

REPORT NUMBER: SNCAP-CAL-07-03

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**HONDA OF AMERICA MFG.
2007 HONDA ELEMENT
MPV**

NHTSA NUMBER: M75306

**PREPARED BY:
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Test Date: October 24, 2006

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
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OFFICE OF CRASHWORTHINESS STANDARDS
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16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2007 Honda Element MPV in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at the Calspan Corporation Crash Test Facility in Buffalo, New York, on October 24, 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 21.0°C. The target vehicle's maximum post test static crush was 161 mm at level 3. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">32.50</td> <td style="text-align: center;">52.16</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">33.76</td> <td style="text-align: center;">43.91</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">36.36</td> <td style="text-align: center;">39.85</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">35</td> <td style="text-align: center;">46</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">43</td> <td style="text-align: center;">63</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">128.6</td> <td style="text-align: center;">483.2</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	32.50	52.16	Left Lower Rib (LLR) Accel., g	33.76	43.91	Lower Spine (T ₁₂) Accel., g	36.36	39.85	Thoracic Trauma Index (TTI)	35	46	Pelvis (PEV) Accel., g	43	63	HIC	128.6	483.2
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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																						
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test was conducted as part of the FY' 2006 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-03-D-22005. The purpose of this test was to evaluate side impact protection in a 2007 Honda Element MPV manufactured by Honda of America MFG.. 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 Honda Element MPV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 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 1845 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 24, 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 161 mm at level 3, 1050 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. and 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	128.6	47.1	72.3	35	43
Passenger	483.2	58.8	80.3	46	63

SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Type	Left Front (Driver)		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	NA	NA
Side Torso Airbag	Yes	Yes	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 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Honda of America MFG.	Driver Front Airbag	Yes
Model	Element	Driver Side Curtain Airbag	Yes
Body Style	MPV	Driver Side Torso Airbag	Yes
NHTSA No.	M75306	Driver Pretensioners	Yes
VIN	5J6YH28747L001440	Driver Load Limiters	Yes
Color	RED	Driver Power Seats	No
Engine Disp.(L)	2.4	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	4	Rear Pass. Side Torso Airbag	No
Engine Placement	Lateral	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	5	Rear Pass. Power Seats	NA
Final Drive	4 Wheel	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	Yes/No
Power Brakes	Yes	Power Windows	Yes
Delivery Date	9/28/06	Power Door Locks	Yes
Odometer Reading (km)	18	Automatic Door Locks (ADL)	No
Dealer	LIA HONDA	Owner's Manual Details Instructions on Disabling ADLs	NA

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda of America MFG.	GVWR (kg)	2020
Date of Manufacture	09/06	GAWR Front (kg)	1045
		GAWR Rear (kg)	1000

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bucket/Bench/Split Bench		
Number Of Occupants	2	2		4
Capacity Wt. (VCW) (kg)				308
Cargo Wt. (RCLW) (kg)				35.8

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

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 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	503	482		498	468		498	468	
Right	kg	469	403		474	405		474	405	
Ratio	%	52.3	47.7		52.7	47.3		67.5	32.5	
Totals	kg	972.0	885.0	1857.0	972.0	873.0	1845.0	972.0	873.0	1845.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1655
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	35.8
Calculated Vehicle Target Weight (TVTW)	kg	1853.2

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

Weight of Ballast (including instrumentation package and cameras): 36 kg

TEST VEHICLE ATTITUDES

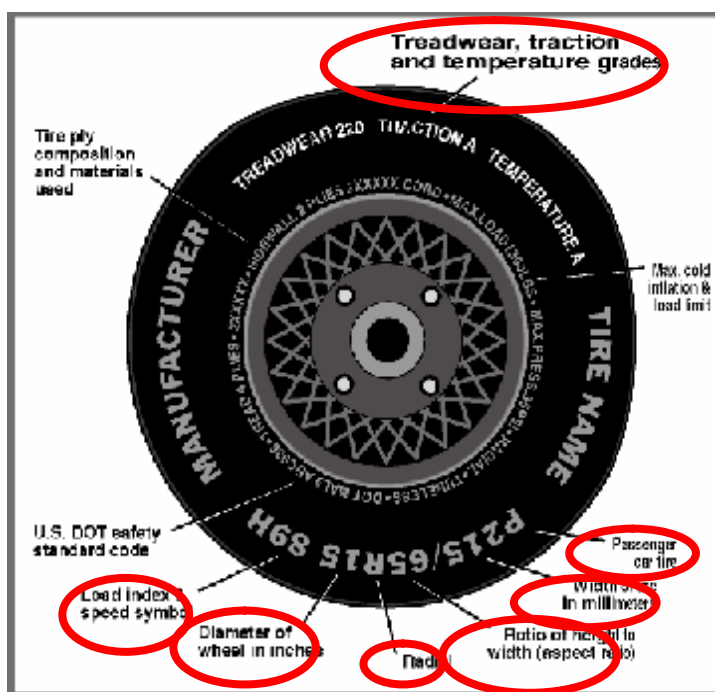
	Units	LF	RF	LR	RR
As Delivered	mm	796	807	801	819
Fully Loaded	mm	783	782	795	802
As Tested	mm	784	784	798	802

TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2578
Target Impact Point Aft of Front Axle	mm	349
Actual Impact Point Aft of Front Axle	mm	349
As Tested CG (aft of front axle)	mm	838

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	33	35
Recommended Tire Size	P215/70R16	P215/70R16
Tire Size on Vehicle	P215/70R16	P215/70R16
Tire Manufacturer	GOODYEAR	GOODYEAR
Tire Name	WRANGLER HP	WRANGLER HP
Tire Type	PASSENGER	PASSENGER
Tire Width (mm)	217	217
Ratio of Height to Width (aspect ratio)	70	70
Radial	R	R
Wheel Diameter	16	16
Load Index & Speed Symbol	99S	99S
Treadwear	340	340
Traction Grade	A	A
Temperature Grade	B	B

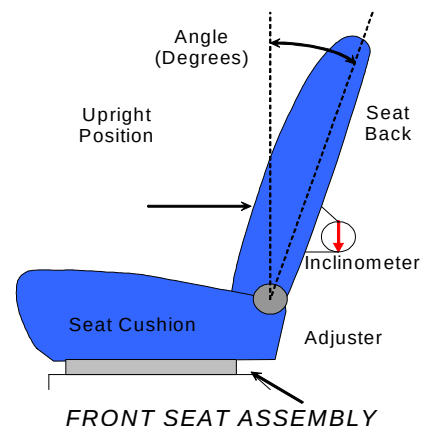
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006

NORMAL DESIGN RIDING POSITION

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

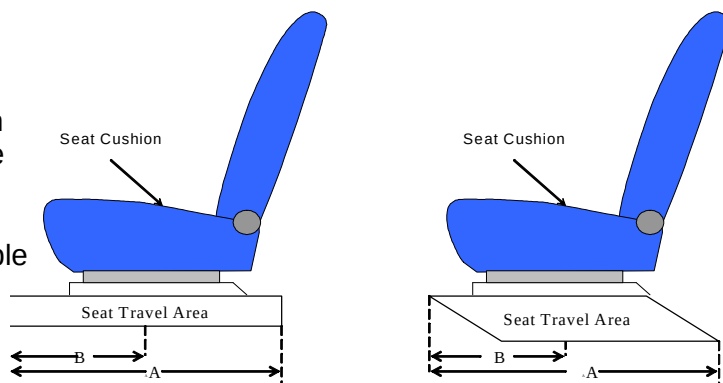


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	Detent 12	Not Adjustable
Angle (deg. from forward-most locking position)	23	Not Adjustable
Alternative Measurements to Verify Test Position	Head restraint post is 922 mm from visor bolt	Set in 2 nd position starting from 0 position

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)	240	N/A
Test Position (B) (mm)	120	N/A
Test Detent (forward-most detent defined as 0)	12	NA/
Total Number of Detents (including 0)	24	N/A

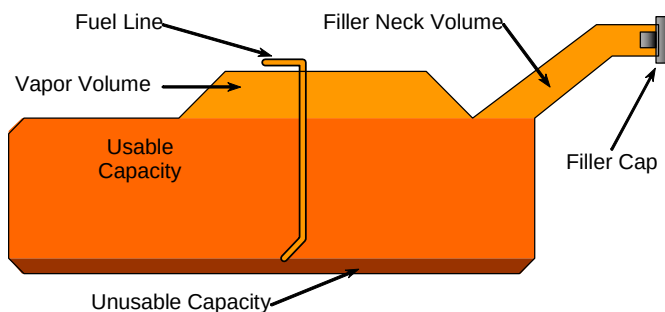
DATA SHEET NO. 3 (CONTINUED)

TEST VEHICLE INFORMATION

Test Vehicle: 2007 Honda Element	NHTSA No. M75306
Test Program: NCAP Side Impact	Test Date: October 24, 2006

FUEL SYSTEM INFORMATION

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



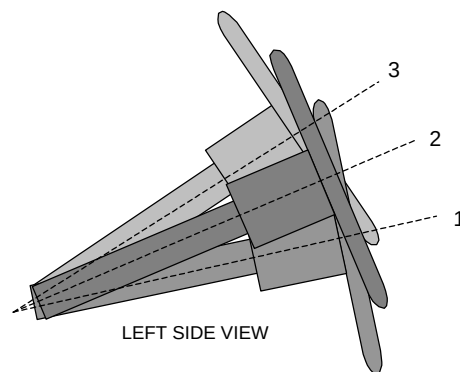
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	60.2
Usable Capacity of "Optional" Fuel Tank	N/A
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	55.6

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	NA	65.7	N/A
Geometric Center Position No. 2 *	NA	61.65	N/A
Uppermost Position No. 3	NA	57.6	N/A

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

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 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	61.96
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.96

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

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

DATA SHEET NO. 5
POST TEST OBSERVATIONS

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII /	SID/HIII /
Head Contact	Side Curtain	Side Curtain / Side Rail
Upper Torso Contact	Side Curtain / Side Bag	Side Curtain / Side Seat Trim
Lower Torso Contact	Side Bag / Door Trim	Side Seat Trim
Left Knee Contact	Door Trim	Side Seat Trim
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

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

SUPPLEMENTAL RESTRAINT INFORMATION

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

DATA SHEET NO. 6

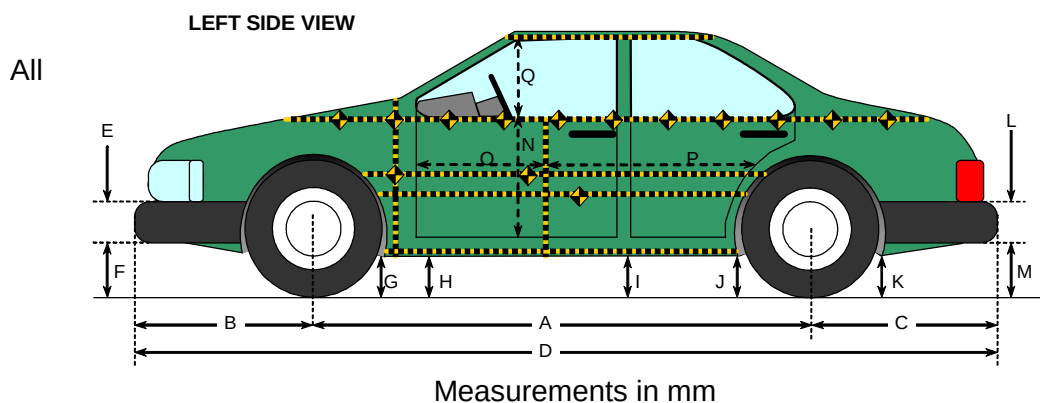
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2007 Honda Element

NHTSA No. M75306

Test Program: NCAP Side Impact

Test Date: October 24, 2006

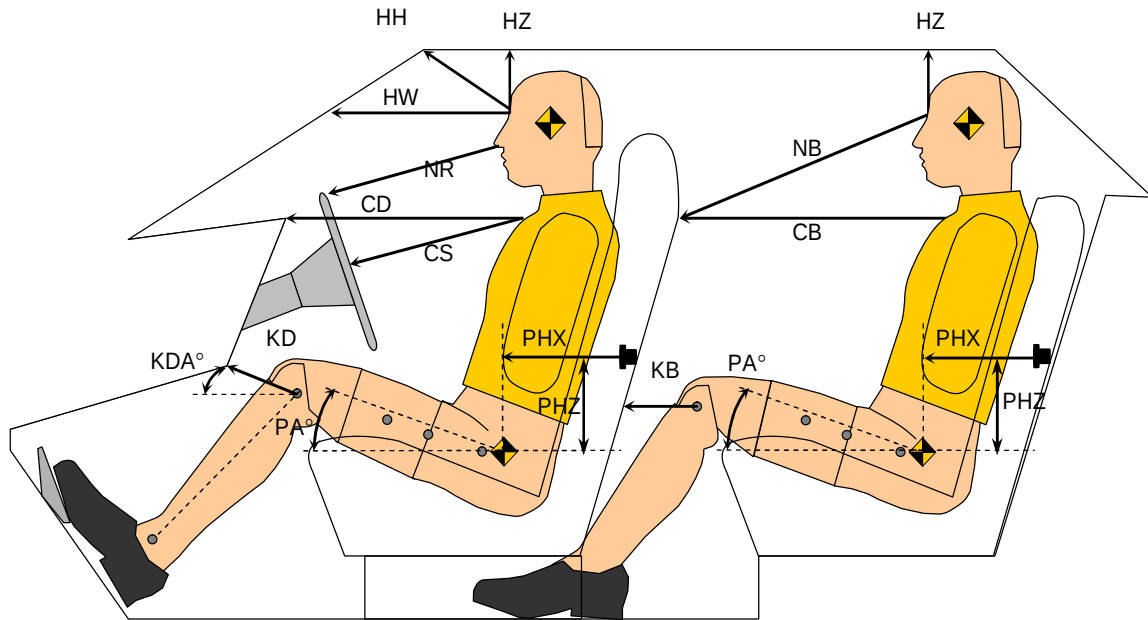


Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2579	2578	2555	23
B	Front Axle to FSOV	806	807	820	-13
C	Rear Axle to RSOV	913	913	910	3
D	Total Length at Centerline	4298	4298	4285	13
E	Front Bumper Thickness	174	174	174	0
F	Front Bumper Bottom to Ground	294	284	297	-13
G	Sill Height at Front Wheel Well	281	265	259	6
H	Sill Height at Front Door Leading Edge	283	266	261	5
I	Sill Height at "B" Pillar	293	276	275	1
J1	Sill Height at Rear Wheel Well	288	267	281	-14
J2	Pinch Weld Height at Rear Wheel Well	289	268	278	-10
K	Sill Height Aft of Rear Wheel Well	344	311	331	-20
L	Rear Bumper Thickness	167	167	167	0
M	Rear Bumper Bottom to Ground	371	344	359	-15
N	Sill Height to Window Bottom Sill	764	764	752	12
O	Front Door Leading Edge to Impact CL	707	707	699	8
P	Rear Door Trailing Edge to Impact CL	1059	1059	1034	25
Q	Front Window Opening	445	445	442	3
R	Right Side Length	4281	4281	4272	9
S	Left Side Length	4280	4280	4271	9
T	Vehicle Width at "B" Post	1731	1731	1693	38

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006

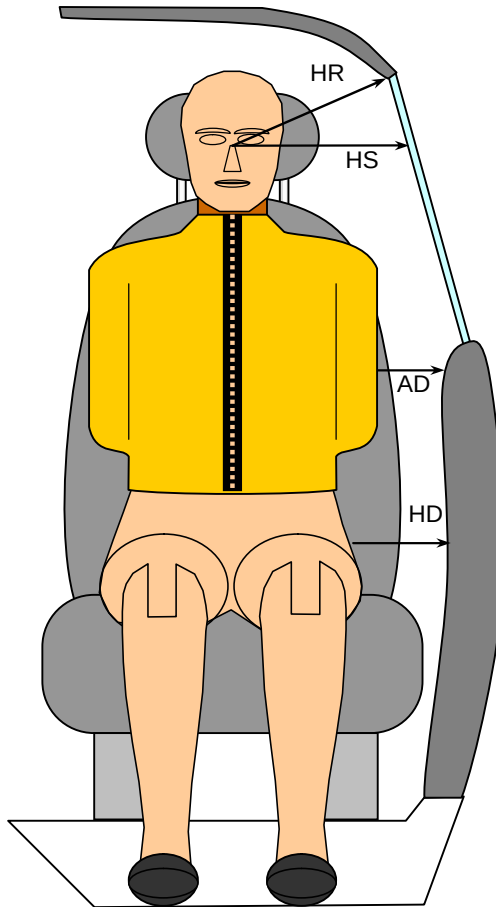


Driver Code	Pass. Code	Measurement Description	Driver S/N 905		Passenger S/N 906	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	774			
HW		Head to Windshield	889			
HZ	HZ	Head to Roof	257		214	
NR	NB	Nose to Rim/Nose to Seatback	550		849	
CD	CB	Chest to Dash or Seatback	644		759	
CS		Chest to Steering Wheel	499			
KDL	KBL	Left Knee to Dash or Seatback	117	24	316	20
KDR	KBR	Right Knee to Dash or Seatback	121	34	316	20
PA	PA	Pelvic Angle		24.2		24.4
PHX	PHX	H-Point to Striker (X-Axis)	253		763	
PHZ	PHZ	H-Point to Striker (Z-Axis)	162		378	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006



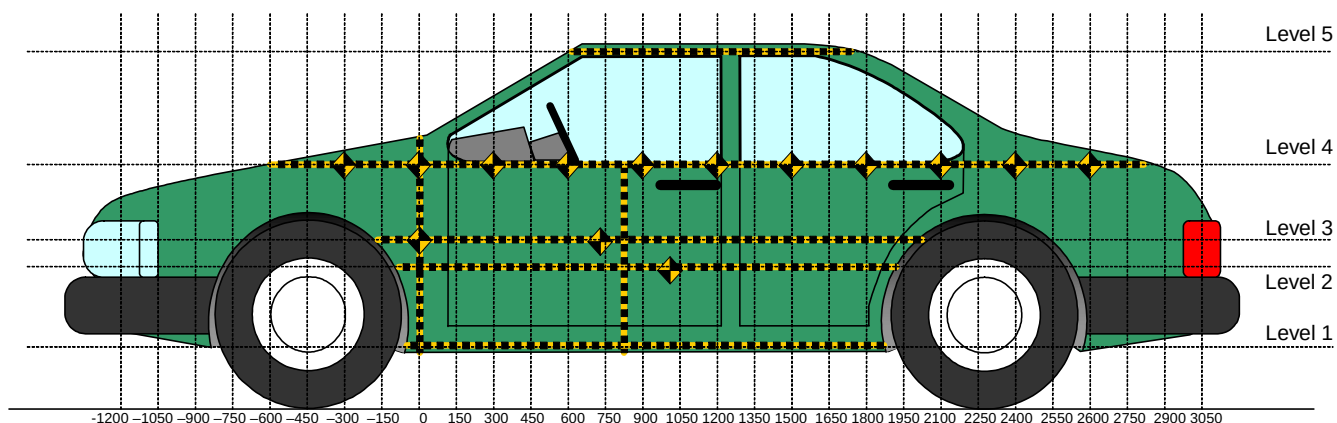
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 905	Passenger S/N 906
HR	Head to Side Header	mm	261	254
HS	Head to Side Window	mm	374	435
AD ₁	Arm to Door (at upper rib level)	mm	103	138
AD ₂	Arm to Door (at lower rib level)	mm	109	138
HD	H-Point to Door	mm	219	127

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 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	55	327	1650
2	Occupant H-Point	155	707	1500
3	Mid Door	161	797	1050
4	Window Sill	68	1081	1350
5	Window	-1	1636	600
	Maximum Penetration	161		

DATA SHEET NO. 10

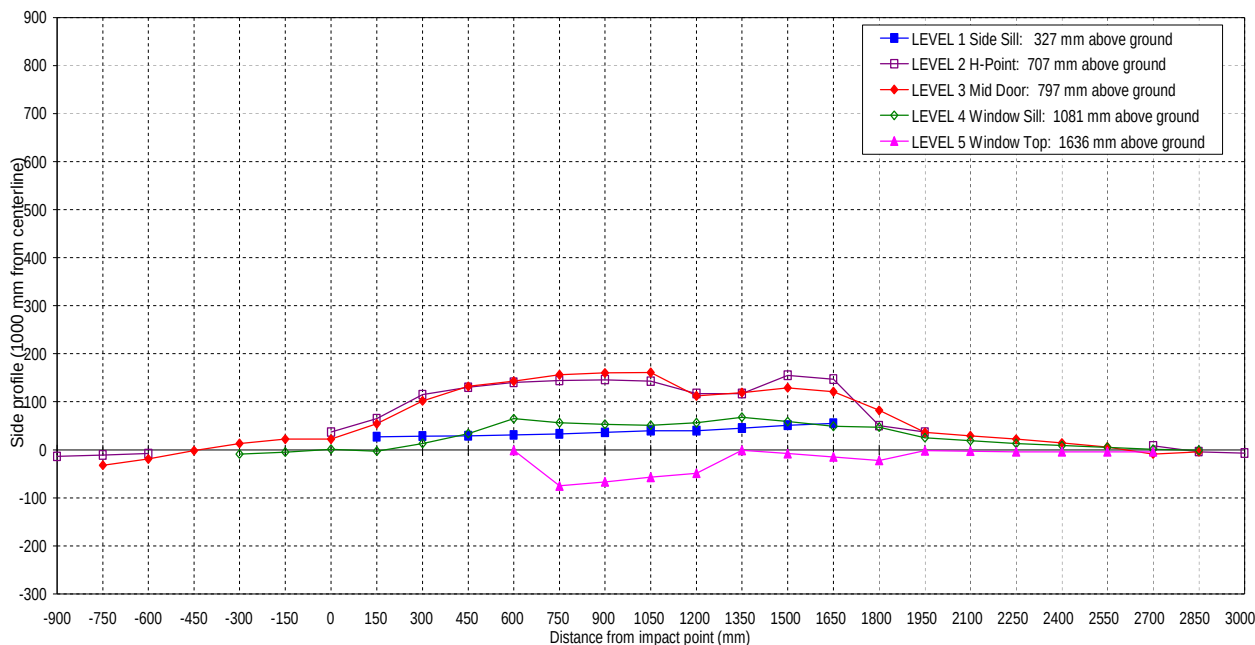
VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Honda Element

NHTSA No. M75306

Test Program: NCAP Side Impact

Test Date: October 24, 2006



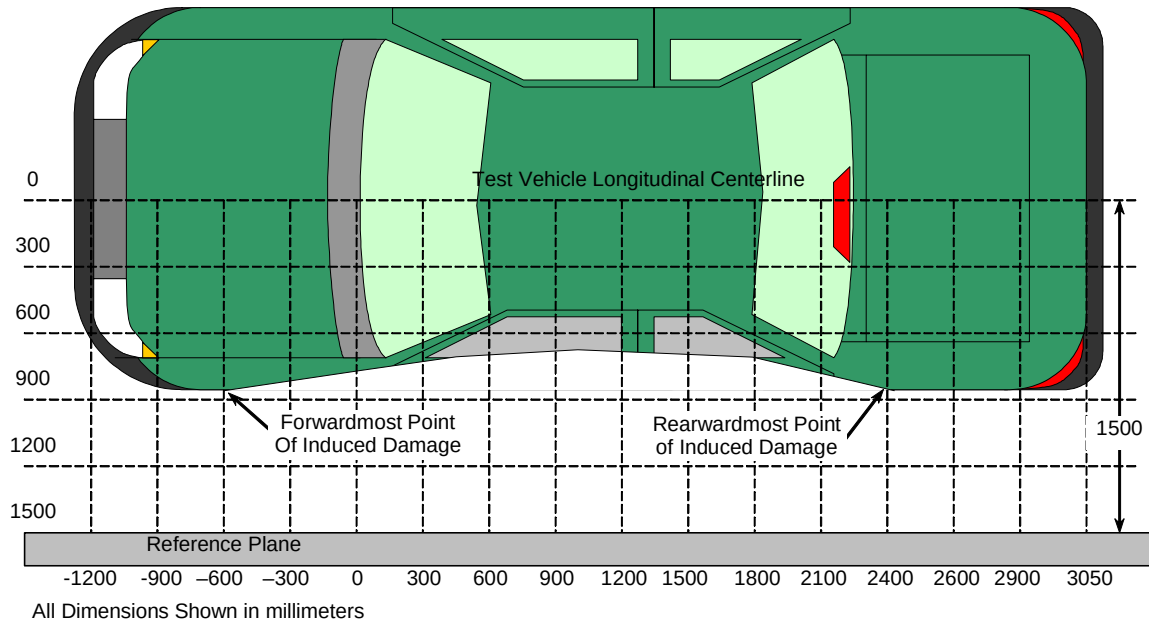
NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			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	327	PRE	--	--	--	--	--	--	--	157	153	150	147	145	142	141	141	141	142	145	--	--	--	--	--	--	--	--	--	--
		POST	--	--	--	--	--	--	--	--	184	181	179	178	178	178	181	181	186	193	200	--	--	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27	28	29	31	33	36	40	40	45	51	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	707	PRE	215	163	103	--	--	--	114	130	128	126	124	123	122	122	122	123	125	127	124	93	--	--	--	--	106	149	176	
		POST	201	152	95	--	--	--	151	195	243	256	264	267	268	265	239	240	280	274	174	130	--	--	--	--	114	145	169	
		CRUSH	-14	-11	-8	N/A	N/A	N/A	37	65	115	130	140	144	146	143	117	117	155	147	50	37	N/A	N/A	N/A	N/A	8	-4	-7	
LEVEL 3 MID DOOR	797	PRE	--	169	135	97	91	102	131	126	123	121	120	118	117	117	117	119	120	122	124	110	91	90	100	139	149	178	--	
		POST	--	137	116	95	104	124	153	180	225	253	263	274	277	278	229	238	249	243	206	146	120	112	114	145	140	174	--	
		CRUSH	N/A	-32	-19	-2	13	22	22	54	102	132	143	156	160	161	112	119	129	121	82	36	29	22	14	6	-9	-4	N/A	
LEVEL 4 WINDOW SILL	1081	PRE	--	--	--	--	213	188	172	165	159	154	150	147	144	143	142	142	141	143	144	147	150	156	162	170	181	227	--	
		POST	--	--	--	--	204	183	173	162	172	188	215	203	197	194	198	210	200	192	191	172	169	169	171	175	182	226	--	
		CRUSH	N/A	N/A	N/A	N/A	-9	-5	1	-3	13	34	65	56	53	51	56	68	59	49	47	25	19	13	9	5	1	-1	N/A	
LEVEL 5 WINDOW TOP	1636	PRE	--	--	--	--	--	--	--	--	--	--	307	301	296	290	286	283	282	283	284	283	287	293	299	307	320	--	--	
		POST	--	--	--	--	--	--	--	--	--	--	306	226	229	233	237	282	274	268	262	281	284	289	295	303	316	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1	-75	-67	-57	-49	-1	-8	-15	-22	-2	-3	-4	-4	-4	-4	N/A	N/A	

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 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)	2100	797	91	120	29
2	1650	707	127	274	147
3	1200	707	122	239	117
4	750	797	118	274	156
5	300	707	128	243	115
6 (LF)	-150	797	102	124	22

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

DATA SHEET NO. 12

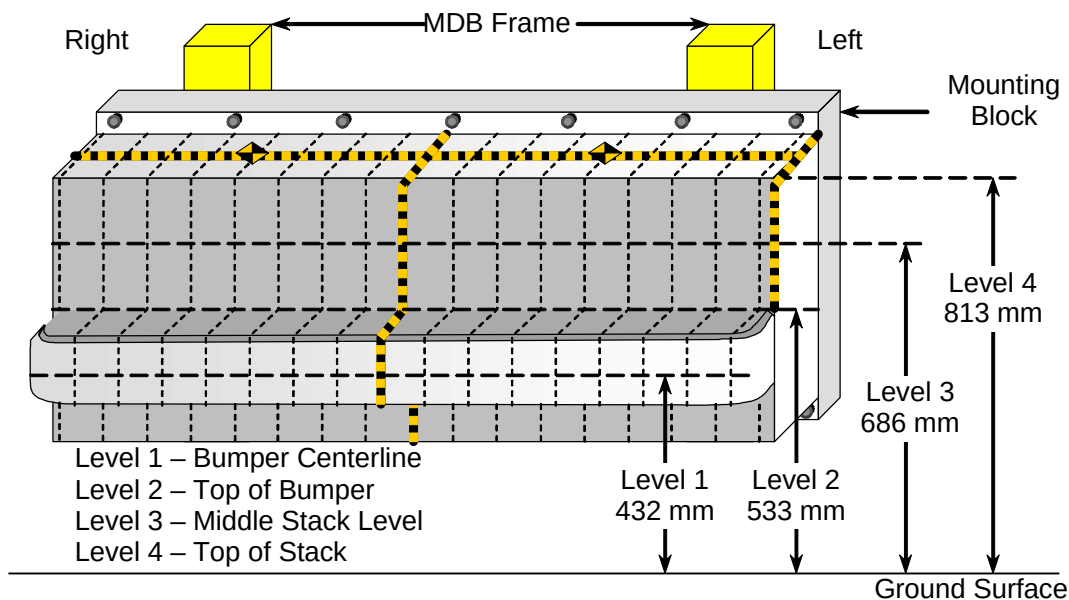
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2007 Honda Element

NHTSA No. M75306

Test Program: NCAP Side Impact

Test Date: October 24, 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	752	733	721	726	757	751	704	684	676	673	681	687	702	717	746	775	811		
		CRUSH	133	114	102	107	138	132	85	65	57	54	62	68	83	98	127	156	192		
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	742	693	684	703	730	722	699	686	676	671	666	670	679	693	712	737	789		
		CRUSH	123	74	65	84	111	103	80	67	57	52	47	51	60	74	93	118	170		
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	755	757	759	760	761	754	754	756	755	752	752	751	751	750	752	754	759		
		CRUSH	136	138	140	141	142	135	135	137	136	133	133	132	132	131	133	135	140		
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535		
		POST	713	701	712	703	703	700	698	698	699	700	697	695	694	694	696	699	708		
		CRUSH	178	182	194	185	185	182	180	180	181	182	179	177	176	176	178	180	173		

*Heights measured above ground level.

