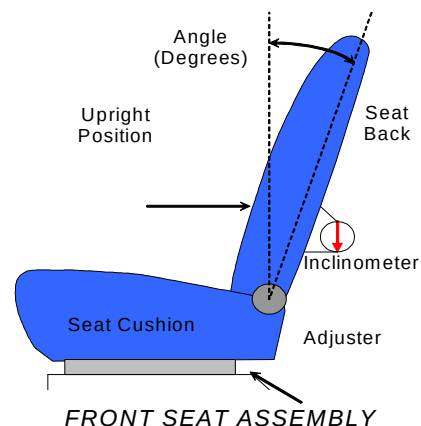
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

NORMAL DESIGN RIDING POSITION

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

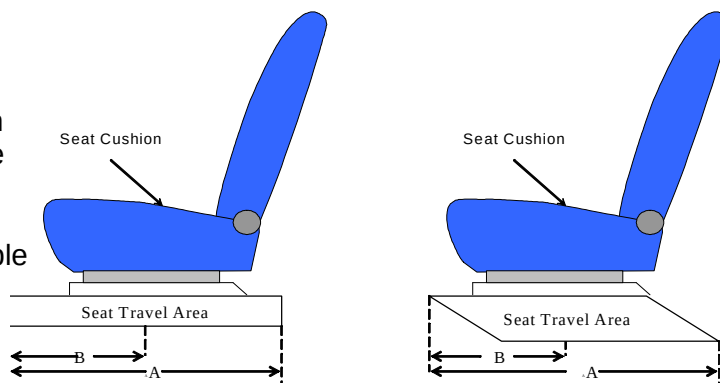


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	8	Not Adjustable
Angle (deg. from forward-most locking position)	14.9	Not Adjustable
Alternative Measurements to Verify Test Position	Head restraint post 14.9° back from vertical	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)	252	Fixed
Test Position (B) (mm)	126	Fixed
Test Detent (forward-most detent defined as 0)	Electronic	NA
Total Number of Detents (including 0)	Electronic	0

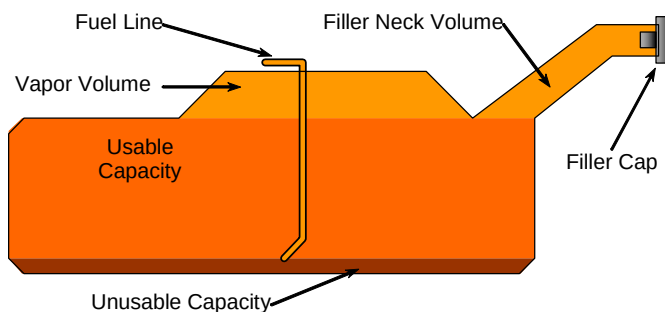
DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle: <u>2007 Buick LaCrosse</u> Test Program: <u>NCAP Side Impact</u>	NHTSA No. <u>M70108</u> Test Date: <u>October 26, 2006</u>
---	---

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.



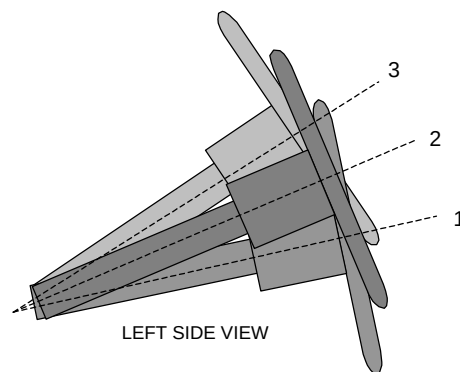
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	66
Usable Capacity of "Optional" Fuel Tank	-
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	61

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	-	0
Geometric Center Position No. 2 *	25	22	5
Uppermost Position No. 3	50	34.5	10

* Test position

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

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 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	61.95
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.95

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

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	0 mm
Vertical Offset	mm	+/-20	5 mm below

DATA SHEET NO. 5**POST TEST OBSERVATIONS**

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 270	SID/HIII / 269
Head Contact	The left side of the head to the side curtain airbag; The back of the head to the P2 seatback	The top of the head to the upper C-Pillar/Side header trim. The left side of the head to the side curtain airbag.
Upper Torso Contact	Door trim panel and B-pillar trim	Door trim panel
Lower Torso Contact	Pelvis to the door trim panel	Pelvis to the door trim panel
Left Knee Contact	Door trim panel below armrest switch cluster	Front of armrest
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Doors were locked	Doors were locked
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	Crack along top and left edges
Window Damage	Left front passenger window glass cracked (laminated safety glass); Left rear passenger window shattered
Other Notable Effects	None

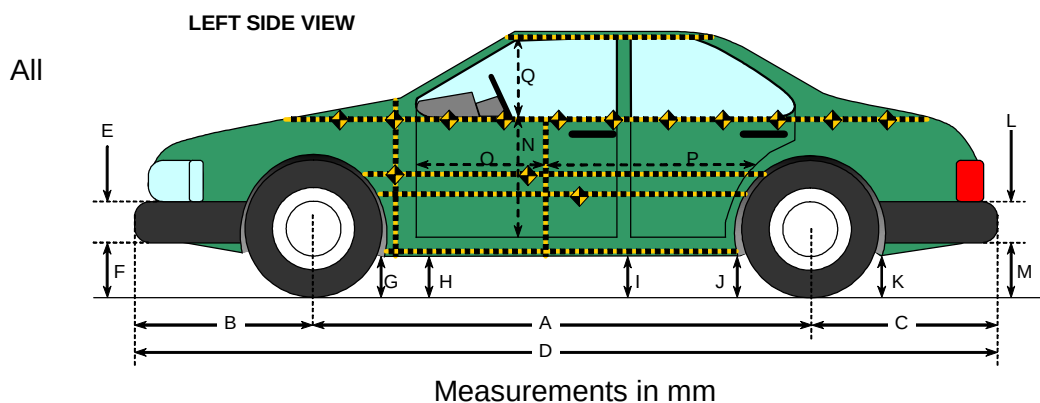
SUPPLEMENTAL RESTRAINT INFORMATION

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	Yes	Yes	Yes	Yes

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

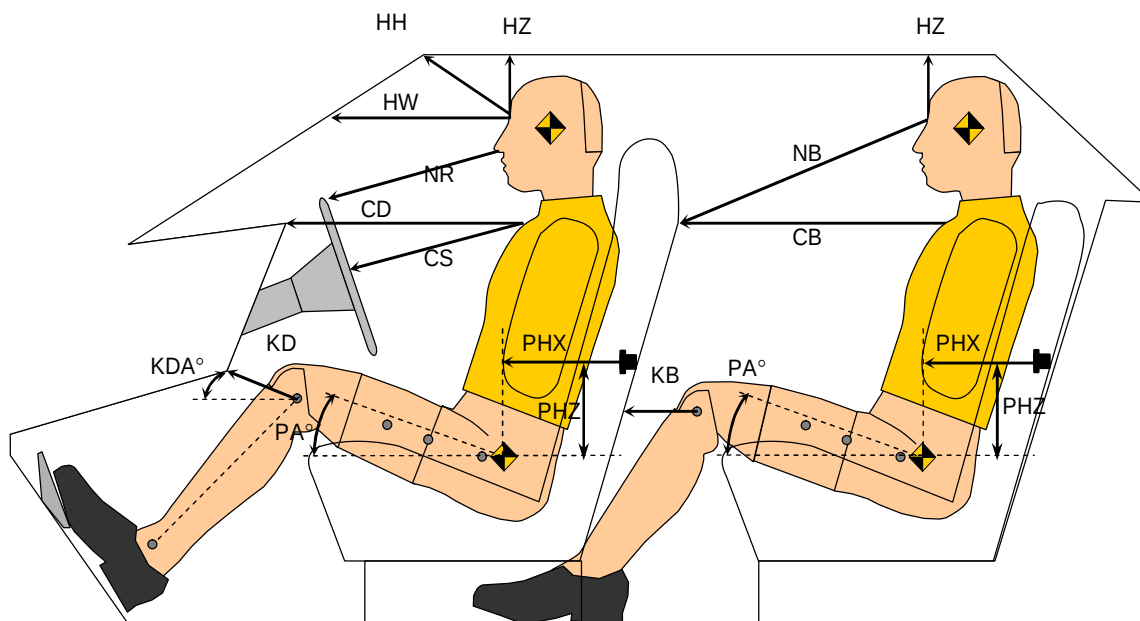


Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2814	2814	2759	55
B	Front Axle to FSOV	1111	1110	1129	-19
C	Rear Axle to RSOV	1111	1111	1130	-19
D	Total Length at Centerline	5035	5035	5018	17
E	Front Bumper Thickness	259	259	259	0
F	Front Bumper Bottom to Ground	284	283	289	-6
G	Sill Height at Front Wheel Well	212	189	180	9
H	Sill Height at Front Door Leading Edge	212	189	180	9
I	Sill Height at "B" Pillar	213	177	191	-14
J1	Sill Height at Rear Wheel Well	209	168	215	-47
J2	Pinch Weld Height at Rear Wheel Well	211	170	217	-47
K	Sill Height Aft of Rear Wheel Well	290	239	258	-19
L	Rear Bumper Thickness	321	321	321	0
M	Rear Bumper Bottom to Ground	332	282	295	-13
N	Sill Height to Window Bottom Sill	698	698	643	55
O	Front Door Leading Edge to Impact CL	818	818	781	37
P	Rear Door Trailing Edge to Impact CL	1181	1181	1070	111
Q	Front Window Opening	456	456	460	-4
R	Right Side Length	4911	4911	4902	9
S	Left Side Length	4916	4916	4860	56
T	Vehicle Width at "B" Post	1845	1845	1597	248

DATA SHEET NO. 7

SID/HII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

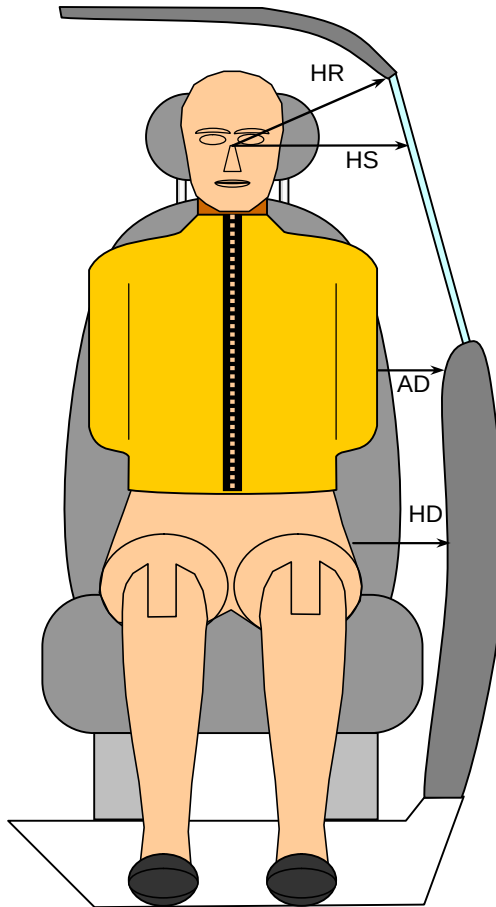


Driver Code	Pass. Code	Measurement Description	Driver S/N 270		Passenger S/N 269	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	399			
HW		Head to Windshield	711			
HZ	HZ	Head to Roof	169		139	
NR	NB	Nose to Rim/Nose to Seatback	436		672	
CD	CB	Chest to Dash or Seatback	550		585	
CS		Chest to Steering Wheel	327			
KDL	KBL	Left Knee to Dash or Seatback	183	42	205	25
KDR	KBR	Right Knee to Dash or Seatback	177	38	208	25
PA	PA	Pelvic Angle		24.8		24.5
PHX	PHX	H-Point to Striker (X-Axis)	184		266	
PHZ	PHZ	H-Point to Striker (Z-Axis)	122		297	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006



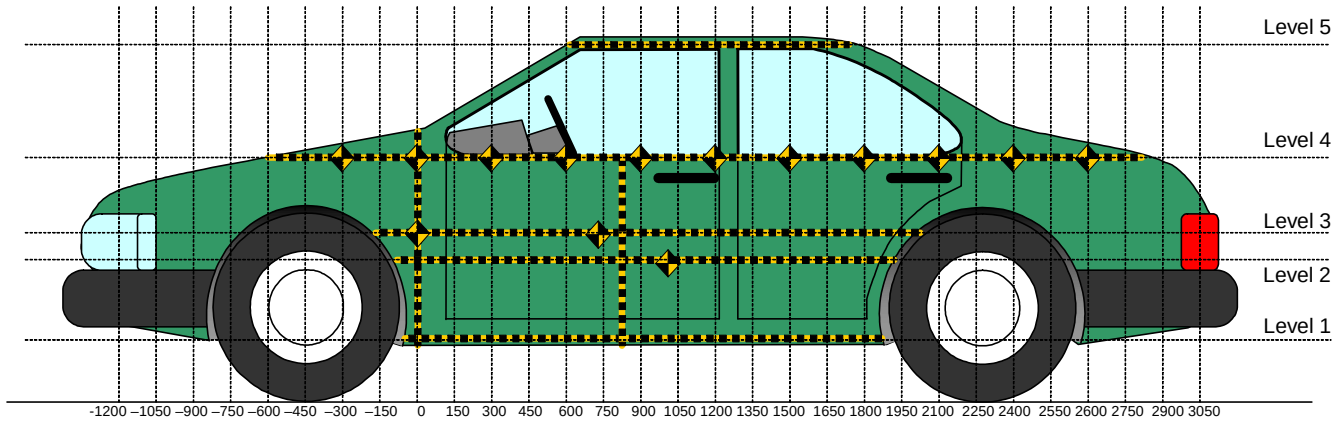
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 270	Passenger S/N 269
HR	Head to Side Header	mm	185	170
HS	Head to Side Window	mm	330	325
AD ₁	Arm to Door (at upper rib level)	mm	112	130
AD ₂	Arm to Door (at lower rib level)	mm	110	121
HD	H-Point to Door	mm	138	160

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 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	148	832	1050
2	Occupant H-Point	299	587	1050
3	Mid Door	287	463	1350
4	Window Sill	243	193	1650
5	Window	115	304	1350
	Maximum Penetration	299		

DATA SHEET NO. 10

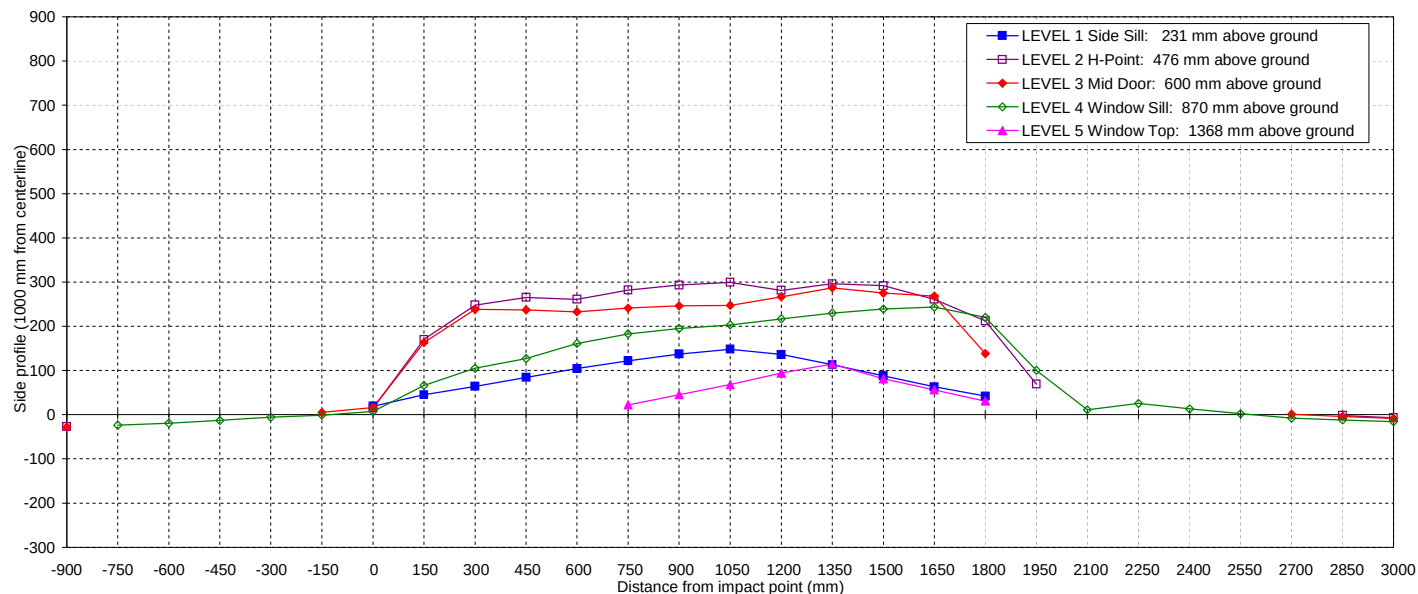
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Buick LaCrosse

NHTSA No. M70108

Test Program: NCAP Side Impact

Test Date: October 26, 2006



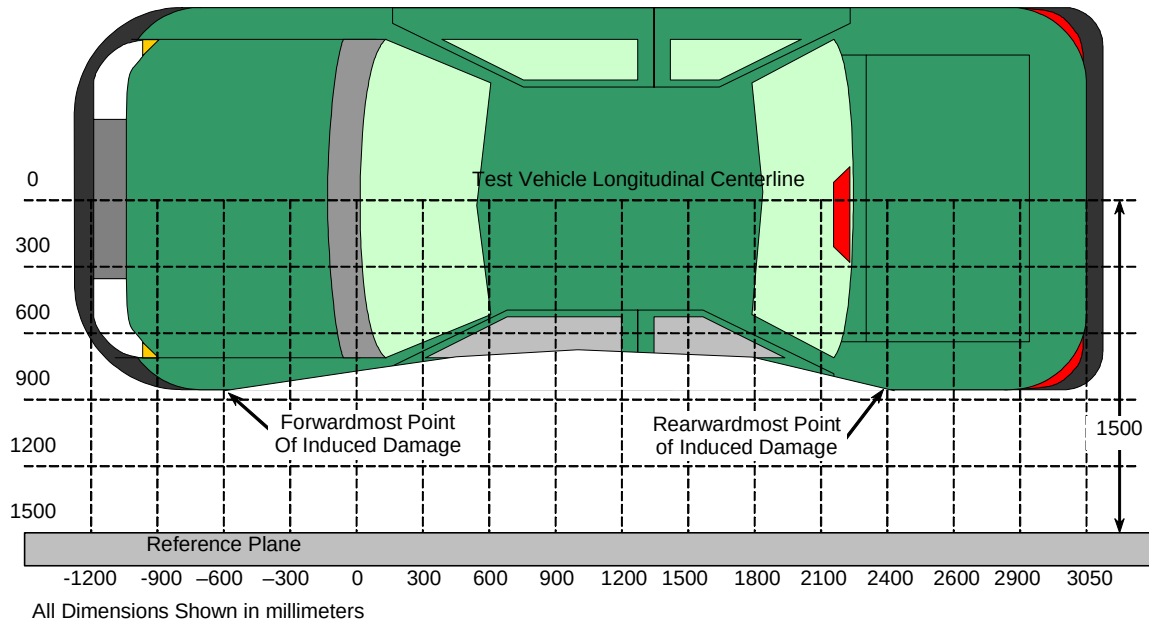
NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			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 SIDE SILL	231	PRE	--	--	--	--	--	--	139	142	144	144	144	144	143	142	141	139	137	135	133	--	--	--	--	--	--	--	--	--		
		POST	--	--	--	--	--	--	158	187	208	228	248	266	280	290	277	252	225	198	175	--	--	--	--	--	--	--	--	--		
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	19	45	64	84	104	122	137	148	136	113	88	63	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
LEVEL 2 H POINT	476	PRE	111	--	--	--	--	--	94	96	96	95	94	93	93	93	94	94	94	93	92	90	--	--	--	--	--	--	126	154		
		POST	84	--	--	--	--	--	109	266	344	360	355	375	386	392	375	390	386	354	304	159	--	--	--	--	--	--	124	147		
		CRUSH	-27	N/A	N/A	N/A	N/A	N/A	15	170	248	265	261	282	293	299	281	296	292	261	212	69	N/A	N/A	N/A	N/A	N/A	N/A	-2	-7		
LEVEL 3 MID DOOR	600	PRE	115	--	--	--	--	82	85	89	89	86	85	84	83	84	85	85	85	86	86	--	--	--	--	--	--	103	129	158		
		POST	87	--	--	--	--	87	101	252	327	323	318	325	329	331	352	372	360	354	224	--	--	--	--	--	--	104	125	149		
		CRUSH	-28	N/A	N/A	N/A	N/A	5	16	163	238	237	233	241	246	247	267	287	275	268	138	N/A	N/A	N/A	N/A	N/A	N/A	1	-4	-9		
LEVEL 4 WINDOW SILL	870	PRE	--	218	167	150	139	134	130	129	127	126	124	124	124	123	123	124	124	125	124	121	119	118	124	136	155	179	207			
		POST	--	194	148	137	133	133	137	195	232	253	285	307	319	326	340	354	363	368	344	221	130	143	137	138	147	167	191			
		CRUSH	N/A	-24	-19	-13	-6	-1	7	66	105	127	161	183	195	203	217	230	239	243	220	100	11	25	13	2	-8	-12	-16			
LEVEL 5 WINDOW TOP	1368	PRE	--	--	--	--	--	--	--	--	--	--	--	--	445	407	402	402	406	412	421	447	--	--	--	--	--	--	--			
		POST	--	--	--	--	--	--	--	--	--	--	--	--	467	452	470	496	521	493	477	478	--	--	--	--	--	--	--			
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22	45	68	94	115	81	56	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2007 Buick LaCrosse	NHTSA No. M70108
Test Program: NCAP Side Impact	Test Date: October 26, 2006



TOP VIEW

DAMAGE PROFILE DISTANCES

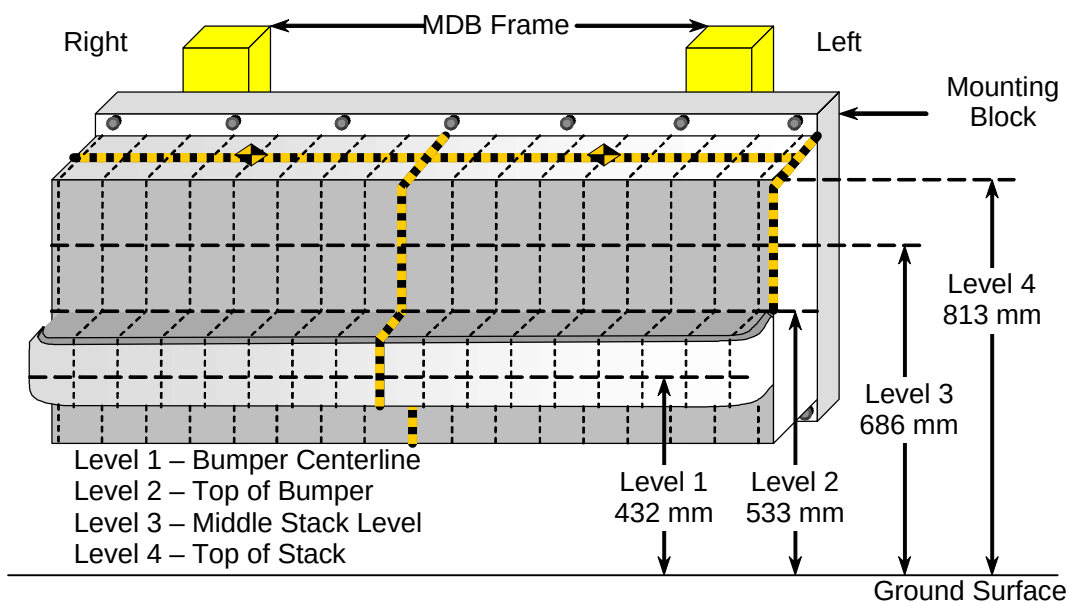
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2600	193	142	141	-1
2	2048	193	120	162	42
3	1496	587	94	386	292
4	944	587	93	388	295
5	392	587	95	354	259
6 (LF)	-160	193	134	133	-1

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:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006



NOTE: All dimensions are in millimeters with a tolerance of ± 3 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	651	624	613	610	612	619	640	639	631	630	626	626	637	659	673	693	746		
		CRUSH	32	5	-6	-9	-7	0	21	20	12	11	7	7	18	40	54	74	127		
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	657	632	623	618	620	620	628	624	619	618	621	623	627	630	634	660	716		
		CRUSH	38	13	4	-1	1	1	9	5	0	-1	2	4	8	11	15	41	97		
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	723	711	695	680	668	662	656	652	653	658	659	659	662	664	672	684	699		
		CRUSH	104	92	76	61	49	43	37	33	34	39	40	40	43	45	53	65	80		
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535		
		POST	715	683	641	612	592	596	591	581	585	580	579	582	582	587	595	610	658		
		CRUSH	180	164	123	94	74	78	73	63	67	62	61	64	64	69	77	91	123		

*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

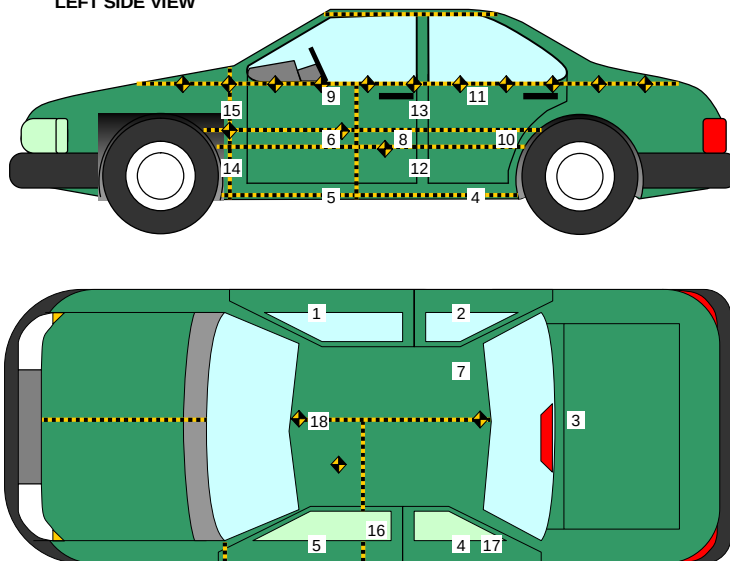
Test Vehicle: 2007 Buick LaCrosse

NHTSA No. M70108

Test Program: NCAP Side Impact

Test Date: October 26, 2006

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	3046	692	284
2	Right Sill at Rear Seat	2134	702	271
3	Rear Floorpan Above Axle	1394	-12	486
4	Left Sill at Rear Door	2101	-703	254
5	Left Sill at Front Door	3010	-700	243
6	Left Front Door C/L **	-	-	-
7	Rear Occupant Compartment	2080	379	200
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	2357	-682	380
13	Left Middle B-Post	2248	-695	804
14	Left Lower A-Post	3434	-669	446
15	Left Middle A-Post	3248	-688	976
16	Front Seat Track	2484	-632	242
17	Rear Seat Track or Structure	1330	-590	543
18	Vehicle CG	2685	-9	444

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

Y - Test Vehicle Centerline (+ to right)

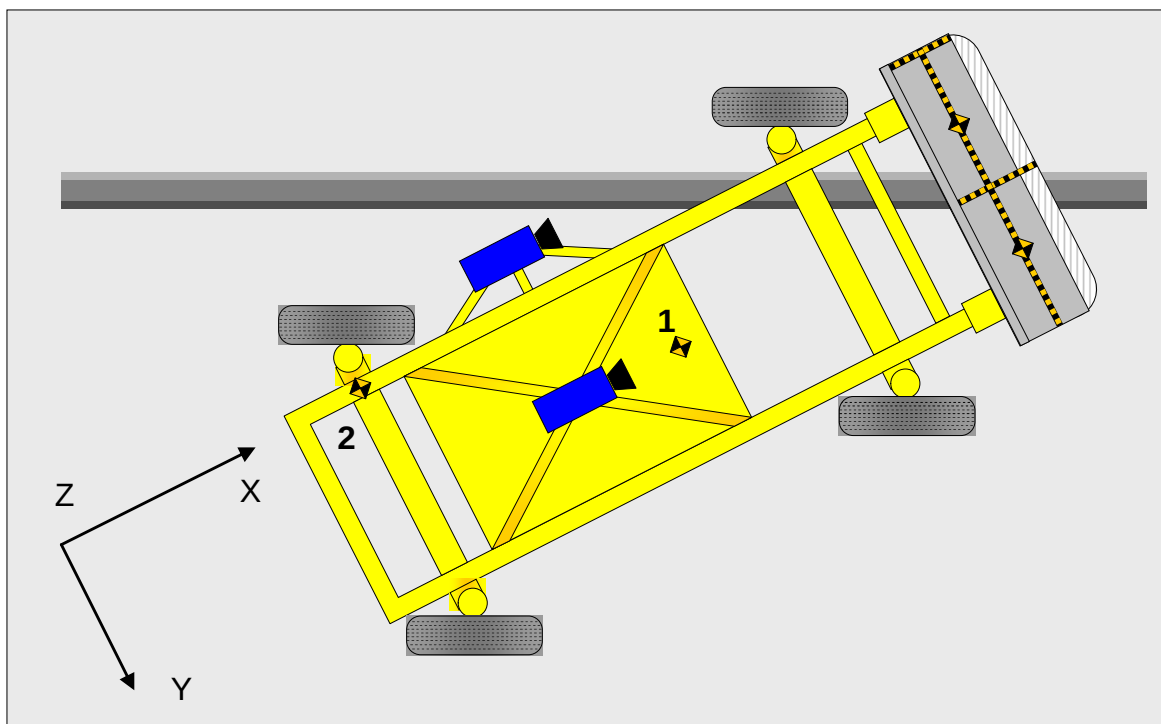
Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 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:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

