

REPORT NUMBER: SNCAP-CAL-07-06

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**KIA MOTORS CORPORATION
2007 KIA SPECTRA
4-DOOR SEDAN**

NHTSA NUMBER: M70508

**PREPARED BY:
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Test Date: December 12, 2006

FINAL REPORT

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U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
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16. <i>Abstract</i> A 55/28 kph 90 ⁰ Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2007 Kia Spectra 4-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 December 12, 2006. The impact velocity of the Moving Deformable Barrier (MDB) was 61.64 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 21.1°C. The target vehicle's maximum post test static crush was 311 mm at level 2. The test vehicle's occupant performance is as follows:																								
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;"><u>DRIVER</u></th> <th style="width: 25%; text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">61.7</td> <td style="text-align: center;">44.6</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">69.5</td> <td style="text-align: center;">55.2</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">65.2</td> <td style="text-align: center;">66.8</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">67</td> <td style="text-align: center;">61</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">65</td> <td style="text-align: center;">61</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">234.5</td> <td style="text-align: center;">474.8</td> </tr> </tbody> </table>					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	61.7	44.6	Left Lower Rib (LLR) Accel., g	69.5	55.2	Lower Spine (T ₁₂) Accel., g	65.2	66.8	Thoracic Trauma Index (TTI)	67	61	Pelvis (PEV) Accel., g	65	61	HIC	234.5	474.8
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HIC	234.5	474.8																						
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.																								
17. <i>Key Words</i> New Car Assessment Program (NCAP) Side Impact Side Impact Hybrid III Dummy (SID/HIII) Occupant Side Impact Protection		18. <i>Distribution Statement</i> 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' 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 Kia Spectra 4-Door Sedan manufactured by Kia Motors Corporation. The side impact test was conducted in accordance with the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated July 1997.

SECTION 2

SUMMARY OF NCAP SIDE IMPACT TEST

A model year 2007 Kia Spectra 4-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 61.64 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 1512.5 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on December 12, 2006.

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

Two 50th percentile adult male SID/HIII's were placed in the driver (P1) and left rear passenger (P4) designated seating positions according to instructions specified in the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated July 1997. Each SID/HIII was instrumented in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y and Z axes primary and redundant)
- Upper Neck load cell (Fx, Fy, Fz, Mx, My, Mz)

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

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 311 mm at level 2, 1050 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 269 and 270 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	234.5	29.8	59.2	67	65
Passenger	474.8	44.3	60.0	61	61

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 side curtain airbag did not fully deploy. The center section of the airbag just rearward of the B-pillar remained partially folded beneath head liner.

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 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	Kia Motors Corporation	Driver Front Airbag	Yes
Model	Spectra	Driver Side Curtain Airbag	Yes
Body Style	4-Door Sedan	Driver Side Torso Airbag	Yes
NHTSA No.	M70508	Driver Pretensioners	Yes
VIN	KNAFE122475379143	Driver Load Limiters	Yes
Color	Beige	Driver Power Seats	No
Engine Disp.(L)	2.0	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	4	Rear Pass. Power Seats	NA
Final Drive	Front	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	No
Power Steering	Yes	Traction Control	No
Power Brakes	Yes	Power Windows	Yes
Delivery Date	November 30, 2006	Power Door Locks	Yes
Odometer Reading (km)	48	Automatic Door Locks (ADL)	No
Dealer	West-Herr Kia, 5140 Camp Rd., Hamburg, NY 14075	Owner's Manual Details Instructions on Disabling ADLs	NA

DATA FROM CERTIFICATION LABEL

Manufactured By	Kia Motors Corporation	GVWR (kg)	1780
		GAWR Front (kg)	980
Date of Manufacture	Kia Motors Corporation	GAWR Rear (kg)	960

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				385
Cargo Wt. (RCLW) (kg)				44.8

DATA SHEET NO. 1 (continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 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	415.0	249.0		468.0	341.0		464.5	332.5	
Right	kg	413.0	237.0		419.0	294.0		419.5	296.0	
Ratio	%	63.0	37.0		58.3	41.7		58.4	41.6	
Totals	kg	828.0	486.0	1314.0	887.0	635.0	1522.0	884.0	628.5	1512.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1314.0
Weight of 2 P572E ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	44.8
Calculated Vehicle Target Weight (TVTW)	kg	1521.2

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

Weight of Ballast (including instrumentation package and cameras): 36.1 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	679	687	684	679
Fully Loaded	mm	660	679	638	649
As Tested	mm	665	680	639	649

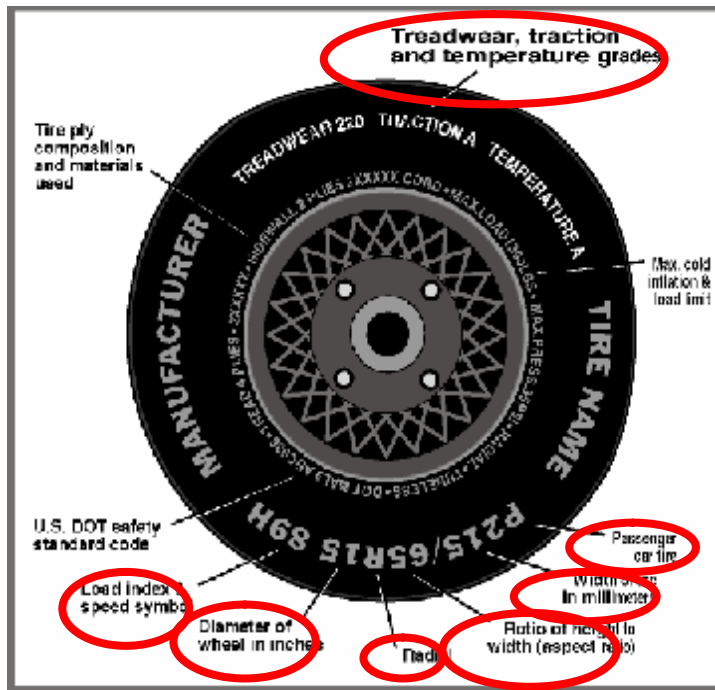
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2618
Target Impact Point Aft of Front Axle	mm	369
Actual Impact Point Aft of Front Axle	mm	375
As Tested CG (aft of front axle)	mm	1088

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2007 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	210	210
Recommended Tire Size	P195/60R15	P195/60R15
Tire Size on Vehicle	P195/60R15	P195/60R15
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Eagle LS	Eagle LS
Tire Type	P	P
Tire Width (mm)	195	195
Ratio of Height to Width (aspect ratio)	60	60
Radial	R	R
Wheel Diameter	15	15
Load Index & Speed Symbol	87H	87H
Treadwear	360	360
Traction Grade	A	A
Temperature Grade	A	A

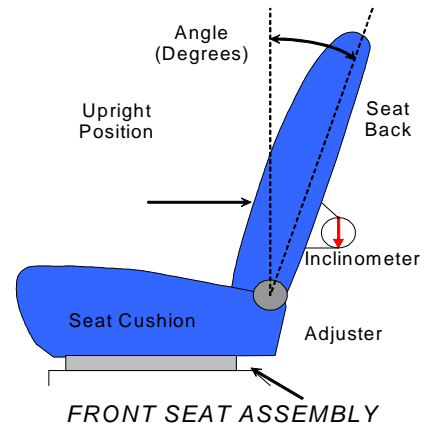
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 2006

NORMAL DESIGN RIDING POSITION

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

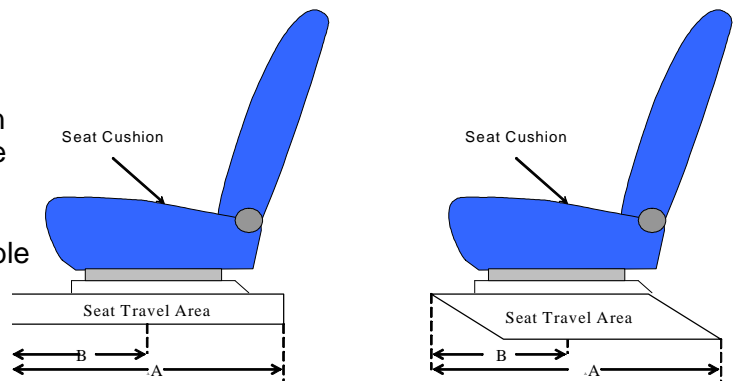


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	Detent 12	Not Adjustable
Angle (deg. from forward-most locking position)	23.1	Not Adjustable
Alternative Measurements to Verify Test Position	NA	NA

SEAT FORE/AFT POSITIONS

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



SEAT FORE/AFT POSITION

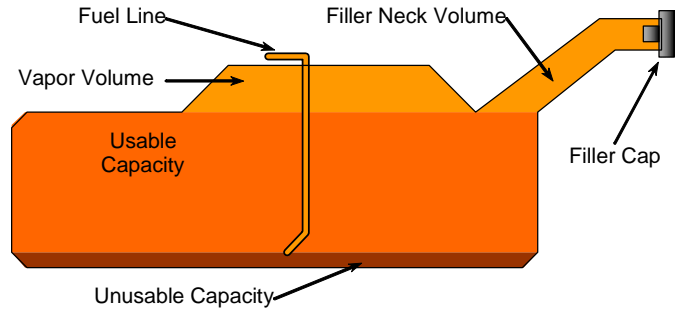
	Driver Seat	Rear Seat
Total Fore/Aft Travel (A) (mm)	284	NA
Test Position (B) (mm)	142	NA
Test Detent (forward-most detent defined as 0)	7	NA
Total Number of Detents (including 0)	17	NA

DATA SHEET NO. 3 (CONTINUED)
TEST VEHICLE INFORMATION

Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 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.



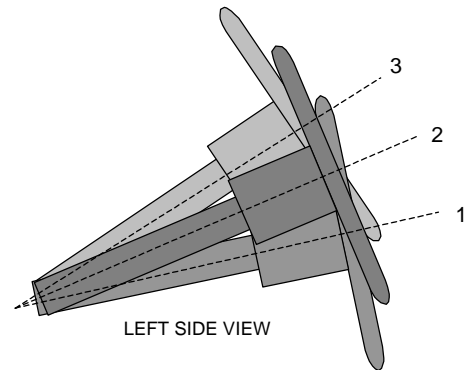
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	54.9
Usable Capacity of "Optional" Fuel Tank	NA
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	51.1

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	23.8	NA
Geometric Center Position No. 2 *	NA	26.1	NA
Uppermost Position No. 3	NA	28.3	NA

* Test position

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

Test Vehicle:	2007 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 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	61.64
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.64

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

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	6 mm rearward
Vertical Offset	mm	+/-20	0 mm above/below

DATA SHEET NO. 5

POST TEST OBSERVATIONS

Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 2006

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 269	SID/HIII / 270
Head Contact	Side of head to side curtain airbag	Side of head to side curtain airbag
Upper Torso Contact	Arm to side impact airbag	Arm to door trim above armrest
Lower Torso Contact	Pelvis to side impact airbag	Pelvis to door trim below armrest
Left Knee Contact	Left knee to door trim	Left knee to door trim
Right Knee Contact	Right knee to left knee	Right knee to left knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	Left side of windshield cracked during the event
Window Damage	Left side windows broke during the event
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT INFORMATION

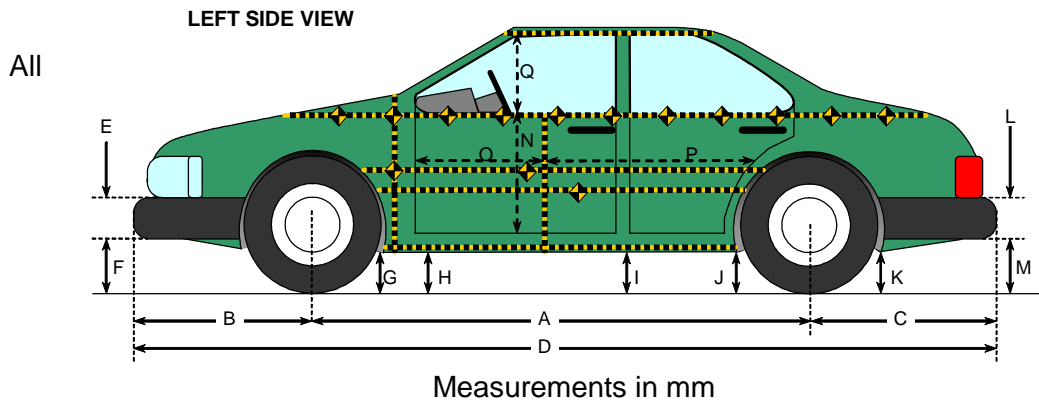
Restraint Type	Left Front (Driver)		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	NA	NA
Side Torso Airbag	Yes	Yes	NA	NA
Side Head/Torso Combination Airbag	NA	NA	NA	NA
Curtain Airbag	Yes	Yes*	Yes	Yes*

*The side curtain airbag did not fully deploy. The center section of the airbag just rearward of the B-pillar remained partially folded beneath head liner.

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2007 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006

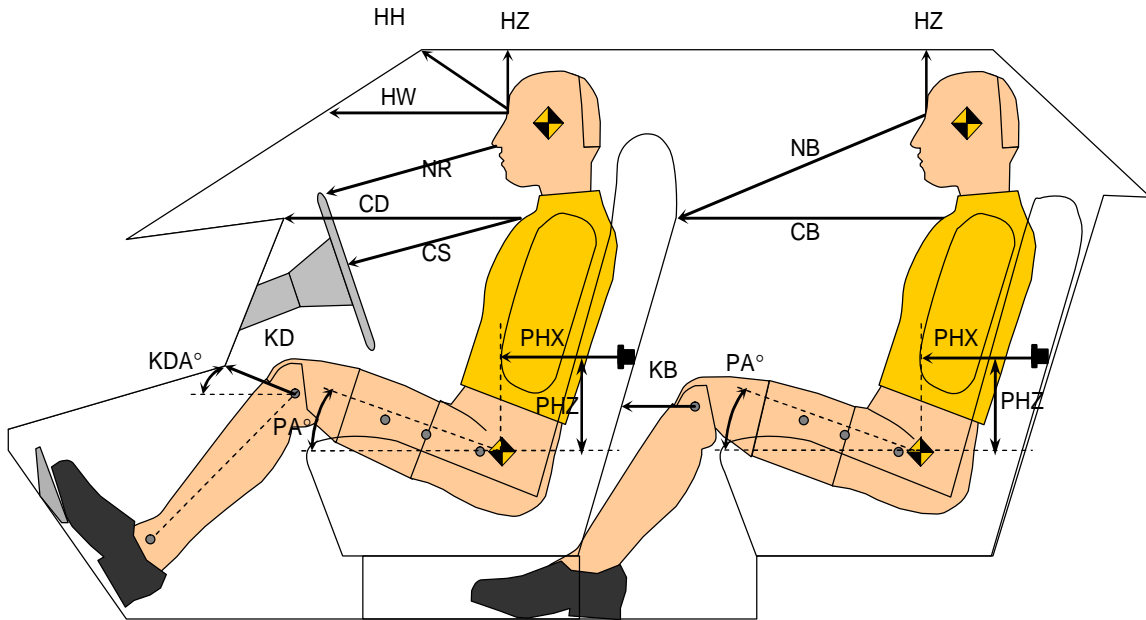


Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2613	2618	2594	24
B	Front Axle to FSOV	917	914	924	-10
C	Rear Axle to RSOV	972	970	978	-8
D	Total Length at Centerline	4502	4502	4496	6
E	Front Bumper Thickness	317	317	321	-4
F	Front Bumper Bottom to Ground	218	210	236	-26
G	Sill Height at Front Wheel Well	205	183	197	-14
H	Sill Height at Front Door Leading Edge	206	183	226	-43
I	Sill Height at "B" Pillar	211	177	238	-61
J1	Sill Height at Rear Wheel Well	196	157	178	-21
J2	Pinch Weld Height at Rear Wheel Well	216	176	198	-22
K	Sill Height Aft of Rear Wheel Well	253	202	230	-28
L	Rear Bumper Thickness	329	329	341	-12
M	Rear Bumper Bottom to Ground	291	241	254	-13
N	Sill Height to Window Bottom Sill	681	681	586	95
O	Front Door Leading Edge to Impact CL	758	758	701	57
P	Rear Door Trailing Edge to Impact CL	1214	1214	1171	43
Q	Front Window Opening	468	468	434	34
R	Right Side Length	4377	4377	4379	-2
S	Left Side Length	4376	4376	4362	14
T	Vehicle Width at "B" Post	1746	1746	1589	157

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006

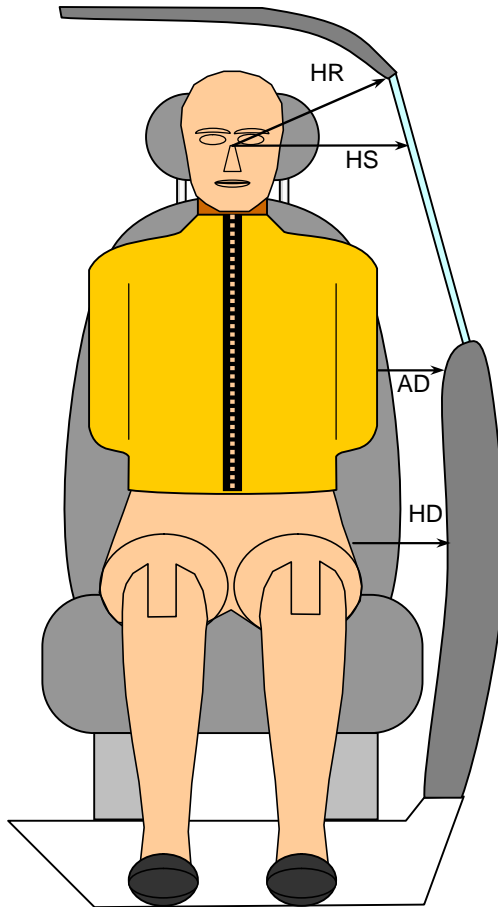


Driver Code	Pass. Code	Measurement Description	Driver S/N 269		Passenger S/N 270	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	362			
HW		Head to Windshield	602			
HZ	HZ	Head to Roof	182		162	
NR	NB	Nose to Rim/Nose to Seatback	468		612	
CD	CB	Chest to Dash or Seatback	550		551	
CS		Chest to Steering Wheel	302			
KDL	KBL	Left Knee to Dash or Seatback	168	26	232	20
KDR	KBR	Right Knee to Dash or Seatback	153	28	235	16
PA	PA	Pelvic Angle		23.5		23.0
PHX	PHX	H-Point to Striker (X-Axis)	233		336	
PHZ	PHZ	H-Point to Striker (Z-Axis)	134		324	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2007 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006



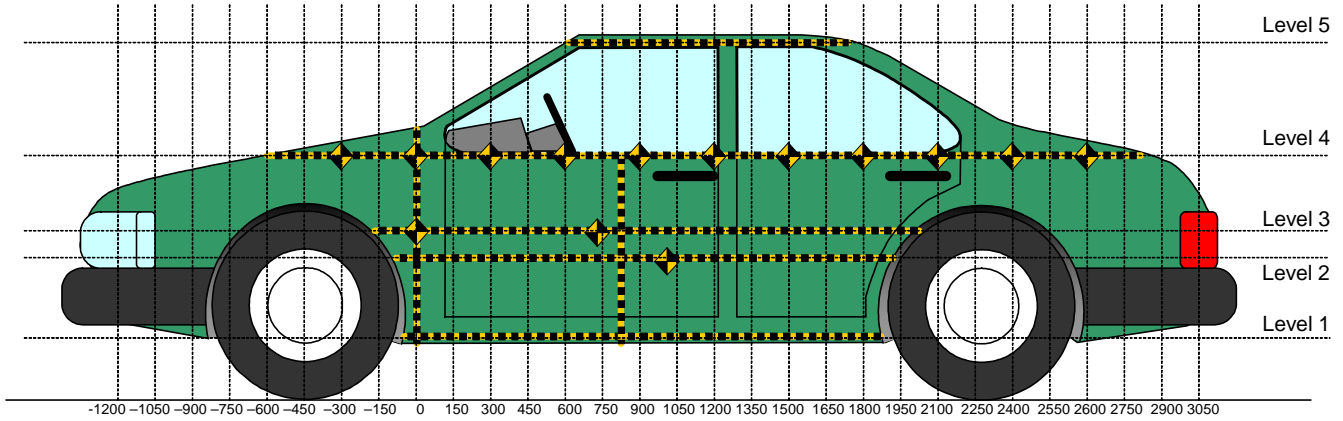
FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 269	Passenger S/N 270
HR	Head to Side Header	mm	192	188
HS	Head to Side Window	mm	314	305
AD ₁	Arm to Door (at upper rib level)	mm	119	108
AD ₂	Arm to Door (at lower rib level)	mm	129	122
HD	H-Point to Door	mm	154	188

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 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.

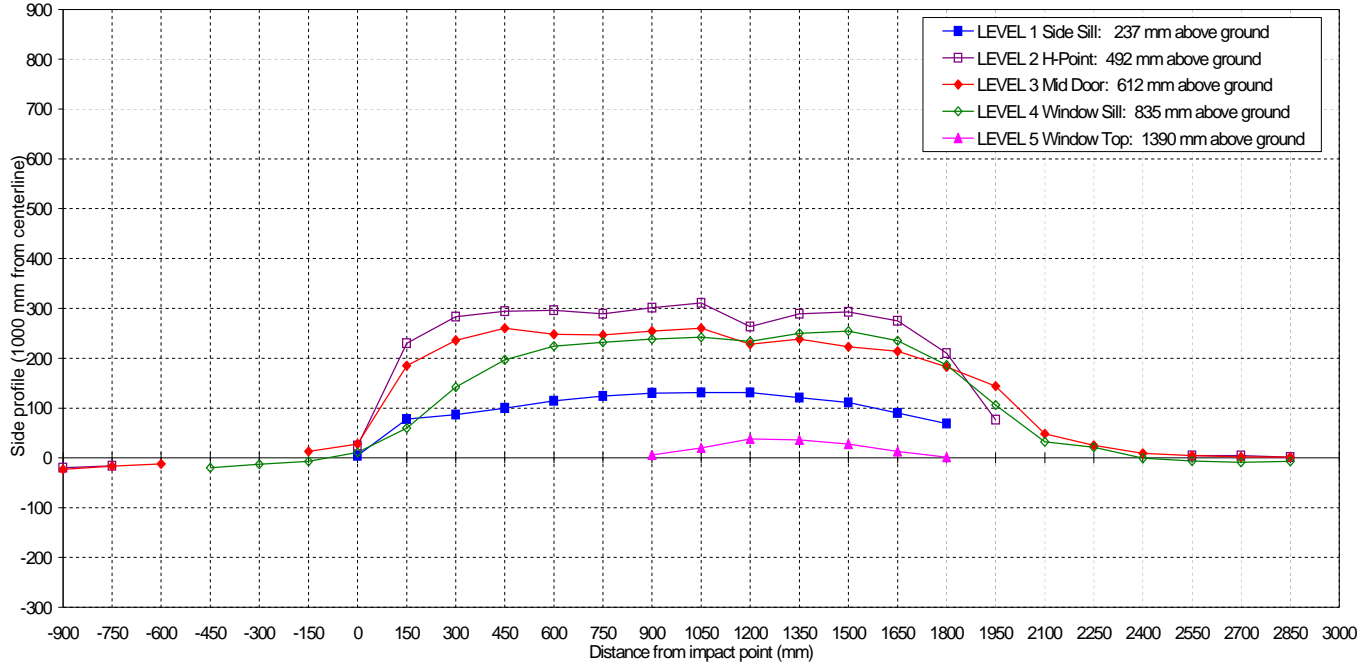
Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	131	237	1050
2	Occupant H-Point	311	492	1050
3	Mid Door	260	612	450
4	Window Sill	254	835	1500
5	Window	38	1390	1200
	Maximum Penetration	311		

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2007 Kia Spectra
 Test Program: NCAP Side Impact

NHTSA No. M70508
 Test Date: December 12, 2006



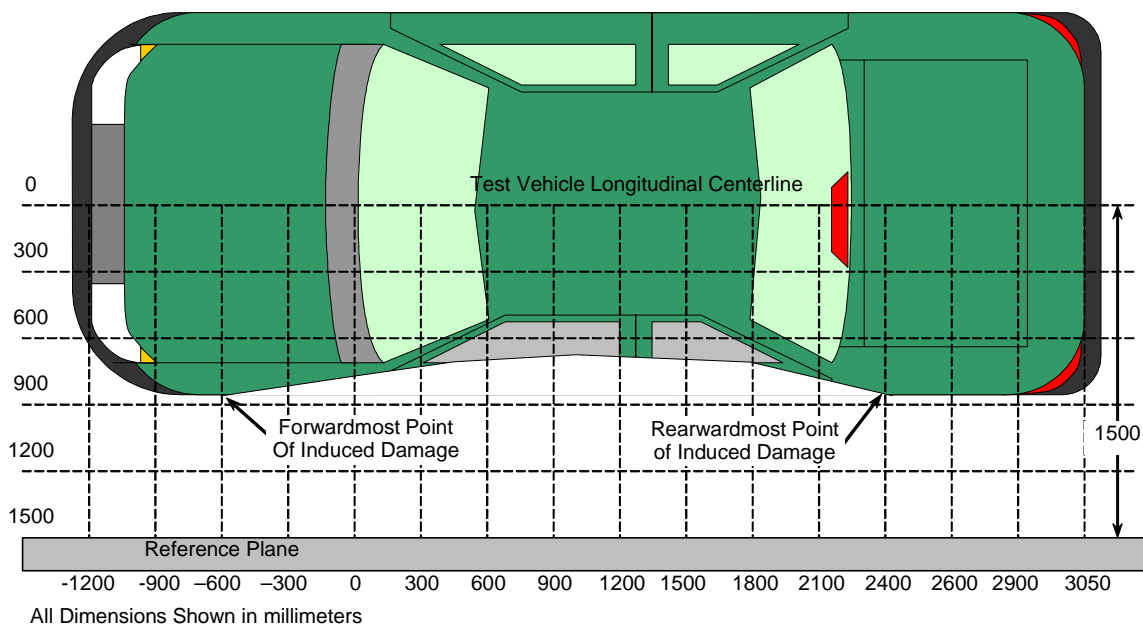
NOTE: All dimensions are in millimeters with a tolerance of ±3 mm

LEVEL	HEIGHT (mm)		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
			-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	237	PRE	--	--	--	--	--	--	186	188	188	187	187	187	187	187	187	186	186	185	185	185	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	--	190	266	275	287	301	311	317	318	317	307	296	275	254	--	--	--	--	--	--	--		
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	4	78	87	100	114	124	130	131	131	121	111	90	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	492	PRE	224	160	--	--	--	134	133	128	128	127	126	126	125	128	127	127	128	130	132	--	--	--	144	177	208	--		
		POST	204	144	--	--	--	158	363	411	422	423	415	427	436	391	416	420	403	340	208	--	--	--	148	181	209	--		
		CRUSH	-20	-16	N/A	N/A	N/A	N/A	24	230	283	294	296	289	301	311	263	289	293	275	210	76	N/A	N/A	N/A	4	4	1	N/A	
LEVEL 3 MID DOOR	612	PRE	235	190	137	--	--	129	129	130	129	128	127	126	126	126	126	127	128	129	131	130	124	124	129	151	175	204	--	
		POST	212	173	125	--	--	142	157	315	365	388	375	373	380	386	354	365	351	343	313	274	172	149	138	155	177	205	--	
		CRUSH	-23	-17	-12	N/A	N/A	13	28	185	236	260	248	247	254	260	228	238	223	214	182	144	48	25	9	4	2	1	N/A	
LEVEL 4 WINDOW SILL	835	PRE	--	--	--	239	217	202	184	173	165	158	154	149	131	131	144	146	149	153	155	150	165	172	182	196	214	243	--	
		POST	--	--	--	219	204	195	195	233	307	355	378	381	369	373	378	396	403	388	341	256	197	193	181	190	205	236	--	
		CRUSH	N/A	N/A	N/A	-20	-13	-7	11	60	142	197	224	232	238	242	234	250	254	235	186	106	32	21	-1	-6	-9	-7	N/A	
LEVEL 5 WINDOW TOP	1390	PRE	--	--	--	--	--	--	--	--	--	--	--	449	432	430	429	435	445	554	--	--	--	--	--	--	--	--		
		POST	--	--	--	--	--	--	--	--	--	--	--	455	452	468	465	463	458	555	--	--	--	--	--	--	--	--		
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	20	38	36	28	13	1	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 Kia Spectra	NHTSA No.	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006