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

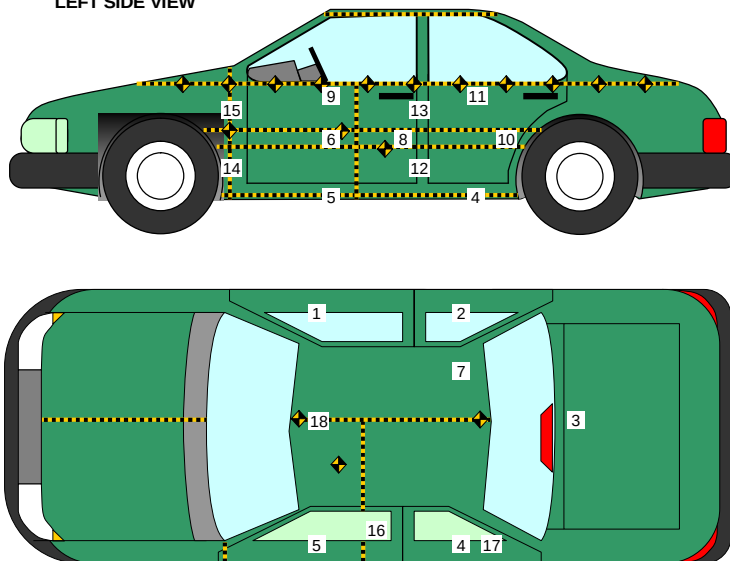
Test Vehicle: 2007 Honda Element

NHTSA No. M75306

Test Program: NCAP Side Impact

Test Date: October 24, 2006

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2685	637	429
2	Right Sill at Rear Seat	1472	563	557
3	Rear Floorpan Above Axle	939	-9	553
4	Left Sill at Rear Door	1461	-563	550
5	Left Sill at Front Door	2704	-626	392
6	Left Front Door C/L **	-	-	-
7	Rear Occupant Compartment	1753	362	519
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	1919	-700	607
13	Left Middle B-Post	1922	-705	1022
14	Left Lower A-Post	3012	-610	523
15	Left Middle A-Post	3044	-664	1170
16	Front Seat Track	2021	-565	498
17	Rear Seat Track or Structure	907	-543	562
18	Vehicle CG	2200	36	499

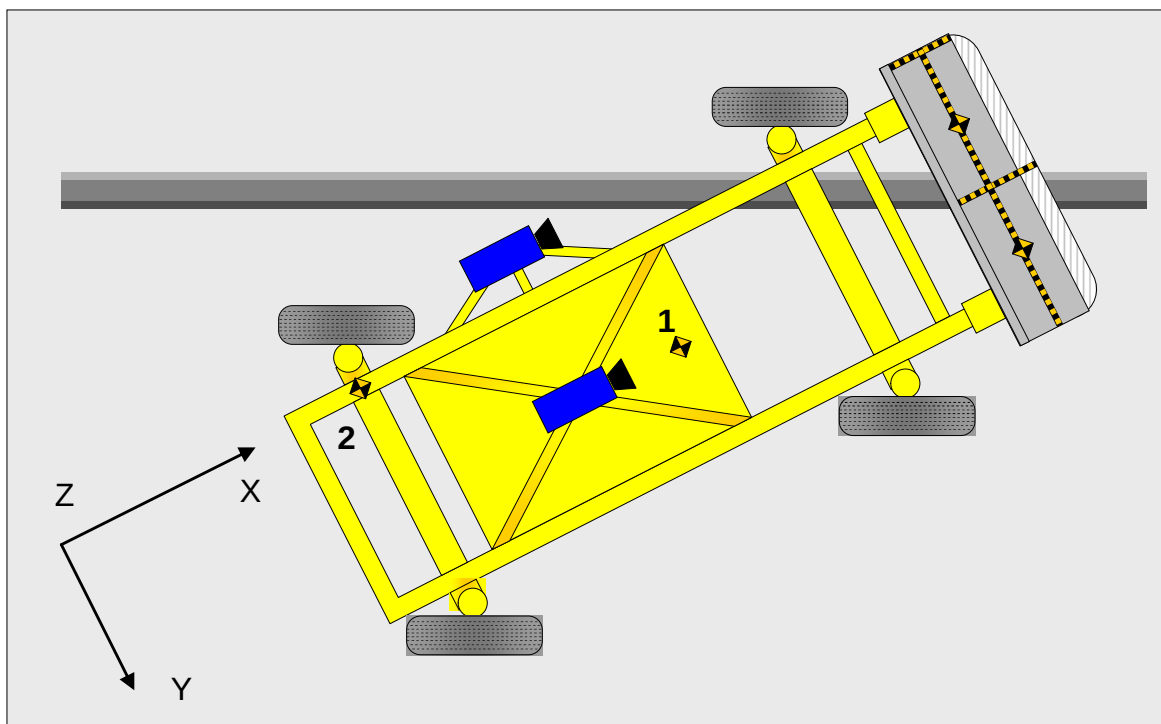
Reference Points X - Test Vehicle Rear Bumper (+ forward)
Y - Test Vehicle Centerline (+ to right)
Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 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**

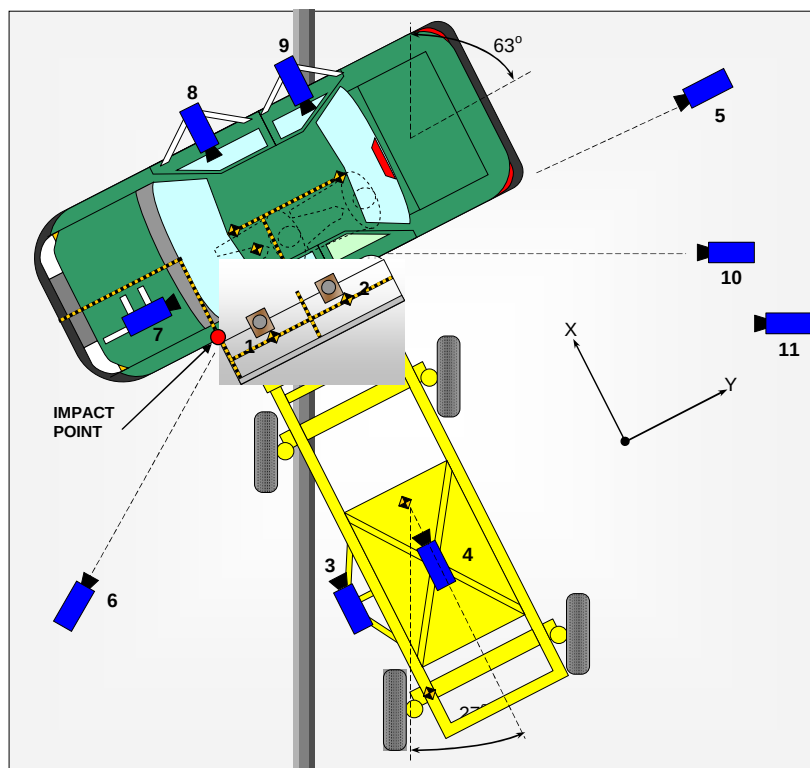
Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006

	Elements	Pre-Test (mm)
1	Total Length	4298
2	Total Width	1731
3	Bumper Top Height	1617
4	Bumper Bottom Height	1713
5	Longitudinal Member Top Height	775
6	Distance between Longitudinal Members	2
7	Longitudinal Member Width	4
8	Engine Top Height	948
9	Engine Bottom Height	995
10	Engine and gearbox width	113
11	Front bumper-engine distance	1271
12	Front shock absorber fixing height	474
13	Bonnet leading edge height	342
14	Front shock absorber fixing width	0
15	Front bumper – front axle distance	806
16	Front axle – a pillar distance	3492
17	A-pillar – B-pillar distance	-1835
18	B-Pillar – rear axle distance	923
19	B-pillar – C-pillar distance	625
20	Roof sill bottom height	234
21	Roof sill top height	870
22	Floor sill bottom height	474
23	Floor sill top height	942

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Overall	72	812	-4880	-90	8	500
2	Overhead Close-up	195	855	-4880	-90	28	1000
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0	13	500
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	7.5	500
5	Right Side, Ground Level, Overall	0	10632	1099	-2.1	50	1000
6	Left Side, Ground Level, Overall	2215	-1917	932	-4.3	28	1000
7	Vehicle Onboard Front SID/HIII, Front	-440	-615	1280	-3.0	25	1000
8	Vehicle Onboard Front SID/HIII, Side	-1640	810	1245	-6.3	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	-1590	1680	1420	-10.0	12.5	1000
10	Secondary Impact Point	4432	3053	1047	-1.4	25	500
11	Real Time Coverage						30

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

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

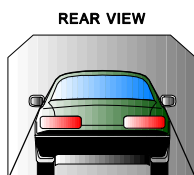
Test Vehicle:	2007 Honda Element	NHTSA No.	M75306
Test Program:	NCAP Side Impact	Test Date:	October 24, 2006

FUEL SYSTEM INTEGRITY POST IMPACT DATA

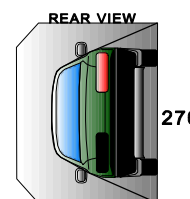
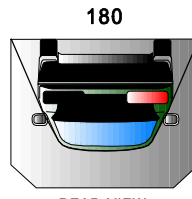
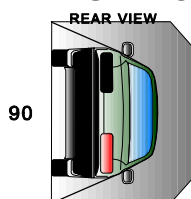
Time Interval	FMVSS 301 Maximum Allowable Spillage	Spillage (g)
Impact Until Motion Ceases	28 g	0
First Five Minutes Following Impact	142 g	0
Next 25 Minutes	28 g / 1 minute	0

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

STATIC ROLLOVER DATA



0/360



Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
90° - 180°	1	minutes	14	seconds	5	minutes	6	minutes	14	seconds	7	minutes
180°-270°	1	minutes	11	seconds	5	minutes	6	minutes	11	seconds	7	minutes
270°-360°	1	minutes	17	seconds	5	minutes	6	minutes	17	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

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A-44	Post-Test Left Front Interior Trim	A-25
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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