	Elements	Pre-Test (mm)
1	Total Length	5035
2	Total Width	1845
3	Bumper Top Height	508
4	Bumper Bottom Height	413
5	Longitudinal Member Top Height	525
6	Distance between Longitudinal Members	1174
7	Longitudinal Member Width	97
8	Engine Top Height	864
9	Engine Bottom Height	241
10	Engine and gearbox width	630
11	Front bumper-engine distance	649
12	Front shock absorber fixing height	878
13	Bonnet leading edge height	729
14	Front shock absorber fixing width	1188
15	Front bumper – front axle distance	1111
16	Front axle – a pillar distance	486
17	A-pillar – B-pillar distance	1081
18	B-Pillar – rear axle distance	1247
19	B-pillar – C-pillar distance	1048
20	Roof sill bottom height	1305
21	Roof sill top height	1396
22	Floor sill bottom height	197
23	Floor sill top height	337

DATA SHEET NO. 16

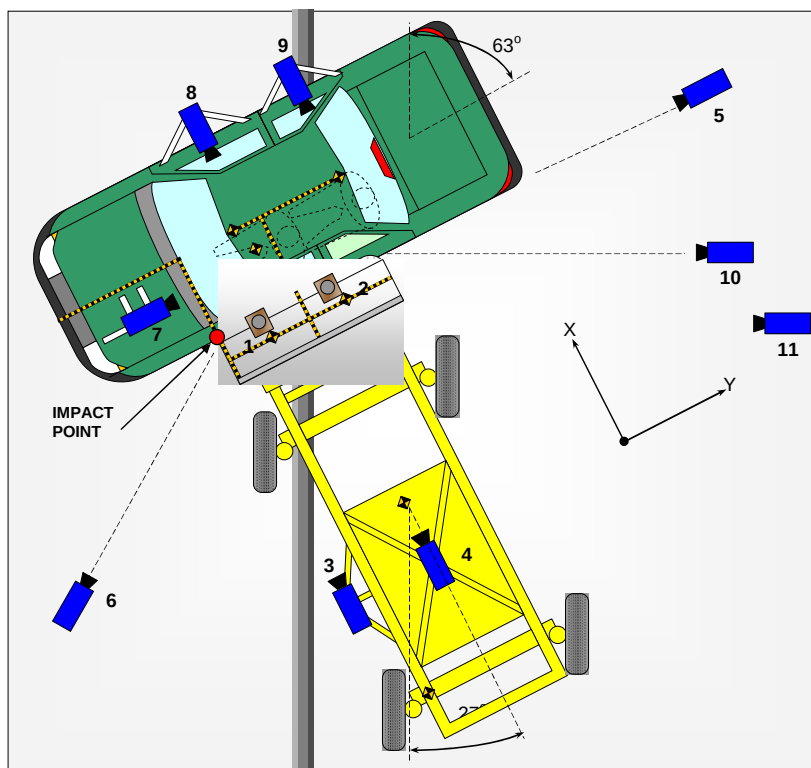
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2007 Buick LaCrosse

NHTSA No. M70108

Test Program: NCAP Side Impact

Test Date: October 26, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Overall	72	812	-4880	-90	8	1000
2	Overhead Close-up	195	855	-4880	-90	28	1000
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0	13	1000
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	7.5	1000
5	Right Side, Ground Level, Overall	0	10600	-1099	-2.9	50	1000
6	Left Side, Ground Level, Overall	-2445	-1930	-948	4.3	28	1000
7	Vehicle Onboard Front SID/HIII, Front	660	-545	-1290	7.2	25	1000
8	Vehicle Onboard Front SID/HIII, Side	775	1740	-1050	10.2	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1690	1730	-1075	8.5	12.5	1000
10	Secondary Impact Point	-4370	3123	-1038	3.4	25	1000
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

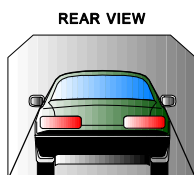
Test Vehicle:	2007 Buick LaCrosse	NHTSA No.	M70108
Test Program:	NCAP Side Impact	Test Date:	October 26, 2006

FUEL SYSTEM INTEGRITY POST IMPACT DATA

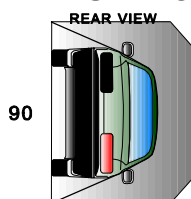
Time Interval	FMVSS 301 Maximum Allowable Spillage	Spillage (g)
Impact Until Motion Ceases	28 g	0
First Five Minutes Following Impact	142 g	0
Next 25 Minutes	28 g / 1 minute	0

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

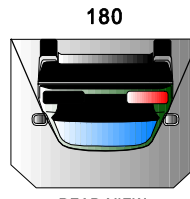
STATIC ROLLOVER DATA



0/360

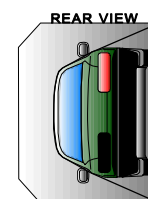


90



180

REAR VIEW



270

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes
90° - 180°	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes
180°-270°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes
270°-360°	1	minutes	08	seconds	5	minutes	6	minutes	8	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

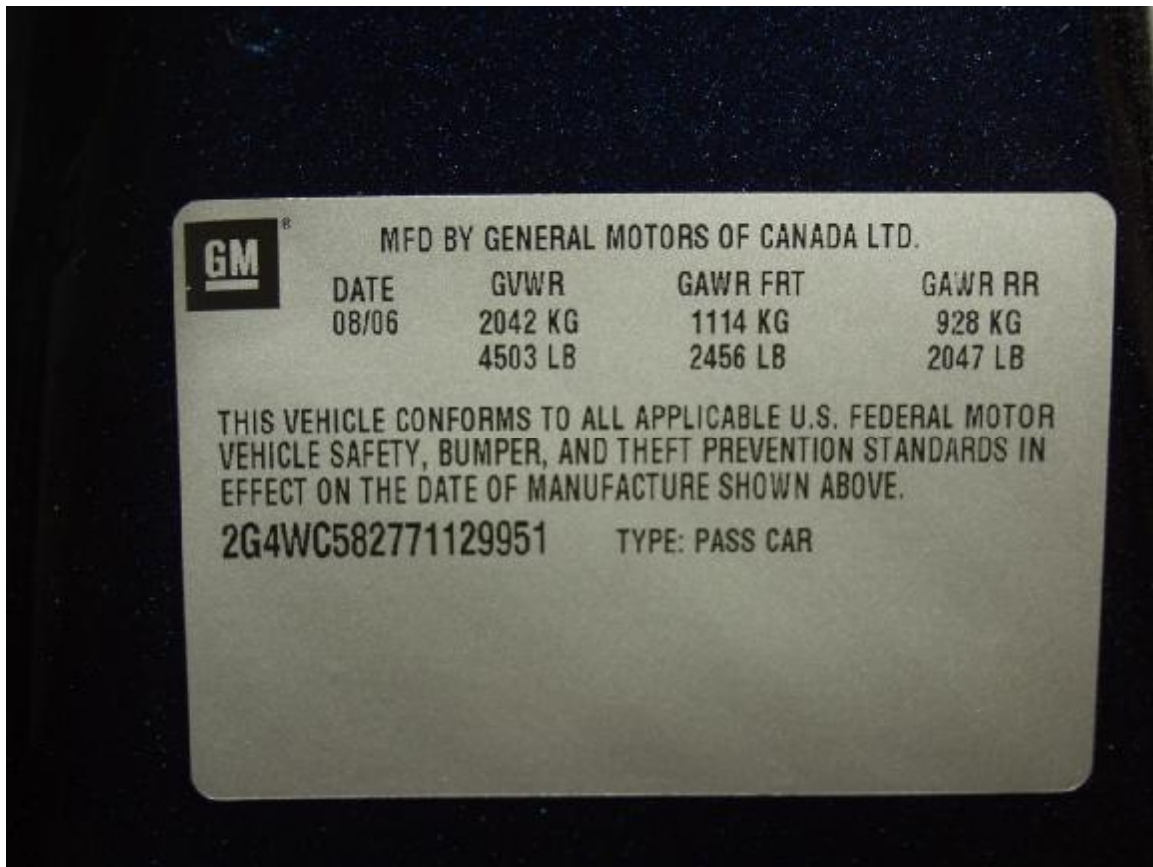


Figure A-3: Vehicle Certification Label

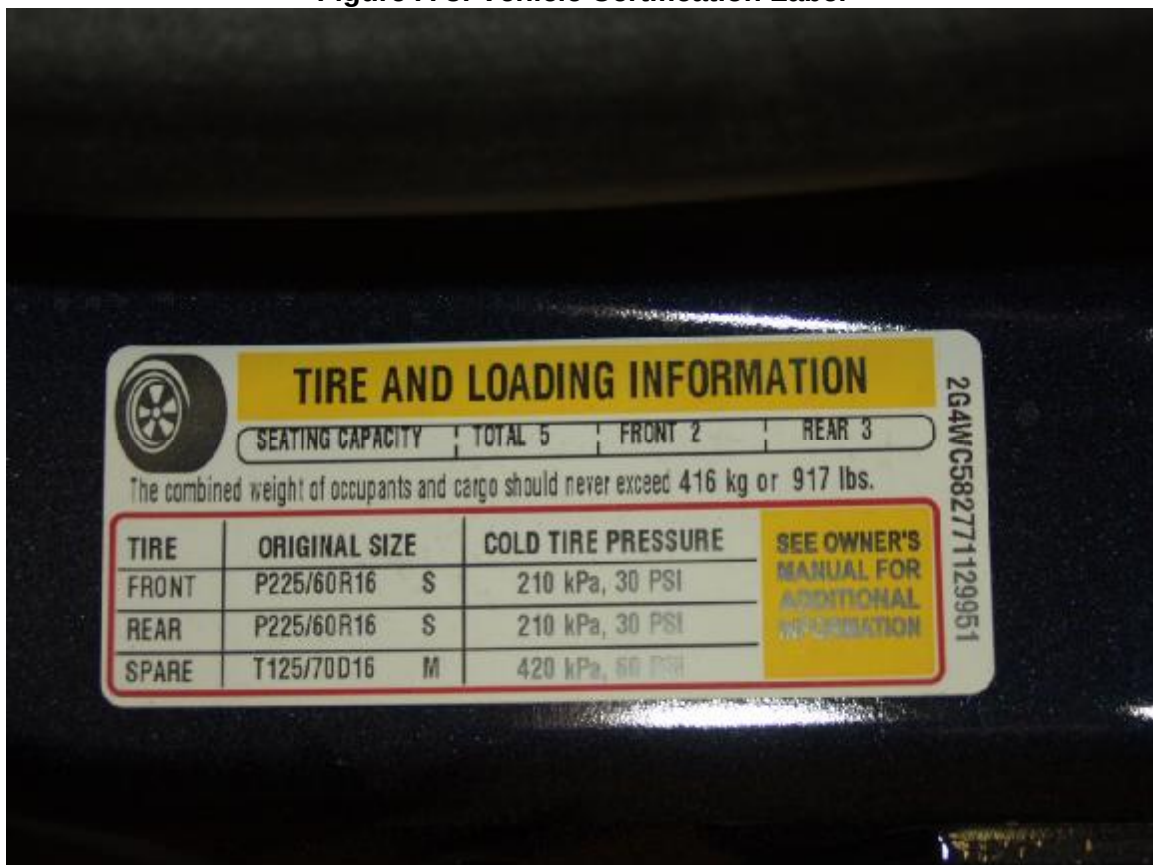


Figure A-4: Vehicle Tire Placard Label



Figure A-5: Pre-Test Front View

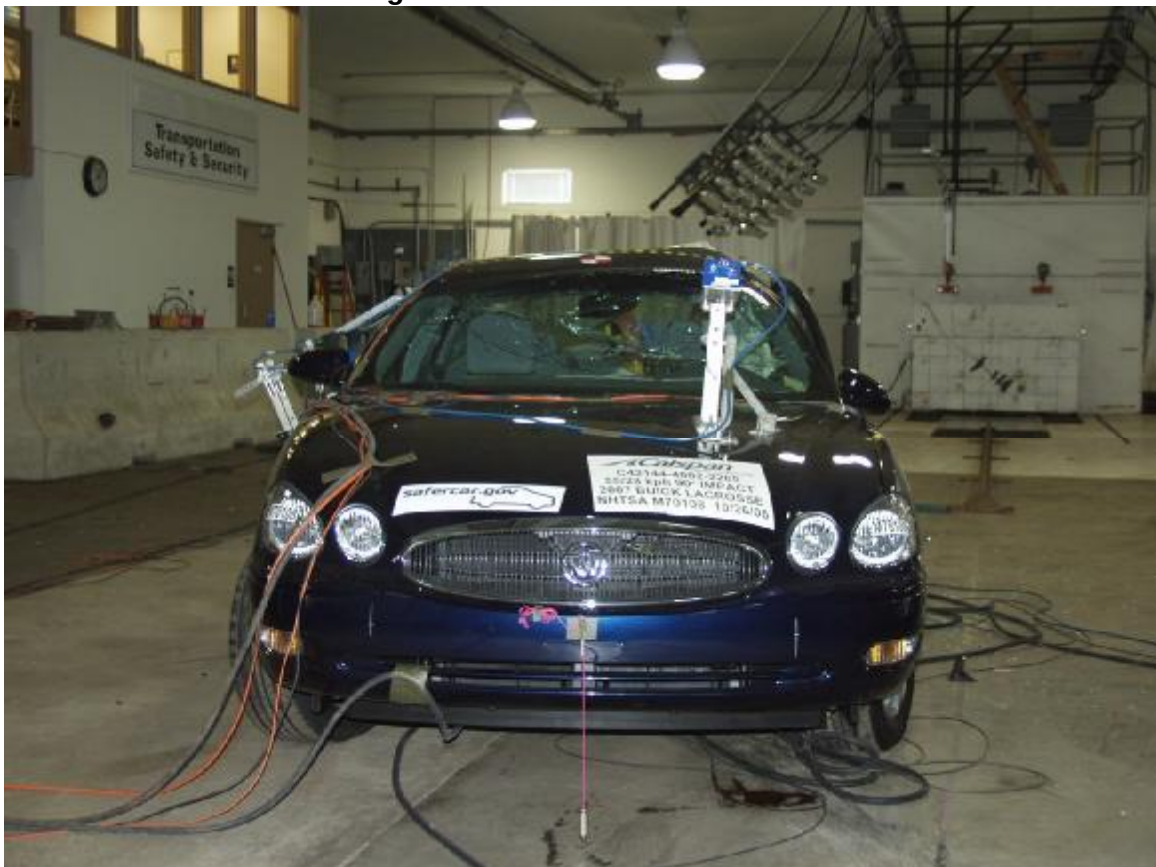


Figure A-6: Post-Test Front View



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

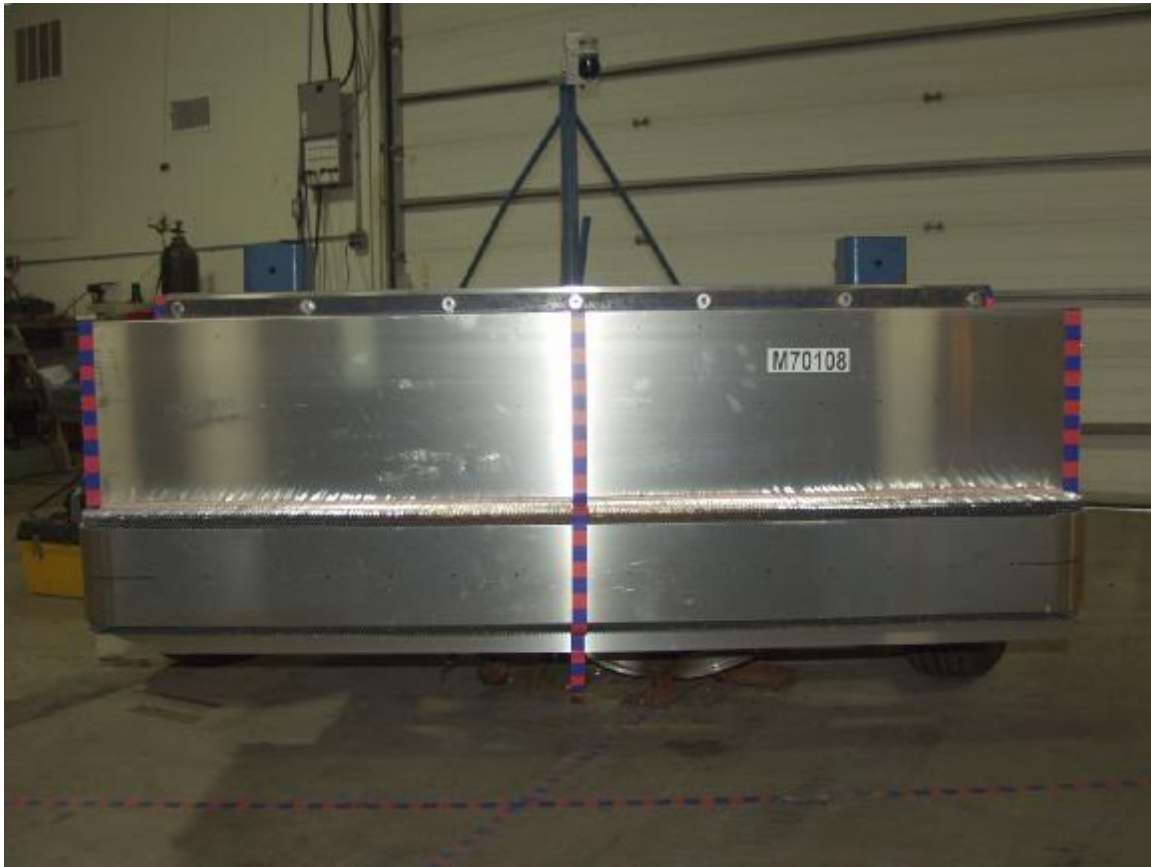


Figure A-21: Pre-Test Frontal View of MDB Impactor Face



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

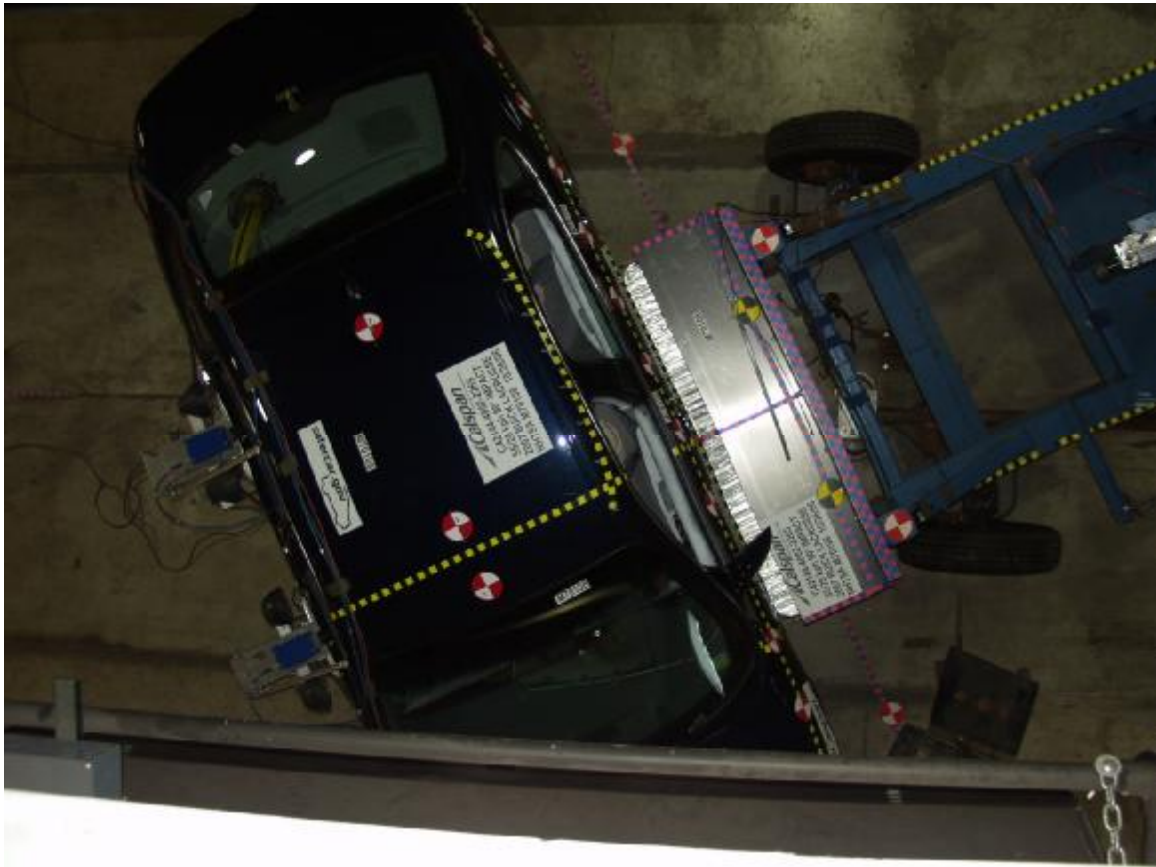


Figure A-31: Pre-Test Overhead View of Aligned MDB and Vehicle



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

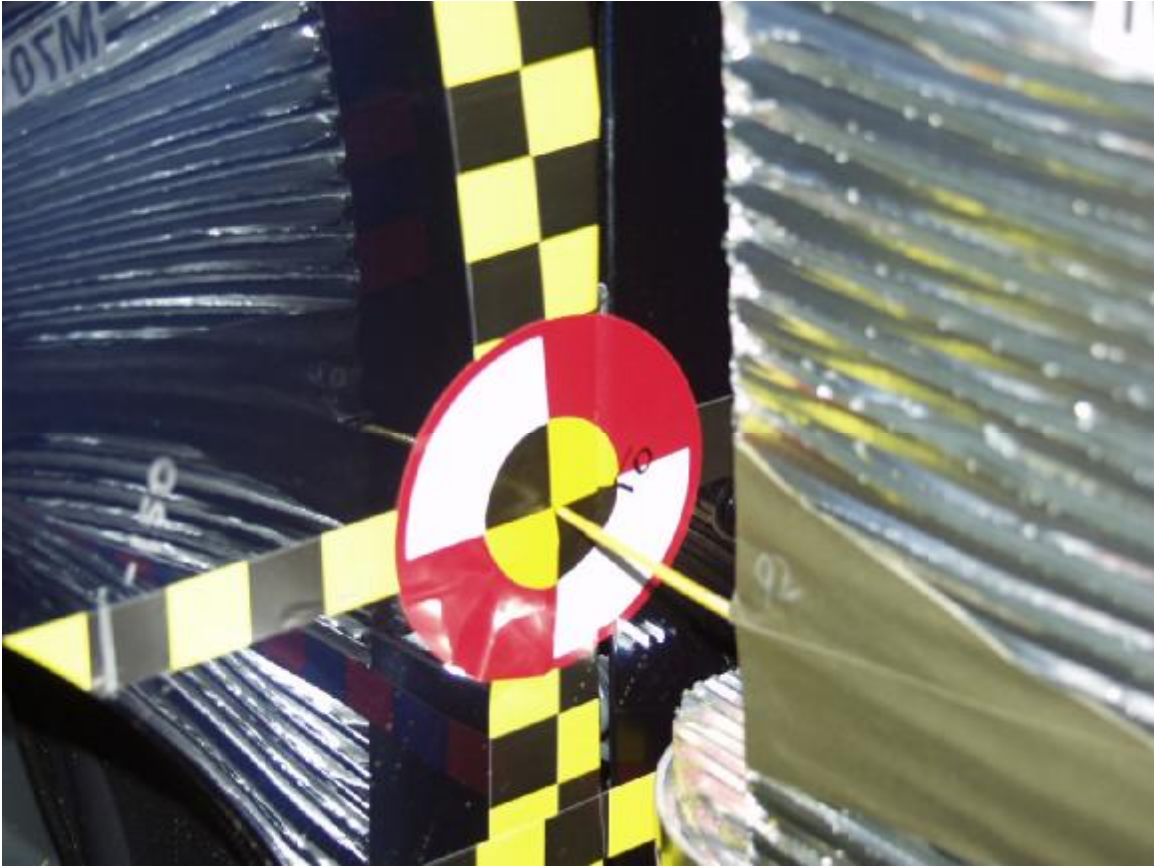


Figure A-33: Pre-Test Close-Up View of Impact Point Target



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

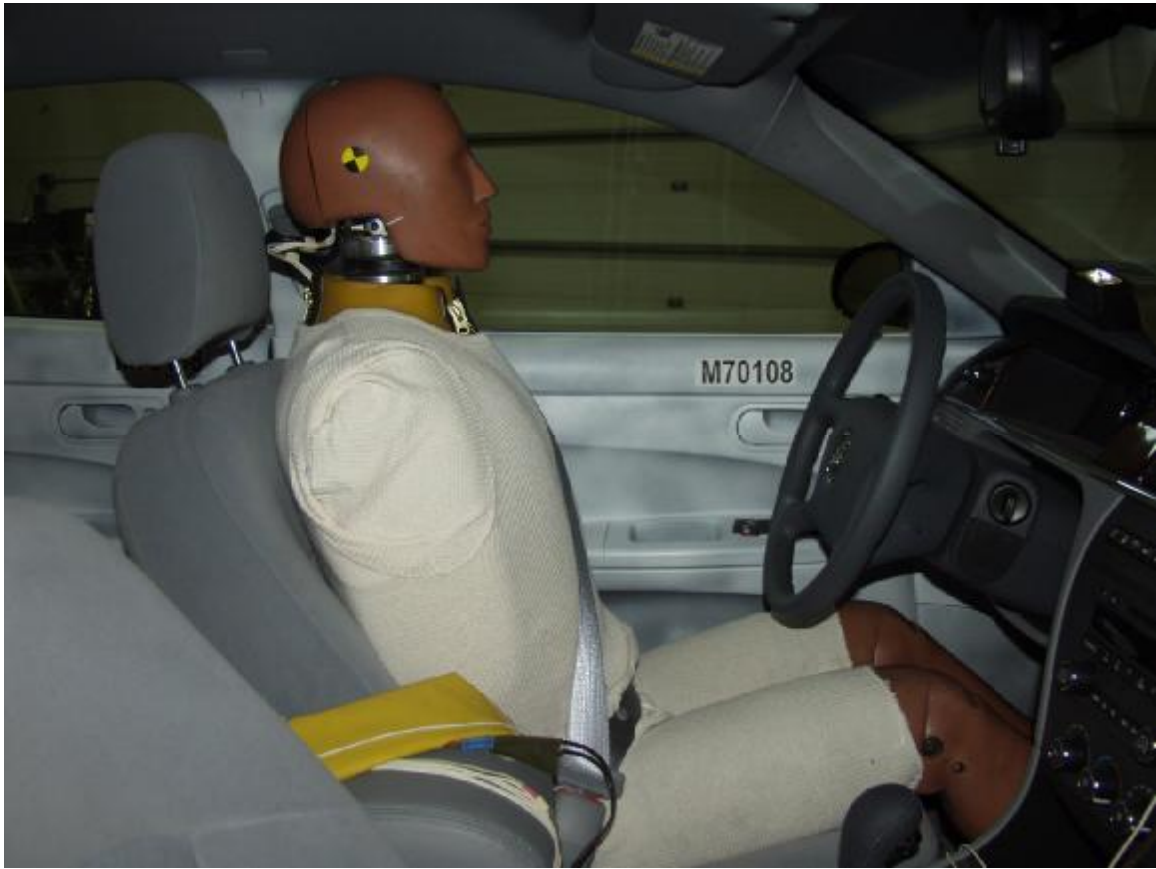


Figure A-35: Pre-Test Right Occupant Compartment View of Driver



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 $\frac{3}{4}$ View of Left Side Doors