TOP VIEW

DAMAGE PROFILE DISTANCES

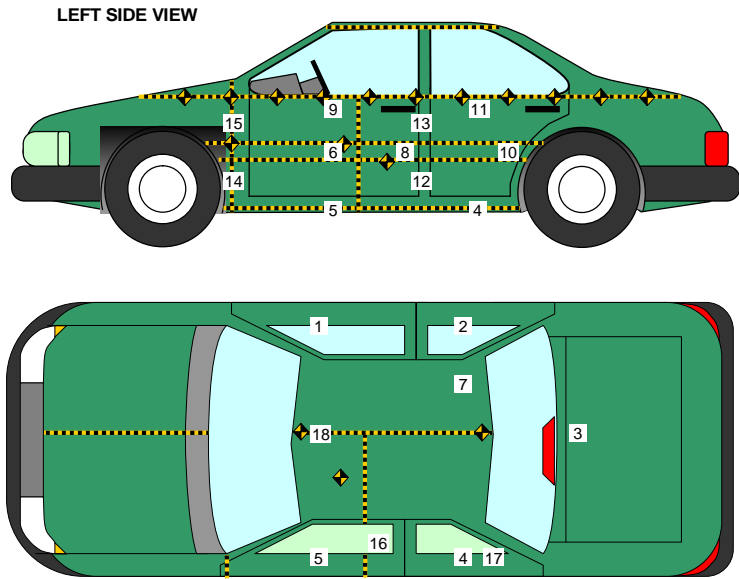
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2550	492	144	148	4
2	2010	612	128	233	105
3	1470	492	127	419	292
4	930	492	126	429	303
5	390	492	128	418	290
6 (LF)	-150	612	129	142	13

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

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2007 Kia Spectra	NHTSA No.:	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	2769	659	-260
2	Right Sill at Rear Seat	1994	656	-257
3	Rear Floorpan Above Axle	1101	-45	-458
4	Left Sill at Rear Door	1887	-657	-237
5	Left Sill at Front Door	2867	-659	-249
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	1904	362	-198
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	2093	-658	-362
13	Left Middle B-Post	2015	-653	-919
14	Left Lower A-Post	3124	-643	-437
15	Left Middle A-Post	3023	-643	-995
16	Front Seat Track	2219	-521	-287
17	Rear Seat Track or Structure	1026	-509	-513
18	Vehicle CG	2475	29	-373

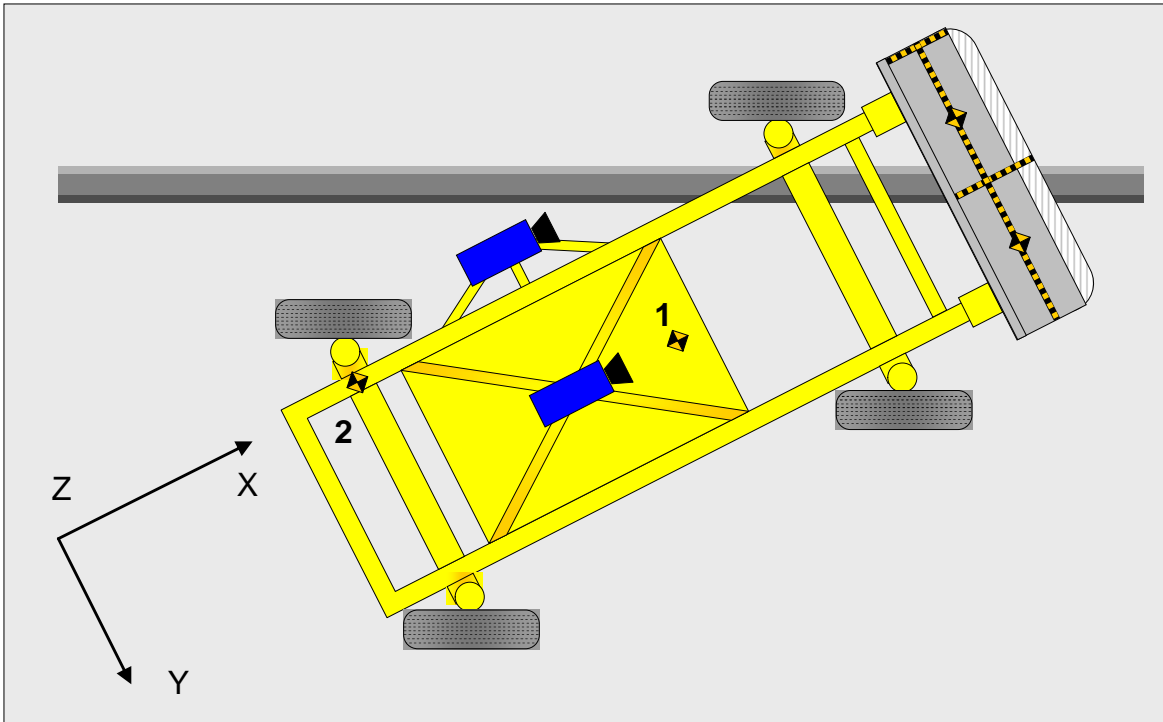
Reference Points X - Test Vehicle Rear Bumper (+ forward)
 Y - Test Vehicle Centerline (+ to right)
 Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 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**

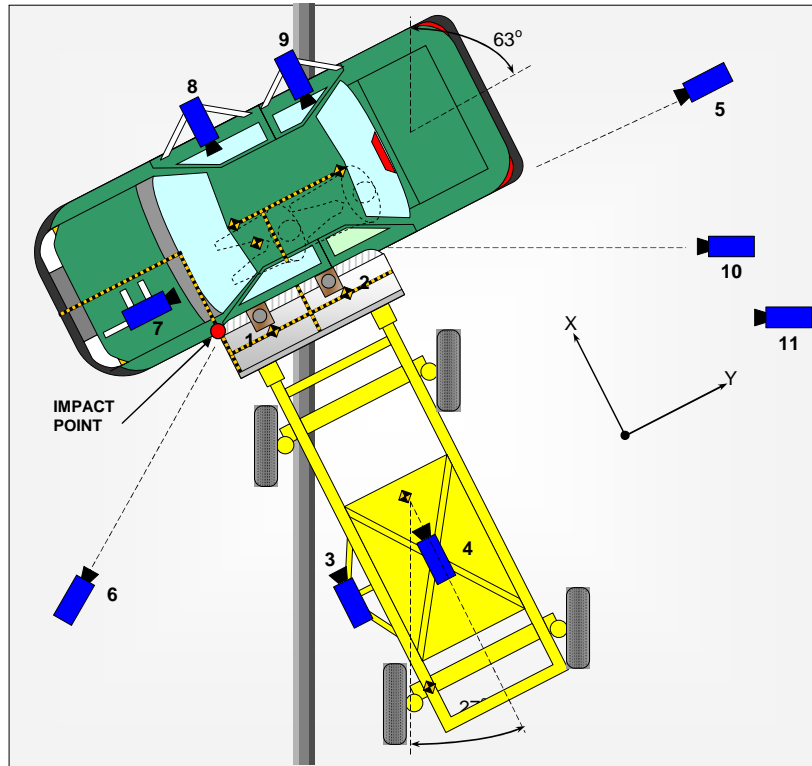
Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 2006

	Elements	Pre-Test (mm)
1	Total Length	4502
2	Total Width	1746
3	Bumper Top Height	513
4	Bumper Bottom Height	406
5	Longitudinal Member Top Height	524
6	Distance between Longitudinal Members	1077
7	Longitudinal Member Width	75
8	Engine Top Height	817
9	Engine Bottom Height	207
10	Engine and gearbox width	563
11	Front bumper-engine distance	466
12	Front shock absorber fixing height	849
13	Bonnet leading edge height	693
14	Front shock absorber fixing width	1128
15	Front bumper – front axle distance	913
16	Front axle – a pillar distance	447
17	A-pillar – B-pillar distance	1114
18	B-Pillar – rear axle distance	1056
19	B-pillar – C-pillar distance	1033
20	Roof sill bottom height	1310
21	Roof sill top height	1405
22	Floor sill bottom height	221
23	Floor sill top height	327

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2007 Kia Spectra	NHTSA No.:	M70508
Test Program:	NCAP Side Impact	Test Date:	December 12, 2006



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Overall	72	812	-4880	-90.0	8	1000
2	Overhead Close-up	195	855	-4880	-90.0	28	1000
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0.0	13	1000
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	7.5	1000
5	Right Side, Ground Level, Overall	0	10121	-1081	-3.4	50	1000
6	Left Side, Ground Level, Overall	-2023	1634	-895	-6.1	28	1000
7	Vehicle Onboard Front SID/HIII, Front	458	-460	-1222	-4.7	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1710	825	-1040	-5.0	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1645	1745	-1052	-10.3	12.5	1000
10	Secondary Impact Point	4400	3058	-1010	-2.5	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**

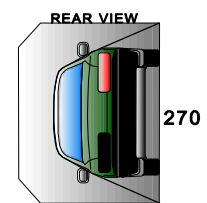
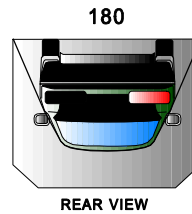
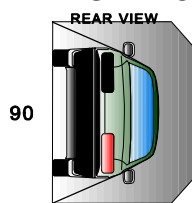
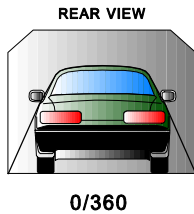
Test Vehicle: 2007 Kia Spectra NHTSA No. M70508
 Test Program: NCAP Side Impact Test Date: December 12, 2006

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



Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
	minutes	seconds	minutes	seconds	minutes	seconds	minutes	seconds	minutes	seconds	minutes	seconds
0° - 90°	1	15	5	6	15	7	15	7	15	7	15	7
90° - 180°	1	8	5	6	8	7	8	7	8	7	8	7
180°-270°	1	4	5	6	4	7	4	7	4	7	4	7
270°-360°	1	10	5	6	10	7	10	7	10	7	10	7

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	-
90° - 180°	0	0	0	-
180°-270°	0	0	0	-
270°-360°	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-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
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A-39	Pre-Test Left Occupant Compartment View of Driver	A-23
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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
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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

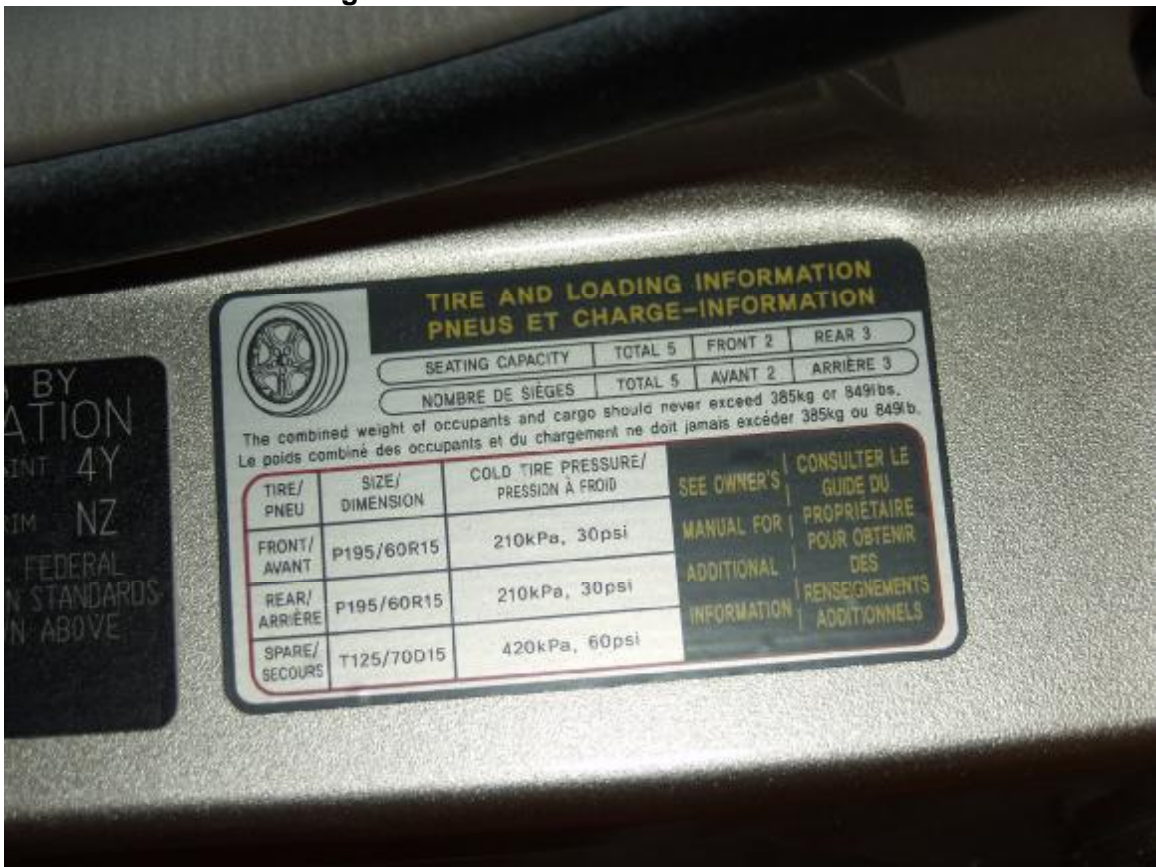


Figure A-4: Vehicle Tire Placard Label



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 3/4 View



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



Figure A-20: Post-Test Right Front ¾ View

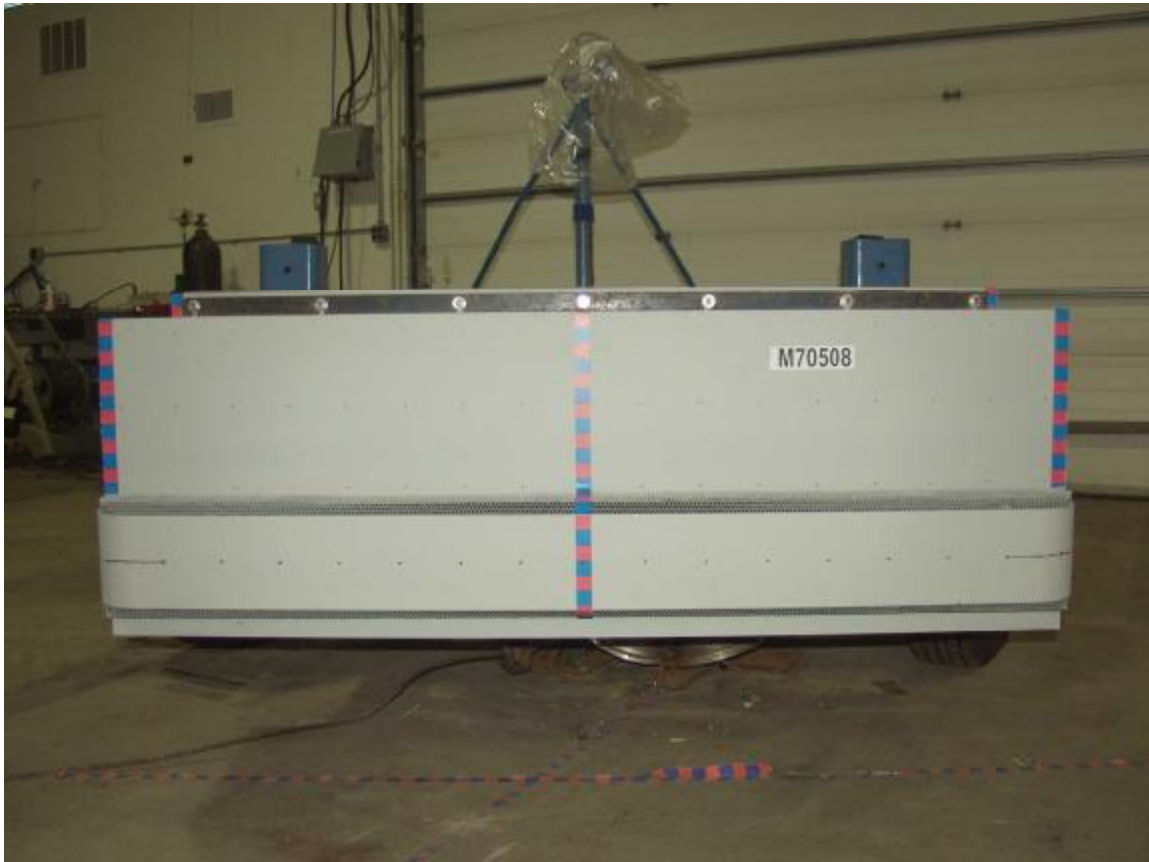


Figure A-21: Pre-Test Frontal View of MDB Impactor Face



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

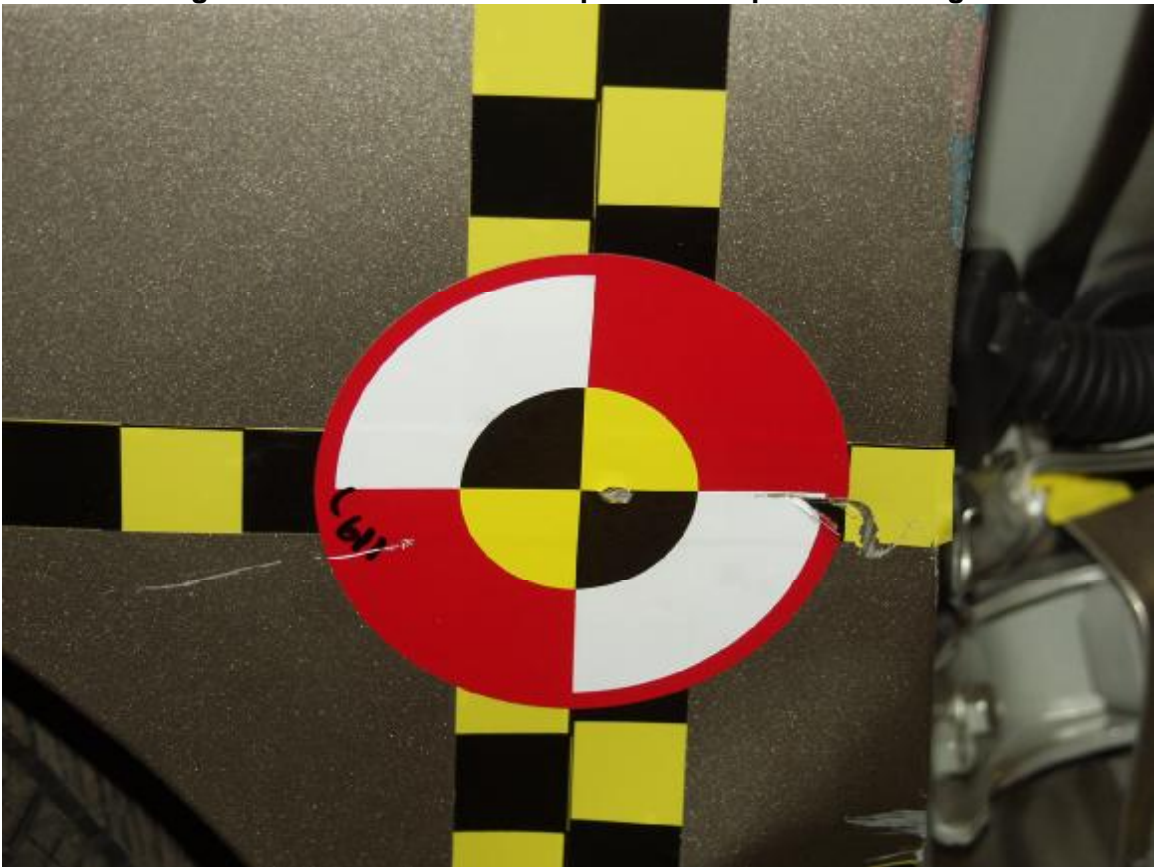


Figure A-34: Post-Test Close-Up View of Impact Point Target



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 ¾ View of Left Side Doors



Figure A-48: Post-Test Left Front ¾ 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

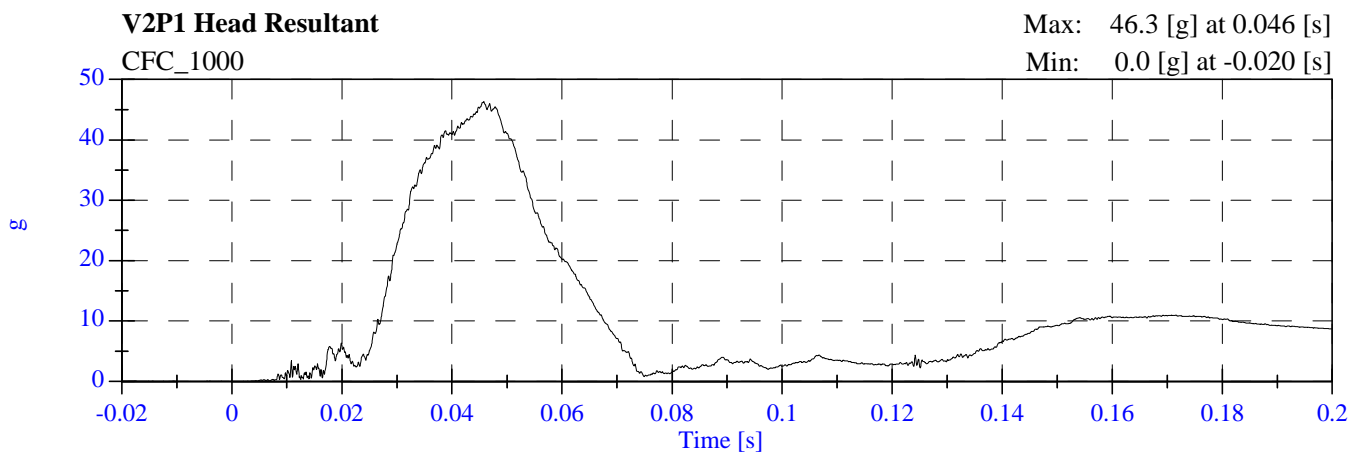
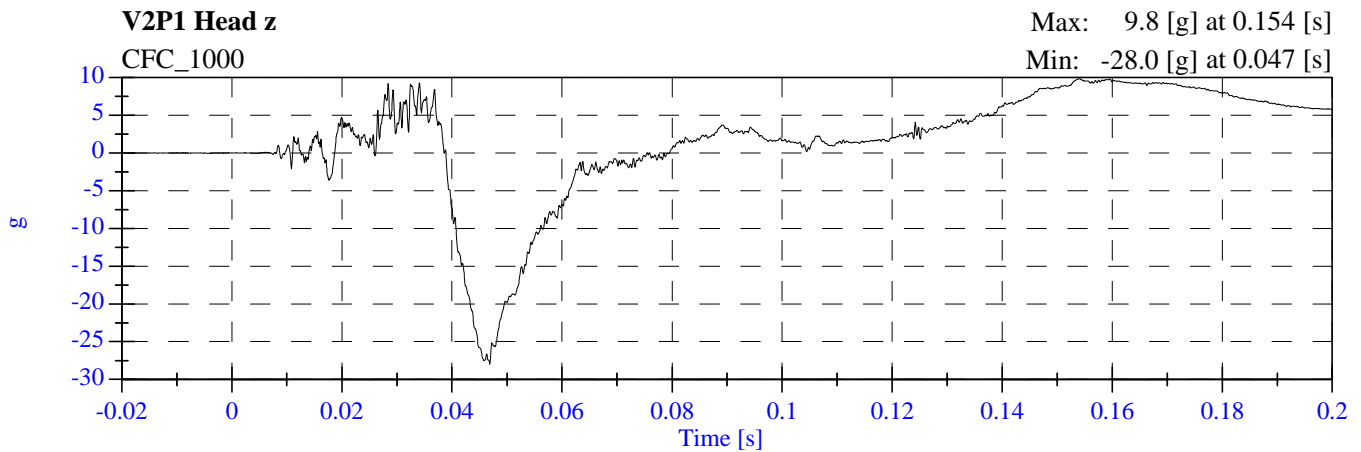
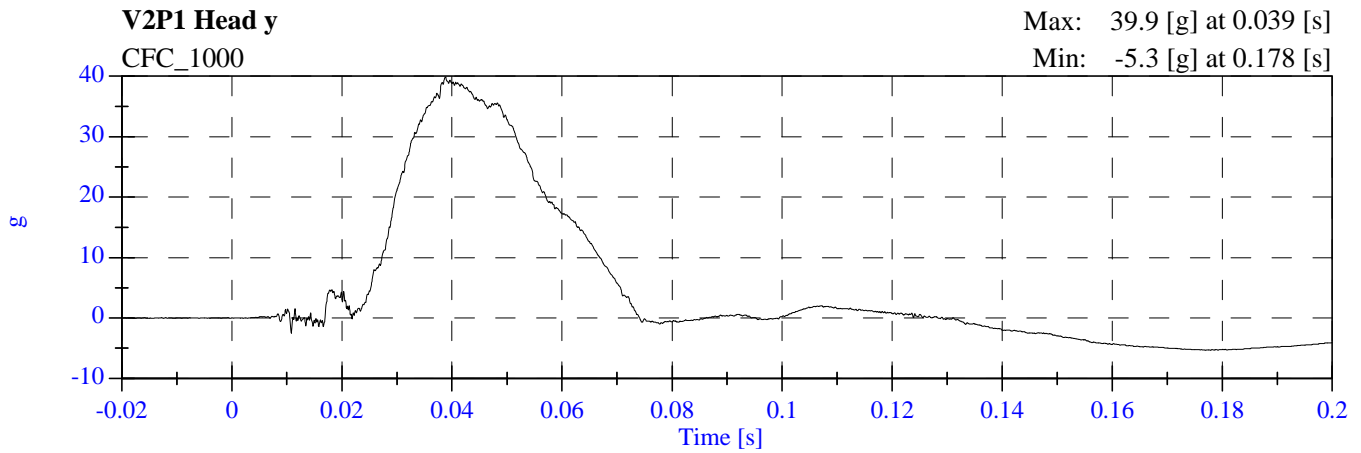
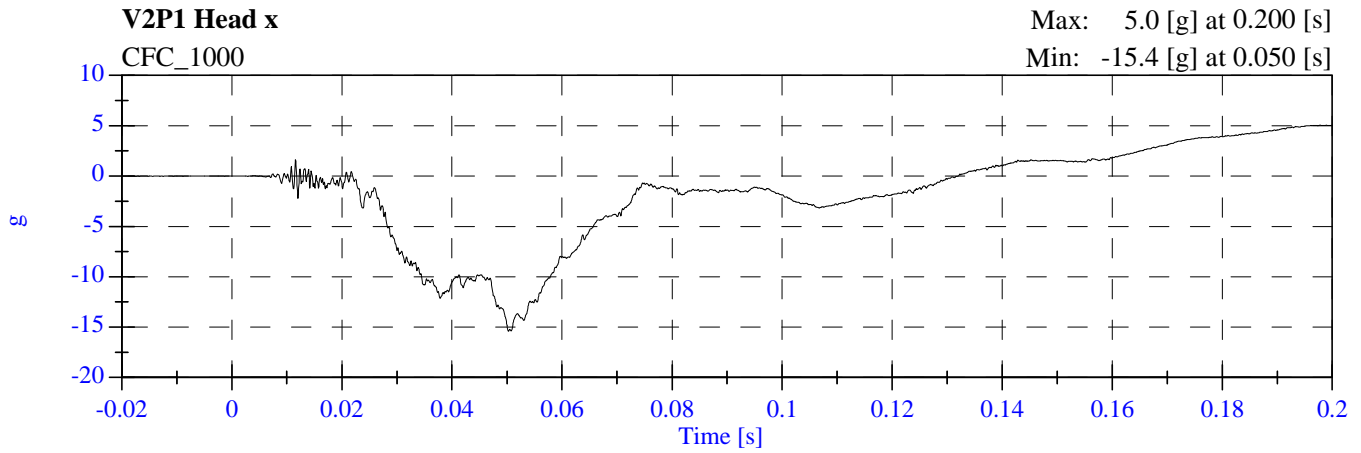
V2P1 Head Ax	V2A1 Right Front Sill Ax
V2P1 Head Ay	V2A1 Right Front Sill Ay
V2P1 Head Az	V2A1 Right Front Sill Az
V2P1 Upper Neck Fx	V2A2 Right Rear Sill Ax
V2P1 Upper Neck Fy	V2A2 Right Rear Sill Ay
V2P1 Upper Neck Fz	V2A2 Right Rear Sill Az
V2P1 Upper Neck Mx	V2A3 Rear Floorpan Ax
V2P1 Upper Neck My	V2A3 Rear Floorpan Ay
V2P1 Upper Neck Mz	V2A3 Rear 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	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