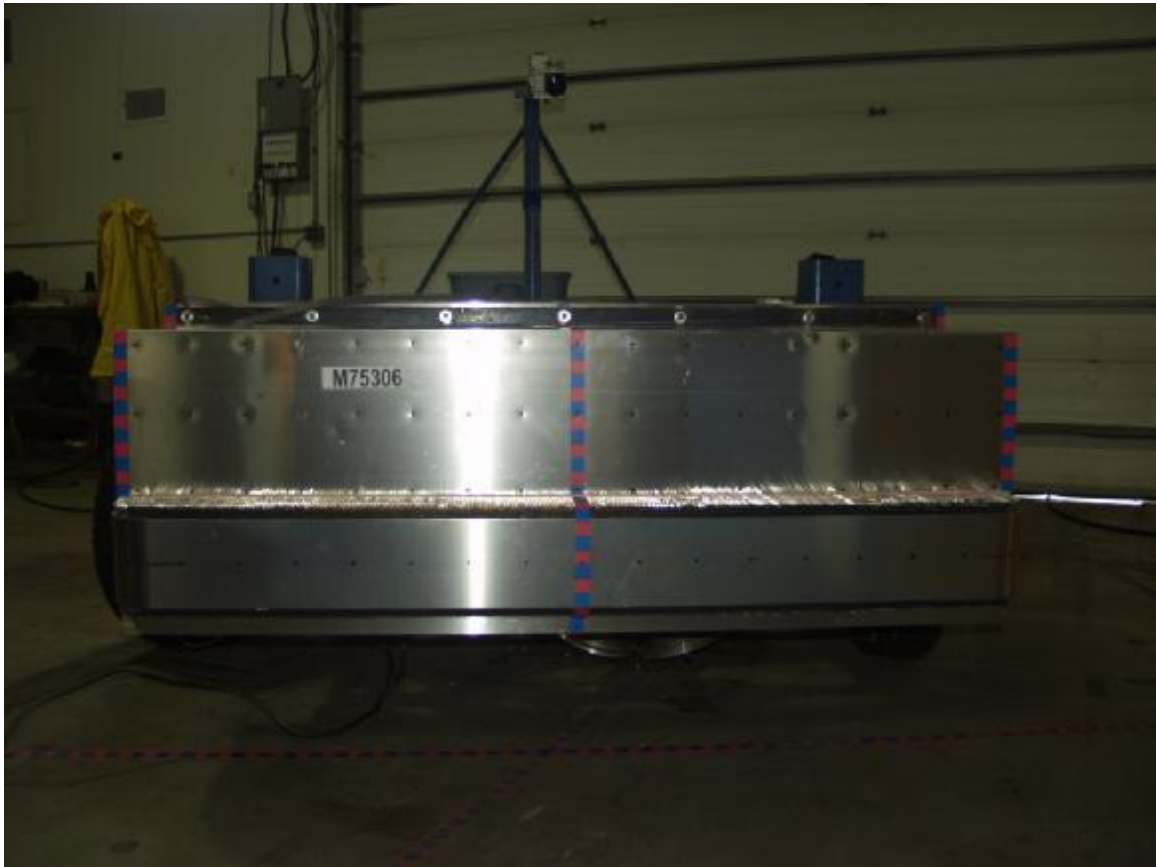


Figure A-21: Pre-Test Frontal View of MDB Impactor Face



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

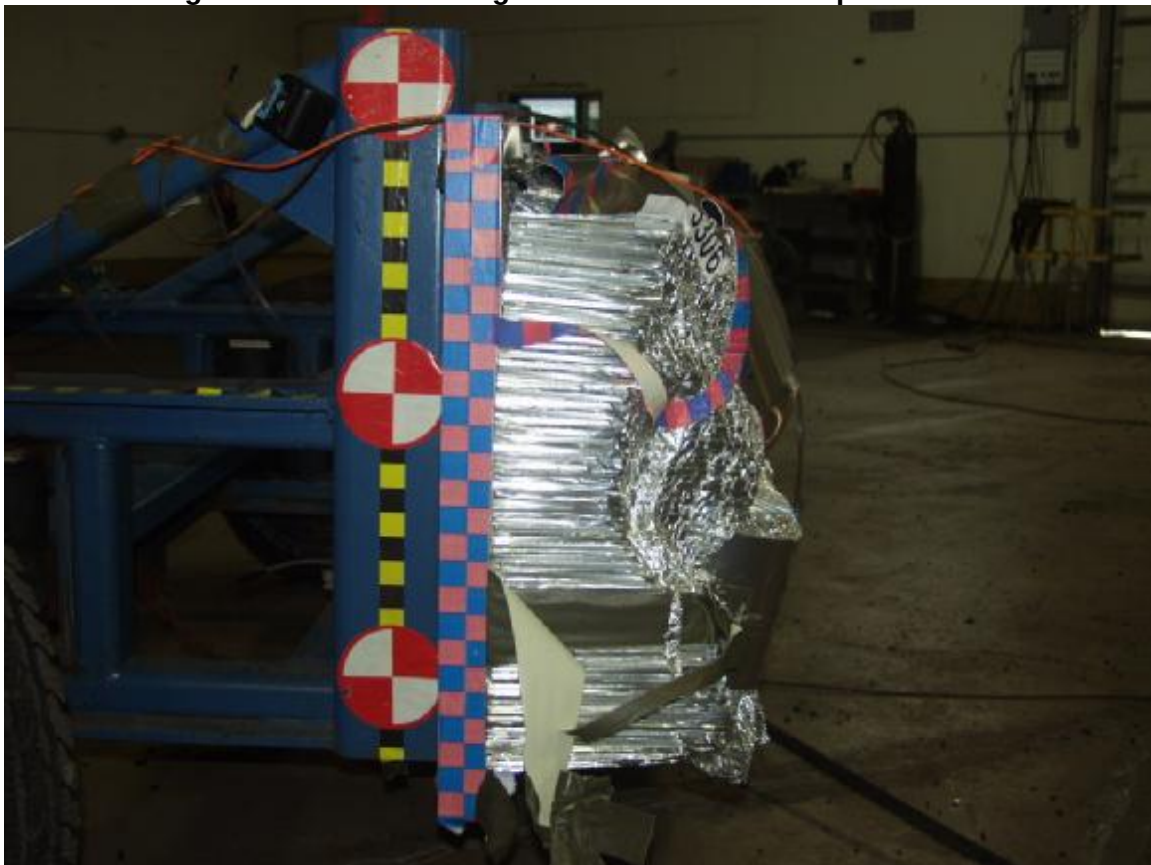


Figure A-26: Post-Test Right Side View of MDB Impactor Face

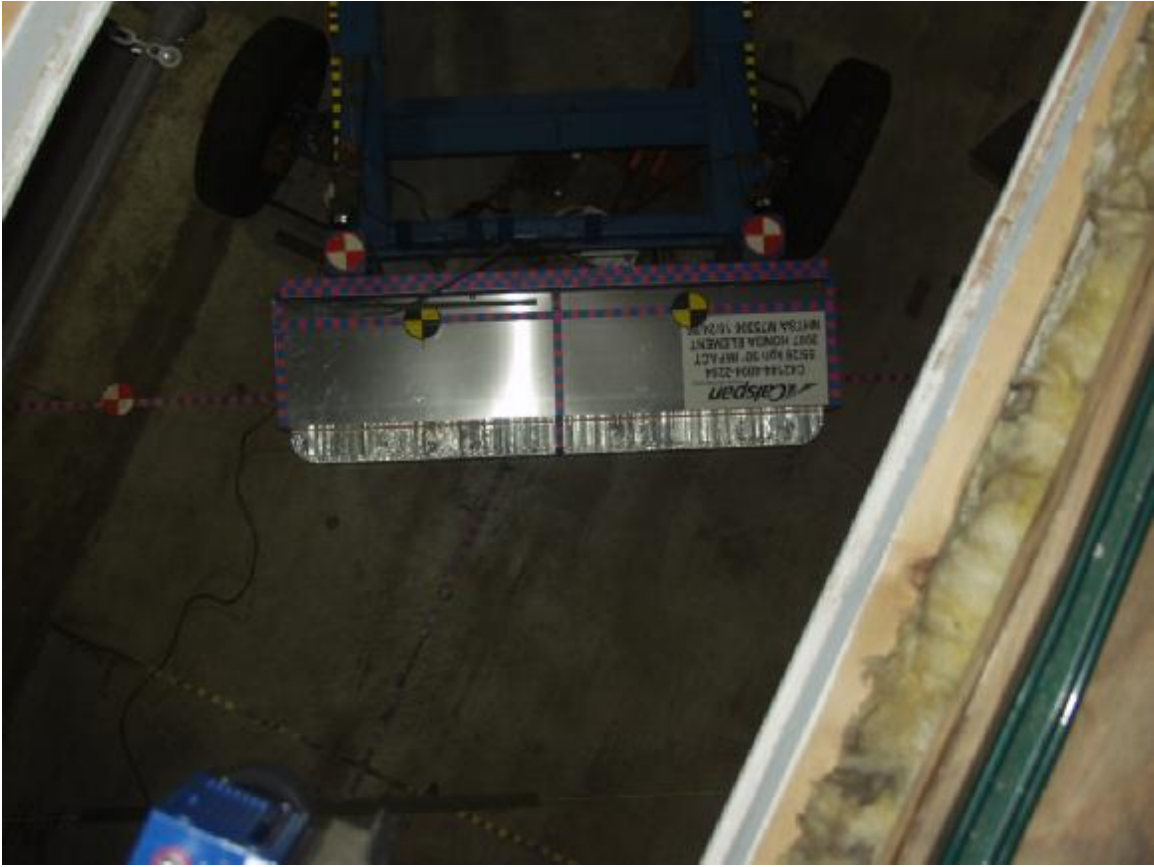


Figure A-27: Pre-Test Top View of MDB Impactor Face



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

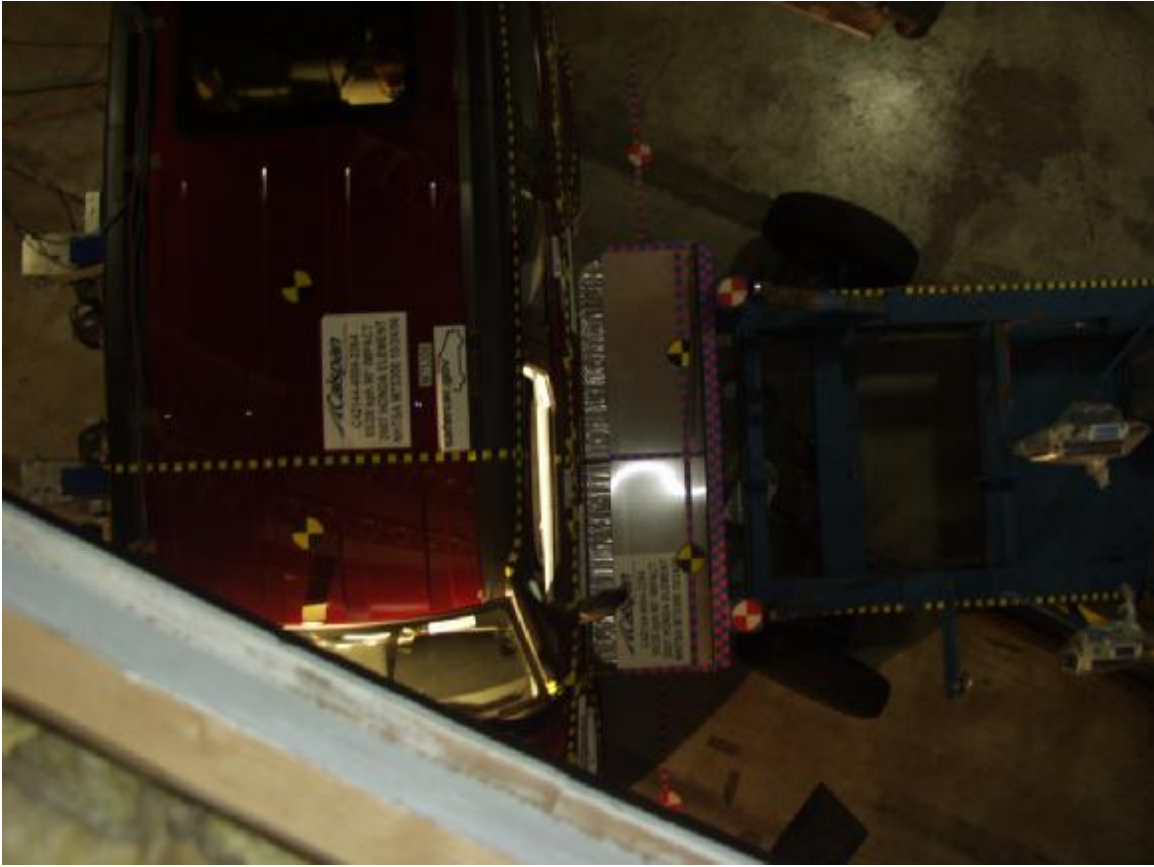


Figure A-31: Pre-Test Overhead View of Aligned MDB and Vehicle



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

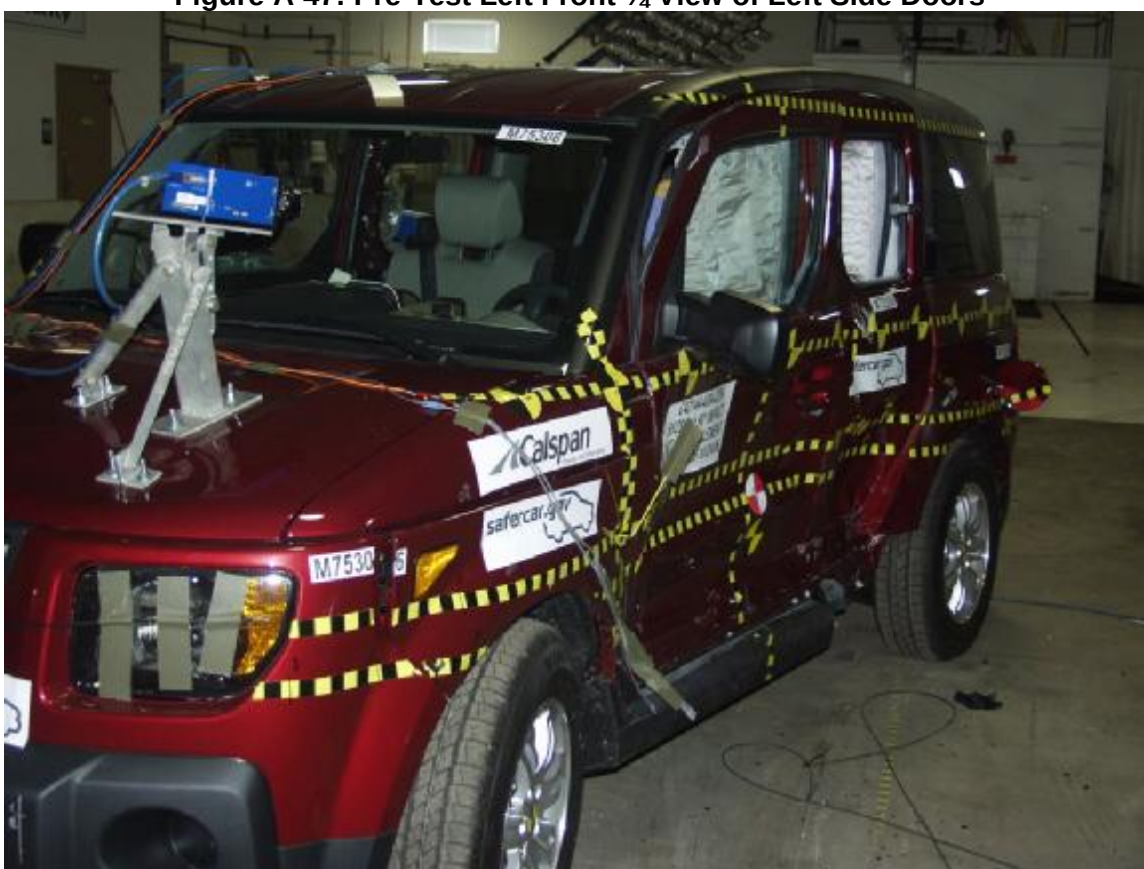


Figure A-48: Post-Test Left Front $\frac{3}{4}$ View of Left Side Doors



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

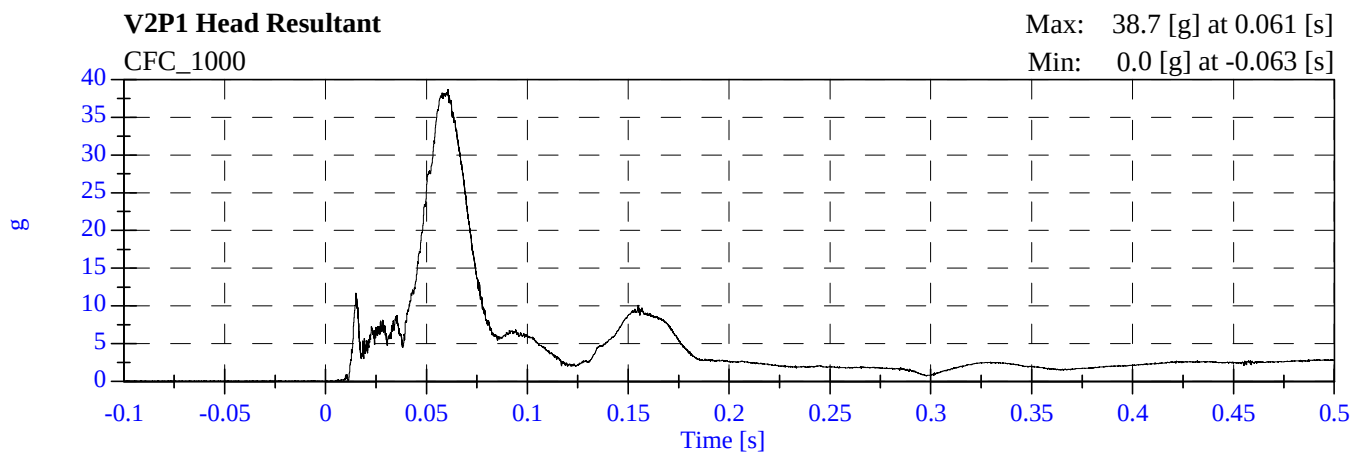
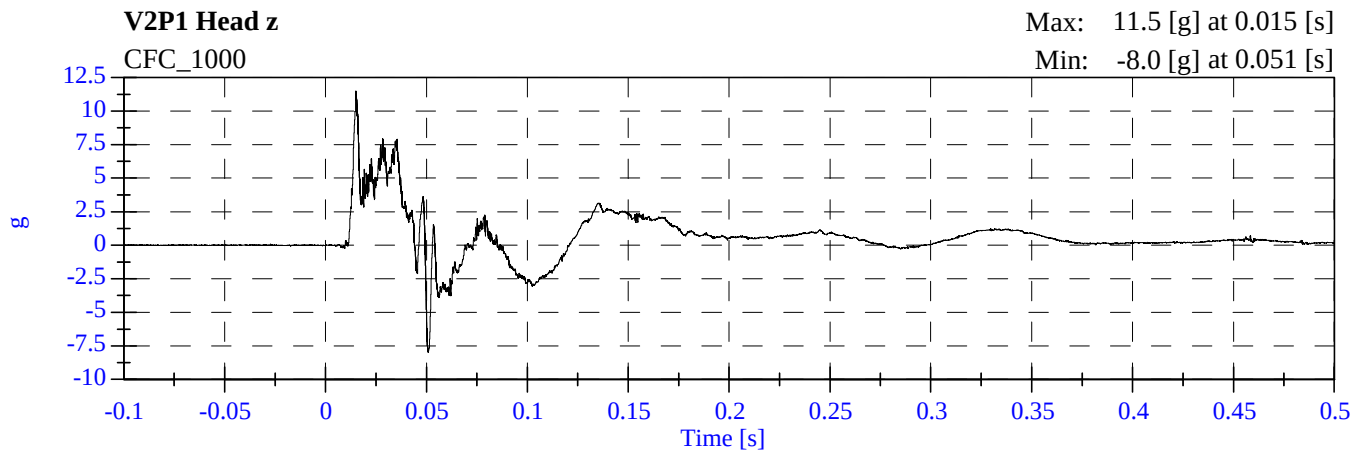
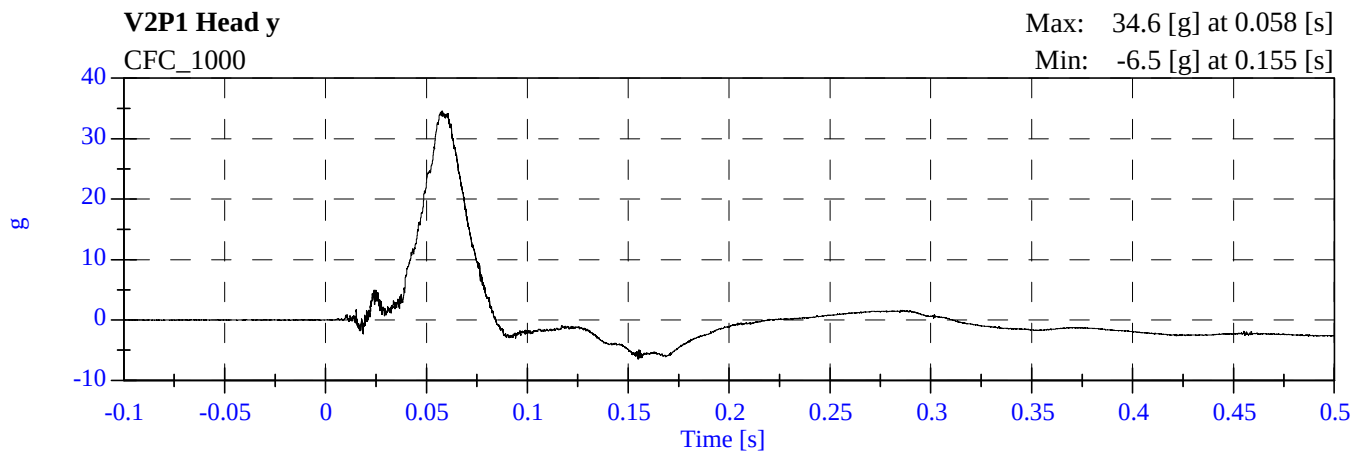
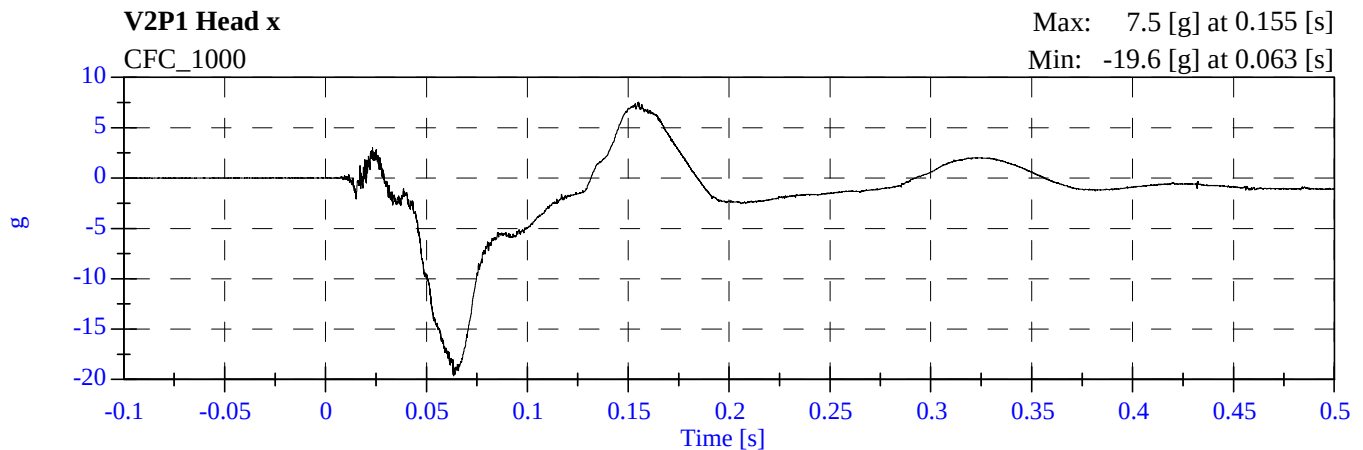
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V2P1 Head Ay	V2A1 Right Front Sill Ay
V2P1 Head Az	V2A1 Right Front Sill Az
V2P1 Upper Neck Fx	V2A2 Right Rear Sill Ax
V2P1 Upper Neck Fy	V2A2 Right Rear Sill Ay
V2P1 Upper Neck Fz	V2A2 Right Rear Sill Az
V2P1 Upper Neck Mx	V2A3 Rear Floorpan Ax
V2P1 Upper Neck My	V2A3 Rear Floorpan Ay
V2P1 Upper Neck Mz	V2A3 Rear Floorpan Az
V2P1 Upper Rib Ay	V2A4 Left Rear Sill Ay
V2P1 Upper Rib Redundant Ay	V2A5 Left Front Sill Ay
V2P1 Lower Rib Ay	V2A6 Left Front Door C/L Ay
V2P1 Lower Rib Redundant Ay	V2A7 Right Rear Compartment Ay
V2P1 Lower Spine Ay	V2A8 Left Front Door Midrear Ay
V2P1 Lower Spine Redundant Ay	V2A9 Left Front Door Upper C/L Ay
V2P1 Pelvic Ay	V2A10 Left Rear Door Midrear Ay
V2P1 Pelvic Redundant Ay	V2A11 Left Rear Door Upper C/L Ay
V2P4 Head Ax	V2A12 Left Lower B Post Ay
V2P4 Head Ay	V2A13 Left Mid B Post Ay
V2P4 Head Az	V2A14 Left Lower A Post Ay
V2P4 Upper Neck Fx	V2A15 Left Mid A Post Ay
V2P4 Upper Neck Fy	V2A16 Front Seat Track Ay
V2P4 Upper Neck Fz	V2A17 Rear Seat Track Ay
V2P4 Upper Neck Mx	V2A18 Target CG Ax
V2P4 Upper Neck My	V2A18 Target CG Ay
V2P4 Upper Neck Mz	V2A18 Target CG Az
V2P4 Upper Rib Ay	V1 Moving Barrier CG Ax
V2P4 Upper Rib Redundant Ay	V1 Moving Barrier CG Ay
V2P4 Lower Rib Ay	V1 Moving Barrier CG Az
V2P4 Lower Rib Redundant Ay	V1 Moving Barrier Left Rail Ax
V2P4 Lower Spine Ay	V1 Moving Barrier Left Rail Ay
V2P4 Lower Spine Redundant Ay	
V2P4 Pelvic Ay	
V2P4 Pelvic Redundant Ay	

TEST NOTES

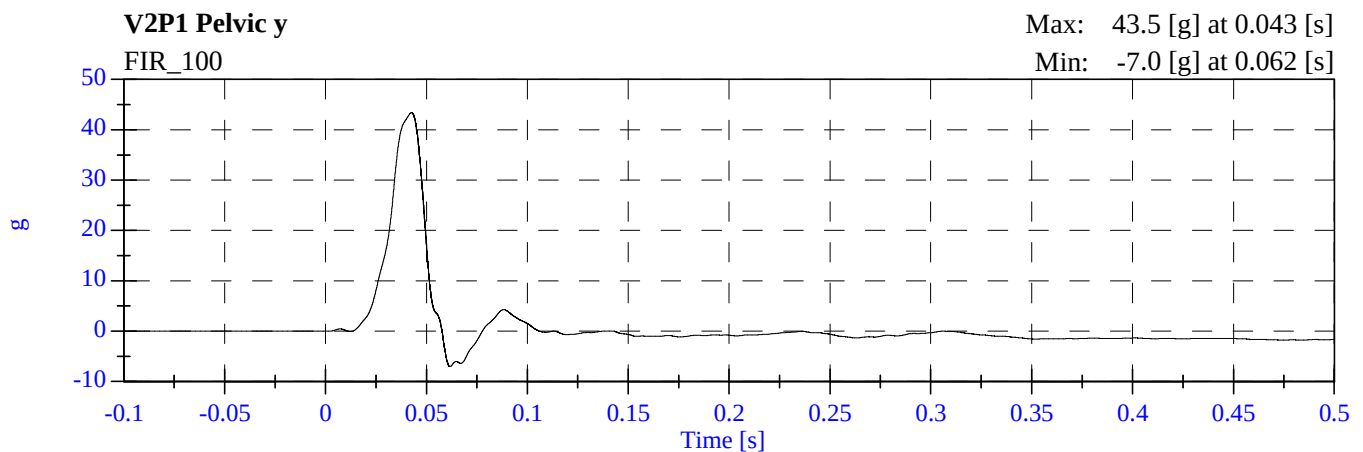
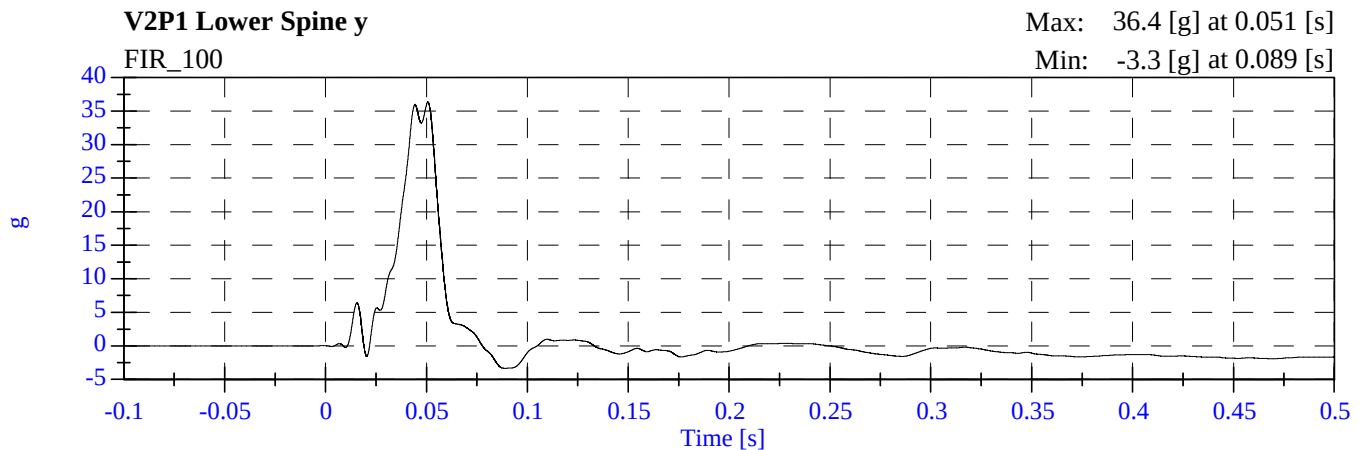
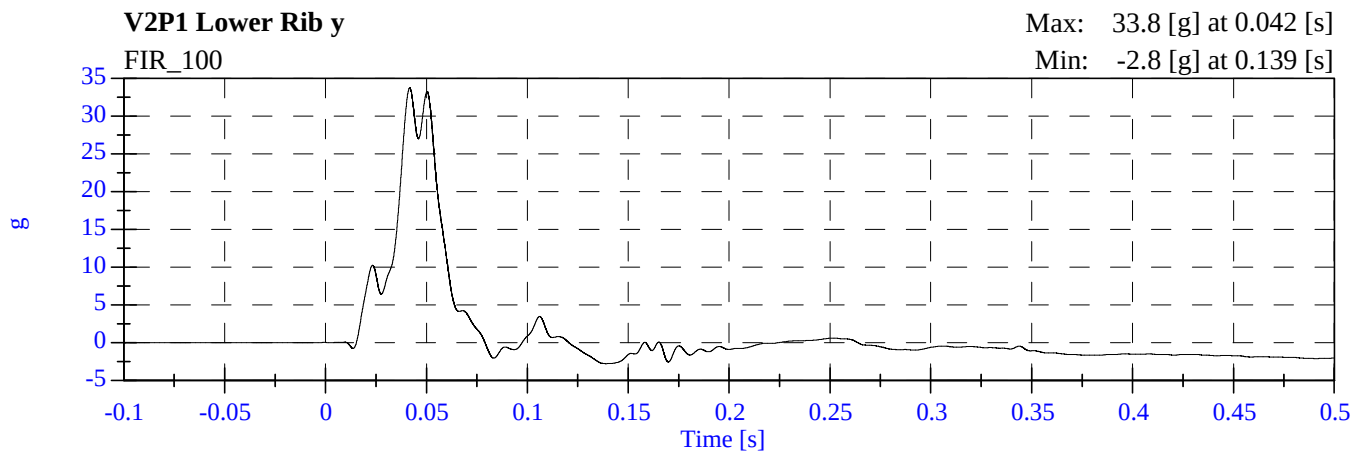
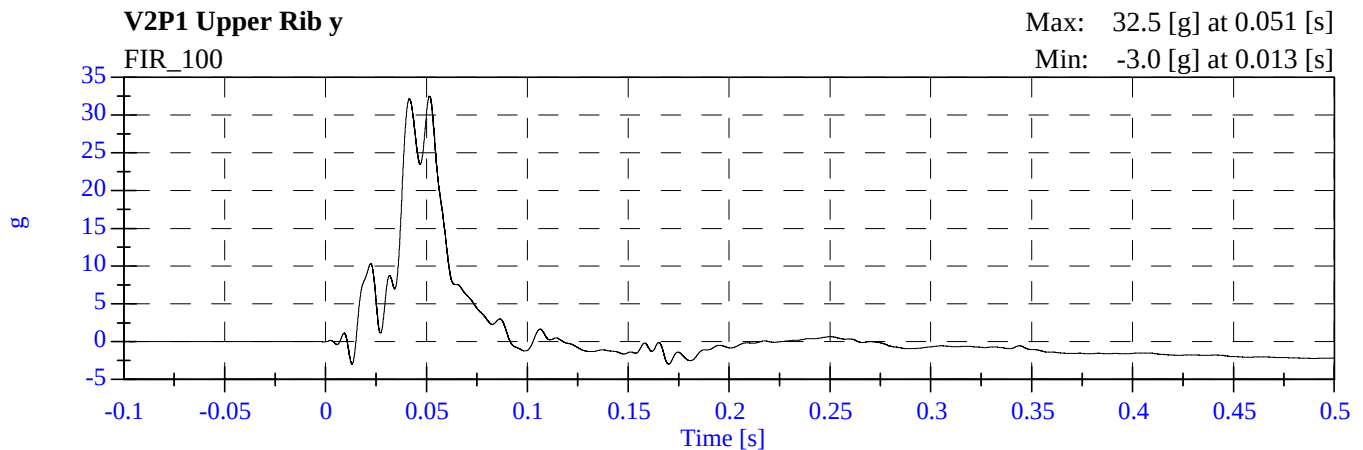
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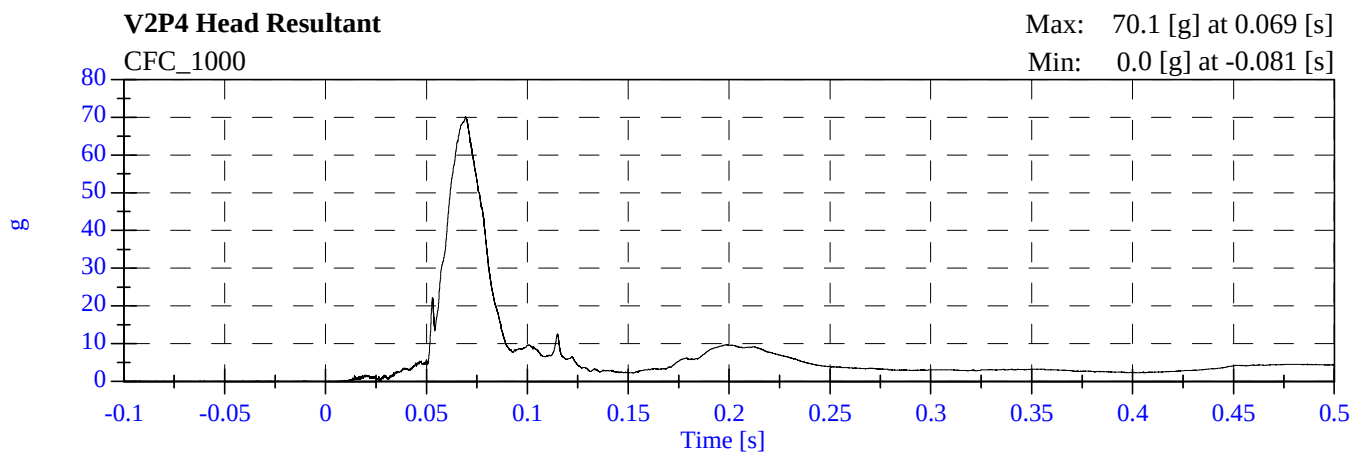
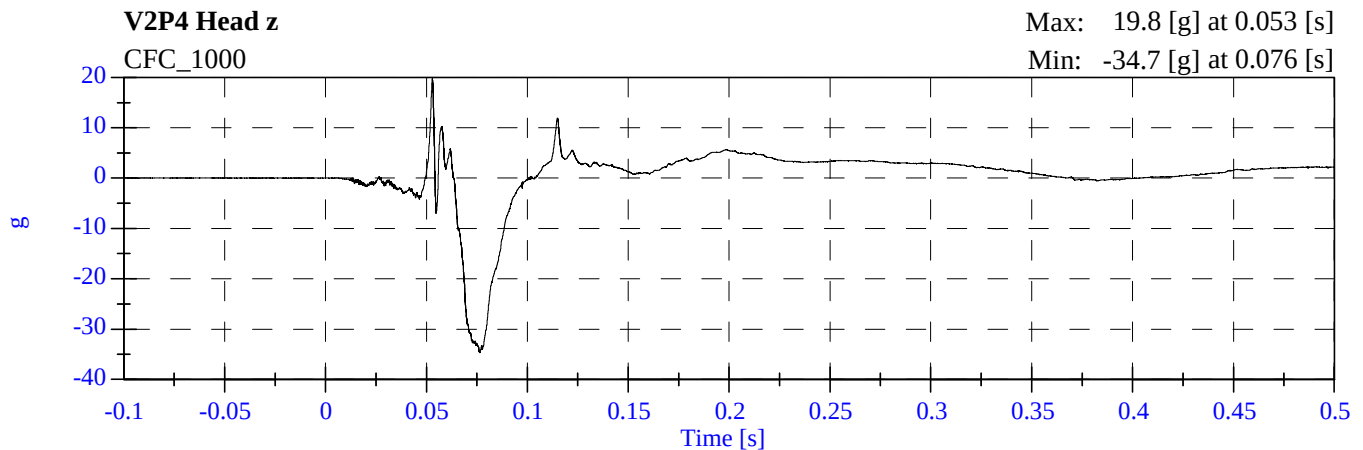
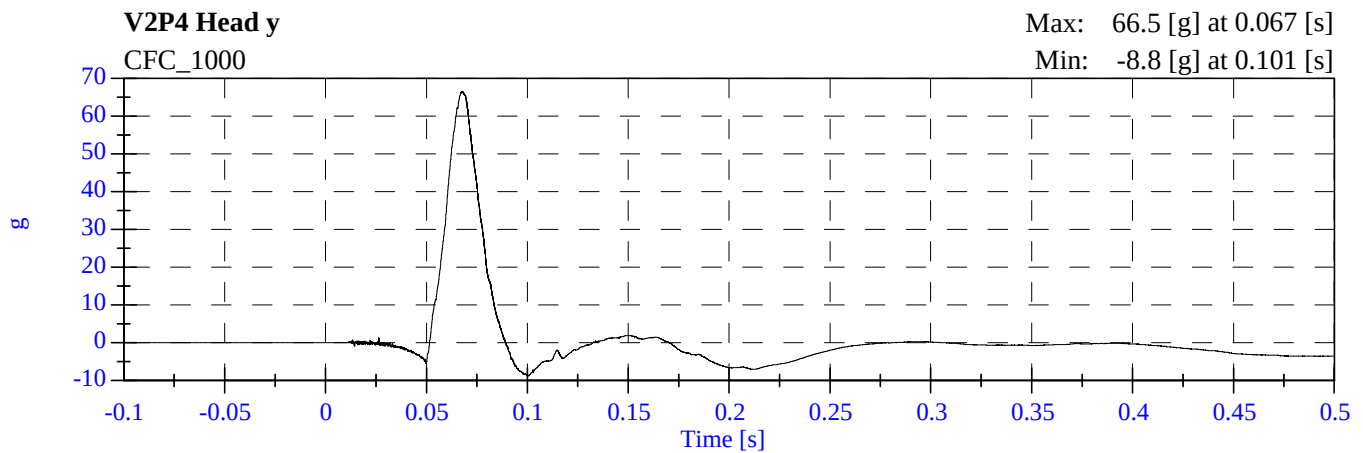
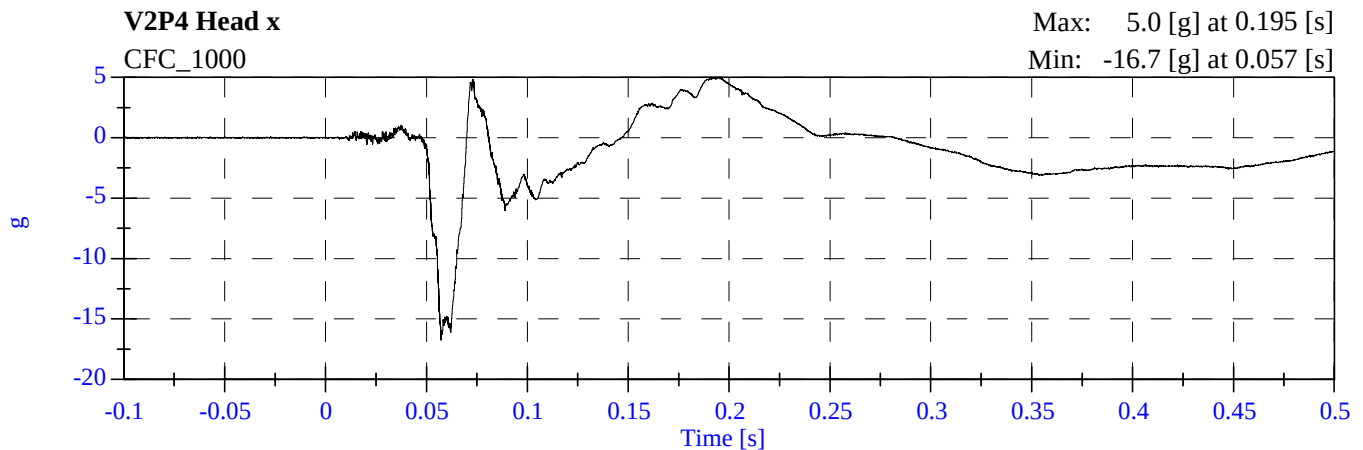
2007 SNCAP Test 4 2007 Honda Element M75306 - October 24, 2006



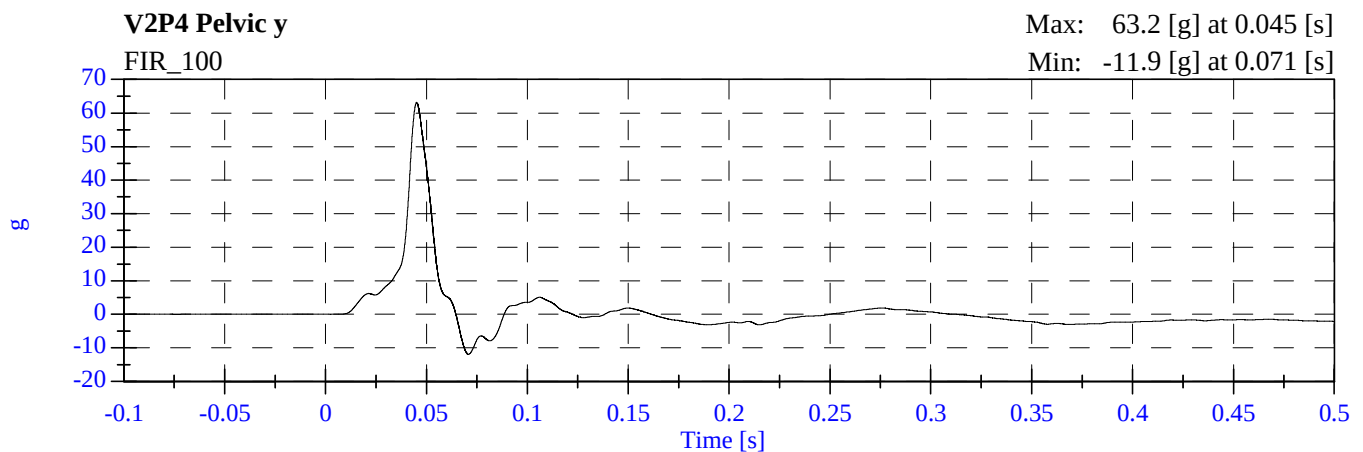
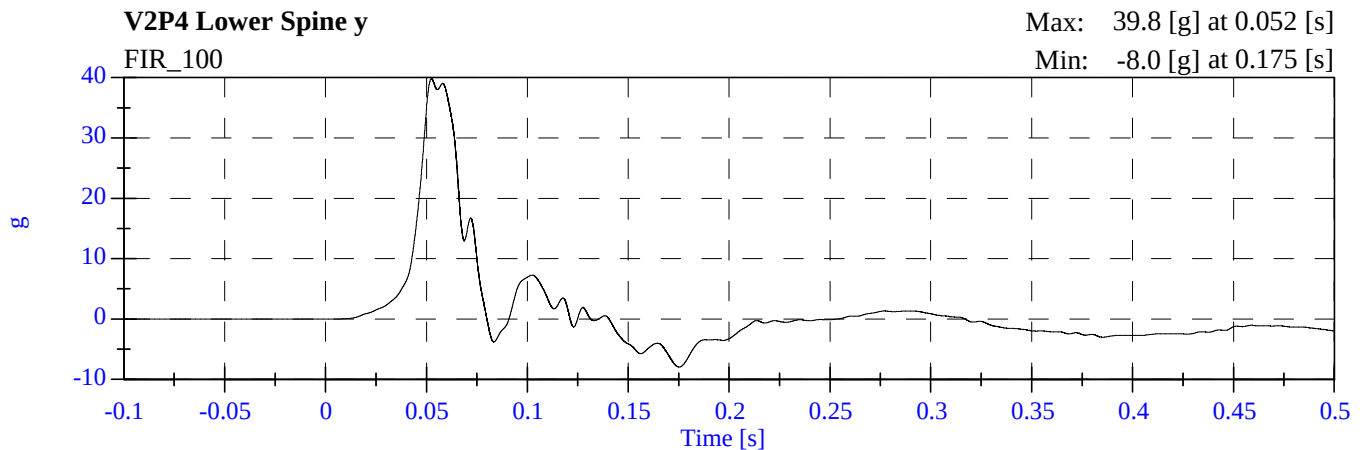
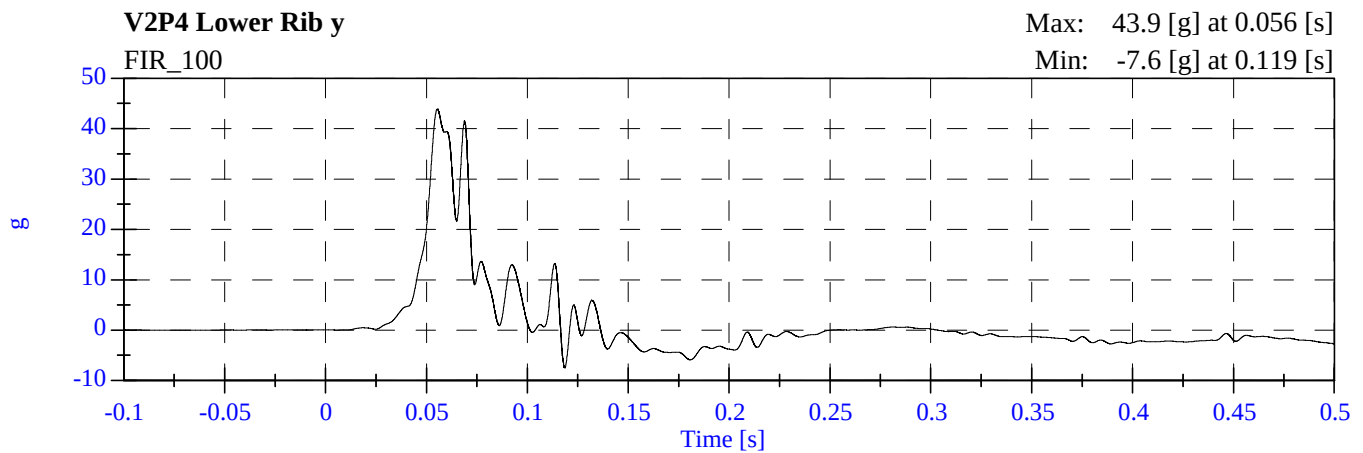
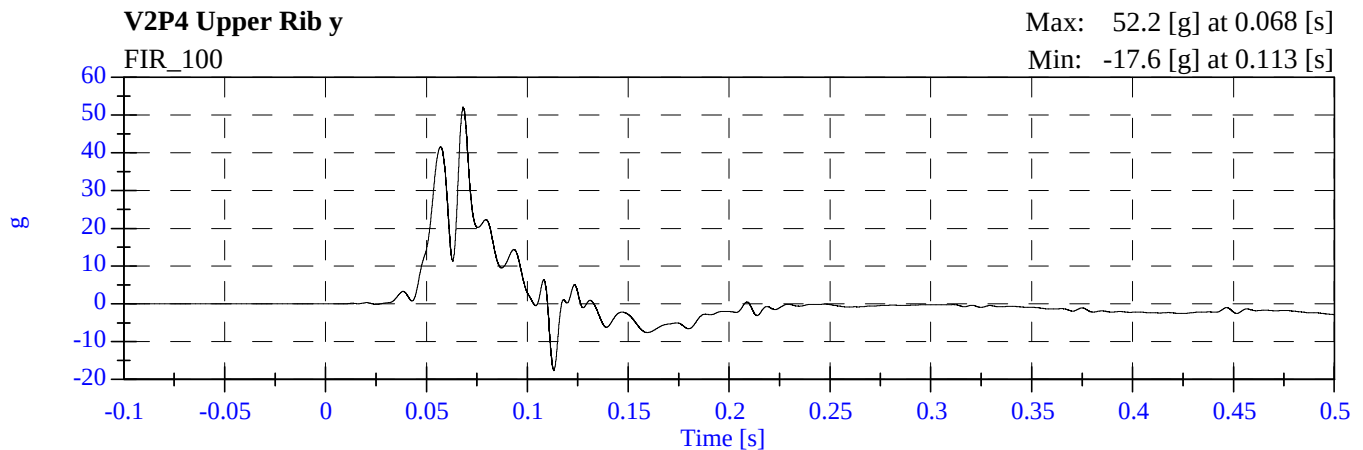
2007 SNCAP Test 4 2007 Honda Element M75306 - October 24, 2006