Figure A-51: Rollover 90 Degrees

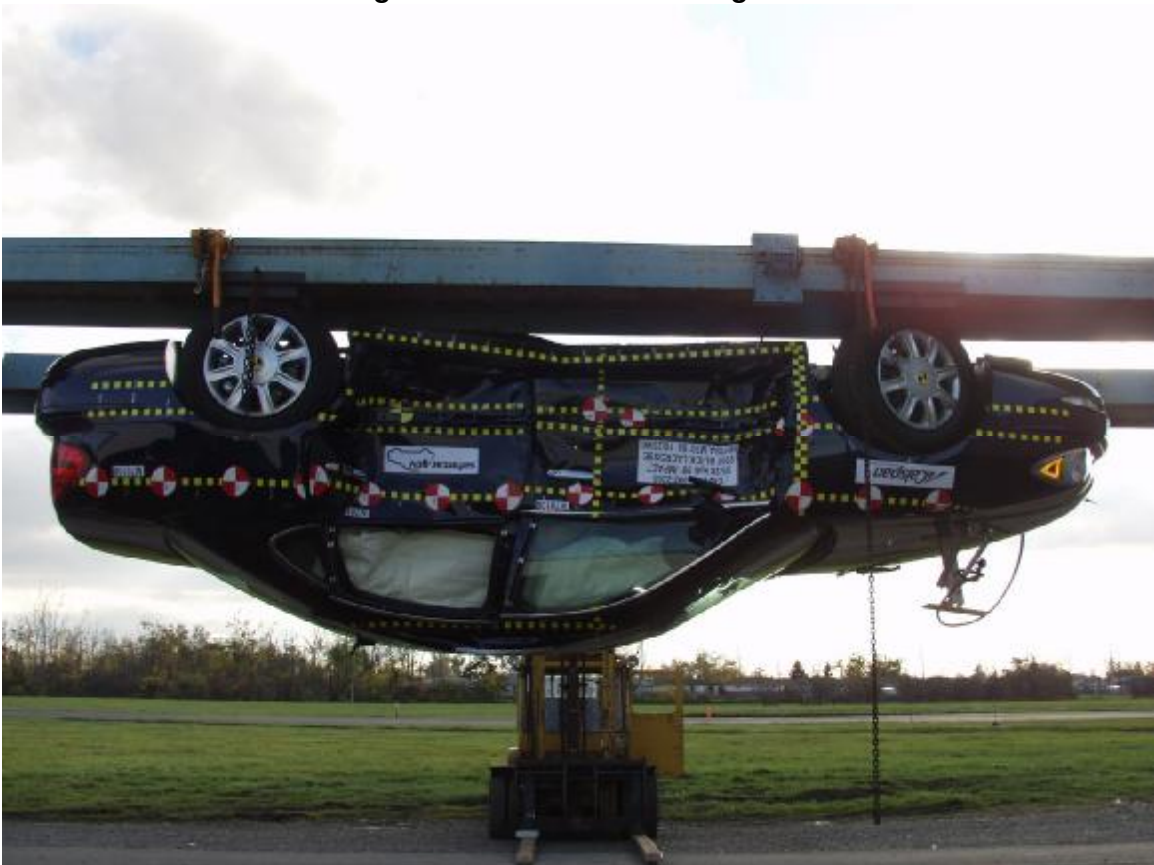


Figure A-52: Rollover 180 Degrees



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	

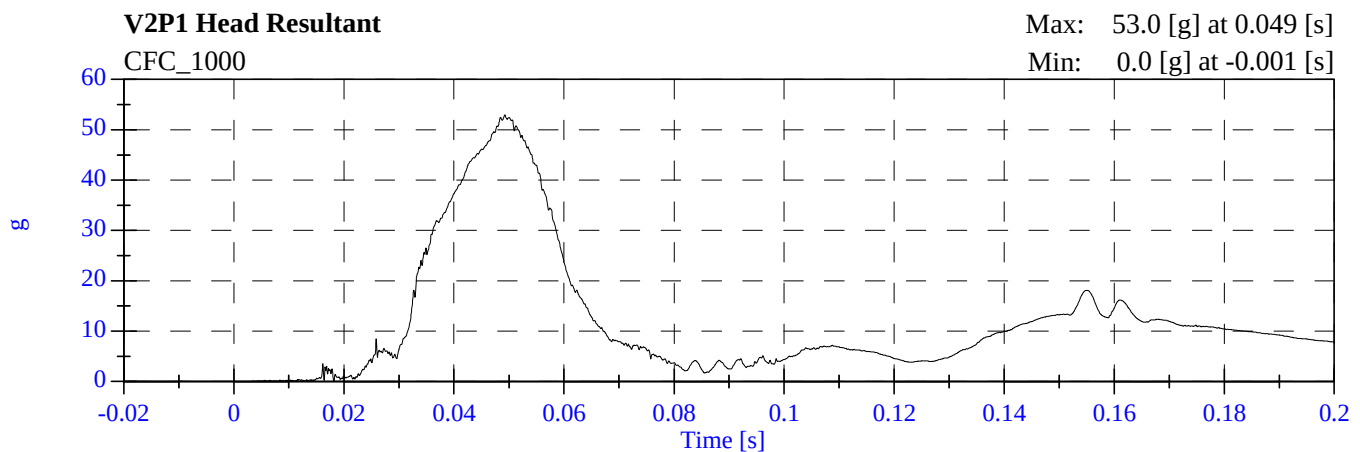
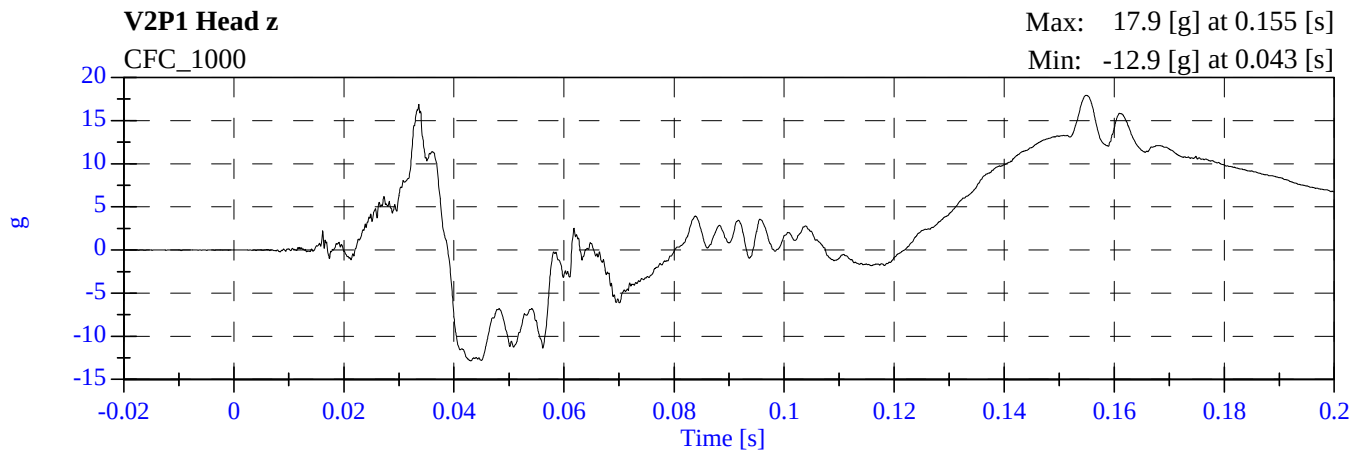
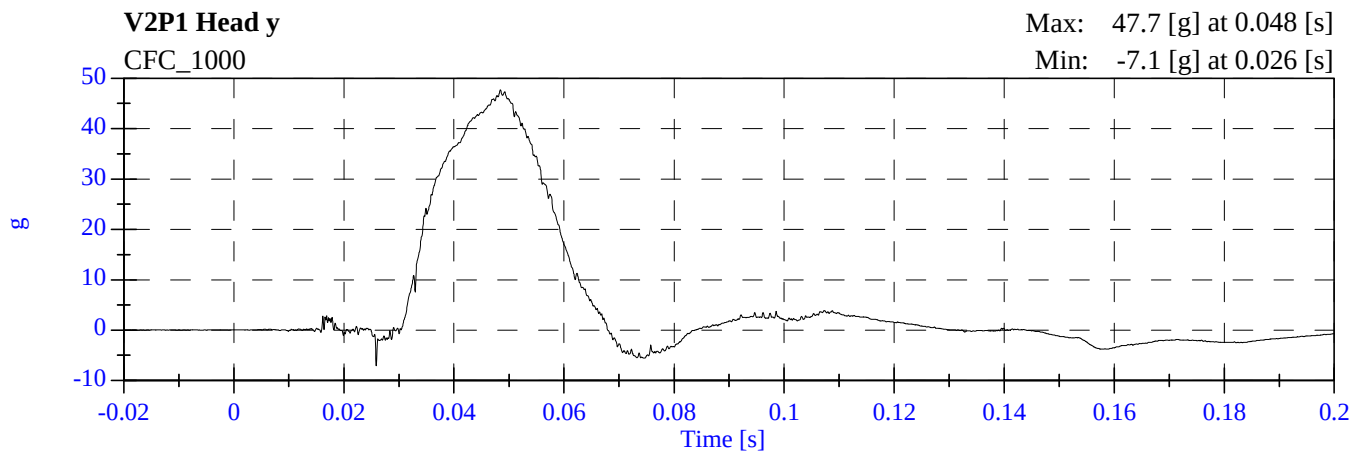
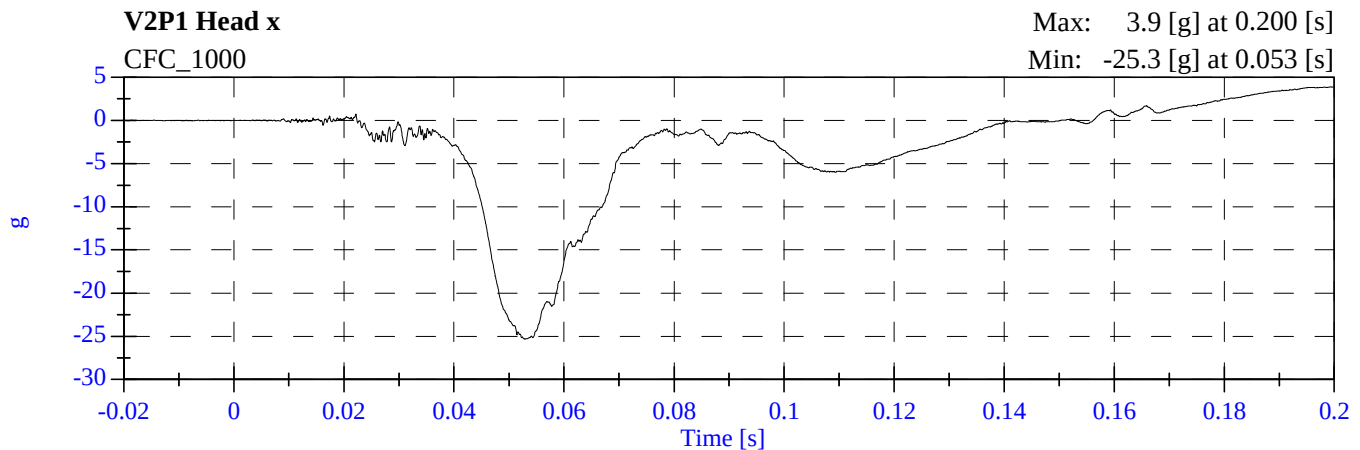
TEST NOTES

The following data anomalies occurred:

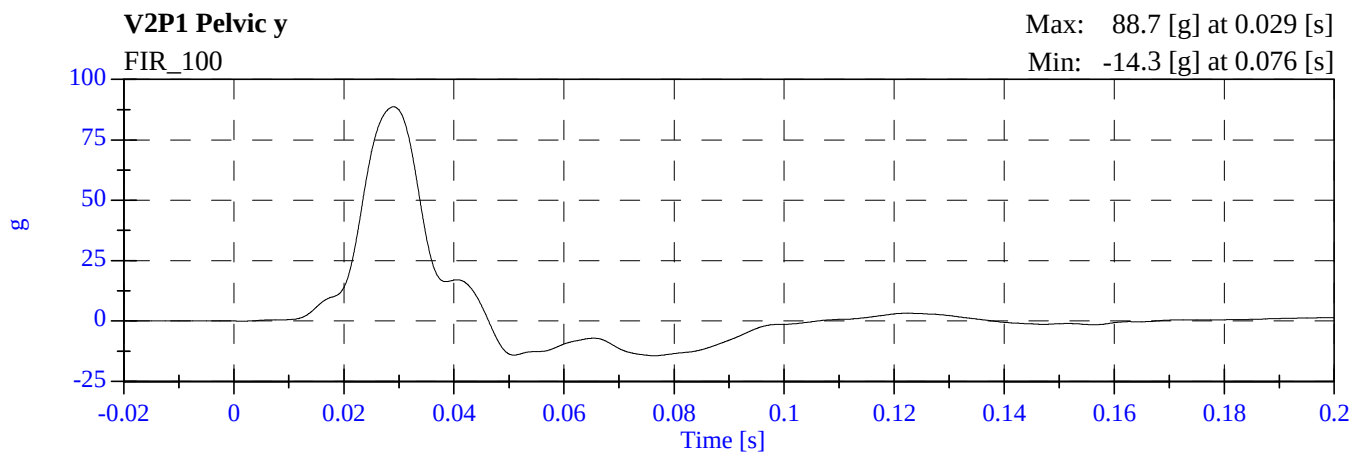
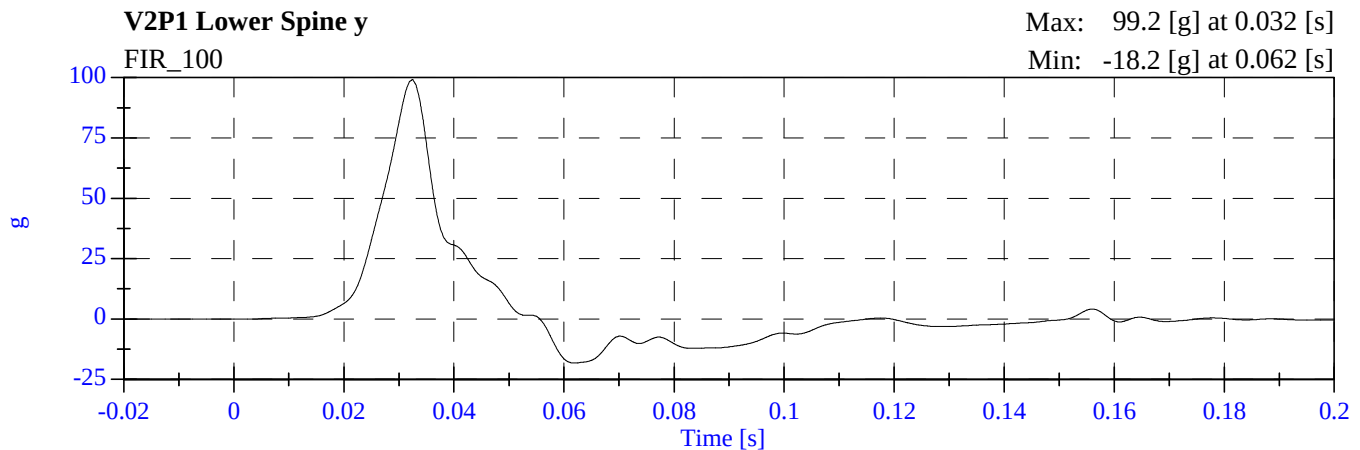
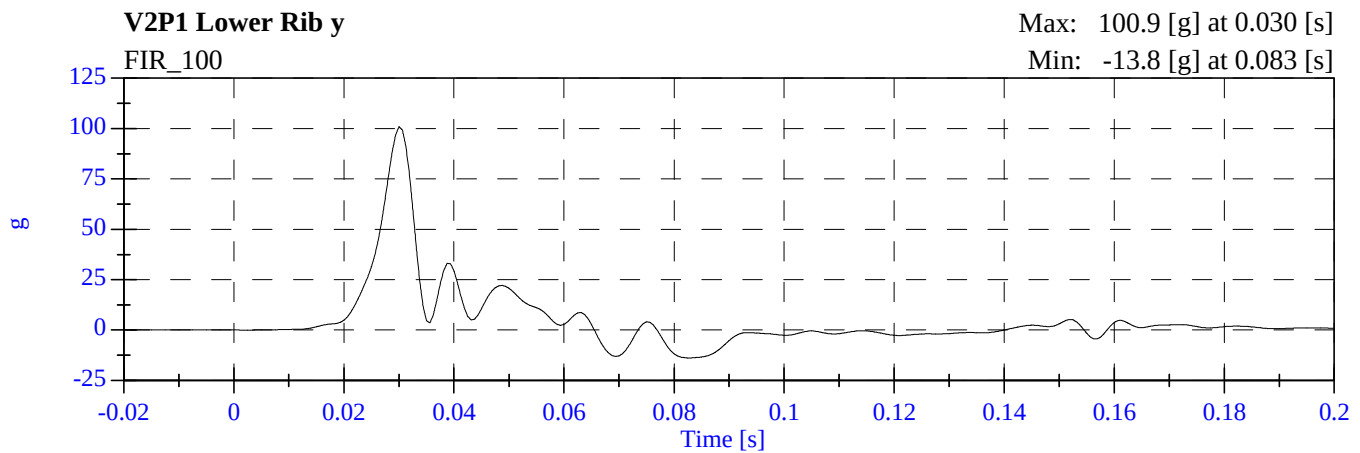
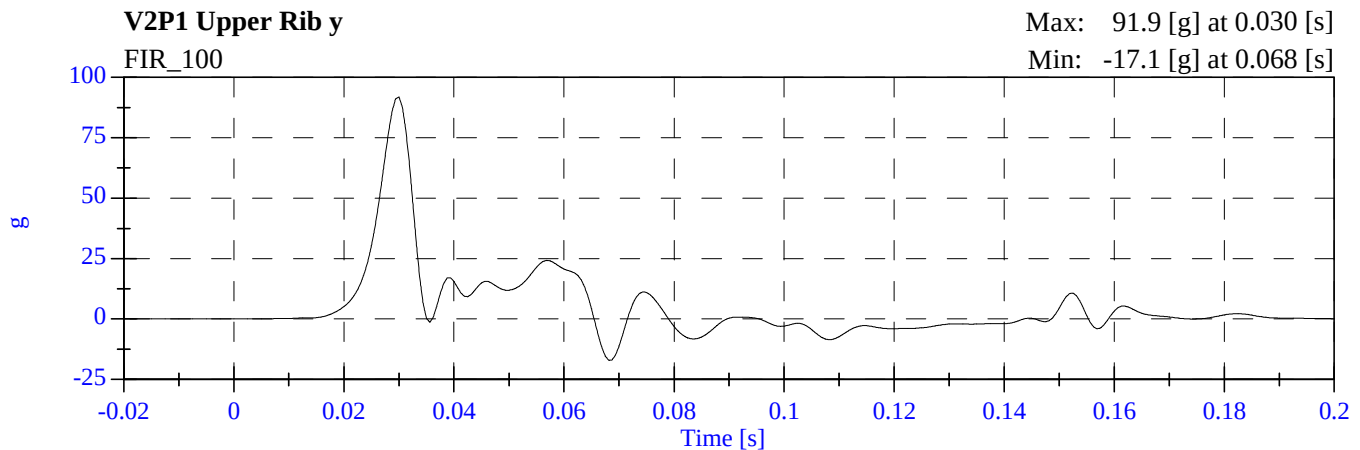
V2P1 Upper Rib Ry	Channel opened at 36 ms
V2 A3 Rear Floorpan X	Dislodged at 250 ms
V2 A3 Rear Floorpan Y	Dislodged at 250 ms
V2 A3 Rear Floorpan Z	Dislodged at 250 ms

2007 SNCAP - 2007 Buick LaCrosse

M70108 - October 26, 2006

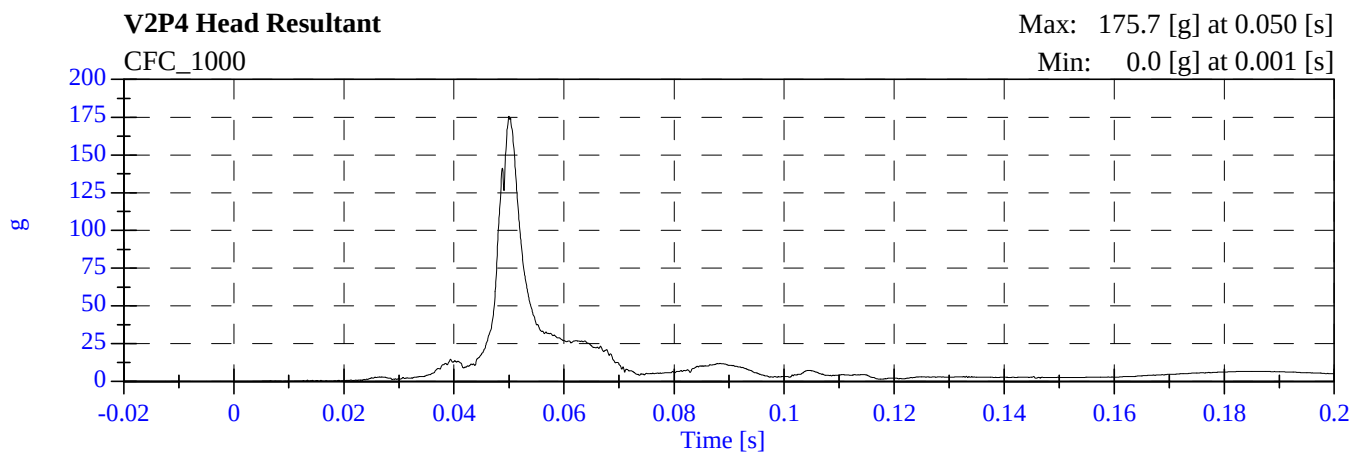
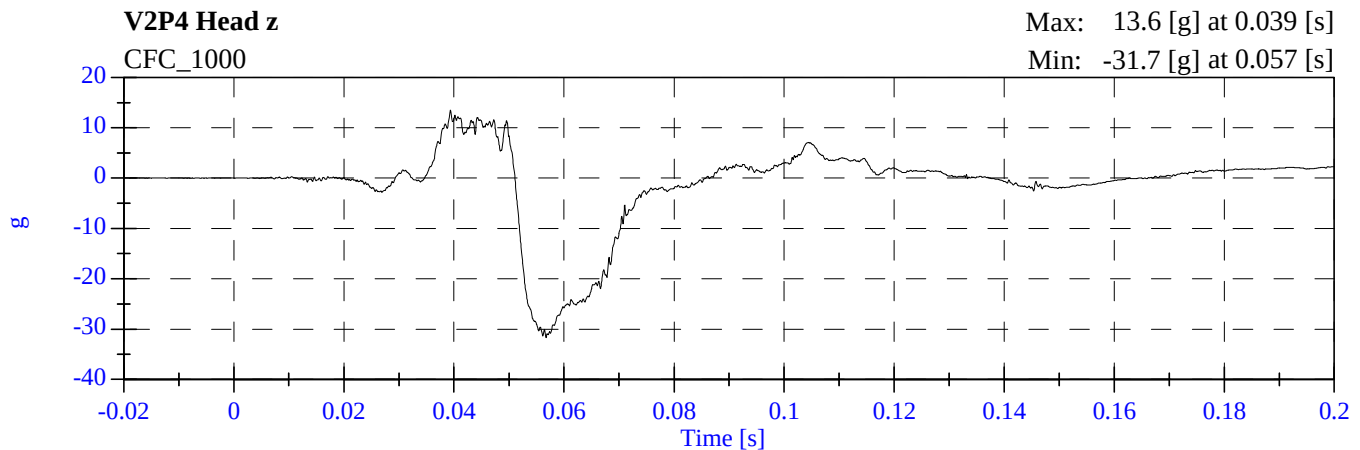
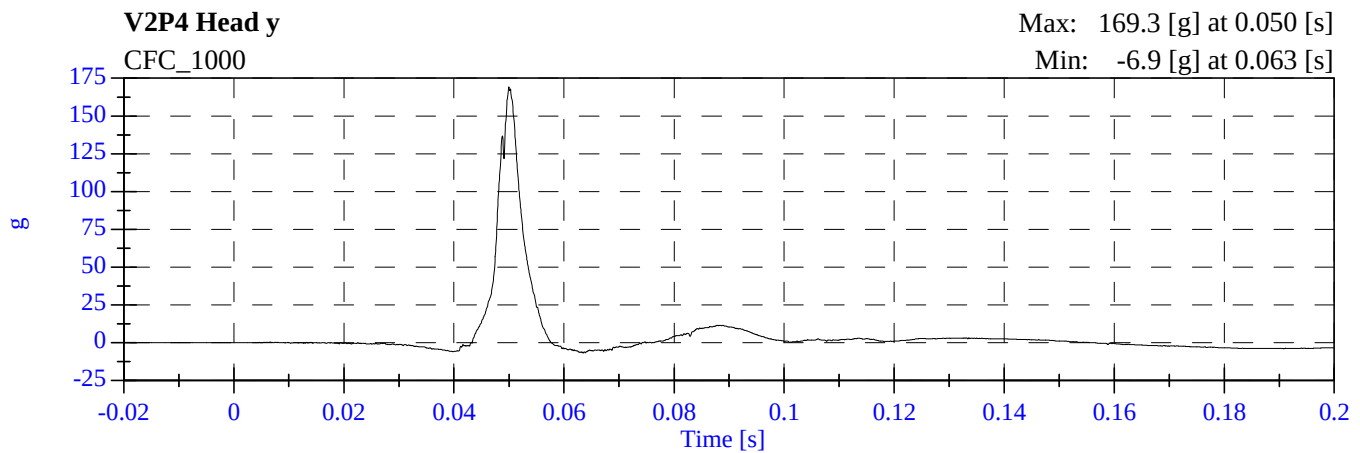
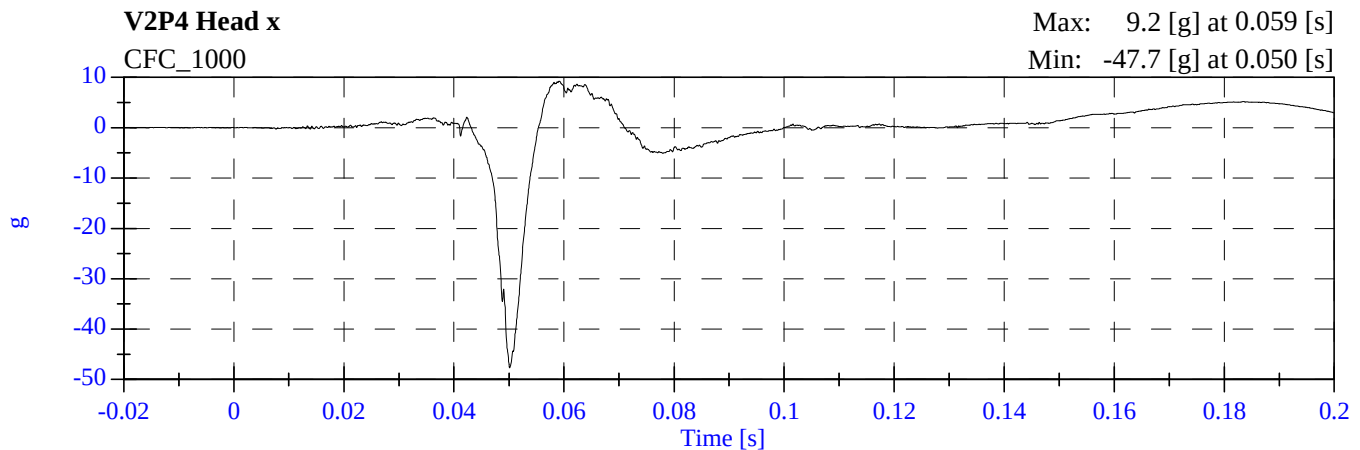