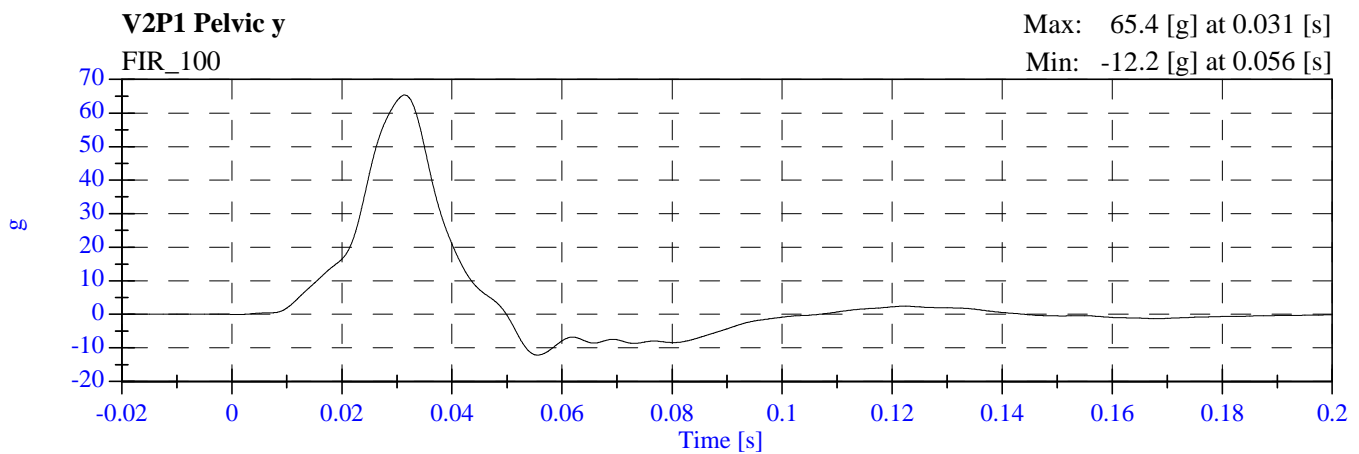
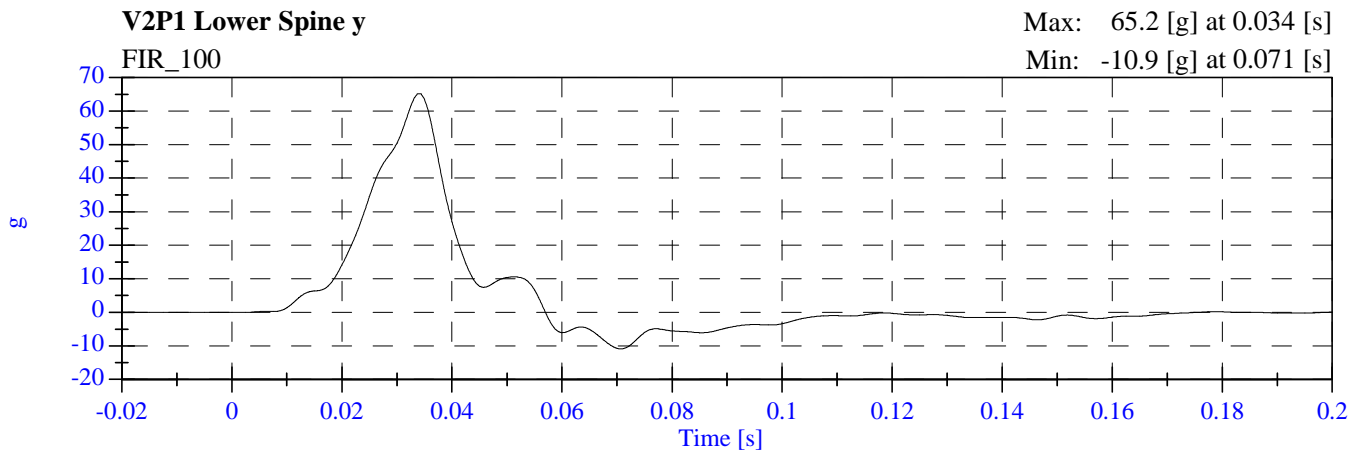
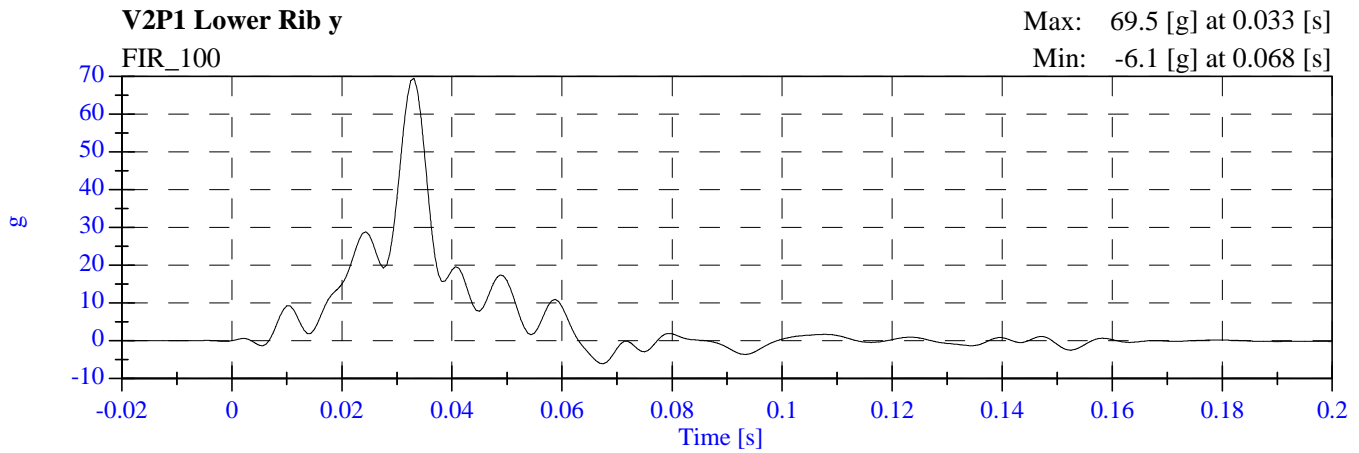
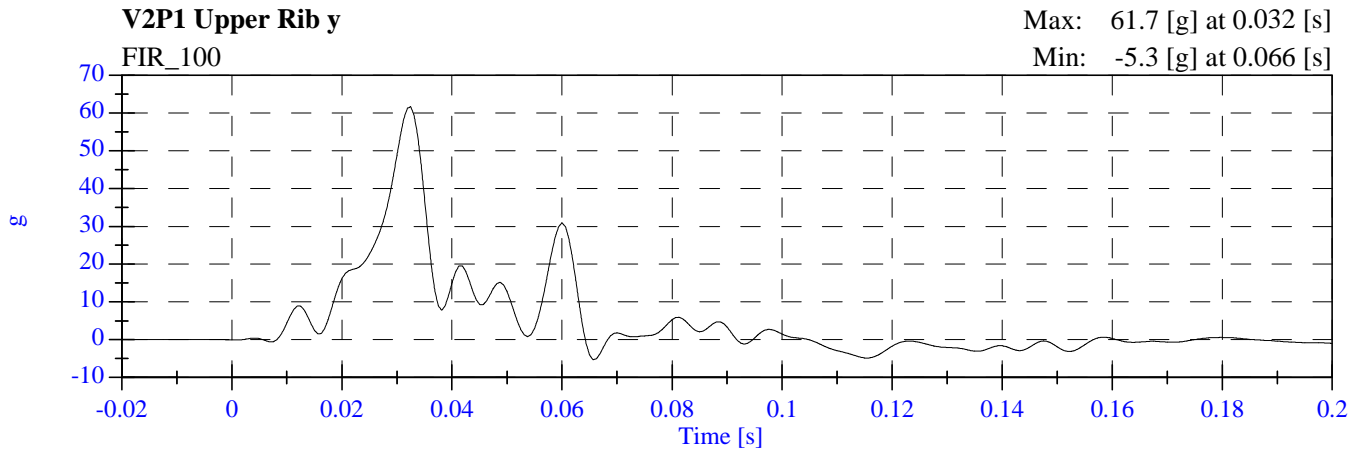
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None

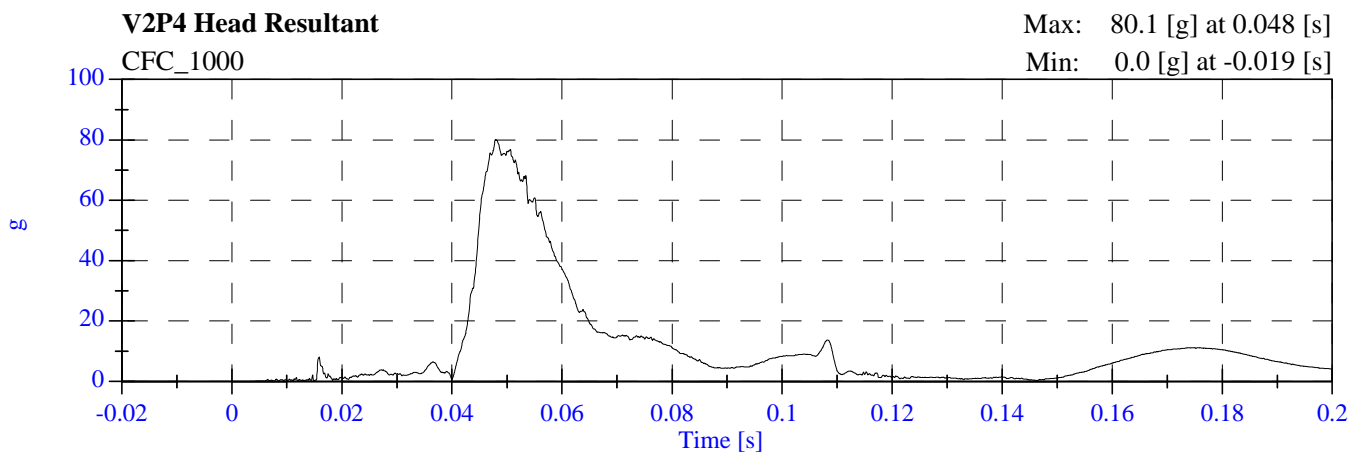
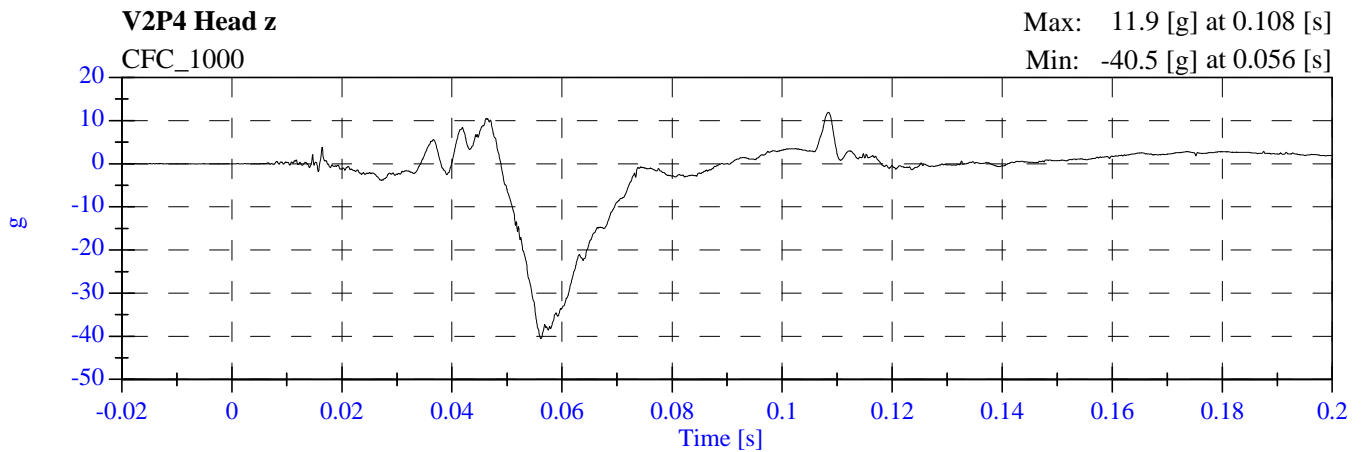
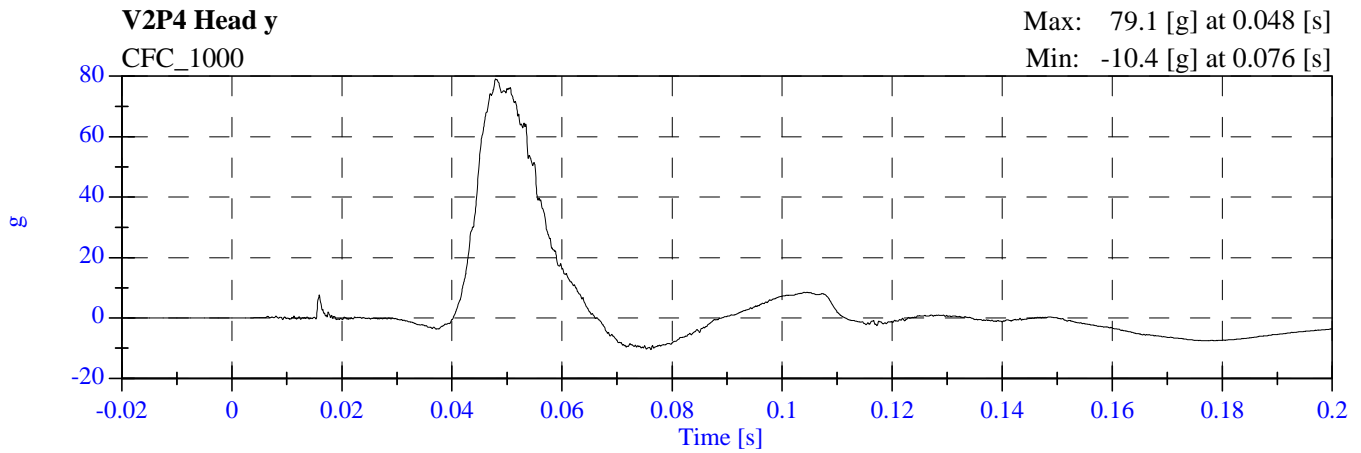
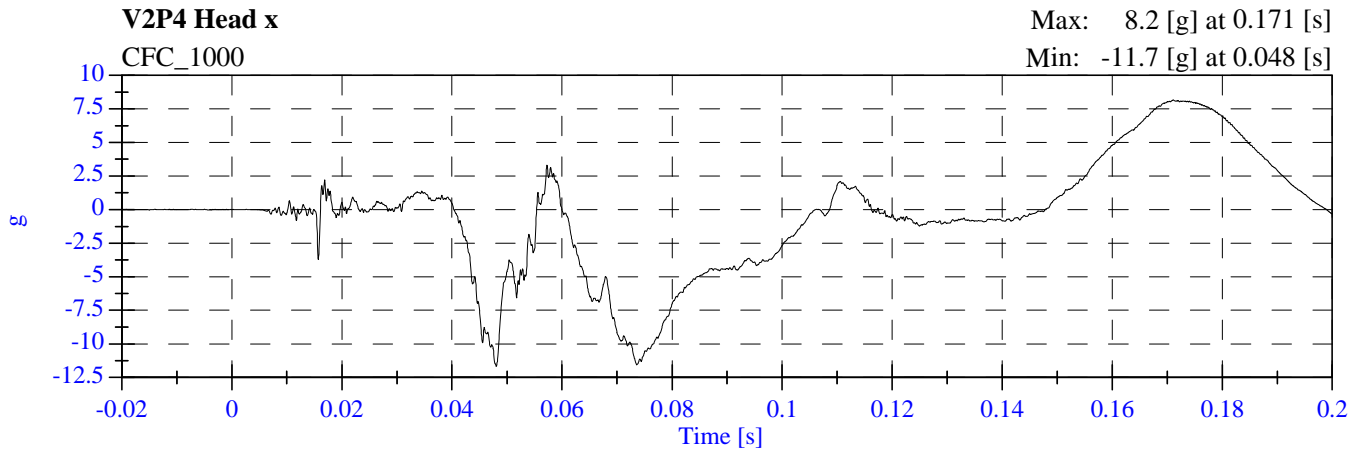
2007 SNCAP - 2007 Kia Spectra M70508 - December 12, 2006



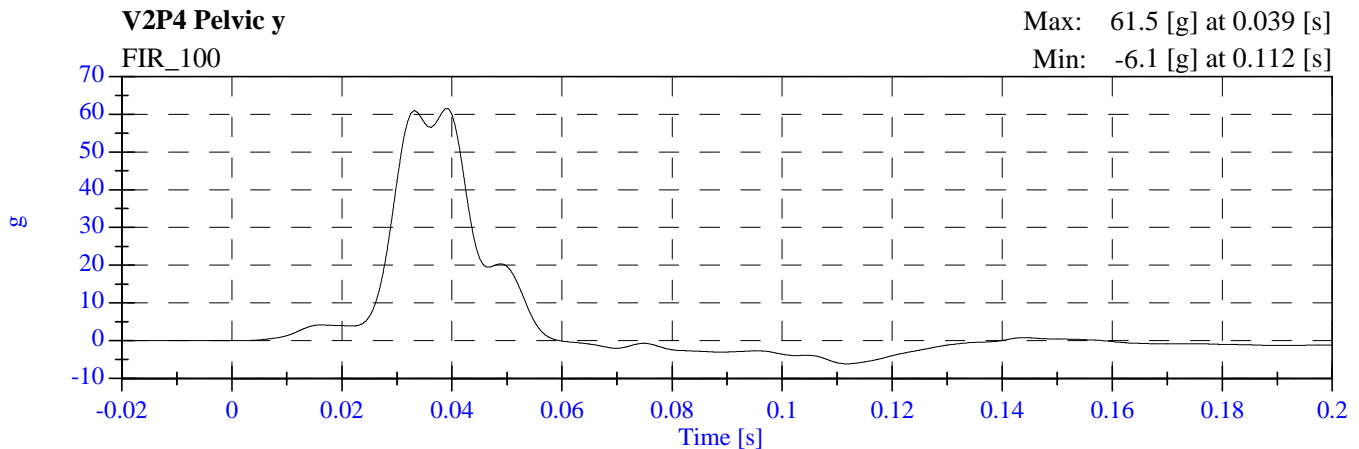
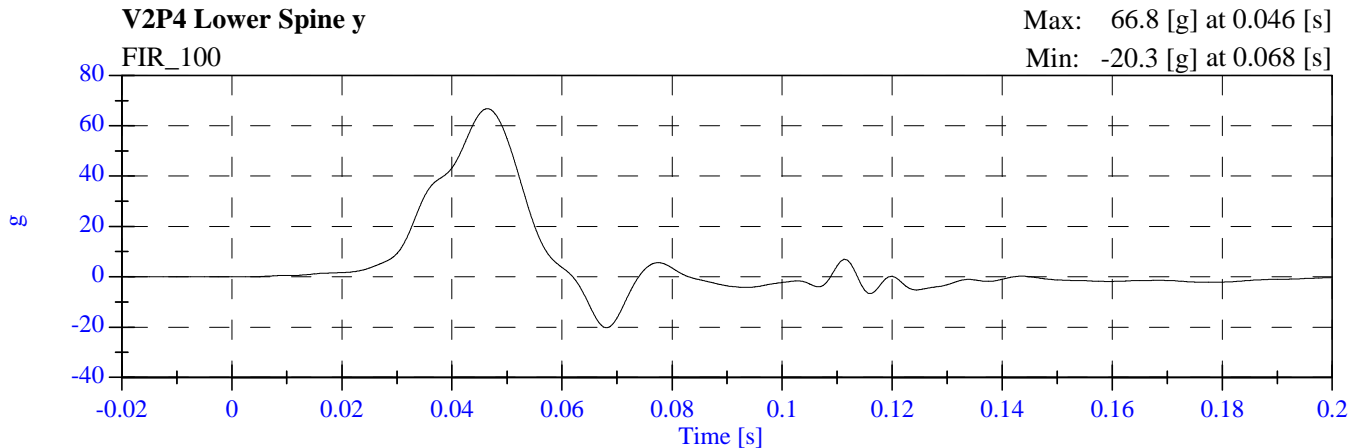
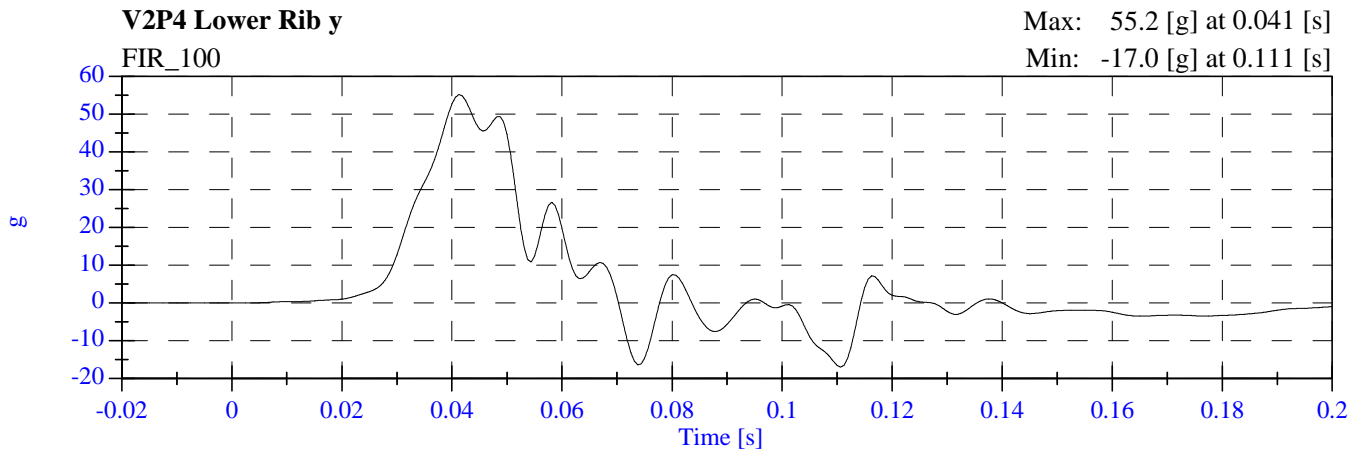
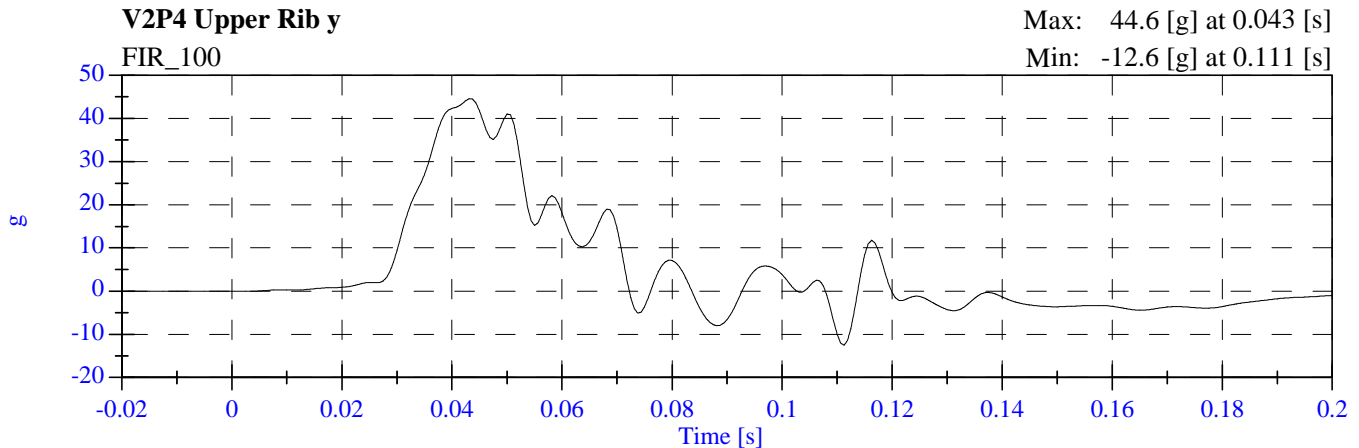
2007 SNCAP - 2007 Kia Spectra M70508 - December 12, 2006



2007 SNCAP - 2007 Kia Spectra M70508 - December 12, 2006



2007 SNCAP - 2007 Kia Spectra M70508 - December 12, 2006



APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: 12/05/2006; 12/05/2006

Sequential Test Number:

1.1; 1.1

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 269		SID H3 NO.: 270	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	900	899	900	899
RH- Rib Height (mm)	501 - 521	508	505	509	505
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	233	234
KV- Knee Pivot from Back Line (mm)	511 - 526	519	518	519	516
SW- Knee Pivot to Floor (mm)	490 - 505	499	493	499	495
HW- Hip Width (mm)	356 - 391	372	384	377	386
THORAX IMPACTS					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0	37.0	22.0	37.0
PROBE SPEED (m/s)	4.27 - 4.33	4.32	4.28	4.32	4.30
UPPER RIB (g's)	37 - 46	42.52	41.31	40.81	39.85
LOWER RIB (g's)	37 - 46	42.26	40.48	40.65	38.06
LOWER SPINE (g's)	15 - 22	18.73	17.56	21.55	19.71
PELVIS IMPACT					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	37.0	37.0	33.0	37.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.32	4.28	4.30
PELVIS (g's)	40 - 60	43.29	59.95	48.40	58.86