2007 SNCAP Test 4 2007 Honda Element M75306 - October 24, 2006



2007 SNCAP Test 4 2007 Honda Element M75306 - October 24, 2006



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 11/03/06 Sequential Test Number: 1 AND 2
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 905		SID H3 NO.: 906	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	895	895	895	895
RH- Rib Height (mm)	501 - 521	513	513	511	511
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	235	235	231	231
KV- Knee Pivot from Back Line (mm)	511 - 526	516	516	517	517
SW- Knee Pivot to Floor (mm)	490 - 505	494	494	499	499
HW- Hip Width (mm)	356 - 391	369	369	371	371
THORAX IMPACTS					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	50.0	38.0	37.0	38.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.27	4.33	4.31
UPPER RIB (g's)	37 - 46	39.50	41.68	44.97	43.66
LOWER RIB (g's)	37 - 46	38.60	42.07	44.57	42.11
LOWER SPINE (g's)	15 - 22	19.99	21.70	21.82	20.25
PELVIS IMPACT					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	50.0	38.0	37.0	38.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.30	4.32	4.31
PELVIS (g's)	40 - 60	43.19	42.91	49.13	44.70

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 905

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905	Sequential Test Number: 1
Date: 9/13/06	Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1
Date: 9/13/06 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	895
RH- Rib Height (mm)	502 – 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	235
KH- Knee Pivot from Back Line (mm)	511 – 526	516
KV- Knee Pivot to Floor (mm)	490 – 505	494
HW- Hip Width (mm)	356 - 391	369

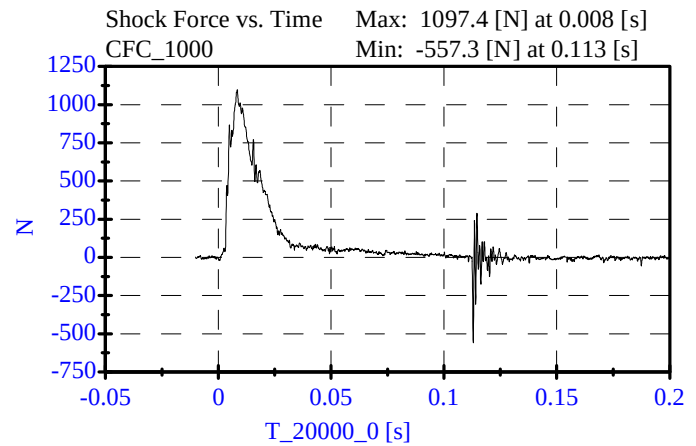
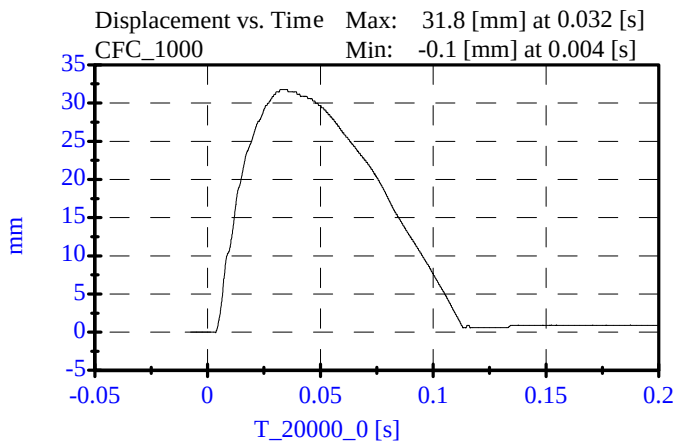
REMARKS: None

SID Shock Test S/N:905 (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: July 26, 2006

Sequential Test Number: 1 File: 905SL
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	31.80 mm	Passed
Maximum Force:	836.00-1125.00 N	1097.35 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	905		
Damper Setting:	5		

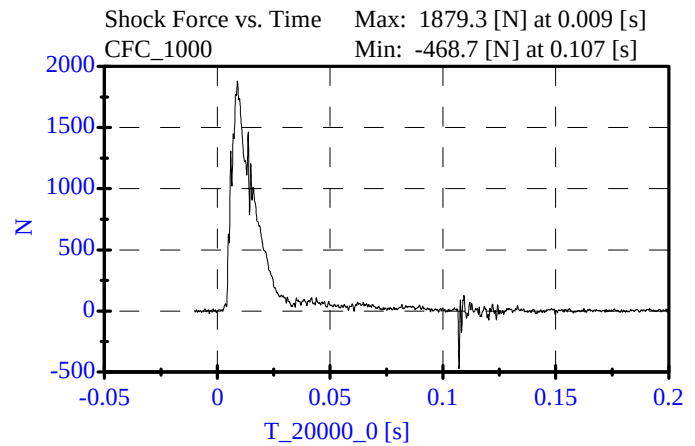
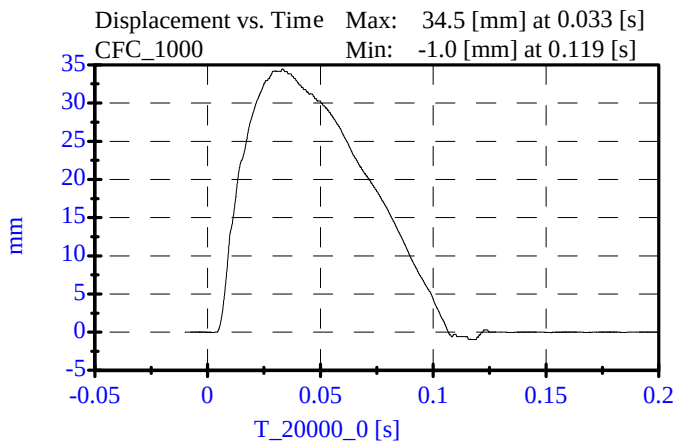


SID Shock Test S/N:905 (4.27 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: July 26, 2006

Sequential Test Number: 1 File: 905SM
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	34.46 mm	Passed
Maximum Force:	1730.00-2099.00 N	1879.32 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	905		
Damper Setting:	5		

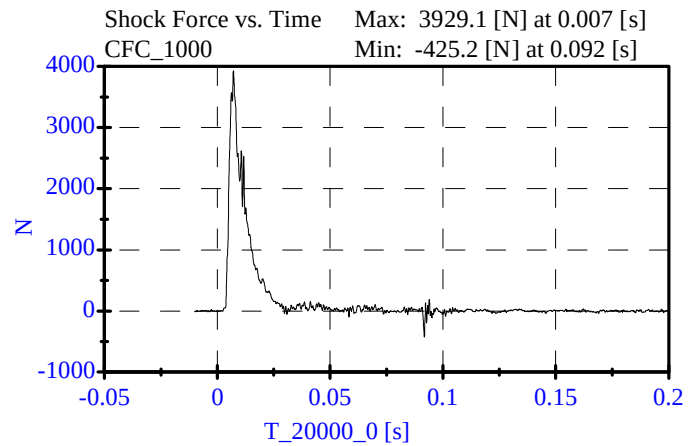
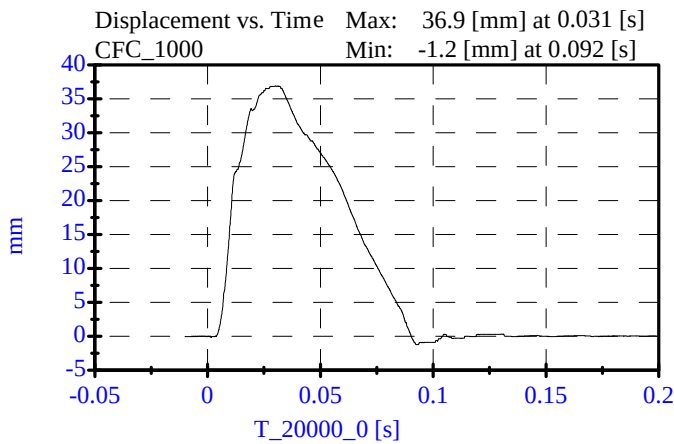


SID Shock Test S/N:905 (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: July 26, 2006

Sequential Test Number: 1 File: 905SH
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	36.86 mm	Passed
Maximum Force:	3741.00-4448.00 N	3929.08 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	905		
Damper Setting:	5		

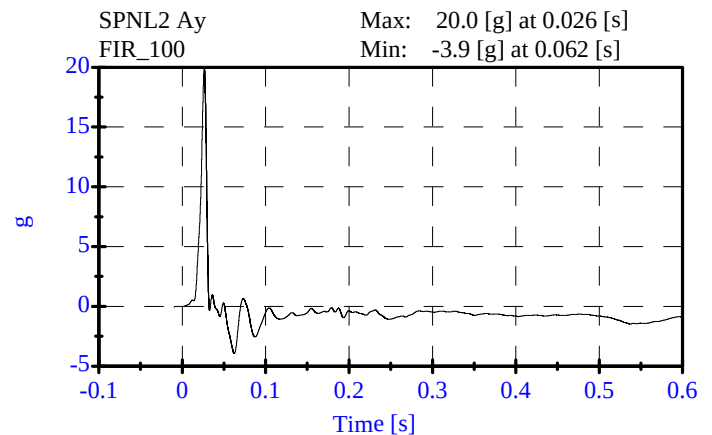
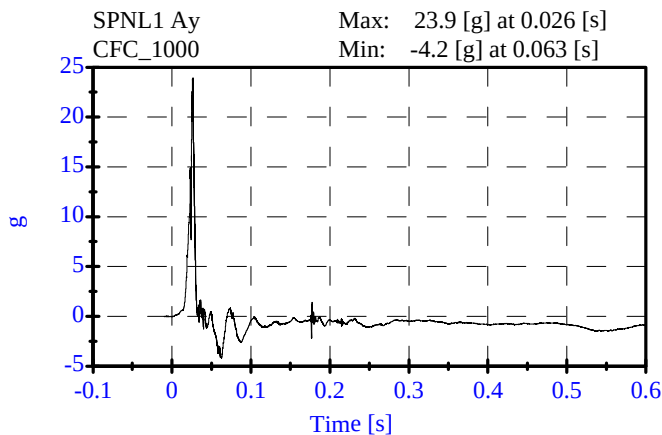
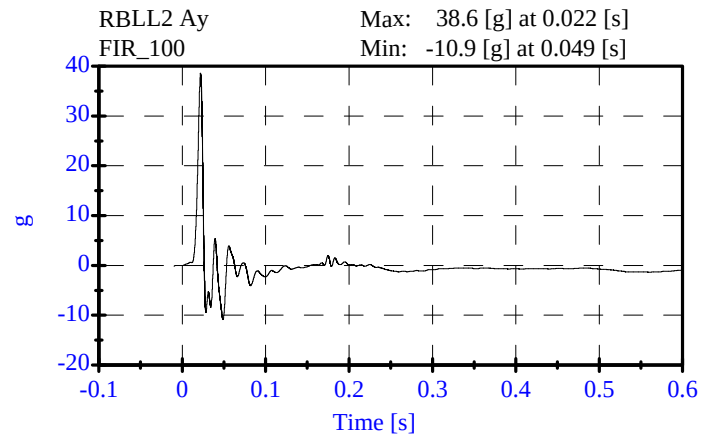
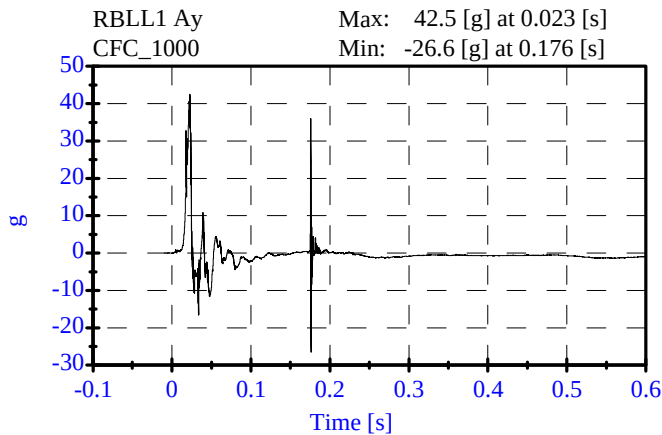
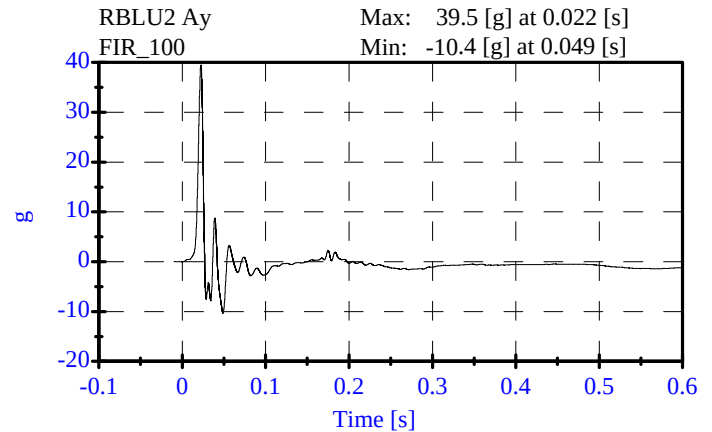
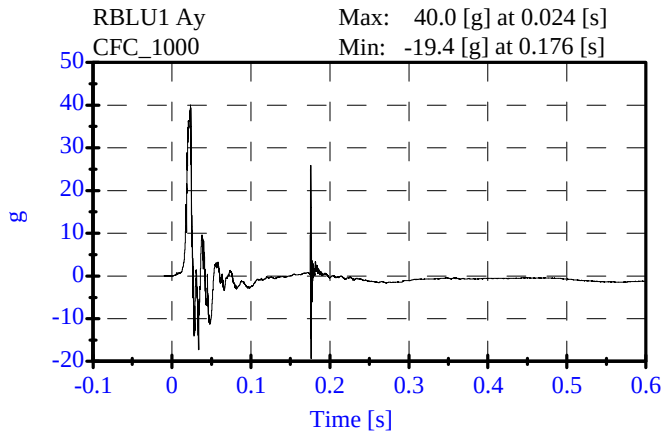


SID Thorax Test S/N:905
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: September 13, 2006

Sequential Test Number: 1 File: test1
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
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 g	39.50 g	Passed
Lower Rib Acceleration:	37.00-46.00 g	38.60 g	Passed
Lower Spine Acceleration:	15.00-22.00 g	19.99 g	Passed



SID Pelvis Test S/N:905

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

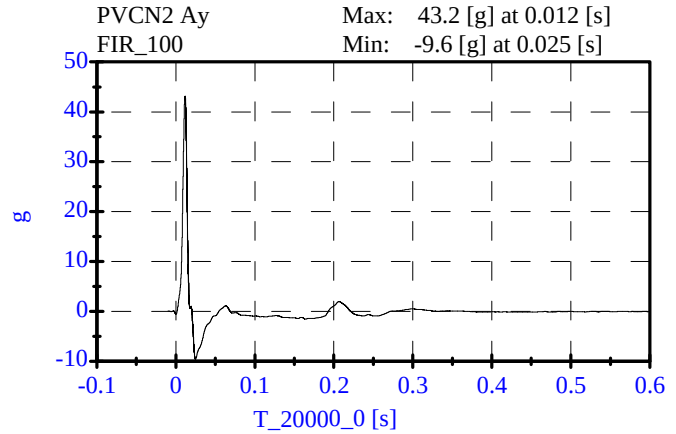
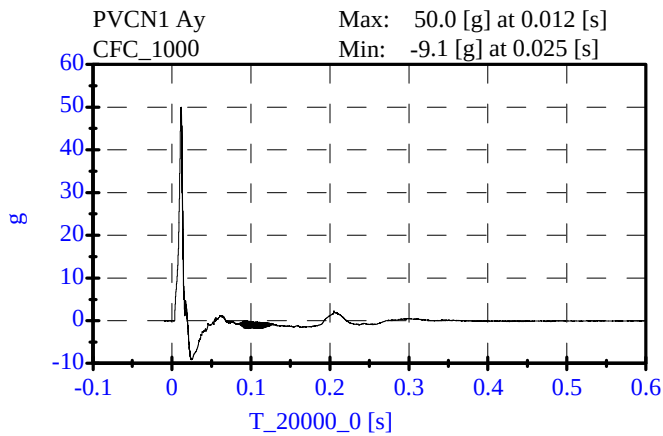
ATD Serial No: 905

Date: September 13, 2006

Sequential Test Number: 1 File: 905T

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
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 g	43.19 g	Passed
Time Above 20 Gs	3.0-7.0 ms	6.0 ms	Passed

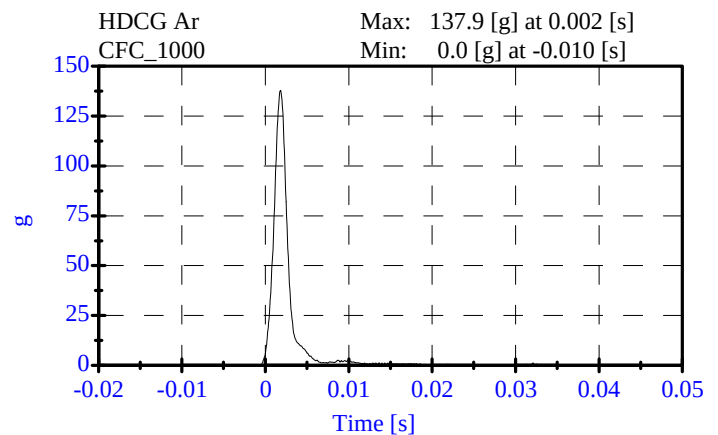
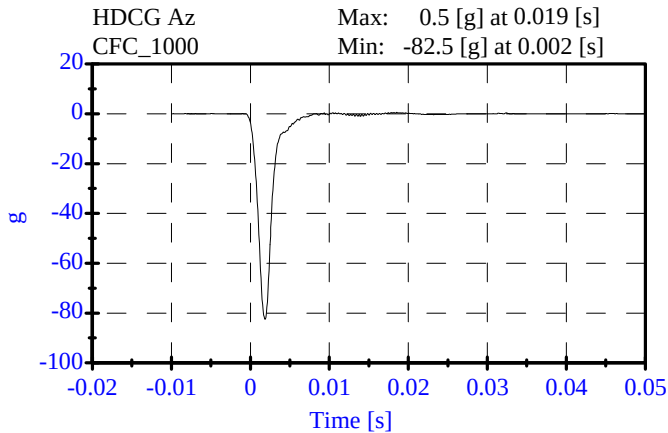
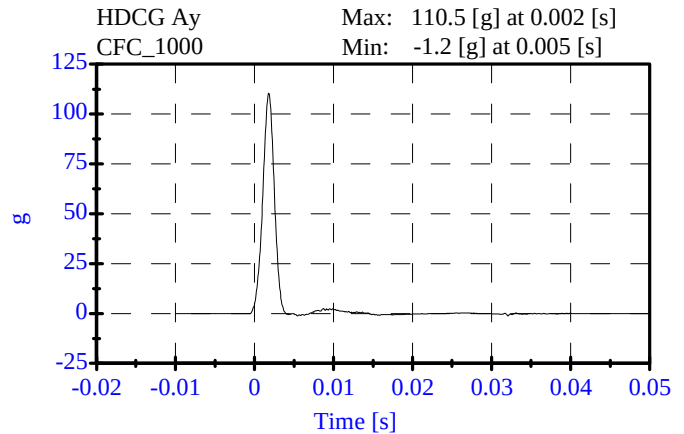
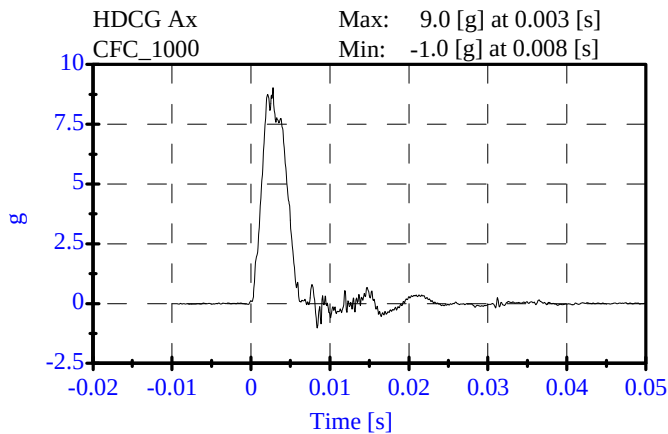


SID HYIII Head Drop Test S/N:905
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: September 11, 2006

Sequential Test Number: 1 File: 906H
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	50.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	137.89 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	9.02 Gs	Passed
Curve PerCent NonModal:	< 15%	3.38 %	Passed



SID Head Neck Test S/N:905**Pre-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 905
Date: September 11, 2006

Sequential Test Number: 1 File: 905N
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 %	50.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.92 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.16 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.52 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.55 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.13 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.60 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	87.56 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	59.45 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	11.50 ms	Passed

SID Head Neck Test S/N:905
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

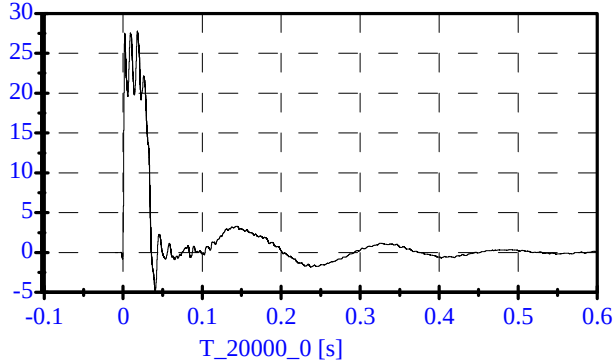
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Date: September 11, 2006

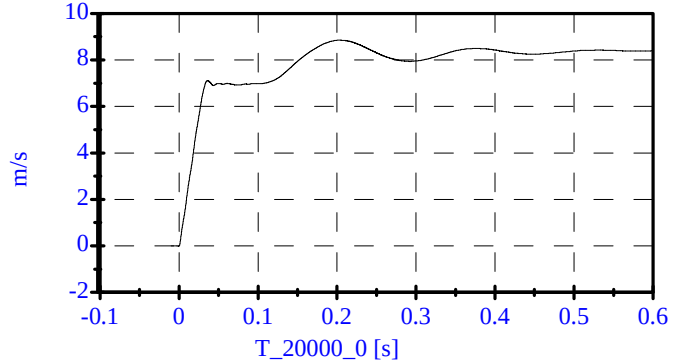
Sequential Test Number: 1 File: 905N

Laboratory Technician: B. Swiecicki

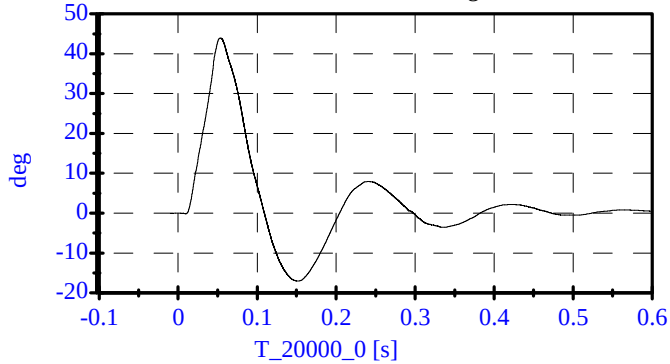
Pend Ax
CFC_180
Max: 27.8 [] at 0.018 [s]
Min: -4.8 [] at 0.041 [s]



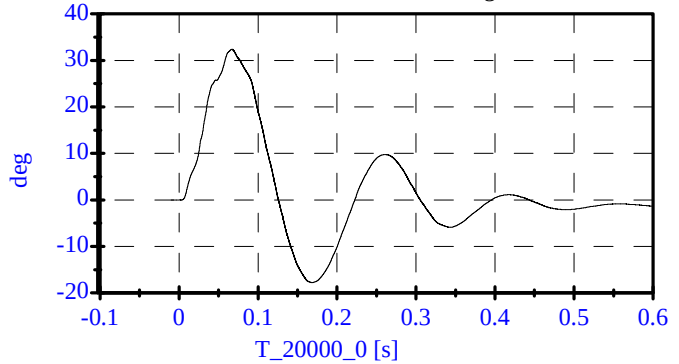
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.201 [s]
Min: -0.0 [m/s] at -0.000 [s]



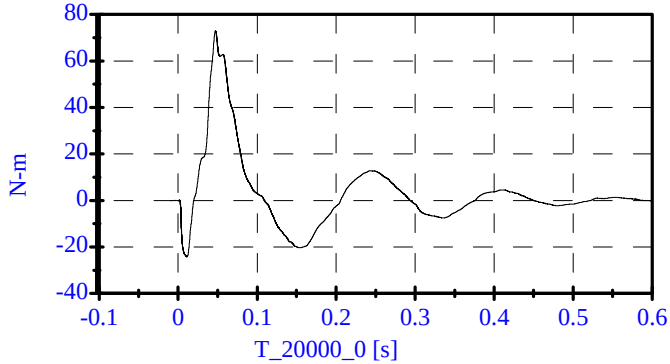
Head Rot
CFC_180
Max: 44.0 [deg] at 0.053 [s]
Min: -17.0 [deg] at 0.152 [s]