2007 SNCAP - 2007 Buick LaCrosse
M70108 - October 26, 2006

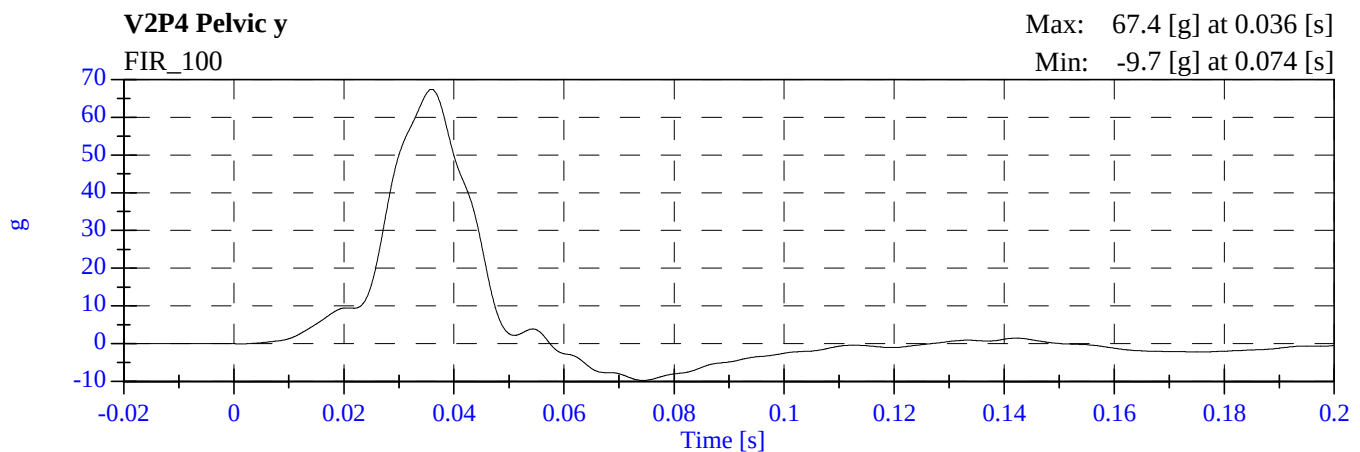
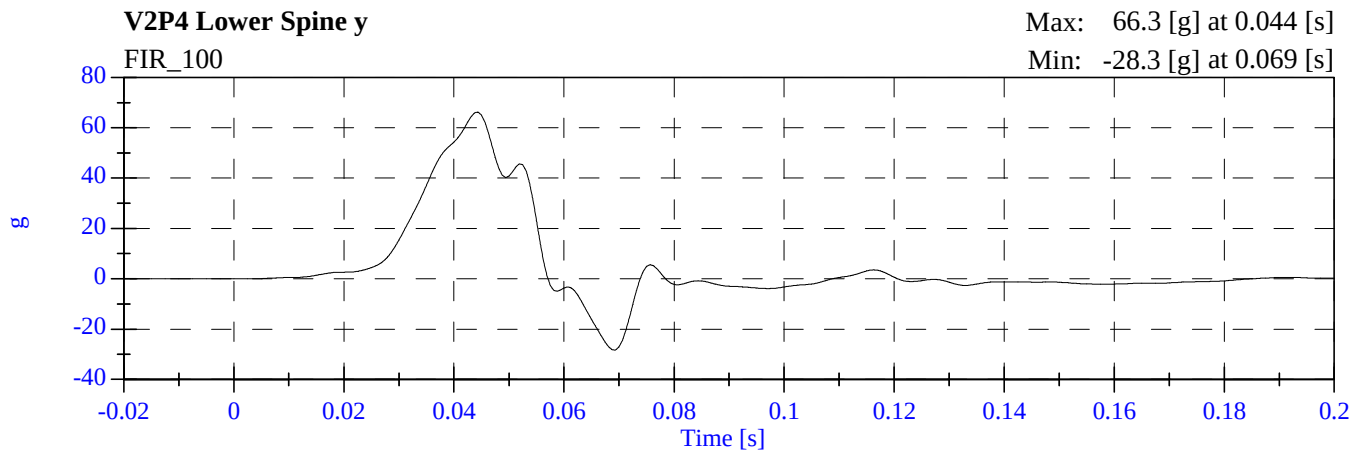
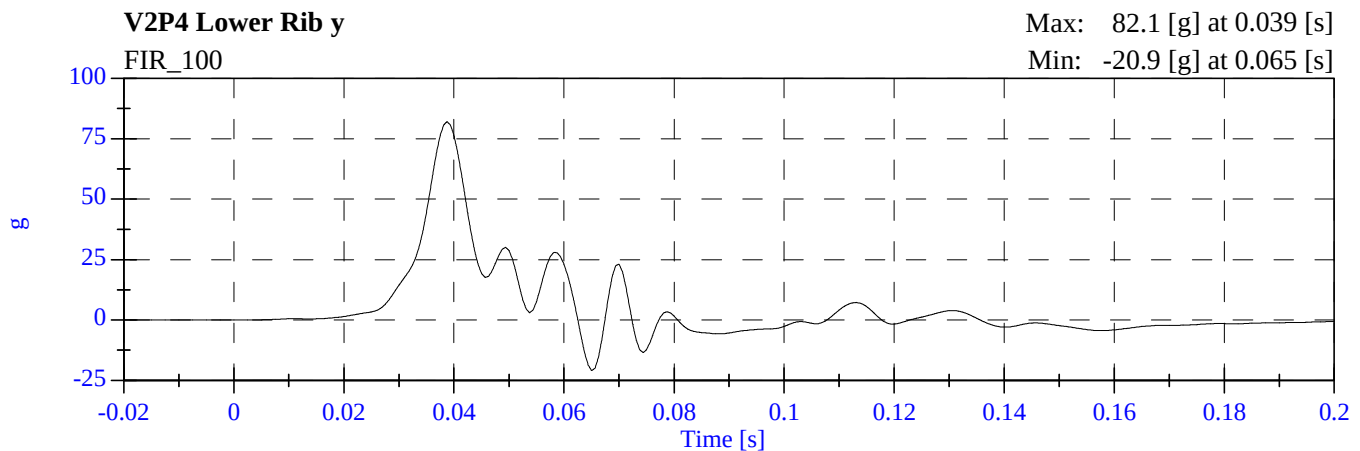
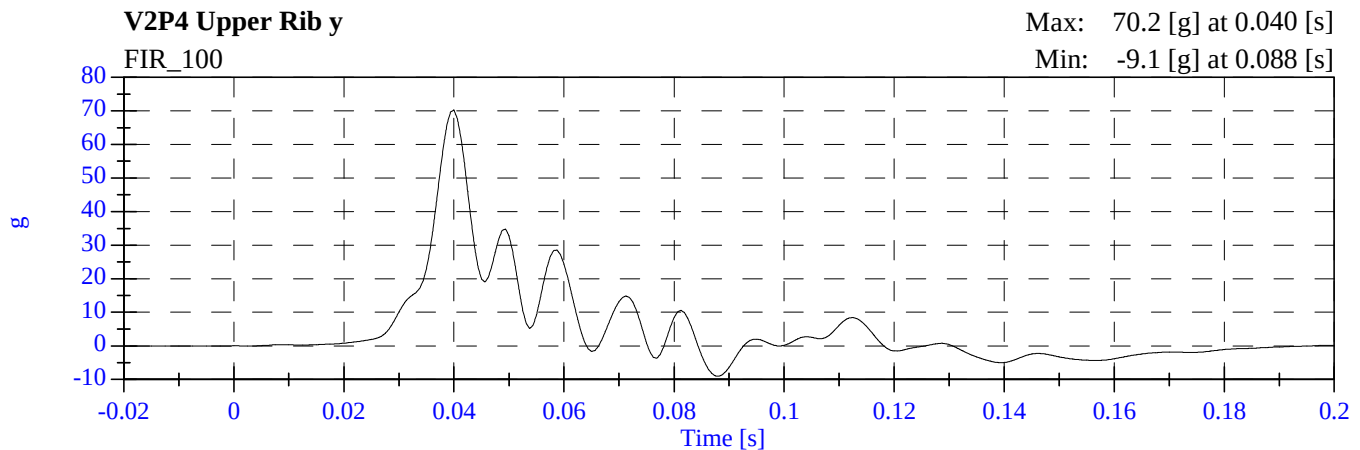


2007 SNCAP - 2007 Buick LaCrosse

M70108 - October 26, 2006



2007 SNCAP - 2007 Buick LaCrosse
M70108 - October 26, 2006



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 10/24/2006	Sequential Test Number:	1.2;1.2
	Laboratory Technician:	B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 270		SID H3 NO.: 269	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	904	905	899	899
RH- Rib Height (mm)	501 - 521	511	512	513	513
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	236	236	241	240
KV- Knee Pivot from Back Line (mm)	511 - 526	513	513	521	520
SW- Knee Pivot to Floor (mm)	490 - 505	499	498	493	494
HW- Hip Width (mm)	356 - 391	358	358	363	363
THORAX IMPACTS					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	37.00	35.00	41.00	35.00
PROBE SPEED (m/s)	4.27 - 4.33	4.31	4.31	4.30	4.30
UPPER RIB (g's)	37 - 46	39.72	40.57	40.90	40.69
LOWER RIB (g's)	37 - 46	38.78	38.94	39.66	40.09
LOWER SPINE (g's)	15 - 22	20.20	20.60	18.12	18.39
PELVIS IMPACT					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	40.00	35.00	41.00	35.00
PROBE SPEED (m/s)	4.27 - 4.33	4.31	4.29	4.30	4.30
PELVIS (g's)	40 - 60	53.76	47.76	52.04	49.56

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270	Sequential Test Number: 1
Date: October 24, 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.: 270 Sequential Test Number: 1
Date: October 24, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	904
RH- Rib Height (mm)	502 – 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	236
KH- Knee Pivot from Back Line (mm)	511 – 526	513
KV- Knee Pivot to Floor (mm)	490 – 505	499
HW- Hip Width (mm)	356 - 391	358

REMARKS: None

SID Low Speed Shock Test S/N:270 (3.05 m/s)

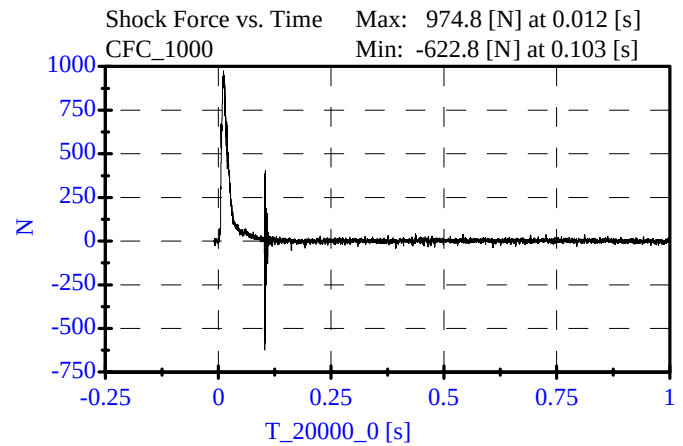
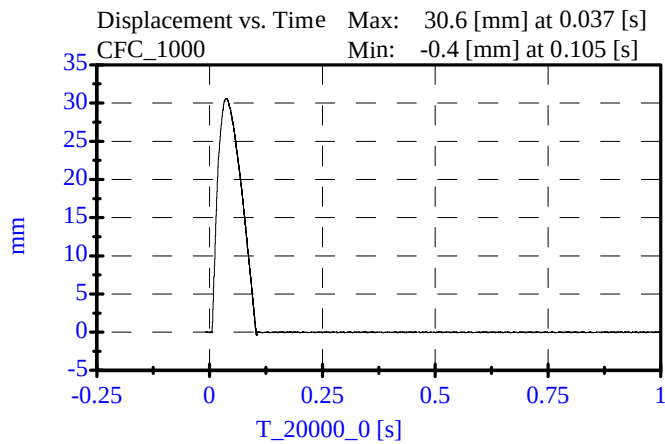
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: September 15, 2006

Sequential Test Number: 1 File: 270SL
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 %	50.00 %	Passed
Displacement:	30.00-35.00 mm	30.58 mm	Passed
Maximum Force:	836.00-1125.00 N	974.82 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		



SID Medium Speed Shock Test S/N:270 (4.27 m/s)

PRE TEST

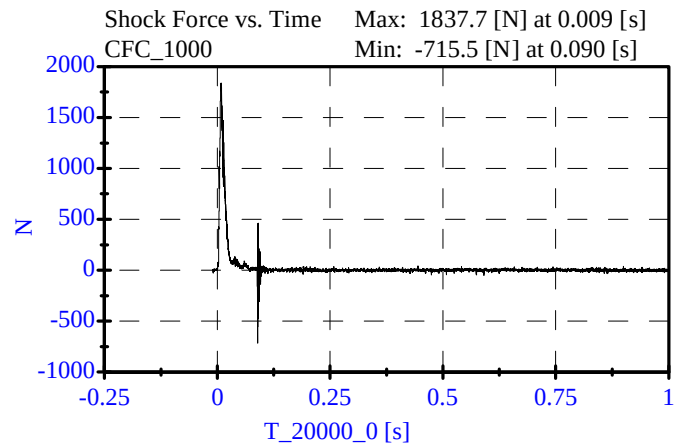
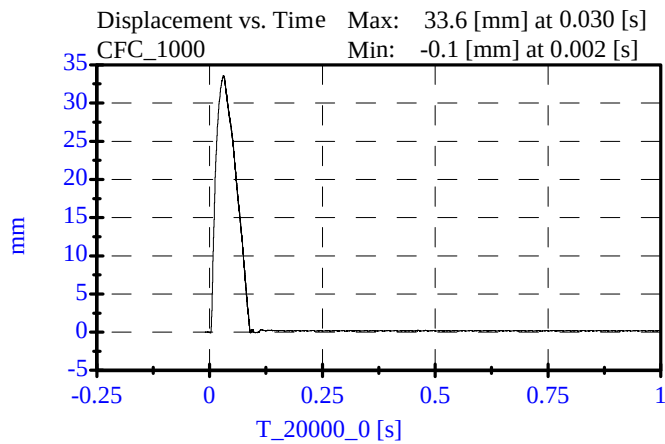
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: September 15, 2006

Sequential Test Number: 1 File: 270SL
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 %	50.00 %	Passed
Displacement:	32.00-37.00 mm	33.58 mm	Passed
Maximum Force:	1730.00-2099.00 N	1837.72 N	Passed

Impact Test Velocity: 4.27 m/s
Damper Identification: 270
Damper Setting: 5



SID High Speed Shock Test S/N:270 (6.10 m/s)

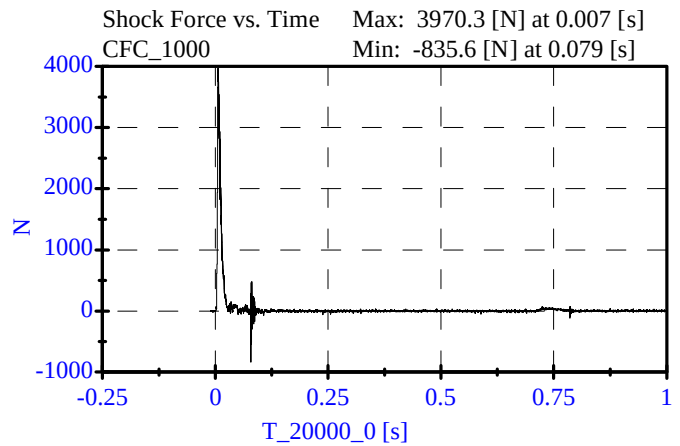
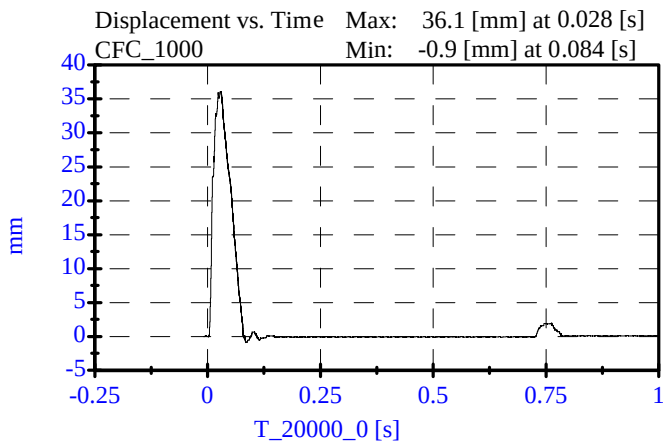
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: September 15, 2006

Sequential Test Number: 1 File: 270SL
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 %	50.00 %	Passed
Displacement:	33.00-40.00 mm	36.08 mm	Passed
Maximum Force:	3741.00-4448.00 N	3970.32 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		



Thorax Impact

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

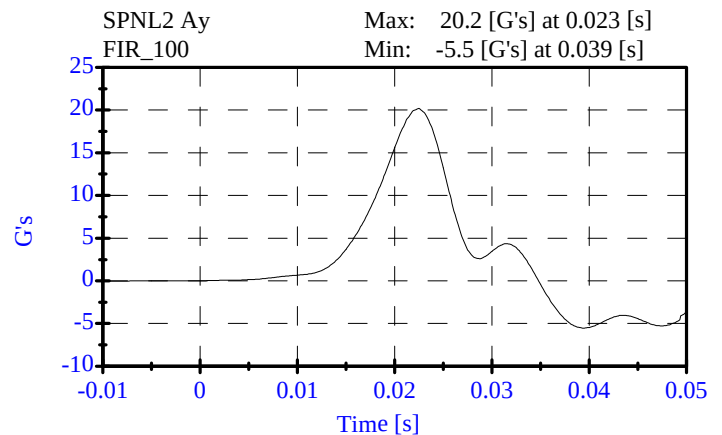
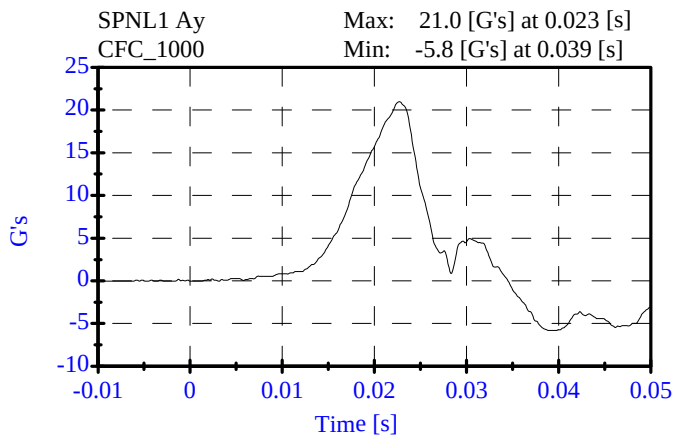
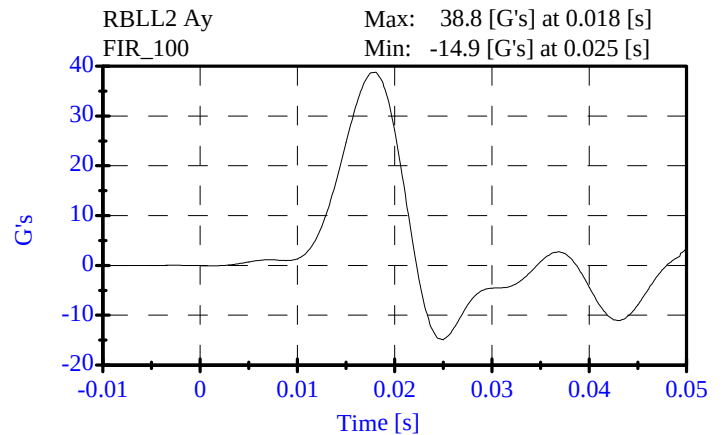
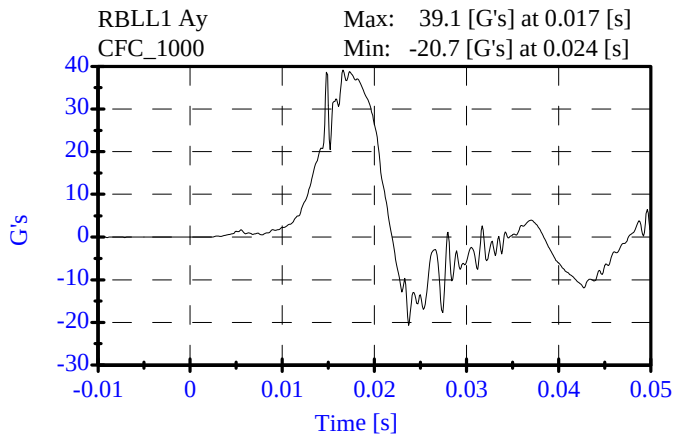
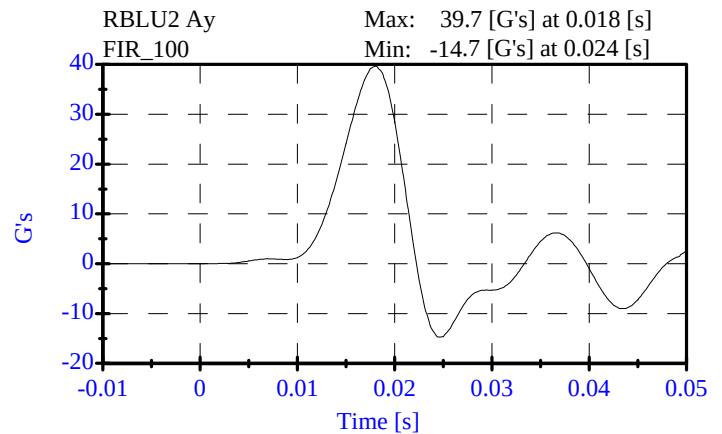
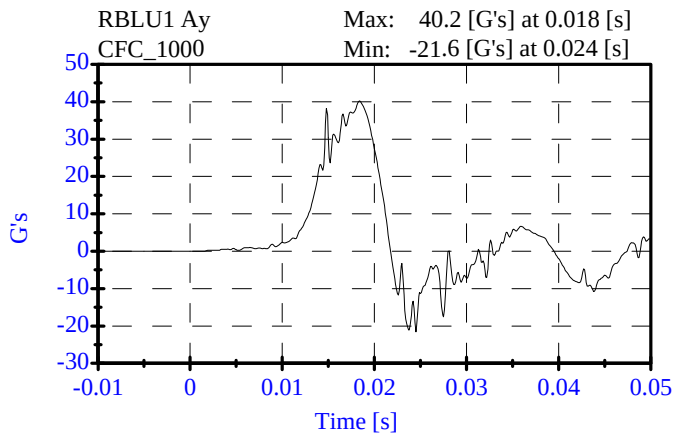
ATD Serial No: 270

Date: 10-23-06

Sequential Test Number: 1 File: 270T1 10-23-06

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	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	39.72 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.78 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.20 G's	Passed



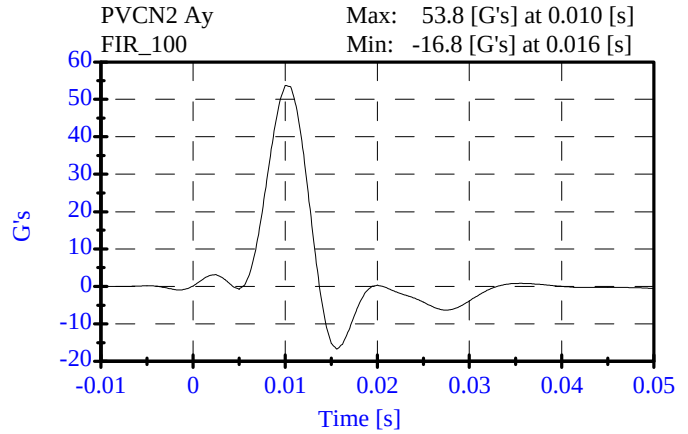
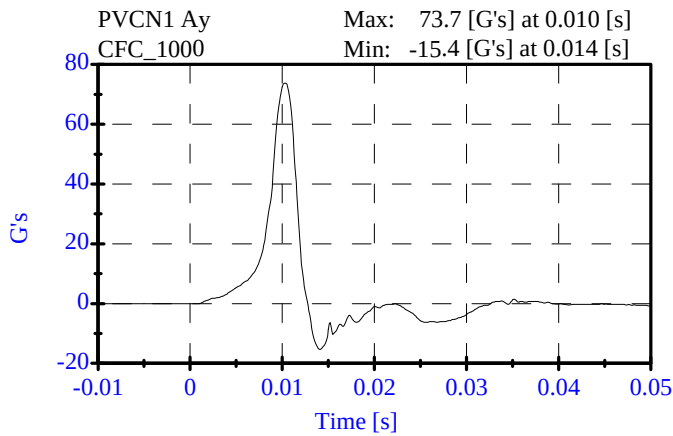
Pelvis Impact **Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 10-23-06

Sequential Test Number: 1 File: 270P 10-24-06
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 %	41.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	53.76 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.2 ms	Passed



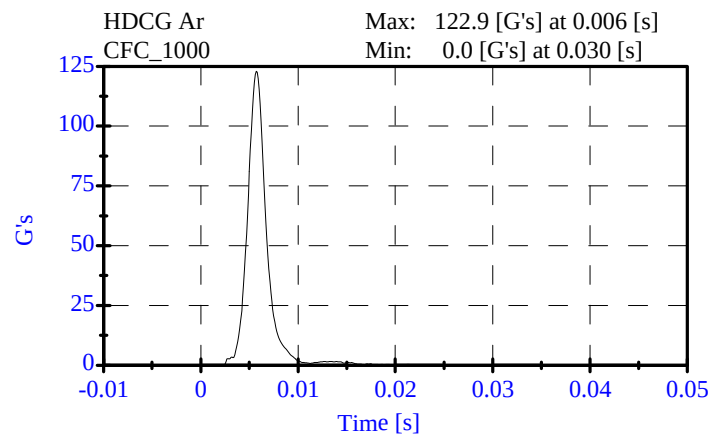
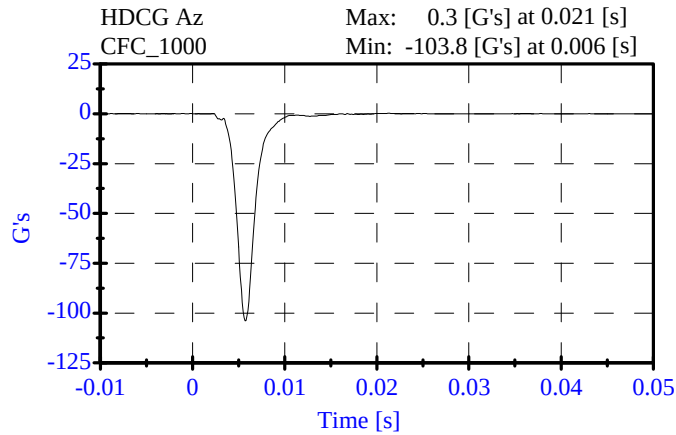
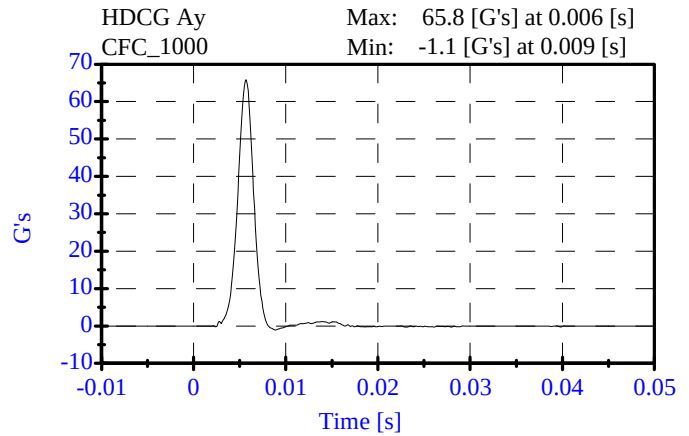
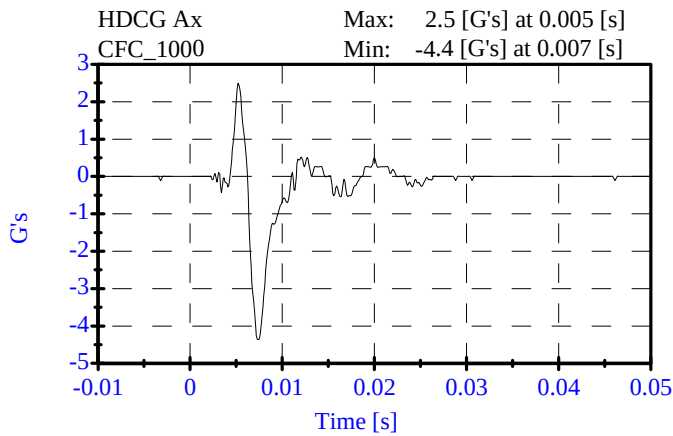
Head Drop Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 10-20-06

Sequential Test Number: 1 File: 270H1 10-20-06
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	122.94 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	2.49 Gs	Passed
Curve PerCent NonModal:	< 15%	1.28 %	Passed



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

ATD Serial No: 270

Date: 10-20-06

Sequential Test Number: 1 File: 270N 10-20-06

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	2.07 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	6.98 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.62 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	61.30 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	80.31 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.40 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

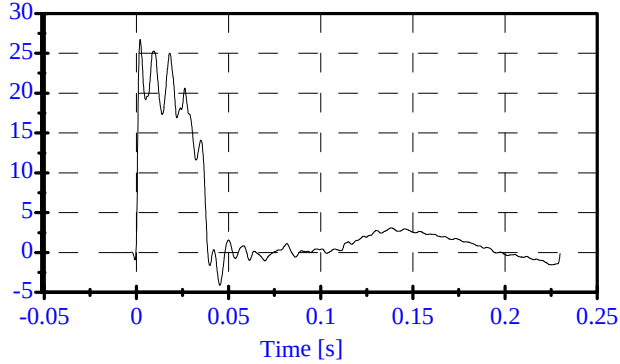
ATD Serial No: 270

Date: 10-20-06

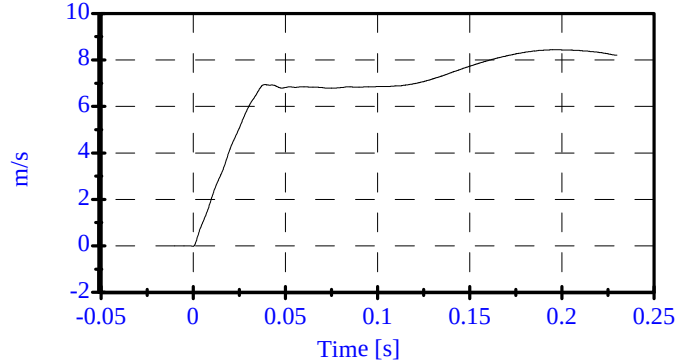
Sequential Test Number: 1 File: 270N 10-20-06

Laboratory Technician: B. Swiecicki

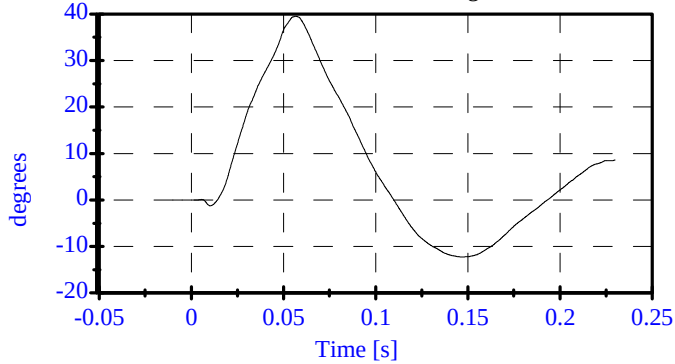
Pend Ax
CFC_180
Max: 26.8 [] at 0.002 [s]
Min: -4.1 [] at 0.045 [s]



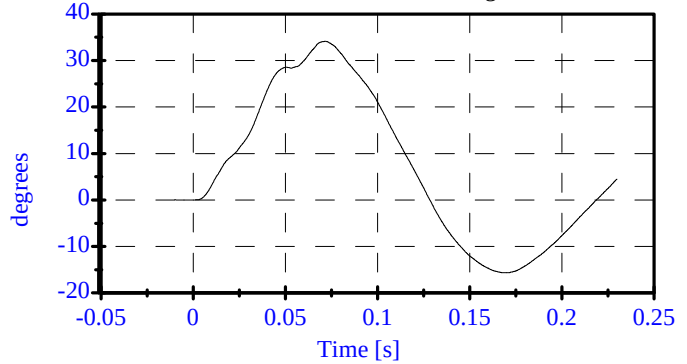
Pend Vx
CFC_180
Max: 8.4 [m/s] at 0.199 [s]
Min: -0.0 [m/s] at -0.000 [s]