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: 1.1
Date: 12/05/06 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.: 269 Sequential Test Number: 1.1
Date: 12/05/06 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	900
RH- Rib Height (mm)	502 – 520	508
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	234
KH- Knee Pivot from Back Line (mm)	511 – 526	519
KV- Knee Pivot to Floor (mm)	490 – 505	499
HW- Hip Width (mm)	356 - 391	372

REMARKS: None

Shock Impact Low (3.05 m/s)

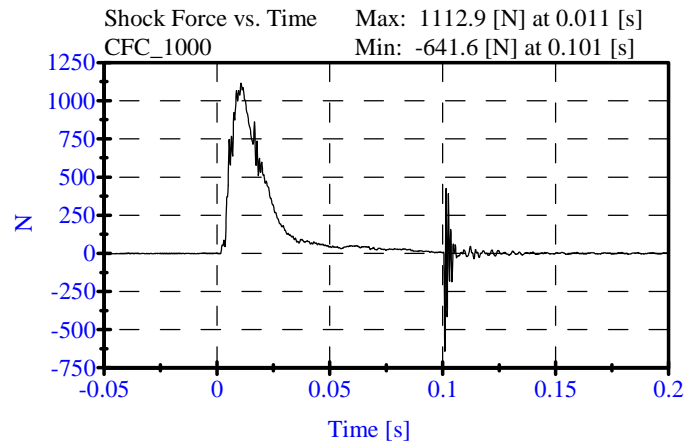
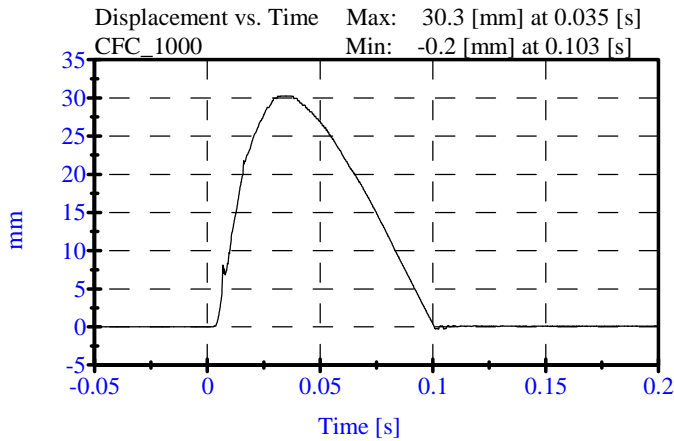
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 12-01-06

Sequential Test Number: 1 File: 269SL 12-01-06
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 %	36.00 %	Passed
Displacement:	30.00-35.00 mm	30.27 mm	Passed
Maximum Force:	836.00-1125.00 N	1112.90 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Impact Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

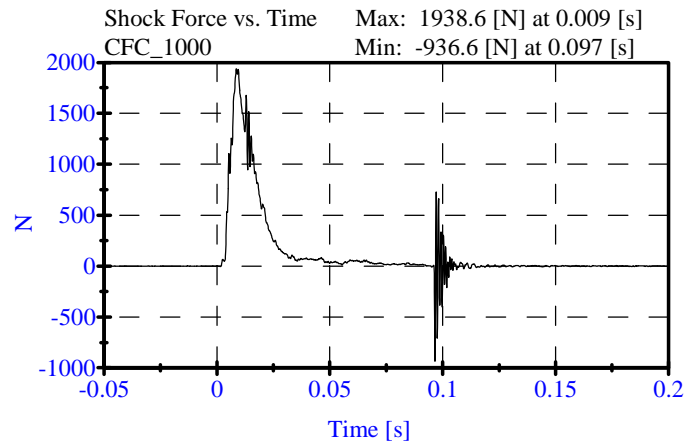
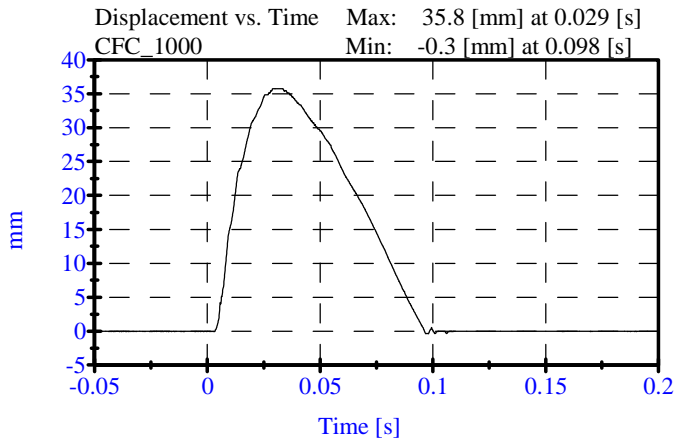
ATD Serial No: 269

Date: 12-01-06

Sequential Test Number: 1 File: 269SM3 12-01-06

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 %	36.00 %	Passed
Displacement:	32.00-37.00 mm	35.76 mm	Passed
Maximum Force:	1730.00-2099.00 N	1938.61 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	269		
Damper Setting:	5		

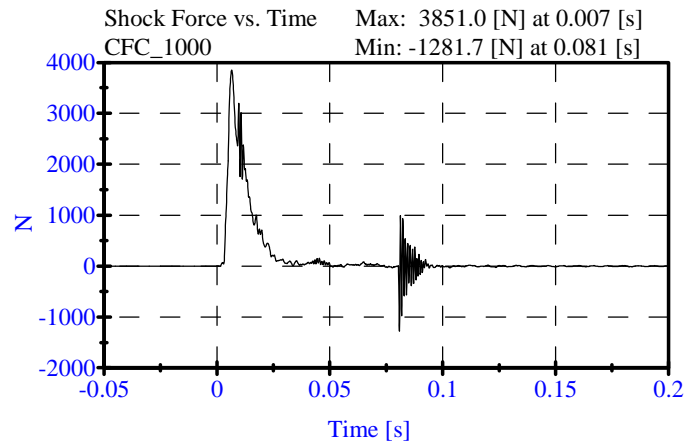
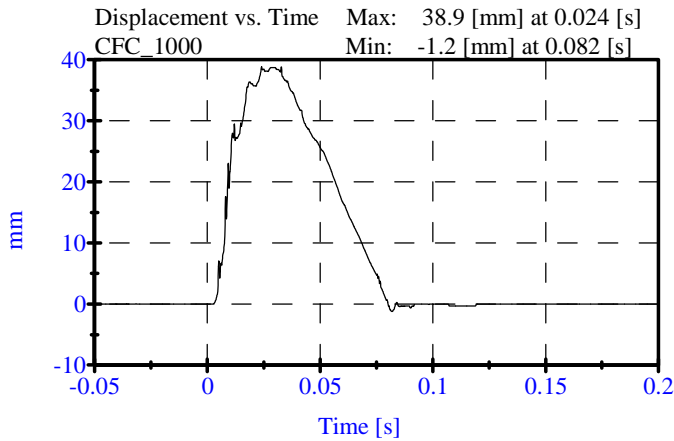


Shock Impact High (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
 Date: 12-01-06

Sequential Test Number: 1 File: 269SH2 12-01-06
 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 %	36.00 %	Passed
Displacement:	33.00-40.00 mm	38.86 mm	Passed
Maximum Force:	3741.00-4448.00 N	3851.03 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		

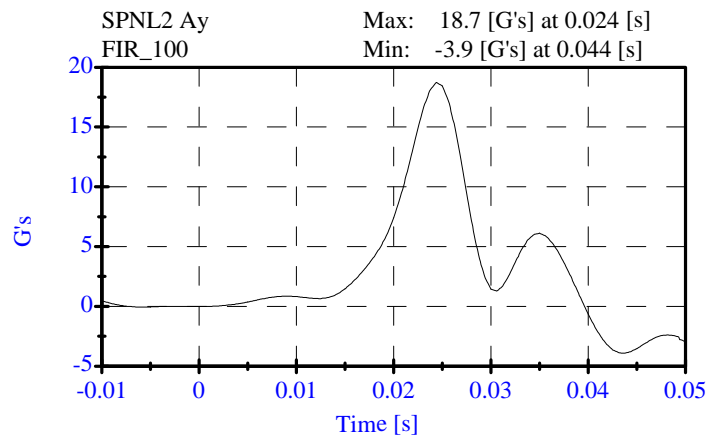
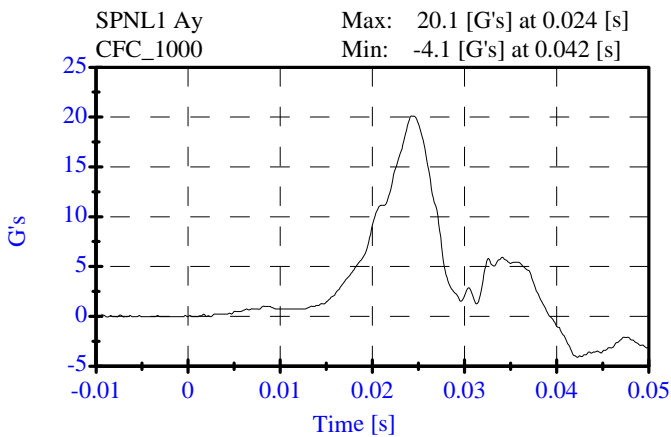
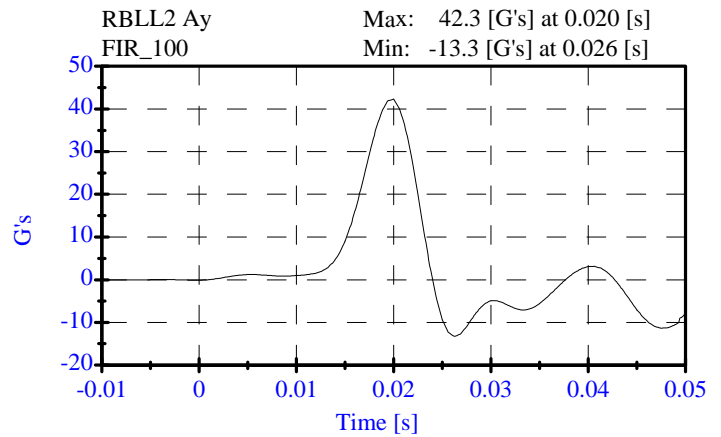
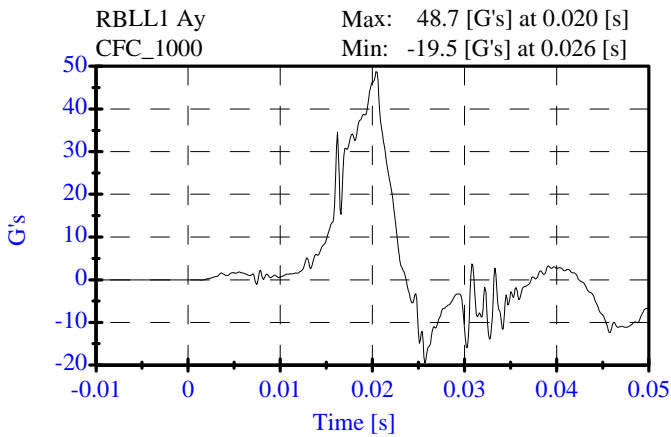
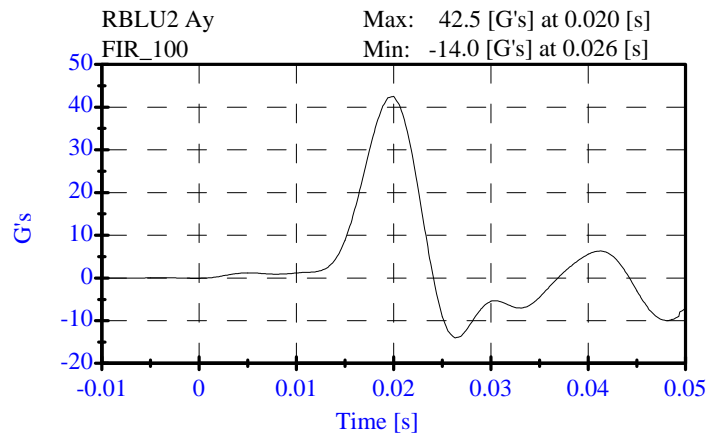
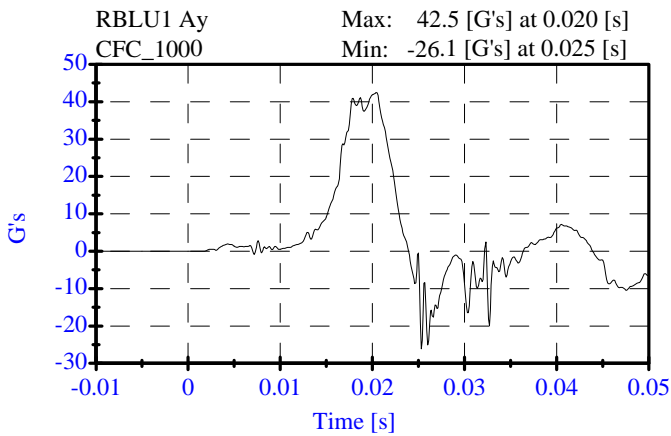


**Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 269
Date: 12-04-06

Sequential Test Number: 1 File: 269T 12-04-06
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 %	33.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	42.52 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.26 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.73 G's	Passed



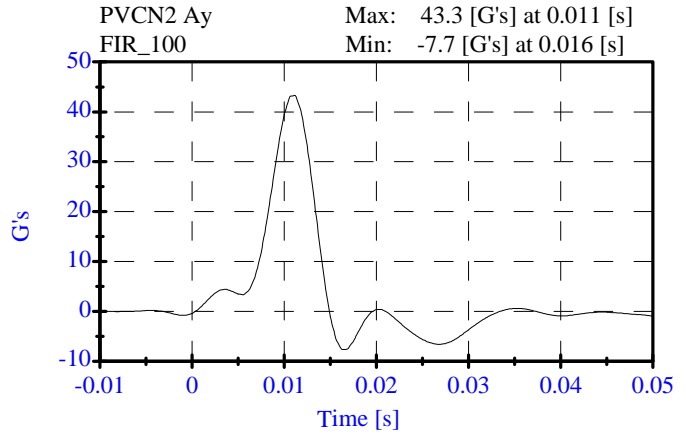
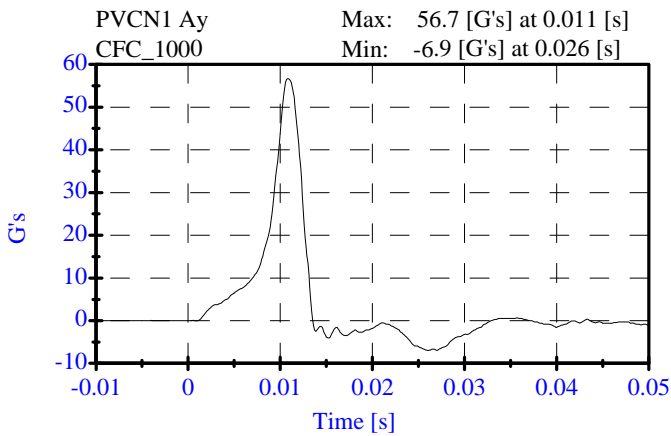
**Pelvic Impact
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 12-05-06

Sequential Test Number: 1 File: 269P 12-05-06
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	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	43.29 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.1 ms	Passed



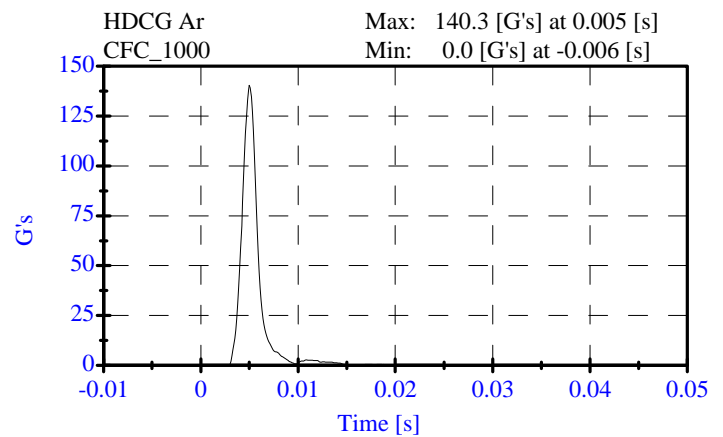
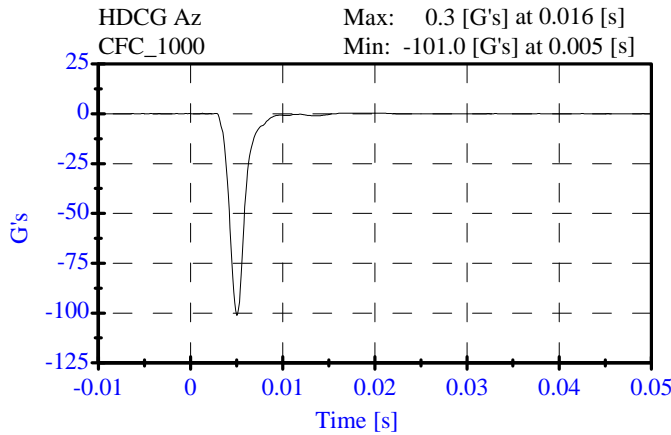
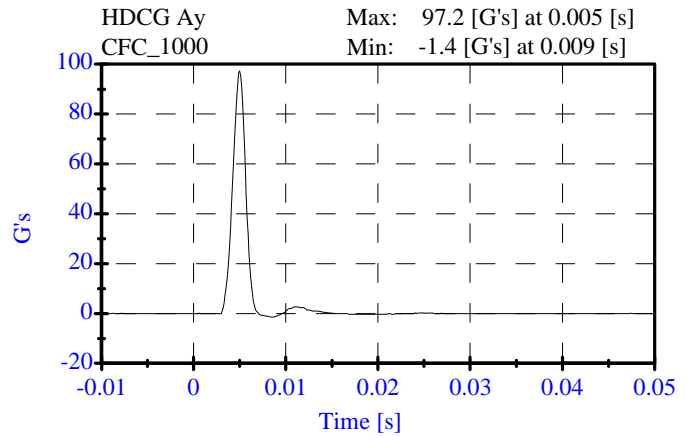
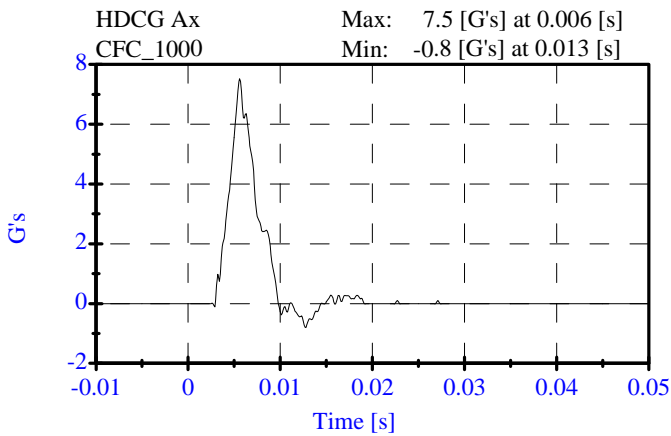
**Head Drop
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 11-29-06

Sequential Test Number: 1 File: 269HD 11-29-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	140.32 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	7.52 Gs	Passed
Curve PerCent NonModal:	< 15%	1.95 %	Passed



**Neck Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 11-30-06

Sequential Test Number: 1 File: 269N 11-30-06
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 %	35.00 %	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	2.10 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.33 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.27 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	68.40 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.20 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	81.39 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	55.30 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.90 ms	Passed

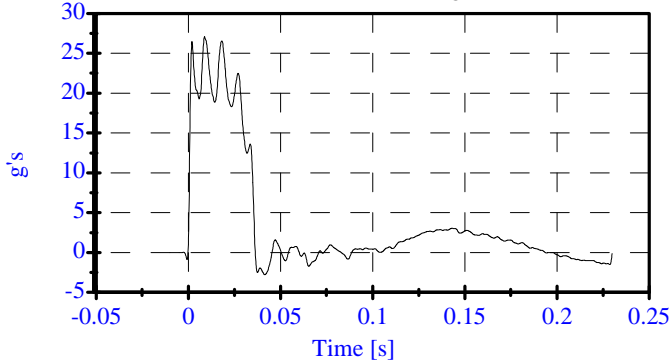
Neck Test
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

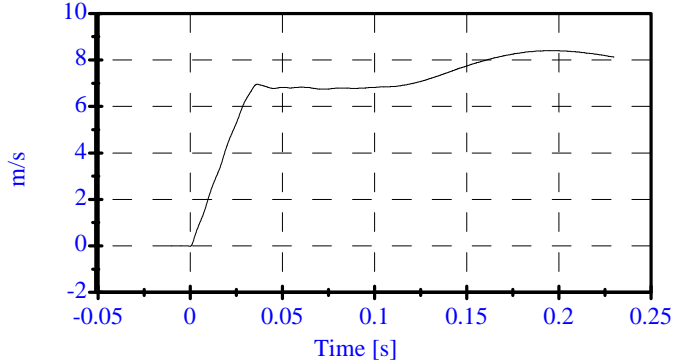
ATD Serial No: 269
Date: 11-30-06

Sequential Test Number: 1 File: 269N 11-30-06
Laboratory Technician: B. Swiecicki

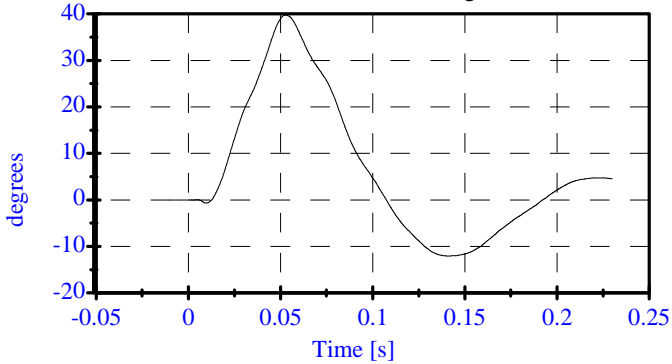
Pend Ax
CFC_180 Max: 27.1 [g/s] at 0.009 [s]
Min: -2.8 [g/s] at 0.042 [s]



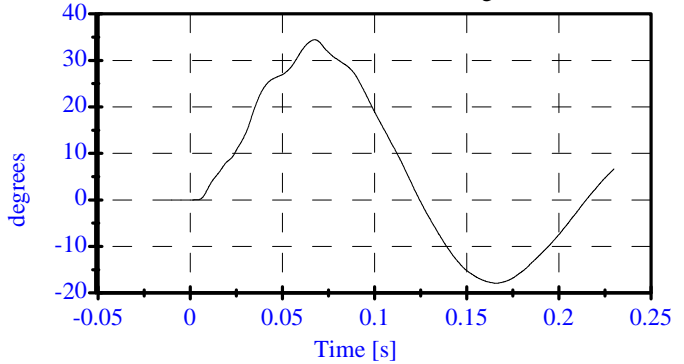
Pend Vx
CFC_180 Max: 8.4 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



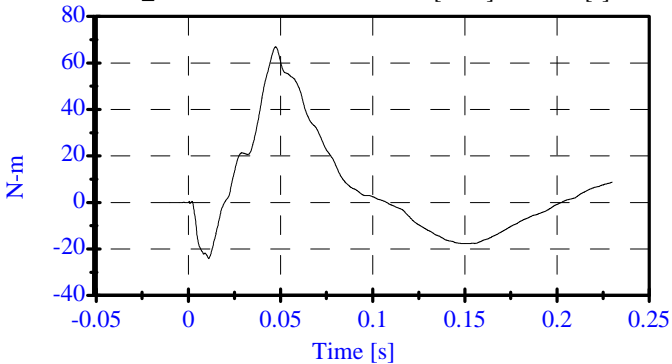
Head Rot
CFC_180 Max: 39.8 [degrees] at 0.053 [s]
Min: -12.0 [degrees] at 0.141 [s]



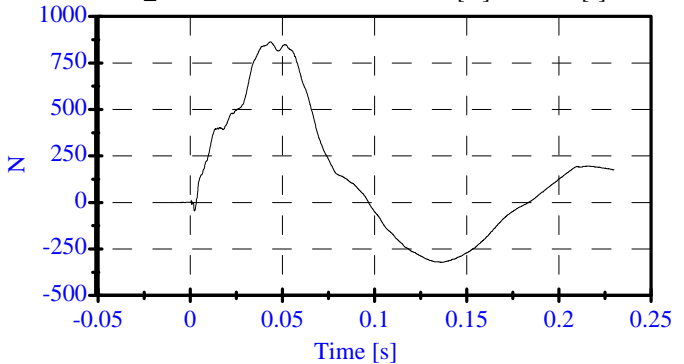
Arm Rot
CFC_180 Max: 34.5 [degrees] at 0.068 [s]
Min: -17.9 [degrees] at 0.166 [s]



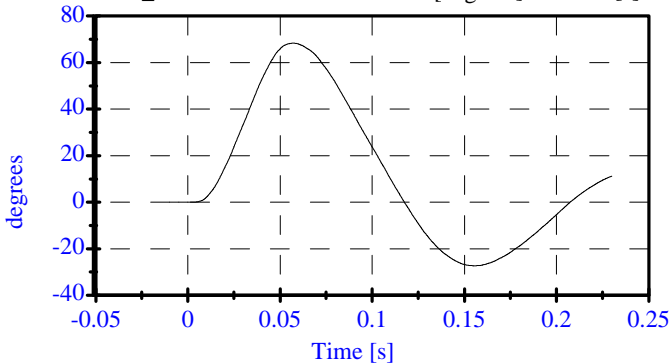
Neck Mx
CFC_600 Max: 66.9 [N-m] at 0.047 [s]
Min: -24.2 [N-m] at 0.011 [s]



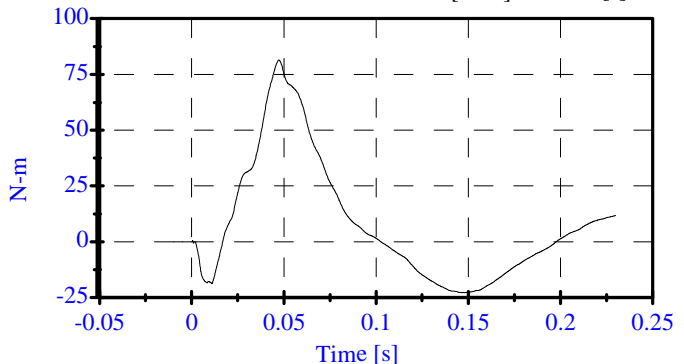
Neck Fy
CFC_1000 Max: 862.8 [N] at 0.043 [s]
Min: -323.0 [N] at 0.137 [s]



Tot Rot
CFC_180 Max: 68.4 [degrees] at 0.057 [s]
Min: -27.4 [degrees] at 0.155 [s]



MOCX
Max: 81.4 [N-m] at 0.047 [s]
Min: -22.7 [N-m] at 0.147 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