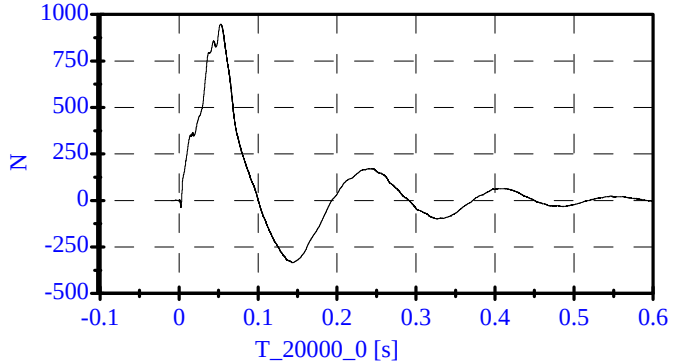
Arm Rot
CFC_180
Max: 32.4 [deg] at 0.067 [s]
Min: -17.8 [deg] at 0.168 [s]



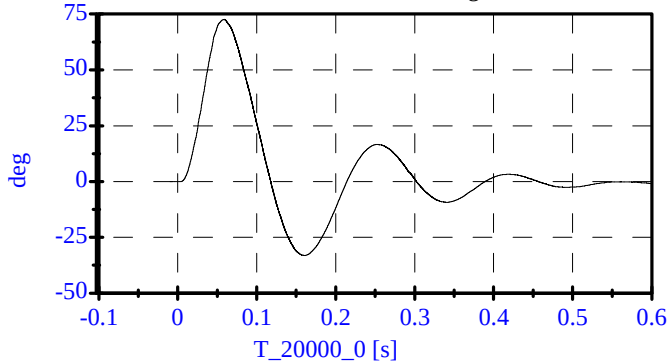
Neck Mx
CFC_600
Max: 72.8 [N-m] at 0.047 [s]
Min: -24.4 [N-m] at 0.011 [s]



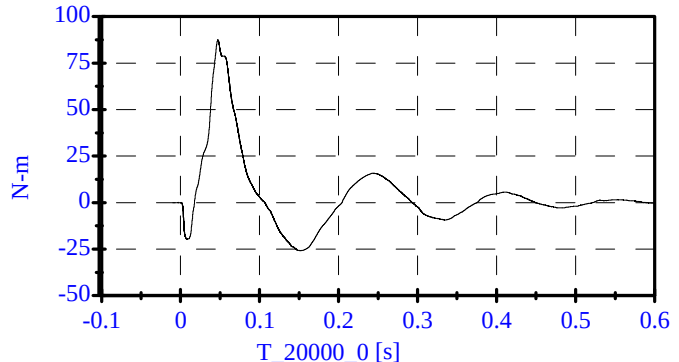
Neck Fy
CFC_1000
Max: 947.4 [N] at 0.052 [s]
Min: -336.0 [N] at 0.144 [s]



Tot Rot
CFC_180
Max: 72.6 [deg] at 0.059 [s]
Min: -33.1 [deg] at 0.161 [s]



MOCX
Max: 87.6 [N-m] at 0.047 [s]
Min: -25.9 [N-m] at 0.152 [s]



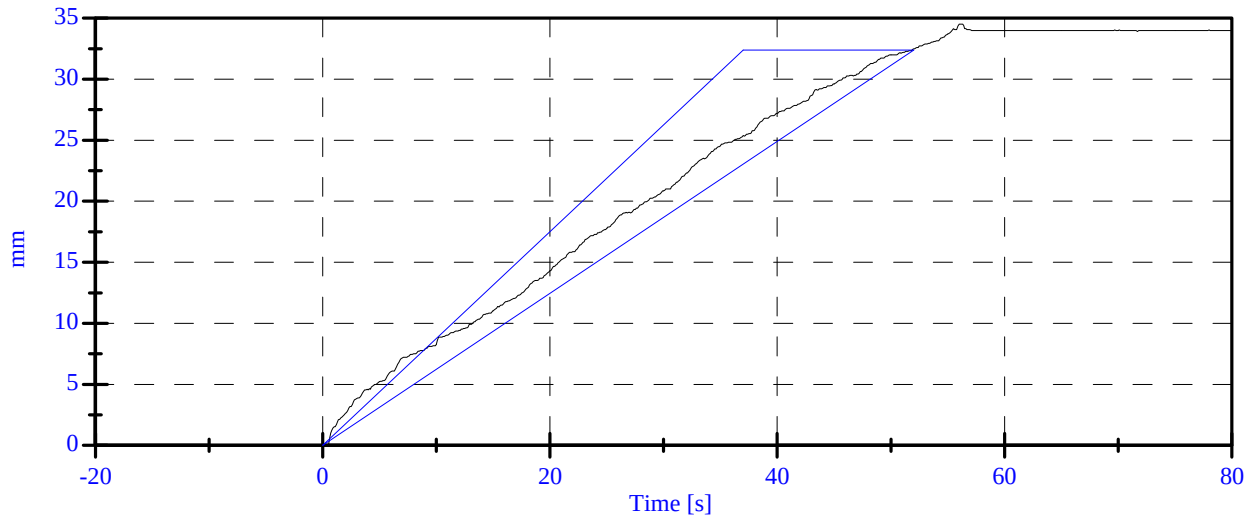
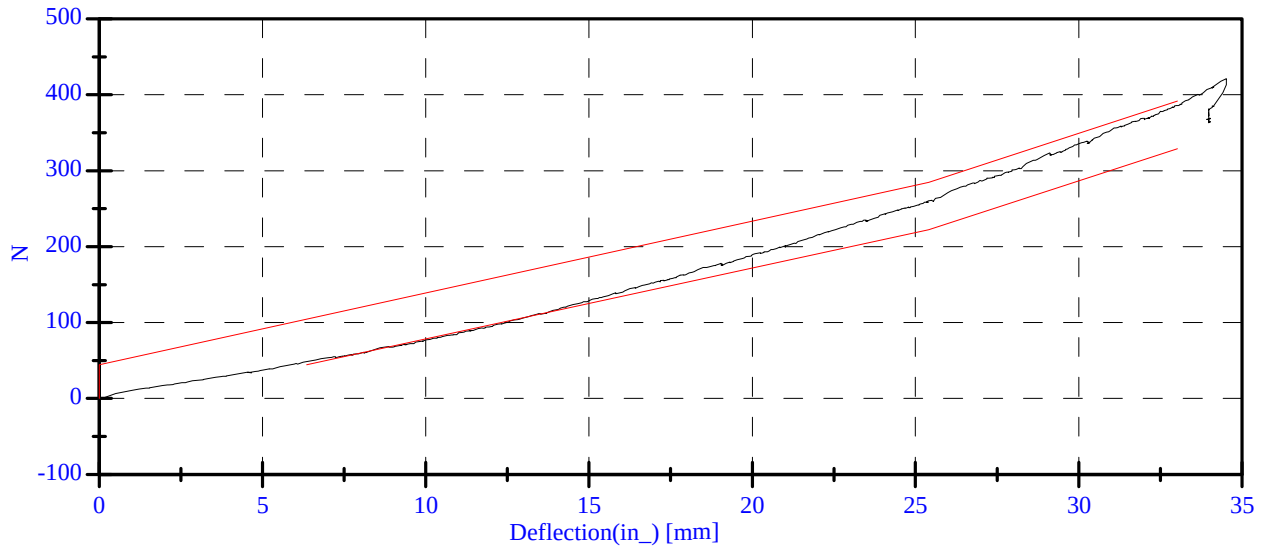
SID Abdominal Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 9-13-2006

Sequential Test Number: 1 File: 905 abdominal 09-06-test
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
Force at 12.95 mm :	104.00-162.00 N	106.19 N	Passed
Force at 19.05 mm :	162.98-220.99 N	177.92 N	Passed
Force at 25.40 mm :	221.97-280.02 N	258.89 N	Passed
Force at 33.02 mm :	324.99-391.00 N	386.07 N	Passed

ABDOMINAL COMPRESSION TEST



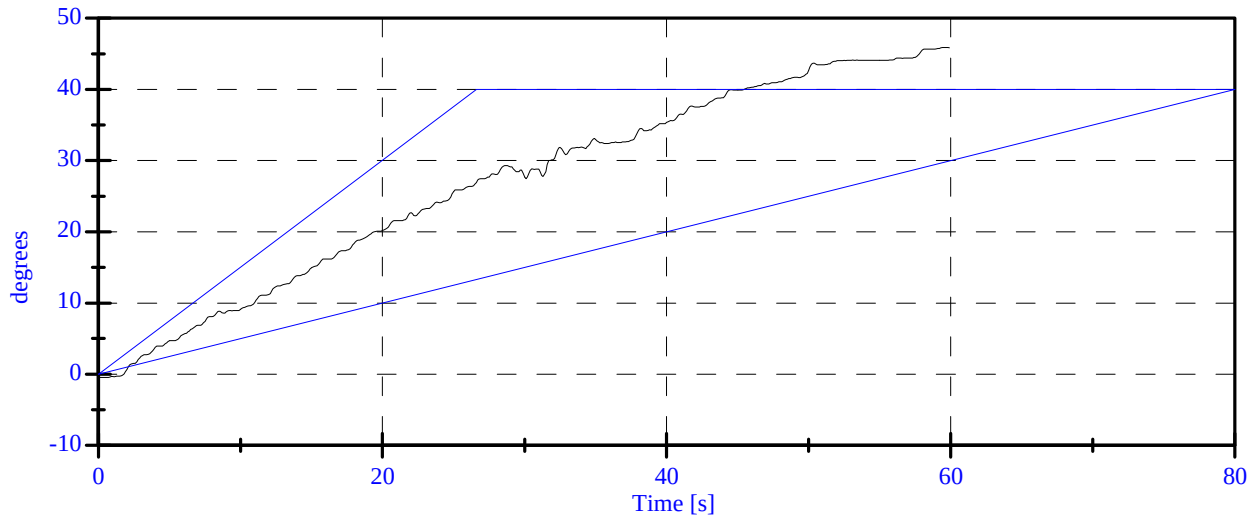
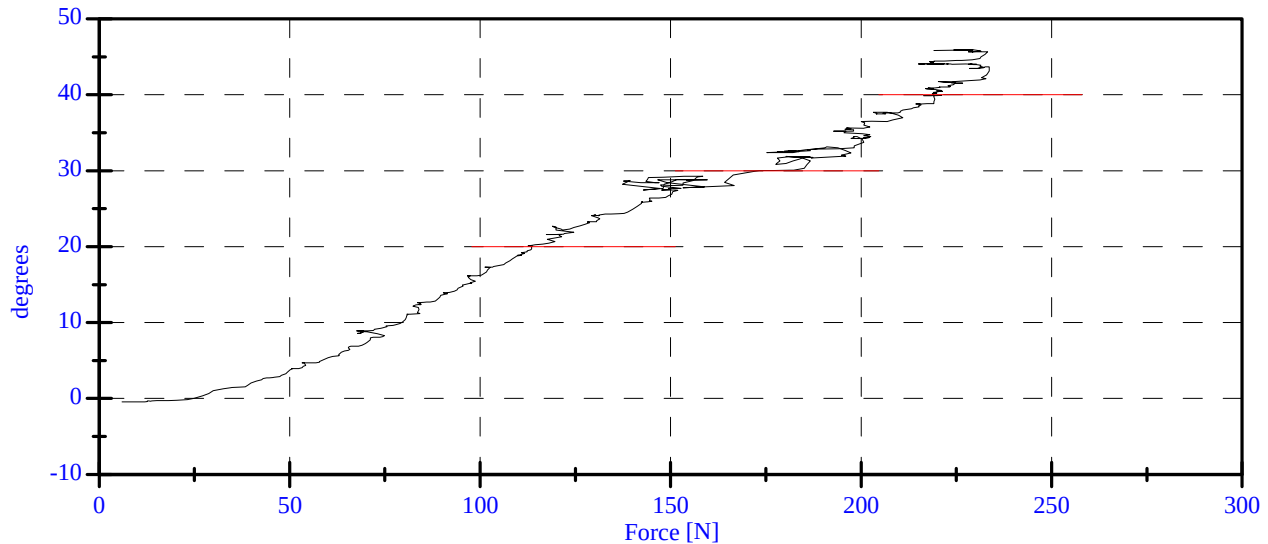
SID Lumbar Spine Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 9-12-2006

Sequential Test Number: 1 File: 905 spine 09-09-test2
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
Force at 0 Deg:	0.00-26.69 N	24.88 N	Passed
Force at 20 Deg:	97.86-151.24 N	113.49 N	Passed
Force at 30 Deg	151.24-204.62 N	173.25 N	Passed
Force at 40 Deg	204.62-258.00 N	219.14 N	Passed
Return Angle	12 Deg Max	1.55 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 1
 Date: 9/13/06 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906	Sequential Test Number: 1
Date: 10/19/06	Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1
Date: 10/19/06 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	895
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	231
KH- Knee Pivot from Back Line (mm)	511 - 526	517
KV- Knee Pivot to Floor (mm)	490 - 505	499
HW- Hip Width (mm)	356 - 391	371

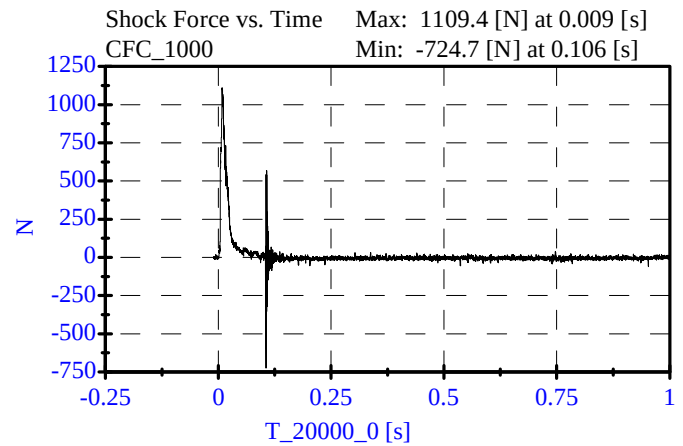
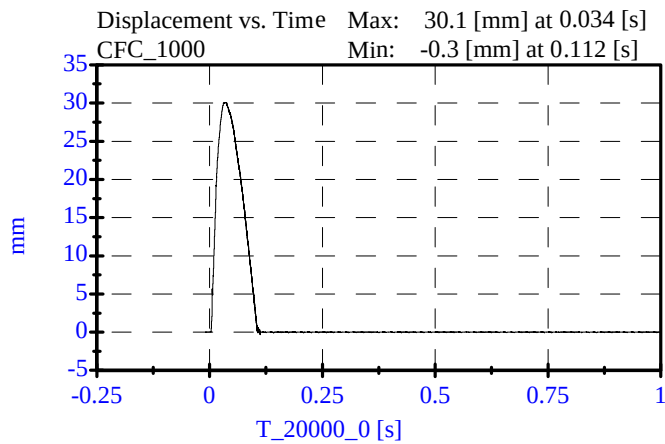
REMARKS: None

SID Shock Test S/N:906 (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: September 11, 2006

Sequential Test Number: 1 File: 905SH
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	30.05 mm	Passed
Maximum Force:	836.00-1125.00 N	1109.43 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	906		
Damper Setting:	5		



SID Mid Speed Shock Test S/N:906 (4.27 m/s)

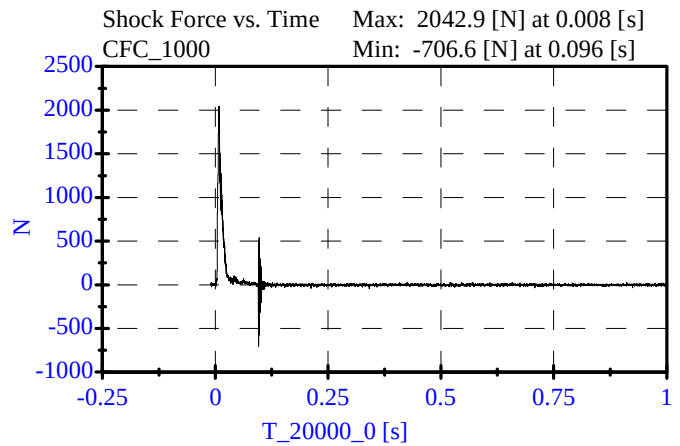
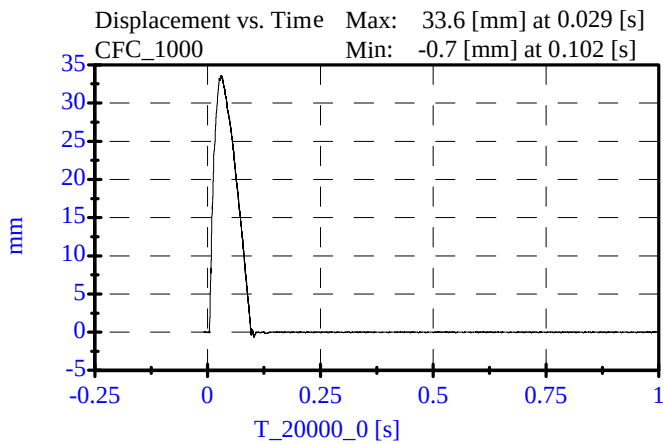
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: September 11, 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:	32.00-37.00 mm	33.58 mm	Passed
Maximum Force:	1730.00-2099.00 N	2042.90 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	906		
Damper Setting:	5		



SID High Speed Shock Test S/N:906 (6.10 m/s)

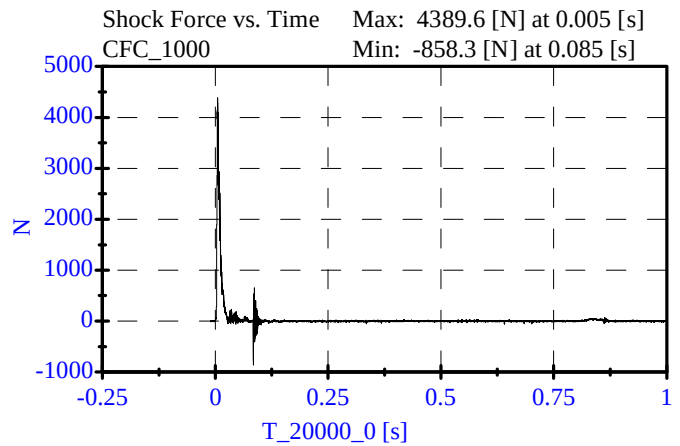
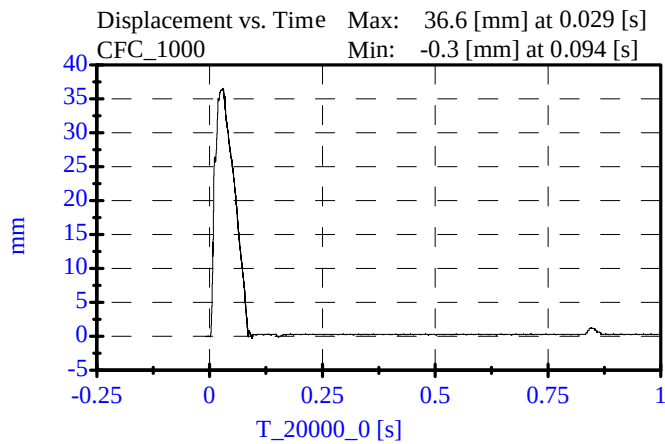
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: September 11, 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:	33.00-40.00 mm	36.58 mm	Passed
Maximum Force:	3741.00-4448.00 N	4389.60 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	906		
Damper Setting:	5		

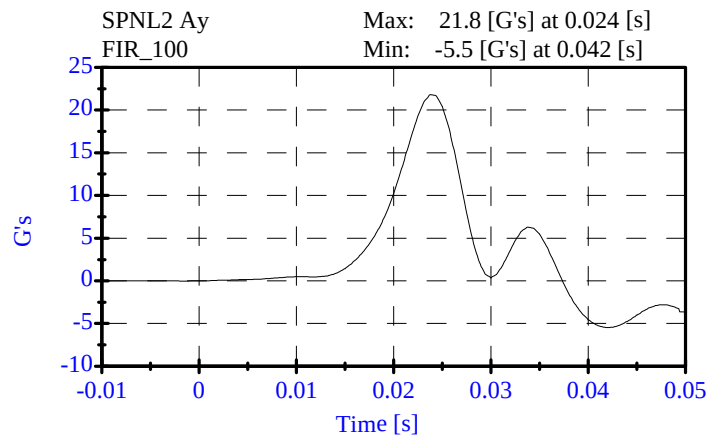
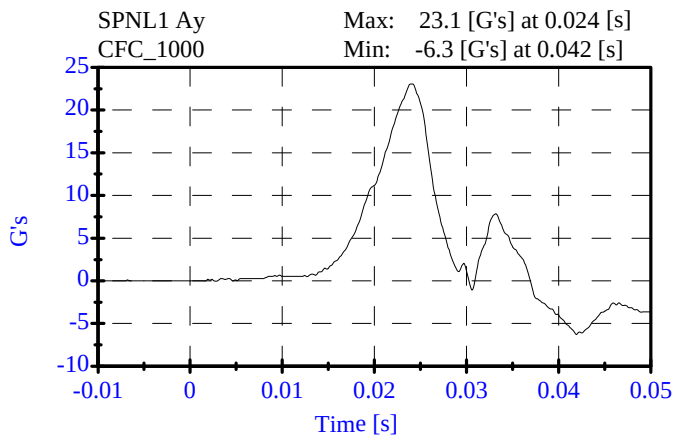
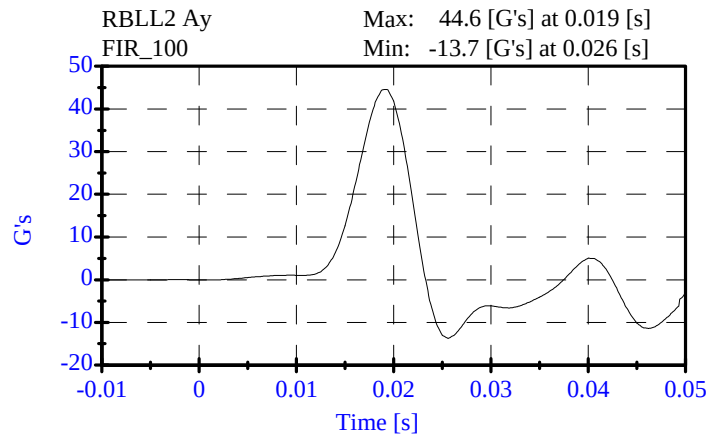
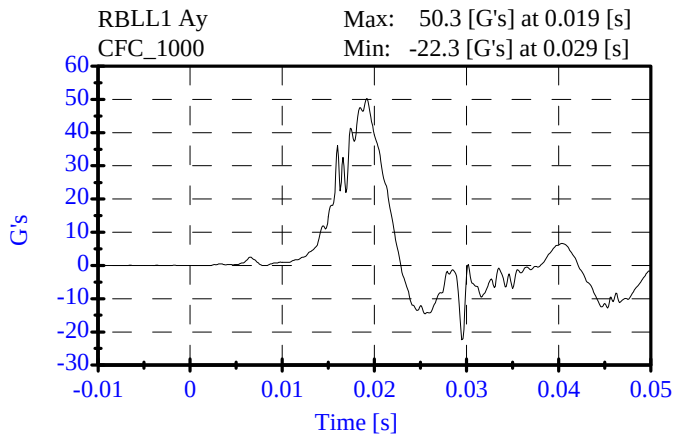
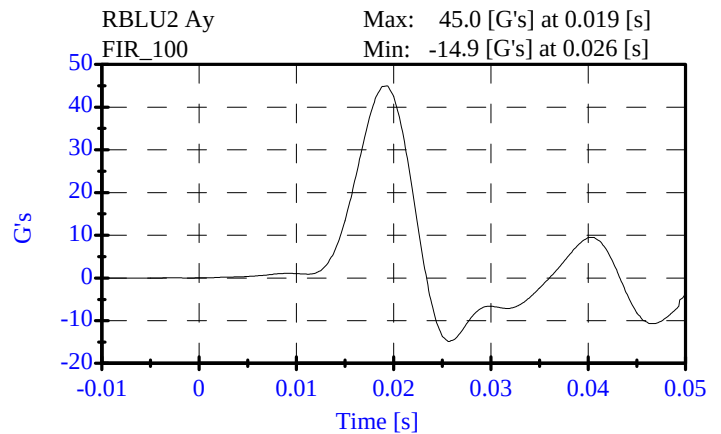
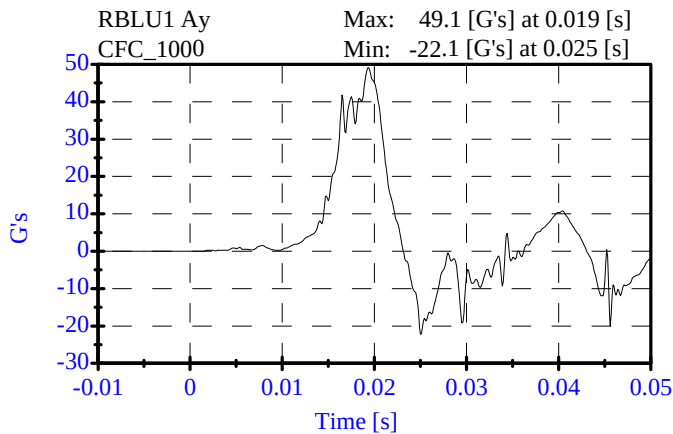


Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 10-18-06

Sequential Test Number: 1 File: 906T2 10-18-06
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	4.33 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	44.97 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	44.57 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.82 G's	Passed



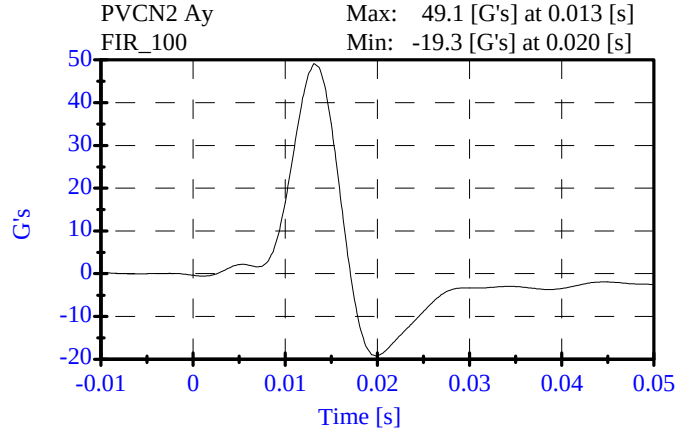
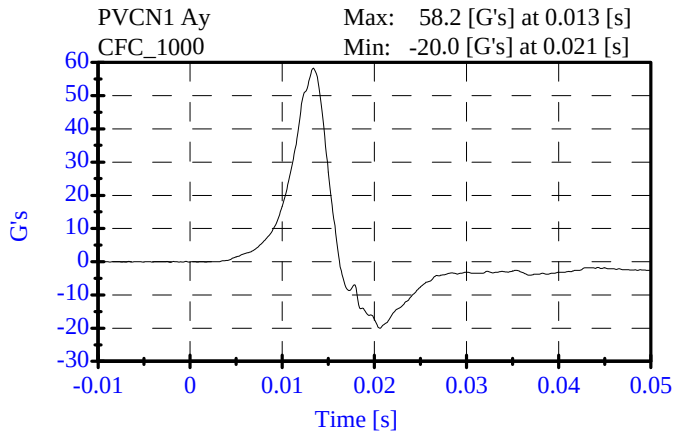
**Pelvis Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 10-18-06

Sequential Test Number: 1 File: 906P 10-18-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	49.13 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.6 ms	Passed