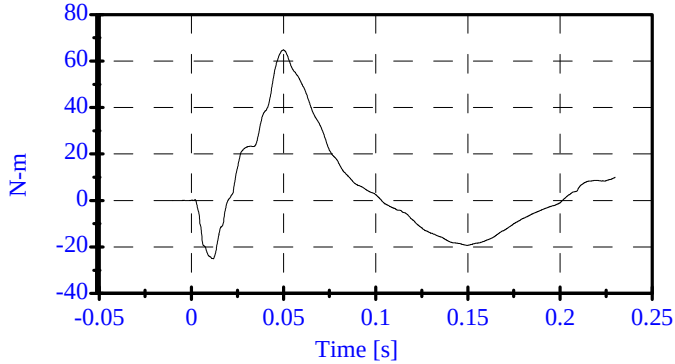
Head Rot
CFC_180
Max: 39.5 [degrees] at 0.057 [s]
Min: -12.2 [degrees] at 0.146 [s]



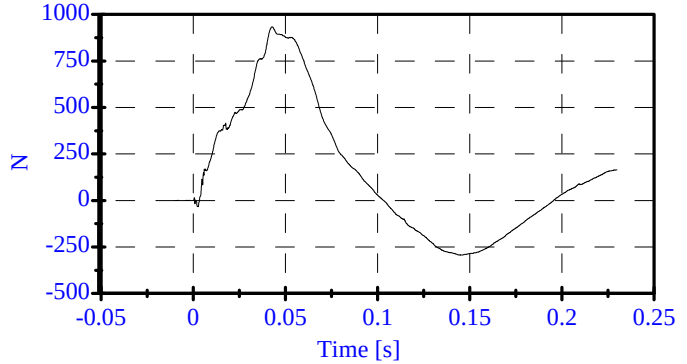
Arm Rot
CFC_180
Max: 34.1 [degrees] at 0.072 [s]
Min: -15.6 [degrees] at 0.170 [s]



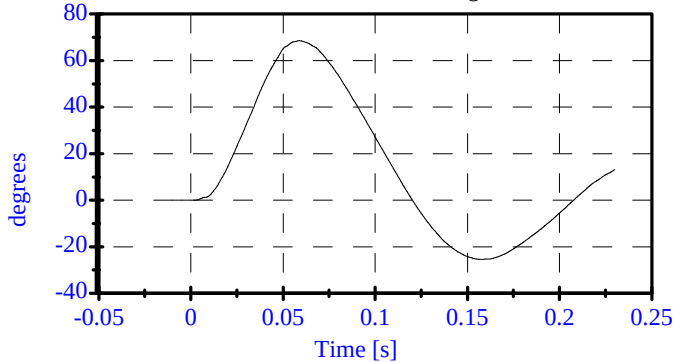
Neck Mx
CFC_600
Max: 64.7 [N-m] at 0.050 [s]
Min: -25.1 [N-m] at 0.012 [s]



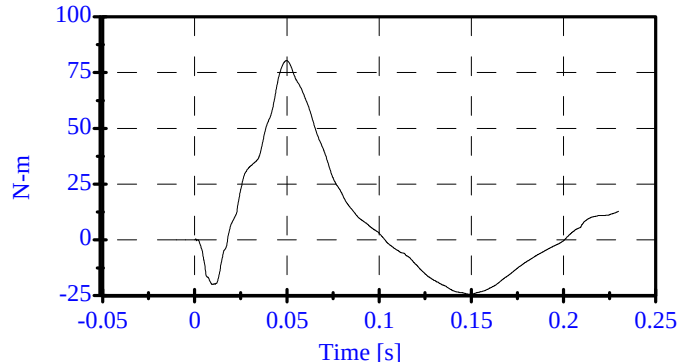
Neck Fy
CFC_1000
Max: 933.2 [N] at 0.043 [s]
Min: -294.0 [N] at 0.146 [s]



Tot Rot
CFC_180
Max: 68.6 [degrees] at 0.059 [s]
Min: -25.4 [degrees] at 0.157 [s]



MOCX
Max: 80.3 [N-m] at 0.050 [s]
Min: -24.4 [N-m] at 0.150 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

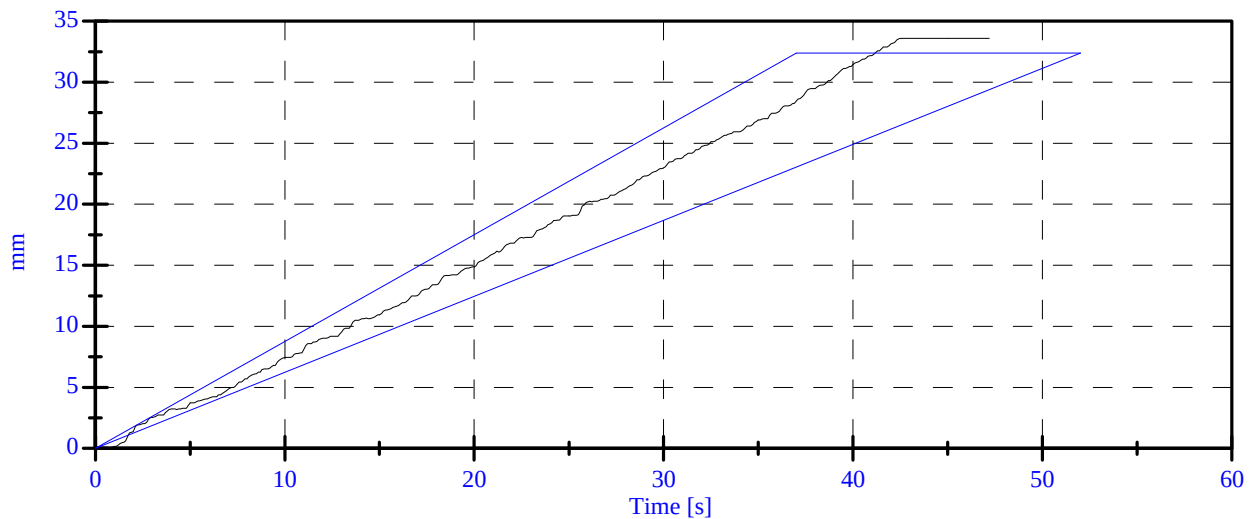
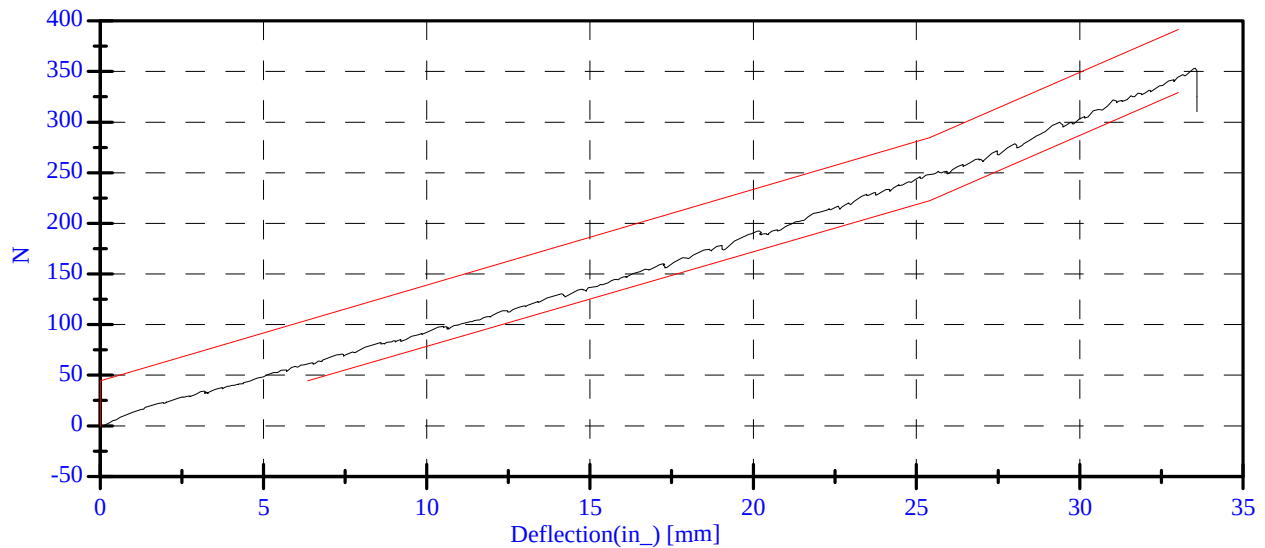
Date: 10-23-05

Sequential Test Number: 1 File: 270Ab 10-23-06

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 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	118.60 N	Passed
Force at 19.05 mm :	162.98-220.99 N	178.05 N	Passed
Force at 25.40 mm :	221.97-280.02 N	248.37 N	Passed
Force at 33.02 mm :	324.99-391.00 N	344.07 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

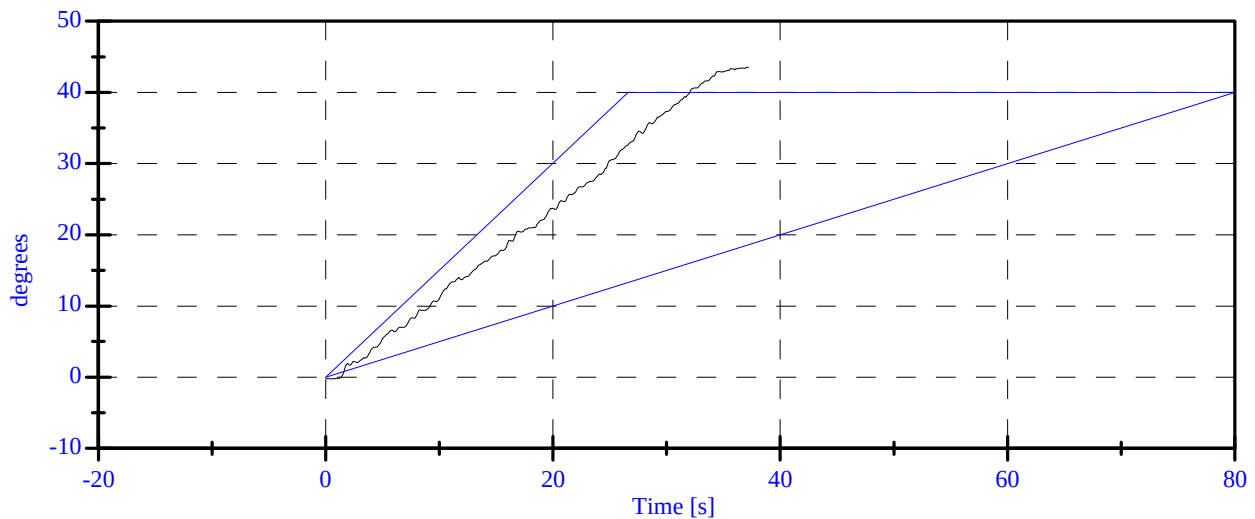
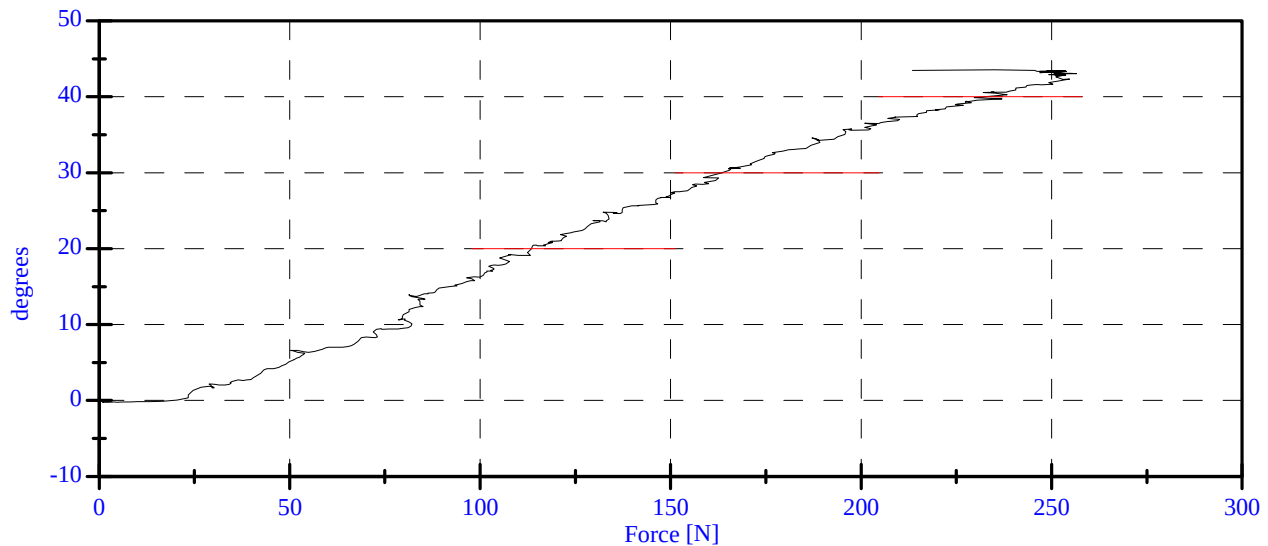
Date: 10-24-06

Sequential Test Number: 1 File: 270sp 10-24-06

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 %	41.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	20.50 N	Passed
Force at 20 Deg:	97.86-151.24 N	113.48 N	Passed
Force at 30 Deg:	151.24-204.62 N	162.83 N	Passed
Force at 40 Deg:	204.62-258.00 N	229.69 N	Passed
Return Angle	12 Deg Max	3.78 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
 Date: October 24, 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.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 1
Date: October 24, 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.: 269 Sequential Test Number: 1
Date: October 24, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	513
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	363

REMARKS: None

SID High Speed Shock Test S/N:269 (3.05 m/s)

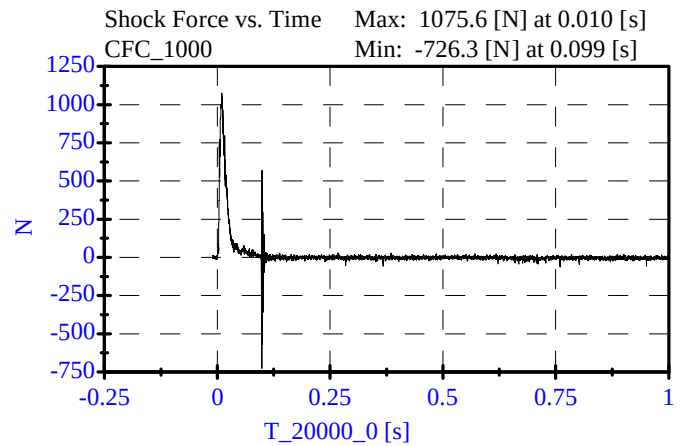
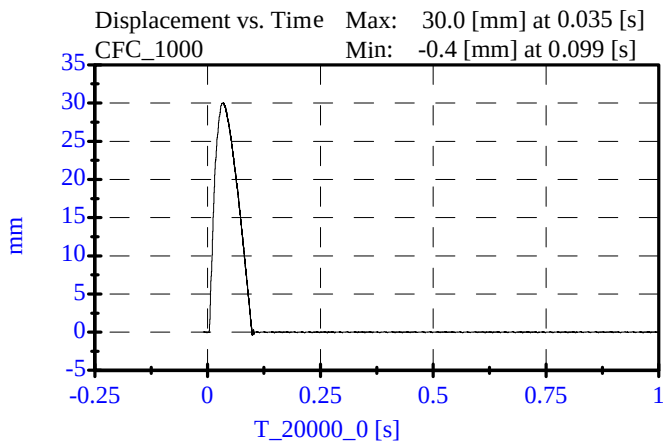
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: September 15, 2006

Sequential Test Number: 1 File: 906SH
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 %	50.00 %	Passed
Displacement:	30.00-35.00 mm	30.01 mm	Passed
Maximum Force:	836.00-1125.00 N	1075.61 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		



SID Mid Speed Shock Test S/N:269 (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

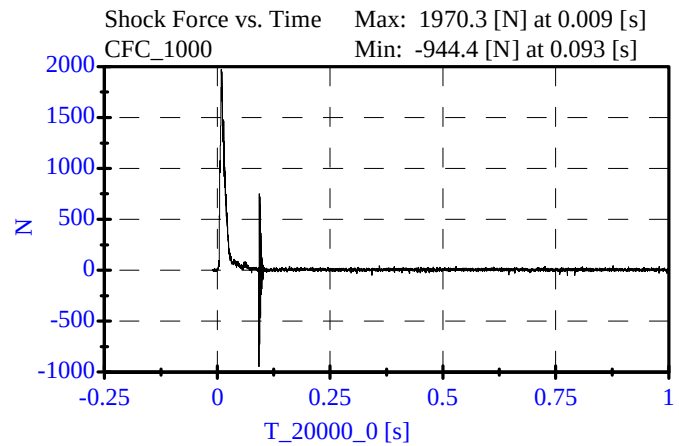
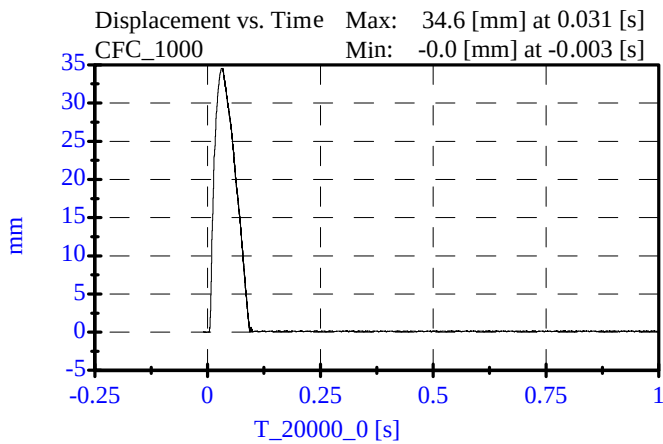
ATD Serial No: 269

Date: September 15, 2006

Sequential Test Number: 1 File: 269SM

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 %	50.00 %	Passed
Displacement:	32.00-37.00 mm	34.56 mm	Passed
Maximum Force:	1730.00-2099.00 N	1970.28 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	269		
Damper Setting:	5		



SID High Speed Shock Test S/N:269 (6.10 m/s)

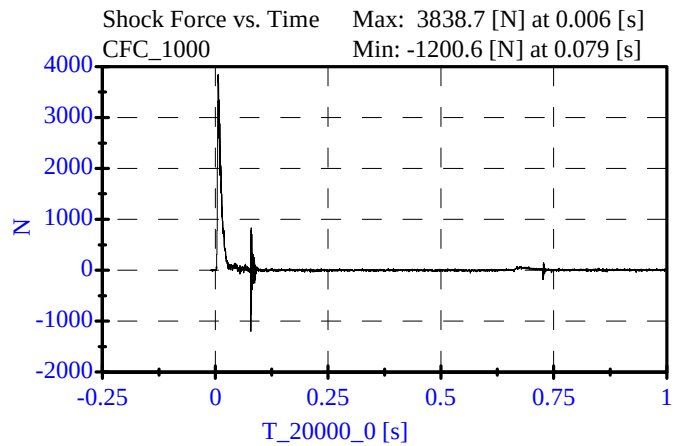
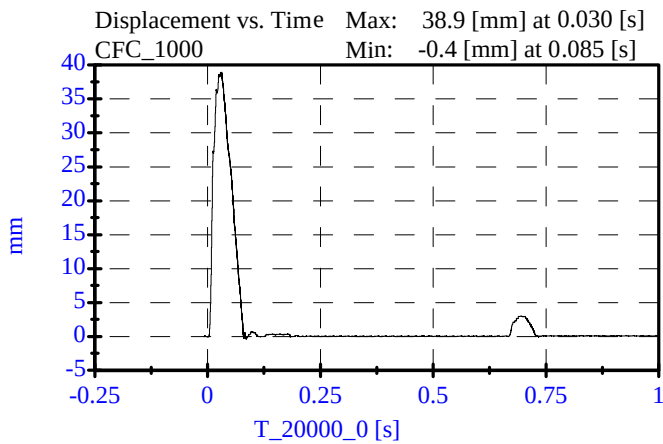
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: September 15, 2006

Sequential Test Number: 1 File: 269SM
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 %	50.00 %	Passed
Displacement:	33.00-40.00 mm	38.90 mm	Passed
Maximum Force:	3741.00-4448.00 N	3838.67 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		

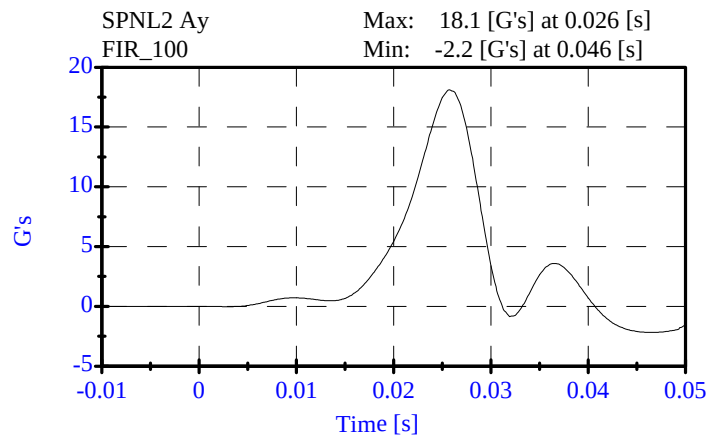
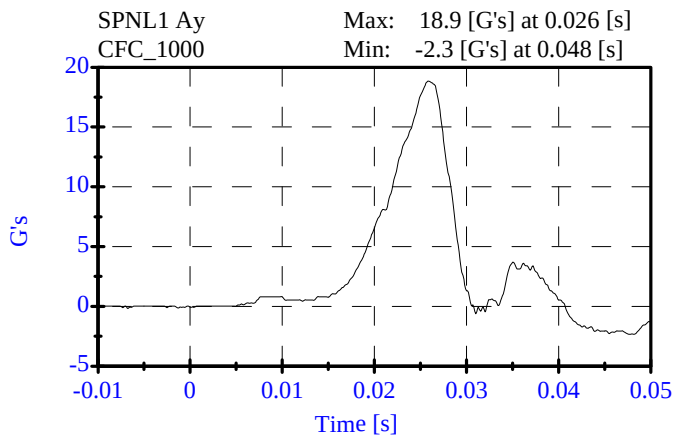
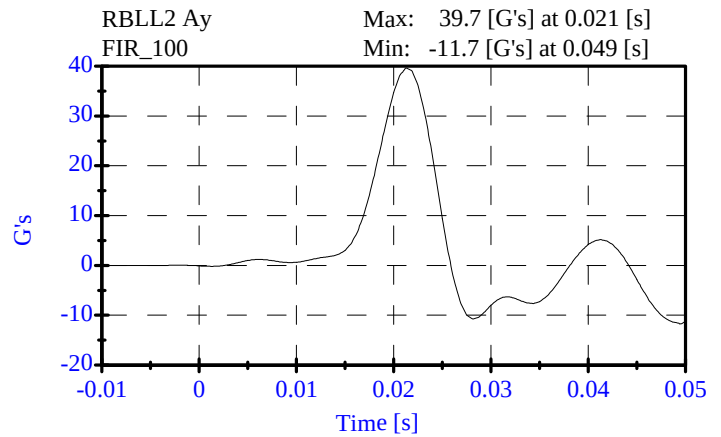
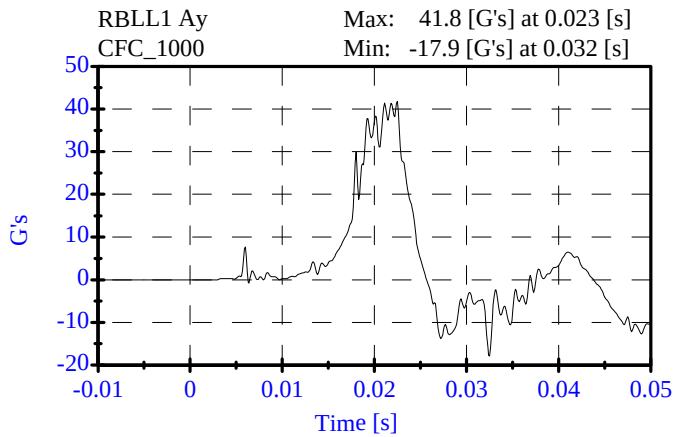
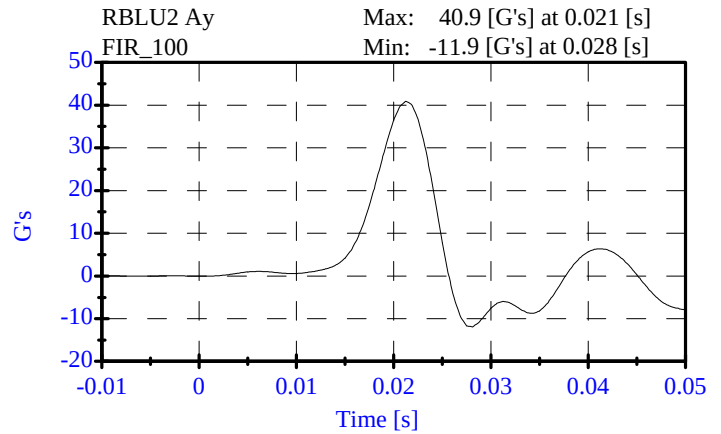
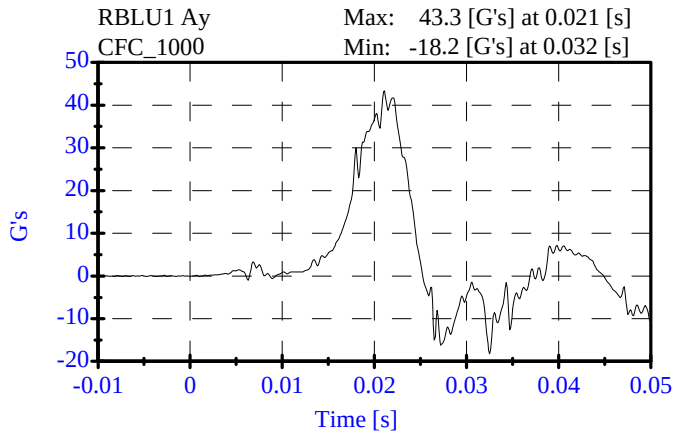


Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 10-24-06

Sequential Test Number: 1 File: 269T 10-24-06
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 %	41.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.90 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	39.66 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.12 G's	Passed



Pelvic Impact

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

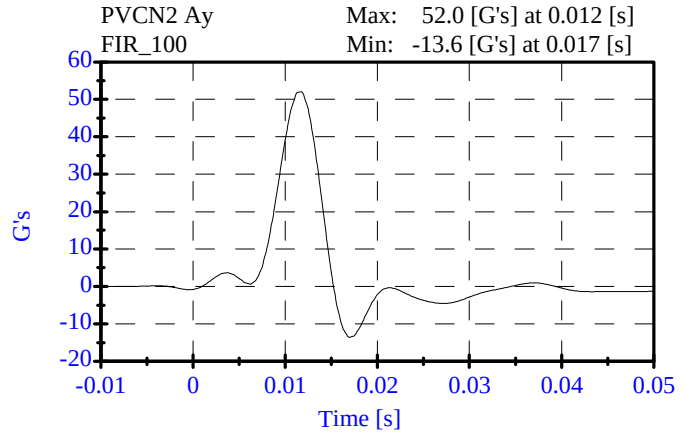
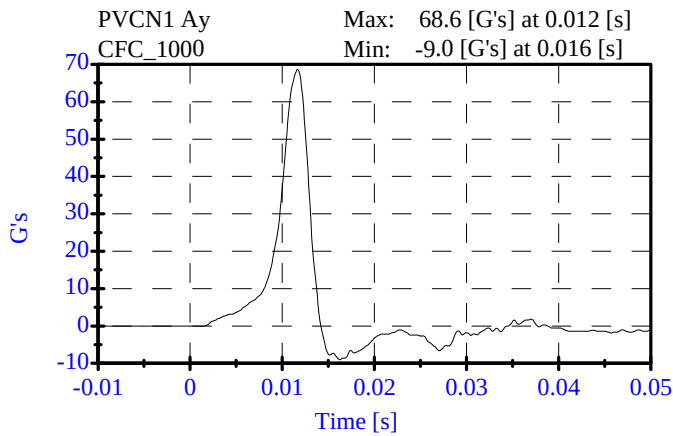
ATD Serial No: 269

Date: 10-24-06

Sequential Test Number: 1 File: 269P 10-24-06

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 %	41.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	52.04 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