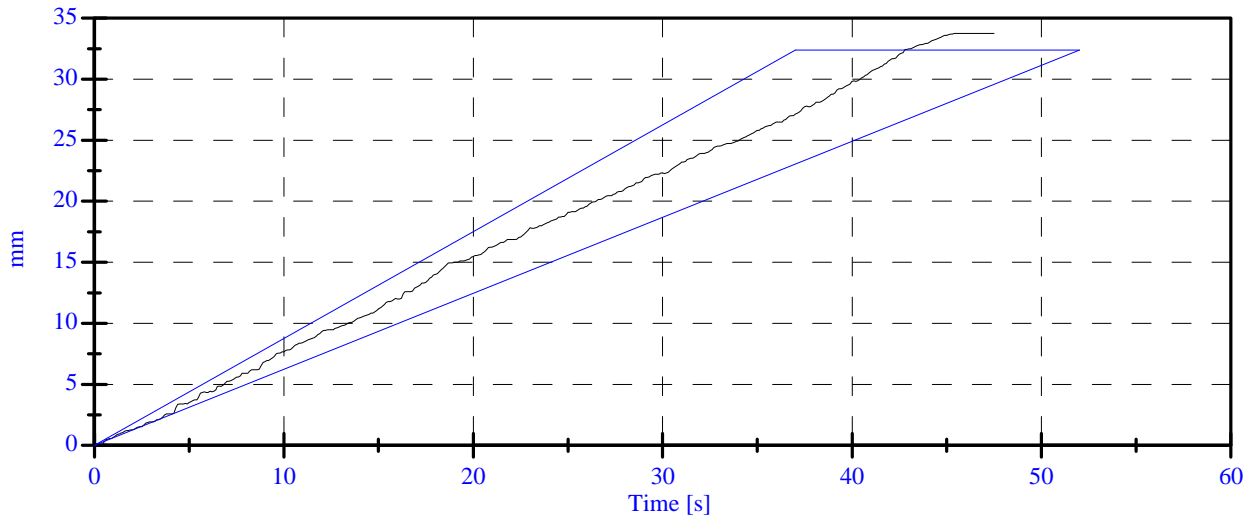
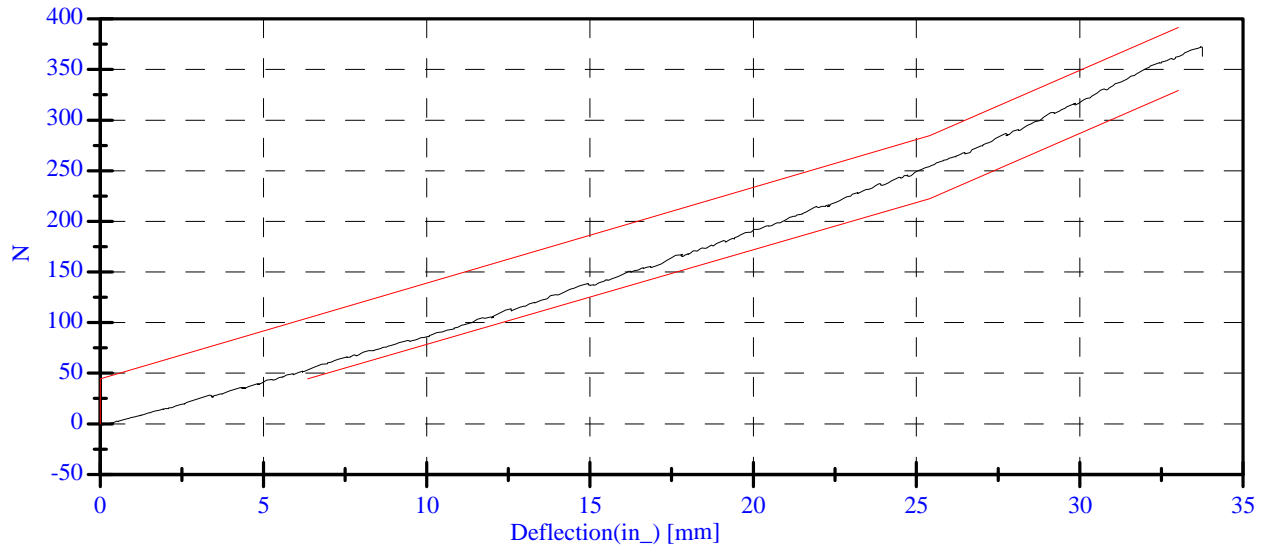
Date: 12-05-06

Sequential Test Number: 1 File: 269Ab 12-05-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	116.43 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	254.17 N	Passed
Force at 33.02 mm :	324.99-391.00 N	362.92 N	Passed

ABDOMINAL COMPRESSION TEST



**Spine Test
Pre-Test**

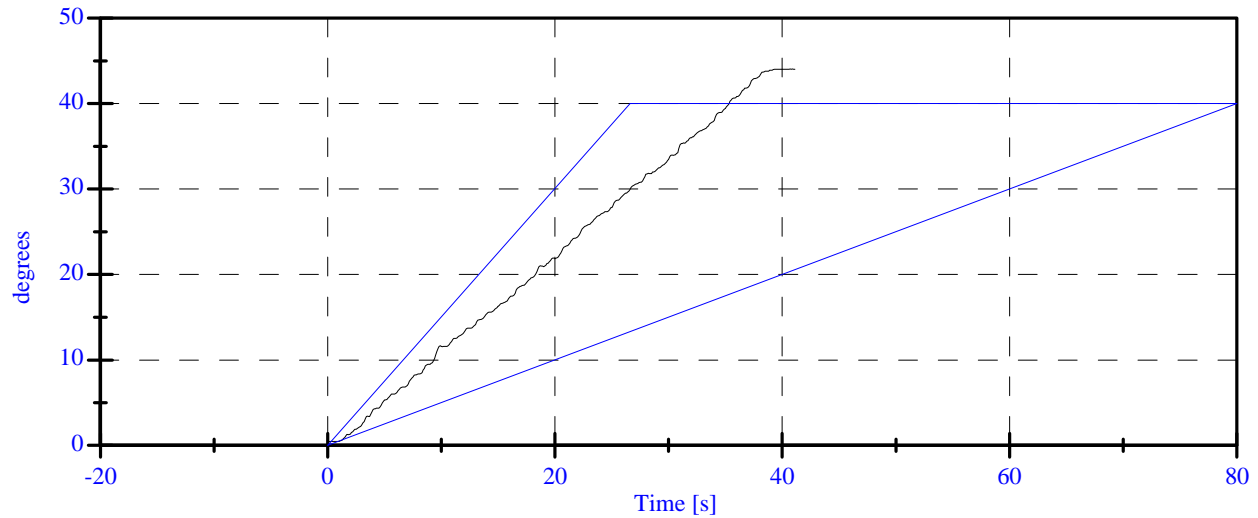
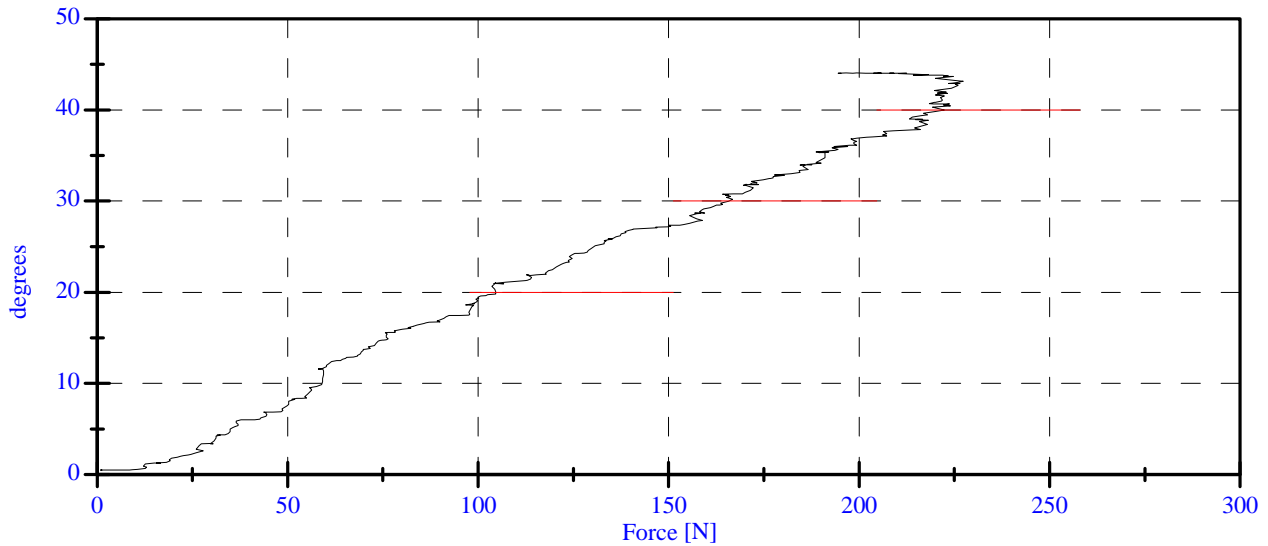
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 12-05-06

Sequential Test Number: 1 File: 269Sp 12-05-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.92 N	Passed
Force at 20 Deg:	97.86-151.24 N	104.60 N	Passed
Force at 30 Deg:	151.24-204.62 N	165.71 N	Passed
Force at 40 Deg:	204.62-258.00 N	222.38 N	Passed
Return Angle	12 Deg Max	1.69 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1.1
 Date: 12/05/06 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.: 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: 1.1
Date: 12/05/06 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.: 270 Sequential Test Number: 1.1
Date: 12/05/06 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	900
RH- Rib Height (mm)	502 - 520	509
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	233
KH- Knee Pivot from Back Line (mm)	511 - 526	519
KV- Knee Pivot to Floor (mm)	490 - 505	499
HW- Hip Width (mm)	356 - 391	377

REMARKS: None

Shock Impact Low (3.05 m/s)

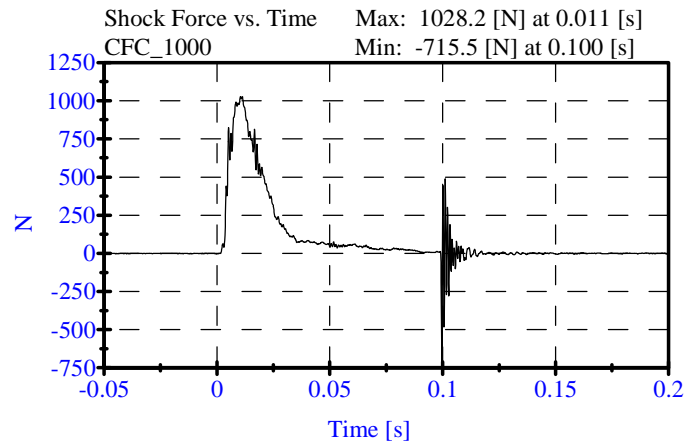
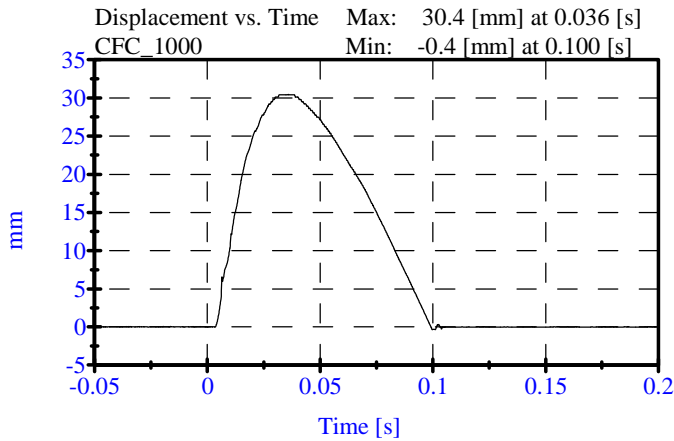
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 12-01-06

Sequential Test Number: 1 File: 270SL 12-01-06
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 %	36.00 %	Passed
Displacement:	30.00-35.00 mm	30.44 mm	Passed
Maximum Force:	836.00-1125.00 N	1028.17 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock Impact Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

Date: 12-01-06

Sequential Test Number: 1 File: 270SM 12-01-06

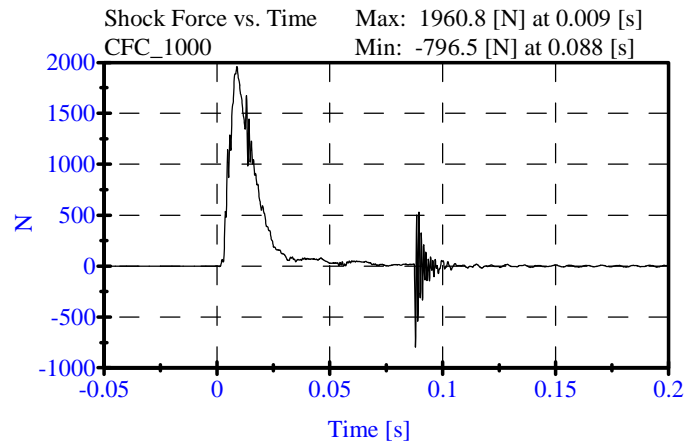
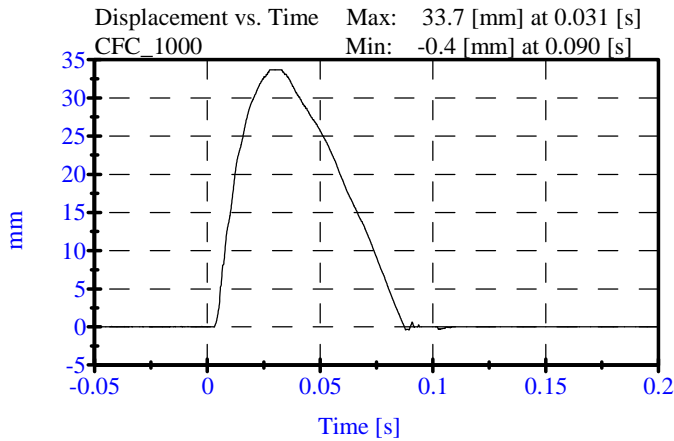
Laboratory Technician: B. Swiecicki

<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 %	36.00 %	Passed
Displacement:	32.00-37.00 mm	33.69 mm	Passed
Maximum Force:	1730.00-2099.00 N	1960.83 N	Passed

Impact Test Velocity: 4.27 m/s

Damper Identification: 270

Damper Setting: 5



Shock Impact High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

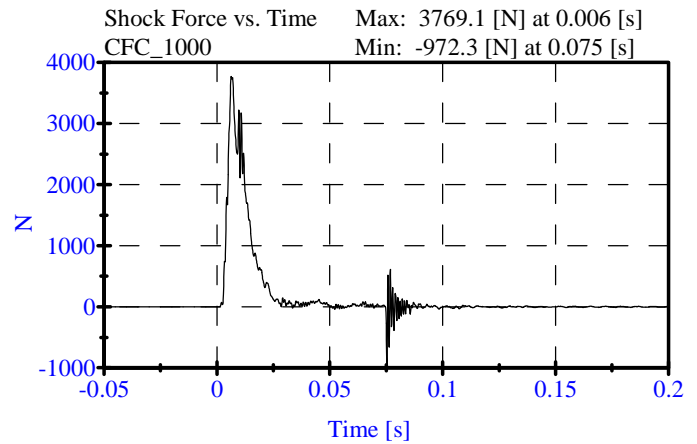
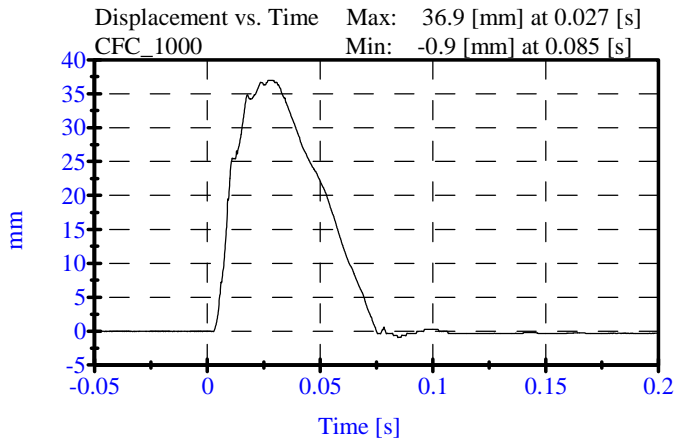
ATD Serial No: 270

Date: 12-01-06

Sequential Test Number: 1 File: 270SH 12-01-06

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 %	36.00 %	Passed
Displacement:	33.00-40.00 mm	36.94 mm	Passed
Maximum Force:	3741.00-4448.00 N	3769.15 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		

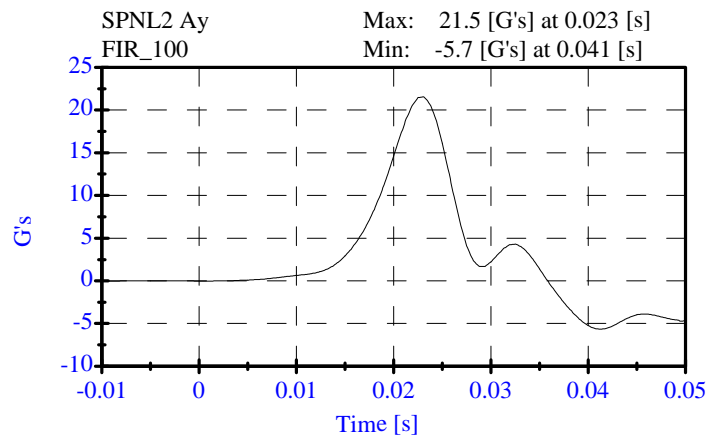
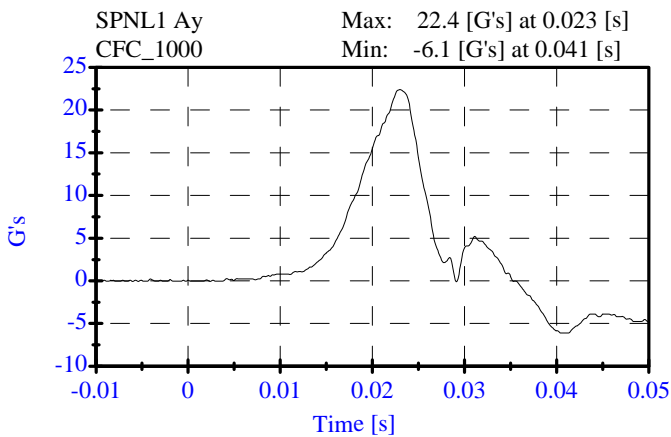
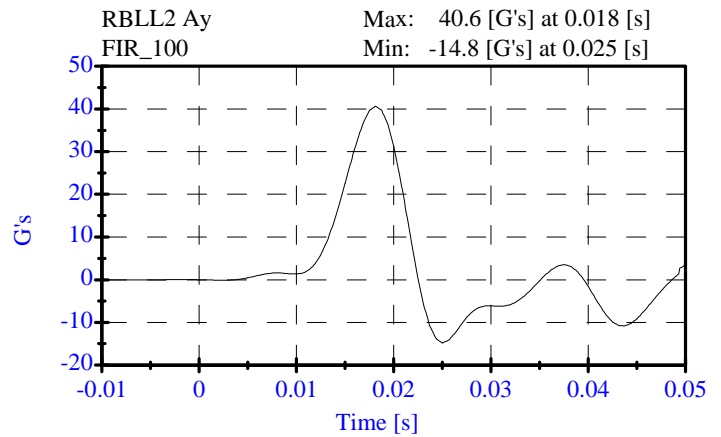
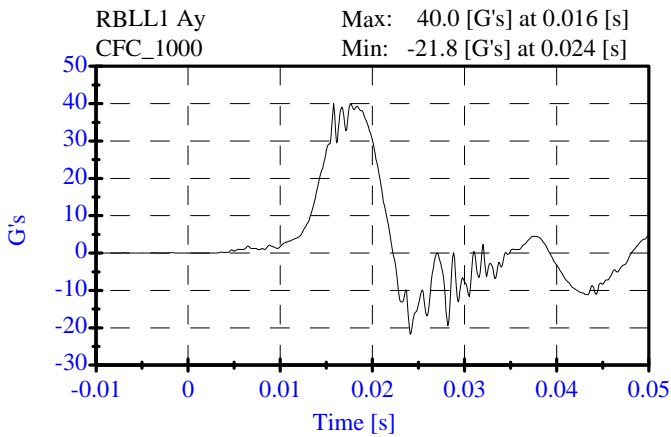
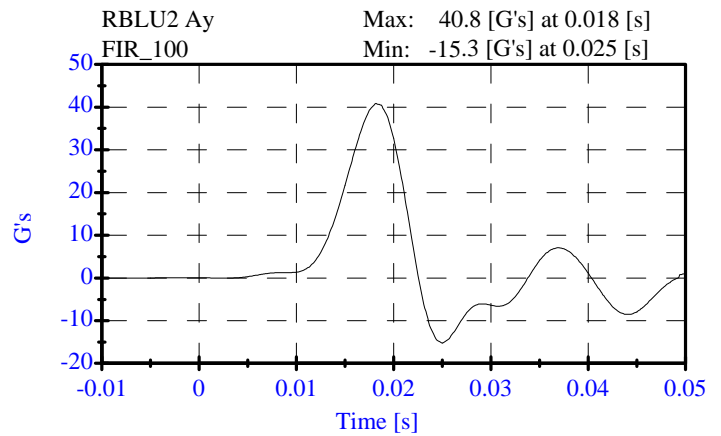
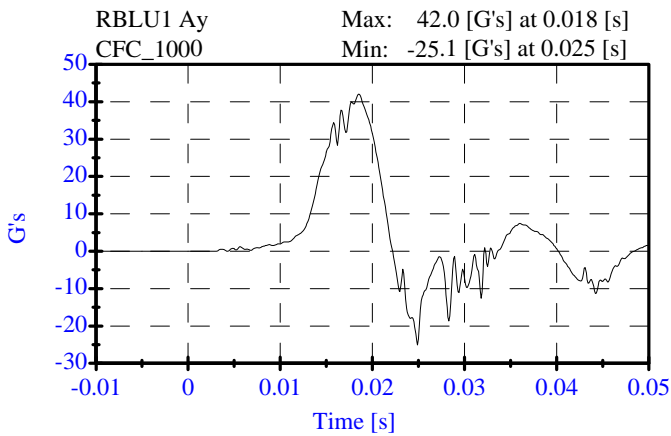


**Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 270
Date: 12-4-06

Sequential Test Number: 1 File: 270T1 12-04-06
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 %	22.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.81 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.65 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.55 G's	Passed



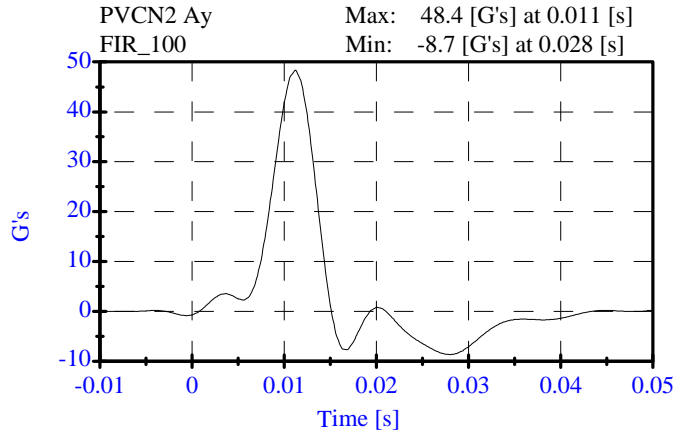
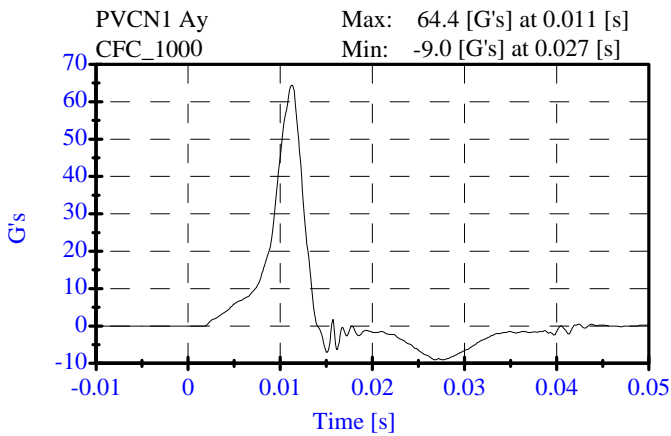
**Pelvic Impact
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 12-04-06

Sequential Test Number: 1 File: 270P 12-04-06
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 %	33.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	48.40 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



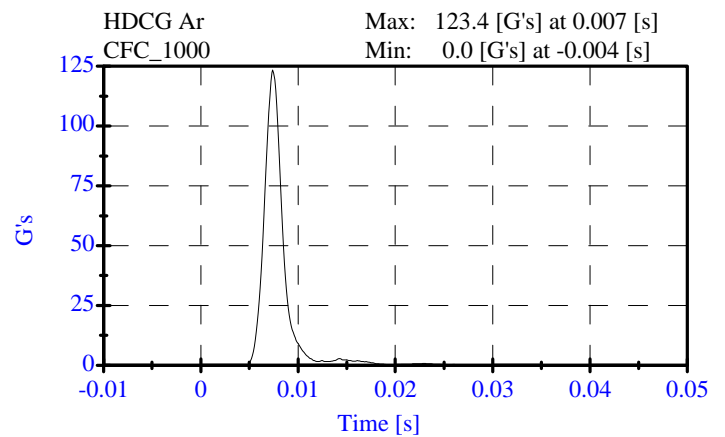
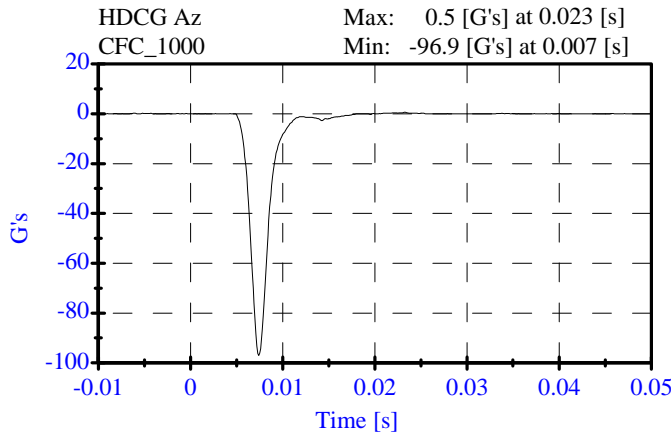
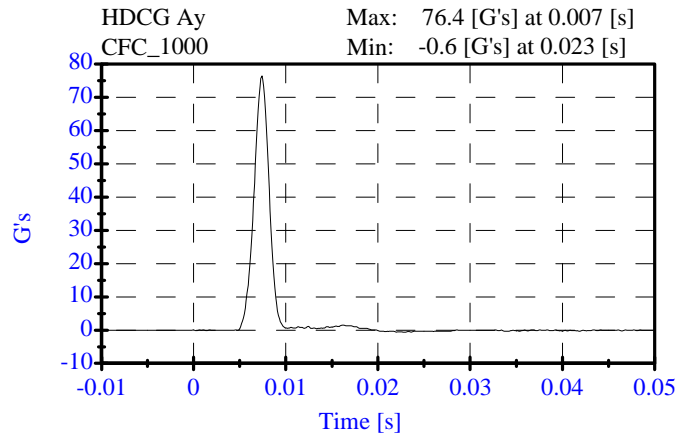
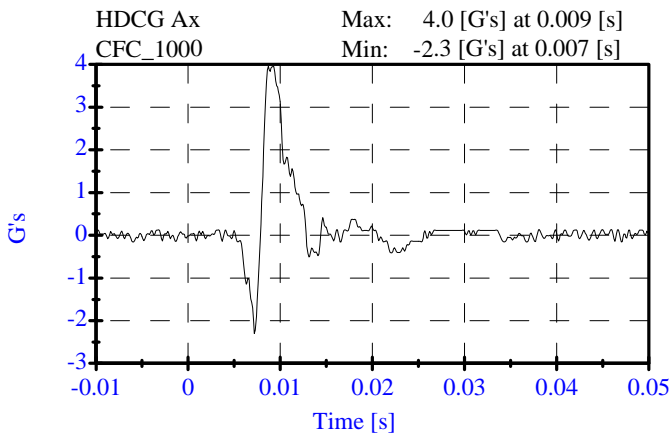
**Head Drop
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 11-29-06