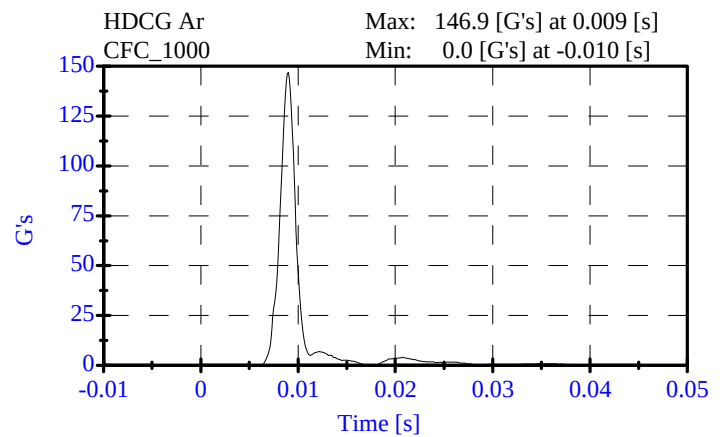
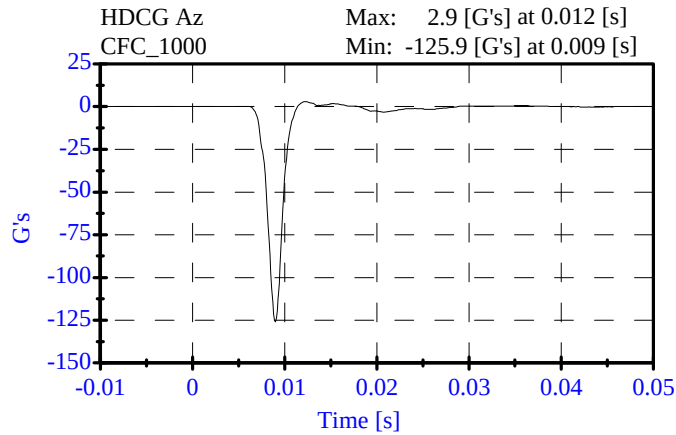
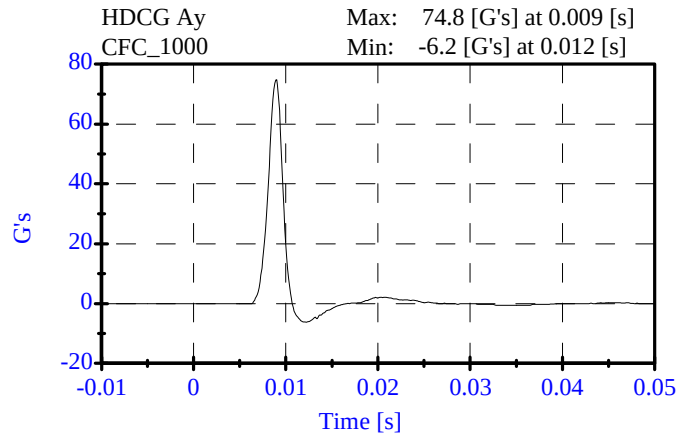
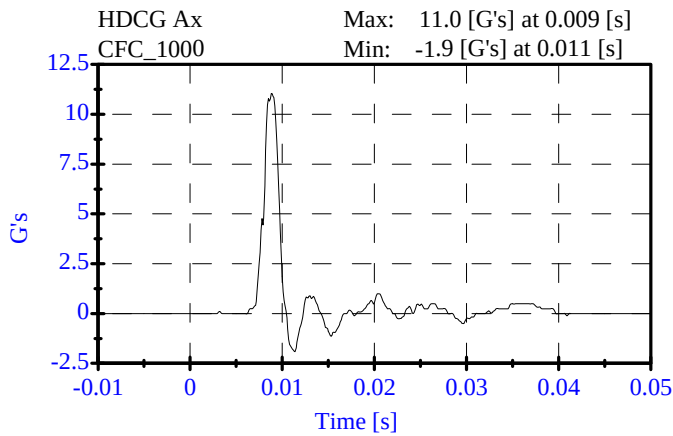
Head Drop Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 10-18-06

Sequential Test Number: 1 File: 906H 10-18-06
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 %	37.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	146.87 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	11.04 Gs	Passed
Curve PerCent NonModal:	< 15%	4.66 %	Passed



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

ATD Serial No: 906

Date: 10-18-06

Sequential Test Number: 1 File: 906N_new 10-18-06

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 %	37.00 %	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	2.14 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.36 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.25 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	71.39 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	61.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	81.57 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	58.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.90 ms	Passed

Neck test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

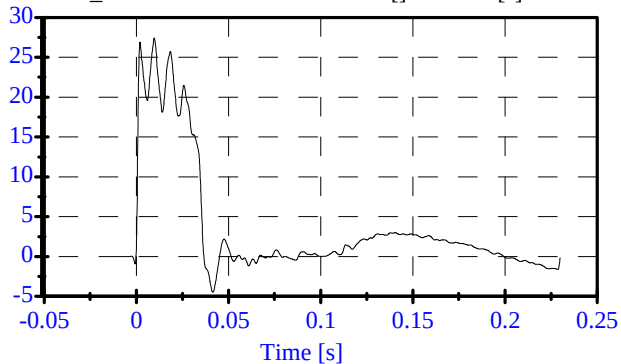
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Date: 10-18-06

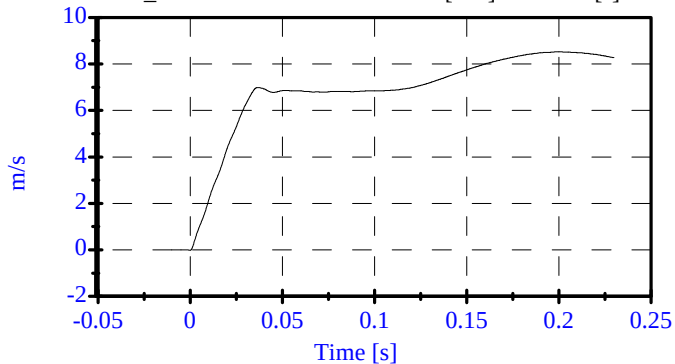
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Laboratory Technician: B. Swiecicki

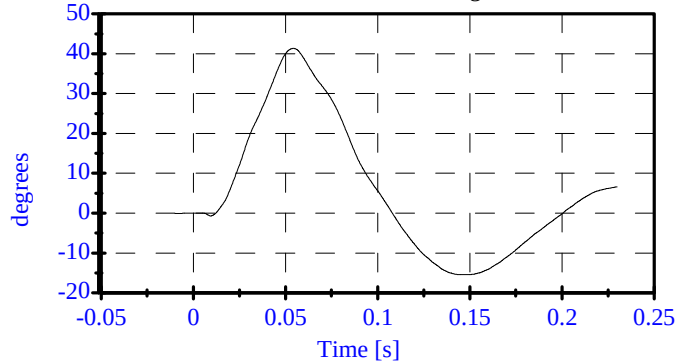
Pend Ax
CFC_180
Max: 27.4 [] at 0.010 [s]
Min: -4.5 [] at 0.042 [s]



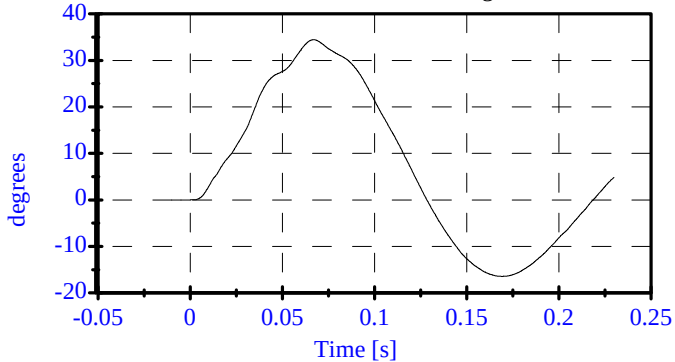
Pend Vx
CFC_180
Max: 8.5 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at -0.000 [s]



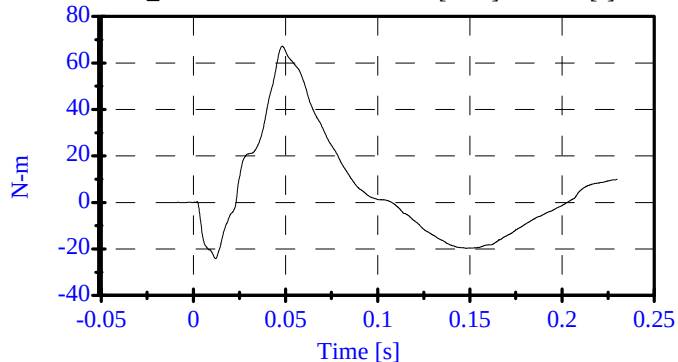
Head Rot
CFC_180
Max: 41.4 [degrees] at 0.054 [s]
Min: -15.4 [degrees] at 0.147 [s]



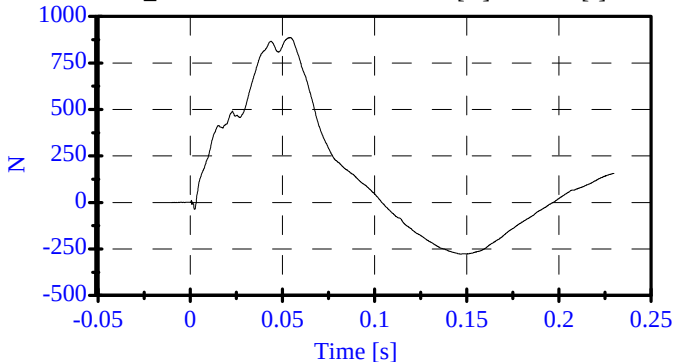
Arm Rot
CFC_180
Max: 34.5 [degrees] at 0.067 [s]
Min: -16.4 [degrees] at 0.169 [s]



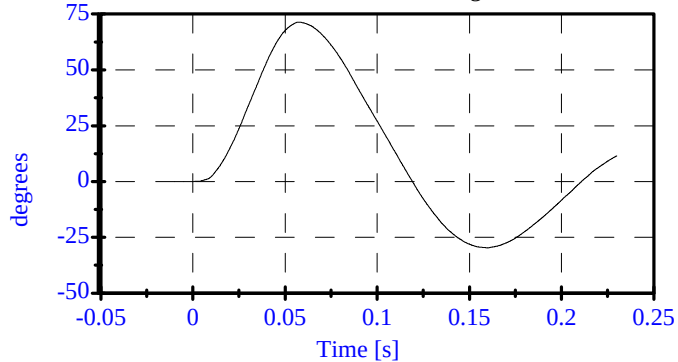
Neck Mx
CFC_600
Max: 67.2 [N-m] at 0.048 [s]
Min: -24.2 [N-m] at 0.012 [s]



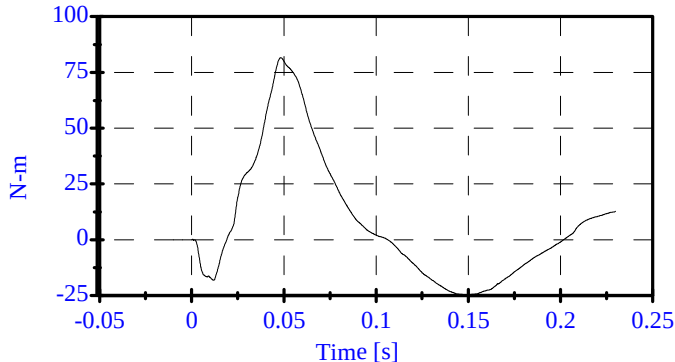
Neck Fy
CFC_1000
Max: 886.5 [N] at 0.054 [s]
Min: -278.0 [N] at 0.147 [s]



Tot Rot
CFC_180
Max: 71.4 [degrees] at 0.057 [s]
Min: -29.6 [degrees] at 0.160 [s]



MOCX
Max: 81.6 [N-m] at 0.048 [s]
Min: -24.6 [N-m] at 0.148 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

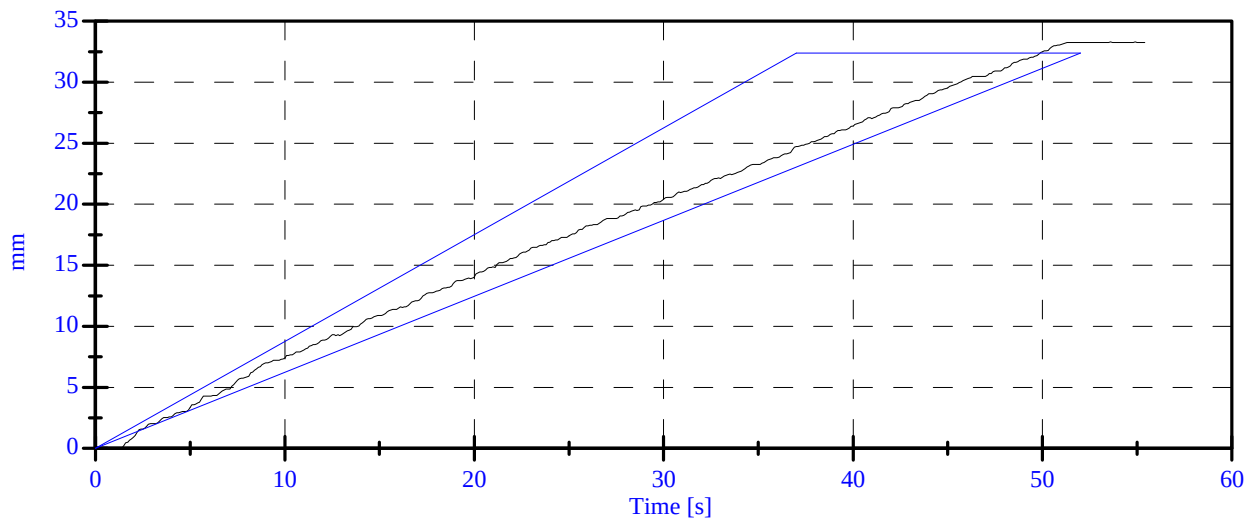
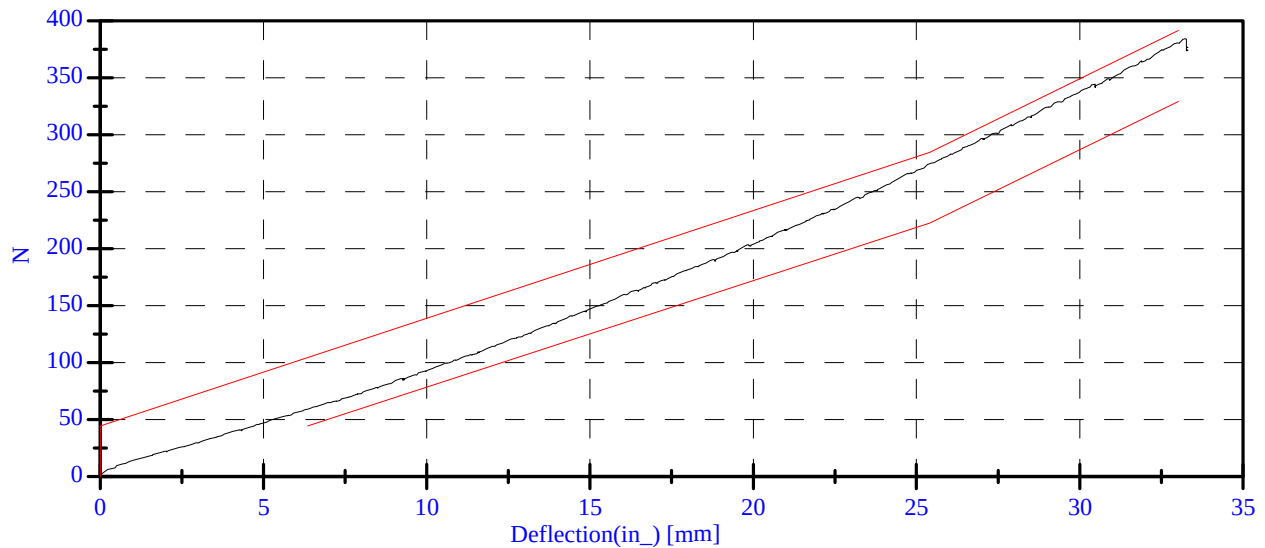
Date: 10-19-06

Sequential Test Number: 1 File: 906ab 10-19-06

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	124.04 N	Passed
Force at 19.05 mm :	162.98-220.99 N	192.91 N	Passed
Force at 25.40 mm :	221.97-280.02 N	274.83 N	Passed
Force at 33.02 mm :	324.99-391.00 N	380.32 N	Passed

ABDOMINAL COMPRESSION TEST



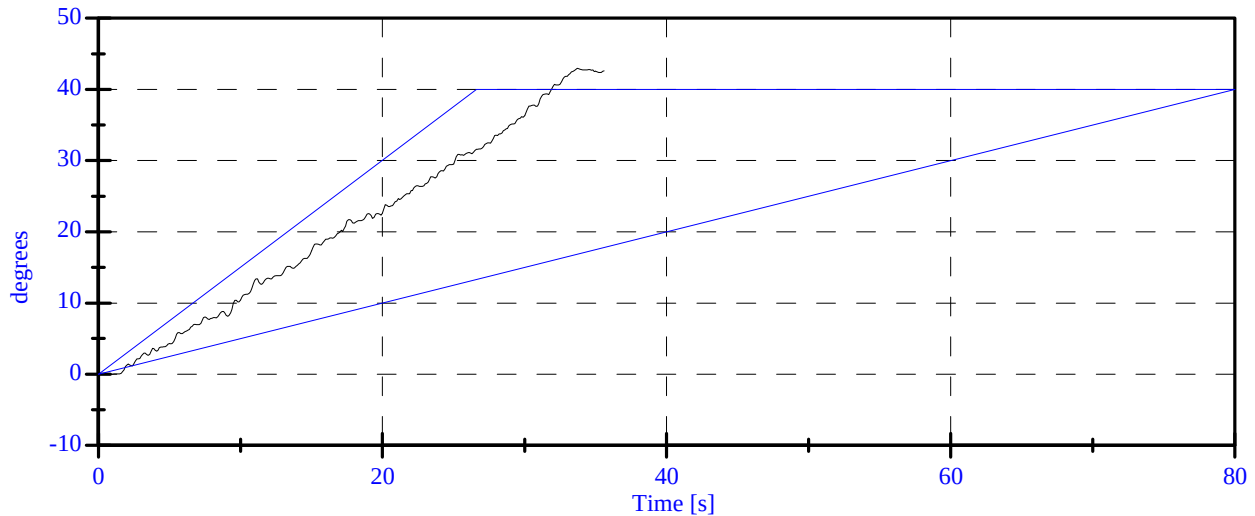
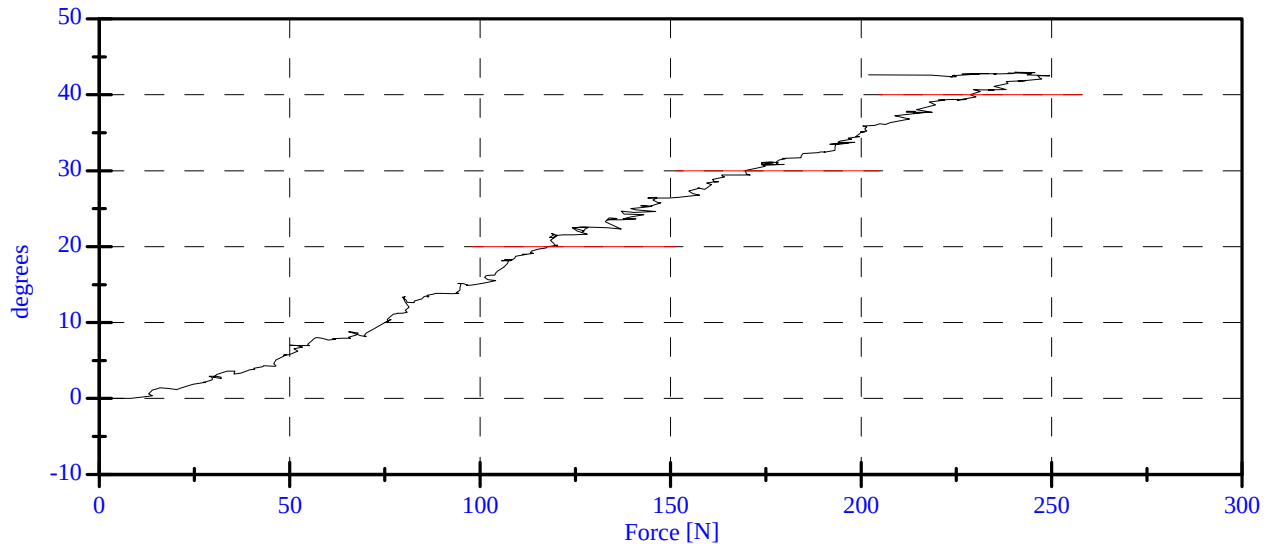
**Lumbar Spine
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 906
Date: 10-19-06

Sequential Test Number: 1 File: 906spine 10-19-06
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	0.40 N	Passed
Force at 20 Deg:	97.86-151.24 N	120.00 N	Passed
Force at 30 Deg	151.24-204.62 N	169.62 N	Passed
Force at 40 Deg	204.62-258.00 N	228.64 N	Passed
Return Angle	12 Deg Max	7.15 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 1
 Date: 10/19/06 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 905

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 2
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 2
Date: 11/03/06 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	895
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	235
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	494
HW- Hip Width (mm)	356 - 391	369

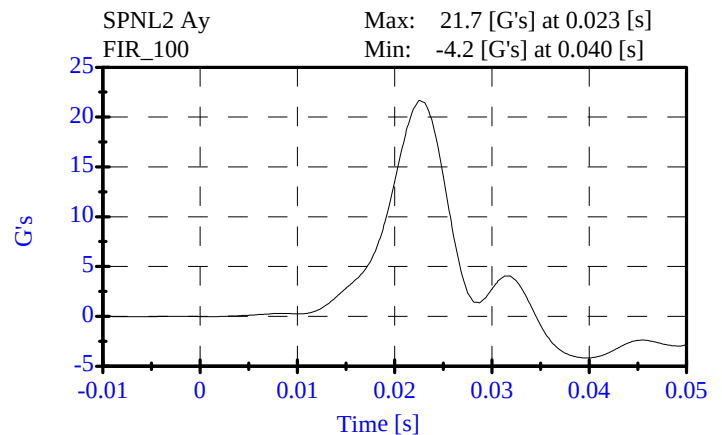
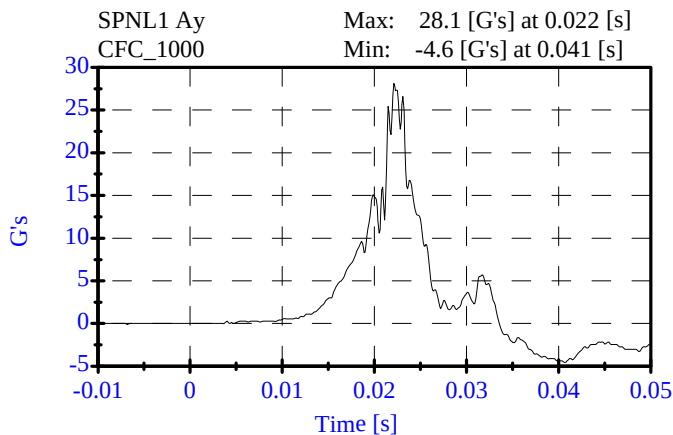
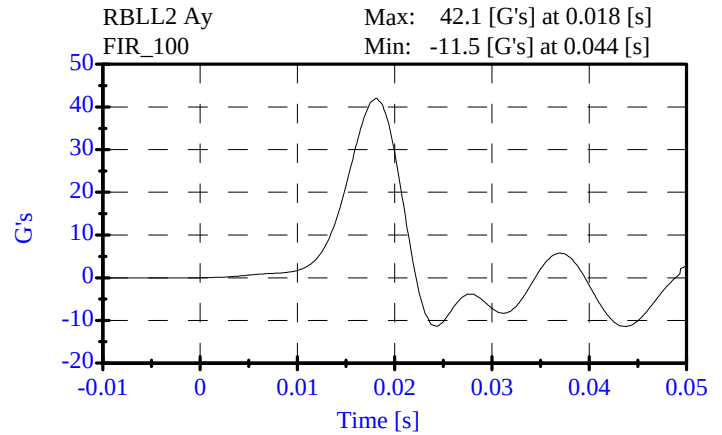
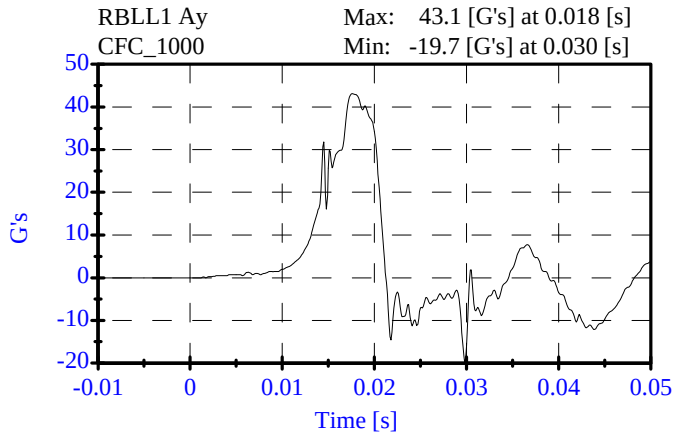
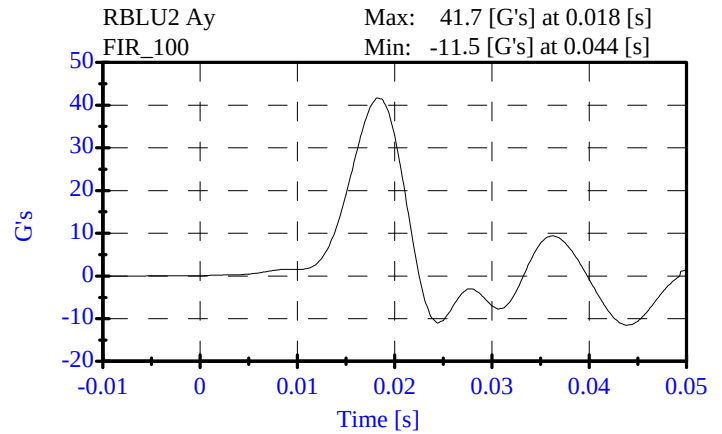
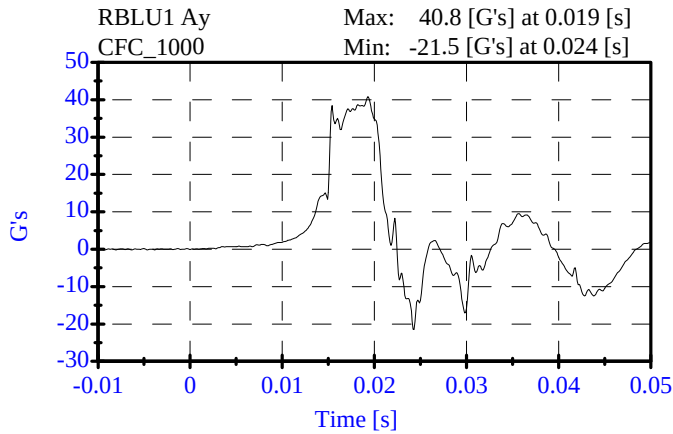
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 11-01-06

Sequential Test Number: 1 File: 905T1 11-01-06
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 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.68 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.07 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.70 G's	Passed



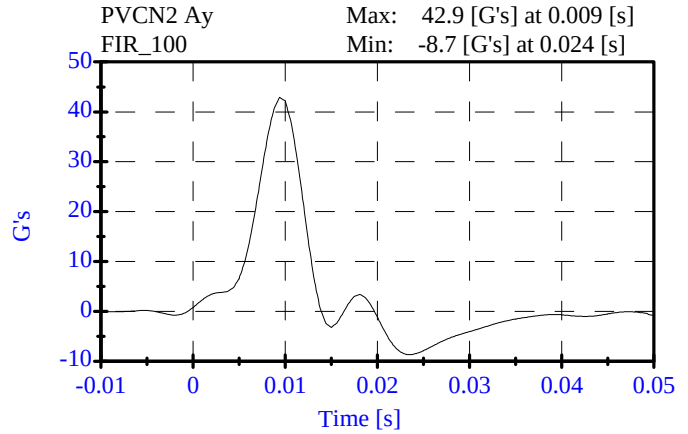
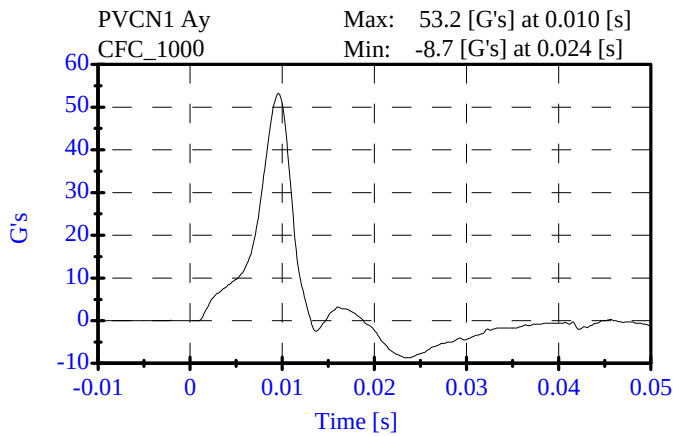
**Pelvic Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 11-01-06

Sequential Test Number: 1 File: 905P 11-01-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	42.91 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