HEAD DROP

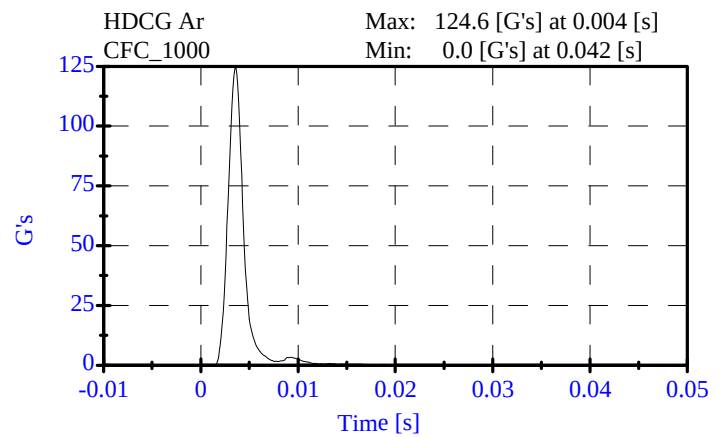
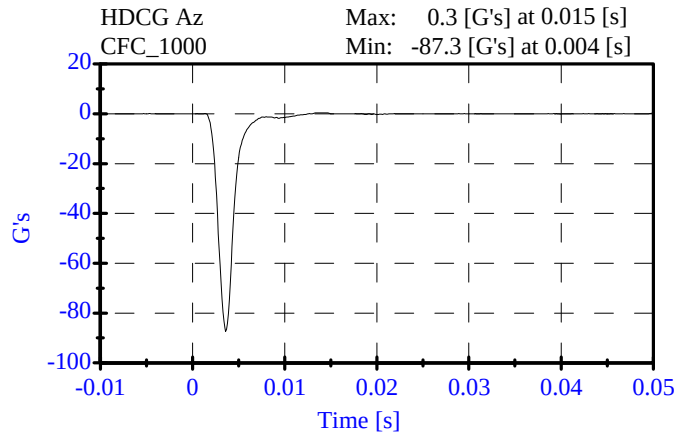
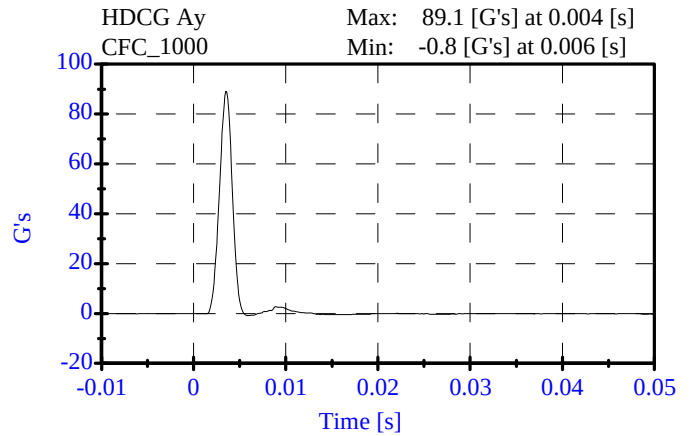
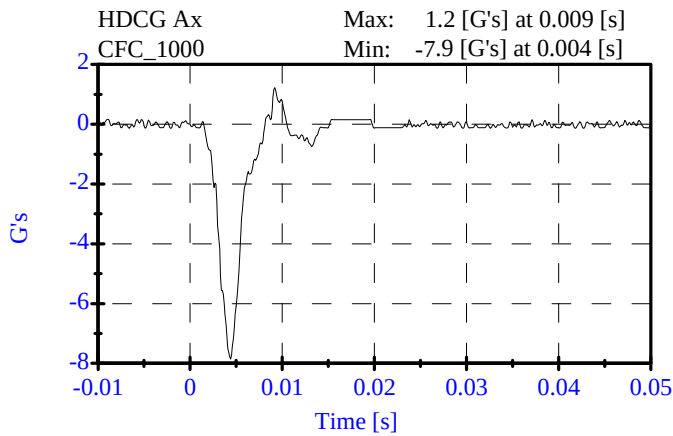
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 10-20-06

Sequential Test Number: 1 File: 269H 10-20-06
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	124.60 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.22 Gs	Passed
Curve PerCent NonModal:	< 15%	2.67 %	Passed



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

ATD Serial No: 269

Date: 10-20-06

Sequential Test Number: 1 File: 269N 10-20-06

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	2.11 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.41 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.43 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.07 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	75.50 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	66.00 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	82.58 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	58.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.40 ms	Passed

Neck Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

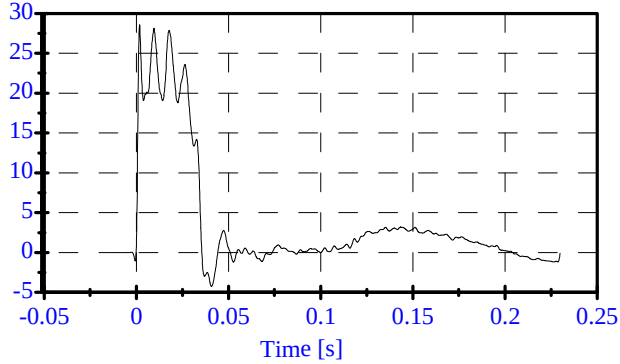
ATD Serial No: 269

Date: 10-20-06

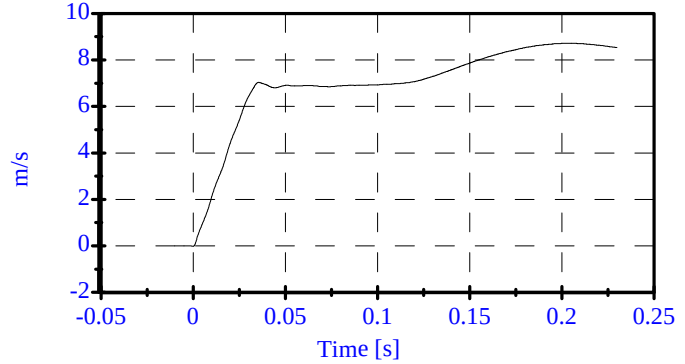
Sequential Test Number: 1 File: 269N 10-20-06

Laboratory Technician: B. Swiecicki

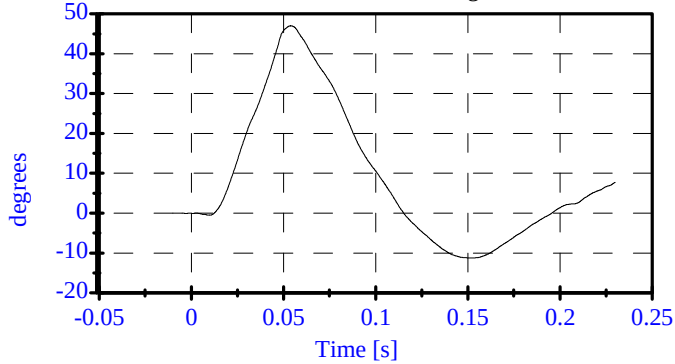
Pend Ax
CFC_180
Max: 28.6 [] at 0.002 [s]
Min: -4.3 [] at 0.041 [s]



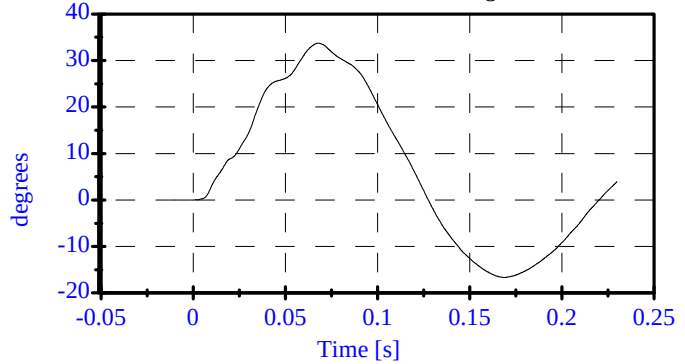
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.204 [s]
Min: -0.0 [m/s] at -0.000 [s]



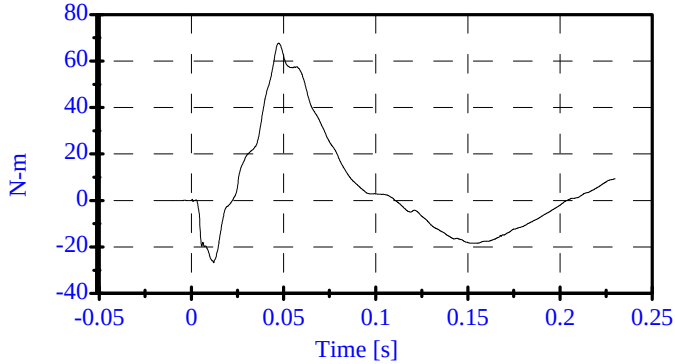
Head Rot
CFC_180
Max: 47.1 [degrees] at 0.054 [s]
Min: -11.2 [degrees] at 0.153 [s]



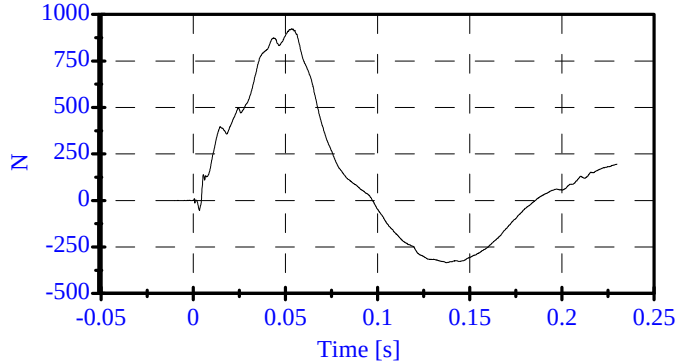
Arm Rot
CFC_180
Max: 33.7 [degrees] at 0.068 [s]
Min: -16.6 [degrees] at 0.169 [s]



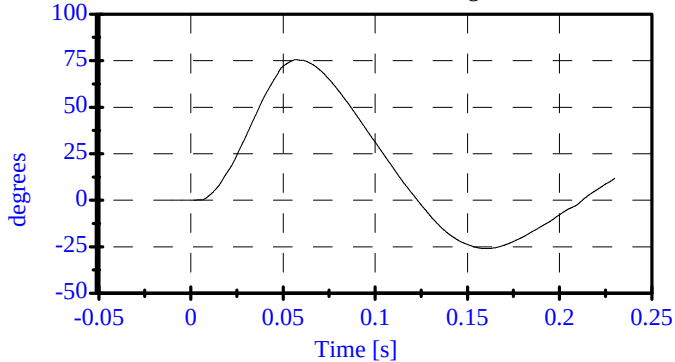
Neck Mx
CFC_600
Max: 67.6 [N-m] at 0.047 [s]
Min: -26.7 [N-m] at 0.012 [s]



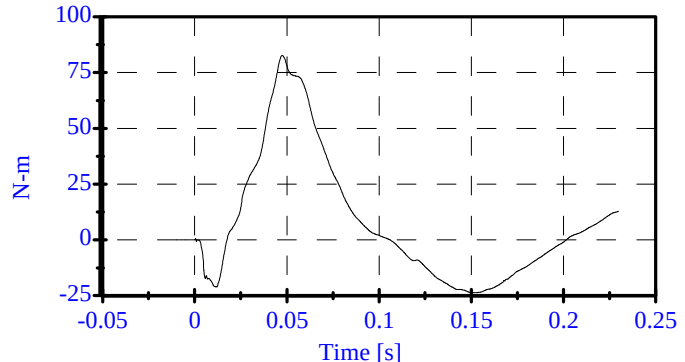
Neck Fy
CFC_1000
Max: 923.7 [N] at 0.053 [s]
Min: -334.7 [N] at 0.137 [s]



Tot Rot
CFC_180
Max: 75.5 [degrees] at 0.057 [s]
Min: -26.0 [degrees] at 0.161 [s]



MOCX
Max: 82.6 [N-m] at 0.048 [s]
Min: -23.7 [N-m] at 0.152 [s]



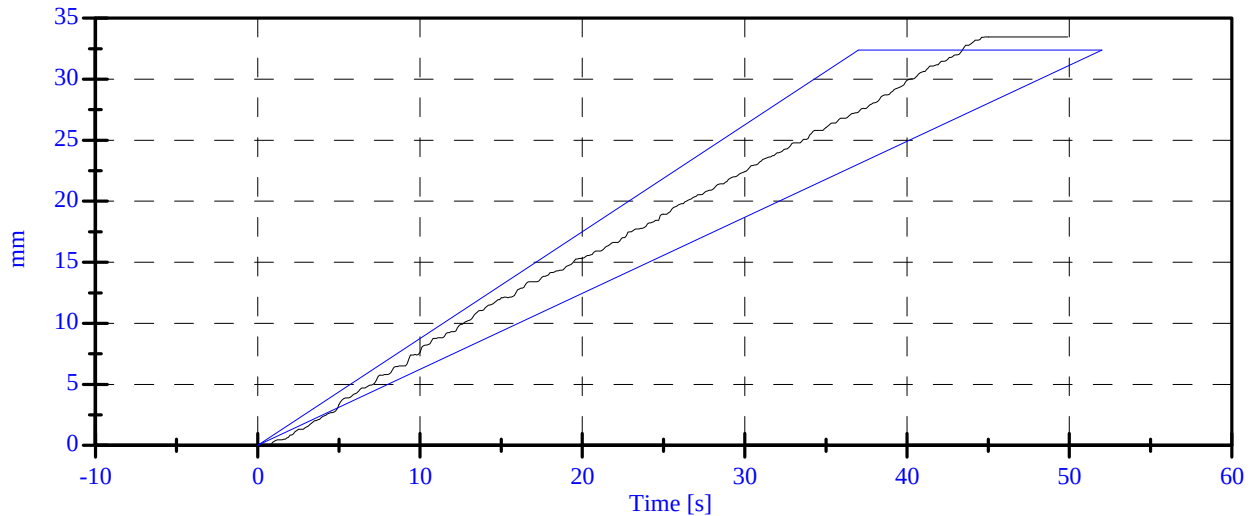
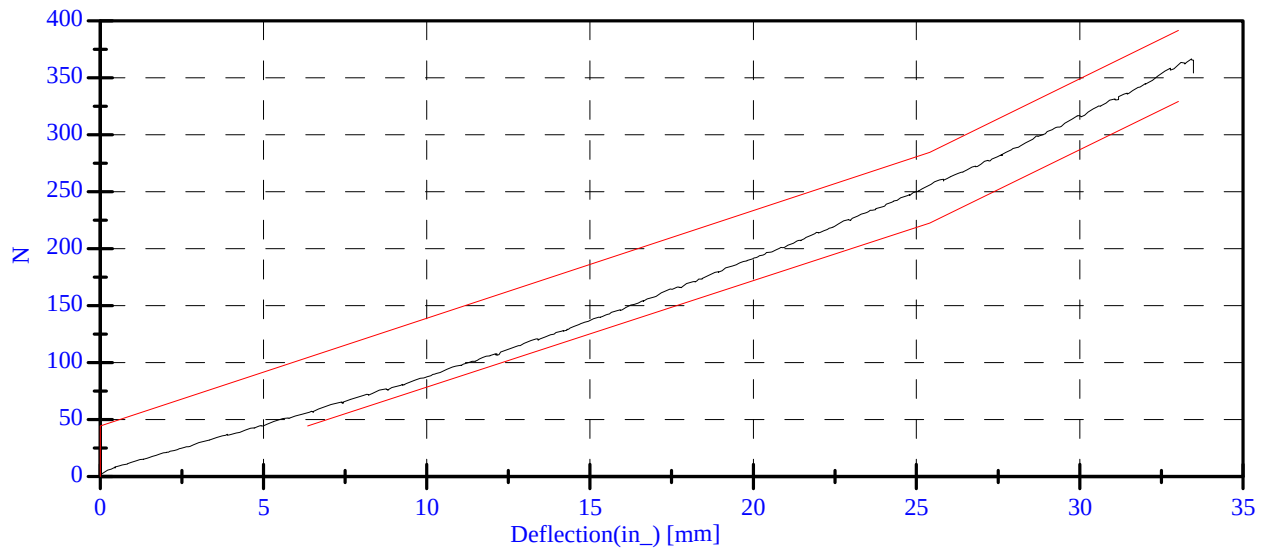
Abdomen Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 10-23-06

Sequential Test Number: 1 File: 269Ab 10-23-06
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 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	116.79 N	Passed
Force at 19.05 mm :	162.98-220.99 N	180.59 N	Passed
Force at 25.40 mm :	221.97-280.02 N	256.35 N	Passed
Force at 33.02 mm :	324.99-391.00 N	360.74 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

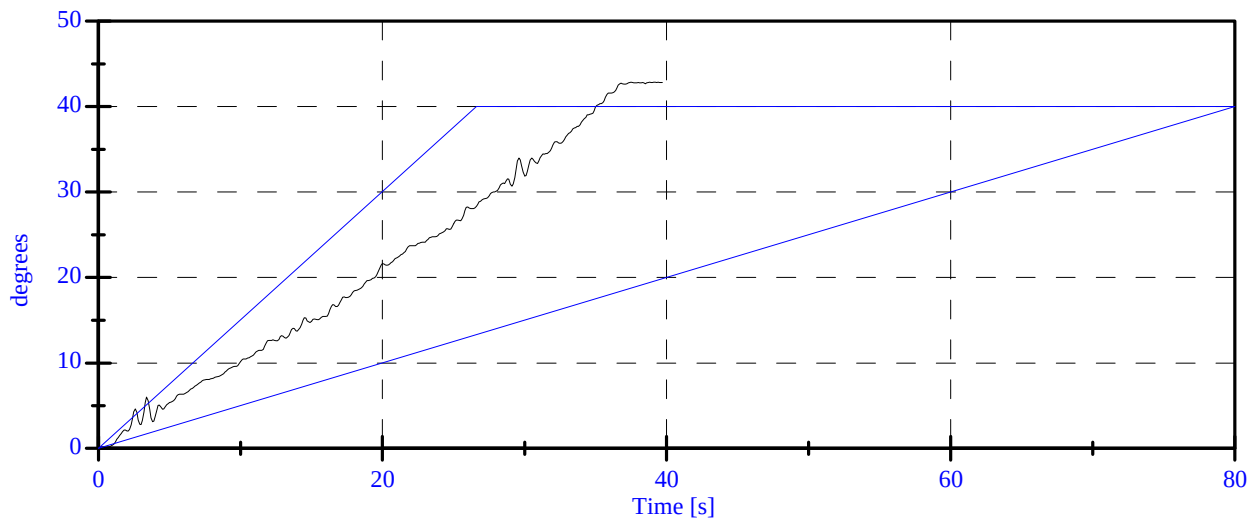
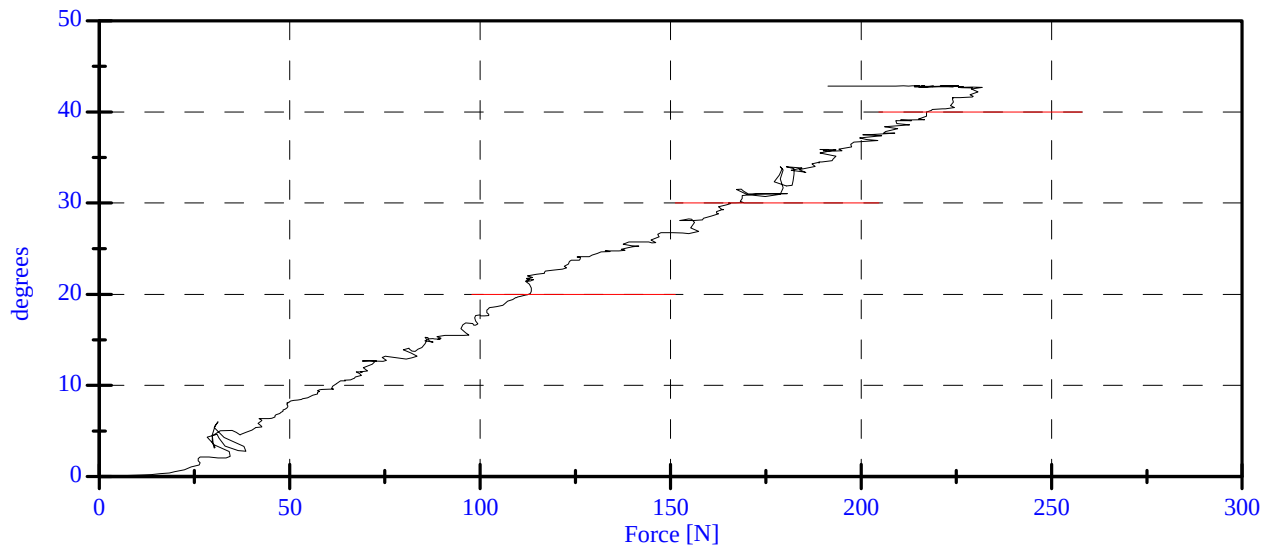
Date: 10-24-06

Sequential Test Number: 1 File: 269sp 10-24-06

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 %	42.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.96 N	Passed
Force at 20 Deg:	97.86-151.24 N	112.43 N	Passed
Force at 30 Deg	151.24-204.62 N	165.18 N	Passed
Force at 40 Deg	204.62-258.00 N	217.15 N	Passed
Return Angle	12 Deg Max	3.20 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
 Date: October 24, 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.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.:	<u>270</u>	Sequential Test Number:	<u>1</u>
Date:	<u>October 30, 2006</u>	Laboratory Technician:	<u>B. Swiecicki</u>

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.: 270 Sequential Test Number: 1
Date: October 30, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	905
RH- Rib Height (mm)	502 - 520	512
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	498
HW- Hip Width (mm)	356 - 391	358

REMARKS: None

Thorax Impact

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

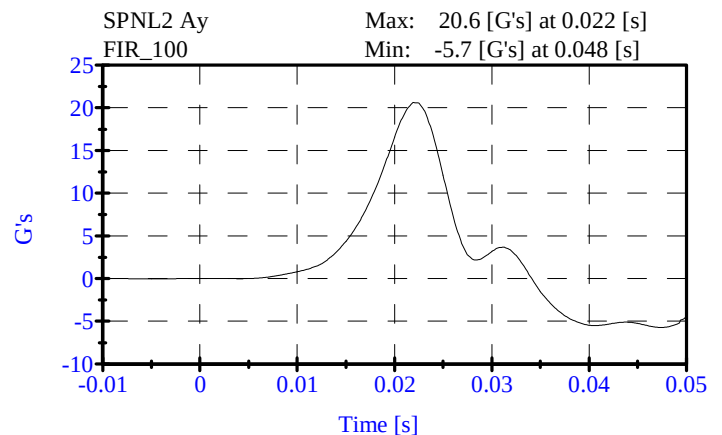
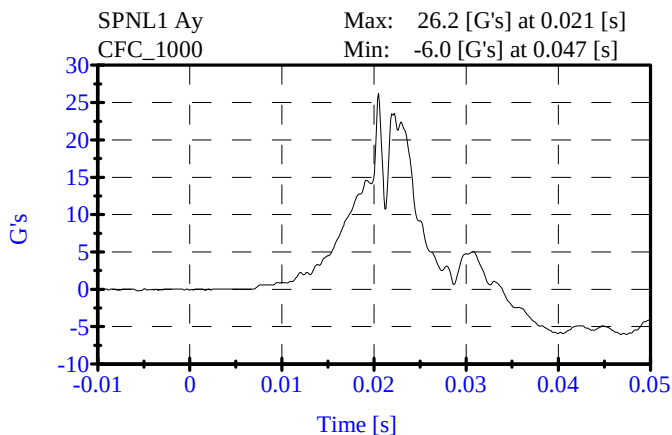
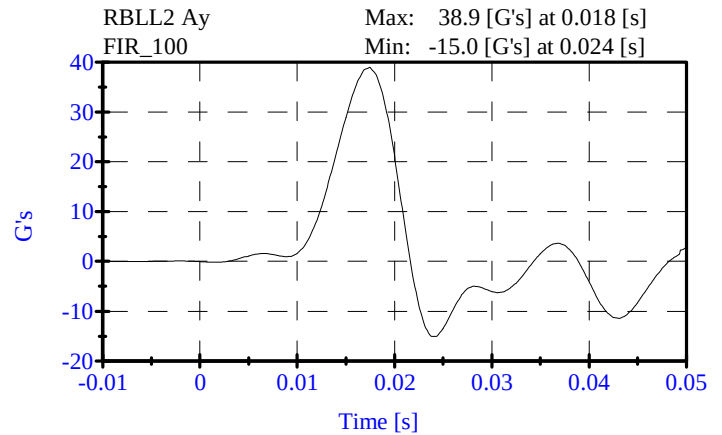
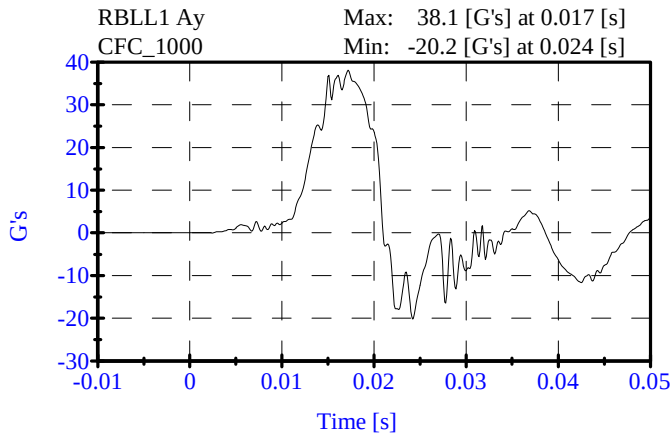
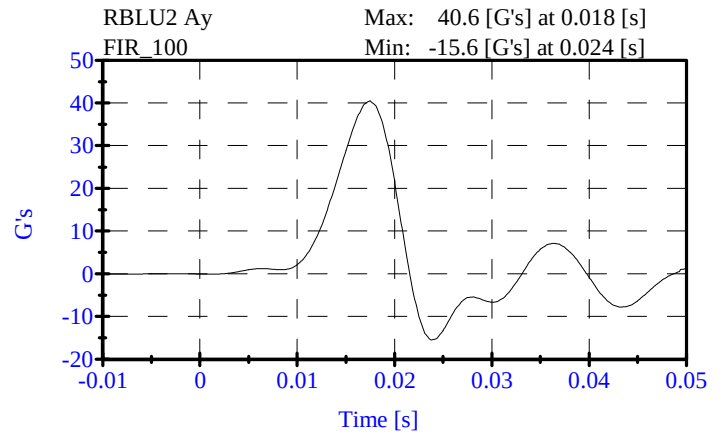
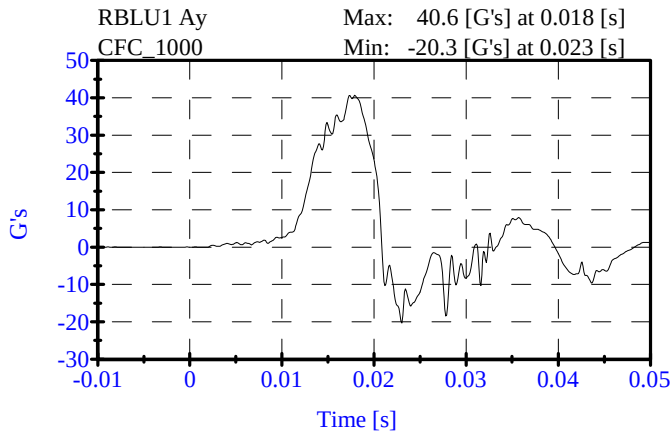
ATD Serial No: 270

Date: 10-27-06

Sequential Test Number: 1 File: 270T 10-27-06

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
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.57 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.94 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.60 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

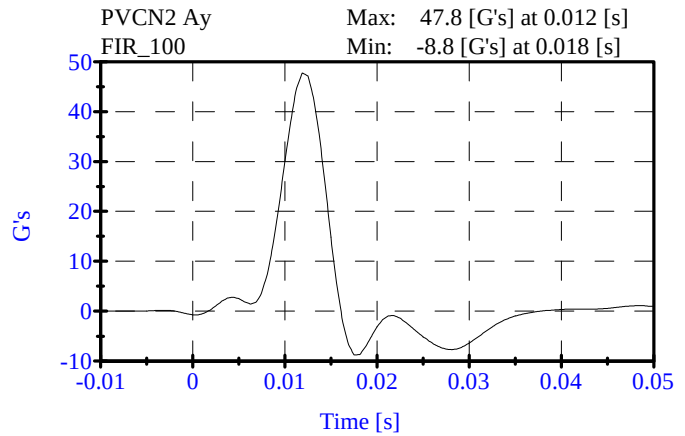
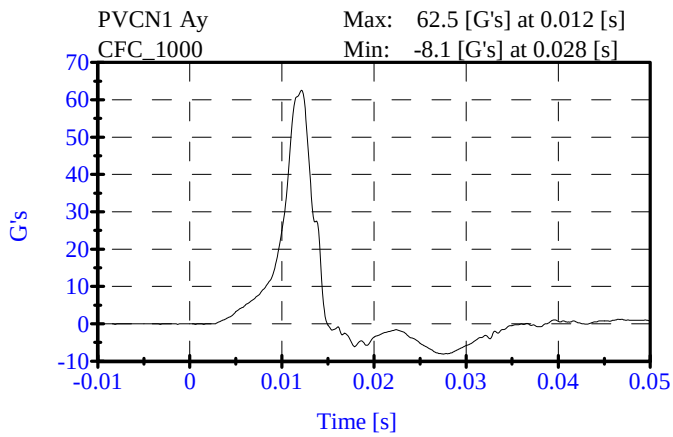
ATD Serial No: 270

Date: 10-27-06

Sequential Test Number: 1 File: 270P 10-27-06

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
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	47.76 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