Sequential Test Number: 1 File: 270HD1 11-29-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	123.43 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	3.95 Gs	Passed
Curve PerCent NonModal:	< 15%	2.33 %	Passed



**Neck Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 11-30-06

Sequential Test Number: 1 File: 270N 11-30-06
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 %	35.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.98 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.20 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.54 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.51 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	68.89 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.00 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.39 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.60 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	11.10 ms	Passed

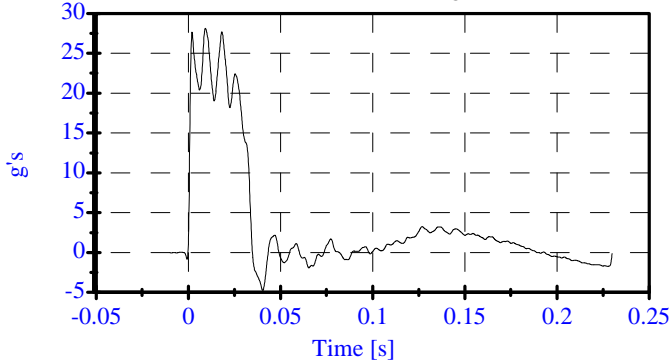
Neck Test
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

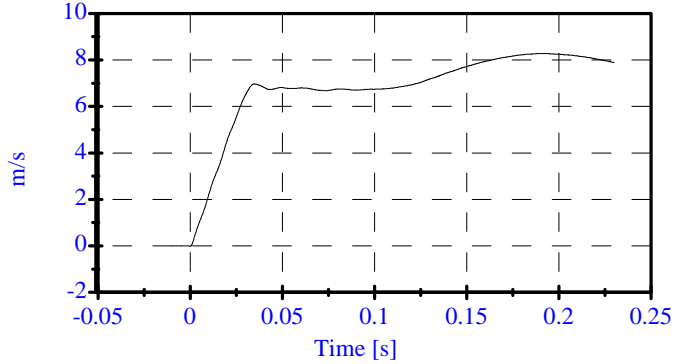
ATD Serial No: 270
Date: 11-30-06

Sequential Test Number: 1 File: 270N 11-30-06
Laboratory Technician: B. Swiecicki

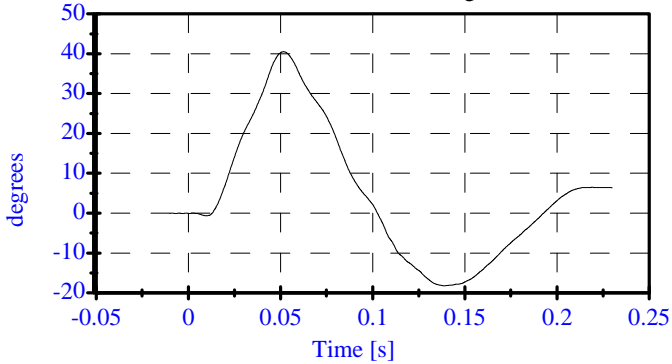
Pend Ax CFC_180 Max: 28.1 [g/s] at 0.009 [s]
Min: -4.7 [g/s] at 0.040 [s]



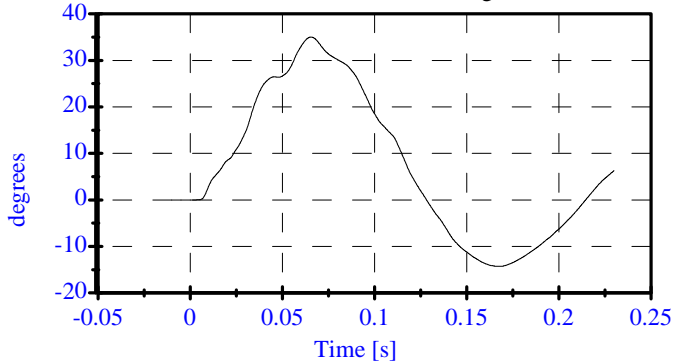
Pend Vx CFC_180 Max: 8.3 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



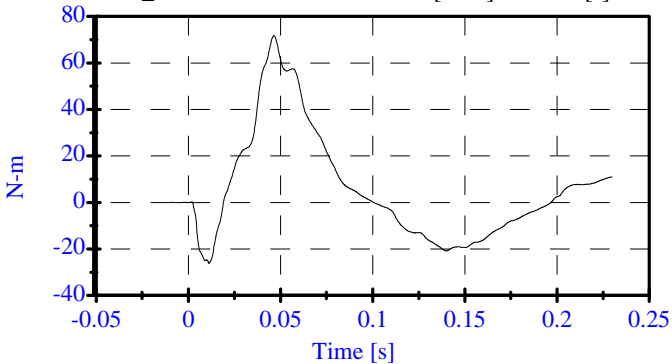
Head Rot CFC_180 Max: 40.6 [degrees] at 0.052 [s]
Min: -18.2 [degrees] at 0.139 [s]



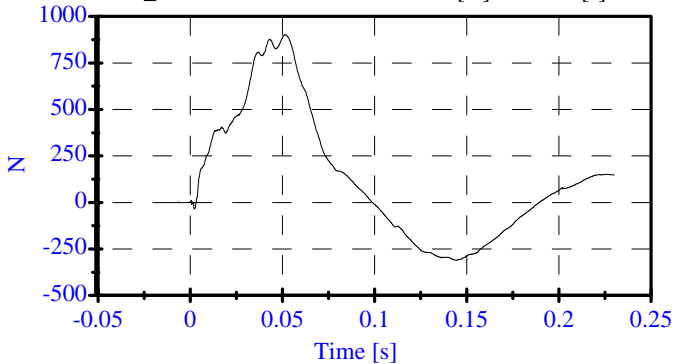
Arm Rot CFC_180 Max: 35.0 [degrees] at 0.066 [s]
Min: -14.3 [degrees] at 0.167 [s]



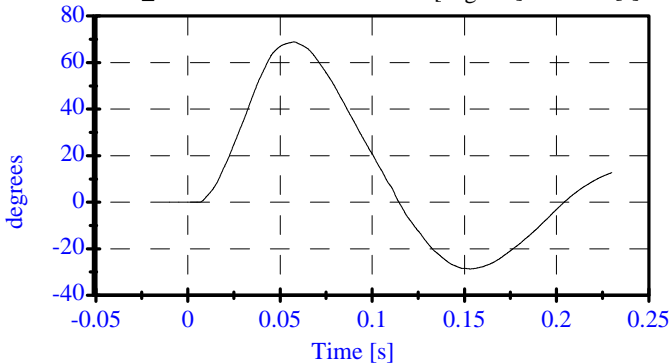
Neck Mx CFC_600 Max: 71.7 [N-m] at 0.046 [s]
Min: -26.2 [N-m] at 0.011 [s]



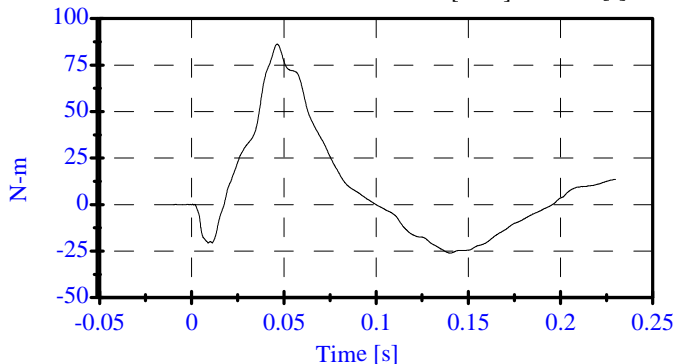
Neck Fy CFC_1000 Max: 901.7 [N] at 0.052 [s]
Min: -311.3 [N] at 0.144 [s]



Tot Rot CFC_180 Max: 68.9 [degrees] at 0.057 [s]
Min: -28.7 [degrees] at 0.153 [s]



MOCX Max: 86.4 [N-m] at 0.046 [s]
Min: -26.1 [N-m] at 0.140 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

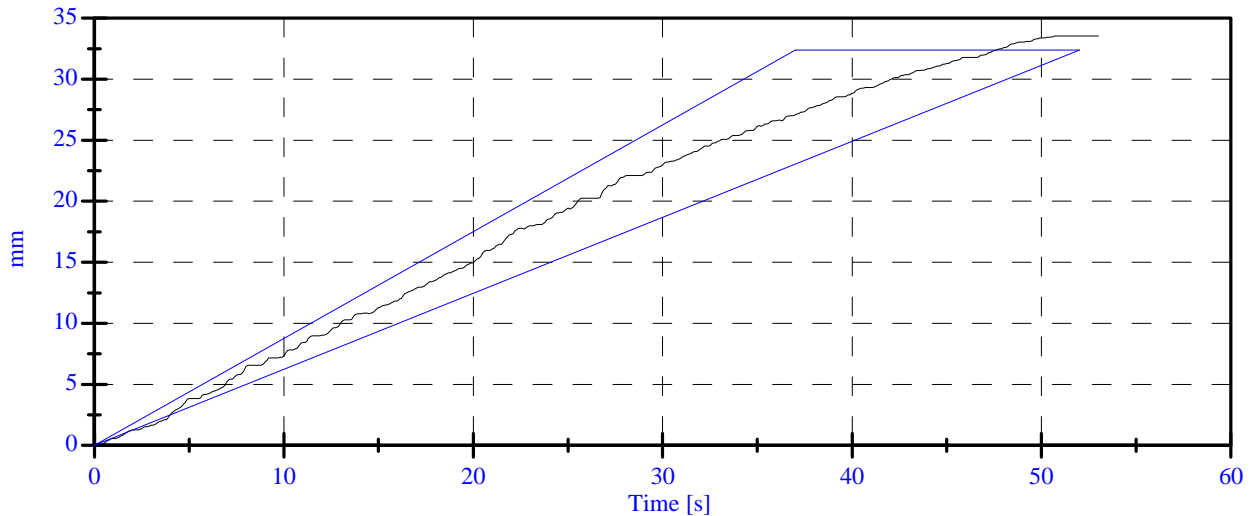
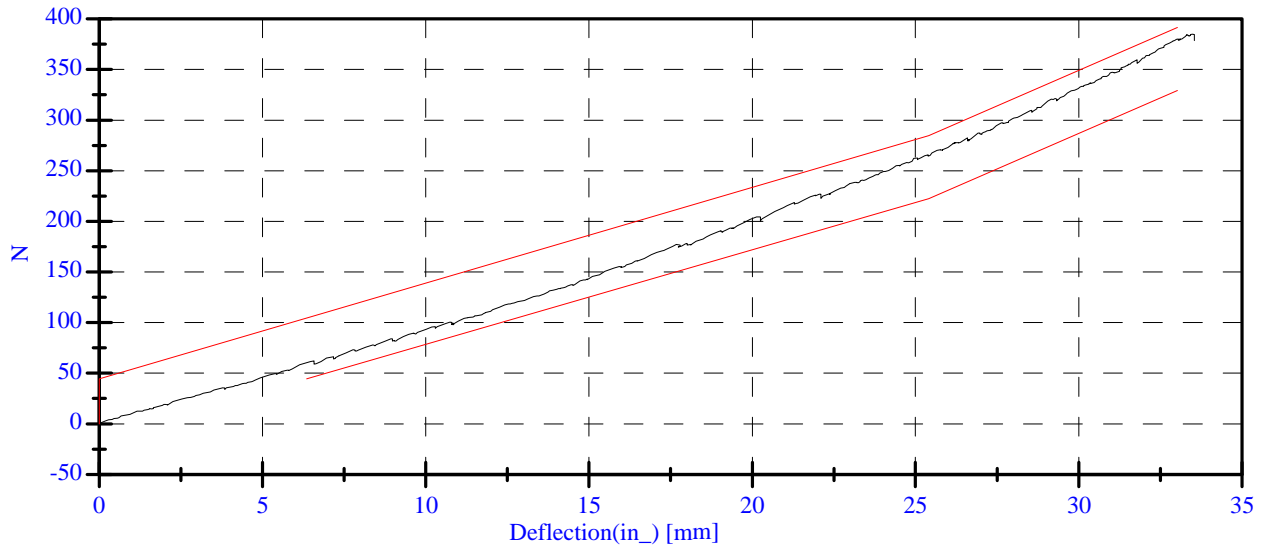
Date: 12-05-06

Sequential Test Number: 1 File: 270Ab 12-05-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	121.50 N	Passed
Force at 19.05 mm :	162.98-220.99 N	190.74 N	Passed
Force at 25.40 mm :	221.97-280.02 N	265.77 N	Passed
Force at 33.02 mm :	324.99-391.00 N	379.95 N	Passed

ABDOMINAL COMPRESSION TEST



Spine Test

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

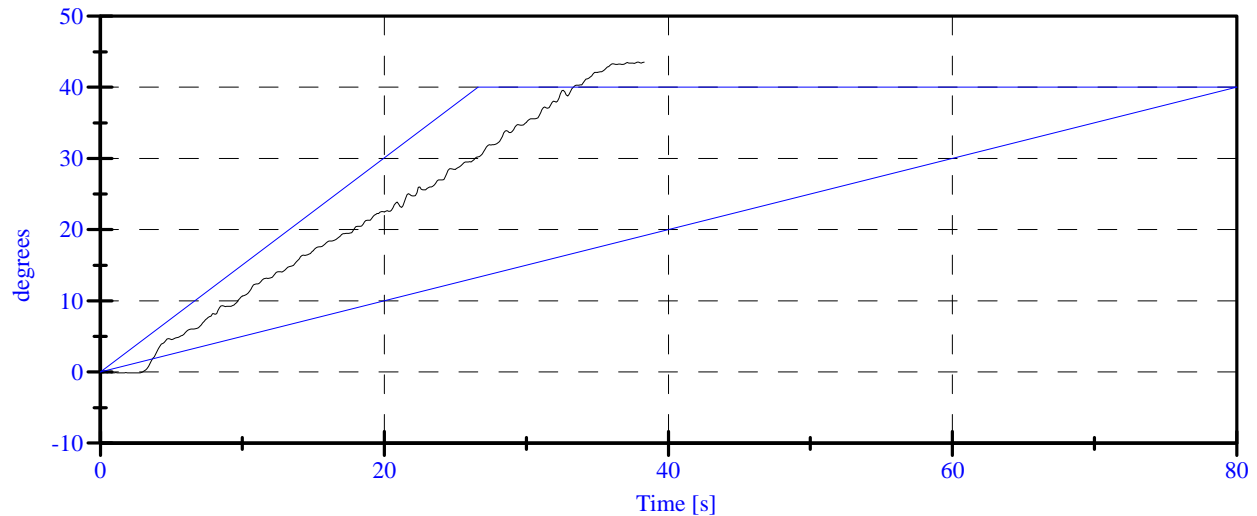
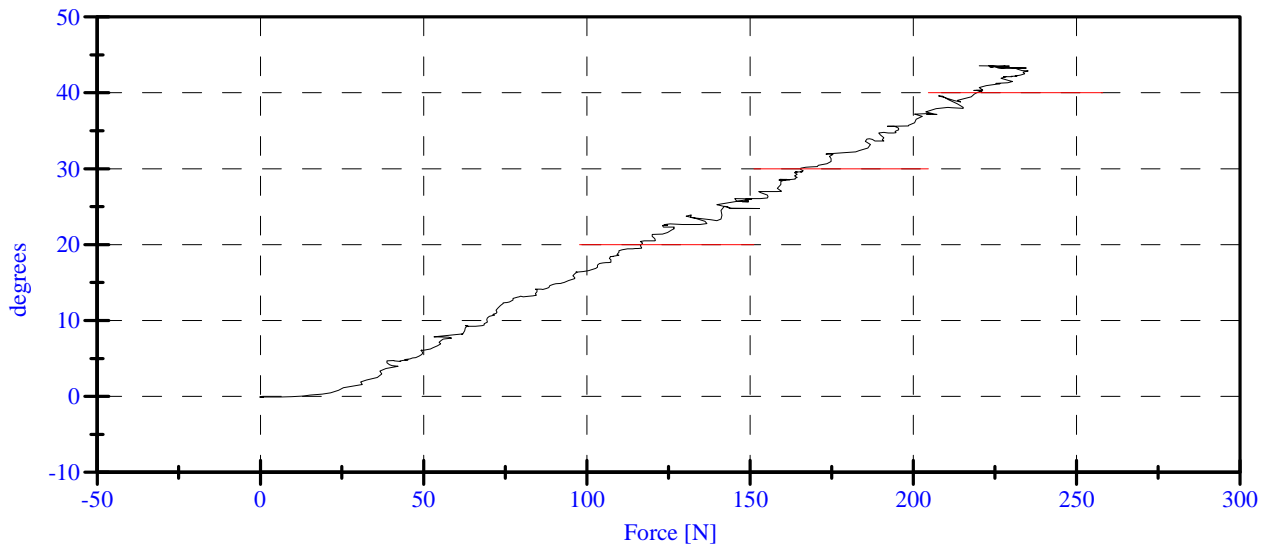
Date: 12-05-06

Sequential Test Number: 1 File: 270Sp 12-05-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	13.19 N	Passed
Force at 20 Deg:	97.86-151.24 N	116.35 N	Passed
Force at 30 Deg:	151.24-204.62 N	165.45 N	Passed
Force at 40 Deg:	204.62-258.00 N	219.77 N	Passed
Return Angle	12 Deg Max	4.75 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1.1
 Date: 12/05/06 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.: 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: 1.2
Date: 12/20/2006 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: 1.2
Date: 12/20/2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	384

REMARKS: None

Thorax Impact

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

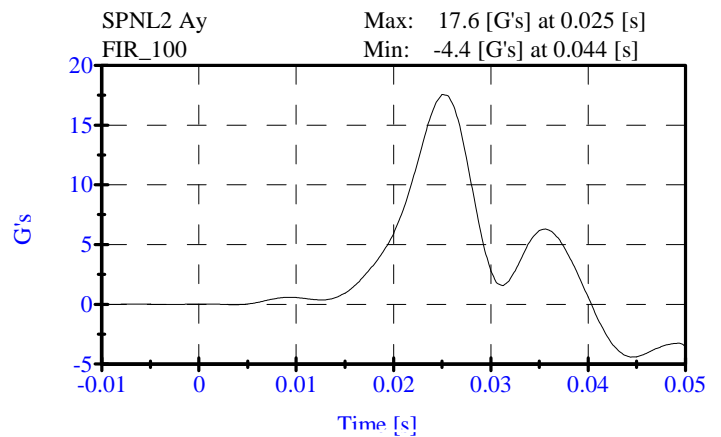
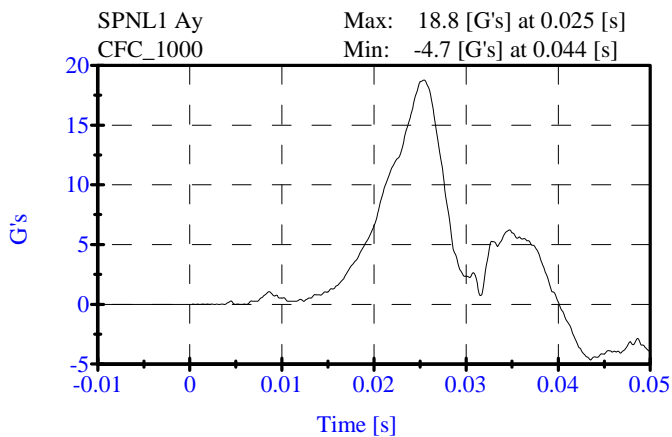
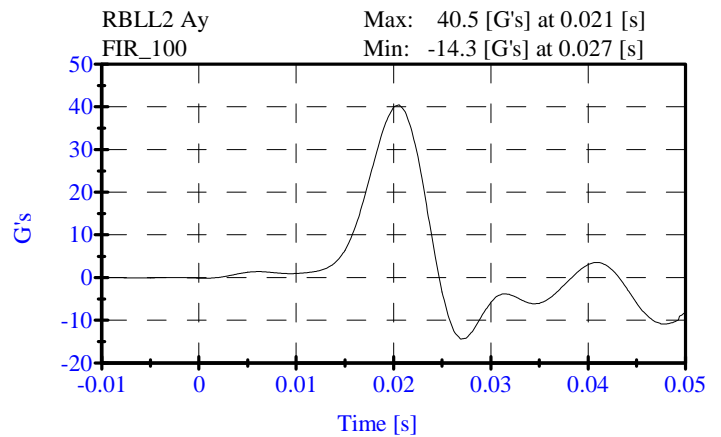
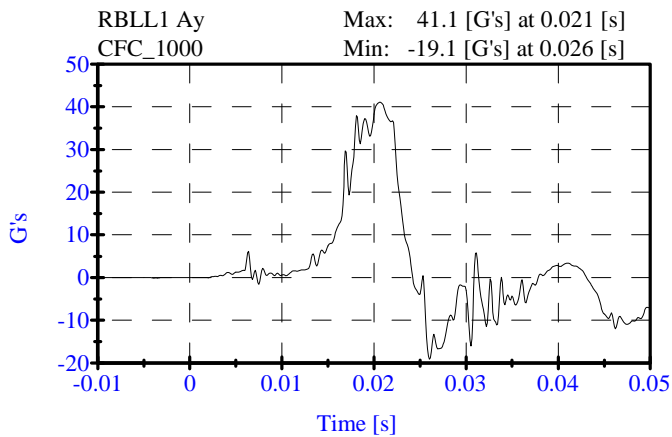
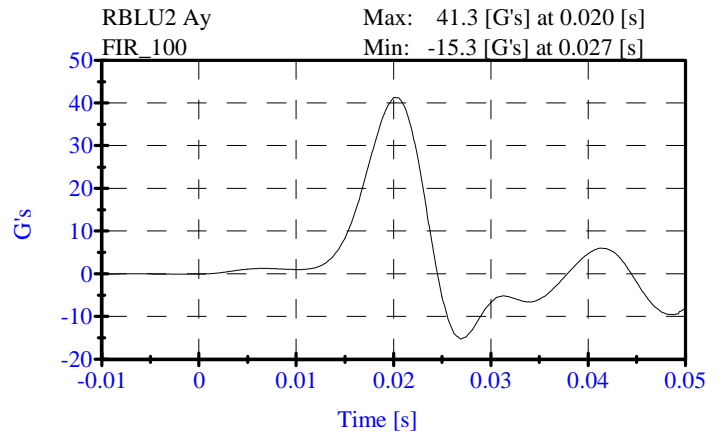
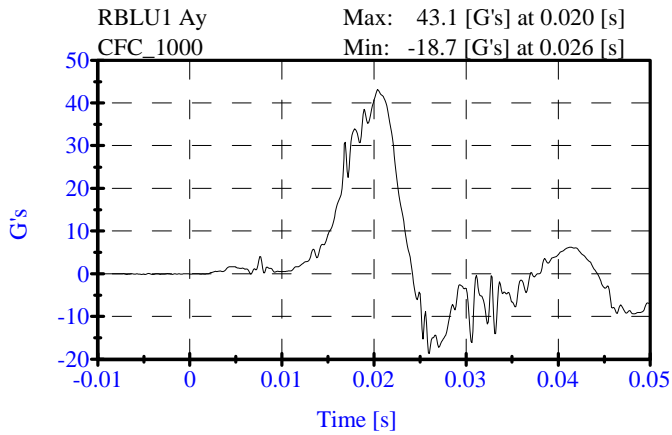
ATD Serial No: 269

Date: 12-20-06

Sequential Test Number: 1 File: 269T 12-20-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	41.31 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.48 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	17.56 G's	Passed



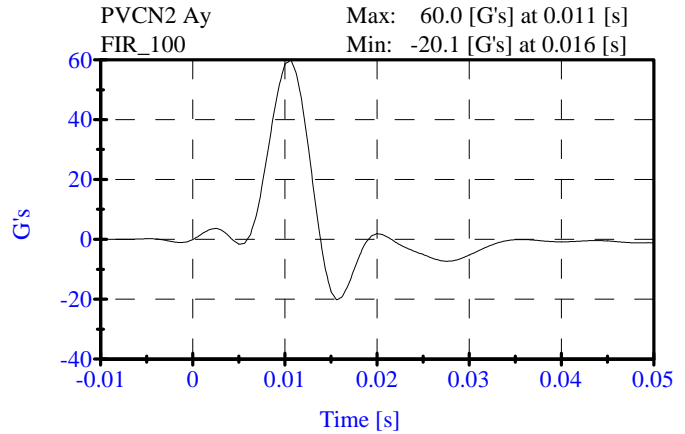
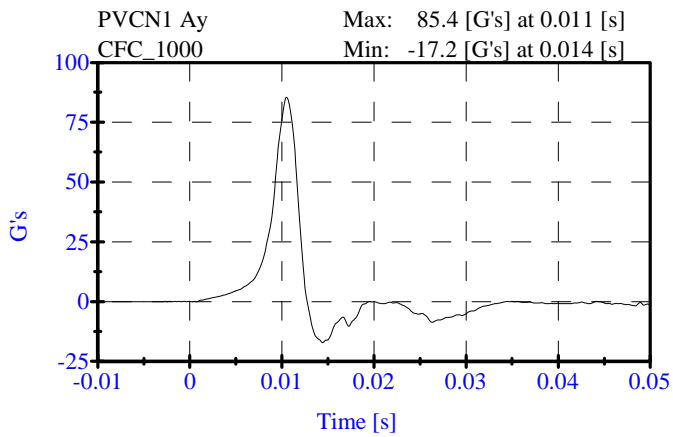
**Pelvic Impact
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 12-20-06

Sequential Test Number: 1 File: 269P 12-20-06
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	59.95 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.3 ms	Passed



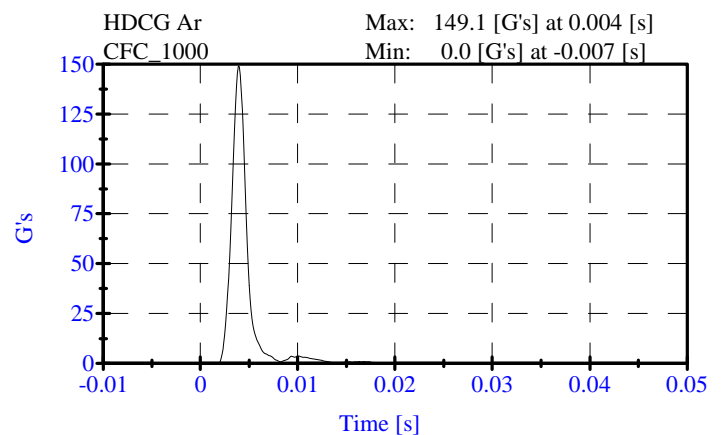
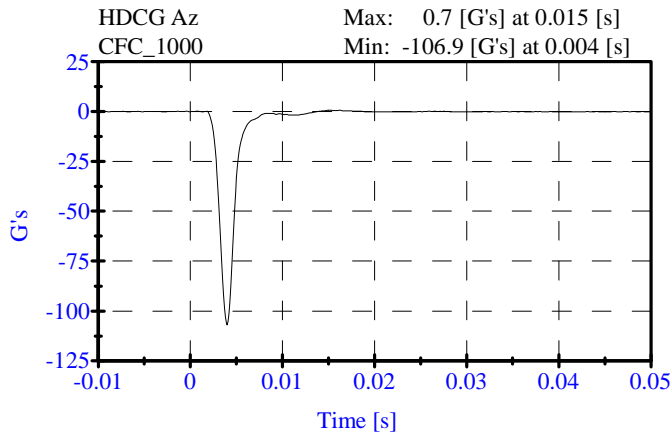
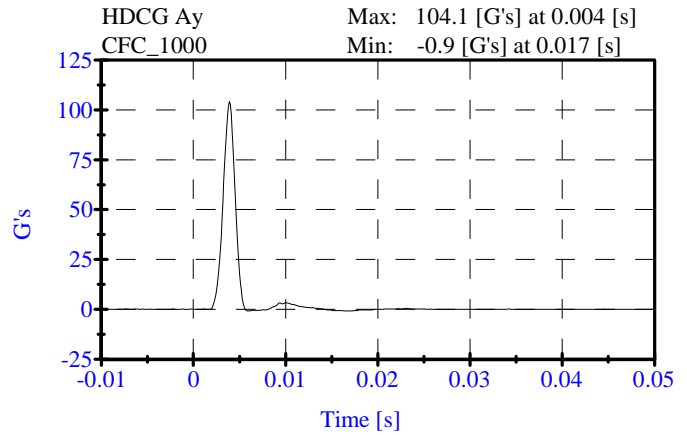
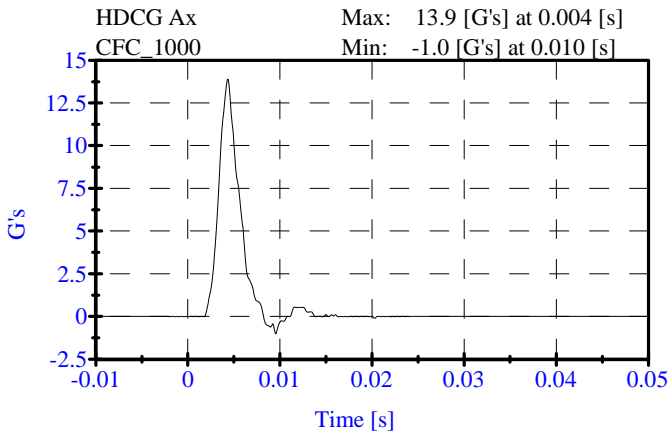
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 12-18-06