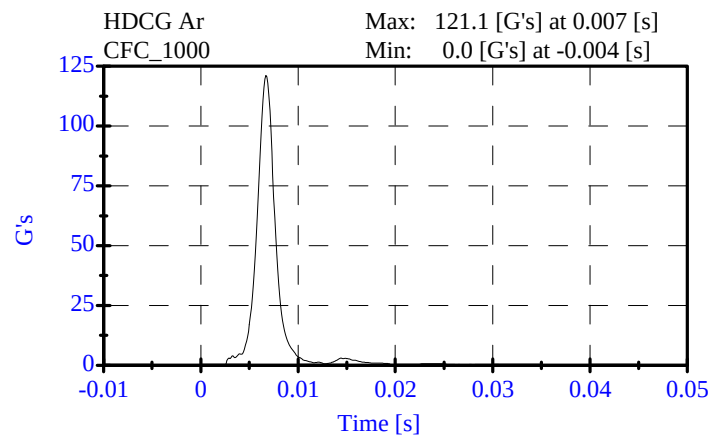
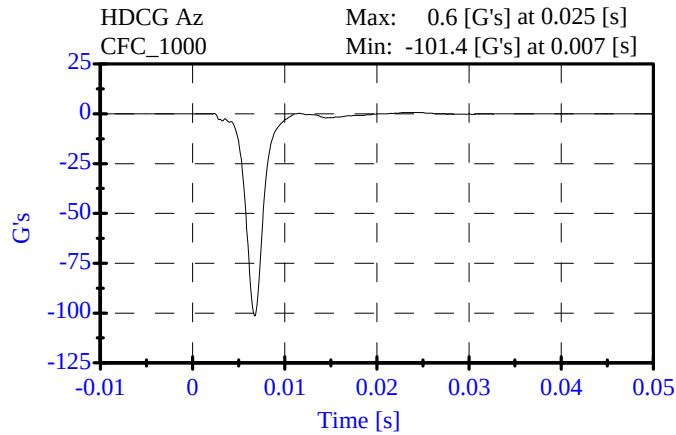
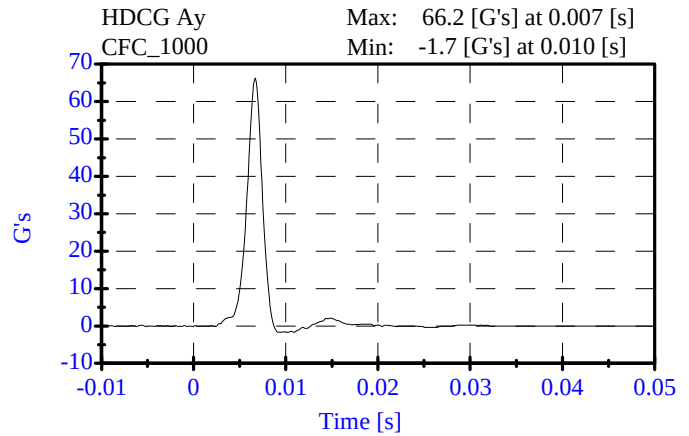
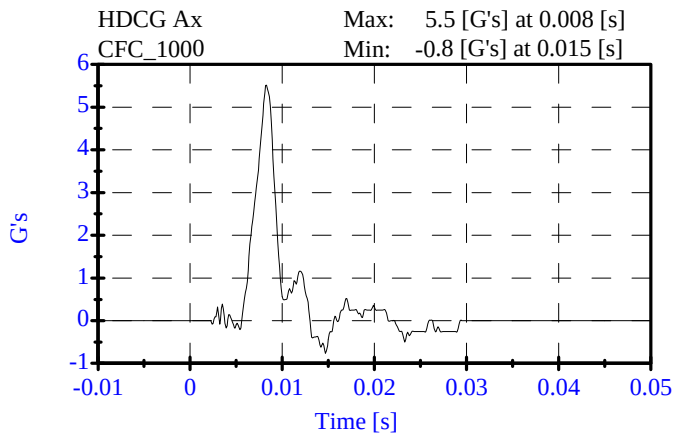
Head Drop **Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905
Date: 10-26-06

Sequential Test Number: 1 File: 905HD 10-26-06
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 %	37.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	121.13 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.51 Gs	Passed
Curve PerCent NonModal:	< 15%	2.49 %	Passed



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

ATD Serial No: 905

Date: 10-30-06

Sequential Test Number: 1 File: 905N 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	7.00 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	4.25 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.01 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	71.37 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	61.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	79.43 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.90 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

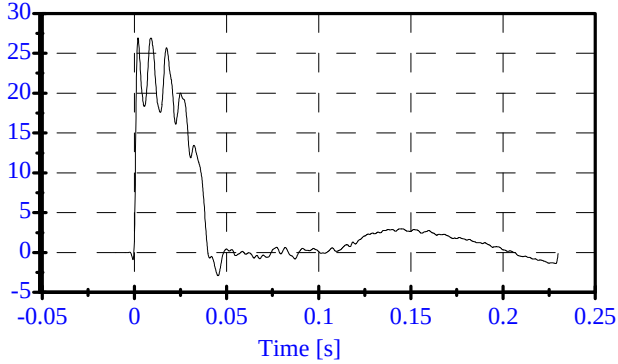
ATD Serial No: 905

Date: 10-30-06

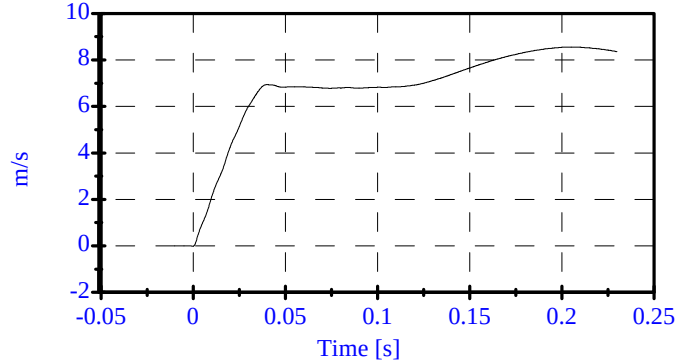
Sequential Test Number: 1 File: 905N 10-30-06

Laboratory Technician: B. Swiecicki

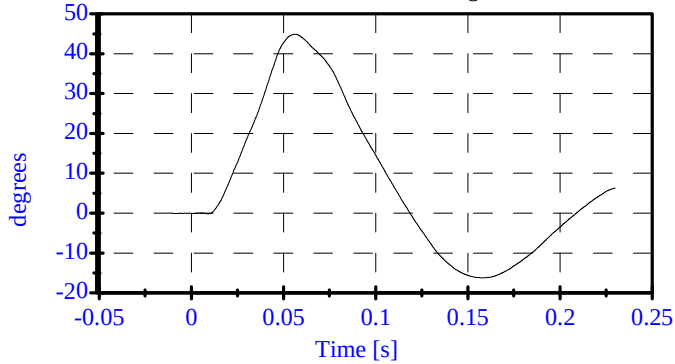
Pend Ax
CFC_180
Max: 27.0 [] at 0.002 [s]
Min: -2.9 [] at 0.045 [s]



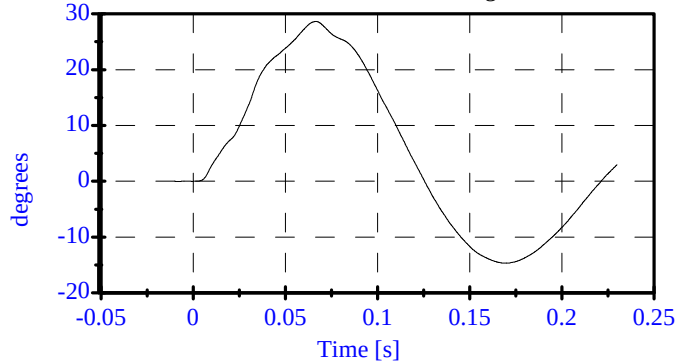
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.207 [s]
Min: -0.0 [m/s] at -0.000 [s]



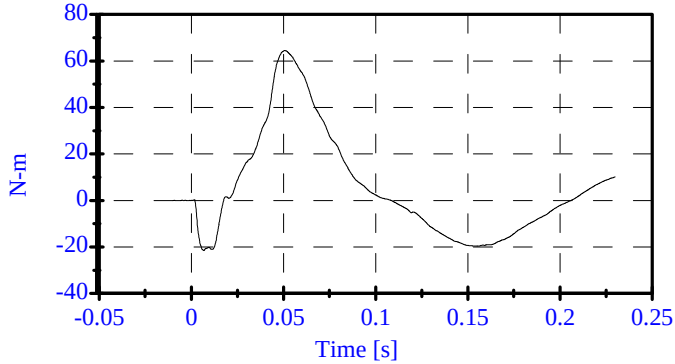
Head Rot
CFC_180
Max: 44.9 [degrees] at 0.056 [s]
Min: -16.2 [degrees] at 0.158 [s]



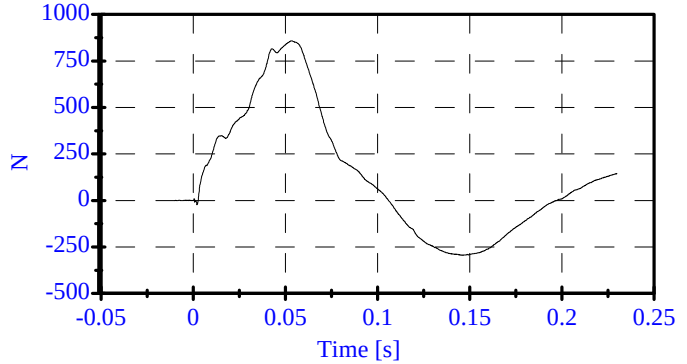
Arm Rot
CFC_180
Max: 28.7 [degrees] at 0.067 [s]
Min: -14.7 [degrees] at 0.170 [s]



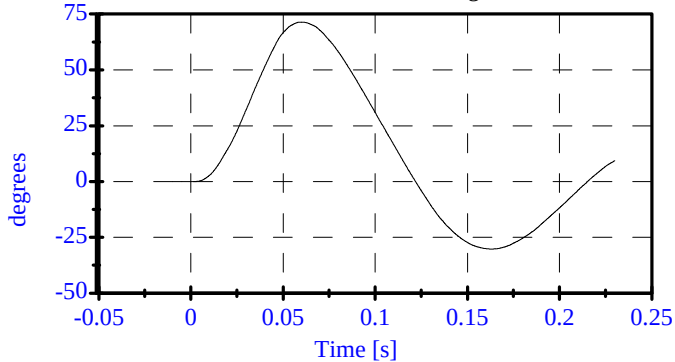
Neck Mx
CFC_600
Max: 64.4 [N-m] at 0.051 [s]
Min: -21.6 [N-m] at 0.007 [s]



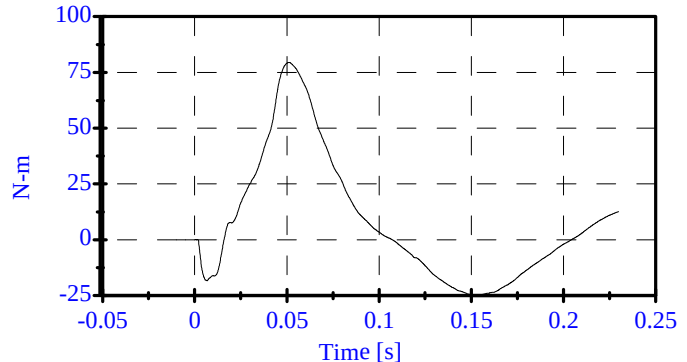
Neck Fy
CFC_1000
Max: 858.3 [N] at 0.053 [s]
Min: -294.8 [N] at 0.146 [s]



Tot Rot
CFC_180
Max: 71.4 [degrees] at 0.060 [s]
Min: -30.2 [degrees] at 0.163 [s]



MOCX
Max: 79.4 [N-m] at 0.051 [s]
Min: -24.7 [N-m] at 0.154 [s]



Abdomen Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

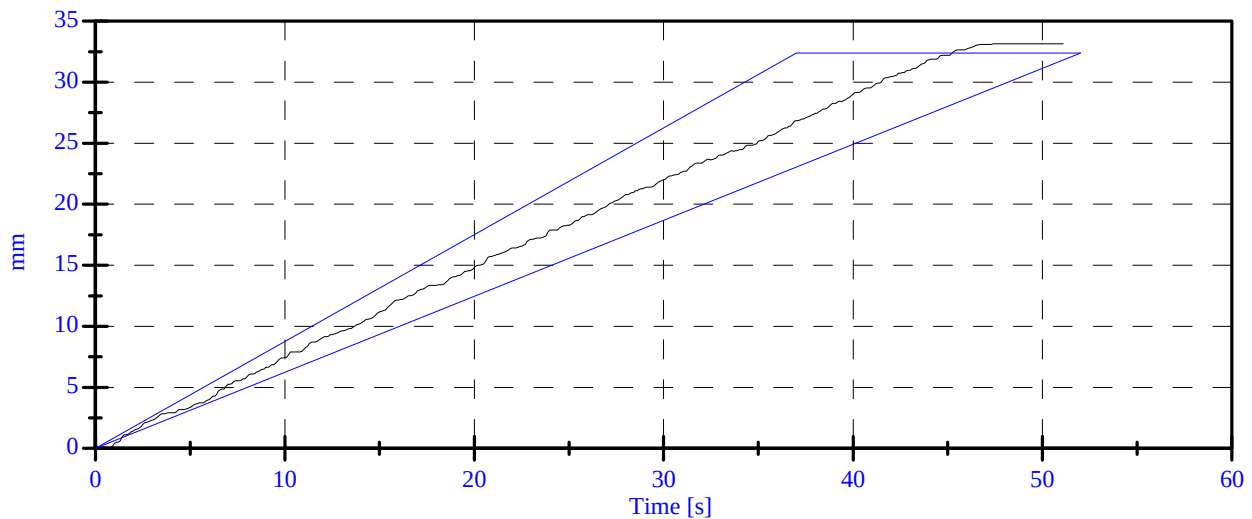
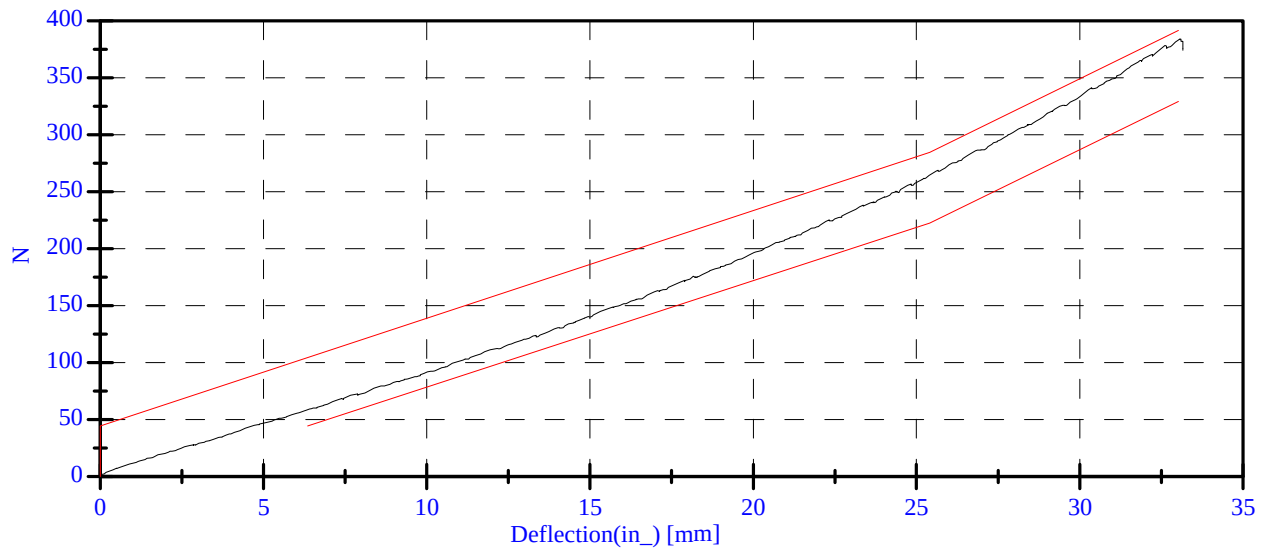
Date: 11-03-06

Sequential Test Number: 1 File: 905ab 11-03-06

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 12.95 mm :	104.00-162.00 N	120.42 N	Passed
Force at 19.05 mm :	162.98-220.99 N	184.58 N	Passed
Force at 25.40 mm :	221.97-280.02 N	264.32 N	Passed
Force at 33.02 mm :	324.99-391.00 N	383.58 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 905

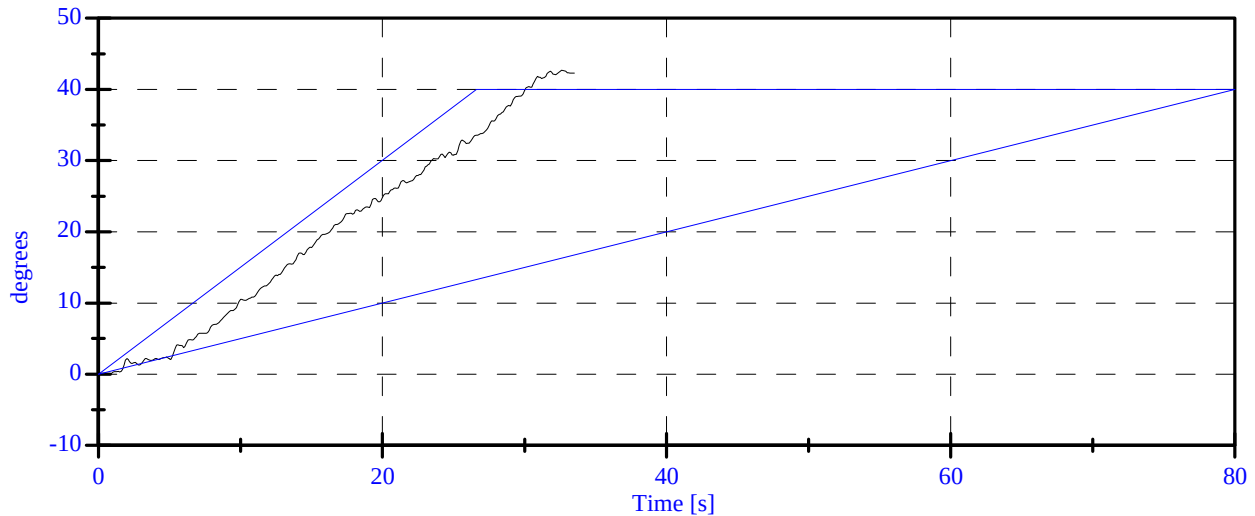
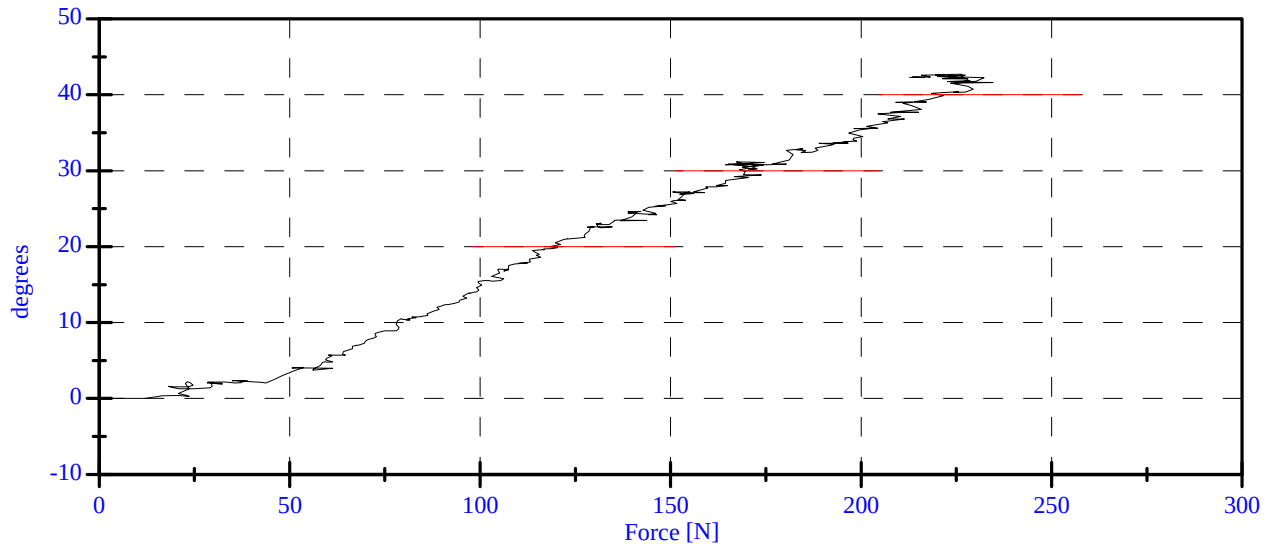
Date: 11-02-06

Sequential Test Number: 1 File: 905sp 11-02-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	3.53 N	Passed
Force at 20 Deg:	97.86-151.24 N	118.18 N	Passed
Force at 30 Deg	151.24-204.62 N	169.62 N	Passed
Force at 40 Deg	204.62-258.00 N	221.59 N	Passed
Return Angle	12 Deg Max	3.69 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 905 Sequential Test Number: 2
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 906

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 2
Date: 11/03/06 Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 2
Date: 11/03/06 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	895
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	231
KH- Knee Pivot from Back Line (mm)	511 - 526	517
KV- Knee Pivot to Floor (mm)	490 - 505	499
HW- Hip Width (mm)	356 - 391	371

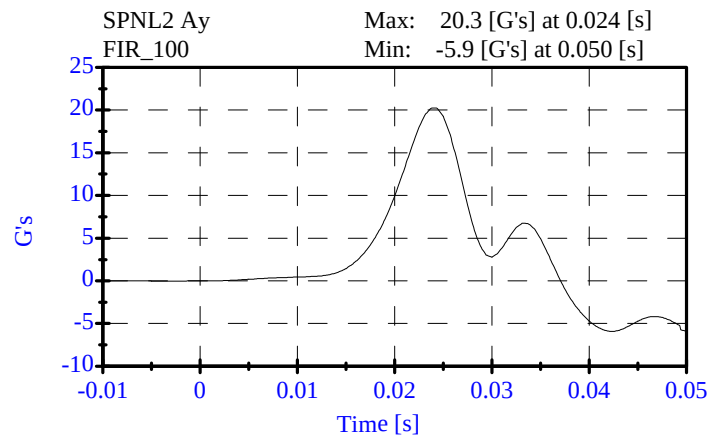
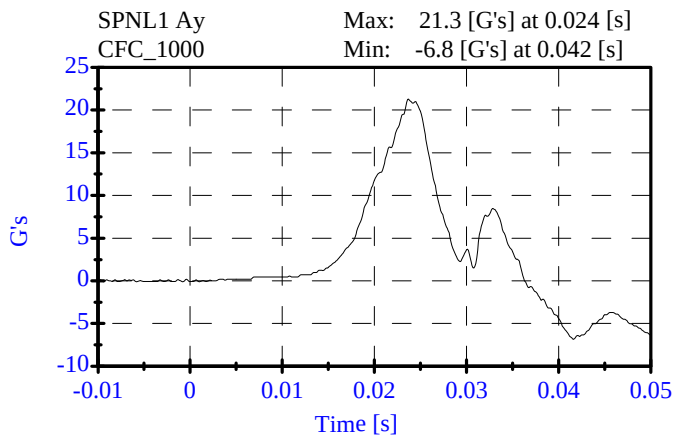
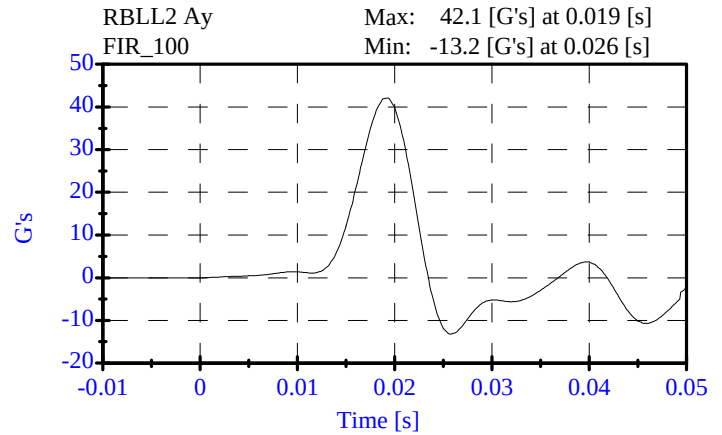
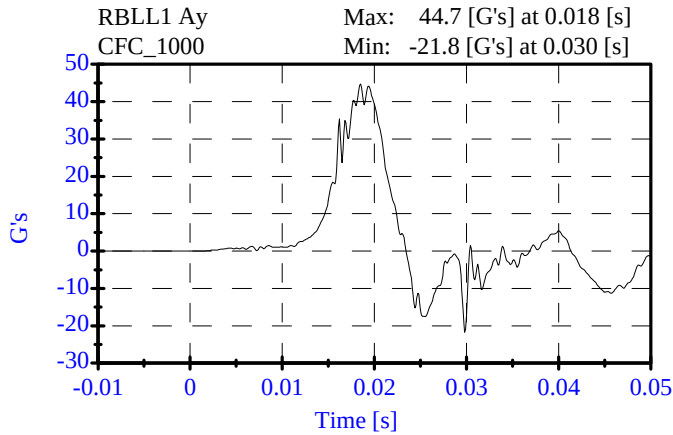
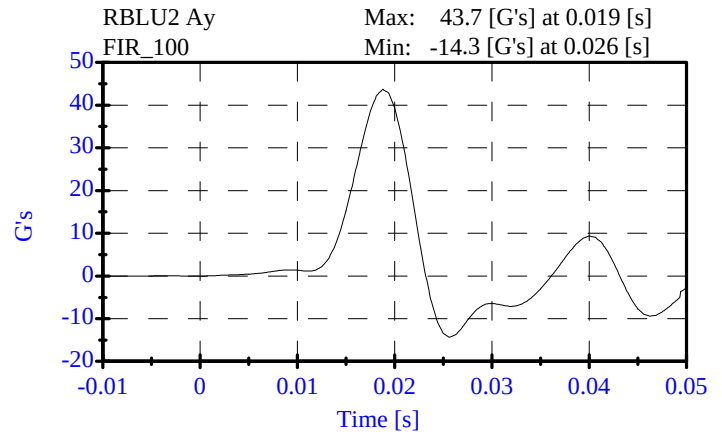
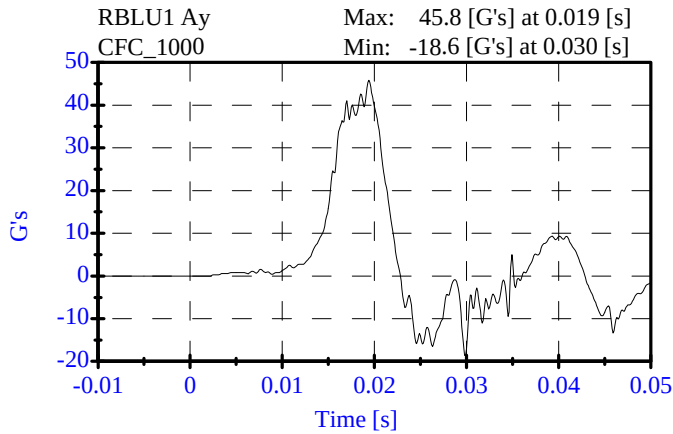
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 11-01-06

Sequential Test Number: 1 File: 906T 11-01-06
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 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	43.66 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.11 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.25 G's	Passed



Pelvic Impact

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

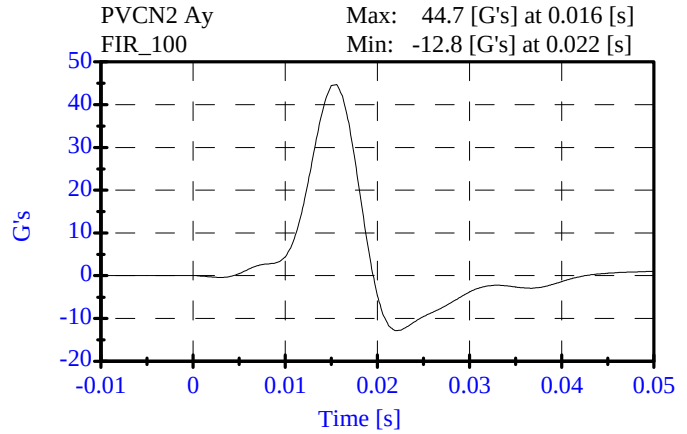
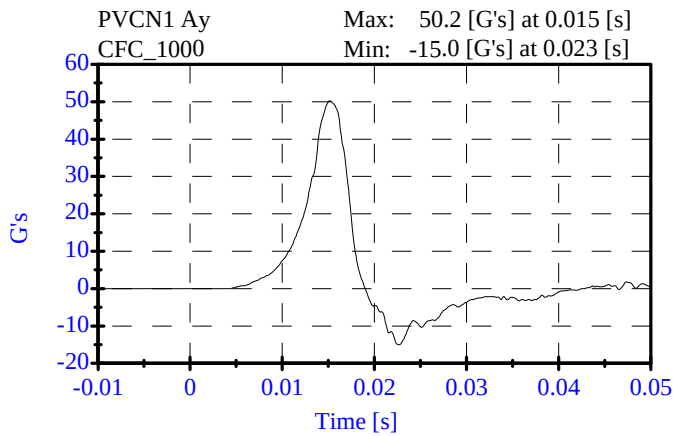
ATD Serial No: 906

Date: 11-01-06

Sequential Test Number: 1 File: 906P 11-01-06

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 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	44.70 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.7 ms	Passed