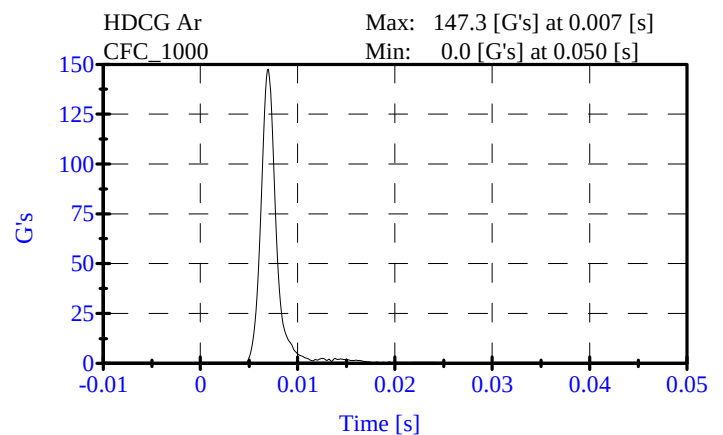
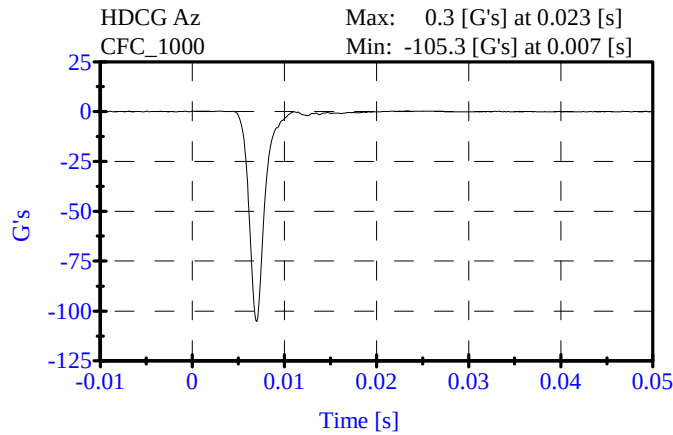
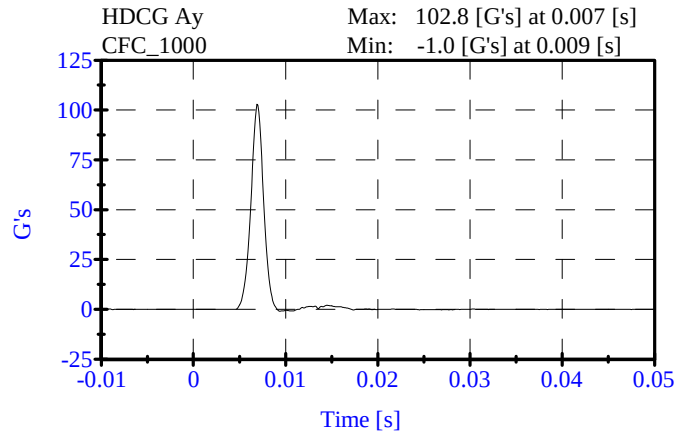
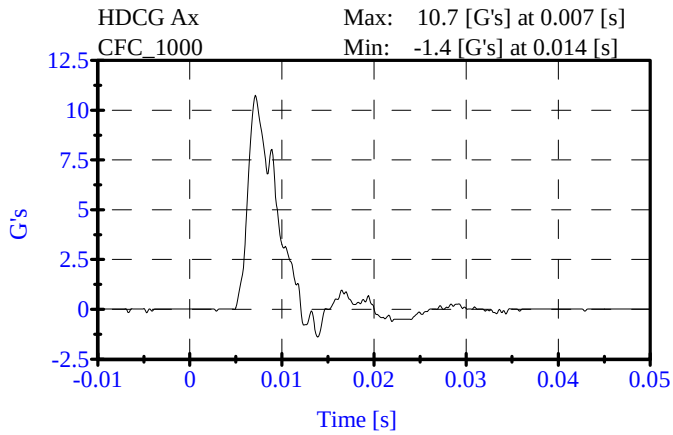
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 10-27-06

Sequential Test Number: 1 File: 270HD 10-27-06
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 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	147.31 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	10.74 Gs	Passed
Curve PerCent NonModal:	< 15%	1.74 %	Passed



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

ATD Serial No: 270

Date: 10-30-06

Sequential Test Number: 1 File: 270N 10-30-06

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	2.26 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.62 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.61 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.17 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.51 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	84.38 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.00 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.20 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

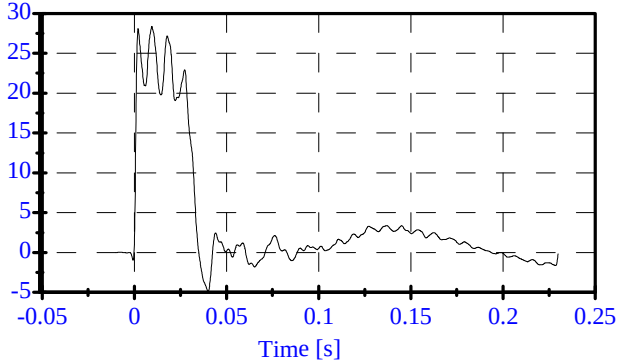
ATD Serial No: 270

Date: 10-30-06

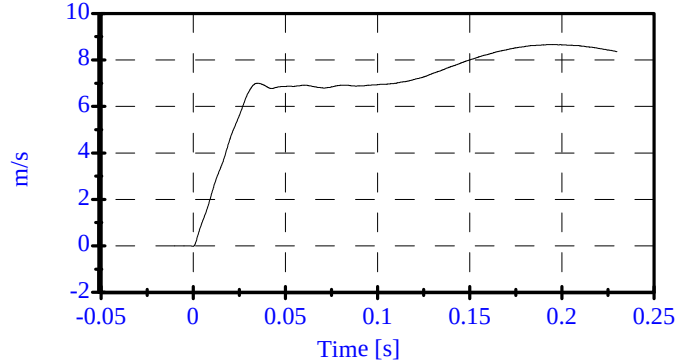
Sequential Test Number: 1 File: 270N 10-30-06

Laboratory Technician: B. Swiecicki

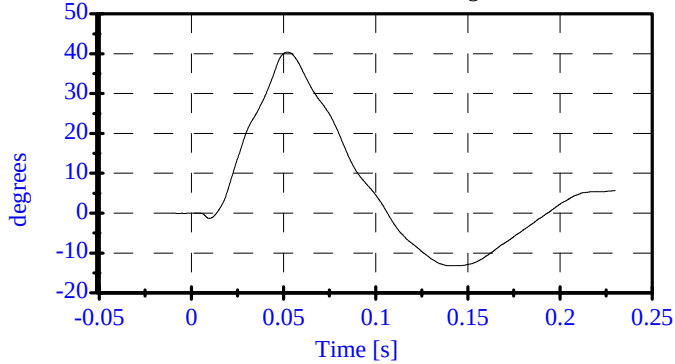
Pend Ax
CFC_180
Max: 28.4 [] at 0.009 [s]
Min: -4.8 [] at 0.040 [s]



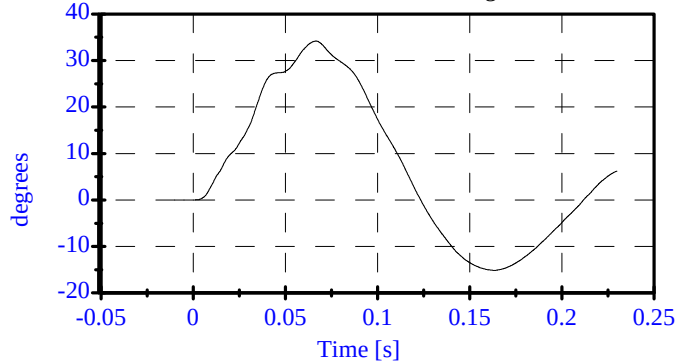
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



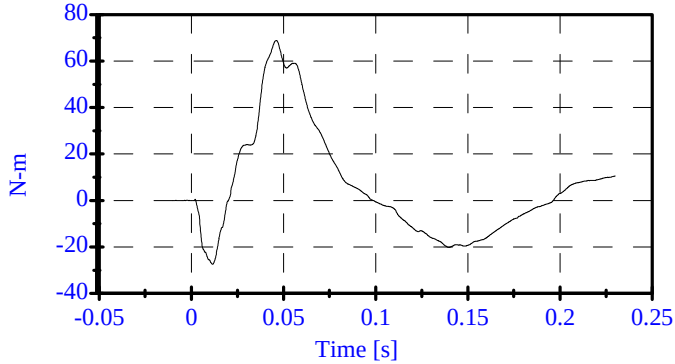
Head Rot
CFC_180
Max: 40.4 [degrees] at 0.052 [s]
Min: -13.2 [degrees] at 0.141 [s]



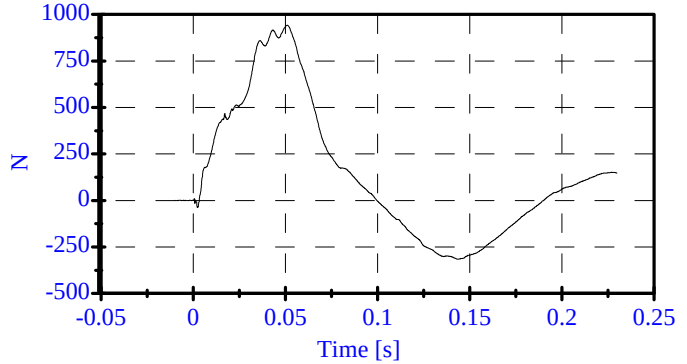
Arm Rot
CFC_180
Max: 34.2 [degrees] at 0.067 [s]
Min: -15.1 [degrees] at 0.163 [s]



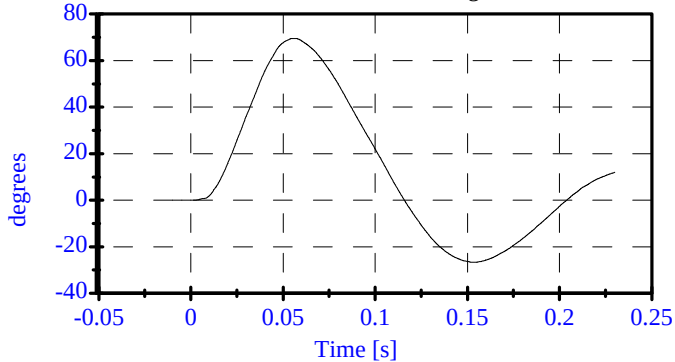
Neck Mx
CFC_600
Max: 68.8 [N-m] at 0.046 [s]
Min: -27.4 [N-m] at 0.012 [s]



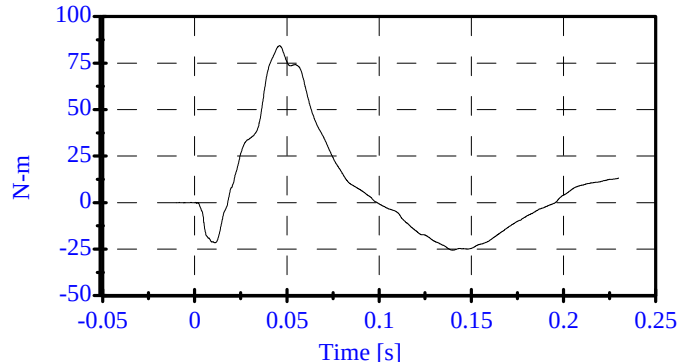
Neck Fy
CFC_1000
Max: 941.3 [N] at 0.051 [s]
Min: -316.4 [N] at 0.144 [s]



Tot Rot
CFC_180
Max: 69.5 [degrees] at 0.055 [s]
Min: -26.6 [degrees] at 0.153 [s]



MOCX
Max: 84.4 [N-m] at 0.046 [s]
Min: -25.6 [N-m] at 0.140 [s]



Abdomen Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

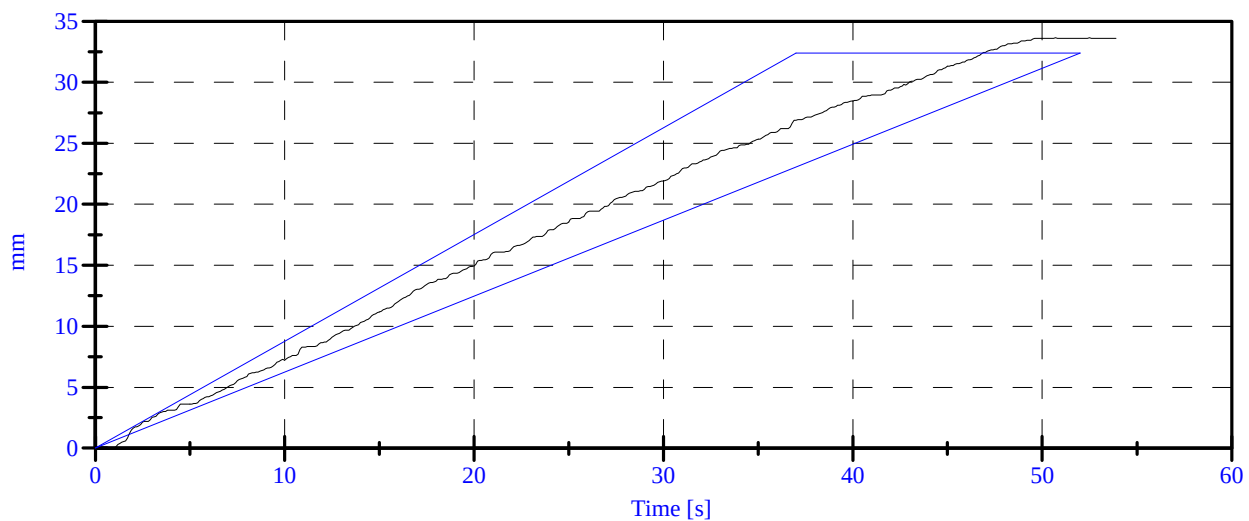
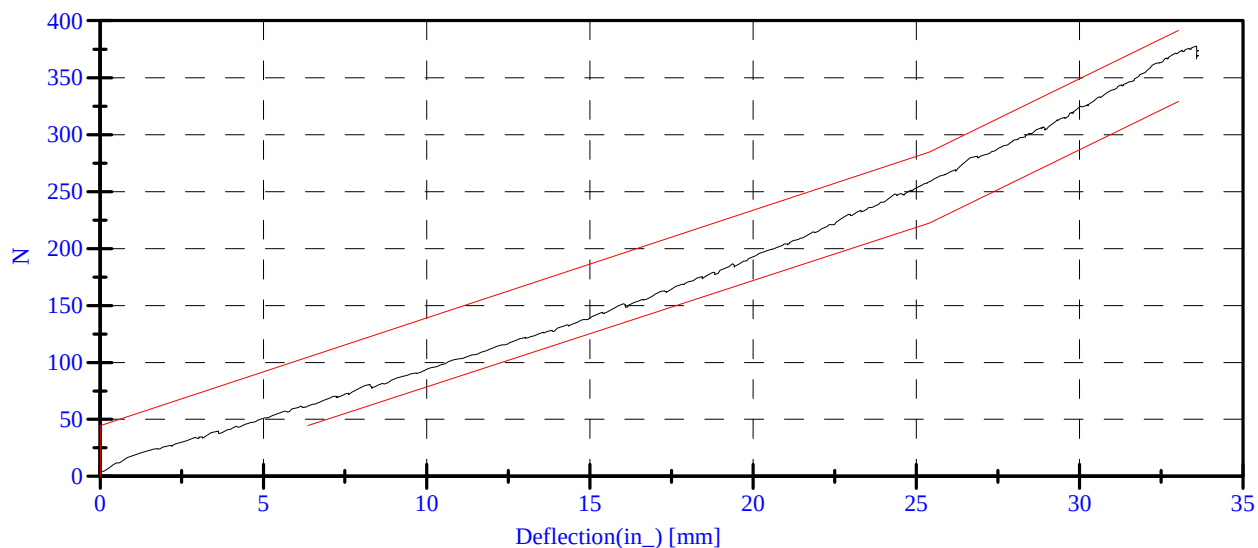
Date: 10-30-06

Sequential Test Number: 1 File: 270AB 10-30-06

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 %	33.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	121.50 N	Passed
Force at 19.05 mm :	162.98-220.99 N	180.95 N	Passed
Force at 25.40 mm :	221.97-280.02 N	259.25 N	Passed
Force at 33.02 mm :	324.99-391.00 N	372.34 N	Passed

ABDOMINAL COMPRESSION TEST



**Spine Test
POST TEST**

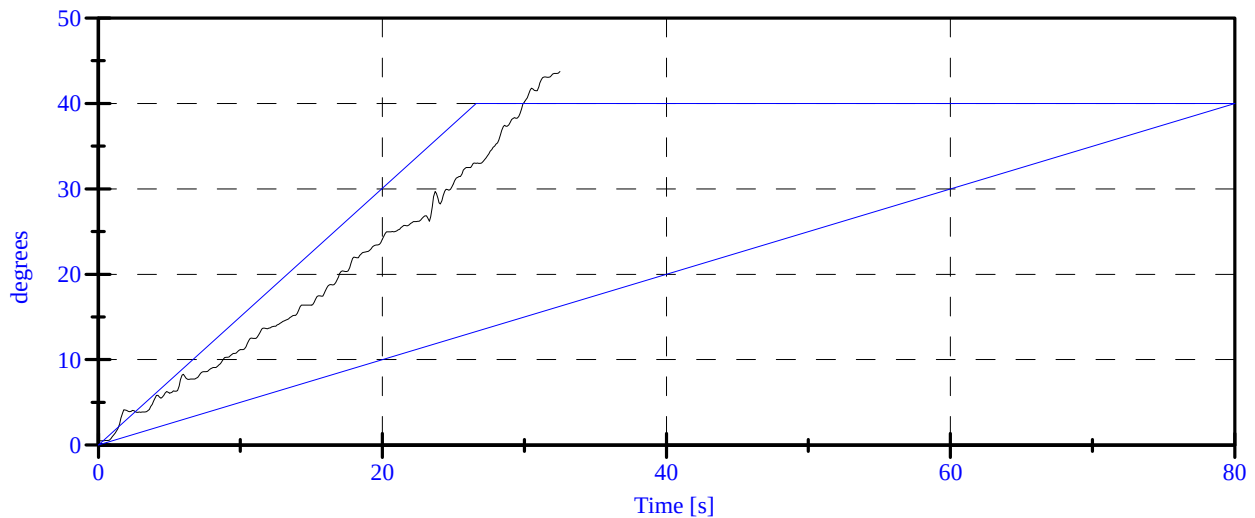
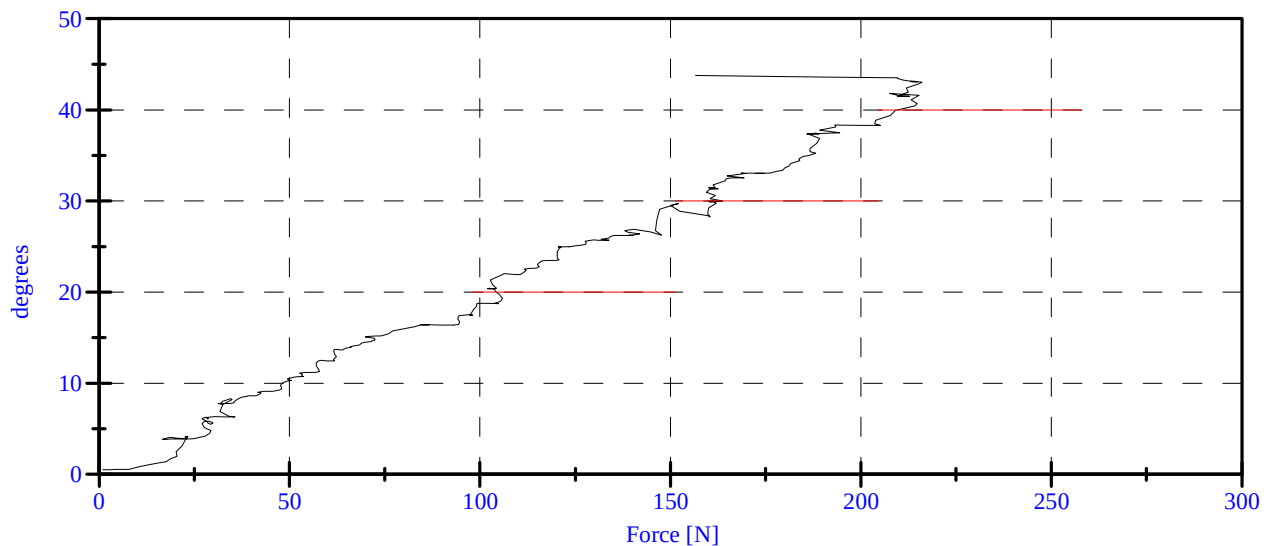
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 10-30-2006

Sequential Test Number: 1 File: 270SP 10-30-06
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 %	33.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.92 N	Passed
Force at 20 Deg:	97.86-151.24 N	104.07 N	Passed
Force at 30 Deg:	151.24-204.62 N	161.27 N	Passed
Force at 40 Deg:	204.62-258.00 N	209.06 N	Passed
Return Angle	12 Deg Max	5.42 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
 Date: October 30, 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.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 1
Date: October 30, 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.: 269 Sequential Test Number: 1
Date: October 30, 2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	240
KH- Knee Pivot from Back Line (mm)	511 - 526	520
KV- Knee Pivot to Floor (mm)	490 - 505	494
HW- Hip Width (mm)	356 - 391	363

REMARKS: None

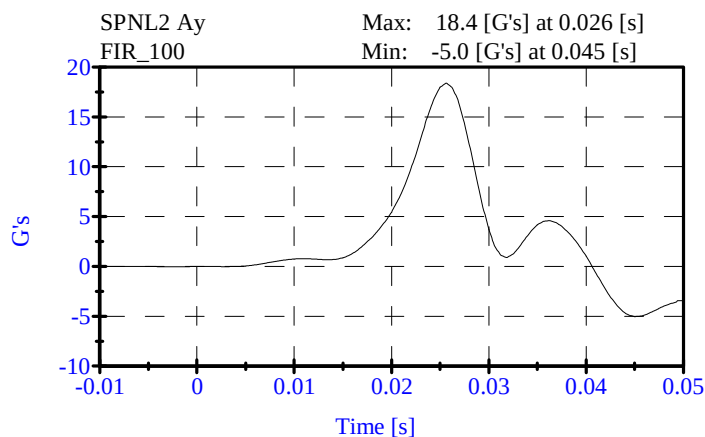
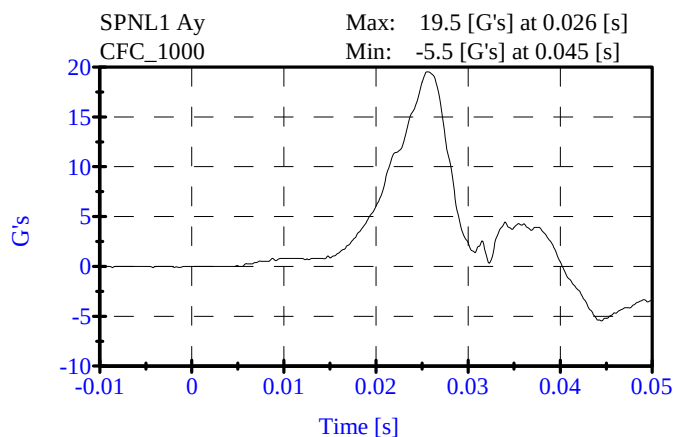
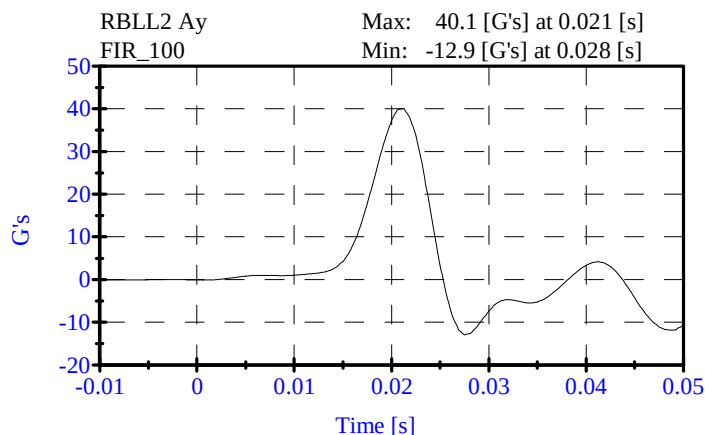
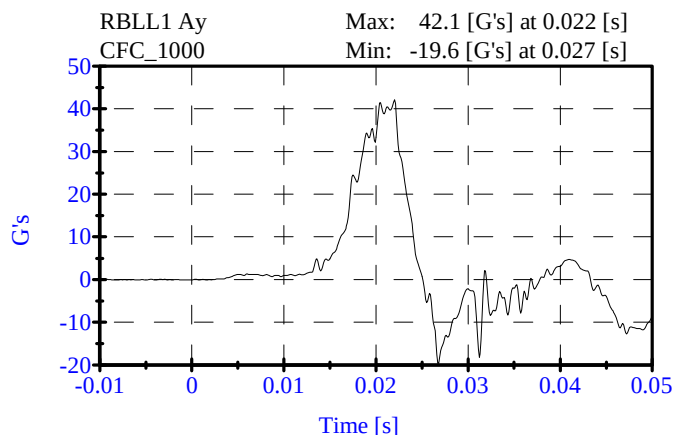
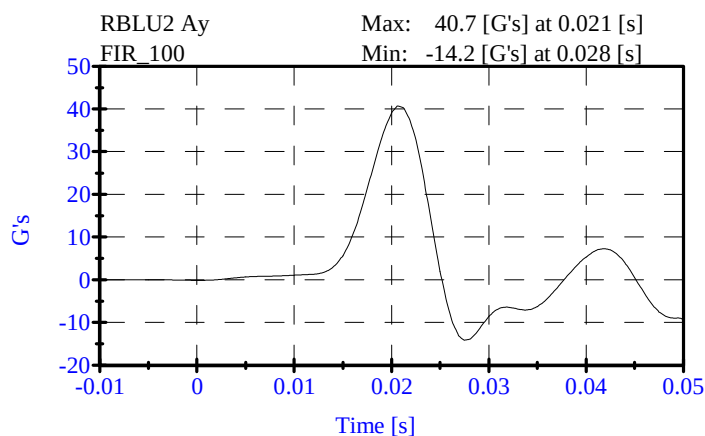
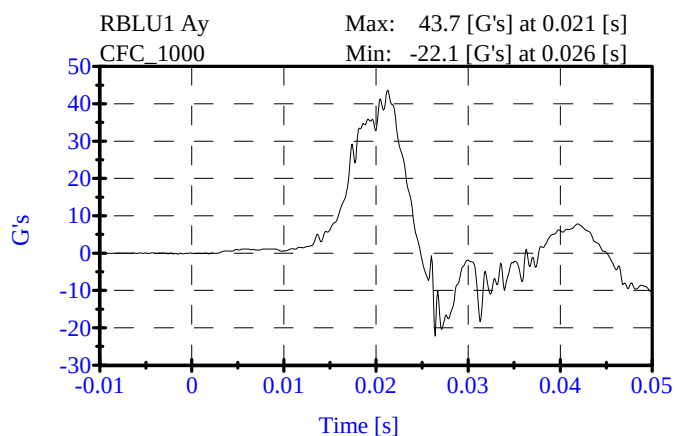
Thorax Impact **Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 10-27-06

Sequential Test Number: 1 File: 269T 10-27-06
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
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.69 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.09 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.39 G's	Passed



Pelvic Impact

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

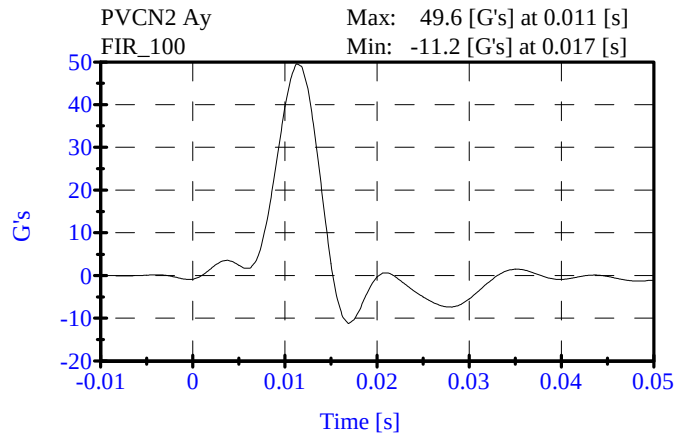
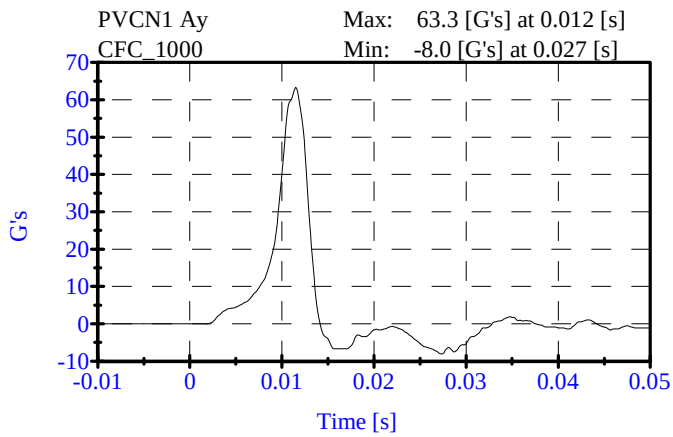
ATD Serial No: 269

Date: 10-27-06

Sequential Test Number: 1 File: 269P 10-27-06

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
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	49.56 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