Sequential Test Number: 1 File: 269HD 12-18-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	149.14 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	13.90 Gs	Passed
Curve PerCent NonModal:	< 15%	2.45 %	Passed



Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 12-19-06

Sequential Test Number: 1 File: 269N 12-19-06
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 %	36.00 %	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	2.03 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.21 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.15 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.04 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	67.09 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	81.99 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.70 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.40 ms	Passed

**Neck Test
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

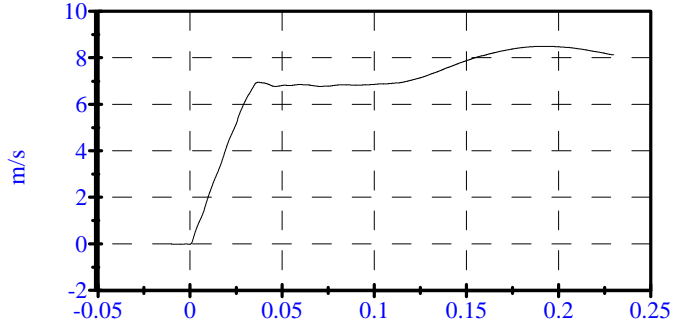
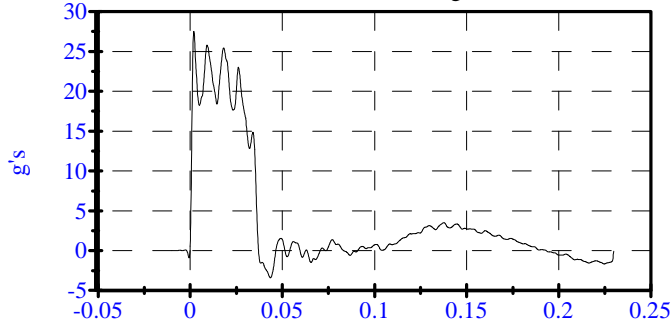
Date: 12-19-06

Sequential Test Number: 1 File: 269N 12-19-06

Laboratory Technician: B. Swiecicki

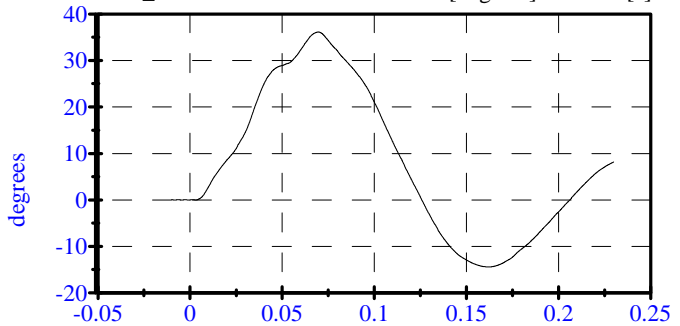
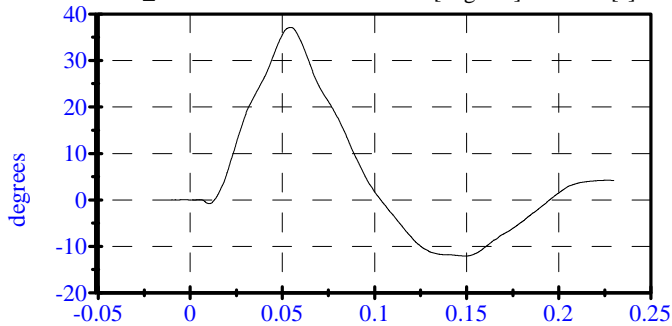
Pend Ax Max: 27.5 [g's] at 0.002 [s]
CFC_180 Min: -3.4 [g's] at 0.043 [s]

Pend Vx Max: 8.5 [m/s] at 0.193 [s]
CFC_180 Min: -0.0 [m/s] at -0.000 [s]



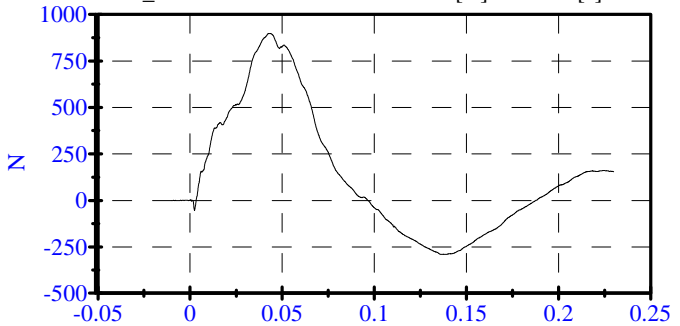
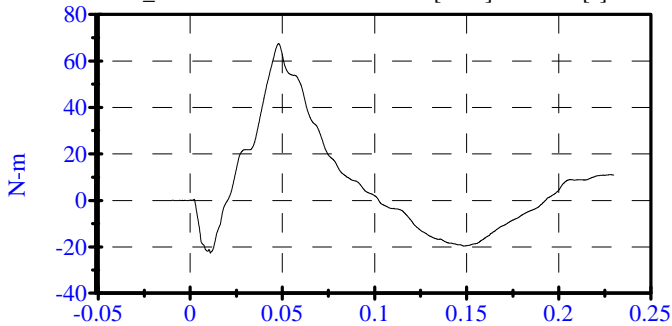
Head Rot Max: 37.1 [degrees] at 0.055 [s]
CFC_180 Min: -12.1 [degrees] at 0.150 [s]

Arm Rot Max: 36.1 [degrees] at 0.070 [s]
CFC_180 Min: -14.4 [degrees] at 0.162 [s]



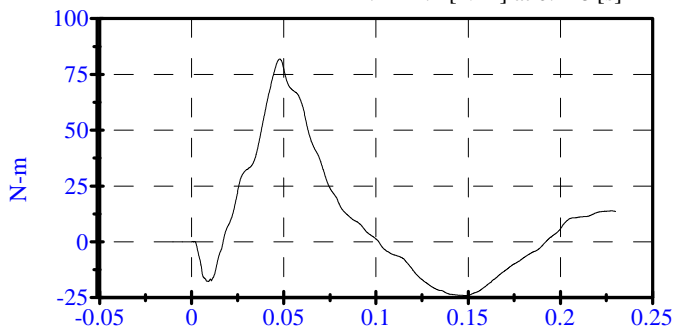
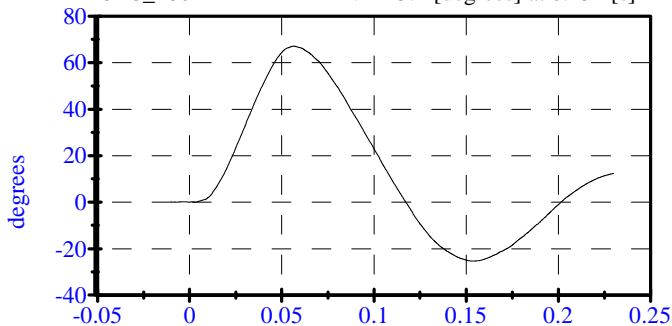
Neck Mx Max: 67.4 [N-m] at 0.048 [s]
CFC_600 Min: -22.7 [N-m] at 0.011 [s]

Neck Fy Max: 896.9 [N] at 0.044 [s]
CFC_1000 Min: -290.6 [N] at 0.137 [s]



Tot Rot Max: 67.1 [degrees] at 0.056 [s]
CFC_180 Min: -25.4 [degrees] at 0.154 [s]

Mocx Max: 82.0 [N-m] at 0.048 [s]
Min: -24.2 [N-m] at 0.148 [s]



Abdomen Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

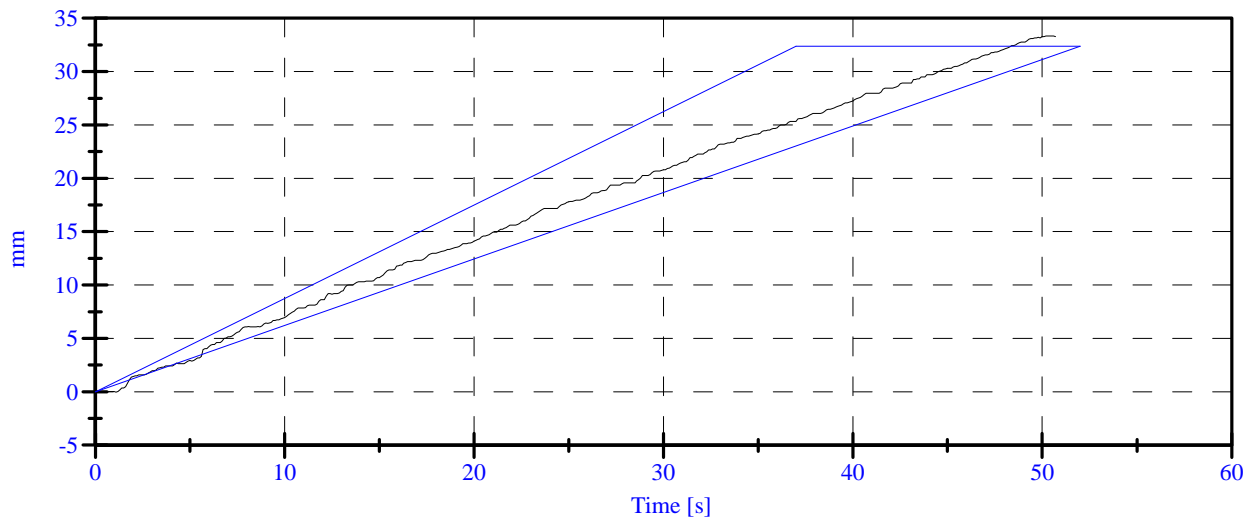
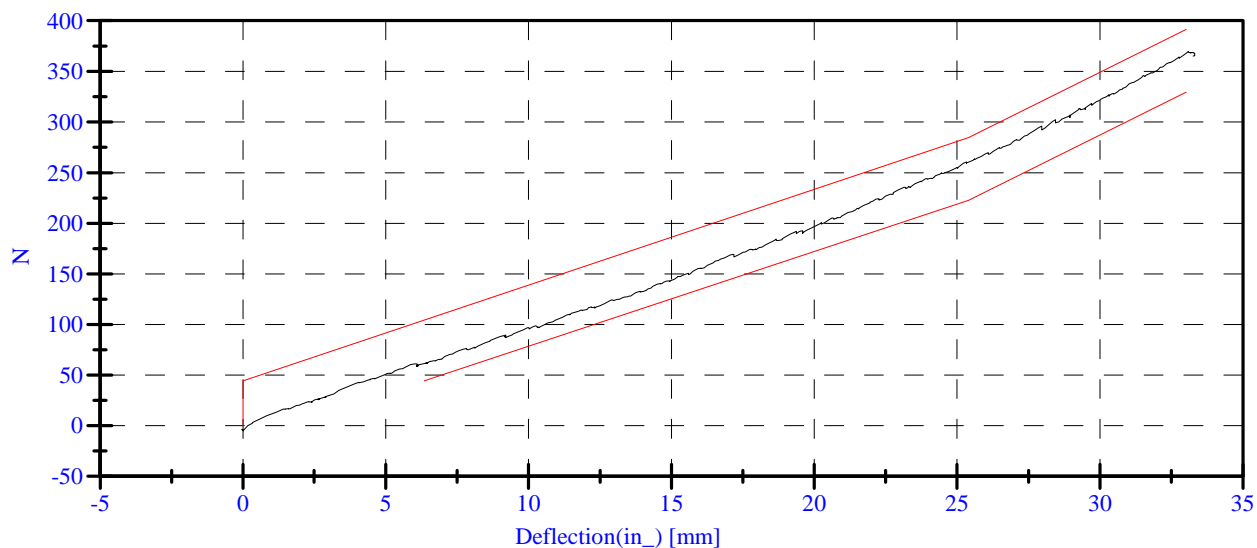
Date: 12-20-06

Sequential Test Number: 1 File: 269ab 12-20-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	124.04 N	Passed
Force at 19.05 mm :	162.98-220.99 N	188.93 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	368.35 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

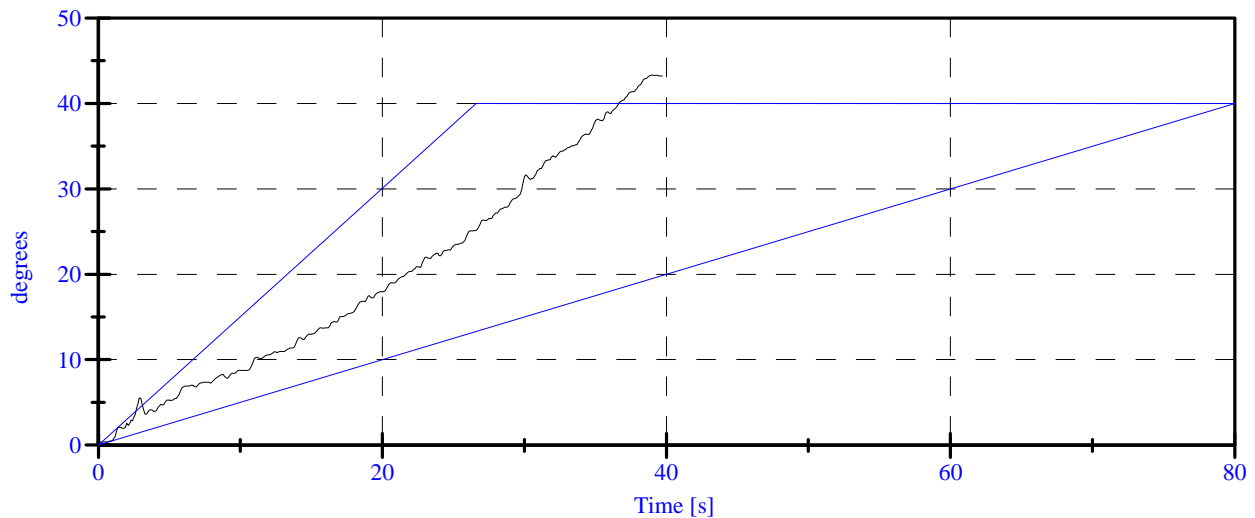
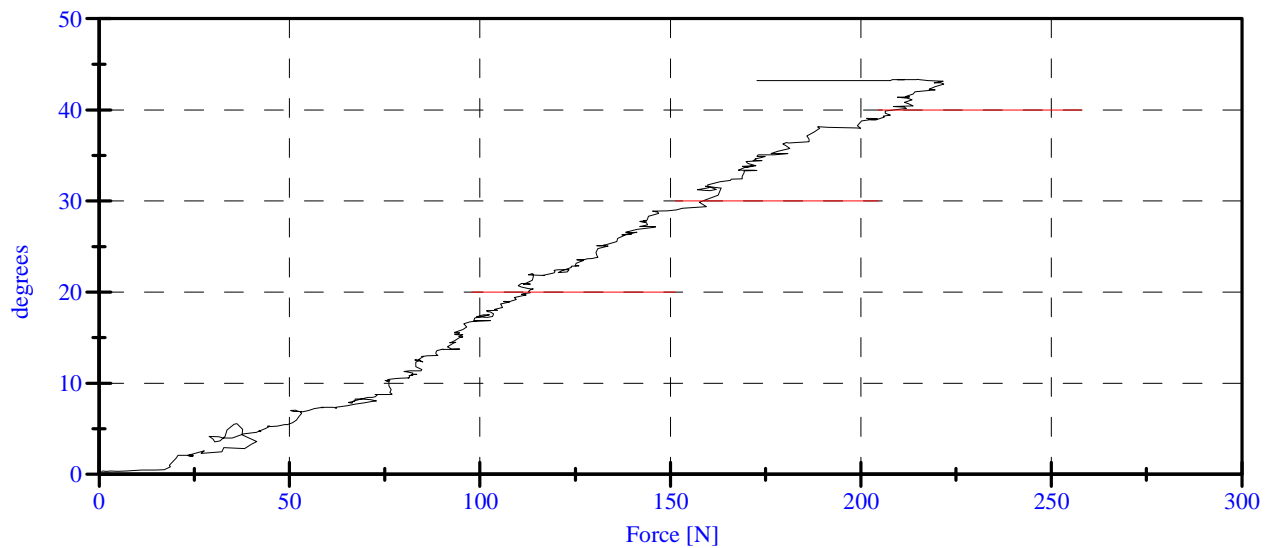
Date: 12-20-06

Sequential Test Number: 1 File: 269sp 12-20-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	0.66 N	Passed
Force at 20 Deg:	97.86-151.24 N	113.21 N	Passed
Force at 30 Deg:	151.24-204.62 N	157.61 N	Passed
Force at 40 Deg:	204.62-258.00 N	206.45 N	Passed
Return Angle	12 Deg Max	4.44 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1.2
 Date: 12/20/2006 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.: 270 Sequential Test Number: 1.2
Date: 12/20/2006 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.: 270 Sequential Test Number: 1.2
Date: 12/20/2006 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	386

REMARKS: None

Thorax Impact

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

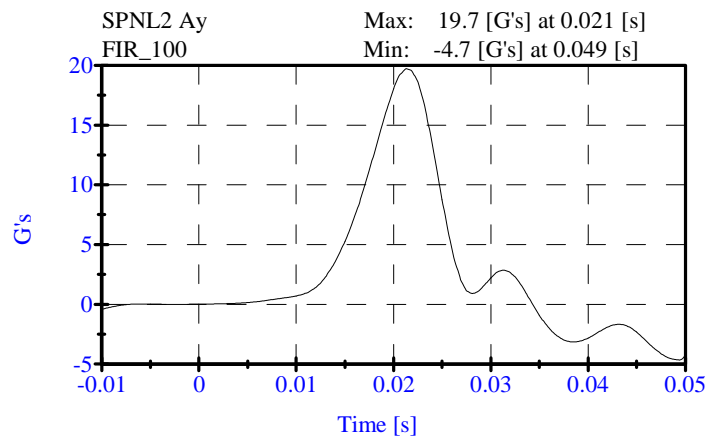
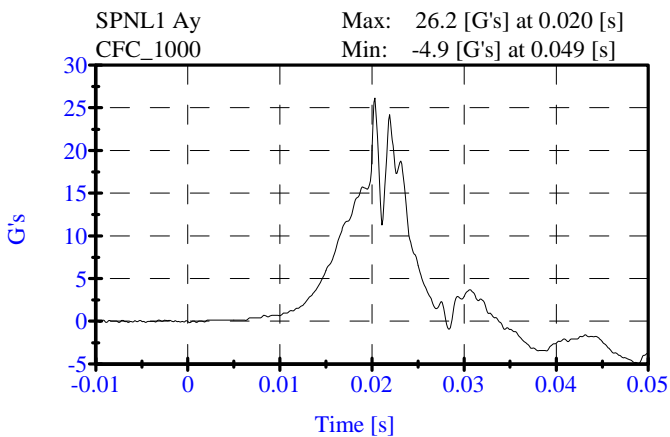
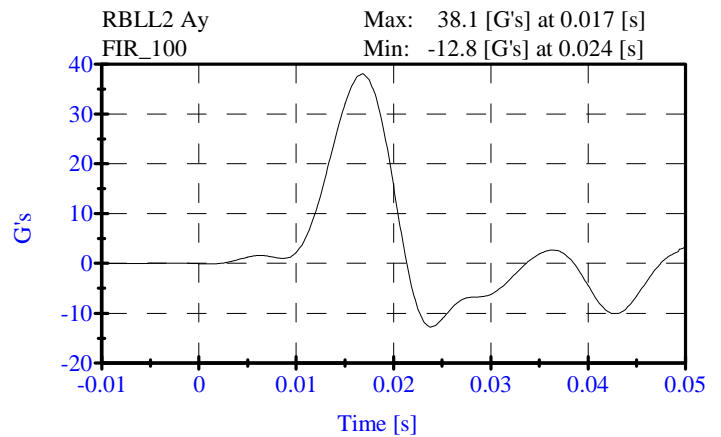
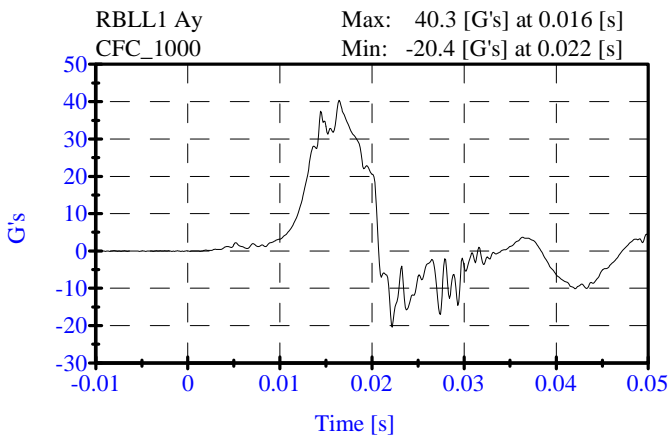
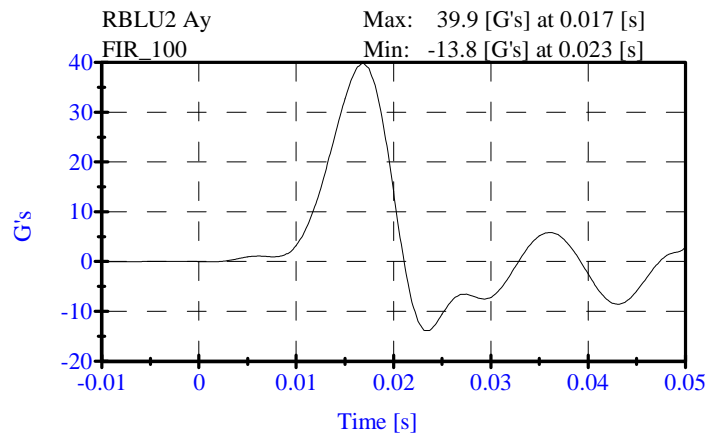
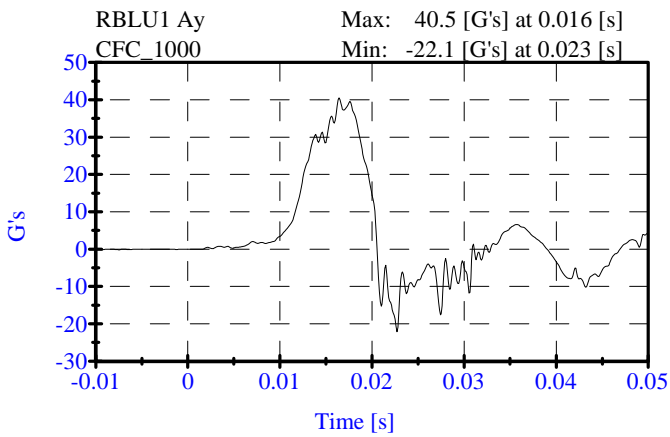
ATD Serial No: 270

Date: 12-20-06

Sequential Test Number: 1 File: 270T 12-20-06

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	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	39.85 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.06 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.71 G's	Passed



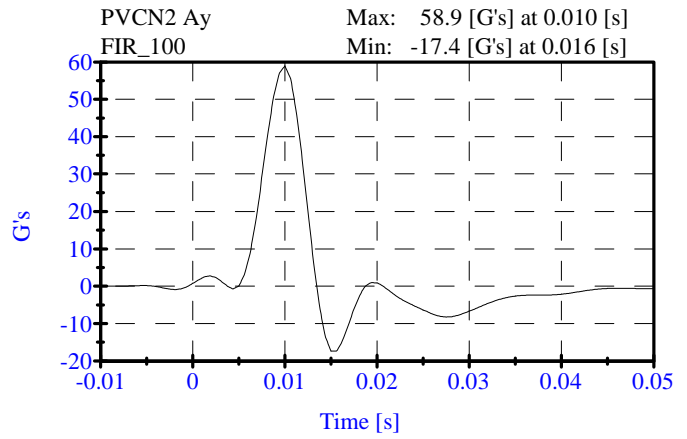
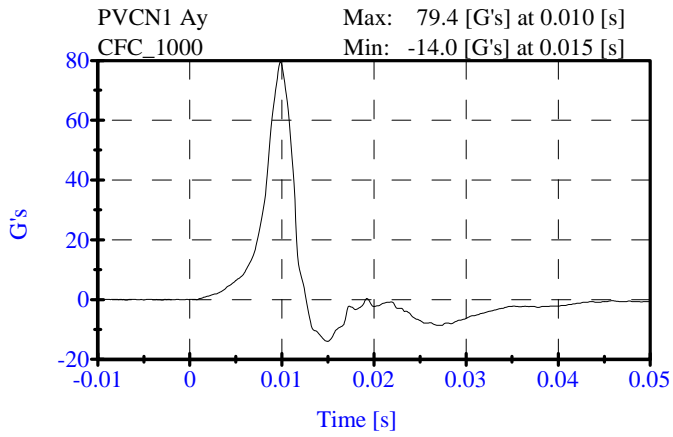
**Pelvic Impact
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 12-20-06

Sequential Test Number: 1 File: 270P 12-20-06
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	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	58.86 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