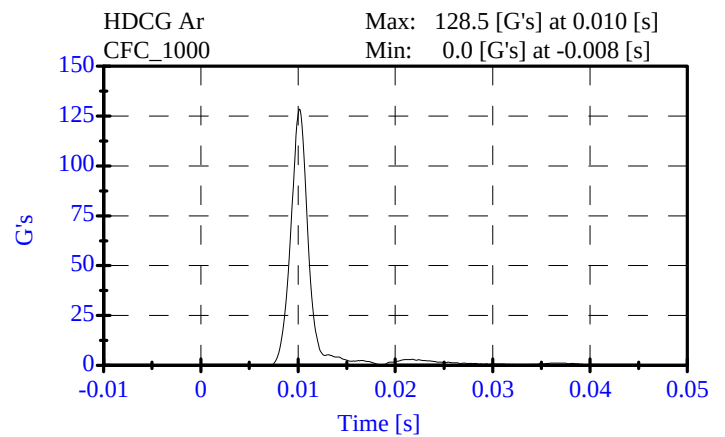
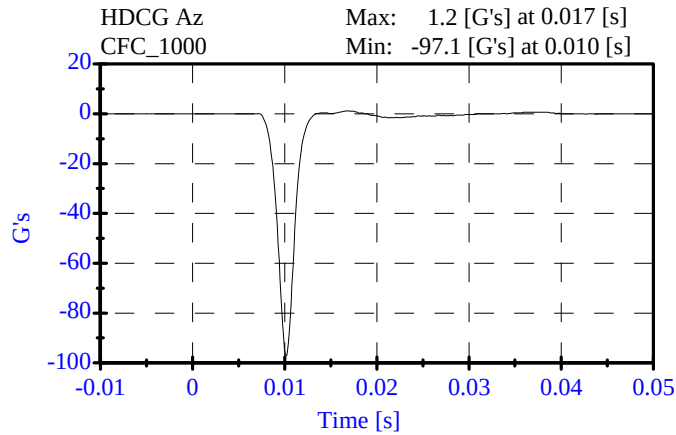
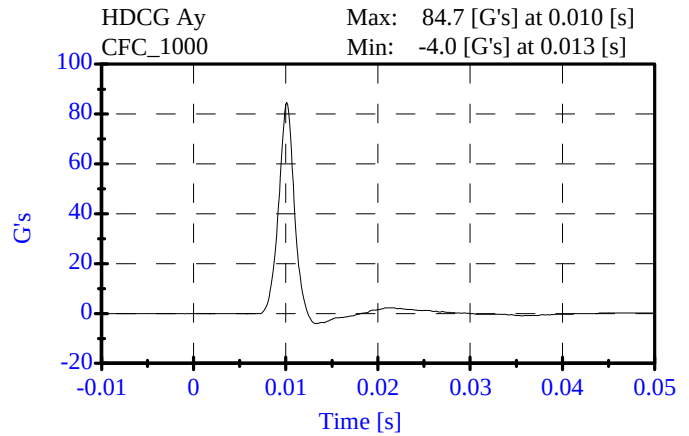
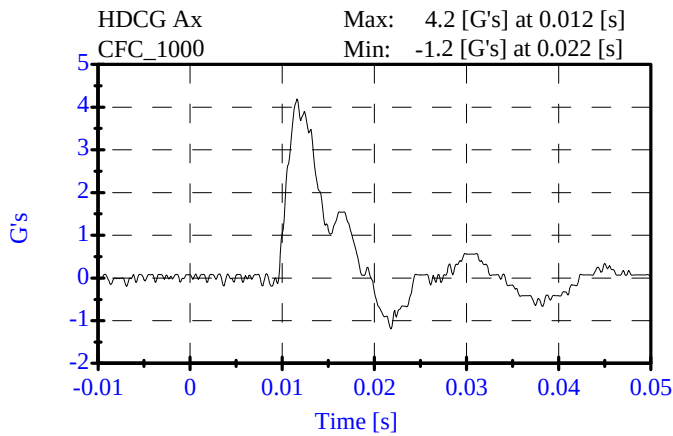
Head Drop Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906
Date: 10-30-2006

Sequential Test Number: 1 File: 906HD1 10-30-06
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	128.52 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.19 Gs	Passed
Curve PerCent NonModal:	< 15%	4.10 %	Passed



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

ATD Serial No: 906

Date: 10-31-06

Sequential Test Number: 1 File: 906N 10-31-06

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 %	31.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.02 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.12 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	5.99 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.92 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.83 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	81.44 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.80 ms	Passed

Neck Test
Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

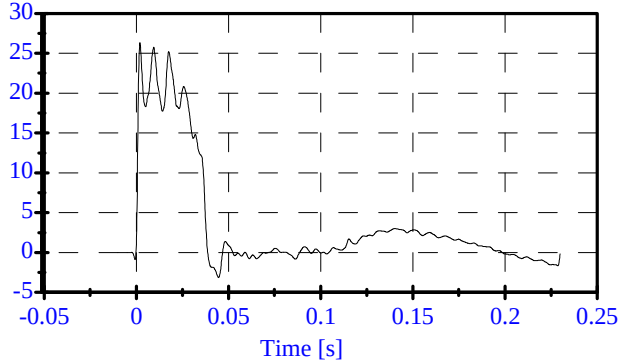
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Date: 10-31-06

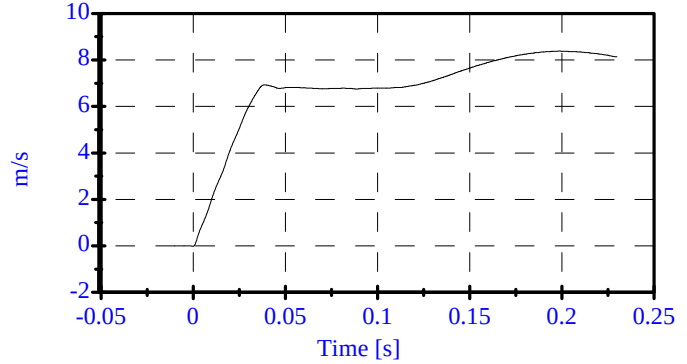
Sequential Test Number: 1 File: 906N 10-31-06

Laboratory Technician: B. Swiecicki

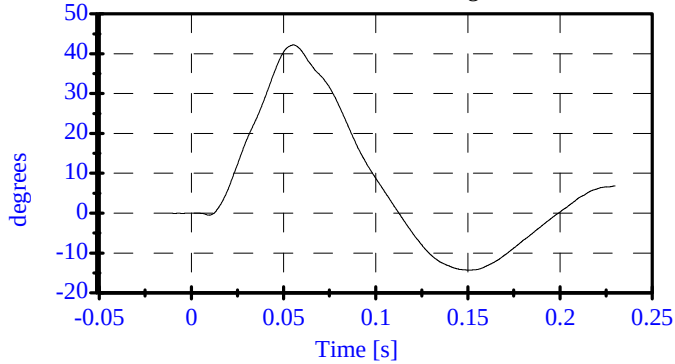
Pend Ax
CFC_180
Max: 26.4 [] at 0.002 [s]
Min: -3.1 [] at 0.045 [s]



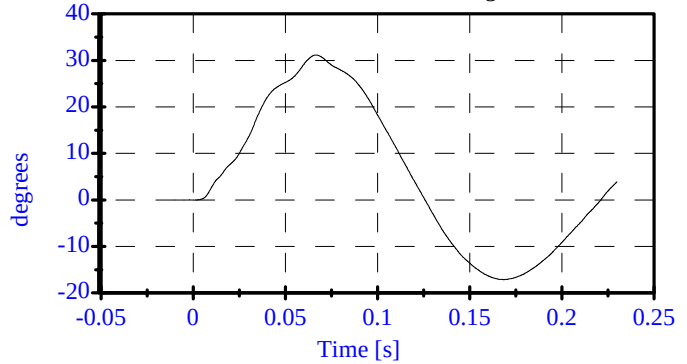
Pend Vx
CFC_180
Max: 8.4 [m/s] at 0.199 [s]
Min: -0.0 [m/s] at -0.000 [s]



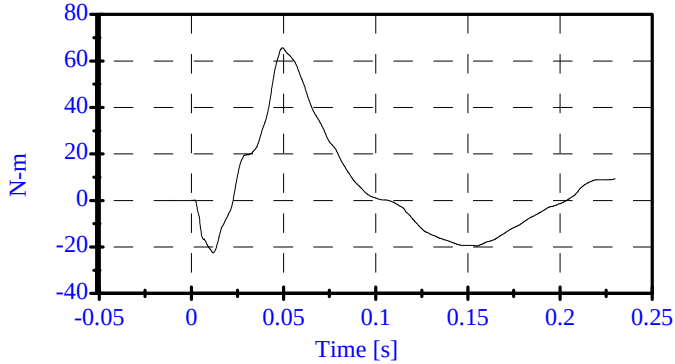
Head Rot
CFC_180
Max: 42.2 [degrees] at 0.055 [s]
Min: -14.3 [degrees] at 0.152 [s]



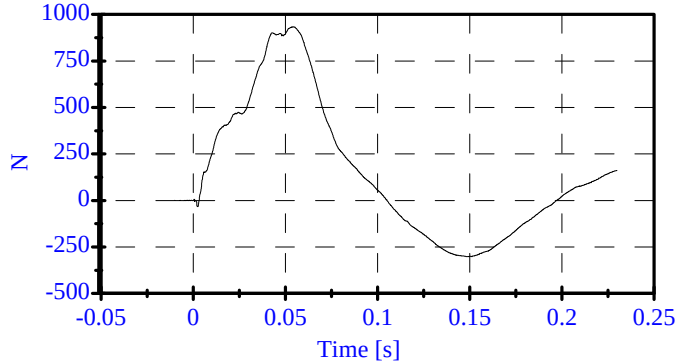
Arm Rot
CFC_180
Max: 31.2 [degrees] at 0.067 [s]
Min: -17.1 [degrees] at 0.169 [s]



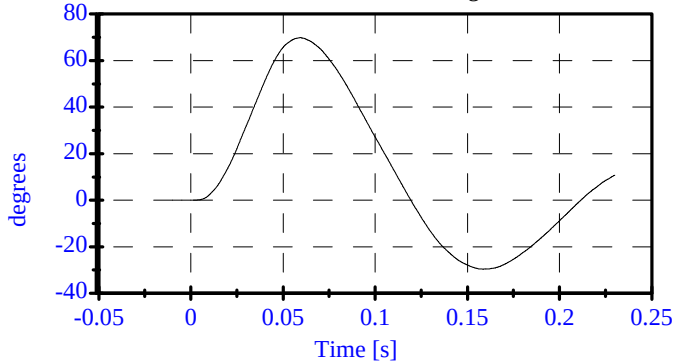
Neck Mx
CFC_600
Max: 65.6 [N-m] at 0.050 [s]
Min: -22.5 [N-m] at 0.012 [s]



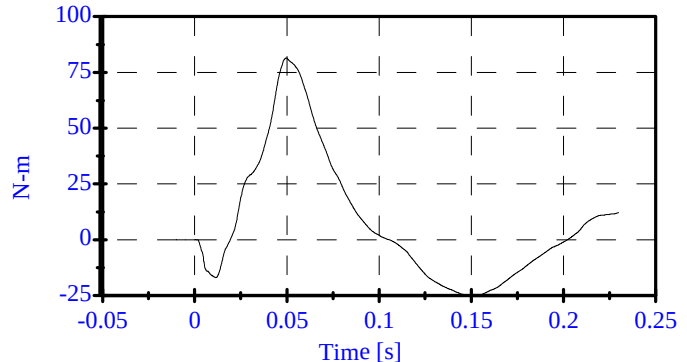
Neck Fy
CFC_1000
Max: 933.2 [N] at 0.054 [s]
Min: -301.4 [N] at 0.151 [s]



Tot Rot
CFC_180
Max: 69.8 [degrees] at 0.059 [s]
Min: -29.6 [degrees] at 0.158 [s]



MOCX
Max: 81.4 [N-m] at 0.050 [s]
Min: -24.8 [N-m] at 0.149 [s]



Abdomen test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

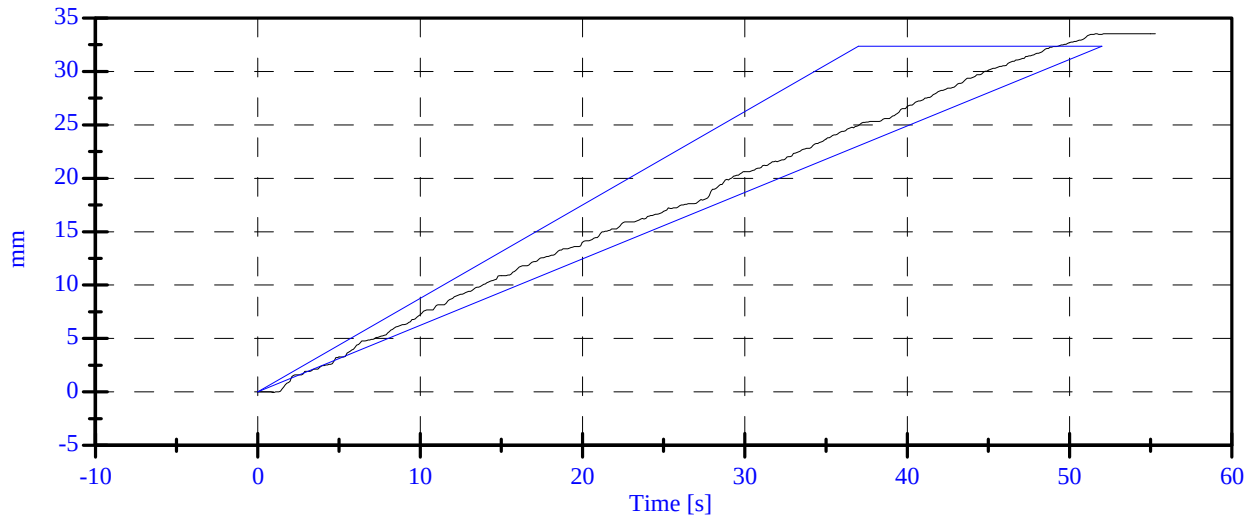
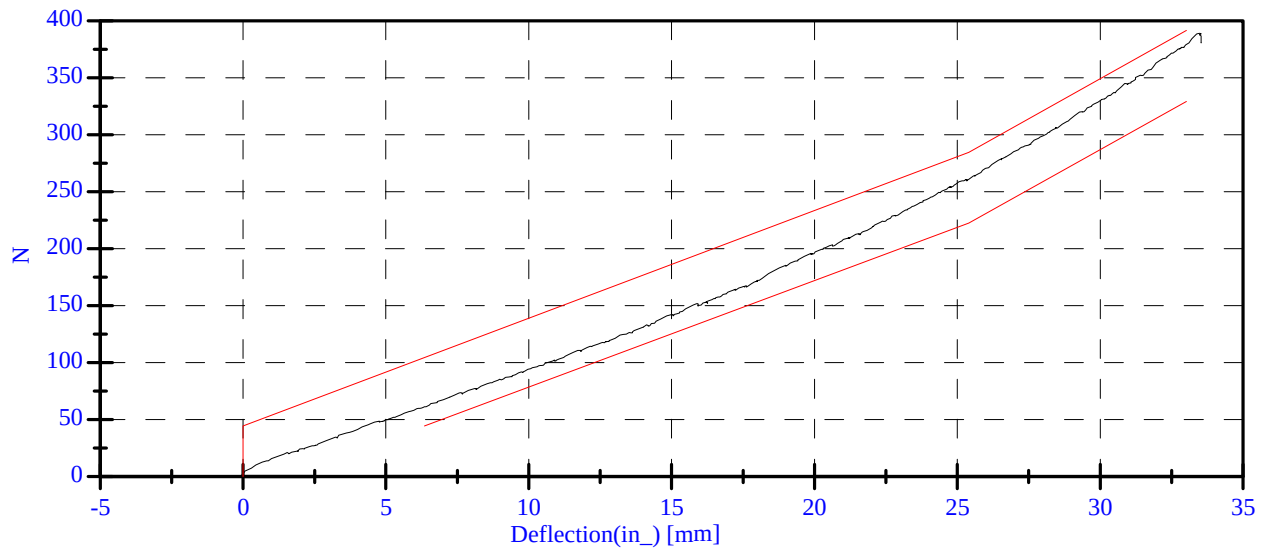
Date: 11-03-06

Sequential Test Number: 1 File: 906ab 11-03-06

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 12.95 mm :	104.00-162.00 N	121.50 N	Passed
Force at 19.05 mm :	162.98-220.99 N	185.30 N	Passed
Force at 25.40 mm :	221.97-280.02 N	260.70 N	Passed
Force at 33.02 mm :	324.99-391.00 N	378.87 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 906

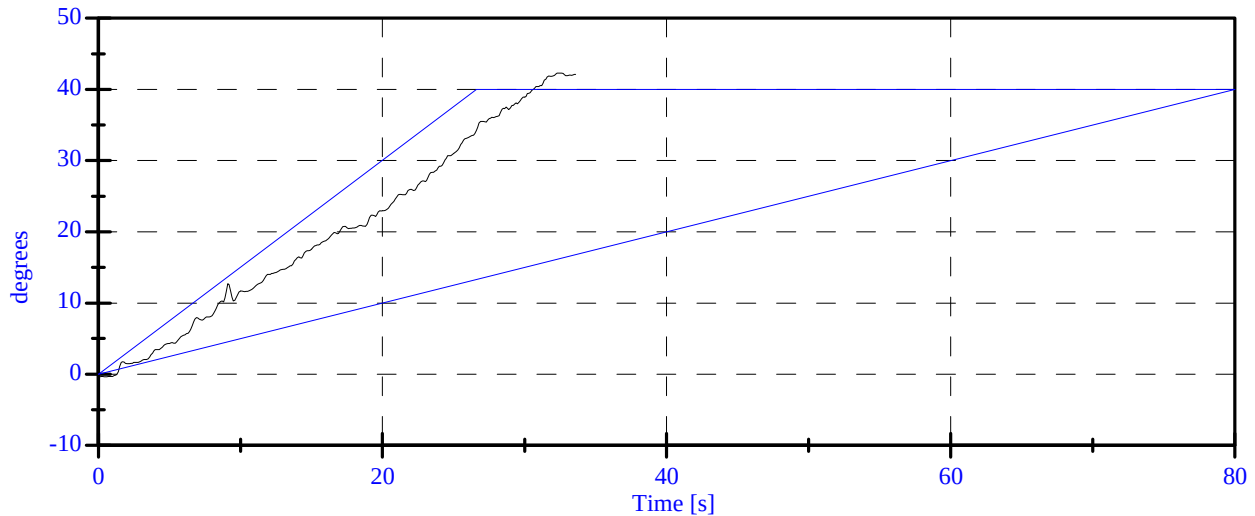
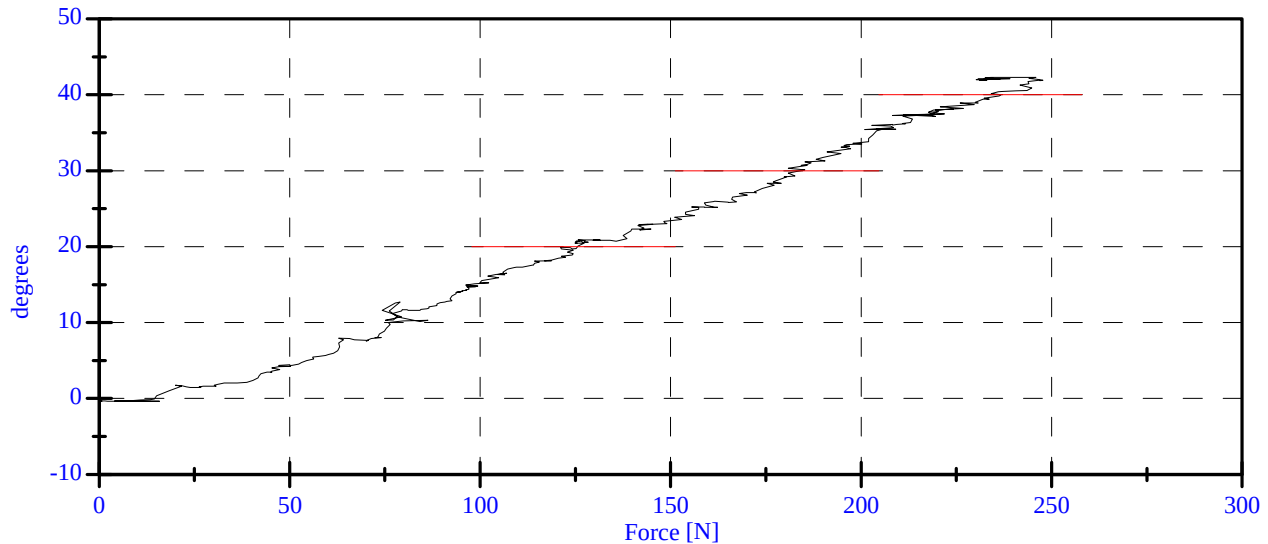
Date: 11-02-06

Sequential Test Number: 1 File: 906sp 11-02-06

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	14.50 N	Passed
Force at 20 Deg:	97.86-151.24 N	125.75 N	Passed
Force at 30 Deg	151.24-204.62 N	185.29 N	Passed
Force at 40 Deg	204.62-258.00 N	236.74 N	Passed
Return Angle	12 Deg Max	1.91 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 906 Sequential Test Number: 2
Date: 11/03/06 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	-

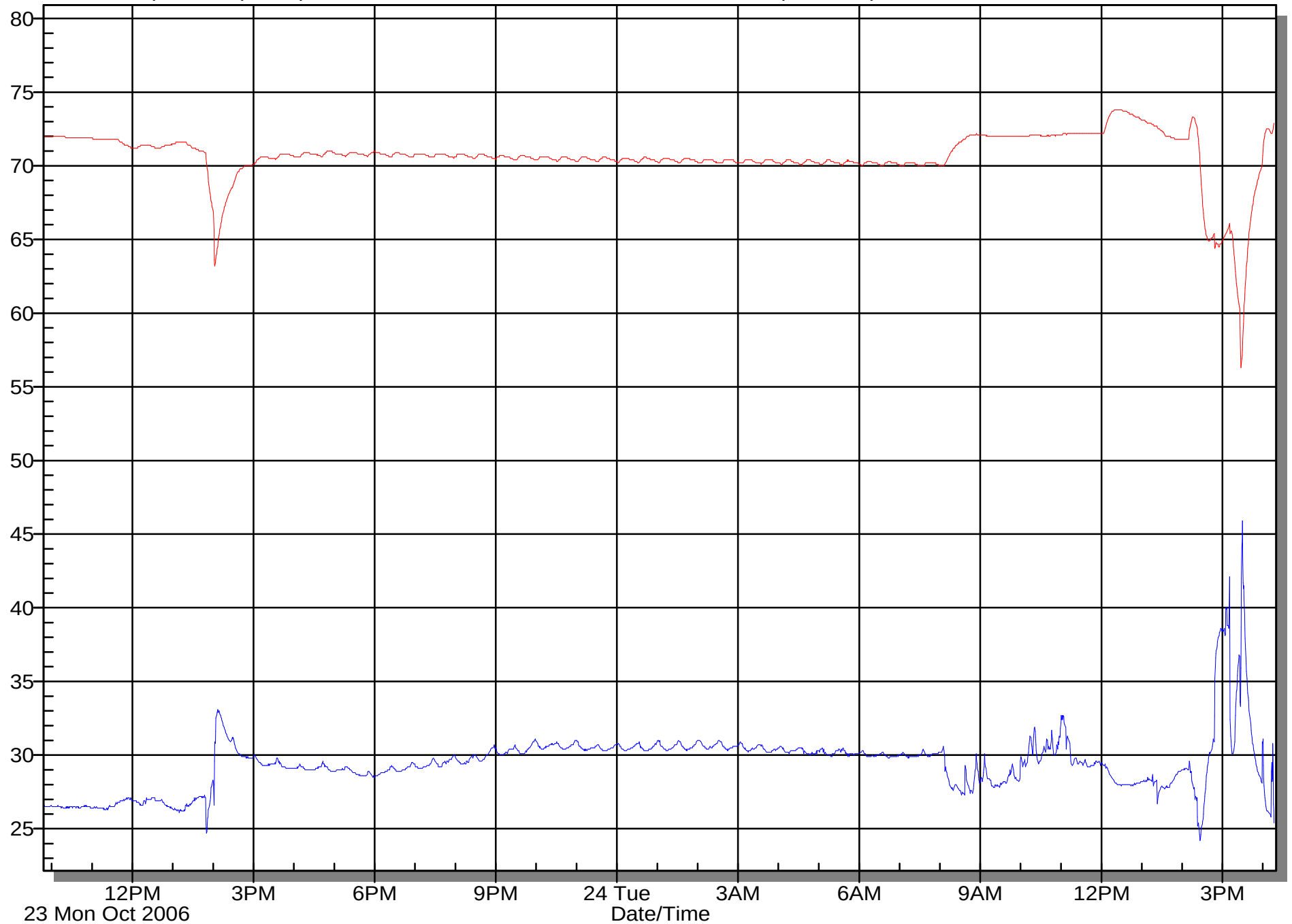
REMARKS: None

TEMPERATURE TRACE

Downloaded Data - Tuesday, October 24, 2006

(TM325)-Temp/°F Min: 56.30 Max: 73.80

(TM325)-RH/% Min: 24.20 Max: 45.90



APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	FRONT SID/HIII NO.:		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	ENDEVCO	P21373	7/5/2006
HEAD AY	ENDEVCO	P23128	7/5/2006
HEAD AZ	ENDEVCO	P21297	7/5/2006
UPPER NECK FX	DENTON	1626Fx	7/6/2006
UPPER NECK FY	DENTON	1626Fy	7/6/2006
UPPER NECK FZ	DENTON	1626Fz	7/6/2006
UPPER NECK MX	DENTON	1626Mx	7/6/2006
UPPER NECK MY	DENTON	1626My	7/6/2006
UPPER NECK MZ	DENTON	1626Mz	7/6/2006
UPPER RIB	ENDEVCO	P15736	7/5/2006
LOWER RIB	ENDEVCO	P16593	7/5/2006
LOWER SPINE	ENDEVCO	P16289	7/5/2006
PELVIS	ENDEVCO	P23142	7/5/2006
UPPER RIB REDUNDANT	ENDEVCO	P16761	7/5/2006
LOWER RIB REDUNDANT	ENDEVCO	P21516	7/5/2006
LOWER SPINE REDUNDANT	ENDEVCO	P23960	7/5/2006
PELVIS REDUNDANT	ENDEVCO	P32221	7/5/2006

	REAR SID/HIII NO.:		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	ENDEVCO	P23788	7/6/2006
HEAD AY	ENDEVCO	P21393	7/6/2006
HEAD AZ	ENDEVCO	P16845	7/6/2006
UPPER NECK FX	DENTON	798Fx	7/6/2006
UPPER NECK FY	DENTON	798Fy	7/6/2006
UPPER NECK FZ	DENTON	798Fz	7/6/2006
UPPER NECK MX	DENTON	798Mx	7/6/2006
UPPER NECK MY	DENTON	798My	7/6/2006
UPPER NECK MZ	DENTON	798Mz	7/6/2006
UPPER RIB	ENDEVCO	P16862	7/6/2006
LOWER RIB	ENDEVCO	P23156	7/6/2006
LOWER SPINE	ENDEVCO	P16866	7/6/2006
PELVIS	ENDEVCO	P16656	7/6/2006
UPPER RIB REDUNDANT	ENDEVCO	P16645	7/6/2006
LOWER RIB REDUNDANT	ENDEVCO	P19343	7/6/2006
LOWER SPINE REDUNDANT	ENDEVCO	P23139	7/6/2006
PELVIS REDUNDANT	ENDEVCO	P17539	7/6/2006

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)	ENDEVCO	P15534	6/14/2006
RIGHT FRONT SILL (Y)	ENDEVCO	P18718	7/5/2006
RIGHT FRONT SILL (Z)	ENDEVCO	P18628	7/6/2006
RIGHT REAR SILL (X)	ENDEVCO	P23993	7/19/2006
RIGHT REAR SILL (Y)	ENDEVCO	P23939	7/19/2006
RIGHT REAR SILL (Z)	ENDEVCO	P23999	7/19/2006
REAR FLOORPAN ABOVE AXLE (X)	ENDEVCO	P23174	6/28/2006
REAR FLOORPAN ABOVE AXLE (Y)	ENDEVCO	J31101	7/5/2006
REAR FLOORPAN ABOVE AXLE (Z)	ENDEVCO	J31059	7/5/2006
LEFT REAR SILL (Y)	ENDEVCO	P19216	6/14/2006
LEFT FRONT SILL (Y)	ENDEVCO	P19374	7/5/2006
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	ICS	8083-037	7/12/2006
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C/L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER C/L (Y)	-	-	-
LOWER LEFT B- PILLAR (Y)	ENDEVCO	P23155	6/30/2006
MIDDLE LEFT B-PILLAR (Y)	ENDEVCO	P23136	7/5/2006
LOWER LEFT A-PILLAR (Y)	ENDEVCO	P13323	7/5/2006
UPPER LEFT A-PILLAR (Y)	ENDEVCO	P16832	7/18/2006
FRONT SEAT TRACK (Y)	ENDEVCO	P35804	7/18/2006
REAR SEAT TRACK (Y)	ENDEVCO	P35758	7/18/2006
VEHICLE CG (X)	ENDEVCO	P16625	7/18/2006
VEHICLE CG (Y)	ENDEVCO	P17237	7/5/2006
VEHICLE CG (Z)	ENDEVCO	J32838	7/7/2006
MDB CG (X)	ENDEVCO	C16433	6/27/2006
MDB CG (Y)	ENDEVCO	C16416	6/27/2006
MDB CG (Z)	ENDEVCO	C16499	6/27/2006
MDB REAR FRAME MEMBER (X)	ENDEVCO	C14948	6/27/2006
MDB REAR FRAME MEMBER (Y)	ENDEVCO	C16680	6/27/2006

REMARKS: None