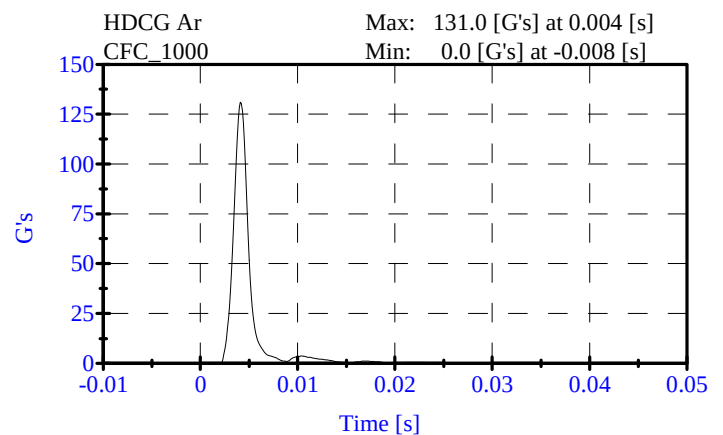
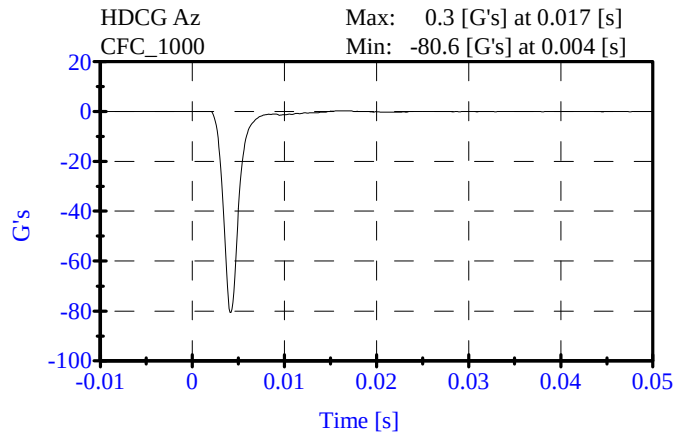
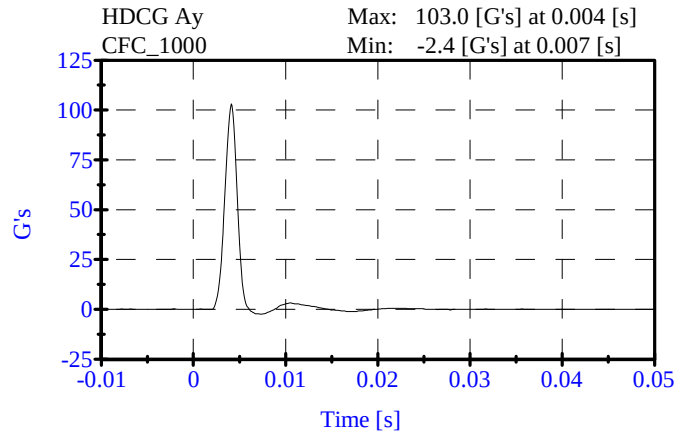
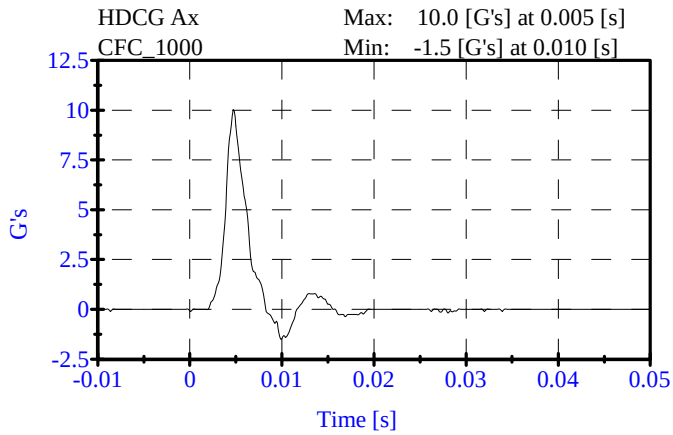
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 10-27-06

Sequential Test Number: 1 File: 269HD 10-27-06
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 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	130.96 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	10.03 Gs	Passed
Curve PerCent NonModal:	< 15%	2.87 %	Passed



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

ATD Serial No: 269

Date: 10-30-06

Sequential Test Number: 1 File: 269N 10-30-06

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	6.99 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.28 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.62 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.56 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.94 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	70.46 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	61.60 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	82.34 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.00 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

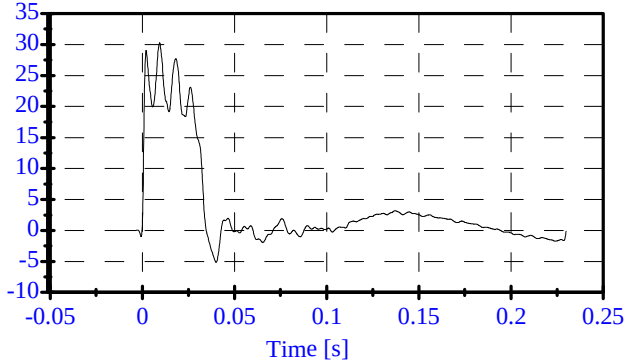
ATD Serial No: 269

Date: 10-30-06

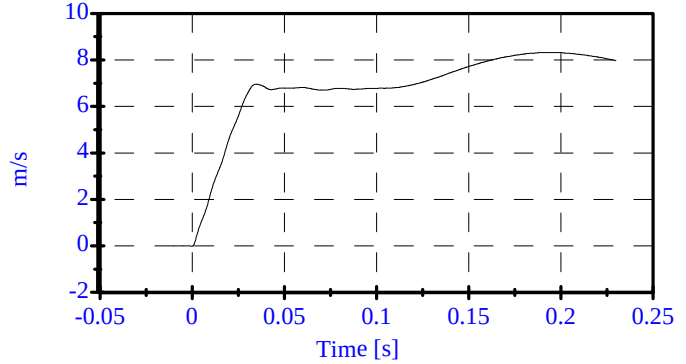
Sequential Test Number: 1 File: 269N 10-30-06

Laboratory Technician: B. Swiecicki

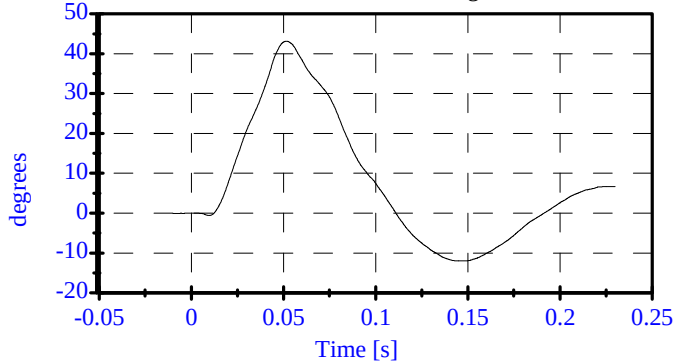
Pend Ax
CFC_180
Max: 30.3 [] at 0.009 [s]
Min: -5.1 [] at 0.040 [s]



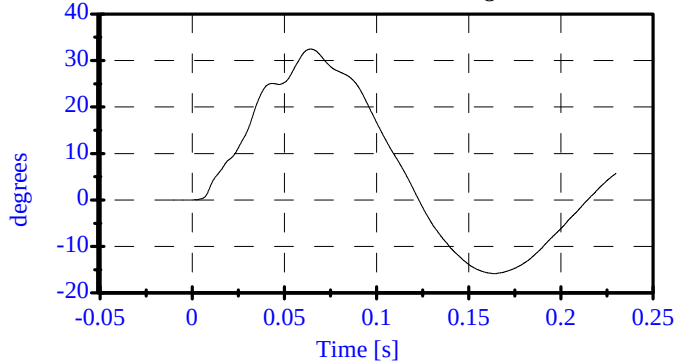
Pend Vx
CFC_180
Max: 8.3 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



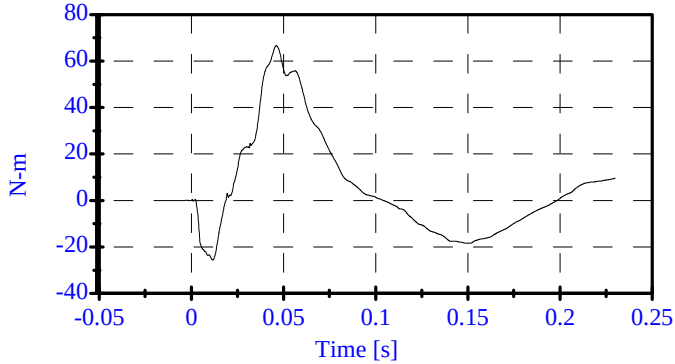
Head Rot
CFC_180
Max: 43.2 [degrees] at 0.052 [s]
Min: -12.0 [degrees] at 0.147 [s]



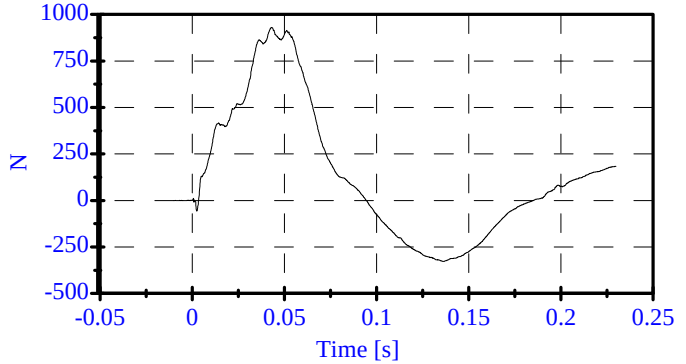
Arm Rot
CFC_180
Max: 32.5 [degrees] at 0.064 [s]
Min: -15.8 [degrees] at 0.164 [s]



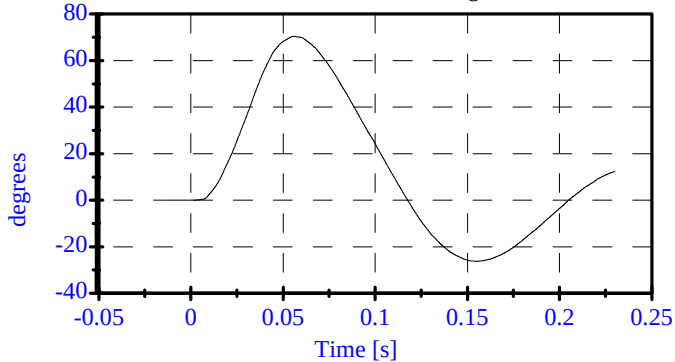
Neck Mx
CFC_600
Max: 66.6 [N-m] at 0.046 [s]
Min: -25.6 [N-m] at 0.012 [s]



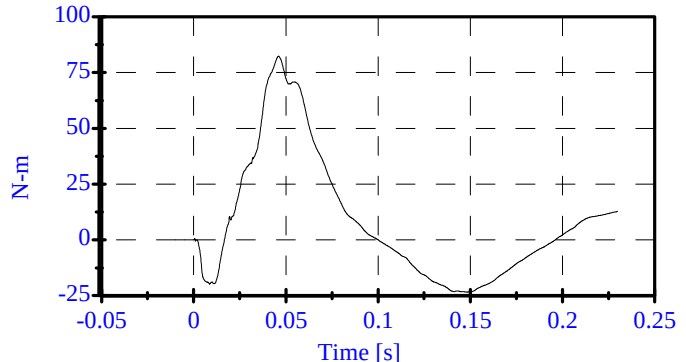
Neck Fy
CFC_1000
Max: 930.3 [N] at 0.043 [s]
Min: -328.0 [N] at 0.136 [s]



Tot Rot
CFC_180
Max: 70.5 [degrees] at 0.056 [s]
Min: -26.3 [degrees] at 0.155 [s]



MOCX
Max: 82.3 [N-m] at 0.046 [s]
Min: -23.4 [N-m] at 0.148 [s]



Abdomen Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

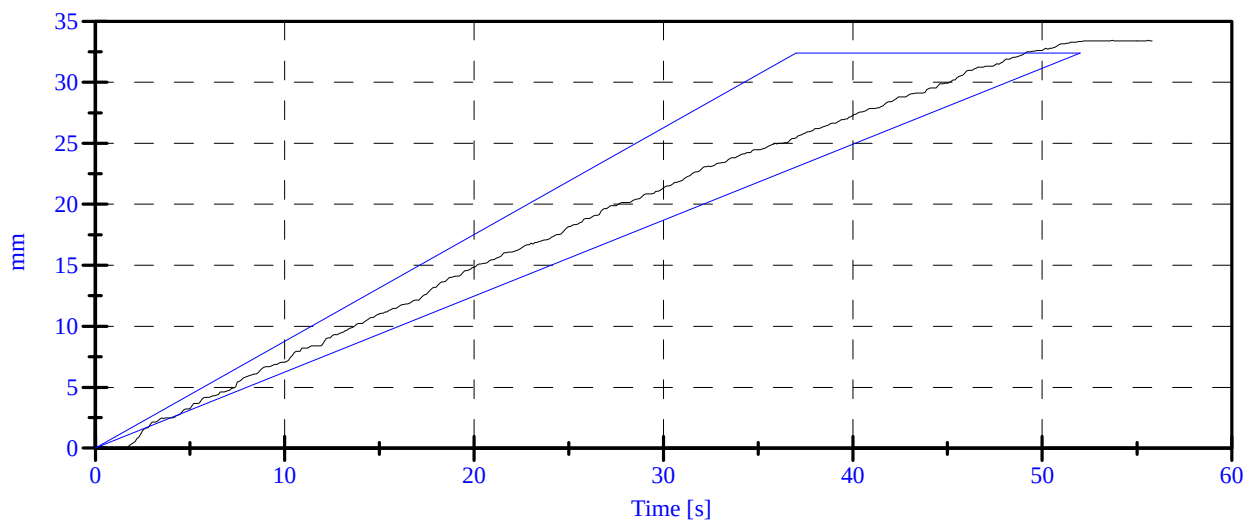
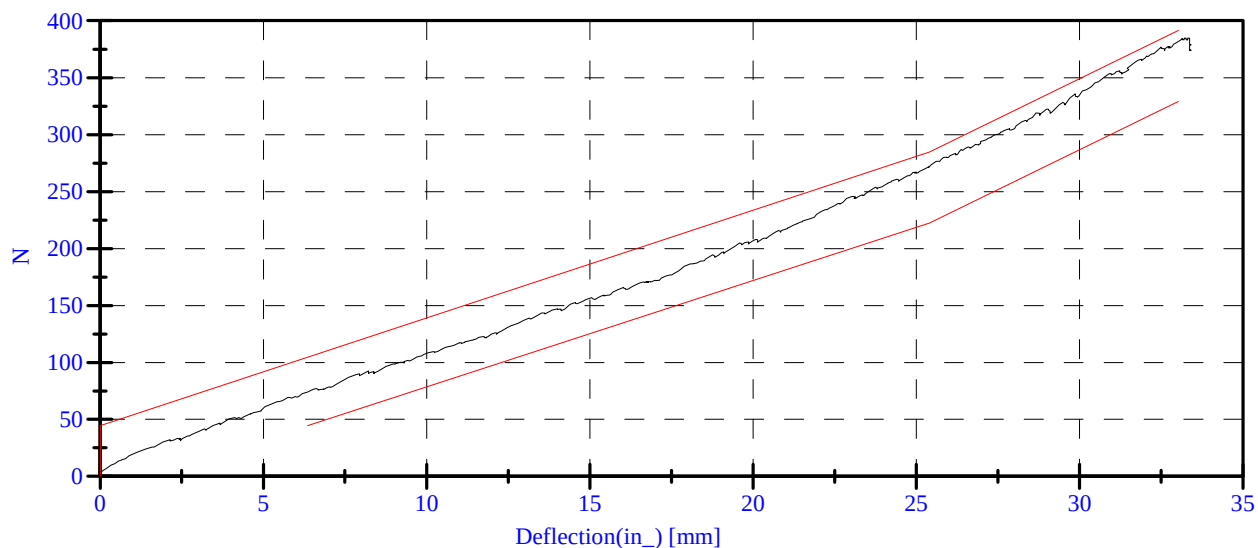
Date: 10-30-06

Sequential Test Number: 1 File: 269AB 10-30-06

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 %	33.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	137.09 N	Passed
Force at 19.05 mm :	162.98-220.99 N	196.54 N	Passed
Force at 25.40 mm :	221.97-280.02 N	271.93 N	Passed
Force at 33.02 mm :	324.99-391.00 N	381.04 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test
POST TEST

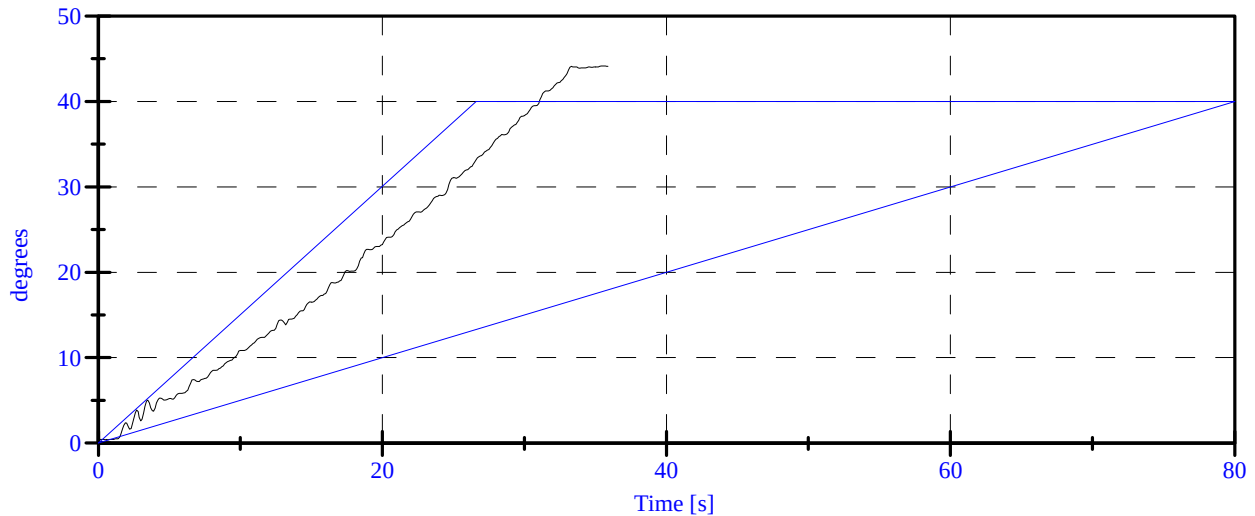
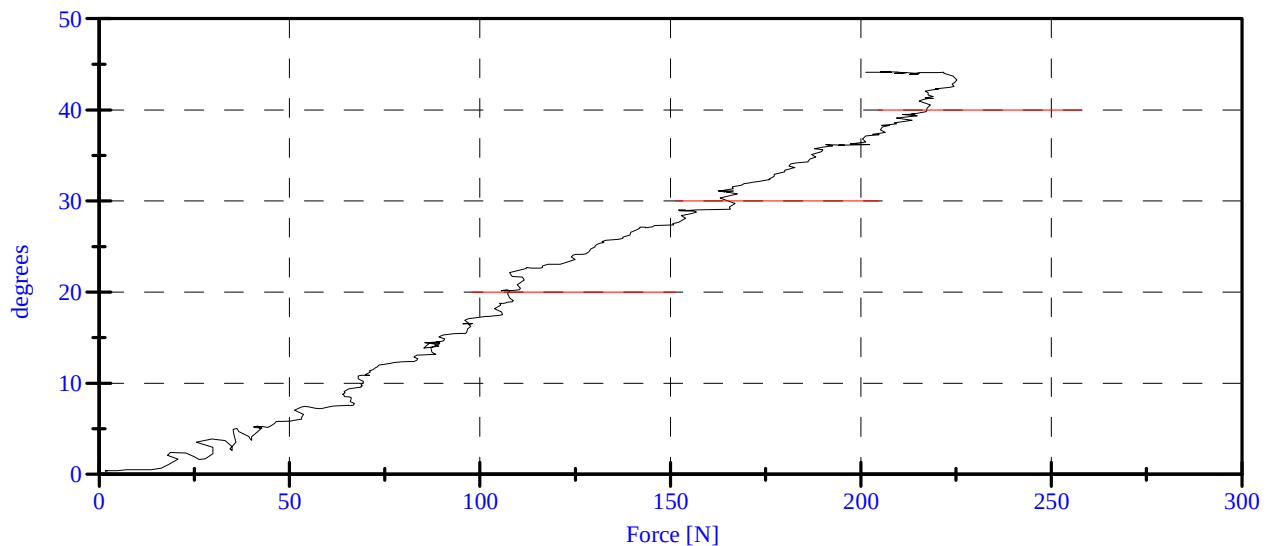
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 10-30-2006

Sequential Test Number: 1 File: 269SP 10-30-06
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 %	33.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.44 N	Passed
Force at 20 Deg:	97.86-151.24 N	107.73 N	Passed
Force at 30 Deg:	151.24-204.62 N	167.01 N	Passed
Force at 40 Deg:	204.62-258.00 N	217.15 N	Passed
Return Angle	12 Deg Max	4.00 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

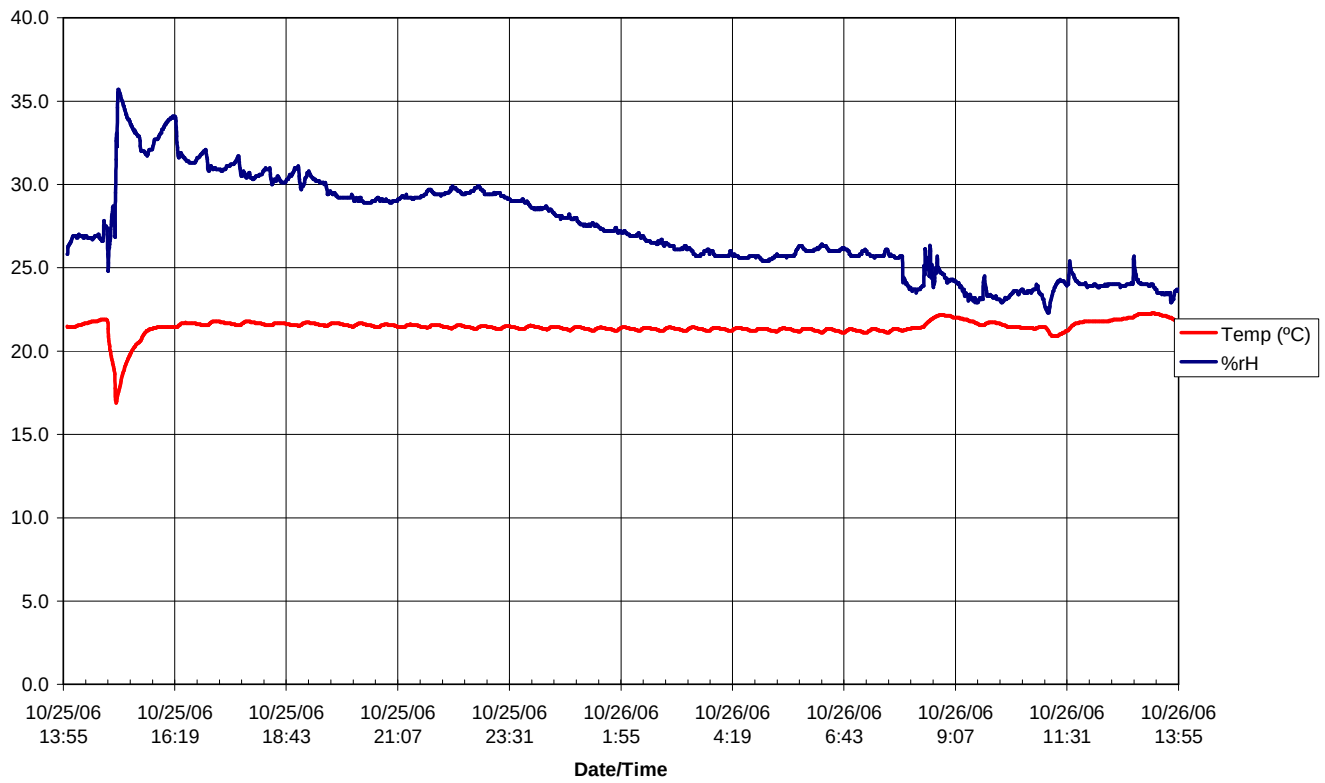
SID H3 Serial No.: 269 Sequential Test Number: 1
 Date: October 30, 2006 Laboratory Technician: B. Swiecicki

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

2007 Buick LaCrosse M70108 Environmental Conditions



APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	FRONT SID/HIII NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P35812	ENDEVCO	28-Aug-06
HEAD AY	AC-P18739	ENDEVCO	28-Aug-06
HEAD AZ	AC-P19212	ENDEVCO	28-Aug-06
UPPER NECK FX	LC-1629Fx	DENTON	08-Sep-06
UPPER NECK FY	LC-1629Fy	DENTON	08-Sep-06
UPPER NECK FZ	LC-1629Fz	DENTON	08-Sep-06
UPPER NECK MX	LC-1629Mx	DENTON	08-Sep-06
UPPER NECK MY	LC-1629My	DENTON	08-Sep-06
UPPER NECK MZ	LC-1629Mz	DENTON	08-Sep-06
UPPER RIB	AC-P18558	ENDEVCO	28-Aug-06
LOWER RIB	AC-P18537	ENDEVCO	28-Aug-06
LOWER SPINE	AC-P18639	ENDEVCO	28-Aug-06
PELVIS	AC-P21171	ENDEVCO	28-Aug-06
UPPER RIB REDUNDANT	AC-P18516	ENDEVCO	28-Aug-06
LOWER RIB REDUNDANT	AC-P19222	ENDEVCO	28-Aug-06
LOWER SPINE REDUNDANT	AC-P16576	ENDEVCO	14-Jun-06
PELVIS REDUNDANT	AC-P22639	ENDEVCO	28-Aug-06

	REAR SID/HIII NO.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P22943	ENDEVCO	30-Aug-06
HEAD AY	AC-P35789	ENDEVCO	18-Jul-06
HEAD AZ	AC-P23164	ENDEVCO	30-Aug-06
UPPER NECK FX	LC-442Fx	DENTON	08-Sep-06
UPPER NECK FY	LC-442Fy	DENTON	08-Sep-06
UPPER NECK FZ	LC-442Fz	DENTON	08-Sep-06
UPPER NECK MX	LC-442Mx	DENTON	08-Sep-06
UPPER NECK MY	LC-442My	DENTON	08-Sep-06
UPPER NECK MZ	LC-442Mz	DENTON	08-Sep-06
UPPER RIB	AC-P39731	ENDEVCO	30-Aug-06
LOWER RIB	AC-P38896	ENDEVCO	30-Aug-06
LOWER SPINE	AC-P38188	ENDEVCO	30-Aug-06
PELVIS	AC-P38132	ENDEVCO	30-Aug-06
UPPER RIB REDUNDANT	AC-P39740	ENDEVCO	30-Aug-06
LOWER RIB REDUNDANT	AC-P35786	ENDEVCO	30-Aug-06
LOWER SPINE REDUNDANT	AC-P38216	ENDEVCO	30-Aug-06
PELVIS REDUNDANT	AC-P35757	ENDEVCO	30-Aug-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	05-Jul-06
RIGHT FRONT SILL (Y)	AC-J31059	ENDEVCO	05-Jul-06
RIGHT FRONT SILL (Z)	AC-P23174	ENDEVCO	28-Jun-06
RIGHT REAR SILL (X)	AC-P23939	ENDEVCO	19-Jul-06
RIGHT REAR SILL (Y)	AC-P23999	ENDEVCO	19-Jul-06
RIGHT REAR SILL (Z)	AC-P23993	ENDEVCO	19-Jul-06
REAR FLOORPAN ABOVE AXLE (X)	AC-P18628	ENDEVCO	06-Jul-06
REAR FLOORPAN ABOVE AXLE (Y)	AC-P15534	ENDEVCO	14-Jun-06
REAR FLOORPAN ABOVE AXLE (Z)	AC-P18718	ENDEVCO	05-Jul-06
LEFT REAR SILL (Y)	AC-P18728	ENDEVCO	28-Jun-06
LEFT FRONT SILL (Y)	-	-	-
LEFT FRONT DOOR CENTERLINE (Y)	AC-P35803	ENDEVCO	18-Jul-06
RIGHT REAR SEAT OCCUPANT COMP. (Y)	-	-	-
MID REAR OF LEFT FRONT DOOR (Y)	AC-8083-037	ICS	12-Jul-06
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-P16616	ENDEVCO	05-Jul-06
MIDDLE LEFT B-PILLAR (Y)	AC-P23976	ENDEVCO	06-Jul-06
LOWER LEFT A-PILLAR (Y)	AC-P17141	ENDEVCO	18-Jul-06
UPPER LEFT A-PILLAR (Y)	AC-P19255	ENDEVCO	14-Jun-06
FRONT SEAT TRACK (Y)	AC-P39743	ENDEVCO	18-Jul-06
REAR SEAT TRACK (Y)	AC-P26266	ENDEVCO	07-Aug-06
VEHICLE CG (X)	AC-P16625	ENDEVCO	18-Jul-06
VEHICLE CG (Y)	AC-P17237	ENDEVCO	05-Jul-06
VEHICLE CG (Z)	AC-J32838	ENDEVCO	07-Jul-06
MDB CG (X)	AC-C16433	ENDEVCO	27-Jun-06
MDB CG (Y)	AC-C16416	ENDEVCO	27-Jun-06
MDB CG (Z)	AC-C16499	ENDEVCO	27-Jun-06
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	27-Jun-06
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	27-Jun-06

REMARKS: None