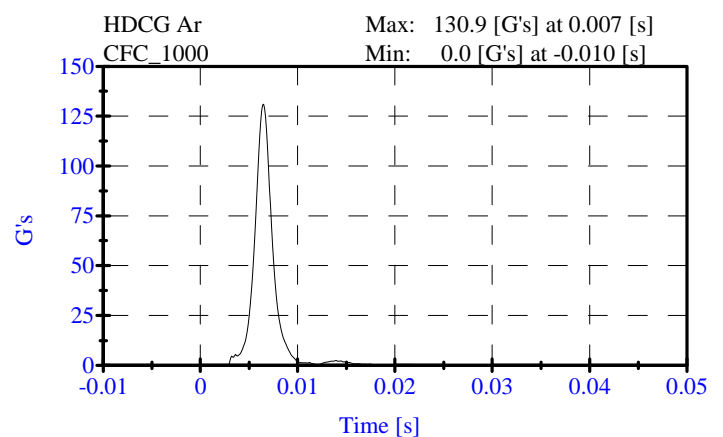
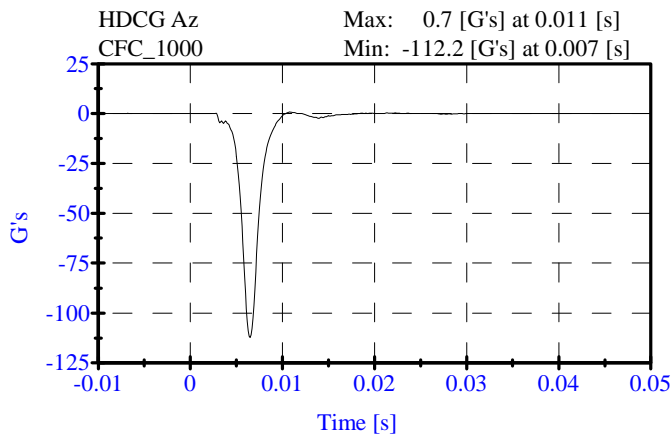
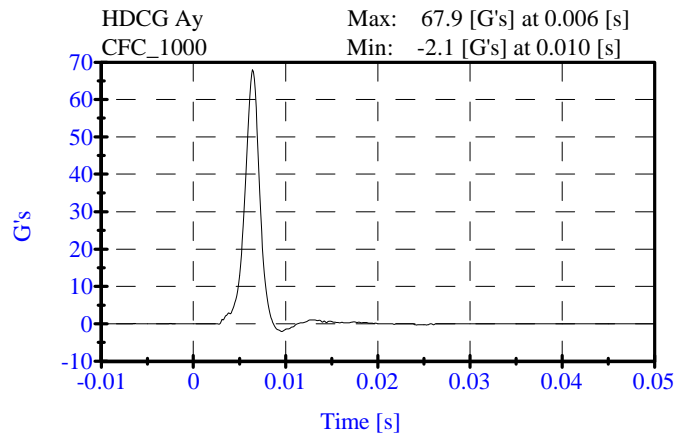
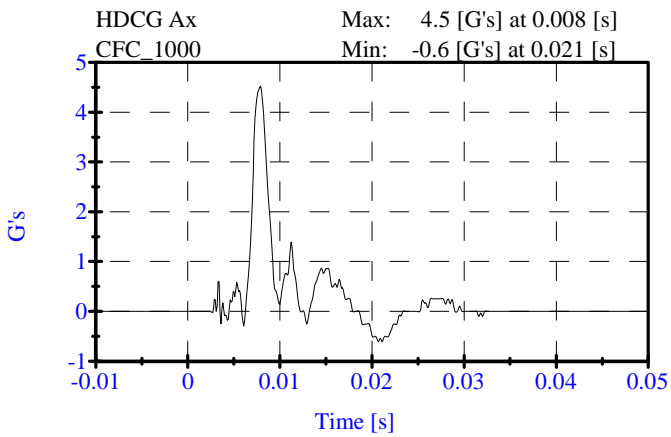
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 12-18-06

Sequential Test Number: 1 File: 270HD 12-18-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	130.94 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.53 Gs	Passed
Curve PerCent NonModal:	< 15%	1.94 %	Passed



Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 12-19-06

Sequential Test Number: 1 File: 270N 12-19-06
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 %	36.00 %	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	2.00 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.22 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.08 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.16 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	66.45 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	85.27 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	51.00 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	7.60 ms	Passed

Neck Test POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

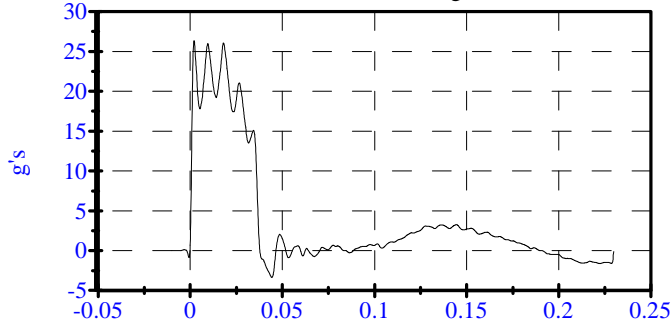
ATD Serial No: 270

Date: 12-19-06

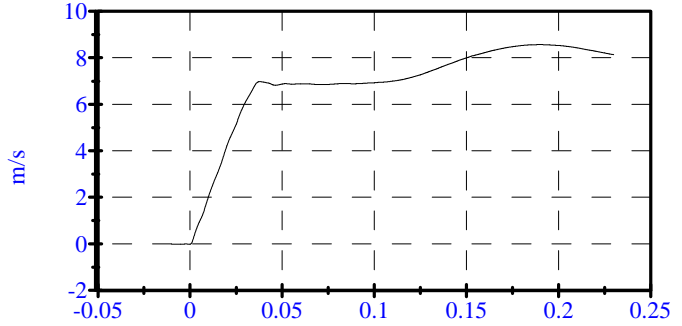
Sequential Test Number: 1 File: 270N 12-19-06

Laboratory Technician: B. Swiecicki

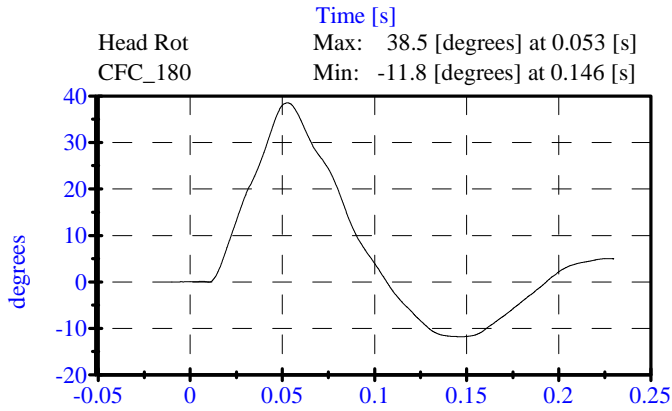
Pend Ax
CFC_180
Max: 26.3 [g's] at 0.002 [s]
Min: -3.4 [g's] at 0.044 [s]



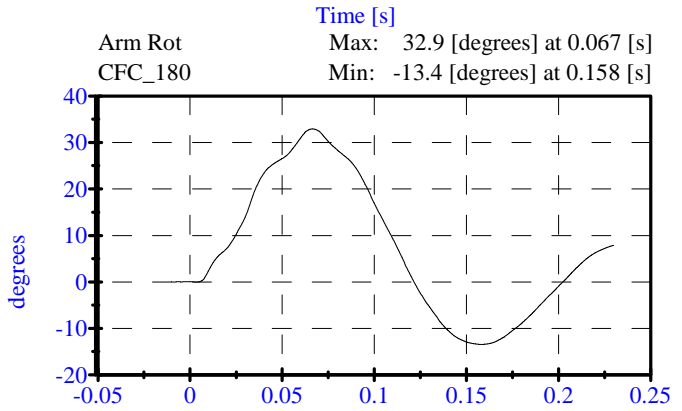
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.189 [s]
Min: -0.0 [m/s] at -0.000 [s]



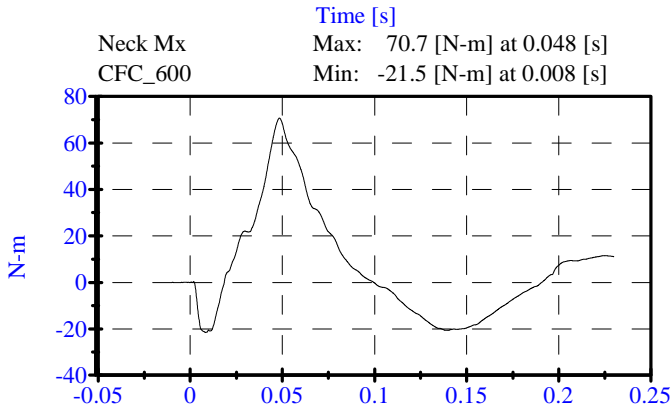
Head Rot
CFC_180
Max: 38.5 [degrees] at 0.053 [s]
Min: -11.8 [degrees] at 0.146 [s]



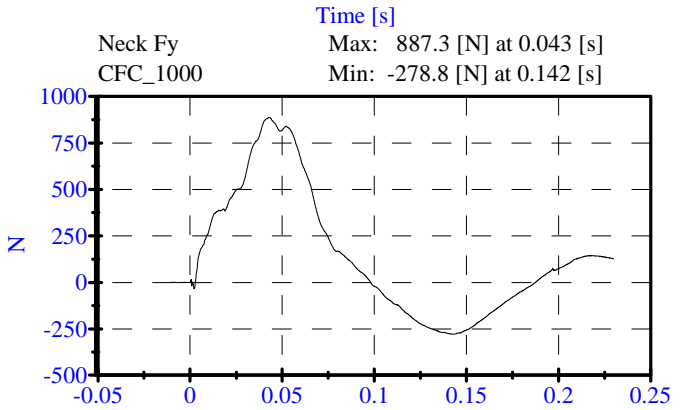
Arm Rot
CFC_180
Max: 32.9 [degrees] at 0.067 [s]
Min: -13.4 [degrees] at 0.158 [s]



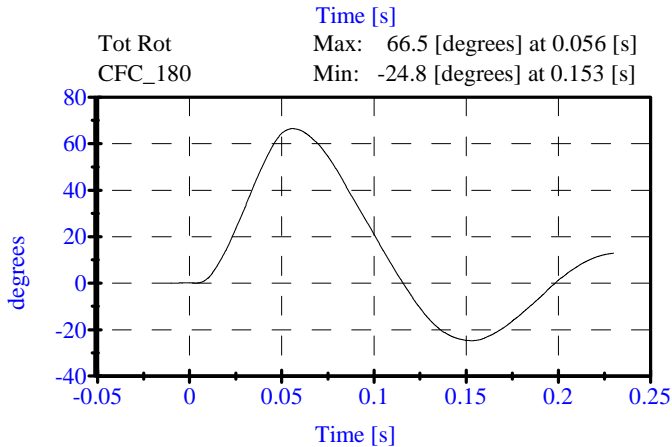
Neck Mx
CFC_600
Max: 70.7 [N-m] at 0.048 [s]
Min: -21.5 [N-m] at 0.008 [s]



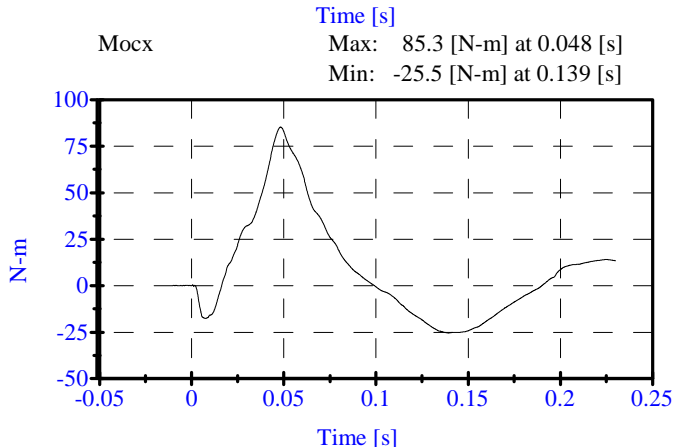
Neck Fy
CFC_1000
Max: 887.3 [N] at 0.043 [s]
Min: -278.8 [N] at 0.142 [s]



Tot Rot
CFC_180
Max: 66.5 [degrees] at 0.056 [s]
Min: -24.8 [degrees] at 0.153 [s]



Mocx
Max: 85.3 [N-m] at 0.048 [s]
Min: -25.5 [N-m] at 0.139 [s]



Abdomen test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

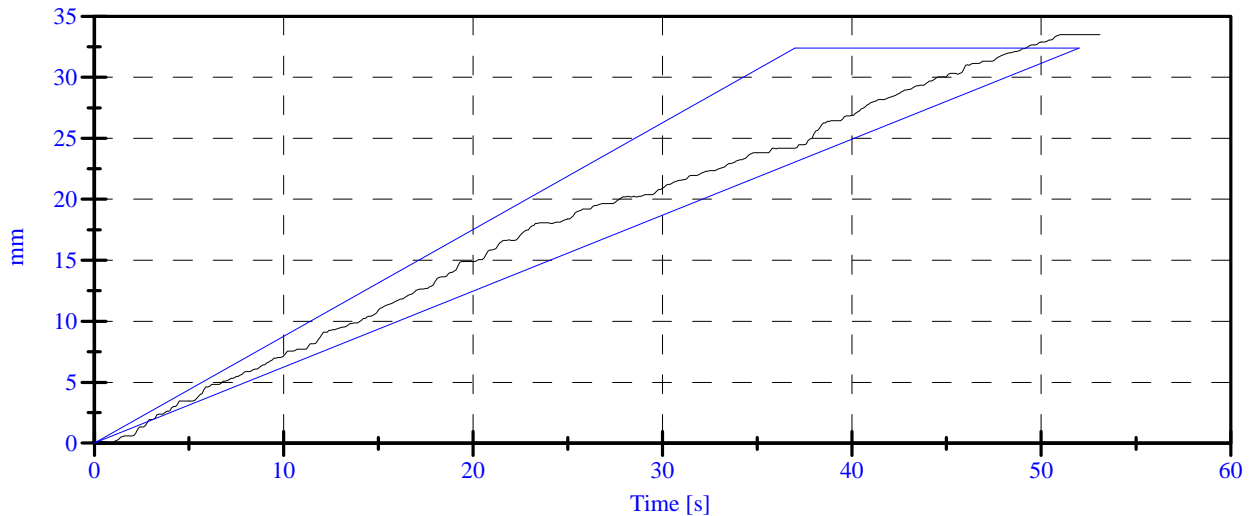
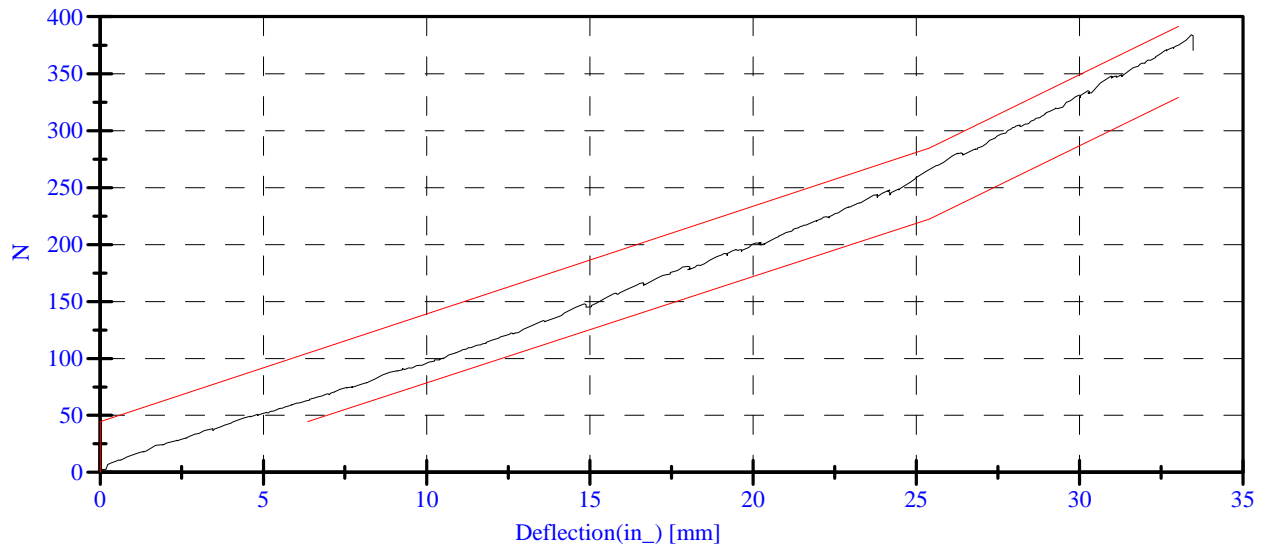
Date: 12-20-06

Sequential Test Number: 1 File: 270ab 12-20-06

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	125.85 N	Passed
Force at 19.05 mm :	162.98-220.99 N	190.74 N	Passed
Force at 25.40 mm :	221.97-280.02 N	264.69 N	Passed
Force at 33.02 mm :	324.99-391.00 N	375.24 N	Passed

ABDOMINAL COMPRESSION TEST



**Lumbar Spine
POST TEST**

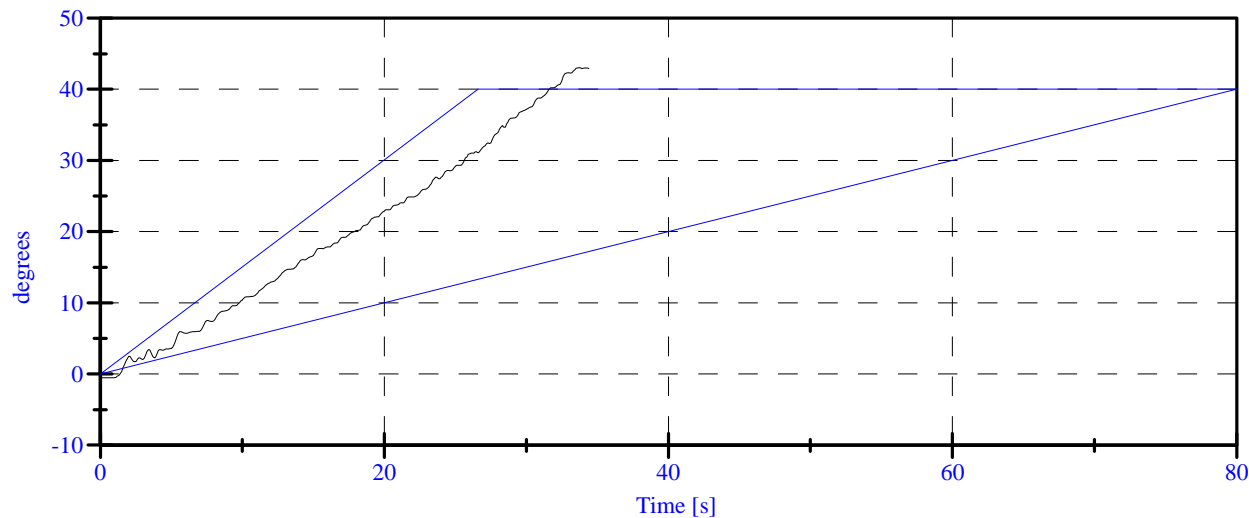
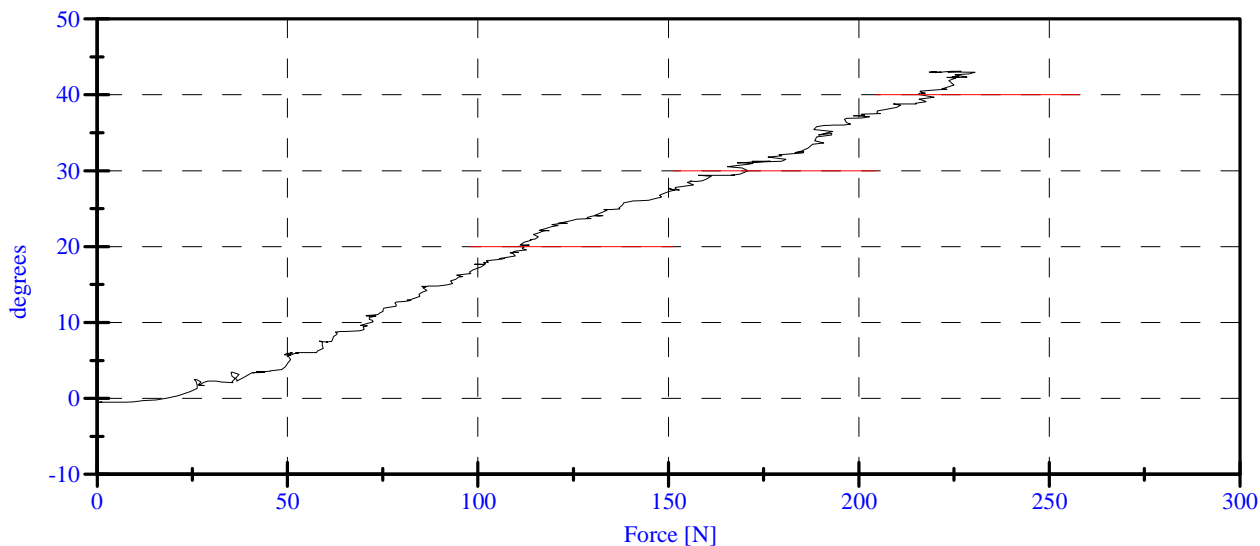
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 12-20-06

Sequential Test Number: 1 File: 270sp 12-20-06
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	18.42 N	Passed
Force at 20 Deg:	97.86-151.24 N	110.60 N	Passed
Force at 30 Deg:	151.24-204.62 N	170.93 N	Passed
Force at 40 Deg:	204.62-258.00 N	215.59 N	Passed
Return Angle	12 Deg Max	1.20 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

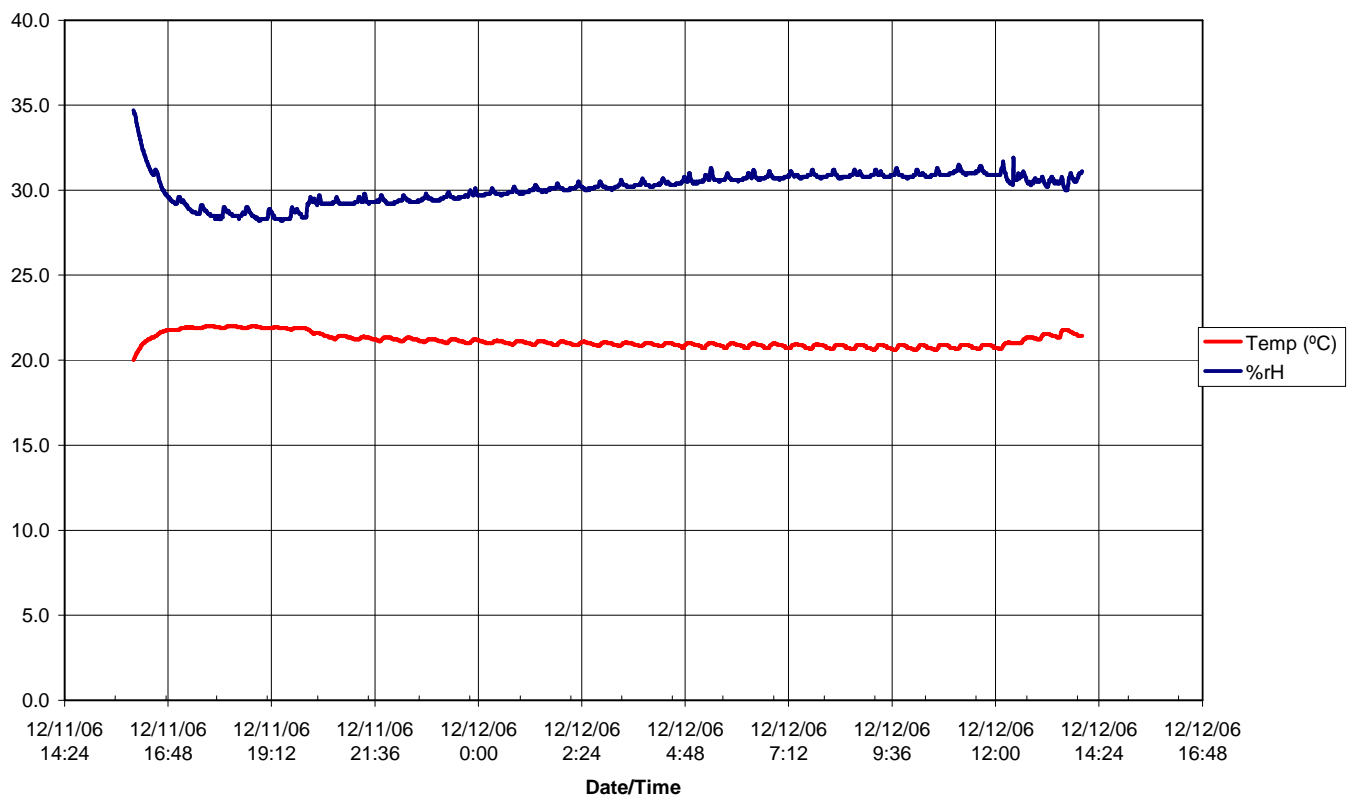
SID H3 Serial No.: 270 Sequential Test Number: 1.2
 Date: 12/20/2006 Laboratory Technician: B. Swiecicki

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 Kia Spectra M70508 Environmental Conditions



APPENDIX D
TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

FRONT 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	8-Sep-06
UPPER NECK FY	LC-442FY	DENTON	8-Sep-06
UPPER NECK FZ	LC-442FZ	DENTON	8-Sep-06
UPPER NECK MX	LC-442MX	DENTON	8-Sep-06
UPPER NECK MY	LC-442MY	DENTON	8-Sep-06
UPPER NECK MZ	LC-442MZ	DENTON	8-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

REAR 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	8-Sep-06
UPPER NECK FY	LC-1629FY	DENTON	8-Sep-06
UPPER NECK FZ	LC-1629FZ	DENTON	8-Sep-06
UPPER NECK MX	LC-1629MX	DENTON	8-Sep-06
UPPER NECK MY	LC-1629MY	DENTON	8-Sep-06
UPPER NECK MZ	LC-1629MZ	DENTON	8-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-P35818	ENDEVCO	18-Jul-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

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-P23939	ENDEVCO	19-Jul-06
RIGHT FRONT SILL (Y)	AC-P23999	ENDEVCO	19-Jul-06
RIGHT FRONT SILL (Z)	AC-P23993	ENDEVCO	19-Jul-06
RIGHT REAR SILL (X)	AC-P15534	ENDEVCO	14-Jun-06
RIGHT REAR SILL (Y)	AC-P18718	ENDEVCO	5-Jul-06
RIGHT REAR SILL (Z)	AC-P18628	ENDEVCO	6-Jul-06
REAR FLOORPAN ABOVE AXLE (X)	AC-P16625	ENDEVCO	18-Jul-06
REAR FLOORPAN ABOVE AXLE (Y)	AC-P17237	ENDEVCO	5-Jul-06
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32838	ENDEVCO	7-Jul-06
LEFT REAR SILL (Y)	AC-P35804	ENDEVCO	18-Jul-06
LEFT FRONT SILL (Y)	AC-P19374	ENDEVCO	5-Jul-06
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-P39743	ENDEVCO	18-Jul-06
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C/L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER C/L (Y)	-	-	-
LOWER LEFT B- PILLAR (Y)	AC-P16832	ENDEVCO	18-Jul-06
MIDDLE LEFT B-PILLAR (Y)	AC-P23136	ENDEVCO	5-Jul-06
LOWER LEFT A-PILLAR (Y)	AC-P35758	ENDEVCO	18-Jul-06
UPPER LEFT A-PILLAR (Y)	AC-P13323	ENDEVCO	5-Jul-06
FRONT SEAT TRACK (Y)	AC-P19216	ENDEVCO	14-Jun-06
REAR SEAT TRACK (Y)	AC-P26266	ENDEVCO	7-Aug-06
VEHICLE CG (X)	AC-J31101	ENDEVCO	5-Jul-06
VEHICLE CG (Y)	AC-P23174	ENDEVCO	28-Jun-06
VEHICLE CG (Z)	AC-J31059	ENDEVCO	5-Jul-06
MDB CG (X)	AC-C15007	ENDEVCO	5-Nov-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